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, December 14, 2021**
Meeting Time: **7:00 pm**

1. **CITIZENS' FORUM**
2. **APPROVAL OF THE PRIOR MINUTES**
   - November 09, 2021 Regular Meeting Minutes
3. **OLD BUSINESS**
   A. Consideration and possible vote of a Minor Subdivision for Dahn H. & Norma M. Tibbett, (Owner: Jahn H. & Susan G. Janetos), Assessor's Map N, Lot 13, zoned R-40, located at Oak Street. (1 new lot) *(P21-78)
4. **NEW BUSINESS**
   A. Consideration and acceptance of a Minor Lot Line Adjustment for Settlement on 6th LLC and Karen Ewer Gray, Assessor's Map B, Lots 5 & 4-M, zoned R-40, located at 574 Sixth Street. *(P21-86)
   B. Consideration and acceptance of a Minor Lot Line Adjustment for Tyler & Jessica Foster, (Owners: Arch Street Dover, LLC. & Tyler & Jessica Foster), Assessor's Map 11, Lots 13 & 14, zoned R-12, and located at Arch Street & 20 Arch Street. (2 lots) *(P21-83)
   C. Consideration and acceptance of a Minor Lot Line Adjustment for the Gregory A Patch and Lisa M. Patch Family Revocable Trust of 2020, Assessor's Map 39, Lots 64, 64-1 & 64-2, zoned Gateway, located at 31 New Rochester Road & Lake Street. *(P21-82)
   D. Consideration and acceptance of an amendment to conditions of approval for a Conditionally Approved Site plan for One First Street, LLC, Assessor's Map 6, Lot 20, zoned CBD-General, located at 1 First Street. (Proposal is to move two conditions of approval to be before Building Permit rather than signed plans. *(P21-30A)
   E. Consideration and acceptance of a Conditional Use Permit for Daka Properties, LLC., (Owner: Little Bay Development, LLC.), Assessor's Map 8, Lot 9, zoned LBW, located at 423 Dover Point Road. (Proposal is to conduct maintenance dredging at a 44-slip marina, replace float guide piles and replace the existing bulkhead as well as construct a concrete pad, repair riprap and restore stone fill behind the bulkhead, creating 659 s.f. of Conservation District impacts and 561 s.f. of wetland buffer impacts. *(P21-79)
   F. Consideration and acceptance of a Site Review for Q, LLC., (Owner: Quality Way, LLC), Assessor's Map D, Lot 11-4, zoned IT, located at Quality Way & Venture Drive. (Proposal is to construct a 7,400 s.f. addition to the existing building to expand their manufacturing and product testing capabilities. The expansion would also include previously approved future additional parking. *(P21-77)
   G. Consideration and acceptance of a Minor Lot Line Adjustment for Downtown Dover Storage, LLC. & Clayton Randall Living Revocable Trust, Assessor's Map 4, Lots 3 & 5, zoned CBD-General, located at 12 & 14 Broadway. *(P21-52)
   H. Consideration and acceptance of a Conditional Use Permit for Downtown Dover Storage, LLC., Assessor's Map 4, Lot 5, zoned CBD-General, located at 14 Broadway. (Proposal is to construct a 14,888 sq. ft. 4-story residential building with 24 units with parking and 3,450 s.f. of ground floor retail where the retail space does not meet the required 20% minimum gross floor area). *(P21-51)
   I. Consideration and acceptance of a Site Review for Downtown Dover Storage, LLC., Assessor's Map 4, Lot 5, zoned CBD-General, located at 14 Broadway. (Proposal is to construct a 14,888 sq. ft. 4-story residential building with 24 units with parking and 3,450 s.f. of ground floor retail). *(P21-29)
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, November 9, 2021**
Meeting Time:	**7:00 pm**

Members Present: Dennis Ciotti (Councilor), Hayley Harmon (Vice Chair), Dave White, Kyle Pimental, Frank Torr, Tom Clark, Steph George (Alternate), Dave Landry, Mark Speidel, Erinn Reville (Alternate), Jackie Walker (Alternate)
Members Not Present (excused): Gina Cruikshank (Chair)
Members Not Present (un-excused): None
Staff Present: Donna Benton, City Planner

The Chair called the meeting to order at 7:02 p.m and noted he (M. Speidel) would sit as Chair for G. Cruikshank and E. Reville would sit for him.

1. CITIZENS' FORUM

Citizens Forum Open.
No One Spoke.
Citizens Forum Closed.

2. APPROVAL OF THE PRIOR MINUTES

October 26, 2021 Regular Meeting Minutes

Motion: F. Torr moved to approve the minutes as submitted. Seconded by D. White. Vote: U/A

3. OLD BUSINESS

4. NEW BUSINESS

The Chair noted items 4A and B will be heard together.

A. Consideration and acceptance of a Conditional Use Permit for Settlement on 6th, LLC., Assessor's Map B, Lot 5, zoned R-40, located on Sixth Street. (Proposal is for a 14 lot open space subdivision with a 900 foot long road and associated driveways and drainage facilities, creating 131 sq. ft. of temporary impact and 1,613 sq. ft. of permanent impact to a wetland and 12,394 sq.ft. of wetlands buffer impacts). *(P21-44)

B. Consideration and acceptance of a Subdivision/Site Plan using Transfer of Development Rights for Settlement on 6th LLC., Assessor's Map B, Lot 5, zoned R-40, located at Sixth Street. (Proposal is to construct a private roadway with access to a proposed 11 single family lots (including purchasing 1 using TDR) plus 3 open space, non-buildable lots) *(P21-43)

D. Benton noted that this is only the second TDR open space subdivision in the R-40 since the TDR ordinance was amended in 2018. Staff and the applicant reviewed concepts and were originally asking for additional TDR units. Based on those concepts and the environmental constraints, the request tonight has been reduced to only one unit. The Board will be asked to vote separately on the CUP, the TDR, and the Subdivision. The Board may have noticed in the packet a lot line adjustment plan and application. This will appear before the Board in December as it was an oversight on tonight's agenda and there is a recommended condition of approval. This application appeared before the TRC most recently on October 14, 2021 and was endorsed by the Conservation Commission on September 13, 2021.

Christopher Berry of Berry Surveying and Engineering represented the applications. Earlier this year they conducted an existing conditions plan of the site, and wetlands and soils were mapped. The plans have been revised since the initial concept reducing the number of units as well as the environmental impacts. The wetlands permit has been approved by DES and the Alteration of Terrain permit is in progress. A sewer discharge permit will also be required.

Motion: D. White moved to accept the applications and noted that this is not a development of regional impact. Seconded by D. Ciotti. Vote: U/A

Public Hearing Opened
No one spoke. No calls or emails were received.
Public Hearing Closed

C. Berry explained why a sewer hook up to Cottonwood is not feasible due to wetlands.

STAFF RECOMMENDATION- CUP:
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.
This project is consistent with those standards, and staff recommends approval with the following conditions.

Staff understands that the applicant considered the criteria when designing the plan and has altered the plan since the initial concepts to be able to consider alternatives, avoid as much wetland and wetland buffer as reasonably possible and minimize impacts such as with the shared driveways, reduced buffers and lot areas utilizing the TDR ordinance. The applicant further explains their process and how the criteria have been met in the narrative attached to the CUP application.

STAFF RECOMMENDATION:
The Planning Department recommends the Planning Board vote to grant the Conditional Use Permit with the following conditions to be met prior to issuance of the CUP:

1. The Transfer of Development Rights request be approved.
2. Subdivision request be approved.
3. The applicant shall supply the Planning Department with a copy of the NHDES Wetland Impact Permit.

Motion: D. White moved to approve the Conditional Use Permit with conditions, as the request is consistent with the regulations. Seconded by D. Ciotti. Vote: U/A.

STAFF RECOMMENDATION- TDR:
D. Benton noted that the plan is consistent with the TDR ordinance in Chapter 170-27.2.G and that the Planning Department recommends that the Planning Board vote to find the criteria of the TDR ordinance has been met with the following conditions:

1. Payment of TDR fees.
2. Add a note to the plat that the Board found the criteria of Chapter 170-27.2.G(8) have been met.

Motion: F. Torr moved to approve the Transfer of Development Rights request to purchase one unit with conditions, as the request is consistent with the regulations. Seconded by D. White. Vote: U/A.

STAFF RECOMMENDATION- Subdivision
The Planning Department recommends that the Planning Board vote to approve the subdivision with the following conditions:
Conditions to Be Met Prior to Signing of Plans:

1. The Planning Board approve
    a. The TDR application.
    b. The Conditional Use Permit.
    c. A lot line adjustment plan to remediate the existing encroachment.
2. The applicant shall provide
    a. A revised current use plan to the satisfaction of the City Assessor.
    b. The letter to serve from Eversource and City of Dover.
3. The Planning Director, in consultation with the City's General Legal Counsel, will review and approve the homeowners association to ensure private road, stormwater infrastructure maintenance, buffer and common space, conservation district maintenance, prior to converting ownership and maintenance obligations, and deed/easement requirements per Section 170.27.2.
4. Provide physical and digital copies (including CAD) of complete plan set which additionally shall include:
    a. Add signature and stamp of CWS, LLS and PE
    b. Add owners' signatures for recording at Strafford County Registry of Deeds
    c. Add permit numbers

Conditions to be Met Prior to Construction Activities:

5. A site construction sign with the contact information for the general contractor must be located and approved by the City Engineer or Planning Director.

Conditions to be Met Prior to Building Permit:

6. The new dwellings shall be assessed and pay the current Water and Sewer Investment Fees in place at the time of application for service.
7. The applicant shall provide a letter of credit or other form of security acceptable to the City for any unfinished work.

Conditions to Be Met Prior to Occupancy:

8. Issuance of the Certificate of Occupancy.
9. Any applicable easements shall be recorded.
10. Documentation that the HOA has been created and is in place.
11. Impact fees per unit shall be paid per the invoice attached to the Notice of Decision.
12. Prior to the last Certificate of Occupancy being issued, the Engineer of Record shall meet with the Association and review the as-builts for the project.
13. Land use change tax has been paid.

Motion: D. White moved to approve the Major Subdivision with conditions, as the request is consistent with the regulations. Seconded by D. Ciotti. Vote: U/A.

C. Consideration and acceptance of a Transfer of Development Request for Dover Coast, LLC., Assessor's Map 28, Lot 13 & 14, zoned Gateway G&O, located at 725 Central Ave and 4 Brick Road. (Proposal is to purchase 12 units). *(P21-54)

D. Benton noted that the applicant has been to TRC and has done quite a bit of progress on a full site plan, some of which is included in the packets by the nature of the request. The applicant is securing additional parking off site further down on Brick Road and still needs to come back to TRC with fully engineered plans for that parking lot. At this time, the Board is requested to vote on the Transfer of Development Rights request which is to purchase 12 units to total 15 units in the multi-family residential building with associated parking.

Arthur Guadano, AG Architects, PC represented the application to combine two lots and build a three-story plus walk-out basement 15-unit apartment building. They are seeking to purchase 12 TDR units. (14 2-bedroom units and one 1-bedroom unit) Parking will be met by 17 spaces behind the building and across Jefferson Dr will be purchased with 12 spaces there.

Motion: D. White moved to accept the application and noted that this is not a development of regional impact. Seconded by D. Landry.

T. Clark asked for clarification on the ownership of 4 Brick Rd. The property is currently in probate and the applicant has an agreement with the owner. They have a purchase and sale for 10 Brick Rd for the parking lot. T. Clark was concerned about acting on the application before the applicant owns the property.

D. Benton clarified that the applicant has to come back before the board with a full site plan. Tonight's vote is just for the maximum number of units. Everything will have to be in order when they come back for site plan approval.

Scott Silver, Dover Coast LLC confirmed there is a purchase and sale agreement in progress for 4 Brick Rd. The previous owners passed away from COVID and the property is going through probate with their children.
T. Clark withdrew his objection.
Vote: U/A

Public Hearing Opened
Peter Menounos, 720 Central Ave expressed concerns about the traffic.

No calls or emails were received.
Public Hearing Closed

T. Clark is concerned about the number of units requested. It's far above the number allowed by right.
D. Ciotti agreed with T. Clark and noted the proposed building is too large for the area. It is also a high-traffic area.
D. White believes this is a perfect location to use the TDR and for an infill project. If the applicant used only the existing lot, they could provide multiple units with one parking space per unit. By purchasing the additional lot, they are providing more housing as well as two parking spaces per unit. The location is close to downtown and services which make it ideal for a project with increased density.
K. Pimental is concerned about the number of units- not the size of the building. Traffic is a concern.
F. Torr agrees with D. White. The proposal is a massive improvement from what's there now. There were no traffic issues with the project that went in behind.
D. Landry noted the traffic issue is pre-existing, and should be looked at by the traffic commission. The density and size of the building are not an issue for him. It's not directly downtown, but it is close and walkable. The extra parking area is more than what's been offered on other projects.

E. Reville agreed with D. Ciotti and T. Clark that the proposal is too large of a building for the density. She is concerned approving this will set precedence to other properties. D. Ciotti noted each project is looked at individually. All other buildings in the area are two stories.
M. Speidel asked about snow removal and trash, building height, and affordable housing options for some units. Mr. Guadano addressed the questions.

STAFF RECOMMENDATION:
D. Benton noted that the plan is consistent with the TDR ordinance in Chapter 170-27.2.G and that the Planning Department recommends that the Planning vote to find the criteria of the TDR ordinance has been met with the following conditions:

Conditions to Be Met Prior to Granting of the TDR:

1. Payment of the TDR fee
2. Site Plan come back to the Planning Board for review and approval.
3. Lots 13 & 14 be merged.

D. Benton clarified for the Board the two options for the applicant in this zone are to either apply for affordable units or to request to purchase TDR units. TDR fees would be waived if they created HUD rent-restricted approved units.

Mr. Guadano responded to board member comments.

Motion: D. White moved to approve the TDR request and the purchase of up to 12 units with conditions, as the request is consistent with the regulations. Seconded by F. Torr.
E. Reville noted Dover is the fastest growing city in NH and we should start looking at building height as a way to incorporate more density.
Vote: 6-3 with D. Ciotti, K. Pimental and T. Clark opposed.

D. Consideration and acceptance of a TDR Request for Knox Marsh Development, LLC. (Owners: Knox Marsh Development and Gary and Kim Bates), Assessor's Map H, Lot 46 & 50, zoned R-40, located at 51 & 65 Bellamy Road. (Proposal is to purchase 22 units via TDR for a 31 total units). (P21-65)

D. Benton noted that this project has also come to TRC once but needs to return for a follow up TRC. Tonight's vote is to allow the applicant to purchase up to 22 units via TDR to total 31 units. The Board may recall that it approved a 4 unit subdivision on one of these subject lots so if the Board sees the number 18 referenced, that is the difference between what has currently been approved and what they are seeking tonight. The applicant would need to come back to the Planning Board for the lot merger and full site plan and if approved, at that time the previous approval would be considered null and void.

Christopher Berry, Berry Surveying and Engineering represented the application. Part of the project was approved by the board as a private road with 4 units. The abutters approached the applicant to work together on a larger project. He explained the methodology of how they laid out the project.

The original project was 4 units that matched the character of the neighborhood with small homes. They are now looking to extend that Sophie Dr project onto the Bates land and continue with additional single-family homes and 4-unit structures that look like single-family homes which are centered away from the housing on Bellamy Rd with a 30ft buffer along the property lines. There is an existing duplex on site which will be renovated and incorporated into the project. There is an existing barn on site which is proposed to be

converted into four units. The view from Bellamy Rd would remain the same with the duplex the only visible structure.

All single-family homes are proposed at 1,400 sq. ft. The applicant is looking to restrict 25% of the project for HUD housing rates. The applicant will work to provide housing to Dover residents prior to opening to the market.

K. Pimental asked if the rent restricted units will be so in perpetuity. Yes, they will be deed restricted.

Motion: D. White moved to accept the application and noted that this is not a development of regional impact. Seconded by H. Harmon. Vote: U/A

Public Hearing Opened
Helen Labrie, 55 Bellamy is concerned about traffic especially in relation to the high school traffic. She does think the development will be visible- especially to her as a direct abutter. She wondered what environmental impacts there might be for pollution and wildlife.
She works at Dover school district and the classrooms are already full.

Patrick Labrie, 55 Bellamy thanked the developer for sitting down with him to go over some concerns. He doesn't understand why Dover needs more development. Traffic is bad, the schools are full and he is concerned about infrastructure. Other towns should take over development. He expressed concerns about rain gardens and if they work to handle storm water.

Donald Chandler, 65A Bellamy Road is concerned about traffic especially from Sophie Dr. It's dangerous for the students to cross the road to get to the school and this subdivision will be attractive location for families to live. There should be a safer solution for kids crossing there.

D. Benton addressed some of the public comments. The traffic study has been submitted and is being reviewed at TRC.
C. Berry noted as the project goes through the TRC process, pedestrian enhancements can and should be addressed for that area since it is such a walkable area.

K. Pimental listed the current affordable market rental rates for the public.
T. Clark noted just because the TDR ordinance allows for the purchase of more units, doesn't mean we have to sell the additional units. We have to look at density. 31 units is too many units at this location.

One of the applicants spoke about affordability. He is glad the board member listed the rental amounts. These affordable units would qualify for single or two-income families who work as nurses, teachers, city employees. The way the project is affordable for the developer is to have more units so that they can make up the difference from offering affordable units.

Public Hearing Closed

STAFF RECOMMENDATION:
D. Benton noted the plan is consistent with Chapter 170-27.2 of the Zoning Ordinance which allows for developments to buy additional units through the process of Transfer of Development Rights and that the Planning Department recommends that the Planning Board vote to find the criteria of the TDR ordinance

has been met, and the applicant may proceed with laying out up to 31 units on a Site Plan with the following conditions:

Condition to Be Met Prior to Granting of the TDR:

1. Payment of the TDR fee
2. Site Plan come back to the Planning Board for review and include notes about size restrictions
3. That 25% of the 31 units have the HUD rent rate and/or pricing restrictions

Motion: F. Torr moved to approve the TDR request and the purchase of up to 22 units with conditions, as the request is consistent with the regulations. Seconded by D. White. Vote: 6-3 with T. Clark, D. Ciotti and D. Landry opposed.

E. Consideration and acceptance of a Minor Subdivision for Dahn H. & Norma M. Tibbett, (Owner: Jahn H. & Susan G. Janetos), Assessor's Map N, Lot 13, zoned R-40, located at Oak Street. (1 new lot) *(P21-78)

D. Benton noted the applicant is requesting to subdivide lot N/13 into two lots. The lot would be serviced by public water and private septic. As a Minor Subdivision, this application did not appear before the TRC.

When staff received the minor subdivision plans and saw the existing barn was to remain as the only building on the lot, they reached out to the applicant requesting more information on the use of the barn and the lot. The applicant responded with the three letters dated September 30, 2021, October 18, 2021, and October 26, 2021. All have been supplied to the Board. Staff has heard that the owner will be present at the meeting to speak to the farm/haying use of the barn further. The Board can then determine if they have enough information to accept the application as complete to review.

The applicant originally requested the Board grant a waiver from the requirement to survey the lot boundary lines, including the proposed lot line, but is now willing to have that be a condition of approval. They also seek a waiver to not reference the US Geological Survey for topography, rather they use LIDAR. Finally, the property is within 100' of public sewer on Elmwood Avenue, and while no waiver was requested, it is required if they seek to use private subsurface septic systems. Staff notes the need for a waiver, but no explanation or request was provided for this until just before the meeting.

Kevin McEneaney, McEneaney Surveying, represented the application. The new lot will be 1.5 Ac and will have the barn on it. The other lot is 34.3 Ac. He confirmed they will do the survey and are only requesting the two waivers. The barn will be an agricultural use and won't have any occupancy need for sewer hook-up. He clarified the owners of N-13F.

Discussion occurred about water at the barn. There is no sewer, there is no well or city water supply on site. The barn will continue to function as it has for haying purposes.

The applicant addressed the question why they are subdividing this lot. Right now, the property is owned in joint ownership by four individuals. One person will retain the smaller lot and the larger lot will ideally be sold off to a separate buyer.

Motion: F. Torr moved to accept the application and noted that this is not a development of regional impact. Seconded by D. White. Vote: U/A

Public Hearing Opened

Jeff Andress, 2A Country Club Estates is an abutter and spoke in favor of the proposal. The barn is 100 years old and there is a better chance of the barn being preserved if this lot can be divided before the larger parcel is sold to a developer.

Ann Marie Day, 104 Gulf Road is an abutter and is in favor of the barn being subdivided out so it can be preserved.

George Heilshorn, 108 Gulf Rd is an abutter and noted the area is vibrant with habitat and a rich history. The barn is a memento of days gone by and it's an important piece to preserve.

Public Hearing Closed

D. Ciotti asked what the utility easement is for on the plan. Is that for servicing the 34-acre lot when it's developed?
Mr. McEneaney explained the easement is for access to the abutting lot 13-F. The board and applicant discussed future sewer access to the 34-acre lot. There are a few options, but it is not through that easement.
D. Ciotti is concerned that the easement is shown on the plan on the barn parcel, yet the applicant plans to keep the parcel in current use. Mr. McEneaney wasn't sure about the location of the easement and will need to check.

Jahn Janetos, applicant and owner of parcel 13-F clarified the easement is to service 13-F. The lot line should be at the southern end of the fence which puts the easement on the 34-acre lot.
That is not what shows on the plan, but it should be revised. The surveyor said he will make the adjustment.

Mr. McEneaney suggested the board make a condition of approval that the lot line be adjusted to keep the easement in the same location, but it will be on the larger parcel.
Since that will adjust the square footage of each parcel, the board suggested tabling the item for a new plan to be submitted.

Motion: D. White moved to table the application including waiver requests to December 14, 2021. Seconded by D. Ciotti. Vote: U/A.

5. STAFF COMMENTS

- D. Benton updated the Board on:
    - Staff attended the Northern New England planning conference. Some of D. Benton's and C.Parker's takeaways were included in the Planning e-newsletter.
    - Staff received a good amount of interest in both open Assistant City Planner positions and will begin interviewing next week.
    - the latest TRC: the waterfront development both CPI's mixed use project as well as the public right of way and park, both will be coming back for second TRCs. The TRC also reviewed a site plan for Q, LLC on Quality Way and 51 Bellamy Road that the Board reviewed the TDR for tonight.
    - Applications for CDBG projects are due at 4pm on the 19th and are available on the Community Development page on the Planning Department's website.

6. MEMBER COMMENTS

- The Chair signed the subdivision plans for 50 Education Way and revised for Venture Drive and Site Plans for Atlantic Broadband.

DRAFT

- D. Benton welcomed new Planning Board alternate, Jackie Walker.
- Tom Clark requested men take off their hats at the podium.
- E. Reville asked if TDR could be reviewed to cap a percentage of how many units can be purchased over what's allowed.
    - D. Landry noted this is the time of year for the board to think about what to focus on next year and that should be one of the items including whether the TDR is appropriate in the R40 zone.
    - K. Pimental noted he was more open to the project tonight which offered affordable rates. He wondered if we could look at the end of the year how much money has come in from TDR and what land acquisitions have been made with it.
    - D. Ciotti noted there is $1M in the TDR funds. Perhaps if applicants don't incorporate rent restricted units to their projects, those TDR funds could go towards funding a homeless shelter.
- K. Pimental suggested the board members look ahead at the Waterfront plans that will be coming before the board soon. Dennis and Kyle will not be able to sit for those Planning Board meetings since they are on the Waterfront Committee.
- M. Speidel noted NH just received funds for roads, bridges, and water infrastructure. He asked what share Dover can expect. D. Benton wasn't sure of the amount, but noted Dover has several projects ready and can apply for funding for multiple projects that should be good choices for those funds.

7. ADJOURNMENT

Motion: D. White moved to adjourn at 9:28p.m. Seconded by F. Torr. Vote: U/A

DRAFT

CITY OF DOVER

PLANNING BOARD - STAFF MEMO FILE #P21-78

Application Type:	Minor Subdivision
Applicant(s):	Dahn H & Norma M Tibbett
Owner(s):	Jahn H & Susan G Janetos
Location:	Oak Street (Tax Map N, Lot 13)
Meeting Date:	November 9, 2021

INTENT: To subdivide one 35.83 acre lot into two by carving off a 1.53 acre lot with the existing barn on it.

LOTS PROPOSED: 1 new

AGENDA ITEM #: 4-E

ACREAGE: Proposed 1.53 acres and 34.30 acres

ZONING DISTRICT: R-40

EXISTING USE: Farm

PROPOSED LAND USE: Vacant and Farm

SURROUNDING LAND USE: Residential

ZBA ACTION: None

ATTACHMENTS: Application materials including subdivision plan, letter from applicant

APPLICATION IS COMPLETE: Board's Determination

REGIONAL IMPACT: No

SERVICED BY: Public water and private septic

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

PERMITS REQUIRED: NHDES Subdivision approval

WAIVERS REQUESTED: - 157-28.B(4) (lot line survey), 157-28.B(11) (topo survey) & 157-41A (public sewer)

Summary of Request and Background
The applicant is requesting to subdivide lot N/13 into two lots. The lot would be serviced by public water and private septic. As a Minor Subdivision, this application did not appear before the TRC.

When staff received the minor subdivision plans and saw the existing barn was to remain as the only building on the lot, they reached out to the applicant requesting more information on the use of the barn and the lot. The applicant responded with the attached three letters dated September 30, 2021, October 18, 2021, and October 26, 2021. Staff has heard that the owner will be present at the meeting to speak to the farm/haying use of the barn further. The Board can then determine if they have enough information to accept the application as complete to review.

Summary of Waiver Requests:
The applicant is requesting the Board grant a waiver from the requirement to survey the lot boundary lines, including the proposed lot line. They also seek a waiver to not reference the US Geological Survey for topography, rather they use LIDAR. Finally, the property is within 100' of public sewer on Elmwood Avenue, and they seek to use a private septic system

Consistency with Land Use Regulations – Waiver
Section 157-51 of the Land 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."

For the first two waivers, staff believe criterion 1 has been met. Staff notes that for the larger lot, not being subdivided the waiver makes sense. Staff does believe the lot line being proposed should be surveyed. Furthermore, if the larger lot is subdivided, the topography should be reference the USGS. Regarding the sewer connection, for the barn lot this makes sense, but staff is cautious about if the larger lot is subdivided. Furthermore, as discussed with the American Durafilm waiver, staff recommends that if supported by the Board, the Dover Utilities Commission should grant the waiver as well.

STAFF RECOMMENDATION Waivers:
The Planning Department recommends the Planning Board to accept the application, open the public hearing, and vote to grant the waivers with the following condition:

1. The proposed boundary line shall be surveyed, and the plan shall note that.
2. Add a note that any further subdivision of N-13-1 will require a full survey, and reference to the US Geological Survey and not LIDAR.
3. The Dover Utilities Commission shall waive the requirement for public sewer, and if granted a note shall be added that a subdivision of N-13-1 shall include public sewer, and N-13 should be tied in at that time.

CITY OF DOVER

PLANNING BOARD - STAFF MEMO FILE #P21-78

Application Type:	Minor Subdivision
Applicant(s):	Dahn H & Norma M Tibbett
Owner(s):	Jahn H & Susan G Janetos
Location:	Oak Street (Tax Map N, Lot 13)
Meeting Date:	November 9, 2021

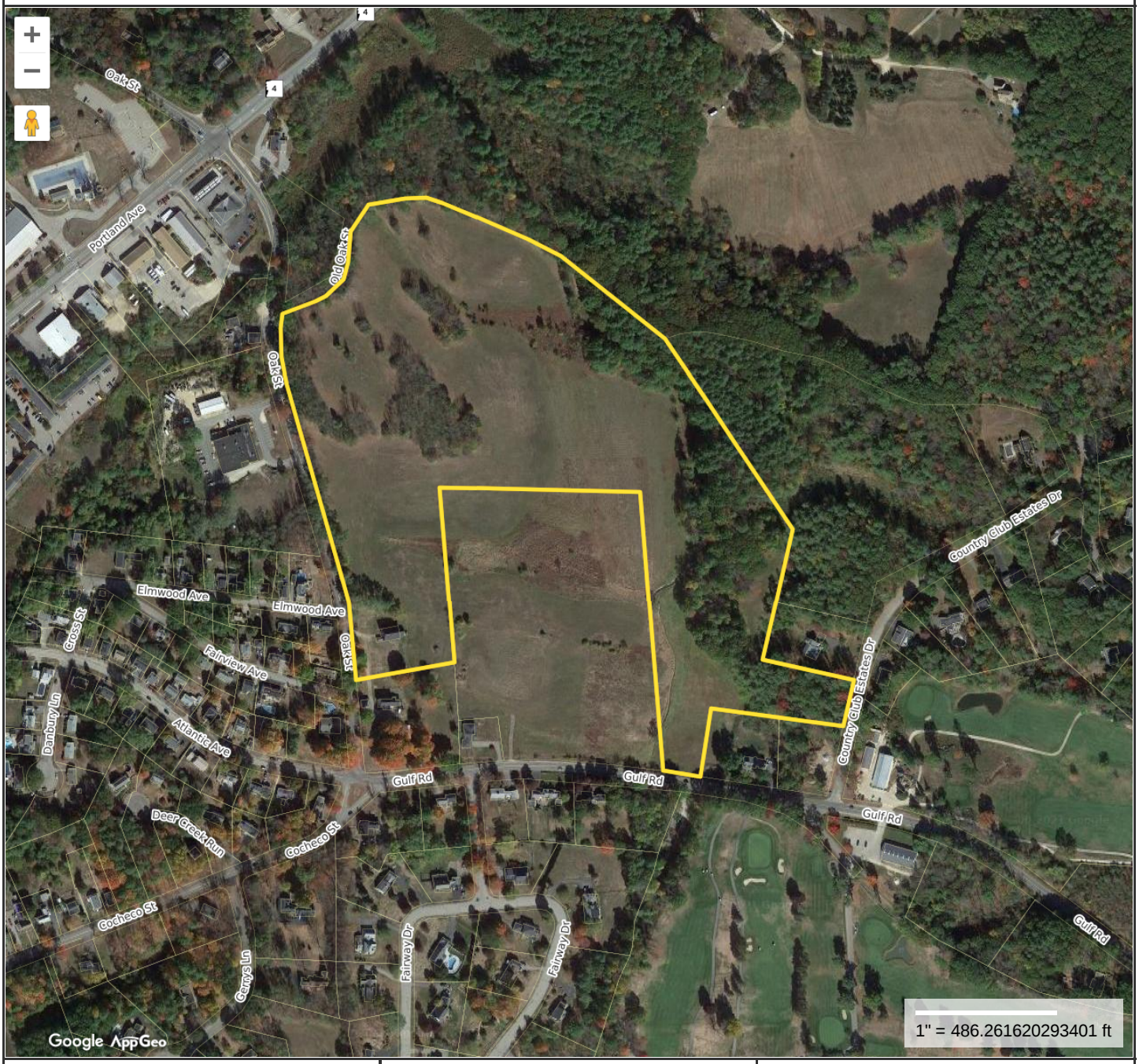
Add a note to the plat that the Board granted a waiver to Chapter 157-28.B(4) (lot line survey), 157-28.B(11) (topo survey) and 157-41A (public sewer) and that the Board found the criteria of Chapter 157-51.A have been met.

Consistency with Land Use Regulations
The plan is consistent with Chapter 157-15 of the City's Land Subdivision Regulations, which provides for subdivision of existing lots.

STAFF RECOMMENDATION-Minor Subdivision:
The Planning Department recommends that the Planning vote to approve the application with the following conditions:

Conditions to Be Met Prior to Signing of Plans:

1. The applicant shall revise the current use map provided to the satisfaction of the City Assessor.
2. Provide physical and digital copies (including CAD) of complete plan set which additionally shall include:
    a. A note on the plan that any subdivision of lot 13-1, within 4 years, would require lot 13 to be included as part of a major subdivision.
    b. The signature and stamp of LLS
    c. The owner's signatures for recording at Strafford County Registry of Deeds.
    d. Planning File # P21-78
    e. Confirm owner labeled on 13F is accurate
    f. Update Note 14 to indicate state subdivision approval
    g. Maintain a 2"X2" box for the Dover Planning Board approval stamp
    h. Update the plan regarding waivers, and if granted note the date the Dover Utilities Commission approved the waiver for public sewer.
    i. A note that if N-13 ceases to be used as a farm, the lot shall be merged with N-13F as a farm or an abutting residential lot as an accessory structure to a residential use. Alternatively, the barn can be demolished/replaced by a residential structure, or converted to a residential use.



Property Information

Property ID	N0013-000000
Location	GULF RD
Owner	JANETOS JAHN H AND SUSAN G &
Land Use	109

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.

City of Dover, New Hampshire
MINOR SUBDIVISION APPLICATION

[Revision Date: July 1, 2021]

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

APPLICANT AND OWNER INFORMATION

Name of Applicant: Dahn H. & Norma M. Tibbett Telephone # 617-799-7761

Address of Applicant: 130 Gulf Road Dover, NH 03820

Name of Property Owner (*if different from applicant*): Jahn H. & Susan G. Janetos Telephone # 603-781-2359

Address of Property Owner: 55 Carlton Way Hales Location, NH 03860

E-Mail Address: Dahn Tibbett: dhtgolf@yahoo.com / Jahn & Susan Janetos: sjanetos@yahoo.com

PROPERTY INFORMATION

Address of Property: Oak Street

Assessor's Map # N Lot(s) # 13

Zoning District(s) R-40 Overlay District(s) NONE

Size of Parcel: 35.83 acres Property Deed: Book 4465 Page: 298

Existing Use of Property: Barn

SUBDIVISION INFORMATION

Existing Number of Lots: 1 Proposed Number of Lots: 2

TDR Relief sought (Check All That Apply): □ Lot Size □ Frontage □ Setback □ 30' Buffer □ Purchase ____ units

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

N/A

Circle one for each category:

Water: City / Well (circle one) How far is city water from the property? at Oak Street

Sewer: City / Septic (circle one) How far is city sewer from the property? N/A

Highway Access: City Street / State Highway (circle one) | Roadway Public or Private Road (circle one)

Refuse removal: Public / Private (circle one) | Estimated Length of Proposed Road: N/A feet

Estimated value of construction: N/A New impervious area (in s.f.): N/A

WAIVER REQUESTS

Subdivision Regulations section(s) to be waived: None Requested

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

_____

SURVEYOR INFORMATION

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

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

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

ENGINEER INFORMATION

Name of Engineer and Company (Licensed in N.H.) Stephen J. Haight, PE - Civilworks New England

Address P.O. Box 1166 Dover, NH 03821 Telephone #: 603-749-0443

Professional License #: NH PE # 7978 E-mail address: shaight@civilworksne.com

LANDSCAPE ARCHITECT INFORMATION

Name of Landscape Architect and Company (Licensed in N.H.) N/A

Address _____ Telephone #: _____

Professional License #: _____ E-mail address: _____

SOIL SCIENTIST INFORMATION

Name of ~~Soil~~ Wetland Scientist and Company (Licensed in N.H.) Damon Burt, CWS Fraggle Rock Environmental, Inc.

Address 38 Garland Road Strafford, NH 03884 Telephone #: 603-969-5574

Professional License #: NH CWS# 163 E-mail address: frenvironmental@gmail.com

CONSERVATION EASEMENT HOLDER

Name of Easement Holder: N/A 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: 10/14/21
Jahn H. & Susan G. Janetos

Signature of Applicant (~~if different from~~ owner): _____ Date: 10/17/21
Dahn H. & Norma M. Tibbett

Signature of Agent: _____ Date: _____

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: 14 Oct 21
Jahn H. & Susan G. Janetos

AUTHORIZATION TO COMPLETE THE PROJECT ON SUBJECT PROPERTY

I, and my successors, hereby authorize the City of Dover and 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: _____ Date: 14 Oct 21
Jahn H. & Susan G. Janetos

Signature of Applicant (~~if different from~~ owner): _____ Date: 10/17/21
Dahn H. & Norma M. Tibbett

CERTIFICATION OF FEES

I, and my successors, hereby certify that I understand that the City of Dover collects impact fees, ut investment fees and inspection fees for projects developed in Dover. Said fees must be paid before Certificate of Occupancy can be obtained for a structure, unless a different payment schedule is agr 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: _____ Date: 14 Oct 21
Jahn H. & Susan G. Janetos

Signature of Applicant (~~if different from~~ owner): _____ Date: 10/17/21
Dahn H. & Norma M. Tibbett

CERTIFICATION OF PUBLIC ROADWAY ACCEPTANCE

I, and my successors, hereby certify that I understand that the acceptance of a roadway as a publi road is an action of the City Council in its sole and complete discretion. In order for the City Counc consider accepting a road as public, it must be free of encumbrances. No roadway with private ut easements shall be accepted as a public road by the City unless the easements are expunged prio the transfer of land to the City. License agreements for any and all private utilities within the right way may be granted by the City upon acceptance of the unencumbered roadway consistent with applicable state law.

Signature of Property Owner: _____ Date: 14 Oct 21
Jahn H. & Susan G. Janetos

Signature of Applicant (~~if different from~~ owner): _____ Date: 10/17/21
Dahn H. & Norma M. Tibbett

CITY OF DOVER SUBDIVISION
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
N	13	Jahn H. & Susan G. Janetos	55 Carlton Way Hales Location, NH 03860

Applicant (if different from owner):

APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS
Dahn H. & Norma M.	Tibbett	130 Gulf Road Dover, NH 03820

Surveyor and/or Engineer/Professional Agent:

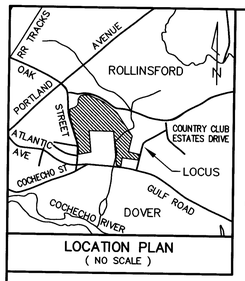
NAME	COMPANY	MAILING ADDRESS
Stephen J. Haight, PE	Civilworks New England	P.O. Box 1166 Dover, NH 03821
Kevin McEneaney, LLS	McEneaney Survey Associates	24 Chestnut Street Dover, NH 03820
Damon Burt, CWS	Fraggle Rock Environmental, Inc.	38 Garland Road Strafford, NH 03884

Conservation Easement Holder: N/A

TAX MAP	LOT #	NAME OF EASEMENT HOLDER	MAILING ADDRESS

P21-78 **Oak Street**

Property ID	Location	Owner 1	Owner 2	Owner Address 1	City	State	Zip
25001-000000	44 ATLANTIC AV	ST LAURENT JUSTIN & MORGAN TRUSTEES	ST LAURENT FAMILY REVOCABLE TRUST	44 ATLANTIC AVE	DOVER	NH	03820
25019-000000	11 FAIRVIEW AV	LONG RICHARD A &	LONG LINDA C	11 FAIRVIEW AVE	DOVER	NH	03820
25026-000000	10 FAIRVIEW AV	MOOERS RYAN &	MOOERS CATHERINE	10 FAIRVIEW AV	DOVER	NH	03820-3516
25027-000000	22 FAIRVIEW AV	MAATTALA JOHN P &	MAATTALA JENNIFER A	22 FAIRVIEW AV	DOVER	NH	03820
25029-000000	21 ELMWOOD AV	CLARK CHRISTOPHER R &	CLARK JEANNE C P	21 ELMWOOD AVENUE	DOVER	NH	03820-3512
25030-000000	19 ELMWOOD AV	PADIAL ISABEL N		19 ELMWOOD AVE	DOVER	NH	03820
25040-000000	16 ELMWOOD AV	ROCHE JANE TRUSTEE	ROCHE JANE REVOCABLE TRUST OF 2010	16 ELMWOOD AVENUE	DOVER	NH	03820
25040-A00000	18 ELMWOOD AV	HOWARD ROBERT & PHYLLIS REVOCABLE TRUST	HOWARD ROBERT AND PHYLLIS TRUSTEES	18 ELMWOOD AVENUE	DOVER	NH	03820
25041-000000	20 ELMWOOD AV	MASTERSON MARY	WILSON GLENN S.	20 ELMWOOD AVENUE	DOVER	NH	03820
25043-000000	165 PORTLAND AV	NET LEASE REALTY I INC		450 SOUTH ORANGE AVE STE 900	ORLANDO	FL	32801
25043-A00000	99 OAK ST	HOT ROD CITY LLC		390 SIXTH ST	DOVER	NH	03820
25043-D00000	87 89 OAK ST	HUBBARD-LEARY LLC		89 OAK ST	DOVER	NH	03820
25080-000000	1 OAK ST	CRE JV MIXED FIVE NH BRANCH HOLDINGS LLC	C/O RYAN	PO BOX 460049	HOUSTON	TX	77056
N0012-K00000	2 COUNTRY CLUB ESTATES DR	COOPER KEVIN R JR		PO BOX 2213	DOVER	NH	03821
N0012-N00000	1 COUNTRY CLUB ESTATES DR	GILBERT CLIFFORD M & MARGARET LIFE ESTAT	CARTER MARGARET & FORCILLO ROSEMARY L	1 COUNTRY CLUB ESTATES DR	DOVER	NH	03820
N0013-A00000	108 GULF RD	HEILSHORN GEORGE III		108 GULF RD	DOVER	NH	03820
N0013-B00000	130 GULF RD	TIBBETT NORMA &	TIBBETT DAHN	130 GULF RD	DOVER	NH	03820
N0013-B00001	GULF RD	TIBBETT NORMA &	TIBBETT DAHN	130 GULF RD	DOVER	NH	03820
N0013-C00001	COUNTRY CLUB ESTATES DR	MURPHY EDWARD J JR &	MURPHY AHN C	35 BELANGER DR	DOVER	NH	03820
N0013-E00000	2 A COUNTRY CLUB ESTATES DR	ANDRESS JEFFREY D &	ANDRESS AMIE K	2A COUNTRY CLUB ESTATES	DOVER	NH	03820
N0013-F00000	GULF RD	JANETOS JAHN H &	JANETOS SUSAN G	55 CARLTON WAY	HALES LOCATION	NH	03860-7901
N0013-G00000	104 GULF RD	DAY AHN MARIE &	DAY MICHAEL ALAN	104 GULF RD	DOVER	NH	03820
N0014-A00000	117 GULF RD	TOWNSEND EDWARD M &	TOWNSEND SARAH L	117 GULF ROAD	DOVER	NH	03820
N0015-000000	145 GULF RD	COCHECO COUNTRY CLUB		145 GULF RD	DOVER	NH	03820
N0013-000000	GULF RD	JANETOS JAHN H AND SUSAN G &	TIBBETT DAHN H & NORMA M	55 CARLTON WAY	HALES LOCATION	NH	03860
		CIVILWORKS	STEPHEN J HAIGHT, PE	P.O. BOX 1166	DOVER	NH	03821
		MCENEANEY SURVEY ASSOCIATES	KEVIN MCENEANEY LLS	24 CHESTNUT STREET	DOVER	NH	03820
		FRAGGLE ROCK ENVIRONMENTAL INC	DAMON BURT, CWS	38 GARLAND ROAD	STRAFFORD	NH	03884
		MARK P BARLOW		10 NORDIC LANE	ROLLINSFORD	NH	03869



LOCATION PLAN
(NO SCALE)

LEGEND

I.R.(set) – IRON ROD SET
I.R.(fnd) – IRON ROD FOUND
S.S.(fnd) – STEEL STAKE FOUND
S.F. – SQUARE FEET
Ac. – ACRE
(TYP.) – TYPICAL
± – MORE OR LESS
ø – DIAMETER
S.C.R.D. – STRAFFORD COUNTY REGISTRY OF DEEDS
– STONE WALL
– EDGE OF WETLAND
– WETLAND
62 – CONTOUR (2FT INTERVAL)
WfC – SOIL DELINEATION

THE SOIL TYPES ON THE SITE ARE:
BzB BUXTON SILT LOAM, 3 TO 8 PERCENT SLOPES
HcB HOLLIS–CHARLTON FINE SANDY LOAMS, 3 TO 8 PERCENT SLOPES
HcC HOLLIS–CHARLTON FINE SANDY LOAMS, 8 TO 15 PERCENT SLOPES
HdB HOLLIS–CHARLTON VERY ROCKY FINE SANDY LOAMS, 3 TO 8 PERCENT SLOPES
HdC HOLLIS–CHARLTON VERY ROCKY FINE SANDY LOAMS, 8 TO 15 PERCENT SLOPES
HdD HOLLIS–CHARLTON VERY ROCKY FINE SANDY LOAMS, 15 TO 25 PERCENT SLOPES
ScA SCANTIC SILT LOAM, 0 TO 3 PERCENT SLOPES
WfC WINDSOR LOAMY FINE SAND, CLAY SUBSOIL VARIANT, 8 TO 15 PERCENT SLOPES
THE SOURCE FOR THE SOIL TYPE DATA IS USDA NRCS WEB SOIL SURVEY
http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx\

No.	Bearing	Distance
L1	N05°48'59"W	15.56'
L2	S05°19'55"E	119.30'
L3	N15°41'21"W	94.61'
L4	N11°56'49"W	89.55'
L5	N01°27'45"W	94.54'
L6	N05°37'49"E	45.27'
L7	N68°12'33"E	111.97'
L8	N64°51'29"E	39.96'
L9	N46°36'13"E	78.90'
L10	N12°35'19"E	58.12'
L11	N03°44'27"E	99.80'
L12	N32°56'01"E	102.59'
L13	N80°09'31"E	120.00'
L14	N87°56'29"E	67.76'
L15	S73°55'09"E	55.67'
L16	S62°54'16"E	119.42'
L17	S12°28'08"W	190.00'
L18	S12°21'40"W	150.18'
L19	N81°47'06"W	122.02'

NO.	DATE	DESCRIPTION	BY	CHK
1	11/16/21	REVISE NORTHERLY LINE OF N/13, PARCEL AREAS, AND OWNERS OF N/13F. REVISE VARIOUS NOTES AND ADD NOTES. UPDATE COMPLETE BOUNDARY SURVEY. ADD TOWN LINE	RJM	KMM

REVISIONS

21–1734	SUBDIVISION	–	–
PROJECT NO	TYPE	FIELDBOOK & PAGES	

TOWN LINE
FRESH CREEK ROAD a.k.a. COUNTY ROAD
{public – R.O.W. width varies} (CLASS VI HIGHWAY)
S67°43'10"E 301.75'
S52°12'25"E 429.97'
ROLLINSFORD
DOVER
TOWN LINE
TOWN BOUND – ROLLINSFORD / DOVER #29
DOVER BOUND #29
GRANITE BOUND WITH DRILL HOLE IN TOP 0.9'W x 0.75'D x 1.66' EXPOSED, AT BASE OF A WHITE PINE
VIEW LOOKING SOUTHERLY FROM ROADWAY. THIS BOUND IS NOT LOCATED ON THE TOWN LINE. IT IS AN OFFSET WITNESS MONUMENT TO AN ANGLE POINT IN THE TOWN LINE.
35' WIDE EASEMENT TO GRANITE STATE GAS TRANSMISSION, INC. REF. SCRD 666/341
S34°28'32"E 79.82'
OAK STREET
{public – R.O.W. width varies}
N15°39'58"W 633.51'
ELMWOOD AVENUE
FAIRVIEW AVENUE
ATLANTIC AVENUE
GULF ROAD
COCHECHO STREET
a.k.a. ELIOT BRIDGE ROAD
EMERSON BROOK
COUNTRY CLUB ESTATES DRIVE
N89°20'50"W 645.30'
N05°19'55"W 900.00'
S05°19'55"E 445.70'
S80°19'51"E 332.84'
N05°48'59"W 235.22'
S79°20'51"W 320.89'
N82°59'33"W 429.86'
S08°12'54"W 221.45'
S12°28'08"W 240.00'
S77°31'52"E 300.06'
PROPOSED LOT 1
1,503,926 S.F.
34.53 Ac.
REMAINING LAND
56,783 S.F.
1.30 Ac.
PROPOSED LOT LINE
30' WIDE ACCESS & UTILITY EASEMENT
50' WETLAND BUFFER
EDGE OF WETLAND (SEE NOTE 11)
ZONE "X" 100 YEAR FLOOD SEE NOTE 6
WIRE FENCE LINE
BARN
GARAGE
HOUSE
DRIVEWAY
S.S. (fnd) N – 257,453.86 E – 1,199,667.93
I.R.(set) N – 256,955.318 E – 1,200,196.775
I.R.(set) N – 256,947.966 E – 1,200,842.036
I.R.(set)
I.R.(fnd)
NH STATE PLANE NAD 83 – GPS OBS.

25 / 80 CRE JV MIXED FIVE BRANCH HOLDINGS LLC P.O. Box 460049 HOUSTON, TX 77056 3419 / 809
3 / 23 CRE JV MIXED FIVE BRANCH HOLDINGS LLC P.O. Box 460049 HOUSTON, TX 77056 3419 / 809
3 / 21 MARK P. BARLOW 10 NORDIC LANE ROLLINSFORD, NH 03869 4416 / 660
3 / 10 NORMA TIBBETT DAHN TIBBETT 130 GULF ROAD DOVER, NH 03820
25 / 48D HUBBARD–LEARY, LLC 89 OAK STREET DOVER, NH 03820 3245 / 52
25 / 43A HOT ROD CITY, LLC 390 SIXTH STREET DOVER, NH 03820 4184 / 143
25 / 41 GLENN S. WILSON MARY F. MASTERSON 20 ELMWOOD AVENUE DOVER, NH 03820 1571 / 289
25 / 29 CHRISTOPHER R. CLARK JEANNE C. P. CLARK 21 ELMWOOD AVENUE DOVER, NH 03820 1806 / 403
25 / 27 JOHN P. MAATTALA JENNIFER A. MAATTALA 22 FAIRVIEW AVENUE DOVER, NH 03820 4490 / 276
25 / 1 AHN MARIE DAY MICHAEL ALAN DAY 104 GULF ROAD DOVER, NH 03820 4805 / 587
N / 13 JAHN H. & SUSAN G. JANETOS 55 CARLTON WAY HALES LOCATION, NH 03860 3655 / 154
N / 13A EDWARD M. TOWNSEND SARAH L. TOWNSEND 117 GULF ROAD DOVER, NH 03820 2124 / 659
N / 13B NORMA TIBBETT DAHN TIBBETT 130 GULF ROAD DOVER, NH 03820 3984 / 321
N / 13B–1 NORMA TIBBETT DAHN TIBBETT 130 GULF ROAD DOVER, NH 03820 3984 / 320 S.S. (fnd)
N / 13C JEFFREY D. ANDRESS AMIE K. ANDRESS 2A COUNTRY CLUB ESTATES DOVER, NH 03820 4800 / 502
N / 13C–1 EDWARD J. MURPHY, JR. AHN C. MURPHY 35 BELANGER DRIVE DOVER, NH 03820 1019 / 622
N / 13F COCHECHO COUNTRY CLUB 145 GULF ROAD DOVER, NH 03820 781 / 279
N / 12N MARGARET A. CARTER ROSEMARY L. FORCILLO 1 COUNTRY CLUB ESTATES DRIVE DOVER, NH 03820 4635 / 411
N / 15 COCHECHO COUNTRY CLUB 145 GULF ROAD DOVER, NH 03820 781 / 279

REFERENCE PLANS:

1.) LOT LINE ADJUSTMENT PLAN OF LAND LOT NOS. 13, 13C & 13E, TAX MAP N GULF ROAD, OAK STREET, COUNTRY CLUB ESTATES DRIVE & FRESH CREEK ROAD DOVER, NEW HAMPSHIRE COUNTY OF STRAFFORD. SCALE: 1" = 100'; DATED: DECEMBER 12, 2016, REVISED THROUGH 2–16–17; BY: CIVILWORKS NEW ENGLAND. RECORDED S.C.R.D. PLAN 113–033.

OWNER SIGNATURES

RD 1899

NOTES:

1.) OWNER OF RECORD:
DAHN H. & NORMA M. TIBBETT
JAHN H. AND SUSAN G. JANETOS
55 CARLTON WAY
HALES LOCATION, NH 03860
S.C.R.D. VOLUME 4465, PAGE 298

2.) N / 13 – DENOTES TAX MAP AND PARCEL NUMBER.

3.) TOTAL PARCEL AREA = 1,560,709 S.F. / 35.83 Ac.

4.) THE INTENT OF THIS PLAN IS TO DEPICT THE SUBDIVISION OF THE SUBJECT PARCEL INTO TWO (2) LOTS AS SHOWN. LOTS ARE TO BE SERVED BY MUNICIPAL SEWER AND WATER.

5.) ZONING DISTRICT IS RURAL RESIDENTIAL (R40)
DIMENSIONAL REQUIREMENTS:

MINIMUM LOT SIZE	= 40,000 S.F.
MINIMUM LOT COVERAGE	= 10 PERCENT
MINIMUM FRONTAGE	= 150 FEET
BUILDING SETBACK REQUIREMENTS:	
FRONT SETBACK	= 40 FEET
SIDE SETBACK	= 25 FEET
REAR SETBACK	= 30 FEET
MAXIMUM BUILDING HEIGHT	= 35 FEET MAXIMUM

6.) A PORTION OF THE SUBJECT PARCEL IS LOCATED WITHIN THE SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1 PERCENT ANNUAL CHANCE FLOOD, ZONE A (BASE FLOOD ELEVATIONS NOT DETERMINED) AS SHOWN ON FLOOD INSURANCE RATE MAP, COMMUNITY NUMBER 330145; PANEL 0330; SUFFIX E; MAP NUMBER 33017C0330E; EFFECTIVE DATE SEPTEMBER 30, 2015.

7.) BASIS OF BEARING IS NH STATE PLANE (NAD83) BASED ON GPS OBSERVATION DATED SEPTEMBER 15, 2021.

8.) PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM A SURVEY PERFORMED BY McENEANEY SURVEY ASSOCIATES OF NEW ENGLAND ON NOVEMBER 15, 2021 WITH AN ERROR NOT GREATER THAN 1 IN 10,000.

9.) 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.

10.) WETLANDS FLAGGED LINE SHOWN WERE DELINEATED BY DAMON E. BURT, N.H.C.W.S. #163 OF FRAGGLE ROCK ENVIRONMENTAL SERVICES AUGUST 8, 2021 IN ACCORDANCE WITH THE 1987 CORPS. OF ENGINEERS WETLANDS DELINEATION MANUAL AND LOCATED BY THIS OFFICE.

11.) BUILDING ADDRESSES (INCLUDING APT/UNIT NUMBERS IF APPLICABLE) SHALL BE ASSIGNED BY THE BUILDING OFFICIAL AT THE TIME OF ISSUANCE OF A BUILDING PERMIT.

12.) VERTICAL DATUM IS NAVD88 BASED ON GPS OBSERVATION DATED SEPTEMBER 15, 2021 TOPOGRAPHY DEPICTED IS BASED ON LIDAR OBTAINED FROM NHGRANIT.

13.) ANY SUBDIVISION OF PARCEL N/13–1, WITHIN 4 YEARS, WOULD REQUIRE PARCEL N/13 TO BE INCLUDED AS PART OF A MAJOR SUBDIVISION.

14.) IF LOT N/13 CEASES TO BE USED AS A FARM, THE LOT SHALL COMPLY WITH ZONING WHICH CURRENTLY INCLUDES ANY OF THE FOLLOWING: USING THE LOT FOR ANY PERMITTED USE; ADDING A PERMITTED PRIMARY STRUCTURE SO THAT ANY EXISTING NONCONFORMING STRUCTURE BECOMES AN ACCESSORY STRUCTURE; OBTAINING VARIANCES TO CURE ANY ZONING VIOLATIONS; PERFORMING A LOT LINE ADJUSTMENT WITH AN ABUTTING RESIDENTIAL LOT SO EXISTING STRUCTURE BECOMES AN ACCESSORY STRUCTURE TO A RESIDENTIAL OR OTHER CONFORMING USE; REPLACING/CONVERTING EXISTING STRUCTURE TO RESIDENTIAL OR OTHER PERMITTED USE; OR, REMOVING ANY NONCONFORMING STRUCTURE.

TOPOGRAPHIC PLAN

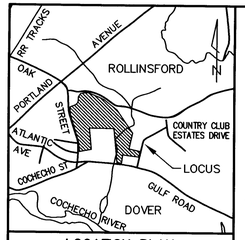
MINOR SUBDIVISION OF LAND
PREPARED FOR
DAHN H. TIBBETT & NORMA M. TIBBETT
AND
JAHN H. JANETOS & SUSAN G. JANETOS
TAX MAP N, LOT No. 13
GULF ROAD, OAK STREET
& COUNTRY CLUB ESTATES DRIVE
CITY of DOVER, COUNTY of STRAFFORD
STATE of NEW HAMPSHIRE

DOVER PLANNING FILE No. P 21–78
DRAWN BY: RJM | FILE: 1734\DWGS\21–1734S
SCALE: 1" = 100' | DATE: OCTOBER 18, 2021

100 50 0 50 100 200 300 400

STATE OF NEW HAMPSHIRE No. 661 LICENSED LAND SURVEYOR KEVIN M. McENEANEY SEAL SIGNATURE

McENEANEY SURVEY ASSOCIATES of NEW ENGLAND
P.O. Box 681 – 24 CHESTNUT STREET
DOVER, NH 03820 (603) 742–0911
SURVEYING – PLANNING – CONSULTING



LOCATION PLAN
(NO SCALE)

LEGEND

I.R.(set) – IRON ROD SET
I.R.(fnd) – IRON ROD FOUND
S.S.(fnd) – STEEL STAKE FOUND
S.F. – SQUARE FEET
Ac. – ACRE
(TYP.) – TYPICAL
± – MORE OR LESS
ø – DIAMETER
S.C.R.D. – STRAFFORD COUNTY REGISTRY OF DEEDS
– STONE WALL
– EDGE OF WETLAND
– WETLAND

NH STATE PLANE NAD 83 - GPS OBS.

TOWN LINE

a.k.a. FRESH CREEK ROAD {public – R.O.W. width varies} {CLASS VI HIGHWAY}

25 / 80
CRE JV MIXED FIVE BRANCH HOLDINGS LLC
P.O. Box 460049
HOUSTON, TX 77056
3419 / 809

3 / 23
CRE JV MIXED FIVE BRANCH HOLDINGS LLC
P.O. Box 460049
HOUSTON, TX 77056
3419 / 809

3 / 21
MARK P. BARLOW
10 NORDIC LANE
ROLLINSFORD, NH 03869
4416 / 660

ROLLINSFORD

TOWN LINE

TOWN BOUND – ROLLINSFORD / DOVER #29

3 / 10
NORMA TIBBETT
DAHN TIBBETT
130 GULF ROAD
DOVER, NH 03820

DOVER BOUND #29
GRANITE BOUND WITH DRILL HOLE IN TOP 0.9'W x 0.75'D x 1.66' EXPOSED, AT BASE OF A WHITE PINE
VIEW LOOKING SOUTHERLY FROM ROADWAY. THIS BOUND IS NOT LOCATED ON THE TOWN LINE. IT IS AN OFFSET WITNESS MONUMENT TO AN ANGLE POINT IN THE TOWN LINE.

DOVER

35' WIDE EASEMENT TO GRANITE STATE GAS TRANSMISSION, INC. REF. SCRD 666/341

25 / 43D
HUBBARD–LEARY, LLC
89 OAK STREET
DOVER, NH 03820
3245 / 2

S.S. (fnd)
N – 257,453.86
E – 1,199,667.93

25 / 43A
HOT ROD CITY, LLC
390 SIXTH STREET
DOVER, NH 03820
4184 / 143

N / 13–1
PROPOSED LOT 1
1,503,926 S.F.
34.53 Ac.

50' WETLAND BUFFER

EDGE OF WETLAND (SEE NOTE 11)

OAK STREET {public – R.O.W. width varies}

I.R.(set)
N – 256,955.318
E – 1,200,196.775

I.R.(set)
N – 256,947.966
E – 1,200,842.036

N / 13C–1
EDWARD J. MURPHY, JR.
AHN C. MURPHY
35 BELANGER DRIVE
DOVER, NH 03820
1019 / 622

EMERSON BROOK

25 / 41
GLENN S. WILSON
MARY F. MASTERSON
20 ELMWOOD AVENUE
DOVER, NH 03820
1571 / 289

PROPOSED LOT LINE

30' WIDE ACCESS & UTILITY EASEMENT.

ELMWOOD AVENUE

25 / 29
CHRISTOPHER R. CLARK
JEANNE C. P. CLARK
21 ELMWOOD AVENUE
DOVER, NH 03820
1806 / 403

25 / 27
JOHN P. MAATTALA
JENNIFER A. MAATTALA
22 FAIRVIEW AVENUE
DOVER, NH 03820
4490 / 276

BARN

N / 13
REMAINING LAND
56,783 S.F.
1.30 Ac.

N / 13F
JAHN H. & SUSAN G. JANETOS
55 CARLTON WAY
HALES LOCATION, NH 03860
3655 / 154

ZONE "X" 100 YEAR FLOOD SEE NOTE 6

FAIRVIEW AVENUE

GARAGE
HOUSE
DRIVEWAY

N / 13C
AHN MARIE DAY
MICHAEL ALAN DAY
104 GULF ROAD
DOVER, NH 03820
4805 / 587

25 / 1

N / 13A

ATLANTIC AVENUE

GULF ROAD {public – 66' wide R.O.W.} a.k.a. ELIOT BRIDGE ROAD

COCHECHO STREET

N / 14A
EDWARD M. TOWNSEND
SARAH L. TOWNSEND
117 GULF ROAD
DOVER, NH 03820
2124 / 659

COCHECHO COUNTRY CLUB
145 GULF ROAD
DOVER, NH 03820
781 / 279
N / 15

N / 13E
JEFFREY D. ANDRESS
AMIE K. ANDRESS
2A COUNTRY CLUB ESTATES
DOVER, NH 03820
4800 / 502

N / 13B
NORMA TIBBETT
DAHN TIBBETT
130 GULF ROAD
DOVER, NH 03820
3984 / 321

N / 13B–1
NORMA TIBBETT
DAHN TIBBETT
130 GULF ROAD
DOVER, NH 03820
3984 / 320
S.S. (fnd)

COUNTRY CLUB ESTATES DRIVE

N / 12N
MARGARET A. CARTER
ROSEMARY L. FORCILLO
ESTATES DRIVE
1 COUNTRY CLUB
DOVER, NH 03820
4635 / 411

N / 15
COCHECHO COUNTRY CLUB
145 GULF ROAD
DOVER, NH 03820
781 / 279

THE SOIL TYPES ON THE SITE ARE:
BzB BUXTON SILT LOAM, 3 TO 8 PERCENT SLOPES
HdB HOLLIS–CHARLTON FINE SANDY LOAMS, 3 TO 8 PERCENT SLOPES
HcC HOLLIS–CHARLTON FINE SANDY LOAMS, 8 TO 15 PERCENT SLOPES
HdB HOLLIS–CHARLTON VERY ROCKY FINE SANDY LOAMS, 3 TO 8 PERCENT SLOPES
HdC HOLLIS–CHARLTON VERY ROCKY FINE SANDY LOAMS, 8 TO 15 PERCENT SLOPES
HdD HOLLIS–CHARLTON VERY ROCKY FINE SANDY LOAMS, 15 TO 25 PERCENT SLOPES
ScA SCANTIC SILT LOAM, 0 TO 3 PERCENT SLOPES
WfC WINDSOR LOAMY FINE SAND, CLAY SUBSOIL VARIANT, 8 TO 15 PERCENT SLOPES
THE SOURCE FOR THE SOIL TYPE DATA IS USDA NRCS WEB SOIL SURVEY
http: //websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx\

No.	Bearing	Distance
L1	N05°48'59"W	15.56'
L2	S05°19'55"E	119.30'
L3	N15°41'21"W	94.61'
L4	N11°56'49"W	89.55'
L5	N01°27'45"W	94.54'
L6	N05°37'49"E	45.27'
L7	N68°12'33"E	111.97'
L8	N64°51'29"E	39.96'
L9	N46°36'13"E	78.90'
L10	N12°35'19"E	58.12'
L11	N03°44'27"E	99.80'
L12	N32°56'01"E	102.59'
L13	N80°09'31"E	120.00'
L14	N87°56'29"E	67.76'
L15	S73°55'09"E	55.67'
L16	S62°54'16"E	119.42'
L17	S12°28'08"W	190.00'
L18	S12°21'40"W	150.18'
L19	N81°47'06"W	122.02'

NO.	DATE	DESCRIPTION	BY	CHK
1	11/16/21	REVISE NORTHERLY LINE OF N/13, PARCEL AREAS,	RJM	KMM
		AND OWNERS OF N/13F. REVISE VARIOUS NOTES AND		
		ADD NOTES. UPDATE COMPLETE BOUNDARY SURVEY.		
		ADD TOWN LINE		

REVISIONS

21–1734	SUBDIVISION	–	–
PROJECT NO	TYPE	FIELDBOOK & PAGES	

REFERENCE PLANS:

1.) LOT LINE ADJUSTMENT PLAN OF LAND LOT NOS. 13, 13C & 13E, TAX MAP N GULF ROAD, OAK STREET, COUNTRY CLUB ESTATES DRIVE & FRESH CREEK ROAD DOVER, NEW HAMPSHIRE COUNTY OF STRAFFORD. SCALE: 1" = 100'; DATED: DECEMBER 12, 2016, REVISED THROUGH 2–16–17; BY: CIVILWORKS NEW ENGLAND. RECORDED S.C.R.D. PLAN 113–033.

OWNER SIGNATURES

BD 1899

NOTES:

1.) OWNER OF RECORD:
DAHN H. & NORMA M. TIBBETT
JAHN H. AND SUSAN G. JANETOS
55 CARLTON WAY
HALES LOCATION, NH 03860
S.C.R.D. VOLUME 4465, PAGE 298

2.) N / 13 – DENOTES TAX MAP AND PARCEL NUMBER.

3.) TOTAL PARCEL AREA = 1,560,709 S.F. / 35.83 Ac.

4.) THE INTENT OF THIS PLAN IS TO DEPICT THE SUBDIVISION OF THE SUBJECT PARCEL INTO TWO (2) LOTS AS SHOWN. LOTS ARE TO BE SERVED BY MUNICIPAL SEWER AND WATER.

5.) ZONING DISTRICT IS RURAL RESIDENTIAL (R40)
DIMENSIONAL REQUIREMENTS:
MINIMUM LOT SIZE = 40,000 S.F.
MINIMUM LOT COVERAGE = 10 PERCENT
MINIMUM FRONTAGE = 150 FEET
BUILDING SETBACK REQUIREMENTS:
FRONT SETBACK = 40 FEET
SIDE SETBACK = 25 FEET
REAR SETBACK = 30 FEET
MAXIMUM BUILDING HEIGHT = 35 FEET MAXIMUM

6.) A PORTION OF THE SUBJECT PARCEL IS LOCATED WITHIN THE SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1 PERCENT ANNUAL CHANCE FLOOD, ZONE A (BASE FLOOD ELEVATIONS NOT DETERMINED) AS SHOWN ON FLOOD INSURANCE RATE MAP, COMMUNITY NUMBER 330145; PANEL 0330; SUFFIX E; MAP NUMBER 33017C0330E; EFFECTIVE DATE SEPTEMBER 30, 2015.

7.) BASIS OF BEARING IS NH STATE PLANE (NAD83) BASED ON GPS OBSERVATION DATED SEPTEMBER 15, 2021.

8.) PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM A SURVEY PERFORMED BY McENEANEY SURVEY ASSOCIATES OF NEW ENGLAND ON NOVEMBER 15, 2021 WITH AN ERROR NOT GREATER THAN 1 IN 10,000.

9.) 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.

10.) WETLANDS FLAGGED LINE SHOWN WERE DELINEATED BY DAMON E. BURT, N.H.C.W.S. #163 OF FRAGGLE ROCK ENVIRONMENTAL SERVICES AUGUST 8, 2021 IN ACCORDANCE WITH THE 1987 CORPS. OF ENGINEERS WETLANDS DELINEATION MANUAL AND LOCATED BY THIS OFFICE.

11.) BUILDING ADDRESSES (INCLUDING APT/UNIT NUMBERS IF APPLICABLE) SHALL BE ASSIGNED BY THE BUILDING OFFICIAL AT THE TIME OF ISSUANCE OF A BUILDING PERMIT.

12.) VERTICAL DATUM IS NAVD88 BASED ON GPS OBSERVATION DATED SEPTEMBER 15, 2021 TOPOGRAPHY DEPICTED IS BASED ON LIDAR OBTAINED FROM NHGRANIT.

13.) ANY SUBDIVISION OF PARCEL N/13–1, WITHIN 4 YEARS, WOULD REQUIRE PARCEL N/13 TO BE INCLUDED AS PART OF A MAJOR SUBDIVISION.

14.) IF LOT N/13 CEASES TO BE USED AS A FARM, THE LOT SHALL COMPLY WITH ZONING WHICH CURRENTLY INCLUDES ANY OF THE FOLLOWING: USING THE LOT FOR ANY PERMITTED USE; ADDING A PERMITTED PRIMARY STRUCTURE SO THAT ANY EXISTING NONCONFORMING STRUCTURE BECOMES AN ACCESSORY STRUCTURE; OBTAINING VARIANCES TO CURE ANY ZONING VIOLATIONS; PERFORMING A LOT LINE ADJUSTMENT WITH AN ABUTTING RESIDENTIAL LOT SO EXISTING STRUCTURE BECOMES AN ACCESSORY STRUCTURE TO A RESIDENTIAL OR OTHER CONFORMING USE; REPLACING/CONVERTING EXISTING STRUCTURE TO RESIDENTIAL OR OTHER PERMITTED USE; OR, REMOVING ANY NONCONFORMING STRUCTURE.

MINOR SUBDIVISION OF LAND
PREPARED FOR
DAHN H. TIBBETT & NORMA M. TIBBETT
AND
JAHN H. JANETOS & SUSAN G. JANETOS
TAX MAP N, LOT No. 13
GULF ROAD, OAK STREET
& COUNTRY CLUB ESTATES DRIVE
CITY of DOVER, COUNTY of STRAFFORD
STATE of NEW HAMPSHIRE

DOVER PLANNING FILE No. P 21–78

DRAWN BY: RJM	FILE: 1734\DWGS\21–1734S
SCALE: 1" = 100'	DATE: OCTOBER 18, 2021

100 50 0 50 100 200 300 400

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

RECEIVED
Planning Office
OCT 20 2021
Dover, New Hampshire

WADLEIGH, STARR & PETERS, P.L.L.C.

WILLIAM C. TUCKER
JAMES C. WHEAT, Of Counsel
RONALD J. LAJOIE
MARC R. SCHEER
GREGORY G. PETERS
FRANK P. SPINELLA, Jr.
DEAN B. EGGERT
MICHAEL R. MORTIMER
KATHLEEN C. PEAHL
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MICHAEL G. EATON
GRETCHEN M. WADE
AUTUMN H. KISH

Direct Dial: (603) 206-7239
mtierney@wadleighlaw.com

September 30, 2021

Via Email

Gary Tuttle
Central Falls Realty
242 Central Avenue
Dover, NH 03820
garytuttle53@yahoo.com

Re: Subdivision of Tax Map N, Lot 13, in Dover, New Hampshire

Dear Gary:

I am writing you on behalf of our clients, Dahn and Norma Tibbett, owners of Tax Map N, Lot 13, in Dover, New Hampshire. It is our understanding that, on or about September 17, 2021, the Dover City Planner declined to accept jurisdiction of a subdivision plan based on the allegation that the 2008 subdivision required the owner to build a residence as a condition of that subdivision approval. We have reviewed the minutes of the 2008 Planning Board meeting as well as the Notice of Decision and find no evidence of such a condition. In short, the 2008 subdivision did NOT require that a house be built.

Similarly, there is no requirement that a house be built on the barn lot in 2021. After the planning board approves the subdivision of the 1.4 acre barn lot from the remaining roughly 34 acres, residential uses are anticipated to be added to those 34 acres but the 1.4 acre lot will continue being used for farm purposes. Pursuant to Dover Zoning Ordinance Chapter 170-7(B)(1)(a), and Chapter 170, Attachment 02, farm is a permitted use by right. It would not violate zoning for the 1.4 acre barn lot to continue to be used for farm purposes as it has for the past 100 years or more.

Respectfully,

Michael J. Tierney

MJT/wpr

CHRISTOPHER G. PARKER, AICP
Assistant City Manager
Planning & Strategic Initiatives
c.parker@dover.nh.gov

288 Central Avenue
Dover, New Hampshire 03820-4169
(603) 516-6008
Fax: (603) 516-6049
www.dover.nh.gov

City of Dover, New Hampshire

DEPARTMENT OF PLANNING AND COMMUNITY DEVELOPMENT

October 6, 2021

Matt Assia
Chinburg Property Management
3 Penstock Way
Newmarket, NH 03857

Re: Vacant lot on Oak Street (AKA Assessors Map N lot 13)

Dear Matt,

This letter is a follow up to our ongoing conversations about the above referenced parcel, including your email from Monday seeking the next steps for a "submission to the Planning Board or the ZBA."

As I understand the intent is to carve the barn off and continue to farm the either 1.3 or 1.4 acre parcel (this is conflicting between the plan and the letter from Attorney Tierney). Based upon my September 23rd meeting with Attorney Mulligan, Mr. Tuttle and the Janetos, it was explained that the barn currently supports farming of hay on the approximately 35 acre parcel. As part of any submission, the application materials should note what farming activities would the on the newly created lot, if the intent is that the use of that lot is farming.

Your third point notes "3) Their position is that the parent parcel is in current use and therefore the two resulting lots will be current use. If the barn lot is taken out of current use or if the farm use is discontinued, then it at that time one of the actions that you noted below (highlighted in yellow) would need to happen."

You should discuss this with the City Assessor, but my understanding is that if a subdivision is created, and a lot is conveyed to different ownership there would be a need to revise the "Current Use" designation and any change tax would need to be paid for pulling the lot out.

Also, keep in mind, per the subdivision of land regulations, if a minor subdivision is completed on a parcel and then a major subdivision comes in within 4 years, the Planning Board reserves the right to consider the full subdivision as a major subdivision. In this case at a minimum it would expect that the larger subdivision you reference would need to include the open space, which would have been required if this 1.3/4 acre parcel was included.

If you have any questions, please don't hesitate to reach out.

Sincerely,

Christopher G. Parker, AICP
Assistant City Manager

EC: D.Benton, City Planner

October 18, 2021

Stephen J. Haight, P.E.

CivilWorks New England
P.O. Box 1166
Dover, New Hampshire 03821
shaight@civilworksne.com

RE: Subdivision of Tax Map N, Lot 13 on Oak Street, Dover, New Hampshire

Dear Stephen:

As you are aware, you have been engaged and authorized to submit a subdivision plan before the Dover Planning Board for the above referenced parcel. This subdivision will separate a 1.4 +/-acrelot with an existing barn from the remaining land. The existing barn currently supports the farming of hay, and it is my intention to continue to use the barn and the lot for this purpose.

Sincerely,

Dahn Tibbett

WADLEIGH, STARR & PETERS, P.L.L.C.

WILLIAM C. TUCKER
JAMES C. WHEAT, Of Counsel
RONALD J. LAJOIE
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AUTUMN H. KISH

Direct Dial: (603) 206-7293
wreddington@wadleighlaw.com

October 26, 2021

Via Email

Donna Benton
City Planner
City of Dover, NH
288 Central Avenue
Dover, NH 03820-4169
d.benton@dover.nh.gov

Re: Subdivision of Tax map N, Lot 13 on Oak Street

Dear Ms. Benton:

I am writing this letter on behalf of my clients Dahn and Norma Tibbett. As indicated in Dahn's letter to Stephen Haight dated October 18, 2021, and the letter from my office to Gary Tuttle dated September 30, 2021, following the subdivision the 1.4 acre lot and existing barn will continue to be used for the farming of hay. Both these letters were provided to the City with the above referenced subdivision application. The adjacent parcel known as 13F is a separately owned parcel and is not part of this subdivision application.

Sincerely,

William P Reddington

William P Reddington

October 18, 2021

Stephen J. Haight, P.E.

CivilWorks New England
P.O. Box 1166
Dover, New Hampshire 03821
shaight@civilworksne.com

RE: Subdivision of Tax Map N, Lot 13 on Oak Street, Dover, New Hampshire

Dear Stephen:

As you are aware, you have been engaged and authorized to submit a subdivision plan before the Dover Planning Board for the above referenced parcel. This subdivision will separate a 1.4 +/-acrelot with an existing barn from the remaining land. The existing barn currently supports the farming of hay, and it is my intention to continue to use the barn and the lot for this purpose.

Sincerely,

Dahn Tibbett

CITY OF DOVER

PLANNING BOARD - STAFF MEMO FILE #P21-86

Application Type:	Lot Line Adjustment
Applicant(s):	Settlement on 6th LLC and Karen Ewer Gray
Owner(s):	Settlement on 6th LLC and Karen Ewer Gray
Location:	Sixth Street (Tax Map B, Lots 5 & 4M)
Meeting Date:	December 14, 2021

INTENT: To adjust the lot lines to remove an encroachment

LOTS/UNITS PROPOSED:
N/A

AGENDA ITEM #: 4-A

ACREAGE: Existing: Proposed:
Lot B/5: 19.28 ac 19.21 ac
Lot B/4-M: 2.07 ac 2.14 ac

ZONING DISTRICT: R-40

EXISTING LAND USE:
Residential

PROPOSED LAND USE:
Residential

SURROUNDING LAND USE:
Residential and vacant

ZBA ACTION: None

ATTACHMENTS: Application materials, Lot Line Adjustment Plan

APPLICATION IS COMPLETE: Yes

DECLARE REGIONAL IMPACT: No

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

PERMITS REQUIRED:
-N/A

WAIVER(S) REQUESTED:
N/A

Summary of Request and Background
At the November 9, 2021 Planning Board meeting a TDR subdivision was conditionally approved. As part of that larger application and a condition of approval was for a lot line adjustment to occur to remediate a shed encroachment with the abutting parcel.

The applicant is requesting to complete a lot line adjustment between two lots and the lots remain conforming.

As a Lot Line Adjustment, this application did not appear before the TRC.

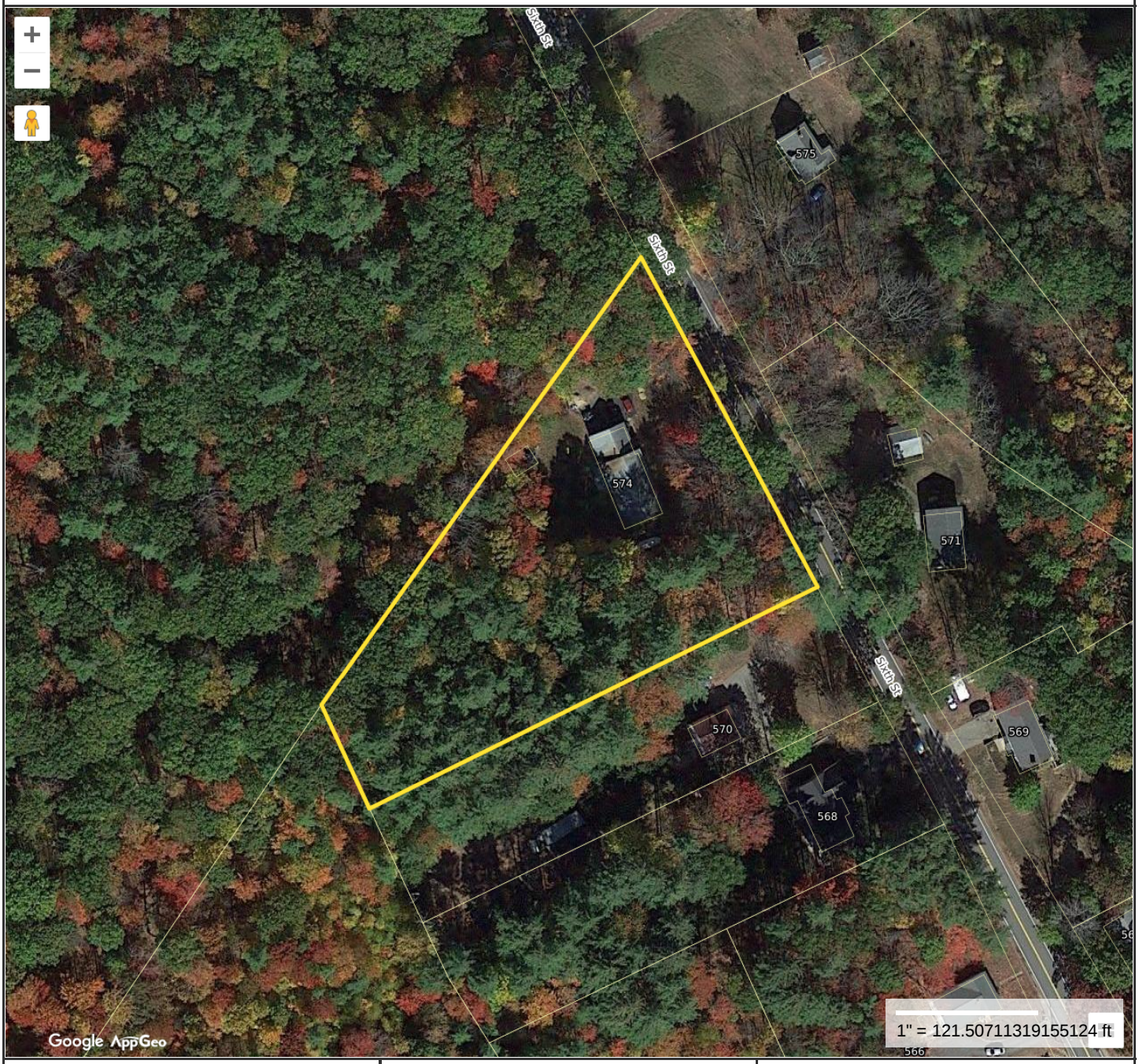
Consistency with Land Use Regulations
Chapter 157-17 of the Land Subdivision Regulations of the City Code provides for the adjustment of existing lot lines between two or more lots. This plan is consistent with those regulations.

STAFF RECOMMENDATION:
The Planning Department recommends the Planning Board to accept the application, open the public hearing, and vote to approve the application with the following conditions:

Conditions to Be Met Prior to Signing of Plans:

1. Provide physical and digital copies (including CAD) of complete plan set which additionally shall include:
    a. The signature and stamp of LLS and CWS
    b. The owners' signatures for recording at Strafford County Registry of Deeds.
    c. Revising the Planning File #21-86
    d. Add common note 12

574 Sixth Street



Property Information

Property ID	B0004-M00000
Location	574 SIXTH ST
Owner	EWER-GRAY KAREN L
Land Use	101

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.

City of Dover, New Hampshire
MINOR LOT LINE ADJUSTMENT APPLICATION

[Revision Date: June 4, 2019]

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

APPLICANT INFORMATION

Name of Applicant: Settlemet on 6th LLC Telephone # 603-674-1870

Address of Applicant: 4 Hall Street

FIRST PROPERTY OWNER AND PARCEL INFORMATION

Name of 1st Property Owner (*if different from applicant*): Settlemet on 6th Telephone # 603-674-1870

Address of 1st Property Owner: 4 Hall Street, Dover, NH 03820

Address of Property: 6th Street

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

Property Deed: Book 4861 Page: 409

Zoning District(s) R-40 Rural Residential Overlay District(s) Conservation & wetland protection

Size of Existing Parcel (sq. ft.): 839,718 Size of Proposed Parcel (sq. ft.): 836,691

SECOND PROPERTY OWNER AND PARCEL INFORMATION

Name of 2nd Property Owner (*if different from applicant*): Karen Ewer Gray Telephone # 603-381-0038

Address of 2nd Property Owner: P.O. Box 1888 Dover NH

Address of Property: 574 Sixth Street

Assessor's Map # B Lot(s) # 4-M

Property Deed: Book 2205 Page: 1

Zoning District(s) R-40 Rural Residential Overlay District(s) Conservation & wetland protection

Size of Existing Parcel (sq. ft.): As noted B-4-M 90,279 Size of Proposed Parcel (sq. ft.): ~~3954 Sq. Ft.~~ 93,306

THIRD PROPERTY OWNER AND PARCEL INFORMATION

Name of 3rd Property Owner (*if different from applicant*): N/A Telephone #

Address of 3rd Property Owner:

Address of Property:

Assessor's Map # _____ Lot(s) # _____

Property Deed: Book _____ Page: _____

Zoning District(s) _____ Overlay District(s) _____

Size of Existing Parcel (sq. ft.): _____ Size of Proposed Parcel (sq. ft.): _____

[Use additional application form if more than two lots are being adjusted]

SURVEYOR INFORMATION

Name of Surveyor and Company (Licensed in N.H.) Kenneth A Berry, PE, LLS
Christopher R. Berry
Berry Surveying & Engineering

Address 335 Second Crown Point Rd, Barrington, NH 03825 Telephone #: 603-332-2863

Professional License #: 805 E-mail address: K.Berry@BerrySurveying.com
crberry@metrocast.net

CONSERVATION EASEMENT HOLDER (s)

Name of Easement Holder: N/A Telephone #_____

Address Easement Holder: _____

Name of 2nd Easement Holder: N/A Telephone #_____

Address 2nd 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. As applicant or as agent, I attest that I am duly authorized to act in this capacity.

Signature of First Property Owner: _____ Date: 10-13-21

Signature of Second Property Owner: Karen Ewer-Gray Date: 10/13/2021

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

Signature of Agent: _____ Date: 10-13-21

AUTHORIZATION TO ENTER SUBJECT PROPERTY

I 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: 10-13-21

P21-86 **574 Sixth Street**

Property ID	Location	Owner 1	Owner 2	Owner Address 1	City	State	Zip
A0040-000000	583 SIXTH ST	RANALLI ANNE M		583 SIXTH STREET	DOVER	NH	03820
A0040-A00000	575 SIXTH ST	SANSOUCY SUZANNE		575 SIXTH STREET	DOVER	NH	03820
A0040-E00000	350 LONG HILL RD	KURSHINSKY THOMAS J	KURSHINSKY-RIECKS AMANDA J	350 LONG HILL ROAD	DOVER	NH	03820
A0040-F00000	591 SIXTH ST	LACOURSE MICHAEL &	LACOURSE ABIGAIL L	591 SIXTH STREET	DOVER	NH	03820
A0040-G00000	579 SIXTH ST	CONWAY RICHARD P JR		579 SIXTH ST	DOVER	NH	03820
A0040-N00000	SIXTH ST	SANSOUCY SUZANNE		575 SIXTH STREET	DOVER	NH	03820
A0041-000000	571 SIXTH ST	HESTER TAMARA		571 SIXTH STREET	DOVER	NH	03820
A0067-000000	569 SIXTH ST	VANDINI NORMAN	VANDINI SHARON	569 SIXTH STREET	DOVER	NH	03820
B0004-051000	151 COTTONWOOD DR	WORKMAN MARSHALL K &	WORKMAN CATHERINE A	151 COTTONWOOD DR	DOVER	NH	03820-6027
B0004-052000	147 COTTONWOOD DR	DODIER SCOTT B	DODIER SARAH J	147 COTTONWOOD DR	DOVER	NH	03820
B0004-A00000	570 SIXTH ST	BROWN RUTH A	BROWN KARL E	570 SIXTH STREET	DOVER	NH	03820
B0004-J00000	568 SIXTH ST	VERVILLE CAITLIN &	WILKIE RORY	568 SIXTH ST	DOVER	NH	03820
B0006-D00000	62 COUNTY FARM CROSS RD	TORR ZACHARY J &	TORR MEAGAN L	62 COUNTY FARM CROSS RD	DOVER	NH	03820
B0006-G00003	28 SINGH DR	SIGNH RAGHBIR		15 OLIVE MEADOW LN	DOVER	NH	03820
B0006-G00OPN	SINGH DR	SIGNH RAGHBIR		15 OLIVE MEADOW LN	DOVER	NH	03820
B0006-H00000	30 COUNTY FARM CROSS RD	SEAVER PAUL J &	SEAVER PENNY L	30 COUNTY FARM CROSS RD	DOVER	NH	03820
B0006-H00002	26 COUNTY FARM CROSS RD	MCGANN MELISSA A &	MCGANN THOMAS J	26 COUNTY FARM CROSS RD	DOVER	NH	03820
B0012-000000	98 COUNTY FARM CROSS RD	MERKLEY MARY B		98 COUNTY FARM CROSS ROAD	DOVER	NH	03820
B0021-033000	BOXWOOD LN	FARMHAVEN DEVELOPMENT ASSOCIATES LLC		242 CENTRAL AVE	DOVER	NH	03820
B0004-M00000	574 SIXTH ST	EWER-GRAY KAREN L		PO BOX 1888	DOVER	NH	03821
B0005-000000	SIXTH ST	SETTLEMENT ON 6TH LLC		4 HALL ST	DOVER	NH	03820
		BERRY SURVEYING & ENGINEERING	CHRISTOPHER BERRY	335 SECOND CROWN POINT ROAD	BARRINGTON	NH	03625
			JOHN P. HAYES III	7 LIMESTONE WAY	NORTH HAMPTON	NH	03862

PLAN REFERENCES:

1. "CHESTER MORGAN PROPERTY, LIMITED SUBDIVISION, DOVER, N.H." BY: FREDERICK E. DREW ASSOCIATES DATED: JANUARY, 1974 S.C.R.D. PLAN #16-39
2. "SUBDIVISION OF LAND OF GEORGE & GAIL SAMUELS, COUNTY FARM CROSS ROAD & SIXTH STREET, DOVER, N.H." BY: LECLERC STOWELL ASSOCIATES DATED: FEBRUARY, 1984 S.C.R.D. PLAN #24A-29
3. "PROPOSED SUBDIVISION LAND OF MATT R. & HELLEN R. WILLIAMS, COUNTY FARM CROSS ROAD, DOVER, N.H." BY: BERRY SURVEYING & ENGINEERING DATED: MARCH 11, 1994 PLAN #44-19 FILE NO. DB 1994-01
4. "PROPOSED SUBDIVISION PLAN FOR LEIGH E. JERRY ON COUNTY FARM ROSS ROAD, TAX MAP B, LOT 6H IN DOVER, NH" BY: BRUCE L. POHOPEK DATED: AUGUST 25, 2000 S.C.R.D. PLAN #61-21
5. "LOT LINE ADJUSTMENT PLAN PREPARED FOR DAVID G. TORR OF LANDS IDENTIFIED AS TAX MAP B, LOTS 6D & 6G HAVING A PHYSICAL ADDRESS OG #62 COUNTY FARM CROSS ROAD, CITY OF DOVER, COUNTY OF STRAFFORD, STATE OF NEW HAMPSHIRE" BY: JASON POHOPEK DESIGN & CONSTRUCTION, LLC DATED: JULY 1, 2015 S.C.R.D. PLAN #111-011

PLAN REFERENCES:

6. "OPEN SPACE SUBDIVISION OF LAND PREPARD FOR RAGHBIR SINGH, TAX MAP B, LOT NO. 6-G, COUNTY FARM CROSS ROAD, CITY OF DOVER, COUNTY OF STRAFFORD, STATE OF NEW HAMPSHIRE" BY: MCENEANEY SURVEY ASSOCIATES, INC. DATED: AUGUST 10, 2017 S.C.R.D. PLAN #115-60
7. "SURVEY PLAN FOR CHESTER & VIOLA BOLSTRIDGE IN DOVER, N.H." BY: BRUCE L. POHOPEK DATED: OCTOBER 8, 1984 S.C.R.D. PLAN #25-10
8. "LOT LINE ADJUSTMENT FOR MPL N.H.2. INC AND GREGORIOS & HELEN KUTRELAKOS, UPPER SIXTH STREET IN DOVER, N.H." BY: BRUCE L. POHOPEK DATED: JANUARY 26, 1995 S.C.R.D. PLAN #45-77
9. "OPEN SPACE SUBDIVISION PLAN, HAVEN FARM AT ALDEN WOODS, BOXWOOD LANE & WILDEWOOD LANE, DOVER, NEW HAMPSHIRE" BY: TRITECH ENGINEERING CORPORATION DATED: AUGUST 20, 2004 S.C.R.D. PLAN #80-35
10. "PLAN OF LAND BETHARLENE WEEDEN, DOVER, N.H." BY: FREDERICK E. DREW ASSOCIATES DATED: OCTOBER, 1983 S.C.R.D. PLAN # 31A-90

PLAN REFERENCES:

11. "ALDEN WOODS SUBDIVISION, SIXTH STREET, DOVER, NEW HAMPSHIRE" BY: MCENEANEY SURVEY ASSOCIATES, INC. DATED: APRIL 27, 1998 S.C.R.D. PLAN #54-34
12. "PLAN OF LOT NO. 1, RALPH GROER, DOVER, NEW HAMPSHIRE" BY: ROBERT W. McCRONE DATED: JUNE, 1975 S.C.R.D. PLAN # 17-9
13. "PLAN OF LOTS NO. 4A & 4B, RALPH GROVER, DOVER, NEW HAMPSHIRE" BY: ROBERT W. McCRONE DATED: JANUARY, 1979 S.C.R.D. PLAN #17-9
14. "PLAN OF LOTS 1, 2, & 3, WARREN WEEDEN, SIXTH STREET & LONG HILL ROAD, DOVER, NEW HAMPSHIRE" BY: ROBERT W. McCRONE DATED: NOVEMBER, 1977 S.C.R.D. PLAN #17D-34
15. "BOUNDARY PLAN LAND OF SETTLEMENT ON 6TH, LLC SIXTH STREET DOVER, N.H. TAX MAP B, LOT 5" BY: BERRY SURVEYING & ENGINEERING DATED: JUNE 10, 2021 TO BE RECORDED SIMULTANEOUSLY

WETLAND NOTE:

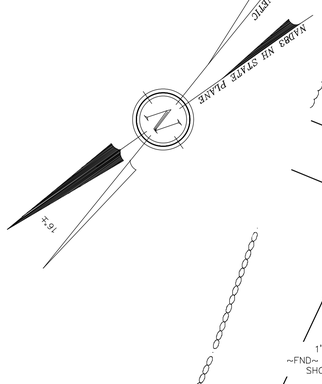
THE WETLAND DELIEATION WAS COMPLETED JANUARY 2021 ACCORDING TO THE FOLLOWING STANDARDS:

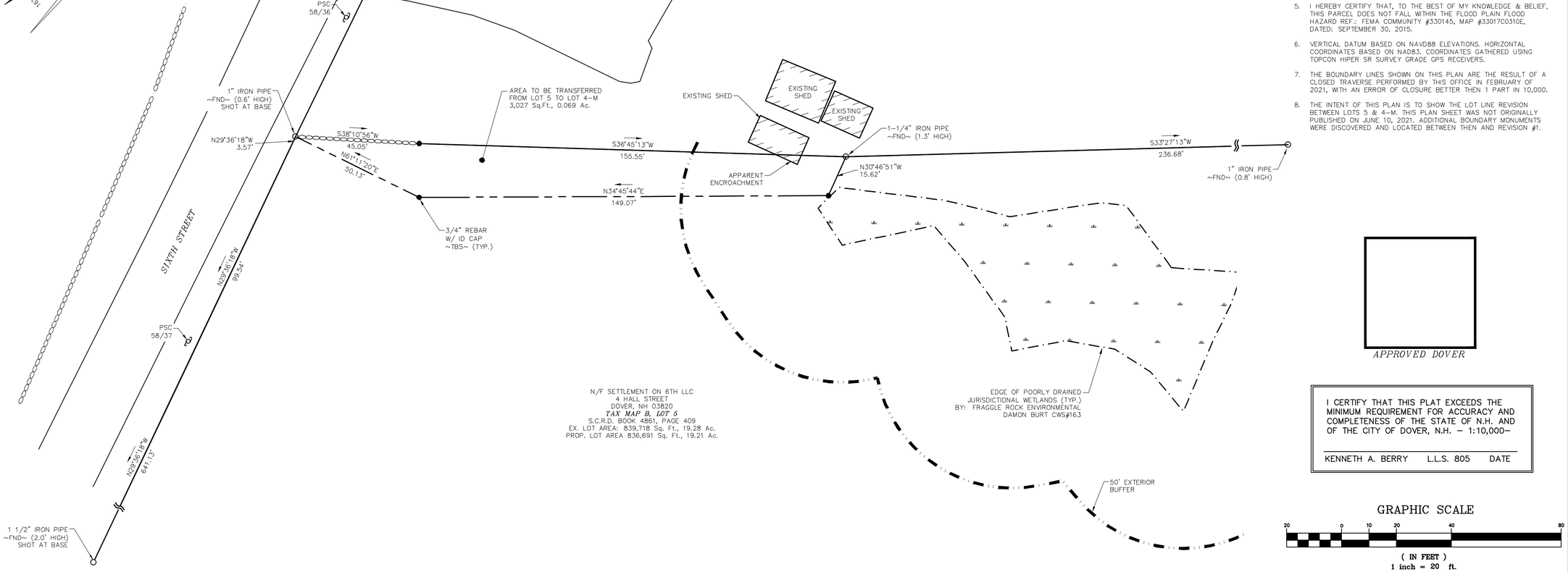
1. CORPS OF ENGINEERS WETLAND DELINEATION MANUAL, TECHNICAL REPORT 4-87-1, (JANUARY, 1987)
2. U.S. ARMY CORPS OF ENGINEERS, REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, VERSION 2.0, U.S. ARMY ENGINEER RESEARCH AND DEVELOPMENT CENTER, 3909 HALLS FERRY ROAD, VICKSBURG, MS 39180-6199, JANUARY 2012, ERDC/EL TR-12-1
3. COWARDIN, LEWIS M., GOLET, FRANCIS C. AND LAROE, EDWARD T, CLASSIFICATION OF WETLANDS AND DEEPWATER HABITATS OF THE UNITED STATES, USFWS, DEPT. OF THE INTERIOR, WASH. D.C., 1979.
4. FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES A GUIDE FOR IDENTIFYING AND DELINEATING HYDRIC SOILS, VERSION 8.1, 2017 (INCLUDING CORRECTIONS TO VERSION 8.0, 2016, ON PAGES 21, 25, AND 34)
5. NEW ENGLAND HYDRIC SOILS TECHNICAL COMMITTEE. 2017 VERSION 4, FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND. NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMMISSION, LOWELL, MA

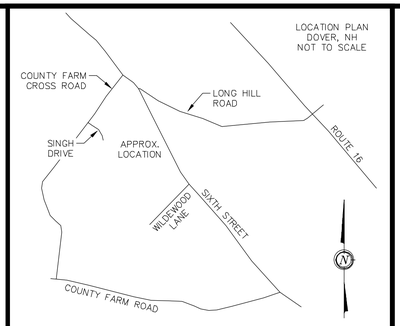
FRAGGLE ROCK ENVIRONMENTAL
DAMON BURT, CWS 163

LEGEND:

- ● 3/4" REBAR W/ ID CAP ~TBS~
- ◉ DRILL HOLE ~FND OR SET~
- IRON PIPE ~FND~
- IRON BOUND ~FND~
- UTILITY POLE
- STONE WALL
- PERIMETER BOUNDARY
- POORLY DRAINED WETLAND LINE
- 50' WETLAND SETBACK
- PROPOSED PROPERTY LINE
- TBS TO BE SET
- FND FOUND
- S.C.R.D. STRAFFORD COUNTY REGISTRY OF DEEDS







NOTES:

OWNER: A.) SETTLEMENT ON 6TH, LLC
4 HALL STREET
DOVER, NH 03820

B.) KAREN EWER-GRAY
P.O. BOX 1888
DOVER, NH 03821

APPLICANT: SETTLEMENT ON 6TH, LLC
4 HALL STREET
DOVER, NH 03820

1. A.) TAX MAP B, LOT 5
   B.) TAX MAP B, LOT 4-M
2. A.) LOT AREA: 839,718 Sq. Ft., 19.28 Ac.
   B.) LOT AREA: 90,279 Sq. Ft., 2.07 Ac.
3. A.) S.C.R.D. BOOK 4861, PAGE 409
   B.) S.C.R.D. BOOK 2205, PAGE 1
4. ZONING: RURAL RESIDENTIAL, R-40
   LOT SIZE: 40,000 Sq. Ft.
   MAX. LOT COVERAGE: 10%
   MINIMUM FRONTAGE: 150'
   FRONT SETBACK: 40'
   ABUT A STREET SETBACK: 40'
   SIDE SETBACK: 25'
   REAR SETBACK: 30'
5. I HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE & BELIEF, THIS PARCEL DOES NOT FALL WITHIN THE FLOOD PLAIN FLOOD HAZARD REF.: FEMA COMMUNITY #330145, MAP #33017C0310E, DATED: SEPTEMBER 30, 2015.
6. VERTICAL DATUM BASED ON NAVD88 ELEVATIONS. HORIZONTAL COORDINATES BASED ON NAD83. COORDINATES GATHERED USING TOPCON HIPER SR SURVEY GRADE GPS RECEIVERS.
7. THE BOUNDARY LINES SHOWN ON THIS PLAN ARE THE RESULT OF A CLOSED TRAVERSE PERFORMED BY THIS OFFICE IN FEBRUARY OF 2021, WITH AN ERROR OF CLOSURE BETTER THEN 1 PART IN 10,000.
8. THE INTENT OF THIS PLAN IS TO SHOW THE LOT LINE REVISION BETWEEN LOTS 5 & 4-M. THIS PLAN SHEET WAS NOT ORIGINALLY PUBLISHED ON JUNE 10, 2021. ADDITIONAL BOUNDARY MONUMENTS WERE DISCOVERED AND LOCATED BETWEEN THEN AND REVISION #1.

APPROVED DOVER

I CERTIFY THAT THIS PLAT EXCEEDS THE MINIMUM REQUIREMENT FOR ACCURACY AND COMPLETENESS OF THE STATE OF N.H. AND OF THE CITY OF DOVER, N.H. – 1:10,000–

KENNETH A. BERRY L.L.S. 805 DATE

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

REVISION	DATE	DESCRIPTION
#2	10-29-21	REVISED PER TRC COMMENTS
#1A	10-18-21	REVISED PER AOT AND TRC COMMENTS

LOT LINE REVISION
LAND OF
SETTLEMENT ON 6TH, LLC
SIXTH STREET
DOVER, N.H.
TAX MAP B, LOT 5

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863

SCALE : 1 IN. EQUALS 20 FT.
DATE : JUNE 10, 2021
FILE NO. : DB 2021-011

STATE OF NEW HAMPSHIRE LICENSED LAND SURVEYOR
NO. 805
KENNETH A BERRY
SIGNATURE

CITY OF DOVER

PLANNING BOARD - STAFF MEMO FILE #P21-83

Application Type:	Lot Line Adjustment
Applicant(s):	Tyler and Jessica Foster
Owner(s):	Tyler and Jessica Foster and Arch Street Dover LLC
Location:	Arch Street (Tax Map 11, Lots 13 & 14)
Meeting Date:	December 14, 2021

INTENT: To adjust the lot lines between two lots by adding 2.08 acres from a vacant lot to the residential lot

LOTS/UNITS PROPOSED: N/A

AGENDA ITEM #: 4-B

ACREAGE: Existing: Proposed:
Lot 11/13: 1 ac 3.08 ac
Lot 11/14: 12.08 ac 10 ac

ZONING DISTRICT: R-12

EXISTING LAND USE: Residential

PROPOSED LAND USE: Residential

SURROUNDING LAND USE: Residential and vacant

ZBA ACTION: None

ATTACHMENTS: Application materials, Lot Line Adjustment Plan

APPLICATION IS COMPLETE: Yes

DECLARE REGIONAL IMPACT: No

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

PERMITS REQUIRED:
-N/A

WAIVER(S) REQUESTED: N/A

Summary of Request and Background
The applicant is requesting to complete a lot line adjustment between two lots moving 90,575 s.f. or 2.08 acres from the vacant lot to the residential lot. Both lots remain conforming.

As a Lot Line Adjustment, this application did not appear before the TRC.

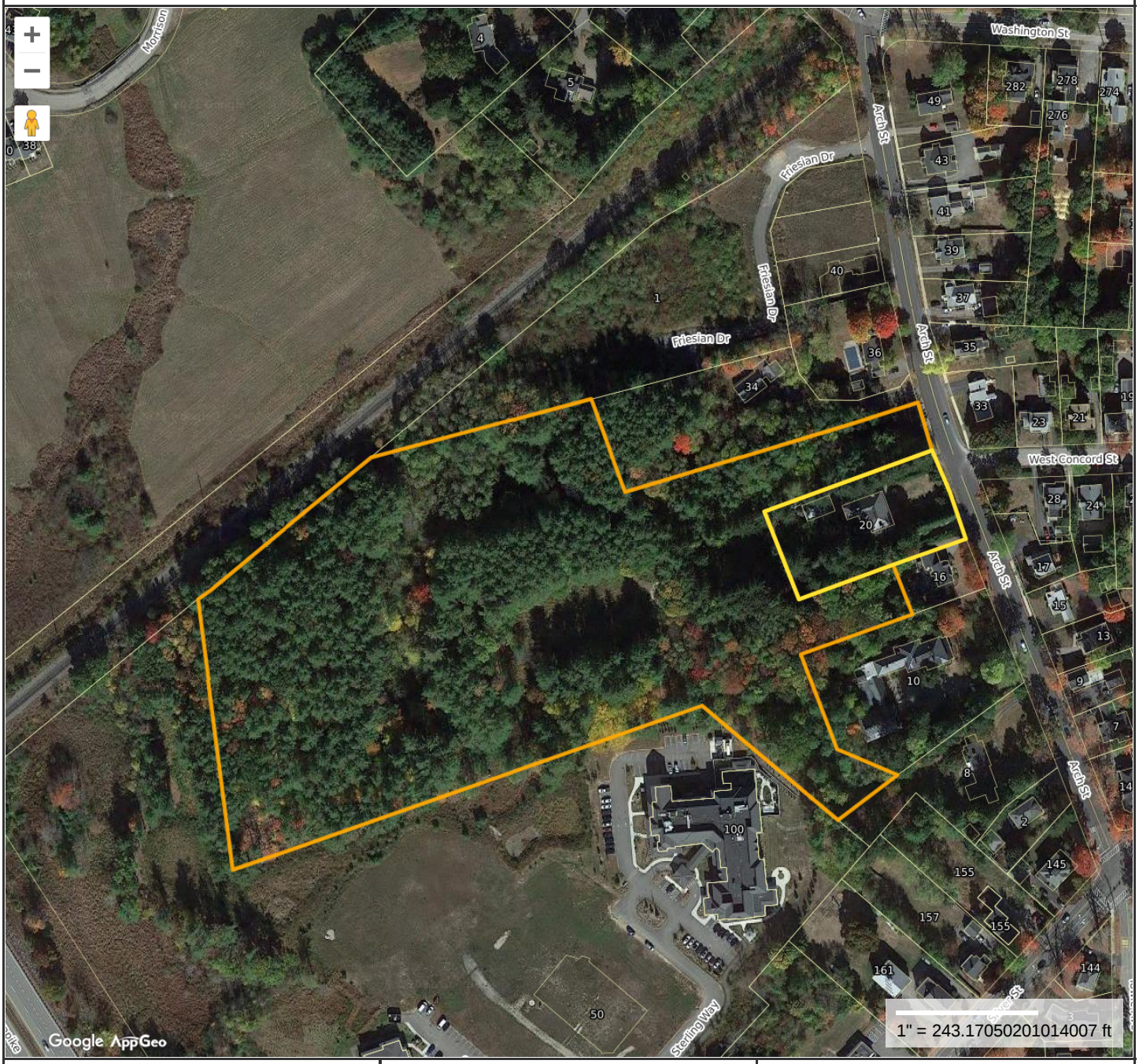
Consistency with Land Use Regulations
Chapter 157-17 of the Land Subdivision Regulations of the City Code provides for the adjustment of existing lot lines between two or more lots. This plan is consistent with those regulations.

STAFF RECOMMENDATION:
The Planning Department recommends the Planning Board to accept the application, open the public hearing, and vote to approve the application with the following conditions:

Conditions to Be Met Prior to Signing of Plans:

1. Provide physical and digital copies (including CAD) of complete plan set which additionally shall include:
    a. The signature and stamp of LLS
    b. The owners' signatures for recording at Strafford County Registry of Deeds.
    c. Revising the Planning File #21-83

20 Arch Street



Property Information

Property ID	11013-000000
Location	20 ARCH ST
Owner	FOSTER TYLER &
Land Use	101

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.

City of Dover, New Hampshire
MINOR LOT LINE ADJUSTMENT APPLICATION

[Revision Date: June 4, 2019]

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

APPLICANT INFORMATION

Name of Applicant: Tyler & Jessica Foster Telephone # 1-704-201-8114

Address of Applicant: 20 Arch Street, Dover, NH 03820

FIRST PROPERTY OWNER AND PARCEL INFORMATION

Name of 1st Property Owner (*if different from applicant*): Arch Street Dover LLC Telephone # 1-704-201-8114

Address of 1st Property Owner: 20 Arch Street, Dover, NH 03820

Address of Property: Arch Street

Assessor's Map # 11 Lot(s) # 14

Property Deed: Book 4440 Page: 373

Zoning District(s) R12 Overlay District(s) Wetlands

Size of Existing Parcel (sq. ft.): 526,195 Size of Proposed Parcel (sq. ft.): 435,620

SECOND PROPERTY OWNER AND PARCEL INFORMATION

Name of 2nd Property Owner (*if different from applicant*): Tyler & Jessica Foster Telephone # 1-704-201-8114

Address of 2nd Property Owner: 20 Arch Street, Dover, NH 03820

Address of Property: 20 Arch Street

Assessor's Map # 11 Lot(s) # 13

Property Deed: Book 4394 Page: 702

Zoning District(s) R12 Overlay District(s) Wetlands

Size of Existing Parcel (sq. ft.): 43,520 Size of Proposed Parcel (sq. ft.): 134,094

THIRD PROPERTY OWNER AND PARCEL INFORMATION N/A

Name of 3rd Property Owner (*if different from applicant*): _____ Telephone # _____

Address of 3rd Property Owner: _____

Address of Property: _____

Assessor's Map # _____ Lot(s) # _____

Property Deed: Book _____ Page: _____

Zoning District(s) _____ Overlay District(s) _____

Size of Existing Parcel (sq. ft.): _____ Size of Proposed Parcel (sq. ft.): _____

[Use additional application form if more than two lots are being adjusted]

SURVEYOR INFORMATION

Name of Surveyor and Company (Licensed in N.H.) Christopher R. Berry / Kenneth A. Berry
Berry Surveying & Engineering

Address 335 Second Crown Point Road Telephone #: 603-781-3403
Barrington, NH 03820
Professional License #: 805 E-mail address: crberry@metrocast.net

CONSERVATION EASEMENT HOLDER (s)

Name of Easement Holder: _____ Telephone #_____

Address Easement Holder: _____

Name of 2nd Easement Holder: _____ Telephone #_____

Address 2nd 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. As applicant or as agent, I attest that I am duly authorized to act in this capacity.

Signature of First Property Owner: _____ Date: 11-23-21

Signature of Second Property Owner: _____ Date: 11-23-21

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

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

AUTHORIZATION TO ENTER SUBJECT PROPERTY

I 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: 11-23-21

City of Dover, New Hampshire
LOT LINE ADJUSTMENT SUBMISSION CHECKLIST

[Revision Date: June 4, 2019]

This review checklist is intended to assist the applicant in the planning process of preparing a Subdivision 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.

Plan Review Fees are due along with three (3) full size and twelve (12) half size (11x17), folded, copies of the plan set and materials, 3 weeks prior to the Planning Board meeting. Abutter/Notice Fees will be invoiced and are due 28 hours prior to Planning Board.

The applicant is cautioned that this checklist is only a guide and is not intended to be a complete list of all subdivision requirements. Please refer to the Subdivision Regulations for full details.

APPLICANT: Tyler Foster File Number: _____

PROPERTY LOCATION: 20 Arch Street Tax Map: 11 Lot: 13 and Lot: 14

	Where/How Provided	Reviewed
1. Completed and signed Application form	ON THE APP	
2. Plan Review Fees are provided	BY APPLICANT	
3. Electronic copy of the surveyed plat layout	EMAILED 11-23-21	
4. Electronic copy of supplementary materials and application	EMAILED 11-23-21	
5. Fifteen copies of LLA plan w/scale of not less than 1"=50' or 1"=100' for larger adjustments. Plans shall contain the following items as appropriate:		
Location map at appropriate scale	UPPER RIGHT	
Planning File #	UPPER RIGHT (TBD)	
Date, north arrow and scale	RIGHT SIDE	
Names of all abutting property owners	SHOWN	
Name and address of owners	SHOWN	
Signature & stamp of NH licensed land surveyor	LOWER RIGHT	
Zoning District boundaries, including any special or overlay districts	UPPER LEFT	
Location of Conservation District areas	NONE	
Location, names and widths of existing and streets, including pavement widths, grades, curbs and crosswalks	RIGHT SIDE	
Location and widths of existing & proposed easements & right of ways	UTILITY EASEMENT LOWER LEFT	
Existing and proposed property lines with dimensions and bearings tied into Dover's Geographic Information System coordinate system	SEE GRID NOTE #6. TIED TO GRID	
Existing and proposed lot areas in square feet	CENTER OF EACH LOT	
Existing and proposed buildings and structure locations	EXISTING SHOWN, NO PROPOSED	
Minimum building setbacks or build to lines on all lots	SHOWN ON LOT 13, LOT 14 HAS	
Map and lot numbers for existing and proposed lots as assigned by Tax Assessor	WETLANDS THAT AFFECT SETBACKS NO CHANGE	
Location, material and size of existing and proposed permanent monuments	SHOWN ON ALL PROPOSED CORNERS	
All applicable Dover Common ~~Subdivision~~ notes	UPPER LEFT ON PLAN	

LOT LINE REVISION

REVIEWED BY: _____ DATE_____

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 # 2 of lots involved = $400.00
- ☐ 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) = $400.00

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.

BERRY SURVEYING & ENGINEERING
335 Second Crown Point Road
Barrington, NH 03825
Phone: (603) 332-2863
Fax: (603) 335-4623
www.BerrySurveying.Com
crberry@metrocast.net

November 23, 2021

City of Dover
Attention: City Planner Donna Benton
288 Central Ave
Dover, NH 03820

Re: Proposed TDR Subdivision
Knox Marsh Development LLC
Dove Development Group LLC
51 & 65 Bellamy Road
Tax Map H, Lots 46 & 50

Dear Mrs. Benton,

On behalf of our client Tyler & Jessica Foster and Arch Street Dover LLC, Berry Surveying & Engineering (BS&E) is submitting a proposed lot line revision at 20 Arch Street, between Tax Map 11, Lot 13 and Lot 14. Arch Street Dover LLC is owned by the Foster's.

The Fosters currently reside at 20 Arch Street and acquired the land which abuts them on the north and west. Both sites were formerly surveyed by BS&E in 2013. The Fosters are looking to increase the area of land around their existing house. The remaining area remains compliant with the underlying R12 Zoning requirements.

Respectfully Submitted,
BERRY SURVEYING & ENGINEERING

Christopher R. Berry
Principal, President

NOTES:

OWNER: A.) ARCH STREET DOVER LLC
20 ARCH ST
DOVER, NH 03820

B.) TYLER & JESSICA O. FOSTER
20 ARCH ST
DOVER, NH 03820

APPLICANT: TYLER & JESSICA O. FOSTER
20 ARCH ST
DOVER, NH 03820

1. A.) TAX MAP 11, LOT 14
B.) TAX MAP 11, LOT 13

2. A.) LOT AREA: 526,195 Sq. Ft., 12.08 Ac.
B.) LOT AREA: 43,520 Sq. Ft., 1.00 Ac.

3. A.) S.C.R.D. BOOK 4440, PAGE 373
B.) S.C.R.D. BOOK 4394, PAGE 702

4. ZONING: RURAL RESIDENTIAL, R–12
LOT SIZE: 12,000 Sq. Ft.
MAX. LOT COVERAGE: 30%
MINIMUM FRONTAGE: 100'
FRONT BUILD TO LINE: 15' MIN. – 25' MAX.
ABUT A STREET BUILD TO LINE: 15' MIN. – 25' MAX
SIDE SETBACK: 15'
REAR SETBACK: 30'

NOTES CONT.:

5. I HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE & BELIEF, THIS PARCEL DOES NOT FALL WITHIN THE FLOOD PLAIN FLOOD HAZARD REF.: FEMA COMMUNITY #330145, MAP #33017C0310E, DATED: SEPTEMBER 30, 2015.

6. VERTICAL DATUM BASED ON NAVD88 ELEVATIONS. HORIZONTAL COORDINATES BASED ON NAD83 (DOVER GRID). COORDINATES GATHERED USING TOPCON HIPER SR SURVEY GRADE GPS RECEIVERS.

7. THE BOUNDARY LINES SHOWN ON THIS PLAN ARE THE RESULT OF A CLOSED TRAVERSE PERFORMED BY THIS OFFICE IN FEBRUARY OF 2013 IN SNOW CONDITIONS, WITH AN ERROR OF CLOSURE BETTER THEN 1 PART IN 10,000.

8. THE INTENT OF THIS PLAN IS TO SHOW THE LOT LINE REVISION BETWEEN TAX MAP 11, LOTS 14 & 13.

NOTES CONT.:

9. THE SUBJECT PARCELS ARE SERVED BY MUNICIPAL WATER AND SEWER.

10. LIST ANY VARIANCES OR SPECIAL EXCEPTIONS GRANTED BY THE ZONING BOARD OF ADJUSTMENT: NONE

11. THE IS A SINGLE EXISTING 15' WIDE UTILITY EASEMENT ON SITE THAT WILL REMAIN.

LEGEND:

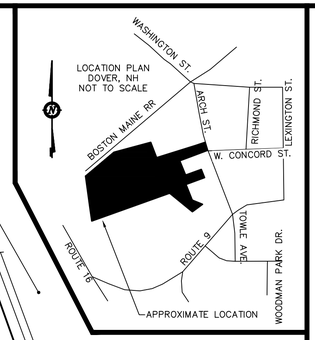
- ● 3/4" REBAR W/ ID CAP ~TBS~
- ⊕ STEEL STAKE ~FND~
- ○ IRON PIPE ~FND~
- ○ IRON BOUND ~FND~
- UTILITY POLE

PERIMETER BOUNDARY
PERIMETER BOUNDARY TO BE ABANDONED
SETBACK / BUILD TO LINE
PROPOSED PROPERTY LINE

TBS TO BE SET
FND FOUND
S.C.R.D. STRAFFORD COUNTY REGISTRY OF DEEDS
EXISTING BUILDING

APPROVED DOVER

LOCATION PLAN
DOVER, NH
NOT TO SCALE



N/F SALMON FALLS HOLDINGS, LLC
PO BOX 4300
PORTSMOUTH, NH 03802
TAX MAP 11, LOT 16
S.C.R.D. BOOK 3884, PAGE 263

N/F YUSKAITIS, RICHARD & JANIS
TRUSTEES
YUKAITIS, RICHARD AND JANIS
REVOCABLE LIVING TRUST
34 ARCH STREET,
DOVER, NH 03820
TAX MAP 11, LOT 14–B–1
S.C.R.D. BOOK 4687, PAGE 369

N/F RAMSAY, HEATHER A.
33 ARCH STREET
DOVER, NH 03820
TAX MAP 10, LOT 157
S.C.R.D. BOOK 4735, PAGE 530

N/F BEASLEY, SARAH E. & REZAC, DANIELLE J.
28 WEST CONCORD ST
DOVER, NH 03820–3613
TAX MAP 10, LOT 161
S.C.R.D. BOOK 4597, PAGE 44

N/F BOSTON & MAINE CORPORATION
IRON HORSE PARK
HIGH STREET
BILLERICA, MA 01862
TAX MAP 11, LOT 17

N/F ARCH STREET DOVER LLC
20 ARCH ST
DOVER, NH 03820
TAX MAP 11, LOT 14
S.C.R.D. BOOK 4440, PAGE 373

EXISTING LOT AREA
526,195 Sq.Ft., 12.08 Ac.
PROPOSED LOT AREA
435,620 Sq.Ft., 10.00 Ac.

N/F FOSTER, TYLER & JESSICA O.
20 ARCH STREET,
DOVER, NH 03820
TAX MAP 11, LOT 13
S.C.R.D. BOOK 4394, PAGE 702
EXISTING LOT AREA
43,520 Sq.Ft. 1.00 Ac.
PROPOSED LOT AREA
134,094 Sq.Ft., 3.08 Ac.

N/F FERGUSON, DAVID D. TRUSTEE
16 ARCH STREET REALTY TRUST
16 ARCH STREET,
DOVER, NH 03820
TAX MAP 11, LOT 12
S.C.R.D. BOOK 3831, PAGE 925

N/F JALBERT PROPERTIES LLC
10 ARCH ST
DOVER, NH 03821
TAX MAP 11, LOT 11
S.C.R.D. BOOK 4962, PAGE 669

N/F BERCH, JOSHUA H. & DINAH
8 ARCH STREET
DOVER, NH 03820
TAX MAP 11, LOT 10
S.C.R.D. BOOK 4542, PAGE 772

N/F VMD EQUITIES DVR LLC
C/O CVS # 10463L02
1 CVS DRIVE MC 2320
WOONSOCKET, RI 02895
TAX MAP 11, LOT 2–2
S.C.R.D. BOOK 4394, PAGE 180

N/F BMSH I/LCB DOVER NH LLC
3 EDGEWATER DR
STE 101
NORWOOD, MA 02062
TAX MAP 11, LOT 2–1
S.C.R.D. BOOK 4394, PAGE 232

N/F VMD EQUITIES DVR LLC
C/O VMD COMPANIES LLC
733 TURNPIKE ST RTE 114 NORTH
ANDOVER, MA 01845
TAX MAP 11, LOT 2–3
S.C.R.D. BOOK 4394, PAGE 180

N/F GIRI DOVER 200 INC
225 W SQUANTUM ST
STE 200
QUINCY, MA 02171
TAX MAP 11, LOT 2–4
S.C.R.D. BOOK 4663, PAGE 445

N/F VMD EQUITIES DVR LLC,
JFS MANAGEMENT
C/O JOSE SALEMA
780 PORTSMOUTH AVE
GREENLAND, NH 03840–2121
TAX MAP 11, LOT 2–5
S.C.R.D. BOOK 4394, PAGE 180

ARCH STREET
CLASS V, PAVED
40' WIDE, 4 RODS WIDE

N74°45'43"E 367.76'
MCENEANEY IRON BOUND ~FND~ (0.6' HIGH)
BS&E IRON BOUND ~FND~ (0.5' HIGH)
MCENEANEY IRON BOUND ~FND~ (NOT HELD, VERY DISTURBED & LOOSE)
S05°35'13"E 158.78'
MCENEANEY IRON BOUND ~FND~ (0.4' HIGH)
N72°43'25"E 393.82'
S71°46'09"E 99.39'
STEEL STAKE, NO I.D. CAP ~FND~ (0.1' BELOW GRADE)
S16°57'19"E 80.43'
S83°15'01"E 80.79'
5' WALK
VERIZON 7
N69°36'15"E 370.97'
S69°36'15"W 286.74'
MCENEANEY IRON BOUND ~FND~ (FLUSH)
N21°58'59"W 151.92'
EXISTING BUILDING
EXISTING BUILDING
MCENEANEY IRON BOUND ~FND~ (0.2' HIGH)
WOODEN FENCE
NET 6
N49°53'17"E 335.25'
EXISTING RAILS
AREA TO BE TRANSFERRED FROM LOT 14 TO LOT 13
90,575 Sq.Ft., 2.08 Ac.
S22°00'00"E 151.77'
N69°38'00"E 124.95'
N69°38'00"E 161.74'
S22°06'15"E 85.17'
LOT LINE TO BE ABANDONED
BOUNDARY TO BE ABANDONED (TYP.)
MCENEANEY IRON BOUND ~FND~ (0.2' HIGH)
PSNH 404/9
WOODEN FENCE
G.L. DAVIS STEEL STAKE ~FND~ (0.5' HIGH)
N54°44'36"E 24.94'
1" IRON PIPE ~FND~ (0.5' HIGH)
STONE BOUND W/ DRILL HOLE ~FND~ (0.1' HIGH)
1" IRON AXLE ~FND~ (1.2' HIGH) LOOSE
N20°15'24"W 226.36'
SETBACK LINE (TYP.)
S69°41'20"W 191.52'
MCENEANEY IRON BOUND ~FND~ (0.5' HIGH)
N49°53'17"W 439.80'
S20°22'09"E 163.41'
MCENEANEY IRON BOUND ~FND~ (0.2' HIGH)
N70°11'30"E 348.97'
1" IRON ROD ~FND~ (0.5' HIGH)
3/8" REBAR ~FND~ (0.4')
N70°11'30"E 285.22'
S67°47'14"E 106.15'
3/8" REBAR ~FND~ (0.1' HIGH)
3/8" REBAR ~FND~ (0.5' HIGH)
EXISTING 15' WIDE UTILITY EASEMENT
S70°11'30"W 800.90'
S55°51'36"W 71.43'
S55°51'36"W 49.12'
G.L. DAVIS STEEL STAKE ~FND~ (0.5' HIGH)
1" IRON ROD ~FND~ (0.9' HIGH) AT BASE OF TREE
1" IRON ROD ~FND~ (0.6' HIGH)
1" IRON ROD ~FND~ (0.6' HIGH)
1" IRON ROD ~FND~ (0.2' HIGH)
STEEL STAKE ~FND~ SNAPPED
NET 4
NET 3

DOVER GIS

GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)
1 inch = 50 ft.

PLAN REFERENCES:

1.) "LOT LINE ADJUSTMENT PLAN PREPARED FOR MARK W. & SUZANNE M. JONES AND VIRGINA & EARLE GOODWIN, JR. TAX MAP 11, LOT # 14 & 14B–1, ARCH STREET, CITY OF DOVER, COUNTY OF STRAFFORD STATE OF NH"
BY: MCENEANEY SURVEY ASSOCIATES, INC.
DATED: JANUARY 18 2007
S.C.R.D. # 89–62

2.) "RIGHT OF WAY AND TRACK MAP, BOSTON AND MAINE R.R, OPERATED BY THE BOSTON AND MAINE R.R., STATION 3495+77 TO STATION 3545+57"
BY: BOSTON & MAINE R.R.
DATED: JUNE 30, 1914

PLAN REFERENCES CONT.:

3.) "PLAN OF SUBDIVISION FOR EARLE GOODWIN JR., ARCH STREET DOVER, NH"
BY: K.E. MOORE & B.G. STAPLES
DATED: MARCH 1986
S.C.R.D. # 29–77

4.) "LOT LINE ADJUSTMENT PLAN FOR EARLE GOODWIN JR. & JOHN BUCKLEY, TAX MAP 11 LOT # 14–B & 14–B–1, 34 & 36 ARCH STREET, DOVER, STRAFFORD COUNTY, NH"
BY: KEM LAND SURVEY, INC.
DATED: MARCH 12, 2002
S.C.R.D. # 66–53

5.) "LOT LINE ADJUSTMENT PLAN PREPARED FOR GAIL V. & ALFRED CATALFO, JR. TAX MAP 11, LOT # 13 & 14, 20 ARCH STREET, CITY OF DOVER, COUNTY OF STRAFFORD, STATE OF NEW HAMPSHIRE"
BY: MCENEANEY SURVEY ASSOCIATES, INC.
DATED: JULY 25, 2005
S.C.R.D. # 81–33

PLAN REFERENCES CONT.:

6.) "SONOMA BUILDERS, INC. STORY STREET SUBDIVISION, 46 & 48 ARCH STREET, DOVER, NEW HAMPSHIRE"
BY: TRITECH ENGINEERING CORPORATION
DATED: MARCH 18, 2010
JOB # 09151

7.) "FRESIAN ESTATES OPEN SPACE SUBDIVISION FOR SALMON FALLS HOLDING LLC, ARCH STREET, DOVER N.H."
BY: BERRY SURVEYING & ENGINEERING
FILE NUMBER: DB 2011–032
DATED: JANUARY 17, 2013
S.C.R.D. # 105–96

8.) "LOT LINE ADJUSTMENT PLAN PREPARED FOR MARK W. & SUZANNE M. JONES, TAX MAP 11, LOT 11, 11–1, & 14, ARCH STREET, CITY OF DOVER, COUNTY OF STRAFFORD, STATE OF NEW HAMPSHIRE"
BY: MCENEANEY SURVEY ASSOCIATES, INC.
DATED: AUGUST 4, 2009
S.C.R.D. # 97–64

PLAN REFERENCES CONT.:

9.) "OPEN SPACE SUBDIVISION FOR MARK & SUZANNE JONES, ARCH STREET, DOVER, NEW HAMPSHIRE"
BY: BERRY SURVEYING & ENGINEERING
DATED: MARCH 16, 2015
S.C.R.D. #111–098

I CERTIFY THAT THIS PLAT EXCEEDS THE MINIMUM REQUIREMENT FOR ACCURACY AND COMPLETENESS OF THE STATE OF N.H. AND OF THE CITY OF DOVER. – 1:10,000 –

KENNETH A. BERRY LLS 805 11-23-21 DATE

STATE OF NEW HAMPSHIRE — NO. 805 — LICENSED LAND SURVEYOR — KENNETH A. BERRY — SIGNATURE

PLANNING FILE #:

REVISION	DATE	DESCRIPTION

LOT LINE REVISION PLAN
FOR
ARCH STREET DOVER, LLC. AND
TYLER & JESSICA O. FOSTER
ARCH STREET
DOVER, N.H.
TAX MAP 11, LOTS 13 & 14

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (332–2863)

SCALE : 1 IN. EQUALS 50 FT.
DATE : NOVEMBER 22, 2021
FILE NO. : DB 2021–167

P21-83 **Arch St & 20 Arch Street**

Property ID	Location	Owner 1	Owner 2	Owner Address 1	City	State	Zip
10155-000000	37 ARCH ST	PERRY JANET M		37 ARCH STREET	DOVER	NH	03820
10156-000000	35 ARCH ST	MORRISON ERIC WARD &	KNORR MELISSA ANN	35 ARCH ST	DOVER	NH	03820
10157-000000	33 ARCH ST	RAMSAY HEATHER A		33 ARCH STREET	DOVER	NH	03820
10158-000000	23 WEST CONCORD ST	SEAWARDS DOROTHY M TRUSTEE	SEAWARDS DOROTHY M REVOCABLE TRUST	23 WEST CONCORD ST	DOVER	NH	03820
10159-000000	21 WEST CONCORD ST	FISHER DOROTHY TRUSTEE	FISHER W AND D FAMILY REVOCABLE TRUST OF	21 WEST CONCORD STREET	DOVER	NH	03820
10161-000000	28 WEST CONCORD ST	BEASLEY SARAH E &	REZAC DANIELLE J	28 WEST CONCORD ST	DOVER	NH	03820-3613
10161-001000	17 ARCH ST	CARROLL ROBERT J & NANCY TRUSTEES	CARROLL ROBERT AND NANCY REVOCABLE LIVIN	17 ARCH ST	DOVER	NH	03820
10162-000000	15 ARCH ST	RYAN MAUREEN L &	RYAN MICHAEL J	15 ARCH STREET	DOVER	NH	03820
10162-001000	13 ARCH ST	COMEAU RENEE M		13 ARCH ST	DOVER	NH	03820-3601
10180-000000	24 26 WEST CONCORD ST	NADEAU PAUL E &	NADEAU KRISTINE E	13 MADISON AVE	KINGSTON	NH	03848
11002-000000	STERLING WY	VMD EQUITIES DVR LLC	C/O VMD COMPANIES LLC	733 TURNPIKE ST RTE 114	NORTH ANDOVER	MA	01845
11002-000001	100 STERLING WY	BMSH I/LCB DOVER NH LLC		3 EDGEWATER DR STE 101	NORWOOD	MA	02062
11002-000002	50 STERLING WY	VMD EQUITIES DVR LLC	C/O CVS # 10463L02	1 CVS DRIVE MC 2320	WOONSOCKET	RI	02895
11002-000003	STERLING WY	VMD EQUITIES DVR LLC	C/O VMD COMPANIES LLC	733 TURNPIKE ST RTE 114	NORTH ANDOVER	MA	01845
11005-000000	161 163 SILVER ST	DUFFY ELEANOR K	DUFFY BERNARD J	161 SILVER STREET	DOVER	NH	03820
11006-000000	157 SILVER ST	DILEO WILLIAM A JR		157 SILVER STREET	DOVER	NH	03820
11007-000000	155 SILVER ST	155 SILVER ST CONDOMINIUMS	C/O SPAGNOLIA RICHARD N	73 PINE KNOLL VLG	LEE	NH	03861-6652
11009-000000	2 ARCH ST	O CALLAHAN BRIAN C		2 ARCH ST	DOVER	NH	03820
11010-000000	8 ARCH ST	BERCH JOSHUA H &	BERCH DINAH	8 ARCH ST	DOVER	NH	03820
11011-000000	10 ARCH ST	JALBERT PROPERTIES LLC		10 ARCH ST	DOVER	NH	03821
11012-000000	16 ARCH ST	FERGUSON DAVID D TRUSTEE	16 ARCH ST REALTY TRUST	16 ARCH ST	DOVER	NH	03820
11014-B00000	36 ARCH ST	BUCKLEY JOHN & SHARON TRUSTEES	BUCKLEY JOHN AND SHARON REV LIV TRUST	36 ARCH ST	DOVER	NH	03820-4297
11014-B00001	34 ARCH ST	YUSKAITIS RICHARD J & JANIS TRUSTEES	YUSKAITIS RICHARD AND JANIS REVOCABLE LI	34 ARCH ST	DOVER	NH	03820
11015-000000	40 ARCH ST	SALMON FALLS HOLDING LLC		37 WHOLEY WAY	PORTSMOUTH	NH	03801
11016-000000	1 8 FRIESIAN DR	SALMON FALLS HOLDING LLC		PO BOX 4300	PORTSMOUTH	NH	03802
11017-000000	ARCH ST	BOSTON & MAINE RR	IRON HORSE PARK	HIGH STREET	NORTH BILLERICA	MA	01862
G0007-001000	WASHINGTON ST	WASHINGTON HIGHLANDS	HOMEOWNR'S ASSOCIATION	PO BOX 2253	DOVER	NH	03821
11013-000000	20 ARCH ST	FOSTER TYLER &	FOSTER JESSICA O	20 ARCH ST	DOVER	NH	03820
11014-000000	ARCH ST	ARCH STREET DOVER LLC		20 ARCH ST	DOVER	NH	03820
		WEIR SABRE		155 SILVER STREET UNIT #1	DOVER	NH	03820
		FARRELL JOHN A		55 SILVER STREET #2	DOVER	NH	03820
		BERRY SURVEYING & ENGINEERING	CHRISTOPHER R BERRY	335 SECOND CROWN POINT ROAD	BARRINGTON	NH	03825

CITY OF DOVER

PLANNING BOARD - STAFF MEMO FILE #P21-82

Application Type:	Lot Line Adjustment
Applicant(s):	Gregory A Patch and Lisa M Patch Family Revocable Trust of 2020
Owner(s):	Gregory A Patch and Lisa M Patch Family Revocable Trust of 2020
Location:	31 New Rochester Road (Tax Map 39, Lots 64, 64-1, and 64-2)
Meeting Date:	December 14, 2021

INTENT: To adjust the lot lines between three lots

LOTS/UNITS PROPOSED: N/A

AGENDA ITEM #: 4-C

ACREAGE: Existing: Proposed:

Lot 39/64:	0.09ac	0.12ac
Lot 39/64-1:	0.14ac	0.13ac
Lot 39/64-2:	0.14ac	0.12ac

ZONING DISTRICT: Gateway

EXISTING LAND USE: Residential and vacant

PROPOSED LAND USE: N/A

SURROUNDING LAND USE: Residential

ZBA ACTION: None

ATTACHMENTS: Application materials, Lot Line Adjustment Plan

APPLICATION IS COMPLETE: Yes

DECLARE REGIONAL IMPACT: No

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

PERMITS REQUIRED:
-N/A

WAIVER(S) REQUESTED: N/A

Summary of Request and Background
The applicant is requesting to complete a lot line adjustment between three lots. Trct A moves 728 s.f. from lot 64-1 to lot 64. Tract B moves 250 s.f. from lot 64-2 to lot 64-1 and Tract C moves 645 s.f. from parcel 64-2 to lot 64. All lots remain conforming as there is not a minimum lot size or frontage in the Gateway District.

As a Lot Line Adjustment, this application did not appear before the TRC.

Consistency with Land Use Regulations
Chapter 157-17 of the Land Subdivision Regulations of the City Code provides for the adjustment of existing lot lines between two or more lots. This plan is consistent with those regulations.

STAFF RECOMMENDATION:
The Planning Department recommends the Planning Board to accept the application, open the public hearing, and vote to approve the application with the following conditions:

Conditions to Be Met Prior to Signing of Plans:

1. Provide physical and digital copies (including CAD) of complete plan set which additionally shall include:
    a. The signature and stamp of LLS
    b. The owners' signatures for recording at Strafford County Registry of Deeds.
    c. Revising the Planning File #P21-82
    d. Add common notes 5 (SCRD) and 12 (serviced by).

31 New Rochester Road & Lake Street



Property Information

Property ID	39064-001000
Location	NEW ROCHESTER RD
Owner	PATCH GREGORY A & LISA M TRUSTEES
Land Use	999

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.

City of Dover, New Hampshire
MINOR LOT LINE ADJUSTMENT APPLICATION

[Revision Date: June 4, 2019]

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

APPLICANT INFORMATION

Name of Applicant: The Gregory A. Patch and Lisa M. Patch Family Revocable Trust of 2020 Gregory A. & Lisa M. Patch, Trustees Telephone # 603-969-7460

Address of Applicant: 31 New Rochester Road Dover, NH 03820

FIRST PROPERTY OWNER AND PARCEL INFORMATION

Name of 1st Property Owner (*if different from applicant*): SAME Telephone #

Address of 1st Property Owner: SAME

Address of Property: 31 New Rochester Road

Assessor's Map # 39 Lot(s) # 64

Property Deed: Book 4928 Page: 806

Zoning District(s) G Overlay District(s) N/A

Size of Existing Parcel (sq. ft.): 4,019 Size of Proposed Parcel (sq. ft.): 5,391

SECOND PROPERTY OWNER AND PARCEL INFORMATION

Name of 2nd Property Owner (*if different from applicant*): SAME Telephone #

Address of 2nd Property Owner: SAME

Address of Property: New Rochester Road

Assessor's Map # 39 Lot(s) # 64-1

Property Deed: Book 4928 Page: 806

Zoning District(s) G Overlay District(s)

Size of Existing Parcel (sq. ft.): 6,229 Size of Proposed Parcel (sq. ft.): 5,752

THIRD PROPERTY OWNER AND PARCEL INFORMATION

Name of 3rd Property Owner (*if different from applicant*): SAME Telephone #

Address of 3rd Property Owner: SAME

Address of Property: Lake Street

Assessor's Map # 39 Lot(s) # 64-2

Property Deed: Book 4928 Page: 806

Zoning District(s) G Overlay District(s) _____

Size of Existing Parcel (sq. ft.): 6,002 Size of Proposed Parcel (sq. ft.): 5,107

[Use additional application form if more than two lots are being adjusted]

SURVEYOR INFORMATION

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

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

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

CONSERVATION EASEMENT HOLDER (s) N/A

Name of Easement Holder: _____ Telephone #_____

Address Easement Holder: _____

Name of 2nd Easement Holder: _____ Telephone #_____

Address 2nd 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. As applicant or as agent, I attest that I am duly authorized to act in this capacity.

x Signature of First Property Owner: Guy Patel Kusi M. Patel Date: 11/22/2021

x Signature of Second Property Owner: Guy Patel Kusi M. Patel Date: 11/22/2021

x Signature of ~~Applicant (if different from owner)~~ Third Property Owner: Guy Patel Kusi M. Patel Date: 11/22/2021

Signature of Agent: _____ Date: _____

AUTHORIZATION TO ENTER SUBJECT PROPERTY

I 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.

x Signature of Property Owner: Guy Patel Kusi M. Patel Date: 11/22/2021

CITY OF DOVER MINOR LOT LINE ADJUSTMENT
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
39 / 64,	64-1, 64-2	Gregory A. & Lisa M. Patch, Trustees	31 New Rochester Road Dover, NH 03820

Applicant (if different from owner):

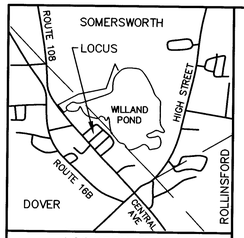
APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS

Surveyor and/or Engineer/Professional Agent:

NAME	COMPANY	MAILING ADDRESS
Kevin McEneaney, LLS	McEneaney Survey Associates	24 Chestnut Street Dover, NH 03820

Conservation Easement Holder:

TAX MAP	LOT #	NAME OF EASEMENT HOLDER	MAILING ADDRESS



LOCATION PLAN
(NO SCALE)

No.	Bearing	Distance
L1	N43°10'05"W	10.00'
L2	S06°08'51"E	12.52'
L3	S43°10'04"E	12.60'
L4	S46°49'55"W	2.46'
L5	S46°49'55"W	10.00'
L6	S43°10'05"E	12.40'
L7	N46°49'55"E	25.00'

REFERENCE PLANS:

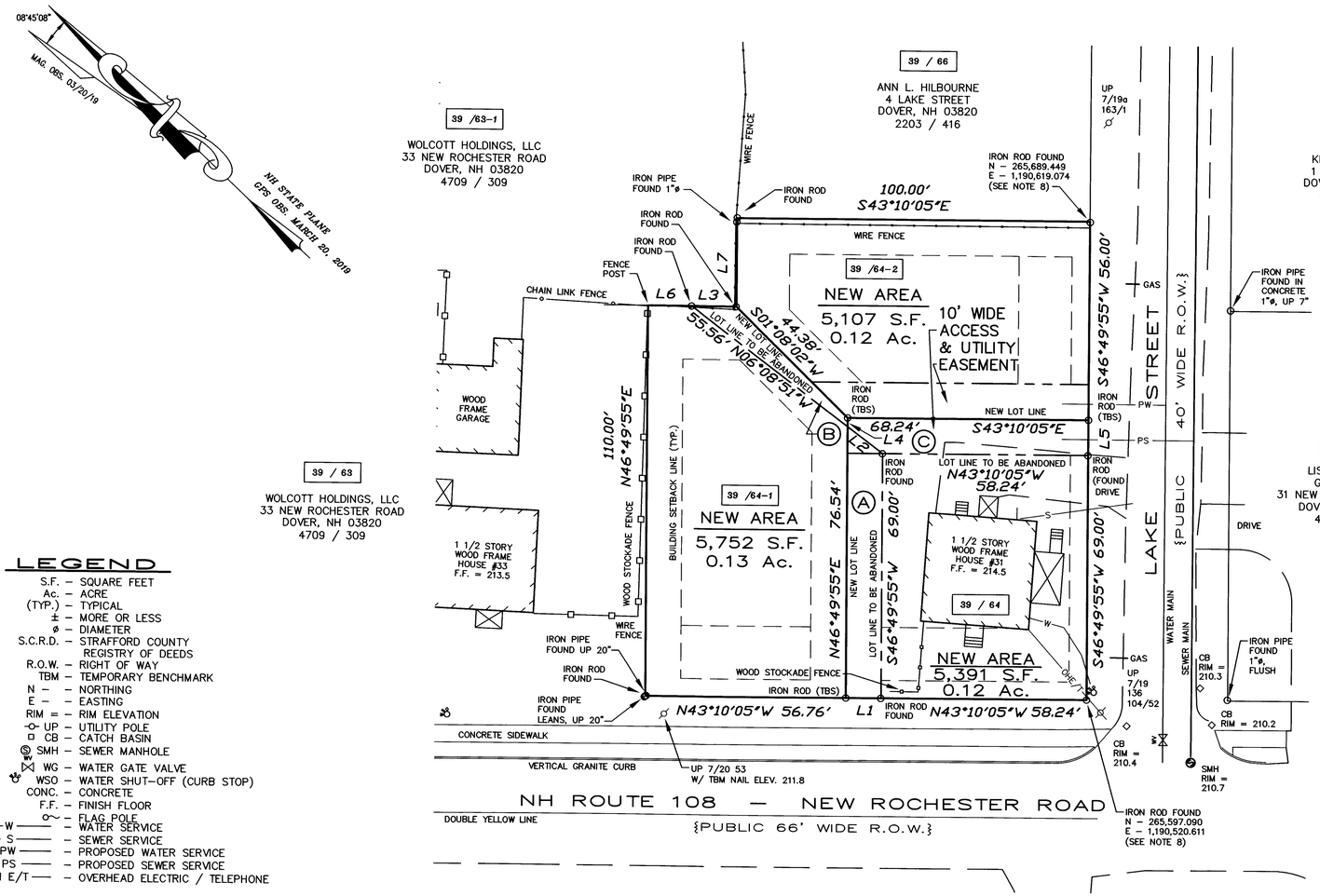
1.) PLAN OF LOTS AT LAKEVIEW PARK, DOVER, N.H. OWNED BY M.EC. MEAGHER, TRUSTEE. SCALE: 1" = 50'; DATED: JUNE 1940; BY: WM. A. GROVER, C.E.; RECORDED S.C.R.D. POCKET 7, FOLDER 2, PLAN 8.

2.) SIDEWALK PLAN AND PROFILE – STATE PROJECT NO. 12644/12808, NEW ROCHESTER RD / LONG HILL RD, DOVER, NEW HAMPSHIRE FOR THE CITY OF DOVER. DECEMBER 2007. ON FILE WITH CITY OF DOVER ENGINEERING DEPARTMENT.

3.) NEW ROCHESTER ROAD STA 32+50 TO STA 43+00 – WATER FACILITIES IMPROVEMENTS – PHASE 2, CONTRACT 1, TRANSMISSION MAIN. FOR CITY OF DOVER, NEW HAMPSHIRE. DATED: 10/19/18. ON FILE WITH CITY OF DOVER ENGINEERING DEPARTMENT.

4.) PLAN OF LAND PREPARED FOR RYAN & JESSICA JOHNSON DOUBLEDAY TAX MAP 39, LOT No. 63, 33 NEW ROCHESTER ROAD AND LISA & GREG PATCH TAX MAP 39, LOT No. 64, 31 NEW ROCHESTER ROAD, CITY of DOVER, COUNTY OF STRAFFORD, STATE OF NEW HAMPSHIRE. SCALE: 1" = 20'; DATED: APRIL 19, 2019; BY: McENEANEY SURVEY ASSOCIATES, INC. NOT RECORDED.

5.) SUBDIVISION PLAN OF LAND PREPARED FOR LISA & GREG PATCH TAX MAP 39, LOT No. 64 31 NEW ROCHESTER ROAD CITY of DOVER COUNTY of STRAFFORD STATE of NEW HAMPSHIRE. SCALE: 1" = 30'; DATED: NOVEMBER 23, 2020, REVISED THROUGH 4/9/21; BY THIS OFFICE. RECORDED S.C.R.D. PLAN 12387.



LEGEND

S.F. – SQUARE FEET
Ac. – ACRE
(TYP.) – TYPICAL
± – MORE OR LESS
ø – DIAMETER
S.C.R.D. – STRAFFORD COUNTY REGISTRY OF DEEDS
R.O.W. – RIGHT OF WAY
TBM – TEMPORARY BENCHMARK
N – – NORTHING
E – – EASTING
RIM = – RIM ELEVATION
UP – UTILITY POLE
CB – CATCH BASIN
SMH – SEWER MANHOLE
WG – WATER GATE VALVE
WSO – WATER SHUT-OFF (CURB STOP)
CONC. – CONCRETE
F.F. – FINISH FLOOR
FLAG POLE
W – WATER SERVICE
S – SEWER SERVICE
PW – PROPOSED WATER SERVICE
PS – PROPOSED SEWER SERVICE
OH E/T – OVERHEAD ELECTRIC / TELEPHONE

OWNER SIGNATURES

NOTES:

1.) OWNERS OF RECORD:
THE GREGORY A. PATCH AND LISA M. PATCH FAMILY REVOCABLE TRUST OF 2020
GREGORY A. PATCH & LISA M. PATCH, TRUSTEES
31 NEW ROCHESTER ROAD
DOVER, NEW HAMPSHIRE 03820
S.C.R.D. VOL. 3229, PAGE 47

2.) 39 / 64 – DENOTES TAX MAP AND PARCEL NUMBER.

3.) ZONING DISTRICT IS GATEWAY DISTRICT.

4.) DIMENSIONAL REQUIREMENTS:

MINIMUM LOT SIZE	= N/A
LOT COVERAGE	= 50 PERCENT
FRONTAGE BUILD-OUT	= 60 PERCENT MINIMUM
FRONT PRIMARY BUILD TO LINE	= 5 FEET MINIMUM = 20 FEET MAXIMUM
BUILDING SIDE SETBACK	= 10 FEET MINIMUM
BUILDING REAR SETBACK	= 15 FEET MINIMUM
STRUCTURE HEIGHT	= 2 STORY MAXIMUM

5.) PLAN INTENT: TO ADJUST THE PARCEL LOT LINES AS SHOWN.
TRACT A, 728 S.F. IS TO BE ADDED TO PARCEL 39 / 64.
TRACT B, 250 S.F. IS TO BE ADDED TO PARCEL 39 / 64–1.
TRACT C, 645 S.F. IS TO BE ADDED TO PARCEL 39 / 64.

6.) PARCEL AREAS:

PARCEL:	39 / 64	39 /64–1	39 /64–2
ORIGINAL:	4,019 S.F. / 0.09 Ac.	6,229 S.F./ 0.14 Ac.	6,002 S.F. / 0.14 Ac.
NEW:	5,391 S.F. / 0.12 Ac.	5,752 S.F. / 0.13 Ac.	5,107 S.F. / 0.12 Ac.

7.) THE SUBJECT PARCELS ARE LOCATED WITHIN AREAS DETERMINED TO BE OUTSIDE 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 SEPTEMBER 30, 2015.

8.) BASIS OF BEARING IS NH STATE PLANE (NAD83) BASED ON GPS OBSERVATION DATED MARCH 20, 2019.
VERTICAL DATUM IS NAVD88 BASED ON GPS OBSERVATION DATED MARCH 20, 2019.

9.) PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM A SURVEY PERFORMED BY MCENEANEY SURVEY ASSOCIATES, INC. DURING MARCH & APRIL 2019 WITH AN ERROR NOT GREATER THAN 1 IN 10,000.

10.) NO WETLANDS WERE OBSERVED ON THE SUBJECT PARCEL PER A SITE VISIT BY DAMON E. BURT, CWS #163, ON APRIL 7, 2021.

11.) THE INSTALLATION OF ELECTRIC POWER, CABLE TELEVISION AND TELEPHONE LINES SHALL BE UNDERGROUND THROUGHOUT THE SITE FOR WHICH DEVELOPMENT IS PROPOSED.

12.) BUILDING ADDRESSES (INCLUDING APT/UNIT NUMBERS IF APPLICABLE) SHALL BE ASSIGNED BY THE BUILDING OFFICIAL AT THE TIME OF ISSUANCE OF A BUILDING PERMIT.

NO.	DATE	DESCRIPTION	BY	CHK
		REVISIONS		

19–2216	LL ADJ	19–02	44–78
PROJECT NO	TYPE	FIELDBOOK & PAGES	

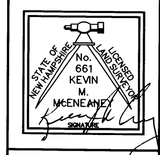
"I HEREBY CERTIFY THAT THIS PLAN IS BASED ON AN ACTUAL GROUND SURVEY PERFORMED WITH A TOTAL STATION, BY ME OR THOSE UNDER MY DIRECT SUPERVISION AND THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF, SAID SURVEY MEETS OR EXCEEDS THE MINIMUM PRECISION REQUIREMENTS FOR SURVEY CLASSIFICATION "U" AS SET FORTH IN TABLE 500.1 OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS."

LOT LINE ADJUSTMENT PLAN
PREPARED FOR
THE PATCH FAMILY REVOCABLE TRUST
TAX MAP 39, LOT Nos. 64, 64–1 & 64–2
31 NEW ROCHESTER ROAD
CITY of DOVER
COUNTY of STRAFFORD
STATE of NEW HAMPSHIRE

DOVER PLANNING FILE No. P 21–___

DRAWN BY: RJM	FILE: 2216\DWGS\21–2216LLA
SCALE: 1" = 20'	DATE: NOVEMBER 19, 2021

20 10 0 10 20 40 60 80



McENEANEY SURVEY ASSOCIATES of NEW ENGLAND
P.O. Box 681 – 24 CHESTNUT STREET
DOVER, NH 03820 (603) 742–0911

SURVEYING – PLANNING – CONSULTING

P21-82 **31 New Rochester Road & Lake Street**

Property ID	Location	Owner 1	Owner 2	Owner Address 1	City	State	Zip
39045-000000	11 LAKEVIEW DR	WILLARD THOMAS M & NORMA B TRUSTEES	LINCOLN TEMPLE REVOCABLE INTERVIVOS TRUS	3 LAKE ST	DOVER	NH	03820
39047-000000	3 LAKE ST	WILLARD THOMAS MERVIN		3 LAKE ST	DOVER	NH	03820
39049-000000	1 LAKE ST	DREW KEVIN B		1 LAKE ST	DOVER	NH	03820
39050-000000	29 NEW ROCHESTER RD	PATCH GREGORY A &	PATCH LISA M	31 NEW ROCHESTER RD	DOVER	NH	03820
39051-000000	27 NEW ROCHESTER RD	DAIGLE KELSEY L & DAIGLE ROBERT N &	LEIGHTON THOMAS E JR	27 NEW ROCHESTER ROAD	DOVER	NH	03820
39052-000000	2 SHERMAN ST	KILLER PHILLIPS G & KAREN A TRUSTEES	KILLER FAMILY TRUST	2 SHERMAN ST	DOVER	NH	03820
39053-000000	SHERMAN ST	WILLARD THOMAS M & LORD JEFFREY TRUSTEES	LINCOLN TEMPLE REVOCABLE INTERVIVOS TRUS	3 LAKE ST	DOVER	NH	03820
39055-000000	6 SHERMAN ST	NOLETTE BRENDA		6 SHERMAN ST	DOVER	NH	03820
39056-000000	13 LAKEVIEW DR	COTE GEORGE W & NANCY L REV LIV TRUST	COTE GEORGE W AND NANCY L TRUSTEES	13 LAKEVIEW DR	DOVER	NH	03820-2111
39058-000000	5 GAGE ST	KALETA MICHAL A &	KALETA JOANNA	5 GAGE ST	DOVER	NH	03820
39061-000000	3 GAGE ST	MCMILLEN DIANNE M		3 GAGE ST	DOVER	NH	03820
39063-000000	33 NEW ROCHESTER RD	WOLCOTT HOLDINGS LLC &	LAKEVIEW PARK LLC	33 NEW ROCHESTER RD	DOVER	NH	03820
39067-000000	6 LAKE ST	GEORGE MELISSA GOULD & MICHAEL PHILIP TR	MELISSA AND MICHAEL GEORGE LIVING TRUST	6 LAKE STREET	DOVER	NH	03820
39069-A00000	42 NEW ROCHESTER RD	GRANT TIMOTHY &	GRANT LYNN M	42 NEW ROCHESTER ROAD	DOVER	NH	03820
39069-F00000	44 NEW ROCHESTER RD	MUNROE LINDA &	MUNROE ROBERT	44 NEW ROCHESTER RD	DOVER	NH	03820
39069-I00000	1 WILLARD RD	RONDA THOMAS &	DEV AMANDA MARIE	1 WILLARD ROAD	DOVER	NH	03820
39069-J00000	3 WILLARD RD	CAYER KAAREN	CAYER KENNETH J	3 WILLARD ROAD	DOVER	NH	03820
39069-K00000	5 WILLARD RD	HARRISON ALAN F TRUSTEE	HARRISON VERONICA M TRUSTEE	5 WILLARD ROAD	DOVER	NH	03820
40005-000000	35 NEW ROCHESTER RD	PERRELLI JOSEPH &	PERRELLI MARYBETH	35 NEW ROCHESTER ROAD	DOVER	NH	03820
40006-000000	6 GAGE ST	PERRELLI DARLENE T		6 GAGE ST	DOVER	NH	03820
40007-000000	12 GAGE ST	HEBERT CLARAMAE		2 GAGE ST	DOVER	NH	03820
40009-000000	14 GAGE ST	FLYNN JOHN J TRUSTEE	FLYNN JOHN J LIV REV TRUST OF 2002	PO BOX 471	DOVER	NH	03821
40010-000000	LAKEVIEW DR	CITY OF DOVER		288 CENTRAL AVE	DOVER	NH	03820
40035-000000	48 NEW ROCHESTER RD	MACINNIS FAMILY IRREVOCABLE TRUST	MACINNIS BRIAN E TRUSTEE	48 NEW ROCHESTER RD	DOVER	NH	03820
39064-000000	31 NEW ROCHESTER RD	PATCH GREGORY A & LISA M TRUSTEES	PATCH GREGORY AND LISA FAMILY REVOCABLE	31 NEW ROCHESTER RD	DOVER	NH	03820
39064-001000	NEW ROCHESTER RD	PATCH GREGORY A & LISA M TRUSTEES	PATCH GREGORY AND LISA FAMILY REVOCABLE	31 NEW ROCHESTER RD	DOVER	NH	03820
39066-000000	4 LAKE ST	HILBOURNE ANN L		4 LAKE ST	DOVER	NH	03820
		MCENEANEY SURVEY ASSOCIATES	KEVIN MCENEANEY LLS	24 CHESTNUT STREET	DOVER	NH	03820

CITY OF DOVER

PLANNING BOARD - STAFF MEMO FILE #P21-30A

Application Type:	Site Plan Amendment
Applicant(s):	One First Street, LLC
Owner(s):	One First Street, LLC
Location:	1 First Street (Tax Map 6, Lot 20)
Meeting Date:	December 14, 2021

INTENT: To amend a previous site plan approval to move three conditions of approval from "Prior to Signing of Plans" to "Before Issuance of Building Permit".

LOTS/UNITS PROPOSED: 57

AGENDA ITEM #: 4-D

ACREAGE: 0.53 acres

ZONING DISTRICT: CBD-G

EXISTING LAND USE: Vacant Non-residential building

PROPOSED LAND USE: Mixed Use

SURROUNDING LAND USE: Residential Commercial, mixed use

ZBA ACTION: None

ATTACHMENTS: Application materials including narrative

APPLICATION IS COMPLETE: Yes

DECLARE REGIONAL IMPACT: No

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

PERMITS REQUIRED:
-CUP for Fenestration previously approved

WAIVER(S) REQUESTED:
N/A

Summary of Request and Background
The Board may recall, at its August meeting, it approved a site plan for this site (P21-30A) to renovate an existing building (former court house between First and Second Streets) to house commercial space and 17 apartments as well as build a new building with 40 apartments. The site will be serviced by municipal water and sewer. Nineteen parking spaces are proposed under the new building and the rest will park at the Transportation Center.

The applicant has been working with staff on the conditions of approval to be met prior to the signing of the plans. Three of them have proven to need more time to address. The first condition was condition 2f reads:

-"The elevator shall provide an accessible means of egress and shall comply with emergency operation and signaling devices."
And condition 2g reads:
-"Upgrade plans to the satisfaction of the Building Official regarding ventilation and accessibility."

The applicant has worked with the Fire Department and Inspection Services and together are still discussing the best location. Staff supports this condition moving to "Prior to Issuance of Building Permit" as long as the applicant provides two options for potential locations to the satisfaction of the Building Official prior to plans being signed.

The third condition of approval to move to "Prior to Issuance of Building Permit" was number 1b which stated to provide:

-"Revised draft easement documents with easement plan or description noted."

These easements are for the Community Trail and Transportation Center and are easements between the applicant and the City. The parties have been working on the draft easement language and plan but since an easement plan requires the metes and bounds and full survey, additional time is needed.

The applicant also submitted a request for the 90-day administrative extension to allow this request to come before the Planning Board which was granted.

Consistency with Land Use Regulations
Chapter 153-4 of the Site Review Regulations of the City Code provides for site review by the Planning Board of new construction of various types. This amendment continues to have the plan be consistent with those regulations.

STAFF RECOMMENDATION:
The Planning Department recommends the Planning Board accept the application for the amendment, open the public hearing, and vote to amend the previous Site Plan approval by moving previous conditions 1b, 2f, and 2g to be "Prior to Issuance of a Building Permit" and an additional condition be added under "Prior to Signing of the Plans" that "Two location options for the proposed generator be added to the plan to the satisfaction of the Building Official." Staff also recommends amending the previous decision letter with these updates.

1 First Street



Property Information

Property ID	06020-000000
Location	1 FIRST ST
Owner	ONE FIRST STREET LLC
Land Use	340

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.

City of Dover, New Hampshire
APPLICATION FOR EXTENSION OF/ AMENDMENT TO OR WAIVER FOR PLAN/ DRIVEWAY

[Revised August 20, 2020]

Office Use Only	Amount Paid: _____	Date/Time Received: _____

APPLICANT INFORMATION

Name of Applicant: 1 First Street LLC Telephone # 603-692-6016

Address of Applicant: 3 Penstock Way, Newmarket, NH 03857 E-Mail pgoodwin@chinburg.com

Project Name: Dover Courthouse Project Location: 10 Second Street, Dover, NH 03820

Planning File Number: P21-30 Date of Original Approval August 25, 2021

File Type: Conditional Use _____ Site Plan Review X Subdivision _____

EXTENSION INFORMATION (*Note: notification of abutters required for first time extensions under Sec. 153-9.B and Sec. 157-23.B only)*

Extension type requested *(check one)*: ___Sec. 153-8.A ___Sec. 153-9.B ___Sec. 157-13.A ___Sec. 157-23.B

Current deadline date: 11/24/2021 Number of Extensions Previously granted by Board 0

Reason(s) for extension/comments (*attach additional sheets as needed*): See attached letter.

AMENDMENT INFORMATION

Condition(s) or portion of plan to be amended: Conditions 1.a. and 2.f.

Reason(s) for amendment/comments (*attach additional sheets as needed*): See attached letter.

WAIVER INFORMATION

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

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

SIGNATURES

I/We hereby submit this application to the 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: _____ Paul Goodwin, agent for owner Date: 12/3/2021

APPLICATION FOR EXTENSION OF/ AMENDMENT TO OR WAIVER FOR PLAN/ DRIVEWAY
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
6	20	One First Street LLC	3 Penstock Way, Newmarket, NH 03857

Applicant (if different from owner):

APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS

Surveyor and/or Engineer/Professional Agent:

NAME	COMPANY	MAILING ADDRESS
Neil Rapoza	Civil Consultants	P.O. Box 100 293 Main St, South Berwick, ME 03908

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)
  - o New construction $.15 sq. ft. x # _____ sq. ft.= $_____
  - o 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)
  - o Existing floor spaces $.10 per sq. ft. x # _____ sq. ft. = $_____
- ☐ CONDITIONAL USE PERMIT Application fee $200.00 x # _____ per Application = $_____
- ☐ GRAVEL PIT/ EXCAVATIONS
  - o Application fee $50.00= $_____
  - o 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
  - o 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.

December 03, 2021

Christopher G. Parker, AICP
Assistant City Manager: Director of Planning and Strategic Initiatives
City of Dover, NH
288 Central Avenue
Dover, NH 03820-4169

RE: One First Street | Former Courthouse
Notice of Decision Extension Request

Dear Mr. Parker:

On behalf of One First Street LLC, I request a 90-day administrative extension to the Notice of Decision granted to its project located at 1 First and 10 Second Street on August 25, 2021.

As you know, we have been working with city staff to address two conditions required for site plan signature:

- 1.b. "Revised draft easement documents with easement plan or description noted." and
- 1.f. "The elevator shall provide an accessible means of egress and shall comply with emergency operation and signaling devices."

We further request that the Planning Board approve modification to both conditions at their December 14th meeting to be conditions for building permit issuance rather than conditions for plan signature, thereby granting more time to complete the requirements while letting the project more forward.

We greatly appreciate your efforts to address our questions and work through these items and respectfully request a 90 Day Administrative Extension to the above-mentioned NOD to ensure our approvals remain in compliance as we work to address remaining conditions.

Please let me know if you need anything further to complete this request.

My best,

Paul Goodwin
CHINBURG PROPERTIES
Agent for Owner, One First Street, LLC

P21-30A **1 First Street**

Property ID	Location	Owner 1	Owner 2	Owner Address 1	City	State	Zip
03064-000000	451 457 CENTRAL AV	PILLAR INVESTMENT CORP		340 CENTRAL AVE #202	DOVER	NH	03820
03066-000000	427 CENTRAL AV	COCHECO MILLS HOLDINGS LLC		3 PENSTOCK WAY	NEWMARKET	NH	03857-4416
03067-000000	421 CENTRAL AV	421 CENTRAL AVENUE LLC		113 BUNKER HILL AVENUE	STRATHAM	NH	03885
06001-000000	432 CENTRAL AV	FISCHER BRIAN &	FISCHER STEPHANIE	46 NORTH RIVER ROAD	LEE	NH	03824
06003-000000	100 FIRST ST	RIPARIA - ONE HUNDRED FIRST STREET LLC		466 CENTRAL AVE STE 12	DOVER	NH	03820
06015-000000	23 25 FIRST ST	KAB REALTY MANAGEMENT LLC		35 THIRD ST	DOVER	NH	03820-3316
06016-000000	21 FIRST ST	ANDERSON KIMBERLEY E TRUSTEE	FIRST DOVER REALTY TRUST	84 SHORE DRIVE	NORTHWOOD	NH	03261
06017-000000	19 FIRST ST	HOLGATE LIMITED PARTNERSHIP		130 CENTRAL AVE	DOVER	NH	03820
06018-000000	17 FIRST ST	SOUDAKIM LLC		750 LAFAYETTE RD STE 201	PORTSMOUTH	NH	03801
06019-000000	13 15 FIRST ST	MACGREGOR KATRINE B	MACGREGOR JOHN M	92 DOVER RD	DURHAM	NH	03824
06021-001000	436 CENTRAL AV	BUILD UPON LLC		32 JOCO DR	TYNGSBORO	MA	01879
06021-002000	442 CENTRAL AV	MARKER 21 HOLDINGS LLC		130 CENTRAL AVE	DOVER	NH	03820
06021-003000	446 448 CENTRAL AV	CARTELLI'S LLC		3 GOVERNOR SAWYER LN	DOVER	NH	03820
06021-A00000	450 CENTRAL AV	HENRY PETER T &	HENRY JOAN	454 CENTRAL AVE	DOVER	NH	03820
06022-000000	14 16 SECOND ST	WEST CONCORD INVESTMENTS LLC		222 CASS ST	PORTSMOUTH	NH	03801-4945
06024-000000	18 20 SECOND ST	CAMIRE DAVID R &	CAMIRE STACEY LEE	281 WASHINGTON ST	DOVER	NH	03820
06025-000000	22 SECOND ST	CAMIRE DAVID R &	CAMIRE STACEY LEE	281 WASHINGTON ST	DOVER	NH	03820-3608
06026-000000	24 26 SECOND ST	FREEBOARD PROPERTIES LLC		PO BOX 1818	DOVER	NH	03821-1818
06033-000000	23 SECOND ST	ROSS FURNITURE COMPANY INC		38 THIRD STREET	DOVER	NH	03820
06034-000000	17 19 SECOND ST	17-19 SECOND ST LLC		43 NELSON STREET OFFICE	DOVER	NH	03820
06035-000000	11 13 SECOND ST	SOUDAKIM LLC		750 LAFEYETTE RD SUITE 201	PORTSMOUTH	NH	03801
06035-A00000	SECOND ST	BAMFORD INVESTMENT CO LLC		466 CENTRAL AVE SUITE 12	DOVER	NH	03820
06036-000000	456 478 CENTRAL AV	BAMFORD INVESTMENT CO LLC		466 CENTRAL AVE SUITE 12	DOVER	NH	03820
06036-A00000	4 THIRD ST	BAMFORD INVESTMENT CO LLC		466 CENTRAL AVE SUITE 12	DOVER	NH	03820
06037-000000	18 THIRD ST	ANBELWOLD LLC		161 MILL RD	DURHAM	NH	03824-2910
06038-000000	22 THIRD ST	ROSS FURNITURE COMPANY INC		38 THIRD STREET	DOVER	NH	03820
06039-000000	30 THIRD ST	ROSS FURNITURE COMPANY INC		38 THIRD STREET	DOVER	NH	03820
		ONE FIRST STREET LLC		3 PENSTOCK WAY	NEWMARKET	NH	03857
		CIVIL CONSULTANTS	NEIL J RAPOZA, PE	293 MAIN STREET	SOUTH BERWICK	ME	03908

CITY OF DOVER

PLANNING BOARD - STAFF MEMO FILE #P21-79

Application Type:	Conditional Use Permit
Applicant(s):	Little Bay Marina & Development, LLC
Owner(s):	Little Bay Marina & Development, LLC
Location:	423 Dover Point Road (Map 8, Lot 9)
Meeting Date:	December 14, 2021

INTENT: To obtain a conditional use permit to allow 659 s.f. of Conservation District impacts and 561 s.f. of wetland buffer impacts for marina upgrades

LOTS/UNITS PROPOSED: N/A

AGENDA ITEM #: 4-E

ACREAGE: 3.49 acres

ZONING DISTRICT: LBW

EXISTING LAND USE: Marina and Single Family Attached homes under construction

PROPOSED LAND USE: Marina and Single Family Attached Homes

SURROUNDING LAND USE:
Commercial, Spaulding Turnpike, and Bellamy River

ZBA ACTION: Relief was granted to allow multi-family where 3 and 4 family units per lot are allowed

ATTACHMENTS: Application Materials including and 11/9/21 Conservation Commission minutes

NOTICES SENT: Abutter notices were sent by certified or first class mail to all abutters for a previous meeting

PERMITS REQUIRED:
NHDES Wetlands Standard Dredge and Fill
US Army Corps of Engineering
NH Division of Historic Resources

WAIVERS REQUESTED:
N/A

Summary of Request and Background
There was a previous approved Site Plan that has come to the Board for several different requests including a CUP in 2019 for 2,304 s.f. impact of non-tidal wetlands, 58,203 s.f. of impacts to the 100' tidal buffer, and 15,579 s.f. of the 50' buffer area for the proposed multifamily development and marina office which is currently under construction.

The applicant is now requesting another Conditional Use Permit to impact 659 s.f. of the Conservation District for a concrete pad, riprap repairs, and stone fill restoration behind the bulkhead. This CUP would also allow for 561 s.f. of impact to the wetlands for the concrete pad and stone fill restoration behind the bulkhead.

This CUP was endorsed by the Conservation Commission at their November 8, 2021 meeting (minutes attached).

Consistency with Land Use Regulations
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.

Staff feels that the applicant considered the criteria and designed the concrete pad, erosion control sock, and use of stone fill resists the movement of the bulkhead.
The Conservation Commission endorsed the application with no conditions.

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 reviewed options and due to the shoreline and existing marina, there was no partible alternative for the impacts, which have been minimized. Staff believes this proposal is consistent with the cited standards.

STAFF RECOMMENDATION:
The Planning Department recommends the Planning Board to accept the application, open the public hearing, and vote to approve the Conditional Use Permit with the following condition, as the plans meet the standards outlined:

1. Copies of the NHDES Wetlands Dredge and Fill permit, US Army Corps of Engineering, and NH Division of Historic Resources are provided to the Planning Department.

423 Dover Point Road



Property Information

Property ID	08009-000000
Location	423 DOVER POINT RD
Owner	LITTLE BAY DEVELOPMENT LLC
Land Use	390

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.

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: Daka Properties, LLC Telephone # (603) 427-2824 x 1001

Address of Applicant: 34 Patterson Lane, Newington, NH 03801

E-Mail Address: ken@riversideandpickering.com

Name of Property Owner (if different from applicant): Little Bay Development, LLC Telephone #_____

Address of Property Owner: 10 Woods Lane, Old Orchard Beach, ME 04064

PROPERTY INFORMATION

Assessor's Map # 8 Lot(s) # 9

Address of Property: 423 Dover Point Road

Zoning District(s) Little Bay Waterfront Overlay District(s) Conservation District & Wetland Protection District

Existing Use of Property: Commercial Marina

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:

Please note impacts to the 100' Conservation District and 50' Wetland Protection District overlap and total 659 sf. The proposed impacts to the 100' Conservation District are a total of 659 sf, 98 sf for a concrete pad, 11 sf for riprap repairs, and 550 sf for stone fill restoration behind the bulkhead. The proposed impacts to the 50' Wetland Conservation District are a total of 561 sf, 11 sf for a concrete pad, and 550 sf of stone fill restoration behind a bulkhead, totaling 561 sf.

List Any Associated State or Federal Permits That Have Been or Will Be Applied For and Indicate Their Status: NHDES WETLANDS STANDARD DREDGE AND FILL - PENDING

US ARMY CORPS OF ENGINEERS - PENDING NH DIVISION OF HISTORICAL RESOURCES - PENDING

Name of Professional That Prepared Plans: Duncan Mellor P. E.

Address P.O. Box 1166, Dover, NH Telephone #: (603) 749-0443

8344

Professional License #: 8344 E-mail address: dmellor@civilworksne.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: 10/27/2021

Signature of Applicant (if different from owner): _____ Date: 10/27/2021

Signature of Agent: _____ Date: _____

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: 10/27/2021

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
8	9	Little Bay Development	10 Woods Lane, Old Orchard Beach, ME 04064

Applicant (if different from owner):

APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS
Ken Anderson	DAKA Properties, LLC	34 Patterson Lane, Newington, NH 03801

Surveyor and/or Engineer/Professional Agent:

NAME	COMPANY	MAILING ADDRESS
Duncan Mellor	Civilworks New England	P.O. Box 1166, Dover, NH 03821
Kevin M. McEneaney,LLS	McEneaney Survey Associates	24 Chestnut Street, Dover, NH 03820

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 # 1 per Application = $200
- ☐ 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) = $200

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.

PROJECT NARRATIVE

for

Little Bay Marina Dredge

Conditional Use Permit

423 Dover Point Road

Tax Map 8, Lot 9

OCTOBER 2021

PROJECT OVERVIEW & SITE CHARACTERISTICS

The project parcel is located at 423 Dover Point Road, Dover, NH and is shown on Tax Map 8 as Lot 9, and is located within the Little Bay Waterfront District. The parcel consists of +/- 3.49 acres and is currently developed as a mixed use development. The project applicant is proposing:

1. Maintenance dredging by mechanical method and guide pile replacement for the existing 44-slip marina;
2. Replace existing timber bulkhead in kind and location, placing some dredged material inside the bulkhead (to restore eroded backfill) encapsulating the old barge. The balance of dredged material to be dewatered for off-site non-wetland upland disposal out of jurisdiction.

Ancillary repairs would include riprap repair at the eroding western bank of the causeway and replacement of the broken gangway slab in the buffer zone.

OVERLAY DISTRICT SETBACKS IMPACT TYPE

Conservation District

The proposed impacts within the 100' Conservation District setback include a concrete pad (98 SF), riprap repair (11 SF), and stone fill restoration behind the bulkhead (550 SF). These impacts have a total area of 659 SF. The location of the concrete pad is the only one practicable as it is necessary for connecting the mainland to the floating dock system, serving as an anchor for the gangway. The concrete pad will be poured in place and an erosion control sock will be placed around the concrete pad during construction. The proposed stone fill restoration and riprap repair are to attenuate wave action on the shoreline and the proposed locations are practicable. The stone fill also resists the movement of the bulkhead.

Wetland Protection District

The proposed impacts within the 50' Wetland Protection District setback include riprap repair (11 SF) and stone fill restoration behind the bulkhead (550 SF). These impacts total 561 SF. During construction a turbidity curtain will be placed around the entire site to prevent discharge into the Little Bay. After construction the bulkhead will retain the fill. The proposed riprap has been sized to mitigate erosion based on fetch length wave forecasting.

PROJECT NARRATIVE

for

Little Bay Marina Dredge

Conditional Use Permit

423 Dover Point Road

Tax Map 8, Lot 9

OCTOBER 2021

Demonstration of Need: The proposed construction is essential to the productive use of land or water outside the Wetlands Protection.

The impacts from the proposed riprap repair and stone fill restoration are necessary to protect the marina against wave action by acting as a breakwater and soil retainer respectively. The stone fill restoration reduces wave action on the bulkhead and the riprap diffuses wave energy against the transport of subbase material and prevents erosion.

Avoidance: The potential impacts have been avoided to the maximum extent practicable.

The stone fill restoration and riprap repair are located as far away from the wetland as possible while still providing adequate wave protection.

Minimization: Any unavoidable impacts have been minimized. No reasonable alternative to the proposed construction exists which does not impact a wetland or which has less detrimental impact on a wetland. Design, construction and maintenance methods will be prepared by a registered engineer to minimize detrimental impacts to the wetlands and will include restoration of the site as nearly as possible to its original grade.

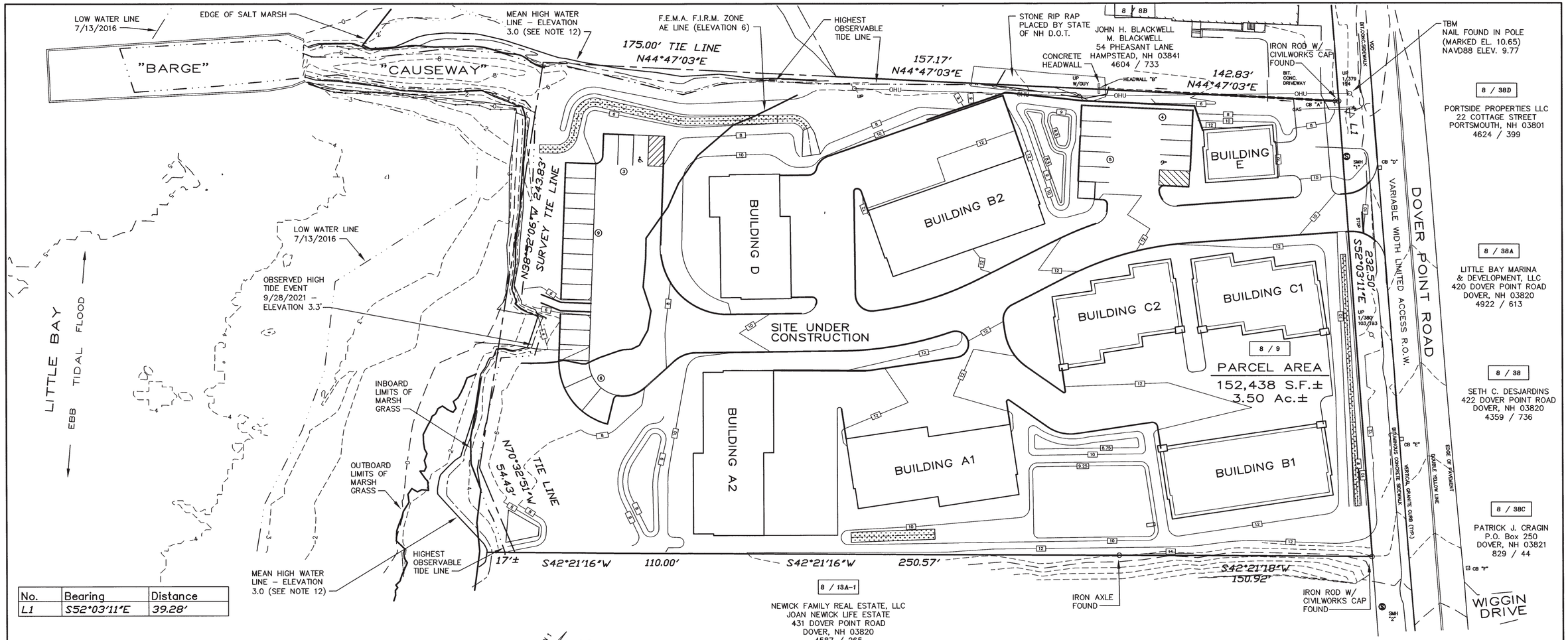
The riprap repair and stone fill restoration do not impact wetlands, they only impact the wetland buffer. The stone fill restoration is the smallest amount possible that still provides wave force protection for the breakwater and shoreline. The riprap repair is within the same footprint as the existing riprap and provides erosion protection to the shoreline.

Mitigation: If mitigation is required by state rules to prepare a compensatory mitigation plan, the applicant shall provide the Conservation Commission and Planning Board with one copy each of said plan for their review.

The riprap repair and stone fill restoration do not impact wetlands, they only impact the wetland buffer area.

Approval for the wetlands impact has been received from the NHDES Wetlands Bureau.

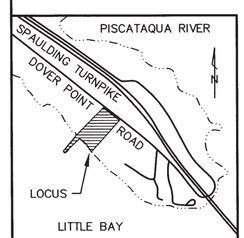
The riprap repair and stone fill restoration do not impact wetlands, they only impact the wetland buffer area. A Wetlands Permit has been filed with NHDES.



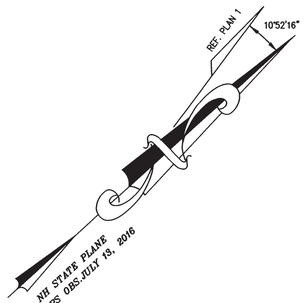
No.	Bearing	Distance
L1	S52°03'11"E	39.28'

LEGEND

I.R. (set) o – IRON ROD W/ I.D. CAP (SET)
S.F. – SQUARE FEET
Ac. – ACRE
(TYP.) – TYPICAL
± – MORE OR LESS
ø – DIAMETER
S.C.R.D. – STRAFFORD COUNTY REGISTRY OF DEEDS
-o- UP – UTILITY POLE
— · · · — – EDGE OF WETLAND
– – – – – – – EDGE OF PAVEMENT
O.A. – OVERALL
R.O.W. – RIGHT OF WAY
CB – CATCH BASIN
SMH – SEWER MANHOLE
WV – WATER GATE VALVE
BIT. – BITUMINOUS
CONC. – CONCRETE
ELEV. – ELEVATION
FF – FINISH FLOOR
ELEC. – ELECTRIC
OHU – OVERHEAD UTILITIES



LOCATION PLAN
1" = 1,000'±





NO.	DATE	DESCRIPTION	BY	CHK
		REVISIONS		

16-2123	EXIST. COND.	16-05	23-47
PROJECT NO	TYPE	FIELDBOOK & PAGES	

ATTENTION:

HIGH PRESSURE GAS MAIN EXISTS WITHIN THE RIGHT OF WAY OF DOVER POINT ROAD; PRIOR TO ANY EARTH MOVING ACTIVITY CONTACT DIGSAFE AT 1-888-344-7233 TO VERIFY LOCATION.

NOTES:

1.) OWNER OF RECORD:
8 / 9 — LITTLE BAY DEVELOPMENT, LLC, 10 WOODS LANE, OLD ORCHARD BEACH, MAINE 04064, S.C.R.D. VOL. 4920, PAGE 872

2.) 8 / 9 – DENOTES TAX MAP AND PARCEL NUMBER.

3.) ZONING DISTRICT: LITTLE BAY WATERFRONT (LBW)

MINIMUM LOT SIZE	= 10,000 S.F.
MAXIMUM COVERAGE	= 50 PERCENT
MINIMUM FRONTAGE	= 75 FEET
FRONT SETBACK	= 15 FEET
ABUT A STREET SETBACK	= 15 FEET
SIDE SETBACK	= 10 FEET
REAR SETBACK	= 15 FEET
MAXIMUM BUILDING HEIGHT	= 40 FEET

4.) PLAN INTENT: TO DEPICT THE PARCEL BOUNDARIES AND IMPROVEMENTS AS OF SEPTEMBER 2021, CONSTRUCTION OF THE APPROVED SITE HAS BEGUN, PROPOSED CONTOURS AND IMPROVEMENTS ARE SHOWN, PARCEL IS SERVICED BY MUNICIPAL SEWER AND WATER SUPPLY SYSTEMS.

5.) A PORTION OF THE SUBJECT PARCEL IS LOCATED WITHIN THE 0.2 PERCENT ANNUAL CHANCE FLOODPLAIN, ZONE AE (ELEVATION 6) AS SHOWN ON FLOOD INSURANCE RATE MAP COMMUNITY NUMBER 330145; PANEL 0405; SUFFIX E; MAP NUMBER 33017C0405E; EFFECTIVE DATE SEPTEMBER 30, 2015.

6.) BASIS OF BEARINGS IS NH STATE PLANE GRID FROM GPS OBSERVATION TAKEN ON JULY 13, 2016.

7.) VERTICAL DATUM IS NAVD88 FROM GPS OBSERVATION TAKEN ON JULY 13, 2016.

8.) JURISDICTIONAL WETLANDS AND HIGHEST OBSERVABLE TIDE LINE (H.O.T.L.) IDENTIFIED AND FLAGGED BY LUKE HURLY OF GOVE ENVIRONMENTAL SERVICES< INC. NHCWS #232 DURING THE SUMMER OF 2018.

9.) A PORTION OF THE PARCEL IS SUBJECT TO THE RULES OF THE SHORELAND WATER QUALITY PROTECTION ACT (NH RSA 483-B), THOSE AREAS WITHIN TWO HUNDRED AND FIFTY (250) FEET OF THE LITTLE BAY H.O.T.L. (REFERENCE LINE).

10.) REFERENCE IS MADE TO CERTAIN SEWER EASEMENTS GRANTED TO THE CITY OF DOVER, ALTHOUGH IT APPEARS THAT THE SAID SEWER LINE WAS NEVER CONSTRUCTED.
- S.C.R.D. VOL. 1006, PAGE 450
- S.C.R.D. VOL. 1011, PAGE 244
- S.C.R.D. VOL. 1014, PAGE 904

11.) OUTBOARD AND INBOARD LIMITS OF MARSH GRASS ALONG THE SOUTHEASTERLY BOUNDARY LOCATED BY THIS OFFICE DURING JUNE 2021.

12.) MEAN HIGH WATER (ELEVATION 3.0) IS BASED ON NATIONAL TIDAL DATUM EPOCH INFORMATION PUBLISHED BY NOAA FOR STATION 8423005, ATLANTIC TERMINALS T14A NH (https://tidesandcurrents.noaa.gov/datums.html?id=8423005)

13.) PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM A SURVEY PERFORMED BY MCENEANEY SURVEY ASSOCIATES, INC. DATED APRIL 2018 WITH AN ERROR NOT GREATER THAN 1 IN 10,000.

14.) OFF-SHORE TOPOGRAPHIC INFORMATION (1 FOOT CONTOURS) IS AS PROVIDED BY STEELE ASSOCIATES MARINE CONSULTANTS, LLC – OBSERVATIONS MADE 10/2020.

REFERENCE PLANS:

1.) PLAN OF LAND PREPARED FOR LITTLE BAY MARINA & DEVELOPMENT, LLC AND RICHARD J.C. & VICTORIA BENN AND LITTLE BAY MARINA & DEVELOPMENT, LLC, TAX MAP 8, LOT Nos. 9, 10, 11 & 12, DOVER POINT ROAD & LITTLE BAY, CITY of DOVER, COUNTY of STRAFFORD, STATE of NEW HAMPSHIRE. SCALE: 1" = 30'; DATED: APRIL 1, 2018; BY: THIS OFFICE. RECORDED S.C.R.D. PLAN 116-58.

2.) LOT LINE ADJUSTMENT PLAN PREPARED FOR ANN SHINE TAX MAP 8, LOT No. 8, 419 DOVER POINT ROAD AND JOHN ANASTAS & GLORIA ESPOSITO-ANASTAS TAX MAP 8, LOT No. 8B, 419A DOVER POINT ROAD, CITY of DOVER, COUNTY of STRAFFORD, STATE of NEW HAMPSHIRE. SCALE: 1" = 20'; DATED: AUGUST 17, 2018, REVISED THROUGH 9/18/18; BY THIS OFFICE. RECORDED S.C.R.D. PLAN 117-33.

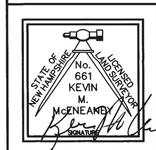
3.) PLAN SET – LITTLE BAY MARINA MIX USE DEVELOPMENT – MULTI UNIT RESIDENTIAL AND MARINA OFFICE SITE PLAN – TAX MAP 8, LOTS 9, 10, 11 & 12, DOVER POINT ROAD, DOVER, NH. DATED: FEBRUARY 21, 2019, REVISED THROUGH JULY 10, 2020; DOVER PLANNING FILE NO.: P19-04A, APPROVED JULY 31, 2020; BY: CIVILWORKS NEW ENGLAND

OVERALL EXISTING CONDITIONS PLAN
PREPARED FOR
LITTLE BAY DEVELOPMENT, LLC
TAX MAP 8, LOT No. 9
DOVER POINT ROAD & LITTLE BAY
CITY of DOVER
COUNTY of STRAFFORD
STATE of NEW HAMPSHIRE

DOVER PLANNING FILE No. P 19-04

DRAWN BY: RJM	FILE: 2123\DWGS\16-2123 EC-PR C1
SCALE: 1" = 30'	DATE: OCTOBER 5, 2021

30 15 0 15 30 60 90 120



McENEANEY Survey Associates
OF NEW ENGLAND
P.O. Box 681 – 24 CHESTNUT STREET
DOVER, NH 03820 (603) 742-0911

SURVEYING – PLANNING – CONSULTING

PROPOSED 11 SF OF IMPACT FROM RIPRAP REPAIR (CITY OF DOVER CONSERVATION AND WETLAND PROTECTION DISTRICT)

CITY OF DOVER 50' WETLAND PROTECTION DISTRICT

RIPARIAN LINE

"BARGE"

"CAUSEWAY"

HOTL

PROPOSED LIMITS OF DREDGING

PROPOSED 550 SF OF STONE FILL RESTORATION (CITY OF DOVER CONSERVATION AND WETLAND PROTECTION DISTRICT)

PROPOSED 98 SF OF IMPACT FROM REPLACING THE EXISTING CONCRETE PAD WITH A 10'x10' PAD (CITY OF DOVER CONSERVSTION DISTRICT)

OUTBOARD LIMITS OF MARSH GRASS

HOTL

MEAN HIGH WATER (ELEV. 3.0)

RIPARIAN LINE

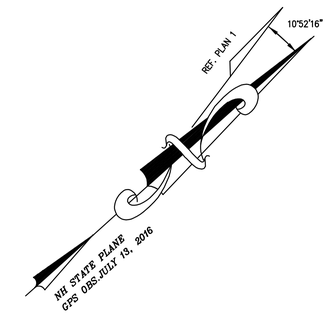
CITY OF DOVER 50' WETLAND PROTECTION DISTRICT

PLAN INTENT:

THE INTENT OF THIS PLAN IS TO SHOW IMPACT AREAS WITHIN THE CITY OF DOVER'S JURISDICTION ASSOCIATED WITH THE CONSTRUCTION OF A CONCRETE PAD FOR ACCESS TO AND FROM THE DOCKS, STONE FILL RESTORATION BEHIND THE BULKHEAD, AND RIPRAP REPAIRS.

REFERENCE PLAN:

1. OVERALL EXISTING CONDITIONS PLAN PREPARED FOR LITTLE BAY DEVELOPMENT, LLC, TAX MAP 8, LOT NO. 9, DOVER POINT ROAD & LITTLE BAY, CITY OF DOVER, COUNTY OF STRAFFORD, STATE OF NEW HAMPSHIRE; DATED: OCTOBER 5, 2021; PREPARED BY: MCENEANEY SURVEY ASSOCIATES OF NEW ENGLAND.



LEGEND

S.F.	SQUARE FEET
Ac.	ACRE
±	MORE OR LESS
HOTL	HIGHEST OBSERVABLE TIDE LINE
EOW	EDGE OF WET
x 74.00	EXISTING SPOT GRADE
----94-----	EXISTING GRADE
●	EXISTING PILING TO BE REPLACED

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

NO.	REVISION	APP'D	DATE

DATE: 10-15-21
SCALE: 1"=20'
DRAWN BY: JRG
DESIGN BY: DCM
APPROVED BY:DCM
PROJECT NO:17888
FILE: SITE

CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

DUNCAN C. MELLOR No. 8341 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

CITY OF DOVER CONDITIONAL USE PERMIT PLAN

OWNER: LITTLE BAY DEVELOPMENT, LLC 10 WOODS LANE OLD ORDCHARD BEACH, MAINE 04064

APPLICANT: DAKA PROPERTIES, LLC 34 PATTERSON LANE NEWINGTON, NH 03801

CUP1

P21-79 **423 Dover Point Road**

Property ID	Location	Owner 1	Owner 2	Owner Address 1	City	State	Zip
08008-000000	419 DOVER POINT RD	SHINE ANN		419 DOVER POINT RD	DOVER	NH	03820
08008-A00000	417 DOVER POINT RD	PUIDOKAS ERIC BAILO		417 DOVER POINT RD	DOVER	NH	03820
08008-B00000	419 A DOVER POINT RD	BLACKWELL JOHN H &	BLACKWELL M SHARON	419 A DOVER POINT RD	DOVER	NH	03820-4627
08013-A00001	431 DOVER POINT RD	NEWICK FAMILY REAL ESTATE LLC &	NEWICK JOAN LIFE ESTATE	431 DOVER POINT ROAD	DOVER	NH	03820
08029-000000	430 DOVER POINT RD	STATE OF NEW HAMPSHIRE		PO BOX 483	CONCORD	NH	03302-0483
08038-000000	422 DOVER POINT RD	DESJARDINS SETH C		422 DOVER POINT RD	DOVER	NH	03820
08038-A00000	420 DOVER POINT RD	LITTLE BAY MARINA & DEVELOPMENT LLC		420 DOVER POINT RD	DOVER	NH	03820
08038-B00000	1 WIGGIN DR	STATE OF NEW HAMPSHIRE		PO BOX 483	CONCORD	NH	03302-0483
08038-C00000	424 DOVER POINT RD	CRAGIN PATRICK J		PO BOX 250	DOVER	NH	03820
08038-D00000	418 DOVER POINT RD	PORTSIDE PROPERTIES LLC		22 COTTAGE ST	PORTSMOUTH	NH	03801
08039-000000	416 DOVER POINT RD	WHITE ERIC J &	MONNAT-WHITE DEBORAH J	118 OLD CONCORD RD	SULLIVAN	NH	03445
08009-000000	423 DOVER POINT RD	LITTLE BAY DEVELOPMENT LLC		10 WOODS LANE	OLD ORCHARD BEACH	ME	04064
		DAKA PROPERTIES LLC		24 PATTERSON LANE	NEWINGTON	NH	03801
		CIVILWORKS NEW ENGLAND	DUNCAN MELLOR	P.O. BOX 1166	DOVER	NH	03821
		MCENEANEY SURVEY ASSOCIATES	KEVIN M MCENEANEY LLS	24 CHESTNUT STREET	DOVER	NH	03820

B. NHDES Standard Dredge and Fill Wetlands Permit Application for DAKA Properties LLC (Agent: Civilworks New England), Assessor's Map 8, Lot 9, zoned LBW, located at 423 Dover Point Road.

Duncan Mellor was present to explain the proposal to conduct maintenance dredging at a 44-slip marina, replace float guide piles and replace the existing bulkhead at the site previously known as Little Bay Marina.

Lyon: Do you know what the impact of the rip-rap is to the erosion of the salt marsh?

Mellor: Riprap helps to protect the marsh.

Lyon: Why not use a softer or living shoreline approach?

Mellor: This was not a viable option due to the steepness of the berm.

Hunt: Could the dredged material be used to reinforce the existing barge?

Mellor: This was previously done but the material washed away so this is not the current plan.

Discussion ensued regarding the timing for which the dredging would be conducted during the allotted winter window.

Lyon asked that the Commission vote on the CUP before voting on the permit application. The Commission agreed and item C was heard.

Lyon moved to endorse the NHDES Permit application as presented, Attwood seconded. Vote: 6 yes

C. City of Dover Conditional Use Permit for DAKA Properties LLC (Agent: Civilworks New England), Assessor's Map 8, Lot 9, zoned LBW, located at 423 Dover Point Road.

Duncan Mellor was present to explain the proposal to construct a concrete pad, repair riprap and restore stone fill behind the bulkhead, creating 659 square feet of Conservation District impacts and 561 square feet of wetland buffer impacts.

Murphy: Will the existing slab be removed?

Mellor: The slab will be removed and replaced with a smaller new ADA compatible slab.

Hunt: Does DES monitor the dredging process?

Pollock: DES does not have an obligation to do so but certainly could.

Discussion ensued regarding the upland condo development.

Bird: Did DES confirm that the dredge spoils are not contaminated?

Mellor: The material was tested in accordance with DES regulations.

Bird: Will the number of piles and slips remain the same?

Mellor: Yes, they will.

Bird: How much material can the dredge removal barge hold?

Mellor: 300-400 cubic yards.

DRAFT

Bird expressed concerns over the number of trips and the ability to complete the project within a month.

Mellor: We are confident that we can complete the project in a month but will hopefully have more time. There is a need for this project given that the marina was already existing, avoidance and minimization have been addressed the best extent possible. With sea level rise future repairs will be needed.

Murphy: Why not address sea level rise issues now?

Mellor: We wanted to minimize the impacts to avoid project rejection from DES.

More discussion took place about the existing conditions and usage plans by the upland condos.

Murphy moved to endorse the Conditional Use Permit as presented, Attwood seconded. Vote: 6 yes

D. Discussion regarding City of Dover wetlands mitigation opportunities and creation of a project list, as well as a proposal by Duncan Mellor (Civilworks New England) to use eelgrass friendly boat moorings as a form of mitigation.

Duncan Mellor was present to explain his proposal.

Lyon: What is the purpose for you to bring this proposal before the Commission? Is there financial interest or is this just an act of good will?

Mellor: I have no financial interest and have worked on projects with eelgrass friendly moorings in the past.

Discussion ensued related to approval process for moorings and what other items the Commission may want to see on a mitigation list.

Bird: I recommend taking time to develop a list that includes many more options than the eelgrass friendly moorings before the Commission considers adoption.

6. REPORT FROM THE CHAIR

A. Review of Correspondence Received From NH Department of Environmental Services:

1. Letter from DES to Michael McDonough for 29 Boston Harbor Road about a possible violation.
2. Letter from DES to Mike & Michelle Trochalakis of 7 Cullen Bay Road about information needed.
3. DES Wetlands Permit issued on October 18, 2021 to Settlement on 6th LLC for 13 lot subdivision

7. OTHER BUSINESS:

A. Update on Committee to Work on Amendments to Wetland Protection District Ordinance

Bird: The committee has a meeting scheduled for November 22nd. The committee will be discussing a revised survey of members to determine which the functions and values of wetlands to focus on.

8. ADJOURNMENT

Lyon moved to adjourn the meeting at 7:14 PM, Attwood seconded. Vote: 6 yes

DRAFT

CITY OF DOVER

PLANNING BOARD - STAFF MEMO FILE #P21-77

Application Type:	Site Plan Review
Applicant(s):	Q, LLC
Owner(s):	Quality Way, LLC
Location:	Quality Way and Venture Drive (Tax Map D, Lot 11-4)
Meeting Date:	December 14, 2021

INTENT: To construct a 7,400 s.f. addition on a light manufacturing facility to total 38,200 s.f. plus an additional 10 parking spaces

LOTS/UNITS PROPOSED: 7,400 s.f addition

AGENDA ITEM #: 4-F

ACREAGE: 5 acres

ZONING DISTRICT: IT

EXISTING LAND USE: Light manufacturing

PROPOSED LAND USE: Light manufacturing

SURROUNDING LAND USE: Vacant, industrial

ZBA ACTION: None

ATTACHMENTS: Application materials, TRC minutes, and Site Plan

APPLICATION IS COMPLETE: Yes

DECLARE REGIONAL IMPACT: No

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

PERMITS REQUIRED: N/A

WAIVER(S) REQUESTED: 153-14.G-Landscape Plan

Summary of Request and Background
The applicant is requesting to construct a 7,400 s.f. addition to an existing light manufacturing facility for product testing to total 38,200 s.f plus an additional 10 parking spaces to the site. The lot is serviced by public water and sewer. The Technical Review Committee most recently reviewed this case on and November 4, 2021 (minutes attached).

Summary of Waiver Requests:
The applicant is requesting the Board grant a waiver from the requirement of a full landscape plan (Section 153-14.G) and instead to use the existing vegetation on site.

Consistency with Land Use Regulations – Waiver
Section 153-21 of the Land 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 2 has been met as the existing site is heavily vegetated and the expansion is in the rear of the building.

STAFF RECOMMENDATION Waivers:
The Planning Department recommends the Planning Board accept the application, open the public hearing, and vote to grant the waivers with the following condition:

1. Add a note to the plat that the Board granted a waiver to Chapter 153-14.G)(landscaping) and that the Board found the criteria of Chapter 153-21.A have been met.

Consistency with Land Use Regulations
Chapter 153-4 of the Site Review Regulations of the City Code provides for site review by the Planning Board of new construction of various types. This plan is consistent with those regulations.

STAFF RECOMMENDATION:
The Planning Department recommends the Planning Board vote to approve the Site Plan with the following conditions:

Conditions to Be Met Prior to the Signing of Plans:

1. Provide Letter to serve from Eversource.
2. Provide physical and digital copies (including CAD) of complete plan set which additionally shall include:
    a. Signature and stamp of PE, LLA, and LLS
    b. Owner's signature
    c. Revised lighting plan with allowed uniformity ratio
    d. To the satisfaction of the Building Official confirm site is designed to meet accessibility requirements.

e. Add provided column to zoning note

Conditions to Be Met Prior to any Demolition or Construction Activity:

3. A site construction sign with the contact information for the general contractor must be located and approved by the City Engineer or Assistant City Manager.

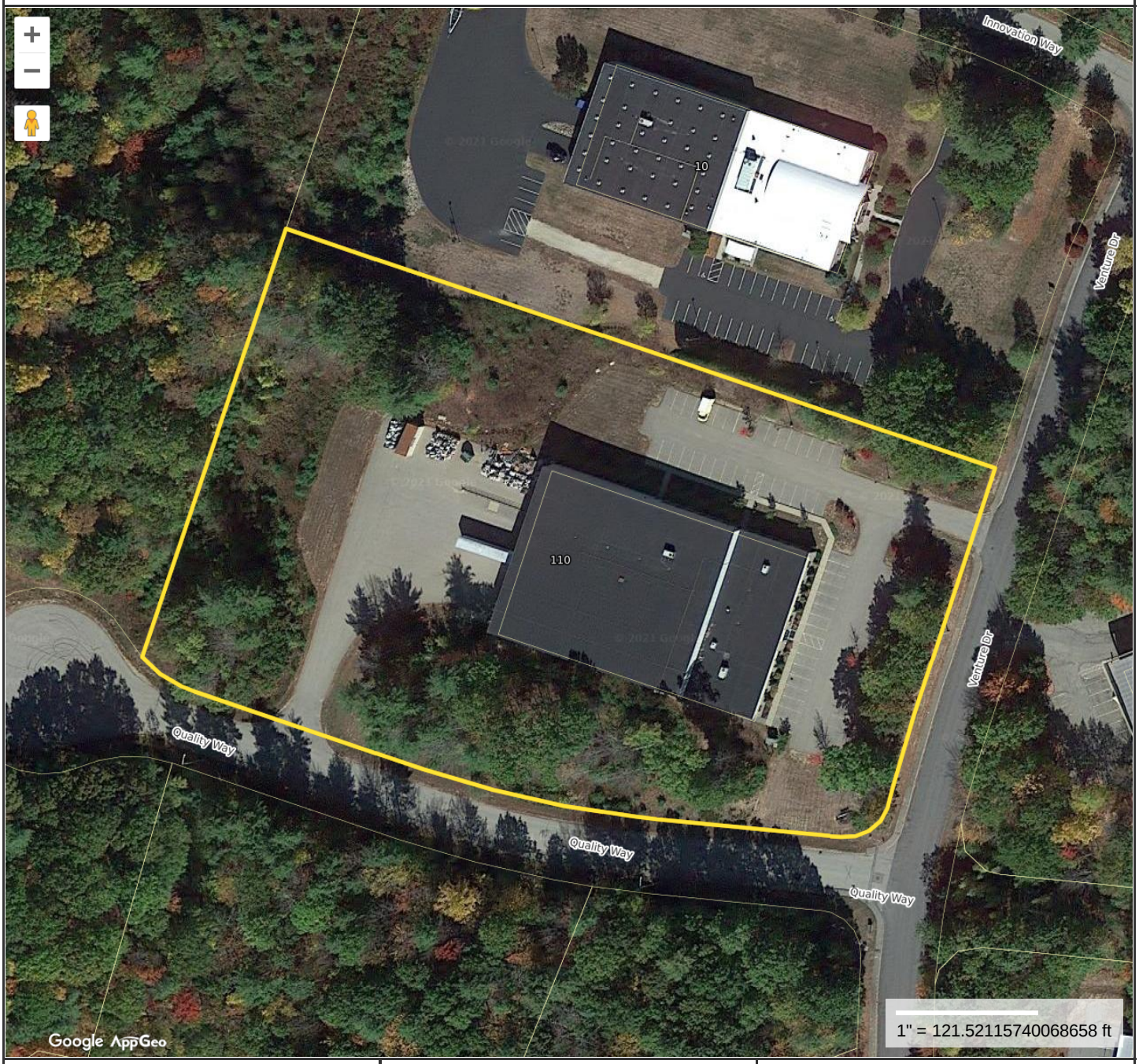
Condition to Be Met Prior to Issuance of a Building Permit:

4. Water and sewer investment fees shall be paid at the time of request of service.

Conditions to Be Met Prior to Occupancy:

5. Issuance of a certificate of occupancy.
6. Impact fees shall be paid per the invoice included with the Notice of Decision.
7. The applicant shall provide a letter of credit or other form of security acceptable to the City for any unfinished work.

Quality Way & Venture Drive



Property Information

Property ID	D0011-004000
Location	110 VENTURE DR
Owner	QUALITY WAY LLC
Land Use	316

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.

CIVILWORKS NEW ENGLAND

181 WATSON ROAD P.O. BOX 1166 DOVER, NH 03821-1166
PHONE: 603.749.0443 FAX: 603.749.7348

November 15, 2021

Christopher G. Parker, Assistant City Manager/Director of Planning
City of Dover Planning Department
288 Central Ave
Dover, NH 03820

Re: Q, LLC, Site Review
Quality Way and Venture Drive (Tax Map D, Lot 11-4)
Dover Planning file: P21-77

Civilworks New England Reference No. 21043

Dear Mr. Parker:

On behalf of the applicant Q, LLC, we are pleased to resubmit the revised Site Plan based on the November 4, 2021 Technical review Committee meeting. The responses and actions to the TRC comments are as follows (r**esponses in bold):**

Plan Review:

- *W/S Investment Fees*
  Noted
- *Impact fees*
  Noted
- *Provide narrative explaining waiver request and justification to meet the waiver criteria*
  The narrative and a waiver request from section 153-15D "Landscaping" is attached.
- *Letter to Serve from Eversource*
  The applicant has reached out to Eversource for a "Letter to Serve". The letter will be provided to Planning once received.
- *Owner's signature on final plan set*
  Noted
- *Existing light poles not included in parking lot lighting calculations. Note should be added to the plan*
  Existing light poles have been included in the parking lot calculations,; Sheet 11 has been updated accordingly.
- *Add uniformity ratio, maximum light calculation, and minimum on the lighting plan*
  Sheet 11 has been updated accordingly.
- *Revise traffic study to correct COAST to "Cooperative*
  The traffic study has been updated accordingly.
- *Add more info to plan about landscaping. Existing plus proposed trees planted*
  The plans have been updated accordingly.
- *Is there a dumpster?*
  There is an existing dumpster pad but currently no dumpster. A 6' tall privacy fence will be installed around the pad: see plan for location.

- *Revise note 3 on sheet 3*
  Note 3 on Sheet 3 has been updated accordingly.
- *Add "Parking" to table on sheet 6*
  The word "Parking" has been added to the table on Sheet 6.
- *Indicate location of or add Common Site Plan Notes # provide column to common note 8, note 4, 10, 14, 19, 33, 34*
  Note 14 is under paragraph "Utility Notes", note 3, Note 19 is under paragraph "Grading Notes", note 14. Note 33 is under Paragraph "Site Notes", Note 3. Common Site Plan Notes 4. 10, and 34 have been added to sheets 3, 4, and 6.
- *Surveyor/Engineering Stamp and Signature*
  Noted
- *Add space to title sheet between Q, LLC and Site Plan*
  The title sheet has been updated accordingly
- *Proposed Project name and File # P21-77*
  The plan set has been updated accordingly
- *Indicate dumpster onsite that is noted*
  The proposed dumpster location is shown on sheet 6.

Engineering Comments:

- *Seems like a lot of lighting on the building. Is that needed?*
  5 proposed exterior lights have been removed, see sheet 11 for locations.

Police Department Comments: N/A

Fire/Inspections Comments:

- *Discuss relocating hydrant on Quality Way so lines do not cross driveway access*
  There are no new utilities required.
- *Sheet 4 note 19 site working hours to include no Sundays or federal holidays*
  Sheet 4, note 19 has been updated accordingly.
- *Sheet 6 Indicate the use of the concrete pads on the site*
  Sheet 6 has been updated accordingly.
- *Indicate the location of the proposed generator and any associated fuel storage/pipping*
  There is no generator being proposed.
- *Sheet 6 provide exit discharge walkway at side exit*
  An exit discharge walkway at side exist is provided, see sheet 6 for location.
- *Sheet 6 clarify if there is proposed screening for HVAC equipment at 10'x60' concrete pad*
  See sheet 6 for location.
- *Plan set to indicate the location of the FDC*
  Plan set has been updated to shot the existing locations of the FDC.
- *Review the location of the exits with the omission of two exits on the north side of the structure*
  Acknowledged

- *Plans to indicate all entrances/exits*
  The plans have been updated accordingly

Economic Development: N/A

Planning Board Comments: N/A

Please feel free to call with any questions or comments.

Sincerely,

CIVILWORKS NEW ENGLAND



Stephen J Haight PE

JG/SH

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: Q, LLC Adam Johnson Telephone # 603-294-0047

Address of Applicant: 4 Cutts Street, Unit 3 Portsmouth, NH 03801

E-Mail Address: adam@liveqordie.com

Name of Property Owner (*if different from applicant*): Quality Way, LLC Telephone # 603-659-0779
William P. Lovejoy, Manager

Address of Property Owner: 55 Main Street, Unit 407 Newmarket, NH 03857

PROPERTY INFORMATION

Address of Property: Quality Way & Venture Drive

Assessor's Map # D Lot(s) # 11-4

Zoning District(s) IT Overlay District(s) NONE

Size of Parcel: 217,889 sq. ft. 5 ac. Property Deed: Book 3973 Page: 254

Existing Use of Property: Light Manufacturing Facility

SITE PLAN INFORMATION

Describe Proposed Use: Expansion of Light Manufacturing Facility

Area of Parcel to be Developed: (Building Addition) 7,400 sq. ft.

If Multi-family Residential: Number of Units N/A & Buildings Proposed N/A

If lodging: Number of Units N/A & number of Buildings N/A

Number of Parking Spaces: Existing 68 Proposed 78

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

Number of Employees Total: 35 In Maximum Shift: up to 3, as necessary

Disposition of Parcel:

Building Footprint 30,800 sq. ft.

Total Building Area 30,800 sq. ft.

Paved Area 47,200 sq. ft.

Building Setbacks:

Front Yard 50 ft.

Rear Yard 50 ft.

Side Yard: Right 50 ft. Left 50 ft.

City Water? X Yes ___ No How far is city water from the property? at Quality Way

City Sewer? X Yes ___ No How far is city sewer from the property? at Quality Way

TRANSFER OF DEVELOPMENT RIGHTS INFORMATION N/A

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: Steel Frame with Metal Exterior

Height of Building: 20' Finished Floor Elevation: 188.6'

Number of Seats (where applicable) N/A

Estimated value of construction: $200,000 Refuse removal: Public/Private (circle one)

WAIVER REQUESTS

Site Review Regulations section(s) to be waived: Site Review Regulations - Section 153-15 D.

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

The site is currently developed with mature landscaping in place.

SURVEYOR INFORMATION

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

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

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

ENGINEER INFORMATION

Name of Engineer and Company (Licensed in N.H.) Stephen J. Haight, PE - Civilworks New England

Address P.O. Box 1166 Dover, NH 03821 Telephone #: 603-749-0443

Professional License #: NH PE # 7978 E-mail address: shaight@civilworksne.com

ARCHITECT INFORMATION

Name of Architect and Company (Licensed in N.H.) Mark Pelletier - Maugel Architects

Address 200 Ayer Road, Suite 200 Harvard, MA 01451 Telephone #: 978-458-2800

Professional License #: _____ E-mail address: mpelletier@maugel.com

LANDSCAPE ARCHITECT INFORMATION

Name of Landscape Architect and Company (Licensed in N.H.) N/A

Address _____ Telephone #: _____

Professional License #: _____ E-mail address: _____

SOIL SCIENTIST INFORMATION

Name of Soil Scientist and Company (Licensed in N.H.) Damon Burt, CWS
Fraggle Rock Environmental, Inc.

Address 38 Garland Road Strafford, NH 03884 Telephone #: 603-969-5574

Professional License #: NH CWS# 163 E-mail address: frenvironmental@gmail.com

CONSERVATION EASEMENT HOLDER

Name of Easement Holder: N/A 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: 10/10/21

Signature of Applicant (*if different from owner*): _____ Date: 10/8/2021

Signature of Agent: _____ Date: 10/12/21

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: _____ Date: 10/10/21

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: _____ Date: 10/10/21

Signature of Applicant (*if different from owner*): _____ Date: 10/8/2021

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: _____ Date: 10/10/21

Signature of Applicant (*if different from owner*): _____ Date: 10/8/2021

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) $ 200.00
  - o New construction $.15 sq. ft. x # _____ sq. ft.= $_____
  - o Additions (new floor space) $.10 per sq. ft. x # 7,400 sq. ft.= $ 740.00
- ☐ MOTEL/HOTEL $35.00 x # ___ per lodging unit= $_____
- ☐ CHANGE OF USE Application fee $200.00 + (not to exceed $5,000)
  - o Existing floor spaces $.10 per sq. ft. x # _____ sq. ft. = $_____
- ☐ CONDITIONAL USE PERMIT Application fee $200.00 x # _____ per Application = $_____
- ☐ GRAVEL PIT/ EXCAVATIONS
  - o Application fee $50.00= $_____
  - o 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. = $ N/A

SUBTOTAL PLAN REVIEW FEE (A) = $ 940.00

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
  - o 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.

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: Q, LLC File Number: P21-

PROJECT TITLE: Site Plan for Q, LLC

PROPERTY LOCATION: Quality Way & Venture Drive Tax Map: D Lot: 11-4

	Where/How Provided	Reviewed
1. Completed and signed Application form	X	
2. Plan Review Fees are provided	X	
3. Electronic copy of the engineered/surveyed plan layout	X	
4. Electronic copy of supplementary materials and application	X	
5. Traffic Impact Assessment and Analysis (Standard or Advanced)	X	
6. Waiver requests to the Site Plan Review Regulations, with written justification	X	
7. Conditional Use Permit applications	N/A	
8. A colored rendering of the streetscape that will be created along the existing public right-of-way	X	
9. A colored architectural plan showing all sides of buildings	X	
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:	8 full size plan sets	
Location map at appropriate scale	X	
Proposed Project name and title and Planning File #	X	
Date, north arrow and scale	X	
Names of all abutting property owners	X	
Name and address of owners and/or applicants	X	
Signature & stamp of NH licensed land surveyor and/or engineer	X	
Zoning District boundaries, including any special or overlay districts	N/A	
Location of Conservation District areas	N/A	
Location, names and widths of existing and proposed streets, including pavement widths, grades, curbs and crosswalks	X	
Location and widths of existing & proposed easements & right of ways	X	
Location and width of existing and proposed access/egress ways	X	

	Explain How Provided	Reviewed
Depict pedestrian walkways and accessible access	X	
Existing and proposed property lines with dimensions and bearings tied into Dover's Geographic Information System coordinate system	X	
Existing and proposed topographic information at two foot intervals	X	
Existing and proposed buildings and structure locations	X	
Minimum building setbacks or build to lines on all lots	X	
Location and size of existing and proposed electric, telephone, gas cable and other underground utilities	X	
Existing and proposed water lines and fire hydrants, including materials and capacity needed	X	
Location and materials of sanitary sewage facilities within project site and projected additional peak hour sewer load	X	
Existing and proposed stormwater lines and facilities	X	
Lighting plan depicting all existing and proposed exterior light fixtures and a lighting level analysis for parking lots	X	
Location of Flood Hazard Zone	N/A	
Location of all bodies of water and watercourses	N/A	
Location of wetlands and buffers	N/A	
Neighborhood plan with aerial underlay showing how project relates to abutting uses within the plan set	X	
Existing natural features and/or significant vegetation on property	X	
Depict existing contours up to 100 ft. beyond project limits	X	
Landscape plan depicting existing and proposed landscaping, prepared by a licensed Professional Landscape Architect	WAIVER REQUESTED	
Location of parking layout delineating spaces and arrangement; note addressing maximum required spaces	X	
Location, material and size of existing and proposed pavement area	X	
Location of proposed fire lanes	X	
Specify finished floor elevations of buildings	X	
Location of solid waste disposal facilities (dumpster, pad and screening, etc.), including required screening	X	
Depict all service, storage, loading bays and utility areas	X	
All applicable Dover Common Site Plan notes	X	
11. Additional Information if appropriate		
Stormwater Management Plan depicting the existing & proposed storm drainage system and engineered drainage analysis	X	
Stormwater Management System Operation and Maintenance Plan	X	
Letter to Serve from Public and Private Utilities	N/A	
Erosion and Sedimentation Control Plan	X	
Landscape Operation and Maintenance Plan	N/A	
Proposed restrictive covenants or homeowners association documents	N/A	
Dates and permit numbers of all required state and federal permits	N/A	
If wetland buffer, indicate placards locations, as applicable	N/A	
Depict test boring locations, groundwater elevations and soil profiles and/or soils types call-outs	N/A	
Location of proposed drive-in facilities	N/A	
Provide additional exhibits/technical data determined appropriate by the Planning Board or its staff as required	TBD	

REVIEWED BY: _____ DATE_____ TRC DATE_____

PROJECT NARRATIVE
for
Q,LLC
Site Plan
Quality Way (&Venture Drive)
Tax Map D, Lot 11-4

OCTOBER 2021

PROJECT OVERVIEW & SITE CHARACTERISTICS

The project parcel is shown on Tax Map D as Lot 11-4, located at the corner of Quality Way and Venture Drive within the IT District and consists of 5 acres+/-. The site is currently developed, consisting of a 30,800 s.f. light manufacturing facility with associated parking, utilities, and drainage. The project applicant provides engineering, design and manufacturing of products for the sporting and defense industry and is relocating their operation from Portsmouth to Dover.

The applicant is proposing a 7,400 s.f. addition to the existing building to expand their manufacturing and product testing capabilities. This expansion would also include future additional parking which was previously approved but not constructed.

All necessary utilities are currently located to the site. As this is an existing facility, there will be minimal utility upgrades as part of this project.

The project site consists of the following general improvements:

- Clearing trees to accommodate the proposed building addition.
- Construction of 7,400± SF addition to the existing light manufacturing facility with associated (pre-approved) parking expansion.

DRIVEWAY AND PARKING LOT

The driveway and parking lots are pre-existing. Employee and visitor parking is accessed from Venture Drive, and access for truck delivery to the loading areas, as well as emergency vehicles, is from Quality Way. The employee and visitor parking area currently has 64 parking spaces, including 3 accessible spaces. However, a previous site approval (2004-2005) granted an additional 10 parking spaces which were not constructed. This proposal highlights the additional pre-approved 10 parking spaces that will be constructed in the future as part of this expansion.

For the existing facility with proposed addition, the City of Dover parking maximums allow for the following:

Required:	existing 30,800 s.f. + proposed 7,400 s.f = 38,200 s.f building 7,730 sf of office: 1 space /300 sf = 25 30,740 sf of industrial/manufacturing: 1 space/ 800 sf = 38 Total allowed = 63
Provided:	74 parking spaces (includes 3 accessible spaces)

PROJECT NARRATIVE

for

Q,LLC

Site Plan

Quality Way (&Venture Drive)
Tax Map D, Lot 11-4

OCTOBER 2021

WETLAND SETBACK IMPACT TYPE

There are no wetlands present on this parcel. Reference plans refer to previous delineation's made by the City of Dover, NH Soil Consultants, Inc. and Schauer Environmental, Inc. during a 2004-2005 development of this industrial park. Damon Burt, CWS visited the site on July 18, 2021 to confirm there were no wetlands/buffers, on or in proximity, that impact this site.

DRAINAGE

The parcel is located at the corner of Quality Way and Venture Drive. The proposed development will consist of approximately 5 acres surrounded by other commercial properties within a previously established industrial park. The watershed of the parcel includes the project site. On site soils are a mix of Windsor Loamy Fine Sand, Windsor Loamy Sand, Suffield Silt Loam, and Buxton Silt Loam. The Windsor series soils are HSG A with the Suffield and Buxton series soils classified as HSG C.

The proposed development of the site includes the construction of a 7,400 s.f. addition to an existing light manufacturing facility with existing associated parking having site access from Quality Way. The site currently has a detention pond that accommodates a majority of the site.

UTILITIES

The proposed project will continue to utilize existing service provided by City of Dover for water and sewer as well as Unitil for natural gas, and Eversource for electricity. Water, sewer, electric lines and natural gas lines are currently located within the site. Any additional building connections required will be made per the City's Community Services Utility Division and Fire Department requirements and standards.

From: Scott Johnson <sj03857@gmail.com>
Date: October 11, 2021 at 8:28:21 AM EDT
To: "Barufaldi, Daniel" <d.barufaldi@dover.nh.gov>, "Parker, Christopher G." <C.Parker@dover.nh.gov>, CHRISTINE LIST <christine@liveqordie.com>, Adam Johnson <adam@liveqordie.com>, Bill Lovejoy <bill.lovejoy@comcast.net>
Subject: One Quality Way - Q, LLC

Good morning Dan/Chris,

Please accept this letter as confirmation that Quality Way, LLC acknowledges that our tenant, Q, LLC is submitting an application for a potential addition to the property at the corner of 110 Venture Drive and 1 Quality Way. We understand that this may also require changes to the existing interior of the building, landscaping, parking lot, etc.

Quality Way, LLC fully supports any and all changes. If you have any questions or concerns, please do not hesitate to contact us.

Thank you,

Scott Johnson
Member
Quality Way, LLC

WAIVER REQUEST

ACCOMPANYING

SITE REVIEW APPLICATION

for

Q, LLC

Quality Way & Venture Drive

Tax Map D, Lot 11-4

Dover Site Review Regulations: Section 153-15D.1

Design standards for Innovative Technology: Landscaping

1. *A Landscaping plan shall be submitted as part of the development application. The landscaping plan shall depict a scheme that creates a parklike setting. Maintenance of existing vegetation should be incorporated in the landscaping plan when appropriate.*

This is a waiver request to section 153-15D.1 to not provide a landscape plan and allow the existing landscaping on site to fulfill the regulation requirement.

The existing landscaping on site is mature and well established and provides excellent buffering along all sides of the parcel. Along with the existing on-site landscaping the abutting parcel also has a well-established and maintained landscape buffer along the common lot line. This proposal is for the construction of a 7,400 s.f. addition to be installed along the side of the existing building. The addition is proposed within an existing grass strip between the building and the existing parking lot.

The existing landscape will remain unchanged and maintained and cutting of any trees on site will be kept to the bare minimum necessary to accomplish the work.

Since the proposed addition will not remove the existing landscaping by granting this waiver the proposed project is in general conformance with the intent of the Site Review Regulations.

Stormwater Management System Inspection & Maintenance Plan

Prepared for

Q,LLC
Map D, Lot 11-4

Quality Way- Venture Drive
Dover, New Hampshire
Strafford County

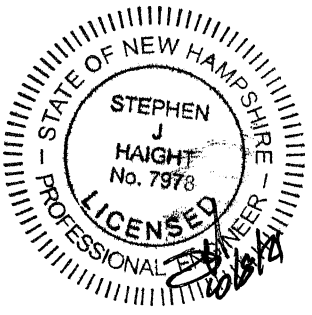
October 8, 2021

Applicant:

Q, LLC
1 Quality Way
Dover NH 03820

Prepared By:

CIVILWORKS NEW ENGLAND
P.O. Box 1166
181 Watson Road
Dover, New Hampshire 03821



Introduction

Civilworks NE, has prepared the following Stormwater Management System Inspection & Maintenance Plan for **Q, LLC** The intent of this plan is to provide a list of procedures that document the inspection and maintenance requirements of the Stormwater Management System for this site.

The following inspection and maintenance program is necessary in order to keep the Stormwater Management System functioning properly. These measures will also help to minimize potential environmental impacts to the areas surrounding the developed site. By following the enclosed procedures, the property owners, and maintenance personnel will be able to maintain the functional design of the Stormwater Management System and maximize its ability to remove sediment and other contaminants from site generated stormwater runoff while at the same time ensuring the recharge of groundwater resources through continued infiltration.

This plan also requires the Owner/Operator to prepare and implement a salt minimization plan to reduce salt usage on-site and ultimately within the watershed. This plan will allow the owner/operator to monitor and modify how much salt is needed, when it should be applied, where it needs to be applied, with the ultimate goal of reducing salt-use without compromising safety. It is expected that salt-use reduction will lead to long-term cost-savings as a result of purchasing less salt and reduced impacts on vegetation (e.g., landscaping) and corrosion of infrastructure .

The salt minimization plan should include the retention of a contractor who has completed the Green SnowPro Training course and obtained NH DES Salt Application Certification.

It is anticipated that this be a living document that will be updated at regular intervals (recommend updating annually in advance of the winter season in order to facilitate adjustments).

Owner

Q, LLC
1 Quality Way
Dover NH 03820

In the event of a change in ownership, this Inspection and Maintenance Plan shall be transferred to the new party; transfer shall be documented to NH DES in writing.

Contact / Responsible Party

Q, LLC
1 Quality Way
Dover NH 03820

Adam Johnson
PHONE: (603) 702-1087

The contact information for the Contact / Responsible Party shall be kept current; transfer shall be documented to NH DES in writing.

Management Company

Q, LLC
1 Quality Way
Dover NH 03820

The contact information for the Management Party shall be kept current.

Inspection Schedule / Record Retention

Inspection frequency should, at a minimum, be in accordance with New Hampshire Stormwater Manual, Volume 2, latest edition, as updated by NH DES. See the Inspection and Maintenance Plan for frequency requirements. A copy of the completed Stormwater Management System's Inspection & Maintenance Log and Deicing Salt Quantity Use Log shall be maintained, kept on-site, and be made available to local, state, or federal regulators as applicable by law. All Inspection and Maintenance records must be provided to NH DES upon request.

Stormwater Management System Components

The Stormwater Management System associated with the project is designed to mitigate both the quantity and quality of site-generated stormwater runoff and to recharge the underlying groundwater resources. As a result, its design includes the following elements:

- Pipes/Culverts
- Outlet Structures
- Energy Dissipation Structures
- Detention Basin
- Treatment Swale
- Pavement
- Litter / Trash Removal

Structure callouts correlate to the design plans, a copy of which shall be maintained with this Inspection and Maintenance Plan.

Control of Invasive Species

During maintenance activities, check for the presence of invasive plants and remove in a safe manner. Invasive plants shall be controlled to prevent them from reproducing, spreading, or re-growing. See the University of New Hampshire – Cooperative Extension's "Method for Disposing Non-Native Invasive Plants", included at the end of this manual, for guidance on the removal and disposal of invasive species.

Inspection and Maintenance Plan

By implementing the following procedures, the owners will be able to maintain the functional design of the Stormwater Management System and maximize the system's ability to remove sediment and other contaminants from site generated stormwater runoff and to effectively recharge the underlying groundwater resources.

PIPES/CULVERTS:

- Inspect once per year.
- Inspect for clogging and sediment accumulation.
- Remove all debris immediately and sediment accumulations $\geq$ 2 inches.

OUTLET STRUCTURE(S):

- Inspect once per year.
- Inspect for clogging and sediment accumulation.
- Remove all debris immediately and sediment accumulations $\geq$ 2 inches.

ENERGY DISSIPATION STRUCTURES (RIP RAP): As Applicable

- Inspect the outlet protection annually for damage and deterioration. Repair damages immediately.
- If stones become displaced from the riprap areas they should be replaced immediately and chinked in to assure stability. Add additional riprap as needed. Vegetation growing through the riprap should be eliminated at least yearly.

DETENTION BASIN:

- Inspection, by a **qualified professional**, of detention basin at least twice annually, and following any rainfall event exceeding 2.5 inches in a 24 hour period, with maintenance or rehabilitation conducted as warranted by such inspection.
- Embankments and spillways should be inspected by a **qualified professional** for settlement, erosion, seepage, animal burrows, woody vegetation, and other conditions that could degrade the embankment and reduce its stability for impounding water. Immediate corrective action should be implemented if any such conditions are found.
- Inlet and outlet pipes, inlet and outlet structures, energy dissipation structures or practices, and other structural appurtenances should be inspected by a **qualified professional**, and corrective action implemented (e.g., maintenance, repairs, or replacement) as indicated by such inspection.
- The bottoms, interior and exterior side slopes, and crest of earthen detention basins should be mowed, and the vegetation maintained in healthy condition, as appropriate to the function of the facility and type of vegetation.
- Vegetated embankments that serve as "berms" or "dams" that impound water should be mowed at least once annually to prevent the establishment of woody vegetation.
- Trash and debris should be removed from the pond and any inlet or outlet structures whenever observed.
- Accumulated sediment should be removed when it significantly affects pond capacity.

TREATMENT SWALE:

- Inspect once per year.
- Inspect for erosion, sediment accumulation, vegetation loss, and presence of invasive species.
- Remove debris and accumulated sediment, based on inspection.
- Repair eroded areas as needed; remove invasive species and dead vegetation.
- Perform periodic mowing of swales (at least twice annually), maintain a 4" stand of vegetative growth.

PAVEMENT:

- Minimize sanding.
- Minimize application of salt for ice control.

- Clean periodically (1-2 times per year) using a sweeper or vacuum sweeper. Vacuum sweeping is the preferred method.

LITTER / TRASH REMOVAL:

- Routinely patrol site for litter pick up.

DE-ICING AGENTS

- To address the concerns associated with the application of chlorides and other deicing materials, NHDES recommends that the Owner/Operator develop a Road Salt and Deicing Minimization Plan for the parking lots and roadways. The plan should develop the policies that the development will keep in place to minimize salt and other deicer use after the project has been completed. The plan should include tracking the use of salt and other deicers for each storm event and compiling salt use data annually. (See Anti-icing Data Form in the appendix).
- Use sand as primary agent for driveway and access way safety during ice and snow conditions
- Minimize the use of salt during the winter
- Use de-icing or anti-caking agents, added to enhance performance and application characteristics of sand mixtures, only as necessary and at minimum application rates.
- Recommend using a certified Winter Operator (Green SnowPro Trained) for applying de-icing agents.
- Monitor weather and apply de-icing agents based on weather conditions and temperatures.

ANTI-ICING AND SALT MINIMIZATION

- Owner to develop a Road Salt and Deicing Minimization Plan
- Provide a written policy that the "Development" will keep in place to minimize salt and other deicer use after the project has been completed.
- Use the attached form to track the use of salt and other deicers for each storm event and compiling salt use data annually.

Inspection & Maintenance Table

System Component / BMP	Minimum Inspection Frequency	Minimum Inspection Requirements	Maintenance / Cleanout Threshold
Pipes/Culverts	Annually	• Check for sediment accumulation • Check for erosion • Ensure swale is stabilized • Maintain healthy stand of veg., 4" minimum • Inspect for invasive species	≥ 1 in. sediment Repair immediately Restore veg. in-kind Mow twice per year Remove/Dispose of accordingly
Outlet Structure(s)	No sanding Limit 2-4 x's Year Periodically Periodically	• No sanding • Minimize salt use for ice • Vacuum to prevent tracking issues and clogging • Monitor to ensure surface drains effectively • Check for trash/debris • See attached for winter maintenance	No sanding Minimize as Req. 2-4 x's a year Remove when noticed
Energy Dissipation (ED) Structures (RipRap)	Annually	• Check for displaced stones • Check for woody vegetation	Replace immediately Remove annually
		•	
Bio-Retention Basin • Embankments • Pond Sediment • Trash/Debris • Drawdown Time • Vegetation (Veg.)	Bi-Annually Periodically Periodically Periodically Annually Periodically	• Check for erosion, settlement, seepage, etc. • Check for sediment accumulation in pond • Check for trash (in pond and structures) • 72 hour drain time • Maintain 95% veg. (pond & slopes) • Maintain healthy stand of veg.	Repair immediately ≥ 2 in. sediment Remove all trash/debris Repair immediately Restore veg. in-kind Mow when ≥ 6 in
Treatment Swales	Annually	• Check for sediment accumulation • Check for erosion • Ensure swale is stabilized • Maintain healthy stand of veg., 4" minimum • Inspect for invasive species	≥ 1 in. sediment Repair immediately Restore veg. in-kind Mow twice per year Remove/Dispose of accordingly
		•	
Pavement • Sanding • Salt Applications • Sweep/Vacuum • Trash/Debris	Limit use As Req. 1 - 2 x's Year Periodically	• Minimize use to prevent tracking issues • RECORD APPLICATION RATES • Sweep or vacuum to prevent tracking issues • Check for trash/debris	Sweep to prevent issues Minimize as Req. Sweep/Vac as needed Remove when noticed
Litter / Trash Removal	Periodically	• Check for litter and trash	Remove when noticed

Inspection & Maintenance Checklist/Log

The following page contains a blank copy of the Stormwater Management System's Inspection & Maintenance Log and a Deicing Salt Quantity Use Log. These forms are provided to assist the owners with the inspection and maintenance of the aforementioned Stormwater Management System.

Stormwater Management System's Inspection & Maintenance Log

Date of Inspection/Maintenance: _____ Inspector: _____

System Component / BMP	Cleaning / Repair Needed (List Items / Comments)	Date of Cleaning/Repair	Performed By

Deicing Salt Quantity Use Log

Date	Amount of Material Applied	Comments

CIVILWORKS NEW ENGLAND

181 WATSON ROAD
P.O. BOX 1166
DOVER, NH 03821-1166
PHONE: 603.749.0443 FAX: 603.749.7348

TRAFFIC ASSESMENT MEMORANDUM

INTRODUCTION

Civilworks New England has prepared this traffic-assessment memorandum (TAM). This TAM regards Q, LLC located on Quality Way/Venture Drive in the City of Dover, New Hampshire.

This TAM includes:

- existing site description
- proposed project description
- road description
- public transit
- sight distances at the proposed driveways
- trip generation
- trip distribution/assignment
- potential traffic impacts

This TAM concludes that:

- relevant sight distances at the existing driveway intersections will be adequate
- The proposed project is not anticipated to add significant new traffic to the area

EXISTING SITE DESCRIPTION

The site:

- is along the northerly side of Quality Way and fronts on the west side of Venture Drive
- has an area of about 5.0 acres
- is presently occupied with a 30,000 + sf light manufacturing facility

PROPOSED PROJECT DESCRIPTION

The project will provide:

- one building with a total floor area of about 38,200 square feet (sf)
- existing floor area of 30,800 sf, with an addition of 7,400 sf
- two unsignalized driveways: one on Quality Way and the other on Venture Drive

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ROAD DESCRIPTION

Quality Way and Venture Drive:

- are under the jurisdiction of the City
- Quality Way is a cul de sac local industrial street
- Venture Drive is oriented about north-south
- includes a relatively straight horizontal alignment
- has minor vertical grades
- has bituminous concrete pavement in overall good condition
- has one travel lane per direction, with 24ft. wide pavement
- has unmarked pavement
- has no posted speed limit
- has sloped granite curb on the entrance radii
- does not include utility services

PUBLIC TRANSIT

Collaborative Alliance for Seacoast Transportation (Cooperative) Route 33 provides on-call bus service stopping anywhere along Venture Drive. Service is on non-holiday weekdays. Sixth Street connects with: central Dover, to the southeast

- the Dover Transportation Center, to the southeast
- the New Hampshire Department of Transportation Park and Ride facility near Indian Brook Drive and Spaulding Turnpike interchange 9, to the east
- the Strafford County Complex, to the west

SIGHT DISTANCES

The American Association of State Highway and Transportation Officials (AASHTO) has established authoritative policy for sight distances at intersections with no signal in terms of:

- stopping sight distance (SSD)

Venture Drive services traffic to and from a number of abutters in the Park. The existing development will continue to be accessed from the Venture Drive and Quality Way. Due to very low traffic volume, and that this is an addition on an existing building with existing driveway access, stopping sight distance is not an applicable analysis.

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PHONE: 603.749.0443 FAX: 603.749.7348

CALCULATED TRIP GENERATION

The Institute of Transportation Engineers (ITE) compiles and publishes trip-generation information for a variety of land uses in *Trip Generation Manual*.[1] This authoritative guide for calculating site traffic includes information for light industrial, Land Use Code 110, based on floor area.[2] Table 2 shows calculated vehicle trip ends due to the existing development as:

Table 2. Trip generation.

	Vehicle-Trips*		
Weekday Period	Total	In	Out
Daily	153	76	77
AM-Street-Peak Hour	15	14	1
PM-Street-Peak Hour	14	1	13

* ITE, *Trip Generation Manual*, Light Industrial, Land Use Code 110, 20,000-sf floor area.

- weekday daily, 153 (total of in and out)
- weekday AM-street-peak hour, 15 (14 in and 1 out)
- weekday PM-street-peak hour, 14 (1 in and 13 out)

TRIP DISTRIBUTION/ASSIGNMENT

Calculated trip generation is so low that area traffic operations are not sensitive to trip distribution/assignment. Vehicle-trips to and from the east may predominate largely due to connections with central Dover and the Spaulding Turnpike. All trips access the site from Sixth Street via Venture Drive.

[1] ITE, *Trip Generation Manual,* 10th edition (Washington DC, September 2017).

[2] ITE, *Trip Generation Manual,* Volume 2, Data, Industrial (Land Uses 100-199), pages 1 to 19.

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POTENTIAL TRAFFIC IMPACTS

The calculations show less than 100 peak-hour primary vehicle-trips, due to the proposed project. More specifically, tabulated peak-hour trip generation is:

- 14 to 15 vehicle-trips
- split entering versus exiting the site

Therefore, the proposed project is not anticipated to add significant new traffic to the Sixth Street or Venture Drive.

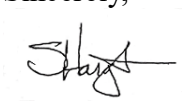
CONCLUSION

In conclusion:

- sight distances at the Quality Way and Venture Drive intersections will be adequate
- the proposed project is not anticipated to add significant new traffic to the area

CIVILWORKS NEW ENGLAND

Sincerely,



_____
Stephen J. Haight, PE

cc. Q, LLC

DRAINAGE REPORT

for

Q,LLC
Quality Way/Venture Drive
Dover, NH

October 8, 2021

Prepared by
Civilworks New England
181 Watson Road
P.O. Box 1166
Dover, NH



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2.0 DRAINAGE ANAYLSIS

2.1 DRAINAGE DESIGN PARAMETERS

- 2.1.1 Watersheds
- 2.1.2 Soils
- 2.1.3 Rainfall Data
- 2.1.4 Runoff Curve Numbers

2.2 EXISTING CONDITIONS

- 2.2.1 Table A — Existing Conditions Hydrology

2.3 DEVELOPED CONDITIONS

- 2.3.1 Table B — Developed Conditions Hydrology

3.0 APPENDIX A HYDROLOGIC CALCULATIONS

- A-1 Existing Watersheds
- A-2 Developed Watersheds

4.0 APPENDIX B – WATERSHED PLANS

- B-1 Pre-Developed Conditions
- B-2 Post-Developed Conditions

1.0 INTRODUCTION

Civilworks New England has conducted a hydrologic analysis of a 7.5 acre +/- watershed located in Dover, NH containing the subject 5 acre +/- parcel. The parcel is a developed industrial lot on the west side of Venture Drive within the Enterprise Industrial Park off Sixth Street on the northwest side of Dover.

The parcel is bounded on the east by Venture Drive, and Quality Way onf the south and a developed undisturbed wooded areas on the north and west and a future roadway on the south. Runoff generally flows southerly across the site to existing drainage structures within Venture Drive and drainage structures for the future road. A portion of the site also drains to the wooded area to the southwest. These drainage patterns will be maintained after development of the site.

This project proposes a 7,400 sf addition to the existing 30,800 s.f. light manufacturing facility. The previous analysis had contemplated an expansion to the building to 37,100 s.f.. There are no changes to the associated parking and loading areas.

Stormwater conveyance consist of road side swales directing runoff to the existing drainage structures and to a proposed detention pond at the rear of the site. All existing and proposed rip-rap applications consist of d50=6" stone with a stone layer thickness of 12" (min) on filter fabric over a 6" thick (min) gravel base. See the plan set for rip-rap locations and the drainage details for additional information.

Please note that this analysis was performed for the full build-out of the site. The analysis shows that with the mitigation measures proposed the full development of this site will have minimal impact on the watershed.

2.0 DRAINAGE ANALYSIS

A comprehensive hydrologic study of this site has been performed utilizing nationally recognized runoff estimating techniques developed by the USDA, Soil Conservation Services (SCS). The technique and runoff models are described in various SCS publications and references as follows:

"Stormwater Management and Erosion Sediment Control Handbook for Urban and Developing Areas in New Hampshire"

"Civil Engineering Reference Manual, Fifth Edition"

"Open-Channel Hydraulics" Chow.

"Stormwater Modeling System" HydroCad Ver. 10

21 DRAINAGE DESIGN PARAMETERS

A brief review of the procedures and parameters used in the drainage study follows:

2.1.1 Watersheds

The watersheds and subcatchment areas were delineated using on-site topographic survey data.

2.1.2 Soils

Soil information used to estimate the runoff curve numbers was obtained from the Strafford County Soil Maps. The parcel is contained within 2 major soils types: GIB (Gloucester fine sandy loam) and GsC (Gloucester very stony fine sandy loam). The primary drainage classification for these soils types is "A".

2.1.3 Rainfall Data

The SCS, Type III, 24-hour storm distribution has been used in all runoff models. The analysis has been performed for the 10-year storm event with a 4.32" rainfall depth. The 2yr, 25yr and 50yr storm events were also analyzed for the detention pond routing.

2.1.4 Runoff Curve Numbers

The SCS runoff curve numbers were used and summarized within each Subcatchment drainage summary within Appendix A.

2.2 EXISTING CONDTIONS

The subject parcel is contained within a larger 7.5 acre watershed. For purposes of this analysis the watershed was broken down into 5 subcatchments areas.

2.2.1 Table A — Existing Conditions (10 yr storm event)

Subcatchment	**Pre-Development Peak Flow (cfs)**
A	0.77
B	0.0

2.3 DEVELOPED CONDITIONS

The individual subcatchments have been broken into multiple subcatchments to represent the drainage conveyance system design of the detention pond.

2.3.1 Table B — Developed Conditions (10 yr storm event)

Subcatchment	Post- Development Peak Flows (cfs)
A	0.89
B	0.0

APPENDIX A

HYDROLOGIC CALCULATIONS

About this Project **Data & Products** **Daily Monitoring** **Documentation**

Select Product

- Extreme Precipitation Tables - HTML
- Extreme Precipitation Tables - Text/CSV
- Partial Duration Series - by Point
- Partial Duration Series - by Station
- Distribution Curves - Graphical
- Distribution Curves - Text/TBL
- Intensity Frequency Duration Graphs
- Precipitation Frequency Duration Graphs
- GIS Data Files
- Regional/State Maps

Select Location Double-click the map to place a marker, or enter address or latitude/longitude.



Select Options

Smoothing	Delivery
Yes	Popup

Submit

Version 1.12 Copyright 2010-2021.
This project is a joint collaboration between:

Northeast Regional Climate Center (NRCC) Cornell University

Natural Resources Conservation Service (NRCS) USDA NRCS

Contact: precip@cornell.edu

Extreme Precipitation Tables

Northeast Regional Climate Center

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

Smoothing	Yes
State	New Hampshire
Location	
Longitude	70.910 degrees West
Latitude	43.224 degrees North
Elevation	0 feet
Date/Time	Wed, 22 Sep 2021 13:25:56 -0400

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.26	0.40	0.50	0.65	0.81	1.03	**1yr**	0.70	0.98	1.20	1.54	1.99	2.59	2.86	**1yr**	2.29	2.75	3.15	3.88	4.44	**1yr**
2yr	0.32	0.49	0.61	0.80	1.01	1.28	**2yr**	0.87	1.17	1.50	1.91	2.44	3.13	3.49	**2yr**	2.77	3.36	3.85	4.59	5.22	**2yr**
5yr	0.37	0.57	0.72	0.96	1.23	1.58	**5yr**	1.06	1.44	1.85	2.38	3.06	3.95	4.47	**5yr**	3.50	4.30	4.92	5.78	6.54	**5yr**
10yr	0.40	0.63	0.80	1.09	1.42	1.85	**10yr**	1.22	1.69	2.18	2.82	3.64	4.71	5.39	**10yr**	4.17	5.18	5.93	6.90	7.75	**10yr**
25yr	0.46	0.74	0.94	1.30	1.72	2.27	**25yr**	1.49	2.09	2.69	3.52	4.58	5.96	6.91	**25yr**	5.27	6.64	7.58	8.71	9.72	**25yr**
50yr	0.52	0.83	1.06	1.48	2.00	2.66	**50yr**	1.73	2.45	3.18	4.17	5.46	7.11	8.34	**50yr**	6.29	8.02	9.14	10.40	11.54	**50yr**
100yr	0.58	0.94	1.21	1.71	2.32	3.12	**100yr**	2.01	2.88	3.74	4.94	6.49	8.49	10.07	**100yr**	7.52	9.68	11.02	12.42	13.71	**100yr**
200yr	0.64	1.05	1.36	1.96	2.71	3.67	**200yr**	2.33	3.39	4.42	5.87	7.74	10.15	12.16	**200yr**	8.98	11.70	13.29	14.83	16.29	**200yr**
500yr	0.76	1.25	1.63	2.36	3.31	4.54	**500yr**	2.86	4.21	5.50	7.35	9.74	12.85	15.62	**500yr**	11.37	15.02	17.03	18.78	20.48	**500yr**

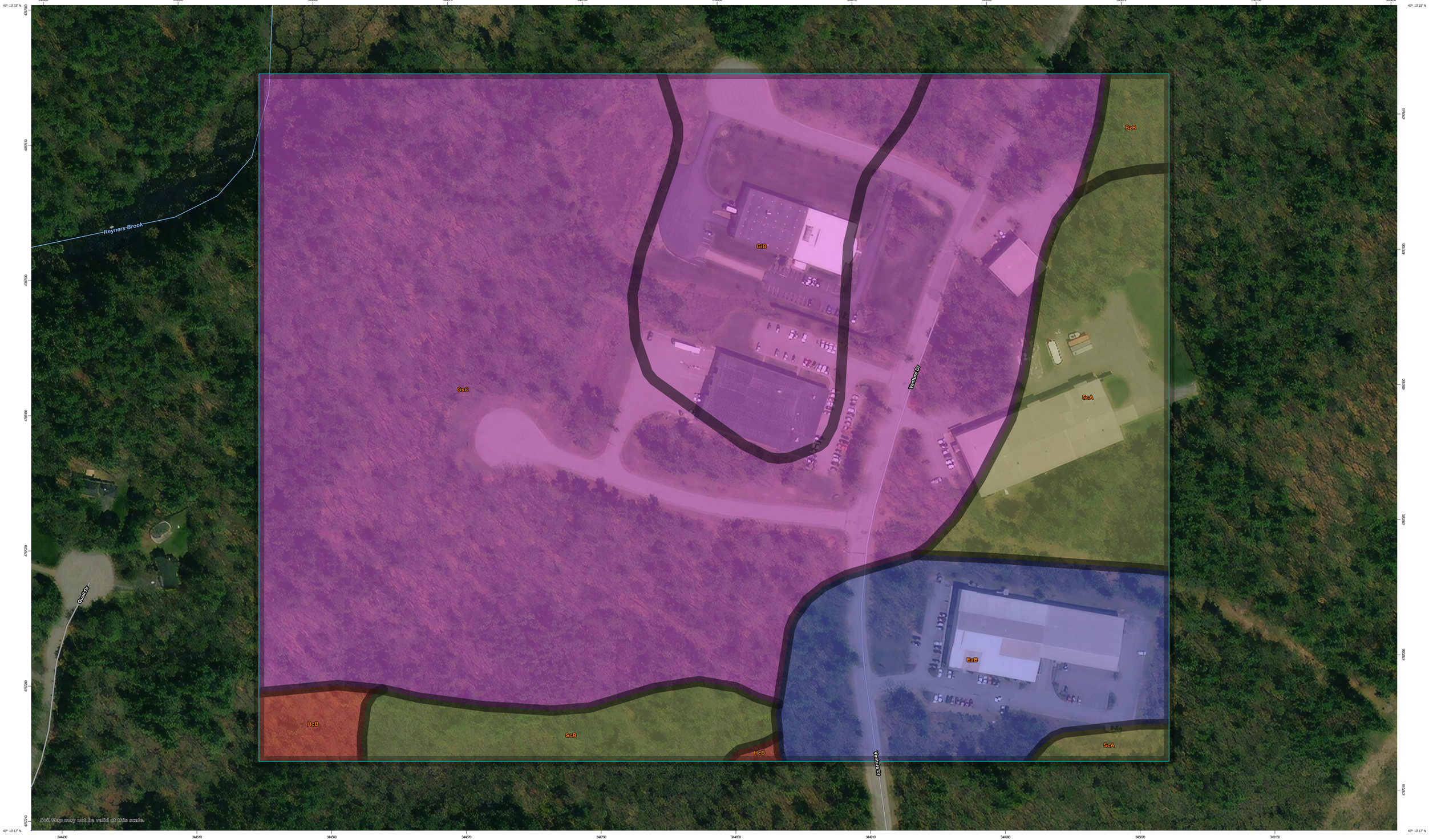
Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.24	0.37	0.45	0.60	0.74	0.90	**1yr**	0.64	0.88	0.92	1.25	1.54	2.05	2.46	**1yr**	1.82	2.36	2.94	3.42	4.10	**1yr**
2yr	0.31	0.49	0.60	0.81	1.00	1.18	**2yr**	0.86	1.15	1.36	1.82	2.35	3.05	3.39	**2yr**	2.70	3.26	3.74	4.46	5.08	**2yr**
5yr	0.35	0.54	0.67	0.91	1.16	1.40	**5yr**	1.00	1.37	1.61	2.14	2.77	3.69	4.11	**5yr**	3.26	3.95	4.59	5.39	6.09	**5yr**
10yr	0.38	0.59	0.73	1.02	1.31	1.60	**10yr**	1.13	1.56	1.81	2.44	3.12	4.24	4.77	**10yr**	3.75	4.58	5.30	6.21	6.97	**10yr**
25yr	0.44	0.66	0.83	1.18	1.55	1.91	**25yr**	1.34	1.87	2.11	2.84	3.64	5.08	5.76	**25yr**	4.50	5.54	6.47	7.50	8.35	**25yr**
50yr	0.48	0.73	0.91	1.31	1.77	2.19	**50yr**	1.52	2.14	2.36	3.20	4.08	5.83	6.64	**50yr**	5.16	6.39	7.51	8.63	9.55	**50yr**
100yr	0.54	0.81	1.02	1.47	2.02	2.51	**100yr**	1.74	2.45	2.65	3.58	4.55	6.69	7.65	**100yr**	5.92	7.35	8.72	9.94	10.90	**100yr**
200yr	0.60	0.90	1.14	1.65	2.30	2.87	**200yr**	1.98	2.81	2.96	4.02	5.07	7.66	8.80	**200yr**	6.78	8.46	10.12	11.45	12.46	**200yr**
500yr	0.70	1.04	1.33	1.94	2.75	3.46	**500yr**	2.38	3.39	3.44	4.67	5.87	9.13	10.59	**500yr**	8.08	10.18	12.32	13.81	14.81	**500yr**

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.28	0.43	0.53	0.71	0.87	1.08	**1yr**	0.75	1.05	1.23	1.73	2.20	2.82	3.07	**1yr**	2.49	2.95	3.37	4.17	4.74	**1yr**
2yr	0.33	0.51	0.62	0.84	1.04	1.24	**2yr**	0.90	1.22	1.47	1.95	2.51	3.24	3.61	**2yr**	2.86	3.47	3.98	4.73	5.39	**2yr**
5yr	0.39	0.60	0.75	1.03	1.31	1.58	**5yr**	1.13	1.54	1.85	2.49	3.19	4.21	4.83	**5yr**	3.73	4.64	5.27	6.20	6.96	**5yr**
10yr	0.46	0.70	0.87	1.21	1.57	1.91	**10yr**	1.35	1.87	2.22	3.03	3.84	5.18	6.02	**10yr**	4.58	5.79	6.63	7.60	8.47	**10yr**
25yr	0.55	0.84	1.05	1.50	1.97	2.46	**25yr**	1.70	2.41	2.87	3.94	4.94	6.81	8.08	**25yr**	6.03	7.77	8.86	10.01	11.03	**25yr**
50yr	0.64	0.97	1.21	1.75	2.35	2.97	**50yr**	2.03	2.90	3.48	4.80	5.99	8.37	10.12	**50yr**	7.41	9.73	11.07	12.30	13.48	**50yr**
100yr	0.75	1.13	1.41	2.04	2.80	3.58	**100yr**	2.42	3.50	4.22	5.87	7.28	10.30	12.68	**100yr**	9.12	12.19	13.81	15.14	16.48	**100yr**
200yr	0.87	1.30	1.65	2.39	3.33	4.34	**200yr**	2.88	4.24	5.13	7.18	8.84	12.71	15.90	**200yr**	11.25	15.29	17.25	18.63	20.18	**200yr**
500yr	1.06	1.58	2.03	2.95	4.19	5.56	**500yr**	3.62	5.44	6.62	9.38	11.45	16.80	21.45	**500yr**	14.87	20.62	23.17	24.55	26.40	**500yr**

Powered by ACIS Northeast Regional Climate Center



Map Scale: 1:1,010 if printed on D landscape (34" x 22") sheet.
Meters: 0 10 20 40 60
Feet: 0 45 90 180 270
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Strafford County, New Hampshire
Survey Area Data: Version 20, May 29, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 31, 2009—Sep 9, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BzB	Buxton silt loam, 3 to 8 percent slopes	C/D	0.6	1.2%
EaB	Elmwood fine sandy loam, 3 to 8 percent slopes	B	6.1	11.3%
GlB	Gloucester fine sandy loam, 3 to 8 percent slopes	A	6.5	11.9%
GsC	Gloucester very stony fine sandy loam, 8 to 15 percent slopes	A	32.6	60.0%
HcB	Hollis-Charlton fine sandy loams, 3 to 8 percent slopes	D	0.7	1.4%
ScA	Scantic silt loam, 0 to 3 percent slopes	C/D	5.6	10.3%
ScB	Scantic silt loam, 3 to 8 percent slopes	C/D	2.2	4.1%
Totals for Area of Interest			**54.4**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

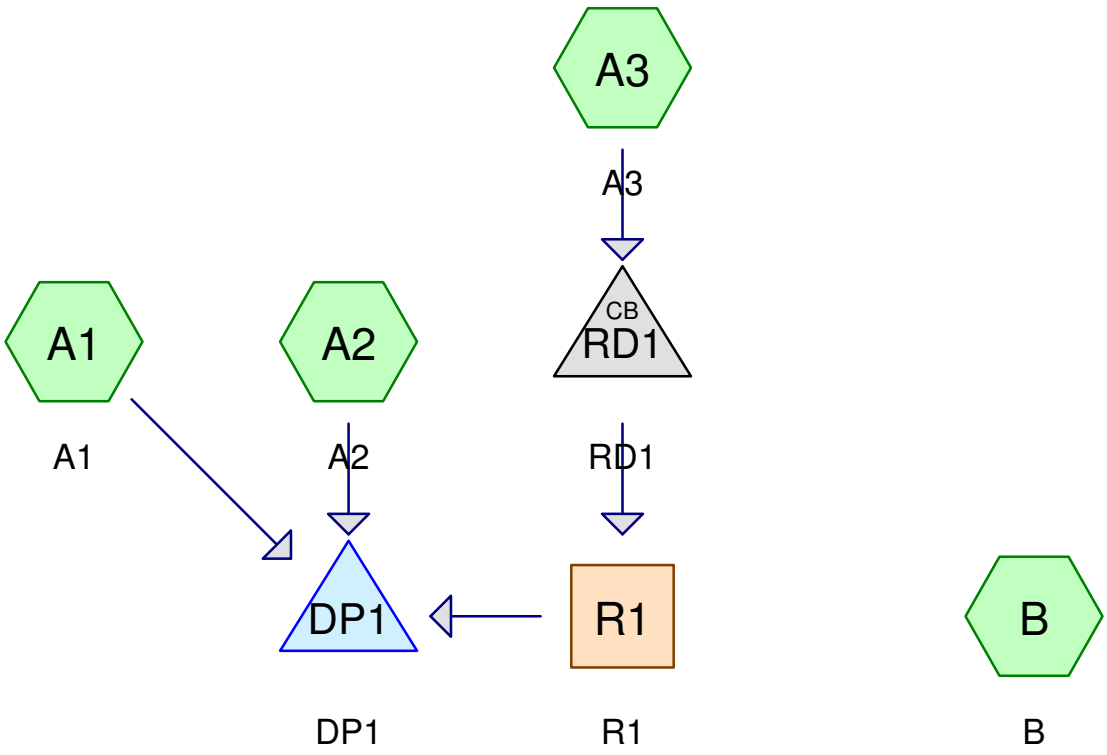
Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

A-1

EXISTING WATERSHEDS



Subcat Reach Pond Link

Routing Diagram for 21043-Pre
Prepared by Civilworks New England
HydroCAD® 10.10-5a s/n 03240 © 2020 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.331	39	>75% Grass cover, Good, HSG A (A1, A2, B)
0.414	98	Paved parking, HSG A (A1, A2)
0.707	98	Roofs, HSG A (A3)
0.855	30	Woods, Good, HSG A (A1, A2, B)
2.308	**64**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
2.308	HSG A	A1, A2, A3, B
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.000	Other	
2.308		**TOTAL AREA**

A – 1

NODE LISTING – 2-YR

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment A1: A1 Runoff Area=30,626 sf 42.51% Impervious Runoff Depth=0.38"
Flow Length=80' Slope=0.0810 '/' Tc=10.4 min CN=60 Runoff=0.11 cfs 0.022 af

Subcatchment A2: A2 Runoff Area=31,840 sf 15.78% Impervious Runoff Depth=0.02"
Flow Length=372' Tc=7.2 min CN=43 Runoff=0.00 cfs 0.001 af

Subcatchment A3: A3 Runoff Area=30,807 sf 100.00% Impervious Runoff Depth=2.90"
Tc=1.0 min CN=98 Runoff=2.45 cfs 0.171 af

Subcatchment B: B Runoff Area=7,244 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=186' Tc=11.4 min CN=30 Runoff=0.00 cfs 0.000 af

Reach R1: R1 Avg. Flow Depth=0.37' Max Vel=3.23 fps Inflow=2.45 cfs 0.171 af
n=0.035 L=155.0' S=0.0390 '/' Capacity=20.03 cfs Outflow=2.45 cfs 0.171 af

Pond DP1: DP1 Peak Elev=176.16' Storage=2,065 cf Inflow=2.46 cfs 0.194 af
Primary=0.55 cfs 0.193 af Secondary=0.00 cfs 0.000 af Outflow=0.55 cfs 0.193 af

Pond RD1: RD1 Peak Elev=185.91' Inflow=2.45 cfs 0.171 af
12.0" Round Culvert n=0.012 L=35.0' S=0.0274 '/' Outflow=2.45 cfs 0.171 af

Total Runoff Area = 2.308 ac Runoff Volume = 0.194 af Average Runoff Depth = 1.01"
51.40% Pervious = 1.186 ac 48.60% Impervious = 1.121 ac

A – 1

NODE LISTING – 10-YR

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment A1: A1 Runoff Area=30,626 sf 42.51% Impervious Runoff Depth=1.14"
Flow Length=80' Slope=0.0810 '/' Tc=10.4 min CN=60 Runoff=0.54 cfs 0.067 af

Subcatchment A2: A2 Runoff Area=31,840 sf 15.78% Impervious Runoff Depth=0.28"
Flow Length=372' Tc=7.2 min CN=43 Runoff=0.03 cfs 0.017 af

Subcatchment A3: A3 Runoff Area=30,807 sf 100.00% Impervious Runoff Depth=4.47"
Tc=1.0 min CN=98 Runoff=3.18 cfs 0.264 af

Subcatchment B: B Runoff Area=7,244 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=186' Tc=11.4 min CN=30 Runoff=0.00 cfs 0.000 af

Reach R1: R1 Avg. Flow Depth=0.42' Max Vel=3.49 fps Inflow=3.18 cfs 0.264 af
n=0.035 L=155.0' S=0.0390 '/' Capacity=20.03 cfs Outflow=3.18 cfs 0.264 af

Pond DP1: DP1 Peak Elev=176.53' Storage=3,382 cf Inflow=3.45 cfs 0.347 af
Primary=0.77 cfs 0.346 af Secondary=0.00 cfs 0.000 af Outflow=0.77 cfs 0.346 af

Pond RD1: RD1 Peak Elev=186.21' Inflow=3.18 cfs 0.264 af
12.0" Round Culvert n=0.012 L=35.0' S=0.0274 '/' Outflow=3.18 cfs 0.264 af

Total Runoff Area = 2.308 ac Runoff Volume = 0.347 af Average Runoff Depth = 1.80"
51.40% Pervious = 1.186 ac 48.60% Impervious = 1.121 ac

A – 1

STORM SUMMARY – 10-YR

Summary for Subcatchment A1: A1

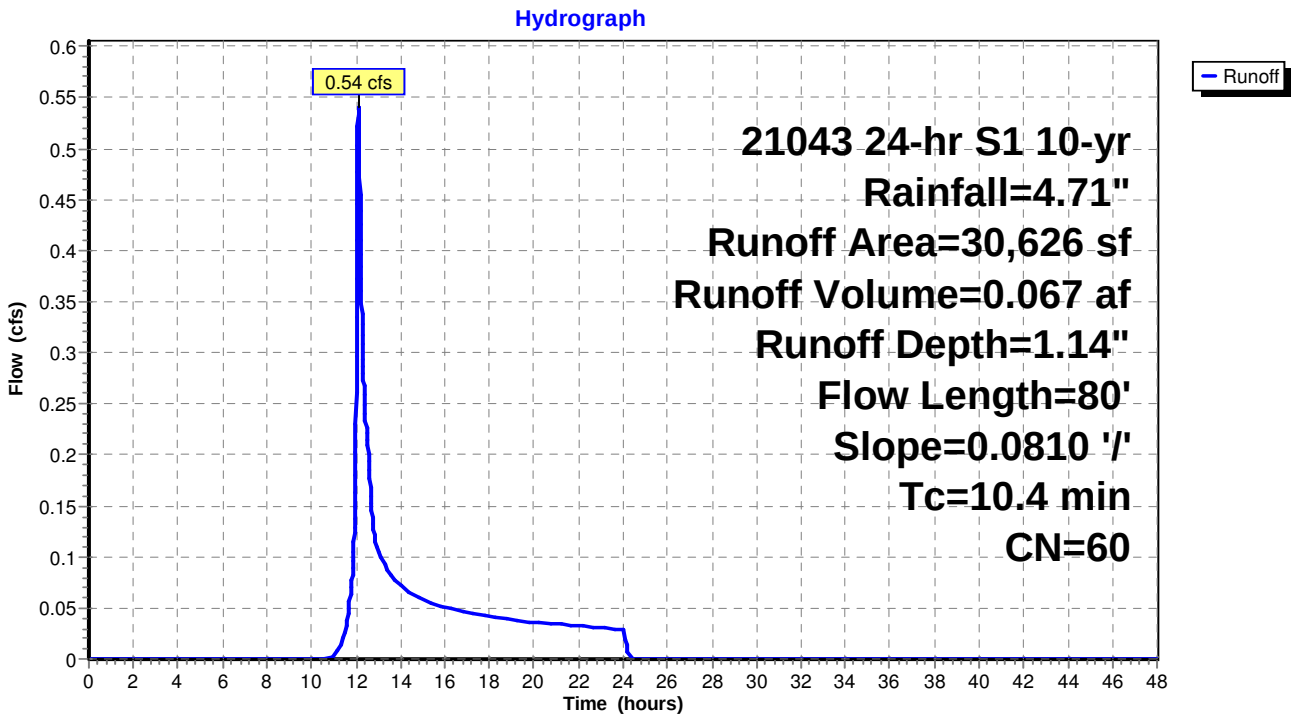
Runoff = 0.54 cfs @ 12.10 hrs, Volume= 0.067 af, Depth= 1.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
21043 24-hr S1 10-yr Rainfall=4.71"

Area (sf)	CN	Description
12,967	30	Woods, Good, HSG A
4,639	39	>75% Grass cover, Good, HSG A
13,020	98	Paved parking, HSG A
30,626	60	Weighted Average
17,606		57.49% Pervious Area
13,020		42.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.4	80	0.0810	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.13"

Subcatchment A1: A1



Summary for Subcatchment A2: A2

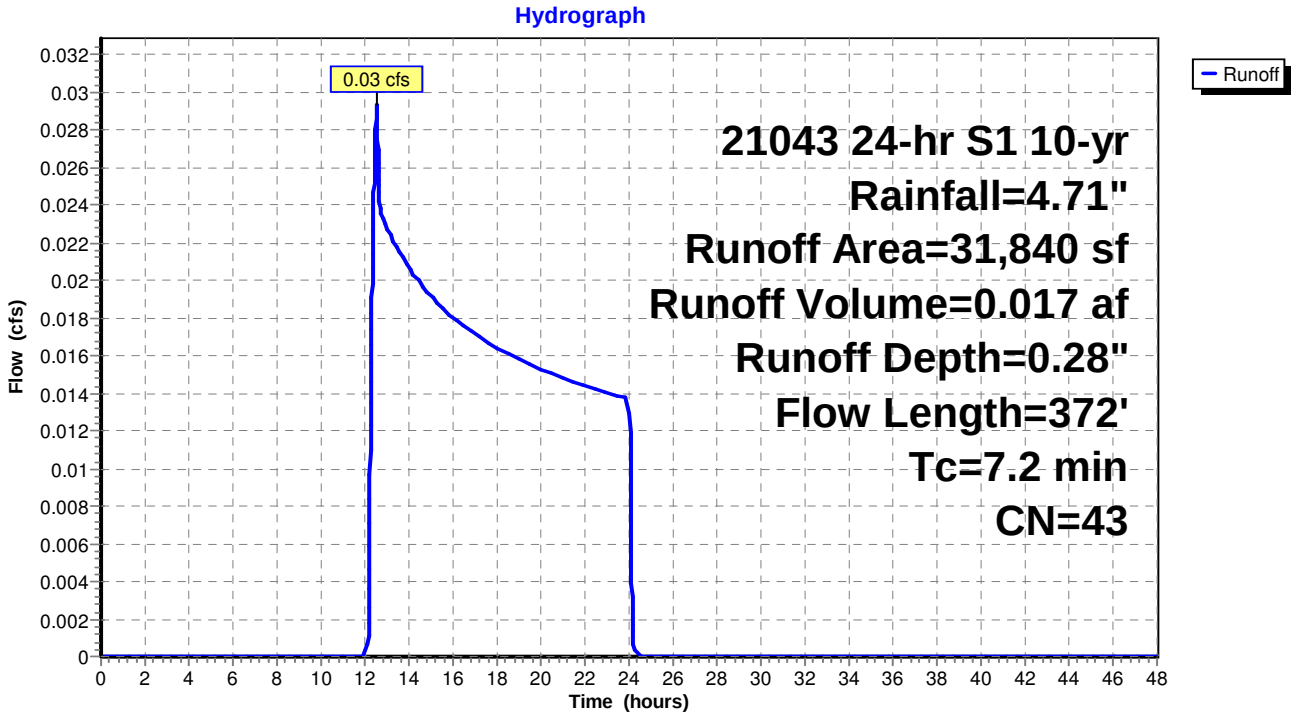
Runoff = 0.03 cfs @ 12.54 hrs, Volume= 0.017 af, Depth= 0.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
21043 24-hr S1 10-yr Rainfall=4.71"

Area (sf)	CN	Description
17,136	30	Woods, Good, HSG A
9,680	39	>75% Grass cover, Good, HSG A
5,024	98	Paved parking, HSG A
31,840	43	Weighted Average
26,816		84.22% Pervious Area
5,024		15.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.4	18	0.1670	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.13"
3.9	199	0.0150	0.86		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.9	155	0.0390	2.96		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
7.2	372	Total			

Subcatchment A2: A2



Summary for Subcatchment A3: A3

[49] Hint: Tc<2dt may require smaller dt

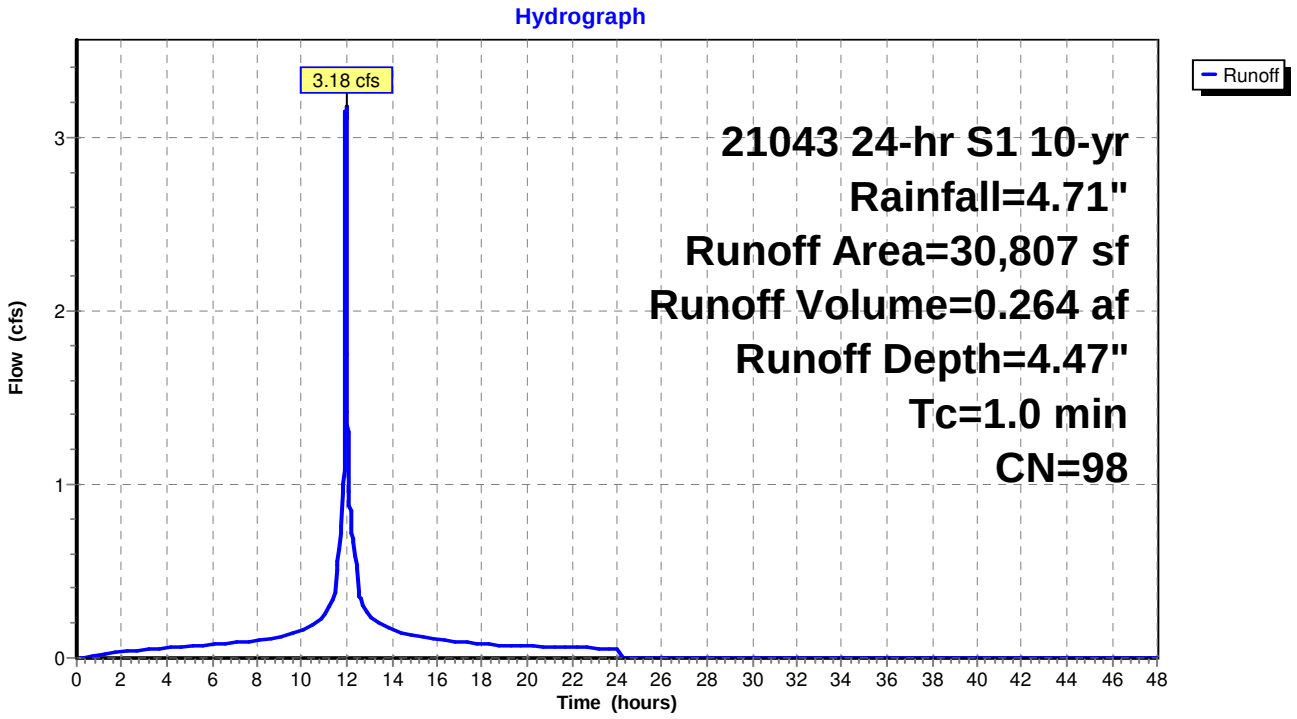
Runoff = 3.18 cfs @ 11.99 hrs, Volume= 0.264 af, Depth= 4.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
21043 24-hr S1 10-yr Rainfall=4.71"

Area (sf)	CN	Description
30,807	98	Roofs, HSG A
30,807		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0					**Direct Entry, Roof Runoff**

Subcatchment A3: A3



Summary for Subcatchment B: B

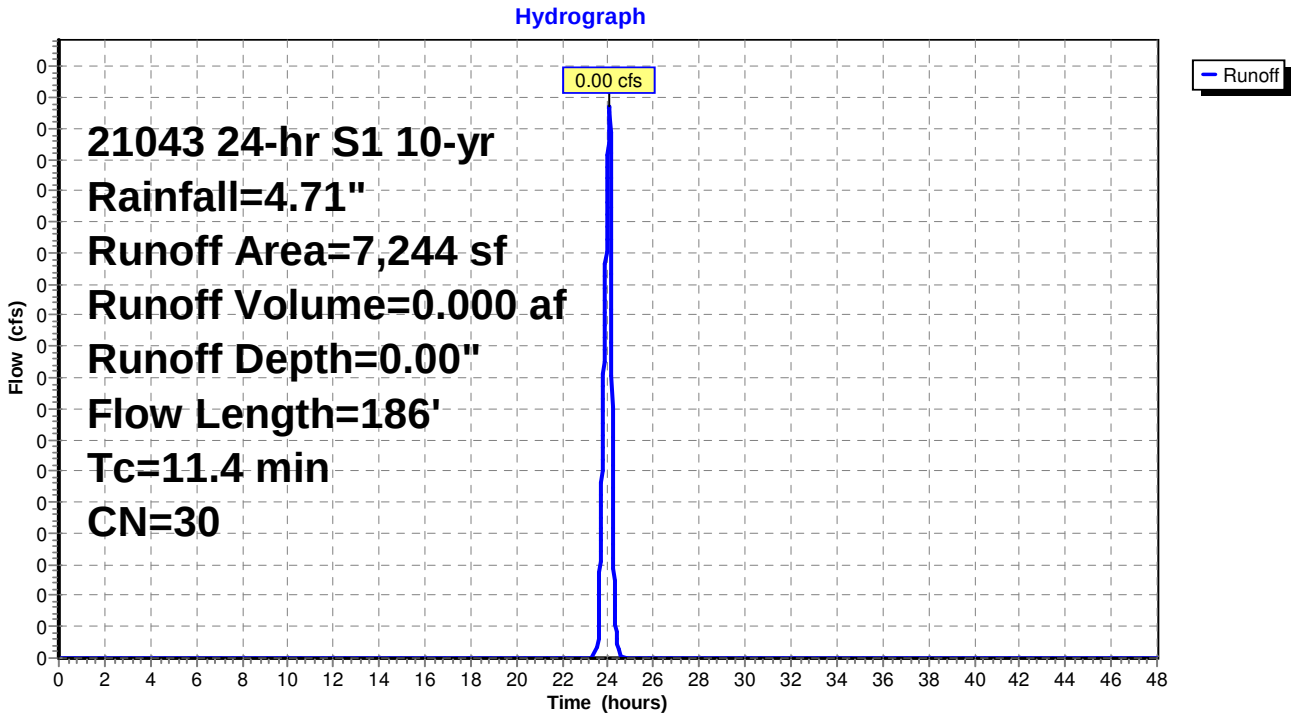
Runoff = 0.00 cfs @ 24.06 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
21043 24-hr S1 10-yr Rainfall=4.71"

Area (sf)	CN	Description
7,155	30	Woods, Good, HSG A
89	39	>75% Grass cover, Good, HSG A
7,244	30	Weighted Average
7,244		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	100	0.1300	0.16		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.13"
1.1	86	0.0710	1.33		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
11.4	186	Total			

Subcatchment B: B



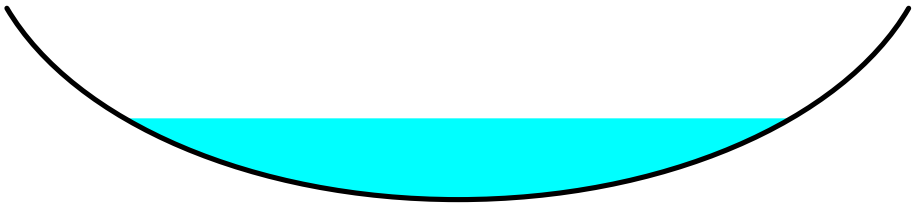
Summary for Reach R1: R1

Inflow Area = 0.707 ac,100.00% Impervious, Inflow Depth = 4.47" for 10-yr event
Inflow = 3.18 cfs @ 11.99 hrs, Volume= 0.264 af
Outflow = 3.18 cfs @ 11.99 hrs, Volume= 0.264 af, Atten= 0%, Lag= 0.0 min

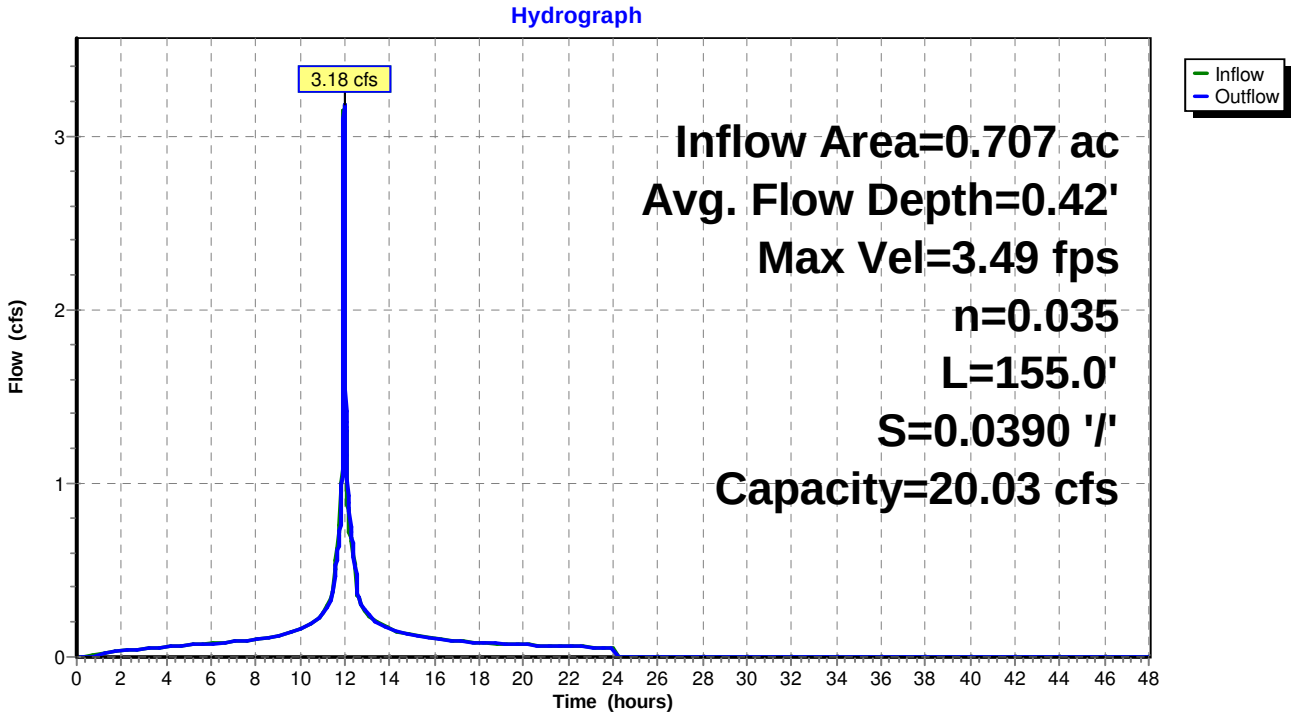
Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 3.49 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 1.19 fps, Avg. Travel Time= 2.2 min

Peak Storage= 141 cf @ 11.99 hrs
Average Depth at Peak Storage= 0.42' , Surface Width= 3.24'
Bank-Full Depth= 1.00' Flow Area= 3.3 sf, Capacity= 20.03 cfs

5.00' x 1.00' deep Parabolic Channel, n= 0.035 Riprap, 6-inch
Length= 155.0' Slope= 0.0390 '/'
Inlet Invert= 184.04', Outlet Invert= 178.00'



Reach R1: R1



Summary for Pond DP1: DP1

Inflow Area = 2.141 ac, 52.37% Impervious, Inflow Depth = 1.94" for 10-yr event
Inflow = 3.45 cfs @ 12.00 hrs, Volume= 0.347 af
Outflow = 0.77 cfs @ 12.47 hrs, Volume= 0.346 af, Atten= 78%, Lag= 28.4 min
Primary = 0.77 cfs @ 12.47 hrs, Volume= 0.346 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 176.53' @ 12.47 hrs Surf.Area= 3,801 sf Storage= 3,382 cf
Flood Elev= 178.65' Surf.Area= 8,178 sf Storage= 14,962 cf

Plug-Flow detention time= 79.4 min calculated for 0.346 af (100% of inflow)
Center-of-Mass det. time= 78.0 min (877.2 - 799.2)

Volume	Invert	Avail.Storage	Storage Description
#1	175.45'	14,962 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

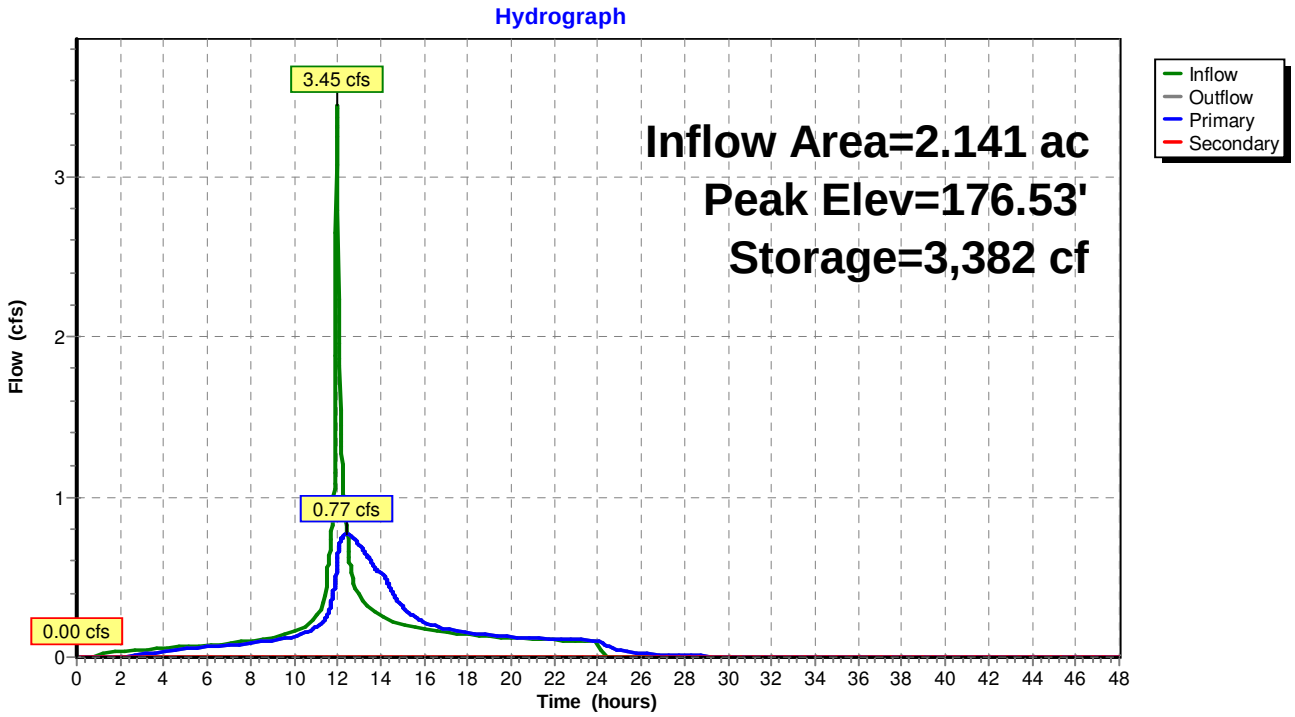
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
175.45	557	268.6	0	0	557
175.50	2,685	316.0	74	74	2,762
176.00	3,167	326.9	1,461	1,536	3,342
178.00	5,856	380.6	8,886	10,422	6,448
178.65	8,178	441.8	4,540	14,962	10,462

Device	Routing	Invert	Outlet Devices
#1	Primary	175.47'	**6.0" Round Culvert** L= 24.5' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 175.47' / 175.28' S= 0.0078 '/' Cc= 0.900 n= 0.012, Flow Area= 0.20 sf
#2	Secondary	178.00'	**5.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.77 cfs @ 12.47 hrs HW=176.53' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 0.77 cfs @ 3.92 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=175.45' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond DP1: DP1


Hydrograph
3.45 cfs
0.77 cfs
0.00 cfs
Inflow Area=2.141 ac
Peak Elev=176.53'
Storage=3,382 cf
Inflow
Outflow
Primary
Secondary
Flow (cfs)
Time (hours)
0
1
2
3
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48

Summary for Pond RD1: RD1

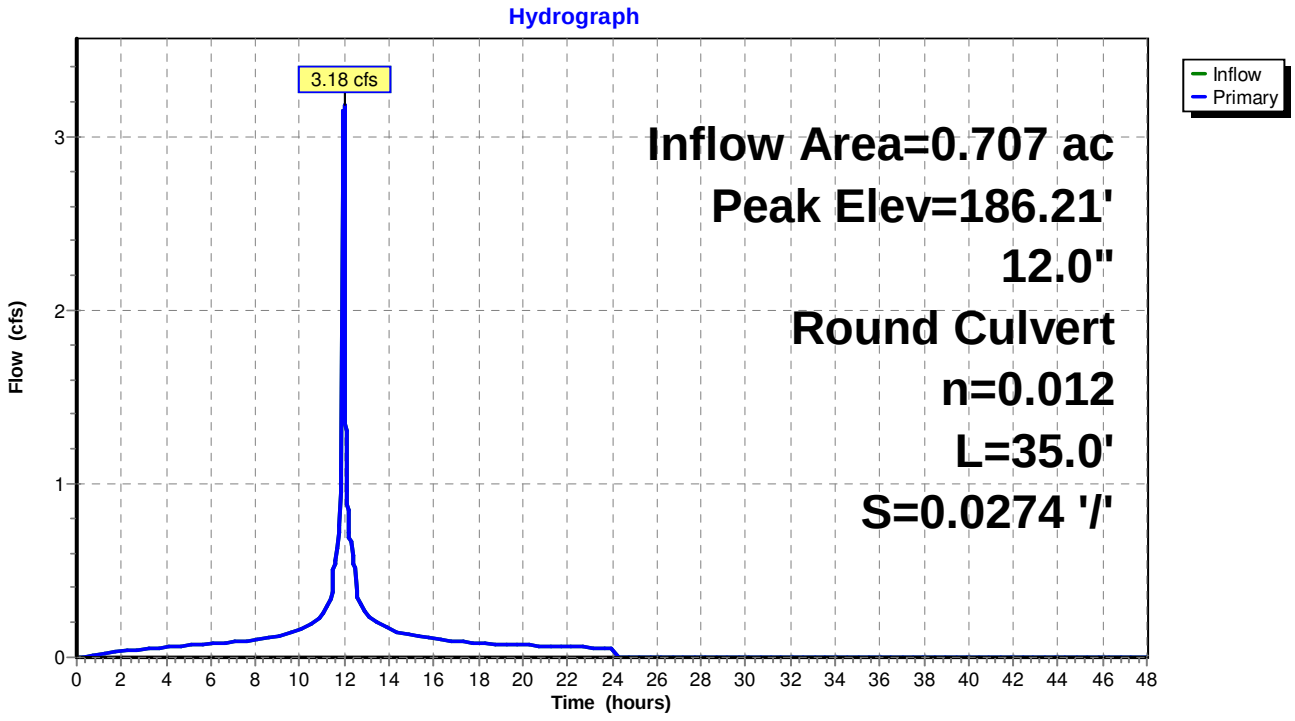
Inflow Area = 0.707 ac,100.00% Impervious, Inflow Depth = 4.47" for 10-yr event
Inflow = 3.18 cfs @ 11.99 hrs, Volume= 0.264 af
Outflow = 3.18 cfs @ 11.99 hrs, Volume= 0.264 af, Atten= 0%, Lag= 0.0 min
Primary = 3.18 cfs @ 11.99 hrs, Volume= 0.264 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 186.21' @ 11.99 hrs
Flood Elev= 188.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	185.00'	**12.0" Round Culvert** L= 35.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 185.00' / 184.04' S= 0.0274 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=3.18 cfs @ 11.99 hrs HW=186.21' TW=184.46' (Dynamic Tailwater)
1=Culvert (Inlet Controls 3.18 cfs @ 4.05 fps)

Pond RD1: RD1



A – 1

NODE LISTING – 25-YR

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment A1: A1 Runoff Area=30,626 sf 42.51% Impervious Runoff Depth=1.90"
Flow Length=80' Slope=0.0810 '/' Tc=10.4 min CN=60 Runoff=0.93 cfs 0.111 af

Subcatchment A2: A2 Runoff Area=31,840 sf 15.78% Impervious Runoff Depth=0.66"
Flow Length=372' Tc=7.2 min CN=43 Runoff=0.15 cfs 0.040 af

Subcatchment A3: A3 Runoff Area=30,807 sf 100.00% Impervious Runoff Depth=5.72"
Tc=1.0 min CN=98 Runoff=3.74 cfs 0.337 af

Subcatchment B: B Runoff Area=7,244 sf 0.00% Impervious Runoff Depth=0.07"
Flow Length=186' Tc=11.4 min CN=30 Runoff=0.00 cfs 0.001 af

Reach R1: R1 Avg. Flow Depth=0.45' Max Vel=3.67 fps Inflow=3.74 cfs 0.337 af
n=0.035 L=155.0' S=0.0390 '/' Capacity=20.03 cfs Outflow=3.74 cfs 0.337 af

Pond DP1: DP1 Peak Elev=176.88' Storage=4,804 cf Inflow=4.28 cfs 0.489 af
Primary=0.93 cfs 0.488 af Secondary=0.00 cfs 0.000 af Outflow=0.93 cfs 0.488 af

Pond RD1: RD1 Peak Elev=186.48' Inflow=3.74 cfs 0.337 af
12.0" Round Culvert n=0.012 L=35.0' S=0.0274 '/' Outflow=3.74 cfs 0.337 af

Total Runoff Area = 2.308 ac Runoff Volume = 0.489 af Average Runoff Depth = 2.55"
51.40% Pervious = 1.186 ac 48.60% Impervious = 1.121 ac

A – 1

NODE LISTING – 50-YR

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment A1: A1 Runoff Area=30,626 sf 42.51% Impervious Runoff Depth=2.68"
Flow Length=80' Slope=0.0810 '/' Tc=10.4 min CN=60 Runoff=1.32 cfs 0.157 af

Subcatchment A2: A2 Runoff Area=31,840 sf 15.78% Impervious Runoff Depth=1.12"
Flow Length=372' Tc=7.2 min CN=43 Runoff=0.43 cfs 0.068 af

Subcatchment A3: A3 Runoff Area=30,807 sf 100.00% Impervious Runoff Depth=6.87"
Tc=1.0 min CN=98 Runoff=4.30 cfs 0.405 af

Subcatchment B: B Runoff Area=7,244 sf 0.00% Impervious Runoff Depth=0.23"
Flow Length=186' Tc=11.4 min CN=30 Runoff=0.00 cfs 0.003 af

Reach R1: R1 Avg. Flow Depth=0.48' Max Vel=3.82 fps Inflow=4.30 cfs 0.405 af
n=0.035 L=155.0' S=0.0390 '/' Capacity=20.03 cfs Outflow=4.30 cfs 0.405 af

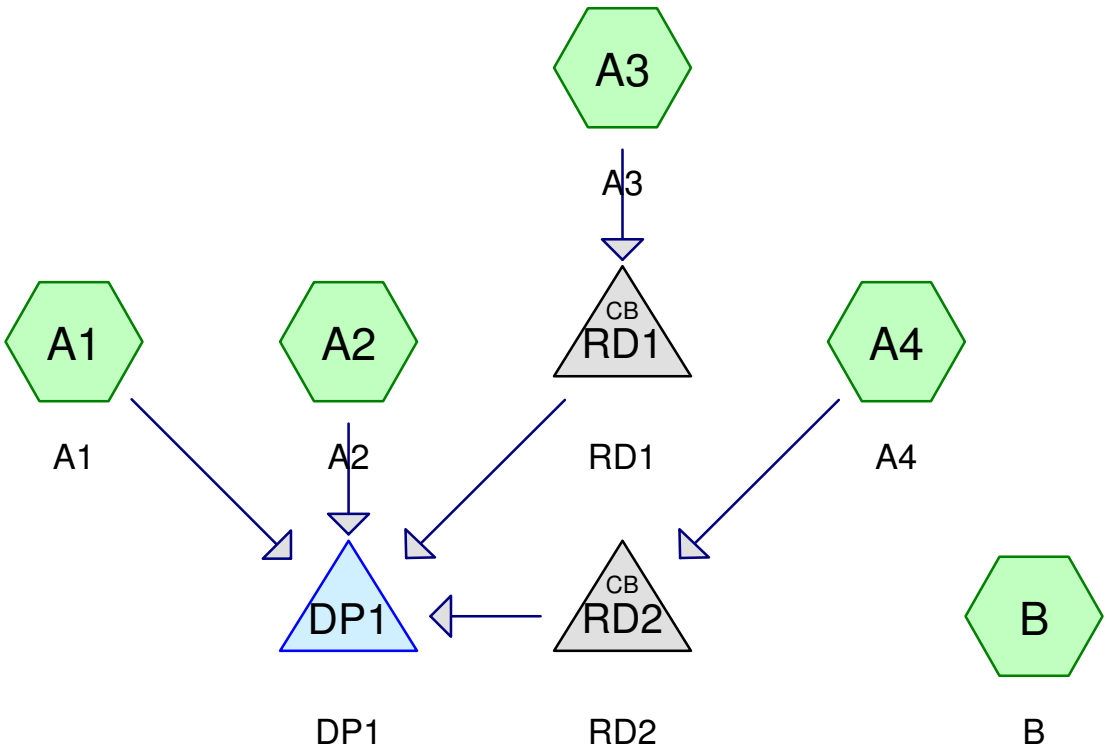
Pond DP1: DP1 Peak Elev=177.24' Storage=6,418 cf Inflow=5.29 cfs 0.630 af
Primary=1.07 cfs 0.630 af Secondary=0.00 cfs 0.000 af Outflow=1.07 cfs 0.630 af

Pond RD1: RD1 Peak Elev=186.79' Inflow=4.30 cfs 0.405 af
12.0" Round Culvert n=0.012 L=35.0' S=0.0274 '/' Outflow=4.30 cfs 0.405 af

Total Runoff Area = 2.308 ac Runoff Volume = 0.634 af Average Runoff Depth = 3.30"
51.40% Pervious = 1.186 ac 48.60% Impervious = 1.121 ac

A-2

DEVELOPED WATERSHEDS



Subcat Reach Pond Link

Routing Diagram for 21043-Post
Prepared by Civilworks New England
HydroCAD® 10.10-5a s/n 03240 © 2020 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.606	39	>75% Grass cover, Good, HSG A (A1, A2, B)
0.528	98	Paved parking, HSG A (A1, A2)
0.878	98	Roofs, HSG A (A3, A4)
0.309	30	Woods, Good, HSG A (A1, A2, B)
2.321	**74**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
2.321	HSG A	A1, A2, A3, A4, B
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.000	Other	
2.321		**TOTAL AREA**

A – 2

NODE LISTING – 2-YR

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment A1: A1 Runoff Area=31,927 sf 41.12% Impervious Runoff Depth=0.45"
Flow Length=80' Slope=0.0810 '/' Tc=10.4 min CN=62 Runoff=0.17 cfs 0.028 af

Subcatchment A2: A2 Runoff Area=27,357 sf 36.13% Impervious Runoff Depth=0.32"
Flow Length=398' Tc=7.4 min CN=58 Runoff=0.07 cfs 0.017 af

Subcatchment A3: A3 Runoff Area=30,807 sf 100.00% Impervious Runoff Depth=2.90"
Tc=1.0 min CN=98 Runoff=2.45 cfs 0.171 af

Subcatchment A4: A4 Runoff Area=7,428 sf 100.00% Impervious Runoff Depth=2.90"
Tc=1.0 min CN=98 Runoff=0.59 cfs 0.041 af

Subcatchment B: B Runoff Area=3,592 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=131' Tc=7.1 min CN=33 Runoff=0.00 cfs 0.000 af

Pond DP1: DP1 Peak Elev=176.28' Storage=2,797 cf Inflow=3.09 cfs 0.256 af
Primary=0.63 cfs 0.255 af Secondary=0.00 cfs 0.000 af Outflow=0.63 cfs 0.255 af

Pond RD1: RD1 Peak Elev=185.41' Inflow=2.45 cfs 0.171 af
12.0" Round Culvert n=0.012 L=170.0' S=0.0265 '/' Outflow=2.45 cfs 0.171 af

Pond RD2: RD2 Peak Elev=184.89' Inflow=0.59 cfs 0.041 af
12.0" Round Culvert n=0.012 L=375.0' S=0.0187 '/' Outflow=0.59 cfs 0.041 af

Total Runoff Area = 2.321 ac Runoff Volume = 0.256 af Average Runoff Depth = 1.32"
39.42% Pervious = 0.915 ac 60.58% Impervious = 1.406 ac

A – 2

NODE LISTING – 10-YR

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment A1: A1 Runoff Area=31,927 sf 41.12% Impervious Runoff Depth=1.26"
Flow Length=80' Slope=0.0810 '/' Tc=10.4 min CN=62 Runoff=0.65 cfs 0.077 af

Subcatchment A2: A2 Runoff Area=27,357 sf 36.13% Impervious Runoff Depth=1.01"
Flow Length=398' Tc=7.4 min CN=58 Runoff=0.47 cfs 0.053 af

Subcatchment A3: A3 Runoff Area=30,807 sf 100.00% Impervious Runoff Depth=4.47"
Tc=1.0 min CN=98 Runoff=3.18 cfs 0.264 af

Subcatchment A4: A4 Runoff Area=7,428 sf 100.00% Impervious Runoff Depth=4.47"
Tc=1.0 min CN=98 Runoff=0.77 cfs 0.064 af

Subcatchment B: B Runoff Area=3,592 sf 0.00% Impervious Runoff Depth=0.02"
Flow Length=131' Tc=7.1 min CN=33 Runoff=0.00 cfs 0.000 af

Pond DP1: DP1 Peak Elev=176.79' Storage=5,007 cf Inflow=4.61 cfs 0.457 af
Primary=0.89 cfs 0.456 af Secondary=0.00 cfs 0.000 af Outflow=0.89 cfs 0.456 af

Pond RD1: RD1 Peak Elev=185.71' Inflow=3.18 cfs 0.264 af
12.0" Round Culvert n=0.012 L=170.0' S=0.0265 '/' Outflow=3.18 cfs 0.264 af

Pond RD2: RD2 Peak Elev=184.95' Inflow=0.77 cfs 0.064 af
12.0" Round Culvert n=0.012 L=375.0' S=0.0187 '/' Outflow=0.77 cfs 0.064 af

Total Runoff Area = 2.321 ac Runoff Volume = 0.458 af Average Runoff Depth = 2.37"
39.42% Pervious = 0.915 ac 60.58% Impervious = 1.406 ac

A – 2

STORM SUMMARY – 10-YR

Summary for Subcatchment A1: A1

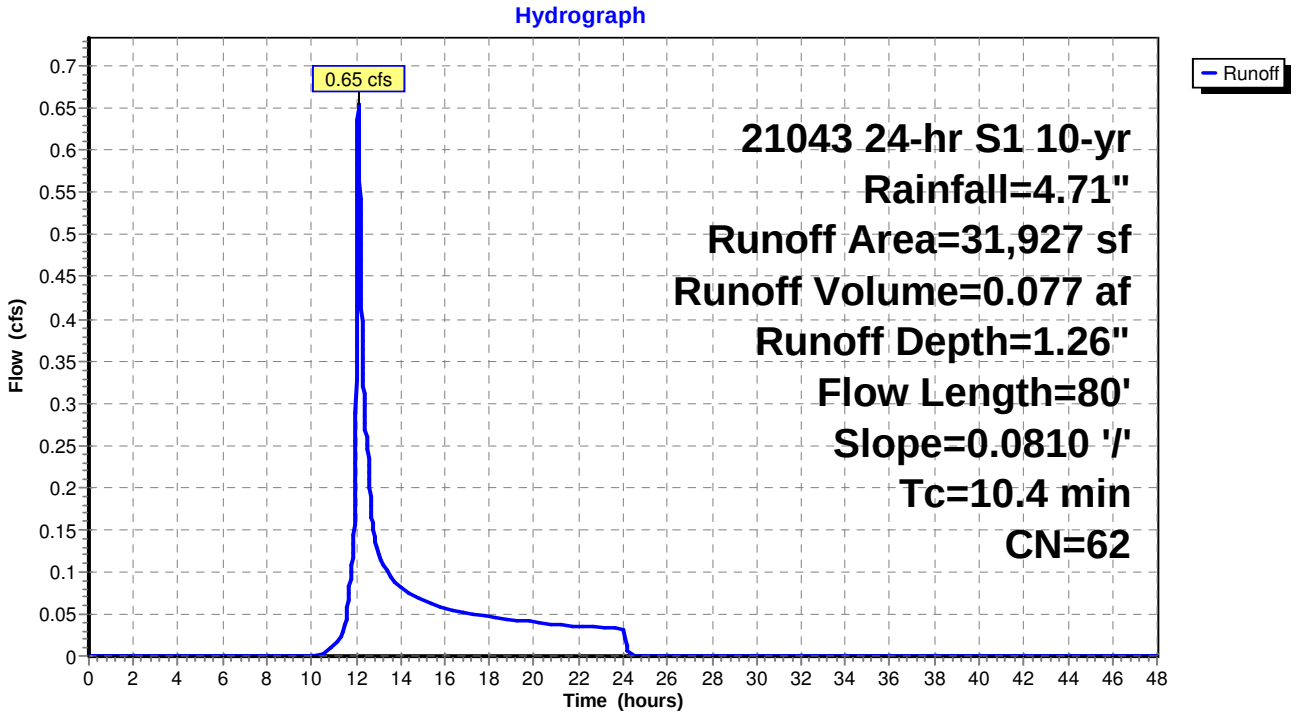
Runoff = 0.65 cfs @ 12.10 hrs, Volume= 0.077 af, Depth= 1.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
21043 24-hr S1 10-yr Rainfall=4.71"

Area (sf)	CN	Description
3,421	30	Woods, Good, HSG A
15,378	39	>75% Grass cover, Good, HSG A
13,128	98	Paved parking, HSG A
31,927	62	Weighted Average
18,799		58.88% Pervious Area
13,128		41.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.4	80	0.0810	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.13"

Subcatchment A1: A1



Summary for Subcatchment A2: A2

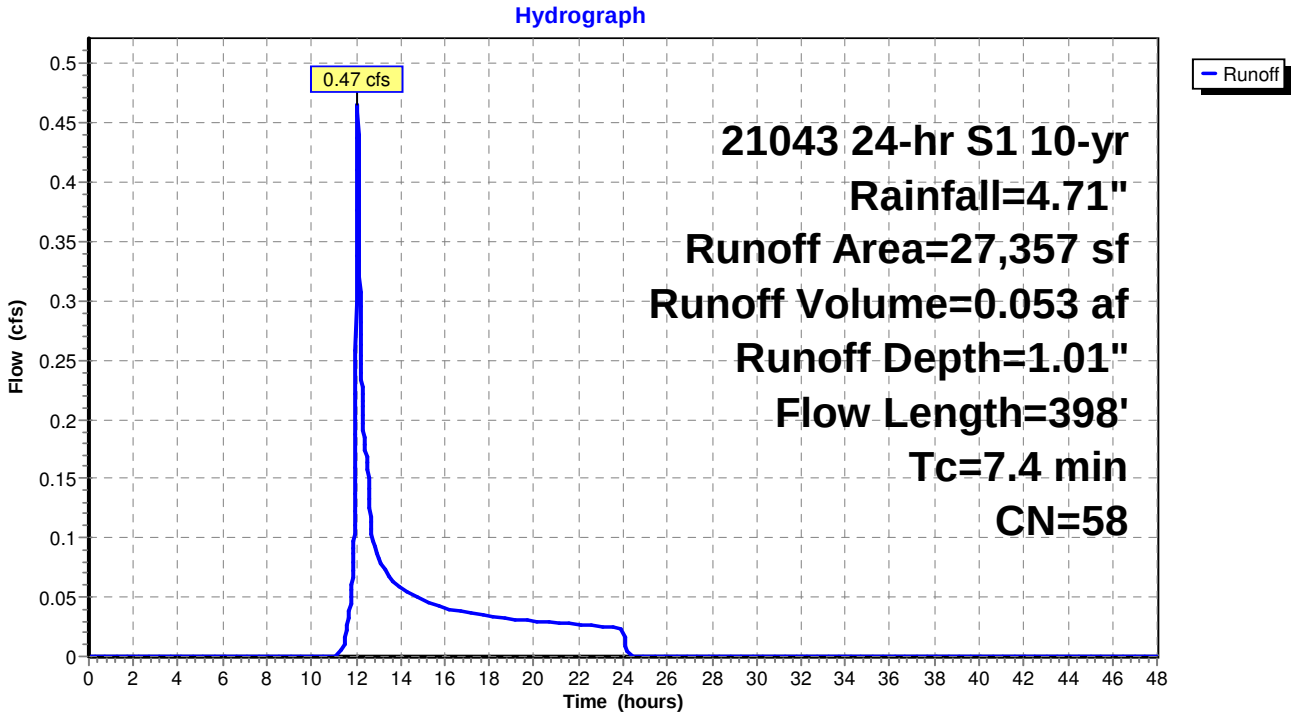
Runoff = 0.47 cfs @ 12.06 hrs, Volume= 0.053 af, Depth= 1.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
21043 24-hr S1 10-yr Rainfall=4.71"

Area (sf)	CN	Description
7,552	30	Woods, Good, HSG A
9,920	39	>75% Grass cover, Good, HSG A
9,885	98	Paved parking, HSG A
27,357	58	Weighted Average
17,472		63.87% Pervious Area
9,885		36.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.4	18	0.1670	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.13"
3.8	180	0.0130	0.80		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.2	200	0.0350	2.81		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
7.4	398	Total			

Subcatchment A2: A2



Summary for Subcatchment A3: A3

[49] Hint: Tc<2dt may require smaller dt

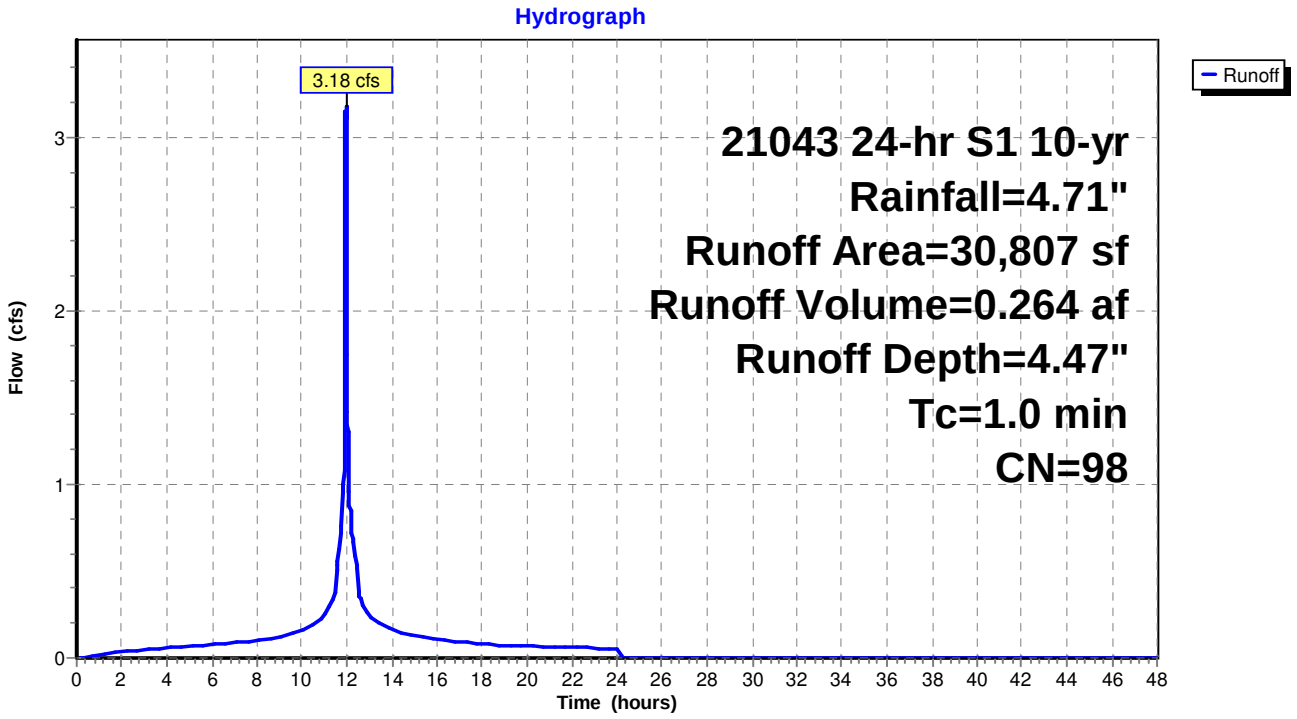
Runoff = 3.18 cfs @ 11.99 hrs, Volume= 0.264 af, Depth= 4.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
21043 24-hr S1 10-yr Rainfall=4.71"

Area (sf)	CN	Description
30,807	98	Roofs, HSG A
30,807		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0					**Direct Entry, Roof Runoff**

Subcatchment A3: A3



Summary for Subcatchment A4: A4

[49] Hint: Tc<2dt may require smaller dt

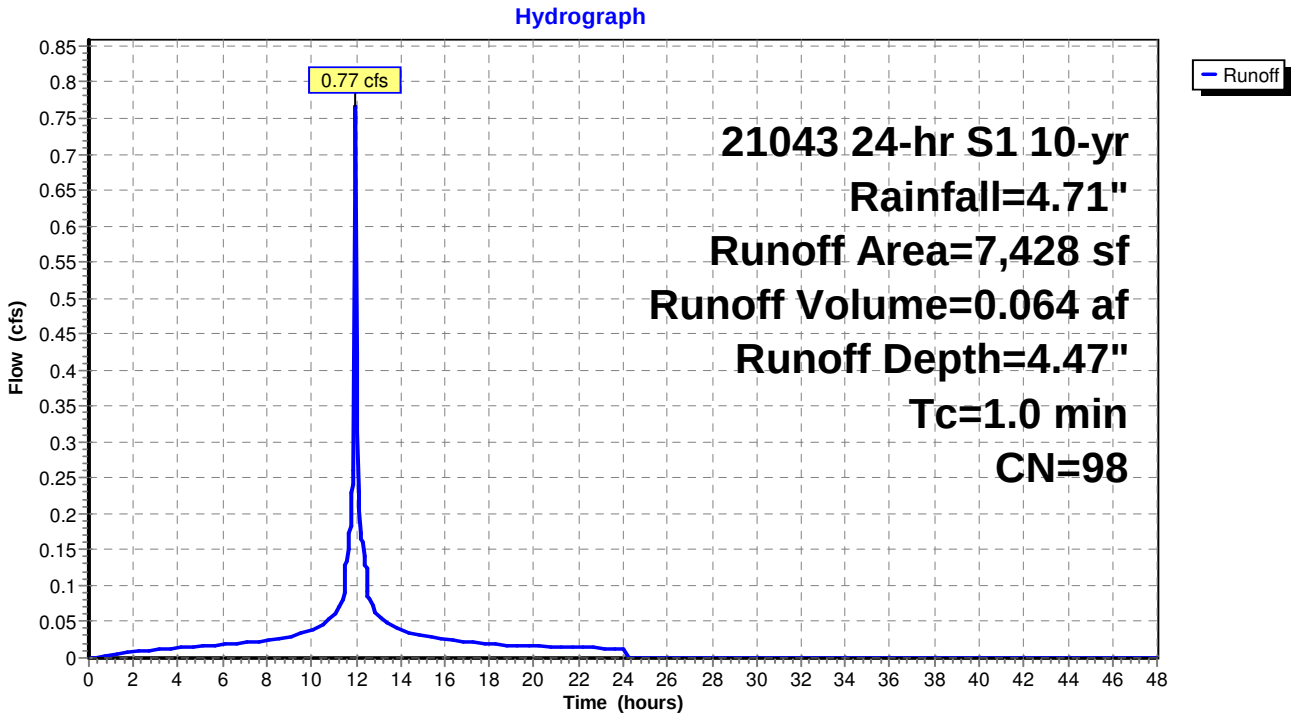
Runoff = 0.77 cfs @ 11.99 hrs, Volume= 0.064 af, Depth= 4.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
21043 24-hr S1 10-yr Rainfall=4.71"

Area (sf)	CN	Description
7,428	98	Roofs, HSG A
7,428		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0					**Direct Entry, Roof Runoff**

Subcatchment A4: A4



Summary for Subcatchment B: B

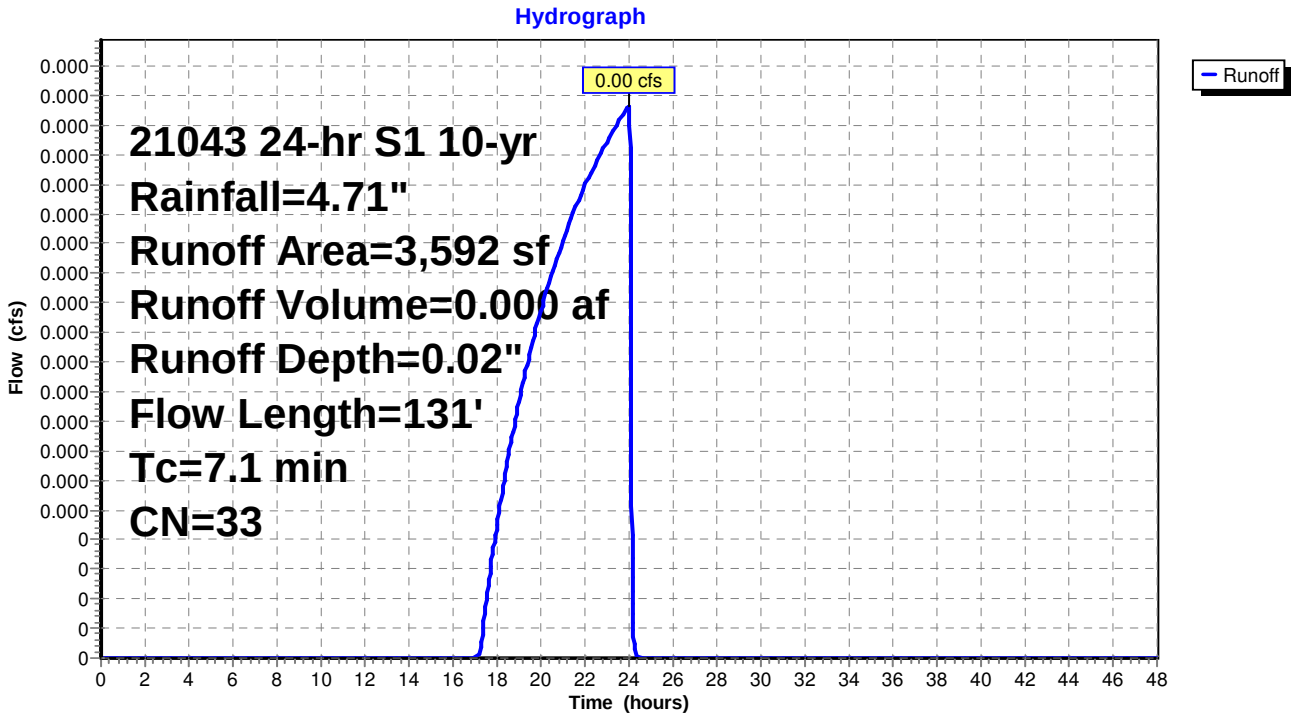
Runoff = 0.00 cfs @ 24.01 hrs, Volume= 0.000 af, Depth= 0.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
21043 24-hr S1 10-yr Rainfall=4.71"

Area (sf)	CN	Description
2,488	30	Woods, Good, HSG A
1,104	39	>75% Grass cover, Good, HSG A
3,592	33	Weighted Average
3,592		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	63	0.1560	0.16		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.13"
0.5	68	0.0880	2.08		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.1	131	Total			

Subcatchment B: B



Summary for Pond DP1: DP1

Inflow Area = 2.239 ac, 62.81% Impervious, Inflow Depth = 2.45" for 10-yr event
Inflow = 4.61 cfs @ 12.00 hrs, Volume= 0.457 af
Outflow = 0.89 cfs @ 12.52 hrs, Volume= 0.456 af, Atten= 81%, Lag= 31.5 min
Primary = 0.89 cfs @ 12.52 hrs, Volume= 0.456 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 176.79' @ 12.52 hrs Surf.Area= 4,727 sf Storage= 5,007 cf
Flood Elev= 178.65' Surf.Area= 8,317 sf Storage= 16,816 cf

Plug-Flow detention time= 87.0 min calculated for 0.456 af (100% of inflow)
Center-of-Mass det. time= 86.0 min (885.7 - 799.7)

Volume	Invert	Avail.Storage	Storage Description
#1	175.45'	16,816 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

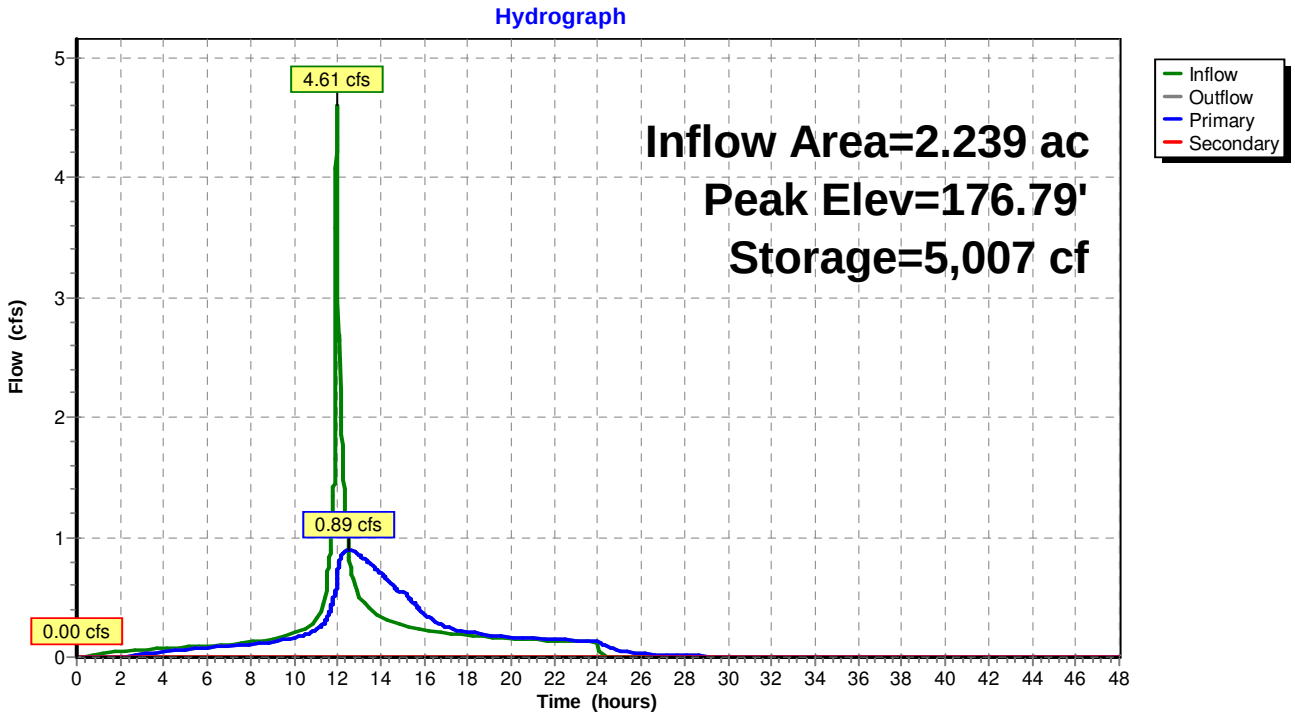
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
175.45	557	268.6	0	0	557
175.50	3,025	385.5	81	81	6,642
176.00	3,610	399.4	1,657	1,738	7,532
178.00	6,744	514.7	10,192	11,930	15,969
178.65	8,317	533.5	4,886	16,816	17,573

Device	Routing	Invert	Outlet Devices
#1	Primary	175.47'	**6.0" Round Culvert** L= 24.5' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 175.47' / 175.28' S= 0.0078 '/' Cc= 0.900 n= 0.012, Flow Area= 0.20 sf
#2	Secondary	178.00'	**5.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.89 cfs @ 12.52 hrs HW=176.79' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 0.89 cfs @ 4.54 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=175.45' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond DP1: DP1


Hydrograph
Inflow Area=2.239 ac
Peak Elev=176.79'
Storage=5,007 cf
4.61 cfs
0.89 cfs
0.00 cfs
Inflow
Outflow
Primary
Secondary
Flow (cfs)
Time (hours)
0 1 2 3 4 5
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48

Summary for Pond RD1: RD1

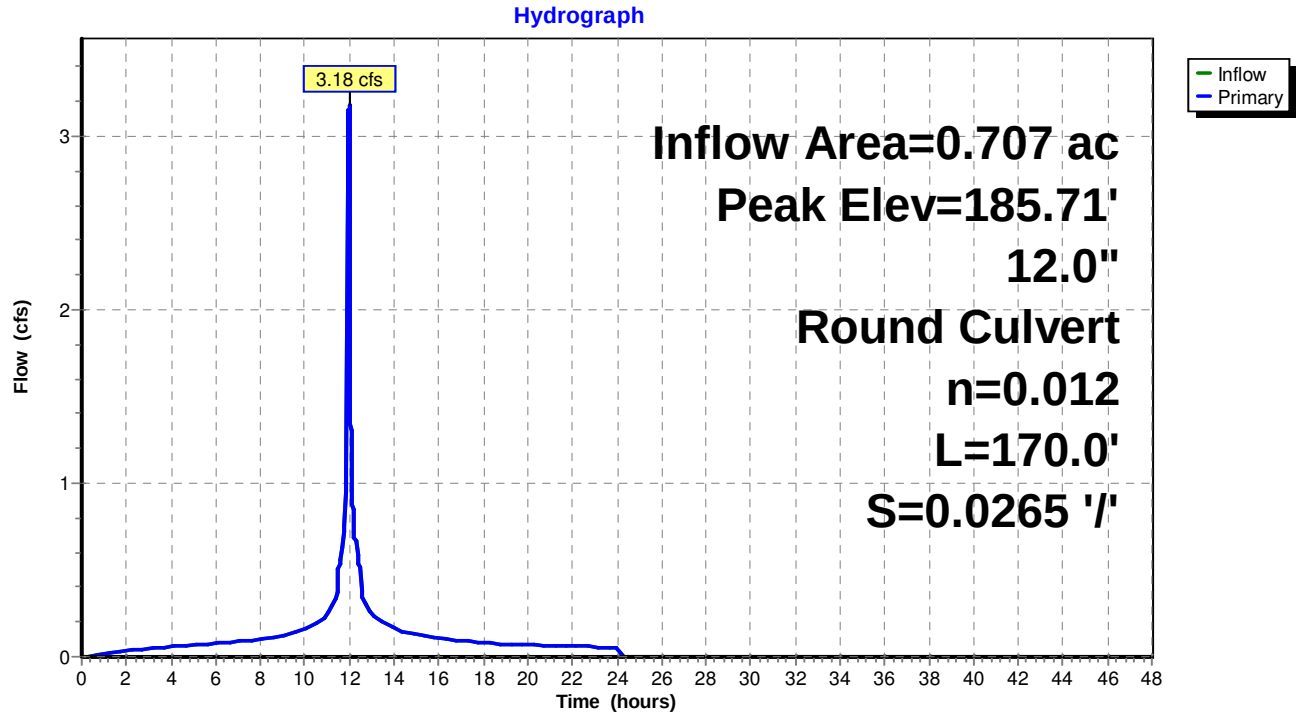
Inflow Area = 0.707 ac,100.00% Impervious, Inflow Depth = 4.47" for 10-yr event
Inflow = 3.18 cfs @ 11.99 hrs, Volume= 0.264 af
Outflow = 3.18 cfs @ 11.99 hrs, Volume= 0.264 af, Atten= 0%, Lag= 0.0 min
Primary = 3.18 cfs @ 11.99 hrs, Volume= 0.264 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 185.71' @ 11.99 hrs
Flood Elev= 188.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	184.50'	**12.0" Round Culvert** L= 170.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 184.50' / 180.00' S= 0.0265 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=3.18 cfs @ 11.99 hrs HW=185.71' TW=176.37' (Dynamic Tailwater)
1=Culvert (Inlet Controls 3.18 cfs @ 4.05 fps)

Pond RD1: RD1



Summary for Pond RD2: RD2

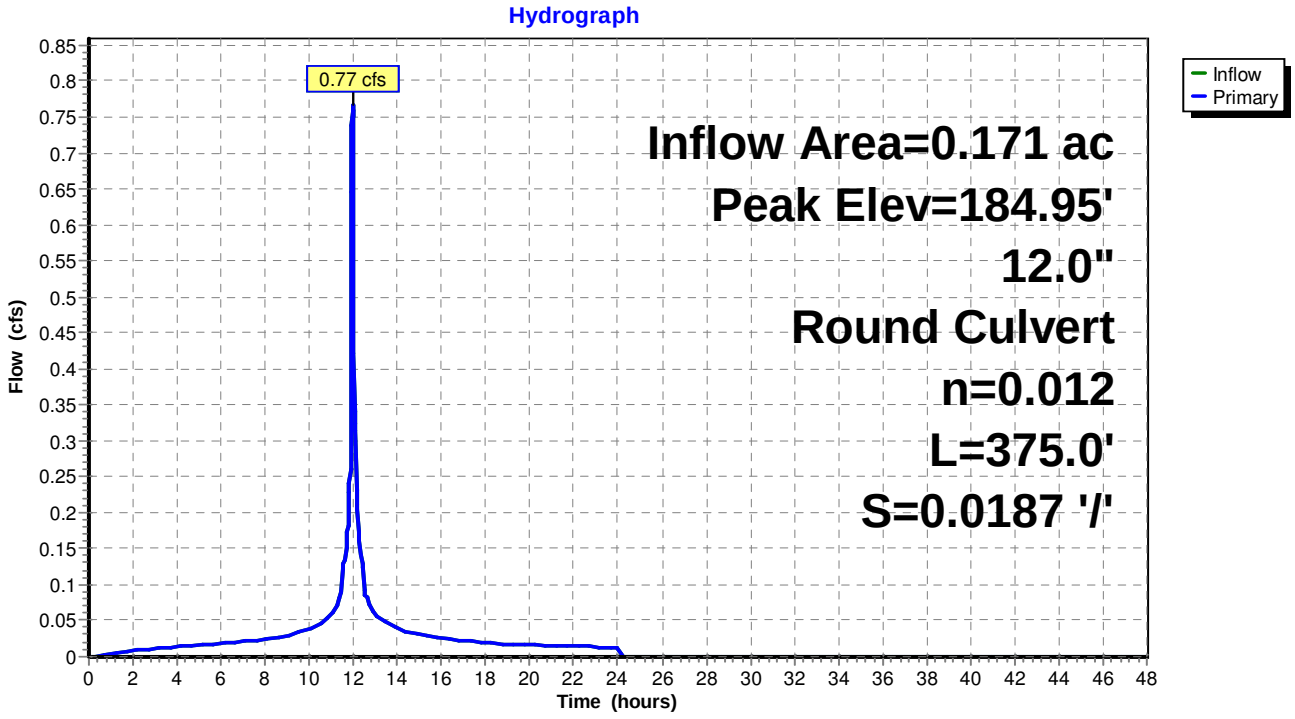
Inflow Area = 0.171 ac,100.00% Impervious, Inflow Depth = 4.47" for 10-yr event
Inflow = 0.77 cfs @ 11.99 hrs, Volume= 0.064 af
Outflow = 0.77 cfs @ 11.99 hrs, Volume= 0.064 af, Atten= 0%, Lag= 0.0 min
Primary = 0.77 cfs @ 11.99 hrs, Volume= 0.064 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 184.95' @ 11.99 hrs
Flood Elev= 188.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	184.50'	**12.0" Round Culvert** L= 375.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 184.50' / 177.50' S= 0.0187 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.77 cfs @ 11.99 hrs HW=184.95' TW=176.37' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.77 cfs @ 2.27 fps)

Pond RD2: RD2



A – 2

NODE LISTING – 25-YR

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment A1: A1 Runoff Area=31,927 sf 41.12% Impervious Runoff Depth=2.06"
Flow Length=80' Slope=0.0810 '/' Tc=10.4 min CN=62 Runoff=1.08 cfs 0.126 af

Subcatchment A2: A2 Runoff Area=27,357 sf 36.13% Impervious Runoff Depth=1.73"
Flow Length=398' Tc=7.4 min CN=58 Runoff=0.84 cfs 0.091 af

Subcatchment A3: A3 Runoff Area=30,807 sf 100.00% Impervious Runoff Depth=5.72"
Tc=1.0 min CN=98 Runoff=3.74 cfs 0.337 af

Subcatchment A4: A4 Runoff Area=7,428 sf 100.00% Impervious Runoff Depth=5.72"
Tc=1.0 min CN=98 Runoff=0.90 cfs 0.081 af

Subcatchment B: B Runoff Area=3,592 sf 0.00% Impervious Runoff Depth=0.16"
Flow Length=131' Tc=7.1 min CN=33 Runoff=0.00 cfs 0.001 af

Pond DP1: DP1 Peak Elev=177.21' Storage=7,149 cf Inflow=5.84 cfs 0.635 af
Primary=1.06 cfs 0.634 af Secondary=0.00 cfs 0.000 af Outflow=1.06 cfs 0.634 af

Pond RD1: RD1 Peak Elev=185.98' Inflow=3.74 cfs 0.337 af
12.0" Round Culvert n=0.012 L=170.0' S=0.0265 '/' Outflow=3.74 cfs 0.337 af

Pond RD2: RD2 Peak Elev=184.99' Inflow=0.90 cfs 0.081 af
12.0" Round Culvert n=0.012 L=375.0' S=0.0187 '/' Outflow=0.90 cfs 0.081 af

Total Runoff Area = 2.321 ac Runoff Volume = 0.636 af Average Runoff Depth = 3.29"
39.42% Pervious = 0.915 ac 60.58% Impervious = 1.406 ac

A – 2

NODE LISTING – 50-YR

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment A1: A1 Runoff Area=31,927 sf 41.12% Impervious Runoff Depth=2.88"
Flow Length=80' Slope=0.0810 '/' Tc=10.4 min CN=62 Runoff=1.50 cfs 0.176 af

Subcatchment A2: A2 Runoff Area=27,357 sf 36.13% Impervious Runoff Depth=2.48"
Flow Length=398' Tc=7.4 min CN=58 Runoff=1.22 cfs 0.130 af

Subcatchment A3: A3 Runoff Area=30,807 sf 100.00% Impervious Runoff Depth=6.87"
Tc=1.0 min CN=98 Runoff=4.30 cfs 0.405 af

Subcatchment A4: A4 Runoff Area=7,428 sf 100.00% Impervious Runoff Depth=6.87"
Tc=1.0 min CN=98 Runoff=1.04 cfs 0.098 af

Subcatchment B: B Runoff Area=3,592 sf 0.00% Impervious Runoff Depth=0.40"
Flow Length=131' Tc=7.1 min CN=33 Runoff=0.00 cfs 0.003 af

Pond DP1: DP1 Peak Elev=177.61' Storage=9,414 cf Inflow=7.08 cfs 0.809 af
Primary=1.20 cfs 0.808 af Secondary=0.00 cfs 0.000 af Outflow=1.20 cfs 0.808 af

Pond RD1: RD1 Peak Elev=186.29' Inflow=4.30 cfs 0.405 af
12.0" Round Culvert n=0.012 L=170.0' S=0.0265 '/' Outflow=4.30 cfs 0.405 af

Pond RD2: RD2 Peak Elev=185.03' Inflow=1.04 cfs 0.098 af
12.0" Round Culvert n=0.012 L=375.0' S=0.0187 '/' Outflow=1.04 cfs 0.098 af

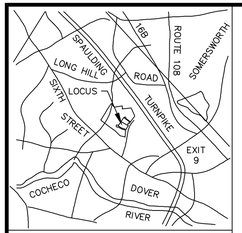
Total Runoff Area = 2.321 ac Runoff Volume = 0.811 af Average Runoff Depth = 4.19"
39.42% Pervious = 0.915 ac 60.58% Impervious = 1.406 ac

APPENDIX B

WATERSHED PLANS

B – 1

PRE-DEVELOPED CONDITIONS



LOCATION PLAN
(NO SCALE)

HEINE USA
10 INNOVATION WAY
DOVER, NH 03820
3410 / 510
SCRD PLAN 86-73

6" PVC (RD)

12" RCP

6" PVC (RD)

RIPRAP SWALE

INV. = 176.24

12"ø RCP

INV. =176.10

CB RIM =178.50

INV. =175.97

CB RIM =178.43

RIPRAP SWALE

12"ø ADS
INV. OUT = 184.04

CONCRETE WALK

DISCHARGE PT. B

EMERGENCY SPILLWAY

EDGE OF PAVEMENT

EXISTING DETENTION POND
BOTTOM ELEVATION = 175.5±

EXISTING SWALE

CONCRETE PAD

ASPHALT DRIVE AND LOADING BAYS

GIB

EXISTING
1 STORY STEEL FRAME
LIGHT MANUFACTURING
BUILDING
30,800 S.F.
F.F. = 188.6'

CONCRETE WALK

ASPHALT WALK

ASPHALT WALK

D / 11-1

DBIDA
288 CENRAL AVENUE
DOVER, NH 03820
4368 / 961

DISCHARGE PT. A

INV. =175.28

INV.=175.47

6"ø ADS CULVERT

CONCRETE PAD

ASPHALT WALK

SMH A

GsC

SMH B

CB RIM =174.25

DMH RIM = 174.25

VENTURE DRIVE

D/11-3

MERCHANDISE CENTRAL, LLC
111 VENTURE DRIVE
DOVER, NH 03820
4422 / 309

DMH RIM = 173.22

CB RIM =172.35

D / 11-8

DBIDA
288 CENRAL AVENUE
DOVER, NH 03820
1559 / 394

QUALITY WAY

D / 11-7

DBIDA
288 CENRAL AVENUE
DOVER, NH 03820
1559 / 394

D / 11-6

DBIDA
288 CENRAL AVENUE
DOVER, NH 03820
1559 / 394

D / 11-5

DENNIS CIOTTI, TRUSTEE
DENNIS CIOTTI REVOCABLE TRUST
P.O. Box 757
DOVER, NH 03821
3758 / 50

D / 14-4

CHURCHILL MEDICAL SYSTEMS, INC.
ADVANCED MEDICAL, INC.
935 HORSHAM ROAD, SUITE M
HORSHAM, PA 19044-1230
1951 / 542

NH STATE PLANE
NAD 83 - GPS OBS.

LEGEND:

- EX 2' CONTOUR
- EX 10' CONTOUR
- EDGE OF PAVEMENT
- EDGE OF TREELINE
- SOIL BOUNDARY
- **SUBCATCHMENT BOUNDARY**
- **LONGEST FLOW PATH WITH DIRECTION OF FLOW**
- (B) **SUBCATCHMENT DESIGNATION**
- **GsC** **SOIL DESIGNATION**

PRE-DEVELOPMENT WATERSHED CHARACTERISTICS

SUBCATCHMENT DESIGNATION	AREA (ACRES)	LONGEST FLOW PATH (FEET)	Tc (MIN)
A1	0.70	80	10.4
A2	0.73	372	7.4
A3	0.71	104	1.0
B	0.17	186	11.4

SOILS DATA

HYDROLOGIC DRAINAGE CLASS C:

GIB – GLOUCESTER FINE SANDY LOAM, 3 TO 8 PERCENT SLOPES
GsC – GLOUCESTER VERY STONY FINE SANDY LOAM, 8 TO 15 PERCENT SLOPES

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: P21-

NO.	REVISION	APP'D	DATE

DATE: 10-11-21
SCALE: 1"=40'
DRAWN BY: SRD
DESIGN BY: SRD
APPROVED BY:SJH
PROJECT NO:21043
FILE: SITE.DWG

CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

PRE-DEVELOPMENT WATERSHED PLAN

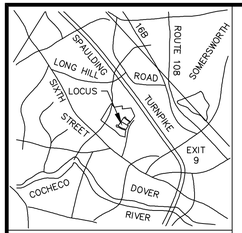
QUALITY WAY, LLC
55 MAIN STREET, UNIT 407
NEWMARKEY, NH 03857

BUILDING ADDITION
1 QUALITY WAY
DOVER, NH

WS1

B – 2

POST-DEVELOPED CONDITIONS



LOCATION PLAN
(NO SCALE)

HEINE USA
10 INNOVATION WAY
DOVER, NH 03820
3410 / 510
SCRD PLAN 86-73

6" PVC (RD)

12" RCP

6" PVC (RD)

DISCHARGE PT. B

DISCHARGE PT. A

EMERGENCY SPILLWAY

EXISTING DETENTION POND
BOTTOM ELEVATION = 175.5±

EXISTING SWALE

INV. =175.50

INV.=175.67

6"ø ADS CULVERT

EDGE OF PAVEMENT

CONCRETE PAD

ASPHALT DRIVE AND LOADING BAYS

CONCRETE PAD

GIB

EXISTING
1 STORY STEEL FRAME
LIGHT MANUFACTURING
BUILDING
30,800 S.F.
F.F. = 188.6'

ASPHALT WALK

ASPHALT WALK

CONCRETE WALK

CONCRETE WALK

ASPHALT WALK

SMH A

GsC

SMH B

RIPRAP SWALE

INV. = 176.24

INV. =176.10

INV. =175.97

RIPRAP SWALE

CB RIM =178.50

CB RIM =178.43

CB RIM =174.25

DMH RIM = 174.25

DMH RIM = 173.22

CB RIM =172.35

VENTURE DRIVE

QUALITY WAY

D / 11-1
DBIDA
288 CENRAL AVENUE
DOVER, NH 03820
4368 / 961

D / 11-3
MERCHANDISE CENTRAL, LLC
111 VENTURE DRIVE
DOVER, NH 03820
4422 / 309

D / 11-8
DBIDA
288 CENRAL AVENUE
DOVER, NH 03820
1559 / 394

D / 11-7
DBIDA
288 CENRAL AVENUE
DOVER, NH 03820
1559 / 394

D / 11-6
DBIDA
288 CENRAL AVENUE
DOVER, NH 03820
1559 / 394

D / 11-5
DENNIS CIOTTI, TRUSTEE
DENNIS CIOTTI REVOCABLE TRUST
P.O. Box 757
DOVER, NH 03821
3758 / 50

D / 14-4
CHURCHILL MEDICAL SYSTEMS, INC.
ADVANCED MEDICAL, INC.
935 HORSHAM ROAD, SUITE M
HORSHAM, PA 19044-1230
1951 / 542

LEGEND:

- EX 2' CONTOUR
- EX 10' CONTOUR
- EDGE OF PAVEMENT
- EDGE OF TREELINE
- SOIL BOUNDARY
- **PROPOSED EDGE OF PAVEMENT**
- **PROPOSED TREELINE**
- **SUBCATCHMENT BOUNDARY**
- **LONGEST FLOW PATH WITH DIRECTION OF FLOW**
- (1) **SUBCATCHMENT DESIGNATION**
- **GsC SOIL DESIGNATION**
- RD **PROPOSED ROOFDRAIN**

POST-DEVELOPMENT WATERSHED CHARACTERISTICS

SUBCATCHMENT DESIGNATION	AREA (ACRES)	LONGEST FLOW PATH (FEET)	Tc (MIN)
A1	0.73	80	10.4
A2	0.63	398	7.4
A3	0.71	104	1.0
A4	0.17	20	1.0
B	0.08	131	7.1

SOILS DATA

HYDROLOGIC DRAINAGE CLASS C:

GIB – GLOUCESTER FINE SANDY LOAM, 3 TO 8 PERCENT SLOPES
GsC – GLOUCESTER VERY STONY FINE SANDY LOAM, 8 TO 15 PERCENT SLOPES

NH STATE PLANE NAD 83 - GPS OBS.

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: P21-

NO.	REVISION	APP'D	DATE

DATE: 10-11-21
SCALE: 1"=40'
DRAWN BY: SRD
DESIGN BY: SRD
APPROVED BY:SJH
PROJECT NO:21043
FILE: SITE.DWG

CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

POST-DEVELOPMENT WATERSHED PLAN

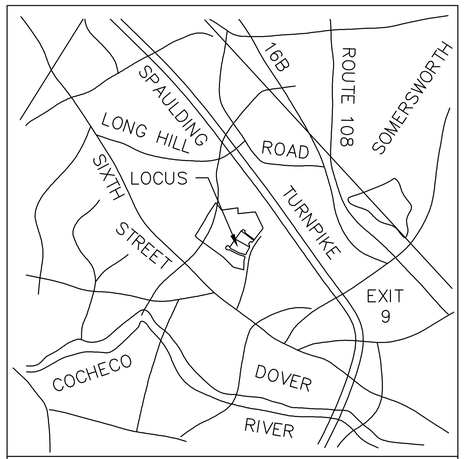
QUALITY WAY, LLC
55 MAIN STREET, UNIT 407
NEWMARKEY, NH 03857

BUILDING ADDITION
1 QUALITY WAY
DOVER, NH

WS2

P21-77 **Quality Way & Venture Drive**

Property ID	Location	Owner 1	Owner 2	Owner Address 1	City	State	Zip
D0011-001000	VENTURE DR	DOVER BUSINESS & IND DEV AUTHORITY		288 CENTRAL AVE	DOVER	NH	03820
D0011-003000	111 VENTURE DR	MERCHANDISE CENTRAL LLC		111 VENTURE DR	DOVER	NH	03820
D0011-005000	VENTURE DR	CIOTTI DENNIS TRUSTEE	CIOTTI DENNIS REVOCABLE TRUST	PO BOX 757	DOVER	NH	03821
D0011-005SND	VENTURE DR	CIOTTI DENNIS TRUSTEE	CIOTTI DENNIS REVOCABLE TRUST	PO BOX 757	DOVER	NH	03821
D0011-006000	QUALITY WY	DOVER BUSINESS & IND DEV AUTHORITY	F/K/A DOVER IND DEV AUTHORITY	288 CENTRAL AV	DOVER	NH	03820
D0011-007000	QUALITY WY	DOVER BUSINESS & IND DEV AUTHORITY	F/K/A DOVER IND DEV AUTHORITY	288 CENTRAL AV	DOVER	NH	03820
D0011-008000	QUALITY WY	DOVER BUSINESS & IND DEV AUTHORITY	F/K/A DOVER IND DEV AUTHORITY	288 CENTRAL AV	DOVER	NH	03820
D0011-009000	10 INNOVATION WY	HEINE USA		10 INNOVATION WAY	DOVER	NH	03820
D0014-000000	VENTURE DR	DOVER BUSINESS & IND DEV AUTHORITY		288 CENTRAL AVE	DOVER	NH	03820
D0014-004000	87 VENTURE DR	CHURCHILL MEDICAL SYSTEMS INC	ADVANCED MEDICAL INC	2750 MORRIS RD #A200	LANSDALE	PA	19446-6083
D0011-004000	110 VENTURE DR	QUALITY WAY LLC		1 QUALITY WAY ENTERPRISE PARK	DOVER	NH	03820
		Q, LLC	ADAM JOHNSON	4 CUTTS STREET, UNIT 3	PORTSMOUTH	NH	03801
		QUALITY WAY LLC	WILLIAM P. LOVEJOY, MANAGER	55 MAIN STREET, UNIT 407	NEWMARKET	NH	03857
		CIVILWORKS NEW ENGLAND	STEPHEN J HAIGHT, PE	P.O. BOX 1166	DOVER	NH	03821
		MCENEANEY SURVEY ASSOCIATES	KEVIN MCENEANEY, LLS	24 CHESTNUT STREET	DOVER	NH	03820
		MAUGEL ARCHITECTS	MARK PELLETIER	200 AYER ROAD, SUITE 200	HARVARD	MA	01451
		FRAGGLE ROCK ENVIRONMENTAL INC	DAMON BURT, CWS	38 GARLAND ROAD	STRAFFORD	NH	03884



LOCATION PLAN
(NO SCALE)

SITE PLAN
Q, LLC
FOR
AN ADDITION ON EXISTING MANUFACTURING FACILITY

TAX MAP D, LOT 11-4

1 QUALITY WAY & VENTURE DRIVE
DOVER, NH
OCTOBER 15, 2021
REVISED: NOVEMBER 15, 2021

OWNER
QUALITY WAY, LLC
55 MAIN STREET, UNIT 407
NEWMARKET, NH 03857

_____ DATE

APPLICANT
Q, LLC
4 CUTTS ROAD, UNIT 3
PORTSMOUTH, NH 03801

_____ DATE

SITE CIVIL ENGINEER
CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

LAND SURVEYOR
MCENEANEY SURVEY ASSOCIATES OF NEW ENGLAND
P.O. BOX 681
24 CHESTNUT STREET
DOVER, NH 03820
(603) 742-0911

ARCHITECT
MAUGEL ARCHITECTS
200 AYER ROAD, SUITE 200
HARVARD, MA 01451
(978)458-2800

WETLAND SCIENTIST
DAMON E. BURT, CWS
FRAGGLE ROCK ENVIRONMENTAL
38 GARLAND ROAD
STRAFFORD, NH 03884
(603) 969-5574

SHEET INDEX	SHEET
COVER SHEET	1
NEIGHBORHOOD PLAN	2
EXISTING CONDITIONS PLAN (BY MCENEANEY SURVEY)	3
NOTE SHEET	4
DEMOLITION PLAN	5
SITE & UTILITY PLAN	6
GRADING, DRAINAGE & EROSION CONTROL PLAN	7
EROSION CONTROL NOTES	8
EROSION CONTROL DETAILS	9
DETAIL SHEET	10
LIGHTING PLAN	11
DOVER LADDER TRUCK MOVEMENT PLAN	12
ARCHITECTURAL FLOOR PLAN	-
STREET SCAPE PLAN	-

PLANNING FILE NO.: P21-77



ABUTTERS LIST
(WITHIN 200 FT)

TAX MAP	LOT NO.	NAME & ADDRESS
D 11-004	11-004	QUALITY WAY, LLC 55 MAIN STREET, UNIT 407 NEWMARKET, NH 03857
D 11-005	11-005	COTTO DENNIS TRUSTEE, CIOTTI DENNIS REVOCABLE TRUST P.O. BOX 757 DOVER, NH 03821
D 11-006	11-006	DOVER BUSINESS & IND DEV AUTHORITY, F/K/A/ DOVER IND DEV AUTHORITY 288 CENTRAL AVE. DOVER, NH 03820
D 11-007	11-007	DOVER BUSINESS & IND DEV AUTHORITY, F/K/A/ DOVER IND DEV AUTHORITY 288 CENTRAL AVE. DOVER, NH 03820
D 11-008	11-008	DOVER BUSINESS & IND DEV AUTHORITY, F/K/A/ DOVER IND DEV AUTHORITY 288 CENTRAL AVE. DOVER, NH 03820
D 11-001	11-001	DOVER BUSINESS & IND DEV AUTHORITY, F/K/A/ DOVER IND DEV AUTHORITY 288 CENTRAL AVE. DOVER, NH 03820
D 11-009	11-009	HEINE USA 10 INNOVATION WAY DOVER, NH 03820
D 11-003	11-003	MERCHANDISE CENTRAL LLC 111 VENTURE DRIVE DOVER, NH 03820
D 14-004	14-004	CHURCHILL MEDICAL SYSTEMS INC. ADVANCED MEDICAL INC 2750 MORRIS RD #A200 LANSDALE, PA 19446-6083

D / 11-004 — TAX MAP / LOT NUMBER

MAGNETIC

GRAPHIC SCALE

200 0 100 200 400 800

(IN FEET)

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: P21-77

CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

NO.	REVISION	APP'D	DATE
1	REVISED PER TRC COMMENTS	SJH	11-15-21

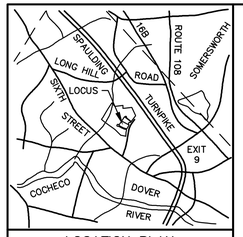
DATE: 10-15-21
SCALE: 1"=200'
DRAWN BY: SRD
DESIGN BY: SRD
APPROVED BY:SJH
PROJECT NO:21043
FILE: SITE.DWG

NEIGHBORHOOD PLAN

BUILDING ADDITION
1 QUALITY WAY
DOVER, NH

QUALITY WAY, LLC
55 MAIN STREET, UNIT 407
NEWMARKEY, NH 03857

2



LOCATION PLAN
(NO SCALE)

LEGEND

- S.F. – SQUARE FEET
- Ac. – ACRE
- (TYP.) – TYPICAL
- ± – MORE OR LESS
- ø – DIAMETER
- S.C.R.D. – STRAFFORD COUNTY REGISTRY OF DEEDS
- UP – UTILITY POLE
- S – SEWER MANHOLE
- W – WATER GATE VALVE
- W – WATER SHUT OFF (CURB STOP)
- UGE – UNDERGROUND ELECTRIC
- UGU – UNDERGROUND UTILITIES
- G – GAS LINE
- RCP – REINFORCED CONCRETE PIPE
- TBM – TEMPORARY BENCH MARK
- SIGN
- CB – CATCH BASIN
- SGC – SLOPED GRANITE CURB
- I.R.(fnd) – IRON ROD FOUND
- 48 – CONTOUR LINE (2 FOOT INTERVAL)
- ROW OF ARBORVITAE

I.R.(fnd)
N – 265008.10
E – 1185524.80

D / 11-9
HEINE USA
10 INNOVATION WAY
DOVER, NH 03820
3410 / 510
SCRD PLAN 86-73

6" PVC (RD)
6" PVC (RD)
12" RCP
8" W
E
G
S71°54'43"E 595.01'
I.R.(fnd)
RIPRAP SWALE
ASPHALT PARKING
32 SPACES (1 HC)
CONCRETE WALK
12"ø ADS
INV. OUT = 184.04
RIPRAP SWALE
EMERGENCY SPILLWAY
EDGE OF PAVEMENT
RIPRAP SWALE
FIRE DEPARTMENT CONNECTION
D / 11-4
PARCEL AREA
217,889S.F.
5.00 Ac.
1 STORY STEEL FRAME BUILDING
30,800 S.F.
F.F. = 188.6'
CONCRETE PAD
ASPHALT DRIVE AND LOADING BAYS
EXISTING DETENTION POND
BOTTOM ELEVATION = 175.5±
EXISTING SWALE
4 PARKING SPACES
ASPHALT PARKING
32 SPACES (2 HC)
CONCRETE WALK
ASPHALT WALK
FIRE DEPARTMENT CONNECTION
EXISTING PALLET STORAGE
ASPHALT WALK
SMH A
6"ø ADS CULVERT
N18°05'17"E 361.60'
168.05'
S17°46'42"W
C1
C2
C3
C4
C5
195.05'
N71°54'43"W
148.76'
N84°54'43"W
N – 264664.36
E – 1185412.53
SMH B
UGU
UGE
8"S
QUALITY WAY
UGU
R.O.W
CB
CB
VENTURE DRIVE
NH STATE PLANE NAD 83 - GPS OBS.

D / 11-1
DBIDA
288 CENRAL AVENUE
DOVER, NH 03820
4368 / 961

D / 11-8
DBIDA
288 CENRAL AVENUE
DOVER, NH 03820
1559 / 394

D / 11-7
DBIDA
288 CENRAL AVENUE
DOVER, NH 03820
1559 / 394

D / 11-6
DBIDA
288 CENRAL AVENUE
DOVER, NH 03820
1559 / 394

D / 11-5
DENNIS CIOTTI, TRUSTEE
DENNIS CIOTTI REVOCABLE TRUST
P.O. Box 757
DOVER, NH 03821
3758 / 50

SMH A
RIM = 187.08
INV. 6" PVC IN = 181.75 (DROP) FROM BUILDING
INV. 6" PVC OUT = 172.00 TO SMH B

SMH B
RIM = 177.56
INV. 6" PVC IN = 171.91 (DROP) FROM SMH A
INV. 6" PVC OUT = 164.46 TO QUALITY WAY

D/11-3
MERCHANDISE CENTRAL, LLC
111 VENTURE DRIVE
DOVER, NH 03820
4422 / 309

D / 14-4
CHURCHILL MEDICAL SYSTEMS, INC.
ADVANCED MEDICAL, INC.
935 HORSHAM ROAD, SUITE M
HORSHAM, PA 19044-1230
1951 / 542

NOTES:

1.) OWNERS OF RECORD:
QUALITY WAY, LLC
55 MAIN STREET, UNIT 407
NEWMARKET, NEW HAMPSHIRE 03857
S.C.R.D. VOL. 3973, PAGE 254

2.) D / 11-4 – DENOTES TAX MAP AND PARCEL NUMBER.

3.) THE INTENT OF THIS PLAN IS TO DEPICT THE EXISTING CONDITIONS OF TAX MAP D, LOT 11-4.

4.) ZONING DISTRICT IS IT (INNOVATIVE TECHNOLOGY)
MINIMUM LOT SIZE = 2 ACRES
MINIMUM FRONTAGE = 200 FEET
BUILDING SETBACK REQUIREMENTS:
FRONT = 50 FEET
SIDE = 50 FEET
REAR = 50 FEET
MAXIMUM LOT COVERAGE = 33 PERCENT
MAXIMUM BUILDING HEIGHT = 55 FEET

REFERENCE IS MADE TO DOVER ZONING CHAPTER 170, WITH REGARDS TO ZONING OVERLAY DISTRICTS AND ORDINANCES.

5.) VERTICAL DATUM IS USGS NAVD88. CONTOUR INTERVAL IS 2 FEET.

6.) NO WETLANDS WERE FOUND ON THE SUBJECT PARCEL PER REFERENCE PLANS #1 & #3, AND VERIFIED BY DAMON E. BURT, N.H.C.W.S. #163 OF FRAGGLE ROCK ENVIRONMENTAL SERVICES ON JULY 18, 2021.

7.) THE SUBJECT PARCEL IS LOCATED OUTSIDE OF 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 SEPTEMBER 30, 2015.

8.) THE SUBJECT PARCEL CONTAINS 5.00 ACRES OR 217,899 S.F. OF LAND.

9.) PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM A SURVEY PERFORMED BY MCENEANEY SURVEY ASSOCIATES OF NEW ENGLAND DURING SEPTEMBER 2021 WITH AN ERROR NOT GREATER THAN 1 IN 10,000.

10.) TOPOGRAPHIC SURVEY PERFORMED BY McENEANEY SURVEY ASSOCIATES OF NEW ENGLAND DURING SEPTEMBER 2021.

REFERENCE PLANS:

1.) SUBDIVISION OF LAND PREPARED FOR DOVER INDUSTRIAL DEVELOPMENT AUTHORITY, TAX MAP H, LOT No. 11-1, VENTURE DRIVE, DOVER, STRAFFORD COUNTY, NEW HAMPSHIRE. SCALE: 1" = 100'; DATED: FEBRUARY 28, 2005; BY THIS OFFICE. RECORDED S.C.R.D. PLAN 79-87.

2.) SUBDIVISION PLAN – DOVER INDUSTRIAL DEVELOPMENT AUTHORITY – SIXTH STREET / LONG HILL ROAD EXT., DOVER, NEW HAMPSHIRE. SCALE: 1" = 100'; DATED: JANUARY 17, 1992; BY: TERRASCAN. RECORDED S.C.R.D. PLAN 41-91 + 41-92.

3.) AMENDED SUBDIVISION AND LOT LINE ADJUSTMENT PLAN PREPARED FOR GEORGE J. FOSTER & Co., INC. AND DOVER BUSINESS AND INDUSTRIAL DEVELOPMENT AUTHORITY, TAX MAP D, LOT Nos. 9A & 11-1, VENTURE DRIVE AND QUALITY WAY, DOVER, STRAFFORD COUNTY, NEW HAMPSHIRE. SCALE: 1" = 100'; DATED: FEBRUARY 14, 2006, REVISED THROUGH 5/3/06; BY THIS OFFICE. RECORDED S.C.R.D. PLANS 85-99 & 85-100.

4.) ROADWAY AS-BUILT PLAN & PROFILE PREPARED FOR DOVER INDUSTRIAL DEVELOPMENT AUTHORITY, QUALITY WAY AT VENTURE DRIVE, DOVER, STRAFFORD COUNTY, NEW HAMPSHIRE; SCALE: 1" = 400/4; DATED: JANUARY 16, 2006, REVISED THROUGH 3/18/06; BY: McENEANEY SURVEY ASSOCIATES, INC.; ON FILE WITH THE CITY OF DOVER.

5.) AS-BUILT PLAN, HEINE USA, LTD., LOT 11-9, TAX ASSESSOR'S MAP "D", VENTURE DRIVE, DOVER, NEW HAMPSHIRE, COUNTY OF STRAFFORD; SCALE: 1" = 30'; DATED: 5-31-07, REVISED THROUGH 4/3/08; BY: CIVILWORKS; ON FILE WITH THE CITY OF DOVER.

No.	Central Angle	Radius	Arc Length	Chord Length	Chord Bearing
C1	23°12'25"	100.00'	40.50'	40.23'	S06°10'29"W
C2	4°38'34"	930.00'	75.36'	75.34'	S15°27'25"W
C3	81°59'02"	35.00'	50.08'	45.92'	S54°05'46"W
C4	13°00'00"	847.69'	192.33'	191.92'	N78°24'43"W
C5	30°00'00"	100.00'	52.36'	51.76'	N56°54'43"W

"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."

NO.	DATE	DESCRIPTION	BY	CHK
1	11/15/21	REVISE PER TRC COMMENTS	KJF	KMM
REVISIONS				
21-1595	EXIST.COND.	21-09	18-28	
PROJECT NO	TYPE	FIELDBOOK & PAGES		

SHEET 3

EXISTING CONDITIONS PLAN
PREPARED FOR
Q, LLC
TAX MAP D, LOT No. 11-4
1 QUALITY WAY
CITY of DOVER
COUNTY of STRAFFORD
STATE of NEW HAMPSHIRE

DOVER PLANNING FILE No. P 21-77

DRAWN BY: KJF	FILE: MSA\1595\DWG\21-1595
SCALE: 1" = 40'	DATE: SEPTEMBER 27, 2021

40 20 0 20 40 80 120 160

STATE OF NEW HAMPSHIRE – No. 661 KEVIN M. McENEANEY – LICENSED LAND SURVEYOR – SIGNATURE

McEneaney Survey Associates of NEW ENGLAND
P.O. Box 681 – 24 CHESTNUT STREET
DOVER, NH 03820 (603) 742-0911
SURVEYING – PLANNING – CONSULTING

SITE NOTES

1. OWNERS OF RECORD:
   QUALITY WAY, LLC
   55 MAIN STREET, UNIT 407
   NEWMARKET, NEW HAMPSHIRE 03857
   S.C.R.D. VOL. 3973, PAGE 254
2. D/11-4 – DENOTES TAX MAP AND PARCEL NUMBER.
3. THE INTENT OF THIS PLAN IS TO DEPICT THE EXISTING CONDITIONS OF TAX MAP D, LOT 11-4.
4. ZONING DISTRICT IS IT (INNOVATIVE TECHNOLOGY)
   MINIMUM LOT SIZE = 2 ACRES
   MINIMUM FRONTAGE = 200 FEET
   BUILDING SETBACK REQUIREMENTS:
   FRONT = 50 FEET
   SIDE = 50 FEET
   REAR = 50 FEET
   MAXIMUM LOT COVERAGE = 33 PERCENT
   MAXIMUM BUILDING HEIGHT = 55 FEET
   REFERENCE IS MADE TO DOVER ZONING CHAPTER 170, WITH REGARDS TO ZONING OVERLAY DISTRICTS AND ORDINANCES.
5. VERTICAL DATUM IS USGS NAVD88. CONTOUR INTERVAL IS 2 FEET.
6. NO WETLANDS WERE FOUND ON THE SUBJECT PARCEL PER REFERENCE PLANS #1 & #3, AND VERIFIED BY DAMON E. BURT, N.H.C.W.S. #163 OF FRAGGLE ROCK ENVIRONMENTAL SERVICES ON JULY 18, 2021.
7. THE SUBJECT PARCEL IS LOCATED OUTSIDE OF 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 SEPTEMBER 30, 2015.
8. THE SUBJECT PARCEL CONTAINS 5.00 ACRES OR 217,899 S.F. OF LAND.
9. PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM A SURVEY PERFORMED BY MCENEANEY SURVEY ASSOCIATES OF NEW ENGLAND DURING SEPTEMBER 2021 WITH AN ERROR NOT GREATER THAN 1 IN 10,000.
10. TOPOGRAPHIC SURVEY PERFORMED BY McENEANEY SURVEY ASSOCIATES OF NEW ENGLAND DURING SEPTEMBER 2021.

DEMOLITION NOTES:

1. COORDINATE REMOVAL, RELOCATION, DISPOSAL OR SALVAGE OF UTILITIES WITH THE OWNER AND APPROPRIATE UTILITY COMPANY.
2. ANY EXISTING WORK OR PROPERTY DAMAGED OR DISRUPTED BY CONSTRUCTION/DEMOLITION ACTIVITIES SHALL BE REPLACED OR REPAIRED TO MATCH ORIGINAL EXISTING CONDITIONS BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
3. THE CONTRACTOR SHALL NOTIFY "DIG SAFE" PRIOR TO ANY DEMOLITION/ CONSTRUCTION ACTIVITIES. (811).
4. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING STRUCTURES, UTILITIES AND PAVEMENT ON THE SITE TO THE LIMITS SHOWN UNLESS SPECIFICALLY IDENTIFIED TO REMAIN.
5. IT IS THE CONTRACTORS RESPONSIBILITY TO FAMILIARIZE HIMSELF WITH THE CONDITIONS OF ALL OF THE PERMIT APPROVALS.
6. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS NOT ALREADY OBTAINED BY THE OWNER AND ARRANGE AND PAY FOR NECESSARY INSPECTIONS AND APPROVALS FROM THE AUTHORITIES HAVING JURISDICTION.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEMOLITION AND OFF-SITE DISPOSAL OF MATERIALS REQUIRED TO COMPLETE THE WORK, EXCEPT FOR WORK NOTED TO BE COMPLETED BY OTHERS.
8. THE LOCATION OF UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATION IS NOT GUARANTEED BY THE OWNER OR THE ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK.
9. ALL MATERIALS SCHEDULED TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL DISPOSE OF ALL MATERIALS OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS, ORDINANCES, AND CODES.
10. 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.

PERMIT SUMMARY:

1. THE FOLLOWING FEDERAL AND STATE PERMITS HAVE BEEN ISSUED FOR THE SUBJECT PROPERTY: N/A
2. 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: N/A
   CONDITIONAL USE PERMIT: N/A
3. SITE REVIEW PERMIT: PENDING

WAIVERS REQUESTED:

1. A WAIVER REQUEST FROM SECTION 153-15D TO ALLOW RELIEF FROM PROVIDING A LANDSCAPE PLAN.

SITE NOTES

1. PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM A PLAN REFERENCED AND PREPARED BY MCENEANEY SURVEY ASSOCIATES OF NEW ENGLAND (SEE EXISTING CONDITIONS PLAN IN THIS PLAN SET).
2. THE PURPOSE OF THIS PLAN IS TO DEPICT IMPROVEMENTS ASSOCIATED WITH A 7,400 S.F. ADDITION TO THE EXISTING LIGHT MANUFACTURING FACILITY BUILDING AND ASSOCIATED SITE IMPROVEMENTS.
3. EXTERIOR LIGHTING SHALL BE CUT-OFF TYPE FIXTURES PER CHAPTER 153-14-E AND SHALL PROVIDE LIGHTING DIRECTED ON-SITE ONLY.
4. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO APPLICABLE CITY AND STATE CODES.
5. ON-SITE SNOW STORAGE SHALL OCCUR ALONG THE EDGES OF PROPOSED PAVEMENT.
6. ALL CONSTRUCTION LAYOUT SHALL BE DONE BY A LICENSED SURVEYOR UNDER CONTRACT WITH THE CONTRACTOR.
7. SEE DETAILS FOR SIGN LEGENDS.
8. ALL PAVEMENT MARKINGS AND SIGNS SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", THE "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS, AND THE AMERICAN WITH DISABILITIES ACT, LATEST EDITIONS.
9. THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE CONSTRUCTION PROCEDURES AND SEQUENCE TO ENSURE THE SAFETY OF THE FACILITIES AND THEIR COMPONENTS DURING DEMOLITION AND CONSTRUCTION UNLESS OTHERWISE DIRECTED BY THE OWNERS REPRESENTATIVE. THIS INCLUDES THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING, GUYS OR TIE-DOWNS. SUCH MATERIALS SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AT THE COMPLETION OF THE PROJECT.
10. METHODS OF DEMOLITION, CONSTRUCTION AND ERECTION ARE THE CONTRACTOR'S RESPONSIBILITY UNLESS OTHERWISE SPECIFIED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE AND MAINTAIN ENVIRONMENTAL CONTROLS AS REQUIRED BY FEDERAL, STATE AND MUNICIPAL REGULATIONS AND PERMITS. ENVIRONMENTAL CONTROLS SHALL INCLUDE BUT SHALL NOT BE LIMITED TO DUST CONTROL AND SILT BARRIERS.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE DONE TO STRUCTURES OR UTILITIES OR INJURIES TO THE PUBLIC DURING THE CONSTRUCTION PHASE CAUSED BY HIMSELF, HIS EMPLOYEES, HIS SUBCONTRACTORS OR EMPLOYEES OF SAME. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL TEMPORARY FACILITIES FOR THE PROTECTION OF THE WORK, WORKERS AND PUBLIC SAFETY.
12. BUILDING ADDRESSES TO BE ASSIGNED BY THE BUILDING OFFICIAL AT THE TIME OF ISSUANCE OF A BUILDING PERMIT.
13. THE SITE LAYOUT IS DESIGNED IN COMPLIANCE WITH APPLICABLE ACCESSIBILITY REGULATIONS AND NH RSA 155-A:5. THE PROPOSED STRUCTURE WILL ALSO BE DESIGNED IN ACCORDANCE WITH APPLICABLE ACCESSIBILITY REGULATIONS.
14. THE SITE SHALL BE MAINTAINED TO PROVIDE ACCESSIBILITY IN ALL WEATHER CONDITIONS.
15. COMMERCIAL VEHICLE ROUTE DURING CONSTRUCTION SHALL CONFORM WITH DOVER CITY CODE OR BE COORDINATED WITH THE COMMUNITY SERVICES DIRECTOR.
16. THE SUBJECT PARCEL(S) IS (ARE) SERVED BY MUNICIPAL WATER AND SEWER.
17. 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 TO ANY EARTH DISTURBANCE ACTIVITY OCCURRING.
18. 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.
19. SITE CONSTRUCTION HOURS SHALL BE LIMITED TO MONDAY-FRIDAY 7 AM-6 PM, SATURDAY 9 AM-4 PM AND NO SUNDAY HOURS OR FEDERAL HOLIDAYS. 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.
20. 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.
21. 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.
22. ANY RETAINING WALL TALLER THAN FOUR FEET (4') REQUIRES ISSUANCE OF A BUILDING PERMIT FROM INSPECTION SERVICES.
23. ANY FENCE TALLER THAN SEVEN FEET (7') REQUIRES THE ISSUANCE OF A BUILDING PERMIT FROM INSPECTION SERVICES.
24. APPLICANT SHALL COMPLETE LAND USE DEVELOPMENT TRACKING FORM, MOST RECENTLY REVISED VERSION, UTILIZING THE ONLINE POLLUTION TRACKING AND ACCOUNTING PILOT PROJECT (PTAPP) PORTAL.
    HTTP://WWW.UNH.EDU/UNHSC/PTAPP.
25. A LETTER OF CREDIT FOR THE COST OF REVEGETATING ALL DISTURBED AREAS ON THE SITE SHALL BE SUBMITTED PRIOR TO ANY EARTH DISTURBING ACTIVITY OCCURS.
26. 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.
27. FIRE DEPARTMENT ACCESS SHALL BE INSTALLED AND MAINTAINED TO SUPPORT THE IMPOSED LOADS OF FIRE APPARATUS IN ALL WEATHER CONDITIONS AT ALL TIMES.
28. REFUSE PICKUP WILL BE BY PRIVATE CONTRACTOR AND WILL BE VIA DUMPSTER ON-SITE.
29. SNOW STORAGE WILL BE ACCORDING TO THE OPERATION AND MAINTENANCE PLAN AND WITHIN AREAS AS INDICATED.
30. ALL EXTERIOR DOORS ARE MANUAL AND OPENED FROM THE INTERIOR BY PANIC HARDWARE. ALL EXTERIOR DOORS SHALL COMPLY WITH ADA AND ALL LOCAL BUILDING CODE REQUIREMENTS.

UTILITY NOTES

1. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES, AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK AT NO ADDITIONAL COST TO THE OWNER.
2. SEE EXISTING CONDITIONS PLAN FOR BENCHMARK INFORMATION.
3. 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.
4. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.
5. THE SUBJECT PARCEL(S) IS (ARE) SERVED BY MUNICIPAL WATER AND SEWER.
6. SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR PROPOSED GRADING AND EROSION CONTROL MEASURES.
7. ALL WATER MAIN INSTALLATIONS SHALL BE CLASS 52, DOUBLE CEMENT LINED DUCTILE IRON PIPE OR TYPE "K" COPPER, OR CITY APPROVED MATERIAL.
8. ALL WATER MAIN INSTALLATIONS SHALL BE PRESSURE TESTED AND CHLORINATED AFTER CONSTRUCTION PRIOR TO ACTIVATING THE SYSTEM. CONTRACTOR SHALL COORDINATE CHLORINATION AND TESTING WITH THE CITY OF DOVER WATER DEPARTMENT.
9. ALL GRAVITY SEWER PIPE SHALL BE PVC SDR 35 UNLESS OTHERWISE NOTED AND CONFORM TO THE REQUIREMENTS OF THE CITY OF DOVER SEWER DEPARTMENT STANDARDS.
10. EXISTING UTILITIES TO BE REMOVED SHALL BE CAPPED AT THE MAIN AND MEET THE CITY OF DOVER COMMUNITY SERVICES DEPARTMENT STANDARDS FOR CAPPING OF WATER AND SEWER SERVICES.
11. ALL ELECTRICAL MATERIAL WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRIC CODE, LATEST EDITION, AND ALL APPLICABLE STATE AND LOCAL CODES.
12. THE EXACT LOCATION OF NEW UTILITY SERVICES AND CONNECTIONS SHALL BE COORDINATED WITH THE BUILDING DRAWINGS AND THE UTILITY COMPANIES.
13. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
14. THE CONTRACTOR SHALL OBTAIN, PAY FOR, AND COMPLY WITH ALL REQUIRED PERMITS, ARRANGE FOR ALL INSPECTIONS, AND SUBMIT COPIES OF ACCEPTANCE CERTIFICATES TO THE OWNER PRIOR TO THE COMPLETION OF THIS PROJECT.
15. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL MANHOLES, BOXES, FITTINGS, CONNECTORS, COVER PLATES, AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THESE DRAWINGS TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL.
16. CONTRACTOR SHALL PROVIDE EXCAVATION, BEDDING, BACKFILL AND COMPACTION FOR NATURAL GAS SERVICES. COORDINATE WITH GAS COMPANY.
17. A 10-FOOT MINIMUM EDGE TO EDGE HORIZONTAL SEPARATION SHALL BE PROVIDED BETWEEN ALL WATER AND SANITARY SEWER LINES. AN 18-INCH MINIMUM OUTSIDE TO OUTSIDE VERTICAL SEPARATION SHALL BE PROVIDED AT ALL WATER/SANITARY SEWER CROSSINGS.
18. THE CONTRACTOR SHALL CONTACT "DIG-SAFE" 72 HOURS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL HAVE THE "DIG-SAFE" NUMBER ON SITE AT ALL TIMES.
19. SAWCUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN
20. GATE VALVES, FITTINGS, ETC. SHALL MEET THE REQUIREMENTS OF THE CITY OF DOVER.
21. COORDINATE TESTING OF SEWER CONSTRUCTION WITH THE CITY OF DOVER.
22. CONTRACTOR SHALL COORDINATE ALL ELECTRIC WORK INCLUDING BUT NOT LIMITED TO: CONDUIT CONSTRUCTION, MANHOLE CONSTRUCTION, UTILITY POLE CONSTRUCTION, OVERHEAD WIRE RELOCATION, AND TRANSFORMER CONSTRUCTION WITH POWER COMPANY.
23. CONTRACTOR SHALL PHASE UTILITY CONSTRUCTION, PARTICULARLY WATER MAIN AND GAS MAIN CONSTRUCTION AS TO MAINTAIN CONTINUOUS SERVICE TO ABUTTING PROPERTIES. CONTRACTOR SHALL COORDINATE TEMPORARY SERVICES TO ABUTTERS WITH THE UTILITY COMPANY AND AFFECTED ABUTTER.
24. SITE LIGHTING SPECIFICATIONS, CONDUIT LAYOUT AND CIRCUITRY FOR PROPOSED SITE LIGHTING AND SIGN ILLUMINATION SHALL BE PREPARED BY THE PROJECT ELECTRICAL ENGINEER.
25. APPROVED BACKFLOW PREVENTORS SHALL BE PROVIDED FOR BOTH FIRE AND DOMESTIC WATER LINES.
26. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE CITY AND STATE CODES.
27. A SECURITY ALARM SYSTEM SHALL BE INSTALLED AS REQUIRED BY CHAPTER 58, ARTICLE I, SECTION 58-2 OF THE CODE OF THE CITY OF DOVER.
28. THE PROPOSED STRUCTURE SHALL COMPLY WITH CHAPTER 81, ARTICLE IV, SECTION 81-27 AND THE STATE BUILDING CODES OF THE CODE OF THE CITY OF DOVER.
29. FINAL PLANS FOR TANK LOCATIONS, DISTRIBUTION SYSTEMS, AND CROSS SECTIONS ASSOCIATED WITH THE FUEL BAYS, SHALL BE PROVIDED TO THE CITY OF DOVER ENGINEER PRIOR TO CONSTRUCTION.
30. FIRE SUPPRESSION PLANS SHALL BE PROVIDED TO THE FIRE/INSPECTION DEPARTMENT PRIOR TO INSTALLATION.
31. THE STRUCTURE SHALL BE SERVED BY A SPRINKLER SYSTEM AS REQUIRED UNDER CHAPTER 81-30 OF THE CODE OF THE CITY OF DOVER AND THE ADOPTED STATE OF NEW HAMPSHIRE BUILDING & FIRE CODE.
32. 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.
33. FIRE DEPARTMENT CONNECTIONS SHALL BE LOCATED ON THE STREET SIDE OF THE BUILDING PER NFPA 13.
34. COORDINATE ALL UTILITY WORK WITH APPROPRIATE UTILITY COMPANY.
35. SEWAGE LOADING: NO CHANGE TO CURRENT SEWER LOADING

GRADING NOTES:

1. ALL ROAD DRAINAGE WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS FOR CONSTRUCTION OF THE CITY OF DOVER, N.H. AND "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, STATE OF NEW HAMPSHIRE, DEPARTMENT OF TRANSPORTATION", LATEST EDITION. THE MORE STRINGENT SPECIFICATION SHALL APPLY.
2. CONTRACTOR SHALL RETAIN A GEOTECHNICAL ENGINEERING CONSULTANT APPROVED BY THE OWNER, TO CONDUCT COMPACTION TESTING AND FILL GRADATION MONITORING PER THE ABOVE REFERENCED "STANDARD SPECIFICATIONS".
3. SEE EROSION CONTROL NOTES & DETAIL SHEET FOR TEMPORARY AND PERMANENT EROSION CONTROL MEASURES.
4. ALL DRAINAGE PIPES SHALL BE HDPE OR APPROVED EQUAL UNLESS OTHERWISE NOTED.
5. ALL DISTURBED AREAS NOT OTHERWISE CALLED FOR SURFACE TREATMENT SHALL RECEIVE 6" OF HIGH QUALITY LOAM AND SHALL BE SEEDED WITH GRASS.
6. ALL SITEWORK CONSTRUCTION SHALL BE ADVANCED USING "BEST MANAGEMENT PRACTICES" SANCTIONED BY THE USDA SCS AND NHDES.
7. TEMPORARY CONSTRUCTION ENTRANCE SHALL BE INSTALLED, UTILIZED AND MAINTAINED UNTIL BASE MATERIALS ARE CONSTRUCTED.
8. CONTRACTOR SHALL PROVIDE A FINISH GRADED SURFACE FREE OF LOW SPOTS AND PONDING AREAS. CRITICAL AREAS INCLUDE BUILDING ENTRANCE AND UNDER RAISED STRUCTURES.
9. DENSITY REQUIREMENTS:

LOCATION	MINIMUM DENSITY
BELOW PAVED OR CONCRETE AREAS	95%
TRENCH BEDDING MATERIAL AND SAND BLANKET BACKFILL	95%
BELOW LOAM AND SEED AREA	90%

   *ALL PERCENTAGES SHALL BE OF THE MAXIMUM DRY DENSITY AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED AND CONTROLLED IN ACCORDANCE WITH AASHTO STANDARD 180, METHOD C. FIELD DENSITY TESTS SHALL BE MADE IN ACCORDANCE WITH AASHTO STANDARD T-191, T-204, OR T-238 AND T-239.

10. SEE GENERAL EROSION CONTROL NOTES ON DETAIL SHEET.
11. PROVIDE INLET PROTECTION BARRIERS AROUND ALL EXISTING AND PROPOSED STORM DRAINAGE INLETS WITHIN THE WORK LIMITS AND AS SHOWN ON PLAN. MAINTAIN FOR THE DURATION OF THE PROJECT UNTIL PAVEMENT HAS BEEN INSTALLED AND UPSTREAM AREAS HAVE BEEN STABILIZED.
12. INSPECT SILT BARRIERS AFTER EACH RAIN STORM OF 1/4 INCH OR GREATER. REPAIR/MODIFY PROTECTION AS NECESSARY TO MAXIMIZE EFFICIENCY FILTER. REPLACE ALL FILTERS WHEN SEDIMENT IS 1/3 THE STRUCTURE HEIGHT.
13. A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IS REQUIRED FOR THIS PROJECT. THE SWPPP MUST INCLUDE THE APPROPRIATE BEST MANAGEMENT PRACTICES (BMP'S) TO MINIMIZE THE DISCHARGE OF POLLUTANTS FROM THE SITE. PARTIES RESPONSIBLE FOR DEVELOPING THE SWPPP SHOULD REFER TO THE EPA NPDES CONSTRUCTION GENERAL PERMITS NOTICE OF INTENT FOR A COMPLETE OUTLINE OR REQUIRED ELEMENTS. THESE PLANS AND THE STORMWATER MANAGEMENT SYSTEM INSPECTION & MAINTENANCE PLAN PREPARED FOR THIS PROJECT MAY BE UTILIZED IN FULFILLING THE REQUIREMENTS.
14. ALL TREATMENT SWALES TO BE CONSTRUCTED SHALL HAVE SOD BOTTOMS.
15. LIMIT TREE CLEARING TO ONLY THE EXTENT NECESSARY FOR CONSTRUCTION.
16. PLACARDS SHALL BE INSTALLED ALONG THE EDGE OF WETLAND PRIOR TO CONSTRUCTION AS APPLICABLE.

LEGEND

- I.R. (set) o – IRON ROD W/ I.D. CAP (SET)
- ⊙ I.P. – IRON PIPE
- □ G.B. – GRANITE BOUND
- ⊙ I.R. – IRON ROD
- ⊙ I.R.(fnd) – IRON ROD (FOUND)
- D.H. – DRILL HOLE
- S.F. – SQUARE FEET
- Ac. – ACRE
- (TYP.) – TYPICAL
- ± – MORE OR LESS
- ø – DIAMETER
- S.C.R.D. – STRAFFORD COUNTY REGISTRY OF DEEDS
- -o- UP – UTILITY POLE
- — · · — – EDGE OF WETLAND
- O.A. – OVERALL
- TBR – TO BE REMOVED
- R.O.W. – RIGHT OF WAY
- Ⓓ DMH – DRAIN MANHOLE
- ◘ CB – CATCH BASIN
- Ⓢ SMH – SEWER MANHOLE
- HYD. – FIRE HYDRANT
- WV – WATER GATE VALVE
- – TREE
- GV – GAS VALVE
- ICC – INTEGRATED CONCRETE CURB
- 5'R – PROPOSED PAVEMENT RADIUS
- PW – PROPOSED WATER
- PE – PROPOSED ELECTRIC
- PS – PROPOSED SEWER
- PD – PROPOSED DRAINAGE
- PG – PROPOSED GAS
- 55 – PROPOSED FINISH GRADE
- x 55 – PROPOSED SPOT GRADE

UTILITY CONTACTS

NATURAL GAS: UNITIL CORPORATION
CONTACT: DAVID BEAULIEU
325 WEST ROAD
PORTSMOUTH, NH 03801
TEL: (603)-294-5144

WATER & SEWER: CITY OF DOVER COMMUNITY SERVICES DEPARTMENT
PUBLIC WORKS & UTILITIES
CONTACT: BILL BOULANGER
271 MAST ROAD
DOVER, NH 03820
TEL: (603)-516-6450

ELECTRIC: EVERSOURCE
CONTACT: PIERRE BOUGIE
4 OLD DOVER ROAD
ROCHESTER, NH 03867
TEL: (603)-332-4227

TELEPHONE: FAIRPOINT COMMUNICATIONS, INC.
CONTACT: ED LANAGAN
HIGHWAY 33, BOX 307
1575 GREENLAND ROAD
GREENLAND, NH 03804
TEL: (603)-528-7335

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: P21-77

NO.	REVISION	APP'D	DATE
1	REVISED PER TRC COMMENTS	SJH	11-15-21

DATE: 10-15-21
SCALE: AS SHOWN
DRAWN BY: SRD
DESIGN BY: SRD
APPROVED BY: SJH
PROJECT NO: 21043
FILE: SITE.DWG

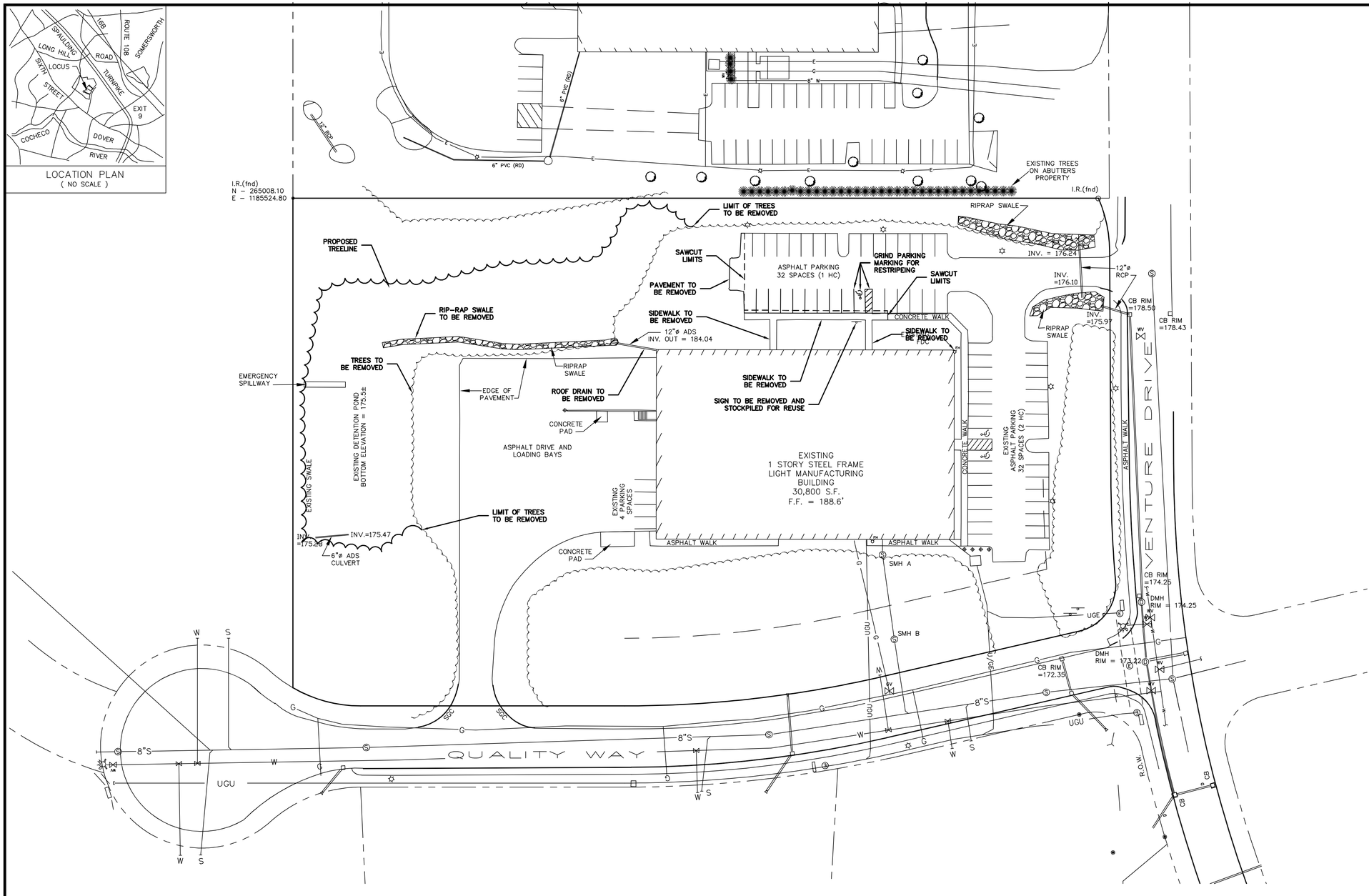
CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

QUALITY WAY, LLC
55 MAIN STREET, UNIT 407
NEWMARKEY, NH 03857

BUILDING ADDITION
1 QUALITY WAY
DOVER, NH

NOTE SHEET

LOCATION PLAN
(NO SCALE)



EXISTING SEWER STRUCTURES
SMH A
RIM = 187.08
INV. 6" PVC IN = 181.75 (DROP) FROM BUILDING
INV. 6" PVC OUT = 172.00 TO SMH B

SMH B
RIM = 177.56
INV. 6" PVC IN = 171.91 (DROP) FROM SMH A
INV. 6" PVC OUT = 164.46 TO QUALITY WAY

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE
NO.: P21-77

CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

NO.	REVISION	APP'D	DATE
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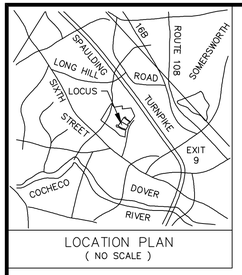
DATE: 10-15-21
SCALE: 1"=40'
DRAWN BY: SRD
DESIGN BY: SRD
APPROVED BY:SJH
PROJECT NO:21043
FILE: SITE.DWG

DEMOLITION PLAN

QUALITY WAY, LLC
55 MAIN STREET, UNIT 407
NEWMARKEY, NH 03857

BUILDING ADDITION
1 QUALITY WAY
DOVER, NH

5



LOCATION PLAN
(NO SCALE)

I.R.(fnd)
N – 265008.10
E – 1185524.80

6" PVC (RD)

12" RCP

8" W

EXISTING TREES ON ABUTTERS PROPERTY

I.R.(fnd)

PROPOSED FUTURE NEW PAVEMENT (PHASE II)

PROPOSED FUTURE 18'x25' PAINTED ISLAND

PROPOSED 10 FUTURE PARKING SPACES

RIPRAP SWALE

PROPOSED 10'x60' CONCRETE PAD

18'

9' TYP

9' TYP

18'

23' (EXISTING)

PROPOSED RESTRIPEING

6'

9' 8' 9' 9'

EXISTING ASPHALT PARKING 32 SPACES (1 HC)

INV. =176.24

12"ø RCP

INV. =176.10

CB RIM =178.50

CB RIM =178.43

INV. =175.97

RIPRAP SWALE

PROPOSED 6' HIGH CHAINLINK FENCE WITH PRIVCY SLATS

PROPOSED TREELINE

ICC

CONCRETE WALK

PROPOSED 1 STORY 7,400 S.F. BUILDING ADDITION

PROPOSED CONCRETE SIDEWALK

EXISTING FDC

EMERGENCY SPILLWAY

EDGE OF PAVEMENT

PROPOSED FUTURE 18'x28' PAINTED ISLAND

RELOCATED SIGN FROM STOCKPILE

10'

PROPOSED RAMP WITH TIP DOWN CURB

PROPOSED 5' SIDEWALK

CONCRETE PAD

ASPHALT DRIVE AND LOADING BAYS

EXISTING DETENTION POND BOTTOM ELEVATION = 175.5±

EXISTING SWALE

PROPOSED 8'x8' CONCRETE LANDING WITH STAIRS

PROPOSED DUMPSTER LOCATION WITH 6' HIGH CHAINLINK FENCE WITH PRICY SLATS

EXISTING 1 STORY STEEL FRAME LIGHT MANUFACTURING BUILDING 30,800 S.F. F.F. = 188.6'

EXISTING 4 PARKING SPACES

EXISTING ASPHALT 32 SPACES (2 HC)

CONCRETE WALK

ASPHALT WALK

INV. =175.88

INV.=175.47

6"ø ADS CULVERT

CONCRETE PAD

ASPHALT WALK

ASPHALT WALK

SMH A

EXISTING PALLET STORAGE

CB RIM =174.25

DMH RIM = 174.25

UGE

SMH B

UGU

DMH RIM = 173.12

CB RIM =172.35

8"S

8"S

8"S

UGU

QUALITY WAY

R.O.W.

CB

CB

W

S

G

W

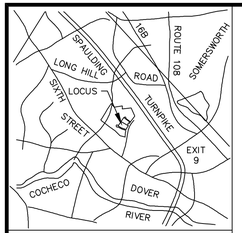
S

W

S

W

S



LOCATION PLAN
(NO SCALE)

I.R.(fnd)
N – 265008.10
E – 1185524.80

I.R.(fnd)

EXISTING TREES ON ABUTTERS PROPERTY

RIPRAP SWALE

PROPOSED 375 LF 12" HDPE S=0.0157

FES2 INV.OUT=177.50

PROPOSED SILTSOXX

EMERGENCY SPILLWAY

PROPOSED 1 STORY 7,400 S.F. BUILDING ADDITION
ELEV= 188.6'

INV.IN=184.50

CONCRETE WALK

EXISTING FDC

RIPRAP SWALE

FES1 INV.OUT=180.00

PROPOSED 170 LF 12" HDPE S=0.0265

EDGE OF PAVEMENT

INV.IN=184.50

PROPOSED SILTSOXX CHECK DAM (TYP)

CONCRETE PAD

ASPHALT DRIVE AND LOADING BAYS

EXISTING SWALE

EXISTING DETENTION POND BOTTOM ELEVATION = 175.5±

EXISTING 1 STORY STEEL FRAME LIGHT MANUFACTURING BUILDING 30,800 S.F. F.F. = 188.6'

EXISTING 4 PARKING SPACES

EXISTING ASPHALT PARKING 32 SPACES (2 HC)

CONCRETE WALK

ASPHALT WALK

CONCRETE PAD

ASPHALT WALK

ASPHALT WALK

SMH A

SMH B

VENTURE DRIVE

QUALITY WAY

NH STATE PLANE NAD 83 2 GPS OBS.

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

PLANNING FILE NO.: P21-77

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CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

GRADING, DRAINAGE & EROSION PLAN

BUILDING ADDITION
1 QUALITY WAY
DOVER, NH

QUALITY WAY, LLC
55 MAIN STREET, UNIT 407
NEWMARKEY, NH 03857

7

DESCRIPTION

1. THE INTENT OF THIS PLAN IS TO SHOW SITE IMPROVEMENTS ASSOCIATED WITH THE CONSTRUCTION OF A 7,400 S.F. ADDITION TO EXISTING BUILDING.

PROJECT NAME AND LOCATION

Q, LLC — LATITUDE N43° 13' 25"
1 QUALITY WAY — LONGITUDE W70° 54' 36"
DOVER, NH 03820

DISTURBED AREA

±40,590 S.F.

NOTES:

1. THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION, BUT IN NO CASE SHALL EXCEED 5 ACRES AT ANY TIME BEFORE DISTURBED AREAS ARE STABILIZED.
2. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.

SEQUENCE OF MAJOR ACTIVITIES

1. CONTRACTOR SHALL PREPARE THE SWPPP, FILE FOR AND OBTAIN THE NOI A MINIMUM OF 2 WEEKS PRIOR TO COMMENCEMENT OF SITE WORK.
2. PLACE TEMPORARY EROSION AND SEDIMENT CONTROL BMP'S PRIOR TO EARTH MOVING ACTIVITIES.
3. ALL EROSION CONTROL AND PERIMETER CONTROLS SHALL BE INSTALLED PRIOR TO COMMENCING EARTH MOVING OPERATIONS.
4. SELECTIVE DEMOLITION.
5. REGRADE SITE TO SUBGRADE.
6. TEMPORARY WATER DIVERSION (SWALES, BASINS) MUST BE USED AS NECCESSARY UNTIL AREAS ARE STABILIZED.
7. SWALES AND PONDS (AS APPLICABLE) SHALL BE CONSTRUCTED EARLY ON IN THE CONSTRUCTION SEQUENCE AND BEFORE ROUGH GRADING OF THE SITE AND ALL DITCHES AND SWALES SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
8. INSTALL DRAINAGE STRUCTURES AND CONTROLS.
9. INSTALL FOUNDATION FOOTINGS AND WALLS.
10. INSTALL UTILITIES.
11. PLACE GRAVELS AND FINE GRADE.
12. STABILIZE ROADWAYS WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
13. ALL CUT AND FILL SLOPES SHALL BE LOAMED AND SEEDED (AS APPLICABLE) WITHIN 72 HOURS OF ACHIEVING FINISH GRADE.
14. ALL EROSION CONTROL MEASURES SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EVERY 1/2" OF RAINFALL.
15. IN ALL CASES THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION AND IN NO CASE SHALL EXCEED 5 ACRES AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED. ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.
16. WHEN ALL SITE WORK IS COMPLETE AND ALL DISTURBED AREAS ARE STABILIZED REMOVE ALL TEMPORARY EROSION CONTROL MEASURES AND FILE THE EPA – N.O.T.

DEFINITIONS

AN AREA SHALL BE CONSIDERED STABLE OF ONE OF THE FOLLOWING HAS OCCURRED.

1. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED
2. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED
3. A MINIMUM OF 3" OF NON–EROSIVE MATERIAL SUCH AS STONE OR RIP–RAP HAS BEEN INSTALLED; OR
4. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED

INSTALLATION, MAINTENANCE, AND INSPECTION PROCEDURES OF EROSION AND SEDIMENT CONTROLS

A. SILT BARRIER

1. INSTALLATION
   a. USE SILT BARRIER AS PERIMETER CONTROLS, PARTICULARLY AT THE LOWER OR DOWN SLOPE EDGE OF A DISTURBED AREA.
   b. LEAVE SPACE FOR MAINTENANCE BETWEEN TOE AND SLOPE OF SILT BARRIER.
   c. TRENCH IN THE SILT BARRIER ON THE UPHILL SIDE (6 INCHES DEEP BY 6 INCHES WIDE).
   d. INSTALL STAKES ON THE DOWNHILL SIDE OF THE SILT BARRIER.
   e. CURVE THE END OF THE SILT BARRIER UP–GRADIENT TO HELP IT CONTAIN RUNOFF.
2. SEQUENCE OF INSTALLATION
   a. SEDIMENT BARRIERS SHALL BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE OF THE CONTRIBUTING DRAINAGE AREA ABOVE THEM.
3. MAINTENANCE
   a. SILT BARRIERS SHOULD BE INSPECTED AND MAINTAINED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL.
   b. SILT BARRIERS HAVE A USEFUL LIFE OF ONE SEASON. ON LONGER CONSTRUCTION PROJECTS, SILT BARRIERS SHOULD BE REPLACED PERIODICALLY TO MAINTAIN EFFECTIVENESS.
   c. REMOVE SEDIMENT WHEN IT REACHES ONE–THIRD (1/3) THE HEIGHT OF THE SILT BARRIER.
   d. REPLACE THE SILT BARRIERS WHERE THEY ARE TORN, WORN, OR OTHERWISED DAMAGED AND MONITOR PERFORMANCE TO ENSURE EFFECTIVE PERFORMANCE.
   e. RETRENCH OR REPLACE ANY SILT BARRIER THAT IS NOT PROPERLY ANCHORED TO THE GROUND.
   f. IF THERE IS EVIDENCE OF END FLOW ON PROPERLY INSTALLED BARRIERS, EXTEND BARRIERS UPHILL OR CONSIDER REPLACING THEM WITH OTHER MEASURES, SUCH AS TEMPORARY DIVERSIONS AND SEDIMENT TRAPS.
   g. SILT BARRIERS SHOULD BE REPAIRED IMMEDIATELY IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THEM. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES OF THE BARRIER, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THEM, SILT BARRIERS SHOULD BE REPLACED WITH A TEMPORARY CHECK DAM.

B. MULCHING

1. TIMING
   a. APPLY MULCH PRIOR TO ANY STORM EVENT. IT WILL BE NECESSARY TO CLOSELY MONITOR WEATHER PREDICTIONS TO HAVE ADEQUATE WARNING OF SIGNIFICANT STORMS.
   b. IN OTHER AREAS, THE TIME PERIOD CAN RANGE FROM 14 TO 30 DAYS OF INACTIVITY ON A AREA. THE LENGTH OF TIME VARYING WITH SITE CONDITIONS. PROFESSIONAL JUDGEMENT 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.
   c. WITHIN 100 FEET OF RIVERS, STREAMS, WETLANDS, AND IN LAKE AND POND WATERSHEDS, THE TIME PERIOD OF WHICH MULCHING SHOULD TAKE OCCUR SHOULD BE NO GREATER THAN SEVEN (7) DAYS. THIS SEVEN DAY LIMIT SHOULD BE REDUCED FURTHER DURING WET WEATHER PERIODS.
2. APPLICATION RATE
   a. MULCH SHALL BE APPLIED AT A RATE OF BETWEEN 1.5 TO 2 TONS PER ACRE, OR 70 TO 90 POUNDS PER 1000 SQUARE FEET.
   b. GUIDELINES FOR WINTER MULCH APPLICATION. WHEN MULCH IS APPLIED TO PROVIDE PROTECTION OVER WINTER (PAST THE GROWING SEASON) IT SHALL BE AT A RATE OF 150–200 POUNDS OF HAY OR STRAW PER ACRE WITH ABOUT 4 INCHES IN DEPTH. A TACKIFIER MAY BE ADDED TO THE MULCH.
3. MAINTENANCE
   a. ALL MULCHES MUST BE INSPECTED PERIODICALLY, IN PARTICULAR AFTER RAINSTORMS. CHECK FOR SIGNS OF EROSION OR DISPLACEMENT OF THE MULCH. IF LESS THAN 90% OF THE SOIL SURFACE IS COVERED BY MULCH, ADDITIONAL MULCH SHALL BE IMMEDIATELY APPLIED.
   b. NETS MUST BE INSPECTED AFTER RAIN EVENTS FOR DISLOCATION OR FAILURE AND SHOULD BE REPAIRED AS NECCESSARY.
   c. INSPECTIONS SHOULD TAKE PLACE UNTIL THE SITE IS ESTABLISHED.
   d. EROSION CONTROL MULCH USED FOR TEMPORARY STABILIZATION SHOULD BE LEFT IN PLACE. VEGETATION ADDS STABILITY AND SHOULD BE PROMOTED.

C. TEMPORARY SEEDING

1. SEEDBED PREPARATION
   a. STONES AND TRASH SHOULD BE REMOVED SO AS NOT TO INTERFERE WITH THE SEEDING AREA.
   b. WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF 2 INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED.
   c. APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS.
      i) APPLY FERTILIZER AT A RATE OF 600 POUNDS PER ACRE OR 13.8 POUNDS PER 1,000 SQUARE FEET OF LOW PHOSPHATE FERTILIZER OR EQUIVALENT.
      ii) APPLY LIMESTONE AT A RATE OF 3 TONS PER ACRE OR 138 POUNDS PER 1,000 SQUARE FEET.
2. SEEDING
   a. APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL, CULTIPACKER TYPE SEEDER OR HYDROSEEDER (SUMMARY INCLUDING SEED AND FERTILIZER) WITH A SEEDING DEPTH FROM A QUARTER (1/4) TO A HALF (1/2) INCH.
   b. SEEDING RATES MUST BE INCREASED BY 10% WHEN HYDROSEEDING.
   c. TEMPORARY SEEDING BETWEEN MAY 15TH AND AUGUST 15TH SHOULD BE COVERED WITH HAY OR STRAW MULCH, ACCORDING TO THE "TEMPORARY AND PERMANENT MULCHING" PRACTICE.
   d. VEGETATED GROWTH COVERING 85% OF THE DISTURBED AREA SHOULD BE ACHIEVED PRIOR TO OCTOBER 15TH.
3. MAINTENANCE
   a. TEMPORARY SEEDING SHALL BE INSPECTED PERIODICALLY. AT A MINIMUM, 85% OF THE SOIL SURFACE SHOULD BE COVERED BY VEGETATION. IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHALL BE MADE AND OTHER TEMPORARY MEASURES USED IN THE INTERIM (MULCH, FILTER FABRICS, CHECK DAMS, ETC.).

D. PERMANENT SEEDING

1. BEDDING – STONES LARGER THAN 2 INCHES, TRASH, ROOTS, AND OTHER DEBRIS INTERFERRING WITH SEEDING AND FUTURE MAINTENANCE OF THE AREA SHOULD BE REMOVED. WHERE FEASIBLE, THE SOIL SHOULD BE TILLED TO A DEPTH OF 4" TO PREPARE A SEEDBED AND MIX FERTILIZER INTO THE SOIL.
2. FERTILIZER
   a. LIME AND FERTILIZER SHOULD BE WORKED INTO THE SOIL TO A DEPTH OF 4 INCHES USING A DISC, SPRING TOOTH HARROW, OR OTHER SUITABLE EQUIPMENT PRIOR TO OR AT THE SAME TIME OF SEEDING.
   b. FERTILIZER SHOULD BE RESTRICTED TO A LOW PHOSPHATE, SLOW RELEASE NITORGEN FERTILIZER WHEN APPLIED TO AREAS BETWEEN 25 FEET AND 250 FEET FROM A SURFACE WATER BODY. NO FERTILIZER EXCEPT LIMESTONE SHOULD BE APPLIED WITHIN 25 FEET OF THE SURFACE WATER.
   c. KINDS AND AMOUNTS OF LIME AND FERTILIZER SHOULD BE BASED ON AN EVALUATION OF SOIL TESTS. WHEN A SOIL TEST IS NOT AVAILABLE, THE FOLLOWING MINIMUM AMOUNTS SHOULD BE APPLIED:
      AGRICULTURAL LIMESTONE @ 138 LBS. PER 1,000 S.F.
      LOW PHOSPHATE (N–P205–K20) FERTILIZER @ 13.8 LBS. PER 1,000 S.F.
3. SEED MIXTURE (RECOMMENDED)
   RATE:

TYPE	LBS. PER ACRE	LBS. PER 1,000 S.F.
TALL FESCUE	20	0.45
CREEPING RED FESCUE	20	0.45
BIRDSFOOT TREFOIL	8	0.20
TOTAL	48	1.10

4. SEEDING
   a. SPRING SEEDING USUALLY GIVES THE BEST RESULTS FOR ALL SEED MIXES OR WITH LEGUMES. PERMANENT SEEDING SHOULD BE COMPLETED 45 DAYS PRIOR TO THE FIRST KILLING FROST.
   b. APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL, CULTIPACKER TYPE SEEDER OR HYDROSEEDER (SLURRY INCLUDING SEED AND FERTILIZER) WITH A SEEDING DEPTH FROM A QUARTER (1/4) TO A HALF (1/2) INCH.
   c. VEGETATED GROWTH COVERING AT LEAST 85% OF THE DISTURBED SHOULD BE ACHIEVED PRIOR TO OCTOBER 15TH. IF THIS CONDITION IS NOT ACHIEVED, IMPLEMENT TEMPORARY STABILIZATION MEASURES FOR OVERWINTER PROTECTION.
5. HYDROSEEDING
   a. LIME AND FERTILIZER MAY BE APPLIED SIMULTANEOUSLY WITH THE SEED. THE USE OF STRAW MULCH ON CRITICAL AREAS IS PREFERRED SINCE IT GRANTS BETTER SLOPE PROTECTION BY USING ADHESIVE MATERIALS.
   b. SLOPES MUST BE NO STEEPER THAN 2 TO 1 (2 FEET HORIZONTALLY TO 1 FOOT VERTICALLY).
   c. SEEDING RATES MUST BE INCREASED BY 10% WHEN HYDROSEEDING.
6. MAINTENANCE
   a. PERMANENT SEEDED AREAS SHOULD BE INSPECTED AT LEAST MONTHLY DURING THE COURSE OF CONSTRUCTION. INSPECTIONS, MAINTENANCE, AND CORRECTIVE ACTIONS SHOULD CONTINUE UNTIL THE OWNER ASSUMES PERMANENT OPERATION OF THE SITE.
   b. SEEDED AREAS SHOULD BE MOWED AS REQUIRED TO MAINTAIN A HEALTHY STAND OF VEGETATION, WITH MOWING HEIGHT AND FREQUENCY DEPENDENT ON TYPE OF GRASS COVER.
   c. BASED ON INSPECTION, AREAS SHOULD BE RESEEDED TO ACHIEVE FULL STABALIZATION OF EXPOSED SOILS.
   d. IF EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHOULD BE MADE AND AREAS RESEEDED. WITH OTHER TEMPORARY MEASURES USED TO PROVIDE EROSION PROTECTION DURING THE PERIOD OF VEGETATION ESTABLISHMENT.
   e. AT A MINIMUM, 85% OF THE SOIL SURFACE SHOULD BE COVERED BY VEGETATION.

E. STORM DRAIN INLET PROTECTION

1. SPECIFICATIONS
   a. THE MAXIMUM CONTRIBUTING DRAINAGE AREA TO THE BARRIER SHOULD BE LESS THAN ONE ACRE.
   b. ANY RESULTANT PONDING OF STORMWATER MUST NOT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT AREAS OR STRUCTURES.
2. INSTALLATION
   a. INSTALL INLET PROTECTION AS SOON AS STORM DRAIN INLETS ARE INSTALLED AND BEFORE LAND–DISTURBANCE ACTIVITIES BEGIN IN AREAS WITH EXISTING STORM DRAIN SYSTEMS.
   b. PROTECT ALL INLETS THAT COULD RECEIVE STORMWATER FROM YOUR CONSTRUCTION PROJECT.
   c. USE IN CONJUNCTION WITH OTHER EROSION PREVENTION AND SEDIMENT CONTROL BMPS.
   d. DESIGN YOUR INLET PROTECTION TO HANDLE THE VOLUME OF WATER FROM THE AREA BEING DRAINED. ENSURE THAT THE DESIGN IS SIZED APPROPRIATELY.
3. MAINTENANCE
   a. INSPECT INLETS BARRIERS FREQUENTLY, BEFORE AND AFTER EACH RAINFALL EVENT AND REPAIR WHEN NECESSARY.
   b. SEDIMENT SHOULD BE REMOVED AND THE STORM DRAIN SEDIMENT BARRIER RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE BARRIER.
   c. REMOVED SEDIMENT SHOULD BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
   d. SWEEP STREETS, SIDEWALKS, AND OTHER PAVED AREAS REGULARLY.
   e. ALL CATCH BASINS AND STORM DRAIN INLETS MUST BE CLEANED AT THE END OF CONSTRUCTION AND AFTER THE SITE HAS BEEN FULLY STABILIZED

TIMING OF CONTROLS/MEASURES

AS INDICATED IN THE SEQUENCE OF MAJOR ACTIVITIES THE SILT BARRIERS SHALL BE INSTALLED PRIOR TO COMMENCING ANY CLEARING OR GRADING OF THE SITE. STRUCTURAL CONTROLS SHALL BE INSTALLED CONCURRENTLY WITH THE APPLICABLE ACTIVITY. AREAS WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR MORE THAN TWENTY ONE (21) DAYS WILL BE STABILIZED WITH A TEMPORARY SEED AND MULCH WITHIN FOURTEEN (14) DAYS OF THE LAST DISTURBANCE. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN AREA, SILT FENCES AND ANY EARTH/DIKES WILL BE REMOVED ONCE PERMANENT MEASURES ARE ESTABLISHED. ALL AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISH GRADE.

WASTE DISPOSAL

a. WASTE MATERIALS
   ALL WASTE MATERIALS WILL BE COLLECTED AND STORED IN SECURELY LIDDED RECEPTACLES. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE WILL BE DEPOSITED IN A DUMPSTER. NO CONSTRUCTION WASTE MATERIALS WILL BE BURIED ON SITE. ALL PERSONEL WILL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL BY THE SUPERINTENDENT.
b. HAZARDOUS WASTE
   ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER. SITE PERSONNEL WILL BE INSTRUCTED IN THESE PRACTICES BY THE SUPERINTENDENT.
c. SANITARY WASTE
   ALL SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE UNITS A MINIMUM OF ONCE PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.

MAINTENACE OF STORMWATER MANAGEMENT FACILITIES

THE PROJECT PROPONENT IS RESPONSIBLE FOR THE MAINTENANCE OF ALL STORMWATER FACILITIES DURING CONSTRUCTION AND THE PORPERTY OWNER IS RESPONSIBLE AFTER CONSTRUCTION IS COMPLETE.

CATCH BASINS & STORMWATER TREATMENT STRUCTURES

1. CATCH BASINS & STORMWATER TREATMENT STRUCTURES SHOULD BE INSPECTED ON A MONTHLY BASIS AND/OR AFTER A MAJOR RAINFALL EVENT TO ASSURE THAT DEBRIS OR SEDIMENTS DO NOT REDUCE THE EFFECTIVENESS OF THE SYSTEM.

SPILL PREVENTION

A. MATERIAL MANAGEMENT PRACTICES
THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL SANITARY EXPOSURE OF MATERIALS AND SUBSTANCES DURING CONSTRUCTION TO STORMWATER RUNOFF:
GOOD HOUSEKEEPING:
THE FOLLOWING GOOD HOUSEKEEPING PRACTICES THAT WILL BE FOLLOWED ON SITE DURING
1. THE CONSTRUCTION PROJECT:
   a. AN EFFORT WILL BE MADE TO STORE ONLY SUFFICIENT AMOUNTS OF PRODUCTS TO DO THE JOB.
   b. ALL MATERIALS STORED ON SITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR PROPER (ORIGINAL IF POSSIBLE) CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE.
   c. MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED.
   d. THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS.
   e. SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.
   f. WHENEVER POSSIBLE ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER.
2. HAZARDOUS PRODUCTS:
   a. THE FOLLOWING PRACTICES WILL BE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS:
   b. PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE
   c. ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED FOR IMPORTANT PRODUCT INFORMATION.
   d. SURPLUS PRODUCT THAT MUST BE DISPOSED OF WILL BE DISCARDED ACCORDING TO THE MANUFACTURER'S RECOMMENDED METHODS OF DISPOSAL.

B. PRODUCT SPECIFICATION PRACTICES
THE FOLLOWING PRODUCT SPECIFIC PRACTICES WILL BE FOLLOWED ON SITE:
1. PETROLEUM PRODUCTS:
   a. ALL ON SITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTATIVE MAINTENACE TO REDUCE LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT BASED SUBSTANCES USED ON SITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
2. FERTILIZERS:
   a. FERTILIZERS USED WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS DIRECTED BY THE SPECIFICATIONS. ONCE APPLIED, FERTILIZER WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORMWATER. STORAGE WILL BE IN A COVERED SHED OR ENCLOSED TRAILERS. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.
3. PAINTS:
   a. ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM BUT WILL BE DISPOSED OF PROPERLY ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.
4. CONCRETE TRUCKS:
   a. CONCRETE TRUCKS WILL DISCHARGE AND WASH OUT SURPLUS CONCRETE OR DRUM WASH WATER IN A CONTAINED AREA ON SITE.

C. SPILL CONTROL PRACTICES
IN ADDITION TO GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTION THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:
   a. MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.
   b. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ON SITE. EQUIPMENT AND MATERIALS WILL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST, AND PLASTIC OR METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.
   c. ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.
   d. THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.
   e. SPILLS OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OF LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE.
   f. THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM RECURRING AND HOW TO CLEANUP THE SPILL IF IT OCCURS. A DESCRIPTION OF THE SPILL, ITS CAUSE, AND THE CLEANUP MEASURES WILL BE INCLUDED.
   g. THE SITE SUPERINTENDENT RESPONSIBLE FOR DAY–TO–DAY SITE OPERATIONS WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR.

THE PROJECT PROPONENT IS REQUIRED TO MANAGE CONSTRUCTION TO MEET THE REQUIREMENTS AND INTENT OF RSA 430:53 AND AGR 3800 RELATIVE TO CONTROLLING INVASIVE SPECIES AND CONTROLLING FUGITIVE DUST IN ACCORDANCE WITH ENV–A 1002.

AGR 3800 PROHIBITED INVASIVE PLANT SPECIES RULES

THE RULE, AGR 3800, STATES: 'NO PERSON SHALL COLLECT, TRANSPORT, IMPORT, EXPORT, MOVE, BUY SELL, DISTRIBUTE, PROPAGATE OR TRANSPLANT ANY LIVING AND VIABLE PORTION OF ANY PLANT SPECIES, WHICH INCLUDES ALL OF THEIR CULTIVARS AND VARIETIES, LISTED IN TABLE 3800.1, NEW HAMPSHIRE PROHIBITED INVASIVE SPECIES LIST'. A COMPLETE COPY OF THE RULES CAN BE ACCESSED ON THE INTERNET AT HTTP://AGRICULTURE.NH.GOV/TOPICS/PLANTS_INSECTS.HTM.

ENV–A 1002 FUGITIVE DUST; PRECAUTIONS TO PREVENT, ABATE, AND CONTROL FUGITIVE DUST.

a. ANY PERSON ENGAGED IN ANY ACTIVITY WITHIN THE STATE EMITS FUGITIVE DUST, OTHER THAT THOSE LISTED IN ENV–A 1002.02 (b), SHALL TAKE PRECAUTIONS THROUGHOUT THE DURATION OF THE ACTIVITY IN ORDER TO PREVENT, ABATE, AND CONTROL THE EMISSION OF FUGITIVE DUST.
b. PRECAUTIONS REQUIRED BY (a) ABOVE, SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:
   i) THE USE OF WATER OR HYDROPHILIC MATERIAL ON OPERATIONS OR SURFACES, OR BOTH;
   ii) THE APPLICATION OF ASPHALT, WATER, OR HYDROPHILIC MATERIAL, OR TARPS OR OTHER SUCH COVERS TO MATERIAL STOCKPILES;
   iii) THE USE OF HOODS, FANS, FABRIC FILTERS, OR OTHER DEVICES TO ENCLOSE AND VENT AREAS WHERE MATERIALS PRONE TO PRODUCING FUGITIVE DUST ARE HANDLED;
   iv) THE USE OF CONTAINMENT METHODS FOR SANDBLASTING OR SIMILAR OPERATIONS; AND
   v) THE USE OF VACUUMS OR OTHER SUCTION DEVICES TO COLLECT AIRBORNE PARTICULATE MATTER.

PER 153–10 F:

ALL SITE IMPROVEMENTS WHICH REQUIRE BLASTING OF LAND SHALL MEET THE FOLLOWING REQUIRMENTS PRIOR TO ANY BLASTING OCCURING.

1. THE APPLICANT SHALL PREPARE A PRE–BLAST SURVEY OF ALL STRUCTURES WITHIN FIVE HUNDRED (500) FEET OF THE EXTERNAL BOUNDARIES OF THE PROPOSED LOT TO BE DEVELOPED. THIS SURVEY, ALONG WITH A MONITORING PLAN, SHALL BE ON FILE WITH THE DOVER FIRE AND RESCUE. UPON RECOMMENDATIONS OF THE CHIEF, THE PLANNING BOARD MAY REQUIRE A PRE–BLAST SURVEY OF ALL STRUCTURES WITHIN ONE THOUSAND (1000) FEET.
2. THE APPLICANT SHALL HOLD A NEIGHBORHOOD MEETING TO REVIEW THE BLASTING PLAN AND PRE–BLAST SURVEY WITH REPRESENTATIVES OF THE FIRE AND RESCUE AND THE BLASTING COMPANY IN ATTENDANCE, PRIOR TO ANY ON–SITE BLASTING. ABUTTERS WITHIN ONE THOUSAND (1000) FEET OF THE EXTERNAL BOUNDARY OF THE PROJECT PARCEL SHALL BE NOTIFIED BY THE CERTIFIED MAIL (PAID FOR BY THE APPLICANT) OF THE MEETING NO LESS THAN TEN (10) DAYS PRIOR TO THE MEETING AND NO MORE THAN FIFTEEN (15) DAYS PRIOR TO THE MEETING. THE NOTICE SHALL STATE THE TIME AND DATE OF THE BLASTING AND CONTAIN A MAP SHOWING THE BLASTING AREA, THE 1,000–FOOT–RADIUS AREA, AND THE 500–FOOT–RADIUS AREA.
3. PERMIT HOLDERS SHALL BE IN COMPLIANCE WITH NFPA 495, EXPLOSIVE MATERIALS CODE, IN ADDITION TO ALL OTHER ORDINANCES AND CODES SET FORTH IN THE CITY OF DOVER CODE, § 153–14A, STORMWATER MANAGEMENT, EROSION CONTROL AND FLOOD HAZARDS, OF THIS CHAPTER AND THE CITY OF DOVER FIRE PREVENTION CODE, WHICH SPECIFICALLY PROHIBITS THE OVERNIGHT STORAGE OF EXPLOSIVES OR BLASTING AGENTS. FURTHER, ALL STORAGE MAGAZINES SHALL BE LOCKED IN THE OPEN POSITION AT THE END OF THE DAY'S OPERATION FOR EASY INSPECTION BY CITY OFFICIALS.
4. BLASTING PERMITS MAY BE OBTAINED BY CALLING THE DOVER FIRE AND RESCUE DURING NORMAL BUSINESS HOURS. THE PERMITS ARE ONLY ACTIVE FOR THE DATES AND TIME SPECIFIED ON THE PERMIT.
5. PERMIT HOLDERS SHALL HOLD INSURANCE AGAINST CLAIMS FOR DAMAGES FOR PERSONAL INJURY AND PROPERTY WHICH MAY ARISE FROM THE PERFORMANCE OF THE WORK.
6. HOURS OF OPERATION FOR THE BLASTING SHALL BE NO EARLIER THAN 8:00AM AND NO LATER THAN 6:00PM, MONDAY THROUGH FRIDAY, EXCLUDING FEDERAL HOLIDAYS.

WINTER CONSTRUCTION NOTES

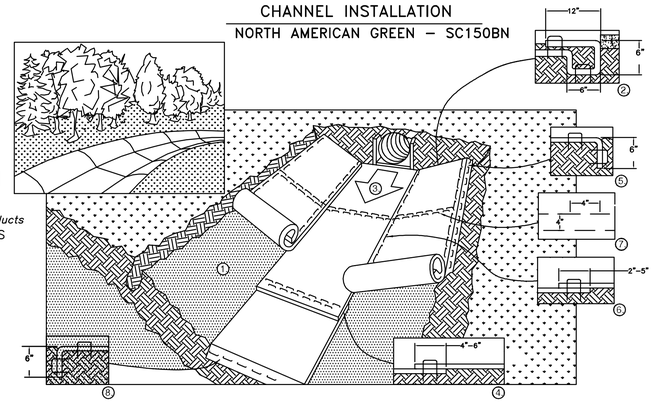
1. ALL PROPOSED POST–DEVELOPMENT VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE PLACEMENT 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.
2. ALL SLOPES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH SHALL BE STABILIZED WITH STONE OR EROSION CONTROL BLANKETS.
3. AFTER OCTOBER 15TH, INCOMPLETE ROAD SURFACES SHALL BE PROTECTED WITH A MINIMUM OF 3–INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 403.3, OR IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON BE CLEARED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT.

ENV–WQ 1510: BEST MANAGEMENT PRACTICES FOR BLASTING

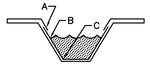
1) ALL ACTIVITIES ASSOCIATED WITH BLASTING NEED TO BE OPTIMIZED TO PREVENT THE RELEASE OF CHEMICALS ASSOCIATED WITH BLASTING ACTIVITIES TO THE ENVIRONMENT.
2) IF MORE THAN 5,000 CY OF ROCK REMOVAL IS REQUIRED DRINKING WATER WELLS MUST BE IDENTIFIED AND LOCATED WITHIN 2000 FEET OF THE PROPOSED BLASTING ACTIVITIES. DEVELOP A GROUNDWATER QUALITY SAMPLING PROGRAM TO MONITOR FOR NITRATE AND NITRITE EITHER IN THE DRINKING WATER SUPPLY WELLS OR IN OTHER WELLS THAT ARE REPRESENTATIVE OF THE DRINKING WATER SUPPLY WELLS IN THE AREA. THE PLAN MUST INCLUDE PRE AND POST BLAST WATER QUALITY MONITORING AND BE APPROVED BY NHDES PRIOR TO INITIATING BLASTING. THE GROUNDWATER SAMPLING PROGRAM MUST BE IMPLEMENTED ONCE APPROVED BY NHDES.
3) THE FOLLOWING BEST MANAGEMENT PROCEDURES FOR BLASTING SHALL BE COMPLIED WITH:
   (1) LOADING PRACTICES. THE FOLLOWING BLASTHOLE LOADING PRACTICES TO MINIMIZE ENVIRONMENTAL EFFECTS SHALL BE FOLLOWED:
      (A) DRILLING LOGS SHALL BE MAINTAINED BY THE DRILLER AND COMMUNICATED DIRECTLY TO THE BLASTER. THE LOGS SHALL INDICATE DEPTHS AND LENGTHS OF VOIDS, CAVITIES, AND FAULT ZONES OR OTHER WEAK ZONES ENCOUNTERED AS WELL AS GROUNDWATER CONDITI

CHANNEL INSTALLATION
NORTH AMERICAN GREEN – SC150BN

NORTH AMERICAN GREEN
EROSION CONTROL *Products Guaranteed* SOLUTIONS



1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL–O–SEED DO NOT SEED PREPARED AREA. CELL–O–SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE RECP's IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF RECP's EXTENDED BEYOND THE UP–SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's 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 RECP's BACK OVER SEED AND COMPACTED SOIL. SECURE RECP's OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" ACROSS THE WIDTH OF THE RECP's.
3. ROLL CENTER RECP's IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. PLACE CONSECUTIVE RECP's END OVER END (SHINGLE STYLE) WITH A 4" – 6" OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER TO SECURE RECP's.
5. FULL LENGTH EDGE OF RECP's AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. ADJACENT RECP's MUST BE OVERLAPPED APPROXIMATELY 2" – 5" (DEPENDING ON RECP's TYPE) AND STAPLED.
7. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
8. THE TERMINAL END OF THE RECP's MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. NOTE: * IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY ANCHOR THE RECP's.



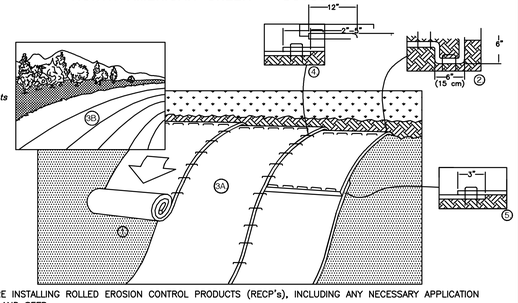
CRITICAL POINTS
A. OVERLAPS AND SEAMS
B. PROJECTED WATER LINE
C. CHANNEL BOTTOM/SIDE SLOPE VERTICES

NOTE:
* HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.

** IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY ANCHOR THE RECP's.

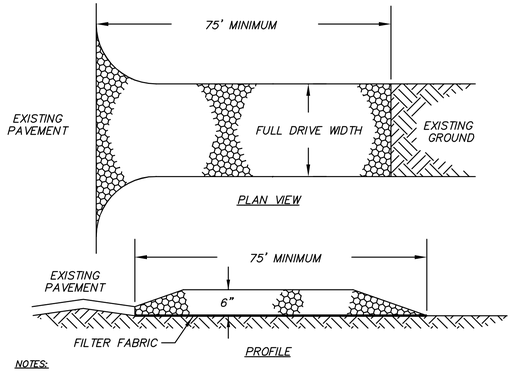
SLOPE INSTALLATION
NORTH AMERICAN GREEN – SC150BN

NORTH AMERICAN GREEN
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1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
   NOTE: WHEN USING CELL–O–SEED DO NOT SEED PREPARED AREA. CELL–O–SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP's IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF RECP's EXTENDED BEYOND THE UP–SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP's BACK OVER SEED AND COMPACTED SOIL. SECURE RECP's OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE RECP's.
3. ROLL THE RECP's (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM™ , STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL RECP's MUST BE STAPLED WITH APPROXIMATELY 2" – 5" (5 CM – 12.5 CM) OVERLAP DEPENDING ON RECP's TYPE.
5. CONSECUTIVE RECP's SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE RECP's WIDTH.
   NOTE:
   *IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE RECP's.

NOTE: THE USE OF WELDED PLASTIC OR BIODEGRADABLE PLASTIC NETTING OR THREAD IN EROSION CONTROL MATTING IS PROHIBITED. THE USE OF WILDLIFE FRIENDLY ORGANIC MATERIALS IS RECOMMENDED.



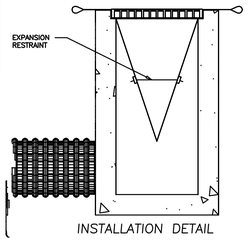
NOTES:
1. *SEE EROSION CONTROL NOTES BELOW FOR MATERIAL, INSTALLATION AND MAINTENANCE REQUIREMENTS.*
2. *TO BE INSTALLED AT EACH POINT OF EGRESS FROM THE WORK AREA.*

STABILIZED CONSTRUCTION ENTRANCE

1. SPECIFICATIONS
   A. AGGREGATE SIZE: USE THREE (3) INCHES STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
   B. AGGREGATE THICKNESS: NOT LESS THAN SIX (6) INCHES.
   C. WIDTH TEN (10) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH OF POINTS WHERE INGRESS OR EGRESS OCCURS.
   D. LENGTH: AS REQUIRED, BUT NOT LESS THAN SEVENTY–FIVE (75) FEET. PIPING OF SURFACE WATER UNDER ENTRANCE SHALL BE PROVIDED AS REQUIRED.
   E. GEOTEXTILE: TO BE PLACED OVER THE ENTIRE AREA TO BE COVERED WITH AGGREGATE.
   F. CRITERIA FOR GEOTEXTILE: THE FABRICS SHALL BE TREVIA SPUNBOND 1135, MIRAFI 600X OR EQUAL.

2. MAINTENANCE
   THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHT–OF–WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH AGGREGATE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERWAYS.

STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE



INSTALLATION DETAIL

SILTSACK®
SPECIFICATIONS

NOTE: THE SILTSACK WILL BE MANUFACTURED FROM A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS. AS SUPPLIED BY AH HARRIS OF PORTSMOUTH OR APPROVED EQUAL

REGULAR FLOW SILTSACK®
(FOR AREAS OF LOW TO MODERATE PRECIPITATION AND RUN-OFF)

PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	300 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	800 PSI
TRAPEZOID TEAR	ASTM D-4533	120 LBS
UV RESISTANCE	ASTM D-4355	90 %
APPARENT OPENING SIZE	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	0.55 SEC -1

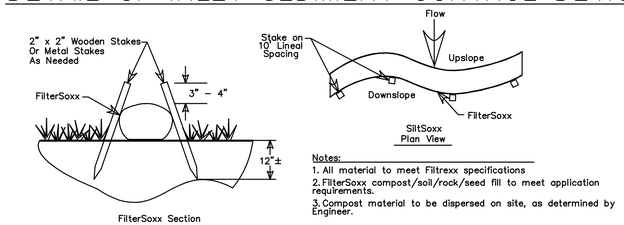
HI-FLOW SILTSACK®
(FOR AREAS OF MODERATE TO HEAVY PRECIPITATION AND RUN-OFF)

PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	265 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	135 LBS
MULLEN BURST	ASTM D-3786	420 PSI
TRAPEZOID TEAR	ASTM D-4533	45 LBS
UV RESISTANCE	ASTM D-4355	90 %
APPARENT OPENING SIZE	ASTM D-4751	20 US SIEVE
FLOW RATE	ASTM D-4491	200 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	1.5 SEC -1

OIL-ABSORBANT SILTSACK®

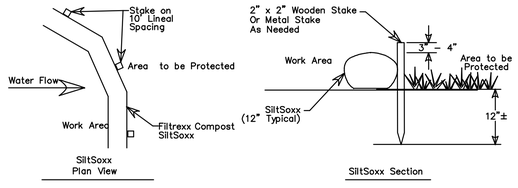
(FOR AREAS WHERE THERE IS A CONCERN FOR OIL RUN-OFF OR SPILLS)
DEPENDING ON YOUR PARTICULAR APPLICATION, THE SILTSACK® CAN BE MADE FROM EITHER ONE OF THE ABOVE FABRICS WITH AN OIL-ABSORBANT PILLOW INSERT OR, MADE COMPLETELY FROM AN OIL-ABSORBANT SILTSACK®, WITH A WOVEN PILLOW INSERT.

DETAIL OF INLET SEDIMENT CONTROL DEVICE



Notes:
1. All material to meet Filtrexx specifications
2. FilterSoxx compost/soil/rock/seed fill to meet application requirements.
3. Compost material to be dispersed on site, as determined by Engineer.

FilterSoxx Staking Details



Notes:
1. All material to meet Filtrexx specifications
2. SiltSoxx compost/soil/rock/seed fill to meet application requirements.
3. SiltSoxx depicted is for minimum slopes. Greater slopes may require larger socks per the Engineer.
4. Compost material to be dispersed on site, as determined by Engineer.

SILTSOXX DETAILS
NOT TO SCALE

SEEKING REPORTS OF RARE TURTLES

The NH Fish & Game Department is collecting observations of four turtle species:



Blanding's turtle (state endangered)
- Large, dark/black domed shell with lighter speckles
- Distinct yellow throat/chin
- Aquatic but often moves on land



Wood turtle (special concern)
- Sculpted, pyramidal brownish shell
- Orange around neck and limbs
- River/stream turtle spending many months on land



Eastern box turtle (state endangered)
- Small terrestrial turtle with highly domed shell
- Irregular yellow or orange markings over brown/black base



Spotted turtle (state threatened)
- Small, mostly aquatic with black or dark brown with yellow spots.
- Fairly flat shell compared to Blanding's turtle

Report sightings to RAARP@wildlife.nh.gov or 603-271-2461 *Please report promptly, noting specific location and date – Photographs strongly encouraged*

NOTES:
1. *ALL OUTSIDE CONSTRUCTION PERSONNEL SHALL RECEIVE TRAINING IN THE IDENTIFICATION OF RARE TURTLE SPECIES AND MADE AWARE OF THEIR PROTECTED STATUS.*
2. *THE USE OF WELDED PLASTIC OR 'BIODEGRADABLE PLASTIC' NETTING OR THREAD IN EROSION CONTROL MATTING IS PROHIBITED*
3. *THE USE OF EROSION CONTROL BERM, WHITE FILTREXX DEGRADABLE WOVEN SILT SOCK, OR 'WILDLIFE FRIENDLY' WOVEN ORGANIC MATERIAL (E.G. COCO OR JUTE MATTING SUCH AS NORTH AMERICAN GREEN SC150BN OR EQUIVALENT) ARE ACCEPTABLE FOR USE*
4. *IF WOOD, SPOTTED, OR BLANDING'S TURTLES ARE FOUND LAYING EGGS IN THE WORK AREA, PLEASE CONTACT MELISSA DOPERALSKI AT 271–1738 or JOSH MEGYESY AT 271–1125 FOR FURTHER INSTRUCTIONS.*

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PLANNING FILE NO.: P21–77

CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

NO.	REVISION	APP'D	DATE
1	REVISED PER TRC COMMENTS	SJH	11–15–21

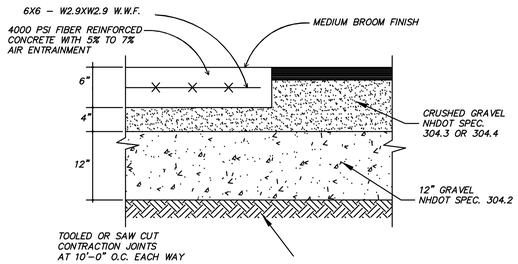
DATE: 10–15–21
SCALE: 1"=40'
DRAWN BY: SRD
DESIGN BY: SRD
APPROVED BY: SJH
PROJECT NO: 21043
FILE: SITE.DWG

EROSION CONTROL DETAILS

QUALITY WAY, LLC
55 MAIN STREET, UNIT 407
NEWMARKEY, NH 03857

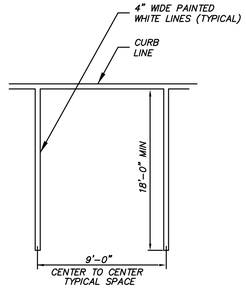
BUILDING ADDITION
1 QUALITY WAY
DOVER, NH

9

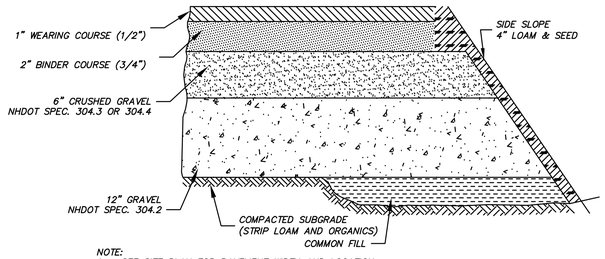


HVAC PAD DETAIL

NOT TO SCALE



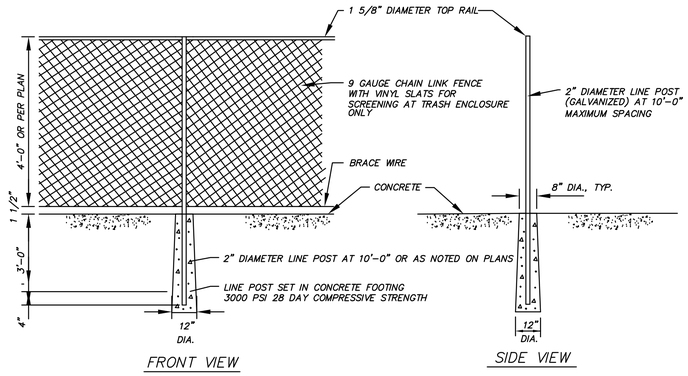
STANDARD PARKING STALL



NOTE:
1. SEE SITE PLAN FOR PAVEMENT WIDTH AND LOCATION.
2. SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS–SLOPE.
3. GEOTEXTILE FABRIC MAYBE REQUIRED UNDER THE ROADWAY AND /OR THE PARKING AREAS AS REQUIRED BY THE ENGINEER BASED UPON SITE CONDITIONS.

TYPICAL PAVEMENT SECTION

NOT TO SCALE

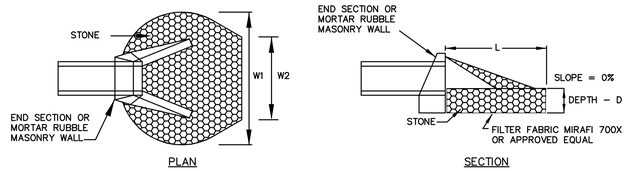


FRONT VIEW

SIDE VIEW

CHAIN LINK FENCE DETAIL

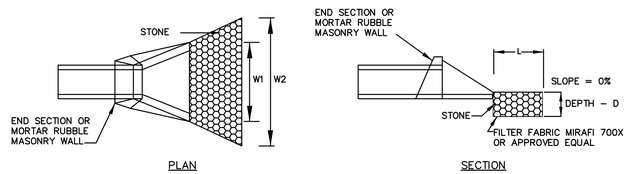
NOT TO SCALE



PLAN

SECTION

STONE APRON OUTLET PROTECTION DETAIL OUTLET TO DEFINED CHANNEL



PLAN

SECTION

STONE APRON OUTLET PROTECTION DETAIL OUTLET TO FLAT AREA, NON DEFINED CHANNEL

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.

STONE GRADATION

% OF WEIGHT SMALLER THAN THE GIVEN SIZE	SIZE OF STONE
100	1.5 TO 2.0 D50
85	1.3 TO 1.8 D50
50	1.0 TO 1.5 D50
15	0.3 TO 0.5 D50

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.

OUTLET FROM	W1(ft)	W2(ft)	L(ft)	D (ft)	D50(IN)	CHANNEL TYPE
FES1	3	17	14	1	6	UNDEFINED
FES2	3	12	9	1	6	UNDEFINED

RIP RAP OUTLET PROTECTION

NOT TO SCALE

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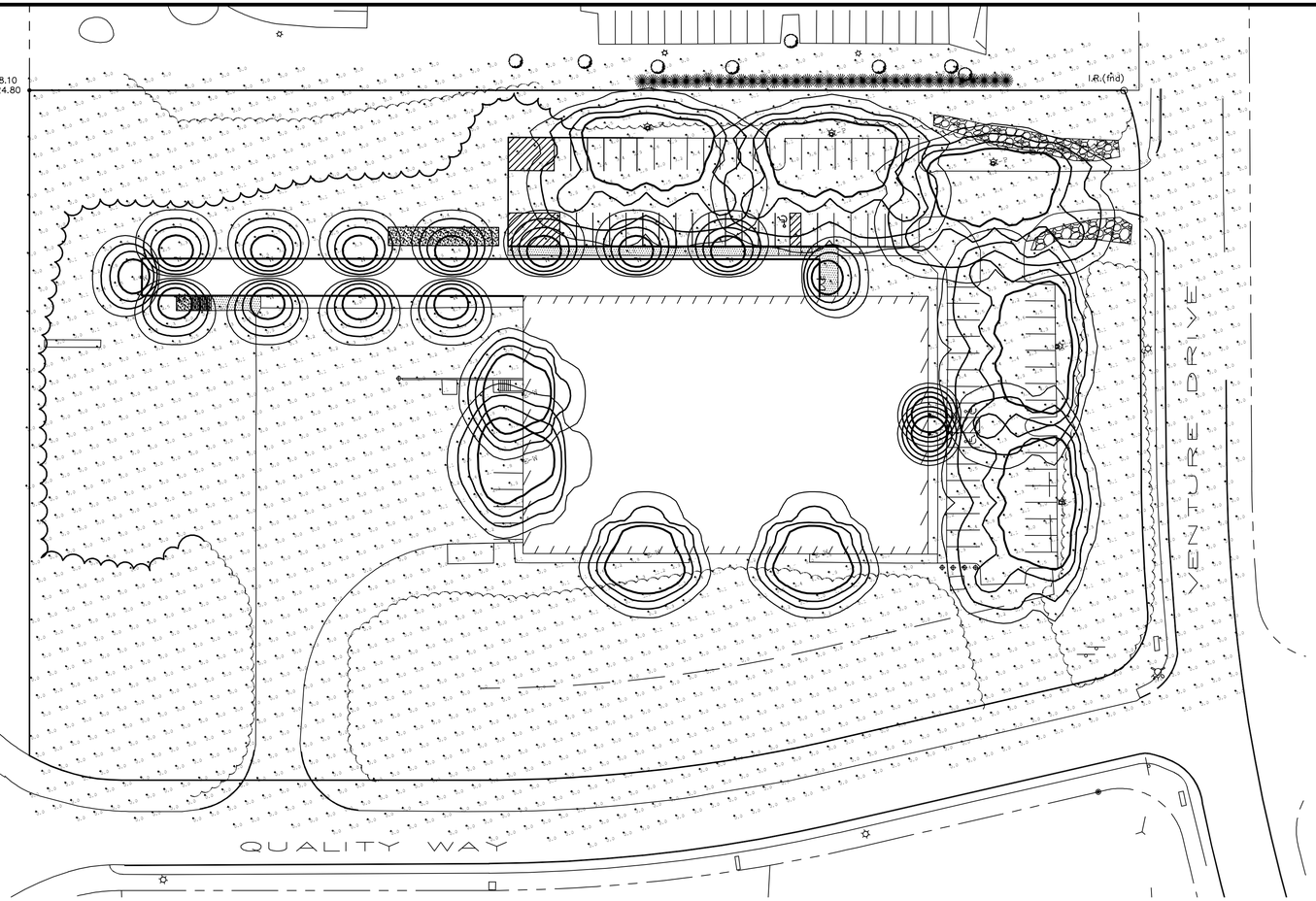
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SCALE: 1"=40'
DRAWN BY: SRD
DESIGN BY: SRD
APPROVED BY:SJH
PROJECT NO:21043
FILE: SITE.DWG

DETAIL SHEET

QUALITY WAY, LLC
55 MAIN STREET, UNIT 407
NEWMARKEY, NH 03857

BUILDING ADDITION
1 QUALITY WAY
DOVER, NH

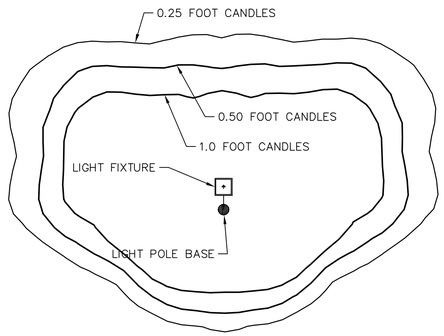
10



StatArea_1
PARKING LOTS
Illuminance (Fc)
Average = 1.55
Maximum = 4.9
Minimum = 0.1
Avg/Min Ratio = 15.50
Max/Min Ratio = 49.00

Luminaire Schedule				
Symbol	Qty	Label	Arrangement	Description
	2	E-D	Single	DECORATIVE WALL MNT
	5	E-P	Single	CAL-400MH-MT-SL
	4	E-W	Single	MHIP-T-175-MT
	13	W	Single	AXCS1A / WALL MTD 12' AFG

SITE LIGHTING NOTES
1. SITE LIGHTING PHOTOMETRIC PREPARED BY CHARRON LIGHTING.



TYPICAL LIGHT SPREAD
NOT TO SCALE

Project		Catalog #		Type	
Prepared by		Notes		Date	



Lumark

Axcent

Wall Mount Luminaire

Product Features

Selectable lumens | DUSK-TO-DAWN | LumenSafe Technology | Light ARAYnaut™

Interactive Menu

- Ordering Information page 2
- Mounting Details page 3
- Product Specifications page 4
- Energy and Performance Data page 4
- Control Options page 6

Product Certifications

TSID | UL LISTED | DLC | DLC PREMIUM | FC CLASS A | IDA | IP66 | 3G VIB | UL CERTIFIED | RoHS | 5 YEAR | PROGRESS EXPECT

Quick Facts

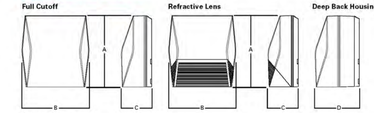
- Available in 14W - 123W (1,800 - 17,000 lumens) models
- Full cutoff and refractive lens models available
- Energy and maintenance savings up to 95% compared to HID
- Energy efficient illumination results in up to 144 LPW
- Replaces 70W up to 450W HID equivalents

Connected Systems

- WaveLinx Lite
- Enlighted

Dimensional Details

Full Cutoff | Refractive Lens | Deep Back Housing

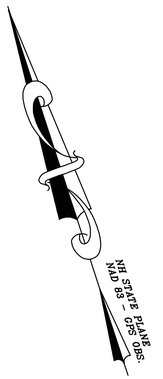


Dimensional Data

	AXCS Small	AXCL Large
A	8" [202mm]	11-1/2" [292mm]
B	7-1/2" [190mm]	10-3/4" [273mm]
C	3-5/8" [94mm]	4-7/8" [124mm]
D	6-1/8" [155mm]	7-1/8" [181mm]

COOPER Lighting Solutions

PSS14102EN page 1
March 2, 2021 5:31 PM



GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)

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PLANNING FILE NO.: P21-77

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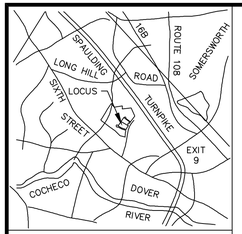
DATE: 10-15-21
SCALE: 1"=40'
DRAWN BY: SRD
DESIGN BY: SRD
APPROVED BY:SJH
PROJECT NO:21043
FILE: SITE.DWG

LIGHTING PLAN

QUALITY WAY, LLC
55 MAIN STREET, UNIT 407
NEWMARKEY, NH 03857

BUILDING ADDITION
1 QUALITY WAY
DOVER, NH

11



LOCATION PLAN
(NO SCALE)

I.R.(fnd)
N – 265008.10
E – 1185524.80

EXISTING TREES ON ABUTTERS PROPERTY

I.R.(fnd)

RIPRAP SWALE

CONCRETE WALK

PROPOSED 1 STORY 7,400 S.F. BUILDING ADDITION

EXISTING FDC

RIPRAP SWALE

EMERGENCY SPILLWAY

EDGE OF PAVEMENT

EXISTING DETENTION POND BOTTOM ELEVATION = 175.5±

EXISTING SWALE

CONCRETE PAD

ASPHALT DRIVE AND LOADING BAYS

EXISTING 1 STORY STEEL FRAME LIGHT MANUFACTURING BUILDING 30,800 S.F. F.F. = 188.6'

EXISTING 4 PARKING SPACES

CONCRETE WALK

EXISTING ASPHALT PARKING 32 SPACES (2 HC)

ASPHALT WALK

VENTURE DRIVE

CONCRETE PAD

ASPHALT WALK

ASPHALT WALK

SMH A

SMH B

UGE

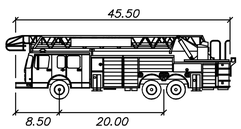
UGU

UGU

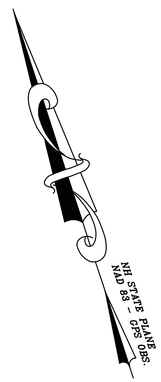
UGU

QUALITY WAY

UGU



Dover ldder	feet
Width	: 8.50
Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 44.0



GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)

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PLANNING FILE NO.: P21–77

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FILE: SITE.DWG

DOVER LADDER TRUCK MOVEMENT PLAN

BUILDING ADDITION
1 QUALITY WAY
DOVER, NH

QUALITY WAY, LLC
55 MAIN STREET, UNIT 407
NEWMARKEY, NH 03857

12

110 Venture Drive _ Q LLC Addition

Project Address:
110 Venture Drive
Dover, NH 03820

Architects Project # 21096
Issue Date: 10081021

Project Team:

Client:
Q LLC
4 Cutts St. Unit 3
Portsmouth, NH 03801
Tel: (603) 294-0047

General Contractor:
Jewett Construction Co., LLC
25 Spaulding Road, Suite 17-2
Fremont, NH 03044
Tel: (603) 895-2412

Architect:
Maugel Architects, Inc
200 Ayer Road
Harvard, MA 01451
Tel: (978) 456-2800

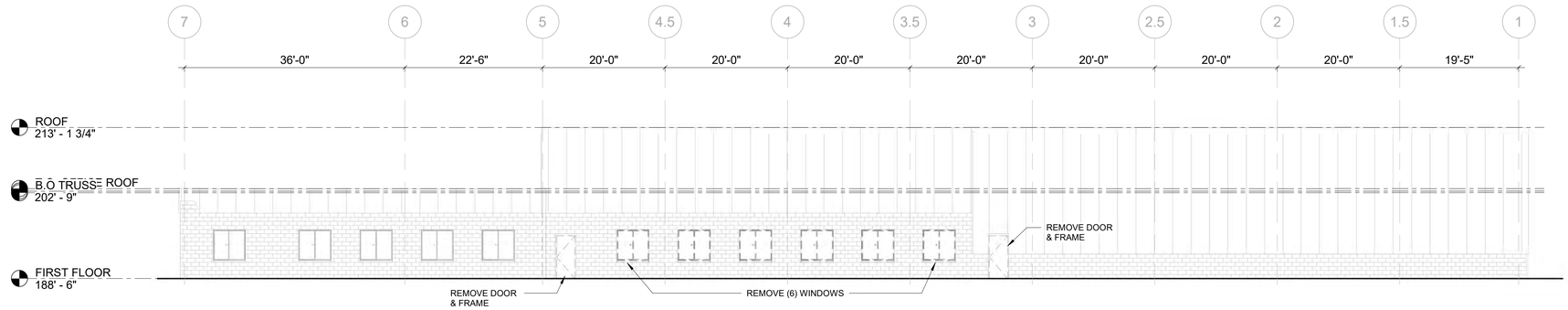
Structural Engineer:
Trillium Engineering Group
424 Fore Street
Portland, ME 04101
Tel: (207) 307-0872

MEP-FP Engineer:
Avid Engineers
205 Portland Street, Suite 504
Boston, MA 02114
Tel: (978) 663-5580

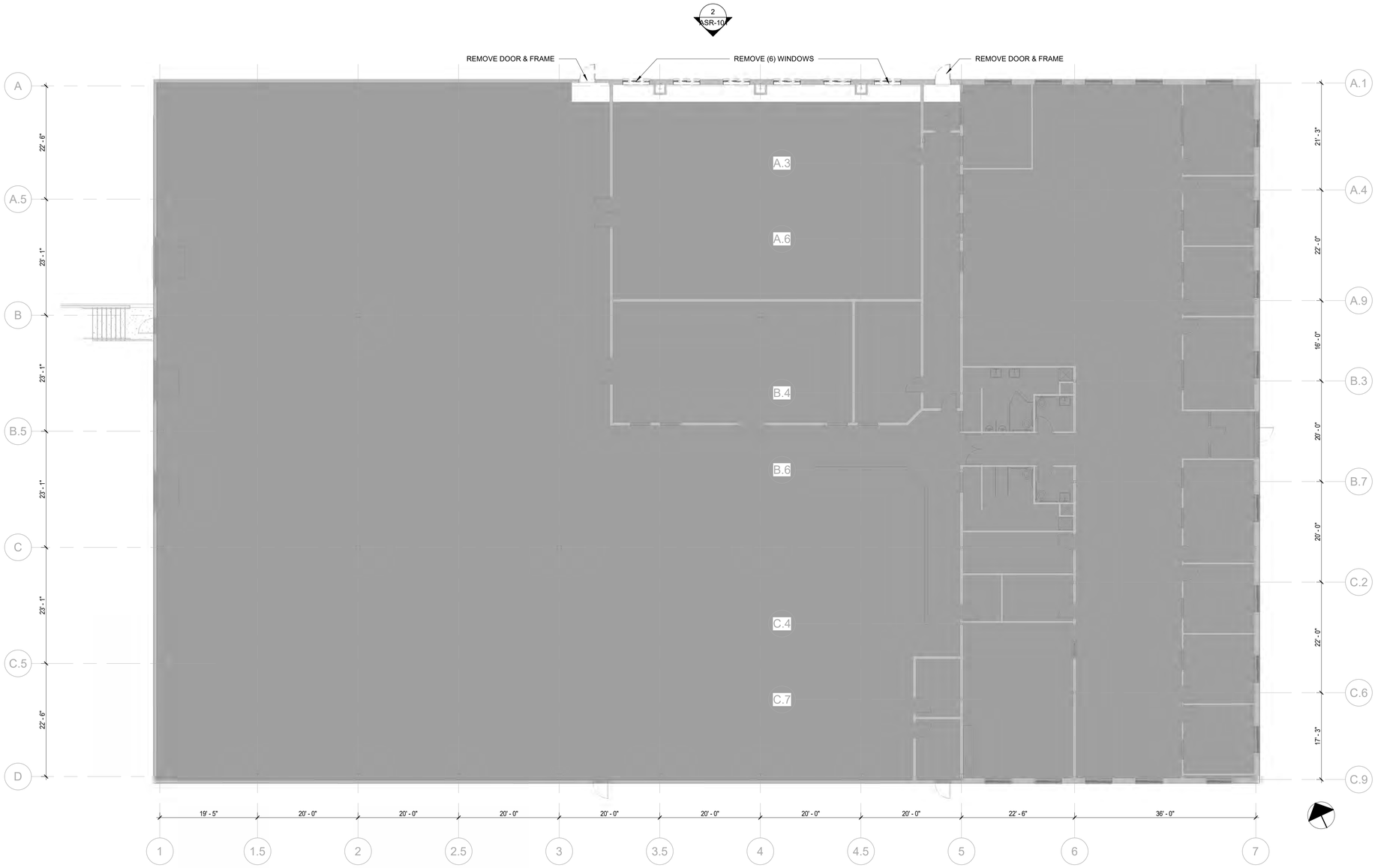
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Progress

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978 456 2800
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SELECTIVE REMOVAL NORTH ELEVATION (2)
SCALE: 3/32" = 1'-0"



FIRST FLOOR SELECTIVE REMOVAL PLAN - PHASE 2 (1)
SCALE: 3/32" = 1'-0"

Notes:

SCOPE LEGEND

	AREA NOT IN SCOPE

DEMOLITION LEGEND

	EXISTING WALL, VERIFY CONSTRUCTION IN FIELD
	EXISTING TO BE REMOVED

SELECTIVE REMOVAL

1. REMOVE ALL WALLS, DOORS, DOOR FRAMES, MASONRY, CEILINGS, LIGHTS, ETC. AS SHOWN ON THE PLANS & ELEVATIONS. SEE PROPOSED PLANS FOR ALL LOCATIONS.
2. REMOVE ALL FINISH FLOORING DOWN TO CONCRETE SLAB. PATCH AND REPAIR SLAB AS REQUIRED. ALTERNATE - VCT FLOORING CAN BE LEFT IN PLACE IF IN GOOD CONDITION, PATCH FLOOR AS REQUIRED.
3. REMOVE ALL OBSOLETE WIRING, DUCTS, PIPES, ETC.
4. TEST ALL SUSPECTED HAZARDOUS MATERIALS PRIOR TO REMOVAL.

Key Plan:

Architect's Stamp:

Project:
110 Venture Drive _ Q LLC Addition

110 Venture Drive
Dover, NH 03820

Client:
QLLC

4 Cutts St. Unit 3, Portsmouth, NH 03801

Project #: 21096

Scale: As indicated

Issue:	Date:
Progress	10081021

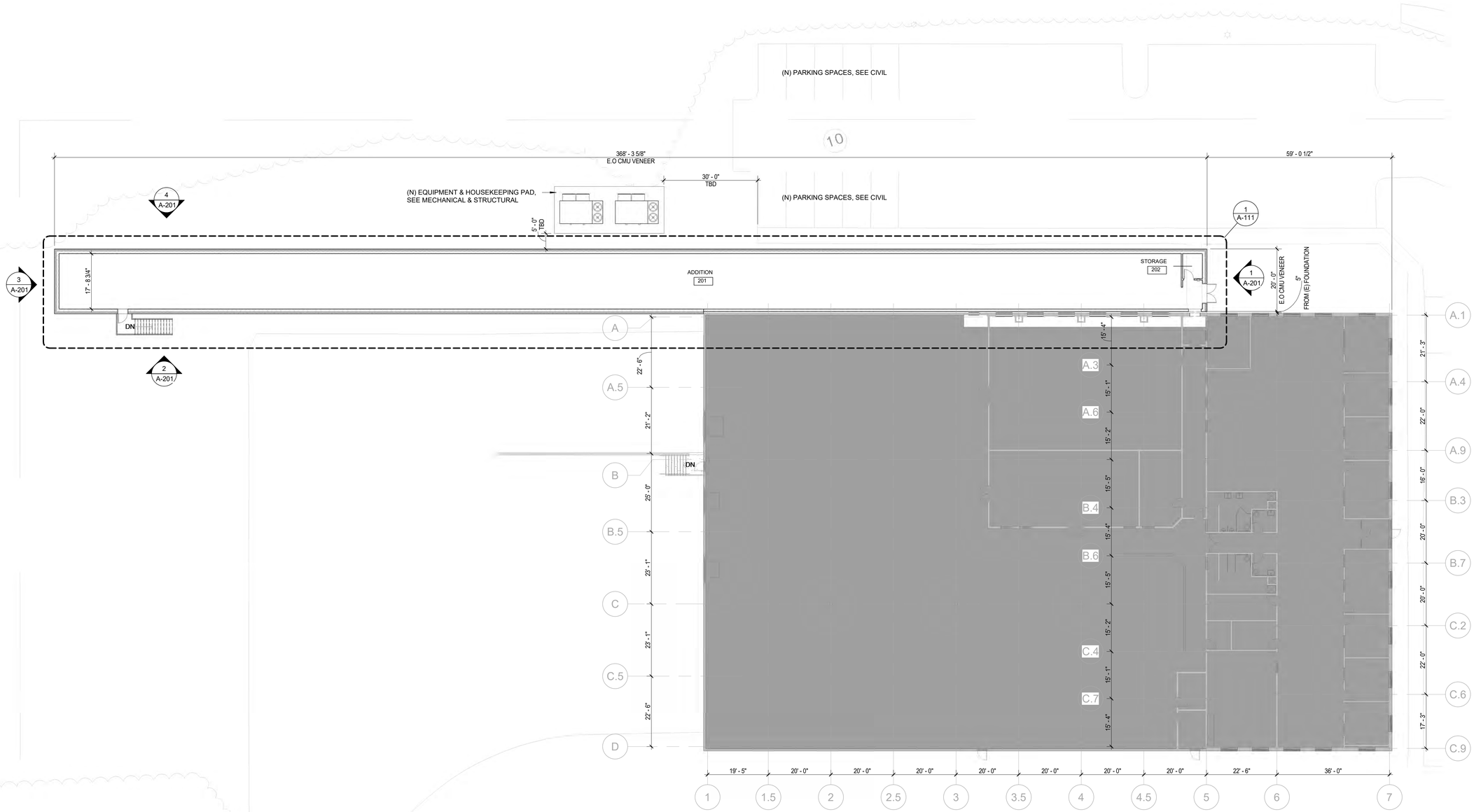
Revisions:	Date:

Drawing Title:
Selective Removal Floor Plan & Elevation

Sheet Number:
ASR-101

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HARVARD, MA
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FIRST FLOOR PLAN (1)
SCALE: 1/16" = 1'-0"

Notes:

SCOPE LEGEND	
	AREA NOT IN SCOPE

PARTITION LEGEND	
	EXISTING WALL, VERIFY CONSTRUCTION IN FIELD
	INTERIOR PARTITION
	(N) EXTERIOR WALL: • 3 5/8" CMU VENEER • 1 7/8" AIR GAP • 2 1/2" RIGID INSULATION • 9 5/8"CMU BACKUP
	(N) EXTERIOR WALL: • 9 5/8"CMU BACKUP

PARTITION NOTES

1. ALL NEW WALLS NOT KEYED IN BY WALL TYPE DESIGNATION TO BE COORDINATED W/ ARCHITECT

DIMENSIONING NOTES

1. INTERIOR PARTITIONS ARE IMENSIONED TO THE CENTERLINE, UON

FIRE EXTINGUISHER	
FE-1	SURFACE MOUNT FIRE EXTINGUISHER, JL INDUSTRIES COSMIX 5X
FE-2	RECESSED FIRE EXTINGUISHER- 1-1/2" TRIM, JL INDUSTRIES COSMIX 5X, CABINET #1826G17, MILL FINISH

Key Plan:



Architect's Stamp:

Project:
110 Venture Drive _ Q LLC
Addition

110 Venture Drive
Dover, NH 03820

Client:
QLLC

4 Cutts St. Unit 3, Portsmouth, NH 03801

Project #: 21096
Scale: As indicated

Issue:	Date:
Progress	10081021

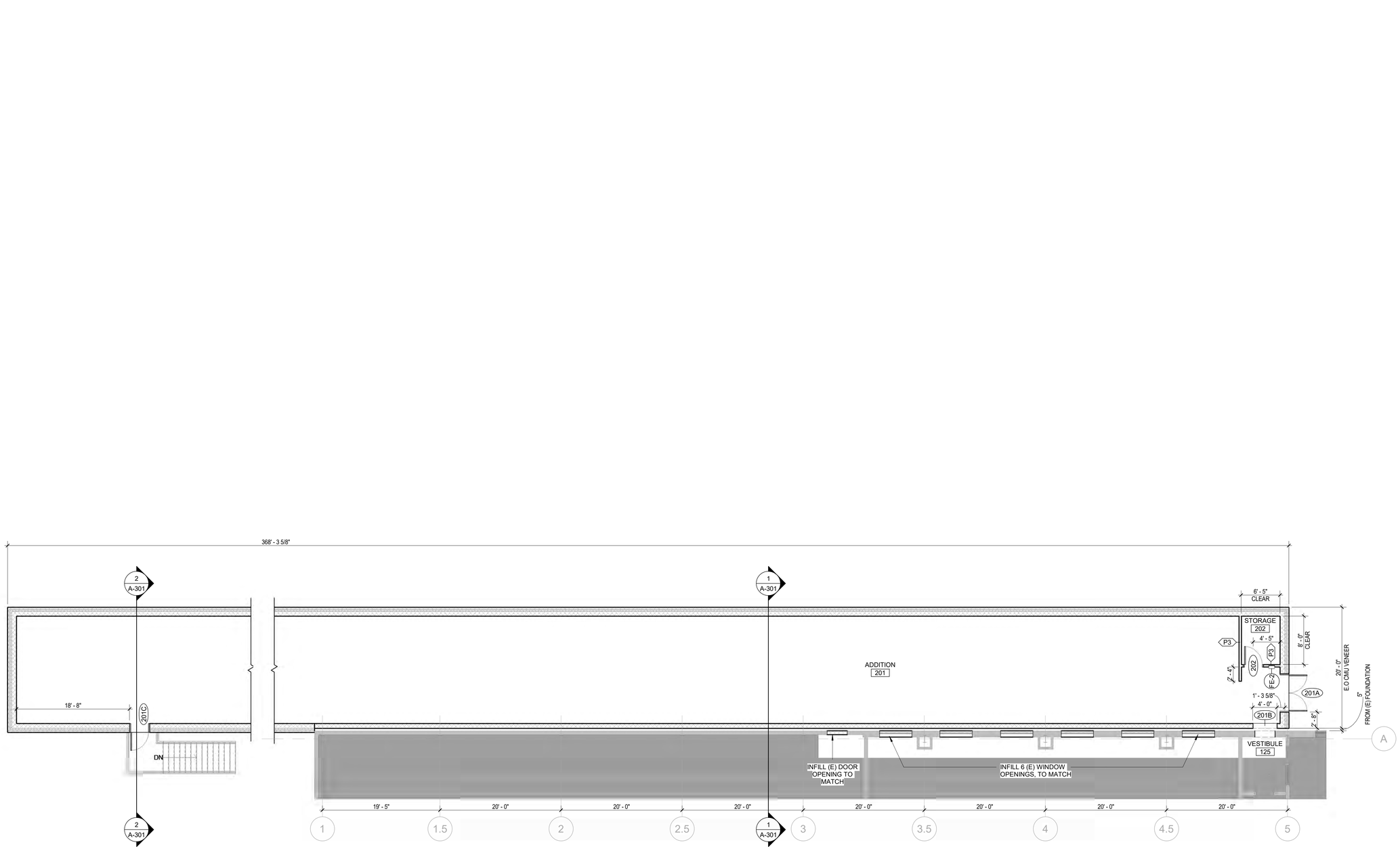
Revisions:	Date:

Drawing Title:
First Floor Plan

Sheet Number:
A-101

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FIRST FLOOR - PHASE 2 - Callout 1 (1)

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

Notes:

SCOPE LEGEND	
	AREA NOT IN SCOPE

PARTITION LEGEND	
	EXISTING WALL, VERIFY CONSTRUCTION IN FIELD
	INTERIOR PARTITION
	(N) EXTERIOR WALL: • 3 5/8" CMU VENEER • 1 7/8" AIR GAP • 2 1/2" RIGID INSULATION • 9 5/8"CMU BACKUP
	(N) EXTERIOR WALL: • 9 5/8"CMU BACKUP

PARTITION NOTES
1. ALL NEW WALLS NOT KEYED IN BY WALL TYPE DESIGNATION TO BE COORDINATED W/ ARCHITECT

DIMENSIONING NOTES
1. INTERIOR PARTITIONS ARE IMENSIONED TO THE CENTERLINE, UON

FIRE EXTINGUISHER	
FE-1	SURFACE MOUNT FIRE EXTINGUISHER, JL INDUSTRIES COSMIX 5X
FE-2	RECESSED FIRE EXTINGUISHER- 1-1/2" TRIM, JL INDUSTRIES COSMIX 5X, CABINET #1826G17, MILL FINISH

Key Plan:

Architect's Stamp:

Project:
110 Venture Drive _ Q LLC Addition

110 Venture Drive
Dover, NH 03820

Client:
QLLC

4 Cutts St. Unit 3, Portsmouth, NH 03801

Project #: 21096

Scale: 1/8" = 1'-0"

Issue:	Date:
Progress	10081021

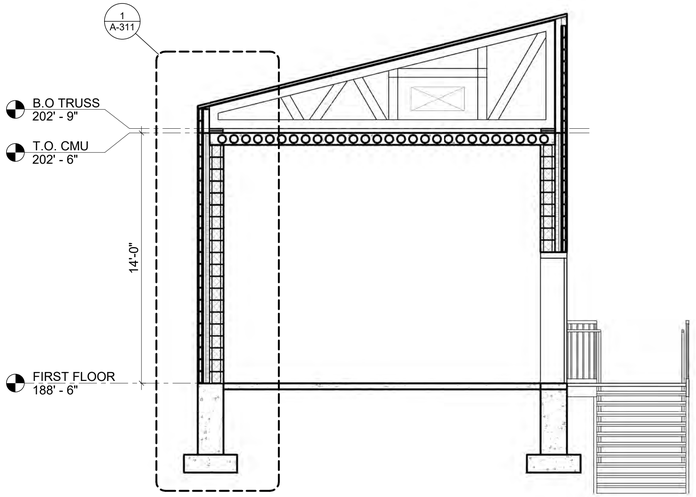
Revisions:	Date:

Drawing Title:
Enlarged Partial Floor Plan, Partition Types & Door Schedule

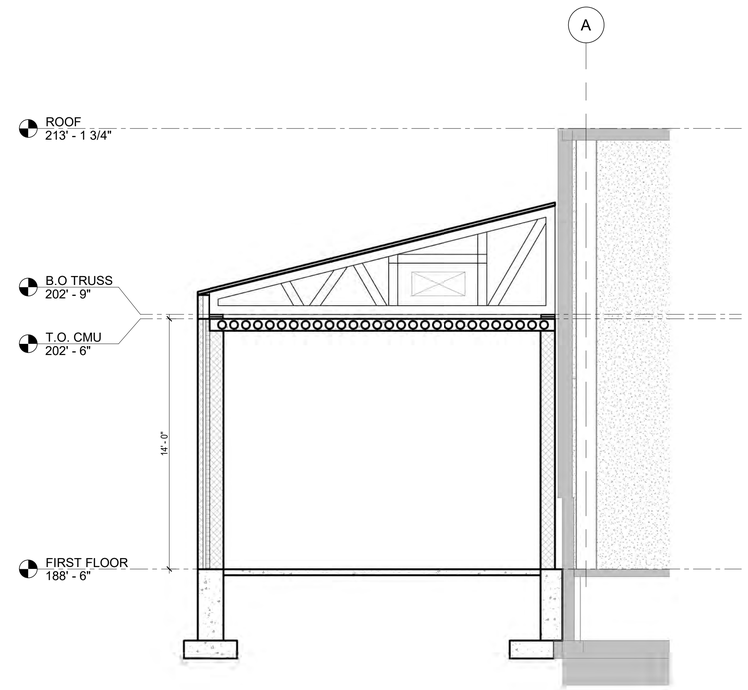
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SECTION @ STAIR 2
SCALE: 1/4" = 1'-0"



TYPICAL SECTION @ EXISTING BUILDING 1
SCALE: 1/4" = 1'-0"

Notes:

Key Plan:



Architect's Stamp:

Project:
110 Venture Drive _ Q LLC Addition

110 Venture Drive
Dover, NH 03820

Client:
QLLC

4 Cutts St. Unit 3, Portsmouth, NH 03801

Project #: 21096

Scale: 1/4" = 1'-0"

Issue:	Date:
Progress	10081021

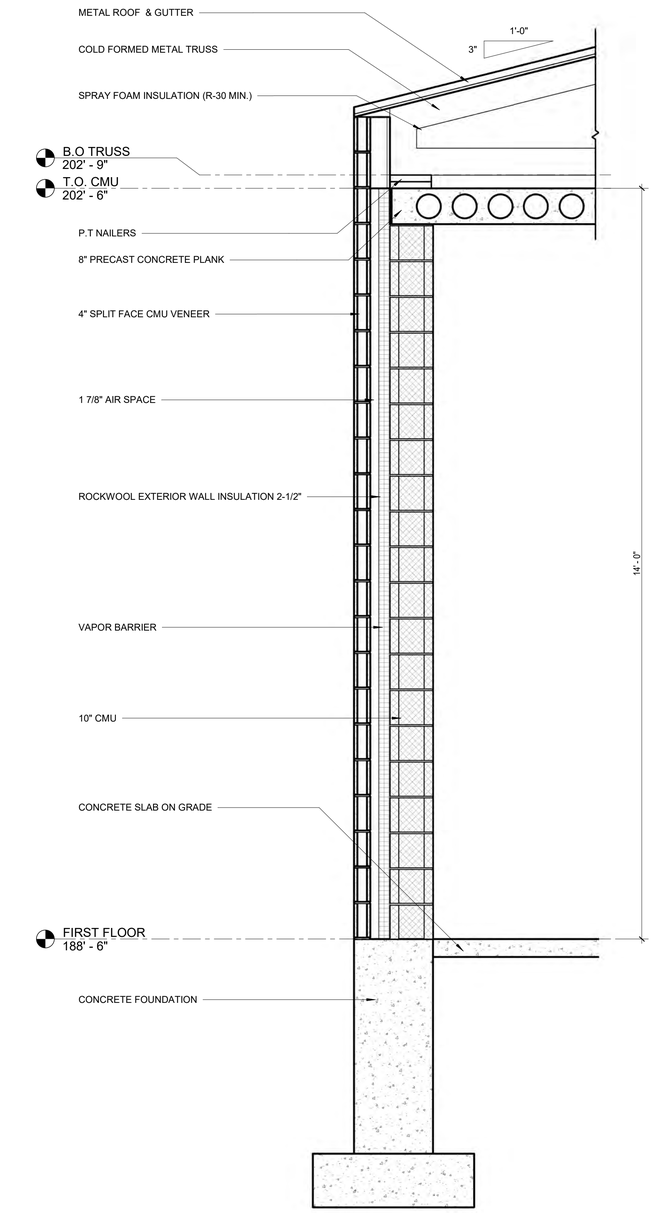
Revisions:	Date:

Drawing Title:
Building Sections

Sheet Number:
A-301

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WALL SECTION @ EAVE 1

SCALE: 3/4" = 1'-0"

Notes:

Key Plan:

Architect's Stamp:

Project:
110 Venture Drive _ Q LLC Addition

110 Venture Drive
Dover, NH 03820

Client:
QLLC

4 Cutts St. Unit 3, Portsmouth, NH 03801

Project #: 21096

Scale: 3/4" = 1'-0"

Issue:	Date:
Progress	10081021

Revisions:	Date:

Drawing Title:
Wall Sections

Sheet Number:
A-311

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110 Venture Drive / Exterior View from Site Entrance / 05/05/2021

MAUGEL ARCHITECTS

CITY OF DOVER

TECHNICAL REVIEW COMMITTEE MINUTES – P21-77

Application Type:	Site Plan Review
Applicant(s):	Q, LLC (Adam Johnson)
Owner(s):	Quality Way, LLC (William Lovejoy)
Location:	Quality Way and Venture Drive (Assessor's Map D, Lot 11-4)
Date:	November 4, 2021

INTENT: To construct a 7,400 s.f. addition on a light manufacturing facility to total 38,200 s.f. plus an additional 10 parking spaces

UNITS PROPOSED: N/A

AGENDA ITEM #: 1

ACREAGE: 5

ZONING DISTRICT: IT

EXISTING LAND USE: Light Manufacturing

PROPOSED LAND USE: Light Manufacturing

SURROUNDING LAND USE: Vacant, Industrial

ZBA ACTION: None

PERMITS REQUIRED: N/A

RELIEF/WAIVERS REQUESTED:
-153-15.D landscaping plan

ATTENDANCE:
Members:
Donna Benton, Planning
Dave White, Engineering
Jim Maxfield, Inspection Services/Fire
Dan Barufaldi, Economic Development
Frank Torr, Planning Board
Marn Speidel, Police

Others:
Jase Gregorie
Nick Jewett
Christine List
David Choate

Approval of October 28, 2021 Meeting Minutes:
D.White moved to approve the October 28, 2021 meeting minutes. Seconded by F.Torr. Vote: U/A

PLAN REVIEW:
Planning:

- W/S Investment Fees
- Impact Fees
- Provide:
  - Narrative explaining waiver request and justification to meet the waiver criteria.
  - Letters to Serve from Eversource
- Revise Plan Set to add:
  - Owner's signatures on final plan set
  - Existing light poles not included in parking lot lighting calculations. Note should be added to the plan.
  - Add uniformity ratio, maximum light calculation, and minimum on the lighting plan
  - Revise traffic study to correct COAST to "Cooperative"
  - Add more info to plan about landscaping. Existing plus proposed trees planted.
  - Is there a dumpster onsite?
  - Revise note 3 on sheet 3
  - Add "Parking" to table on sheet 6
  - Indicate location of or add Common Site Plan Notes # Provided column to common note 8, note 4, 10, 14, 19, 33, 34
  - Surveyor/Engineering Stamp and Signature
  - Add space on title sheet between Q, LLC and Site Plan
  - Proposed Project name and File # P21-77
  - Confirm all utility equipment is screened
  - Indicate dumpster onsite that is noted
  - Note parking as Phase 2 to help with letter of credit calculations

Engineering Comments:

- Seems like a lot of lighting on the building. Is that needed?

Police Department Comments:

- Is this facility open to the public? No.

Fire/Inspections Comments:

- Discuss relocating hydrant on Quality Way so lines do not cross driveway access.
- Sheet 4 note 19 site working hours to include no Sundays or federal holidays.
- Sheet 6 Indicate the use of the concrete pads on the site.
- Indicate the location of the dumpster pad with screening.

- Indicate the location of the proposed generator and any associated fuel storage/piping
- Sheet 6 provide exit discharge walkway at side exit.
- Sheet 6 clarify if there is proposed screening for HVAC equipment at 10' x 60' concrete pad.
- Plan set to indicate the location of the FDC.
- Review the location of the exits with the omission of two exits on the north side of the structure.
- Plans to indicate all entrances/exits.

Economic Development:

- What is the volume? Sound proofing?
- How is waste handled from the trap?

Planning Board Comments: N/A

Next Steps:
Meet with IS and Planning. Revise plans and submit for Planning Board.

TRC paused at: 10:51am

CITY OF DOVER

PLANNING BOARD - STAFF MEMO FILE #P21-52

Application Type:	Lot Line Adjustment
Applicant(s):	Downtown Dover Storage, LLC
Owner(s):	Downtown Dover Storage, LLC
Location:	14 Broadway (Tax Map 4, Lot 5)
Meeting Date:	December 14, 2021

INTENT: To adjust the lot lines between two lots for an equal land swap

LOTS/UNITS PROPOSED:
N/A

AGENDA ITEM #: 4-G

ACREAGE: **Existing: Proposed:**

Lot 4/5:	19,471 sf	19,471 sf
Lot 4/3:	20,592 sf	20,592 sf

ZONING DISTRICT: CBD-G

EXISTING LAND USE:
Commercial

PROPOSED LAND USE: Mixed Use

SURROUNDING LAND USE:
Residential/Commercial, Railway

ZBA ACTION: None

ATTACHMENTS: Application materials, Lot Line Adjustment Plan

APPLICATION IS COMPLETE: Yes

DECLARE REGIONAL IMPACT: No

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

PERMITS REQUIRED:
-N/A

WAIVER(S) REQUESTED:
N/A

Summary of Request and Background
The applicant is requesting to complete a lot line adjustment between two lots for an equal land Swap where the lot areas will not change, only the shape of the lots and frontage. Being in the CBD-G, there is no minimum lot size or frontage, so the lots remain conforming.

As a Lot Line Adjustment, this application did not appear before the TRC.

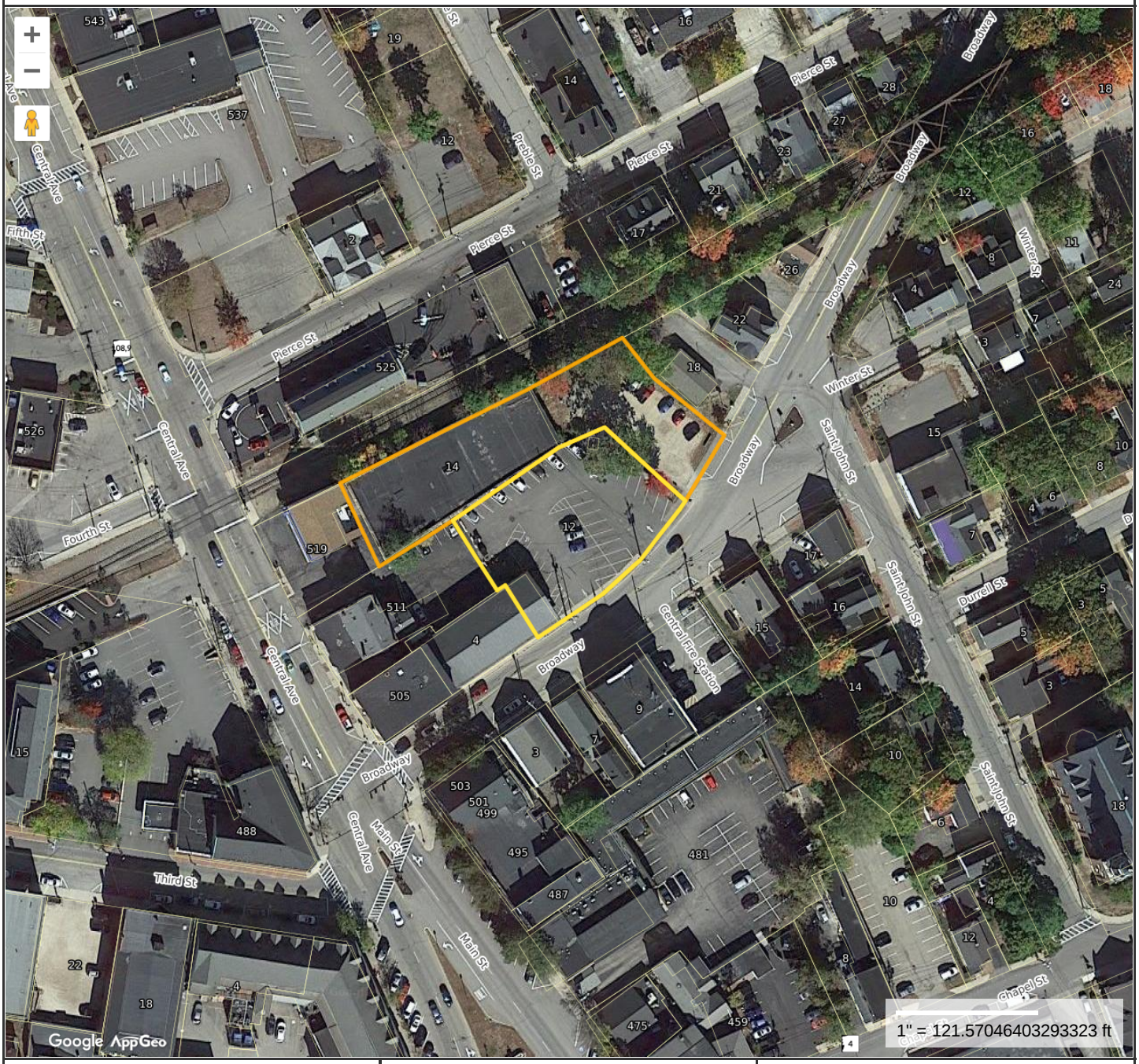
Consistency with Land Use Regulations
Chapter 157-17 of the Land Subdivision Regulations of the City Code provides for the adjustment of existing lot lines between two or more lots. This plan is consistent with those regulations.

STAFF RECOMMENDATION:
The Planning Department recommends the Planning Board to accept the application, open the public hearing, and vote to approve the application with the following conditions:

Conditions to Be Met Prior to Signing of Plans:

1. Provide physical and digital copies (including CAD) of complete plan set which additionally shall include:
    a. The signature and stamp of LLS
    b. The owners' signatures for recording at Strafford County Registry of Deeds.
    c. Revising the Planning File #21-52
    d. Move notes section up to ensure a 2"x2" blank space in lower right corner
    e. Add setback and build-to-lines
    f. Add common notes: 8 and 10
    g. Add plan titles to reference plans

12 & 14 Broadway



Property Information

Property ID	04003-000000
Location	12 BROADWAY
Owner	RANDALL MATTHEW
Land Use	337

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.

CITY OF DOVER

PLANNING BOARD - STAFF MEMO FILE #P21-51

Application Type:	Conditional Use Permit
Applicant(s):	Downtown Dover Storage, LLC
Owner(s):	Downtown Dover Storage, LLC
Location:	14 Broadway (Tax Map 4, Lot 5)
Meeting Date:	December 14, 2021

INTENT: To obtain a CUP to allow less than 20% of non-residential in the mixed-use building

LOTS/UNITS PROPOSED: 24 residential units plus commercial

AGENDA ITEM #: 4-H

ACREAGE: 0.4470 +/- acres

ZONING DISTRICT: CBD-G

EXISTING LAND USE: Commercial

PROPOSED LAND USE: Mixed Use

SURROUNDING LAND USE: Residential/Commercial, Railroad

ZBA ACTION: None

ATTACHMENTS: Application materials including narrative of CUP criteria, and floor plans

APPLICATION IS COMPLETE: Yes

DECLARE REGIONAL IMPACT: No

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

PERMITS REQUIRED:
-CUP for less than 20% Non-residential

WAIVER(S) REQUESTED: N/A

Summary of Request and Background
The applicant is requesting 8.17% of the 42,242 s.f. building (14,860 s.f. footprint) be non-residential in the new building where as 20% is required in the Central Business District-General Subdistrict. The lot and the need for onsite parking, as well as the unique – resiliency focused- design of the building limit the area which could be used for additional non-residential space. The applicant provided a separate narrative explaining how each of the criteria have been met.

Consistency with Land Use Regulations
Chapter 170-20.B(1) Zoning Ordinance allows for Conditional use approval for relief from the standards herein may be granted by the PLANNING BOARD (RSA 674:21 II) after proper public notice and public hearing provided that the proposed project complies with the following standards:

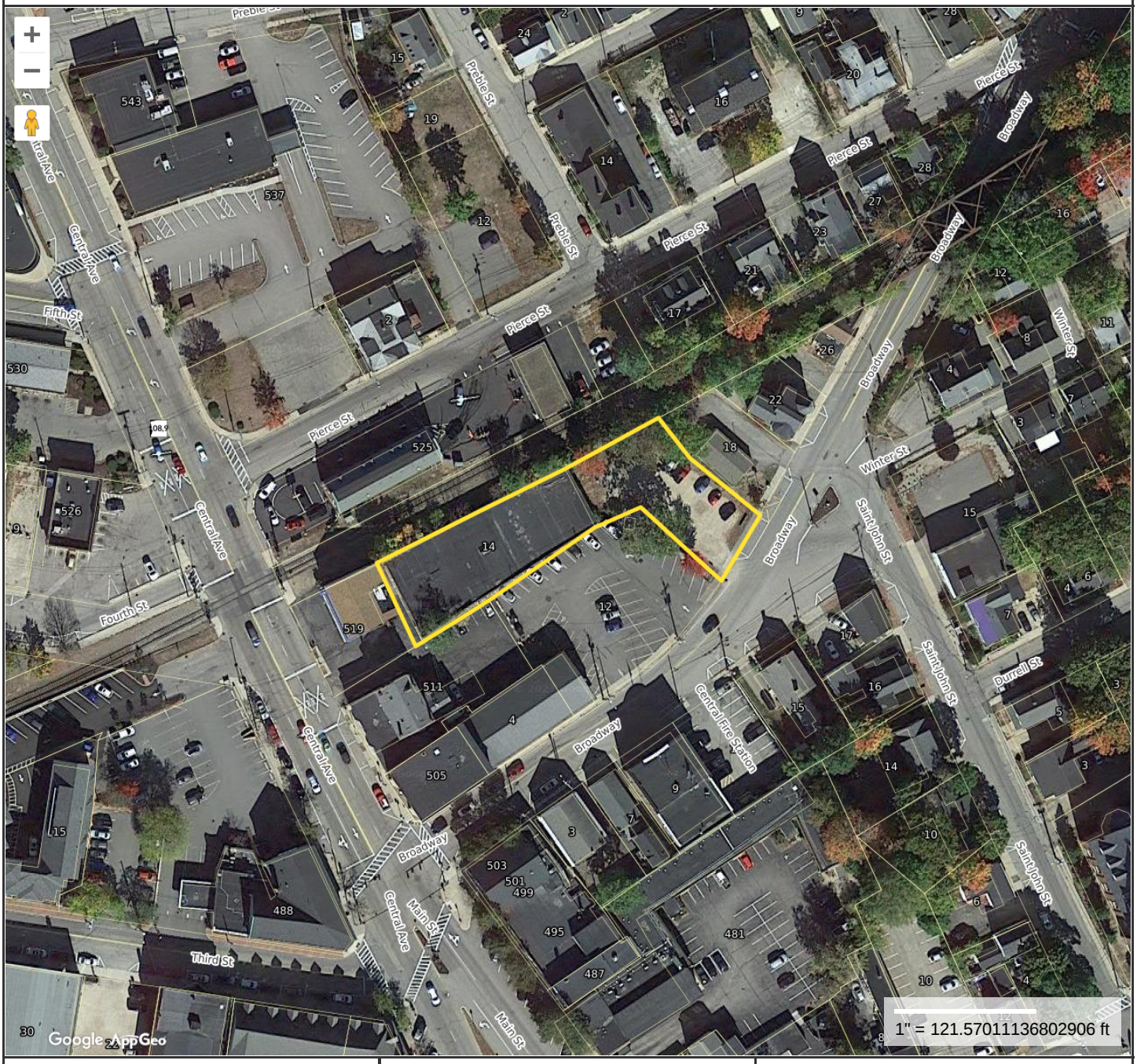
(a) That both public and private BUILDINGs and landscaping shall contribute to the physical definition of RIGHTs OF WAY as CIVIC SPACEs.
(b) That development shall adequately accommodate automobiles, while respecting the pedestrian and the spatial form of public areas.
(c) That the design of STREETs and BUILDINGs shall reinforce safe environments, but not at the expense of accessibility.
(d) That architecture and landscape design shall grow from local climate, topography, history, and BUILDING practice.
(e) That BUILDINGs shall provide their inhabitants with a clear sense of geography and climate through energy efficient methods.
(f) That CIVIC BUILDINGs and public gathering places shall be provided as locations that reinforce community identity and activity.
(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.
(h) That the preservation and renewal of historic BUILDINGs shall be facilitated.
(i) That the harmonious and orderly evolution of urban areas shall be advanced by the proposed BUILDING and/or use

This plan is consistent with the criteria as described in the applicant's narrative.

STAFF RECOMMENDATION:
Staff feels that the non-residential unit being on the ground floor and along the frontage on Broadway activates this lot in the intended way and supports the issuance of the CUP. The Planning Department recommends the Planning Board accept the application, open the public hearing and vote to approve the Conditional Use Permit with the following conditions:

Conditions to Be Met Prior to the Issuance of a Conditional Use Permit:
1. The Minor Lot Line Adjustment plan (P21-52) be approved.
2. The site plan (P21-29) be approved.
3. Revise site plan to:
   Add note calculating the percentage of non-residential and that the Planning Board issued a Conditional Use Permit to allow for less than the 20% required area to be non-residential.

14 Broadway



Property Information

Property ID	04005-000000
Location	14 BROADWAY
Owner	DOWNTOWN DOVER STORAGE LLC
Land Use	401

MAP FOR REFERENCE ONLY
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Geometry updated 5/3/2021
Data updated Daily

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CITY OF DOVER

PLANNING BOARD - STAFF MEMO FILE #P21-29

Application Type:	Site Plan Review
Applicant(s):	Downtown Dover Storage, LLC
Owner(s):	Downtown Dover Storage, LLC
Location:	14 Broadway (Tax Map 4, Lot 5)
Meeting Date:	December 14, 2021

INTENT: To build a 4 story residential building with first floor commercial space and under building parking.

LOTS/UNITS PROPOSED: 24 residential units plus commercial

AGENDA ITEM #: 4-I

ACREAGE: 0.45 acres

ZONING DISTRICT: CBD-G

EXISTING LAND USE: Commercial

PROPOSED LAND USE: Mixed Use

SURROUNDING LAND USE: Residential/Commercial, Railroad

ZBA ACTION: None

ATTACHMENTS: Application materials, TRC minutes, and Site Plan

APPLICATION IS COMPLETE: Yes

DECLARE REGIONAL IMPACT: No

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

PERMITS REQUIRED:
-CUP for less than 20% Non-residential

WAIVER(S) REQUESTED: N/A

Summary of Request and Background
The applicant has worked over the past year on a proposal to improve the existing site at 14 Broadway. After a lot line adjustment and Conditional Use Permit request are reviewed by the Board, the site plan proposes to demolish the existing blighted building and construct a new building on the southeast corner of the lot with 24 residential units (still to be determined rentals or for sale) and some commercial space on the ground floor with parking on site. The lot is serviced by public water and sewer.

The Technical Review Committee most recently reviewed this case on August 26 and November 18, 2021.

Consistency with Land Use Regulations
Chapter 153-4 of the Site Review Regulations of the City Code provides for site review by the Planning Board of new construction of various types. This plan is consistent with those regulations.

STAFF RECOMMENDATION:
The Planning Department recommends the Planning Board accept the applications, open the public hearing, and vote to approve the Site Plan with the following conditions:

Conditions to Be Met Prior to the Signing of Plans:

1. Provide:
    a. Letter from Licensed Pest Control Specialist regarding if a pest management plan is needed.
    b. Letter to serve from Eversource.
    c. Copy of draft cross access easements
    d. Copy of lease or HOA documents to be reviewed by the Planning Department with consultation by the City Attorney.
2. Provide physical and digital copies (including CAD) of complete plan set which additionally shall include:
    a. Signature and stamp of PE, LLA, and LLS
    b. Owner's signature
    c. Provide 2"x2" space on lower right corner of sheet C-7 for Dover's approval stamp
    d. Add electric vehicle readiness
    e. Add plan titles to references
    f. Revise lighting plan add height of fixtures and be signed by a PE.
    g. Add location of parking meter
    h. To the satisfaction of the Building Official confirm:
        i. the location of the FDC
        ii. accessibility of dumpster
        iii. exterior water shut off location

Conditions to Be Met Prior to any Demolition or Construction Activity:

3. A site construction sign with the contact information for the general contractor must be located and approved by the City Engineer or Assistant City Manager. Site Construction sign shall indicate level of visibility/noise/vibration disturbance anticipated each day.
4. Public art presented to Dover Arts Commission and Planning Staff and added to the site plan.
5. If pest control is required, the plan shall be implemented with proper monitoring.

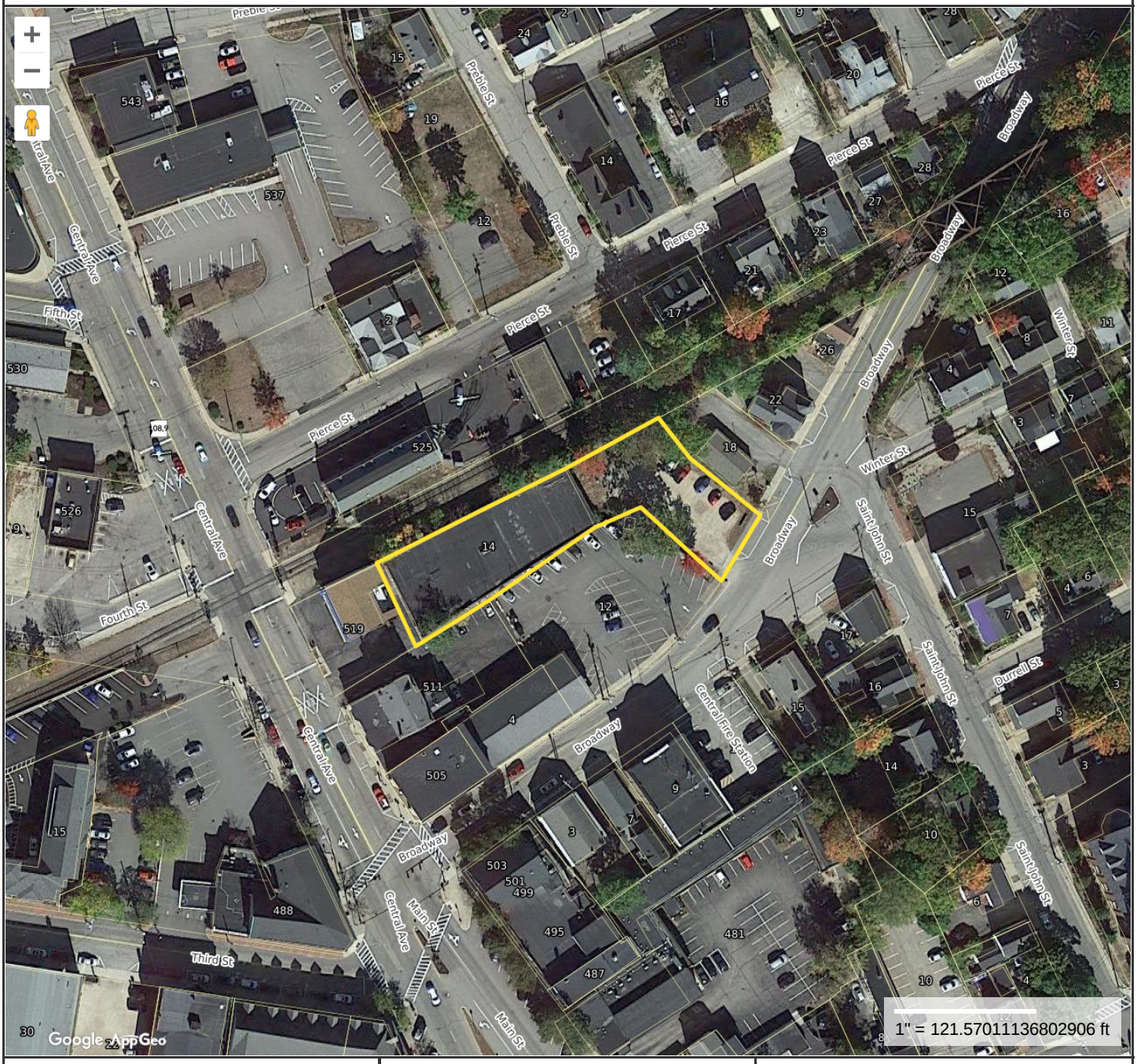
Condition to Be Met Prior to Issuance of a Building Permit:

6. Water and sewer investment fees shall be paid at the time of request of service.

Conditions to Be Met Prior to Occupancy:

7. Issuance of a certificate of occupancy.
8. Impact fees shall be paid per the invoice included with the Notice of Decision.
9. The applicant shall provide a letter of credit or other form of security acceptable to the City for any unfinished work.
10. Parking meter installed at expense of the applicant to the satisfaction of the Parking Manager.
11. Public art installed.

14 Broadway



Property Information

Property ID	04005-000000
Location	14 BROADWAY
Owner	DOWNTOWN DOVER STORAGE LLC
Land Use	401

MAP FOR REFERENCE ONLY
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Geometry updated 5/3/2021
Data updated Daily

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169 Ocean Boulevard/PO Box 249
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603.601.8154
TheEngineeringCorp.com
Create | Design | Innovate

Mr. Chris Parker
Assistant City Manager: Director of Planning and Strategic Initiatives
City of Dover Planning Department
288 Central Ave
Dover, NH 03820

November 24, 2021

Ref. N0946.02
Planning File # P21-29

Re: Planning Board Narrative
Proposed Residential Development at 14 Broadway

Dear Mr. Parker:

On behalf of Downtown Dover Storage, LLC, The Owner and Applicant ("Applicant"), TEC, Inc. respectfully submits this letter to supplement the enclosed application with supporting documents for review by the Planning Board for the Proposed Residential Development at 14 Broadway in Dover, NH. The Applicant is proposing to redevelop the existing 1-story warehouse and gravel area located at 14 Broadway, Dover, NH (Assessors Map 4, Lot 5). The project will also include redeveloping the bituminous concrete parking area of 12 Broadway (Assessors Map 4, Lot 3). The Applicant is proposing to demolish the existing warehouse and construct a 4-story, 24-unit residential building with commercial use space on the first floor, parking areas totaling 66 spaces between Lot 4-3, Lot 4-5, and Broadway, and landscaped areas to beautify the site.

The purpose of the project is to rejuvenate an existing abandoned lot located in the heart of the City with a modern residential building with space for commercial uses along Broadway. This project will have a positive impact on the immediate area and the City in general by providing a source of housing in a fast-growing area. The project aims to increase the amount of greenspace on site, treat all stormwater runoff, provide sufficient off-street parking, and utilize municipal utilities along Broadway.

The project will require the following approvals and permits from the Planning Board:

Minor Lot Line Adjustment
A Minor Lot Line Adjustment between Lots 4-3 and 4-5 is being sought to provide the lot with feasibility to meet the required 75% minimum lot coverage. The existing shape of the lot presents a challenge with meeting this requirement while creating a development that will benefit the immediate area of influence and the City in terms of aesthetics and functionality. The proposed lot line will create a more traditional "block" style lot for Lot 4-5, allowing the dimensional requirements of the CBD General Sub-District to be more easily met. The areas of both lots will remain unchanged, Lot 4-3 being 20,592 SF and Lot 4-5 being 19,471 SF.

Conditional Use Permit
A Conditional Use Permit is being sought to grant relief to the required 20% minimum first floor commercial use space in the CBD General Sub-District. This relief complies with all standards established in the City of Dover Zoning Ordinance Chapter 170-20B(1)&(2).

Site Review
The project will require Site Review by the Planning Board.

Enclosed please find the following documents as part of the Application to the Planning Board:

- Completed and Signed *"Site Review Application"* (1 copy)
- Completed and Signed *"Conditional Use Permit Application"* (1 copy)
- Completed and Signed *"Minor Lot Line Adjustment Application"* (1 copy)
- Conditional Use Permit Criteria Narrative (1 copy)
- Letters to Serve (1 copy)
- Photographs of Site (1 copy)
- List of Abutters (1 copy)
- Responses to TRC Comments (7 copies)
- Plans (7 copies, 1-full size & 6-11x17)
- Drainage Report (7 copies)
- Traffic Analysis Memo (7 copies)

Please do not hesitate to contact me directly if you have any questions concerning our Application for TRC Review at (603) 601-8154.Thank you for your consideration.

Sincerely,
TEC, Inc.
*"**T**he **E**ngineering **C**orporation"*

Christopher Raymond, PE
Civil Engineer – Design Engineer

City of Dover, New Hampshire
MINOR LOT LINE ADJUSTMENT APPLICATION

[Revision Date: June 4, 2019]

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

APPLICANT INFORMATION

Name of Applicant: Downtown Dover Storage, LLC Telephone #_____

Address of Applicant: 42 L Dover Point Road, Dover, NH 03820

FIRST PROPERTY OWNER AND PARCEL INFORMATION

Name of 1st Property Owner (*if different from applicant*): _____ Telephone #_____

Address of 1st Property Owner: _____

Address of Property: 14 Broadway, Dover, NH 03820

Assessor's Map # 4 Lot(s) # 5

Property Deed: Book 4719 Page: 976

Zoning District(s) CBD General Sub-District Overlay District(s) _____

Size of Existing Parcel (sq. ft.): 19,471 Size of Proposed Parcel (sq. ft.): 19,471

SECOND PROPERTY OWNER AND PARCEL INFORMATION

Name of 2nd Property Owner (*if different from applicant*): Clayton F. Randall Living Revocable Trust Telephone #_____

Address of 2nd Property Owner: 131 Clement Road, Rollinsford, NH 03869

Address of Property: 12 Broadway, Dover, NH 03820

Assessor's Map # 4 Lot(s) # 3

Property Deed: Book 2555 Page: 323

Zoning District(s) CBD General Sub-District Overlay District(s) _____

Size of Existing Parcel (sq. ft.): 20,621 Size of Proposed Parcel (sq. ft.): 20,621

THIRD PROPERTY OWNER AND PARCEL INFORMATION

Name of 3rd Property Owner (*if different from applicant*): _____ Telephone #_____

Address of 3rd Property Owner: _____

Address of Property: _____

Assessor's Map # _____ Lot(s) # _____

Property Deed: Book _____ Page: _____

Zoning District(s) _____ Overlay District(s) _____

Size of Existing Parcel (sq. ft.): _____ Size of Proposed Parcel (sq. ft.): _____

[Use additional application form if more than two lots are being adjusted]

SURVEYOR INFORMATION

Name of Surveyor and Company (Licensed in N.H.) Hancock Associates

Address 185 Centre Street, Danvers, MA 01923 Telephone #: _____

Professional License #: _____ E-mail address: _____

CONSERVATION EASEMENT HOLDER (s)

Name of Easement Holder: _____ Telephone #_____

Address Easement Holder: _____

Name of 2nd Easement Holder: _____ Telephone #_____

Address 2nd 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. As applicant or as agent, I attest that I am duly authorized to act in this capacity.

Signature of First Property Owner: _____ Date: 11-24-2021

Signature of Second Property Owner: _____ Date: 11-24-2021

Signature of Applicant (*if different from owner*): _____ Date: 11-24-2021

Signature of Agent: Chris Berard Date: 11-24-2021

AUTHORIZATION TO ENTER SUBJECT PROPERTY

I 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: 11-24-2021

CITY OF DOVER MINOR LOT LINE ADJUSTMENT
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
4	5	Downtown Dover Storage, LLC	42 L Dover Point Road, Dover, NH

Applicant (if different from owner):

APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS

Surveyor and/or Engineer/Professional Agent:

NAME	COMPANY	MAILING ADDRESS
Chris Raymond	TEC, Inc.	169 Ocean Blvd., Hampton, NH 03824

Conservation Easement Holder:

TAX MAP	LOT #	NAME OF EASEMENT HOLDER	MAILING ADDRESS

City of Dover, New Hampshire
LOT LINE ADJUSTMENT SUBMISSION CHECKLIST

[Revision Date: June 4, 2019]

This review checklist is intended to assist the applicant in the planning process of preparing a Subdivision 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.

Plan Review Fees are due along with three (3) full size and twelve (12) half size (11x17), folded, copies of the plan set and materials, 3 weeks prior to the Planning Board meeting. Abutter/Notice Fees will be invoiced and are due 28 hours prior to Planning Board.

The applicant is cautioned that this checklist is only a guide and is not intended to be a complete list of all subdivision requirements. Please refer to the Subdivision Regulations for full details.

APPLICANT: Downtown Dover Storage, LLC File Number: _____

PROPERTY LOCATION: 14 Broadway, Dover, NH 03820 Tax Map: 4 Lot: 5 and Lot: 3

	Where/How Provided	Reviewed
1. Completed and signed Application form	Submission	
2. Plan Review Fees are provided	Submission	
3. Electronic copy of the surveyed plat layout	Submission	
4. Electronic copy of supplementary materials and application	Submission	
5. Fifteen copies of LLA plan w/scale of not less than 1"=50' or 1"=100' for larger adjustments. Plans shall contain the following items as appropriate:	Submission	
Location map at appropriate scale	Title Sheet	
Planning File #	Plans	
Date, north arrow and scale	Plans	
Names of all abutting property owners	Existing Conditions Plan	
Name and address of owners	Existing Conditions Plan	
Signature & stamp of NH licensed land surveyor	Existing Conditions Plan	
Zoning District boundaries, including any special or overlay districts	N/A	
Location of Conservation District areas	N/A	
Location, names and widths of existing and streets, including pavement widths, grades, curbs and crosswalks	Layout & Materials Plan	
Location and widths of existing & proposed easements & right of ways	Layout & Materials Plan	
Existing and proposed property lines with dimensions and bearings tied into Dover's Geographic Information System coordinate system	Lot Line Adjustment Plan	
Existing and proposed lot areas in square feet	Lot Line Adjustment Plan	
Existing and proposed buildings and structure locations	Layout & Materials Plan	
Minimum building setbacks or build to lines on all lots	Layout & Materials Plan	
Map and lot numbers for existing and proposed lots as assigned by Tax Assessor	Plans	
Location, material and size of existing and proposed permanent monuments	N/A	
All applicable Dover Common Subdivision notes	Legend & General Notes	

REVIEWED BY: _____ DATE_____

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: Downtown Dover Storage, LLC Telephone #_____

Address of Applicant: 42 L Dover Point Road, Dover, NH 03820

E-Mail Address: _____

Name of Property Owner (if different from applicant): _____ Telephone #_____

Address of Property Owner: _____

PROPERTY INFORMATION

Assessor's Map # 4 Lot(s) # 5

Address of Property: 14 Broadway, Dover, NH 03820

Zoning District(s) CBD General Sub-District Overlay District(s) _____

Existing Use of Property: 1-story warehouse and parking lot

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:

First floor commercial/retail space does not meet the required 20% minimum gross floor area.

This commercial/retail space is located along the frontage of the property as required, but increasing the area of this use would be detrimental to the required on site parking.

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: Chris Raymond, P.E. (TEC, Inc.)

Address 169 Ocean Boulevard, PO Box 249, Hampton, NH 03842 Telephone #: (603) 601-8154

Professional License #: 16305 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: 11-24-2021

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

Signature of Agent: Chris Raymond Date: 11-24-2021

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: 11-24-2021

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
4	5	Downtown Dover Storage, LLC	42 L Dover Point Road, Dover, NH

Applicant (if different from owner):

APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS

Surveyor and/or Engineer/Professional Agent:

NAME	COMPANY	MAILING ADDRESS
Chris Raymond	TEC, Inc.	169 Ocean Blvd., Hampton, NH 03824

Conservation Easement Holder:

TAX MAP	LOT #	NAME OF EASEMENT HOLDER	MAILING ADDRESS

169 Ocean Boulevard/PO Box 249
Hampton, NH 03842
603.601.8154
TheEngineeringCorp.com
Create | Design | Innovate

Mr. Chris Parker
Assistant City Manager: Director of Planning and Strategic Initiatives
City of Dover Planning Department
288 Central Ave
Dover, NH 03820

November 24, 2021

Ref. N0946.02

Re: Conditional Use Permit Criteria Narrative
Proposed Residential Development at 14 Broadway

Dear Mr. Parker:

On behalf of Downtown Dover Storage, LLC, The Owner and Applicant ("Applicant"), TEC, Inc. respectfully submits this narrative outlining conformance to the Conditional Use Permit (CUP) Criteria for review by the Technical Review Committee (TRC) for the Proposed Residential Development at 14 Broadway in Dover, NH. A Conditional Use Permit is being sought to grant relief to the required 20% minimum first floor commercial use space in the CBD General Sub-District. Conformance with all standards established in the City of Dover Zoning Ordinance Chapter 170-20B(1)&(2) are justified below:

Conditional use approval for relief from the standards herein may be granted by the PLANNING BOARD (RSA 674:21 II) after proper public notice and public hearing provided that the proposed project complies with the following standards:

a. **That both public and private BUILDINGs and landscaping shall contribute to the physical definition of RIGHTs OF WAY as CIVIC SPACEs.**
The Proposed Residential Development contributes to the physical definition of RIGHTs OF WAY as CIVIC SPACEs

b. **That development shall adequately accommodate automobiles, while respecting the pedestrian and the spatial form of public areas.**
The Proposed Residential Development adequately accommodates automobiles by providing a total of 66 parking spaces to be shared between Lots 4-3 and 4-5. In order to achieve the goal of respecting the pedestrian and the spatial form of public areas, the development provides parking beneath the building to limit the amount of impervious surface on the site and provide ample landscaping to beautify site.

c. **That the design of STREETs and BUILDINGs shall reinforce safe environments, but not at the expense of accessibility.**
The Proposed Residential Development provides a balance between reinforcing safe environments and maintaining accessibility. The site contains wheelchair ramps where necessary, sidewalks for pedestrian access from Broadway, and adequate signage to make vehicles and pedestrians aware of their surroundings.

d. **That architecture and landscape design shall grow from local climate, topography, history, and BUILDING practice.**
The architectural features being utilized were influenced by the surrounding neighborhood, while upholding the overall goal of contributing towards a harmonious and orderly evolution of Dover, NH.

e. **That BUILDINGs shall provide their inhabitants with a clear sense of geography and climate through energy efficient methods.**
The Proposed Residential Development will provide their inhabitants with a clear sense of geography and climate through energy efficient methods such as incorporating a green roof, solar panel and electric vehicle parking.

f. **That CIVIC BUILDINGs and public gathering places shall be provided as locations that reinforce community identity and activity.**
This standard is not applicable to this project.

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.**
This standard is not applicable to this project.

h. **That the preservation and renewal of historic BUILDINGs shall be facilitated.**
This standard is not applicable to this project.

i. **That the harmonious and orderly evolution of urban areas shall be advanced by the proposed BUILDING and/or use.**
The Proposed Residential Development contributes towards the harmonious and orderly evolution of Dover, NH, utilizing aspects of strategic land planning and unique architectural features.

Conditional use approval for relief from the **use** standards herein may be granted by the PLANNING BOARD (RSA 674:21 II) after proper public notice and public hearing provided that the proposed project complies with the following standards:

a. **The requested use shall be compatible with abutting uses and the surrounding NEIGHBORHOOD.**
The Proposed Residential Development compliments the abutting uses and surrounding neighborhood of the CBD-G Zoning District, with a wide variety of uses located within the neighborhood. It will develop a currently abandoned lot into a modern, 4-story residential building with first floor commercial space.

b. **The requested use will not create undue traffic congestion, or unduly impair pedestrian safety.**
Please see the Traffic Impact Analysis for the project.

c. **The requested use will not result in objectionable noise or odor which would constitute a NUISANCE.**

The requested use will not result in objectionable noise or odor which would constitute a nuisance.

Please do not hesitate to contact me directly if you have any questions concerning our Application for TRC Review at (603) 601-8154.Thank you for your consideration.

Sincerely,
TEC, Inc.
*"**T**he **E**ngineering **C**orporation"*



Christopher Raymond, PE
Civil Engineer – Design Engineer



Figure 1 – 14 Broadway – Facing Northwest from Broadway – 4/23/2021



Figure 2 – 14 Broadway – Existing 1-Story Warehouse Facing West from Site– 4/23/2021



Figure 3 – 14 Broadway – Facing Southeast from North Side of Site – 4/23/2021



Figure 4 – 14 Broadway – Facing Adjacent Parcel (12 Broadway) from Broadway – 4/23/2021



Figure 5 – 14 Broadway – Facing Adjacent Parcel (18 Broadway) from Site – 4/23/2021



Figure 6 – 14 Broadway – Site Entrance Facing West from Broadway – 4/23/2021

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

October 27, 2021

Chris Raymond TEC

RE: Tax Map 4 Lot 5-14 Broadway

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

Unitil
Northern Utilities, Inc.

October 28th, 2021

Downtown Dover Storage, LLC
42 L Dover Point Road
Dover, NH 03820

Natural Gas to Mixed-Use Development at 14 Broadway in Dover, NH

To Whom it May Concern,

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 14 Broadway in Dover, NH 03820*.

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

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

Sincerely,

Dave MacLean
Senior Business Development Rep
Unitil
T 603.294.5261 **M** 603.534.2379 **F** 603.294.5264
Email macleand@unitil.com

CITY OF DOVER

TECHNICAL REVIEW COMMITTEE MINUTES – P21-29

Application Type:	Mixed Use Development
Applicant(s):	Downtown Dover Storage, LLC
Owner(s):	Downtown Dover Storage, LLC
Location:	14 Broadway (Assessor's Map 4, Lot 5)
Date:	November 18, 2021

INTENT: To build a 4 story residential building with first floor commercial/retail space and parking lot. Minor lot line adjustment and a CUP would also go before the PB.

UNITS PROPOSED: 24 units

AGENDA ITEM #: 1

ACREAGE: 0.45 acres

ZONING DISTRICT: CBD-G

EXISTING LAND USE: Commercial

PROPOSED LAND USE: Mixed-use

SURROUNDING LAND USE:
Commercial/residential

ZBA ACTION: None

PERMITS REQUIRED:
-CUP for 20% of building to be non-residential
-Street tree waiver

RELIEF/WAIVERS REQUESTED:
-Street tree waiver

ATTENDANCE:
Members:
Donna Benton, Planning
Dan Barufaldi, Economic Development
Dave White, Engineering
Jean Glidden, Zoning
Marn Speidel, Police

Others:
Chris Raymond
Sarah Hourihane
Keegan Smith

Approval of Prior Meeting Minutes:
D.White moved to approve the November 4, 2021 meeting minutes. Seconded by: M.Speidel. Vote: U/A

PLAN REVIEW:
Planning:

- *Will these be condos or rentals?* Will need to know before PB based on conditions of approval. Condo docs would be needed if you intend to condo.
- Work with Arts Commission about public art
- *Owner Signatures on Plans*
- *Impact fees*
- *W/S investment fees*
- Add street trees rather than relief
- *Provide:*
  - *Letters to Serve from Eversource and COD*
  - *Draft access easements between three lots*
- *Revise Plan Set to add:*
  - *10' rear setback*
  - Add plan titles to references
  - Add or indicate location of Missing Common Site Plan Notes *# 13, 17, 19, 20, 25, 26, 29, 30, 31, 32, 34-41.*
  - *Professional Stamps and Signatures on each submission*
  - *Revise parking table to existing, allowed, proposed. Indicating how they will be shared.*
  - *Lighting plan to meet regulations*. Correct uniformity ratio, spillage to abutting properties, etc.
  - Remove parts of the existing conditions layer which will be changing in future from proposed site plan
  - Dumpster screening needs to be solid stockade or similar.
  - Black vinyl with black vinyl privacy slats is OK for along the railroad to deter tagging.
  - What is the window material? Add to elevations
  - What is the mechanical screening material?
  - Streetscape should include parking improvements
  - Add location of parking meter

Engineering Comments:

- The concrete sidewalk detail calls for a red tint. Is this for onsite only?
- The 2 inch water service should come off the 6 inch
- The drainage in Broadway needs to be investigated so the design can be completed
- No curb should run thru the tipdown in the right of way
- The dmh cover should be 30 inch

CITY OF DOVER

TECHNICAL REVIEW COMMITTEE MINUTES – P21-29

Application Type:	Mixed Use Development
Applicant(s):	Downtown Dover Storage, LLC
Owner(s):	Downtown Dover Storage, LLC
Location:	14 Broadway (Assessor's Map 4, Lot 5)
Date:	November 18, 2021

Police Department Comments:

- ISD and SSD analysis in the October 28, 2021 Traffic Impact Assessment appears to have been performed from the existing easterly site driveway. This is not relevant to the project. ISD and SSD analysis should be conducted from the proposed project driveway. Additionally, the added on street Broadway parking essentially ignores the findings of the Traffic Impact Analysis (p. 3).
- Provide treatments (sign, pavement markings) in westerly Broadway travel lane to discourage the Central/Broadway traffic queue from blocking site driveway
- On Streetscape Rendering sheet PB-08, view from Broadway looking south inaccurately shows the existing 14 Broadway site driveway. Not a big deal, but could confuse some plan reviewers about the project limits.
- Is the covered parking available for the public customers of the commercial spaces? If so, how will this be managed?

Fire/Inspections Comments:

- DFD/IS comments
- Indicate the location of the FDC
- Provide accessible details for recycle/dumpster
- An exterior water shut off for domestic and suppression services – Only one was located on plan set. Engineering has final determination

Economic Development:

- Architectural amenities
- Provide samples
- Any idea for commercial section?
- Plan for chase in case of restaurant
- Thru-colored rather than painted panels

Planning Board Comments:

- *Landscaping index*
- *Screening around dumpster and electric boxes and complete way by railroad tracks*
- *Mitigate graffiti*
- *Snow storage*
- *Maintenance plan for the grounds*
- *Market rate?*

Next Steps:

Chat with Eversource. Revise plans and resubmit with revised TIA and response letter in early December for staff to review then PB in January.

Adjournment:

D.White moved to adjourn the TRC at 11:21AM. Seconded by J.Glidden Vote: U/A.

169 Ocean Boulevard/PO Box 249
Hampton, NH 03842
603.601.8154
TheEngineeringCorp.com
Create | Design | Innovate

Mr. Christopher Parker
Assistant City Manager: Director of Planning and Strategic Initiatives
City of Dover Planning Department
288 Central Ave
Dover, NH 03820

November 24, 2021

Ref. N0946.02
Planning File # P21-29

Re: Response to TRC Comments Letter
Proposed Residential Development at 14 Broadway

Dear Mr. Parker:

On behalf of Downtown Dover Storage, LLC, The Owner and Applicant ("Applicant"), TEC, Inc. respectfully submits this letter addressing the comments made by the Technical Review Committee (TRC) on November 18, 2021, for the Proposed Residential Development at 14 Broadway in Dover, NH. The Applicant is proposing to redevelop the existing 1-story warehouse and gravel area located at 14 Broadway, Dover, NH (Assessors Map 4, Lot 5) and the bituminous concrete parking area of 12 Broadway (Assessors Map 4, Lot 3). The Applicant is proposing to demolish the existing warehouse and construct a 4-story, 24-unit residential building with first floor commercial space and associated parking, landscaping, and utilities.

Below is a list of the outstanding original comments provided by each member of the Technical Review Committee (**in bold**) and TEC Inc.'s response (*in italics*):

Planning Comments:

1. **Will these be condos or rentals?**
   Discussions are still being had for the Proposed Residential Development at 14 Broadway on whether the units will be rentals or condos. This will be decided at a point prior to construction. Market conditions will be evaluated during final building design to determine whether condos or rentals will be more desirable at this location.

2. **Work with Arts Commission about public art.**
   Coordination with the Arts Commission will be conducted to incorporate public art into the Proposed Residential Development.

3. **Owner signatures on plans.**
   Owner signature will be provided on all plan sets.

4. **Impact fees.**
   All necessary fees from the respective departments providing services to the Proposed Residential Development at 14 Broadway will be paid prior to the start of construction.

5. **W/S investment fees.**

All required fees for the Proposed Residential Development at 14 Broadway will be paid prior to the start of construction.

6. **Add street trees rather than relief.**
   Street trees will be provided along Broadway as shown on the plans.

7. **Provide:**

   - **Letters to serve from Eversource and COD.**
     Letters to Serve will be obtained from Eversource and City of Dover.

   - **Draft access easements between three lots.**
     Access easements between the three lots will be drafted.

8. **Revise plan set to add:**

   - **10' rear setback.**
     The egress stair tower has been revised; building footprint meets setbacks, particularly the 10' rear setback.

   - **Add plan titles to references.**
     Plan titles have been added to the references.

   - **Add or indicate location of Missing Common Site Plan Notes #13, 17, 19, 20, 25, 26, 29, 30, 31, 32, 34-41.**
     The Missing Common Site Plan Notes have been provided on the following sheets. Common Site Plan Notes #13 (General Note #16), #17 (Grading Drainage & Utility Note #20), #19 (Grading Drainage & Utility Note #21), #20 (Grading Drainage & Utility Note #21), #25 (General Note #17), #26 (General Note #18), #29 (General Note #19), #30 (General Note #20), #31 (Grading Drainage & Utility Note #22), #34-38 (General Note #21-25), #39-40 (Grading, Drainage & Utility Note #24-25) and #41 (General Note #26) can be found on the Legend & General Notes Sheet (C-2). Missing Common Site Plan Note #32 (Note #15) can be found on the Layout & Materials Plan (C-7).

   - **Professional Stamps and Signatures on each submission.**
     Professional Stamps and Signatures will be provided on each document in the submission.

   - **Revise parking table to existing, allowed, proposed. Indicating how they will be shared.**
     The parking table has been revised to show existing, allowed, and proposed parking spaces, and an explanation on how they will be shared as been provided.

   - **Lighting plan to meet regulations. Correct uniformity ratio, spillage to abutting properties, etc.**

The Lighting Plan will be revised to meet regulations, which includes correct uniformity ratio and spillage to abutting properties.

- **Remove parts of the existing conditions layer which will be changing in future from proposed site plan.**
  Aspects of the existing conditions which are proposed to be changed will be "frozen" from their respective plans.

- **Dumpster screening needs to be solid stockade or similar.**
  Dumpster screening has been revised to be solid stockade.

- **Black vinyl with black vinyl privacy slats is OK for along the railroad to deter tagging.**
  Black vinyl privacy slats are to be used along the railroad to deter tagging.

- **What is the window material? Add to elevations.**
  Window material to be aluminum or fiberglass as shown on the Architectural Elevations.

- **What is the mechanical screening material?**
  Mechanical screening material is included in the Architectural Details.

- **Streetscape should include parking improvements.**
  The Streetscape has been revised to include parking improvements.

- **Add location of parking meter.**
  Location of parking meter have been provided as shown on the X Plan (C-x).

Engineering Comments:

1. **The concrete sidewalk detail calls for red tint. Is this for onsite only?**
   The concrete sidewalk detail has been revised to not include red tint.

2. **The 2 inch water service should come off the 6 inch.**
   The 2-inch water service had been revised to branch off of the 6-inch suppression line with its own shut-off gate.

3. **The drainage in Broadway needs to be investigated so the design can be completed.**
   The drainage in Broadway has been investigated and confirmed to satisfy the proposed location of DMH-1.

4. **No curb should run thru the tipdown in the right of way.**
   The plans have been revised to show no curb running through the tip-down in the right of way.

5. **The DMH cover should be 30 inch.**
   The Manhole Cover & Frame detail has been revised to have a 30-inch diameter cover as shown on Sheet C-13.

Police Department Comments:

1. **ISD and SSD analysis in the October 18, 2021 Traffic Impact Assessment appears to have been performed from the existing easterly site driveway. This is not relevant to the project. ISD and SSD analysis should be conducted from the proposed project driveway. Additionally, the added on street Broadway parking essentially ignores the findings of the Traffic Impact Analysis (p.3).**
   The Traffic Impact Assessment has been revised to address the comments above.

2. **Provide treatments (sign, pavement markings) in westerly Broadway travel lane to discourage the Central/Broadway traffic queue from blocking site driveway.**
   Treatments have been provided in westerly Broadway travel lane to discourage the Central Broadway traffic queue from blocking the Proposed Residential Development's site driveway.

3. **On Streetscape Rendering sheet PB-08, view from Broadway looking south inaccurately shows the existing 14 Broadway site driveway. Not a big deal, but could confuse some plan reviewers about the project limits.**
   The streetscape rendering has been revised to show property improvements more accurately.

4. **Is the covered parking available for the public customers of the commercial space? If so, how will this be managed?**
   Covered parking is only available to residents of the Proposed Residential Development. This will be managed by signage posted in the covered parking area.

Fire/Inspections Comments:

1. **DFD/IS comments.**
   DFD/IS comments have been addressed.

2. **Indicate the location of the FDC.**
   FDC is noted on Level 1 Floor Plan.

3. **Provide accessible details for recycle/dumpster.**
   Accessible details have been provided for the recycle/dumpster area as shown on Sheet C-14.

4. **An exterior water shut off for domestic and suppression services – Only one was located on plan set. Engineering has final determination.**
   An exterior water shut off has been provided for the domestic and suppression services as shown on the Utility Plan (C-9).

Economic Development:

1. **Architectural Amenities.**
   Architectural amenities include the following:
   - *Human scale building forms and details at street level.*
   - *Building has been brought to the lot line on Broadway to encourage vibrancy.*
   - *Bicycle racks have been provided on site.*
   - *Green roof.*
   - *Electric vehicle charging stations.*
   - *Roof is PV ready.*
   - *80% windows/doors of the first-floor façade along Broadway.*
   - *Brick base and tower to reinforce relationship to building context and to celebrate Dover's history in brick making.*
   - *Tower form at corner of building facing downtown to create a prominent vista along the street and to create an architectural expression and interest at the corner.*
   - *Building edge has been brought to property line to define street edge.*
   - *A public art wall has been incorporated on East corner of building to provide visual interest upon entering the downtown core from further up Broadway. This will also be visible at the St.John's intersection.*
   - *Trees along the edge of the East property line help screen utilities and parking garage edge from adjacent lot.*
   - *Proposed planters at streetscape to provide pedestrians with plants at eye level.*
   - *Recessed brick banding at base of building to provide visual interest with pattern and depth. Brick banding around the building and change of material helps to break up the building massing.*
   - *Exterior building lighting at ground floor will wash walls and light up entry canopies. Lighting will be warm and ambient while providing a level of security. All lighting will be LED.*
   - *Dumpsters will be screened.*
   - *Acoustical panels have been added to the fence along the train tracks to mitigate train sound on site.*

2. **Provide samples.**
   Colors will be a rich blend of clay brick that is native to downtown Dover, black window frames, and taupe cement board panels. This color palette is harmonious with existing buildings in downtown Dover.

3. **Any idea for commercial section?**
   Discussions are still being had for the commercial section of the Proposed Residential Development at 14 Broadway on what the specific use will be. This will be decided at a point prior to construction.

4. **Plan for chase in case of restaurant.**
   In case of a change in use for the 1st floor commercial section, a chase will be accommodated for.

5. **Thru-colored rather than painted panels.**

As part of an effort to deter graffiti, we are proposing use of rich, darker color brick that will not show graffiti as prominently as lighter colors would. Where applicable, anti-graffiti coatings will be applied. Illuminating the building at the night will further prevent opportunities for graffiti.

Planning Board Comments:

1. **Landscaping index.**
   Landscape Plans and index have been included.

2. **Screening around dumpster and electric boxes and complete way by railroad tracks.**
   Vegetative screening has been provided around the proposed concrete pad for the dumpsters and the proposed electrical box.

3. **Mitigate graffiti.**
   As part of an effort to deter graffiti, we are proposing use of rich, darker color brick that will not show graffiti as prominently as lighter colors would. Where applicable, anti-graffiti coatings will be applied. Illuminating the building at the night will further prevent opportunities for graffiti.

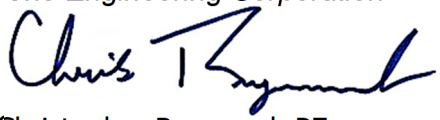
4. **Snow storage.**
   A temporary snow storage area is provided at the west side of the proposed parking lot as shown on the Layout & Materials Plan (C-6).

5. **Maintenance plan for the grounds.**
   An Operation & Maintenance Plan has been provided within the Drainage Report.

6. **Market rate?**
   The Proposed Residential Development is intended to provide market rate units.

Please do not hesitate to contact me directly if you have any questions concerning our Application for TRC Review at (603) 601-8154.Thank you for your consideration.

Sincerely,
TEC, Inc.
*"**T**he **E**ngineering **C**orporation"*



Christopher Raymond, PE
Civil Engineer – Design Engineer

169 Ocean Boulevard/PO Box 249
Hampton, NH 03842
603.601.8154
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Mr. Christopher Parker
Assistant City Manager: Director of Planning and Strategic Initiatives
City of Dover Planning Department
288 Central Ave
Dover, NH 03820

REVISED October 28, 2021

Ref. N0946.02
Planning File # P21-29

Re: Traffic Impact Assessment
Proposed Residential Development at 14 Broadway

Dear Mr. Parker:

TEC, Inc. (TEC) has been retained by Downtown Dover Storage to prepare a Traffic Impact Assessment (TIA) for the proposed change in use of the property located at 14 Broadway in Dover, New Hampshire. The site is currently comprised of a one-story ±10,417 square foot (SF) warehouse building with access provided along the north side of Broadway via an unpaved driveway. The Applicant proposed to raze the existing structure and construct a four-story building to include ±3,450 SF of ground floor retail with three upper floor residential space including 24 residential units. The site will include 68 off-street parking spaces including 29 podium parking spaces as part of the building's ground floor. The project will also formalize six (6) on-street parking spaces (5 new) along the northerly side of Broadway at the project's front door.

The existing site currently has two (2) driveways along the northerly side of Broadway. Both driveways are one-way flow with the easternmost driveway providing full-access and the westernmost driveway providing full-egress. The project seeks to remove the easternmost driveway and reconfigure the westernmost driveway as a full access/egress driveway.

This TIA has been prepared as a "Standard Analysis" in accordance with Chapter 149-13-A(20) of the Dover Site Review Regulations and Chapter 155-9-I of the Dover Land Subdivision Regulations, which outline the potential impacts to the existing traffic conditions and safety in the vicinity of the project. The proposed change in use is anticipated to result in an increase in overall traffic to/from the site and the adjacent Broadway corridor. The following letter summarizes the evaluation of traffic impact resulting from the proposed development.

Existing Conditions

The project site is located at #14 Broadway (Assessor's Map 4, Lot 14) which forms an L-shaped parcel around the adjacent #6 Broadway property and its parking. The north side of the parcel directly abuts the Boston & Maine Railroad Right of Way (ROW). The existing ±10,417 SF building footprint directly abuts the property line on both the north and south sides. The building front door faces east into the parcel's unpaved parking area and driveway, which accesses Broadway just east of the #6 Broadway parking field. The existing driveway is approximately 16-feet wide. The building structure was previously utilized as a warehousing use.

Broadway, the adjacent roadway, is a two-lane, north-south minor arterial roadway maintained by the City of Dover. The roadway provides regional connection between Main Street (Route 9) to the south and Rollins Road to the north. In the vicinity of the project site, Broadway is approximately 45 feet wide with 7 foot on-street parking stalls aligning portions of the north curb line. Directional flow along Broadway is separated by a double-yellow centerline. The posted speed limit along the corridor is 30 miles per hour (mph) adjacent to the proposed project. Sidewalks are provided along both sides of Broadway; however, no bicycle accommodations are provided. Land uses along Broadway generally include retail, commercial and residential uses.

Driveway Sight Distance Measurements

TEC measured the available sight distances at the proposed site driveway alignment along Broadway. The available sight lines were compared to minimum requirements established by the American Association of State Highway and Transportation Officials (AASHTO).

Sight distance represents the length of roadway that is visible to a driver traveling within the roadway. Two types of sight distance are typically evaluated for driveways and intersections: stopping sight distance (SSD) and intersection sight distance (ISD). SSD is the minimum distance required for a driver traveling along a roadway to perceive an object in the roadway and stop safely in advance of the object when traveling on a wet pavement surface. SSD is measured from an eye height of 3.5-feet to an object height of 2-feet above the ground, which is equivalent to a driver viewing the taillight of a vehicle ahead. SSD is measured along the centerline of the travel lane approaching the driveway or intersection.

ISD represents the length of the roadway visible to a driver waiting to exit a driveway or minor street. Minimum ISD requirements are based on the distance required for a driver to exit a minor street onto a major street without requiring an approaching vehicle to reduce its speed from the design speed to less than 70 percent of the design speed. ISD is measured from an eye height of 3.5-feet to an object height of 3.5-feet and is measured from a distance 14.5-feet beyond the edge of the travel-way of the major roadway to represent a driver waiting to exit a driveway or minor roadway.

SSD is typically considered the critical sight distance, as it represents the minimum distance required for safe stopping, while ISD represents an acceptable speed reduction for approaching vehicles. The ISD, however, must be at least equal to the minimum required SSD to prevent a driver from entering the roadway when an approaching vehicle is too close to safely stop. The guidance provided by AASHTO states:

> *"If the available sight distance for an entering or crossing vehicle is at least equal to the appropriate stopping sight distance for the major road, then drivers have sufficient sight distance to anticipate and avoid collisions. However, in some cases, this may require a major-road vehicle to stop or slow to accommodate the maneuver by a minor-road vehicle. To enhance traffic operations, intersection sight distances that exceed stopping sight distances are desirable along the major road."*

Table 1 provide a summary of the available SSD and Table 2 provides a summary of the available ISD at the proposed driveway intersection.

Table 1 – Existing Stopping Sight Distance Measurements

Approach / Direction	Posted Speed	AASHTO Recommended Minimum	Measured Stopping Sight Distance
Site Driveway at Broadway:			
Broadway Eastbound	30 MPH	200 FT	210 FT
Broadway Westbound	30 MPH	200 FT	95 FT

Table 2 – Existing Intersection Sight Distance Measurements

Approach / Direction	Posted Speed	AASHTO Recommended Minimum	Measured Intersection Sight Distance
Site Driveway at Broadway:			
East of Driveway	30 MPH	200 FT	75 FT (115 FT [a])
West of Driveway	30 MPH	200 FT	160 FT

[a] Maximum ISD based on proposed building corner.

As shown in Table 1, the SSD along Broadway eastbound meets the AASHTO minimum recommendations based on the 30-mph posted speed. Along Broadway westbound, the SSD is measured at below the AASHTO minimum recommended and is restricted by the proposed on-street parking along the northerly side of Broadway (assumption of parking stalls being occupied). For SSD to be met at this location, five (5) of the six (6) proposed on-street parking spaces would need to be removed from the northerly side of Broadway; including one (1) existing on-street parking space.

As shown in Table 2, the ISD along the proposed site driveway at Broadway does not meet the AASHTO minimum recommendations based on the posted speed limit for both directions along Broadway. Based upon the proposed building footprint on-site, the maximum intersection sight distance looking east would be 115-feet. For this maximum to be met, the two (2) western most proposed on-street parking spaces would also need to be removed. To the west, the sight line is obstructed by the existing #6 Broadway building and therefore the 160-foot sight line cannot be further extended without demolition of the neighboring building.

Although the sight distance in both directions from the proposed site driveway, this condition is typical of commercial and residential driveways along Broadway in the immediate vicinity and of Downtown along the adjacent Central Avenue. For example, the Dover Fire & Rescue building parcel directly opposing the site also experiences sight distance challenges based on the location of adjacent on-street parking stalls.

Site Generated Traffic

The site-generated traffic volumes for the 24 residential units and ±3,450 SF of commercial space were estimated based on standard trip rates published in the Institute of Transportation Engineers' (ITE) publication *Trip Generation, 10th Edition* for Land Use Code (LUC) LUC 221 – Multifamily Midrise Housing and LUC 820 – Shopping Center. Table 2 provides a summary of the site trip generation estimates.

Table 3 - Trip Generation Summary

Time Period	Multifamily House (LUC 221)	Shopping Center (LUC 820)	Total Trips
Weekday Daily			
IN	66	65	**131**
OUT	66	65	**131**
TOTAL	132	130	**262**
Weekday Morning			
IN	3	2	**5**
OUT	7	1	**8**
TOTAL	10	3	**13**
Weekday Evening			
IN	7	6	**13**
OUT	4	7	**11**
TOTAL	11	13	**24**

As shown in Table 3, the proposed multifamily house and shopping center are anticipated to generate a total of 262 *new* vehicle trips during the typical weekday, 13 *new* vehicle trips (5 entering and 8 exiting) during the weekday morning peak hour, and 24 *new* vehicle trips (13 entering and 11 exiting) during the weekday evening peak hour. This level of new traffic to the roadway is minimal including during the peak hours of the day where traffic would be expected to result in a maximum one new vehicle every two and a half minutes (weekday evening peak hour). This level of new traffic is generally unnoticeable.

The proposed 68 space commercial and residential development and parking lot does not generate 1,000 average daily trips or 100 peak hour trips therefore does not apply for an "Advanced" analysis. Site generated trip calculations are attached.

Public Transportation

The proposed parking facility is located approximately 0.25 miles from the Dover Transportation Center which serves as the hub for multiple Cooperative Alliance for Seacoast Transportation (COAST) bus routes and AMTRAK Downeaster rail service. Public transportation data is summarized below:

- COAST Route 1 [Dover / Somersworth / Berwick] – Service is provided from the Dover Transportation Center to Sullivan Street in Berwick with several designated stops within Dover, Somersworth, and Berwick, ME. The bus operates northbound from 5:19 AM to 7:05 PM over 13 daily runs at approximately 45 to 80-minute headways. The bus operates southbound from 5:51 AM to 7:52 PM over 13 daily runs at approximately 55 to 80-minute headways. Saturday services operates northbound from 6:30 AM to 6:45 PM over eight (8) daily runs at approximately 90 to 120-minute headways. The bus operates Saturday southbound from 7:12 AM to 7:34 PM over eight (8) daily runs at approximately 90 to 120-minute headways.
- COAST Route 2 [Rochester / Somersworth / Dover / Newington / Portsmouth] – Service is provided from Market Square in Portsmouth to Highland Street in Rochester; including the Dover Transportation Center. The bus operates northbound from 5:49 AM to 10:24 PM over 20 daily runs at approximately 40 to 80-minute headways. The bus operates

southbound from 5:25 AM to 9:09 PM over 20 daily runs at approximately 30 to 90-minute headways. Saturday services operates northbound from 6:44 AM to 11:07 PM over nine (9) daily runs at approximately 90 to 180-minute headways. The bus operates Saturday southbound from 7:12 AM to 7:34 PM over nine (9) daily runs at approximately 80 to 210-minute headways.

- COAST Route 3 [UNH Wildcat Service] – Service is provided from UNH to Shaw's in Dover; including the Dover Transportation Center. The bus operates outbound from 6:40 AM to 8:06 PM over eight (8) daily runs at approximately 60 to 150-minute headways. The bus operates inbound from 7:11 AM to 8:34 PM over eight (8) daily runs at approximately 60 to 150-minute headways. Saturday and Sunday services operates outbound over three (3) runs at 9:05 AM, 2:05 PM, and 6:35 PM. Saturday and Sunday services operates inbound over three (3) runs at 9:36 AM, 2:36 PM, and 7:06 PM.
- COAST Route 33 [Dover Downtown / County Complex] – Service is provided Monday through Friday from the Dover Transportation Center to the Stafford County Courthouse in Dover. The bus operates inbound from 6:57 AM to 5:29 PM over nine (9) daily runs at approximately 70-minute headways. The bus operates outbound from 6:25 AM to 5:06 PM over nine (9) daily runs at approximately 70-minute headways.
- COAST Route 101 [Dover - Kittery] – Service is provided Monday through Friday from Government Street in Kittery, ME to the Lilac Garden Apartments in Dover; including along Main Street near Broadway. The bus operates twice each weekday leaving the Lilac Garden Apartments in Dover at 5:51 AM and 4:12 PM.
- AMTRAK Downeaster – Service is provided between Boston's North Station and Brunswick, ME with five (5) northbound and southbound trips on a typical weekday and five (5) weekend trips. The Downeaster makes stops in Dover at the Dover Transportation Center in the southbound direction at 6:17 AM, 9:16 AM, 12:57 PM, 3:17 PM, and 7:13 PM and in the northbound direction at 10:35 AM, 2:35 PM, 6:30 PM, 7:51 PM, and 11:59 PM. On weekend days, the Downeaster makes stops in Dover at the Dover Transportation Center in the southbound direction at 7:17 AM, 9:17 AM, 2:07 PM, 4:17 PM, and 7:57 PM and in the northbound direction at 11:25 AM, 2:30 PM, 6:20 PM, 8:30 PM, and 11:59 PM.

There is currently no direct public transportation service along Broadway or adjacent to the site. Bus stops for Routes 3, 33, and 101 are provided along Main Street 900 feet to the south of Broadway and Routes 2, 3, 33, and 101 along Main Street / 6Th Street 800 feet to the north of Broadway. Based on the type of uses, it is expected that a portion of residential and retail site generated traffic would travel to/from the site via public transportation; however, this has not been included in the previous site generated trip calculations.

Summary

The proposed site generated traffic to/from the site is anticipated to be minimal including during the peak hours of the day where traffic would be expected to result in a maximum one new vehicle every two and a half minute (weekday evening peak hour). This level of new traffic is generally unnoticeable. The anticipated traffic generated by the proposed development and parking lot can be safely and efficiently accommodated within the study area. The overall change in use of the site will have a negligible impact to traffic operations and safety.

Please do not hesitate to contact me directly if you have any questions concerning our evaluation at 978-794-1792.Thank you for your consideration.

Sincerely,
TEC, Inc.
*"**T**he **E**ngineering **C**orporation"*





Samuel W. Gregorio, PE, PTOE, RSP_1
Senior Design Engineer / Project Manager - Transportation Planning & ITS

Attachment A – Trip Generation Assessment

Attachment A - Trip Generation Assessment

Project: 14 Broadway Development - Dover, NH
Date: 7/29/2021
Analyst: TEC, Inc. / Gerson Ribeiro
Source: Institute of Transportation Engineers - *Trip Generation - 10th Ed.*

Proposed Development

Multifamily House - Midrise (LUC 221)

Units: 24 Units

	Total Trips		**Total**	% Distribution		# New Trips	
	Avg. Rates	Fitted Curve	**New Trips**	IN	OUT	IN	OUT
Weekday Daily	131	129	**132**	50%	50%	66	66
Weekday AM PH	9	8	**10**	26%	74%	3	7
Weekday PM PH	11	11	**11**	61%	39%	7	4

Shoppping Center (ITE LUC 820)

Units: 3,450 SF

	Total Trips		**Total**	% Distribution		# New Trips	
	Avg. Rates	Fitted Curve	**New Trips**	IN	OUT	IN	OUT
Weekday Daily	130	N/A	**130**	50%	50%	65	65
Weekday AM PH	3	N/A	**3**	62%	38%	2	1
Weekday PM PH	13	N/A	**13**	48%	52%	6	7

TEC The Engineering Corp

Parking Demand Assessment

Project:
Date: 10/22/2021
Analyst: TEC, Inc.
Source: Institute of Transportation Engineers - Parking *Generation - 10th Ed.*

Parking Demand = Average Rate X Units

Proposed Residential Development

Multifamily Housing (Low-Rise) (LUC 220) - Lot 4:1

Units:	7	Units		
		Total Trips		**Total**
		Avg. Rates		**New Trips**
Weekday M-F		1.21	8	**8**
Saturday		1.31	9	**9**

Multifamily Housing (Low-Rise) (LUC 220) - Lot 4:5

Units:	24	Units		
		Total Trips		**Total**
		Avg. Rates		**New Trips**
Weekday M-F		1.21	29	**29**
Saturday		1.31	31	**31**

General Office Building (LUC 710) - Lot 4:3

Units:	4.692	KSF		
		Total Trips		**Total**
		Avg. Rates		**New Trips**
Weekday M-F		2.39	11	**11**
Saturday		0.28	1	**1**

Retail (LUC 820) - Lot 4:5

Units:	3.241	KSF		
		Total Trips		**Total**
		Avg. Rates		**New Trips**
Weekday M-TH		1.95	6	**6**
Friday		2.61	8	**8**
Saturday		2.91	9	**9**
Sunday		1.89	6	**6**

Retail (LUC 820) - Lot 4:1

Units:	3.437	KSF		
		Total Trips		**Total**
		Avg. Rates		**New Trips**
Weekday M-TH		1.95	7	**7**
Friday		2.61	9	**9**
Saturday		2.91	10	**10**
Sunday		1.89	6	**6**

PEAK PARKING CALCULATIONS

- Weekday (M-F): **65 Spaces**
- Weekend (Sat-Sun): 60 Spaces

** Where more than one value is shown in the table to the left for the period specified the higher value was used to be conservative.*

TEC The Engineering Corp

DRAINAGE REPORT

PROPOSED RESIDENTIAL DEVELOPMENT

Assessor's Map 4, Lot 5
14 Broadway
Dover, New Hampshire

Prepared for:

Downtown Dover Storage, LLC
42 L Dover Point Road
Dover, NH 03820

Prepared by:

TEC, Inc.
169 Ocean Boulevard
Unit 101 PO BOX 249
Hampton, NH 03842

TEC
The Engineering Corp

November 23, 2021

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Narrative

Introduction

Downtown Dover Storage, LLC (the "Applicant") is proposing to redevelop the existing 1-story warehouse and gravel area located at 14 Broadway, Dover, NH (Assessors Map 4, Lot 5). The project will also include redeveloping the bituminous concrete parking area of 12 Broadway (Assessors Map 4, Lot 3). The total project area is 35,032 square feet (SF) situated between the Boston & Maine Railroad Tracks (northerly), Papa Jay's Pizzeria (easterly), Broadway (southerly), and Dover House of Pizza (westerly), located within the Central Business District, General Sub District overlay. The project is defined on the *Project Location Map* (Figure 1).

The Applicant is proposing to redevelop the site by demolishing the existing warehouse and constructing a 4-story residential building with associated parking and landscaped areas. A lot line adjustment is being proposed between Lot 4-5 and the adjacent Lot 4-3 to account for the proposed use, which requires a larger building footprint, increased parking count, and larger landscape areas to provide for methods of stormwater treatment.

This drainage study was performed in order to assess the potential impacts of the proposed improvements and to provide measures to mitigate any impacts of the Project. The Project will provide a stormwater management system incorporating traditional and Low Impact Design (LID) Best Management Practices (BMPs) elements. This analysis has been prepared to verify that the Project will not have an adverse effect on the stormwater conditions both on-site and off-site.

The Stormwater Management Plan has been designed to meet the Stormwater Standards identified in the New Hampshire Stormwater Manual. The proposed project reduces effective impervious area and peak runoff rates, decreases the risk of erosion and sedimentation, and improves stormwater runoff quality by removing total suspended solids (TSS).

Existing Conditions

The project area is 35,032 SF consisting of a total impervious area of 25,497 SF which includes the 1-story warehouse and the bituminous concrete parking area, and a total pervious area of 9,535 SF consisting of 6,761 SF of poorly graded, compacted gravel and 2,774 SF of poorly maintained landscape area. Topography at the site varies between the two lots, where on Lot 4-5 a low point exists near the center of the gravel area preventing stormwater from traveling with ease into the Broadway closed drainage system. Lot 4-3 grades easterly toward Broadway at a slope varying between 0.5-1.5%. Stormwater treatment on this site is nearly nonexistent based on the conditions of grading, surfaces, and landscape area. Refer to Appendix C to review the full Geotechnical Data provided by John Turner Consulting, Inc., dated December 7, 2020, for which depicts the various soils present at and around the Site.

According to the FEMA Flood Insurance Rate Maps (FIRM), map number 33017C0330E, dated September 30, 2015, the site lies entirely outside of the 100-year floodplain in an area of minimal flood hazard (Zone X). Refer to the attached FIRM Figure at the end of this section (Figure 3).

Proposed Conditions

The project proposes to construct a 4-story residential building with a footprint of 14,900+/- SF, new asphalt parking lot, and associated landscaping and means of stormwater treatment. Impervious asphalt surface will cover 11,691 SF, landscaped areas will occupy 5,806 SF of the site, sidewalk will occupy 2,342 SF, building coverage will occupy 14,860 SF, and the sawcut building wall will occupy 333 SF. There are 5 proposed sub-catchments between the 2 lots which are conveyed to a single design point, the Broadway closed drainage system. The Project is considered a redevelopment as it will decrease the impervious area of the site as compared to the existing conditions. The proposed stormwater management system has been designed in accordance with the NHDES Stormwater Manual and includes traditional and LID BMPs. BMPs proposed for the site include a reduction in impervious area, deep sump and hooded catch basins, and a Stormceptor Water Quality Units.

The stormwater management system has been designed to provide water quality treatment and water quantity control for 1" of runoff from the added impervious area. The drainage system on site will consist of a two deep sump catch basins, one located in the middle of the site to collect runoff from the majority of the asphalt parking lot and one located at the site entrance. These deep catch basins will be routed to a Stormceptor Water Quality Unit before tying into the Broadway drainage system. Roof drains will also collect all runoff created by the impervious building roof and be routed to the

Broadway Drainage System. The additional greenspace that will be provided by the project will beautify the site and will allow for a reduction in peak rates of stormwater runoff leaving the site.

Methodology

The Stormwater Management Plan, which will be implemented as part of this project, will provide adequate collection, management, and treatment of the stormwater runoff. The proposed stormwater management system will comply with the standards set forth in the New Hampshire Stormwater Manual.

Existing and proposed hydrologic conditions were analyzed using HydroCAD, an SCS TR-20 based program, to calculate existing and proposed peak discharge rates. This method takes into account existing and proposed pervious and impervious areas including soil types and hydrologic classifications. Peak rainfall data was based on Appendix A – New Hampshire Rainfall Tables from Volume 2 of the New Hampshire Stormwater Manual, published by the New Hampshire Department of Environmental Services (NHDES). The 2-, 10-, 25-, and 50-year, 24-hour storm frequencies were used in the analysis in accordance with the NHDES and City of Dover requirements.

The "Regulatory Compliance" portion of this report addresses the New Hampshire Department of Environmental Services Antidegradation requirements.

Pre-Development Runoff

In the Site's current condition, there are three existing subcatchment areas which flow towards Broadway. The *Pre-Development Drainage Areas* are depicted in Figure D-1 of this report. This figure presents the delineation of the existing subcatchment areas and the design points.

Existing Subcatchment Area 1 (EX-1) is comprised of the 1-story warehouse, gravel area, and landscaped areas, totaling 19,263 SF, where stormwater either pools and poorly infiltrates into the ground or sheet flows into the Broadway closed drainage system, Design Point 1 (DP-1).

Existing Subcatchment Area 2 (EX-2) is located at the southeast edge of the site and is comprised of the gravel area and landscape area totaling 1,013 SF, where stormwater poorly infiltrates into the ground or sheet flows into the Broadway closed drainage system, DP-1.

Existing Subcatchment Area 3 (EX-3) is located within Lot 4-3 is comprised of the bituminous concrete parking area totaling 14,756 SF, where stormwater sheet flows directly into the Broadway closed drainage system, DP-1.

Post-Development Runoff

The proposed stormwater management system is designed to mitigate the effects of the proposed development by reducing the peak rates of runoff as compared to the existing conditions. In the proposed conditions analysis, the same design points identified and analyzed under the existing conditions were analyzed. The post-development subcatchment areas are identified in Figure D-2, *Post Development Drainage Areas.*

Proposed Subcatchment Area 1 (PR-1) is comprised of 1,468 SF of pervious land area consisting of grass landscaping and 6,054 SF of impervious pavement and cement concrete sidewalk. Stormwater from PR-1 is captured by a catch basin (CB-4), routed to a Stormceptor Water Quality Unit, then discharged to the Broadway drainage (DP-1).

Proposed Subcatchment Area 2 (PR-2) is comprised of 2,045 SF of pervious land area consisting of grass landscaping and 4,621 SF of impervious pavement and cement concrete sidewalk. Stormwater from PR-2 is captured by a catch basin (CB-2), routed to a Stormceptor Water Quality Unit, then discharged to the Broadway drainage system (DP-1).

Proposed Subcatchment Area 3 (PR-3) is comprised of 490 SF of pervious land area consisting of grass landscaping and 3,025 SF of impervious pavement and cement concrete sidewalk. Stormwater from PR-3 is captured by a catch basin (CB-3), routed to a Stormceptor Water Quality Unit, then discharged to the Broadway drainage system (DP-1).

Proposed Subcatchment Area 4 (PR-4) is comprised of 1,811 SF of pervious land area consisting of grass landscaping and 738 SF of impervious cement concrete sidewalk. Stormwater from PR-4 sheet flows into to the Broadway drainage system (DP-1).

Proposed Subcatchment Area 5 (PR-5) is comprised of 14,778 SF of impervious roof created by the Proposed Residential Building. Stormwater from PR-5 is collected via roof drains and conveyed to the Broadway drainage system (DP-1).

Table 1 (Peak Flow Summary)

	2-Year Storm		10-Year Storm		25-Year Storm		50-Year Storm	
Design Point	**Exist (cfs)**	**Prop (cfs)**	**Exist (cfs)**	**Prop (cfs)**	**Exist (cfs)**	**Prop (cfs)**	**Exist (cfs)**	**Prop (cfs)**
DP-1	1.82	1.79	2.96	2.94	3.87	3.86	4.71	4.71

The proposed project decreases peak runoff rates from the existing conditions for the 2-, 10-, 25-, and 50-Year storm events, in accordance with state and local regulations.

TSS Removal

Currently there are no TSS removal BMPs onsite; all of the site runoff is discharged directly into the Broadway drainage system without any treatment. The stormwater management plan for this project utilizes BMPs including street sweeping, deep hooded sump catch basins, and a water quality unit to minimize total suspended solids. All impervious area onsite will be captured by proposed deep sump catch basins and treated by a Stormceptor Water Quality Unit prior to discharge into the municipal system (see attached Stormceptor Sizing Detailed Report). The proposed project will greatly improve the quality of stormwater runoff from the site.

The proposed conditions of the project introduce no new sources of stormwater. To ensure there is no erosion or sedimentation during construction, compost filter tubes will be placed around the extents of the project and silt sacks will be placed in the existing and proposed catch basins. The project reduces the peak rate of runoff leaving the site as compared to the existing conditions with the addition of landscape area. The Rational Method was used to show the existing and proposed peak flows for the 2-year, 10-year, 25-year, and 50-year storm events, which can be seen in the attached HydroCAD Reports. Rainfall rates were taken from Appendix A of the New Hampshire Stormwater Manual.

Regulatory Compliance

Given that the project results in a contiguous land disturbance of approximately 35,000+/- SF and the site's existing impervious surface coverage was approximately 73%, the Stormwater Management for Redevelopment Standards shall apply as stated in Section 153-14(3)(c) of the City of Dover Site Review Regulations. Stormwater shall be managed in accordance with one or more of the following techniques:

- Implement measures on site that result in mitigation and treatment of at least 30% of the existing impervious cover as well as 50% of the additional proposed impervious surfaces and pavement areas through the application of LID; or
- Implement other LID techniques on site to the MEP to provide mitigation and treatment for at least 50% of the entire site area.

The proposed conditions of the site result in both of these techniques being employed through the use of deep sump catch basins and a Stormceptor

Water Quality Unit. All stormwater runoff generated by impervious surfaces will undergo treatment before being discharged into the Broadway drainage system. For further details on the treatment capacity of these LID techniques, please refer to Appendix B: Water Quality Data.

Conclusion

This proposed project will improve the site over existing conditions by reducing peak runoff rates and improving the quality of stormwater runoff created by the site. By providing additional landscaping, the project will improve the aesthetics and drainage capability of the site. The Applicant is enthusiastic to reinvest in this property, beautify a degraded site, and provide a benefit to the City of Dover.

Figure 1 – Project Location Map
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250 0 250 500

SCALE IN FEET

July 20, 2021

169 Ocean Boulevard
Unit 101, PO Box 249
Hampton, NH 03842
(603) 601-8154
www.TheEngineeringCorp.com

PROJECT LOCATION MAP

Location: 14 Broadway
Dover, NH 03820

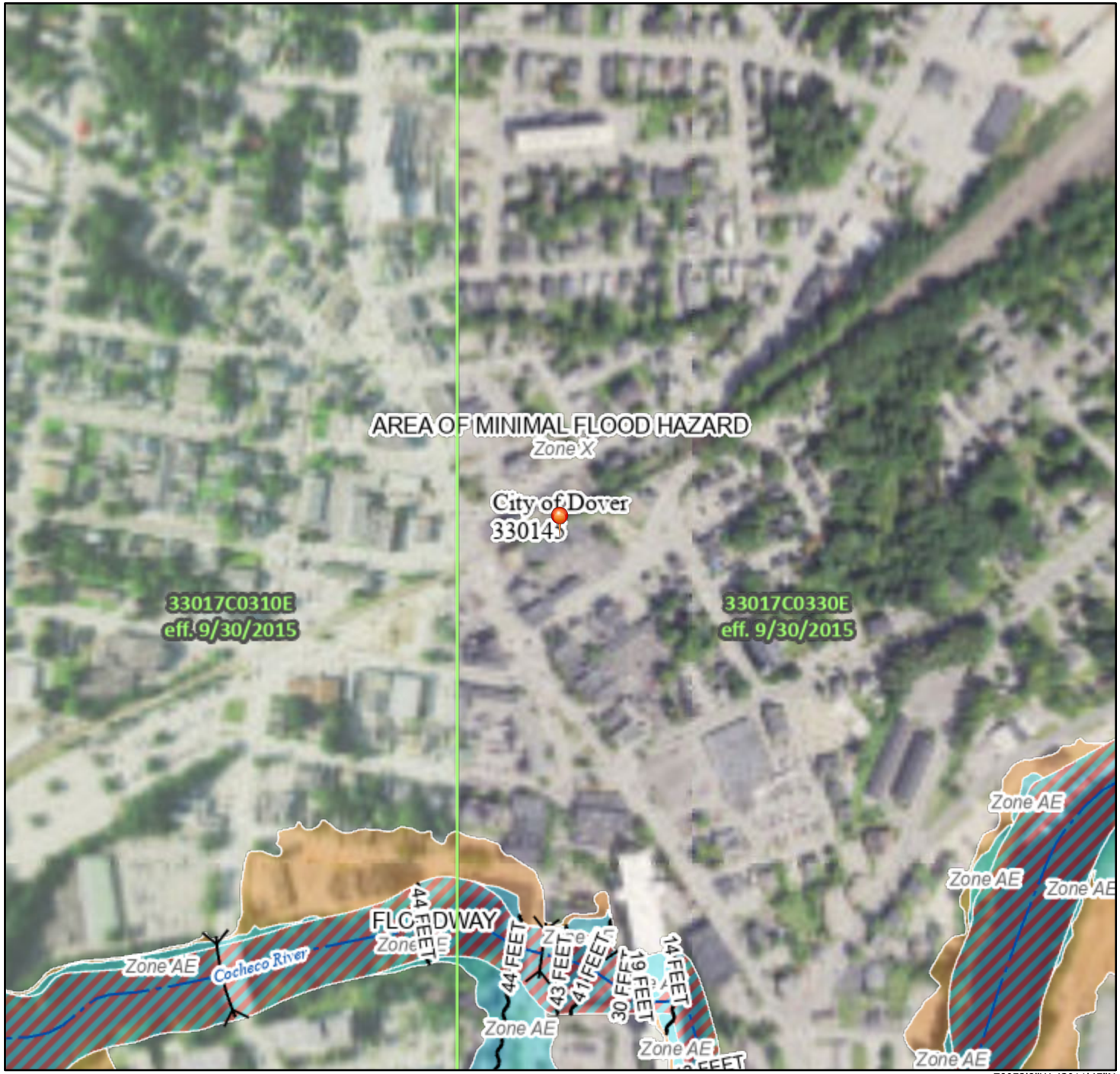
Prepared For: New Space Real Estate, LLC
42 Dover Point Road, Unit L
Dover, NH 03820

Figure 2 – FEMA FIRM
(Intentionally LEFT BLANK)

National Flood Hazard Layer FIRMette

FEMA

70°52'45"W 43°12'11"N



70°52'8"W 43°11'45"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

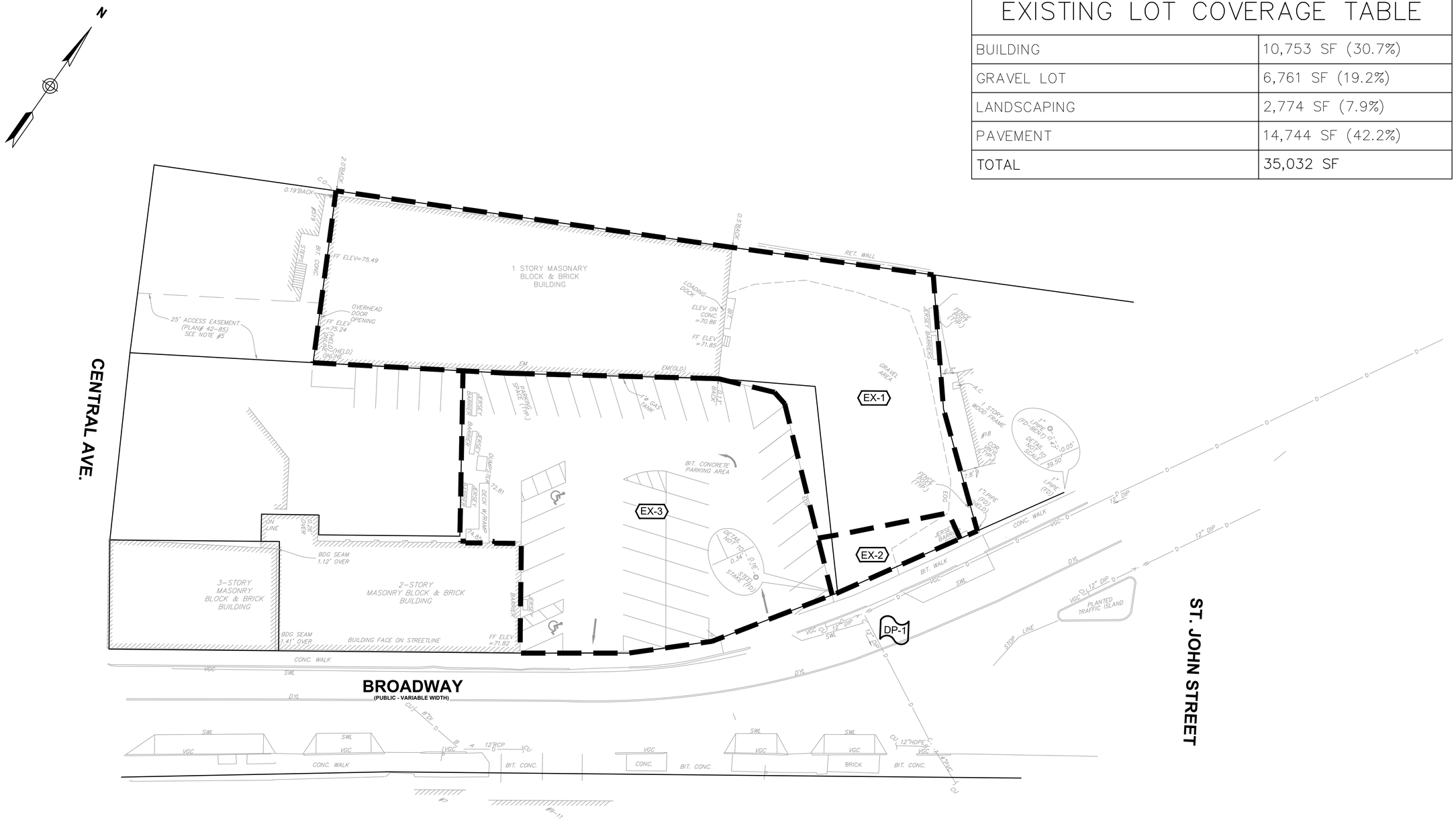
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 7/20/2021 at 3:27 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Figure D-1 Pre-Development Drainage Areas
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EXISTING LOT COVERAGE TABLE	
BUILDING	10,753 SF (30.7%)
GRAVEL LOT	6,761 SF (19.2%)
LANDSCAPING	2,774 SF (7.9%)
PAVEMENT	14,744 SF (42.2%)
TOTAL	35,032 SF



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Scale: 1" = 20'

October 28, 2021

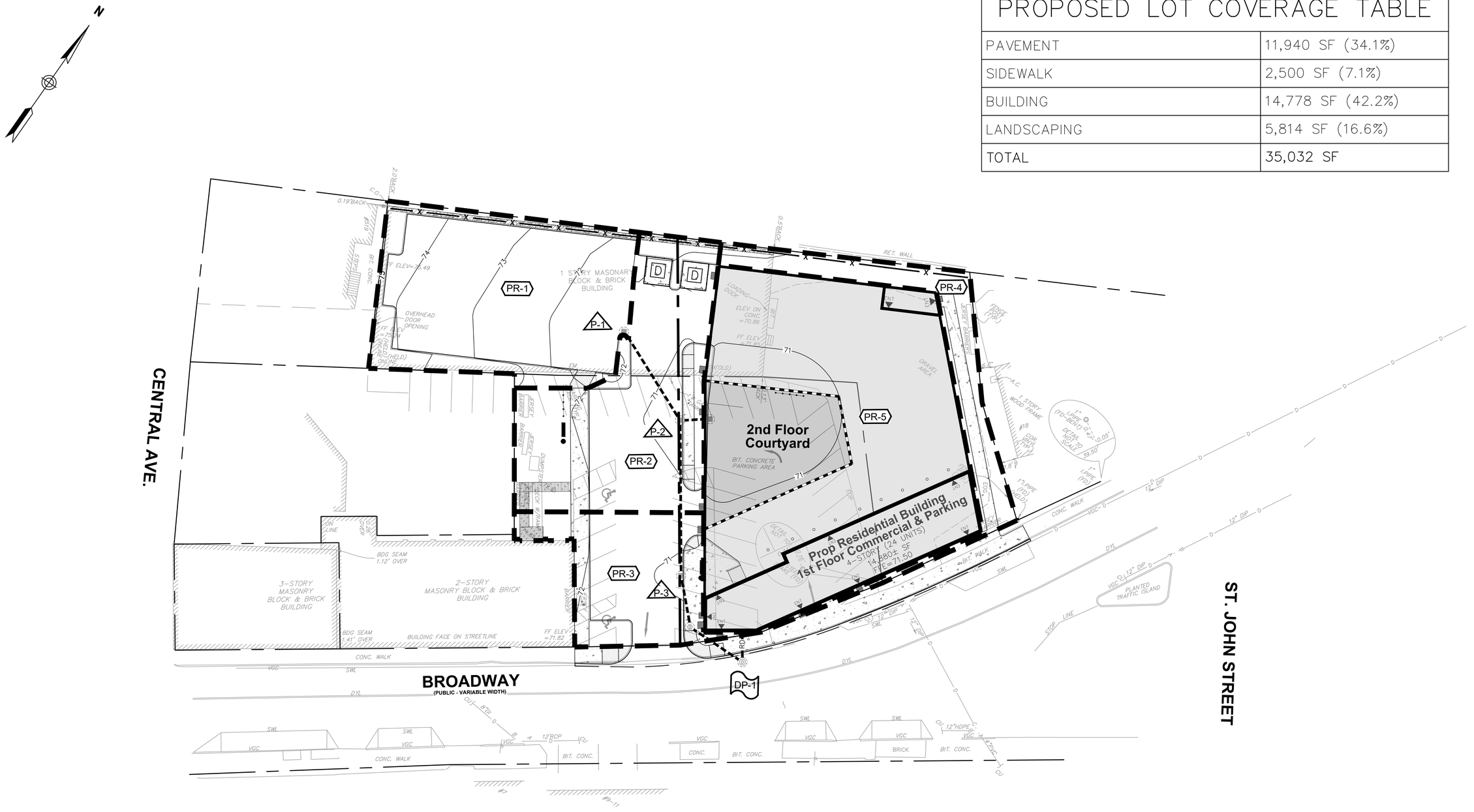
40 0 40 80
SCALE IN FEET

Pre-Development

14 Broadway
Dover, New Hampshire

Figure D-2 – Post Development Drainage Areas
(Intentionally LEFT BLANK)

PROPOSED LOT COVERAGE TABLE	
PAVEMENT	11,940 SF (34.1%)
SIDEWALK	2,500 SF (7.1%)
BUILDING	14,778 SF (42.2%)
LANDSCAPING	5,814 SF (16.6%)
TOTAL	35,032 SF



Post-Development

14 Broadway
Dover, New Hampshire

Scale: 1" = 20'

November 23, 2021

40 0 40 80
SCALE IN FEET

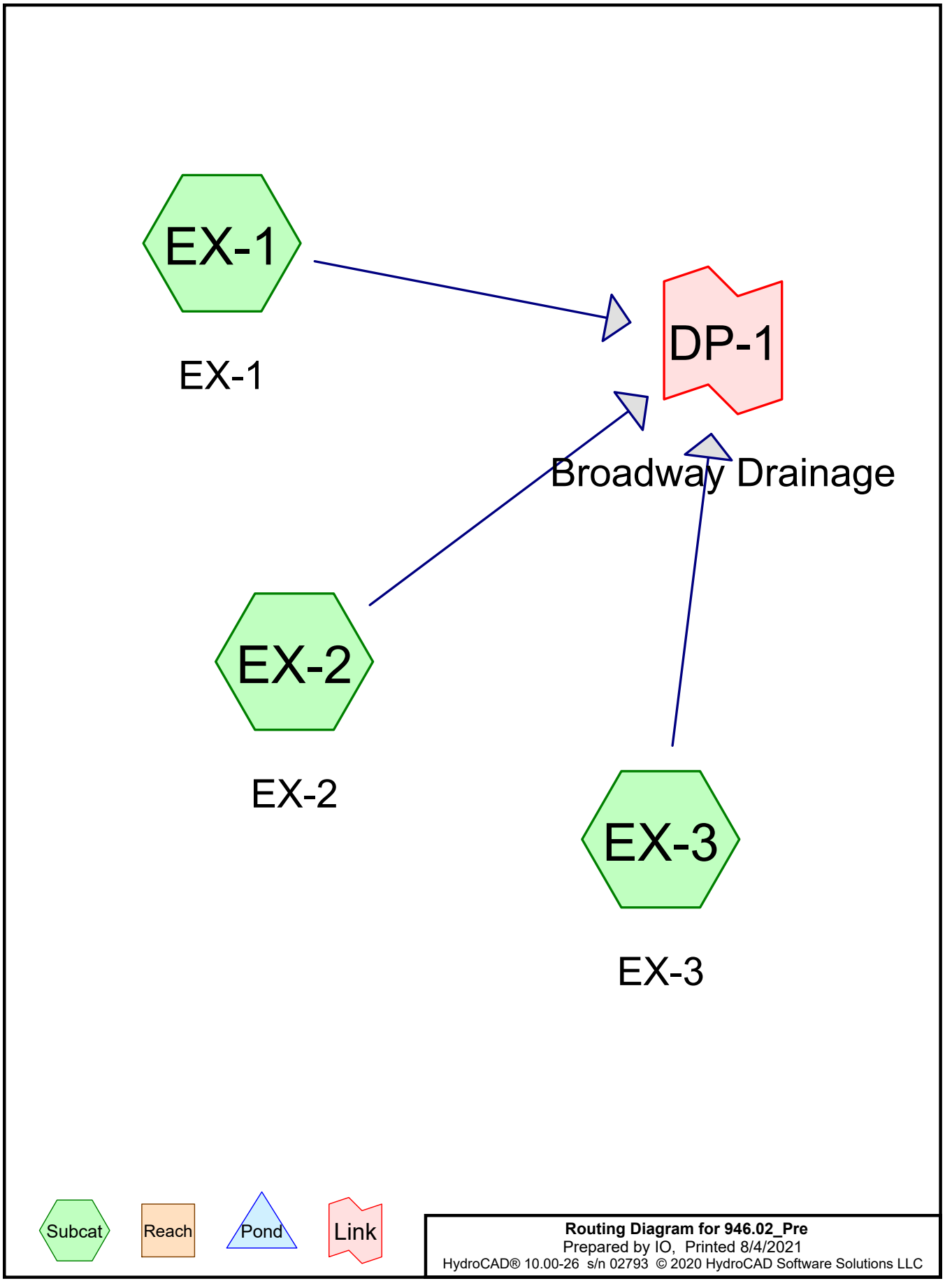
TEC
146 Dascomb Road
Andover, MA 01810
169 Ocean Boulevard
Unit 101, PO Box 249
Hampton, NH 03842
t: (978) 794-1792
TheEngineeringCorp.com

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Appendix

A

Hydrologic Calculations



Routing Diagram for 946.02_Pre
Prepared by IO, Printed 8/4/2021
HydroCAD® 10.00-26 s/n 02793 © 2020 HydroCAD Software Solutions LLC

Project Notes

Rainfall events imported from "NRCS-Rain.txt" for 6520 NH Strafford

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.064	79	<50% Grass cover, Poor, HSG B (EX-1, EX-2)
0.155	72	Dirt roads, HSG A (EX-1, EX-2)
0.339	98	Paved parking, HSG A (EX-3)
0.247	98	Roofs, HSG A (EX-1)
0.804	**91**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.741	HSG A	EX-1, EX-2, EX-3
0.064	HSG B	EX-1, EX-2
0.000	HSG C	
0.000	HSG D	
0.000	Other	
0.804		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.064	0.000	0.000	0.000	0.064	<50% Grass cover, Poor	EX-1, EX-2
0.155	0.000	0.000	0.000	0.000	0.155	Dirt roads	EX-1, EX-2
0.339	0.000	0.000	0.000	0.000	0.339	Paved parking	EX-3
0.247	0.000	0.000	0.000	0.000	0.247	Roofs	EX-1
0.741	**0.064**	**0.000**	**0.000**	**0.000**	**0.804**	**TOTAL AREA**	

Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment EX-1: EX-1 Runoff Area=19,263 sf 55.76% Impervious Runoff Depth=1.78"
Tc=5.0 min CN=87 Runoff=0.87 cfs 0.066 af

Subcatchment EX-2: EX-2 Runoff Area=1,013 sf 0.00% Impervious Runoff Depth=0.99"
Tc=5.0 min CN=75 Runoff=0.02 cfs 0.002 af

Subcatchment EX-3: EX-3 Runoff Area=14,756 sf 100.00% Impervious Runoff Depth=2.82"
Tc=5.0 min CN=98 Runoff=0.93 cfs 0.080 af

Link DP-1: Broadway Drainage Inflow=1.82 cfs 0.147 af
Primary=1.82 cfs 0.147 af

Total Runoff Area = 0.804 ac Runoff Volume = 0.147 af Average Runoff Depth = 2.20"
27.22% Pervious = 0.219 ac 72.78% Impervious = 0.585 ac

Summary for Subcatchment EX-1: EX-1

[49] Hint: Tc<2dt may require smaller dt

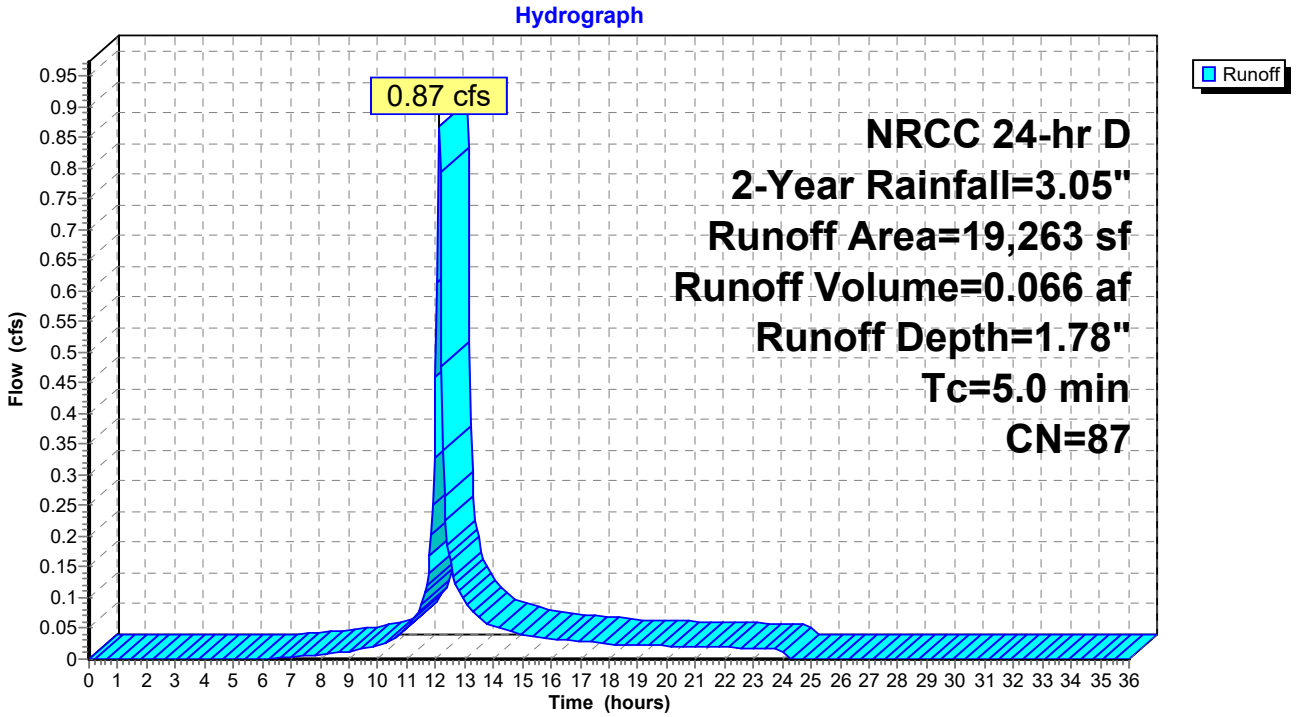
Runoff = 0.87 cfs @ 12.11 hrs, Volume= 0.066 af, Depth= 1.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 2-Year Rainfall=3.05"

Area (sf)	CN	Description
10,741	98	Roofs, HSG A
6,116	72	Dirt roads, HSG A
2,406	79	<50% Grass cover, Poor, HSG B
19,263	87	Weighted Average
8,522		44.24% Pervious Area
10,741		55.76% Impervious Area

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

Subcatchment EX-1: EX-1



Summary for Subcatchment EX-2: EX-2

[49] Hint: Tc<2dt may require smaller dt

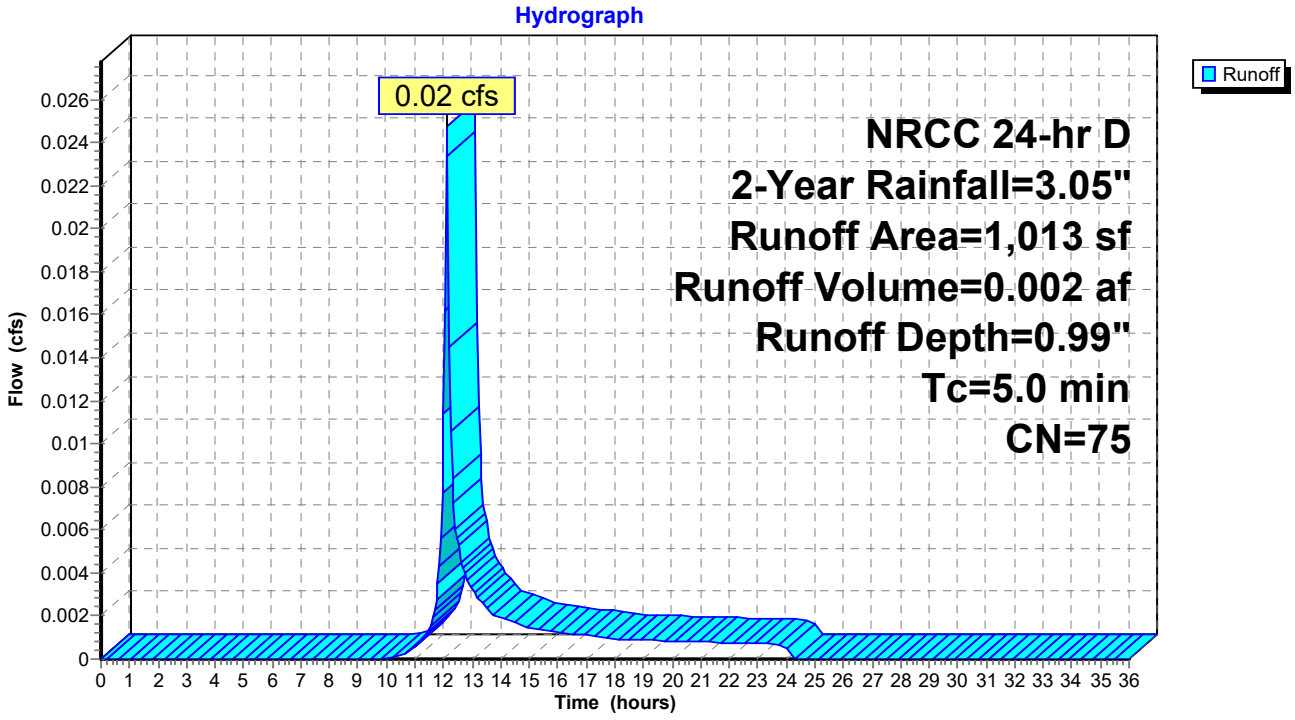
Runoff = 0.02 cfs @ 12.12 hrs, Volume= 0.002 af, Depth= 0.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 2-Year Rainfall=3.05"

Area (sf)	CN	Description
645	72	Dirt roads, HSG A
368	79	<50% Grass cover, Poor, HSG B
1,013	75	Weighted Average
1,013		100.00% Pervious Area

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

Subcatchment EX-2: EX-2



Summary for Subcatchment EX-3: EX-3

[49] Hint: Tc<2dt may require smaller dt

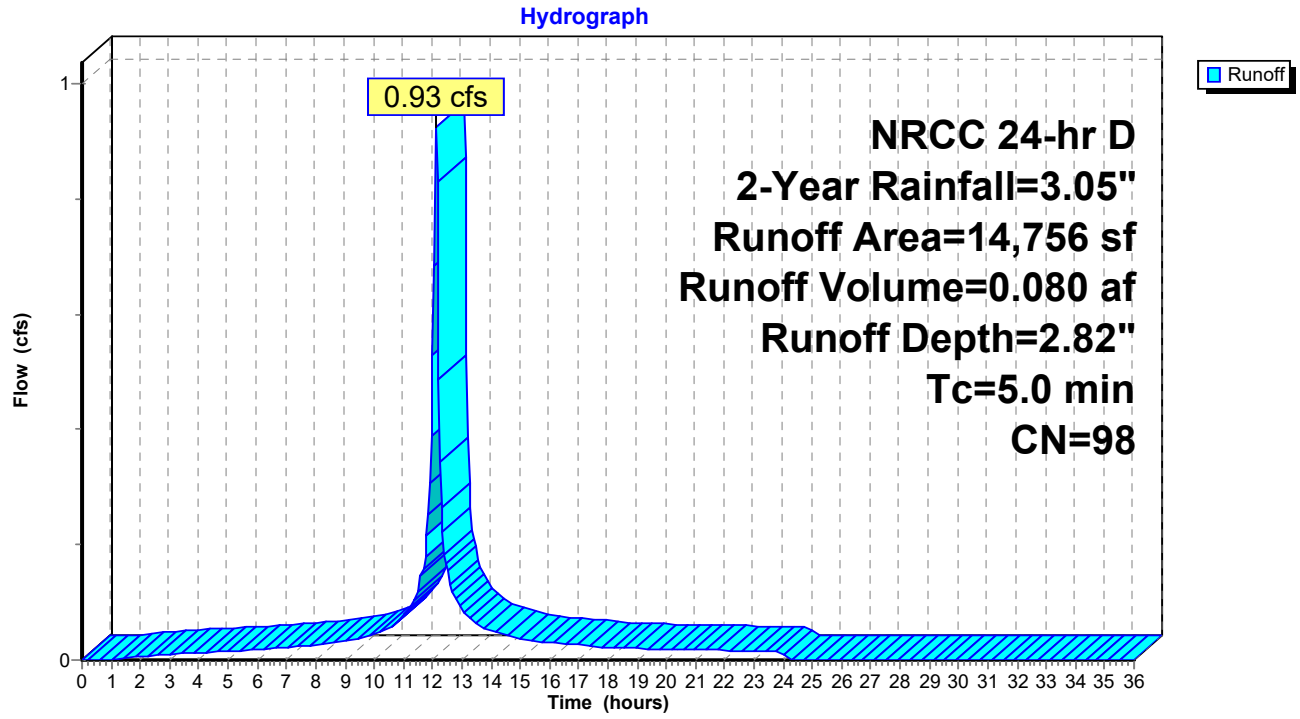
Runoff = 0.93 cfs @ 12.11 hrs, Volume= 0.080 af, Depth= 2.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 2-Year Rainfall=3.05"

Area (sf)	CN	Description
14,756	98	Paved parking, HSG A
14,756		100.00% Impervious Area

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

Subcatchment EX-3: EX-3

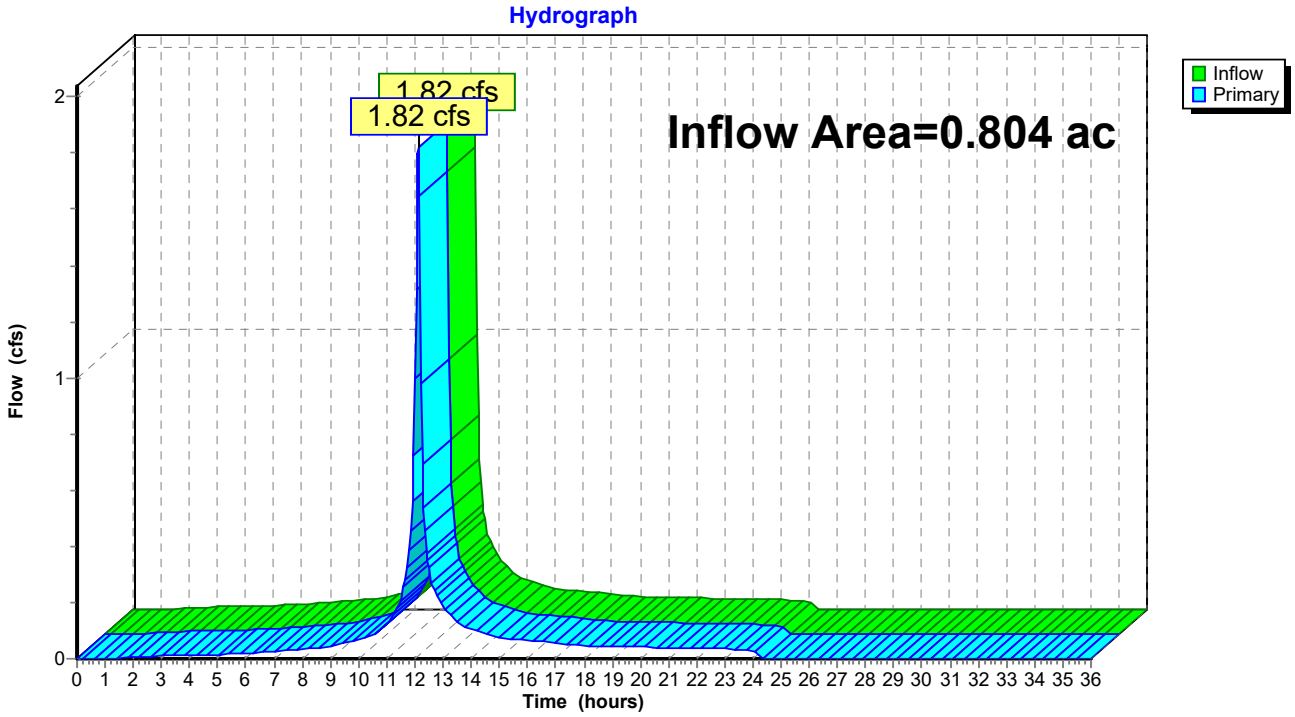


Summary for Link DP-1: Broadway Drainage

Inflow Area = 0.804 ac, 72.78% Impervious, Inflow Depth = 2.20" for 2-Year event
Inflow = 1.82 cfs @ 12.11 hrs, Volume= 0.147 af
Primary = 1.82 cfs @ 12.11 hrs, Volume= 0.147 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link DP-1: Broadway Drainage



Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment EX-1: EX-1 Runoff Area=19,263 sf 55.76% Impervious Runoff Depth=3.16"
Tc=5.0 min CN=87 Runoff=1.51 cfs 0.117 af

Subcatchment EX-2: EX-2 Runoff Area=1,013 sf 0.00% Impervious Runoff Depth=2.11"
Tc=5.0 min CN=75 Runoff=0.05 cfs 0.004 af

Subcatchment EX-3: EX-3 Runoff Area=14,756 sf 100.00% Impervious Runoff Depth=4.33"
Tc=5.0 min CN=98 Runoff=1.40 cfs 0.122 af

Link DP-1: Broadway Drainage Inflow=2.96 cfs 0.243 af
Primary=2.96 cfs 0.243 af

Total Runoff Area = 0.804 ac Runoff Volume = 0.243 af Average Runoff Depth = 3.63"
27.22% Pervious = 0.219 ac 72.78% Impervious = 0.585 ac

Summary for Subcatchment EX-1: EX-1

[49] Hint: Tc<2dt may require smaller dt

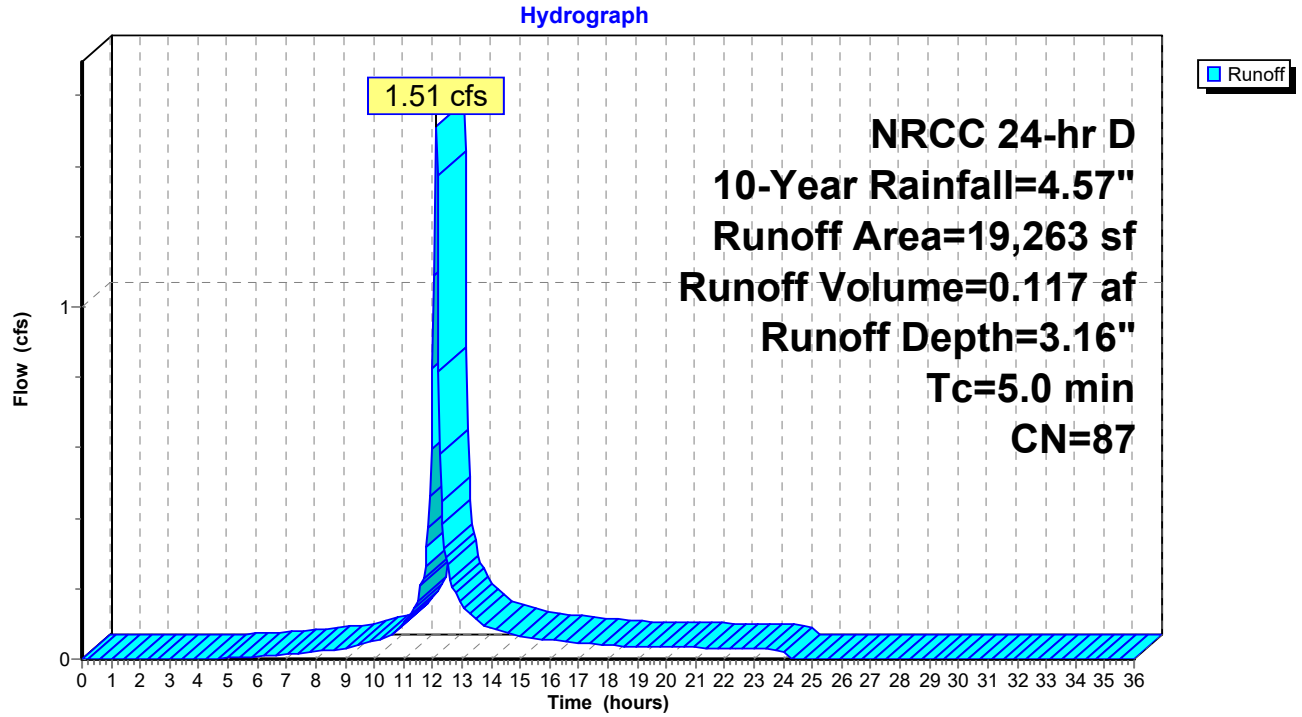
Runoff = 1.51 cfs @ 12.11 hrs, Volume= 0.117 af, Depth= 3.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 10-Year Rainfall=4.57"

Area (sf)	CN	Description
10,741	98	Roofs, HSG A
6,116	72	Dirt roads, HSG A
2,406	79	<50% Grass cover, Poor, HSG B
19,263	87	Weighted Average
8,522		44.24% Pervious Area
10,741		55.76% Impervious Area

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

Subcatchment EX-1: EX-1



Summary for Subcatchment EX-2: EX-2

[49] Hint: Tc<2dt may require smaller dt

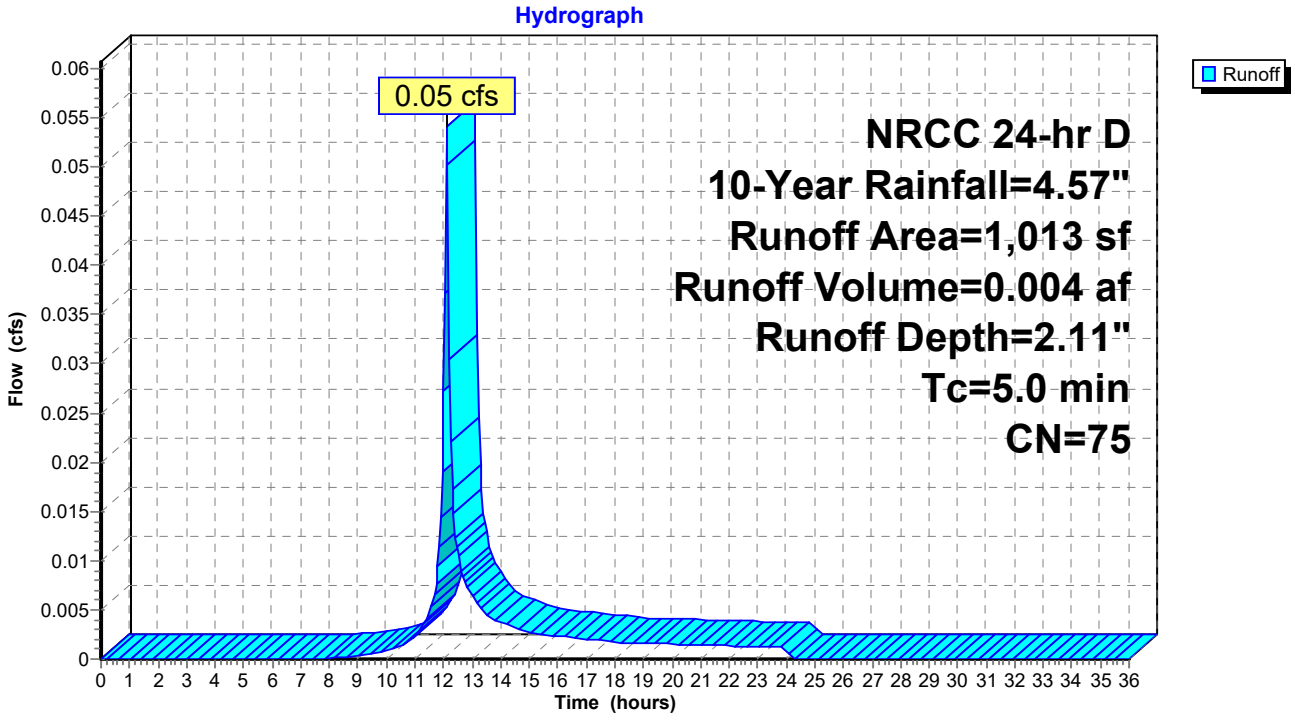
Runoff = 0.05 cfs @ 12.12 hrs, Volume= 0.004 af, Depth= 2.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 10-Year Rainfall=4.57"

Area (sf)	CN	Description
645	72	Dirt roads, HSG A
368	79	<50% Grass cover, Poor, HSG B
1,013	75	Weighted Average
1,013		100.00% Pervious Area

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

Subcatchment EX-2: EX-2



Summary for Subcatchment EX-3: EX-3

[49] Hint: Tc<2dt may require smaller dt

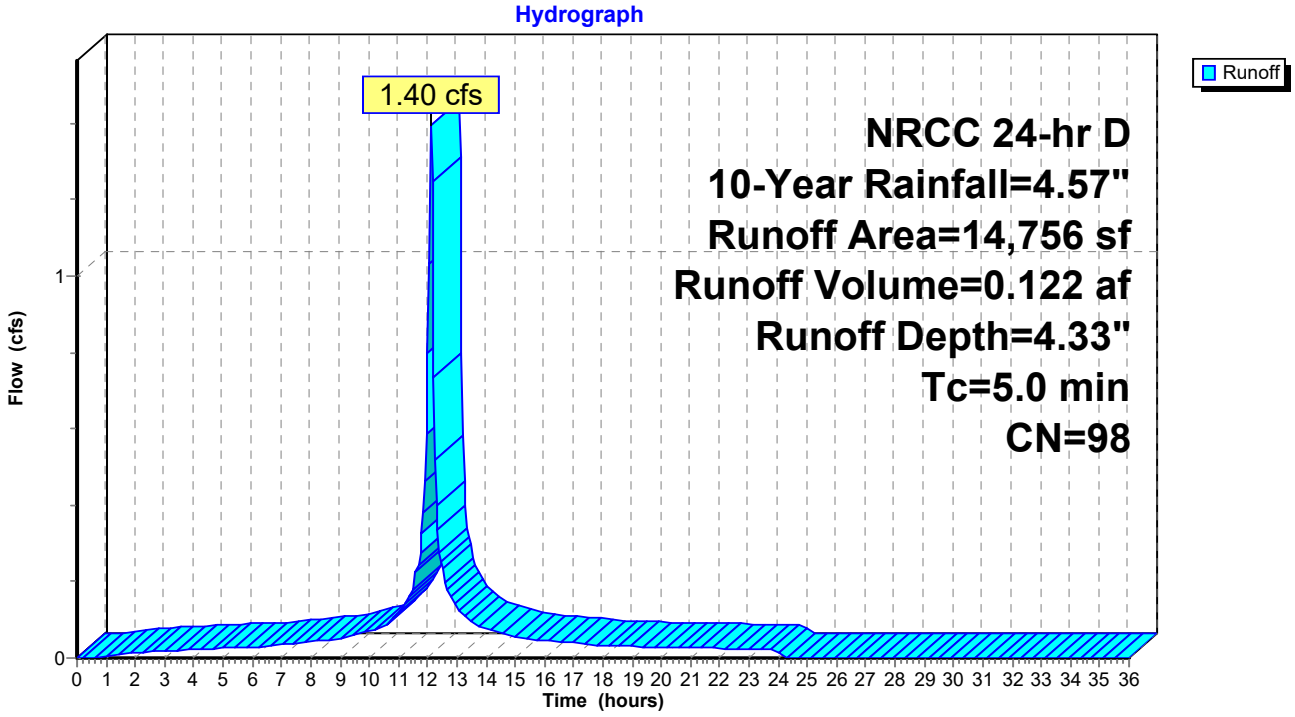
Runoff = 1.40 cfs @ 12.11 hrs, Volume= 0.122 af, Depth= 4.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 10-Year Rainfall=4.57"

Area (sf)	CN	Description
14,756	98	Paved parking, HSG A
14,756		100.00% Impervious Area

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

Subcatchment EX-3: EX-3

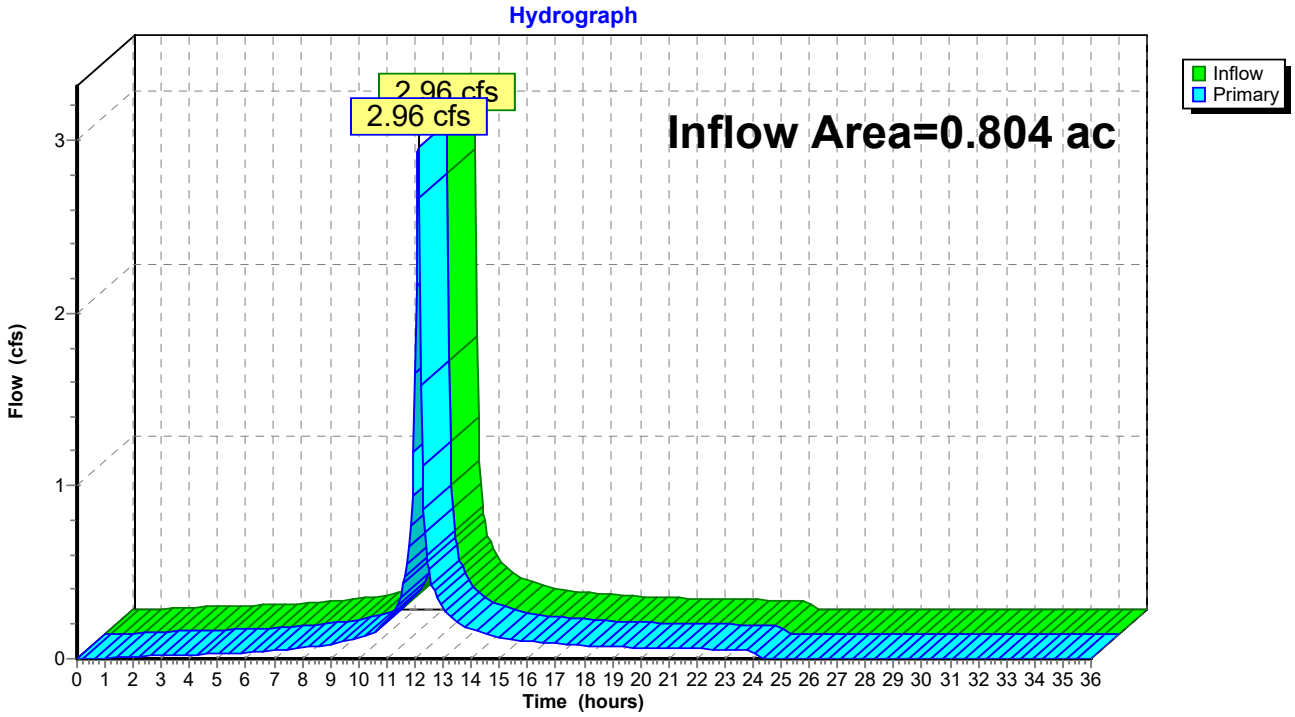


Summary for Link DP-1: Broadway Drainage

Inflow Area = 0.804 ac, 72.78% Impervious, Inflow Depth = 3.63" for 10-Year event
Inflow = 2.96 cfs @ 12.11 hrs, Volume= 0.243 af
Primary = 2.96 cfs @ 12.11 hrs, Volume= 0.243 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link DP-1: Broadway Drainage



Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment EX-1: EX-1 Runoff Area=19,263 sf 55.76% Impervious Runoff Depth=4.30"
Tc=5.0 min CN=87 Runoff=2.02 cfs 0.158 af

Subcatchment EX-2: EX-2 Runoff Area=1,013 sf 0.00% Impervious Runoff Depth=3.09"
Tc=5.0 min CN=75 Runoff=0.08 cfs 0.006 af

Subcatchment EX-3: EX-3 Runoff Area=14,756 sf 100.00% Impervious Runoff Depth=5.53"
Tc=5.0 min CN=98 Runoff=1.77 cfs 0.156 af

Link DP-1: Broadway Drainage Inflow=3.87 cfs 0.321 af
Primary=3.87 cfs 0.321 af

Total Runoff Area = 0.804 ac Runoff Volume = 0.321 af Average Runoff Depth = 4.78"
27.22% Pervious = 0.219 ac 72.78% Impervious = 0.585 ac

Summary for Subcatchment EX-1: EX-1

[49] Hint: Tc<2dt may require smaller dt

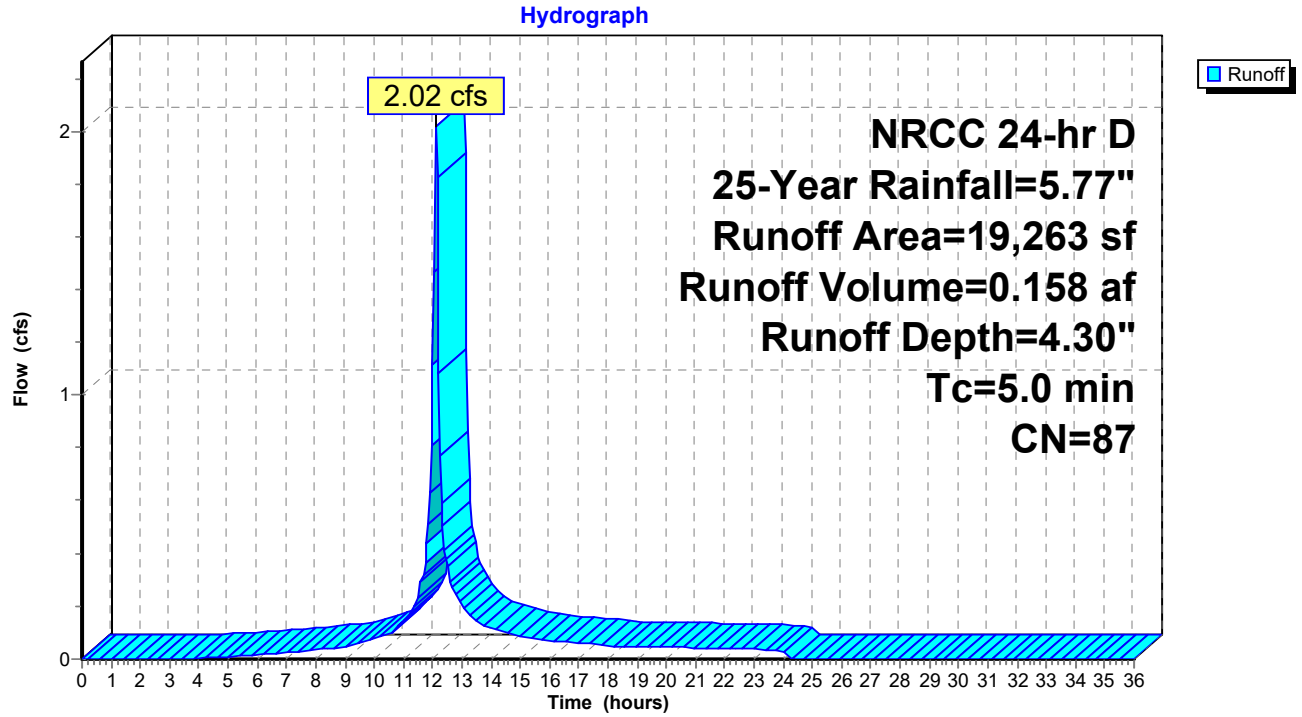
Runoff = 2.02 cfs @ 12.11 hrs, Volume= 0.158 af, Depth= 4.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 25-Year Rainfall=5.77"

Area (sf)	CN	Description
10,741	98	Roofs, HSG A
6,116	72	Dirt roads, HSG A
2,406	79	<50% Grass cover, Poor, HSG B
19,263	87	Weighted Average
8,522		44.24% Pervious Area
10,741		55.76% Impervious Area

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

Subcatchment EX-1: EX-1



Summary for Subcatchment EX-2: EX-2

[49] Hint: Tc<2dt may require smaller dt

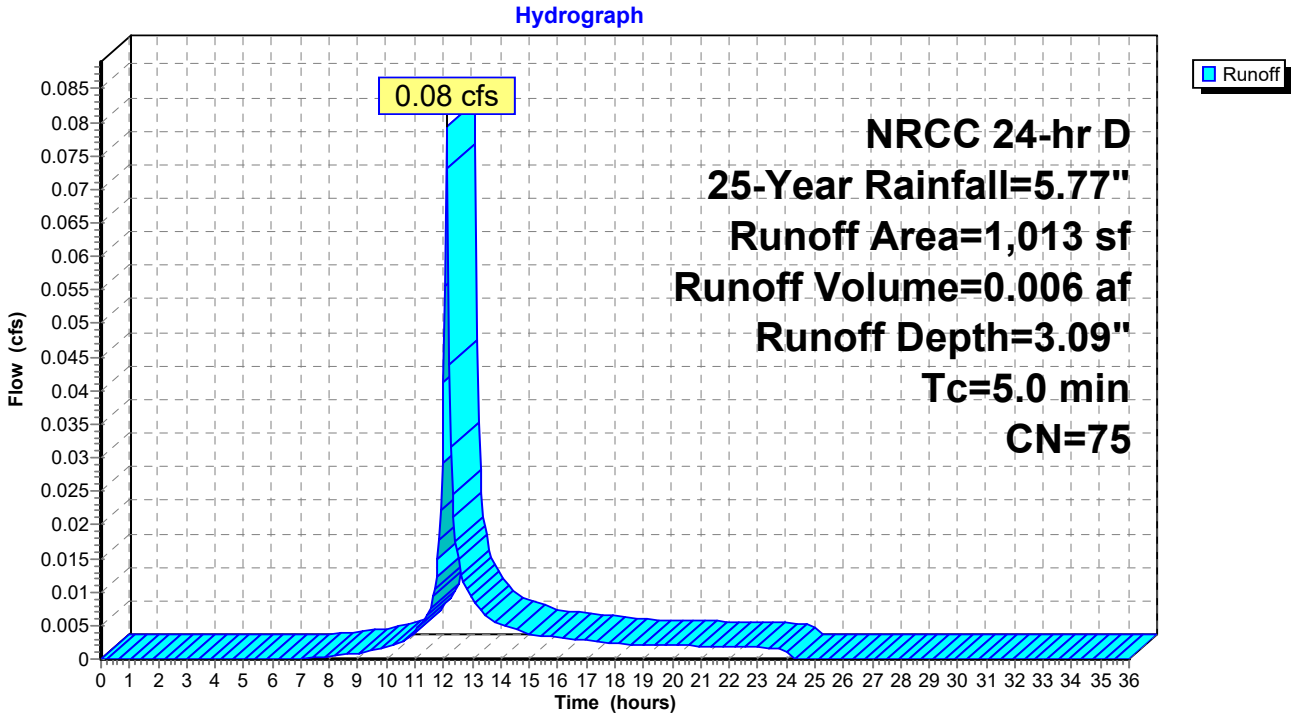
Runoff = 0.08 cfs @ 12.12 hrs, Volume= 0.006 af, Depth= 3.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 25-Year Rainfall=5.77"

Area (sf)	CN	Description
645	72	Dirt roads, HSG A
368	79	<50% Grass cover, Poor, HSG B
1,013	75	Weighted Average
1,013		100.00% Pervious Area

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

Subcatchment EX-2: EX-2



Summary for Subcatchment EX-3: EX-3

[49] Hint: Tc<2dt may require smaller dt

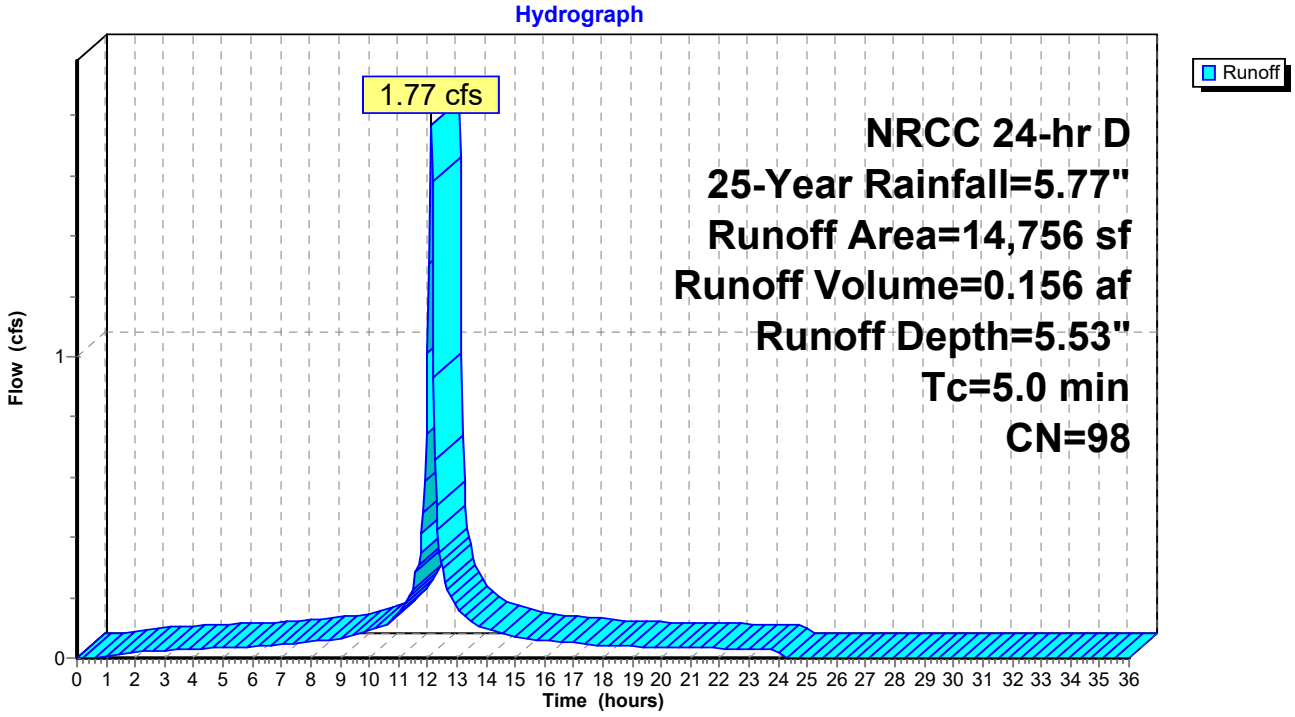
Runoff = 1.77 cfs @ 12.11 hrs, Volume= 0.156 af, Depth= 5.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 25-Year Rainfall=5.77"

Area (sf)	CN	Description
14,756	98	Paved parking, HSG A
14,756		100.00% Impervious Area

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

Subcatchment EX-3: EX-3

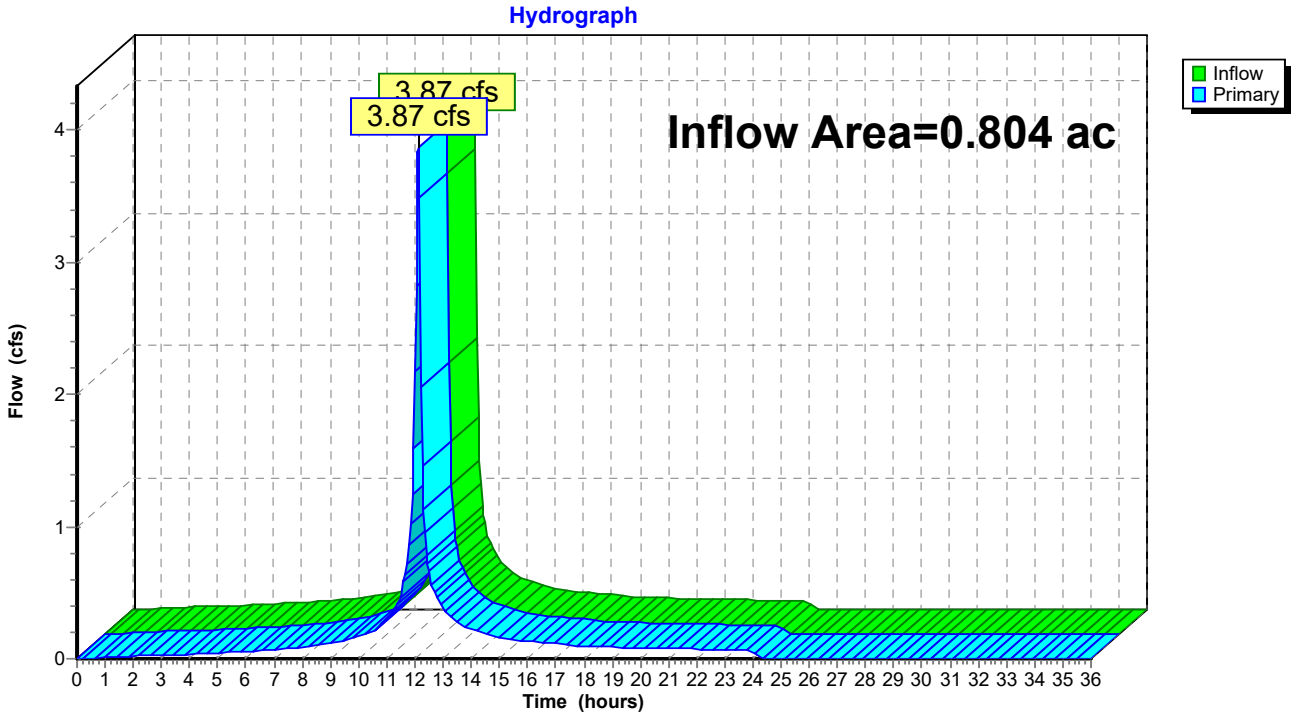


Summary for Link DP-1: Broadway Drainage

Inflow Area = 0.804 ac, 72.78% Impervious, Inflow Depth = 4.78" for 25-Year event
Inflow = 3.87 cfs @ 12.11 hrs, Volume= 0.321 af
Primary = 3.87 cfs @ 12.11 hrs, Volume= 0.321 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link DP-1: Broadway Drainage



Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment EX-1: EX-1 Runoff Area=19,263 sf 55.76% Impervious Runoff Depth=5.36"
Tc=5.0 min CN=87 Runoff=2.49 cfs 0.198 af

Subcatchment EX-2: EX-2 Runoff Area=1,013 sf 0.00% Impervious Runoff Depth=4.04"
Tc=5.0 min CN=75 Runoff=0.10 cfs 0.008 af

Subcatchment EX-3: EX-3 Runoff Area=14,756 sf 100.00% Impervious Runoff Depth=6.64"
Tc=5.0 min CN=98 Runoff=2.11 cfs 0.187 af

Link DP-1: Broadway Drainage Inflow=4.71 cfs 0.393 af
Primary=4.71 cfs 0.393 af

Total Runoff Area = 0.804 ac Runoff Volume = 0.393 af Average Runoff Depth = 5.86"
27.22% Pervious = 0.219 ac 72.78% Impervious = 0.585 ac

Summary for Subcatchment EX-1: EX-1

[49] Hint: Tc<2dt may require smaller dt

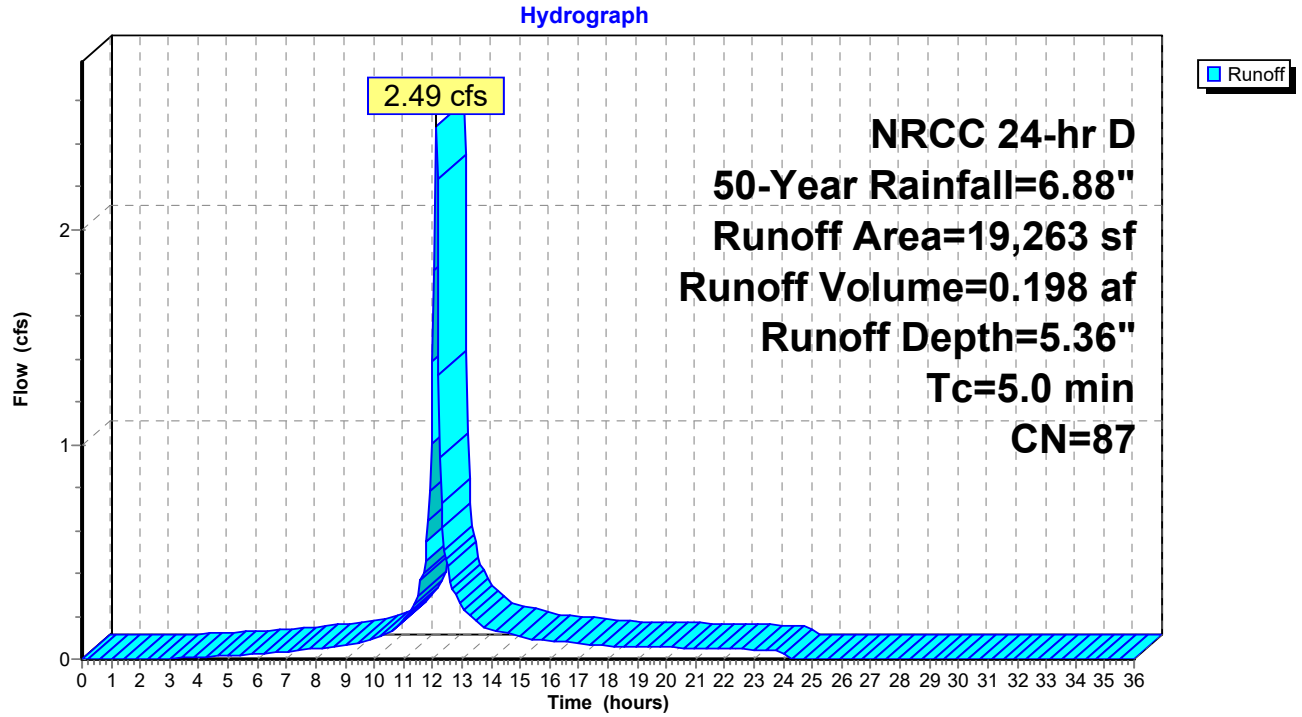
Runoff = 2.49 cfs @ 12.11 hrs, Volume= 0.198 af, Depth= 5.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 50-Year Rainfall=6.88"

Area (sf)	CN	Description
10,741	98	Roofs, HSG A
6,116	72	Dirt roads, HSG A
2,406	79	<50% Grass cover, Poor, HSG B
19,263	87	Weighted Average
8,522		44.24% Pervious Area
10,741		55.76% Impervious Area

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

Subcatchment EX-1: EX-1



Summary for Subcatchment EX-2: EX-2

[49] Hint: Tc<2dt may require smaller dt

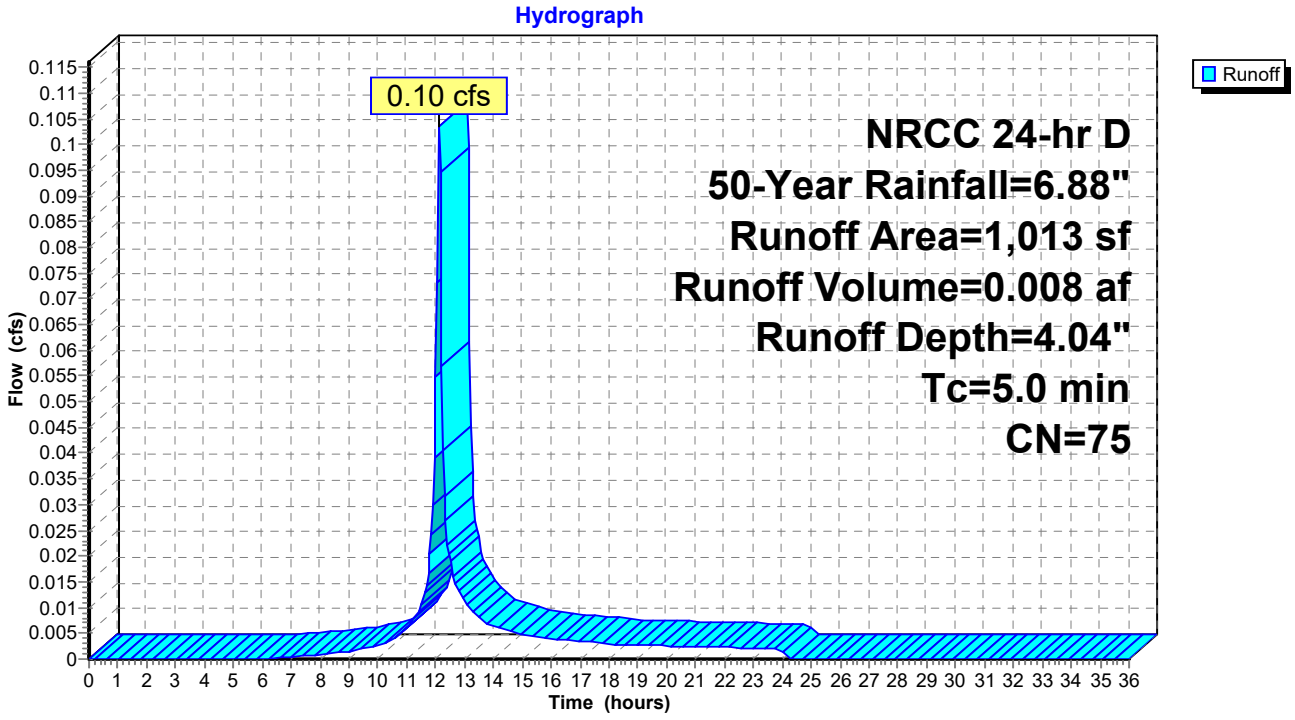
Runoff = 0.10 cfs @ 12.11 hrs, Volume= 0.008 af, Depth= 4.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 50-Year Rainfall=6.88"

Area (sf)	CN	Description
645	72	Dirt roads, HSG A
368	79	<50% Grass cover, Poor, HSG B
1,013	75	Weighted Average
1,013		100.00% Pervious Area

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

Subcatchment EX-2: EX-2



Summary for Subcatchment EX-3: EX-3

[49] Hint: Tc<2dt may require smaller dt

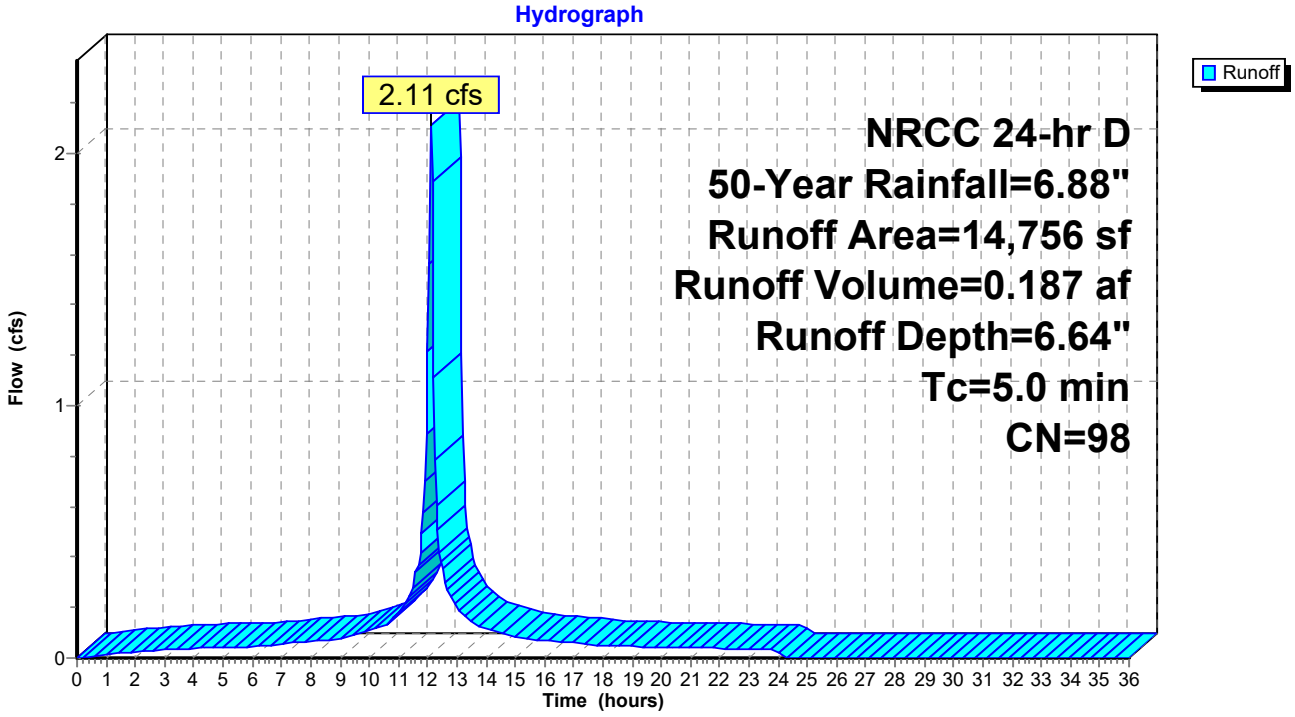
Runoff = 2.11 cfs @ 12.11 hrs, Volume= 0.187 af, Depth= 6.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 50-Year Rainfall=6.88"

Area (sf)	CN	Description
14,756	98	Paved parking, HSG A
14,756		100.00% Impervious Area

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

Subcatchment EX-3: EX-3

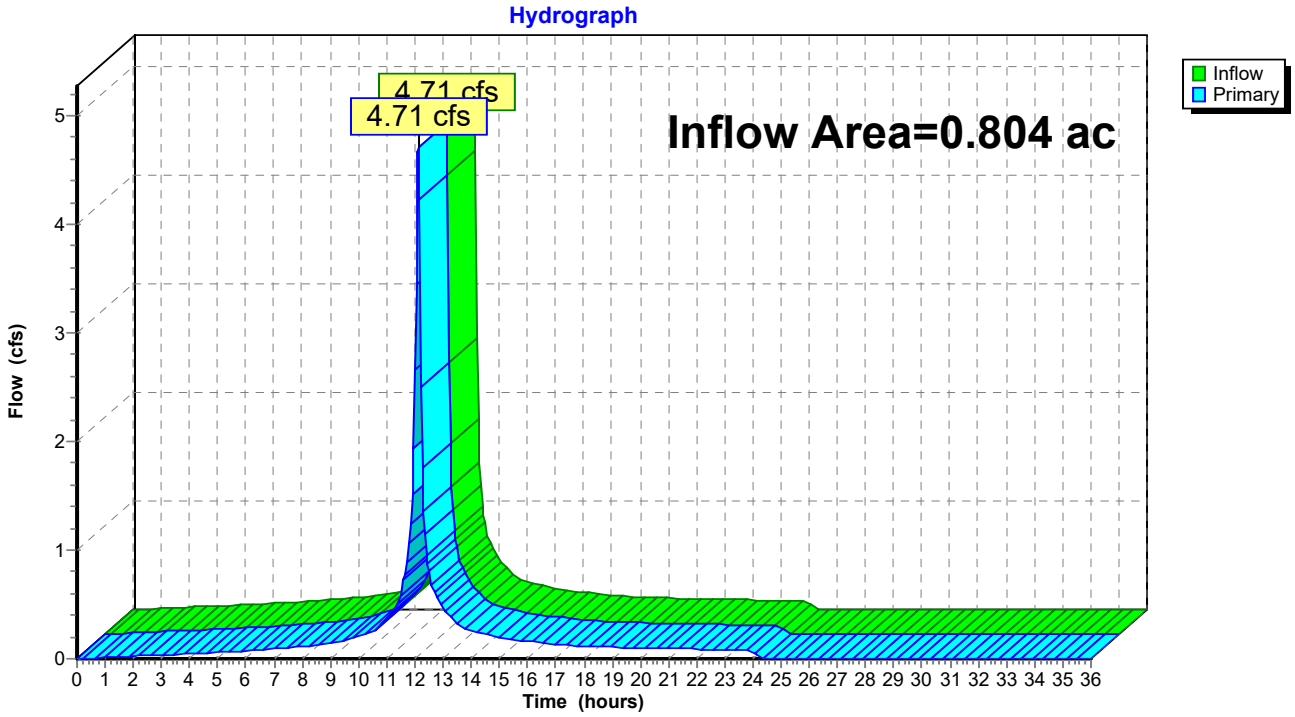


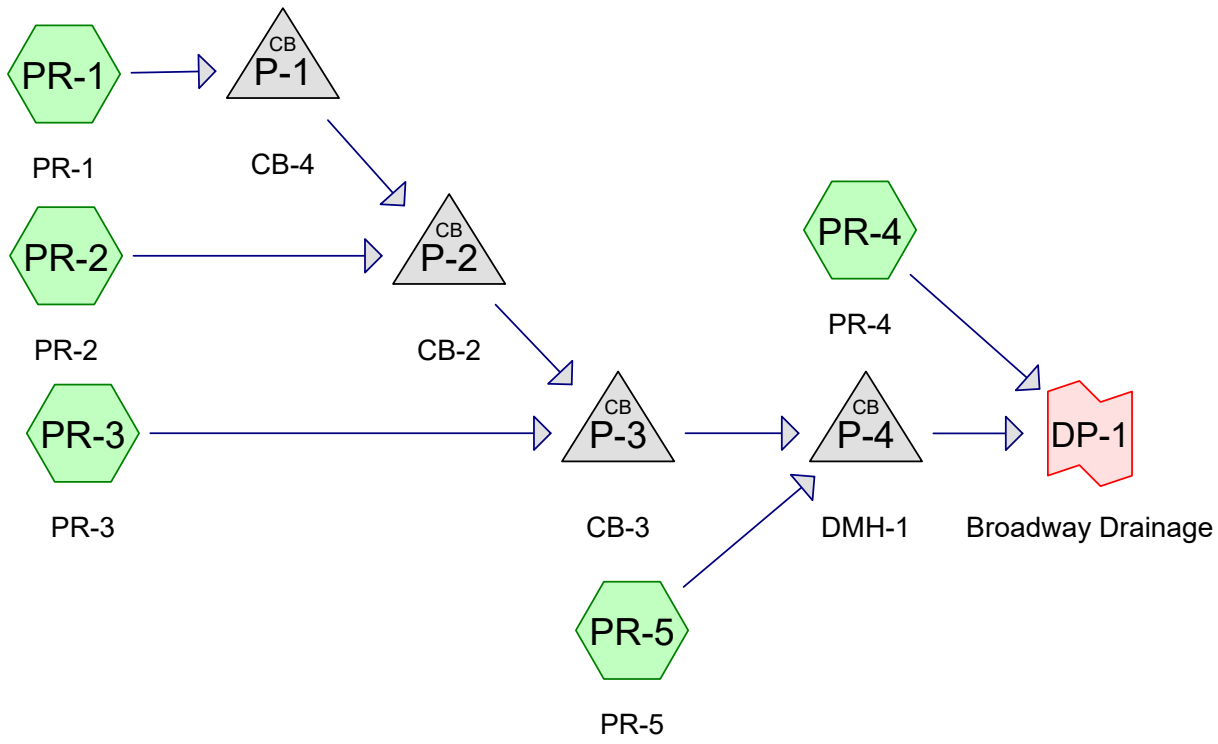
Summary for Link DP-1: Broadway Drainage

Inflow Area = 0.804 ac, 72.78% Impervious, Inflow Depth = 5.86" for 50-Year event
Inflow = 4.71 cfs @ 12.11 hrs, Volume= 0.393 af
Primary = 4.71 cfs @ 12.11 hrs, Volume= 0.393 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link DP-1: Broadway Drainage





Subcat Reach Pond Link

Routing Diagram for 946.02_Post
Prepared by IO, Printed 11/23/2021
HydroCAD® 10.00-26 s/n 02793 © 2020 HydroCAD Software Solutions LLC

Project Notes

Rainfall events imported from "NRCS-Rain.txt" for 6520 NH Strafford

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.133	49	50-75% Grass cover, Fair, HSG A (PR-1, PR-2, PR-3, PR-4)
0.057	98	Cement Concrete Sidewalk, HSG A (PR-1, PR-2, PR-3, PR-4)
0.274	98	Paved parking, HSG A (PR-1, PR-2, PR-3)
0.339	98	Roofs, HSG A (PR-5)
0.804	**90**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.804	HSG A	PR-1, PR-2, PR-3, PR-4, PR-5
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.000	Other	
0.804		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.133	0.000	0.000	0.000	0.000	0.133	50-75% Grass cover, Fair	PR-1, PR-2, PR-3, PR-4
0.057	0.000	0.000	0.000	0.000	0.057	Cement Concrete Sidewalk	PR-1, PR-2, PR-3, PR-4
0.274	0.000	0.000	0.000	0.000	0.274	Paved parking	PR-1, PR-2, PR-3
0.339	0.000	0.000	0.000	0.000	0.339	Roofs	PR-5
0.804	**0.000**	**0.000**	**0.000**	**0.000**	**0.804**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	P-1	67.45	67.40	40.5	0.0012	0.012	12.0	0.0	0.0
2	P-2	67.00	66.85	63.0	0.0024	0.012	12.0	0.0	0.0
3	P-3	66.80	66.60	41.0	0.0049	0.012	12.0	0.0	0.0
4	P-4	66.50	66.10	72.0	0.0056	0.013	12.0	0.0	0.0

Time span=0.00-36.00 hrs, dt=0.04 hrs, 901 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment PR-1: PR-1 Runoff Area=7,522 sf 80.48% Impervious Runoff Depth=1.86"
Tc=5.0 min CN=88 Runoff=0.37 cfs 0.027 af

Subcatchment PR-2: PR-2 Runoff Area=6,666 sf 69.32% Impervious Runoff Depth=1.49"
Tc=5.0 min CN=83 Runoff=0.26 cfs 0.019 af

Subcatchment PR-3: PR-3 Runoff Area=3,515 sf 86.06% Impervious Runoff Depth=2.12"
Tc=5.0 min CN=91 Runoff=0.19 cfs 0.014 af

Subcatchment PR-4: PR-4 Runoff Area=2,549 sf 28.95% Impervious Runoff Depth=0.45"
Tc=5.0 min CN=63 Runoff=0.02 cfs 0.002 af

Subcatchment PR-5: PR-5 Runoff Area=14,778 sf 100.00% Impervious Runoff Depth=2.82"
Tc=5.0 min CN=98 Runoff=0.95 cfs 0.080 af

Pond P-1: CB-4 Peak Elev=67.88' Inflow=0.37 cfs 0.027 af
12.0" Round Culvert n=0.012 L=40.5' S=0.0012 '/' Outflow=0.37 cfs 0.027 af

Pond P-2: CB-2 Peak Elev=67.53' Inflow=0.63 cfs 0.046 af
12.0" Round Culvert n=0.012 L=63.0' S=0.0024 '/' Outflow=0.63 cfs 0.046 af

Pond P-3: CB-3 Peak Elev=67.36' Inflow=0.82 cfs 0.060 af
12.0" Round Culvert n=0.012 L=41.0' S=0.0049 '/' Outflow=0.82 cfs 0.060 af

Pond P-4: DMH-1 Peak Elev=67.37' Inflow=1.77 cfs 0.140 af
12.0" Round Culvert n=0.013 L=72.0' S=0.0056 '/' Outflow=1.77 cfs 0.140 af

Link DP-1: Broadway Drainage Inflow=1.79 cfs 0.142 af
Primary=1.79 cfs 0.142 af

Total Runoff Area = 0.804 ac Runoff Volume = 0.142 af Average Runoff Depth = 2.12"
16.60% Pervious = 0.133 ac 83.40% Impervious = 0.671 ac

Summary for Subcatchment PR-1: PR-1

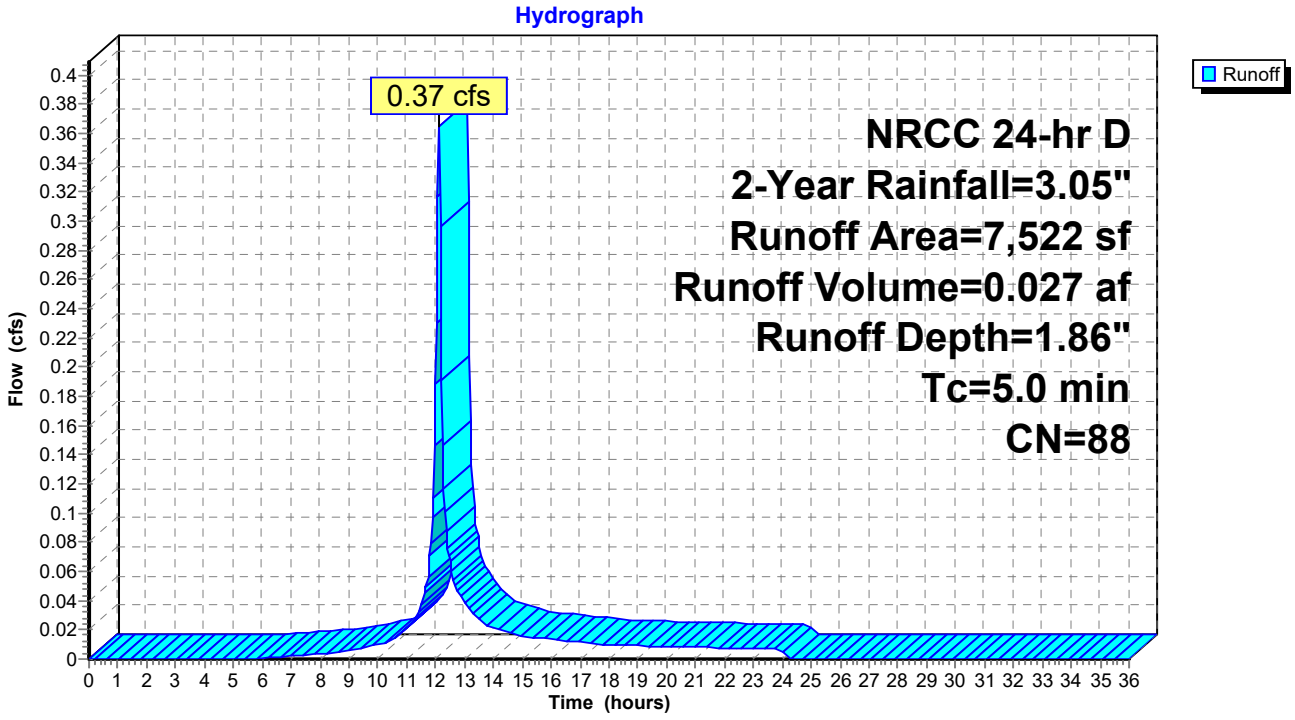
Runoff = 0.37 cfs @ 12.12 hrs, Volume= 0.027 af, Depth= 1.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
NRCC 24-hr D 2-Year Rainfall=3.05"

	Area (sf)	CN	Description
	5,997	98	Paved parking, HSG A
	1,468	49	50-75% Grass cover, Fair, HSG A
*	57	98	Cement Concrete Sidewalk, HSG A
	7,522	88	Weighted Average
	1,468		19.52% Pervious Area
	6,054		80.48% Impervious Area

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

Subcatchment PR-1: PR-1



Summary for Subcatchment PR-2: PR-2

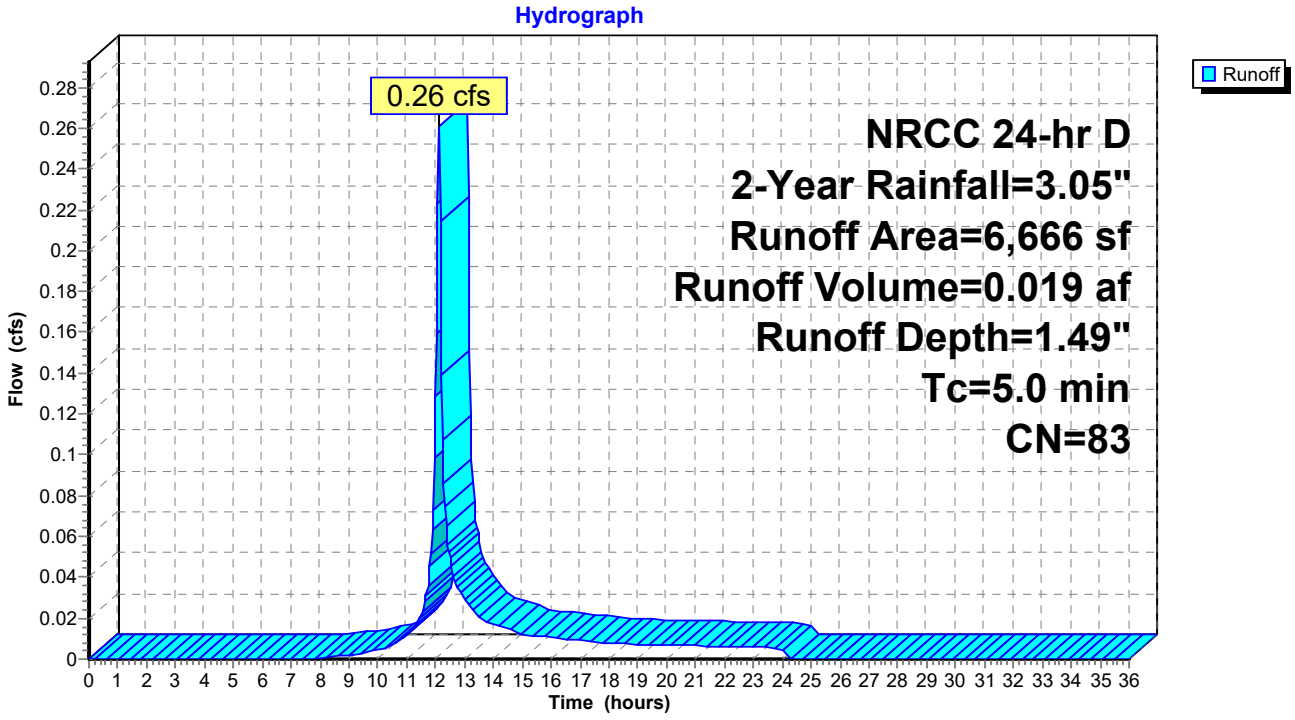
Runoff = 0.26 cfs @ 12.12 hrs, Volume= 0.019 af, Depth= 1.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
NRCC 24-hr D 2-Year Rainfall=3.05"

	Area (sf)	CN	Description
	3,694	98	Paved parking, HSG A
	2,045	49	50-75% Grass cover, Fair, HSG A
*	927	98	Cement Concrete Sidewalk, HSG A
	6,666	83	Weighted Average
	2,045		30.68% Pervious Area
	4,621		69.32% Impervious Area

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

Subcatchment PR-2: PR-2



Summary for Subcatchment PR-3: PR-3

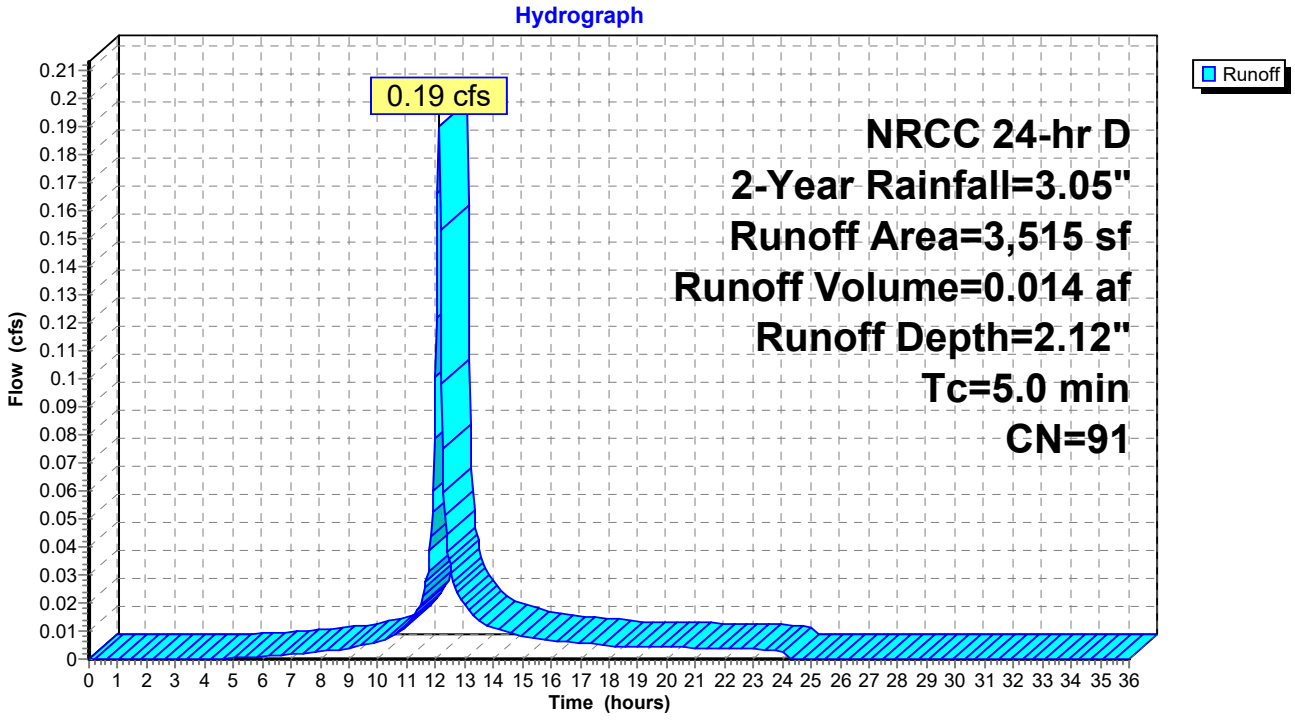
Runoff = 0.19 cfs @ 12.12 hrs, Volume= 0.014 af, Depth= 2.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
NRCC 24-hr D 2-Year Rainfall=3.05"

	Area (sf)	CN	Description
	2,249	98	Paved parking, HSG A
	490	49	50-75% Grass cover, Fair, HSG A
*	776	98	Cement Concrete Sidewalk, HSG A
	3,515	91	Weighted Average
	490		13.94% Pervious Area
	3,025		86.06% Impervious Area

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

Subcatchment PR-3: PR-3



Summary for Subcatchment PR-4: PR-4

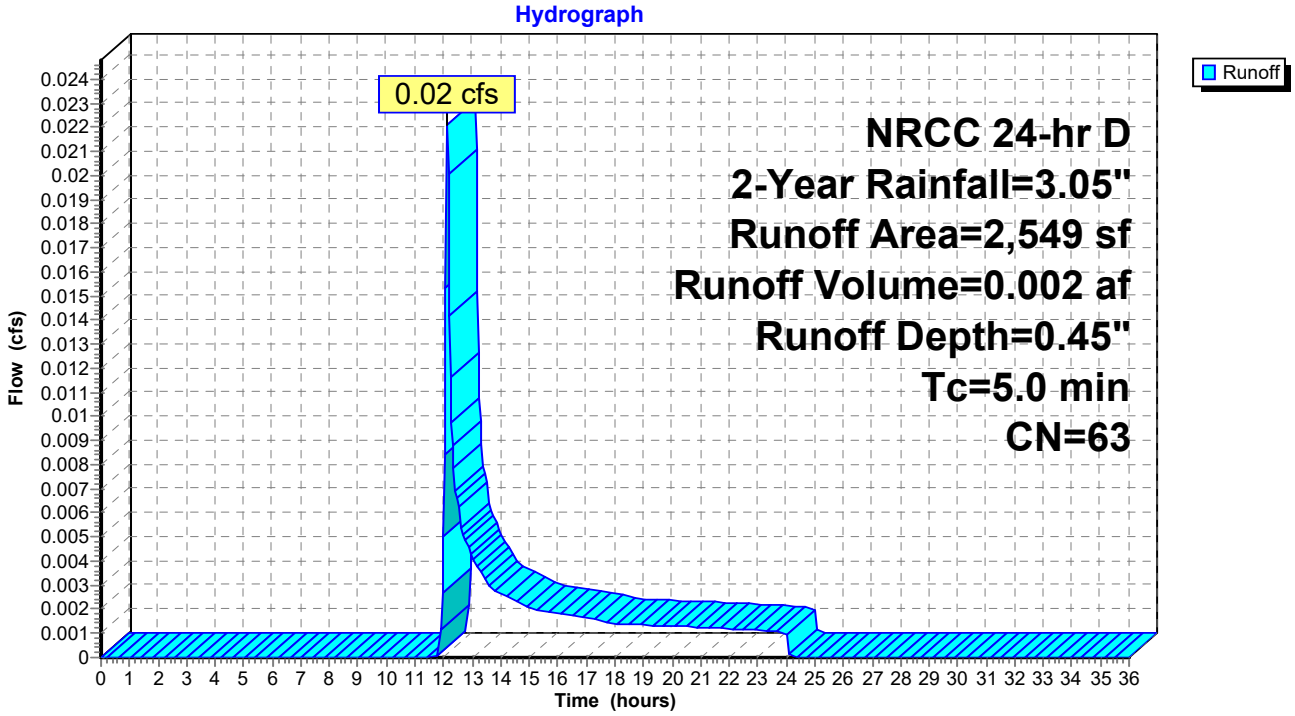
Runoff = 0.02 cfs @ 12.13 hrs, Volume= 0.002 af, Depth= 0.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
NRCC 24-hr D 2-Year Rainfall=3.05"

	Area (sf)	CN	Description
	1,811	49	50-75% Grass cover, Fair, HSG A
*	738	98	Cement Concrete Sidewalk, HSG A
	2,549	63	Weighted Average
	1,811		71.05% Pervious Area
	738		28.95% Impervious Area

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

Subcatchment PR-4: PR-4



Summary for Subcatchment PR-5: PR-5

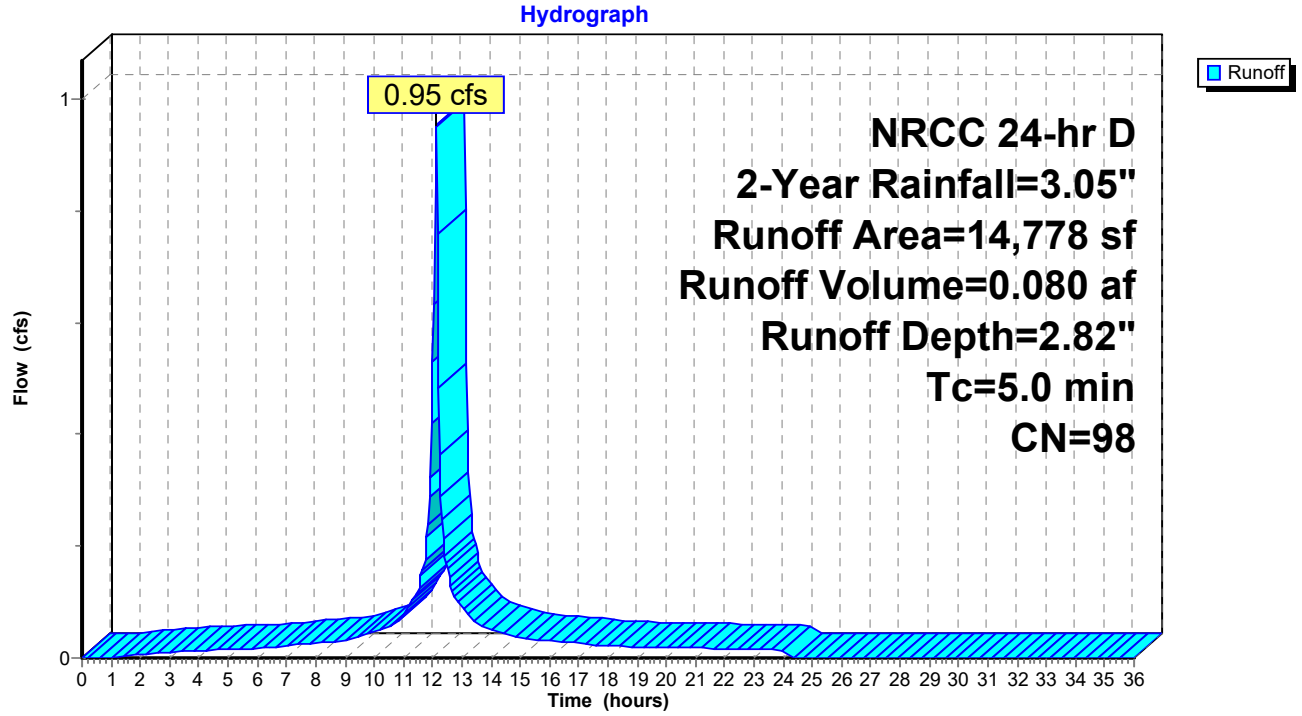
Runoff = 0.95 cfs @ 12.11 hrs, Volume= 0.080 af, Depth= 2.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
NRCC 24-hr D 2-Year Rainfall=3.05"

Area (sf)	CN	Description
14,778	98	Roofs, HSG A
14,778		100.00% Impervious Area

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

Subcatchment PR-5: PR-5



Summary for Pond P-1: CB-4

[57] Hint: Peaked at 67.88' (Flood elevation advised)

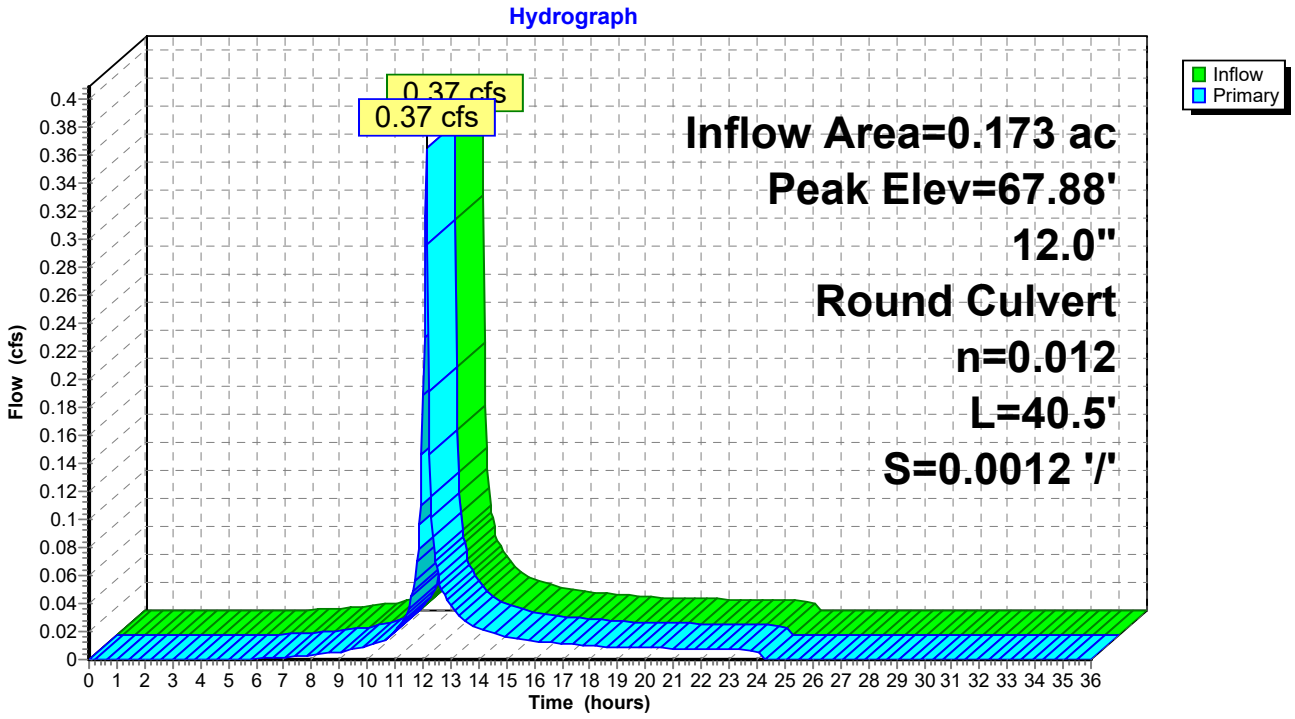
Inflow Area = 0.173 ac, 80.48% Impervious, Inflow Depth = 1.86" for 2-Year event
Inflow = 0.37 cfs @ 12.12 hrs, Volume= 0.027 af
Outflow = 0.37 cfs @ 12.12 hrs, Volume= 0.027 af, Atten= 0%, Lag= 0.0 min
Primary = 0.37 cfs @ 12.12 hrs, Volume= 0.027 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 67.88' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	67.45'	**12.0" Round Outlet Pipe** L= 40.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 67.45' / 67.40' S= 0.0012 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.36 cfs @ 12.12 hrs HW=67.87' (Free Discharge)
1=Outlet Pipe (Barrel Controls 0.36 cfs @ 1.67 fps)

Pond P-1: CB-4



Summary for Pond P-2: CB-2

[57] Hint: Peaked at 67.53' (Flood elevation advised)
[79] Warning: Submerged Pond P-1 Primary device # 1 INLET by 0.08'

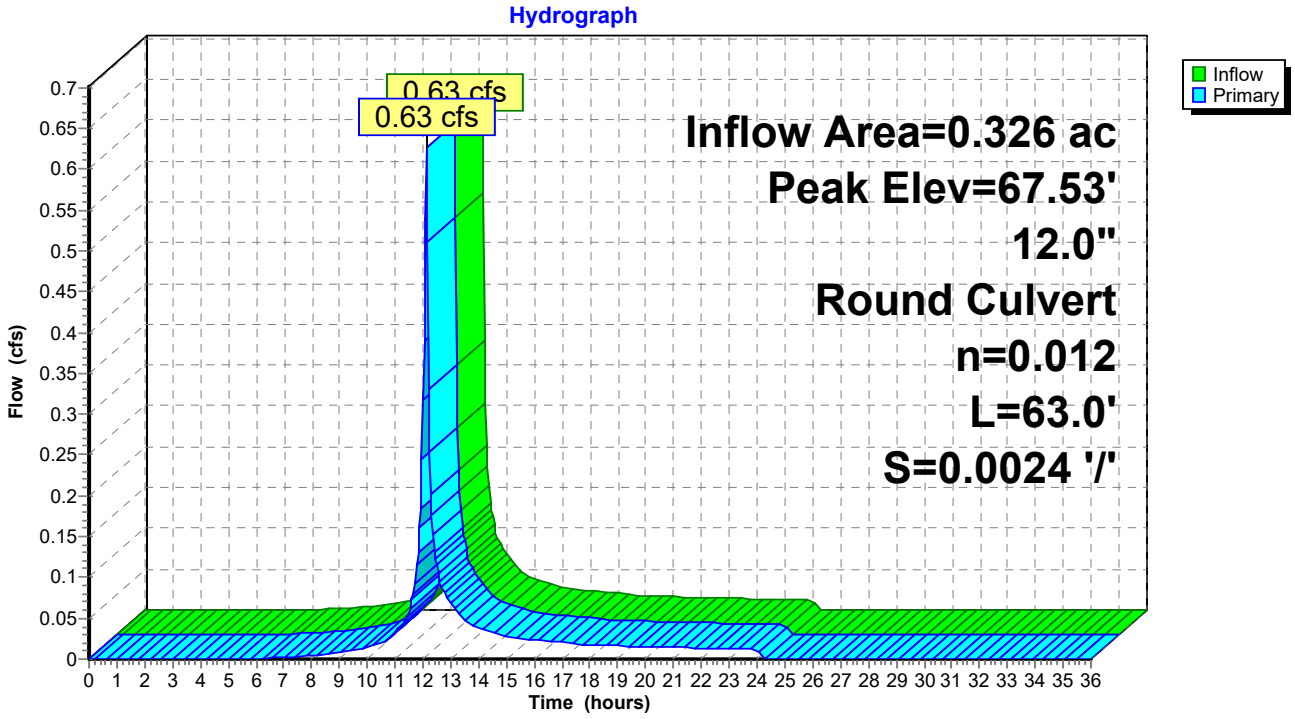
Inflow Area = 0.326 ac, 75.24% Impervious, Inflow Depth = 1.69" for 2-Year event
Inflow = 0.63 cfs @ 12.12 hrs, Volume= 0.046 af
Outflow = 0.63 cfs @ 12.12 hrs, Volume= 0.046 af, Atten= 0%, Lag= 0.0 min
Primary = 0.63 cfs @ 12.12 hrs, Volume= 0.046 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 67.53' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	67.00'	**12.0" Round Outlet Pipe** L= 63.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 67.00' / 66.85' S= 0.0024 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.62 cfs @ 12.12 hrs HW=67.53' (Free Discharge)
1=Outlet Pipe (Barrel Controls 0.62 cfs @ 2.14 fps)

Pond P-2: CB-2



Summary for Pond P-3: CB-3

[57] Hint: Peaked at 67.36' (Flood elevation advised)
[79] Warning: Submerged Pond P-2 Primary device # 1 INLET by 0.36'

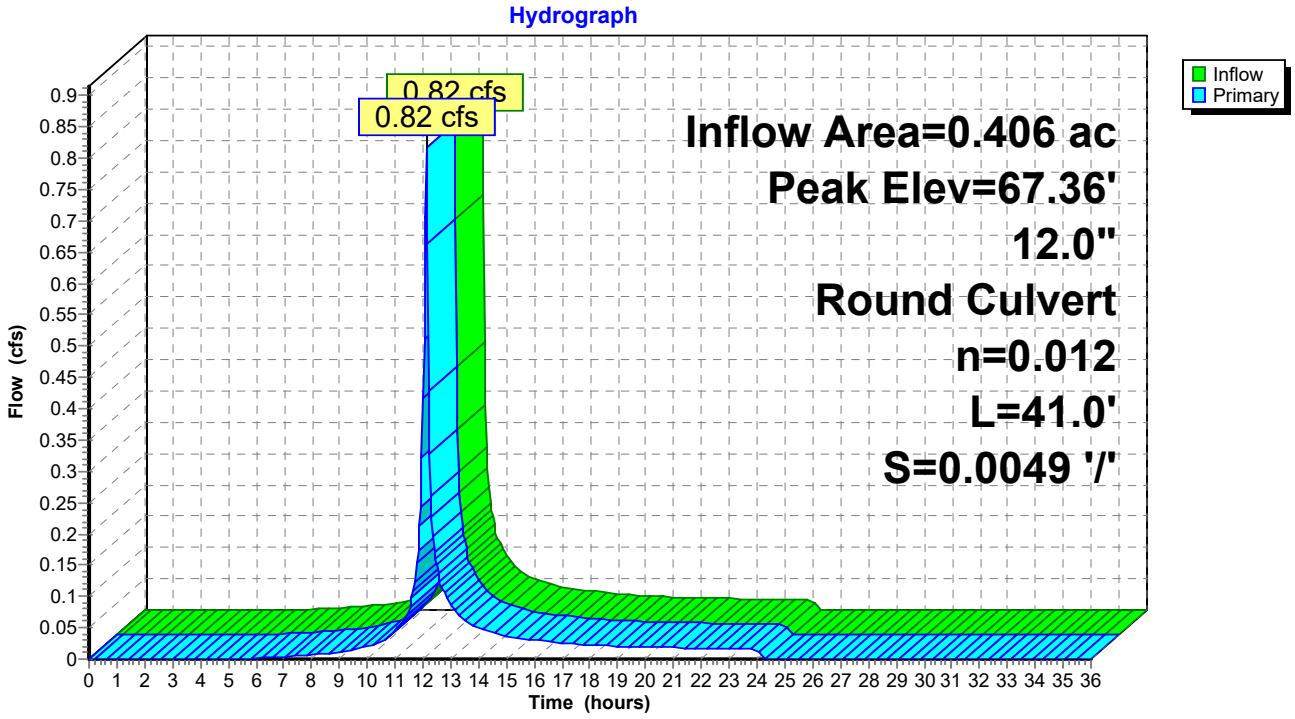
Inflow Area = 0.406 ac, 77.39% Impervious, Inflow Depth = 1.77" for 2-Year event
Inflow = 0.82 cfs @ 12.12 hrs, Volume= 0.060 af
Outflow = 0.82 cfs @ 12.12 hrs, Volume= 0.060 af, Atten= 0%, Lag= 0.0 min
Primary = 0.82 cfs @ 12.12 hrs, Volume= 0.060 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 67.36' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	66.80'	**12.0" Round Outlet Pipe** L= 41.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.80' / 66.60' S= 0.0049 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.81 cfs @ 12.12 hrs HW=67.35' (Free Discharge)
1=Outlet Pipe (Barrel Controls 0.81 cfs @ 2.61 fps)

Pond P-3: CB-3



Summary for Pond P-4: DMH-1

[57] Hint: Peaked at 67.37' (Flood elevation advised)
[81] Warning: Exceeded Pond P-3 by 0.01' @ 12.12 hrs

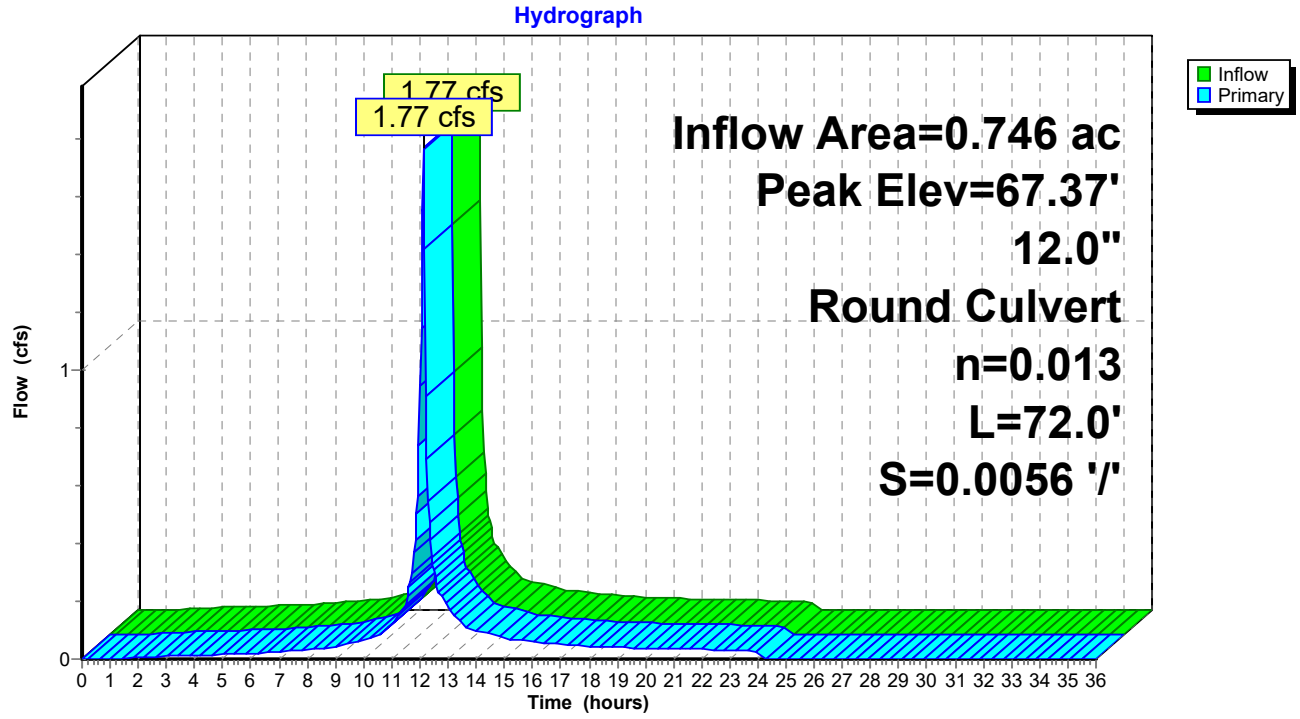
Inflow Area = 0.746 ac, 87.68% Impervious, Inflow Depth = 2.25" for 2-Year event
Inflow = 1.77 cfs @ 12.12 hrs, Volume= 0.140 af
Outflow = 1.77 cfs @ 12.12 hrs, Volume= 0.140 af, Atten= 0%, Lag= 0.0 min
Primary = 1.77 cfs @ 12.12 hrs, Volume= 0.140 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 67.37' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	66.50'	**12.0" Round Outlet Pipe** L= 72.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.50' / 66.10' S= 0.0056 '/' Cc= 0.900 n= 0.013 Cast iron, coated, Flow Area= 0.79 sf

Primary OutFlow Max=1.74 cfs @ 12.12 hrs HW=67.36' (Free Discharge)
└**1=Outlet Pipe** (Barrel Controls 1.74 cfs @ 3.24 fps)

Pond P-4: DMH-1

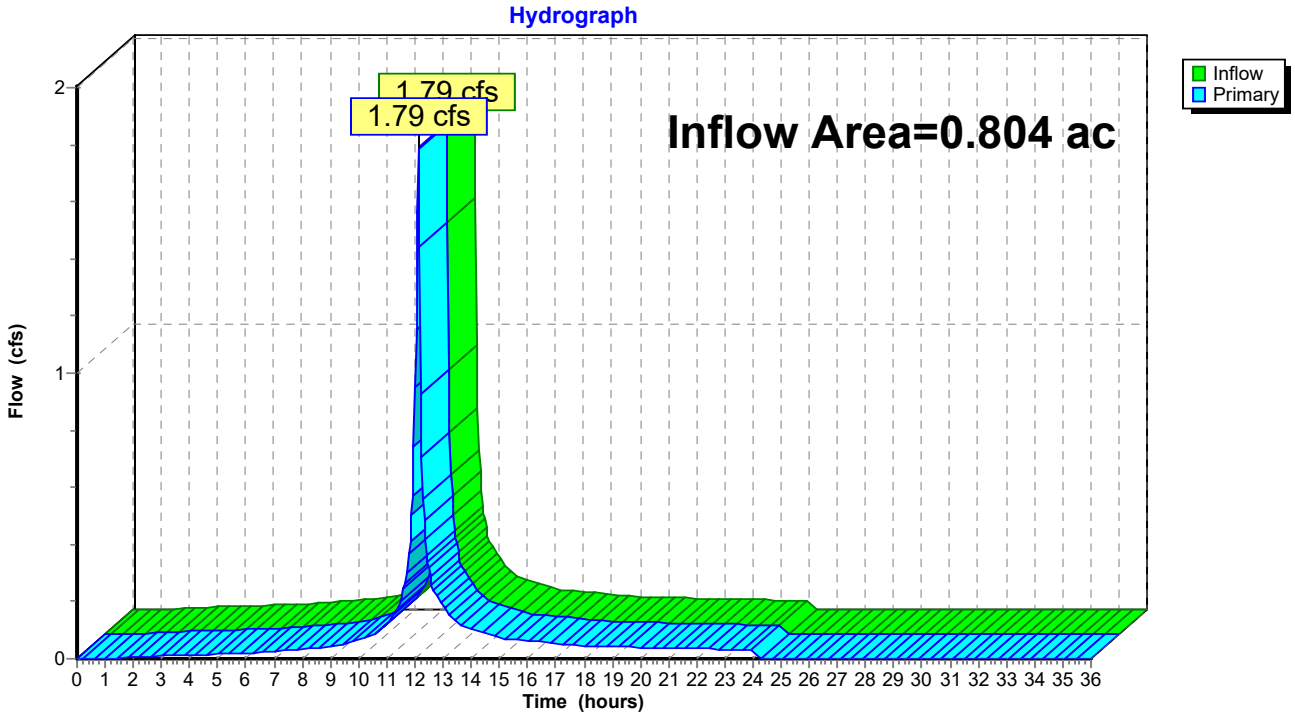


Summary for Link DP-1: Broadway Drainage

Inflow Area = 0.804 ac, 83.40% Impervious, Inflow Depth = 2.12" for 2-Year event
Inflow = 1.79 cfs @ 12.12 hrs, Volume= 0.142 af
Primary = 1.79 cfs @ 12.12 hrs, Volume= 0.142 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs

Link DP-1: Broadway Drainage



Time span=0.00-36.00 hrs, dt=0.04 hrs, 901 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment PR-1: PR-1 Runoff Area=7,522 sf 80.48% Impervious Runoff Depth=3.26"
Tc=5.0 min CN=88 Runoff=0.62 cfs 0.047 af

Subcatchment PR-2: PR-2 Runoff Area=6,666 sf 69.32% Impervious Runoff Depth=2.79"
Tc=5.0 min CN=83 Runoff=0.48 cfs 0.036 af

Subcatchment PR-3: PR-3 Runoff Area=3,515 sf 86.06% Impervious Runoff Depth=3.57"
Tc=5.0 min CN=91 Runoff=0.31 cfs 0.024 af

Subcatchment PR-4: PR-4 Runoff Area=2,549 sf 28.95% Impervious Runoff Depth=1.24"
Tc=5.0 min CN=63 Runoff=0.08 cfs 0.006 af

Subcatchment PR-5: PR-5 Runoff Area=14,778 sf 100.00% Impervious Runoff Depth=4.33"
Tc=5.0 min CN=98 Runoff=1.44 cfs 0.123 af

Pond P-1: CB-4 Peak Elev=68.01' Inflow=0.62 cfs 0.047 af
12.0" Round Culvert n=0.012 L=40.5' S=0.0012 '/' Outflow=0.62 cfs 0.047 af

Pond P-2: CB-2 Peak Elev=67.74' Inflow=1.11 cfs 0.082 af
12.0" Round Culvert n=0.012 L=63.0' S=0.0024 '/' Outflow=1.11 cfs 0.082 af

Pond P-3: CB-3 Peak Elev=67.58' Inflow=1.42 cfs 0.106 af
12.0" Round Culvert n=0.012 L=41.0' S=0.0049 '/' Outflow=1.42 cfs 0.106 af

Pond P-4: DMH-1 Peak Elev=67.96' Inflow=2.86 cfs 0.229 af
12.0" Round Culvert n=0.013 L=72.0' S=0.0056 '/' Outflow=2.86 cfs 0.229 af

Link DP-1: Broadway Drainage Inflow=2.94 cfs 0.235 af
Primary=2.94 cfs 0.235 af

Total Runoff Area = 0.804 ac Runoff Volume = 0.235 af Average Runoff Depth = 3.51"
16.60% Pervious = 0.133 ac 83.40% Impervious = 0.671 ac

Summary for Subcatchment PR-1: PR-1

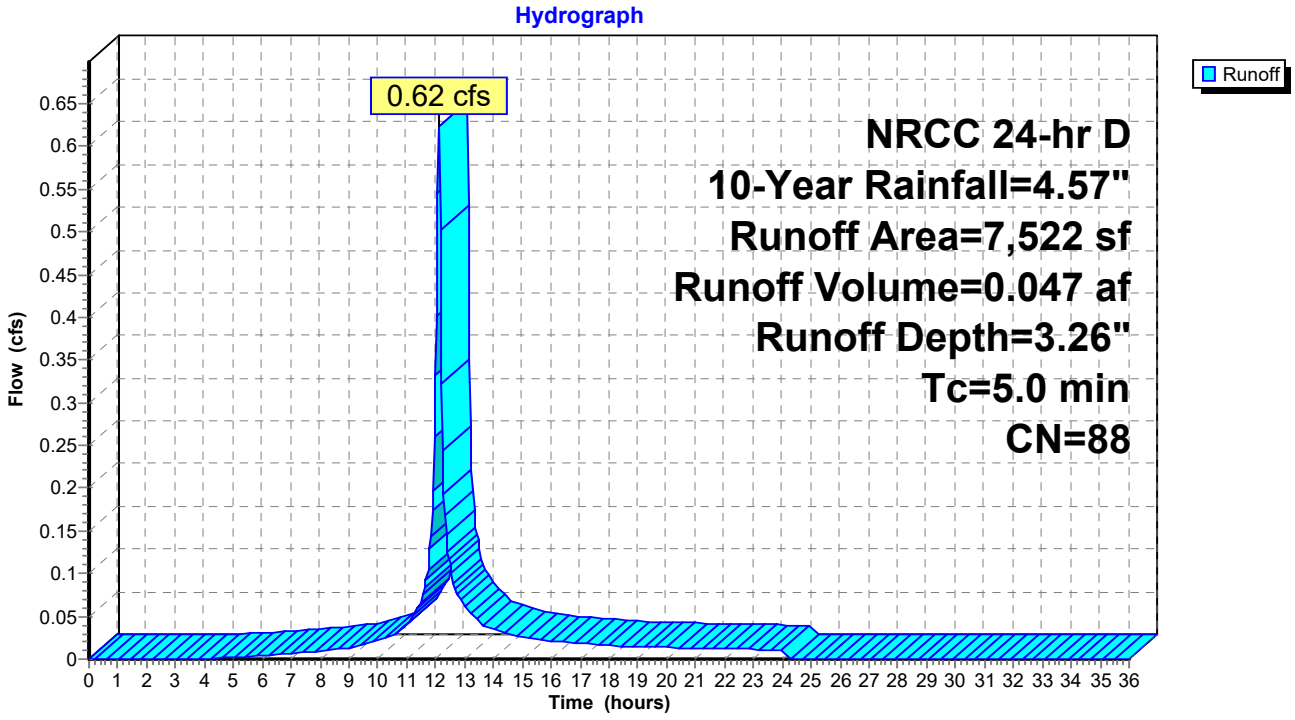
Runoff = 0.62 cfs @ 12.12 hrs, Volume= 0.047 af, Depth= 3.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
NRCC 24-hr D 10-Year Rainfall=4.57"

	Area (sf)	CN	Description
	5,997	98	Paved parking, HSG A
	1,468	49	50-75% Grass cover, Fair, HSG A
*	57	98	Cement Concrete Sidewalk, HSG A
	7,522	88	Weighted Average
	1,468		19.52% Pervious Area
	6,054		80.48% Impervious Area

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

Subcatchment PR-1: PR-1



Summary for Subcatchment PR-2: PR-2

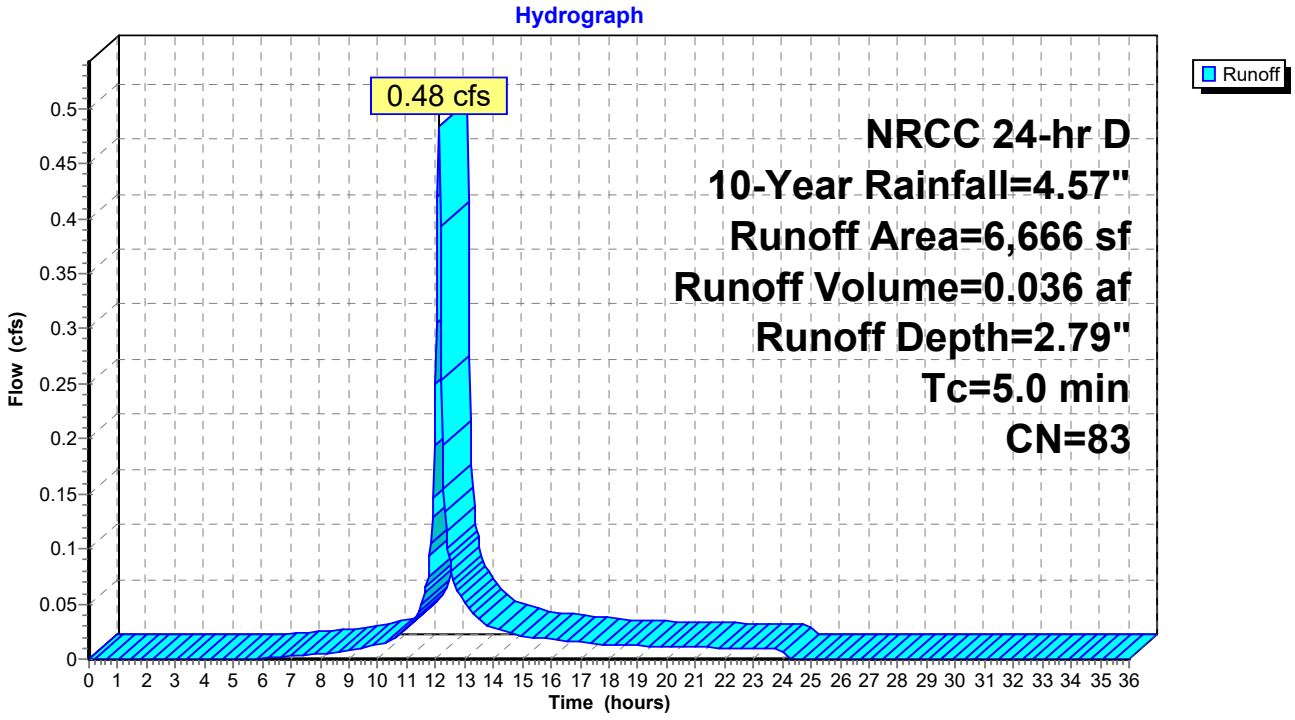
Runoff = 0.48 cfs @ 12.12 hrs, Volume= 0.036 af, Depth= 2.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
NRCC 24-hr D 10-Year Rainfall=4.57"

	Area (sf)	CN	Description
	3,694	98	Paved parking, HSG A
	2,045	49	50-75% Grass cover, Fair, HSG A
*	927	98	Cement Concrete Sidewalk, HSG A
	6,666	83	Weighted Average
	2,045		30.68% Pervious Area
	4,621		69.32% Impervious Area

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

Subcatchment PR-2: PR-2



Summary for Subcatchment PR-3: PR-3

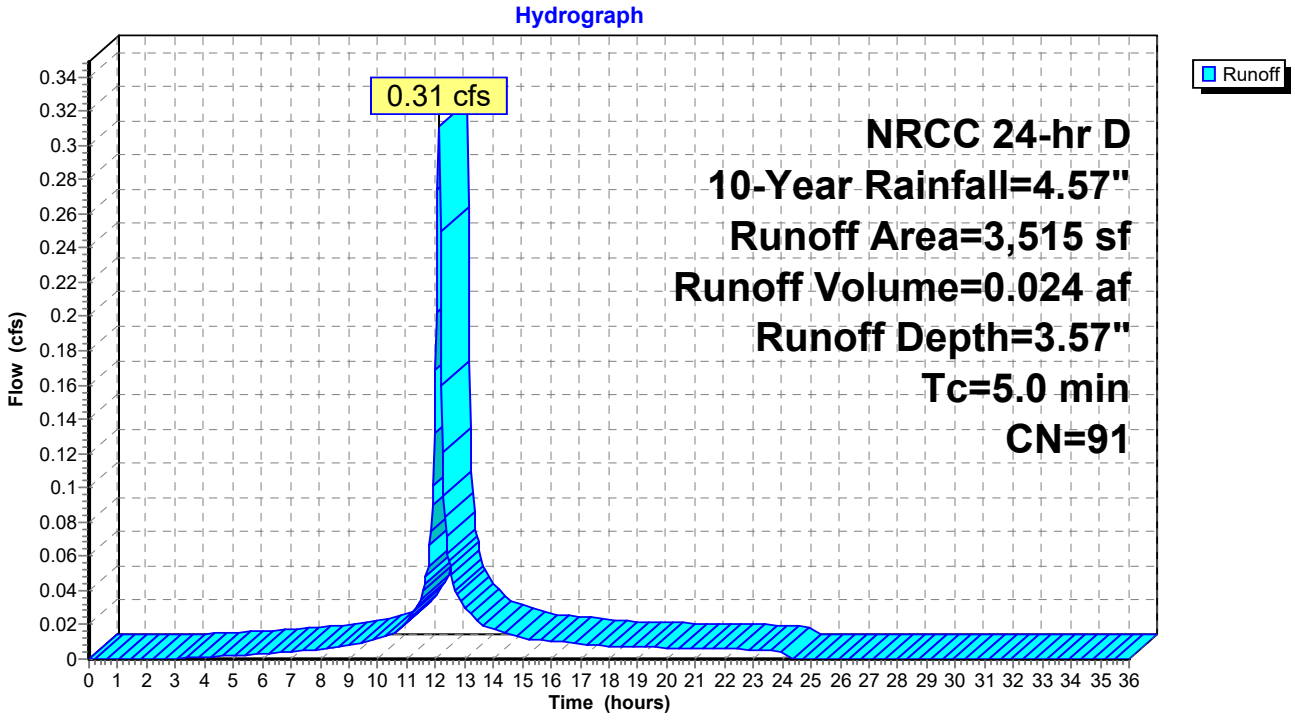
Runoff = 0.31 cfs @ 12.12 hrs, Volume= 0.024 af, Depth= 3.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
NRCC 24-hr D 10-Year Rainfall=4.57"

	Area (sf)	CN	Description
	2,249	98	Paved parking, HSG A
	490	49	50-75% Grass cover, Fair, HSG A
*	776	98	Cement Concrete Sidewalk, HSG A
	3,515	91	Weighted Average
	490		13.94% Pervious Area
	3,025		86.06% Impervious Area

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

Subcatchment PR-3: PR-3



Summary for Subcatchment PR-4: PR-4

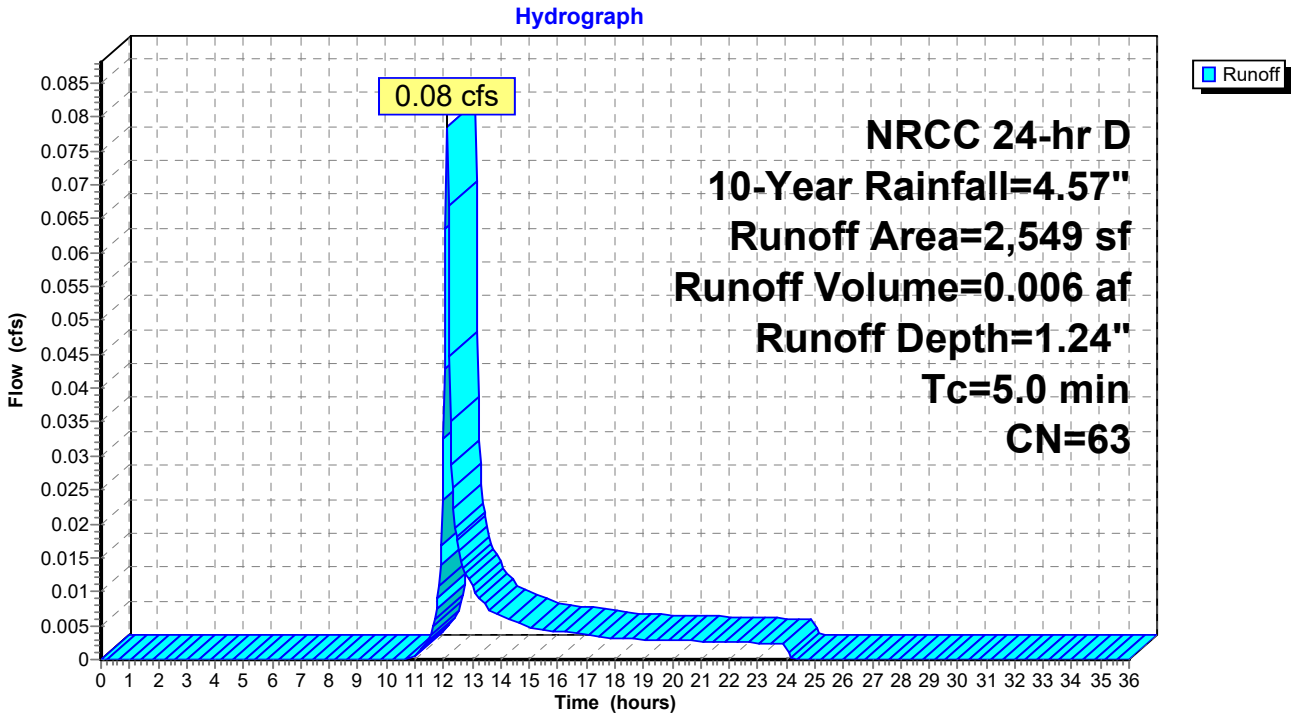
Runoff = 0.08 cfs @ 12.12 hrs, Volume= 0.006 af, Depth= 1.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
NRCC 24-hr D 10-Year Rainfall=4.57"

	Area (sf)	CN	Description
	1,811	49	50-75% Grass cover, Fair, HSG A
*	738	98	Cement Concrete Sidewalk, HSG A
	2,549	63	Weighted Average
	1,811		71.05% Pervious Area
	738		28.95% Impervious Area

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

Subcatchment PR-4: PR-4



Summary for Subcatchment PR-5: PR-5

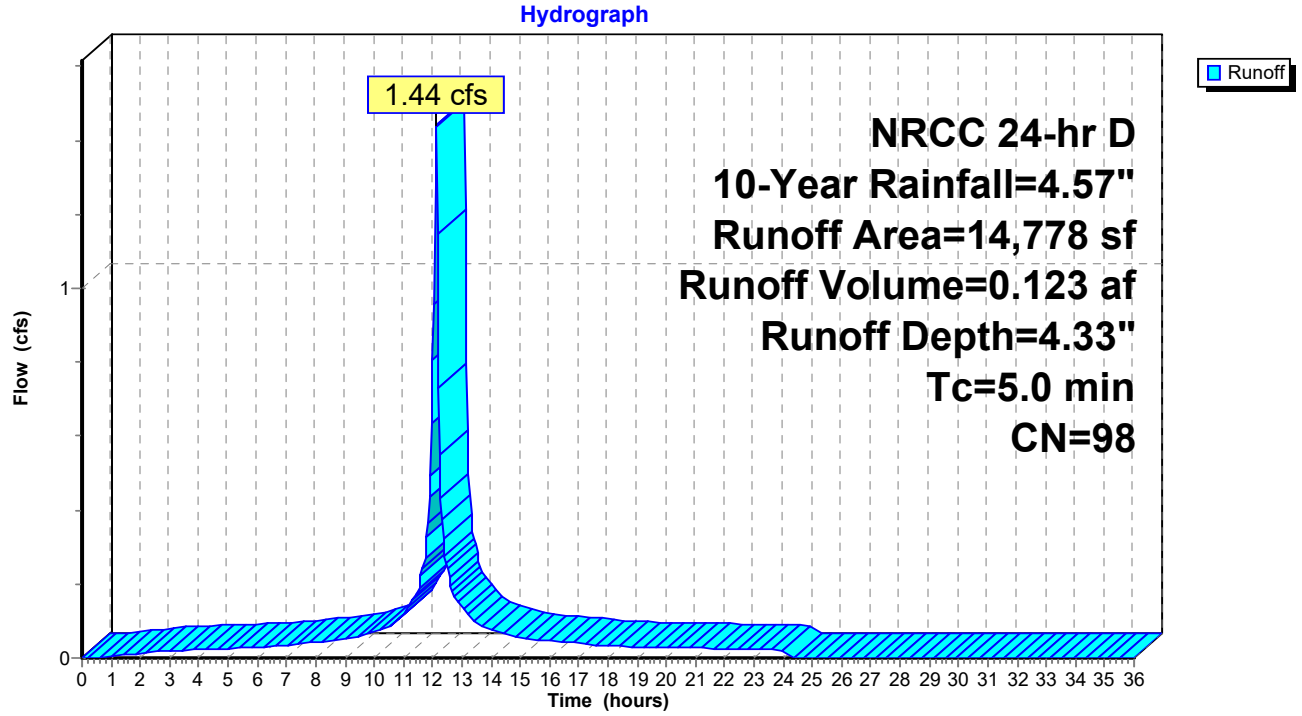
Runoff = 1.44 cfs @ 12.11 hrs, Volume= 0.123 af, Depth= 4.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
NRCC 24-hr D 10-Year Rainfall=4.57"

Area (sf)	CN	Description
14,778	98	Roofs, HSG A
14,778		100.00% Impervious Area

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

Subcatchment PR-5: PR-5



Summary for Pond P-1: CB-4

[57] Hint: Peaked at 68.01' (Flood elevation advised)

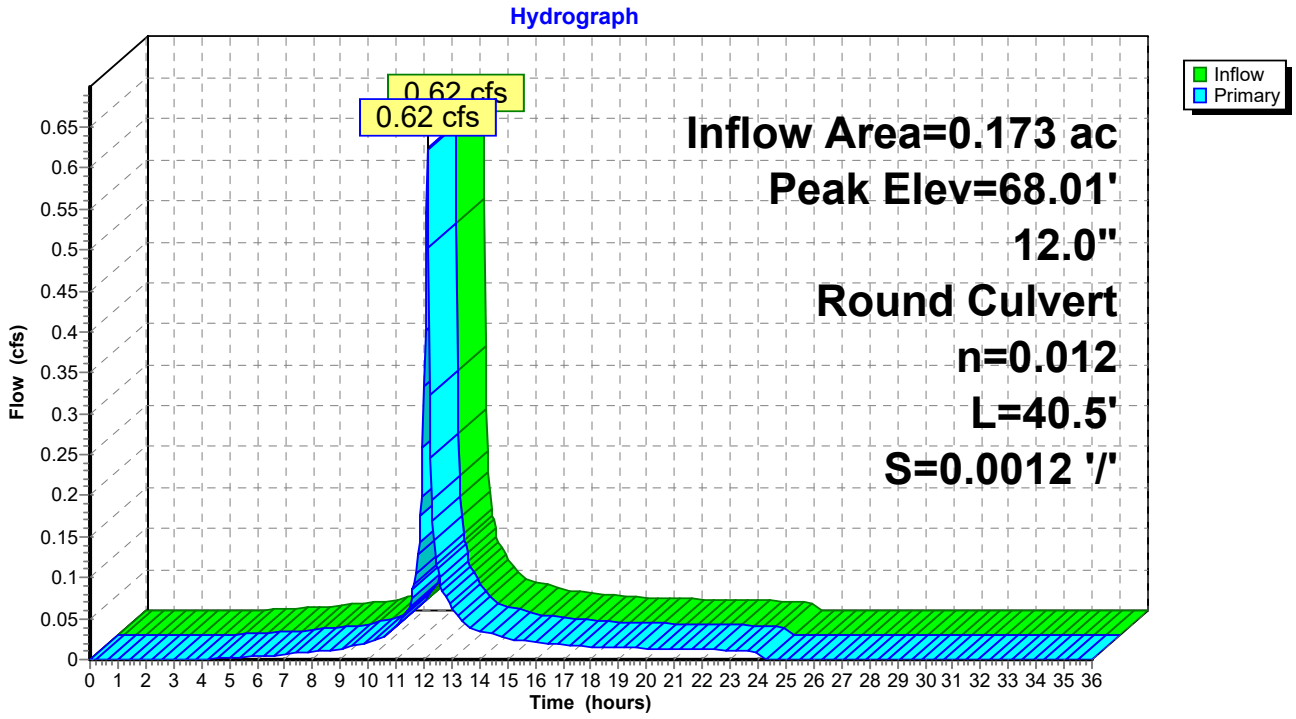
Inflow Area = 0.173 ac, 80.48% Impervious, Inflow Depth = 3.26" for 10-Year event
Inflow = 0.62 cfs @ 12.12 hrs, Volume= 0.047 af
Outflow = 0.62 cfs @ 12.12 hrs, Volume= 0.047 af, Atten= 0%, Lag= 0.0 min
Primary = 0.62 cfs @ 12.12 hrs, Volume= 0.047 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 68.01' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	67.45'	**12.0" Round Outlet Pipe** L= 40.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 67.45' / 67.40' S= 0.0012 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.61 cfs @ 12.12 hrs HW=68.01' (Free Discharge)
1=Outlet Pipe (Barrel Controls 0.61 cfs @ 1.96 fps)

Pond P-1: CB-4



Summary for Pond P-2: CB-2

[57] Hint: Peaked at 67.74' (Flood elevation advised)
[79] Warning: Submerged Pond P-1 Primary device # 1 INLET by 0.29'

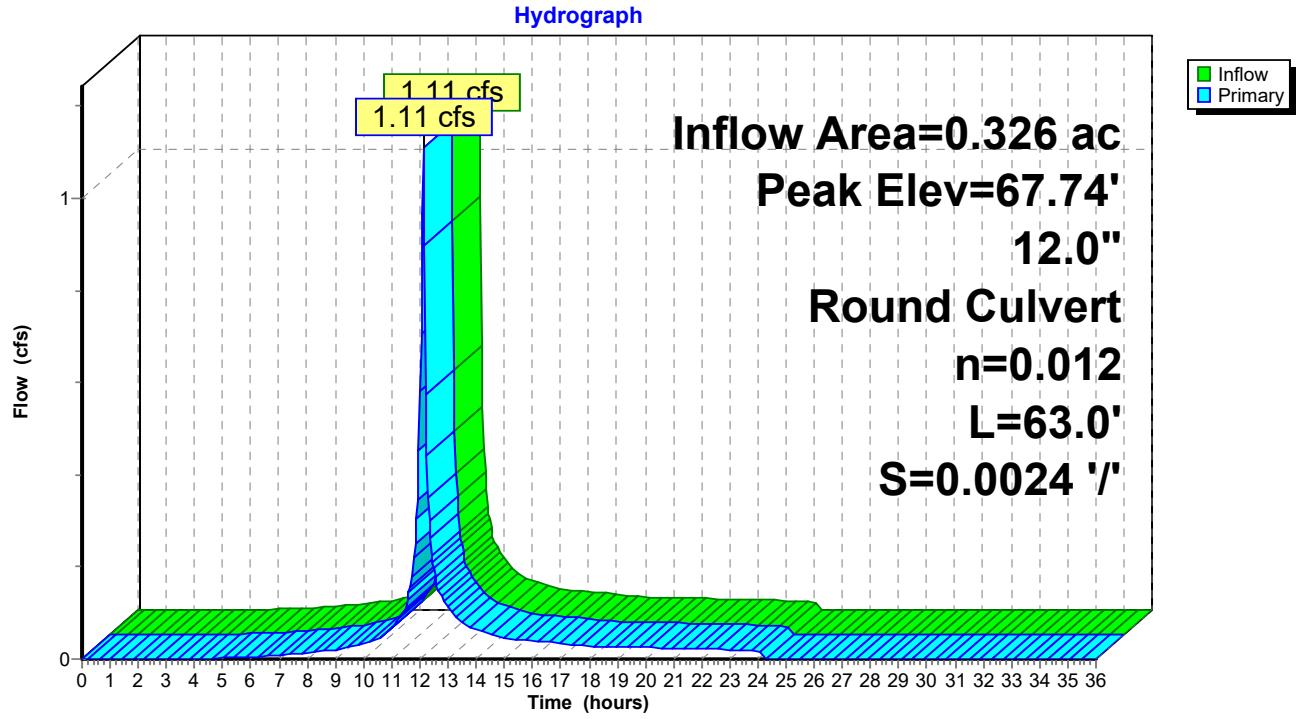
Inflow Area = 0.326 ac, 75.24% Impervious, Inflow Depth = 3.04" for 10-Year event
Inflow = 1.11 cfs @ 12.12 hrs, Volume= 0.082 af
Outflow = 1.11 cfs @ 12.12 hrs, Volume= 0.082 af, Atten= 0%, Lag= 0.0 min
Primary = 1.11 cfs @ 12.12 hrs, Volume= 0.082 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 67.74' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	67.00'	**12.0" Round Outlet Pipe** L= 63.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 67.00' / 66.85' S= 0.0024 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.09 cfs @ 12.12 hrs HW=67.73' (Free Discharge)
1=Outlet Pipe (Barrel Controls 1.09 cfs @ 2.48 fps)

Pond P-2: CB-2



Summary for Pond P-3: CB-3

[57] Hint: Peaked at 67.58' (Flood elevation advised)
[79] Warning: Submerged Pond P-2 Primary device # 1 INLET by 0.58'

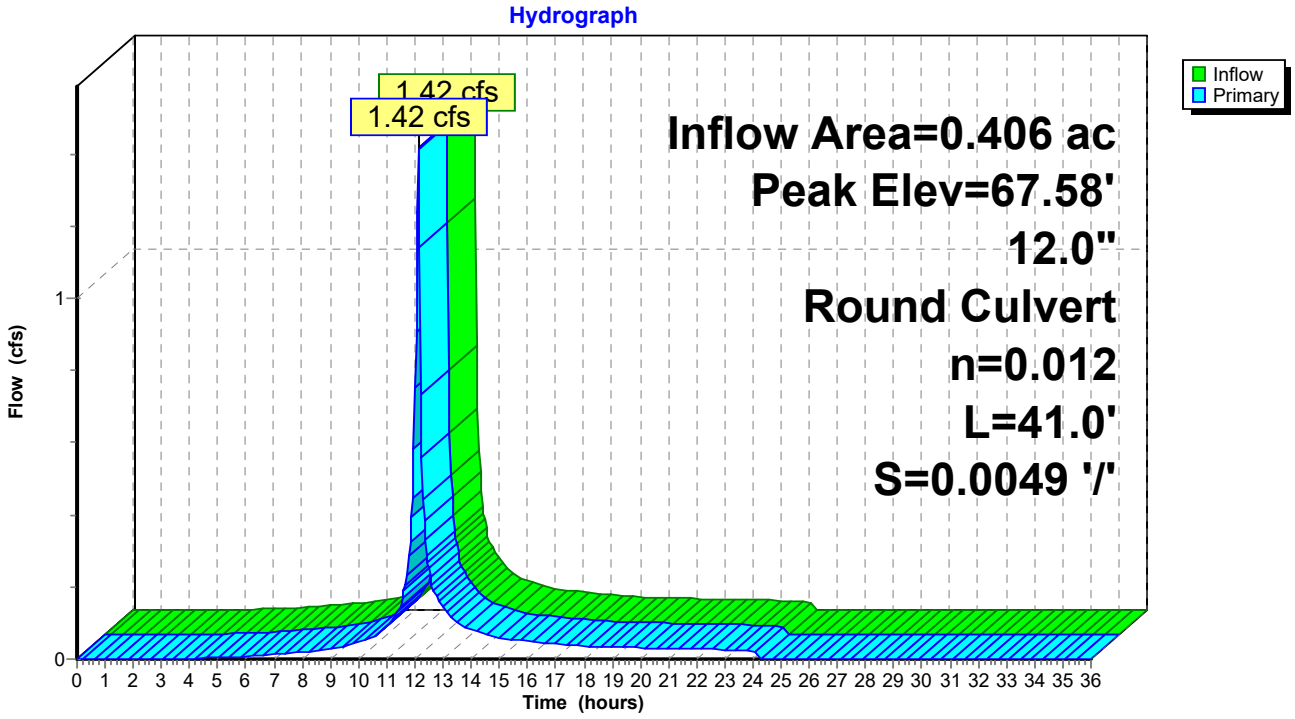
Inflow Area = 0.406 ac, 77.39% Impervious, Inflow Depth = 3.14" for 10-Year event
Inflow = 1.42 cfs @ 12.12 hrs, Volume= 0.106 af
Outflow = 1.42 cfs @ 12.12 hrs, Volume= 0.106 af, Atten= 0%, Lag= 0.0 min
Primary = 1.42 cfs @ 12.12 hrs, Volume= 0.106 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 67.58' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	66.80'	**12.0" Round Outlet Pipe** L= 41.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.80' / 66.60' S= 0.0049 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.40 cfs @ 12.12 hrs HW=67.57' (Free Discharge)
1=Outlet Pipe (Barrel Controls 1.40 cfs @ 2.97 fps)

Pond P-3: CB-3



Summary for Pond P-4: DMH-1

[57] Hint: Peaked at 67.96' (Flood elevation advised)
[81] Warning: Exceeded Pond P-3 by 0.37' @ 12.12 hrs

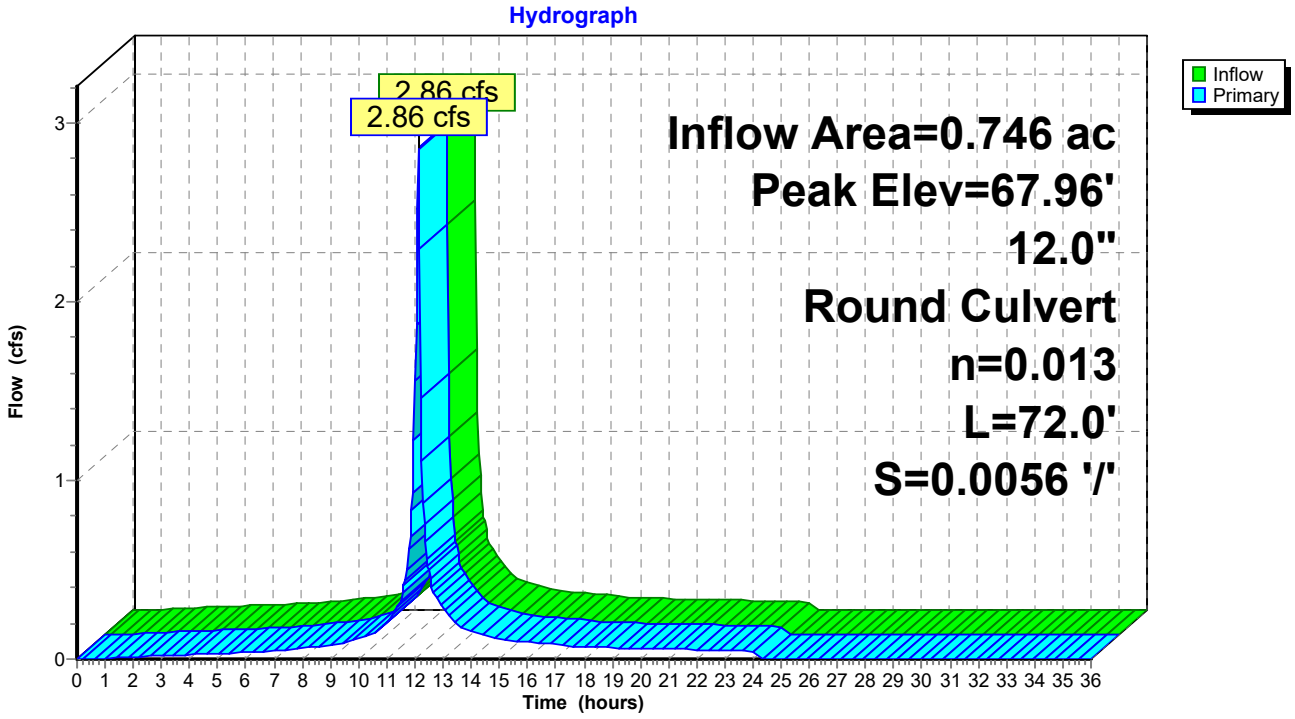
Inflow Area = 0.746 ac, 87.68% Impervious, Inflow Depth = 3.69" for 10-Year event
Inflow = 2.86 cfs @ 12.11 hrs, Volume= 0.229 af
Outflow = 2.86 cfs @ 12.11 hrs, Volume= 0.229 af, Atten= 0%, Lag= 0.0 min
Primary = 2.86 cfs @ 12.11 hrs, Volume= 0.229 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 67.96' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	66.50'	**12.0" Round Outlet Pipe** L= 72.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.50' / 66.10' S= 0.0056 '/' Cc= 0.900 n= 0.013 Cast iron, coated, Flow Area= 0.79 sf

Primary OutFlow Max=2.80 cfs @ 12.11 hrs HW=67.92' (Free Discharge)
1=Outlet Pipe (Barrel Controls 2.80 cfs @ 3.57 fps)

Pond P-4: DMH-1

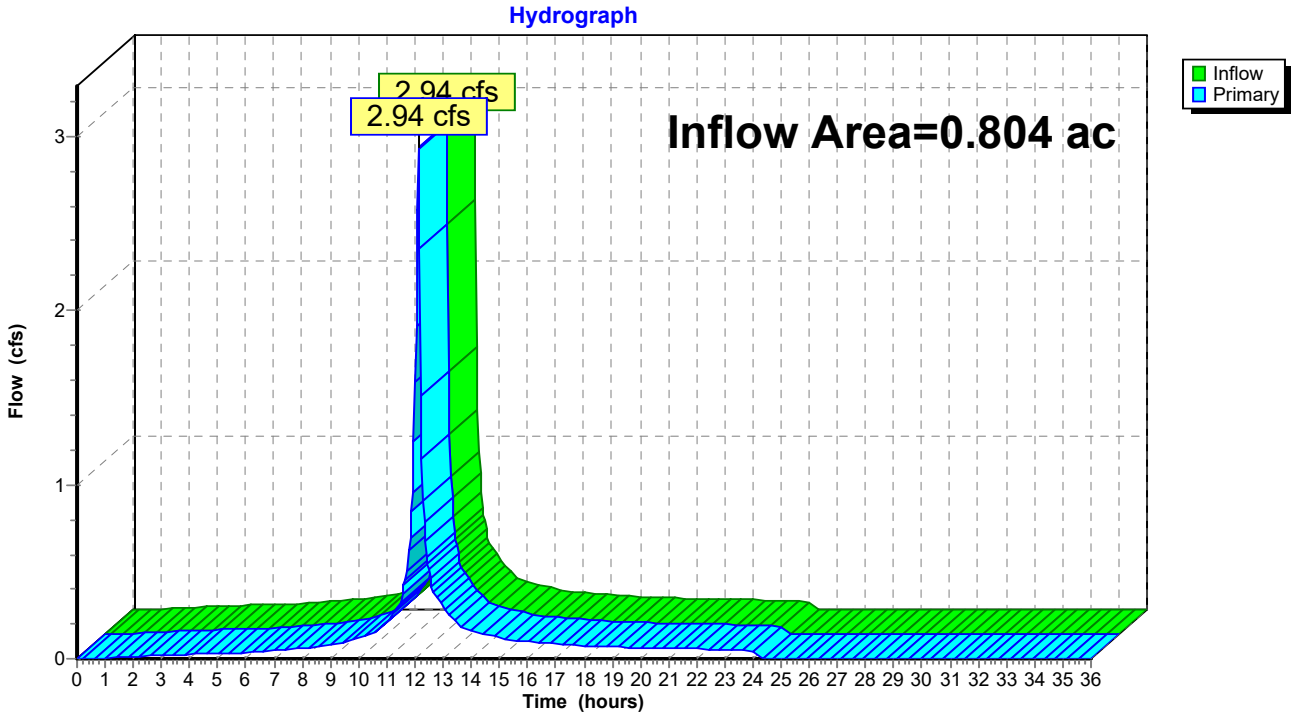


Summary for Link DP-1: Broadway Drainage

Inflow Area = 0.804 ac, 83.40% Impervious, Inflow Depth = 3.51" for 10-Year event
Inflow = 2.94 cfs @ 12.12 hrs, Volume= 0.235 af
Primary = 2.94 cfs @ 12.12 hrs, Volume= 0.235 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs

Link DP-1: Broadway Drainage



Time span=0.00-36.00 hrs, dt=0.04 hrs, 901 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment PR-1: PR-1 Runoff Area=7,522 sf 80.48% Impervious Runoff Depth=4.40"
Tc=5.0 min CN=88 Runoff=0.83 cfs 0.063 af

Subcatchment PR-2: PR-2 Runoff Area=6,666 sf 69.32% Impervious Runoff Depth=3.88"
Tc=5.0 min CN=83 Runoff=0.67 cfs 0.049 af

Subcatchment PR-3: PR-3 Runoff Area=3,515 sf 86.06% Impervious Runoff Depth=4.73"
Tc=5.0 min CN=91 Runoff=0.41 cfs 0.032 af

Subcatchment PR-4: PR-4 Runoff Area=2,549 sf 28.95% Impervious Runoff Depth=2.02"
Tc=5.0 min CN=63 Runoff=0.13 cfs 0.010 af

Subcatchment PR-5: PR-5 Runoff Area=14,778 sf 100.00% Impervious Runoff Depth=5.53"
Tc=5.0 min CN=98 Runoff=1.82 cfs 0.156 af

Pond P-1: CB-4 Peak Elev=68.11' Inflow=0.83 cfs 0.063 af
12.0" Round Culvert n=0.012 L=40.5' S=0.0012 '/' Outflow=0.83 cfs 0.063 af

Pond P-2: CB-2 Peak Elev=67.88' Inflow=1.49 cfs 0.113 af
12.0" Round Culvert n=0.012 L=63.0' S=0.0024 '/' Outflow=1.49 cfs 0.113 af

Pond P-3: CB-3 Peak Elev=67.75' Inflow=1.90 cfs 0.145 af
12.0" Round Culvert n=0.012 L=41.0' S=0.0049 '/' Outflow=1.90 cfs 0.145 af

Pond P-4: DMH-1 Peak Elev=68.55' Inflow=3.72 cfs 0.301 af
12.0" Round Culvert n=0.013 L=72.0' S=0.0056 '/' Outflow=3.72 cfs 0.301 af

Link DP-1: Broadway Drainage Inflow=3.86 cfs 0.311 af
Primary=3.86 cfs 0.311 af

Total Runoff Area = 0.804 ac Runoff Volume = 0.311 af Average Runoff Depth = 4.64"
16.60% Pervious = 0.133 ac 83.40% Impervious = 0.671 ac

Summary for Subcatchment PR-1: PR-1

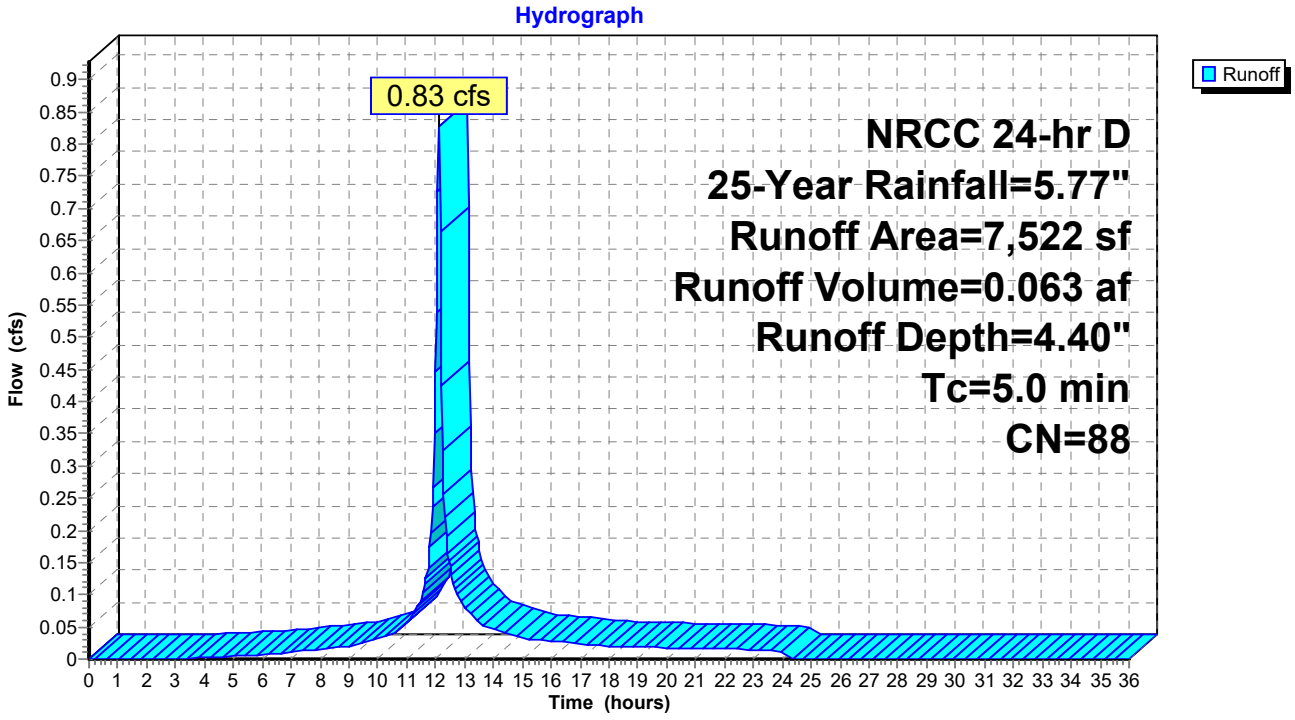
Runoff = 0.83 cfs @ 12.12 hrs, Volume= 0.063 af, Depth= 4.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
NRCC 24-hr D 25-Year Rainfall=5.77"

	Area (sf)	CN	Description
	5,997	98	Paved parking, HSG A
	1,468	49	50-75% Grass cover, Fair, HSG A
*	57	98	Cement Concrete Sidewalk, HSG A
	7,522	88	Weighted Average
	1,468		19.52% Pervious Area
	6,054		80.48% Impervious Area

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

Subcatchment PR-1: PR-1



Summary for Subcatchment PR-2: PR-2

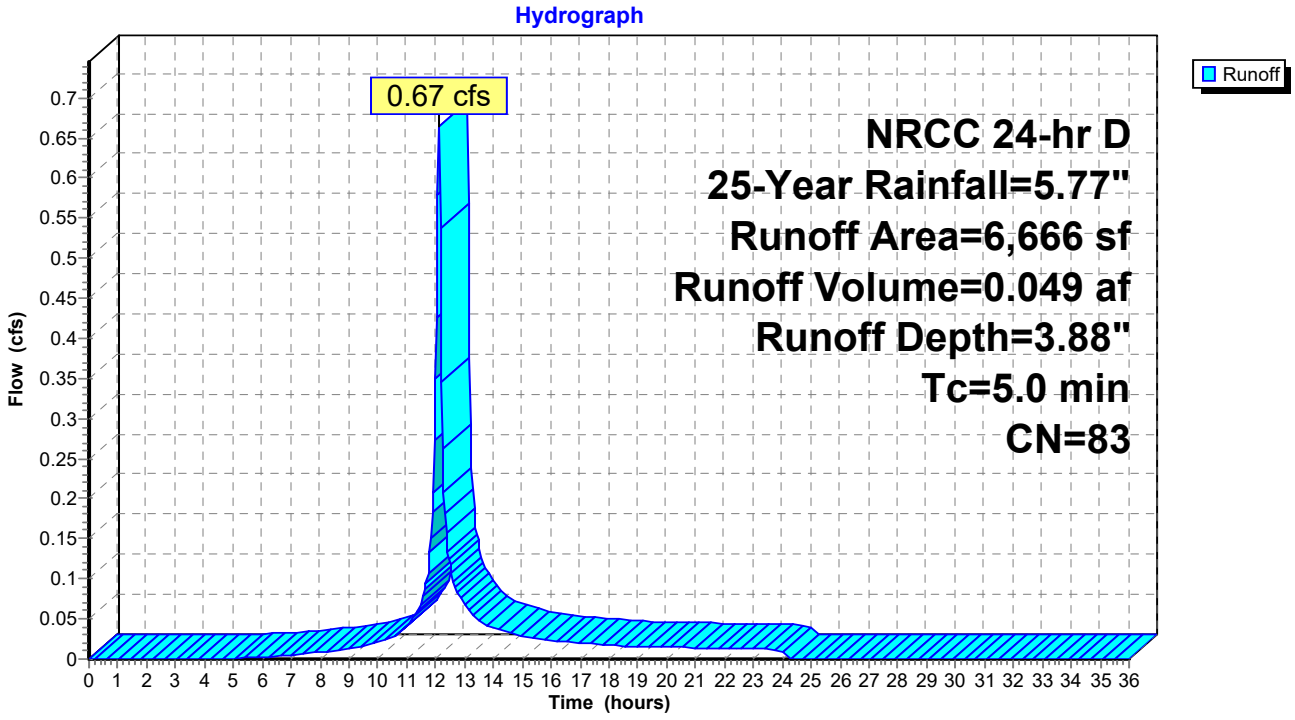
Runoff = 0.67 cfs @ 12.12 hrs, Volume= 0.049 af, Depth= 3.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
NRCC 24-hr D 25-Year Rainfall=5.77"

	Area (sf)	CN	Description
	3,694	98	Paved parking, HSG A
	2,045	49	50-75% Grass cover, Fair, HSG A
*	927	98	Cement Concrete Sidewalk, HSG A
	6,666	83	Weighted Average
	2,045		30.68% Pervious Area
	4,621		69.32% Impervious Area

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

Subcatchment PR-2: PR-2



Summary for Subcatchment PR-3: PR-3

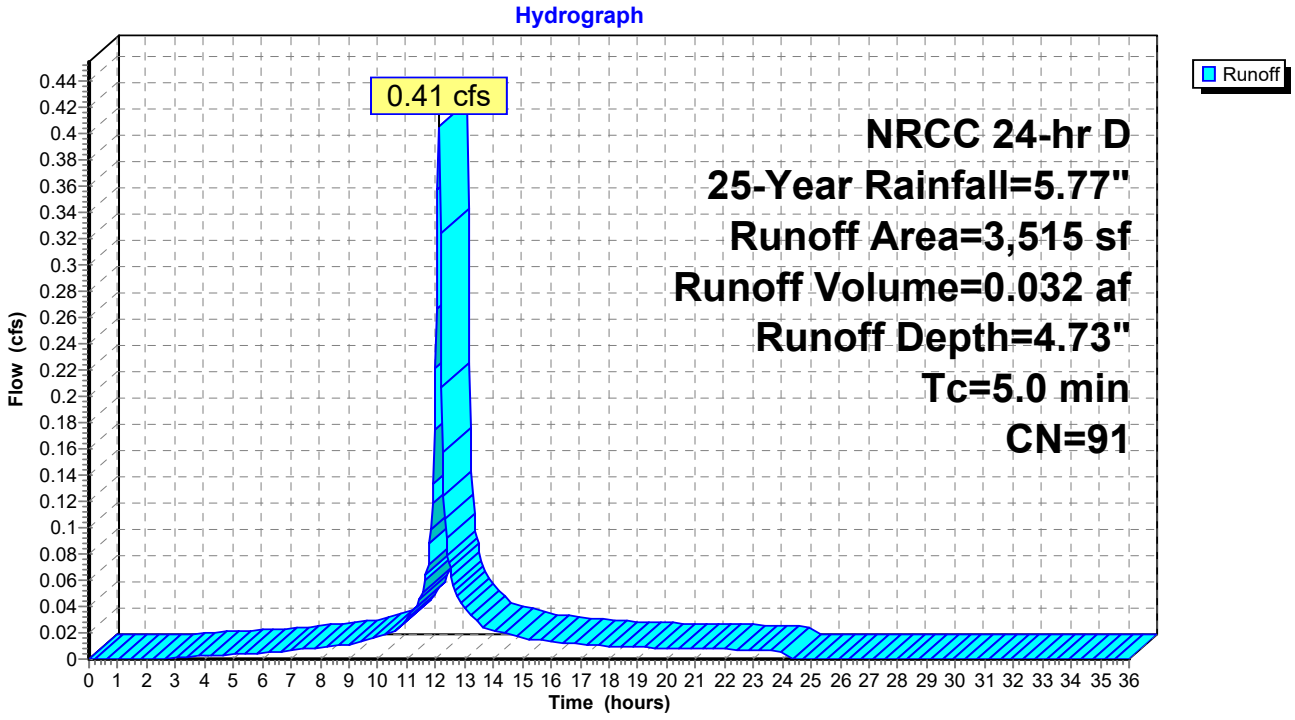
Runoff = 0.41 cfs @ 12.11 hrs, Volume= 0.032 af, Depth= 4.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
NRCC 24-hr D 25-Year Rainfall=5.77"

	Area (sf)	CN	Description
	2,249	98	Paved parking, HSG A
	490	49	50-75% Grass cover, Fair, HSG A
*	776	98	Cement Concrete Sidewalk, HSG A
	3,515	91	Weighted Average
	490		13.94% Pervious Area
	3,025		86.06% Impervious Area

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

Subcatchment PR-3: PR-3



Summary for Subcatchment PR-4: PR-4

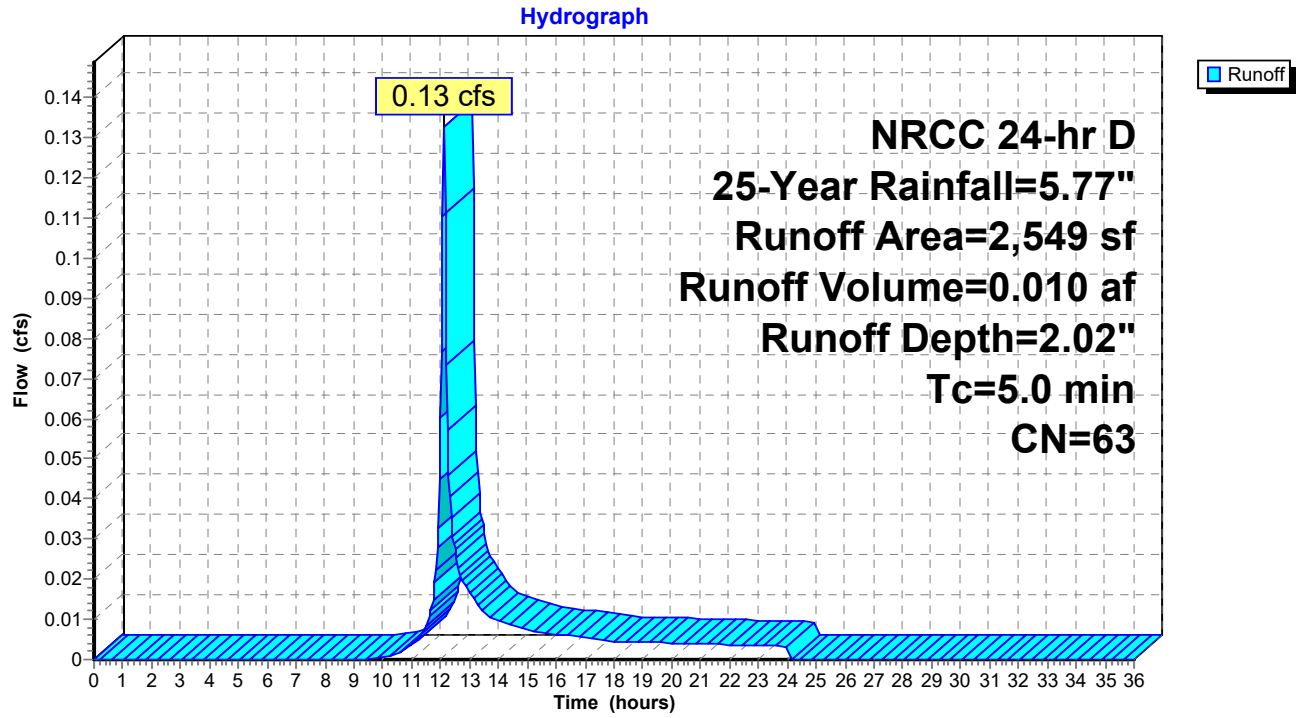
Runoff = 0.13 cfs @ 12.12 hrs, Volume= 0.010 af, Depth= 2.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
NRCC 24-hr D 25-Year Rainfall=5.77"

	Area (sf)	CN	Description
	1,811	49	50-75% Grass cover, Fair, HSG A
*	738	98	Cement Concrete Sidewalk, HSG A
	2,549	63	Weighted Average
	1,811		71.05% Pervious Area
	738		28.95% Impervious Area

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

Subcatchment PR-4: PR-4



Summary for Subcatchment PR-5: PR-5

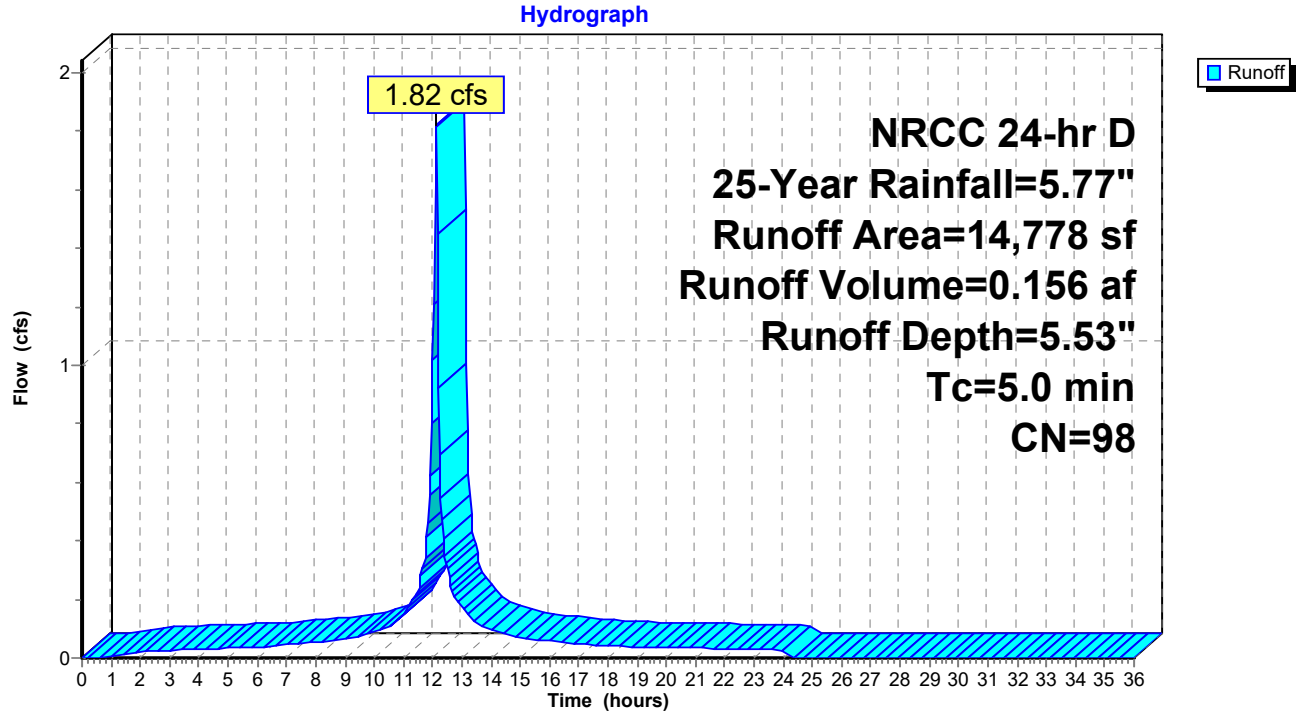
Runoff = 1.82 cfs @ 12.11 hrs, Volume= 0.156 af, Depth= 5.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
NRCC 24-hr D 25-Year Rainfall=5.77"

Area (sf)	CN	Description
14,778	98	Roofs, HSG A
14,778		100.00% Impervious Area

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

Subcatchment PR-5: PR-5



Summary for Pond P-1: CB-4

[57] Hint: Peaked at 68.11' (Flood elevation advised)

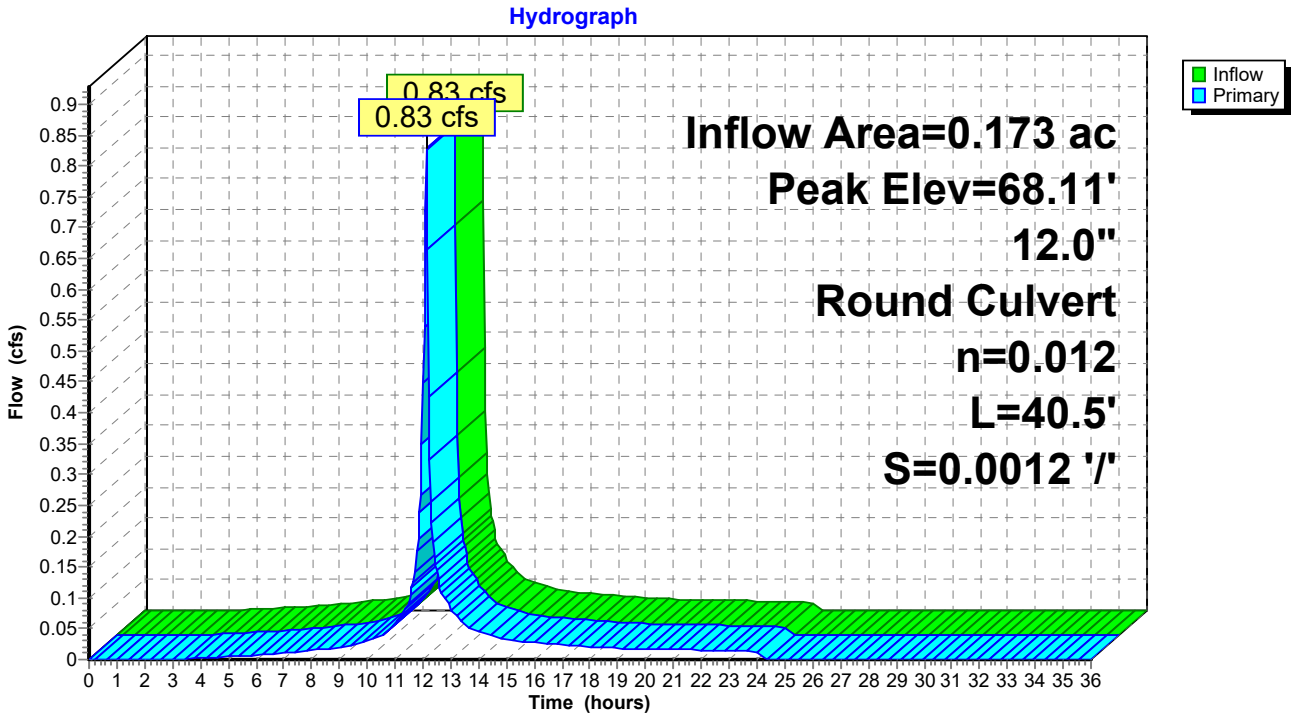
Inflow Area = 0.173 ac, 80.48% Impervious, Inflow Depth = 4.40" for 25-Year event
Inflow = 0.83 cfs @ 12.12 hrs, Volume= 0.063 af
Outflow = 0.83 cfs @ 12.12 hrs, Volume= 0.063 af, Atten= 0%, Lag= 0.0 min
Primary = 0.83 cfs @ 12.12 hrs, Volume= 0.063 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 68.11' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	67.45'	**12.0" Round Outlet Pipe** L= 40.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 67.45' / 67.40' S= 0.0012 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.81 cfs @ 12.12 hrs HW=68.10' (Free Discharge)
1=Outlet Pipe (Barrel Controls 0.81 cfs @ 2.14 fps)

Pond P-1: CB-4



Summary for Pond P-2: CB-2

[57] Hint: Peaked at 67.88' (Flood elevation advised)
[79] Warning: Submerged Pond P-1 Primary device # 1 INLET by 0.43'

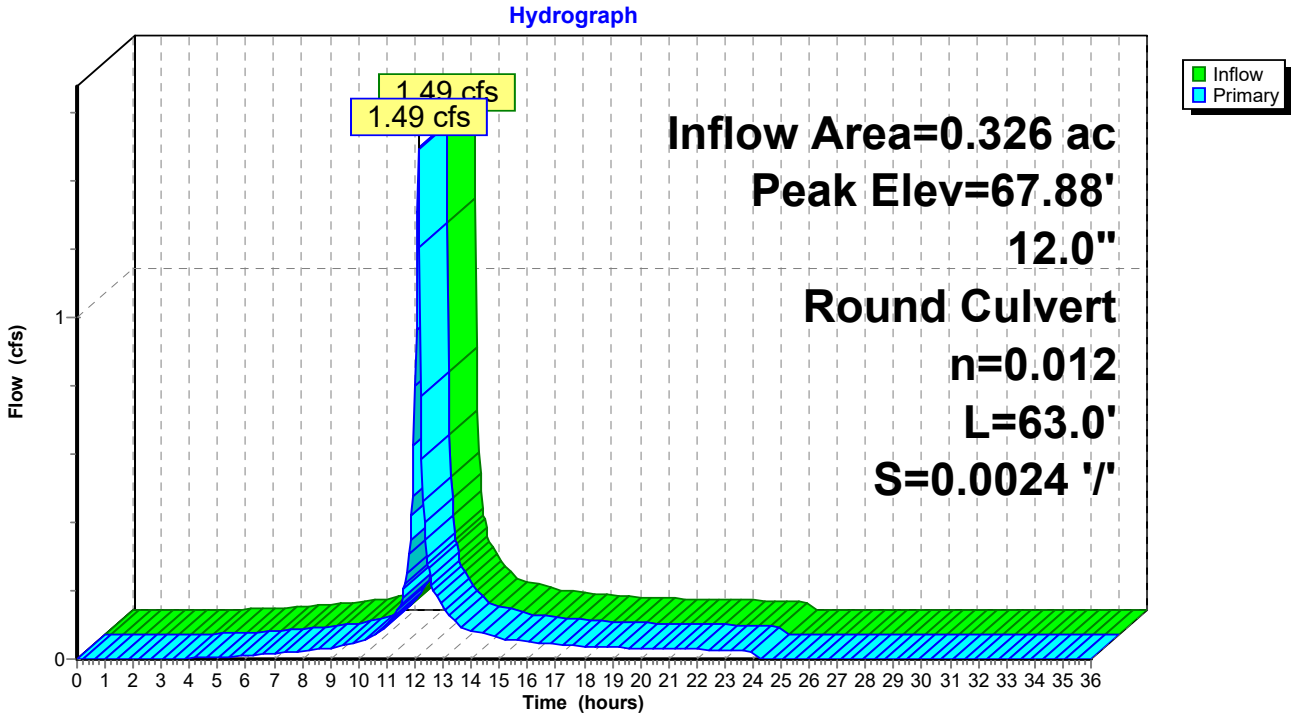
Inflow Area = 0.326 ac, 75.24% Impervious, Inflow Depth = 4.16" for 25-Year event
Inflow = 1.49 cfs @ 12.12 hrs, Volume= 0.113 af
Outflow = 1.49 cfs @ 12.12 hrs, Volume= 0.113 af, Atten= 0%, Lag= 0.0 min
Primary = 1.49 cfs @ 12.12 hrs, Volume= 0.113 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 67.88' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	67.00'	**12.0" Round Outlet Pipe** L= 63.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 67.00' / 66.85' S= 0.0024 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.47 cfs @ 12.12 hrs HW=67.88' (Free Discharge)
1=Outlet Pipe (Barrel Controls 1.47 cfs @ 2.69 fps)

Pond P-2: CB-2



Summary for Pond P-3: CB-3

[57] Hint: Peaked at 67.75' (Flood elevation advised)
[79] Warning: Submerged Pond P-2 Primary device # 1 INLET by 0.75'

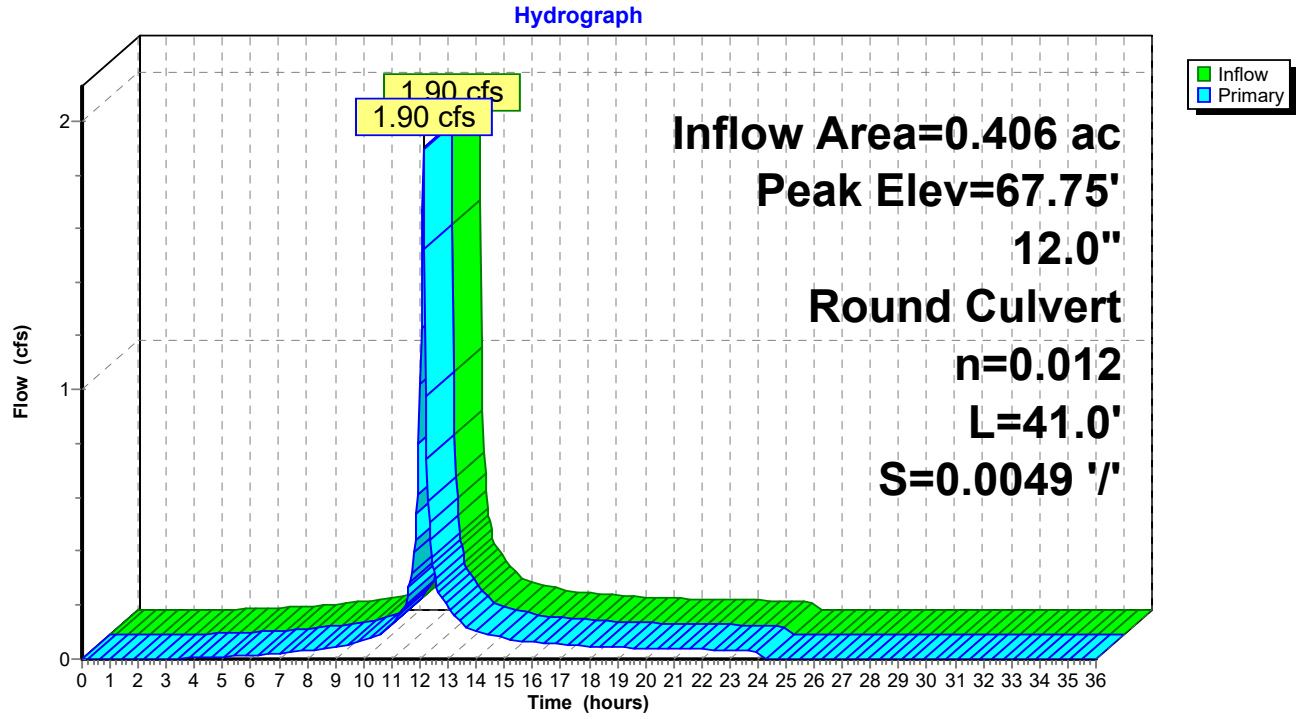
Inflow Area = 0.406 ac, 77.39% Impervious, Inflow Depth = 4.27" for 25-Year event
Inflow = 1.90 cfs @ 12.12 hrs, Volume= 0.145 af
Outflow = 1.90 cfs @ 12.12 hrs, Volume= 0.145 af, Atten= 0%, Lag= 0.0 min
Primary = 1.90 cfs @ 12.12 hrs, Volume= 0.145 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 67.75' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	66.80'	**12.0" Round Outlet Pipe** L= 41.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.80' / 66.60' S= 0.0049 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.87 cfs @ 12.12 hrs HW=67.74' (Free Discharge)
└**1=Outlet Pipe** (Barrel Controls 1.87 cfs @ 3.17 fps)

Pond P-3: CB-3



Summary for Pond P-4: DMH-1

[57] Hint: Peaked at 68.55' (Flood elevation advised)
[81] Warning: Exceeded Pond P-3 by 0.80' @ 12.12 hrs

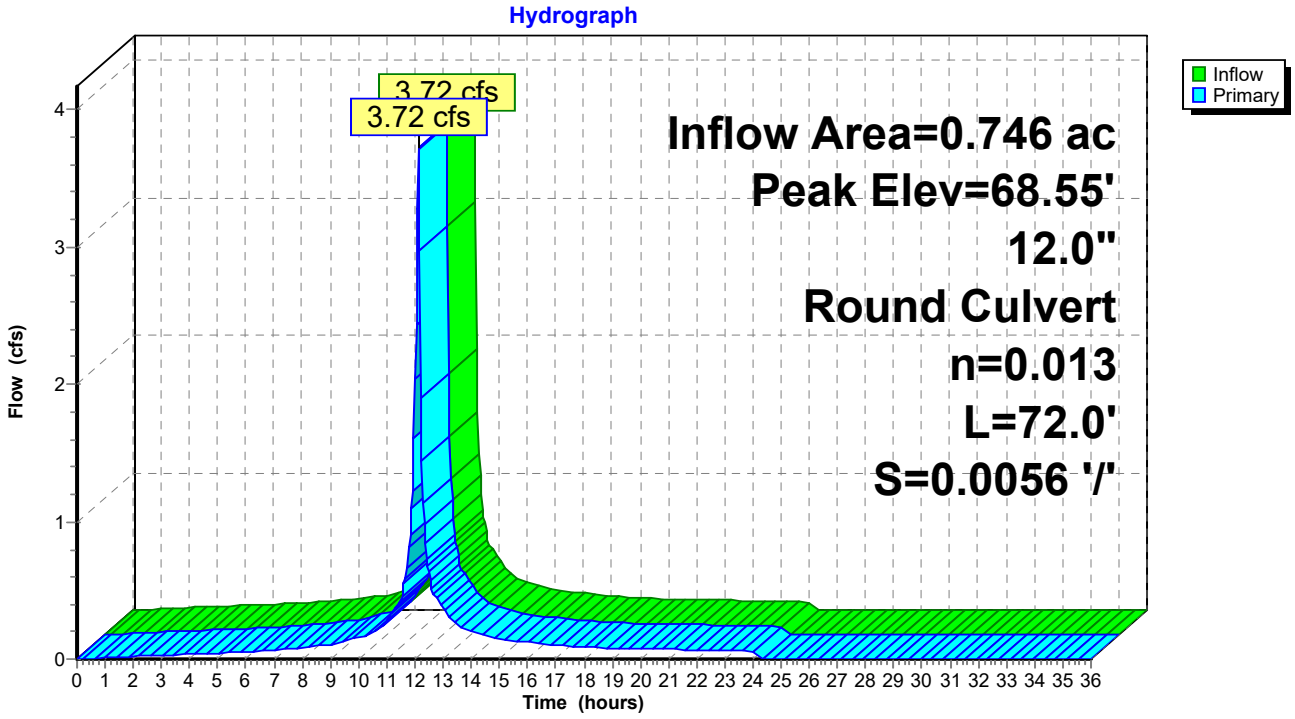
Inflow Area = 0.746 ac, 87.68% Impervious, Inflow Depth = 4.85" for 25-Year event
Inflow = 3.72 cfs @ 12.11 hrs, Volume= 0.301 af
Outflow = 3.72 cfs @ 12.11 hrs, Volume= 0.301 af, Atten= 0%, Lag= 0.0 min
Primary = 3.72 cfs @ 12.11 hrs, Volume= 0.301 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 68.55' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	66.50'	**12.0" Round Outlet Pipe** L= 72.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.50' / 66.10' S= 0.0056 '/' Cc= 0.900 n= 0.013 Cast iron, coated, Flow Area= 0.79 sf

Primary OutFlow Max=3.66 cfs @ 12.11 hrs HW=68.51' (Free Discharge)
└**1=Outlet Pipe** (Inlet Controls 3.66 cfs @ 4.66 fps)

Pond P-4: DMH-1

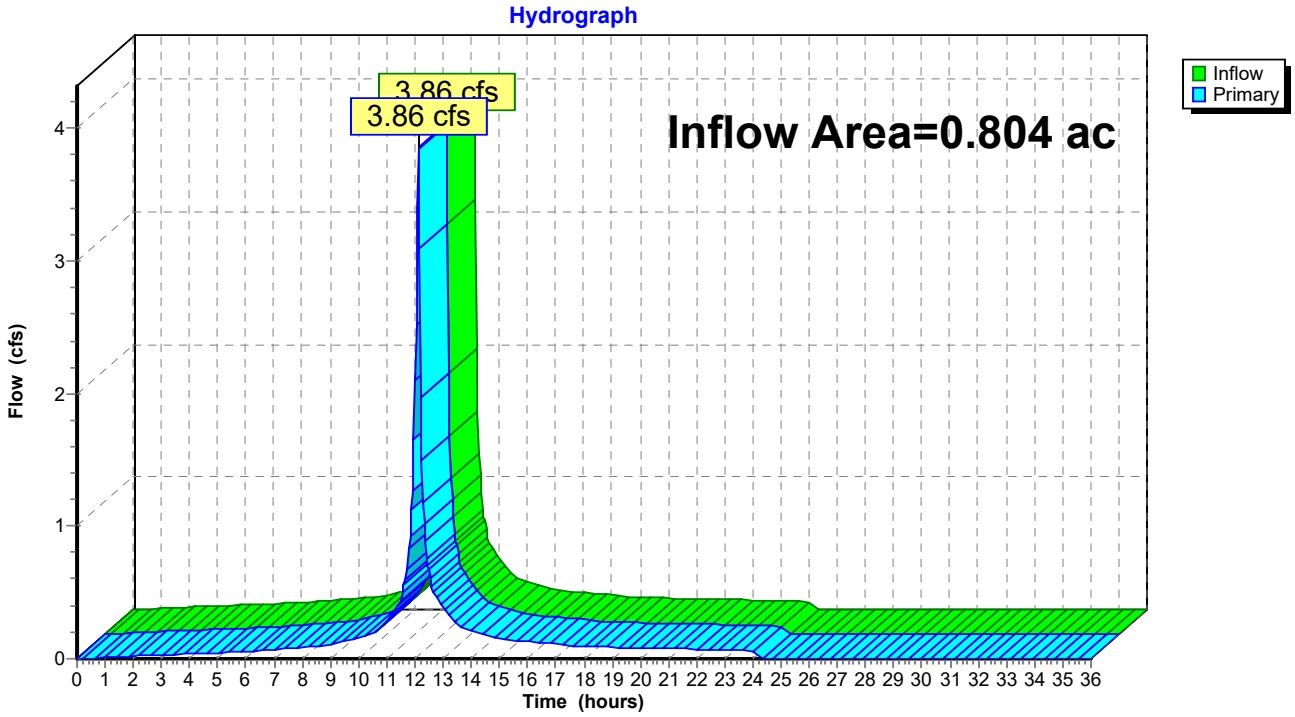


Summary for Link DP-1: Broadway Drainage

Inflow Area = 0.804 ac, 83.40% Impervious, Inflow Depth = 4.64" for 25-Year event
Inflow = 3.86 cfs @ 12.11 hrs, Volume= 0.311 af
Primary = 3.86 cfs @ 12.11 hrs, Volume= 0.311 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs

Link DP-1: Broadway Drainage



Time span=0.00-36.00 hrs, dt=0.04 hrs, 901 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment PR-1: PR-1 Runoff Area=7,522 sf 80.48% Impervious Runoff Depth=5.48"
Tc=5.0 min CN=88 Runoff=1.02 cfs 0.079 af

Subcatchment PR-2: PR-2 Runoff Area=6,666 sf 69.32% Impervious Runoff Depth=4.91"
Tc=5.0 min CN=83 Runoff=0.83 cfs 0.063 af

Subcatchment PR-3: PR-3 Runoff Area=3,515 sf 86.06% Impervious Runoff Depth=5.82"
Tc=5.0 min CN=91 Runoff=0.49 cfs 0.039 af

Subcatchment PR-4: PR-4 Runoff Area=2,549 sf 28.95% Impervious Runoff Depth=2.81"
Tc=5.0 min CN=63 Runoff=0.19 cfs 0.014 af

Subcatchment PR-5: PR-5 Runoff Area=14,778 sf 100.00% Impervious Runoff Depth=6.64"
Tc=5.0 min CN=98 Runoff=2.18 cfs 0.188 af

Pond P-1: CB-4 Peak Elev=68.19' Inflow=1.02 cfs 0.079 af
12.0" Round Culvert n=0.012 L=40.5' S=0.0012 '/' Outflow=1.02 cfs 0.079 af

Pond P-2: CB-2 Peak Elev=68.02' Inflow=1.85 cfs 0.141 af
12.0" Round Culvert n=0.012 L=63.0' S=0.0024 '/' Outflow=1.85 cfs 0.141 af

Pond P-3: CB-3 Peak Elev=67.91' Inflow=2.34 cfs 0.181 af
12.0" Round Culvert n=0.012 L=41.0' S=0.0049 '/' Outflow=2.34 cfs 0.181 af

Pond P-4: DMH-1 Peak Elev=69.29' Inflow=4.52 cfs 0.368 af
12.0" Round Culvert n=0.013 L=72.0' S=0.0056 '/' Outflow=4.52 cfs 0.368 af

Link DP-1: Broadway Drainage Inflow=4.71 cfs 0.382 af
Primary=4.71 cfs 0.382 af

Total Runoff Area = 0.804 ac Runoff Volume = 0.382 af Average Runoff Depth = 5.70"
16.60% Pervious = 0.133 ac 83.40% Impervious = 0.671 ac

Summary for Subcatchment PR-1: PR-1

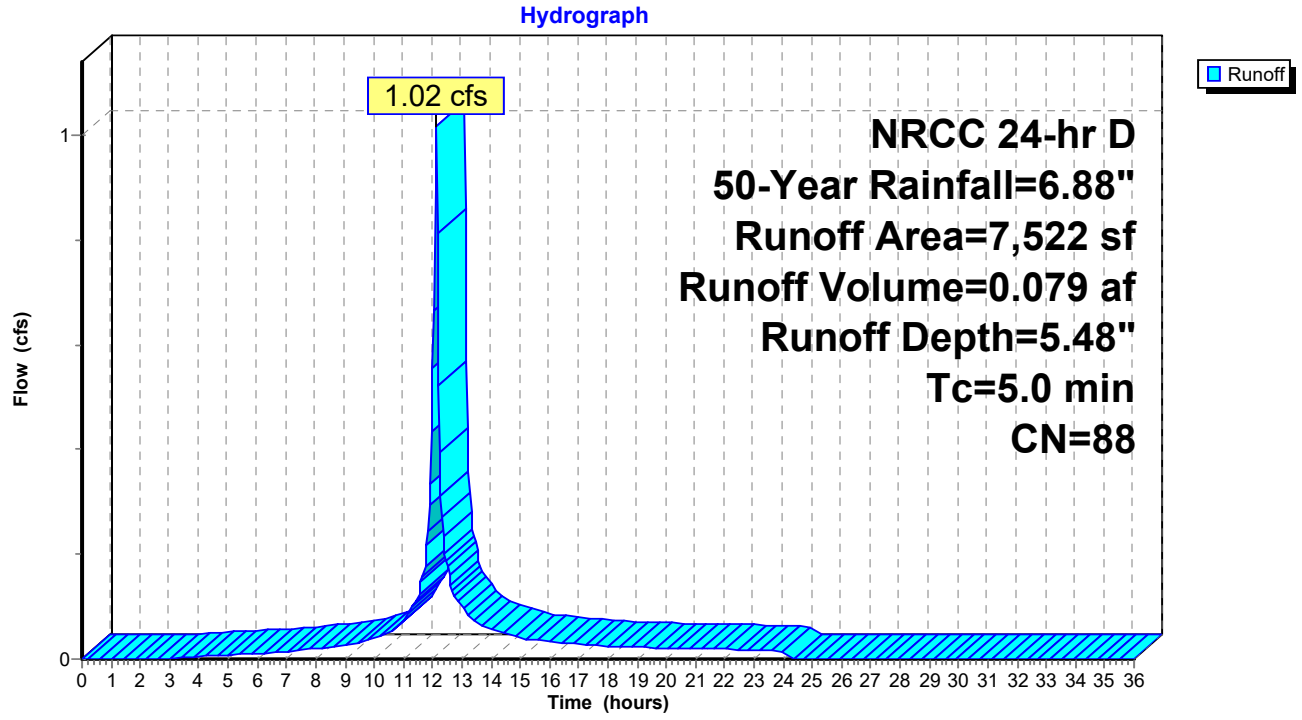
Runoff = 1.02 cfs @ 12.11 hrs, Volume= 0.079 af, Depth= 5.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
NRCC 24-hr D 50-Year Rainfall=6.88"

	Area (sf)	CN	Description
	5,997	98	Paved parking, HSG A
	1,468	49	50-75% Grass cover, Fair, HSG A
*	57	98	Cement Concrete Sidewalk, HSG A
	7,522	88	Weighted Average
	1,468		19.52% Pervious Area
	6,054		80.48% Impervious Area

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

Subcatchment PR-1: PR-1



Summary for Subcatchment PR-2: PR-2

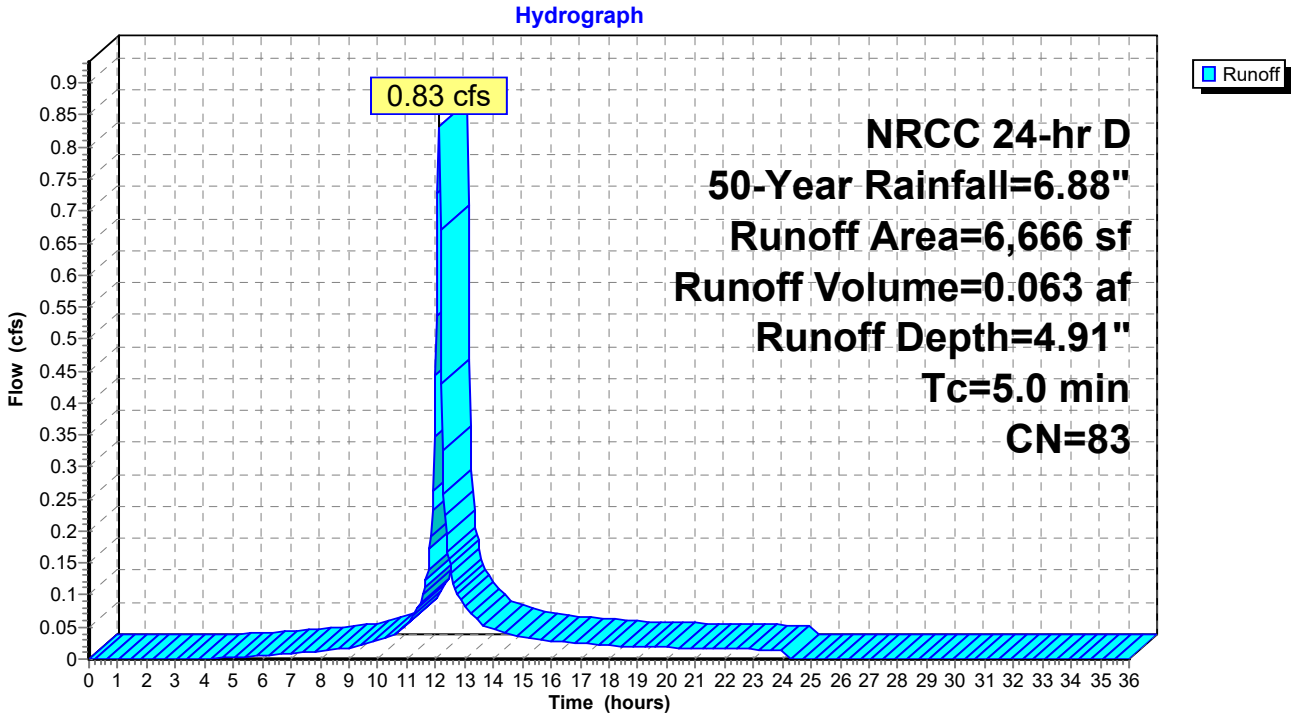
Runoff = 0.83 cfs @ 12.12 hrs, Volume= 0.063 af, Depth= 4.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
NRCC 24-hr D 50-Year Rainfall=6.88"

	Area (sf)	CN	Description
	3,694	98	Paved parking, HSG A
	2,045	49	50-75% Grass cover, Fair, HSG A
*	927	98	Cement Concrete Sidewalk, HSG A
	6,666	83	Weighted Average
	2,045		30.68% Pervious Area
	4,621		69.32% Impervious Area

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

Subcatchment PR-2: PR-2



Summary for Subcatchment PR-3: PR-3

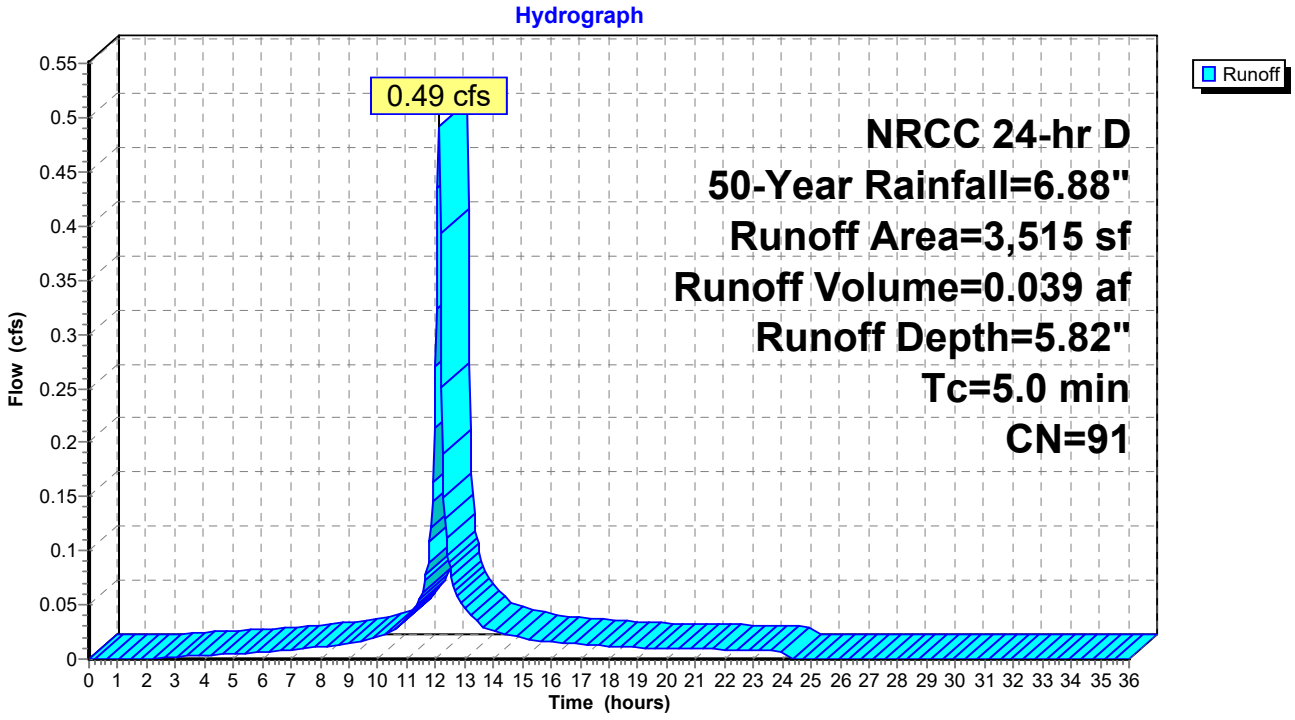
Runoff = 0.49 cfs @ 12.11 hrs, Volume= 0.039 af, Depth= 5.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
NRCC 24-hr D 50-Year Rainfall=6.88"

	Area (sf)	CN	Description
	2,249	98	Paved parking, HSG A
	490	49	50-75% Grass cover, Fair, HSG A
*	776	98	Cement Concrete Sidewalk, HSG A
	3,515	91	Weighted Average
	490		13.94% Pervious Area
	3,025		86.06% Impervious Area

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

Subcatchment PR-3: PR-3



Summary for Subcatchment PR-4: PR-4

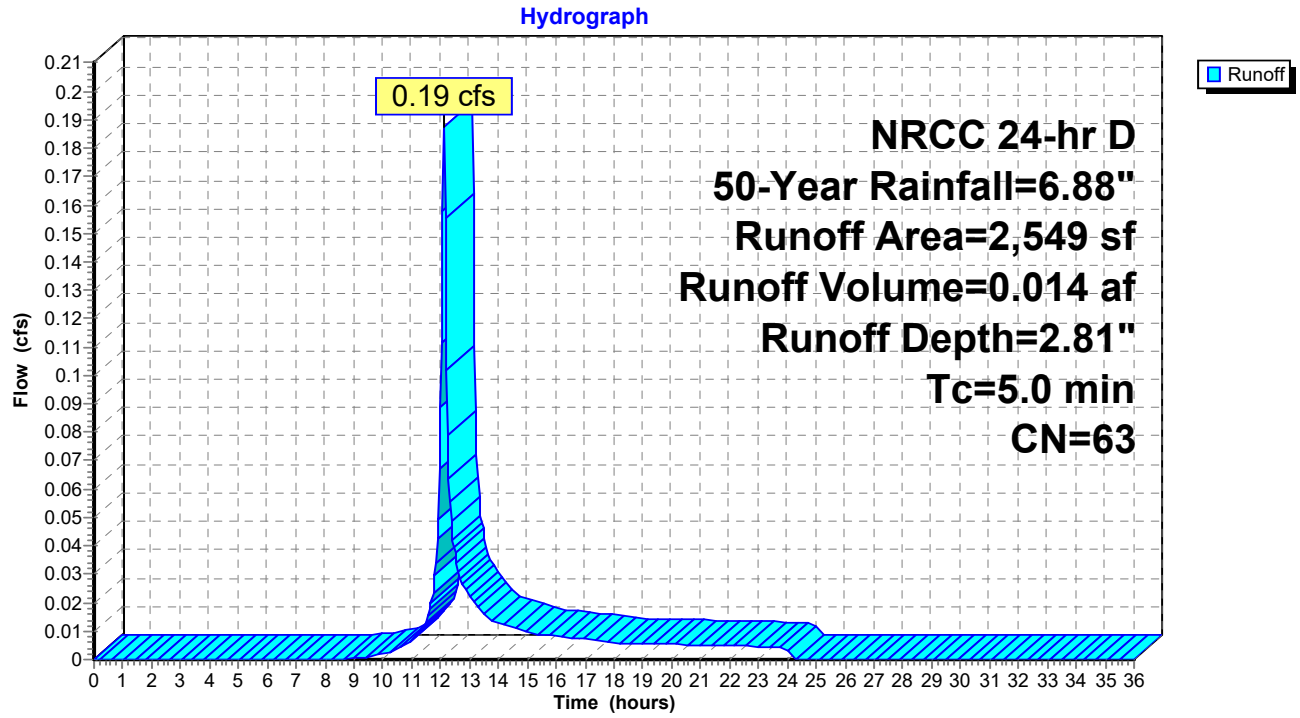
Runoff = 0.19 cfs @ 12.12 hrs, Volume= 0.014 af, Depth= 2.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
NRCC 24-hr D 50-Year Rainfall=6.88"

	Area (sf)	CN	Description
	1,811	49	50-75% Grass cover, Fair, HSG A
*	738	98	Cement Concrete Sidewalk, HSG A
	2,549	63	Weighted Average
	1,811		71.05% Pervious Area
	738		28.95% Impervious Area

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

Subcatchment PR-4: PR-4



Summary for Subcatchment PR-5: PR-5

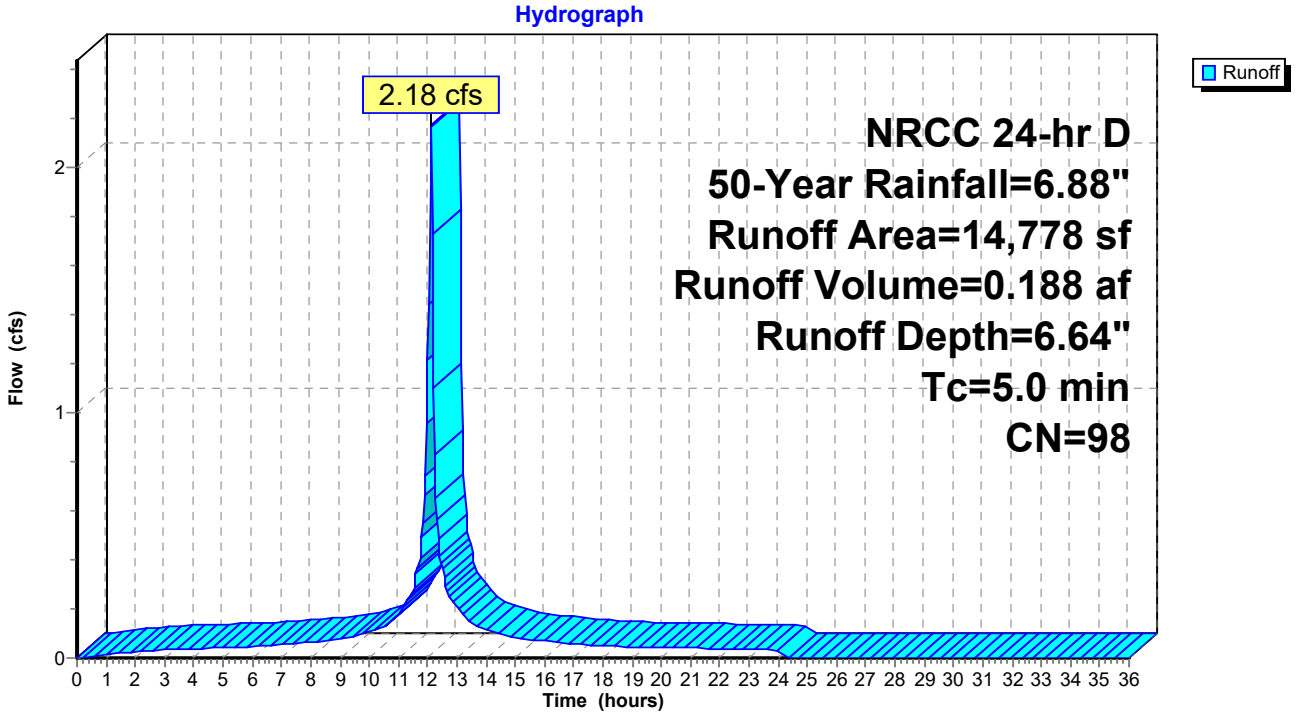
Runoff = 2.18 cfs @ 12.11 hrs, Volume= 0.188 af, Depth= 6.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
NRCC 24-hr D 50-Year Rainfall=6.88"

Area (sf)	CN	Description
14,778	98	Roofs, HSG A
14,778		100.00% Impervious Area

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

Subcatchment PR-5: PR-5



Summary for Pond P-1: CB-4

[57] Hint: Peaked at 68.19' (Flood elevation advised)

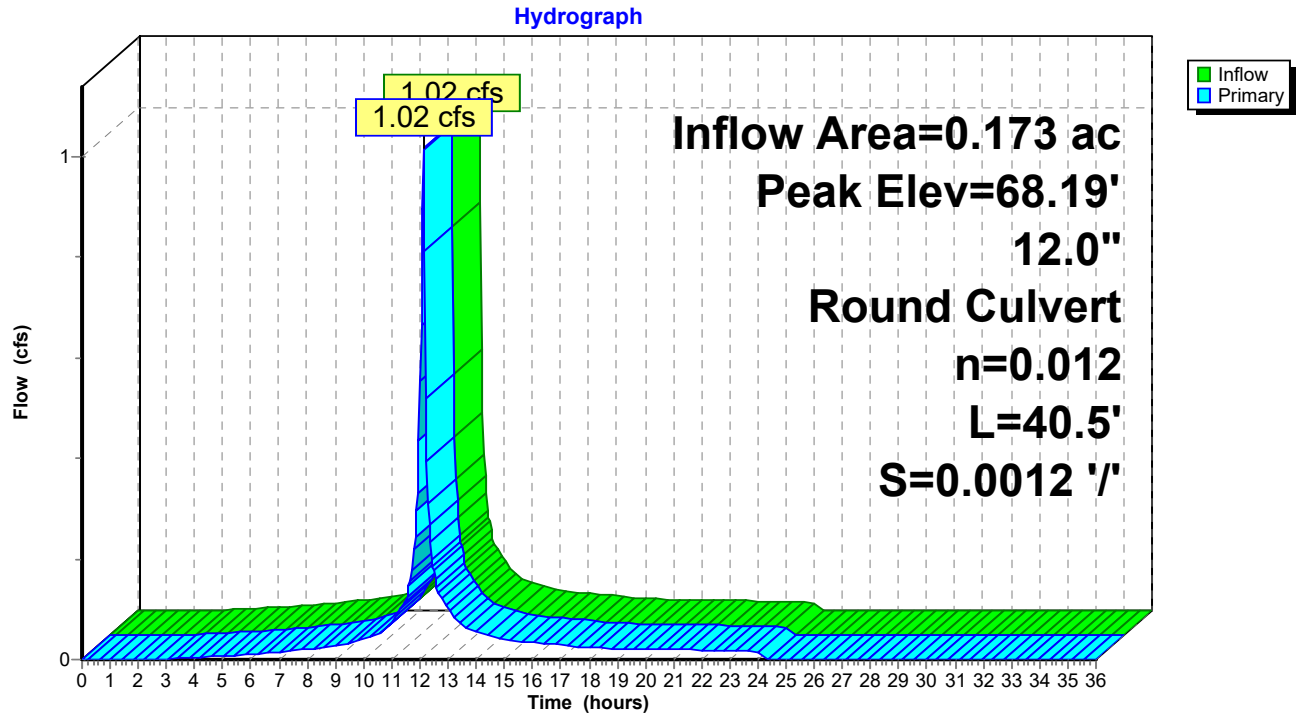
Inflow Area = 0.173 ac, 80.48% Impervious, Inflow Depth = 5.48" for 50-Year event
Inflow = 1.02 cfs @ 12.11 hrs, Volume= 0.079 af
Outflow = 1.02 cfs @ 12.11 hrs, Volume= 0.079 af, Atten= 0%, Lag= 0.0 min
Primary = 1.02 cfs @ 12.11 hrs, Volume= 0.079 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 68.19' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	67.45'	**12.0" Round Outlet Pipe** L= 40.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 67.45' / 67.40' S= 0.0012 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.00 cfs @ 12.11 hrs HW=68.18' (Free Discharge)
1=Outlet Pipe (Barrel Controls 1.00 cfs @ 2.27 fps)

Pond P-1: CB-4



Summary for Pond P-2: CB-2

[57] Hint: Peaked at 68.02' (Flood elevation advised)
[79] Warning: Submerged Pond P-1 Primary device # 1 INLET by 0.57'

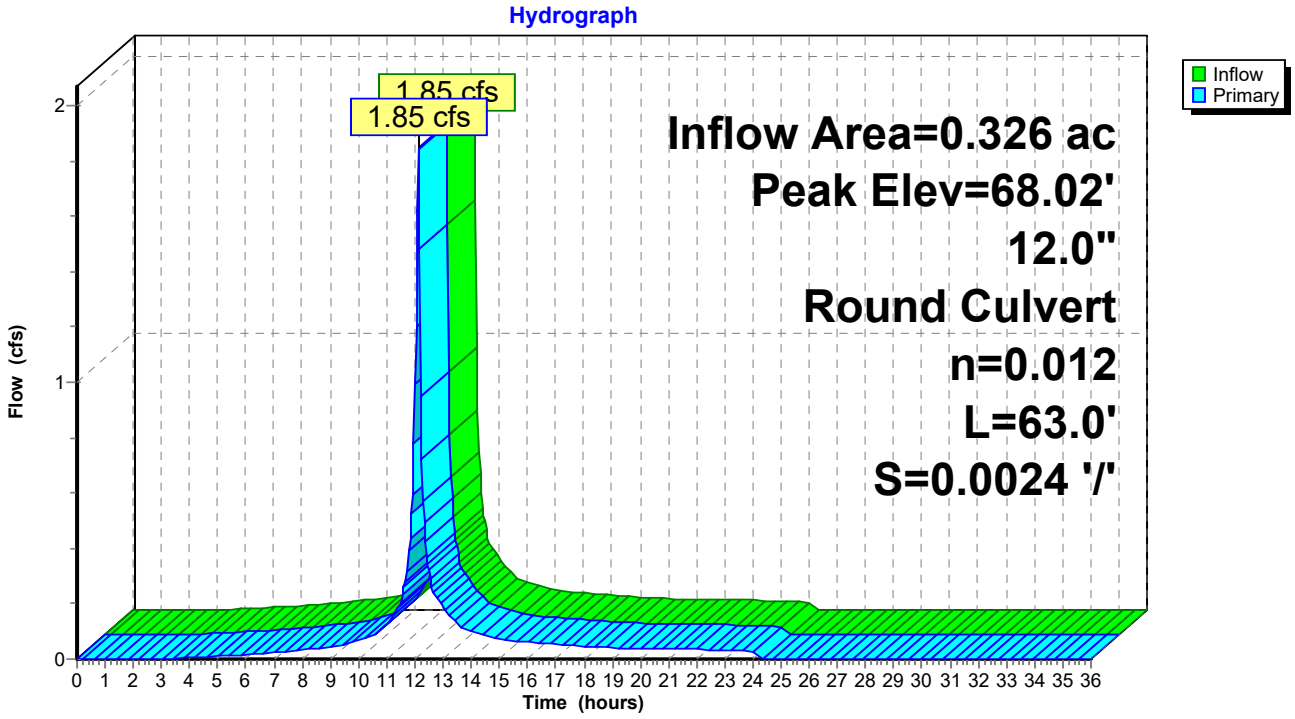
Inflow Area = 0.326 ac, 75.24% Impervious, Inflow Depth = 5.21" for 50-Year event
Inflow = 1.85 cfs @ 12.12 hrs, Volume= 0.141 af
Outflow = 1.85 cfs @ 12.12 hrs, Volume= 0.141 af, Atten= 0%, Lag= 0.0 min
Primary = 1.85 cfs @ 12.12 hrs, Volume= 0.141 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 68.02' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	67.00'	**12.0" Round Outlet Pipe** L= 63.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 67.00' / 66.85' S= 0.0024 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.82 cfs @ 12.12 hrs HW=68.01' (Free Discharge)
1=Outlet Pipe (Barrel Controls 1.82 cfs @ 2.84 fps)

Pond P-2: CB-2



Summary for Pond P-3: CB-3

[57] Hint: Peaked at 67.91' (Flood elevation advised)
[79] Warning: Submerged Pond P-2 Primary device # 1 INLET by 0.91'

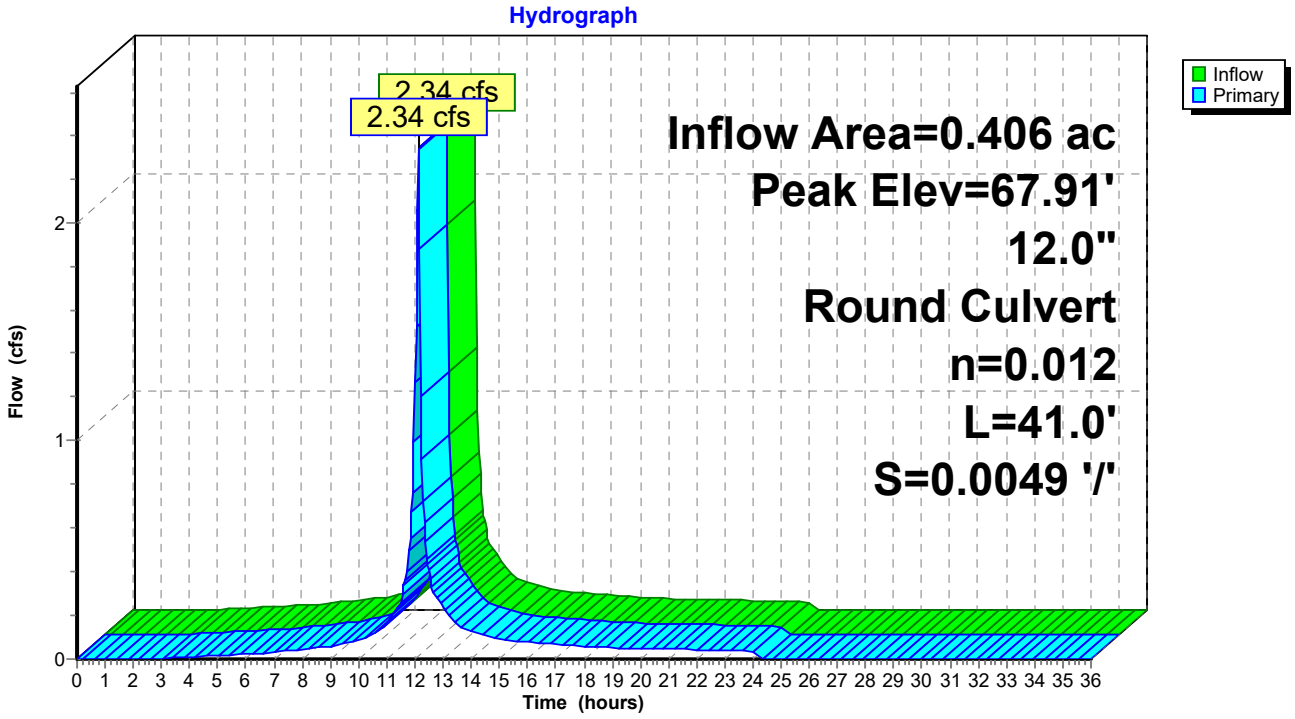
Inflow Area = 0.406 ac, 77.39% Impervious, Inflow Depth = 5.33" for 50-Year event
Inflow = 2.34 cfs @ 12.12 hrs, Volume= 0.181 af
Outflow = 2.34 cfs @ 12.12 hrs, Volume= 0.181 af, Atten= 0%, Lag= 0.0 min
Primary = 2.34 cfs @ 12.12 hrs, Volume= 0.181 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 67.91' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	66.80'	**12.0" Round Outlet Pipe** L= 41.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.80' / 66.60' S= 0.0049 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.31 cfs @ 12.12 hrs HW=67.90' (Free Discharge)
1=Outlet Pipe (Inlet Controls 2.31 cfs @ 2.94 fps)

Pond P-3: CB-3



Summary for Pond P-4: DMH-1

[57] Hint: Peaked at 69.29' (Flood elevation advised)
[81] Warning: Exceeded Pond P-3 by 1.37' @ 12.12 hrs

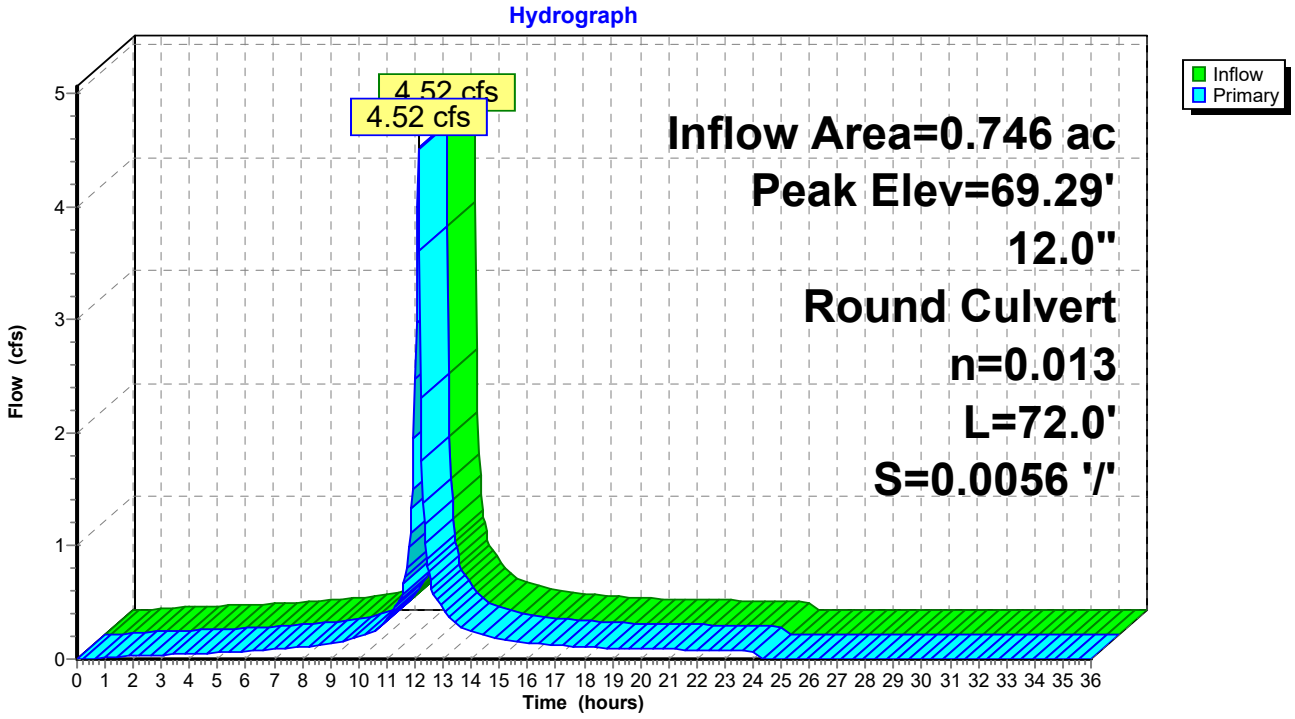
Inflow Area = 0.746 ac, 87.68% Impervious, Inflow Depth = 5.93" for 50-Year event
Inflow = 4.52 cfs @ 12.11 hrs, Volume= 0.368 af
Outflow = 4.52 cfs @ 12.11 hrs, Volume= 0.368 af, Atten= 0%, Lag= 0.0 min
Primary = 4.52 cfs @ 12.11 hrs, Volume= 0.368 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 69.29' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	66.50'	**12.0" Round Outlet Pipe** L= 72.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.50' / 66.10' S= 0.0056 '/' Cc= 0.900 n= 0.013 Cast iron, coated, Flow Area= 0.79 sf

Primary OutFlow Max=4.44 cfs @ 12.11 hrs HW=69.21' (Free Discharge)
1=Outlet Pipe (Inlet Controls 4.44 cfs @ 5.65 fps)

Pond P-4: DMH-1

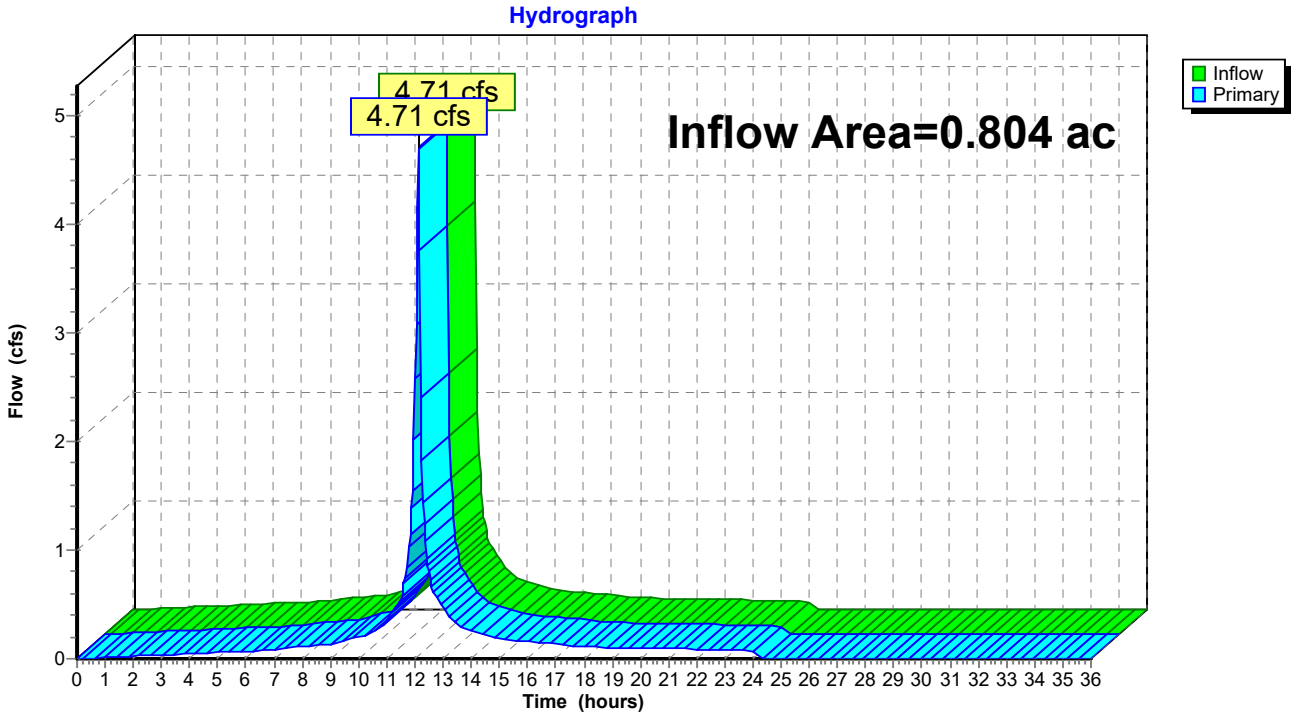


Summary for Link DP-1: Broadway Drainage

Inflow Area = 0.804 ac, 83.40% Impervious, Inflow Depth = 5.70" for 50-Year event
Inflow = 4.71 cfs @ 12.11 hrs, Volume= 0.382 af
Primary = 4.71 cfs @ 12.11 hrs, Volume= 0.382 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs

Link DP-1: Broadway Drainage



B

Water Quality Data

65 Glenn Street, Lawrence, MA 01843
tel 978.794.1792 | fax 978.794.1793 | tecmass.com

CALCULATIONS

JOB: Proposed Residenial Development
JOB NUMBER: N0946.02
LOCATION: 14 Broadway, Dover, NH 03820
DATE: July 27, 2021
TITLE: Water Quality Flow Calculation
SHEET: 1 OF 1
CALCULATED BY: MWP
CHECKED BY: CPR

Water Quality Flow Calculation

$Q=(q)(A)(WQV)$

Q=flow rate associated with first 1-inch of runoff

q=unit peak discharge (in csm/in)

A=impervious surface drainage area (in square miles)

WQV=water quality volume in watershed inches (1-inch)

A=0.666 acres=1.04×10^{-3} square miles

CN=98

Tc=5 minutes

Use Tc to find q:

q=752 csm/inch

Q=(752 csm/inch)(1.04×10^{-3} square miles)(1.0 inch)

Q=0.782 cubic feet per second (cfs)

Location: **Treatment Train #1**

A BMP[1]	B TSS Removal Rate[1]	C Starting TSS Load*	D Amount Removed (B*C)	E Remaining Load (C-D)
Deep Sump and Hooded Catch Basins	**0.25**	**1.00**	**0.25**	**0.75**
Water Quality Unit (Stormceptor)	**0.77**	**0.75**	**0.58**	**0.17**

Total TSS Removal = **83%**

Separate Form Needs to be Completed for Each Outlet or BMP Train

Project: **N0946.02 14 Broadway Proposed Residential Development**

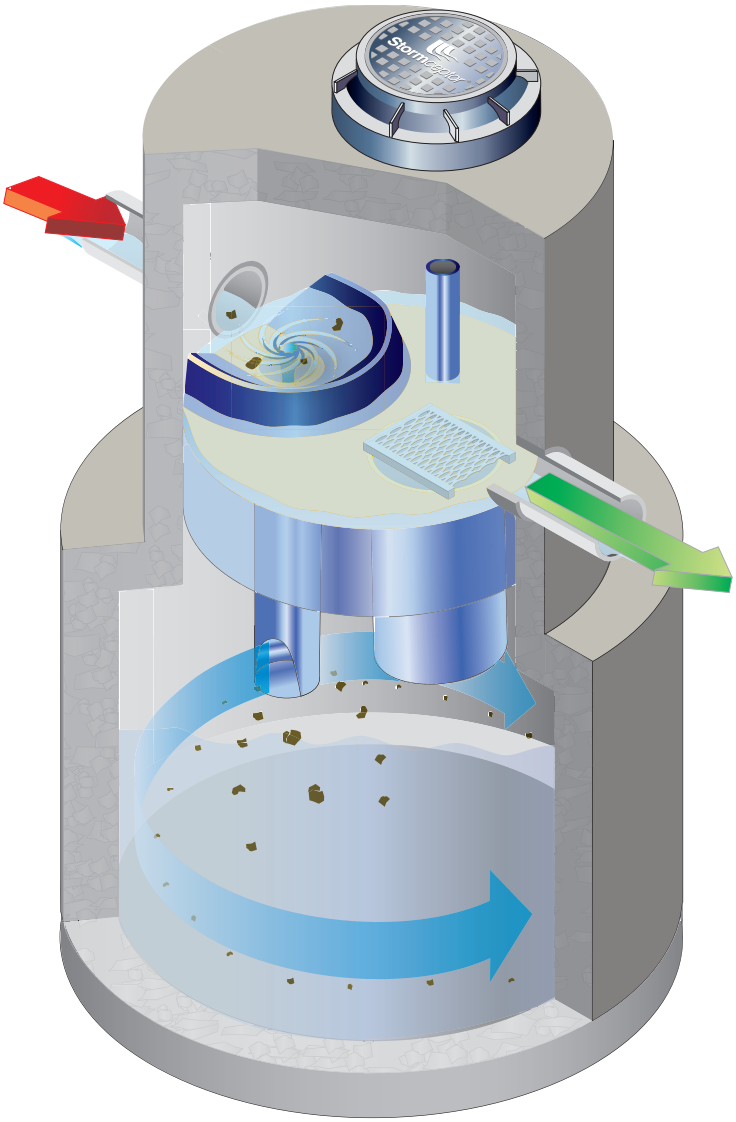
Prepared By: **TEC, Inc.**

Date: **7/27/2021**

*Equals remaining load from previous BMP (E) which enters the BMP

Stormceptor®

Owner's Manual



Stormceptor is protected by one or more of the following patents:

Canadian Patent No. 2,137,942
Canadian Patent No. 2,175,277
Canadian Patent No. 2,180,305
Canadian Patent No. 2,180,338
Canadian Patent No. 2,206,338
Canadian Patent No. 2,327,768
U.S. Patent No. 5,753,115
U.S. Patent No. 5,849,181
U.S. Patent No. 6,068,765
U.S. Patent No. 6,371,690
U.S. Patent No. 7,582,216
U.S. Patent No. 7,666,303
Australia Patent No. 693.164
Australia Patent No. 707,133
Australia Patent No. 729,096
Australia Patent No. 779,401
Australia Patent No. 2008,279,378
Australia Patent No. 2008,288,900
Indonesia Patent No. 0007058
Japan Patent No. 3581233
Japan Patent No. 9-11476
Korean Patent No. 0519212
Malaysia Patent No. 118987
New Zealand Patent No. 314,646
New Zealand Patent No. 583,008
New Zealand Patent No. 583,583
South African Patent No. 2010/00682
South African Patent No. 2010/01796
Other Patents Pending

Table of Contents

1 – Stormceptor Overview

2 – Stormceptor Operation & Components

3 – Stormceptor Identification

4 – Stormceptor Inspection & Maintenance
    Recommended Stormceptor Inspection Procedure
    Recommended Stormceptor Maintenance Procedure

5 – Contact Information (Stormceptor Licensees)

Congratulations!

Your selection of a Stormceptor® means that you have chosen the most recognized and efficient stormwater oil/sediment separator available for protecting the environment. Stormceptor is a pollution control device often referred to as a “Hydrodynamic Separator (HDS)” or an “Oil Grit Separator (OGS)”, engineered to remove and retain pollutants from stormwater runoff to protect our lakes, rivers and streams from the harmful effects of non-point source pollution.

1 – Stormceptor Overview

Stormceptor is a patented stormwater quality structure most often utilized as a treatment component of the underground storm drain network for stormwater pollution prevention. Stormceptor is designed to remove sediment, total suspended solids (TSS), other pollutants attached to sediment, hydrocarbons and free oil from stormwater runoff. Collectively the Stormceptor provides spill protection and prevents non-point source pollution from entering downstream waterways.

Key benefits of Stormceptor include:

- Removes sediment, suspended solids, debris, nutrients, heavy metals, and hydrocarbons (oil and grease) from runoff and snowmelt.
- Will not scour or re-suspend trapped pollutants.
- Provides sediment and oil storage.
- Provides spill control for accidents, commercial and industrial developments.
- Easy to inspect and maintain (vacuum truck).
- “STORMCEPTOR” is *clearly* marked on the access cover (excluding inlet designs).
- Relatively small footprint.
- 3rd Party tested and independently verified.
- Dedicated team of experts available to provide support.

Model Types:

- STC (Standard)
- STF (Fiberglass)
- EOS (Extended Oil Storage)
- OSR (Oil and Sand Removal)
- MAX (Custom designed unit, specific to site)

Configuration Types:

- Inlet unit (accommodates inlet flow entry, and multi-pipe entry)
- In-Line (accommodates multi-pipe entry)
- Submerged Unit (accommodates the site’s tailwater conditions)
- Series Unit (combines treatment in two systems)

Please Maintain Your Stormceptor

To ensure long-term environmental protection through continued performance as originally designed for your site, **Stormceptor must be maintained**, as any stormwater treatment practice does. The need for maintenance is determined through inspection of the Stormceptor. Procedures for inspection are provided within this document. Maintenance of the Stormceptor is performed from the surface via vacuum truck.

If you require information about Stormceptor, or assistance in finding resources to facilitate inspections or maintenance of your Stormceptor please call your local Stormceptor Licensee or Imbrium® Systems.

2 – Stormceptor Operation & Components

Stormceptor is a flexibly designed underground stormwater quality treatment device that is unparalleled in its effectiveness for pollutant capture and retention using patented flow separation technology.

Stormceptor creates a non-turbulent treatment environment below the insert platform within the system. The insert diverts water into the lower chamber, allowing free oils and debris to rise, and sediment to settle under relatively low velocity conditions. These pollutants are trapped and stored below the insert and protected from large runoff events for later removal during the maintenance procedure.

With thousands of units operating worldwide, Stormceptor delivers reliable protection every day, in every storm. The patented Stormceptor design prohibits the scour and release of captured pollutants, ensuring superior water quality treatment and protection during even the most extreme storm events. Stormceptor's proven performance is backed by the longest record of lab and field verification in the industry.

Stormceptor Schematic and Component Functions

Below are schematics of two common Stormceptor configurations with key components identified and their functions briefly described.

Figure 1.

Inline Stormceptor

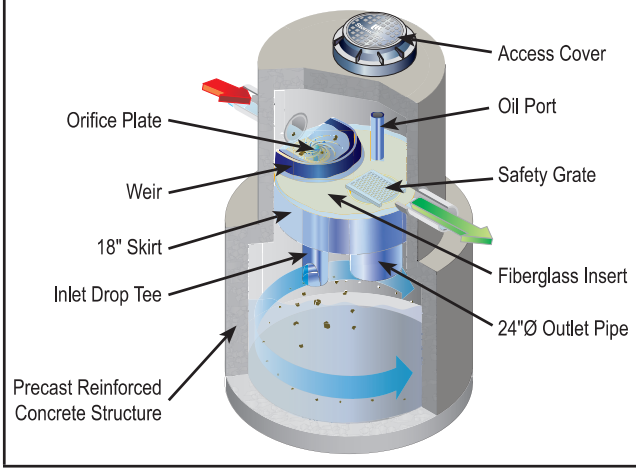
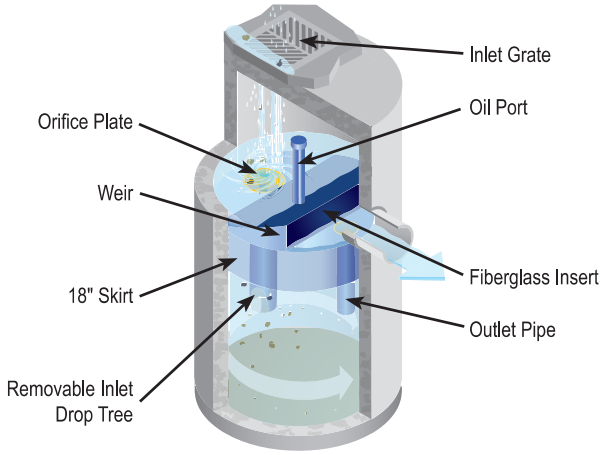


Figure 2.

Inlet Stormceptor



- **Manhole access cover** – provides access to the subsurface components
- **Precast reinforced concrete structure** – provides the vessel's watertight structural support
- **Fiberglass insert** – separates vessel into upper and lower chambers
- **Weir** – directs incoming stormwater and oil spills into the lower chamber
- **Orifice plate** – prevents scour of accumulated pollutants
- **Inlet drop tee** – conveys stormwater into the lower chamber
- **Fiberglass skirt** – provides double-wall containment of hydrocarbons
- **Outlet riser pipe** – conveys treated water to the upper chamber; primary vacuum line access port for sediment removal
- **Oil inspection port** – primary access for measuring oil depth and oil removal
- **Safety grate** – safety measure to cover riser pipe in the event of manned entry into vessel

3 – Stormceptor Identification

Stormceptor is available in both precast concrete and fiberglass vessels, with precast concrete often being the dominant material of construction.

In the Stormceptor, a patented, engineered fiberglass insert separates the structure into an upper chamber and lower chamber. The lower chamber will remain full of water, as this is where the pollutants are sequestered for later removal. Multiple Stormceptor model (STC, OSR, EOS, MAX and STF) configurations exist, each to be inspected and maintained in a similar fashion.

Each unit is easily identifiable as a Stormceptor by the trade name "Stormceptor" embossed on each access cover at the surface. To determine the location of "inlet" Stormceptor units with horizontal catch basin inlet, look down into the grate as the Stormceptor insert will be visible. The name "Stormceptor" is not embossed on inlet models due to the variability of inlet grates used/ approved across North America.

Once the location of the Stormceptor is determined, the model number may be identified by comparing the measured depth from the fiberglass insert level at the outlet pipe's invert (water level) to the bottom of the tank using **Table 1**.

In addition, starting in 1996 a metal serial number tag containing the model number has been affixed to the inside of the unit, on the fiberglass insert. If the unit does not have a serial number, or if there is any uncertainty regarding the size of the unit using depth measurements, please contact your local Stormceptor Representative for assistance.

Sizes/Models

Typical general dimensions and capacities of the standard precast STC, EOS & OSR Stormceptor models in both USA and Canada/International (excluding South East Asia and Australia) are provided in **Tables 1 and 2.** Typical rim to invert measurements are provided later in this document. The total depth for cleaning will be the sum of the depth from outlet pipe invert (generally the water level) to rim (grade) and the depth from outlet pipe invert to the precast bottom of the unit. Note that depths and capacities may vary slightly between regions.

Table 1A. (US) Stormceptor Dimensions – Insert to Base of Structure

STC Model	Insert to Base (in.)
450	60
900	55
1200	71
1800	105
2400	94
3600	134
4800	128
6000	150
7200	134
11000*	128
13000*	150
16000*	134

EOS Model	Insert to Base (in.)
4-175	60
9-365	55
12-590	71
18-1000	105
24-1400	94
36-1700	134
48-2000	128
60-2500	150
72-3400	134
110-5000*	128
130-6000*	150
160-7800*	134

OSR Model	Insert to Base (in.)
65	60
140	55
250	94
390	128
560	134
780*	128
1125*	134

Typical STF m (in.)
1.5 (60)
1.5 (61)
1.8 (73)
2.9 (115)
2.3 (89)
3.2 (127)
2.9 (113)
3.5 (138)
3.3 (128)

Notes:

1. *Depth Below Pipe Inlet Invert to the Bottom of Base Slab can vary slightly by manufacturing facility, and can be modified to accommodate specific site designs, pollutant loads or site conditions. Contact your local representative for assistance.*

**Consist of two chamber structures in series.*

Table 1B. (CA & Int'l) Stormceptor Dimensions – Insert to Base of Structure

STC Model	Insert to Base (m)
300	1.5
750	1.5
1000	1.8
1500	2.8
2000	2.8
3000	3.7
4000	3.4
5000	4.0
6000	3.7
9000*	3.4
11000*	4.0
14000*	3.7

EOS Model	Insert to Base (m)
300	1.5
750	1.5
1000	1.8
2000	2.8
3000	3.7
4000	3.4
5000	4.0
6000	3.7
9000*	3.4
10000*	4.0
14000*	3.7

OSR Model	Insert to Base (m)
300	1.7
750	1.6
2000	2.6
4000	3.6
6000	3.7
9000*	3.6
14000*	3.7

Typical STF m (in.)
1.5 (60)
1.5 (61)
1.8 (73)
2.9 (115)
2.3 (89)
3.2 (127)
2.9 (113)
3.5 (138)
3.3 (128)

Notes:

1. *Depth Below Pipe Inlet Invert to the Bottom of Base Slab can vary slightly by manufacturing facility, and can be modified to accommodate specific site designs, pollutant loads or site conditions. Contact your local representative for assistance.*

**Consist of two chamber structures in series.*

Table 2A. (US) Storage Capacities

STC Model	Hydrocarbon Storage Capacity gal	Sediment Capacity ft^3	**EOS Model**	Hydrocarbon Storage Capacity gal	**OSR Model**	Hydrocarbon Storage Capacity gal	Sediment Capacity ft^3
450	86	46	**4-175**	175	**065**	115	46
900	251	89	**9-365**	365	**140**	233	58
1200	251	127	**12-590**	591			
1800	251	207	**18-1000**	1198			
2400	840	205	**24-1400**	1457	**250**	792	156
3600	840	373	**36-1700**	1773			
4800	909	543	**48-2000**	2005	**390**	1233	465
6000	909	687	**60-2500**	2514			
7200	1059	839	**72-3400**	3418	**560**	1384	690
11000*	2797	1089	**110-5000***	5023	**780***	2430	930
13000*	2797	1374	**130-6000***	6041			
16000*	3055	1677	**160-7800***	7850	**1125***	2689	1378

Notes:

1. *Hydrocarbon & Sediment capacities can be modified to accommodate specific site design requirements, contact your local representative for assistance.*

**Consist of two chamber structures in series.*

Table 2B. (CA & Int'l) Storage Capacities

STC Model	Hydrocarbon Storage Capacity L	Sediment Capacity L	EOS Model	Hydrocarbon Storage Capacity L	OSR Model	Hydrocarbon Storage Capacity L	Sediment Capacity L
300	300	1450	**300**	662	**300**	300	1500
750	915	3000	**750**	1380	**750**	900	3000
1000	915	3800	**1000**	2235			
1500	915	6205					
2000	2890	7700	**2000**	5515	**2000**	2790	7700
3000	2890	11965	**3000**	6710			
4000	3360	16490	**4000**	7585	**4000**	4700	22200
5000	3360	20940	**5000**	9515			
6000	3930	26945	**6000**	12940	**6000**	5200	26900
9000*	10555	32980	**9000***	19010	**9000***	9300	33000
11000*	10555	37415	**10000***	22865			
14000*	11700	53890	**14000***	29715	**14000***	10500	53900

Notes:

1. *Hydrocarbon & Sediment capacities can be modified to accommodate specific site design requirements, contact your local representative for assistance.*

**Consist of two chamber structures in series.*

4 – Stormceptor Inspection & Maintenance

Regular inspection and maintenance is a proven, cost-effective way to maximize water resource protection for all stormwater pollution control practices, and is required to insure proper functioning of the Stormceptor. Both inspection and maintenance of the Stormceptor is easily performed from the surface. Stormceptor's patented technology has no moving parts, simplifying the inspection and maintenance process.

Please refer to the following information and guidelines before conducting inspection and maintenance activities.

When is inspection needed?

- Post-construction inspection is required prior to putting the Stormceptor into service.
- Routine inspections are recommended during the first year of operation to accurately assess the sediment accumulation.
- Inspection frequency in subsequent years is based on the maintenance plan developed in the first year.
- Inspections should also be performed immediately after oil, fuel, or other chemical spills.

When is maintenance cleaning needed?

- For optimum performance, the unit should be cleaned out once the sediment depth reaches the recommended maintenance sediment depth, which is approximately 15% of the unit's total storage capacity (see **Table 2**). The frequency should be adjusted based on historical inspection results due to variable site pollutant loading.

- Sediment removal is easier when removed on a regular basis at or prior to the recommended maintenance sediment depths, as sediment build-up can compact making removal more difficult.
- The unit should be cleaned out immediately after an oil, fuel or chemical spill.

What conditions can compromise Stormceptor performance?

- If construction sediment and debris is not removed prior to activating the Stormceptor unit, maintenance frequency may be reduced.
- If the system is not maintained regularly and fills with sediment and debris beyond the capacity as indicated in **Table 2**, pollutant removal efficiency may be reduced.
- If an oil spill(s) exceeds the oil capacity of the system, subsequent spills may not be captured.
- If debris clogs the inlet of the system, removal efficiency of sediment and hydrocarbons may be reduced.
- If a downstream blockage occurs, a backwater condition may occur for the Stormceptor and removal efficiency of sediment and hydrocarbons may be reduced.

What training is required?

The Stormceptor is to be inspected and maintained by professional vacuum cleaning service providers with experience in the maintenance of underground tanks, sewers and catch basins. For typical inspection and maintenance activities, no specific supplemental training is required for the Stormceptor. Information provided within this Manual (provided to the site owner) contains sufficient guidance to maintain the system properly.

In unusual circumstances, such as if a damaged component needs replacement or some other condition requires manned entry into the vessel, confined space entry procedures must be followed. Only professional maintenance service providers trained in these procedures should enter the vessel. Service provider companies typically have personnel who are trained and certified in confined space entry procedures according to local, state, and federal standards.

What equipment is typically required for inspection?

- Manhole access cover lifting tool
- Oil dipstick / Sediment probe with ball valve (typically ¾-inch to 1-inch diameter)
- Flashlight
- Camera
- Data log / Inspection Report
- Safety cones and caution tape
- Hard hat, safety shoes, safety glasses, and chemical-resistant gloves

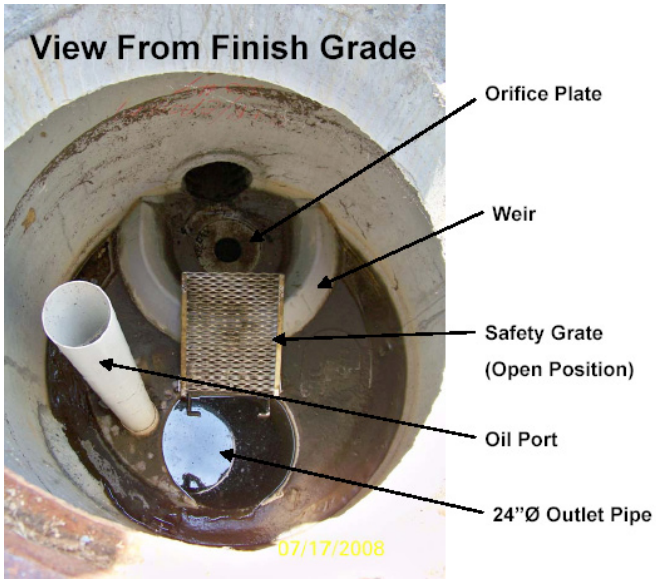
Recommended Stormceptor Inspection Procedure:

- Stormceptor is to be inspected from grade through a standard surface manhole access cover.
- Sediment and oil depth inspections are performed with a sediment probe and oil dipstick.
- Oil depth is measured through the oil inspection port, either a 4-inch (100 mm) or 6-inch (150 mm) diameter port.
- Sediment depth can be measured through the oil inspection port or the 24-inch (610 mm) diameter outlet riser pipe.
- Inspections also involve a visual inspection of the internal components of the system.

Figure 3.



Figure 4.



What equipment is typically required for maintenance?

- Vacuum truck equipped with water hose and jet nozzle
- Small pump and tubing for oil removal
- Manhole access cover lifting tool
- Oil dipstick / Sediment probe with ball valve (typically ¾-inch to 1-inch diameter)
- Flashlight
- Camera
- Data log / Inspection Report
- Safety cones
- Hard hats, safety shoes, safety glasses, chemical-resistant gloves, and hearing protection for service providers
- Gas analyzer, respiratory gear, and safety harness for specially trained personnel if confined space entry is required

Recommended Stormceptor Maintenance Procedure

Maintenance of Stormceptor is performed using a vacuum truck.

No entry into the unit is required for maintenance. ***DO NOT ENTER THE STORMCEPTOR CHAMBER*** unless you have the proper personal safety equipment, have been trained and are qualified to enter a confined space, as identified by local Occupational Safety and Health Regulations (e.g. 29 CFR 1910.146 or Canada Occupational Safety and Health Regulations – SOR/86-304). Without the proper equipment, training and permit, entry into confined spaces can result in serious bodily harm and potentially death. Consult local, provincial, and/or state regulations to determine the requirements for confined space entry. Be aware, and take precaution that the Stormceptor fiberglass insert may be slippery. In addition, be aware that some units do not have a safety grate to cover the outlet riser pipe that leads to the submerged, lower chamber.

- Ideally maintenance should be conducted during dry weather conditions when no flow is entering the unit.
- Stormceptor is to be maintained through a standard surface manhole access cover.
- Insert the oil dipstick into the oil inspection port. If oil is present, pump off the oil layer into separate containment using a small pump and tubing.
- Maintenance cleaning of accumulated sediment is performed with a vacuum truck.
    - For 6-ft (1800 mm) diameter models and larger, the vacuum hose is inserted into the lower chamber via the 24-inch (610 mm) outlet riser pipe.
    - For 4-ft (1200 mm) diameter model, the removable drop tee is lifted out, and the vacuum hose is inserted into the lower chamber via the 12-inch (305 mm) drop tee hole.

Figure 5.

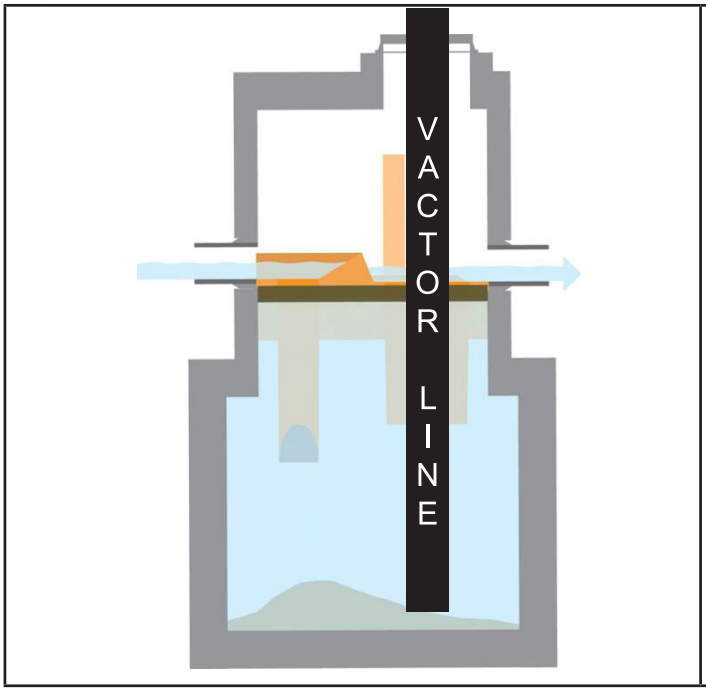
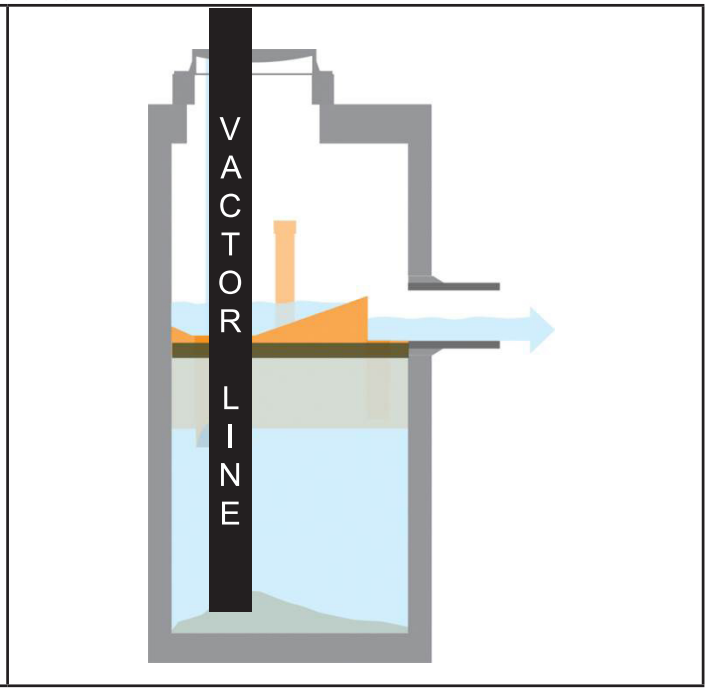


Figure 6.



- Using the vacuum hose, decant the water from the lower chamber into a separate containment tank or to the sanitary sewer, if permitted by the local regulating authority.
- Remove the sediment sludge from the bottom of the unit using the vacuum hose. For large Stormceptor units, a flexible hose is often connected to the primary vacuum line for ease of movement in the lower chamber.
- Units that have not been maintained regularly, have surpassed the maximum recommended sediment capacity, or contain damaged components may require manned entry by trained personnel using safe and proper confined space entry procedures.

Figure 7.



Figure 8.



A maintenance worker stationed at the above ground surface uses a vacuum hose to evacuate water, sediment, and debris from the system.

What is required for proper disposal?

The requirements for the disposal of material removed from Stormceptor units are similar to that of any other stormwater treatment Best Management Practices (BMP). Local guidelines should be consulted prior to disposal of the separator contents. In most areas the sediment, once dewatered, can be disposed of in a sanitary landfill. It is not anticipated that the sediment would be classified as hazardous waste. This could be site and pollutant dependent. In some cases, approval from the disposal facility operator/agency may be required.

What about oil spills?

Stormceptor is often implemented in areas where there is high potential for oil, fuel or other hydrocarbon or chemical spills. Stormceptor units should be cleaned immediately after a spill occurs by a licensed liquid waste hauler. You should also notify the appropriate regulatory agencies as required in the event of a spill.

What if I see an oil rainbow or sheen at the Stormceptor outlet?

With a steady influx of water with high concentrations of oil, a sheen may be noticeable at the Stormceptor outlet. This may occur because a hydrocarbon rainbow or sheen can be seen at

very small oil concentrations (< 10 ppm). Stormceptor is effective at removing 95% of free oil, and the appearance of a sheen at the outlet with high influent oil concentrations does not mean that the unit is not working to this level of removal. In addition, if the influent oil is emulsified, the Stormceptor will not be able to remove it. The Stormceptor is designed for free oil removal and not emulsified or dissolved oil conditions.

What factors affect the costs involved with inspection/maintenance?

The Vacuum Service Industry for stormwater drainage and sewer systems is a well-established sector of the service industry that cleans underground tanks, sewers and catch basins. Costs to clean Stormceptor units will vary. Inspection and maintenance costs are most often based on unit size, the number of units on a site, sediment/oil/hazardous material loads, transportation distances, tipping fees, disposal requirements and other local regulations.

What factors predict maintenance frequency?

Maintenance frequency will vary with the amount of pollution on your site (number of hydrocarbon spills, amount of sediment, site activity and use, etc.). It is recommended that the frequency of maintenance be increased or reduced based on local conditions. If the sediment load is high from an unstable site or sediment loads transported from upstream catchments, maintenance may be required semi-annually. Conversely once a site has stabilized, maintenance may be required less frequently (for example: two to seven year, site and situation dependent). Maintenance should be performed immediately after an oil spill or once the sediment depth in Stormceptor reaches the value specified in **Table 3** based on the unit size.

Table 3A. (US) Recommended Sediment Depths Indicating Maintenance

STC Model	Maintenance Sediment depth (in)	EOS Model	Maintenance Sediment depth (in)	Oil Storage Depth (in)	OSR Model	Maintenance Sediment depth (in)
450	8	**4-175**	9	24	**065**	8
900	8	**9-365**	9	24	**140**	8
1200	10	**12-590**	11	39		
1800	15					
2400	12	**24-1400**	14	68	**250**	12
3600	17	**36-1700**	19	79		
4800	15	**48-2000**	16	68	**390**	17
6000	18	**60-2500**	20	79		
7200	15	**72-3400**	17	79	**560**	17
11000*	17	**110-5000***	16	68	**780***	17
13000*	20	**130-6000***	20	79		
16000*	17	**160-7800***	17	79	**1125***	17

Note:

1. *The values above are for typical standard units.*

**Per structure.*

Table 3B. (CA & Int'l) Recommended Sediment Depths Indicating Maintenance

STC Model	Maintenance Sediment depth (mm)	EOS Model	Maintenance Sediment depth (mm)	Oil Storage Depth (mm)	OSR Model	Maintenance Sediment depth (mm)
300	225	**300**	225	610	**300**	200
750	230	**750**	230	610	**750**	200
1000	275	**1000**	275	990		
1500	400					
2000	350	**2000**	350	1727	**2000**	300
3000	475	**3000**	475	2006		
4000	400	**4000**	400	1727	**4000**	375
5000	500	**5000**	500	2006		
6000	425	**6000**	425	2006	**6000**	375
9000*	400	**9000***	400	1727	**9000***	425
11000*	500	**10000***	500	2006		
14000*	425	**14000***	425	2006	**14000***	425

Note:

1. *The values above are for typical standard units.*

   **Per structure.*

Replacement parts

Since there are no moving parts during operation in a Stormceptor, broken, damaged, or worn parts are not typically encountered. Therefore, inspection and maintenance activities are generally focused on pollutant removal. However, if replacements parts are necessary, they may be purchased by contacting your local Stormceptor Representative, or Imbrium Systems.

The benefits of regular inspection and maintenance are many – from ensuring maximum operation efficiency, to keeping maintenance costs low, to the continued protection of natural waterways – and provide the key to Stormceptor's long and effective service life.

Stormceptor Inspection and Maintenance Log

Stormceptor Model No: _____

Allowable Sediment Depth: _____

Serial Number: _____

Installation Date: _____

Location Description of Unit: _____

Other Comments: _____

Contact Information

Questions regarding the Stormceptor can be addressed by contacting your area Stormceptor Licensee, Imbrium Systems, or visit our website at www.stormceptor.com.

Stormceptor Licensees:

CANADA

Lafarge Canada Inc.
www.lafargepipe.com

403-292-9502 / 1-888-422-4022	Calgary, AB
780-468-5910	Edmonton, AB
204-958-6348	Winnipeg, MB, NW. ON, SK

Langley Concrete Group
www.langleyconcretegroup.com

604-502-5236	BC

Hanson Pipe & Precast Inc.
www.hansonpipeandprecast.com

519-622-7574 / 1-888-888-3222	ON

Lécuyer et Fils Ltée.
www.lecuyerbeton.com

450-454-3928 / 1-800-561-0970	QC

Strescon Limited
www.strescon.com

902-494-7400	NS, NF
506-633-8877	NB, PE

UNITED STATES

Rinker Materials
www.rinkerstormceptor.com
1-800-909-7763

AUSTRALIA & SOUTHEAST ASIA, including New Zealand & Japan

Humes Water Solutions
www.humes.com.au
+61 7 3364 2894

Imbrium Systems Inc. & Imbrium Systems LLC

Canada	1-416-960-9900 / 1-800-565-4801
United States	1-301-279-8827 / 1-888-279-8826
International	+1-416-960-9900 / +1-301-279-8827
Email	info@imbriumsystems.com

www.imbriumsystems.com
www.stormceptor.com

Fact Sheet #4

Stormwater Technology: Stormceptor

(Hydro Conduit, formerly CSR New England Pipe)

Revised February 2003

*The **Stormceptor Fact Sheet** is one in a series of fact sheets for stormwater technologies and related performance evaluations, which are undertaken by the **Massachusetts STrategic Envirotechnology Partnership (STEP).***

The STEP evaluation entitled, *Technology Assessment, Stormceptor CSR New England Pipe*, January 1998 is the information source for this fact sheet. When a more thorough understanding of a system is required, the full *Technology Assessment* should be reviewed. Copies are available for downloading from the STEP Web site (www.STEPSITE.org/) or by contacting the STEP Program (Phone: 617/626/1197, FAX: 617/626/1180, email: linda.benevides@state.ma.us). This fact sheet is subject to future updates as additional performance information becomes available.

Description/Definition

Stormceptor is a prefabricated, underground unit that separates oils, grease, and sediment from stormwater runoff when installed with an existing or new pipe conveyance system. The unit is divided into two chambers–a treatment and a flow bypass chamber. During typical storm events, runoff is directed by the inflow weir through a drop pipe into the lower treatment chamber where sediment, oil, and grease are separated from the flow by gravity. The bypass chamber is designed to convey excess stormwater, which overtops the inflow weir, through the system without treatment.

Equipment and Sizing

The on-line Stormceptor units are available in eight sizes ranging from six and twelve feet in diameter with capacities of 900 to 7200 gallons. Since issuing the STEP assessment in 1998, the manufacturer has expanded the Stormceptor product line to include a storm drain inlet (STC 450i) and three units (Models STC 11000, STC 13000, and STC16000). These systems are not included in the STEP evaluation. Users and decision-makers may require additional field test results and new data for these new systems in order to accept performance ratings, particularly if they are higher than those reported in the STEP technology assessment and this fact sheet.

Stormceptor units are available in either precast concrete or fiberglass for special applications. Concrete units are pre-engineered for HS-20 min. traffic loading at the surface. Fiberglass units can be used in areas where there is a potential for oil and chemical spills.

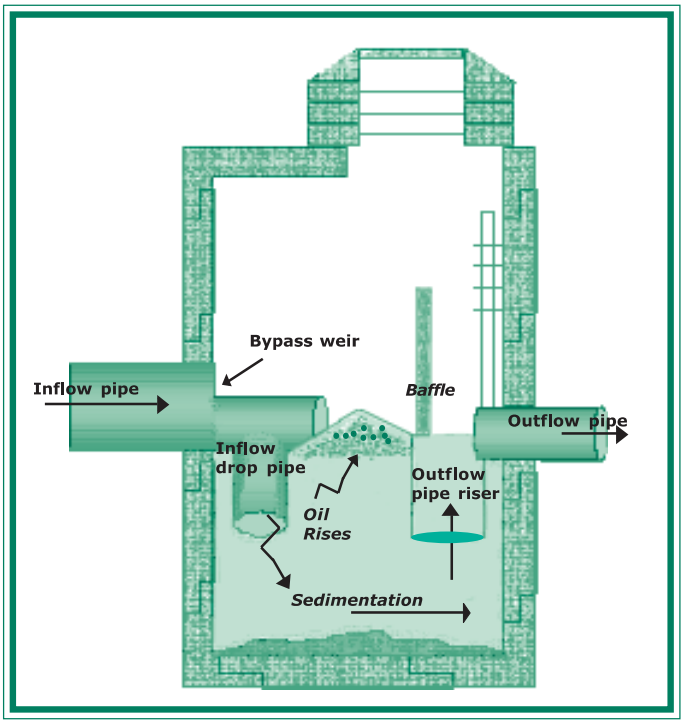


Figure 1. Stormceptor operation during average flow conditions.

Performance/Effectiveness

The system is designed to provide separation of sediment, oil, and grease from stormwater by routing runoff into a low-turbulence environment where solids settle and oils float out of solution. The system sizing is based on the drainage area, historical rainfall data, and the solids removal efficiency required. It is recommended that the system be used in combination with other stormwater controls to conform with the Massachusetts Stormwater Management Policy and standards.

An Imperial Model STC 2000 (equivalent to the Model STC 2400) in Edmonton, Canada treats flow from a 9.8 acre commercial parking lot. This system was monitored during four storm events in 1996 and shown to have an average total suspended solids (TSS) removal efficiency of 52 percent. In designing a system to achieve a comparable removal efficiency, the relationship between system size and impervious drainage area should be considered, as detailed in Table 1 and the Technology Assessment Report.

A Model STC 1200 in Westwood, Massachusetts treats flow from 0.65 acres consisting of a paved truck loading area at a manufacturing facility. The unit was monitored for six storm events in 1997, but only four events had measurable TSS influent concentrations. Of these four events, the average TSS removal efficiency was calculated to be 77 percent, which is less than the 80 percent removal targeted by the manufacturer.

Based on these field monitoring results, and when the unit sizing follows the guidance in Table 1, removal efficiencies between 52 percent and 77 percent may be achieved where installations have similar rainfall and land use characteristics as those reviewed for the STEP evaluation. It is recommended that additional field research and new data be evaluated to validate performance ratings higher than those verified by STEP.

Specific performance claims for oil and grease were not evaluated by STEP. However, total petroleum hydrocarbons (TPH) were analyzed during the Westwood study. Results indicated that the unit was effective in capturing oils.

Stormceptor Model Number	Maximum Impervious Area (acres)	
	77% TSS removal	52% TSS removal
STC 900	0.45	0.9
STC 1200	0.7	1.45
STC 1800	1.25	2.55
STC 2400	1.65	3.35
STC 3600	2.6	5.3
STC 4800	3.6	7.25
STC 6000	4.6	9.25
STC 7200	5.55	11.25

Table 1: Sizing for TSS removal (adapted from the manufacturer's sizing in the 1998 STEP Report) Use the table to determine a TSS removal rate. Use the new Rinker method for sizing Stormceptor units. The sizing method has been changed since publication of the STEP Report. **Note:** To achieve 52% and 77% TSS removal rates on some sites, it may be necessary to use lower maximum impervious areas than those in Table 1.

Technology Status

The Stormceptor system provides greater solids separation and higher TSS removal efficiencies than oil and grit separators. Stormceptor systems are among the category of hydrodynamic separators, which are flow-through devices with the capacity to settle or separate grit, oil, sediment, or other pollutants from stormwater. According to the U.S. Environmental Protection Agency, "Hydrodynamic separators are most effective where the materials to be removed from runoff are heavy particulates - which can be settled - or floatables - which can be captured, rather than solids with poor settleability or dissolved pollutants."

The field studies evaluated for the STEP assessment predate the Stormwater Best Management Practice Demonstration Tier II Protocol (2001), which is applicable in Massachusetts and other states in the Technology Acceptance Reciprocity Partnership (TARP), to ensure quality controlled studies that can be shared among participating states. Therefore, interstate reciprocity is not available to the manufacturer, based on performance claims that were evaluated by STEP in 1998. If the TARP Protocol requirements are fulfilled in the future, the manufacturer could pursue reciprocal verification for Stormceptor systems in participating TARP states. More information on the TARP Protocol is available on the following Web site: www.dep.state.pa.us/dep/deputate/pollprev/techservices/tarp.

Applications/Advantages

- Stormceptor systems identified in Table 1 should be used in combination with other BMPs to remove 80 percent of the average annual load of TSS (DEP Stormwater Policy Standard 4). Systems may be well suited for pretreatment in a mixed component system designed for stormwater recharge.
- Performance data show that Stormceptor may provide TSS removal rates in the range of 52 percent to 77 percent when sized according to Table 1. Higher TSS removal rates were achieved during low flow, low intensity storms with less than one third of an inch of runoff. Also, by reducing the impervious drainage area, relative to the system size, the STEP Technology Assessment Report indicated that higher removal efficiencies may be achievable. However, STEP recommends collection of additional data "representing a varied set of operating conditions over a realistic maintenance cycle to verify TSS removal rates greater than 80 percent."
- The Stormceptor system is suitable for new and retrofit applications. For retrofit applications, it should not

take the place of a catch basin for the systems that have been verified. Also, for retrofit applications, it should be installed in lateral lines and not main trunk lines.

- The system is particularly well suited in constricted areas and where space is limited.
- It also is suitable for use in areas of high potential pollutant loads (DEP Stormwater Policy Standard 5), where it may be used effectively in capturing and containing oil and chemical spills. *Web site:* www.state.ma.us/dep/brp/stormwtr/stormpub.htm.

Considerations/Limitations

- Systems are not expected to provide significant nutrient (nitrogen and phosphorus) or fecal coliform removal.
- The systems are not recommended for use in critical areas, such as public drinking water supplies, certified vernal pools, public swimming beaches, shellfish growing areas, cold water fisheries, and some Areas of Critical Environmental Concern (ACECs), except as a pretreatment device for BMPs that have been approved by DEP for use in critical areas. The structural BMPs approved for use in critical areas are described in Standard 6 of the Stormwater Management Policy, www.state.ma.us/dep/brp/stormwtr/stormpub.htm.
- There is a limited set of useful data for predicting the relationship between treatment efficiency and loading rates. Removal efficiencies have not been demonstrated for all unit sizes.
- Further research is needed to determine how much TSS bypasses the treatment chamber during certain, higher velocity storm events which recur less frequently.
- Systems require regular maintenance to minimize the potential for washout of the accumulated sediments.

Reliability/Maintenance

All BMPs require scheduled, routine maintenance to ensure that they operate as efficiently as possible. Although maintenance requirements are site specific, a general relationship between cleaning needs and depths of sediment has been established by the manufacturer. Inspection of the Stormceptor interior should be done after major storm events, particularly in the first year of operation. It is recommended that material in the treatment chamber be pumped out by a vacuum truck semiannually, or when the sediment and pollutant loads reach about 15 percent of the total storage. If the unit is used for spill containment, it should be pumped after the event is contained. Typical cleaning costs were estimated by the manufacturer in 1998 to be $250, with disposal costs averaging $300 to $500. The expected life of a system has been estimated to be 50 to 100 years.

Sediment Depths Indicating Required Maintenance	
Model Number	**Sediment Depth (feet)**
STC 900	0.5
STC 1200	0.75
STC 1800	1
STC 2400	1
STC 3600	1.25
STC 4800	1
STC 6000	1.5
STC 7200	1.25

Table 2: The Stormceptor clean out is based on 15 percent of the sediment storage volume in the

References

Winkler, E.S. 1998. "Technology Assessment, Stormceptor." University of Massachusetts, Amherst, MA. *STEP Web site:* www.STEPSITE.org/

Massachusetts Department of Environmental Protection and Office of Coastal Zone Management. 1997. "Stormwater Management Handbooks, Volumes One and Two." Boston, MA. *Handbooks Web site:* www.state.ma.us/dep/brp/stormwtr/stormpub.htm.

United States Environmental Protection Agency. "Storm Water Technology Fact Sheet Hydrodynamic Separators." EPA 832-F-99-017.

Stormceptor Web sites: www.rinkermaterials.com/stormceptor

TARP Web site: www.dep.state.pa.us/dep/deputate/pollprev/techservices/tarp

STEP Verification vs. Regulatory Approval

STEP assistance to developers of innovative technologies and STEP verification of stormwater treatment systems is not required to receive necessary approvals from conservation commissions or the Department of Environmental Protection (DEP). However, if a system has received verfication, a conservation commission shall presume that the technology will function as proposed, provided the conditions are similar to those in which performance was verified. STEP reports are not technology approvals, and do not constitute an endorsement or recommendation for use. Questions on regulatory issues should be referred to the DEP regional offices.

RHODE ISLAND
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
235 Promenade Street, Providence, RI 02908-5767 TDD 401-222-4462

Rhode Island Alternative Stormwater Technology Certification

Vendor Contact:
Mr. John F. Czach, PE
Regional Engineer
Rinker Material – Concrete Pipe Division
69 Neck Road
Westfield, MA 01085
(413) 562-3647
Johnf.czach@cemex.com
www.rinkerpipe.com

Technology Name:
Stormceptor© Stormwater Treatment System (Specific models attached)

Approval Type:
Pretreatment/Retrofits
LUPPHL (conditional)

Certification Dates:
Issued: February 5, 2016
Expires: February 5, 2021

The Technology Review Team which consists of members from the Department of Environmental Management (DEM), and the Coastal Resources Management Council (CRMC) have reviewed the Stormceptor© Application to for Technology Approval and accepted use for Stormwater Treatment in the State of Rhode Island.

In accordance with Section 3.2.3 of the Rhode Island Stormwater Design and Installation Standards Manual (RISDISM) amended March 2015, Rinker Material has petitioned the permitting agencies to add this technology to the list of acceptable structural stormwater controls described in Chapter 6 – Pretreatment Practices. The applicant has submitted monitoring results and supporting information developed in accordance with the provisions of the Technology Assessment Protocol (TAPE and TARP) included in Appendix J of the RISDISM.

The Stormceptor© system is a pretreatment or retrofit device that captures both TSS and free oil (TPH) from stormwater runoff. The Stormceptor© is a vertically oriented cylindrical structure manufactured from pre-cast reinforced concrete and fiber reinforced plastic, designed to remove hydrocarbons and sediment from stormwater. This unit is approved for **in-line** as well as **off-line** use.

The manufacturer has demonstrated that this product meets the minimum water quality standards for pretreatment. It is approved for the following pollutant removals; **75% TSS. The Stormceptor is NOT recognized for removal of Pathogens, Total Phosphorus or, Nitrogen**. This device may be used as an **Oil and Grit Separator** for use on **LUHPPL sites** in accordance with section 6.6.2 of the Rhode Island Designs and Installations Standards Manual provided the following conditions are met.

I. GENERAL CERTIFICATION REQUIREMENTS

1. The STC devices listed Appendix F – "Summary Table of Stormceptor© Models" are **certified as pretreatment devices** in Rhode Island provided the device treats the flow of the first inch of runoff from the capture area unless waived by the state permitting agency.

2. The EOS 12-590 and the STC 2400 or greater models meet (**LUHPPL**) minimum requirements for sites that are classified as **LUHPPLS or MSGPs** that are required to have an oil and water separator. These models meet the minimum 500 gallon hydrocarbon storage capacity required for pretreatment.

3. The applicant must provide the RI specific manufacturers design sheet for Departmental review or provide the manufacturer's review approval. All units that capture greater than one acre of impervious cover must be reviewed by the manufacturer.

30% post-consumer fiber

4. This device is **certified as a retrofit device** in accordance with Section 1.2 and Appendix C of the RISDISM. Retrofits are allowed flexibility with regards to the standards in the RISDISM, but in general they are considered effective if they capture at least 50% of the catchment, and meet the target water quality treatment of at least the first 0.5 inches of the water quality volume.

5. The approved devices shall be located such that they are accessible for maintenance and/or emergency removal of oil or chemical spills.

II. MAINTENANCE REQUIREMENTS

1. The device must be maintained in accordance with the manufacturer's specifications and before the sediment capacity exceeds 15%.

2. The device must be maintained by a manufacturers recognized vendor, a licensed waste hauler, or a municipal employee trained to operate a vacuum truck.

3. All material removed from the unit must by properly disposed of and is the responsibility of the owner.

III. REPORTING REQUIREMENTS

1. The Vendor shall provide a listing with Latitude and Longitude of the site center point to the RIDEM Office of Water Resources of all systems within the State of Rhode Island on an annual basis.

IV. RIGHTS OF THE RIDEM AND CRMC

1. The RIDEM may suspend, modify or revoke this approval for cause, including but not limited to: non-compliance with any of the conditions or provisions of this approval, misrepresentation or failure to fully disclose all relevant data, or receipt of new information indicating that the use of the System is contrary to the public interest, public health or the environment.

2. This approval does not represent an endorsement of the System by the RIDEM. This letter of approval may be reproduced only in its entirety.

B. M Moore 2-8-16

Brian M. Moore, P.E. Date
Chief, Groundwater and Wetlands Protection

ATTACHMENT

Summary Table of Stormceptor Models

Stormceptor Model	Total Storage Volume U.S. Gal (L)	Hydrocarbon Storage Capacity U.S. Gal (L)	Max. Sediment Capacity ft^3 (L)	Water Quality Flow (cfs)	* Approx. Impervious Area (Ac)
STC 450i	470 (1,780)	86 (330)	46 (1,302)	0.283	0.38
STC 900	952 (3,600)	251 (950)	89 (2,520)	0.636	0.85
STC 1200	1,234 (4,670)	251 (950)	127 (3,596)	0.636	0.85
STC 1800	1,833 (6,940)	251 (950)	207 (5,861)	0.636	0.85
EOS 12-590	1,833 (6,940)	590 (2,233)	166 (4,707)	0.636	0.85
STC 2400	2,462 (9,320)	840 (3,180)	205 (5,805)	1.059	1.42
STC 3600	3,715 (1,406)	840 (3,180)	373 (10,562)	1.059	1.42
STC 4800	5,059 (1,950)	909 (3,440)	543 (15,376)	1.766	2.38
STC 6000	6,136 (23,230)	909 (3,440)	687 (19,453)	1.766	2.38
STC 7200	7,420 (28,090)	1,059 (4,010)	839 (23,757)	2.472	3.33
STC 11000	11,194 (42,370)	2,797 (10,590)	1,086 (30,752)	3.531	4.75
STC 13000	13,348 (50,530)	2,797 (10,590)	1,374 (38,907)	3.531	4.75
STC 16000	15,918 (60,260)	3,055 (11,560)	1,677 (47,487)	4.944	6.66

* Impervious areas are approximate only. Actual areas will vary based on site-specific conditions.

UNIVERSITY OF MASSACHUSETTS
AT AMHERST
Water Resources Research Center
Blaisdell House, UMass
310 Hicks Way
Amherst, MA 01003

Massachusetts Stormwater Evaluation Project

(413) 545-5532
(413) 545-2304 FAX
www.mastep.net

MASTEP Technology Review

Technology Name: Stormceptor

Studies Reviewed: Final NJCAT Technology Verification Stormceptor STC900 September 2004; Coventry University Study, 1996; Technology Assessment, University of Massachusetts, 1997; SeaTac Stormceptor Performance report 2001; SWAMP report Ontario 2004; Phoenix Group Edmonton report 1995; Stormceptor 1200 Field Evaluation report 2004; Applied Hydrology Associates Denver report 2003; Rinker Materials Como Park St. Paul MN report 2002; VA DOT / UVA "Testing of Ultra-Urban Stormwater Best Management Practices" report 2001.
Hydrodynamic Separator Sediment Retention Testing, Mohseni, 2010.

Date: September 17, 2013

Reviewer: Jerry Schoen

Rating: 2

Brief rationale for rating: This rating is primarily based on the 2005 NJCAT Technology Verification study. In general, this was a well-conducted test, which in large part followed NJDEP test guidelines for laboratory studies, which MASTEP considers as the laboratory equivalent of TARP field protocols. Issues of concern: the study measured suspended sediment concentration (SSC) rather than total suspended solids (TSS). Although SSC is considered by many scientists to be the preferred method, it is at odds with Massachusetts stormwater regulations, which are based on TSS treatment. Comparing SSC and TSS results is considered an inexact science. The test was conducted with higher influent sediment concentrations than is preferred, but results were fairly consistent across all ranges studied. The particle size distribution also appears to be slightly higher than the target test range. There are additional field studies that in general support the results obtained in this laboratory studies. These studies do not satisfy TARP protocols, but they do not contradict results obtained in the NJCAT study.

TARP Requirements Not Met*:

- Measurements in TSS.
- Influent sediment concentration is 100 – 300 mg/l: actual was 153-460.
- No documentation of a Quality Assurance Project Plan
- Third party studies are preferred. This was conducted by Stormceptor personnel, with sample analyses conducted by an external laboratory.

Other Comments:
* The 2010 Mohseni study evaluates the susceptibility of the Stormceptor to scouring, or washout of collected sediments. Report concluded that the unit does not scour at high flows as long as sediment depth does not exceed maintenance level.

* Criteria also based on NJDEP laboratory testing guidelines.

C

Geotechnical Data

JOHN TURNER CONSULTING

GEOTECHNICAL DATA SUMMARY

TEST PITS & INFILTRATION TESTING

PROPOSED PARKING LOT
519 Broadway
Dover, New Hampshire

Prepared for:

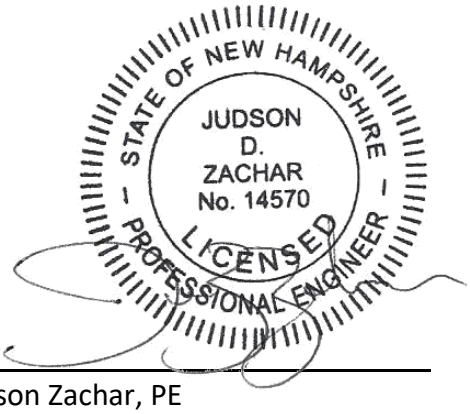
Nick Couturier
Downtown Dover Storage, LLC
Dover, NH

Prepared by:

John Turner Consulting, Inc.
19 Dover Street
Dover, NH 03820

JTC Project No. 20-04-097

December 7, 2020



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JOHN TURNER
CONSULTING

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1.0 INTRODUCTION

John Turner Consulting, Inc. (JTC) is pleased to present this *Geotechnical Data Summary* for the Proposed Parking Lot at 519 Broadway in Dover, New Hampshire. The purpose of the geotechnical investigation was to obtain information on the subsurface conditions at the site and provide geotechnical engineering recommendations to support the planning, design, and construction of the proposed project. Infiltration testing was performed on November 12, 2020.

The contents of this report are subject to the attached *Limitations*.

2.0 PROJECT INFORMATION

The following subsections provide general descriptions of the site, the proposed development, and the regional geologic setting.

Site and Project Description

The subject property is a partially developed parcel of land in downtown Dover with numerous commercial and residential buildings within close proximity. The site is bounded by Broadway to the south, railroad tracks to the north, and commercial/retail businesses to the east and west.

While the project is still in the schematic state, JTC understands that the proposed development involves the construction of a new parking lot accessible from Broadway.

3.0 SUBSURFACE EXPLORATION

On November 11, 2020, a total of three (3) test pits (designated as TP-1, TP-2, and TP-3) and three shallower, adjacent infiltration test pits (IT-1, IT-2, and IT-3) were excavated by O'Brien Landscape Co. utilizing a Bobcat mini excavator. JTC set up the PVC pipes in the ground at designated depths and performed infiltration testing directly adjacent to TP-1, TP-2, and TP-3. The test pits were advanced to depths ranging from 7.5 feet to 8.0 feet below the ground surface (bgs). The test pits were backfilled with soil cuttings upon completion of the excavation. Selected soil samples were sealed in moisture-tight containers and returned to JTC's office for further review, classification, and/or geotechnical laboratory testing. Detailed records of the drilling/excavation, testing, sampling performed, and the soil, bedrock, and groundwater conditions observed at each test boring location are provided on the attached *Test Pit Logs*. A brief summary has been provided below.

4.0 SUBSURFACE CONDITIONS

Existing Fill

Soils interpreted to be Existing Fill were encountered at TP-1, TP-2, and TP-3. The Fill material consisted of dark brown, sand with silt (SP-SM) at TP-1 and TP-2. The Fill encountered at TP-3 consisted of light brown, sand (SP). This soil layer was approximately 2.5 to 5.5 feet thick.

Marine Silt and Clay

Soils interpreted to be Marine Silt and Clay were encountered below the Existing Fill layer to the full depth of excavation terminated at all test pit locations. The material typically consisted of light brown Clay (CH).

Groundwater

Groundwater was only encountered during our subsurface exploration at TP-1, near 6.0 feet. JTC estimates that this investigation occurred during a period of seasonally moderate groundwater. Site groundwater levels should be expected to fluctuate seasonally and in response to precipitation events, construction activity, site use, and adjacent site use.

5.0 GEOTECHNICAL LABORATORY TESTING

JTC recovered representative soil samples within the excavations at all test pit locations for geotechnical laboratory testing and USCS Classification at our in-house laboratory. The following tests were performed:

- 3 Moisture contents
- 3 Particle-size analyses
- 1 Atterberg

Geotechnical laboratory testing was performed in general accordance with ASTM procedures. Test results are provided on the attached *Geotechnical Laboratory Testing Reports* and are summarized in the following table.

Summary of Sieve and Moisture Analyses

Location	Depth (ft bgs)	Soil Type	% Gravel	% Sand	% Silt	In-Situ Moisture (%)
TP-3	0 - 4’	Sand (SP)	7.5	90.1	2.4	4.3
TP-2	0 – 3’	Sand (SP-SM) with silt	11.3	78.5	10.2	13.3
TP-3	4’ – 8’	Clay (CH)	0.1	12.7	87.9	23.9

6.0 INFILTRATION TESTING

JTC performed infiltration tests at each test pit location directly adjacent to the excavated test pits in order to observe the soils at deeper depths than the required infiltration depths. Essentially, three test pits were excavated 7.5’ to 8’ bgs, and the infiltration tests were performed at shallower depths (as noted in Table below) in virgin soils, therefore separate, adjacent infiltration test pits were excavated for the IT’s, utilizing corresponding labels. Testing was performed in accordance with the NHDES AoTB requirements.

Testing Setup

At the designated bottom of each of the infiltration test pits (adjacent to deeper test pits), a clean, virgin, flat surface was prepared. Then a 3-inch diameter Schedule 40 PVC pipe was slightly driven into the testing surface to seat the PVC, and the excavated spoils were placed around the outside of the PVC pipe and tamped, securing the pipe in a vertically plumb orientation. Subsequently, JTC added approximately 6-inches of gravel inside of the PVC pipe, to prevent scouring and hydraulic conductivity laterally during testing. Lastly, 2-feet of water was added inside the PVC pipe and the soils left to soak for the next 24 hours. This procedure occurred at each of the three respective infiltration testing locations.

Infiltration Test Procedure

JTC returned to the site the following day to perform infiltration testing at each of the three prepared locations. The testing procedure consisted of:

- Filling the pipe with water to a depth of 2 feet above the ground surface;
- Taking regular water level measurements over the following hour;
- Refilling the water after each hour and repeating the process for a total of four cycles.

Infiltration Test Results

The test results are summarized in the following tables:

Summary of Infiltration Testing

Infiltration Test #	Proximal Test Pit Designation	Depth (feet bgs)	Soil Type	Measured Infiltration Rate (in/hr)				Average Measured Rate (in/hr)
				Trial 1	Trial 2	Trial 3	Trial 4	
IT-1	TP-1	3.5	Sand with silt (SP-SM)	**22.1**	**19.0**	**19.7**	**22.7**	**20.9**
IT-2	TP-2	6.0	Clay (CH)	**0**	**0**	**0**	**0**	**0**
IT-3	TP-3	3.0	Sand (SP)	**24.2**	**24.4**	**21.0**	**16.7**	**21.6**

As presented in the tables above, JTC concludes that the Sand with silt (SP-SM) encountered at test location IT-1 exhibited an infiltration rate of approximately 20.9 in/hr, the Sand (SP) encountered at test location IT-3 exhibited an infiltration rate of approximately 21.6 in/hr, and the Clay (CH) in IT-2 did not allow the water to infiltrate during the time constraints of this testing program.

No factors of safety have been applied to the measured rates presented in the table. JTC recommends applying a minimum safety factor of 2 to the measured rates for design purposes.

7.0 CLOSING

We trust the contents of this memorandum are responsive to your needs at this time. Should you have any questions or require additional assistance, please do not hesitate to contact our office.

APPENDIX A: LIMITATIONS

Explorations

1. The analyses and recommendations presented in this report are based in part upon the data obtained from widely-spaced subsurface explorations. Subsurface conditions between exploration locations may vary from those encountered at the exploration locations. The nature and extent of variations between explorations may not become evident until construction. If variations appear, it will be necessary to re-evaluate the recommendations of this report.
2. The generalized soil profile described in the text is intended to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized and have been developed by interpretation of widely-spaced explorations and samples; actual strata transitions are probably more gradual. For specific information, refer to the individual test pit and/or boring logs.
3. Water level readings have been made in the test pits and/or test borings under conditions stated on the logs. These data have been reviewed and interpretations have been made in the text of this report. However, it must be noted that fluctuations in the level of the groundwater may occur due to variations in rainfall, temperature, and other factors differing from the time the measurements were made.

Review

4. It is recommended that John Turner Consulting, Inc. be given the opportunity to review final design drawings and specifications to evaluate the appropriate implementation of the geotechnical engineering recommendations provided herein.
5. In the event that any changes in the nature, design, or location of the proposed areas are planned, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed, and conclusions of the report modified or verified in writing by John Turner Consulting, Inc.

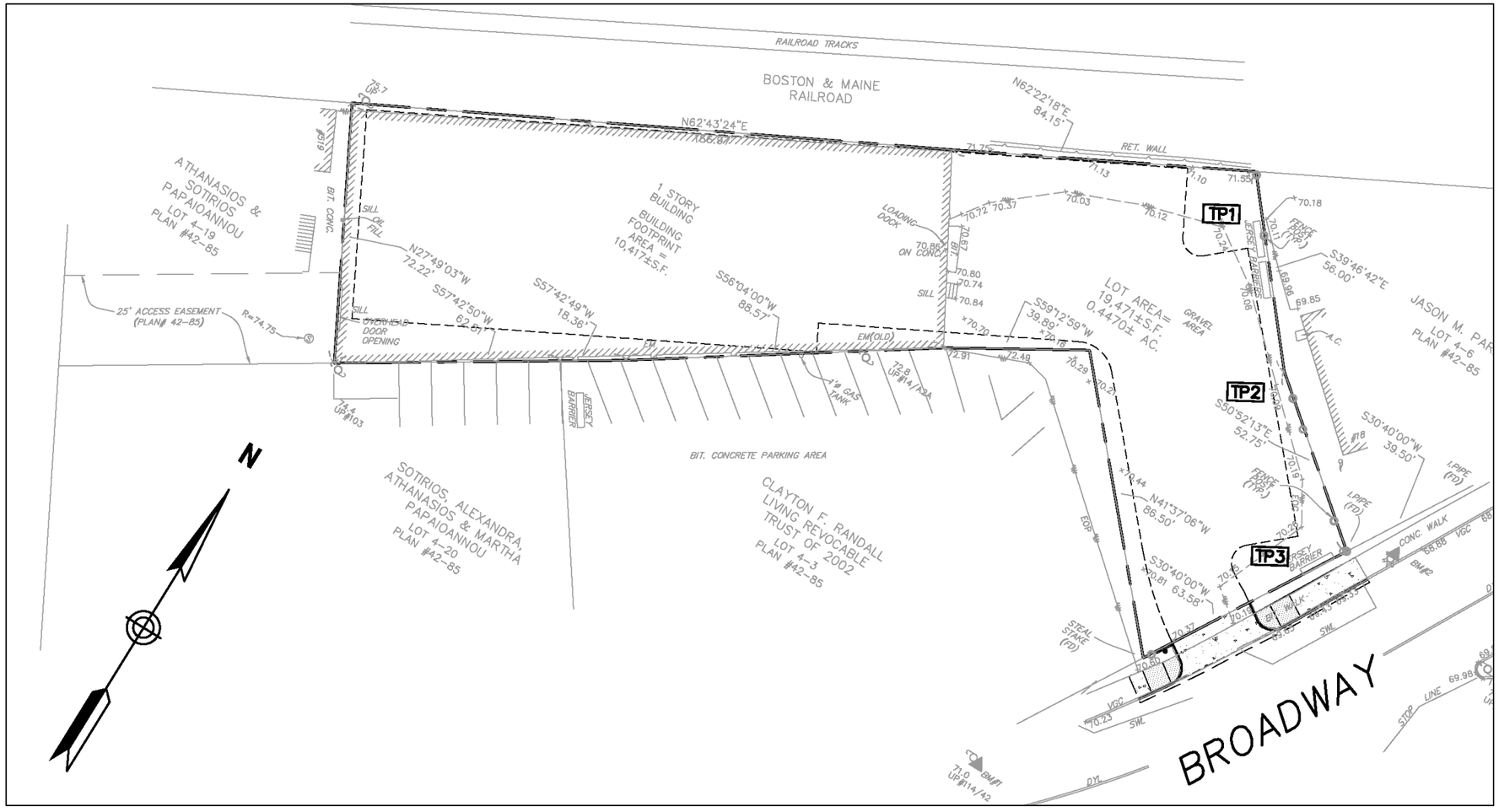
Construction

6. It is recommended that John Turner Consulting, Inc. be retained to provide geotechnical engineering services during the installation phases of the work. This is to observe compliance with the design concepts, specifications, and recommendations and to allow design changes in the event that subsurface conditions differ from those anticipated prior to the start of construction.

Use of Report

7. This report has been prepared for the exclusive use of Downtown Dover Storage, LLC for the project located at 519 Broadway in Dover, NH. All considerations are based on the available information and is in accordance with generally accepted soil and foundation engineering practices. No other warranty, expressed or implied, is made.
8. This report has been prepared for this project by John Turner Consulting, Inc. This report was completed for preliminary design purposes and may be limited in its scope to complete an accurate bid. Contractors wishing a copy of the report may secure it with the understanding that its scope is limited to preliminary geotechnical design considerations.

APPENDIX B: TEST PIT & INFILTRATION TEST LOCATION PLAN



Notes:

1. Test borings were performed on Nov. 11, 2020 under the direction of JTC. Test boring locations should be considered approximate.
2. Refer to the Test Boring Logs for the subsurface conditions encountered at each boring location.
3. Basemap source(s): October 26, 2020 “Test Pits” prepared by TEC
4. Not to Scale.

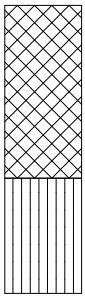
Nick Couturier **Downtown Dover Storage, LLC** **14 Broadway** **Dover, New Hampshire 03820**	**Proposed Parking Lot** **519 Broadway** **Dover, New Hampshire**
JOHN TURNER CONSULTING	**TEST BORING LOCATION PLAN**

APPENDIX C: TEST PIT LOGS & KEY TO SYMBOLS AND DESCRIPTIONS

JOHN TURNER CONSULTING

TEST PIT LOG
Test Pit No.: TP-1

PROJECT	PROJECT NO.
Downtown Dover Storage Proposed Parking lot	20-04-097
CLIENT	DATE
Downtown Dover Storage, LLC	11/11/2020
LOCATION	ELEV.
519 Broadway Dover, NH	70
EXCAVATION METHOD	LOGGER
Bobcat Excavator	JB
DEPTH TO - Water: N/A When checked: N/A	

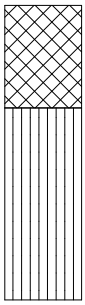
ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS: GRAPHIC	BULK	USCS	DESCRIPTION
70 — 0				[FILL] Dark brown Sand with silt (SP-SM)
65 — 5				[MARINE SILT AND CLAY] Light brown clay (CH) -Ground water at 6 feet
60 — 10				
55 — 15				
50 — 20				
45 — 25				

Notes: *Test pit was backfilled with soil cuttings from the investigation.*

JOHN TURNER CONSULTING

TEST PIT LOG
Test Pit No.: TP-2

PROJECT	PROJECT NO.
Downtown Dover Storage Proposed Parking lot	20-04-097
CLIENT	DATE
Downtown Dover Storage, LLC	11/11/2020
LOCATION	ELEV.
519 Broadway Dover, NH	70
EXCAVATION METHOD	LOGGER
Bobcat Excavator	JB
DEPTH TO - Water: N/A When checked: N/A	

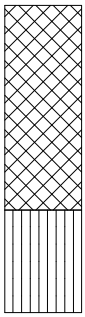
ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS: GRAPHIC	BULK	USCS	DESCRIPTION
70 — 0				[FILL] Dark brown Sand with silt (SP-SM)
				[MARINE SILT AND CLAY] Light brown clay (CH)
65 — 5				
60 — 10				
55 — 15				
50 — 20				
45 — 25				

Notes: *Test pit was backfilled with soil cuttings from the investigation.*

JOHN TURNER CONSULTING

TEST PIT LOG
Test Pit No.: TP-3

PROJECT	PROJECT NO.
Downtown Dover Storage Proposed Parking lot	20-04-097
CLIENT	DATE
Downtown Dover Storage, LLC	11/11/2020
LOCATION	ELEV.
519 Broadway Dover, NH	70
EXCAVATION METHOD	LOGGER
Bobcat Excavator	JB
DEPTH TO - Water: N/A When checked: N/A	

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS: GRAPHIC	BULK	USCS	DESCRIPTION
70 / 0				[FILL] Light brown Sand (SP)
65 / 5				[MARINE SILT AND CLAY] Light brown Clay (CH)
60 / 10				
55 / 15				
50 / 20				
45 / 25				

Notes: *Test pit was backfilled with soil cuttings from the investigation.*

MAJOR DIVISIONS			SYMBOLS		TYPICAL NAMES
COARSE-GRAINED SOILS OVER 50% > No.200 SIEVE SIZE	GRAVELS	CLEAN GRAVELS WITH LESS THAN 5% FINES	GW		Well-graded gravels or gravel-sand mixtures, little or no fines
			GP		Poorly graded gravels or gravel-sand mixtures, little or no fines
	MORE THAN 1/2 OF COARSE FRACTION > No.4 SIEVE SIZE	GRAVELS WITH OVER 15% FINES	GM		Silty gravels, gravel-sand mixtures
			GC		Clayey gravels, gravel-sand-clay mixtures
	SANDS	CLEAN SANDS WITH LESS THAN 5% FINES	SW		Well-graded sand or gravelly sands, little or no fines
			SP		Poorly graded sands or gravelly sands, little or no fines
	MORE THAN 1/2 OF COARSE FRACTION < No.4 SIEVE SIZE	SANDS WITH OVER 15% FINES	SM		Silty sand, sand-silt mixtures
			SC		Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS OVER 50% < No.200 SIEVE SIZE	SILTS & CLAYS LIQUID LIMIT 50% OR LESS		ML		Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
			CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
			OL		Organic silts and organic silty clays of low plasticity
	SILTS & CLAYS LIQUID LIMIT GREATER THAN 50%		MH		Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
			CH		Inorganic clays of high plasticity, fat clays
			OH		Organic clays of medium to high plasticity, organic silty clays, organic silts
HIGHLY ORGANIC SOILS			PT		Peat and other highly organic soils

JOHN TURNER CONSULTING

KEY TO SYMBOLS AND DESCRIPTIONS

TYPICAL SYMBOLS

- Shelby Tube
- Auger Cuttings
- Standard Split Spoon Sample
- 3" Split Spoon Sample
- Rock Core
- Dynamic Cone Penetrometer
- Vane Shear
- Bulk/Grab Sample
- Geoprobe Sample
- Sonic or Vibro-Core Sample
- Water Table (at time of drilling)
- Water Table (after 24 hours)

SOIL MOISTURE MODIFIERS

Term	Description
Dry	Absence of moisture; dusty, dry to touch
Moist	Damp but no visible water
Wet	Visible free water

The descriptor "damp" should not be used (use "moist").
The descriptor "saturated" should not be used (use "wet").

WELL SYMBOLS

- Recessed Cover Set in Concrete
- Top of Well, Recessed Pipe
- Covered Riser
- Capped Riser w/ Locking Cover
- Pipe Riser
- Concrete Seal
- Gravel Backfill
- Assorted Cuttings
- Bentonite Slurry
- Bentonite Pellets
- Silica Sand, blank PVC
- Slotted Pipe w/ Sand
- Endcap on Pipe Packed in Sand
- Silica Sand, No Pipe (End Plug)

CLASSIFICATION	RANGE OF GRAIN SIZES	
	U.S. Standard Sieve Size	Grain Size in Millimeters
BOULDERS	Above 12"	Above 305
COBBLES	12" to 3"	305 to 76.2
GRAVEL	3" to No. 4	76.2 to 4.75
coarse	3" to 3/4"	76.2 to 19.1
fine	3/4" to No. 4	19.1 to 4.75
SAND	No. 4 to No. 200	4.75 to 0.075
coarse	No. 4 to No. 10	4.75 to 2.00
medium	No. 10 to No. 40	2.00 to 0.425
fine	No. 40 to No. 200	0.425 to 0.075
SILT & CLAY	Below No. 200	Below 0.075

RELATIVE DENSITY/CONSISTENCY

Gravel, Sand, and Silt (nonplastic)		Silt (plastic) and Clay		
N-Value	Relative Density	N-Value	Su	Consistency
0 - 4	Very Loose	0 - 2	0 - 250	Very Soft
5 - 10	Loose	3 - 4	251 - 500	Soft
11-30	Medium Dense	5 - 8	501 - 1000	Medium Stiff
31 - 50	Dense	9 - 15	1001 - 2000	Stiff
51 +	Very Dense	16 - 30	2001 - 4000	Very Stiff
		31 +	4001+	Hard

Standard Penetration Testing (SPT) N_{60} based on blows per 12 inches.
WR = Weight of Rods; WH = Weight of Hammer

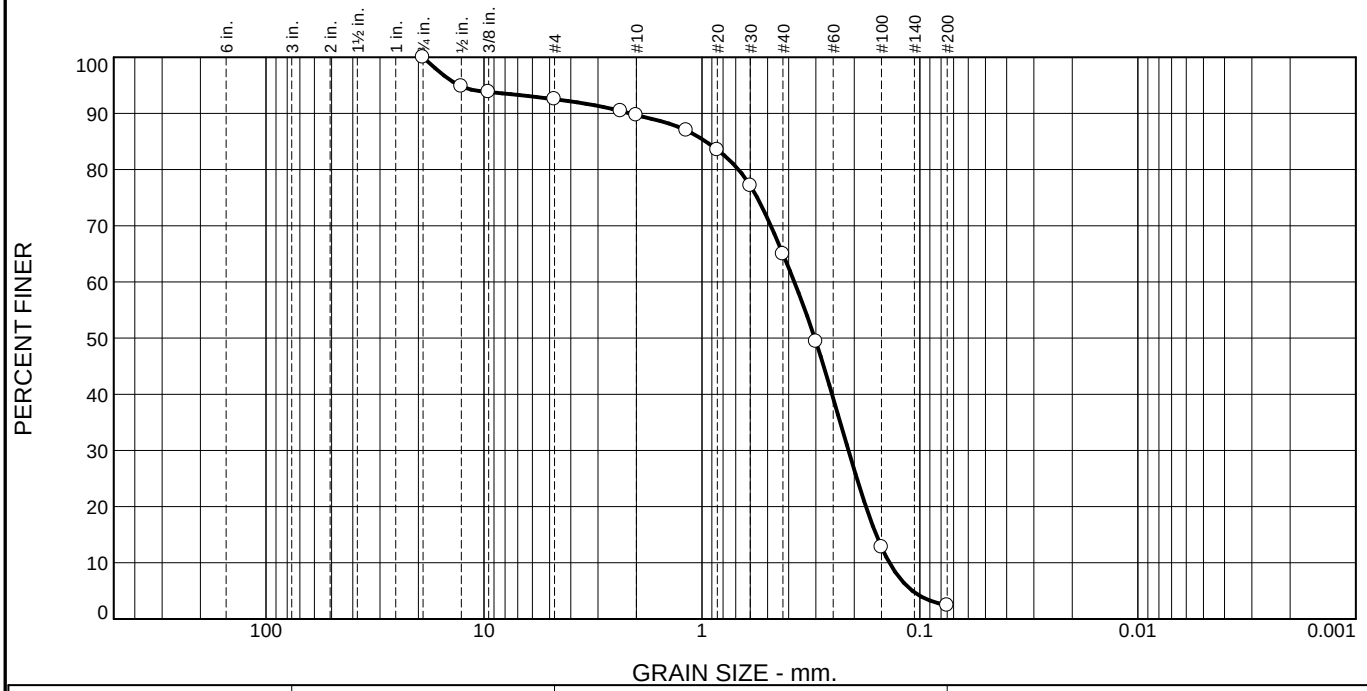
PERCENT OR PORTIONS OF SOIL

Term	Description
Parting:	> 1/16 in.
Seam:	0.5 in. to 1/16 in.
Layer:	12 in. to 0.5 in.
Stratum:	> 12 in.
Pocket:	Small erratic deposit
Lens:	Lenticular deposit
Occasional:	One or less per foot of thickness
Frequent	More than one per foot of thickness
Varved	Alternating seams or layers of silt and/or clay and sometimes f. sand

REFERENCE: UNIFIED SOIL CLASSIFICATION SYSTEM - ASTM D2488-93

APPENDIX D: LABORATORY TEST RESULTS

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	7.5	2.8	24.7	62.6	2.4	

Test Results (ASTM D 422 & ASTM D 1140)

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
.75	100.0		
1/2"	94.8		
.375	93.8		
#4	92.5		
#8	90.4		
#10	89.7		
#16	87.0		
#20	83.5		
#30	77.1		
#40	65.0		
#50	49.4		
#100	12.8		
#200	2.4		

* (no specification provided)

Material Description

Light brown sand

Atterberg Limits (ASTM D 4318)

PL= - **LL=** - **PI=** -

Classification

USCS (D 2487)= SP **AASHTO (M 145)=** -

Coefficients

D_{90}= 2.1381 D_{85}= 0.9618 D_{60}= 0.3769
D_{50}= 0.3035 D_{30}= 0.2127 D_{15}= 0.1586
D_{10}= 0.1379 C_u= 2.73 C_c= 0.87

Remarks

Moisture content 4.3%

Date Received: 11/19/2020 **Date Tested:** 11/30/2020

Tested By: Matt Watson

Checked By: Rob Faria

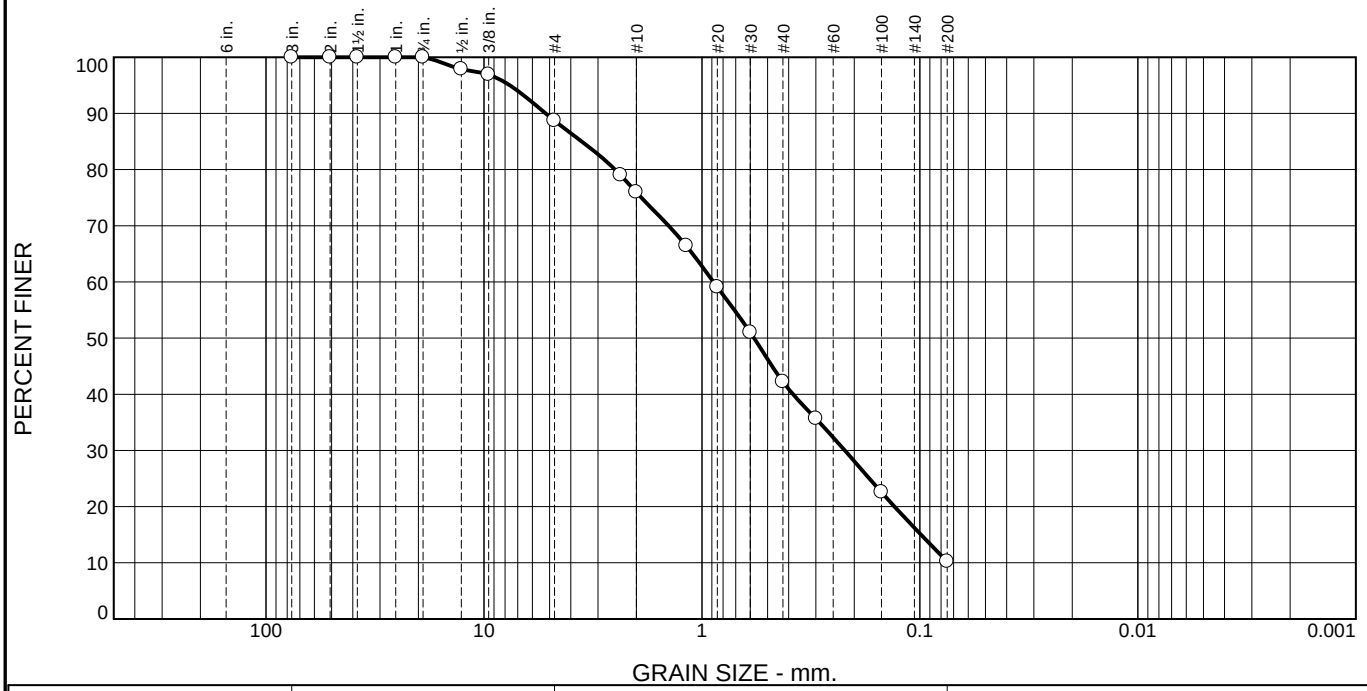
Title: Lab Manager

Location: TP-3 middle **Date Sampled:** 11/19/2020
Sample Number: 3520-711 **Depth:** 4'

JOHN TURNER CONSULTING

Client: Downtown Dover Storage, LLC
Project: Proposed Parking Area
14 Broadway Dover, NH
Project No: 20-04-097 **Figure** 711A

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	11.3	12.7	33.8	32.0	10.2	

Test Results (ASTM D 422 & ASTM D 1140)

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
3	100.0		
2	100.0		
1.5	100.0		
1	100.0		
.75	100.0		
1/2"	97.9		
.375	96.9		
#4	88.7		
#8	79.0		
#10	76.0		
#16	66.4		
#20	59.1		
#30	51.0		
#40	42.2		
#50	35.7		
#100	22.5		
#200	10.2		

* (no specification provided)

Material Description

Dark brown sand with silt

Atterberg Limits (ASTM D 4318)

PL= - **LL=** - **PI=** -

Classification

USCS (D 2487)= SP-SM **AASHTO (M 145)=** -

Coefficients

D_{90}= 5.2145 D_{85}= 3.5599 D_{60}= 0.8858
D_{50}= 0.5767 D_{30}= 0.2211 D_{15}= 0.0988
D_{10}= C_u= C_c=

Remarks

Moisture content 13.3%

Date Received: 11/19/2020 **Date Tested:** 11/30/2020

Tested By: Matt Watson

Checked By: Rob Faria

Title: Lab Manager

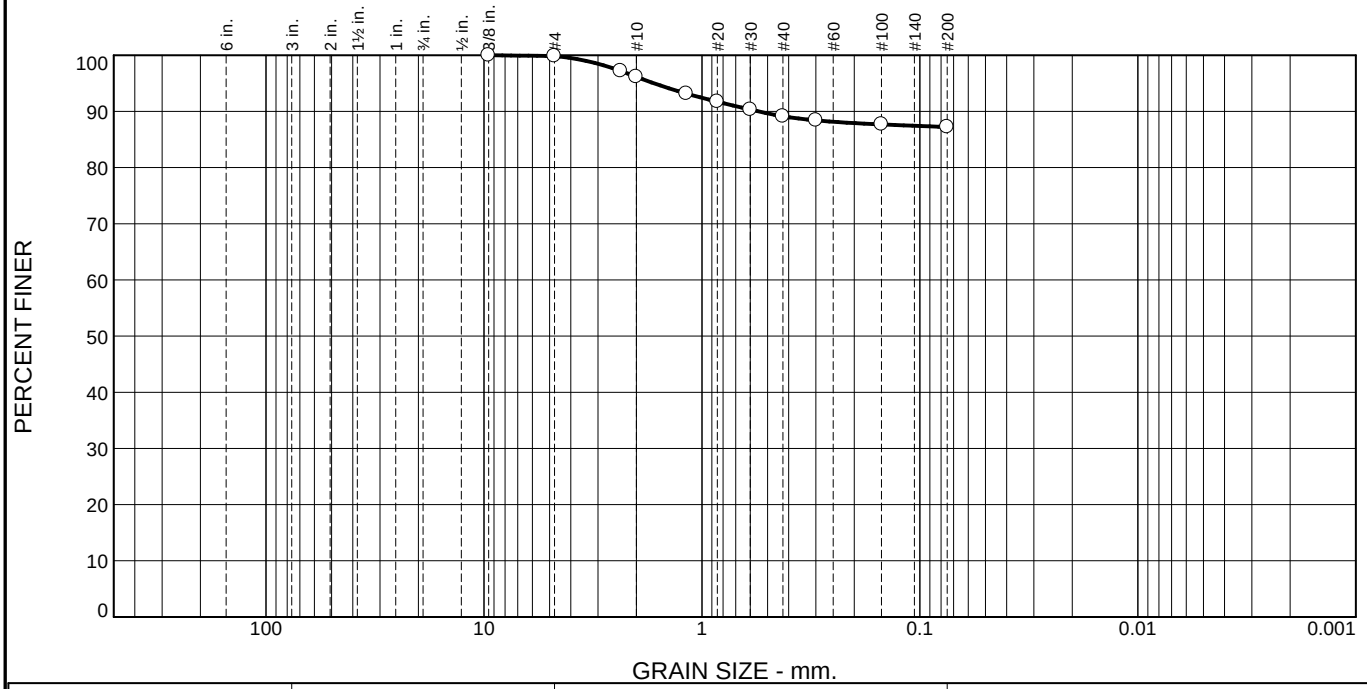
Location: TP-2 top
Sample Number: 3520-712 **Depth:** 0-3' bgs

Date Sampled: 11/19/2020

JOHN TURNER CONSULTING

Client: Downtown Dover Storage, LLC
Project: Proposed Parking Area
14 Broadway Dover, NH
Project No: 20-04-097 **Figure** 712A

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	3.7	7.1	1.9	87.2	

Test Results (ASTM D 422 & ASTM D 1140)

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
.375	100.0		
#4	99.9		
#8	97.2		
#10	96.2		
#16	93.2		
#20	91.7		
#30	90.3		
#40	89.1		
#50	88.4		
#100	87.7		
#200	87.2		

* (no specification provided)

Material Description

Light brown clay

Atterberg Limits (ASTM D 4318)

PL= 25 **LL=** 54 **PI=** 29

Classification

USCS (D 2487)= CH **AASHTO (M 145)=** A-7-6(28)

Coefficients

D_{90}= 0.5499 D_{85}= D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Remarks

Moisture content 23.9%

Date Received: 11/19/2020 **Date Tested:** 12/1/2020

Tested By: Matt Watson

Checked By: Rob Faria

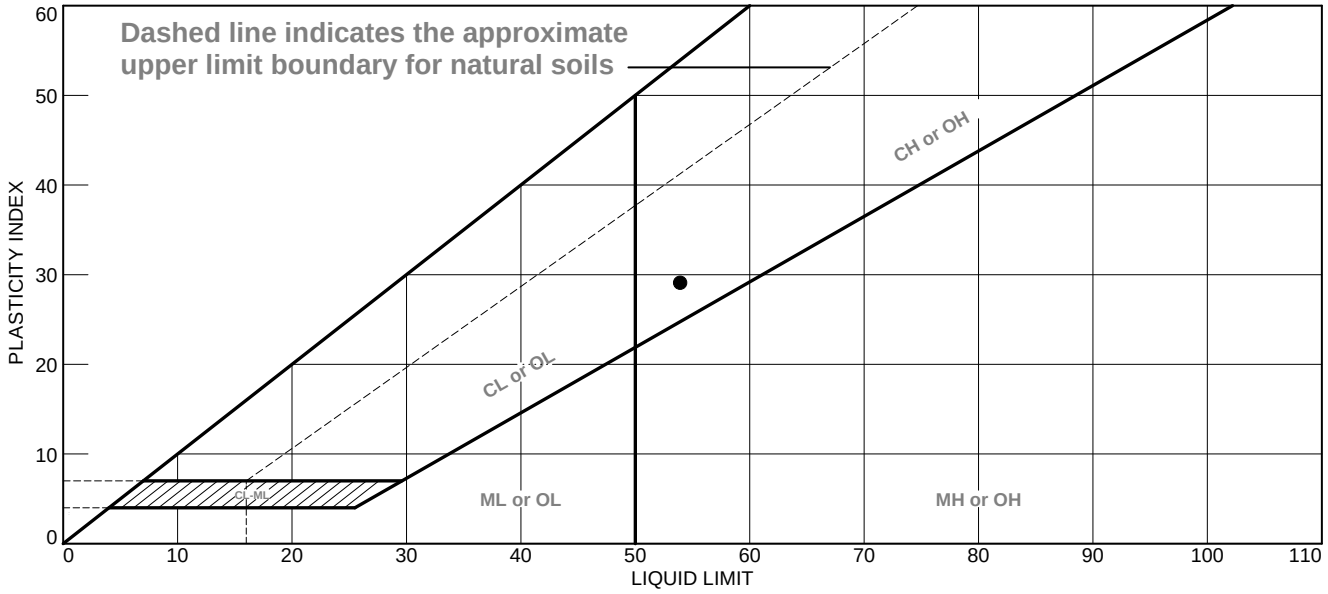
Title: Lab Manager

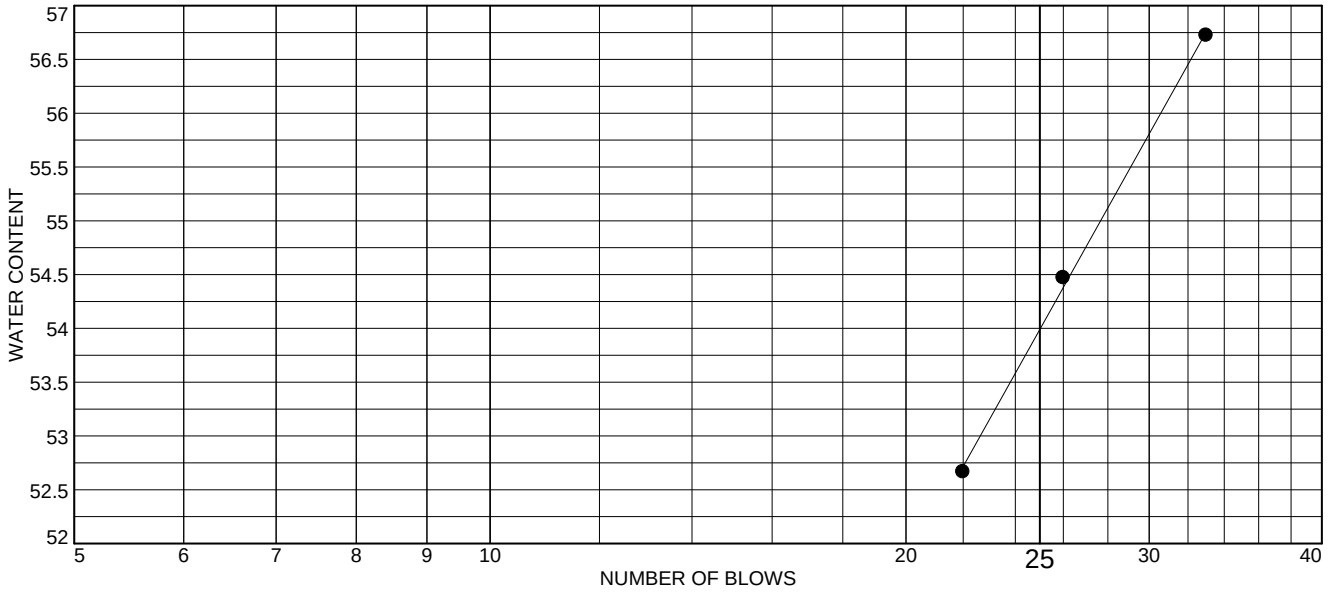
Location: TP-3 bottom **Date Sampled:** 11/19/2020
Sample Number: 3520-715 **Depth:** 8'

JOHN TURNER CONSULTING

Client: Downtown Dover Storage, LLC
Project: Proposed Parking Area
14 Broadway Dover, NH
Project No: 20-04-097 **Figure** 713A

LIQUID AND PLASTIC LIMITS TEST REPORT





	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Light brown clay	54	25	29	89.1	87.2	CH

Project No. 20-04-097 **Client:** Downtown Dover Storage, LLC

Project: Proposed Parking Area

14 Broadway Dover, NH

Location: TP-3 bottom

Sample Number: 3520-715 **Depth:** 8'

Remarks:

JOHN TURNER CONSULTING

Figure 715B

Tested By: Rob Faria

APPENDIX E: SITE PHOTOGRAPHS

JOHN TURNER
CONSULTING

Downtown Dover Storage, LLC
519 Broadway
Dover, New Hampshire

SITE PHOTOGRAPHS



Bobcat Mini Excavator Used to Dig Test Pits


Brick Shown in Fill at TP-3



Test Pit 2 Being Excavated


Soil Profile of Test Pit 2


Soil Profile of Test Pit 1


Site Layout

D

Operation & Maintenance Plan

Stormwater Management Operations and Maintenance Plan

PROPOSED RESIDENTIAL DEVELOPMENT

Assessor's Map 5, Lot 5
14 Broadway
Dover, New Hampshire

Prepared for:

Downtown Dover Storage, LLC
42 L Dover Point Road
Dover, NH 03820

Prepared by:

TEC, Inc.
169 Ocean Boulevard
Unit 101 PO BOX 249
Hampton, NH 03842

November 23, 2021

Stormwater Management Operation and Maintenance Plan
November 23, 2021

Name of Applicant: **Downtown Dover Storage, LLC**
Name of Project: **Proposed Residential Development – 14 Broadway**
Location: **Dover, New Hampshire 03820**

A detailed, written log of all scheduled preventative and corrective maintenance performed for the stormwater management measures must be kept by the Applicant, including a record of all inspections and copies of maintenance-related work orders. Attachment 1, "Inspection and Maintenance Check List" shall be maintained as a record of regularly scheduled inspection and maintenance items as outlined below for every year. Maintenance required and actions taken shall be recorded in Attachment 2, Inspection and Maintenance Log". The funding, operation, and maintenance of all stormwater management Best Management Practices (BMPs) shall be provided by the Owner or their appointee.

Maintenance routine and schedule: Routine inspections will be conducted monthly and thorough investigations will be conducted twice a year. Tasks that are common to all systems include regular removal of accumulated sediments, floatables and debris. Inspections will occur after every major storm event for the first six (6) months after construction. Inspections will be conducted by a person trained in stormwater management systems and experienced in drainage design.

Annual reports will be prepared detailing the status of the stormwater system and the maintenance performed. A copy of the annual report will be sent to the City of Dover Conservation Commission, if requested.

The Owner agrees to comply with a minimum maintenance schedule as follows:

1. **Monthly inspection for damaged or clogged catch basin and area drain grates**
   Catch basin grates shall be inspected and cleared of debris to maintain inlet capacity.

2. **Semi-annual cleaning of catch basins**
   Sumps and inlets shall be cleaned four times per year and inspected monthly. All sediments shall be properly handled and disposed of in accordance with local, state and federal guidelines and regulations.

3. **Semi-annual cleaning of Stormceptor**
   Inspection of the Stormceptor interior should be done after major storm events, particularly in the first year of operation. It is recommended that material in the treatment chamber of pumped out by a vacuum truck semiannually, or when the sediment and pollutant loads reach about 15 percent of the total storage.

4. Inspection and cleaning of drainage pipes and manholes

Drainage pipes and manhole structures shall be inspected and cleaned of sediment at least every five (5) years or as required to maintain adequate functionality of the stormwater conveyance system. All sediments shall be properly handled and disposed of in accordance with local, state and federal guidelines and regulations.

5. Grass Landscaping

The grass landscaping will be inspected after every major storm event for the two (2) months after seeding to ensure functionality. Thereafter, inspections should take place every six (6) months in the spring and fall and after severe storm events. Grass and mulched landscaping showing signs of wear and erosion will be re-loamed/re-seeded or re-mulched as necessary to prevent further erosion from taking place.

6. Snow Removal

Snow will be stored within the landscape islands onsite.

The Long-Term Pollution Prevention Plan

The Owner agrees to comply with the following Long-Term Pollution Prevention Plan to ensure long-term stormwater quality discharge from the site:

- Good housekeeping practices: The project will be maintained by the Town DPW, including snow removal, de-icing, and BMP inspection and maintenance.

- Provisions for storing materials and waste products inside or under cover: No materials or waste products will be stored on-site.

- Vehicle washing controls: Vehicle washing is not anticipated as a reasonably foreseeable use of the site.

- Requirements for routine inspections and maintenance of stormwater BMPs: The Owner will be responsible for providing the necessary inspections and maintenance for the stormwater BMPs.

- Spill prevention and response plans: There are no proposed uses at the site that would provide an opportunity for a spill of oil or hazardous materials, other than a sudden, catastrophic, vehicle failure. If a vehicle release is the result of an accident, the police and fire department will respond and address any release.

- Provisions for maintenance of lawns, gardens, and other landscaped areas: The Owner will provide long-term maintenance for the landscaped areas.

- Requirements for storage and use of fertilizers, herbicides, and pesticides: At

this time there would be no foreseeable need for fertilizers, herbicides, and pesticides.

- Provisions for operation and management of septic systems: Proposed Parking Lot, no septic systems are proposed.

- Provisions for solid waste management: The proposed project is a Parking Lot project, and any foreseeable solid waste would be litter. The Owner is responsible for litter clean up.

- Snow disposal and plowing plans relative to Wetland Resource Areas: Snow will be stored at the westerly edge of the parking lot temporarily.

- Street sweeping schedules: The Owner will be responsible for semi-annual street sweeping with sweepings concentrated in the Spring and Fall.

- Provisions for prevention of illicit discharges to the stormwater management system: Only stormwater is proposed to be conveyed through the stormwater management system. No illicit materials will be permitted. The owner will be responsible to maintain this system.

- Documentation that Stormwater BMPs are designed to provide for shutdown and containment in the event of a spill or discharges to or near critical areas or from LUHPPL: Not applicable

- Training for staff or personnel involved with implementing Long-Term Pollution Prevention Plan: The Owner shall appoint trained personnel to be involved with implementing Long-Term Pollution Prevention Plan.

- List of Emergency contacts for implementing Long-Term Pollution Prevention Plan:

  Downtown Dover Storage, LLC
  42 L Dover Point Road
  Dover, New Hampshire 03820

INSPECTION AND MAINTENANCE CHECK LIST –
14 Broadway, Dover, NH

For Year: _____

	Inspection Item	Inspection Frequency* Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
1	Catch Basin Grates												
2	Stormceptor												
3	Drainage Pipes and Manholes	at least every 5 years											
4	Grass Landscaping												

	Maintenance Item	Maintenance Frequency* Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
1	Roadway Sweeping												
2	Catch Basin Cleaning												
3	Stormceptor												
4	Drainage Pipes and Manholes	at least every 5 years											

* Actual time of inspecting and maintaining items may vary. Chart shall be used to indicate frequency of events

** This chart shall be used in conjunction with the attached "Stormwater Management Operations and Maintenance Plan", dated November 23, 2021

Name of Applicant: Downtown Dover Storage, LLC

Name of Project: Proposed Residential Development – 14 Broadway

Location: 14 Broadway, Dover, NH 03820

Inspection and Maintenance Log

Inspection No.	Date	Inspections Performed	Maintenance Actions Taken
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			

Additional Sheets shall be added as needed

P21-29, P21-51 & P21-52 **12 & 14 Broadway**

Property ID	Location	Owner 1	Owner 2	Owner Address 1	City	State	Zip
03051-000000	14 ST JOHN ST	SAINT JOHN STREET LLC		103 BEANE LANE	NEWINGTON	NH	03801
03052-000000	16 ST JOHN ST	BRATTER MYLES S & ELIZABETH A TRUSTEES	BRATTER FAMILY REVOCABLE TRUST	177 BARTLETT ST	PORTSMOUTH	NH	03801
03053-000000	17 19 BROADWAY	ALLEN MICHAEL &	ALLEN PATRICIA	349 ROUTE 108	MADBURY	NH	03823
03054-000000	15 BROADWAY	HUNT MATTHEW J	CAMPBELL ALANA	35 NEW YORK ST	DOVER	NH	03820
03055-000000	13 BROADWAY	CITY OF DOVER		288 CENTRAL AVE	DOVER	NH	03820
03056-000000	9 BROADWAY	CITY OF DOVER		288 CENTRAL AVE	DOVER	NH	03820
03057-000000	7 BROADWAY	BROADWAY PROPERTIES LLC		92 PORTSMOUTH AVE STE 17	EXETER	NH	03833
03058-059000	3 5 BROADWAY	SULLIVAN JOHN W		82 ELIOT RD	KITTERY	ME	03904
03060-000000	495 503 CENTRAL AV	3L HOLDINGS LLC		1 JAMES CIR	BRENTWOOD	NH	03833-6662
03061-000000	481 CENTRAL AV	481 CENTRAL AVE LLC		225 W SQUANTUM ST STE 200	QUINCY	MA	02171
03061-A00000	487 491 CENTRAL AV	3L HOLDINGS LLC		1 JAMES CIR	BRENTWOOD	NH	03833-6662
04001-000000	505 CENTRAL AV	GARRISON PROPERTIES INC		131 CLEMENT RD	ROLLINSFORD	NH	03869
04002-000000	4 BROADWAY	RANDALL MATTHEW		131 CLEMENT RD	ROLLINSFORD	NH	03869
04006-000000	18 BROADWAY	PARKER JASON M		18 BROADWAY	DOVER	NH	03820-3202
04007-000000	22 BROADWAY	ZELAZO THERESA E	ZELAZO CHRISTINE R	23 BIRCH DRIVE	DOVER	NH	03820
04008-000000	26 BROADWAY	ASH RYAN C		26 BROADWAY	DOVER	NH	03820
04009-000000	BROADWAY	BOSTON & MAINE RR	IRON HORSE PARK	HIGH STREET	NORTH BILLERICA	MA	01862
04012-000000	23 25 PIERCE ST	MORNINGSTAR PROPERTIES LLC		101 PORTSMOUTH AVE	NEW CASTLE	NH	03854
04013-000000	21 PIERCE ST	MORNINGSTAR PROPERTIES LLC		101 PORTSMOUTH AVE	NEW CASTLE	NH	03854
04014-000000	17 19 PIERCE ST	MCCRACKEN MICHAEL B &	MCCRACKEN CASSANDRE M	28 HOUGH ST	DOVER	NH	03820
04015-000000	PIERCE ST	BOISSE GARY R		PO BOX 755	SOMERSWORTH	NH	03878-0755
04017-000000	525 CENTRAL AV	DOVER NH CAR WASH LLC		24B LILY POND RD	BOXFORD	MA	01921
04019-000000	519 CENTRAL AV	PAPAIOANNOU ATHANASIOS &	PAPAIOANNOU SOTIRIOS	177 HENRY LAW AVENUE	DOVER	NH	03820-3816
04020-000000	511 CENTRAL AV	PAPAIONNOU SOTIRIOS & ALEXANDRA &	PAPAIONNOU ATHANASIOS AND MARTHA	1 BIRCH DR	SOUTH BERWICK	ME	03908
04021-000000	CENTRAL AV	PEOPLE'S UNITED BANK		850 MAIN ST	BRIDGEPORT	CT	06604
04022-000000	2 10 PIERCE ST	TWO PIERCE STREET LLC		601 CENTRAL AVE	DOVER	NH	03820
04024-000000	12 PIERCE ST	PEOPLE'S UNITED BANK		850 MAIN ST	BRIDGEPORT	CT	06604
04030-000000	537 CENTRAL AV	PEOPLE'S UNITED BANK		850 MAIN ST	BRIDGEPORT	CT	06604
04034-000000	14 PIERCE ST	SYSTEM PROPERTIES LLC		PO BOX 297	DOVER	NH	03821
04035-000000	16 PIERCE ST	TRANSOM PROPERTIES LLC		PO BOX 1818	DOVER	NH	03821
05005-000000	526 CENTRAL AV	ADMR REALTY LLC		780 PORTSMOUTH AVE	GREENLAND	NH	03840-2121
05007-000000	530 CENTRAL AV	GOSSELLS BONNIE & BLICHER E CO-TRUSTEE	C/O 7 ELEVEN INC	PO BOX 711	DALLAS	TX	75221
06046-000000	488 490 CENTRAL AV	BAMFORD DAVID K		466 CENTRAL AVE SUITE 12	DOVER	NH	03820
06054-A00000	THIRD ST	CITY OF DOVER		288 CENTRAL AVE	DOVER	NH	03820
24040-000000	4 WINTER ST	MCMANUS JAMES		PO BOX 1876	DOVER	NH	03820
24041-000000	15 ST JOHN ST	ATLAS MEMORIAL INC		84 BROAD ST	PORTSMOUTH	NH	03801
24042-000000	7 ST JOHN ST	CC 7 ST JOHN'S STREET LLC		PO BOX 571	GREENLAND	NH	03840
04003-000000	12 BROADWAY	RANDALL MATTHEW		131 CLEMENT RD	ROLLINSFORD	NH	03869
04005-000000	14 BROADWAY	DOWNTOWN DOVER STORAGE LLC	C/O RICHARD M CYR	640 MIDDLE ST	PORTSMOUTH	NH	03801
		DONWNTOWN DOVER STORAGE LLC		42 DOVER POINT ROAD UNIT L	DOVER	NH	03820
		HANCOCK ASSOCIATES		1 HARRISON STREET	NEWBURYPORT	MA	01950
		TEC INC		146 DASCOMB ROAD	ANDOVER	MA	01810
		CLYTON F. RANDALL LIVING REVOCABLE TRUST		131 CLEMENT RD	ROLLINSFORD	NH	03869
		HANCOCK ASSOCIATES		185 CENTRE STREET	DANVERS	MA	01923
		TEC INC	CHRIS RAYMOND	169 OCEAN BLVD	HAMPTON	NH	03824

Site Plans

Proposed Residential Development

14 Broadway, Dover, NH 03820

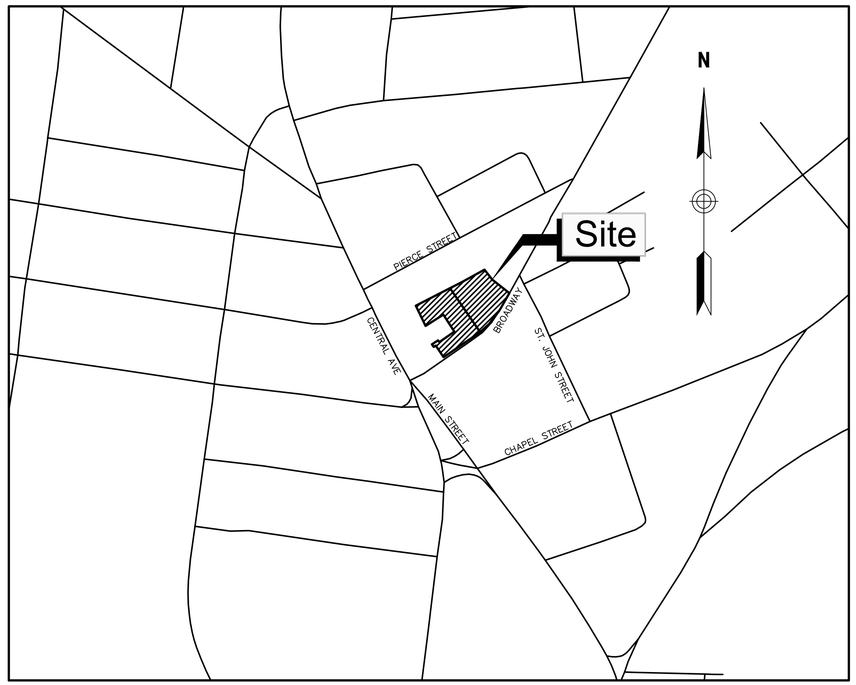
Assessor's Map 4, Lot 5

Site Plans Index

No.	Drawing Title	Latest Issue
C-1	Title & Index Sheet	November 24, 2021
C-2	Legend & General Notes	November 24, 2021
C-3	Neighborhood Plan	November 24, 2021
C-4	Existing Condition Plan (Hancock Associates)	February 19, 2021
C-5	Lot Line Adjustment Plan (Hancock Associates)	September 25, 2021
C-6	Demolition Plan	November 24, 2021
C-7	Layout & Materials Plan	November 24, 2021
C-8	Grading & Drainage Plan	November 24, 2021
C-9	Utility Plan	November 24, 2021
C-10	Erosion & Sediment Control Plan	November 24, 2021
C-11	Construction Details	November 24, 2021
C-12	Construction Details	November 24, 2021
C-13	Construction Details	November 24, 2021
C-14	Construction Details	November 24, 2021

Reference Plans Index

No.	Drawing Title	Latest Issue
1	Architectural Plan & Elevations (Lassel Architects)	November 24, 2021
2	Lighting Plan (SK & Associates)	August 26, 2021
3	Landscape Plan (Terra Firma)	November 24, 2021



LOCATION MAP

250 0 250 500

SCALE IN FEET

PLANNING BOARD FILE #: P21-29

TEC
The Engineering Corp
TEC, Inc.
146 Dascomb Road
Andover, MA 01810
(978) 794-1792
169 Ocean Boulevard
Unit 101, PO Box 249
Hampton, NH 03842
(603) 601-8154
www.TheEngineeringCorp.com

DESIGNED BY	CPR
DRAWN BY	MWP
CHECKED BY	CPR
DATE	8/5/2021
SCALE	As Noted

OWNER/APPLICANT

Downtown Dover Storage, LLC
42 L Dover Point Road
Dover, NH 03820

REVISIONS

1. TRC Revisions 10/28/2021
2. TRC Revisions 11/24/2021

ISSUED FOR

Permitting

PROJECT TITLE

Proposed Residential Development

PROJECT LOCATION

14 Broadway
Dover, NH 03820

DRAWING TITLE

Title & Index Sheet

STATE OF NEW HAMPSHIRE - CHRISTOPHER P. RAYMOND No.16305 LICENSED PROFESSIONAL ENGINEER

PROJECT NO.
N0946.02

TEC CAD FILE
N0946.02_COV

DRAWING NO.
C-1

SHEET 1 OF 14

GENERAL NOTES

1. CONTRACTOR SHALL NOTIFY DIG–SAFE (1–888–344–7233) AND THE LOCAL MUNICIPAL WATER & SEWER DEPT. AT LEAST 72 HOURS BEFORE EXCAVATING.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SECURITY AND JOB SAFETY. CONSTRUCTION ACTIVITIES SHALL BE IN ACCORDANCE WITH OSHA STANDARDS AND LOCAL REQUIREMENTS. A 6–FOOT TEMPORARY CHAINLINK FENCE SHALL BE PROVIDED AROUND ALL CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL LEAVE NO UNSECURED OPEN EXCAVATIONS.
3. 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.
4. SITE CONSTRUCTION HOURS SHALL BE LIMITED TO MONDAY THROUGH FRIDAY BETWEEN 7 AM AND 6 PM, SATURDAY AND SUNDAY BETWEEN 9 AM AND 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.
5. HANDICAP ACCESSIBLE ROUTES, PARKING SPACES, RAMPS, SIDEWALKS AND WALKWAYS SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE FEDERAL AMERICANS WITH DISABILITIES ACT/ARCHITECTURAL ACCESS BOARD (AAB), AND WITH STATE AND LOCAL LAWS AND REGULATIONS (WHICHEVER ARE MORE STRINGENT).
6. WORK WITHIN THE LOCAL RIGHT–OF–WAY SHALL CONFORM TO LOCAL MUNICIPAL STANDARDS. WORK WITHIN STATE RIGHT–OF–WAY SHALL CONFORM TO THE LATEST EDITION OF THE STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION.
7. UPON AWARD OF CONTRACT, CONTRACTOR SHALL MAKE NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN NECESSARY PERMITS, PAY FEES, AND POST BONDS ASSOCIATED WITH THE WORK INDICATED ON THE DRAWINGS, IN THE SPECIFICATIONS, AND IN THE CONTRACT DOCUMENTS. DO NOT CLOSE OR OBSTRUCT ROADWAYS, SIDEWALK, AND FIRE HYDRANTS, WITHOUT APPROPRIATE PERMITS.
8. TRAFFIC SIGNAGE AND PAVEMENT MARKINGS SHALL CONFORM TO THE CURRENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
8. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER.
9. IN THE EVENT THAT SUSPECTED CONTAMINATED SOIL, GROUNDWATER, AND OTHER MEDIA ARE ENCOUNTERED DURING EXCAVATION AND CONSTRUCTION ACTIVITIES BASED ON VISUAL, OLFACTORY, OR OTHER EVIDENCE, THE CONTRACTOR SHALL STOP WORK IN THE VICINITY OF THE SUSPECT MATERIAL TO AVOID FURTHER SPREADING OF THE MATERIAL, AND SHALL NOTIFY THE OWNER IMMEDIATELY SO THAT THE APPROPRIATE TESTING AND SUBSEQUENT ACTION CAN BE TAKEN.
10. CONTRACTOR SHALL PREVENT DUST, SEDIMENT, AND DEBRIS FROM EXITING THE SITE AND SHALL BE RESPONSIBLE FOR CLEANUP, REPAIRS AND CORRECTIVE ACTION IF SUCH OCCURS.
11. CONTRACTOR SHALL CONTROL STORMWATER RUNOFF DURING CONSTRUCTION TO PREVENT ADVERSE IMPACTS TO OFF SITE AREAS, AND SHALL BE RESPONSIBLE TO REPAIR RESULTING DAMAGES, IF ANY, AT NO COST TO OWNER.
12. THERE SHALL BE NO STORAGE OF HAZARDOUS MATERIALS OR HAZARDOUS WASTE WITHIN THE SUBJECT LOT.
13. 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. THE MORE STRINGENT SPECIFICATIONS SHALL APPLY.
14. ANY RETAINING WALL TALLER THAN FOUR FEET (4') REQUIRES ISSUANCE OF A BUILDING PERMIT FROM INSPECTION SERVICES.
15. ANY FENCE TALLER THAN SEVEN FEET (7') REQUIRES THE ISSUANCE OF A BUILDING PERMIT FROM INSPECTION SERVICES.
16. 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 COVER 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.
17. NO FEDERAL AND STATE PERMITS ARE REQUIRED FOR THE SUBJECT PROPERTY.
18. COMMERCIAL VEHICLE ROUTE DURING CONSTRUCTION SHALL CONFORM TO DOVER CITY CODE OR BE COORDINATED WITH THE COMMUNITY SERVICES DIRECTOR.
19. APPLICANT SHALL COMPLETE LAND USE DEVELOPMENT TRACKING FORM, MOST RECENTLY REVISED VERSION, UTILIZING THE ONLINE POLLUTION TRACKING AND ACCOUNTING PILOT PROJECT (PTAPP) PORTAL. HTTP://WWW.UNH.EDU/UNHSC/PTAPP
20. 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 PURCHASES TO THE REQUIREMENTS FOR MAINTENANCE AND REPORTING.
21. TOPOGRAPHIC SURVEY PERFORMED BY HANCOCK ASSOCIATES ON 4/18/2020.
22. ELEVATIONS ARE BASED ON U.S.G.S. NVD 1988 DATUM.
23. A SECURITY SYSTEM SHALL BE INSTALLED AS REQUIRED BY CHAPTER 45, ARTICLE I, SECTION 45–2 OF THE CODE OF THE CITY OF DOVER.
24. APPROVED BACKFLOW PREVENTERS SHALL BE PROVIDED FOR BOTH FIRE AND DOMESTIC WATER LINES.
25. THE 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.
26. THE SITE LAYOUT IS DESIGNED IN COMPLIANCE WITH APPLICABLE ACCESSIBILITY REGULATIONS. THE PROPOSED STRUCTURE WILL BE DESIGNED IN ACCORDANCE WITH APPLICABLE ACCESSIBILITY REGULATIONS.

GRADING, DRAINAGE AND UTILITY NOTES

1. THE LOCATIONS, SIZES, AND TYPES OF EXISTING UNDERGROUND UTILITIES ARE SHOWN AS AN APPROXIMATE REPRESENTATION ONLY. THE OWNER OR ITS REPRESENTATIVE(S) HAVE NOT INDEPENDENTLY VERIFIED THIS INFORMATION AS SHOWN ON THE PLANS. THE UTILITY INFORMATION SHOWN DOES NOT GUARANTEE THE ACTUAL EXISTENCE, SERVICEABILITY, OR OTHER DATA CONCERNING THE UTILITIES, NOR DOES IT GUARANTEE AGAINST THE POSSIBILITY THAT ADDITIONAL UTILITIES MAY BE PRESENT THAT ARE NOT SHOWN ON THE PLANS. PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION THE CONTRACTOR SHALL VERIFY AND DETERMINE THE EXACT LOCATION, SIZES, AND ELEVATION OF EXISTING UTILITIES.
2. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, OR EXISTING CONDITIONS DIFFER FROM THOSE SHOWN SUCH THAT THE WORK CANNOT BE COMPLETED AS INTENDED, THE LOCATION, ELEVATION, AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED IN WRITING TO THE OWNER'S REPRESENTATIVE FOR THE RESOLUTION OF THE CONFLICT. FAILURE TO PROVIDE OR PERFORM THE ABOVE PRIOR TO PERFORMING ANY WORK SHALL NOT BE GROUNDS FOR EXTRA PAYMENTS TO THE CONTRACTOR.
3. AT ALL LOCATIONS WHERE EXISTING CURBING OR PAVEMENT ABUTS NEW CONSTRUCTION, THE EDGE OF THE EXISTING CURB OR PAVEMENT SHALL BE SAW CUT TO A CLEAN, SMOOTH EDGE. BLEND NEW PAVEMENT, CURBS, AND EARTHWORK SMOOTHLY INTO EXISTING BY MATCHING LINES, GRADES, AND JOINTS.
4. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES, AS REQUIRED.
5. ALL UTILITY COVERS, GRATES, ETC. SHALL BE ADJUSTED TO BE FLUSH WITH THE PAVEMENT FINISH GRADE UNLESS OTHERWISE NOTED.
6. INSTALL ALL UTILITIES (INCLUDING CONCRETE PADS) PER UTILITY COMPANY AND DPW STANDARDS.
7. EXISTING TREES AND SHRUBS OUTSIDE THE LIMITS OF GRADING SHALL BE REMOVED ONLY UPON PRIOR APPROVAL OF THE OWNER.
8. UNLESS OTHERWISE INDICATED, ABANDONED EXISTING UTILITY LINES SHALL BE CAPPED AND ABANDONED IN PLACE UNLESS THEY CONFLICT WITH PROPOSED IMPROVEMENTS, WHERE THEY SHALL THEN BE REMOVED. CAP REMAINING PORTIONS WHERE PARTIALLY REMOVED.
9. ALL WATER INFRASTRUCTURE SHALL CONFORM TO MUNICIPAL STANDARDS.
10. INSULATE SANITARY PIPES WHERE INVERT DEPTH IS LESS THAN FIVE (5) FEET BELOW FINISHED GRADE.
11. CONTRACTOR SHALL PROTECT ALL UNDERGROUND DRAINAGE, SEWER, AND UTILITY FACILITIES FROM EXCESSIVE VEHICULAR LOADS DURING CONSTRUCTION. ANY DAMAGE TO THESE FACILITIES RESULTING FROM CONSTRUCTION LOADS WILL BE RESTORED TO ORIGINAL CONDITION (AT NO ADDITIONAL COST TO THE OWNER) BY THE CONTRACTOR.
12. ALL WATER AND SEWER UTILITY WORK SHALL CONFORM TO LOCAL UTILITY DIVISION SPECIFICATIONS, DETAILS, RULES AND REGULATIONS AND HAVE FIVE (5) FEET OF MINIMUM COVER. GAS, ELECTRIC, AND TELEPHONE LOCATIONS AND ROUTING ARE SUBJECT TO REVIEW AND APPROVAL BY THE APPROPRIATE UTILITY COMPANIES.
13. FIRE ALARM CONNECTION LOCATIONS AND ROUTING ARE SUBJECT TO REVIEW AND APPROVAL BY THE FIRE DEPARTMENT.
14. THE CONTRACTOR SHALL REMOVE ALL EROSION CONTROL BARRIERS AFTER REVEGETATION OF DISTURBED AREAS AND AFTER APPROVAL BY THE LOCAL APPROVING AUTHORITY.
15. EXCAVATION REQUIRED IN THE PROXIMITY OF EXISTING UTILITY LINES SHALL BE DONE BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT NO COST TO THE OWNER.
16. STOCKPILED TOPSOIL SHALL BE PLACED NEATLY IN AN AREA APPROVED BY THE OWNER/REPRESENTATIVE.
17. THE CONTRACTOR SHALL SCHEDULE THEIR WORK TO ALLOW THE FINISHED SUBGRADE ELEVATIONS TO DRAIN PROPERLY WITHOUT PUDDLING. SPECIFICALLY, ALLOW WATER TO ESCAPE WHERE PROPOSED CURB MAY RETAIN RUNOFF PRIOR TO APPLICATION OF THE FINISH SUBGRADE AND/OR SURFACE PAVING.
18. THE APPLICANT SHOULD OBTAIN AN EXCAVATION PERMIT FROM THE CITY OF DOVER PRIOR TO THE START OF WORK ON THE SITE.
19. THE APPLICANT SHOULD OBTAIN ANY ADDITIONAL LOCAL UTILITY PERMITTING IF REQUIRED.
20. 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.
21. ALL TREATMENT SWALES TO BE CONSTRUCTED SHALL HAVE SOD BOTTOMS.
22. 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.
23. APPROVED BACKFLOW PREVENTERS SHALL BE PROVIDED FOR BOTH FIRE AND DOMESTIC WATER LINES.
24. 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.
25. 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.

GENERAL SYMBOLS

EXISTING	PROPOSED	
		CATCH BASIN
		GUTTER INLET
		DRAIN MANHOLE
		SEWER MANHOLE
		ELECTRIC MANHOLE
		TELEPHONE MANHOLE
		WATER GATE
		FIRE HYDRANT
		GAS GATE
		STREET SIGN
		LIGHT POLE
		WALL MOUNTED LIGHT
		UTILITY POLE
		GUY POLE
		GUY WIRE
		MONITORING WELL
		TEST PIT (W/ I.D.)
	EOP	EDGE OF PAVEMENT
VGC	VGC	GRANITE CURB
SGC	GE	GRANITE EDGING
	BB	BITUMINOUS BERM
		GUARD RAIL
		CHAINLINK FENCE
		DRAINAGE LINE
	S	SEWER LINE
		WATER LINE
G	G	GAS LINE
		UNDERGROUND ELECTRIC LINE
		UNDERGROUND TELEPHONE LINE
		ELEC., TELE., CATV, CONDUIT
OHW	OHW	OVERHEAD WIRE
		STONE WALL
		CHAIN LINK FENCE
		STOCKADE FENCE
		TREE LINE
		SHORELINE
		CONCRETE
		ENTRANCE/EXIT DOOR
PC 10 N00° 00' 00"E +57.59	PC 10 N00° 00' 00"E +57.59	BASELINE
N00° 00' 00"E	N00° 00' 00"E	TOWN LAYOUT
N00° 00' 00"E	N00° 00' 00"E	PROPERTY LINE
GB OR CB	BND	HIGHWAY/PROPERTY BOUND (TYPE NOTED)
		IRON PIPE/REBAR
		TREE (SIZE AND TYPE NOTED)

PAVEMENT MARKINGS AND SIGNING SYMBOLS

EXISTING	PROPOSED	
CW	CW	CROSSWALK, 12" WHITE LINE (WIDTH NOTED)
SL	SL	STOP LINE, 12" WHITE LINE 4' BEHIND CW (TYP.)
SL	SWL, SWLL	SOLID WHITE LINE/SOLID WHITE LANE LINE–4"
	BWLL	BROKEN WHITE LANE LINE–4"
	DWLL	DOTTED WHITE LANE LINE–4"
SYL	SYL	SOLID YELLOW LINE–4"
DYL	DYCL	DOUBLE YELLOW CENTER LINE– 2–4" LINES
		ADA–ACCESSIBLE PARKING SPACE

ABBREVIATIONS

GENERAL

AC	ACRES
ADJ	ADJUST
APPROX	APPROXIMATE
BLDG	BUILDING
BO	BY OTHERS
BIT	BITUMINOUS CONCRETE
BTM	BOTTOM
CEM	CEMENT
CLF	CHAIN LINK FENCE
CONC	CONCRETE
DIA	DIAMETER
ELEV	ELEVATION
EN	ENTRANCE/EXIT
ESHWT	ESTIMATED SEASONAL HIGH WATER TABLE
EOP	EDGE OF PAVEMENT
EXIST	EXISTING
EX	EXIT
FDC	FIRE DEPARTMENT CONNECTION
GE	GRANITE EDGING
HDPE	HIGH DENSITY POLYETHYLENE
HMA	HOT MIX ASPHALT
LA	LANDSCAPE AREA
LD	LOADING DOCK
LF	LINEAR FEET
MAX	MAXIMUM
MCC	MONOLITHIC CONCRETE CURB
MIN	MINIMUM
MTD	MOUNTED
NTS	NOT TO SCALE
PROP	PROPOSED
PVMT	PAVEMENT
R	RADIUS
REM	REMOVE
RET	RETAIN
SGE	SLOPED GRANITE EDGING
SW	SIDEWALK
TYP	TYPICAL
VGC	VERTICAL GRANITE CURB
WCR	WHEELCHAIR RAMP

UTILITIES

CB	CATCH BASIN
CIT	CHANGE IN TYPE
CLDI	CEMENT LINED DUCTILE IRON PIPE
COND	CONDUIT
DMH	DRAINAGE MANHOLE
DOM	DOMESTIC WATER SERVICE
ETC	ELECTRIC, TELEPHONE, & CABLE
F&G	FRAME AND GRATE
F&C	FRAME AND COVER
GV	GAS VALVE
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HYD	HYDRANT
INV	INVERT ELEVATION
OCS	OUTLET CONTROL STRUCTURE
PVC	POLYVINYL CHLORIDE PIPE
RCP	REINFORCED CONCRETE PIPE (CLASS III)
RD	ROOF DRAIN
SMH	SEWER MANHOLE
TEL	TELEPHONE
TSV	TAPPING SLEEVE AND VALVE
UP	UTILITY POLE
WV	WATER VALVE

PLANNING BOARD FILE #: P21-29

TEC The Engineering Corp
TEC, Inc.
146 Dascomb Road, Andover, MA 01810 | 169 Ocean Boulevard, Unit 101, PO Box 249, Hampton, NH 03842
(978) 794-1792 | (603) 601-8154
www.TheEngineeringCorp.com

DESIGNED BY	CPR
DRAWN BY	MWP
CHECKED BY	CPR
DATE	8/5/2021
SCALE	Not to Scale

OWNER/APPLICANT

Downtown Dover Storage, LLC
42 L Dover Point Road
Dover, NH 03820

REVISIONS

1.	TRC Revisions	10/28/2021
2.	TRC Revisions	11/24/2021

ISSUED FOR

Permitting

PROJECT TITLE

Proposed Residential Development

PROJECT LOCATION

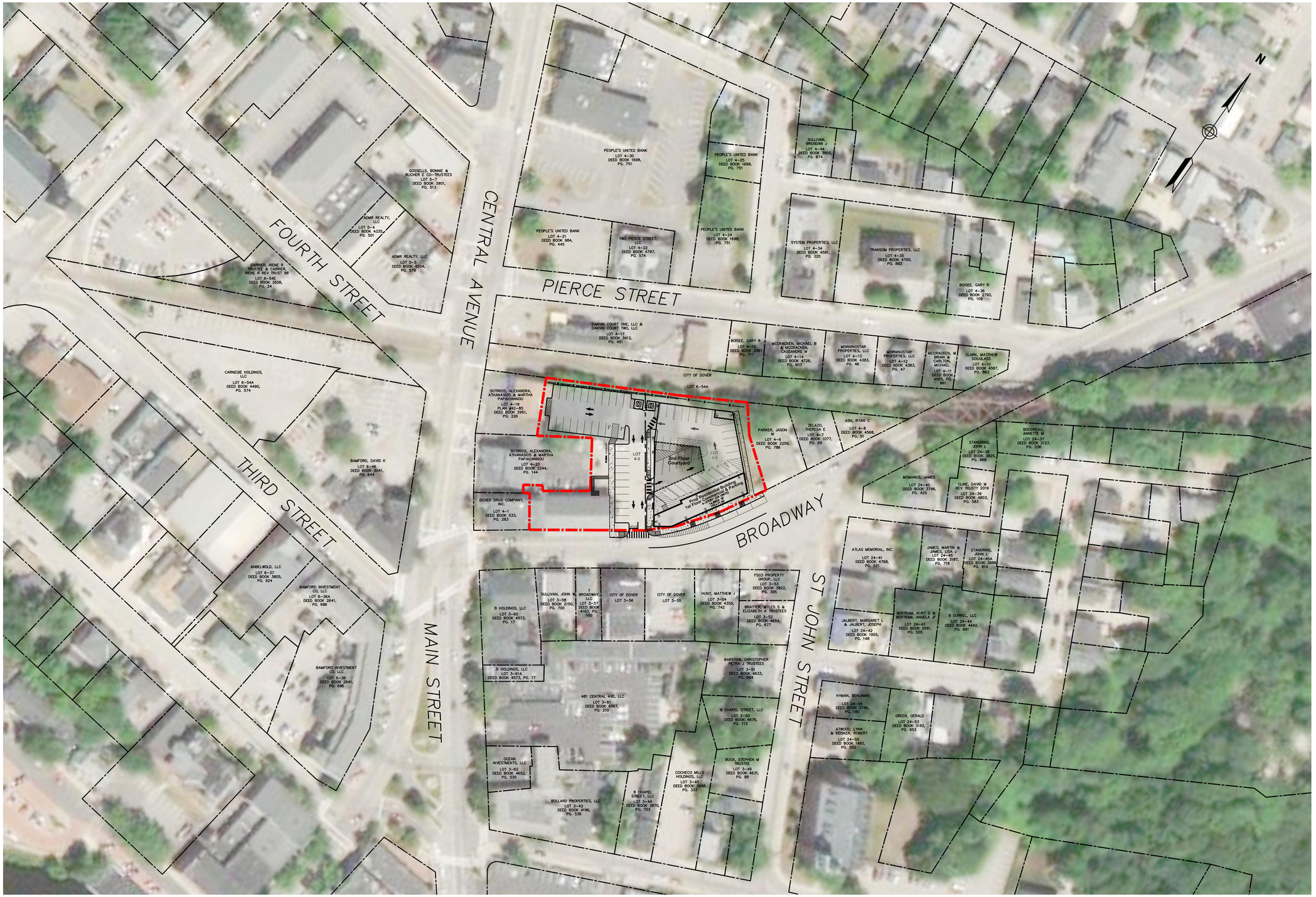
14 Broadway
Dover, NH 03820

DRAWING TITLE

Legend & General Notes

STATE OF NEW HAMPSHIRE — CHRISTOPHER P. RAYMOND No.16305 LICENSED PROFESSIONAL ENGINEER

PROJECT NO. N0946.02
TEC CAD FILE N0946.02_LEG
DRAWING NO. C-2
SHEET 2 OF 14



60 0 60 120
SCALE IN FEET

PLANNING BOARD FILE #: P21-29

TEC, Inc.

146 Dascomb Road
Andover, MA 01810
(978) 794-1792

169 Ocean Boulevard
Unit 101, PO Box 249
Hampton, NH 03842
(603) 601-8154

www.TheEngineeringCorp.com

DESIGNED BY	CPR
DRAWN BY	MWP
CHECKED BY	CPR
DATE	8/5/2021
SCALE	1"=40'

OWNER/APPLICANT

Downtown Dover Storage, LLC
42 L Dover Point Road
Dover, NH 03820

REVISIONS

1.	TRC Revisions	10/28/2021
2.	TRC Revisions	11/24/2021

ISSUED FOR
Permitting

PROJECT TITLE
Proposed Residential Development

PROJECT LOCATION
14 Broadway
Dover, NH 03820

DRAWING TITLE
Neighborhood Plan

STATE OF NEW HAMPSHIRE
CHRISTOPHER P. RAYMOND No.16305
LICENSED PROFESSIONAL ENGINEER

PROJECT NO.
N0946.02

TEC CAD FILE
N0946.02_NBH

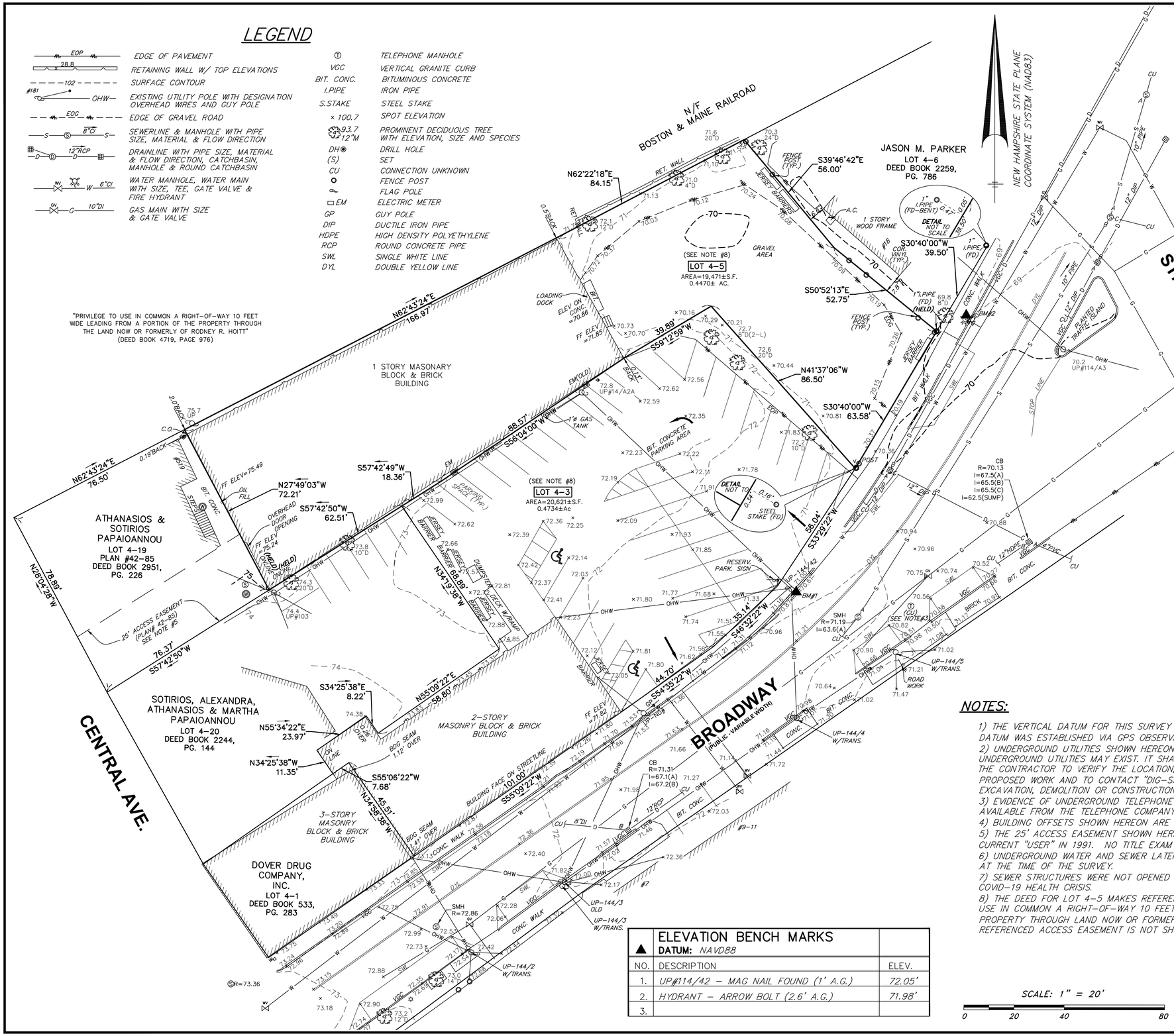
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C-3

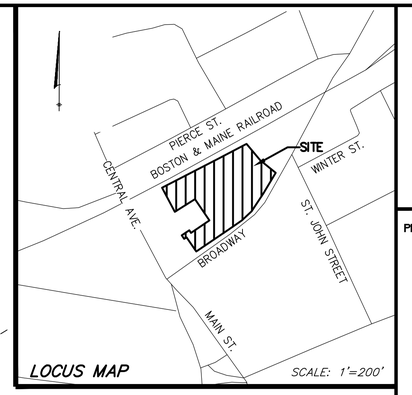
SHEET 3 OF 14

LEGEND

EOP	EDGE OF PAVEMENT
28.8	RETAINING WALL W/ TOP ELEVATIONS
102	SURFACE CONTOUR
#181 OHW	EXISTING UTILITY POLE WITH DESIGNATION OVERHEAD WIRES AND GUY POLE
EOG	EDGE OF GRAVEL ROAD
S 8"CI S	SEWERLINE & MANHOLE WITH PIPE SIZE, MATERIAL & FLOW DIRECTION
D 12"RCP D	DRAINLINE WITH PIPE SIZE, MATERIAL & FLOW DIRECTION, CATCHBASIN, MANHOLE & ROUND CATCHBASIN
WV W 6"CI	WATER MANHOLE, WATER MAIN WITH SIZE, TEE, GATE VALVE & FIRE HYDRANT
GV G 10"DI	GAS MAIN WITH SIZE & GATE VALVE

T	TELEPHONE MANHOLE
VGC	VERTICAL GRANITE CURB
BIT. CONC.	BITUMINOUS CONCRETE
I.PIPE	IRON PIPE
S.STAKE	STEEL STAKE
× 100.7	SPOT ELEVATION
93.7 12"M	PROMINENT DECIDUOUS TREE WITH ELEVATION, SIZE AND SPECIES
DH	DRILL HOLE
(S)	SET
CU	CONNECTION UNKNOWN
	FENCE POST
	FLAG POLE
EM	ELECTRIC METER
GP	GUY POLE
DIP	DUCTILE IRON PIPE
HDPE	HIGH DENSITY POLYETHYLENE
RCP	ROUND CONCRETE PIPE
SWL	SINGLE WHITE LINE
DYL	DOUBLE YELLOW LINE





ELEVATION BENCH MARKS DATUM: NAVD88		
NO.	DESCRIPTION	ELEV.
1.	UP#114/42 – MAG NAIL FOUND (1' A.G.)	72.05'
2.	HYDRANT – ARROW BOLT (2.6' A.G.)	71.98'
3.		

SCALE: 1" = 20'

0 20 40 80

ASSESSORS:

MAP 4, LOT 3 (RANDALL)
MAP 4, LOT 5 (DOWNTOWN DOVER)

ZONING:

MIXED USE – CBD (CENTRAL BUSINESS DISTRICT)

REFERENCES:

DEED BOOK 4719 PAGE 976 (LOT 4–5)
DEED BOOK 2555 PAGE 323 (LOT 4–3)
PLAN #42–85
PLAN IN POCKET #3, FOLDER #2, PLAN #55

RECORD OWNER:

CLAYTON F. RANDALL LIVING REVOCABLE TRUST OF 2002
131 CLEMENT ROAD
ROLLINSFORD, NH 03869

DOWNTOWN DOVER STORAGE, LLC
42 L DOVER POINT ROAD
DOVER, NH 03820

NOTES:

1) THE VERTICAL DATUM FOR THIS SURVEY IS THE NORTH AMERICAN VERTICAL DATUM (NAVD88). SAID DATUM WAS ESTABLISHED VIA GPS OBSERVATIONS UTILIZING REALIZATION NAD83(2011) AND GEOID 12A.
2) UNDERGROUND UTILITIES SHOWN HEREON ARE FROM FIELD LOCATIONS OF STRUCTURES. OTHER UNDERGROUND UTILITIES MAY EXIST. IT SHALL BE THE RESPONSIBILITY OF THE DESIGN ENGINEER AND THE CONTRACTOR TO VERIFY THE LOCATION, SIZE & ELEVATION OF ALL UTILITIES WITHIN THE AREA OF PROPOSED WORK AND TO CONTACT "DIG–SAFE" AT 811 AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION, DEMOLITION OR CONSTRUCTION.
3) EVIDENCE OF UNDERGROUND TELEPHONE EXISTS WITHIN BROADWAY. NO INFORMATION WAS AVAILABLE FROM THE TELEPHONE COMPANY AT THE TIME OF THE SURVEY.
4) BUILDING OFFSETS SHOWN HEREON ARE TO CORNER CONCRETE BLOCK UNLESS OTHERWISE NOTED.
5) THE 25' ACCESS EASEMENT SHOWN HEREON MAY OR MAY NOT EXIST, AS IT WAS FOR THE CURRENT "USER" IN 1991. NO TITLE EXAM HAS BEEN CONDUCTED TO IDENTIFY CURRENT STATUS.
6) UNDERGROUND WATER AND SEWER LATERAL CONNECTIONS TO THE BUILDINGS WERE NOT AVAILABLE AT THE TIME OF THE SURVEY.
7) SEWER STRUCTURES WERE NOT OPENED AT THE TIME OF THE SURVEY DUE TO THE ONGOING COVID–19 HEALTH CRISIS.
8) THE DEED FOR LOT 4–5 MAKES REFERENCE TO A CONVEYANCE WHICH INCLUDES A PRIVILEGE TO USE IN COMMON A RIGHT–OF–WAY 10 FEET WIDE LEADING FROM A PORTION OF THE DESCRIBED PROPERTY THROUGH LAND NOW OR FORMERLY OF RODNEY R. HOITT (LOT 4–3) TO BROADWAY. THE REFERENCED ACCESS EASEMENT IS NOT SHOWN ON THE SURVEY.

14 BROADWAY

Dover, New Hampshire 03820

PREPARED FOR:

NEW SPACE REAL ESTATE, LLC

42 Dover Road, Unit L
Dover, New Hampshire 03820

HANCOCK ASSOCIATES

Civil Engineers

Land Surveyors

Landscape Architects

Wetland Scientists

185 CENTRE STREET, DANVERS, MA 01923
VOICE (978) 777–3050, FAX (978) 774–7816
WWW.HANCOCKASSOCIATES.COM

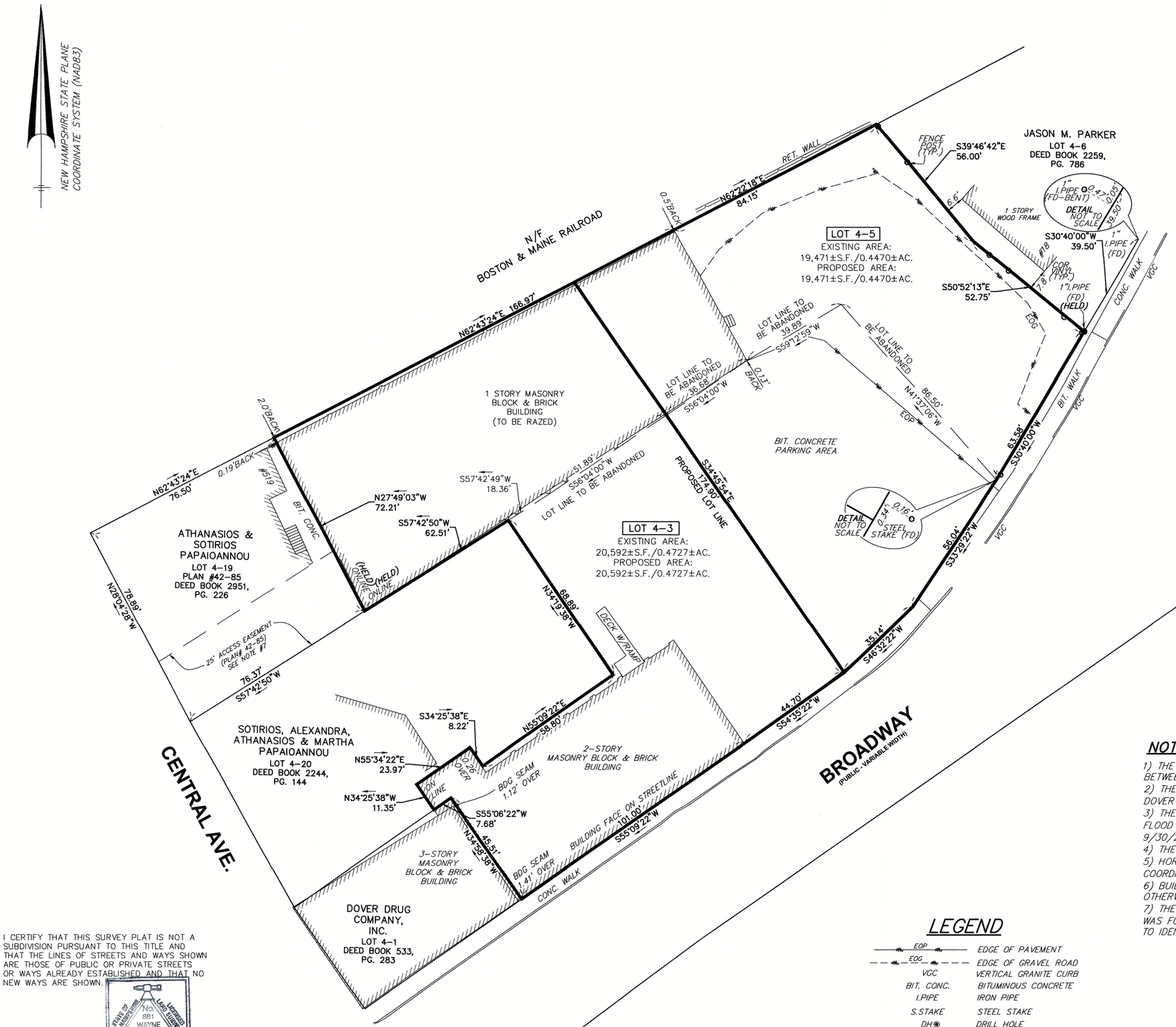
NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
1.	JML	JAE	2/19/21	UPDATED TOPO/BOUNDARY

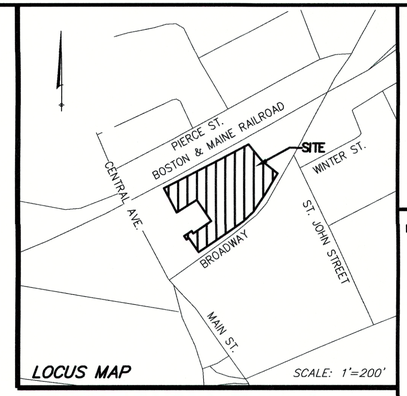
DATE: 4/18/20	DRAWN BY: JAE/JAH
SCALE: 1"=20'	CHECK BY: WCJ

EXISTING CONDITIONS PLAN OF LAND IN DOVER, NH

PLOT DATE: Feb 19, 2021 3:53 pm
PATH: O:\Civil 3D Projects\24569 – Cyr – Dover, NH\Surv\DWG\

DWG: 24569ec.dwg	
LAYOUT: EC	
SHEET: 1 OF 1	
PROJECT NO.:	24569





14 BROADWAY

Dover, New Hampshire 03820

PREPARED FOR:

NEW SPACE REAL ESTATE, LLC

42 Dover Road, Unit L
Dover, New Hampshire 03820

ASSESSORS:

MAP 4, LOT 3 (RANDALL)
MAP 4, LOT 5 (DOWNTOWN DOVER)

REFERENCES:

DEED BOOK 4719 PAGE 976 (LOT 4-5)
DEED BOOK 2555 PAGE 323 (LOT 4-3)
PLAN #42-85
PLAN IN POCKET #3, FOLDER #2, PLAN #55

RECORD OWNER:

CLAYTON F. RANDALL LIVING REVOCABLE TRUST OF 2002
131 CLEMENT ROAD
ROLLINSFORD, NH 03869

DOWNTOWN DOVER STORAGE, LLC
42 L DOVER POINT ROAD
DOVER, NH 03820

ZONING: CBD-G (GENERAL SUB-DISTRICT)

LOT 4-5	EXISTING	PROPOSED
LOT SIZE	19,471±S.F.	19,471±S.F.
LOT FRONTAGE	63.58'	154.76'
LOT 4-3	EXISTING	PROPOSED
LOT SIZE	20,592±S.F.	20,592±S.F.
LOT FRONTAGE	236.88'	145.70'

NOTES:

1) THE PURPOSE OF THIS PLAN IS TO PERFORM A LOT LINE ADJUSTMENT BETWEEN LOTS 4-3 AND 4-5.
2) THE PARCELS ARE SHOWN AS LOTS 3 & 5 ON MAP #4 OF THE CITY OF DOVER TAX ASSESSOR'S MAP.
3) THE SUBJECT PARCELS ARE NOT LOCATED WITHIN A FEDERALLY DESIGNATED FLOOD HAZARD AREA (COMMUNITY PANEL NUMBER 33017C0330E, EFFECTIVE DATE: 9/30/2015).
4) THE SUBJECT PARCELS ARE SERVED BY MUNICIPAL WATER AND SEWER.
5) HORIZONTAL DATUM IS BASED ON THE NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM (DOVER GIS).
6) BUILDING OFFSETS SHOWN HEREON ARE TO CORNER CONCRETE BLOCK UNLESS OTHERWISE NOTED.
7) THE 25' ACCESS EASEMENT SHOWN HEREON MAY OR MAY NOT EXIST, AS IT WAS FOR THE CURRENT "USER" IN 1991. NO TITLE EXAM HAS BEEN CONDUCTED TO IDENTIFY CURRENT STATUS.

LEGEND

EOP	EDGE OF PAVEMENT
EOG	EDGE OF GRAVEL ROAD
VGC	VERTICAL GRANITE CURB
BIT. CONC.	BITUMINOUS CONCRETE
I.PIPE	IRON PIPE
S.STAKE	STEEL STAKE
DH ⊙	DRILL HOLE
(S)	SET
(FD)	FOUND
o	FENCE POST

SCALE: 1" = 20'
0 20 40 80

I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN.

STATE OF NEW HAMPSHIRE — LICENSED LAND SURVEYOR — No. 861 — WAYNE C. JALBERT — SIGNATURE

9/30/21
DATE

LICENSED LAND SURVEYOR

HANCOCK ASSOCIATES

Civil Engineers
Land Surveyors
Landscape Architects
Wetland Scientists

185 CENTRE STREET, DANVERS, MA 01923
VOICE (978) 777-3050, FAX (978) 774-7816
WWW.HANCOCKASSOCIATES.COM

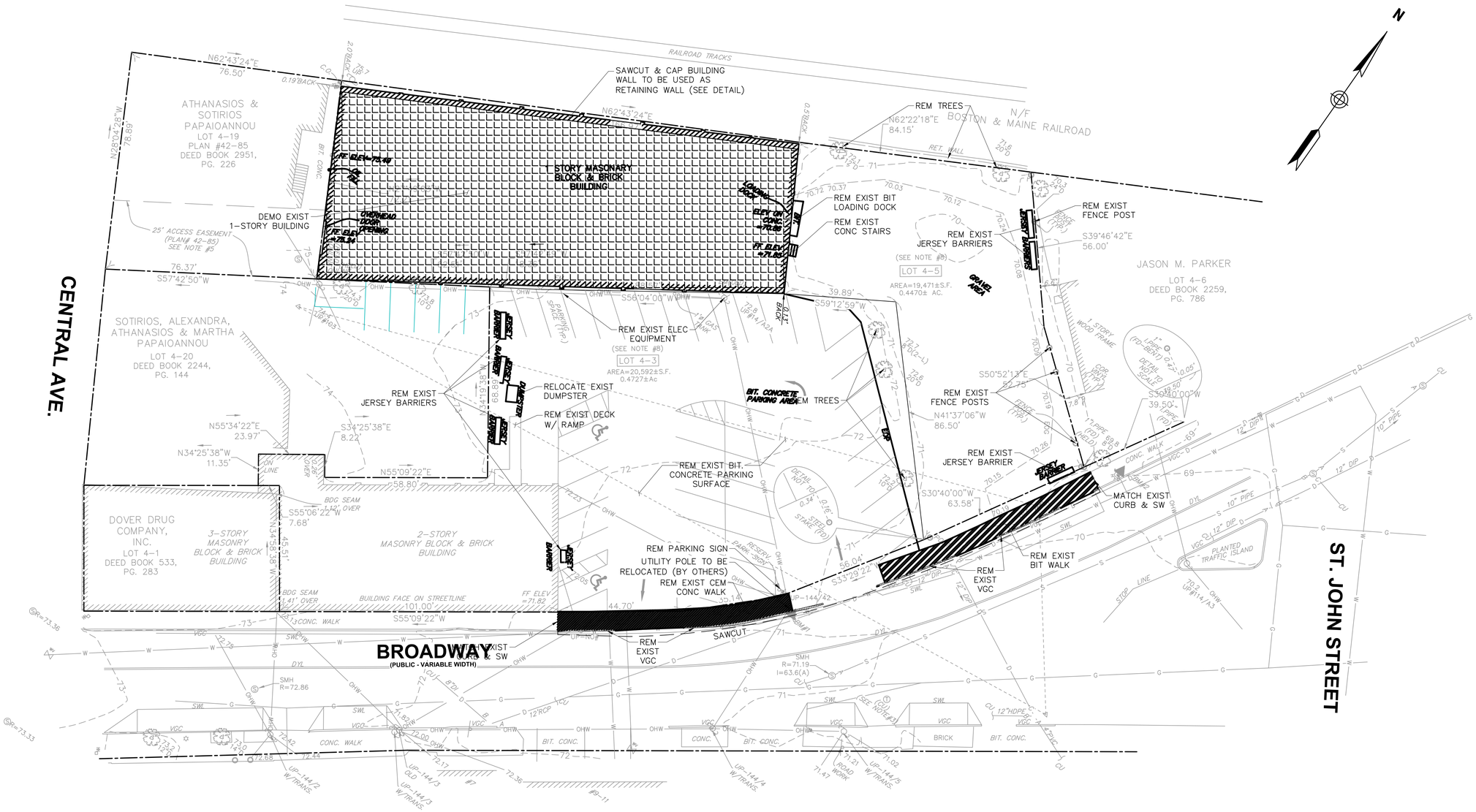
NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
1.				

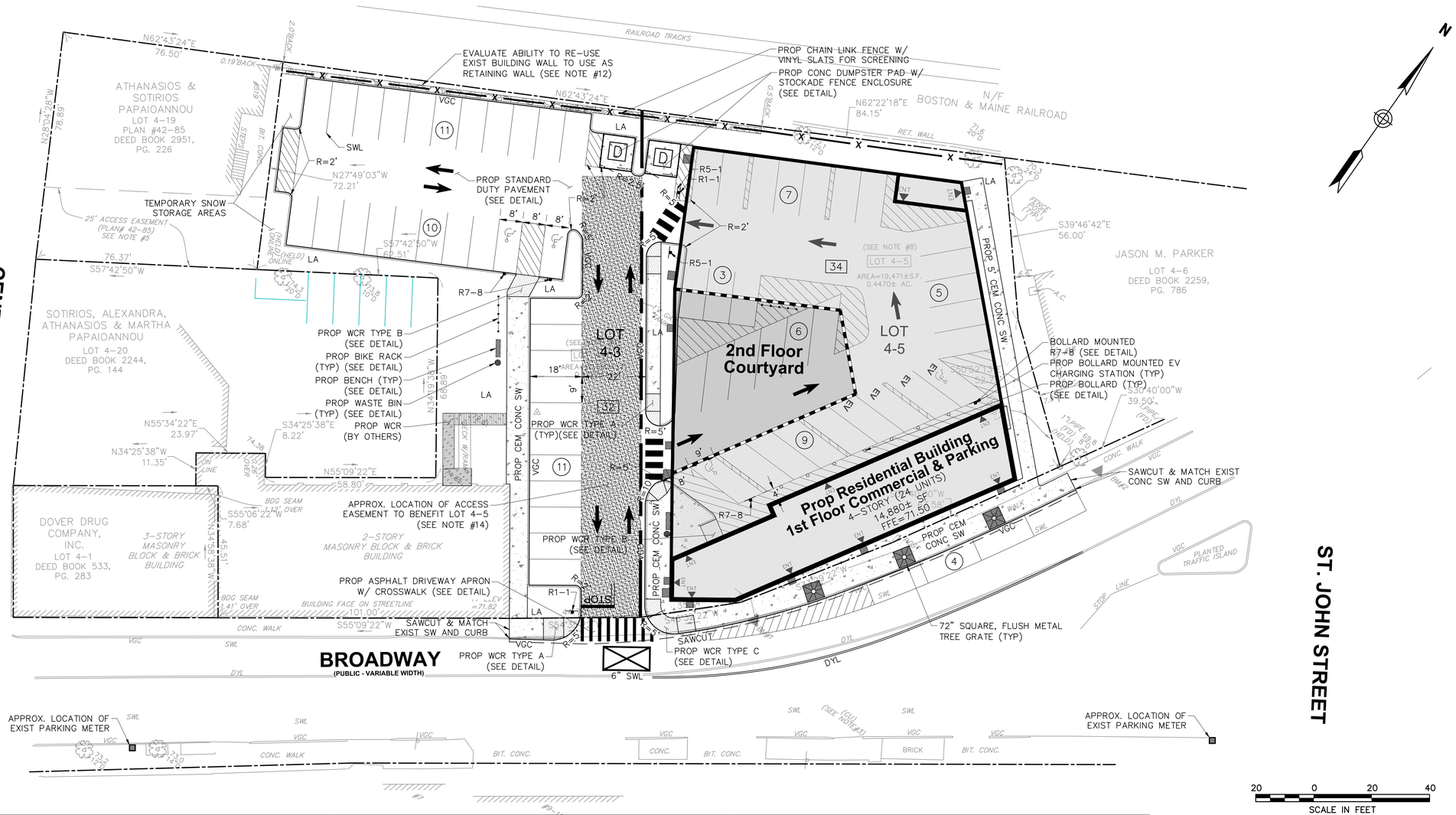
DATE: 9/25/21 DRAWN BY: JAE/JAH
SCALE: 1"=20' CHECK BY: WCJ

LOT LINE ADJUSTMENT PLAN OF LAND IN DOVER, NH (STRAFFORD COUNTY)

PLOT DATE: Sep 29, 2021 10:56 am
PATH: Q:\Civil 3D Projects\24569 - Cyr - Dover, NH\Surv\DWG\

DWG: 24569a1.dwg
LAYOUT: LLA
SHEET: 1 OF 1
PROJECT NO.: 24569


CENTRAL AVE.
BROADWAY
(PUBLIC - VARIABLE WIDTH)
ST. JOHN STREET
RAILROAD TRACKS
N/F BOSTON & MAINE RAILROAD
ATHANASIOS & SOTIRIOS PAPAIOANNOU LOT 4–19 PLAN #42–85 DEED BOOK 2951, PG. 226
SOTIRIOS, ALEXANDRA, ATHANASIOS & MARTHA PAPAIOANNOU LOT 4–20 DEED BOOK 2244, PG. 144
DOVER DRUG COMPANY, INC. LOT 4–1 DEED BOOK 533, PG. 283
JASON M. PARKER LOT 4–6 DEED BOOK 2259, PG. 786
LOT 4–3 AREA=20,592±S.F. 0.4727±Ac
LOT 4–5 AREA=19,471±S.F. 0.4470± AC.
1 STORY MASONRY BLOCK & BRICK BUILDING
3–STORY MASONRY BLOCK & BRICK BUILDING
2–STORY MASONRY BLOCK & BRICK BUILDING
SAWCUT & CAP BUILDING WALL TO BE USED AS RETAINING WALL (SEE DETAIL)
DEMO EXIST 1–STORY BUILDING
REM EXIST BIT LOADING DOCK
REM EXIST CONC STAIRS
REM TREES
REM EXIST FENCE POST
REM EXIST JERSEY BARRIERS
REM EXIST ELEC EQUIPMENT (SEE NOTE #8)
RELOCATE EXIST DUMPSTER
REM EXIST DECK W/ RAMP
REM EXIST BIT. CONCRETE PARKING SURFACE
REM EXIST FENCE POSTS
REM EXIST JERSEY BARRIER
MATCH EXIST CURB & SW
REM EXIST BIT WALK
REM EXIST VGC
REM PARKING SIGN
UTILITY POLE TO BE RELOCATED (BY OTHERS)
REM EXIST CEM CONC WALK
SAWCUT
25' ACCESS EASEMENT (PLAN# 42–85) SEE NOTE #5
BIT. CONCRETE PARKING AREA
GRAVEL AREA
1 STORY WOOD FRAME
PLANTED TRAFFIC ISLAND
STOP LINE
N62°43'24"E 76.50'
N62°22'18"E 84.15'
S56°04'00"W 39.89'
S59°12'59"W
S39°46'42"E 56.00'
S50°52'13"E 52.73'
S30°40'00"W 39.50'
S30°40'00"W 63.58'
S29°53'22"E 56.04'
N41°37'06"W 86.50'
S57°42'50"W 76.37'
N28°04'28"W 78.89'
N55°34'22"E 23.97'
S34°25'38"E 8.22'
N34°25'38"W 11.35'
N55°09'22"E 58.80'
S55°06'22"W 7.68'
S55°09'22"W 101.00'
N34°58'38"W 45.51'
FF ELEV=73.49
FF ELEV=73.36
FF ELEV=71.82
OVERHEAD ZONE OF FLARING
UP–144/2 W/TRANS.
UP–144/3 W/TRANS.
UP–144/4 W/TRANS.
UP–144/5 W/TRANS.
UP–144/2 QUD
UP–144/3 QUD
UP–144/2
UP–144/3
UP–144/4
UP–144/5
SMH R=72.86
SMH R=71.19 I=63.6(A)
SMH R=71.02
SMH R=72.21
SMH R=72.42
SMH R=72.44
SMH R=72.68
SMH R=72.17
SMH R=72.36
SMH R=71.47
SMH R=71.21
SMH R=71.02
SMH R=73.36
SMH R=73.33
SMH R=73.30
SMH R=73.30
SMH R=73.30



ZONING TABLE

ZONING DISTRICT	CBD GENERAL SUB-DISTRICT	
PROPOSED USES	1ST FLOOR: 3,176 SF COMMERCIAL & 11,684 SF PARKING 2ND FLOOR: 12,103 SF (8 UNITS) RESIDENTIAL & 2,757 SF COURTYARD 3RD FLOOR: 12,103 SF (8 UNITS) RESIDENTIAL 4TH FLOOR: 12,103 SF (8 UNITS) RESIDENTIAL	
PROPOSED USE ALLOWABLE BY	BY RIGHT	
DIMENSIONAL REQUIREMENTS	**REQUIRED**	**PROVIDED**
LOT SIZE	N/A	19,471 SF
MINIMUM LOT COVERAGE	75%	76.4%
MINIMUM FRONTAGE BUILD-OUT	70%	83%
FRONT PRIMARY BUILD TO LINE	6.7 FT*	1 FT
FRONT SECONDARY BUILD TO LINE	N/A	N/A
SIDE SETBACK	0 FT (MIN), 24 FT (MAX)	10 FT
REAR SETBACK	10 FT (MIN)	10 FT
BUILDING HEIGHT	5-STORY (MAX), 2-STORY (MIN)	4-STORY

* AVERAGE OF ALL FRONT SETBACKS OF LOTS WITHIN THE SAME ZONE LOCATED ON THE SAME SIDE OF THE STREET, 250 FT IN EACH DIRECTION FROM THE CENTER OF THE FRONT LOT LINE.

PARKING TABLE

EXISTING PARKING	LOT 4-3: 40 SPACES	
REQUIRED (MAX) & RECOMMENDED (REC) PARKING	LOT 4-1: 7 RESIDENTIAL UNITS & 3,241 SF RETAIL=21 SPACES (MAX), 16 SPACES (REC) LOT 4-3: 4,692 SF OFFICE=16 SPACES (MAX), 11 SPACES (REC)* LOT 4-5: 24 RESIDENTIAL UNITS & 3,437 SF COMMERCIAL=43 SPACES (MAX), 38 SPACES (REC) TOTAL REQUIRED PARKING (MAX)=80 SPACES* TOTAL RECOMMENDED PARKING=65 SPACES**	
PROPOSED PARKING	LOT 4-1 & 4-3: 32 SPACES LOT 4-5: 30 SPACES (1/UNIT & 6 GUEST SPACES) BROADWAY: 4 SPACES TOTAL PROPOSED PARKING=66 SPACES	
PARKING REQUIREMENTS	**REQUIRED**	**PROVIDED**
HANDICAP ACCESSIBLE SPACES	4	4
AISLE WIDTH	22 FT	22 FT
STALL WIDTH	9 FT	9 FT
LENGTH OF SPACE	18 FT	18 FT

* MAX REQUIRED PARKING SPACES WERE CALCULATED USING THE CITY OF DOVER MAXIMUM PARKING NUMBERS.
** RECOMMENDED PARKING SPACES WERE CONSERVATIVELY CALCULATED USING ITE PARKING GENERATION NUMBERS FOR THE PROPOSED AND EXISTING USES.

TRAFFIC SIGN SUMMARY

ID NUMBER	SIZE OF SIGN (in)		LEGEND	TEXT DIMENSIONS (in)			NUMBER OF SIGNS REQUIRED	NUMBER OF POSTS REQUIRED
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ROUTE MARKER		
R1-1	30	30	STOP	SEE MUTCD SIGN STANDARDS			2	2
R7-8	12	24	RESERVED PARKING				4	4
R5-1	30	30	DO NOT ENTER				2	2

* HANDICAP PARKING SIGNS SHALL BE IN ACCORDANCE WITH CITY OF DOVER STANDARDS, AND ADA REGULATIONS
** VAN SIGNS SHALL BE LOCATED AT ALL ADA SPACES. PER ADA ACCESSIBILITY GUIDELINES (AMENDED 2010) ANY SPACE WITH A VAN SIGN IS NOT INTENDED TO BE RESTRICTED ONLY TO VANS

PLANNING BOARD FILE #: P21-29

NOTES:

1. THE INTENT OF THIS PLAN IS TO CONSTRUCT A 14,880± SF RESIDENTIAL BUILDING WITH FIRST FLOOR COMMERCIAL AND PARKING ON LOT 4-5, AND REDEVELOP THE EXISTING PARKING AREA ON LOT 4-3.
2. THE PARCELS ARE SHOWN AS LOT NO. 3 & 5, MAP 4 OF THE CITY OF DOVER TAX ASSESSOR'S MAPS.
3. TITLE REFERENCE FOR THE PROJECT PARCEL IS THE STRAFFORD COUNTY REGISTRY OF DEEDS, BOOK NO. 4719, PAGE NO. 976.
6. CONDITIONAL USE PERMIT BEING SOUGHT TO PROVIDE RELIEF TO THE MINIMUM 20% FIRST FLOOR COMMERCIAL USE SPACE.
7. PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM A SURVEY PERFORMED BY HANCOCK ASSOCIATES ON 4/18/2020 WITH AN ERROR NOT GREATER THAN 1 IN 10,000.
8. BUILDING ADDRESSES (INCLUDING APT/UNIT NUMBERS IF APPLICABLE) SHALL BE ASSIGNED BY THE BUILDING OFFICIAL AT THE TIME OF ISSUANCE OF A BUILDING PERMIT.
9. SNOW TO BE TEMPORARILY STORED AT WEST EDGE OF LOT BEFORE BEING TRUCKED OFF SITE.
10. 25' ACCESS EASEMENT (PLAN #42-85) TO EXPIRE.
11. FINAL LOCATION OF BENCHES, BIKE RACKS, AND WASTE BINS TO BE COORDINATED PRIOR TO OCCUPANCY.
12. IF EXISTING WALL CAN BE REUSED, IT SHOULD BE SAWCUT AND CAPPED, SEE DETAIL. IF DETERMINED TO BE UNUSUITABLE FOR REUSE, A NEW CONCRETE BLOCK RETAINING WALL SHALL BE INSTALLED, SEE DETAIL.
13. ALL BUILDING & PARKING SIGNAGE TO BE COORDINATED WITH BUILDING DEPARTMENT PRIOR TO OCCUPANCY.
14. FINAL LOCATION OF NECESSARY ACCESS, PARKING & UTILITY EASEMENTS WILL BE COORDINATED, DOCUMENTED & RECORDED PRIOR TO OCCUPANCY.
15. ALL DETAILS FOR PROPOSED LANDSCAPING CAN BE SEEN ON THE ATTACHED LANDSCAPING PLANS (SHEETS L1-L3).

TEC
The Engineering Corp
TEC, Inc.
146 Dascomb Road
Andover, MA 01810
(978) 794-1792
169 Ocean Boulevard
Unit 101, PO Box 249
Hampton, NH 03842
(603) 601-8154
www.TheEngineeringCorp.com

DESIGNED BY	CPR
DRAWN BY	MWP
CHECKED BY	CPR
DATE	8/5/2021
SCALE	1"=20'

OWNER/APPLICANT

Downtown Dover Storage, LLC
42 L Dover Point Road
Dover, NH 03820

REVISIONS

1.	TRC Revisions	10/28/2021
2.	TRC Revisions	11/24/2021

ISSUED FOR

Permitting

PROJECT TITLE

Proposed Residential Development

PROJECT LOCATION

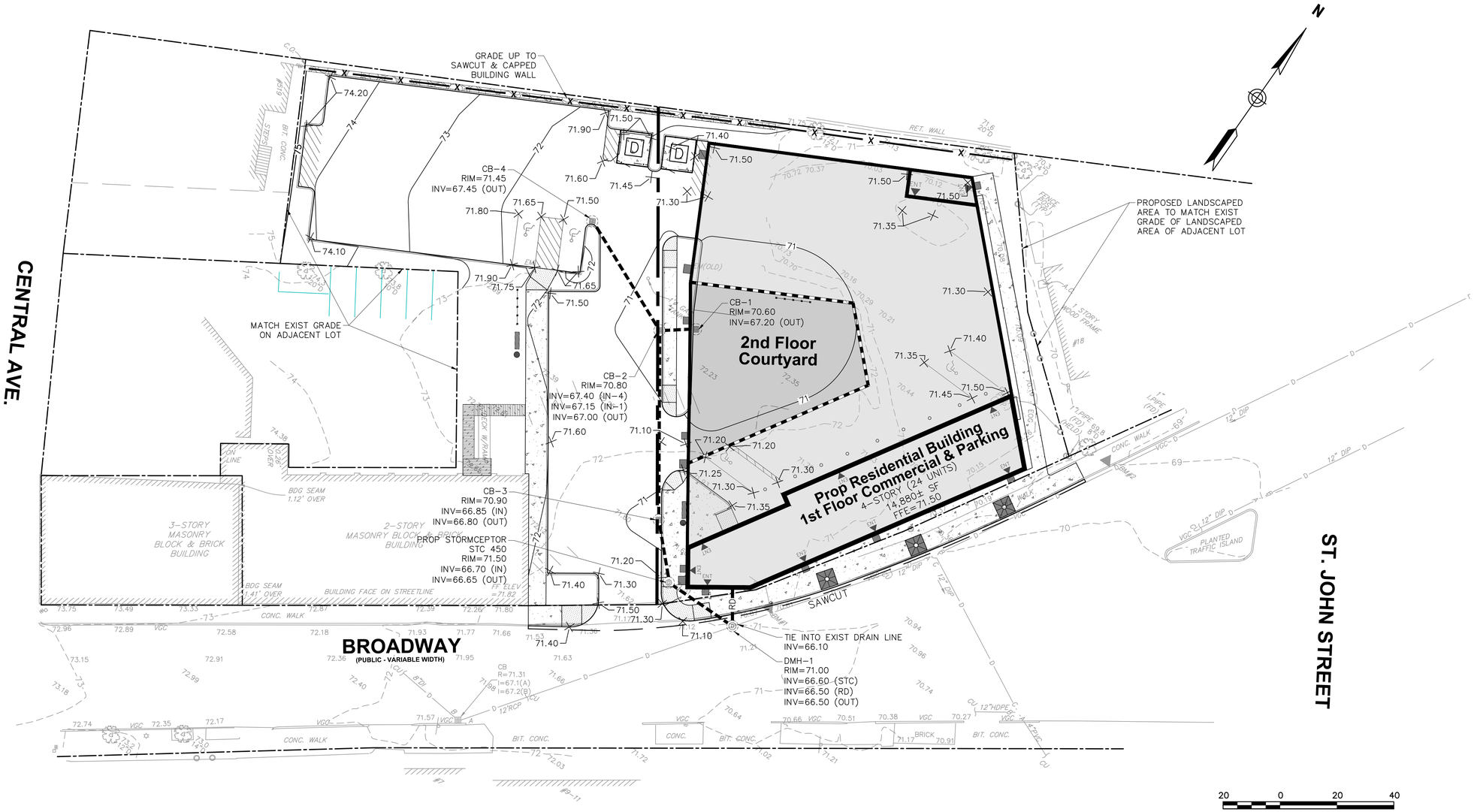
14 Broadway
Dover, NH 03820

DRAWING TITLE

Layout & Materials Plan

STATE OF NEW HAMPSHIRE
CHRISTOPHER P. RAYMOND
No. 16305
LICENSED PROFESSIONAL ENGINEER

PROJECT NO.	N0946.02
TEC CAD FILE	N0946.02_LM
DRAWING NO.	C-7
SHEET	7 OF 14



LOT COVERAGE TABLE		
EXISTING USE	10,417 SF WAREHOUSE W/ PARKING AREA	
PROPOSED USE	14,900± SF RESIDENTIAL BUILDING W/ FIRST FLOOR COMMERCIAL USE SPACE AND PARKING	
LOT COVERAGE	EXISTING	PROPOSED
BUILDING	10,753 SF (30.7%)	14,860 SF (42.4%)
GRAVEL	6,761 SF (19.2%)	N/A (0.0%)
PAVEMENT	14,744 SF (42.2%)	11,691 SF (33.4%)
SIDEWALK	N/A (0.0%)	2,342 SF (6.7%)
SAWCUT BUILDING WALL	N/A (0.0%)	333 SF (0.9%)
TOTAL IMPERVIOUS AREA	**32,2581 SF (92.1%)**	**29,226 SF (83.4%)**
LANDSCAPING	2,774 SF (7.9%)	5,806 SF (16.6%)
TOTAL PERVIOUS AREA	**2,774 SF (7.9%)**	**5,806 SF (16.6%)**
TOTAL AREA	**35,032 (100%)**	**35,032 (100%)**

* LOT COVERAGE CALCULATIONS BASED ON TOTAL AREAS OF BOTH LOTS 4-3 AND 4-5.

NOTES:

1. SUBJECT PARCEL IS NOT LOCATED WITHIN A FEDERALLY DESIGNATED FLOOD HAZARD AREA, COMMUNITY PANEL NUMBER 33017C0330E, EFFECTIVE DATE: SEPTEMBER 30, 2015.
2. ALL PROPOSED DRAINAGE PIPE TO BE 12" HDPE UNLESS OTHERWISE NOTED..
3. ALL CATCH BASINS TO INCLUDE SUMPS AND HOODS.

PLANNING BOARD FILE #: P21-29

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CHECKED BY	CPR
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SCALE	1"=20'

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42 L Dover Point Road
Dover, NH 03820

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2.	TRC Revisions	11/24/2021

ISSUED FOR

Permitting

PROJECT TITLE

Proposed Residential Development

PROJECT LOCATION

14 Broadway
Dover, NH 03820

DRAWING TITLE

Grading & Drainage Plan

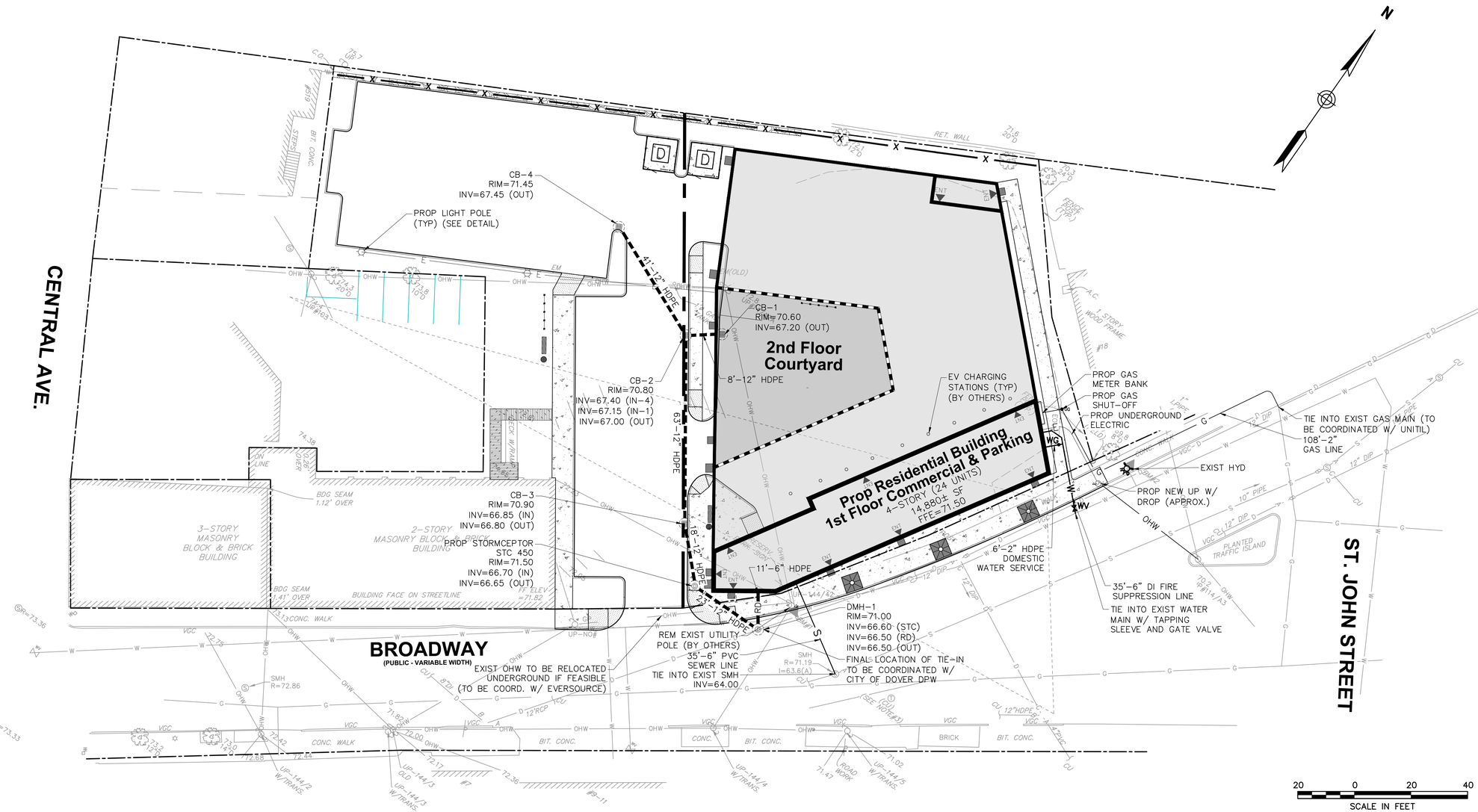
STATE OF NEW HAMPSHIRE
CHRISTOPHER P. RAYMOND No. 16305
LICENSED PROFESSIONAL ENGINEER

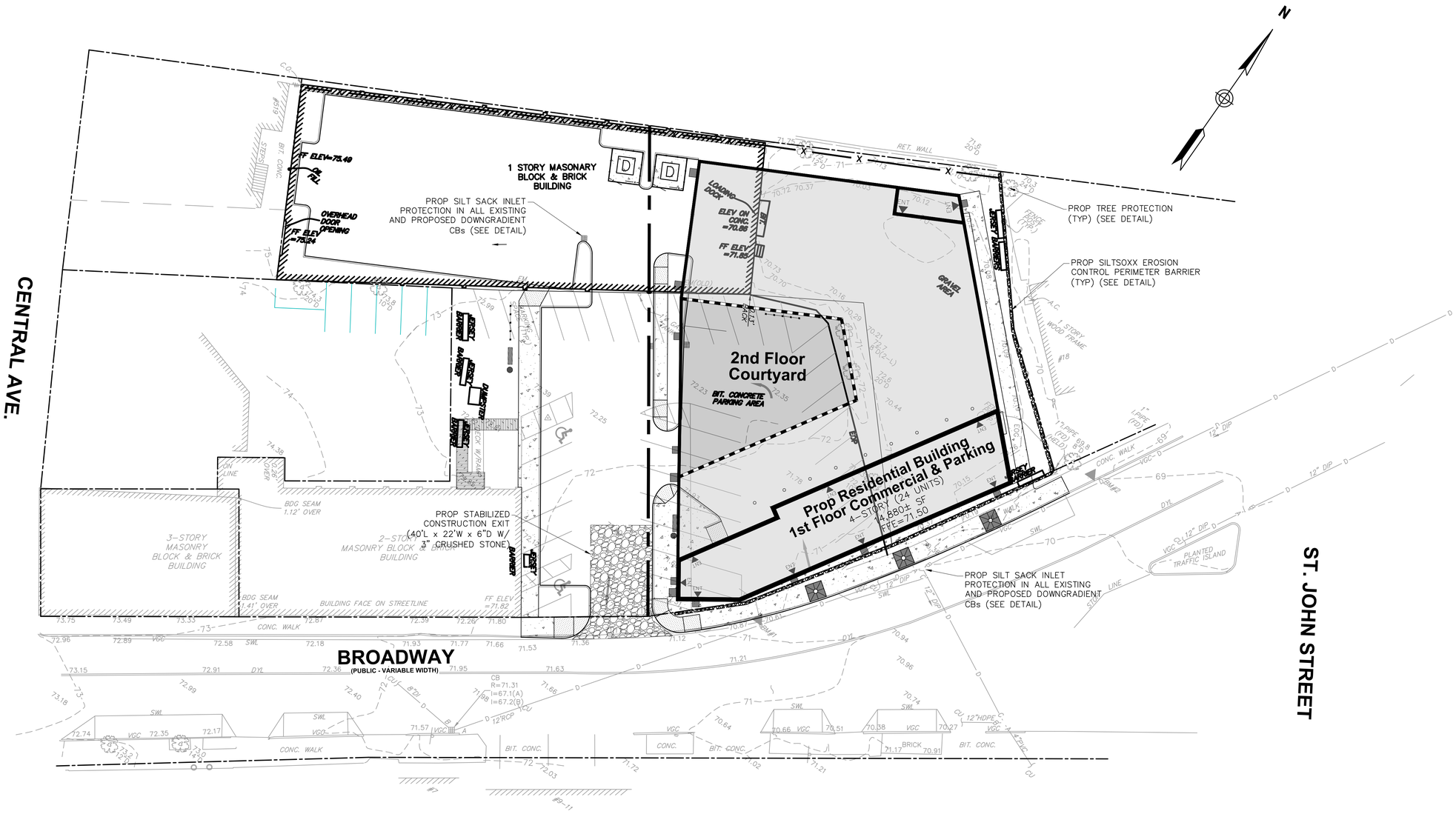
PROJECT NO. N0946.02

TEC CAD FILE N0946.02_GD

DRAWING NO. C-8

SHEET 8 OF 14


CENTRAL AVE.
BROADWAY
(PUBLIC - VARIABLE WIDTH)
ST. JOHN STREET
Prop Residential Building
1st Floor Commercial & Parking
4-STORY (24 UNITS)
14,880± SF
FFE=71.50
2nd Floor
Courtyard
CB-4
RIM=71.45
INV=67.45 (OUT)
PROP LIGHT POLE
(TYP) (SEE DETAIL)
CB-1
RIM=70.60
INV=67.20 (OUT)
8'-12" HDPE
CB-2
RIM=70.80
INV=67.40 (IN-4)
INV=67.15 (IN-1)
INV=67.00 (OUT)
63'-12" HDPE
41'-12" HDPE
18'-12" HDPE
CB-3
RIM=70.90
INV=66.85 (IN)
INV=66.80 (OUT)
PROP STORMCEPTOR
STC 450
RIM=71.50
INV=66.70 (IN)
INV=66.65 (OUT)
11'-6" HDPE
6'-2" HDPE
DOMESTIC
WATER SERVICE
EV CHARGING
STATIONS (TYP)
(BY OTHERS)
PROP GAS
METER BANK
PROP GAS
SHUT-OFF
PROP UNDERGROUND
ELECTRIC
TIE INTO EXIST GAS MAIN (TO
BE COORDINATED W/ UNITIL)
108'-2"
GAS LINE
EXIST HYD
PROP NEW UP W/
DROP (APPROX.)
35'-6" DI FIRE
SUPPRESSION LINE
TIE INTO EXIST WATER
MAIN W/ TAPPING
SLEEVE AND GATE VALVE
DMH-1
RIM=71.00
INV=66.60 (STC)
INV=66.50 (RD)
INV=66.50 (OUT)
FINAL LOCATION OF TIE-IN
TO BE COORDINATED W/
CITY OF DOVER DPW
REM EXIST UTILITY
POLE (BY OTHERS)
35'-6" PVC
SEWER LINE
TIE INTO EXIST SMH
INV=64.00
EXIST OHW TO BE RELOCATED
UNDERGROUND IF FEASIBLE
(TO BE COORD. W/ EVERSOURCE)
SMH
R=71.19
I=63.6(A)
SMH
R=72.86
3-STORY
MASONRY
BLOCK & BRICK
BUILDING
2-STORY
MASONRY BLOCK & BRICK
BUILDING
BDG SEAM
1.41' OVER
BDG SEAM
1.12' OVER
BUILDING FACE ON STREETLINE
FF ELEV
=71.82
CONC. WALK
BIT. CONC.
BRICK
PLANTED
TRAFFIC ISLAND
1 STORY
WOOD FRAME
#18
RET. WALL
FENCE
(TYP)
#19
#20
#21
#22
#23
#24
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#57
#58



20 0 20 40

SCALE IN FEET

NOTES:

1. THE CONDITION OF EROSION CONTROLS MUST BE CHECKED AFTER EVERY STORM EVENT. REPAIRS AND MAINTENANCE MUST BE PERFORMED WITHIN 24 HOURS AFTER A STORM EVENT.
2. THE SITE AND SURROUNDING AREA SHALL BE SWEPT REGULARLY TO CONTROL DUST AND DEBRIS.
3. LIMIT OF WORK IS THE PROPERTY LINES OF LOTS 4-3 & 4-5.
4. CONSTRUCTION FENCE TO BE ISNTALLED AROUND PERIMETER OR SITE PRIOR TO THE START OF CONSTRUCTION.

PLANNING BOARD FILE #: P21-29

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SCALE	1"=20'

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42 L Dover Point Road
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REVISIONS

1.	TRC Revisions	10/28/2021
2.	TRC Revisions	11/24/2021

ISSUED FOR

Permitting

PROJECT TITLE

Proposed Residential Development

PROJECT LOCATION

14 Broadway
Dover, NH 03820

DRAWING TITLE

Erosion & Sediment Control Plan

STATE OF NEW HAMPSHIRE - CHRISTOPHER P. RAYMOND No.16305 LICENSED PROFESSIONAL ENGINEER -

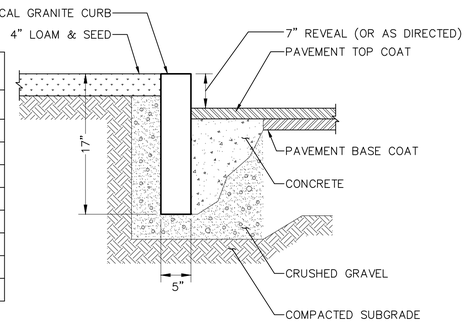
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TEC CAD FILE N0946.02_ESED

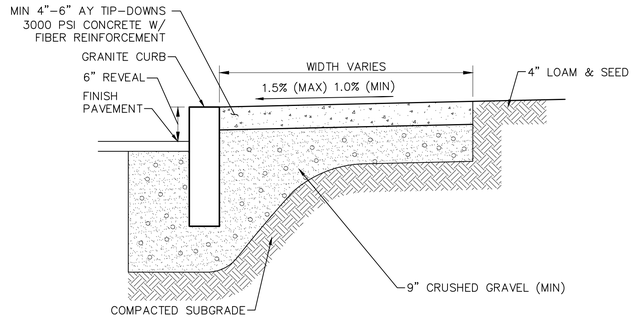
DRAWING NO. C-10

SHEET 10 OF 14

RADIUS	MAX LENGTH
<21'	USE CURVED CURB
12'	3'
22'–28'	4'
29'–35'	5'
36'–42'	6'
43'–49'	7'
50'–56'	8'
57'–60'	9'
OVER 60'	10'

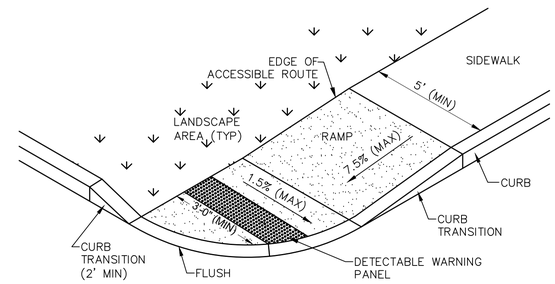


VERTICAL GRANITE CURB
N.T.S.



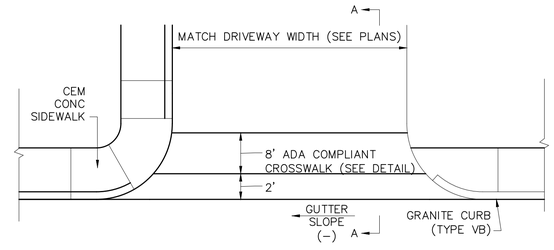
NOTES:
1. MATERIALS SHALL BE IN ACCORDANCE WITH THE CITY OF DOVER STANDARDS SPECIFICATIONS.
2. SIDEWALKS AND DRIVEWAY WIDTHS SHALL BE EQUAL TO EXISTING WIDTHS OR AS APPROVED AND SHALL SLOPE TO MATCH EXISTING ELEVATIONS.
3. BASE FOR THE SIDEWALKS AND DRIVEWAYS SHALL BE 9–INCHES OF CRUSHED GRAVEL.
4. DETECTABLE WARNING STRIPS SHALL BE CAST IRON.

CONCRETE SIDEWALK
N.T.S.



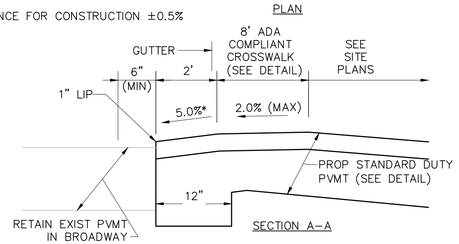
WHEELCHAIR RAMP TYPE A
N.T.S.

STANDARD DUTY PAVEMENT
N.T.S.

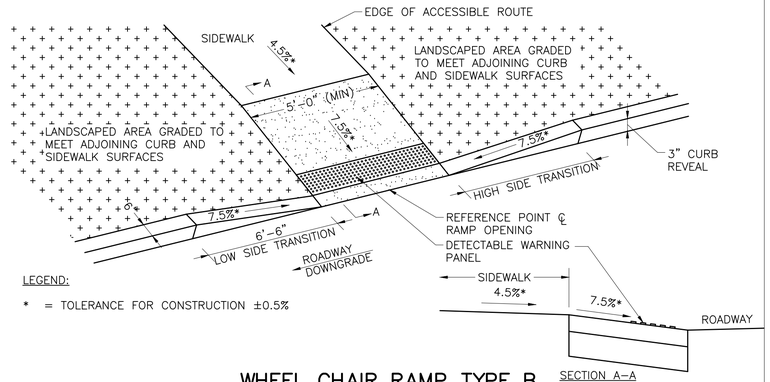


*TOLERANCE FOR CONSTRUCTION ±0.5%

PLAN



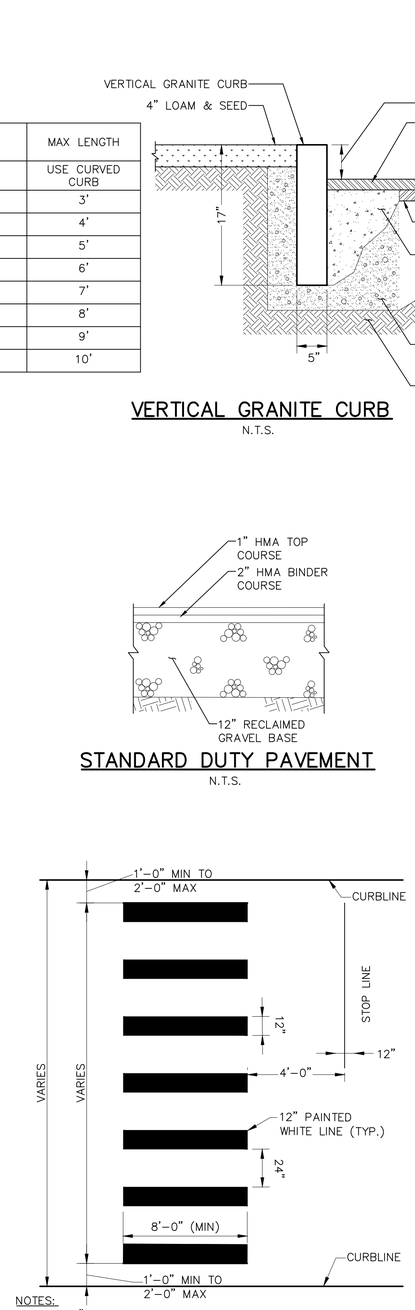
ASPHALT DRIVEWAY W/ CROSSWALK DETAIL
N.T.S.



LEGEND:

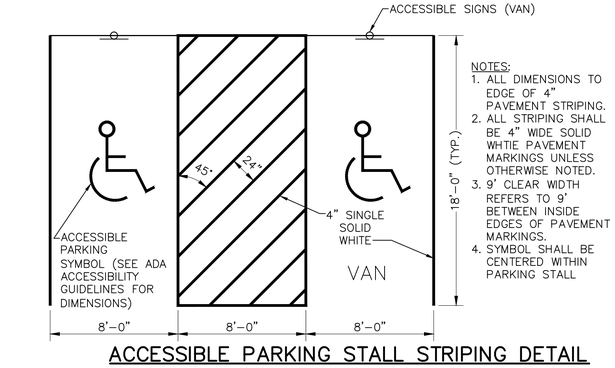
* = TOLERANCE FOR CONSTRUCTION ±0.5%

WHEEL CHAIR RAMP TYPE B
N.T.S.

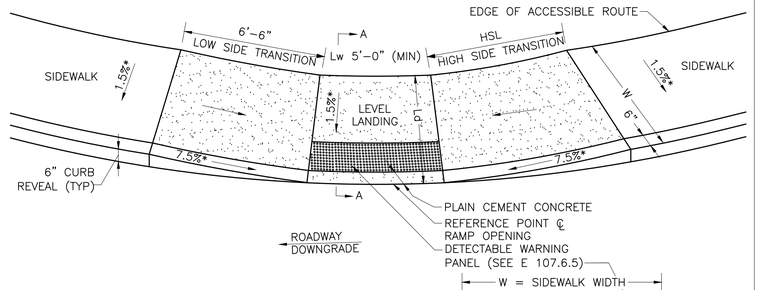


NOTES:
1. ALL 12" PAINTED LINES SHALL BE APPLIED IN ONE APPLICATION, NO COMBINATION OF LINES (TWO – 6" LINES) WILL BE ACCEPTED.
2. LAYOUT OF CROSSWALKS SHALL BE APPROVED THE ENGINEER PRIOR TO APPLICATION OF PAINT.
3. ALL CROSSWALKS INSTALLED SHALL CONFORM TO THE RELEVANT PROVISIONS OF THE MASSACHUSETTS HIGHWAY DEPARTMENT "STANDARD SPECIFICATION FOR HIGHWAY AND BRIDGES" DATED 1988.
4. THE PAVEMENT MARKINGS FOR CROSSWALKS WITHIN THE PUBLIC WAY MAY VARY AND SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO THE APPLICATION OF PAINT.

CROSSWALK PAVEMENT MARKING
N.T.S.



ACCESSIBLE PARKING STALL STRIPING DETAIL
N.T.S.



WHEEL CHAIR RAMP TYPE C
N.T.S.

TEC, Inc.
146 Dascomb Road
Andover, MA 01810
(978) 794-1792
169 Ocean Boulevard
Unit 101, PO Box 249
Hampton, NH 03842
(603) 601-8154
www.TheEngineeringCorp.com

DESIGNED BY	CPR
DRAWN BY	MWP
CHECKED BY	CPR
DATE	8/5/2021
SCALE	Not to Scale

OWNER/APPLICANT

Downtown Dover Storage, LLC
42 L Dover Point Road
Dover, NH 03820

REVISIONS

1.	TRC Revisions	10/28/2021
2.	TRC Revisions	11/24/2021

ISSUED FOR
Permitting

PROJECT TITLE
Proposed Residential Development

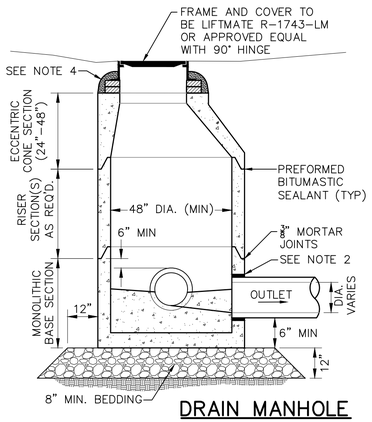
PROJECT LOCATION
14 Broadway
Dover, NH 03820

DRAWING TITLE
Construction Details

STATE OF NEW HAMPSHIRE
CHRISTOPHER P. RAYMOND
No.16305
LICENSED PROFESSIONAL ENGINEER

PROJECT NO.
N0946.02
TEC CAD FILE
N0946.02_DET
DRAWING NO.
C-11
SHEET 11 OF 14

PLANNING BOARD FILE #: P21-29

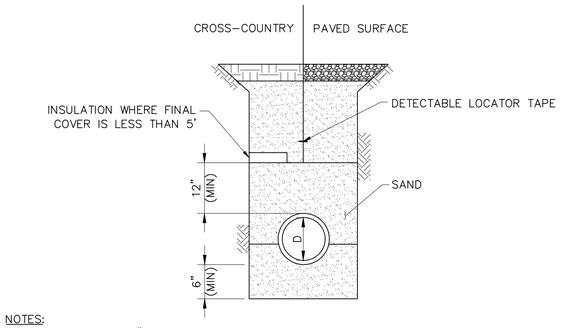


DRAIN MANHOLE

N.T.S.

NOTES:

1. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.
2. PROVIDE "V" KNOCKOUTS FOR PIPES WITH 2" MAX CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS.
3. ADJUST GRADE WITH BRICK. PROVIDE A MIN. OF 2 BRICK COURSES (MAX ADJUSTMENT=12"). PARGE EXTERIOR AND INTERIOR OF BRICKS WITH MORTAR.
4. COPOLYMER MANHOLE STEPS SHALL BE INSTALLED AT 12" O.C. FOR THE FULL DEPTH OF THE STRUCTURE.

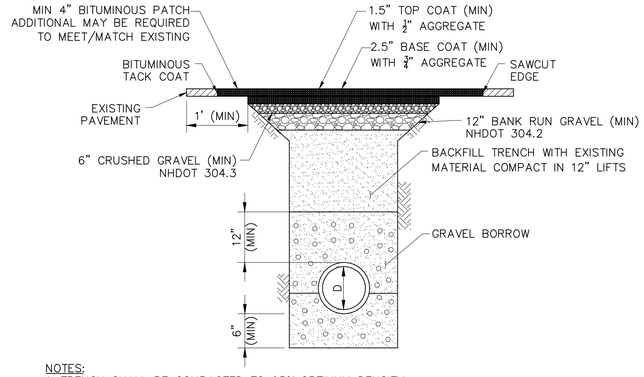


NOTES:

1. ALL WATER LINES 4" OR GREATER SHALL BE DUCTILE IRON WITH AN 8 MIL POLYETHYLENE WRAP. CONTRACTOR MAY FORGO WRAPPING PIPE IF THE DUCTILE IRON PIPE IS ZINC-COATED, TEES AND OTHER CONNECTIONS WILL STILL NEED TO BE WRAPPED.

WATERLINE TRENCH

N.T.S.

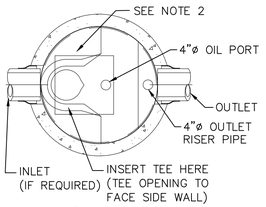


NOTES:

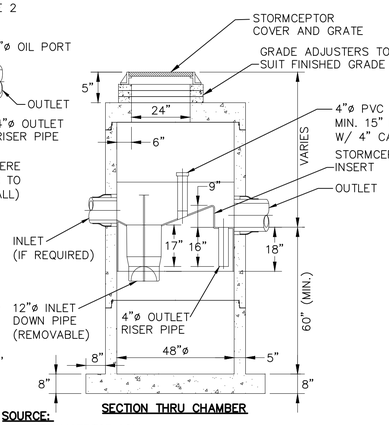
1. TRENCH SHALL BE COMPACTED TO 95% OPTIMUM DENSITY.
2. ALL WORK SHALL COMPLY WITH THE CITY OF DOVER CONSTRUCTION GUIDELINES AND PROCEDURES.
3. WHEN TRENCHING IN CONCRETE ROADWAY MINIMUM BINDER SHALL BE 8".

TYPICAL TRENCH DETAIL

N.T.S.



PLAN VIEW



SECTION THRU CHAMBER

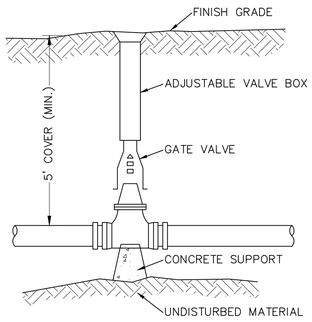
NOTES:

1. THE USE OF FLEXIBLE CONNECTION IS RECOMMENDED AT THE INLET AND OUTLET WHERE APPLICABLE.
2. THE COVER SHOULD BE POSITIONED OVER THE OUTLET DROP PIPE AND THE OIL PORT.
3. THE STORMCEPTOR SYSTEM IS PROTECTED BY ONE OR MORE OF THE FOLLOWING U.S. PATENTS: #4985148, #5498331, #5725760, #5753115, #5849181, #6068765, #6371690.
4. CONTACT A CONCRETE PIPE DIVISION REPRESENTATIVE FOR FURTHER DETAILS NOT LISTED ON THE DRAWING.

SOURCE: WWW.STORMCEPTOR.COM

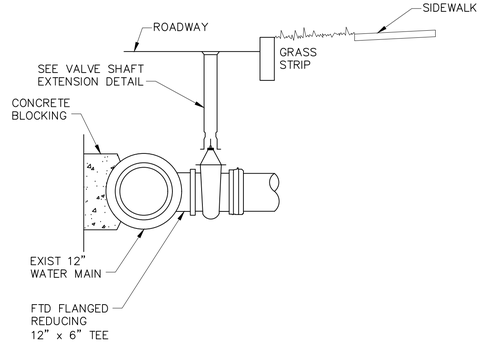
WATER QUALITY UNIT
STC 450 PRECAST CONCRETE INLET STORMCEPTOR®
(450 U.S. GALLON CAPACITY)

N.T.S.



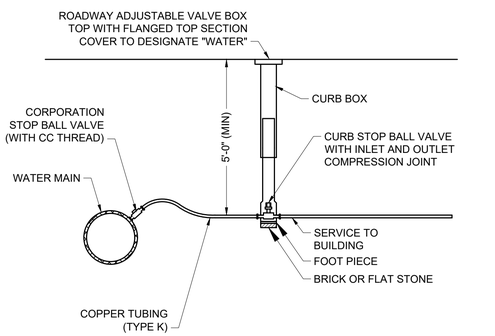
WATER GATE VALVE

N.T.S.



FIRE SERVICE CONNECTION

N.T.S.

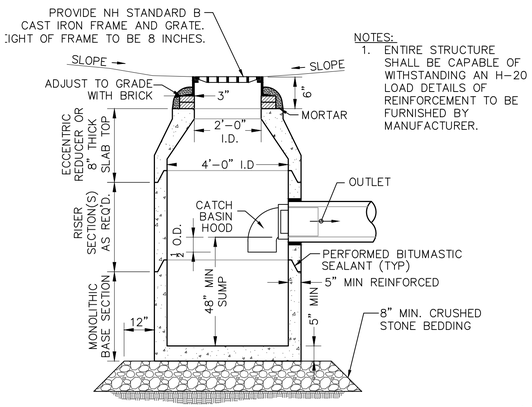


NOTES:

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2. WATER SERVICE LINES SHALL BE COPPER TUBING (TYPE K) BETWEEN MAIN AND CURB STOP.
3. SERVICE BETWEEN CURB STOP AND BUILDING MAY BE SDR 9 CTS (BLUE) PLASTIC POLYETHYLEN RATED FOR 250 PSI.

WATER SERVICE CONNECTION

N.T.S.

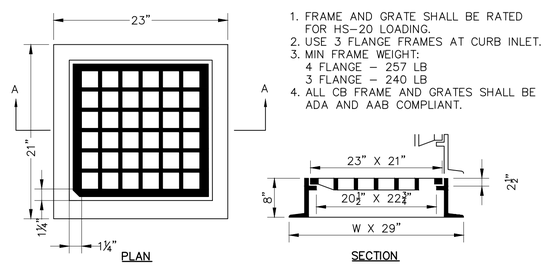


NOTES:

1. ENTIRE STRUCTURE SHALL BE CAPABLE OF WITHSTANDING AN H-20 LOAD DETAILS OF REINFORCEMENT TO BE FURNISHED BY MANUFACTURER.

DEEP SUMP CATCH BASIN WITH HOOD

N.T.S.

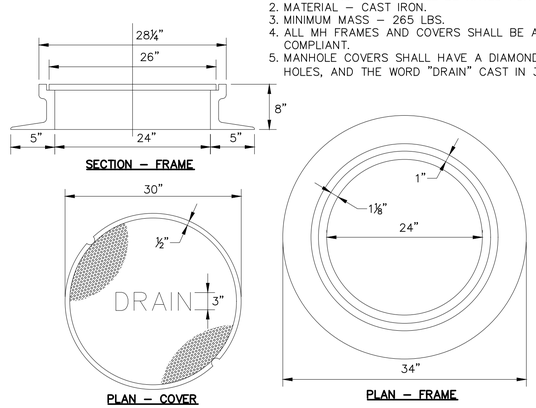


NOTES:

1. FRAME AND GRATE SHALL BE RATED FOR HS-20 LOADING.
2. USE 3 FLANGE FRAMES AT CURB INLET.
3. MIN FRAME WEIGHT:
   4 FLANGE - 257 LB
   3 FLANGE - 240 LB
4. ALL CB FRAME AND GRATES SHALL BE ADA AND AAB COMPLIANT.

NH TYPE B STANDARD CATCH BASIN FRAME WITH GALVANIZED STEEL OR CAST IRON GRATE

N.T.S.

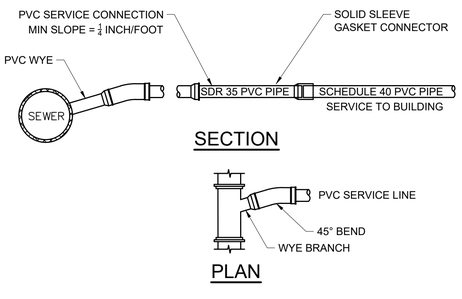


NOTES:

1. FRAME AND COVER SHALL BE RATED FOR HL-93 LOADING.
2. MATERIAL - CAST IRON.
3. MINIMUM MASS - 265 LBS.
4. ALL MH FRAMES AND COVERS SHALL BE ADA AND AAB COMPLIANT.
5. MANHOLE COVERS SHALL HAVE A DIAMOND PATTERN, PICK HOLES, AND THE WORD "DRAIN" CAST IN 3-INCH LETTERS.

MANHOLE FRAME & COVER

N.T.S.



SEWER SERVICE

N.T.S.

PLANNING BOARD FILE #: P21-29

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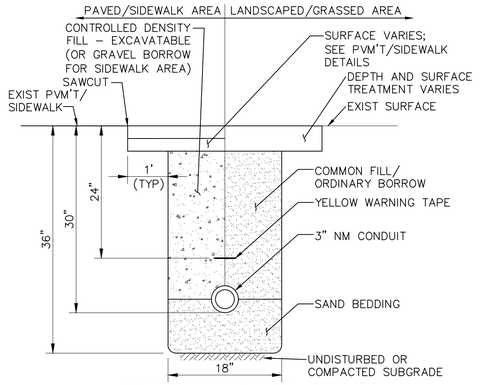
STATE OF NEW HAMPSHIRE — CHRISTOPHER P. RAYMOND No.16305 LICENSED PROFESSIONAL ENGINEER

PROJECT NO. N0946.02

TEC CAD FILE N0946.02_DET

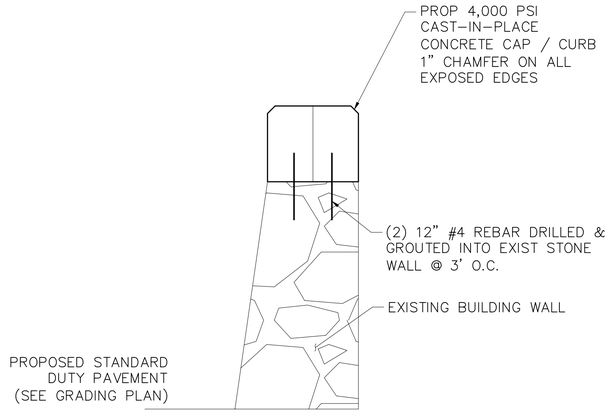
DRAWING NO. C-13

SHEET 13 OF 14



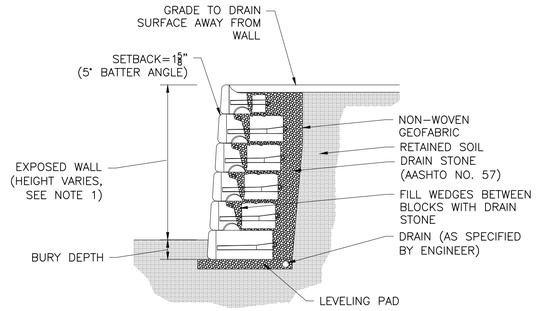
CONDUIT TRENCH DETAIL

N.T.S.



BUILDING WALL CAP

N.T.S.

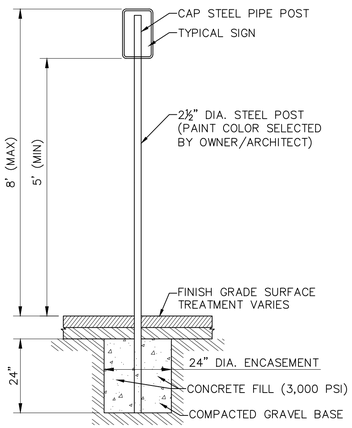


NOTES:

1. WALL HEIGHTS OVER 4 FEET WILL REQUIRE A FINAL WALL DESIGN STAMPED BY A STRUCTURAL ENGINEER.
2. FINAL WALL DESIGN TO BE SUBJECT TO THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER INCLUDING DESIGN ON LATERAL EARTH PRESSURES, GLOBAL STABILITY, FILL MATERIALS ADJACENT TO THE WALLS AND REQUIRED GEOGRID REINFORCEMENT.

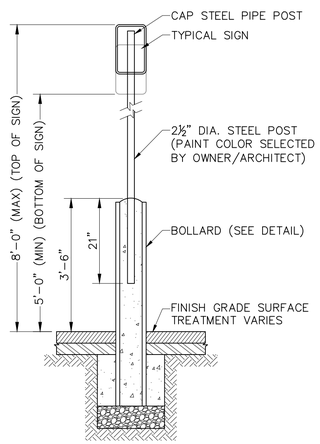
SEGMENTAL BLOCK RETAINING WALL

N.T.S.



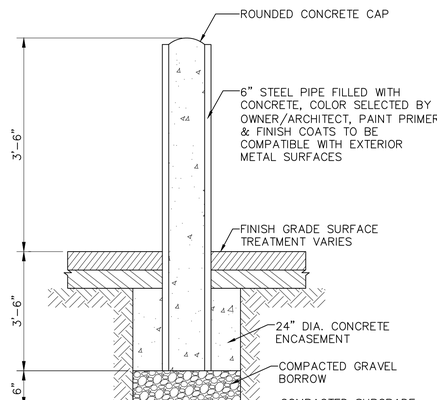
SIGN POST

N.T.S.



BOLLARD MOUNTED SIGN

N.T.S.

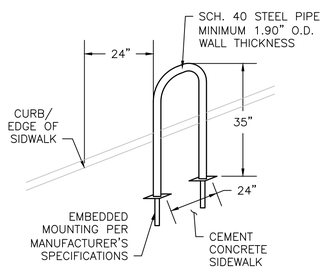


NOTES:

1. BOLLARDS SHALL BE PLACED IN ACCORDANCE WITH THE ADA ACCESSABILITY GUIDELINES. A MINIMUM CLEAR WIDTH OF 36" SHALL BE PROVIDED TO MAINTAIN AN ACCESSIBLE PATH.
2. BOLLARDS SHALL BE INSTALLED TO PROTECT ALL SERVICE CONNECTIONS, METERS, AND REAR BUILDING CORNERS IN PROPOSED AREAS.

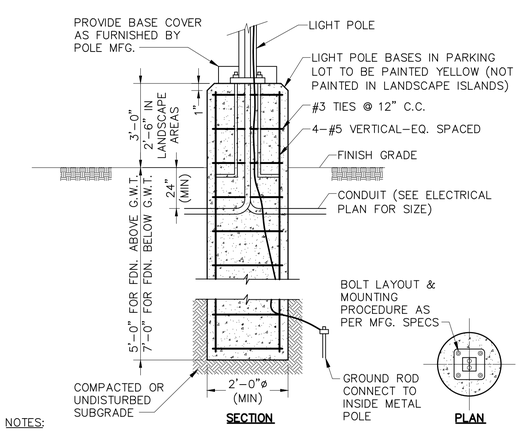
BOLLARD

N.T.S.



BIKE RACK

N.T.S.

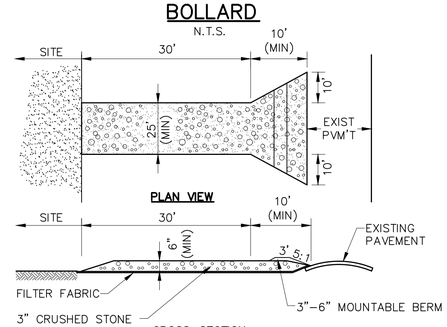


NOTES:

1. LIGHT POLE FOUNDATION DESIGN IS SUBJECT TO CHANGE BASED ON FINAL POLE AND FIXTURE SELECTION AND GEOTECHNICAL SITE INVESTIGATION.

LIGHT POLE BASE

N.T.S.



1. ENTRANCE WIDTH SHALL BE A TWENTY-FIVE (25) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
2. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH SHALL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR 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. BERM SHALL BE PERMITTED. PERIODIC INSPECTION AND MAINTENANCE SHALL BE PROVIDED AS NEEDED.
3. STABILIZED CONSTRUCTION EXIT SHALL BE REMOVED PRIOR TO FINAL FINISH MATERIALS BEING INSTALLED.

STABILIZED CONSTRUCTION EXIT

PLANNING BOARD FILE #: P21-29

TEC The Engineering Corp

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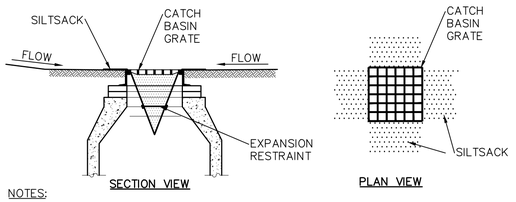
STATE OF NEW HAMPSHIRE — CHRISTOPHER P. RAYMOND No.16305 LICENSED PROFESSIONAL ENGINEER

PROJECT NO. N0946.02

TEC CAD FILE N0946.02_DET

DRAWING NO. C-12

SHEET 12 OF 14

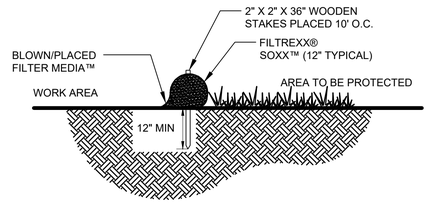


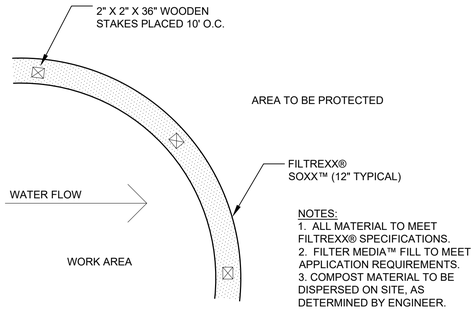
NOTES:

1. INSTALL SILTSACK IN EXISTING CATCH BASINS BEFORE COMMENCING WORK, AND IN NEW CATCH BASINS IMMEDIATELY AFTER INSTALLATION OF STRUCTURE. MAINTAIN UNTIL BINDER COURSE PAVING IS COMPLETE OR A PERMANENT STAND OF GRASS HAS BEEN ESTABLISHED.
2. GRATE TO BE PLACED OVER SILTSACK.
3. SILTSACK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS AND CLEANING OR REPLACEMENT SHALL BE PERFORMED PROMPTLY AS NEEDED.

INLET PROTECTION – SILT SACK IN CATCH BASIN

N.T.S.

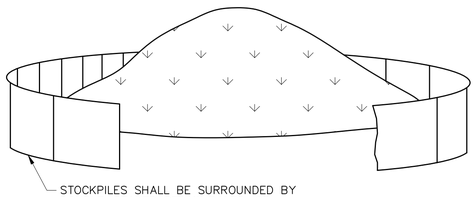




NOTES:
1. ALL MATERIAL TO MEET FILTREXX® SPECIFICATIONS.
2. FILTER MEDIA™ FILL TO MEET APPLICATION REQUIREMENTS.
3. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

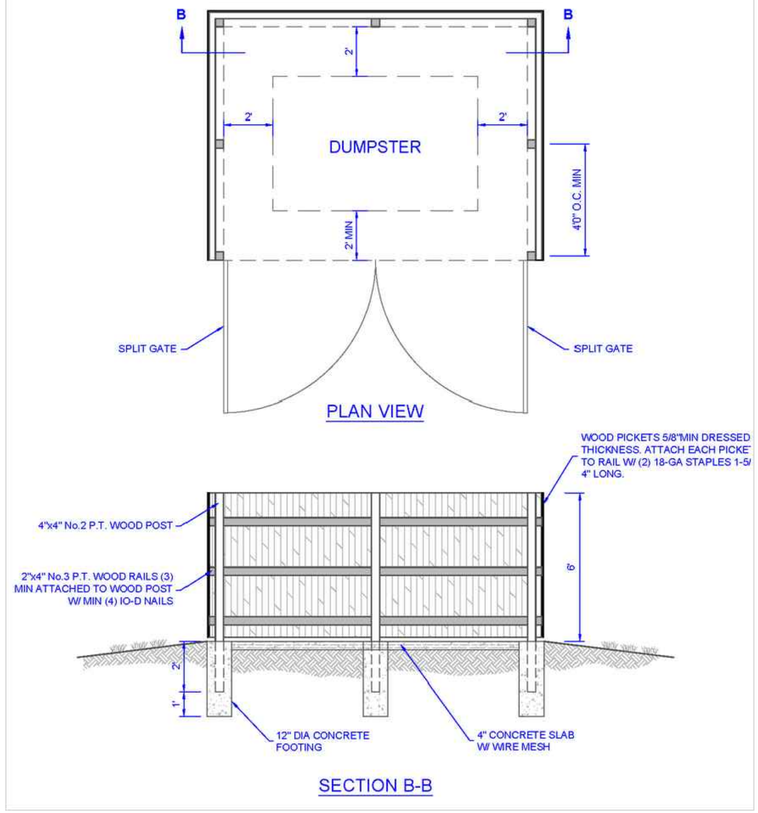
SILTSOXX PERIMETER EROSION BARRIER DETAIL

N.T.S.



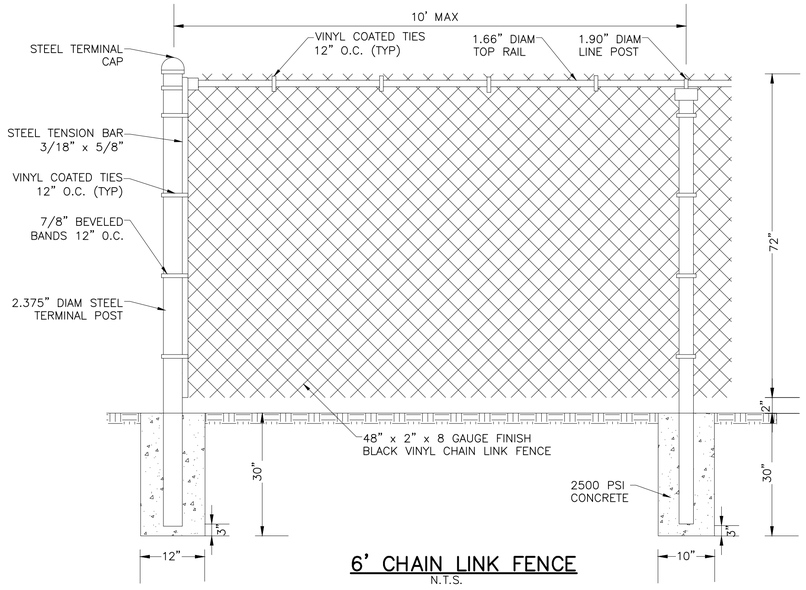
SOIL STOCKPILE

N.T.S.



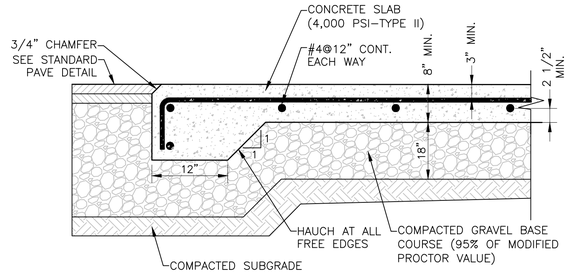
STOCKADE FENCE ENCLOSURE

N.T.S.



6' CHAIN LINK FENCE

N.T.S.



NOTES:
1. CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI.
2. MAXIMUM ALLOWABLE SLUMP SHALL NOT EXCEED 4" AND THE MAXIMUM W/C RATIO SHALL NOT EXCEED 0.45.
3. REINFORCING STEEL SHALL BE ASTM A615 GR 60 DEFORMED BARS (UNCOATED).
4. PROPOSED SLAB TO BE CONSTRUCTED TO MATCH PROPOSED DRAINAGE PATTERN IN PAVED AREA.

CONCRETE PAD

N.T.S.

PLANNING BOARD FILE #: P21-29

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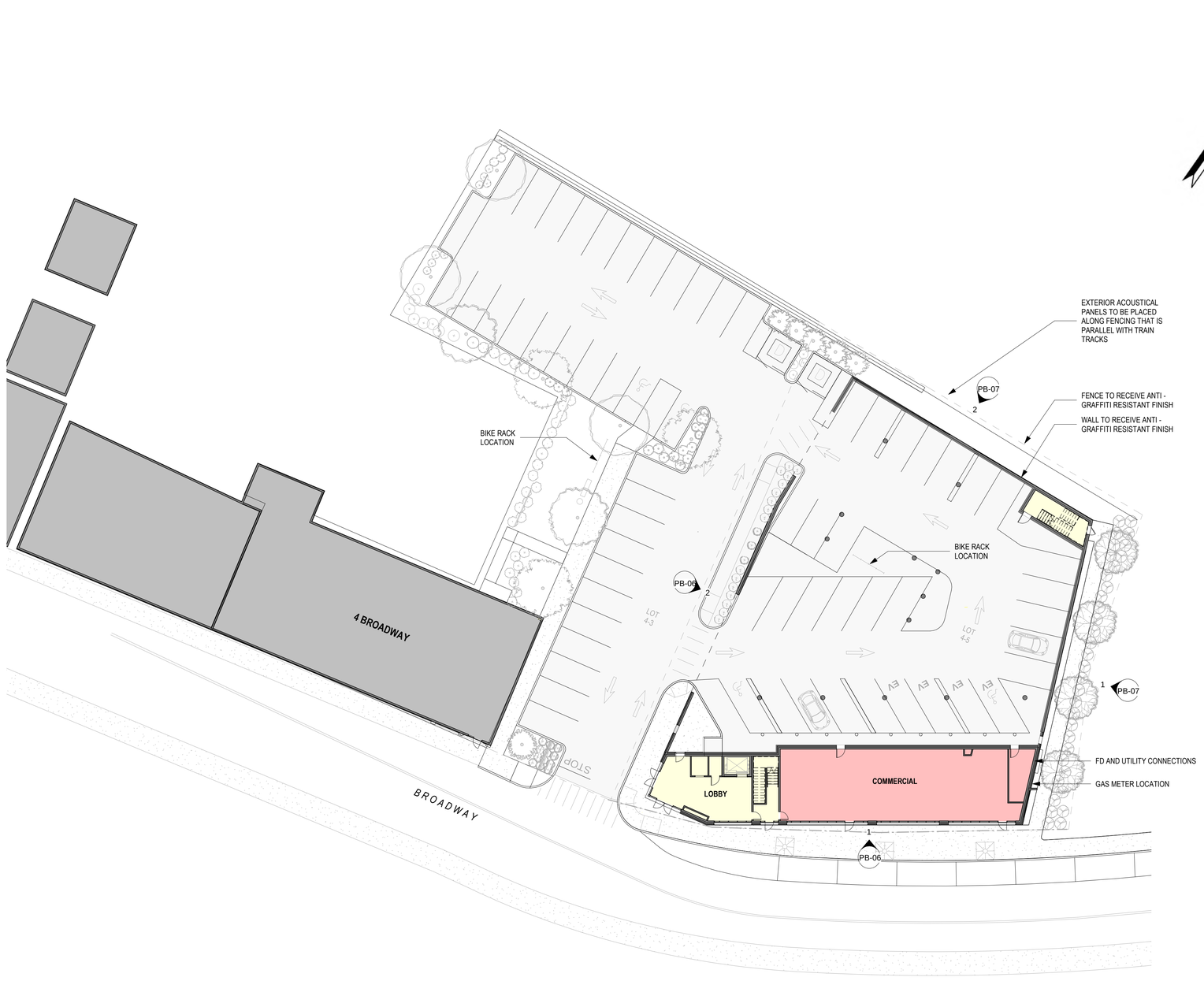
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PROJECT NO. N0946.02
TEC CAD FILE N0946.02_DET
DRAWING NO. C-14
SHEET 14 OF 14



1 SITE PLAN
1" = 20'-0"

GENERAL PLAN NOTES:

- PUBLIC ACCESSIBLE ENTRANCES TO HAVE ADA DOOR OPERATOR AND PUSH BUTTON
- ALL STAIRWELLS TO BE 2 HOUR FIRE RATED
- ALL EGRESS DOORS TO HAVE PANIC HARDWARE
- BUILDING WILL HAVE NFPA 13 SPRINKLER SYSTEM
- AREA OF REFUGE IS NOT REQUIRED IN THIS BUILDING PER IBC 1009.3 EXCEPTION 5 AND NFPA A.30.2.12.2
- BUILDING TO MEET ALL APPLICABLE BUILDING CODES AT TIME OF CONSTRUCTION

ZONING REGULATIONS:

- MINIMUM YARD SETBACKS
  FRONT: 0' - 10'
  SIDE: 0' - 24'
  REAR: 10' MIN.
- 2 STORY MINIMUM BUILDING HEIGHT

EGRESS AND SEPARATION REGULATIONS:

- MINIMUM NUMBER OF EXITS FROM EACH STORY: 2
- MAX TRAVEL DISTANCE: 250'
- DEAD END CORRIDOR DISTANCE: 50'
- FIRE SEPARATION BETWEEN OCCUPANCY GROUPS TO MEET IBC AND NFPA REQUIREMENTS

GRAPHIC SCALE
0 20 40 60 80

P21 - P29

LASSEL ARCHITECTS
370 MAIN STREET
SOUTH BERWICK, ME 03908
207 384 2049
lasselarchitects.com

PROJECT:
14 BROADWAY

ADDRESS:
14 BROADWAY
DOVER, NH

CLIENT:
Downtown Dover Storage, LLC 42 L
Dover Point Road Dover, NH 03820

REV: DATE: NOTES:

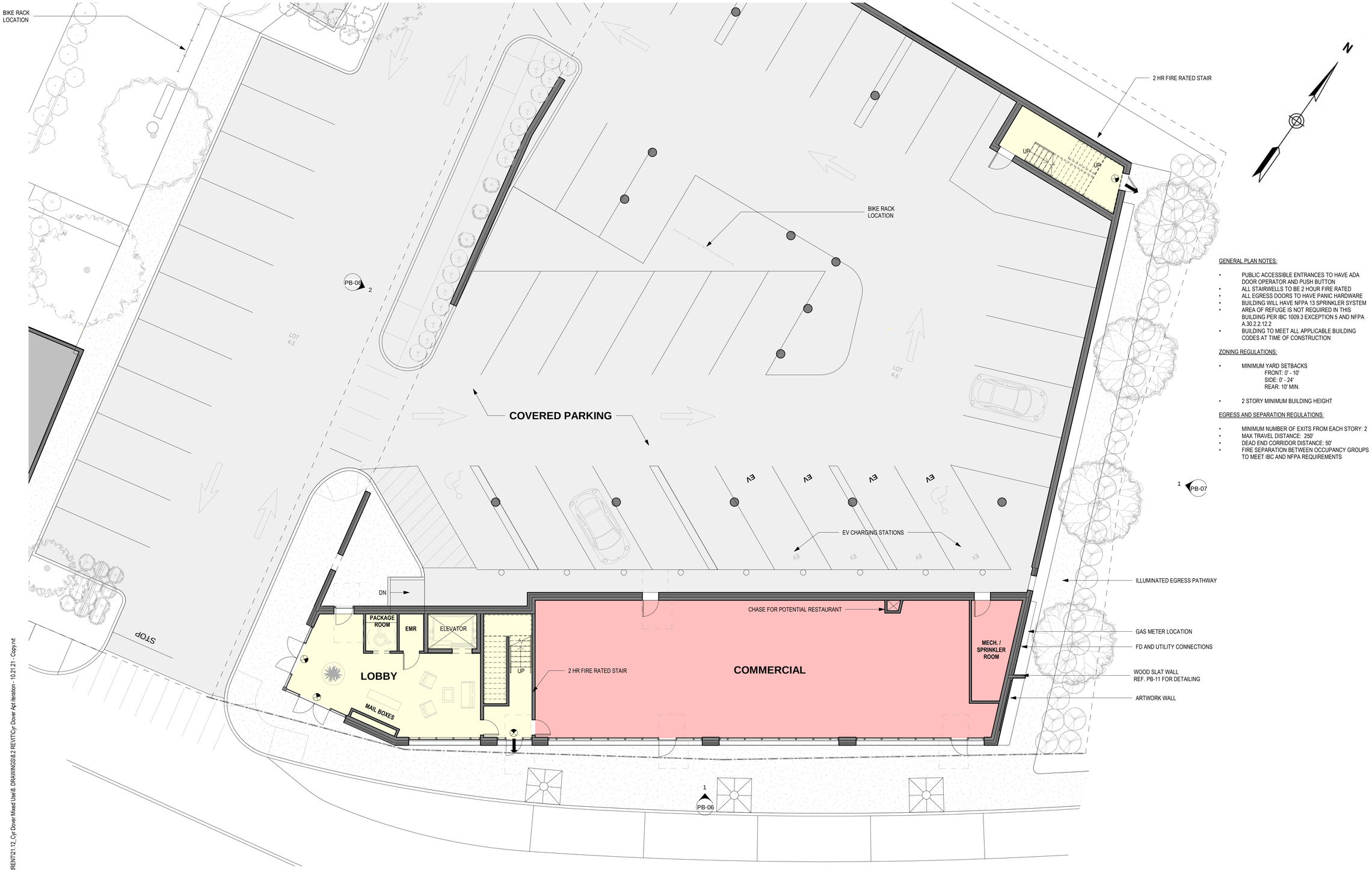
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NORTH:
DATE: 11/24/21
SCALE: AS NOTED
REVISION:

DRAWING NAME:
SITE PLAN

DRAWING NUMBER:
PB-01

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1 FLOOR PLAN - LEVEL 1
1/8" = 1'-0"

GENERAL PLAN NOTES:

- PUBLIC ACCESSIBLE ENTRANCES TO HAVE ADA DOOR OPERATOR AND PUSH BUTTON
- ALL STAIRWELLS TO BE 2 HOUR FIRE RATED
- ALL EGRESS DOORS TO HAVE PANIC HARDWARE
- BUILDING WILL HAVE NFPA 13 SPRINKLER SYSTEM
- AREA OF REFUGE IS NOT REQUIRED IN THIS BUILDING PER IBC 1009.3 EXCEPTION 5 AND NFPA A.30.2.2.12.2
- BUILDING TO MEET ALL APPLICABLE BUILDING CODES AT TIME OF CONSTRUCTION

ZONING REGULATIONS:

- MINIMUM YARD SETBACKS
  FRONT: 0' - 10'
  SIDE: 0' - 24'
  REAR: 10' MIN.
- 2 STORY MINIMUM BUILDING HEIGHT

EGRESS AND SEPARATION REGULATIONS:

- MINIMUM NUMBER OF EXITS FROM EACH STORY: 2
- MAX TRAVEL DISTANCE: 250'
- DEAD END CORRIDOR DISTANCE: 50'
- FIRE SEPARATION BETWEEN OCCUPANCY GROUPS TO MEET IBC AND NFPA REQUIREMENTS

GRAPHIC SCALE
0' 4' 8' 16' 32'

P21 - P29

LASSEL ARCHITECTS
370 MAIN STREET
SOUTH BERWICK, ME 03908
207 384 2049
lasselarchitects.com

PROJECT:
14 BROADWAY

ADDRESS:
14 BROADWAY
DOVER, NH

CLIENT:
Downtown Dover Storage, LLC 42 L
Dover Point Road Dover, NH 03820

REV: DATE: NOTES:

PROJECT NUMBER: 21.12
NORTH:
DATE: 11/24/21
SCALE: AS NOTED
REVISION:

DRAWING NAME:
FLOOR PLAN - LEVEL 1

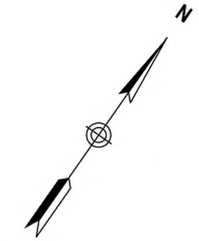
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1 FLOOR PLAN - LEVEL 2
1/8" = 1'-0"



GENERAL PLAN NOTES:

- PUBLIC ACCESSIBLE ENTRANCES TO HAVE ADA DOOR OPERATOR AND PUSH BUTTON
- ALL STAIRWELLS TO BE 2 HOUR FIRE RATED
- ALL EGRESS DOORS TO HAVE PANIC HARDWARE
- BUILDING WILL HAVE NFPA 13 SPRINKLER SYSTEM
- AREA OF REFUGE IS NOT REQUIRED IN THIS BUILDING PER IBC 1009.3 EXCEPTION 5 AND NFPA A.30.2.2.12.2.
- BUILDING TO MEET ALL APPLICABLE BUILDING CODES AT TIME OF CONSTRUCTION

ZONING REGULATIONS:

- MINIMUM YARD SETBACKS
  FRONT: 0' - 10'
  SIDE: 0' - 24'
  REAR: 10' MIN.
- 2 STORY MINIMUM BUILDING HEIGHT

EGRESS AND SEPARATION REGULATIONS:

- MINIMUM NUMBER OF EXITS FROM EACH STORY: 2
- MAX TRAVEL DISTANCE: 250'
- DEAD END CORRIDOR DISTANCE: 50'
- FIRE SEPARATION BETWEEN OCCUPANCY GROUPS TO MEET IBC AND NFPA REQUIREMENTS

GRAPHIC SCALE

0' 4' 8' 16' 32'

P21 - P29

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ARCHITECTS
370 MAIN STREET
SOUTH BERWICK, ME 03908
207 384 2049
lasselarchitects.com

PROJECT:
14 BROADWAY

ADDRESS:
14 BROADWAY
DOVER, NH

CLIENT:
Downtown Dover Storage, LLC 42 L
Dover Point Road Dover, NH 03820

REV:	DATE:	NOTES:

PROJECT NUMBER: 21.12
NORTH:
DATE: 11/24/21
SCALE: AS NOTED
REVISION:

DRAWING NAME:
FLOOR PLAN - LEVEL 2

DRAWING NUMBER:
PB-03

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1 FLOOR PLAN - LEVELS 3 & 4
1/8" = 1'-0"

APARTMENTS 17 - 25
ON FOURTH FLOOR

GRAPHIC SCALE
0' 4' 8' 16' 32'

P21 - P29

GENERAL PLAN NOTES:

- PUBLIC ACCESSIBLE ENTRANCES TO HAVE ADA DOOR OPERATOR AND PUSH BUTTON
- ALL STAIRWELLS TO BE 2 HOUR FIRE RATED
- ALL EGRESS DOORS TO HAVE PANIC HARDWARE
- BUILDING WILL HAVE NFPA 13 SPRINKLER SYSTEM
- AREA OF REFUGE IS NOT REQUIRED IN THIS BUILDING PER IBC 1009.3 EXCEPTION 5 AND NFPA A.30.2.2.12.2
- BUILDING TO MEET ALL APPLICABLE BUILDING CODES AT TIME OF CONSTRUCTION

ZONING REGULATIONS:

- MINIMUM YARD SETBACKS
  FRONT: 0' - 10'
  SIDE: 0' - 24'
  REAR: 10' MIN.
- 2 STORY MINIMUM BUILDING HEIGHT

EGRESS AND SEPARATION REGULATIONS:

- MINIMUM NUMBER OF EXITS FROM EACH STORY: 2
- MAX TRAVEL DISTANCE: 250'
- DEAD END CORRIDOR DISTANCE: 50'
- FIRE SEPARATION BETWEEN OCCUPANCY GROUPS TO MEET IBC AND NFPA REQUIREMENTS

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ARCHITECTS
370 MAIN STREET
SOUTH BERWICK, ME 03908
207 384 2049
lasselarchitects.com

PROJECT:
14 BROADWAY

ADDRESS:
14 BROADWAY
DOVER, NH

CLIENT:
Downtown Dover Storage, LLC 42 L
Dover Point Road Dover, NH 03820

REV: DATE: NOTES:

PROJECT NUMBER: 21.12
NORTH:
DATE: 11/24/21
SCALE: AS NOTED
REVISION:

DRAWING NAME:
FLOOR PLAN - LEVELS 3 & 4

DRAWING NUMBER:
PB-04

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1 ROOF PLAN
1/8" = 1'-0"

N

GENERAL PLAN NOTES:

- PUBLIC ACCESSIBLE ENTRANCES TO HAVE ADA DOOR OPERATOR AND PUSH BUTTON
- ALL STAIRWELLS TO BE 2 HOUR FIRE RATED
- ALL EGRESS DOORS TO HAVE PANIC HARDWARE
- BUILDING WILL HAVE NFPA 13 SPRINKLER SYSTEM
- AREA OF REFUGE IS NOT REQUIRED IN THIS BUILDING PER IBC 1009.3 EXCEPTION 5 AND NFPA A 30.2.2.12.2
- BUILDING TO MEET ALL APPLICABLE BUILDING CODES AT TIME OF CONSTRUCTION

ZONING REGULATIONS:

- MINIMUM YARD SETBACKS
  FRONT: 0' - 10'
  SIDE: 0' - 24'
  REAR: 10' MIN.
- 2 STORY MINIMUM BUILDING HEIGHT

EGRESS AND SEPARATION REGULATIONS:

- MINIMUM NUMBER OF EXITS FROM EACH STORY: 2
- MAX TRAVEL DISTANCE: 250'
- DEAD END CORRIDOR DISTANCE: 50'
- FIRE SEPARATION BETWEEN OCCUPANCY GROUPS TO MEET IBC AND NFPA REQUIREMENTS

GRAPHIC SCALE
0' 4' 8' 16' 32'

P21 - P29

LASSEL ARCHITECTS
370 MAIN STREET
SOUTH BERWICK, ME 03908
207 384 2049
lasselarchitects.com

PROJECT:
14 BROADWAY

ADDRESS:
14 BROADWAY
DOVER, NH

CLIENT:
Downtown Dover Storage, LLC 42 L
Dover Point Road Dover, NH 03820

REV: DATE: NOTES:

PROJECT NUMBER: 21.12
DATE: 11/24/21
SCALE: AS NOTED
REVISION:
NORTH:

DRAWING NAME:
ROOF PLAN

DRAWING NUMBER:
PB-05

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Architectural Amenities Include:

- Human scale building forms and details at street level
- Street trees along Broadway
- Building has been brought to lot line on Broadway Street to encourage vibrancy and pedestrian engagement.
- Bicycle racks have been provided on site
- Green roof
- Electric Charging stations
- Roof is PV ready
- 80% windows/doors of the first-floor façade along Broadway.
- Brick base and tower to reinforce relationship to building context and to celebrate Dover's history in brick making
- Tower form at corner of building points to downtown to create a prominent vista along the street and to create an architectural expression and interest at the corner.
- Building edge has been brought to property line to define street edge.
- A public art wall has been incorporated on East corner of building to provide visual interest upon entering the downtown core from further up Broadway. This will also be visible at the St.John's intersection.
- Trees along the edge of the East property line help screen utilities and parking garage edge from adjacent lot.
- Recessed brick banding at base of building to provide visual interest with pattern and depth. Brick banding around the building and change of material helps to break up the building massing.
- Exterior building lighting at ground floor will wash walls and light up entry canopies. Lighting will be warm and ambient while providing a level of security. All lighting will be LED.
- Dumpsters will be screened.
- Acoustical panels have been added to the fence along the train tracks to mitigate train sound on site.
- Colors will be a rich blend of clay brick that is native to downtown Dover, black window frames, and taupe cement board panels. This color palette is harmonious with existing buildings in downtown Dover.
- As part of an effort to deter graffiti, we are proposing use of rich, darker color brick that will not show graffiti as prominently as lighter colors would. Where applicable, anti-graffiti coatings will be applied. Illuminating the building at the night will further prevent opportunities for graffiti.



1 BROADWAY STREET ELEVATION
1/8" = 1'-0"



2 VIEW FROM 12 BROADWAY, LOT 4-3
1/8" = 1'-0"

GRAPHIC SCALE
0' 4' 8' 16' 32'

P21 - P29

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SOUTH BERWICK, ME 03908
207 384 2049
lasselarchitects.com

PROJECT:
14 BROADWAY

ADDRESS:
14 BROADWAY
DOVER, NH

CLIENT:
Downtown Dover Storage, LLC 42 L
Dover Point Road Dover, NH 03820

REV: DATE: NOTES:

PROJECT NUMBER: 21.12
NORTH:
DATE: 11/24/21
SCALE: AS NOTED
REVISION:

DRAWING NAME:
ELEVATIONS - SOUTH-EAST & SOUTH-WEST

DRAWING NUMBER:
PB-06

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Architectural Amenities Include:

- Human scale building forms and details at street level
- Street trees along Broadway
- Building has been brought to lot line on Broadway Street to encourage vibrancy and pedestrian engagement.
- Bicycle racks have been provided on site
- Green roof
- Electric Charging stations
- Roof is PV ready
- 80% windows/doors of the first-floor façade along Broadway.
- Brick base and tower to reinforce relationship to building context and to celebrate Dover's history in brick making
- Tower form at corner of building points to downtown to create a prominent vista along the street and to create an architectural expression and interest at the corner.
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- Dumpsters will be screened.
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- Colors will be a rich blend of clay brick that is native to downtown Dover, black window frames, and taupe cement board panels. This color palette is harmonious with existing buildings in downtown Dover.
- As part of an effort to deter graffiti, we are proposing use of rich, darker color brick that will not show graffiti as prominently as lighter colors would. Where applicable, anti-graffiti coatings will be applied. Illuminating the building at the night will further prevent opportunities for graffiti.



1 VIEW FROM INTERSECTION OF BROADWAY AND ST JOHN
1/8" = 1'-0"



2 VIEW FROM ABUTTERS ON PIERCE STREET AND RAILROAD
1/8" = 1'-0"

GRAPHIC SCALE
0' 4' 8' 16' 32'

P21 - P29

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370 MAIN STREET
SOUTH BERWICK, ME 03908
207 384 2049
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PROJECT:
14 BROADWAY

ADDRESS:
14 BROADWAY
DOVER, NH

CLIENT:
Downtown Dover Storage, LLC 42 L
Dover Point Road Dover, NH 03820

REV: DATE: NOTES:

PROJECT NUMBER: 21.12
NORTH:
DATE: 11/24/21
SCALE: AS NOTED
REVISION:

DRAWING NAME:
ELEVATIONS - EAST & NORTH

DRAWING NUMBER:
PB-07

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VIEW FROM BROADWAY LOOKING NORTH



VIEW FROM BROADWAY LOOKING SOUTH

PROJECT:
14 BROADWAY

ADDRESS:
14 BROADWAY
DOVER, NH

CLIENT:
Downtown Dover Storage, LLC 42 L
Dover Point Road Dover, NH 03820

REV: DATE: NOTES:

PROJECT NUMBER: 21.12
NORTH:
DATE: 11/24/21
SCALE: AS NOTED
REVISION:

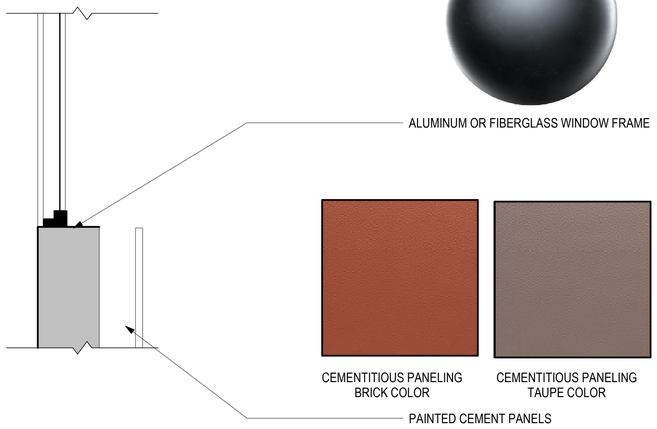
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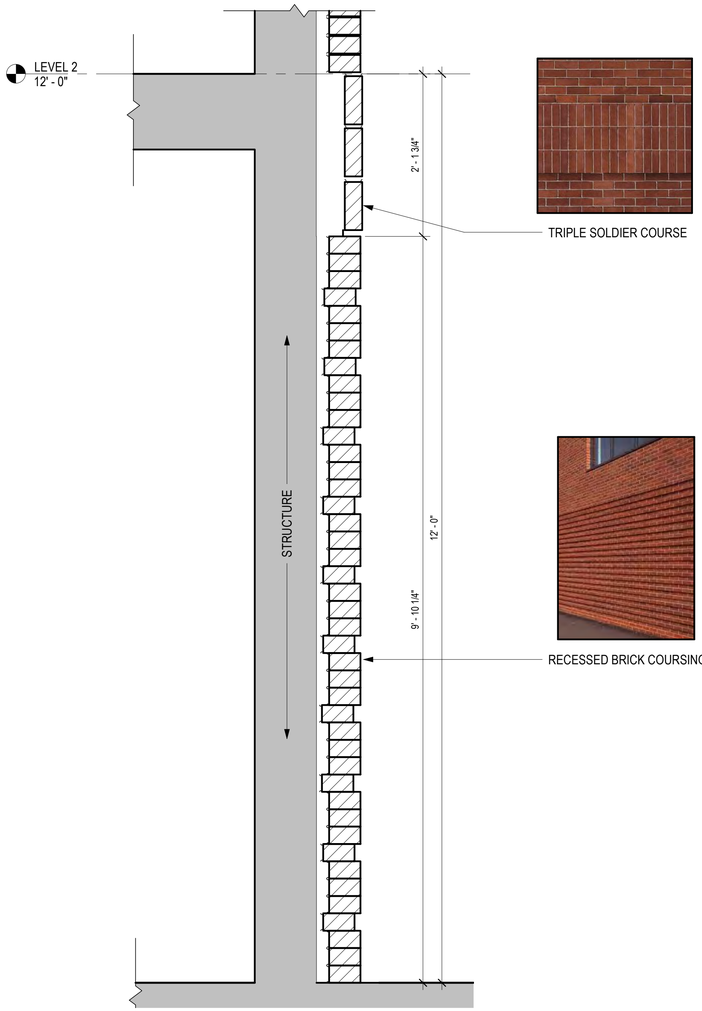
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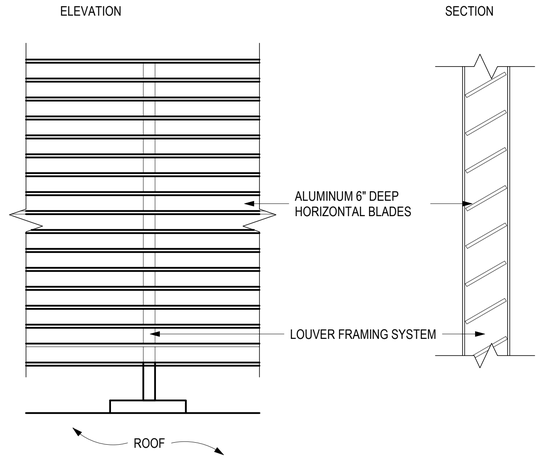
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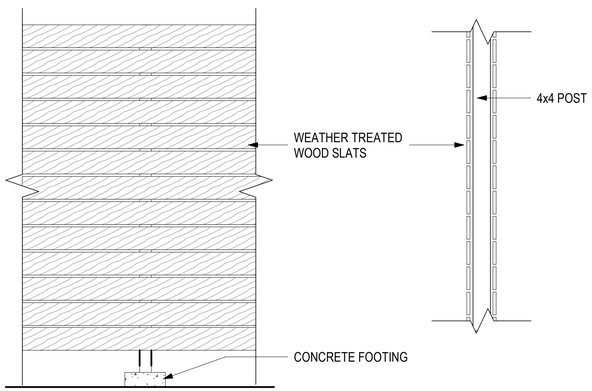


1 MATERIAL SECTION
1" = 1'-0"



2 ROOF SCREEN DETAIL
1/2" = 1'-0"





3 GAS METER SCREEN
1/2" = 1'-0"



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14 BROADWAY
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REV: DATE: NOTES:

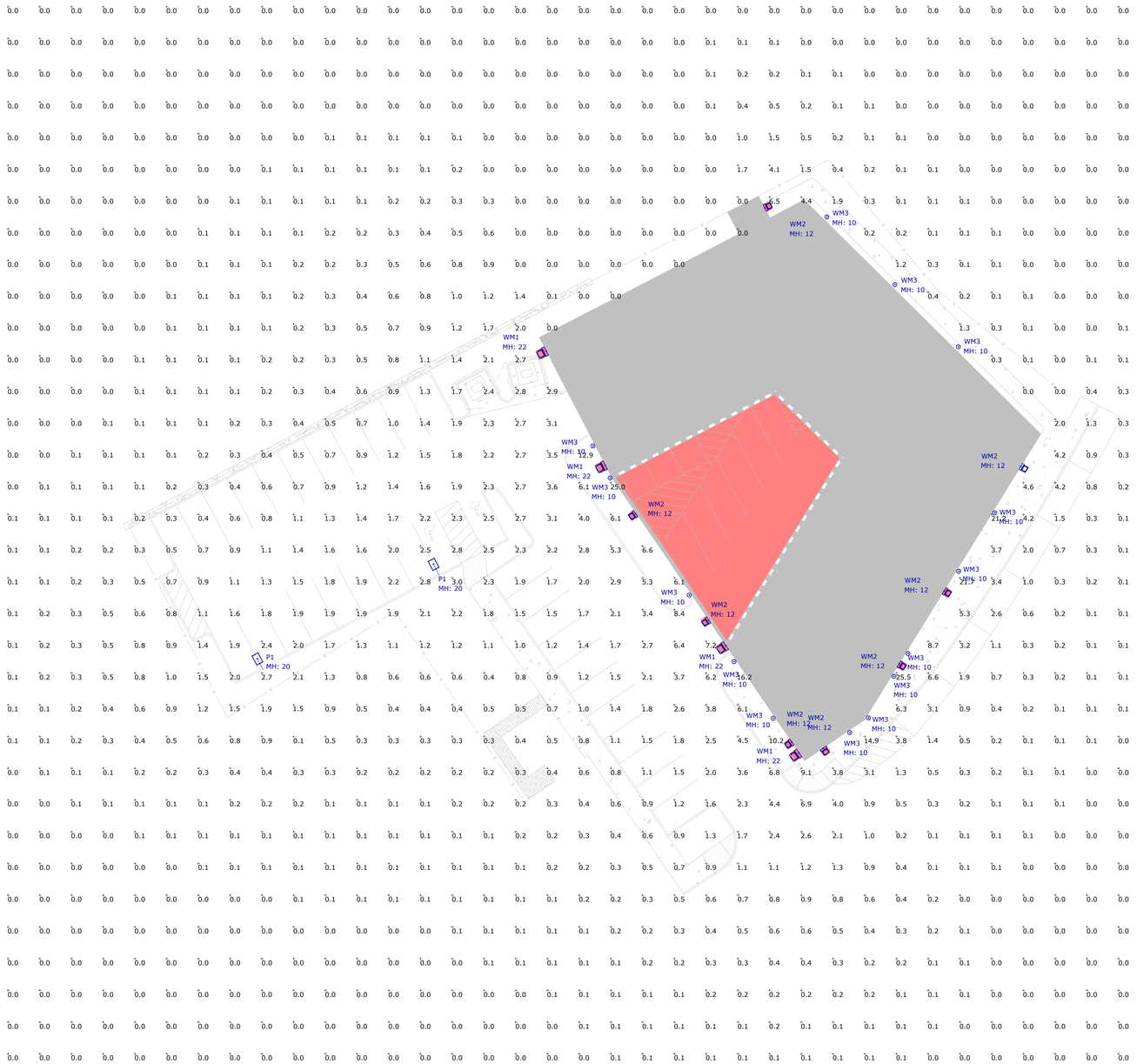
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REVISION:

DRAWING NAME:
ARCHITECTURAL DETAILS

DRAWING NUMBER:
PB-09

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1 Photometric Layout and Calculations

SCALE: 1:20

20' 0 10' 20' 40'

Luminaire Schedule						
Symbol	Label	Qty	Description	LLF	Lum. Watts	Lum. Lumens
	WM3	14	Peachtree # C6BLRUD-14-40K-80-W-RCA-TBD-WAL2-WL-120/277	0.900	17	2917
	P1	2	Visionaire # VSX-II-T4L-10L-4K-UNV-TBD-TBD	0.900	70	8888
	WM1	4	Visionaire # VSX-II-T4L-10L-4K-UNV-WM-TBD	0.900	70	8888
	WM2	8	Visionaire # VSC-II-T2-16LC-7-4K-UNV-WM-TBD	0.900	37	4138

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
SITE CALC PTS	Illuminance	Fc	0.31	25.5	0.0	N.A.	N.A.
LOT 4-3	Illuminance	Fc	2.27	12.9	0.3	7.57	43.00

VSX-II Array LED Specifications



Project Name:

Catalog Number:

Type:

The new **VSX-II Array LED** Series offers clean, functional styling that is defined by its sleek low profile design and rugged construction. It combines the latest in LED technology with proven optics to create a luminaire that provides outdoor lighting that is both energy efficient and aesthetically pleasing.

The LED's performance and the driver's life are maximized by enclosing them in two separate die cast aluminum housings.

The VSX-II Array LED fixture is offered with lumen packages ranging from 5,000 - 25,000. Two optical distribution patterns are available: Choices between 3000, 4000 or 5000 Kelvin temperature of the LEDs.

A durable polyester powder coat finish is guaranteed for five years; and is available in standard or custom colors.

The **VSX-II Array LED** series is an exceptional choice for commercial parking lots, office complexes, architectural projects, and other general lighting projects.

Ordering Information

MODEL	OPTICS	LUMENS	KELVIN	VOLTAGE	MOUNTING	FINISH	OPTIONS	OPTIONS	OPTIONS
VSX-II	T1 Type 1	5L	3K 3000K	UNV 120/277V	AM Arm Mount	BZ Bronze	PCR-120 Photocell Sensor 120V	WSC-S Wireless Sensor Mounting Height	UPMA-S Universal Pole/Wall Mount Adaptor
	T2 Type 2	10L	4K 4000K	8 347V	SAM Straight Arm Mount for Two Back Plate Combinations	BK Black	PCR-208 Photocell Sensor 208V		
	T3 Type 3	15L	5K 5000K	5 480V	UAM Universal Arm/90° Arm Mount (Default)	SBK Smooth Black	PCR-240 Photocell Sensor 240V	WSC-20 Wireless Sensor 20' Mounting Height	UPMA-R Universal Pole/Wall Mount Adaptor
	T3L Type 3 Long	20L				WH White	PCR-277 Photocell Sensor 277V		
	T4 Type 4	25L			MAF Mast Arm Fitter	SWH Smooth White	PCR-347 Photocell Sensor 347V	WSC-40 Wireless Sensor 40' Mounting Height	BAWP Back Wall Plate
	T4L Type 4 Long				KM Knuckle Mount	GP Graphite	PCR-480 Photocell Sensor 480V		ROT-R Rotated Optics Right Side
	T4A Type 4 Automotive				WM Wall Mount *Requires BAWP	GY Grey	SPINPER 5 Pin Twist-Lock Photocell Receptacle		ROT-L Rotated Optics Left Side
	T5SR Type 5 Short Round				AWM Arckaringa Wall Mount	SL Silver Metallic	PER 7PINPER 7 Pin Twist-Lock Photocell Receptacle		CLS Backplate Cutoff Shield
	T5LR Type 5 Long Round				*Round Pole Plate Adaptors RPP) are required accessories	CC Custom Color	7PINPER 7 Pin Twist-Lock Photocell Receptacle with Wireless Sensor Mounting Bracket		
	T5LS Type 5 Long Square				*BAWP to be ordered separately		DIM 0-10V Dimming Driver	UMAP Universal Mast arm Slip	ECLS Backplate Cutoff Shield Extra Cutoff Louvre Shield
							RPP-3* Round Pole Plate Adaptor 3"		RCLS Backplate Cutoff Shield Reduced Cutoff Louvre Shield
							RPP-4* Round Pole Plate Adaptor 4"		
							RPP-5* Round Pole Plate Adaptor 5"	ADJLS Adjustable Louvre Light Shield	LCLS Lefthside cutoff Shield
							VWC Visionaire Wireless Sensor Controls *Consult Factory	BD Bird Deterrent Shield	HS Housetunnel

VISIONAIRE LIGHTING

2 Visionaire Type VSX II Specifications

V-Sconce-II LED Specifications



Project Name:

Catalog Number:

Type:

The **VSC-II LED** wall mount Series continues the unique contemporary design of the original VSC Series luminaire. However, it combines LED performance and advanced LED thermal management technology and provides lighting that is energy efficient and aesthetically pleasing.

The LED performance and the driver's life are maximized by enclosing them in two separate cast aluminum housings. Easy access for mounting and maintenance.

The LED light assemblies come with 16, 32, or 48 LEDs.

Choices between 3000, 4000 or 5000 Kelvin temperature for the LEDs.

A durable polyester powder coat finish is guaranteed for five years; and is available in standard or custom colors.

The **VSC-II LED** Series is an exceptional choice for office complexes, schools, commercial buildings, and many architectural projects.

Ordering Information

MODEL	OPTICS	SOURCE	CURRENT	KELVIN	VOLTAGE	MOUNTING	FINISH	OPTIONS	OPTIONS
VSC-II	T1 Type 1	16LC	3 350mA	3K 3000K	UNV 120/277V	WM Wall Mount	BZ Bronze	PC-120	UP Uplight (Specify Kelvin) *not available with 5000K.
	T2 Type 2	32LC	5 525mA	4K 4000K	8 347V	VCB Vertical Box Mount (Specify Conduit Entry) Standard Conduit Holes	BK Black	PC-208	
	T3 Type 3	48LC	7 700mA	5K 5000K	5 480V		SBK Smooth Black	PC-240	DIM 0-10v Dimming Driver
	T4 Type 4		10 1000mA *Not Available in 48LC				WH White	PC-277 Photocell	EBPL Emergency Battery Pack
	FM Flood Medium						SWH Smooth White	WSC-8 Wireless Sensor 8' Mounting Height	EBPL-CLD Cold Weather Emergency Battery Pack *Voltage only available for 120V, 208V & 277V. *Not available with 347V, 480V, Dimming or Controllers.
	FN Flood Narrow						GP Graphite	WSC-20 Wireless Sensor 20' Mounting Height	
							GY Grey	*Must specify 120, 208, 240, 277 or 347 for sensor to work properly.	
							SL Silver Metallic		
							CC Custom Color		
									BP Back Plate
									CLS Back Plate Cutoff Louver Shield

VISIONAIRE LIGHTING

3 Visionaire Type VSC II Specifications

C6BLRUD

6" LED Up & Down Cylinder
4" Aperture Up and 5" Aperture Down

1000 & 1400 Lumens (down)

PRODUCT SPECIFICATION DATA

MECHANICAL
- Powder Coated Extruded .063 Aluminum Cylinder
- Finish exceeds 1000 hr. ASTM salt spray
- Mounting canopy and stems (3/8" ips) for pendant mount matches cylinder color

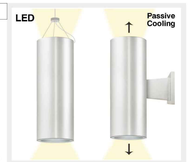
ELECTRICAL
- Serviceable and upgradeable light engine
- Power supply is overload and short circuit protected
- Single driver supplies power to both LED's
- 0-10V dimming to 1%

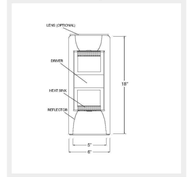
OPTICAL
- Self-flanged lower reflector
- 45° cutoff to source
- Medium distribution

PERFORMANCE
- CCT: 3000K, 3500K, 4000K @ 80+ CRI
- 70% lumen maintenance at 60,000 hours based on IESNA LM-79-2008

LISTINGS
- ANSI/UL1598 and CAN/CSA C22.2 No. 250.0-08
- Suitable for damp location / covered ceilings
- For wet location see -WL option

5 Year limited warranty.





Dimensions and specifications to the hardware are subject to change.

	BLURD LUMENS @ 4K	DIMMING	COLOR TEMP.	CRI	REFLECTOR	REFLECTOR OPTIONS	FIXTURE FINISH	MOUNTING	OPTIONS	VOLTAGE
C6BLRUD										
6" LED Round Up & Down Cylinder	-14 1400 lm 1400 Down -10 1000 lm 1000 Down	-DMV(F) 0-10v Dim *Standard	-30K 3000 K -35K 3500 K -40K 4000 K	-80 80+ CRI	-W White* -S Silver* -B Black* *Powder Coat Standard	-RC Reg Clear Temp. Haze Lens -RCA Reg Clear Amorphous Lens -RFR Reg Prismatic Temp. Haze Lens -RFRA Reg Prismatic Amorphous Lens -TFR Tint Temp. Haze Lens -TRA Tint Reg Back *prior to fixture ship date may be subject to change	Powdercoat Paints	-WH2 Wall, 0° Offset 4" -WH5 Wall, 0° Offset 6" Cable w/ straight cord -CAB-10-18 Cable Only Available 2' to 10' Stock cord use 2 Boxes of Wire	-E Ext'ng -TL Tab Lock -WL Wet Location (need dmv)	-120/277

Made in The USA

Peachtree Lighting

C6BLRUD

4 Peachtree C6BLRUD Speifications

NOTES:

A. A LIGHT LOSS FACTOR OF 0.900 HAS BEEN APPLIED TO FIXTURES UNLESS OTHERWISE NOTED. REFER TO LUMINAIRE SCHEDULE FOR LIGHT LOSS FACTOR AND LUMEN INFORMATION.

B. SEE "MH" ON LIGHTING FIXTURE TAG LOCATED ON PLAN FOR MOUNTING HEIGHT INFORMATION.

C. CALCULATION POINTS ARE TAKEN AT GRADE.

D. CALCULATION RESULTS ARE BASED ON IES STANDARDS UNLESS OTHERWISE REQUESTED.

SK & Associates
Experience the light™
JACK SKWATT APPROVED
20/22 Carver Circle
Canton, MA 02021
T - 781-821-1700
www.skandassociates.com

TEC The Engineering Corp
146 Dascomb Rd
Andover, MA 01810

14 Broadway Site

Photometric Layout Calaculations Schedules and Specifications

DATE: 8/26/2021
PROJECT NUMBER: 211114
DRAWN BY: AM
CHECKED BY:AD
APPROVED BY:AD
SCALE: AS NOTED

REVISIONS	DESCRIPTION	DATE
1	Site Lighting & Plan Revisions	10/28/2021
2		
3		
4		
5		
6		
7		

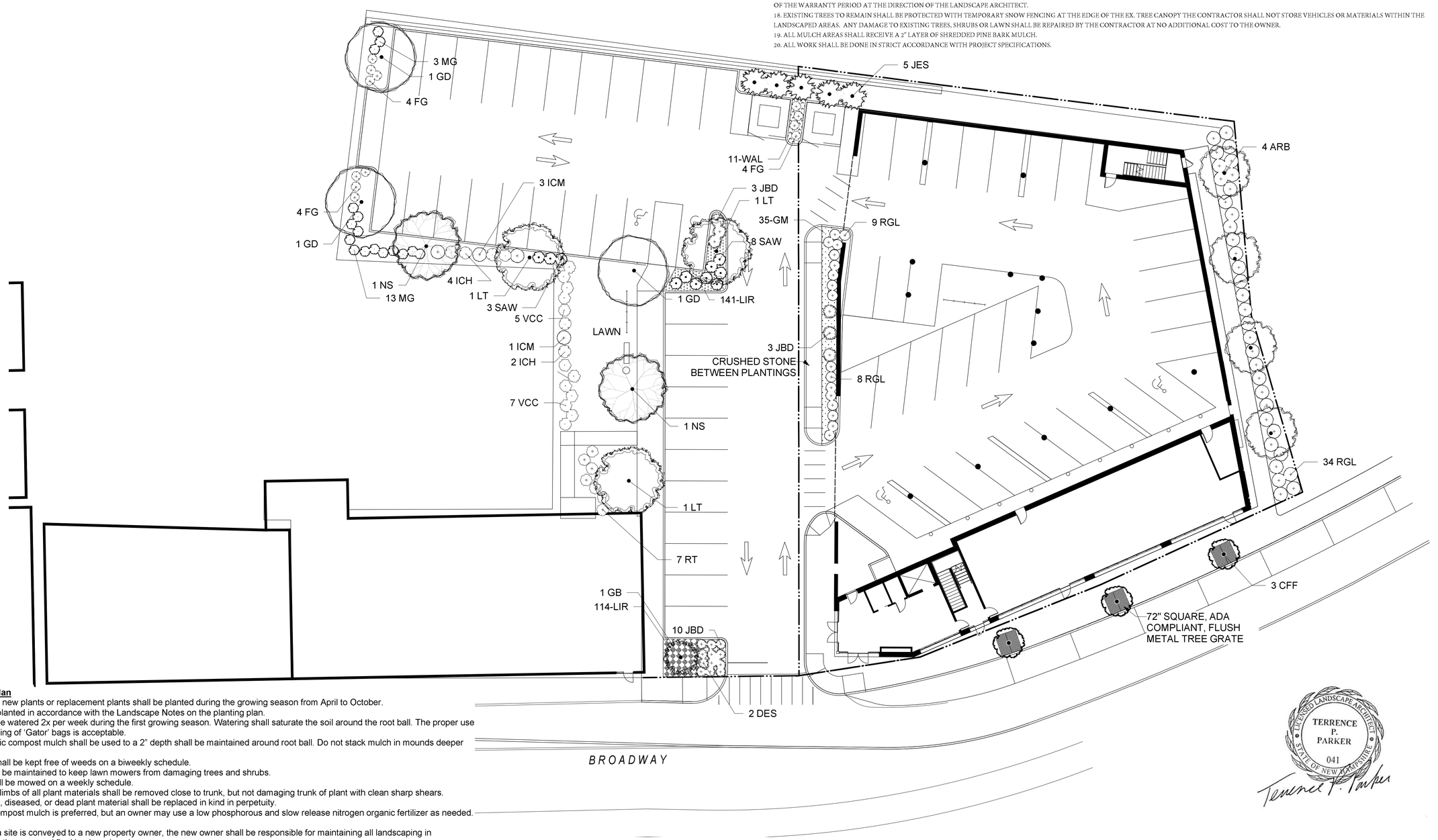
SL1

Plant List - Trees and Shrubs				
ID	Qty	Latin Name	Common Name	Scheduled Size
ARB	4	Acer rubrum 'Bowhall'	Bowhall Maple	3 1/2" Cal.
CFF	3	Carpinus betulus 'Frans Fontaine'	Frans Fontaine Hornbeam	2 1/2" Cal.
FG	12	Fothergilla gardenii	Dwarf Fothergilla	24" HT.
GB	1	Ginkgo biloba 'Spring Grove'	Spring Grove Maidenhair Tree	3 1/2" Cal.
GD	3	Gymnocladus dioicus	Kentucky Coffeetree	3 1/2" Cal.
ICH	6	Ilex crenata 'Hetzii'	Japanese Holly	24" HT.
ICM	4	Ilex crenata 'Hoogendorn'	Hoogendorn Japanese Holly (Male)	24" HT.
JBD	16	Juniperus communis depressa 'AmiDak'	Blueberry Delight Juniper	5 Gal.
JES	5	Juniperus virginiana 'Emerald Sentinel'	Emerald Sentinel Red Cedar	8-10' HT.
LT	3	Liriodendron tulipifera	Tulip Tree	3 1/2" Cal.
MG	16	Myrica gale	Sweetgale	24" HT.
NS	2	Nyssa sylvetica	Black Tupelo	3 1/2" Cal.
RGL	51	Rhus aromatica 'Gro Low'	Gro Low Sumac	24" HT.
RT	7	Rhododendron 'Towhead'	Towhead Rhododendron	24" HT.
SAW	11	Spiraea x bumalda 'Anthony Waterer'	Anthony Waterer Spirea	5 Gal.
VCC	12	Viburnum carlesii 'Compacta'	Compact Mayflower Viburnum	2' HT

Plant List - Perennials				
ID	Qty	Latin Name	Common Name	Scheduled Size
DES	2	Deschampsia cespitosa	Tussock Grass	2 QT
GM	35	Geranium macrorrhizum 'Bevan's'	Cranesbill	2 QT
LIR	255	Liriope spicata	Lily turf	2 QT
WAL	11	Waldsteinia ternata	Siberian Barren Strawberry	2 QT

LANDSCAPE NOTES:

1. THE CONTRACTOR SHALL LOCATE AND VERIFY THE EXISTENCE OF ALL UTILITIES PRIOR TO STARTING WORK.
2. THE CONTRACTOR SHALL SUPPLY ALL PLANT MATERIALS IN QUANTITIES SUFFICIENT TO COMPLETE THE PLANTINGS SHOWN ON THE DRAWINGS.
3. ALL MATERIAL SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY THE CURRENT AMERICAN STANDARD FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
4. ALL PLANT SUBSTITUTIONS MUST BE APPROVED BY THE LANDSCAPE ARCHITECT.
5. ALL PLANT MATERIALS SHALL BE EXACTLY AS SPECIFIED BY THE LANDSCAPE ARCHITECT. IF PLANT SPECIES CULTIVARS ARE FOUND TO VARY FROM THAT SPECIFIED AT ANY TIME DURING THE GUARANTEE PERIOD, THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO HAVE THE CONTRACTOR REPLACE THAT PLANT MATERIAL. THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO REJECT ANY PLANT DELIVERED TO THE SITE FOR AESTHETIC REASONS BEFORE PLANTING. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR THE QUALITY FOR ALL THE PLANTS.
6. PLANTS SHALL BE SUBJECT TO INSPECTION AND APPROVAL AT THE PLACE OF GROWTH, UPON DELIVERY OR AT THE JOB SITE WHILE WORK IS ON-GOING TO CONFORMITY TO SPECIFIED QUALITY, SIZE AND VARIETY.
7. PLANTS FURNISHED IN CONTAINERS SHALL HAVE THE ROOTS WELL ESTABLISHED IN THE SOIL MASS AND SHALL HAVE AT LEAST ONE (1) GROWING SEASON. ROOT-BOUND PLANTS OR INADEQUATELY SIZED CONTAINERS TO SUPPORT THE PLANT MAY BE DEEMED UNACCEPTABLE.
8. NO PLANT SHALL BE PUT IN THE GROUND BEFORE GRADING HAS BEEN FINISHED AND APPROVED BY THE LANDSCAPE ARCHITECT.
9. ALL PLANTS SHALL BE INSTALLED AND DETAILED PER PROJECT SPECIFICATIONS.
10. ALL PLANTS SHALL BE WATERED THOROUGHLY TWICE DURING THE FIRST 24-HOUR PERIOD AFTER PLANTING. ALL PLANTS SHALL BE WATERED WEEKLY, OR MORE OFTEN IF NECESSARY, DURING THE FIRST GROWING SEASON.
11. ALL PLANTS SHALL BE GUARANTEED BY THE CONTRACTOR FOR NOT LESS THAN ONE FULL YEAR FROM THE TIME OF PROVISIONAL ACCEPTANCE. DURING THIS TIME, THE OWNER SHALL MAINTAIN ALL PLANT MATERIALS IN THE ABOVE MANNER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSPECT THE PLANTS TO ENSURE PROPER CARE. IF THE CONTRACTOR IS DISSATISFIED WITH THE CARE GIVEN, HE SHALL IMMEDIATELY, AND IN SUFFICIENT TIME TO PERMIT THE CONDITION TO BE RECTIFIED, NOTIFY THE LANDSCAPE ARCHITECT IN WRITING OR OTHERWISE FORFEIT HIS CLAIM. LANDSCAPE CONTRACTOR SHALL PRUNE PLANTINGS OF DEAD LIMBS OR TWIGS DURING THE FIRST YEAR OF GROWTH.
12. FINAL ACCEPTANCE BY THE LANDSCAPE ARCHITECT WILL BE MADE UPON THE CONTRACTOR'S REQUEST AFTER ALL CORRECTIVE WORK HAS BEEN COMPLETED.
13. LANDSCAPE CONTRACTOR SHOULD REPLACE DEAD PLANTINGS IMMEDIATELY UPON OWNER DIRECTION WITHIN THE WARRANTY PERIOD AND AGAIN AT THE END OF THE GUARANTEE PERIOD, THE CONTRACTOR SHALL HAVE REPLACED ANY PLANT MATERIAL THAT IS MISSING, NOT TRUE TO SIZE AS SPECIFIED, THAT HAVE DIED, THAT HAVE LOST THEIR NATURAL SHAPE DUE TO DEAD BRANCHES, EXCESSIVE PRUNING OR INADEQUATE OR IMPROPER CARE, OR THAT ARE, IN THE OPINION OF THE LANDSCAPE ARCHITECT, IN UNHEALTHY OR UNSIGHTLY CONDITION.
14. ALL LANDSCAPE AREAS TO BE GRASS COMMON TO REGION EXCEPT FOR INTERIOR LANDSCAPED ISLANDS OR WHERE OTHER PLANT MATERIAL IS CALLED FOR.
15. ALL TREES AND SHRUBS TO BE PLANTED IN MULCH BEDS WITH DEFINED AND CUT EDGES TO SEPARATE TURF GRASS AREAS.
16. FOR ANY LANDSCAPE AREA SO DESIGNATED TO REMAIN, WHETHER ON OR OFF-SITE, REMOVE WEEDS, ROCKS, CONSTRUCTION ITEMS, ETC., THEN APPLY GRASS SEED OR PINE BARK MULCH AS DEPICTED ON PLANS.
17. LANDSCAPE CONTRACTOR SHALL FEED AND PRUNE EX. TREES, ON OR JUST OFF SITE, THAT HAVE EXPERIENCED ROOT BASE INTRUSION OR DAMAGE DURING CONSTRUCTION IMMEDIATELY AND FOR THE DURATION OF THE WARRANTY PERIOD AT THE DIRECTION OF THE LANDSCAPE ARCHITECT.
18. EXISTING TREES TO REMAIN SHALL BE PROTECTED WITH TEMPORARY SNOW FENCING AT THE EDGE OF THE EX. TREE CANOPY THE CONTRACTOR SHALL NOT STORE VEHICLES OR MATERIALS WITHIN THE LANDSCAPED AREAS. ANY DAMAGE TO EXISTING TREES, SHRUBS OR LAWN SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
19. ALL MULCH AREAS SHALL RECEIVE A 2" LAYER OF SHREDDED PINE BARK MULCH.
20. ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH PROJECT SPECIFICATIONS.



Maintenance Plan

Installation of all new plants or replacement plants shall be planted during the growing season from April to October.
Plants shall be planted in accordance with the Landscape Notes on the planting plan.
All plants shall be watered 2x per week during the first growing season. Watering shall saturate the soil around the root ball. The proper use and regular refilling of 'Gator' bags is acceptable.
Aged and organic compost mulch shall be used to a 2" depth shall be maintained around root ball. Do not stack mulch in mounds deeper than 2".
Planting beds shall be kept free of weeds on a biweekly schedule.
Bed edges shall be maintained to keep lawn mowers from damaging trees and shrubs.
Lawn areas shall be mowed on a weekly schedule.
Broken or dead limbs of all plant materials shall be removed close to trunk, but not damaging trunk of plant with clean sharp shears.
Severely injured, diseased, or dead plant material shall be replaced in kind in perpetuity.
Aged organic compost mulch is preferred, but an owner may use a low phosphorous and slow release nitrogen organic fertilizer as needed.

If ownership of a site is conveyed to a new property owner, the new owner shall be responsible for maintaining all landscaping in accordance with the approved final landscaping plan.

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landscape architecture
163.a court street portsmouth, nh 03801
office 603.430.8988 terrence@terrafirmalandarch.com



No.	Date	Issue Notes
A	11/24/21	TRC RE-SUBMITAL

Date	10/26/21
Revision	Revision
Project ID	14 BROADWAY
Drawing Code	Drawing Code
CAD Filename	14broadway02221
Plot Date	00/00/00
Designed By	TP
Drawn By	TC
Checked By	TP
Reviewed By	TP
Submitted By	TP
Project Manager	

Design Firm: terra firma landscape architecture
163.a Court Street
Portsmouth, NH

Consultant:

Project Title: 14 BROADWAY
DOVER, NH

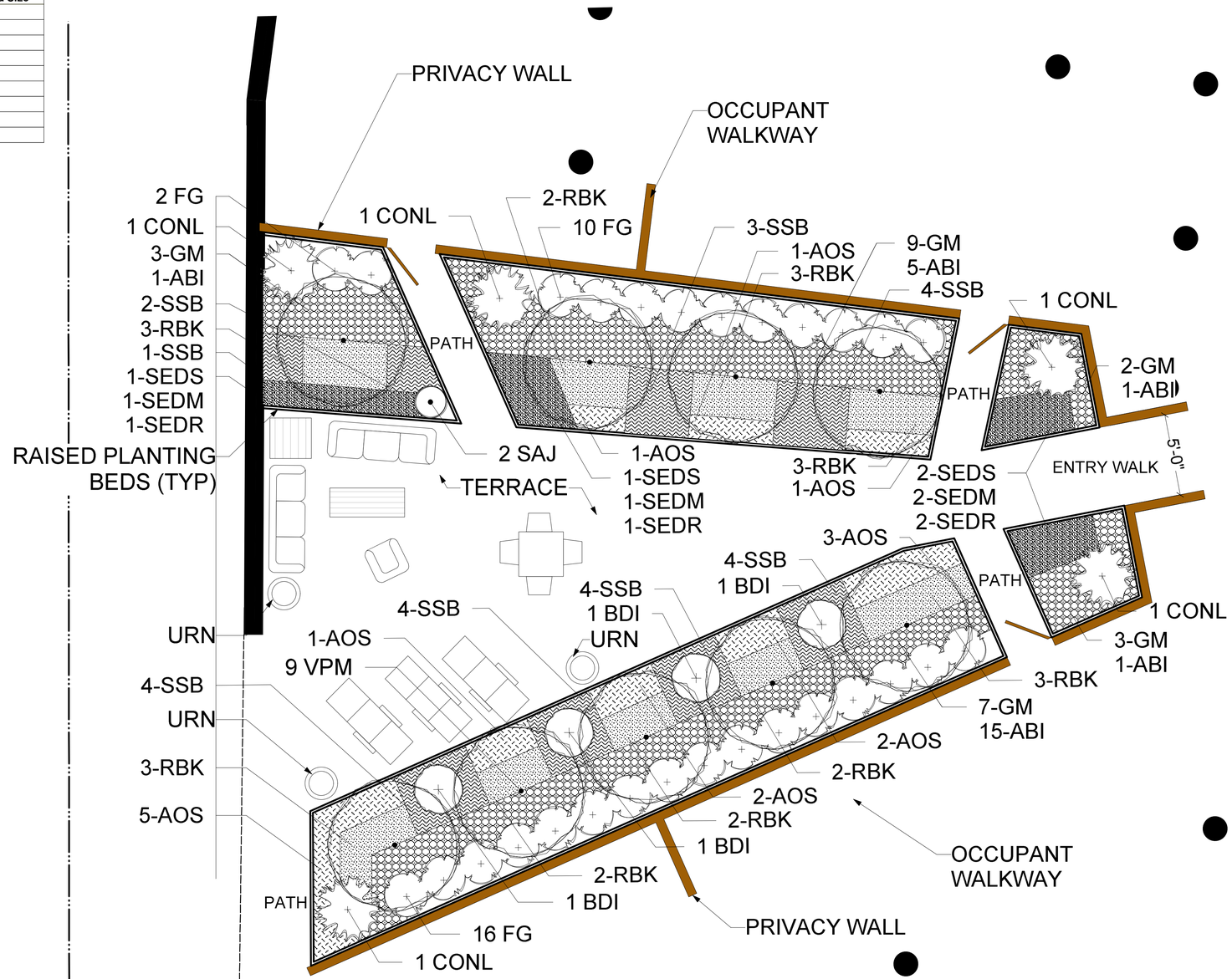
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Scale: 1"=15'-0"

Sheet No.: L-1
of
1

Plant List - Courtyard Trees				
ID	Qty	Latin Name	Common Name	Scheduled Size
BDI	4	Buddlea 'Davidii'	Butterfly Bush	4-5'
CONL	5	Chamaecyparis obtusa 'Nana Lutea'	Compacvt Golden Hinoki False Cyp	5-6'
FG	28	Fothergilla gardenii	Dwarf Fothergilla	5 Gal.
VPM	9	Viburnum plicatum tom. 'Mariesii	Doublefile Viburnum	4'

Plant List - Courtyard Perennials				
ID	Qty	Latin Name	Common Name	Scheduled Size
ABI	23	Amsonia 'Blue Ice'	Blue Star Flower	2 QT
AOS	16	Aster oblongifolius 'October Skies'	Aromatic Aster	2 QT
GM	24	Geranium macrorrhizum 'Bevan's'	Cranesbill	2 QT
RBK	23	Rudbeckia fulgida 'Goldsturm'	Black-Eyed Susan	2 QT
SAJ	2	Sedum 'Autumn Joy'	Stonecrop	2 QT
SEDM	4	Sedum 'Matrona'	Matrona Stonecrop	2 QT
SEDR	4	Sedum reflexum 'Angelina'	Stonecrop	2 QT
SEDS	4	Sedum sexangulare	Stonecrop	2 QT
SSB	26	Schizachyrium scoparium 'The Blues'	The Blues Little Bluestem	2 QT



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No.	Date	Issue Notes
A	11/24/21	TRC RE-SUBMITAL

Date 10/22/21
Revision Revision
Project ID 14 BROADWAY
Drawing Code Drawing Code
CAD Pathname 14broadway02221
Plot Date 00/00/00

Designed By TP
Drawn By TC
Checked By TP
Reviewed By TP
Submitted By TP
Project Manager

Design Firm terra firma landscape architecture
163.a Court Street
Portsmouth, NH

Consultant

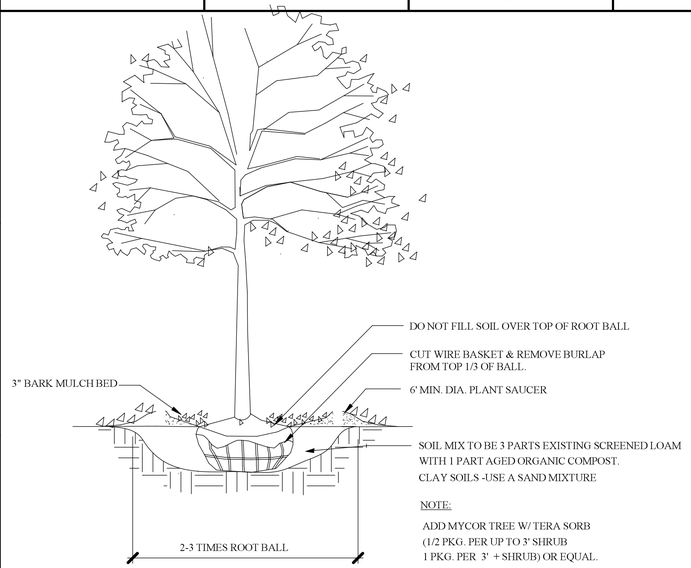
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DOVER, NH

Sheet Title Landscape Plan
COURTYARD

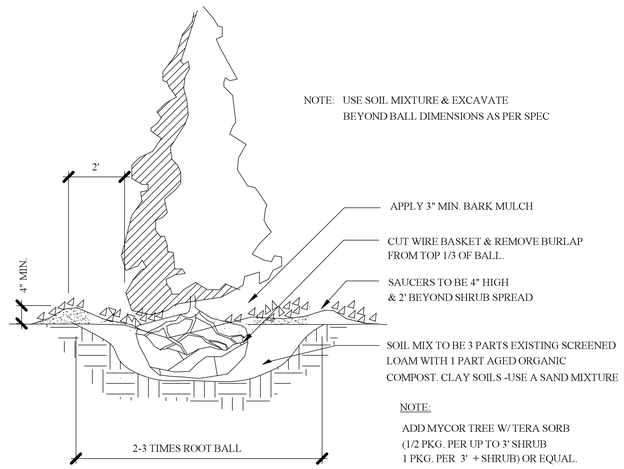
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Sheet No. L-2
of 1

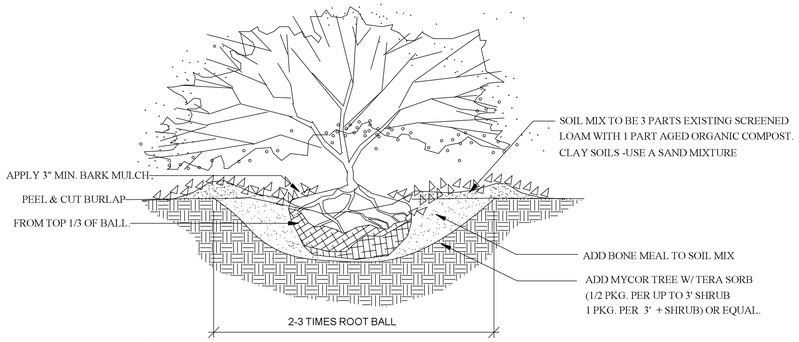
LICENSED LANDSCAPE ARCHITECT
TERRENCE P. PARKER
041
STATE OF NEW HAMPSHIRE



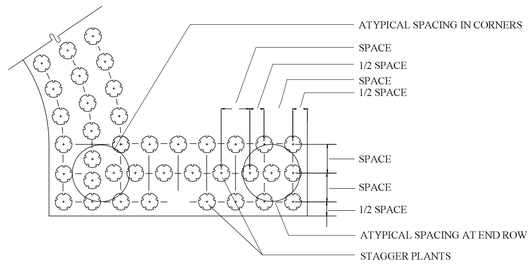
1 L-3 TREE PLANTING - 2"+ CAL.
SCALE: NTS



2 L-3 PYRAMIDAL EVERGREEN TREE PLANTING
SCALE: NTS



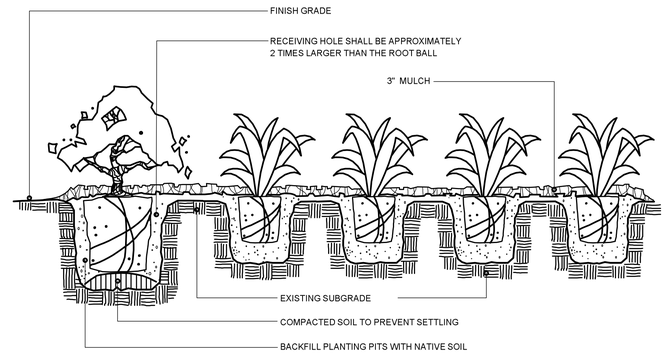
3 L-3 B&B SHRUB PLANTING
SCALE: NTS



NOTES:

1. PLACE PLANTS IN BED AS SHOWN, SPACING AS SPECIFIED IN PLANT SCHEDULE.
2. GROUNDCOVER SHALL BE TRIANGULAR SPACED IN ROWS PARALLEL TO STRAIGHT EDGES AND SHALL BE EVENLY SPACED IN ROWS PARALLEL TO CURVE EDGES.

4 L-3 GROUND COVER SPACING DETAIL
SCALE: NTS

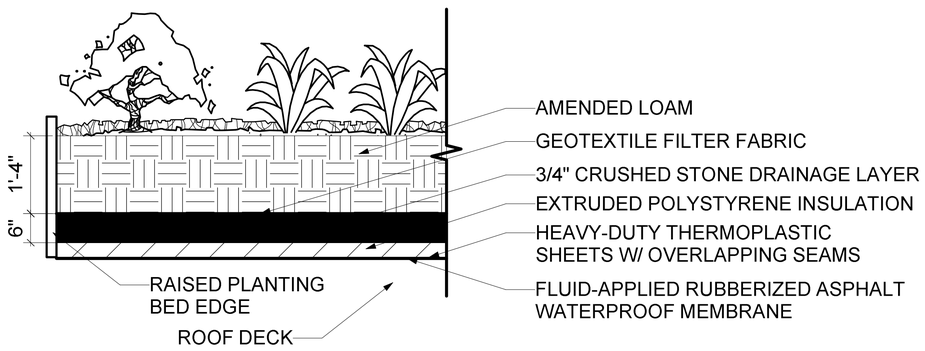


NOTE: SHRUBS SHALL BE PLANTED A MINIMUM OF 1" & NO MORE THAN 2" ABOVE FINISH GRADE, DEPENDING UPON SITE CONDITIONS.

5 L-3 SHRUB/GROUND COVER PLANTING DETAIL
SCALE: NTS



6 L-3 COURTYARD WOOD PRIVACY HALF-WALL
SCALE: NTS



7 L-3 ROOF GARDEN RAISED BED DETAIL
SCALE: 3/4"= 1'-0"

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office 603.430.8988 | terrence@terrafirmalandarch.com

No.	Date	Issue Notes
A	11/24/21	TRC RE-SUBMITAL

Date 9/28/21
Revision Revision
Project ID 14 BROADWAY
Drawing Code Drawing Code
CAD Filename 14broadway92221
Plot Date 00/00/00

Designed By TP
Drawn By TC
Checked By TP
Reviewed By TP
Submitted By TP
Project Manager

Design Firm terra firma landscape architecture
163 a Court Street
Portsmouth, NH

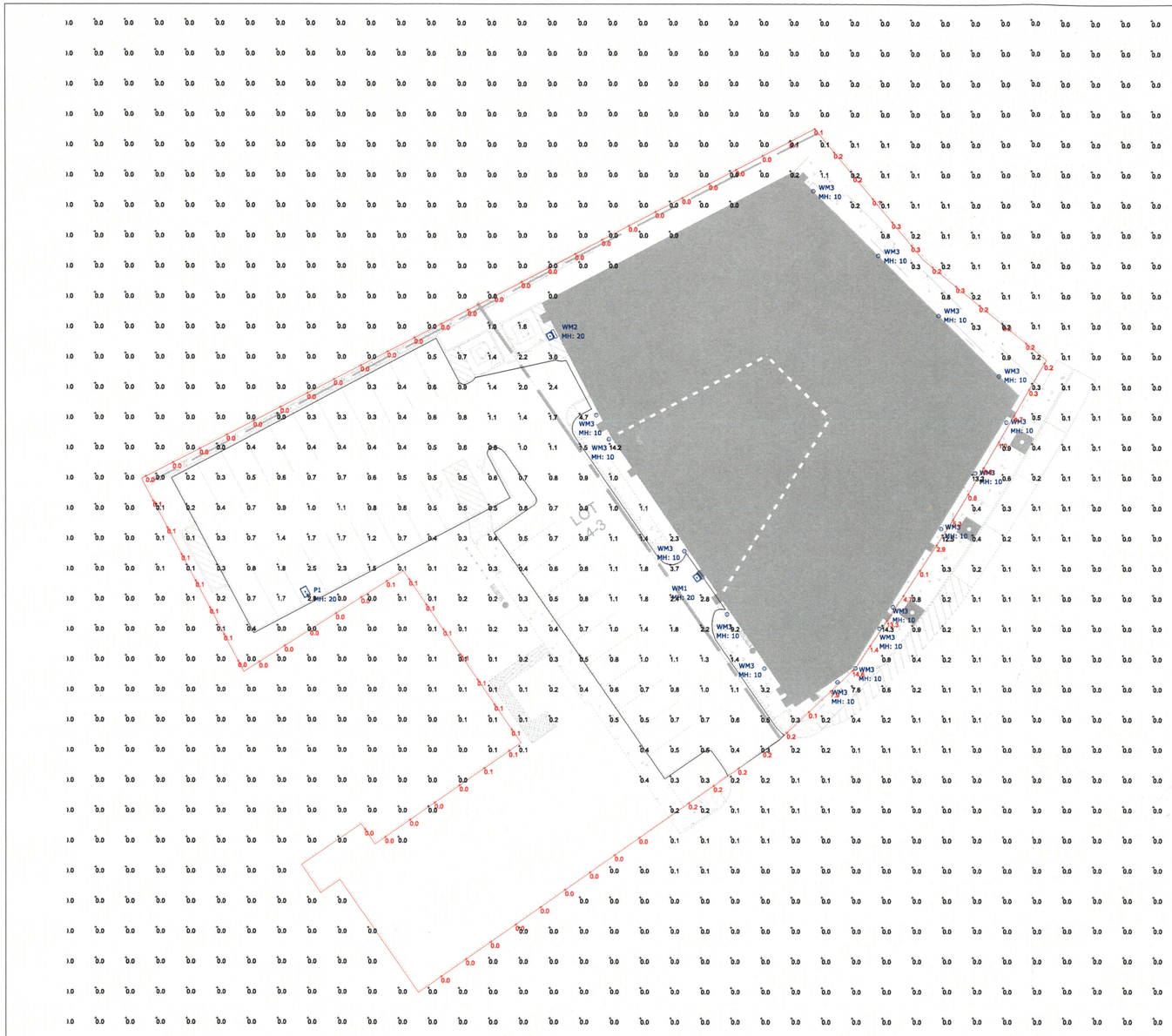
Consultant

Project Title 14 BROADWAY
DOVER, NH

Sheet Title Landscape Details

Scale SEE DETAILS

Sheet No. L-3 of 1



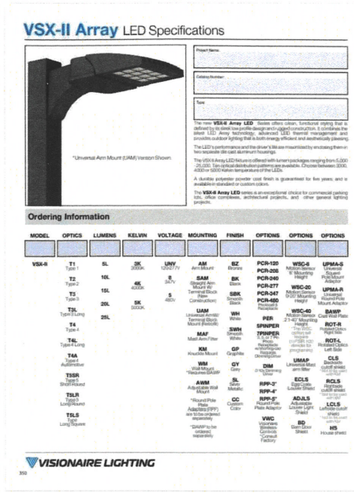
1 Photometric Layout and Calculations

SCALE: 1:20

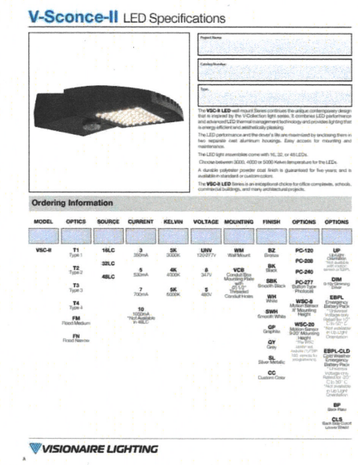
20' 0 10' 20' 40'

Luminaire Schedule						
Symbol	Label	Qty	Description	LLF	Lum. Watts	Lum. Lumens
	P1	1	Visionaire # VSX-II-T4L-10L-4K-UNV-AM-TBD-DIM-BD	0.900	70	6463
	WM1	1	Visionaire # VSX-II-T4L-10L-4K-UNV-WM-TBD	0.900	70	8888
	WM2	1	Visionaire # VSX-II-T4L-10L-4K-UNV-WM-TBD-DIM-RCLS	0.900	70	6463
	WM3	16	Peachtree # C6BLRUD-10-40K-80-W-RCA-TBD-WAL2-WL-120/277	0.900	17	2042

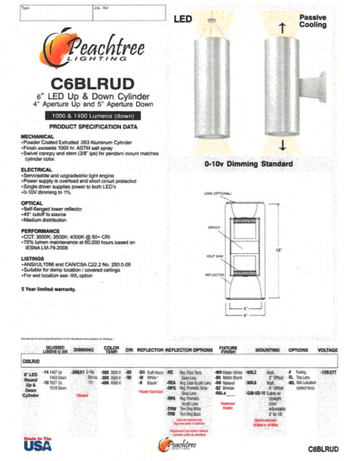
Calculation Summary								
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
PROPERTY LINE	Illuminance	Fc	0.82	14.6	0.0	N.A.	N.A.
SITE CALC PTS	Illuminance	Fc	0.10	14.3	0.0	N.A.	N.A.
LOT 4-3	Illuminance	Fc	0.97	4.7	0.2	4.85	23.50



2 Visionaire Type VSX II Specifications



3 Visionaire Type VSC II Specifications



4 Peachtree C6BLRUD Speifications

NOTES:

A. A LIGHT LOSS FACTOR OF 0.900 HAS BEEN APPLIED TO FIXTURES UNLESS OTHERWISE NOTED. REFER TO LUMINAIRE SCHEDULE FOR LIGHT LOSS FACTOR AND LUMEN INFORMATION.

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D. CALCULATION RESULTS ARE BASED ON IES STANDARDS UNLESS OTHERWISE REQUESTED.

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Andover, MA 01810

14 Broadway Site

Photometric Layout Calaculations Schedules and Specifications

DATE: 8/26/2021	
PROJECT NUMBER: 211114	
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APPROVED BY:AD	
SCALE: AS NOTED	

REVISIONS	DESCRIPTION	DATE
1	Site Lighting & Plan Revisions	10/28/2021
2	Review Comments	12/7/2021
3		
4		
5		
6		
7		

SL1