CITY OF DOVER

DOVER PLANNING BOARD – AGENDA

Meeting Type:	Regular Meeting
Meeting Location:	Council Chambers, City Hall, 288 Central Ave, Dover NH 03820
Meeting Date:	**Tuesday, May 10, 2022**
Meeting Time:	**7:00 pm**

1. **CITIZENS' FORUM**
2. **APPROVAL OF THE PRIOR MINUTES**
   - April 26, 2022 Regular Meeting Minutes
3. **OLD BUSINESS**
4. **NEW BUSINESS**

A. Consideration and acceptance of a Conditional Use Permit for Colin Robinson, NB+C agent of Crown Castle for Dish Wireless, (Owner: Andrew James, A/K/A Vertical Realty Properties Co and City of Dover), Assessor's Map 28, Lot 32, zoned H, located at 10/15 Abbey Sawyer Memorial Drive. (Proposal is to install antennas, ancillary tower and ground equipment at wireless facility with no change to structure height or ground space.)*(P22-26)

B. Consideration and acceptance of a Conditional Use Permit for Redgate Real Estate Advisors, LLC., (Owner: Harlech, LLC.), Assessor's Map 31, Lot 5, zoned CBD-TOD, located at 47 Chestnut Street. (Proposal is to construct a 173-unit multi-family residential building with a restaurant and requesting relief for the side setback of 37.2' whereas 10'-25' is required, a rear setback of 51.9' whereas 0'-25' is required, frontage build-out of 66.14% whereas 80% is required, and a minimum lot coverage of 33.52% whereas 75%-100% is required)*(P21-85)

C. Consideration and acceptance of a Conditional Use Permit for Redgate Real Estate Advisors, LLC., (Owner: Harlech, LLC.), Assessor's Map 31, Lot 5, zoned CBD-TOD, located at 47 Chestnut Street. (Proposal is to construct a 173-unit multi family residential building with a restaurant and requesting relief for solar/green roof standards proposed of 10,767 sf or 20.8% where 14,458 sf or 30% is required.)*(P22-29)

D. Consideration and acceptance of a Site Review for Redgate Real Estate Advisors, LLC., (Owner: Harlech, LLC.), Assessor's Map 31, Lot 5, zoned CBD-TOD, located at 47 Chestnut Street. (Proposal is to construct a 44,977 sq.ft. multi-use building consisting of 173 residential units, a restaurant, amenity spaces and common areas.) *(P21-84)

5. **STAFF COMMENT**
6. **MEMBER COMMENTS**
7. **ADJOURNMENT**

*Indicates that if the application is accepted for discussion, the public hearing will be held the same evening. Note that some hearings will be continued from one meeting to another and some may be postponed. Since this is only a partial description of the proposal and may change, persons with questions or wishing to see the plans are invited to visit the Planning Office, Monday through Thursday from 8:30 am to 5:30 pm and Friday 8:30 am to 4:00 pm or email Dover-Planning@dover.nh.gov. You may also view materials at www.dover.nh.gov. Follow us on Twitter @DoverNHPlanning and find us on Facebook at https://www.facebook.com/DoverNHPlanning. The public is encouraged to leave comments in advance by emailing Dover-Planning@dover.nh.gov, or mailing written comments to Planning Board, Dover City Hall, 288 Central Ave., Dover, NH 03820. Messages must be received no later than 4 p.m. the day of the meeting and should identify the name and Dover address of the person leaving the message or providing the comment.

CITY OF DOVER

DOVER PLANNING BOARD – MINUTES

Meeting Type: Regular Meeting
Meeting Location: City Council Chamber's 288 Central Avenue
Meeting Date: **Tuesday, April 26, 2022**
Meeting Time: **7:00 pm**

Members Present: Gina Cruikshank (Chair), Hayley Harmon (Vice Chair), Mark Speidel, Ken Mavrogeorge, Fergus Cullen (Councilor), Tom Clark, Kyle Pimental, Frank Torr, Stephanie George (Alternate)
Members Not Present (excused): Erinn Kaspari (Alternate)
Members Not Present (un-excused): None
Staff Present: Donna Benton, Director of Planning and Community Development and Mike Asciola, City Planner

G. Cruikshank called the meeting to order at 7:00 p.m. and noted Stephanie George would sit in for the vacant regular member seat tonight and noted that Items 4A & 4B will be continued again tonight.

1. CITIZENS' FORUM

Citizens Forum Open
No one spoke
Citizens Forum Closed

2. APPROVAL OF THE PRIOR MINUTES

April 12, 2022 Regular Meeting Minutes
Motion: F. Torr moved to approve the minutes as submitted. Seconded by T. Clark. Vote: U/A

3. OLD BUSINESS

A. Public hearing and possible vote of amendments to Chapter 153, entitled "Site Review Regulations" of the code of the City of Dover. Amendments include amount of copies needed for TRC, abutter notices, and clarifying authority of the TRC. *

B. Public hearing and possible vote of amendments to Chapter 157, entitled "Land Subdivision Regulations" of the code of the City of Dover. Amendments include abutter notices and associated fees.*

D. Benton explained this is hopefully the final public hearing for the site review and subdivision regulation amendments. Staff is hoping the Board votes to adopt tonight.

Motion: F. Torr moved to remove the public hearing from the table. Seconded by M. Speidel. Vote: U/A

Public hearing opened.
No one spoke.
Public hearing closed.

Motion: T. Clark moved to adopt the Site Review Regulation amendments 153. Seconded by M. Speidel. Vote: U/A

Motion: T. Clark moved to adopt the Subdivision Regulation amendments 157. Seconded by K. Mavrogeorge. Vote: U/A

4. NEW BUSINESS

A. Consideration and acceptance of a Minor Subdivision for Canney Brook Engineering and Consulting, CBF2 LLC., (Owners: Canney Brook Engineering and Consulting, CBF2 LLC. and Helen F. Preston Revocable Trust of 2009), Assessor's Map K, Lot 6, zoned R-40, located at 105 Middle Road and Back Road. (2 new lots) *(P22-09)

K. Mavrogeorge and F. Torr recused themselves.
D. Benton explained that the applicant is not here tonight as staff is requesting the Board vote to continue this item to May 24, 2022 agenda to allow time to verify some right of way discrepancies. The

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City is looking into doing our own peer review on the city's expense and we would provide an update on May 24, 2022. Abutter notices would not be re-sent.

Motion F. Cullen moved to continue the item to May 24, 2022. Seconded by T. Clark. Vote: U/A with Torr and Mavrogeorge recused.

B. Consideration and acceptance of a Conditional Use Permit for Colin Robinson, NB+C agent of Crown Castle for Dish Wireless, (Owner: Andrew James, A/K/A Vertical Realty Properties Co), Assessor's Map 28, Lot 32, zoned H, located at 10/15 Abbey Sawyer Memorial Drive. (Proposal is to install antennas, ancillary tower and ground equipment at wireless facility with no change to structure height or ground space.)*(P22-26)

D. Benton explained that signatures from the tower lessor and land owner are still missing and therefore suggesting the Board continue to May 10, 2022.

Motion M. Speidel moved to continue the item to May 10, 2022. Seconded by H. Harmon. Vote: U/A

C. Consideration and acceptance of a Conditional Use Permit for Michael C. & Sandra J. McDonough, Assessor's Map 7, Lot 13A, zoned R-20, located at 29 Boston Harbor Road. (Proposal is to replace the existing residential structure, reconfigure use of pervious driveway, grading and associated landscape improvements, creating 2,267 s.f. of permanent impact and 1,064 s.f. of temporary impact to the conservation district). *(P22-22)

D. Benton explained the applicant is looking to replace their residential structure, reconfigure their driveway, and other improvements resulting in 2,267 s.f. of permanent impact and 1,064 s.f. of temporary impact to the conservation district as this is within 100' of the Piscataqua River. The Conservation Commission endorsed this application on April 11, 2022. The applicant has provided a pdf with the conditions of approval being met but staff is still proposing them until we receive the hard copy plans.

Steve Riker, Ambit Engineering, Inc. represented the application. The applicants propose to tear down their existing 100 year old home and build a modern home. They also propose to reconfigure the driveway to accommodate a garage and a few vehicles. Other changes include relocating a shed, removing a crushed stone area to become grass and utility connections. He showed and described the plans for the project which are in the packet. The project will result in a reduction of impervious surfaces.

K. Pimental inquired about the flood risk to ensure the design of the new home will be resilient. Mr. Riker agreed with him and will revise his document and resubmit to DES. K. Pimental suggested the home owners consider the storm surge scenarios to incorporate that into the risk.

T. Clark asked if a smaller new home was considered in order to reduce the impact. This proposal doubles the square footage.
M. McDonough, owner, confirmed the home will be built on a raised slab with no basement for flood safety. The size of the new home will be 3 bedrooms and 1700 sq ft of finished space. The garage will be rather small as well. It will be larger than the current home, but smaller than most in the neighborhood.

Mr. Riker explained for M. Speidel the impervious surface coverage.

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Motion: F. Torr moved to accept and declare no regional impact. Seconded by T. Clark. Vote: U/A

Public hearing opened.
No one spoke
Public Hearing closed.

William and Cassandra Miller, 27 Boston Harbor Rd sent an email with concerns about the proposed hot tub, which had already been removed from the plans.

STAFF RECOMMENDATION:
The Conservation District ordinances provide for Conditional Use Permits to allow impacts to the Conservation District if standards related to demonstration that the use is essential to the productive use of land, a soil erosion and sedimentation control plan is submitted, state and federal approvals have been applied for, and a written review by the Conservation Commission has been sought.

The Wetlands Protection District ordinance provides for Conditional Use Permits to allow impacts to wetlands and wetland buffers if standards related to demonstration that no practicable alternative exists, impact avoidance was considered, impacts were minimized, and mitigation has been sought.

Staff feels that the applicant considered the criteria and located the replacement structure as upland as possible as close to the City's sewer easement as allowed. Porous pavers and pavement is proposed reducing the amount of impervious surface on the site currently. A soil and erosion control plan has been submitted, state and federal approvals have been applied for. Applicant proposes to retain all existing trees within the Conservation District.

STAFF RECOMMENDATION:
The Planning Department recommends the Planning Board to approve the Conditional Use Permit with the following conditions, as the plans meet the standards outlined:

1. Copies of the NHDES Wetlands Permit and NHDES Shoreland Permit be submitted to the Planning Department and added to the plan set coversheet;
2. The applicant relocate the existing 120 gallon propane tank outside of the City's sewer easement;
3. Any rooftop drainage system to meet the City's stormwater management regulations; and
4. Revise plans to add:
    a. note for zoning requirements (common note 8); and
    b. Planning file number P22-22.
    c. Revise coastal vulnerability assessment from high to medium tolerance

Motion K. Pimental moved to approve Conditional Use Permit with the recommended conditions. Seconded by H. Harmon. Vote: U/A

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D. Consideration and acceptance of a proposed yield plan requiring a road length waiver for Chinburg Properties, (Owners: Dahn H. & Norma M. Tibbett and Jahn H. & Susan G. Janetos), Assessor's Map N, Lot 13-1, zoned R-40, located at Oak Street. (12 new lots) *(P22-21)

D. Benton explained the application before the Board is for a waiver request to allow a less than 500' cul-de-sac on a yield plan. Yield plans need to meet City regulations in order to provide for a density calculation for a total unit count for a required Open Space Subdivision. Should the Board approve the waiver tonight, full TRC and Planning Board review for the major subdivision would still be required including additional abutter notices.

S. Haight, CivilWorks NE represented the application noting the waiver is for the length of the proposed cul-de-sac which is proposed at 400' and is required 500'.

Mr. Haight clarified for T. Clark that the length of the road does not affect the number of lots. It would be the same either way.

Mr. Haight clarified for M. Speidel that they will upgrade the class 6 roadway to the point where the next road starts. He also clarified that access for snow shoeing etc would still continue to the open space.

Motion F. Torr moved to accept and noted no regional impact. Seconded by M. Speidel. Vote: U/A
Public hearing opened.

- Jeff Andress, 2A Country Club Estates is concerned about the 12th lot. He mentioned fire access roads and what is and is not shown on the plan with regard to a 12th lot.

- Mike Day, 104 Gulf Rd is concerned about traffic, fire access and wetlands as the open space areas.

- Kelly Dalke, 70 Elmwood is concerned about traffic and narrow roads, the length of the proposed road and the number of driveways. Access to open space and trails is one of the benefits of the area, but the remaining open areas would be too wet to enjoy.

- Jean Clark, 21 Elmwood sent some photos of her current view of the land. She has submitted a petition against the proposal. She wants the City to maintain agricultural land, rather than develop so much. She gave many suggestions regarding the development of the land if development moves forward.

- Jahn Janetos, owner of the land in discussion, feels this proposal is the best use of this land at this time. He discussed the wet area. The wetlands and floodplain will be preserved. He is in favor of the granting of the waiver and future plan for development.

- Ann Day, 104 Gulf Rd is concerned about traffic and the wet lands being not appropriate as open space. She spoke that her relative's desire was that the land remain open, and she hopes for that result as well.

- George Heilshorn sent an email which was read to the board by D. Benton. He is in opposition to the proposal

Public Hearing closed.

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S. Haight responded to public comment noting most concerns will be addressed at TRC and Planning board stages for the proposed project.

K. Pimental asked what the 500' road standard is for. S. Haight could not answer- he is unsure why it is in the ordinance. D. Benton noted it gives some regulation to cul-de-sacs. It also relates to the length of fire trucks and hoses.

D. Benton addressed public comment:

- It's up to the property owner how they use their land, as long as they follow regulations
  - The open lands committee reviews potential conservation areas- but this lot is not City-owned, so the owner would have to be in conversation with the committee
- The TRC process will address:
  - Run off and storm water
  - Traffic studies
- HOA documents will be required for the subdivision
- 50% uplands is required for open space requirements

STAFF RECOMMENDATION:
Section 157-51 of the Subdivision Regulations state the "Planning Board may waive specific provisions of these regulations. The Planning Board may only grant a waiver if the Planning Board finds, by majority vote, that:
(1) Strict conformity would pose an unnecessary hardship to the applicant and the waiver would not be contrary to the spirit and intent of the regulations; or
(2) Specific circumstances relative to the subdivision, or conditions of the land in such site plan, indicate that the waiver will properly carry out the spirit and intent of the regulations."

Staff believe criterion (1) has been as the topography of the lot dictates the need for an alternative length of the cul-de-sac design and that the proposed design will have less disruption to the natural environment than that of a longer roadway design.

The Planning Department recommends the Planning vote to approve the waiver to allow a yield plan with less than 500' cul-de-sac. A full TRC and Planning Board review of the major subdivision is still required.

T. Clark confirmed with S. Haight that whether the waiver is granted or not, the applicant will come back with a proposed plan for 12 lots. That plan will be reviewed by TRC and the Planning Board before it is approved. The concerns that were mentioned tonight will be discussed and clarified during that process.

Motion: T. Clark moved to grant the waiver. Seconded by F. Torr. Vote: U/A

5. STAFF COMMENTS

- TRC's held: 71 & 73 Rutland (8 units), Dover Skatepark, 3 Outdoor dining applications in public parking spaces
- TRC's coming up: 55 units at Cielo tomorrow, 2 waterfronts on 5/5/22, and 36 & 38 New Rochester Road for 6 new units, and Bluebird Self-storage on May 12.
- The Office of Planning and Development is holding a conference this Saturday and next Saturday.
- Congratulated Kyle and Megan on their upcoming wedding next week.

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6. MEMBER COMMENTS

- Announced the resignation of Jackie Walker (Alternate)
- The Chair signed plans for the 193 Blackwater LLA
- F. Torr congratulated D. Benton on a recent news article and how she is an example for encouraging folks to be in public office work.
- F. Torr mentioned an article regarding use of manufactured homes/ tiny homes

7. ADJOURNMENT

Motion: F. Torr moved to adjourn at 8:05pm. Seconded by M. Speidel. Vote: U/A

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CITY OF DOVER

PLANNING BOARD - STAFF MEMO FILE #P22-26

Application Type:	Conditional Use Permit
Applicant(s):	Colin Robinson, NB+C agent of Crown Castle for Dish Wireless
Owner(s):	Andrews James, A/K/A Vertical Realty Properties Co. and City of Dover
Location:	10/15 Abbey Sawyer Memorial Drive (Tax Map 28, Lot 32)
Meeting Date:	April 26, 2022

INTENT: To co-locate antenna on existing monopole, with no change to the existing height of the structure and install ancillary ground equipment, with no expansion of the existing footprint to the wireless facility

LOTS/UNITS PROPOSED: N/A

AGENDA ITEM #: 4-B

ACREAGE: 11.4 ± acres

ZONING DISTRICTS: H & RM-SU

EXISTING USE: Utilities

PROPOSED USE: Utilities

SURROUNDING USE: Residential and Hospital

ZBA ACTION: None

ATTACHMENTS: Application materials including plan set and narrative

APPLICATION IS COMPLETE: Yes

REGIONAL IMPACT: No

NOTICES SENT: Abutter notices were sent by first class mail to all abutters for this meeting

PERMITS REQUIRED: CUP

WAIVERS REQUESTED: none

Summary of Request and Background

The applicant is proposing to install three (3) antennas, one (1) platform mount, proposed jumpers, six (6) RRUs, one (1) OVP and one (1) hybrid cable to the existing monopole tower; and one (1) platform and one (1) PPC cabinet ground equipment at an existing wireless facility with no change to structure height or ground footprint. The proposed development is located at 10/15 Abbey Sawyer Memorial Drive on Garrison Hill. Per § 170-22.G., placement of new antennae on an existing structure on Garrison Hill requires CUP approval from the Planning Board. As a CUP application only, this proposed development does not require TRC review.

Consistency with Land Use Regulations – §170-22. Telecommunications Facilities:

Section §170-22.C.(2) requires all new telecommunications facility development to be co-located on existing towers or structures on any parcel not listed in section §170-22.C.(1).

- ✓ *Proposed development is outside of areas listed in section §170-22.C.(1) and co-locates equipment on an existing tower.*

Section §170-22.H. requires bonding for removal and disposal of abandoned equipment and proof of liability insurance.

- *No bond estimate or proof of insurance provided therefore, staff is recommending a condition of approval that both be provided prior to the issuance of a Conditional Use Permit.*

Consistency with Land Use Regulations – Conditional Use Permit:

Section §170-22.G. …Placement of new ANTENNAE media on the existing TOWERs on Garrison Hill shall be allowed only after obtaining a Conditional Use Permit from the PLANNING BOARD … Performance standards to ensure that vistas, view sheds and view corridors are protected shall include the following elements:

(1) The APPLICANT has demonstrated that the appearance, form or shape, color, and size of any ANTENNA media to be attached to preexisting TOWERs or monopole STRUCTUREs is concealed or camouflaged or otherwise is harmonious with the immediately surrounding environment at Garrison Hill; DOVER CODE P 170-73

- ✓ *Applicant shows visual illustration showing existing vs proposed views. Imagery appears consistent to existing structure.*

(2) Any equipment shelters supporting such additional ANTENNA shall be designed consistent with one of the following design standards:

(a) Equipment shelter shall be located in underground vaults; or

(b) Equipment shelter shall be designed consistent with Northern New England architectural styles and materials, with a roof pitch of at least ten and a half (10 1/2) and wood clapboard, red brick or shingle siding; or

(c) Equipment shelters shall be camouflaged behind an effective year round landscaped buffer, equal to the HEIGHT of the proposed BUILDING and/or wooden FENCE. PLANNING BOARD shall determine the style of fencing and/or landscaped buffer that is compatible with the NEIGHBORHOOD.

✓ *All work would be completed within the existing enclosure. No further equipment shelter is proposed.*

(3) Any ANTENNA located on an existing STRUCTURE shall be concealed, to the extent technologically and commercially practicable, behind existing architectural features to limit the visibility of the ANTENNA from public ways.

✓ New equipment appears to blend into existing equipment and is no more visible

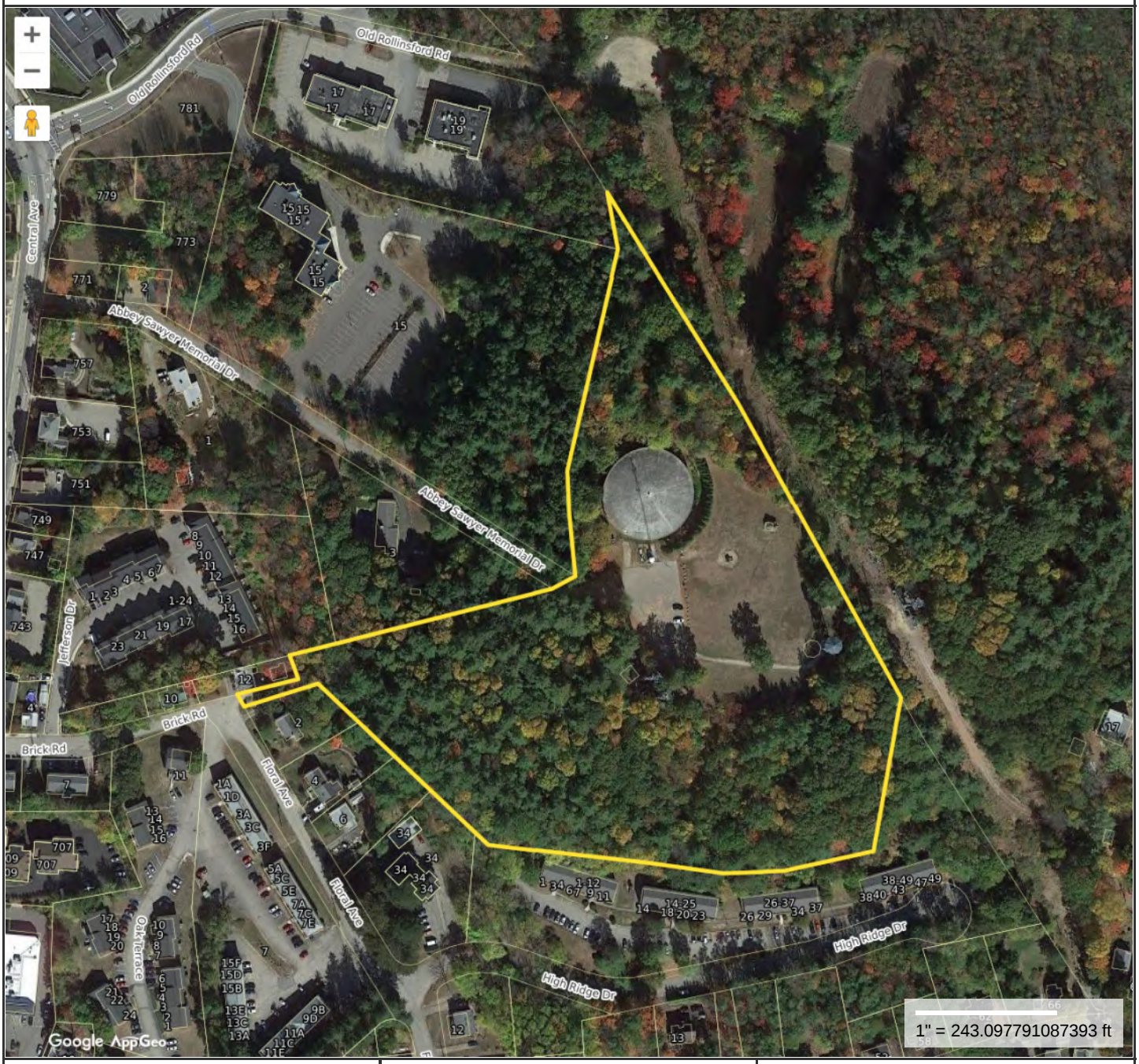
STAFF RECOMMENDATION – Conditional Use Permit:

The Planning Department recommends the Planning Board continue the application until all owners' signatures provided on the application.

Should that occur prior to the meeting on Tuesday, then the Planning Department recommends the Planning Board accept the application as complete, open the public hearing, and vote to grant the Conditional Use Permit with the following conditions:

1. The Applicant provide proof of insurance, bond estimate and guarantee acceptable to the City Engineer and Director of Planning and Community Development.
2. To have all owners sign the application and plan.

10/15 Abbey Sawyer Memorial Drive



Property Information

Property ID	28032-000000
Location	10 ABBEY SAWYER MEMORIAL DR
Owner	CITY OF DOVER
Land Use	903

MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

City of Dover, NH makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated 5/3/2021
Data updated Daily

Print map scale is approximate. Critical layout or measurement activities should not be done using this resource.

CROWN CASTLE

1 Cityplace Dr, Suite 490
Creve Coeur, MO 63141

Phone: (314) 513-0147
www.crowncastle.com

April 4, 2022

Donna Benton
Planning Department
City of Dover, NH
288 Central Avenue
Dover, NH 03820-4169
Via: FEDEX
603.516.6008

************NOTICE OF ELIGIBLE FACILITIES REQUEST************

RE: Request for Minor Modification to Existing Wireless Facility – Section 6409
Site Address: 10 /15 Abbey Sawyer Memorial Dr. Dover NH 03820
Crown Site Number: 878765 / Crown Site Name: DOVER
Customer Site Number: BOBOS00460B / Application Number: 559179

Dear Ms. Benton:

On behalf of Dish Wireless LLC, Crown Castle USA Inc. ("Crown Castle") is pleased to submit this request to modify the existing wireless facility noted above through the collocation, replacement and/or removal of the Applicant's equipment as an eligible facilities request for a minor modification under Section 6409[1] and the rules of the Federal Communications Commission ("FCC").[2]

Section 6409 mandates that state and local governments must approve any eligible facilities request for the modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station. If a state or local government, fails to issue any approvals required for this request within 60 days, these approvals are deemed granted. The FCC has clarified that the 60 day deadline begins when an applicant: (1) takes the first step required under state or local law; and (2) submits information sufficient to inform the jurisdiction that this modification qualifies under the federal law. Please note that with the submission of this letter and enclosed items, the sixty day review period has started. Based on this filing, the deadline for issuance of approval is (November 24th, 2021).

[1] Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. No. 112-96, § 6409 (2012) (codified at 47 U.S.C. § 1455).
[2] *Acceleration of Broadband Deployment by Improving Wireless Facility Siting Policies*, 29 FCC Rcd. 12865 (2014) (codified at 47 CFR § 1.6100); and *Implementation of State & Local Governments' Obligation to Approve Certain Wireless Facility Modification Requests Under Section 6409(a) of the Spectrum Act of 2012*, WT Docket No. 19-250 (June 10, 2020).

CROWN CASTLE

1 Cityplace Dr, Suite 490
Creve Coeur, MO 63141

Phone: (314) 513-0147
www.crowncastle.com

The proposed scope of work for this project includes:

Install antennas, ancillary tower and ground equipment etc. at an unmanned wireless facility with no change to structure height or ground space.

At the end of this letter is a checklist of the applicable substantial change criteria under Section 6409. Additionally, please find enclosed the following information in support of this request:

(1) Conditional Use Application;
(2) Construction Drawings;
(3) Structural Analysis;
(4) Section 6409 Substantial Change Checklist;
(5) Photo Simulations;
(6) 170-22.G Narrative.

As these documents indicate, (i) the modification involves the collocation, removal or replacement of transmission equipment; and (ii) such modification will not substantially change the physical dimensions of such tower or base station. As such, it is an "eligible facilities request" as defined in the FCC's rules to which the 60 day deadline for approval applies. Accordingly, Applicant requests all authorization necessary for this proposed minor modification under Section 6409.

Our goal is to work with you to obtain approvals earlier than the deadline. We will respond promptly to any request for related information you may have in connection with this request. Please let us know how we can work with you to expedite the approval process. We look forward to working with you on this important project, which will improve wireless telecommunication services in your community using collocation on existing infrastructure. If you have any questions, please do not hesitate to contact me.

Regards,

Colin Robinson

Colin Robinson – Agent of Dish Wireless LLC
NETWORK BUILDING + CONSULTING
100 Apollo Drive Suite 303 Chelmsford, MA 01824
crobinson@nbcllc.com 360-561-3311

-, ,

CROWN CASTLE

1 Cityplace Dr, Suite 490
Creve Coeur, MO 63141

Phone: (314) 513-0147
www.crowncastle.com

Section 6409 Substantial Change Checklist
Towers Outside of the Public Right of Way

The Federal Communications Commission has determined that a modification substantially changes the physical dimension of a wireless tower or base station under 47 U.S.C. § 1455(a) if it meets one of six enumerated criteria under 47 C.F.R. § 1.6100.

Criteria for Towers Outside the Public Rights of Way

NO	Does the modification increase the height of the tower by more than the greater of: (a) 10%; or (b) the height of an additional antenna array plus separation of up to 20 feet from the top of the nearest existing antenna?
NO	Does the modification add an appurtenance to the body of the tower that would protrude from the edge of the tower more than 20 feet or more than the width of the tower structure at the level of the appurtenance, whichever is greater?
NO	Does the modification involve the installation of more than the standard number of new equipment cabinets for the technology involved or add more than four new equipment cabinets?
NO	Does the modification entail any excavation or deployment outside the current site by more than 30 feet in any direction, not including any access or utility easements?
NO	Does the modification defeat the concealment elements of the eligible support structure?
NO	Does the modification violate conditions associated with the siting approval with the prior approval the tower or base station other than as specified in 47 C.F.R. § 1.6100(c)(7)(i) – (iv)?

If all questions in the above are area answered "NO," then the modification does not constitute a substantial change to the existing tower under 47 C.F.R. § 1.6100.

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City of Dover, New Hampshire
CONDITIONAL USE PERMIT APPLICATION

[Revision Date: October 19, 2020]

Office Use Only	Project #:		Date Received:	
	Amount Paid:		Time Received:	

APPLICANT AND OWNER INFORMATION

Name of Applicant: Colin Robinson, NB+C agent of Crown Castle for Dish Wireless Telephone # 360-561-3311

Address of Applicant: 100 Apollo Drive Suite 303 Chelmsford, MA 01824

E-Mail Address: crobinson@nbcllc.com

Name of Property Owner (if different from applicant): ANDREWS JAMES, A/K/A VERTICAL REALITY PROPERTIES CO Telephone #_____

Address of Property Owner: 21 ECHO BROOK RD ROCHESTER, NH 03839

PROPERTY INFORMATION

Assessor's Map # 28-32-0-LSE Lot(s) # _____

Address of Property: 10/15 ABBEY SAWYER MEMORIAL DR

Zoning District(s) H Overlay District(s) Garrison Hill

Existing Use of Property: Wireless Communications Facility

CONDITIONAL USE PERMIT INFORMATION

Type of Conditional Use Permit (Check All That Apply):

☐ Conservation District	☐ RCM Use Overlay District	☐ Gateway District
☐ Groundwater Protection	☐ Off-Street Parking and Loading	☐ Alternative Treatment Center
☐ Wetland Protection District	☐ Central Business District	☐ Heritage Residential District

Describe Proposed Use or Activity That Requires Conditional Use Permit and Describe Any Impacts:

Install wireless equipment on existing tower. Tower: Install: (3) antennas, (1) platform mount, proposed jumpers, (6) RRUs, (1) OVP and (1) hybrid cable. Ground: Install: (1) platform, (1) PPC Cabinet, (1) equipment cabinet, (1) power conduit, (1) telco conduit, (1) GPS unit, (1) fiber NID, (1) safety switch.

DocuSign Envelope ID: 48B968E8-A0C2-4ADA-AF72-75DD30F1E558

List Any Associated State or Federal Permits That Have Been or Will Be Applied For and Indicate Their Status: _____

_____

Name of Professional That Prepared Plans: Andrew Schall

Address 421 Fayetteville St Suite 600 Raleigh, NC 27601 Telephone #: _____

Professional License #: 15914 E-mail address: _____

SIGNATURES

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

Signature of Property Owner: DocuSigned by: James R. Andrews 30176CD7445047B... Date: 4/19/2022 | 5:32:39 P

Signature of Applicant (if different from owner): Colin Robinson Date: 3/22/22

Signature of Agent: Colin Robinson Date: 3/22/22

AUTHORIZATION TO ENTER SUBJECT PROPERTY

I, and my successors, hereby authorize members of the Dover Planning Board, Planning Department and other pertinent City Departments and boards to enter my property for the purpose of evaluating this application, including performing inspections during the application phase, post-approval phase, construction phase and occupancy phase. It is understood that these individuals must use all reasonable care, courtesy, and diligence when on the property.

Signature of Property Owner: DocuSigned by: James R. Andrews 30176CD7445047B... Date: 4/19/2022 | 5:32:39 PM E

DocuSign Envelope ID: 48B968E8-A0C2-4ADA-AF72-75DD30F1E558

CITY OF DOVER CONDITIONAL USE
LIST OF ABUTTERS

Pursuant to RSA 676:4, the State Law of New Hampshire, the City of Dover is required to notify the applicant, abutters (including holders of conservation easements), and any professional whose seal is on the plan, of the public hearing by certified mail, return receipt requested. Staff will provide the abutter information, while the applicant must provide accurate contact information for the owner, applicant and professional agents representing the project.

Owner:

TAX MAP	LOT #	PROPERTY OWNER	MAILING ADDRESS

Applicant (if different from owner):

APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS

Surveyor and/or Engineer/Professional Agent:

NAME	COMPANY	MAILING ADDRESS

Conservation Easement Holder:

TAX MAP	LOT #	NAME OF EASEMENT HOLDER	MAILING ADDRESS

P22-26 **10-15 Abbey Sawyer Memorial Drive**

Property ID	Location	Owner 1	Owner 2	Owner Address 1	City	State	Zip
28001-000000	17 19 OLD ROLLINSFORD RD	DOVER DOCTORS' PARK CONDOMINIUM		17 OLD ROLLINSFORD RD	DOVER	NH	03820
28009-B00000	3 ABBEY SAWYER MEMORIAL DR	SLIWINSKI FREDERICK J	SLIWINSKI BARBARA A	3 ABBEY SAWYER MEMORIAL DR	DOVER	NH	03820
28009-C00000	1 24 JEFFERSON DR	6 BRICK ROAD LLC		42 J DOVER POINT RD	DOVER	NH	03820
28015-000000	10 BRICK RD	DOVER COAST LLC		10 BRICK RD	DOVER	NH	03820
28015-A00000	BRICK RD	DOVER COAST LLC		10 BRICK RD	DOVER	NH	03820
28016-000000	12 BRICK RD	WINTLE ERIN		12 BRICK ROAD	DOVER	NH	03820
28019-A00000	OAK ST	MCQUADE REALTY INC		PO BOX 1409	DOVER	NH	03820
28025-000000	7 FLORAL AV	MCQUADE REALTY INC		PO BOX 1409	DOVER	NH	03820
28025-D00000	HIGH RIDGE DR	HIGH RIDGE ASSOCIATES	C/O CP MANAGEMENT INC	80 NASHUA RD	LONDONDERRY	NH	03053
28026-A00000	13 HIGH RIDGE DR	LYNCH BRYON E &	GAY RACHEL L	13 HIGH RIDGE DR	DOVER	NH	03820
28027-000000	46 OAK ST	LIANG QIONG YU		46 OAK ST	DOVER	NH	03820
28028-000000	48 OAK ST	DEMARSICO LISA &	XANTHOS ARTHUR E	48 OAK ST	DOVER	NH	03820
28029-000000	50 OAK ST	SPOLEY JOHN R		50 OAK ST	DOVER	NH	03820
28030-000000	62 OAK ST	FITT CHRISTOPHER P		62 OAK ST	DOVER	NH	03820
28032-000000	10 ABBEY SAWYER MEMORIAL DR	CITY OF DOVER		288 CENTRAL AVENUE	DOVER	NH	03820
28033-000000	2 FLORAL AV	DUCLOS VALERIE BETH TRUSTEE	LESTER VALERIE REVOCABLE LIVING TRUST	2 FLORAL AVENUE	DOVER	NH	03820
28034-000000	34 FLORAL AV	34 FLORAL AVE CONDOMINIUMS		278 WASHINGTON ST	DOVER	NH	03820-8633
28034-000001	34 1 FLORAL AV	STESIENKO ANDREW J &	STESIENKO JAIME C	34 1 FLORAL AV	DOVER	NH	03820
28034-000002	34 2 FLORAL AV	MUNROE JULIA		34 2 FLORAL AV	DOVER	NH	03820
28034-000003	34 3 FLORAL AV	LEMOINE MATTHEW B		34 3 FLORAL AV	DOVER	NH	03820
28034-000004	34 4 FLORAL AV	SCHILD KELSEY ANN &	CONROY BRETT TYLER	34 FLORAL AVE UNIT 4	DOVER	NH	03820
28034-000005	34 5 FLORAL AV	SAUL LUKAS		18 QUAKER LN	DOVER	NH	03820
28034-000006	34 6 FLORAL AV	KUSCH JAMES D &	KUSCH ANN M	7 MARBLEHEAD RD	WINDHAM	NH	03087
28035-000000	4 FLORAL AV	HEDE GREGORY R & BONNIE T TRUSTEES	HEDE GREGORY AND BONNIE REVOCABLE LIVING	4 FLORAL AVENUE	DOVER	NH	03820
28036-000000	6 FLORAL AV	MACADAM DANIEL &	MACADAM ANNE FRANCES	6 FLORAL AV	DOVER	NH	03820
28037-000000	15 OLD ROLLINSFORD RD	WENTWORTH DOUGLASS HOSPITAL	C/O MASS GENERAL BRIGHAM	399 REVOLUTION DR	SOMERVILLE	MA	02145
28032-000LSE	15 ABBEY SAWYER MEMORIAL DR	ANDREWS JAMES	A/K/A VERTICAL REALITY PROPERTIES CO	21 ECHO BROOK RD	ROCHESTER	NH	03839
		CROWN CASTLE FOR DISH WIRELESS	COLIN ROBINSON	100 APOLLO DRIVE, SUITE 303	CHELMSFORD	MA	01824
			ANDREW SCHALL	421 FAYETTEVILLE STREET, SUITE 600	RALEIGH	NC	15914

P22-26 **First Class Mail**

Property ID	Location	Owner 1	Owner 2	Owner Address 1	City	State	Zip
28001-000001	17 OLD ROLLINSFORD RD	WENTWORTH-DOUGLASS HOSPITAL	C/O MASS GENERAL BRIGHAM	399 REVOLUTION DR	SOMERVILLE	MA	02145
28001-000002	17 OLD ROLLINSFORD RD	WENTWORTH DOUGLASS HOSPITAL	C/O MASS GENERAL BRIGHAM	399 REVOLUTION DR	SOMERVILLE	MA	02145
28001-000004	17 OLD ROLLINSFORD RD	WENTWORTH DOUGLASS HOSPITAL	C/O MASS GENERAL BRIGHAM	399 REVOLUTION DR	SOMERVILLE	MA	02145
28001-000005	17 OLD ROLLINSFORD RD	WENTWORTH DOUGLASS HOSPITAL	C/O MASS GENERAL BRIGHAM	399 REVOLUTION DR	SOMERVILLE	MA	02145
28001-000006	17 OLD ROLLINSFORD RD	WENTWORTH DOUGLASS HOSPITAL	C/O MASS GENERAL BRIGHAM	399 REVOLUTION DR	SOMERVILLE	MA	02145
28001-000007	19 OLD ROLLINSFORD RD	WENTWORTH DOUGLASS HOSPITAL	C/O MASS GENERAL BRIGHAM	399 REVOLUTION DR	SOMERVILLE	MA	02145
28037-000101	15 101 OLD ROLLINSFORD RD	WENTWORTH DOUGLASS HOSPITAL	C/O MASS GENERAL BRIGHAM	399 REVOLUTION DR	SOMERVILLE	MA	02145
28037-000102	15 102 OLD ROLLINSFORD RD	WENTWORTH DOUGLASS HOSPITAL	C/O MASS GENERAL BRIGHAM	399 REVOLUTION DR	SOMERVILLE	MA	02145
28037-000201	15 201 OLD ROLLINSFORD RD	WENTWORTH DOUGLASS HOSPITAL	C/O MASS GENERAL BRIGHAM	399 REVOLUTION DR STE 1345	SOMERVILLE	NH	02145
28037-000202	15 202 OLD ROLLINSFORD RD	WENTWORTH DOUGLASS HOSPITAL	C/O MASS GENERAL BRIGHAM	399 REVOLUTION DR STE 1345	SOMERVILLE	NH	02145
28037-000301	15 301 OLD ROLLINSFORD RD	WENTWORTH DOUGLASS HOSPITAL	C/O MASS GENERAL BRIGHAM	399 REVOLUTION DR STE 1345	SOMERVILLE	NH	02145
28034-000000	34 FLORAL AV	34 FLORAL AVE CONDOMINIUMS		278 WASHINGTON ST	DOVER	NH	03820-8633
28034-000001	34 1 FLORAL AV	STESIENKO ANDREW J &	STESIENKO JAIME C	34 1 FLORAL AV	DOVER	NH	03820
28034-000002	34 2 FLORAL AV	MUNROE JULIA		34 2 FLORAL AV	DOVER	NH	03820
28034-000003	34 3 FLORAL AV	LEMOINE MATTHEW B		34 3 FLORAL AV	DOVER	NH	03820
28034-000004	34 4 FLORAL AV	SCHILD KELSEY ANN &	CONROY BRETT TYLER	34 FLORAL AVE UNIT 4	DOVER	NH	03820
28034-000005	34 5 FLORAL AV	SAUL LUKAS		18 QUAKER LN	DOVER	NH	03820
28034-000006	34 6 FLORAL AV	KUSCH JAMES D &	KUSCH ANN M	7 MARBLEHEAD RD	WINDHAM	NH	03087

DocuSign

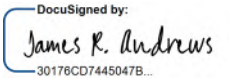
Certificate Of Completion

Envelope Id: 48B968E8A0C24ADAAF7275DD30F1E558
Status: Completed
Subject: Please DocuSign: 878765_DISH_559179_LOA.pdf
Source Envelope:
Document Pages: 4
Signatures: 2
Certificate Pages: 4
Initials: 0
AutoNav: Enabled
EnvelopeId Stamping: Enabled
Time Zone: (UTC-05:00) Eastern Time (US & Canada)

Envelope Originator:
Bradley Pevonka
2000 Corporate Drive
Canonsburg, PA 15317
Bradley.Pevonka.Contractor@crowncastle.com
IP Address: 98.222.112.157

Record Tracking

Status: Original
4/1/2022 4:35:32 PM
Holder: Bradley Pevonka
Bradley.Pevonka.Contractor@crowncastle.com
Location: DocuSign

Signer Events	Signature	Timestamp
James R. Andrews verticalprop@ltesite.com Security Level: Email, Account Authentication (None)	DocuSigned by:  30176CD7445047B... Signature Adoption: Pre-selected Style Signed by link sent to verticalprop@ltesite.com Using IP Address: 65.175.223.200	Sent: 4/1/2022 4:40:19 PM Resent: 4/19/2022 11:40:30 AM Resent: 4/19/2022 11:41:04 AM Viewed: 4/19/2022 5:31:44 PM Signed: 4/19/2022 5:32:39 PM

Electronic Record and Signature Disclosure:
Accepted: 4/3/2022 4:02:20 PM
ID: 15a4e64f-99fe-462d-af34-1273b0637ae6

In Person Signer Events	Signature	Timestamp

Editor Delivery Events	Status	Timestamp

Agent Delivery Events	Status	Timestamp

Intermediary Delivery Events	Status	Timestamp

Certified Delivery Events	Status	Timestamp

Carbon Copy Events	Status	Timestamp
Bradley Pevonka bradley.pevonka.contractor@crowncastle.com Security Level: Email, Account Authentication (None)	COPIED	Sent: 4/1/2022 4:40:19 PM Resent: 4/19/2022 5:32:41 PM Viewed: 4/26/2022 11:41:41 AM

Electronic Record and Signature Disclosure:
Not Offered via DocuSign

Witness Events	Signature	Timestamp

Notary Events	Signature	Timestamp

Envelope Summary Events	Status	Timestamps
Envelope Sent	Hashed/Encrypted	4/1/2022 4:40:19 PM
Certified Delivered	Security Checked	4/19/2022 5:31:44 PM
Signing Complete	Security Checked	4/19/2022 5:32:39 PM
Completed	Security Checked	4/19/2022 5:32:39 PM

Payment Events	Status	Timestamps
Electronic Record and Signature Disclosure		

Electronic Record and Signature Disclosure created on: 9/19/2018 4:13:40 PM
Parties agreed to: James R. Andrews

ELECTRONIC RECORD AND SIGNATURE DISCLOSURE

In order to provide more efficient and faster service, Crown Castle (“we”, “us” or “company”) is pleased to announce the use of DocuSign, Inc. (“DocuSign”) electronic signing system. The terms for providing such documents for execution and various other documents and records to you electronically through DocuSign are set forth below. Please read the information below carefully and if you can satisfactorily access this information electronically and agree to these terms, please confirm your agreement by clicking the “I agree” button at the bottom of this document.

Getting paper copies

At any time, you may request from us a paper copy of any document for execution or other document or record provided or made available electronically to you by us. You will be able to download and print documents we send to you through the DocuSign system during and immediately after each signing session and, if you elect to create a DocuSign signer account, you may access them for a limited period of time thereafter. To request paper copies of documents previously provided by us to you electronically, send an e-mail to esignature@CrownCastle.com, requesting the subject paper copies and stating your e-mail address, name, US Postal address and telephone number.

Withdrawing your consent to receive and/or execute documents electronically

If you elect to receive documents for execution and various other documents and records from us electronically, you may at any time change your mind and tell us that thereafter you want to receive such documents only in paper format. To withdraw your consent to electronic delivery and execution of documents, use the DocuSign 'Withdraw Consent' form on the signing page of a DocuSign envelope, instead of signing it. Thereafter, you will no longer be able to use the DocuSign system to electronically receive and execute documents or other records from us. You may also send an e-mail to esignature@CrownCastle.com stating that you are withdrawing your consent to electronic delivery and execution of documents through the DocuSign system and stating your e-mail address, name, US Postal Address, and telephone number.

Consequences of withdrawing consent to receive and/or execute documents electronically

If you elect to receive documents for execution and various other documents and other records only in paper format, it will slow the speed at which we can complete the subject transactions because of the increased delivery time.

Documents for execution, and other documents and records may be sent to you electronically

Unless you tell us otherwise in accordance with the procedures described herein, we may provide documents for execution, and other documents and records electronically to you through the DocuSign system during the course of our relationship with you. To reduce the chance of you inadvertently not receiving any document for execution or other document or record, we prefer to provide all documents for execution, and other documents and records by the same method and to the same address that you have given us. If you do not agree with this process, please let us know as described below.

How to contact Crown Castle

You may contact us to let us know of any changes related to contacting you electronically, to request paper copies of documents for execution and other documents and records from us, and to withdraw your prior consent to receive documents for execution and other documents and records electronically as follows:

To contact us by phone call: 724-416-2000
To contact us by email, send messages to: esignature@CrownCastle.com
To contact us by paper mail, send correspondence to
Crown Castle
2000 Corporate Drive
Canonsburg, PA 15317

To advise Crown Castle and DocuSign of your new e-mail address

To let us know of a change to the e-mail address where we should send documents for execution and other documents and records to you, you must send an email message to esignature@CrownCastle.com and state your previous e-mail address and your new e-mail address.

In addition, you must notify DocuSign, Inc. to arrange for your new email address to be reflected in your DocuSign account by following the process for changing e-mail in the DocuSign system.

Required hardware and software

Browsers:	Internet Explorer® 11 (Windows only); Windows Edge Current Version; Mozilla Firefox Current Version; Safari™ (Mac OS only) 6.2 or above; Google Chrome Current Version; **Note** : Pre-release (e.g., beta) versions of operating systems and browsers are not supported.
Mobile Signing:	Apple iOS 7.0 or above; Android 4.0 or above
PDF Reader:	Acrobat® Reader or similar software may be required to view and print PDF files
Screen Resolution:	1024 x 768

Enabled Security Settings:	Allow per session cookies

These minimum requirements are subject to change. If these requirements change, you will be asked to re-accept the disclosure. Pre-release (e.g. beta) versions of operating systems and browsers are not supported.

Acknowledging your access and consent to receive documents electronically

Please confirm that you were able to access this disclosure electronically (which is similar to the manner in which we will deliver documents for execution and other documents and records) and that you were able to print this disclosure on paper or electronically save it for your future reference and access or that you were able to e-mail this disclosure to an address where you will be able to print it on paper or save it for your future reference and access. Further, if you consent to receiving documents for execution and other documents and records in electronic format on the terms described above, please let us know by clicking the “I agree” button below.

By checking the 'I agree' box, I confirm that:

- You can access and read this Electronic Record and Signature Disclosure; and
- As a recipient, you can read, electronically sign and act upon this message, and you agree not to forward it or any other DocuSign e-mail communications. In the event another party needs to be added to the DocuSign communication, you must make a request to the e-mail originator.

List Any Associated State or Federal Permits That Have Been or Will Be Applied For and Indicate Their Status: _____

_____

Name of Professional That Prepared Plans: Andrew Schall

Address 421 Fayetteville St Suite 600 Raleigh, NC 27601 Telephone #: _____

Professional License #: 15914 E-mail address: _____

SIGNATURES

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

Signature of Property Owner: _____ Date: _____

Signature of Applicant (if different from owner): Colin Robinson Date: 3/22/22

Signature of Agent: Colin Robinson Date: 3/22/22

AUTHORIZATION TO ENTER SUBJECT PROPERTY

I, and my successors, hereby authorize members of the Dover Planning Board, Planning Department and other pertinent City Departments and boards to enter my property for the purpose of evaluating this application, including performing inspections during the application phase, post-approval phase, construction phase and occupancy phase. It is understood that these individuals must use all reasonable care, courtesy, and diligence when on the property.

Signature of Property Owner: _____ Date: _____

CITY OF DOVER CONDITIONAL USE
LIST OF ABUTTERS

Pursuant to RSA 676:4, the State Law of New Hampshire, the City of Dover is required to notify the applicant, abutters (including holders of conservation easements), and any professional whose seal is on the plan, of the public hearing by certified mail, return receipt requested. Staff will provide the abutter information, while the applicant must provide accurate contact information for the owner, applicant and professional agents representing the project.

Owner:

TAX MAP	LOT #	PROPERTY OWNER	MAILING ADDRESS

Applicant (if different from owner):

APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS

Surveyor and/or Engineer/Professional Agent:

NAME	COMPANY	MAILING ADDRESS

Conservation Easement Holder:

TAX MAP	LOT #	NAME OF EASEMENT HOLDER	MAILING ADDRESS

PLANNING BOARD FEE SCHEDULE/INVOICE

(Revised July 1, 2021)

Below are the fees associated with plan review and are subject to a nonrefundable application fee to cover administrative expenses. Please complete the information below and provide payment with your application submittal. **Plan Review Fees shall be paid prior to technical review committee (TRC) being scheduled.** For plans not requiring TRC review, **fees are due 21 days prior** to the Planning Board meeting. Staff will coordinate abutter/notice fees, which will be invoiced and must be paid 28 hours before the Planning Board meeting for an application to be heard. Fees shall be paid by cash or check made payable to "City of Dover".

A. Plan Review Fees

1. Application fee for the following (SELECT ALL THAT APPLY):

- ☐ SUBDIVISION Application fee $200.00 + $150.00 x # _____ new lots created = $_____
- ☐ LOT LINE ADJUSTMENT Application fee $200.00 + $100.00 X # ___ of lots involved = $_____
- ☐ TRANSFER OF DEVELOPMENT RIGHTS Application fee $200.00 = $_____
- ☐ SITE REVIEW – RESIDENTIAL Application fee $200.00+ $100.00 x # __ per dwelling unit =$_____
- ☐ SITE REVIEW – NON-RESIDENTIAL Application fee $200.00 + (not to exceed $10,000)
  - New construction $.15 sq. ft. x # _____ sq. ft.= $_____
  - Additions (new floor space) $.10 per sq. ft. x # _____sq. ft.= $_____
- ☐ MOTEL/HOTEL $35.00 x # ___ per lodging unit= $_____
- ☐ CHANGE OF USE Application fee $200.00 + (not to exceed $5,000)
  - Existing floor spaces $.10 per sq. ft. x # _____ sq. ft. = $_____
- ☐ CONDITIONAL USE PERMIT Application fee $200.00 x # _____ per Application = $_____
- ☐ GRAVEL PIT/ EXCAVATIONS
  - Application fee $50.00= $_____
  - Permit fee $75.00= $_____
- ☐ EXTENSIONS/AMENDMENTS/WAIVERS FOR AN APPROVED PLAN Application fee $200.00 = $_____
- ☐ REQUEST FOR REZONING Application fee $200.00 = $_____
- ☐ DRIVEWAY WAIVER Application fee $200.00 = $_____

2. TOTAL IMPERVIOUS PAVED AREA (for new development, roadways or additions to existing parking lots, (not to exceed $10,000)) Application fee of $200.00 is N/A if it is part of a Site Review or Subdivision Plan. $200.00 + $.07 per sq. ft. x # _____ sq. ft. = $_____

SUBTOTAL PLAN REVIEW FEE (A) = $_____

AND

B. Abutter Notification/Mailing Labels - this office will create and print the abutter list and provide labels in triplicate for each abutter. The applicant/owner will review the list for accuracy and provide to us the engineer, architect, licensed land surveyor (LLS), licensed landscape architect (LLA) and/or soil scientist whose professional seal appears on the plan with names and addresses for notices.

- ☐ Applicant & Owner, engineer, architect, LLS, LLA and/or soil scientist
  - Certified letters fee # _____ of x $8.00= $_____
- ☐ Certified letters fee: # of abutters _____ X $8.00= $_____
- ☐ First Class Mail fee (for individual owner of units within a condominium or other collective form of ownership): # of abutters _____ X $1.00= $_____
- ☐ Creating/Printing Abutter Labels in triplicate per sheet _____ x $10.00= $_____

C. Foster's newspaper public notice fee $100.00 x # _____ applications = $_____

SUBTOTAL NOTICE FEE (B & C) = $_____

TOTAL INVOICE AMOUNT (A, B & C) = $_____

PLAN REVIEW FEE COLLECTED/PAID = $ _____

BALANCE DUE = $ _____

The balance due must be paid 28 hours prior to the Planning Board Meeting, to be heard.

CROWN CASTLE

1 Cityplace Dr, Suite 490
Creve Coeur, MO 63141

Phone: (314) 513-0147
www.crowncastle.com

April 4, 2022

Donna Benton
Planning Department
City of Dover, NH
288 Central Avenue
Dover, NH 03820-4169
Via: FEDEX
603.516.6008

************NOTICE OF ELIGIBLE FACILITIES REQUEST************

RE: Request for Minor Modification to Existing Wireless Facility – Section 6409
Site Address: 10 /15 Abbey Sawyer Memorial Dr. Dover NH 03820
Crown Site Number: 878765 / Crown Site Name: DOVER
Customer Site Number: BOBOS00460B / Application Number: 559179

Dear Ms. Benton:

On behalf of Dish Wireless LLC, Crown Castle USA Inc. ("Crown Castle") is pleased to submit Conditional Use Permit Application for the above referenced site. The proposed colocation of equipment on the existing tower complies with Dover Code §170-22.G criteria.

G. Restrictions for Siting on Garrison Hill
Notwithstanding the provisions outlined in Subsection C, the siting of additional TOWERs, monopoles, or use of Alternative STRUCTUREs shall be prohibited on Garrison Hill in the City of Dover. Placement of new ANTENNAE media on the existing TOWERs on Garrison Hill shall be allowed only after obtaining a Conditional Use Permit from the PLANNING BOARD. However, the replacement and/or repair of existing ANTENNAE media on TOWERs on Garrison Hill is allowed by the Building Inspector, provided that there is no increase in the size or visual impact of the ANTENNAE. Performance standards to ensure that vistas, view sheds and view corridors are protected shall include the following elements:

Applicant Response: Antennae are proposed on an existing tower.

(1) The APPLICANT has demonstrated that the appearance, form or shape, color, and size of any ANTENNA media to be attached to preexisting TOWERs or monopole STRUCTUREs is concealed or camouflaged or otherwise is harmonious with the immediately surrounding environment at Garrison Hill;

-, ,

CROWN CASTLE

1 Cityplace Dr, Suite 490
Creve Coeur, MO 63141

Phone: (314) 513-0147
www.crowncastle.com

Applicant Response: The proposed antennae are of similar design and color to the existing antennae and are therefore harmonious with the existing antennae on the towers in the area. Please see attached photo simulations.

(2) Any equipment shelters supporting such additional ANTENNA shall be designed consistent with one of the following design standards:
(a) Equipment shelter shall be located in underground vaults; or (b) Equipment shelter shall be designed consistent with Northern New England architectural styles and materials, with a roof pitch of at least ten and a half (10 1/2) and wood clapboard, red brick or shingle siding; or

Applicant Response: An equipment shelter is not proposed. The proposed equipment is to be located behind the existing equipment and shelter. The proposed equipment is within the existing compound / equipment area.

(c) Equipment shelters shall be camouflaged behind an effective year round landscaped buffer, equal to the HEIGHT of the proposed BUILDING and/or wooden FENCE. PLANNING BOARD shall determine the style of fencing and/or landscaped buffer that is compatible with the NEIGHBORHOOD.

Applicant Response: An equipment shelter is not proposed. The proposed equipment is to be located behind the existing equipment and shelter. The proposed equipment is within the existing compound / equipment area.

(3) Any ANTENNA located on an existing STRUCTURE shall be concealed, to the extent technologically and commercially practicable, behind existing architectural features to limit the visibility of the ANTENNA from public ways.

Applicant Response: The proposed antennae are consistent with the existing antennae on the tower. The proposed antennae are lower than the existing antenna arrays and will therefore be less visible from public ways than the existing antenna.

Regards,
Colin Robinson
Colin Robinson – Agent of Dish Wireless LLC
NETWORK BUILDING + CONSULTING
100 Apollo Drive Suite 303 Chelmsford, MA 01824
crobinson@nbcllc.com 360-561-3311

-, ,

CROWN CASTLE

1 Cityplace Dr, Suite 490
Creve Coeur, MO 63141

Phone: (314) 513-0147
www.crowncastle.com

April 4, 2022

Donna Benton
Planning Department
City of Dover, NH
288 Central Avenue
Dover, NH 03820-4169
Via: FEDEX
603.516.6008

************NOTICE OF ELIGIBLE FACILITIES REQUEST************

RE: Request for Minor Modification to Existing Wireless Facility – Section 6409
Site Address: 10 /15 Abbey Sawyer Memorial Dr. Dover NH 03820
Crown Site Number: 878765 / Crown Site Name: DOVER
Customer Site Number: BOBOS00460B / Application Number: 559179

Dear Ms. Benton:

On behalf of Dish Wireless LLC, Crown Castle USA Inc. ("Crown Castle") is pleased to submit this request to modify the existing wireless facility noted above through the collocation, replacement and/or removal of the Applicant's equipment as an eligible facilities request for a minor modification under Section 6409[1] and the rules of the Federal Communications Commission ("FCC").[2]

Section 6409 mandates that state and local governments must approve any eligible facilities request for the modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station. If a state or local government, fails to issue any approvals required for this request within 60 days, these approvals are deemed granted. The FCC has clarified that the 60 day deadline begins when an applicant: (1) takes the first step required under state or local law; and (2) submits information sufficient to inform the jurisdiction that this modification qualifies under the federal law. Please note that with the submission of this letter and enclosed items, the sixty day review period has started. Based on this filing, the deadline for issuance of approval is (November 24th, 2021).

[1] Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. No. 112-96, § 6409 (2012) (codified at 47 U.S.C. § 1455).
[2] *Acceleration of Broadband Deployment by Improving Wireless Facility Siting Policies*, 29 FCC Rcd. 12865 (2014) (codified at 47 CFR § 1.6100); and *Implementation of State & Local Governments' Obligation to Approve Certain Wireless Facility Modification Requests Under Section 6409(a) of the Spectrum Act of 2012*, WT Docket No. 19-250 (June 10, 2020).

CROWN CASTLE

1 Cityplace Dr, Suite 490
Creve Coeur, MO 63141

Phone: (314) 513-0147
www.crowncastle.com

The proposed scope of work for this project includes:

Install antennas, ancillary tower and ground equipment etc. at an unmanned wireless facility with no change to structure height or ground space.

At the end of this letter is a checklist of the applicable substantial change criteria under Section 6409. Additionally, please find enclosed the following information in support of this request:

(1) Conditional Use Application;
(2) Construction Drawings;
(3) Structural Analysis;
(4) Section 6409 Substantial Change Checklist;
(5) Photo Simulations;
(6) 170-22.G Narrative.

As these documents indicate, (i) the modification involves the collocation, removal or replacement of transmission equipment; and (ii) such modification will not substantially change the physical dimensions of such tower or base station. As such, it is an "eligible facilities request" as defined in the FCC's rules to which the 60 day deadline for approval applies. Accordingly, Applicant requests all authorization necessary for this proposed minor modification under Section 6409.

Our goal is to work with you to obtain approvals earlier than the deadline. We will respond promptly to any request for related information you may have in connection with this request. Please let us know how we can work with you to expedite the approval process. We look forward to working with you on this important project, which will improve wireless telecommunication services in your community using collocation on existing infrastructure. If you have any questions, please do not hesitate to contact me.

Regards,

Colin Robinson

Colin Robinson – Agent of Dish Wireless LLC
NETWORK BUILDING + CONSULTING
100 Apollo Drive Suite 303 Chelmsford, MA 01824
crobinson@nbcllc.com 360-561-3311

-, ,

CROWN CASTLE

1 Cityplace Dr, Suite 490
Creve Coeur, MO 63141

Phone: (314) 513-0147
www.crowncastle.com

Section 6409 Substantial Change Checklist
Towers Outside of the Public Right of Way

The Federal Communications Commission has determined that a modification substantially changes the physical dimension of a wireless tower or base station under 47 U.S.C. § 1455(a) if it meets one of six enumerated criteria under 47 C.F.R. § 1.6100.

Criteria for Towers Outside the Public Rights of Way

NO	Does the modification increase the height of the tower by more than the greater of: (a) 10%; or (b) the height of an additional antenna array plus separation of up to 20 feet from the top of the nearest existing antenna?
NO	Does the modification add an appurtenance to the body of the tower that would protrude from the edge of the tower more than 20 feet or more than the width of the tower structure at the level of the appurtenance, whichever is greater?
NO	Does the modification involve the installation of more than the standard number of new equipment cabinets for the technology involved or add more than four new equipment cabinets?
NO	Does the modification entail any excavation or deployment outside the current site by more than 30 feet in any direction, not including any access or utility easements?
NO	Does the modification defeat the concealment elements of the eligible support structure?
NO	Does the modification violate conditions associated with the siting approval with the prior approval the tower or base station other than as specified in 47 C.F.R. § 1.6100(c)(7)(i) – (iv)?

If all questions in the above are area answered "NO," then the modification does not constitute a substantial change to the existing tower under 47 C.F.R. § 1.6100.

EXISTING VIEW

dish wireless

PHOTO SIMULATION

EQUIPMENT COLOCATION

VIEW FROM NORTH OF SITE

BOBOS00460B

19 HIGHLAND AVE

ROLLINSFORD, NH 03869

EXISTING VIEW

dish wireless

PHOTO SIMULATION

EQUIPMENT COLOCATION

VIEW FROM EAST OF SITE

BOBOS00460B

19 HIGHLAND AVE

ROLLINSFORD, NH 03869

P22-26 **10-15 Abbey Sawyer Memorial Drive**

Property ID	Location	Owner 1	Owner 2	Owner Address 1	City	State	Zip
28001-000000	17 19 OLD ROLLINSFORD RD	DOVER DOCTORS' PARK CONDOMINIUM		17 OLD ROLLINSFORD RD	DOVER	NH	03820
28009-B00000	3 ABBEY SAWYER MEMORIAL DR	SLIWINSKI FREDERICK J	SLIWINSKI BARBARA A	3 ABBEY SAWYER MEMORIAL DR	DOVER	NH	03820
28009-C00000	1 24 JEFFERSON DR	6 BRICK ROAD LLC		42 J DOVER POINT RD	DOVER	NH	03820
28015-000000	10 BRICK RD	DOVER COAST LLC		10 BRICK RD	DOVER	NH	03820
28015-A00000	BRICK RD	DOVER COAST LLC		10 BRICK RD	DOVER	NH	03820
28016-000000	12 BRICK RD	WINTLE ERIN		12 BRICK ROAD	DOVER	NH	03820
28019-A00000	OAK ST	MCQUADE REALTY INC		PO BOX 1409	DOVER	NH	03820
28025-000000	7 FLORAL AV	MCQUADE REALTY INC		PO BOX 1409	DOVER	NH	03820
28025-D00000	HIGH RIDGE DR	HIGH RIDGE ASSOCIATES	C/O CP MANAGEMENT INC	80 NASHUA RD	LONDONDERRY	NH	03053
28026-A00000	13 HIGH RIDGE DR	LYNCH BRYON E &	GAY RACHEL L	13 HIGH RIDGE DR	DOVER	NH	03820
28027-000000	46 OAK ST	LIANG QIONG YU		46 OAK ST	DOVER	NH	03820
28028-000000	48 OAK ST	DEMARSICO LISA &	XANTHOS ARTHUR E	48 OAK ST	DOVER	NH	03820
28029-000000	50 OAK ST	SPOLEY JOHN R		50 OAK ST	DOVER	NH	03820
28030-000000	62 OAK ST	FITT CHRISTOPHER P		62 OAK ST	DOVER	NH	03820
28032-000000	10 ABBEY SAWYER MEMORIAL DR	CITY OF DOVER		288 CENTRAL AVENUE	DOVER	NH	03820
28033-000000	2 FLORAL AV	DUCLOS VALERIE BETH TRUSTEE	LESTER VALERIE REVOCABLE LIVING TRUST	2 FLORAL AVENUE	DOVER	NH	03820
28034-000000	34 FLORAL AV	34 FLORAL AVE CONDOMINIUMS		278 WASHINGTON ST	DOVER	NH	03820-8633
28034-000001	34 1 FLORAL AV	STESIENKO ANDREW J &	STESIENKO JAIME C	34 1 FLORAL AV	DOVER	NH	03820
28034-000002	34 2 FLORAL AV	MUNROE JULIA		34 2 FLORAL AV	DOVER	NH	03820
28034-000003	34 3 FLORAL AV	LEMOINE MATTHEW B		34 3 FLORAL AV	DOVER	NH	03820
28034-000004	34 4 FLORAL AV	SCHILD KELSEY ANN &	CONROY BRETT TYLER	34 FLORAL AVE UNIT 4	DOVER	NH	03820
28034-000005	34 5 FLORAL AV	SAUL LUKAS		18 QUAKER LN	DOVER	NH	03820
28034-000006	34 6 FLORAL AV	KUSCH JAMES D &	KUSCH ANN M	7 MARBLEHEAD RD	WINDHAM	NH	03087
28035-000000	4 FLORAL AV	HEDE GREGORY R & BONNIE T TRUSTEES	HEDE GREGORY AND BONNIE REVOCABLE LIVING	4 FLORAL AVENUE	DOVER	NH	03820
28036-000000	6 FLORAL AV	MACADAM DANIEL &	MACADAM ANNE FRANCES	6 FLORAL AV	DOVER	NH	03820
28037-000000	15 OLD ROLLINSFORD RD	WENTWORTH DOUGLASS HOSPITAL	C/O MASS GENERAL BRIGHAM	399 REVOLUTION DR	SOMERVILLE	MA	02145
28032-000LSE	15 ABBEY SAWYER MEMORIAL DR	ANDREWS JAMES	A/K/A VERTICAL REALITY PROPERTIES CO	21 ECHO BROOK RD	ROCHESTER	NH	03839
		CROWN CASTLE FOR DISH WIRELESS	COLIN ROBINSON	100 APOLLO DRIVE, SUITE 303	CHELMSFORD	MA	01824
			ANDREW SCHALL	421 FAYETTEVILLE STREET, SUITE 600	RALEIGH	NC	15914

P22-26 First Class Mail

Property ID	Location	Owner 1	Owner 2	Owner Address 1	City	State	Zip
28001-000001	17 OLD ROLLINSFORD RD	WENTWORTH-DOUGLASS HOSPITAL	C/O MASS GENERAL BRIGHAM	399 REVOLUTION DR	SOMERVILLE	MA	02145
28001-000002	17 OLD ROLLINSFORD RD	WENTWORTH DOUGLASS HOSPITAL	C/O MASS GENERAL BRIGHAM	399 REVOLUTION DR	SOMERVILLE	MA	02145
28001-000004	17 OLD ROLLINSFORD RD	WENTWORTH DOUGLASS HOSPITAL	C/O MASS GENERAL BRIGHAM	399 REVOLUTION DR	SOMERVILLE	MA	02145
28001-000005	17 OLD ROLLINSFORD RD	WENTWORTH DOUGLASS HOSPITAL	C/O MASS GENERAL BRIGHAM	399 REVOLUTION DR	SOMERVILLE	MA	02145
28001-000006	17 OLD ROLLINSFORD RD	WENTWORTH DOUGLASS HOSPITAL	C/O MASS GENERAL BRIGHAM	399 REVOLUTION DR	SOMERVILLE	MA	02145
28001-000007	19 OLD ROLLINSFORD RD	WENTWORTH DOUGLASS HOSPITAL	C/O MASS GENERAL BRIGHAM	399 REVOLUTION DR	SOMERVILLE	MA	02145
28037-000101	15 101 OLD ROLLINSFORD RD	WENTWORTH DOUGLASS HOSPITAL	C/O MASS GENERAL BRIGHAM	399 REVOLUTION DR	SOMERVILLE	MA	02145
28037-000102	15 102 OLD ROLLINSFORD RD	WENTWORTH DOUGLASS HOSPITAL	C/O MASS GENERAL BRIGHAM	399 REVOLUTION DR	SOMERVILLE	MA	02145
28037-000201	15 201 OLD ROLLINSFORD RD	WENTWORTH DOUGLASS HOSPITAL	C/O MASS GENERAL BRIGHAM	399 REVOLUTION DR STE 1345	SOMERVILLE	NH	02145
28037-000202	15 202 OLD ROLLINSFORD RD	WENTWORTH DOUGLASS HOSPITAL	C/O MASS GENERAL BRIGHAM	399 REVOLUTION DR STE 1345	SOMERVILLE	NH	02145
28037-000301	15 301 OLD ROLLINSFORD RD	WENTWORTH DOUGLASS HOSPITAL	C/O MASS GENERAL BRIGHAM	399 REVOLUTION DR STE 1345	SOMERVILLE	NH	02145
28034-000000	34 FLORAL AV	34 FLORAL AVE CONDOMINIUMS		278 WASHINGTON ST	DOVER	NH	03820-8633
28034-000001	34 1 FLORAL AV	STESIENKO ANDREW J &	STESIENKO JAIME C	34 1 FLORAL AV	DOVER	NH	03820
28034-000002	34 2 FLORAL AV	MUNROE JULIA		34 2 FLORAL AV	DOVER	NH	03820
28034-000003	34 3 FLORAL AV	LEMOINE MATTHEW B		34 3 FLORAL AV	DOVER	NH	03820
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28034-000005	34 5 FLORAL AV	SAUL LUKAS		18 QUAKER LN	DOVER	NH	03820
28034-000006	34 6 FLORAL AV	KUSCH JAMES D &	KUSCH ANN M	7 MARBLEHEAD RD	WINDHAM	NH	03087

DISH Wireless L.L.C. SITE ID:

BOBOS00460B

DISH Wireless L.L.C. SITE ADDRESS:

10 ABBEY SAWYER MEM HWY
DOVER, NH 03820

NEW HAMPSHIRE CODE OF COMPLIANCE

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES

CODE TYPE	CODE
BUILDING	NH STATE BUILDING CODE/2015 IBC W/ BCR 300 AMENDMENTS
MECHANICAL	NH STATE BUILDING CODE/2015 IMC W/ BCR 300 AMENDMENTS
ELECTRICAL	2017 NEC W/ BCR 300 AMENDMENTS

SHEET INDEX

SHEET NO.	SHEET TITLE
T-1	TITLE SHEET
A-1	OVERALL AND ENLARGED SITE PLAN
A-2	ELEVATION, ANTENNA LAYOUT AND SCHEDULE
A-3	EQUIPMENT PLATFORM AND H-FRAME DETAILS
A-4	EQUIPMENT DETAILS
A-5	EQUIPMENT DETAILS
A-6	EQUIPMENT DETAILS
E-1	ELECTRICAL/FIBER ROUTE PLAN AND NOTES
E-2	ELECTRICAL DETAILS
E-3	ELECTRICAL ONE-LINE, FAULT CALCS & PANEL SCHEDULE
G-1	GROUNDING PLANS AND NOTES
G-2	GROUNDING DETAILS
G-3	GROUNDING DETAILS
RF-1	RF CABLE COLOR CODE
GN-1	LEGEND AND ABBREVIATIONS
GN-2	GENERAL NOTES
GN-3	GENERAL NOTES
GN-4	GENERAL NOTES

SCOPE OF WORK

THIS IS NOT AN ALL INCLUSIVE LIST. CONTRACTOR SHALL UTILIZE SPECIFIED EQUIPMENT PART OR ENGINEER APPROVED EQUIVALENT. CONTRACTOR SHALL VERIFY ALL NEEDED EQUIPMENT TO PROVIDE A FUNCTIONAL SITE. THE PROJECT GENERALLY CONSISTS OF THE FOLLOWING:

TOWER SCOPE OF WORK:
- INSTALL (3) PROPOSED PANEL ANTENNAS (1 PER SECTOR)
- INSTALL (1) PROPOSED ANTENNA PLATFORM MOUNT
- INSTALL PROPOSED JUMPERS
- INSTALL (6) PROPOSED RRUs (2 PER SECTOR)
- INSTALL (1) PROPOSED OVER VOLTAGE PROTECTION DEVICE (OVP)
- INSTALL (1) PROPOSED HYBRID CABLE

GROUND SCOPE OF WORK:
- INSTALL (1) PROPOSED METAL PLATFORM
- INSTALL (1) PROPOSED PPC CABINET
- INSTALL (1) PROPOSED EQUIPMENT CABINET
- INSTALL (1) PROPOSED POWER CONDUIT
- INSTALL (1) PROPOSED TELCO CONDUIT
- INSTALL (1) PROPOSED TELCO-FIBER BOX
- INSTALL (1) PROPOSED GPS UNIT
- INSTALL (1) PROPOSED FIBER NID (IF REQUIRED)
- DISH Wireless L.L.C. TO UTILIZE EXISTING EMPTY METER AND DISCONNECT
- DISH Wireless L.L.C. TO UTILIZE EXISTING ICE BRIDGE

SITE PHOTO

UNDERGROUND SERVICE ALERT - DIG SAFE
UTILITY NOTIFICATION CENTER OF NEW HAMPSHIRE
(888) 344-7233
WWW.DIGSAFE.COM

CALL 3 WORKING DAYS UTILITY NOTIFICATION PRIOR TO CONSTRUCTION

GENERAL NOTES

THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. A TECHNICIAN WILL VISIT THE SITE AS REQUIRED FOR ROUTINE MAINTENANCE. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DISTURBANCE OR EFFECT ON DRAINAGE. NO SANITARY SEWER SERVICE, POTABLE WATER, OR TRASH DISPOSAL IS REQUIRED AND NO COMMERCIAL SIGNAGE IS PROPOSED.

11"x17" PLOT WILL BE HALF SCALE UNLESS OTHERWISE NOTED

CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON THE JOB SITE, AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

SITE INFORMATION

PROPERTY OWNER:	ANDREWS JAMES, A/K/A
ADDRESS:	VERTICAL REALITY PROPERTIES CO 21 ECHO BROOK RD ROCHESTER, NH 03839
TOWER TYPE:	MONOPOLE
CROWN CASTLE SITE ID:	878765
CROWN CASTLE APP NUMBER:	559179
COUNTY:	STRAFFORD
LATITUDE (NAD 83):	43° 12' 34.31" N 43.209531°
LONGITUDE (NAD 83):	70° 52' 8.57" W -70.869047°
ZONING JURISDICTION:	CITY OF DOVER
ZONING DISTRICT:	H*
PARCEL NUMBER:	09058-28032-000000
OCCUPANCY GROUP:	U
CONSTRUCTION TYPE:	II-B
POWER COMPANY:	EVERSOURCE
TELEPHONE COMPANY:	CONSOLIDATED COMMUNICATION

PROJECT DIRECTORY

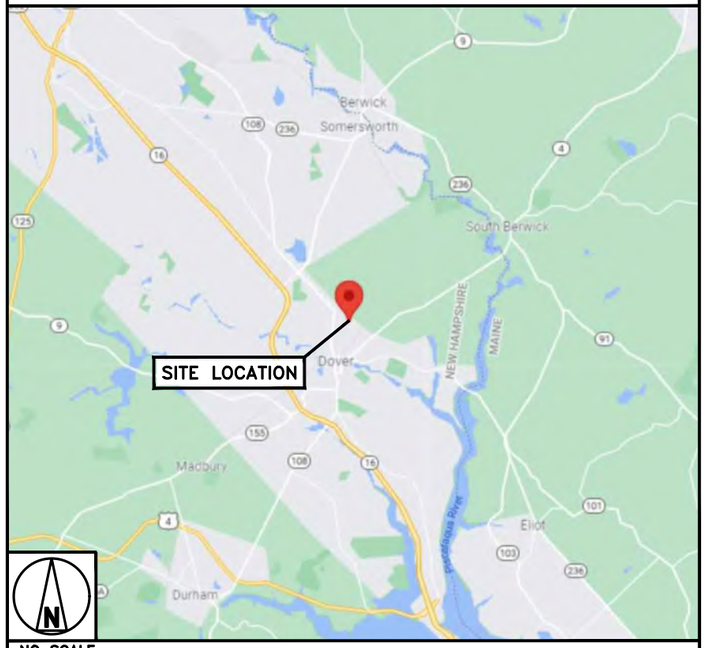
APPLICANT:	DISH WIRELESS, LLC. 5701 SOUTH SANTA FE DRIVE LITTLETON, CO 80120
TOWER OWNER:	CROWN CASTLE 2000 CORPORATE DRIVE CANONSBURG, PA 15317 (877) 486-9377
SITE DESIGNER:	KIMLEY-HORN & ASSOCIATES 3875 EMBASSY PKWY, SUITE 280 AKRON, OH 44333 (216) 505-7771
SITE ACQUISITION:	COURTNEY PRESTON COURTNEY.PRESTON.CONTRACTOR@CROWNCASTLE.COM
CONSTRUCTION MANAGER:	AARON CHANDLER AARON.CHANDLER@DISH.COM
RF ENGINEER:	VICTORIEN NDOUNOU VICTORIEN.NDOUNOU@DISH.COM

DIRECTIONS

DIRECTIONS FROM PORTSMOUTH INTERNATIONAL AIRPORT AT PEASE:

x GET ON US-4 W AND IN NEWINGTON FROM ARBORETUM DR (2.5 MI)
x FOLLOW US-4 W AND NH-16 N TO NH-108 N/CENTRAL AVE IN DOVER. TAKE EXIT 7 FROM NH-16 (6.1 MI)
x CONTINUE ON CENTRAL AVE. TAKE BROADWAY TO HIGHLAND IN ROLLINSFORD (2.3 MI)

VICINITY MAP



NO SCALE

dish wireless.

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

Kimley»Horn

421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601

STATE OF NEW HAMPSHIRE
ANDREW JAMES SCHALL
No. 15914
LICENSED PROFESSIONAL ENGINEER

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

DRAWN BY:	CHECKED BY:	APPROVED BY:
STR	MCK	---

RFDS REV #: 1

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
0	11/02/2021	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

KHCLE-17794

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBOS00460B
10 ABBEY SAWYER MEM HWY
DOVER, NH 03820

SHEET TITLE

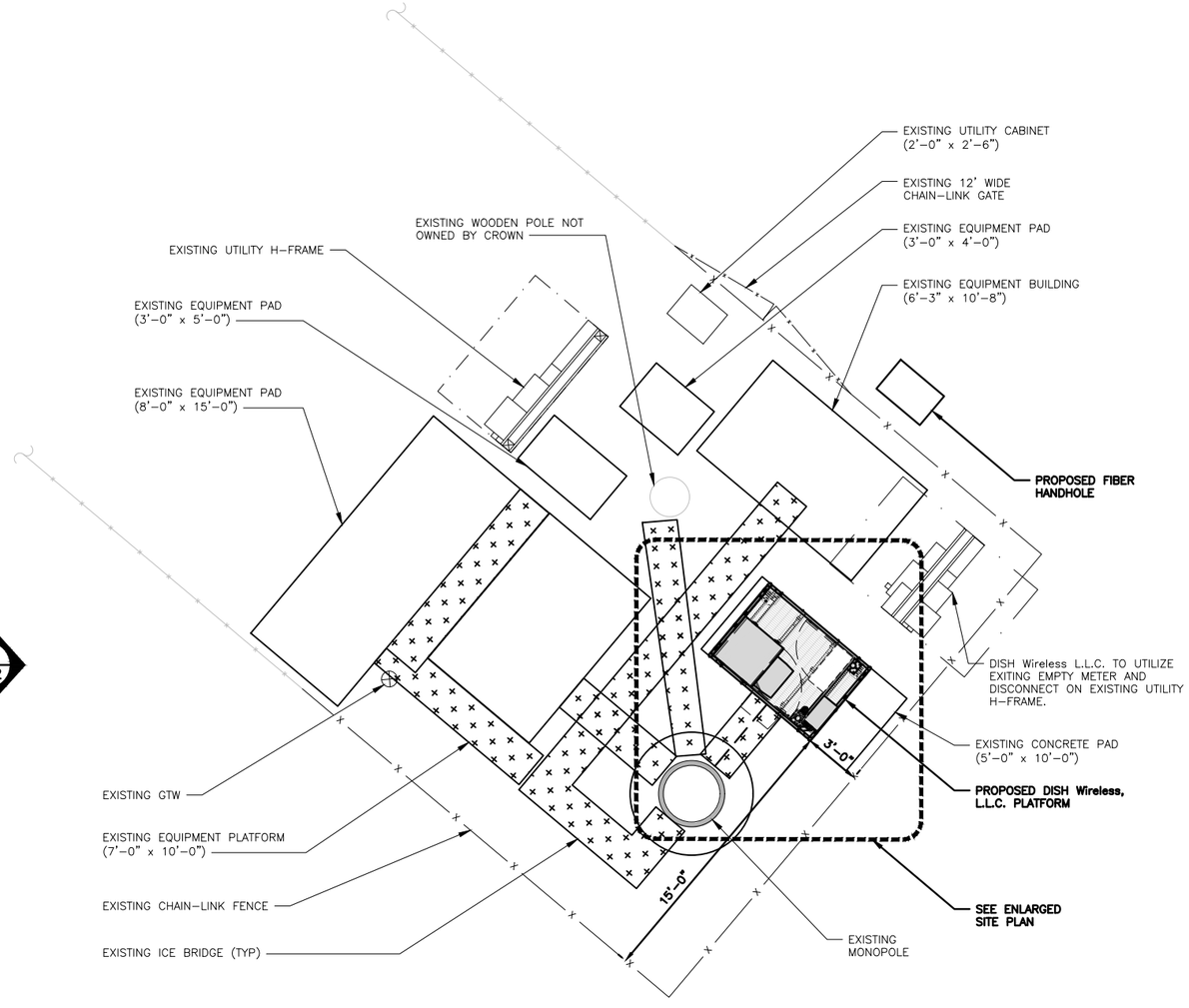
TITLE SHEET

SHEET NUMBER

T-1

NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.



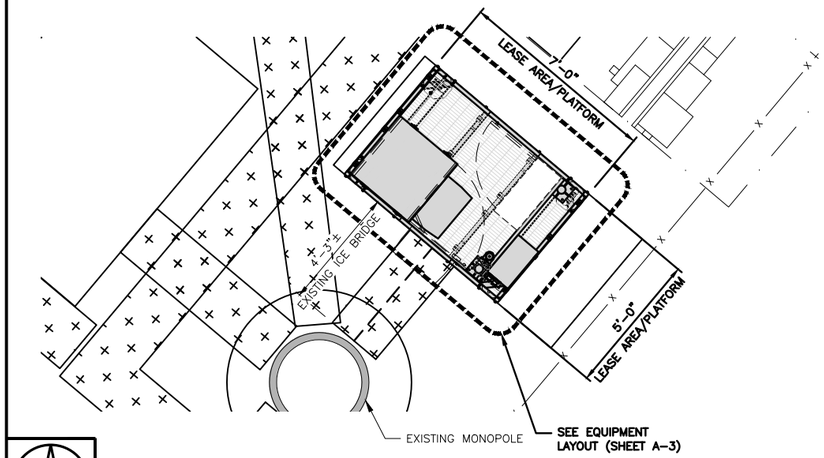
OVERALL SITE PLAN

4' 2' 0 4' 8'
1/4"=1'-0"

1

NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. CONTRACTOR SHALL MAINTAIN A 10'-0" MINIMUM SEPARATION BETWEEN THE PROPOSED GPS UNIT, TRANSMITTING ANTENNAS AND EXISTING GPS UNITS.
3. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.



ENLARGED SITE PLAN

12" 6" 0 1' 2' 3' 4' 5' 6' 7'
3/8"=1'-0"

2

OVERALL UTILITY ROUTE PLAN

NO SCALE

3

dish wireless.

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

Kimley»Horn

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RALEIGH, NC 27601

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STR	MCK	---

RFDS REV #: 1

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PROJECT INFORMATION

BOBOS00460B
10 ABBEY SAWYER MEM HWY
DOVER, NH 03820

SHEET TITLE

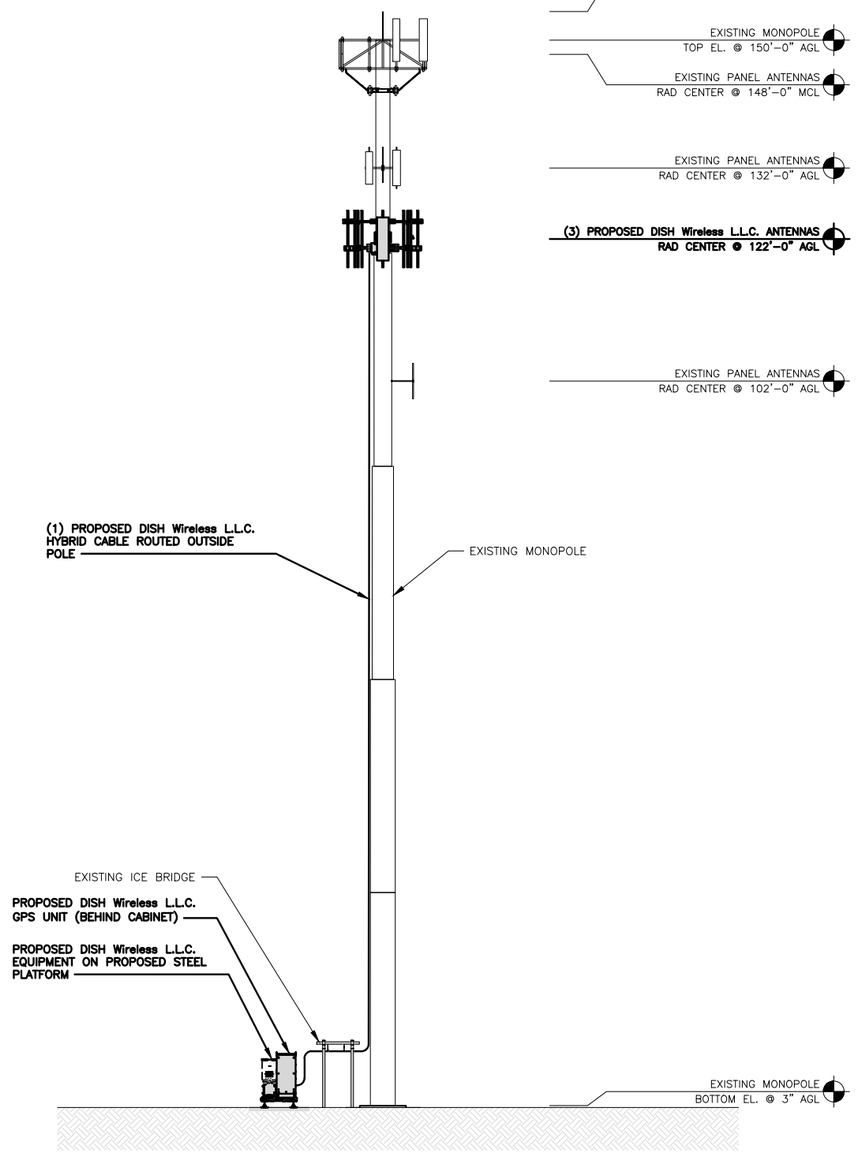
OVERALL AND ENLARGED SITE PLAN

SHEET NUMBER

A-1

NOTES

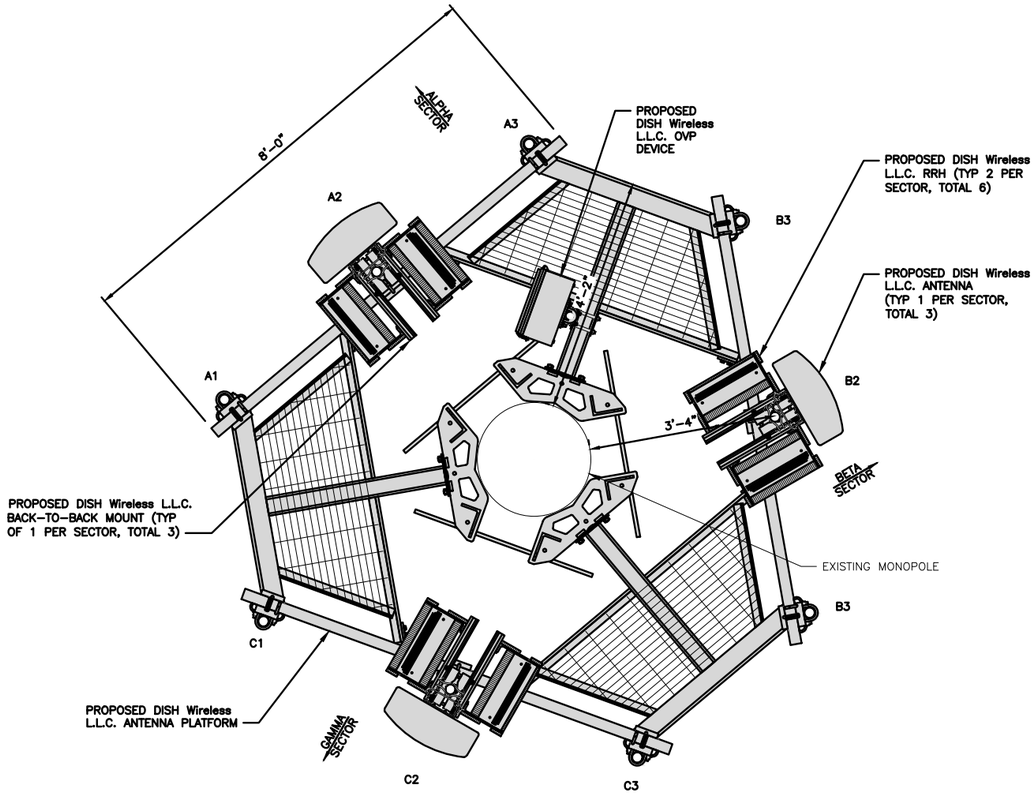
1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. ANTENNA AND MW DISH SPECIFICATIONS REFER TO ANTENNA SCHEDULE AND TO FINAL CONSTRUCTION RFDS FOR ALL RF DETAILS
3. EXISTING EQUIPMENT AND FENCE OMITTED FOR CLARITY.



PROPOSED WEST ELEVATION

12' 8' 4' 0 10' 20'
3/32"=1'-0"

1



ANTENNA LAYOUT

12" 6" 0 1' 2' 3'
3/4"=1'-0"

2

SECTOR POS.	ANTENNA					TRANSMISSION CABLE	RRH			OVP
	EXISTING OR PROPOSED	MANUFACTURER – MODEL NUMBER	TECH	AZIMUTH	RAD CENTER	FEED LINE TYPE AND LENGTH	MANUFACTURER – MODEL NUMBER	TECH	POS.	MANUFACTURER MODEL
A1	--	--	--	--	--	(1) HIGH-CAPACITY HYBRID CABLE (150'-0" LONG)	FUJITSU – TA08025-B604	5G	A2	RAYCAP RDIDC-9181-PF-48
A2	PROPOSED	JMA – MX08FRO665-21	5G	320°	122'-0"		FUJITSU – TA08025-B605	5G	A2	
A3	--	--	--	--	--		--	--	--	
B1	--	--	--	--	--	SHARED W/ALPHA	FUJITSU – TA08025-B604	5G	B2	SHARED W/ALPHA
B2	PROPOSED	JMA – MX08FRO665-21	5G	60°	122'-0"		FUJITSU – TA08025-B605	5G	B2	
B3	--	--	--	--	--		--	--	--	
C1	--	--	--	--	--	SHARED W/ALPHA	FUJITSU – TA08025-B604	5G	C2	SHARED W/ALPHA
C2	PROPOSED	JMA – MX08FRO665-21	5G	210°	122'-0"		FUJITSU – TA08025-B605	5G	C2	
C3	--	--	--	--	--		--	--	--	

NOTES

1. CONTRACTOR TO REFER TO FINAL CONSTRUCTION RFDS FOR ALL RF DETAILS.
2. ANTENNA AND RRH MODELS MAY CHANGE DUE TO EQUIPMENT AVAILABILITY. ALL EQUIPMENT CHANGES MUST BE APPROVED AND REMAIN IN COMPLIANCE WITH THE PROPOSED DESIGN AND STRUCTURAL ANALYSES.

ANTENNA SCHEDULE

NO SCALE

3

dish wireless.

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

Kimley»Horn

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RALEIGH, NC 27601

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DRAWN BY:	CHECKED BY:	APPROVED BY:
STR	MCK	---

RFDS REV #: 1

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
0	11/02/2021	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

KHCLE-17794

DISH Wireless L.L.C.
PROJECT INFORMATION

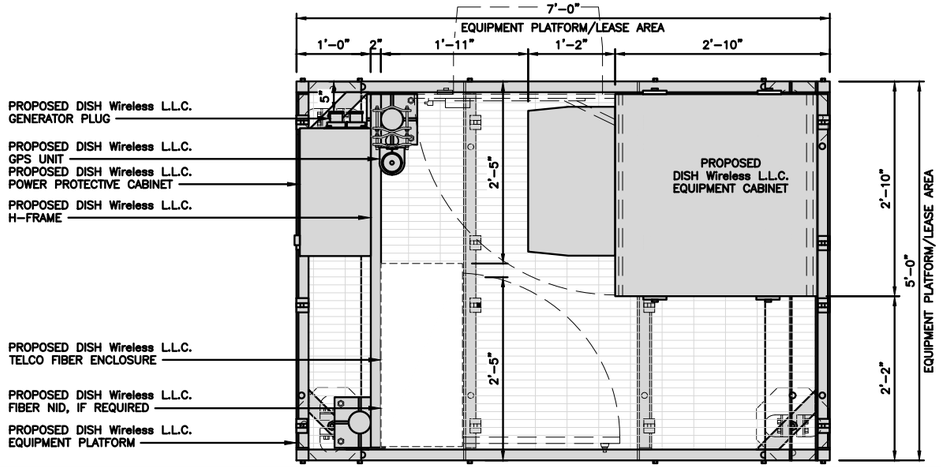
BOBOS00460B
10 ABBEY SAWYER MEM HWY
DOVER, NH 03820

SHEET TITLE

ELEVATION, ANTENNA LAYOUT AND SCHEDULE

SHEET NUMBER

A-2



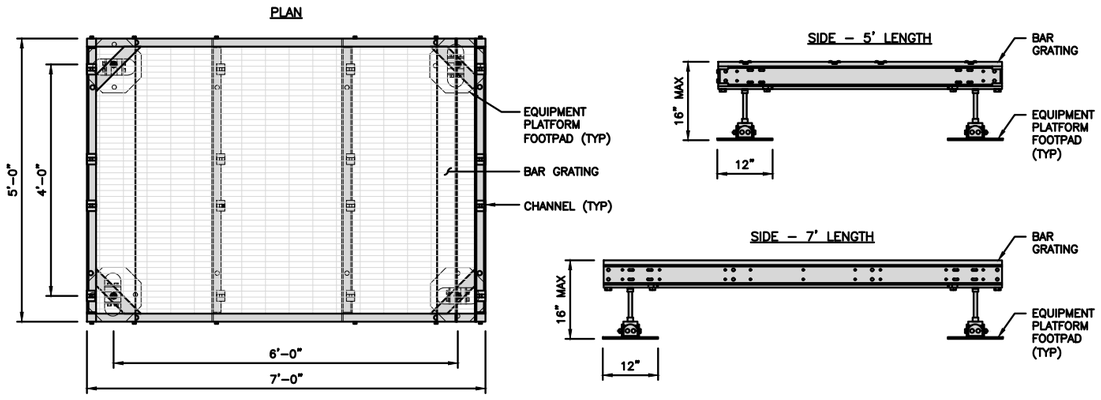
PLATFORM EQUIPMENT PLAN

12" 9" 6" 3" 0 1' 2'
1"=1'-0"

1

COMMSCOPE MTC4045LP 5X7 PLATFORM	
DIMENSIONS (HxWxD)	16"x84"x60"
TOTAL WEIGHT	423 LBS

NOTE:
1. GC TO PROVIDE EXTENDED THREAD FOR PLATFORM IF REQUIRED HEIGHT EXCEEDS 16"
2. PLATFORM TO BE LEVEL WITHIN 1"

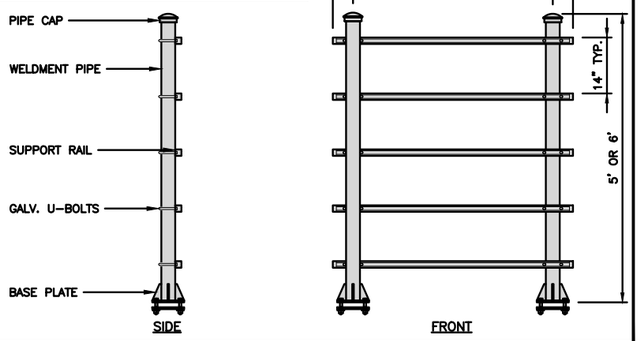


PLATFORM DETAIL

NO SCALE

2

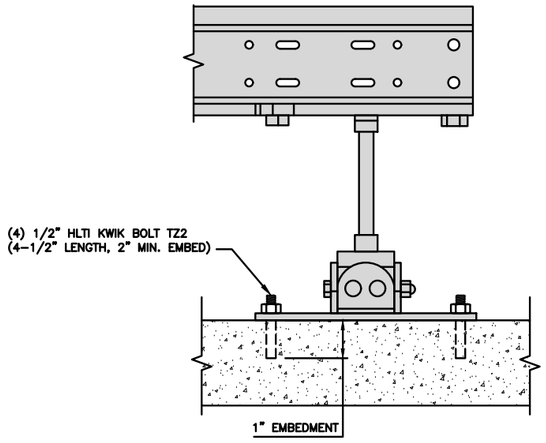
COMMSCOPE MTC4045HFLD H-FRAME	
UNISTRUT/SUPPORT RAILS QTY	5
WEIGHT	59.74 lbs



H-FRAME DETAIL

NO SCALE

3



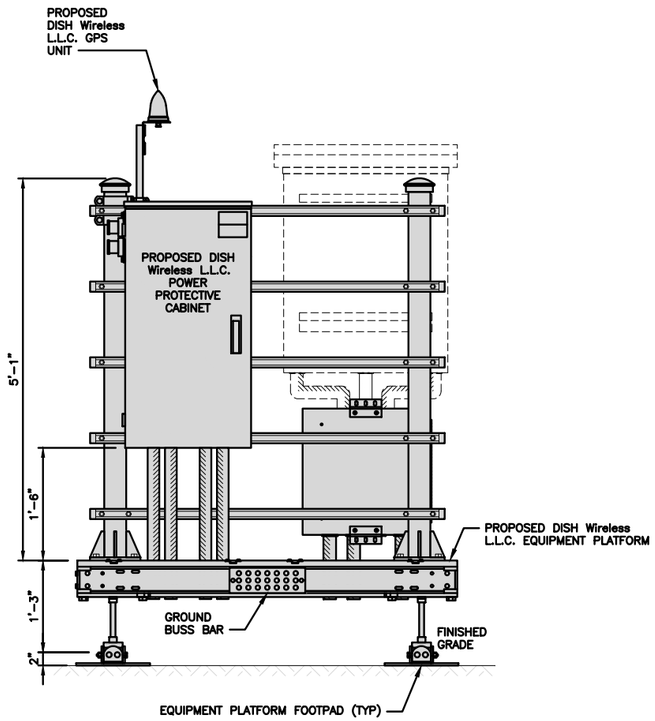
PLATFORM FOOTPAD ANCHOR DETAIL

NO SCALE

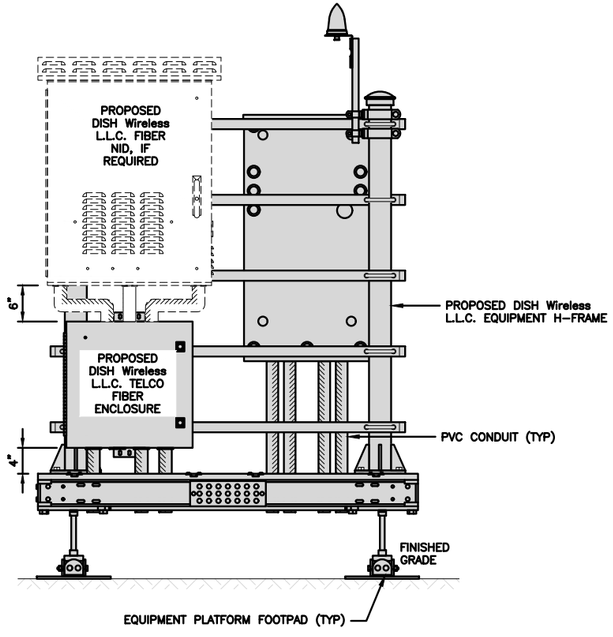
4

NOTES

1. EQUIPMENT CABINET OMITTED FOR CLARITY



FRONT ELEVATION



BACK ELEVATION

H-FRAME EQUIPMENT ELEVATION

12" 9" 6" 3" 0 1' 2'
1"=1'-0"

5

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LITTLETON, CO 80120

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RALEIGH, NC 27601

STATE OF NEW HAMPSHIRE
ANDREW JAMES SCHALL
No. 15914
LICENSED PROFESSIONAL ENGINEER

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

DRAWN BY:	CHECKED BY:	APPROVED BY:
STR	MCK	---

RFDS REV #: 1

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
0	11/02/2021	ISSUED FOR CONSTRUCTION

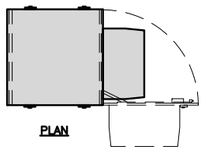
A&E PROJECT NUMBER
KHCLE-17794

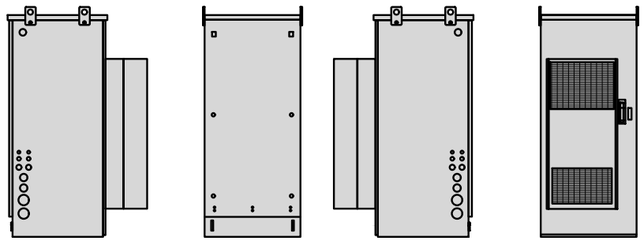
DISH Wireless L.L.C.
PROJECT INFORMATION
BOBOS00460B
10 ABBEY SAWYER MEM HWY
DOVER, NH 03820

SHEET TITLE
EQUIPMENT PLATFORM AND H-FRAME DETAILS

SHEET NUMBER
A-3

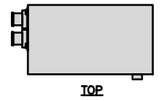
CHARLES INDUSTRY HEX CUBE–PM639155N4	
DIMENSIONS (HxWxD):	74"x32"x32"
POWER PLANT:	–48VDC ABB/600W
TOTAL WEIGHT (EMPTY)	408 LBS

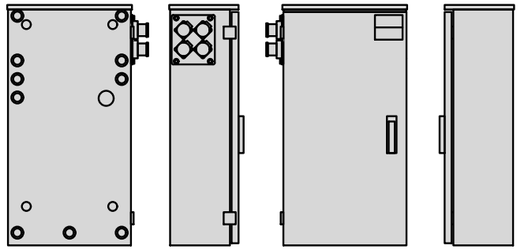




CABINET DETAIL | NO SCALE | 1

RAYCAP PPC RDIAC–2465–P–240–MTS	
ENCLOSURE DIMENSIONS (HxWxD):	39"x22.855"x12.593
WEIGHT:	80 lbs
OPERATING AC VOLTAGE	240/120 1 PHASE 3W+G

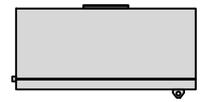


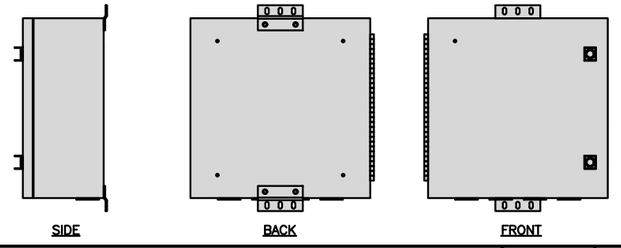


POWER PROTECTION CABINET (PPC) DETAIL | NO SCALE | 2

NOT USED | NO SCALE | 3

CHARLES CFIT–PF2020DSH1 FIBER TELCO ENCLOSURE	
ENCLOSURE DIMS (HxWxD)	20"x20"x9"
ENCLOSURE WEIGHT	20 lbs
MOUNTING	WALL
COMPLIANCE	TYPE 4





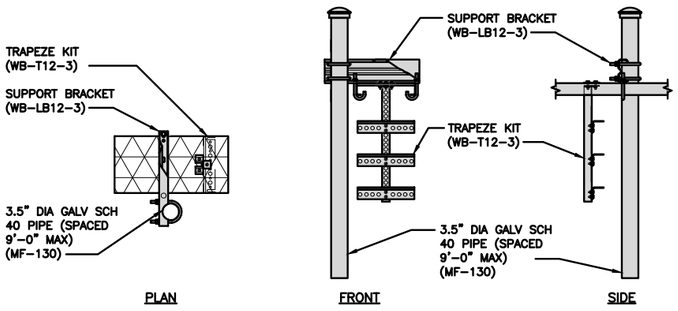
FIBER TELCO ENCLOSURE DETAIL | NO SCALE | 6

NOT USED | NO SCALE | 4

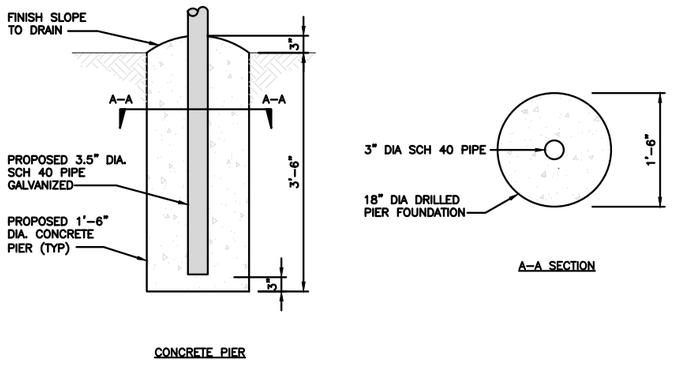
NOT USED | NO SCALE | 5

COMMSCOPE WB–K110–B WAVEGUIDE BRIDGE KIT	
DIMENSIONS (HxL)	160"x10'
WEIGHT/ VOLUME	325.0 LBS
CABLE RUN (QTY)	12

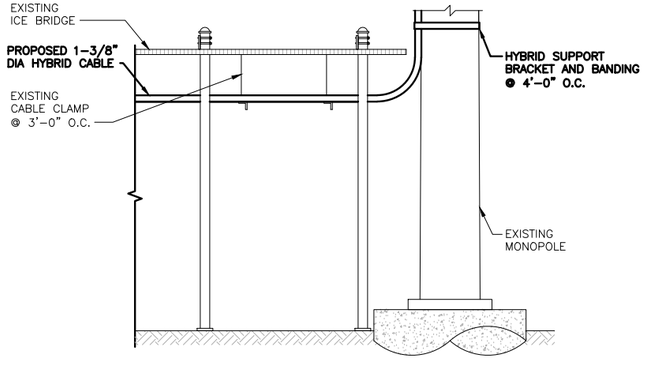
INCLUDED PRODUCTS:	WB–T12–3 TRAPEZE KIT, 3 RUNGS
	WB–LB12–3 SUPPORT BRACKET
	MF–130 DIRECT BURIAL PIPE COLUMN, 13'–4"



ICE BRIDGE DETAIL | NO SCALE | 7



TYPICAL ICE BRIDGE CONCRETE PIER DETAIL | NO SCALE | 8



HYBRID CABLE RUN | NO SCALE | 9

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KHCLE–17794

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBOS00460B
10 ABBEY SAWYER MEM HWY
DOVER, NH 03820

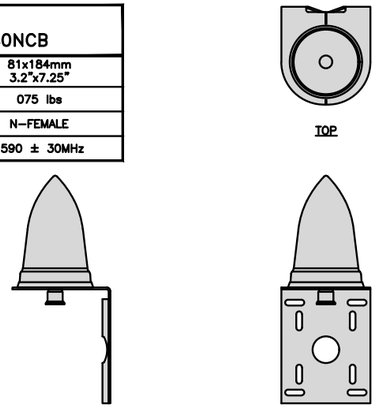
SHEET TITLE

EQUIPMENT DETAILS

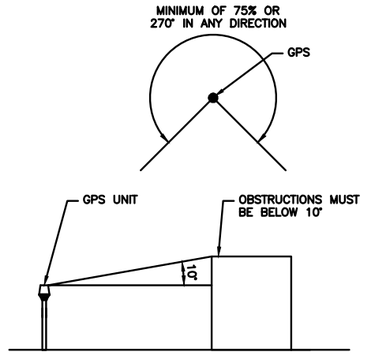
SHEET NUMBER

A-4

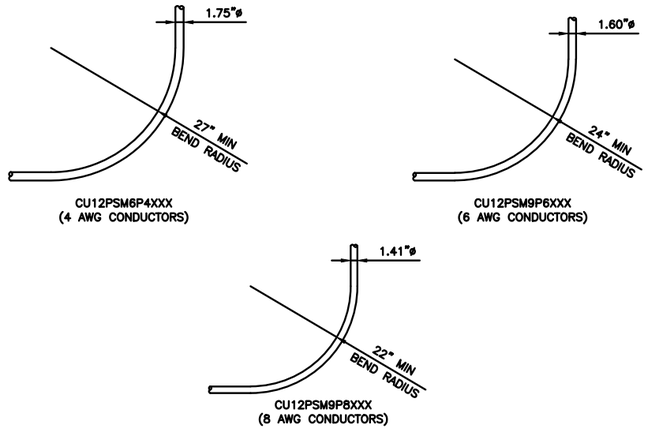
PCTEL GPSGL-TMG-SPI-40NCB	
DIMENSIONS (DIAxH) MM/INCH	81x184mm 3.2"x7.25"
WEIGHT W/ACCESSORIES	075 lbs
CONNECTOR	N-FEMALE
FREQUENCY RANGE	1590 ± 30MHz



GPS DETAIL — NO SCALE — 1



GPS MINIMUM SKY VIEW REQUIREMENTS — NO SCALE — 2



CABLES UNLIMITED HYBRID CABLE MINIMUM BEND RADIUSES — NO SCALE — 3

NOT USED — NO SCALE — 4

NOT USED — NO SCALE — 5

NOT USED — NO SCALE — 6

NOT USED — NO SCALE — 7

NOT USED — NO SCALE — 8

NOT USED — NO SCALE — 9

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KHCLE-17794

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBOS00460B
10 ABBEY SAWYER MEM HWY
DOVER, NH 03820

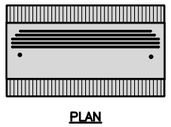
SHEET TITLE

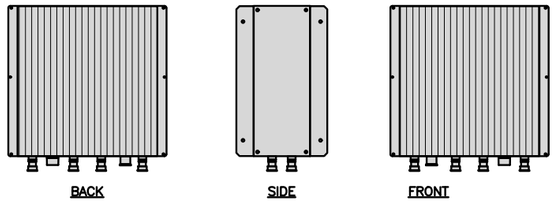
EQUIPMENT DETAILS

SHEET NUMBER

A-5

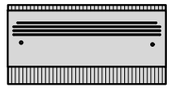
FUJITSU TRIPLE BAND TA08025-B605	
DIMENSIONS (HxWxD)	14.9"x15.7"x9"
WEIGHT	74.95 lbs
CONNECTOR TYPE	4.3-10 RF CONNECTOR
POWER SUPPLY	DC -58~-36V

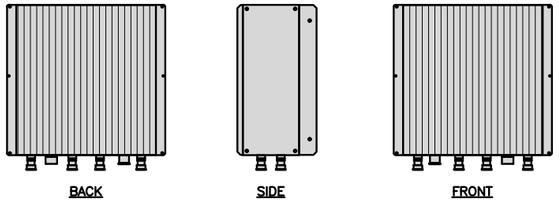

PLAN


BACK SIDE FRONT

RRH DETAIL | NO SCALE | 1

FUJITSU DUAL BAND TA08025-B604	
DIMENSIONS (HxWxD)	14.9"x15.7"x7.8"
WEIGHT	63.9 lbs
CONNECTOR TYPE	4.3-10 RF CONNECTOR
POWER SUPPLY	DC -58~-36V

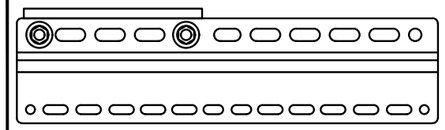

PLAN

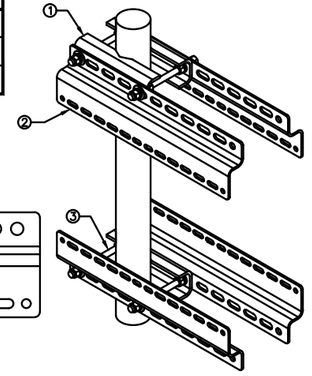

BACK SIDE FRONT

RRH DETAIL | NO SCALE | 2

SABRE DOUBLE Z-BRACKET C10123155	
DIMENSIONS (HxWxD) (1 BRACKET)	5"x20"x1-13/16"
WEIGHT (FULL ASSEMBLY)	35.79 lbs
PACKAGE QUANTITY	4

#	DESCRIPTION
1	PLATE, CHANNEL BRACKET
2	RRH Z BRACKET, 3/16"
3	THREADED ROD ASSEMBLY 1/2"x12"



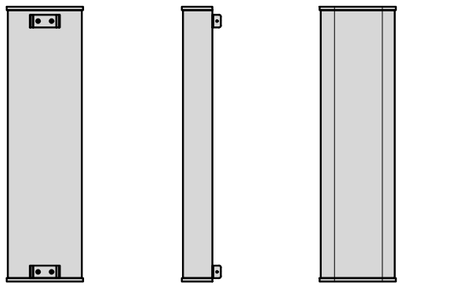


NOTE:
OR DISH Wireless L.L.C.
APPROVED EQUIVALENT

RRH MOUNT DETAIL | NO SCALE | 3

JMA WIRELESS MX08FRO665-21 ANTENNA	
DIMENSIONS (HxWxD)	72.0"x20.0"x8.0"
TOTAL WEIGHT	82.5 LB
RF PORTS, CONNECTOR TYPE	8 x 4.3-10 FEMALE

PLAN


BACK SIDE FRONT

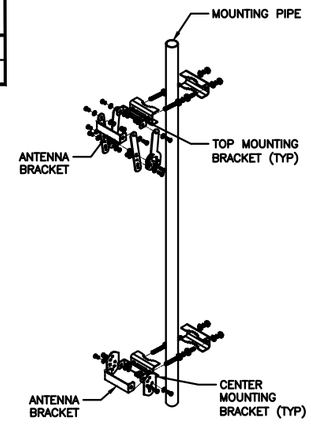
ANTENNA DETAIL | NO SCALE | 4

NOT USED | NO SCALE | 5

JMA ANTENNA MOUNTING BRACKET #91900318	
TOTAL WEIGHT (WITH BRACKETS)	18 lbs (8.18 Kg)
POLE DIAMETER RANGE	2.5 TO 4.5 INCHES

NOTE:
KIT #91900318: TOP AND BOTTOM BRACKETS FOR 4-,6-, AND 8-FOOT ANTENNAS

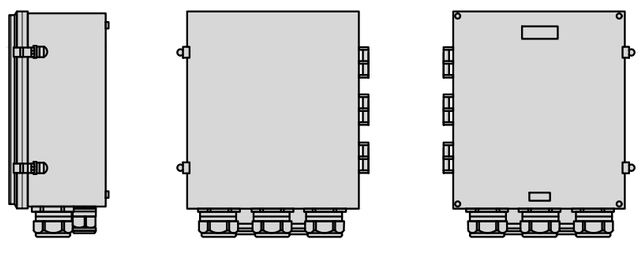
ANTENNA BRACKET NOT PART OF KIT



ANTENNA BRACKET DETAIL | NO SCALE | 6

RAYCAP RDIDC-9181-PF-48 DC SURGE PROTECTION (OVP)	
DIMENSIONS (HxWxD)	18.98"x14.39"x8.15"
WEIGHT	21.82 LBS

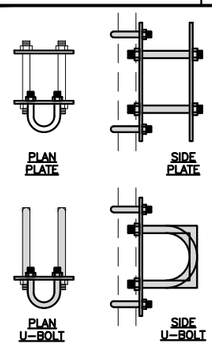
PLAN

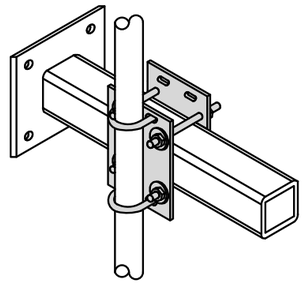

SIDE BACK FRONT

SURGE SUPPRESSION DETAIL (OVP) | NO SCALE | 7

COMMSCOPE XP-2040 CROSSOVER PLATE	
DIMENSIONS (HxW)	10"x12"
WEIGHT	11 lbs

NOTE:
OR DISH Wireless L.L.C.
APPROVED EQUIVALENT

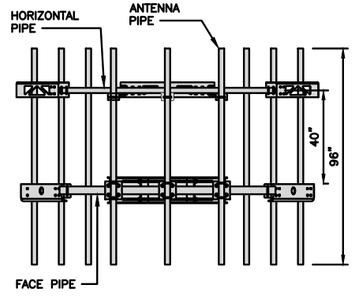

PLAN PLATE SIDE PLATE PLAN U-BOLT SIDE U-BOLT

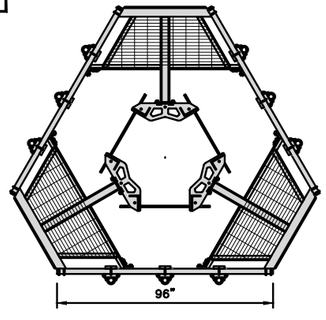


RRH/OVP MOUNT DETAIL | NO SCALE | 8

COMMSCOPE MC-PK8-DSH	
FACE WIDTH	96"
WEIGHT	1373.08 lbs
NOTE: 15" TO 38" O.D.	

NOTE:
OR DISH Wireless L.L.C.
APPROVED EQUIVALENT





ANTENNA PLATFORM DETAIL | NO SCALE | 9

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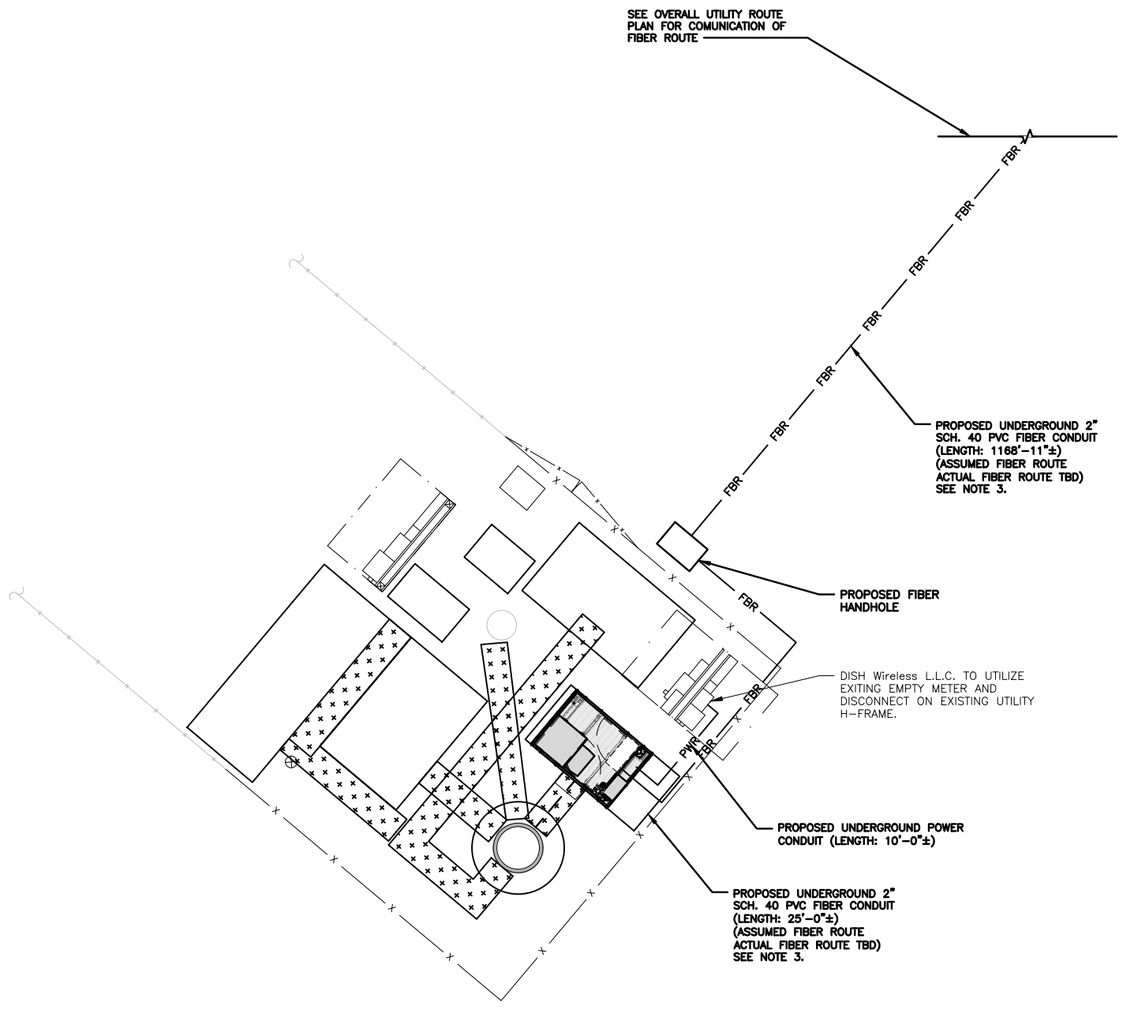
10 ABBEY SAWYER MEM HWY
DOVER, NH 03820

SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER
A-6

NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL PROPOSED UNDERGROUND UTILITY CONDUIT ROUTE.
2. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.
3. THE GROUND LEASE DOES NOT SPECIFY OUR UTILITY RIGHTS. "PWR" AND "FBR" PATH DEPICTED ON A-1 AND E-1 ARE BASED ON BEST AVAILABLE INFORMATION INCLUDING BUT NOT LIMITED TO FIELD VERIFICATION, PRIOR PROJECT DOCUMENTATION AND OTHER REAL PROPERTY RIGHTS DOCUMENTS. WHEN INSTALLING THE UTILITIES PLAEASE LOCATE AND FOLLOW EXSITING PATH. IF EXISTING PATH IS NOT AN OPTION PLEASE NOTIFY TOWER OWNER AS FURTHER COORINATION MAY BE NEEDED.



N

UTILITY ROUTE PLAN

6' 4' 2' 0 5' 10'
3/16"=1'-0"

1

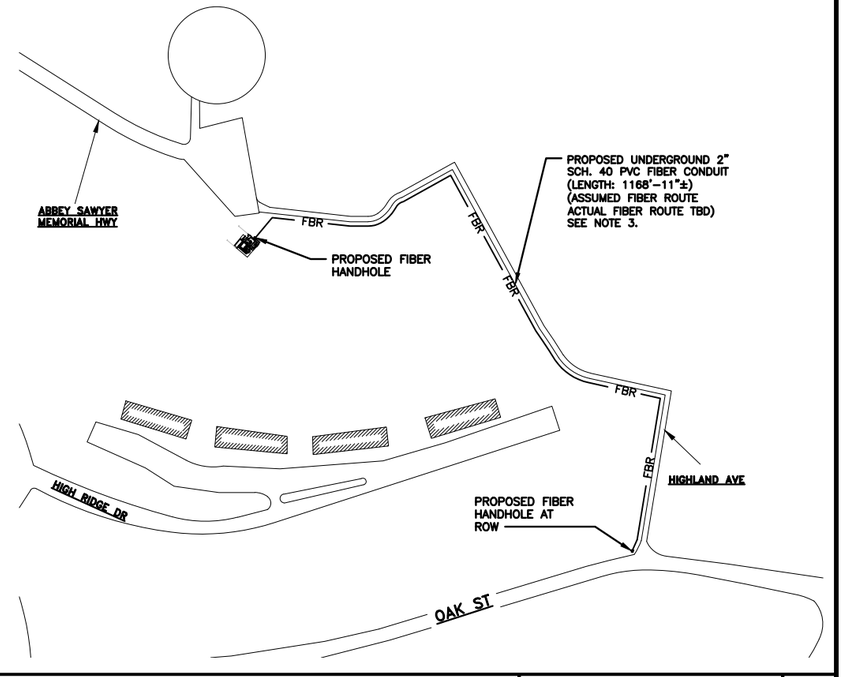
DC POWER WIRING SHALL BE COLOR CODED AT EACH END FOR IDENTIFYING +24V AND -48V CONDUCTORS. RED MARKINGS SHALL IDENTIFY +24V AND BLUE MARKINGS SHALL IDENTIFY -48V.

1. CONTRACTOR SHALL INSPECT THE EXISTING CONDITIONS PRIOR TO SUBMITTING A BID. ANY QUESTIONS ARISING DURING THE BID PERIOD IN REGARDS TO THE CONTRACTOR'S FUNCTIONS, THE SCOPE OF WORK, OR ANY OTHER ISSUE RELATED TO THIS PROJECT SHALL BE BROUGHT UP DURING THE BID PERIOD WITH THE PROJECT MANAGER FOR CLARIFICATION, NOT AFTER THE CONTRACT HAS BEEN AWARDED.
2. ALL ELECTRICAL WORK SHALL BE DONE IN ACCORDANCE WITH CURRENT NATIONAL ELECTRICAL CODES AND ALL STATE AND LOCAL CODES, LAWS, AND ORDINANCES. PROVIDE ALL COMPONENTS AND WIRING SIZES AS REQUIRED TO MEET NEC STANDARDS.
3. LOCATION OF EQUIPMENT, CONDUIT AND DEVICES SHOWN ON THE DRAWINGS ARE APPROXIMATE AND SHALL BE COORDINATED WITH FIELD CONDITIONS PRIOR TO CONSTRUCTION.
4. CONDUIT ROUGH-IN SHALL BE COORDINATED WITH THE MECHANICAL EQUIPMENT TO AVOID LOCATION CONFLICTS. VERIFY WITH THE MECHANICAL EQUIPMENT CONTRACTOR AND COMPLY AS REQUIRED.
5. CONTRACTOR SHALL PROVIDE ALL BREAKERS, CONDUITS AND CIRCUITS AS REQUIRED FOR A COMPLETE SYSTEM.
6. CONTRACTOR SHALL PROVIDE PULL BOXES AND JUNCTION BOXES AS REQUIRED BY THE NEC ARTICLE 314.
7. CONTRACTOR SHALL PROVIDE ALL STRAIN RELIEF AND CABLE SUPPORTS FOR ALL CABLE ASSEMBLIES. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
8. ALL DISCONNECTS AND CONTROLLING DEVICES SHALL BE PROVIDED WITH ENGRAVED PHENOLIC NAMEPLATES INDICATING EQUIPMENT CONTROLLED, BRANCH CIRCUITS INSTALLED ON, AND PANEL FIELD LOCATIONS FED FROM.
9. INSTALL AN EQUIPMENT GROUNDING CONDUCTOR IN ALL CONDUITS PER THE SPECIFICATIONS AND NEC 250. THE EQUIPMENT GROUNDING CONDUCTORS SHALL BE BONDED AT ALL JUNCTION BOXES, PULL BOXES, AND ALL DISCONNECT SWITCHES, AND EQUIPMENT CABINETS.
10. ALL NEW MATERIAL SHALL HAVE A U.L. LABEL.
11. PANEL SCHEDULE LOADING AND CIRCUIT ARRANGEMENTS REFLECT POST-CONSTRUCTION EQUIPMENT.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR AS-BUILT PANEL SCHEDULE AND SITE DRAWINGS.
13. ALL TRENCHES IN COMPOUND TO BE HAND DUG

ELECTRICAL NOTES

NO SCALE

2



OVERALL UTILITY ROUTE PLAN

128' 64' 0 128' 256'
1/128"=1'-0"

3

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5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

Kimley»Horn
421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601

STATE OF NEW HAMPSHIRE
ANDREW JAMES SCHALL
No. 15914
LICENSED PROFESSIONAL ENGINEER

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DRAWN BY:	CHECKED BY:	APPROVED BY:
STR	MCK	---

RFDS REV #: 1

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
0	11/02/2021	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER
KHCLE-17794

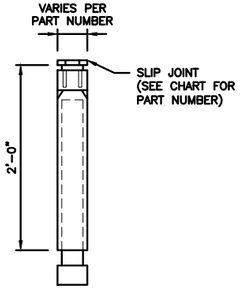
DISH Wireless L.L.C.
PROJECT INFORMATION
BOBOS00460B
10 ABBEY SAWYER MEM HWY
DOVER, NH 03820

SHEET TITLE
ELECTRICAL/FIBER ROUTE PLAN AND NOTES

SHEET NUMBER
E-1

CARLON EXPANSION FITTINGS

COUPLING END PART#	MALE TERMINAL ADAPTER END PART#	SIZE	STD CTN QTY.	TRAVEL LENGTH
E945D	E945DX	1/2"	20	4"
E945E	E945EX	3/4"	15	4"
E945F	E945FX	1"	10	4"
E945G	E945GX	1 1/4"	5	4"
E945H	E945HX	1 1/2"	5	4"
E945J	E945JX	2"	15	8"
E945K	E945KX	2 1/2"	10	8"
E945L	E945LX	3"	10	8"
E945M	E945MX	3 1/2"	5	8"
E945N	E945NX	4"	5	8"
E945P	E945PX	5"	1	8"
E945R	E945RX	6"	1	8"

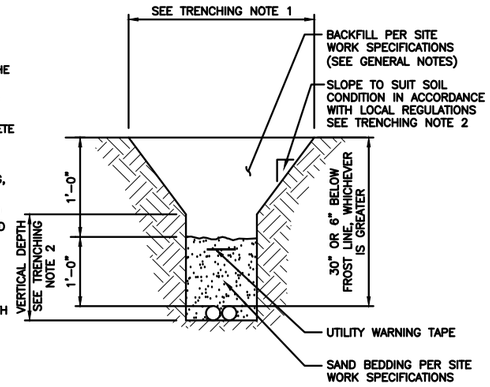


NOTE:
CONTRACTOR TO INSTALL EXPANSION FITTING SLIP JOINT AT METER CENTER CONDUIT TERMINATION, AS PER LOCAL UTILITY POLICY, ORDINANCE AND/OR SPECIFIED REQUIREMENT.

EXPANSION JOINT DETAIL | NO SCALE | 1

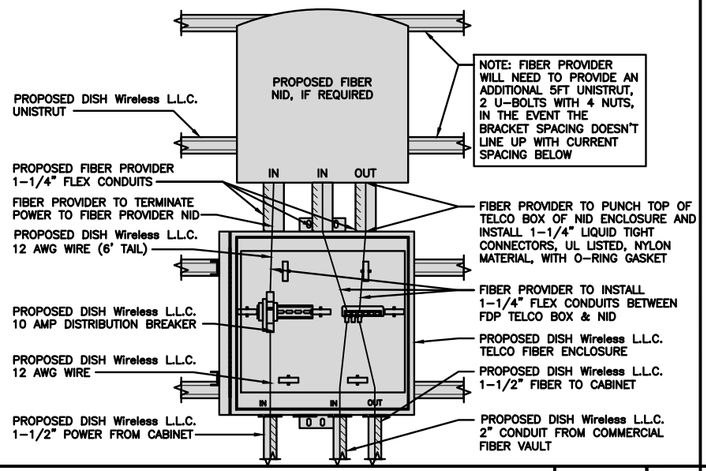
TRENCHING NOTES

1. CONTRACTOR SHALL RESTORE THE TRENCH TO ITS ORIGINAL CONDITIONS BY EITHER SEEDING OR SODDING GRASS AREAS, OR REPLACING ASPHALT OR CONCRETE AREAS TO ITS ORIGINAL CROSS SECTION.
2. TRENCHING SAFETY; INCLUDING, BUT NOT LIMITED TO SOIL CLASSIFICATION, SLOPING, AND SHORING, SHALL BE GOVERNED BY THE CURRENT OSHA TRENCHING AND EXCAVATION SAFETY STANDARDS.
3. ALL CONDUITS SHALL BE INSTALLED IN COMPLIANCE WITH THE CURRENT NATIONAL ELECTRIC CODE (NEC) OR AS REQUIRED BY THE LOCAL JURISDICTION, WHICHEVER IS THE MOST STRINGENT.



TYPICAL UNDERGROUND TRENCH DETAIL | NO SCALE | 2

NOT USED | NO SCALE | 3



LIT TELCO BOX – INTERIOR WIRING LAYOUT (OPTIONAL) | NO SCALE | 4

NOT USED | NO SCALE | 5

NOT USED | NO SCALE | 6

NOT USED | NO SCALE | 7

NOT USED | NO SCALE | 8

NOT USED | NO SCALE | 9

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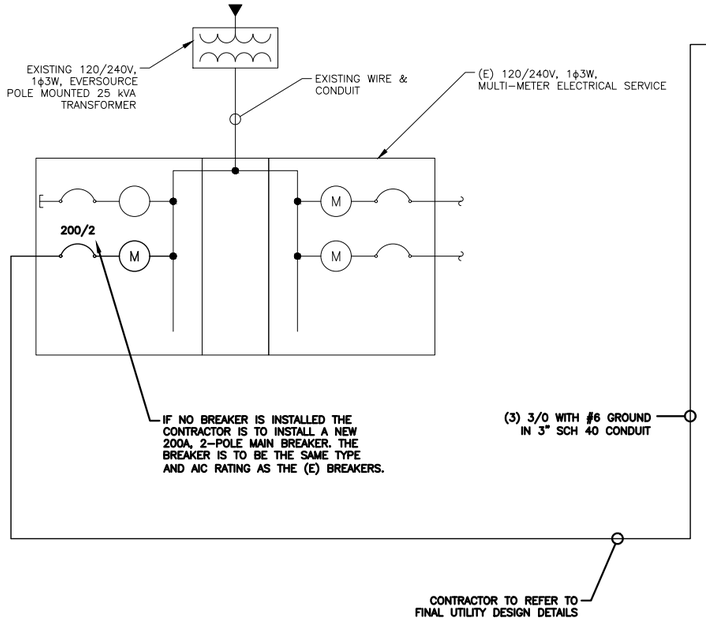
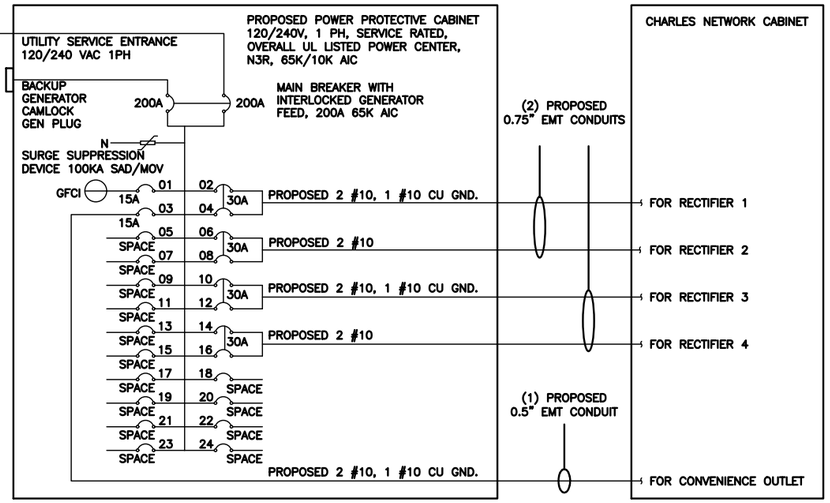
PROJECT INFORMATION
BOBOS00460B
10 ABBEY SAWYER MEM HWY
DOVER, NH 03820

SHEET TITLE
ELECTRICAL DETAILS

SHEET NUMBER
E-2





NOTE:
BRANCH CIRCUIT WIRING SUPPLYING RECTIFIERS ARE TO BE RATED UL1015, 105°C, 600V, AND PVC INSULATED, IN THE SIZES SHOWN IN THE ONE-LINE DIAGRAM. CONTRACTOR MAY SUBSTITUTE UL1015 WIRE FOR THWN-2 FOR CONVENIENCE OUTLET BRANCH CIRCUIT.

BREAKERS REQUIRED:
(4) 30A, 2P BREAKER - SQUARE D P/N:QO230
(1) 15A, 1P BREAKER - SQUARE D P/N:QO115

NOTES

THE ENGINEER OF RECORD HAS PERFORMED ALL REQUIRED SHORT CIRCUIT CALCULATIONS AND THE AIC RATINGS FOR EACH DEVICE IS ADEQUATE TO PROTECT THE EQUIPMENT AND THE ELECTRICAL SYSTEM.

THE ENGINEER OF RECORD HAS PERFORMED ALL REQUIRED VOLTAGE DROP CALCULATIONS AND ALL BRANCH CIRCUIT AND FEEDERS COMPLY WITH THE NEC (LISTED ON T-1) ARTICLE 210.19(A)(1) FPN NO. 4.

THE (2) CONDUITS WITH (4) CURRENT CARRYING CONDUCTORS EACH, SHALL APPLY THE ADJUSTMENT FACTOR OF 80% PER 2014/17 NEC TABLE 310.15(B)(3)(a) OR 2020 NEC TABLE 310.15(C)(1) FOR UL1015 WIRE.

#12 FOR 15A-20A/1P BREAKER: 0.8 x 30A = 24.0A
#10 FOR 25A-30A/2P BREAKER: 0.8 x 40A = 32.0A
#8 FOR 35A-40A/2P BREAKER: 0.8 x 55A = 44.0A
#6 FOR 45A-60A/2P BREAKER: 0.8 x 75A = 60.0A

CONDUIT SIZING: AT 40% FILL PER NEC CHAPTER 9, TABLE 4, ARTICLE 358.
0.5" CONDUIT - 0.122 SQ. IN AREA
0.75" CONDUIT - 0.213 SQ. IN AREA
2.0" CONDUIT - 1.316 SQ. IN AREA
3.0" CONDUIT - 2.907 SQ. IN AREA

CABINET CONVENIENCE OUTLET CONDUCTORS (1 CONDUIT): USING THWN-2, CU.

#10 - 0.0211 SQ. IN X 2 = 0.0422 SQ. IN
#10 - 0.0211 SQ. IN X 1 = 0.0211 SQ. IN <GROUND
TOTAL = 0.0633 SQ. IN

0.5" EMT CONDUIT IS ADEQUATE TO HANDLE THE TOTAL OF (3) WIRES, INCLUDING GROUND WIRE, AS INDICATED ABOVE.

RECTIFIER CONDUCTORS (2 CONDUITS): USING UL1015, CU.

#10 - 0.0266 SQ. IN X 4 = 0.1064 SQ. IN
#10 - 0.0082 SQ. IN X 1 = 0.0082 SQ. IN <BARE GROUND
TOTAL = 0.1146 SQ. IN

0.75" EMT CONDUIT IS ADEQUATE TO HANDLE THE TOTAL OF (5) WIRES, INCLUDING GROUND WIRE, AS INDICATED ABOVE.

PPC FEED CONDUCTORS (1 CONDUIT): USING THWN, CU.

3/0 - 0.2679 SQ. IN X 3 = 0.8037 SQ. IN
#6 - 0.0507 SQ. IN X 1 = 0.0507 SQ. IN <GROUND
TOTAL = 0.8544 SQ. IN

3.0" SCH 40 PVC CONDUIT IS ADEQUATE TO HANDLE THE TOTAL OF (4) WIRES, INCLUDING GROUND WIRE, AS INDICATED ABOVE.

PPC ONE-LINE DIAGRAM

NO SCALE | 1

PROPOSED CHARLES PANEL SCHEDULE

LOAD SERVED	VOLT AMPS (WATTS) L1	VOLT AMPS (WATTS) L2	TRIP	CKT #	PHASE	CKT #	TRIP	VOLT AMPS (WATTS) L1	VOLT AMPS (WATTS) L2	LOAD SERVED
PPC GFCI OUTLET	180		15A	1	A	2	30A	2880		ABB/GE INFINITY RECTIFIER 1
CHARLES GFCI OUTLET		180	15A	3	B	4			2880	
-SPACE-				5	A	6	30A	2880		ABB/GE INFINITY RECTIFIER 2
-SPACE-				7	B	8			2880	
-SPACE-				9	A	10	30A	2880		ABB/GE INFINITY RECTIFIER 3
-SPACE-				11	B	12			2880	
-SPACE-				13	A	14	30A	2880		ABB/GE INFINITY RECTIFIER 4
-SPACE-				15	B	16			2880	
-SPACE-				17	A	18				-SPACE-
-SPACE-				19	B	20				-SPACE-
-SPACE-				21	A	22				-SPACE-
-SPACE-				23	B	24				-SPACE-
VOLTAGE AMPS	180	180						11520	11520	
200A MCB, 1ϕ, 24 SPACE, 120/240V			L1		L2					
MB RATING: 65,000 AIC			11700		11700		VOLTAGE AMPS			
			98		98		AMPS			
			98				MAX AMPS			
			123				MAX 125%			

PANEL SCHEDULE | NO SCALE | 2

NOT USED | NO SCALE | 3

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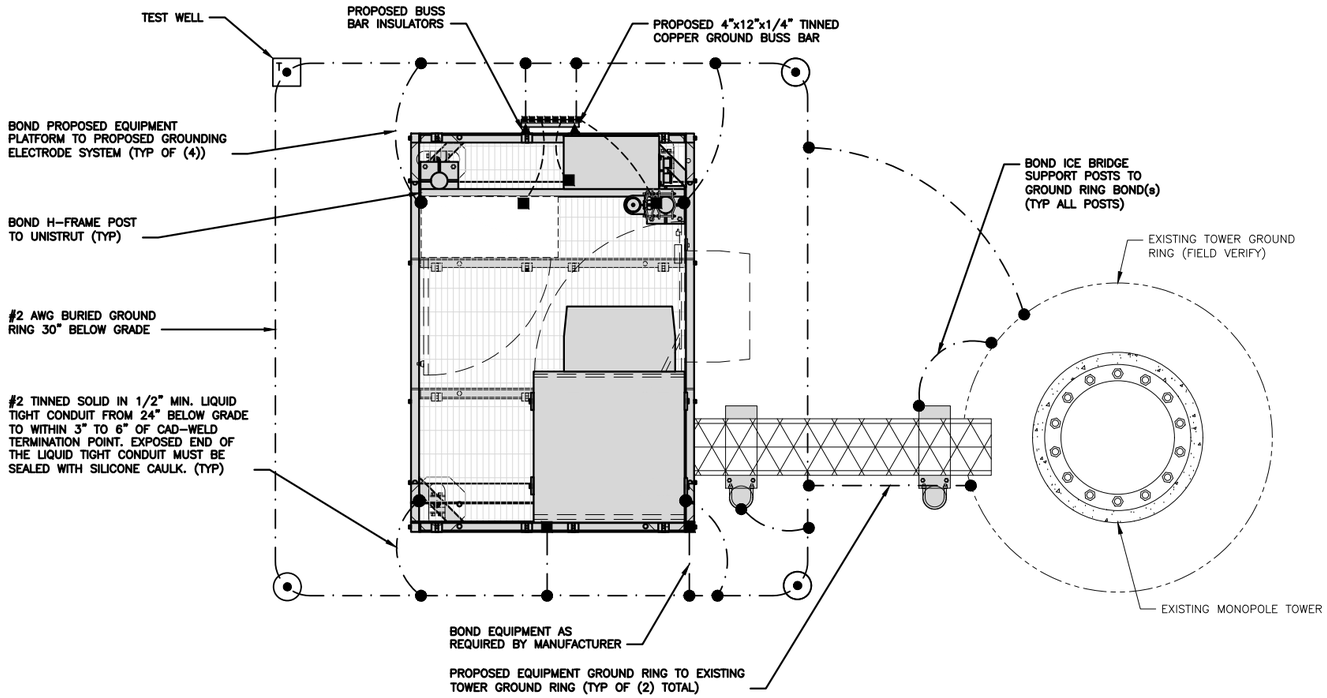
KHCLE-17794

DISH Wireless L.L.C.
PROJECT INFORMATION
BOBOS00460B
10 ABBEY SAWYER MEM HWY
DOVER, NH 03820

SHEET TITLE
ELECTRICAL ONE-LINE, FAULT CALCS & PANEL SCHEDULE

SHEET NUMBER
E-3

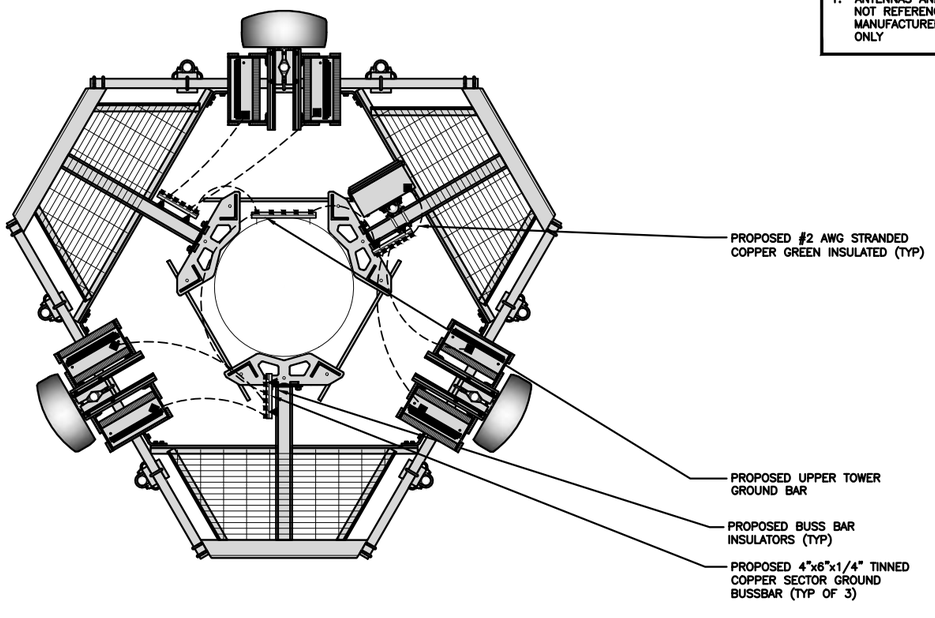


TYPICAL EQUIPMENT GROUNDING PLAN

NO SCALE | 1

NOTES

1. ANTENNAS AND OVP SHOWN ARE GENERIC AND NOT REFERENCING TO A SPECIFIC MANUFACTURER. THIS LAYOUT IS FOR REFERENCE ONLY



TYPICAL ANTENNA GROUNDING PLAN

NO SCALE | 2

- EXOTHERMIC CONNECTION
- MECHANICAL CONNECTION
- GROUND BUS BAR
- GROUND ROD
- TEST GROUND ROD WITH INSPECTION SLEEVE
- #6 AWG STRANDED & INSULATED
- #2 AWG SOLID COPPER TINNED
- BUSS BAR INSULATOR

GROUNDING LEGEND

1. GROUNDING IS SHOWN DIAGRAMMATICALLY ONLY.
2. CONTRACTOR SHALL GROUND ALL EQUIPMENT AS A COMPLETE SYSTEM. GROUNDING SHALL BE IN COMPLIANCE WITH NEC SECTION 250 AND DISH Wireless L.L.C. GROUNDING AND BONDING REQUIREMENTS AND MANUFACTURER'S SPECIFICATIONS.
3. ALL GROUND CONDUCTORS SHALL BE COPPER; NO ALUMINUM CONDUCTORS SHALL BE USED.

GROUNDING KEY NOTES

(A) EXTERIOR GROUND RING: #2 AWG SOLID COPPER, BURIED AT A DEPTH OF AT LEAST 30 INCHES BELOW GRADE, OR 6 INCHES BELOW THE FROST LINE AND APPROXIMATELY 24 INCHES FROM THE EXTERIOR WALL OR FOOTING.

(B) TOWER GROUND RING: THE GROUND RING SYSTEM SHALL BE INSTALLED AROUND AN ANTENNA TOWER'S LEGS, AND/OR GUY ANCHORS. WHERE SEPARATE SYSTEMS HAVE BEEN PROVIDED FOR THE TOWER AND THE BUILDING, AT LEAST TWO BONDS SHALL BE MADE BETWEEN THE TOWER RING GROUND SYSTEM AND THE BUILDING RING GROUND SYSTEM USING MINIMUM #2 AWG SOLID COPPER CONDUCTORS.

(C) INTERIOR GROUND RING: #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTOR EXTENDED AROUND THE PERIMETER OF THE EQUIPMENT AREA. ALL NON-TELECOMMUNICATIONS RELATED METALLIC OBJECTS FOUND WITHIN A SITE SHALL BE GROUNDED TO THE INTERIOR GROUND RING WITH #6 AWG STRANDED GREEN INSULATED CONDUCTOR.

(D) BOND TO INTERIOR GROUND RING: #2 AWG SOLID TINNED COPPER WIRE PRIMARY BONDS SHALL BE PROVIDED AT LEAST AT FOUR POINTS ON THE INTERIOR GROUND RING, LOCATED AT THE CORNERS OF THE BUILDING.

(E) GROUND ROD: UL LISTED COPPER CLAD STEEL. MINIMUM 1/2" DIAMETER BY EIGHT FEET LONG. GROUND RODS SHALL BE INSTALLED WITH INSPECTION SLEEVES. GROUND RODS SHALL BE DRIVEN TO THE DEPTH OF GROUND RING CONDUCTOR.

(F) CELL REFERENCE GROUND BAR: POINT OF GROUND REFERENCE FOR ALL COMMUNICATIONS EQUIPMENT FRAMES. ALL BONDS ARE MADE WITH #2 AWG UNLESS NOTED OTHERWISE STRANDED GREEN INSULATED COPPER CONDUCTORS. BOND TO GROUND RING WITH (2) #2 SOLID TINNED COPPER CONDUCTORS.

(G) HATCH PLATE GROUND BAR: BOND TO THE INTERIOR GROUND RING WITH TWO #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTORS. WHEN A HATCH-PLATE AND A CELL REFERENCE GROUND BAR ARE BOTH PRESENT, THE CRGB MUST BE CONNECTED TO THE HATCH-PLATE AND TO THE INTERIOR GROUND RING USING (2) TWO #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTORS EACH.

(H) EXTERIOR CABLE ENTRY PORT GROUND BARS: LOCATED AT THE ENTRANCE TO THE CELL SITE BUILDING. BOND TO GROUND RING WITH A #2 AWG SOLID TINNED COPPER CONDUCTORS WITH AN EXOTHERMIC WELD AND INSPECTION SLEEVE.

(I) TELCO GROUND BAR: BOND TO BOTH CELL REFERENCE GROUND BAR OR EXTERIOR GROUND RING.

(J) FRAME BONDING: THE BONDING POINT FOR TELECOM EQUIPMENT FRAMES SHALL BE THE GROUND BUS THAT IS NOT ISOLATED FROM THE EQUIPMENTS METAL FRAMEWORK.

(K) INTERIOR UNIT BONDS: METAL FRAMES, CABINETS AND INDIVIDUAL METALLIC UNITS LOCATED WITH THE AREA OF THE INTERIOR GROUND RING REQUIRE A #6 AWG STRANDED GREEN INSULATED COPPER BOND TO THE INTERIOR GROUND RING.

(L) FENCE AND GATE GROUNDING: METAL FENCES WITHIN 7 FEET OF THE EXTERIOR GROUND RING OR OBJECTS BONDED TO THE EXTERIOR GROUND RING SHALL BE BONDED TO THE GROUND RING WITH A #2 AWG SOLID TINNED COPPER CONDUCTOR AT AN INTERVAL NOT EXCEEDING 25 FEET. BONDS SHALL BE MADE AT EACH GATE POST AND ACROSS GATE OPENINGS.

(M) EXTERIOR UNIT BONDS: METALLIC OBJECTS, EXTERNAL TO OR MOUNTED TO THE BUILDING, SHALL BE BONDED TO THE EXTERIOR GROUND RING. USING #2 TINNED SOLID COPPER WIRE

(N) ICE BRIDGE SUPPORTS: EACH ICE BRIDGE LEG SHALL BE BONDED TO THE GROUND RING WITH #2 AWG BARE TINNED COPPER CONDUCTOR. PROVIDE EXOTHERMIC WELDS AT BOTH THE ICE BRIDGE LEG AND BURIED GROUND RING.

(O) DURING ALL DC POWER SYSTEM CHANGES INCLUDING DC SYSTEM CHANGE OUTS, RECTIFIER REPLACEMENTS OR ADDITIONS, BREAKER DISTRIBUTION CHANGES, BATTERY ADDITIONS, BATTERY REPLACEMENTS AND INSTALLATIONS OR CHANGES TO DC CONVERTER SYSTEMS IT SHALL BE REQUIRED THAT SERVICE CONTRACTORS VERIFY ALL DC POWER SYSTEMS ARE EQUIPPED WITH A MASTER DC SYSTEM RETURN GROUND CONDUCTOR FROM THE DC POWER SYSTEM COMMON RETURN BUS DIRECTLY CONNECTED TO THE CELL SITE REFERENCE GROUND BAR

(P) TOWER TOP COLLECTOR BUSS BAR IS TO BE MECHANICALLY BONDED TO PROPOSED ANTENNA MOUNT COLLAR.

REFER TO DISH Wireless L.L.C. GROUNDING NOTES.

GROUNDING KEY NOTES

NO SCALE | 3

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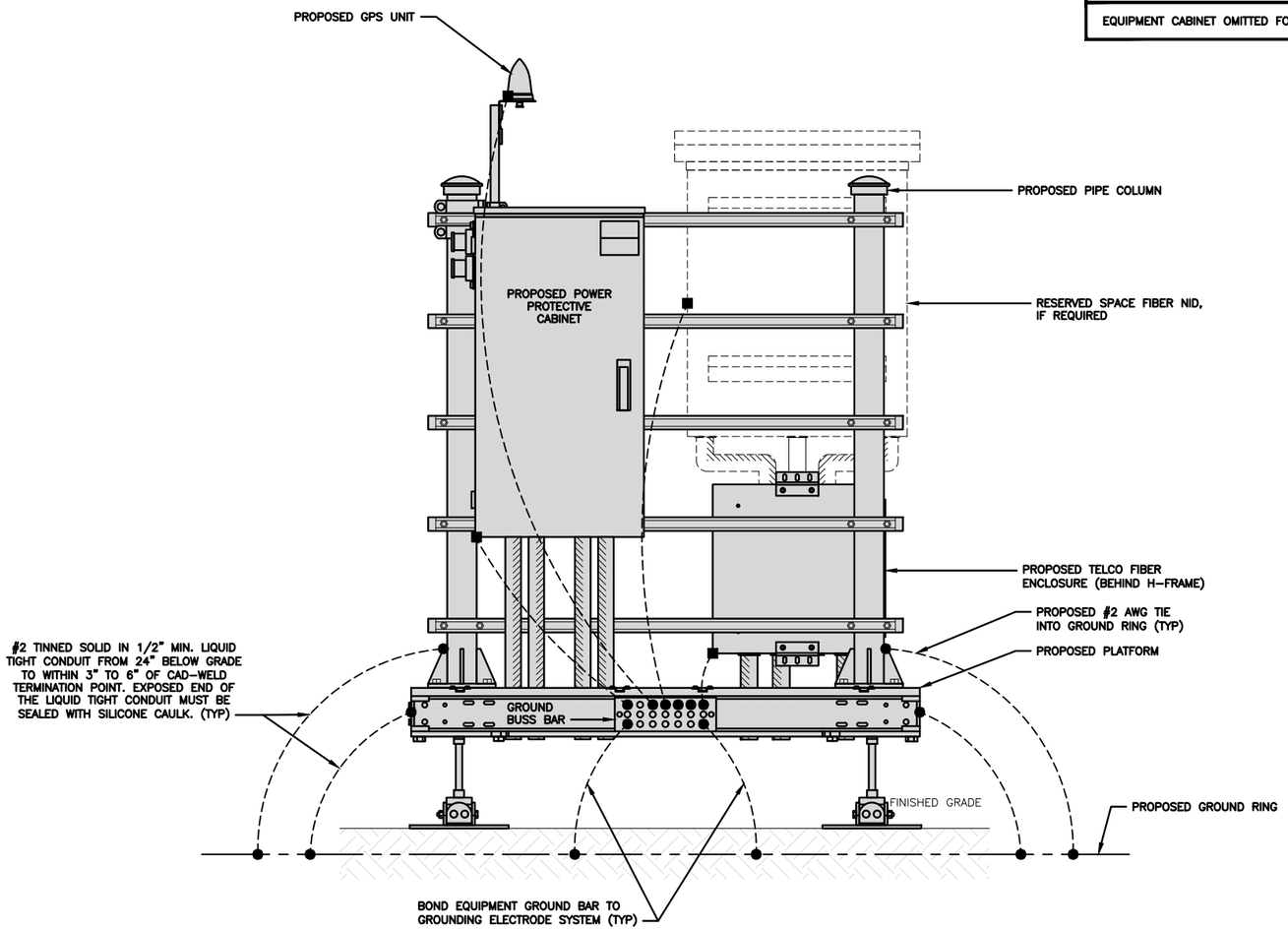
10 ABBEY SAWYER MEM HWY
DOVER, NH 03820

SHEET TITLE
GROUNDING PLANS AND NOTES

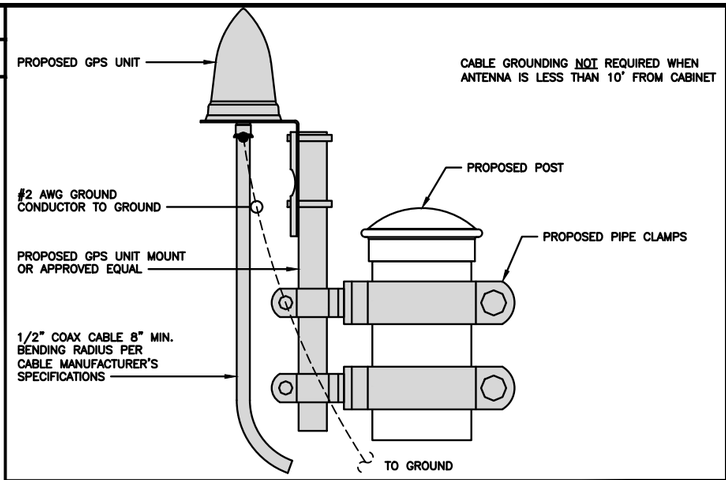
SHEET NUMBER
G-1

NOTES

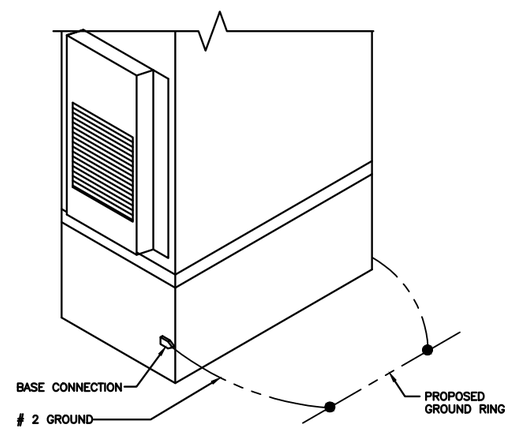
EQUIPMENT CABINET OMITTED FOR CLARITY



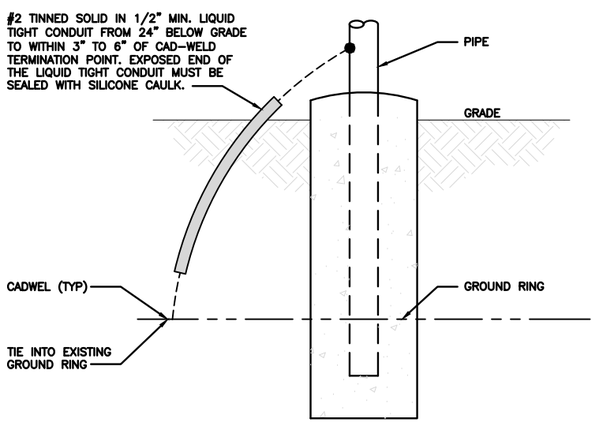
H-FRAME GROUNDING DETAIL | NO SCALE | 1



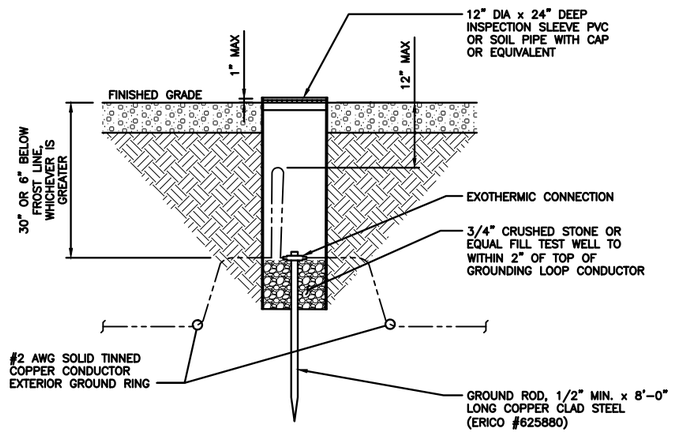
TYPICAL GPS UNIT GROUNDING | NO SCALE | 2



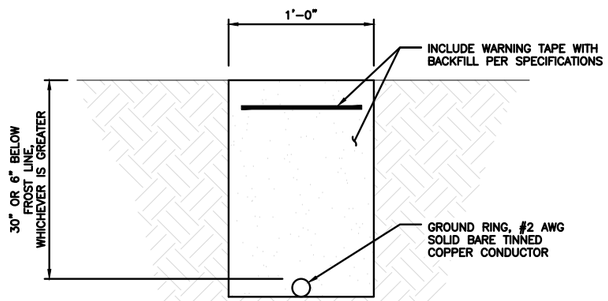
OUTDOOR CABINET GROUNDING | NO SCALE | 3



TRANSITIONING GROUND DETAIL | NO SCALE | 4



TYPICAL TEST GROUND ROD WITH INSPECTION SLEEVE | NO SCALE | 5



TYPICAL GROUND RING TRENCH | NO SCALE | 6

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DOVER, NH 03820

SHEET TITLE

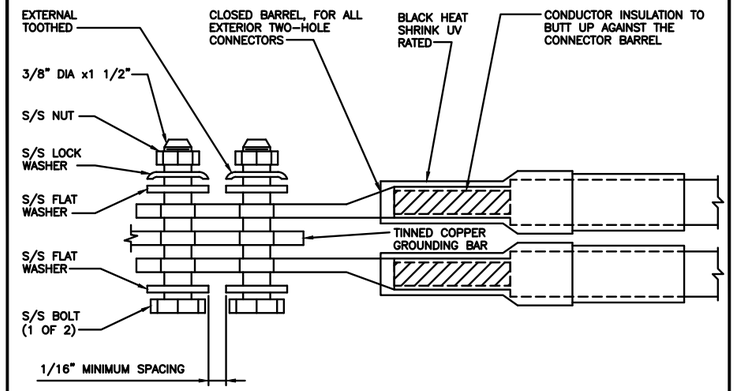
GROUNDING DETAILS

SHEET NUMBER

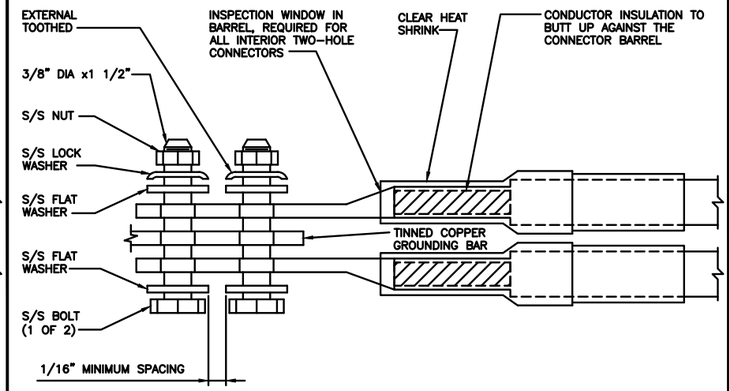
G-2

1. EXOTHERMIC WELD (2) TWO, #2 AWG BARE TINNED SOLID COPPER CONDUCTORS TO GROUND BAR, ROUTE CONDUCTORS TO BURIED GROUND RING AND PROVIDE PARALLEL EXOTHERMIC WELD.
2. ALL EXTERIOR GROUNDING HARDWARE SHALL BE STAINLESS STEEL 3/8" DIAMETER OR LARGER. ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING LOCK WASHERS, COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.
3. FOR GROUND BOND TO STEEL ONLY: COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.
4. DO NOT INSTALL CABLE GROUNDING KIT AT A BEND AND ALWAYS DIRECT GROUND CONDUCTOR DOWN TO GROUNDING BUS.
5. NUT & WASHER SHALL BE PLACED ON THE FRONT SIDE OF THE GROUND BAR AND BOLTED ON THE BACK SIDE.
6. ALL GROUNDING PARTS AND EQUIPMENT TO BE SUPPLIED AND INSTALLED BY CONTRACTOR.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ADDITIONAL GROUND BAR AS REQUIRED.
8. ENSURE THE WIRE INSULATION TERMINATION IS WITHIN 1/8" OF THE BARREL (NO SHINERS).

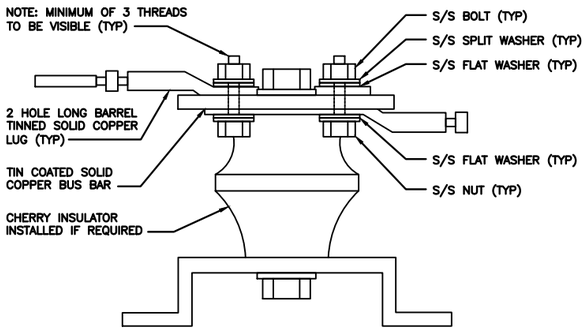
TYPICAL GROUNDING NOTES | NO SCALE | 1



TYPICAL EXTERIOR TWO HOLE LUG | NO SCALE | 2



TYPICAL INTERIOR TWO HOLE LUG | NO SCALE | 3



LUG DETAIL | NO SCALE | 4

NOT USED | NO SCALE | 5

NOT USED | NO SCALE | 6

NOT USED | NO SCALE | 7

NOT USED | NO SCALE | 8

NOT USED | NO SCALE | 9

dish wireless.
5701 SOUTH SANTA FE DRIVE
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STR	MCK	---

RFDS REV #: 1

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
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A&E PROJECT NUMBER

KHCLE-17794

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBOS00460B
10 ABBEY SAWYER MEM HWY
DOVER, NH 03820

SHEET TITLE

GROUNDING DETAILS

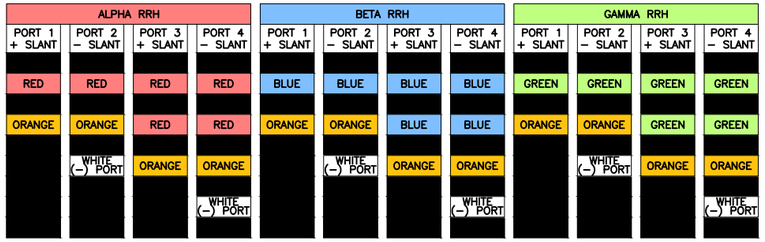
SHEET NUMBER

G-3

HYBRID/DISCREET CABLES — 3/4" TAPE WIDTHS WITH 3/4" SPACING

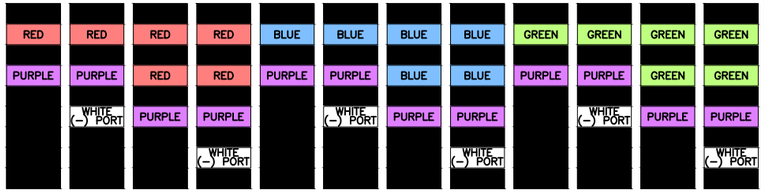
LOW–BAND RRH
(600 MHz N71 BASEBAND) +
(850 MHz N26 BAND) +
(700 MHz N29 BAND) – OPTIONAL PER MARKET

ADD FREQUENCY COLOR TO SECTOR BAND
(CBRS WILL USE YELLOW BAND)



MID–BAND RRH
(AWS BANDS N66+N70)

ADD FREQUENCY COLOR TO SECTOR BAND
(CBRS WILL USE YELLOW BANDS)



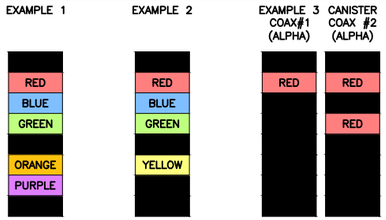
HYBRID/DISCREET CABLES

INCLUDE SECTOR BANDS BEING SUPPORTED ALONG WITH FREQUENCY BANDS.

EXAMPLE 1 – HYBRID, OR DISCREET, SUPPORTS ALL SECTORS, BOTH LOW–BANDS AND MID–BANDS.

EXAMPLE 2 – HYBRID, OR DISCREET, SUPPORTS CBRS ONLY, ALL SECTORS.

EXAMPLE 3 – MAIN COAX WITH GROUND MOUNTED RRHs.

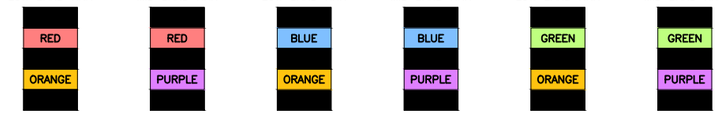


FIBER JUMPERS TO RRHs

LOW–BAND HHR FIBER CABLES HAVE SECTOR STRIPE ONLY.

POWER CABLES TO RRHs

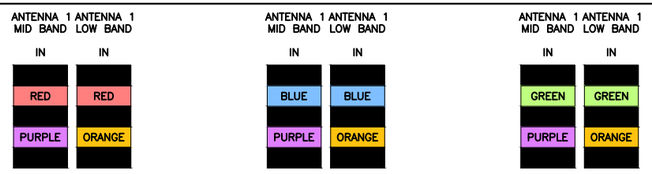
LOW–BAND RRH POWER CABLES HAVE SECTOR STRIPE ONLY



RET MOTORS AT ANTENNAS

RET CONTROL IS HANDLED BY THE MID–BAND RRH WHEN ONE SET OF RET PORTS EXIST ON ANTENNA.

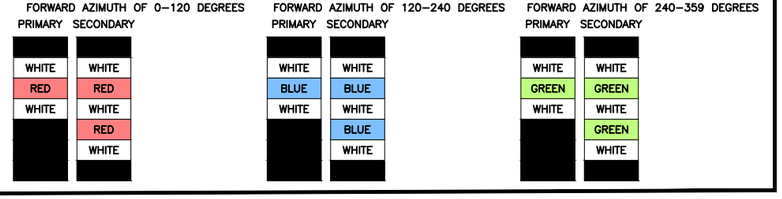
SEPARATE RET CABLES ARE USED WHEN ANTENNA PORTS PROVIDE INPUTS FOR BOTH LOW AND MID BANDS.



MICROWAVE RADIO LINKS

LINKS WILL HAVE A 1.5–2 INCH WHITE WRAP WITH THE AZIMUTH COLOR OVERLAPPING IN THE MIDDLE.
ADD ADDITIONAL SECTOR COLOR BANDS FOR EACH ADDITIONAL MW RADIO.

MICROWAVE CABLES WILL REQUIRE P–TOUCH LABELS INSIDE THE CABINET TO IDENTIFY THE LOCAL AND REMOTE SITE ID's.



LOW BANDS (N71+N26) OPTIONAL – (N29): ORANGE

AWS (N66+N70+H–BLOCK): PURPLE

CBRS TECH (3 GHz): YELLOW

NEGATIVE SLANT PORT ON ANT/RRH: WHITE

ALPHA SECTOR: RED

BETA SECTOR: BLUE

GAMMA SECTOR: GREEN

COLOR IDENTIFIER		2
NOT USED		3
RF CABLE COLOR CODES		1
NOT USED		4

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DOVER, NH 03820

SHEET TITLE
RF
CABLE COLOR CODES

SHEET NUMBER
RF-1

EXOTHERMIC CONNECTION

MECHANICAL CONNECTION

BUSS BAR INSULATOR

CHEMICAL ELECTROLYTIC GROUNDING SYSTEM

TEST CHEMICAL ELECTROLYTIC GROUNDING SYSTEM

EXOTHERMIC WITH INSPECTION SLEEVE

GROUNDING BAR

GROUND ROD

TEST GROUND ROD WITH INSPECTION SLEEVE

SINGLE POLE SWITCH

DUPLEX RECEPTACLE

DUPLEX GFCI RECEPTACLE

FLUORESCENT LIGHTING FIXTURE (2) TWO LAMPS 48–T8

SMOKE DETECTION (DC)

EMERGENCY LIGHTING (DC)

SECURITY LIGHT W/PHOTOCELL LITHONIA ALXW LED–1–25A400/51K–SR4–120–PE–DDBTXD

CHAIN LINK FENCE — X — X — X — X —

WOOD/WROUGHT IRON FENCE

WALL STRUCTURE

LEASE AREA

PROPERTY LINE (PL)

SETBACKS

ICE BRIDGE

CABLE TRAY

WATER LINE — W — W — W — W — W —

UNDERGROUND POWER — UGP — UGP — UGP — UGP — UGP —

UNDERGROUND TELCO — UGT — UGT — UGT — UGT — UGT —

OVERHEAD POWER — OHP — OHP — OHP — OHP —

OVERHEAD TELCO — OHT — OHT — OHT — OHT —

UNDERGROUND TELCO/POWER — UGT/P — UGT/P — UGT/P — UGT/P —

ABOVE GROUND POWER — AGP — AGP — AGP — AGP — AGP —

ABOVE GROUND TELCO — AGT — AGT — AGT — AGT — AGT —

ABOVE GROUND TELCO/POWER — AGT/P — AGT/P — AGT/P — AGT/P —

WORKPOINT W.P.

SECTION REFERENCE

DETAIL REFERENCE

LEGEND

AB	ANCHOR BOLT
ABV	ABOVE
AC	ALTERNATING CURRENT
ADDL	ADDITIONAL
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AGL	ABOVE GROUND LEVEL
AIC	AMPERAGE INTERRUPTION CAPACITY
ALUM	ALUMINUM
ALT	ALTERNATE
ANT	ANTENNA
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BATT	BATTERY
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BEAM
BTC	BARE TINNED COPPER CONDUCTOR
BOF	BOTTOM OF FOOTING
CAB	CABINET
CANT	CANTILEVERED
CHG	CHARGING
CLG	CEILING
CLR	CLEAR
COL	COLUMN
COMM	COMMON
CONC	CONCRETE
CONSTR	CONSTRUCTION
DBL	DOUBLE
DC	DIRECT CURRENT
DEPT	DEPARTMENT
DF	DOUGLAS FIR
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DWG	DRAWING
DWL	DOWEL
EA	EACH
EC	ELECTRICAL CONDUCTOR
EL.	ELEVATION
ELEC	ELECTRICAL
EMT	ELECTRICAL METALLIC TUBING
ENG	ENGINEER
EQ	EQUAL
EXP	EXPANSION
EXT	EXTERIOR
EW	EACH WAY
FAB	FABRICATION
FF	FINISH FLOOR
FG	FINISH GRADE
FIF	FACILITY INTERFACE FRAME
FIN	FINISH(ED)
FLR	FLOOR
FDN	FOUNDATION
FOC	FACE OF CONCRETE
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FOW	FACE OF WALL
FS	FINISH SURFACE
FT	FOOT
FTG	FOOTING
GA	GAUGE
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GLB	GLUE LAMINATED BEAM
GLV	GALVANIZED
GPS	GLOBAL POSITIONING SYSTEM
GND	GROUND
GSM	GLOBAL SYSTEM FOR MOBILE
HDG	HOT DIPPED GALVANIZED
HDR	HEADER
HGR	HANGER
HVAC	HEAT/VENTILATION/AIR CONDITIONING
HT	HEIGHT
IGR	INTERIOR GROUND RING
IN	INCH
INT	INTERIOR
LB(S)	POUND(S)
LF	LINEAR FEET
LTE	LONG TERM EVOLUTION
MAS	MASONRY
MAX	MAXIMUM
MB	MACHINE BOLT
MECH	MECHANICAL
MFR	MANUFACTURER
MGB	MASTER GROUND BAR
MIN	MINIMUM
MISC	MISCELLANEOUS
MTL	METAL
MTS	MANUAL TRANSFER SWITCH
MW	MICROWAVE
NEC	NATIONAL ELECTRIC CODE
NM	NEWTON METERS
NO.	NUMBER
#	NUMBER
NTS	NOT TO SCALE
OC	ON–CENTER
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
OPNG	OPENING
P/C	PRECAST CONCRETE
PCS	PERSONAL COMMUNICATION SERVICES
PCU	PRIMARY CONTROL UNIT
PRC	PRIMARY RADIO CABINET
PP	POLARIZING PRESERVING
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PRESSURE TREATED
PWR	POWER CABINET
QTY	QUANTITY
RAD	RADIUS
RECT	RECTIFIER
REF	REFERENCE
REINF	REINFORCEMENT
REQ'D	REQUIRED
RET	REMOTE ELECTRIC TILT
RF	RADIO FREQUENCY
RMC	RIGID METALLIC CONDUIT
RRH	REMOTE RADIO HEAD
RRU	REMOTE RADIO UNIT
RWY	RACEWAY
SCH	SCHEDULE
SHT	SHEET
SIAD	SMART INTEGRATED ACCESS DEVICE
SIM	SIMILAR
SPEC	SPECIFICATION
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STL	STEEL
TEMP	TEMPORARY
THK	THICKNESS
TMA	TOWER MOUNTED AMPLIFIER
TN	TOE NAIL
TOA	TOP OF ANTENNA
TOC	TOP OF CURB
TOF	TOP OF FOUNDATION
TOP	TOP OF PLATE (PARAPET)
TOS	TOP OF STEEL
TOW	TOP OF WALL
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
TYP	TYPICAL
UG	UNDERGROUND
UL	UNDERWRITERS LABORATORY
UNO	UNLESS NOTED OTHERWISE
UMTS	UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM
UPS	UNITERRUPTIBLE POWER SYSTEM (DC POWER PLANT)
VIF	VERIFIED IN FIELD
W	WIDE
W/	WITH
WD	WOOD
WP	WEATHERPROOF
WT	WEIGHT

ABBREVIATIONS

dish wireless.

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KHCLE–17794

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBOS00460B
10 ABBEY SAWYER MEM HWY
DOVER, NH 03820

SHEET TITLE

LEGEND AND ABBREVIATIONS

SHEET NUMBER

GN-1

SITE ACTIVITY REQUIREMENTS:

1. NOTICE TO PROCEED – NO WORK SHALL COMMENCE PRIOR TO CONTRACTOR RECEIVING A WRITTEN NOTICE TO PROCEED (NTP) AND THE ISSUANCE OF A PURCHASE ORDER. PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE DISH Wireless L.L.C. AND TOWER OWNER NOC & THE DISH Wireless L.L.C. AND TOWER OWNER CONSTRUCTION MANAGER.

2. "LOOK UP" – DISH Wireless L.L.C. AND TOWER OWNER SAFETY CLIMB REQUIREMENT:

THE INTEGRITY OF THE SAFETY CLIMB AND ALL COMPONENTS OF THE CLIMBING FACILITY SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION. TOWER MODIFICATION, MOUNT REINFORCEMENTS, AND/OR EQUIPMENT INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR FUNCTIONAL USE OF THE SAFETY CLIMB OR ANY COMPONENTS OF THE CLIMBING FACILITY ON THE STRUCTURE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: PINCHING OF THE WIRE ROPE, BENDING OF THE WIRE ROPE FROM ITS SUPPORTS, DIRECT CONTACT OR CLOSE PROXIMITY TO THE WIRE ROPE WHICH MAY CAUSE FRICTIONAL WEAR, IMPACT TO THE ANCHORAGE POINTS IN ANY WAY, OR TO IMPEDE/BLOCK ITS INTENDED USE. ANY COMPROMISED SAFETY CLIMB, INCLUDING EXISTING CONDITIONS MUST BE TAGGED OUT AND REPORTED TO YOUR DISH Wireless L.L.C. AND DISH Wireless L.L.C. AND TOWER OWNER POC OR CALL THE NOC TO GENERATE A SAFETY CLIMB MAINTENANCE AND CONTRACTOR NOTICE TICKET.

3. PRIOR TO THE START OF CONSTRUCTION, ALL REQUIRED JURISDICTIONAL PERMITS SHALL BE OBTAINED. THIS INCLUDES, BUT IS NOT LIMITED TO, BUILDING, ELECTRICAL, MECHANICAL, FIRE, FLOOD ZONE, ENVIRONMENTAL, AND ZONING. AFTER ONSITE ACTIVITIES AND CONSTRUCTION ARE COMPLETED, ALL REQUIRED PERMITS SHALL BE SATISFIED AND CLOSED OUT ACCORDING TO LOCAL JURISDICTIONAL REQUIREMENTS.

4. ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN, AND SHALL MEET ANSI/ASSE A10.48 (LATEST EDITION); FEDERAL, STATE, AND LOCAL REGULATIONS; AND ANY APPLICABLE INDUSTRY CONSENSUS STANDARDS RELATED TO THE CONSTRUCTION ACTIVITIES BEING PERFORMED. ALL RIGGING PLANS SHALL ADHERE TO ANSI/ASSE A10.48 (LATEST EDITION) AND DISH Wireless L.L.C. AND TOWER OWNER STANDARDS, INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION, TO CERTIFY THE SUPPORTING STRUCTURE(S) IN ACCORDANCE WITH ANSI/TIA–322 (LATEST EDITION).

5. ALL SITE WORK TO COMPLY WITH DISH Wireless L.L.C. AND TOWER OWNER INSTALLATION STANDARDS FOR CONSTRUCTION ACTIVITIES ON DISH Wireless L.L.C. AND TOWER OWNER TOWER SITE AND LATEST VERSION OF ANSI/TIA–1019–A–2012 "STANDARD FOR INSTALLATION, ALTERATION, AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS."

6. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY DISH Wireless L.L.C. AND TOWER OWNER PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.

7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

8. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

9. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES INCLUDING PRIVATE LOCATES SERVICES PRIOR TO THE START OF CONSTRUCTION.

10. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION E) CONSTRUCTION SAFETY PROCEDURES.

11. ALL SITE WORK SHALL BE AS INDICATED ON THE STAMPED CONSTRUCTION DRAWINGS AND DISH PROJECT SPECIFICATIONS, LATEST APPROVED REVISION.

12. CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH AT THE COMPLETION OF THE WORK. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.

13. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF DISH Wireless L.L.C. AND TOWER OWNER, AND/OR LOCAL UTILITIES.

14. THE CONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE REQUIRED BY LOCAL JURISDICTION AND SIGNAGE REQUIRED ON INDIVIDUAL PIECES OF EQUIPMENT, ROOMS, AND SHELTERS.

15. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE CARRIER'S EQUIPMENT AND TOWER AREAS.

16. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.

17. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION AS SPECIFIED ON THE CONSTRUCTION DRAWINGS AND/OR PROJECT SPECIFICATIONS.

18. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.

19. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.

20. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS AND RADIOS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

21. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.

22. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

GENERAL NOTES:

1.FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:

CONTRACTOR:GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION

CARRIER:DISH Wireless L.L.C.

TOWER OWNER:TOWER OWNER

2. THESE DRAWINGS HAVE BEEN PREPARED USING STANDARDS OF PROFESSIONAL CARE AND COMPLETENESS NORMALLY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY REPUTABLE ENGINEERS IN THIS OR SIMILAR LOCALITIES. IT IS ASSUMED THAT THE WORK DEPICTED WILL BE PERFORMED BY AN EXPERIENCED CONTRACTOR AND/OR WORKPEOPLE WHO HAVE A WORKING KNOWLEDGE OF THE APPLICABLE CODE STANDARDS AND REQUIREMENTS AND OF INDUSTRY ACCEPTED STANDARD GOOD PRACTICE. AS NOT EVERY CONDITION OR ELEMENT IS (OR CAN BE) EXPLICITLY SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR MISCELLANEOUS WORK NOT EXPLICITLY SHOWN.

3. THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE MEANS OR METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY FOR PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, FORMWORK, SHORING, ETC. SITE VISITS BY THE ENGINEER OR HIS REPRESENTATIVE WILL NOT INCLUDE INSPECTION OF THESE ITEMS AND IS FOR STRUCTURAL OBSERVATION OF THE FINISHED STRUCTURE ONLY.

4. NOTES AND DETAILS IN THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT, AND/OR AS PROVIDED FOR IN THE CONTRACT DOCUMENTS. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL NOTES, AND SPECIFICATIONS, THE GREATER, MORE STRICT REQUIREMENTS, SHALL GOVERN. IF FURTHER CLARIFICATION IS REQUIRED CONTACT THE ENGINEER OF RECORD.

5. SUBSTANTIAL EFFORT HAS BEEN MADE TO PROVIDE ACCURATE DIMENSIONS AND MEASUREMENTS ON THE DRAWINGS TO ASSIST IN THE FABRICATION AND/OR PLACEMENT OF CONSTRUCTION ELEMENTS BUT IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE DIMENSIONS, MEASUREMENTS, AND/OR CLEARANCES SHOWN IN THE CONSTRUCTION DRAWINGS PRIOR TO FABRICATION OR CUTTING OF ANY NEW OR EXISTING CONSTRUCTION ELEMENTS. IF IT IS DETERMINED THAT THERE ARE DISCREPANCIES AND/OR CONFLICTS WITH THE CONSTRUCTION DRAWINGS THE ENGINEER OF RECORD IS TO BE NOTIFIED AS SOON AS POSSIBLE.

6. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING CONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CARRIER POC AND TOWER OWNER.

7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

8. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

9. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

10. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CARRIER AND TOWER OWNER PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.

11. CONTRACTOR IS TO PERFORM A SITE INVESTIGATION, BEFORE SUBMITTING BIDS, TO DETERMINE THE BEST ROUTING OF ALL CONDUITS FOR POWER, AND TELCO AND FOR GROUNDING CABLES AS SHOWN IN THE POWER, TELCO, AND GROUNDING PLAN DRAWINGS.

12. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF DISH Wireless L.L.C. AND TOWER OWNER

13. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

14. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.

dish wireless.
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Kimley»Horn
421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601

STATE OF NEW HAMPSHIRE
ANDREW JAMES SCHALL
No. 15914
LICENSED PROFESSIONAL ENGINEER

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DRAWN BY:	CHECKED BY:	APPROVED BY:
STR	MCK	---

RFDS REV #: 1

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
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A&E PROJECT NUMBER

KHCLE–17794

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBOS00460B
10 ABBEY SAWYER MEM HWY
DOVER, NH 03820

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN-2

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.

2. UNLESS NOTED OTHERWISE, SOIL BEARING PRESSURE USED FOR DESIGN OF SLABS AND FOUNDATIONS IS ASSUMED TO BE 1000 psf.

3. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f'c) OF 3000 psi AT 28 DAYS, UNLESS NOTED OTHERWISE. NO MORE THAN 90 MINUTES SHALL ELAPSE FROM BATCH TIME TO TIME OF PLACEMENT UNLESS APPROVED BY THE ENGINEER OF RECORD. TEMPERATURE OF CONCRETE SHALL NOT EXCEED 90°f AT TIME OF PLACEMENT.

4. CONCRETE EXPOSED TO FREEZE-THAW CYCLES SHALL CONTAIN AIR ENTRAINING ADMIXTURES. AMOUNT OF AIR ENTRAINMENT TO BE BASED ON SIZE OF AGGREGATE AND F3 CLASS EXPOSURE (VERY SEVERE). CEMENT USED TO BE TYPE II PORTLAND CEMENT WITH A MAXIMUM WATER-TO-CEMENT RATIO (W/C) OF 0.45.

5. ALL STEEL REINFORCING SHALL CONFORM TO ASTM A615. ALL WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A185. ALL SPLICES SHALL BE CLASS "B" TENSION SPLICES, UNLESS NOTED OTHERWISE. ALL HOOKS SHALL BE STANDARD 90 DEGREE HOOKS, UNLESS NOTED OTHERWISE. YIELD STRENGTH (Fy) OF STANDARD DEFORMED BARS ARE AS FOLLOWS:

#4 BARS AND SMALLER 40 ksi

#5 BARS AND LARGER 60 ksi

6. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:

- CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH 3"
- CONCRETE EXPOSED TO EARTH OR WEATHER:
- #6 BARS AND LARGER 2"
- #5 BARS AND SMALLER 1-1/2"
- CONCRETE NOT EXPOSED TO EARTH OR WEATHER:
- SLAB AND WALLS 3/4"
- BEAMS AND COLUMNS 1-1/2"

7. A TOOLED EDGE OR A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNLESS NOTED OTHERWISE, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

ELECTRICAL INSTALLATION NOTES:

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.

2. CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.

3. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.

4. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.

4.1. ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.

4.2. ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING CURRENT RATING THAT SHALL BE GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED, 22,000 AIC MINIMUM. VERIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.24 NEC OR THE MOST CURRENT ADOPTED CODE PRE THE GOVERNING JURISDICTION.

5. EACH END OF EVERY POWER PHASE CONDUCTOR, GROUNDING CONDUCTOR, AND TELCO CONDUCTOR OR CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2" PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA.

6. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH LAMICOID TAGS SHOWING THEIR RATED VOLTAGE, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (i.e. PANEL BOARD AND CIRCUIT ID'S).

7. PANEL BOARDS (ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.

8. TIE WRAPS ARE NOT ALLOWED.

9. ALL POWER AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE COPPER CONDUCTOR (#14 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.

10. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE COPPER CONDUCTOR (#6 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.

11. POWER AND CONTROL WIRING IN FLEXIBLE CORD SHALL BE MULTI-CONDUCTOR, TYPE SOOW CORD (#14 OR LARGER) UNLESS OTHERWISE SPECIFIED.

12. POWER AND CONTROL WIRING FOR USE IN CABLE TRAY SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#14 OR LARGER), WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.

13. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION NOT LESS THAN 75° C (90° C IF AVAILABLE).

14. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.

15. ELECTRICAL METALLIC TUBING (EMT), INTERMEDIATE METAL CONDUIT (IMC), OR RIGID METAL CONDUIT (RMC) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.

16. ELECTRICAL METALLIC TUBING (EMT) OR METAL-CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.

17. SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS/90s AND ALL APPROVED ABOVE GRADE PVC CONDUIT.

18. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.

19. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.

20. CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND THE NEC.

21. WIREWAYS SHALL BE METAL WITH AN ENAMEL FINISH AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS (WIREMOLD SPECMATE WIREWAY).

22. SLOTTED WIRING DUCT SHALL BE PVC AND INCLUDE COVER (PANDUIT TYPE E OR EQUAL).

23. CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON-PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES (i.e. POWDER-ACTUATED) FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED FLUSH TO FINISH GRADE TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.

24. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL. SHALL MEET OR EXCEED UL 50 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND NEMA 3 (OR BETTER) FOR EXTERIOR LOCATIONS.

25. METAL RECEPTACLE, SWITCH AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.

26. NONMETALLIC RECEPTACLE, SWITCH AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2 (NEWEST REVISION) AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.

27. THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CARRIER AND/OR DISH Wireless L.L.C. AND TOWER OWNER BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.

28. THE CONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD LIFE AND PROPERTY.

29. INSTALL LAMICOID LABEL ON THE METER CENTER TO SHOW "DISH Wireless L.L.C.".

30. ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.

dish wireless.

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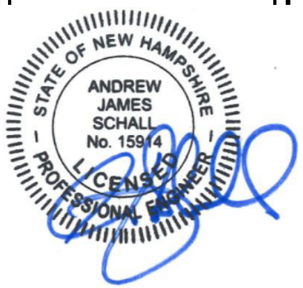

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CONSTRUCTION DOCUMENTS

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A&E PROJECT NUMBER

KHCLE-17794

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBOS00460B
10 ABBEY SAWYER MEM HWY
DOVER, NH 03820

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN-3

GROUNDING NOTES:

1. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION AND AC POWER GES'S) SHALL BE BONDED TOGETHER AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.

2. THE CONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS, THE CONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.

3. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT AND PROVIDE TESTING RESULTS.

4. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.

5. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.

6. EACH CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 STRANDED COPPER OR LARGER FOR INDOOR BTS; #2 BARE SOLID TINNED COPPER FOR OUTDOOR BTS.

7. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED BACK TO BACK CONNECTIONS ON OPPOSITE SIDE OF THE GROUND BUS ARE PERMITTED.

8. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE #2 SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.

9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.

10. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.

11. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.

12. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR AND EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.

13. COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.

14. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.

15. APPROVED ANTIOXIDANT COATINGS (i.e. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.

16. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.

17. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.

18. BOND ALL METALLIC OBJECTS WITHIN 6 ft OF MAIN GROUND RING WITH (1) #2 BARE SOLID TINNED COPPER GROUND CONDUCTOR.

19. GROUND CONDUCTORS USED FOR THE FACILITY GROUNDING AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (i.e., NONMETALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.

20. ALL GROUNDS THAT TRANSITION FROM BELOW GRADE TO ABOVE GRADE MUST BE #2 BARE SOLID TINNED COPPER IN 3/4" NON-METALLIC, FLEXIBLE CONDUIT FROM 24" BELOW GRADE TO WITHIN 3" TO 6" OF CAD-WELD TERMINATION POINT. THE EXPOSED END OF THE CONDUIT MUST BE SEALED WITH SILICONE CAULK. (ADD TRANSITIONING GROUND STANDARD DETAIL AS WELL).

21. BUILDINGS WHERE THE MAIN GROUNDING CONDUCTORS ARE REQUIRED TO BE ROUTED TO GRADE, THE CONTRACTOR SHALL ROUTE TWO GROUNDING CONDUCTORS FROM THE ROOFTOP, TOWERS, AND WATER TOWERS GROUNDING RING, TO THE EXISTING GROUNDING SYSTEM, THE GROUNDING CONDUCTORS SHALL NOT BE SMALLER THAN 2/0 COPPER. ROOFTOP GROUNDING RING SHALL BE BONDED TO THE EXISTING GROUNDING SYSTEM, THE BUILDING STEEL COLUMNS, LIGHTNING PROTECTION SYSTEM, AND BUILDING MAIN WATER LINE (FERROUS OR NONFERROUS METAL PIPING ONLY). DO NOT ATTACH GROUNDING TO FIRE SPRINKLER SYSTEM PIPES.

dish wireless.

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STATE OF NEW HAMPSHIRE
ANDREW JAMES SCHALL
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DISH Wireless L.L.C.
PROJECT INFORMATION

BOBOS00460B
10 ABBEY SAWYER MEM HWY
DOVER, NH 03820

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

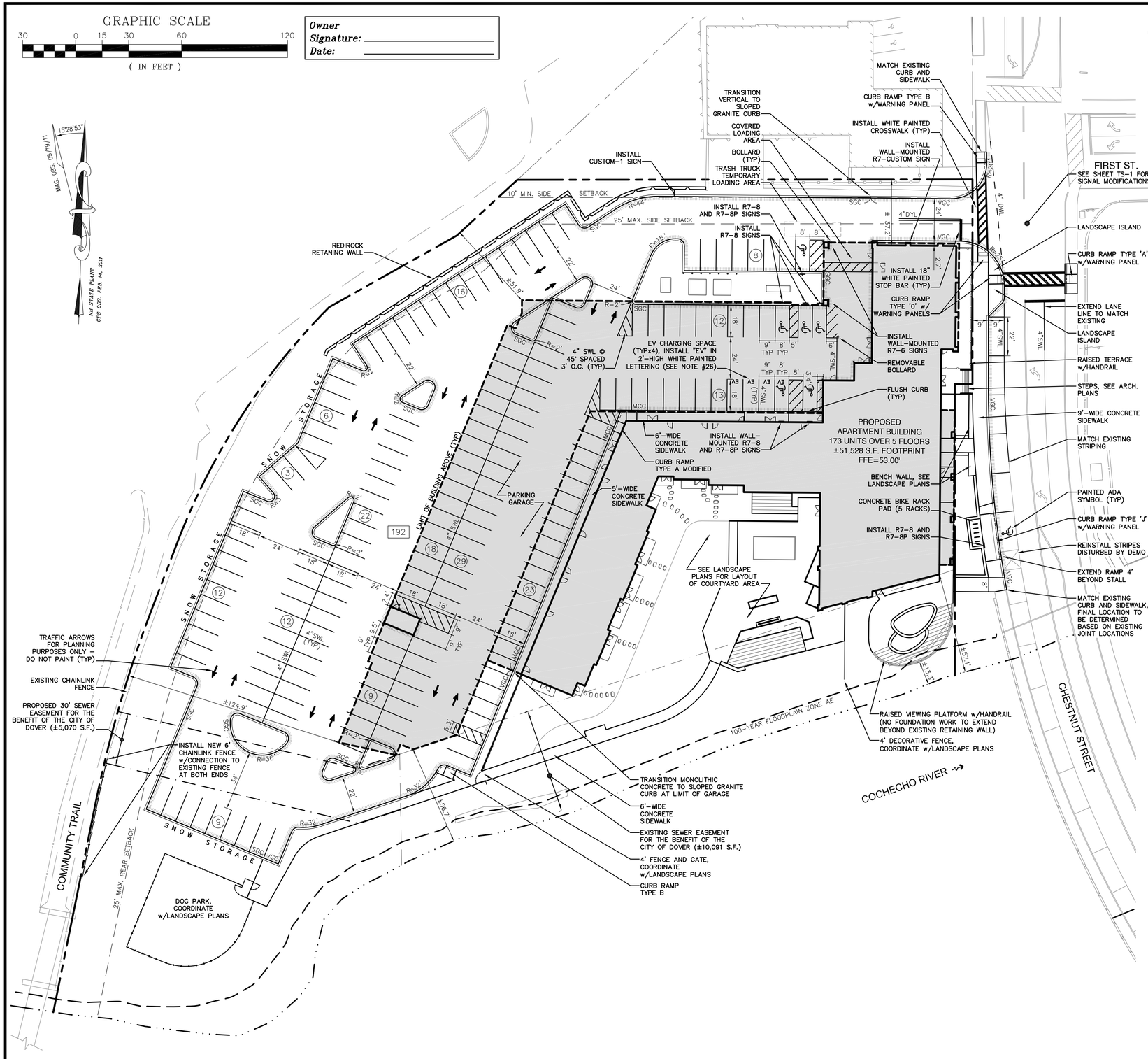
GN-4

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)

Owner
Signature: _____
Date: _____



SITE NOTES

1. DESIGN INTENT – THIS PLAN SET IS INTENDED TO PROVIDE THE NECESSARY INFORMATION FOR THE DESIGN AND REVIEW OF THE REDEVELOPMENT OF THE SITE FOR A MULTI-FAMILY RESIDENTIAL USE COMPRISED OF 173 UNITS AND ±2,500 SF OF RESTAURANT/COMMERCIAL SPACE WITH ASSOCIATED ACCESSWAYS, PARKING AND INFRASTRUCTURE.
2. LOT AREA: ±158,446 S.F. (±3.64 AC.)
3. THE SUBJECT PARCEL IS SHOWN AS DOVER TAX MAP 31, LOT 5.
4. REFERENCE DEED: STRAFFORD COUNTY REGISTRY OF DEEDS BOOK 2036 PAGE 090
5. THE SUBJECT PROPERTY IS ENCUMBERED BY AN EXISTING SEWER EASEMENT FOR THE BENEFIT OF THE CITY OF DOVER AS SHOWN.
6. ZONE: CENTRAL BUSINESS DISTRICT TRANSIT-ORIENTED DEVELOPMENT SUBDISTRICT DIMENSIONAL REQUIREMENTS (CBD-TOD):

MIN. LOT AREA:	NR (3.64 AC. PROVIDED)
MIN. STREET FRONTAGE:	NR (290.77' PROVIDED)
FRONT SETBACK:	0' MIN./0' MAX. (0' PROVIDED)
SIDE SETBACK:	10' MIN./25' MAX. (±37.2' PROVIDED**)
REAR SETBACK:	0' MIN./25' MAX. (±51.9' PROVIDED**)
MAX. BUILDING HEIGHT:	3 STORY MIN./5 STORY MAX.
LOT COVERAGE (BLDG.):	75–100% (38.41% PROVIDED, EXCLUDING EASEMENT**) (32.52% PROVIDED, INCLUDING EASEMENT**)
PARKING SETBACK:	10' (FRONT), 5' (SIDE & REAR)
FRONTAGE BUILD-OUT:	80% MIN. (66.14% PROVIDED**)
OPEN SPACE:	NR (34.18% PROVIDED)

(** INDICATES CONDITIONAL USE PERMIT UNDER ZONING SECTION 170-20B REQUIRED)

7. PARKING:
MAXIMUM PARKING PERMITTED:
RESIDENTIAL (1.9 SPACES/UNIT): 1.9 x 173 = 329 SPACES
RETAIL/SERVICE (1 SPACE/275 S.F.): 2,500 S.F./275 = 9 SPACES
TOTAL MAXIMUM PARKING PERMITTED = 338 SPACES
TOTAL PARKING PROVIDED = 192 SPACES (6 ADA, 4 EV, 6 EV-READY, 176 REG.)
PARKING LOT LANDSCAPING: 8% REQUIRED (8.41% PROVIDED)
8. PORTIONS OF THE PROJECT SITE ARE IN SPECIAL FLOOD HAZARD ZONE AE.
9. NO WETLANDS ARE LOCATED ON THE PROJECT SITE PER GOVE ENVIRONMENTAL SERVICES, INC. (LUKE HURLEY, NH CERTIFIED WETLANDS SCIENTIST #232, NOVEMBER 16, 2021).
10. NHDES ALTERATION OF TERRAIN PERMIT AND WETLANDS PERMIT REQUIRED (NO DIRECT WETLANDS IMPACTS PROPOSED). SITE IS LOCATED IN URBAN EXEMPTION ZONE, NHDES SHORELAND PERMIT NOT REQUIRED.
11. PER DOVER ZONING ORDINANCE SECTION 170-20.H(1)a. "ANY REDEVELOPMENT WITHIN THE CBD IS EXEMPT FROM (CITY) WETLANDS REGULATIONS"
12. SNOW SHALL BE STORED AT THE EDGE OF PAVEMENT, IN AREAS SHOWN HEREON, AND/OR TRUCKED OFF SITE AS APPROPRIATE.
13. PAVEMENT MARKINGS SHALL BE CONSTRUCTED USING WHITE, YELLOW OR BLUE TRAFFIC PAINT (WHERE SPECIFIED) MEETING THE REQUIREMENTS OF AASHTO M248, TYPE F OR EQUAL. PAINTED ISLANDS AND LOADING ZONES SHALL BE 4"-WIDE DIAGONAL WHITE LINES 3'-0" O.C. BORDERED BY 4"-WIDE WHITE LINES. PARKING STALLS SHALL BE SEPARATED BY 4"-WIDE WHITE LINES. SEE DETAILS FOR HANDICAP SYMBOLS, SIGNS AND SIGN DETAILS.
14. PAVEMENT MARKINGS AND SIGNS SHALL CONFORM TO THE REQUIREMENTS OF THE "MANUAL ON UNIFORM TRAFFIC DEVICES," "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS" AND THE AMERICANS WITH DISABILITIES ACT (ADA), LATEST EDITIONS.
15. ALL CONSTRUCTION SHALL CONFORM WITH THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION (NHDOT) "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" AND WITH THE CITY OF DOVER COMMUNITY SERVICES REGULATIONS AND STANDARD SPECIFICATIONS FOR CONSTRUCTION, LATEST EDITIONS. THE MORE STRINGENT SPECIFICATION SHALL APPLY.
16. CLEAN AND COAT VERTICAL FACE OF EXISTING PAVEMENT AT SAWCUT LINES WITH RS-1 IMMEDIATELY PRIOR TO PLACING NEW BITUMINOUS CONCRETE.
17. ALL BONDS AND FEES SHALL BE PAID/POSTED PRIOR TO INITIATING CONSTRUCTION.
18. COMMERCIAL VEHICLE ROUTE DURING CONSTRUCTION SHALL CONFORM WITH DOVER CITY CODE OR BE COORDINATED WITH THE COMMUNITY SERVICES DIRECTOR.
19. CONSTRUCTION HOURS SHALL BE LIMITED TO MON-FRI 7AM-6PM, SAT-SUN 9AM-4PM. THE HOURS OF CONSTRUCTION MUST BE DOCUMENTED ON A SITE CONSTRUCTION SIGN ALONG WITH CONTACT INFORMATION FOR THE GENERAL CONTRACTOR. SAID SIGNAGE MUST BE LOCATED AND APPROVED BY THE CITY ENGINEER OR ASST. CITY MANAGER.
20. UNLESS OTHERWISE NOTED, ALL NEW CURBING SHALL BE VERTICAL OR SLOPED GRANITE WITH A MINIMUM RADIUS OF 4'.
21. THE CONTRACTOR SHALL VERIFY ALL BUILDING DIMENSIONS WITH THE ARCHITECTURAL AND STRUCTURAL PLANS PRIOR TO CONSTRUCTION. ALL DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER FOR RESOLUTION.
22. BUILDING AREA SHOWN IS BASED ON FOOTPRINT MEASURED TO THE EDGE OF FOUNDATIONS AND/OR SLABS. ACTUAL INTERIOR SPACE WILL DIFFER.
23. AS-BUILT PLANS OF THE SITE SHALL BE SUBMITTED ON PAPER AND IN A DIGITAL FORMAT IN PDF AND AUTOCAD DWG, AUTOCAD DXF OR AN ESRI FORMAT TO THE CITY OF DOVER ENGINEER'S OFFICE UPON COMPLETION OF PROJECT. AS-BUILT PLANS SHALL BE PREPARED AND CERTIFIED CORRECT BY A L.L.S. OR P.E. DIGITAL FILES SHALL BE GEO-REFERENCED TO NEW HAMPSHIRE STATE PLANE COORDINATES NAD83 AND SHALL BE EXPRESSED IN FEET.
24. BUILDING ADDRESSES SHALL BE ASSIGNED BY THE BUILDING OFFICIAL AT THE TIME OF ISSUANCE OF A BUILDING PERMIT.
25. THIS SITE PLAN IS DESIGNED IN COMPLIANCE WITH ALL APPLICABLE ACCESSIBILITY REGULATIONS. THE PROPOSED BUILDING IS DESIGNED IN COMPLIANCE WITH ALL APPLICABLE ACCESSIBILITY REGULATIONS INCLUDING NH RSA 155-A:5-a&b.
26. FOUR PARKING SPACES WILL BE EQUIPPED WITH EV CHARGING STATIONS AND AN ADDITIONAL SIX SPACES WILL BE EV-READY, COORDINATE WITH MEP PLANS.
27. ANY FENCE TALLER THAN SEVEN FEET (7') REQUIRES THE ISSUANCE OF A BUILDING PERMIT FROM INSPECTION SERVICES.
28. RESIDENTS OF THE DEVELOPMENT SHALL NOT PLACE TRASH OR DEBRIS ON THE COMMUNITY TRAIL OR TRAILHEAD.
29. SUBJECT PROPERTY WAS GRANTED A VARIANCE ON 08/17/95 FOR SIGNAGE (DOVER REF. Z95-15).
30. PAVEMENT MARKING ABBREVIATIONS:
SWL: SINGLE WHITE LINE (4" SOLID LINE)
DWL: DOTTED WHITE LINE (4" x 2' LINES EVERY 6', ALSO REFERRED TO AS A SKIP LINE)
DYL: DOUBLE YELLOW LINE (2 x 4" SOLID LINES SEPARATED BY 4")
31. MAINTENANCE OF LANDSCAPING AND HARDSCAPING ALONG THE SITE FRONTAGE ON CHESTNUT STREET AND THE OVERLOOK DECK AND IT'S RELATED LANDSCAPING SHALL BE THE RESPONSIBILITY OF THE OWNER.
32. TRASH SHALL BE STORED INTERNAL TO THE BUILDING IN ROLL-OUT DUMPSTERS WHICH SHALL BE STAGED FOR PICK UP WITHIN THE SITE ON A DEMAND-BASED FREQUENCY.
33. TRASH RECEPTACLE AT DOG PARK TO BE SERVICED DAILY.
34. TOTAL ROOF AREA = 51,528 SF
30% OF ROOF = 14,458
GREEN ROOF AREA = 10,767 SF
COURTYARD = 9,306 SF
35. SEE SHEET C-11 FOR LEGEND.

ALTUS ENGINEERING, INC.
133 Court Street Portsmouth, NH 03801
(603) 433-2335 www.altus-eng.com

ERIC D. WEINRIEB No. 7634 LICENSED PROFESSIONAL ENGINEER – STATE OF NEW HAMPSHIRE
4/19/22

NOT FOR CONSTRUCTION

ISSUED FOR:
PLANNING BOARD

ISSUE DATE:
APRIL 19, 2022

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	TRC	EBS	11/23/21
1	TRC	EBS	02/24/22
2	TRC	EBS	04/05/22
3	PLANNING BOARD	EBS	04/19/22

DRAWN BY: EBS
APPROVED BY: EBS
DRAWING FILE: 4904-SITE.dwg

SCALE:
22" x 34" – 1" = 30'
11" x 17" – 1" = 60'

OWNER:
HARLECH, LLC
273 CORPORATE DR., SUITE 150
PORTSMOUTH, NH 03801

APPLICANT:
REDGATE REAL ESTATE ADVISORS, LLC
265 FRANKLIN ST., SUITE 602
BOSTON, MA 02110

PROJECT:
47 CHESTNUT SITE REDEVELOPMENT
TAX MAP 31, LOT 5
47 CHESTNUT STREET
DOVER, NH
DOVER FILE NO. P21-84

TITLE:
SITE PLAN

SHEET NUMBER:
C-3

P4904

CITY OF DOVER

PLANNING BOARD – ABUTTER NOTICE

Meeting Type: Regular Meeting
Meeting Location: Council Chambers, City Hall, 288 Central Ave, Dover, NH
Meeting Date: **Tuesday, May 10, 2022**
Meeting Time: **7:00 pm**

Dear Property Owner: You are an abutter to the project listed in **bold** on the agenda.

INTENT: To construct a 173-unit multi-family residential building with a restaurant which would require Conditional Use Permits for setbacks, frontage build out, lot coverage, and green roof standards

LOTS/UNITS PROPOSED: 173 Residential Units

AGENDA ITEM #: 4 B-D

FILE: P21-84, P21-85, P22-29

APPLICANT: Redgate Real Estate Advisors, LLC

OWNER(S): Harlech, LLC

LOCATION: 47 Chestnut Street (Assessor's Map 31, Lot 5)

ACREAGE: 3.64± acres

ZONING DISTRICT: CBD-TOD

EXISTING LAND USE: Commercial

PROPOSED LAND USE: Mixed-use

SURROUNDING LAND USE: Commercial/Residential/Transportation Center lot/Community Trail/Cochecho River

ZBA ACTION: Z95-15: Variance granted on 8/17/1995 for sign

CUPs REQUIRED:
- Side & Rear Setback
- Frontage Build-out
- Lot Coverage
- Solar/Green Roof Standards

ATTACHMENTS: Site Plan

A partial agenda follows:

4. NEW BUSINESS

A. Consideration and acceptance of a Conditional Use Permit for a telecommunications tower …

B. **Consideration and acceptance of a Conditional Use Permit for Redgate Real Estate Advisors, LLC., (Owner: Harlech, LLC.), Assessor's Map 31, Lot 5, zoned CBD-TOD, located at 47 Chestnut Street. (Proposal is to construct a 173-unit multi-family residential building with a restaurant and requesting relief for the side setback of 37.2' whereas 10'-25' is required, a rear setback of 51.9' whereas 0'-25' is required, frontage build-out of 66.14% whereas 80% is required, and a minimum lot coverage of 33.52% whereas 75%-100% is required)*(P21-85)**

C. **Consideration and acceptance of a Conditional Use Permit for Redgate Real Estate Advisors, LLC., (Owner: Harlech, LLC.), Assessor's Map 31, Lot 5, zoned CBD-TOD, located at 47 Chestnut Street. (Proposal is to construct a 173-unit multi-family residential building with a restaurant and requesting relief for solar/green roof standards proposed of 10,767 sf or 20.8% where 14,458 sf or 30% is required.)*(P22-29)**

D. **Consideration and acceptance of a Site Review for Redgate Real Estate Advisors, LLC., (Owner: Harlech, LLC.), Assessor's Map 31, Lot 5, zoned CBD-TOD, located at 47 Chestnut Street. (Proposal is to construct a 44,977 sq. ft. multi-use building consisting of 173 residential units, a restaurant, amenity spaces and common areas.) *(P21-84)**

…

*Indicates that if the application is accepted for discussion, the public hearing will be held the same evening. Note that some hearings will be continued from one meeting to another and some may be postponed.

MORE INFORMATION AVAILABLE TO YOU:
Since this is only a partial description of the proposal and it may change, persons with questions or wishing to see the plans are invited to visit the Planning Office, Monday through Thursday from 8:30 am to 5:30 pm and Friday 8:30 am to 4:00 pm. You may view the rest of the agenda and materials at www.dover.nh.gov or contact the Planning and Community Development Department at City Hall or 603-516-6008.

To learn more about the Planning Board's jurisdiction, please review Chapters 153 (Site Review), 157 (Subdivisions) or 170 (Zoning) online at https://ecode360.com/DO0878

We invite you to review and comment on the proposal:
- In person at the hearing,
- Phone: 603-516-6008
- Email: Dover-Planning@dover.nh.gov
- Mail: Planning Board, Dover City Hall, 288 Central Ave., Dover, NH 03820.

Messages regarding applications must be received no later than 4 p.m. the day of the meeting and should identify the name and Dover address of the person leaving the message or providing the comment.

City of Dover, New Hampshire
SITE REVIEW APPLICATION

[Revision Date: July 1, 2021]

Office Use Only	Project #:		Date Received:	
	Amount Paid:		Time Received:	

APPLICANT AND OWNER INFORMATION

Name of Applicant: Redgate Real Estate Advisors, LLC Telephone # (617) 904-7000

Address of Applicant: 265 Franklin Street, Suite 602, Boston, MA 02110

E-Mail Address: justin.tierney@redgate-re.com

Name of Property Owner (*if different from applicant*): Harlech, LLC Telephone # (603) 427-5100

Address of Property Owner: 273 Corporate Drive, Suite 150, Portsmouth, NH 03801

PROPERTY INFORMATION

Address of Property: 47 Chestnut Street

Assessor's Map # 31 Lot(s) # 5

Zoning District(s) CBD-TOD Overlay District(s) _____

Size of Parcel: 3.64 sq. ft. 158,446 ac. Property Deed: Book 2036 Page: 090

Existing Use of Property: Commercial Retail

SITE PLAN INFORMATION

Describe Proposed Use: Multi-family Residential with Restaurant

Area of Parcel to be Developed: 139,050 sq. ft.

If Multi-family Residential: Number of Units 192 & Buildings Proposed 1

If lodging: Number of Units _____ & number of Buildings _____

Number of Parking Spaces: Existing 171 Proposed 200

Highway Access (check where applicable): X City Street ____ State Highway

Number of Employees Total: 20 In Maximum Shift: 12

Disposition of Parcel:

Building Footprint 44,977 sq. ft.

Total Building Area 199,180 sq. ft.

Paved Area 47,309 sq. ft.

Building Setbacks:

Front Yard 0 ft.

Rear Yard 50.3 ft.

Side Yard: Right 37.5 ft. Left 57.0 ft.

City Water? X Yes ___ No How far is city water from the property? On Property

City Sewer? X Yes ___ No How far is city sewer from the property? On Property

TRANSFER OF DEVELOPMENT RIGHTS INFORMATION

Type of TRANSFER OF DEVELOPMENT RIGHT REQUEST (Check All That Apply):

□ Residential □ Residential (reduced size) □ Industrial | □ Purchase □ Land Preservation

Relief sought (Check All That Apply):

□ Lot Size □ Frontage □ Setback □ 30' Buffer □ Increase by _____ units

Describe Proposed Use or Activity that requires TDR; describe any impacts and document mitigation:

_____

_____

_____

BUILDING INFORMATION

Type of Building to be Built: Apartment / Mixed-Use w/Parking Garage

Height of Building: 70.83' Finished Floor Elevation: 53.00'

Number of Seats (where applicable) 80

Estimated value of construction: $61M Refuse removal: Public/Private (circle one)

WAIVER REQUESTS

Site Review Regulations section(s) to be waived: N/A

Justification for waiver request(s) (*attach additional sheets as needed*):

_____

_____

_____

_____

_____

_____

_____

SURVEYOR INFORMATION

Name of Surveyor and Company (Licensed in N.H.) McEneaney Survey Associates, Inc.

Address 24 Chestnut Street, Dover, NH 03820 Telephone #: (603) 742-0911

Professional License #: 661 E-mail address: kevin@surveynh.com

ENGINEER INFORMATION

Name of Engineer and Company (Licensed in N.H.) Altus Engineering, Inc

Address 133 Court Street, Portsmouth, NH 03801 Telephone #: (603) 433-2335

Professional License #: 7634 E-mail address: esaari@altus-eng.com

ARCHITECT INFORMATION

Name of Architect and Company (Licensed in N.H.) Arrowstreet Architecture & Design

Address 10 Post Office Square, Suite 700N, Boston, MA 02109 Telephone #: (617) 523-5555

Professional License #: 04928 E-mail address: bois@arrowstreet.com

LANDSCAPE ARCHITECT INFORMATION

Name of Landscape Architect and Company (Licensed in N.H.) Copley-Wolff Design Group

Address 10 Post Office Square, Suite 1315, Boston, MA 02109 Telephone #: (617) 654-9000

Professional License #: 096 E-mail address: jheroux@copley-wolff.com

SOIL SCIENTIST INFORMATION

Name of Soil Scientist and Company (Licensed in N.H.) Gove Environmental Services, Inc.

Address 8 Continental Drive, Bldg. 2, Unit H, Exeter, NH 03833 Telephone #: (603) 778-0644

Professional License #: 232 E-mail address: lhurley@gesinc.biz

CONSERVATION EASEMENT HOLDER

Name of Easement Holder: _____ Telephone #_____

Address Easement Holder: _____

SIGNATURES

I/We hereby submit this application to the City of Dover Planning Board and attest that to the best of my knowledge all of the information on this application form and in the accompanying application materials and documentation is true and accurate. Furthermore, I/we submit that the existing conditions sheet of the plan represents the lot in question, and that no alteration of the site shall take place during Planning Board review up to and including the pre-construction meeting. As applicant or as agent, I attest that I am duly authorized to act in this capacity.

Signature of Property Owner: _____ Date: _____

Signature of Applicant (*if different from owner*): _____ Date: _____

Signature of Agent: _____ Date: 11/23/21

AUTHORIZATION TO ENTER SUBJECT PROPERTY

I, and my successors, hereby authorize members of the Dover Planning Board, Planning Department and other pertinent City Departments and boards to enter my property for the purpose of evaluating this application, including performing inspections during the application phase, post-approval phase, construction phase and occupancy phase. It is understood that these individuals must use all reasonable care, courtesy, and diligence when on the property.

Signature of Property Owner: _____ Agent Date: 11/23/21

AUTHORIZATION TO COMPLETE THE PROJECT ON SUBJECT PROPERTY

I, and my successors, hereby the City of Dover or its assigns to enter my property for the purpose of completing the site work as required by the approved plan should the letter or credit or other surety be called. It is understood that these individuals must use all reasonable care, courtesy, and diligence when on the property.

Signature of Property Owner: _____ Agent Date: 11/23/21

Signature of Applicant (*if different from owner*): _____ Date: _____

CERTIFICATION OF FEES

I, and my successors, hereby certify that I understand that the City of Dover collects impact fees, utility investment fees and inspection fees for projects developed in Dover. Said fees must be paid before a Certificate of Occupancy can be obtained for a structure, unless a different payment schedule is agreed to by the applicant and the City prior to approvals being issued by the Dover Planning Board. Additionally, should the property be in "Current Use" it will be subject to the Land Use Change Tax.

Signature of Property Owner: _____ Agent Date: 11/23/21

Signature of Applicant (*if different from owner*): _____ Date: _____

CITY OF DOVER SITE REVIEW
LIST OF ABUTTERS

Pursuant to RSA 676:4, the State Law of New Hampshire, the City of Dover is required to notify the applicant, abutters (including holders of conservation easements), and any professional whose seal is on the plan, of the public hearing by certified mail, return receipt requested. Staff will provide the abutter information, while the applicant must provide accurate contact information for the owner, applicant and professional agents representing the project.

Owner:

TAX MAP	LOT #	PROPERTY OWNER	MAILING ADDRESS
31	5	Harlech, LLC	273 Corporate Dr. Ste. 150, Portsmouth, NH 03801

Applicant (if different from owner):

APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS
	Redgate Real Estate Advisors, LLC	265 Franklin St., Suite 602, Boston, MA 02110

Surveyor and/or Engineer/Professional Agent:

NAME	COMPANY	MAILING ADDRESS
Erik Saari	Altus Engineering, Inc.	133 Court Street, Portsmouth, NH 03801

Conservation Easement Holder:

TAX MAP	LOT #	NAME OF EASEMENT HOLDER	MAILING ADDRESS

P21-84 & P21-85 P21-84 P21-85 P22-29 47 Chestnut Street

Property ID	Location	Owner 1	Owner 2	Owner Address 1	City	State	Zip
01041-000000	5 GREEN ST	RIVERVIEW BUILDING CONDOMINIUM		40 COURT ST STE 650	BOSTON	MA	02108
01042-000000	3 GREEN ST	DOVER HOUSING AUTHORITY		62 WHITTIER STREET	DOVER	NH	03820
02083-001000	ORCHARD ST	CITY OF DOVER		288 CENTRAL AVE	DOVER	NH	03820
06003-001000	200 FIRST ST	FIRST STREET AT GARRISON LLC		466 CENTRAL AVE STE 12	DOVER	NH	03820
06009-000000	24 CHESTNUT ST	FIRST STREET AT CHESTNUT LLC		466 CENTRAL AVE	DOVER	NH	03820
06010-000000	22 CHESTNUT ST	HOLGATE LIMITED PARTNERSHIP		130 CENTRAL AVE	DOVER	NH	03820
06010-A00000	37 39 FIRST ST	HOLGATE LIMITED PARTNERSHIP		130 CENTRAL AVE	DOVER	NH	03820
06011-000000	35 FIRST ST	LONG STEPHANIE N		35 FIRST ST	DOVER	NH	03820
06012-000000	31 33 FIRST ST	MURPHY BRIAN J		496 WALLIS RD	RYE	NH	03870
06029-000000	36 42 SECOND ST	HOLGATE LIMITED PARTNERSHIP		130 CENTRAL AVE	DOVER	NH	03820
10034-000000	ALONG B & M RR	CITY OF DOVER		288 CENTRAL AVE	DOVER	NH	03820
10040-000000	WASHINGTON ST	CITY OF DOVER		288 CENTRAL AVE	DOVER	NH	03820
10041-000000	1 7 CAPITAL DR	192 WASHINGTON SQUARE LLC		242 CENTRAL AVE	DOVER	NH	03820
31004-B00000	33 CHESTNUT ST	COCHECO MILLS HOLDINGS LLC		3 PENSTOCK WAY	NEWMARKET	NH	03857-4416
31004-B00LSE	33 CHESTNUT ST	CITY OF DOVER		288 CENTRAL AVE	DOVER	NH	03820
31006-000000	45 CHESTNUT ST	LOYAL ORDER OF MOOSE #443		45 CHESTNUT STREET	DOVER	NH	03820
31005-000000	47 CHESTNUT ST	HARLECH LLC		273 CORPORATE DR STE 150	PORTSMOUTH	NH	03801
		REDGATE REAL ESTATE ADVISORS, LLC		265 FRANKLIN STREET, SUITE 602	BOSTON	MA	02110
		ATLUS ENGINEERING INC		133 COURT STREET	PORTSMOUTH	NH	03801

City of Dover, New Hampshire
SITE PLAN REVIEW SUBMISSION CHECKLIST

[Revision Date: June 4, 2019]

This site plan review checklist, as required by Chapter 153-6-B(2), should be completed by the applicant. It is intended to assist the applicant in the planning process of preparing a Site Plan Review application for Planning Board action. The size of the project will determine the types of information required for review, therefore, a **pre-application conference** with the Planning Department to determine the list of items that must be completed is strongly encouraged.

The first step would be to appear before the Technical Review Committee, to apply, eight (8) folded copies of the site plan with scale of not less than 1"=50' or 1" =100' for larger site plans, need to be provided, along with payment of plan review fees.

Two weeks prior to Planning Board, three (3) full size and twelve (12) half size (11x17), folded, copies of the plan set and materials, including response to TRC comments, will be due. Abutter/Notice Fees will be invoiced and need to be paid 28 hours prior to the Planning Board meeting.

The applicant is cautioned that this checklist is only a guide and is not intended to be a complete list of all site plan review requirements. Please refer to the Site Plan Review Regulations for full details.

APPLICANT: Redgate Real Estate Advisors, LLC File Number: _____

PROJECT TITLE: 47 Chestnut

PROPERTY LOCATION: 47 Chestnut Street Tax Map: 31 Lot: 5

	Where/How Provided	Reviewed
1. Completed and signed Application form	Attached	
2. Plan Review Fees are provided	Attached	
3. Electronic copy of the engineered/surveyed plan layout	Submitted via Email	
4. Electronic copy of supplementary materials and application	Submitted via Email	
5. Traffic Impact Assessment and Analysis (Standard or Advanced)	Pending	
6. Waiver requests to the Site Plan Review Regulations, with written justification	None Requested	
7. Conditional Use Permit applications	Attached	
8. A colored rendering of the streetscape that will be created along the existing public right-of-way	Perspective Views	
9. A colored architectural plan showing all sides of buildings	Building Elevations	
10. Folded copies of site plan w/scale of not less than 1"=50' or 1"=100' for larger site plans, for TRC. Plans shall contain the following items as appropriate:		
Location map at appropriate scale	Cover Sheet	
Proposed Project name and title and Planning File #	Cover Sheet	
Date, north arrow and scale	All Applicable Sheets	
Names of all abutting property owners	Existing Conditions Plan	
Name and address of owners and/or applicants	Cover Sheet	
Signature & stamp of NH licensed land surveyor and/or engineer	All Applicable Sheets	
Zoning District boundaries, including any special or overlay districts	Neighborhood Plan	
Location of Conservation District areas	N/A (none on site)	
Location, names and widths of existing and proposed streets, including pavement widths, grades, curbs and crosswalks	Site Plan	
Location and widths of existing & proposed easements & right of ways	Site Plan	
Location and width of existing and proposed access/egress ways	Site Plan	

	Explain How Provided	Reviewed
Depict pedestrian walkways and accessible access	Site Plan	
Existing and proposed property lines with dimensions and bearings tied into Dover's Geographic Information System coordinate system	Existing Conditions Plan	
Existing and proposed topographic information at two foot intervals	Stormwater Management Plan	
Existing and proposed buildings and structure locations	Site Plan	
Minimum building setbacks or build to lines on all lots	Site Plan	
Location and size of existing and proposed electric, telephone, gas cable and other underground utilities	Utilities Plan	
Existing and proposed water lines and fire hydrants, including materials and capacity needed	Utilities Plan	
Location and materials of sanitary sewage facilities within project site and projected additional peak hour sewer load	Utilities Plan	
Existing and proposed stormwater lines and facilities	Stormwater Management Plan	
Lighting plan depicting all existing and proposed exterior light fixtures and a lighting level analysis for parking lots	Lighting Plan	
Location of Flood Hazard Zone	Site Plan	
Location of all bodies of water and watercourses	Site Plan	
Location of wetlands and buffers	Site Plan	
Neighborhood plan with aerial underlay showing how project relates to abutting uses within the plan set	Neighborhood Plan	
Existing natural features and/or significant vegetation on property	Existing Conditions Plan	
Depict existing contours up to 100 ft. beyond project limits	Existing Conditions Plan	
Landscape plan depicting existing and proposed landscaping, prepared by a licensed Professional Landscape Architect	Landscape Plan	
Location of parking layout delineating spaces and arrangement; note addressing maximum required spaces	Site Plan	
Location, material and size of existing and proposed pavement area	Site Plan	
Location of proposed fire lanes	Site Plan	
Specify finished floor elevations of buildings	Stormwater Management Plan	
Location of solid waste disposal facilities (dumpster, pad and screening, etc.), including required screening	N/A (internal to building)	
Depict all service, storage, loading bays and utility areas	Site Plan	
All applicable Dover Common Site Plan notes	Relevant Sheets as Applicable	
11. Additional Information if appropriate		
Stormwater Management Plan depicting the existing & proposed storm drainage system and engineered drainage analysis	Drainage Analysis	
Stormwater Management System Operation and Maintenance Plan	Drainage Analysis	
Letter to Serve from Public and Private Utilities	Attached	
Erosion and Sedimentation Control Plan	Erosion and Sediment Control Plan	
Landscape Operation and Maintenance Plan	Landscape Plan	
Proposed restrictive covenants or homeowners association documents	N/A	
Dates and permit numbers of all required state and federal permits	Permits Pending	
If wetland buffer, indicate placards locations, as applicable	N/A (CBD exemption)	
Depict test boring locations, groundwater elevations and soil profiles and/or soils types call-outs	Drainage Analysis	
Location of proposed drive-in facilities	N/A (none proposed)	
Provide additional exhibits/technical data determined appropriate by the Planning Board or its staff as required		

REVIEWED BY: _____ DATE_____ TRC DATE_____

CITY OF DOVER PLANNING DEPARTMENT
Revised August 10, 2020

APPLICANT: Redgate Real Estate Advisors, LLC FILE NUMBER: _____

List of Common Site Plan Notes

The following list of commonly required notes is intended to be used as a guide to applicants and should not be construed as a comprehensive note requirement list for all projects. A preapplication conference with the Planning Department is suggested to help determine the actual notes that may be required.

1. The intent of this plan is to *(describe the purpose of the plan).* Sheet C3, Note 1

2. Owners of Record are: Name
   Street address
   Municipality, State, Zip Code
   _____
   Authorized Signature
   Cover Sheet

3. The parcel(*s*) is (*are*) shown as Lot No. _____, Map ____ of the City of Dover Tax Assessor's Maps. Sheet C3, Note 3

4. The subject parcel(s) contains ____ acres or _____ sq. ft. area of land. Sheet C3, Note 2

5. Title reference for the project parcel(*s*) is the Strafford County Registry of Deeds, Book No. ___, Page No. ___. Sheet C3, Note 4

6. Reference Plans: (*List all reference plans and their SCRD #)* Existing Conditions Plan

7. All applicable right-of-way, conservation, slope, construction, power line, cross travel, or other easements shall be referenced in a note. Existing Conditions Plan & Sheet C3, Note 5

8. Zoning dimensional and density requirements are as follows: Sheet C3, Note 6

   Required: Provided:

   a. Zoning district _____ sub-district _____
   b. Minimum lot size: _____ acres (sq. ft.)
   c. Minimum lot frontage: _____ ft.
   d. Minimum yard setbacks/build-to-lines:
      Front _____ft.
      Side _____ft.
      Rear _____ft.
      Abut-a-street _____ ft.
   e. Maximum/minimum lot coverage _____ %
   f. Minimum/maximum bldg. height _____ ft./stories

   This property falls within the following zoning overlay districts: *(List districts)*

9. List any variances or special exceptions granted by the Zoning Board of Adjustment or Conditional Use Permits granted by the Planning Board for the proposed use or structure, including the case number and date of decision and any conditions. Sheet C3, Note 6

10. Property line information has been obtained from a survey performed by *(surveyor)* on (*date*) with an error not greater than 1 in 10,000 (*or has been obtained from _____ Plan, prepared by (surveyor)*). Existing Conditions Plan, Note 8

11. Subject parcel is (*is not*) located within a Federally designated flood hazard area (Community panel number 33017C0xxxD, Effective Date: September 30, 2015). Existing Conditions Plan, Note 6

12. Wetlands were delineated by _____, Certified Wetlands Scientist, Certification Number ____, in accordance with Chapter 170-27.1 of the Zoning Ordinance, on _____, 20___. Sheet C3, Note 10

13. As-built plans of the subdivision shall be submitted on paper and in digital format AutoCAD DWG, AutoCAD DXF or ESRI format to the City of Dover Engineer's Office upon completion of project if a street is proposed for City acceptance. As-built plans shall be prepared and certified correct by a L.L.S. or P.E. Digital files shall be geo-referenced to New Hampshire State Plane Coordinates NAD83 and shall be expressed in feet. Sheet C3, Note 23

14. The installation of electric power, cable television and telephone lines shall be underground throughout the site for which development is proposed. Sheet C6, Note 9

15. The subject parcel(s) is (are) served by municipal water and sewer (*or is served by on-site well and septic system*). Sheet C6, Note 3

16. All construction shall conform with the State of New Hampshire Department of Transportation (NHDOT) "Standard Specifications for Road and Bridge Construction" and with the City of Dover Community Services Regulations and standard specification for construction. The more stringent specification shall apply. Sheet C3, Note 15

17. All erosion control notes shall include provisions for construction sequencing, temporary erosion control measures, and permanent standards such as loam spread rate for disturbed areas, rates of lime, type and rates for fertilizer, and seed and mulch mixture with rates of application. Sheet D1

18. The limits of construction disturbance that are located in or within the 50 ft. of Conservation and Wetland Districts shall be staked, flagged and clearly identified prior any earth disturbing activity occurs. Sheet C4, Note 5

19. All treatment swales to be constructed shall have sod bottoms. N/A

20. A letter of credit for the cost of revegetating all disturbed areas on the site shall be submitted, and the approved construction sign installed prior to any earth disturbing activity occurs. Sheet C4, Note 2

21. A pre-construction conference with the developer, the design engineer, the earthwork contractor and the City Engineer shall occur prior to any earth disturbing activity. Sheet C4, Note 4

22. Site Construction hours shall be limited to Monday-Friday 7 AM-6 PM, Saturday and Sunday 9 AM-4 PM. Hours of construction must be documented on a site construction sign along with the contact information for the general contractor. Said signage must be located and approved by the City Engineer or Assistant City Manager. Sheet C3, Note 19

23. Building addresses (including apt/unit numbers if applicable) shall be assigned by the Building Official at the time of issuance of a building permit. Sheet C3, Note 24

24. The proposed use for the site (structure) is _____. (More specific uses are encouraged, such as single family, duplex, multi-family, restaurant, hotel, doctor's office, etc. Should more than one use be proposed, an indication of the percentage of each use is suggested.) Sheet C3, Note 1

25. The following federal and state permits have been issued for the subject property: (*List permit type, number and date of issuance.)* Cover Sheet

26. Commercial vehicle route during construction shall conform to Dover City Code or be coordinated with the Community Services Director. Sheet C3, Note 18

27. Any retaining wall taller than four feet (4') requires issuance of a building permit from Inspection Services. Sheet C4, Note 20

28. Any fence taller than seven feet (7') requires the issuance of a building permit from Inspection Services. Sheet C3, Note 27

29. Applicant shall complete Land Use Development Tracking Form, most recently revised version, utilizing the online Pollution Tracking and Accounting Pilot Project (PTAPP) portal. https://www.unh.edu/unhsc/ptapp Sheet C4, Note 18

30. The owner of record shall record at the Registry of Deeds documentation sufficient to provide notice to all persons/entities that may acquire any property subject to the requirements and responsibilities described in the approved STORMWATER Management Plan. The notice shall comply with the applicable requirements for recording contained in RSA 477 and 478. The notice need not set forth the requirements at length, so long as it is sufficient to provide notice to prospective purchasers to the requirements for maintenance and reporting. Sheet C4, Note 19

31. Fire department access road(s) shall be installed and maintained to support the imposed loads of fire apparatus in all weather conditions at all times. N/A

32. The maximum parking space calculation is _____ (broken down) and ____ spaces are provided. Sheet C3, Note 7

33. Exterior lighting shall be cut-off type fixtures per Chapter 153-14-E and shall provide lighting directed on-site only. Sheet C7, Note 9

34. Topographic survey performed by _____ on *(dates)*. Existing Conditions Plan, Note 8

35. Elevations are based on U.S.G.S. NVD 1988 datum. (**or** Elevations depicted are based on information obtained from the City Engineer's Office and was derived from coordinates for control stations _____ and _____. These coordinates have not been adjusted to 1983 datum). Existing Conditions Plan, Note 7

36. A security system shall be installed as required by Chapter 45, Article I, section 45-2 of the Code of the City of Dover. (*If a business establishment or multi-family dwelling contained in a new, altered or repaired structure*) Sheet C6, Note 11

37. Approved backflow preventers shall be provided for both fire and domestic water lines. Sheet C6, Note 10

38. The (*existing or proposed*) structure shall be served by a sprinkler system as required by Chapter 81- 30 of the Code of the City of Dover and the adopted State of NH Building and Fire Codes.
Sheet C6, Note 18

39. Sprinkler connections must be flushed in accordance with NFPA 24 and a Contractor's Material and Test Certificate for Underground Piping form must be completed and approved by Inspection Services prior to connection of the backflow device.
Sheet C6, Note 19

40. Fire department connection(s) shall be located on the street side of the building per NFPA 13. Access to the FDC shall maintain a clear and unobstructed path at all times.
Sheet C6, Note 17

41. The site layout is designed in compliance with applicable accessibility regulations. The proposed structure will be also be designed in accordance with applicable accessibility regulations. (i.e. IBC, ANSI-117.1) and NH RSA 155-A:5.
Sheet C3, Note 25

REMARKS:

City of Dover, New Hampshire
CONDITIONAL USE PERMIT APPLICATION

[Revision Date: October 19, 2020]

Office Use Only	Project #:		Date Received:	
	Amount Paid:		Time Received:	

APPLICANT AND OWNER INFORMATION

Name of Applicant: Redgate Real Estate Advisors, LLC Telephone # (617) 904-7000

Address of Applicant: 265 Franklin Street, Suite 602, Boston, MA 02110

E-Mail Address: justin.tierney@redgate-re.com

Name of Property Owner (if different from applicant): Harlech, LLC Telephone # (603) 427-5100

Address of Property Owner: 273 Corporate Drive, Suite 150, Portsmouth, NH 03801

PROPERTY INFORMATION

Assessor's Map # 31 Lot(s) # 5

Address of Property: 47 Chestnut Street

Zoning District(s) CBD-TOD Overlay District(s) _____

Existing Use of Property: Commercial Retail

CONDITIONAL USE PERMIT INFORMATION

Type of Conditional Use Permit (Check All That Apply):

☐ Conservation District	☐ RCM Use Overlay District	☐ Gateway District
☐ Groundwater Protection	☐ Off-Street Parking and Loading	☐ Alternative Treatment Center
☐ Wetland Protection District	☒ Central Business District	☐ Heritage Residential District

Describe Proposed Use or Activity That Requires Conditional Use Permit and Describe Any Impacts:

The Project entails the construction of a 173-unit multi-family residential building with a restaurant. Due to the configuration and characteristics of the lot, the side (1) and rear (2) maximum building setbacks and minimum frontage build-out (3) requirements cannot be reasonably met. Lot coverage (4) is also less then required due to the size of the lot being significantly larger than typical parcels in the CBD zone. (5) Solar/green roof standards are also requested to be reduced.

List Any Associated State or Federal Permits That Have Been or Will Be Applied For and Indicate Their Status: NHDES Alteration of Terrain and NHDES Wetlands to be submitted at a later date.

Name of Professional That Prepared Plans: Altus Engineering, Inc.

Address 133 Court Street Telephone #: (603) 433-2335

Professional License #: 7634 E-mail address: esaari@altus-eng.com

SIGNATURES

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

Signature of Property Owner: _____ Date: _____

Signature of Applicant (if different from owner): _____ Date: _____

Signature of Agent: _____ Date: 02/24/22

AUTHORIZATION TO ENTER SUBJECT PROPERTY

I, and my successors, hereby authorize members of the Dover Planning Board, Planning Department and other pertinent City Departments and boards to enter my property for the purpose of evaluating this application, including performing inspections during the application phase, post-approval phase, construction phase and occupancy phase. It is understood that these individuals must use all reasonable care, courtesy, and diligence when on the property.

Signature of Property Owner: _____ Agent Date: 02/24/22

CITY OF DOVER CONDITIONAL USE
LIST OF ABUTTERS

Pursuant to RSA 676:4, the State Law of New Hampshire, the City of Dover is required to notify the applicant, abutters (including holders of conservation easements), and any professional whose seal is on the plan, of the public hearing by certified mail, return receipt requested. Staff will provide the abutter information, while the applicant must provide accurate contact information for the owner, applicant and professional agents representing the project.

Owner:

TAX MAP	LOT #	PROPERTY OWNER	MAILING ADDRESS
31	5	Harlech,. LLC	273 Corporate Dr., Ste. 150, Portsmouth, NH 03801

Applicant (if different from owner):

APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS
	Redgate Real Estate Advisors, LLC	265 Franklin St. Ste. 602, Boston, MA 02110

Surveyor and/or Engineer/Professional Agent:

NAME	COMPANY	MAILING ADDRESS
Erik Saari	Altus Engineering, Inc.	133 Court St., Portsmouth, NH 03801

Conservation Easement Holder:

TAX MAP	LOT #	NAME OF EASEMENT HOLDER	MAILING ADDRESS

FRANCIS X. BRUTON, III
CATHERINE A. BERUBE
JOSHUA P. LANZETTA

OF COUNSEL
JAMES H. SCHULTE

Bruton & Berube, PLLC

ATTORNEYS AT LAW

601 Central Avenue
Dover, NH 03820

TEL (603) 749-4529
(603) 743-6300
FAX (603) 343-2986

www.brutonlaw.com

April 19, 2022

VIA HAND DELIVERED

Ms. Donna Benton, AICP
Director of Planning and Community Development
City of Dover Department of Planning and Community Development
288 Central Ave.
Dover, NH 03820

Re: CUP Application
Owner: Harlech LLC
Applicant: Redgate Real Estate Advisors, LLC
47 Chestnut St. Redevelopment
Dover, NH

Dear Ms. Benton,

On behalf of the Applicant, Redgate Real Estate Advisors, LLC, and owner, Harlech LLC, we respectfully submit the following narrative in support of the Conditional Use Permit application for the property located at 47 Chestnut Street. The project is specifically requesting relief from the following dimensional regulations or requirements:

1) Side maximum setback (10'-25' required, ±37.2 proposed)
2) Rear maximum setback (0'-25' required, ± 51.9 proposed)
3) Minimum frontage build-out (80% required, 66.14% proposed)
4) Minimum lot coverage (75%-100% required, 33.52% proposed)
5) Solar/Green Roof Standards (14,458 SF 30% required, 10,767 SF 20.8% proposed)

The project was initially designed as a larger project with six floors and 192 residential units with a restaurant and various common spaces and amenities. After developing the uses, the Applicant and Owner reduced the size of the residential component in an effort to locate all of the parking necessary for the project on-site. This approach is atypical given the number of units proposed, as similar developments are often looking for offsite parking to augment what they cannot fulfill on-site. As such, the unit count for the project was reduced from 192 units to 173 units, with a mix of studios, one-bedroom and two-bedroom units. In addition, in order to provide for a community atmosphere, and to segregate the residential and common space elements, the Applicant has redesigned the project to include townhomes along the parking areas along the rear of the proposed structure.

The project will be incorporating considerable non-required improvements to the site and to the neighborhood. As part of this project, the intersection will be reconfigured and

improvements include reprogramming of the signal, a new crosswalk and new pavement striping. The project will introduce a new commercial space, a public riverfront overlook deck, a green roof, stabilization and maintenance of the existing riverbank, and granting the City a sewer easement through the property. The project will revitalize the often-dormant site and the surrounding neighborhood which will bring new life to downtown.
.As a result, this area of the City will continue to develop as a vibrant hub of activity.

The parcel is located in the CBD Transit Oriented Development Sub-District (the "TOD District"). This is a unique district, where the stated purpose of the TOD District indicates that the area is "...ripe for development." When looking at the existing site, nothing could be further from the truth. Also unique about the zone is that is does not require first floor commercial uses, unlike others in the CBD. Nonetheless, in an effort to provide more commercial activity in the area, the Applicant has decided to locate a commercial space along a portion of the frontage of the development. This commercial space will be accessible by the residents, but also available to the general public and those utilizing the transportation center.

CUP Requests 1-4, General Rationale

In terms of building setbacks, frontage buildout and lot coverage, the Applicant sees similarities as to parcel limitations that precludes meeting these minimums, and, as such respectfully submits that the limiting factors to be discussed herein equally apply to the first four requests identified above. In addition, by moving the structure, which is now over 200 feet from the frontage directly up to the streetscape, where the lot narrows when compared to the rear of the lot, the project becomes more compliant as to the front build-to setback (207.92 feet down to 0 feet), the build-to side yard setbacks (64.24 feet down to 37.5 feet) and lot coverage (21.5% up to 33.52%).

The project site has a number of characteristics that physically preclude compliance. Specifically, with access to the lot restricted to the existing signalized intersection on Chestnut Street on the north side and environmental sensitivity the riverbank, municipal sewer easement and bridge location along the frontage limiting building area the south, both side build-to setbacks cannot be met. Concurrently, these restrictions also prevent the frontage buildout from achieving the required 80% minimum. Regarding lot coverage, the unique steep slopes along the west boundary and the riverbank limit the areas that can be redeveloped. The provision of a partially enclosed amenity area instead of additional parking also reduces the amount of lot coverage which is necessary in order to balance the location of parking on the lot with a need to create as much greenspace common area. Furthermore, this 3.64-acre site is relatively large compared to most of the parcels in the CBD Zone, making the 75% minimum coverage impractical, unlike most surrounding properties.

CUP Request 5, General Rational

The TOD District requires a 30% green roof/solar panel coverage. For the reasons discussed, the Applicant proposes 20.8% green roof cover. The roof has dedicated mechanical space to support the project. This allows, intentionally, most equipment to be located above grade and out of sight. Given the significant parking contained within the site, a unique feature for a

project of this size, attention has been given to locating as much of the mechanicals on the roof in order to maximize all available green space at grade. An added benefit is that there is now additional square footage at grade which can be dedicated to external recreational uses and beautification instead of utility. This is a significant factor when considering the courtyard design for the project and the lack of traditional hardscapes contained therein.

A green roof covering over 20% of the roof area is provided along the bordering roof line of the courtyard, effectively expanding the green footprint. While the roof will be structurally designed to be solar ready to accommodate new solar technologies that are developed as more efficient and smaller panels become commonplace, there is limited space for an efficient solar array and shadows from equipment will reduce the energy production of the panels. In this instance, the Applicant is deficient by 3,691 SF, however, the courtyard will, itself, contain 9,306 SF of greenspace therein. The Applicant believes that there is more benefit to investing in the overall green systems within the roof and courtyard of the project, resulting in an overall green space within the project that meets and exceeds the intentions of the green roof / space requirement.

In regard to the specific criteria of Chapter170, Section 20.B.1 of the City of Dover Zoning Ordinance, we offer the following:

(a) That both public and private BUILDINGs and landscaping shall contribute to the physical definition of RIGHTs OF WAY as CIVIC SPACEs.

> As designed, the proposed building is as far forward as possible, providing a clear delineation between private property and the public right of way. With the inclusion of walkways, bench walls, a raised outdoor seating area, landscaping and other hardscape along the Chestnut Street frontage, the projects road facing expression is one of engagement with the public.

(b) That development shall adequately accommodate automobiles, while respecting the pedestrian and the spatial form of public areas.

> By locating the parking area under and behind the building and a dedicated loading zone in the garage, the vehicular component of the redevelopment is isolated from its pedestrian-oriented facets found along the road and river frontage. With a parking count greater than one parking space per unit and close proximity to a major transit hub, there will be adequate but not overly excessive space for vehicles. Clearly, this is a unique offering that is difficult for most projects of similar scale, where those developments find themselves additional parking capacity off-site rather than remain self-contained on the developed parcel. The project also features a public bike rack along Chestnut Street and a dedicated bicycle storage room for residents. The shape of the proposed building also serves to separate vehicular uses from pedestrian features by partially enclosing the primary amenity area in a courtyard adjacent to the river.

(c) That the design of STREETs and BUILDINGs shall reinforce safe environments, but not at the expense of accessibility.

The parking lot, garage, courtyard and street front areas will feature 24-hour lighting and security cameras. Multiple entrances will also help to minimize long walks through the parking area. In addition, the addition of a significant residential component to the property, which is currently lacking, serves to activate the area and increase the sense of community, offering a safe environment for those people utilizing the area, whether they be the residents themselves or the members of the general community.

(d) That architecture and landscape design shall grow from local climate, topography, history, and BUILDING practice.

The proposed building draws from the history of Dover as a center for textile manufacturing. Specifically, the frontage along Chestnut Street was designed to be reminiscent of the brick facades of the local mill buildings. Additionally, several other sections have been planned with a weave pattern suggestive of fabric. The landscape design also utilizes species native to New Hampshire that will be complementary to the building and surrounding neighborhood.

(e) That BUILDINGs shall provide their inhabitants with a clear sense of geography and climate through energy efficient methods.

Designed to include a green roof as well as an almost complete greenspace courtyard, the building will also use electricity for heating and cooling rather than fossil fuels. Together with EV charging stations, additional EV-ready parking spaces and easy access to the transit center, the redevelopment will be one of the most climate-friendly projects in the City.

(f) That CIVIC BUILDINGs and public gathering places shall be provided as locations that reinforce community identity and activity.

Although no civic buildings are proposed as part of this project, the project will include a public riverfront overlook deck. Additionally, the redevelopment is designed around a central courtyard that will promote resident interaction and sense of community amongst the residents and intermingling with members of the general public as the improvements along Chestnut Street will also serve as a welcoming interface between the project and the public at large.

(g) That CIVIC BUILDINGs shall be distinctive and appropriate to a role more important than the other BUILDINGs that constitute the fabric of the city.

There are no civic buildings included in the project.

(h) That the preservation and renewal of historic BUILDINGs shall be facilitated.

There are no historic buildings on the project site and the NH State Historic Preservation

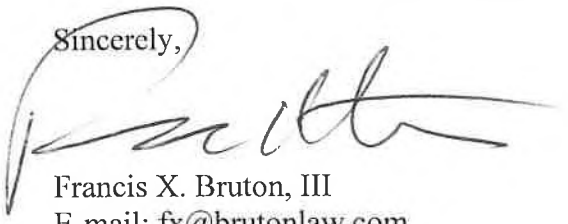
Office has determined that the redevelopment will have no adverse effect on historical resources.

(i) That the harmonious and orderly evolution of urban areas shall be advanced by the proposed BUILDING and/or use.

The project is a logical redevelopment of the site in that it promotes residential density in the walkable urban core adjacent to the transit center at the expense of the existing vehicular-dependent retail use. With architecture complementary to the surrounding neighborhood and various pedestrian and landscape features, the building and its proposed improvements will be a well-balanced addition to the downtown area.

We respectfully submit that, for the reasons set forth herein, and based upon the overall improvement of the parcel and the resulting activization of the parcel, and given the physical constrains the property presents in order to achieve the beneficial goals desired, the grant of the five CUP requests is reasonable and consistent with the spirit of that form of relief and the goal of the TOD District, and that each Board member would agree the parcel "…is ripe for development."

Sincerely,



Francis X. Bruton, III
E-mail: fx@brutonlaw.com

FXB/mas

cc: Redgate Real Estate Advisors, LLC
Harlech LLC
Altus Engineering, Inc.
Arrowstreet, Inc.

Letter of Authorization

Redgate Real Estate Advisors, LLC., hereby authorizes Altus Engineering, Inc. of Portsmouth, NH to represent them as the Applicant in all matters concerning the engineering and related permitting of a site plan on Dover Tax Map 31, Lot 5 located at 47 Chestnut Street in Dover, NH. This authorization shall include representation at public hearings and other project-related meetings in addition to any signatures required for Federal, State and Municipal permit applications.

_____	Justin Tierney	11/2/2021
Signature	Print Name	Date
_____	_____	_____
Witness	Print Name	Date

Letter of Authorization

Harlech, LLC., hereby authorizes Altus Engineering, Inc. of Portsmouth, NH to represent them as the Owner in all matters concerning the engineering and related permitting of a site plan on Dover Tax Map 31, Lot 5 located at 47 Chestnut Street in Dover, NH. This authorization shall include representation at public hearings and other project-related meetings in addition to any signatures required for Federal, State and Municipal permit applications.

Signature	Print Name	Date
[signature], Manager	ERIC S. KATZ, MANAGER	11/2/21

Witness	Print Name	Date
Kathleen M Sadlock	Kathleen M Sadlock	11/2/21

DAVE WHITE, P.E.
City Engineer
d.white@dover.nh.gov

288 Central Avenue
Dover, New Hampshire 03820-4169
(603) 516-6450
www.dover.nh.gov

City of Dover, New Hampshire

COMMUNITY SERVICES DEPARTMENT

November 10, 2021

Erik Saari
Vice President
Altus Engineering, Inc.
133 Court Street
Portsmouth, NH 03801

RE: Tax Map 31 Lot 5-47 Chestnut

To Whom It May Concern:

This letter is written confirmation that the City of Dover is able to serve the above referenced development with water and sanitary sewer service. Water and sanitary sewer work shall conform to the City's Water and Sewer Ordinances, as well as the requirements of Dover's Community Services Utilities Division. There is also adequate supply and capacity in the water and sewer system. If you have any questions, please feel free to call me at 516-6450.

Sincerely,

Dave White

Dave White, PE
City Engineer

November 18th, 2021

Erik Saari
Altus Engineering
133 Court Street
Portsmouth, NH 03801

Natural Gas to Mixed-Use Development at 47 Chestnut in Dover, NH

Erik,

Unitil/Northern Utilities Natural Gas Division has reviewed the requested site for natural gas service:

Unitil hereby confirms that natural gas is available to supply the proposed development known as '***Mixed-Use Development"*** *at 47 Chestnut in Dover, NH 03820*.

Please note that this property could be served from our low-pressure gas system and our gas service pressure may not exceed 7" Water Column.

If you have any questions, please contact me at 603-534-2379.

Sincerely,

Dave MacLean
Senior Business Development Rep

T 603.294.5261 **M** 603.534.2379 **F** 603.294.5264
Email macleand@unitil.com

EVERSOURCE ENERGY

December 23, 2021

1700 Lafayette Road
Portsmouth, NH 03801

Trevor S Emmons
603-332-7515
Trevor.emmons@eversource.com

Erik Saari
Altus Engineering, Inc.
133 Court Street
Portsmouth, NH 03801

Dear Mr. Saari:

I am responding to your request to confirm the availability of electric service for the proposed 47 Chestnut Street project being constructed for/by Redgate Real Estate Advisors, Inc.

The proposed project consists of a 6-story building with 192 residential units approximately 2,500 s/f of retail/office space at the ground level and parking below grade. The proposed development will be constructed along Chestnut Street.

The developer will be responsible for the installation of all underground facilities and infrastructure required to service the new building. The service will be as shown on attached marked up Utility Plan C-6. The proposed building service will be fed from 2-1000 kVA transformers supplied within the existing underground system on Chestnut St. The developer will work with Eversource to obtain all necessary easements and licenses for the proposed underground facilities listed above.

This letter serves as confirmation that Eversource has sufficient capacity in the area to provide service to this proposed development. The cost of extending service to the aforementioned location and any associated infrastructure improvements necessary to provide service will be borne by the developer unless otherwise agreed upon.

The attached drawing titled "Utility Plan" dated November 23, 2021, shows transformer locations to service your proposed project.

Eversource approves the locations shown; assuming the final installed locations meet all clearances, physical protection, and access requirements as outlined in Eversource's "Information & Requirements For Electric Supply" (https://www.eversource.com/content/docs/default-source/pdfs/requirements-for-electric-service-connections.pdf?sfvrsn=2).

If you require additional information or I can be of further assistance please do not hesitate to contact me at our Rochester Office, 603-332-7515

Respectfully.

Trevor Emmons
Eastern Regional Engineer, Eversource

cc: Michael J. Busby, PE, Eastern Regional Engineering and Design Manager, Eversource
Thomas Boulter, Eastern Region Operations Manager, Eversource
Nickolai Kosko, Field Supervisor, Electric Design, Eversource

DRAINAGE ANALYSIS

FOR

Site Redevelopment
of
47 Chestnut

47 Chestnut Street
Dover, NH

Tax Map 31, Lot 5

November 23, 2021
Revised Through February 24, 2022

Prepared For:

Redgate Real Estate Advisors, LLC
286 Franklin Street, Suite 602
Boston, MA 02110

Prepared By:

ALTUS ENGINEERING, INC.
133 Court Street
Portsmouth, NH 03801
Phone: (603) 433-2335

ALTUS ENGINEERING, INC.

Altus Project 4904

Section 1

Narrative

ALTUS
ENGINEERING, INC.

PROJECT DESCRIPTION

Redgate Real Estate Advisors, LLC is proposing to redevelop a commercial lot located at 47 Chestnut Street in Dover, New Hampshire. The 3.64-acre property is identified as Assessor's Map 31, Lot 5 and is located in the Central Business District – Transit-Oriented Development Subdistrict (CBD-TOD) district. Adjacent to the Dover Transportation Center, the site was originally developed in the early 1980's as a supermarket and currently hosts a ±32,000 sf retail building with an expansive paved parking lot accessed from a signalized intersection with Chestnut Street. The Cochecho River comprises the site's southern boundary while a railroad bed that has been converted to a community trail runs along the west side. The slopes to the river and the rail bed are essentially the only areas on the parcel that are vegetated.

The proposed project will construct a new 173-unit apartment complex serviced by municipal water and sewer, a paved surface and garage parking area and new stormwater treatment measures. These measures will include a subsurface chamber system with an integrated sand filter. Pretreatment will be provided by catch basins with deep sumps and grease hoods and a Stormtech isolator row. Portions of the proposed roof will also be constructed as a "green roof."

The stormwater management system proposed for the site will reduce peak flows and treat runoff from over 99% of the site's impervious areas prior to leaving the site. In addition, impervious surfaces will be reduced from the existing conditions by over 14,000 sf.

Site Soils

Given that the site is primarily comprised of impervious surfaces, NHDES has determined that the NRCS soils maps are acceptable for this project. The maps indicate that the subject property consists of two primary soil classifications:

SfC – Suffield silt loam, 8 to 15% slopes, HSG C
SfC – Suffield silt loam, 15 to 35% slopes, HSG C

Pre-Development (Existing Conditions)

The Pre-Development Watershed Plan (Sheet WS-1) reflects the current conditions of the site which include the existing building, parking lot and limited offsite contributing areas. The current site can be divided into seven (7) subcatchments which discharge to the south to the Cochecho River at Point of Analysis and east to a municipal closed drainage system which also drains to the Cochecho which is analyzed as Point of Analysis #1 (POA #1/HydroCAD Link 300L).

Post-Development (Proposed Conditions)

The proposed project will construct a new building, drainage system and associated site improvements.

As shown on the attached Post-Development Watershed Plan (Sheet WS-2), the site was divided into twenty-five (25) subcatchment areas in the post-development conditions. The same point of analysis that were used in the Pre-Development model (POA # 1/300L) was used for comparison of the Pre- and Post-development conditions.

The Post-Development Watershed Plan illustrates the proposed stormwater management system. Site topography, existing features, proposed site improvements, proposed grading, drainage and erosion control measures are shown on the accompanying plans. Recommended erosion control measures are based upon the December 2008 edition of the "*New Hampshire Stormwater Manual Volumes 1 through 3*" prepared by NHDES and Comprehensive Environmental, Inc. as amended.

Given that a reduction of impervious surfaces, the Groundwater Recharge Volume is 0 cf. Because of this and that a portion of the site is located in a GA2 groundwater classification area, no infiltration of runoff is proposed.

CALCULATION METHODS

The drainage study was completed using the USDA SCS TR-20 Method within the HydroCAD Stormwater Modeling System. Reservoir routing was performed with the Dynamic Storage Indication method with automated calculation of tailwater conditions. A Type III 24-hour rainfall distribution was utilized in analyzing the data for the 2, 10, 25 and 50 year - 24-hour storm events using rainfall data provided by the Northeast Regional Climate Center (NRCC). As the project site lies within a Coastal and Great Bay Community identified by NHDES Alteration of Terrain, all rainfall amounts were increased by 15% to account for potential future increases in rainfall due to climate change. A time span of 0 to 30 hours was analyzed at 0.01-hour increments and Finer Routing was increased to 9 in an attempt to mitigate oscillations in the proposed conditions model.

Disclaimer

Altus Engineering, Inc. notes that stormwater modeling is limited in its capacity to precisely predict peak rates of runoff and flood elevations. Results should not be considered to represent actual storm events due to the number of variables and assumptions involved in the modeling effort. Surface roughness coefficients (n), entrance loss coefficients (ke), velocity factors (kv) and times of concentration (Tc) are based on subjective field observations and engineering

judgment using available data. For design purposes, curve numbers (Cn) describe the average conditions. However, curve numbers will vary from storm to storm depending on the antecedent runoff conditions (ARC) including saturation and frozen ground. Also, higher water elevations than predicted by modeling could occur if drainage channels, closed drain systems or culverts are not maintained and/or become blocked by debris before and/or during a storm event as this will impact flow capacity of the structures. Structures should be re-evaluated if future changes occur within relevant drainage areas in order to assess any required design modifications.

Drainage Analysis

A complete summary of the drainage model is included in the appendix of this report. The following table compares pre- and post-development peak rates at the Point of Analysis identified on the plans for the 2, 10, 25 and 50-year storm events:

Stormwater Modeling Summary
Peak Q (cfs) for Type III 24-Hour Storm Events

	2-Yr Storm (3.62 inch)	**10-Yr Storm (5.46 inch)**	**25-Yr Storm (6.90 inch)**	**50-Yr Storm (8.25 inch)**
POA #1 (Cochecho River)				
Pre	14.92	24.11	31.29	37.16
Post	8.83	22.15	29.26	35.81
Change	**-6.09**	**-1.96**	**-2.03**	**-1.35**

As the above table demonstrates, the proposed peak rates of runoff at the point of analysis will be decreased from the existing conditions for all analyzed storm events.

POLLUTANT REMOVAL

Based on the New Hampshire Stormwater Manual (Volume 2), the following pollutant removal rates would be expected from the implementation of the proposed stormwater BMPs:

Pollutant	Removal Efficiency
Total Suspended Solids (TSS)	87%
Total Nitrogen (TN)	15%
Total Phosphorus (TP)	48%

Pollutant removal efficiencies are limited due to the fact that stormwater infiltration is prohibited on the majority of the site as it is located in a GA2 groundwater classification area. However, this is a vast improvement over the existing conditions where no treatment of any kind is provided.

CONCLUSION

This proposed site redevelopment of property located at 47 Chestnut Street in Dover, New Hampshire will have minimal adverse effect on abutting properties and infrastructure as a result of stormwater runoff or siltation. Post-construction peak rates of runoff from the site will be lower than the existing conditions for all analyzed storm events. The new stormwater management system will also provide appropriate treatment to runoff from over 99% of proposed on-site impervious surfaces. Appropriate steps will be taken to properly mitigate erosion and sedimentation through the use of temporary and permanent Best Management Practices for sediment and erosion control, including deep sump catch basins with grease hoods and a subsurface chamber system equipped with an isolator row and underground sand filter.

Stephen G. Pernaw & Company, Inc.
P.O. Box 1721 • Concord, NH 03302
tel: (603) 731-8500 • fax: (866) 929-6094 • sgp@ pernaw.com
Transportation: Engineering • Planning • Design

M E M O R A N D U M

Ref: 2148A

To: Erik Saari, Vice President
Altus Engineering, Inc.

From: Stephen G. Pernaw, P.E., PTOE

Subject: 47 Chestnut Street - Traffic Addendum One
Dover, New Hampshire

Date: February 23, 2022

BACKGROUND

On December 30, 2021 Pernaw & Company, Inc. published the report entitled *"Traffic Impact & Site Access Study / Proposed Redevelopment - 47 Chestnut Street"* for Altus Engineering, Inc. That study was based on a development mix that included 192 new apartments and a 2,500 square-foot restaurant/café that will replace the former supermarket building on the subject site. Recently, the development proposal has changed, and the current plan calls for 173 dwelling units (19 fewer apartments). The purpose of this memorandum is to: 1) quantify the net change in overall traffic generation, and 2) to determine if this alters the study findings and recommendations contained on Page 28 & 29 in the traffic study.

TRIP GENERATION CHANGES

Table 1A on Page 2 compares the trip generation estimates for the previous development proposal (found on Page 12 of the traffic study) with the current development proposal, with 19 fewer dwelling units. This table shows that during the worst-case weekday peak hour periods the current development proposal will generate approximately -8 (AM) and -7 (PM) vehicle-trips. For this reason, the traffic projections and analyses contained in the original traffic study should be viewed as slightly conservative on the "high side." The updated trip generation calculations are attached.

STUDY FINDINGS AND RECOMMENDATIONS

This change only affects the numerical values contained in Findings #5 & #7 to the extent that the values are reduced to the extent shown on Table 1A on Page 2. The remaining study findings and recommendations remain valid.

Stephen G. Pernaw & Company, Inc.

Table 1A

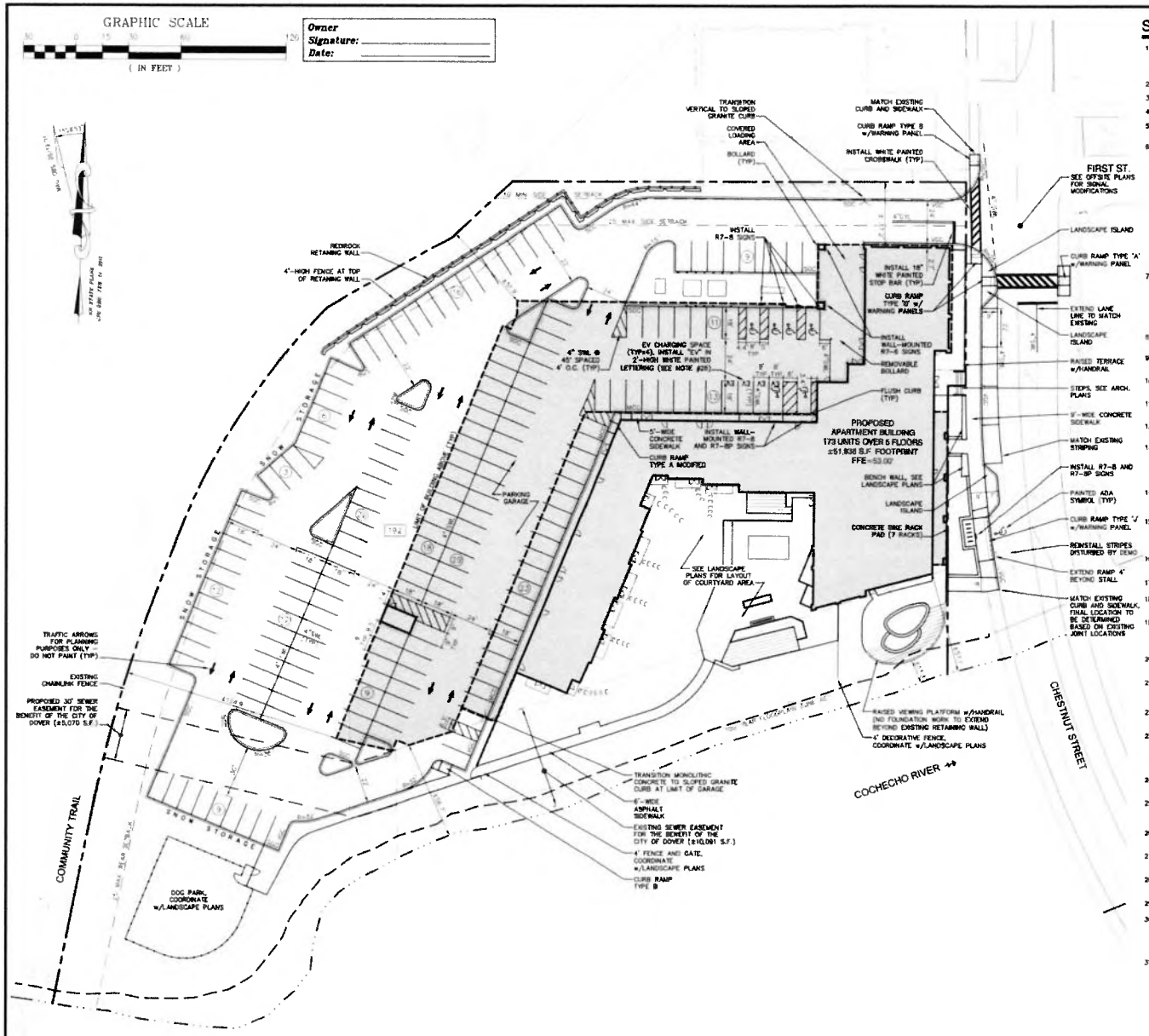
Updated Trip Generation Summary (Average Weekday)
(47 Chestnut Street Redevelopment - Dover, NH)

	PREVOUS DEVELOPMENT PROPOSAL			CURRENT DEVELOPMENT PROPOSAL			
	Proposed Apartments [1] (192 Units)	Fast Casual Restaurant [2] (2,500 sf)	Sum	Proposed Apartments [1] (173 Units)	Fast Casual Restaurant [2] (2,500 sf)	Sum	**Net Change**
Weekday Total (24 hrs.)							
Entering	435 veh	122 veh	557 veh	390 veh	122 veh	512 veh	-45 trips
Exiting	435 veh	122 veh	557 veh	390 veh	122 veh	512 veh	-45 trips
Total	870 trips	244 trips	1,114 trips	780 trips	244 trips	1,024 trips	-90 trips
AM Peak Hour							
Entering	17 veh	2 veh	19 veh	15 veh	2 veh	17 veh	-2 trips
Exiting	56 veh	2 veh	58 veh	50 veh	2 veh	52 veh	-6 trips
Total	73 trips	4 trips	77 trips	65 trips	4 trips	69 trips	-8 trips
PM Peak Hour							
Entering	46 veh	17 veh	**63 veh**	41 veh	17 veh	**58 veh**	-5 trips
Exiting	29 veh	14 veh	**43 veh**	27 veh	14 veh	**41 veh**	-2 trips
Total	75 trips	31 trips	**106 trips**	68 trips	31 trips	**99 trips**	-7 trips

[1] ITE Land Use Code 221 - Multifamily Housing (Mid-Rise) (Trip Equation Method); ITE Trip Generation - 11th Edition

[2] ITE Land Use Code 930 - Fast Casual (Trip Rate Method); ITE Trip Generation - 11th Edition

ATTACHMENTS



SITE NOTES

1. DESIGN INTENT – THIS PLAN SET IS INTENDED TO PROVIDE THE NECESSARY INFORMATION FOR THE DESIGN AND REVIEW OF THE REDEVELOPMENT OF THE SITE FOR A MULTI-FAMILY RESIDENTIAL USE COMPRISED OF 173 UNITS AND ±2,500 SF OF RESTAURANT SPACE WITH ASSOCIATED ACCESSWAYS, PARKING AND INFRASTRUCTURE.
2. LOT AREA: ±158,446 S.F. (±3.64 AC.)
3. THE SUBJECT PARCEL IS SHOWN AS 7 DOVER TAX MAP 31, LOT 5.
4. REFERENCE DEED: STRAFFORD COUNTY REGISTRY OF DEEDS BOOK 2036 PAGE 080
5. THE SUBJECT PROPERTY IS ENCUMBERED BY A SEWER EASEMENT FOR THE BENEFIT OF THE CITY OF DOVER AS SHOWN.
6. ZONE: CENTRAL BUSINESS DISTRICT TRANSIT-ORIENTED DEVELOPMENT SUBDISTRICT DIMENSIONAL REQUIREMENTS (CBD-TOD):

MIN. LOT AREA:	NR (3.64 AC PROVIDED)
MIN. STREET FRONTAGE:	NR (290.77' PROVIDED)
FRONT SETBACK:	0' MIN./5' MAX.
SIDE SETBACK:	10' MIN./25' MAX. (±37.2' PROVIDED**)
REAR SETBACK:	0' MIN./25' MAX. (±51.9' PROVIDED**)
MAX. BUILDING HEIGHT:	3 STORY MIN./5 STORY MAX.
LOT COVERAGE (BLDG.):	75-100% (38.64% PROVIDED, EXCLUDING EASEMENT**) (52.72% PROVIDED, INCLUDING EASEMENT**)
PARKING SETBACK:	10' (FRONT) 5' (SIDE & REAR)
FRONTAGE BUILD-OUT:	80% MIN. (66.14% PROVIDED**)
OPEN SPACE:	NR (34.18% PROVIDED)

** CONDITIONAL USE PERMIT UNDER ZONING SECTION 170-208 REQUIRED

7. PARKING:
MAXIMUM PARKING PERMITTED:
RESIDENTIAL (1.9 SPACES/UNIT): 1.9 x 173 = 329 SPACES
RETAIL/SERVICE (1 SPACE/275 S.F.): 2,500 S.F./275 = 9 SPACES
TOTAL MAXIMUM PARKING PERMITTED = 338 SPACES
TOTAL PARKING PROVIDED = 192 SPACES (6 ADA, 4 EV, 6 EV-READY, 176 REG.)
PARKING LOT LANDSCAPING: 8% REQUIRED (8.41% PROVIDED)
8. PORTIONS OF THE PROJECT SITE ALONG THE COCHECHO RIVER ARE IN SPECIAL FLOOD HAZARD ZONE AE.
9. NO WETLANDS ARE LOCATED ON THE PROJECT SITE PER GOVE ENVIRONMENTAL SERVICES, INC. (LUKE HURLEY, NH CERTIFIED WETLANDS SCIENTIST #232, NOVEMBER 18, 2021).
10. NHDES ALTERATION OF TERRAIN PERMIT AND WETLANDS PERMIT REQUIRED (NO DIRECT WETLANDS IMPACTS PROPOSED).
11. PER DOVER ZONING ORDINANCE SECTION 170-20.H(1)a, "ANY REDEVELOPMENT WITHIN THE CBD IS EXEMPT FROM WETLANDS REGULATIONS"
12. SNOW SHALL BE STORED AT THE EDGE OF PAVEMENT, IN AREAS SHOWN HEREON, AND/OR TRUCKED OFF SITE AS APPROPRIATE.
13. PAVEMENT MARKINGS SHALL BE CONSTRUCTED USING WHITE, YELLOW OR BLUE TRAFFIC PAINT (WHERE SPECIFIED) MEETING THE REQUIREMENTS OF AASHTO M249, TYPE F OR EQUAL. PAINTED ISLANDS AND LOADING ZONES SHALL BE 4"-WIDE DIAGONAL WHITE LINES 3'-0" O.C. BORDERED BY 4"-WIDE WHITE LINES. PARKING STALLS SHALL BE SEPARATED BY 4"-WIDE WHITE LINES. SEE DETAILS FOR HANDICAP SYMBOLS, SIGNS AND SIGN DETAILS.
14. PAVEMENT MARKINGS AND SIGNS SHALL CONFORM TO THE REQUIREMENTS OF THE "MANUAL ON UNIFORM TRAFFIC DEVICES," "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS" AND THE AMERICANS WITH DISABILITIES ACT (ADA), LATEST EDITIONS.
15. ALL CONSTRUCTION SHALL CONFORM WITH THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION (NHDOT) "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" AND WITH THE CITY OF DOVER COMMUNITY SERVICES REGULATIONS AND STANDARD SPECIFICATION FOR CONSTRUCTION, LATEST EDITIONS. THE MORE STRINGENT SPECIFICATION SHALL APPLY.
16. CLEAN AND COAT VERTICAL FACE OF EXISTING PAVEMENT AT SAWCUT LINES WITH RS-1 IMMEDIATELY PRIOR TO PLACING NEW BITUMINOUS CONCRETE.
17. ALL BONDS AND FEES SHALL BE PAID/POSTED PRIOR TO INITIATING CONSTRUCTION.
18. COMMERCIAL VEHICLE ROUTE DURING CONSTRUCTION SHALL CONFORM WITH DOVER CITY CODE OR BE COORDINATED WITH THE COMMUNITY SERVICES DIRECTOR.
19. CONSTRUCTION HOURS SHALL BE LIMITED TO MON-FRI 7AM-6PM, SAT-SUN 8AM-4PM. THE HOURS OF CONSTRUCTION MUST BE DOCUMENTED ON A SITE CONSTRUCTION SIGN ALONG WITH CONTACT INFORMATION FOR THE GENERAL CONTRACTOR. SAID SIGNAGE MUST BE LOCATED AND APPROVED BY THE CITY ENGINEER OR ASST. CITY MANAGER.
20. UNLESS OTHERWISE NOTED, ALL NEW CURBING BEYOND THE LIMITS OF THE PARKING GARAGE SHALL BE VERTICAL OR SLOPED GRANITE WITH A MINIMUM RADIUS OF 4'.
21. THE CONTRACTOR SHALL VERIFY ALL BUILDING DIMENSIONS WITH THE ARCHITECTURAL AND STRUCTURAL PLANS PRIOR TO CONSTRUCTION. ALL DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER FOR RESOLUTION.
22. BUILDING AREA SHOWN IS BASED ON FOOTPRINT MEASURED TO THE EDGE OF FOUNDATIONS AND/OR SLABS. ACTUAL INTERIOR SPACE WILL DIFFER.
23. AS-BUILT PLANS OF THE SITE SHALL BE SUBMITTED ON PAPER AND IN A DIGITAL FORMAT IN PDF AND AUTOCAD DWG, AUTOCAD DXF OR AN ESRI FORMAT TO THE CITY OF DOVER ENGINEER'S OFFICE UPON COMPLETION OF PROJECT. AS-BUILT PLANS SHALL BE PREPARED AND CERTIFIED CORRECT BY A L.L.S. OR P.E. DIGITAL FILES SHALL BE GEO-REFERENCED TO NEW HAMPSHIRE STATE PLANE COORDINATES NAD83 AND SHALL BE EXPRESSED IN FEET.
24. BUILDING ADDRESSES SHALL BE ASSIGNED BY THE BUILDING OFFICIAL AT THE TIME OF ISSUANCE OF A BUILDING PERMIT.
25. THE SITE LAYOUT IS DESIGNED IN COMPLIANCE WITH APPLICABLE ACCESSIBILITY REGULATIONS. THE PROPOSED STRUCTURE WILL BE ALSO BE DESIGNED IN ACCORDANCE WITH APPLICABLE ACCESSIBILITY REGULATIONS.
26. FOUR PARKING SPACES WILL BE EQUIPPED WITH EV CHARGING STATIONS AND AN ADDITIONAL SIX SPACES WILL BE EV-READY, COORDINATE WITH MEP PLANS.
27. ANY FENCE TALLER THAN SEVEN FEET (7') REQUIRES THE ISSUANCE OF A BUILDING PERMIT FROM INSPECTION SERVICES.
28. RESIDENTS OF THE DEVELOPMENT SHALL NOT PLACE TRASH OR DEBRIS ON THE COMMUNITY TRAIL OR TRAILHEAD.
29. SUBJECT PROPERTY WAS GRANTED A VARIANCE ON 08/17/85 FOR SIGNAGE (DOVER REF. 295-15).
30. PAVEMENT MARKING ABBREVIATIONS:
SWL: SINGLE WHITE LINE (4" SOLID LINE)
DWL: DOTTED WHITE LINE (4" x 2' LINES EVERY 6', ALSO REFERRED TO AS A SKIP LINE)
DYL: DOUBLE YELLOW LINE (2 x 4" SOLID LINES SEPARATED BY 4")
31. SEE SHEET D-4 FOR LEGEND.

ALTUS ENGINEERING, INC.
133 Court Street (603) 436-2335 Portsmouth, NH 03801 www.altus-eng.com

NOT FOR CONSTRUCTION

ISSUED FOR: TRC

ISSUE DATE: FEBRUARY 24, 2022

REVISIONS

NO.	DESCRIPTION	BY	DATE
1	TRC	EBS	4/8/22
2	TRC	EBS	5/6/22

DRAWN BY: EBS
APPROVED BY: EBS
DRAWING FILE: 4804-SITE.dwg

SCALE: 22" x 34" – 1" = 30'
11" x 17" – 1" = 60'

OWNER:
HARLECH, LLC
273 CORPORATE DR., SUITE 150
PORTSMOUTH, NH 03801

APPLICANT:
REDGATE REAL ESTATE ADVISORS, LLC
265 FRANKLIN ST., SUITE 602
BOSTON, MA 02110

PROJECT:
47 CHESTNUT SITE REDEVELOPMENT
TAX MAP 31, LOT 5
47 CHESTNUT STREET
DOVER, NH
DOVER FILE NO. P21-84

TITLE:
SITE PLAN

SHEET NUMBER:
C-3

P4804

Graph Look Up

Query Filter

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
221

LAND USE GROUP:
(200-299) Residential

LAND USE :
221 - Multifamily Housing (Mid-Rise)

LAND USE SUBCATEGORY:
Not Close to Rail Transit

SETTING/LOCATION:
General Urban/Suburban

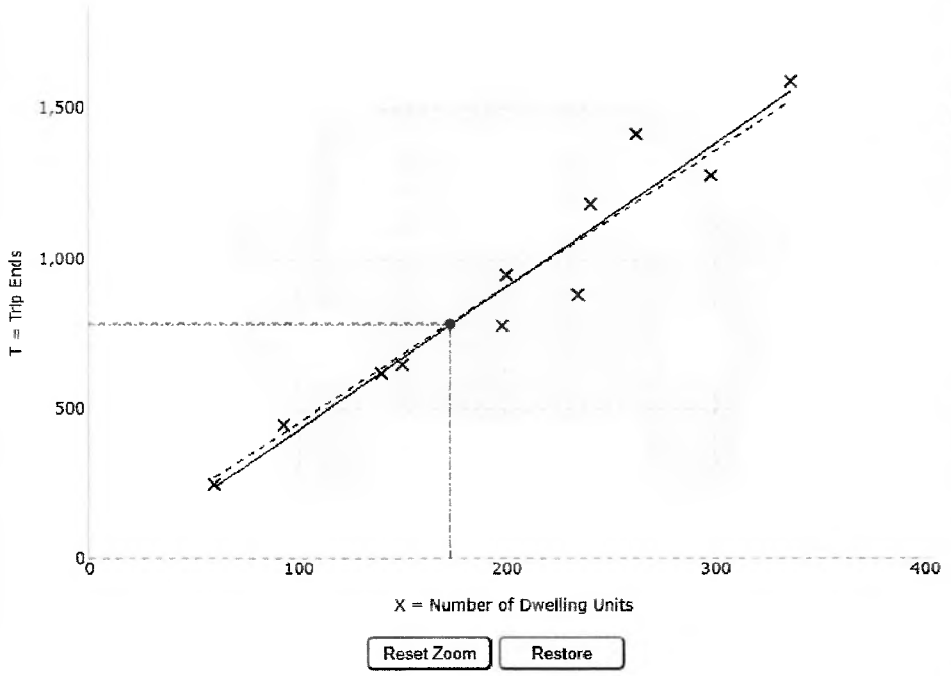
INDEPENDENT VARIABLE (IV):
Dwelling Units

TIME PERIOD:
Weekday

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
173 Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Multifamily Housing (Mid-Rise) - Not Close to Rail Transit (221) Click for Description and Data Plots

Independent Variable:
Dwelling Units

Time Period:
Weekday

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
11

Avg. Num. of Dwelling Units:
201

Average Rate:
4.54

Range of Rates:
3.75 - 5.40

Standard Deviation:
0.51

Fitted Curve Equation:
T = 4.77(X) - 46.46

R^2:
0.93

Directional Distribution:
50% entering, 50% exiting

Calculated Trip Ends:
Average Rate: 785 (Total), 392 (Entry), 393 (Exit)
Fitted Curve: 779 (Total), 389 (Entry), 390 (Exit)

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Graph Look Up

Query Filter

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
221

LAND USE GROUP:
(200-299) Residential

LAND USE :
221 - Multifamily Housing (Mid-Rise)

LAND USE SUBCATEGORY:
Not Close to Rail Transit

SETTING/LOCATION:
General Urban/Suburban

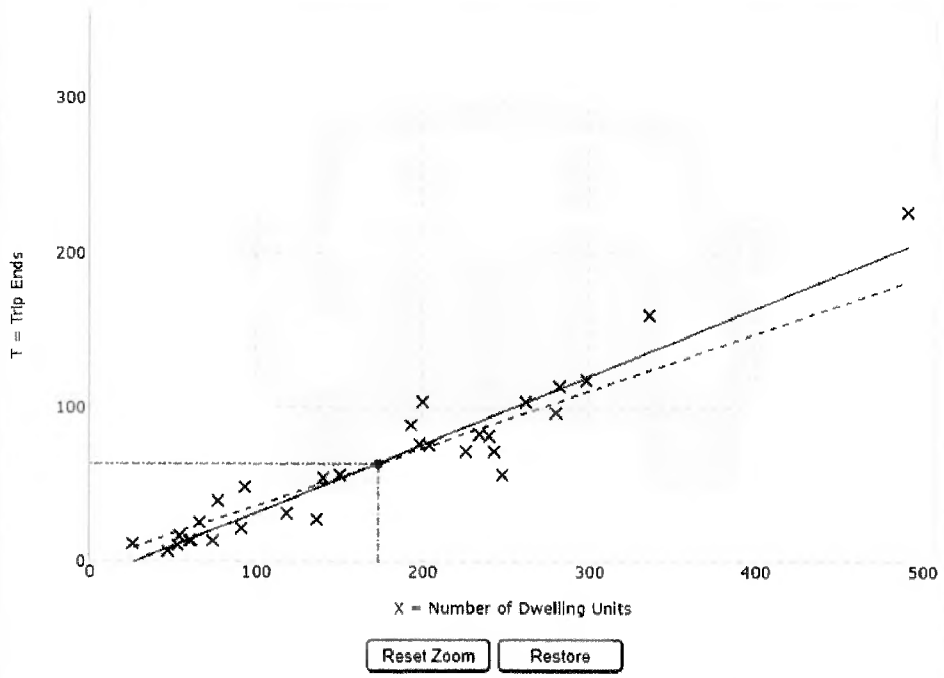
INDEPENDENT VARIABLE (IV):
Dwelling Units

TIME PERIOD:
Weekday, Peak Hour of Adjacent Street Traffic

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
173 Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Multifamily Housing (Mid-Rise) - Not Close to Rail Transit (221) Click for Description and Data Plots

Independent Variable:
Dwelling Units

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 7 and 9 a.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
30

Avg. Num. of Dwelling Units
173

Average Rate:
0.37

Range of Rates:
0.15 - 0.53

Standard Deviation:
0.09

Fitted Curve Equation:
T = 0.44(X) - 11.61

R^2:
0.91

Directional Distribution:
23% entering, 77% exiting

Calculated Trip Ends:
Average Rate: 64 (Total), 15 (Entry), 49 (Exit)
Fitted Curve: 65 (Total), 15 (Entry), 50 (Exit)

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Graph Look Up

Query Filter

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
221

LAND USE GROUP:
(200-299) Residential

LAND USE :
221 - Multifamily Housing (Mid-Rise)

LAND USE SUBCATEGORY:
Not Close to Rail Transit

SETTING/LOCATION:
General Urban/Suburban

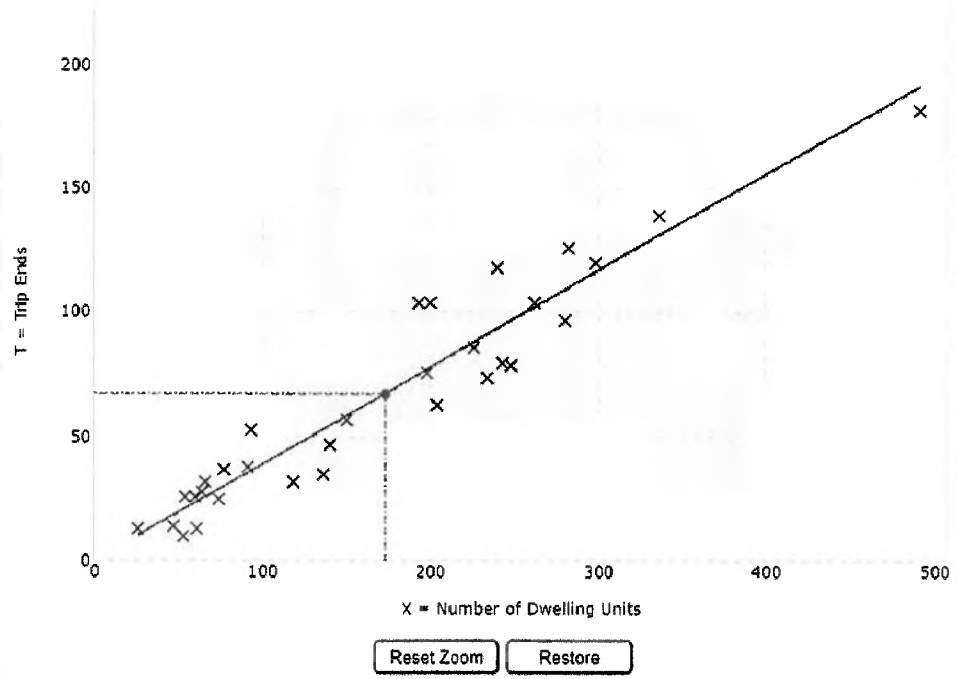
INDEPENDENT VARIABLE (IV):
Dwelling Units

TIME PERIOD:
Weekday, Peak Hour of Adjacent Street Traffic

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
173 Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Multifamily Housing (Mid-Rise) - Not Close to Rail Transit (221) Click for Description and Data Plots

Independent Variable:
Dwelling Units

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 4 and 6 p.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
31

Avg. Num. of Dwelling Units:
169

Average Rate:
0.39

Range of Rates:
0.19 - 0.57

Standard Deviation:
0.08

Fitted Curve Equation:
T = 0.39(X) + 0.34

R^2:
0.91

Directional Distribution:
61% entering, 39% exiting

Calculated Trip Ends:
Average Rate: 67 (Total), 41 (Entry), 26 (Exit)
Fitted Curve: 68 (Total), 41 (Entry), 27 (Exit)

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TRAFFIC IMPACT & SITE ACCESS STUDY

PROPOSED REDEVELOPMENT – 47 CHESTNUT STREET

Dover, New Hampshire

December 2021

Prepared for

Altus Engineering, Inc.

Stephen G. Pernaw
& Company, Inc.

Stephen G. Pernaw & Company, Inc.
P.O. Box 1721 • Concord, NH 03302
tel: (603) 731-8500 • fax: (866) 929-6094 • sgp@ pernaw.com
Transportation: Engineering • Planning • Design

TRAFFIC IMPACT AND SITE ACCESS STUDY
PROPOSED REDEVELOPMENT – 47 CHESTNUT STREET
DOVER, NEW HAMPSHIRE
December 30, 2021

INTRODUCTION

This study has been prepared for Altus Engineering, Inc. to assess the traffic impacts associated with the redevelopment of the former Hannaford supermarket site with a new apartment complex and restaurant. The purpose of this report is to summarize the traffic count data collected, the trip generation characteristics of the proposed residential development, the future traffic projections, the technical analyses, and our findings relative to traffic operations, capacity, and safety.

Based on input from the City of Dover, the study area includes six intersections, five along Chestnut Street: 1) Central Avenue, 2) 6th Street, 3) Third Street, 4) First Street/Site Driveway, and 5) Washington Street, and 6) the Washington Street/Arch Street intersection. The analysis periods include the typical weekday morning and evening commuter periods, and the analysis years were set at 2023 and 2033. This study meets or exceeds the requirements of a "Advanced" analysis, as specified in the City's *"Traffic Impact Assessment and Analysis Standards."*

PROPOSAL

The development proposal involves the construction of a six-story apartment building at the subject that will contain a total of 192 apartments and a 2,500 square-foot restaurant/café. The existing commercial building on the subject site will be razed. The subject site is bordered by Chestnut Street to the east, the Cocheco River to the south and west, and the Dover Transportation Center and a fraternal organization on the north side.

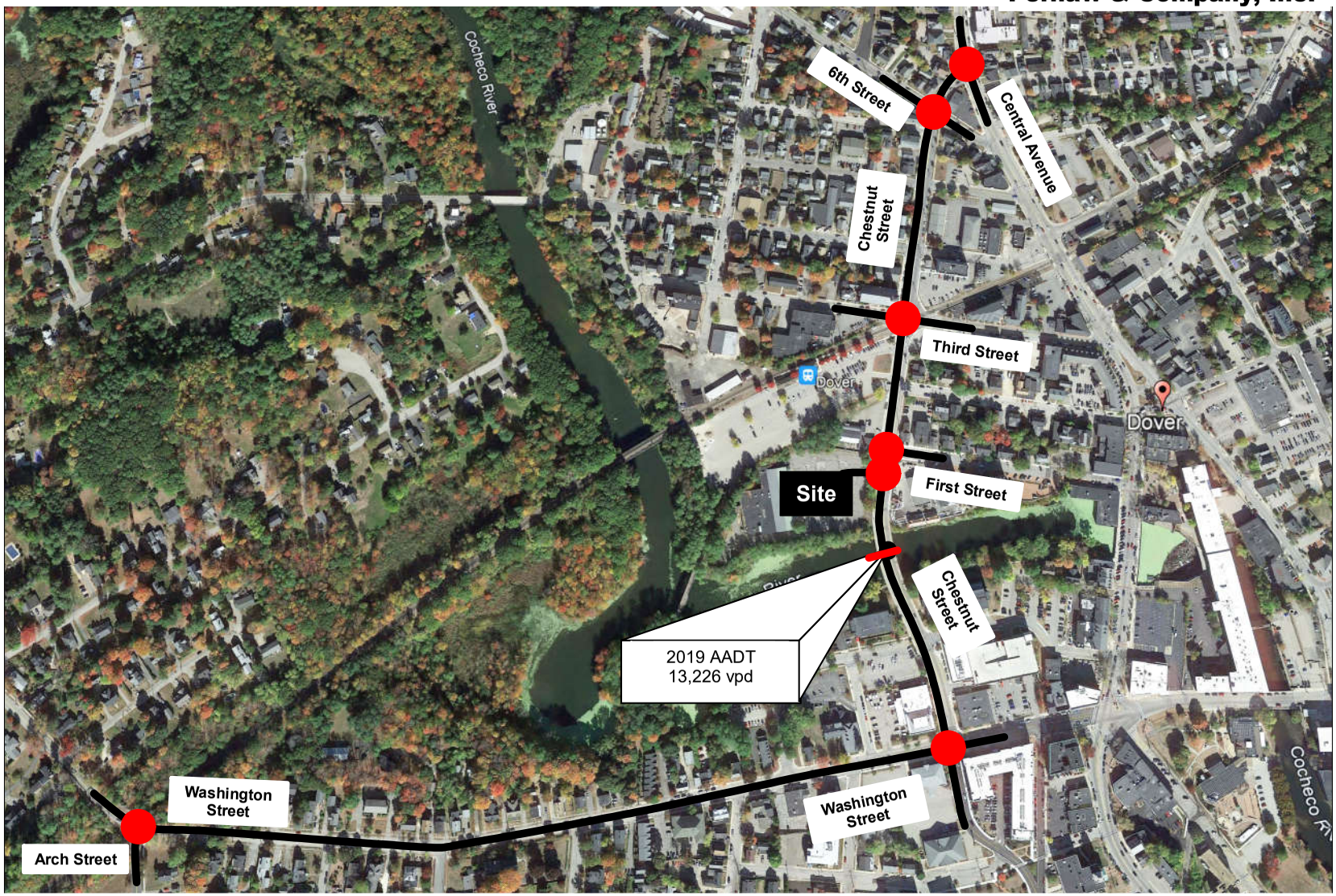
Vehicular access will continue to be provided via the existing signalized First Street / Site Driveway intersection on Chestnut Street; no additional driveways are proposed on Chestnut Street. The location of the subject site with respect to the area roadway system, along with the study area intersections, are shown on Figure 1. The plan entitled: *"Site Plan,"* Sheet C-3, prepared by Altus Engineering, Inc. shows the layout of the proposed apartment building and is found in Appendix A.

EXISTING CONDITIONS

ROADWAYS

Chestnut Street functions as a major collector roadway that extends in a general north-south direction between Central Avenue on the north, and Locust Street to the south. In the vicinity of the subject site, Chestnut Street is delineated with three travel lanes: one shared through-right lane with exclusive left-turn lanes for vehicles destined for the subject site and First Street. Sidewalks are present on both sides of the roadway, along with crosswalks on the west, north, and east legs of the intersection. The speed limit is posted at 30 mph in both directions.

Pernaw & Company, Inc.



= AUTOMATIC TRAFFIC RECORDER LOCATION (NHDOT)

= INTERSECTION TURNING MOVEMENT COUNT LOCATION

2148A

Figure 1

Site Location

Traffic Impact and Site Access Study, Proposed Redevelopment - 47 Chestnut Street, Dover, New Hampshire

INTERSECTIONS

The **Central Avenue / Chestnut Street** intersection functions as three-leg "T" intersection with and acute approach angle on the minor approach (Chestnut Street). Chestnut Street operates under stop sign control, and a triangular median island is utilized to create a near-90° approach angle on the minor approach. The existing travel lane configuration at this intersection is as follows:

Central Avenue (NB) Approach: One shared left-through lane
Central Avenue (SB) Approach: One shared through-right lane
Chestnut Street (EB) Approach: One shared left-right lane

Marked crosswalks are present across Chestnut Street and on the south leg of this intersection. On-street parallel parking is provided along both sides of Central Avenue.

The **Chestnut Street / 6th Street** intersection functions as a standard four-leg intersection that operates under stop sign control on all four approaches (All-Way Stop Control). The existing travel lane configuration at this intersection is as follows:

Chestnut Street (NB) Approach: One shared left-through-right lane
Chestnut Street (SB) Approach: One shared left-through-right lane
6th Street (EB) Approach: One shared left-through-right lane
6th Street (WB) Approach: One shared left-through-right lane

Sidewalks are present on both sides of both roadways. Marked crosswalks are provided across the north, south and west legs of this intersection. On-street parallel parking is permitted along both sides of Chestnut Street (south of the intersection) and on 6th Street.

The **Chestnut Street / Third Street** intersection is an atypical four-leg highway-rail grade crossing with a four-quadrant gate system and flashing-light signals. The railroad tracks bisect the intersection from the southwest quadrant to the northeast quadrant. A triangular channelization island on the east leg of the intersection restricts the traffic movements on the westbound approach to right-turn and left-turn departures only. The Third Street approaches operate under stop sign control. The existing travel lane configuration at this intersection is as follows:

Chestnut Street (NB) Approach: One shared left-through-right lane
Chestnut Street (SB) Approach: One shared left-through-right lane
6th Street (EB) Approach: One shared left-through-right lane
6th Street (WB) Approach: One exclusive left-turn lane, one exclusive right-turn lane

Sidewalks are present on both sides of both roadways. Marked crosswalks are provided across the west leg of this intersection. On-street parallel parking is permitted along the southbound approach and along the eastbound and westbound departure legs of the intersection.

The **Chestnut Street / First Street / Site Driveway** intersection functions as an off-set four-leg signalized intersection. The centerline of First Street is offset approximately 60-feet north of the centerline of the existing Site Driveway. The existing travel lane configuration at this intersection is as follows:

Chestnut Street (NB) Approach: One exclusive left-turn lane, one shared through-right lane
Chestnut Street (SB) Approach: One exclusive left-turn lane, one shared through-right lane
Site Driveway (EB) Approach: One shared left-right lane
First Street (WB) Approach: One exclusive left-turn lane, one exclusive right-turn lane

This signal controller operates with four basic signal phases: 1) Chestnut Street northbound and southbound approaches (concurrently with permitted left-turns), 2) First Street westbound approach, 3) Site Driveway eastbound approach, and 4) and an exclusive pedestrian phase (when actuated).

Sidewalks are present on both sides of Chestnut Street. Marked crosswalks are provided across the west, north, and east legs of this intersection. On-street parallel parking is prohibited in the vicinity of this intersection.

The **Chestnut Street / Washington Street** intersection functions as a standard four-leg signalized intersection. The southbound left-turn lanes stop line is positioned an additional 40-feet back from the intersection to accommodate turning vehicles from Washington Street. The existing travel lane configuration at this intersection is as follows:

Chestnut Street (NB) Approach: One exclusive left-turn lane, one shared through-right lane
Chestnut Street (SB) Approach: Three exclusive lanes: for the left, though, and right movements
Washington Street (EB) Approach: One shared left-through lane, one shared through-right lane
Washington Street (WB) Approach: One shared left-through lane, one exclusive right-turn lane

This signal controller operates with five basic signal phases: 1) Washington Street eastbound lead phase (with southbound right-turn overlap), 2) Washington Street eastbound and westbound approaches (concurrently with permitted left-turns), 3) Chestnut Street southbound approach, 4) Chestnut Street northbound approach, and 5) an exclusive pedestrian phase (when actuated).

Sidewalks are present on both sides of both streets. Marked crosswalks are provided across all four legs of this intersection. On-street parallel parking is permitted only on the eastbound and westbound departure legs of this intersection.

The **Washington Street / Arch Street** intersection functions as a standard three-leg "T" intersection that operates under stop sign control on all three approaches (All-Way Stop Control). The existing travel lane configuration at this intersection is as follows:

Washington Street (EB) Approach: One shared through-right lane
Washington Street (WB) Approach: One shared left-through lane
Arch Street (NB) Approach: One shared left-right lane

Sidewalks are present along the north side of Washington Street and on the east side of Arch Street. There is a marked crosswalk on the east leg of this intersection.

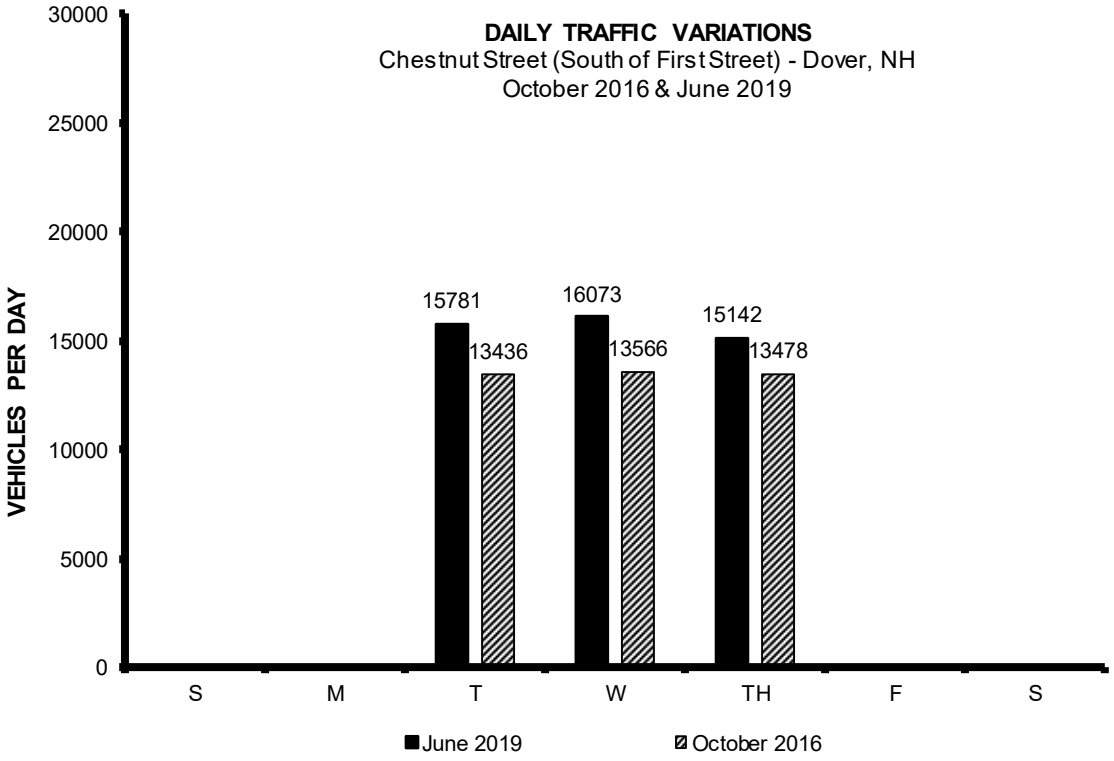
TRAFFIC VOLUMES

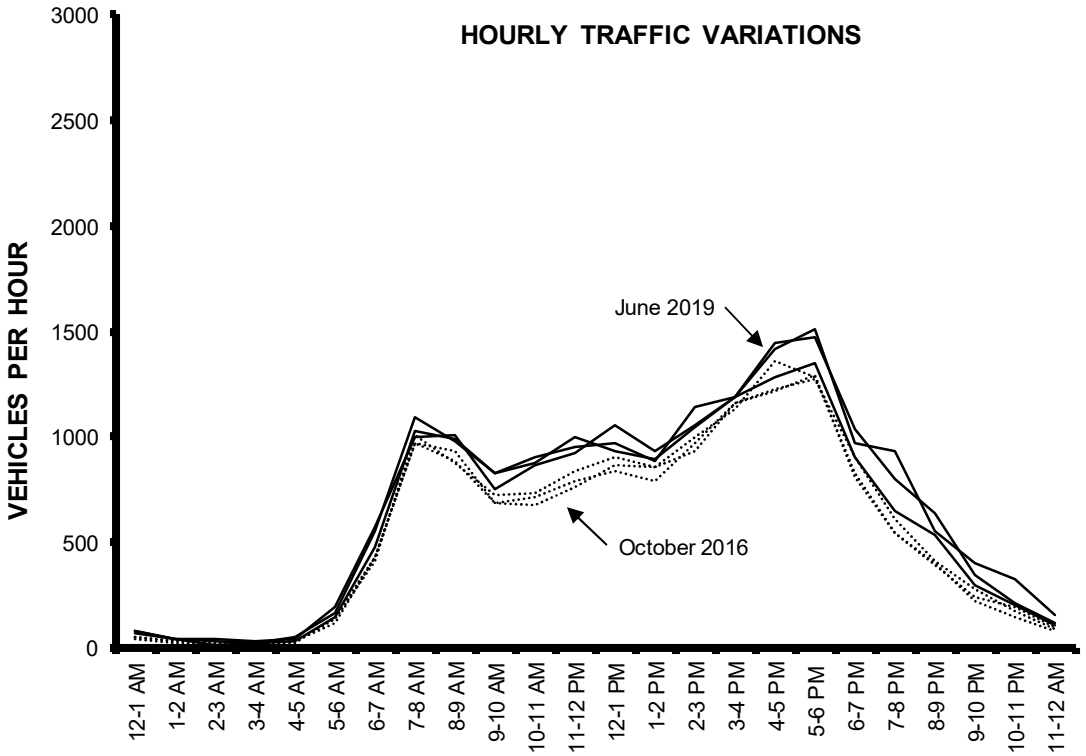
Research at the New Hampshire Department of Transportation (NHDOT) revealed that a short-term automatic traffic recorder (ATR) count was conducted on Chestnut Street (south of First Street) in June 2019. This count station is located adjacent to the subject site. This section of Chestnut Street carried an estimated Annual Average Daily Traffic (AADT) volume of approximately 11,404 vehicles per day (vpd) in 2020, down from 13,512 vpd in 2019 due in part to the pandemic. The hourly data indicates that weekday volumes typically reached peak levels from 7:00 to 8:00 AM and from 4:00 to 5:00 or 5:00 to 6:00 PM. The daily and hourly variations in traffic demand at this location are summarized graphically on Page 6. Appendix B contains the summary and detail sheets pertaining to this count station.

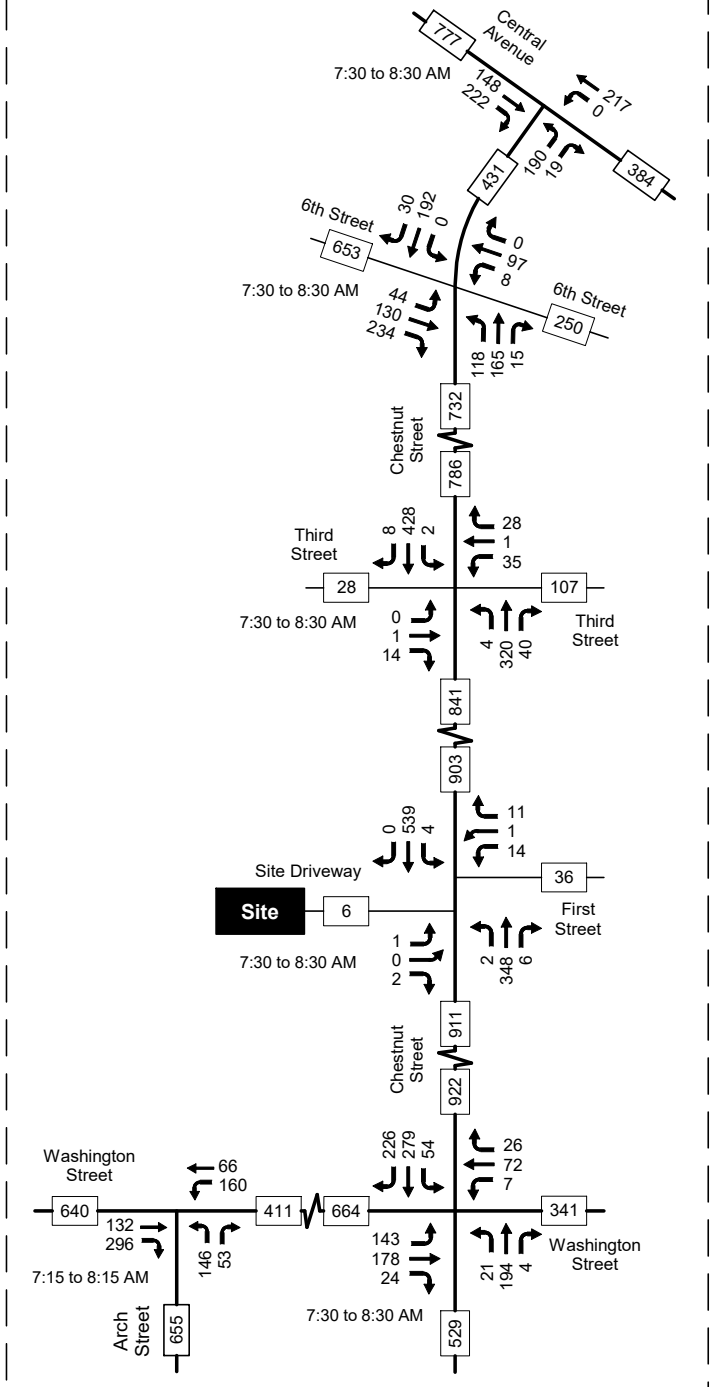
To supplement this data, Pernaw & Company, Inc. conducted intersection turning movement and vehicle classification counts simultaneously at the six existing study area intersections on two separate days in October 2021. More specifically, these counts were conducted on Tuesday, October 19, 2021 from 3:00 to 6:00 PM, on Wednesday, October 20, 2021 from 7:00 to 9:00 AM and from 3:00 to 6:00 PM, and again on Thursday, October 21, 2021 from 7:00 to 9:00 AM. The new 2021 count data for the study area is summarized on Figure 2A and 2B. Several facts and conclusions are evident from this data.

- The traffic counts conducted on Thursday (AM) and Tuesday (PM) were generally higher than the traffic volumes observed on Wednesday, and therefore were utilized for traffic projection purposes.
- At the Chestnut Street / First Street / Existing Site Driveway signalized intersection, the highest hourly traffic volumes occurred from 7:30 to 8:30 AM and from 4:30 to 5:30 PM. The volume of through traffic on Chestnut Street passing the subject site totaled 911 (AM) and 1,121 (PM) vehicles during the peak hour periods, and the predominant travel direction was southbound in both cases. The existing site driveway accommodated only 6 (AM) and 10 (PM) vehicles during these peak periods.
- At the Chestnut Street / Washington Street signalized intersection, the highest hourly traffic volumes occurred during the same periods. The heaviest traffic volumes occurred on the Chestnut Street northerly leg of this intersection where 922 (AM) and 1,146 (PM) vehicles were observed (total both directions). This section of Chestnut Street carried the highest hourly traffic volume in the entire study area. The predominant travel direction was southbound in both cases. The Washington Street westerly leg of the intersection carried 664 (AM) and 867 (PM) vehicles during these peak hour periods.
- During the morning peak hour, the two-way traffic volume on Chestnut Street ranges from 431 vehicles (south of Central Avenue) to 922 vehicles (north of Washington Street). Similarly, during the evening peak hour period ranged from 480 to 1,146 vehicles at the same locations.
- Truck percentages on Chestnut Street were on the order of 3% (AM) and 1% (PM) during the peak hour periods.

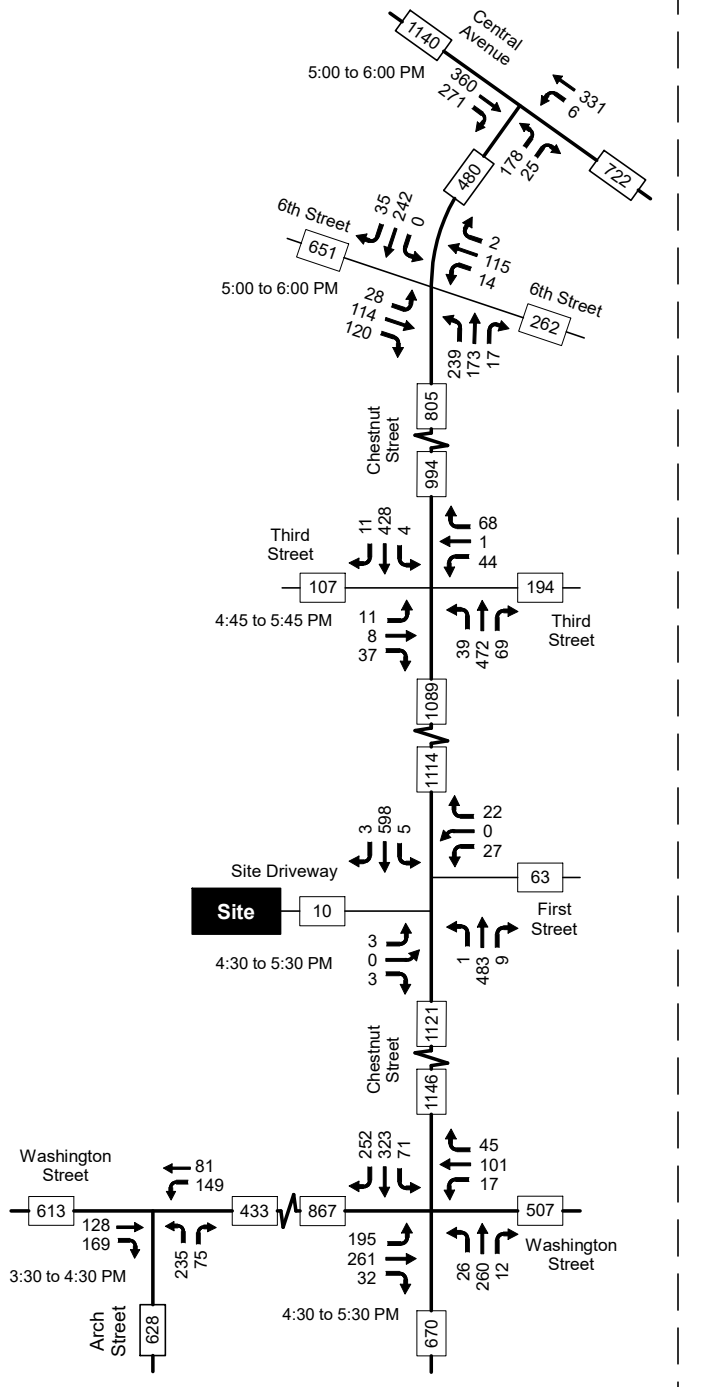
Appendix C contains detail sheets pertaining to all of the raw turning movement count data.


DAILY TRAFFIC VARIATIONS
Chestnut Street (South of First Street) - Dover, NH
October 2016 & June 2019
VEHICLES PER DAY
30000
25000
20000
15000
10000
5000
0
15781
13436
16073
13566
15142
13478
S
M
T
W
TH
F
S
June 2019
October 2016


HOURLY TRAFFIC VARIATIONS
VEHICLES PER HOUR
3000
2500
2000
1500
1000
500
0
June 2019
October 2016
12-1 AM
1-2 AM
2-3 AM
3-4 AM
4-5 AM
5-6 AM
6-7 AM
7-8 AM
8-9 AM
9-10 AM
10-11 AM
11-12 PM
12-1 PM
1-2 PM
2-3 PM
3-4 PM
4-5 PM
5-6 PM
6-7 PM
7-8 PM
8-9 PM
9-10 PM
10-11 PM
11-12 AM



AM Peak Hour
Thursday, October 21, 2021
7:15 to 8:15 AM
7:30 to 8:30 AM



PM Peak Hour
Tuesday, October 19, 2021
3:30 to 4:30 PM
4:30 to 5:30 PM
4:45 to 5:45 PM
5:00 to 5:00 PM

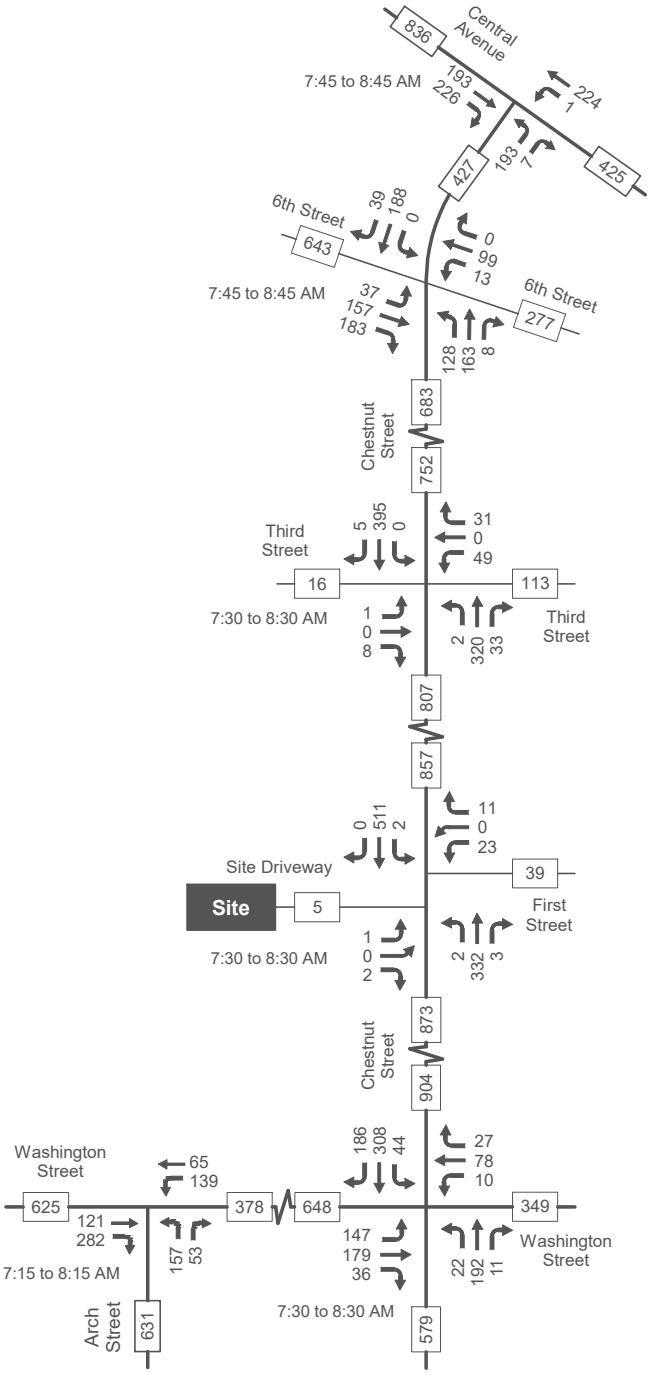
NORTH

2148A

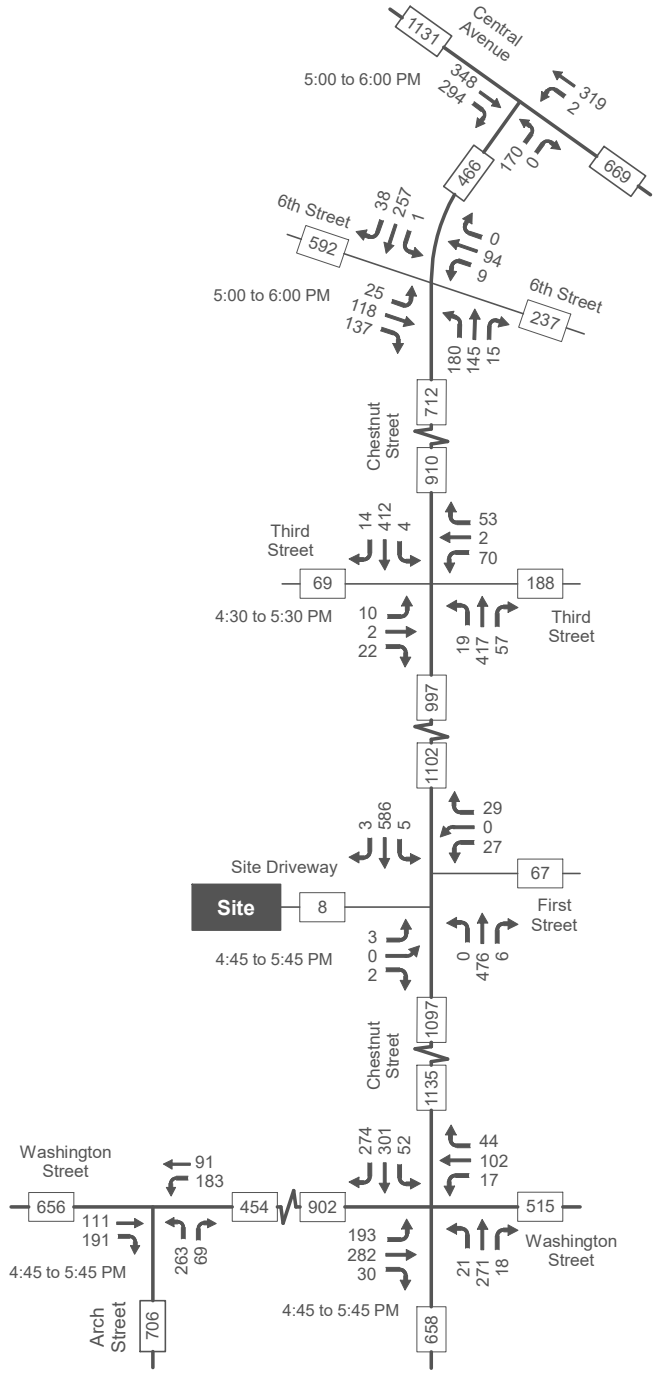
Figure 2A

2021 Existing Traffic Volumes (Tuesday & Thursday)

Traffic Impact and Site Access Study, Proposed Redevelopment - 47 Chestnut Street, Dover, NH



AM Peak Hour
Wednesday, October 20, 2021
7:15 to 8:15 AM
7:30 to 8:30 AM
7:45 to 8:45 AM



PM Peak Hour
Wednesday, October 20, 2021
4:30 to 5:30 PM
4:45 to 5:45 PM

NORTH

2148A

Figure 2B

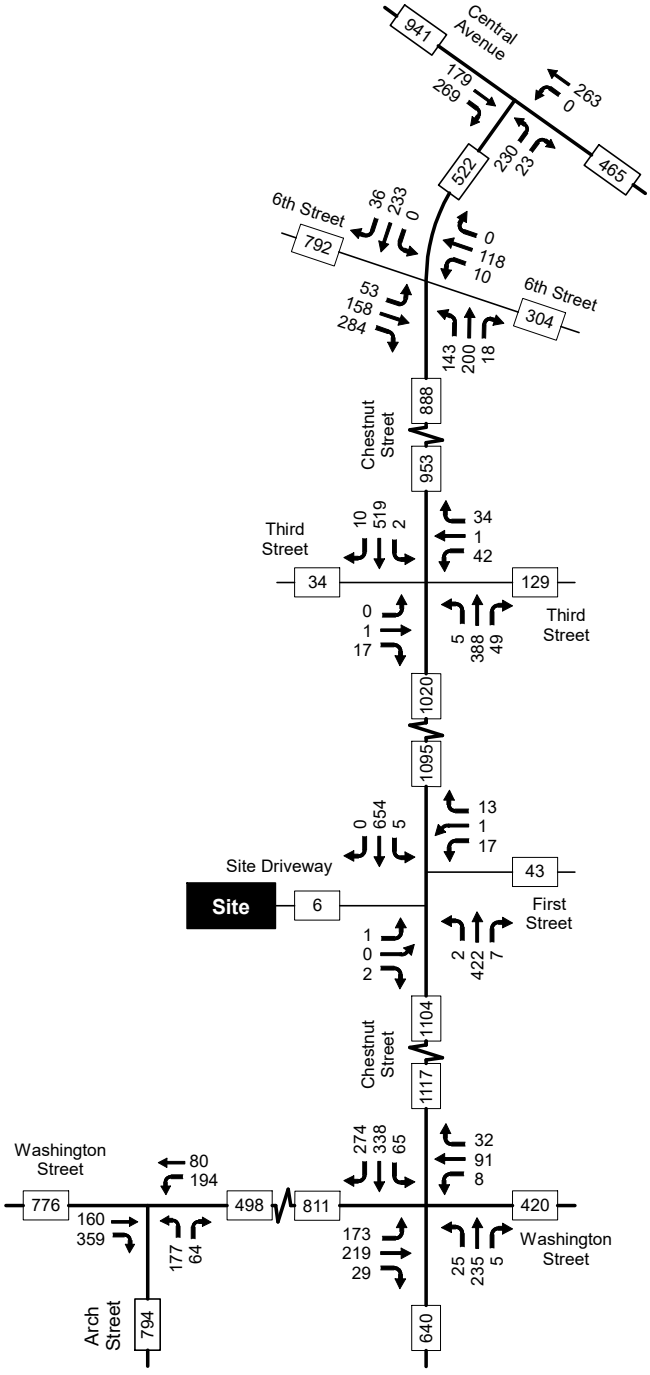
2021 Existing Traffic Volumes (Wednesday)

Traffic Impact and Site Access Study, Proposed Redevelopment - 47 Chestnut Street, Dover, NH

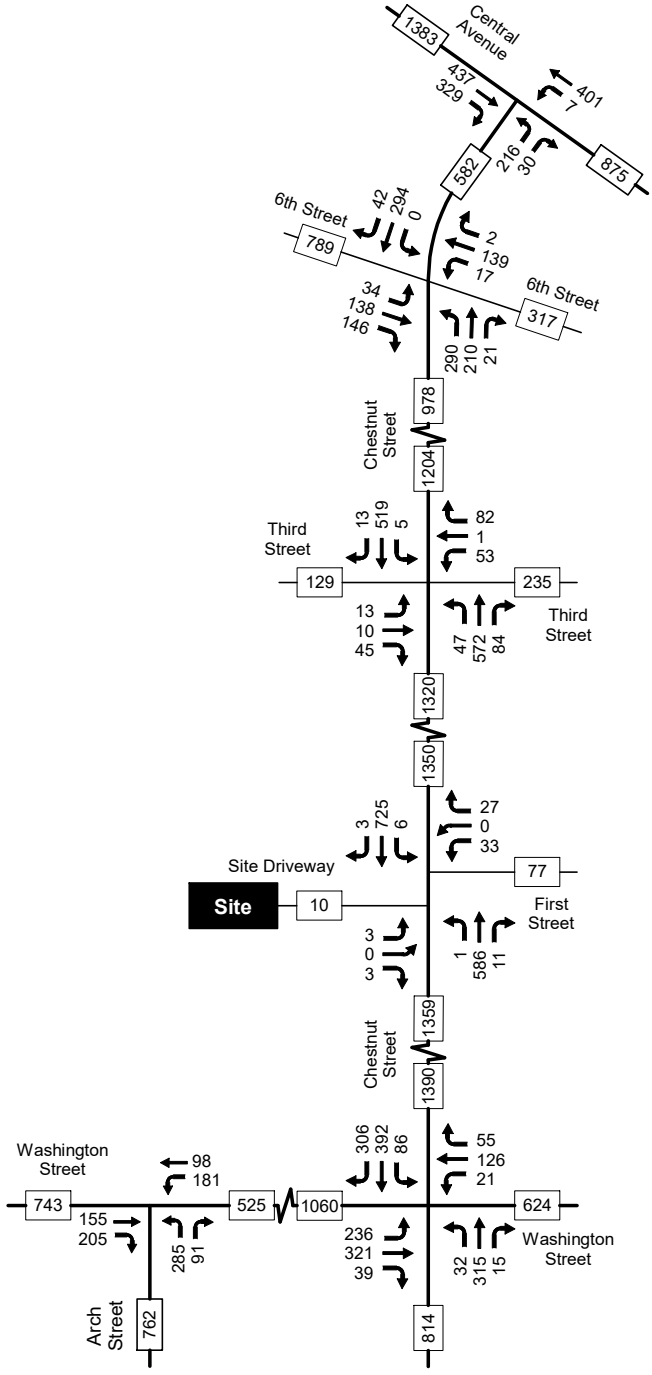
NO-BUILD TRAFFIC VOLUMES

The No-Build traffic projections (without the proposed apartments/café) for 2023 and 2033 are summarized on Figures 3 (2023), and 4 (2033). These projections are based on the higher of the two count days in October 2021, a two-percent annual background traffic growth rate (compounded annually) to account for normal background traffic growth, a seasonal adjustment factor of 1.06 to reflect peak-month conditions, and a COVID-19 adjustment factor of 1.10 due to recent travel conditions as a result of the pandemic. The No-Build projections also account for a pending residential/commercial development project known as the Cochecho Waterfront Development project on Washington Street. Appendix E contains diagrams that summarize the impacts associated with this pending development project.

The future traffic projections contained herein are intended to reflect worst-case, peak-month, peak-hour conditions. The calculations pertaining to the derivation of the annual background traffic growth rate, the seasonal adjustment factor, and the Covid-19 factor are contained in Appendix D.



AM Peak Hour



PM Peak Hour

NORTH

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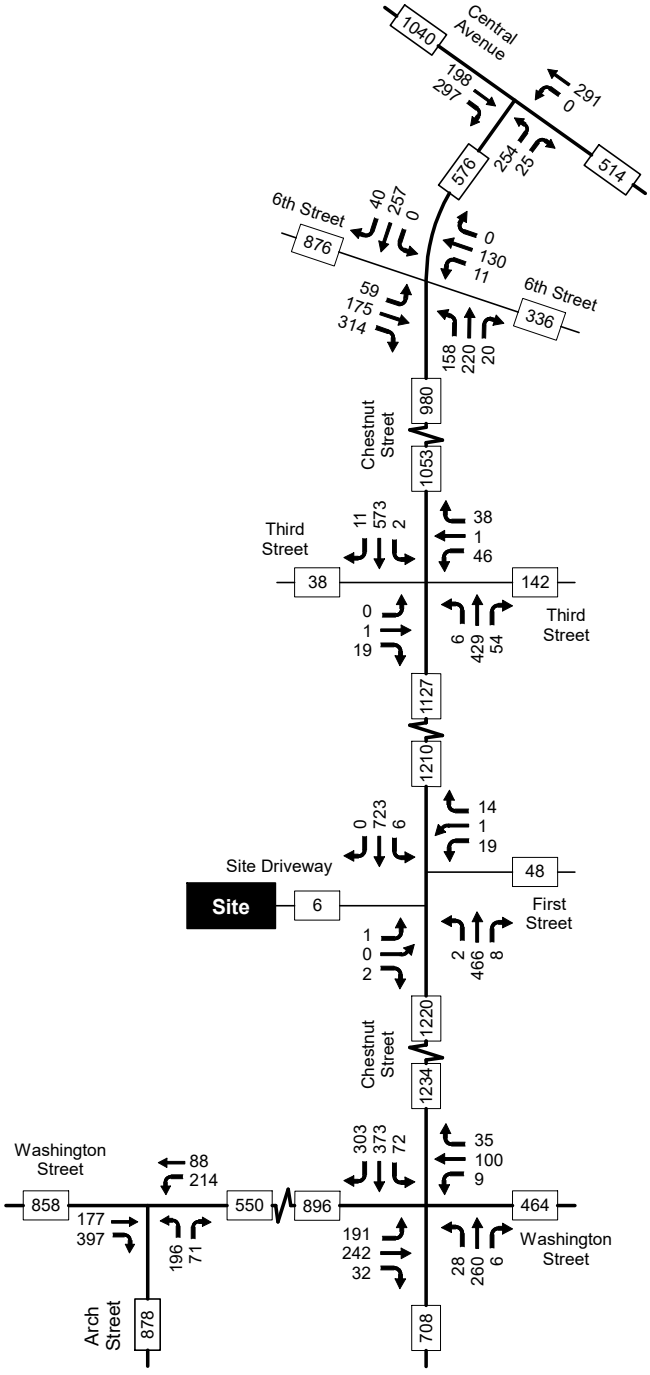
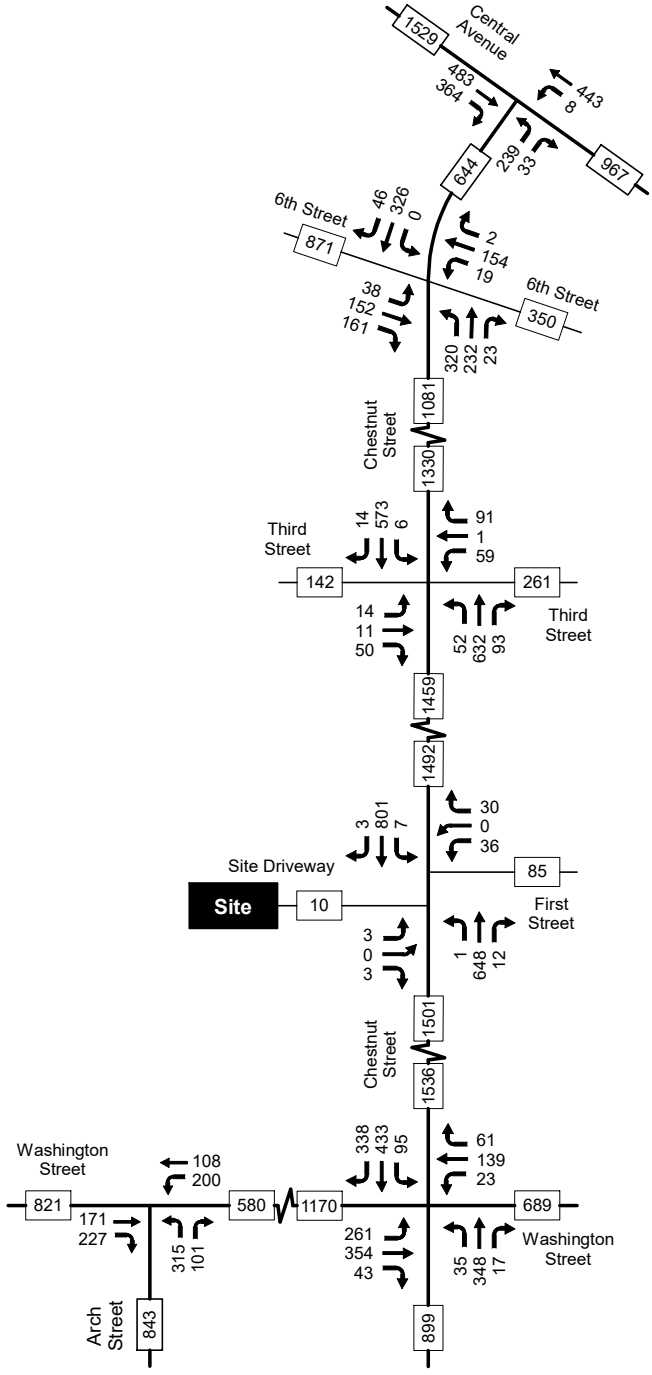
Figure 3

2023 No-Build Traffic Volumes

Traffic Impact and Site Access Study, Proposed Redevelopment - 47 Chestnut Street, Dover, NH



AM Peak Hour



PM Peak Hour

NORTH

2148A

Figure 4

2033 No-Build Traffic Volumes

Traffic Impact and Site Access Study, Proposed Redevelopment - 47 Chestnut Street, Dover, NH

SITE GENERATED TRAFFIC

To estimate the quantity of vehicle-trips that will be produced by the proposed apartments and café, Pernaw & Company, Inc. considered the standardized trip-generation rates and equations published by the Institute of Transportation Engineers (ITE)[1]. More specifically, Land Use Code 221-Multifamily Housing (Mid-Rise) and Land Use Code 930-Fast Casual Restaurant were utilized. The number of dwelling units and the gross floor area of the restaurant was used as the independent variables. For comparison purposes, the trips associated with the former supermarket were based on Land Use Code 850-Supermarket.

Table 1A

Trip Generation Summary (Average Weekday)
(47 Chestnut Street Redevelopment - Dover, NH)

		Former Supermarket [1] (31,940 sf)	Proposed Apartments [2] (192 Units)	Proposed Fast Casual Restaurant [3] (2,500 sf)	Sum	Net Change
Weekday Total (24 hrs.)						
	Entering	1,602 veh	435 veh	122 veh	557 veh	-1,045 trips
	Exiting	1,602 veh	435 veh	122 veh	557 veh	-1,045 trips
	Total	3,204 trips	870 trips	244 trips	1,114 trips	-2,090 trips
AM Peak Hour						
	Entering	54 veh	17 veh	2 veh	19 veh	-35 trips
	Exiting	37 veh	56 veh	2 veh	58 veh	21 trips
	Total	91 trips	73 trips	4 trips	77 trips	-14 trips
PM Peak Hour						
	Entering	153 veh	46 veh	17 veh	**63 veh**	-90 trips
	Exiting	154 veh	29 veh	14 veh	**43 veh**	-111 trips
	Total	307 trips	75 trips	31 trips	**106 trips**	-201 trips

[1] ITE Land Use Code 850 - Supermarket (Weekday & PM - Trip Equation Method, AM - Trip Rate Method); ITE Trip Generation - 11th Edition

[2] ITE Land Use Code 221- Multifamily Housing (Mid-Rise) (Trip Equation Method); ITE Trip Generation - 11th Edition

[3] ITE Land Use Code 930 - Fast Casual (Trip Rate Method); ITE Trip Generation - 11th Edition

Table 1A clearly demonstrates that the proposed uses on the subject site will generate considerably fewer vehicle-trips than the former supermarket. In terms of post-development traffic volumes on the site driveway, the overall development is expected to generate approximately 77 vehicle-trips (19 arrivals, 58 departures) during the AM peak hour period, and 106 vehicle-trips (63 arrivals, 43 departures) during the PM peak hour period, on an average weekday basis. All vehicle-trips associated with the proposed residential development constitute "primary" trips, or new trips to the area. Approximately 43% of the restaurant trips are classified as "pass-by" trips, where the driver turns into the site on impulse, or in conjunction with a regular trip down the Chestnut Street corridor. Table 1B stratifies the trip estimates by trip type.

[1] Institute of Transportation Engineers, *Trip Generation Manual,* eleventh edition (Washington, D.C., 2021).

Table 1B

Trip Composition
(47 Chestnut Street Redevelopment - Dover, NH)

		Primary Trips	Pass-By Trips [1]	Total Trips
AM Peak Hour				
	Entering	19 veh	neg veh	19 veh
	Exiting	58 veh	neg veh	58 veh
	Total	77 trips	neg trips	77 trips
PM Peak Hour				
	Entering	57 veh	6 veh	63 veh
	Exiting	37 veh	6 veh	43 veh
	Total	94 trips	12 trips	106 trips

[1] Use 43 percent pass-by rate for restaurant based on Land Use Code 932

Appendix E contains the trip generation computations for the proposed development, along with diagrams that summarize the distribution of the primary and pass-by trips at the various intersections and roadway segments within the study area.

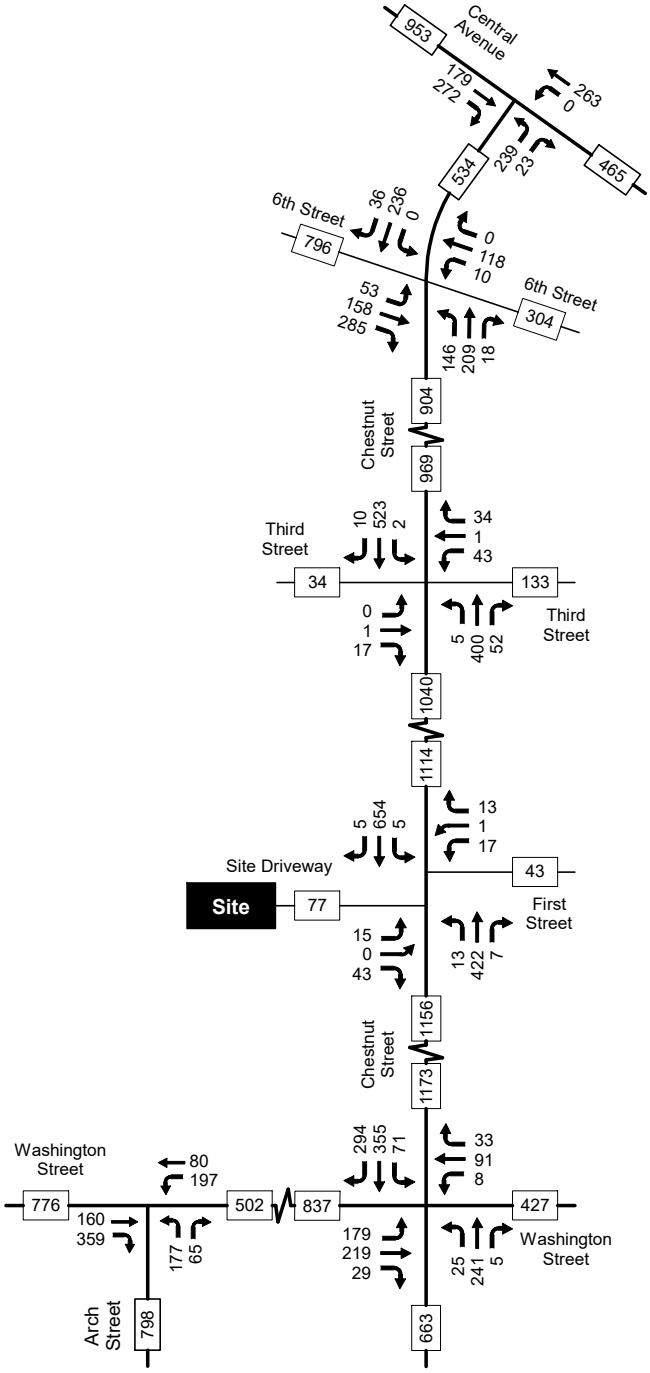
BUILD PROJECTIONS

The Build traffic projections with the proposed apartment project and café fully operational are summarized on Figures 5 (2023) and 6 (2033). These projections are based on the No-Build traffic volumes, the trip generation estimates in Table 1A and Table 1B, and the expectation that the primary trips will be distributed in the following manner:

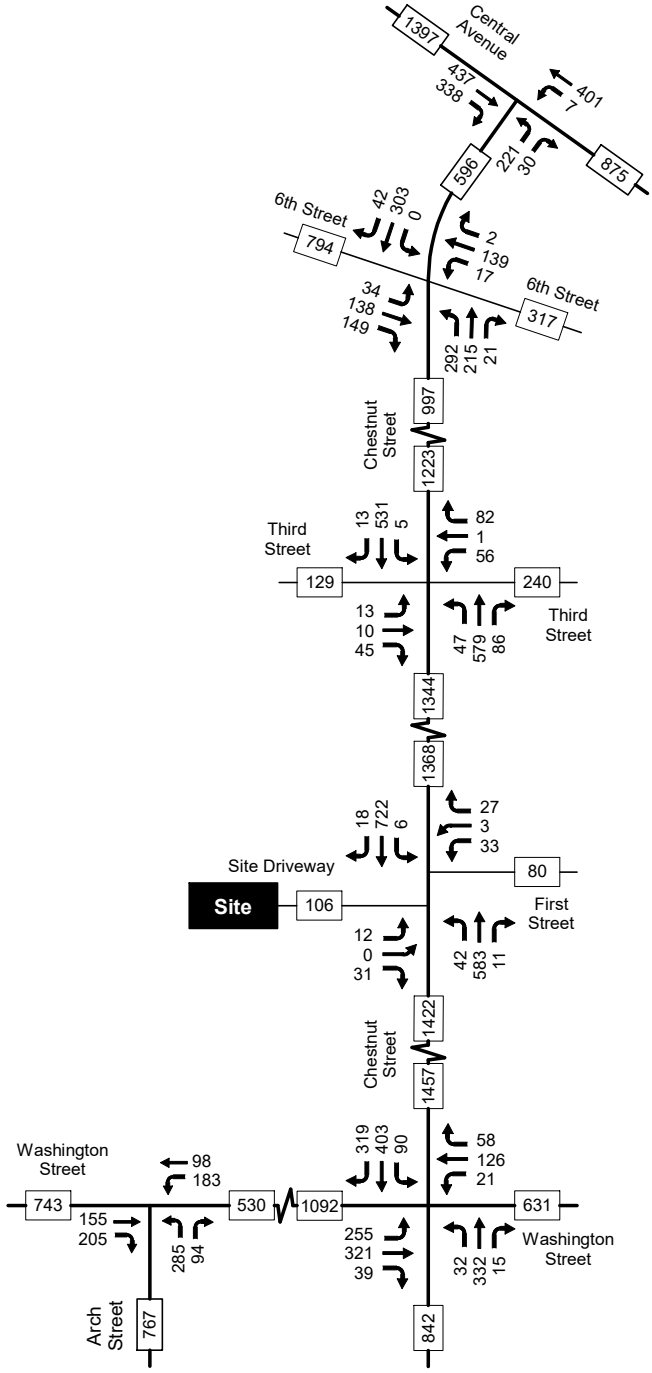
Trip Distribution Patterns

Gateway	Travel Routes	Percentage
A	To / From points north via Central Avenue	15%
B	To / From points south via Central Avenue	0%
C	To / From points east via Third Street	5%
D	To / From points east via First Street	To = 0%, From = 5%
E	To / From points east via Washington Street	To = 10%, From = 5%
F	To / From points south via Chestnut Street	30%
G	To / From points south via Arch Street	0%
H	To / From points west via Washington Street	0%
I	To / From points west via Third Street	0%
J	To / From points west via 6th Street	5%
K	To / From points southwest via Locust-Belknap-Cushing-Lexington-Arch	35%
		100%

These travel patterns were based on analysis of the "journey to work" data from the latest census, the traffic patterns observed at the study intersections, and our familiarity with the study area. The pass-by trips were distributed in proportion to the PM peak hour approach volumes observed at the Chestnut Street / First Street / Site Driveway intersection.



AM Peak Hour



PM Peak Hour

NORTH

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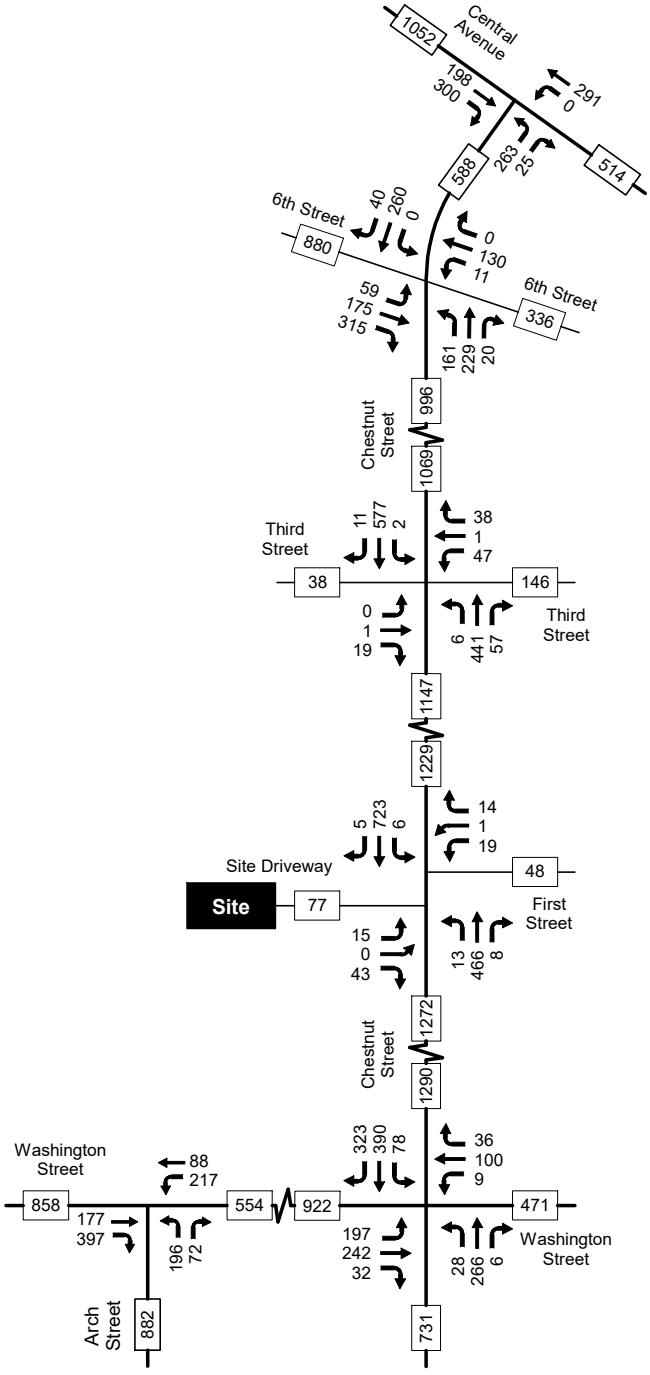
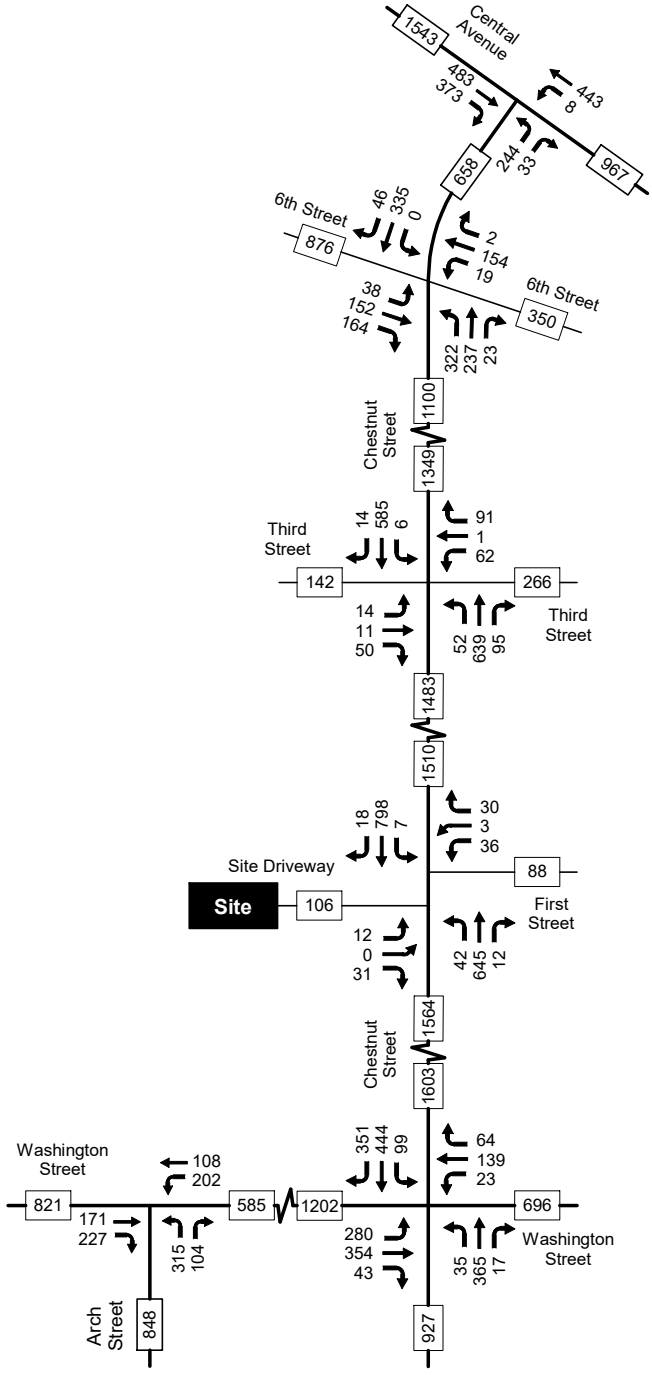
Figure 5

2023 Build Traffic Volumes

Traffic Impact and Site Access Study, Proposed Redevelopment - 47 Chestnut Street, Dover, NH



AM Peak Hour



PM Peak Hour

NORTH

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Figure 6

2033 Build Traffic Volumes

Traffic Impact and Site Access Study, Proposed Redevelopment - 47 Chestnut Street, Dover, NH

IMPACT SUMMARY

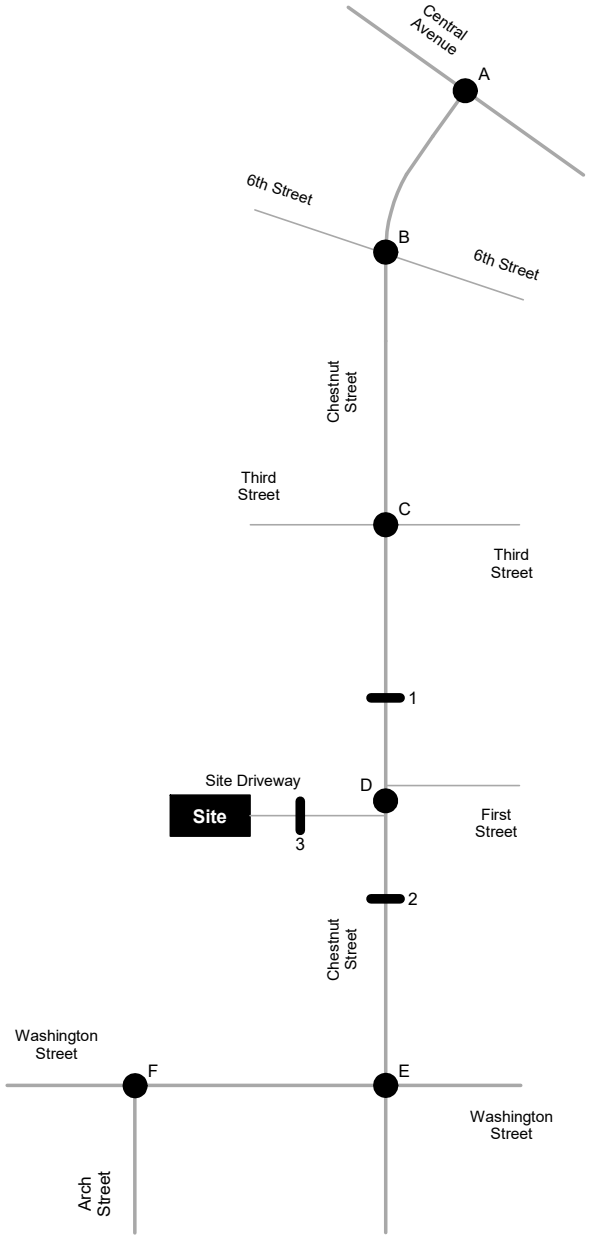
TRAFFIC VOLUME INCREASES

The net impact that the proposed residential development will have on area roadway and intersection traffic volumes can be estimated by comparing the No-Build traffic projections with the Build projections. A comparison for the two peak hour cases is summarized on Figure 7.

In terms of roadway segments, this analysis shows that the greatest impact will occur during the PM peak hour period on the section of Chestnut Street south of the subject site. The traffic volume on this roadway segment is projected to increase from 1,359 to 1,422 vehicles (+63 vehicles) or by +5% during the worst-case PM peak hour period. The increase on Chestnut Street north of the subject site is projected by +1% (+18 vehicles) during the PM peak hour.

In terms of intersection volumes (total vehicles entering) the Chestnut Street / First Street / Site Driveway signalized intersection is expected to accommodate approximately +90 additional vehicles during the PM peak hour period, or by +6%. This translates into approximately one additional vehicle every signal cycle. The Chestnut Street / Washington Street signalized intersection will accommodate approximately +67 additional vehicles during the PM peak hour period, or by +3%. The net increases during the AM peak hour will be lower than during the PM peak hour.

Oftentimes, random traffic flow from one day to the next on Chestnut Street (up to 11%) accounts for "impacts" that are much greater than will occur due to proposed development (up to 6%). This is quite evident from the NHDOT traffic volume data in Appendix B.



AM Peak Hour

Location	2022 No-Build	2022 Build	Change	% Change
Intersection A	964	976	+12 veh	1%
Intersection B	1253	1269	+16 veh	1%
Intersection C	1068	1088	+20 veh	2%
Intersection D	1124	1195	+71 veh	6%
Intersection E	1494	1550	+56 veh	4%
Intersection F	1034	1038	+4 veh	<1%
Checkpoint 1	1095	1114	+19 veh	2%
Checkpoint 2	1104	1156	+52 veh	5%
Checkpoint 3	6	77	+71 veh	-

PM Peak Hour

Location	2022 No-Build	2022 Build	Change	% Change
Intersection A	1420	1434	+14 veh	1%
Intersection B	1333	1352	+19 veh	1%
Intersection C	1444	1468	+24 veh	2%
Intersection D	1398	1488	+90 veh	6%
Intersection E	1944	2011	+67 veh	3%
Intersection F	1015	1020	+5 veh	<1%
Checkpoint 1	1350	1368	+18 veh	1%
Checkpoint 2	1359	1422	+63 veh	5%
Checkpoint 3	10	106	+96 veh	-

NORTH

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Figure 7

2023 Impact Summary

Traffic Impact and Site Access Study, Proposed Redevelopment - 47 Chestnut Street, Dover, NH

TRAFFIC OPERATIONS AND SAFETY

INTERSECTION CAPACITY – SIGNALIZED INTERSECTIONS

The two signalized study area intersections were analyzed utilizing the methods of the *Highway Capacity Manual*[2], as replicated by the *Synchro Traffic Signal Coordination Software (Version 10).* A traffic flow rate, capacity, Level of Service (LOS), delay estimate, and average and 95th queue lengths (given in feet) was determined for each traffic movement, and for the overall intersection. Levels of Service are simply letter grades (A-F), which categorize the vehicle delays associated with specific turning maneuvers. Table 2 describes the criteria used in this analysis.

Table 2 — Level-of-Service Criteria for Signalized Intersections

Control Delay (seconds/vehicle)	Level of Service by Volume-to-Capacity Ratio	
	v/c ≤ 1.0	v/c > 1.0
≤ 10	A	F
> 10 - 20	B	F
> 20 - 35	C	F
> 35 - 55	D	F
> 55 - 80	E	F
> 80	F	F

Source: Transportation Research Board, Highway Capacity Manual 2010.

Analysis of the **Chestnut Street / First Street / Site Driveway** intersection is summarized in Table 3. The results demonstrate that the overall intersection, and the individual lane groups within the intersection, will operate well below capacity during the AM and PM peak hour periods through 2033 with the subject site in full operation, as proposed. The overall volume-capacity ratio of the intersection increases by only one percentage point during the 2033 peak hour periods, and the overall Level of Service remains unchanged (LOS B). Overall intersection delay will increase by < 4 seconds as a result of site traffic.

Analysis of the **Chestnut Street / Washington Street** intersection is summarized in Table 4. The results demonstrate that the overall intersection will operate capacity during the 2033 AM and PM peak hour periods with the site in full operation. The individual lane groups within the intersection will also operate below capacity through 2033 with site traffic. The overall volume-capacity ratio of the intersection increases by two and three percentage points, during the 2033 AM and PM peak hour periods, respectively. During the 2033 peak hour periods, the overall Level of Service remains unchanged (LOS C). Overall intersection delay will increase by approximately + 2.0 seconds during the worst-case PM peak hour period as a result of site traffic.

The capacity and Level of Service analyses are contained in Appendix F.

[2] Transportation Research Board, *Highway Capacity Manual* (Washington, D.C., 2010).

Stephen G. Pernaw & Company, Inc.

Table 3

Signal-Controlled Intersection Capacity Analysis Summary
Chestnut Street / First Street / Site Driveway

	2021 Existing				2023 No-Build				2023 Build				2033 No-Build				2033 Build			
	V/C [1]	Delay [2]	LOS [3]	Q - Avg/95 [4]	V/C [1]	Delay [2]	LOS [3]	Q - Avg/95 [4]	V/C [1]	Delay [2]	LOS [3]	Q - Avg/95 [4]	V/C [1]	Delay [2]	LOS [3]	Q - Avg/95 [4]	V/C [1]	Delay [2]	LOS [3]	Q - Avg/95 [4]
Weekday Morning Peak Hour																				
Site Driveway - EB LT&TH&RT	0.00	29.0	C	0 (0)	0.00	32.9	C	0 (0)	0.04	31.3	C	0 (0)	0.00	37.8	D	0 (0)	0.04	35.3	D	0 (0)
First St - WB LT&TH	0.15	28.5	C	3 (27)	0.16	31.2	C	7 (32)	0.16	32.5	C	8 (32)	0.19	36.1	D	9 (33)	0.18	36.4	D	10 (33)
First St - WB RT	0.01	27.6	C	0 (0)	0.01	30.3	C	0 (0)	0.01	31.6	C	0 (0)	0.01	35.0	C	0 (0)	0.01	35.3	D	0 (0)
Chestnut St - NB LT	0.01	5.5	A	0 (4)	0.01	5.6	A	0 (5)	0.06	7.2	A	2 (17)	0.01	5.2	A	0 (5)	0.06	6.8	A	2 (17)
Chestnut St - NB TH&RT	0.36	7.2	A	0 (230)	0.42	7.7	A	46 (294)	0.45	9.5	A	96 (294)	0.44	7.4	A	53 (336)	0.47	9.3	A	110 (336)
Chestnut St - SB LT	0.01	5.5	A	0 (7)	0.01	5.6	A	0 (9)	0.01	6.9	A	1 (9)	0.01	5.2	A	1 (10)	0.02	6.5	A	1 (10)
Chestnut St - SB TH&RT	0.56	8.8	A	0 (402)	0.66	10.7	B	88 (597)	0.71	13.7	B	187 (606)	0.68	10.8	B	105 (701)	0.73	14.1	B	224 (709)
Overall	**0.47**	**8.8**	**A**		**0.55**	**10.2**	**B**		**0.55**	**13.5**	**B**		**0.58**	**10.3**	**B**		**0.59**	**13.8**	**B**	
Cycle Length (sec)	**100 sec**				**100 sec**				**100 sec**				**100 sec**				**100 sec**			
Weekday Evening Peak Hour																				
Site Driveway - EB LT&TH&RT	0.00	29.5	C	0 (0)	0.00	34.6	C	0 (0)	0.03	31.9	C	0 (0)	0.00	39.2	D	0 (0)	0.03	37.3	D	0 (0)
First St - WB LT&TH	0.21	27.8	C	9 (38)	0.27	33.0	C	14 (44)	0.29	32.3	C	15 (47)	0.26	36.0	D	18 (52)	0.29	36.4	D	20 (55)
First St - WB RT	0.02	26.7	C	0 (0)	0.02	31.3	C	0 (0)	0.02	30.6	C	0 (0)	0.02	34.4	C	0 (0)	0.02	34.6	C	0 (0)
Chestnut St - NB LT	0.00	6.2	A	0 (3)	0.00	5.8	A	0 (3)	0.23	8.4	A	9 (48)	0.00	5.8	A	0 (3)	0.25	8.6	A	9 (49)
Chestnut St - NB TH&RT	0.54	9.4	A	60 (365)	0.60	10.0	B	82 (543)	0.64	12.0	B	167 (540)	0.64	11.0	B	100 (611)	0.67	12.9	B	200 (607)
Chestnut St - SB LT	0.01	6.3	A	0 (9)	0.02	5.9	A	0 (10)	0.02	6.9	A	1 (10)	0.02	5.9	A	1 (11)	0.76	6.9	A	1 (11)
Chestnut St - SB TH&RT	0.60	10.2	B	69 (492)	0.66	11.2	B	97 (659)	0.72	14.0	B	203 (683)	0.71	12.4	B	119 (754)	0.72	15.3	B	246 (777)
Overall	**0.49**	**10.8**	**B**		**0.56**	**11.7**	**B**		**0.58**	**14.4**	**B**		**0.60**	**12.9**	**B**		**0.61**	**15.6**	**B**	
Cycle Length (sec)	**90 sec**				**90 sec**				**90 sec**				**100 sec**				**100 sec**			

1) Volume-to-capacity ratio, 2) Delay in vehicles per seconds, 3) Level of Service, 4) Queue length in feet

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Table 4

Signal-Controlled Intersection Capacity Analysis Summary
Chestnut Street / Washington Street

	2021 Existing				2023 No-Build				2023 Build				2033 No-Build				2033 Build			
	V/C [1]	Delay [2]	LOS [3]	Q - Avg/95 [4]	V/C [1]	Delay [2]	LOS [3]	Q - Avg/95 [4]	V/C [1]	Delay [2]	LOS [3]	Q - Avg/95 [4]	V/C [1]	Delay [2]	LOS [3]	Q - Avg/95 [4]	V/C [1]	Delay [2]	LOS [3]	Q - Avg/95 [4]
Weekday Morning Peak Hour																				
Washington St - EB LT&TH/TH&RT	0.44	17.3	B	39 (106)	0.51	17.0	B	47 (126)	0.52	17.1	B	48 (128)	0.58	19.9	B	63 (152)	0.60	20.3	C	64 (154)
Washington St - WB LT&TH	0.42	25.9	C	26 (81)	0.61	31.4	C	32 (96)	0.62	31.6	C	32 (96)	0.70	39.9	D	40 (122)	0.71	41.0	D	40 (122)
Washington St - WB RT	0.02	14.7	B	0 (0)	0.02	16.0	B	0 (0)	0.03	16.1	B	0 (0)	0.03	17.9	B	0 (0)	0.03	18.1	B	0 (0)
Chestnut St - NB LT	0.13	21.5	C	6 (30)	0.16	21.1	C	8 (35)	0.16	21.2	C	8 (35)	0.15	20.3	C	9 (37)	0.15	20.1	C	9 (37)
Chestnut St - NB TH&RT	0.69	29.8	C	65 (212)	0.82	38.7	D	83 (282)	0.84	40.4	D	85 (290)	0.73	29.6	C	96 (278)	0.73	29.1	C	99 (286)
Chestnut St - SB LT	0.21	13.9	B	12 (46)	0.32	15.0	B	15 (55)	0.36	15.4	B	16 (59)	0.33	14.8	B	17 (58)	0.36	14.9	B	19 (62)
Chestnut St - SB TH	0.50	16.0	B	72 (194)	0.63	18.5	B	93 (247)	0.66	19.3	B	99 (284)	0.63	18.3	B	110 (271)	0.65	18.7	B	117 (285)
Chestnut St - SB RT	0.17	10.5	B	0 (17)	0.21	10.1	B	0 (18)	0.23	10.1	B	0 (19)	0.23	9.8	A	0 (18)	0.25	9.8	A	0 (18)
Overall	**0.63**	**18.1**	**B**		**0.76**	**20.5**	**C**		**0.77**	**20.8**	**C**		**0.76**	**20.2**	**C**		**0.78**	**20.3**	**C**	
Cycle Length (sec)	**75 sec**				**75 sec**				**75 sec**				**80 sec**				**80 sec**			
Weekday Evening Peak Hour																				
Washington St - EB LT&TH/TH&RT	0.65	21.8	C	84 (184)	0.79	27.5	C	112 (248)	0.81	28.8	C	120 (283)	0.83	32.2	C	145 (308)	0.84	32.7	C	151 (330)
Washington St - WB LT&TH	0.70	39.9	D	45 (126)	0.57	30.3	C	59 (151)	0.54	29.8	C	60 (163)	0.50	30.2	C	73 (173)	0.48	29.6	C	73 (173)
Washington St - WB RT	0.03	18.9	B	0 (0)	0.04	17.7	B	0 (0)	0.04	17.8	B	0 (0)	0.04	18.2	B	0 (0)	0.04	18.0	B	0 (0)
Chestnut St - NB LT	0.12	20.4	C	9 (35)	0.15	21.5	C	13 (43)	0.15	21.7	C	12 (42)	0.17	24.1	C	15 (47)	0.18	24.6	C	15 (47)
Chestnut St - NB TH&RT	0.73	29.6	C	109 (261)	0.83	37.0	D	159 (364)	0.86	40.0	D	165 (377)	0.86	43.8	D	201 (415)	0.91	51.6	D	214 (443)
Chestnut St - SB LT	0.30	15.3	B	15 (60)	0.44	18.0	B	22 (71)	0.50	19.1	B	21 (72)	0.51	21.5	C	28 (90)	0.58	25.0	C	29 (94)
Chestnut St - SB TH	0.47	16.3	B	79 (237)	0.56	18.6	B	121 (301)	0.57	19.1	B	122 (304)	0.60	21.6	C	159 (361)	0.62	22.6	C	164 (372)
Chestnut St - SB RT	0.17	9.5	A	0 (20)	0.20	12.0	B	0 (23)	0.21	12.4	B	0 (22)	0.24	14.3	B	5 (33)	0.26	14.9	B	7 (36)
Overall	**0.75**	**21.3**	**C**		**0.88**	**24.7**	**C**		**0.90**	**25.9**	**C**		**0.90**	**28.6**	**C**		**0.93**	**30.7**	**C**	
Cycle Length (sec)	**90 sec**				**90 sec**				**90 sec**				**100 sec**				**100 sec**			

1) Volume-to-capacity ratio, 2) Delay in vehicles per seconds, 3) Level of Service, 4) Queue length in feet

INTERSECTION CAPACITY – UNSIGNALIZED INTERSECTIONS

The short-range (2023) and long-range (2033) traffic projections form the basis for assessing traffic operations at the four unsignalized intersections, from a capacity and delay standpoint. These intersections were analyzed according to the methodologies of the *Highway Capacity Manual 2010*[3] as replicated by the latest edition of the *Synchro Signal Timing Software (Version 10),* which is capable of analyzing unsignalized intersections as well.

Capacity and Level of Service (LOS) calculations pertaining to unsignalized intersections address the quality of service for those vehicles turning into and out of the intersecting side street or driveway. The availability of adequate gaps in the traffic stream on the major street (Chestnut Street, for example) actually controls the potential capacity for vehicle movements to and from the minor approaches (6th Street, for example). Levels of Service are simply letter grades (A-F) which categorize the vehicle delays associated with specific turning maneuvers. The following table describes the criteria used in this analysis.

Table 5 – Level-of-Service Criteria for Unsignalized Intersections

Control Delay (seconds/vehicle)	Level of Service by Volume-to-Capacity Ratio	
	v/c ≤ 1.0	v/c > 1.0
0 - 10	A	F
> 10 - 15	B	F
> 15 - 25	C	F
> 25 - 35	D	F
> 35 - 50	E	F
> 50	F	F

Source: Transportation Research Board, Highway Capacity Manual 2010.

Central Avenue / Chestnut Street – The analysis of this intersection is summarized on Table 6 and confirms that the departure movements from Chestnut Street will continue to encounter long delays (LOS E / LOS F) during the weekday PM peak hour period, regardless of the proposed development. This means that long vehicle queues on the Chestnut Street approach will continue to occur, with site traffic adding approximately one vehicle to said queues. Left-turn arrivals from Central Avenue (into Chestnut Street) will continue to operate at LOS A during all hours of the day through 2033 with the proposed apartment complex in full operation. This is the highest or best level attainable, and means that vehicle delays and queuing will be minimal.

It should be noted that the analytical model utilized in the *"Highway Capacity Manual"* to estimate control delay at two-way stop-controlled intersections does not produce accurate results when the demand reaches/exceeds the capacity during a 15-minute period. For this reason, caution should be used when drawing conclusions from the delay estimates cited in Table 6.

[3] Transportation Research Board, *Highway Capacity Manual* (Washington, D.C., 2010).

Table 6 — **STOP-Controlled Intersection Capacity Analysis - TWO-WAY**
Central Avenue / Chestnut Street

	Weekday AM Peak Hour				Weekday PM Peak Hour			
	Delay [1]	V/C [2]	LOS [3]	Queue [4]	Delay [1]	V/C [2]	LOS [3]	Queue [4]
Central Avenue - NB Left Turns								
2021 Existing	0.0	0.00	A	<1	8.9	0.01	A	<1
2023 No Build	0.0	0.00	A	<1	9.4	0.01	A	<1
2023 Build	0.0	0.00	A	<1	9.4	0.01	A	<1
2033 No Build	0.0	0.00	A	<1	9.7	0.01	A	<1
2033 Build	0.0	0.00	A	<1	9.8	0.01	A	<1
Chestnut Street - Left & Right-Turn Departures								
2021 Existing	17.7	0.47	C	3	35.2	0.67	E	5
2023 No Build	26.8	0.66	D	5	110.1	1.04	F	11
2023 Build	28.5	0.69	D	5	120.9	1.08	F	12
2033 No Build	39.6	0.80	E	7	225.3	1.35	F	16
2033 Build	42.9	0.82	E	8	240.5	1.38	F	17

[1] HCM Control Delay (seconds per vehicle), [2] HCM Volume to Capacity Ratio, [3] HCM Level of Service, [4] HCM 95th Percentile Queue (vehicles)

Chestnut Street / 6th Street - This intersection operates with stop sign control on all four approaches (All-Way Stop Control). This requires drivers on all approaches to stop before proceeding through the intersection. Priority is not always given to the driver on the right, thus the right-of-way alternates between the drivers on the different intersection approaches. Consequently, the capacity of the intersection is reduced.

Table 7 summarizes the results of the analysis for this intersection, and confirms that the northbound Chestnut Street approach is currently subject to long delays and long vehicle queues during the AM and PM peak hour periods (LOS E / LOS F). Similar conditions are expected to occur on the 6th Street eastbound approach, regardless of the proposed development. Although these approaches will temporarily operate over capacity during the peak 15-minute interval within the peak hour, site traffic is expected to increase the 95th percentile queue length by only one vehicle in the opening year.

Again, the analytical model utilized in the *"Highway Capacity Manual"* to estimate control delay at stop-controlled intersections does not produce accurate results when the demand reaches/exceeds the capacity during a 15-minute period. For this reason, caution should be used when drawing conclusions from the delay estimates cited in Table 7.

Table 7

STOP-Controlled Intersection Capacity Analysis - ALL-WAY
Chestnut Street / 6th Street

	Weekday AM Peak Hour				Weekday PM Peak Hour			
	Delay [1]	V/C [2]	LOS [3]	Queue [4]	Delay [1]	V/C [2]	LOS [3]	Queue [4]
Chestnut Street - NB Movements								
2021 Existing	20.3	0.65	C	5	36.3	0.86	E	9
2023 No Build	50.5	0.93	F	10	145.7	1.22	F	23
2023 Build	58.5	0.97	F	11	158.3	1.25	F	24
2033 No Build	86.5	1.12	F	14	262.1	1.49	F	34
2033 Build	98.1	1.16	F	16	264.5	1.51	F	34
6th Street - EB Movements								
2021 Existing	22.3	0.71	C	6	18.5	0.57	C	4
2023 No Build	73.6	1.01	F	15	34.0	0.83	D	7
2023 Build	79.8	1.03	F	16	36.8	0.85	E	7
2033 No Build	128.4	1.21	F	21	58.8	1.04	F	10
2033 Build	132.1	1.24	F	21	59.8	1.07	F	10
6th Street - WB Movements								
2021 Existing	12.4	0.25	B	1	14.2	0.33	B	1
2023 No Build	17.0	0.38	C	2	19.9	0.49	C	2
2023 Build	17.4	0.39	C	2	20.4	0.50	C	2
2033 No Build	20.1	0.47	C	2	26.0	0.63	D	3
2033 Build	20.4	0.47	C	2	26.4	0.63	D	3
Chestnut Street - SB Movements								
2021 Existing	15.4	0.48	C	3	19.7	0.61	C	4
2023 No Build	27.7	0.71	D	5	41.9	0.89	E	8
2023 Build	28.6	0.73	D	6	46.4	0.93	E	9
2033 No Build	38.9	0.86	E	7	77.6	1.12	F	12
2033 Build	40.3	0.89	E	7	86.2	1.16	F	13

[1] HCM Control Delay (seconds per vehicle), [2] HCM Volume to Capacity Ratio, [3] HCM Level of Service, [4] HCM 95th Percentile Queue (vehicles)

Chestnut Street / Third Street - Table 8 summarizes the results of the analysis for this intersection, and confirms that westbound left-turn departures from Third Street will encounter long delays during the weekday PM peak hour period (LOS F), both with and without the additional traffic from the proposed apartment complex. By 2033 this approach is expected to temporarily operate over capacity during the PM peak hour period, both with and without the proposed apartment complex. As a result, vehicle queuing on this approach is expected to increase by up to one vehicle, depending upon the hour/year. Left-turns from Chestnut Street (on to Third Street) will operate at LOS A during all hours of the day through 2033.

Table 8

STOP-Controlled Intersection Capacity Analysis - TWO-WAY
Chestnut Street / Third Street

	Weekday AM Peak Hour				Weekday PM Peak Hour			
	Delay [1]	V/C [2]	LOS [3]	Queue [4]	Delay [1]	V/C [2]	LOS [3]	Queue [4]
Chestnut Street - NB Left-Turns								
2021 Existing	8.4	0.00	A	<1	8.5	0.05	A	<1
2023 No Build	8.7	0.01	A	<1	8.9	0.06	A	<1
2023 Build	8.7	0.01	A	<1	8.9	0.06	A	<1
2033 No Build	8.9	0.01	A	<1	9.1	0.07	A	<1
2033 Build	9.0	0.01	A	<1	9.2	0.07	A	<1
Third Street - EB Movements								
2021 Existing	11.7	0.05	B	<1	21.6	0.26	C	1
2023 No Build	13.4	0.08	B	<1	37.4	0.46	E	2
2023 Build	13.5	0.08	B	<1	39.2	0.47	E	2
2033 No Build	14.3	0.10	B	<1	62.3	0.65	F	4
2033 Build	14.4	0.10	B	<1	66.5	0.67	F	4
Third Street - WB Left-Turns								
2021 Existing	21.5	0.16	C	1	50.9	0.42	F	2
2023 No Build	30.8	0.27	D	1	157.0	0.86	F	4
2023 Build	31.9	0.28	D	1	184.1	0.95	F	5
2033 No Build	40.4	0.35	E	2	>300	1.33	F	7
2033 Build	42.6	0.37	E	2	>300	1.45	F	7
Third Street - WB Right-Turns								
2021 Existing	10.5	0.05	B	<1	13.5	0.17	B	1
2023 No Build	11.2	0.07	B	<1	16.0	0.24	C	1
2023 Build	11.3	0.07	B	<1	16.2	0.24	C	1
2033 No Build	11.7	0.08	B	<1	18.1	0.30	C	1
2033 Build	11.8	0.08	B	<1	18.2	0.30	C	1
Chestnut Street - SB Left-Turns								
2021 Existing	8.0	0.00	A	<1	8.6	0.01	A	<1
2023 No Build	8.1	0.00	A	<1	9.0	0.01	A	<1
2023 Build	8.2	0.00	A	<1	9.1	0.01	A	<1
2033 No Build	8.3	0.00	A	<1	9.3	0.01	A	<1
2033 Build	8.3	0.00	A	<1	9.4	0.01	A	<1

[1] HCM Control Delay (seconds per vehicle), [2] HCM Volume to Capacity Ratio, [3] HCM Level of Service, [4] HCM 95th Percentile Queue (vehicles)

Washington Street / Arch Street - This intersection operates with stop sign control on all three approaches (All-Way Stop Control). This requires drivers on all approaches to stop before proceeding through the intersection. Priority is not always given to the driver on the right, thus the right-of-way alternates between the drivers on the different intersection approaches. Consequently, the capacity of the intersection is reduced.

Table 9 summarizes the results of the analysis for this intersection, and confirms that all intersection approaches will continue to operate below capacity during the AM and PM peak hour periods through 2033 with the subject site in full operation. Site traffic is expected to have a minimal impact on traffic operations at this intersection. Site traffic is not of sufficient magnitude to alter the prevailing Levels of Service during the peak hour periods.

Table 9

STOP-Controlled Intersection Capacity Analysis - ALL-WAY
Washington Street / Arch Street

	Weekday AM Peak Hour				Weekday PM Peak Hour			
	Delay [1]	V/C [2]	LOS [3]	Queue [4]	Delay [1]	V/C [2]	LOS [3]	Queue [4]
Arch Street - NB Movements								
2021 Existing	12.0	0.37	B	2	14.6	0.53	B	3
2023 No Build	14.8	0.48	B	3	21.4	0.69	C	6
2023 Build	14.9	0.49	B	3	21.7	0.70	C	6
2033 No Build	17.4	0.56	C	3	31.8	0.81	D	8
2033 Build	17.5	0.57	C	4	31.9	0.82	D	8
Washington Street - EB Movements								
2021 Existing	15.2	0.63	C	5	12.5	0.47	B	3
2023 No Build	26.0	0.81	D	9	17.4	0.63	C	4
2023 Build	26.2	0.81	D	9	17.5	0.63	C	4
2033 No Build	44.0	0.94	E	13	24.2	0.74	C	7
2033 Build	44.4	0.94	E	13	24.4	0.74	C	7
Washington Street - WB Movements								
2021 Existing	11.4	0.36	B	2	12.6	0.41	B	2
2023 No Build	13.9	0.47	B	3	16.3	0.55	C	3
2023 Build	14.1	0.48	B	3	16.5	0.56	C	3
2033 No Build	16.3	0.55	C	3	20.9	0.65	C	5
2033 Build	16.4	0.55	C	3	21.2	0.65	C	5

[1] HCM Control Delay (seconds per vehicle), [2] HCM Volume to Capacity Ratio, [3] HCM Level of Service, [4] HCM 95th Percentile Queue (vehicles)

Appendix G contains the computations pertaining to the unsignalized intersection capacity and Level of Service analyses.

SIGHT DISTANCE

The sight distance looking left and right from the existing Site Driveway approach to Chestnut Street is not critical as this approach operates under traffic signal control. Nevertheless, the horizontal and vertical alignment features of Chestnut Street are favorable and not restrictive. To maintain adequate sight distances, roadside vegetation (and snow banks) should be cleared as may become necessary, and any site signage should not be positioned in a manner that restricts the line of sight looking left and right.

PUBLIC TRANSIT

The Dover Transportation Center is located a short distance to the north on Chestnut Street. From this location, rail service is available via Amtrak (Downeaster) and bus service is provided by the COAST regional bus system and Wildcat Transit.

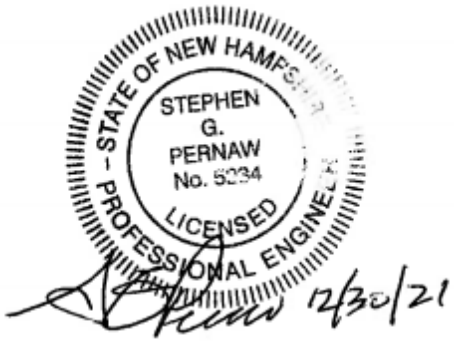
STUDY FINDINGS AND RECOMMENDATIONS

Based upon the existing conditions data collected at the six existing study area intersections, the anticipated traffic increases from the proposed 192-unit apartment (with café) development, and the analysis of future traffic levels in the study area, Pernaw & Company, Inc. concludes that:

1. The subject site was previously occupied by a Hannaford supermarket, and it generated significantly higher traffic levels than is anticipated with the proposed redevelopment of the site.
2. Vehicular access to the apartment complex is proposed via the existing signalized site driveway that is located on the west side of Chestnut Street, diagonally across from First Street. The site driveway and the traffic signal system will be modified/upgraded in conjunction with the proposed redevelopment project.
3. The recent traffic count data collected revealed that the traffic flow on Chestnut Street passing the subject site totaled 911 vehicles (AM) and 1,121 vehicles (PM) during the peak hour periods. The heavier directional flow was southbound during both peak hour periods.
4. The existing site driveway accommodated only 6 (AM) and 10 (PM) vehicles during the peak hour periods.
5. The trip generation analysis indicates that, on an average weekday basis, the proposed apartments and café will generate approximately 77 vehicle-trips (19 arrivals, 58 departures) during the weekday AM peak hour; and 106 vehicle-trips (63 arrivals, 43 departures) during the weekday PM peak hour. By way of comparison, the former supermarket likely generated over 300 vehicle-trips during the weekday PM peak hour period.
6. The trip distribution analysis indicates that approximately 70% of the site traffic will travel to/from the south on Chestnut Street, towards Washington Street and the Spaulding Turnpike.
7. The comparison between the Build and No-Build traffic volumes revealed that site traffic will increase the utilization of the intersection by approximately +6% during the peak hour periods, or by +71 (AM) and +90 (PM) vehicles. The net impact at the other study area intersections ranges from +1% to +4%, depending upon location and the peak hour.
8. Analysis of the Chestnut Street / First Street / Existing Site Driveway signalized study area intersection confirms that the overall intersection will operate well below capacity through 2033 with the proposed development in full operation. This intersection will operate at an overall LOS B during the peak hour periods, both with and without site traffic.
9. Analysis of the Chestnut Street / Washington Street signalized intersection confirms that all lane groups within the intersection will operate below capacity during the 2033 AM and PM peak hour periods (during peak-month conditions). During the 2033 peak hour periods, the overall Level of Service remains unchanged (LOS C) with the additional traffic from the redeveloped site.

10. Analysis of the Central Avenue / Chestnut Street stop-controlled intersection confirms that site traffic is not of sufficient magnitude to alter the prevailing Levels of Service at this intersection. Nevertheless, long vehicle queues will continue to occur on the Chestnut Street approach to Central Avenue, and site traffic is expected to increase the 95th percentile queue by approximately one vehicle during the peak hour periods.
11. Analysis of the All-Way Stop Control at the Chestnut Street / 6th Street intersection confirms that the northbound Chestnut Street approach is subject to long delays and longer vehicle queues during the AM and PM peak hour periods (LOS F). Similar conditions are expected to occur on the 6th Street eastbound approach, regardless of the proposed development. Site traffic is expected to increase the 95th percentile queues at this intersection by +0 to +1 vehicle, depending upon the specific movement and time period.
12. Analysis of the Chestnut Street / Third Street stop-controlled intersection shows that site traffic will not alter the prevailing Levels of Service at this intersection. The westbound left-turn departure movement from Third Street will continue to experience long delays (LOS F) during the weekday PM peak hour period, regardless of the proposed development. Favorably, site traffic is expected to result in a minimal increase (+3 vehicles) in the left-turn movement during the PM peak hour. In most cases there will be no change in the 95th percentile queue lengths at this intersection.
13. Analysis of the All-Way Stop Control at the Washington Street / Arch Street intersection confirms that all intersection approaches will continue to operate below capacity during the AM and PM peak hour periods through 2033 with the subject site in full operation. Site traffic is not of sufficient magnitude to alter the prevailing Levels of Service during the peak hour periods

To conclude, with the proposed reconfiguration of the site driveway as shown on the site plan, along with attendant modifications to the traffic signal system, the Chestnut Street / First Street / Site Driveway intersection is capable of providing reasonably safe and efficient traffic operations with the redeveloped site in full operation through 2033, and beyond. Physical modifications to the remaining five study area intersections are not required as a result of the anticipated traffic increases. Since the proposed redevelopment of this former supermarket site results in considerably fewer vehicle-trips, it is reasonable to conclude that post-redevelopment conditions will be superior to the previous case from a transportation engineering, traffic operations, and safety standpoint.



SITE PLAN REVIEW
CITY OF DOVER DEPARTMENT OF PLANNING AND COMMUNITY DEVELOPMENT
FILE NO. P21-84

47 CHESTNUT

RESIDENTIAL & COMMERCIAL MIXED USE RE-DEVELOPMENT PLANS

47 Chestnut Street
Dover, New Hampshire
Assessor's Parcel 31, Lot 5

ISSUED FOR PLANNING BOARD

Plan Issue Date:

April 19, 2022

Owner:
Harlech, LLC
273 Corporate Drive, Suite 150
Portsmouth, NH 03801
(603) 427-5100
Signature: _____
Date: _____

Applicant:
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Redgate Real Estate Advisors, LLC
286 Franklin Street, Suite 602
Boston, MA 02110
(617) 904-7000

Architect:
ARROWSTREET
ARCHITECTURE & DESIGN
10 Post Office Square, Suite 700N
Boston, MA 02109
(617) 623-5555

Wetland Scientist:
GOVE ENVIRONMENTAL SERVICES, INC.
Wetlands and Soil Mapping
8 Continental Dr Bldg 2 Unit H, Exeter, NH 03833-7526
Ph (603) 778 0644 / Fax (603) 778 0654

Traffic Engineer:
Stephen G. Pernaw & Company, Inc.
P.O. Box 1721, Concord, NH 03302
(603) 731-8000

Traffic Engineer (Offsite):
GPI
44 Stiles Road
Salem, NH 03079
Phone: (603) 893-0720

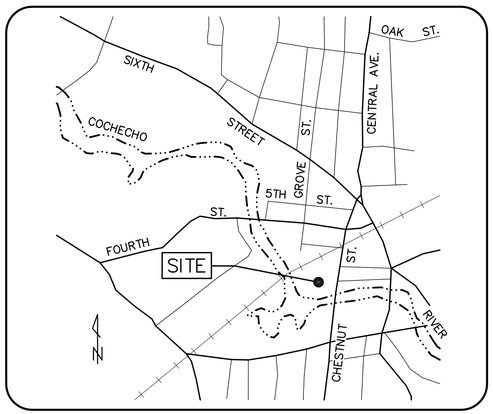
Civil Engineer:
ALTUS ENGINEERING, INC.
133 Court Street Portsmouth, NH 03801
(603) 433-2335 www.altus-eng.com

Surveyor:
McEneaney Survey Associates, inc.
P.O. Box 681 – 24 CHESTNUT STREET
DOVER, NH 03820 (603) 742-0911

Landscape Architect:
CWDG Copley Wolff Design Group
Landscape Architects & Planners
10 Post Office Square, Suite 1315
Boston, MA 02109
(617) 654-90000

Lighting Consultant (Parking Lot):
VISIBLELIGHT
24 STICKNEY TERRACE, SUITE 6
HAMPTON, NH 03842
(603) 926-6049

Lighting Consultant (Pedestrian):
AVAILABLE LIGHT
31 STATE STREET, 6TH FLOOR • BOSTON MA 02109
617.944.6800 AVAILABLELIGHT.COM



LOCUS NOT TO SCALE

Sheet Index Title	*Sheet Desig.:*	*Sheet No.:*	*Rev.*	*Date*
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Site Plan	C–3	6	3	04/19/22
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Ground Floor Plan	A2.11	26	3	04/19/22
Typical Floor Plan	A2.12	27	3	04/19/22
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Perspective View	A5.02	34	3	04/19/22

Permit Summary:	*Submitted*	*Received*
Dover Site Plan Review	11/23/21	–
NHDES Alteration of Terrain	02/24/22	–
NHDES Wetlands	12/06/21	–
EPA Notice of Intent	By Contractor 14 days prior to construction	

P4904

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CLIENT:

REDGATE

Redgate Real Estate Advisor, LLC
286 Franklin Street, Suite 602
Boston, MA 02110

ARCHITECT:

ARROWSTREET
ARCHITECTURE & DESIGN

10 POST OFFICE SQUARE
SUITE 700N
BOSTON MA 02109
617.623.5555
arrowstreet.com

CONSULTANTS:

CWDG
Copley Wolff Design Group
Landscape Architects & Planners

PROJECT INFORMATION:

47 Chestnut #P21-84

47 Chestnut Street,
Dover, NH 03820

ISSUANCE:

SITE PLAN REVIEW

ISSUED FOR PLANNING BOARD REVIEW

STAMP:

REVISIONS:

No.	Date	Description

DRAWING TITLE:

LANDSCAPE SITE PLAN RENDERING

Project No.	**21033.00**
Drawn By	**SS/JM**
Date	**4/19/22**
Scale	

DRAWING NUMBER:

L0.00

Sheet **2** of **34**

NOTES:

1.) OWNER OF RECORD:

HARLECH, LLC
273 CORPORATE DRIVE, SUITE 150
PORTSMOUTH, NEW HAMPSHIRE 03801
S.C.R.D. VOLUME 2036, PAGE 090

2.) 31 / 5 – DENOTES TAX MAP AND PARCEL NUMBER.

3.) PARCEL AREA = 158,315 S.F.± / 3.63 Ac.±

4.) THE INTENT OF THIS PLAN IS TO DEPICT THE PARCELS BOUNDARIES AND EXISTING SITE CONDITIONS AS OF DECEMBER 28, 2021.

5.) ZONING DISTRICT:

CBD TRANSIT ORIENTED DEVELOPMENT SUB-DISTRICT (CBD TO)
DIMENSIONAL REQUIREMENTS:

MINIMUM LOT SIZE	= N/A
MINIMUM LOT COVERAGE	= 75 – 100 PERCENT
FRONTAGE BUILD-OUT	= 80 PERCENT MINIMUM
FRONT BUILD TO LINE	= 0 FEET MIN. / 0 FEET MAX.
SIDE SETBACK	= 10 FEET MIN. / 25 FEET MAX.
REAR SETBACK	= 0 FEET MIN. / 25 FEET MAX.
MAXIMUM BUILDING HEIGHT	= 5 STORY MAX / 3 STORY MIN.

6.) THE SUBJECT PARCEL IS LOCATED WITHIN THE SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1 PERCENT ANNUAL CHANCE FLOOD, ZONE AE (BASE FLOOD ELEVATIONS DETERMINED); AND AREAS DETERMINED TO BE INSIDE THE 0.2 PERCENT ANNUAL CHANCE FLOODPLAIN, AS SHOWN ON FLOOD INSURANCE RATE MAP, COMMUNITY NUMBER 330145; PANEL 0310; SUFFIX E; MAP NUMBER 33017C0310E; EFFECTIVE DATE SEPT. 30, 2015.

7.) BASIS OF BEARING IS NH STATE PLANE (NAD83) BASED ON GPS OBSERVATION DATED FEBRUARY 14, 2011.
VERTICAL DATUM IS NH STATE PLANE (NAD83) BASED ON GPS OBSERVATION DATED FEBRUARY 14, 2011.

8.) PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM A SURVEY PERFORMED BY MCENEANEY SURVEY ASSOCIATES, INC. DURING DECEMBER 2021 WITH AN ERROR NOT GREATER THAN 1 IN 10,000.

9.) THERE ARE CURRENTLY 171 STRIPED PARKING SPACES LOCATED ON THE SUBJECT PARCEL, INCLUDING 6 ACCESSIBLE SPACES.

10.) THERE ARE NO WETLANDS ON THE SUBJECT PARCEL.

11.) ALL EXISTING UTILITY LOCATIONS ARE APPROXIMATE AS SHOWN. THE CONTRACTOR SHALL VERIFY THEIR EXACT LOCATIONS WITH THE RESPECTIVE UTILITY OWNERS PRIOR TO ANY WORK BEING PERFORMED. CALL DIGSAFE AT 1-888-344-7233.

12.) THIS PLAN SHOWS ONLY THOSE FEATURES THAT WERE VISUALLY APPARENT ON THE DATE OF THE SURVEY. THE ABSENCE OF SUBSURFACE STRUCTURES, UTILITIES, ETC. FROM THIS PLAN, BUT IN EXISTENCE, IS NOT INTENDED OR IMPLIED.

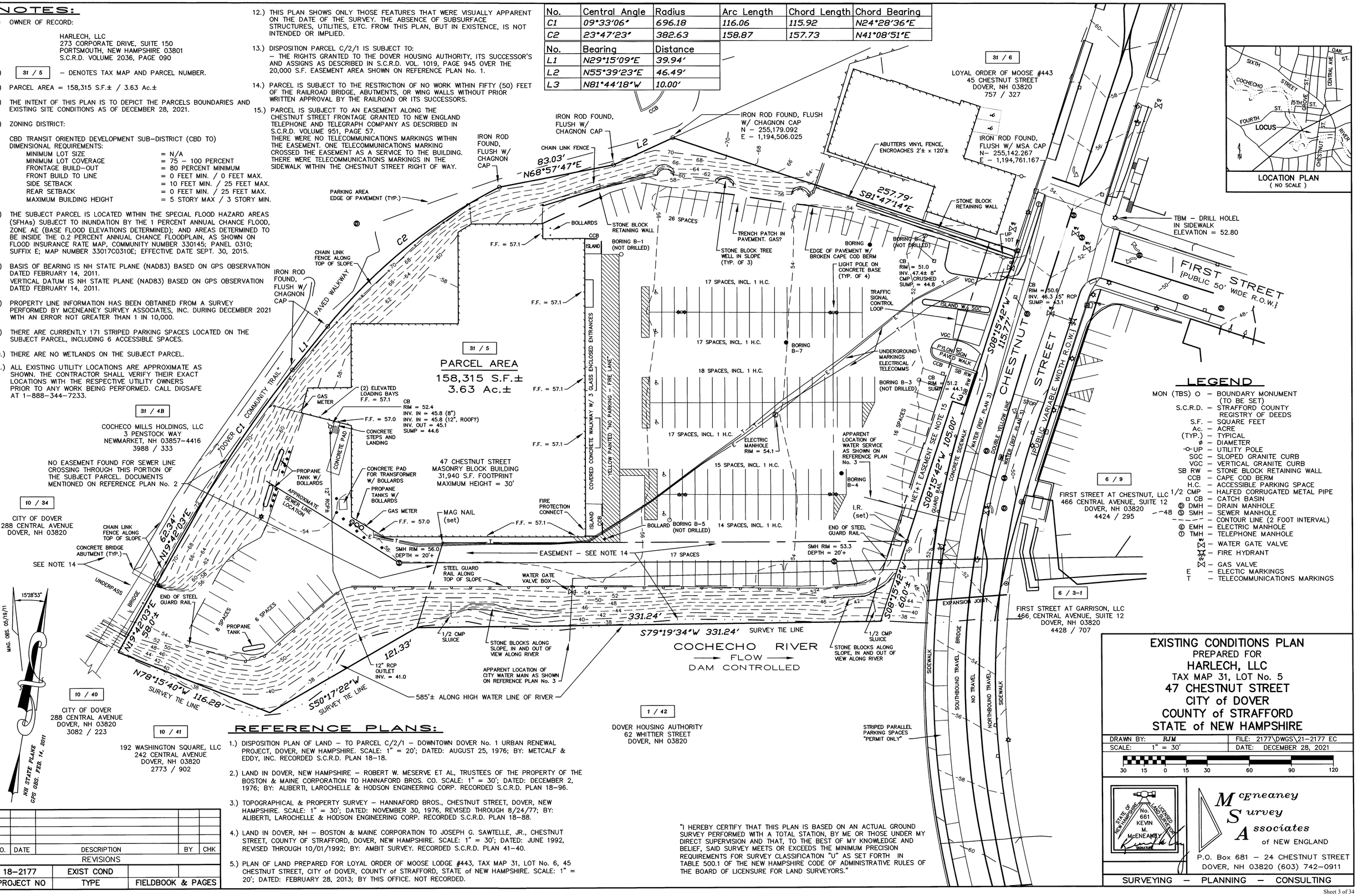
13.) DISPOSITION PARCEL C/2/1 IS SUBJECT TO:
– THE RIGHTS GRANTED TO THE DOVER HOUSING AUTHORITY, ITS SUCCESSOR'S AND ASSIGNS AS DESCRIBED IN S.C.R.D. VOL. 1019, PAGE 945 OVER THE 20,000 S.F. EASEMENT AREA SHOWN ON REFERENCE PLAN No. 1.

14.) PARCEL IS SUBJECT TO THE RESTRICTION OF NO WORK WITHIN FIFTY (50) FEET OF THE RAILROAD BRIDGE, ABUTMENTS, OR WING WALLS WITHOUT PRIOR WRITTEN APPROVAL BY THE RAILROAD OR ITS SUCCESSORS.

15.) PARCEL IS SUBJECT TO AN EASEMENT ALONG THE CHESTNUT STREET FRONTAGE GRANTED TO NEW ENGLAND TELEPHONE AND TELEGRAPH COMPANY AS DESCRIBED IN S.C.R.D. VOLUME 951, PAGE 57.
THERE WERE NO TELECOMMUNICATIONS MARKINGS WITHIN THE EASEMENT. ONE TELECOMMUNICATIONS MARKING CROSSED THE EASEMENT AS A SERVICE TO THE BUILDING. THERE WERE TELECOMMUNICATIONS MARKINGS IN THE SIDEWALK WITHIN THE CHESTNUT STREET RIGHT OF WAY.

No.	Central Angle	Radius	Arc Length	Chord Length	Chord Bearing
C1	09°33'06"	696.18	116.06	115.92	N24°28'36"E
C2	23°47'23"	382.63	158.87	157.73	N41°08'51"E

No.	Bearing	Distance
L1	N29°15'09"E	39.94'
L2	N55°39'23"E	46.49'
L3	N81°44'18"W	10.00'



LEGEND

MON (TBS) O – BOUNDARY MONUMENT (TO BE SET)
S.C.R.D. – STRAFFORD COUNTY REGISTRY OF DEEDS
S.F. – SQUARE FEET
Ac. – ACRE
(TYP.) – TYPICAL
ø – DIAMETER
-o- UP – UTILITY POLE
SGC – SLOPED GRANITE CURB
VGC – VERTICAL GRANITE CURB
SB RW – STONE BLOCK RETAINING WALL
CCB – CAPE COD BERM
H.C. – ACCESSIBLE PARKING SPACE
1/2 CMP – HALFED CORRUGATED METAL PIPE
CB – CATCH BASIN
DMH – DRAIN MANHOLE
SMH – SEWER MANHOLE
– – – – – – CONTOUR LINE (2 FOOT INTERVAL)
EMH – ELECTRIC MANHOLE
TMH – TELEPHONE MANHOLE
WATER GATE VALVE
FIRE HYDRANT
GAS VALVE
E – ELECTIC MARKINGS
T – TELECOMMUNICATIONS MARKINGS

REFERENCE PLANS:

1.) DISPOSITION PLAN OF LAND – TO PARCEL C/2/1 – DOWNTOWN DOVER No. 1 URBAN RENEWAL PROJECT, DOVER, NEW HAMPSHIRE. SCALE: 1" = 20'; DATED: AUGUST 25, 1976; BY: METCALF & EDDY, INC. RECORDED S.C.R.D. PLAN 18-18.

2.) LAND IN DOVER, NEW HAMPSHIRE – ROBERT W. MESERVE ET AL, TRUSTEES OF THE PROPERTY OF THE BOSTON & MAINE CORPORATION TO HANNAFORD BROS. CO. SCALE: 1" = 30'; DATED: DECEMBER 2, 1976; BY: ALIBERTI, LAROCHELLE & HODSON ENGINEERING CORP. RECORDED S.C.R.D. PLAN 18-96.

3.) TOPOGRAPHICAL & PROPERTY SURVEY – HANNAFORD BROS., CHESTNUT STREET, DOVER, NEW HAMPSHIRE. SCALE: 1" = 30'; DATED: NOVEMBER 30, 1976, REVISED THROUGH 8/24/77; BY: ALIBERTI, LAROCHELLE & HODSON ENGINEERING CORP. RECORDED S.C.R.D. PLAN 18-88.

4.) LAND IN DOVER, NH – BOSTON & MAINE CORPORATION TO JOSEPH G. SAWTELLE, JR., CHESTNUT STREET, COUNTY OF STRAFFORD, DOVER, NEW HAMPSHIRE. SCALE: 1" = 30'; DATED: JUNE 1992, REVISED THROUGH 10/01/1992; BY: AMBIT SURVEY. RECORDED S.C.R.D. PLAN 41-40.

5.) PLAN OF LAND PREPARED FOR LOYAL ORDER OF MOOSE LODGE #443, TAX MAP 31, LOT No. 6, 45 CHESTNUT STREET, CITY OF DOVER, COUNTY OF STRAFFORD, STATE OF NEW HAMPSHIRE. SCALE: 1" = 20'; DATED: FEBRUARY 28, 2013; BY THIS OFFICE. NOT RECORDED.

NO.	DATE	DESCRIPTION	BY	CHK
		REVISIONS		

18-2177	EXIST COND	
PROJECT NO	TYPE	FIELDBOOK & PAGES

"I HEREBY CERTIFY THAT THIS PLAN IS BASED ON AN ACTUAL GROUND SURVEY PERFORMED WITH A TOTAL STATION, BY ME OR THOSE UNDER MY DIRECT SUPERVISION AND THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF, SAID SURVEY MEETS OR EXCEEDS THE MINIMUM PRECISION REQUIREMENTS FOR SURVEY CLASSIFICATION "U" AS SET FORTH IN TABLE 500.1 OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS."

EXISTING CONDITIONS PLAN
PREPARED FOR
HARLECH, LLC
TAX MAP 31, LOT No. 5
47 CHESTNUT STREET
CITY of DOVER
COUNTY of STRAFFORD
STATE of NEW HAMPSHIRE

DRAWN BY: RJM	FILE: 2177\DWGS\21-2177 EC
SCALE: 1" = 30'	DATE: DECEMBER 28, 2021

30 15 0 15 30 60 90 120

STATE OF NEW HAMPSHIRE LICENSED LAND SURVEYOR No. 661 KEVIN M. McENEANEY SIGNATURE

McEneaney Survey Associates of NEW ENGLAND
P.O. Box 681 – 24 CHESTNUT STREET
DOVER, NH 03820 (603) 742-0911
SURVEYING – PLANNING – CONSULTING

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)

ALTUS ENGINEERING, INC.

133 Court Street Portsmouth, NH 03801
(603) 433-2335 www.altus-eng.com

ERIC D. WEINRIEB No. 7634 LICENSED PROFESSIONAL ENGINEER - STATE OF NEW HAMPSHIRE

4/5/22

NOT FOR CONSTRUCTION

ISSUED FOR: TRC

ISSUE DATE: APRIL 5, 2022

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	TRC	EBS	11/23/21
1	TRC	EBS	02/24/22
2	TRC	EBS	04/05/22

DRAWN BY: EBS
APPROVED BY: EBS
DRAWING FILE: 4904-SITE.dwg

SCALE:
22" x 34" – 1" = 100'
11" x 17" – 1" = 200'

OWNER:

HARLECH, LLC

273 CORPORATE DR., SUITE 150
PORTSMOUTH, NH 03801

APPLICANT:

REDGATE REAL ESTATE ADVISORS, LLC

265 FRANKLIN ST., SUITE 602
BOSTON, MA 02110

PROJECT:

47 CHESTNUT SITE REDEVELOPMENT

TAX MAP 31, LOT 5
47 CHESTNUT STREET
DOVER, NH
DOVER FILE NO. P21-84

TITLE:

NEIGHBORHOOD PLAN

SHEET NUMBER:

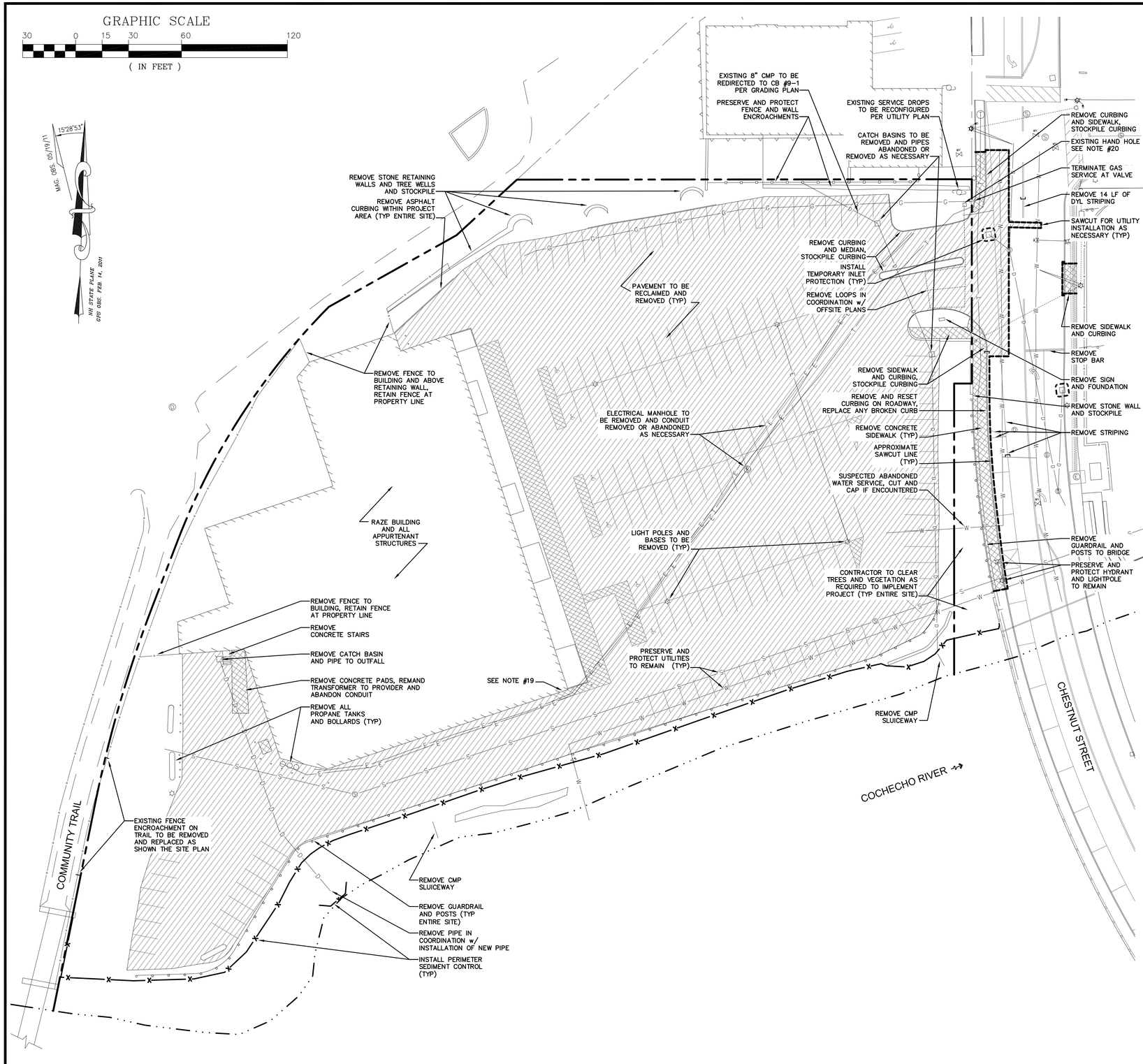
C-1

P4904

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)



DEMOLITION NOTES

1. CITY DEMOLITION PERMIT REQUIRED PRIOR TO ANY BUILDING DEMOLITION ACTIVITIES. CONTRACTOR IS NOTIFIED THAT THIS PERMIT PROCESS MAY REQUIRE A 30-DAY LEAD TIME.
2. CONTRACTOR SHALL SAFELY SECURE THE SITE AND WORK LIMITS WITH SECURITY FENCING WHICH SHALL BE LOCKED DURING NON-WORK HOURS.
3. CONTRACTOR SHALL PRESERVE AND PROTECT ALL EXISTING UTILITIES SCHEDULED TO REMAIN.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE TIMELY NOTIFICATION OF ALL PARTIES, CORPORATIONS, COMPANIES, INDIVIDUALS AND STATE AND LOCAL AUTHORITIES OWNING AND/OR HAVING JURISDICTION OVER ANY UTILITIES RUNNING TO, THROUGH OR ACROSS AREAS TO BE DISTURBED BY DEMOLITION AND/OR CONSTRUCTION ACTIVITIES WHETHER OR NOT SAID UTILITIES ARE SUBJECT TO DEMOLITION, RELOCATION, MODIFICATION AND/OR CONSTRUCTION.
5. ALL UTILITY DISCONNECTIONS/DEMOLITIONS/RELOCATIONS SHALL BE COORDINATED BETWEEN THE CONTRACTOR, ALL APPROPRIATE UTILITY COMPANIES, DOVER DPW AND ABUTTING PROPERTY OWNERS. UNLESS OTHERWISE SPECIFIED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RELATED EXCAVATION, TRENCHING AND BACKFILLING.
6. WHERE SPECIFIED TO REMAIN, MANHOLE RIMS, CATCH BASIN GRATES, VALVE COVERS, HANDHOLES, ETC. SHALL BE ADJUSTED TO FINISH GRADE UNLESS OTHERWISE SPECIFIED.
7. SEE EROSION CONTROL PLANS FOR EROSION AND SEDIMENT CONTROL MEASURES THAT SHALL BE IN PLACE PRIOR TO DEMOLITION ACTIVITIES.
8. ALL MATERIALS SCHEDULED FOR DEMOLITION OR REMOVAL ON PRIVATE PROPERTY SHALL REMAIN THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. ITEMS INDICATED TO BE STOCKPILED SHALL BE REUSED ON-SITE IF DEEMED SUITABLE BY THE ENGINEER.
9. ALL MATERIAL SCHEDULED TO BE REMOVED SHALL BE LEGALLY DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS/CODES.
10. UTILITY PROVIDERS AND CONTACTS:
    - WATER & SEWER: DOVER COMMUNITY SERVICES, BILL BOULANGER, (603) 516-6450.
    - GAS: UNITIL, DAVID MACLEAN, (603) 294-5144.
    - TELECOMMUNICATIONS: CONSOLIDATED, JASON CUNHA, (603) 325-2041.
    - CABLE: COMCAST, MIKE COLLINS, (603) 679-5695, EXT. 1037.
    - ELECTRICAL: EVERSOURCE, NICK KOSKO, (603) 332-4227. ALL ELECTRIC CONDUIT INSTALLATION SHALL BE INSPECTED BY EVERSOURCE PRIOR TO BACKFILL, 48-HOUR MINIMUM NOTICE REQUIRED
11. CONTRACTOR TO CONTACT DOVER DPW A MINIMUM OF TWO WEEKS PRIOR TO ANY DEMOLITION TO COORDINATE ALL WORK CONCERNING DISCONNECTION/DEMOLITION OF ANY PROPOSED WATER AND SEWER LINE IMPROVEMENTS.
12. ALL WATER MAIN AND SERVICE DISCONNECTIONS SHALL CONFORM TO DOVER DPW STANDARDS.
13. NO BURNING SHALL BE PERMITTED PER LOCAL REGULATIONS.
14. HAZARDOUS MATERIALS ENCOUNTERED DURING DEMOLITION AND CONSTRUCTION ACTIVITIES SHALL BE ABATED IN STRICT ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL REGULATIONS.
15. EXISTING UTILITIES TO BE DISCONTINUED SHALL BE ABANDONED IN PLACE UNLESS OTHERWISE NOTED TO BE REMOVED OR ENCOUNTERED DURING THE INSTALLATION OF NEW WORK. ALL CONDUIT, CULVERT OR PIPE TO BE ABANDONED THAT IS 6" OR GREATER IN SIZE SHALL BE FILLED WITH FLOWABLE FILL.
16. IN AREAS WHERE CONSTRUCTION IS TO BE ADJACENT TO ABUTTING PROPERTIES, THE CONTRACTOR SHALL INSTALL ORANGE CONSTRUCTION FENCING ALONG THE PROPERTY LINE IN ALL AREAS WHERE PERIMETER SEDIMENT CONTROLS OR SITE SECURITY FENCING IS NOT OTHERWISE REQUIRED.
17. LOCATIONS OF PAVEMENT REMOVAL & SAWCUT LIMITS ARE SHOWN TO DEPICT THE GENERAL LIMITS OF WORK. CONTRACTOR'S MEANS & METHODS & PAVEMENT CONDITION WILL DICTATE THE EXACT LIMITS OF PAVEMENT REMOVAL.
18. SHOULD GROUNDWATER BE ENCOUNTERED DURING EXCAVATION, APPROPRIATE BEST MANAGEMENT PRACTICES SHALL BE EMPLOYED TO ENSURE SEDIMENT LADEN WATER IS NOT DISCHARGED INTO THE CITY DRAINAGE SYSTEM OR ADJACENT WETLANDS.
19. THE LOCATION(S) OF EXISTING WATER AND SEWER SERVICES TO THE EXISTING BUILDING ARE UNKNOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONDUCTING WHATEVER EXPLORATORY INVESTIGATIONS ARE REQUIRED TO ASCERTAIN THE SIZE, LOCATION AND DEPTH OF THESE SERVICES. CONTRACTOR SHALL TERMINATE THESE EXISTING SERVICES AT THEIR RESPECTIVE MAINS IN ACCORDANCE WITH CITY OF DOVER STANDARDS.
20. ALL ELECTRIC, TELEPHONE, WATER, SEWER AND OTHER UTILITY STRUCTURES TO REMAIN SHALL BE RELOCATED OR ADJUSTED TO PROPOSED FINISH GRADE AS APPROPRIATE. EXISTING PEDESTRIAN-RATED STRUCTURES IN PROPOSED PAVEMENT AREAS SHALL BE REPLACED WITH H-20 RATED STRUCTURES.
21. THIS PLAN IS INTENDED TO PROVIDE MINIMUM GUIDELINES FOR THE DEMOLITION OF EXISTING SITE FEATURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL BUILDINGS, PAVEMENT, CONCRETE, CURBING, SIGNS, POLES, UTILITIES, BOLLARDS, FENCES, TREES, VEGETATION, STUMPS AND ANY OTHER EXISTING FEATURES AS NECESSARY TO FULLY CONSTRUCT THE PROJECT.
22. ALSO SEE OFFSITE IMPROVEMENTS PLANS FOR ADDITIONAL DEMOLITION AND SITE PREPARATION IN THE CHESTNUT STREET RIGHT OF WAY.
23. PEST CONTROL – THE CONTRACTOR SHALL ENGAGE A LICENSED EXTERMINATOR WHO PRACTICES INTEGRATED PEST MANAGEMENT (IPM) TO INSPECT THE PROJECT SITE AND PREPARE A PEST MANAGEMENT PLAN TO ELIMINATE RODENTS, NOXIOUS INSECTS AND ALL OTHER PESTS PRIOR TO DEMOLITION ACTIVITIES. THE PEST MANAGEMENT PLAN SHALL BE COORDINATED WITH THE OWNER WHOSE WRITTEN APPROVAL SHALL BE REQUIRED PRIOR TO THE APPLICATION OF ANY PEST CONTROL MEASURE. THE PROPOSED PLAN SHALL BE SUBMITTED TO THE OWNER AND ARCHITECT FOR REVIEW AND SHALL CLEARLY INDICATE THE FOLLOWING:
    - AREAS TO BE TREATED.
    - MANUFACTURER'S PRINTED INSTRUCTIONS AND MSDS FOR EACH CHEMICAL TO BE USED.
    - POLLUTION PREVENTATIVE MEASURES TO BE EMPLOYED.
24. SEE SHEET C-11 FOR LEGEND.

ALTUS ENGINEERING, INC.

133 Court Street Portsmouth, NH 03801
(603) 433-2335 www.altus-eng.com

ERIC D. WEINRIEB No. 7634 LICENSED PROFESSIONAL ENGINEER - STATE OF NEW HAMPSHIRE

4/5/22

NOT FOR CONSTRUCTION

ISSUED FOR: TRC

ISSUE DATE: APRIL 5, 2022

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	TRC	EBS	11/23/21
1	TRC	EBS	02/24/22
2	TRC	EBS	

DRAWN BY: EBS
APPROVED BY: EBS
DRAWING FILE: 4904-SITE.dwg

SCALE:
22" x 34" – 1" = 30'
11" x 17" – 1" = 60'

OWNER:
HARLECH, LLC
273 CORPORATE DR., SUITE 150
PORTSMOUTH, NH 03801

APPLICANT:
REDGATE REAL ESTATE ADVISORS, LLC
265 FRANKLIN ST., SUITE 602
BOSTON, MA 02110

PROJECT:
47 CHESTNUT SITE REDEVELOPMENT
TAX MAP 31, LOT 5
47 CHESTNUT STREET
DOVER, NH
DOVER FILE NO. P21-84

TITLE:
DEMOLITION AND SITE PREPARATION PLAN

SHEET NUMBER:
C-2

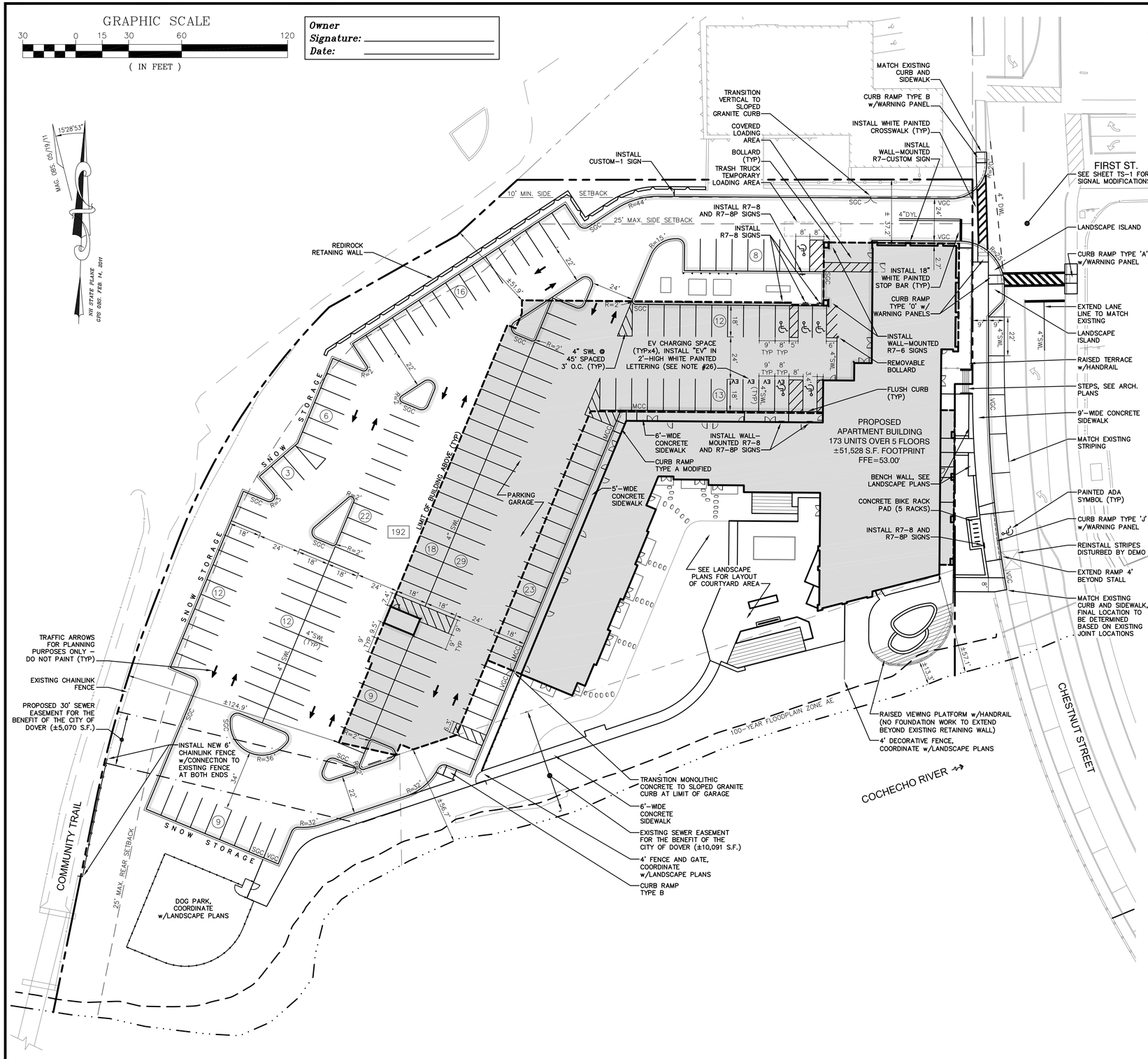
P4904

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)

Owner
Signature: _____
Date: _____



SITE NOTES

1. DESIGN INTENT – THIS PLAN SET IS INTENDED TO PROVIDE THE NECESSARY INFORMATION FOR THE DESIGN AND REVIEW OF THE REDEVELOPMENT OF THE SITE FOR A MULTI-FAMILY RESIDENTIAL USE COMPRISED OF 173 UNITS AND ±2,500 SF OF RESTAURANT/COMMERCIAL SPACE WITH ASSOCIATED ACCESSWAYS, PARKING AND INFRASTRUCTURE.
2. LOT AREA: ±158,446 S.F. (±3.64 AC.)
3. THE SUBJECT PARCEL IS SHOWN AS DOVER TAX MAP 31, LOT 5.
4. REFERENCE DEED: STRAFFORD COUNTY REGISTRY OF DEEDS BOOK 2036 PAGE 090
5. THE SUBJECT PROPERTY IS ENCUMBERED BY AN EXISTING SEWER EASEMENT FOR THE BENEFIT OF THE CITY OF DOVER AS SHOWN.
6. ZONE: CENTRAL BUSINESS DISTRICT TRANSIT-ORIENTED DEVELOPMENT SUBDISTRICT DIMENSIONAL REQUIREMENTS (CBD-TOD):

MIN. LOT AREA:	NR (3.64 AC. PROVIDED)
MIN. STREET FRONTAGE:	NR (290.77' PROVIDED)
FRONT SETBACK:	0' MIN./0' MAX. (0' PROVIDED)
SIDE SETBACK:	10' MIN./25' MAX. (±37.2' PROVIDED**)
REAR SETBACK:	0' MIN./25' MAX. (±51.9' PROVIDED**)
MAX. BUILDING HEIGHT:	3 STORY MIN./5 STORY MAX.
LOT COVERAGE (BLDG.):	75–100% (38.41% PROVIDED, EXCLUDING EASEMENT**) (32.52% PROVIDED, INCLUDING EASEMENT**)
PARKING SETBACK:	10' (FRONT), 5' (SIDE & REAR)
FRONTAGE BUILD-OUT:	80% MIN. (66.14% PROVIDED**)
OPEN SPACE:	NR (34.18% PROVIDED)

(** INDICATES CONDITIONAL USE PERMIT UNDER ZONING SECTION 170-20B REQUIRED)

7. PARKING:
MAXIMUM PARKING PERMITTED:
RESIDENTIAL (1.9 SPACES/UNIT): 1.9 x 173 = 329 SPACES
RETAIL/SERVICE (1 SPACE/275 S.F.): 2,500 S.F./275 = 9 SPACES
TOTAL MAXIMUM PARKING PERMITTED = 338 SPACES
TOTAL PARKING PROVIDED = 192 SPACES (6 ADA, 4 EV, 6 EV-READY, 176 REG.)
PARKING LOT LANDSCAPING: 8% REQUIRED (8.41% PROVIDED)
8. PORTIONS OF THE PROJECT SITE ARE IN SPECIAL FLOOD HAZARD ZONE AE.
9. NO WETLANDS ARE LOCATED ON THE PROJECT SITE PER GOVE ENVIRONMENTAL SERVICES, INC. (LUKE HURLEY, NH CERTIFIED WETLANDS SCIENTIST #232, NOVEMBER 16, 2021).
10. NHDES ALTERATION OF TERRAIN PERMIT AND WETLANDS PERMIT REQUIRED (NO DIRECT WETLANDS IMPACTS PROPOSED). SITE IS LOCATED IN URBAN EXEMPTION ZONE, NHDES SHORELAND PERMIT NOT REQUIRED.
11. PER DOVER ZONING ORDINANCE SECTION 170-20.H(1)a. "ANY REDEVELOPMENT WITHIN THE CBD IS EXEMPT FROM (CITY) WETLANDS REGULATIONS"
12. SNOW SHALL BE STORED AT THE EDGE OF PAVEMENT, IN AREAS SHOWN HEREON, AND/OR TRUCKED OFF SITE AS APPROPRIATE.
13. PAVEMENT MARKINGS SHALL BE CONSTRUCTED USING WHITE, YELLOW OR BLUE TRAFFIC PAINT (WHERE SPECIFIED) MEETING THE REQUIREMENTS OF AASHTO M248, TYPE F OR EQUAL. PAINTED ISLANDS AND LOADING ZONES SHALL BE 4"-WIDE DIAGONAL WHITE LINES 3'-0" O.C. BORDERED BY 4"-WIDE WHITE LINES. PARKING STALLS SHALL BE SEPARATED BY 4"-WIDE WHITE LINES. SEE DETAILS FOR HANDICAP SYMBOLS, SIGNS AND SIGN DETAILS.
14. PAVEMENT MARKINGS AND SIGNS SHALL CONFORM TO THE REQUIREMENTS OF THE "MANUAL ON UNIFORM TRAFFIC DEVICES," "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS" AND THE AMERICANS WITH DISABILITIES ACT (ADA), LATEST EDITIONS.
15. ALL CONSTRUCTION SHALL CONFORM WITH THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION (NHDOT) "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" AND WITH THE CITY OF DOVER COMMUNITY SERVICES REGULATIONS AND STANDARD SPECIFICATIONS FOR CONSTRUCTION, LATEST EDITIONS. THE MORE STRINGENT SPECIFICATION SHALL APPLY.
16. CLEAN AND COAT VERTICAL FACE OF EXISTING PAVEMENT AT SAWCUT LINES WITH RS-1 IMMEDIATELY PRIOR TO PLACING NEW BITUMINOUS CONCRETE.
17. ALL BONDS AND FEES SHALL BE PAID/POSTED PRIOR TO INITIATING CONSTRUCTION.
18. COMMERCIAL VEHICLE ROUTE DURING CONSTRUCTION SHALL CONFORM WITH DOVER CITY CODE OR BE COORDINATED WITH THE COMMUNITY SERVICES DIRECTOR.
19. CONSTRUCTION HOURS SHALL BE LIMITED TO MON-FRI 7AM-6PM, SAT-SUN 9AM-4PM. THE HOURS OF CONSTRUCTION MUST BE DOCUMENTED ON A SITE CONSTRUCTION SIGN ALONG WITH CONTACT INFORMATION FOR THE GENERAL CONTRACTOR. SAID SIGNAGE MUST BE LOCATED AND APPROVED BY THE CITY ENGINEER OR ASST. CITY MANAGER.
20. UNLESS OTHERWISE NOTED, ALL NEW CURBING SHALL BE VERTICAL OR SLOPED GRANITE WITH A MINIMUM RADIUS OF 4'.
21. THE CONTRACTOR SHALL VERIFY ALL BUILDING DIMENSIONS WITH THE ARCHITECTURAL AND STRUCTURAL PLANS PRIOR TO CONSTRUCTION. ALL DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER FOR RESOLUTION.
22. BUILDING AREA SHOWN IS BASED ON FOOTPRINT MEASURED TO THE EDGE OF FOUNDATIONS AND/OR SLABS. ACTUAL INTERIOR SPACE WILL DIFFER.
23. AS-BUILT PLANS OF THE SITE SHALL BE SUBMITTED ON PAPER AND IN A DIGITAL FORMAT IN PDF AND AUTOCAD DWG, AUTOCAD DXF OR AN ESRI FORMAT TO THE CITY OF DOVER ENGINEER'S OFFICE UPON COMPLETION OF PROJECT. AS-BUILT PLANS SHALL BE PREPARED AND CERTIFIED CORRECT BY A L.L.S. OR P.E. DIGITAL FILES SHALL BE GEO-REFERENCED TO NEW HAMPSHIRE STATE PLANE COORDINATES NAD83 AND SHALL BE EXPRESSED IN FEET.
24. BUILDING ADDRESSES SHALL BE ASSIGNED BY THE BUILDING OFFICIAL AT THE TIME OF ISSUANCE OF A BUILDING PERMIT.
25. THIS SITE PLAN IS DESIGNED IN COMPLIANCE WITH ALL APPLICABLE ACCESSIBILITY REGULATIONS. THE PROPOSED BUILDING IS DESIGNED IN COMPLIANCE WITH ALL APPLICABLE ACCESSIBILITY REGULATIONS INCLUDING NH RSA 155-A:5-a&b.
26. FOUR PARKING SPACES WILL BE EQUIPPED WITH EV CHARGING STATIONS AND AN ADDITIONAL SIX SPACES WILL BE EV-READY, COORDINATE WITH MEP PLANS.
27. ANY FENCE TALLER THAN SEVEN FEET (7') REQUIRES THE ISSUANCE OF A BUILDING PERMIT FROM INSPECTION SERVICES.
28. RESIDENTS OF THE DEVELOPMENT SHALL NOT PLACE TRASH OR DEBRIS ON THE COMMUNITY TRAIL OR TRAILHEAD.
29. SUBJECT PROPERTY WAS GRANTED A VARIANCE ON 08/17/95 FOR SIGNAGE (DOVER REF. Z95-15).
30. PAVEMENT MARKING ABBREVIATIONS:
SWL: SINGLE WHITE LINE (4" SOLID LINE)
DWL: DOTTED WHITE LINE (4" x 2' LINES EVERY 6', ALSO REFERRED TO AS A SKIP LINE)
DYL: DOUBLE YELLOW LINE (2 x 4" SOLID LINES SEPARATED BY 4")
31. MAINTENANCE OF LANDSCAPING AND HARDSCAPING ALONG THE SITE FRONTAGE ON CHESTNUT STREET AND THE OVERLOOK DECK AND IT'S RELATED LANDSCAPING SHALL BE THE RESPONSIBILITY OF THE OWNER.
32. TRASH SHALL BE STORED INTERNAL TO THE BUILDING IN ROLL-OUT DUMPSTERS WHICH SHALL BE STAGED FOR PICK UP WITHIN THE SITE ON A DEMAND-BASED FREQUENCY.
33. TRASH RECEPTACLE AT DOG PARK TO BE SERVICED DAILY.
34. TOTAL ROOF AREA = 51,528 SF
30% OF ROOF = 14,458
GREEN ROOF AREA = 10,767 SF
COURTYARD = 9,306 SF
35. SEE SHEET C-11 FOR LEGEND.

ALTUS ENGINEERING, INC.
133 Court Street Portsmouth, NH 03801
(603) 433-2335 www.altus-eng.com

ERIC D. WEINRIEB No. 7634 LICENSED PROFESSIONAL ENGINEER – STATE OF NEW HAMPSHIRE
4/19/22

NOT FOR CONSTRUCTION

ISSUED FOR:
PLANNING BOARD

ISSUE DATE:
APRIL 19, 2022

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	TRC	EBS	11/23/21
1	TRC	EBS	02/24/22
2	TRC	EBS	04/05/22
3	PLANNING BOARD	EBS	04/19/22

DRAWN BY: EBS
APPROVED BY: EBS
DRAWING FILE: 4904-SITE.dwg

SCALE:
22" x 34" – 1" = 30'
11" x 17" – 1" = 60'

OWNER:
HARLECH, LLC
273 CORPORATE DR., SUITE 150
PORTSMOUTH, NH 03801

APPLICANT:
REDGATE REAL ESTATE ADVISORS, LLC
265 FRANKLIN ST., SUITE 602
BOSTON, MA 02110

PROJECT:
47 CHESTNUT SITE REDEVELOPMENT
TAX MAP 31, LOT 5
47 CHESTNUT STREET
DOVER, NH
DOVER FILE NO. P21-84

TITLE:
SITE PLAN

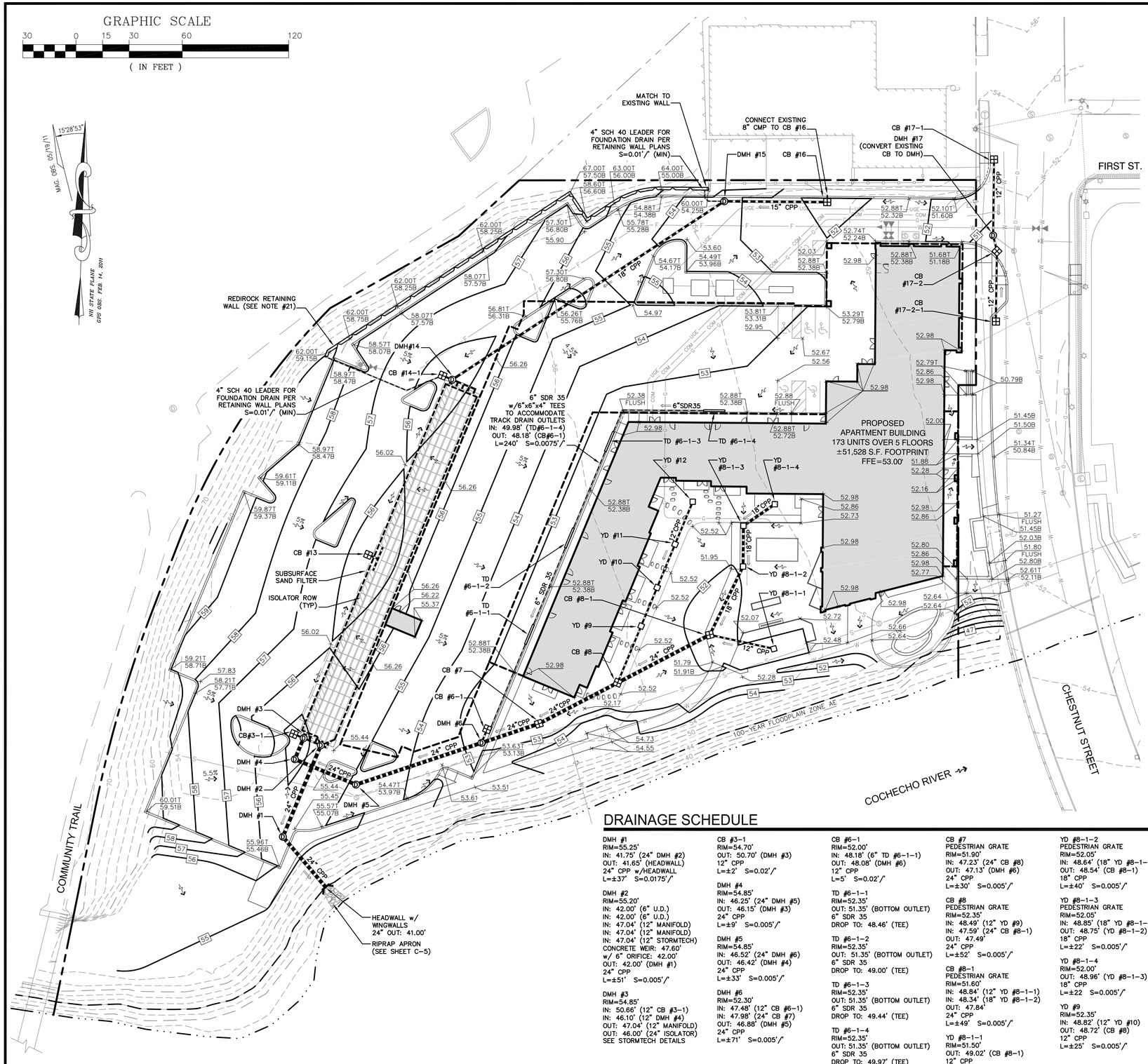
SHEET NUMBER:
C-3

P4904

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)



GRADING AND DRAINAGE NOTES

1. DO NOT BEGIN CONSTRUCTION UNTIL ALL STATE AND LOCAL PERMITS HAVE BEEN APPLIED FOR AND RECEIVED.
2. A LETTER OF CREDIT FOR THE COST OF REVEGETATING ALL DISTURBED AREAS ON THE SITE SHALL BE SUBMITTED, AND THE APPROVED CONSTRUCTION SIGN INSTALLED PRIOR TO ANY EARTH DISTURBING ACTIVITY OCCURS.
3. CONTRACTOR SHALL OBTAIN A "DIGSAFE" NUMBER AT LEAST 72 HOURS PRIOR TO COMMENCING CONSTRUCTION.
4. A PRE-CONSTRUCTION CONFERENCE WITH THE DEVELOPER, THE DESIGN ENGINEER, THE EARTHWORK CONTRACTOR AND THE CITY ENGINEER SHALL OCCUR PRIOR TO ANY EARTH DISTURBING ACTIVITY.
5. THE LIMITS OF CONSTRUCTION DISTURBANCE THAT ARE LOCATED IN OR WITHIN 50 FT. OF CONSERVATION AND WETLAND DISTRICTS SHALL BE STAKED, FLAGGED AND CLEARLY IDENTIFIED PRIOR TO ANY EARTH DISTURBING ACTIVITY OCCURS.
6. ALL BENCHMARKS AND TOPOGRAPHY SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO INITIATING CONSTRUCTION.
7. UNLESS OTHERWISE AGREED IN WRITING, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING TEMPORARY BENCHMARKS (TBMS) AND PERFORMING ALL CONSTRUCTION SURVEY LAYOUT.
8. PRIOR TO CONSTRUCTION, FIELD VERIFY JUNCTIONS, LOCATIONS AND ELEVATIONS/INVERTS OF ALL EXISTING STORMWATER AND UTILITY LINES. PRESERVE AND PROTECT LINES TO BE RETAINED.
9. PROTECTION OF SUBGRADE: THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN STABLE, DEWATERED SUBGRADES FOR FOUNDATIONS, PAVEMENT AREAS, UTILITY TRENCHES, AND OTHER AREAS DURING CONSTRUCTION. SUBGRADE DISTURBANCE MAY BE INFLUENCED BY EXCAVATION METHODS, MOISTURE, PRECIPITATION, GROUNDWATER CONTROL, AND CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO PREVENT SUBGRADE DISTURBANCE. SUCH PRECAUTIONS MAY INCLUDE DIVERTING STORMWATER RUNOFF AWAY FROM CONSTRUCTION AREAS, REDUCING TRAFFIC IN SENSITIVE AREAS, AND MAINTAINING AN EFFECTIVE DEWATERING PROGRAM. SOILS EXHIBITING HEAVING OR INSTABILITY SHALL BE OVER EXCAVATED TO MORE COMPETENT BEARING SOIL AND REPLACED WITH FREE DRAINING STRUCTURAL FILL. IF THE EARTHWORK IS PERFORMED DURING FREEZING WEATHER, EXPOSED SUBGRADES ARE SUSCEPTIBLE TO FROST. NO FILL OR UTILITIES SHALL BE PLACED ON FROZEN GROUND. THIS WILL LIKELY REQUIRE REMOVAL OF A FROZEN SOIL CRUST AT THE COMMENCEMENT OF EACH DAY'S OPERATIONS. THE FINAL SUBGRADE ELEVATION WOULD ALSO REQUIRE AN APPROPRIATE DEGREE OF INSULATION AGAINST FREEZING.
10. IF SUITABLE, EXCAVATED MATERIALS SHALL BE PLACED AS FILL WITHIN UPLAND AREAS ONLY AND SHALL NOT BE PLACED WITHIN WETLANDS. PLACEMENT OF BORROW MATERIALS SHALL BE IN A MANNER THAT PREVENTS LONG TERM DIFFERENTIAL SETTLEMENT. EXCESSIVELY WET MATERIALS SHALL BE STOCKPILED AND ALLOWED TO DRAIN BEFORE PLACEMENT. FROZEN MATERIAL SHALL NOT BE USED FOR CONSTRUCTION.
11. DRAINAGE PIPE SHALL BE CORRUGATED POLYETHYLENE PIPE (CPP), TYPE ADS N-12 OR HANCOR H1-Q, OR PVC SDR 35 WHERE SPECIFIED.
12. ALL CATCH BASIN, MANHOLE AND OTHER DRAINAGE RIMS SHALL BE SET FLUSH WITH OR NO LESS THAN 0.1' BELOW FINISH GRADE. ANY RIM ABOVE SURROUNDING FINISH GRADE SHALL NOT BE ACCEPTED.
13. ALL ROOF DRAIN LEADERS SHALL BE LOCATED IN COORDINATION WITH THE ARCHITECTURAL PLANS TO MATCH DOWNSPOUTS. RISERS SHALL BE SET TO FINISH GRADE PLUS 6" (MIN.) IF APPLICABLE.
14. ALL SPOT GRADES ARE AT FINISH GRADE AND BOTTOM OF CURB WHERE APPLICABLE.
15. IN ORDER TO PROVIDE VISUAL CLARITY ON THE PLANS, DRAINAGE AND OTHER UTILITY STRUCTURES MAY NOT BE DRAWN TO SCALE. SYMBOLS MAY NOT BE INDICATIVE OF THE CENTER OF A STRUCTURE, PARTICULARLY WHEN SHOWN ADJACENT TO A CURB LINE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER SIZING AND LOCATION OF ALL STRUCTURES AND IS DIRECTED TO RESOLVE ANY POTENTIAL DISCREPANCY WITH THE ENGINEER PRIOR TO CONSTRUCTION.
16. ALL SWALES, STORMWATER PONDS AND THEIR CONTRIBUTING AREAS SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
17. UPON COMPLETION OF CONSTRUCTION, ALL DRAINAGE INFRASTRUCTURE SHALL BE CLEANED OF ALL DEBRIS AND SEDIMENT.
18. THE APPLICANT SHALL COMPLETE A LAND USE TRACKING FORM, MOST RECENT REVISED VERSION, UTILIZING THE ONLINE POLLUTION TRACKING AND ACCOUNTING PILOT PROJECT (PTAPP) PORTAL AT https://www.unh.edu/unhsc/ptapp.
19. OWNER OF RECORD SHALL RECORD AT THE REGISTRY OF DEEDS DOCUMENTATION SUFFICIENT TO PROVIDE NOTICE TO ALL PERSONS THAT MAY ACQUIRE ANY PROPERTY SUBJECT TO THE REQUIREMENTS AND RESPONSIBILITIES DESCRIBED IN THE APPROVED STORMWATER MANAGEMENT PLAN. THE NOTICE SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS FOR RECORDING CONTAINED IN RSA 477 AND 478. THE NOTICE NEED NOT SET FORTH THE REQUIREMENTS AT LENGTH, SO LONG AS IT IS SUFFICIENT TO PROVIDE NOTICE TO PROSPECTIVE PURCHASERS TO THE REQUIREMENTS FOR MAINTENANCE AND REPORTING.
20. ANY RETAINING WALL TALLER THAN FOUR FEET (4') REQUIRES THE ISSUANCE OF A BUILDING PERMIT FROM INSPECTION SERVICES.
21. CONTRACTOR SHALL PROVIDE RETAINING WALL DESIGN DRAWINGS STAMPED BY A NH-LICENSED PROFESSIONAL STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION. DESIGN MUST BE PRE-APPROVED BY SELECTED WALL MANUFACTURER.
22. CONTRACTOR SHALL CONNECT BUILDING FOUNDATION DRAINS TO THE NEAREST DRAINAGE STRUCTURE PROVIDED A MINIMUM 1% SLOPE BETWEEN THE BUILDING AND THE STRUCTURE CAN BE OBTAINED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL FOUNDATION DRAINS WITH THE BUILDING PLANS.
23. SEE SHEET C-11 FOR LEGEND.

DRAINAGE SCHEDULE

DMH #1
RIM=55.25'
IN: 41.75' (24" DMH #2)
OUT: 41.65' (HEADWALL)
24" CPP w/HEADWALL
L=±37' S=0.0175'/'

DMH #2
RIM=55.20'
IN: 42.00' (6" U.D.)
IN: 42.00' (6" U.D.)
IN: 47.04' (12" MANIFOLD)
IN: 47.04' (12" MANIFOLD)
IN: 47.04' (12" STORMTECH)
CONCRETE WEIR: 47.60'
w/ 6" ORIFICE: 42.00'
OUT: 42.00' (DMH #1)
24" CPP
L=±51' S=0.005'/'

DMH #3
RIM=54.85'
IN: 50.66' (12" CB #3-1)
IN: 46.10' (12" DMH #4)
OUT: 47.04' (12" MANIFOLD)
OUT: 46.00' (24" ISOLATOR)
SEE STORMTECH DETAILS

CB #3-1
RIM=54.70'
OUT: 50.70' (DMH #3)
12" CPP
L=±2' S=0.02'/'

DMH #4
RIM=54.85'
IN: 46.25' (24" DMH #5)
OUT: 46.15' (DMH #3)
24" CPP
L=±9' S=0.005'/'

DMH #5
RIM=54.85'
IN: 46.52' (24" DMH #6)
OUT: 46.42' (DMH #4)
24" CPP
L=±33' S=0.005'/'

DMH #6
RIM=52.30'
IN: 47.48' (12" CB #6-1)
IN: 47.98' (24" CB #7)
OUT: 46.88' (DMH #5)
24" CPP
L=±71' S=0.005'/'

CB #6-1
RIM=52.00'
IN: 48.18' (6" TD #6-1-1)
OUT: 48.08' (DMH #6)
12" CPP
L=5' S=0.02'/'

TD #6-1-1
RIM=52.35'
OUT: 51.35' (BOTTOM OUTLET)
6" SDR 35
DROP TO: 48.46' (TEE)

TD #6-1-2
RIM=52.35'
OUT: 51.35' (BOTTOM OUTLET)
6" SDR 35
DROP TO: 49.00' (TEE)

TD #6-1-3
RIM=52.35'
OUT: 51.35' (BOTTOM OUTLET)
6" SDR 35
DROP TO: 49.44' (TEE)

TD #6-1-4
RIM=52.35'
OUT: 51.35' (BOTTOM OUTLET)
6" SDR 35
DROP TO: 49.97' (TEE)

CB #7
PEDESTRIAN GRATE
RIM=51.90'
IN: 47.23' (24" CB #8)
OUT: 47.13' (DMH #6)
24" CPP
L=±30' S=0.005'/'

CB #8
PEDESTRIAN GRATE
RIM=52.35'
IN: 48.49' (12" YD #9)
IN: 47.59' (24" CB #8-1)
OUT: 47.49'
24" CPP
L=±52' S=0.005'/'

CB #8-1
PEDESTRIAN GRATE
RIM=51.60'
IN: 48.84' (12" YD #8-1-1)
IN: 48.34' (18" YD #8-1-2)
OUT: 47.84'
24" CPP
L=±49' S=0.005'/'

YD #8-1-1
RIM=51.50'
OUT: 49.02' (CB #8-1)
12" CPP
L=±35' S=0.005'/'

YD #8-1-2
PEDESTRIAN GRATE
RIM=52.05'
IN: 48.64' (18" YD #8-1-3)
OUT: 48.54' (CB #8-1)
18" CPP
L=±40' S=0.005'/'

YD #8-1-3
PEDESTRIAN GRATE
RIM=52.05'
IN: 48.85' (18" YD #8-1-4)
OUT: 48.75' (YD #8-1-2)
18" CPP
L=±22' S=0.005'/'

YD #8-1-4
RIM=52.00'
OUT: 48.96' (YD #8-1-3)
18" CPP
L=±22 S=0.005'/'

YD #9
RIM=52.35'
IN: 48.82' (12" YD #10)
OUT: 48.72' (CB #8)
12" CPP
L=±25' S=0.005'/'

YD #10
RIM=52.35'
IN: 49.04' (12" YD #11)
OUT: 48.94' (YD #9)
12" CPP
L=±23' S=0.005'/'

YD #11
RIM=52.35'
IN: 49.27' (12" YD #12)
OUT: 49.17' (YD #10)
12" CPP
L=±26' S=0.005'/'

YD #12
RIM=52.35'
OUT: 49.40' (YD #11)
12" CPP
L=±26' S=0.005'/'

CB #13
RIM=55.45'
OUT: 46.00' (TEE)
12" CPP
L=±4' S=0.0'/'

DMH #14
RIM=55.65'
IN: 51.41' (12" CB #14-1)
IN: 46.10' (18" DMH #15)
OUT: 47.04' (12" MANIFOLD)
OUT: 46.00' (24" ISOLATOR)
SEE STORMTECH DETAILS

CB #14-1
RIM=55.45'
IN: 51.45' (4" WALL DRAIN)
OUT: 51.45' (DMH #14)
12" CPP
L=±2' S=0.02'/'

DMH #15
RIM=53.30'
IN: 49.30' (4" WALL DRAIN)
IN: 47.25' (15" CB #16)
OUT: 47.00' (DMH #14)
18" CPP
L=±180' S=0.005'/'

CB #16
RIM=51.55'
IN: ±47.88' (8" FROM EXIST.-CORE IN FIELD)
OUT: 47.55' (DMH #15)
15" CPP
L=±54' S=0.0056'/'

DMH #17
(CONVERT EXISTING CB)
RIM=50.55' (MATCH EXISTING)
IN: 46.40' (12" CB #17-1)
IN: 46.40' (12" CB #17-2)
OUT: 46.30' (EXISTING)
15" CMP (EXISTING)

CB #17-1
RIM=52.00'
OUT: 48.00' (DMH #17)
12" CPP
L=±39' S=0.041'/'

CB #17-2
RIM=50.45'
IN: 46.53' (12" CB #17-2-1)
OUT: 46.43' (DMH #17)
12" CPP
L=±5' S=0.005'/'

CB #17-2-1
RIM=50.45'
OUT: 46.68' (CB #17-2)
12" CPP
L=±29' S=0.005'/'

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4/19/22

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DRAWN BY: EBS
APPROVED BY: EBS
DRAWING FILE: 4904-SITE.dwg

SCALE:
22" x 34" - 1" = 30'
11" x 17" - 1" = 60'

OWNER:
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273 CORPORATE DR., SUITE 150
PORTSMOUTH, NH 03801

APPLICANT:
REDGATE REAL ESTATE ADVISORS, LLC
265 FRANKLIN ST., SUITE 602
BOSTON, MA 02110

PROJECT:
47 CHESTNUT SITE REDEVELOPMENT
TAX MAP 31, LOT 5
47 CHESTNUT STREET
DOVER, NH
DOVER FILE NO. P21-84

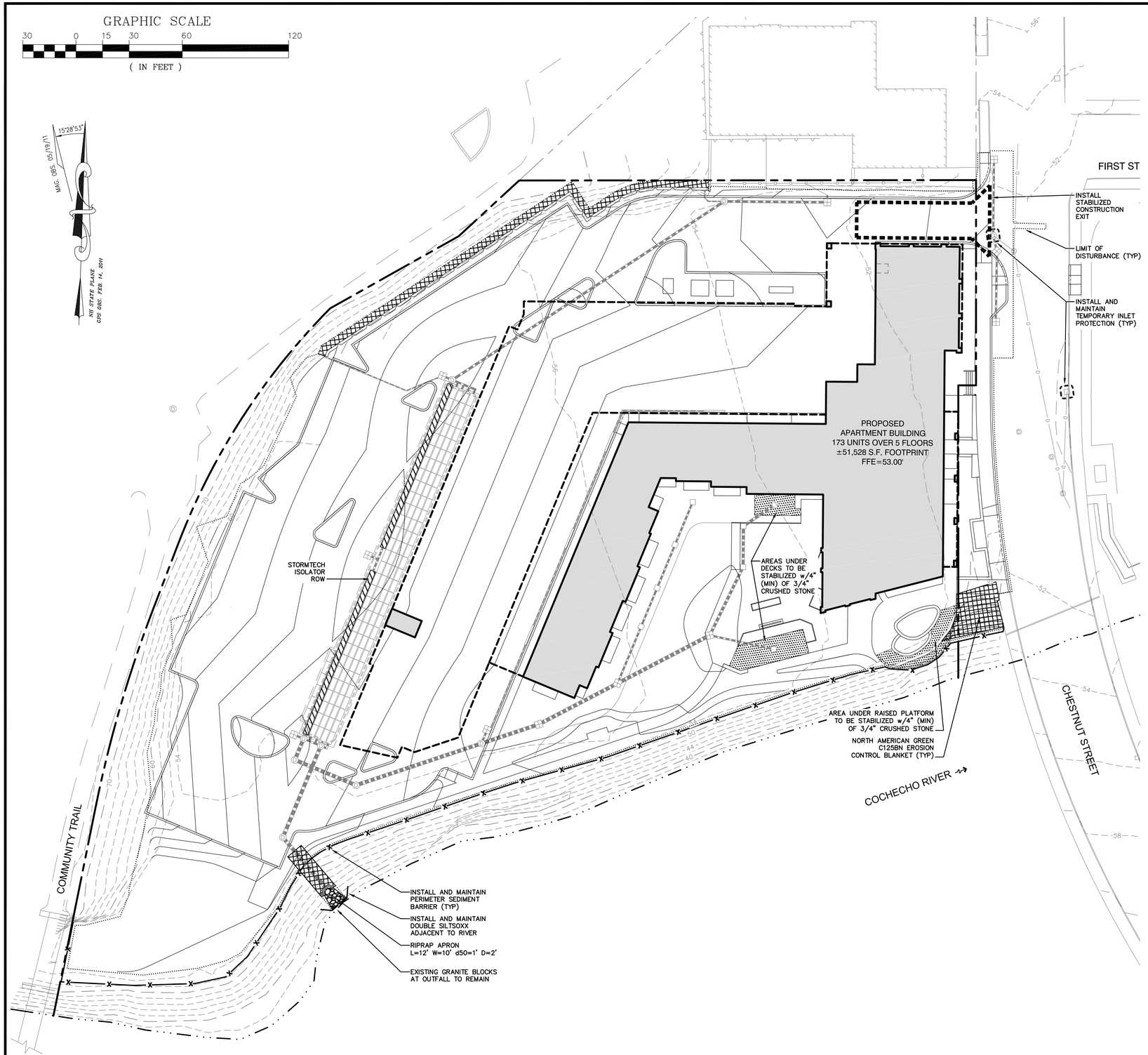
TITLE:
GRADING AND DRAINAGE PLAN

SHEET NUMBER:
C-4

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)



EROSION AND SEDIMENT CONTROL NOTES

1. PROJECT SUBJECT TO EPA NPDES PHASE II. NOI, SWPPP AND MINIMUM WEEKLY INSPECTIONS REQUIRED. NOI TO BE PREPARED AND SUBMITTED BY CONTRACTOR, SWPPP AND INSPECTIONS TO BE PREPARED AND PERFORMED BY CONTRACTOR. CONTRACTOR SHALL FILE NOI WITH EPA 2 WEEKS PRIOR TO CONSTRUCTION.
2. AREA OF DISTURBANCE = ±139,250 S.F. (INCLUDES OFFSITE WORK). NHDES ALTERATION OF TERRAIN PERMIT REQUIRED.
3. PERIMETER SEDIMENT CONTROLS AND CULVERT AND CATCH BASIN INLET PROTECTION MEASURES SHALL BE INSTALLED AFTER TREE CLEARING OPERATIONS HAVE CEASED AND BEFORE ANY STUMPING, GRUBBING OR OTHER EARTH DISTURBANCE.
4. GRIND STUMPS AND REUSE GRINDINGS FOR EROSION CONTROL WHERE POSSIBLE OR TRUCK OFFSITE. NO STUMPS SHALL BE BURIED ON SITE.
5. NO EARTHWORK SHALL COMMENCE UNTIL ALL APPROPRIATE SEDIMENT AND EROSION CONTROL MEASURES HAVE BEEN INSTALLED. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE PROPERLY MAINTAINED IN GOOD WORKING ORDER FOR THE DURATION OF CONSTRUCTION AND THE SITE IS STABILIZED.
6. SEE DETAIL SHEETS FOR PERTINENT SEDIMENT AND EROSION CONTROL DETAILS AND ADDITIONAL NOTES.
7. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE DESIGN STANDARDS AND SPECIFICATIONS SET FORTH BY THE NEW HAMPSHIRE OF ENVIRONMENTAL SERVICES.
8. THE CONTRACTOR SHALL TAKE WHATEVER MEANS NECESSARY TO PREVENT EROSION, PREVENT SEDIMENT FROM LEAVING THE SITE AND/OR ENTERING WETLANDS AND ENSURE PERMANENT SOIL STABILIZATION.
9. TEMPORARY INLET PROTECTION MEASURES SHALL BE INSTALLED IN ALL CATCH BASINS WITHIN 100' OF THE PROJECT SITE WHEN SITE WORK WITHIN CONTRIBUTING AREAS IS ACTIVE OR SAID AREAS HAVE NOT BEEN STABILIZED.
10. ALL EROSION CONTROL BLANKETS AND FASTENERS SHALL BE BIODEGRADEABLE.
11. ALL EROSION CONTROL BLANKETS SHALL BE BY NORTH AMERICAN GREEN OR EQUAL AS APPROVED IN WRITING BY THE ENGINEER.
12. ALL SWALES, STORMWATER PONDS AND THEIR CONTRIBUTING AREAS SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
13. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE SIX (6") INCHES OF LOAM, LIMESTONE, FERTILIZER, SEED, AND MULCH USING APPROPRIATE SOIL STABILIZATION TECHNIQUES. SEE DETAILS FOR ADDITIONAL INFORMATION.
14. UPON COMPLETION OF CONSTRUCTION, ALL DRAINAGE INFRASTRUCTURE SHALL BE CLEANED OF ALL DEBRIS AND SEDIMENT.
15. UPON COMPLETION OF CONSTRUCTION, ALL TEMPORARY EROSION AND SEDIMENT CONTROLS SHALL BE REMOVED AND ANY AREAS DISTURBED BY THE REMOVAL SMOOTHED AND REVEGETATED.
16. CONTRACTOR SHALL READ AND FOLLOW ALL CONDITIONS OF APPROVAL IN THE SITE'S NHDES ALTERATION OF TERRAIN, NHDES WETLANDS, ARMY CORPS OF ENGINEER'S AND CITY OF DOVER SITE PLAN PERMITS.
17. CONSTRUCTION ACTIVITIES SHALL BE MANAGED IN STRICT ACCORDANCE WITH NH RSA 430:53 AND AGR 3800 RELATIVE TO INVASIVE SPECIES. NO INVASIVE SPECIES SHALL BE INSTALLED ON THE PROJECT SITE FOR ANY REASON.
18. FUGITIVE DUST SHALL BE CONTROLLED DURING CONSTRUCTION IN ACCORDANCE WITH ENV-A 1000. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT DUST FROM LEAVING THE SITE. THIS SHALL INCLUDE BUT NOT BE LIMITED TO THE PROACTIVE MANAGEMENT OF STOCKPILES, MATERIALS PROCESSING ACTIVITIES, VEHICULAR TRAFFIC, THE EXCAVATION AND PLACEMENT OF EARTH MATERIALS, SPRAYING WATER, SWEEPING PAVED SURFACES, PROVIDING TEMPORARY VEGETATION, AND/OR MULCHING EXPOSED AREAS AND STOCKPILES.
19. SEE SHEET C-11 FOR LEGEND.

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TAX MAP 31, LOT 5
47 CHESTNUT STREET
DOVER, NH
DOVER FILE NO. P21-84

TITLE:
EROSION AND SEDIMENT CONTROL PLAN

SHEET NUMBER:
C-5

P4904

GRAPHIC SCALE

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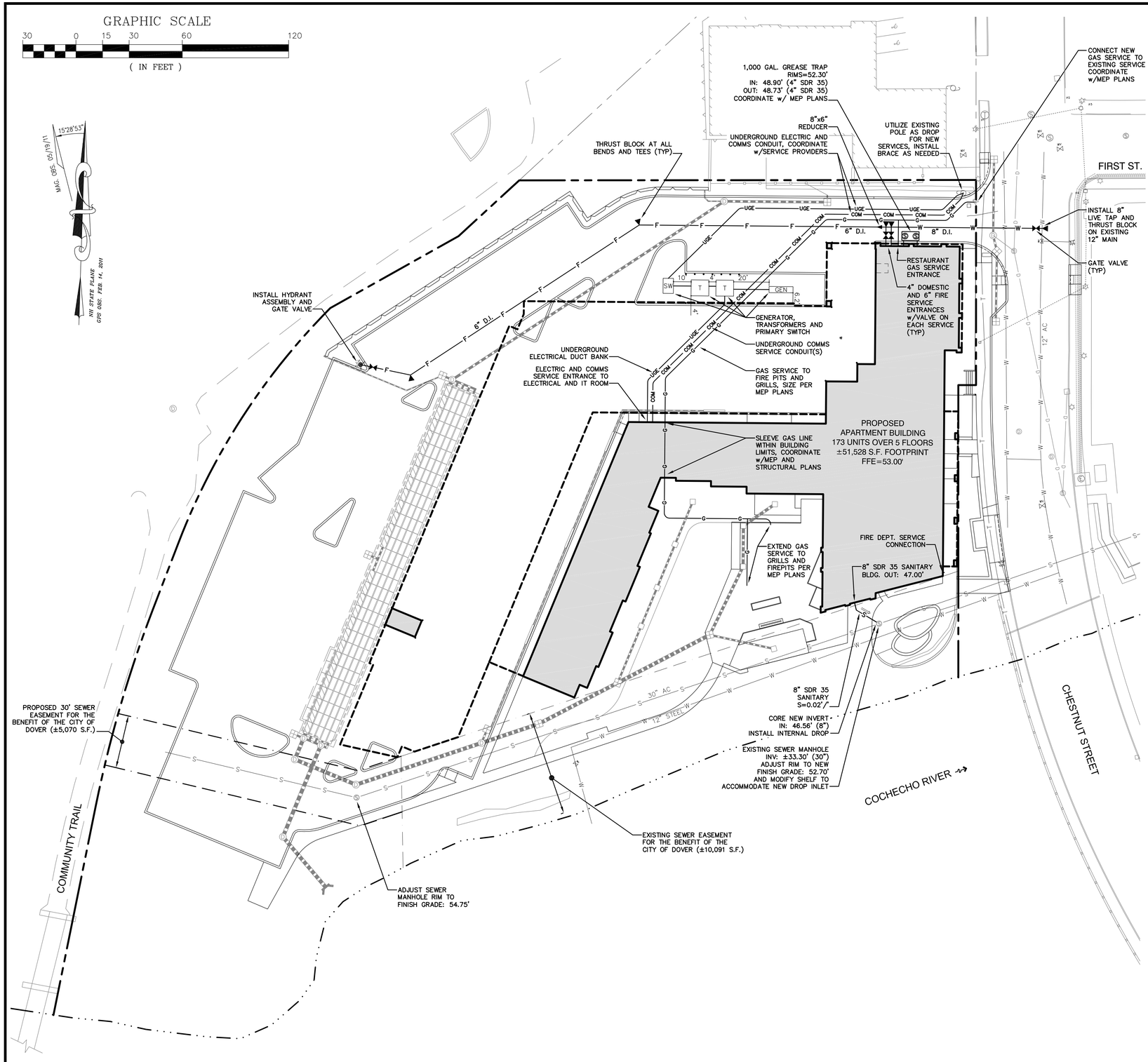
(IN FEET)



UTILITY NOTES

1. THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES SHOWN HEREON ARE APPROXIMATE AND ARE BASED UPON THE FIELD LOCATION OF ALL VISIBLE STRUCTURES (IE. CATCH BASINS, MANHOLES, WATER GATES, ETC.) AND INFORMATION COMPILED FROM PLANS PROVIDED BY UTILITY PROVIDERS AND GOVERNMENTAL AGENCIES. AS SUCH, THEY ARE NOT INCLUSIVE AS OTHER UTILITIES AND UNDERGROUND STRUCTURES THAT ARE NOT SHOWN ON THE PLANS MAY EXIST. THE ENGINEER, SURVEYOR AND OWNER ACCEPT NO RESPONSIBILITY FOR POTENTIAL INACCURACIES IN THE PLAN AND/OR UNFORESEEN CONDITIONS. THE CONTRACTOR SHALL NOTIFY, IN WRITING, SAID AGENCIES, UTILITY PROVIDERS, CITY OF DOVER DPW AND OWNER'S AUTHORIZED REPRESENTATIVE AND CALL DIG SAFE AT 1 (800) DIG-SAFE AT LEAST SEVENTY-TWO (72) HOURS PRIOR TO ANY EXCAVATION WORK.
2. PRIOR TO CONSTRUCTION, IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND FIELD VERIFY JUNCTIONS, LOCATIONS AND ELEVATIONS/INVERTS OF ALL EXISTING AND PROPOSED STORMWATER AND UTILITY LINES. CONFLICTS SHALL BE ANTICIPATED AND ALL EXISTING LINES TO BE RETAINED SHALL BE PROTECTED. ANY DAMAGE DONE TO EXISTING UTILITIES SHALL BE REPAIRED AND, IF NECESSARY, EXISTING UTILITIES SHALL BE RELOCATED AT NO EXTRA COST TO THE OWNER. ALL CONFLICTS SHALL BE RESOLVED WITH THE INVOLVEMENT OF THE ENGINEER, DPW AND APPROPRIATE UTILITIES.
3. THE SITE IS SERVED BY MUNICIPAL WATER AND SEWER.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE POSTING OF ALL BONDS AND PAYMENT OF ALL TAP, TIE-IN AND CONNECTION FEES.
5. ALL ROAD/LANE CLOSURES OR OTHER TRAFFIC INTERRUPTIONS SHALL BE COORDINATED WITH THE DOVER POLICE DEPARTMENT AND DPW AT LEAST TWO WEEKS PRIOR TO COMMENCING RELATED CONSTRUCTION.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRENCHING, BEDDING, BACKFILL & COMPACTION FOR ALL UTILITY TRENCHING IN ADDITION TO ALL CONDUIT INSTALLATION AND COORDINATION OF ALL REQUIRED INSPECTIONS.
7. ALL TRENCHING, PIPE LAYING AND BACKFILLING SHALL CONFORM TO FEDERAL OSHA AND CITY REGULATIONS.
8. SEE ARCHITECTURAL/MECHANICAL DRAWINGS FOR EXACT LOCATIONS & ELEVATIONS OF UTILITY CONNECTIONS AT BUILDING. COORDINATE ALL WORK WITHIN FIVE (5) FEET OF BUILDINGS WITH BUILDING CONTRACTOR AND ARCHITECTURAL/MECHANICAL DRAWINGS. ALL CONFLICTS AND DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY AND PRIOR TO COMMENCING RELATED WORK.
9. THE INSTALLATION OF ELECTRIC POWER, CABLE TELEVISION AND TELEPHONE LINES SHALL BE UNDERGROUND THROUGHOUT THE SITE FOR WHICH DEVELOPMENT IS PROPOSED. SITE PLANS SHALL SHOW ANY EASEMENTS FOR THESE SERVICES.
10. APPROVED BACKFLOW PREVENTORS SHALL BE PROVIDED FOR BOTH FIRE AND DOMESTIC WATER LINES.
11. A SECURITY SYSTEM SHALL BE INSTALLED AS REQUIRED BY CHAPTER 58, ARTICLE I, SECTION 58-2 OF THE CODE OF THE CITY OF DOVER.
12. FINAL UTILITY LOCATIONS TO BE COORDINATED BETWEEN THE ARCHITECT, CONTRACTOR, APPROPRIATE UTILITY COMPANIES AND THE DOVER DPW.
13. DETECTABLE WARNING TAPE SHALL BE PLACED OVER THE ENTIRE LENGTH OF ALL BURIED UTILITIES, COLORS PER THE RESPECTIVE UTILITY PROVIDERS.
14. UTILITY PROVIDERS AND CONTACTS:
    - WATER & SEWER: CITY OF DOVER COMMUNITY SERVICES, BILL BOULANGER, (603) 516-6450.
    - GAS: UNITIL, DAVID MACLEAN, (603) 294-5144.
    - TELECOMMUNICATIONS: CONSOLIDATED, JASON CUNHA, (603) 325-2041.
    - CABLE: COMCAST, MIKE COLLINS, (603) 679-5695, EXT. 1037.
    - ELECTRICAL: EVERSOURCE, NICK KOSKO, (603) 332-4227. ALL ELECTRIC CONDUIT INSTALLATION SHALL BE INSPECTED BY EVERSOURCE PRIOR TO BACKFILL, 48-HOUR MINIMUM NOTICE REQUIRED.
11. CONTRACTOR TO PROVIDE BOLLARDS AT SERVICE ENTRANCES PER THE SPECIFICATIONS OF THE RESPECTIVE UTILITY PROVIDERS.
12. ALL WATER MAIN AND SERVICE INSTALLATIONS SHALL BE CONSTRUCTED AND TESTED PER DOVER DPW STANDARDS AND SPECIFICATIONS. ALL OTHER UTILITIES SHALL BE TO THE STANDARDS AND SPECIFICATIONS OF THE RESPECTIVE UTILITY PROVIDERS.
13. WHERE WATER LINES CROSS, RUN ADJACENT TO OR ARE WITHIN 5' OF STORM DRAINAGE PIPES OR STRUCTURES, 2"-THICK CLOSED CELL RIGID BOARD INSULATION SHALL BE INSTALLED FOR FROST PROTECTION.
14. WATER AND SANITARY SEWER LINES SHALL BE LOCATED AT LEAST 10' HORIZONTALLY FROM EACH OTHER. WHERE CROSSING, 18" MINIMUM VERTICAL CLEARANCE SHALL BE PROVIDED WITH WATER INSTALLED OVER SEWER.
15. THE CONTRACTOR SHALL CONFIRM ALL UTILITY LINE AND CONDUIT SIZES WITH THE MEP PLANS AND SERVICE PROVIDERS PRIOR TO INSTALLATION. ANY DISCREPANCY SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.
16. FIRE ALARM PANELS SHALL BE MONITORED THROUGH A THIRD-PARTY SECURITY COMPANY. CONTRACTOR SHALL COORDINATE PANEL LOCATIONS AND INTERCONNECTIONS WITH CITY FIRE DEPARTMENT AND ARCHITECT.
17. FIRE DEPARTMENT CONNECTIONS SHALL BE LOCATED ON THE BUILDING AS SHOWN. COORDINATE WITH THE MEP PLANS AND THE CITY FIRE DEPARTMENT. ACCESS TO THE FDC SHALL BE MAINTAINED AS A CLEAR AND UNOBSTRUCTED PATH AT ALL TIMES.
18. THE PROPOSED STRUCTURE SHALL BE SERVED BY A SPRINKLER SYSTEM AS REQUIRED UNDER CHAPTER 109-30 OF THE CODE OF THE CITY OF DOVER AND THE 2015 STATE BUILDING CODES.
19. SPRINKLER CONNECTIONS MUST BE FLUSHED IN ACCORDANCE WITH NFPA 24 AND A CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FOR UNDERGROUND PIPING FORM MUST BE COMPLETED.
20. THE CITY OF DOVER SHALL BE GRANTED A BLANKET EASEMENT FOR ACCESS TO ALL WATER VALVES AND FIRE HYDRANTS.
21. THE CITY OF DOVER SHALL BE GRANTED A 30'-WIDE SEWER EASEMENT OVER THE EXISTING SEWER MAIN AS SHOWN.
22. COORDINATE WITH MEP PLANS FOR ELECTRIC VEHICLE CHARGING STATIONS.
23. UNLESS OTHERWISE DETERMINED BY THE UTILITY PROVIDER, ALL ELECTRICAL TRANSFORMERS AND SWITCHES SHALL REMAIN THE PROPERTY OF EVERSOURCE.
24. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL HANDHOLES, FITTINGS, CONNECTORS, COVER PLATES AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THESE DRAWINGS IN ORDER TO RENDER THE FULL INSTALLATION OF COMPLETE AND OPERATIONAL UTILITY AND DRAINAGE SYSTEMS.
25. SEE SHEET C-11 FOR LEGEND.

WATER / SEWER FLOW CALCULATIONS

EXISTING -
RETAIL:
TOTAL = 280 GPD
(CALCULATED AS A NINE MONTH AVERAGE OF ACTUAL METERED USE FROM 12/05/18 TO 09/09/19)

PROPOSED -
APARTMENT (173 UNITS):
38 GPD/PERSON
(108) 1 PERSON UNITS = 108 PEOPLE
(65) 2 PERSON UNITS = 130 PEOPLE
238 PEOPLE x 38 GPD/PERSON = 9,044 GPD
RESTAURANT:
7 GPD/PERSON
80 SEATS (7 GPD) = 560 GPD
TOTAL = 9,604 GPD
(CALCULATED FROM METCALF & EDDY/AECOM "WASTEWATER ENGINEERING TREATMENT AND RESOURCE RECOVERY", 5TH EDITION)

NET FLOW INCREASE:
9,604 - 280 = 9,324 GPD

ALTUS ENGINEERING, INC.
133 Court Street Portsmouth, NH 03801
(603) 433-2335 www.altus-eng.com

ERIC D. WEINRIEB No. 7634 LICENSED PROFESSIONAL ENGINEER - STATE OF NEW HAMPSHIRE
4/19/22

NOT FOR CONSTRUCTION

ISSUED FOR: PLANNING BOARD

ISSUE DATE: APRIL 19, 2022

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	TRC	EBS	11/23/21
1	TRC	EBS	02/24/22
2	TRC	EBS	04/05/22
3	PLANNING BOARD	EBS	04/19/22

DRAWN BY: EBS
APPROVED BY: EBS
DRAWING FILE: 4904-SITE.dwg

SCALE:
22" x 34" - 1" = 30'
11" x 17" - 1" = 60'

OWNER:
HARLECH, LLC
273 CORPORATE DR., SUITE 150
PORTSMOUTH, NH 03801

APPLICANT:
REDGATE REAL ESTATE ADVISORS, LLC
265 FRANKLIN ST., SUITE 602
BOSTON, MA 02110

PROJECT:
47 CHESTNUT SITE REDEVELOPMENT
TAX MAP 31, LOT 5
47 CHESTNUT STREET
DOVER, NH
DOVER FILE NO. P21-84

TITLE:
UTILITY PLAN

SHEET NUMBER:
C-6

P4904

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)

LIGHTING NOTES

1. SITE ELECTRICAL CONTRACTOR SHALL COORDINATE LOCATION OF UNDERGROUND UTILITY AND DRAINAGE INFRASTRUCTURE BEFORE INSTALLING POLE BASES.
2. DETECTABLE WARNING TAPE SHALL BE PLACED OVER THE ENTIRE LENGTH OF ALL BURIED UTILITIES TO INCLUDE LIGHTING CONDUIT, COLORS PER THE RESPECTIVE UTILITY PROVIDERS.
3. LIGHTING CONDUIT SHALL BE PVC SCH 40.
4. ALL LIGHTING MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE AND LOCAL REGULATIONS.
5. ALL PARKING LOT AND DRIVEWAY LIGHTING FIXTURES SHALL BE FULL CUT-OFF AND 3000K COLOR TEMPERATURE SO AS TO BE DARK-SKY COMPLIANT.
6. CONTRACTOR SHALL COORDINATE WITH ARCHITECT AND BUILDING ELECTRICAL CONTRACTOR FOR ALL SITE ELECTRICAL WORK INCLUDING BUT NOT LIMITED TO ALL SERVICE ENTRANCES/EXITS, RISERS, CIRCUITRY, METERS, SUB-METERS, ETC.
7. COORDINATE WITH ARCHITECTURAL PLANS FOR ALL BUILDING-MOUNTED AND LANDSCAPE FIXTURES, TYPES, LOCATIONS AND WIRING.
8. LUMINAIRE DATA IS TESTED TO INDUSTRY STANDARDS UNDER LABORATORY CONDITIONS. OPERATING VOLTAGE AND NORMAL MANUFACTURING TOLERANCES OF LAMP BALLAST AND LUMINAIRE MAY AFFECT FIELD RESULTS.
9. EXTERIOR LIGHTING SHALL BE CUT-OFF TYPE FIXTURES PER DOVER CODE CHAPTER 153-14-E AND SHALL PROVIDE LIGHTING DIRECTED ON-SITE ONLY.
10. THIS LIGHTING DESIGN IS BASED ON LIMITED INFORMATION PROVIDED BY VISIBLE LIGHT, INC., 24 STICKNEY TERRACE, SUITE 6, HAMPTON, NH 03842. FIELD DEVIATIONS MAY SIGNIFICANTLY AFFECT PREDICTED PERFORMANCE. PRIOR TO INSTALLATION, CRITICAL SITE INFORMATION (POLE LOCATIONS, ORIENTATION, MOUNTING HEIGHT, CIRCUITRY, ETC.) SHALL BE COORDINATED BETWEEN THE CONTRACTOR, ARCHITECT AND SPECIFIER.
11. SEE DETAIL SHEETS POLE BASE AND CONDUIT TRENCH DETAILS.
12. SEE SHEET C-11 FOR LEGEND.

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Landscape Island	+	0.7 fc	2.0 fc	0.1 fc	20.0:1	7.0:1
Outside of Parking Lot	+	0.3 fc	3.4 fc	0.0 fc	N/A	N/A
Parking Lot	+	1.2 fc	3.3 fc	0.3 fc	11.0:1	4.0:1

Schedule

Symbol	Label	QTY	Manufacturer	Catalog Number	Description	Lamp	Filename	Lumens per Lamp	LLF	Wattage	Distribution
	2S4	3	Lithonia Lighting	DSXO LED P3 30K TFTM MVOLT SPA DDBXD with SSS 20 4C DM28AS DDBXD	DSXO LED Area Fixture; mounted at 20ft	LED	DSXO_LED_P3_30K_TFTM_MVOLT.ies	7841	0.9	142	TYPE IV, SHORT, BUG RATING: B2 – U0 – G2
	S3	1	Lithonia Lighting	DSXO LED P3 30K T3M MVOLT SPA DDBXD with SSS 20 4C DM19AS DDBXD	DSXO LED Area Fixture; mounted at 20ft	LED	DSXO_LED_P3_30K_T3M_MVOLT.ies	7616	0.9	71	TYPE III, MEDIUM, BUG RATING: B2 – U0 – G2
	S4-HS	2	Lithonia Lighting	DSXO LED P3 30K TFTM MVOLT HS SPA DDBXD with SSS 20 4C DM19AS DDBXD	DSXO LED Area Fixture with houseside shield; mounted at 20ft	LED	DSXO_LED_P3_30K_TFTM_MVOLT.ies	6122	0.9	71	TYPE III, VERY SHORT, BUG RATING: B1 – U0 G2
	W3	1	Lithonia Lighting	WDGE2 LED P3 30K 80CRI T3M SRM DDBXD	WDGE2 LED Wallpack; mounted at 12ft	LED	WDGE2_LED_P2_30K_80CRI_T3M.ies	3063	0.9	32.1375	TYPE III, MEDIUM, BUG RATING: B1 – U0 G1
	W4	10	Lithonia Lighting	WDGE2 LED P3 30K 80CRI TFTM SRM DDBXD	WDGE2 LED Wallpack; mounted at 12ft	LED	WDGE2_LED_P3_30K_80CRI_TFTM.ies	3015	0.9	32.1375	TYPE IV, SHORT, BUG RATING: B1 – U0 G1

ALTUS ENGINEERING, INC.

133 Court Street Portsmouth, NH 03801
(603) 433-2335 www.altus-eng.com

VISIBLELIGHT

NOT FOR CONSTRUCTION

ISSUED FOR: PLANNING BOARD

ISSUE DATE: APRIL 19, 2022

REVISIONS

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APPLICANT:
REDGATE REAL ESTATE ADVISORS, LLC
265 FRANKLIN ST., SUITE 602
BOSTON, MA 02110

PROJECT:
47 CHESTNUT SITE REDEVELOPMENT
TAX MAP 31, LOT 5
47 CHESTNUT STREET
DOVER, NH
DOVER FILE NO. P21-84

TITLE:
PARKING LOT LIGHTING PLAN

SHEET NUMBER:
C-7

P4904

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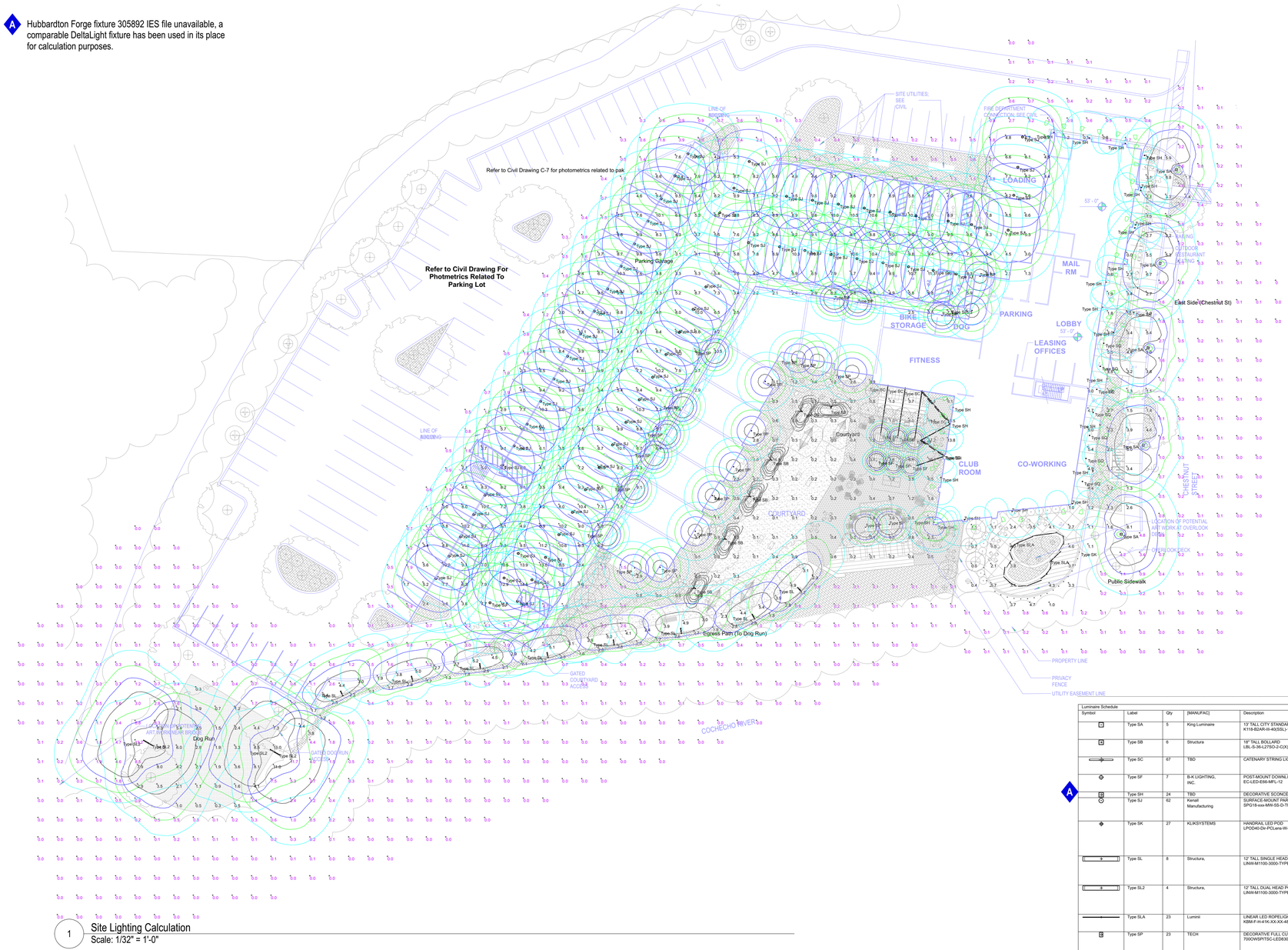
Reference Notes *(Specific to this sheet only)*

A Hubbardton Forge fixture 305892 IES file unavailable, a comparable DeltaLight fixture has been used in its place for calculation purposes.

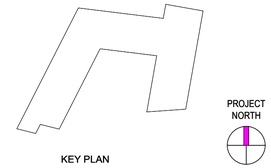


1 Site Lighting Calculation
Scale: 1/32" = 1'-0"

Statistics						
Label	Units	Avg	Max	Min	Avg/Min	Max/Min
Courtyard	Fc	2.32	45.3	0.1	25.20	493.00
Dog Run	Fc	4.04	15.0	0.3	13.47	50.00
East Side (Chestnut St)	Fc	0.36	4.8	0.0	N.A.	N.A.
Egress Path (To Dog Run)	Fc	3.00	5.4	1.1	2.73	4.91
Outside of Parking Lot	Fc	0.62	13.2	0.0	N.A.	N.A.
Parking Garage	Fc	6.91	14.5	0.1	69.10	145.00
Public Sidewalk	Fc	3.07	10.1	0.0	N.A.	N.A.

Luminaire Schedule

Symbol	Label	Qty	[MANUFAC]	Description	Filename	Luminaire Lumens	LLF	BUG Rating	IES Class
	Type SA	5	King Luminaire	13' TALL CITY STANDARD LIGHT POLE K118-BZAR-III-40(SSL)-1042-4K	Type SA 0100ntb2ar3x0404 0xeh.ies	4637	0.810	B1-U3-G2	Type III
	Type SB	6	Structura	18" TALL BOLLARD LBL-S-36-L27SO-2-CXX-PXX-UNV-STD.ies	LBL-S-36-L27SO-2-CXX-PXX-UNV-STD.ies	721	0.810	B0-U1-G1	Type III
	Type SC	67	TBD	CATENARY STRING LIGHTS	CLE-4-B-30K-VHO-SF-X-SA-XXX_IESNA2002.IES	2042	0.130	B1-U3-G1	Type VS
	Type SF	7	B-K LIGHTING, INC.	POST-MOUNT DOWNLIGHT EC-LED-E66-MFL-12	Type SF-e66-MFL-12-ITL8502.IES	458	0.810	N.A.	N.A.
	Type SH	24	TBD	DECORATIVE SCONCE	23231883.ies	1113	0.810	B0-U3-G1	N.A.
	Type SJ	62	Kenall Manufacturing	SURFACE-MOUNT PARKING DOWNLIGHT SPG18-xxx-MW-5S-D-TP-30L-35K8-	Type SJ- SPG18-xxx-MW-5S-D-TP-30L-35K8-DCC-DY-yyy.ies	3783	0.810	B2-U1-G1	Type VS
	Type SK	27	KLIKSYSTEMS	HANDRAIL LED POD LPOD40-Dir-PCLens-W-S	Type SK-LPOD40-Dir-PCLens-W-SymRwLPOD-350mA-3000K-0.025m-451797-A.ies	109	0.810	B0-U0-G0	Type I
	Type SL	8	Structura,	12' TALL SINGLE HEAD POLE LINW-M1100-3000-TYPE II	LINW-M1100-2700K-TYPE II.IES	2648	0.810	B1-U0-G1	Type III
	Type SL2	4	Structura,	12' TALL DUAL HEAD POLE LINW-M1100-3000-TYPE IV	LINW-M1100-2700K-TYPE IV.IES	2695	2.810	B1-U0-G1	Type IV
	Type SLA	23	Luminii	LINEAR LED ROPELIGHT KBM-F-H-41K-XX-XX-48	KBM-F-H-41K-XX-XX-48 _IESNA2002.IES	487	0.810	B0-U1-G0	Type VS
	Type SP	23	TECH	DECORATIVE FULL CUT-OFF SCONCE 7000WSPITSC-LED830	10217122BCH6-032-GB 7000WSPITSC-LED830.ies	803	0.810	B1-U0-G0	Type VS
	Type SQ	7	Gotham	RECESSED DOWNLIGHT EVO4 30_10 AR WD LD	EVO4_30_10_AR_WD_LD.ies	738	0.810	B1-U0-G0	Type VS



KEY PLAN

AVAILABLE LIGHT

This Drawing Shows Design Intent Only And Is **Not** To Be Used As A Construction Document

CLIENT:

REDGATE™

Redgate Real Estate Advisor, LLC
286 Franklin Street, Suite 602
Boston, MA 02110

ARCHITECT:

ARROWSTREET
ARCHITECTURE & DESIGN

10 POST OFFICE SQUARE
SUITE 700N
BOSTON MA 02109
617.623.5555
arrowstreet.com

CONSULTANTS:

PROJECT INFORMATION:

47 Chestnut
#P21-84

47 Chestnut Street, Dover, NH 03820

ISSUANCE:

SITE PLAN REVIEW

ISSUED FOR TRC RESUBMISSION

STAMP:

REVISIONS:

No.	Date	Description

DRAWING TITLE:

Site Lighting Calc

Project No. 21033.00
Drawn By LND/NAD
Date 02/24/22
Scale

DRAWING NUMBER:

AL-1

SEDIMENT AND EROSION CONTROL NOTES

PROJECT NAME AND LOCATION

47 CHESTNUT STREET
DOVER, NEW HAMPSHIRE
TAX MAP 31 LOT 5

LATITUDE: 43.197° N
LONGITUDE: 70.878° W

OWNER:
HARLECH, LLC
273 CORPORATE DRIVE
PORTSMOUTH, NH 03821

APPLICANT:
REDGATE REAL ESTATE ADVISORS, LLC
265 FRANKILN ST., SUITE 602
BOSTON, MA 02110

DESCRIPTION

The project consists of the redevelopment of the site to include the construction of a new 173–unit apartment building together with a restaurant, amenity space and associated site improvements.

DISTURBED AREA

The total area to be disturbed for the development is ±139,250 S.F. (±3.20 acres).

PROJECT PHASING

The project will be completed in one phase.

NAME OF RECEIVING WATER

The site drains to the Cochecho River.

SEQUENCE OF MAJOR ACTIVITIES

1. Install temporary erosion control measures including perimeter controls, stabilized construction entrance and inlet sediment filters as noted on the plan. All temporary erosion control measures shall be maintained in good working condition for the duration of the project.
2. Remove landscaping and trees, strip loam and stockpile.
3. Demolish existing site features, buildings, utilities, pavement, etc. as shown on Demolition Plan.
4. Construct building foundations.
5. Rough grade site including placement of borrow materials.
6. Construct new buildings and associated improvements.
7. Construct drainage structures, culverts, utilities & pavement base course materials.
8. Install base course paving & curbing.
9. Install top course paving and sidewalks.
10. Loam (6" min) and seed on all disturbed areas not paved or otherwise stabilized.
11. Install landscaping.
12. When all construction activity is complete and site is stabilized, remove all temporary erosion control measures and any sediment that has been trapped by these devices.

TEMPORARY EROSION & SEDIMENT CONTROL AND STABILIZATION PRACTICES

All work shall be in accordance with state and local permits. Work shall conform to the practices described in the "New Hampshire Stormwater Manual, Volumes 1 – 3", issued December 2008, as amended. As indicated in the sequence of Major Activities, perimeter controls shall be installed prior to commencing any clearing or grading of the site. Structural controls shall be installed concurrently with the applicable activity. Once construction activity ceases permanently in an area and permanent measures are established, perimeter controls shall be removed.

During construction, runoff will be diverted around the site with stabilized channels where possible. Sheet runoff from the site shall be filtered through appropriate perimeter controls. All storm drain inlets shall be provided with inlet protection measures.

Temporary and permanent vegetation and mulching is an integral component of the erosion and sedimentation control plan. All areas shall be inspected and maintained until vegetative cover is established. These control measures are essential to erosion prevention and also reduce costly rework of graded and shaped areas.

Temporary vegetation shall be maintained in these areas until permanent seeding is applied. Additionally, erosion and sediment control measures shall be maintained until permanent vegetation is established.

INSTALLATION, MAINTENANCE AND INSPECTION PROCEDURES FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES

A. GENERAL

These are general inspection and maintenance practices that shall be used to implement the plan:

1. The smallest practical portion of the site shall be denuded at one time.
2. All control measures shall be inspected at least once each week and following any storm event of 0.25 inches or greater.
3. All measures shall be maintained in good working order; if a repair is necessary, it will be initiated within 24 hours.
4. Built–up sediment shall be removed from perimeter barriers when it has reached one–third the height of the barrier or when "bulges" occur.
5. All diversion dikes shall be inspected and any breaches promptly repaired.
6. Temporary seeding and planting shall be inspected for bare spots, washouts, and unhealthy growth.
7. The owner's authorized engineer shall inspect the site on a periodic basis to review compliance with the Plans.
8. An area shall be considered stable if one of the following has occurred:
   a. Base coarse gravels have been installed in areas to be paved;
   b. A minimum of 85% vegetated growth as been established;
   c. A minimum of 3 inches of non–erosive material such as stone of riprap has been installed; – or –
   d. Erosion control blankets have been properly installed.
9. The length of time of exposure of area disturbed during construction shall not exceed 45 days.

B. MULCHING

Mulch shall be used on highly erodible soils, on critically eroding areas, on areas where conservation of moisture will facilitate plant establishment, and where shown on the plans.

1. Timing – In order for mulch to be effective, it must be in place prior to major storm events. There are two (2) types of standards which shall be used to assure this:
   a. Apply mulch prior to any storm event. This is applicable when working within 100 feet of wetlands. It will be necessary to closely monitor weather predictions, usually by contacting the National Weather Service in Concord, to have adequate warning of significant storms.
   b. Required Mulching within a specified time period. The time period can range from 21 to 28 days of inactivity on a area, the length of time varying with site conditions. Professional judgment shall be used to evaluate the interaction of site conditions (soil erodibility, season of year, extent of disturbance, proximity to sensitive resources, etc.) and the potential impact of erosion on adjacent areas to choose an appropriate time restriction.
2. Guidelines for Winter Mulch Application –

Type	Rate per 1,000 s.f.	Use and Comments
Hay or Straw	70 to 90 lbs.	Must be dry and free from mold. May be used with plantings.
Wood Chips or Bark Mulch	460 to 920 lbs.	Used mostly with trees and shrubs.

INSTALLATION, MAINTENANCE AND INSPECTION PROCEDURES FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES (CONTINUED)

Jute and Fibrous Matting (Erosion Blanket	As per manufacturer Specifications	Used in slope areas, water courses and other Control areas.
Crushed Stone 1/4" to 1–1/2" dia.	Spread more than 1/2" thick	Effective in controlling wind and water erosion.
Erosion Control Mix	2" thick (min)	* The organic matter content is between 80 and 100%, dry weight basis. * Particle size by weight is 100% passing a 6"screen and a minimum of 70 %, maximum of 85%, passing a 0.75" screen. *The organic portion needs to be fibrous and elongated. *Large portions of silts, clays or fine sands are not acceptable in the mix. * Soluble salts content is less than 4.0 mmhos/cm. *The pH should fall between 5.0 and 8.0.

3. Maintenance – All mulches must be inspected periodically, in particular after rainstorms, to check for rill erosion. If less than 90% of the soil surface is covered by mulch, additional mulch shall be immediately applied.

C. PERMANENT SEEDING –

1. Bedding – stones larger than 1/2", trash, roots, and other debris that will interfere with seeding and future maintenance of the area should be removed. Where feasible, the soil should be tilled to a depth of 5" to prepare a seedbed and mix fertilizer into the soil.

2. Fertilizer – lime and fertilizer should be applied evenly over the area prior to or at the time of seeding and incorporated into the soil. Kinds and amounts of lime and organic fertilizer should be based on an evaluation of soil tests. When a soil test is not available, the following minimum amounts should be applied:

   Agricultural Limestone @ 100 lbs. per 1,000 s.f.
   10–20–20 organic fertilizer @ 12 lbs. per 1,000 s.f.

3. Seed Mixture (for lawns**):

Type	Lbs. / Acre	Lbs. / 1,000 sf
Tall Fescue	24	0.55
Creeping Red Fescue	24	0.55
Total	48	1.10

Seed Mixture (For slope embankments**):
Grass Seed: Provide fresh, clean, new–crop seed complying with tolerance for purity and germination established by Official Seed Analysts of North America. Provide seed mixture composed of grass species, proportions and minimum percentages of purity, germination, and maximum percentage of weed seed, as specified:

Type	Min. Purity (%)	Min. Germination (%)	Kg./Hectare (Lbs/Acre)
Creeping Red Fescue (c)	96	85	45 (40)
Perennial Rye Grass (a)	98	90	35 (30)
Redtop	95	80	5 (5)
Alsike Clover	97	90(e)	5 (5)
		Total	90 (80)

a. Ryegrass shall be a certified fine–textured variety such as Pennfine, Fiesta, Yorktown, Diplomat, or equal.
b. Fescue varieties shall include – Creeping Red and/or Hard Reliant, Scaldis, Koket, or Jamestown.
** In the event that the seed mixes shown here conflict with the project landscape plans, the landscape plans shall govern.

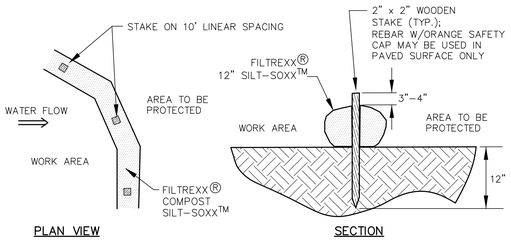
4. Sodding – sodding is done where it is desirable to rapidly establish cover on a disturbed area. Sodding an area may be substituted for permanent seeding procedures anywhere on site. Bed preparation, fertilizing, and placement of sod shall be performed according to the S.C.S. Handbook. Sodding is recommended for steep sloped areas, areas immediately adjacent to sensitive water courses, easily erodible soils (fine sand/silt), etc.

WINTER CONSTRUCTION NOTES

1. All proposed vegetated areas which do not exhibit a minimum of 85% vegetative growth by October 15th, or which are disturbed after October 15th, shall be stabilized by seeding and installing erosion control blankets on slopes greater than 3:1, and elsewhere seeding and placing 3 to 4 tons of mulch per acre, secured with anchored netting. The installation of erosion control blankets or mulch and netting shall not occur over accumulated snow or on frozen ground and shall be completed in advance of thaw or spring melt events;

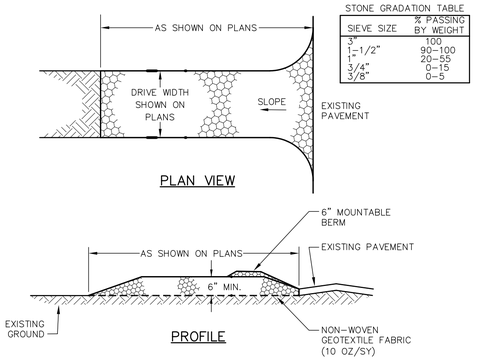
2. All ditches or swales which do not exhibit a minimum of 85% vegetative growth by October 15th, or which are disturbed after October 15th, shall be stabilized temporarily with stone or erosion control blankets appropriate for the design flow conditions; and

3. After November 15th, incomplete road or parking surfaces where work has stopped for the winter season shall be protected with a minimum of 3 inches of crushed gravel per NHDOT Item 304.3.



NOTES:
1. SILTSOXX MAY BY USED IN PLACE OF SILT FENCE OR OTHER SEDIMENT BARRIERS.
2. ALL MATERIAL TO MEET FILTREXX SPECIFICATIONS.
3. SILTSOXX COMPOST/SOIL/ROCK/SEED FILL MATERIAL SHALL BE ADJUSTED AS NECESSARY TO MEET THE REQUIREMENTS OF THE SPECIFIC APPLICATION.
4. ALL SEDIMENT TRAPPED BY SILTSOXX SHALL BE DISPOSED OF PROPERLY.

TUBULAR SEDIMENT BARRIER NOT TO SCALE



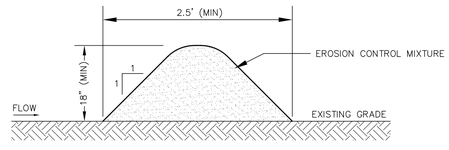
STONE GRADATION TABLE

SIEVE SIZE	% PASSING BY WEIGHT
3"	100
1–1/2"	90–100
1"	20–55
3/4"	0–15
3/8"	0–5

CONSTRUCTION SPECIFICATIONS

1. STONE SIZE – NHDOT STANDARD STONE SIZE #4 – SECTION 703 OF NHDOT STANDARD.
2. LENGTH – DETAILED ON PLANS (50 FOOT MINIMUM).
3. THICKNESS – SIX (6) INCHES (MINIMUM).
4. WIDTH – FULL DRIVE WIDTH UNLESS OTHERWISE SPECIFIED.
5. FILTER FABRIC – MIRAFI 600X OR EQUAL APPROVED BY ENGINEER.
6. SURFACE WATER CONTROL – ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
7. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS–OF–WAY. THIS WILL REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS–OF–WAY MUST BE REMOVED IMMEDIATELY.
8. WHEELS SHALL BE CLEANED TO REMOVE MUD PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS–OF–WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. STABILIZED CONSTRUCTION EXITS SHALL BE INSTALLED AT ALL ENTRANCES TO PUBLIC RIGHTS–OF–WAY, AT LOCATIONS SHOWN ON THE PLANS, AND/OR WHERE AS DIRECTED BY THE ENGINEER.

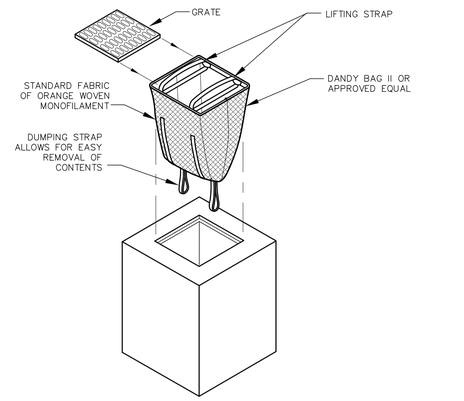
STABILIZED CONSTRUCTION EXIT NOT TO SCALE



NOTES

1. ORGANIC FILTER BERMS MAY BE UTILIZED IN LIEU OF SILT FENCE OR OTHER SEDIMENT BARRIERS.
2. THE EROSION CONTROL MIXTURE USED IN FILTER BERMS SHALL BE A WELL–GRADED MIX OF PARTICLE SIZES THAT MAY CONTAIN ROCKS LESS THAN 4" IN DIAMETER, STUMP GRINDINGS, SHREDDED OR COMPOSTED BARK, AND/OR ACCEPTABLE MANUFACTURED PRODUCTS AND SHALL BE FREE OF REFUSE, PHYSICAL CONTAMINANTS AND MATERIAL TOXIC TO PLANT GROWTH. EROSION CONTROL MIXTURE SHALL MEET THE FOLLOWING STANDARDS:
   a) THE ORGANIC CONTENT SHALL BE 80–100% OF DRY WEIGHT.
   b) PARTICLE SIZE BY WEIGHT SHALL BE 100% PASSING A 6" SCREEN, AND 70–85% PASSING A 0.75" SCREEN.
   c) THE ORGANIC PORTION SHALL BE FIBROUS AND ELONGATED.
   d) LARGE PORTIONS OF SILTS, CLAYS, OR FINE SANDS SHALL NOT BE INCLUDED IN THE MIXTURE.
   e) SOLUBLE SALTS CONTENT SHALL BE >4.0mmhos/cm.
   f) THE pH SHALL BE BETWEEN 5.0 AND 8.0.
3. ORGANIC FILTER BERMS SHALL BE INSTALLED ALONG A RELATIVELY LEVEL CONTOUR. IT MAY BE NECESSARY TO CUT TALL GRASSES OR WOODY VEGETATION TO AVOID CREATING VOIDS AND BRIDGES THAT WOULD ENABLE FINES TO WASH UNDER THE BERM.
4. ON SLOPES LESS THAN 5%, OR AT THE BOTTOM OF SLOPES NO STEEPER THAN 3:1 AND UP TO 20' LONG, THE BERM SHALL BE A MINIMUM OF 12" HIGH (AS MEASURED ON THE UPHILL SIDE) AND A MINIMUM OF 36" WIDE. ON LONGER AND/OR STEEPER SLOPES, THE BERM SHALL BE TALLER AND WIDER TO ACCOMMODATE THE POTENTIAL FOR ADDITIONAL RUNOFF (MAXIMUM HEIGHT SHALL NOT EXCEED 2').
5. FROZEN GROUND, OUTCROPS OF BEDROCK, AND VERY ROOTED FORESTED AREAS PRESENT THE MOST PRACTICAL AND EFFECTIVE LOCATIONS FOR ORGANIC FILTER BERMS. OTHER BMP'S SHOULD BE USED AT LOW POINTS OF CONCENTRATED RUNOFF, BELOW CULVERT OUTLET APRONS, AROUND CATCH BASINS, AND AT THE BOTTOM OF STEEP PERIMETER SLOPES THAT HAVE A LARGE CONTRIBUTING AREA.
6. SEDIMENT SHALL BE REMOVED FROM BEHIND THE FILTER BERMS WHEN IT HAS ACCUMULATED TO ONE HALF THE ORIGINAL HEIGHT OF THE BERM.
7. ORGANIC FILTER BERMS MAY BE LEFT IN PLACE ONCE THE SITE IS STABILIZED PROVIDED ANY SEDIMENT DEPOSITS TRAPPED BY THEM ARE REMOVED AND DISPOSED OF PROPERLY.
8. FILTER BERMS ARE PROHIBITED AT THE BASE OF SLOPES STEEPER THAN 8% OR WHERE THERE IS FLOWING WATER WITHOUT THE SUPPORT OF ADDITIONAL MEASURES SUCH AS SILTFENCE.

ORGANIC FILTER BERM NOT TO SCALE



INSTALLATION AND MAINTENANCE:

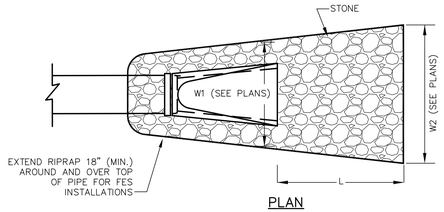
INSTALLATION: REMOVE THE GRATE FROM CATCH BASIN. IF USING OPTIONAL OIL ABSORBENTS; PLACE ABSORBENT PILLOW IN UNIT. STAND GRATE ON END. MOVE THE TOP LIFTING STRAPS OUT OF THE WAY AND PLACE THE GRATE INTO CATCH BASIN INSERT SO THE GRATE IS BELOW THE TOP STRAPS AND ABOVE THE LOWER STRAPS. HOLDING THE LIFTING DEVICES, INSERT THE GRATE INTO THE INLET.

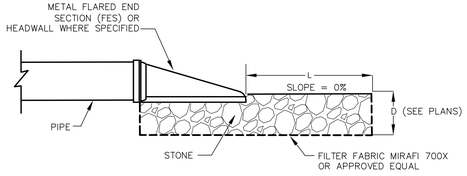
MAINTENANCE: REMOVE ALL ACCUMULATED SEDIMENT AND DEBRIS FROM VICINITY OF THE UNIT AFTER EACH STORM EVENT. AFTER EACH STORM EVENT AND AT REGULAR INTERVALS, LOOK INTO THE CATCH BASIN INSERT. IF THE CONTAINMENT AREA IS MORE THAN 1/3 FULL OF SEDIMENT, THE UNIT MUST BE EMPTIED. TO EMPTY THE UNIT, LIFT THE UNIT OUT OF THE INLET USING THE LIFTING STRAPS AND REMOVE THE GRATE. IF USING OPTIONAL ABSORBENTS; REPLACE ABSORBENT WHEN NEAR SATURATION.

UNACCEPTABLE INLET PROTECTION METHOD:

A SIMPLE SHEET OF GEOTEXTILE UNDER THE GRATE IS NOT ACCEPTABLE.

STORM DRAIN INLET PROTECTION NOT TO SCALE





MAINTENANCE

THE OUTLET PROTECTION SHOULD BE CHECKED AT LEAST ANNUALLY AND AFTER EVERY MAJOR STORM. IF THE RIPRAP HAS BEEN DISPLACED, UNDERMINED OR DAMAGED, IT SHOULD BE REPAIRED IMMEDIATELY. THE CHANNEL IMMEDIATELY BELOW THE OUTLET SHOULD BE CHECKED TO SEE THAT EROSION IS NOT OCCURRING. THE DOWNSTREAM CHANNEL SHOULD BE KEPT CLEAR OF OBSTRUCTIONS SUCH AS FALLEN TREES, DEBRIS, AND SEDIMENT THAT COULD CHANGE FLOW PATTERNS AND/OR TAILWATER DEPTHS ON THE PIPES. REPAIRS MUST BE CARRIED OUT IMMEDIATELY TO AVOID ADDITIONAL DAMAGE TO THE OUTLET PROTECTION APRON.

CONSTRUCTION SPECIFICATIONS

1. THE SUBGRADE FOR THE FILTER MATERIAL, GEOTEXTILE FABRIC, AND RIPRAP SHALL BE PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS.
2. THE ROCK OR GRAVEL USED FOR FILTER OR RIPRAP SHALL CONFORM TO THE SPECIFIED GRADATION.
3. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE ROCK RIPRAP. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 12 INCHES.
4. STONE FOR THE RIP RAP MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.

RIPRAP OUTLET PROTECTION NOT TO SCALE

ALTUS ENGINEERING, INC.
133 Court Street Portsmouth, NH 03801
(603) 433-2335 www.altus-eng.com

STATE OF NEW HAMPSHIRE – ERIC D. WEINRIEB No. 7634 LICENSED PROFESSIONAL ENGINEER
2/24/22

NOT FOR CONSTRUCTION

ISSUED FOR: TRC

ISSUE DATE: FEBRUARY 24, 2022

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	TRC	EBS	11/23/21
1	TRC	EBS	02/24/22

DRAWN BY: EBS
APPROVED BY: EDW
DRAWING FILE: 4904–DS.dwg

SCALE: NOT TO SCALE

OWNER:
HARLECH, LLC
273 CORPORATE DR., SUITE 150
PORTSMOUTH, NH 03801

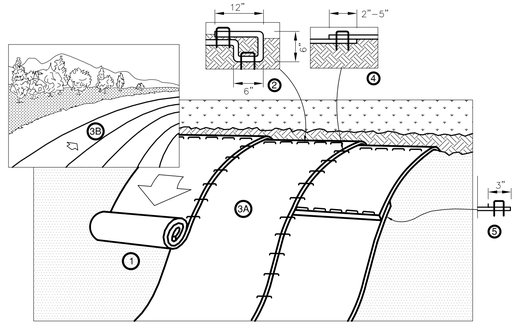
APPLICANT:
REDGATE REAL ESTATE ADVISORS, LLC
265 FRANKLIN ST., SUITE 602
BOSTON, MA 02110

PROJECT:
47 CHESTNUT SITE REDEVELOPMENT
TAX MAP 31, LOT 5
47 CHESTNUT STREET
DOVER, NH

TITLE:
DETAIL SHEET

SHEET NUMBER:
C-8

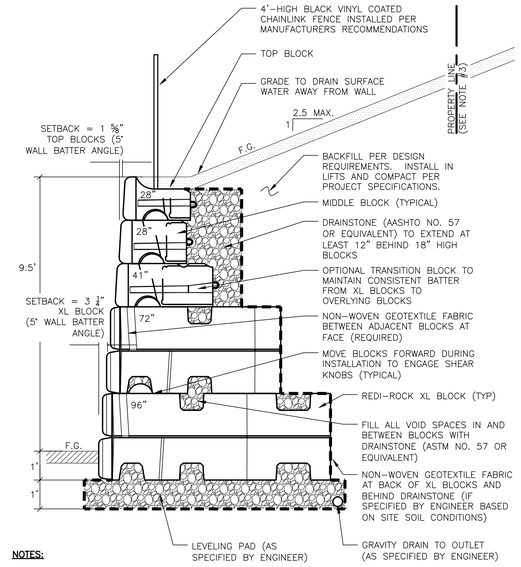
P4904



NOTES

1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" DEEP BY 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL THE BLANKETS (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2"–5" OVERLAP DEPENDING ON BLANKET TYPE. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE BLANKET WIDTH. NOTE: IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

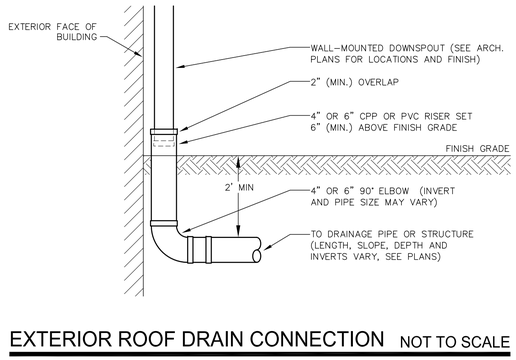
EROSION CONTROL BLANKET - SLOPE NOT TO SCALE



NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY TEMPORARY SHORING, SHEETING AND/OR BRACING OF EXCAVATION WALLS AGAINST PROPERTY LINES OR OTHER AREAS THAT ARE NOT TO BE UNDERMINED.
2. WALL SHALL BE REDI-ROCK OR APPROVED EQUAL.
3. NO RETAINING WALL WORK SHALL EXTEND BEYOND THE LIMITS OF THE PROJECT SITE.
4. THIS DRAWING IS FOR REFERENCE ONLY. FINAL PROJECT DESIGNS, INCLUDING ALL CONSTRUCTION DETAILS, SHALL BE PREPARED BY A NH LICENSED PROFESSIONAL STRUCTURAL ENGINEER USING THE ACTUAL CONDITIONS OF THE PROPOSED SITE. FINAL WALL DESIGN MUST ADDRESS BOTH INTERNAL AND EXTERNAL DRAINAGE AND ALL MODES OF WALL STABILITY.
5. FINAL WALL DESIGN PLANS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

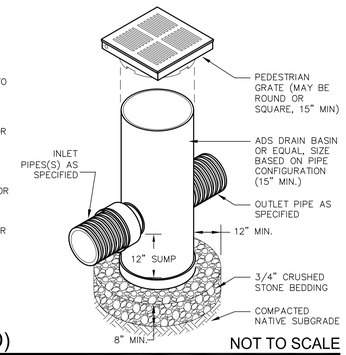
MODULAR BLOCK RETAINING WALL NOT TO SCALE



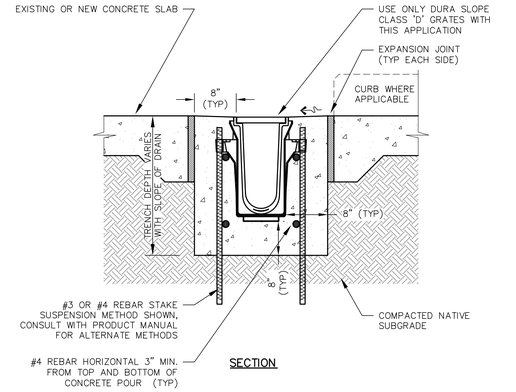
EXTERIOR ROOF DRAIN CONNECTION NOT TO SCALE

NOTES:

1. FRAMES AND GRATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2. DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN AND DETAILS.
3. DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE, N-12HP AND PVC SEWER.
4. INLINE DRAIN TO BE PVC, DIAMETER AS SPECIFIED AND AS MANUFACTURED BY ADS OR APPROVED EQUAL.
5. THE CONTRACTOR SHALL INSTALL THE DRAIN BASIN PER THE MANUFACTURER'S RECOMMENDATIONS AND AS SHOWN ON THE DRAWINGS.
6. FOR INSTALLATION IN PEDESTRIAN AND LANDSCAPE AREAS ONLY.



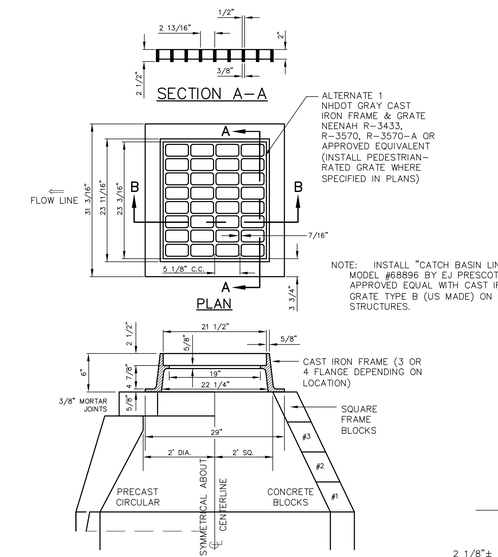
YARD DRAIN (YD) NOT TO SCALE



NOTES:

1. TRENCH DRAIN SYSTEM SHALL BE NDS DURA SLOPE OR APPROVED EQUAL.
2. CHANNELS SHALL HAVE NEUTRAL SLOPE AND BOTTOM OUTLET WITH 8" CONCRETE ENCASEMENT FOR CLASS 'D' LOADING.
3. CHANNELS TO BE INSTALLED WITH BLANK GRATE. GRATE TO BE PROTECTED FROM CONCRETE POUR (COVER HOLES WITH TAPE).
4. BLANK GRATES TO BE REMOVED AND REPLACED WITH APPLICABLE GRATES AFTER CHANNEL INSTALLATION.
5. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
6. ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.

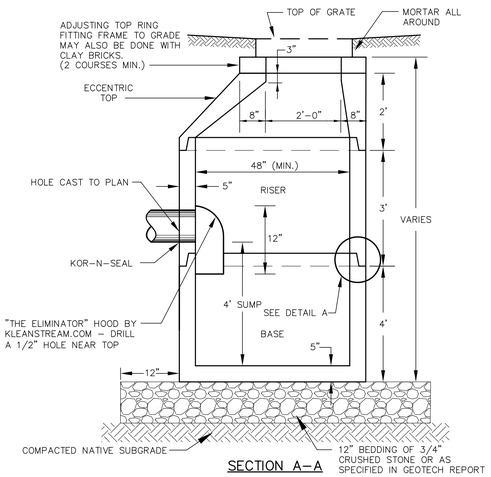
TRENCH DRAIN (TD) NOT TO SCALE

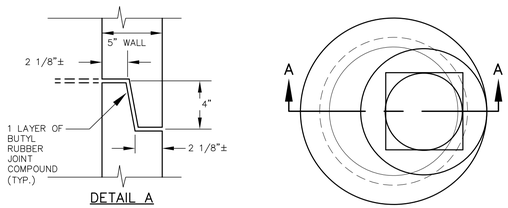


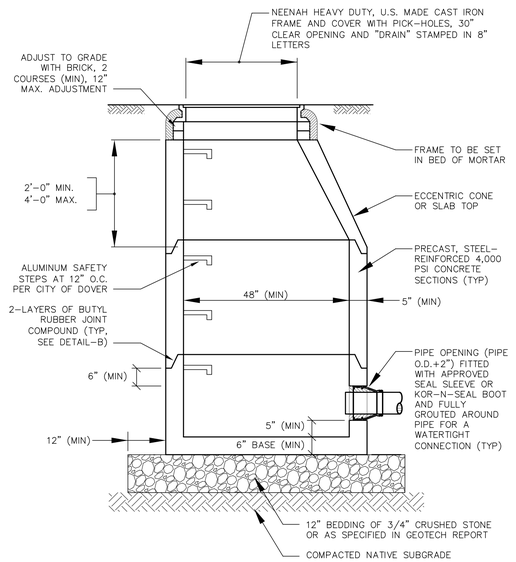
NOTES

1. ALL SECTIONS SHALL BE CONCRETE CLASS AA (4000 PSI).
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ.IN. PER LINEAR FT. IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
3. THE TONGUE OR GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER LINEAR FT.
4. RISERS OF 1', 2', 3' & 4' CAN BE USED TO REACH DESIRED DEPTH.
5. THE STRUCTURES SHALL BE DESIGNED FOR H20 LOADING.
6. USE H20 LOADING SLAB TOP SECTION IN LIEU OF ECCENTRIC TOP WHERE PIPE INVERT IS WITHIN 4' OF FINISH GRADE.
7. FRAME AND GRATE DIMENSIONS ARE TYPICAL BUT MAY VARY BASED ON PRODUCT SELECTED OR EQUIVALENT APPROVED BY THE ENGINEER.

DEEP SUMP CATCH BASIN (CB) NOT TO SCALE



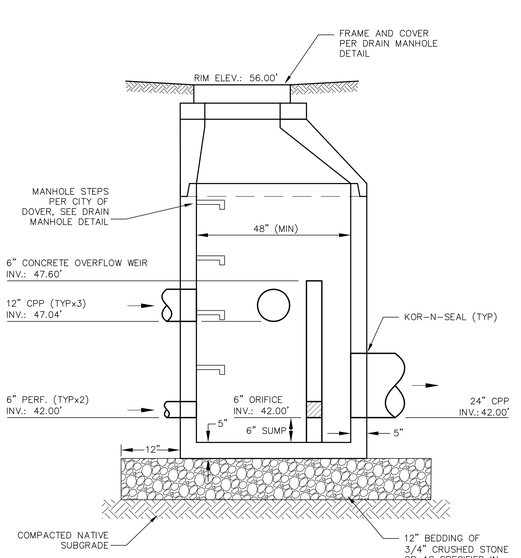




NOTES

1. ALL SECTIONS SHALL BE CONCRETE CLASS AA (4000 psi).
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ.IN. PER LINEAR FT. IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
3. THE TONGUE OR GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER LINEAR FT.
4. RISERS OF 1', 2', 3' & 4' CAN BE USED TO REACH DESIRED DEPTH.
5. ALL MANHOLE STRUCTURES SHALL BE DESIGNED FOR H20 LOADING.
6. USE H-20 LOADING SLAB TOP SECTION IN LIEU OF ECCENTRIC TOP WHERE PIPE INVERT IS WITHIN 4 FT OF GRADE.
7. MANHOLE STEPS ARE REQUIRED PER THE CITY OF DOVER.

DRAIN MANHOLE (DMH) NOT TO SCALE



NOTES

1. SEE CATCH BASIN AND DRAIN MANHOLE DETAILS FOR ADDITIONAL INFORMATION APPLICABLE TO ALL CONCRETE DRAIN STRUCTURES.

DRAIN MANHOLE DMH #2 NOT TO SCALE

ALTUS ENGINEERING, INC.
133 Court Street Portsmouth, NH 03801
(603) 433-2335 www.altus-eng.com

ERIC D. WEINRIEB No. 7634 LICENSED PROFESSIONAL ENGINEER - STATE OF NEW HAMPSHIRE
4/5/22

NOT FOR CONSTRUCTION

ISSUED FOR: TRC

ISSUE DATE: APRIL 5, 2022

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	TRC	EBS	11/23/21
1	TRC	EBS	02/24/22
2	TRC	EBS	04/05/22

DRAWN BY: EBS
APPROVED BY: EDW
DRAWING FILE: 4904-DS.dwg

SCALE: NOT TO SCALE

OWNER:
HARLECH, LLC
273 CORPORATE DR., SUITE 150
PORTSMOUTH, NH 03801

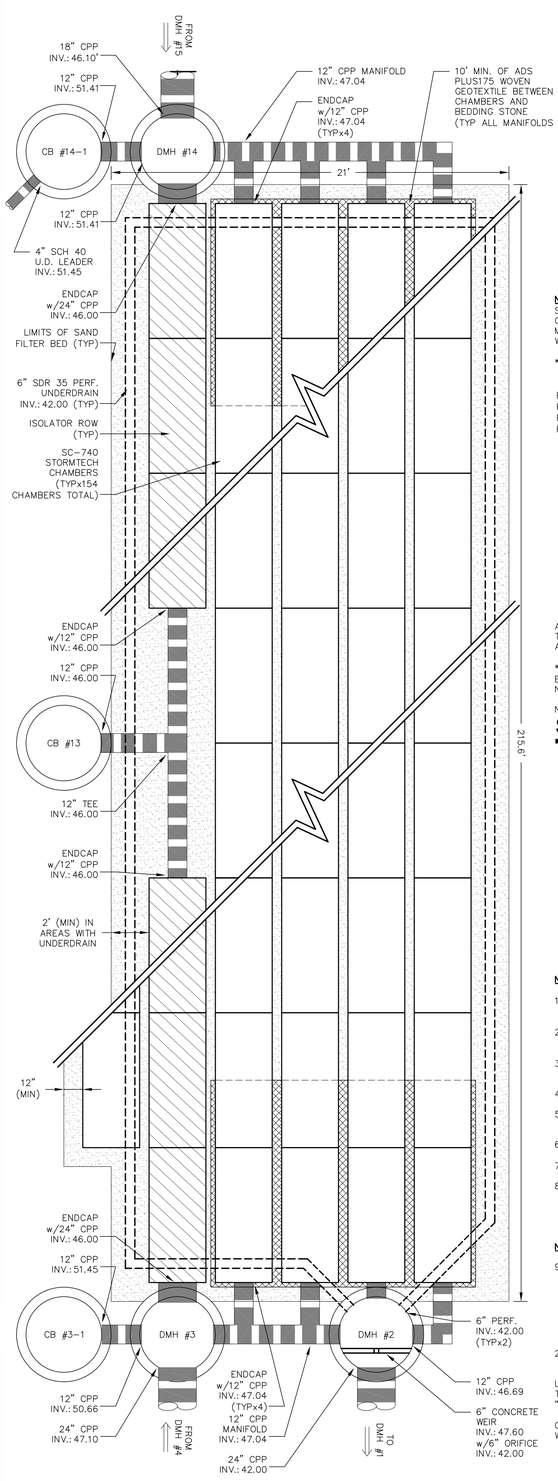
APPLICANT:
REDGATE REAL ESTATE ADVISORS, LLC
265 FRANKLIN ST., SUITE 602
BOSTON, MA 02110

PROJECT:
47 CHESTNUT SITE REDEVELOPMENT
TAX MAP 31, LOT 5
47 CHESTNUT STREET
DOVER, NH

TITLE:
DETAIL SHEET

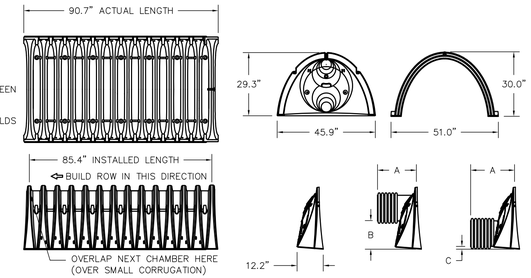
SHEET NUMBER:
C-9

P4904



STORMTECH SYSTEM AND SAND FILTER BED - PLAN

NOT TO SCALE



NOMINAL CHAMFER SPECIFICATIONS:

SIZE (W X H X INSTALLED LENGTH):	51.0" X 30.0" X 85.4"
CHAMBER STORAGE	45.9 CUBIC FEET
MINIMUM INSTALLED STORAGE*	74.9 CUBIC FEET
WEIGHT	75.0 lbs.

*ASSUMES 6" STONE ABOVE, BELOW, AND BETWEEN CHAMBERS

PRE-FAB STUB AT BOTTOM OF END CAP WITH FLAMP END WITH "BR"
PRE-FAB STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PRE-FAB STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
PRE-CORED END CAPS END WITH "PC"

PART #	STUB	A	B	C
SC740EPE06T / SC740EPE06TPC	6"	10.9"	18.5"	---
SC740EPE06B / SC740EPE06BPC			---	0.5"
SC740EPE08T / SC740EPE08TPC	8"	12.2"	16.5"	---
SC740EPE08B / SC740EPE08BPC			---	0.6"
SC740EPE10T / SC740EPE10TPC	10"	13.4"	14.5"	---
SC740EPE10B / SC740EPE10BPC			---	0.7"
SC740EPE12T / SC740EPE12TPC	12"	14.7"	12.5"	---
SC740EPE12B / SC740EPE12BPC			---	1.2"
SC740EPE15T / SC740EPE15TPC	15"	18.4"	9.0"	---
SC740EPE15B / SC740EPE15BPC			---	1.3"
SC740EPE18T / SC740EPE18TPC	18"	19.7"	5.0"	---
SC740EPE18B / SC740EPE18BPC			---	1.6"
SC740EPE24B*	24"	18.5"	---	0.1"
SC740EPE24BR*	24"	18.5"	---	0.1

ALL STUBS, EXCEPT FOR THE SC740EPE24B/SC740EPE24BR ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

* FOR THE SC740EPE24B/SC740EPE24BR THE 24" (600 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL

STORMTECH SC-740

NOT TO SCALE

NOTES -

1. STORMTECH SC-740 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. FOUNDATION STONE AND EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE; AASHTO M43 #3,357, 4, 467, 5, 56, OR 57.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES CONCERNING CHAMBER FOUNDATION DESIGN AND SUBGRADE BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
6. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
7. MAINTAIN MINIMUM 6" SPACING BETWEEN THE CHAMBER ROWS.
8. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.

NOTES FOR CONSTRUCTION EQUIPMENT -

9. THE USE OF CONSTRUCTION EQUIPMENT OVER SC-740 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
2. FULL 36" OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

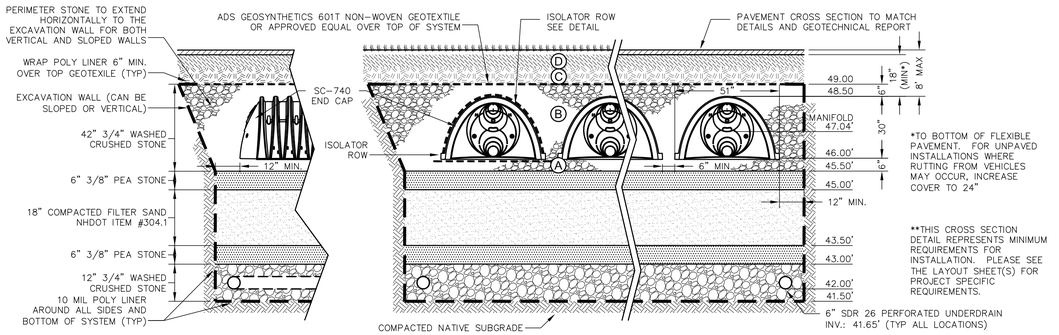
CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 14" ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 -OR- AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

NOTES -

1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, CLEAN COMMON BORROW FILL CAN BE PLACED IN LAYER 'D' UP TO 6" BELOW FINISHED GRADE IN LANDSCAPE AREAS ONLY. IN PAVED AREAS, PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' ONLY AT THE DISCRETION OF THE GEOTECHNICAL ENGINEER.



STORMTECH SYSTEM AND SAND FILTER BED - CROSS SECTION

NOT TO SCALE

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT:

A. INSPECTION PORTS
   - A.1. REMOVE/OPEN LID ON INSPECTION PORT.
   - A.2. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG.
   - A.3. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL).
   - A.4. IF SEDIMENT IS AT, OR ABOVE, 3" PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

B. ALL ISOLATOR PLUS ROWS:
   - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS.
   - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE. i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY. ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE.
   - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS:

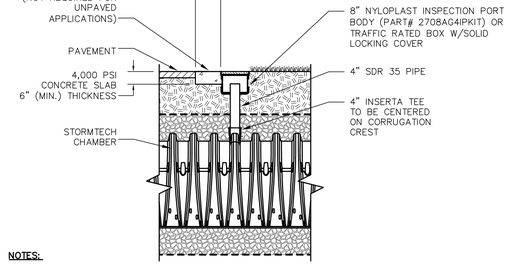
A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" OR MORE IS PREFERRED.
B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN.
C. VACUUM STRUCTURE SUMP AS REQUIRED.

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

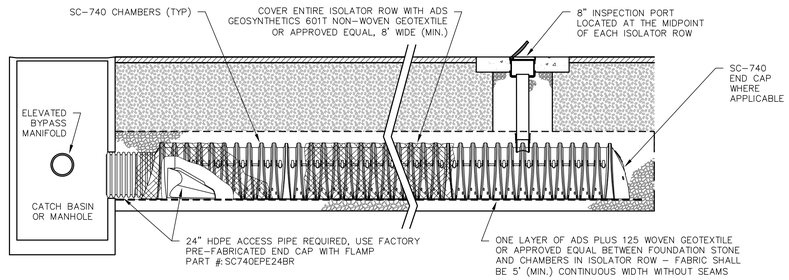


NOTES:

1. INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION CREST.
2. SEE ISOLATOR ROW DETAIL FOR LOCATION(S).

4" INSPECTION PORT

NOT TO SCALE



ISOLATOR ROW

NOT TO SCALE

ALTUS ENGINEERING, INC.
133 Court Street
(603) 433-2335
Portsmouth, NH 03801
www.altus-eng.com

ERIC D. WEINRIEB No. 7634 LICENSED PROFESSIONAL ENGINEER - STATE OF NEW HAMPSHIRE
2/24/22

NOT FOR CONSTRUCTION

ISSUED FOR: TRC

ISSUE DATE: FEBRUARY 24, 2022

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	TRC	EBS	11/23/21
1	TRC	EBS	02/24/22

DRAWN BY: EBS
APPROVED BY: EDW
DRAWING FILE: 4904-DS.dwg

SCALE: NOT TO SCALE

OWNER:
HARLECH, LLC
273 CORPORATE DR., SUITE 150
PORTSMOUTH, NH 03801

APPLICANT:
REDGATE REAL ESTATE ADVISORS, LLC
265 FRANKLIN ST., SUITE 602
BOSTON, MA 02110

PROJECT:
47 CHESTNUT SITE REDEVELOPMENT
TAX MAP 31, LOT 5
47 CHESTNUT STREET
DOVER, NH

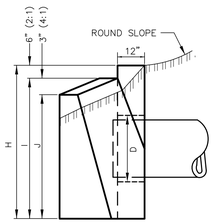
TITLE: DETAIL SHEET

SHEET NUMBER: C-10

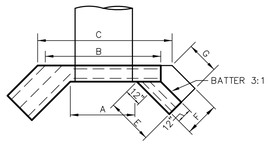
P4904

LEGEND

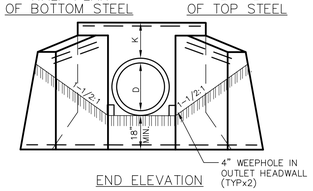
- PROPERTY LINE
- BUILDING SETBACK
- ZONE X — FLOODPLAIN
- ZONE AE — EDGE OF WATER
- TP #11 — TESTPIT OR BORING LOCATION
- EXISTING/PROPOSED GRAVEL
- VGC SGC — EXISTING PAVEMENT/VERTICAL/SLOPED GRANITE CURB
- VGC/SGC/MCC — PROP. PAVEMENT/VERTICAL/SLOPED GRANITE/CONCRETE CURB
- SWL SYL DYL — SINGLE WHITE LINE/SINGLE YELLOW LINE/DOUBLE YELLOW LINE
- EXISTING/PROPOSED GUARDRAIL
- EXISTING/PROPOSED STOCKADE FENCE
- EXISTING/PROPOSED CHAINLINK FENCE
- 60 — EXISTING CONTOUR
- 60 — PROPOSED CONTOUR
- x 100.00 — x 104.00T 100.00B — PROPOSED SPOT GRADE/TOP & BOTTOM OF WALL OR CURB
- PROPOSED RETAINING WALL
- W — EXISTING WATER/CURB STOP/VALVE/HYDRANT
- S — EXISTING SEWER/MANHOLE
- G — EXISTING GAS/VALVE
- OHW — UGU — EXIST. OVERHEAD/UNDERGROUND UTILITIES/POLE
- T — EXIST. UNDERGROUND TELEPHONE
- D — EXISTING DRAINAGE/CB/DMH
- W — PROPOSED THRUST BLOCK/CURB STOP/VALVE/HYDRANT
- PW — F — PROPOSED DOMESTIC/FIRE WATER SERVICE LINE
- S — PROPOSED SEWER/MANHOLE/CLEANOUT
- G — PROPOSED GAS OR PROPANE
- OHW — PROPOSED OVERHEAD UTILITIES/UTILITY POLE
- UGE — PROPOSED UNDERGROUND ELECTRIC
- COM — PROPOSED UNDERGROUND PHONE/TV/INTERNET
- PROPOSED DRAINAGE (HARD PIPE)/CB/YD/DCB/DMH/FES
- PROPOSED DRAINAGE (PERFORATED PIPE)/CLEANOUT
- CPP FES HDWL — CORRUGATED PLASTIC PIPE/FLARED END SECTION/HEADWALL
- 4% — PROPOSED GROUND SLOPE/APPROX. GRADE/STONE CHECK DAM
- X — X — SILTFENCE/SEDIMENT BARRIER/CONST. FENCE
- STABILIZED CONSTRUCTION EXIT
- PROPOSED LIMIT OF DISTURBANCE/TREE CLEARING
- 44 — 226 — PARKING COUNT PER ROW/FOR TOTAL SITE
- PROPOSED RIPRAP
- PROPOSED EROSION CONTROL BLANKET
- PROPOSED 3/4" STONE SURFACE



SIDE ELEVATION



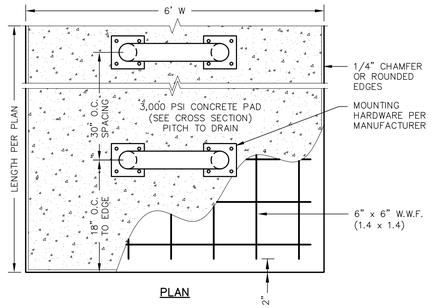
HALF PLAN OF BOTTOM STEEL — HALF PLAN OF TOP STEEL



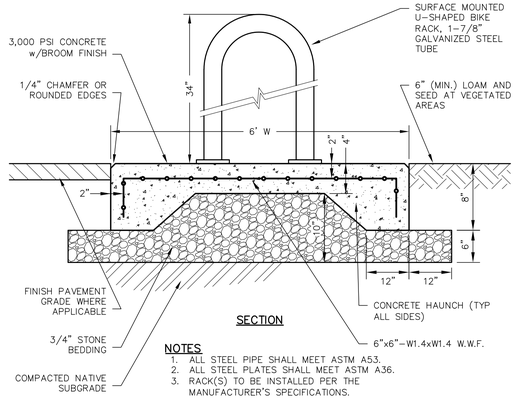
END ELEVATION

D (PIPE DIA.)	DIMENSIONS (2:1 SLOPE)									
	A	B	C	E	F	G	H	I	J	K
24"	2'-6"	5'-4"	6'-7"	3'-0"	1'-11"	2'-3"	5'-0"	4'-6"	3'-10"	1'-6"

CONCRETE HEADWALL w/WINGWALLS NOT TO SCALE



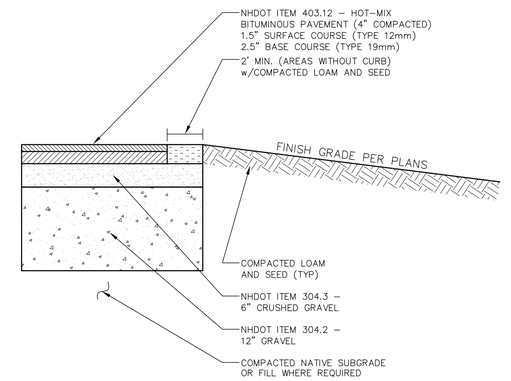
PLAN



SECTION

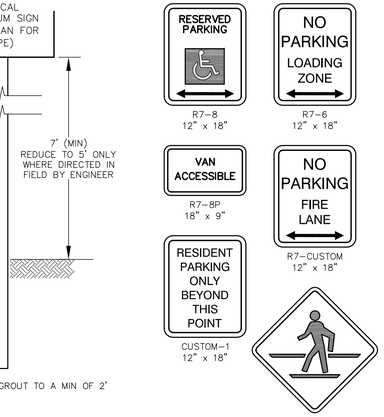
NOTES
1. ALL STEEL PIPE SHALL MEET ASTM A53.
2. ALL STEEL PLATES SHALL MEET ASTM A36.
3. RACK(S) TO BE INSTALLED PER THE MANUFACTURER'S SPECIFICATIONS.

BICYCLE RACK AND PAD NOT TO SCALE



NOTES
1. PROJECT GEOTECHNICAL REPORT MAY REQUIRE A DIFFERENT PAVEMENT CROSS SECTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR READING AND FOLLOWING ALL RECOMMENDATIONS IN THE GEOTECHNICAL REPORT. IN THE EVENT THAT THE REPORT AND CIVIL PLANS DIFFER, THE MORE STRINGENT SPECIFICATION SHALL APPLY.
2. ALL EXISTING FILL, BURIED ORGANIC MATTER, CLAY, LOAM, MUCK, AND/OR OTHER QUESTIONABLE MATERIAL SHALL BE REMOVED FROM BELOW ALL PAVEMENT, SHOULDERS AND UNDERGROUND PIPING/UTILITIES TO DEPTHS RECOMMENDED IN GEOTECHNICAL REPORT.
3. SUBGRADE SHALL BE PROOFROLLED A MINIMUM OF 6 PASSES WITH A 10-TON VIBRATORY COMPACTOR OPERATING AT PEAK RATED FREQUENCY OR BY MEANS APPROVED BY THE ENGINEER.
4. FILL BELOW PAVEMENT GRADES SHALL BE GRANULAR BORROW COMPACTED PER DOT REQUIREMENTS.
5. SITEWORK CONTRACTOR SHALL COORDINATE GEOTECHNICAL ENGINEERING INSPECTIONS WITH THE CONSTRUCTION MANAGER PRIOR TO PLACING GRAVELS.
6. TACK COAT SHALL BE APPLIED BETWEEN SUCCESSIVE LIFTS OF ASPHALT.
7. THE BITUMINOUS PAVEMENT SHALL BE COMPACTED TO 95 PERCENT OF ITS THEORETICAL MAXIMUM DENSITY AS DETERMINED BY ASTM D-2041. THE BASE AND SUBBASE MATERIALS SHOULD BE COMPACTED TO AT LEAST 95 PERCENT OF THEIR MAXIMUM DRY DENSITIES AS DETERMINED BY ASTM D-1557.

SITE PAVEMENT CROSS SECTION NOT TO SCALE



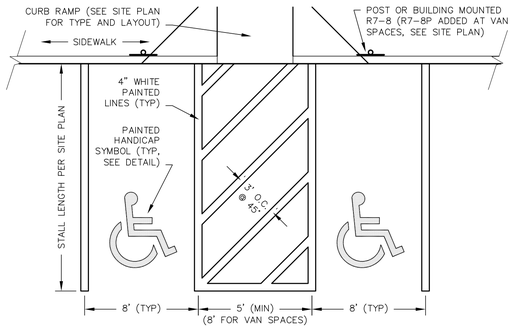
LENGTH: AS REQUIRED

WEIGHT PER LINEAR FOOT: 1.50 LBS (MIN.)

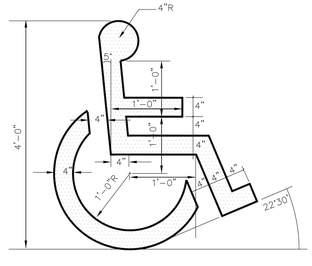
STEEL: 2-3/8" 16 GAUGE RUST-RESISTANT GALVANIZED TUBULAR STEEL, 0.065" MIN. WALL THICKNESS

NOTES
1. ALL SIGNS SHALL MEET THE REQUIREMENTS OF AND BE INSTALLED AS INDICATED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.

SIGN DETAILS NOT TO SCALE

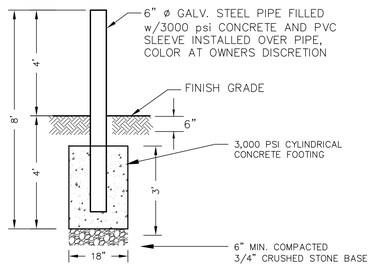


HANDICAP PARKING STALL LAYOUT NOT TO SCALE

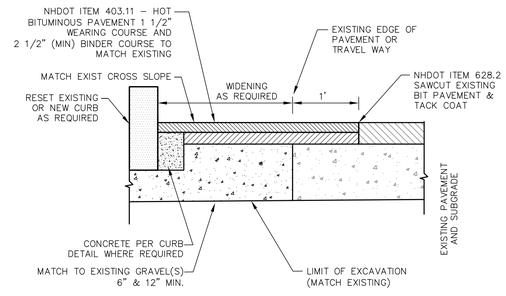


NOTES
1. SYMBOL TO BE PAINTED IN ALL HANDICAPPED ACCESSIBLE SPACES IN WHITE PAINT (BLUE-PAINTED SQUARE BACKGROUND AND WHITE BORDER OPTIONAL).

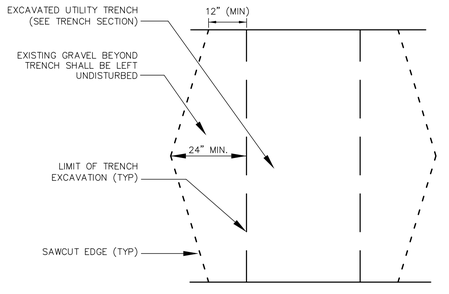
PAINTED HANDICAP SYMBOL NOT TO SCALE



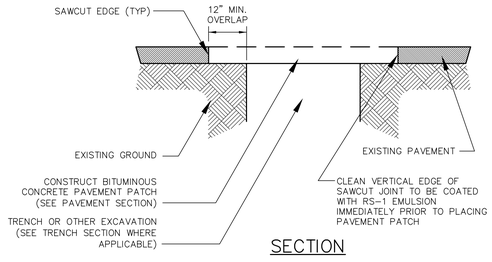
BOLLARD NOT TO SCALE



SAWCUT AND PAVEMENT PATCH NOT TO SCALE



PLAN



SECTION

NOTES
1. MACHINE CUT EXISTING PAVEMENT.
2. ALL TEMPORARY, DAMAGED OR DEFECTIVE PAVEMENT SHALL BE REMOVED PRIOR TO PLACEMENT OF PERMANENT TRENCH REPAIRS.
3. DIAMOND PATCHES, SHALL BE REQUIRED FOR ALL TRENCHES CROSSING ROADWAY. DIAMOND PATCHES SHALL MEET NHDOT REQUIREMENTS.

TYPICAL TRENCH PATCH NOT TO SCALE

ALTUS ENGINEERING, INC.
133 Court Street Portsmouth, NH 03801
(603) 433-2335 www.altus-eng.com

ERIC D. WEINRIEB No. 7634 LICENSED PROFESSIONAL ENGINEER – STATE OF NEW HAMPSHIRE
4/19/22

NOT FOR CONSTRUCTION

ISSUED FOR: PLANNING BOARD

ISSUE DATE: APRIL 19, 2022

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	TRC	EBS	11/23/21
1	TRC	EBS	02/24/22
2	TRC	EBS	04/05/22
3	PLANNING BOARD	EBS	04/19/22

DRAWN BY: EBS
APPROVED BY: EDW
DRAWING FILE: 4904-DS.dwg

SCALE: NOT TO SCALE

OWNER:
HARLECH, LLC
273 CORPORATE DR., SUITE 150
PORTSMOUTH, NH 03801

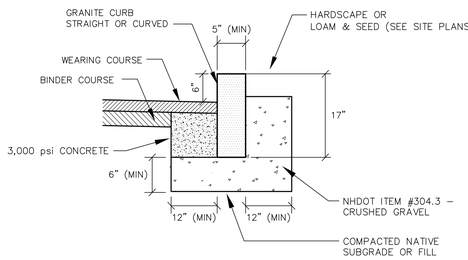
APPLICANT:
REDGATE REAL ESTATE ADVISORS, LLC
265 FRANKLIN ST., SUITE 602
BOSTON, MA 02110

PROJECT:
47 CHESTNUT SITE REDEVELOPMENT
TAX MAP 31, LOT 5
47 CHESTNUT STREET
DOVER, NH

TITLE: DETAIL SHEET

SHEET NUMBER: C-11

P4904

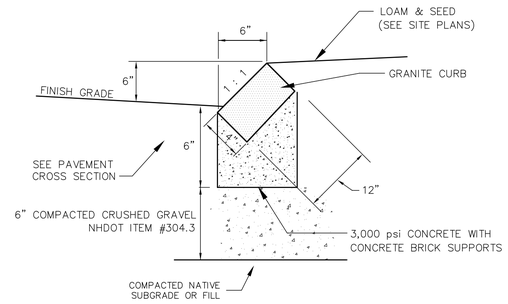


NOTES:

1. SEE PLANS FOR CURB LOCATION.
2. ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
3. MINIMUM LENGTH OF CURB STONES = 3'
4. MAXIMUM LENGTH OF CURB STONES = 10'
5. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES – SEE CHART.
6. CURB ENDS TO ROUNDED AND BATTERED FACES TO BE CUT WHEN CALLED FOR ON THE PLANS.

RADIUS	MAX. LENGTH
21'	3'
22'–28'	4'
29'–35'	5'
36'–42'	6'
43'–49'	7'
50'–56'	8'
57'–60'	9'
OVER 60'	10'

VERTICAL GRANITE CURB NOT TO SCALE

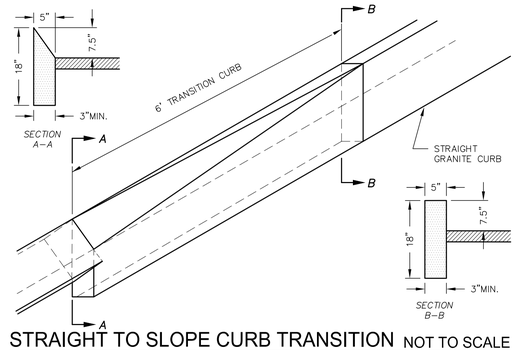


NOTES

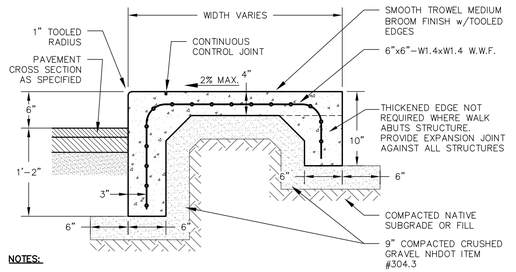
1. SEE SITE PLAN FOR LIMITS OF CURBING
2. ADJOINING STONES OF STRAIGHT CURB LAID ON CURVES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH
3. MINIMUM LENGTH OF STRAIGHT CURB STONES = 18"
4. MAXIMUM LENGTH OF STRAIGHT CURB STONES = 8'
5. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES – SEE CHART

RADIUS FOR STONES WITH SQUARE JOINTS	MAXIMUM LENGTH
16'–28'	1'–6"
29'–41'	2'
42'–55'	3'
56'–68'	4'
69'–82'	5'
83'–96'	6'
97'–110'	7'
OVER 110'	8'

SLOPED GRANITE CURB NOT TO SCALE



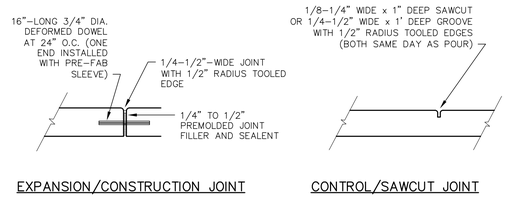
STRAIGHT TO SLOPE CURB TRANSITION NOT TO SCALE



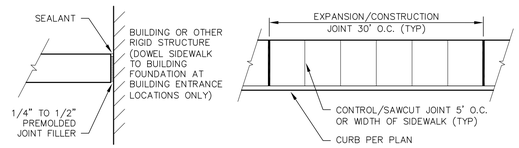
NOTES:

1. CONCRETE TO BE 4,000 PSI AIR ENTRAINED WITH POLY–FIBER REINFORCING.
2. JOINT SPACING TO BE EQUAL TO SIDEWALK WIDTH. SEE CONCRETE SIDEWALK DETAIL.
3. SEAL ALL JOINTS PER DETAILS AND SPECIFICATIONS.

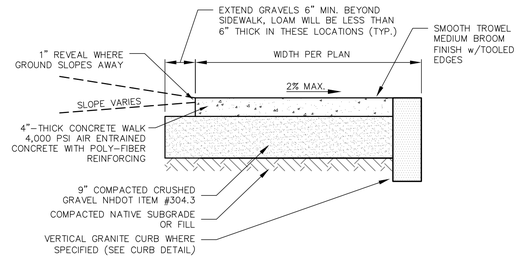
MONOLITHIC CONCRETE CURB AND SIDEWALK NOT TO SCALE



EXPANSION/CONSTRUCTION JOINT CONTROL/SAWCUT JOINT

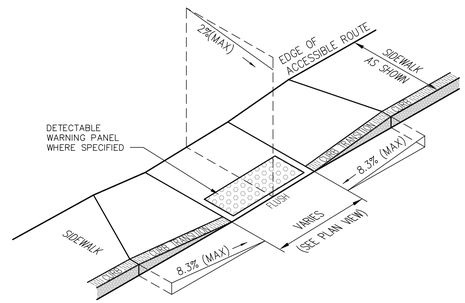


ISOLATION JOINT PLAN

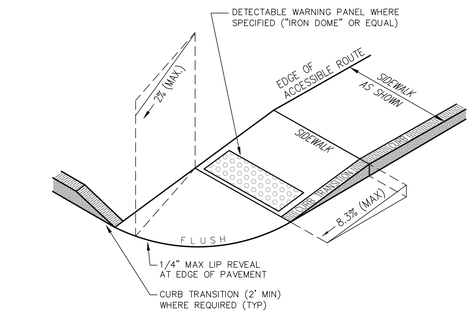


SECTION

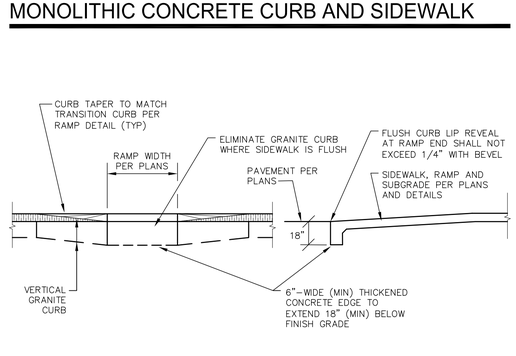
CONCRETE SIDEWALK NOT TO SCALE



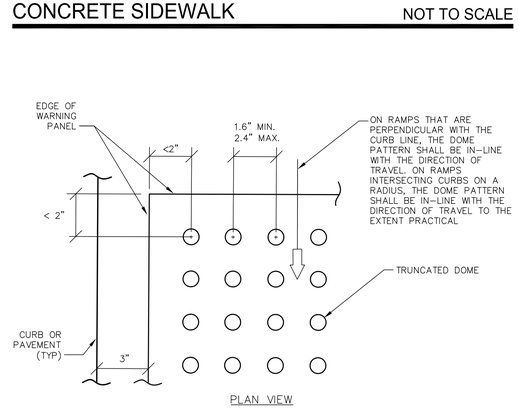
CURB RAMP (TYPE 'A') NOT TO SCALE



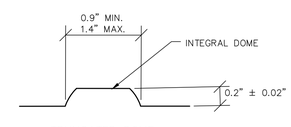
CURB RAMP (TYPE 'B') NOT TO SCALE



FLUSH CURB AT RAMP DETAIL NOT TO SCALE



PLAN VIEW

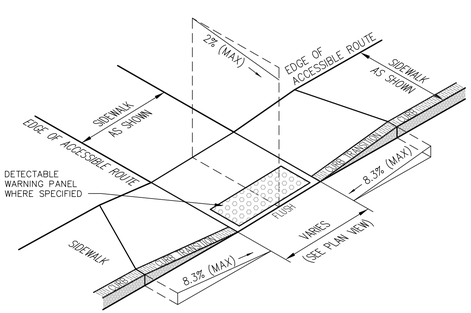


TRUNCATED DOME

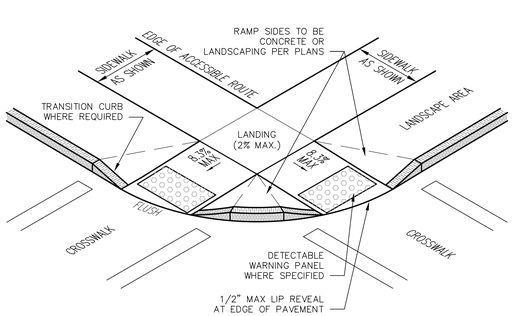
NOTES:

1. BASE–TO–BASE SPACING SHALL BE 0.65" MINIMUM BETWEEN DOMES.
2. ALL SIDEWALK CURB RAMPS SHALL HAVE DETECTABLE WARNING SURFACES THAT EXTEND THE FULL WIDTH OF THE RAMP AND 2' DEPTH IN THE DIRECTION OF TRAVEL.
3. THE TOP WIDTH OF THE DOME SHALL BE A MINIMUM OF 50% AND A MAXIMUM OF 65% OF THE BASE DIAMETER.
4. WARNING PANELS TO BE CAST IRON ("IRON DOME" OR EQUAL).
5. PANEL SHALL BE INSTALLED SO THAT THE EDGE 3" FROM THE CURB LINE OR GUTTER.

DETECTABLE WARNING PANEL NOT TO SCALE



CURB RAMP (TYPE 'J') NOT TO SCALE



CURB RAMP (TYPE 'O') NOT TO SCALE

NOTES APPLICABLE TO ALL CURB RAMPS:

1. THE MAXIMUM ALLOWABLE CROSS SLOPE OF AN ACCESSIBLE ROUTE (SIDEWALK) AND CURB SHALL BE 2%.
2. THE MAXIMUM ALLOWABLE RUNNING SLOPE OF AN ACCESSIBLE ROUTE EXCLUDING CURB RAMPS SHALL BE 5%.
3. THE MAXIMUM ALLOWABLE RUNNING SLOPE OF AN ACCESSIBLE ROUTE (SIDEWALK) CURB RAMP SHALL BE 8.3% FOR A MAXIMUM ELEVATION CHANGE OF 6".
4. CURB TREATMENT VARIES, SEE PLANS FOR CURB TYPE.
5. BASE OF RAMP SHALL BE GRADED TO PREVENT THE PONDING OF WATER.
6. SEE CONCRETE SIDEWALK SECTION FOR RAMP CONSTRUCTION.
7. ALL CURB RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH AMERICANS WITH DISABILITIES ACT (ADA), PROWAG R305.21 AND ALL APPLICABLE CODES.
8. FLUSH CURB SECTIONS SHALL HAVE A MAXIMUM LIP REVEAL OF 1/4" WITH A BEVEL AT THE EDGE OF PAVEMENT.
9. EDGES OF CONCRETE SIDEWALK FOOTINGS ALONG FLUSH CURBS SHALL BE HAUNCHED SO AS TO EXTEND TO A MINIMUM DEPTH OF 1' BELOW FINISH GRADE.
10. NO RAMP SHALL BE LESS THAN 4' IN WIDTH.
11. CURB RAMPS SHALL HAVE A FLAT 2% MAX LANDING AT THE TOP AND BOTTOM OF THE RAMPS WHEN THERE IS A CHANGE IN DIRECTION.

CURB RAMP NOTES NOT TO SCALE

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133 Court Street Portsmouth, NH 03801
(603) 433-2335 www.altus-eng.com

ERIC D. WEINRIEB No. 7634 LICENSED PROFESSIONAL ENGINEER – STATE OF NEW HAMPSHIRE
4/5/22

NOT FOR CONSTRUCTION

ISSUED FOR: TRC

ISSUE DATE: APRIL 5, 2022

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	TRC	EBS	11/23/21
1	TRC	EBS	02/24/22
2	TRC	EBS	04/05/22

DRAWN BY: EBS
APPROVED BY: EDW
DRAWING FILE: 4904–DS.dwg

SCALE: NOT TO SCALE

OWNER:
HARLECH, LLC
273 CORPORATE DR., SUITE 150
PORTSMOUTH, NH 03801

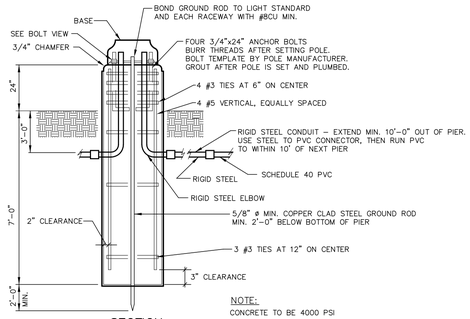
APPLICANT:
REDGATE REAL ESTATE ADVISORS, LLC
265 FRANKLIN ST., SUITE 602
BOSTON, MA 02110

PROJECT:
47 CHESTNUT SITE REDEVELOPMENT
TAX MAP 31, LOT 5
47 CHESTNUT STREET
DOVER, NH

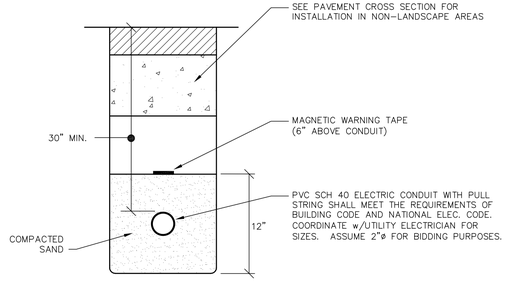
TITLE:
DETAIL SHEET

SHEET NUMBER:
C-12

P4904



LIGHT POLE BASE NOT TO SCALE



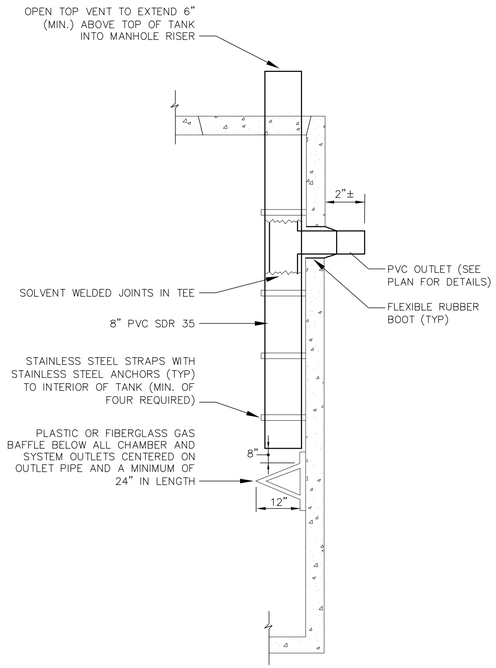
SAND BLANKET/BARRIER

SIEVE SIZE	% FINER BY WEIGHT
1/2"	90 – 100
200	0 – 15

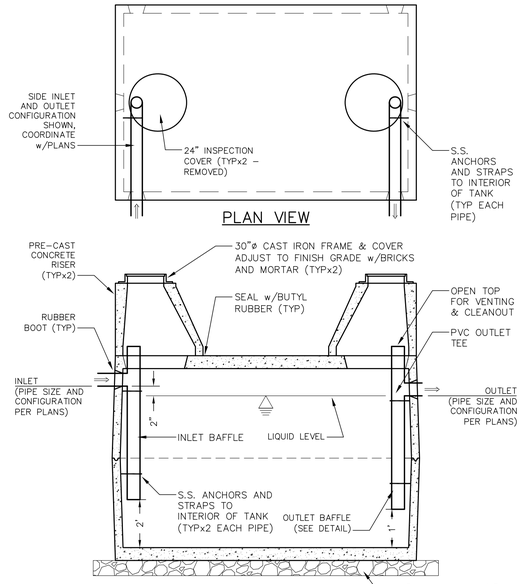
NOTES

1. CONTRACTOR TO COORDINATE WITH MEP PLANS AND ELECTRICIAN AND PROVIDE ALL EXCAVATION, COMPACTION AND BACKFILL REQUIRED FOR CONDUIT INSTALLATION.
2. BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T 99, METHOD C. SUITABLE BACKFILL ALL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99, METHOD C.

LIGHTING TRENCH SECTION NOT TO SCALE



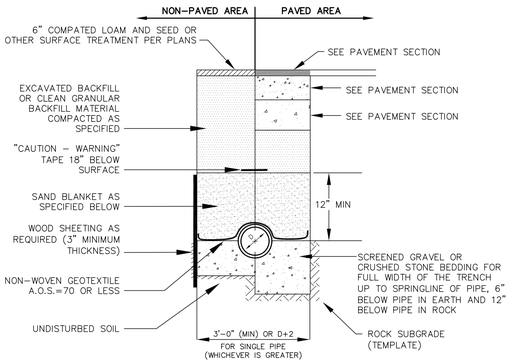
GREASE TRAP OUTLET BAFFLE DETAIL NOT TO SCALE



NOTES:

1. TANK SHALL BE 4,000 PSI (MIN.) STEEL REINFORCED CONCRETE CAPABLE OF H–20 LOADING.
2. KEYED TANK JOINTS SHALL BE SEALED WITH BUTYL RUBBER.
3. TANK SHALL BE MANUFACTURED BY EF SHEA OR APPROVED EQUAL TO THE CAPACITY SHOWN. TANK DIMENSIONS MAY VARY DEPENDING ON THE MANUFACTURER.
4. INLET AND OUTLET PIPE SIZES AND CONFIGURATION SHALL BE CONSTRUCTED PER THE PLANS.

1,000 GALLON GREASE TRAP NOT TO SCALE



NOTES

1. BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T 99, METHOD C. SUITABLE BACKFILL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99, METHOD C.
2. INSULATE GRAVITY SEWER AND FORCEMAINS WHERE THERE IS LESS THAN 5'–0" OF COVER WITH 2" THICK CLOSED CELL RIGID BOARD INSULATION, 18" ON EACH SIDE OF PIPE.
3. MAINTAIN 12" MINIMUM HORIZONTAL SEPARATION AND WIDEN TRENCH ACCORDINGLY IF MULTIPLE PIPES ARE IN TRENCH.

SAND BLANKET/BARRIER

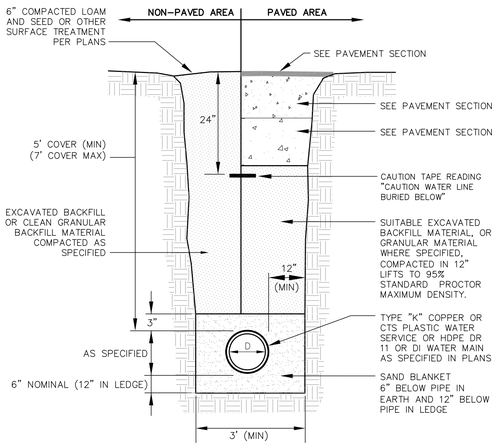
SIEVE SIZE	% FINER BY WEIGHT
1/2"	90 – 100
200	0 – 15

SCREENED GRAVEL OR CRUSHED STONE BEDDING*

SIEVE SIZE	% PASSING BY WEIGHT
1"	100
3/4"	90 – 100
3/8"	20 – 55
# 4	0 – 10
# 8	0 – 5

* EQUIVALENT TO STANDARD STONE SIZE #67 – SECTION 703 OF NHDOT STANDARD SPECIFICATIONS

DRAINAGE TRENCH NOT TO SCALE



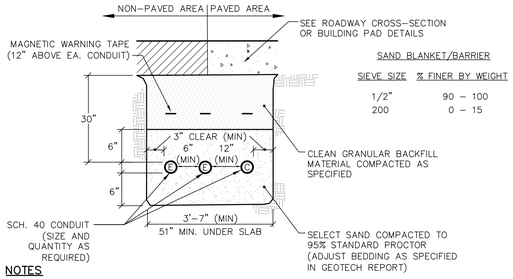
SAND BLANKET/BARRIER

SIEVE SIZE	% FINER BY WEIGHT
1/2"	90 – 100
200	0 – 15

NOTES

1. BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T 99, METHOD C. SUITABLE BACKFILL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99, METHOD C.
2. ALL TRENCHING AND BACKFILL SHALL CONFORM WITH THE STANDARDS OF THE KITTERY WATER DISTRICT.

WATER MAIN TRENCH NOT TO SCALE



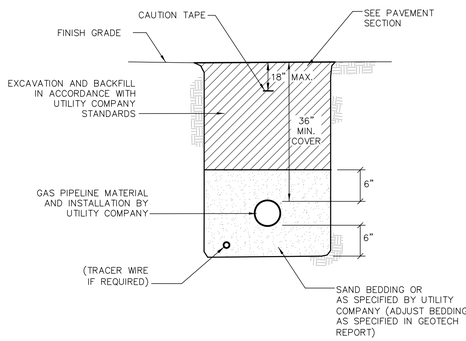
SAND BLANKET/BARRIER

SIEVE SIZE	% FINER BY WEIGHT
1/2"	90 – 100
200	0 – 15

NOTES

1. ALL CONDUIT IS TO BE SCHEDULE 40 PVC, ELECTRICAL GRADE, GRAY IN COLOR AND INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS. A 10–FOOT HORIZONTAL SECTION OF RIGID GALVANIZED STEEL CONDUIT WILL BE REQUIRED AT EACH SWEEP, UNLESS IN THE OPINION OF THE SERVICE PROVIDER DESIGNER, THE SWEEP–PVC JOINT IS NOT SUBJECT TO FAILURE DURING PULLING OF THE CABLE. ALL JOINTS ARE TO BE WATERTIGHT.
2. ALL 90 DEGREE SWEEPS WILL BE MADE WITH RIGID GALVANIZED STEEL WITH A MINIMUM RADIUS OF 36 INCHES FOR PRIMARY CABLES AND 24 INCHES FOR SECONDARY CABLES.
3. BACKFILL MAY BE MADE WITH EXCAVATED MATERIAL OR COMPARABLE, UNLESS MATERIAL IS DEEMED UNSUITABLE BY SERVICE PROVIDER. BACKFILL SHALL BE FREE OF FROZEN LUMPS, ROCKS, DEBRIS, AND RUBBISH. ORGANIC MATERIAL SHALL NOT BE USED AS BACKFILL. BACKFILL SHALL BE IN 6–INCH LAYERS AND THOROUGHLY COMPACTED.
4. A SUITABLE PULLING STRING, CAPABLE OF 300 POUNDS OF PULL, MUST BE INSTALLED IN THE CONDUIT BEFORE SERVICE PROVIDER IS NOTIFIED TO INSTALL CABLE. THE STRING SHOULD BE BLOWN INTO THE CONDUIT AFTER THE RUN IS ASSEMBLED TO AVOID BONDING THE STRING TO THE CONDUIT. A MINIMUM OF TWENTY–FOUR (24") INCHES OF ROPE SLACK SHALL REMAIN AT THE END OF EACH DUCT. PULL ROPE SHALL BE INSTALLED IN ALL CONDUIT FOR FUTURE PULLS. PULL ROPE SHALL BE NYLON ROPE HAVING A MINIMUM TENSILE STRENGTH OF THREE HUNDRED (300#) LBS.
5. SERVICE PROVIDER SHALL BE GIVEN THE OPPORTUNITY TO INSPECT ALL CONDUIT PRIOR TO BACKFILL. THE CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS SHOULD SERVICE PROVIDER BE UNABLE TO INSTALL ITS CABLE IN A SUITABLE MANNER.
6. TYPICAL CONDUIT SIZES ARE 3–INCH FOR SINGLE PHASE PRIMARY AND SECONDARY VOLTAGE CABLES, 4–INCH FOR THREE PHASE SECONDARY, AND 5–INCH FOR THREE PHASE PRIMARY. HOWEVER, SERVICE PROVIDERS MAY REQUIRE DIFFERENT NUMBERS, TYPES AND SIZES OF CONDUIT THAN THOSE SHOWN HERE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL CONDUIT SIZES, TYPES AND NUMBERS WITH EACH SERVICE PROVIDER PRIOR TO ORDERING THEM.
7. ROUTING OF CONDUIT, LOCATION OF MANHOLES, TRANSFORMERS, CABINETS, HANDHOLES, ETC., SHALL BE DETERMINED BY SERVICE PROVIDER DESIGN PERSONNEL. THE CONTRACTOR SHALL COORDINATE WITH ALL SERVICE PROVIDERS PRIOR TO THE INSTALLATION OF ANY CONDUIT.
8. ALL CONDUIT INSTALLATIONS MUST CONFORM TO THE CURRENT EDITION OF THE NATIONAL ELECTRIC SAFETY CODE, STATE AND LOCAL CODES AND ORDINANCES, AND WHERE APPLICABLE, THE NATIONAL ELECTRIC CODE. WHERE REQUIRED BY UTILITY PROVIDER, CONDUIT SHALL BE SUPPORTED IN PLACE USING PIPE STANCHIONS PLACED EVERY FIVE (5') FEET ALONG THE CONDUIT RUN.
9. UNDER A BUILDING SLAB THE CONDUIT SHALL BE ENCASED IN 8" OF CONCRETE ON ALL SIDES.
10. ALL CONDUIT TERMINATIONS SHALL BE CAPPED TO PREVENT DEBRIS FROM ENTERING CONDUIT.

ELECTRIC / COMMUNICATION TRENCH NOT TO SCALE



SAND BLANKET/BARRIER

SIEVE SIZE	% FINER BY WEIGHT
1/2"	90 – 100
200	0 – 15

NOTES

1. CONTRACTOR TO COORDINATE WITH UTILITY COMPANY AND PROVIDE ALL EXCAVATION, COMPACTION AND BACKFILL REQUIRED FOR PIPE INSTALLATION.
2. BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T 99, METHOD C. SUITABLE BACKFILL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99, METHOD C.

GAS TRENCH NOT TO SCALE

ALTUS ENGINEERING, INC.
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(603) 433-2335 www.altus-eng.com

ERIC D. WEINRIEB No. 7634 LICENSED PROFESSIONAL ENGINEER – STATE OF NEW HAMPSHIRE
2/24/22

NOT FOR CONSTRUCTION

ISSUED FOR:

ISSUE DATE: FEBRUARY 24, 2022

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	TRC	EBS	11/23/21
1	TRC	EBS	02/24/22

DRAWN BY: EBS
APPROVED BY: EDW
DRAWING FILE: 4904–DS.dwg

SCALE: NOT TO SCALE

OWNER:
HARLECH, LLC
273 CORPORATE DR., SUITE 150
PORTSMOUTH, NH 03801

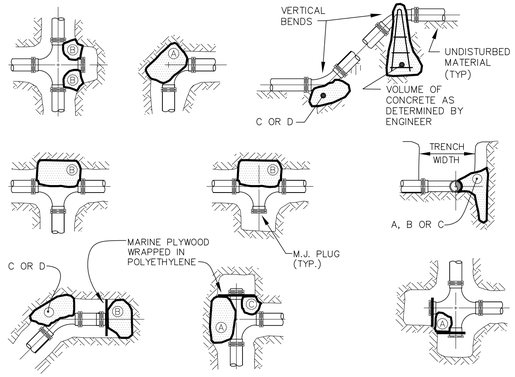
APPLICANT:
REDGATE REAL ESTATE ADVISORS, LLC
265 FRANKLIN ST., SUITE 602
BOSTON, MA 02110

PROJECT:
47 CHESTNUT SITE REDEVELOPMENT
TAX MAP 31, LOT 5
47 CHESTNUT STREET
DOVER, NH

TITLE:
DETAIL SHEET

SHEET NUMBER:
C-13

P4904

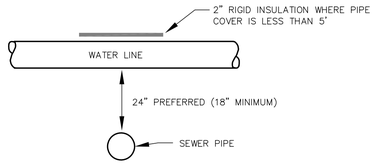


TEST PRESSURE = 150 psi	SQUARE FEET OF CONCRETE THRUST BLOCKING BEARING ON UNDISTURBED MATERIAL					
	REACTION TYPE	PIPE SIZE				
		4"	6"	8"	10"	12"
	A 90°	0.89	2.19	3.82	11.14	17.24
	B 180°	0.65	1.55	2.78	8.38	12.00
	C 45°	0.48	1.19	2.12	6.02	9.32
	D 22-1/2°	0.25	0.60	1.06	3.08	4.74
	E 11-1/4°	0.13	0.30	0.54	1.54	2.38

NOTES

1. POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL. WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL.
2. NO JOINTS SHALL BE COVERED WITH CONCRETE. POLYETHYLENE (6 MIL) SHALL BE PLACED AROUND FITTINGS PRIOR TO CONCRETE PLACEMENT.
3. ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.
4. PLACE BOARD IN FRONT OF ALL PLUGS BEFORE POURING THRUST BLOCKS. WHERE M.J. PIPE IS USED, M.J. PLUG WITH RETAINER GLAND MAY BE SUBSTITUTED FOR END BLOCKINGS.

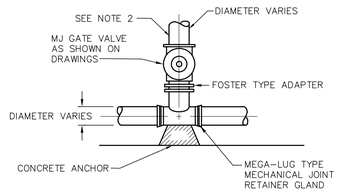
THRUST BLOCKING — NOT TO SCALE



NOTES

1. A MINIMUM HORIZONTAL DISTANCE OF 10 FEET SHALL BE MAINTAINED BETWEEN WATER AND SEWER MAINS. A MINIMUM VERTICAL DISTANCE WITH WATER ABOVE SEWER SHALL BE MAINTAINED.
2. SEWER PIPE JOINTS SHALL BE LOCATED A MINIMUM OF 6 FEET HORIZONTALLY FROM WATER MAIN.
3. IF THE REQUIRED CONFIGURATION CANNOT BE MET, THE SEWER MAIN SHALL BE CONSTRUCTED TO MEET THE NHDES REQUIREMENTS FOR FORCE MAIN CONSTRUCTION.

WATER MAIN / SEWER CROSSING — NOT TO SCALE

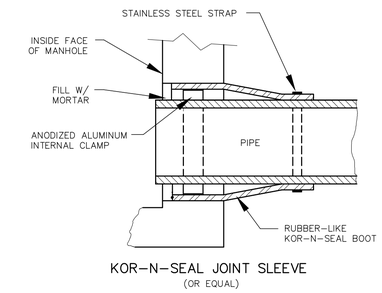


PLAN

NOTES:

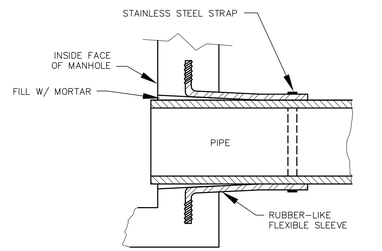
1. GATE VALVES SHALL OPEN RIGHT, PER CITY STANDARDS.
2. BRANCH PIPING SHALL BE MECHANICALLY RESTRAINED AS NOTED UNDER THRUST BLOCK DETAIL REQUIREMENTS.

TEE & GATE VALVE ASSEMBLY — NOT TO SCALE



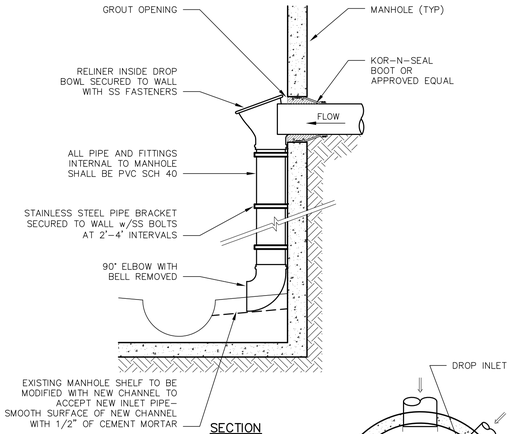
KOR-N-SEAL JOINT SLEEVE
(OR EQUAL)

NOTE: ALL GASKETS, SEALANTS, MORTAR, ETC. SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS WRITTEN INSTRUCTIONS.



LOCK-JOINT FLEXIBLE MANHOLE SLEEVE
(OR EQUAL)

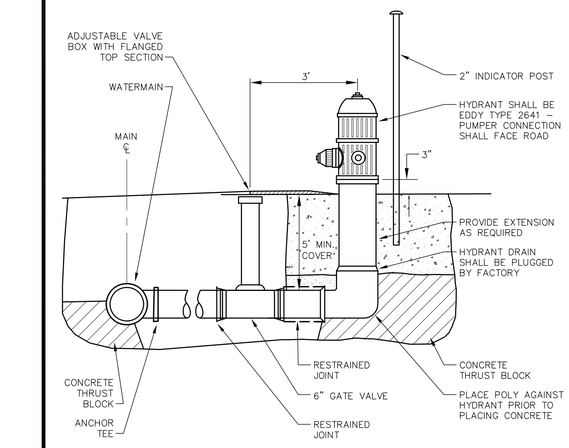
SEWER MANHOLE DETAIL A — NOT TO SCALE



NOTES:

1. DROP PIPE DIAMETER TO MATCH INLET PIPE DIAMETER.
2. ALL MATERIALS AND WORKMANSHIP SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF DOVER REGULATIONS AND NHDES STANDARDS.
3. DROP INLET REQUIRED WHERE DISTANCE BETWEEN PIPE INVERT AND MANHOLE INVERT EXCEEDS 2 VERTICAL FEET.
4. ANCHOR STRAPS AND BOLTS SHALL BE TYPE 316 STAINLESS STEEL AND SPACED 2'-4' ON CENTER.
   STRAPS - 2" WIDE
   BOLTS - 1/2" X 2-1/2" LONG

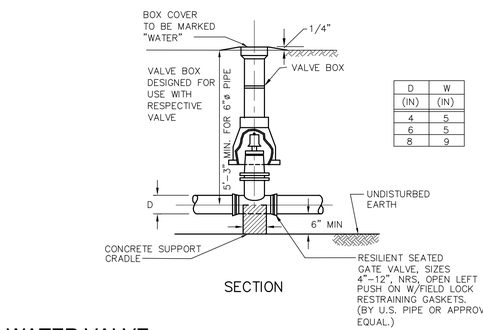
INTERNAL DROP — NOT TO SCALE



NOTES

1. HYDRANT INSTALLATION AND OPERATION TO CONFORM TO REGULATIONS OF THE CITY OF DOVER WATER & FIRE DEPARTMENTS.
2. FIRE HYDRANT TO BE EDDY 2641.
3. HYDRANT TO BE PAINTED RED WITH WHITE "REFLECTOR" PAINT ON BONNET.
4. FIRE HYDRANT CONNECTION SHALL USE MEGALUG (RODS NOT ALLOWED) PER CITY OF DOVER REQUIREMENTS.

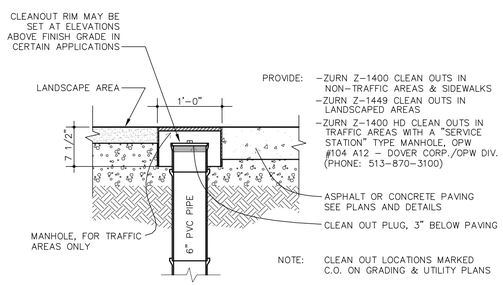
FIRE HYDRANT — NOT TO SCALE



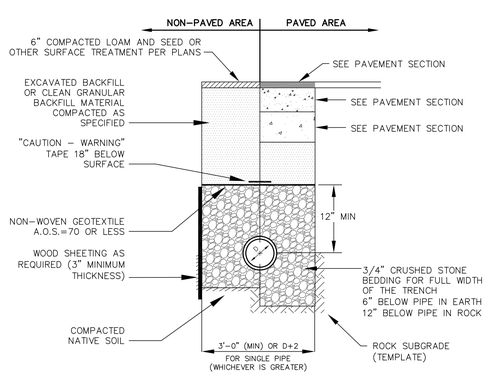
D (IN)	W (IN)
4	5
6	5
8	9

SECTION

WATER VALVE — NOT TO SCALE



CLEANOUT — NOT TO SCALE



NOTES

1. BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T 99, METHOD C. SUITABLE BACKFILL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99, METHOD C.
2. INSULATE GRAVITY SEWER AND FORCEMAINS WHERE THERE IS LESS THAN 5'-0" OF COVER WITH 2" THICK CLOSED CELL RIGID BOARD INSULATION, 18" ON EACH SIDE OF PIPE.
3. MAINTAIN 12" MINIMUM HORIZONTAL SEPARATION AND WIDEN TRENCH ACCORDINGLY IF MULTIPLE PIPES ARE IN TRENCH.

SAND BLANKET/BARRIER

SIEVE SIZE	% FINER BY WEIGHT
1/2"	90 - 100
200	0 - 15

SCREENED GRAVEL OR CRUSHED STONE BEDDING*

SIEVE SIZE	% PASSING BY WEIGHT
1"	100
3/4"	90 - 100
3/8"	20 - 55
# 4	0 - 10
# 8	0 - 5

* EQUIVALENT TO STANDARD STONE SIZE #67 - SECTION 703 OF NHDOT STANDARD SPECIFICATIONS

SEWER TRENCH — NOT TO SCALE

STANDARD TRENCH NOTES

1. ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE: BACKFILL AS STATED IN THE TECHNICAL SPECIFICATIONS OR AS SHOWN ON THE DRAWING.
2. BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING THE GRADATION SHOWN IN THE TRENCH DETAIL. WHERE ORDERED BY THE ENGINEER TO STABILIZE THE BASE, SCREENED GRAVEL OR CRUSHED STONE 1-1/2 INCH TO 1/2 INCH SHALL BE USED.
3. SAND BLANKET: CLEAN SAND FREE FROM ORGANIC MATTER MEETING THE GRADATION SHOWN IN THE TRENCH DETAIL. BLANKET MAY BE REPLACED WITH BEDDING MATERIAL FOR CAST-IRON, DUCTILE IRON, AND REINFORCED CONCRETE PIPE PROVIDED THAT NO STONE LARGER THAN 2" IS IN CONTACT WITH THE PIPE AND THE GEOTEXTILE IS RELOCATED ACCORDINGLY.
4. SUITABLE MATERIAL: IN ROADS, ROAD SHOULDERS, WALKWAYS AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOP SOIL, ALL WET OR SOFT MUCK, PEAT, OR CLAY, ALL EXCAVATED LEDGE MATERIAL, ALL ROCKS OVER 6 INCHES IN LARGEST DIMENSION, AND ANY MATERIAL WHICH, AS DETERMINED BY THE ENGINEER, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION. IN CROSS COUNTRY CONSTRUCTION, SUITABLE MATERIAL SHALL BE AS DESCRIBED ABOVE, EXCEPT THAT THE ENGINEER MAY PERMIT THE USE OF TOP SOIL, LOAM, MUCK, OR PEAT ONLY IF SATISFIED THAT THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE AND PROVIDED THAT EASY ACCESS TO THE SEWER FOR MAINTENANCE AND POSSIBLE RECONSTRUCTION WILL BE PRESERVED.
5. BASE COURSE AND PAVEMENT SHALL MEET THE REQUIREMENTS OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES - DIVISIONS 300 AND 400 RESPECTIVELY.
6. SHEETING, IF REQUIRED: WHERE SHEETING IS PLACED ALONGSIDE THE PIPE AND EXTENDS BELOW MID-DIAMETER, IT SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION 1 FOOT ABOVE THE TOP OF PIPE. WHERE SHEETING IS ORDERED BY THE ENGINEER TO BE LEFT IN PLACE, IT SHALL BE CUT OFF AT LEAST 3 FEET BELOW FINISHED GRADE, BUT NOT LESS THAT 1 FOOT ABOVE THE TOP OF THE PIPE.
7. W = MAXIMUM ALLOWABLE TRENCH WIDTH TO A PLANE 12 INCHES ABOVE THE PIPE. FOR PIPES 15 INCHES NOMINAL DIAMETER OR LESS, W SHALL BE NO MORE THAN 36 INCHES. FOR PIPES GREATER THAN 15 INCHES IN NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS PIPE OUTSIDE DIAMETER (O.D.) ALSO, W SHALL BE THE PAYMENT WIDTH FOR LEDGE EXCAVATION AND FOR ORDERED EXCAVATION BELOW GRADE.
8. FOR CROSS COUNTRY CONSTRUCTION, BACKFILL, FILL AND/OR LOAM SHALL BE MOUNDED TO A HEIGHT OF 6 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
9. CONCRETE FOR ENCASEMENT SHALL CONFORM TO THE NEW HAMPSHIRE DOT STANDARD SPECIFICATION REQUIREMENTS FOR CLASS A (3000#) CONCRETE AS FOLLOWS:
   CEMENT: 6.0 BAGS PER CUBIC YARD
   WATER: 5.75 GALLONS PER BAG
   CEMENT MAXIMUM SIZE OF AGGREGATE: 1 INCH
   CONCRETE ENCASEMENT IS NOT ALLOWED FOR PVC PIPE.
10. CONCRETE FULL ENCASEMENT: IF FULL ENCASEMENT IS UTILIZED, DEPTH OF CONCRETE BELOW PIPE SHALL BE 1/4 I.D. (4" MINIMUM). BLOCK SUPPORT SHALL BE SOLID CONCRETE BLOCKS.
11. NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES DESIGN STANDARDS REQUIRE TEN FEET (10') SEPARATION BETWEEN WATER AND SEWER. REFER TO CITY STANDARD SPECIFICATIONS FOR METHODS OF PROTECTION IN AREAS THAT CANNOT MEET THESE REQUIREMENTS.
12. THE CONTRACTOR SHALL INSTALL TRENCH DAMS IN ACCORDANCE WITH NHDES REGULATIONS.
13. SEWER TRENCHES SHALL BE CONSTRUCTED IN ACCORANCE WITH NHDES STANDARDS OF DESIGN AND CONSTRUCTION FOR SEWAGE AND WASTEWATER FACILITES, LATEST EDITION.

ALTUS ENGINEERING, INC.
133 Court Street Portsmouth, NH 03801
(603) 433-2335 www.altus-eng.com

ERIC D. WEINRIEB No. 7634 LICENSED PROFESSIONAL ENGINEER - STATE OF NEW HAMPSHIRE
4/5/22

NOT FOR CONSTRUCTION

ISSUED FOR: TRC

ISSUE DATE: APRIL 5, 2022

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	TRC	EBS	11/23/21
1	TRC	EBS	02/24/22
2	TRC	EBS	04/05/22

DRAWN BY: EBS
APPROVED BY: EDW
DRAWING FILE: 4904-DS.dwg

SCALE: NOT TO SCALE

OWNER:
HARLECH, LLC
273 CORPORATE DR., SUITE 150
PORTSMOUTH, NH 03801

APPLICANT:
REDGATE REAL ESTATE ADVISORS, LLC
265 FRANKLIN ST., SUITE 602
BOSTON, MA 02110

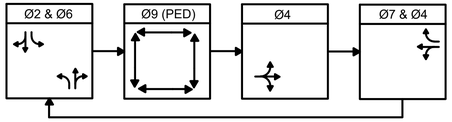
PROJECT:
47 CHESTNUT SITE REDEVELOPMENT
TAX MAP 31, LOT 5
47 CHESTNUT STREET
DOVER, NH

TITLE:
DETAIL SHEET

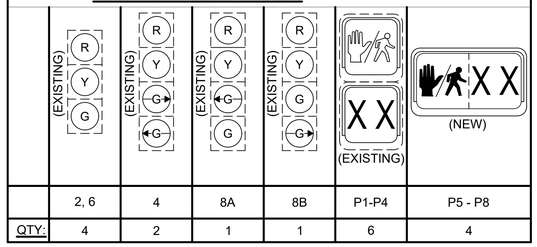
SHEET NUMBER:
C-14

P4904

PREFERENTIAL PHASE SEQUENCE



SIGNAL HEADS



	2, 6	4	8A	8B	P1-P4	P5 - P8
QTY:	4	2	1	1	6	4

SIGNAL PHASING

	Ø2	Ø4	Ø6	Ø8	Ø9
TIMING IN SECONDS					
INITIAL INTERVAL	10	6	10	6	-
VEHICLE EXTENSION	5	5	5	3	-
MAX I (6am - 9am)	41	10	41	10	-
MAX II	31	10	31	10	-
YELLOW	4	4	4	4	-
ALL RED	2	2	2	2	-
WALK/DONT WALK	N/A	N/A	N/A	N/A	7 / 10
RECALL	MAX	OFF	MAX	OFF	OFF
DETECTOR	N/A	PR	N/A	PR	N/A
FLASH	FY	FR	FY	FR	N/A

TRAFFIC SIGNAL NOTES:

1. ALL EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE RETAINED UNLESS OTHERWISE NOTED. THE EXISTING CONDUITS SHOWN ARE APPROXIMATE AND CONTRACTOR SHALL VERIFY THE LOCATIONS OF THE EXISTING CONDUITS PRIOR TO CONSTRUCTION.
2. PROPOSED TRAFFIC SIGNAL WORK AT THIS LOCATION INCLUDES THE INSTALLATION OF 25' MAST ARM AND FOUNDATION AS SHOWN, INSTALLATION OF A 10' SIGNAL POST, AND INSTALLATION OF FOUR PEDESTRIAN SIGNAL POSTS WITH BASE AND FOUNDATIONS. WORK INCLUDES THE INSTALLATION OF A NEW DETECTION SYSTEM WITH A 360° GRIDSMART CAMERA AND DETECTION ZONES AS SHOWN.
3. WORK ALSO INCLUDES THE INSTALLATION OF 14" CONCRETE PULL BOXES AND CONDUIT WITH 14 AWG WIRE TO CONNECT THE PROPOSED SIGNALS BACK TO THE EXISTING CONTROLLER.
4. THE FINAL LOCATION OF TRAFFIC SIGNS AND SIGNAL SUPPORTS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
5. MAST ARMS SHALL BE POSITIONED PERPENDICULAR TO THE ROADWAY APPROACH SERVED UNLESS OTHERWISE INDICATED ON THE PLAN.
6. MAST ARM FOUNDATION SHALL CONFORM TO NH-DOT STANDARD PLAN NUMBER TS-4
7. TRAFFIC SIGNALS MOUNTED OVERHEAD ON MAST ARM SHALL BE A MINIMUM OF 16 FEET AND A MAXIMUM OF 19 FEET ABOVE THE TOP OF PAVEMENT. TRAFFIC SIGNALS MOUNTED ON THE VERTICAL SUPPORT OF THE MAST ARM OR SIGNAL POST SHALL BE A MINIMUM OF 10 FEET ABOVE THE TOP OF PAVEMENT. PEDESTRIAN SIGNAL HEADS SHALL BE A MINIMUM OF 8 FEET ABOVE THE TOP OF THE SIDEWALK.

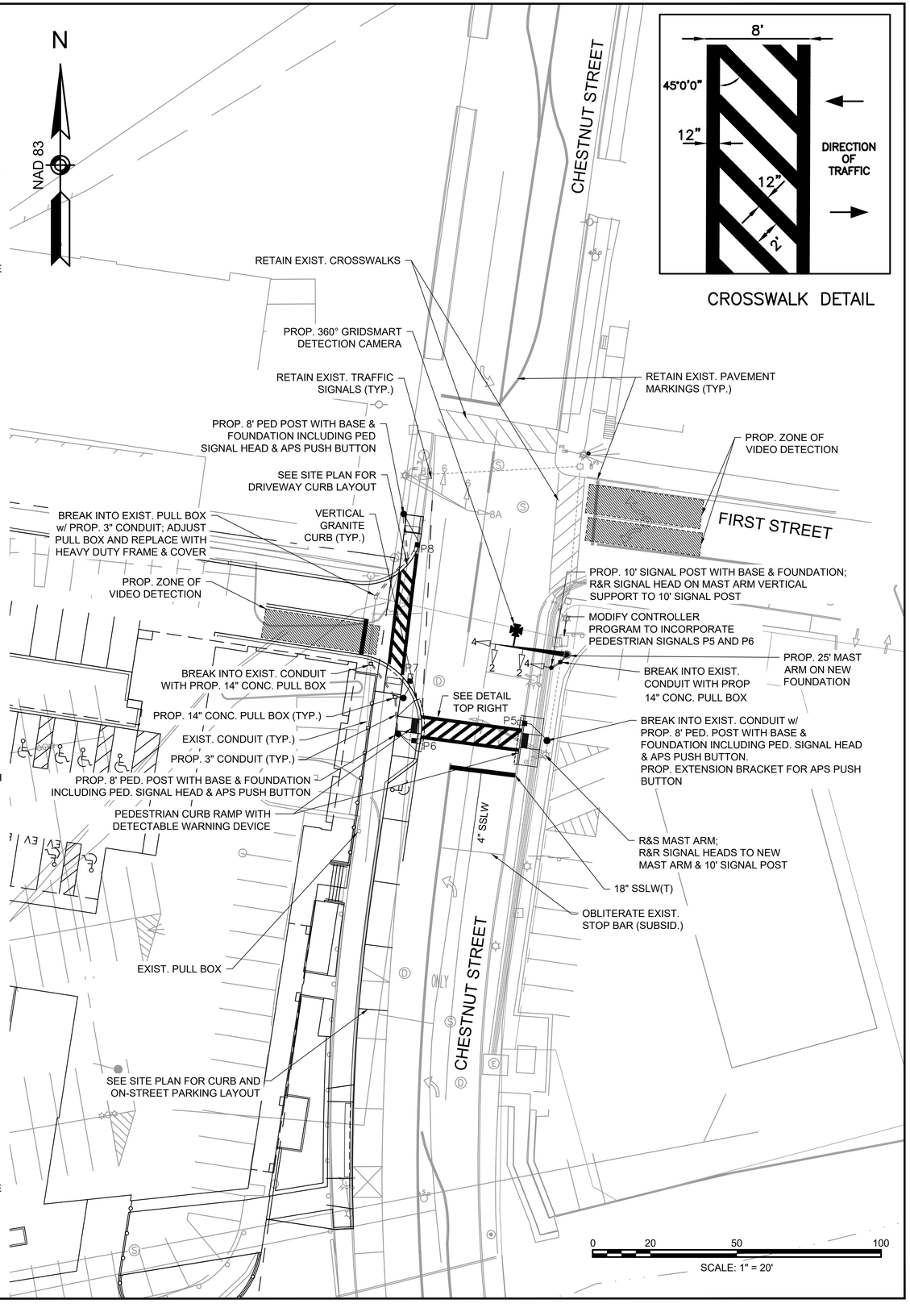
GENERAL NOTES

1. EXISTING CONDITIONS INFORMATION IS BASED ON SURVEY BY: MCENEANEY SURVEY ASSOCIATES OF NEW ENGLAND, P.O. BOX 681 - 24 CHESTNUT STREET DOVER, NH 03820 TEL: (603) 742-0911
2. THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH NHDOT STANDARD SPECIFICATIONS DATED 2016, CURRENT STANDARD PLANS, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS INCLUDED IN THE PROPOSAL.
3. CONTRACTOR SHALL TAKE SPECIAL CARE IN NOT DISTURBING EXISTNG MONUMENTS, BOUNDS, AND/OR BENCHMARKS WITHOUT FIRST MAKING PROVISIONS FOR RELOCATION.
4. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO LOCATE EXACTLY AND TO PRESERVE ANY AND ALL UNDERGROUND UTILITIES. CALL "DIG-SAFE" 1-888-DIGSAFE (344-7233) AT LEAST 72 HOURS BEFORE COMMENCING CONSTRUCTION.
5. WHERE AN EXISTING UNDERGROUND UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.
6. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES.
7. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
8. THE TERM "PROPOSED" (PROP.) MEANS WORK TO BE CONSTRUCTED USING NEW MATERIALS, OR, WHERE APPLICABLE, RE-USING EXISTING MATERIALS IDENTIFIED AS "REMOVE & RESET" (R & R).
9. ALL EXISTING SIGNS WITHIN THE PROJECT LIMITS SHALL BE RETAINED UNLESS NOTED OTHERWISE.
10. ALL SYMBOLS, WORDS, TRANSVERSE MARKINGS (STOP BARS, CROSSWALK LINES, AND RAILROAD SYMBOLS) LANE LINES AND ALL OTHER MARKINGS NOTED WITH (T) SHALL BE THERMOPLASTIC.
11. THE CONTRACTOR SHALL CONTACT THE DOVER ENGINEERING DEPARTMENT AT (603) 516-6450 ONE WEEK PRIOR TO PAVEMENT MARKING.
12. ALL EXISTING STATE, COUNTY, CITY AND TOWN LOCATION LINES AND PRIVATE PROPERTY LINES HAVE BEEN ESTABLISHED FROM AVAILABLE INFORMATION AND THEIR EXACT LOCATIONS ARE NOT GUARANTEED. ALL PROPERTY LINES BETWEEN ABUTTERS ARE APPROXIMATE ONLY.
13. ALL DISTURBED AREAS NOT DESIGNATED TO BE PAVED SHALL HAVE LOAM PLACED AND SEEDED. THE LOAM SHALL HAVE A MINIMUM DEPTH OF 4 INCHES AND SHALL BE PLACED FLUSH WITH THE TOP OF THE ADJACENT CURB, EDGING, BERM OR PAVEMENT SURFACE.
14. THE LIMIT OF WORK AREA SHALL BE THE STREET RIGHT OF WAY UNLESS SHOWN OTHERWISE.
15. PRIOR TO THE START OF ANY NEW UTILITY WORK, ALL ELEVATIONS OF EXISTING UTILITIES IN THOSE AREAS ARE TO BE VERIFIED. THE ENGINEER IS TO BE NOTIFIED IMMEDIATELY SHOULD ANY DISCREPANCIES OCCUR.
16. ALL CASTINGS SHALL BE SET FLUSH WITH FINISHED GRADE.
17. ALL GATE BOXES, SERVICE BOXES AND PUBLICLY OWNED MANHOLE FRAMES AND COVERS SHALL BE ADJUSTED TO GRADE BY THE CONTRACTOR. ADJUSTMENT OF THESE CASTINGS SHALL BE INCLUDED IN THE LUMP SUM BID PRICE.

PROPOSED

TRAFFIC SIGNAL LEGEND

- CONTROL CABINET GROUND MOUNTED (WITH & WITHOUT CONC. PAD)
- METER PEDESTAL
- PULL BOX (14" CONCRETE PULL BOX TYPE A)
- MAST ARM, POLE
- SIGNAL POST & BASE (ALPHA-NUMERIC DESIGNATION NOTED)
- VEHICULAR SIGNAL HEAD (ALPHA-NUMERIC DESIGNATION NOTED)
- EMERGENCY PREEMPTION CONFIRMATION STROBE
- OMNIDIRECTIONAL VIDEO DETECTOR
- EMERGENCY PREEMPTION DETECTOR
- ø1 CONTROLLER PHASE ACTUATED
- ZONE OF VIDEO DETECTION
- TRAFFIC SIGNAL CONDUIT



CROSSWALK DETAIL

GPI Engineering Design Planning Construction Management
603.891.2213 GPINET.COM
Greenman-Pedersen, Inc.
21 Daniel Street, Second Floor
Portsmouth, NH 03801

PREPARED FOR
Altus Engineering, Inc.
133 Court Street
Portsmouth, NH 03801

47 CHESTNUT STREET OFF-SITE IMPROVEMENT PLAN DOVER, NH

REVISIONS

NO.	REVISION	DATE

APRIL 4, 2022

DRAWN/DESIGN BY	CHECKED BY
RSK/TN	MJD

TRAFFIC SIGNAL PLAN

SCALE: 1"=20'

TS-1

21386 DOVER 47 CHESTNUT_TS.DWG 4/4/2022

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PLANTING SCHEDULE

Symbol	Qty	Botanical Name	Common Name	Size	Root / Cont.	Comments
Deciduous Trees						
AG	13	Amelanchier grandiflora 'Robin Hill'	Serviceberry	2-2.5" cal.	B&B	Single Stem, headedat 4', matched specimens
AR	5	Acer rubrum 'Redpointe'	Red Maple	3"-3.5" cal.	B&B	Limbed to 7', Matched, Specimen, Central Leader
BP	5	Betula populifolia 'Whitespire Senior'	Whitespire Gray Birch	14'-16' ht.	B&B	Multi-stem, min. 4 stems, matched specimens
CC	5	Cercis canadensis 'Alba'	White Redbud	8-10' ht.	B&B	Multi-stem, min. 3 stems, matched specimens
CCN	7	Carpinus caroliniana 'Native Flame'	American Hornbeam	3"-3.5" cal.	B&B	Limbed to 4', Matched, Specimen, Central Leader
CK	4	Cladastris kentukea	Yellowwood	3"-3.5" cal.	B&B	Limbed to 7', Matched, Specimen, Central Leader
LS	4	Liquidambar styraciflua 'Happidaze'	American Sweetgum	3"-3.5" cal.	B&B	Limbed to 7', Matched, Specimen, Central Leader
QB	2	Quercus bicolor	Swamp White Oak	3"-3.5" cal.	B&B	Limbed to 7', Specimen, Central Leader
UAJ	6	Ulmus americana 'Jefferson'	Jefferson Elm	3"-3.5" cal.	B&B	Limbed to 7', Matched, Specimen, Central Leader
Evergreen Trees						
PPF	5	Picea pungens 'Iseli Fastigiate'	Columnar Blue Spruce	8-10' ht.	B&B	full to ground
PG	2	Picea glauca	White Spruce	8-10' ht.	B&B	full to ground
TO	3	Thuja occidentalis 'Techny'	Techny Arborvitae	8-10' ht.	B&B	full to ground
Shrubs						
CAS		Clethra alnifolia 'Sixteen Candles'	Sixteen Candles Summersweet	18"-24" ht.	#3 Cont.	30" o.c., staggered rows
CSF		Cornus sericea 'Farrow'	Arctic Fire Dogwood	18"-24" ht.	#3 Cont.	30" o.c., staggered rows
HQA		FINA	Dwarf Oakleaf Hydrangea	18"-24" ht.	#3 Cont.	36" o.c., staggered rows
HV		Hamamelis virginiana	Witchhazel	5-6' ht.	B&B	as shown
IGS		Ilex glabra 'Shamrock'	Shamrock Inberry	24"-30" ht.	#3 Cont.	30" o.c., staggered rows
IVJ		Ilex verticillata 'Jim Dandy'	Jim Dandy Winterberry	24"-30" ht.	#3 Cont.	30" o.c., male, staggered rows
IVS		Ilex verticillata 'Red Sprite'	Red Sprite Winterberry	24"-30" ht.	#3 Cont.	30" o.c., staggered rows
RAG						
VD		Viburnum dentatum	Arrowwood Viburnum	24"-30" ht.	#3 Cont.	36" o.c., staggered rows
Perennials						
AH		Amsonia hubrichtii	Blue Star	12"-18" ht.	#1 Cont.	18" o.c., staggered rows
CP		Carex pensylvanica	Pennsylvania Sedge	12"-18" ht.	#1 Cont.	12" o.c., staggered rows
DC		Deschampsia cespitosa	Tufted Hair Grass	12"-18" ht.	#1 Cont.	12" o.c., staggered rows
DP		Dennstaedtia puntilobula	Eastern Hay-scented Fern	12"-18" ht.	#1 Cont.	18" o.c., staggered rows
EP		Echinacea purpurea	Pale Purple Coneflower	12"-18" ht.	#1 Cont.	18" o.c., staggered rows
GM		Geranium maculatum	Wild Geranium	12"-18" ht.	#1 Cont.	12" o.c., staggered rows
MP		Monarda punctata	Spotted Bee Balm	18"-24" ht.	#1 Cont.	18" o.c., staggered rows
PVS		Panicum virgatum 'Shenandoah'	Switchgrass	18"-24" ht.	#1 Cont.	18" o.c., staggered rows
RH		Rudbeckia hirta	Black Eyed Susan	18"-24" ht.	#1 Cont.	12" o.c., staggered rows
SS		Schizachyrium scoparium	Little Bluestem	18"-24" ht.	#1 Cont.	18" o.c., staggered rows
VA		Vaccinium angustifolium	Lowbush Blueberry	12-15" ht.	#1 Cont.	12" o.c., staggered rows

PLANTING AND SOIL NOTES

1. IF DISCREPANCIES EXIST BETWEEN THE NUMBER OF PLANTS DRAWN ON THE PLANTING PLAN AND THE NUMBER OF PLANTS IN THE PLANT LIST, THE PLANTING PLAN SHALL GOVERN.
2. ALL NEW PLANT MATERIAL SHALL CONFORM TO THE MINIMUM GUIDELINES ESTABLISHED FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC. IN ADDITION, ALL NEW PLANT MATERIAL FOR THE PROJECT SHALL BE OF SPECIMEN QUALITY.
3. THE LANDSCAPE ARCHITECT SHALL ONLY REVIEW TREES THAT ARE IN THE GROUND AT THE NURSERY. NO PRE-DUG TREES WILL BE ACCEPTED. THEREFORE TIMING OF IN-GROUND REVIEWS MUST BE COORDINATED WITH EXPECTED INSTALLATION DATES.
4. ALL NEW PLANTS TO BE BALLED & BURLAPPED OR CONTAINER GROWN, UNLESS OTHERWISE NOTED ON THE PLANT LIST.
5. THE CONTRACTOR SHALL SUPPLY ALL NEW PLANT MATERIAL IN QUANTITIES SUFFICIENT TO COMPLETE THE PLANTING SHOWN ON THE DRAWINGS.
6. ANY PROPOSED SUBSTITUTIONS OF PLANT SPECIES SHALL BE MADE WITH PLANTS OF EQUIVALENT OVERALL FORM, HEIGHT, BRANCHING HABIT, FLOWER, LEAF, COLOR, FRUIT AND CULTURE, AND ONLY AFTER WRITTEN APPROVAL OF THE LANDSCAPE ARCHITECT.
7. ALL NEW PLANTS SHALL BE TAGGED AND APPROVED BY THE LANDSCAPE ARCHITECT AT THE NURSERY PRIOR TO DIGGING OR DELIVERY TO THE SITE.
8. CONTRACTOR SHALL LOCATE AND VERIFY ALL EXISTING UTILITY LINES PRIOR TO PLANTING AND SHALL REPORT ANY CONFLICTS TO THE LANDSCAPE ARCHITECT.
9. STAKE LOCATION OF ALL PROPOSED PLANTING FOR APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO THE COMMENCEMENT OF PLANTING.
10. NEW SHRUBS AND GROUNDCOVER SHALL BEAR THE SAME RELATIONSHIP TO GRADE AS IT BORE TO PREVIOUS GRADE. TREES SHALL BE SET 3" HIGHER THAN PREVIOUS GRADE. NO TREES SHALL BE PLANTED BEFORE ACCEPTANCE OF ROUGH GRADING.
11. ALL PLANT BEDS TO RECEIVE UN-DYED, AGED AND SHREDDED BARK MULCH AS PER SPECIFICATIONS.
12. ALL EXISTING TREES TO REMAIN SHALL BE PROPERLY PROTECTED DURING CONSTRUCTION. PROTECTION TECHNIQUES SHALL BE REVIEWED AND APPROVED BY THE LANDSCAPE ARCHITECT.
13. PRUNE TREES IN ACCORDANCE WITH THE SPECIFICATIONS.
14. ALL PLANT MATERIAL SHALL BE MAINTAINED BY CONTRACTOR UNTIL FINAL ACCEPTANCE AND GUARANTEED FOR 1 CALENDAR YEAR.
15. CONFIRM ALL QUANTITIES AGAINST PLANTING PLANS, GRADING PLANS, AND SPECIFICATIONS, INCLUDING SITE DISTURBANCE OUTSIDE OF THE LIMIT OF GRADING NECESSITATED TO FACILITATE CONSTRUCTION.
16. WHERE SAND AND GRAVEL ARE SPECIFIED FOR A DRAINAGE LAYER, EXTEND DRAINAGE LAYER TO ASSOCIATED DRAIN LINES, DRAINAGE AREAS, OR DAYLIGHT.
17. WHERE ONE SOIL TYPE MEETS ANOTHER SOIL TYPE, FORM A 1:1 SLOPED BOUNDARY TRANSITION.
18. WHERE A SOIL PROFILE ENCROACHES WITHIN THE DRIP LINE OF EXISTING TREES, CONSULT WITH LANDSCAPE ARCHITECT PRIOR TO COMMENCING EXCAVATION.
19. ALL EXCAVATION AND PLACEMENT OF SOILS WITHIN THE DRIP LINE OF EXISTING TREES TO BE PERFORMED BY HAND.
20. SCARIFY SUBGRADE AS SPECIFIED BEFORE PLACEMENT OF ANY PLANTING SOILS.
21. DO NOT PLACE OR HANDLE SOILS THAT ARE WET.
22. PROTECT ALL EXISTING SOILS AGAINST COMPACTION, CONTAMINATION WITH CONSTRUCTION MATERIALS, AND ALL DISTURBANCE.
23. CONTRACTOR IS RESPONSIBLE FOR ACTUAL SITE CONDITIONS, COORDINATION OF SOILS PLACEMENT, AND PLANTING SUBDRAINAGE.
24. DO NOT PLACE ANY PLANTING SOIL PRIOR TO INSPECTION BY LANDSCAPE ARCHITECT.
25. EXTENTS OF SAND BASED STRUCTURAL SOIL (SBSS) ARE APPROXIMATE. PROVIDE A MINIMUM OF 1,000 C.F. OF SBSS FOR EACH TREE.

TREE PROTECTION AND REMOVAL NOTES

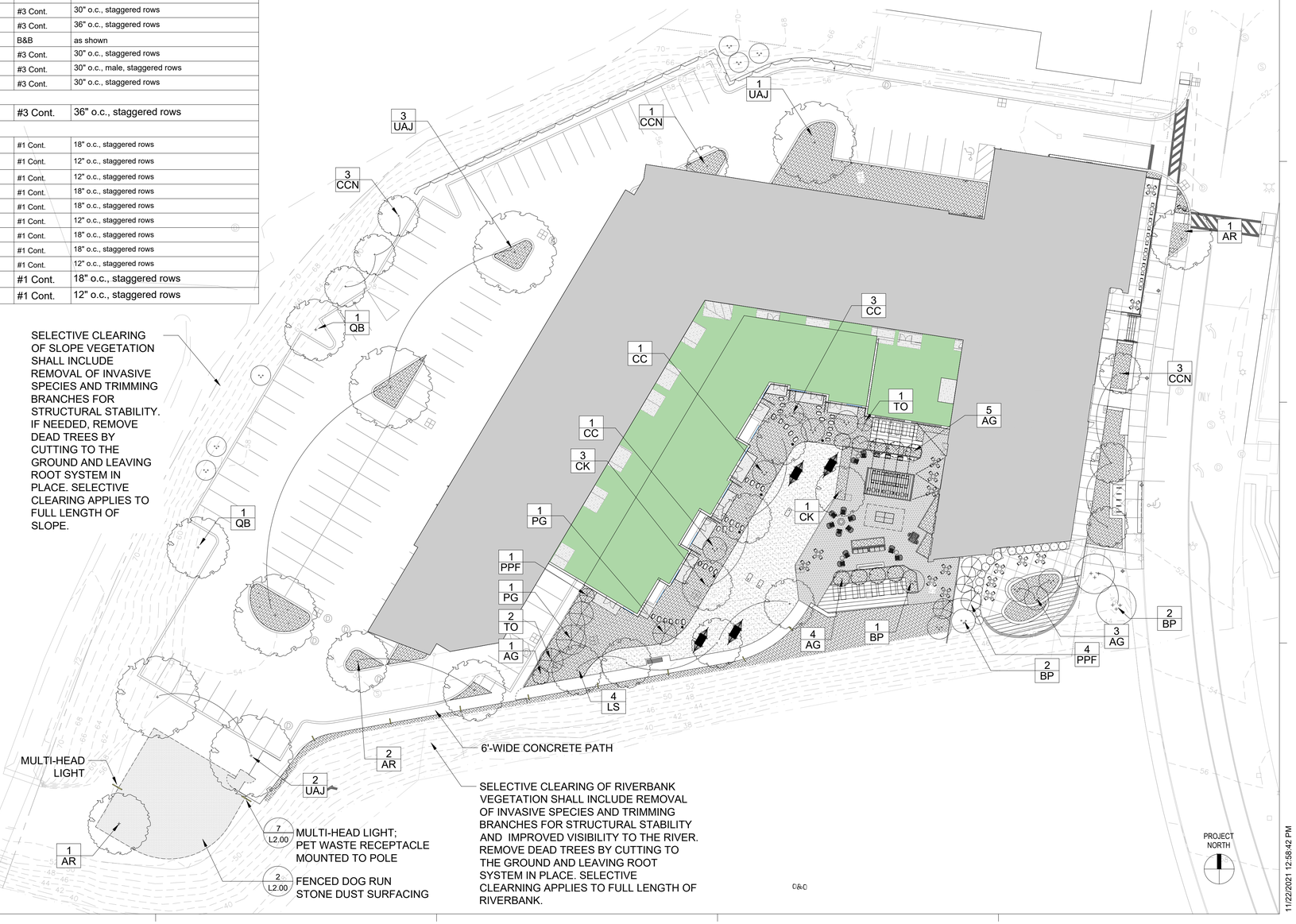
1. THIS SHEET DESCRIBES EXISTING TREE PRESERVATION AND REMOVAL WORK ONLY. REFER TO CIVIL ENGINEER'S DRAWINGS FOR COMPLETE SITE PREP AND DEMO REQUIREMENTS.
2. TREE REMOVAL SCOPE SHALL INCLUDE THE FELLING, CUTTING, AND SATISFACTORY DISPOSAL OF ALL TREES, STUMPS AND VEGETATIVE DEBRIS PRODUCED THROUGH THE CLEARING OPERATIONS.
3. FELL TREES IN SUCH A WAY AS TO NOT INJURE TREES TO BE SAVED. EXCAVATION OR GRADING WITHIN THE BRANCH SPREAD OF TREES TO BE SAVED SHALL BE PERFORMED ONLY UNDER THE DIRECTION OF THE OWNER'S REPRESENTATIVE UNLESS OTHERWISE DIRECTED.
4. STUMPS TO BE REMOVED OUTSIDE THE TREE PRESERVATION AREA SHALL BE GRUBBED TO THEIR FULL DEPTH. ROOTS 3 INCHES AND LARGER SHALL BE REMOVED TO A DEPTH OF 2 FEET BELOW FINISHED GRADE. STUMPS SHALL BE LEGALLY DISPOSED OF OFF-SITE
5. STUMPS TO BE REMOVED WITHIN THE TREE PRESERVATION AREA SHALL BE GROUND DOWN USING A MECHANICAL STUMP GRINDER TO A DEPTH OF 2 FEET BELOW FINISHED GRADE.
6. TREE PROTECTION FENCING SHALL BE INSTALLED AS SHOWN ON THIS PLAN AND REMAIN THROUGHOUT THE TIME OF CONSTRUCTION AS SPECIFIED AND DIRECTED BY THE OWNER'S REPRESENTATIVE.
7. CONTRACTOR SHALL TAG ALL TREES TO BE REMOVED AND VERIFY WITH OWNER'S REPRESENTATIVE PRIOR TO THE START OF DEMOLITION.
8. FOR ALL SITE PREP AND DEMO WORK OUTSIDE TREE PROTECTION AREA, SEE CIVIL ENGINEER'S DRAWINGS.
9. NO STORAGE OF ANY TYPE OF MATERIAL, CHEMICAL OR EQUIPMENT SHALL BE ALLOWED IN THE PROTECTED FENCED IN AREA.
10. BEFORE THE START OF ANY WORK ON THE SITE, PRECEDING THE ARRIVAL OF EQUIPMENT, MATERIALS OR VEHICLES TO THE SITE, AND PRIOR TO THE COMMENCEMENT OF ANY CLEARING ON THE SITE, THE CONTRACTOR SHALL ARRANGE A PRE-CONSTRUCTION CONFERENCE ON THE SITE WITH THE OWNER'S REPRESENTATIVE AND THE LANDSCAPE ARCHITECT TO IDENTIFY TREES AND SHRUBS THAT ARE TO BE PROTECTED OR REMOVED. DO NO CLEARING WITHOUT A CLEAR UNDERSTANDING OF EXISTING CONDITIONS TO BE PRESERVED. REFER TO SPECIFICATION SECTION 01 56 39 FOR MORE INFORMATION.
11. REMOVE AND DISPOSE OF DEBRIS AS DIRECTED BY THE OWNER.
12. ALL EXCAVATION WITHIN THE TREE PROTECTION ZONE TO BE DONE BY HAND TO MINIMIZE DISTURBANCE TO ROOT ZONES.

LANDSCAPE MAINTENANCE

1. THE PROPERTY OWNER(S) SHALL BE RESPONSIBLE FOR MAINTENANCE, REPAIR, AND REPLACEMENT OF ALL REQUIRED LANDSCAPING, SCREENING AND BUFFERING MATERIALS.
2. ALL REQUIRED PLANT MATERIALS SHALL BE TENDED AND MAINTAINED IN A HEALTHY GROWING CONDITION, REPLACED AS NECESSARY, AND KEPT FREE OF WEEDS, INVASIVE PLANTS, REFUSE AND DEBRIS.
3. THE PROPERTY OWNER SHALL REMOVE AND REPLACED DEAD OR DISEASED PLANTS AND TREES IMMEDIATELY DURING THE GROWING SEASON AND AFTER WINTER MONTHS WITH THE SAME TYPE, SIZE AND QUANTITY OF PLANTS MATERIALS AS ORIGINALLY INSTALLED, UNLESS ALTERNATIVE PLANTINGS ARE REQUESTED AND APPROVED BY THE PLANNING BOARD.
4. IRRIGATION SYSTEM SHALL INCLUDED AUTOMATIC PLANTER BED, LAWN, AND TREE PIT WATERING WITH SOIL-MOISTURE BASED SMART CONTROLLER.
5. AFTER ESTABLISHMENT PERIOD (TWO GROWING SEASONS), IRRIGATION SYSTEM WILL BE TURNED OFF AT PLANT BEDS AND TREE PIT ZONES. IRRIGATION AT THESE ZONES WILL BE ACTIVATED ON AN AS-NEEDED BASES THEREAFTER, SUCH AS DURING PERIODS OF EXTENDED DROUGHT OR PLANT REPLACEMENT.
6. MAINTENANCE OF GREEN ROOF:
   - 6.1. DURING PERIODS OF PROLONGED DROUGHT, PLANTS SHALL BE WATERED AT A RATE OF 1" PER WEEK UNTIL NORMAL PRECIPITATION RESUMES.
   - 6.2. GREEN ROOF SHALL BE VISUALLY INSPECTED AND SPOT-WEEDED EVERY 4-6 WEEKS DURING THE GROWING SEASON, OR AS NEEDED. MORE FREQUENT WEEDING MAY BE REQUIRED DURING THE ESTABLISHMENT PERIOD.
   - 6.3. IF NEEDED, A SLOW-RELEASE FERTILIZER MAY BE APPLIED DURING THE GROWING SEASON. ALL FERTILIZER APPLICATIONS SHALL FOLLOW MANUFACTURER'S INSTRUCTIONS.

LEGEND

- CONCRETE PAVEMENT
- UNIT PAVERS, TYPE 1
- UNIT PAVERS, TYPE 2
- STONE DUST PAVEMENT
- WOOD DECK
- PLANTING AREA
- GREEN ROOF
- LAWN AREA
- BICYCLE RACKS
- SITE FENCE
- BOLLARD
- STREET LIGHT
- PATH LIGHTS (SINGLE AND DOUBLE)



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ARCHITECT:

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ARCHITECTURE & DESIGN
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BOSTON MA 02109
617.623.5555
arrowstreet.com

CONSULTANTS:

CWDG
Copley Wolff Design Group
Landscape Architects & Planners

PROJECT INFORMATION:

47 Chestnut
#P21-84
47 Chestnut Street,
Dover, NH 03820

ISSUANCE:

SITE PLAN REVIEW
ISSUED FOR PLANNING BOARD REVIEW

STAMP:

JAMES A. HEBERT 096 LICENSED LANDSCAPE ARCHITECT STATE OF NEW HAMPSHIRE

REVISIONS:

No.	Date	Description

DRAWING TITLE:

Project No.	**21033.00**
Drawn By	**SS/JM**
Date	**4/19/22**
Scale	

DRAWING NUMBER:

Sheet 20 of 34

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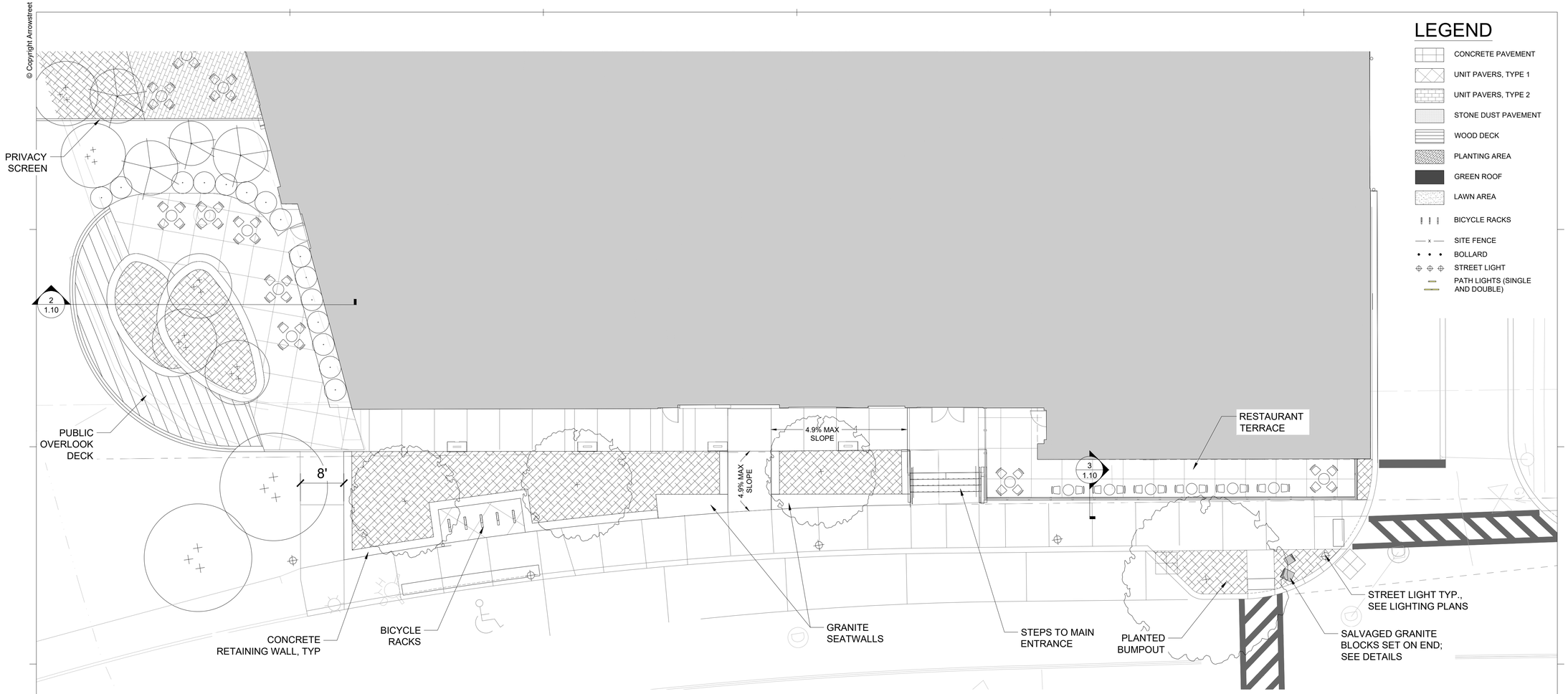
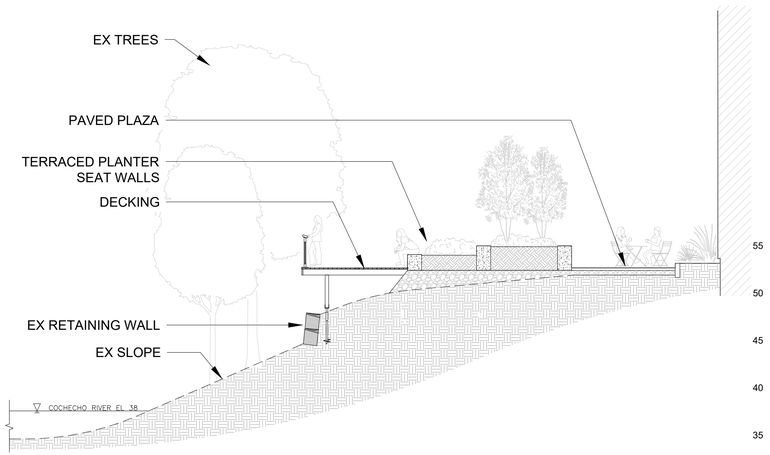


CHESTNUT STREET ENLARGEMENT

SCALE: 1" = 10'-0"

PROJECT NORTH



PUBLIC OVERLOOK

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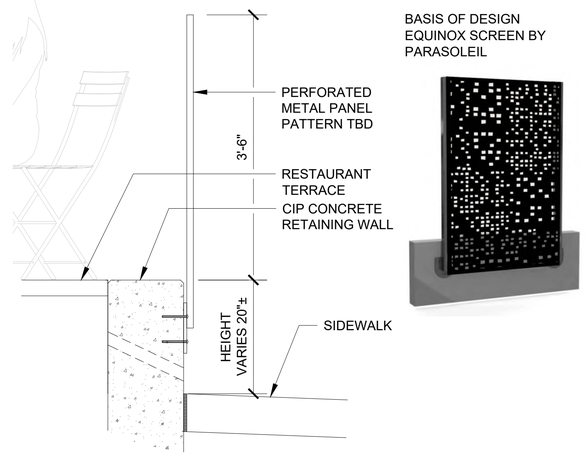

RAIL SCREEN AT RESTAURANT TERRACE

SCALE: 1" = 1'-0"

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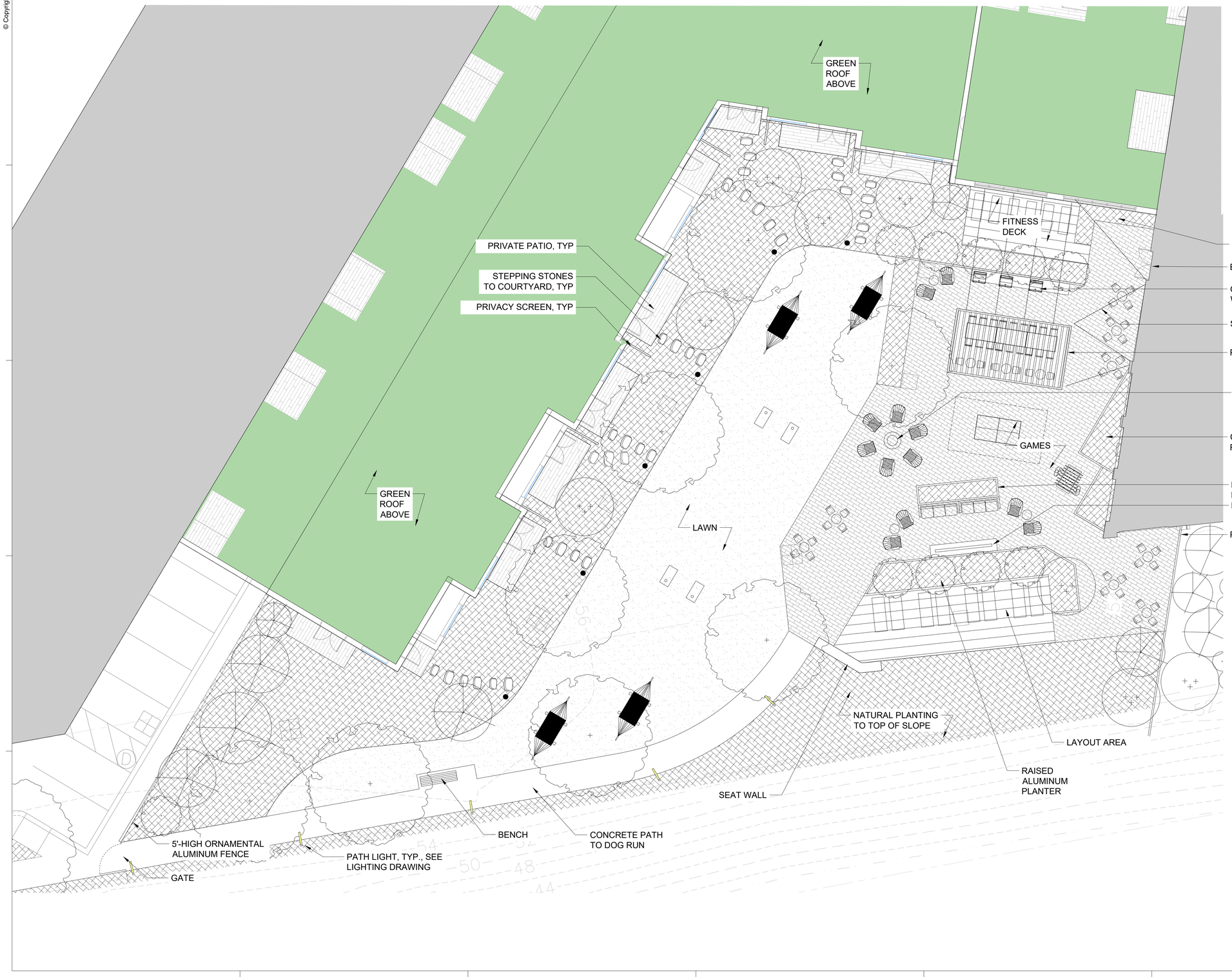

LEGEND

- CONCRETE PAVEMENT
- UNIT PAVERS, TYPE 1
- UNIT PAVERS, TYPE 2
- STONE DUST PAVEMENT
- WOOD DECK
- PLANTING AREA
- GREEN ROOF
- LAWN AREA
- BICYCLE RACKS
- SITE FENCE
- BOLLARD
- STREET LIGHT
- PATH LIGHTS (SINGLE AND DOUBLE)

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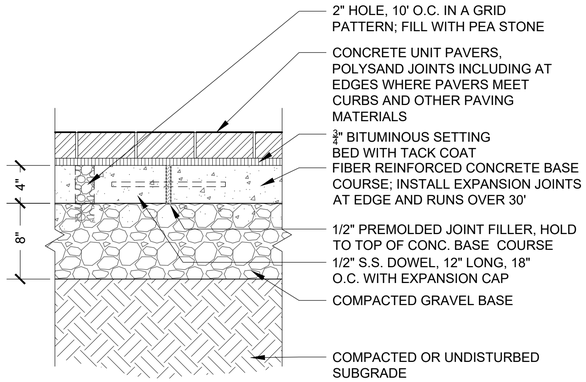
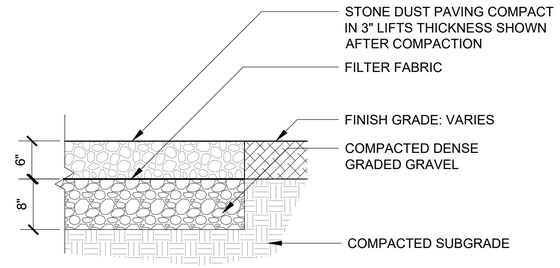
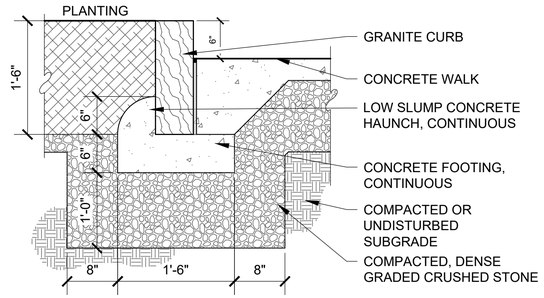


1 UNIT PAVING ON CONCRETE BASE
SCALE: 1-1/2" = 1'-0"



NOTE:
1. SUBMIT SAMPLE OF STONE DUST FOR APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO ORDERING.

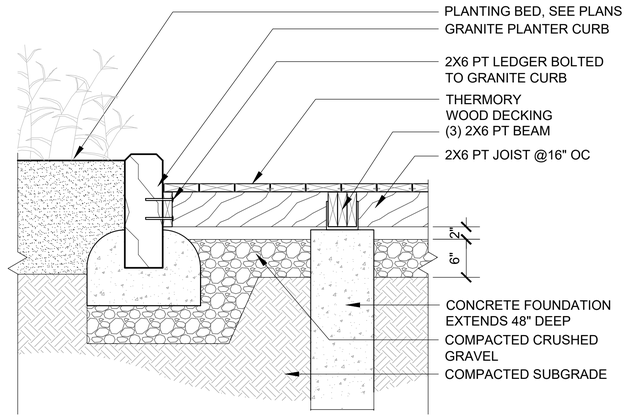
2 STONEDUST PAVING
SCALE: 1" = 1'-0"



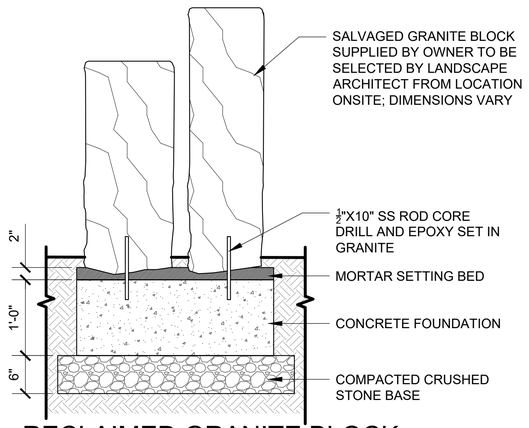
NOTE:
1. SHOP DRAWINGS REQUIRED PRIOR TO INSTALLATION.

3 GRANITE CURB
SCALE: 1" = 1'-0"

NOTES:
1. CONTRACTOR TO PROVIDE SHOP DRAWINGS PRIOR TO CONSTRUCTION FOR REVIEW AND APPROVAL BY LANDSCAPE ARCHITECT/ARCHITECT.

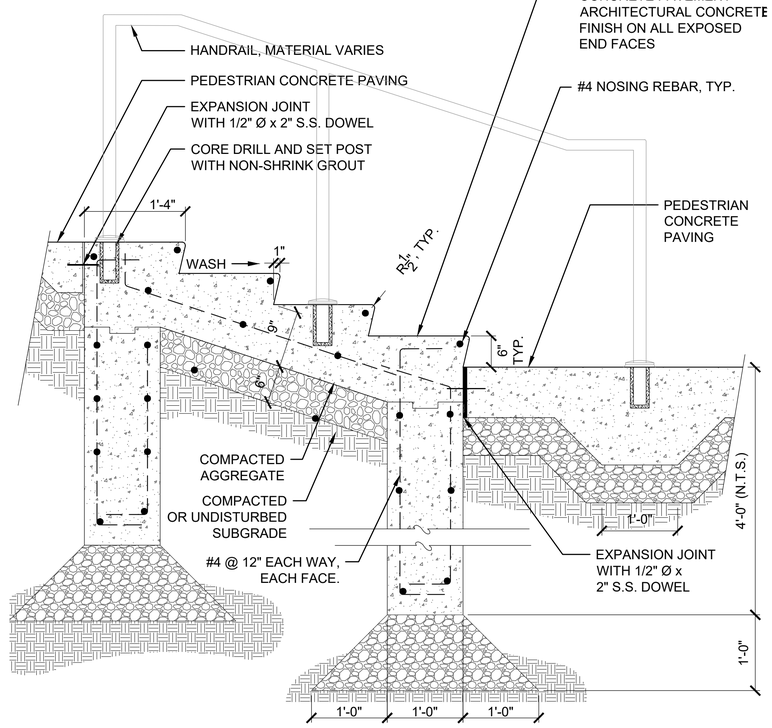


4 WOOD DECKING AT GRADE
SCALE: 1" = 1'-0"

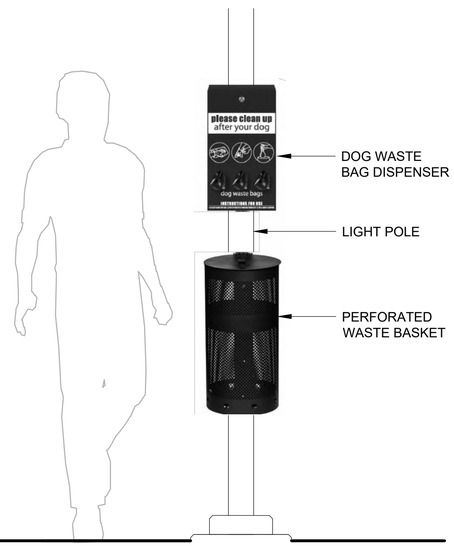


5 RECLAIMED GRANITE BLOCK
SCALE: 1" = 1'-0"

NOTE:
1. CONTRACTOR TO PROVIDE SHOP DRAWINGS
2. EACH TREAD WITHIN RUN TO BE EQUAL WIDTH. SEE PLAN DRAWINGS FOR TREAD WIDTH AT EACH RUN.



6 CIP CONCRETE STEPS
SCALE: 1" = 1'-0"



7 PET WASTE RECEPTACLE
SCALE: 1" = 1'-0"

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PROJECT INFORMATION:

47 Chestnut
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47 Chestnut Street,
Dover, NH 03820

ISSUANCE:

SITE PLAN REVIEW
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REVISIONS:

No.	Date	Description

DRAWING TITLE:

LANDSCAPE DETAILS

Project No.	**21033.00**
Drawn By	**SS/JM**
Date	**4/19/22**
Scale	

DRAWING NUMBER:

L2.00
Sheet **23** of **34**

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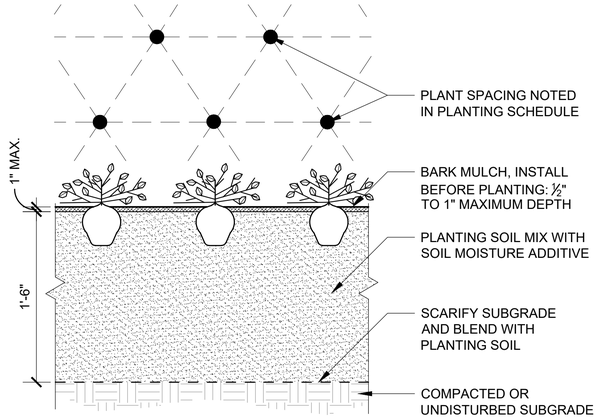
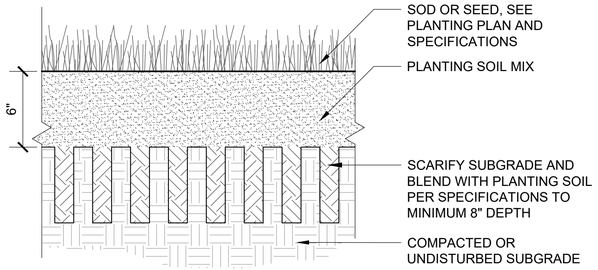


PERENNIAL / GROUNDCOVER PLANTING
SCALE: 1-1/2" = 1'-0"



SOD DETAIL
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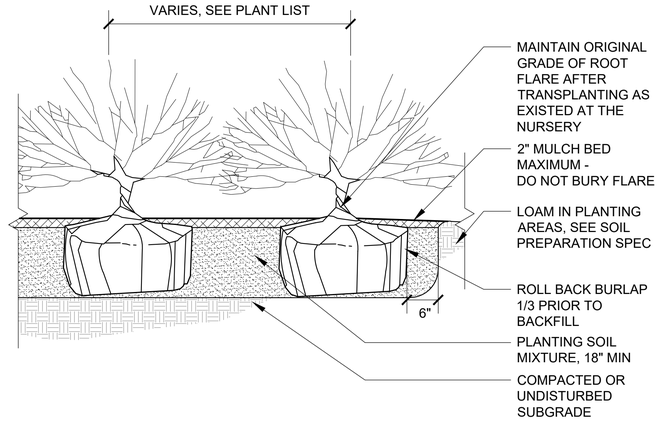
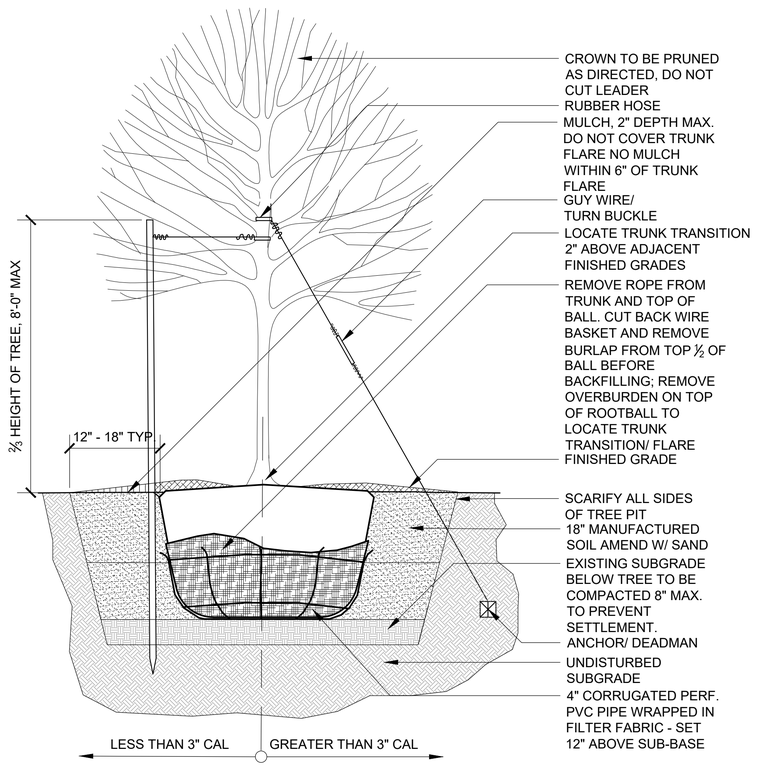
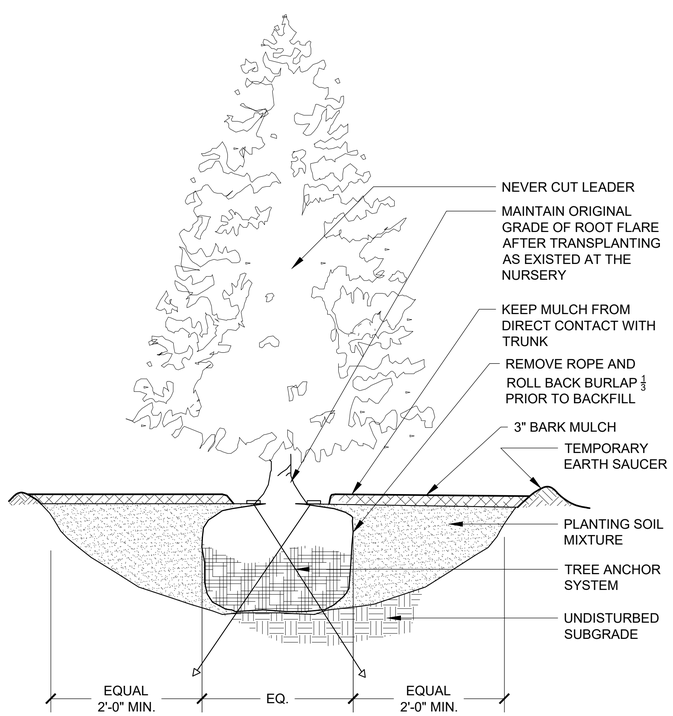




DECIDUOUS TREE PLANTING
SCALE: 1/2" = 1'-0"



EVERGREEN TREE
SCALE: 3/4" = 1'-0"

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LANDSCAPE DETAILS

Project No.	**21033.00**
Drawn By	**SS/JM**
Date	**4/19/22**
Scale	

DRAWING NUMBER:

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Sheet **24** of **34**

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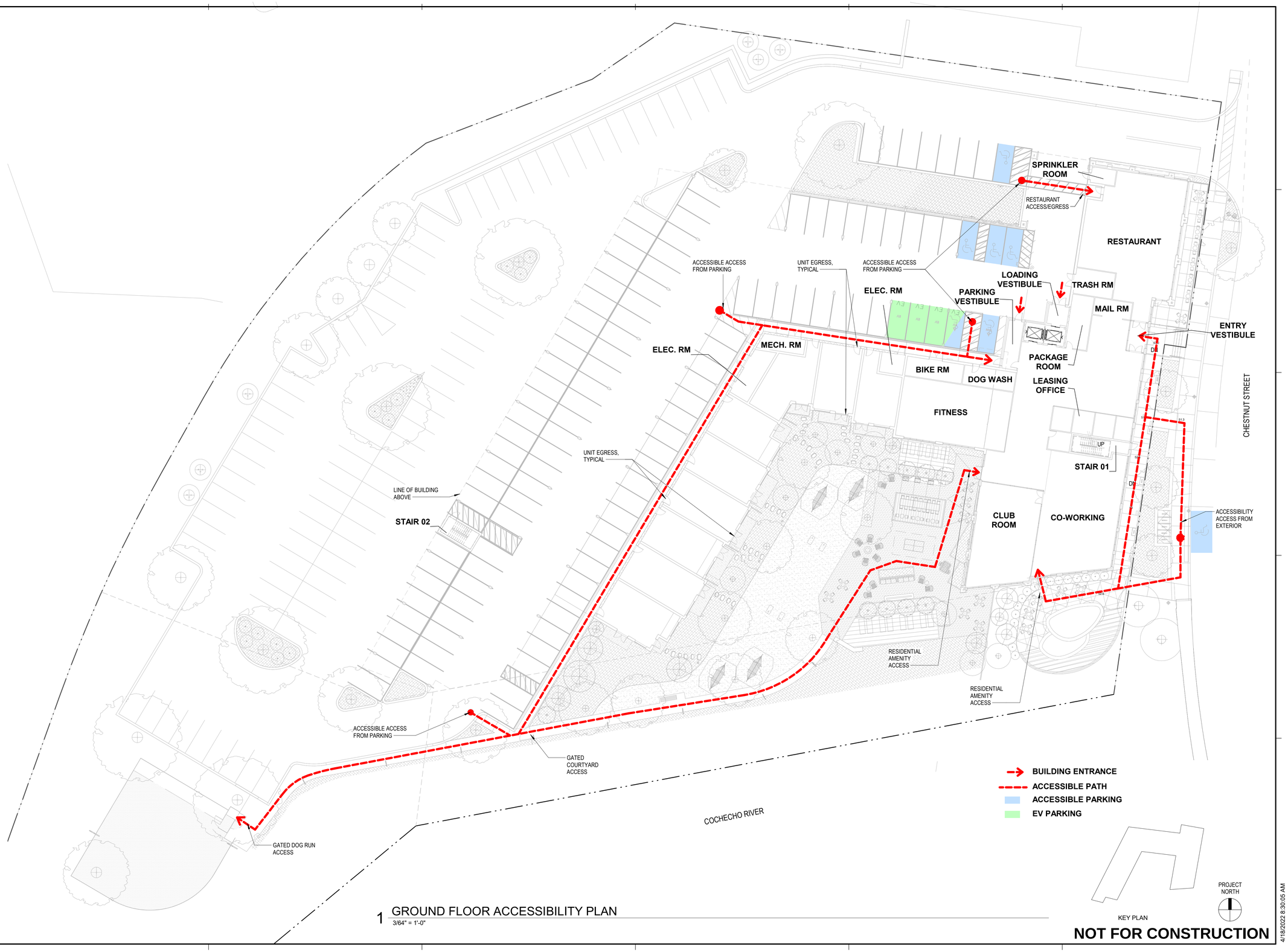

1 GROUND FLOOR ACCESSIBILITY PLAN
3/64" = 1'-0"

NOT FOR CONSTRUCTION

4/18/2022 8:30:05 AM

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CONSULTANTS:

PROJECT INFORMATION:

47 Chestnut
#P21-84
47 Chestnut Street, Dover, NH 03820

ISSUANCE:

SITE PLAN REVIEW
ISSUED FOR PLANNING BOARD REVIEW

STAMP:

LICENSED ARCHITECT
DAVID A. BOIS
No. 04928
THE STATE OF NEW HAMPSHIRE

REVISIONS:

No.	Date	Description

DRAWING TITLE:

GROUND FLOOR ACCESSIBILTY PLAN

Project No.	**21033.00**
Drawn By	**LN**
Date	**04/19/22**
Scale	**3/64" = 1'-0"**

DRAWING NUMBER:

A0.01

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1 SIDING STUDY
3/64" = 1'-0"

KEY PLAN

PROJECT NORTH

NOT FOR CONSTRUCTION

4/18/2022 8:30:07 AM

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CONSULTANTS:

PROJECT INFORMATION:

47 Chestnut #P21-84

47 Chestnut Street, Dover, NH 03820

ISSUANCE:

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DAVID A. BOIS No. 04828
THE STATE OF NEW HAMPSHIRE

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No.	Date	Description

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GROUND FLOOR PLAN

Project No.	**21033.00**
Drawn By	**LN**
Date	**04/19/22**
Scale	**3/64" = 1'-0"**

DRAWING NUMBER:

A2.11

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1 TYPICAL FLOOR PLAN 2-5
3/64" = 1'-0"

KEY PLAN

PROJECT NORTH

NOT FOR CONSTRUCTION

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ARCHITECT:

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CONSULTANTS:

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47 Chestnut Street, Dover, NH 03820

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LICENSED ARCHITECT
DAVID A. BOIS
No. 04928
STATE OF NEW HAMPSHIRE

REVISIONS:

No.	Date	Description

DRAWING TITLE:

TYPICAL FLOOR PLAN (2-5)

Project No.	**21033.00**
Drawn By	**LN**
Date	**04/19/22**
Scale	**3/64" = 1'-0"**

DRAWING NUMBER:

A2.12

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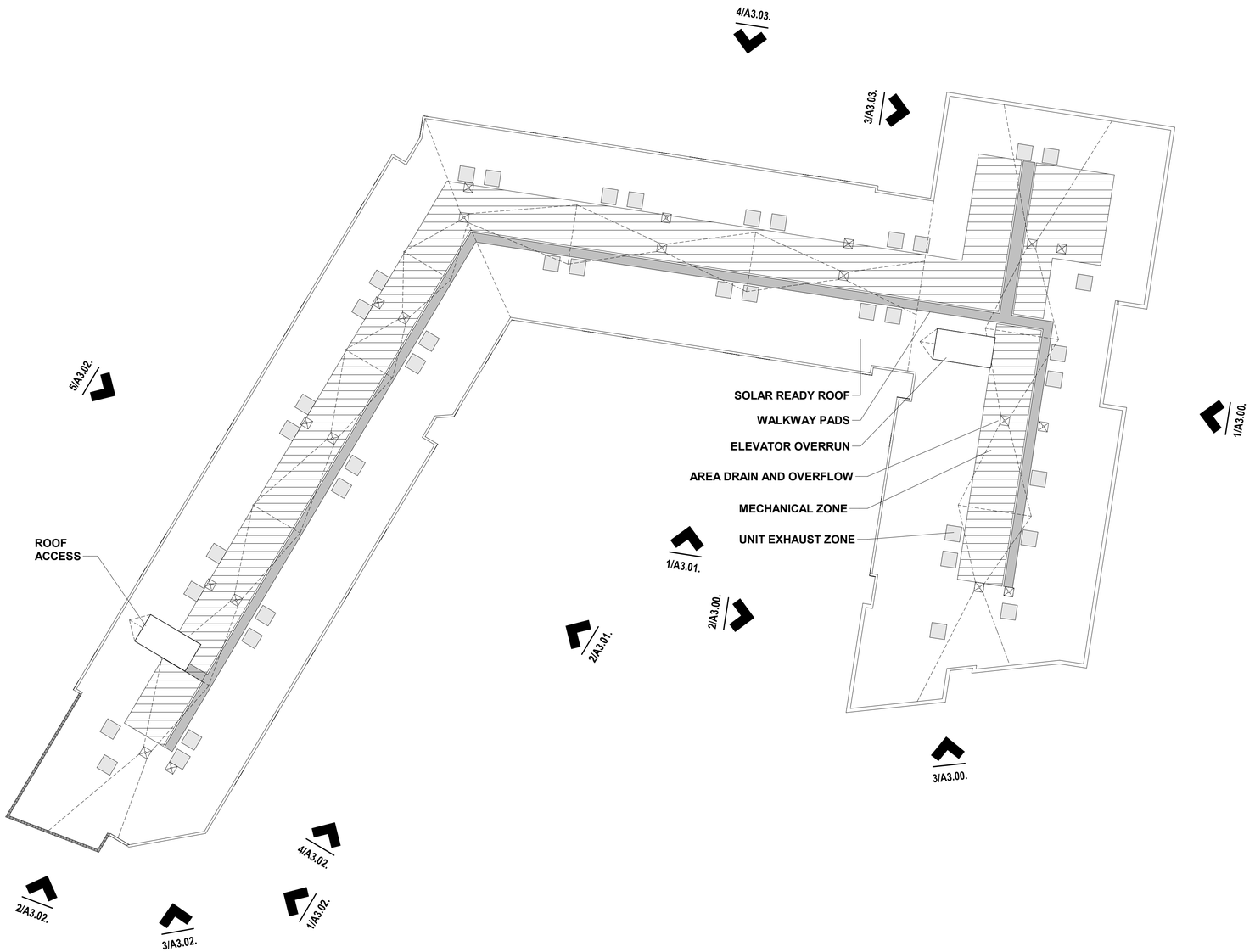
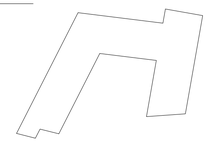


1 ROOF PLAN
3/64" = 1'-0"



KEY PLAN

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CONSULTANTS:

PROJECT INFORMATION:

47 Chestnut #P21-84

47 Chestnut Street, Dover, NH 03820

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REVISIONS:

No.	Date	Description

DRAWING TITLE:

ROOF PLAN

Project No.	**21033.00**
Drawn By	**LN**
Date	**04/19/22**
Scale	**3/64" = 1'-0"**

DRAWING NUMBER:

A2.13

2/23/2022 5:25:03 PM

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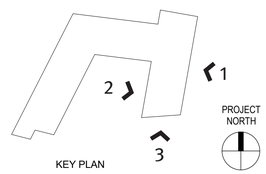
MATERIALS LEGEND

- 1A Primary Masonry
- 1B Primary Masonry Textured
- 2 Secondary Masonry
- 3 Tertiary Masonry
- 4 Fiber Cement Siding
- 5 Fiber Cement Siding
- 6 Metal Panel
- 7 Granite
- 8 Ground Face CMU

1 EAST ELEVATION
3/32" = 1'-0"

2 WEST ELEVATION - COURTYARD
3/32" = 1'-0"

3 SOUTH ELEVATION - EAST
3/32" = 1'-0"



KEY PLAN

NOT FOR CONSTRUCTION

2/20/2022 2:33:25 PM

CLIENT:

REDGATE™

Redgate Real Estate Advisor, LLC
286 Franklin Street, Suite 602
Boston, MA 02110

ARCHITECT:

ARROWSTREET
ARCHITECTURE & DESIGN

10 POST OFFICE SQUARE
SUITE 700N
BOSTON MA 02109
617.623.5555
arrowstreet.com

CONSULTANTS:

PROJECT INFORMATION:

47 Chestnut
#P21-84
47 Chestnut Street, Dover, NH 03820

ISSUANCE:

SITE PLAN REVIEW
ISSUED FOR PLANNING BOARD REVIEW

STAMP:

LICENSED ARCHITECT
DAVID A. BOIS
No. 04928
STATE OF NEW HAMPSHIRE

REVISIONS:

No.	Date	Description

DRAWING TITLE:

BUILDING ELEVATIONS

Project No.	**21033.00**
Drawn By	**Author**
Date	**04/19/22**
Scale	**3/32" = 1'-0"**

DRAWING NUMBER:

A3.00

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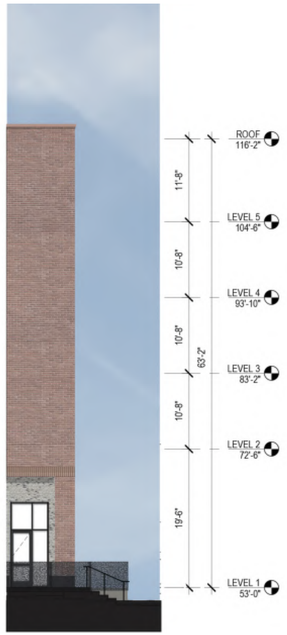
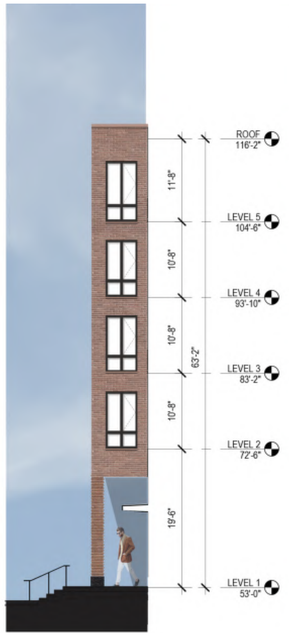
MATERIALS LEGEND

- 1A Primary Masonry
- 1B Primary Masonry Textured
- 2 Secondary Masonry
- 3 Tertiary Masonry
- 4 Fiber Cement Siding
- 5 Fiber Cement Siding
- 6 Metal Panel
- 7 Granite
- 8 Ground Face CMU



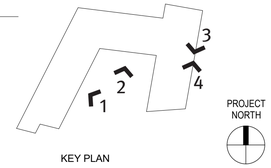
4 SOUTH ELEVATION @ ENTRY
3/32" = 1'-0"



3 NORTH ELEVATION @ ENTRY
3/32" = 1'-0"

2 SOUTH ELEVATION - COURTYARD
3/32" = 1'-0"

1 EAST ELEVATION - COURTYARD
3/32" = 1'-0"



KEY PLAN

PROJECT NORTH

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CONSULTANTS:

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47 Chestnut #P21-84

47 Chestnut Street, Dover, NH 03820

ISSUANCE:

SITE PLAN REVIEW

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STAMP:

LICENSED ARCHITECT
DAVID A. BOIS
No. 04828
STATE OF NEW HAMPSHIRE

REVISIONS:

No.	Date	Description

DRAWING TITLE:

BUILDING ELEVATIONS

Project No.	**21033.00**
Drawn By	**Author**
Date	**04/19/22**
Scale	**3/32" = 1'-0"**

DRAWING NUMBER:

A3.01

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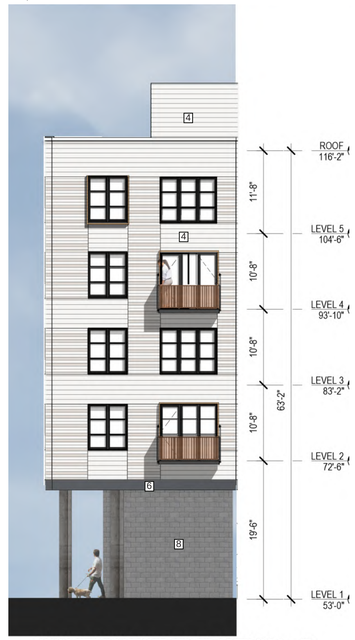
MATERIALS LEGEND

- 1A Primary Masonry
- 1B Primary Masonry Textured
- 2 Secondary Masonry
- 3 Tertiary Masonry
- 4 Fiber Cement Siding
- 5 Fiber Cement Siding
- 6 Metal Panel
- 7 Granite
- 8 Ground Face CMU

1 SOUTHEAST ELEVATION
3/32" = 1'-0"

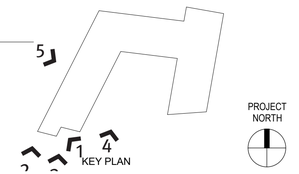
2 SOUTHWEST ELEVATION - A
3/32" = 1'-0"



3 SOUTHWEST ELEVATION - B
3/32" = 1'-0"

4 SOUTH ELEVATIONS - TOWN HOUSE
3/32" = 1'-0"

5 WEST ELEVATION
3/32" = 1'-0"



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CONSULTANTS:

PROJECT INFORMATION:

47 Chestnut
#P21-84

47 Chestnut Street, Dover, NH 03820

ISSUANCE:

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ISSUED FOR PLANNING BOARD REVIEW

STAMP:

REVISIONS:

No.	Date	Description

DRAWING TITLE:

BUILDING ELEVATIONS

Project No.	**21033.00**
Drawn By	**Author**
Date	**04/19/22**
Scale	**3/32" = 1'-0"**

DRAWING NUMBER:

A3.02

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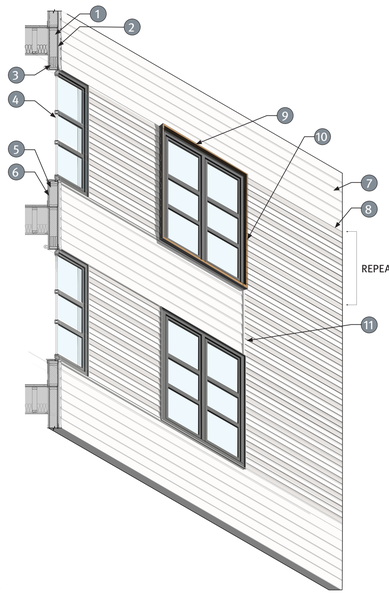
MATERIALS LEGEND

- 1A Primary Masonry
- 1B Primary Masonry Textured
- 2 Secondary Masonry
- 3 Tertiary Masonry
- 4 Fiber Cement Siding
- 5 Fiber Cement Siding
- 6 Metal Panel
- 7 Granite
- 8 Ground Face CMU

NORTH ELEVATION - ENLARGED
1/8" = 1'-0"

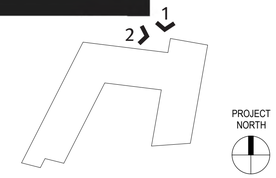


SIDING STUDY

1. 2X6 THERMALLY INSULATED WALL
2. CONTINUOUS 1" EXTERIOR INSULATION BETWEEN 1-1/2" GIRTS
3. STRUCTURAL HEADER
4. INSULATED VINYL WINDOW SYSTEM WITH DIVIDED LITES AND COMBINATION OF FIXED AND OPERABLE WINDOWS
5. WOOD SILL
6. PAINTED GYPSUM BOARD
7. FIBER CEMENT LAP SIDING EXPOSURE TYPE A
8. FIBER CEMENT LAP SIDING EXPOSURE TYPE B WITH ALTERNATING COLORWAY
9. SHEET METAL HEAD FLASHING
10. COLORED PROJECTING WINDOW TRIM FOR SHADOW REVEAL
11. TRIM REVEAL AT PATTERN BREAKS

2 NORTHWEST ELEVATION
3/32" = 1'-0"

1 NORTH ELEVATION
3/32" = 1'-0"



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617.623.5555
arrowstreet.com

CONSULTANTS:

PROJECT INFORMATION:

47 Chestnut #P21-84

47 Chestnut Street, Dover, NH 03820

ISSUANCE:

SITE PLAN REVIEW

ISSUED FOR PLANNING BOARD REVIEW

STAMP:

REVISIONS:

No.	Date	Description

DRAWING TITLE:

BUILDING ELEVATIONS

Project No.	**21033.00**
Drawn By	**Author**
Date	**04/19/22**
Scale	**3/32" = 1'-0"**

DRAWING NUMBER:

A3.03

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arrowstreet.com

CONSULTANTS:

PROJECT INFORMATION:

47 Chestnut #P21-84

47 Chestnut Street, Dover, NH 03820

ISSUANCE:

SITE PLAN REVIEW

ISSUED FOR PLANNING BOARD REVIEW

STAMP:

LICENSED ARCHITECT
DAVID A. BOIS
No. 04928
THE STATE OF NEW HAMPSHIRE

REVISIONS:

No.	Date	Description

DRAWING TITLE:

PERSPECTIVE VIEW

Project No.	**21033.00**
Drawn By	**CR**
Date	**04/19/22**
Scale	

DRAWING NUMBER:

A5.01

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4/18/2022 8:30:07 AM

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617.623.5555
arrowstreet.com

CONSULTANTS:

PROJECT INFORMATION:

47 Chestnut #P21-84

47 Chestnut Street, Dover, NH 03820

ISSUANCE:

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ISSUED FOR PLANNING BOARD REVIEW

STAMP:

LICENSED ARCHITECT
DAVID A. BOIS
No. 04928
THE STATE OF NEW HAMPSHIRE

REVISIONS:

No.	Date	Description

DRAWING TITLE:

PERSPECTIVE VIEW

Project No.	**21033.00**
Drawn By	**CR**
Date	**04/19/22**
Scale	

DRAWING NUMBER:

A5.02

P21-84 & P21-85 P21-84 P21-85 P22-29 47 Chestnut Street

Property ID	Location	Owner 1	Owner 2	Owner Address 1	City	State	Zip
01041-000000	5 GREEN ST	RIVERVIEW BUILDING CONDOMINIUM		40 COURT ST STE 650	BOSTON	MA	02108
01042-000000	3 GREEN ST	DOVER HOUSING AUTHORITY		62 WHITTIER STREET	DOVER	NH	03820
02083-001000	ORCHARD ST	CITY OF DOVER		288 CENTRAL AVE	DOVER	NH	03820
06003-001000	200 FIRST ST	FIRST STREET AT GARRISON LLC		466 CENTRAL AVE STE 12	DOVER	NH	03820
06009-000000	24 CHESTNUT ST	FIRST STREET AT CHESTNUT LLC		466 CENTRAL AVE	DOVER	NH	03820
06010-000000	22 CHESTNUT ST	HOLGATE LIMITED PARTNERSHIP		130 CENTRAL AVE	DOVER	NH	03820
06010-A00000	37 39 FIRST ST	HOLGATE LIMITED PARTNERSHIP		130 CENTRAL AVE	DOVER	NH	03820
06011-000000	35 FIRST ST	LONG STEPHANIE N		35 FIRST ST	DOVER	NH	03820
06012-000000	31 33 FIRST ST	MURPHY BRIAN J		496 WALLIS RD	RYE	NH	03870
06029-000000	36 42 SECOND ST	HOLGATE LIMITED PARTNERSHIP		130 CENTRAL AVE	DOVER	NH	03820
10034-000000	ALONG B & M RR	CITY OF DOVER		288 CENTRAL AVE	DOVER	NH	03820
10040-000000	WASHINGTON ST	CITY OF DOVER		288 CENTRAL AVE	DOVER	NH	03820
10041-000000	1 7 CAPITAL DR	192 WASHINGTON SQUARE LLC		242 CENTRAL AVE	DOVER	NH	03820
31004-B00000	33 CHESTNUT ST	COCHECO MILLS HOLDINGS LLC		3 PENSTOCK WAY	NEWMARKET	NH	03857-4416
31004-B00LSE	33 CHESTNUT ST	CITY OF DOVER		288 CENTRAL AVE	DOVER	NH	03820
31006-000000	45 CHESTNUT ST	LOYAL ORDER OF MOOSE #443		45 CHESTNUT STREET	DOVER	NH	03820
31005-000000	47 CHESTNUT ST	HARLECH LLC		273 CORPORATE DR STE 150	PORTSMOUTH	NH	03801
		REDGATE REAL ESTATE ADVISORS, LLC		265 FRANKLIN STREET, SUITE 602	BOSTON	MA	02110
		ATLUS ENGINEERING INC		133 COURT STREET	PORTSMOUTH	NH	03801