

**PLANNING BOARD
PORTSMOUTH, NEW HAMPSHIRE**

Remote Meeting Via Zoom Conference Call

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You are required to register in advance to join the meeting over Zoom, a unique meeting ID and password will be provided once you register. Public comments can be emailed in advance to planning@cityofportsmouth.com. For technical assistance, please contact the Planning Department by email (planning@cityofportsmouth.com) or phone (603) 610-7216.

Per NH RSA 91-A:2, III (b) the Chair has declared the COVID-19 outbreak an emergency and has waived the requirement that a quorum be physically present at the meeting pursuant to the Governor's Executive Order 2020-04, Section 8, as extended by Executive Order 2021-01, and Emergency Order #12, Section 3. Members will be participating remotely and will identify their location and any person present with them at that location. All votes will be by roll call.

7:00 PM

MARCH 18, 2021

AGENDA

I. APPROVAL OF MINUTES

- A. Approval of the Planning Board minutes from the February 18 and 25, 2021 meetings.

II. DETERMINATIONS OF COMPLETENESS

SITE PLAN REVIEW

- A. The application of the **Woodbury Cooperative, Inc.**, Owner, for property located at **1338 Woodbury Avenue** requesting Site Plan Review approval.

SUBDIVISION REVIEW

- A. The application of the **Frederick Watson Revocable Trust, Owner**, for property located at **1 Clark Drive** requesting Preliminary and Final Subdivision approval.

III. PUBLIC HEARINGS -- OLD BUSINESS

The Board's action in these matters has been deemed to be quasi-judicial in nature.

If any person believes any member of the Board has a conflict of interest, that issue should be raised at this point or it will be deemed waived.

- A. **REQUEST TO POSTPONE** The application of **Clipper Traders, LLC, Portsmouth Hardware and Lumber, LLC, Owners and Iron Horse Properties, LLC, Owner and Applicant**, for properties located at **105 Bartlett Street and Bartlett Street** requesting Site Plan Review approval for the demolition and relocation of existing structures and the construction of 152 dwelling units in 3 buildings, and associated community space, paving, lighting, utilities, landscaping and other site improvements. Said properties are shown on Assessor Map 157 Lot 1 and Lot 2 and Assessor Map 164 Lot 1 and 4-2 and lie within the Character District 4-W (CD4-W) and Character District 4-L1 (CD4-L1) Districts. **REQUEST TO POSTPONE**
- B. **REQUEST TO POSTPONE** The application of **Clipper Traders, LLC, Portsmouth Hardware and Lumber, LLC, Owners and Iron Horse Properties, LLC, Owner and Applicant**, for properties located at **105 Bartlett Street and Bartlett Street** requesting Wetland Conditional Use Permit Approval in accordance with Section 10.1017 of the Zoning Ordinance for work within the 25-foot, 50-foot, and 100-foot wetland buffers to North Mill Pond which includes the removal of existing impervious surfaces and buildings, construction of 3 stormwater outlets, repaving of an existing access drive and parking lot, construction of a linear waterfront trail and community space, and construction of three new buildings which will result in a net overall reduction in impervious surfaces of 28,792 square feet. Said properties are shown on Assessor Map 157 Lot 1 and Lot 2 and Assessor Map 164 Lot 1 and 4-2 and lie within the Character District 4-W (CD4-W) and Character District 4-L1 (CD4-L1) Districts. **REQUEST TO POSTPONE**
- C. Application of the **Pease Development Authority, Owner, and Lonza, Applicant**, for property located at **70 Corporate Drive** requesting renewal of a previously approved Conditional Use Permit, under Chapter 300 of the Pease Land Use Controls, Part 304-A Pease Wetlands Protection, for work within the inland wetland buffer for the construction of three proposed industrial buildings: Proposed Building #1 with a 132,000+ s.f. footprint; Proposed Building #2 with a 150,000+ s.f. footprint; Proposed Building #3 with a 62,000+ s.f. footprint; and two 4-story parking garages, with 55,555+ s.f. of impact to the wetland, 66,852+ s.f. of impact to the wetland buffer and a 1,000+ l.f. stream restoration for Hodgson Brook resulting in 42,500 s.f. of wetland creation. Said property is shown on Assessor Map 305 Lot 1 and lies within the (ABC) District.

IV. PUBLIC HEARINGS – NEW BUSINESS

The Board's action in these matters has been deemed to be quasi-judicial in nature.

If any person believes any member of the Board has a conflict of interest, that issue should be raised at this point or it will be deemed waived.

- A. **REQUEST TO POSTPONE** The application of **Clipper Traders, LLC, Portsmouth Hardware and Lumber, LLC, Owners and Iron Horse Properties, LLC, Owner and Applicant**, for properties located at **105 Bartlett Street and Bartlett Street** requesting a Lot Line Relocation as follows: Tax Map 157, Lot 1 increasing in area from 61,781 s.f. to 205,804 s.f.; Tax Map 157, Lot 2 decreasing in area from 102,003 s.f. to 81,645 s.f.; Tax Map 164, Lot 1 increasing in area from 51,952 s.f. to 52,289 s.f.; Tax Map 164, Lot 4-2 decreasing in area from 249,771 s.f. to 119,519 s.f. and the existing right-of-way increasing in area from 69,624 s.f. to 75,792 s.f. Said properties are shown on Assessor Map 157 Lot 1 and Lot 2 and Assessor Map 164 Lot 1 and 4-2 and lie within the Character District 4-W (CD4-W) and Character District 4-L1 (CD4-L1) Districts. **REQUEST TO POSTPONE**
- B. The application of the **Frederick Watson Revocable Trust, Owner**, for property located at **1 Clark Drive** requesting a Wetland Conditional Use Permit in accordance with Article 10 Section 10.1017 to demolish an existing home, driveway, and swimming pool and construct a new private road and create four new house lots with associated stormwater management infrastructure which will result in 15,500 square feet of impact in the 100-foot wetland buffer. Said property is shown on Assessor Map 209 Lot 33 and lies within the Single Residence B (SRB) District.
- C. The application of the **Frederick Watson Revocable Trust, Owner**, for property located at **1 Clark Drive** requesting a Conditional Use Permit under Article 6 Section 10.674 of the Zoning Ordinance for construction of new residences in the Highway Noise Overlay District and Preliminary and Final Subdivision approval to subdivide a lot with an area of 137,176 s.f. and 75 ft. of continuous street frontage into four (4) lots and a proposed new road as follows: Proposed lot 1 with an area of 20,277 s.f. and 137.23 ft. of continuous street frontage; Proposed Lot 2 with an area of 17,103 s.f. and 100 ft. of continuous street frontage; Proposed Lot 3 with an area of 20,211 s.f. and 100 ft. of continuous street frontage; and Proposed Lot 4 with an area of 53,044 s.f. and 592.50 ft. of continuous street frontage. Said property is shown on Assessor Map 209 Lot 33 and lies within the Single Residence B (SRB) District.
- D. The application of the **Woodbury Cooperative, Inc., Owner**, for property located at **1338 Woodbury Avenue** requesting Site Plan Review approval for the demolition of two existing structures and replacement and reconfiguration of existing mobile home units with associated grading, pavement, lighting, utilities, landscaping and other site improvements. Said property is shown on Assessor Map 237 Lot 70 and lies within the MRB District.

V. CITY COUNCIL REFERRAL-PUBLIC HEARING

- A. Request of **ASRT, LLC, Owner**, for the restoration of involuntarily merged lots at **138 Leavitt Avenue** to their pre-merger status pursuant to NH RSA 674:39-aa.
RIML 20-3

VI. ADJOURNMENT

**PLANNING BOARD
PORTSMOUTH, NEW HAMPSHIRE**

Remote Meeting Via Zoom Conference Call

Per NH RSA 91-A:2, III (b) the Chair has declared the COVID-19 outbreak an emergency and has waived the requirement that a quorum be physically present at the meeting pursuant to the Governor's Executive Order 2020-04, Section 8, as extended by Executive Order 2021-01, and Emergency Order #12, Section 3. Members will be participating remotely and will identify their location and any person present with them at that location. All votes will be by roll call.

7:00 pm

FEBRUARY 18, 2021

MINUTES

MEMBERS PRESENT: Dexter Legg, Chair; Elizabeth Moreau, Vice Chair; Karen Conard, City Manager; Peter Whelan, City Council Representative; Ray Pezzullo, Assistant City Engineer; Colby Gamester; Peter Harris; Rick Chellman; Corey Clark; Polly Henkel, Alternate

ALSO PRESENT: Juliet Walker, Planner Director; Jillian Harris, Planner I

MEMBERS ABSENT:
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I. APPROVAL OF MINUTES

A. Approval of the Planning Board minutes from the January 21, 2021 meeting.

Mr. Gamester moved to approve the Planning Board minutes from the January 21, 2021 meeting, seconded by City Council Representative Whelan. The motion passed unanimously.

II. DETERMINATIONS OF COMPLETENESS

SUBDIVISION REVIEW

A. The application of **The Fritz Family Revocable Living Trust, Owner**, for property located at **0 Patricia Drive** requesting Preliminary and Final Subdivision Approval.

Mr. Gamester moved to determine that the application is complete according to the Subdivision Review Regulations and to accept the application for consideration, seconded by Mr. Clark. The motion passed unanimously.

III. OLD BUSINESS

A. The request of **238 Deer Street, LLC, Owner**, for property located at **238 Deer Street** requesting a Conditional Use Permit in accordance with Section 10.1112.14 of the Zoning

Ordinance for provision of no on-site parking spaces where 12 spaces are required. Said property is shown on Assessor Map 125 Lot 3 and lies within the Character District 4 (CD4) District.

SPEAKING TO THE APPLICATION

Jeremiah Johnson, John Chagnon from Ambit Engineering, and Attorney Sharon Summers spoke to the application. Mr. Chagnon commented that the application is a request for a CUP regarding the onsite parking requirements. The application came before the Board at the January meeting and the proposal was discussed at length. The Board tabled the request to allow the applicant to respond with parking alternatives. They have submitted additional information including a proposed lease revision, and a memo with parking options.

Mr. Chagnon commented that they submitted the site plan to show the lot compared to the adjacent properties. The parking spaces to the left of 238 Deer St. are on the adjacent lot. They are part of the 30 Maplewood Ave. property. They reached out to discuss a shared parking arrangement or access to their lot, but that property was not interested. The 46 Maplewood Ave. lot wraps around the back of 238 Deer St. The site plan was revised to delineate a proposed 15-minute ride share loading/unloading parking spot on the left side of the building. That will allow access to onsite storage and trash facilities. The site constraints make an underground parking garage not feasible. The building must be set back from the property lines to meet code requirements. The building is 64-68 feet in width after the 10-foot setback it leaves a 54–58-foot width. There is not enough room to create parking on either side of the aisle. The depth of the lot is 90 feet. The ramp required to create an underground parking garage would have to be 85 feet long. The building will only be 80 feet long. The Staff Memo states that the Planning Board has sufficient information to render a decision. This is the first microunit project that is being proposed for Portsmouth.

Mr. Johnson commented that they did an audit of the parking spaces that would be potentially available for this site. The application includes a list of parking lots in the immediate area that provide some type of contract relationship for parking spots. Most of them are not run by parking management companies. The table shows the proximity to the site. They have spoken to the management companies and gone through the application process to see how it works. Every lot has ample parking that they can commit to people on a monthly basis. The table shows the amount of parking spots they could expect or rely on from each lot. The developers also own a parking lot in Kittery, ME if there is need for crossover or a window of time. That would not be a reasonable space for long term parking. It is just to show they can privately put cars somewhere in an emergency situation. The packet also shows additional parking options where people can easily get a block of time for visitors. It is reasonable to expect enough flexibility in these parking spaces to accommodate visitor parking. There are metered spaces in non-high occupancy areas highlighted in the chart.

Ms. Summers commented that there was concern about how they would guarantee people would park off street and not in the neighborhood. This has been documented with the lease. The information from Gorrill Palmer showed that tenants of a microunit would be less likely to use cars. There is no one size fits all solution. It is better to tailor to each tenant. The tenant would be approached about parking before signing a lease. If they have vehicle, then the landlord will provide a list parking

options. The tenant will pick one and the landlord would make arrangements with the lease on behalf of the tenant. This will ensure it is complete. The tenant would pay for the parking cost as part of their rent. There may be some circumstances where they have access to private parking, and they don't want to shut that out. A provision has been included, which would allow someone to provide documentation of that solution on their part. The lease provision still provides assurance to the City that there is a mechanism in place to address parking concerns. If a resident has a car, they will park off street and not in the neighborhood.

Vice Chairman Moreau commented that she had some concern about some of the language in the draft lease. It is understood that they want to give the tenant the ability to find their own arrangement. However, a tenant may say they are going to park at their parents. However, if they are not paying for parking through the lease, then what is the guarantee they will use it. That doesn't totally protect the neighborhood. Vice Chairman Moreau questioned what would happen if the landlord can't provide parking. The lease will always contain this parking provision and the landlord will have to provide it in some way. Ms. Summers responded that the data shows there is an ample opportunity to provide parking. It can be a condition of approval to have the lease provision. Then it will be a contractual relationship between the City and the applicant. It should not be an issue to obtain parking leases for tenants with cars. Vice Chairman Moreau commented that there could be an issue longer down the road. The pandemic has created different parking patterns. Mr. Johnson noted that the amount of available parking was in the triple digits. Although they are dealing with pandemic times the majority of people contracting on monthly basis are residents. Visitors would not be doing monthly parking. Resident parking is close to the same as it was pre-Covid. These spots are carved out for monthly commitments. They aren't targeted for tourists or visitors.

Mr. Chellman questioned if it would be possible to limit possible tenant vehicles from parking on streets west of Bridge St. Ms. Summers responded that the intention of the lease is to prevent parking in the neighborhood. That particular action would be hard to enforce. The lease is determined before the tenant enters a lease. If they have a car, then they understand there is no parking. If they want to have their car, then they are obligated to abide by the system that the lease has constructed. They will have a choice on what off street parking lot they want to use have. Then the tenant will choose to accept a parking pass and pay for it via their rent or not have a car. Mr. Chellman commented that leasing spaces in a garage and bundling costs into the unit costs could disrupt the rent costs. The applicant has shown there is ample parking in the area. The Foundry garage will not be filled shortly. The project could find 6 spaces in the Foundry if needed. Mr. Chellman was concerned about making it a condition now because they could have tenants with no cars. Mr. Summers agreed they don't know the need. Leasing a block of spaces doesn't make sense because they don't know the need. It makes more sense to handle parking tenant by tenant when the lease is signed. The comments from the neighborhood and Board have focused on the Foundry because it's right there. However, the information in the packet includes a lot of different parking options in different locations.

City Council Representative Whelan questioned if there was anything in NH law that prevents against a tenant providing car information to their landlord. Ms. Summers responded that they don't see that as being an issue. It is no different than asking if a tenant has a pet. They may find out it's not attractive to tenants, but it is not illegal. City Council Representative Whelan questioned what would happen if they don't have a car at the time of signing the lease but get one later on. Ms. Summers responded that there would be language in the lease provision that a tenant would have an obligation to advise the landlord of their car if it was acquired during their lease. Worst case scenario the tenant would be in a lease violation and potentially evicted. City Council Representative Whelan questioned if there could

be one location all tenants could park at to have better control. Ms. Summers responded that before a tenant is able to sign a lease, they will have to agree to park off street in one of the options. They could all be in one location in real life, but it would develop organically. The lease provision addresses the neighbor concern.

Chairman Legg questioned what the monthly cost for parking was. Mr. Johnson responded that it ranged from \$150-\$225. Chairman Legg questioned if they had a sense of what the monthly rent would be for the microunits. Paying rent and the parking cost on top may be a deal breaker depending on price. Ms. Summers responded that the rents have not been established. It is a business decision the owners will need to decide how much the market will bear. Chairman Legg commented that it would be great to have microunits built and understand that market. The landlord could consider taking a haircut if someone has a car, so the tenant doesn't have to pay full rate for parking. The affordable unit may become less affordable if they have to pay for parking. Then the tenant may say they don't have a car.

Mr. Chellman commented that he was concerned about requiring parking but understood they did not want cars parking all over the neighborhood if the market perception was wrong. If parking was available now in the Foundry Garage, then the applicant could enter into an option to acquire parking spaces. City Manager Conard noted that they would need to check with the City Attorney to see if that would work.

Chairman Legg noted that the Board asked in the past whether this landlord could enter into an agreement with the city of Portsmouth for monthly parking spaces at the Foundry, but it did not seem like it was an option. City Manager Conard responded that she would need to follow up. Mr. Chellman commented that an option would ensure spaces were reserved and available for residents in the microunits.

PUBLIC HEARING

Elizabeth Bratter of 159 McDonough St. commented that microunits would be great especially if they are priced low. The property rate, lack of parking and location make it doubtful that these units will be affordable for downtown workers. The thought that a large amount of young people don't have cars is ridiculous. Even with alternate transportation options Ms. Bratter still has a car as well. Residents will not pay \$100 a month if they want a car.

Robin Husselage of 27 Rock St. applauded the developer for proposing microunits. It is understood that they want to provide more affordable housing. However, they should be providing parking. Ms. Husselage asked for special exception to make her single-family residence to a two family. There was no parking on site. Ms. Husselage replaced her yard to accommodate 3 off street parking spots. The City should not allow a developer to build 21 units with no parking. Today the City does not have all amenities within a 15 min walk. Most occupants will own at least one car. Tenants will want to park for free in the neighborhood. It is closer than all the other options and nothing stops them from doing this. If the Board approves this CUP, then they are saying the rules apply to her but not this developer. The City won't be doing anything to protect the neighborhood from encroachment.

Second time.

Elizabeth Bratter of 159 McDonough St. commented that at the TAC meeting it was stated that the proposed area will be over parked by peak hours. The Foundry Garage will be full of reserved spaces by the time this is built. 30 Maplewood is not willing to share their parking because they need to meet their parking requirements. This lot is not big enough for this project. This proposal is not a realistic investment for Portsmouth parking. The area is already over capacity 3 seasons out of the year. The neighborhood fills up more in the summer. Approving any kind of residential units on this lot with no parking is crazy.

Chairman Legg asked if anyone else was present from the public wishing to speak to, for, or against the petition. Seeing no one else rise, the Chair closed the public hearing.

DISCUSSION AND DECISION OF THE BOARD

City Manager Conard clarified that the applicant cannot lease parking as a block at the Foundry. They would need to buy spaces for specific individuals.

Mr. Gamester moved to find that the one off- site parking space provided will be adequate and appropriate for the proposed use of the property, seconded by Mr. Chellman.

Ms. Harris commented that the one space on site is temporary, so the motion should reflect no parking spaces.

Chairman Legg agreed that a temporary space was not really an onsite space.

Mr. Chellman moved to grant the CUP as presented, seconded by Mr. Gamester.

Vice Chairman Moreau commented that she spends lot of time in that neighborhood and is familiar with the parking. Vice Chairman Moreau commented that she had a fair number of issues with the second paragraph of the draft lease. There is no guarantee the landlord can provide parking. On the other hand, the City desperately needs affordable housing. Vice Chairman Moreau commented that she had a hard time supporting the motion as it stands.

Mr. Harris agreed with Vice Chairman Moreau. It is unclear how they will enforce the situation if the tenant does have a car and doesn't communicate it to the landlord. It seems like the right idea but the wrong space for it. Mr. Harris also had trouble supporting the motion.

Ms. Harris commented that they needed to vote that the application satisfied the requirements of the ordinance before they voted on the CUP.

Mr. Chellman withdrew his motion, and Mr. Gamester withdrew his second.

Ms. Walker noted that they needed to first vote to find that no off-street parking spaces provided was adequate and appropriate. The Board needs to make that finding first and then vote on the CUP. It is how the ordinance is written. The Board has to make the finding first.

Mr. Gamester moved to find that the one off- site parking space provided will be adequate and appropriate for the proposed use of the property, seconded by Mr. Chellman.

Chairman Legg commented that based on the Board's discussion this motion does not meet the parking needs of this project. That is why the Board sent the applicant to go back and look at alternatives.

Chairman Legg questioned if they could vote the first motion down and consider approving CUP. Ms. Walker responded that if the finding is not met, then they can't move to approve the CUP. They can modify the motion with a provision of spaces off site. There is no onsite parking spaces, however, there can be a commitment for offsite spaces. The applicant is asking for no onsite parking.

Mr. Gamester withdrew his motion and Mr. Chellman withdrew his second.

Chairman Legg proposed a motion to find 0 onsite spaces provided but 7 off street parking spaces shall be provided via a long-term lease or shared parking agreement with the property owner based on page 3 of the Staff Memo. It shall be examined annually and renewed if needed by number of cars tenants collectively have and availability of other parking leases in the City.

Mr. Harris moved to find 0 onsite spaces provided but 7 off street parking spaces shall be provided via a long-term lease or shared parking agreement with the property owner based on page 3 of the Staff Memo. It shall be examined annually and renewed if needed by number of cars tenants collectively have and availability of other parking leases in the City, seconded by Mr. Clark.

Chairman Legg commented that the intent of that motion was to strengthen the commitment of the landlord for a certain period of time. Some of the public expressed the idea that the Foundry Garage will be full of cars by the time this building is complete. This motion asks the landlord to go now and lease spaces until they collectively have a sense of how many cars this development will actually have. The motion gives the City certainty that 7 leased spaces will be available to the tenants leasing the building.

Mr. Chellman proposed making an amendment to create an option for spaces. The owners don't know if the spaces are needed, and they should not have the cost bundled in immediately. Usually, an option can be obtained for less money but preserves the possibility. It would protect both sides.

Mr. Harris agreed with that amendment. Mr. Harris was concerned that 7 spaces were still not enough. Chairman Legg responded that if they get past the 7 spaces, then the rental agreement would protect that. The goal is to address the idea that the project has no onsite spaces. If the project were to have leases or options to leases in place, then it is guaranteed some spaces are available.

Mr. Chellman noted that this project could go to full market rate apartments. There would be no microunits and there would be bigger and fewer units with parking elsewhere. Chairman Legg commented that if the project changes significantly, then it would have to go back before the Board. Mr. Chellman confirmed that it could come back as a new project. Mr. Harris noted that the language on page 3 of the Staff Memo spoke to a period of 5 years from the issuance of the CO and questioned if that should be in the motion. Chairman Legg responded that 5 years may be too long. It should be reviewed and renewed for a certain period of time, but this should not be a burden if it turns out they don't need parking. The goal is for the City to be able to receive annual reports that show the number of off-site leased spaces being used and the number of cars tenants have provided for through the tenant agreement. They can continue to evaluate annually and renew it for up to 5 years.

Mr. Gamester requested that the motion be read back. Chairman Legg responded that it was to find that 0 on-site parking spaces provided, and 7 off street parking spaces shall be provided via a long-term lease or shared parking agreement with the project. The lease will be evaluated annually and if needed renewed for up to 5 years. That is the first step and then the second motion should be to grant the CUP as presented with a stipulation about the tenant lease agreement. Mr. Chellman commented that they

should add the legally binding option arrangement should be incorporated into the first motion. Mr. Harris and Mr. Clark were agreeable to the amendment.

Mr. Gamester commented that they could find the no on site parking adequate and appropriate and then they still have to address the CUP. The first motion should be kept simple and if it passes then conditions can be added to the CUP. Mr. Harris commented that it may help to combine it into one vote. Chairman Legg agreed that in this case two votes seemed confusing. For clarity they should wrap the two motions into one vote.

Ms. Walker commented that what was crafted so far was fine and they could add granting the CUP as presented with stipulations to the current motion. Chairman Legg noted that they should add a stipulation that anything beyond 7 spaces, then they would need provide evidence of off-street spaces.

Ms. Harris commented that the motion could be to find no on-site parking spaces provided was adequate and appropriate for the use of the property with the stipulation that off street parking for 7 spaces provided via a long-term lease, shared parking agreement, or option within an appropriate vicinity. This shall be renewed annually for up to 5 years, and vote to grant CUP as presented.

Mr. Harris and Mr. Clark agreed to the amended motion.

Mr. Clark commented that he agreed with Vice Chairman Moreau's concerns about the second paragraph in the lease agreement. Chairman Legg noted that if there was enough concern from the Board, then a stipulation could be added to amend or delete that paragraph.

Mr. Gamester commented that this project is appropriate because if it is not 21 microunits, then something different will come through and they will still run into this issue. There is no room for parking other than a temporary space. The concerns of the neighborhood were not taken lately. This project is something the City has been looking for. It comes with its own challenges but there is parking in the vicinity. Mr. Gamester noted that he would support the motion.

Vice Chairman Moreau questioned if the landlord would still provide parking if the need extended past the 7 spaces in the motion. Chairman Legg responded that the landlord would be required to demonstrate they have either a long-term lease or option for 7 spaces, but they are also required with lease agreement to find parking for every tenant that has a car no matter what that number is. Vice Chairman Moreau commented that she would support the motion if the second paragraph of the lease was stricken. Mr. Clark agreed.

Mr. Gamester commented that would mean that a tenant can only have a car if they find parking via the landlord. They can't have parking through any other satisfactory evidence of the tenant. Mr. Chellman agreed the burden should be on the developer who has more control than the tenants. Chairman Legg supported the deletion of the paragraph if it moved the project forward.

Mr. Gamester noted that a lot of monthly parking agreements require evidence that they are a resident of Portsmouth. Mr. Gamester questioned how the landlord will arrange for spaces on the tenant's behalf with that requirement. City Manager Conard responded that the landlord can pay for a monthly parking pass on behalf of an individual with a Portsmouth address.

City Council Representative Whelan commented that he was not ready to support the motion. The neighborhood is under a lot of duress. The City hasn't helped the neighborhood and it is not right to dump more cars into that area. The Board should not approve things with no parking on site.

Chairman Legg agreed that the neighborhood is stressed, which is why they are trying to figure out how to provide parking.

Mr. Chellman commented that nobody is proposing to put 20 cars on the streets in that neighborhood. 7 spaces came from the parking analysis that was presented and it was decided that was adequate. The lease agreement puts the burden on the developer to provide off street parking. Taking the second paragraph out of the lease does that.

Mr. Gamester commented that if this does not get approved this could come back as a completely different project. All of it will require parking unless it is a retail shop. It's going to happen and come before the Board regardless of units. There will be an issue for any project on this property.

Mr. Harris and Mr. Clark agreed to amend the motion to remove the second paragraph from the lease.

Chairman Legg commented that the Board struggled over this for two meetings because the City has been talking about microunits for forever. This is the first project to come before this Board with a proposal for microunits. Fundamentally it is a good project. Rent will be less because the apartments will be smaller than average apartments. The Board has worked with the applicant to address the parking. This is the way to do that and give flexibility. If there is in fact 21 cars, then this assures off street lease agreement parking for each of them. There is no guarantee because tenants can lie about having a car. However, this is stronger than if they just had 12 onsite spaces because the landlord has to find spaces for every car. Chairman Legg confirmed he would support the motion.

The Board voted to **grant** this request as follows:

Mr. Harris moved find that the provision of no on-site parking spaces will be adequate and appropriate for the proposed use of the property and to grant the conditional use permit, seconded by Mr. Clark with the following stipulations:

1) A minimum of 7 off-street parking spaces shall be provided via a long-term lease, shared parking agreement or option to enter into a long-term lease or share parking agreement with a property owner in the vicinity of the project. The lease, shared parking agreement or option for the off-site parking spaces shall be reviewed annually with the property owner and Planning Director and shall be renewed as needed for a period of up to 5 years from the issuance of the final certificate of occupancy for the property.

2) Revise the draft lease agreement related to the tenants' obligation to secure off-site parking if the tenant owns a car by removing paragraph 2 of the draft lease agreement presented by the applicant. The final lease agreement shall be reviewed and approved by the Planning Director and City Attorney.

The motion passed by a 7-2 vote. City Council Representative Whelan and Mr. Harris voted against the motion.

B. The application of **Raleigh Way Holding, LLC, Owner**, for properties located at **0 Falkland Way** requesting Site Plan Review approval for the demolition of an existing garage and shed and the construction of a new 4-unit residential building with associated parking, stormwater management, lighting, utilities and landscaping. Said properties are shown on Assessor Map 212 Lots 112 & 113 and lie within the General Residence B (GRB) District.

SPEAKING TO THE APPLICATION

Mike Garapee spoke to the application. Mr. Garapee commented that Martha Terrace was a subdivision approved in the mid 1970s across from Banfield Rd. It is a horseshoe that backs onto Ocean Road. This is an existing paper street known as Patricia Drive. The overview sheet shows the second part of Patricia Drive was never built. This proposed section will connect back to Patricia Drive on the other side. For whatever reason the road was not continued and ended in a cul-de-sac. There is a division between what is accepted as City right of way and what is considered private right of way. It is the recommendation that this Board release that portion of City right of way back to the owners. Then the entire road becomes a private way. The road will be regraded and replaced with an 18-foot-wide private road to provide access to two lots. The existing catch basins will be removed. They will be replaced with a rain garden for appropriate drainage. This project requires a CUP for wetland impacts. Part of the existing roadway is in the wetland setback. There will be a reduction of pavement in the buffer. There is a waiver request associated with this application. The two proposed lots meet the frontage and other requirements.

Vice Chairman Moreau requested clarification that the only buffer impacts were from the road and drainage and not the houses and driveways. Mr. Garapee responded that was correct. The houses, driveways and septic are out of the buffer completely.

PUBLIC HEARING

Chairman Legg asked if anyone was present from the public wishing to speak to, for, or against the petition. Seeing no one rise, the Chair closed the public hearing.

DISCUSSION AND DECISION OF THE BOARD

Mr. Gamester moved to grant a waiver to the Subdivision Regulations -- Section VI(3)(B) Street Rights of Way and Residential Street Minimum Standards to allow 18' of pavement width where 32' is the minimum allowed by finding that specific circumstances relative to the subdivision, or conditions of the land in such subdivision, indicate that the waiver will properly carry out the spirit and intent of the regulations, seconded by Vice Chairman Moreau.

The motion passed unanimously.

Mr. Gamester commented that reducing the width was appropriate given that it is a two-home subdivision and part of the pavement is in the buffer. Vice Chairman Moreau appreciated the road maintenance agreement.

Mr. Gamester moved to **grant** Preliminary and Final Subdivision approval, seconded by Vice Chairman Moreau with the following stipulations:

- 1) On Plan Sheet 4 – Update contractor’s note to remove asphalt berm on Martha’s Terrace to be removed.
- 2) On Plan Sheet 9 – remove reference to “water services to the City of Portsmouth” in note 20 and Proposed Access Easement detail and in note 20 – Sheet 8.

- 3) On Sheet 9 – Note 20 to be revised to “Easement to be provided to the City of Portsmouth over the entire private ROW area for the purposes of accessing water valves and leak detection of the water lines.”
- 4) Sheet 9, add to drainage easement note in detail that the easement is to the “City of Portsmouth”
- 5) Rain garden design and detail shall be reviewed and approved by DPW.
- 6) Applicant shall grant and record an easement granting stormwater flowage rights across Lot 11-1 from the Private ROW.
- 7) Property monuments shall be set as required by the Department of public Works prior to the filing of the plat.
- 8) GIS data shall be provided to the Department of Public Works in the form as required by the City.
- 9) The final plat(s) shall be recorded at the Registry of deeds by the City or as deemed appropriate by the Planning Department.
- 10) The Board recommends release of the public portion of the right-of-way to the developer as a private road as shown on the plans submitted. This is subject to final approval by the City Council.

The motion passed unanimously.

Vice Chairman Moreau commented that it was good that the houses were out of the buffer.

Mr. Gamester moved to **recommend** to the City Council that the private road be renamed to Hemlock Way, seconded by Vice Chairman Moreau. The motion passed unanimously.

Mr. Gamester moved to **grant** Wetland Conditional Use Permit approval, seconded by Vice Chairman Moreau with the following stipulations:

- 1) The Plans to be recorded shall note that dumping of any kind including landscape debris is prohibited in the wetland buffer.
- 2) The Plans to be recorded shall note the prohibition of salting of the road way due to the close proximity to a prime wetland.
- 3) The Plans shall be updated to show a wildflower seed mix in the storm-water treatment basin.
- 4) Permanent wetland boundary markers shall be installed during project construction and at select locations along the roadway to be verified in consultation with the Planning Department to indicate proximity to wetland areas.
- 5) Plans shall be updated to show snow storage locations.
- 6) Plans shall be updated to note that topsoil used on the lots shall not include pesticides and fertilizers.

The motion passed unanimously.

- C. City Council referral on the request of **ASRT, LLC, Owner**, for the restoration of involuntarily merged lots at **138 Leavitt Avenue** to their pre-merger status pursuant to NH RSA 674:39-aa.

Mr. Gamester moved to **postpone** this item to the March Planning Board meeting, seconded by City Council Representative Whelan. The motion passed unanimously.

IV. PUBLIC HEARING – NEW BUSINESS

A. **REQUEST TO POSTPONE** The application of **Clipper Traders, LLC, Portsmouth Hardware and Lumber, LLC, Owners and Iron Horse Properties, LLC, Owner and Applicant**, for properties located at **105 Bartlett Street and Bartlett Street** requesting Site Plan Review approval for the demolition and relocation of existing structures and the construction of 152 dwelling units in 3 buildings, and associated community space, paving, lighting, utilities, landscaping and other site improvements. Said properties are shown on Assessor Map 157 Lot 1 and Lot 2 and Assessor Map 164 Lot 1 and 4-2 and lie within the Character District 4-W (CD4-W) and Character District 4-L1 (CD4-L1) Districts.
REQUEST TO POSTPONE

Vice Chairman Moreau and City Manager Conard recused themselves from this application.

Mr. Gamester moved to **postpone** this request to the next Planning Board meeting, seconded by City Council Representative Whelan. The motion passed unanimously.

B. **REQUEST TO POSTPONE** The application of **Clipper Traders, LLC, Portsmouth Hardware and Lumber, LLC, Owners and Iron Horse Properties, LLC, Owner and Applicant**, for properties located at **105 Bartlett Street and Bartlett Street** requesting Wetland Conditional Use Permit Approval in accordance with Section 10.1017 of the Zoning Ordinance for work within the 25-foot, 50-foot, and 100-foot wetland buffers to North Mill Pond which includes the removal of existing impervious surfaces and buildings, construction of 3 stormwater outlets, repaving of an existing access drive and parking lot, construction of a linear waterfront trail and community space, and construction of three new buildings which will result in a net overall reduction in impervious surfaces of 28,792 square feet. Said properties are shown on Assessor Map 157 Lot 1 and Lot 2 and Assessor Map 164 Lot 1 and 4-2 and lie within the Character District 4-W (CD4-W) and Character District 4-L1 (CD4-L1) Districts. **REQUEST TO POSTPONE**

Vice Chairman Moreau and City Manager Conard recused themselves from this application.

Mr. Gamester moved to **postpone** this request to the next Planning Board meeting, seconded by City Council Representative Whelan. The motion passed unanimously.

C. The application of **Michael Petrin, Owner**, for property located at **239 Northwest Street** requesting Wetland Conditional Use Permit approval in accordance with Section 10.1017 of the Zoning Ordinance to renovate an existing home with portions of the new construction in the wetland buffer. Said property is shown on Assessor Map 122 Lot 3 and lies within the General Residence A (GRA) District.

Vice Chairman Moreau recused herself from this application.

SPEAKING TO THE APPLICATION

Mike Petrin spoke to the application. They are completing a renovation on the house and the goal is to restore it to its original condition. The property is up against the Bypass. The proposal is to remove the L shaped part and square off the house with a new dormer as well. The house is all in the 100-foot buffer, but the majority of the work will be done away from the pond. Currently the lot is 50% permeable the proposed project would make the lot 51% permeable. The addition will be 112 sf. There is good soil and the house in its current state has no drainage issues. It will be improved by adding a drip line trench on the front and back of the house. Runoff will be mitigated with a silt sock filtration control measure. The house will be squared off to fit some modern capabilities for interior space. There is not a lot of vegetation on the site. They will demolish the front deck and put in lawn. A new stair in the entryway will be added.

PUBLIC HEARING

Chairman Legg asked if anyone was present from the public wishing to speak to, for, or against the petition. Seeing no one rise, the Chair closed the public hearing.

DISCUSSION AND DECISION OF THE BOARD

Mr. Gamester moved to **grant** this request as presented, seconded by City Council Representative Whelan. The motion passed unanimously.

Mr. Gamester commented that it was good the soils were tested, and it sounded like a good plan.

- D. The application of **Michael J. O'Connor, Owner**, for property located at **163 Sparhawk Street** requesting Wetland Conditional Use Permit approval in accordance with Section 10.1017 of the Zoning Ordinance for in-kind replacement of garage steps and a landing and installation of stormwater infiltration. Said property is shown on Assessor Map 159 Lot 7 and lies within the General Residence A (GRA) District.

SPEAKING TO THE APPLICATION

John Chagnon from Ambit Engineering spoke to the application. The proposal is to replace the existing garage with a new structure. The project is adjacent to the North Mill Pond and up on an elevated banking. The owners also own a second lot that is a small, vegetated lot. There is a deck and nice backyard with view of the pond. The demolition plan shows that the existing garage will be removed, and some pavement will be saw cut and taken out. The existing yard drain will be removed. The back stairs will be taken out and replaced post construction. The proposed garage will be the same footprint as the existing one. It will be on a slightly raised elevation to keep runoff from ponding in the garage. There will be a gutter along the front that will connect to an infiltration trench. That connects to existing drainage. The grading will raise the garage up from

the street. The Conservation Commission provided they recommendation for approval. The Staff Memo has one condition which is to permanently mark the wetland boundary. Mr. Chagnon requested more clarification on what that meant. The edge of the wetland is the HOTL. It may not be necessary as the owners are aware of the adjacent resource. There are a few trees that could be marked, but the only people back there are the owners.

Vice Chairman Moreau commented that it was good the garage was being raised. Vice Chairman Moreau questioned if the angle of the roof would be the same on the new garage. Mr. Chagnon responded that the pitch would be the same. Runoff from the whole front edge would go into a gutter then directly to the drip apron. Runoff from the back will go to the drip apron on the back side.

Mr. Gamester requested clarification on the wetland boundary markers. Ms. Harris responded that it is a new requirement added to the ordinance in the last revision. The applicant needs to mark the wetland boundary. Mr. Chagnon commented that it would make sense in a forested area or at a freshwater wetland because a lot of times people don't know where the boundary is.

City Council Representative Whelan questioned if they were marking the boundary to prevent cutting and disturbance. Ms. Harris confirmed that was correct. Mr. Chagnon noted that the boundary would be the HOTL edge, so there is tidal influence. There is a lot of stone rip rap that exists there now. It might be difficult to mark it in a clear fashion. They can install tree placards if that's acceptable. Mr. Clark agreed that markers may not be needed for this project. There are lot of DES requirements for this project. Mr. Chagnon commented that a DES permit was required for the project. There is no requirement in the State permit process to mark any boundaries. Marking the boundary would be difficult because of the rocks.

PUBLIC HEARING

Chairman Legg asked if anyone was present from the public wishing to speak to, for, or against the petition. Seeing no one rise, the Chair closed the public hearing.

DISCUSSION AND DECISION OF THE BOARD

Chairman Legg commented that marking the wetland was part of the ordinance, so it is not optional. What is optional is how the border is marked. If this is approved, then there should be a stipulation to have markers installed in consultation with City Staff so that it satisfies both parties.

Mr. Gamester requested clarification on what the best practices are for the markers. Ms. Harris responded that there was flexibility, and it can be done in consultation with Staff.

Mr. Chellman commented that this item should be revisited in the ordinance. The language is very vague. Permanent boundary markers are a big deal and should not be required. Chairman Legg commented that it would be helpful if City Staff provided a report back at the next meeting to explain the rationale on why that was changed and what ways we as a City we may want to amend it in some fashion. In this particular instance the property owner will work with City Staff, so hopefully they will meet the spirit of the ordinance without undue hardship.

Vice Chairman Moreau moved to **grant** this request, seconded by Mr. Gamester with the following stipulation:

- 1) Permanent wetland boundary markers shall be installed during project construction as determined by the Planning Department.

The motion passed unanimously.

- E. The application of **Robert Gigliotti, Owner**, for property located at **292 Lang Road** requesting Wetland Conditional Use Permit approval in accordance with Section 10.1017 of the Zoning Ordinance to construct an addition of an entryway to the front of the house and a deck behind the house, along with a replacement tank and associated piping within the wetland buffer zone. Said property is shown on Assessor Map 287 Lot 4 and lies within the Single Residence B (SRB) District.

SPEAKING TO THE APPLICATION

Rob Gigliotti spoke to the application. The septic design was done by Barry Engineering. 310 sf of land will be disturbed in the 100-foot buffer. The closest distance to the buffer is the 28-sf foyer. That is 30 feet from the buffer line. Beyond that the 150-sf deck will be behind the house and further away from the buffer. The deck will have 6 footings. The remaining impact will be for the septic tank and piping. Down the road Mr. Gigliotti would like to build a house in the back, but that is not on the application yet. It will all be on buildable land. A stone drip will be added, and crushed stone will be used under the deck. The wetland will be staked out during construction.

PUBLIC HEARING

Chairman Legg asked if anyone was present from the public wishing to speak to, for, or against the petition. Seeing no one rise, the Chair closed the public hearing.

DISCUSSION AND DECISION OF THE BOARD

Vice Chairman Moreau moved to **grant** this request, seconded by Mr Gamester with the following stipulations:

- 1) The applicant shall install a stone drip edge around the house and under the proposed deck to allow infiltration of stormwater.
- 2) The applicant shall stake the wetland buffer during project construction.
- 3) Permanent wetland boundary markers shall be installed during project construction as determined by the Planning Department.

The motion passed unanimously.

- F. Application of **JJCM Realty, LLC and Topnotch Properties, LLC, Owners**, for property located at **232 South Street** requesting Wetland Conditional Use Permit approval in accordance with Section 10.1017 of the Zoning Ordinance to construct a new deck and staircase onto the existing residential structure, relocate an existing storage shed and install native plantings in the buffer. Said property is shown on Assessor Map 111 Lot 2 and lies within the Single Residence B (SRB) District.

SPEAKING TO THE APPLICATION

John Chagnon from Ambit Engineering spoke to the application. The project is to build a new deck and stairs on the back of the building. The shed will be relocated, and more plantings will be provided. The wetlands are off site, but the lot is in the buffer. The two-story deck will have a spiral staircase on one side to access the second story and a single staircase on the other to access the first floor. It will create a better egress. There will be a little addition in the buffer to square off the back of the building to provide better circulation. The deck also provides outdoor space to the owners of the units. The CUP plan shows the impact in the buffer. The shed is moving closer to the existing house. It has a 10-foot setback requirement. Moving the shed allows for a planting area in back. New walkways will be provided to access the front of the building. The Conservation Commission has recommended approval. They can put wetland markers at the property line, but the edge of the wetland is on a different property.

Mr. Gamester questioned what they would be marking if the wetlands were offsite. Mr. Chagnon responded that a lot of communities want the buffer marked.

PUBLIC HEARING

Chairman Legg asked if anyone was present from the public wishing to speak to, for, or against the petition. Seeing no one rise, the Chair closed the public hearing.

DISCUSSION AND DECISION OF THE BOARD

Vice Chairman Moreau commented that they needed to relook at the ordinance to clarify the wetland boundary markers.

Vice Chairman Moreau moved to **grant** this request, seconded by Mr. Gamester with the following stipulation:

1) Permanent wetland boundary markers shall be installed during project construction as required by the Planning Department.

The motion passed unanimously.

V. ADJOURNMENT

Mr. Gamester moved to adjourn the meeting at 10:17 p.m., seconded by Vice Chairman Moreau. The motion passed unanimously

**PLANNING BOARD
PORTSMOUTH, NEW HAMPSHIRE**

Remote Meeting Via Zoom Conference Call

Per NH RSA 91-A:2, III (b) the Chair has declared the COVID-19 outbreak an emergency and has waived the requirement that a quorum be physically present at the meeting pursuant to the Governor’s Executive Order 2020-04, Section 8, as extended by Executive Order 2021-01, and Emergency Order #12, Section 3. Members will be participating remotely and will identify their location and any person present with them at that location. All votes will be by roll call.

7:00 pm

FEBRUARY 25, 2021

MINUTES

MEMBERS PRESENT: Dexter Legg, Chair; Elizabeth Moreau, Vice Chair Karen Conard, City Manager; Peter Whelan, City Council Representative; Ray Pezzullo, Assistant City Engineer; Colby Gamester; Rick Chellman; Polly Henkel, Alternate

ALSO PRESENT: Juliet Walker, Planner Director;

MEMBERS ABSENT: Corey Clark, Peter Harris

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Chairman Legg commented that before they got to the agenda Ms. Walker was prepared to give more background on the intent of the wetland boundary markers.

Ms. Walker commented that Staff did not prepare the Board as well as they could have. The changes were adopted to the wetland’s ordinance in December 2019. Members on the Planning Board adopted a number of measures to help protect wetlands and buffers. The changes focused on more delineation, clearer guidelines on what should or should not happen in the wetland and buffer, and what should be included in the application. Part of it was educating property owners on wetland protections and implementing long term protections. One issue that they tried to address was that property owners buy a property that may have previously had a CUP granted. The current owners may not be aware of the wetland boundary. The discussion was to have some kind of permanent marker on the wetland boundary wherever possible. The markers are not for the buffer boundary. This has been implemented for about a year now. There have been discussions with the Conservation Commission about delineating the buffer for certain projects, this is not required. The buffer delineation was to make sure there is caution around the buffer during construction. The wetland marker is a vague requirement to allow for Staff discretion. That allows Staff to work with applicants on what type of markers are used and the frequency. Ms. Walker did not support changing that item in the ordinance at this point, but they should keep that in mind to see how it goes in the short term.

Ms. Henkel requested clarification that the requirement was just for the wetland boundary and not the buffer boundary as well. Ms. Walker confirmed that was correct. The two applications last week had to delineate the buffer during construction at the request of the Conservation Commission. It is not permanent. They can add the stipulation for buffer delineation, but it is not a requirement. Ms. Henkel commented that it would be helpful if Staff could indicate what is required or not.

Chairman Legg noted that the reality is that the wetland markers are part of the ordinance, so it should not be listed as a stipulation.

Mr. Chellman commented that he supported a change in the ordinance to reflect how it's been implemented. It should be revised to say something to the effect that periodic wetland boundary markers are required at the wetland boundary as makes sense by Staff.

Chairman Legg commented that they could add something to soften the language. Ms. Walker confirmed that it could be added to the list of housekeeping items to address.

I. PUBLIC HEARING – NEW BUSINESS

- A. The application of **Jenna & Patrick Thomson, Owners**, for property located at **225 Spinney Road** requesting Conditional Use Permit approval in accordance with Section 10.814 of the Zoning Ordinance for the construction of an Attached Accessory Dwelling Unit of 720 square feet gross floor area. Said property is shown on Assessor Map 169 Lot 3 and lies within the Single Residence B (SRB) District.

SPEAKING TO THE APPLICATION

Peggy Cooke spoke to the application. The proposal is to complete an in-law apartment above the garage. The structure already exists. The intent is to just finish the inside. Nothing is changing on the outside of the structure.

Vice Chairman Moreau questioned if there was an interior door between the attached dwelling unit and the house. Ms. Cooke responded that a mudroom connected the house to the garage. The apartment was above the garage. Vice Chairman Moreau questioned if there were interior stairs between the ADU and the garage. Ms. Cooke responded that there were only exterior stairs. Ms. Walker commented that it was their understanding there was an interior connection. That is a requirement of the ordinance. It would require a waiver from the Planning Board to grant this.

Vice Chairman Moreau questioned if there was a place to put an interior door. Ms. Cooke responded that there was not an opportunity for an interior door to the house because the mud room was only on the first floor. The unit is on the second floor. Vice Chairman Moreau questioned if they could put a door inside the garage that led to the unit. Ms. Cooke responded that the mudroom door goes into the garage and the garage door goes to the external steps. There isn't an opportunity for an interior door.

Mr. Chellman questioned if they could consider it a detached ADU. Vice Chairman Moreau responded that they could not because there was a setback requirement for that.

Ms. Henkel questioned if there were any contiguous walls between the apartment and the house. Ms. Cooke responded that there was not.

Ms. Walker commented that the Board could grant a waiver if they felt it was appropriate. The intention of the interior door was to make it so they were not two separate units. They should be connected to each other. It was to prevent them from becoming a duplex.

Chairman Legg questioned if the breezeway was living space. Ms. Cooke responded that it was entry space. Chairman Legg questioned if there was room in there to have an interior stairway to the ADU. Ms. Cooke responded there was not. The room is only 8 by 10 feet.

Mr. Chellman questioned what was in the space now. Ms. Cooke responded that it was studded for an apartment and there were windows and electricity. They need to add flooring, walls and plumbing.

PUBLIC HEARING

Chairman Legg asked if anyone was present from the public wishing to speak to, for, or against the petition. Seeing no one rise, the Chair closed the public hearing.

DISCUSSION AND DECISION OF THE BOARD

Vice Chairman Moreau commented that this was the perfect size for an ADU and as long as it meets fire safety code, then she agreed to waive the interior door requirement.

- 1) Vice Chairman Moreau moved to **grant** the request to waive the requirement set forth in Section 10.814.41 that an interior door shall be provided between the principal dwelling unit and the accessory dwelling unit and to find that such modification will be consistent with the required findings in Section 10.814.60, seconded by Mr. Gamester.

The motion passed unanimously.

- 2) Vice Chairman Moreau moved to find that the application satisfies the requirements of 10.814.60 and to grant the conditional use permit as presented, seconded by Mr. Gamester with the following stipulation:
 - 2.1) In accordance with Section 10.814.90 of the Zoning Ordinance, the owner is required to obtain a certificate of use from the Planning Department verifying compliance with all standards of Section 10.814, including the owner-occupancy requirement and shall renew the certificate of use annually.

Vice Chairman Moreau commented that she appreciated the applicant tried to troubleshoot the door issue. Because this fits the zoning in all other aspects, the Vice Chairman was willing to support this application. Chairman Legg agreed.

The motion passed unanimously.

- B. Application of **Robert Vaccaro, Owner**, for property located at **411 Middle Street** requesting Conditional Use Permit approval in accordance with Section 10.1112.14 of the Zoning Ordinance for provision of 9 on-site parking spaces where 11 spaces are required. Said property is shown on Assessor Map 135 Lot 2 and lies within the Mixed Residential Office (MRO) District.

SPEAKING TO THE APPLICATION

Robert Vaccaro spoke to the application. This is an 1860s mansion that has been turned into an apartment house. The Board of Adjustments has granted approval to make 6 dwelling units into 8 units. The application is to allow 9 parking spaces instead of 11. The Technical Advisory Committee agreed with the application's calculations based on the square footage of the 8 apartments. There are two large apartments and 6 smaller ones. The smaller ones would require 1.5 spaces. The current parking plan was implemented 20 years ago after a variance was granted for a smaller turnaround. There is an abundant parking supply on that segment of Middle St. The building is located in a mixed residential office zone. There are three office buildings to the left and one to the right. Offices require daytime parking vs. residential which needs evening parking. The Masonic Temple and the James E Whalley Museum require little parking on Middle St. There are four transit stops close by. There have always been tenants that are car free. The application includes letters of support from the closest residential abutters.

PUBLIC HEARING

Chairman Legg asked if anyone was present from the public wishing to speak to, for, or against the petition. Seeing no one rise, the Chair closed the public hearing.

DISCUSSION AND DECISION OF THE BOARD

Vice Chairman Moreau moved to **grant** this request as presented, seconded by Mr. Gamester.

Vice Chairman Moreau commented that she followed this through the ZBA and read the letters of support. The amount of support was overwhelming. The amount of parking provided is more than appropriate.

The motion passed unanimously.

- C. Application of the **Pease Development Authority, Owner, and Lonza, Applicant**, for property located at **70 Corporate Drive** requesting renewal of a previously approved Conditional Use Permit, under Chapter 300 of the Pease Land Use Controls, Part 304-A Pease Wetlands Protection, for work within the inland wetland buffer for the construction of three proposed industrial buildings: Proposed Building #1 with a 132,000+ s.f. footprint; Proposed Building #2 with a 150,000+ s.f. footprint; Proposed Building #3 with a 62,000+ s.f. footprint; and two 4-story parking garages, with 55,555+ s.f. of impact to the wetland, 66,852+ s.f. of impact to the wetland buffer and a 1,000+ l.f. stream restoration for Hodgson Brook resulting in 42,500 s.f. of wetland creation. Said property is shown on Assessor Map 305 Lot 1 and lies within the (ABC) District.

DISCUSSION AND DECISION OF THE BOARD

Mr. Gamester moved to **postpone** this request to the next Planning Board meeting, seconded by City Manager Conard. The motion passed unanimously.

- D. Application of **CLJR, LLC, Owner**, for property located at **6 Robert Avenue** requesting Conditional Use Permit approval in accordance with Section 10.1112.14 of the Zoning Ordinance for provision of 10 on-site parking spaces where 18 spaces are required. Said property is shown on Assessor Map 286 Lot 17 and lies within the (G1) District.

SPEAKING TO THE APPLICATION

Bob Marchewka spoke to the application. The application is for a CUP to allow 10.5 parking spaces where 17 are required. The plan is for a martial arts center to move into the building and utilize 4,300 sf of space. A martial arts center is categorized under health clubs, which requires a fair number of spaces. However, a martial arts center doesn't use as many spaces as a health club. They operate by different model. Historically, they have used about 5 spaces.

Mr. Chellman questioned if they would be using a portion of the existing lot. Mr. Marchewka responded that was correct. There are 17 spaces, and the applicant will use half of those. There will be 5.5 spaces in the front and 5 in the rear.

Vice Chairman Moreau questioned who the other tenant was. Mr. Marchewka responded that they make countertops and other items out of stone. They do not have a big retail presence. They are mostly by appointment.

PUBLIC HEARING

Chairman Legg asked if anyone was present from the public wishing to speak to, for, or against the petition. Seeing no one rise, the Chair closed the public hearing.

DISCUSSION AND DECISION OF THE BOARD

Vice Chairman Moreau moved to **grant** this request as presented, seconded by City Council Representative Whelan. The motion passed unanimously.

II. OTHER

- A. The request of the **Weeks Realty Trust, and Carter Chad, Owners and Tuck Realty Corporation, Applicant** for property located at **3110 Lafayette Road** for a 1-year extension of Site Plan Review Approval for the demolition of an existing single family home and construction of 18 residential townhomes in 5 structures with a total building footprint of 15,880 s.f. and 47,252 s.f. of gross floor area with associated site improvements, grading, utilities, stormwater management and landscape improvements that was originally granted on February 20, 2020.

Vice Chairman Moreau moved to **grant** a 1-year extension to expire on February 20, 2022, seconded by City Council Representative Whelan. The motion passed unanimously.

- B. The request of **132 Middle Street, LLC** and **134 Middle Street, LLC, Owners**, for properties located at **132 and 134 Middle Street** for a 1-year extension of Conditional Use Permit Approval for a renovation of an existing building that will result in a net increase of 1 dwelling unit that proposes to provide 7 on-site parking spaces where 8 currently exist and a minimum of 24 are required under the current zoning ordinance that was originally approved on February 27, 2020.

Mr. Gamester recused himself from the application.

Vice Chairman Moreau moved to **grant** a 1-year extension to expire on February 2y, 2022, seconded by City Manager Conard. The motion passed unanimously.

- C. Discussion on proposed multi-use side path for bicycles and pedestrians along Elwyn Road.

Ms. Walker commented that there was a project to extend a multi-use path from Peverly Hill Rd. to Harding Way. It will almost go to the Rye line. The proposed path follows the Urban Forestry Center's frontage. The side path will be a minimum width of 10 feet. One property is privately held. They are agreeable to having the path cross their frontage. It will be a separate side path that won't impact the traffic on the road. They are also looking at ways to improve crossings. They have heard concerns from the neighborhood about putting crosswalks at certain locations. There will be a signal activated crosswalk at Harding Way. Eventually the goal would be to extend this to the Rye line. That would be a future project. The main challenge is that there are multiple property owners and very little right of way. This is a federally funded grant program and the NHDOT is the manager. The engineered plans won't be presented until feedback is obtained from the public and the land use boards. This is the opportunity for the Planning Board to provide feedback.

Vice Chairman Moreau questioned if this would be extended along Route 1. Ms. Walker responded that this project was under the NHDOT jurisdiction. It has been identified in bike/ped plan to complete a path on both sides of Route 1 wherever possible.

Mr. Chellman commented that when he was working on the Safe Routes to School Committee the idea of having connections from the Harding Way neighborhood to the school was a big deal. Mr. Chellman questioned if this would be extended into that neighborhood. Ms. Walker responded that there was another project in the CIP for Elwyn Park traffic calming as well as pedestrian and bike amenities in the Elwyn neighborhood. A feasibility study to add sidewalks and potentially bike accommodations in the neighborhood has been completed. The project is scheduled to be funded in a couple years. Sidewalks on Harding Way and down into the neighborhood will be part of that.

Chairman Legg commented that Route 1 had no sidewalks going into the Dondero School. That may be a way of getting kids out in a safe manner. A sidewalk would be good there.

City Council Representative Whelan commented that it would be nice to connect that whole Sagamore Highlands area behind Tuckers Cove. Ms. Walker responded that DPW has been working on an easement through there. Dave Desfosses is part of that project team and has also identified a potential opportunity. There is limited scope for this project grant but identifying opportunities for future connections is good.

III. ADJOURNMENT

Vice Chairman Moreau moved to adjourn the meeting at 7:53 p.m., seconded by Mr. Gamester. The motion passed unanimously

Respectfully submitted,

Becky Frey,
Acting Secretary for the Planning Board



MEMORANDUM

To: Planning Board
From: Juliet T.H. Walker, Planning Director *JTW*
Subject: Staff Recommendations for the March 18, 2021 Planning Board Meeting
Date: March 12, 2021

II. DETERMINATIONS OF COMPLETENESS

SITE PLAN REVIEW

- A. The application of the **Woodbury Cooperative, Inc.**, Owner, for property located at **1338 Woodbury Avenue** requesting Site Plan Review approval.

SUBDIVISION REVIEW

- A. The application of the **Frederick Watson Revocable Trust, Owner**, for property located at **1 Clark Drive** requesting Preliminary and Final Subdivision approval.

III. PUBLIC HEARINGS – OLD BUSINESS

It is recommended that Items IIIA, IIIB, and IVA be discussed together.

A motion is required to consider these items together.

- A. The application of **Clipper Traders, LLC, Portsmouth Hardware and Lumber, LLC, Owners and Iron Horse Properties, LLC, Owner and Applicant**, for properties located at **105 Bartlett Street and Bartlett Street** requesting Site Plan Review approval for the demolition and relocation of existing structures and the construction of 152 dwelling units in 3 buildings, and associated community space, paving, lighting, utilities, landscaping and other site improvements. Said properties are shown on Assessor Map 157 Lot 1 and Lot 2 and Assessor Map 164 Lot 1 and 4-2 and lie within the Character District 4-W (CD4-W) and Character District 4-L1 (CD4-L1) Districts.
- B. The application of **Clipper Traders, LLC, Portsmouth Hardware and Lumber, LLC, Owners and Iron Horse Properties, LLC, Owner and Applicant**, for properties located at **105 Bartlett Street and Bartlett Street** requesting Wetland Conditional Use Permit Approval in accordance with Section 10.1017 of the Zoning Ordinance for work within the 25-foot, 50-foot, and 100-foot wetland buffers to North Mill Pond which includes the removal of existing impervious surfaces and buildings, construction of 3 stormwater outlets, repaving of an existing access drive and parking lot, construction of a linear waterfront trail and community space, and construction of three new buildings which will result in a net overall reduction in impervious surfaces of 28,792 square feet. Said properties are shown on Assessor Map 157 Lot 1 and Lot 2 and Assessor Map 164 Lot 1 and 4-2 and lie within the Character District 4-W (CD4-W) and Character District 4-L1 (CD4-L1) Districts.
- A. (IV. Public Hearings – New Business) The application of **Clipper Traders, LLC, Portsmouth Hardware and Lumber, LLC, Owners and Iron Horse Properties, LLC, Owner and Applicant**, for properties located at **105 Bartlett Street and Bartlett Street** requesting a Lot Line Relocation as follows: Tax Map 157, Lot 1 increasing in area from 61,781 s.f. to 205,804 s.f.; Tax Map 157, Lot 2 decreasing in area from 102,003 s.f. to 81,645 s.f.; Tax Map 164, Lot 1 increasing in area from 51,952 s.f. to 52,289 s.f.; Tax Map 164, Lot 4-2 decreasing in area from 249,771 s.f. to 119,519 s.f. and the existing right-of-way increasing in area from 69,624 s.f. to 75,792 s.f. Said properties are shown on Assessor Map 157 Lot 1 and Lot 2 and Assessor Map 164 Lot 1 and 4-2 and lie within the Character District 4-W (CD4-W) and Character District 4-L1 (CD4-L1) Districts.

Description

The applicant has requested to postpone to the April meeting. The Planning Department will plan to re-notice all abutters and include all three applications in the notice. Public comments received to date have been included in the Planning Board's packet for this month.

Planning Department Recommendation

Vote to postpone all three applications to the April Planning Board meeting.

III. PUBLIC HEARINGS – OLD BUSINESS (Cont.)

- C. Application of the **Pease Development Authority, Owner, and Lonza, Applicant**, for property located at **70 Corporate Drive** requesting renewal of a previously approved Conditional Use Permit, under Chapter 300 of the Pease Land Use Controls, Part 304-A Pease Wetlands Protection, for work within the inland wetland buffer for the construction of three proposed industrial buildings: Proposed Building #1 with a 132,000+ s.f. footprint; Proposed Building #2 with a 150,000+ s.f. footprint; Proposed Building #3 with a 62,000+ s.f. footprint; and two 4-story parking garages, with 55,555+ s.f. of impact to the wetland, 66,852+ s.f. of impact to the wetland buffer and a 1,000+ l.f. stream restoration for Hodgson Brook resulting in 42,500 s.f. of wetland creation. Said property is shown on Assessor Map 305 Lot 1 and lies within the (ABC) District.



Description

The project received Wetland Conditional Use Permit Approval from the Planning Board on January 17, 2019 for work within the inland wetland buffer for the construction of three proposed industrial buildings: Proposed Building #1 with a 132,000+ s.f. footprint; Proposed Building #2 with a 150,000+ s.f. footprint; Proposed Building #3 with a 62,000+ s.f. footprint; and two 4-story parking garages, with 55,555+ s.f. of impact to the wetland, 66,852+ s.f. of impact to the wetland buffer and a 1,000+ l.f. stream restoration for Hodgson Brook resulting in 42,500 s.f. of wetland creation.

The Planning Board previously recommended approval of this application to the Pease Development Authority Board on January 17, 2019. The applicant subsequently requested that the PDA Board grant a one-year extension to the Wetland Conditional Use Permit approval, which was granted and the approval expired in February 2021. Due to project delays, the applicant was not be able to start the project prior to the expiration of the approval. As no further extension requests are allowed under PDA's Regulations, the applicant must now re-apply for the wetland conditional use permit.

Planning Department Recommendation

Vote to recommend approval of the Wetland Conditional Use Permit.

IV. PUBLIC HEARINGS – NEW BUSINESS

It is recommended that Items IVB and IVC be discussed together and voted on separately.

A motion is required to consider these items together.

- B.** The application of the **Frederick Watson Revocable Trust, Owner**, for property located at **1 Clark Drive** requesting a Wetland Conditional Use Permit in accordance with Article 10 Section 10.1017 to demolish an existing home, driveway, and swimming pool and construct a new private road and create four new house lots with associated stormwater management infrastructure which will result in 15,500 square feet of impact in the 100-foot wetland buffer. Said property is shown on Assessor Map 209 Lot 33 and lies within the Single Residence B (SRB) District.

- C.** The application of the **Frederick Watson Revocable Trust, Owner**, for property located at **1 Clark Drive** requesting a Conditional Use Permit under Article 6 Section 10.674 of the Zoning Ordinance for construction of new residences in the Highway Noise Overlay District and Preliminary and Final Subdivision approval to subdivide a lot with an area of 137,176 s.f. and 75 ft. of continuous street frontage into four (4) lots and a proposed new road as follows: Proposed lot 1 with an area of 20,277 s.f. and 137.23 ft. of continuous street frontage; Proposed Lot 2 with an area of 17,103 s.f. and 100 ft. of continuous street frontage; Proposed Lot 3 with an area of 20,211 s.f. and 100 ft. of continuous street frontage; and Proposed Lot 4 with an area of 53,044 s.f. and 592.50 ft. of continuous street frontage. Said property is shown on Assessor Map 209 Lot 33 and lies within the Single Residence B (SRB) District.



Description

The applicant is requesting to convert a lot with an existing single family home into four residential lots accessed by a new private road. The stormwater drainage system that will be serving these lots will be located within the 100-foot wetland buffer.

Wetland Conditional Use Permit

Conservation Commission Review

1. *The land is reasonably suited to the use activity or alteration.* The rear portion of the new house lots are partially within the 100' wetland buffer. The application is providing stormwater treatment in the lawn area at the rear of these houses and completely within the 100' wetland buffer. The applicant has stated that this is the only area on the site where effective stormwater treatment can be done. The applicant should provide a detailed maintenance schedule for the stormwater treatment area and consider a deed restriction to protect this area from future changes by property owners.
2. *There is no alternative location outside the wetland buffer that is feasible and reasonable for the proposed use, activity or alteration.* Given the area is currently lawn and is the low point on the properties it is the most feasible location for the treatment. However, as it is not clear how the future property owners will treat this area it is important they understand there are important inspection and management requirements and long-term protection of the functionality of this stormwater treatment system.
3. *There will be no adverse impact on the wetland functional values of the site or surrounding properties.* Given that the proposed work is in a lawn area and will reduce the velocity of flow it should have a net improvement on stormwater quality. The applicant has provided a buffer planting plan to enhance some portion of the 100' wetland buffer. Both the stormwater treatment and the planted buffer area should be protected from future impacts. In particular to insure the stormwater treatment system is maintained and remains in place there should be inspection requirements as well as deed restrictions placed on this approval or within the homeowner's association documents.
4. *Alteration of the natural vegetative state or managed woodland will occur only to the extent necessary to achieve construction goals.* The existing lawn will be regraded and replaced with a vegetated rain garden.
5. *The proposal is the alternative with the least adverse impact to areas and environments under the jurisdiction of this section.* The proposed project should reduce velocity of stormwater from the site and with plantings could represent an enhancement. However, it is important as stated above that the applicant secure a monitoring and maintenance program for the long-term efficacy and protection of the proposed stormwater management system. Additionally, the applicant should demonstrate that this is the furthest from the wetland edge this treatment system can be installed and that the lawn area is not being maximized. It should be described how the treatment system has been placed as far from the edge of wetland as possible.
6. *Any area within the vegetated buffer strip will be returned to a natural state to the extent feasible.* The revised plan shows landscape buffer plantings in areas that are currently lawn. The applicant has planted the area that is lawn waterward of the proposed treatment system.

The Conservation Commission reviewed this application at the March 10, 2021 meeting and voted unanimously (with one absention) to recommend approval of this application with the following stipulations:

1. That there shall be wetland markers around the rain garden area.
2. That downspouts and drip edges shall be used to control roof run-off.

Conditional Use Permit for Highway Noise Overlay District

This property is located in the HNOD, which was created to protect individuals from the impact of highway traffic noise by regulating certain uses that are considered to be “noise sensitive land uses” as defined by the Ordinance. Per the requirements of the Ordinance Section 10.673, any proposed uses that qualify as noise sensitive land uses require a conditional use permit from the Planning Board. An application for a CUP in the HNOD must include a noise analysis prepared by a registered engineer or qualified professional transportation noise analyst and must demonstrate that the applicable exterior and interior sound level standards are met for the proposed land use using measures listed in Section 10.674.30. The analysis completed by Reuter Associates and submitted as part of this application maintains that “typical residential construction” provides 20 dB of sound attenuation and therefore will meet the required standard, which is 45 dBA for the interior of a residential dwelling. In addition, the analysis confirms that the proposed development is located outside of the 65 dBA noise contour and therefore will meet the required standard of 65 dBA for residential yards.

Subdivision Approval

Technical Advisory Committee Review

TAC reviewed this application at the March 2, 2021 meeting and voted to recommend approval of the subdivision application along with the requested waivers with the following stipulations:

To be completed or verified prior to Planning Board review

- 1) The proposed cross-section for the private road does not comply with the City’s minimum requirements for residential subdivisions, therefore a waiver request will be required.
- 2) The path leading to Market Street shall be widened to 10 feet.
- 3) The fences on either side of the pathway out to Market St shall be no closer than 2’ to the edge of the path on either side of the path while still being contained in the easement if they are to be replaced.
- 4) The rain garden back berm needs to be constructed of materials that are not easily susceptible to erosion.
- 5) The Stormwater Operations and Maintenance Plan should indicate that this area is to remain mowed and maintained.
- 6) There should be clear direction in the SOMP about if and when to change the media and what to use.
- 7) The Stormwater Operations and Maintenance Plan shall be referenced in the homeowners association documents.
- 8) The overflow weir shall be modified as discussed at the TAC meeting and the applicant shall confirm that the rain garden will be of sufficient size and shape to mitigate all of the design storms subject to final review and approval by the DPW.
- 9) Sewer laterals travelling together shall be at least 3’ clear space apart and located on the appropriate lot in their entirety.
- 10) Plans shall note that a flow test shall be conducted every 5 years.
- 11) TAC members noted that due to the fact that the road is now proposed as a private road, it no longer requires Trees and Greenery Committee review.

Recommended as conditions of Planning Board approval

- 12) Property owners shall provide an access easement to the City for water valve access and leak detection. The easement shall be reviewed and approved by the Planning and Legal Departments prior to acceptance by the City Council.
- 13) Neighboring parcel 209/32 shall have full legal access to the new private road and utilities.
- 14) The current 6" water connection in Cutts St will need to be abandoned by the applicant entirely by removing the valve and bolting on a blind flange to the tee. This work must be completed no later than the end of May 2021 so that the final road pavement can be placed.
- 15) The Engineer of Record shall submit a written report (with photographs and engineer stamp) certifying that the stormwater infrastructure was constructed to the approved plans and specifications and will meet the design performance.
- 16) All of the new sewer laterals means, methods, materials and installation shall be approved and witnessed by DPW prior to backfilling.
- 17) A note shall be added to the plans and the Stormwater Operations and Maintenance Plan that the roadway catch basins shall be cleaned annually and the road is to be swept yearly in the early spring.
- 18) The detail for the sidewalk shall be adjusted to show use of ½" 50 gyration for sidewalk binder course.
- 19) Applicant shall enter into a maintenance agreement with the City of Portsmouth Water Division regarding hydrant flushing.

On March 5, 2021, the applicant submitted revised plans addressing items 1 to 11, 17, and 18 to the satisfaction of the Planning Department and the DPW. The remaining items have been incorporated into the Planning Director recommendations below.

Waiver Request

The applicant has requested waivers from the Subdivision Regulations Residential Street Standards to provide 20' of pavement width on the main roadway and 24' on the cul-de-sac where 32' is the minimum required and from Section VI.2.A Lot Arrangement requiring that lot lines shall be placed radial to curved street lines. The Technical Advisory Committee agreed that the proposed width of the private road is acceptable and adequate for a subdivision of this size and supported the reduction in impervious surface. The lot line shift is minor and seems reasonable as well.

Planning Department Recommendations

Wetland Conditional Use Permit

Vote to grant approval of the application as presented with the following stipulations:

- 1. Instead of wetland boundary markers along the wetland buffer, the applicant install wetland boundary markers every twenty feet at the uphill edge of the rain garden within the wetland buffer or as ded by the Planning Department.*
- 2. That houses shall be constructed with drip edges and infiltration trenches to accommodate roof run-off.*

Highway Noise Overlay District Conditional Use Permit

- 1. Vote to find that the applicable exterior and interior sound level standards shall be met as demonstrated by the noise analysis provided and to grant the conditional use permit as presented.*

Subdivision Approval

- 1. Vote to grant the requested waivers to the Subdivision Residential Street Standards requiring that the pavement width of a residential road by a minimum of 32' wide and Section VI.2.A Lot Arrangement requiring that lot lines shall be placed radial to curved street lines by find that [NOTE: Motion maker must select one of the following options]:*

- a) Strict conformity would pose an unnecessary hardship to the applicant and waiver would not be contrary to the spirit and intent of the regulations*

[OR]

- b) Specific circumstances relative to the subdivision, or conditions of the land in such subdivision, indicate that the waiver will properly carry out the spirit and intent of the regulations*

- 2. Vote to grant Preliminary and Final Subdivision Approval with the following stipulations:*
 - 2.1 Property owners shall provide an access easement to the City for water valve access and leak detection. The easement shall be reviewed and approved by the Planning and Legal Departments prior to acceptance by the City Council.*
 - 2.2 Neighboring parcel 209/32 shall have full legal access to the new private road and utilities.*
 - 2.3 The current 6" water connection in Cutts St shall be abandoned by the applicant entirely by removing the valve and bolting on a blind flange to the tee. This work must be completed no later than the end of May 2021 so that the final road pavement can be placed.*
 - 2.4 The Engineer of Record shall submit a written report (with photographs and engineer stamp) certifying that the stormwater infrastructure was constructed according to the approved plans and specifications and will meet the design performance.*
 - 2.5 All of the new sewer laterals means, methods, materials and installation shall be approved and witnessed by DPW prior to backfilling.*

- 2.6 Applicant shall enter into a maintenance agreement with the City of Portsmouth Water Division regarding hydrant flushing.*
- 2.7 Lot numbers as determined by the Assessor shall be added to the final plat.*
- 2.8 Property monuments shall be set as required by the Department of Public Works prior to the filing of the plat.*
- 2.9 GIS data shall be provided to the Department of Public Works in the form as required by the City.*
- 2.10 The final plat and all easement deeds shall be recorded concurrently at the Registry of Deeds by the City or as deemed appropriate by the Planning Department.*

IV. PUBLIC HEARINGS – NEW BUSINESS (Cont.)

- C. The application of the **Woodbury Cooperative, Inc.**, Owner, for property located at **1338 Woodbury Avenue** requesting Site Plan Review approval for the demolition of two existing structures and replacement and reconfiguration of existing mobile home units with associated grading, pavement, lighting, utilities, landscaping and other site improvements. Said property is shown on Assessor Map 237 Lot 70 and lies within the MRB District.



Description

The applicant is proposing to make modifications and updates to an existing mobile home park.

Technical Advisory Committee

TAC reviewed this application at the March 2, 2021 meeting and voted to recommend approval of the subdivision application along with the requested waivers with the following stipulations:

To be completed prior to Planning Board review

- 1) The pavement edge line should tie into the corner of the property at Old Woodbury Ave, rather than the edge of the abutter's driveway.

- 2) A stop sign and stop line should be provided on the driveway approach to Woodbury Ave.
- 3) Add a water shut off for unit 13 or the apartment building.
- 4) The 8" water main entering the site should be downsized immediately following the hydrant connection. The hydrant needs its own 6" gate valve (please show it) on the hydrant lateral. The 4" valve should be mounted directly behind the hydrant tee.
- 5) Flush valve detail references an 1.5" corporation in the main. Update detail to reflect 2" corporation with 2" copper water line to hydrant.
- 6) Plans shall note that the water main is to be bagged in poly wrap and three brass wedges shall be installed in each bell joint for water main tracing in the future per details approved by DPW.
- 7) The sewer service detail shall be revised to show that the concrete slab is not bonded to the sewer lateral. The 6" sewer should come through an 8" hole in the slab.
- 8) There needs to be a ball valve both before and after the water meter.
- 9) Water services to homes must be 1" or larger.

Recommended as conditions of Planning Board approval

- 10) Property owners shall provide an access easement to the City for water valve access and leak detection. The easement shall be reviewed and approved by the Planning and Legal Departments prior to acceptance by the City Council.
- 11) The services in Echo Ave shall be terminated to the satisfaction of Portsmouth Water and Sewer Divisions.
- 12) Sewer connections to the City sewer system need to be witnessed by Portsmouth Sewer. The entire system must be tested to ensure the system is tight with no groundwater leaks to the satisfaction of the City.
- 13) Work in the Portsmouth ROW's shall require excavation permits.
- 14) Contractor shall meet with Portsmouth Water Division before starting project.
- 15) Applicant shall enter into a maintenance agreement with the City of Portsmouth Water Division regarding hydrant flushing.

On March 5, 2021, the applicant submitted revised plans addressing items 1 to 9 to the satisfaction of the Planning Department and the DPW. The remaining items have been incorporated into the Planning Director recommendations below.

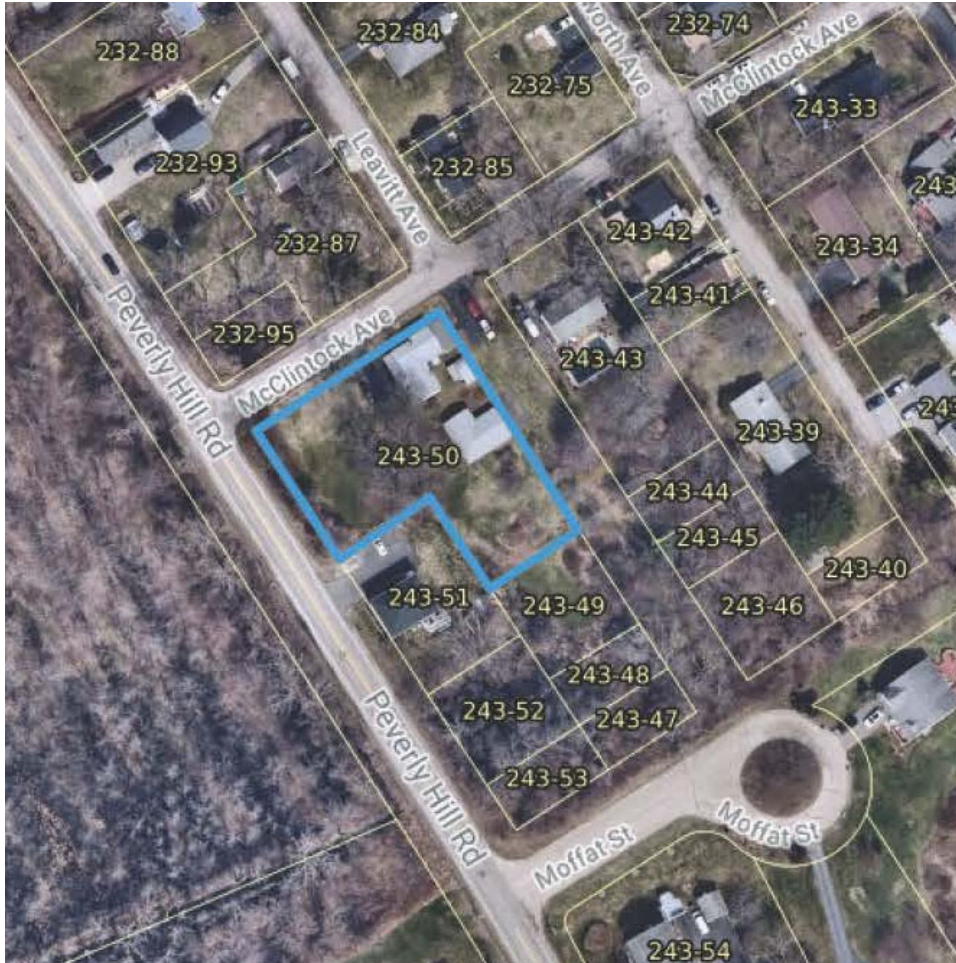
Planning Department Recommendation

Vote to grant Site Plan Review Approval with the following stipulations:

- 1. Property owners shall provide an access easement to the City for water valve access and leak detection. The easement shall be reviewed and approved by the Planning and Legal Departments prior to acceptance by the City Council.*
- 2. The services in Echo Ave shall be terminated to the satisfaction of Portsmouth Water and Sewer Divisions.*
- 3. Sewer connections to the City sewer system need to be witnessed by the Portsmouth Sewer Division. The entire system must be tested to ensure the system is tight with no groundwater leaks to the satisfaction of the City.*
- 4. Work in the City of Portsmouth right-of-way shall require excavation permits.*
- 5. Contractor shall meet with Portsmouth Water Division before starting project.*

V. CITY COUNCIL REFERRAL – PUBLIC HEARING

- A. Request of ASRT, LLC, Owner, for the restoration of involuntarily merged lots at 138 Leavitt Avenue to their pre-merger status pursuant to NH RSA 674:39-aa.**



Description

At its meeting on December 14, 2020, the City Council considered a request from Attorney Pelech on behalf of his client, requesting the restoration of involuntarily merged lots at 138 Leavitt Street to their pre-merger status pursuant to NH RSA 674:39-aa. The Council voted to refer this request to the Planning Board.

Statutory Requirements

RSA 674:39-aa requires the City Council to vote to restore “to their premerger status” any lots or parcels that were “involuntarily merged” by municipal action for zoning, assessing, or taxation purposes without the consent of the owner. Unlike all other lot divisions, there is no statutory role for the Planning Board in this process nor is there any requirement for the City to hold a public hearing. However, in Portsmouth the City Council has historically referred such requests to the Planning Board to conduct a public hearing.

The statute defines “voluntary merger” and “voluntarily merged” to include “any overt action or conduct that indicates an owner regarded said lots as merged such as, but not limited to, abandoning a lot line” (RSA 674:39-aa, I). It is therefore the City Council’s responsibility to determine whether a merger was voluntary (i.e., requested by a lot owner) or involuntary (implemented by the City without the owner’s consent). If the merger was involuntary, the Council must vote to restore the lots to their premerger status. Following such a vote, the City GIS and Assessing staff will update zoning and tax maps accordingly. It will then be up to the owner to take any further action to confirm the restoration to premerger status, such as recording a plan at the Registry of Deeds.

It is important to note that the granting of a request to restore lots to their premerger status does not mean that the resulting lots will be buildable or, if already developed, will conform to zoning. The statute states that “*The restoration of the lots to their premerger status shall not be deemed to cure any non-conformity with existing land use ordinances*” (RSA 674:39-aa, V). For example, the restored lots may not comply with current zoning requirements for lot area, frontage and depth, and the re-establishment of a lot line between any two premerger lots may introduce a new nonconformity with respect to maximum allowed building coverage or a minimum required side yard where a building already exists on one of the premerger lots. In such cases, the owner(s) of the applicable lot(s) would have to apply to the Zoning Board of Adjustment for the necessary variances to restore zoning compliance or to allow future development.

Assessing Department Review

The Assessing Department has reviewed the request and a memo from the City Assessor is included in the packet.

Planning Department Recommendation

Vote to recommend that the Council deny the request for restoration of involuntarily merged lots requested by the owner.

Izak Gilbo

From: Todd Baker <todd@bakerprop.com>
Sent: Wednesday, February 10, 2021 11:51 AM
To: Planning Info
Cc: dpinciario@comcast.net
Subject: 105 Bartlett Street

Hello Portsmouth Planning Department & Planning Board:

My company, Summit 501 Islington, LLC owns the 3 story office building at 501 Islington Street, which will be a neighbor to the proposed development at 105 Bartlett Street.

I'm writing to encourage the town and board to find solutions to allow the redevelopment of this area as proposed.

Portsmouth needs more housing and this site presents a great opportunity to upgrade from the existing, somewhat dirty, industrialized use, to attractive housing and recreational trails. This project will be a great step toward integrating the West End with the downtown area.

I hope that progressive minds will be flexible to find a compromise to help this project advance.

Thank you for helping Portsmouth change for the betterment of the community!

Todd Baker
For Summit 501 Islington, LLC

Izak Gilbo

From: Planning Info
Sent: Wednesday, February 10, 2021 7:57 AM
To: Izak Gilbo
Subject: FW: North Mill Pond Greenway - 105 Bartlett Street

From: Berry, James [mailto:JimBerry@SafetyInsurance.com]
Sent: Tuesday, February 9, 2021 4:04 PM
To: Planning Info <Planning@cityofportsmouth.com>
Subject: RE: North Mill Pond Greenway - 105 Bartlett Street

To the Conservation Commission Committee:

My name is Jim Berry and my wife, Leah and I live at 162 Mill Pond Way, Unit 4. We would like to express our support for the North Mill Pond Greenway/105 Bartlett Street project. We live across the water from where the project will take place. Currently, this area is very unpleasant looking, with overgrown landscape and industrial structures. We look out at a salt pile, the new parking garage, and untended areas that detract from the natural beauty of North Mill Pond, itself. We believe this project will make the entire Pond more attractive and visually appealing. The introduction of the park and walking area will open up the Pond to use by many more Portsmouth residents. One of our favorite activities is walking around our city and this project will allow us to do so without navigating the busy city streets. We believe this project should go forward and will be a very beneficial advancement for the City of Portsmouth.

Thank you.

Jim Berry

Jim Berry

CPCU
Underwriting Vice President

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Dear Conservation Commission,

This is what 50' to the water's edge really is. This water side of Great Rhythm Brewing permitted for outdoor seating in the 50' buffer. Building C will be taking Great Rhythm building's place. **The 14' wide multi-use path is proposed to be along where the Split Rail Fence is. As you can see 50' is quite close to the water!**



Sincerely,

Elizabeth Bratter
159 McDonough St
Portsmouth Property Owner

Anyone who has applied for a CUP to re-build or build something small within the 100' buffer will agree, it is unbelievable, after being told at the 3 Conservation Commission meetings, to move the "greenway" back; there are still over 6100 sf of buildings in the 100' buffer AND a 20' wide "greenway" in the 25 feet of the 25' to 50' buffer. ***The variance to reduce the setback to the RR tracks was to allow the buildings to move away from the Wetlands Buffer.*** Building C and B have not moved back at all!

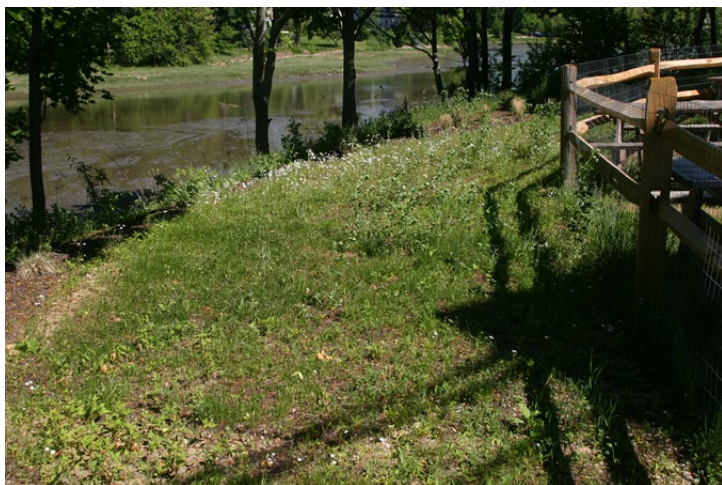
This site will be completely bull dozed, tons of fill brought in and huge areas covered in grass. There is no solar. No run-off use for watering. No preservation of clusters of trees, ground cover or shrubs! They are developers and their job it to paint the picture in their best interest. The City Staff paints the picture with specific goals and the various boards have to negotiate between all of them, the neighborhoods, and the environment. **Thank you and good luck!**

Many support the idea of the Greenway! Many support the development of this land. Even supporters from both abutting neighborhoods asked the entire area to be zoned CD4-L1, at the most CD4-L2 as Islington St. It sits directly between GRC and GRA neighborhoods. We were told the "**constraints of the lot**" would limit how big this development would get. One of the constraints of this land is the 100' buffer, on which the city allows very minimal construction, as found in Article 10, Section 10.1016. This was completely ignored by the developers. It's not even on the constraints plan!

The zoning states the development has to meet ALL the criteria to receive a wetland CUP. **Number 2 or 3 are not met. IF** the CUP and Site Plans **were approved** by this board, some community safety and neighborhood protections **could be added as "conditions of approval"**. **Here are three reasonable "conditions of approval"**.

This development shows **20 shared parking spaces** at the Ricci Lot, over 600' from the buildings. **THE SHARED SPACES MUST BE DEEDED or when Ricci changes names or sells, the shared parking does not have to be honored.** A "**condition of the approval**" could be: **the shared parking be deeded and every unit be assigned one parking space when they sign their lease.** Areas by the buildings should be marked "resident parking only". "Guest parking" should be clearly marked at the *shared Ricci Lot*. This may discourage those who live and visit Building A from parking on McDonough, Cabot, Dover and Salem St and crossing the RR tracks.

Complete restoration of the 25' to 50' buffer could be a "condition of approval". NO GRASS, grasses or wildflower mix, only native shrubs, ground covers and some native trees but actual good size plants. The silt in the pond is a deemed contaminated by NHDES, people and dogs sink in the silt quickly and time is of the essence to get them out. THIS condition will not only preserve the 25 and 50 buffer; *it affords a safety feature to help deter people from walking in the very sensitive 25' buffer.* The developer will be likely level this entire area to add pipes, the rain garden, culverts, etc.



On June 24, 2019 Great Rhythm Brewing came before this board regarding outdoor seating and lawn games. This board stipulated that a living sound barrier be planted to reduce the noise of *48 outdoor seats*. They did plant some "ornamental grasses" and a few about 12" flowering bushes. Decorative mulch was used instead of NHDES required wood chips, which caused direct run-off into the pond along with the dyed mulch, during heavy rain events. The Planning Board requirements were NOT met nor enforced! **NONE of these provided ANY sound protections OR wetland protections.** This area was presented as **720 sf**.

The proposed **seating area** is presented as **22,552 sf**. The proposed granite steps appear to sit 5' to 20' above the "greenway". It is being touted as a quiet area to sit and enjoy the beauty of the pond. *This area will act as an amphitheater and amplifier to the North Mill Pond, creating a serious negative impact for surrounding properties and the wetland itself.* As a "**condition of approval**", this seating area should be filled with some full size low growing trees or tall bushes to help dissipate the normal sounds of people talking while sitting there. **Any performances: acoustic, amplified or bands would**

NOT be a “natural extension of the use” for an area so close to a functioning wetland and two neighborhoods. **NO music or live entertainment should be allowed especially in light of over 300 people living there.** The Site Plan Review and the CUP include uses and impacts ON the wetlands protected in Article 10 AND **impacts on the surrounding properties.** When looking at the values and functions of the use within a wetland, *the adjacent land use* and associated interrelationships are to be considered as part of the functional values and *impacts of the wetland.* This seating area, as presented, will have negative impacts on the wetland AND both neighborhoods.

I appreciate the Planning Board has to balance a lot of issues. It is the two neighborhoods and the future of the North Mill Pond at stake. There will be 5 acres left to develop along the pond, most in the 100’ buffer and were previously shown as 7 buildings. This development’s standards set an expectation of what is yet to come!

The CUP:

2. There is an alternative location outside the 100’ buffer. The Planning Board granted a RR setback variance to provide room to do so. The 2 story Building A was the cheapest piece to remove! **The deterrent from moving Building C and especially Building B seems to be money.** Repeatedly asked to remove the 20’ wide “greenway” out of the 25’ to 50’ buffer by Conservation Commission because the 25’ wide buffer will be filled with 20’ of pavement/packed gravel and no vegetation (Portsmouth Wetlands at end) was ignored for Building B and C.

The money basics: 152 units, renting at a mere \$1000.00 a month would yield 1.8 million+/- dollars a year in rent alone. *When looking at development there is a return rate all developers are looking for.* I’m guessing the return on this development, once built, will begin within 5 year (\$9 million) *or less*, an excellent return! Making them rentals instead of condos helps to avoid Capital Gains Tax. The units depreciate over time, selling later allows deducting the expenses and the depreciation to reduce the tax rate. Owning the supply chain for construction products will allow for profit and losses from those “sales” as well. It’s a win-win! **Lack of space does not seem like the “real” reason!**

3. There WILL BE an adverse impact on the wetlands functional values of the site. They are removing a complete ecosystem which has existed for at least 50 year or more according to Ed Hayes’ history lesson. *“The proximity of development may alter wetland functions and values. Therefore, evaluation of the resources must consider not only the wetland but also adjacent land use and associated interrelationships”* (The Highway Methodology Handbook Supplement, pg 9). The list of functional values of a site as required per Portsmouth Zoning Ordinance 10.1017.42 as part of the Planning Board evaluation of a Wetland CUP process can be found at the end.

Some negatively impacted functions and values will be: **Floodflow**-ground water found at 5’ per the developer. Filling in 4.72 acres full of ground water with concrete will likely have flooding consequences for the development as well as the neighborhoods on both sides of the pond (FEMA Chapter 8 Floodplain Natural Resources and Functions)! **Wildlife habitat**-nesting and feeding will be completely removed. **Recreation is “consumptive”**- a 20’ wide path in the 100’ and 50’ buffers, all **Archaeological sites** will be removed, **Visual and Aesthetics** – It is assumed adding over 300 people and a greenway will increase noise generally to which neighbors will HAVE to acquiesce, **however added noise from the shape, materials and lack of vegetation of the “seating” area by itself, much less if used for other activities, is NOT,** thereby taking away from TWO existing quiet neighborhoods the right to quiet enjoyment of their properties.

Please seriously consider carefully adding neighborhood protections and community safety ideas as “conditions of approval” IF the Wetland CUP and Site Plans are approved.

Respectfully yours,

Elizabeth Bratter, 159 McDonough St,

Portsmouth Property Owner on both sides of the North Mill Pond (March 11, 2021 for **March 18, 2021 meeting**)

02/07/21

RE: 105 Bartlett St.

Elizabeth Bratter
159 McDonough St
Portsmouth Property Owner

Dear Members of the Conservation Commission,

As of this today there is nothing on the ConCom website to show what 105 Bartlett St will be presenting for the general public to review prior to sending in any comments, **THEREFORE this application should be postponed and updated!** The applicant was asked by TAC on 12/01/20 to make 41 changes to the design plans and on 02/02/21 about 20 more changes were discussed and added. **All changes should be updated on the design plans and then presented to the Conservation Commission.** Some of the changes brought forth included: changes to the width and possibly pavement of the “multi-use path”, changes to the replacements of invasive species within the 25’ buffer, snow removal of the proposed “multi-use path”, the addition of drainage next to the path, removal of trees from the Cabot St culvert, no trees were to be allowed in the View Corridor, only some of the changes requested by ConCom seem to have been put forth on the design plans.

I would like to compliment the developers for finally providing Plan A. This is what should have been presented in the beginning!

It is my understanding 105 is applying for a recommendation from the Conservation Commission to be allowed to move to Planning Board (02/18/21) to request a Wetlands Conditional Use Permit. This application does include demarcation of the 100’ wetland buffer along the North Mill Pond. **It does NOT include demarcation of the 100’ buffer around the over 4000 sf of inland palustrine wetland (see below) which exists within the former RR turnstile, which according to 10.1014.12 counts as a created wetland.**



At this point the applicant is not able to meet the criteria to receive a Condition Use Permit.

1. The presented "Wetlands Delineations and Functions and Values" report **does NOT meet the 13 required criteria of "The Highway Methodology Workbook Supplement"** in Article 10 Section 10.101722 (3) and Article 10 Section 10.1017.42 as an approval requirement.

<https://www.nae.usace.army.mil/Portals/74/docs/regulatory/Forms/HighwaySupplement6Apr2015.pdf>
(pg 4, 5 of workbook)

The workbooks specifically states: **"The proximity of the development may alter wetland functions and values. Therefore, evaluation of the resource must consider not only the wetland, but also the adjacent land use and associated interrelationships"**. Many of these impacts have been presented by ConCom: nutrient removal, consumptive recreation, visual quality/aesthetics, uniqueness/heritage and seemed dismissed by the applicant.

2. It has been shown there are many alternative locations for the positioning of these buildings and roads, all out of the 100' wetland buffer.

Cutting Building C by 55' does NOTHING for the buffer; it just provides more lawn and less availability of continued use by wildlife and natural vegetation in the buffer. Moving both Buildings C and B out of the 100' buffer MAY help *reduce the permanent impact on the 50' buffer*, providing the **Least Environmentally Damaging Practicable Alternatives (LEDPA)**. AS a stipulation of the CUP it should be required that NO mechanical equipment be used within the 0-50' buffer, other than during installation of the culvert. All other work should be moved to the 50 to 100' buffer.

The road from Bartlett St to proposed Building C is not only in the 100' buffer but actually runs mostly in the 50' and 25' buffer. The road could run parallel to the Railroad Tracks and would only involve moving storage sheds. This development is willing to move storage sheds for its benefit! This too would provide **LEDPA**.

3. It was stated at the TAC meeting on 02/02/21, the only restoration of the shoreline will take place where the culverts are installed. This will involve properly removing invasive species and replacing them with wildflower mix. When asked were plants going to be used for larger areas, it was stated the invasive species areas are not that big. **Funny how building this development here was justified by stating it was mostly invasives and therefore didn't need to be preserved!**
4. I have not seen **an independent** New Hampshire certified wetland scientist report regarding this area. The report presented was created by the same engineering firm representing the applicants.
5. The proposed area to be developed is a natural flood plain. This area has never flooded per the owners of said property which also indicates its ability to manage water properly. There is NO ground water or flood flow alterations report in the presented environmental report. What is going to happen to all the water that was absorbed there when around 30,000sf are filled with cement to create an underground garage?
6. Article 10 Section 10.1017.50 (4) is not met. *Even the proposed raingarden and granite sitting area will remove a large portion of natural vegetation and trees in the 50' buffer!* **All the drainage needed will require digging up the 25 to 50' buffer zone!** Based on what has been presented so far the entire area from 25 to 100' of the buffer will be bull dozed; 38 trees, some shrubs and large portions of GRASS will be replanted! No preservation of anything!

Thank you for your time!!

Respectfully,
Elizabeth Bratter

Izak Gilbo

From: Planning Info
Sent: Thursday, January 28, 2021 3:56 PM
To: Izak Gilbo
Subject: FW: 105 Bartlett St

Hi Izak, I know this is to the PB but I know it is still with Con Com so thought I would send to you. Thanks,
Tracy

From: Carol Clark [mailto:carol.clark1@comcast.net]
Sent: Thursday, January 28, 2021 3:04 PM
To: Planning Info <Planning@cityofportsmouth.com>
Subject: 105 Bartlett St

To Planning Board members

There are still some concerns for the proposed development and the new buildings not adhering to 100' wetland buffer as well as impervious surfaces not conforming to current regulations See below

Building B has NOT moved and is still the SAME square feet(19,214,) **still in 100' buffer.**

B and C together estimated over **5200sf still in the 100' buffer** (plus the enlarged fire road) If you own a 40' wide property and add a shed in the wetlands it would be take up **around 4% of the wetlands** buffer. **Most importantly the existing impervious surfaces on 105 Bartlett are Non-Conforming, all their buildings will be new and should follow the wetlands and building regulations of current regulations.**

Please review the current proposal and uphold current regulations, especially regarding the 100' wetland buffer

Thankyou
Carol Clark
28 Rockingham St
Portsmouth NH

Izak Gilbo

From: Planning Info
Sent: Wednesday, February 10, 2021 7:55 AM
To: Izak Gilbo
Subject: FW: North Mill Pond project

From: Jeff Collins [mailto:jeffreycollins@yahoo.com]
Sent: Tuesday, February 9, 2021 5:26 PM
To: Planning Info <Planning@cityofportsmouth.com>
Subject: Re: North Mill Pond project

Hi Tracy

Its about the 105 Bartlett street project. Please send it to The Conservation Commission , the Planning Department or anyone else who might be involved .

Thanks

Jeff Collins
c. 774.278.8676
w. 603.435.3900 x100

On Tuesday, February 9, 2021, 10:42:20 AM EST, Planning Info <planning@cityofportsmouth.com> wrote:

Hello Jeff,

Please be specific on what address you are referring to and what Board/Commission you would like to receive this email. Thank you,

Tracy

From: Jeff Collins [<mailto:jeffreycollins@yahoo.com>]
Sent: Monday, February 8, 2021 5:48 PM
To: Planning Info <Planning@cityofportsmouth.com>
Subject: North Mill Pond project

Good Evening,

I recently had a chance to review the plans for the proposed Greenway and North Mill Pond project. It appears that the developer has a good plan that will be a big improvement over the mess that exists along the tracks right now, The sooner this gets cleaned up the better! The Greenway will be an awesome way for both local's and visitors to make their way safely from the West End to Downtown and back, I will miss having Great Rhythm around though.

Jeff Collins

55 Pine Street

Portsmouth

c. 774.278.8676

w. 603.435.3900 x100

Izak Gilbo

From: Peter L. Britz
Sent: Friday, February 5, 2021 10:42 AM
To: Izak Gilbo
Cc: Jillian Harris; Juliet T.H. Walker
Subject: FW: North Mill Project (105 Bartlett)

[Here is public comment for 105 Bartlett](#)

From: Ryan Costa [mailto:ryancosta89@gmail.com]
Sent: Friday, February 5, 2021 10:39 AM
To: Peter L. Britz
Subject: North Mill Project (105 Bartlett)

Hello!

I am still not 100% positive that this is the right means of communication, but I did want to write in support of the project at 105 Bartlett, or the North Mill Pond project.

While I understand the short term impact and destruction of the environment for the project to get underway, I believe the long term benefits far outweigh this negative.

For instance, I believe that 21st century living goals maintain that we should do our part to limit our footprint, reduce carbon emissions, and do our best to increase density within our community. This project works to combine those efforts, and is also a strong link between downtown and the West End Yards. The Islington corridor also becomes more negotiable for walkers/bikers with the continuation of the greenway.

The overall impact here suggests more people would be able to walk to pick up groceries and enjoy all the things in this area of town without taking a car and having to find parking.

The negative aspects of this project are definitely harmful in the short term. I think that construction on the wetlands and demolishing existing structures is not something that is at the heart of conservation efforts, however, the long term benefits as I've highlighted will be felt for years to come.

Another argument I have heard against this project is how it looks to residents of the neighborhood. The overall scope of the project seems to be too large for some, but to me this sounds like a bad faith argument. I think that the look of the project is fitting with that of the city, and while it might appear humongous, currently the buildings surrounding that area are dilapidated and underused (though I love Play All Day and Great Rhythm!).

I own my home just up the way on the same side of the mill pond (Hill Street), and really think that this would help create some necessary cohesion between the West End and Downtown.

Overall, I hope that some iteration of this project can occur because I think that area needs to have some aspects redesigned.

Thank you for your time,

Ryan Costa

126 Hill Street

Izak Gilbo

From: Planning Info
Sent: Wednesday, February 10, 2021 7:54 AM
To: Izak Gilbo
Subject: FW: 105 Bartlett Street Project - support

From: Gregory C. DeSisto [mailto:gregory.desisto@primebuchholz.com]
Sent: Tuesday, February 9, 2021 6:17 PM
To: Planning Info <Planning@cityofportsmouth.com>
Cc: Doug Pinciario <dpinciario@comcast.net>
Subject: 105 Bartlett Street Project - support

To Whom it may concern,

I'm writing in support of the project at 105 Bartlett Street. The proposed project balances the interest of all stakeholders involved. It represents a significant improvement to existing property from both a usage and environmental standpoint. There have been substantial revisions to the plan from its inception to the current plan which not only makes the plan viable, but also represents meaningful improvements to all aspects of the property.

Sincerely,
Greg DeSisto
36 Shaw Road
Portsmouth, NH 03801

Gregory C. DeSisto
Managing Principal
Prime Buchholz LLC
Pease International Tradeport
273 Corporate Drive
Portsmouth, NH 03801
603-433-1143
greg@primebuchholz.com

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Izak Gilbo

From: Planning Info
Sent: Wednesday, February 10, 2021 7:49 AM
To: Izak Gilbo
Subject: FW: West End Landing Project/North Mill Pond Greenway

From: Susan Frohn [mailto:sue.frohn@gmail.com]
Sent: Wednesday, February 10, 2021 5:53 AM
To: Planning Info <Planning@cityofportsmouth.com>
Subject: West End Landing Project/North Mill Pond Greenway

Dear Conservation Commission members,

My name is Susan Frohn and I live at 86 Meadow Rd Portsmouth, NH.

I am writing this on behalf of the West End Landing/North Mill Pond Greenway project.

Having grown up and lived in Portsmouth most of my life I have seen many changes in Portsmouth. Some I liked and some not so much.

This particular area has over the years been an eyesore, polluted and a hazard. With care and a lot of work by the community it has been revitalized except for the parcel wishing to be developed. These developers have a vision. They have amended, sought consultation, and listened to community members to provide the most conscientious living, business and green space for the city. I think of no better way to take what is now a dumping ground for people's trash and an area that is unsafe with undesirable behavior going on and make it a beautiful green and living space for all to enjoy.

The city has allowed hotel after hotel, luxury condos and other buildings to crowd the downtown making it gray and dark. Even on a sunny day there is barely any sunlight shining through what is now a concrete jungle. Why would you not allow a "Breath of Fresh Air" with this development and green space while providing essential living spaces that the city keeps clamoring for?

Please consider this opportunity for all the benefits it will lend to the city and its residents.

I appreciate your time.
Best Regard,

Susan Frohn

Izak Gilbo

From: Abigail Gindele <agindele@gmail.com>
Sent: Monday, February 8, 2021 4:18 PM
To: Planning Info
Subject: For the Conservation Commission -- RE: 105 Bartlett St

Dear Conservation Commission,

I am horrified and saddened by the environmental impact the 105 Bartlett St proposal will have on the North Mill Pond and disgusted by Clipper Traders et al's denial of the impacts. Why is dismissal of the 100' setback even being considered? Setbacks are about viable ecosystems, not just drainage. If setbacks are too narrow, they can't act as they should. There has to be a critical mass to be effective.

The North Mill Pond is its own entity. Its shoreline, as it exists now with the thickets of trees, shrubs, and grasses, is incredibly valuable for the wildlife and ecosystem of the Pond. Actually, it's more valuable than ever for the whole city because trees, shrubs, and native plants/grasses are being ripped out at every new building or park site around the City. If the pandemic has taught us anything, it is that people need and want the outdoors and nature, not just some sidewalk bordered by lawn. Instead, we should be doing more to clean up and reduce the human damage inflicted on the habitat along the Mill Pond's entire shoreline.

In reference to criteria the Zoning Ordinance requires:

"The land is reasonably suited to the use, activity or alteration."

This land is not suited for excavation because of high ground water levels and man-made toxins stored in the soil. It is also not suited for a raise in grade, let alone the proposed 17' increase. All the drainage plans in the world can't nullify building a mountain where there isn't one and then covering it with impervious structures and paving. How will this play out for the McDonough neighborhood? And increasing runoff and adding more drainage locations into the Mill Pond is their idea of improving water quality. The track record of care for the Mill Pond from the Clipper Traders individuals is a bad omen.

The added sound and light pollution from the dense development will further destroy the North Mill Pond ecosystem.

Also, from a tax payer perspective, the grade increase would be detrimental to all surrounding property values on both sides of the Pond. Not only is the actual building complex taller than anything nearby, but then add 17' more of height in grade change. Suddenly, there would be a behemoth that geologically and geographically does not belong.

"There is no alternative location outside the wetland buffer that is feasible and reasonable for the proposed use, activity or alteration."

Yes, there are alternatives, and plenty of people have made suggestions. Perhaps the builders/architects aren't creative enough. Or maybe Clipper Traders et al only care about making as much money as possible, while they live elsewhere.

But, backing up a tad, why should it be assumed they can build on it at all, alternative location or not? If it breaks the laws, they shouldn't have bought the property for that purpose to begin with. Just because they thought they could get away with it, we should let them?

Maybe the City could offer them a reasonable price for their unbuildable land and live up to its own *2007 Resolution and Declaration of Portsmouth As An Eco-Municipality* and put in a pedestrian way that is NOT within the 100' set back (let alone within the 50' setback currently offered up). And then the habitat could be saved and improved. And Portsmouth could keep a real gem!

"There will be no adverse impact on the wetland functional values of the site or surrounding properties."

The density of the project is not suitable for the ecosystem of the Pond. On one side of the Pond, there are about 25 dwellings for the whole shoreline, most adhering to setbacks or grandfathered in, but many with significant vegetation along the shoreline. If you take the same area of land across the Pond from the proposed project (similar shoreline and non-shore), you find about 14 houses. In that same land mass of 14 homes, the 105 Bartlett project far exceeds this in dwellings and all the hardscaping that goes with it. That's about a 1200% increase in home density for just that area.

The light pollution from those dwellings and all the accompanying all-night lighting for parking lots and walkways would be devastating for the habitat. Learn the lessons from the Foundry Garage.

The high density of human activity would be disruptive and destructive to Mill Pond habitat. Some years back, Ed Hayes had trees and shrubs cleared out (illegally?) along the shoreline for his incoming tenant (Great Rhythm). Between the loss of vegetation and increased human activity there, the nesting area for the great blue heron is gone! Last spring, perching on and soaring over the secluded remnants of the old Turntable building, I counted 14 turkey vultures. Sightings like this give Portsmouth its soul and therefore create its value (if you need a monetary reason). The North Mill Pond ecosystem is important!

When was the last time someone said "wow, thank goodness we tore up all that natural landscape to put in a development"? Whereas, you hear praise of foresight for saving our natural areas and wilderness ALL the time!

"Alteration of the natural vegetative state or managed woodland will occur only to the extent necessary to achieve construction goals"

This whole project is designed to destroy habitat well within the 25' setback, let alone the 50'. What happened to the required 100' setback? Clipper Traders et al shouldn't have even entertained this project, as they've proposed it so far. The buildings themselves sit on or go inside the 50' marker. The destruction from construction will get much closer to the shoreline. Construction vehicles and practices are all about speed and easy access. They will destroy everything around them. Have you been to any of the sites in town?! And they're planning to raise the grade so much; what about all those slopes? Once the construction starts and all that area is torn up, the habitats will be destroyed and wildlife killed or driven off.

And then there's the "greenway." No one wants to get away from vehicle traffic more than me. However, some city leaders seem to be trading away the North Mill Pond ecosystem to get this greenway which has now actually turned into a wide, paved, fire access road. And its proposed landscaping looks like the typical, sterile, office-park landscaping job that is the farthest thing from a native habitat. Even if it were just a path for pedestrian use, it should be completely outside the 100' zone because of the human activity and environmental impact. But now, it's a very wide, impervious road that requires all types of maintenance, goes between tall buildings and mowed lawns, and doesn't resemble any part of a natural shoreline.

The Clipper Traders et al proposal boasts of public access and educational possibilities – making the reader think they’re going to be improving the shoreline, all the while neglecting to clean up the human trash they've let accumulate. I’m really tired of people selling recreational access as an improved environment. We need to think about the ecosystem and what it needs, not what we can get out of it. When we do take the generous, stewardship direction, not only does nature do better, but we get more existential benefits in the short and long run.

Thank you from a concerned Portsmouth resident,

Abigail Gindele,

229 Clinton St

Izak Gilbo

From: Planning Info
Sent: Wednesday, February 10, 2021 7:56 AM
To: Izak Gilbo
Subject: FW: Submission for the Conservation Commission meeting on 2/10/2021

From: Catherine Harris [mailto:prized@comcast.net]
Sent: Tuesday, February 9, 2021 5:12 PM
To: Planning Info <Planning@cityofportsmouth.com>
Subject: Submission for the Conservation Commission meeting on 2/10/2021

Dear Conservation Commission Members,

The fate of the North Mill Pond, it's environs and the many habitats it supports now rests solely in your hands. Will you uphold the 100' setback that many residents have spent the last three years begging you to do, or will you be swayed by the money?

I don't mean to sound so blunt, but our city is on the verge of destroying a vitally important resource that will never fully recover without the protections we are lobbying for. Where would you expect the wildlife to go once these very large buildings with their attendant people, noise, lights, traffic etc... invade their habitat? Is our ever dwindling regard for the environment to continue in the form of this development? Are we really that short sighted?

Frankly, I'm weary of begging city officials to do what is right. I'm discouraged that what's required for residents in terms of the 100' wetland setbacks may not end up applying to development interests with lots of money to throw around. And that would be a real travesty.

Please uphold your own regulations and deny the CUP request for the 105 Bartlett Street development project. Your commission holds the last hope for the North Mill Pond.

Sincerely,
Catherine(Kate) Harris
166 Clinton Street, Portsmouth

* Please share this letter with the Planning Board for their upcoming meeting on Feb.18th, 2021

From: [Catherine Harris](#)
To: [Planning Info](#)
Subject: Fwd: Conservation Commission meeting on 12/9/2020
Date: Friday, January 29, 2021 12:45:26 PM

I would like this letter re - submitted for the 2/2/21 TAC meeting as well. The latest development plans that have been drawn up for the 105 Bartlett Street project are STILL in the 100' wetlands buffer zone! The city needs to uphold it's own regulations and deny these developers a CUP for that property.

Thank you,
Catherine Harris

Begin forwarded message:

From: Catherine Harris <prized@comcast.net>
Subject: Conservation Commission meeting on 12/9/2020
Date: December 6, 2020 at 10:32:57 AM EST
To: Planning Info <planning@cityofportsmouth.com>

Dear Commission members,
This is one more submission for your upcoming meeting on 12/9/2020

After reading the 12/3/2020 staff report addressed to you from Peter Britz, I feel I need to address a few items in that memo.

The word "derelict" comes up 3 times in that memo. While I cannot speak to the former railroad property, I must comment on that land portion belonging to the owner of Ricci Lumber. It has long gone without maintenance by HIS choice. In addition to the large amounts of trash that have piled up over the years, there is the detritus from the business itself. The owner has had ample opportunities to improve the condition of his property, but has instead allowed it to deteriorate over time - willful neglect. So I find it a bit disingenous to now suddenly tie this proposed development to site enhancement. How do massive buildings in an environmentally sensitive area qualify in that regard?

Again in this memo, there is mention of reduction of impacts in the 100' wetland buffer. Per the city's own regulations, there should be NO negative impacts in this zone. What is the deciding factor between compliance to those regulations that ALL residents who live along the North Mill Pond are bound and proposed commercial development along that same pond - money?

Again, I urge you to vote in favor of conservation as your commission was set up to do. Listen to your fellow Portsmouth residents who have devoted so much time and energy into improving the quality of this tidal marine estuary habitat. Listen to their pleas for responsible development over the last three years and act on it.

Thank you again.
Sincerely,
Catherine Harris
166 Clinton Street

Izak Gilbo

From: Planning Info
Sent: Wednesday, February 10, 2021 7:57 AM
To: Izak Gilbo
Subject: FW: 105 Bartlett Project

From: Hayes, Kathleen [mailto:Kathleen.Hayes@peoples.com]
Sent: Tuesday, February 9, 2021 4:19 PM
To: Planning Info <Planning@cityofportsmouth.com>
Subject: 105 Bartlett Project

To Whom It May Concern:

I am writing as a business leader in the City to express support for the proposed 105 Bartlett/Residences at Islington Creek project. I was born and raised in Portsmouth and can attest to the dramatic and transformative improvements that these developers have made to the Northern Tier, taking it from an underutilized waterfront area that had previously been a rather unwelcoming and unappealing gateway, to a vibrant extension of the downtown, consistent with the North End Vision Plan. This new revised project represents a continuation of this vision by providing a greenway with public access to the North Mill Pond and pedestrian/bicycle access to the West End, to be enjoyed by residents, those who work in Portsmouth, and visitors as well, while also offering the much needed addition of mixed income, multi-family units to the housing inventory. Currently, this site is a rather intimidating wasteland of older industrial buildings, decrepit and abandoned railroad facilities and overgrown vegetation. What an enhancement to the City it will be to have this essentially unnoticed but vulnerable waterfront environment cleaned up and accessible to the public.

I am very familiar with these developers and their solid track record of creating new, vibrant neighborhoods, producing high quality projects, living up to their commitments, and being actively involved in the community. They listen and seek to respond thoughtfully and collaboratively to input and feedback, as they have done with this project, reducing the number of units and eliminating office space, thus reducing the size of the project significantly from the original proposal. These are certainly the right folks to undertake a project of this impact and I have no doubt that the finished product will be a wonderful asset to the City, the culmination of many years of planning that will be enjoyed by multi-generational residents and members of the public.

I am in full support of this project and the granting of the requested Conditional Use Permit.

Thank you for your consideration.

Kathleen R. Hayes
Senior Vice President / Region Manager

325 State Street | Portsmouth, NH 03801
m: 603.247.5894



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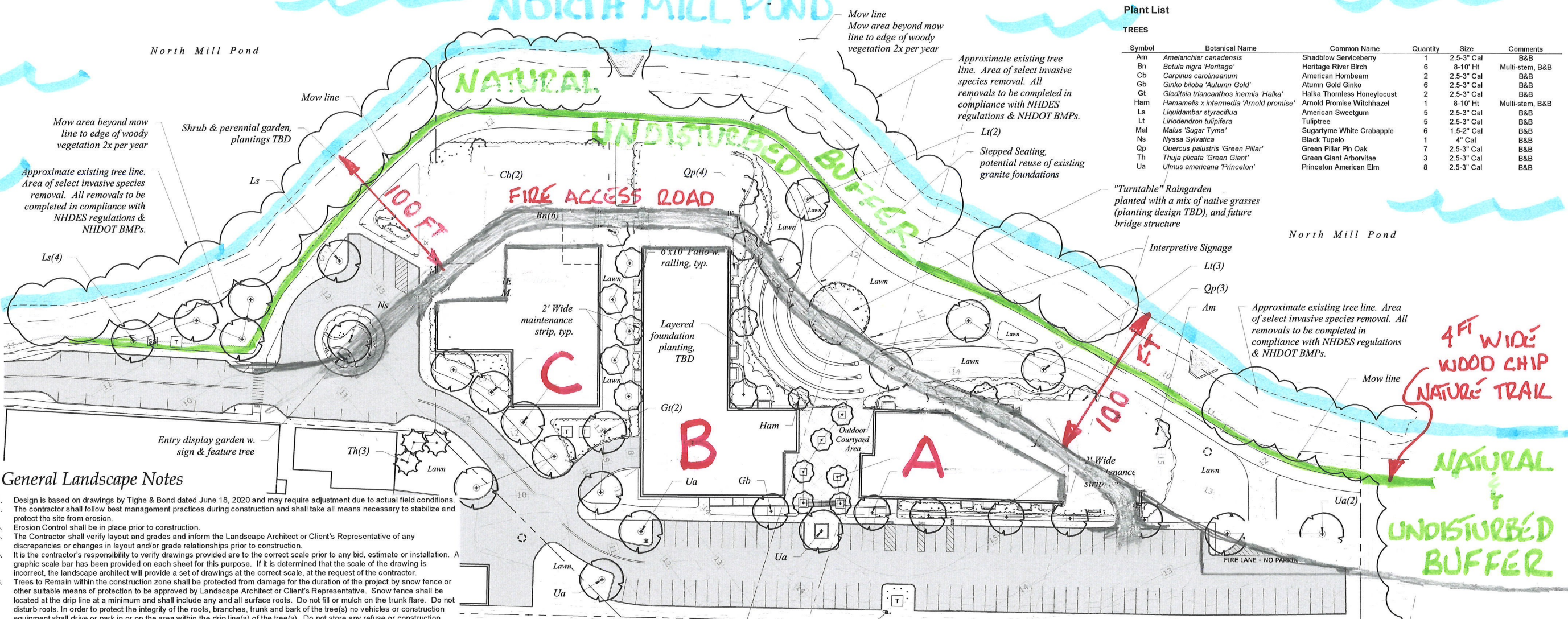
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NORTH MILL POND



General Landscape Notes

- Design is based on drawings by Tighe & Bond dated June 18, 2020 and may require adjustment due to actual field conditions.
- The contractor shall follow best management practices during construction and shall take all means necessary to stabilize and protect the site from erosion.
- Erosion Control shall be in place prior to construction.
- The Contractor shall verify layout and grades and inform the Landscape Architect or Client's Representative of any discrepancies or changes in layout and/or grade relationships prior to construction.
- It is the contractor's responsibility to verify drawings provided are to the correct scale prior to any bid, estimate or installation. A graphic scale bar has been provided on each sheet for this purpose. If it is determined that the scale of the drawing is incorrect, the landscape architect will provide a set of drawings at the correct scale, at the request of the contractor.
- Trees to Remain within the construction zone shall be protected from damage for the duration of the project by snow fence or other suitable means of protection to be approved by Landscape Architect or Client's Representative. Snow fence shall be located at the drip line at a minimum and shall include any and all surface roots. Do not fill or mulch on the trunk flare. Do not disturb roots. In order to protect the integrity of the roots, branches, trunk and bark of the tree(s) no vehicles or construction equipment shall drive or park in or on the area within the drip line(s) of the tree(s). Do not store any refuse or construction materials or portalets within the tree protection area.
- This plan is for review purposes only, NOT for Construction. Construction Documents will be provided upon request.
- Location, support, protection, and restoration of all existing utilities and appurtenances shall be the responsibility of the Contractor.
- The Contractor shall verify exact location and elevation of all utilities with the respective utility owners prior to construction. Call DIGSAFE at 1-888-344-7233.
- The Contractor shall procure any required permits prior to construction.
- Prior to any landscape construction activities Contractor shall test all existing loam and loam from off-site intended to be used for lawns and plant beds using a thorough sampling throughout the supply. Soil testing shall indicate levels of pH, nitrates, macro and micro nutrients, texture, soluble salts, and organic matter. Contractor shall provide Landscape Architect with test results and recommendations from the testing facility along with soil amendment plans as necessary for the proposed plantings to thrive. All loam to be used on site shall be amended as approved by the Landscape Architect prior to placement.
- Contractor shall notify landscape architect or owner's representative immediately if at any point during demolition or construction a site condition is discovered which may negatively impact the completed project. This includes, but is not limited to, unforeseen drainage problems, unknown subsurface conditions, and discrepancies between the plan and the site. If a contractor is aware of a potential issue, and does not bring it to the attention of the landscape architect or owner's representative immediately, they may be responsible for the labor and materials associated with correcting the problem.
- The Contractor shall furnish and plant all plants shown on the drawings and listed thereon. All plants shall be nursery-grown under climatic conditions similar to those in the locality of the project. Plants shall conform to the botanical names and standards of size, culture, and quality for the highest grades and standards as adopted by the American Association of Nurserymen, Inc. in the American Standard of Nursery Stock, American Standards Institute, Inc. 230 Southern Building, Washington, D.C. 20005.
- A complete list of plants, including a schedule of sizes, quantities, and other requirements is shown on the drawings. In the event that quantity discrepancies or material omissions occur in the plant materials list, the planting plans shall govern.
- All plants shall be legibly tagged with proper botanical name.
- The Contractor shall guarantee all plants for not less than one year from time of acceptance.
- Owner or Owner's Representative will inspect plants upon delivery for conformity to Specification requirements. Such approval shall not affect the right of inspection and rejection during or after the progress of the work. The Owner reserves the right to inspect and/or select all trees at the place of growth and reserves the right to approve a representative sample of each type of shrub, herbaceous perennial, annual, and ground cover at the place of growth. Such sample will serve as a minimum standard for all plants of the same species used in this work.
- No substitutions of plants may be made without prior approval of the Owner or the Owner's Representative for any reason.
- All landscaping shall be provided with the following:
 - Outside hose attachments spaced a maximum of 150 feet apart, and
 - An underground irrigation system, or
 - A temporary irrigation system designed for a two-year period of plant establishment.
- If an automatic irrigation system is installed, all irrigation valve boxes shall be located within planting bed areas.
- The contractor is responsible for all plant material from the time their work commences until final acceptance. This includes but is not limited to maintaining all plants in good condition, the security of the plant material once delivered to the site, and watering of plants. Plants shall be appropriately watered prior to, during and after planting. It is the contractor's responsibility to provide clean water suitable for plant health from off site, should it not be available on site.
- All disturbed areas will be dressed with 6" of topsoil and planted as noted on the plans or seeded except plant beds. Plant beds shall be prepared to a depth of 12" with 75% loam and 25% compost.
- Trees, ground cover, and shrub beds shall be mulched to a depth of 2" with one-year-old, well-composted, shredded native bark not longer than 4" in length and 1/2" in width, free of woodchips and sawdust. Mulch for ferns and herbaceous perennials shall be no longer than 1" in length. Trees in lawn areas shall be mulched in a 5' diameter min. saucer. Color of mulch shall be black.
- In no case shall mulch touch the stem of a plant nor shall mulch ever be more than 3" thick total (including previously applied mulch) over the root ball of any plant.
- Secondary lateral branches of deciduous trees overhanging vehicular and pedestrian travel ways shall be pruned up to a height of 6' to allow clear and safe passage of vehicles and pedestrians under tree canopy. Within the sight distance triangles at vehicle intersections the canopies shall be raised to 8' min.
- Snow shall be stored a minimum of 5' from shrubs and trunks of trees.
- Landscape Architect is not responsible for the means and methods of the contractor.

105 BARTLETT ST.

City of Portsmouth Landscape Notes

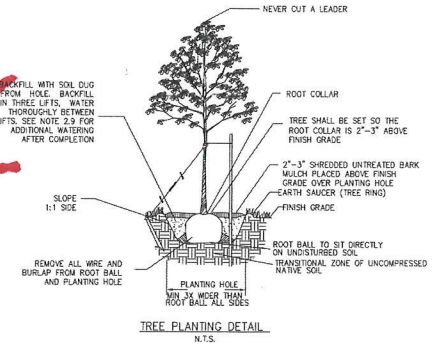
- The property owner and all future property owners shall be responsible for the maintenance, repair and replacement of all required screening and landscape materials.
- All required plant materials shall be tended and maintained in a healthy growing condition, replaced when necessary, and kept free of refuse and debris. All required fences and walls shall be maintained in good repair.
- The property owner shall be responsible to remove and replace dead or diseased plant materials immediately with the same type, size and quantity of plant materials as originally installed, unless alternative plantings are requested, justified and approved by the Planning Board or Planning Director.

A PLAN THAT "WORKS"

12-5-2020

JAH

City of Portsmouth Tree Planting Detail



Plant List

Symbol	Botanical Name	Common Name	Quantity	Size	Comments
Am	<i>Amelanchier canadensis</i>	Shadblow Serviceberry	1	2.5-3" Cal	B&B
Bn	<i>Betula nigra</i> 'Heritage'	Heritage River Birch	6	8-10' Ht	Multi-stem, B&B
Cb	<i>Carpinus carolinianum</i>	American Hornbeam	2	2.5-3" Cal	B&B
Gb	<i>Ginkgo biloba</i> 'Autumn Gold'	Autumn Gold Ginkgo	6	2.5-3" Cal	B&B
Gt	<i>Gleditsia triacanthos inermis</i> 'Halka'	Halka Thornless Honeylocust	2	2.5-3" Cal	B&B
Ham	<i>Hamamelis x intermedia</i> 'Arnold promise'	Arnold Promise Witchhazel	1	8-10' Ht	Multi-stem, B&B
Ls	<i>Liquidambar styraciflua</i>	American Sweetgum	5	2.5-3" Cal	B&B
Lt	<i>Liriodendron tulipifera</i>	Tuliptree	5	2.5-3" Cal	B&B
Mal	<i>Malus</i> 'Sugar Tyme'	Sugar Tyme White Crabapple	6	1.5-2" Cal	B&B
Ns	<i>Nyssa sylvatica</i>	Black Tupelo	1	4" Cal	B&B
Qp	<i>Quercus palustris</i> 'Green Pillar'	Green Pillar Pin Oak	7	2.5-3" Cal	B&B
Th	<i>Thuja plicata</i> 'Green Giant'	Green Giant Arborvitae	3	2.5-3" Cal	B&B
Ua	<i>Ulmus americana</i> 'Princeton'	Princeton American Elm	8	2.5-3" Cal	B&B

"Turntable" Raingarden planted with a mix of native grasses (planting design TBD), and future bridge structure

Interpretive Signage

Li(3)

Qp(3)

Am

Approximate existing tree line. Area of select invasive species removal. All removals to be completed in compliance with NHDES regulations & NHDOT BMPs.

4 FT WIDE WOOD CHIP NATURE TRAIL

NATURAL UNDISTURBED BUFFER

Mow line

2' Wide maintenance strip

FIRE LANE - NO PARKING

Ua(2)

North Mill Pond

Steepped Seating, potential reuse of existing granite foundations

Li(2)

Approximate existing tree line. Area of select invasive species removal. All removals to be completed in compliance with NHDES regulations & NHDOT BMPs.

Mow line

Mow area beyond mow line to edge of woody vegetation 2x per year

Approximate existing tree line. Area of select invasive species removal. All removals to be completed in compliance with NHDES regulations & NHDOT BMPs.

Mow area beyond mow line to edge of woody vegetation 2x per year

Shrub & perennial garden, plantings TBD

North Mill Pond

North Mill Pond

North Mill Pond

North Mill Pond

North Mill Pond

North Mill Pond

North Mill Pond

North Mill Pond

North Mill Pond

North Mill Pond

North Mill Pond

North Mill Pond

North Mill Pond

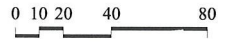
North Mill Pond

North Mill Pond

North Mill Pond

North Mill Pond

North Mill Pond



Proposed Multi-Family Development

LANDSCAPE PLAN

105 Bartlett Street Portsmouth, New Hampshire

Drawn By: VM
 Checked By: RW
 Scale: 1" = 40' - 0"
 Date: May 20, 2020
 Revisions: October 28, 2020

L-1

Izak Gilbo

From: JAH <samjakemax@aol.com>
Sent: Tuesday, February 9, 2021 9:14 PM
To: Izak Gilbo; Peter L. Britz
Subject: 105 Bartlett Street Conservation Commission Meeting February 10. 2021
Attachments: A Plan That Works 12.5.2020.pdf

Please forward this email and attachment to all members of the Conservation Committee.

Kindly reply with confirmation of the time and date this information was forwarded to each ConCom member. Thank you

Dear Conservation Commission Members:

At the May or June Conservation Committee meeting last year, a Committee member asked Cathartes why the proposed development could not be built completely outside the North Mill Pond 100 foot wetlands setback buffer. Cathartes's reply was because their wetlands buffer destroying building footprint was the only one that "works". Translation ? A project complying with Portsmouth's North Mill Pond wetlands buffer will make us millions, but we want to make 10's of millions.

Please don't allow the senseless destruction of acres of precious and irreplaceable marine estuary habit . Tell Cathartes Portsmouth's estuary uplands are not going to be destroyed for their profit.

Regards,

Jim Hewitt

P.S. The attached plan would "work" just fine.

Izak Gilbo

From: Planning Info
Sent: Wednesday, February 10, 2021 7:50 AM
To: Izak Gilbo
Subject: FW: North Mill Pond project - 152 Unit Plan

From: Jerry Karcher [mailto:jkarcher@hsjkcpas.com]
Sent: Tuesday, February 9, 2021 9:16 PM
To: Planning Info <Planning@cityofportsmouth.com>
Subject: North Mill Pond project - 152 Unit Plan

Conservation Commission members:

I would like to take a moment to express my support for this 152 Unit Plan and the substantial improvements it will provide to the North Mill Pond.

This part of the City has been underutilized and unappreciated for years and this reduced impact plan appears to be a good compromise for both the City of Portsmouth and the current property owners. The environmental improvements to the North Mill Pond shoreline, the waterfront park and the opening up of a greenway through this part of Portsmouth are significant opportunities that should not be overlooked or undervalued.

From what I have read the project is in full compliance with the Portsmouth Zoning Ordinance and it helps the City of Portsmouth achieve its goals as outlined in the City's master plan.

Thank you for your attention to this matter.

JERRY D. KARCHER, CPA

Sanders & Karcher, CPAs
264 Lafayette Road, Suite 7
Portsmouth, NH 03801

Phone [\(603\) 430-0942](tel:6034300942)
Fax [\(603\) 430-6085](tel:6034306085)

Izak Gilbo

From: Mcelroy, Tabitha <tam568@g.harvard.edu>
Sent: Wednesday, February 10, 2021 10:21 AM
To: Izak Gilbo
Subject: In favor of 105 Bartlett

To whom it may concern,

My name is Tabitha McElroy and I live at 47 Langdon St Portsmouth, NH. I grew up in Kittery, Portsmouth, and New Castle. Today, my husband, daughter, and I have lived in the West End of Portsmouth the last few years. My family and friends look forward to the proposed development and growth that will be brought to West End through the building of this proposed housing structure. The plan has been altered a number of times from its original plan to accommodate the concerns of other valued residents resulting in a careful, thoughtful, and significant reduction in density and decreasing the project's footprint within the 100' buffer zone.

Overall, this housing project is as exciting as it harmonious, as this project integrates ideally with our great city's own future plans for the development of North Mill Pond via a greenway for pedestrian and bicycle access between downtown, through the new West End Yards project, and out to Portsmouth Regional Hospital area. Heartily, this endeavor reminds me of our own modern day version of the 1869 Union Pacific and Central Pacific railway driving in their ceremonial spike connecting these two major players which *finally* made transcontinental travel possible for all.

Currently, I keep my daughter and her friends as far away from this unmonitored and unkempt area as possible due to its crime, illicit drug use, and pollution that includes discarded needles, prescription bottles, booze bottles, broken glass, rusted pipes, discarded vehicle parts, and tents/makeshift shelters occupied by Portsmouth's forgotten, destitute, and under-resourced community members. It's our responsibility as community members to take all voices into account. The voices of opposition and concern regarding this project have been heard, honored, and accommodated with reasonable and responsible modifications made. Most important to note, this project is prioritizing environmental impact it could cause while simultaneously addressing, improving, or eliminating the environmental damage/pollution that has existed for years, and will still exist, if this building project is not introduced. My family welcomes this thoughtful change to our already beloved but painfully unattended marsh waterway space.

Continuing with that respectful trend, the voices of Portsmouth's unheard community should include those who work in Portsmouth. and, yet, cannot afford to live where they work here in Portsmouth. This calls for additional housing for young, single, or marriage professionals who are looking to add to Portsmouth's every growing diversity and

economy. This building project addresses this long argued need. My family excitedly welcomes this long overdue need *finally* met, and at a more inclusive price tag.

Man cannot not stop the marching of time. Portsmouth will continue to grow, change, and diversify over time. As change is inevitable, let the men who bring good change be the men who love Portsmouth as fiercely as *all* who have taken the time to see that it's done right. I ask the city of Portsmouth to approve this development -as it currently stands.

Best,
Tabitha McElroy



Dear Conversation Commission,

In following this Bartlett Project, I am in full support of the project. A group of us located our business Coolcore LLC in Portsmouth 11 years ago. We are very proud to work and support the community.

Living in Rye and serving on the RBVD Planning and Board of Adjustment for many years my view of the adjustments the developer has made seems to be very reasonable and in the best interest of the people of Portsmouth.

By them reducing the Project to 152 units and deleting 10,000 SF of office space reduces the size of the Project by 35% from the original proposal which significantly reduces impact to the wetland buffer area. Cabot Street will be widened with a view by almost 4 times. This project also increases the open space by nearly 60% of the resulting lot which is 5 times what is required by zoning.

It seems they will be making significant environmental improvements to the North Mill Pond shoreline - - environmental improvements that will help stabilizing the now deteriorating bank of the Pond. Very important is managing the storm water running into the Pond thereby limit contaminants and creating a landscaped buffer between the proposed buildings and the Pond.

The Project is now in full compliance with the Portsmouth Zoning Ordinance. It certainly improves the condition of an existing site of two industrial buildings long abandoned and now decrepit railroad facilities, with overgrown invasive species. Plus, the construction of a major portion of the long-awaited North Mill Pond Greenway.

Public Benefits

- * New ½ acre Waterfront Park
- * The total Greenway Community Space is over an acre or 47,703 SF.
- * The open space for the project is nearly 60% which is 5 times larger than what is required by Zoning
 - * Reinvesting in underutilized buildings and land
 - * Enhancing the quality and connectivity with the North Mill Pond Greenway
 - * Promoting Open Spaces and Encouraging access to waterfront area
 - * Protecting view corridors and access to the North Mill Pond
 - * Promoting mixed income and multi-family housing





North Mill Pond Benefits

- * Installation of Storm Water Treatment system(s)
- * Buffer enhancement by removing evasive species and new proposed plantings
- * Installation of a central rain garden

After several years of review and public input, I feel this project will be a great addition asset to the people of Portsmouth. The City's goal of public access to the North Mill Pond via a greenway for pedestrian and bicycle access between downtown through the new West End Yards project and out to Portsmouth Regional Hospital area will be accomplished.

Again I ask for your support of the project which includes a significant portion of the North Mill Pond Greenway.

Thank You

E. Scott McQuade



Izak Gilbo

From: Planning Info
Sent: Wednesday, February 10, 2021 7:52 AM
To: Izak Gilbo
Subject: FW: letter for 2/10/21 Conservation Commission

From: Nancy Johnson [mailto:n_johnson81@comcast.net]
Sent: Tuesday, February 9, 2021 7:02 PM
To: Planning Info <Planning@cityofportsmouth.com>
Subject: letter for 2/10/21 Conservation Commission

To: Planning@cityofportsmouth.com
Re: Conservation Commission Meeting 2/10/21; 105 Bartlett St
Date: 2/9/2021
From: Nancy & Brian Johnson, 81 Clinton St, Portsmouth

Dear Conservation Commission Members

We are hoping that the 47 letters submitted for the 1/31/21 meeting and the 2/10/21 meeting will be reviewed to freshen your memory. A total of 46 of the letters raise issues with this project (one is in favor) which are still valid concerns.

Re: Staff memo:

#3 Since the "path" is now also a fire road, it will need to be plowed in the winter. How will snow removal be handled so that it is kept away from the 25 foot buffer? Because the fire lane will be porous it will need no salt ever. That is the beauty of porous pavement. It should be written in the Maintenance section that no salt will be used, ever. No sand either as sand will clog the porous pavement.

#6 This section refers to the "protected **15 foot** vegetated buffer". That needs to be corrected to the "protected **25 foot** vegetated buffer".

Thank you, Nancy & Brian

From: [Eric Nelson](#)
To: [Planning Info](#)
Subject: Support for the Bartlett Street project
Date: Tuesday, February 9, 2021 9:31:20 AM
Attachments: [image003.png](#)

To the Planning Department and members of the Conservation Committee,

As a significant commercial landlord in the city and more importantly as an abutter who had made significant investments in the immediate area, I write to express support for the Bartlett Street project.

Having experienced the permitting process firsthand at 145 Maplewood Avenue, I witnessed the diligent and thoughtful process the Planning Department and various boards and committees take towards development. The Bartlett Street project meets these standards and will be a tremendous addition to the city.

In particular:

Public Benefits

- * New ½ acre Waterfront Park (see attached '152 Unit Plan Landscape' PDF)
- * Rights for almost ¾ mile (Bartlett Street to Maplewood Avenue) of the North Mill Pond Greenway as contemplated in the North End Vision Plan and City's Master Plan and will connect out through West End Yards on to Portsmouth Regional Hospital
- * The total Greenway Community Space is over an acre or 47,703 SF.
- * The total open space for the project is nearly 60% where 15% is required by Zoning
- * Achieving additional goals in the City's Master Plan, including:
 - * Reinvesting in underutilized buildings and land
 - * Enhancing the quality and connectivity with the North Mill Pond Greenway
 - * Promoting Open Spaces and Encouraging access to waterfront area
 - * Protecting view corridors and access to the North Mill Pond
 - * Promoting mixed income and multi-family housing

North Mill Pond Benefits

- * The Net Buffer Improvement by .66 acres or 28,792
- * Installation of Storm Water Treatment system(s)
- * Buffer enhancement by removing evasive species and new proposed plantings
- * Installation of a central rain garden

I strongly recommend the Conservation Committee approve the project.

Respectfully yours,
Eric

Eric Nelson

COO | The Kane Company
210 Commerce Way, Suite 300
Portsmouth, NH 03801

p: (603) 430-4000

d: (603) 559-9627

c: (617) 733-9248

f: (603) 430-8940

e: enelson@netkane.com

www.kane-company.com



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Izak Gilbo

From: Planning Info
Sent: Wednesday, February 10, 2021 7:54 AM
To: Izak Gilbo
Subject: FW: 105 Bartlett st, Multifamily Development - Letter of support

From: Sean Peters [mailto:seanaldenpeters@gmail.com]
Sent: Tuesday, February 9, 2021 6:47 PM
To: Planning Info <Planning@cityofportsmouth.com>
Subject: 105 Bartlett st, Multifamily Development - Letter of support

Dear City of Portsmouth Conservation Commission & Planning Board,

I am writing in to express my full support of the above mentioned proposed development. I have reviewed the latest revisions to their proposals to the conservation commission, TAC, and planning board, and I can say that this development team seems to have gone above and beyond to create an excellent new housing opportunity for our community.

This project is going to be a major benefit for our neighborhood, for the environment (North Mill Pond), and for the City of Portsmouth as a whole. The fact that they have proposed a net reduction in buffer impacts, installation of stormwater treatment, and overall enhancements of the landscape through native plantings should make this project a no brainer for all who have seen the existing conditions of the site, to be on board with this proposal.

As a resident and follower of real estate happenings throughout the City, I know that this project has been in the works for several years. What started out as a large development, with multiple structures, buffer impacts, and "massing" concerns, has now whittled down to one of the more modest proposals I have seen be requested within the downtown or "west-end".

This new housing is greatly needed in our City, and this development will provide that. This site allows for plenty of parking which is also needed. This development will also allow for greenspace, and the greenway path! which may be one of the best aspects for us close neighbors who currently don't have much of an ability to walk down to the pond at all! This proposal has been carefully thought out by its developers, engineers, and city officials, itl is an incredible improvement in so many ways, and I am ready to see it built!

Please APPROVE this project!!

Sincerely,

Sean Peters
16 McDonough St.
Portsmouth, NH 03801

Izak Gilbo

From: Planning Info
Sent: Wednesday, February 10, 2021 7:50 AM
To: Izak Gilbo
Subject: FW: North Mill Pond Greenway /105 Bartlett Street Proposed Project

From: CHARLES PINKERTON [mailto:ccpinkerton@comcast.net]
Sent: Tuesday, February 9, 2021 9:27 PM
To: Planning Info <Planning@cityofportsmouth.com>
Subject: North Mill Pond Greenway /105 Bartlett Street Proposed Project

To Whom It May Concern:

I am writing to offer my support, and to urge that you to positively consider this proposal. This area of Portsmouth is in dire need of improvement. The pedestrian way to the downtown area will provide a much needed connection between the developments nearing completion between Route 1 and Bartlett Street, as well as for the older surrounding areas. There continues to be need of additional residential housing. Adequate environmental protection of North Mill Pond, of course, is of utmost importance, and should be attainable by the current proposal.

Thank you for your consideration.

Charles C. Pinkerton
870 Elwyn Road
Portsmouth

Izak Gilbo

From: Port City Mopeds <portcityped@gmail.com>
Sent: Wednesday, February 10, 2021 1:58 PM
To: Planning Info
Subject: Letter of Support for 105 Bartlett Street

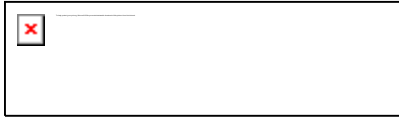
Good afternoon Planning Department,

I am writing to you to express my support for the Residential Development Proposal at 105 Bartlett Street. We support the proposed improvements to the North Mill Pond Greenway and associated housing project, which will add desperately needed inventory to our region's housing supply. I strongly encourage you to approve the requests of the application team. Respectfully,

-Steve Pamboukes

Owner, Port City Mopeds
124 Bartlett Street

--



Port City Mopeds

www.portsmouthmopeds.com

Facebook: [Port City Mopeds](#)

603 498 8882

Izak Gilbo

From: Dennis Prue <Dennis.Prue@pcfsi.com>
Sent: Wednesday, February 10, 2021 2:45 PM
To: Planning Info
Subject: Letter of Support - 105 Bartlett Street Project

February 10, 2021

Conservation Commission
City of Portsmouth
1 Junkins Avenue
Portsmouth, NH 03801

Re: 105 Bartlett Street Project

Dear Chair MacMillan and Commission Members:

My name is Dennis Prue and I just recently moved to 8 Hoover Drive , Portsmouth, NH, but previously lived at 33 Deer Street and 500 Market Street. I am very familiar with the project before you. I urge you to recommend CUP approval of this project. Here's why you should approve:

1. Development will improve buffer area by 29,000 square feet.
2. Development will drastically improve the storm water runoff and treat it properly.
3. Dumping and trash will end with actual residents living there.
4. Bigger buildings could've been built but development team limited size.
5. Trail will connect West End to the Downtown.

Thank you for considering my letter.

Dennis Prue

Izak Gilbo

From: Planning Info
Sent: Wednesday, February 10, 2021 7:53 AM
To: Izak Gilbo
Subject: FW: North Mill Pond / 105 Bartlett

From: albert sampson [mailto:damiansampson@gmail.com]
Sent: Tuesday, February 9, 2021 6:48 PM
To: Planning Info <Planning@cityofportsmouth.com>
Subject: Re: North Mill Pond / 105 Bartlett

Commissioners and Board Members, I have lived in the seacoast for 7 years. My family moved here from Amherst, New Hampshire. We had tried to look for housing and endured many frustrating bidding wars. We decided to rent which was equally frustrating. Realtors educated us on the inventory issue and strong demand for seacoast living. We finally got lucky because we bid well over asking price to beat 10 other offers. I was recently told the inventory problem is now made even worse by covid. Many people want to move from tight dense urban life to an area that has open space, beaches, parks, restaurants, arts, and mountains nearby. We are all so fortunate to live here. I ask that you take this opportunity to turn blight into a beautiful greenway and add much needed inventory for our town. Thank you for your time and consideration, Albie Sampson. 217 Broad St, Portsmouth.

Izak Gilbo

From: Jonathan Sandberg <jfsandberg@yahoo.com>
Sent: Monday, February 8, 2021 10:35 AM
To: Planning Info
Subject: 105 Bartlett Street

RE Conservation Commission:

Dear Conservation Commission,

My name is Jonathan Sandberg and I live at 160 Bartlett Street which makes me an abutter to 105 Bartlett Street and I am writing to you because I am very committed to the ideals of conservation and environmental protection. These concepts are more than mere bumper sticker slogans to me. I have formed a deep personal connection to nature and wilderness and as an avid hiker and outdoorsman, I spend much of my free time exploring truly wild places throughout New England. I have completed at least six rounds of the NH 4,000 footers, hiked the Long Trail across Vermont, and the Cohos Trail across Northern New Hampshire. And it's because I want these remote places to stay wild that I strongly support relatively dense developments such as the one proposed across the street from me at 105 Bartlett. These relieve pressure to build the type of sprawl that predominates New Hampshire and Portsmouth's surrounding communities and which is far more destructive to wildlife habitat. From a conservation perspective it is greatly preferable to build 155 units on one or two acres of land than it is to build the same number on 155 acres.

I also take environmentalism seriously and in addition to reducing my carbon footprint by doing typical things like recycling, composting, and reusing my shopping bags, I also avoid driving as much as possible. I walk or bike almost everywhere and haven't driven to work in over four years. This summer my wife and I sold one of our two cars and replaced it with an e-bike. The reason this is feasible is because we live in a complete neighborhood where everything we need is within easy walking distance. We can walk to a supermarket, two pharmacies, a hardware store, three microbreweries, (not just one but two) state liquor stores, as well as a myriad of other essentials. If you care about reducing reliance on cars and all of the devastating environmental impact that comes with them then this is exactly the location where you should want to encourage more housing. The people who live there will be able to leave their cars at home.

Some are concerned with the construction of new buildings so close to the North Mill Pond. I don't understand how this is worse for the pond than the two existing buildings that are mere yards away from the shoreline. I understand that those are grandfathered in, but from a practical perspective, how does replacing them with newer (presumably greener) buildings represent a greater danger to the pond? This is an important opportunity to revitalize this formerly industrial site, remediate the toxins that are likely hidden in the soil and rehabilitate the area. This will be good for the humans and the animals that live nearby. This project will also facilitate the restoration of the badly eroded shoreline and restore native plantings as well as create a pathway so that the public can access and enjoy the setting.

Rather than focus on one single parcel at a time, I think this commission needs to take a systems approach to conservation and recognize that this development will likely have a positive regional impact on conservation and will allow its residents to reduce their environmental footprints which are reasons why I support it and you should too.

Jonathan Sandberg
160 Bartlett Street

Sent from my iPad

Izak Gilbo

From: Planning Info
Sent: Wednesday, February 10, 2021 10:51 AM
To: Izak Gilbo
Subject: FW: Clipper Traders application

Not saved yet

-----Original Message-----

From: wrightski0122@aol.com [mailto:wrightski0122@aol.com]
Sent: Wednesday, February 10, 2021 9:10 AM
To: Planning Info <Planning@cityofportsmouth.com>
Subject: Clipper Traders application

I'll be brief.

Why is this even happening !?
How was it even allowed to get this far!?

Does this board have the slightest awareness of how this will impact our neighborhood!?

What about the 400+ cars that might appear!? Likely.

It has taken us over 30 years to make our area a small, household style neighborhood, we have young couples having kids again, get togethers in our park, trick or treating and now you want to (along with Bartlett St. construction) sanction over 400 sterile dwellings, beehives (!!!!) conservatively!!! Shame on you!!'

Please get a grip on this proposed foolishness!! I can't be more profound then that!!

This is absurd!! NUTS!!! NO. NO. NO.

Regretfully,

R. W. Wright
Sudbury St.
32 years

R. W. WrightSent from my iPhone

From: [Michelle Wirth](#)
To: [Planning Info](#)
Subject: 105 Bartlett St/No Mill Pond project
Date: Thursday, March 11, 2021 9:34:14 AM

Portsmouth Officials,

I am writing in support of the apartment project at 105 Bartlett St near North Mill pond. I am a long time resident of Hanover St and I believe this project would finally bring the clean up of North Mill Pond we so desperately need. I would very much like to access the pond with my kayak and walk along trash-free shores without being watched from the homeless encampment. I applaud the city for encouraging the development of our downtown in such a way that the whole community can benefit.

Thank you,

Michelle Wirth

439 Hanover St

--

Michelle Blaisdell Wirth
wirthsicle@gmail.com



CELEBRATING OVER 35 YEARS OF SERVICE TO OUR CLIENTS

LIZABETH M. MACDONALD
JOHN J. RATIGAN
DENISE A. POULOS
ROBERT M. DEROSIER
CHRISTOPHER L. BOLDT
SHARON CUDDY SOMERS
DOUGLAS M. MANSFIELD
KATHERINE B. MILLER
CHRISTOPHER T. HILSON
HEIDI J. BARRETT-KITCHEN
JUSTIN L. PASAY
ERIC A. MAHER
BRENDAN A. O'DONNELL
ELAINA L. HOEPPNER
WILLIAM K. WARREN

RETIRED
MICHAEL J. DONAHUE
CHARLES F. TUCKER
ROBERT D. CIANDELLA
NICHOLAS R. AESCHLIMAN

January 27, 2021

Juliet Walker, Planning Director
City of Portsmouth
1 Junkins Avenue
Portsmouth, NH 03801

Re: Conditional Use Permit Application, Lonza Biologics, Inc.
("Lonza"), Tax Map 305, Lots 1 & 2 (the "Property")

Dear Juliet:

This correspondence files Lonza's Conditional Use Permit Application relating to its Site Plan Review Approval to construct three industrial buildings and related site improvements on the Property located at 70 and 80 Corporate Drive (the "Project"). Enclosed please find the following documents:

1. Conditional Use Permit Application;
2. Overall Site Plan;
3. Phase 1 Site Plan;
4. Aerial Wetland Overlay Plan;
5. Land Area Exhibit;
6. Aerial Site Plan Overlay Plan;
7. August 2019 Administrative Approval Plan Set.

Per our phone call discussion on Wednesday, 20 January 2021, we understand that because Lonza's Conditional Use Permit Application is identical to that application which was recommended for approval by the City's Planning Board on 17 January 2019 and approved by the Pease Development Authority

DONAHUE, TUCKER & CIANDELLA, PLLC
16 Acadia Lane, P.O. Box 630, Exeter, NH 03833
111 Maplewood Avenue, Suite D, Portsmouth, NH 03801
Towle House, Unit 2, 164 NH Route 25, Meredith, NH 03253
83 Clinton Street, Concord, NH 03301

("PDA") on 1 February 2019¹, and as there have been no changes to the PDA's Zoning Ordinance regarding wetlands regulation, Lonza's Application will be forwarded directly to the Planning Board for review and will not be reviewed by the City's Conservation Commission.

By way of brief background, on 17 January 2019, the City of Portsmouth's Planning Board recommended conditional approval of Lonza's Subdivision, Site Plan Review and Conditional Use Permit Applications for the Project. On 1 February 2019, the recommended approvals became final decisions of the PDA.² The Project has also received a State Dredge and Fill Permit, valid for five years, and Lonza has made a contribution to the Aquatic Resource Mitigation (ARM) Fund.³

On 31 January 2019, Lonza requested that the PDA Board of Directors grant a one-year waiver from PDA's requirement to obtain a building permit within one year of Site Plan Review Approval to accommodate anticipated delays confirming the provision of wastewater services to the Project.⁴ Lonza also requested that the PDA grant a one-year extension to the Conditional Use Permit Approval, which has a one-year duration under the PDA's Zoning Ordinance.⁵

On 14 March 2019, the PDA reviewed and approved Lonza's requested waiver and extension, which approvals had the effect of extending Lonza's deadline to obtain a building permit and exercise its Conditional Use Permit to 1 February 2021.

Due to additional delays to the Project caused by the global pandemic known as COVID-19, and the National Pollutant Discharge Elimination System Great Bay Total Nitrogen General Permit for Wastewater Treatment Facilities in New Hampshire review and approval process, among other things, Lonza recently requested an additional one-year extension to its Site Plan Review Approval and obligation to obtain a building permit from the PDA Board of Directors. Lonza simultaneously sought approval to refile an identical Conditional Use Permit Application for the Project for review by the City of Portsmouth

¹ Like the previous application, the enclosed Conditional Use Permit Application proposes 55,555 +/- s.f. of impact to the wetland, 66,852 +/- s.f. of impact to the wetland buffer, and 1,000 l.f. of stream restoration for Hodgson Brook resulting in 42,500 s.f. of wetland creation.

² See PDA Site Plan Review Regulations, § 404.02(h); PDA Zoning Ordinance, § 304-A.09(b)(1)(h).

³ See NHDES Permit #2018-01731.

⁴ See PDA 403.03 (a), PDA 407.01 (a).

⁵ See 304-A.08(g).

as there are no additional extensions available for the Conditional Use Permit Approval under PDA's regulations.

On Thursday, 21 January 2021, the PDA Board of Directors unanimously approved an additional one-year extension to the site review approval and approved the referral of the Conditional Use Permit to the City of Portsmouth. Lonza now has until 1 February 2022 to obtain a building permit and exercise its Site Plan Review Approval. However, a new Conditional Use Permit is required.

Under the circumstances, Lonza's re-filing of an identical Conditional Use Permit Application is tantamount to an extension request for the Conditional Use Permit which will support the Project, and review by the Planning Board alone is reasonable.⁶

We respectfully request that this matter be placed on the Planning Board's February 18, 2021 agenda. If you have any questions do not hesitate to contact me.

Very truly yours,
DONAHUE, TUCKER & CIANDELLA, PLLC



Justin L. Pasay
JLP/sac
Enclosures

cc: Lonza Biologics, Inc.
Tighe & Bond

S:\LJ-LZ\Lonza Biologics\2021 01 27 PB Submittal\2021 01 27 walker letter.docx

⁶ See PDA 304-A.09(b)(1)(c) (providing the City of Portsmouth authority to refer conditional use permit applications to the Conservation Commission, but not mandating the same).

Pease Development Authority
55 International Drive, Portsmouth, NH 03801, (603) 433-6088



Conditional Use Permit Application

For PDA Use Only			
Date Submitted: _____	Municipal Review: _____	Fee: _____	
Application Complete: _____	Date Forwarded: _____	Paid: _____	Check #: _____

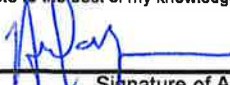
Applicant Information

Applicant: Lonza Biologics		Agent: Tighe & Bond
Address: 101 International Drive Portsmouth, NH 03801		Address: 177 Corporate Drive Portsmouth, NH 03801
Business Phone: 603-334-6100		Business Phone: 603-433-8818
Mobile Phone: _____		Mobile Phone: _____
Fax: _____		Fax: _____
Portsmouth Tax Map: 305	Lot #: 1 & 2	Zone: Airport Business and Commercial
Address / Location of Work: 70 & 80 Corporate Drive		

Activity Information

Proposed Activity (check all that apply)		Impacted Jurisdictional Area(s): Check all that apply	
<input checked="" type="checkbox"/> New Structure		<input checked="" type="checkbox"/> Wetland	
<input type="checkbox"/> Expansion of Existing Structure		<input checked="" type="checkbox"/> Wetland Buffer	
<input type="checkbox"/> Other site alteration (specify): _____			
Total area of wetland on subject lot:		75,430 SF	
Total area of wetland buffer on subject lot:		81,315 SF	
Distance of proposed structure or activity to edge of wetland:		0 LF	
	On subject lot		Off subject lot
Area of wetland impacted:	55,555 SF		
Area of wetland buffer impacted:	66,852 SF		
Total area of wetland and wetland buffer impacted:	122,407 SF		
Provide complete description of site and work to be completed: The project consists of the expansion of Lonza Biologics, which includes the construction of three (3) proposed buildings, one (1) Central Utility Building and one (1) parking garage, along with associated site improvements, including utilities and drainage infrastructure.			
<i>All above information shall be shown on a site plan submitted with this application.</i>			

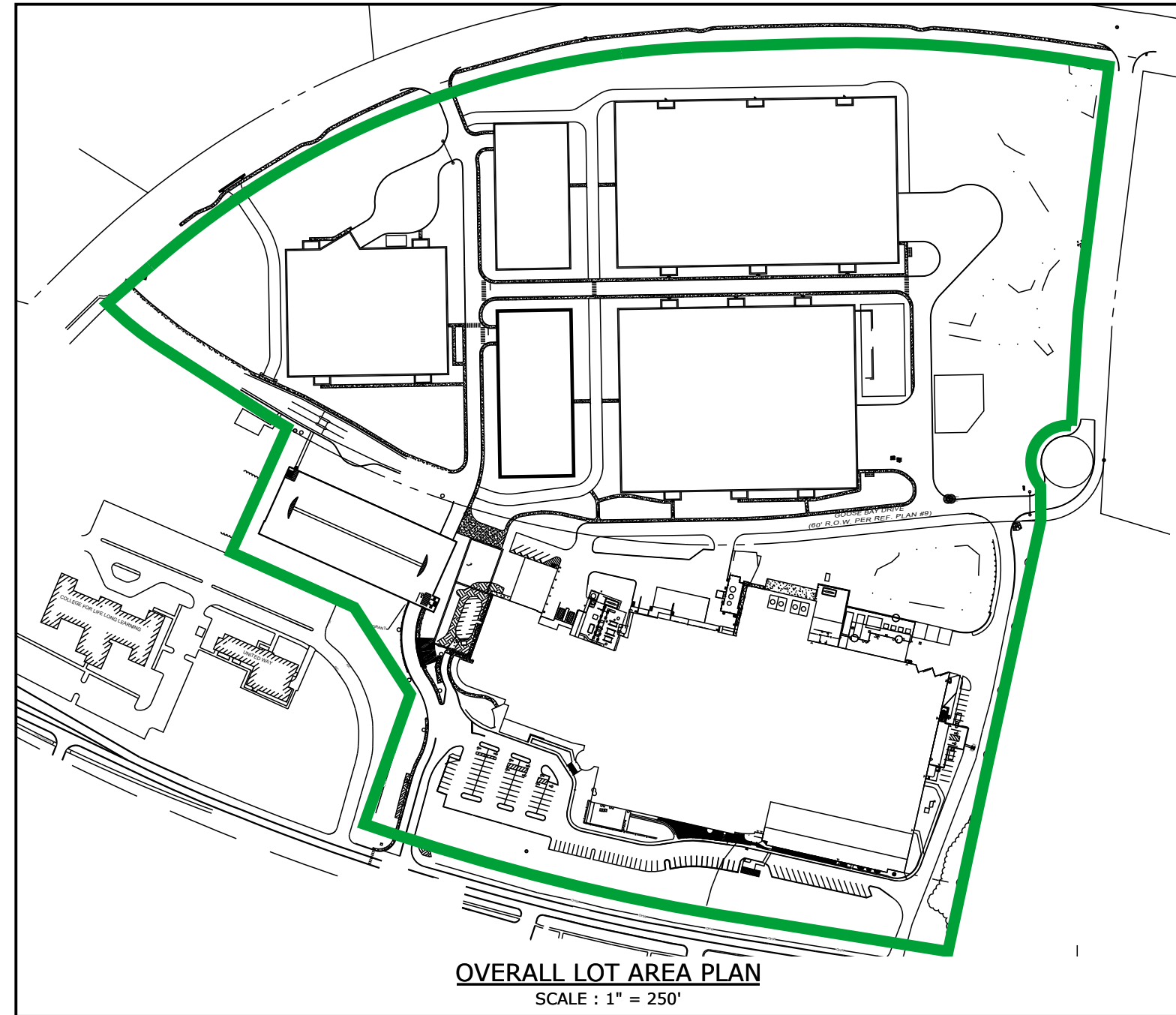
Certification

I hereby certify under the penalties of perjury that the foregoing information and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge.	
 _____ Signature of Applicant	26 JANUARY 2021 _____ Date

N:\Engineer\Conditional Use Permit Application.xlsx

LONZA BIOLOGICS IRON PARCEL PORTSMOUTH, NEW HAMPSHIRE

OVERALL SITE MASTER PLAN



WETLAND & BUFFER IMPACT TABLE:

	WETLAND	BUFFER
WETLAND IMPACT AREA #1:	17,628 SF	24,677 SF
WETLAND IMPACT AREA #2:	1,189 SF	NO BUFFER*
WETLAND IMPACT AREA #3:	20,204 SF	23,047 SF
WETLAND IMPACT AREA #4:	11,443 SF	19,128 SF
WETLAND IMPACT AREA #5:	5,091 SF	NO BUFFER*

TOTAL IMPACT AREA: 55,555 SF 66,852 SF
 *PER PDA REGULATIONS: WETLANDS LESS THAN 10,000 SF DO NOT HAVE A BUFFER.

SITE DATA

LOCATION: TAX MAP 305, LOTS 1 & 2 TAX MAP 305, LOT 6
 70 & 80 CORPORATE DRIVE 101 INTERNATIONAL DRIVE
 PORTSMOUTH, NH PORTSMOUTH, NH

ZONING DISTRICT: AIRPORT, BUSINESS & COMMERCIAL (ABC)

DIMENSIONAL REQUIREMENTS:

	REQUIRED	PROVIDED
MINIMUM LOT AREA:	5 AC	43.4± AC
MINIMUM STREET FRONTAGE:	200 FT	1,038 FT
MINIMUM FRONT YARD SETBACK:	70 FT	70 FT
SIDE SETBACK:	30 FT	30 FT
REAR SETBACK:	50 FT	51 FT
MINIMUM OPEN SPACE:	25 %	43.3± %

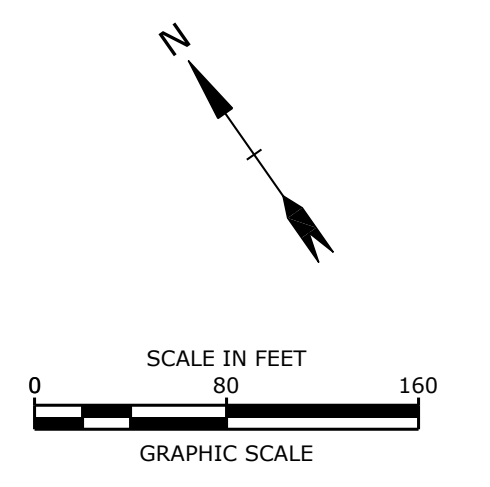
MAXIMUM STRUCTURE HEIGHT SHALL NOT EXCEED FAA CRITERIA.

PARKING REQUIREMENTS:

REQUIRED PARKING
 2 SPACES PER 3 EMPLOYEES ON LARGEST SHIFT
 740 EXISTING EMPLOYEES 493 SPACES
 1000 ANTICIPATED EMPLOYEES 667 SPACES
 TOTAL REQUIRED: 1160 SPACES

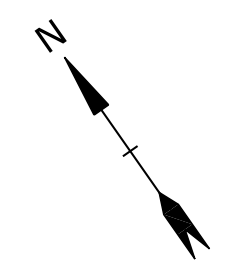
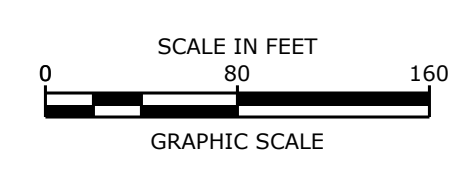
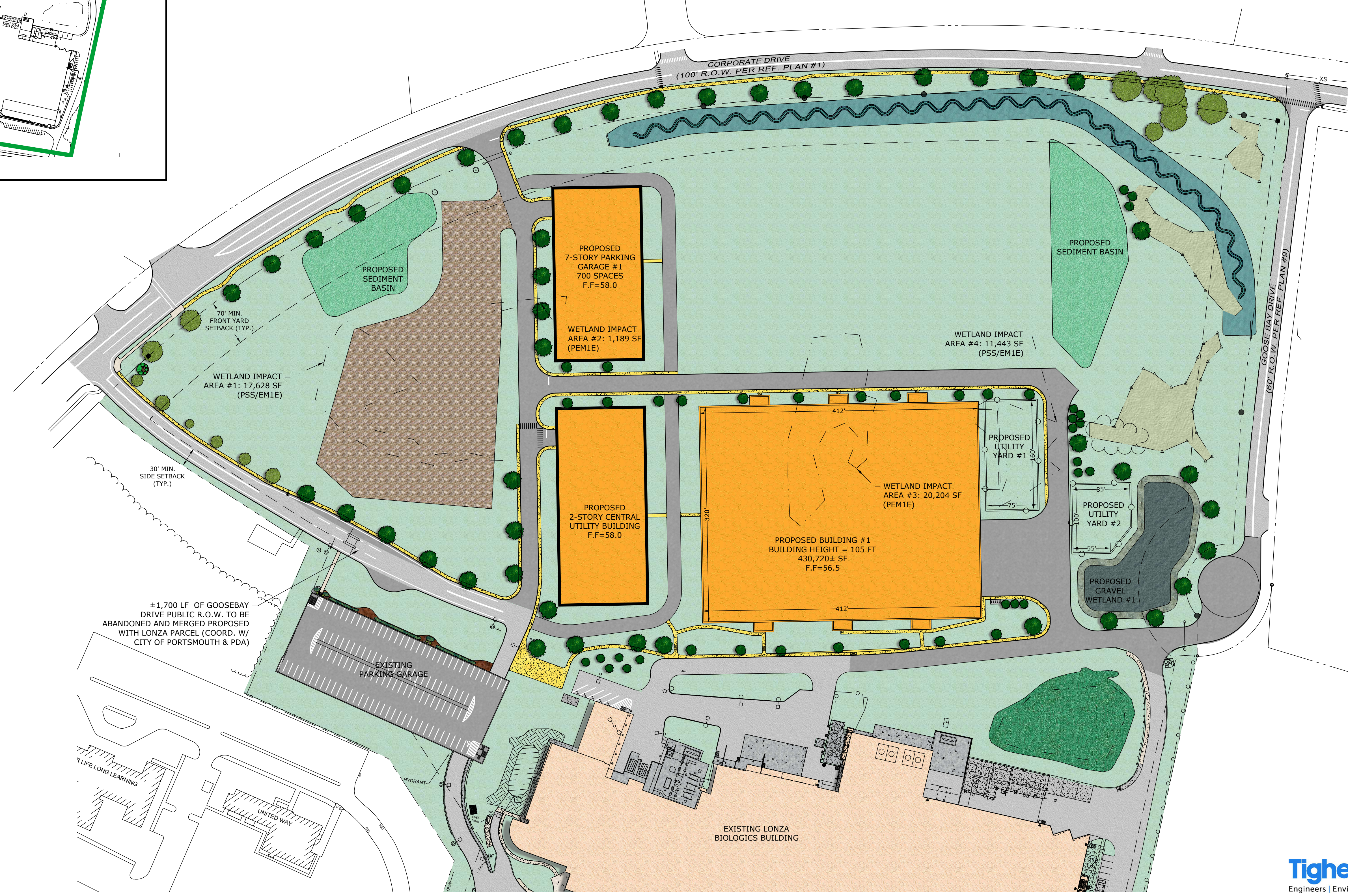
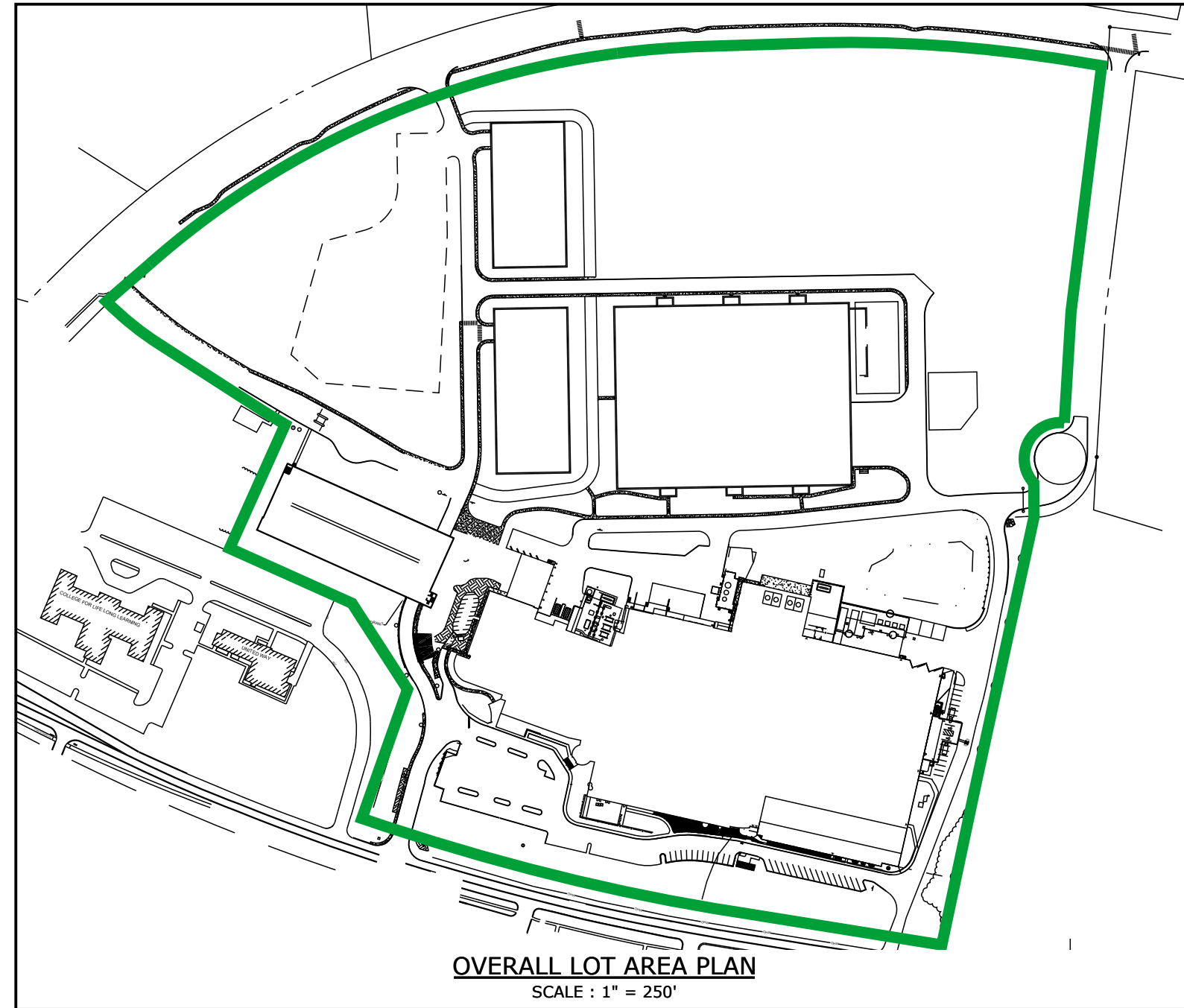
PARKING PROVIDED

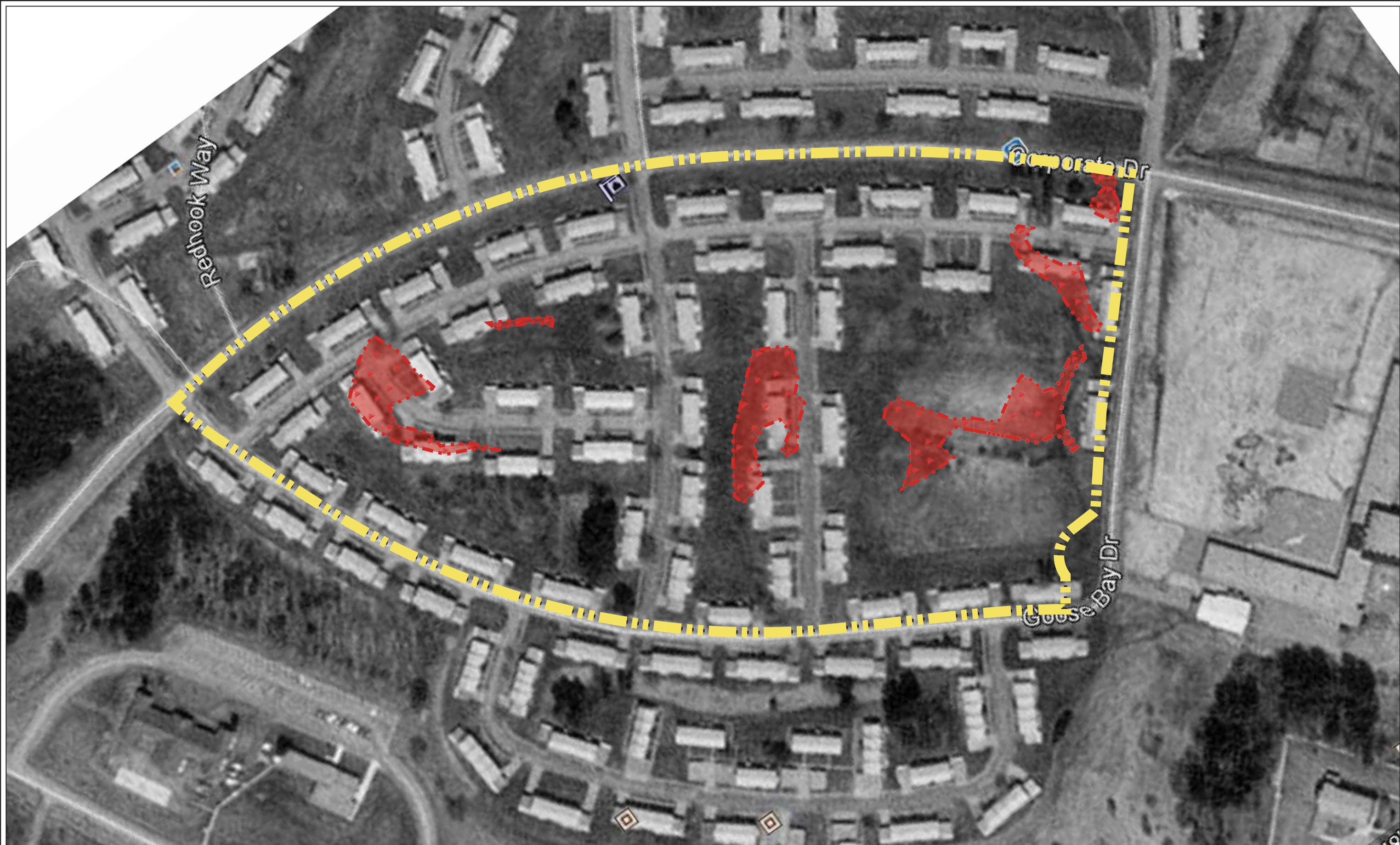
EXISTING SPACES:	527 SPACES
PROPOSED PARKING GARAGE #1:	700 SPACES
TOTAL:	1227 SPACES



Last Save Date: January 11, 2021 12:50 PM BY: NAHANSEN
 Plot Date: Thursday, July 29, 2016 Plotted By: Neil A. Hansen
 T&B File Location: J:\L0700 Lonza Biologics Expansion\1576\F013 from Parcel Redevelopment\Drawings - Figures\Renderings (Color)\L0700-CS-OVERALL_CLR_01-11-21.dwg Layout Tab: OVERALL

LONZA BIOLOGICS
 IRON PARCEL
 PORTSMOUTH, NEW HAMPSHIRE
 SITE PLAN FOR LAND AREA #1





1992 AERIAL PHOTOGRAPH - LONZA BIOLOGICS
PORTSMOUTH, NEW HAMPSHIRE

SCALE IN FEET
0 80' 160'
GRAPHIC SCALE



Tighe&Bond
Consulting Engineers

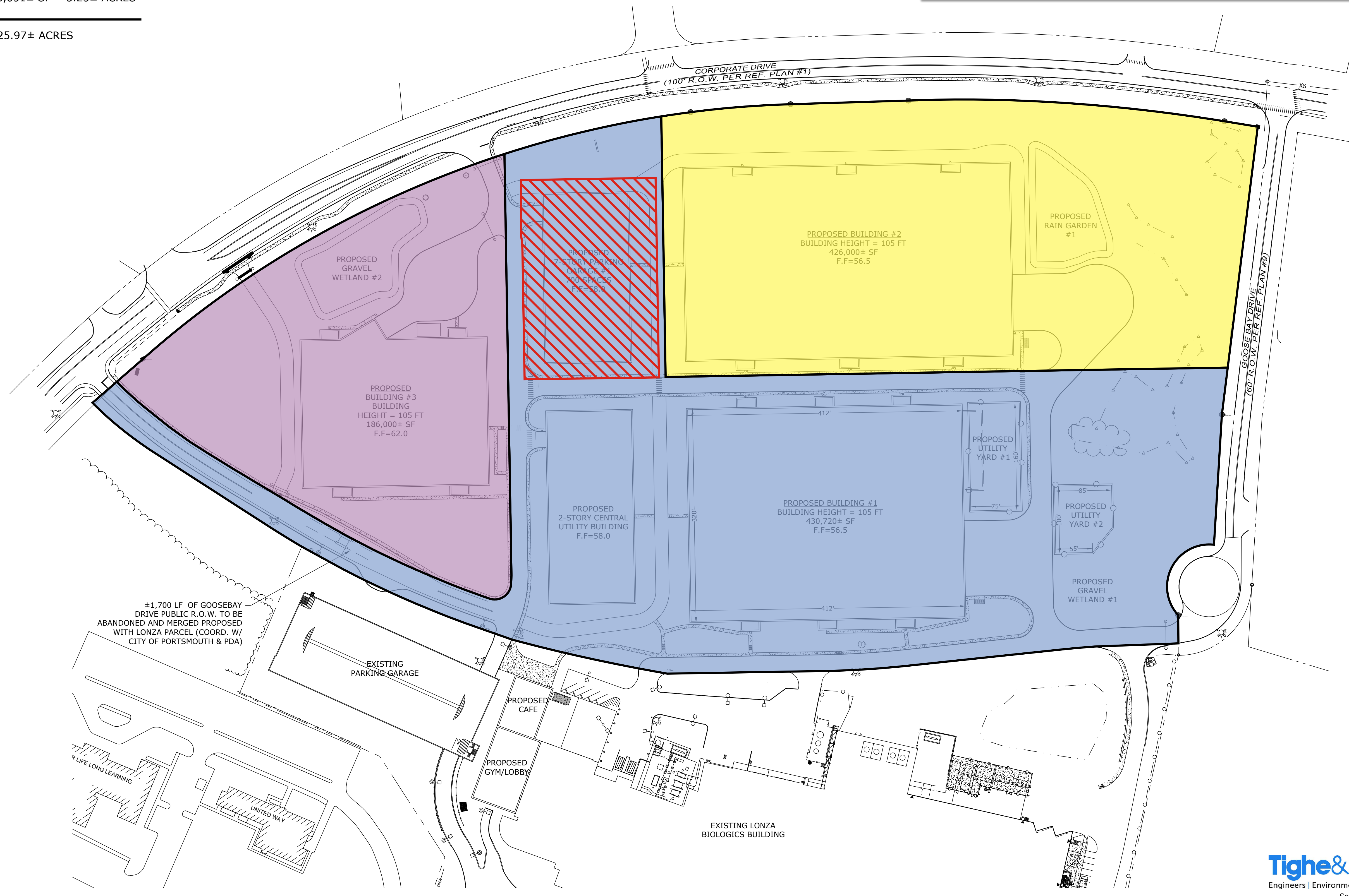
July 1, 2016
L-0700-10 SITE.dwg

LONZA BIOLOGICS IRON PARCEL PORTSMOUTH, NEW HAMPSHIRE

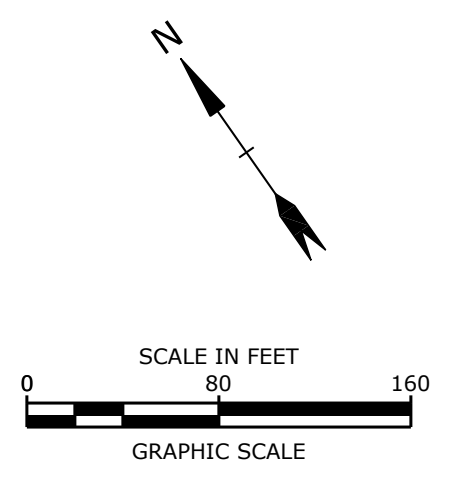
LAND AREA EXHIBIT

- LAND AREA #1 = 560,555± SF = 12.86± ACRES
- GARAGE LAND AREA = 59,786± SF
- LAND AREA #2 = 343,258± SF = 7.88± ACRES
- LAND AREA #3 = 228,031± SF = 5.23± ACRES

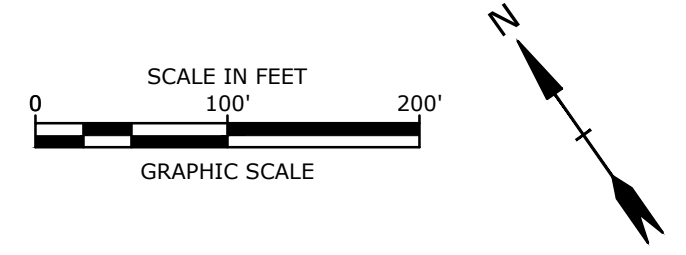
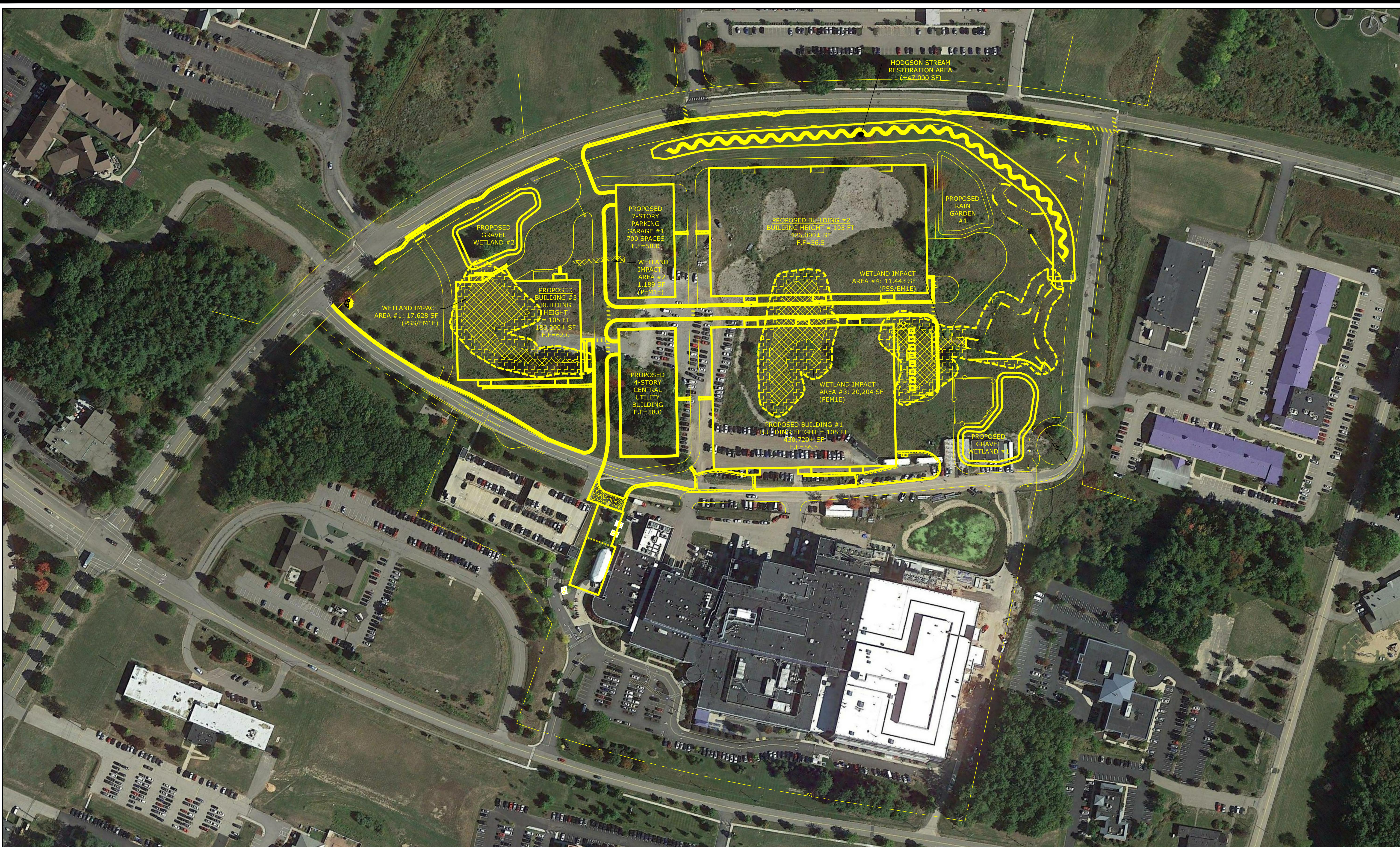
TOTAL = 25.97± ACRES



Last Save Date: September 5, 2019 2:05 PM By: BIL
 T&B File Location: J:\110700_Lonza_Biologics_Expansion\1576\FE\COLOR\DWG\L0700-CS-OVERALL_CLR_09-05-19.dwg Layout Tab: LAND AREA EXHIBIT



FILE PATH: \\lonza-biologics.com\server\2021\PROJECTS\PORTSMOUTH NH\0700_CS-OVERALL.dwg
2021-11-21 11:21 AM
PROJECT: LONZA BIOLOGICS - PROPOSED INDUSTRIAL DEVELOPMENT
PORTSMOUTH, NEW HAMPSHIRE
DATE: 11/21/2021
DRAWN BY: LONZA BIOLOGICS
CHECKED BY: LONZA BIOLOGICS
SCALE: AS SHOWN
PLOT TITLE: LONZA BIOLOGICS - PROPOSED INDUSTRIAL DEVELOPMENT
PORTSMOUTH, NEW HAMPSHIRE
DATE: 11/21/2021
DRAWN BY: LONZA BIOLOGICS
CHECKED BY: LONZA BIOLOGICS
SCALE: AS SHOWN



LONZA BIOLOGICS - PROPOSED INDUSTRIAL DEVELOPMENT PORTSMOUTH, NEW HAMPSHIRE

PROPOSED INDUSTRIAL DEVELOPMENT

70 & 80 CORPORATE DRIVE PORTSMOUTH, NEW HAMPSHIRE

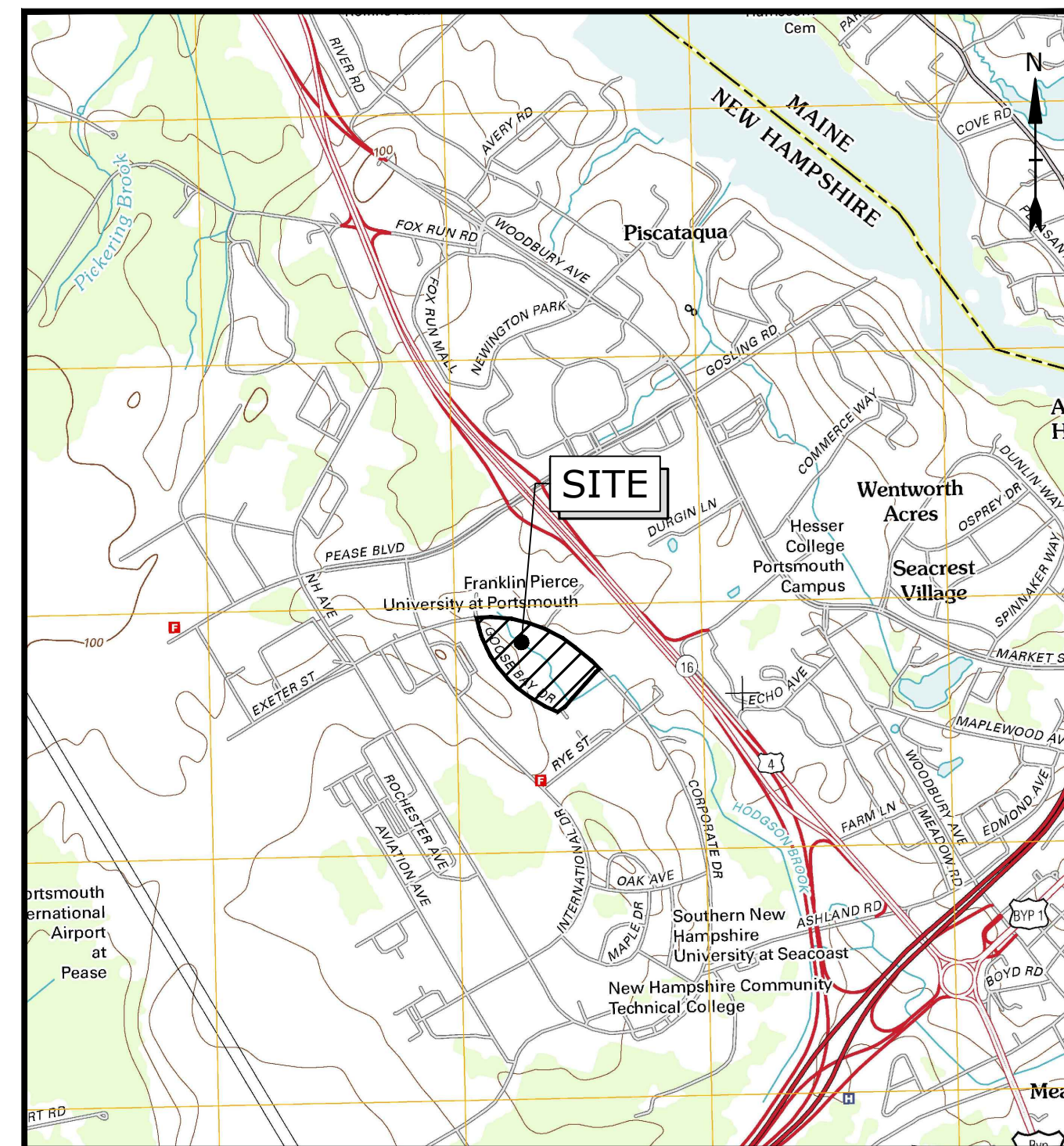
PROJECT NO: L-0700-13

APRIL 3, 2018

REVISED: AUGUST 21, 2019

PLAN SET INDEX		
SHEET TITLE	# OF SHEETS	LAST REVISED
COVER SHEET	1	08/21/2019
SHEET INDEX	1	08/21/2019
EXISTING CONDITIONS & SUBDIVISION PLANS COVER SHEET	1	08/16/2018
EXISTING CONDITIONS & SUBDIVISION PLANS	6	08/16/2018
MASTER PLAN COVER SHEET	1	08/21/2019
MASTER PLAN SET	21	08/21/2019
PHASE 1A COVER SHEET	1	11/06/2018
PHASE 1A PLAN SET	16	11/06/2018
PHASE 1B COVER SHEET	1	08/21/2019
PHASE 1B PLAN SET	16	08/21/2019
DETAILS COVER SHEET	1	11/06/2018
EROSION CONTROL NOTES & DETAILS SHEETS	9	11/06/2018

LIST OF PERMITS		
LOCAL	STATUS	DATE
SITE PLAN REVIEW PERMIT	APPROVED	1/17/2019
STATE		
NHDES - ALTERATION OF TERRAIN PERMIT	ISSUED: AOT-1498	10/02/2018
NHDES - WETLANDS PERMIT	ISSUED: #2018-01731	12/21/2018
FEDERAL		
EPA - NPDES CGP	PENDING	



LOCATION MAP
SCALE: 1" = 2,000'

OWNER:

PEASE DEVELOPMENT AUTHORITY
55 INTERNATIONAL DRIVE
PORTSMOUTH, NEW HAMPSHIRE 03801

CLIENT:

LONZA BIOLOGICS
101 INTERNATIONAL DRIVE
PORTSMOUTH, NH 03801

CIVIL ENGINEER:

Tighe&Bond
Engineers | Environmental Specialists
177 CORPORATE DRIVE
PORTSMOUTH, NEW HAMPSHIRE 03801

SURVEYOR:

DOUCET SURVEY, INC.
102 KENT PLACE
NEWMARKET, NEW HAMPSHIRE 03857

WETLAND SCIENTIST:

GOVE ENVIRONMENTAL SERVICES, INC.
8 CONTINENTAL DRIVE, UNIT H
EXETER, NEW HAMPSHIRE 03833

STREAM DESIGN
CONSULTANT:

STREAMWORKS, PLLC
MADBURY, NEW HAMPSHIRE 03823



COMPLETE SET 75 SHEETS



EXISTING CONDITIONS & SUBDIVISION PLANS SHEET INDEX		
SHEET NO.	SHEET TITLE	LAST REVISED
	EXISTING CONDITIONS & SUBDIVISION PLANS COVER SHEET	08/16/2018
1 of 4	EXISTING CONDITIONS PLAN	08/16/2018
2 of 4	EXISTING CONDITIONS PLAN	08/16/2018
3 of 4	EXISTING CONDITIONS PLAN	08/16/2018
4 of 4	EXISTING CONDITIONS PLAN	08/16/2018
1 of 2	SUBDIVISION PLAN	04/16/2018
2 of 2	SUBDIVISION PLAN	04/16/2018

MASTER PLAN SET SHEET INDEX		
SHEET NO.	SHEET TITLE	LAST REVISED
	MASTER PLAN SET COVER SHEET	08/21/2019
C-101	DEMOLITION PLAN	08/21/2019
C-102	DEMOLITION PLAN	08/21/2019
C-103	DEMOLITION PLAN	08/21/2019
C-104	OVERALL SITE PLAN	08/21/2019
C-105	SITE PLAN	08/21/2019
C-106	SITE PLAN	08/21/2019
C-107	SITE PLAN	08/21/2019
C-108	GRADING, DRAINAGE & EROSION CONTROL PLAN	08/21/2019
C-109	GRADING, DRAINAGE & EROSION CONTROL PLAN	08/21/2019
C-110	GRADING, DRAINAGE & EROSION CONTROL PLAN	08/21/2019
C-111	UTILITIES PLAN	08/21/2019
C-112	UTILITIES PLAN	08/21/2019
C-113	UTILITIES PLAN	08/21/2019
C-114	LANDSCAPE PLAN	08/21/2019
C-115	LANDSCAPE PLAN	08/21/2019
C-116	LANDSCAPE PLAN	08/21/2019
C-117	PHOTOMETRIC LIGHTING PLAN	08/21/2019
C-118	PHOTOMETRIC LIGHTING PLAN	08/21/2019
C-119	PHOTOMETRIC LIGHTING PLAN	08/21/2019
ASK-001	SITE PLAN - PERSPECTIVE	08/09/2018
ASK-002	BUILDING 1 CONCEPT PLANS	07/12/2018

PHASE 1A PLAN SET SHEET INDEX		
SHEET NO.	SHEET TITLE	LAST REVISED
	PHASE 1A PLAN SET COVER SHEET	11/06/2018
C-121	PHASE 1A DEMOLITION PLAN	11/06/2018
C-122	PHASE 1A DEMOLITION PLAN	11/06/2018
C-123	PHASE 1A DEMOLITION PLAN	11/06/2018
C-124	PHASE 1A OVERALL SITE PLAN	11/06/2018
C-125	PHASE 1A SITE PLAN	11/06/2018
C-126	PHASE 1A SITE PLAN	11/06/2018
C-127	PHASE 1A SITE PLAN	11/06/2018
C-128	PHASE 1A GRADING, DRAINAGE & EROSION CONTROL PLAN	11/06/2018
C-129	PHASE 1A GRADING, DRAINAGE & EROSION CONTROL PLAN	11/06/2018
C-130	PHASE 1A GRADING, DRAINAGE & EROSION CONTROL PLAN	11/06/2018
C-131	PHASE 1A LANDSCAPE PLAN	11/06/2018
C-132	PHASE 1A LANDSCAPE PLAN	11/06/2018
C-133	PHASE 1A LANDSCAPE PLAN	11/06/2018
C-701	HODGSON BROOK GRADING, DRAINAGE & EROSION CONTROL PLAN	11/06/2018
C-702	HODGSON BROOK WETLAND PLANTING PLAN	11/06/2018
C-703	HODGSON BROOK DETAILS SHEET	11/06/2018

PHASE 1B PLAN SET SHEET INDEX		
SHEET NO.	SHEET TITLE	LAST REVISED
	PHASE 1B PLAN SET COVER SHEET	08/21/2019
C-141	PHASE 1B DEMOLITION PLAN	08/21/2019
C-142	PHASE 1B DEMOLITION PLAN	08/21/2019
C-143	PHASE 1B DEMOLITION PLAN	08/21/2019
C-144	PHASE 1B OVERALL SITE PLAN	08/21/2019
C-145	PHASE 1B SITE PLAN	08/21/2019
C-146	PHASE 1B SITE PLAN	08/21/2019
C-147	PHASE 1B SITE PLAN	08/21/2019
C-148	PHASE 1B GRADING, DRAINAGE & EROSION CONTROL PLAN	08/21/2019
C-149	PHASE 1B GRADING, DRAINAGE & EROSION CONTROL PLAN	08/21/2019
C-150	PHASE 1B GRADING, DRAINAGE & EROSION CONTROL PLAN	08/21/2019
C-151	PHASE 1B UTILITIES PLAN	08/21/2019
C-152	PHASE 1B UTILITIES PLAN	08/21/2019
C-153	PHASE 1B UTILITIES PLAN	08/21/2019
C-154	PHASE 1B LANDSCAPE PLAN	08/21/2019
C-155	PHASE 1B LANDSCAPE PLAN	08/21/2019
C-156	PHASE 1B LANDSCAPE PLAN	08/21/2019

DETAILS SHEET INDEX		
SHEET NO.	SHEET TITLE	LAST REVISED
	DETAILS COVER SHEET	11/06/2018
C-501	EROSION CONTROL NOTES & DETAILS SHEET	11/06/2018
C-502	DETAILS SHEET	11/06/2018
C-503	DETAILS SHEET	11/06/2018
C-504	DETAILS SHEET	11/06/2018
C-505	DETAILS SHEET	11/06/2018
C-506	DETAILS SHEET	11/06/2018
C-507	DETAILS SHEET	11/06/2018
C-508	DETAILS SHEET	11/06/2018
C-509	DETAILS SHEET	11/06/2018

Proposed Industrial Development

Lonza Biologics

Portsmouth,
New Hampshire

G	8/19/2019	Admin. Approval Submission
F	11/6/2018	P.B. Submission
E	8/30/2018	Revised AoT Submission
D	8/21/2018	Revised TAC Submission
C	6/18/2018	NHDES AoT Submission
B	5/21/2018	TAC Submission
A	4/3/2018	TAC W.S. Submission

MARK	DATE	DESCRIPTION
PROJECT NO:	L-0700-013	
DATE:	04/03/2018	
FILE:	L-0700-13-COVER.dwg	
DRAWN BY:	NAH	
CHECKED:	PMC	
APPROVED:	BLM	

SHEET INDEX

SCALE: AS SHOWN

C-100

EXISTING CONDITIONS & SUBDIVISION PLANS

APRIL 3, 2018

REVISED: AUGUST 16, 2018

LIST OF DRAWINGS		
SHEET NO.	SHEET TITLE	LAST REVISED
	COVER SHEET	08/16/2018
1 of 4	EXISTING CONDITIONS PLAN	08/16/2018
2 of 4	EXISTING CONDITIONS PLAN	08/16/2018
3 of 4	EXISTING CONDITIONS PLAN	08/16/2018
4 of 4	EXISTING CONDITIONS PLAN	08/16/2018
1 of 2	SUBDIVISION PLAN	04/16/2018
2 of 2	SUBDIVISION PLAN	04/16/2018

DRAINAGE STRUCTURE TABLE

CB #1013 RIM ELEV.=68.4' (1019) 18" HDPE INV.=64.4' (A) 18" HDPE INV.=64.4'	CBR #1324 RIM ELEV.=55.7' (A) 12" RCP INV.=52.3' (1325) 12" RCP INV.=51.9' (1305) 15" RCP INV.=51.9' (B) 22" RCP INV.=51.7'	CB #1461 RIM ELEV.=57.9' (1460) 12" RCP INV.=53.2'	CB #1732 RIM ELEV.=39.1' (1695) 10" RCP INV.=37.3'
CB #1019 RIM ELEV.=68.5' (A) 18" HDPE INV.=65.1' (1013) 18" HDPE INV.=64.7'	CB #1325 RIM ELEV.=55.7' (1399) 15" RCP INV.=51.9' (1324) 12" RCP INV.=51.8'	CB #1478 RIM ELEV.=54.2' (1515) 12" RCP INV.=47.2'	CBR #1733 RIM ELEV.=39.1' STRUCTURE DAMAGED
CB #1088 RIM ELEV.=66.6' (A) 6" HDPE INV.=62.0' (1111) 12" RCP INV.=61.6' (1095) 12" RCP INV.=61.6'	DMH #1338 RIM ELEV.=57.7' (SUMP)=49.9' (LARGE VAULT)	CB #1484 RIM ELEV.=49.0' BROKEN GRATE - NOT OPENED	DMH #1755 RIM ELEV.=42' (A) 24" RCP INV.=37.2' (B) 24" RCP INV.=37.1'
DMH #1095 RIM ELEV.=65.2' (1088) 12" RCP INV.=60.0' (1137) 12" RCP INV.=59.7'	CB #1345 RIM ELEV.=58.1' (1420) 12" RCP INV.=53.9'	CB #1504 RIM ELEV.=48.9' (A) 12" RCP INV.=42.7' (1484) 12" RCP INV.=42.6'	CB #1756 RIM ELEV.=42.5' (1769) 12" RCP INV.=39.2'
CB #1111 RIM ELEV.=66.8' (1088) 12" RCP INV.=61.9'	CB #1381 RIM ELEV.=57.2' (1212) 15" RCP INV.=54.3' (1311) 15" RCP INV.=54.4'	CB #1515 RIM ELEV.=54.1' BROKEN GRATE - NOT OPENED	CB #1769 RIM ELEV.=42.5' (1756) 12" RCP INV.=38.1' (A) 12" RCP INV.=33.5'
CB #1137 RIM ELEV.=60.7' (1095) 12" RCP INV.=57.3' (1285) 15" RCP INV.=56.8' (1141) 15" RCP INV.=56.8'	CB #1399 RIM ELEV.=55.5' (1325) 15" RCP INV.=52.3'	CB #1572 RIM ELEV.=58.3' NOT OPENED - OFF SITE	CB #1935 RIM ELEV.=49.7' NOT OPENED - SILT SOCK
DMH #1141 RIM ELEV.=61.1' (1300) 12" RCP INV.=57.2' (1137) 15" RCP INV.=56.9' (1147) 15" RCP INV.=56.6' (A) 15" RCP INV.=56.4' (B) 18" ASB INV.=56.3'	DMH #1408 RIM ELEV.=56.8' NOT OPENED - OFF SITE	CB #1542 RIM ELEV.=44.4' (1651) 12" RCP INV.=41.0'	CB #2031 RIM ELEV.=59.0' NOT OPENED - SILT SOCK
CB #1147 RIM ELEV.=61.5' (A) 15" RCP INV.=57.2' (1141) 15" RCP INV.=57.1'	CB #1420 RIM ELEV.=58.1' (1345) 12" RCP INV.=54.4' (1421) 12" HDPE INV.=54.1'	CB #1570 RIM ELEV.=40.7' (A) 18" RCP INV.=36.2' (B) 18" RCP INV.=36.2'	DMH #2142 RIM ELEV.=62.8' (A) 24" HDPE INV.=58.2' (B) 24" HDPE INV.=56.8'
CB #1183 RIM ELEV.=60.1' (1212) 15" RCP INV.=55.7'	DMH #1421 RIM ELEV.=57.4' (1420) 12" RCP INV.=54.3' SUMP=53.4' (FULL OF SILT)	CB #1580 RIM ELEV.=41.7' (1586) 15" RCP INV.=36.8'	CB #2152 RIM ELEV.=64.3' NOT OPENED - SILT SOCK
CB #1212 RIM ELEV.=57.5' (1183) 15" RCP INV.=54.8' (1381) 15" RCP INV.=54.6'	DMH #1438 RIM ELEV.=50.2' (A) 12" RCP INV.=44.6' (1439) 12" RCP INV.=44.6' (B) UNK. CMP INV.=42.9' (C) UNK. CMP INV.=42.9'	CB #1586 RIM ELEV.=41.9' (1580) 15" RCP INV.=36.4' (A) 15" RCP INV.=36.6'	DMH #2153 RIM ELEV.=64.5' (SUMP) INV.=53.9' FULL OF WATER
CB #1285 RIM ELEV.=60.7' (1137) 15" RCP INV.=57.0'	CBR #1439 RIM ELEV.=47.4' (1438) 12" RCP INV.=45.2'	CB #1611 RIM ELEV.=42.4' (1572) 12" RCP INV.=37.8' (A) 12" RCP INV.=37.5'	CB #2170 RIM ELEV.=65.7' NOT OPENED - SILT SOCK
CBR #1305 RIM ELEV.=56.7' (1311) 12" RCP INV.=52.8' (A) 15" RCP INV.=52.7' (1324) 15" RCP INV.=52.7'	CBR #1444 RIM ELEV.=48.3' 12" HDPE INV.=46.4' (SUMP) INV.=42.8'	CB #1651 RIM ELEV.=44.6' (1542) 12" RCP INV.=39.5' (A) 12" RCP INV.=39.5'	CBR #2246 RIM ELEV.=65.5' NOT OPENED - SILT SOCK
CB #1311 RIM ELEV.=57.1' (1381) 15" RCP INV.=53.4' (1305) 12" RCP INV.=53.0'	DMH #1460 RIM ELEV.=58' (1461) 12" RCP INV.=51.6' (1456) 12" RCP INV.=51.5' (A) 15" RCP INV.=50.7'	CB #1678 RIM ELEV.=39.2' (TOP OF WATER) INV.=36.5' (A) 12" RCP INV.=35.4'	CBR #2327 RIM ELEV.=40.2' (A) 12" RCP INV.=38.3'

SEWER STRUCTURE TABLE

SMH #1062 RIM ELEV.=69.8' (A) 6" PVC INV.=63.9' (B) 6" CLAY INV.=63.7' (1067) 8" CLAY INV.=62.6'	SMH #1551 RIM ELEV.=43.6' (A) 8" PVC INV.=35.6' (B) 12" UNK. INV.=34.2' (C) 12" UNK. INV.=34.1'
SMH #1067 RIM ELEV.=68.6' (1062) 8" CLAY INV.=60.4' (2242) 8" UNK. INV.=60.3'	SMH #1691 RIM ELEV.=39.9' (1784) UNK. INV.=34.2' (1722) UNK. INV.=34.1'
SMH #1078 RIM ELEV.=69.0' COULD NOT OPEN	SMH #1722 RIM ELEV.=41.1' (A) 6" CLAY INV.=33.2' (1691) UNK. CLAY INV.=33.1'
SMH #1123 RIM ELEV.=64' (1295) 8" PVC INV.=55.8'	SMH #1784 RIM ELEV.=41.1' (1921) 10" UNK. INV.=35.4' (1691) 10" UNK. INV.=35.5'
SMH #1169 RIM ELEV.=65.2' (1184) 15" STEEL INV.=53.8' (A) 15" STEEL INV.=53.8'	SMH #1921 RIM ELEV.=44.8' (1953) UNK. INV.=37' (1784) UNK. INV.=36.9'
SMH #1184 RIM ELEV.=60.4' (1296) 8" CLAY INV.=54.2' (1217) 15" STEEL INV.=52.7' (1169) 15" STEEL INV.=52.7'	SMH #1953 RIM ELEV.=50.1' (A) 6" CLAY INV.=42.4' (2080) UNK. INV.=42.2' (1921) UNK. INV.=42.2'
SMH #1217 RIM ELEV.=57.9' (1184) 15" STEEL INV.=52.3' (1400) 15" STEEL INV.=52.2'	SMH #2080 RIM ELEV.=57.9' (A) 8" UNK. INV.=50.1' 2187) 8" UNK. INV.=50.1' (1953) 8" UNK. INV.=49.9'
SMH #1296 RIM ELEV.=63.7' (1123) 8" PVC INV.=55.5' (2326) 8" UNK. INV.=55.0' (1184) 8" UNK. INV.=55.0'	SMH #2187 RIM ELEV.=63' (A) 6" PVC INV.=54.9' (2242) 8" PVC INV.=54.9' (2080) 8" PVC INV.=54.9'
SMH #1400 RIM ELEV.=55.6' (1217) 15" ASB INV.=49.3' (1415) 15" ASB INV.=49.3'	SMH #2242 RIM ELEV.=65.0' (1067) 8" CLAY INV.=56.8' (2187) 8" CLAY INV.=57.0'
SMH #1415 RIM ELEV.=57.9' (A) 12" PVC INV.=48.3' (1400) 18" UNK. INV.=47.9' (1450) 18" PVC INV.=48.0'	SMH #2326 RIM ELEV.=68.1' (1078) 8" PVC INV.=62.2' (1296) 8" ASB INV.=62.1'
SMH #1450 RIM ELEV.=60.5' (1415) 18" PVC INV.=47.6' (1459) 18" PVC INV.=47.5'	SMH #2328 RIM ELEV.=43.1' (1551) 12" UNK. INV.=32.3' (A) 18" UNK. INV.=32.3'
SMH #1459 RIM ELEV.=58.8' (A) 8" PVC INV.=48.4' (1450) 18" PVC INV.=47.1' (B) 18" PVC INV.=47.1'	

PURSUANT TO RSA 676:18, III:

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.

I CERTIFY THAT THIS SURVEY AND PLAN WERE PREPARED BY ME OR BY THOSE UNDER MY DIRECT SUPERVISION AND FALLS UNDER THE URBAN SURVEY CLASSIFICATION OF THE NH CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS. I CERTIFY THAT THIS SURVEY WAS MADE ON THE GROUND AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. RANDOM TRAVERSE SURVEY BY TOTAL STATION, WITH A PRECISION GREATER THAN 1:15,000."

Jeffrey A. Goldknopf L.L.S. #964
8-16-18 DATE

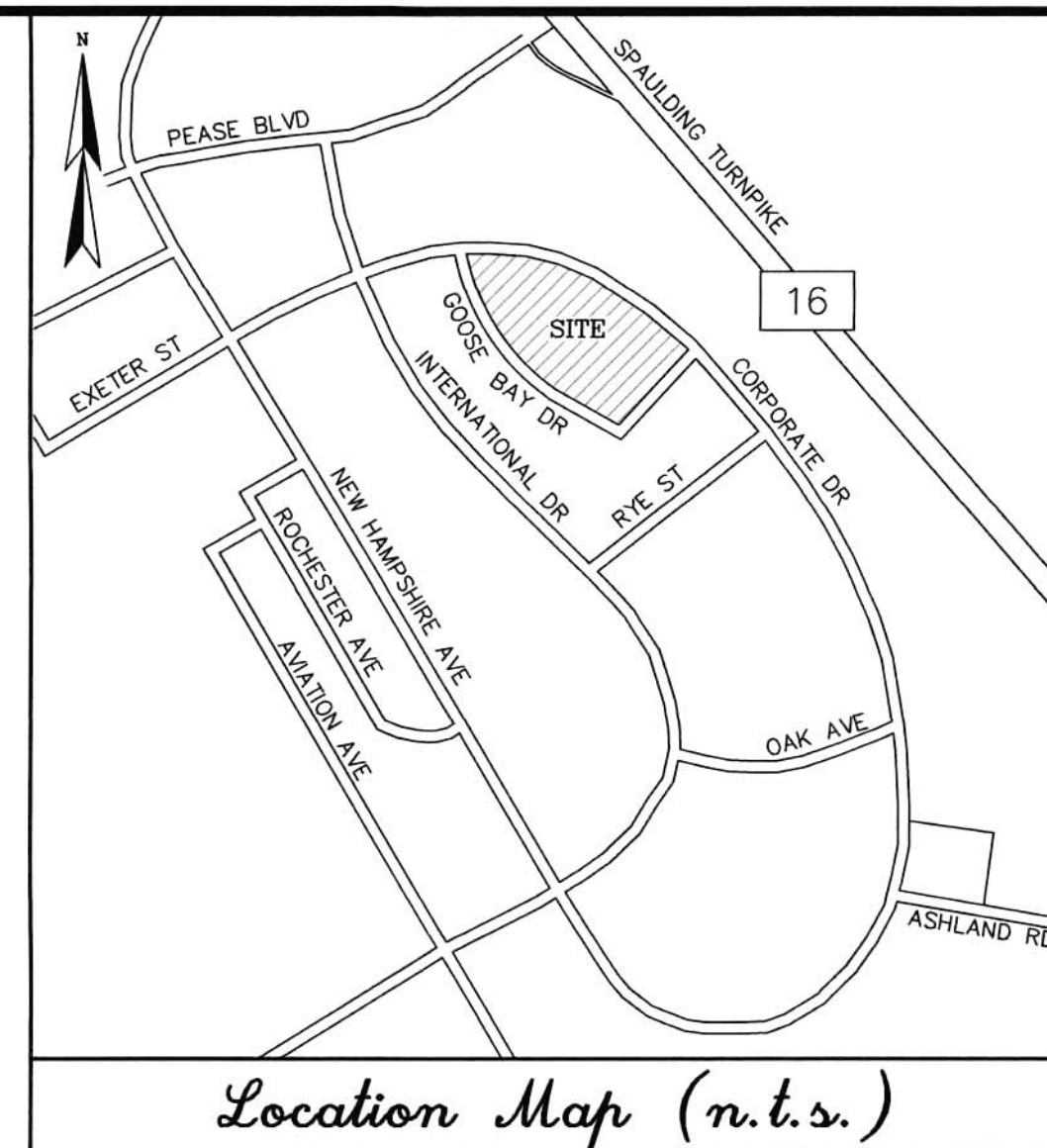
THE CERTIFICATIONS SHOWN HEREON ARE INTENDED TO MEET REGISTRY OF DEED REQUIREMENTS AND ARE NOT A CERTIFICATION TO TITLE OR OWNERSHIP OF PROPERTY SHOWN. OWNERS OF ADJOINING PROPERTIES ARE ACCORDING TO CURRENT TOWN ASSESSORS RECORDS.

REFERENCE PLANS:

- "R.O.W. WORKSHEET, CORPORATE DRIVE PREPARED FOR PEASE DEVELOPMENT AUTHORITY" DATED DEC. 21, 1992 BY RICHARD D. BARTLETT & ASSOCIATES, INC. SHEETS 1 AND 2.
- "PEASE A.F.B. / PORTSMOUTH, N.H. REPAVE BASE STREETS, PORTSMOUTH AVE, ROCKINGHAM AVE." DATED 7 DEC 82 BY STRATEGIC AIR COMMAND CIVIL ENGINEERING. SHEET 4 OF 5
- "PORTSMOUTH AIR FORCE BASE, PORTSMOUTH, N.H. ROADS AND STORAGE AREA FY-56" DATED DEC 1955 BY WHITMAN & HOWARD ENGINEERS. INDEX PAGE AND SHEETS 2 - 5 OF 11.
- "PEASE INTERNATIONAL TRADEPORT SUBDIVISION PLAT, INTERNATIONAL DRIVE LOTS BC11-001 & BC11-002, PORTSMOUTH, N.H." DATED FEBRUARY 5, 1993 BY RICHARD D. BARTLETT & ASSOCIATES INC. R.C.R.D. PLAN #D22536.
- "SUBDIVISION PLAN OF LAND FOR REDHOOK ALE BREWERY, INC. CORPORATE DRIVE, COUNTY OF ROCKINGHAM, PORTSMOUTH, N.H." DATED DECEMBER 10, 1994 BY RICHARD P. MILLETTE AND ASSOCIATES. R.C.R.D. PLAN #D-23978.
- "ALTA/ACSM LAND TITLE SURVEY FOR RESPORT, LLC, ONE INTERNATIONAL DRIVE, COUNTY OF ROCKINGHAM, PORTSMOUTH, N.H." DATED FEBRUARY 27, 1998 BY MILLETTE, SPRAGUE & COLWELL, INC. R.C.R.D. PLAN #D-26125.
- "FRANKLIN PIERCE COLLEGE, PEASE INTERNATIONAL TRADEPORT, 73 CORPORATE DRIVE, PORTSMOUTH, NH" DATED JANUARY 15, 1998 BY RONALD R. BURD. R.C.R.D. PLAN #D-26427.
- "SUBDIVISION PLAN FOR LAND LEASED BY PEASE DEVELOPMENT AUTHORITY & KNOWN AS #119 INTERNATIONAL DRIVE LOCATED AT PEASE INTERNATIONAL TRADEPORT, PORTSMOUTH, N.H." DATED MARCH 1, 2000 BY KNIGHT HILL LAND SURVEYING SERVICES, INC. R.C.R.D. PLAN #D-28059.
- "SUBDIVISION PLAT PREPARED FOR 80 CORPORATE DRIVE LLC C/O BOULOS PROPERTY MANAGEMENT, LOCATION CORPORATE & GOOSE BAY DRIVES, PEASE INTERNATIONAL TRADEPORT - PORTSMOUTH, NH" DATED APRIL 11, 2000 BY FWS LAND SURVEYING P.L.L.C. R.C.R.D. PLAN #D-28447.
- "LEASE LINE REVISION PLAN FOR LONZA BIOLOGICS, INC. 101 INTERNATIONAL DRIVE, PORTSMOUTH, NEW HAMPSHIRE" DATED FEB. 5, 2001 BY DOUCET SURVEY, INC. R.C.R.D. PLAN #D-28955.
- "LEASE LINE REVISION PLAN FOR LONZA BIOLOGICS, INC. 101 INTERNATIONAL DRIVE, PORTSMOUTH, NEW HAMPSHIRE" DATED SEPT. 17, 2001 BY DOUCET SURVEY, INC. R.C.R.D. PLAN #D-29538.
- "SUBDIVISION PLAN OF LAND OF PEASE DEVELOPMENT AUTHORITY TO BE LEASED TO NORTHEAST REHABILITATION (A PORTION OF TAX MAP 303, LOT 6) 105 & 121 CORPORATE DRIVE, PEASE TRADEPORT, PORTSMOUTH, NEW HAMPSHIRE" DATED NOV. 5, 2008 BY DOUCET SURVEY, INC. R.C.R.D. PLAN #D-35869.
- "CONDOMINIUM SITE & FLOOR PLAN PREPARED FOR PIONEER NEW HAMPSHIRE, LLC, LAND OF PEASE DEVELOPMENT AUTHORITY, TAX MAP PARCEL 305-3 (108, 110, 112 & 114 CORPORATE DRIVE) PORTSMOUTH, NEW HAMPSHIRE" DATED APRIL 12, 2013 BY FIELDSTONE LAND CONSULTANTS, PLLC. SHEET 1 OF 5. R.C.R.D. PLAN #D-37765.
- "SUBDIVISION PLAN FOR PEASE DEVELOPMENT AUTHORITY, (TAX MAP 303, LOT 4) 67 CORPORATE DRIVE, PEASE TRADEPORT, PORTSMOUTH NEW HAMPSHIRE" DATED MAY 29, 2009 BY DOUCET SURVEY, INC. (NOT RECORDED)
- "EXISTING CONDITIONS, BUILDING A, 80 CORPORATE DRIVE AND BUILDING B, 70 CORPORATE DRIVE, PORTSMOUTH, NH" DATED 4/14/2000 AND REVISED 6/05/2000 BY OPECHEE CONSTRUCTION CORPORATION. (NOT RECORDED)

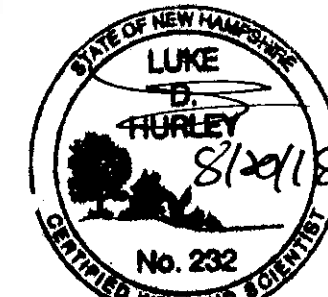
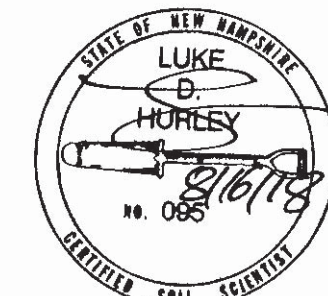
LEGEND

- EXISTING LEASE/R.O.W. LINES
- CHAIN LINK FENCE
- OVERHEAD WIRES
- SEWER LINE
- DRAIN LINE
- GAS LINE
- WATER LINE
- UNDERGROUND ELECTRIC LINE
- SEWER LINE PER REF. PLAN #15
- DRAIN LINE PER REF. PLAN #15
- GAS LINE PER REF. PLAN #15
- WATER LINE PER REF. PLAN #15
- MAJOR CONTOUR LINE
- MINOR CONTOUR LINE
- TREE LINE
- EDGE OF WETLAND (SEE NOTE #6)
- HISS LINE (SEE NOTE #6)
- UTILITY POLE
- SIGN
- GRANITE BOUND FOUND
- DRILL HOLE FOUND
- IRON PIPE/ROD FOUND
- 4"x4" GRANITE BOUND TO BE SET
- 5/8" REBAR W/ ID CAP TO BE SET
- BOLLARD
- FIRE HYDRANT
- WATER GATE VALVE
- GAS GATE VALVE
- PAD MOUNTED TRANSFORMER
- ELECTRIC BOX
- TELEPHONE BOX
- UTILITY BOX
- CABLE BOX
- CATCH BASIN
- CATCH BASIN
- CATCH BASIN
- DRAIN MANHOLE
- FLARED END SECTION
- ELECTRIC MANHOLE
- TELEPHONE MANHOLE
- SEWER MANHOLE
- CLEANOUT
- CATCH BASIN PER REF. PLAN #15
- DRAIN MANHOLE PER REF. PLAN #15
- SEWER MANHOLE PER REF. PLAN #15
- HAND HOLE
- WETLAND AREA
- CONFIDIOUS TREE
- DECIDUOUS TREE
- CONCRETE
- RIP RAP
- GRAVEL AREA
- LEDGE OUTCROP
- BOUND FOUND
- DRILL HOLE FOUND
- EDGE OF PAVEMENT
- SINGLE WHITE LINE
- DOUBLE YELLOW LINE
- VERTICAL GRANITE CURB
- HISS SOIL TYPE
- BND. FND.
- D.H.F.
- EP
- SWL
- DYL
- VGC



NOTES:

- REFERENCE: TAX MAP 305, LOT 1 PHYSICAL ADDRESS: 70 CORPORATE DRIVE TAX MAP 305, LOT 2 PHYSICAL ADDRESS: 80 CORPORATE DRIVE
- TOTAL PARCEL AREA: TAX MAP 305, LOT 1: 443,578 SQ. FT. OR 10.183 AC. TAX MAP 305, LOT 2: 604,273 SQ. FT. OR 13.872 AC. TOTAL AREA: 1,047,851 SQ. FT. OR 24.055 AC.
- OWNER OF RECORD: TAX MAP 305, LOTS 1 & 2 PEASE DEVELOPMENT AUTHORITY 55 INTERNATIONAL DRIVE PORTSMOUTH, NEW HAMPSHIRE 03801 R.C.R.D. BOOK 4227, PAGE 001
- ZONE: AIRPORT, BUSINESS & COMMERCIAL (ABC)
- FIELD SURVEY PERFORMED BY J.M.L, E.J.S., J.P.E., J.F.K., AND N.J.M. DURING NOVEMBER 2015 USING A TRIMBLE RB SURVEY GRADE GPS UNIT AND A TRIMBLE S6 ROBOTIC TOTAL STATION WITH A TRIMBLE TSC3 DATA COLLECTOR.
- JURISDICTIONAL WETLANDS DELINEATED BY GOVE ENVIRONMENTAL SERVICES, INC. DURING FALL 2014 IN ACCORDANCE WITH 1987 CORPS OF ENGINEERS WETLANDS DELINEATIONS MANUAL, TECHNICAL REPORT Y-87-1, HISS/SITE SPECIFIC SOILS MAPPING COMPLETED BY GOVE ENVIRONMENTAL SERVICES DURING DECEMBER 2015.
- FLOOD HAZARD ZONE: "X", PER FIRM MAP #33015C0260E, DATED MAY 17, 2005.
- HORIZONTAL DATUM BASED ON NH STATE PLANE 2800(NAD83/86) PER REFERENCE PLANS #10, #11, & #12.
- VERTICAL DATUM IS BASED ON NGVD29 PER REFERENCE PLANS #10, #11, & #12.
- PROPER FIELD PROCEDURES WERE FOLLOWED IN ORDER TO GENERATE CONTOURS AT 2' INTERVALS. ANY MODIFICATION OF THIS INTERVAL WILL DIMINISH THE INTEGRITY OF THE DATA, AND DOUCET SURVEY, INC. WILL NOT BE RESPONSIBLE FOR ANY SUCH ALTERATION PERFORMED BY THE USER.
- UNDERGROUND UTILITIES SHOWN HEREON ARE BASED ON OBSERVABLE PHYSICAL EVIDENCE AND PAINT MARKS FOUND ON-SITE. THE SITE WAS NOT MARKED FOR THE PURPOSES OF THIS SURVEY. SOME UTILITIES ARE SHOWN PER REFERENCE PLANS AS NOTED IN THE LEGEND.
- THE ACCURACY OF MEASURED UTILITY INVERTS AND PIPE SIZES/TYPES IS SUBJECT TO NUMEROUS FIELD CONDITIONS, INCLUDING: THE ABILITY TO MAKE VISUAL OBSERVATIONS, DIRECT ACCESS TO THE VARIOUS ELEMENTS, MANHOLE CONFIGURATION, ETC.
- THE INTENT OF THIS PLAN IS TO SHOW THE LOCATION OF BOUNDARIES IN ACCORDANCE WITH AND IN RELATION TO THE CURRENT LEGAL DESCRIPTION, AND IS NOT AN ATTEMPT TO DEFINE UNWRITTEN RIGHTS, DETERMINE THE EXTENT OF OWNERSHIP, OR DEFINE THE LIMITS OF TITLE.
- TAX MAP 305, LOTS 1 & 2 ARE EITHER SUBJECT TO OR IN BENEFIT OF, BUT NOT LIMITED TO, THE FOLLOWING EASEMENTS/RIGHTS OF RECORD:
 - 50' WIDE ACCESS EASEMENT FOR THE BENEFIT OF LOT 305-2. (SHOWN PER REFERENCE PLAN #9)
 - APPROXIMATE LOCATION OF 20' WIDE LICENSE TO THE CITY OF PORTSMOUTH FOR THE PURPOSES OF MAINTAINING A DRAINAGE LINE. (SHOWN PER REFERENCE PLAN #9)
- FINAL MONUMENTATION MAY BE DIFFERENT THAN THE PROPOSED MONUMENTATION SHOWN HEREON, DUE TO THE FACT THAT SITE CONDITIONS WILL DICTATE THE ACTUAL LOCATION AND TYPE OF MONUMENTS INSTALLED IN THE FIELD. PLEASE REFER TO EITHER THE "MONUMENTATION LOCATION PLAN" TO BE RECORDED OR CONTACT DOUCET SURVEY, INC. FOR CLARIFICATION OF MONUMENTS SET. (A RECORDED PLAN WILL BE PRODUCED AT THE DISCRETION OF DOUCET SURVEY, INC.).



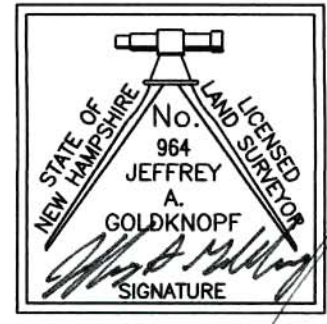
EXISTING CONDITIONS PLAN FOR TIGHE & BOND AND LONZA LAND OF PEASE DEVELOPMENT AUTHORITY (TAX MAP 305, LOTS 1 & 2) GOOSE BAY DRIVE & CORPORATE DRIVE PORTSMOUTH, NEW HAMPSHIRE

DRAWN BY: K.C.W.	DATE: DEC. 23, 2015
CHECKED BY: J.A.G.	DRAWING NO.: 4375A
JOB NO.: 4375	SHEET 1 OF 4

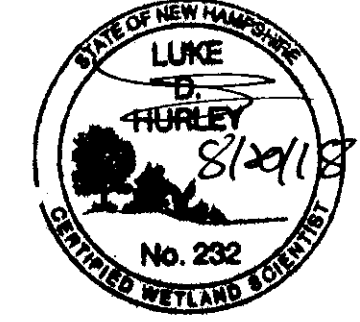
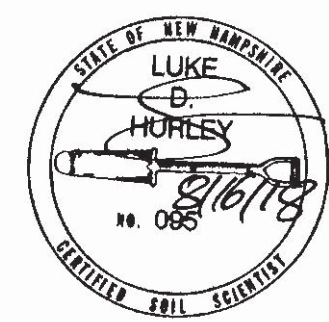
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NO.	DATE	DESCRIPTION	BY
2	8/16/18	MOD. DRAINAGE	J.A.G.
1	8/3/16	GENERAL EDITS AND ADDED WETLANDS BUFFER	J.A.G.

NOTE: ALL ELECTRIC, GAS, TEL, WATER, SEWER AND DRAIN SERVICES ARE SHOWN IN SCHEMATIC FASHION, THEIR LOCATIONS ARE NOT PRECISE OR NECESSARILY ACCURATE. NO WORK WHATSOEVER SHALL BE UNDERTAKEN ON THIS SITE USING THIS PLAN TO LOCATE THE ABOVE SERVICES. CONSULT WITH THE PROPER AUTHORITIES CONCERNED WITH THE SUBJECT SERVICE LOCATIONS FOR INFORMATION REGARDING SUCH. CALL DIG-SAFE AT 1-888-DIG-SAFE.



SOIL IDENTIFICATION LEGEND	
SYMBOL	SOIL TAXONOMIC NAME, SLOPE RATING
89C	CHATFIELD, 8 TO 15 PERCENT SLOPES
313B	DEERFIELD, 0 TO 8 PERCENT SLOPES
313C	DEERFIELD, 8 TO 15 PERCENT SLOPES
915B	DEERFIELD VARIANT, 0 TO 8 PERCENT SLOPES
546B/P	WALPOLE POORLY DRAINED, 0 TO 8 PERCENT SLOPES
799B	UDORTHENTS URBAN LAND, 0 TO 8 PERCENT SLOPES
799E	UDORTHENTS URBAN LAND, >25 PERCENT SLOPES



TAX MAP 303, LOT 2-1
OPROCK PORTSMOUTH INTL FEE LLC
C/O OCEAN PROPERTIES LTD
1000 MARKET ST SUITE 300
PORTSMOUTH, NH 03801
R.C.R.D. BOOK 4831, PAGE 2677

TAX MAP 303, LOT 2-2
RESPORT LLC
1000 MARKET ST BLDG 1 STE 300
PORTSMOUTH, NH 03801

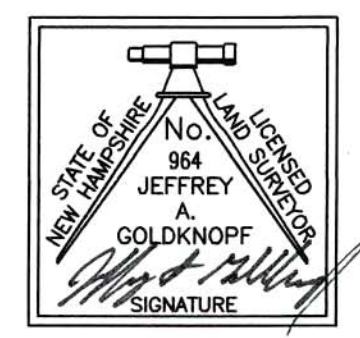
TAX MAP 305, LOT 7
PEASE DEVELOPMENT AUTHORITY
55 INTERNATIONAL DRIVE
PORTSMOUTH, NEW HAMPSHIRE 03801

TAX MAP 305, LOT 7-1
UNIVERSITY SYSTEM OF NEW HAMPSHIRE
COLLEGE FOR LIFELONG LEARNING
51 INTERNATIONAL DRIVE
PORTSMOUTH, NH 03801

TAX MAP 305, LOT 7-1
CITY OF PORTSMOUTH
1 JUNKINS AVE
PORTSMOUTH, NH 03801

TAX MAP 303, LOT 3
RED HOOK BREWERY INC
C/O WIDMER BROTHERS BREWING CO
929 NORTH RUSSELL ST.
PORTLAND, OR 97227

TAX MAP 305, LOT 6
LONZA BIOLOGICS INC
101 INTERNATIONAL DRIVE
PORTSMOUTH, NH 03801



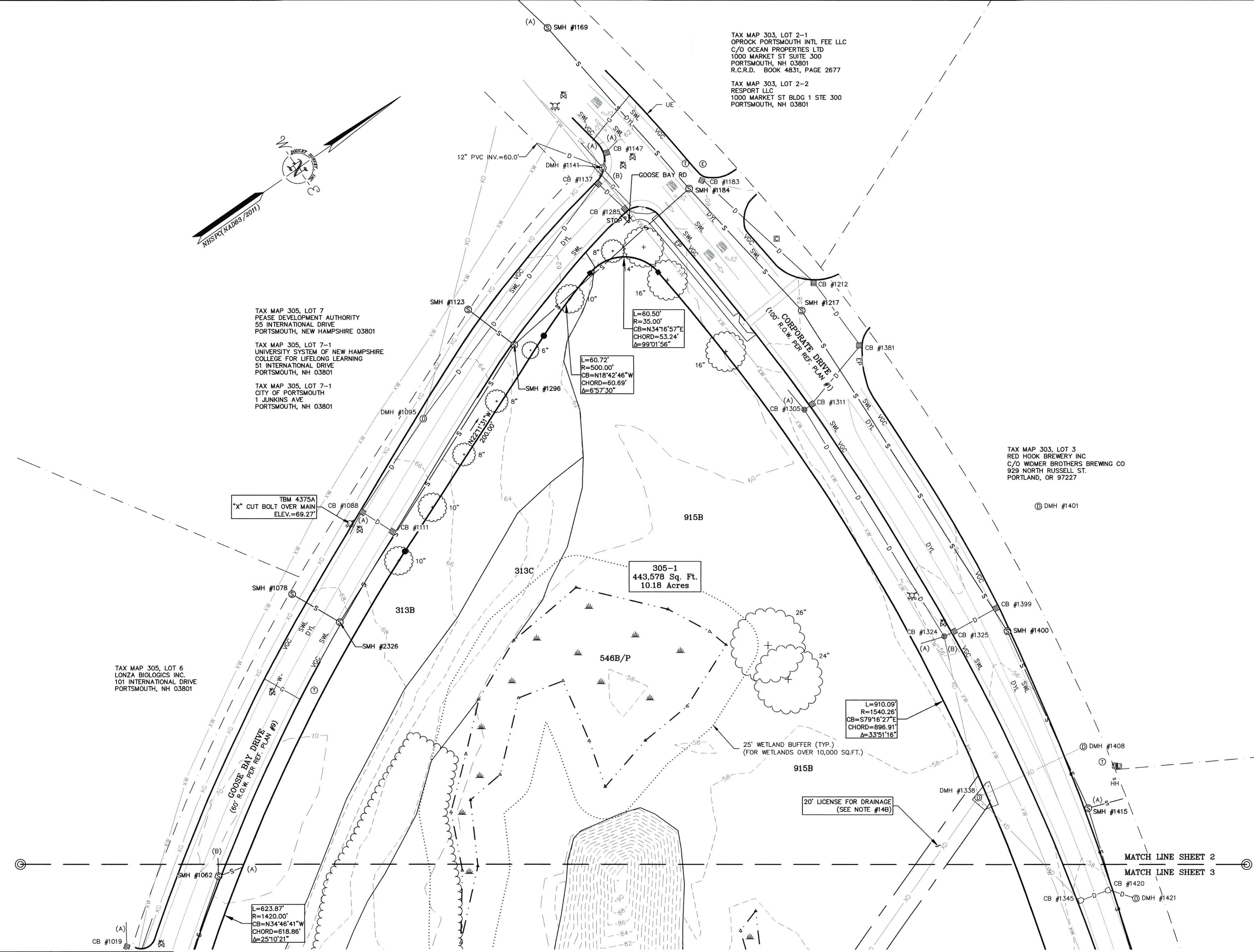
PURSUANT TO RSA 676:18, III:
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Jeffrey A. Goldknopf L.L.S. #964
8-16-15 DATE

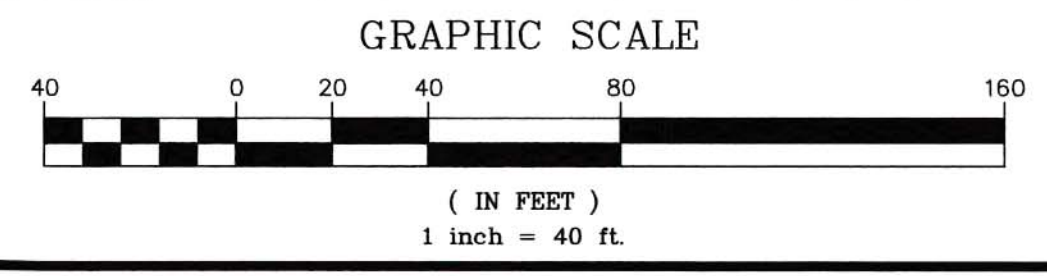
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EXISTING CONDITIONS PLAN
FOR
TIGHE & BOND AND LONZA
LAND OF
PEASE DEVELOPMENT AUTHORITY
(TAX MAP 305, LOTS 1 & 2)
GOOSE BAY DRIVE & CORPORATE DRIVE
PORTSMOUTH, NEW HAMPSHIRE



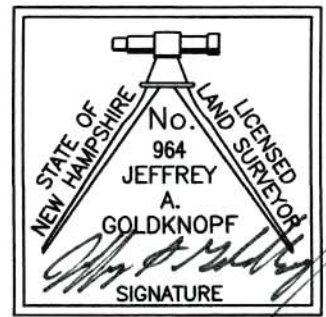
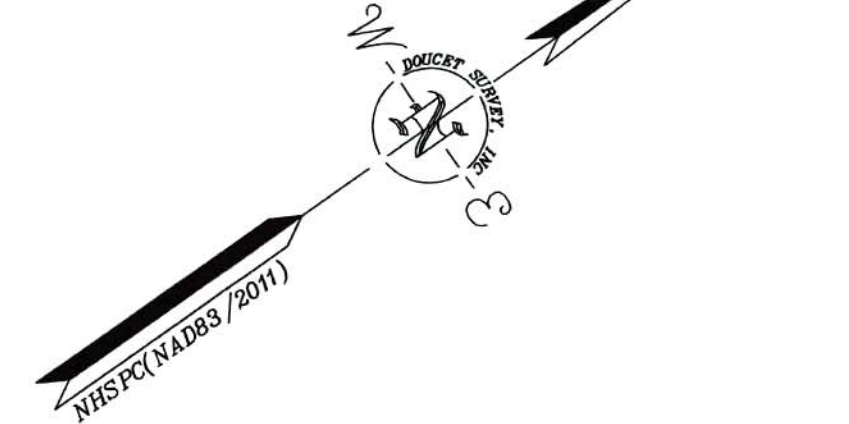
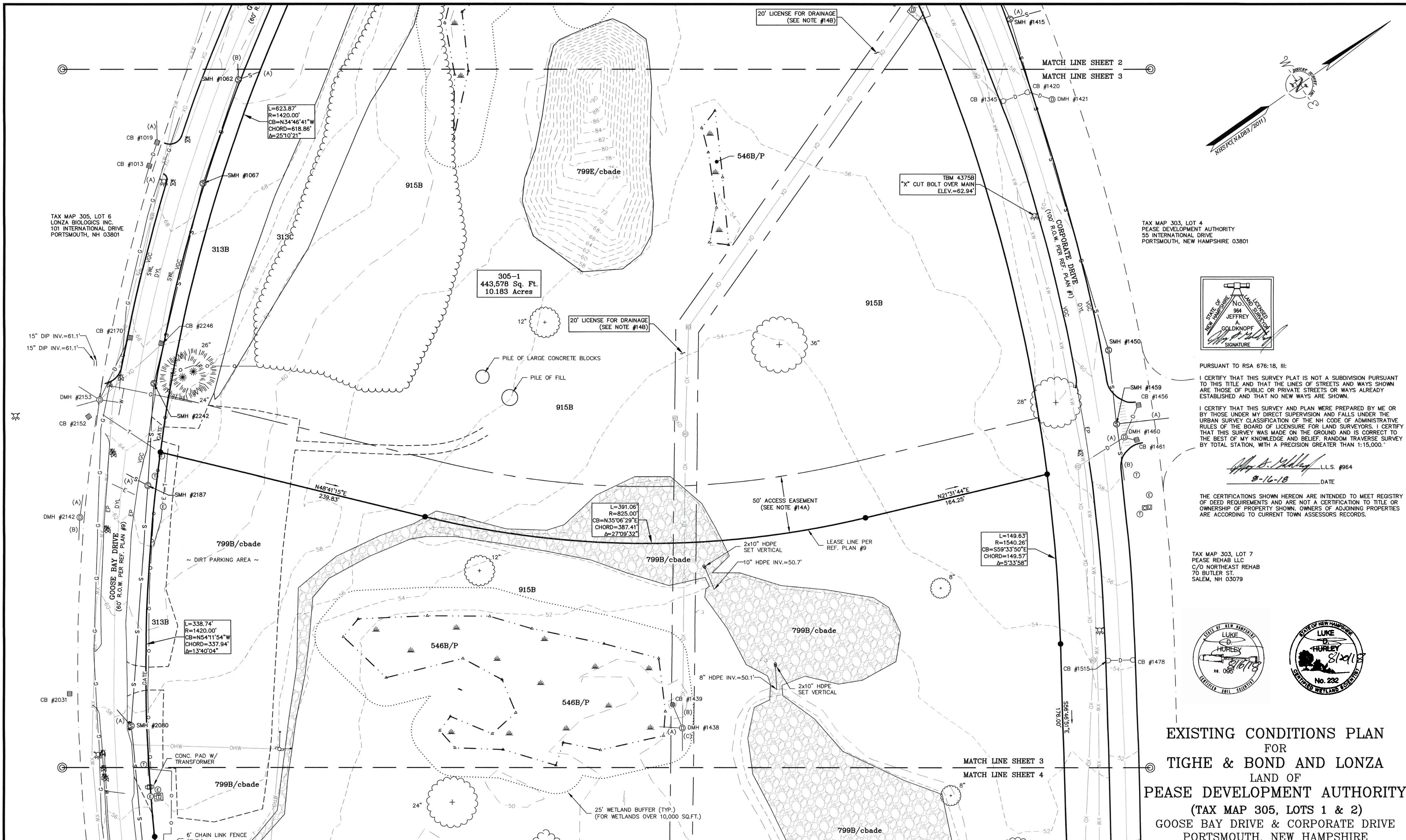
NO.	DATE	DESCRIPTION	BY
2	8/16/18	MOD. DRAINAGE	J.A.G.
		MOD. SOIL TYPES PER G.E.S.	
1	8/3/16	GENERAL EDITS AND ADDED WETLANDS BUFFER	J.A.G.

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DRAWN BY:	K.C.W.	DATE:	DEC. 23, 2015
CHECKED BY:	J.A.G.	DRAWING NO.:	4375A
JOB NO.:	4375	SHEET	2 OF 4

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Luke D. Hurley L.L.S. #964
 8-16-18 DATE

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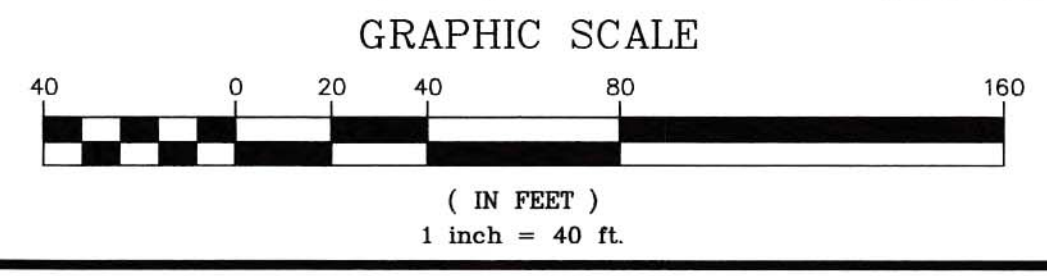
TAX MAP 303, LOT 7
 PEASE REHAB LLC
 C/O NORTHEAST REHAB
 70 BUTLER ST.
 SALEM, NH 03079



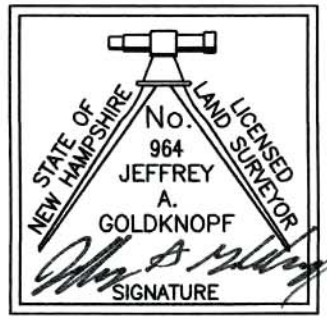
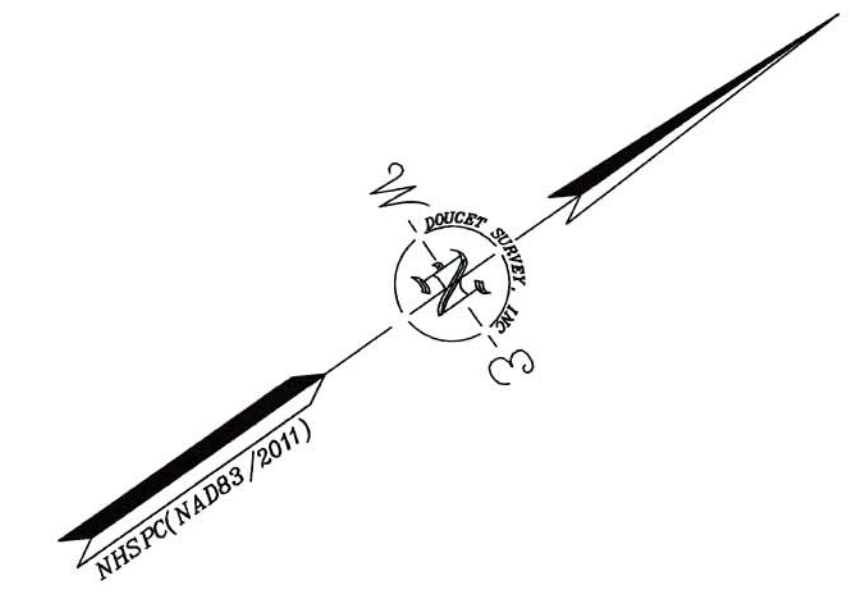
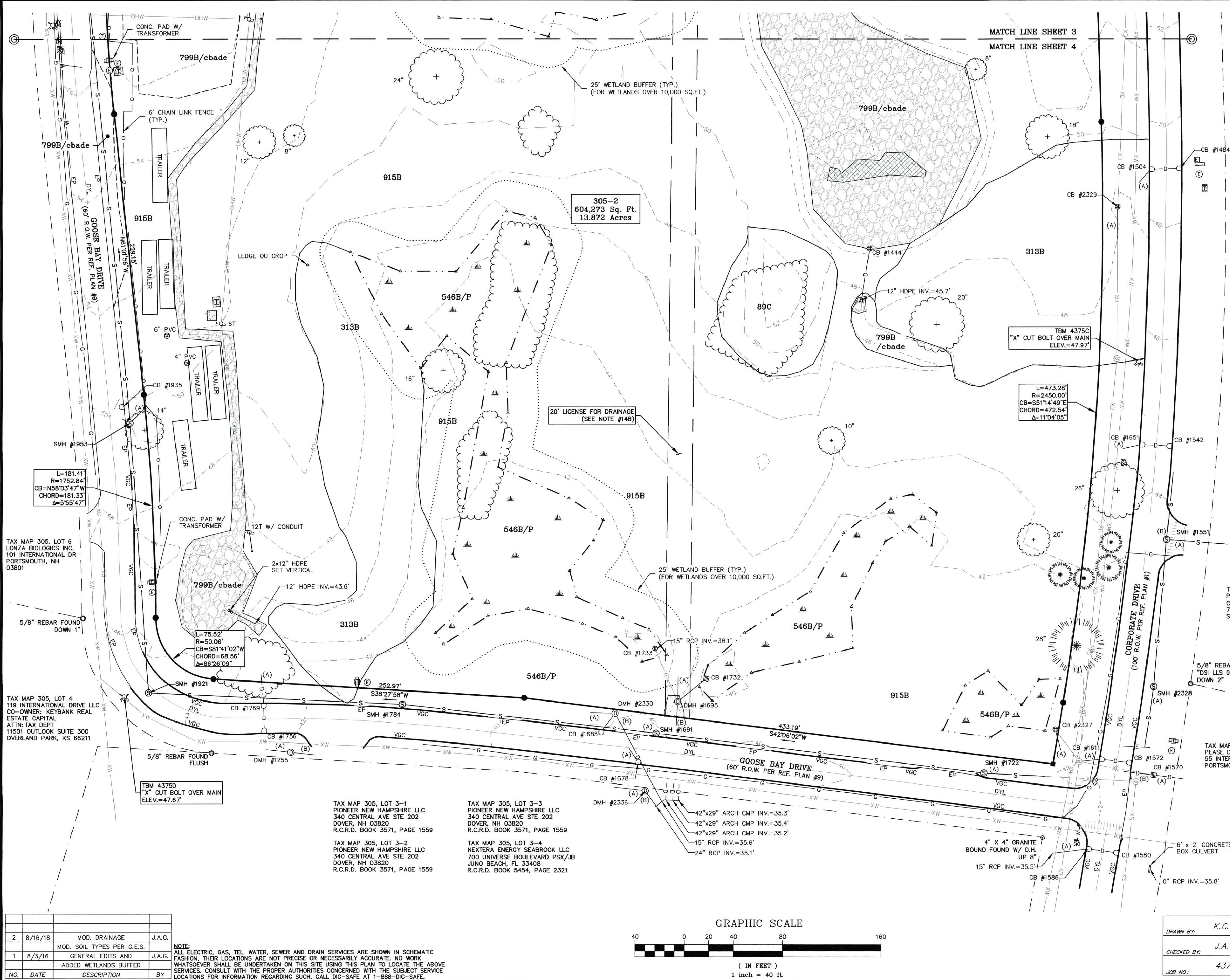
EXISTING CONDITIONS PLAN
 FOR
TIGHE & BOND AND LONZA
 LAND OF
PEASE DEVELOPMENT AUTHORITY
 (TAX MAP 305, LOTS 1 & 2)
 GOOSE BAY DRIVE & CORPORATE DRIVE
 PORTSMOUTH, NEW HAMPSHIRE

NO.	DATE	DESCRIPTION	BY
2	8/16/18	MOD. DRAINAGE	J.A.G.
		MOD. SOIL TYPES PER G.E.S.	
1	8/3/16	GENERAL EDITS AND ADDED WETLANDS BUFFER	J.A.G.

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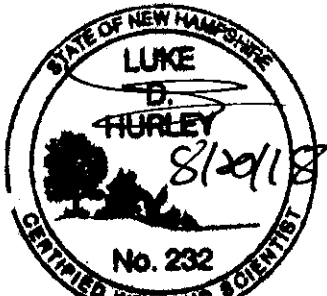
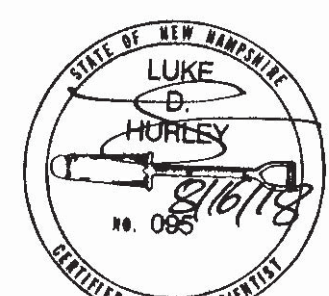
DRAWN BY:	K.C.W.	DATE:	DEC. 23, 2015
CHECKED BY:	J.A.G.	DRAWING NO.:	4375A
JOB NO.:	4375	SHEET	3 OF 4



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 8-16-18 DATE

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TAX MAP 303, LOT 7
 PEASE REHAB LLC
 C/O NORTHEAST REHAB
 70 BUTLER ST.
 SALEM, NH 03079

5/8" REBAR FOUND W/
 "DSI ILLS 937" CAP,
 DOWN 2"

TAX MAP 303, LOT 8
 PEASE DEVELOPMENT AUTHORITY
 55 INTERNATIONAL DRIVE
 PORTSMOUTH, NEW HAMPSHIRE 03801

**EXISTING CONDITIONS PLAN
 FOR
 TIGHE & BOND AND LONZA
 LAND OF
 PEASE DEVELOPMENT AUTHORITY
 (TAX MAP 305, LOTS 1 & 2)
 GOOSE BAY DRIVE & CORPORATE DRIVE
 PORTSMOUTH, NEW HAMPSHIRE**

TAX MAP 305, LOT 6
 LONZA BIOLOGICS INC.
 101 INTERNATIONAL DR
 PORTSMOUTH, NH
 03801

TAX MAP 305, LOT 4
 119 INTERNATIONAL DRIVE LLC
 CO-OWNER: KEYBANK REAL
 ESTATE CAPITAL
 ATTN: TAX DEPT.
 11501 OUTLOOK SUITE 300
 OVERLAND PARK, KS 66211

TAX MAP 305, LOT 3-1
 PIONEER NEW HAMPSHIRE LLC
 340 CENTRAL AVE STE 202
 DOVER, NH 03820
 R.C.R.D. BOOK 3571, PAGE 1559

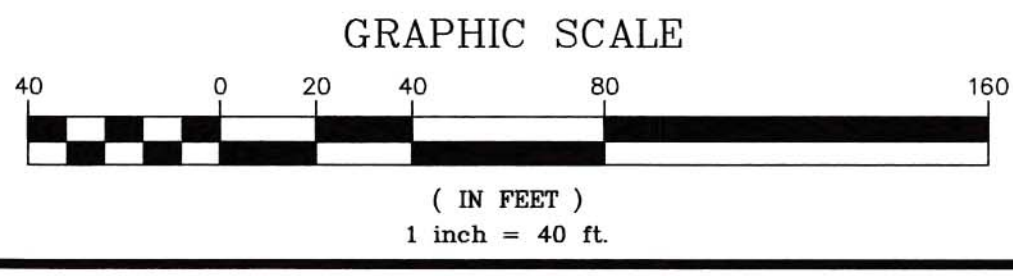
TAX MAP 305, LOT 3-3
 PIONEER NEW HAMPSHIRE LLC
 340 CENTRAL AVE STE 202
 DOVER, NH 03820
 R.C.R.D. BOOK 3571, PAGE 1559

TAX MAP 305, LOT 3-2
 PIONEER NEW HAMPSHIRE LLC
 340 CENTRAL AVE STE 202
 DOVER, NH 03820
 R.C.R.D. BOOK 3571, PAGE 1559

TAX MAP 305, LOT 3-4
 NEXTERA ENERGY SEABROOK LLC
 700 UNIVERSE BOULEVARD PSX/JB
 JUNO BEACH, FL 33408
 R.C.R.D. BOOK 5454, PAGE 2321

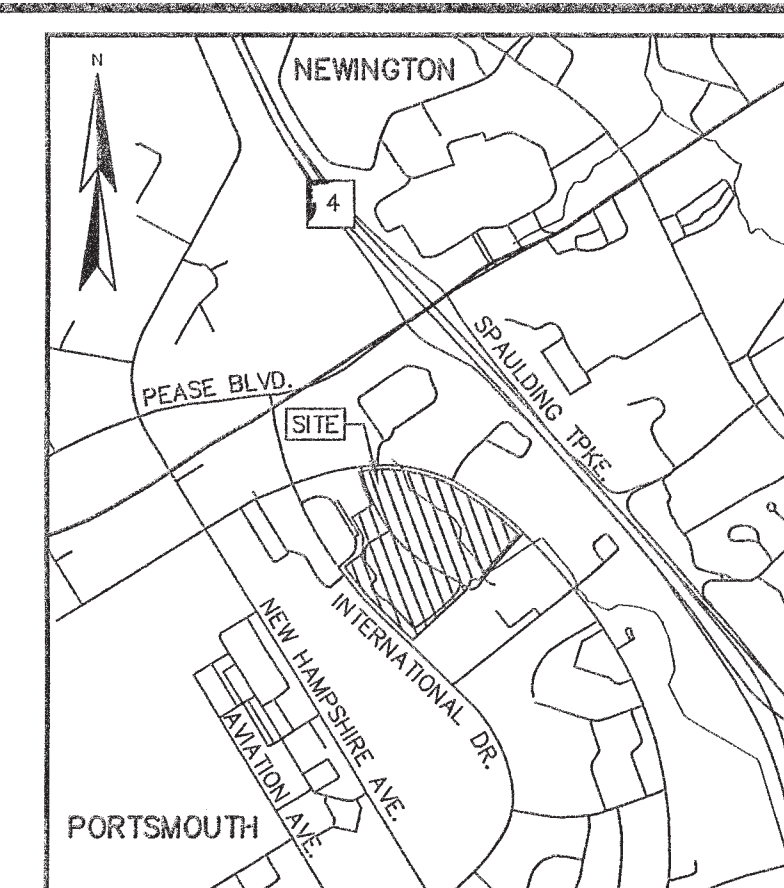
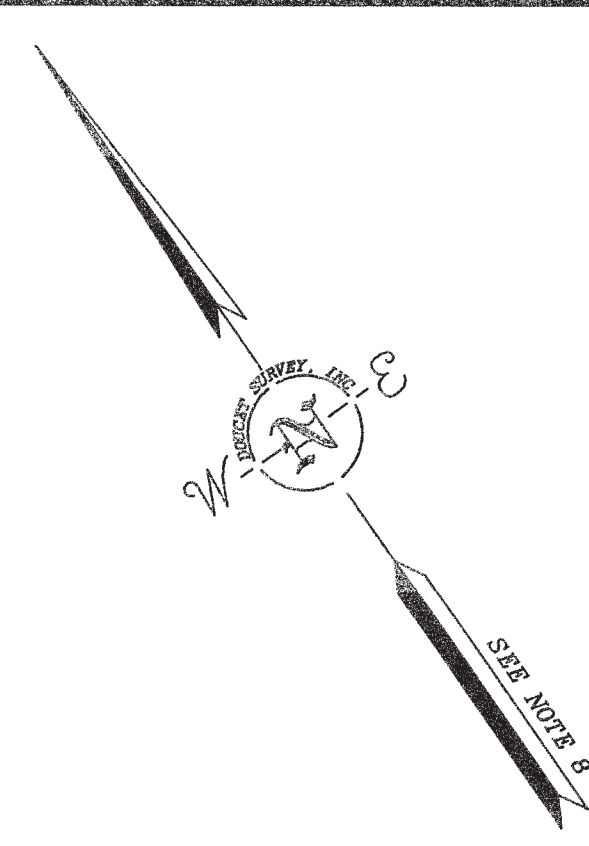
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DRAWN BY:	K.C.W.	DATE:	DEC. 23, 2015
CHECKED BY:	J.A.G.	DRAWING NO.:	4375A
JOB NO.:	4375	SHEET	4 OF 4

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TAX MAP 303, LOT 2-1
OPROCK PORTSMOUTH INTL FEE LLC
C/O OCEAN PROPERTIES LTD
1000 MARKET ST SUITE 300
PORTSMOUTH, NH 03801
R.C.R.D. BOOK 4831, PAGE 2677

TAX MAP 303, LOT 2-2
RESPORT LLC
1000 MARKET ST BLDG 1 STE 300
PORTSMOUTH, NH 03801

6" X 6" CONC. BND. FND.
(NO D.H.) DOWN 1" W/DISK
PDA CONTROL POINT

TAX MAP 303, LOT 3
RED HOOK BREWERY INC
C/O WIDMER BROTHERS BREWING CO
929 NORTH RUSSELL ST.
PORTLAND, OR 97227

TAX MAP 303, LOT 4
PEASE DEVELOPMENT AUTHORITY
55 INTERNATIONAL DRIVE
PORTSMOUTH, NEW HAMPSHIRE 03801

TAX MAP 303, LOT 7
PEASE REHAB LLC
C/O NORTHEAST REHAB
70 BUTLER ST.
SALEM, NH 03079

TAX MAP 303, LOT 8
PEASE DEVELOPMENT AUTHORITY
55 INTERNATIONAL DRIVE
PORTSMOUTH, NEW HAMPSHIRE 03801

TAX MAP 305, LOT 7
PEASE DEVELOPMENT AUTHORITY
55 INTERNATIONAL DRIVE
PORTSMOUTH, NEW HAMPSHIRE 03801

TAX MAP 305, LOT 7-1
UNIVERSITY SYSTEM OF NEW HAMPSHIRE
COLLEGE FOR LIFELONG LEARNING
51 INTERNATIONAL DRIVE
PORTSMOUTH, NH 03801

TAX MAP 305, LOT 4
119 INTERNATIONAL DRIVE LLC
CO-OWNER: KEYBANK REAL
ESTATE CAPITAL
ATTN: TAX DEPT
11501 OUTLOOK SUITE 300
OVERLAND PARK, KS 66211

LINE	BEARING	DISTANCE
L1	S45°42'46"E	50.48'
L2	S34°54'07"W	60.00'
L3	S38°27'58"W	58.32'
L4	N19°46'25"W	11.01'
L5	N83°06'54"W	68.09'
L6	N67°48'03"W	196.60'
L7	S22°03'02"W	14.87'
L8	S33°35'17"W	57.08'
L9	S42°06'02"W	43.59'
L10	N59°44'33"W	33.55'
L11	N67°48'03"W	122.22'
L12	N22°11'57"E	10.00'
L13	N19°52'39"W	313.89'
L14	N27°09'05"W	222.06'
L15	N33°51'22"W	175.26'
L16	N40°07'36"W	107.83'
L17	N43°37'13"W	99.98'

LINE	BEARING	DISTANCE
L18	N49°42'47"W	102.16'
L19	N54°07'45"W	195.64'
L20	N59°11'41"W	116.15'
L21	N61°40'21"W	179.46'
L22	N58°20'21"W	187.76'
L23	S34°54'07"W	10.02'
L24	N58°20'21"W	186.91'
L25	N61°40'21"W	179.39'
L26	N59°11'41"W	116.81'
L27	N54°07'45"W	196.47'
L28	N49°42'47"W	103.08'
L29	N43°37'13"W	100.81'
L30	N40°07'36"W	108.68'
L31	N33°51'22"W	176.39'
L32	N27°09'05"W	223.29'
L33	N19°52'39"W	316.44'
L34	S34°54'07"W	32.65'

CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	99.32'	1540.26'	3°41'40"	N81°57'05"E	99.30'
C2	152.83'	63.00'	138°59'47"	S61°54'24"W	118.02'
C3	61.10'	1480.00'	2°21'56"	N23°22'29"W	61.10'
C4	115.05'	560.00'	11°46'17"	N16°18'23"W	114.85'
C5	75.52'	50.06'	86°26'09"	S81°41'02"W	68.56'
C6	181.41'	1752.84'	5°55'47"	N58°03'47"W	181.33'
C7	338.74'	1420.00'	13°40'04"	S54°11'54"E	337.94'
C8	623.87'	1420.00'	25°10'21"	S34°46'41"E	618.86'
C9	60.72'	500.00'	6°57'30"	S18°42'46"E	60.69'
C10	60.50'	35.00'	99°01'56"	S34°16'57"W	53.24'
C11	942.18'	1480.00'	36°26'30"	S42°47'41"E	926.35'
C12	175.20'	1692.80'	5°55'47"	N58°03'47"W	175.12'
C13	466.96'	1540.26'	17°22'14"	N87°30'58"W	465.18'
C14	23.43'	1540.26'	0°52'17"	N78°23'43"W	23.43'
C15	300.24'	1540.26'	11°10'07"	N62°21'55"W	299.77'
C16	237.27'	2450.00'	5°32'56"	N54°00'23"W	237.18'
C17	153.95'	170.00'	51°53'06"	N7°38'44"E	148.74'
C18	117.72'	130.00'	51°53'06"	N7°38'44"E	113.74'
C19	91.22'	130.00'	40°12'15"	N38°23'56"W	89.36'
C20	18.13'	1540.26'	0°40'27"	S80°26'28"W	18.13'
C21	10.18'	1540.26'	0°22'44"	S80°58'04"W	10.18'

TAX MAP 306, LOT 3-1A
PM 75 NH LLC
75 NEW HAMPSHIRE AVE SUITE 100
PORTSMOUTH, NH 03801

TAX MAP 306, LOT 3-1B
75 NEW HAMPSHIRE AVENUE LLC
11 COURT ST SUITE 100
EXETER, NH 03833

TAX MAP 306, LOT 3-2A
75 NEW HAMPSHIRE AVENUE LLC
11 COURT ST SUITE 100
EXETER, NH 03833

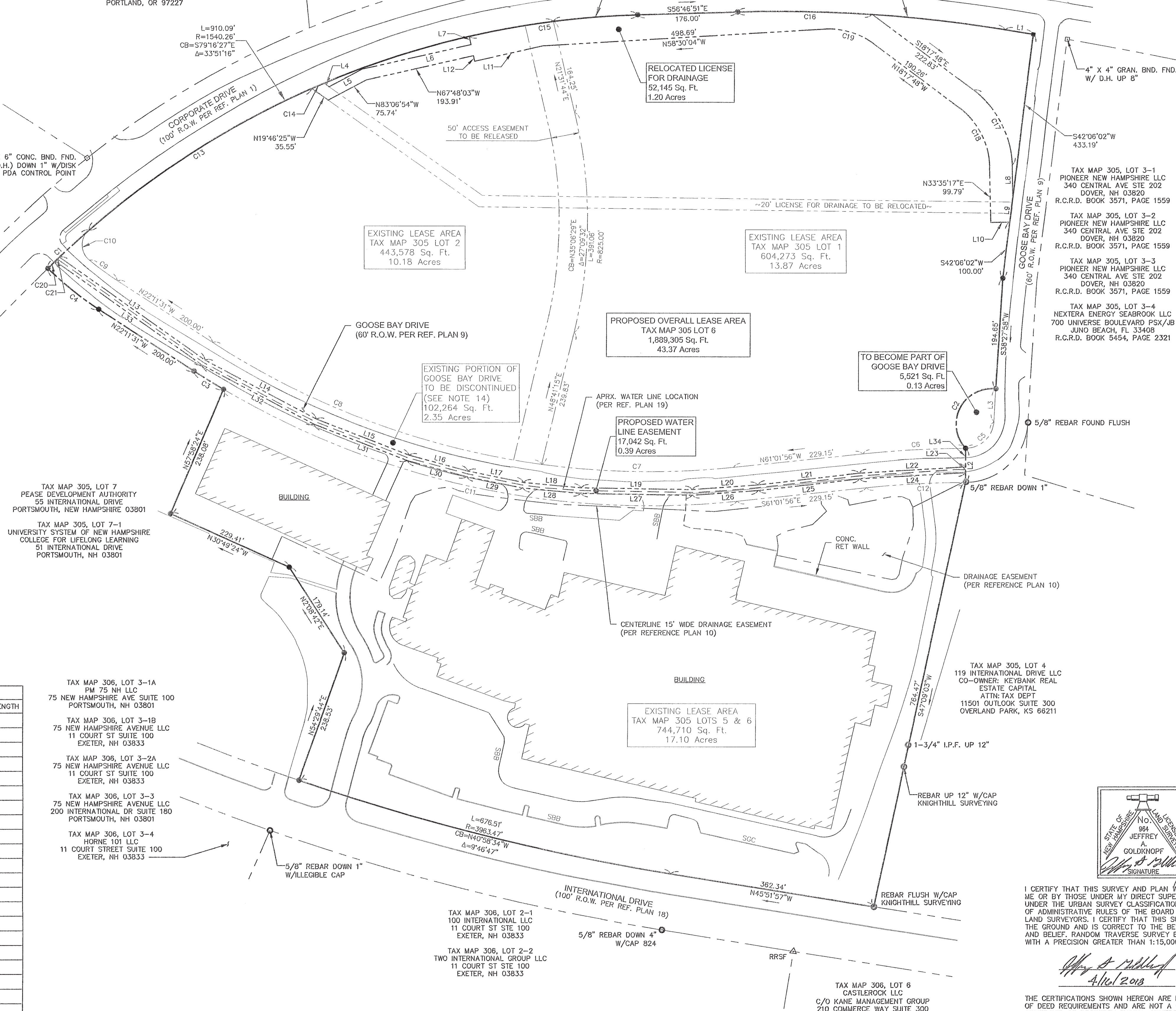
TAX MAP 306, LOT 3-3
75 NEW HAMPSHIRE AVENUE LLC
200 INTERNATIONAL DR SUITE 180
PORTSMOUTH, NH 03801

TAX MAP 306, LOT 3-4
HORNE 101 LLC
11 COURT STREET SUITE 100
EXETER, NH 03833

TAX MAP 306, LOT 2-1
100 INTERNATIONAL LLC
11 COURT ST STE 100
EXETER, NH 03833

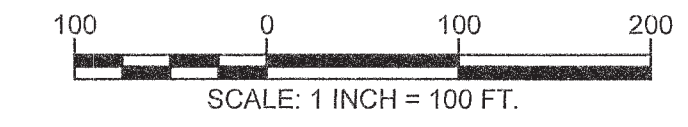
TAX MAP 306, LOT 2-2
TWO INTERNATIONAL GROUP LLC
11 COURT ST STE 100
EXETER, NH 03833

TAX MAP 306, LOT 6
CASTLEROCK LLC
C/O KANE MANAGEMENT GROUP
210 COMMERCE WAY SUITE 300
PORTSMOUTH, NH 03801



LEGEND

- LEASE LINE
- - - PROPOSED LEASE LINE
- - - PROPOSED EASEMENT/LICENSE
- - - LEASE/ROW/EASEMENT/LICENSE LINE TO BE ABANDONED
- - - APPROXIMATE ABUTTERS LOT LINE
- EASEMENT LINE
- BOUND FOUND
- DRILL HOLE FOUND
- IRON PIPE/ROD FOUND
- TYP. GRAN. CONCR. BND. FND.
- I.P.F.
- EP
- VGC
- 4"x4" GRANITE BOUND TO BE SET
- 5/8" REBAR W/ ID CAP TO BE SET



SUBDIVISION PLAN
FOR
LONZA BIOLOGICS, INC.
AND
THE PEASE DEVELOPMENT AUTHORITY
OF
TAX MAP 305 LOTS 1, 2, 5 & 6
AND
GOOSE BAY DRIVE
INTERNATIONAL DRIVE - CORPORATE DRIVE
GOOSE BAY DRIVE
PORTSMOUTH, NEW HAMPSHIRE

NO.	DATE	DESCRIPTION	BY

DRAWN BY: W.D.C.	DATE: APRIL 16, 2018
CHECKED BY: J.A.G.	DRAWING NO.: 5518A
JOB NO.: 5518	SHEET 1 OF 2

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2 Commerce Drive (Suite 202) Bedford, NH 03110 (603) 614-4060
10 Storer Street (Riverview Suite) Kennebunk, ME (207) 502-7005
http://www.doucetsurvey.com

STATE OF NEW HAMPSHIRE
LAND SURVEYOR
No. 964
JEFFREY A. GOLDKNOPF
SIGNATURE

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L.L.S. #964
DATE: 4/16/2018

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MASTER PLAN SET

APRIL 3, 2018

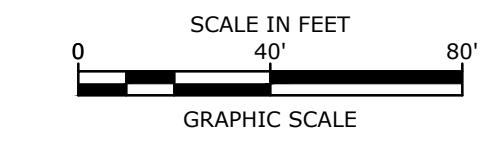
REVISED: AUGUST 21, 2019

LIST OF DRAWINGS		
SHEET NO.	SHEET TITLE	LAST REVISED
	MASTER PLAN SET COVER SHEET	08/21/2019
C-101	DEMOLITION PLAN	08/21/2019
C-102	DEMOLITION PLAN	08/21/2019
C-103	DEMOLITION PLAN	08/21/2019
C-104	OVERALL SITE PLAN	08/21/2019
C-105	SITE PLAN	08/21/2019
C-106	SITE PLAN	08/21/2019
C-107	SITE PLAN	08/21/2019
C-108	GRADING, DRAINAGE & EROSION CONTROL PLAN	08/21/2019
C-109	GRADING, DRAINAGE & EROSION CONTROL PLAN	08/21/2019
C-110	GRADING, DRAINAGE & EROSION CONTROL PLAN	08/21/2019
C-111	UTILITIES PLAN	08/21/2019
C-112	UTILITIES PLAN	08/21/2019
C-113	UTILITIES PLAN	08/21/2019
C-114	LANDSCAPE PLAN	08/21/2019
C-115	LANDSCAPE PLAN	08/21/2019
C-116	LANDSCAPE PLAN	08/21/2019
C-117	PHOTOMETRIC LIGHTING PLAN	08/21/2019
C-118	PHOTOMETRIC LIGHTING PLAN	08/21/2019
C-119	PHOTOMETRIC LIGHTING PLAN	08/21/2019
ASK-001	SITE PLAN - PERSPECTIVE	08/09/2018
ASK-002	BUILDING 1 CONCEPT PLANS	07/12/2018

Last Save Date: August 21, 2019 3:18 PM By: MAHANSEN
Plot Date: Wednesday, August 21, 2019 Plotted By: Neil A. Hansen
P&E File Location: J:\0700 Lanza Biologics Expansion.was 1278P.013 Iron Parcel Redevelopment\Drawings - Figures\AutoCAD\Xref\1-0700-13-COVER.dwg Layout: Tab: MASTER-CS



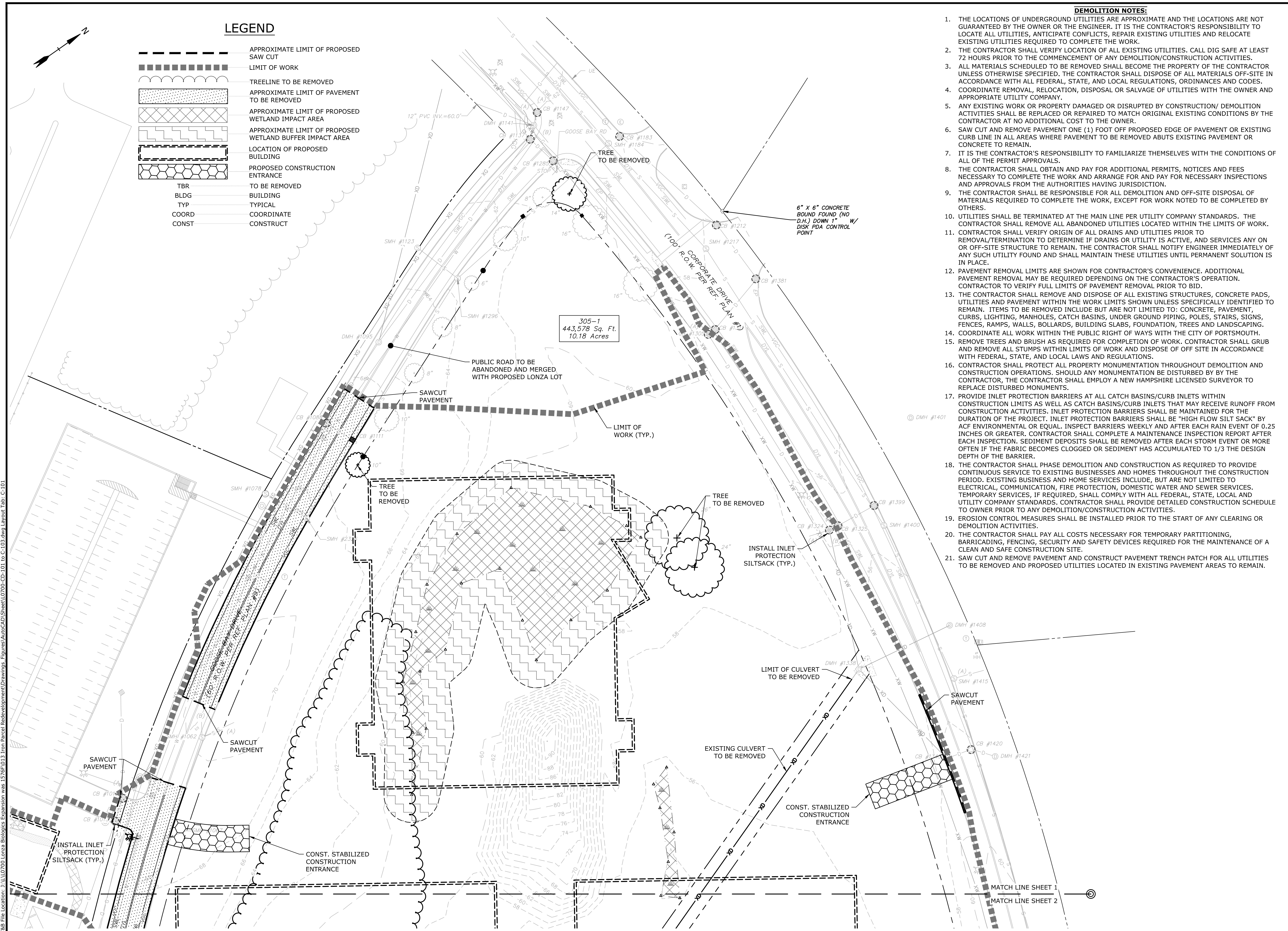
COMPLETE SET 22 SHEETS



- DEMOLITION NOTES:**
1. THE LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE 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.
 2. THE CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES. CALL DIG SAFE AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION/CONSTRUCTION ACTIVITIES.
 3. 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.
 4. COORDINATE REMOVAL, RELOCATION, DISPOSAL OR SALVAGE OF UTILITIES WITH THE OWNER AND APPROPRIATE UTILITY COMPANY.
 5. 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.
 6. SAW CUT AND REMOVE PAVEMENT ONE (1) FOOT OFF PROPOSED EDGE OF PAVEMENT OR EXISTING CURB LINE IN ALL AREAS WHERE PAVEMENT TO BE REMOVED ABUTS EXISTING PAVEMENT OR CONCRETE TO REMAIN.
 7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH THE CONDITIONS OF ALL OF THE PERMIT APPROVALS.
 8. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ADDITIONAL PERMITS, NOTICES AND FEES NECESSARY TO COMPLETE THE WORK AND ARRANGE FOR AND PAY FOR NECESSARY INSPECTIONS AND APPROVALS FROM THE AUTHORITIES HAVING JURISDICTION.
 9. 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.
 10. UTILITIES SHALL BE TERMINATED AT THE MAIN LINE PER UTILITY COMPANY STANDARDS. THE CONTRACTOR SHALL REMOVE ALL ABANDONED UTILITIES LOCATED WITHIN THE LIMITS OF WORK.
 11. CONTRACTOR SHALL VERIFY ORIGIN OF ALL DRAINS AND UTILITIES PRIOR TO REMOVAL/TERMINATION TO DETERMINE IF DRAINS OR UTILITY IS ACTIVE, AND SERVICES ANY ON OR OFF-SITE STRUCTURE TO REMAIN. THE CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY IF ANY SUCH UTILITY FOUND AND SHALL MAINTAIN THESE UTILITIES UNTIL PERMANENT SOLUTION IS IN PLACE.
 12. PAVEMENT REMOVAL LIMITS ARE SHOWN FOR CONTRACTOR'S CONVENIENCE. ADDITIONAL PAVEMENT REMOVAL MAY BE REQUIRED DEPENDING ON THE CONTRACTOR'S OPERATION. CONTRACTOR TO VERIFY FULL LIMITS OF PAVEMENT REMOVAL PRIOR TO BID.
 13. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING STRUCTURES, CONCRETE PADS, UTILITIES AND PAVEMENT WITHIN THE WORK LIMITS SHOWN UNLESS SPECIFICALLY IDENTIFIED TO REMAIN. ITEMS TO BE REMOVED INCLUDE BUT ARE NOT LIMITED TO: CONCRETE, PAVEMENT, CURBS, LIGHTING, MANHOLES, CATCH BASINS, UNDER GROUND PIPING, POLES, STAIRS, SIGNS, FENCES, RAMPS, WALLS, BOLLARDS, BUILDING SLABS, FOUNDATION, TREES AND LANDSCAPING.
 14. COORDINATE ALL WORK WITHIN THE PUBLIC RIGHT OF WAYS WITH THE CITY OF PORTSMOUTH.
 15. REMOVE TREES AND BRUSH AS REQUIRED FOR COMPLETION OF WORK. CONTRACTOR SHALL GRUB AND REMOVE ALL STUMPS WITHIN LIMITS OF WORK AND DISPOSE OF OFF SITE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS.
 16. CONTRACTOR SHALL PROTECT ALL PROPERTY MONUMENTATION THROUGHOUT DEMOLITION AND CONSTRUCTION OPERATIONS. SHOULD ANY MONUMENTATION BE DISTURBED BY THE CONTRACTOR, THE CONTRACTOR SHALL EMPLOY A NEW HAMPSHIRE LICENSED SURVEYOR TO REPLACE DISTURBED MONUMENTS.
 17. PROVIDE INLET PROTECTION BARRIERS AT ALL CATCH BASINS/CURB INLETS WITHIN CONSTRUCTION LIMITS AS WELL AS CATCH BASINS/CURB INLETS THAT MAY RECEIVE RUNOFF FROM CONSTRUCTION ACTIVITIES. INLET PROTECTION BARRIERS SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT. INLET PROTECTION BARRIERS SHALL BE "HIGH FLOW SILT SACK" BY ACF ENVIRONMENTAL OR EQUAL. INSPECT BARRIERS WEEKLY AND AFTER EACH RAIN EVENT OF 0.25 INCHES OR GREATER. CONTRACTOR SHALL COMPLETE A MAINTENANCE INSPECTION REPORT AFTER EACH INSPECTION. SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT OR MORE OFTEN IF THE FABRIC BECOMES CLOGGED OR SEDIMENT HAS ACCUMULATED TO 1/3 THE DESIGN DEPTH OF THE BARRIER.
 18. THE CONTRACTOR SHALL PHASE DEMOLITION AND CONSTRUCTION AS REQUIRED TO PROVIDE CONTINUOUS SERVICE TO EXISTING BUSINESSES AND HOMES THROUGHOUT THE CONSTRUCTION PERIOD. EXISTING BUSINESS AND HOME SERVICES INCLUDE, BUT ARE NOT LIMITED TO ELECTRICAL, COMMUNICATION, FIRE PROTECTION, DOMESTIC WATER AND SEWER SERVICES. TEMPORARY SERVICES, IF REQUIRED, SHALL COMPLY WITH ALL FEDERAL, STATE, LOCAL AND UTILITY COMPANY STANDARDS. CONTRACTOR SHALL PROVIDE DETAILED CONSTRUCTION SCHEDULE TO OWNER PRIOR TO ANY DEMOLITION/CONSTRUCTION ACTIVITIES.
 19. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF ANY CLEARING OR DEMOLITION ACTIVITIES.
 20. THE CONTRACTOR SHALL PAY ALL COSTS NECESSARY FOR TEMPORARY PARTITIONING, BARRICADING, FENCING, SECURITY AND SAFETY DEVICES REQUIRED FOR THE MAINTENANCE OF A CLEAN AND SAFE CONSTRUCTION SITE.
 21. SAW CUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL UTILITIES TO BE REMOVED AND PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN.

LEGEND

- APPROXIMATE LIMIT OF PROPOSED SAW CUT
- ▬ LIMIT OF WORK
- ~ TREELINE TO BE REMOVED
- ▨ APPROXIMATE LIMIT OF PAVEMENT TO BE REMOVED
- ▧ APPROXIMATE LIMIT OF PROPOSED WETLAND IMPACT AREA
- ▩ APPROXIMATE LIMIT OF PROPOSED WETLAND BUFFER IMPACT AREA
- ▭ LOCATION OF PROPOSED BUILDING
- ▮ PROPOSED CONSTRUCTION ENTRANCE
- TBR TO BE REMOVED
- BLDG BUILDING
- TYP TYPICAL
- COORD COORDINATE
- CONST CONSTRUCT



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Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

MARK	DATE	DESCRIPTION
G	8/19/2019	Admin. Approval Submission
F	11/6/2018	P.B. Submission
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C	6/18/2018	NHDES AoT Submission
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A	4/3/2018	TAC W.S. Submission

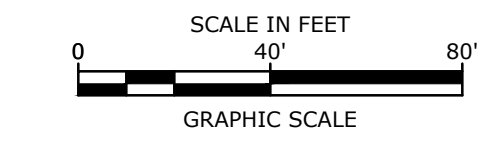
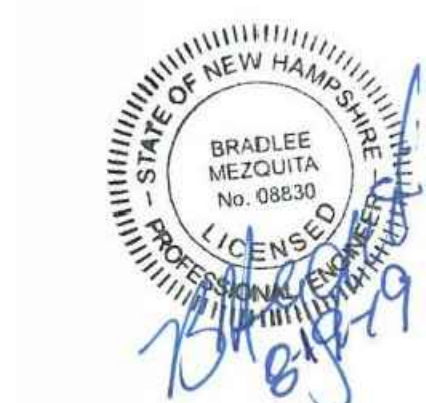
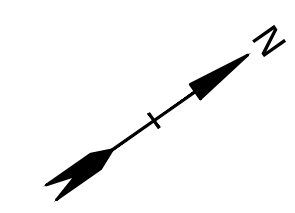
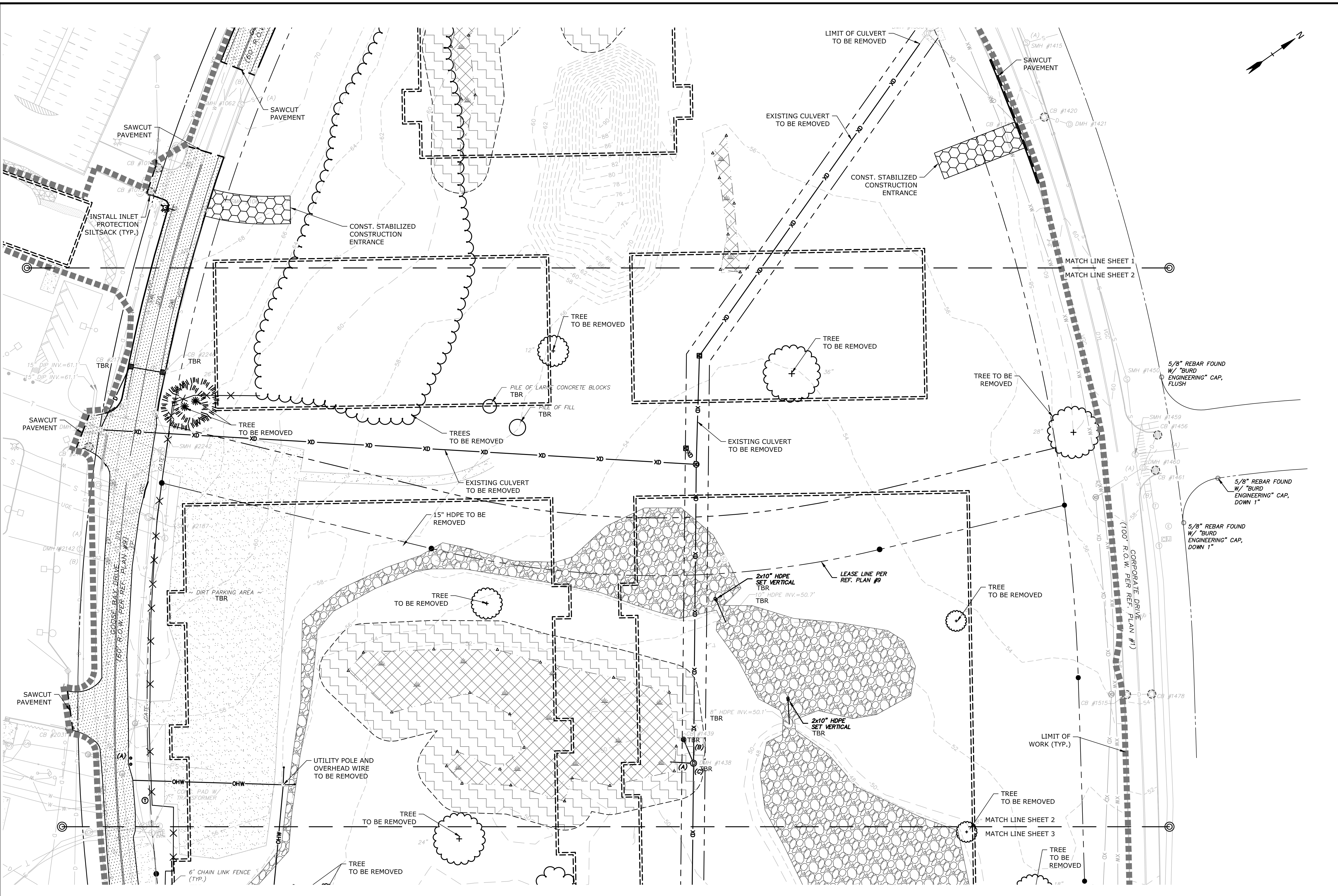
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DATE:	04/03/2018
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DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

DEMOLITION PLAN

SCALE: AS SHOWN

C-101

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Proposed Industrial Development

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Portsmouth, New Hampshire

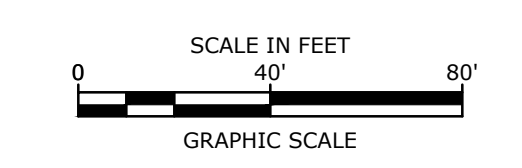
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B	5/21/2018	TAC Submission
A	4/3/2018	TAC W.S. Submission

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SEE SHEET C-101 FOR LEGEND AND DEMOLITION NOTES

DEMOLITION PLAN

SCALE: AS SHOWN



Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

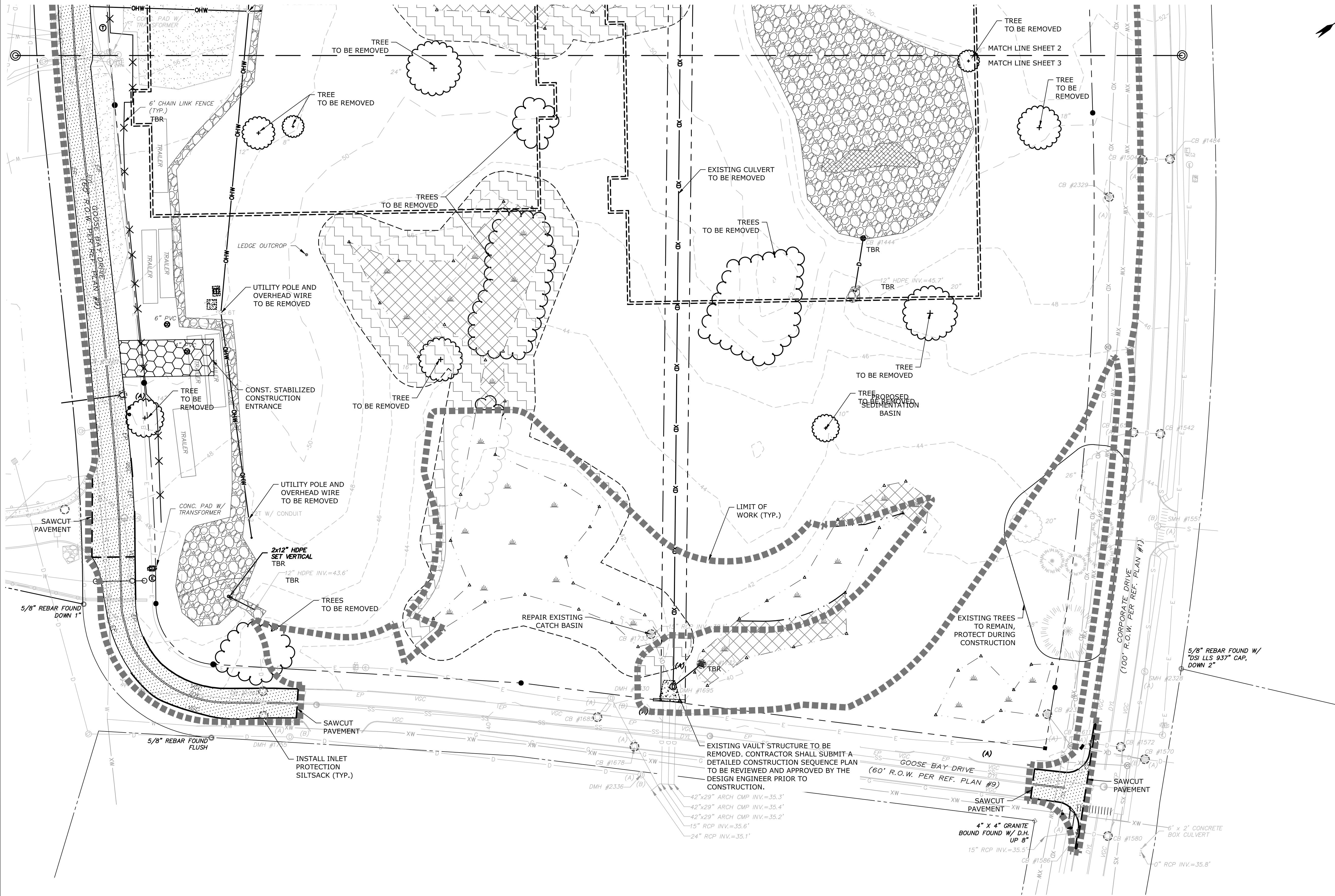
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A	4/3/2018	TAC W.S. Submission

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CHECKED:	PMC
APPROVED:	BLM

DEMOLITION PLAN

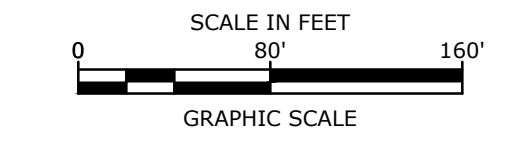
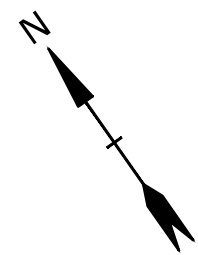
SCALE: AS SHOWN

C-103



SEE SHEET C-101 FOR LEGEND AND DEMOLITION NOTES

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SITE DATA
LOCATION: TAX MAP 305, LOTS 1 & 2
70 & 80 CORPORATE DRIVE
PORTSMOUTH, NH
TAX MAP 305, LOT 6
101 INTERNATIONAL DRIVE
PORTSMOUTH, NH

ZONING DISTRICT: AIRPORT, BUSINESS & COMMERCIAL (ABC)

DIMENSIONAL REQUIREMENTS:

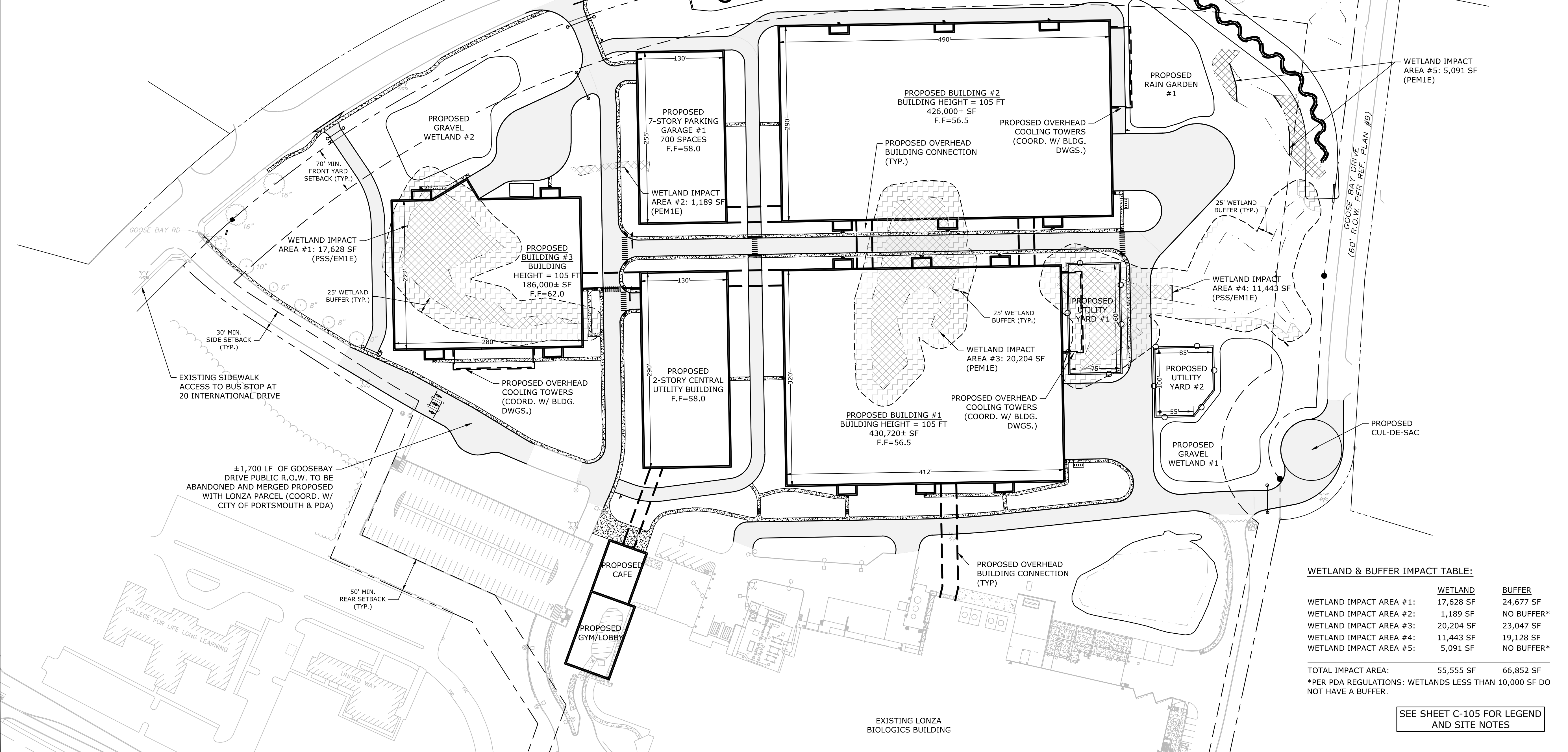
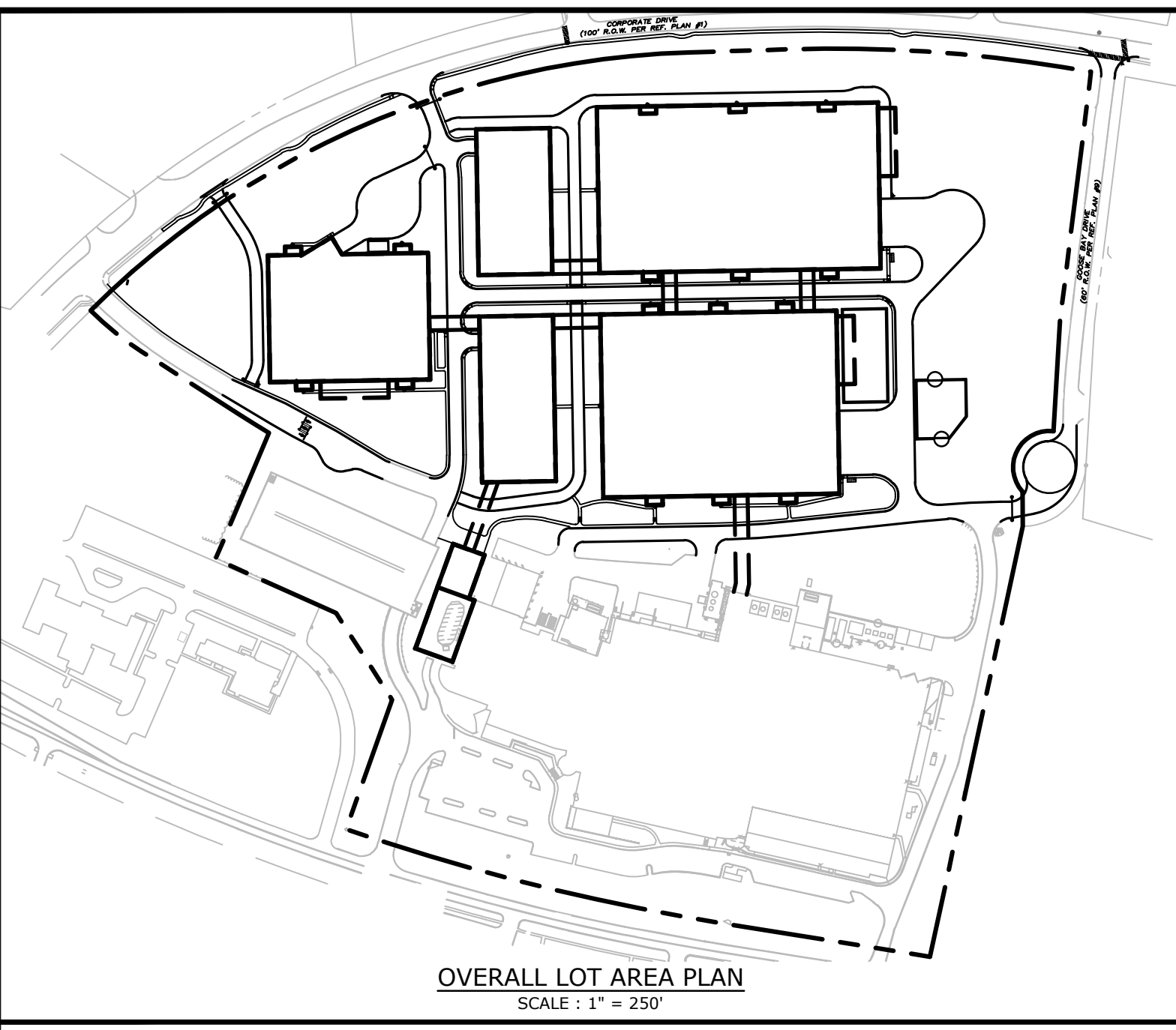
MINIMUM LOT AREA:	REQUIRED 5 AC	PROVIDED 43.4± AC
MINIMUM STREET FRONTAGE:	200 FT	1,038 FT
MINIMUM FRONT YARD SETBACK:	70 FT	70 FT
SIDE SETBACK:	30 FT	30 FT
REAR SETBACK:	50 FT	51 FT
MINIMUM OPEN SPACE:	25 %	43.3± %

MAXIMUM STRUCTURE HEIGHT SHALL NOT EXCEED FAA CRITERIA.

PARKING REQUIREMENTS:

REQUIRED PARKING
2 SPACES PER 3 EMPLOYEES ON LARGEST SHIFT
740 EXISTING EMPLOYEES 493 SPACES
1000 ANTICIPATED EMPLOYEES 667 SPACES
TOTAL REQUIRED: 1160 SPACES

PARKING PROVIDED
EXISTING SPACES: 522 SPACES
PROPOSED PARKING GARAGE #1: 700 SPACES
TOTAL: 1,222 SPACES



WETLAND & BUFFER IMPACT TABLE:

	WETLAND	BUFFER
WETLAND IMPACT AREA #1:	17,628 SF	24,677 SF
WETLAND IMPACT AREA #2:	1,189 SF	NO BUFFER*
WETLAND IMPACT AREA #3:	20,204 SF	23,047 SF
WETLAND IMPACT AREA #4:	11,443 SF	19,128 SF
WETLAND IMPACT AREA #5:	5,091 SF	NO BUFFER*

TOTAL IMPACT AREA: 55,555 SF 66,852 SF

*PER PDA REGULATIONS: WETLANDS LESS THAN 10,000 SF DO NOT HAVE A BUFFER.

Proposed Industrial Development
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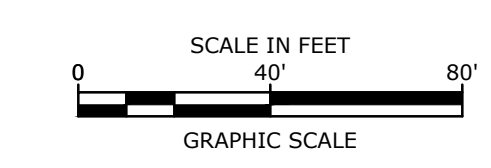
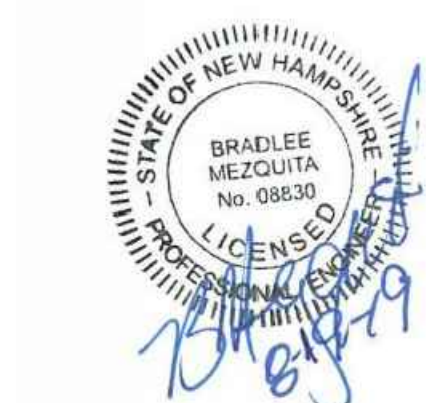
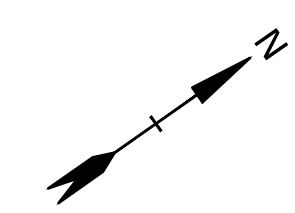
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MASTER SITE PLAN

SCALE: AS SHOWN

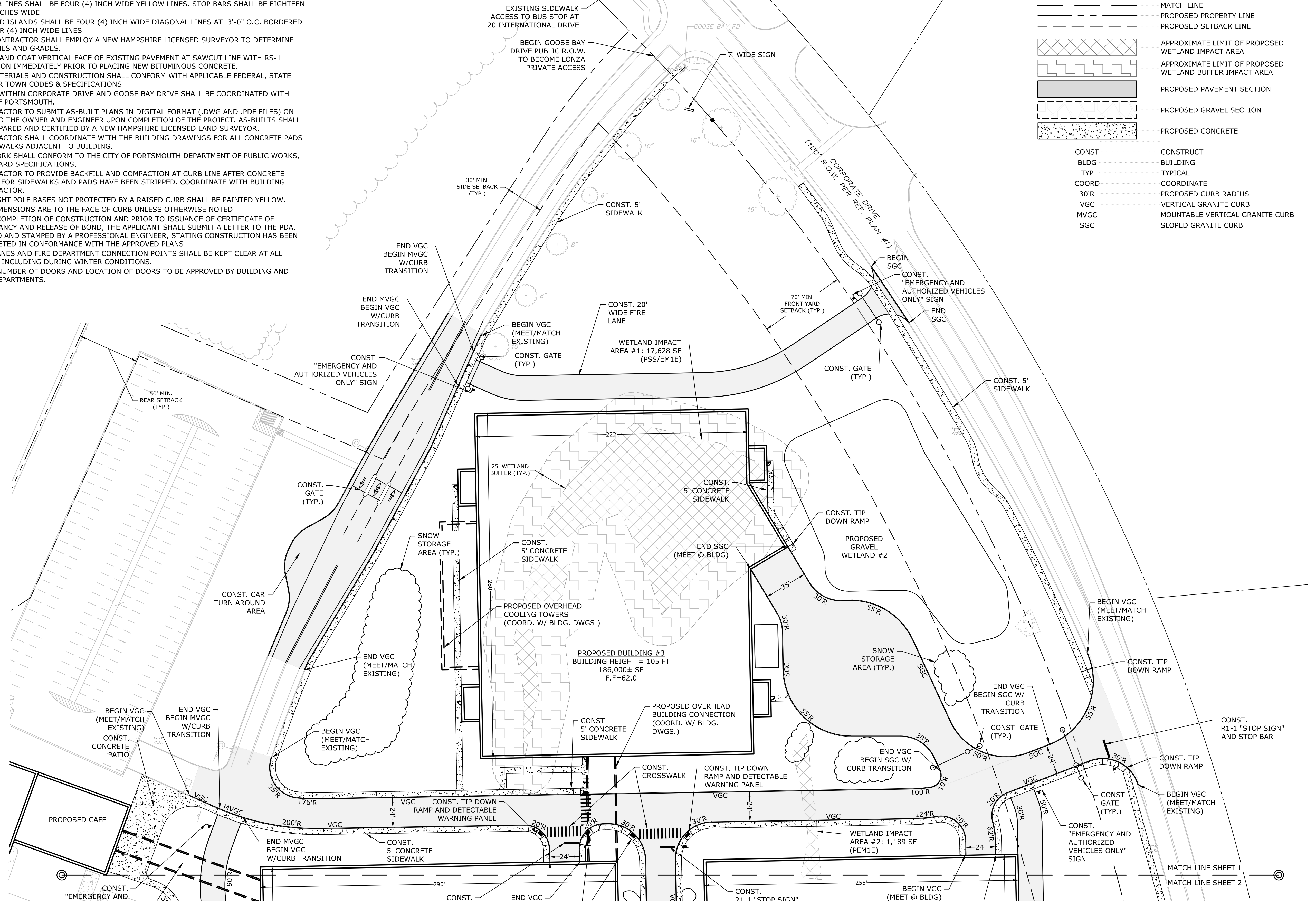
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 Plot Date: Wednesday, August 21, 2019 Plotted By: Neil A. Hansen
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- SITE NOTES:**
1. STRIPE PARKING AREAS AS SHOWN, INCLUDING PARKING SPACES, STOP BARS, ADA SYMBOLS, PAINTED ISLANDS, CROSS WALKS, ARROWS, LEGENDS AND CENTERLINES (ALL MARKINGS EXCEPT CENTERLINE AND MEDIAN ISLANDS TO BE CONSTRUCTED USING WHITE TRAFFIC PAINT. CENTERLINE AND MEDIAN ISLANDS TO BE CONSTRUCTED USING YELLOW TRAFFIC PAINT. ALL TRAFFIC PAINT SHALL MEET THE REQUIREMENTS OF AASHTO M248 TYPE "F").
 2. ALL PAVEMENT MARKINGS AND SIGNS TO CONFORM TO "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS", AND THE AMERICANS WITH DISABILITIES ACT REQUIREMENTS, LATEST EDITIONS.
 3. SEE DETAILS FOR PARKING STALL MARKINGS, ADA SYMBOLS, SIGNS AND SIGN POSTS.
 4. CENTERLINES SHALL BE FOUR (4) INCH WIDE YELLOW LINES. STOP BARS SHALL BE EIGHTEEN (18) INCHES WIDE.
 5. PAINTED ISLANDS SHALL BE FOUR (4) INCH WIDE DIAGONAL LINES AT 3'-0" O.C. BORDERED BY FOUR (4) INCH WIDE LINES.
 6. THE CONTRACTOR SHALL EMPLOY A NEW HAMPSHIRE LICENSED SURVEYOR TO DETERMINE ALL LINES AND GRADES.
 7. CLEAN AND COAT VERTICAL FACE OF EXISTING PAVEMENT AT SAWCUT LINE WITH RS-1 EMULSION IMMEDIATELY PRIOR TO PLACING NEW BITUMINOUS CONCRETE.
 8. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE AND/OR TOWN CODES & SPECIFICATIONS.
 9. WORK WITHIN CORPORATE DRIVE AND GOOSE BAY DRIVE SHALL BE COORDINATED WITH CITY OF PORTSMOUTH.
 10. CONTRACTOR TO SUBMIT AS-BUILT PLANS IN DIGITAL FORMAT (.DWG AND .PDF FILES) ON DISK TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR.
 11. CONTRACTOR SHALL COORDINATE WITH THE BUILDING DRAWINGS FOR ALL CONCRETE PADS & SIDEWALKS ADJACENT TO BUILDING.
 12. ALL WORK SHALL CONFORM TO THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS, STANDARD SPECIFICATIONS.
 13. CONTRACTOR TO PROVIDE BACKFILL AND COMPACTION AT CURB LINE AFTER CONCRETE FORMS FOR SIDEWALKS AND PADS HAVE BEEN STRIPPED. COORDINATE WITH BUILDING CONTRACTOR.
 14. ALL LIGHT POLE BASES NOT PROTECTED BY A RAISED CURB SHALL BE PAINTED YELLOW.
 15. ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
 16. UPON COMPLETION OF CONSTRUCTION AND PRIOR TO ISSUANCE OF CERTIFICATE OF OCCUPANCY AND RELEASE OF BOND, THE APPLICANT SHALL SUBMIT A LETTER TO THE PDA, SIGNED AND STAMPED BY A PROFESSIONAL ENGINEER, STATING CONSTRUCTION HAS BEEN COMPLETED IN CONFORMANCE WITH THE APPROVED PLANS.
 17. FIRE LANES AND FIRE DEPARTMENT CONNECTION POINTS SHALL BE KEPT CLEAR AT ALL TIMES, INCLUDING DURING WINTER CONDITIONS.
 18. FINAL NUMBER OF DOORS AND LOCATION OF DOORS TO BE APPROVED BY BUILDING AND FIRE DEPARTMENTS.

LEGEND

- MATCH LINE
- - - PROPOSED PROPERTY LINE
- - - PROPOSED SETBACK LINE
- [Cross-hatched] APPROXIMATE LIMIT OF PROPOSED WETLAND IMPACT AREA
- [Stippled] APPROXIMATE LIMIT OF PROPOSED WETLAND BUFFER IMPACT AREA
- [Solid grey] PROPOSED PAVEMENT SECTION
- [Dashed] PROPOSED GRAVEL SECTION
- [Dotted] PROPOSED CONCRETE
- CONST CONSTRUCT
- BLDG BUILDING
- TYP TYPICAL
- COORD COORDINATE
- 30'R PROPOSED CURB RADIUS
- VGC VERTICAL GRANITE CURB
- MVGC MOUNTABLE VERTICAL GRANITE CURB
- SGC SLOPED GRANITE CURB



Proposed Industrial Development

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PROJECT NO:	L-0700-013
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DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

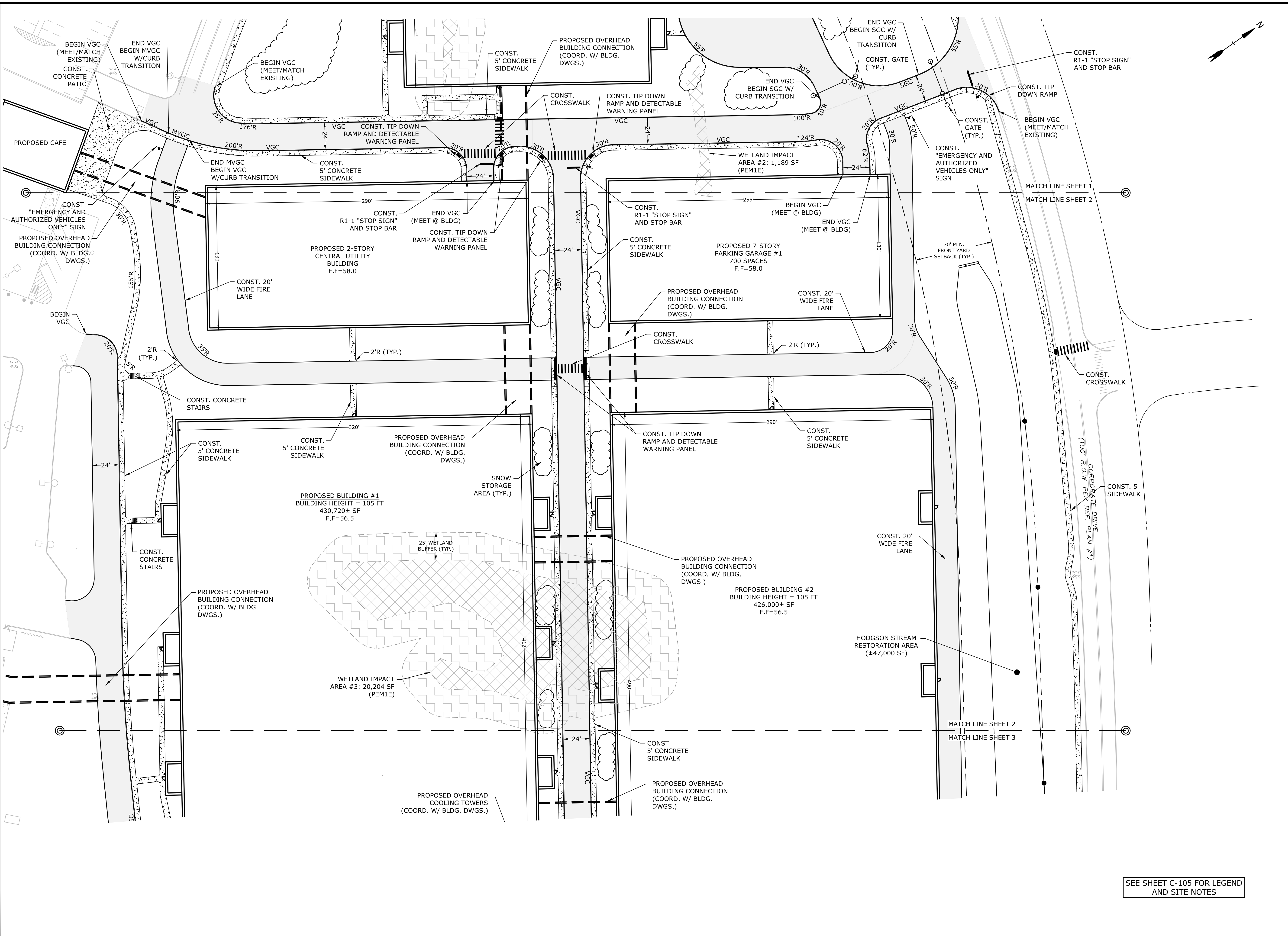
SITE PLAN

SCALE: AS SHOWN

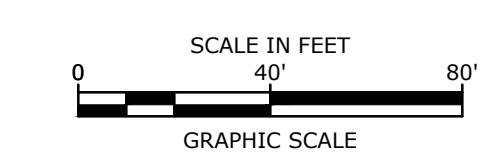
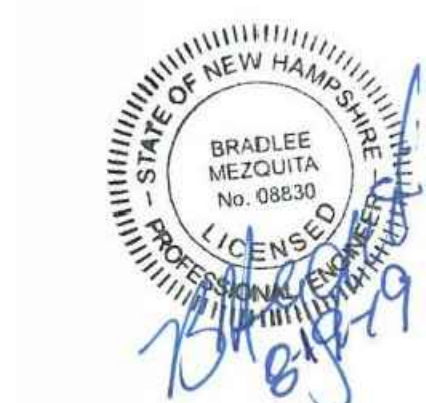
C-105

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SEE SHEET C-105 FOR LEGEND AND SITE NOTES



Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

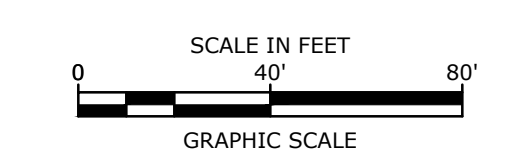
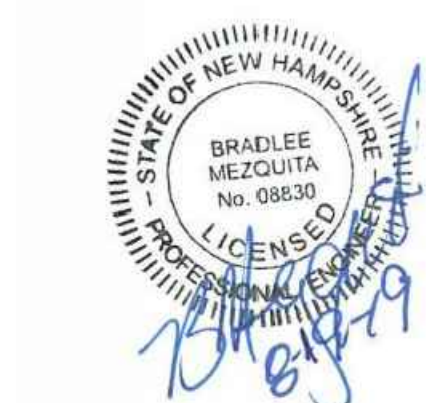
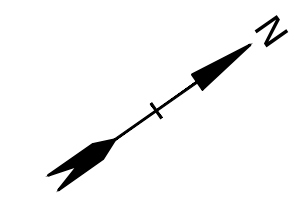
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SITE PLAN

SCALE: AS SHOWN

C-106



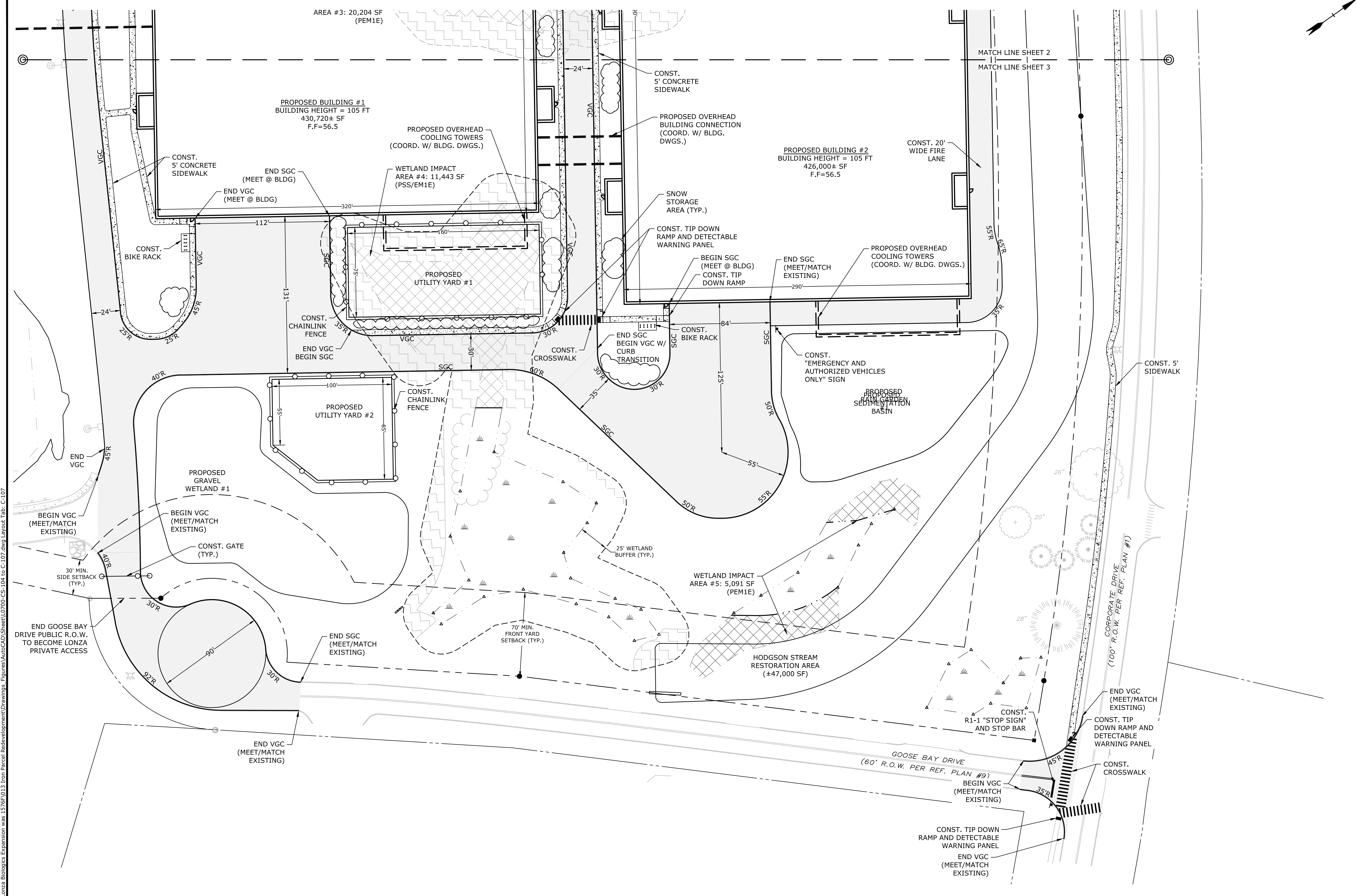
Proposed Industrial Development
Lonza Biologics

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New Hampshire

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SITE PLAN
SCALE: AS SHOWN
C-107



SEE SHEET C-105 FOR LEGEND AND SITE NOTES

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PCB103 RIM=57.00 INV.IN=51.15 INV.OUT=51.05	PCB200 RIM=56.65 INV.OUT=51.90	PDMH105 RIM=51.30 INV.IN=44.75 INV.OUT=44.65	PDMH304 RIM=51.00 INV.IN=46.70 INV.IN=47.00 INV.OUT=46.60	
PCB104 RIM=57.00 INV.IN=50.95 INV.IN=50.95 INV.OUT=50.85	PCB201 RIM=56.65 INV.IN=51.80 INV.OUT=51.70	PDMH106 RIM=51.00 INV.IN=44.00 INV.OUT=43.20	PYD100 RIM=55.00 INV.OUT=49.95	
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PCB106 RIM=54.00 INV.IN=49.10 INV.IN=49.10 INV.OUT=49.00	PCB203 RIM=56.00 INV.IN=51.65 INV.OUT=51.55	PDMH201 RIM=56.00 INV.IN=51.30 INV.IN=51.30 INV.IN=51.30 INV.OUT=51.20	PYD102 RIM=59.00 INV.OUT=52.00	
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GRADING AND DRAINAGE NOTES:

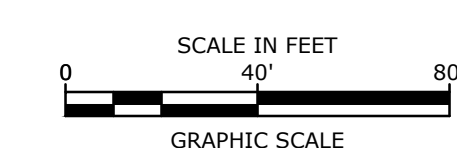
1. COMPACTION REQUIREMENTS:
BELOW PAVED OR CONCRETE AREAS 95%
TRENCH BEDDING MATERIAL AND SAND BLANKET BACKFILL 95%
BELOW LOAM AND SEED AREAS 90%
- * ALL PERCENTAGES OF COMPACTION SHALL BE OF THE MAXIMUM DRY DENSITY AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED AND CONTROLLED IN ACCORDANCE WITH ASTM D-1557, METHOD C FIELD DENSITY TESTS SHALL BE MADE IN ACCORDANCE WITH ASTM D-1556 OR ASTM-2922.
2. ALL STORM DRAINAGE PIPES SHALL BE HIGH DENSITY POLYETHYLENE (HANCOR HI-Q, ADS N-12 OR APPROVED EQUAL), UNLESS OTHERWISE SPECIFIED.
3. SEE UTILITIES PLAN FOR ALL SITE UTILITY INFORMATION.
4. ADJUST ALL MANHOLES, CATCHBASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
5. CONTRACTOR SHALL PROVIDE A FINISH PAVEMENT SURFACE AND LAWN AREAS FREE OF LOW SPOTS AND PONDING AREAS. CRITICAL AREAS INCLUDE BUILDING ENTRANCES, EXITS, RAMPS AND LOADING DOCK AREAS ADJACENT TO THE BUILDING.
6. CONTRACTOR SHALL THOROUGHLY CLEAN ALL CATCHBASINS AND DRAIN LINES, WITHIN THE LIMIT OF WORK, OF SEDIMENT IMMEDIATELY UPON COMPLETION OF CONSTRUCTION.
7. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE AND LOCAL CODES.
8. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED FERTILIZER AND MULCH.
9. ALL STORM DRAIN CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NHDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, LATEST EDITION.
10. ALL PROPOSED CATCHBASINS SHALL BE EQUIPPED WITH OIL/GAS SEPARATOR HOODS AND 4" SUMPS.
11. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE AND CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS AND CONSTRUCTION SPECIFICATIONS, LATEST REVISIONS.
12. CONTRACTOR TO SUBMIT AS-BUILT PLANS IN DIGITAL FORMAT (.DWG AND .PDF FILES) ON DISK TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR.
13. SEE EXISTING CONDITIONS PLAN FOR BENCH MARK INFORMATION.

EROSION CONTROL NOTES:

1. INSTALL EROSION CONTROL BARRIERS AS SHOWN AS FIRST ORDER OF WORK.
2. SEE GENERAL EROSION CONTROL NOTES ON DETAIL SHEETS.
3. PROVIDE INLET PROTECTION AROUND ALL EXISTING AND PROPOSED CATCHBASIN INLETS WITHIN THE WORK LIMITS. MAINTAIN FOR THE DURATION OF THE PROJECT UNTIL PAVEMENT HAS BEEN INSTALLED.
4. INSTALL STABILIZED CONSTRUCTION ENTRANCES.
5. INSPECT INLET PROTECTION AND SILT FENCES DAILY AND AFTER EACH RAIN STORM OF 0.25 INCH OR GREATER. REPAIR/MODIFY PROTECTION AS NECESSARY TO MAXIMIZE EFFICIENCY OF FILTER. REPLACE ALL FILTERS WHEN SEDIMENT IS 1/3 THE FILTER HEIGHT.
6. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED, FERTILIZER AND MULCH.
7. CONSTRUCT EXCELSIOR MAT ON ALL SLOPES STEEPER THAN 3:1.
8. PRIOR TO ANY WORK OR SOIL DISTURBANCE COMMENCING ON THE SUBJECT PROPERTY, INCLUDING MOVING OF EARTH, THE APPLICANT SHALL INSTALL ALL EROSION AND SILTATION MITIGATION AND CONTROL MEASURES AS REQUIRED BY STATE AND LOCAL PERMITS AND APPROVALS.
9. CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DUST AND WIND EROSION THROUGHOUT THE CONSTRUCTION PERIOD. DUST CONTROL MEASURES SHALL INCLUDE, BUT NOT LIMITED TO, SPRINKLING WATER ON UNSTABLE SOILS SUBJECT TO ARID CONDITIONS.
10. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF CONSTRUCTION.
11. ALL CATCHBASIN SUMPS AND PIPING SHALL BE THOROUGHLY CLEANED TO REMOVE ALL SEDIMENT AND DEBRIS AFTER THE PROJECT HAS BEEN PAVED.
12. TEMPORARY SOIL STOCKPILE SHALL BE SURROUNDED BY SILT FENCE AND SHALL BE STABILIZED BY TEMPORARY EROSION CONTROL SEEDING. STOCKPILE AREAS TO BE LOCATED AS FAR AS POSSIBLE FROM THE DELINEATED EDGE OF WETLAND.
13. SAFETY FENCING SHALL BE PROVIDED AROUND STOCKPILES OVER 10 FT.
14. CONCRETE TRUCKS WILL BE REQUIRED TO WASH OUT (IF NECESSARY) SHOOTS ONLY WITHIN AREAS WHERE CONCRETE HAS BEEN PLACED. NO OTHER WASH OUT WILL BE ALLOWED.

LEGEND

---	MATCH LINE
---	PROPOSED PROPERTY LINE
---	PROPOSED CONTOUR LINE
---	PROPOSED DRAIN LINE (TYP)
---	PROPOSED SILT SOCK
○	INLET PROTECTION SILT SACK
⊙	PROPOSED CATCHBASIN
⊙	PROPOSED DOUBLE GRATE CATCHBASIN
⊙	PROPOSED DRAIN MANHOLE
CONST	CONSTRUCT
BLDG	BUILDING
TYP	TYPICAL
COORD	COORDINATE
RD	ROOF DRAIN
VIF	VERIFY IN FIELD



Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

MARK	DATE	DESCRIPTION
G	8/19/2019	Admin. Approval Submission
F	11/6/2018	P.B. Submission
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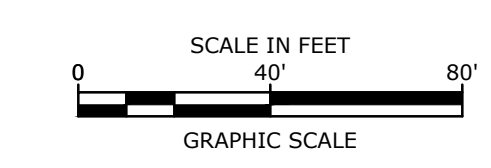
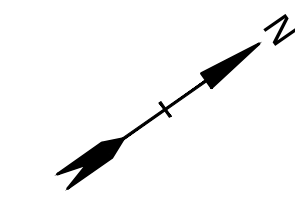
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DATE:	04/03/2018
FILE:	L0700-CG-108 to C-110.dwg
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

GRADING, DRAINAGE & EROSION CONTROL PLAN

SCALE: AS SHOWN

C-108

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Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

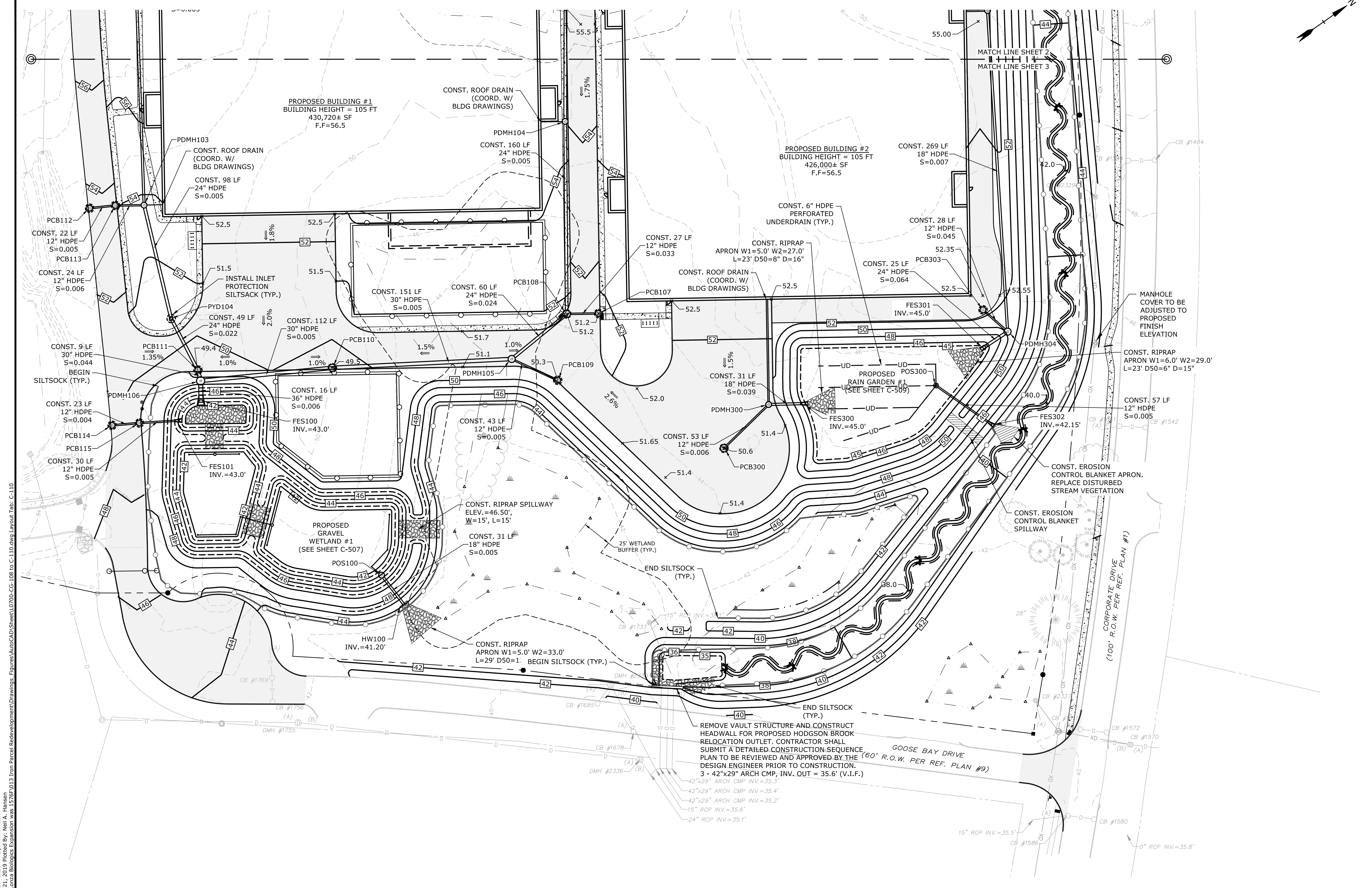
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GRADING, DRAINAGE & EROSION CONTROL PLAN

SCALE: AS SHOWN

C-110

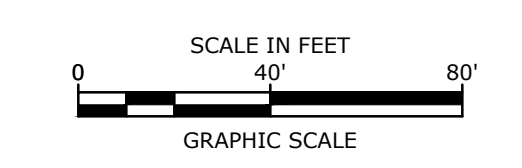


LEGEND

---	MATCH LINE
D	EXISTING STORM DRAIN
SS	EXISTING SANITARY SEWER
W	EXISTING WATER
G	EXISTING GAS
E	EXISTING UNDERGROUND ELECTRIC
OHW	EXISTING OVERHEAD UTILITY
---	PROPOSED STORM DRAIN
---	PROPOSED SANITARY SEWER
PW	PROPOSED WATER
G	PROPOSED GAS
E	PROPOSED UNDERGROUND ELECTRIC
CTV	PROPOSED UNDERGROUND COMMUNICATION
⊙	EXISTING CATCHBASIN
⊙	EXISTING DRAIN MANHOLE
⊙	EXISTING SEWER MANHOLE
⊙	EXISTING HYDRANT
⊙	EXISTING WATER VALVE
⊙	EXISTING ELECTRIC MANHOLE
⊙	EXISTING TELEPHONE MANHOLE
⊙	PROPOSED CATCHBASIN
⊙	PROPOSED DOUBLE GRATE CATCHBASIN
⊙	PROPOSED DRAIN MANHOLE
⊙	PROPOSED SEWER MANHOLE
⊙	PROPOSED WATER VALVE
⊙	PROPOSED HYDRANT
⊙	PROPOSED GAS VALVE
⊙	PROPOSED ELECTRIC MANHOLE
⊙	PROPOSED LIGHT POLE BASE
•	CONST. CONSTRUCT
▭	BLDG. BUILDING
TYP	TYPICAL
COORD	COORDINATE
VIF	VERIFY IN FIELD

UTILITY NOTES:

- 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.
- COORDINATE ALL UTILITY WORK WITH APPROPRIATE UTILITY COMPANY.
NATURAL GAS - UNITIL
WATER - CITY OF PORTSMOUTH DPW
SEWER - CITY OF PORTSMOUTH DPW
ELECTRIC - EVERSOURCE
COMMUNICATIONS - FAIRPOINT, COMCAST, FIRSTLIGHT
- SEE EXISTING CONDITIONS PLAN FOR BENCHMARK INFORMATION.
- SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR PROPOSED GRADING AND EROSION CONTROL MEASURES.
- ALL WATER MAIN INSTALLATIONS SHALL BE CLASS 52, CEMENT LINED DUCTILE IRON PIPE.
- 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 PORTSMOUTH WATER DEPARTMENT.
- ALL SEWER PIPE SHALL BE FIBERGLASS REINFORCED PLASTIC UNLESS OTHERWISE STATED.
- ALL WORK WITHIN PORTSMOUTH ROWS SHALL BE COORDINATED WITH CITY OF PORTSMOUTH.
- CONTRACTOR SHALL MAINTAIN UTILITY SERVICES TO ABUTTING PROPERTIES THROUGHOUT CONSTRUCTION.
- CONNECTIONS TO EXISTING WATER MAIN SHALL BE CONSTRUCTED TO CITY OF PORTSMOUTH STANDARDS.
- EXISTING UTILITIES TO BE REMOVED SHALL BE CAPPED AT THE MAIN AND MEET THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS STANDARDS FOR CAPPING OF WATER AND SEWER SERVICES.
- ALL ELECTRICAL MATERIAL WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRIC CODE, LATEST EDITION, AND ALL APPLICABLE STATE AND LOCAL CODES.
- THE EXACT LOCATION OF NEW UTILITY SERVICES AND CONNECTIONS SHALL BE COORDINATED WITH THE BUILDING DRAWINGS AND THE UTILITY COMPANIES.
- ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
- ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.
- 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.
- 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.
- CONTRACTOR SHALL PROVIDE EXCAVATION, BEDDING, BACKFILL AND COMPACTION FOR NATURAL GAS SERVICES.
- 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.
- 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.
- CONTRACTOR TO SUBMIT AS-BUILT PLANS IN DIGITAL FORMAT (.DWG AND .PDF FILES) ON DISK TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR.
- SAWCUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN.
- HYDRANTS, GATE VALVES, FITTINGS, ETC. SHALL MEET THE REQUIREMENTS OF THE CITY OF PORTSMOUTH.
- COORDINATE TESTING OF SEWER CONSTRUCTION WITH THE CITY OF PORTSMOUTH.
- ALL SEWER PIPE WITH LESS THAN 4' OF COVER SHALL BE INSULATED.
- 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.
- 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.
- SITE LIGHTING SPECIFICATIONS, CONDUIT LAYOUT AND CIRCUITRY FOR PROPOSED SITE LIGHTING AND SIGN ILLUMINATION SHALL BE PROVIDED BY THE PROJECT ELECTRICAL ENGINEER.
- CONTRACTOR SHALL CONSTRUCT ALL UTILITIES AND DRAINS TO WITHIN 10' OF THE FOUNDATION WALLS AND CONNECT THESE TO SERVICE STUBS FROM THE BUILDING.
- EXISTING SEWER MAIN AND STRUCTURES IN GOOSE BAY DRIVE ARE BASED ON A PROPOSED DESIGN BY UNDERWOOD ENGINEERS, DATED JULY 28, 2017, AND WAS CONSTRUCTED IN SUMMER 2018. THE PROPOSED ON-SITE SEWER DESIGN ELEVATIONS ARE BASED ON THE UNDERWOOD PLAN DURING CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE SEWER CONSTRUCTION WITH THE CITY OF PORTSMOUTH, AND VERIFY ALL INVERTS PRIOR TO CONSTRUCTION.
- LOCATION SHOWN IS APPROXIMATE ONLY. FINAL DESIGN OF NATURAL GAS SERVICE TO BE COMPLETED BY UNTIL. WORK IN CORPORATE DRIVE MAY NEED TO BE COMPLETED IN CONJUNCTION WITH FUTURE RECONSTRUCTION OF CORPORATE DRIVE. COORDINATE WITH CITY OF PORTSMOUTH AND UNTIL.
- LOCATION AND TYPE SHOWN IS APPROXIMATE ONLY. FINAL DESIGN OF ELECTRIC SERVICE AND ASSOCIATED INFRASTRUCTURE TO BE COMPLETED BY EVERSOURCE. WORK IN CORPORATE DRIVE MAY NEED TO BE COMPLETED IN CONJUNCTION WITH FUTURE RECONSTRUCTION OF CORPORATE DRIVE. COORDINATE WITH CITY OF PORTSMOUTH AND EVERSOURCE.
- FINAL LOCATION OF FIRE HYDRANTS, FIRE DEPARTMENT CONNECTIONS AND DRY STAND PIPES WILL BE COORDINATED WITH THE BUILDING DRAWINGS AND APPROVED BY THE PORTSMOUTH FIRE DEPARTMENT PRIOR TO CONSTRUCTION.
- THE APPLICANT SHALL HAVE A SITE SURVEY CONDUCTED BY A RADIO COMMUNICATIONS CARRIER APPROVED BY THE CITY'S COMMUNICATIONS DIVISION. THE RADIO COMMUNICATIONS CARRIER MUST BE FAMILIAR AND CONVERSANT WITH THE POLICE AND RADIO CONFIGURATION. IF THE SITE SURVEY INDICATES IT IS NECESSARY TO INSTALL A SIGNAL REPEATER EITHER ON OR NEAR THE PROPOSED PROJECT, THOSE COSTS SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER. THE OWNER SHALL COORDINATE WITH THE SUPERVISOR OF RADIO COMMUNICATIONS FOR THE CITY.
- CONTRACTOR SHALL PERFORM TEST PITS TO VERIFY INVERT ELEVATIONS IN FIELD PRIOR TO CONSTRUCTION AND SHALL NOTIFY ENGINEER IF ELEVATION DIFFERS FROM PLAN.



Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

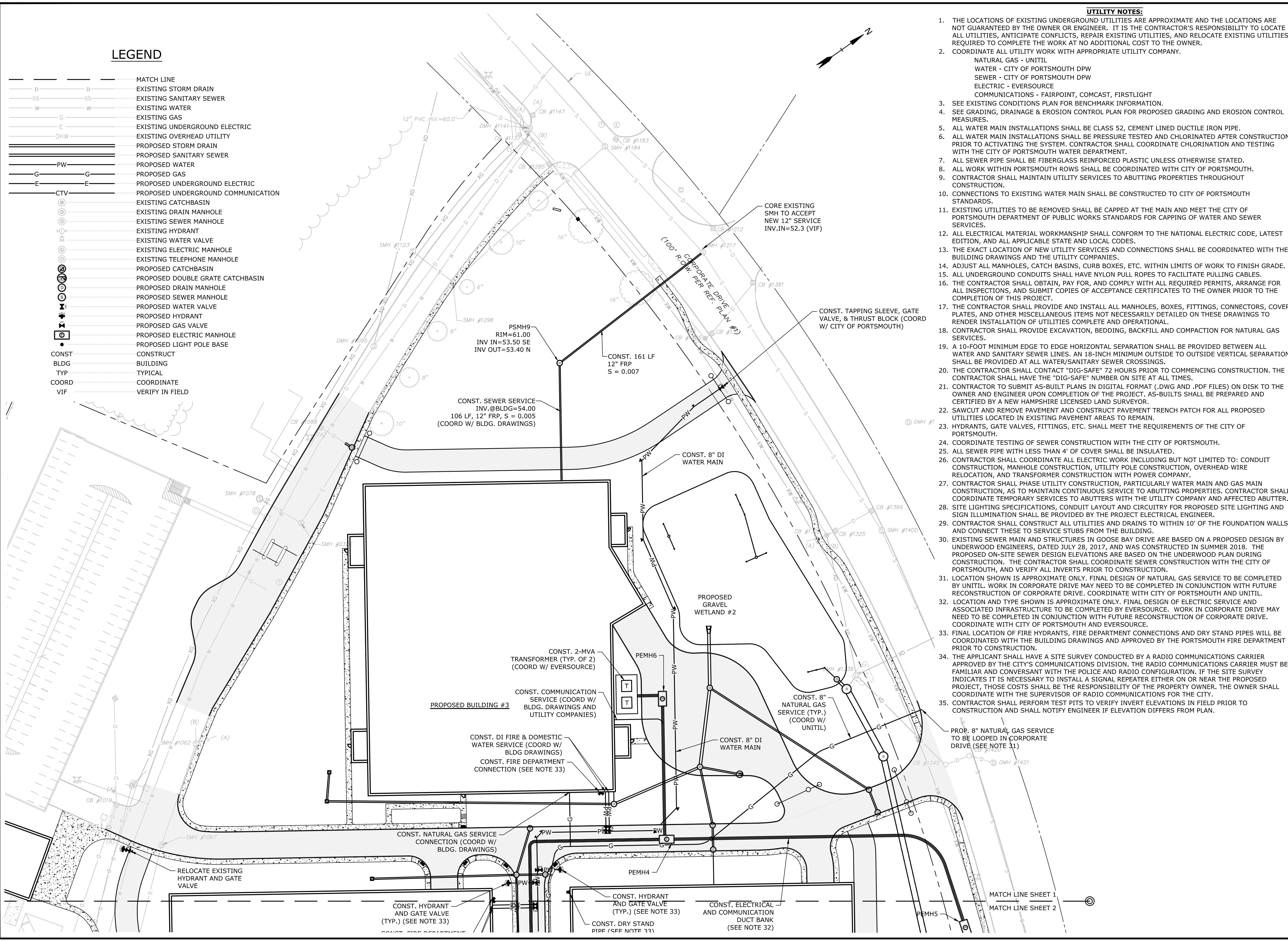
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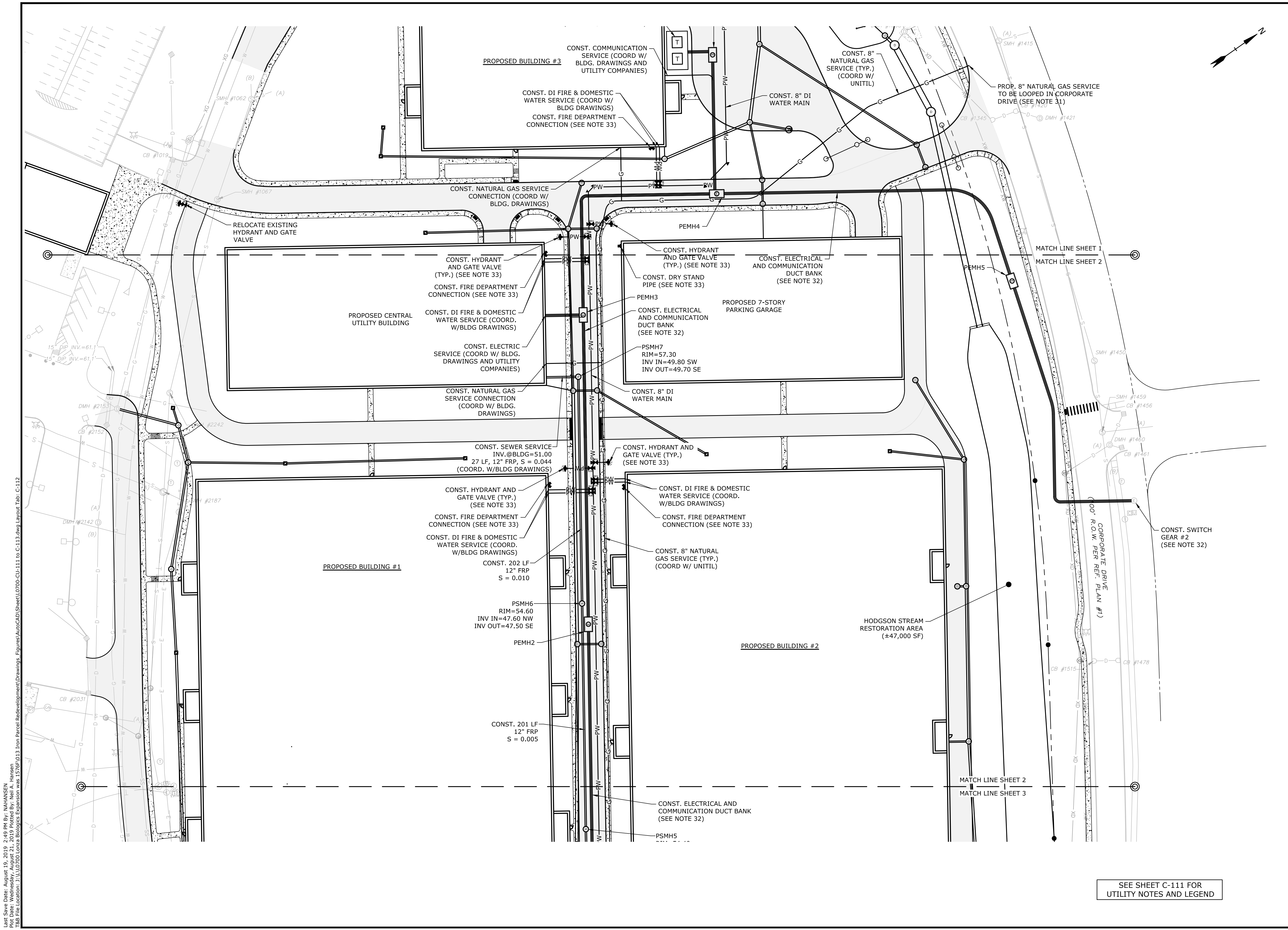
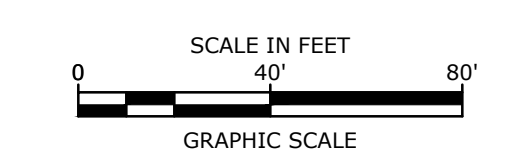
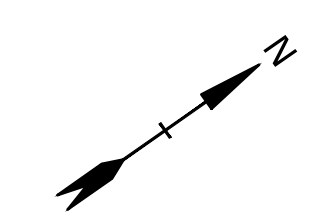
UTILITIES PLAN

SCALE: AS SHOWN

C-111

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SEE SHEET C-111 FOR
UTILITY NOTES AND LEGEND

Proposed Industrial Development
Lonza Biologics

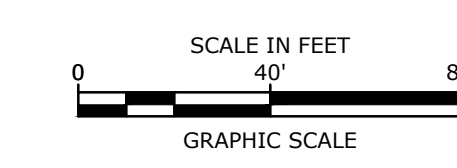
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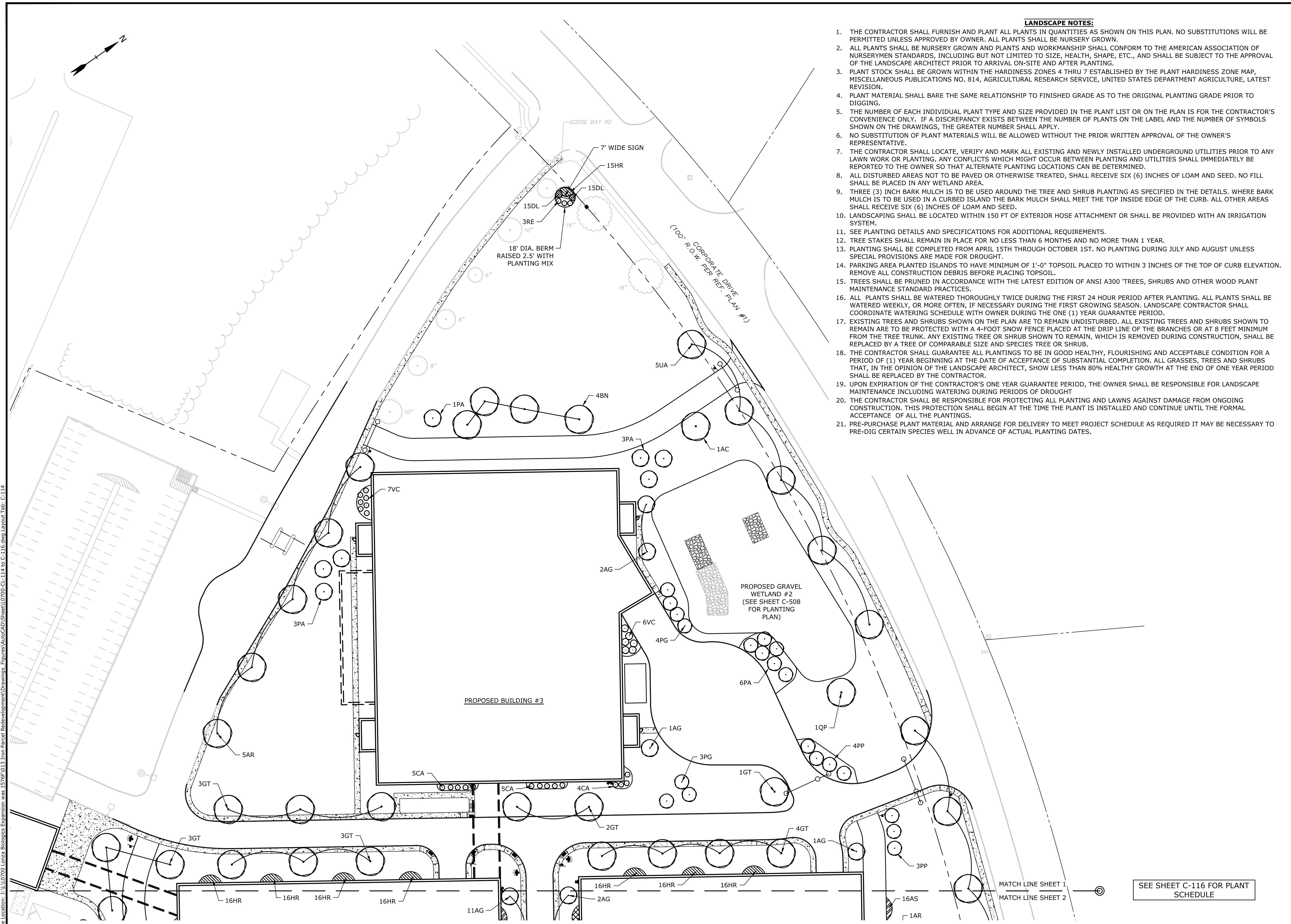
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CHECKED:	PMC
APPROVED:	BLM

UTILITIES PLAN

SCALE: AS SHOWN



- LANDSCAPE NOTES:**
1. THE CONTRACTOR SHALL FURNISH AND PLANT ALL PLANTS IN QUANTITIES AS SHOWN ON THIS PLAN. NO SUBSTITUTIONS WILL BE PERMITTED UNLESS APPROVED BY OWNER. ALL PLANTS SHALL BE NURSERY GROWN.
 2. ALL PLANTS SHALL BE NURSERY GROWN AND PLANTS AND WORKMANSHIP SHALL CONFORM TO THE AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS, INCLUDING BUT NOT LIMITED TO SIZE, HEALTH, SHAPE, ETC., AND SHALL BE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO ARRIVAL ON-SITE AND AFTER PLANTING.
 3. PLANT STOCK SHALL BE GROWN WITHIN THE HARDINESS ZONES 4 THRU 7 ESTABLISHED BY THE PLANT HARDINESS ZONE MAP, MISCELLANEOUS PUBLICATIONS NO. 814, AGRICULTURAL RESEARCH SERVICE, UNITED STATES DEPARTMENT AGRICULTURE, LATEST REVISION.
 4. PLANT MATERIAL SHALL BARE THE SAME RELATIONSHIP TO FINISHED GRADE AS TO THE ORIGINAL PLANTING GRADE PRIOR TO DIGGING.
 5. THE NUMBER OF EACH INDIVIDUAL PLANT TYPE AND SIZE PROVIDED IN THE PLANT LIST OR ON THE PLAN IS FOR THE CONTRACTOR'S CONVENIENCE ONLY. IF A DISCREPANCY EXISTS BETWEEN THE NUMBER OF PLANTS ON THE LABEL AND THE NUMBER OF SYMBOLS SHOWN ON THE DRAWINGS, THE GREATER NUMBER SHALL APPLY.
 6. NO SUBSTITUTION OF PLANT MATERIALS WILL BE ALLOWED WITHOUT THE PRIOR WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE.
 7. THE CONTRACTOR SHALL LOCATE, VERIFY AND MARK ALL EXISTING AND NEWLY INSTALLED UNDERGROUND UTILITIES PRIOR TO ANY LAWN WORK OR PLANTING. ANY CONFLICTS WHICH MIGHT OCCUR BETWEEN PLANTING AND UTILITIES SHALL IMMEDIATELY BE REPORTED TO THE OWNER SO THAT ALTERNATE PLANTING LOCATIONS CAN BE DETERMINED.
 8. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED, SHALL RECEIVE SIX (6) INCHES OF LOAM AND SEED. NO FILL SHALL BE PLACED IN ANY WETLAND AREA.
 9. THREE (3) INCH BARK MULCH IS TO BE USED AROUND THE TREE AND SHRUB PLANTING AS SPECIFIED IN THE DETAILS. WHERE BARK MULCH IS TO BE USED IN A CURBED ISLAND THE BARK MULCH SHALL MEET THE TOP INSIDE EDGE OF THE CURB. ALL OTHER AREAS SHALL RECEIVE SIX (6) INCHES OF LOAM AND SEED.
 10. LANDSCAPING SHALL BE LOCATED WITHIN 150 FT OF EXTERIOR HOSE ATTACHMENT OR SHALL BE PROVIDED WITH AN IRRIGATION SYSTEM.
 11. SEE PLANTING DETAILS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
 12. TREE STAKES SHALL REMAIN IN PLACE FOR NO LESS THAN 6 MONTHS AND NO MORE THAN 1 YEAR.
 13. PLANTING SHALL BE COMPLETED FROM APRIL 15TH THROUGH OCTOBER 1ST. NO PLANTING DURING JULY AND AUGUST UNLESS SPECIAL PROVISIONS ARE MADE FOR DROUGHT.
 14. PARKING AREA PLANTED ISLANDS TO HAVE MINIMUM OF 1'-0" TOPSOIL PLACED TO WITHIN 3 INCHES OF THE TOP OF CURB ELEVATION. REMOVE ALL CONSTRUCTION DEBRIS BEFORE PLACING TOPSOIL.
 15. TREES SHALL BE PRUNED IN ACCORDANCE WITH THE LATEST EDITION OF ANSI A300 'TREES, SHRUBS AND OTHER WOOD PLANT MAINTENANCE STANDARD PRACTICES.
 16. 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. LANDSCAPE CONTRACTOR SHALL COORDINATE WATERING SCHEDULE WITH OWNER DURING THE ONE (1) YEAR GUARANTEE PERIOD.
 17. EXISTING TREES AND SHRUBS SHOWN ON THE PLAN ARE TO REMAIN UNDISTURBED. ALL EXISTING TREES AND SHRUBS SHOWN TO REMAIN ARE TO BE PROTECTED WITH A 4-FOOT SNOW FENCE PLACED AT THE DRIP LINE OF THE BRANCHES OR AT 8 FEET MINIMUM FROM THE TREE TRUNK. ANY EXISTING TREE OR SHRUB SHOWN TO REMAIN, WHICH IS REMOVED DURING CONSTRUCTION, SHALL BE REPLACED BY A TREE OF COMPARABLE SIZE AND SPECIES TREE OR SHRUB.
 18. THE CONTRACTOR SHALL GUARANTEE ALL PLANTINGS TO BE IN GOOD HEALTHY, FLOURISHING AND ACCEPTABLE CONDITION FOR A PERIOD OF (1) YEAR BEGINNING AT THE DATE OF ACCEPTANCE OF SUBSTANTIAL COMPLETION. ALL GRASSES, TREES AND SHRUBS THAT, IN THE OPINION OF THE LANDSCAPE ARCHITECT, SHOW LESS THAN 80% HEALTHY GROWTH AT THE END OF ONE YEAR PERIOD SHALL BE REPLACED BY THE CONTRACTOR.
 19. UPON EXPIRATION OF THE CONTRACTOR'S ONE YEAR GUARANTEE PERIOD, THE OWNER SHALL BE RESPONSIBLE FOR LANDSCAPE MAINTENANCE INCLUDING WATERING DURING PERIODS OF DROUGHT.
 20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL PLANTING AND LAWNS AGAINST DAMAGE FROM ONGOING CONSTRUCTION. THIS PROTECTION SHALL BEGIN AT THE TIME THE PLANT IS INSTALLED AND CONTINUE UNTIL THE FORMAL ACCEPTANCE OF ALL THE PLANTINGS.
 21. PRE-PURCHASE PLANT MATERIAL AND ARRANGE FOR DELIVERY TO MEET PROJECT SCHEDULE AS REQUIRED IT MAY BE NECESSARY TO PRE-DIG CERTAIN SPECIES WELL IN ADVANCE OF ACTUAL PLANTING DATES.



SEE SHEET C-116 FOR PLANT SCHEDULE

Proposed Industrial Development
Lonza Biologics

Portsmouth, New Hampshire

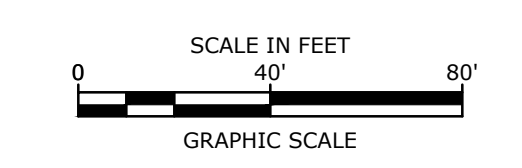
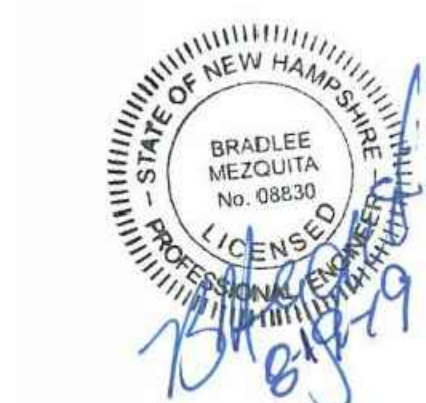
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F	11/6/2018	P.B. Submission
E	8/30/2018	Revised AoT Submission
D	8/21/2018	Revised TAC Submission
C	6/18/2018	NHDES AoT Submission
B	5/21/2018	TAC Submission
A	4/3/2018	TAC W.S. Submission

PROJECT NO:	L-0700-013
DATE:	04/03/2018
FILE:	L0700-CL-114 to C-116.dwg
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

LANDSCAPE PLAN

SCALE: AS SHOWN

Last Save Date: August 19, 2019 3:13 PM BY: NAHANSEN
 Plot Date: Wednesday, August 21, 2019 Plotted By: Neil A. Hansen
 P&E File Location: J:\L0700 Lonza Biologics Expansion.was 1278.013 from Parcel Redevelopment\Drawings - Figures\AutoCAD\Sheet\L0700-CL-114 to C-116.dwg Layout Tab: C-114



Proposed Industrial Development
Lonza Biologics

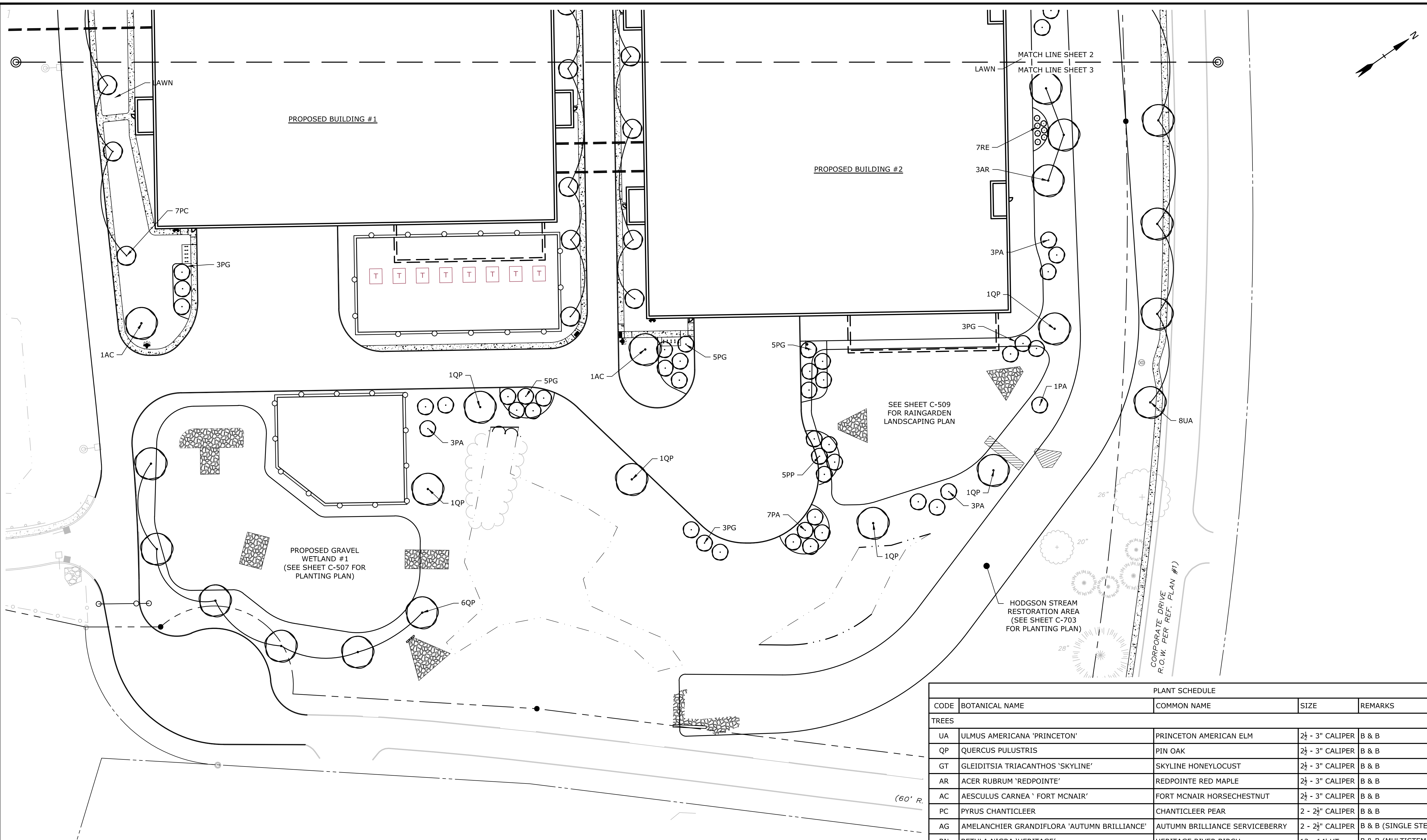
Portsmouth,
New Hampshire

MARK	DATE	DESCRIPTION
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F	11/6/2018	P.B. Submission
E	8/30/2018	Revised AoT Submission
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DATE:	04/03/2018
FILE:	L0700-CL-114 to C-116.dwg
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

LANDSCAPE PLAN

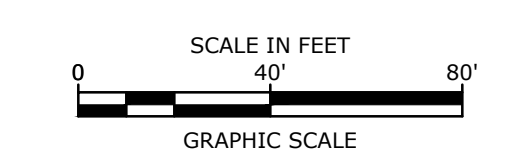
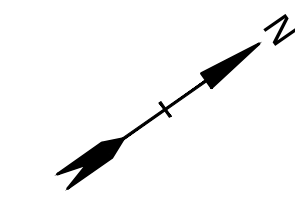
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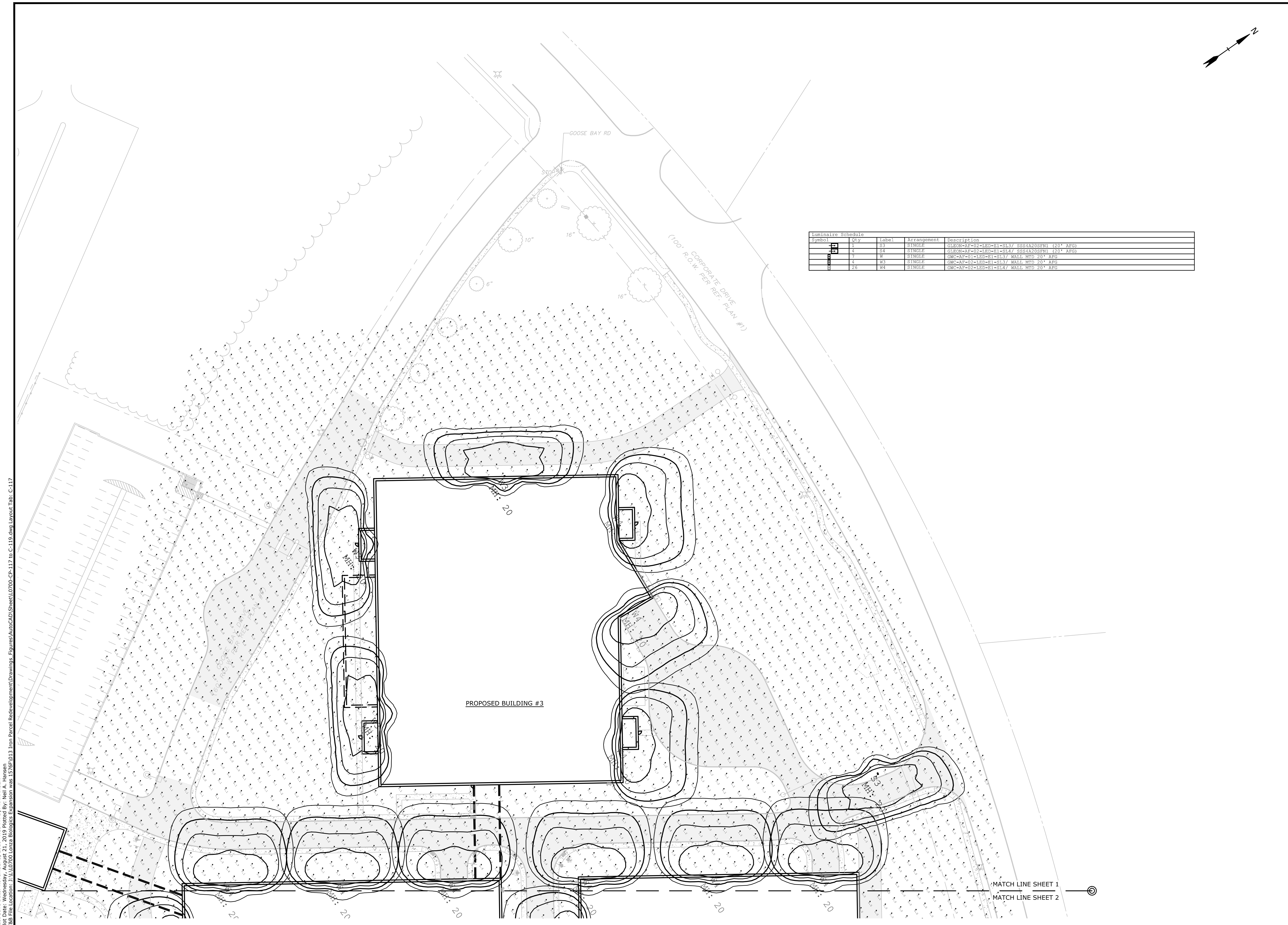
PLANT SCHEDULE				
CODE	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
TREES				
UA	ULMUS AMERICANA 'PRINCETON'	PRINCETON AMERICAN ELM	2½ - 3" CALIPER	B & B
QP	QUERCUS PULUSTRIS	PIN OAK	2½ - 3" CALIPER	B & B
GT	GLEIDITSIA TRIACANTHOS 'SKYLINE'	SKYLINE HONEYLOCUST	2½ - 3" CALIPER	B & B
AR	ACER RUBRUM 'REDPOINTE'	REDPOINTE RED MAPLE	2½ - 3" CALIPER	B & B
AC	AESCULUS CARNEA 'FORT MCNAIR'	FORT MCNAIR HORSECHESTNUT	2½ - 3" CALIPER	B & B
PC	PYRUS CHANTICLEER	CHANTICLEER PEAR	2 - 2½" CALIPER	B & B
AG	AMELANCHIER GRANDIFLORA 'AUTUMN BRILLIANCE'	AUTUMN BRILLIANCE SERVICEBERRY	2 - 2½" CALIPER	B & B (SINGLE STEM)
BN	BETULA NIGRA 'HERITAGE'	HERITAGE RIVER BIRCH	12 - 14' HT.	B & B (MULTISTEM)
PG	PICEA GLAUCA	WHITE SPRUCE	8 - 10' HT.	B & B
PP	PICEA PUNGENS	COLORADO SPRUCE	8 - 10' HT.	B & B
PA	PICEA ABIES	NORWAY SPRUCE	8 - 10' HT.	B & B
SHRUBS				
VC	VIBURNUM CASSINOIDES	WITHEROD VIBURNUM	2½ - 3' HT.	B & B
RE	RHODODENDRON 'ENGLISH ROSEUM'	ENGLISH ROSEUM RHODODENDRON	2½ - 3' HT.	B & B
CA	CLETHERA ALNIFOLIA	SUMMERSWEET CLETHERA	7 GALLON	CONTAINER
HQ	HYDRANGEA QUERCIFOLIA 'SNOW QUEEN'	SNOW QUEEN OAKLEAF HYDRANGEA	2½ - 3' HT.	B & B
GROUNDCOVERS & PERENNIALS				
DL	HEMEROCALLIS 'STELLA DORO'	STELLA DORO DAYLILY	2 GALLON	CONTAINER
HR	HOSTA 'ROYAL STANDARD'	ROYAL STANDARD HOSTA	2 GALLON	CONTAINER
AS	ASTILBE 'VISIONS IN PINK'	VISIONS IN PINK ASTILBE	2 GALLON	CONTAINER
CAL	CALAMAGROSTIS 'KARL FOERSTER'	KARL FOERSTER FEATHER REED GRASS	3 GALLON	CONTAINER

SEE SHEET C-114 FOR
LANDSCAPING NOTES

Last Save Date: August 19, 2019 3:13 PM By: MAHANSEN
 Plot Date: Wednesday, August 21, 2019 Plotted By: Neil A. Hansen
 P&E File Location: J:\L0700\Lonza Biologics Expansion\w.s. 1278\013 Iron Parcel Redevelopment\Drawings - Figures\AutoCAD\Sheet\L0700-CL-114 to C-116.dwg Layout Tab: C-116



Symbol	Qty	Label	Arrangement	Description
[Symbol]	1	S3	SINGLE	GLEON-AF-02-LED-E1-SL3/ SSS4A208FN1 (20' AFG)
[Symbol]	4	S4	SINGLE	GLEON-AF-02-LED-E1-SL4/ SSS4A208FN1 (20' AFG)
[Symbol]	7	W	SINGLE	GWC-AF-01-LED-E1-SL1/ WALL MTD 20' AFG
[Symbol]	4	W3	SINGLE	GWC-AF-02-LED-E1-SL3/ WALL MTD 20' AFG
[Symbol]	26	W4	SINGLE	GWC-AF-02-LED-E1-SL4/ WALL MTD 20' AFG



Last Save Date: November 5, 2018 4:19 PM By: MATANSEN
 Plot Date: Wednesday, August 21, 2019 Plotted By: Neil A. Hansen
 P&E File Location: J:\L0700\Lonza Biologics Expansion.was 12762.013 Iron Parcel Redevelopment\Drawings_Figures\AutoCAD\Sheet\L0700-CP-117 to C-119.dwg Layout Tab: C-117

Proposed Industrial Development
Lonza Biologics

Portsmouth,
New Hampshire

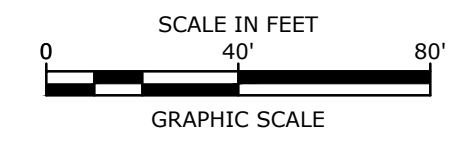
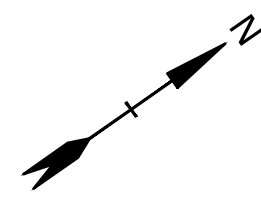
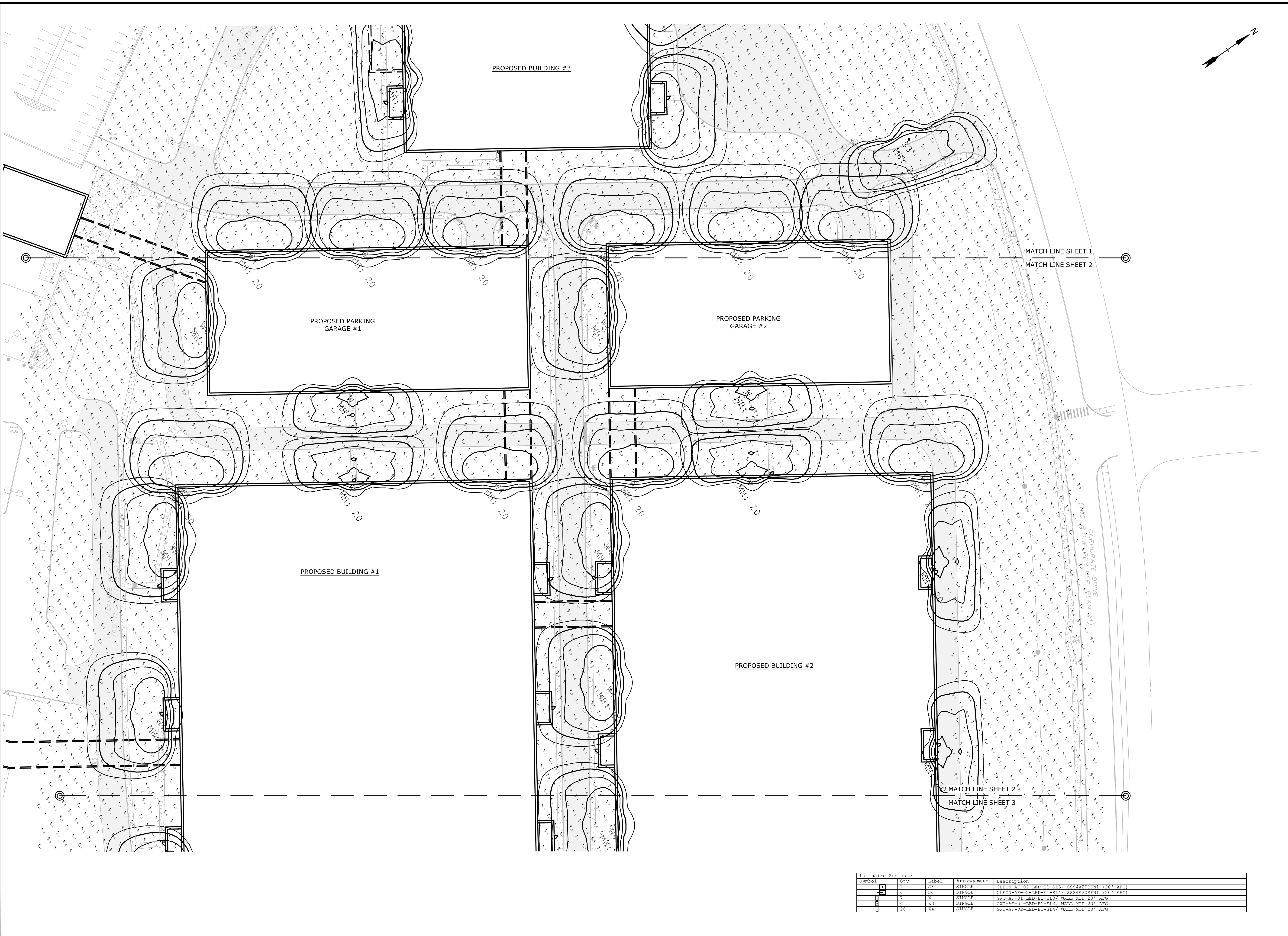
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A	4/3/2018	TAC W.S. Submission

PROJECT NO: L-0700-013
 DATE: 04/03/2018
 FILE: L0700-CP-117 to C-119.dwg
 DRAWN BY: NAH
 CHECKED: PMC
 APPROVED: BLM

PHOTOMETRIC LIGHTING PLAN

SCALE: AS SHOWN

Last Save Date: November 5, 2018 4:19 PM By: MATANSEN
 Plot Date: Wednesday, August 21, 2019 Plotted By: Neil A. Hansen
 P&E File Location: J:\L0700 Lonza Biologicals Expansion.was 1278 013 Iron Parcel Redevelopment\Drawings - Figures\AutoCAD\Sheet\L0700-CP-117 to C-119.dwg Layout Tab: C-118



Proposed Industrial Development

Lonza Biologicals

Portsmouth,
 New Hampshire

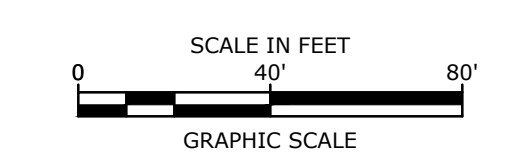
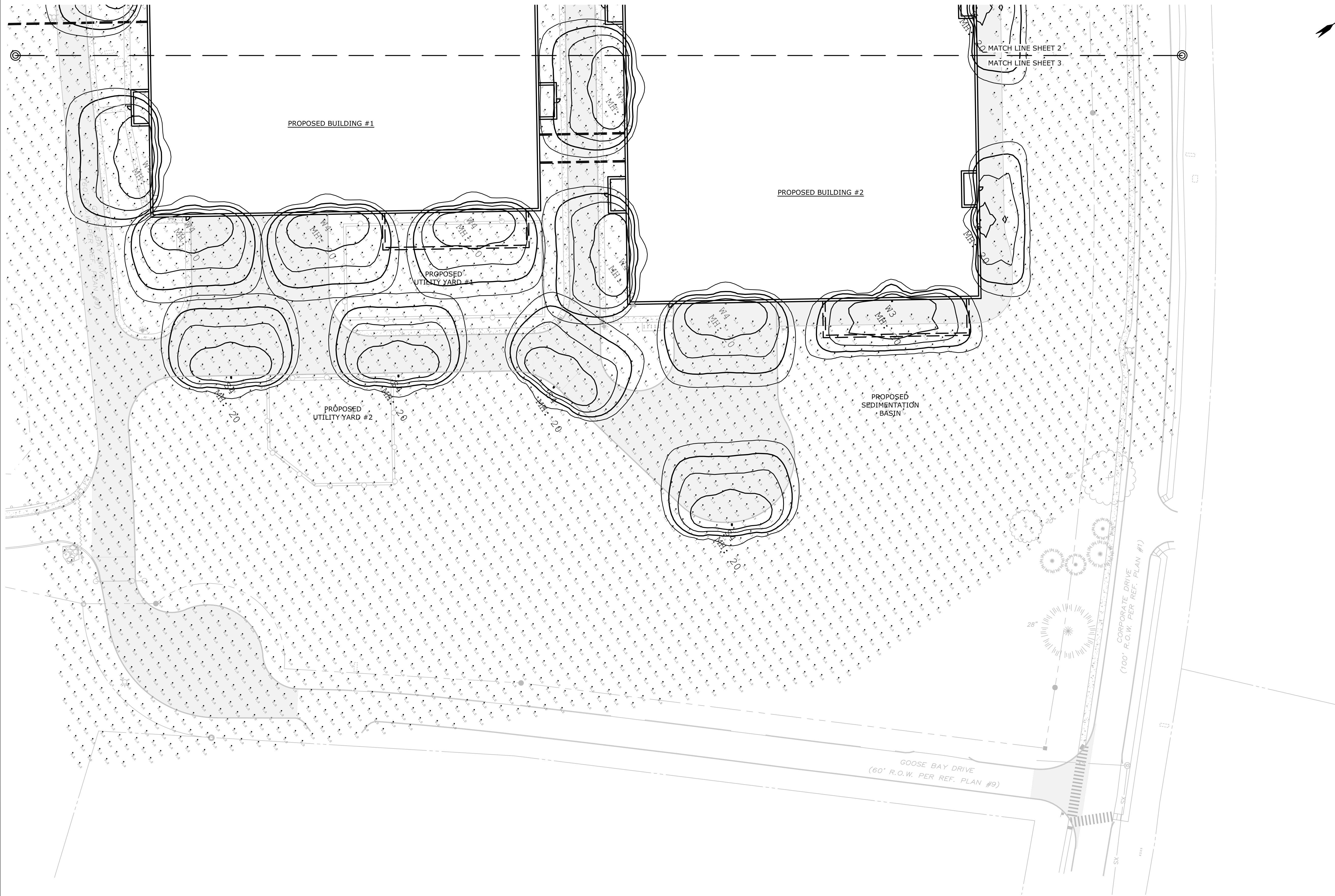
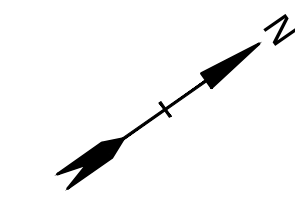
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F	11/6/2018	P.B. Submission
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C	6/18/2018	NHDES AoT Submission
B	5/21/2018	TAC Submission
A	4/3/2018	TAC W.S. Submission

PROJECT NO: L-0700-013
 DATE: 04/03/2018
 FILE: L0700-CP-117 to C-119.dwg
 DRAWN BY: NAH
 CHECKED: PMC
 APPROVED: BLM

PHOTOMETRIC LIGHTING PLAN

SCALE: AS SHOWN

Symbol	Qty	Label	Arrangement	Description
[Symbol]	1	S3	SINGLE	GLOBN-AF-02-LED-E1-SL3/ SSS4A208FN1 (20' AFG)
[Symbol]	4	S4	SINGLE	GLOBN-AF-02-LED-E1-SL4/ SSS4A208FN1 (20' AFG)
[Symbol]	7	W	SINGLE	GWC-AF-01-LED-E1-SL3/ WALL MTD 20' AFG
[Symbol]	4	W3	SINGLE	GWC-AF-02-LED-E1-SL3/ WALL MTD 20' AFG
[Symbol]	26	W4	SINGLE	GWC-AF-02-LED-E1-SL4/ WALL MTD 20' AFG



Proposed Industrial Development

Lonza Biologics

Portsmouth,
New Hampshire

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PROJECT NO: L-0700-013
DATE: 04/03/2018
FILE: L0700-CP-117 to C-119.dwg
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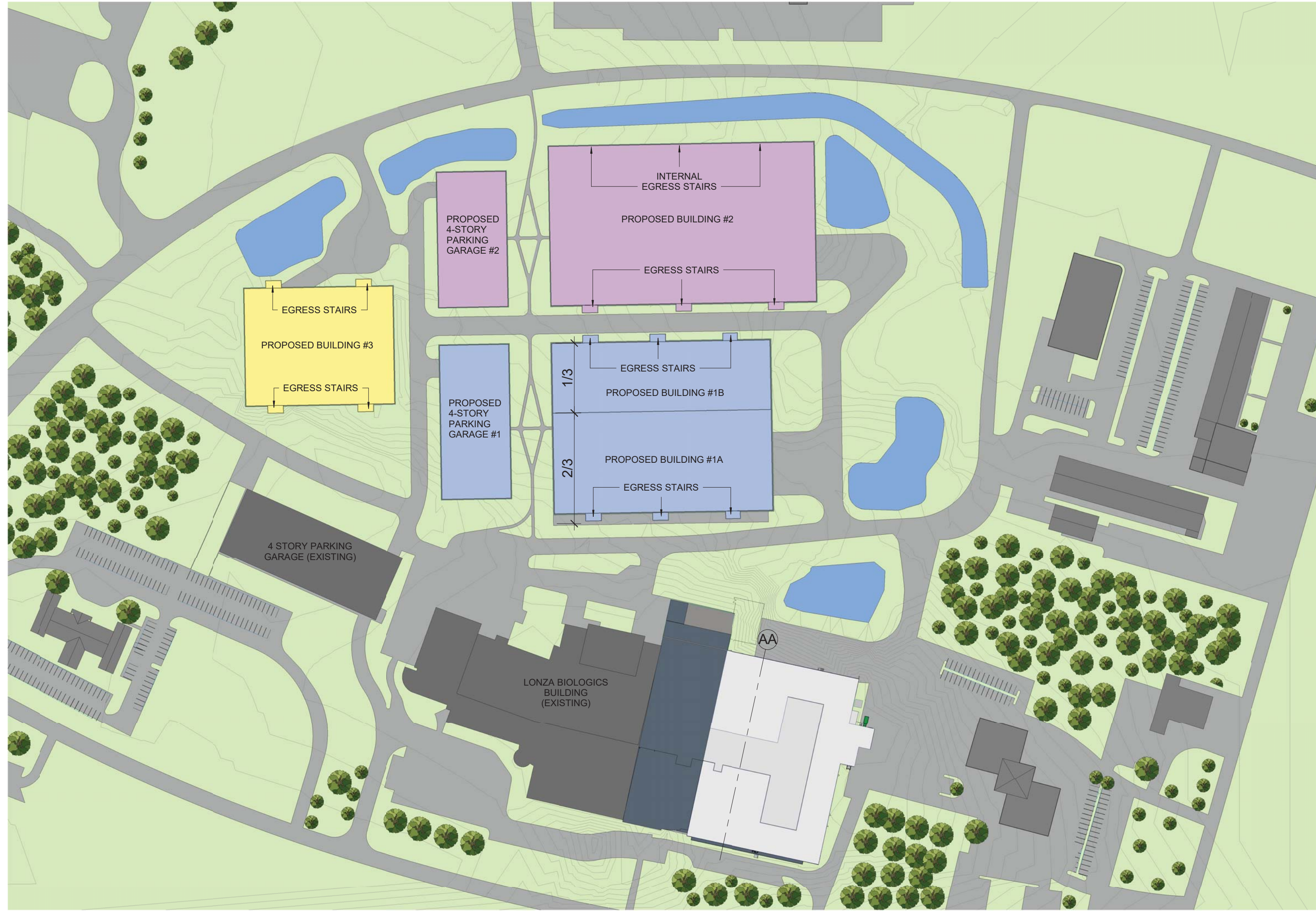
PHOTOMETRIC LIGHTING PLAN

SCALE: AS SHOWN

C-119

Symbol	Qty	Label	Arrangement	Description
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[Symbol]	1	W	SINGLE	GWC-AP-01-LED-E1-S13/ WALL MTD 20° AFG
[Symbol]	4	W3	SINGLE	GWC-AP-02-LED-E1-S13/ WALL MTD 20° AFG
[Symbol]	26	W4	SINGLE	GWC-AP-02-LED-E1-S14/ WALL MTD 20° AFG

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 Plot Date: Wednesday, August 21, 2019 Plotted By: Neil A. Hansen
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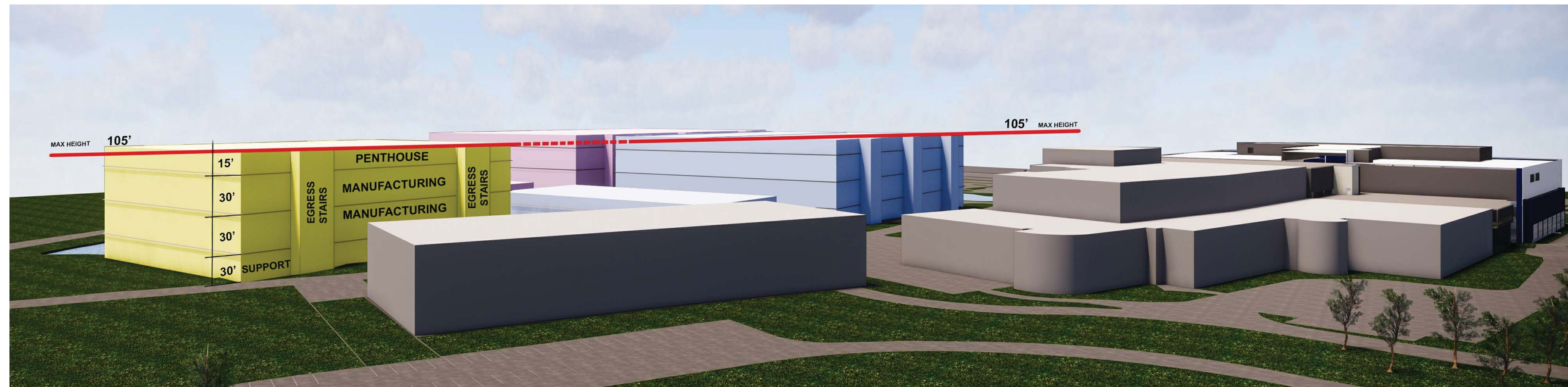
A SITE PLAN
ASK-001 1" = 100'-0"

LEGEND

- PHASE 1 (3-5 YEARS)
- PHASE 2 (5-10 YEARS)
- PHASE 3 (10-15 YEARS)



1 AXONOMETRIC VIEW
ASK-001 NONE



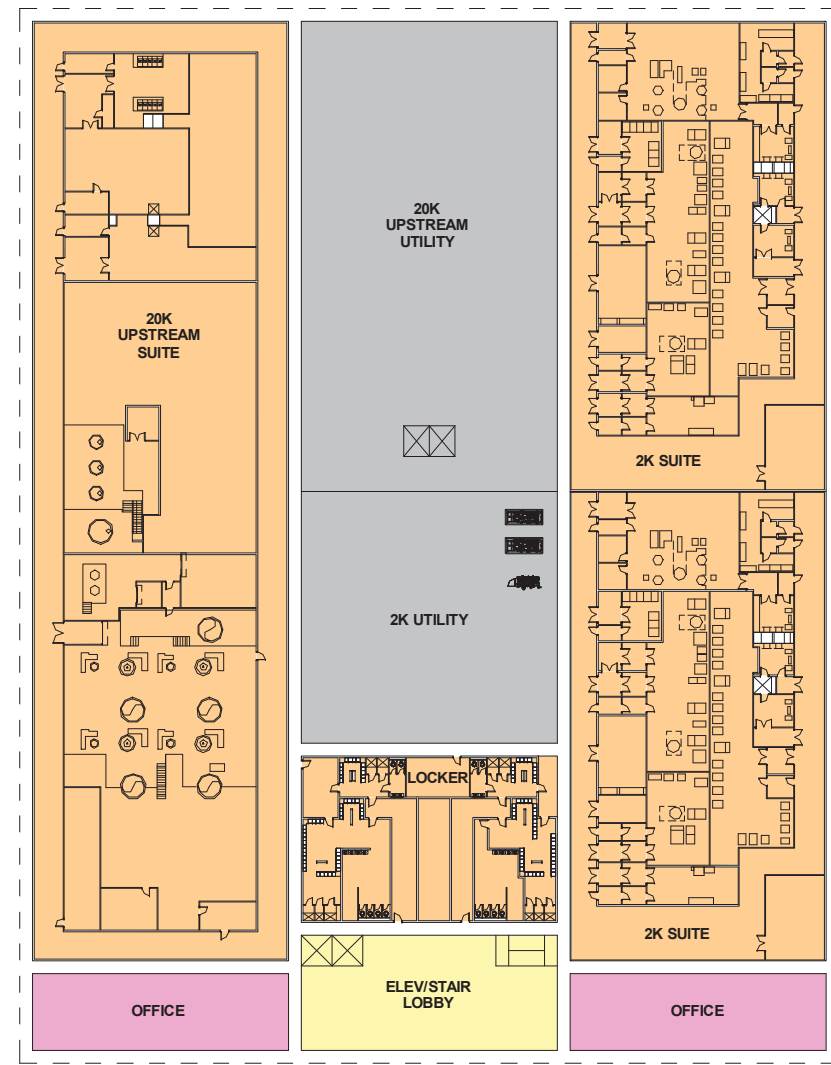
2 PERSPECTIVE VIEW
ASK-001 NONE



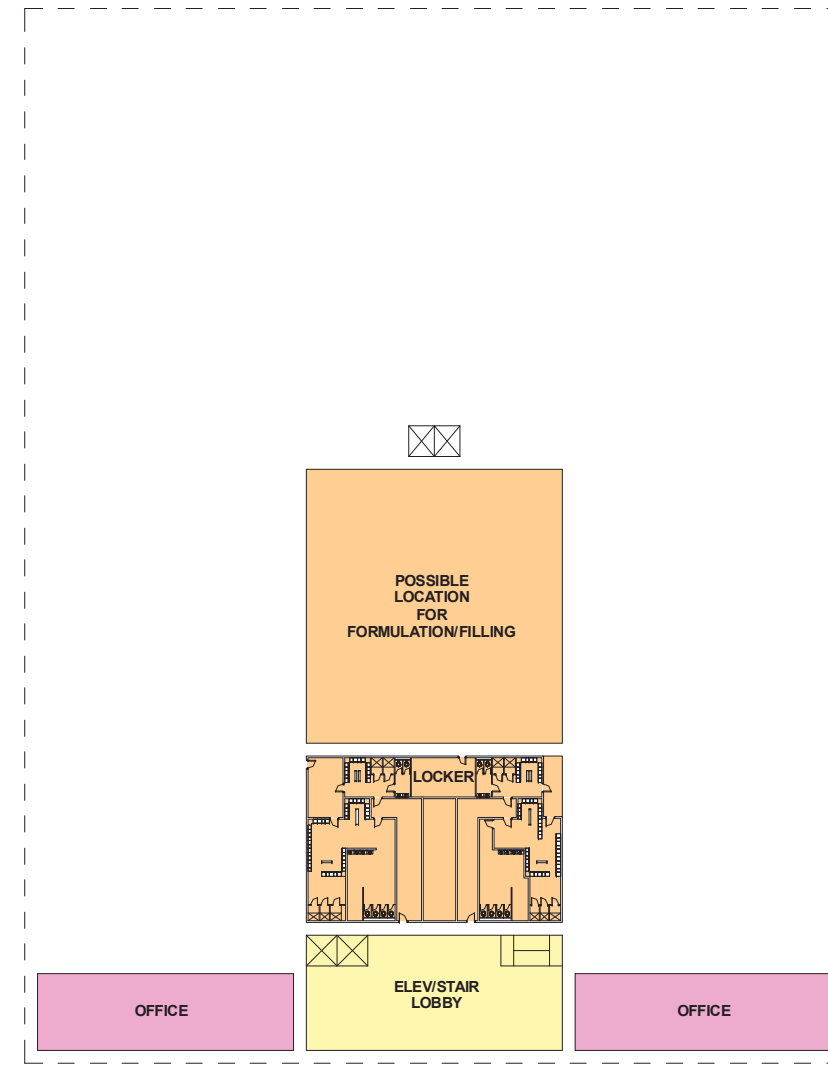
SITE PLAN -
PERSPECTIVE

ASK-001

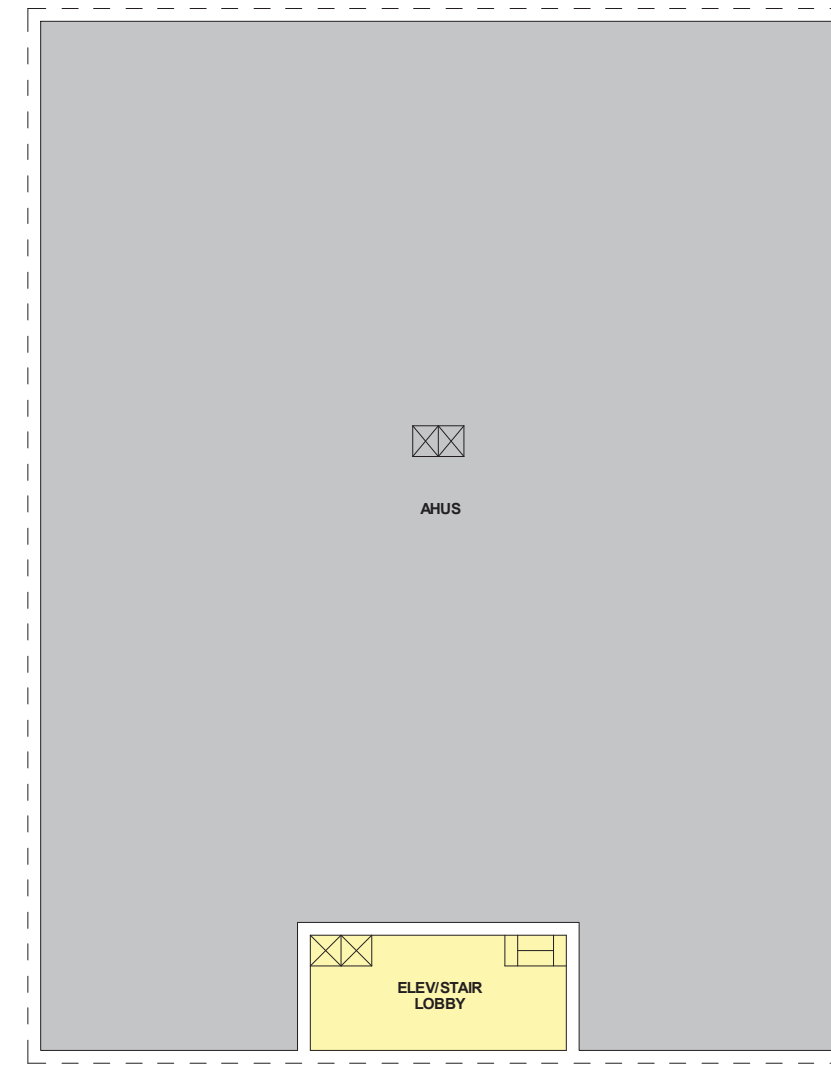
DATE: 09 AUG 2018 REVISION: A



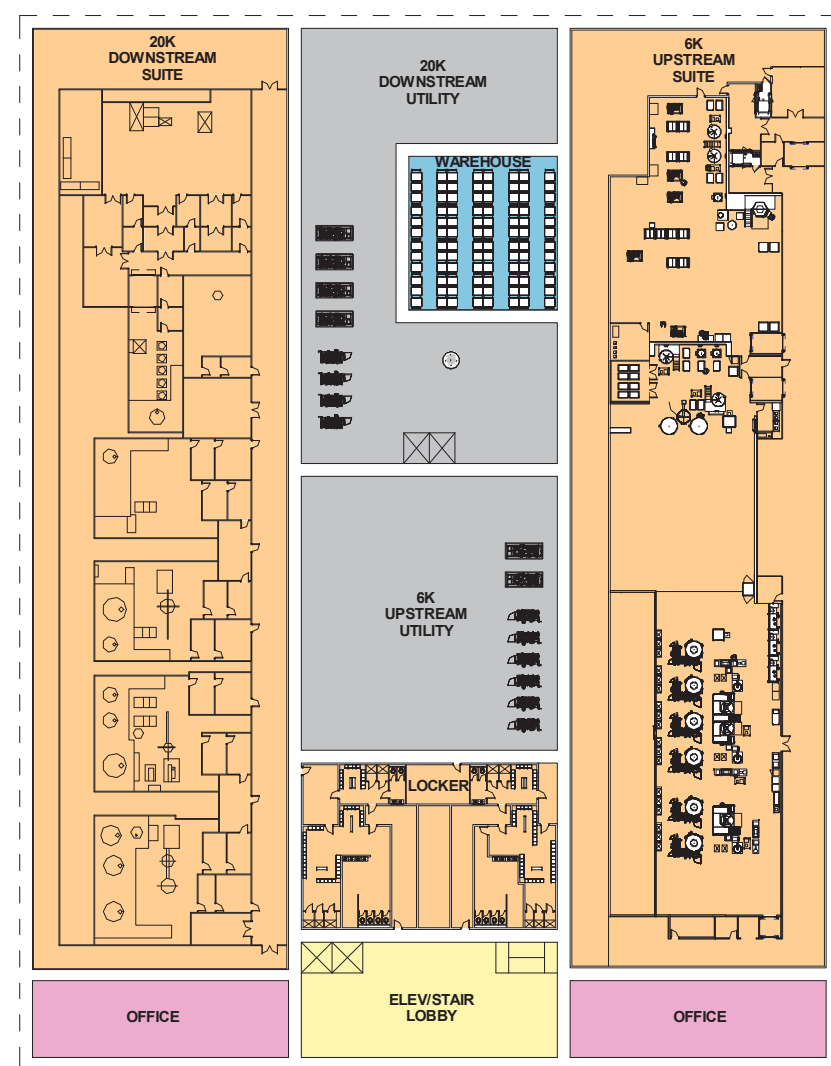
3rd Floor @ 60'-0"



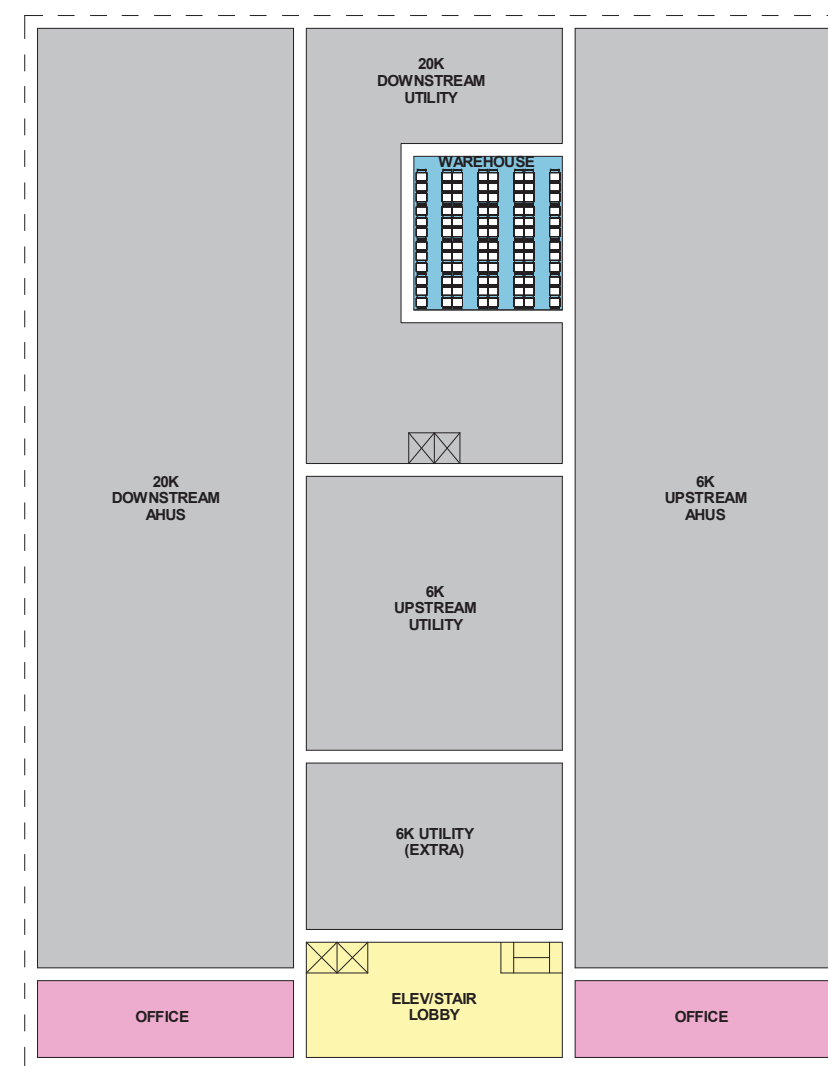
3rd Floor Intermediate @ 75'-0"



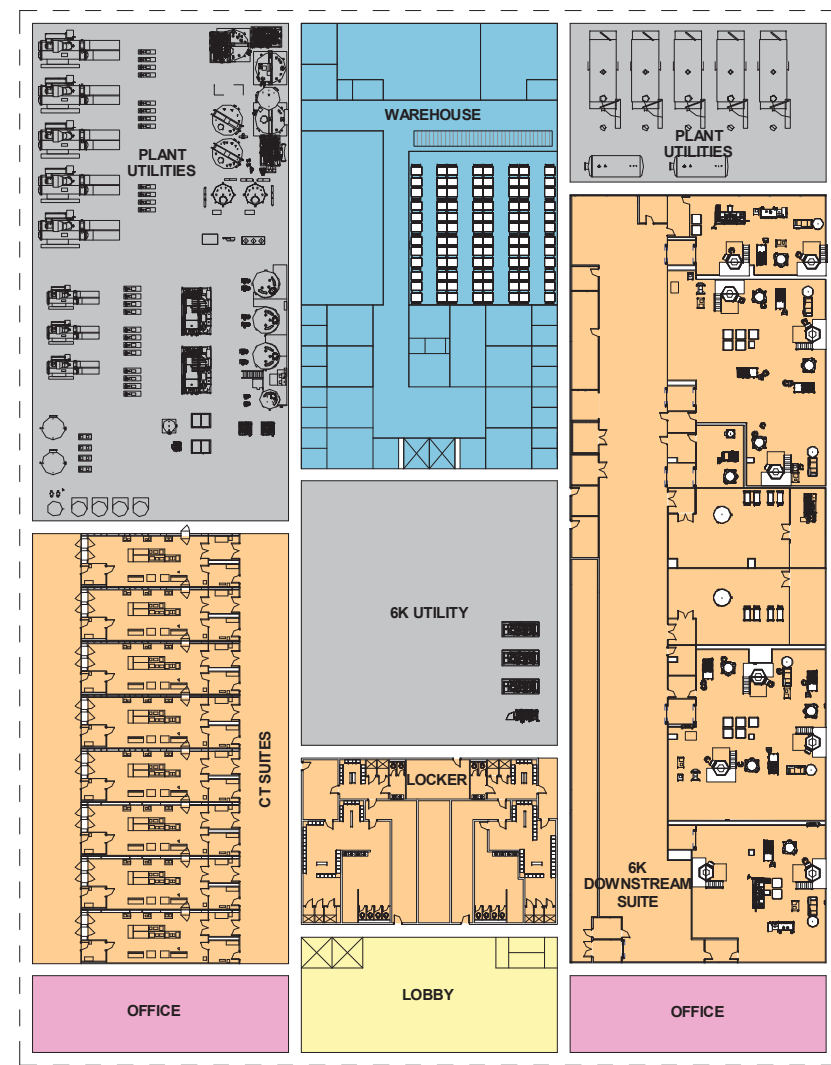
Penthouse @ 90'-0"



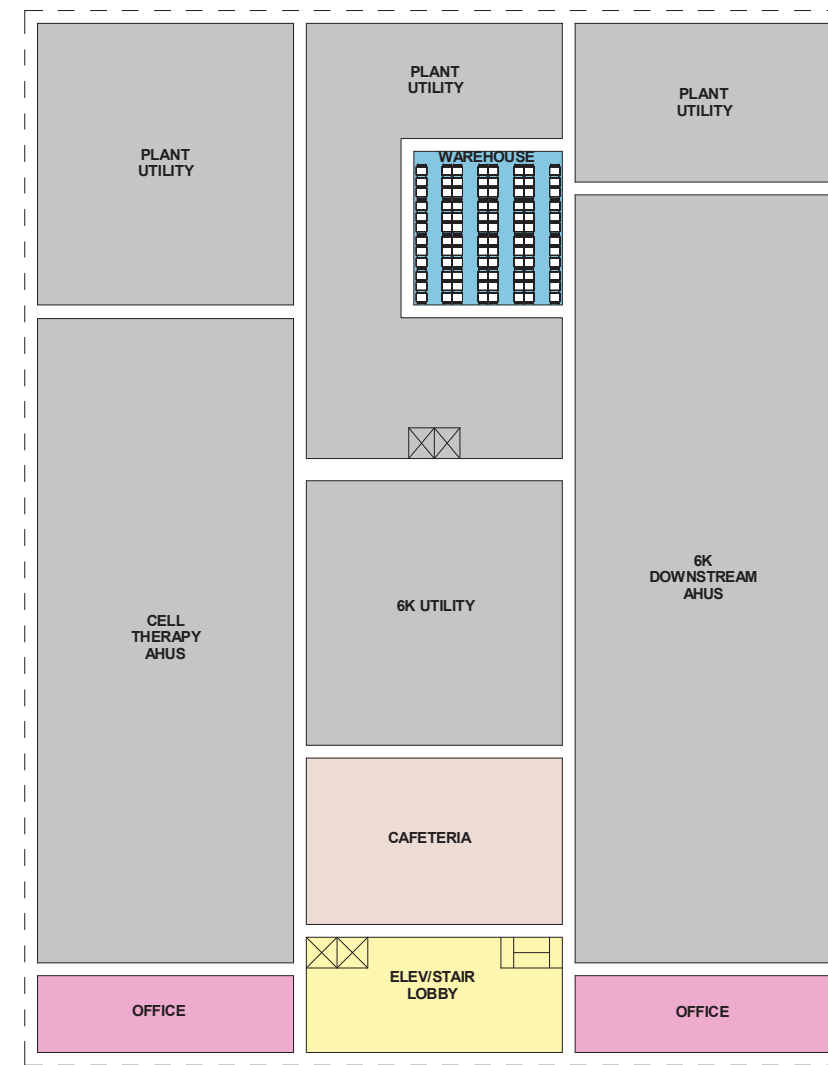
2nd Floor @ 30'-0"



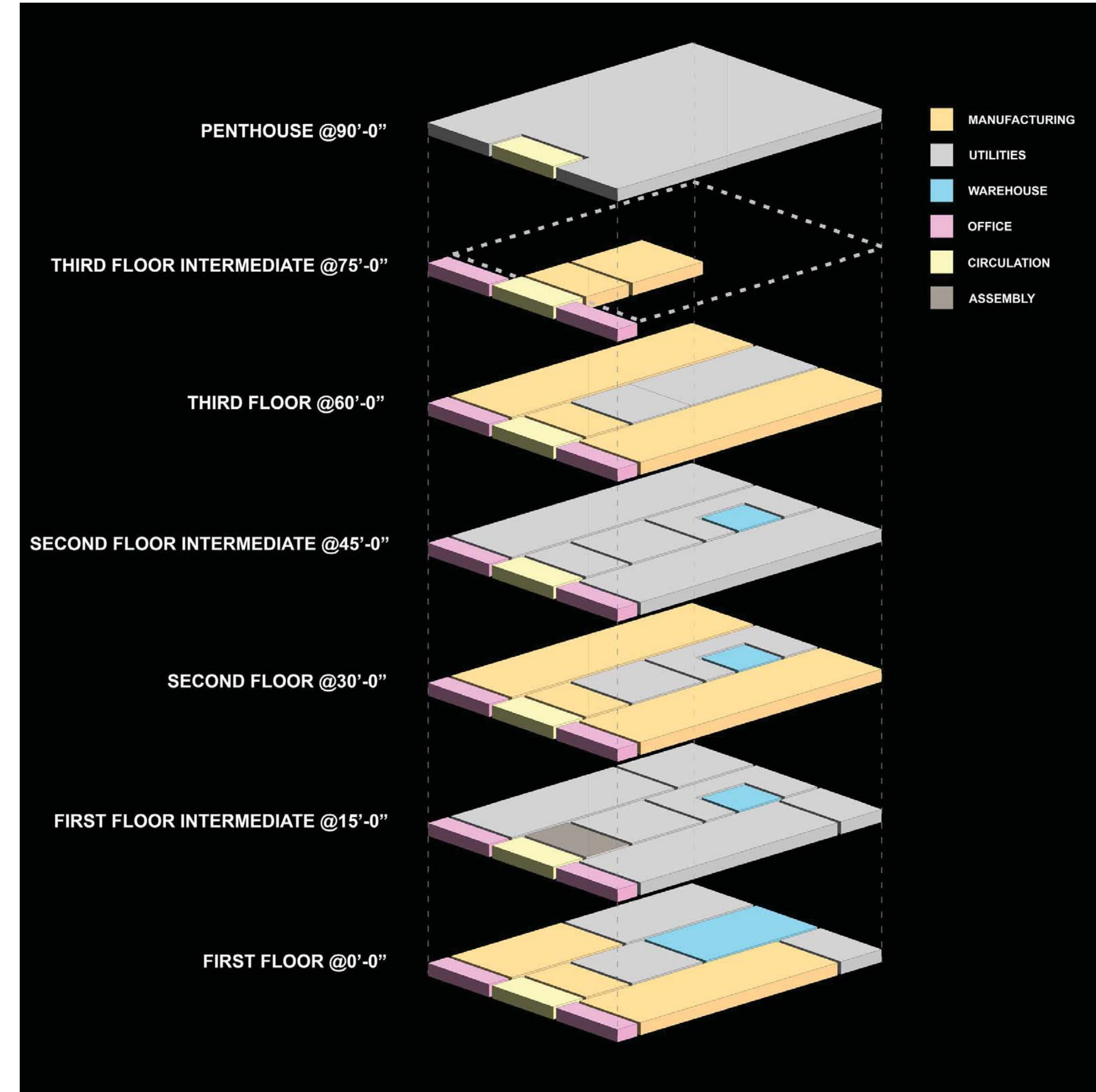
2nd Floor Intermediate @ 45'-0"



1st Floor @ 0'-0"



1st Floor Intermediate @ 15'-0"



1 AXONOMETRIC VIEW
ASK-002 1" = 60'-0"

Master Plan Area Summary (Square Feet) - Option 0					
Floor	Area	Building			Site Total
		Building 1	Building 2	Building 3	
1	First Floor Total	137,840	160,000	62,000	359,840
	Manufacturing	61,700	70,000		131,700
	Lab/Office	12,000	20,000		32,000
	Circulation	19,210	16,000		
	Warehouse	17,000	12,000		
Support Utility		27,930	42,000	62,000	131,930
2	Second Floor Total	137,840	160,000	62,000	359,840
	Manufacturing	79,900	90,000	62,000	231,900
	Lab/Office	12,000	20,000		32,000
	Warehouse	3,480	3,600		7,080
	Circulation	19,170	16,000		35,170
Support Utility		23,290	30,400		53,690
3	Third Floor Total	155,040	160,000	62,000	377,040
	Manufacturing	97,100	90,000	62,000	249,100
	Lab/Office	12,000	20,000		32,000
	Circulation	17,740	16,000		33,740
	Support Utility	28,200	34,000		62,200
Total		430,720	480,000	186,000	1,096,720

2 SCHEDULE
ASK-002 NONE

3 CONCEPT PLANS
ASK-002 1" = 50'-0"

**BUILDING 1
CONCEPT
PLANS**

ASK-002

DATE: 12-JUL-2018 REVISION: B



PHASE 1A PLAN SET

APRIL 3, 2018

REVISED: NOVEMBER 6, 2018





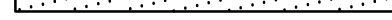








LIST OF DRAWINGS		
SHEET NO.	SHEET TITLE	LAST REVISED
	PHASE 1A PLAN SET COVER SHEET	11/06/2018
C-121	PHASE 1A DEMOLITION PLAN	11/06/2018
C-122	PHASE 1A DEMOLITION PLAN	11/06/2018
C-123	PHASE 1A DEMOLITION PLAN	11/06/2018
C-124	PHASE 1A OVERALL SITE PLAN	11/06/2018
C-125	PHASE 1A SITE PLAN	11/06/2018
C-126	PHASE 1A SITE PLAN	11/06/2018
C-127	PHASE 1A SITE PLAN	11/06/2018
C-128	PHASE 1A GRADING, DRAINAGE & EROSION CONTROL PLAN	11/06/2018
C-129	PHASE 1A GRADING, DRAINAGE & EROSION CONTROL PLAN	11/06/2018
C-130	PHASE 1A GRADING, DRAINAGE & EROSION CONTROL PLAN	11/06/2018
C-131	PHASE 1A LANDSCAPE PLAN	11/06/2018
C-132	PHASE 1A LANDSCAPE PLAN	11/06/2018
C-133	PHASE 1A LANDSCAPE PLAN	11/06/2018
C-701	HODGSON BROOK GRADING, DRAINAGE & EROSION CONTROL PLAN	11/06/2018
C-702	HODGSON BROOK WETLAND PLANTING PLAN	11/06/2018
C-703	HODGSON BROOK DETAILS SHEET	11/06/2018

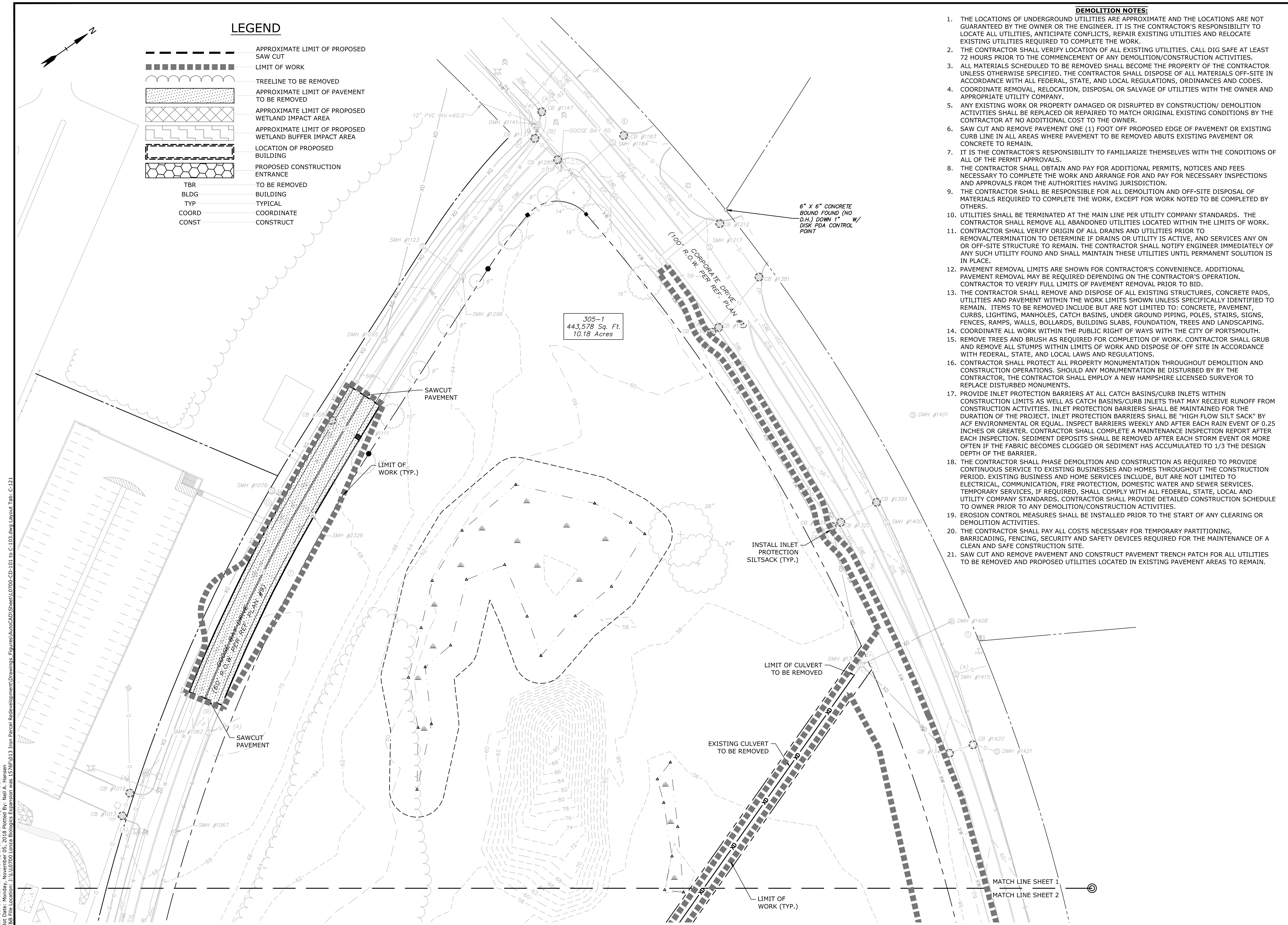
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COMPLETE SET 17 SHEETS

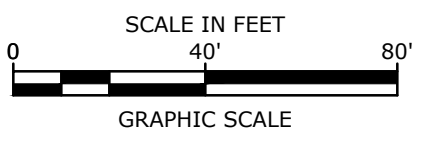
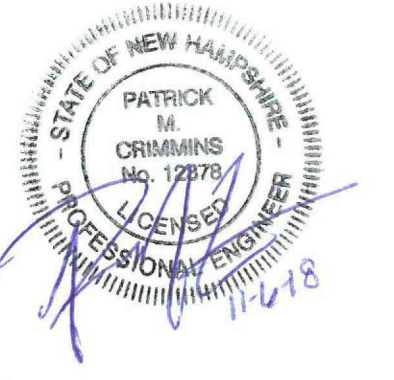
LEGEND

-  APPROXIMATE LIMIT OF PROPOSED SAW CUT
-  LIMIT OF WORK
-  TREELINE TO BE REMOVED
-  APPROXIMATE LIMIT OF PAVEMENT TO BE REMOVED
-  APPROXIMATE LIMIT OF PROPOSED WETLAND IMPACT AREA
-  APPROXIMATE LIMIT OF PROPOSED WETLAND BUFFER IMPACT AREA
-  LOCATION OF PROPOSED BUILDING
-  PROPOSED CONSTRUCTION ENTRANCE
-  TO BE REMOVED
-  BUILDING
-  TYPICAL
-  COORDINATE
-  CONST



DEMOLITION NOTES:

1. THE LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE 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.
2. THE CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES. CALL DIG SAFE AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION/CONSTRUCTION ACTIVITIES.
3. 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.
4. COORDINATE REMOVAL, RELOCATION, DISPOSAL OR SALVAGE OF UTILITIES WITH THE OWNER AND APPROPRIATE UTILITY COMPANY.
5. 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.
6. SAW CUT AND REMOVE PAVEMENT ONE (1) FOOT OFF PROPOSED EDGE OF PAVEMENT OR EXISTING CURB LINE IN ALL AREAS WHERE PAVEMENT TO BE REMOVED ABUTS EXISTING PAVEMENT OR CONCRETE TO REMAIN.
7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH THE CONDITIONS OF ALL OF THE PERMIT APPROVALS.
8. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ADDITIONAL PERMITS, NOTICES AND FEES NECESSARY TO COMPLETE THE WORK AND ARRANGE FOR AND PAY FOR NECESSARY INSPECTIONS AND APPROVALS FROM THE AUTHORITIES HAVING JURISDICTION.
9. 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.
10. UTILITIES SHALL BE TERMINATED AT THE MAIN LINE PER UTILITY COMPANY STANDARDS. THE CONTRACTOR SHALL REMOVE ALL ABANDONED UTILITIES LOCATED WITHIN THE LIMITS OF WORK.
11. CONTRACTOR SHALL VERIFY ORIGIN OF ALL DRAINS AND UTILITIES PRIOR TO REMOVAL/TERMINATION TO DETERMINE IF DRAINS OR UTILITY IS ACTIVE, AND SERVICES ANY ON OR OFF-SITE STRUCTURE TO REMAIN. THE CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY IF ANY SUCH UTILITY FOUND AND SHALL MAINTAIN THESE UTILITIES UNTIL PERMANENT SOLUTION IS IN PLACE.
12. PAVEMENT REMOVAL LIMITS ARE SHOWN FOR CONTRACTOR'S CONVENIENCE. ADDITIONAL PAVEMENT REMOVAL MAY BE REQUIRED DEPENDING ON THE CONTRACTOR'S OPERATION. CONTRACTOR TO VERIFY FULL LIMITS OF PAVEMENT REMOVAL PRIOR TO BID.
13. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING STRUCTURES, CONCRETE PADS, UTILITIES AND PAVEMENT WITHIN THE WORK LIMITS SHOWN UNLESS SPECIFICALLY IDENTIFIED TO REMAIN. ITEMS TO BE REMOVED INCLUDE BUT ARE NOT LIMITED TO: CONCRETE, PAVEMENT, CURBS, LIGHTING, MANHOLES, CATCH BASINS, UNDER GROUND PIPING, POLES, STAIRS, SIGNS, FENCES, RAMPS, WALLS, BOLLARDS, BUILDING SLABS, FOUNDATION, TREES AND LANDSCAPING.
14. COORDINATE ALL WORK WITHIN THE PUBLIC RIGHT OF WAYS WITH THE CITY OF PORTSMOUTH.
15. REMOVE TREES AND BRUSH AS REQUIRED FOR COMPLETION OF WORK. CONTRACTOR SHALL GRUB AND REMOVE ALL STUMPS WITHIN LIMITS OF WORK AND DISPOSE OF OFF SITE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS.
16. CONTRACTOR SHALL PROTECT ALL PROPERTY MONUMENTATION THROUGHOUT DEMOLITION AND CONSTRUCTION OPERATIONS. SHOULD ANY MONUMENTATION BE DISTURBED BY THE CONTRACTOR, THE CONTRACTOR SHALL EMPLOY A NEW HAMPSHIRE LICENSED SURVEYOR TO REPLACE DISTURBED MONUMENTS.
17. PROVIDE INLET PROTECTION BARRIERS AT ALL CATCH BASINS/CURB INLETS WITHIN CONSTRUCTION LIMITS AS WELL AS CATCH BASINS/CURB INLETS THAT MAY RECEIVE RUNOFF FROM CONSTRUCTION ACTIVITIES. INLET PROTECTION BARRIERS SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT. INLET PROTECTION BARRIERS SHALL BE "HIGH FLOW SILT SACK" BY ACF ENVIRONMENTAL OR EQUAL. INSPECT BARRIERS WEEKLY AND AFTER EACH RAIN EVENT OF 0.25 INCHES OR GREATER. CONTRACTOR SHALL COMPLETE A MAINTENANCE INSPECTION REPORT AFTER EACH INSPECTION. SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT OR MORE OFTEN IF THE FABRIC BECOMES CLOGGED OR SEDIMENT HAS ACCUMULATED TO 1/3 THE DESIGN DEPTH OF THE BARRIER.
18. THE CONTRACTOR SHALL PHASE DEMOLITION AND CONSTRUCTION AS REQUIRED TO PROVIDE CONTINUOUS SERVICE TO EXISTING BUSINESSES AND HOMES THROUGHOUT THE CONSTRUCTION PERIOD. EXISTING BUSINESS AND HOME SERVICES INCLUDE, BUT ARE NOT LIMITED TO ELECTRICAL, COMMUNICATION, FIRE PROTECTION, DOMESTIC WATER AND SEWER SERVICES. TEMPORARY SERVICES, IF REQUIRED, SHALL COMPLY WITH ALL FEDERAL, STATE, LOCAL AND UTILITY COMPANY STANDARDS. CONTRACTOR SHALL PROVIDE DETAILED CONSTRUCTION SCHEDULE TO OWNER PRIOR TO ANY DEMOLITION/CONSTRUCTION ACTIVITIES.
19. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF ANY CLEARING OR DEMOLITION ACTIVITIES.
20. THE CONTRACTOR SHALL PAY ALL COSTS NECESSARY FOR TEMPORARY PARTITIONING, BARRICADING, FENCING, SECURITY AND SAFETY DEVICES REQUIRED FOR THE MAINTENANCE OF A CLEAN AND SAFE CONSTRUCTION SITE.
21. SAW CUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL UTILITIES TO BE REMOVED AND PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN.



Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

F	11/6/2018	P.B. Submission
E	8/30/2018	Revised Aot Submission
D	8/21/2018	Revised TAC Submission
C	6/18/2018	NHDES Aot Submission
B	5/21/2018	TAC Submission
A	4/3/2018	TAC W.S. Submission
MARK	DATE	DESCRIPTION

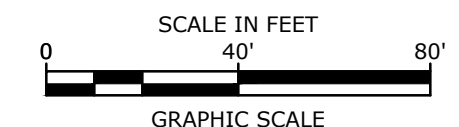
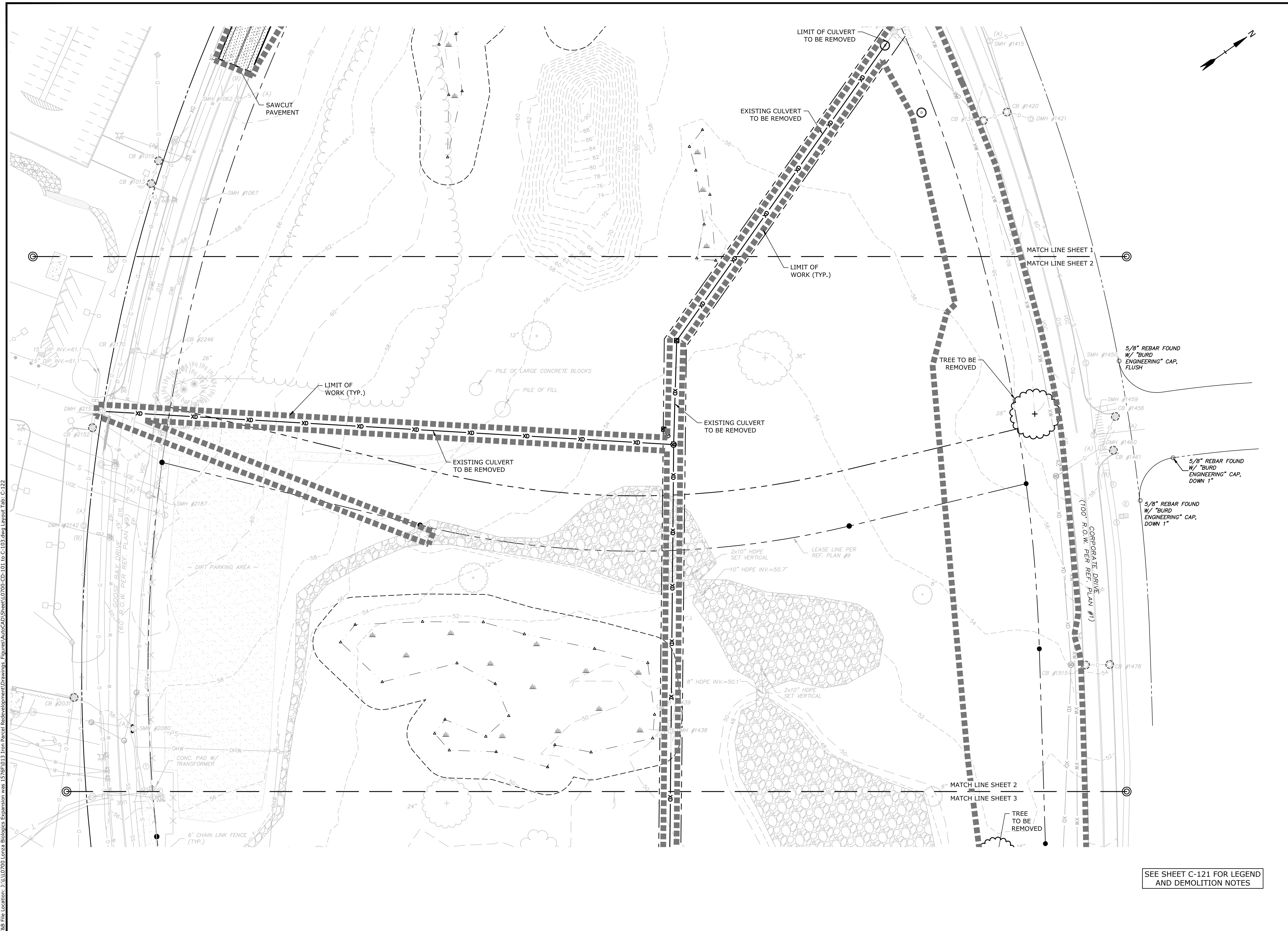
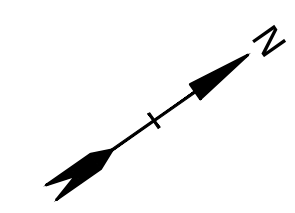
PROJECT NO:	L-0700-013
DATE:	04/03/2018
FILE:	
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

PHASE 1A DEMOLITION PLAN

SCALE: AS SHOWN

C-121

Last Save Date: November 1, 2018 1:10 PM By: NATHANSEN
 Plot Date: Monday, November 05, 2018 Plotted By: Neil A. Hansen
 P&E File Location: J:\L-0700\Lonza Biologics Expansion.was 1278.013 From Parcel Redevelopment\Drawings - Figures\AutoCAD\Sheet\0700-CD-101 to C-103.dwg Layout: Tab. C-121



Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

MARK	DATE	DESCRIPTION
F	11/6/2018	P.B. Submission
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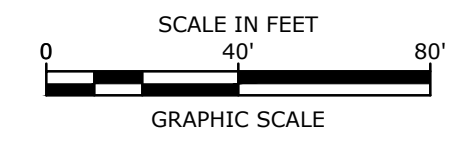
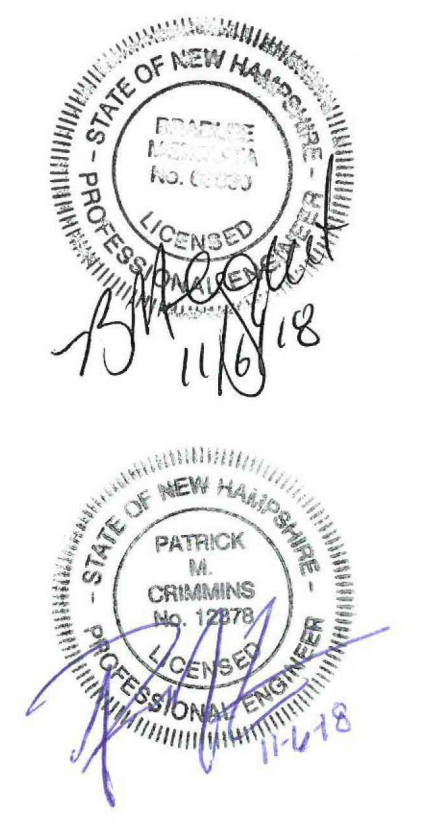
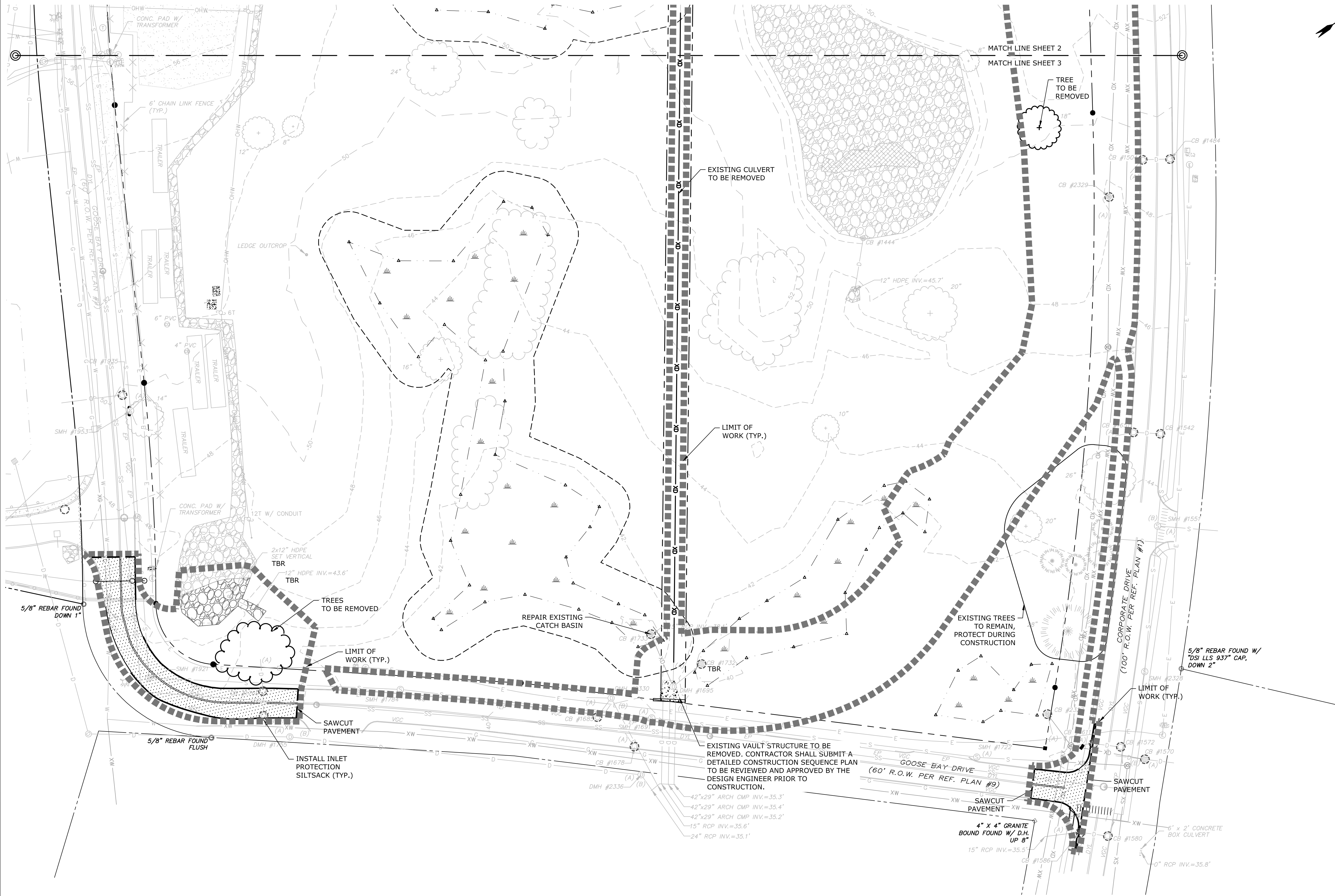
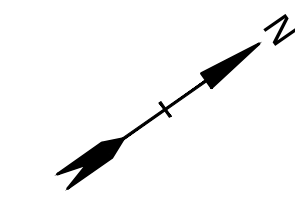
PHASE 1A DEMOLITION PLAN

SCALE: AS SHOWN

C-122

Last Save Date: November 1, 2018 1:10 PM By: MATANSEN
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 P&E File Location: J:\L0700\Lonza Biologics Expansion.was 1276 0.13 Iron Parcel Redevelopment\Drawings - Figures\AutoCAD\Sheet\0700-CD-101 to C-103.dwg Layout Tab: C-122

SEE SHEET C-121 FOR LEGEND AND DEMOLITION NOTES



Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

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B	5/21/2018	TAC Submission
A	4/3/2018	TAC W.S. Submission

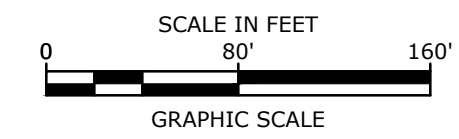
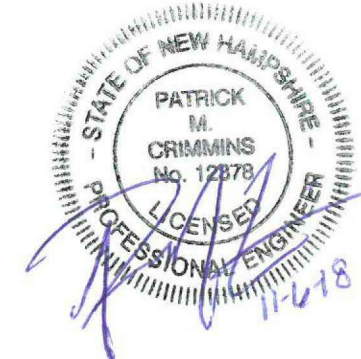
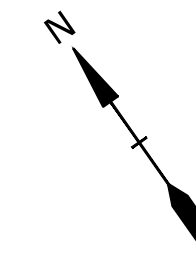
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DATE:	04/03/2018
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DRAWN BY:	NAH
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APPROVED:	BLM

PHASE 1A DEMOLITION PLAN

SCALE: AS SHOWN

SEE SHEET C-121 FOR LEGEND AND DEMOLITION NOTES

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Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

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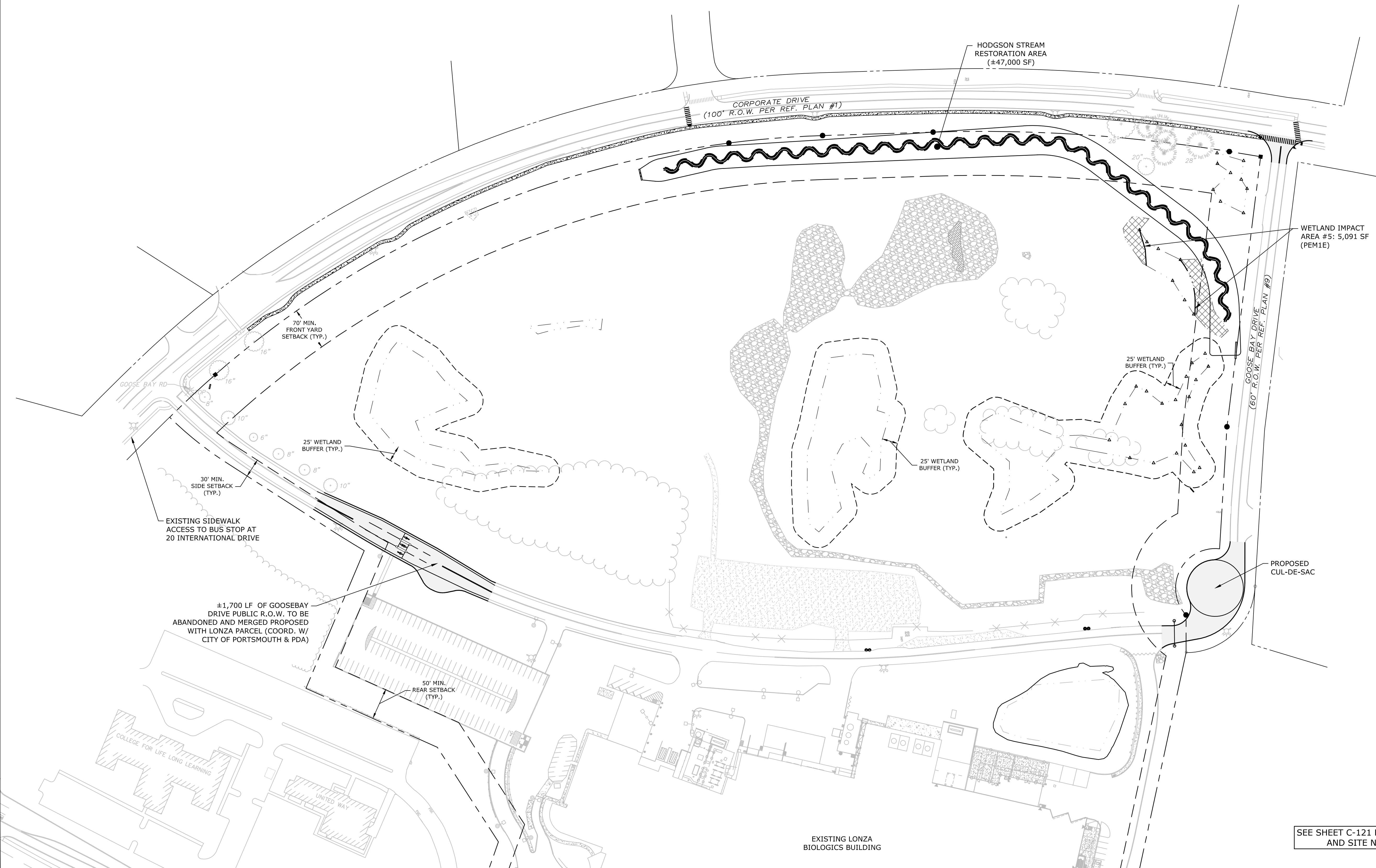
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APPROVED BY:	BLM

**PHASE 1A
OVERALL SITE PLAN**

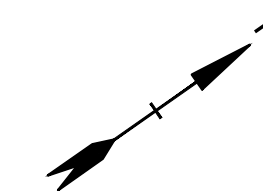
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C-124

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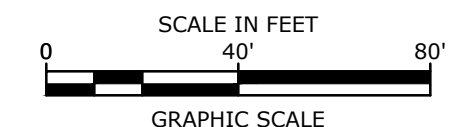
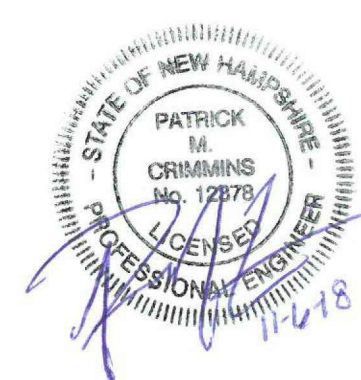
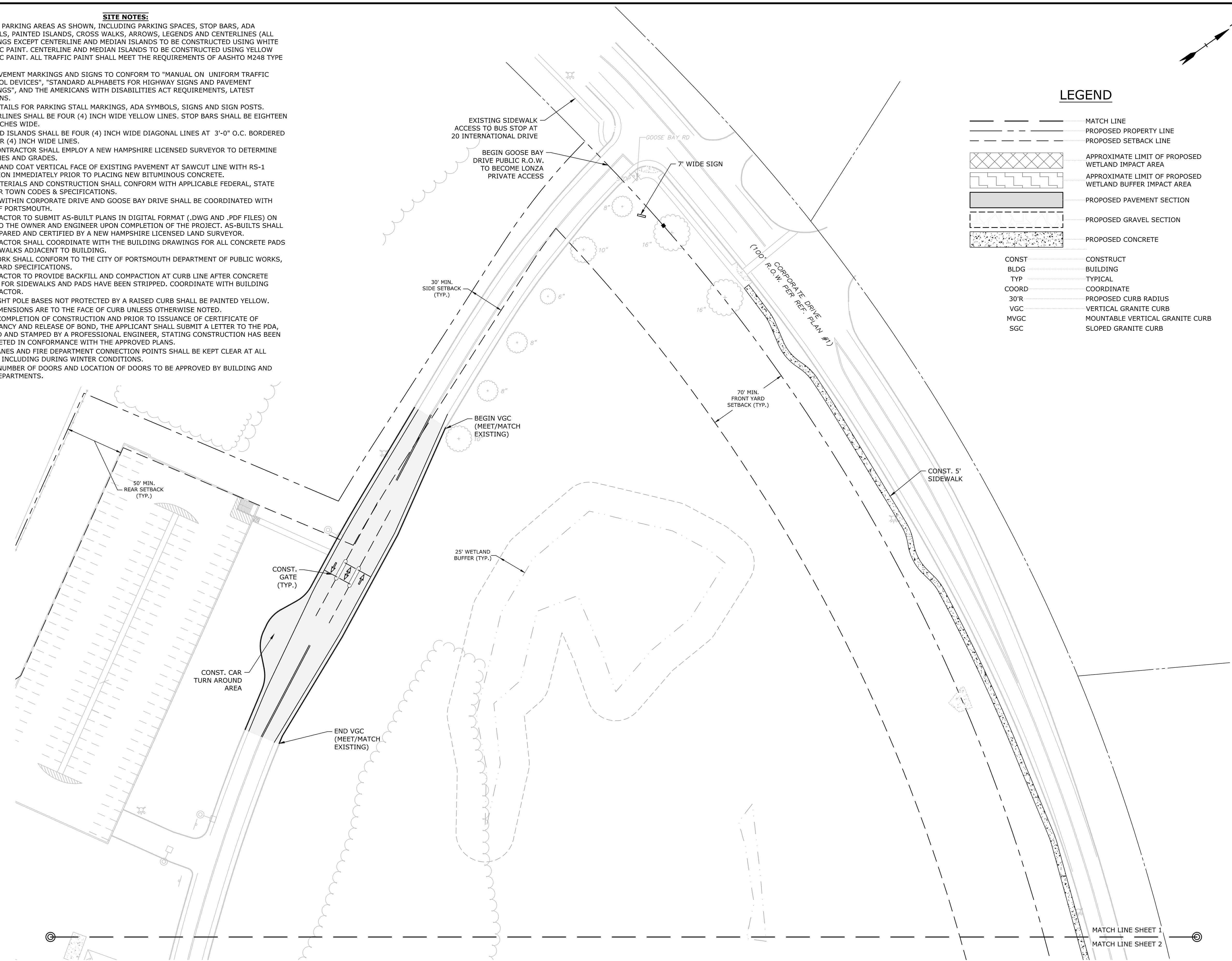
SEE SHEET C-121 FOR LEGEND AND SITE NOTES



- SITE NOTES:**
1. STRIPE PARKING AREAS AS SHOWN, INCLUDING PARKING SPACES, STOP BARS, ADA SYMBOLS, PAINTED ISLANDS, CROSS WALKS, ARROWS, LEGENDS AND CENTERLINES (ALL MARKINGS EXCEPT CENTERLINE AND MEDIAN ISLANDS TO BE CONSTRUCTED USING WHITE TRAFFIC PAINT. CENTERLINE AND MEDIAN ISLANDS TO BE CONSTRUCTED USING YELLOW TRAFFIC PAINT. ALL TRAFFIC PAINT SHALL MEET THE REQUIREMENTS OF AASHTO M248 TYPE "F").
 2. ALL PAVEMENT MARKINGS AND SIGNS TO CONFORM TO "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS", AND THE AMERICANS WITH DISABILITIES ACT REQUIREMENTS, LATEST EDITIONS.
 3. SEE DETAILS FOR PARKING STALL MARKINGS, ADA SYMBOLS, SIGNS AND SIGN POSTS.
 4. CENTERLINES SHALL BE FOUR (4) INCH WIDE YELLOW LINES. STOP BARS SHALL BE EIGHTEEN (18) INCHES WIDE.
 5. PAINTED ISLANDS SHALL BE FOUR (4) INCH WIDE DIAGONAL LINES AT 3'-0" O.C. BORDERED BY FOUR (4) INCH WIDE LINES.
 6. THE CONTRACTOR SHALL EMPLOY A NEW HAMPSHIRE LICENSED SURVEYOR TO DETERMINE ALL LINES AND GRADES.
 7. CLEAN AND COAT VERTICAL FACE OF EXISTING PAVEMENT AT SAWCUT LINE WITH RS-1 EMULSION IMMEDIATELY PRIOR TO PLACING NEW BITUMINOUS CONCRETE.
 8. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE AND/OR TOWN CODES & SPECIFICATIONS.
 9. WORK WITHIN CORPORATE DRIVE AND GOOSE BAY DRIVE SHALL BE COORDINATED WITH CITY OF PORTSMOUTH.
 10. CONTRACTOR TO SUBMIT AS-BUILT PLANS IN DIGITAL FORMAT (.DWG AND .PDF FILES) ON DISK TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR.
 11. CONTRACTOR SHALL COORDINATE WITH THE BUILDING DRAWINGS FOR ALL CONCRETE PADS & SIDEWALKS ADJACENT TO BUILDING.
 12. ALL WORK SHALL CONFORM TO THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS, STANDARD SPECIFICATIONS.
 13. CONTRACTOR TO PROVIDE BACKFILL AND COMPACTION AT CURB LINE AFTER CONCRETE FORMS FOR SIDEWALKS AND PADS HAVE BEEN STRIPPED. COORDINATE WITH BUILDING CONTRACTOR.
 14. ALL LIGHT POLE BASES NOT PROTECTED BY A RAISED CURB SHALL BE PAINTED YELLOW.
 15. ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
 16. UPON COMPLETION OF CONSTRUCTION AND PRIOR TO ISSUANCE OF CERTIFICATE OF OCCUPANCY AND RELEASE OF BOND, THE APPLICANT SHALL SUBMIT A LETTER TO THE PDA, SIGNED AND STAMPED BY A PROFESSIONAL ENGINEER, STATING CONSTRUCTION HAS BEEN COMPLETED IN CONFORMANCE WITH THE APPROVED PLANS.
 17. FIRE LANES AND FIRE DEPARTMENT CONNECTION POINTS SHALL BE KEPT CLEAR AT ALL TIMES, INCLUDING DURING WINTER CONDITIONS.
 18. FINAL NUMBER OF DOORS AND LOCATION OF DOORS TO BE APPROVED BY BUILDING AND FIRE DEPARTMENTS.

LEGEND

---	MATCH LINE
---	PROPOSED PROPERTY LINE
---	PROPOSED SETBACK LINE
[Cross-hatched pattern]	APPROXIMATE LIMIT OF PROPOSED WETLAND IMPACT AREA
[Stippled pattern]	APPROXIMATE LIMIT OF PROPOSED WETLAND BUFFER IMPACT AREA
[Solid grey fill]	PROPOSED PAVEMENT SECTION
[Dashed line]	PROPOSED GRAVEL SECTION
[Dotted pattern]	PROPOSED CONCRETE
CONST	CONSTRUCT
BLDG	BUILDING
TYP	TYPICAL
COORD	COORDINATE
30'R	PROPOSED CURB RADIUS
VGVC	VERTICAL GRANITE CURB
MVGC	MOUNTABLE VERTICAL GRANITE CURB
SGC	SLOPED GRANITE CURB



Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

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B	5/21/2018	TAC Submission
A	4/3/2018	TAC W.S. Submission
MARK	DATE	DESCRIPTION

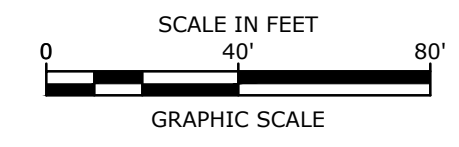
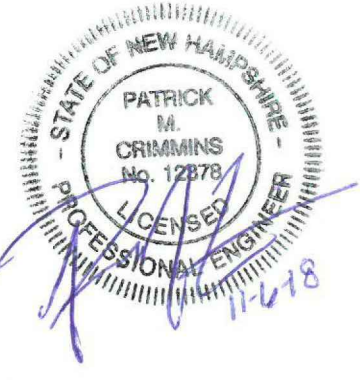
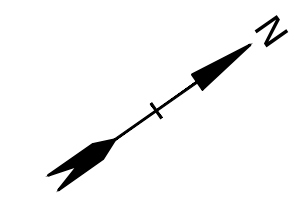
PROJECT NO:	L-0700-013
DATE:	04/03/2018
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DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

PHASE 1A SITE PLAN

SCALE: AS SHOWN

C-125

Last Save Date: November 5, 2018 3:31 PM By: NATHANSEN
 Plot Date: Monday, November 05, 2018 Plotted By: Neil A. Hansen
 P&E File Location: J:\L-0700\Lonza Biologics Expansion.was 12762.013 From Parcel Redevelopment\Drawings - Figures\AutoCAD\Sheet\L0700-CS-104 to C-107.dwg Layout Tab: C-125



Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

F	11/6/2018	P.B. Submission
E	8/30/2018	Revised Aot Submission
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MARK	DATE	DESCRIPTION

PROJECT NO: L-0700-013
DATE: 04/03/2018
FILE:
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APPROVED: BLM

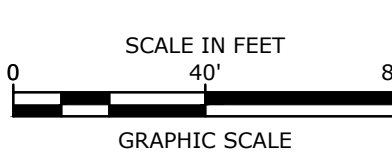
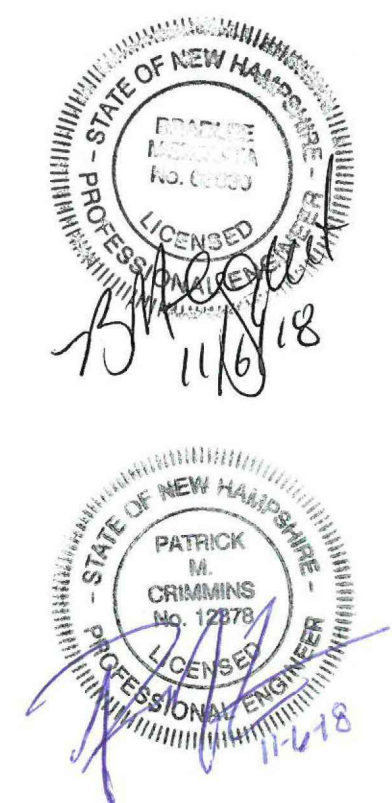
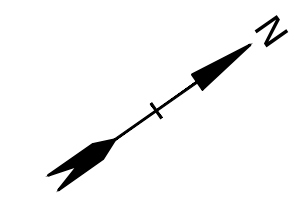
**PHASE 1A
SITE PLAN**

SCALE: AS SHOWN

C-126

SEE SHEET C-125 FOR LEGEND AND SITE NOTES

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 Plot Date: Monday, November 05, 2018 Plotted By: Neil A. Hansen
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Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

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F	11/6/2018	P.B. Submission
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DATE:	04/03/2018
FILE:	
DRAWN BY:	NAH
CHECKED:	PMC
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PHASE 1A
SITE PLAN

SCALE: AS SHOWN

C-127

SEE SHEET C-125 FOR LEGEND AND SITE NOTES

Last Save Date: November 5, 2018 3:31 PM By: NATHANSEN
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PHASE 1A DRAINAGE STRUCTURE TABLE

CB #1111	PCB203
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	INV.OUT=51.55
PCB204	
RIM=55.25	
INV.OUT=51.50	

GRADING AND DRAINAGE NOTES:

1. COMPACTION REQUIREMENTS:
 BELOW PAVED OR CONCRETE AREAS 95%
 TRENCH BEDDING MATERIAL AND SAND BLANKET BACKFILL 95%
 BELOW LOAM AND SEED AREAS 90%
 * ALL PERCENTAGES OF COMPACTION SHALL BE OF THE MAXIMUM DRY DENSITY AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED AND CONTROLLED IN ACCORDANCE WITH ASTM D-1557, METHOD C FIELD DENSITY TESTS SHALL BE MADE IN ACCORDANCE WITH ASTM D-1556 OR ASTM-2922.
2. ALL STORM DRAINAGE PIPES SHALL BE HIGH DENSITY POLYETHYLENE (HANCOR HI-Q, ADS N-12 OR APPROVED EQUAL), UNLESS OTHERWISE SPECIFIED.
3. SEE UTILITIES PLAN FOR ALL SITE UTILITY INFORMATION.
4. ADJUST ALL MANHOLES, CATCHBASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
5. CONTRACTOR SHALL PROVIDE A FINISH PAVEMENT SURFACE AND LAWN AREAS FREE OF LOW SPOTS AND PONDING AREAS. CRITICAL AREAS INCLUDE BUILDING ENTRANCES, EXITS, RAMPS AND LOADING DOCK AREAS ADJACENT TO THE BUILDING.
6. CONTRACTOR SHALL THOROUGHLY CLEAN ALL CATCHBASINS AND DRAIN LINES, WITHIN THE LIMIT OF WORK, OF SEDIMENT IMMEDIATELY UPON COMPLETION OF CONSTRUCTION.
7. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE AND LOCAL CODES.
8. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED FERTILIZER AND MULCH.
9. ALL STORM DRAIN CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NHDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, LATEST EDITION.
10. ALL PROPOSED CATCHBASINS SHALL BE EQUIPPED WITH OIL/GAS SEPARATOR HOODS AND 4" SUMPS.
11. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE AND CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS AND CONSTRUCTION SPECIFICATIONS, LATEST REVISIONS.
12. CONTRACTOR TO SUBMIT AS-BUILT PLANS IN DIGITAL FORMAT (.DWG AND .PDF FILES) ON DISK TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR.
13. SEE EXISTING CONDITIONS PLAN FOR BENCH MARK INFORMATION.

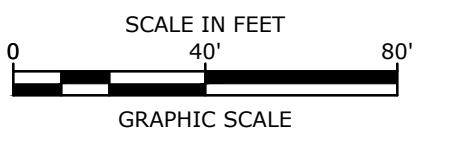
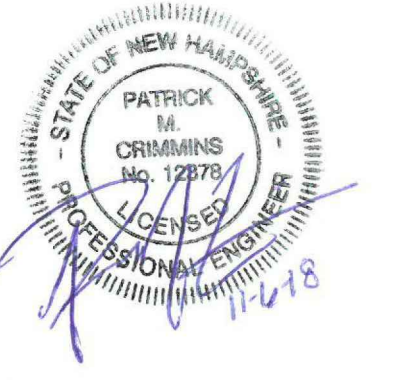
EROSION CONTROL NOTES:

1. INSTALL EROSION CONTROL BARRIERS AS SHOWN AS FIRST ORDER OF WORK.
2. SEE GENERAL EROSION CONTROL NOTES ON DETAIL SHEETS.
3. PROVIDE INLET PROTECTION AROUND ALL EXISTING AND PROPOSED CATCHBASIN INLETS WITHIN THE WORK LIMITS. MAINTAIN FOR THE DURATION OF THE PROJECT UNTIL PAVEMENT HAS BEEN INSTALLED.
4. INSTALL STABILIZED CONSTRUCTION ENTRANCES.
5. INSPECT INLET PROTECTION AND SILT FENCES DAILY AND AFTER EACH RAIN STORM OF 0.25 INCH OR GREATER. REPAIR/MODIFY PROTECTION AS NECESSARY TO MAXIMIZE EFFICIENCY OF FILTER. REPLACE ALL FILTERS WHEN SEDIMENT IS 1/3 THE FILTER HEIGHT.
6. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED, FERTILIZER AND MULCH.
7. CONSTRUCT EXCELSIOR MAT ON ALL SLOPES STEEPER THAN 3:1.
8. PRIOR TO ANY WORK OR SOIL DISTURBANCE COMMENCING ON THE SUBJECT PROPERTY, INCLUDING MOVING OF EARTH, THE APPLICANT SHALL INSTALL ALL EROSION AND SILTATION MITIGATION AND CONTROL MEASURES AS REQUIRED BY STATE AND LOCAL PERMITS AND APPROVALS.
9. CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DUST AND WIND EROSION THROUGHOUT THE CONSTRUCTION PERIOD. DUST CONTROL MEASURES SHALL INCLUDE, BUT NOT LIMITED TO, SPRINKLING WATER ON UNSTABLE SOILS SUBJECT TO ARID CONDITIONS.
10. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF CONSTRUCTION.
11. ALL CATCHBASIN SUMPS AND PIPING SHALL BE THOROUGHLY CLEANED TO REMOVE ALL SEDIMENT AND DEBRIS AFTER THE PROJECT HAS BEEN PAVED.
12. TEMPORARY SOIL STOCKPILE SHALL BE SURROUNDED BY SILT FENCE AND SHALL BE STABILIZED BY TEMPORARY EROSION CONTROL SEEDING. STOCKPILE AREAS TO BE LOCATED AS FAR AS POSSIBLE FROM THE DELINEATED EDGE OF WETLAND.
13. SAFETY FENCING SHALL BE PROVIDED AROUND STOCKPILES OVER 10 FT.
14. CONCRETE TRUCKS WILL BE REQUIRED TO WASH OUT (IF NECESSARY) SHOOT ONLY WITHIN AREAS WHERE CONCRETE HAS BEEN PLACED. NO OTHER WASH OUT WILL BE ALLOWED.

LEGEND

---	MATCH LINE
---	PROPOSED PROPERTY LINE
---	PROPOSED CONTOUR LINE
---	PROPOSED DRAIN LINE (TYP)
---	PROPOSED SILT SOCK
○	INLET PROTECTION SILT SOCK
⊙	PROPOSED CATCHBASIN
⊙	PROPOSED DOUBLE GRATE CATCHBASIN
⊙	PROPOSED DRAIN MANHOLE
---	CONSTRUCT
---	BUILDING
---	TYPICAL
---	COORDINATE
---	ROOF DRAIN
---	VERIFY IN FIELD

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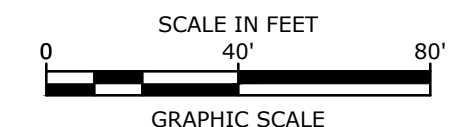
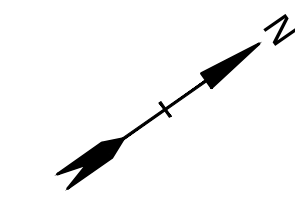


Proposed Industrial Development
 Lonza Biologics
 Portsmouth, New Hampshire

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D	8/21/2018	Revised TAC Submission
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A	4/3/2018	TAC W.S. Submission

PROJECT NO: L-0700-013
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PHASE 1A
 GRADING, DRAINAGE &
 EROSION CONTROL PLAN
 SCALE: AS SHOWN



Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

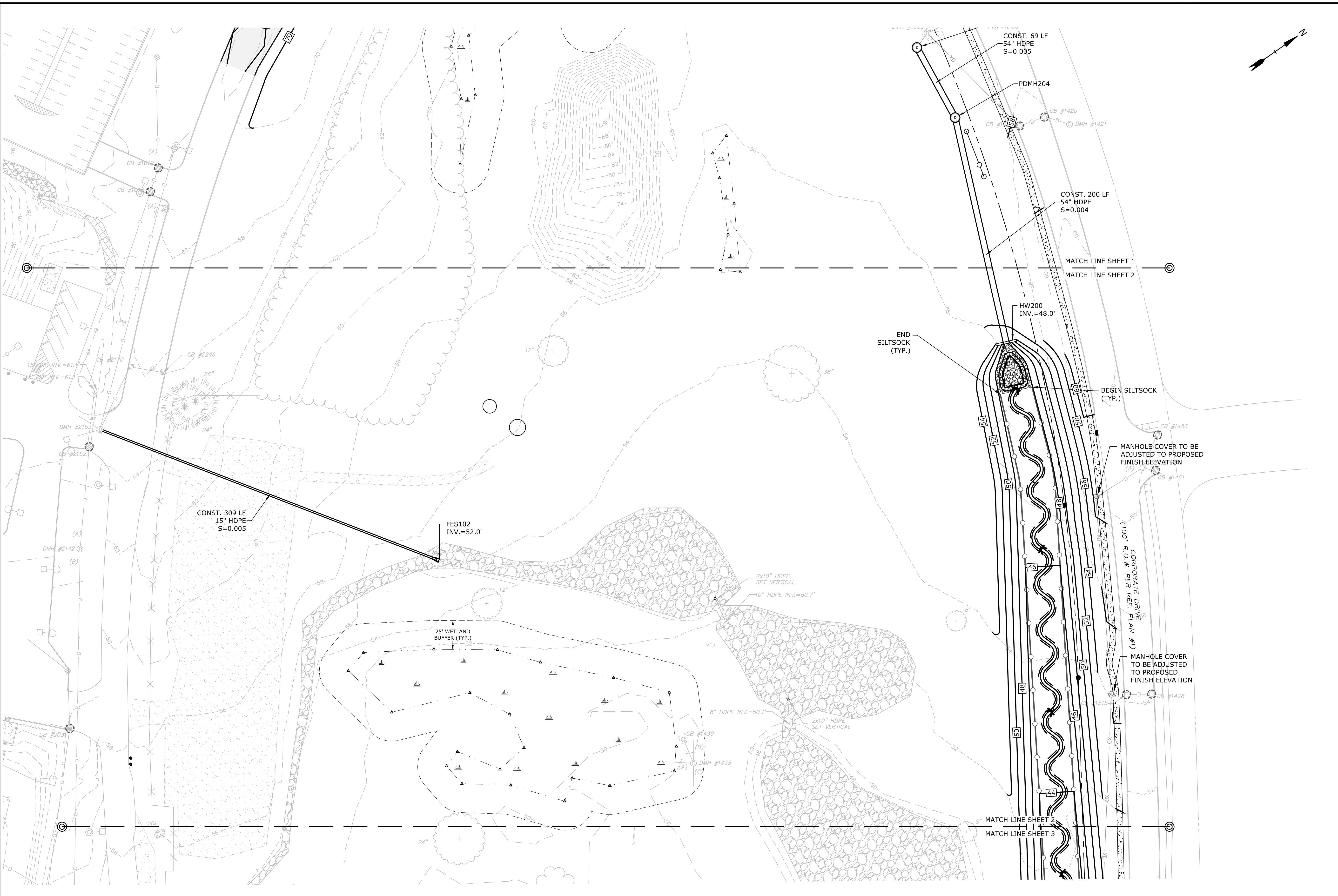
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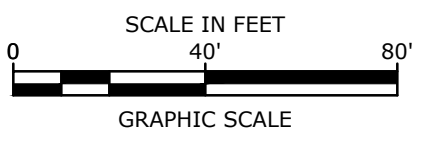
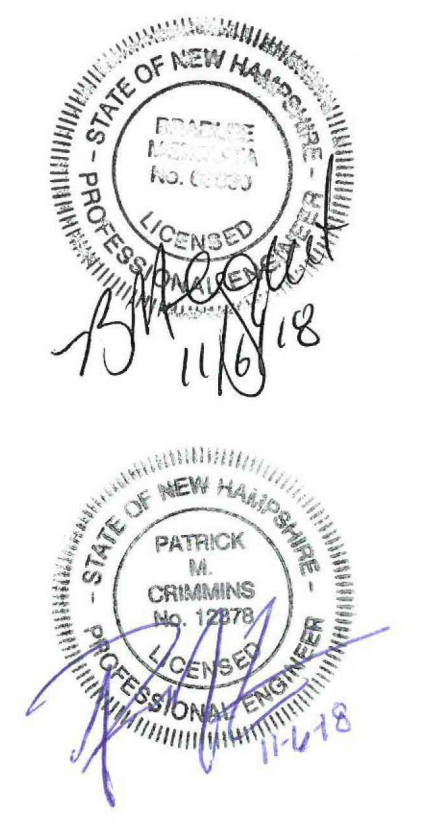
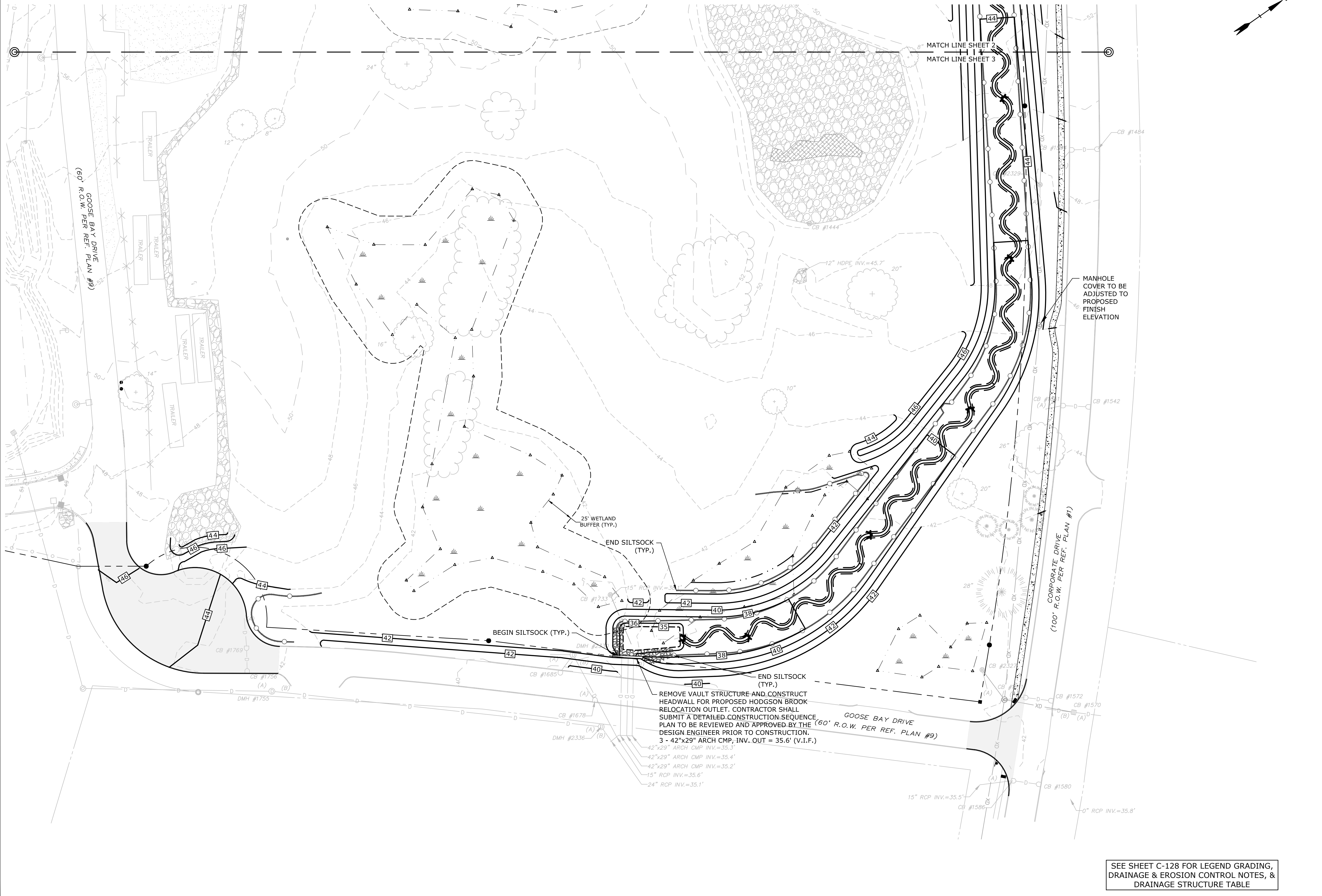
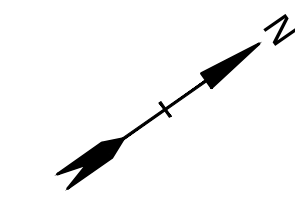
**PHASE 1A
GRADING, DRAINAGE &
EROSION CONTROL PLAN**

SCALE: AS SHOWN

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SEE SHEET C-128 FOR LEGEND GRADING,
DRAINAGE, DRAINAGE & EROSION CONTROL NOTES, &
DRAINAGE STRUCTURE TABLE



Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

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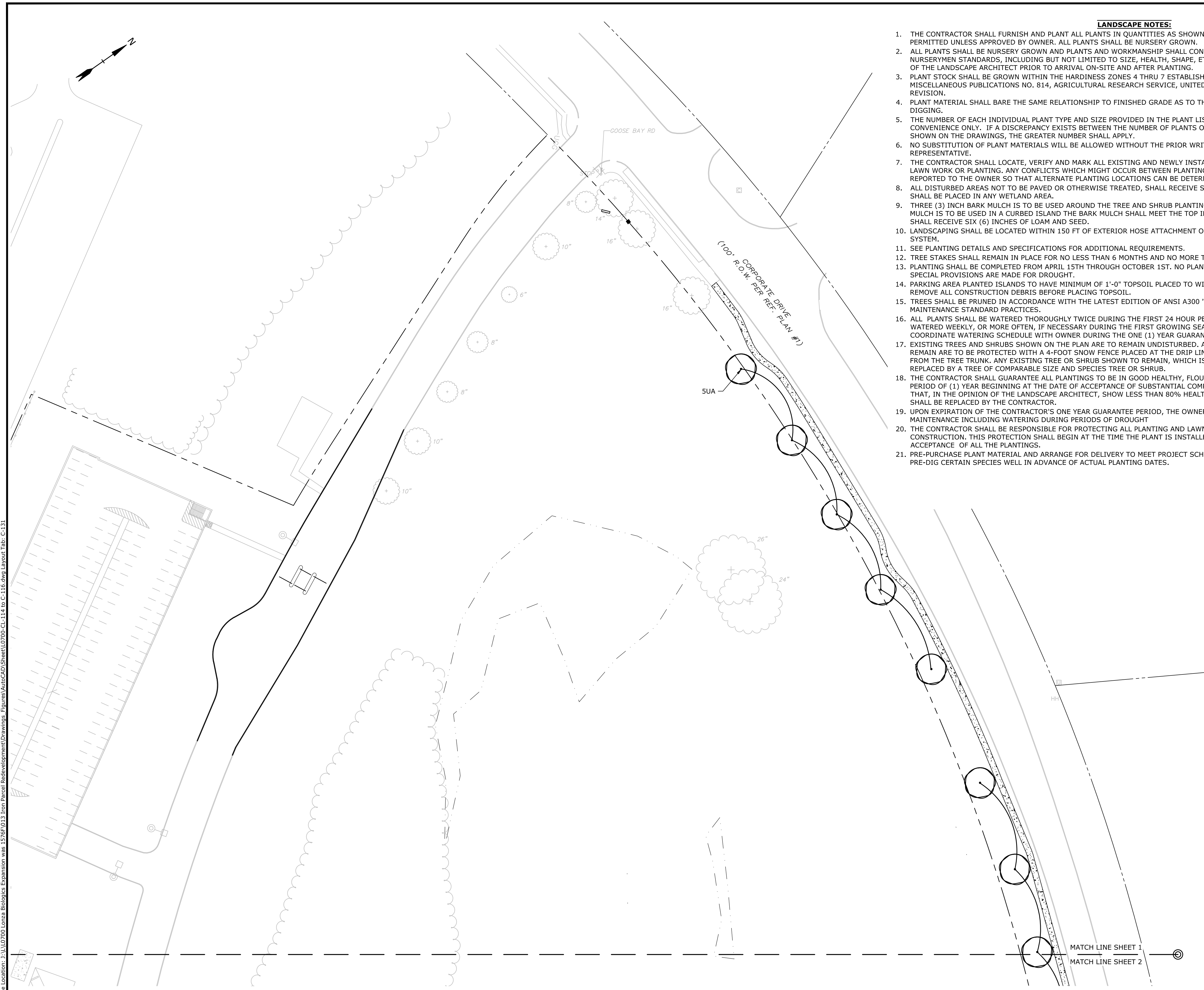
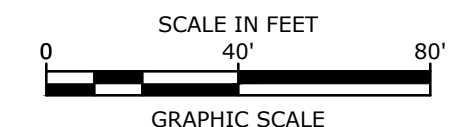
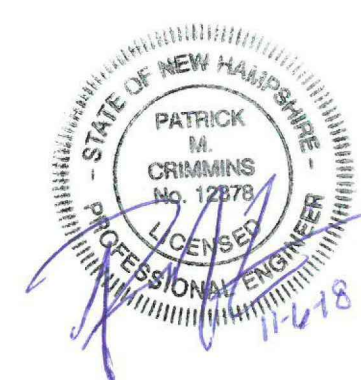
**PHASE 1A
GRADING, DRAINAGE &
EROSION CONTROL PLAN**

SCALE: AS SHOWN

SEE SHEET C-128 FOR LEGEND GRADING, DRAINAGE & EROSION CONTROL NOTES, & DRAINAGE STRUCTURE TABLE

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- LANDSCAPE NOTES:**
1. THE CONTRACTOR SHALL FURNISH AND PLANT ALL PLANTS IN QUANTITIES AS SHOWN ON THIS PLAN. NO SUBSTITUTIONS WILL BE PERMITTED UNLESS APPROVED BY OWNER. ALL PLANTS SHALL BE NURSERY GROWN.
 2. ALL PLANTS SHALL BE NURSERY GROWN AND PLANTS AND WORKMANSHIP SHALL CONFORM TO THE AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS, INCLUDING BUT NOT LIMITED TO SIZE, HEALTH, SHAPE, ETC., AND SHALL BE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO ARRIVAL ON-SITE AND AFTER PLANTING.
 3. PLANT STOCK SHALL BE GROWN WITHIN THE HARDINESS ZONES 4 THRU 7 ESTABLISHED BY THE PLANT HARDINESS ZONE MAP, MISCELLANEOUS PUBLICATIONS NO. 814, AGRICULTURAL RESEARCH SERVICE, UNITED STATES DEPARTMENT AGRICULTURE, LATEST REVISION.
 4. PLANT MATERIAL SHALL BARE THE SAME RELATIONSHIP TO FINISHED GRADE AS TO THE ORIGINAL PLANTING GRADE PRIOR TO DIGGING.
 5. THE NUMBER OF EACH INDIVIDUAL PLANT TYPE AND SIZE PROVIDED IN THE PLANT LIST OR ON THE PLAN IS FOR THE CONTRACTOR'S CONVENIENCE ONLY. IF A DISCREPANCY EXISTS BETWEEN THE NUMBER OF PLANTS ON THE LABEL AND THE NUMBER OF SYMBOLS SHOWN ON THE DRAWINGS, THE GREATER NUMBER SHALL APPLY.
 6. NO SUBSTITUTION OF PLANT MATERIALS WILL BE ALLOWED WITHOUT THE PRIOR WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE.
 7. THE CONTRACTOR SHALL LOCATE, VERIFY AND MARK ALL EXISTING AND NEWLY INSTALLED UNDERGROUND UTILITIES PRIOR TO ANY LAWN WORK OR PLANTING. ANY CONFLICTS WHICH MIGHT OCCUR BETWEEN PLANTING AND UTILITIES SHALL IMMEDIATELY BE REPORTED TO THE OWNER SO THAT ALTERNATE PLANTING LOCATIONS CAN BE DETERMINED.
 8. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED, SHALL RECEIVE SIX (6) INCHES OF LOAM AND SEED. NO FILL SHALL BE PLACED IN ANY WETLAND AREA.
 9. THREE (3) INCH BARK MULCH IS TO BE USED AROUND THE TREE AND SHRUB PLANTING AS SPECIFIED IN THE DETAILS. WHERE BARK MULCH IS TO BE USED IN A CURBED ISLAND THE BARK MULCH SHALL MEET THE TOP INSIDE EDGE OF THE CURB. ALL OTHER AREAS SHALL RECEIVE SIX (6) INCHES OF LOAM AND SEED.
 10. LANDSCAPING SHALL BE LOCATED WITHIN 150 FT OF EXTERIOR HOSE ATTACHMENT OR SHALL BE PROVIDED WITH AN IRRIGATION SYSTEM.
 11. SEE PLANTING DETAILS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
 12. TREE STAKES SHALL REMAIN IN PLACE FOR NO LESS THAN 6 MONTHS AND NO MORE THAN 1 YEAR.
 13. PLANTING SHALL BE COMPLETED FROM APRIL 15TH THROUGH OCTOBER 1ST. NO PLANTING DURING JULY AND AUGUST UNLESS SPECIAL PROVISIONS ARE MADE FOR DROUGHT.
 14. PARKING AREA PLANTED ISLANDS TO HAVE MINIMUM OF 1'-0" TOPSOIL PLACED TO WITHIN 3 INCHES OF THE TOP OF CURB ELEVATION. REMOVE ALL CONSTRUCTION DEBRIS BEFORE PLACING TOPSOIL.
 15. TREES SHALL BE PRUNED IN ACCORDANCE WITH THE LATEST EDITION OF ANSI A300 'TREES, SHRUBS AND OTHER WOOD PLANT MAINTENANCE STANDARD PRACTICES.
 16. 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. LANDSCAPE CONTRACTOR SHALL COORDINATE WATERING SCHEDULE WITH OWNER DURING THE ONE (1) YEAR GUARANTEE PERIOD.
 17. EXISTING TREES AND SHRUBS SHOWN ON THE PLAN ARE TO REMAIN UNDISTURBED. ALL EXISTING TREES AND SHRUBS SHOWN TO REMAIN ARE TO BE PROTECTED WITH A 4-FOOT SNOW FENCE PLACED AT THE DRIP LINE OF THE BRANCHES OR AT 8 FEET MINIMUM FROM THE TREE TRUNK. ANY EXISTING TREE OR SHRUB SHOWN TO REMAIN, WHICH IS REMOVED DURING CONSTRUCTION, SHALL BE REPLACED BY A TREE OF COMPARABLE SIZE AND SPECIES TREE OR SHRUB.
 18. THE CONTRACTOR SHALL GUARANTEE ALL PLANTINGS TO BE IN GOOD HEALTHY, FLOURISHING AND ACCEPTABLE CONDITION FOR A PERIOD OF (1) YEAR BEGINNING AT THE DATE OF ACCEPTANCE OF SUBSTANTIAL COMPLETION. ALL GRASSES, TREES AND SHRUBS THAT, IN THE OPINION OF THE LANDSCAPE ARCHITECT, SHOW LESS THAN 80% HEALTHY GROWTH AT THE END OF ONE YEAR PERIOD SHALL BE REPLACED BY THE CONTRACTOR.
 19. UPON EXPIRATION OF THE CONTRACTOR'S ONE YEAR GUARANTEE PERIOD, THE OWNER SHALL BE RESPONSIBLE FOR LANDSCAPE MAINTENANCE INCLUDING WATERING DURING PERIODS OF DROUGHT.
 20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL PLANTING AND LAWNS AGAINST DAMAGE FROM ONGOING CONSTRUCTION. THIS PROTECTION SHALL BEGIN AT THE TIME THE PLANT IS INSTALLED AND CONTINUE UNTIL THE FORMAL ACCEPTANCE OF ALL THE PLANTINGS.
 21. PRE-PURCHASE PLANT MATERIAL AND ARRANGE FOR DELIVERY TO MEET PROJECT SCHEDULE AS REQUIRED IT MAY BE NECESSARY TO PRE-DIG CERTAIN SPECIES WELL IN ADVANCE OF ACTUAL PLANTING DATES.



SEE SHEET C-133 FOR PLANT SCHEDULE

Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

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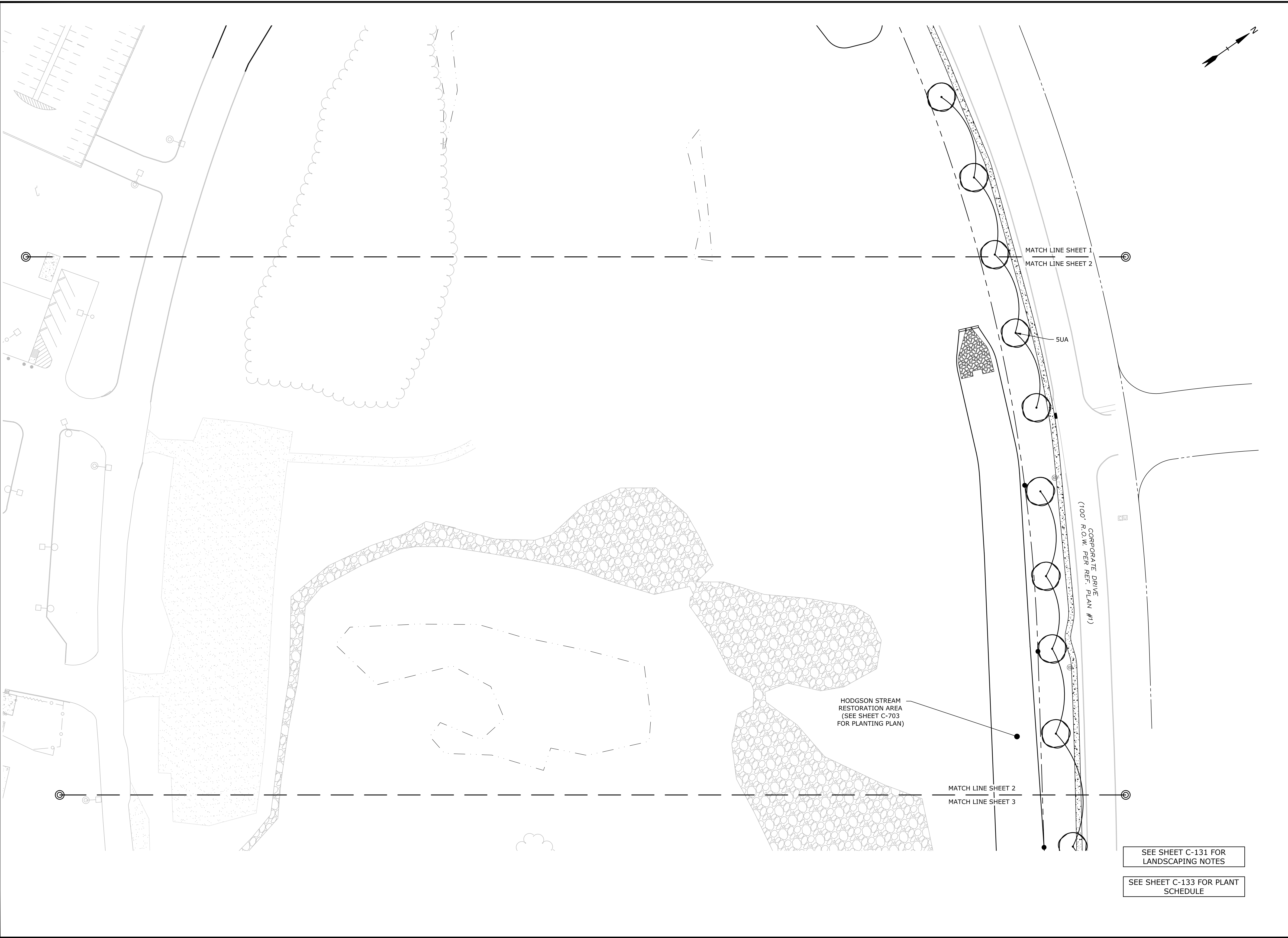
PHASE 1A LANDSCAPE PLAN

SCALE: AS SHOWN

C-131

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HODGSON STREAM RESTORATION AREA (SEE SHEET C-703 FOR PLANTING PLAN)

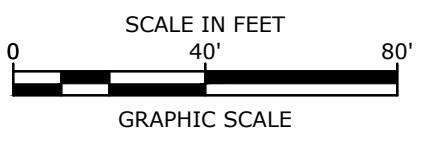
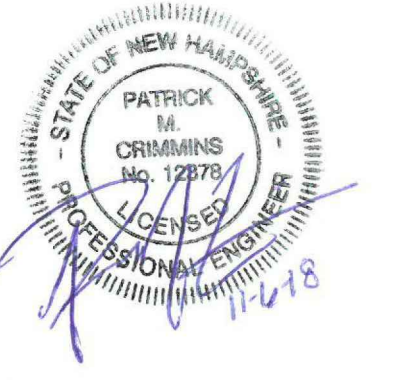
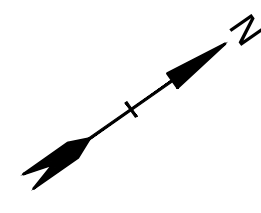
CORPORATE DRIVE (100' R.O.W. PER REF. PLAN #1)

MATCH LINE SHEET 1
MATCH LINE SHEET 2

MATCH LINE SHEET 2
MATCH LINE SHEET 3

SEE SHEET C-131 FOR LANDSCAPING NOTES

SEE SHEET C-133 FOR PLANT SCHEDULE



Proposed Industrial Development

Lonza Biologics

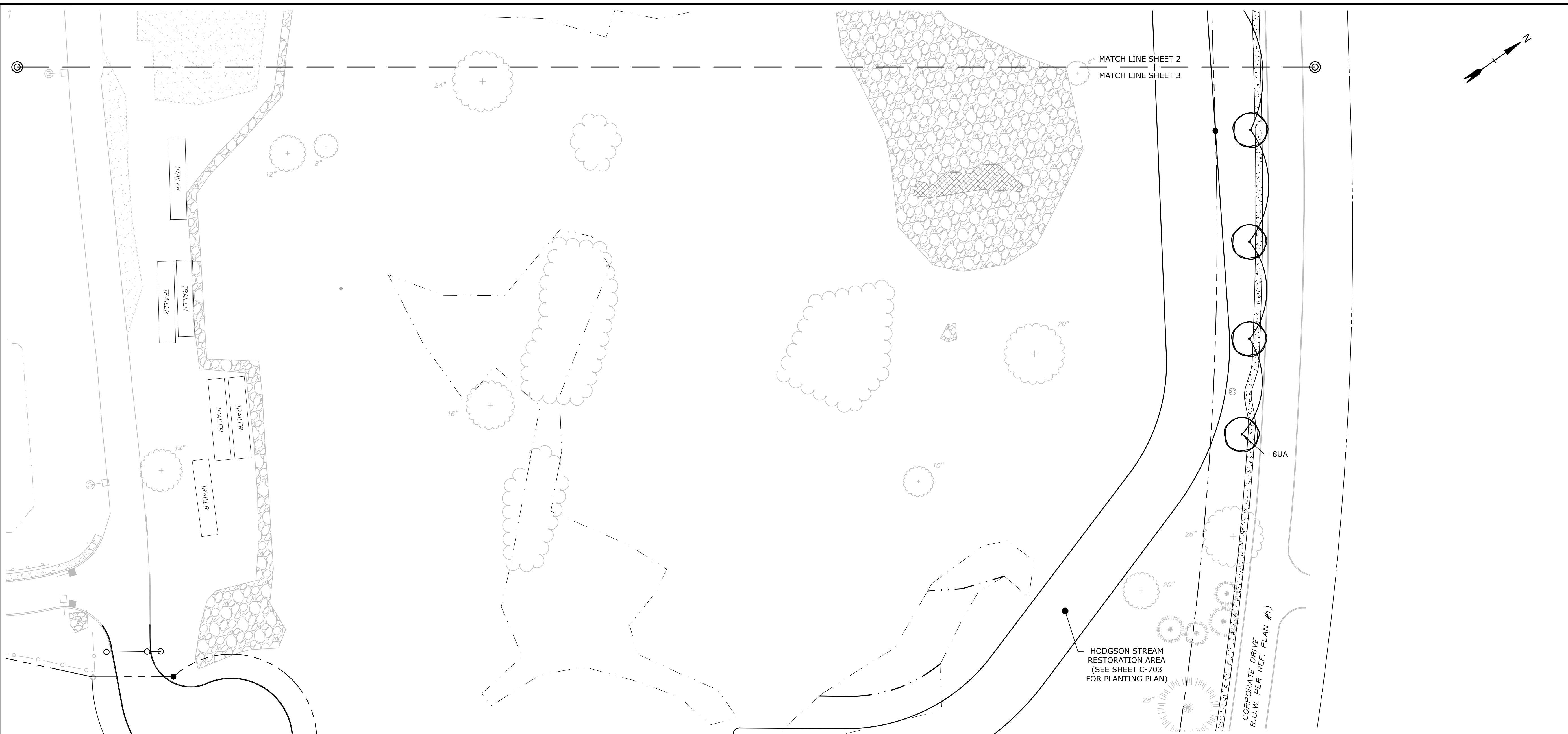
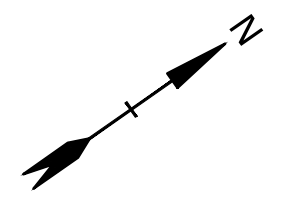
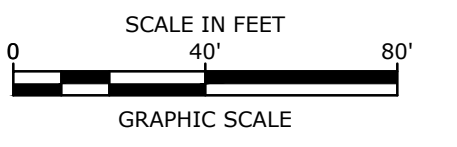
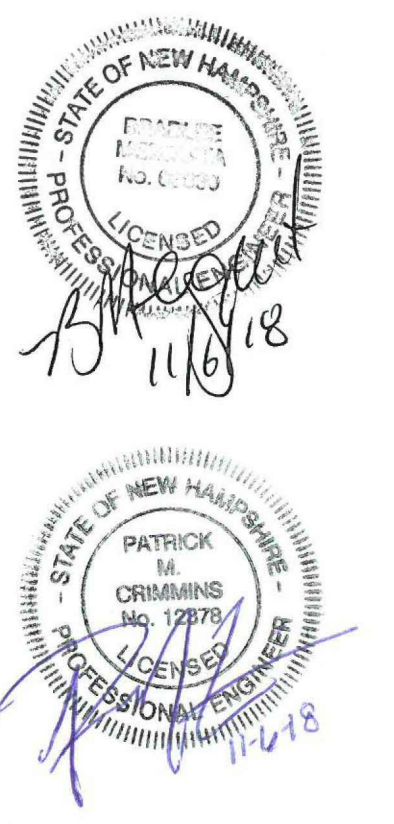
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PHASE 1A LANDSCAPE PLAN

SCALE: AS SHOWN



SEE SHEET C-131 FOR
LANDSCAPING NOTES

PLANT SCHEDULE				
CODE	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
TREES				
UA	ULMUS AMERICANA 'PRINCETON'	PRINCETON AMERICAN ELM	2½ - 3" CALIPER	B & B
QP	QUERCUS PULUSTRIS	PIN OAK	2½ - 3" CALIPER	B & B
GT	GLEIDITSIA TRIACANTHOS 'SKYLINE'	SKYLINE HONEYLOCUST	2½ - 3" CALIPER	B & B
AR	ACER RUBRUM 'REDPOINTE'	REDPOINTE RED MAPLE	2½ - 3" CALIPER	B & B
AC	AESCULUS CARNEA 'FORT MCNAIR'	FORT MCNAIR HORSECHESTNUT	2½ - 3" CALIPER	B & B
PC	PYRUS CHANTICLEER	CHANTICLEER PEAR	2 - 2½" CALIPER	B & B
AG	AMELANCHIER GRANDIFLORA 'AUTUMN BRILLIANCE'	AUTUMN BRILLIANCE SERVICEBERRY	2 - 2½" CALIPER	B & B (SINGLE STEM)
BN	BETULA NIGRA 'HERITAGE'	HERITAGE RIVER BIRCH	12 - 14' HT.	B & B (MULTISTEM)
PG	PICEA GLAUCA	WHITE SPRUCE	8 - 10' HT.	B & B
PP	PICEA PUNGENS	COLORADO SPRUCE	8 - 10' HT.	B & B
PA	PICEA ABIES	NORWAY SPRUCE	8 - 10' HT.	B & B
SHRUBS				
VC	VIBURNUM CASSINOIDES	WITHEROD VIBURNUM	2½ - 3' HT.	B & B
RE	RHODODENDRON 'ENGLISH ROSEUM'	ENGLISH ROSEUM RHODODENDRON	2½ - 3' HT.	B & B
CA	CLETHERA ALNIFOLIA	SUMMERSWEET CLETHERA	7 GALLON	CONTAINER
HQ	HYDRANGEA QUERCIFOLIA 'SNOW QUEEN'	SNOW QUEEN OAKLEAF HYDRANGEA	2½ - 3' HT.	B & B
GROUNDCOVERS & PERENNIALS				
DL	HEMEROCALLIS 'STELLA DORO'	STELLA DORO DAYLILY	2 GALLON	CONTAINER
HR	HOSTA 'ROYAL STANDARD'	ROYAL STANDARD HOSTA	2 GALLON	CONTAINER
AS	ASTILBE 'VISIONS IN PINK'	VISIONS IN PINK ASTILBE	2 GALLON	CONTAINER
CAL	CALAMAGROSTIS 'KARL FOERSTER'	KARL FOERSTER FEATHER REED GRASS	3 GALLON	CONTAINER

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**PHASE 1A
LANDSCAPE PLAN**

SCALE: AS SHOWN

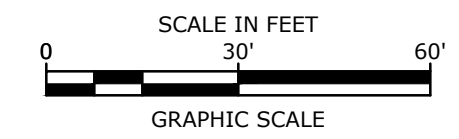
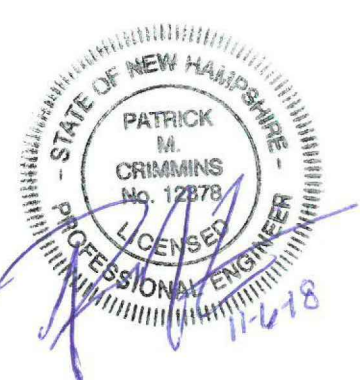
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CONSTRUCTION SEQUENCE:

THIS STREAM RESTORATION IS A PART OF A LARGER DEVELOPMENT PROJECT AS A WHOLE, THE CONSTRUCTION SEQUENCE BELOW DETAILS ONLY ACTIVITIES PERTAINING TO THE STREAM CORRIDOR. IT DOES NOT INCLUDE ACTIVITIES THAT MIGHT USUALLY BE INCLUDED IN SUCH A SEQUENCE, SUCH AS (BUT NOT LIMITED TO) CLEARING AND GRUBBING, CONSTRUCTION LAYOUT, TRAFFIC CONTROL, EROSION CONTROL, AND MATERIAL DISPOSAL. THE SEQUENCE IS SUBJECT TO CHANGE TO INTEGRATE FLUIDLY WITH THE ENTIRE PROJECT, AND MAY CHANGE TO THE DESIRES OF THE CONTRACTOR, AS THEY SEE BEST FIT. CONTRACTOR SHALL SUBMIT A DETAILED CONSTRUCTION SEQUENCE PRIOR TO CONSTRUCTION TO BE REVIEWED AND APPROVED BY THE DESIGN ENGINEER. THIS CONSTRUCTION SEQUENCE ASSUMES THAT THE EXISTING DRAINAGE INFRASTRUCTURE IS TO REMAIN IN PLACE UNTIL THE STREAM IS BUILT.

STREAM CORRIDOR CONSTRUCTION SEQUENCE:

- EXCAVATE AND GRADE THE STREAM CORRIDOR, FROM THE TOP OF THE VALLEY, DOWN TO THE TOP OF THE FLOODPLAIN AND INTO THE CENTER OF THE CORRIDOR, LEAVING AN ACCESS RAMP AT THE START AND END OF THE PROJECT. IF REQUIRED, THE GRADE MAY BE SET LOWER TO ALLOW FOR BACKFILLING OF LOAM, SHOULD THE EXISTING EARTH BE OF POOR MATERIAL. DO NOT OVER-COMPACT FLOODPLAIN OR VALLEY SLOPES; COMPACT ONLY BY TRACK-WALKING OR APPLYING PRESSURE WITH THE BUCKET OF THE EXCAVATOR. THE FLOODPLAIN AND SLOPES SHOULD BE LEFT ROUGH, TO ALLOW SEED TO GROW MORE EASILY. LEAVE AN ACCESS PATH ALONG THE TOP OF THE VALLEY TO ONE OR BOTH SIDES, TO ALLOW FOR THE TRANSPORT AND TEMPORARY STAGING OF IN-STREAM MATERIALS AND MOVEMENT OF HEAVY EQUIPMENT. THIS MAY ALSO BE DONE BY USING THE UPSTREAM ACCESS RAMP TO DELIVER MATERIALS BEHIND THE EXCAVATOR, USING THE CORRIDOR AS THE PATH. THIS IS NOT PREFERRED, SINCE OVER-COMPACTION IS LIKELY TO OCCUR RESULTING FROM THE EXCESSIVE USE.
- BECAUSE THE CONSTRUCTION WILL BE PERFORMED IN THE DRY, CONSTRUCTION WILL START AT THE DOWNSTREAM END OF THE RESTORED HODGSON BROOK. STARTING AT THE DOWNSTREAM END OF THE STREAM, BEGIN BY EXCAVATING THE POOL WHICH WILL REDIRECT WATER INTO THE EXISTING CULVERTS BELOW GOOSE BAY DRIVE FROM UPSTREAM OF THE POOL. WORKING FROM UPSTREAM OF THE SECTION UNDER CONSTRUCTION, BEGIN THE FINE GRADING OF THE STREAM CHANNEL. THIS MAY BE DONE BY OVER-EXCAVATING THE CHANNEL AND BANKS, THEN INSTALLING THE COMPOST LOG ROLL STREAM BANKS. INITIALLY THE BED SLOPE OF THE STREAM IS GRADED UNIFORM, AND THEN RIFFLES AND POOLS GRADED NEAR THE FINISHING STEPS. THE LOWER COMPOST LOG SHOULD SIT BELOW THE THALWEG OF THE STREAM, AND ONCE SET IN PLACE AT THE CORRECT ELEVATION, MAY HAVE FILL PLACED BEHIND THE ROLLS. THE STREAM CHANNEL SHOULD THEN BE BACKFILLED AT THE RIFFLES AND POOLS WITH APPROPRIATELY GRADED MATERIAL, LEAVING THE POOLS AS DEEPER FEATURES IN THE STREAM CHANNEL. AS CONSTRUCTION CONTINUES UPSTREAM, MERGING THE COMPOST LOG ROLLS SHOULD BE DONE SUCH THAT THE UPSTREAM-MOST END OF THE ROLLS IS CURLED OUT FROM THE BANK, SUCH THAT THE NEXT UPSTREAM ROLLS MAY BE PLACED LINEARLY INTO THE BANK, AND FLOWS WILL BE DIRECTED AS TO NOT CAUSE EROSION OR AVULSION BETWEEN THE ROLLS (SHIPPED CONSTRUCTION). EXTRA HEAVY ATTACHMENT (CONNECTIONS) OF THE ROLLS AT THESE LOCATIONS SHOULD BE PERFORMED WITH BIODEGRADABLE MATERIALS. WHILE CONSTRUCTION CONTINUES, BACKFILLING OF ANY FLOODPLAIN LOAM - SHOULD IT BE DEEMED NECESSARY - SHOULD BE PERFORMED TO THE FINAL GRADE OF THE FLOODPLAIN. CONSTRUCT IN-STREAM STRUCTURES (LOG CROSS VAINES) AS THEY ARE REACHED, AS WELL AS FLOODPLAIN SILLS. ADDITIONAL FLOODPLAIN FEATURES MAY BE CONSTRUCTED AT THIS TIME, SUCH AS HABITAT LOGS AND BOULDERS, TREE STANDS, AND VERNAL POOLS (ALL OPTIONAL, BUT RECOMMENDED). CONSTRUCTION MATERIALS MAY BE PROVIDED ON-DEMAND USING THE ACCESS PATH ALONG THE TOP OF THE VALLEY. MATERIALS (LOGS, REBAR, GEOTEXTILE, RIFFLE MATERIAL, COMPOST ROLLS, ETC.) MAY BE SET OUTSIDE THE STREAM CORRIDOR, AND GATHERED BY THE EXCAVATOR FROM INSIDE THE CORRIDOR, OR LESS PREFERABLY, PLACED BEHIND THE EXCAVATOR IN THE CORRIDOR. ALL FINE GRADING AND STRUCTURES SHOULD BE CHECKED FOR ELEVATIONS AND GEOMORPHIC METRICS BEFORE STARTING THE NEXT UPSTREAM SECTION.
- SEED AND MULCH THE CORRIDOR AND TOP OF VALLEY WITH THE TEMPORARY STABILIZATION SEED MIX (PREFERABLY A CONSERVATION MIX WITH AT LEAST 10% WILDFLOWER SEEDS, THOUGH MAY BE OF A PERENNIAL RYEGRASS). SEED TO THE AMOUNTS AS SPECIFIED BY THE SEED MANUFACTURER - WITH GREATER APPLICATION ON THE STEEPER VALLEY SLOPES - AND MULCH WITH WOOD CHIPS (90% GROUND COVERAGE) OR STRAW (TO A DEPTH OF 1 INCH). WATER AS SPECIFIED BY THE SEED MANUFACTURER, IF DROUGHT PERSISTS LONGER THAN THE RECOMMENDED WATERING RATE. ALLOW THE GRASS TO GROW TO A HEIGHT OF 2 INCHES BEFORE PROCEEDING TO THE NEXT STEP. IF ANY BARE PATCHES EXIST, RESEED AND MULCH TO ENSURE STABILIZATION. THIS STEP MAY BE PERFORMED AS A SECTION OF STREAM IS CONSTRUCTED, WHICH MAY REDUCE THE OVERALL CONSTRUCTION DURATION, THOUGH IT MAY COME AT A COST OF INCREASED WATERING EFFORT.
- WHEN ALL PREVIOUS STEPS HAVE BEEN COMPLETED, THE STREAM SHOULD BE OPENED UP TO FLOWS. FIRST, THE EXISTING DRAINAGE CULVERT AT THE DOWNSTREAM END SHOULD BE EXCAVATED AND REMOVED. GRADE AND TEMPORARILY STABILIZE THE INCOMING FLOWS TO THE DOWNSTREAM POOL. PROCEED TO THE INLET TO THE STREAM AND CONSTRUCT (IF NOT ALREADY DONE IN STEP 2) THE INLET POOL AND GRADING. FLOWS MAY THEN BE DIRECTED INTO THE STREAM CHANNEL, IN A MANNER THAT SHALL BE DETERMINED IN THE FIELD, BASED ON THE MANNER IN WHICH THE INCOMING CULVERT AND UPSTREAM INFRASTRUCTURE IS BEING CONSTRUCTED. ALLOWING INCOMING FLOWS TO THE STREAM MAY BE PERFORMED CONCURRENTLY WITH THAT OF THE OUTLET, PROVIDED THE CONTRACTOR HAS THE LABOR AND EQUIPMENT AVAILABLE. HOWEVER, CAUTION SHOULD BE EXERCISED TO ENSURE THAT FLOWS ARE ABLE TO EXIT THE CORRIDOR FULLY AND APPROPRIATELY, TO PREVENT DAMAGE AND/OR FLOODING TO THE SITE.
- WITH THE STREAM NOW CARRYING FLOWS, THE ENTIRE SITE SHOULD BE SEEDED AND PLANTED AS SPECIFIED IN THE PLANTING PLAN. THIS MAY BE DONE COMPLETELY OR PARTIALLY AS CONSTRUCTION OF THE STREAM TAKES PLACE. AT THIS POINT THE TEMPORARY STABILIZATION GRASS SHOULD HAVE TAKEN HOLD ENOUGH TO PROVIDE SOME COVER FOR SEEDS, AND KEEP IN MOISTURE DURING THE DAY. THIS STEP SHOULD ONLY BE DONE DURING A GROWING SEASON AND NOT IN MID-SUMMER OR WINTER, TO HELP ENSURE PLANTING SUCCESS. THIS STEP MAY BE DONE AFTER STEP 6, IF CONSTRUCTION ENDS BEFORE A PLANTING SEASON IS SET TO BEGIN. THIS STEP SHOULD BE PERFORMED WHEN THE APPROPRIATE EQUIPMENT IS AVAILABLE. THIS MAY HELP EXPEDITE THE PROCESS, RATHER THAN PERFORMING IT ALL COMPLETELY BY HAND.
- FINALLY, MONITORING DEVICES AND COMPONENTS SHOULD BE INSTALLED, MEASUREMENTS RECORDED, AND INSTRUMENTS CALIBRATED AS NECESSARY. PLEASE REFER TO THE MONITORING PLAN SECTION OF THIS REPORT FOR MORE DETAILS ON THE MONITORING METHODS AND SCHEDULES.



Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

MARK	DATE	DESCRIPTION
F	11/6/2018	P.B. Submission
E	8/30/2018	Revised Aot Submission
D	8/21/2018	Revised TAC Submission
C	6/18/2018	NHDES Aot Submission
B	5/21/2018	TAC Submission
A	4/3/2018	TAC W.S. Submission

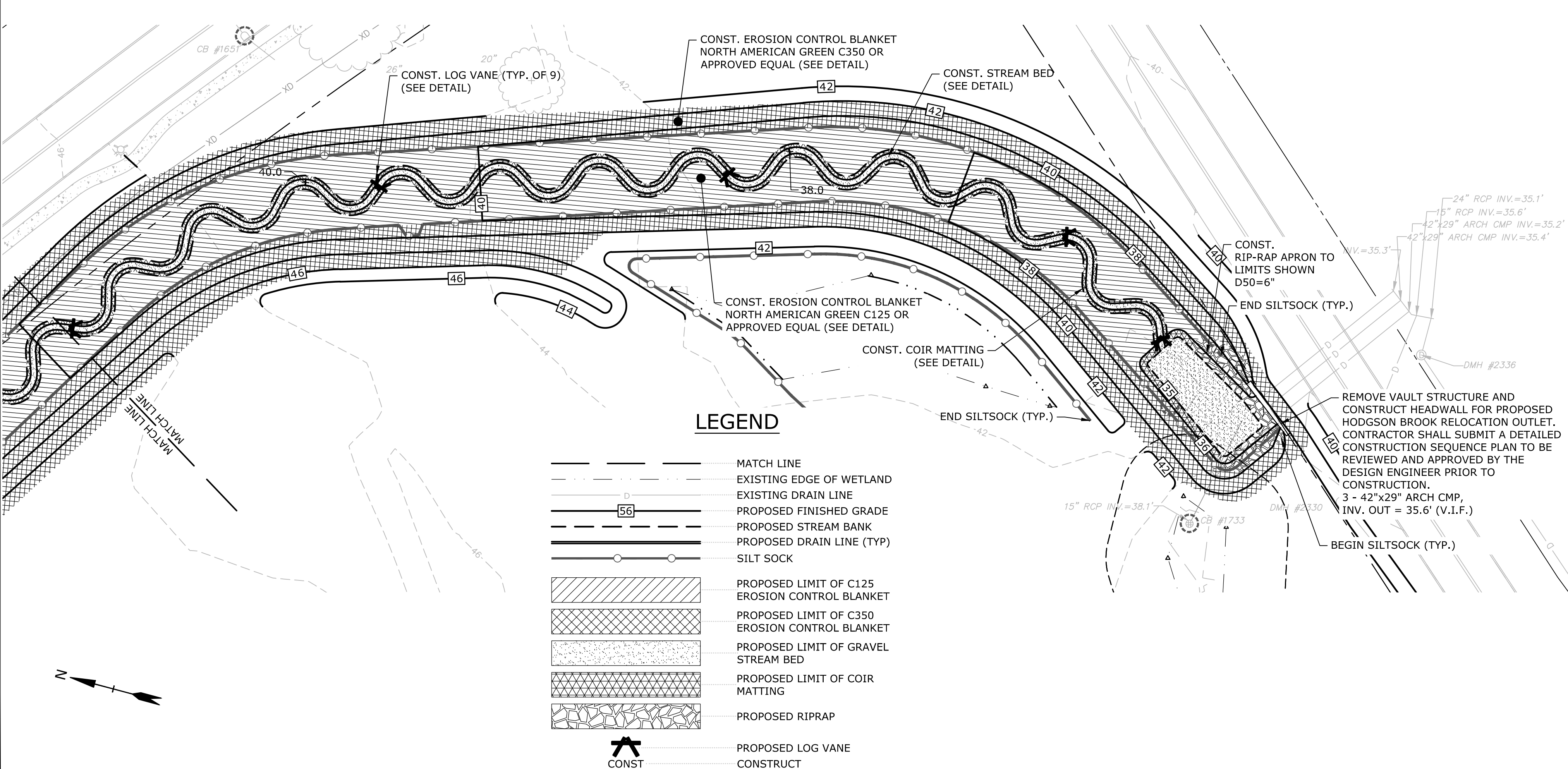
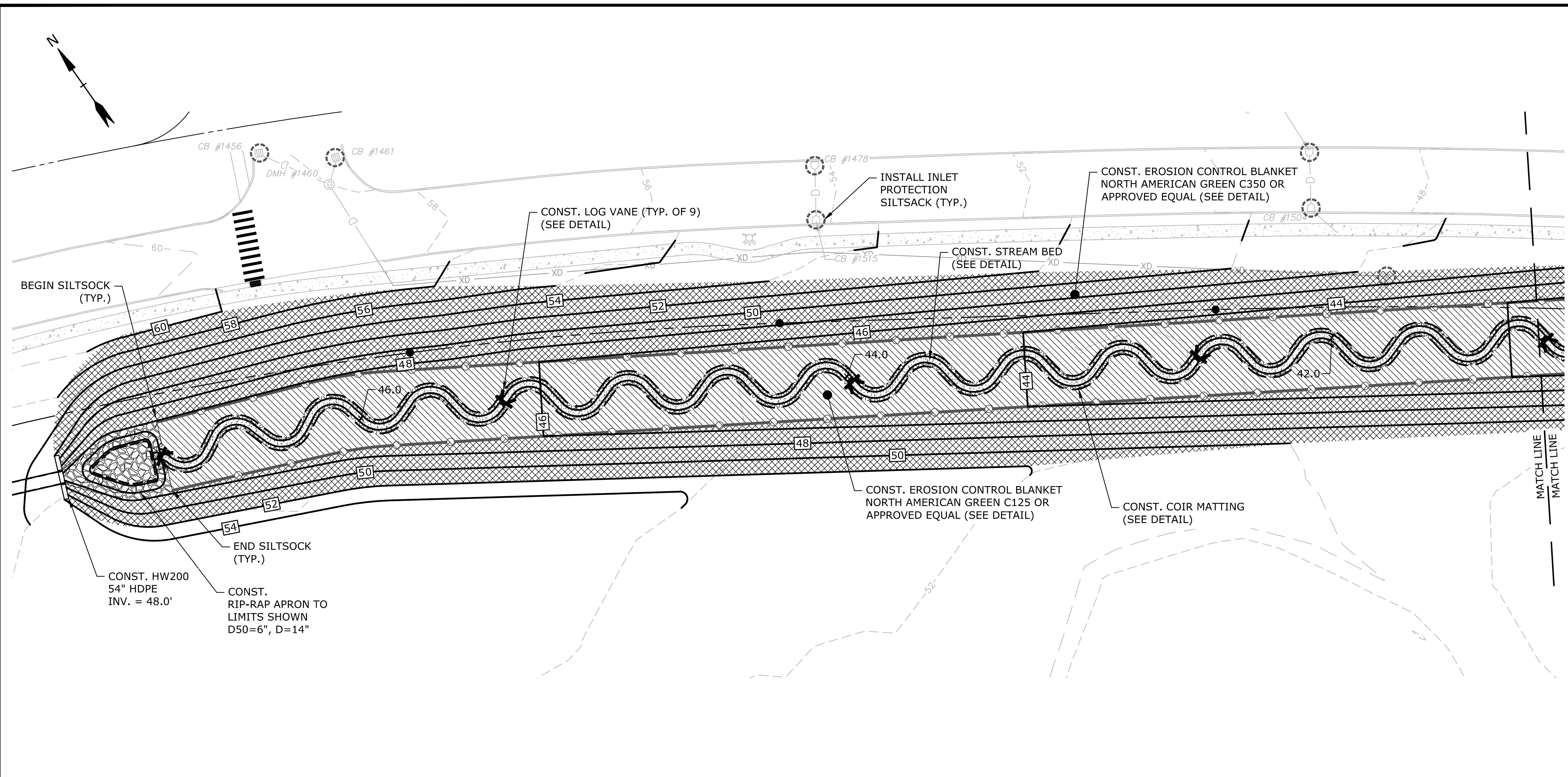
PROJECT NO: L-0700-013
DATE: 04/03/2018

DRAWN BY: NAH
CHECKED: PMC
APPROVED: BLM

HODGSON BROOK GRADING, DRAINAGE & EROSION CONTROL PLAN

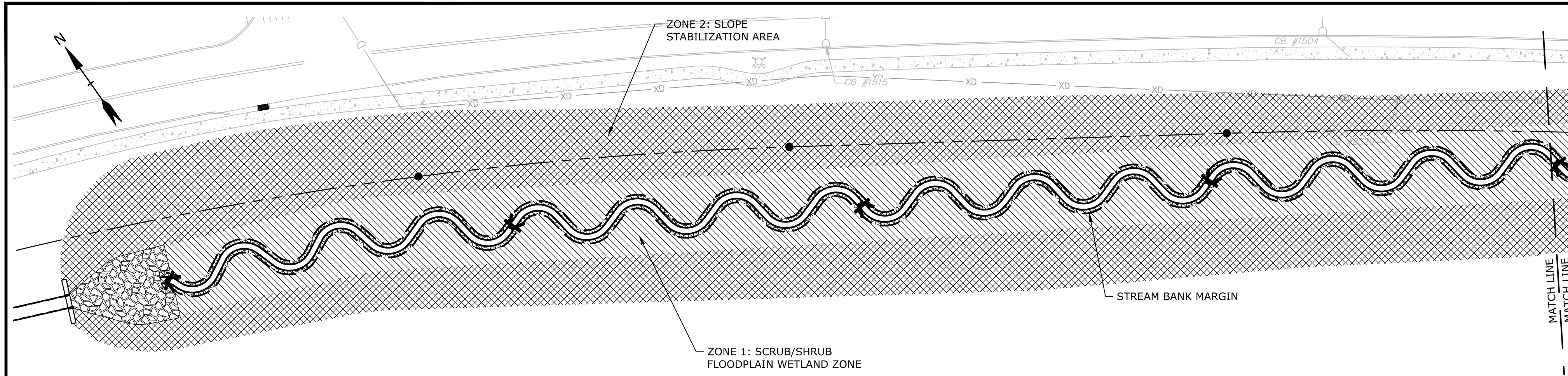
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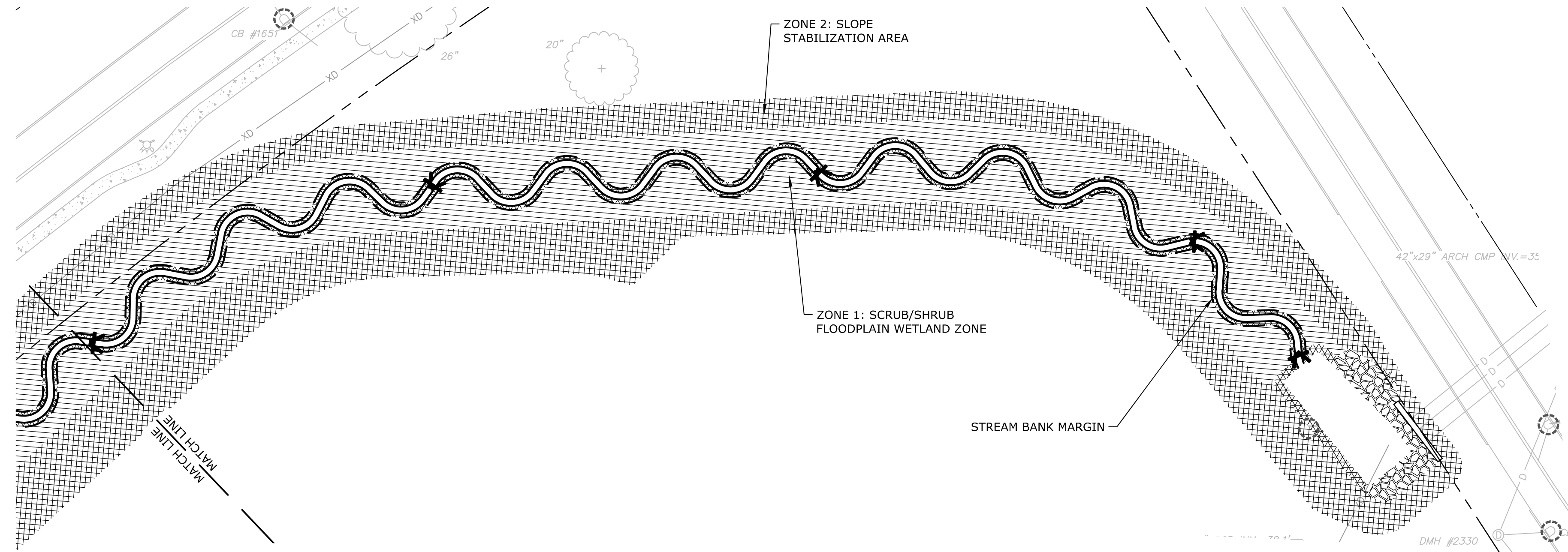


SEE SHEET C-128 FOR GRADING, DRAINAGE & EROSION CONTROL NOTES

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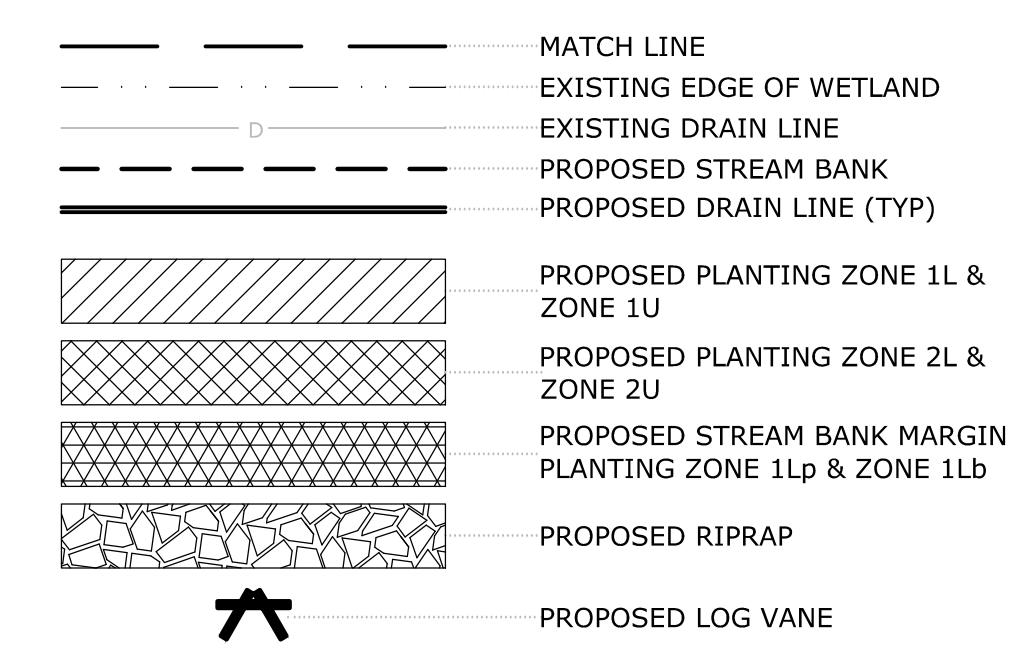
PLANTING PLAN DETAILS			
PLANTING ZONE	ZONE DESCRIPTION	SPECIES	DENSITY
1Lp	ON THE OUTER BEND OF A POOL FROM THE POINT OF CURVATURE TO THE POINT OF TANGENCY, BEGINNING AT THE MID-BANK ELEVATION, UP OVER THE TOP OF THE BANK, AND OFFSET FROM THE TOP OF THE BANK 1 FOOT.	LIVESTAKES OF PUSSY WILLOW, RED DOGWOOD, SILKY DOGWOOD, AND SPECKLED ALDER	2 LIVESTAKES PER 1 SF
1Lb	FROM THE MID-BANK ELEVATION UP OVER THE TOP OF THE BANK AND BACK 1 FOOT, FOR ALL STREAM BANKS OTHER THAN ZONE 1Lp	LIVESTAKES OF PUSSY WILLOW, RED DOGWOOD, SILKY DOGWOOD, AND SPECKLED ALDER	1 LIVESTAKE PER 2 SF
1L	FROM ONE OUTER BEND OF THE CHANNEL DOWN ONE MEANDER WAVELENGTH TO THE NEXT OUTER BEND OF THE CHANNEL, INWARDS ALONG THE TOP OF THE BANK.	PERENNIAL RYE (TEMPORARY STABILIZATION); NATIVE WETLAND SEED MIX INCLUDING BUT NOT LIMITED TO: TALL MEADOW RUE, GOLDENROD, SWAMP MILKWEED, JEWELWEED, AND RYEGRASS; HOBBLEBUSH, PUSSY WILLOW, RED DOGWOOD, SILKY DOGWOOD, SPECKLED ALDER, AND WITCH HAZEL	RYE: PER SEED MIX, WETLAND MIX: PER SEED MIX, SHRUBS: 1 PLANT PER 75 SF
1U	ON THE FLOODPLAIN BENCH, OUTSIDE THE MEANDER BELT WIDTH CORRIDOR, UP TO THE TOP OF THE FLOODPLAIN BENCH	PERENNIAL RYE (TEMPORARY STABILIZATION); NATIVE WETLAND SEED MIX (AS DESCRIBED PREVIOUSLY); BUNCHBERRY, PARTRIDGEBERRY, SWAMP MILKWEED, CHOKECHERRY, GRAY DOGWOOD, HOBBLEBUSH, PUSSY WILLOW, WITCH HAZEL	RYE: PER SEED MIX, WETLAND MIX: PER SEED MIX, SHRUBS: 1 PLANT PER 50 SF
2L	FROM THE TOP OF THE FLOODPLAIN BENCH, UP 1/4 OF THE WAY UP THE RIPARIAN CORRIDOR SLOPE	PERENNIAL RYE (TEMPORARY STABILIZATION); NATIVE CONSERVATION SEED MIX; PARTRIDGEBERRY, CHOKECHERRY, GRAY DOGWOOD, LOWBUSH BLUEBERRY, RASPBERRY, BLACK WILLOW	RYE: PER SEED MIX, SHRUBS: 1 PLANT PER 20 LF
2U	FROM THE TOP OF ZONE 2L, UP OVER THE TOP OF THE RIPARIAN CORRIDOR AND BACK 1 FOOT.	PERENNIAL RYE (TEMPORARY STABILIZATION); NATIVE CONSERVATION SEED MIX; LOWBUSH BLUEBERRY, RASPBERRY, BLACK WILLOW, BLACK CHERRY, RED MAPLE, WHITE OAK, WHITE ASH	RYE: PER SEED MIX, SHRUBS: 1 PLANT PER 25 LF, TREES: 1 TREE PER 40 LF



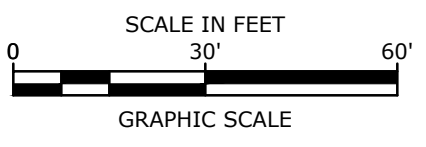
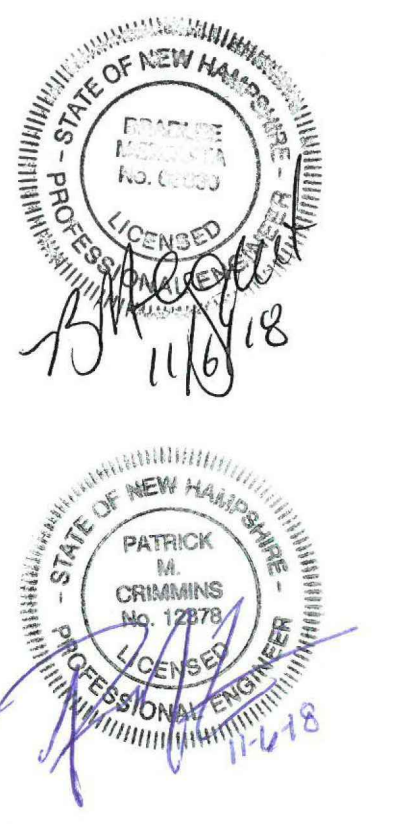
PLANT SCHEDULE					
SCIENTIFIC NAME	COMMON NAME	ZONE	SCIENTIFIC NAME	COMMON NAME	ZONE
GRASSES			SHRUBS		
LOLIUM PERENNE	PERENNIAL RYEGRASS	1, 2	PRUNUS VIRGINIANA	CHOKECHERRY	1U, 2
CORNUS CANADENSIS	BUNCHBERRY	1U	CORNUS RACEMOSA	GRAY DOGWOOD	1U, 2
SOLIDAGO SPP.	GOLDENROD	1	VIBURNUM ALNIFOLIUM	HOBBLEBUSH	1
IMPATIENS CAPENSIS	JEWELWEED	1	VACCINIUM ANGUSTIFOLIUM	LOWBUSH BLUEBERRY	2
MITCHELLA REPENS	PARTRIDGEBERRY	1U, 2	SALIX DISCOLOR	PUSSY WILLOW	1
ASCLEPIAS INCARNATA	SWAMP MILKWEED	1	RUBUS IDAEUS	RASPBERRY	2
THALICTRUM POLYGANUM	TALL MEADOW RUE	1	CORNUS STOLONIFERA	RED OSIER DOGWOOD	1
			CORNUS AMOMUM	SILKY DOGWOOD	1
			ALNUS RUGOSA	SPECKLED ALDER	1
			HAMMAMELIS VIRGINIANA	WITCH HAZEL	1
			TREES		
			SALIX NIGRA	BLACK WILLOW	2U
			PRUNUS SEROTINE	BLACK CHERRY	2U
			ACER RUBRUM	RED MAPLE	2U
			QUERCUS ALBA	WHITE OAK	2U
			FRAXINUS AMERICANA	WHITE ASH	2U

- PLANTING NOTES:**
- THE CONTRACTOR SHALL FURNISH AND PLANT ALL PLANTS IN QUANTITIES AS SHOWN ON THIS PLAN. NO SUBSTITUTIONS WILL BE PERMITTED UNLESS APPROVED BY OWNER. ALL PLANTS SHALL BE NURSERY GROWN.
 - ALL PLANTS SHALL BE NURSERY GROWN AND PLANTS AND WORKMANSHIP SHALL CONFORM TO THE AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS, INCLUDING BUT NOT LIMITED TO SIZE, HEALTH, SHAPE, ETC., AND SHALL BE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO ARRIVAL ON-SITE AND AFTER PLANTING.
 - PLANT STOCK SHALL BE GROWN WITHIN THE HARDINESS ZONES 4 THRU 7 ESTABLISHED BY THE PLANT HARDINESS ZONE MAP, MISCELLANEOUS PUBLICATIONS NO. 814, AGRICULTURAL RESEARCH SERVICE, UNITED STATES DEPARTMENT AGRICULTURE, LATEST REVISION.
 - PLANT MATERIAL SHALL BEAR THE SAME RELATIONSHIP TO FINISHED GRADE AS TO THE ORIGINAL PLANTING GRADE PRIOR TO DIGGING.
 - NO SUBSTITUTION OF PLANT MATERIALS WILL BE ALLOWED WITHOUT THE PRIOR WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE.
 - THE CONTRACTOR SHALL LOCATE, VERIFY AND MARK ALL EXISTING AND NEWLY INSTALLED UNDERGROUND UTILITIES PRIOR TO ANY LAWN WORK OR PLANTING. ANY CONFLICTS WHICH MIGHT OCCUR BETWEEN PLANTING AND UTILITIES SHALL IMMEDIATELY BE REPORTED TO THE OWNER SO THAT ALTERNATE PLANTING LOCATIONS CAN BE DETERMINED.
 - SEE PLANTING DETAILS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
 - PLANTING SHALL BE COMPLETED FROM APRIL 15TH THROUGH OCTOBER 1ST, WITH THE EXCEPTION OF THE WHIPS. WHIPS SHALL BE PLANTED DURING THE DORMANT SEASON, OCTOBER 1ST THROUGH DECEMBER 15TH AND/OR MARCH 15TH THROUGH APRIL 15TH. NO PLANTING DURING JULY AND AUGUST UNLESS SPECIAL PROVISIONS ARE MADE FOR DROUGHT, SUCH AS DAILY WATERING AS REQUIRED.
 - 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.
 - THE CONTRACTOR SHALL GUARANTEE ALL PLANTINGS TO BE IN GOOD, HEALTHY, FLOURISHING AND ACCEPTABLE CONDITION FOR A PERIOD OF (1) YEAR BEGINNING AT THE DATE OF ACCEPTANCE OF SUBSTANTIAL COMPLETION. ALL GRASSES, TREES AND SHRUBS THAT, IN THE OPINION OF THE LANDSCAPE ARCHITECT, SHOW LESS THAN 80% HEALTHY GROWTH AT THE END OF ONE YEAR PERIOD SHALL BE REPLACED BY THE CONTRACTOR.
 - UPON EXPIRATION OF THE CONTRACTOR'S ONE YEAR GUARANTEE PERIOD, THE OWNER SHALL BE RESPONSIBLE FOR LANDSCAPE MAINTENANCE INCLUDING WATERING DURING PERIODS OF DROUGHT.
 - PRE-PURCHASE PLANT MATERIAL AND ARRANGE FOR DELIVERY TO MEET PROJECT SCHEDULE AS REQUIRED. IT MAY BE NECESSARY TO PRE-DIG CERTAIN SPECIES WELL IN ADVANCE OF ACTUAL PLANTING DATES.
 - THE STREAM CORRIDOR HAS TWO DISTINCT ZONES FOR PLANTING: THE FLOODPLAIN (ZONE 1) AND THE UPLAND, OR VALLEY SLOPES (ZONE 2). THE TWO ZONES WERE BROKEN DOWN EVEN FURTHER, WITH EACH ZONE HAVING A LOWER AND AN UPPER PART (1L, 1U; 2L, 2U). FURTHERMORE, ZONE 1L CONTAINS AN ADDITIONAL SUB-ZONE THAT REFERS TO THE STREAM BANKS, JUST UP ONTO THE TOP OF THE BANKS. THIS SUB-ZONE CONTAINS TWO SECTIONS, ONE ALONG THE OUTER BANK OF EACH BEND, AND THE OTHER CONTAINING ALL THE OTHER BANKS (INNER BEND AND RIFFLES). THE OUTER BANK OF EACH POOL IS REFERRED TO AS ZONE 1Lp, AND THE OTHER BANKS ARE IN ZONE 1Lb. SEE SHEET C-703 FOR DETAILED ZONE PLAN.
 - SCRUB/SHRUB FLOODPLAIN AND FLOODPLAIN WETLAND ZONES (ZONE 1) PLANTING SEQUENCE:
 - ONCE THE AREA HAS BEEN FULLY GRADED AND LOAMED, ENTIRE AREA SHALL BE SEEDDED WITH "RIVERBANK STABILIZATION MIX" AT A RATE OF 1 POUND PER 2000 SF.
 - THE EROSION CONTROL BLANKET SHALL THEN BE INSTALLED AS SHOWN ON SHEET C-701 AND DETAIL SHEET C-502.
 - THE SHRUB PLANTINGS SHALL BE PLANTED ON 8' CENTERS IN LIKE GROUPS OF 3 TO 5, THROUGH THE EROSION CONTROL BLANKET.
 - SLOPE STABILIZATION AREA (ZONE 2) PLANTING SEQUENCE:
 - ONCE THE AREA HAS BEEN FULLY GRADED AND LOAMED, ENTIRE AREA SHALL BE SEEDDED WITH "RIVERBANK STABILIZATION MIX" AT A RATE OF 1 POUND PER 2000 SF.
 - THE EROSION CONTROL BLANKET SHALL THEN BE INSTALLED AS SHOWN ON SHEET C-701 AND DETAIL SHEET C-502.
 - THE SHRUB PLANTINGS SHALL BE PLANTED ON 6' CENTERS THROUGH THE EROSION CONTROL BLANKET.
 - STREAM BANK MARGINS PLANTING SEQUENCE:
 - INSTALL COIR MATTING PER DETAILS SHEET C-703.
 - PLANT WHIPS (1/2" - 3/4" DIAMETER, 3 TO 4 FEET IN LENGTH) OF SILKY DOGWOOD AND RED-OSIER DOGWOOD ON THE UPWARD AND DOWNWARD SIDE OF COIR MATS, AT A MINIMUM OF 1 TO 2 FEET INTO THE SOIL SUBSTRATE.
 - "RIVERBANK STABILIZATION MIX" SHALL CONSIST OF:
 - AGROSTIS STOLONIFERA (CREEPING BENT GRASS)
 - AGROSTIS ALBA (RED TOP)
 - FRAXINUS PENNSYLVANICA (GREEN ASH)
 - CORNUS STOLONIFERA (RED-OSIER DOGWOOD)
 - CORNUS AMOMUM (SILKY DOGWOOD)
 - ELYMUS RIPARIUS (RIVERBANK WILD RYE)
 - VIBURNUM RECOGNITUM (NORTHERN ARROWWOOD)
- AS SUPPLIED BY STONEY RIDGE ENVIRONMENTAL, LLC, ALTON, NH 603-776-0194, OR APPROVED EQUAL.
- THE FINAL SPECIES USED IN CONSTRUCTION OF THE SITE MAY NOT BE LIMITED TO THOSE LISTED. ANY OTHER SPECIES WILL BE REVIEWED AND APPROVED BY THE ENGINEER BEFORE BEING ORDERED, OR PLACED IN THE FIELD. THIS IS ESPECIALLY TRUE OF ANY SEED MIX THAT MAY BE USED AT THE SITE; THE SELECTED MIX (MIXES) THAT THE CONTRACTOR SHALL USE SHOULD BE REVIEWED AND APPROVED BY THE ENGINEER BEFORE PLACEMENT, OR BEFORE ORDERING ANY SUCH SEED MIX.

LEGEND



SEE SHEET C-128 FOR GRADING, DRAINAGE & EROSION CONTROL NOTES



Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

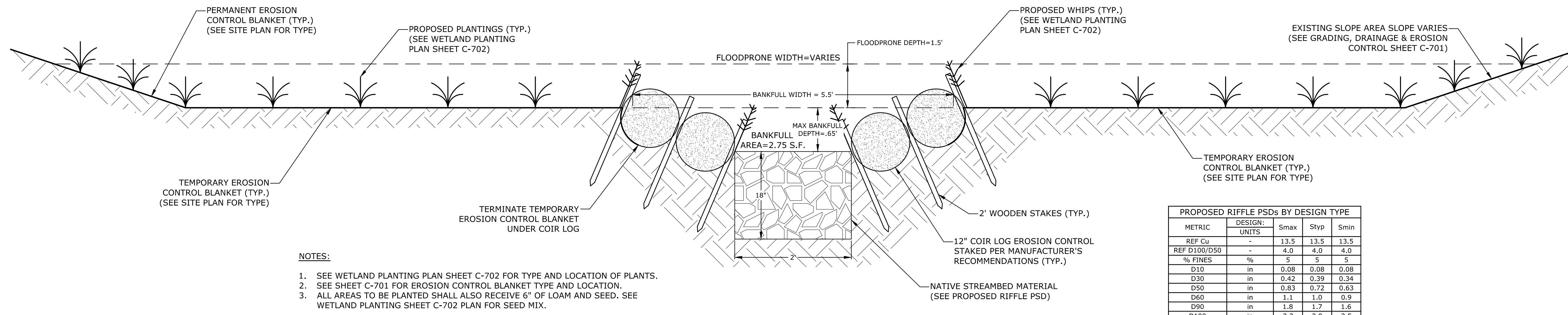
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E	8/30/2018	Revised Aot Submission
D	8/21/2018	Revised TAC Submission
C	6/18/2018	NHDES Aot Submission
B	5/21/2018	TAC Submission
A	4/3/2018	TAC W.S. Submission

HODGSON BROOK WETLAND PLANTING PLAN

SCALE: AS SHOWN

C-702

Last Save Date: November 15, 2018 3:11 PM By: NAHANSEN
 Plot Date: Thursday, November 15, 2018 Plotted By: Neil A. Hansen
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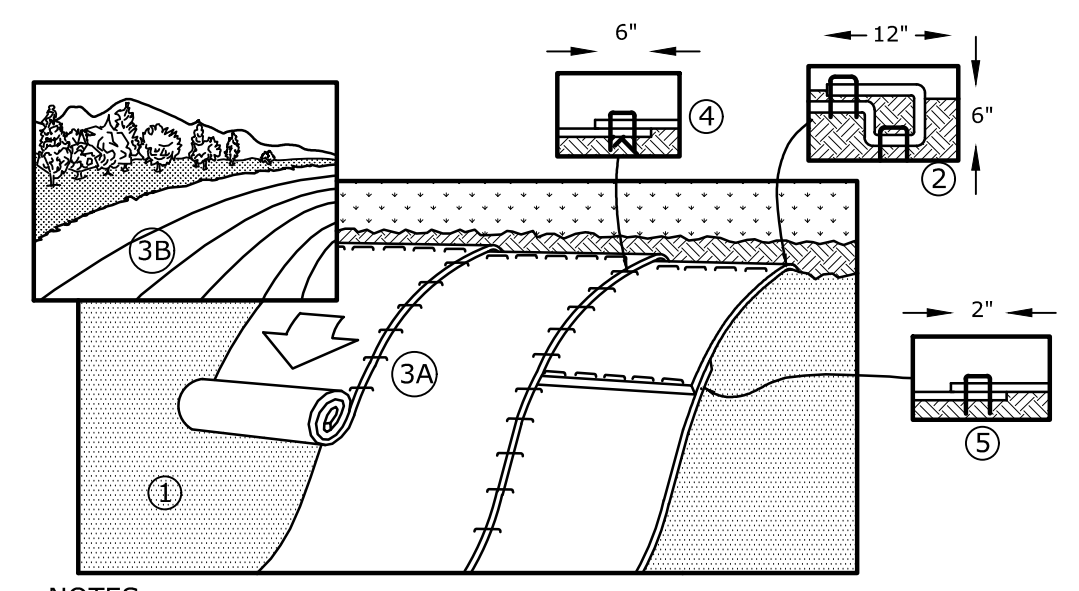
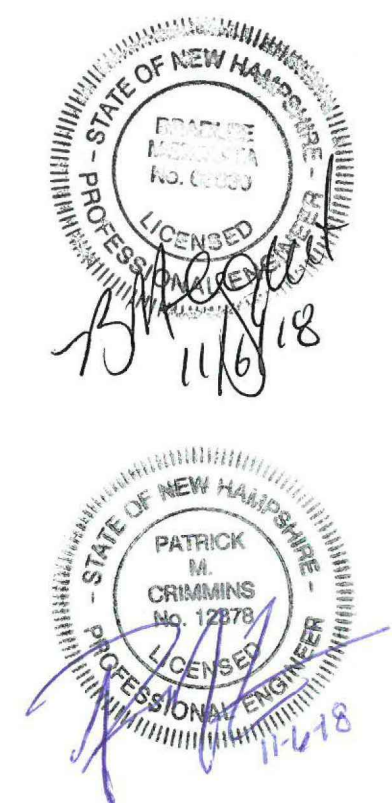


PROPOSED RIFFLE PSDs BY DESIGN TYPE

METRIC	DESIGN UNITS	S _{max}	S _{typ}	S _{min}
REF Cu	-	13.5	13.5	13.5
REF D100/D50	-	4.0	4.0	4.0
% FINES	%	5	5	5
D10	in	0.08	0.08	0.08
D30	in	0.42	0.39	0.34
D50	in	0.85	0.72	0.63
D60	in	1.1	1.0	0.9
D90	in	1.8	1.7	1.6
D100	in	3.3	2.9	2.5

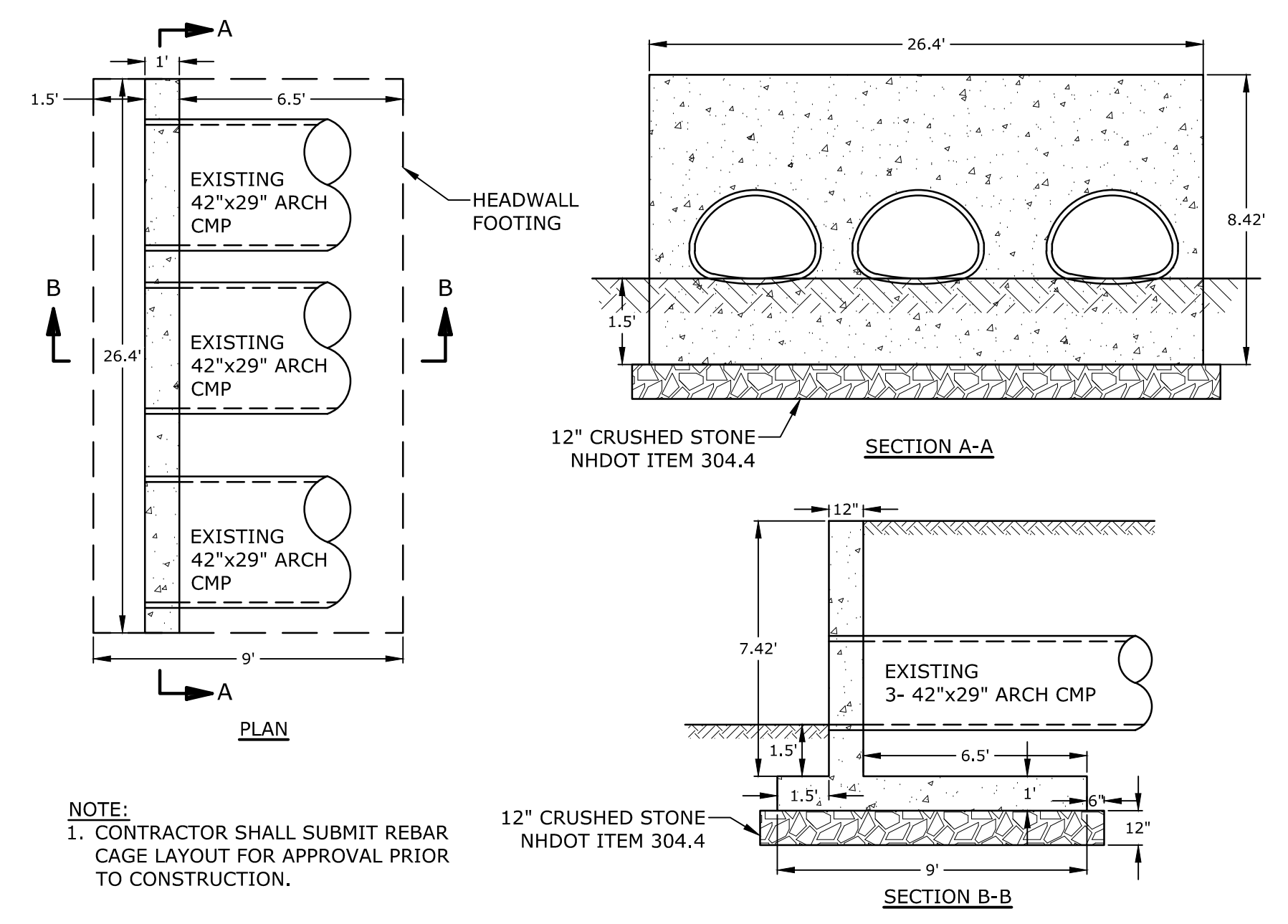
- NOTES:**
1. SEE WETLAND PLANTING PLAN SHEET C-702 FOR TYPE AND LOCATION OF PLANTS.
 2. SEE SHEET C-701 FOR EROSION CONTROL BLANKET TYPE AND LOCATION.
 3. ALL AREAS TO BE PLANTED SHALL ALSO RECEIVE 6" OF LOAM AND SEED. SEE WETLAND PLANTING SHEET C-702 PLAN FOR SEED MIX.

TYPICAL RIFFLE CROSS-SECTION
1" = 1'



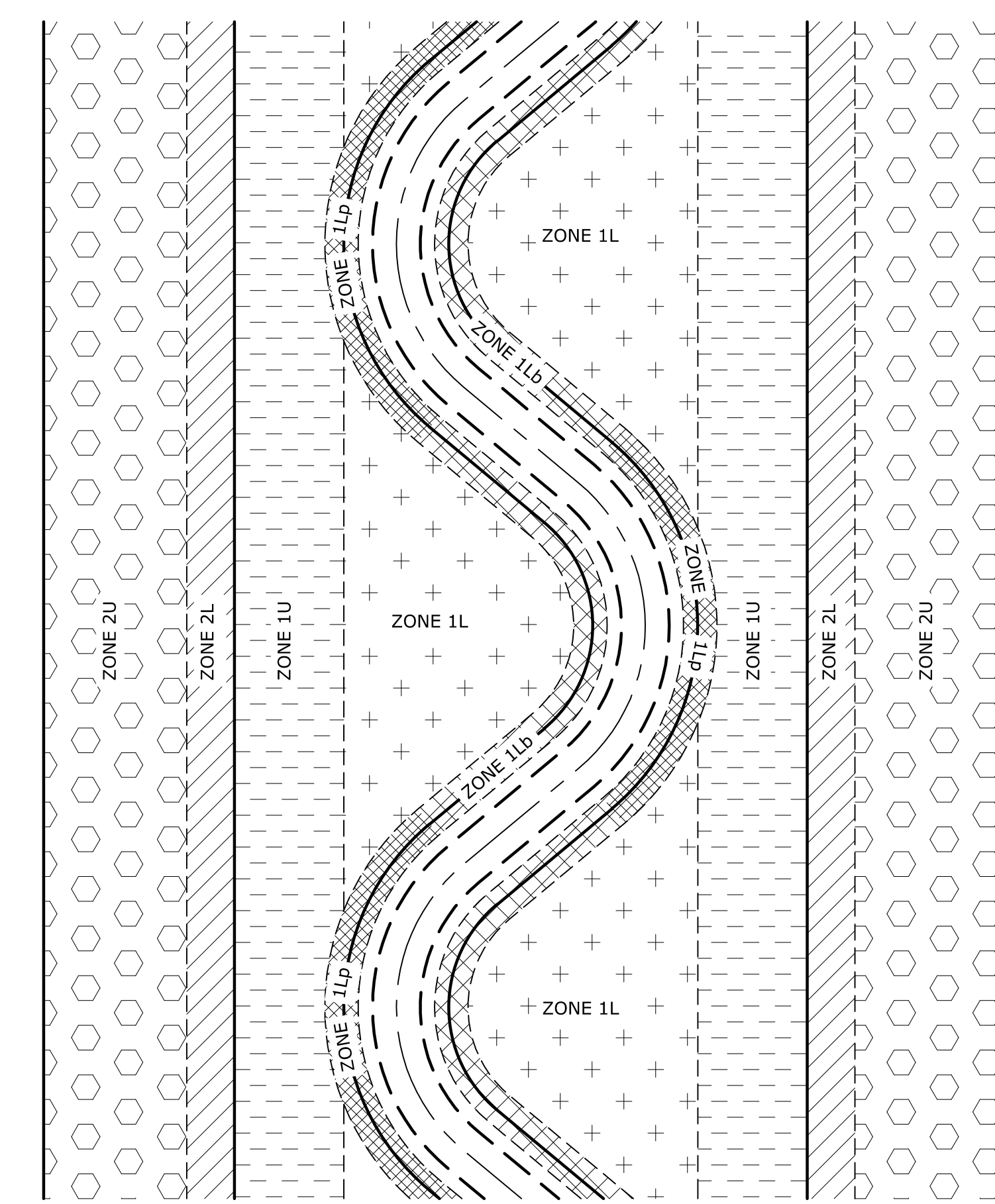
- NOTES:**
1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER AND SEED.
 2. BEGIN AT THE TOP OF THE SLOPE, 36" OVER THE GRADE BREAK, BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UPSLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF TAPLES/STAKES 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES SPACED 12" APART ACROSS THE WIDTH OF THE BLANKET.
 3. ROLL THE BLANKETS DOWN THE SLOPE. ALL BLANKETS MUST BE SECURELY FASTENED TO THE SOIL SURFACE BY PLACING STAPLES IN APPROPRIATE LOCATIONS AS SHOWN ON THE STAPLE PATTERN GUIDE.
 4. STAPLE LENGTHS SHALL BE A MINIMUM OF 8 INCHES.

EROSION CONTROL BLANKET FOR SLOPE PROTECTION
NO SCALE

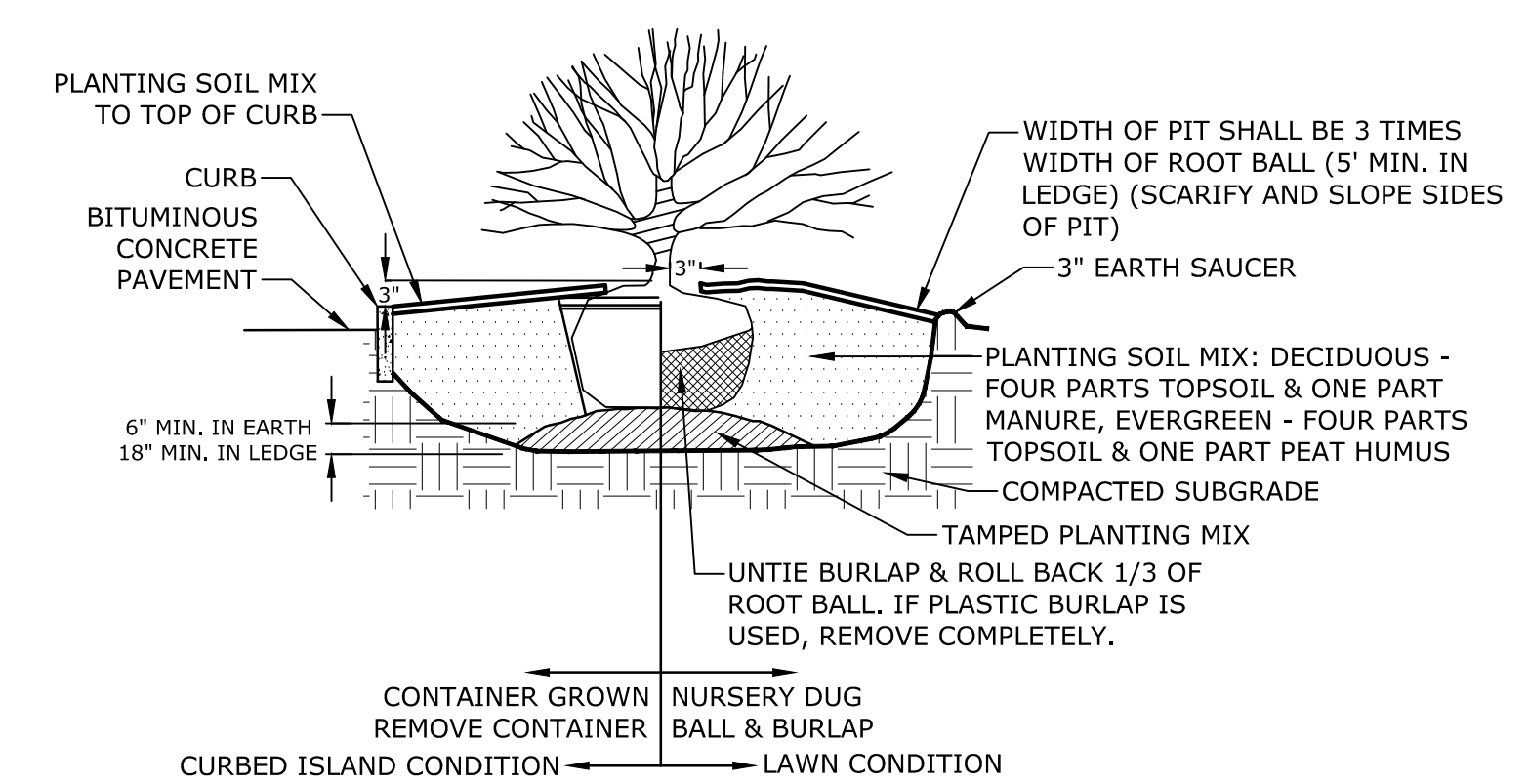


- NOTE:**
1. CONTRACTOR SHALL SUBMIT REBAR CAGE LAYOUT FOR APPROVAL PRIOR TO CONSTRUCTION.

CONCRETE HEADWALL
NO SCALE



PLANTING ZONES DETAIL
NO SCALE



- NOTE:**
- PLANT AT SAME DEPTH AS PREVIOUSLY PLANTED, OR WITHIN 2" ABOVE.

SHRUB PLANTING
NO SCALE

Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

MARK	DATE	DESCRIPTION
F	11/6/2018	P.B. Submission
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D	8/21/2018	Revised TAC Submission
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A	4/3/2018	TAC W.S. Submission

PROJECT NO: L-0700-013
DATE: 04/03/2018
FILE:
DRAWN BY: NAH
CHECKED: PMC
APPROVED: BLM

HODGSON BROOK DETAILS SHEET

SCALE: AS SHOWN

C-703

Last Save Date: November 15, 2018 3:11 PM By: NAHANSEN
Plot Date: Thursday, November 15, 2018 Plotted By: Neil A. Hansen
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PHASE 1B PLAN SET

APRIL 3, 2018

REVISED: AUGUST 21, 2019

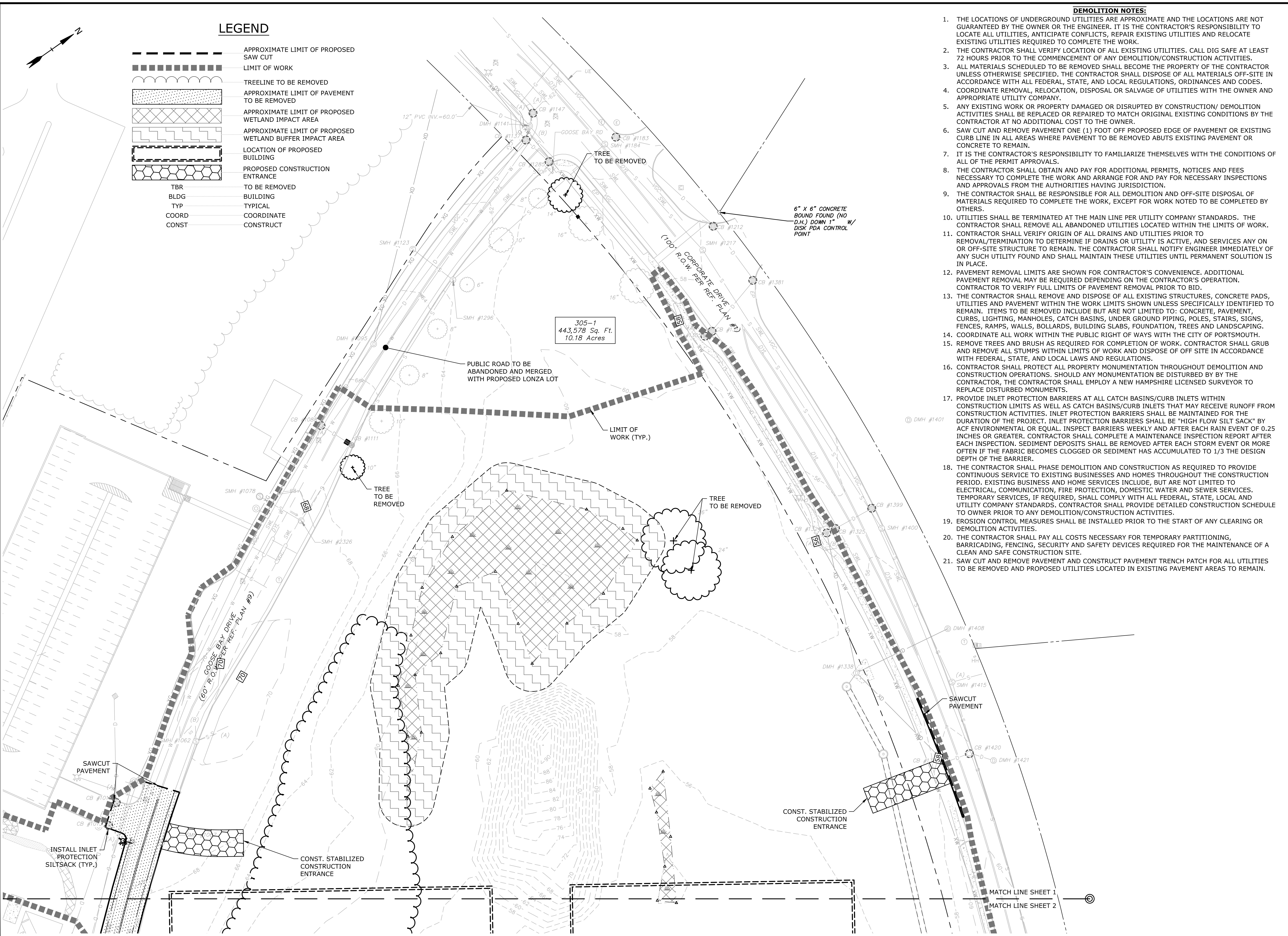
PHASE 1B PLAN SET SHEET INDEX		
SHEET NO.	SHEET TITLE	LAST REVISED
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C-141	PHASE 1B DEMOLITION PLAN	08/21/2019
C-142	PHASE 1B DEMOLITION PLAN	08/21/2019
C-143	PHASE 1B DEMOLITION PLAN	08/21/2019
C-144	PHASE 1B OVERALL SITE PLAN	08/21/2019
C-145	PHASE 1B SITE PLAN	08/21/2019
C-146	PHASE 1B SITE PLAN	08/21/2019
C-147	PHASE 1B SITE PLAN	08/21/2019
C-148	PHASE 1B GRADING, DRAINAGE & EROSION CONTROL PLAN	08/21/2019
C-149	PHASE 1B GRADING, DRAINAGE & EROSION CONTROL PLAN	08/21/2019
C-150	PHASE 1B GRADING, DRAINAGE & EROSION CONTROL PLAN	08/21/2019
C-151	PHASE 1B UTILITIES PLAN	08/21/2019
C-152	PHASE 1B UTILITIES PLAN	08/21/2019
C-153	PHASE 1B UTILITIES PLAN	08/21/2019
C-154	PHASE 1B LANDSCAPE PLAN	08/21/2019
C-155	PHASE 1B LANDSCAPE PLAN	08/21/2019
C-156	PHASE 1B LANDSCAPE PLAN	08/21/2019

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COMPLETE SET 17 SHEETS

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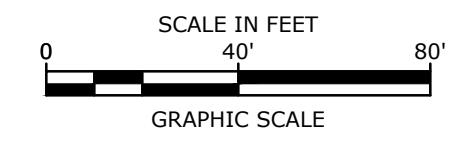


LEGEND

- APPROXIMATE LIMIT OF PROPOSED SAW CUT
- LIMIT OF WORK
- TREELINE TO BE REMOVED
- APPROXIMATE LIMIT OF PAVEMENT TO BE REMOVED
- APPROXIMATE LIMIT OF PROPOSED WETLAND IMPACT AREA
- APPROXIMATE LIMIT OF PROPOSED WETLAND BUFFER IMPACT AREA
- LOCATION OF PROPOSED BUILDING
- PROPOSED CONSTRUCTION ENTRANCE
- TBR TO BE REMOVED
- BLDG BUILDING
- TYP TYPICAL
- COORD COORDINATE
- CONST CONSTRUCT

DEMOLITION NOTES:

1. THE LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE 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.
2. THE CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES. CALL DIG SAFE AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION/CONSTRUCTION ACTIVITIES.
3. 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.
4. COORDINATE REMOVAL, RELOCATION, DISPOSAL OR SALVAGE OF UTILITIES WITH THE OWNER AND APPROPRIATE UTILITY COMPANY.
5. 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.
6. SAW CUT AND REMOVE PAVEMENT ONE (1) FOOT OFF PROPOSED EDGE OF PAVEMENT OR EXISTING CURB LINE IN ALL AREAS WHERE PAVEMENT TO BE REMOVED ABUTS EXISTING PAVEMENT OR CONCRETE TO REMAIN.
7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH THE CONDITIONS OF ALL OF THE PERMIT APPROVALS.
8. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ADDITIONAL PERMITS, NOTICES AND FEES NECESSARY TO COMPLETE THE WORK AND ARRANGE FOR AND PAY FOR NECESSARY INSPECTIONS AND APPROVALS FROM THE AUTHORITIES HAVING JURISDICTION.
9. 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.
10. UTILITIES SHALL BE TERMINATED AT THE MAIN LINE PER UTILITY COMPANY STANDARDS. THE CONTRACTOR SHALL REMOVE ALL ABANDONED UTILITIES LOCATED WITHIN THE LIMITS OF WORK.
11. CONTRACTOR SHALL VERIFY ORIGIN OF ALL DRAINS AND UTILITIES PRIOR TO REMOVAL/TERMINATION TO DETERMINE IF DRAINS OR UTILITY IS ACTIVE, AND SERVICES ANY ON OR OFF-SITE STRUCTURE TO REMAIN. THE CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY IF ANY SUCH UTILITY FOUND AND SHALL MAINTAIN THESE UTILITIES UNTIL PERMANENT SOLUTION IS IN PLACE.
12. PAVEMENT REMOVAL LIMITS ARE SHOWN FOR CONTRACTOR'S CONVENIENCE. ADDITIONAL PAVEMENT REMOVAL MAY BE REQUIRED DEPENDING ON THE CONTRACTOR'S OPERATION. CONTRACTOR TO VERIFY FULL LIMITS OF PAVEMENT REMOVAL PRIOR TO BID.
13. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING STRUCTURES, CONCRETE PADS, UTILITIES AND PAVEMENT WITHIN THE WORK LIMITS SHOWN UNLESS SPECIFICALLY IDENTIFIED TO REMAIN. ITEMS TO BE REMOVED INCLUDE BUT ARE NOT LIMITED TO: CONCRETE, PAVEMENT, CURBS, LIGHTING, MANHOLES, CATCH BASINS, UNDER GROUND PIPING, POLES, STAIRS, SIGNS, FENCES, RAMPS, WALLS, BOLLARDS, BUILDING SLABS, FOUNDATION, TREES AND LANDSCAPING.
14. COORDINATE ALL WORK WITHIN THE PUBLIC RIGHT OF WAYS WITH THE CITY OF PORTSMOUTH.
15. REMOVE TREES AND BRUSH AS REQUIRED FOR COMPLETION OF WORK. CONTRACTOR SHALL GRUB AND REMOVE ALL STUMPS WITHIN LIMITS OF WORK AND DISPOSE OF OFF SITE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS.
16. CONTRACTOR SHALL PROTECT ALL PROPERTY MONUMENTATION THROUGHOUT DEMOLITION AND CONSTRUCTION OPERATIONS. SHOULD ANY MONUMENTATION BE DISTURBED BY THE CONTRACTOR, THE CONTRACTOR SHALL EMPLOY A NEW HAMPSHIRE LICENSED SURVEYOR TO REPLACE DISTURBED MONUMENTS.
17. PROVIDE INLET PROTECTION BARRIERS AT ALL CATCH BASINS/CURB INLETS WITHIN CONSTRUCTION LIMITS AS WELL AS CATCH BASINS/CURB INLETS THAT MAY RECEIVE RUNOFF FROM CONSTRUCTION ACTIVITIES. INLET PROTECTION BARRIERS SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT. INLET PROTECTION BARRIERS SHALL BE "HIGH FLOW SILT SACK" BY ACF ENVIRONMENTAL OR EQUAL. INSPECT BARRIERS WEEKLY AND AFTER EACH RAIN EVENT OF 0.25 INCHES OR GREATER. CONTRACTOR SHALL COMPLETE A MAINTENANCE INSPECTION REPORT AFTER EACH INSPECTION. SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT OR MORE OFTEN IF THE FABRIC BECOMES CLOGGED OR SEDIMENT HAS ACCUMULATED TO 1/3 THE DESIGN DEPTH OF THE BARRIER.
18. THE CONTRACTOR SHALL PHASE DEMOLITION AND CONSTRUCTION AS REQUIRED TO PROVIDE CONTINUOUS SERVICE TO EXISTING BUSINESSES AND HOMES THROUGHOUT THE CONSTRUCTION PERIOD. EXISTING BUSINESS AND HOME SERVICES INCLUDE, BUT ARE NOT LIMITED TO ELECTRICAL, COMMUNICATION, FIRE PROTECTION, DOMESTIC WATER AND SEWER SERVICES. TEMPORARY SERVICES, IF REQUIRED, SHALL COMPLY WITH ALL FEDERAL, STATE, LOCAL AND UTILITY COMPANY STANDARDS. CONTRACTOR SHALL PROVIDE DETAILED CONSTRUCTION SCHEDULE TO OWNER PRIOR TO ANY DEMOLITION/CONSTRUCTION ACTIVITIES.
19. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF ANY CLEARING OR DEMOLITION ACTIVITIES.
20. THE CONTRACTOR SHALL PAY ALL COSTS NECESSARY FOR TEMPORARY PARTITIONING, BARRICADING, FENCING, SECURITY AND SAFETY DEVICES REQUIRED FOR THE MAINTENANCE OF A CLEAN AND SAFE CONSTRUCTION SITE.
21. SAW CUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL UTILITIES TO BE REMOVED AND PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN.



Proposed Industrial Development

Lonza Biologics

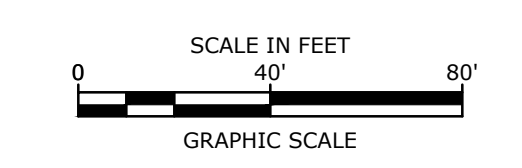
Portsmouth, New Hampshire

MARK	DATE	DESCRIPTION
G	8/19/2019	Admin. Approval Submission
F	11/6/2018	P.B. Submission
E	8/30/2018	Revised AoT Submission
D	8/21/2018	Revised TAC Submission
C	6/18/2018	NHDES AoT Submission
B	5/21/2018	TAC Submission
A	4/3/2018	TAC W.S. Submission

PROJECT NO:	L-0700-013
DATE:	04/03/2018
FILE:	L0700-CD-101 to C-103.dwg
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

PHASE 1B DEMOLITION PLAN

SCALE: AS SHOWN



Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

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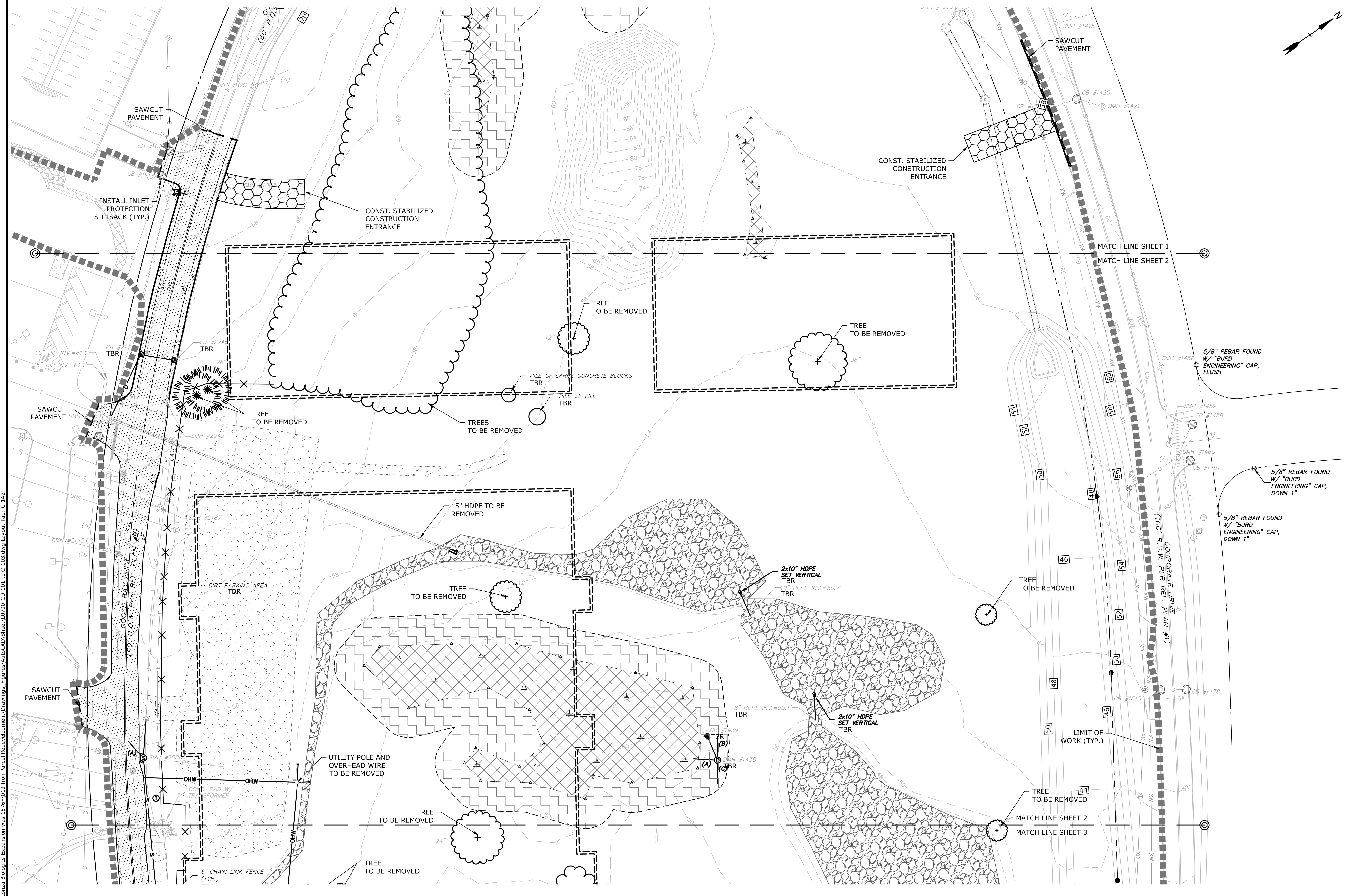
PROJECT NO:	L-0700-013
DATE:	04/03/2018
FILE:	L0700-CD-101 to C-103.dwg
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

**PHASE 1B
DEMOLITION PLAN**

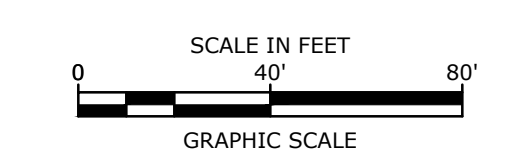
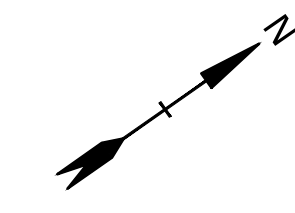
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C-142

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SEE SHEET C-141 FOR LEGEND AND DEMOLITION NOTES



Proposed Industrial Development
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Portsmouth, New Hampshire

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APPROVED BY:	BLM

PHASE 1B DEMOLITION PLAN

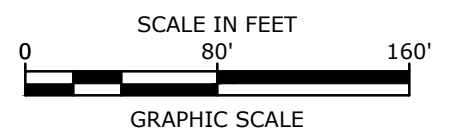
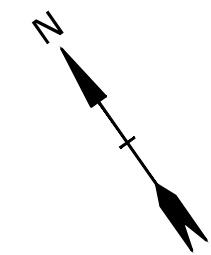
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C-143



SEE SHEET C-141 FOR LEGEND AND DEMOLITION NOTES

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Proposed Industrial Development

Lonza Biologics

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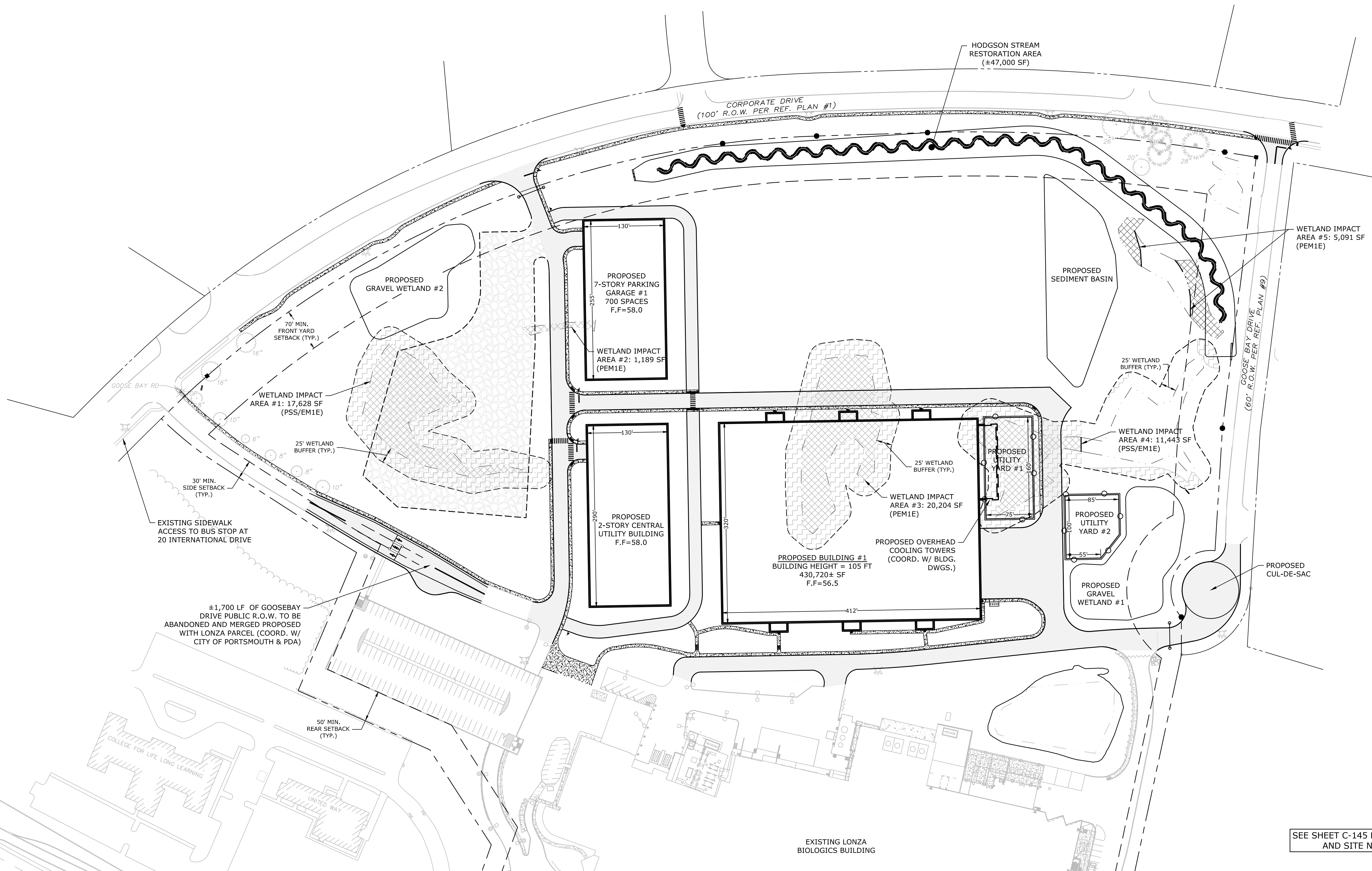
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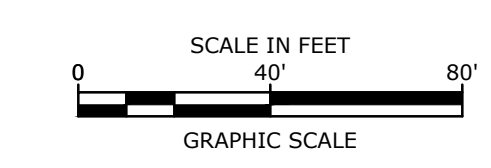
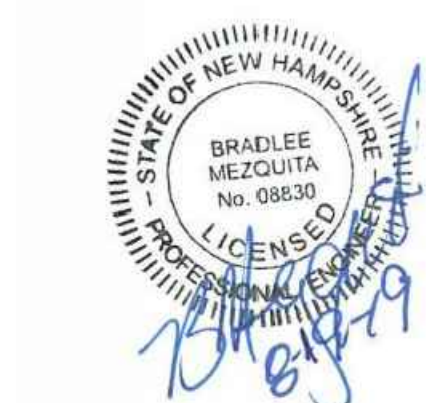
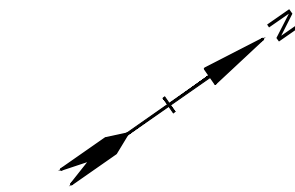
PHASE 1B OVERALL SITE PLAN

SCALE: AS SHOWN

C-144

Last Save Date: August 19, 2019 11:48 AM By: NAHANSEN
 Plot Date: Wednesday, August 21, 2019 Plotted By: Neil A. Hansen
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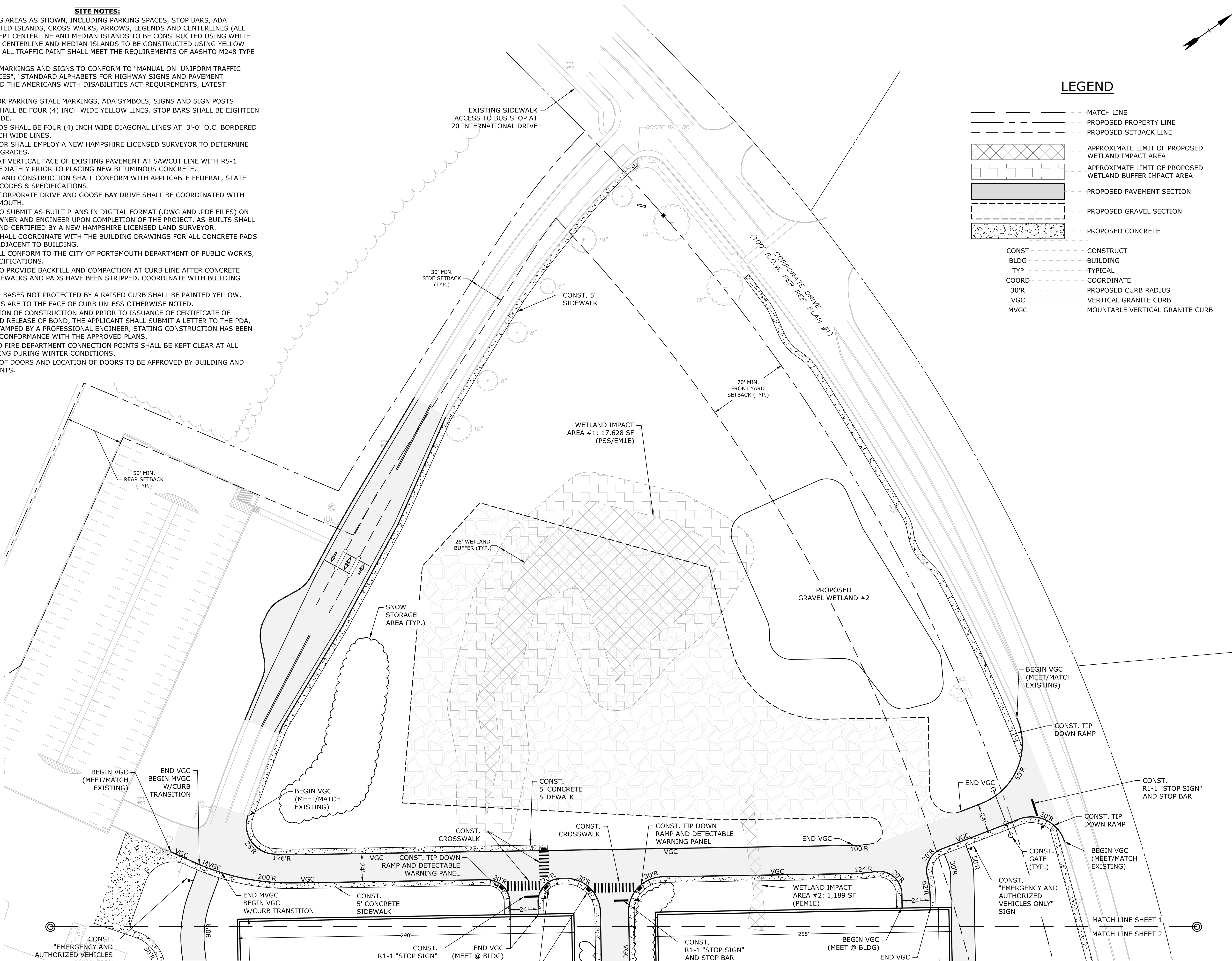




- SITE NOTES:**
1. STRIPE PARKING AREAS AS SHOWN, INCLUDING PARKING SPACES, STOP BARS, ADA SYMBOLS, PAINTED ISLANDS, CROSS WALKS, ARROWS, LEGENDS AND CENTERLINES (ALL MARKINGS EXCEPT CENTERLINE AND MEDIAN ISLANDS TO BE CONSTRUCTED USING WHITE TRAFFIC PAINT. CENTERLINE AND MEDIAN ISLANDS TO BE CONSTRUCTED USING YELLOW TRAFFIC PAINT. ALL TRAFFIC PAINT SHALL MEET THE REQUIREMENTS OF AASHTO M248 TYPE "F").
 2. ALL PAVEMENT MARKINGS AND SIGNS TO CONFORM TO "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS", AND THE AMERICANS WITH DISABILITIES ACT REQUIREMENTS, LATEST EDITIONS.
 3. SEE DETAILS FOR PARKING STALL MARKINGS, ADA SYMBOLS, SIGNS AND SIGN POSTS.
 4. CENTERLINES SHALL BE FOUR (4) INCH WIDE YELLOW LINES. STOP BARS SHALL BE EIGHTEEN (18) INCHES WIDE.
 5. PAINTED ISLANDS SHALL BE FOUR (4) INCH WIDE DIAGONAL LINES AT 3'-0" O.C. BORDERED BY FOUR (4) INCH WIDE LINES.
 6. THE CONTRACTOR SHALL EMPLOY A NEW HAMPSHIRE LICENSED SURVEYOR TO DETERMINE ALL LINES AND GRADES.
 7. CLEAN AND COAT VERTICAL FACE OF EXISTING PAVEMENT AT SAWCUT LINE WITH RS-1 EMULSION IMMEDIATELY PRIOR TO PLACING NEW BITUMINOUS CONCRETE.
 8. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE AND/OR TOWN CODES & SPECIFICATIONS.
 9. WORK WITHIN CORPORATE DRIVE AND GOOSE BAY DRIVE SHALL BE COORDINATED WITH CITY OF PORTSMOUTH.
 10. CONTRACTOR TO SUBMIT AS-BUILT PLANS IN DIGITAL FORMAT (.DWG AND .PDF FILES) ON DISK TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR.
 11. CONTRACTOR SHALL COORDINATE WITH THE BUILDING DRAWINGS FOR ALL CONCRETE PADS & SIDEWALKS ADJACENT TO BUILDING.
 12. ALL WORK SHALL CONFORM TO THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS, STANDARD SPECIFICATIONS.
 13. CONTRACTOR TO PROVIDE BACKFILL AND COMPACTION AT CURB LINE AFTER CONCRETE FORMS FOR SIDEWALKS AND PADS HAVE BEEN STRIPPED. COORDINATE WITH BUILDING CONTRACTOR.
 14. ALL LIGHT POLE BASES NOT PROTECTED BY A RAISED CURB SHALL BE PAINTED YELLOW.
 15. ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
 16. UPON COMPLETION OF CONSTRUCTION AND PRIOR TO ISSUANCE OF CERTIFICATE OF OCCUPANCY AND RELEASE OF BOND, THE APPLICANT SHALL SUBMIT A LETTER TO THE PDA, SIGNED AND STAMPED BY A PROFESSIONAL ENGINEER, STATING CONSTRUCTION HAS BEEN COMPLETED IN CONFORMANCE WITH THE APPROVED PLANS.
 17. FIRE LANES AND FIRE DEPARTMENT CONNECTION POINTS SHALL BE KEPT CLEAR AT ALL TIMES, INCLUDING DURING WINTER CONDITIONS.
 18. FINAL NUMBER OF DOORS AND LOCATION OF DOORS TO BE APPROVED BY BUILDING AND FIRE DEPARTMENTS.

LEGEND

- MATCH LINE
- - - PROPOSED PROPERTY LINE
- - - PROPOSED SETBACK LINE
- [Cross-hatched] APPROXIMATE LIMIT OF PROPOSED WETLAND IMPACT AREA
- [Stippled] APPROXIMATE LIMIT OF PROPOSED WETLAND BUFFER IMPACT AREA
- [Solid grey] PROPOSED PAVEMENT SECTION
- [Dashed] PROPOSED GRAVEL SECTION
- [Dotted] PROPOSED CONCRETE
- CONST CONSTRUCT
- BLDG BUILDING
- TYP TYPICAL
- COORD COORDINATE
- 30'R PROPOSED CURB RADIUS
- VGC VERTICAL GRANITE CURB
- MVGC MOUNTABLE VERTICAL GRANITE CURB



Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

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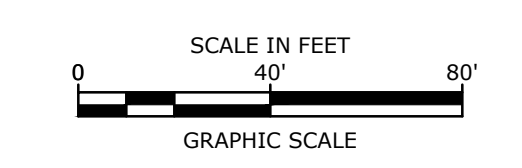
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DATE:	04/03/2018
FILE:	L0700-CS-104 to C-107.dwg
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APPROVED:	BLM

PHASE 1B SITE PLAN

SCALE: AS SHOWN

C-145

Last Save Date: August 19, 2019 11:48 AM By: NAHANSEN
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Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

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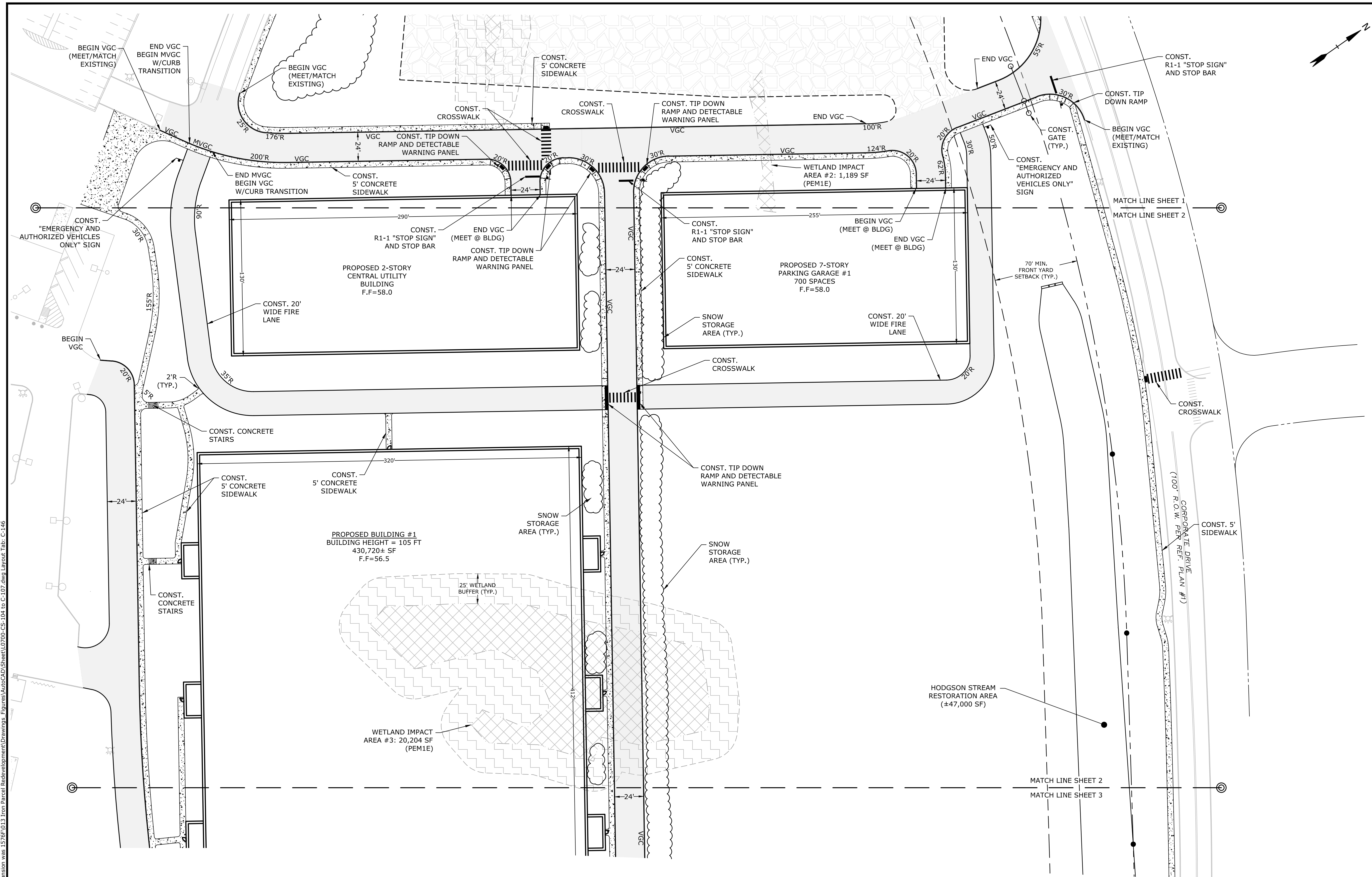
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PHASE 1B SITE PLAN

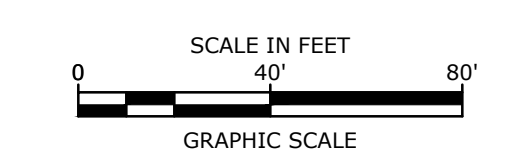
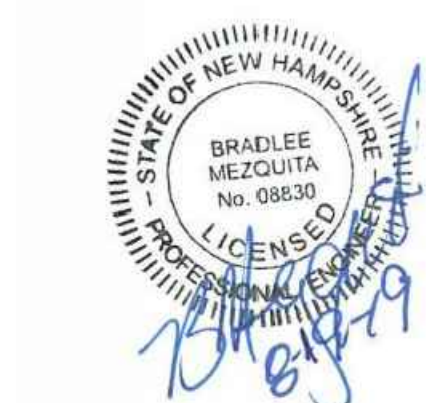
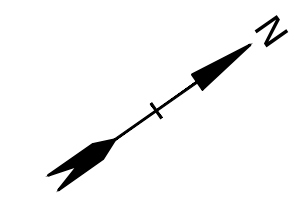
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C-146

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Plot Date: Wednesday, August 21, 2019 Plotted By: Neil A. Hansen
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SEE SHEET C-145 FOR LEGEND AND SITE NOTES



Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

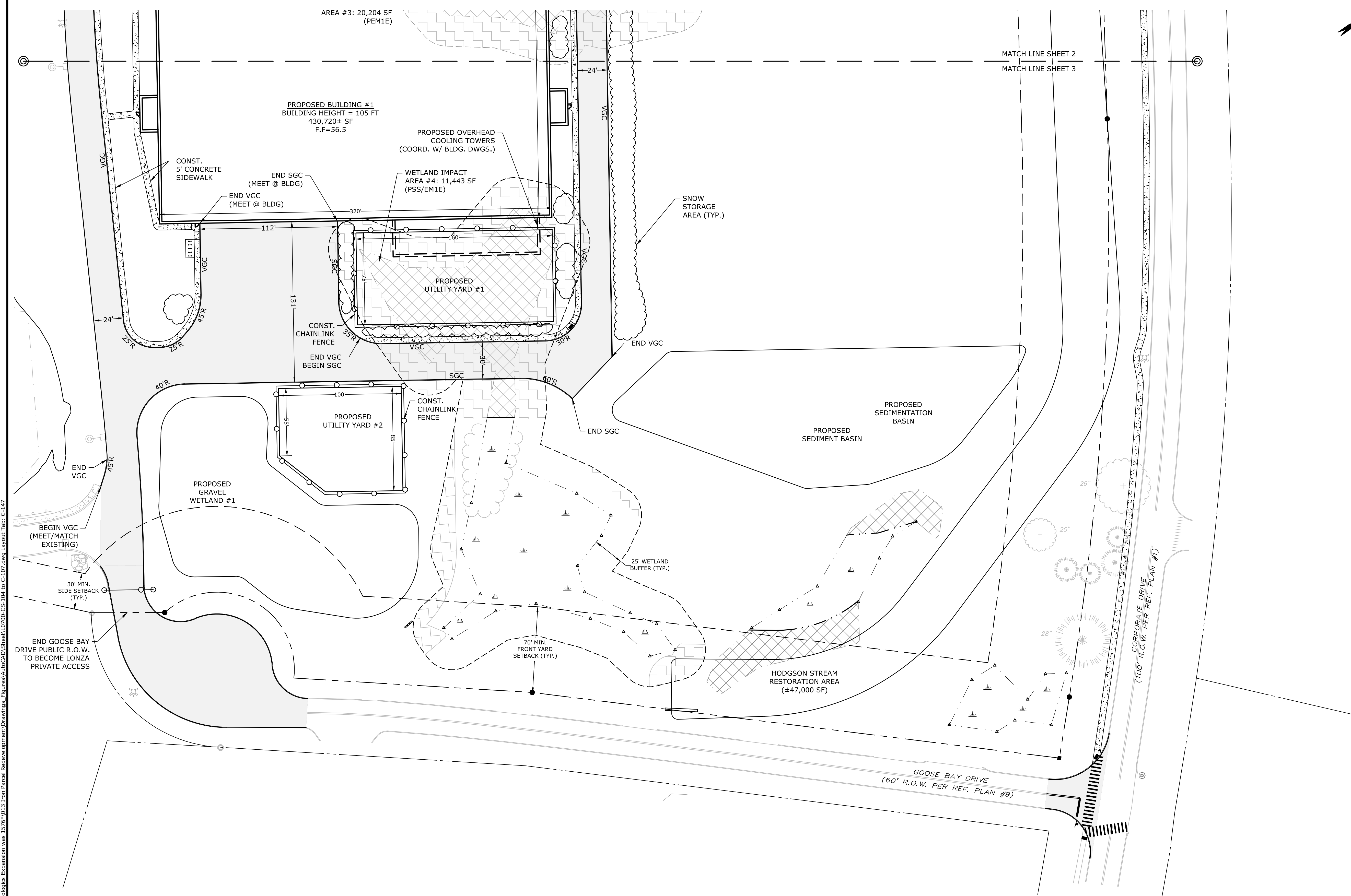
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PHASE 1B
SITE PLAN

SCALE: AS SHOWN

C-147



SEE SHEET C-147 FOR LEGEND AND SITE NOTES

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PHASE 1B DRAINAGE STRUCTURE TABLE

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PCB101 RIM=56.00 INV.OUT=51.95	PCB114 RIM=49.30 INV.OUT=43.35	PDMH103 RIM=53.50 INV.IN=46.30 INV.OUT=46.20	PYD102 RIM=59.00 INV.OUT=52.00
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PCB107 RIM=51.20 INV.OUT=47.20	PCB204 RIM=55.25 INV.OUT=51.50	PDMH201 RIM=56.00 INV.IN=51.30 INV.IN=51.30 INV.OUT=51.20	
PCB108 RIM=51.20 INV.IN=46.30 INV.IN=46.30 INV.OUT=46.20	PCB300 RIM=50.60 INV.OUT=46.60	PDMH202 RIM=56.55 INV.IN=50.85 INV.IN=50.85 INV.OUT=50.75	
PCB109 RIM=50.30 INV.OUT=44.95	PCB301 RIM=55.65 INV.OUT=51.65	PDMH203 RIM=57.00 INV.IN=49.45 INV.OUT=49.35	
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GRADING AND DRAINAGE NOTES:

1. COMPACTION REQUIREMENTS:
BELOW PAVED OR CONCRETE AREAS 95%
TRENCH BEDDING MATERIAL AND SAND BLANKET BACKFILL 95%
BELOW LOAM AND SEED AREAS 90%
* ALL PERCENTAGES OF COMPACTION SHALL BE OF THE MAXIMUM DRY DENSITY AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED AND CONTROLLED IN ACCORDANCE WITH ASTM D-1557, METHOD C FIELD DENSITY TESTS SHALL BE MADE IN ACCORDANCE WITH ASTM D-1556 OR ASTM-2922.
2. ALL STORM DRAINAGE PIPES SHALL BE HIGH DENSITY POLYETHYLENE (HANCOR HI-Q, ADS N-12 OR APPROVED EQUAL), UNLESS OTHERWISE SPECIFIED.
3. SEE UTILITIES PLAN FOR ALL SITE UTILITY INFORMATION.
4. ADJUST ALL MANHOLES, CATCHBASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
5. CONTRACTOR SHALL PROVIDE A FINISH PAVEMENT SURFACE AND LAWN AREAS FREE OF LOW SPOTS AND PONDING AREAS. CRITICAL AREAS INCLUDE BUILDING ENTRANCES, EXITS, RAMPS AND LOADING DOCK AREAS ADJACENT TO THE BUILDING.
6. CONTRACTOR SHALL THOROUGHLY CLEAN ALL CATCHBASINS AND DRAIN LINES, WITHIN THE LIMIT OF WORK, OF SEDIMENT IMMEDIATELY UPON COMPLETION OF CONSTRUCTION.
7. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE AND LOCAL CODES.
8. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED FERTILIZER AND MULCH.
9. ALL STORM DRAIN CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NHDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, LATEST EDITION.
10. ALL PROPOSED CATCHBASINS SHALL BE EQUIPPED WITH OIL/GAS SEPARATOR HOODS AND 4" SUMPS.
11. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE AND CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS AND CONSTRUCTION SPECIFICATIONS, LATEST REVISIONS.
12. CONTRACTOR TO SUBMIT AS-BUILT PLANS IN DIGITAL FORMAT (.DWG AND .PDF FILES) ON DISK TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR.
13. SEE EXISTING CONDITIONS PLAN FOR BENCH MARK INFORMATION.

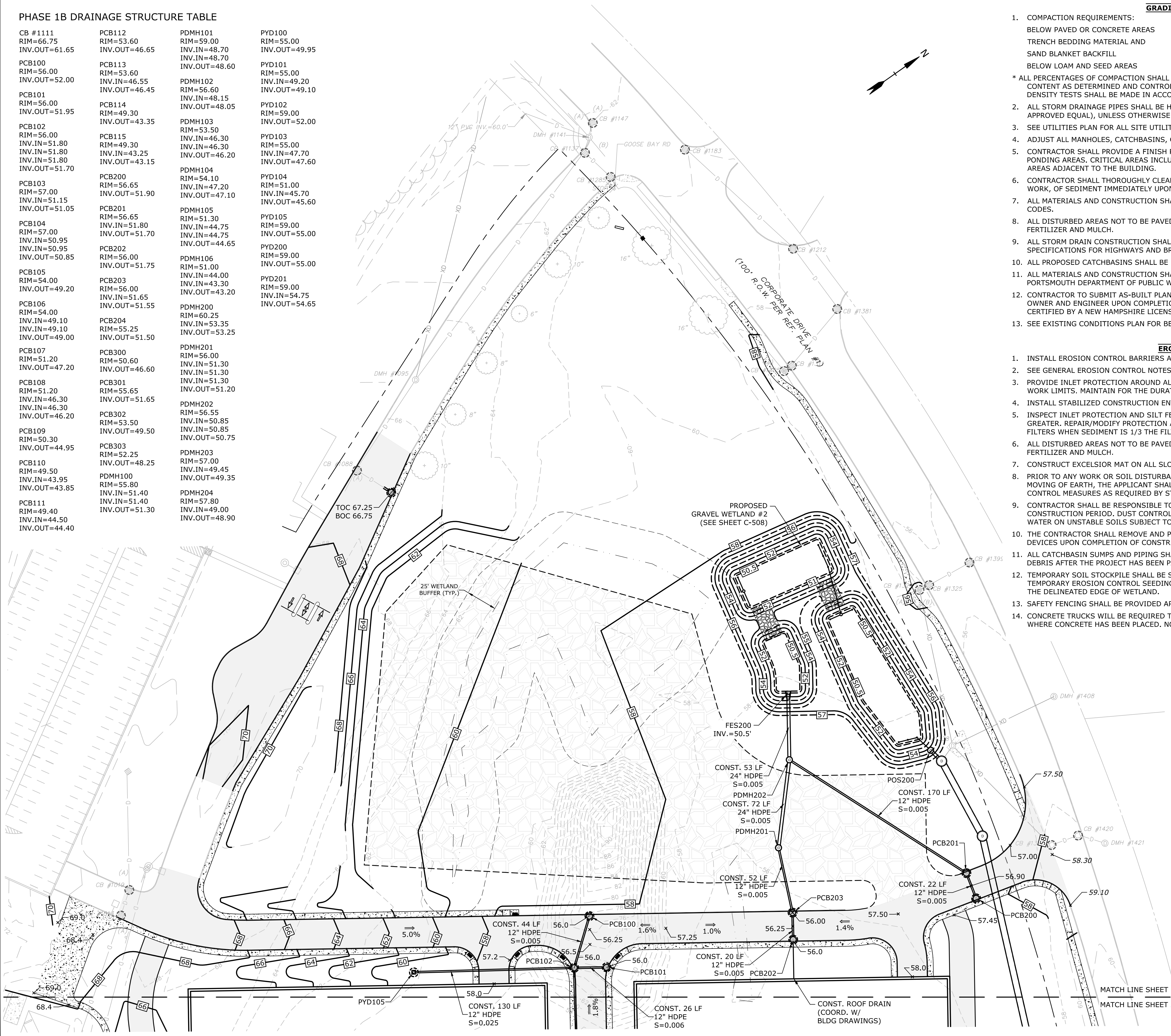
EROSION CONTROL NOTES:

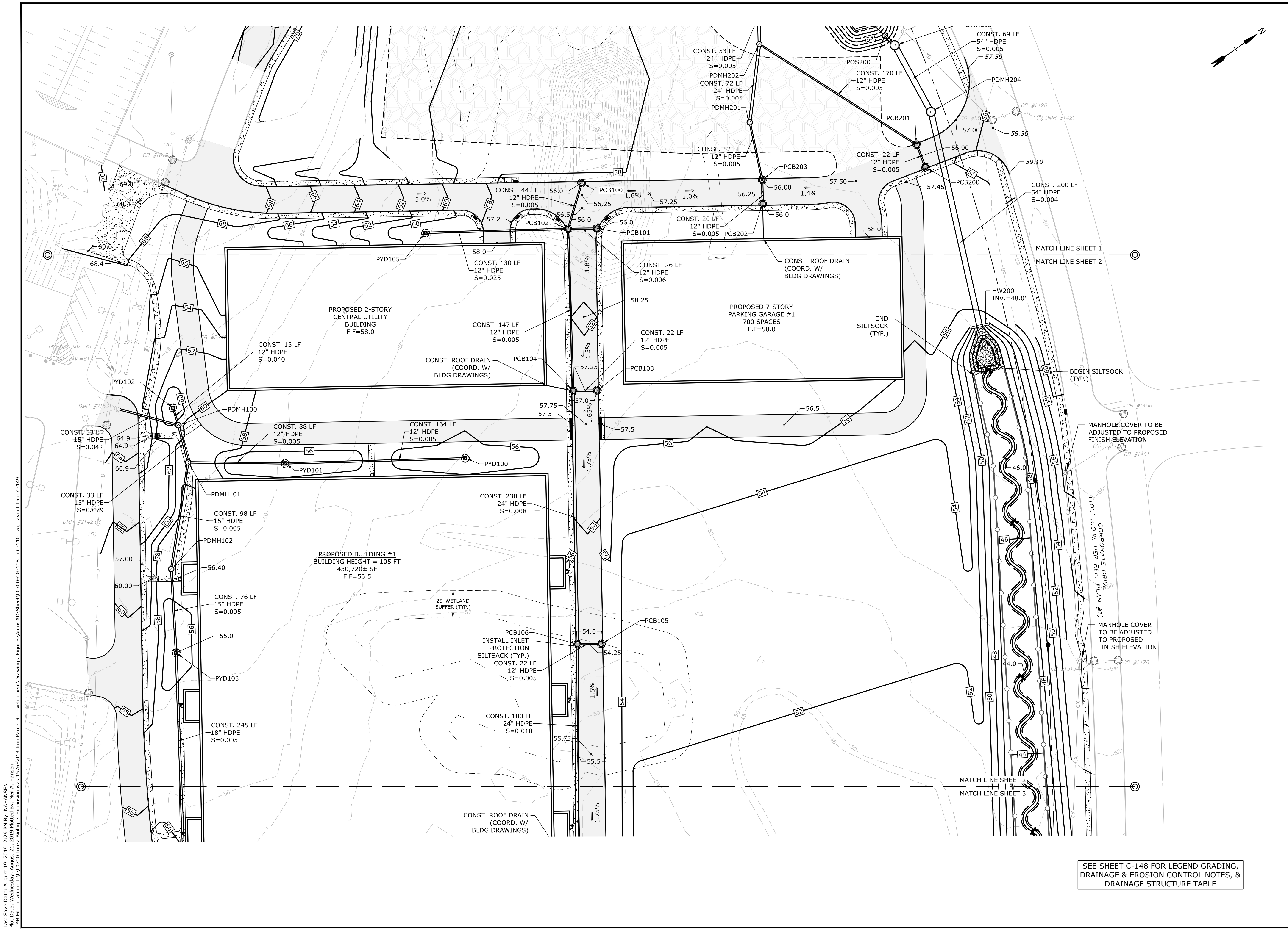
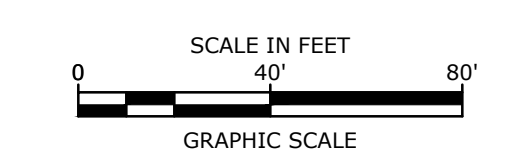
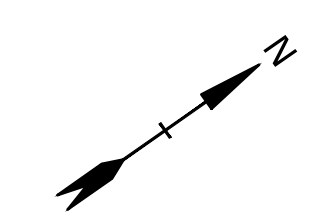
1. INSTALL EROSION CONTROL BARRIERS AS SHOWN AS FIRST ORDER OF WORK.
2. SEE GENERAL EROSION CONTROL NOTES ON DETAIL SHEETS.
3. PROVIDE INLET PROTECTION AROUND ALL EXISTING AND PROPOSED CATCHBASIN INLETS WITHIN THE WORK LIMITS. MAINTAIN FOR THE DURATION OF THE PROJECT UNTIL PAVEMENT HAS BEEN INSTALLED.
4. INSTALL STABILIZED CONSTRUCTION ENTRANCES.
5. INSPECT INLET PROTECTION AND SILT FENCES DAILY AND AFTER EACH RAIN STORM OF 0.25 INCH OR GREATER. REPAIR/MODIFY PROTECTION AS NECESSARY TO MAXIMIZE EFFICIENCY OF FILTER. REPLACE ALL FILTERS WHEN SEDIMENT IS 1/3 THE FILTER HEIGHT.
6. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED, FERTILIZER AND MULCH.
7. CONSTRUCT EXCELSIOR MAT ON ALL SLOPES STEEPER THAN 3:1.
8. PRIOR TO ANY WORK OR SOIL DISTURBANCE COMMENCING ON THE SUBJECT PROPERTY, INCLUDING MOVING OF EARTH, THE APPLICANT SHALL INSTALL ALL EROSION AND SILTATION MITIGATION AND CONTROL MEASURES AS REQUIRED BY STATE AND LOCAL PERMITS AND APPROVALS.
9. CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DUST AND WIND EROSION THROUGHOUT THE CONSTRUCTION PERIOD. DUST CONTROL MEASURES SHALL INCLUDE, BUT NOT LIMITED TO, SPRINKLING WATER ON UNSTABLE SOILS SUBJECT TO ARID CONDITIONS.
10. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF CONSTRUCTION.
11. ALL CATCHBASIN SUMPS AND PIPING SHALL BE THOROUGHLY CLEANED TO REMOVE ALL SEDIMENT AND DEBRIS AFTER THE PROJECT HAS BEEN PAVED.
12. TEMPORARY SOIL STOCKPILE SHALL BE SURROUNDED BY SILT FENCE AND SHALL BE STABILIZED BY TEMPORARY EROSION CONTROL SEEDING. STOCKPILE AREAS TO BE LOCATED AS FAR AS POSSIBLE FROM THE DELINEATED EDGE OF WETLAND.
13. SAFETY FENCING SHALL BE PROVIDED AROUND STOCKPILES OVER 10 FT.
14. CONCRETE TRUCKS WILL BE REQUIRED TO WASH OUT (IF NECESSARY) SHOOT ONLY WITHIN AREAS WHERE CONCRETE HAS BEEN PLACED. NO OTHER WASH OUT WILL BE ALLOWED.

LEGEND

---	MATCH LINE
---	PROPOSED PROPERTY LINE
---	PROPOSED CONTOUR LINE
---	PROPOSED DRAIN LINE (TYP)
---	PROPOSED SILT SOCK
○	INLET PROTECTION SILT SACK
⊙	PROPOSED CATCHBASIN
⊙	PROPOSED DOUBLE GRATE CATCHBASIN
⊙	PROPOSED DRAIN MANHOLE
CONST	CONSTRUCT
BLDG	BUILDING
TYP	TYPICAL
COORD	COORDINATE
RD	ROOF DRAIN
VIF	VERIFY IN FIELD

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SEE SHEET C-148 FOR LEGEND GRADING,
DRAINAGE & EROSION CONTROL NOTES, &
DRAINAGE STRUCTURE TABLE

Proposed Industrial Development

Lonza Biologics

Portsmouth,
New Hampshire

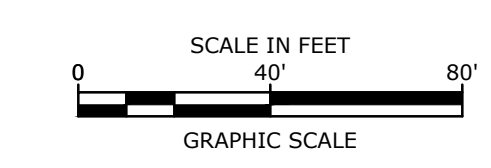
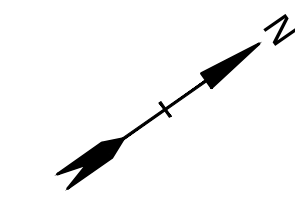
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F	11/6/2018	P.B. Submission
E	8/30/2018	Revised AoT Submission
D	8/21/2018	Revised TAC Submission
C	6/18/2018	NHDES AoT Submission
B	5/21/2018	TAC Submission
A	4/3/2018	TAC W.S. Submission

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DATE:	04/03/2018
FILE:	L0700-CG-108 to C-110.dwg
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

PHASE 1B
GRADING, DRAINAGE &
EROSION CONTROL PLAN

SCALE: AS SHOWN

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Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

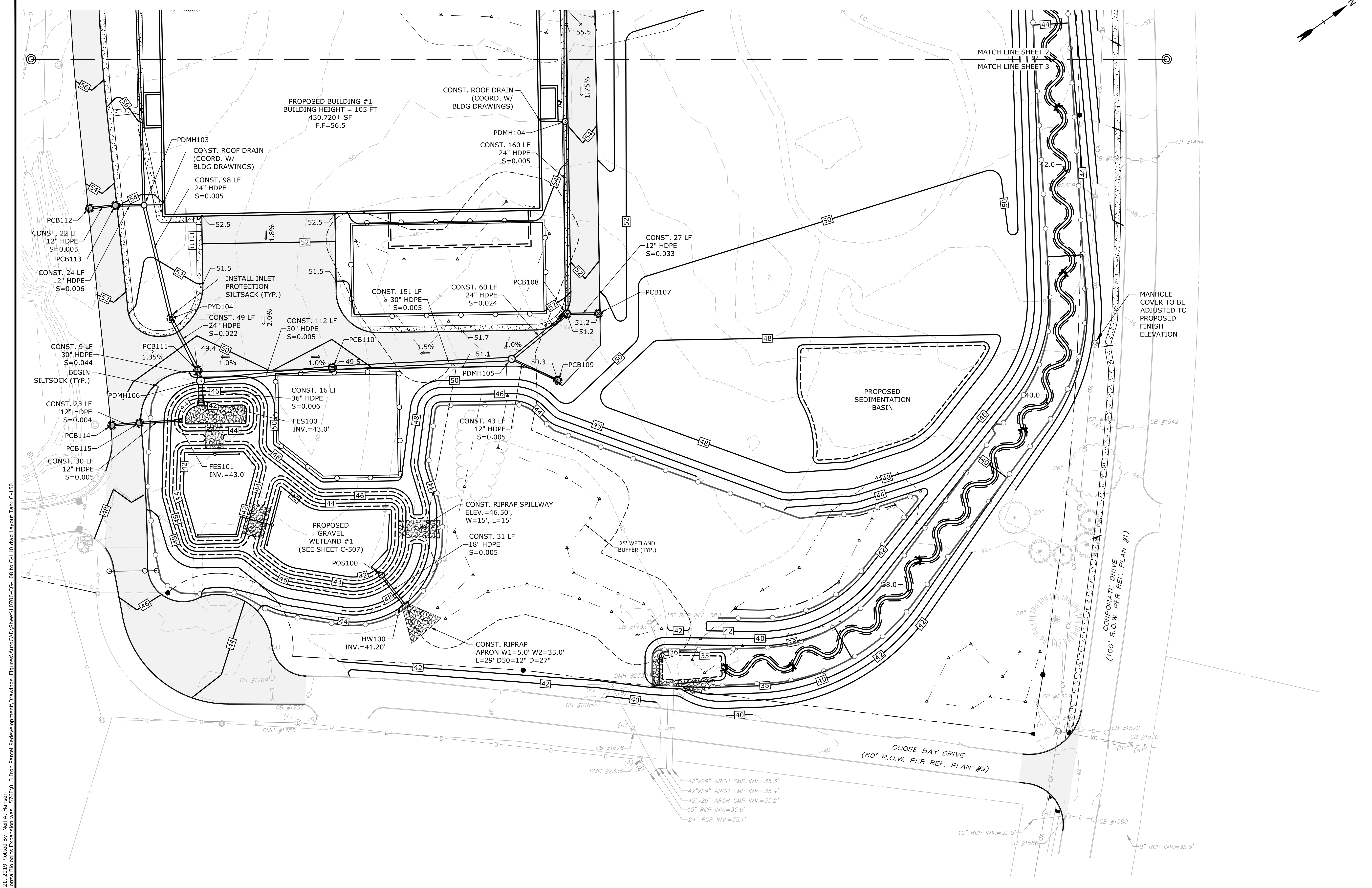
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PROJECT NO:	L-0700-013
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FILE:	L0700-CG-108 to C-110.dwg
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

**PHASE 1B
GRADING, DRAINAGE &
EROSION CONTROL PLAN**

SCALE: AS SHOWN

C-150



SEE SHEET C-148 FOR LEGEND GRADING, DRAINAGE & EROSION CONTROL NOTES, & DRAINAGE STRUCTURE TABLE

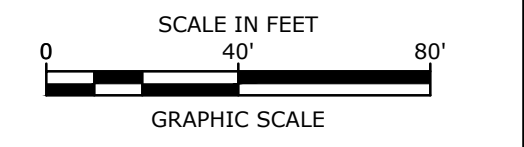
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LEGEND

---	MATCH LINE
D	EXISTING STORM DRAIN
SS	EXISTING SANITARY SEWER
W	EXISTING WATER
G	EXISTING GAS
E	EXISTING UNDERGROUND ELECTRIC
OHW	EXISTING OVERHEAD UTILITY
---	PROPOSED STORM DRAIN
---	PROPOSED SANITARY SEWER
PW	PROPOSED WATER
G	PROPOSED GAS
E	PROPOSED UNDERGROUND ELECTRIC
CTV	PROPOSED UNDERGROUND COMMUNICATION
⊙	EXISTING CATCHBASIN
⊙	EXISTING DRAIN MANHOLE
⊙	EXISTING SEWER MANHOLE
⊙	EXISTING HYDRANT
⊙	EXISTING WATER VALVE
⊙	EXISTING ELECTRIC MANHOLE
⊙	EXISTING TELEPHONE MANHOLE
⊙	PROPOSED CATCHBASIN
⊙	PROPOSED DOUBLE GRATE CATCHBASIN
⊙	PROPOSED DRAIN MANHOLE
⊙	PROPOSED SEWER MANHOLE
⊙	PROPOSED WATER VALVE
⊙	PROPOSED HYDRANT
⊙	PROPOSED GAS VALVE
⊙	PROPOSED ELECTRIC MANHOLE
⊙	PROPOSED LIGHT POLE BASE
•	CONST. CONSTRUCT
BLDG	BUILDING
TYP	TYPICAL
COORD	COORDINATE
VIF	VERIFY IN FIELD

UTILITY NOTES:

- 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.
- COORDINATE ALL UTILITY WORK WITH APPROPRIATE UTILITY COMPANY.
NATURAL GAS - UNITIL
WATER - CITY OF PORTSMOUTH DPW
SEWER - CITY OF PORTSMOUTH DPW
ELECTRIC - EVERSOURCE
COMMUNICATIONS - FAIRPOINT, COMCAST, FIRSTLIGHT
- SEE EXISTING CONDITIONS PLAN FOR BENCHMARK INFORMATION.
- SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR PROPOSED GRADING AND EROSION CONTROL MEASURES.
- ALL WATER MAIN INSTALLATIONS SHALL BE CLASS 52, CEMENT LINED DUCTILE IRON PIPE.
- 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 PORTSMOUTH WATER DEPARTMENT.
- ALL SEWER PIPE SHALL BE FIBERGLASS REINFORCED PLASTIC UNLESS OTHERWISE STATED.
- ALL WORK WITHIN PORTSMOUTH ROWS SHALL BE COORDINATED WITH CITY OF PORTSMOUTH.
- CONTRACTOR SHALL MAINTAIN UTILITY SERVICES TO ABUTTING PROPERTIES THROUGHOUT CONSTRUCTION.
- CONNECTIONS TO EXISTING WATER MAIN SHALL BE CONSTRUCTED TO CITY OF PORTSMOUTH STANDARDS.
- EXISTING UTILITIES TO BE REMOVED SHALL BE CAPPED AT THE MAIN AND MEET THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS STANDARDS FOR CAPPING OF WATER AND SEWER SERVICES.
- ALL ELECTRICAL MATERIAL WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRIC CODE, LATEST EDITION, AND ALL APPLICABLE STATE AND LOCAL CODES.
- THE EXACT LOCATION OF NEW UTILITY SERVICES AND CONNECTIONS SHALL BE COORDINATED WITH THE BUILDING DRAWINGS AND THE UTILITY COMPANIES.
- ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
- ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.
- 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.
- 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.
- CONTRACTOR SHALL PROVIDE EXCAVATION, BEDDING, BACKFILL AND COMPACTION FOR NATURAL GAS SERVICES.
- 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.
- 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.
- CONTRACTOR TO SUBMIT AS-BUILT PLANS IN DIGITAL FORMAT (.DWG AND .PDF FILES) ON DISK TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR.
- SAWCUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN.
- HYDRANTS, GATE VALVES, FITTINGS, ETC. SHALL MEET THE REQUIREMENTS OF THE CITY OF PORTSMOUTH.
- COORDINATE TESTING OF SEWER CONSTRUCTION WITH THE CITY OF PORTSMOUTH.
- ALL SEWER PIPE WITH LESS THAN 4' OF COVER SHALL BE INSULATED.
- 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.
- 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.
- SITE LIGHTING SPECIFICATIONS, CONDUIT LAYOUT AND CIRCUITRY FOR PROPOSED SITE LIGHTING AND SIGN ILLUMINATION SHALL BE PROVIDED BY THE PROJECT ELECTRICAL ENGINEER.
- CONTRACTOR SHALL CONSTRUCT ALL UTILITIES AND DRAINS TO WITHIN 10' OF THE FOUNDATION WALLS AND CONNECT THESE TO SERVICE STUBS FROM THE BUILDING.
- EXISTING SEWER MAIN AND STRUCTURES IN GOOSE BAY DRIVE ARE BASED ON A PROPOSED DESIGN BY UNDERWOOD ENGINEERS, DATED JULY 28, 2017, AND WAS CONSTRUCTED IN SUMMER 2018. THE PROPOSED ON-SITE SEWER DESIGN ELEVATIONS ARE BASED ON THE UNDERWOOD PLAN DURING CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE SEWER CONSTRUCTION WITH THE CITY OF PORTSMOUTH, AND VERIFY ALL INVERTS PRIOR TO CONSTRUCTION.
- LOCATION SHOWN IS APPROXIMATE ONLY. FINAL DESIGN OF NATURAL GAS SERVICE TO BE COMPLETED BY UNITIL. WORK IN CORPORATE DRIVE MAY NEED TO BE COMPLETED IN CONJUNCTION WITH FUTURE RECONSTRUCTION OF CORPORATE DRIVE. COORDINATE WITH CITY OF PORTSMOUTH AND UNITIL.
- LOCATION AND TYPE SHOWN IS APPROXIMATE ONLY. FINAL DESIGN OF ELECTRIC SERVICE AND ASSOCIATED INFRASTRUCTURE TO BE COMPLETED BY EVERSOURCE. WORK IN CORPORATE DRIVE MAY NEED TO BE COMPLETED IN CONJUNCTION WITH FUTURE RECONSTRUCTION OF CORPORATE DRIVE. COORDINATE WITH CITY OF PORTSMOUTH AND EVERSOURCE.
- FINAL LOCATION OF FIRE HYDRANTS, FIRE DEPARTMENT CONNECTIONS AND DRY STAND PIPES WILL BE COORDINATED WITH THE BUILDING DRAWINGS AND APPROVED BY THE PORTSMOUTH FIRE DEPARTMENT PRIOR TO CONSTRUCTION.
- THE APPLICANT SHALL HAVE A SITE SURVEY CONDUCTED BY A RADIO COMMUNICATIONS CARRIER APPROVED BY THE CITY'S COMMUNICATIONS DIVISION. THE RADIO COMMUNICATIONS CARRIER MUST BE FAMILIAR AND CONVERSANT WITH THE POLICE AND RADIO CONFIGURATION. IF THE SITE SURVEY INDICATES IT IS NECESSARY TO INSTALL A SIGNAL REPEATER EITHER ON OR NEAR THE PROPOSED PROJECT, THOSE COSTS SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER. THE OWNER SHALL COORDINATE WITH THE SUPERVISOR OF RADIO COMMUNICATIONS FOR THE CITY.
- CONTRACTOR SHALL PERFORM TEST PITS TO VERIFY INVERT ELEVATIONS IN FIELD PRIOR TO CONSTRUCTION AND SHALL NOTIFY ENGINEER IF ELEVATION DIFFERS FROM PLAN.



Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

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E	8/30/2018	Revised Aot Submission
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B	5/21/2018	TAC Submission
A	4/3/2018	TAC W.S. Submission

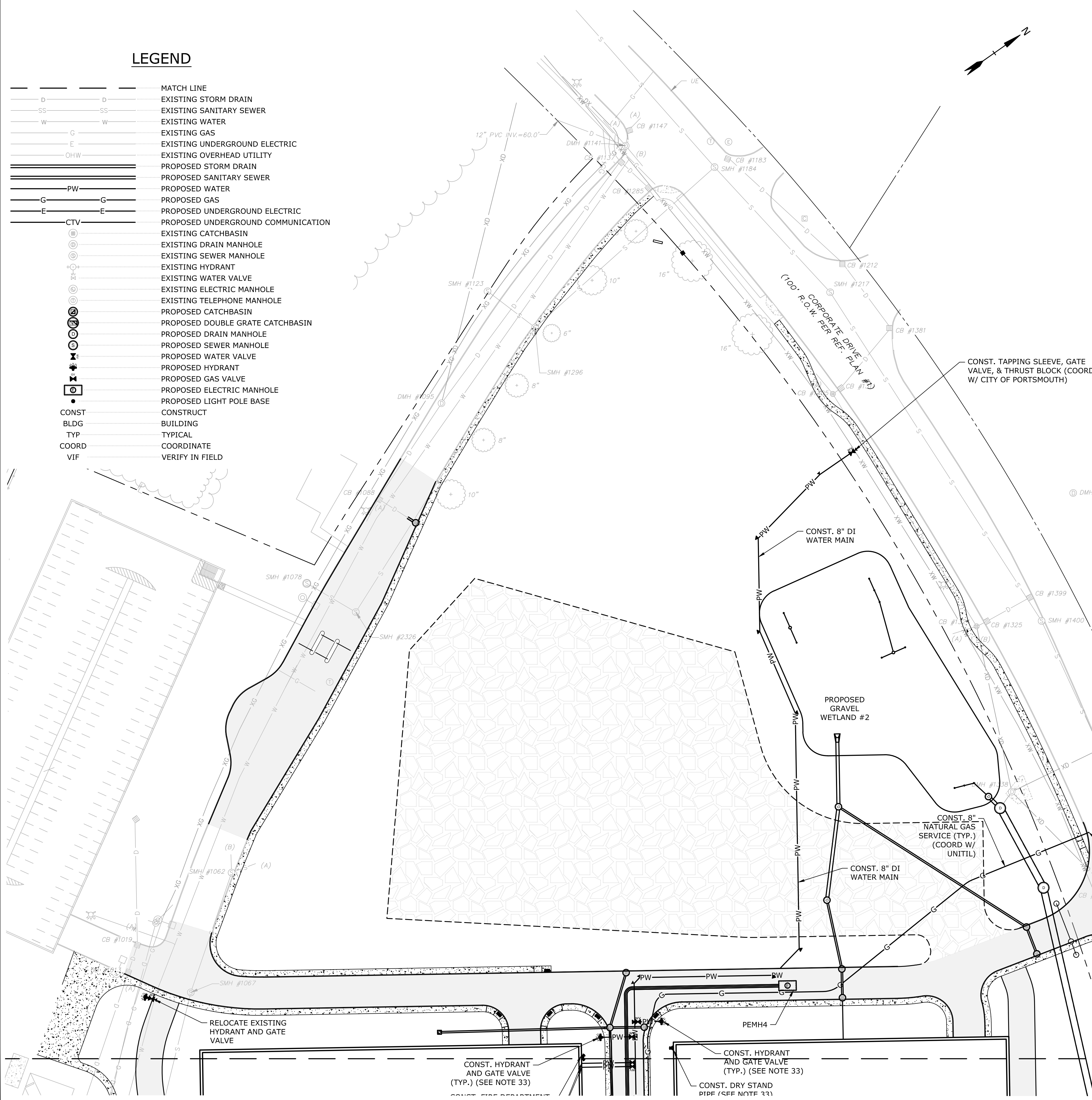
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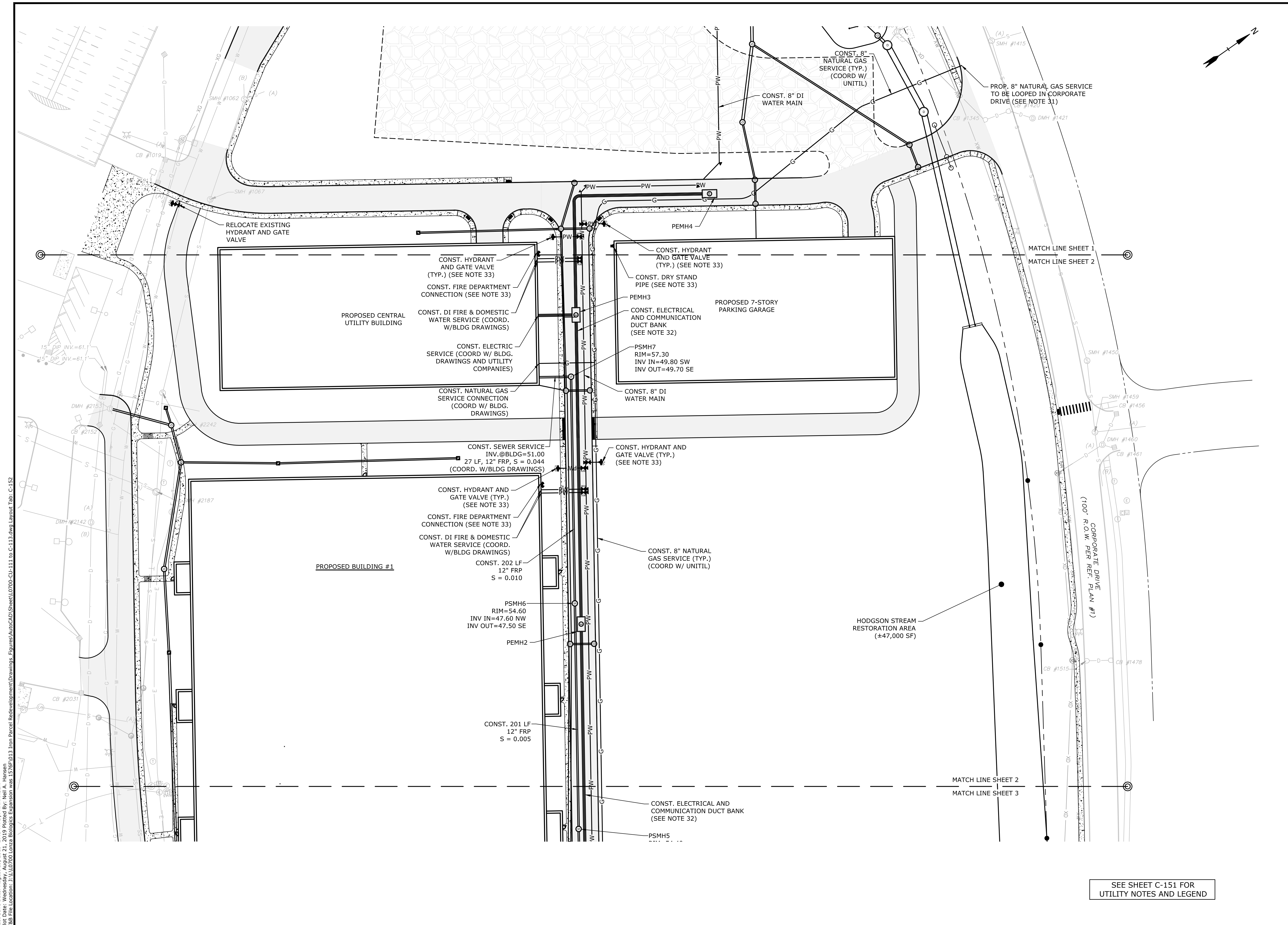
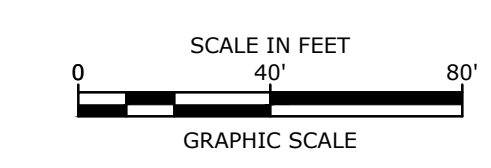
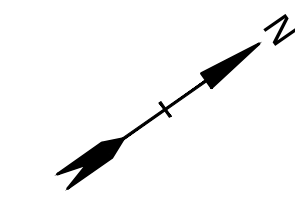
PHASE 1B UTILITIES PLAN

SCALE: AS SHOWN

C-151

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Proposed Industrial Development

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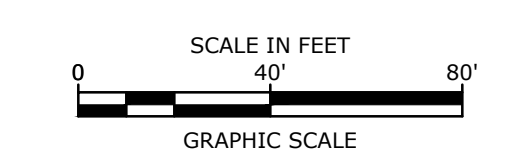
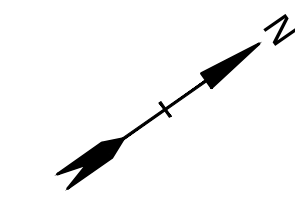
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A	4/3/2018	TAC W.S. Submission

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**PHASE 1B
UTILITIES PLAN**

SCALE: AS SHOWN

SEE SHEET C-151 FOR
UTILITY NOTES AND LEGEND



Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

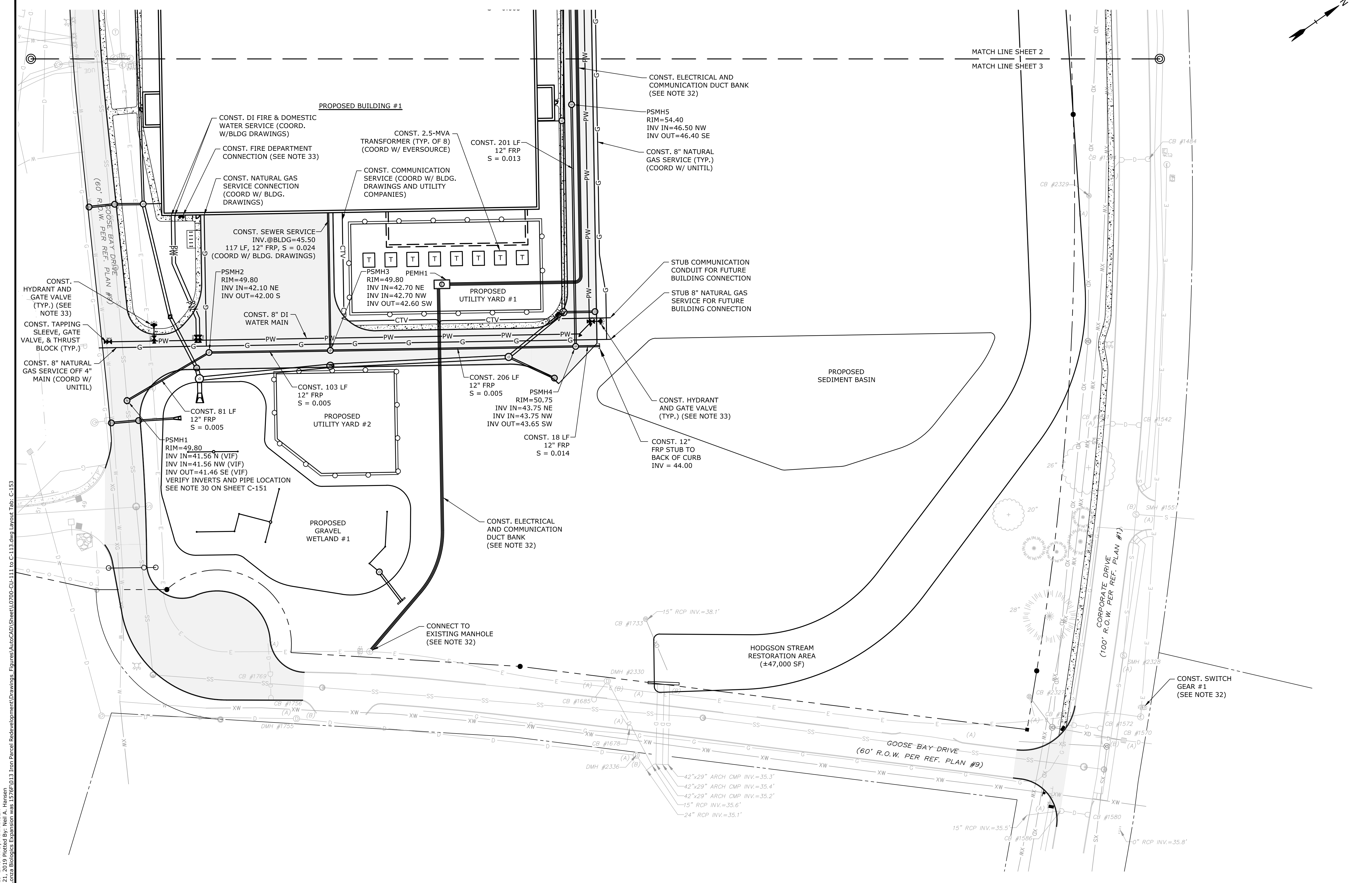
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PHASE 1B UTILITIES PLAN

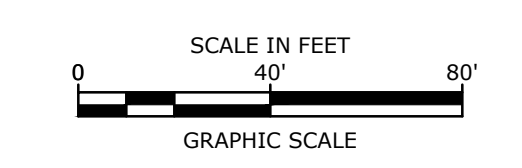
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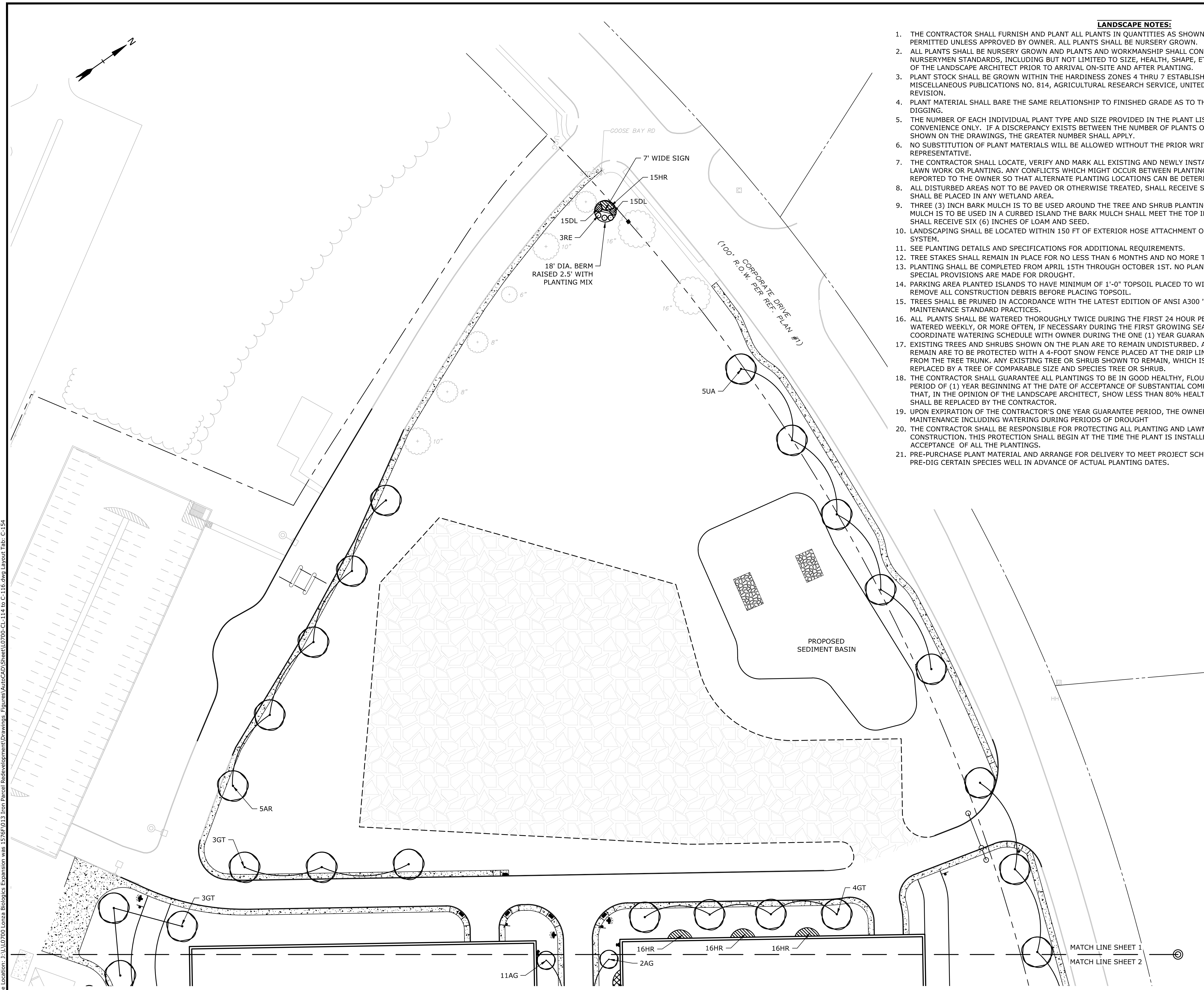


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 P&E File Location: J:\L0700 Lonza Biologics Expansion.was 12762.013 From Parcel Redevelopment Drawings - Figures\AutoCAD\Sheet\L0700-CU-111 to C-113.dwg Layout Tab: C-153

SEE SHEET C-151 FOR
UTILITY NOTES AND LEGEND



- LANDSCAPE NOTES:**
1. THE CONTRACTOR SHALL FURNISH AND PLANT ALL PLANTS IN QUANTITIES AS SHOWN ON THIS PLAN. NO SUBSTITUTIONS WILL BE PERMITTED UNLESS APPROVED BY OWNER. ALL PLANTS SHALL BE NURSERY GROWN.
 2. ALL PLANTS SHALL BE NURSERY GROWN AND PLANTS AND WORKMANSHIP SHALL CONFORM TO THE AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS, INCLUDING BUT NOT LIMITED TO SIZE, HEALTH, SHAPE, ETC., AND SHALL BE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO ARRIVAL ON-SITE AND AFTER PLANTING.
 3. PLANT STOCK SHALL BE GROWN WITHIN THE HARDINESS ZONES 4 THRU 7 ESTABLISHED BY THE PLANT HARDINESS ZONE MAP, MISCELLANEOUS PUBLICATIONS NO. 814, AGRICULTURAL RESEARCH SERVICE, UNITED STATES DEPARTMENT AGRICULTURE, LATEST REVISION.
 4. PLANT MATERIAL SHALL BARE THE SAME RELATIONSHIP TO FINISHED GRADE AS TO THE ORIGINAL PLANTING GRADE PRIOR TO DIGGING.
 5. THE NUMBER OF EACH INDIVIDUAL PLANT TYPE AND SIZE PROVIDED IN THE PLANT LIST OR ON THE PLAN IS FOR THE CONTRACTOR'S CONVENIENCE ONLY. IF A DISCREPANCY EXISTS BETWEEN THE NUMBER OF PLANTS ON THE LABEL AND THE NUMBER OF SYMBOLS SHOWN ON THE DRAWINGS, THE GREATER NUMBER SHALL APPLY.
 6. NO SUBSTITUTION OF PLANT MATERIALS WILL BE ALLOWED WITHOUT THE PRIOR WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE.
 7. THE CONTRACTOR SHALL LOCATE, VERIFY AND MARK ALL EXISTING AND NEWLY INSTALLED UNDERGROUND UTILITIES PRIOR TO ANY LAWN WORK OR PLANTING. ANY CONFLICTS WHICH MIGHT OCCUR BETWEEN PLANTING AND UTILITIES SHALL IMMEDIATELY BE REPORTED TO THE OWNER SO THAT ALTERNATE PLANTING LOCATIONS CAN BE DETERMINED.
 8. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED, SHALL RECEIVE SIX (6) INCHES OF LOAM AND SEED. NO FILL SHALL BE PLACED IN ANY WETLAND AREA.
 9. THREE (3) INCH BARK MULCH IS TO BE USED AROUND THE TREE AND SHRUB PLANTING AS SPECIFIED IN THE DETAILS. WHERE BARK MULCH IS TO BE USED IN A CURBED ISLAND THE BARK MULCH SHALL MEET THE TOP INSIDE EDGE OF THE CURB. ALL OTHER AREAS SHALL RECEIVE SIX (6) INCHES OF LOAM AND SEED.
 10. LANDSCAPING SHALL BE LOCATED WITHIN 150 FT OF EXTERIOR HOSE ATTACHMENT OR SHALL BE PROVIDED WITH AN IRRIGATION SYSTEM.
 11. SEE PLANTING DETAILS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
 12. TREE STAKES SHALL REMAIN IN PLACE FOR NO LESS THAN 6 MONTHS AND NO MORE THAN 1 YEAR.
 13. PLANTING SHALL BE COMPLETED FROM APRIL 15TH THROUGH OCTOBER 1ST. NO PLANTING DURING JULY AND AUGUST UNLESS SPECIAL PROVISIONS ARE MADE FOR DROUGHT.
 14. PARKING AREA PLANTED ISLANDS TO HAVE MINIMUM OF 1'-0" TOPSOIL PLACED TO WITHIN 3 INCHES OF THE TOP OF CURB ELEVATION. REMOVE ALL CONSTRUCTION DEBRIS BEFORE PLACING TOPSOIL.
 15. TREES SHALL BE PRUNED IN ACCORDANCE WITH THE LATEST EDITION OF ANSI A300 'TREES, SHRUBS AND OTHER WOOD PLANT MAINTENANCE STANDARD PRACTICES.
 16. 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. LANDSCAPE CONTRACTOR SHALL COORDINATE WATERING SCHEDULE WITH OWNER DURING THE ONE (1) YEAR GUARANTEE PERIOD.
 17. EXISTING TREES AND SHRUBS SHOWN ON THE PLAN ARE TO REMAIN UNDISTURBED. ALL EXISTING TREES AND SHRUBS SHOWN TO REMAIN ARE TO BE PROTECTED WITH A 4-FOOT SNOW FENCE PLACED AT THE DRIP LINE OF THE BRANCHES OR AT 8 FEET MINIMUM FROM THE TREE TRUNK. ANY EXISTING TREE OR SHRUB SHOWN TO REMAIN, WHICH IS REMOVED DURING CONSTRUCTION, SHALL BE REPLACED BY A TREE OF COMPARABLE SIZE AND SPECIES TREE OR SHRUB.
 18. THE CONTRACTOR SHALL GUARANTEE ALL PLANTINGS TO BE IN GOOD HEALTHY, FLOURISHING AND ACCEPTABLE CONDITION FOR A PERIOD OF (1) YEAR BEGINNING AT THE DATE OF ACCEPTANCE OF SUBSTANTIAL COMPLETION. ALL GRASSES, TREES AND SHRUBS THAT, IN THE OPINION OF THE LANDSCAPE ARCHITECT, SHOW LESS THAN 80% HEALTHY GROWTH AT THE END OF ONE YEAR PERIOD SHALL BE REPLACED BY THE CONTRACTOR.
 19. UPON EXPIRATION OF THE CONTRACTOR'S ONE YEAR GUARANTEE PERIOD, THE OWNER SHALL BE RESPONSIBLE FOR LANDSCAPE MAINTENANCE INCLUDING WATERING DURING PERIODS OF DROUGHT.
 20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL PLANTING AND LAWNS AGAINST DAMAGE FROM ONGOING CONSTRUCTION. THIS PROTECTION SHALL BEGIN AT THE TIME THE PLANT IS INSTALLED AND CONTINUE UNTIL THE FORMAL ACCEPTANCE OF ALL THE PLANTINGS.
 21. PRE-PURCHASE PLANT MATERIAL AND ARRANGE FOR DELIVERY TO MEET PROJECT SCHEDULE AS REQUIRED IT MAY BE NECESSARY TO PRE-DIG CERTAIN SPECIES WELL IN ADVANCE OF ACTUAL PLANTING DATES.



SEE SHEET C-156 FOR PLANT SCHEDULE

Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

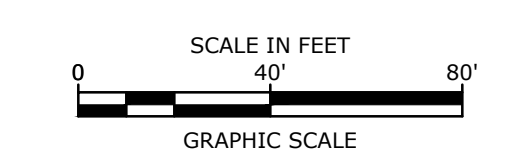
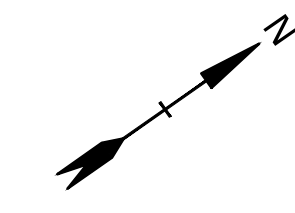
G	8/19/2019	Admin. Approval Submission
F	11/6/2018	P.B. Submission
E	8/30/2018	Revised AoT Submission
D	8/21/2018	Revised TAC Submission
C	6/18/2018	NHDES AoT Submission
B	5/21/2018	TAC Submission
A	4/3/2018	TAC W.S. Submission
MARK	DATE	DESCRIPTION

PROJECT NO:	L-0700-013
DATE:	04/03/2018
FILE:	L0700-CL-114 to C-116.dwg
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

PHASE 1B LANDSCAPE PLAN

SCALE: AS SHOWN

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Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

MARK	DATE	DESCRIPTION
G	8/19/2019	Admin. Approval Submission
F	11/6/2018	P.B. Submission
E	8/30/2018	Revised AoT Submission
D	8/21/2018	Revised TAC Submission
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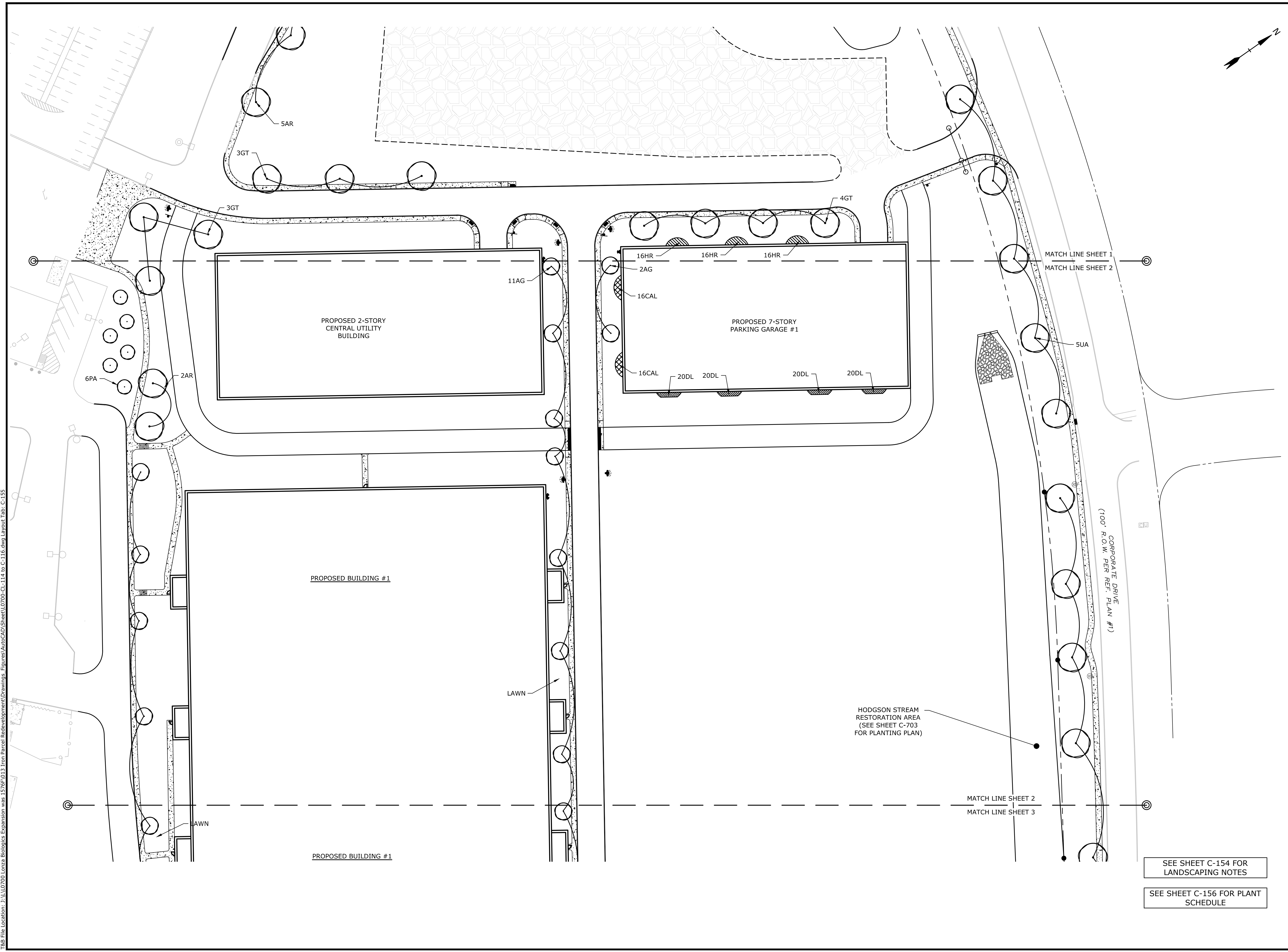
PROJECT NO:	L-0700-013
DATE:	04/03/2018
FILE:	L0700-CL-114 to C-116.dwg
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

PHASE 1B LANDSCAPE PLAN

SCALE: AS SHOWN

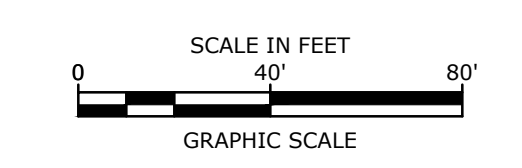
C-155

Last Save Date: August 19, 2019 3:13 PM By: NAHANSEN
 Plot Date: Wednesday, August 21, 2019 Plotted By: Neil A. Hansen
 P&E File Location: J:\L0700 Lonza Biologics Expansion.was 12762.013 Iron Parcel Redevelopment\Drawings - Figures\AutoCAD\Sheet\L0700-CL-114 to C-116.dwg Layout Tab: C-155



SEE SHEET C-154 FOR LANDSCAPING NOTES

SEE SHEET C-156 FOR PLANT SCHEDULE



Proposed Industrial Development
Lonza Biologics

Portsmouth,
New Hampshire

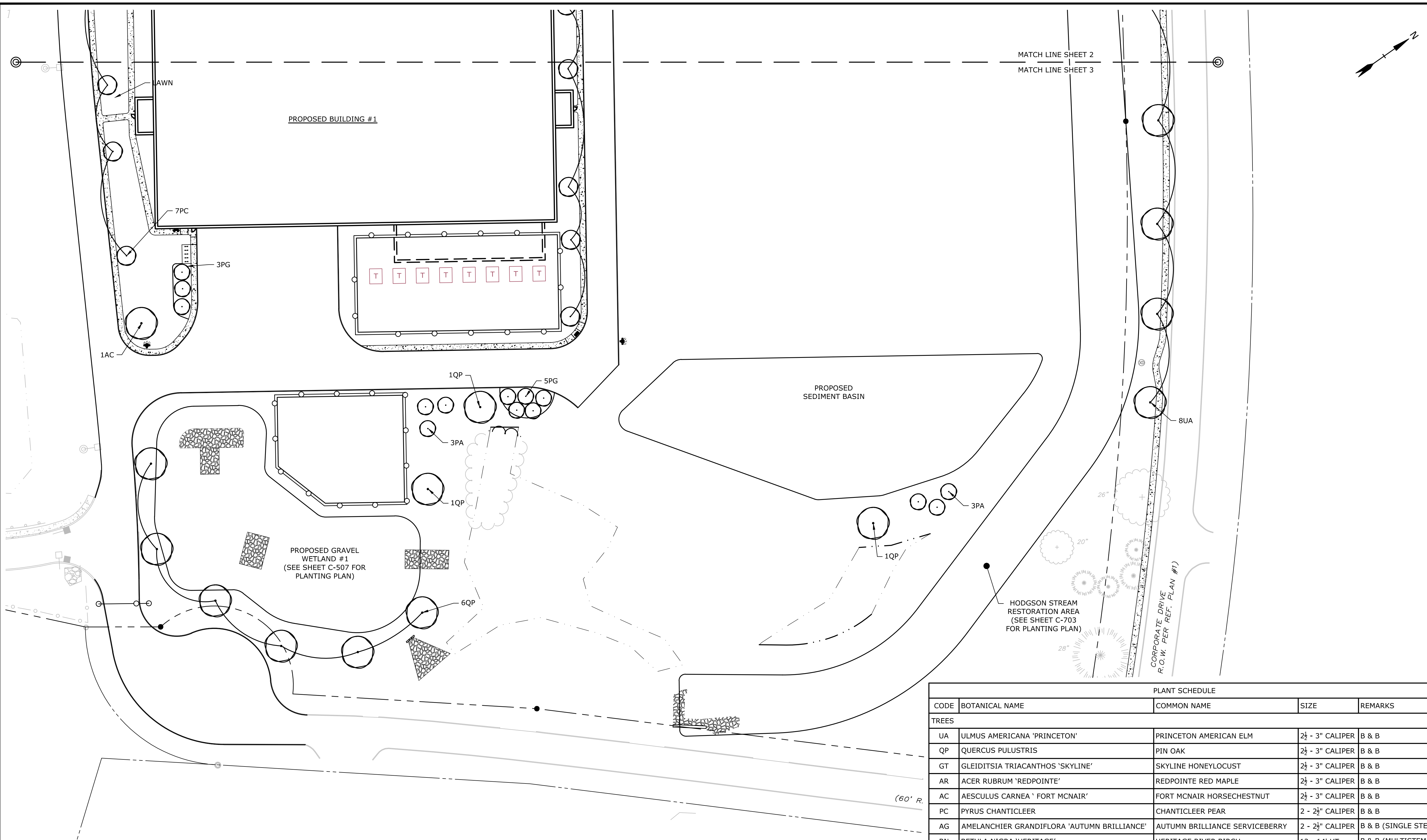
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PROJECT NO: L-0700-013
DATE: 04/03/2018
FILE: L0700-CL-114 to C-116.dwg
DRAWN BY: NAH
CHECKED: PMC
APPROVED: BLM

**PHASE 1B
LANDSCAPE PLAN**

SCALE: AS SHOWN

C-156



PLANT SCHEDULE				
CODE	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
TREES				
UA	ULMUS AMERICANA 'PRINCETON'	PRINCETON AMERICAN ELM	2½ - 3" CALIPER	B & B
QP	QUERCUS PULUSTRIS	PIN OAK	2½ - 3" CALIPER	B & B
GT	GLEIDITSIA TRIACANTHOS 'SKYLINE'	SKYLINE HONEYLOCUST	2½ - 3" CALIPER	B & B
AR	ACER RUBRUM 'REDPOINTE'	REDPOINTE RED MAPLE	2½ - 3" CALIPER	B & B
AC	AESCULUS CARNEA 'FORT MCNAIR'	FORT MCNAIR HORSECHESTNUT	2½ - 3" CALIPER	B & B
PC	PYRUS CHANTICLEER	CHANTICLEER PEAR	2 - 2½" CALIPER	B & B
AG	AMELANCHIER GRANDIFLORA 'AUTUMN BRILLIANCE'	AUTUMN BRILLIANCE SERVICEBERRY	2 - 2½" CALIPER	B & B (SINGLE STEM)
BN	BETULA NIGRA 'HERITAGE'	HERITAGE RIVER BIRCH	12 - 14' HT.	B & B (MULTISTEM)
PG	PICEA GLAUCA	WHITE SPRUCE	8 - 10' HT.	B & B
PP	PICEA PUNGENS	COLORADO SPRUCE	8 - 10' HT.	B & B
PA	PICEA ABIES	NORWAY SPRUCE	8 - 10' HT.	B & B
SHRUBS				
VC	VIBURNUM CASSINOIDES	WITHEROD VIBURNUM	2½ - 3' HT.	B & B
RE	RHODODENDRON 'ENGLISH ROSEUM'	ENGLISH ROSEUM RHODODENDRON	2½ - 3' HT.	B & B
CA	CLETHERA ALNIFOLIA	SUMMERSWEET CLETHERA	7 GALLON	CONTAINER
HQ	HYDRANGEA QUERCIFOLIA 'SNOW QUEEN'	SNOW QUEEN OAKLEAF HYDRANGEA	2½ - 3' HT.	B & B
GROUNDCOVERS & PERENNIALS				
DL	HEMEROCALLIS 'STELLA DORO'	STELLA DORO DAYLILY	2 GALLON	CONTAINER
HR	HOSTA 'ROYAL STANDARD'	ROYAL STANDARD HOSTA	2 GALLON	CONTAINER
AS	ASTILBE 'VISIONS IN PINK'	VISIONS IN PINK ASTILBE	2 GALLON	CONTAINER
CAL	CALAMAGROSTIS 'KARL FOERSTER'	KARL FOERSTER FEATHER REED GRASS	3 GALLON	CONTAINER

SEE SHEET C-154 FOR
LANDSCAPING NOTES

Last Save Date: August 19, 2019 3:13 PM By: MAHANSEN
 Plot Date: Wednesday, August 21, 2019 Plotted By: Neil A. Hansen
 P&E File Location: J:\L0700\Lonza Biologics Expansion\was_12782\013 Iron Parcel Redevelopment\Drawings - Figures\AutoCAD\Sheet\L0700-CL-114 to C-116.dwg Layout Tab: C-156

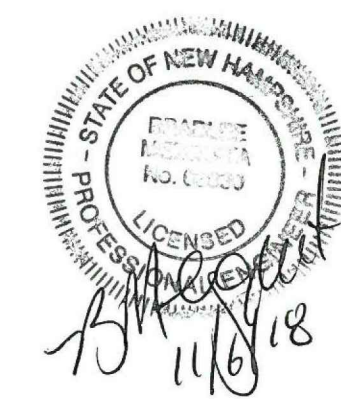
DETAILS PLAN SET

APRIL 3, 2018

REVISED: NOVEMBER 6, 2018

LIST OF DRAWINGS		
SHEET NO.	SHEET TITLE	LAST REVISED
	DETAILS COVER SHEET	11/06/2018
C-501	EROSION CONTROL NOTES & DETAILS SHEET	11/06/2018
C-502	DETAILS SHEET	11/06/2018
C-503	DETAILS SHEET	11/06/2018
C-504	DETAILS SHEET	11/06/2018
C-505	DETAILS SHEET	11/06/2018
C-506	DETAILS SHEET	11/06/2018
C-507	DETAILS SHEET	11/06/2018
C-508	DETAILS SHEET	11/06/2018
C-509	DETAILS SHEET	11/06/2018

Last Save Date: November 5, 2018 2:20 PM By: NATHANSEN
Plot Date: Monday, November 05, 2018 Plotted By: Neil A. Hansen
P&E File Location: J:\0700 Lanza Biologicals Expansion.was.1278\013 Iron Parcel Redevelopment\Drawings - Figures\AutoCAD\Xref\1-0700-13-COVER.dwg Layout: Tab: DETAILS-CS



COMPLETE SET 10 SHEETS

GENERAL PROJECT INFORMATION

PROJECT OWNER: PEASE DEVELOPMENT AUTHORITY
55 INTERNATIONAL DRIVE
PORTSMOUTH, NH 03801
PROJECT APPLICANT: LONZA BIOLOGICS
101 INTERNATIONAL DRIVE
PORTSMOUTH, NH 03801
PROJECT ADDRESS: 70 & 80 CORPORATE DRIVE
PORTSMOUTH, NH 03801
PROJECT LATITUDE: 43°-04'-59.0"N
PROJECT LONGITUDE: 71°-48'-09.7"W

PROJECT DESCRIPTION

THE PROJECT CONSISTS OF THE EXPANSION OF LONZA BIOLOGICS, WHICH INCLUDES THE CONSTRUCTION OF 3 PROPOSED BUILDINGS, 2 PARKING GARAGES AND ASSOCIATED SITE IMPROVEMENTS

DISTURBED AREA

THE TOTAL AREA TO BE DISTURBED IS APPROXIMATELY 23 ACRES.

SOIL CHARACTERISTICS

BASED ON THE HIGH INTENSITY SOIL SURVEY PREPARED BY GOVE ENVIRONMENTAL SERVICES, INC. IN DECEMBER 2015, THE SITE SOILS VARY FROM WELL DRAINED TO VERY POORLY DRAINED AND PRIMARILY CONSIST OF SOMEWHAT POORLY DRAINED SOILS.

NAME OF RECEIVING WATERS

THE STORM WATER RUNOFF WILL ULTIMATELY DISCHARGE INTO HODGSON BROOK

CONSTRUCTION SEQUENCE OF MAJOR ACTIVITIES:

- 1. CUT AND CLEAR TREES.
- 2. CONSTRUCT TEMPORARY AND PERMANENT SEDIMENT, EROSION AND DETENTION CONTROL FACILITIES. EROSION, SEDIMENT AND DETENTION MEASURES SHALL BE INSTALLED PRIOR TO ANY EARTH MOVING OPERATIONS THAT WILL INFLUENCE STORMWATER RUNOFF SUCH AS:
 - NEW CONSTRUCTION
 - CONTROL OF DUST
 - NEARNESS OF CONSTRUCTION SITE TO RECEIVING WATERS
 - CONSTRUCTION DURING LATE WINTER AND EARLY SPRING
- 3. ALL PERMANENT DITCHES, SWALES, DETENTION, RETENTION AND SEDIMENTATION BASINS TO BE STABILIZED USING THE VEGETATIVE AND NON-STRUCTURAL BMPS PRIOR TO DIRECTING RUNOFF TO THEM.
- 4. CLEAR AND DISPOSE OF DEBRIS.
- 5. CONSTRUCT TEMPORARY CULVERTS AND DIVERSION CHANNELS AS REQUIRED.
- 6. GRADE AND GRAVEL ROADWAYS AND PARKING AREAS - ALL ROADS AND PARKING AREA SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
- 7. BEGIN PERMANENT AND TEMPORARY SEEDING AND MULCHING. ALL CUT AND FILL SLOPES SHALL BE SEEDED AND MULCHED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
- 8. DAILY, OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DRAINS, DITCHES, PERIMETER EROSION CONTROL MEASURES, SEDIMENT TRAPS, ETC., MULCH AND SEED AS REQUIRED.
- 9. SEDIMENT TRAPS AND/OR BASINS SHALL BE USED AS NECESSARY TO CONTAIN RUNOFF UNTIL SOILS ARE STABILIZED.
- 10. FINISH PAVING ALL ROADWAYS AND PARKING LOTS.
- 11. INSPECT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES.
- 12. COMPLETE PERMANENT SEEDING AND LANDSCAPING.
- 13. REMOVE TRAPPED SEDIMENTS FROM COLLECTOR DEVICES AS APPROPRIATE AND THEN REMOVE TEMPORARY EROSION CONTROL MEASURES.

SPECIAL CONSTRUCTION NOTES:

- 1. THE CONSTRUCTION SEQUENCE MUST LIMIT THE DURATION AND AREA OF DISTURBANCE.
- 2. THE PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.

EROSION CONTROL NOTES:

- 1. ALL EROSION CONTROL MEASURES AND PRACTICES SHALL CONFORM TO THE "NEW HAMPSHIRE STORMWATER MANUAL VOLUME 3: EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION" PREPARED BY THE NHDES.
- 2. PRIOR TO ANY WORK OR SOIL DISTURBANCE, CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR EROSION CONTROL MEASURES AS REQUIRED IN THE PROJECT MANUAL.
- 3. CONTRACTOR SHALL INSTALL TEMPORARY EROSION CONTROL BARRIERS, INCLUDING HAY BALES, SILT FENCES, MULCH BERMS, SILT SACKS AND SILT SOCKS AS SHOWN IN THESE DRAWINGS AS THE FIRST ORDER OF WORK.
- 4. SILT SACK INLET PROTECTION SHALL BE INSTALLED IN ALL EXISTING AND PROPOSED CATCH BASIN INLETS WITHIN THE WORK LIMITS AND BE MAINTAINED FOR THE DURATION OF THE PROJECT.
- 5. PERIMETER CONTROLS INCLUDING SILT FENCES, MULCH BERM, SILT SOCK, AND/OR HAY BALE BARRIERS SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT UNTIL NON-PAVED AREAS HAVE BEEN STABILIZED.
- 6. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF CONSTRUCTION.
- 7. ALL DISTURBED AREAS NOT OTHERWISE BEING TREATED SHALL RECEIVE 6" LOAM, SEED AND FERTILIZER.
- 8. INSPECT ALL INLET PROTECTION AND PERIMETER CONTROLS WEEKLY AND AFTER EACH RAIN STORM OF 0.25 INCH OR GREATER. REPAIR/MODIFY PROTECTION AS NECESSARY TO MAXIMIZE EFFICIENCY OF FILTER. REPLACE ALL FILTERS WHEN SEDIMENT IS 1/3 THE FILTER HEIGHT.
- 9. CONSTRUCT EROSION CONTROL BLANKETS ON ALL SLOPES STEEPER THAN 3:1.

STABILIZATION:

- 1. AN AREA SHALL BE CONSIDERED STABLE WHEN ONE OF THE FOLLOWING HAS OCCURRED:
 - A. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
 - B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
 - C. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED;
 - D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.;
 - E. IN AREAS TO BE PAVED, "STABLE" MEANS THAT BASE COURSE GRAVELS MEETING THE REQUIREMENTS OF NHDOT STANDARD FOR ROAD AND BRIDGE CONSTRUCTION, 2016, ITEM 304.2 HAVE BEEN INSTALLED.
- 2. WINTER STABILIZATION PRACTICES:
 - A. ALL PROPOSED VEGETATED AREAS THAT DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, 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 INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS;
 - B. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS;
 - C. AFTER NOVEMBER 15, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3. OR IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON BE CLEARED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT;
- 3. STABILIZATION SHALL BE INITIATED ON ALL LOAM STOCKPILES, AND DISTURBED AREAS, WHERE CONSTRUCTION ACTIVITY SHALL NOT OCCUR FOR MORE THAN TWENTY-ONE (21) CALENDAR DAYS BY THE FOURTEENTH (14TH) DAY AFTER CONSTRUCTION ACTIVITY HAS PERMANENTLY OR TEMPORARILY CEASED IN THAT AREA. STABILIZATION MEASURES TO BE USED INCLUDE:
 - A. TEMPORARY SEEDING;
 - B. MULCHING.

- 4. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.
- 5. WHEN CONSTRUCTION ACTIVITY PERMANENTLY OR TEMPORARILY CEASES WITHIN 100 FEET OF NEARBY SURFACE WATERS OR DELINEATED WETLANDS, THE AREA SHALL BE STABILIZED WITHIN SEVEN (7) DAYS OR PRIOR TO A RAIN EVENT. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN THESE AREAS, SILT FENCES, MULCH BERMS, HAY BALE BARRIERS AND ANY EARTH/DIKES SHALL BE REMOVED ONCE PERMANENT MEASURES ARE ESTABLISHED.
- 6. DURING CONSTRUCTION, RUNOFF WILL BE DIVERTED AROUND THE SITE WITH EARTH DIKES, PIPING OR STABILIZED CHANNELS WHERE POSSIBLE. SHEET RUNOFF FROM THE SITE WILL BE FILTERED THROUGH SILT FENCES, MULCH BERMS, HAY BALE BARRIERS, OR SILT SOCKS. ALL STORM DRAIN BASIN INLETS SHALL BE PROVIDED WITH FLARED END SECTIONS AND TRASH RACKS. THE SITE SHALL BE STABILIZED FOR THE WINTER BY NOVEMBER 15.

DUST CONTROL:

- 1. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DUST THROUGHOUT THE CONSTRUCTION PERIOD.
- 2. DUST CONTROL METHODS SHALL INCLUDE, BUT BE NOT LIMITED TO SPRINKLING WATER ON EXPOSED AREAS, COVERING LOADED DUMP TRUCKS LEAVING THE SITE, AND TEMPORARY MULCHING.
- 3. DUST CONTROL MEASURES SHALL BE UTILIZED SO AS TO PREVENT THE MIGRATION OF DUST FROM THE SITE TO ADJUTING AREAS.

STOCKPILES:

- 1. LOCATE STOCKPILES A MINIMUM OF 50 FEET AWAY FROM CATCH BASINS, SWALES, AND CULVERTS.
- 2. ALL STOCKPILES SHOULD BE SURROUNDED WITH TEMPORARY EROSION CONTROL MEASURES PRIOR TO THE ONSET OF PRECIPITATION.
- 3. PERIMETER BARRIERS SHOULD BE MAINTAINED AT ALL TIMES, AND ADJUSTED AS NEEDED TO ACCOMMODATE THE DELIVERY AND REMOVAL OF MATERIALS FROM THE STOCKPILE. THE INTEGRITY OF THE BARRIER SHOULD BE INSPECTED AT THE END OF EACH WORKING DAY.
- 4. PROTECT ALL STOCKPILES FROM STORMWATER RUN-OFF USING TEMPORARY EROSION CONTROL MEASURES SUCH AS BERMS, SILT SOCK, OR OTHER APPROVED PRACTICE TO PREVENT MIGRATION OF MATERIAL BEYOND THE IMMEDIATE CONFINES OF THE STOCKPILES.

OFF SITE VEHICLE TRACKING:

- 1. THE CONTRACTOR SHALL CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE(S) PRIOR TO ANY EXCAVATION ACTIVITIES.

VEGETATION:

- 1. TEMPORARY GRASS COVER:
 - A. SEEDBED PREPARATION:
 - a. APPLY FERTILIZER AT THE RATE OF 600 POUNDS PER ACRE OF 10-10-10. APPLY LIMESTONE (EQUIVALENT TO 50 PERCENT CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF THREE (3) TONS PER ACRE;
 - B. SEEDING:
 - a. UTILIZE ANNUAL RYE GRASS AT A RATE OF 40 LBS/ACRE;
 - b. WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF TWO (2) INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED;
 - c. APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, OR HYDROSEEDER (SLURRY INCLUDING SEED AND FERTILIZER). HYDROSEEDINGS, WHICH INCLUDE MULCH, MAY BE LEFT ON SOIL SURFACE. SEEDING RATES MUST BE INCREASED 10% WHEN HYDROSEEDING;
 - C. MAINTENANCE:
 - a. TEMPORARY SEEDING SHALL BE PERIODICALLY INSPECTED. AT A MINIMUM, 95% 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 BARRIERS, CHECK DAMS, ETC.).
- 2. VEGETATIVE PRACTICE:
 - A. FOR PERMANENT MEASURES AND PLANTINGS:
 - a. LIMESTONE SHALL BE THOROUGHLY INCORPORATED INTO THE LOAM LAYER AT A RATE OF THREE (3) TONS PER ACRE IN ORDER TO PROVIDE A PH VALUE OF 5.5 TO 6.5;
 - b. FERTILIZER SHALL BE SPREAD ON THE TOP LAYER OF LOAM AND WORKED INTO THE SURFACE. FERTILIZER APPLICATION RATE SHALL BE 800 POUNDS PER ACRE OF 10-20-20 FERTILIZER;
 - c. SOIL CONDITIONERS AND FERTILIZER SHALL BE APPLIED AT THE RECOMMENDED RATES AND SHALL BE THOROUGHLY WORKED INTO THE LOAM. LOAM SHALL BE RAKED UNTIL THE SURFACE IS FINELY PULVERIZED, SMOOTH AND EVEN, AND THEN COMPACTED TO AN EVEN SURFACE CONFORMING TO THE REQUIRED LINES AND GRADES WITH APPROVED ROLLERS WEIGHING BETWEEN 4-1/2 POUNDS AND 5-1/2 POUNDS PER INCH OF WIDTH;
 - d. SEED SHALL BE SOWN AT THE RATE SHOWN BELOW. SOWING SHALL BE DONE ON A CALM, DRY DAY, PREFERABLY BY MACHINE, BUT IF BY HAND, ONLY BY EXPERIENCED WORKMEN. IMMEDIATELY BEFORE SEEDING, THE SOIL SHALL BE LIGHTLY RAKED. ONE HALF THE SEED SHALL BE SOWN IN ONE DIRECTION AND THE OTHER HALF AT RIGHT ANGLES TO THE ORIGINAL DIRECTION. IT SHALL BE LIGHTLY RAKED INTO THE SOIL TO A DEPTH NOT OVER 1/4 INCH AND ROLLED WITH A HAND ROLLER WEIGHING NOT OVER 100 POUNDS PER LINEAR FOOT OF WIDTH;
 - e. HAY MULCH SHALL BE APPLIED IMMEDIATELY AFTER SEEDING AS INDICATED ABOVE;
 - f. THE SURFACE SHALL BE WATERED AND KEPT MOIST WITH A FINE SPRAY AS REQUIRED, WITHOUT WASHING AWAY THE SOIL, UNTIL THE GRASS IS WELL ESTABLISHED. ANY AREAS WHICH ARE NOT SATISFACTORILY COVERED WITH GRASS SHALL BE RESEEDDED, AND ALL NOXIOUS WEEDS REMOVED;
 - g. THE CONTRACTOR SHALL PROTECT AND MAINTAIN THE SEEDDED AREAS UNTIL ACCEPTED;
 - h. A GRASS SEED MIXTURE CONTAINING THE FOLLOWING SEED REQUIREMENTS SHALL BE APPLIED AT THE INDICATED RATE:

SEED MIX	APPLICATION RATE
CREeping RED FESCUE	20 LBS/ACRE
TALL FESCUE	20 LBS/ACRE
REDTOP	2 LBS/ACRE
 - B. IN NO CASE SHALL THE WEED CONTENT EXCEED ONE (1) PERCENT BY WEIGHT. ALL SEED SHALL COMPLY WITH STATE AND FEDERAL SEED LAWS. SEEDING SHALL BE DONE NO LATER THAN SEPTEMBER 15. IN NO CASE SHALL SEEDING TAKE PLACE OVER SNOW.
- 3. DORMANT SEEDING (SEPTEMBER 15 TO FIRST SNOWFALL):
 - A. FOLLOW PERMANENT MEASURES SLOPE, LIME, FERTILIZER AND GRADING REQUIREMENTS. APPLY SEED MIXTURE AT TWICE THE INDICATED RATE. APPLY MULCH AS INDICATED FOR PERMANENT MEASURES.

CONCRETE WASHOUT AREA:

- 1. THE FOLLOWING ARE THE ONLY NON-STORMWATER DISCHARGES ALLOWED. ALL OTHER NON-STORMWATER DISCHARGES ARE PROHIBITED ON SITE:
 - A. THE CONCRETE DELIVERY TRUCKS SHALL, WHENEVER POSSIBLE, USE WASHOUT FACILITIES AT THEIR OWN PLANT OR DISPATCH FACILITY;
 - B. IF IT IS NECESSARY, SITE CONTRACTOR SHALL DESIGNATE SPECIFIC WASHOUT AREAS AND DESIGN FACILITIES TO HANDLE ANTICIPATED WASHOUT WATER;
 - C. CONTRACTOR SHALL LOCATE WASHOUT AREAS AT LEAST 150 FEET AWAY FROM STORM DRAINS, SWALES AND SURFACE WATERS OR DELINEATED WETLANDS;
 - D. INSPECT WASHOUT FACILITIES DAILY TO DETECT LEAKS OR TEARS AND TO IDENTIFY WHEN MATERIALS NEED TO BE REMOVED.

ALLOWABLE NON-STORMWATER DISCHARGES:

- 1. FIRE-FIGHTING ACTIVITIES;
- 2. FIRE HYDRANT FLUSHING;
- 3. WATERS USED TO WASH VEHICLES WHERE DETERGENTS ARE NOT USED;
- 4. WATER USED TO CONTROL DUST;
- 5. POTABLE WATER INCLUDING UNCONTAMINATED WATER LINE FLUSHING;
- 6. ROUTINE EXTERNAL BUILDING WASH DOWN WHERE DETERGENTS ARE NOT USED;
- 7. PAVEMENT WASH WATERS WHERE DETERGENTS ARE NOT USED;
- 8. UNCONTAMINATED AIR CONDITIONING/COMPRESSOR CONDENSATION;
- 9. UNCONTAMINATED GROUND WATER OR SPRING WATER;
- 10. FOUNDATION OR FOOTING DRAINS WHICH ARE UNCONTAMINATED;
- 11. UNCONTAMINATED EXCAVATION DEWATERING;

12. LANDSCAPE IRRIGATION.

WASTE DISPOSAL:

- 1. WASTE MATERIAL:
 - A. ALL WASTE MATERIALS SHALL BE COLLECTED AND STORED IN SECURELY LIDDED RECEPTACLES. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE SHALL BE DEPOSITED IN A DUMPSTER;
 - B. NO CONSTRUCTION WASTE MATERIALS SHALL BE BURIED ON SITE;
 - C. ALL PERSONNEL SHALL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL BY THE SUPERINTENDENT.
- 2. HAZARDOUS WASTE:
 - A. ALL HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER;
 - B. SITE PERSONNEL SHALL BE INSTRUCTED IN THESE PRACTICES BY THE SUPERINTENDENT.
- 3. SANITARY WASTE:
 - A. ALL SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS A MINIMUM OF ONCE PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.

SPILL PREVENTION:

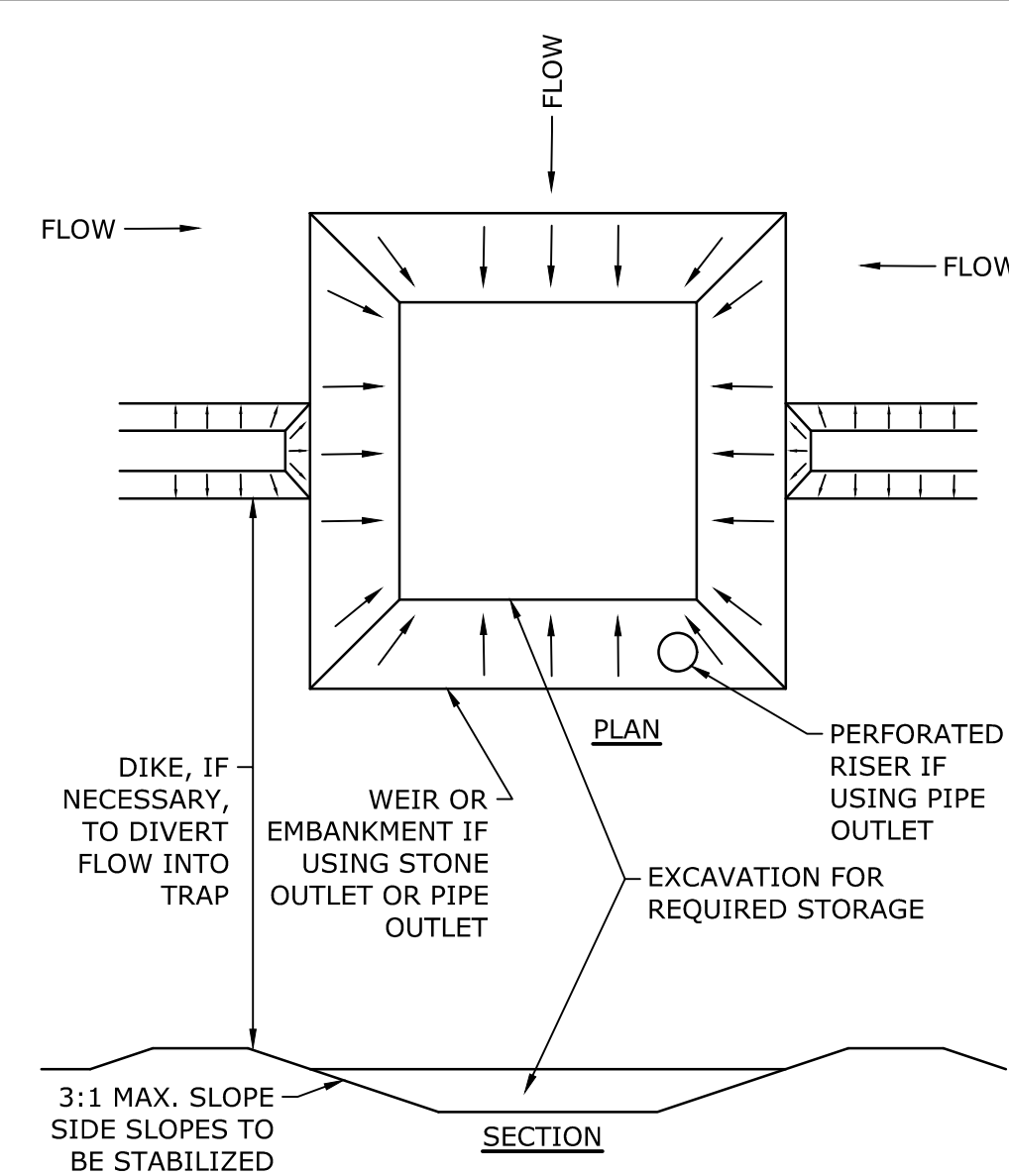
- 1. CONTRACTOR SHALL BE FAMILIAR WITH SPILL PREVENTION MEASURES REQUIRED BY LOCAL, STATE AND FEDERAL AGENCIES. AT A MINIMUM, CONTRACTOR SHALL FOLLOW THE BEST MANAGEMENT SPILL PREVENTION PRACTICES OUTLINED BELOW.
- 2. THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT SHALL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES DURING CONSTRUCTION TO STORMWATER RUNOFF:
 - A. GOOD HOUSEKEEPING - THE FOLLOWING GOOD HOUSEKEEPING PRACTICE SHALL BE FOLLOWED ON SITE DURING CONSTRUCTION:
 - a. ONLY SUFFICIENT AMOUNTS OF PRODUCTS TO DO THE JOB SHALL BE STORED ON SITE;
 - b. ALL MATERIALS STORED ON SITE SHALL 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 SHALL BE FOLLOWED;
 - d. THE SITE SUPERINTENDENT SHALL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS;
 - e. SUBSTANCES SHALL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER;
 - f. WHENEVER POSSIBLE ALL OF A PRODUCT SHALL BE USED UP BEFORE DISPOSING OF THE CONTAINER.
 - B. HAZARDOUS PRODUCTS - THE FOLLOWING PRACTICES SHALL BE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS:
 - g. PRODUCTS SHALL BE KEPT IN THEIR ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE;
 - h. ORIGINAL LABELS AND MATERIAL SAFETY DATA SHALL BE RETAINED FOR IMPORTANT PRODUCT INFORMATION;
 - i. SURPLUS PRODUCT THAT MUST BE DISPOSED OF SHALL BE DISCARDED ACCORDING TO THE MANUFACTURER'S RECOMMENDED METHODS OF DISPOSAL.
 - C. PRODUCT SPECIFIC PRACTICES - THE FOLLOWING PRODUCT SPECIFIC PRACTICES SHALL BE FOLLOWED ON SITE:
 - a. PETROLEUM PRODUCTS:
 - ALL ON SITE VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE LEAKAGE;
 - PETROLEUM PRODUCTS SHALL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT BASED SUBSTANCES USED ON SITE SHALL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
 - b. FERTILIZERS:
 - FERTILIZERS USED SHALL BE APPLIED ONLY IN THE MINIMUM AMOUNTS DIRECTED BY THE SPECIFICATIONS;
 - ONCE APPLIED FERTILIZER SHALL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORMWATER;
 - STORAGE SHALL BE IN A COVERED SHED OR ENCLOSED TRAILERS. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER SHALL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.
 - c. PAINTS:
 - ALL CONTAINERS SHALL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE;
 - EXCESS PAINT SHALL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM;
 - EXCESS PAINT SHALL BE DISPOSED OF PROPERLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.
 - D. SPILL CONTROL PRACTICES - IN ADDITION TO GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTION, THE FOLLOWING PRACTICES SHALL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:
 - a. MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP SHALL BE CLEARLY POSTED AND SITE PERSONNEL SHALL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES;
 - b. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP SHALL BE KEPT IN THE MATERIAL STORAGE AREA ON SITE. EQUIPMENT AND MATERIALS SHALL 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 SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY;
 - d. THE SPILL AREA SHALL BE KEPT WELL VENTILATED AND PERSONNEL SHALL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE;
 - e. SPILLS OF TOXIC OR HAZARDOUS MATERIAL SHALL BE REPORTED TO THE APPROPRIATE LOCAL, STATE OR FEDERAL AGENCIES AS REQUIRED;
 - f. THE SITE SUPERINTENDENT RESPONSIBLE FOR DAY-TO-DAY SITE OPERATIONS SHALL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR.
 - E. VEHICLE FUELING AND MAINTENANCE PRACTICE:
 - a. CONTRACTOR SHALL MAKE AN EFFORT TO PERFORM EQUIPMENT/VEHICAL FUELING AND MAINTENANCE AT AN OFF-SITE FACILITY;
 - b. CONTRACTOR SHALL PROVIDE AN ON-SITE FUELING AND MAINTENANCE AREA THAT IS CLEAN AND DRY;
 - c. IF POSSIBLE THE CONTRACTOR SHALL KEEP AREA COVERED;
 - d. CONTRACTOR SHALL KEEP A SPILL KIT AT THE FUELING AND MAINTENANCE AREA;
 - e. CONTRACTOR SHALL REGULARLY INSPECT VEHICLES FOR LEAKS AND DAMAGE;
 - f. CONTRACTOR SHALL USE DRIP PANS, DRIP CLOTHS, OR ABSORBENT PADS WHEN REPLACING SPENT FLUID.

EROSION CONTROL OBSERVATIONS AND MAINTENANCE PRACTICES

THIS PROJECT EXCEEDS ONE (1) ACRE OF DISTURBANCE AND THUS REQUIRES A SWPPP. THE SWPPP SHALL BE PREPARED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE FAMILIAR WITH THE SWPPP AND KEEP AN UPDATED COPY OF THE SWPPP ONSITE AT ALL TIMES.

THE FOLLOWING REPRESENTS THE GENERAL OBSERVATION AND REPORTING PRACTICES THAT SHALL BE FOLLOWED AS PART OF THIS PROJECT:

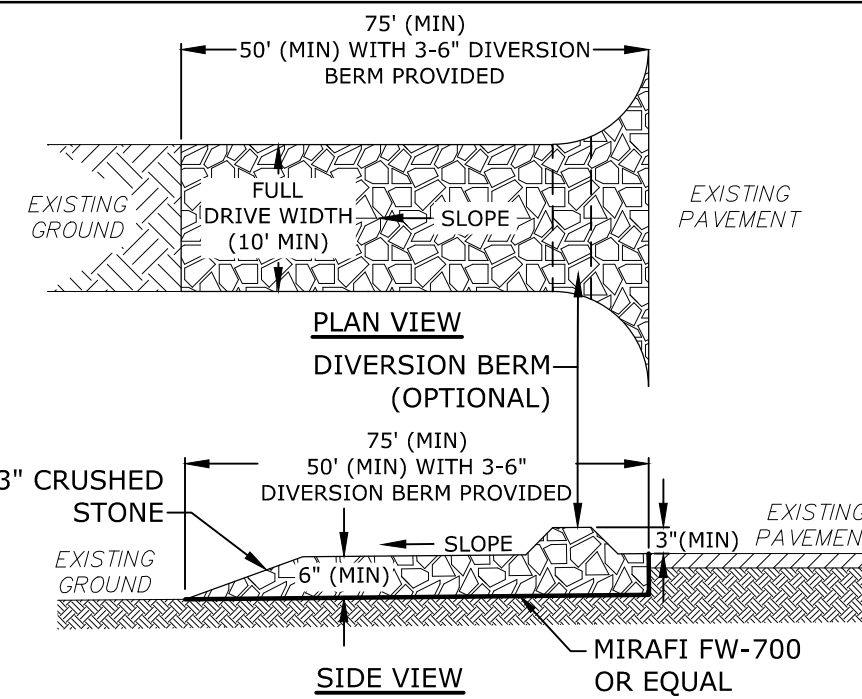
- 1. OBSERVATIONS OF THE PROJECT FOR COMPLIANCE WITH THE SWPPP SHALL BE MADE BY THE CONTRACTOR AT LEAST ONCE A WEEK OR WITHIN 24 HOURS OF A STORM 0.25 INCHES OR GREATER;
- 2. AN OBSERVATION REPORT SHALL BE MADE AFTER EACH OBSERVATION AND DISTRIBUTED TO THE ENGINEER, THE OWNER, AND THE CONTRACTOR;
- 3. A REPRESENTATIVE OF THE SITE CONTRACTOR, SHALL BE RESPONSIBLE FOR MAINTENANCE AND REPAIR ACTIVITIES;
- 4. IF A REPAIR IS NECESSARY, IT SHALL BE INITIATED WITHIN 24 HOURS OF REPORT.



NOTES:

- 1. THE TRAP SHALL BE INSTALLED AS CLOSE TO THE DISTURBED AREA AS POSSIBLE.
- 2. THE MAXIMUM CONTRIBUTING AREA TO A SINGLE TRAP SHALL BE LESS THAN 5 ACRES.
- 3. THE MINIMUM VOLUME OF THE TRAP SHALL BE 3,600 CUBIC FEET OF STORAGE FOR EACH ACRE OF DRAINAGE AREA.
- 4. TRAP OUTLET SHALL BE MINIMUM OF ONE FOOT BELOW THE CREST OF THE TRAP.
- 5. TRAP SHALL DISCHARGE TO A STABILIZED AREA.
- 6. TRAP SHALL BE CLEARED WHEN 50 PERCENT OF THE ORIGINAL VOLUME IS FILLED.
- 7. MATERIALS REMOVED FROM THE TRAP SHALL BE PROPERLY DISPOSED OF AND STABILIZED.

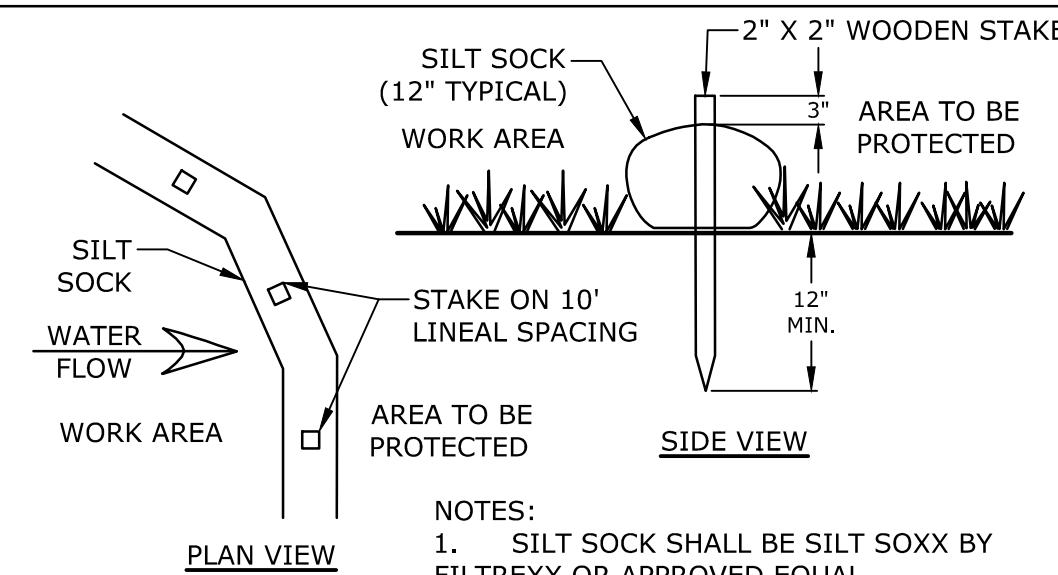
SEDIMENT TRAP
NO SCALE



NOTES:

- 1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF SEDIMENT FROM THE SITE. WHEN WASHING IS REQUIRED, IT SHALL BE DONE SO RUNOFF DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERWAYS

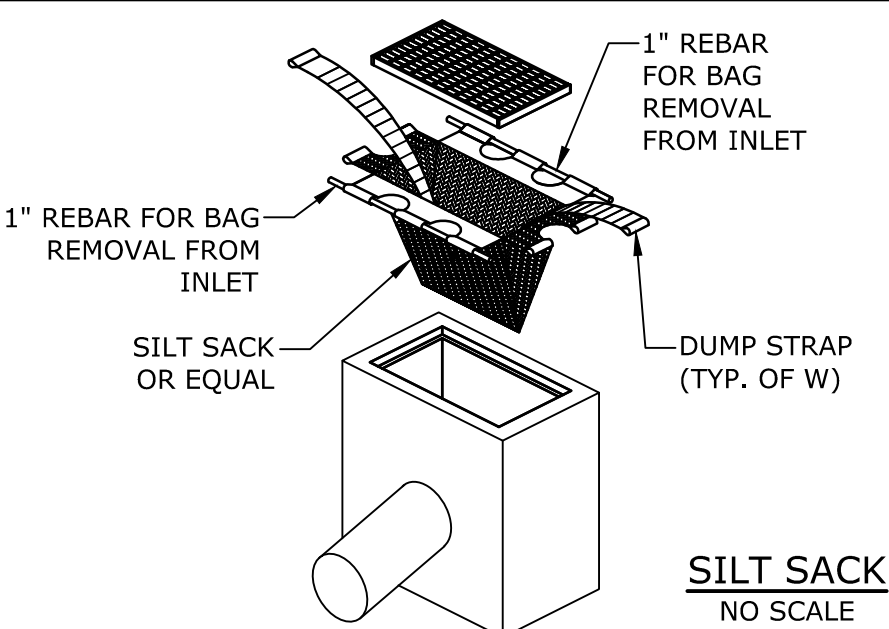
STABILIZED CONSTRUCTION ENTRANCE
NO SCALE



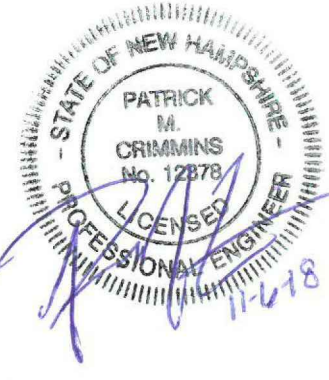
NOTES:

- 1. SILT SOCK SHALL BE SILT SOXX BY FILTREXX OR APPROVED EQUAL
- 2. INSTALL SILT SOCK IN ACCORDANCE WITH...

SILT SOCK
NO SCALE



SILT SACK
NO SCALE



Proposed Industrial Development

Lonza Biologics

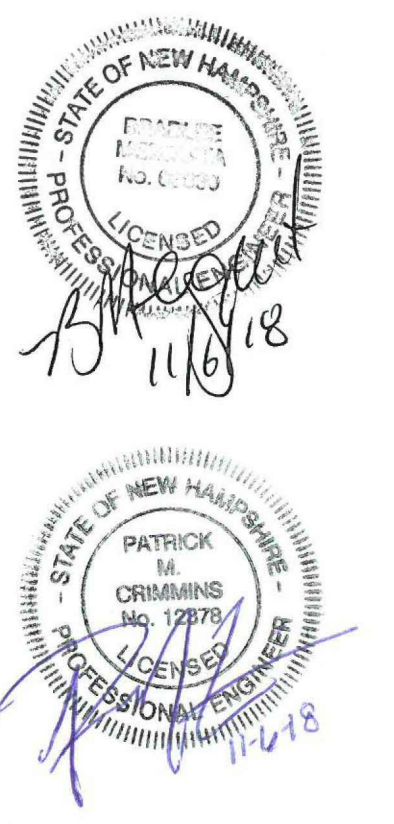
Portsmouth, New Hampshire

MARK	DATE	DESCRIPTION
F	11/6/2018	P.B. Submission
E	8/30/2018	Revised Aot Submission
D	8/21/2018	Revised TAC Submission
C	6/18/2018	NHDES Aot Submission
B	5/21/2018	TAC Submission
A	4/3/2018	TAC W.S. Submission

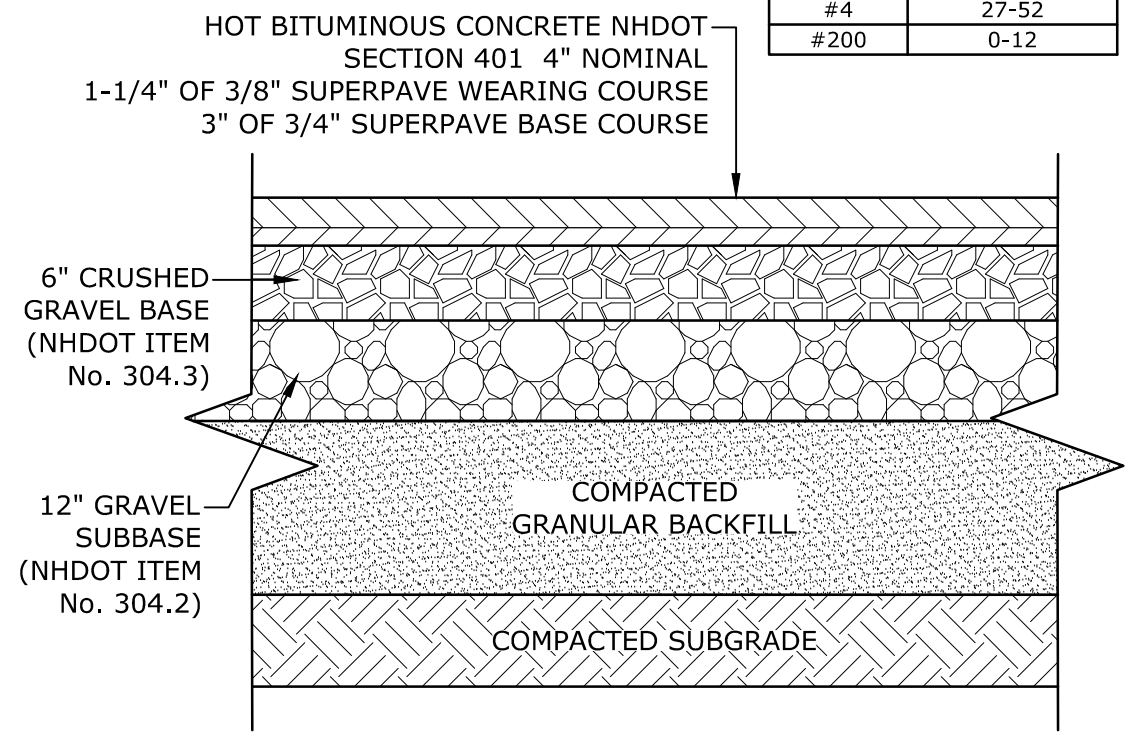
PROJECT NO:	L-0700-013
DATE:	04/03/2018
FILE:	
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

EROSION CONTROL NOTES

SCALE: AS SHOWN

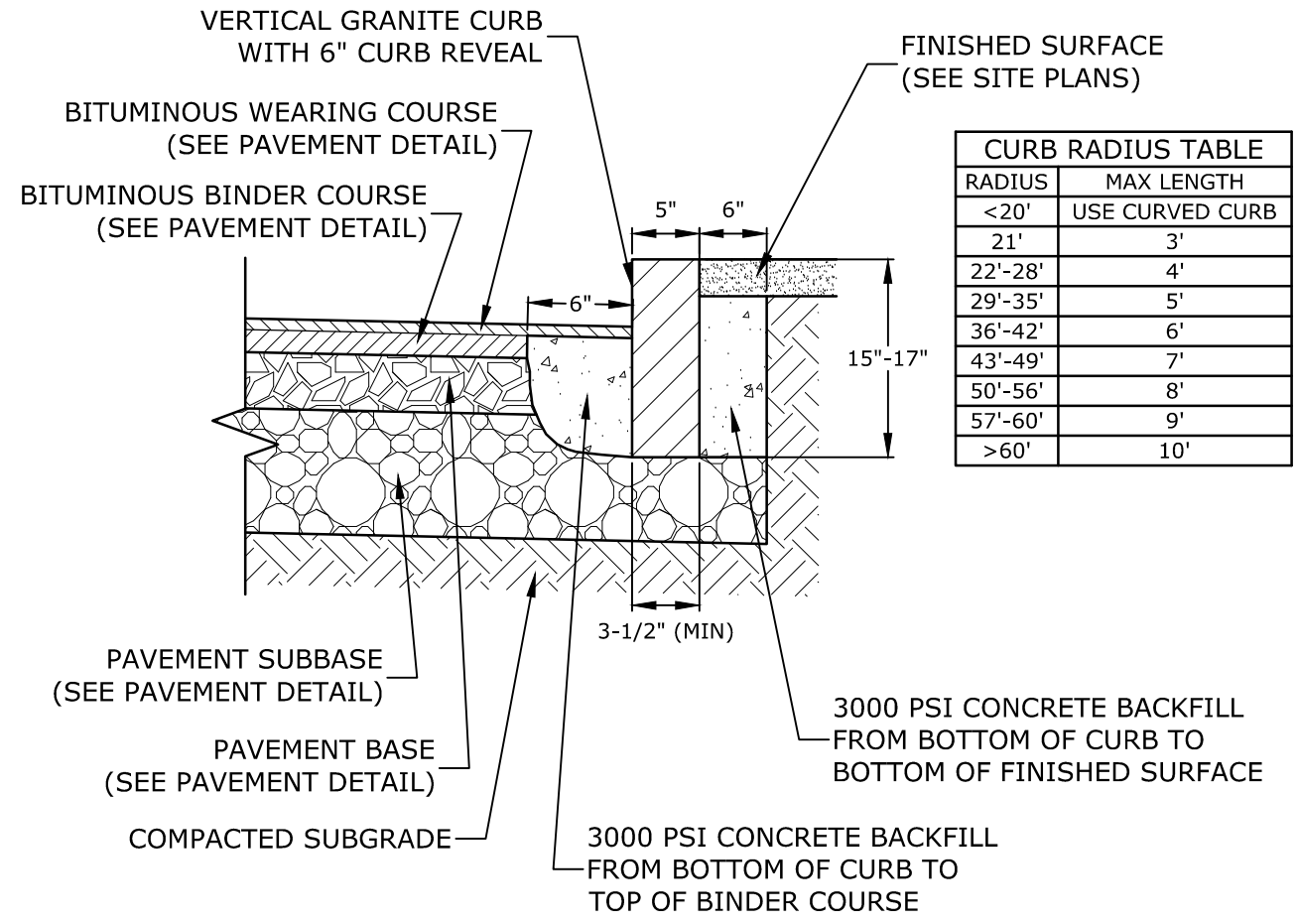


NHDOT ITEM No. 304.2 (GRAVEL)		NHDOT ITEM No. 304.3 (CRUSHED GRAVEL)	
SIEVE SIZE	% PASSING	SIEVE SIZE	% PASSING
6"	100	3"	100
#4	25-70	2"	95-100
#200	0-12	1"	55-85
		#4	27-52
		#200	0-12



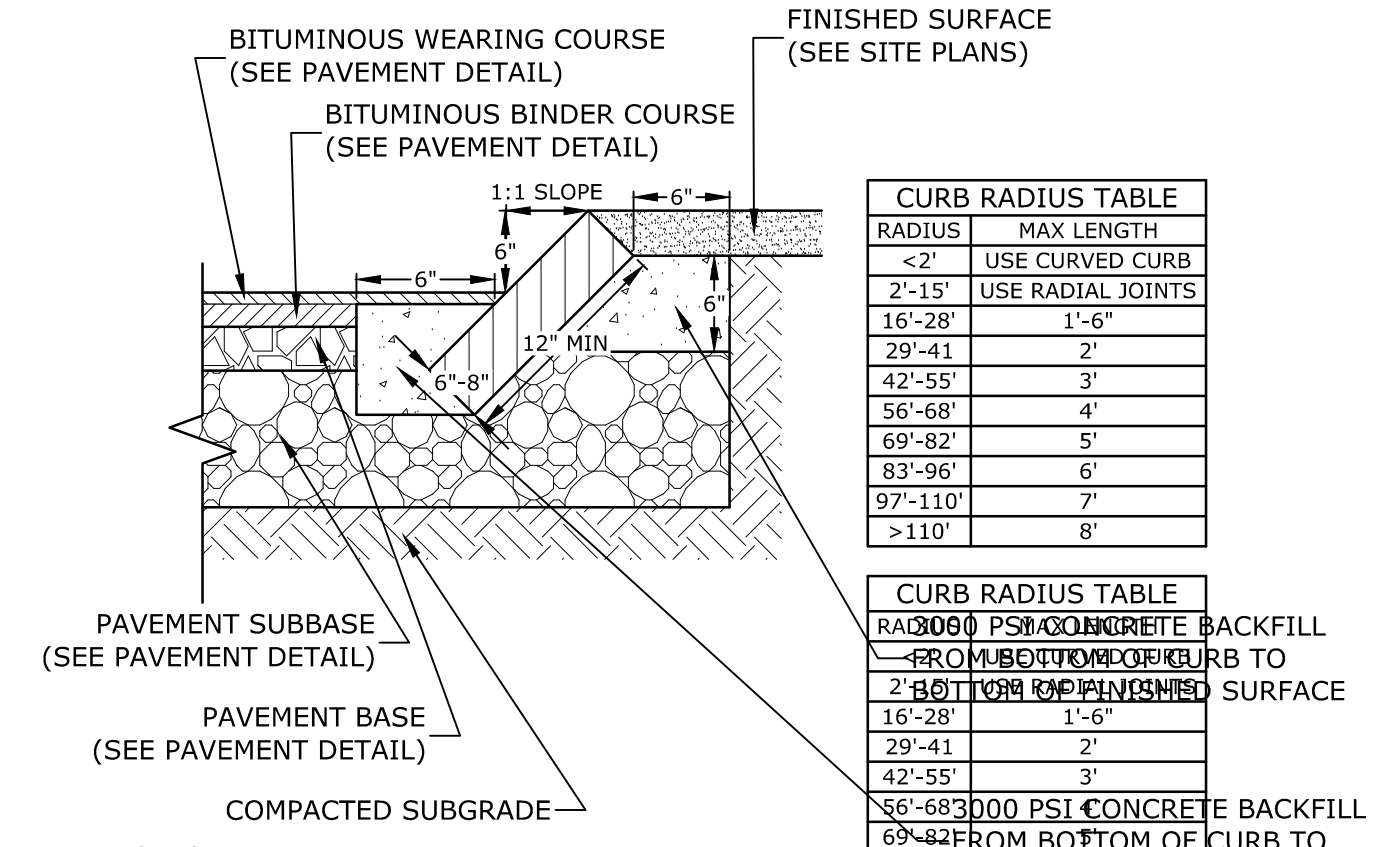
- NOTES:
- SEE SITE PLAN FOR PAVEMENT WIDTH AND LOCATION.
 - SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.
 - A TACK COAT SHALL BE PLACED ON TOP OF BINDER COURSE PAVEMENT PRIOR TO PLACING WEARING COURSE.
 - FINAL PAVEMENT DESIGN TO BE DETERMINED BY GEOTECHNICAL ENGINEER

TYPICAL PAVEMENT SECTION
NO SCALE



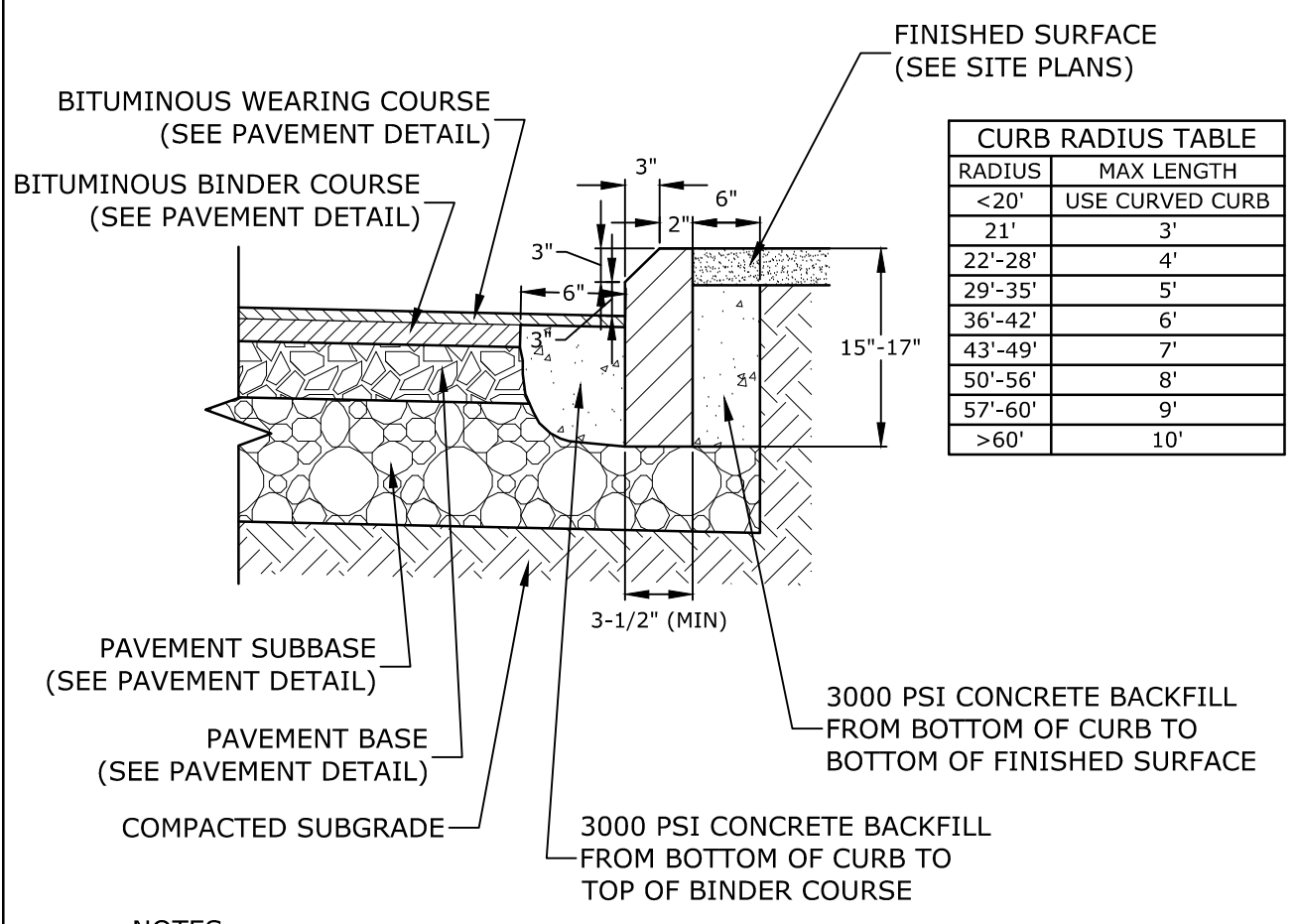
- NOTES:
- SEE SITE PLAN(S) FOR LIMITS OF VERTICAL GRANITE CURB (VGC).
 - ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
 - MINIMUM LENGTH OF STRAIGHT CURB STONES = 3'
 - MAXIMUM LENGTH OF STRAIGHT CURB STONES = 10'
 - MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES (SEE TABLE).
 - ALL RADII 20 FEET AND SMALLER SHALL BE CONSTRUCTED USING CURVED SECTIONS.
 - JOINTS BETWEEN STONES SHALL HAVE A MAXIMUM SPACING OF 1/2" AND SHALL BE MORTARED.

VERTICAL GRANITE CURB
NO SCALE



- NOTES:
- SEE SITE PLAN(S) FOR LIMITS OF VERTICAL GRANITE CURB (VGC).
 - ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
 - MINIMUM LENGTH OF STRAIGHT CURB STONES = 18'
 - MAXIMUM LENGTH OF STRAIGHT CURB STONES = 8'
 - MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES (SEE TABLE).
 - JOINTS BETWEEN STONES SHALL HAVE A MAXIMUM SPACING OF 1/2" AND SHALL BE MORTARED.

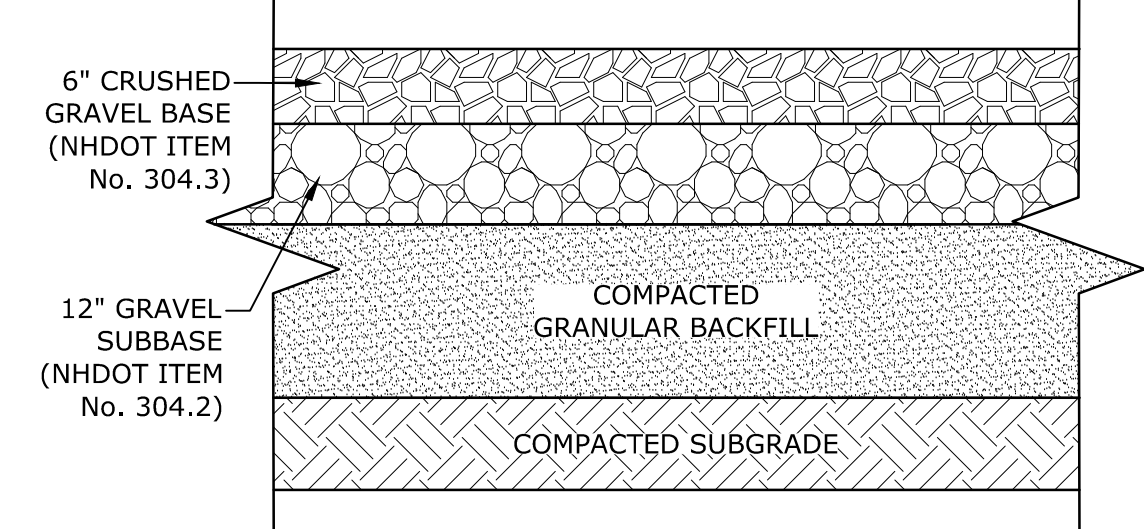
SLOPED GRANITE CURB
NO SCALE



- NOTES:
- SEE SITE PLAN(S) FOR LIMITS OF MOUNTABLE VERTICAL GRANITE CURB (MVGC).
 - ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
 - MINIMUM LENGTH OF STRAIGHT CURB STONES = 3'
 - MAXIMUM LENGTH OF STRAIGHT CURB STONES = 10'
 - MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES (SEE TABLE).
 - ALL RADII 20 FEET AND SMALLER SHALL BE CONSTRUCTED USING CURVED SECTIONS.
 - JOINTS BETWEEN STONES SHALL HAVE A MAXIMUM SPACING OF 1/2" AND SHALL BE MORTARED.

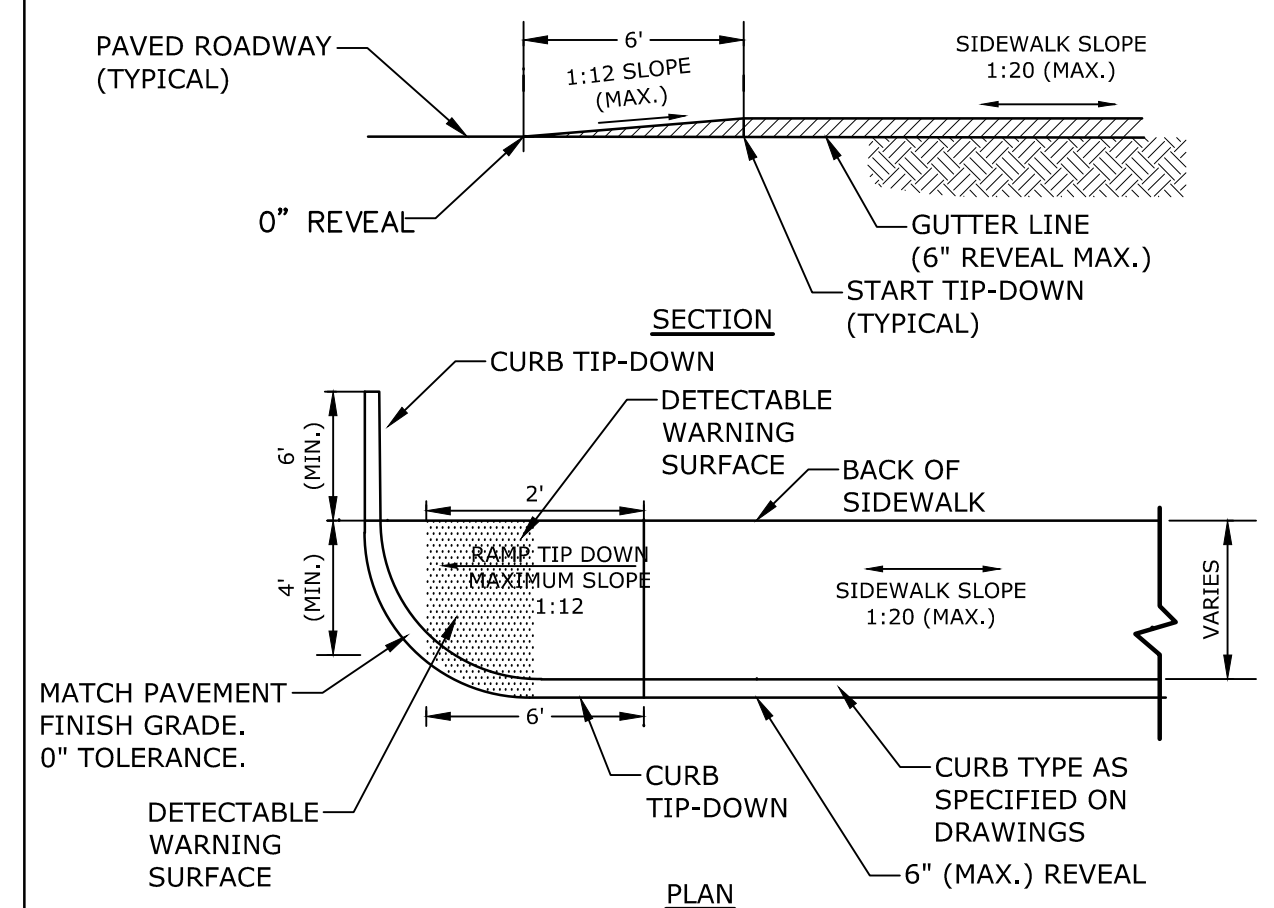
MOUNTABLE VERTICAL GRANITE CURB
NO SCALE

NHDOT ITEM No. 304.2 (GRAVEL)		NHDOT ITEM No. 304.3 (CRUSHED GRAVEL)	
SIEVE SIZE	% PASSING	SIEVE SIZE	% PASSING
6"	100	3"	100
#4	25-70	2"	95-100
#200	0-12	1"	55-85
		#4	27-52
		#200	0-12



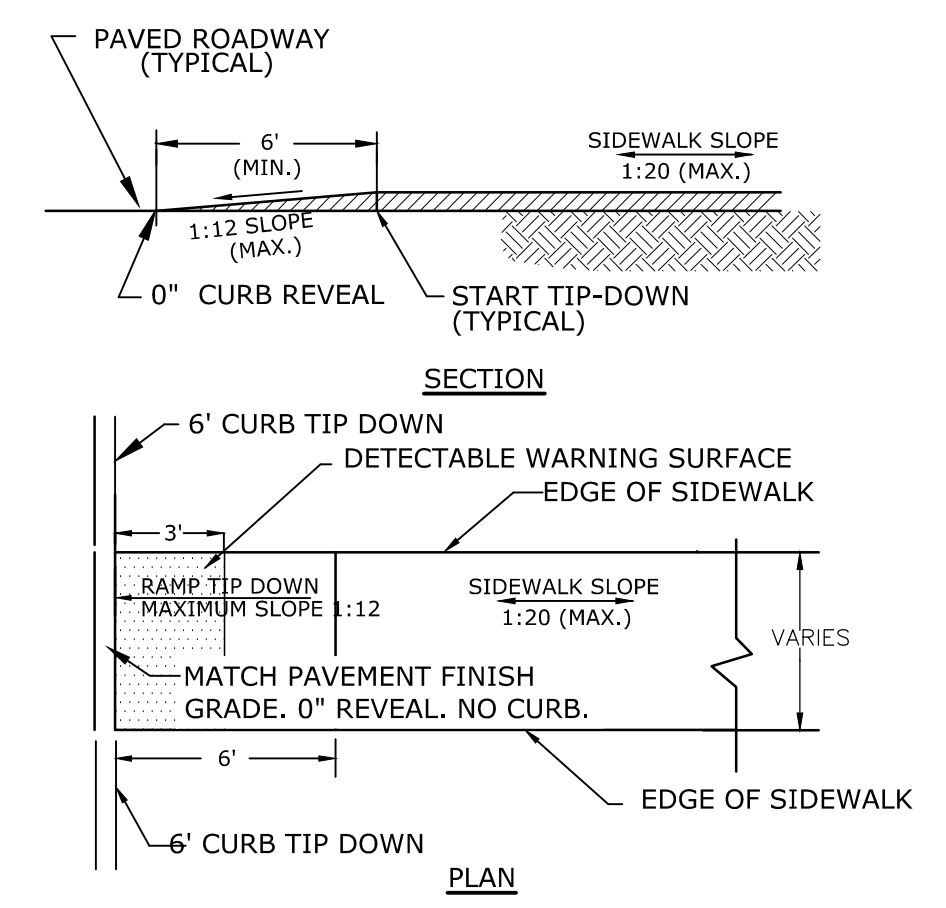
- NOTES:
- SEE SITE PLAN FOR GRAVEL WIDTH AND LOCATION.
 - SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.
 - GRAVEL PARKING AREA DESIGN TO BE DETERMINED BY GEOTECHNICAL ENGINEER

GRAVEL PARKING AREA SECTION
NO SCALE



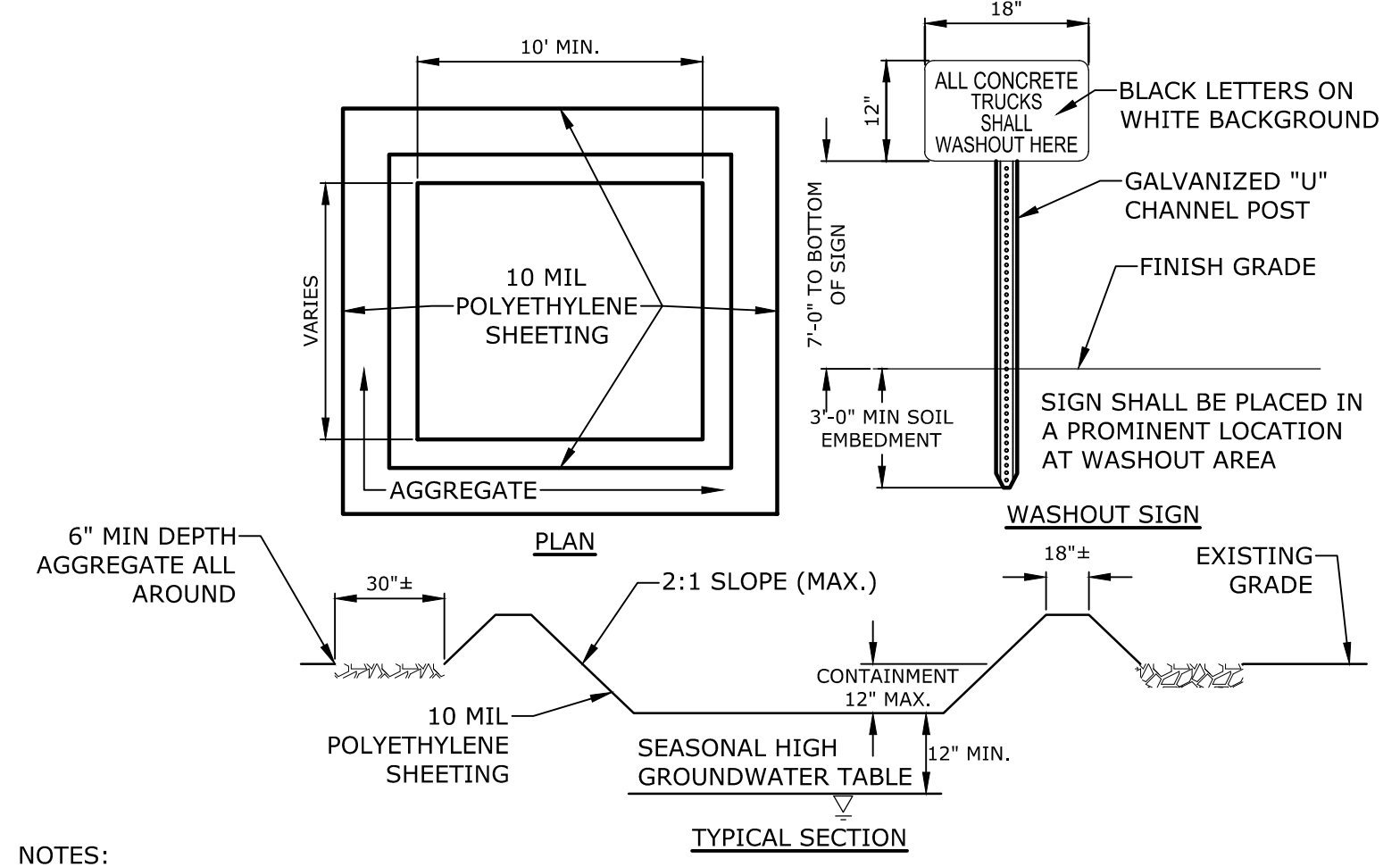
- NOTES:
- RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT AND LOCAL AND STATE REQUIREMENTS
 - PROVIDE 6" COMPACTED CRUSHED GRAVEL BASE BENEATH RAMPS.
 - DETECTABLE WARNING STRIP SHALL BE ADA SOLUTIONS, INC. CAST IN PLACE RAMP. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

CORNER TIP DOWN RAMP
NO SCALE



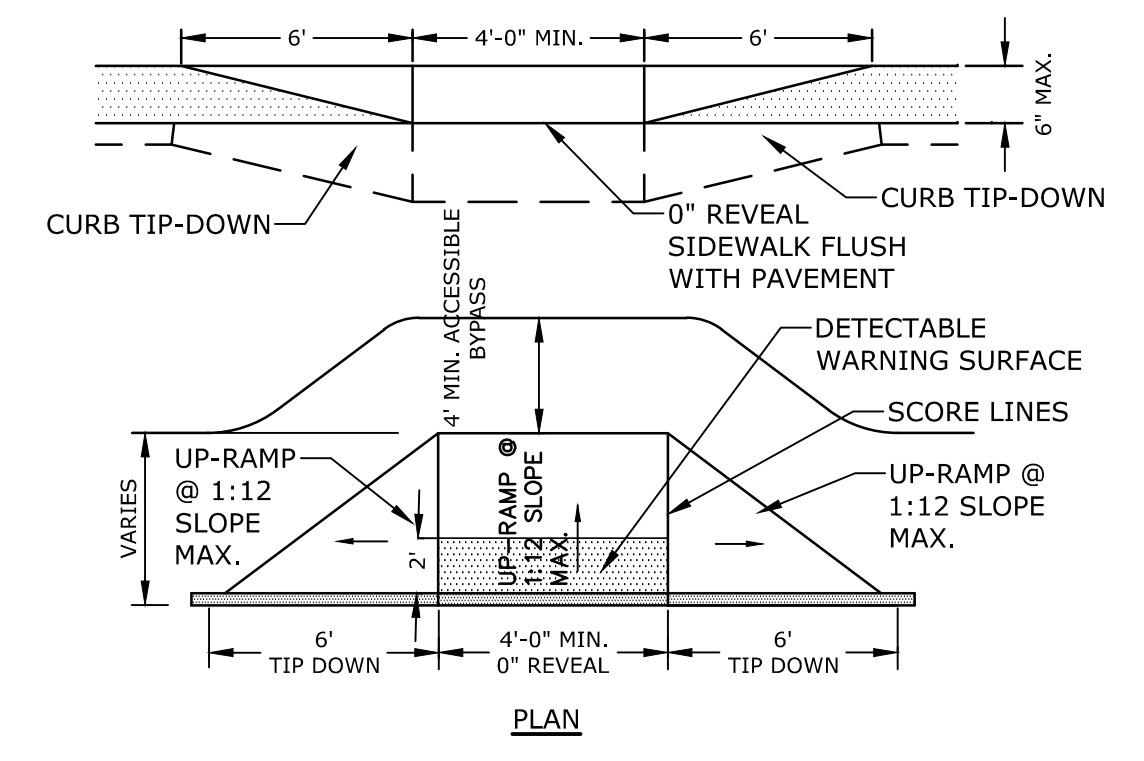
- NOTES:
- RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT AND LOCAL AND STATE REQUIREMENTS
 - PROVIDE 6" COMPACTED CRUSHED GRAVEL BASE BENEATH RAMPS.
 - DETECTABLE WARNING STRIP SHALL BE ADA SOLUTIONS, INC. CAST IN PLACE RAMP. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

SIDEWALK TIP-DOWN RAMP
NO SCALE



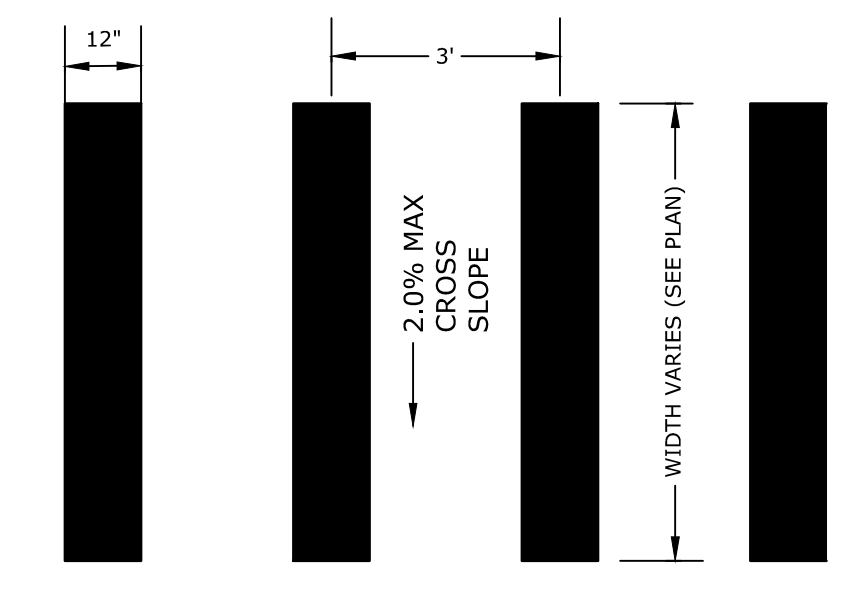
- NOTES:
- CONTAINMENT MUST BE STRUCTURALLY SOUND AND LEAK FREE AND CONTAIN ALL LIQUID WASTES.
 - CONTAINMENT DEVICES MUST BE OF SUFFICIENT QUANTITY OR VOLUME TO COMPLETELY CONTAIN THE LIQUID WASTES GENERATED.
 - WASHOUT MUST BE CLEANED OR NEW FACILITIES CONSTRUCTED AND READY TO USE ONCE WASHOUT IS 75% FULL.
 - WASHOUT AREA(S) SHALL BE INSTALLED IN A LOCATION EASILY ACCESSIBLE BY CONCRETE TRUCKS.
 - ONE OR MORE AREAS MAY BE INSTALLED ON THE CONSTRUCTION SITE AND MAY BE RELOCATED AS CONSTRUCTION PROGRESSES.
 - AT LEAST WEEKLY REMOVE ACCUMULATION OF SAND AND AGGREGATE AND DISPOSE OF PROPERLY.

CONCRETE WASHOUT AREA
NO SCALE



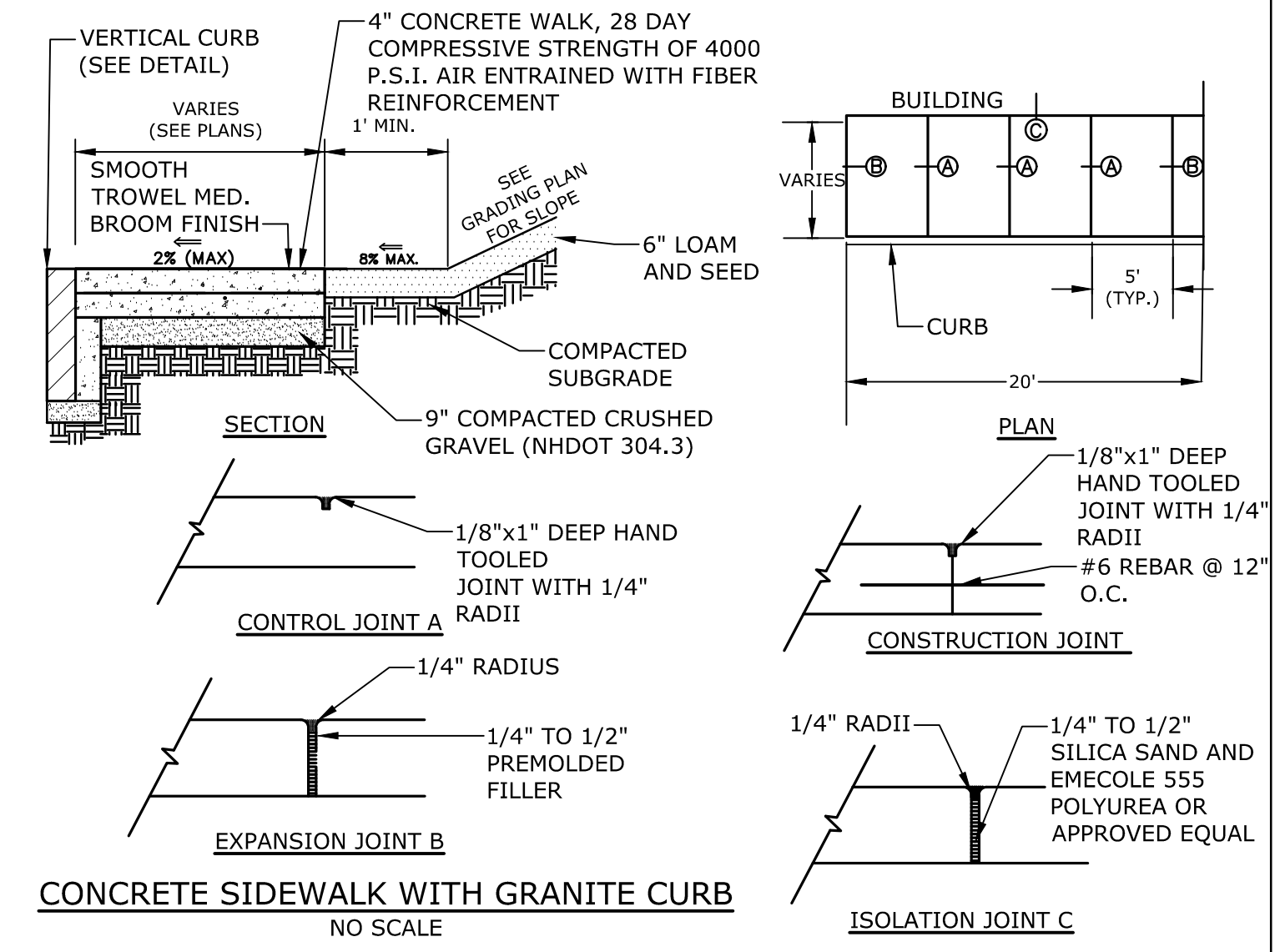
- NOTES:
- RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT AND LOCAL AND STATE REQUIREMENTS
 - PROVIDE 6" COMPACTED CRUSHED GRAVEL BASE BENEATH RAMPS
 - DETECTABLE WARNING STRIP SHALL BE ADA SOLUTIONS, INC. CAST IN PLACE RAMP. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

CONCRETE WHEELCHAIR ACCESSIBLE RAMP
NO SCALE

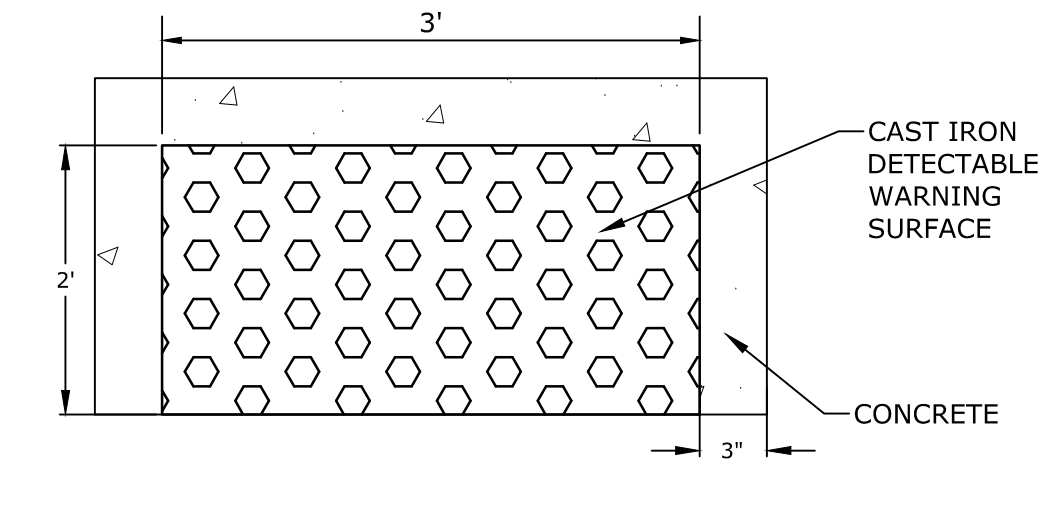


- NOTE:
- STRIPING SHALL BE CONSTRUCTED USING WHITE THERMO PLASTIC, REFLECTORIZED PAVEMENT MARKING MATERIAL MEETING THE REQUIREMENTS OF ASTM D 4505

CROSSWALK STRIPING
NO SCALE



CONCRETE SIDEWALK WITH GRANITE CURB
NO SCALE



- NOTES:
- DETECTABLE WARNING SURFACE SHALL BE 2' X 3' CAST IRON PANEL SET IN CONCRETE.
 - DETECTABLE WARNING SURFACE SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

CAST IRON DETECTABLE WARNING SURFACE
NO SCALE

Last Save Date: November 5, 2018 2:00 PM By: MAHANSEN
 Plot Date: Monday, November 05, 2018 Plotted By: Neil A. Hansen
 File Location: J:\L0700 Lonza Biologics Expansion.was 12/26/2013 From Parcel Redevelopment Drawings - Figures\AutoCAD\Sheet\L0700-CD-501 to C-508.dwg Layout Tab: C-502

Proposed Industrial Development
Lonza Biologics
Portsmouth, New Hampshire

MARK	DATE	DESCRIPTION
F	11/6/2018	P.B. Submission
E	8/30/2018	Revised Aot Submission
D	8/21/2018	Revised TAC Submission
C	6/18/2018	NHDES Aot Submission
B	5/21/2018	TAC Submission
A	4/3/2018	TAC W.S. Submission

PROJECT NO: L-0700-013
 DATE: 04/03/2018
 FILE:
 DRAWN BY: NAH
 CHECKED: PMC
 APPROVED: BLM

DETAILS SHEETS

SCALE: AS SHOWN

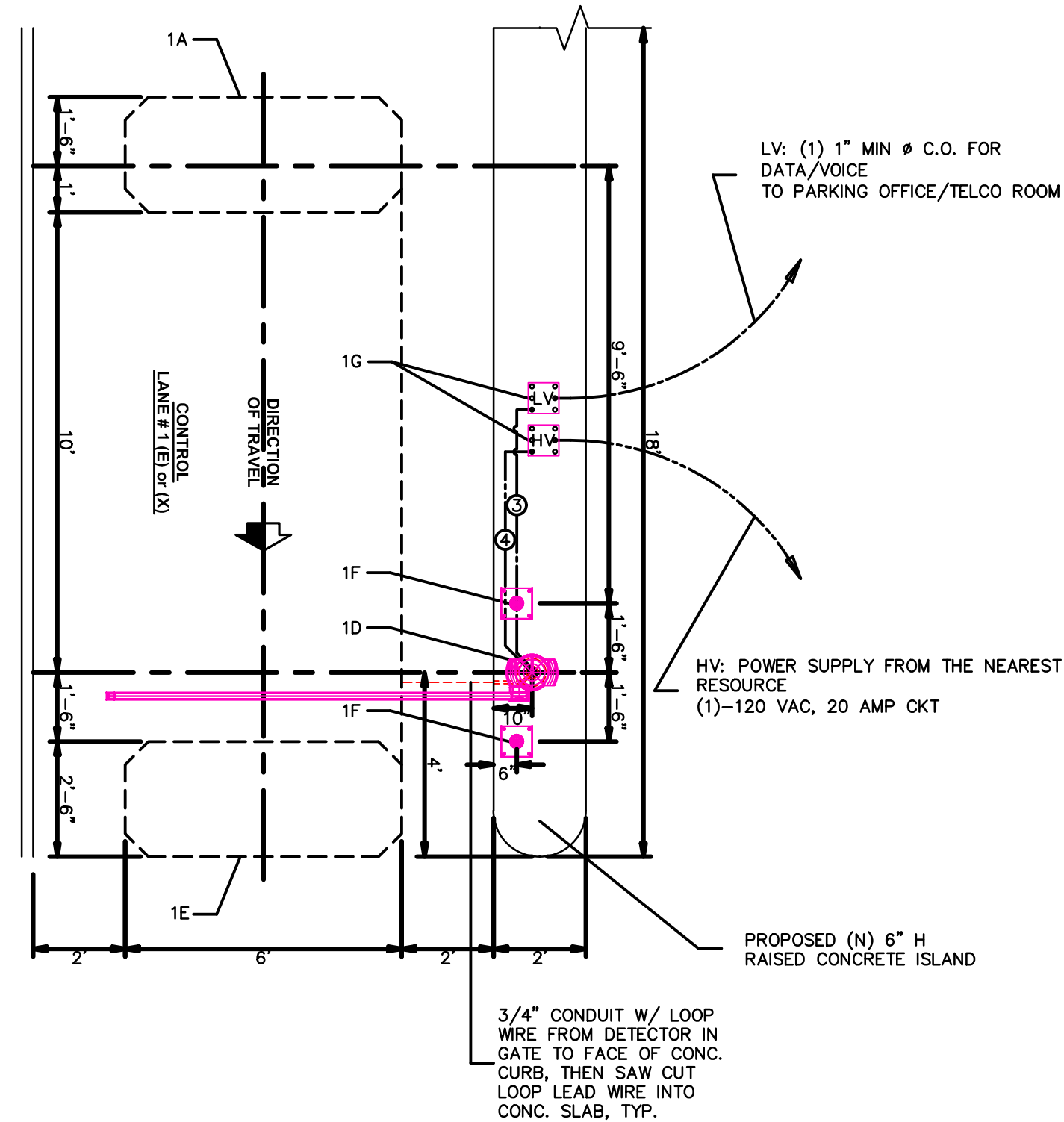
- LEGEND**
- ① 1" Ø C.O., ARNET CABLE (DATA)
 - ② 22/4 CAT3, PVC (VOICE)
 - ③ 3/4" Ø C.O., 22/8 CABLE O.S., PVC (DATA)
 - ④ ONE (1) 115VAC, 20AMP CIRCUIT (POWER)

CONTROL LANE GENERAL NOTES:

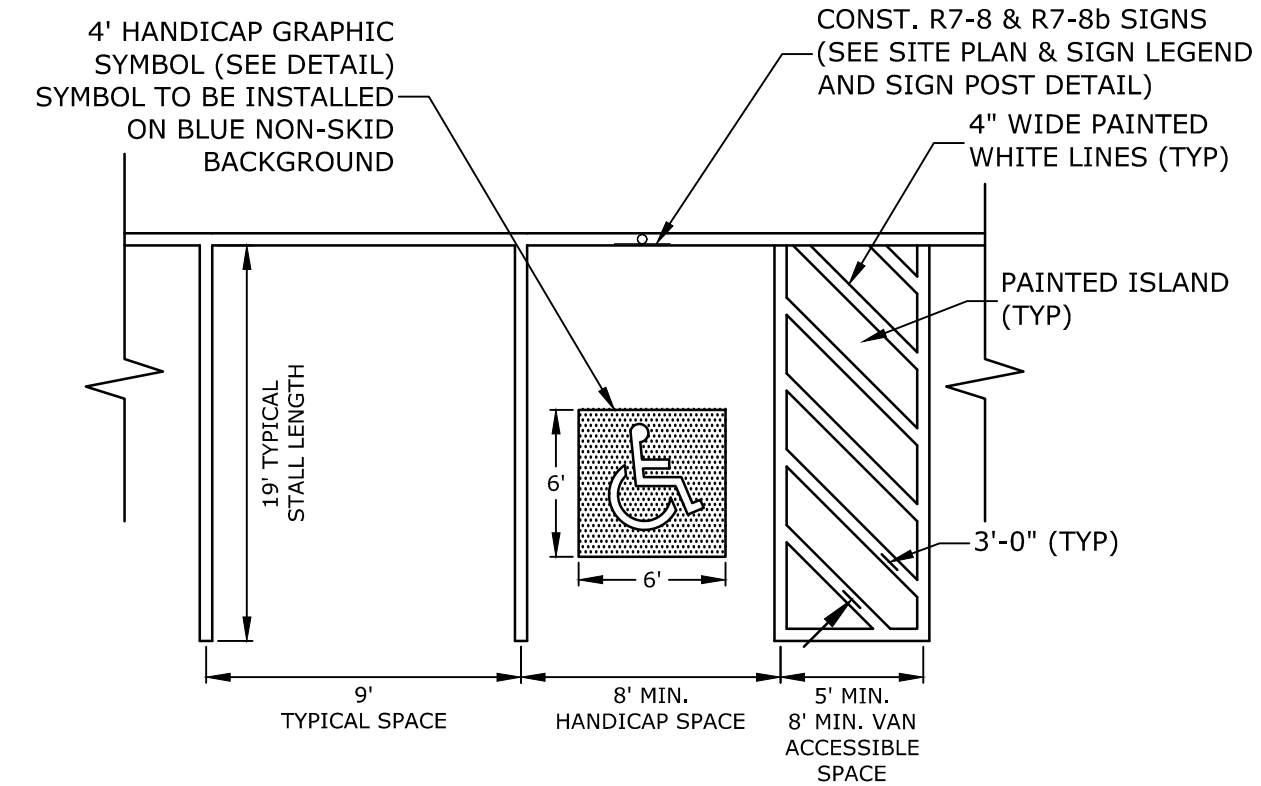
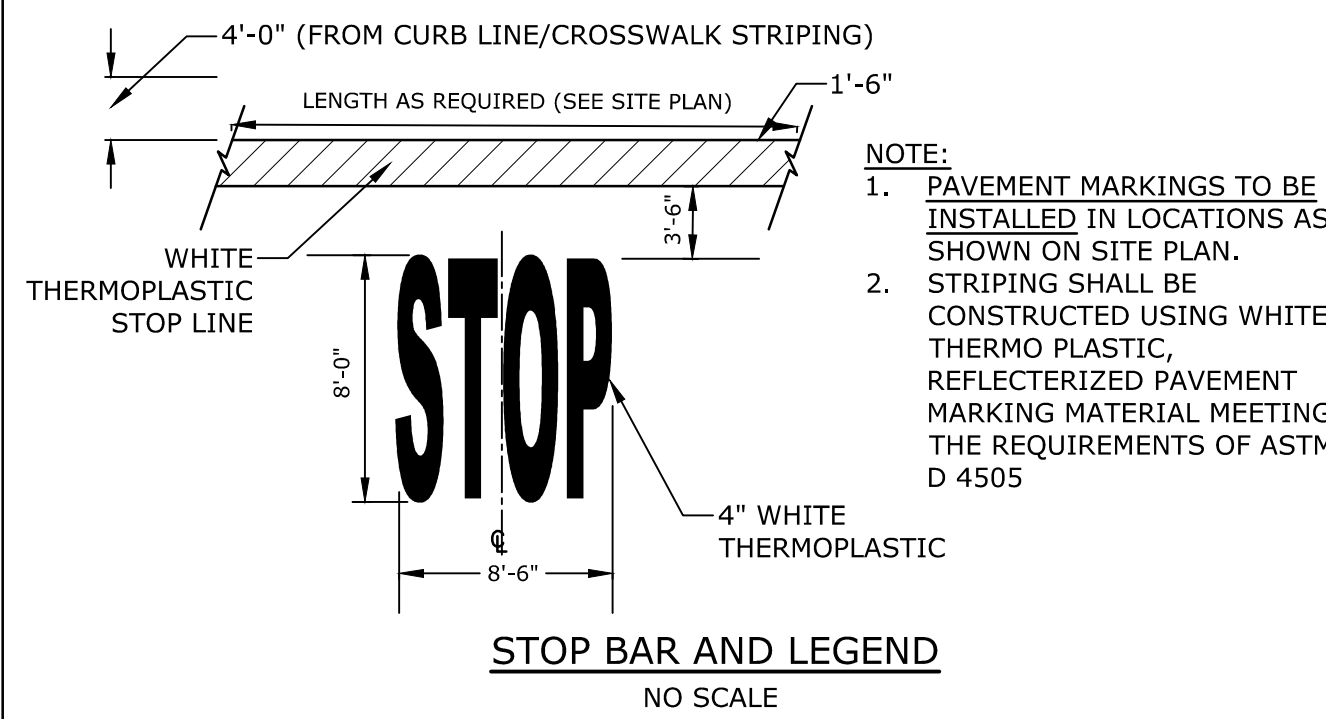
1. THIS DRAWING IS NOT TO BE USED FOR ELECTRICAL CIRCUITRY, REFER TO ELECTRICAL DRAWINGS.
2. --- DENOTES CONDUIT AND WIRE FOR POWER OR PULL WIRE FOR CONTROLS BY ELECTRICAL CONTRACTOR.
3. --- DENOTES CONDUIT AND WIRE BY ELECTRICAL CONTRACTOR.
4. C.O. (CONDUIT ONLY) DENOTES CONDUIT AND PULL WIRE.
5. STUB-UP CONDUIT 8" ABOVE TOP OF CONCRETE ISLAND PLUS 3'-0" OF WIRE FOR PARKING EQUIPMENT SUPPLIER.
6. ELECTRICAL CONTRACTOR SHALL VERIFY WITH PARKING EQUIPMENT SUPPLIER AS TO THE ACTUAL POWER REQUIREMENTS TO EACH LOCATION BEFORE START OF WORK.
7. ELECTRICAL CONTRACTOR SHALL VERIFY WITH INTERCOM SYSTEM SUPPLIER AS TO THE ACTUAL CONDUIT SIZE REQUIRED BEFORE START OF WORK.
8. CONCRETE CURBS SHALL BE 6" HIGH UNO.
9. FOR ADDITIONAL PARKING EQUIPMENT REQUIREMENTS, REFER TO SPECS.
10. COORDINATE WITH ELECTRICAL DRAWINGS.

PARKING CONTROL EQUIPMENT LIST:

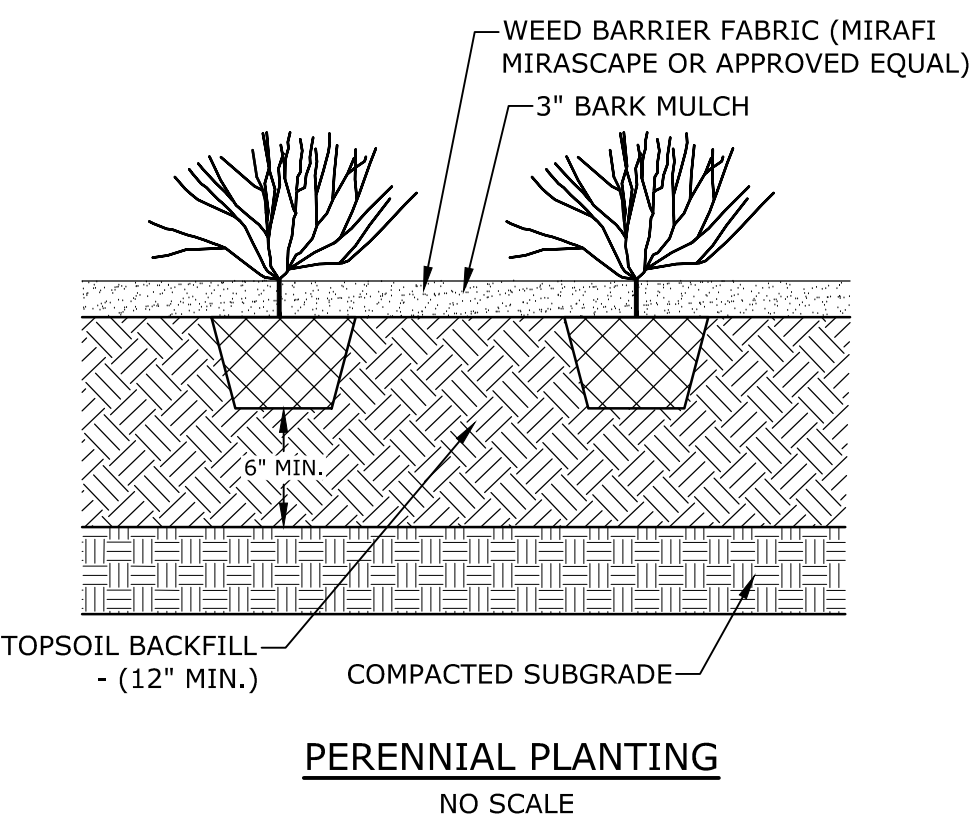
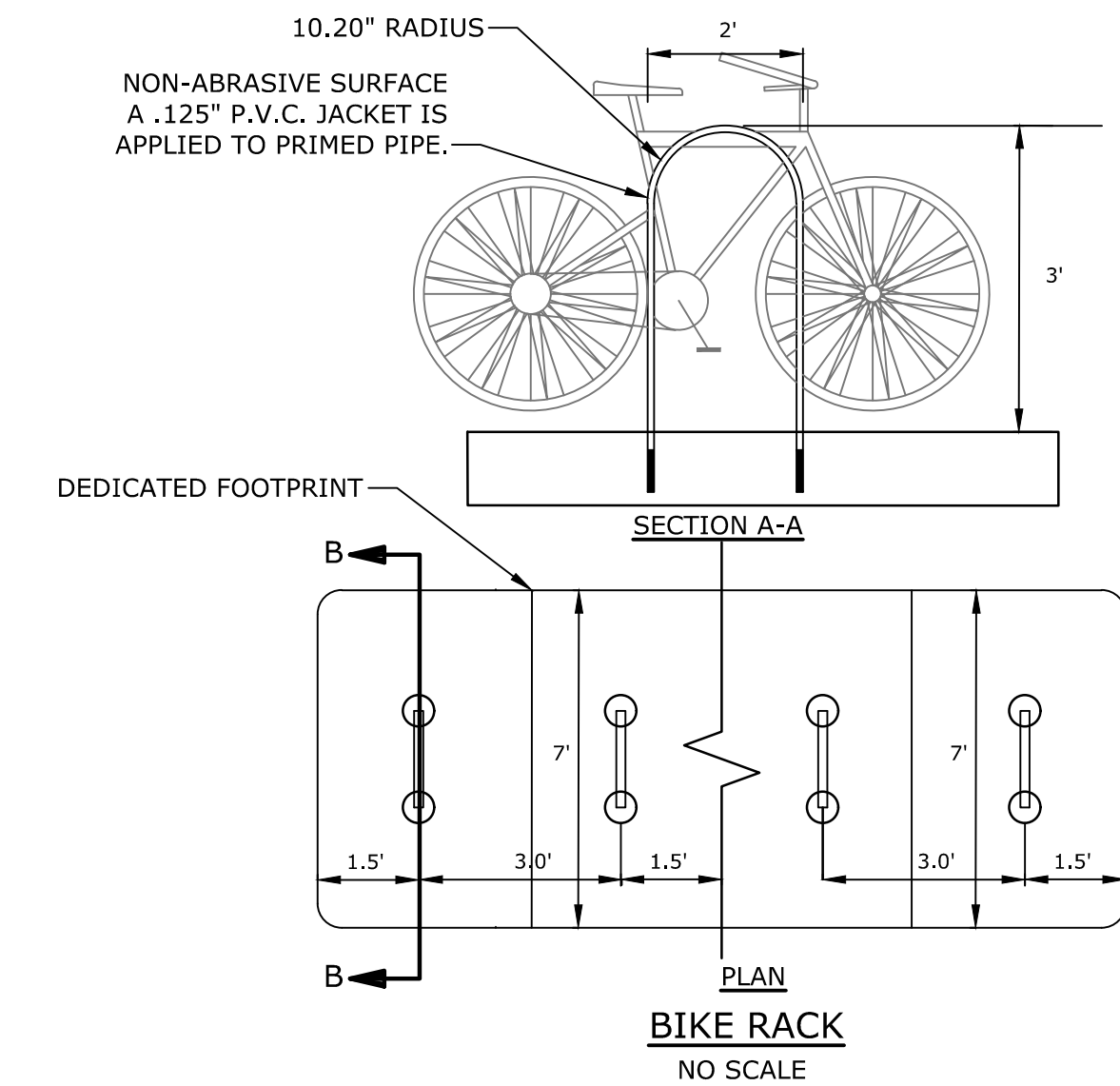
- CONTROL LANE # 1 (E) or (X)
- 1A - ARMING LOOP DETECTOR ASSEMBLY
 - 1B - SKIDATA ENTRY/EXIT COLUMN UNLIMITED (See Detail)
 - 1C - TWO-WAY INTERCOM UNIT
 - 1D - SKIDATA BARRIER GATE (See Detail)
 - 1E - CLOSING LOOP DETECTOR ASSEMBLY
 - 1F - PROTECTION POST
 - 1G - INGROUND JUNCTION BOXES (8"x8"x4") FOR POWER & DATA



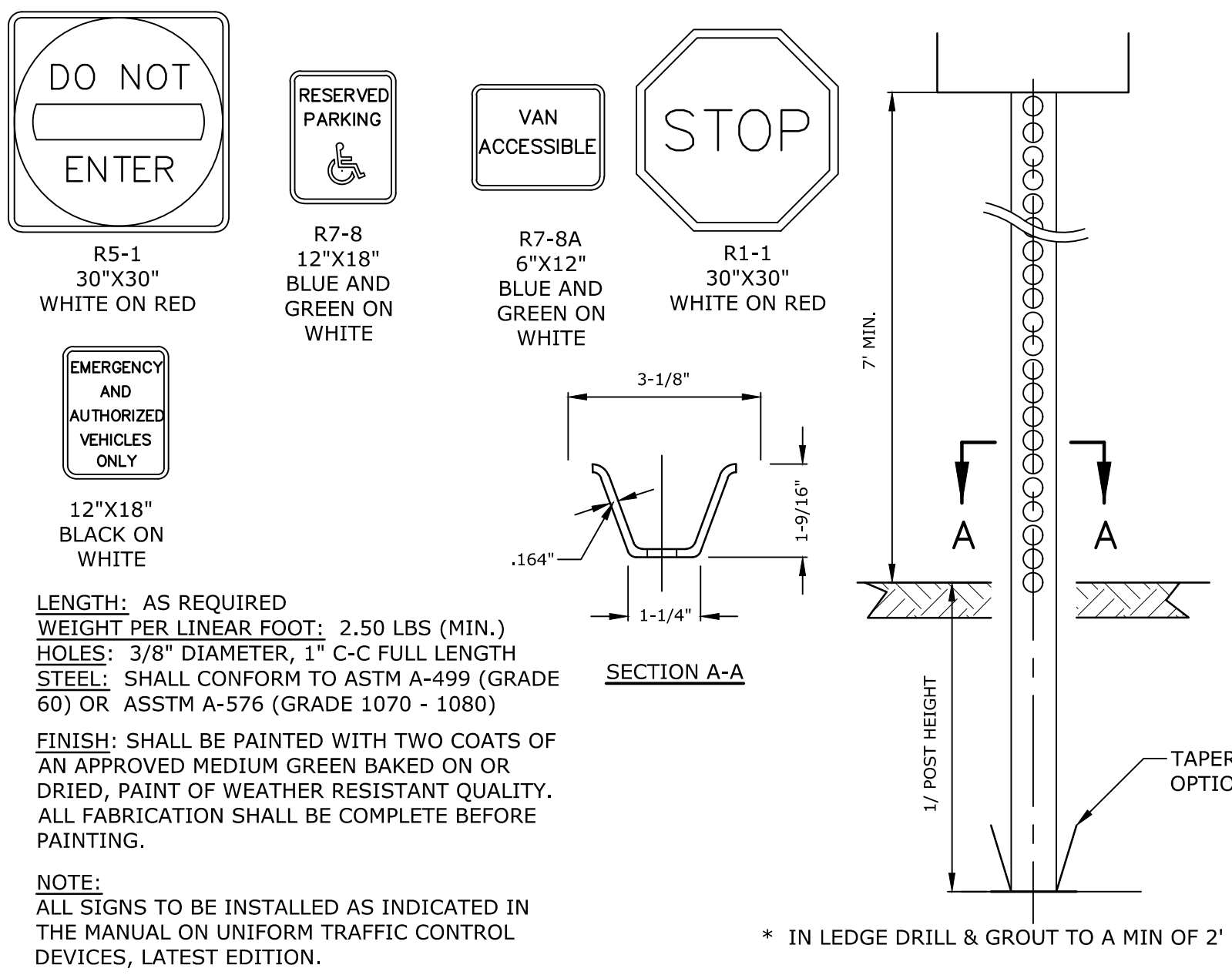
TYPICAL PARKING EQUIPMENT DETAILS
NO SCALE



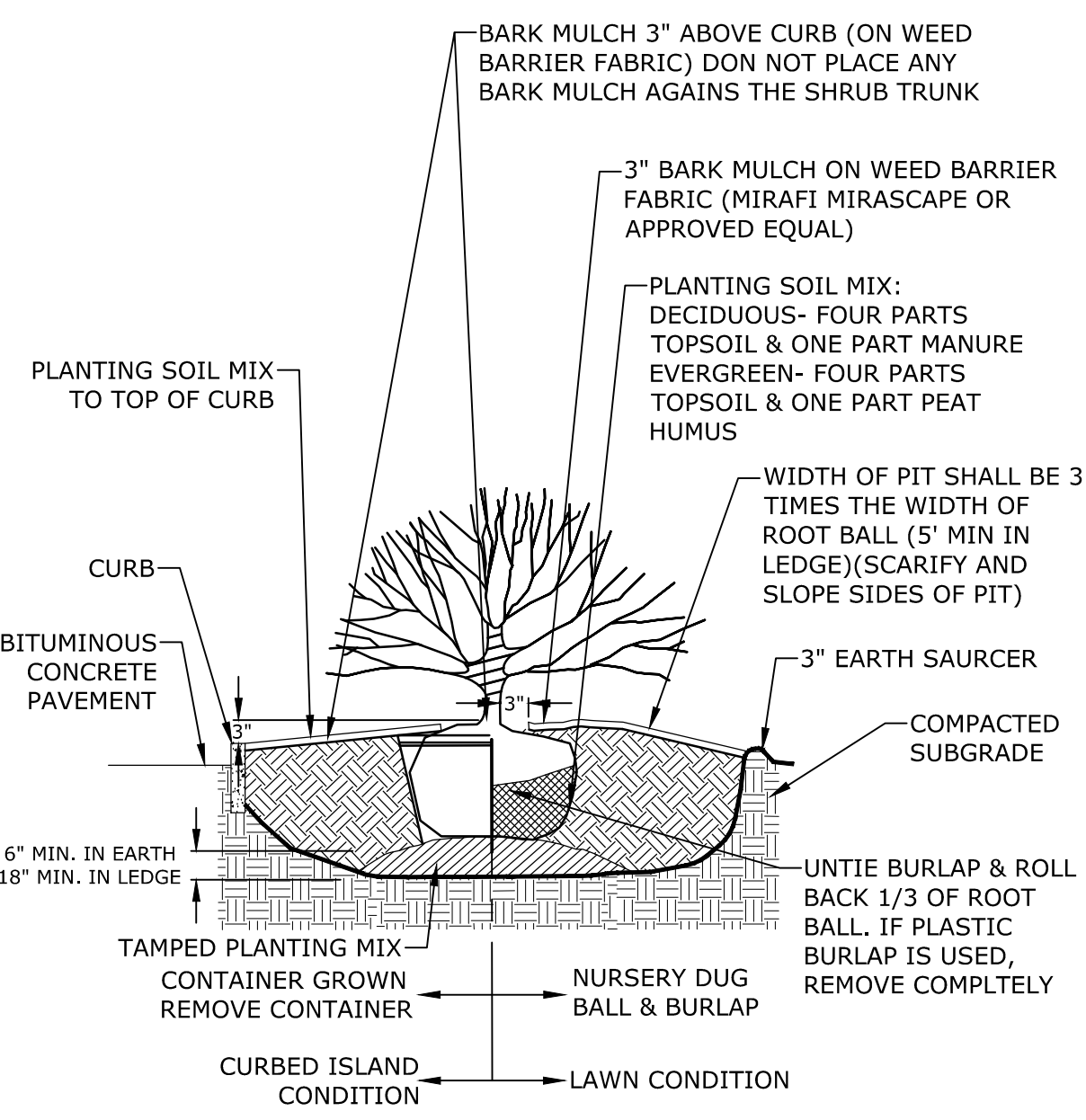
STALL STRIPING-SINGLE STRIPE
NO SCALE



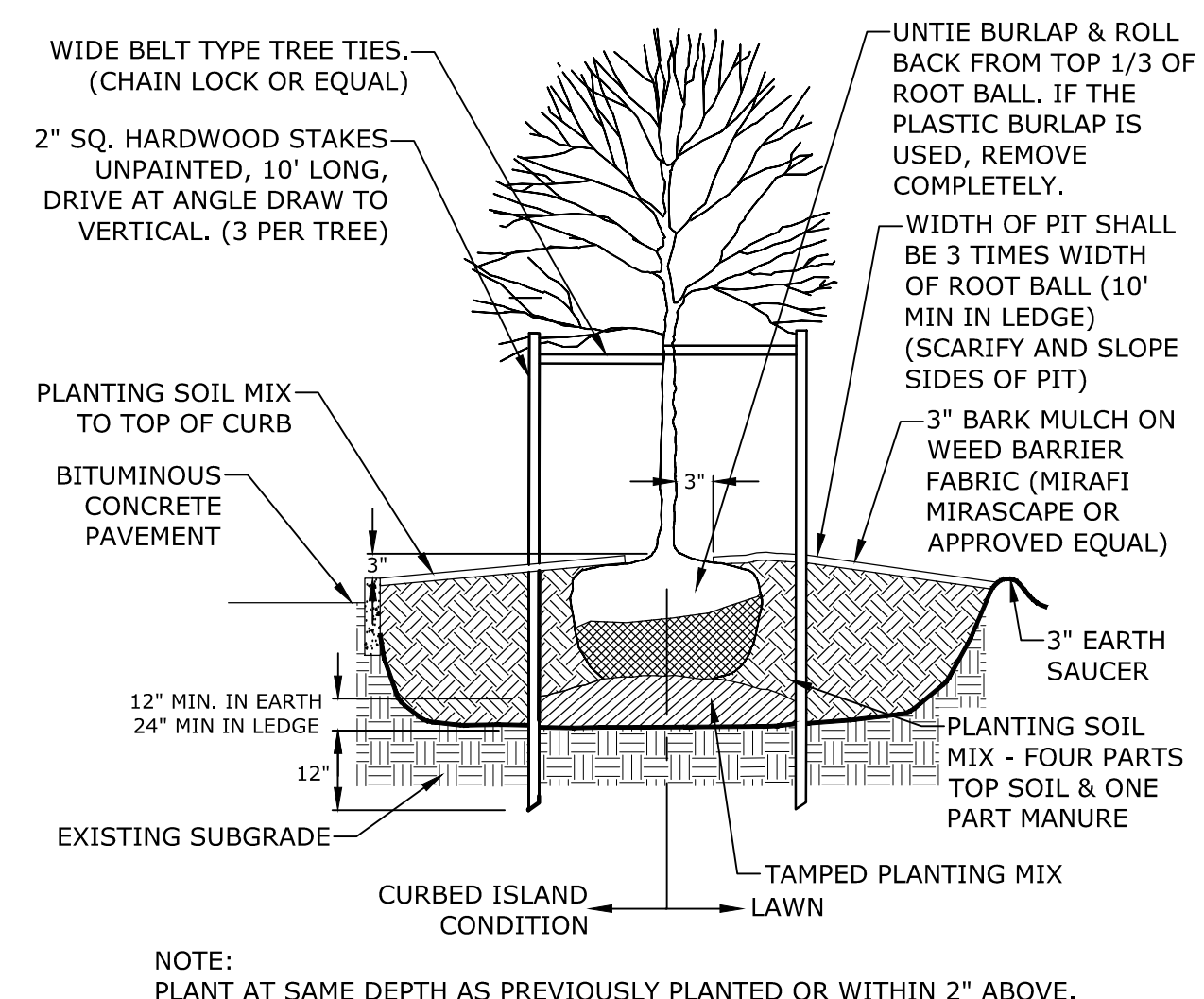
PERENNIAL PLANTING
NO SCALE



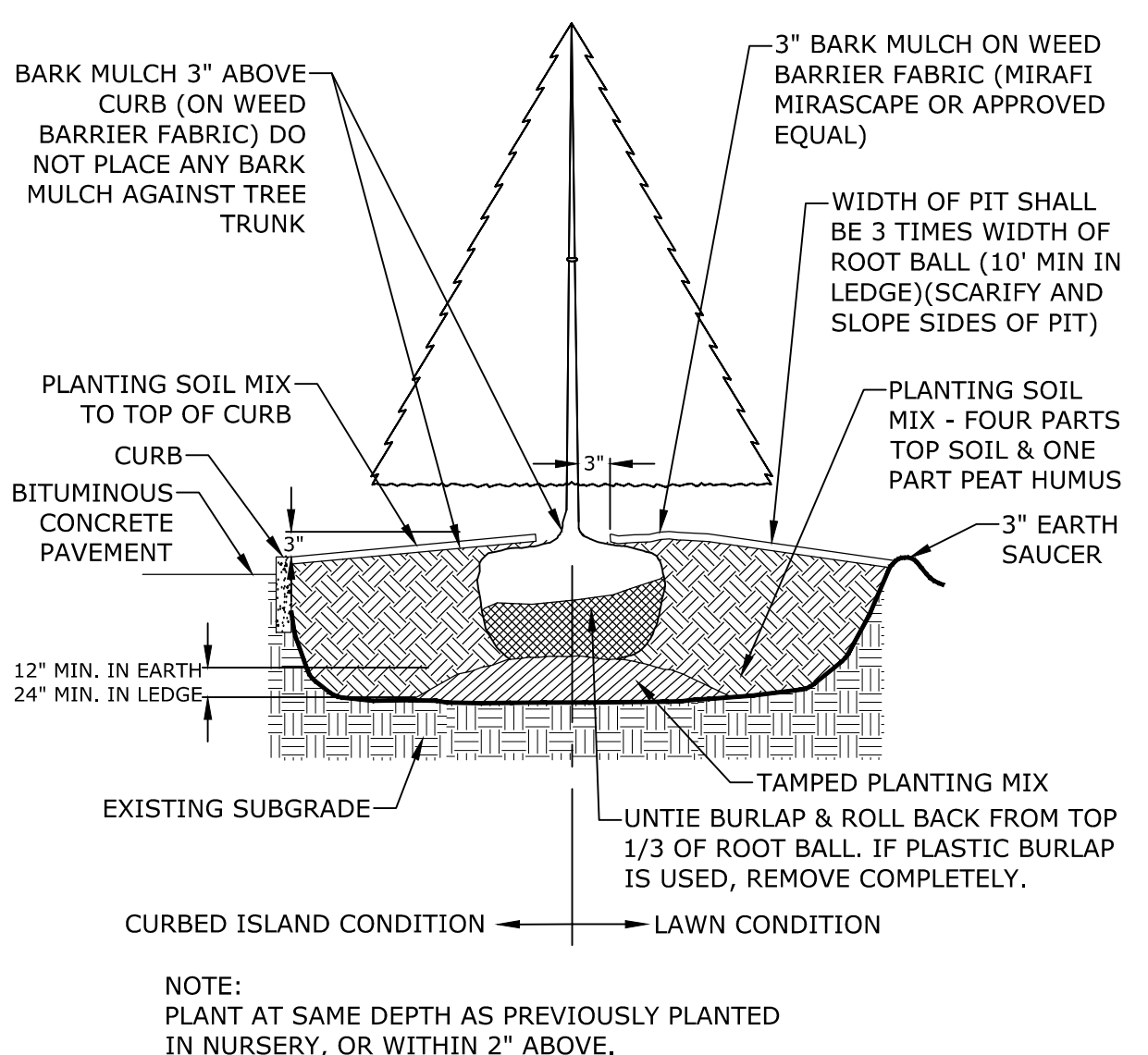
SIGN LEGEND & SIGN POST
NO SCALE



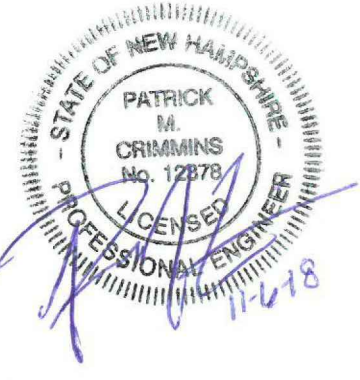
SHRUB PLANTING
NO SCALE



DECIDUOUS TREE PLANTING
NO SCALE



EVERGREEN TREE PLANTING
NO SCALE



Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

MARK	DATE	DESCRIPTION
F	11/6/2018	P.B. Submission
E	8/30/2018	Revised Aot Submission
D	8/21/2018	Revised TAC Submission
C	6/18/2018	NHDES Aot Submission
B	5/21/2018	TAC Submission
A	4/3/2018	TAC W.S. Submission

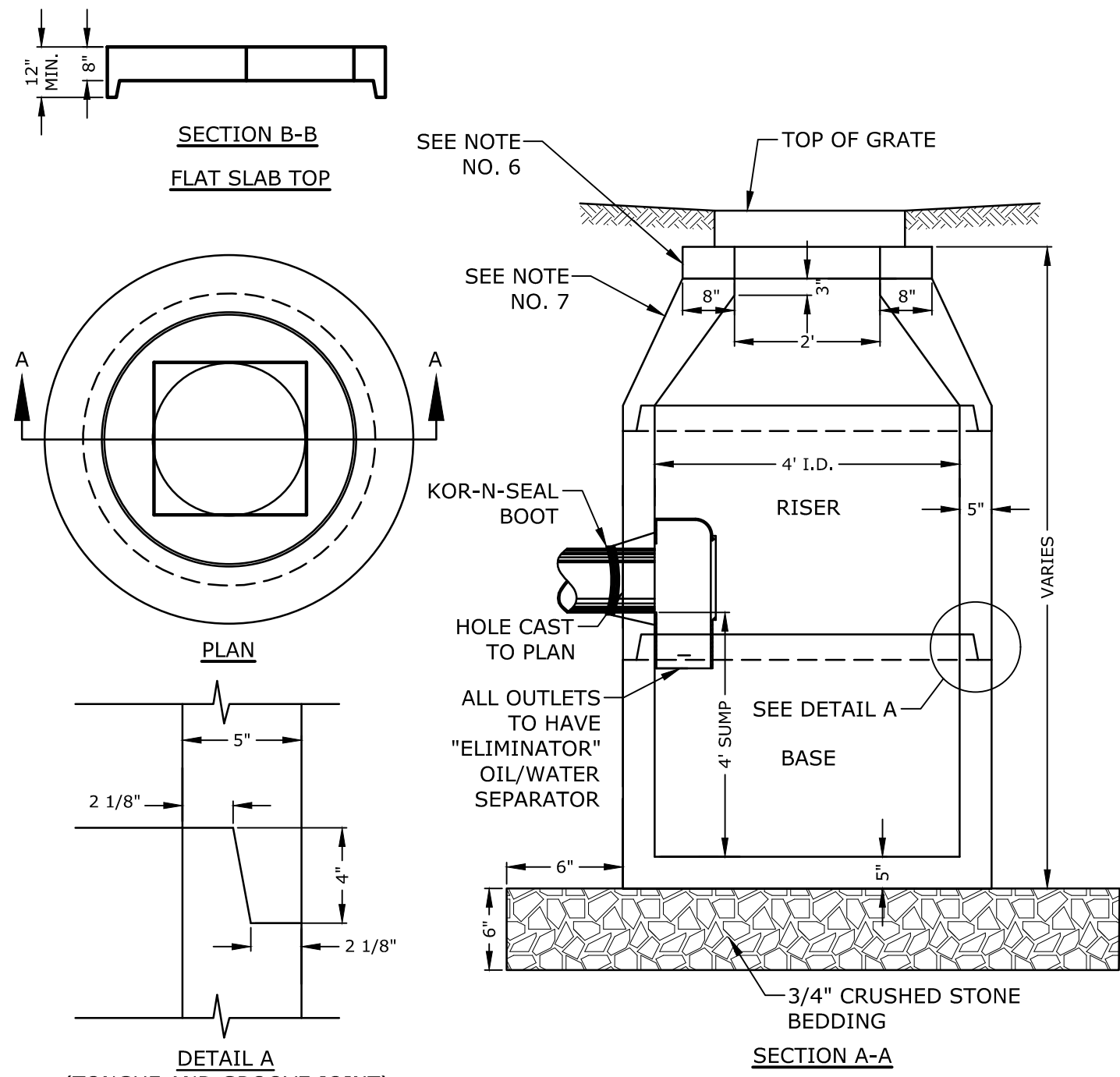
PROJECT NO: L-0700-013
DATE: 04/03/2018
DRAWN BY: NAH
CHECKED: PMC
APPROVED: BLM

DETAILS SHEET

SCALE: AS SHOWN

C-503

Last Save Date: November 5, 2018 2:00 PM By: MAHANSEN
Plot Date: Monday, November 05, 2018 Plotted By: Neil A. Hansen
File Location: J:\L0700 Lonza Biologics Expansion.was 1276 013 From Parcel Redevelopment Drawings - Figures AutoCAD Sheet L0700-CD-501 to C-508.dwg Layout Tab: C-503

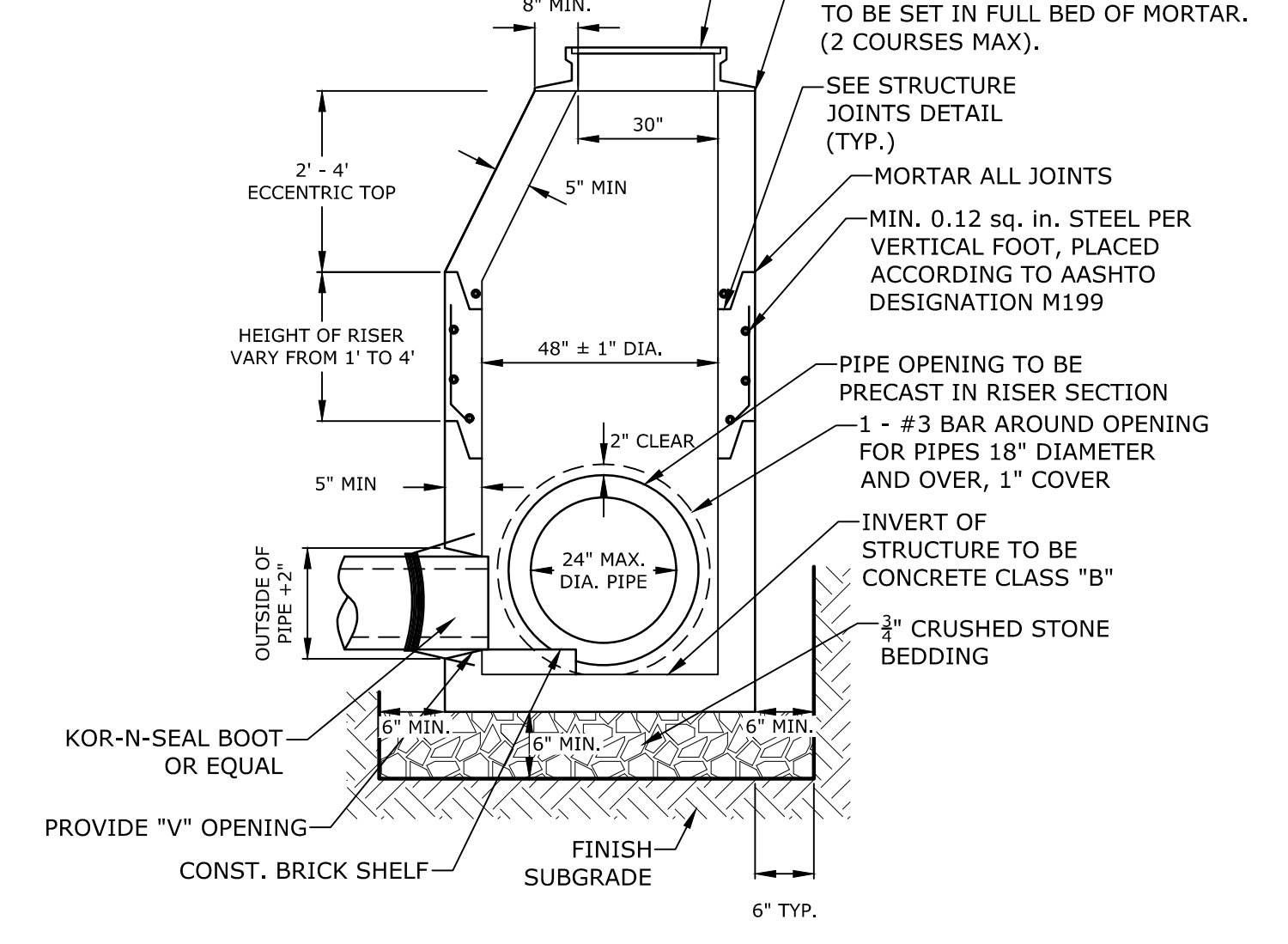


- NOTES:**
1. ALL SECTIONS SHALL BE CONCRETE CLASS AA(4000 psi). CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ. IN. PER LINEAR FT. IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
 2. THE TONGUE AND GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER LINEAR FT.
 3. RISERS OF 1', 2', 3' & 4' CAN BE USED TO REACH DESIRED DEPTH.
 4. THE STRUCTURES SHALL BE DESIGNED FOR H2O LOADING.
 5. FITTING FRAME TO GRADE MAY BE DONE WITH PREFABRICATED ADJUSTMENT RINGS OR CLAY BRICKS (2 COURSES MAX.).
 6. CONE SECTIONS MAY BE EITHER CONCENTRIC OR ECCENTRIC, OR FLAT SLAB TOPS MAY BE USED WHERE PIPE WOULD OTHERWISE ENTER INTO THE CONE SECTION OF THE STRUCTURE AND WHERE PERMITTED. PIPE ELEVATIONS SHOWN ON PLANS SHALL BE FIELD VERIFIED PRIOR TO PRECASTING.
 7. OUTSIDE EDGES OF PIPES SHALL PROJECT NO MORE THAN 3" BEYOND INSIDE WALL OF STRUCTURE.
 8. PRECAST SECTIONS SHALL HAVE A TONGUE AND GROOVE JOINT 4" HIGH AT AN 11° ANGLE CENTERED IN THE WIDTH OF THE WALL AND SHALL BE ASSEMBLED USING AN APPROVED FLEXIBLE SEALANT IN JOINTS. THE TONGUE AND GROOVE JOINT SHALL BE SEALED WITH ONE STRIP OF BUTYL RUBBER SEALANT.
 9. "ELIMINATOR" OIL/WATER SEPARATOR SHALL BE INSTALLED TIGHT TO INSIDE OF CATCHBASIN.

4" DIAMETER CATCHBASIN
NO SCALE

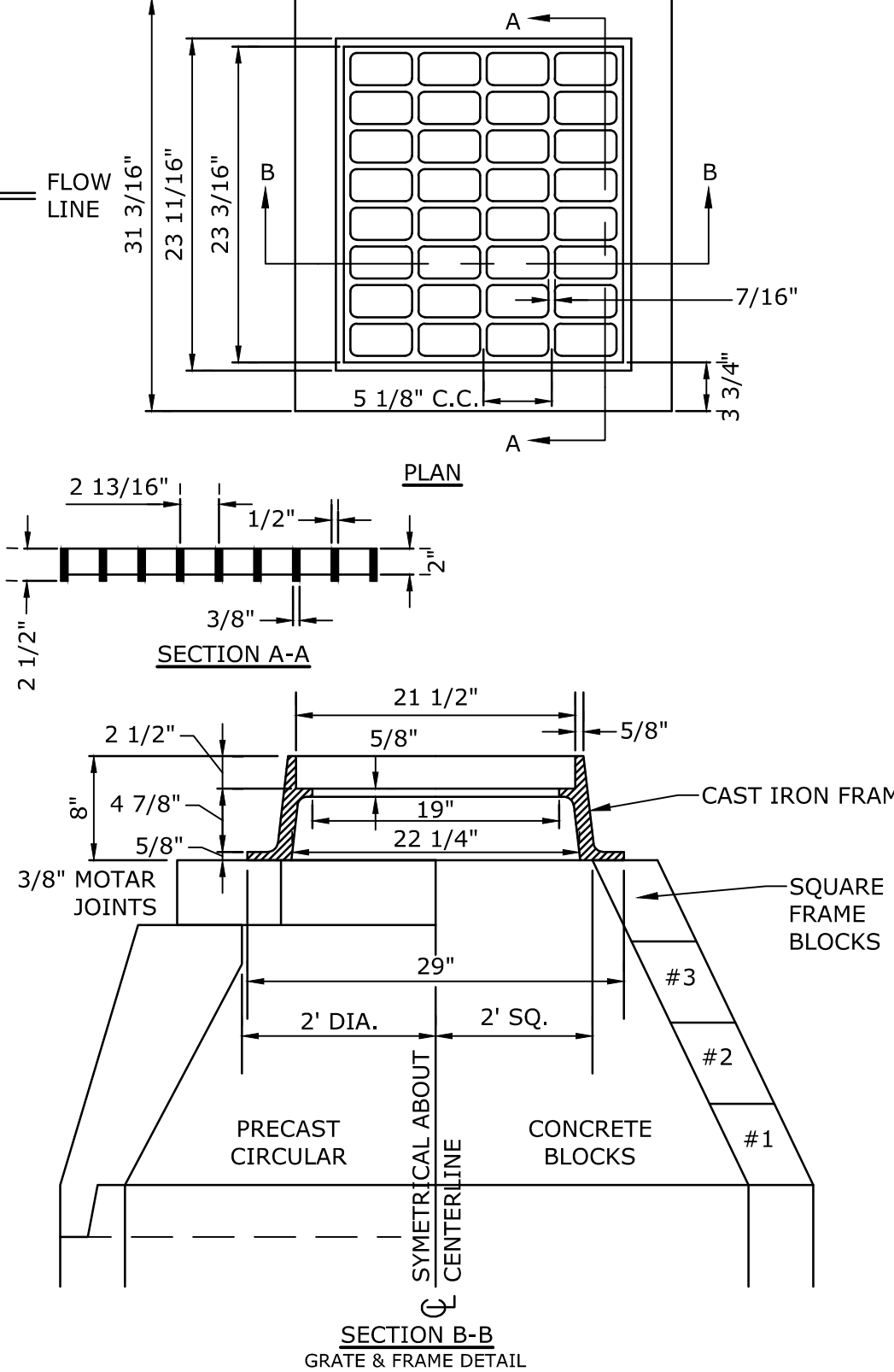
NHDOT ITEM No. 304.4
(CRUSHED STONE - FINE)

SIEVE SIZE	% PASSING
2"	100
1-1/2"	85-100
3/4"	45-75
#4	10-45
#200	0-5

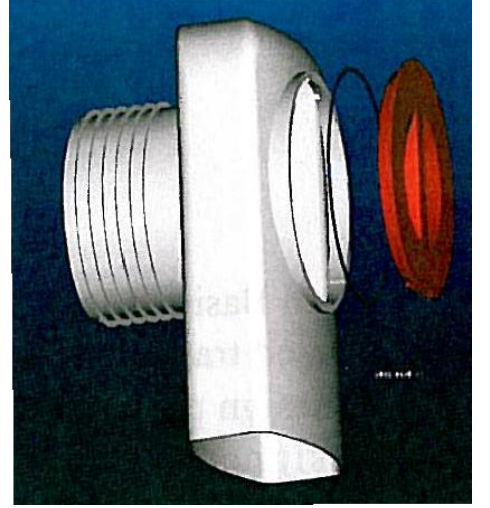


- NOTES:**
1. ALL SECTIONS SHALL BE 4,000 PSI CONCRETE.
 2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQUARE INCHES PER LINEAR FOOT IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
 3. THE TONGUE AND GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQUARE INCHES PER LINEAR FOOT.
 4. THE STRUCTURES SHALL BE DESIGNED FOR H2O LOADING.
 5. CONSTRUCT CRUSHED STONE BEDDING AND BACKFILL UNDER (6" MINIMUM THICKNESS)
 6. THE TONGUE AND GROOVE JOINT SHALL BE SEALED WITH ONE STRIP OF BUTYL RUBBER SEALANT.
 7. PIPE ELEVATIONS SHOWN ON PLANS SHALL BE FIELD VERIFIED PRIOR TO PRECASTING.
 8. OUTSIDE EDGES OF PIPES SHALL PROJECT NO MORE THAN 3" BEYOND INSIDE WALL OF STRUCTURE.
 9. PRECAST SECTIONS SHALL HAVE A TONGUE AND GROOVE JOINT 4" HIGH AT AN 11° ANGLE CENTERED IN THE WIDTH OF THE WALL AND SHALL BE ASSEMBLED USING AN APPROVED FLEXIBLE SEALANT IN JOINTS.
 10. ALL STRUCTURES WITH MULTIPLE PIPES SHALL HAVE A MINIMUM OF 12" OF INSIDE SURFACE BETWEEN HOLES, NO MORE THAN 75% OF A HORIZONTAL CROSS SECTION SHALL BE HOLES, AND THERE SHALL BE NO HOLES CLOSER THAN 3" TO JOINTS.

4" DIAMETER DRAIN MANHOLE
NO SCALE

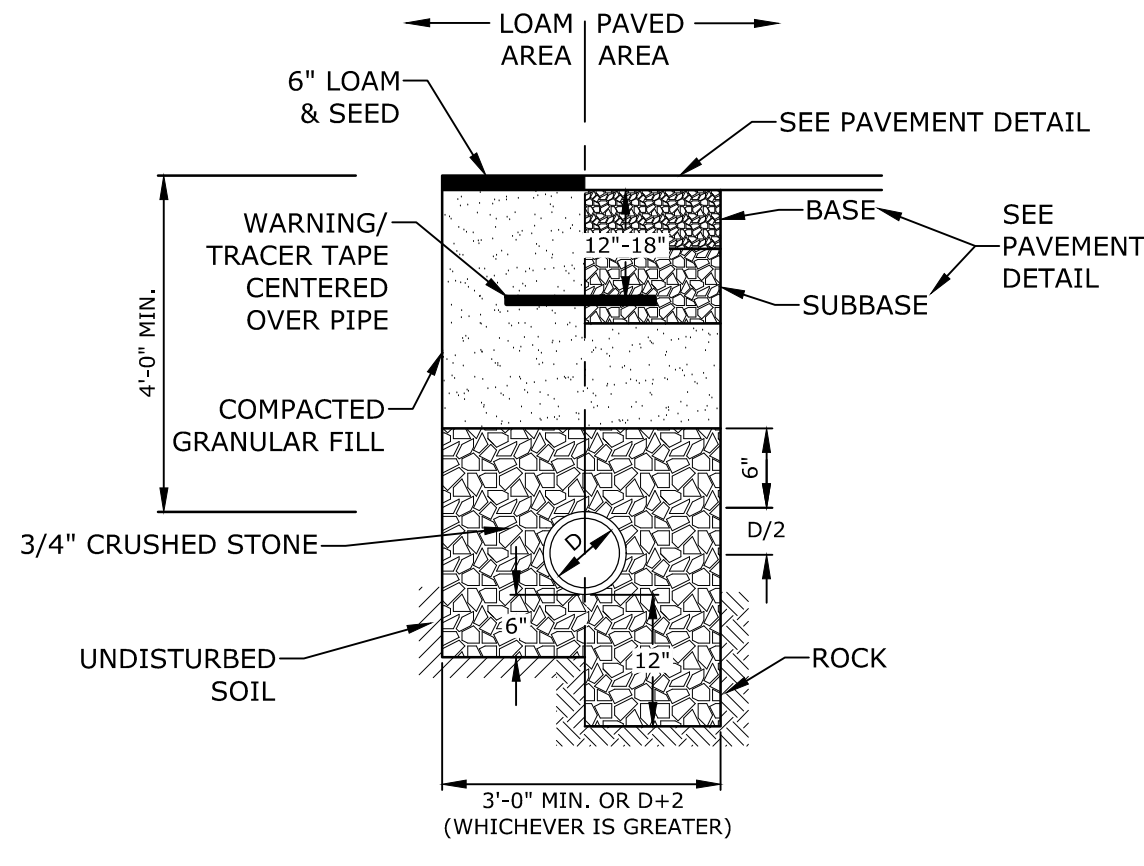


CATCH BASIN FRAME & GRATE
NO SCALE



- NOTES:**
1. ALL CATCH BASIN OUTLETS TO HAVE "ELIMINATOR" OIL AND FLOATING DEBRIS TRAP MANUFACTURED BY KLEANSTREAM (NO EQUAL).
 2. INSTALL DEBRIS TRAP TIGHT TO INSIDE OF STRUCTURE.
 3. 1/4" HOLE SHALL BE DRILLED IN TOP OF DEBRIS TRAP

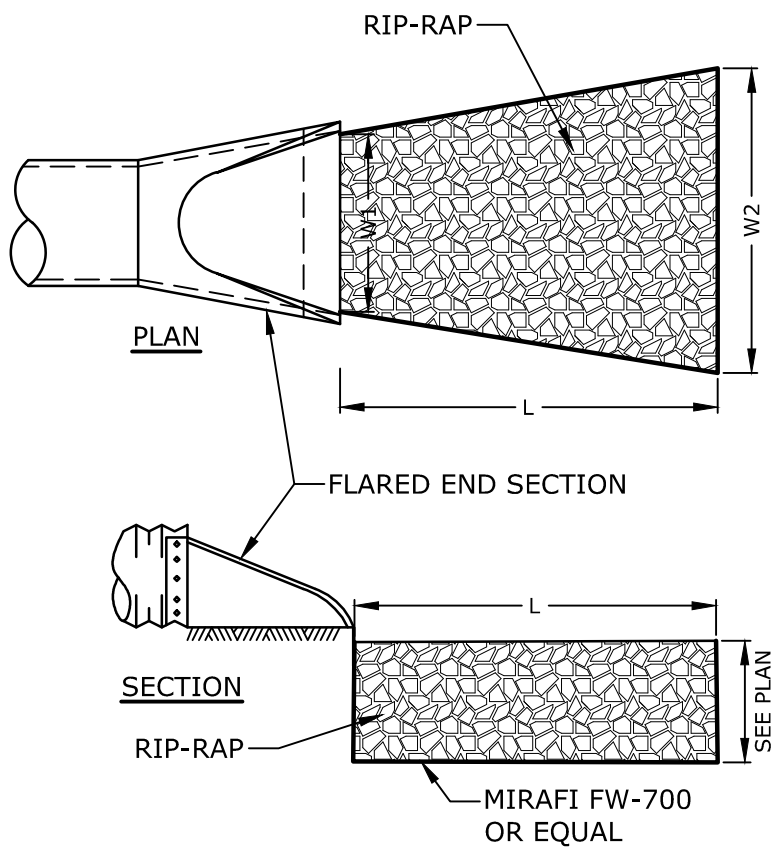
"ELIMINATOR" OIL FLOATING DEBRIS TRAP
NO SCALE



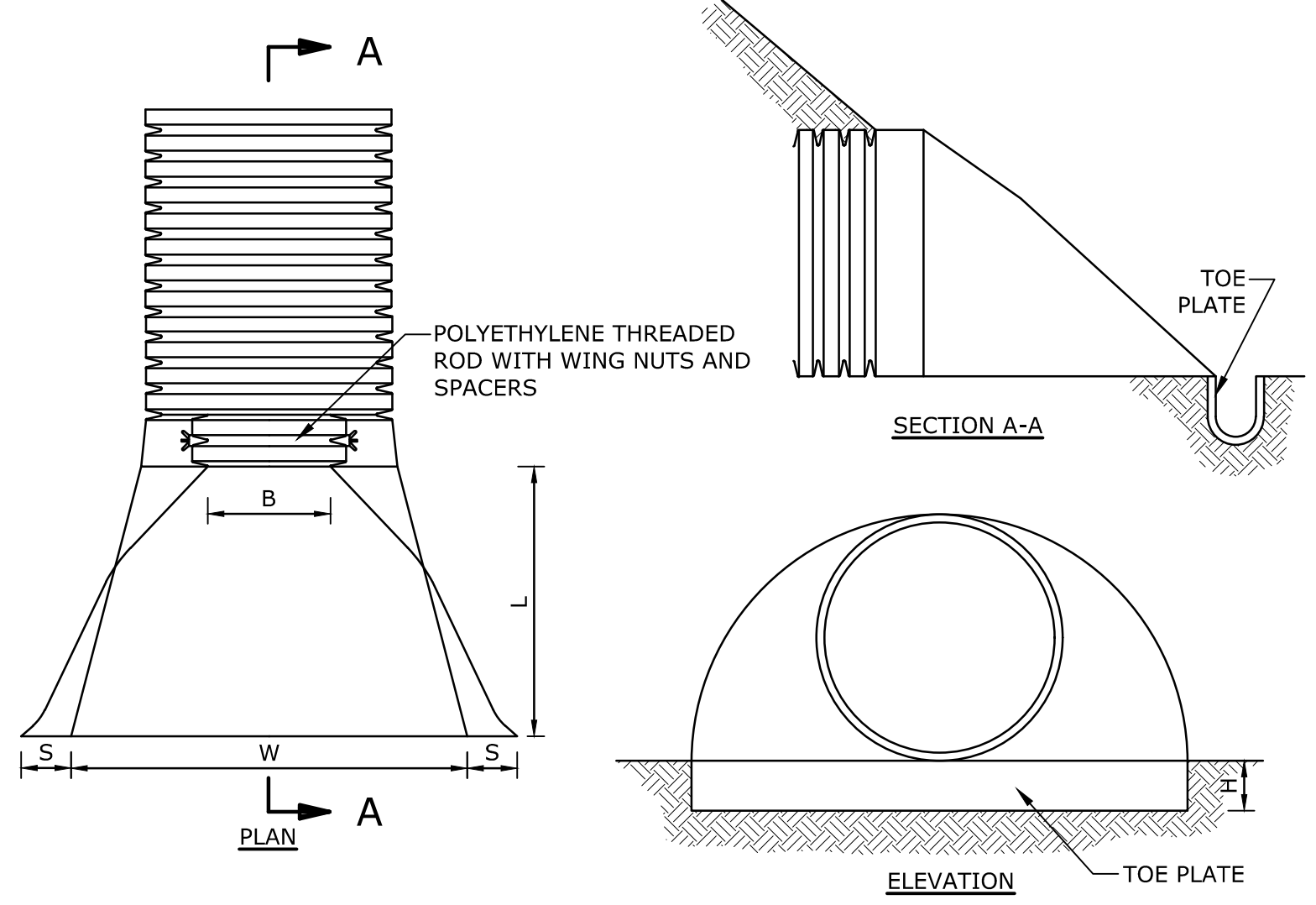
- NOTE:**
1. CRUSHED STONE BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 6" ABOVE TOP OF PIPE.
 2. ALL UTILITIES SHALL BE INSTALLED PER THE INDIVIDUAL UTILITY COMPANY STANDARDS. COORDINATE ALL INSTALLATIONS WITH INDIVIDUAL UTILITY COMPANIES AND THE CITY OF PORTSMOUTH.

STORM DRAIN TRENCH
NO SCALE

- NOTES:**
1. STONE SIZE AND MAT DIMENSIONS DETAILED ON PLANS.
 2. STONE SHALL CONSIST OF SUB-ANGULAR FIELD STONE OR ROUGH UNHEWN QUARRY STONE OF APPROXIMATELY RECTANGULAR SHAPE. FLAT OR ROUND ROCKS ARE NOT ACCEPTABLE. THE STONE SHALL BE HARD AND OF SUCH QUALITY THAT IT WILL NOT DISINTEGRATE ON EXPOSURE TO WATER OR WEATHERING, BE CHEMICALLY STABLE AND IT SHALL BE SUITABLE IN ALL OTHER RESPECTS FOR THE PURPOSE INTENDED. THE BULK SPECIFIC GRAVITY (SATURATED SURFACE-DRY BASIS) OF THE INDIVIDUAL STONES SHALL BE AT LEAST 2.5.
 3. THE STONE SHALL BE COMPOSED OF A WELL-GRADED MIXTURE DOWN TO THE ONE-INCH SIZE PARTICLE SUCH THAT 50 PERCENT OF THE MIXTURE BY WEIGHT SHALL BE LARGER THAN THE D50 SIZE SPECIFIED. A WELL-GRADED MIXTURE IS DEFINED AS A MIXTURE COMPOSED PRIMARILY OF THE LARGER STONE SIZE BUT WITH A SUFFICIENT MIXTURE OF OTHER SIZES TO FILL THE PROGRESSIVELY SMALLER VOIDS BETWEEN THE STONES. THE DIAMETER OF THE LARGEST STONE SIZE IN SUCH A MIXTURE SHALL BE 1.5 TIMES THE D50 SIZE.



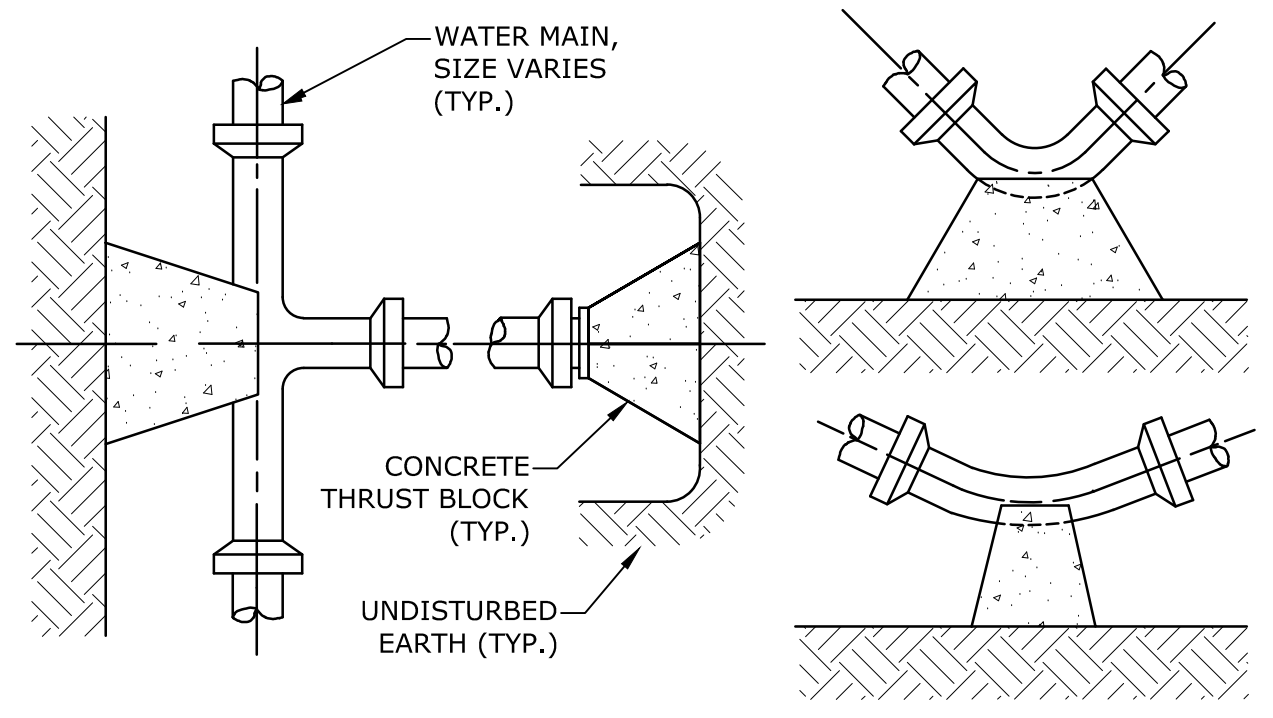
RIP-RAP APRON DETAIL
NO SCALE



PIPE DIA.	S	B	H	L	W
12"	6.5"	10"	6.5"	25"	29"
15"	6.5"	10"	6.5"	25"	29"
18"	7.5"	15"	6.5"	32"	35"
24"	7.5"	18"	6.5"	36"	45"
30"	7.5"	12"	8.6"	58"	63"
36"	7.5"	25"	8.6"	58"	63"

- NOTE:**
- END SECTIONS MANUFACTURED BY ADVANCED DRAINAGE SYSTEMS, COLUMBUS, OHIO. END SECTIONS TO BE WELDED TO PIPE AS PER MANUFACTURER'S RECOMMENDATIONS.

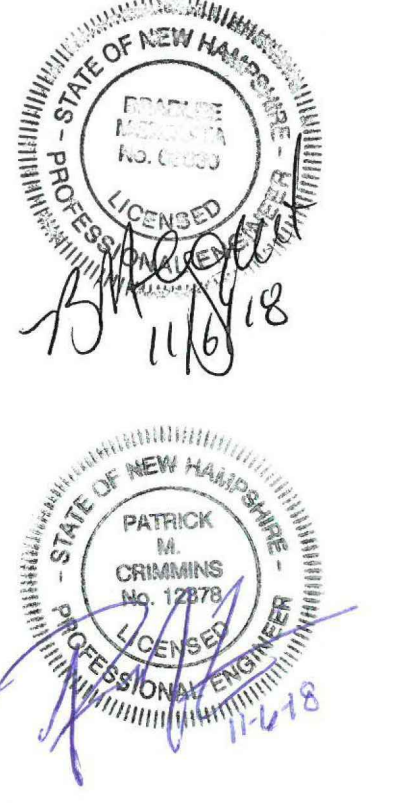
HDPE END SECTION
NO SCALE



REACTION TYPE	PIPE SIZE				
	4"	6"	8"	10"	12"
A 90°	0.89	2.19	3.82	11.14	17.24
B 180°	0.65	1.55	2.78	8.38	12.00
C 45°	0.48	1.19	2.12	6.02	9.32
D 22-1/2°	0.25	0.60	1.06	3.08	4.74
E 11-1/4°	0.13	0.30	0.54	1.54	2.38

- NOTES:**
1. POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL, WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL. NO JOINTS SHALL BE COVERED WITH CONCRETE.
 2. ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.
 3. PLACE BOARD IN FRONT OF ALL PLUGS BEFORE POURING THRUST BLOCKS.
 4. WHERE M.J. PIPE IS USED, M.J. PLUG WITH RETAINER GLAND MAY BE SUBSTITUTED FOR END BLOCKINGS.
 5. INSTALLATION AND STANDARD DIMENSIONAL REQUIREMENTS SHALL BE WITH TOWN OF EXETER WATER DEPARTMENT STANDARDS.

THRUST BLOCKING DETAIL
NO SCALE



Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

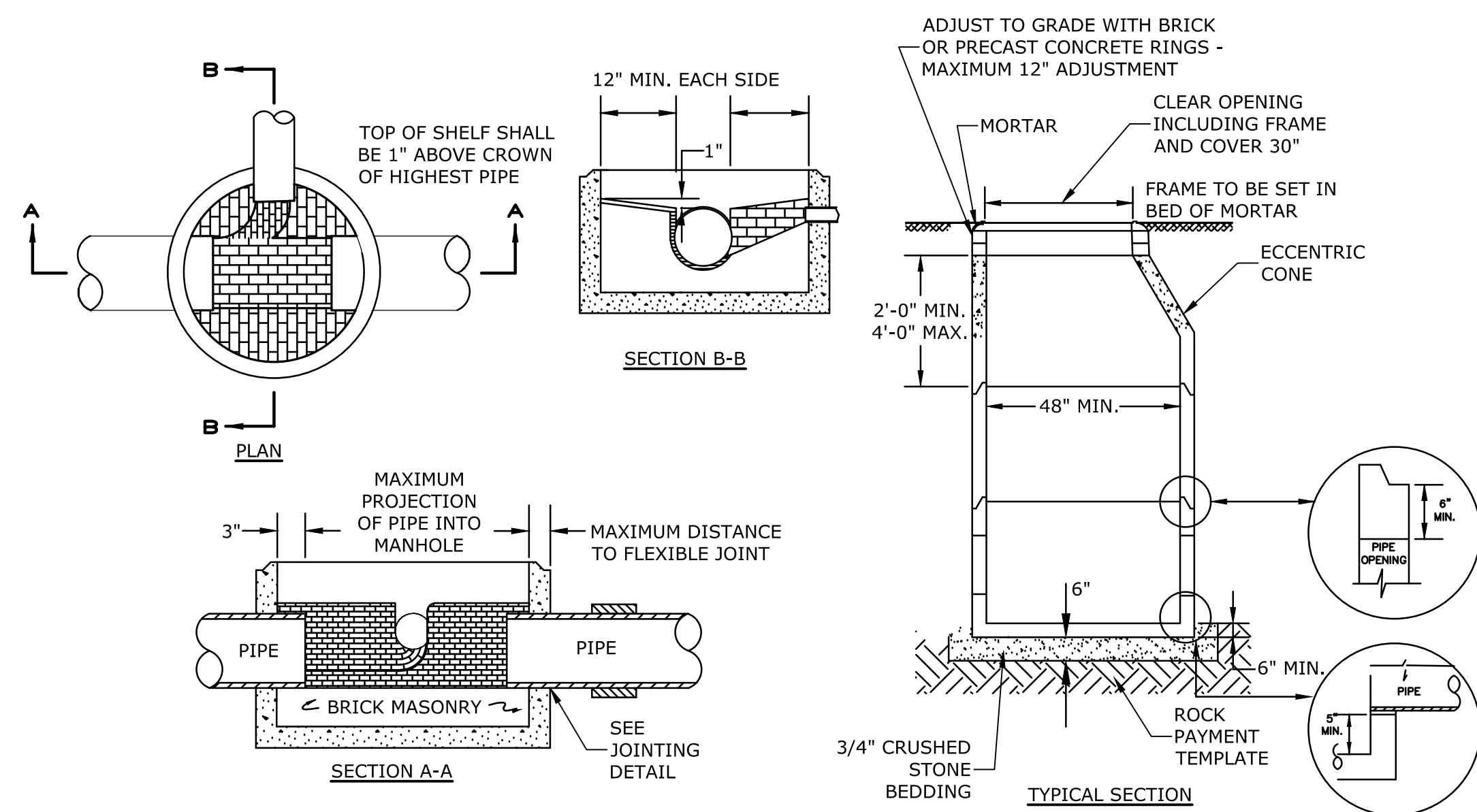
MARK	DATE	DESCRIPTION
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D	8/21/2018	Revised TAC Submission
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B	5/21/2018	TAC Submission
A	4/3/2018	TAC W.S. Submission

PROJECT NO:	L-0700-013
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FILE:	
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

DETAILS SHEETS

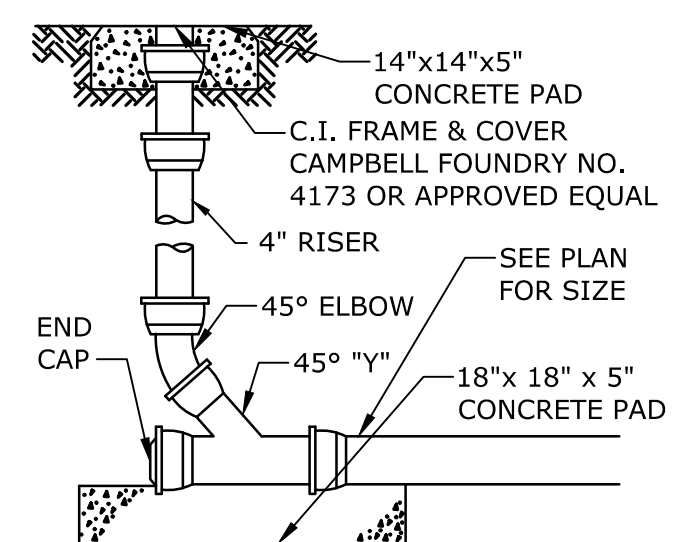
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Plot Date: Monday, November 05, 2018 Plotted By: Neil A. Hansen
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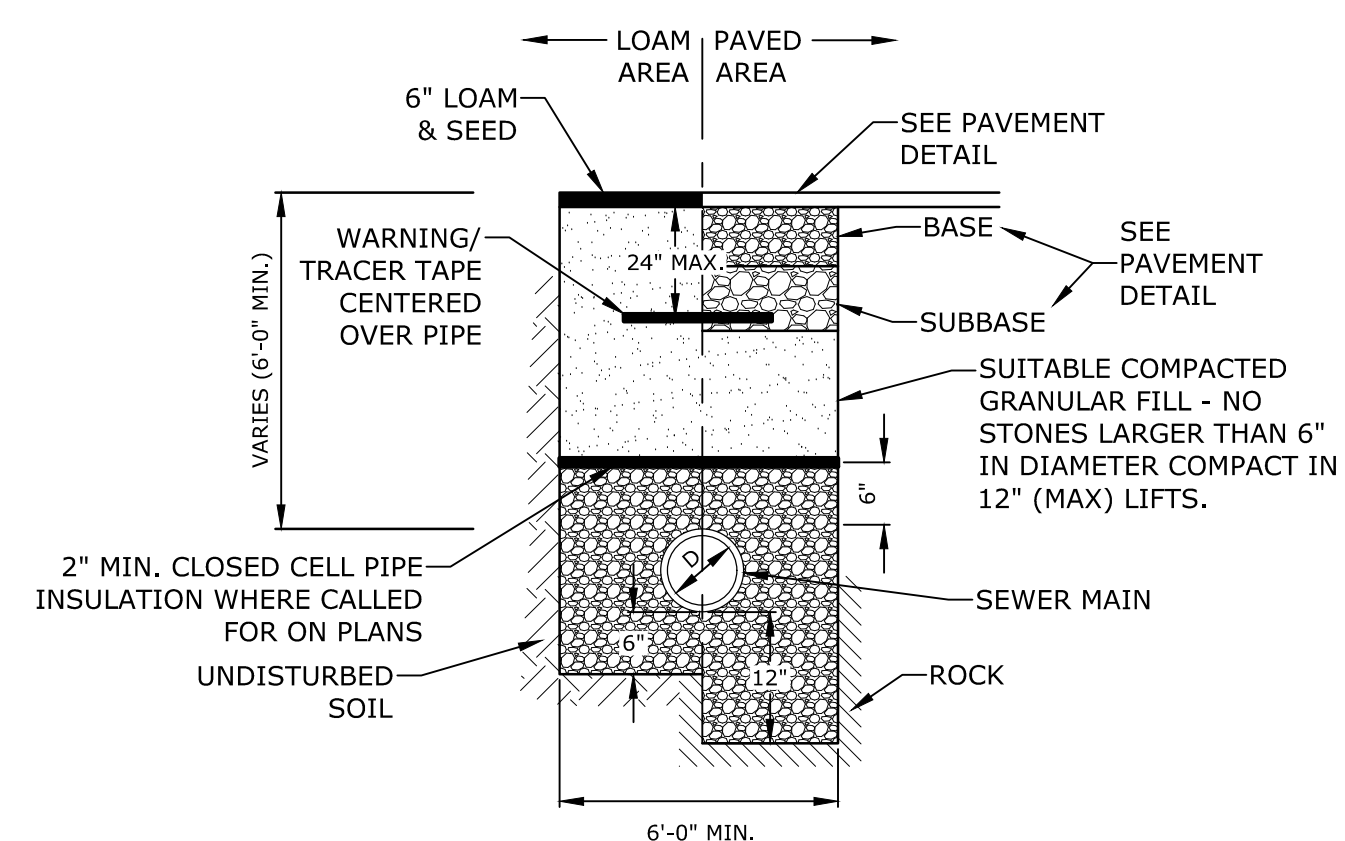


- NOTES:**
1. INVERT AND SHELF TO BE PLACED AFTER EACH LEAKAGE TEST.
 2. CARE SHALL BE TAKEN TO INSURE THAT THE BRICK INVERT IS A SMOOTH CONTINUATION OF THE SEWER INVERT.
 3. INVERT BRICKS SHALL BE LAID ON EDGE.
 4. BITUMINOUS WATERPROOF COATING TO BE APPLIED TO ENTIRE EXTERIOR OF MANHOLE.
 5. FRAMES AND COVERS: MANHOLE FRAMES AND COVERS WITHIN CITY RIGHT OF WAY SHALL BE CITY STANDARD HINGE COVERS MANUFACTURED BY E. FRAMES AND COVERS WILL BE PURCHASED FROM THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS. ALL OTHER MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30-INCH CLEAR OPENING. A 3-INCH (MINIMUM HEIGHT) WORD "SEWER" SHALL BE PLAINLY CAST INTO THE CENTER OF EACH COVER.
 6. HORIZONTAL JOINTS SHALL BE SEALED FOR WATER TIGHTNESS USING A DOUBLE ROW OF ELASTOMERIC OR MASTIC-LIKE SEALANT.
 7. BARREL AND CONE SECTIONS SHALL BE PRECAST REINFORCED CONCRETE DESIGNED FOR H2O LOADING, AND CONFORMING TO ASTM C478-06.

SEWER MANHOLE
NO SCALE

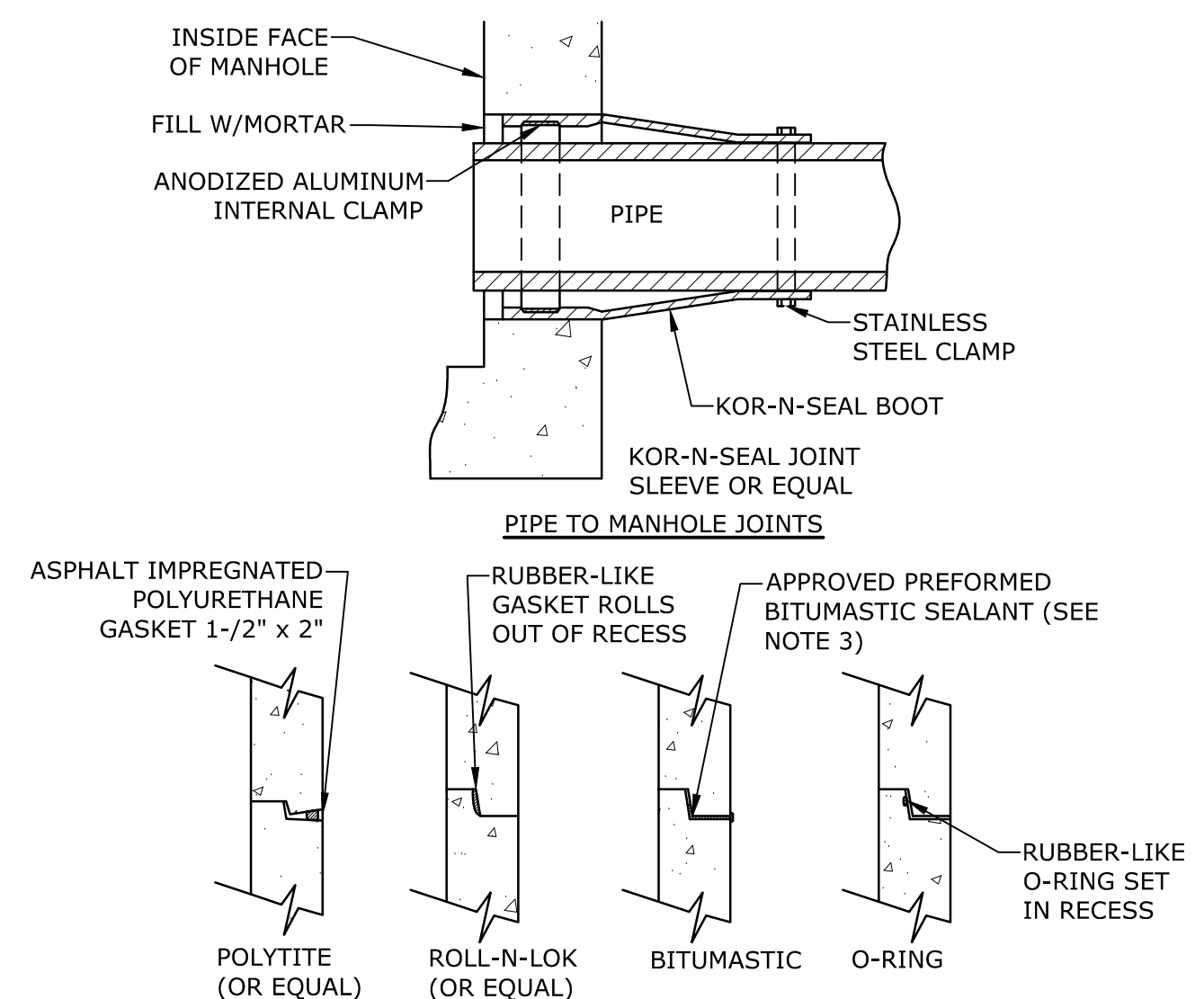


CLEAN-OUT
NO SCALE



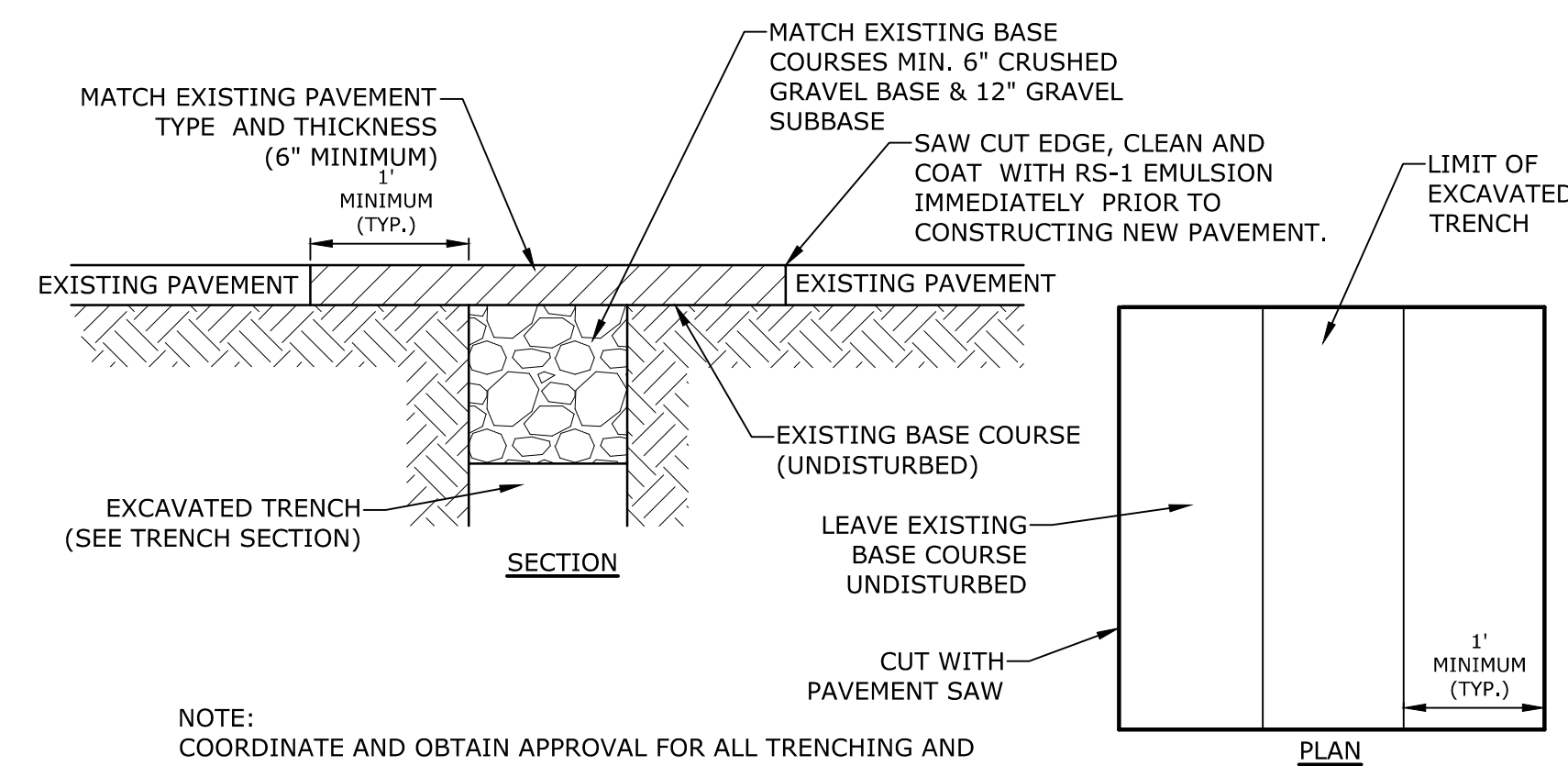
- NOTE:**
1. COORDINATE ALL INSTALLATIONS WITH THE CITY OF PORTSMOUTH.

TYPICAL SEWER TRENCH
NO SCALE



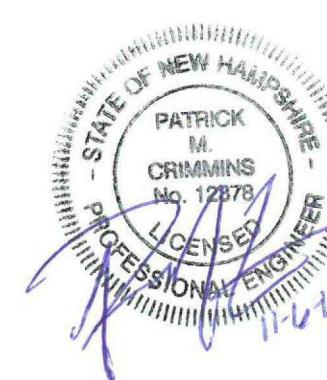
- NOTES:**
1. HORIZONTAL JOINTS BETWEEN THE SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE PER TOWN OF EXETER DPW STANDARD AND SHALL BE SEALED FOR WATERTIGHTNESS USING A DOUBLE ROW ELASTOMERIC OR MASTIC-LIKE GASKET.
 2. PIPE TO MANHOLE JOINTS SHALL BE PER TOWN OF EXETER STANDARD.
 3. FOR BITUMASTIC TYPE JOINTS THE AMOUNT OF SEALANT SHALL BE SUFFICIENT TO FILL AT LEAST 75% OF THE JOINT CAVITY.
 4. ALL GASKETS, SEALANTS, MORTAR, ETC. SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' WRITTEN INSTRUCTIONS.

MANHOLE JOINTS
NO SCALE



- NOTE:**
1. COORDINATE AND OBTAIN APPROVAL FOR ALL TRENCHING AND PATCHING WITHIN CITY RIGHT OF WAY WITH TOWN OF EXETER DPW PRIOR TO COMMENCING WORK.

ROADWAY TRENCH PATCH
NO SCALE



Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

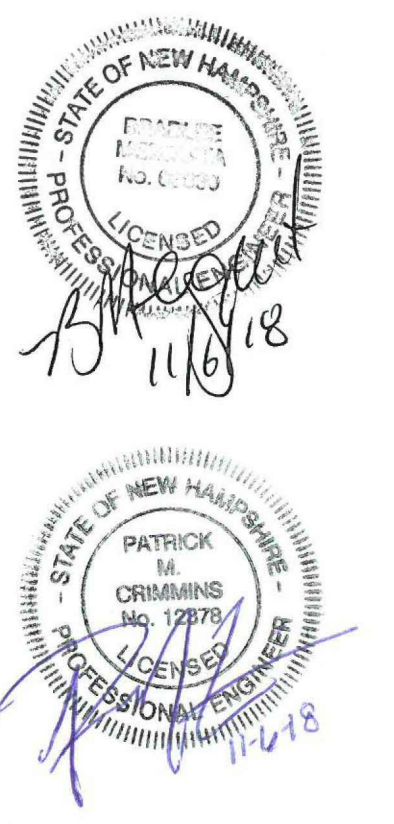
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FILE:	
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

DETAILS SHEETS

SCALE: AS SHOWN

C-505

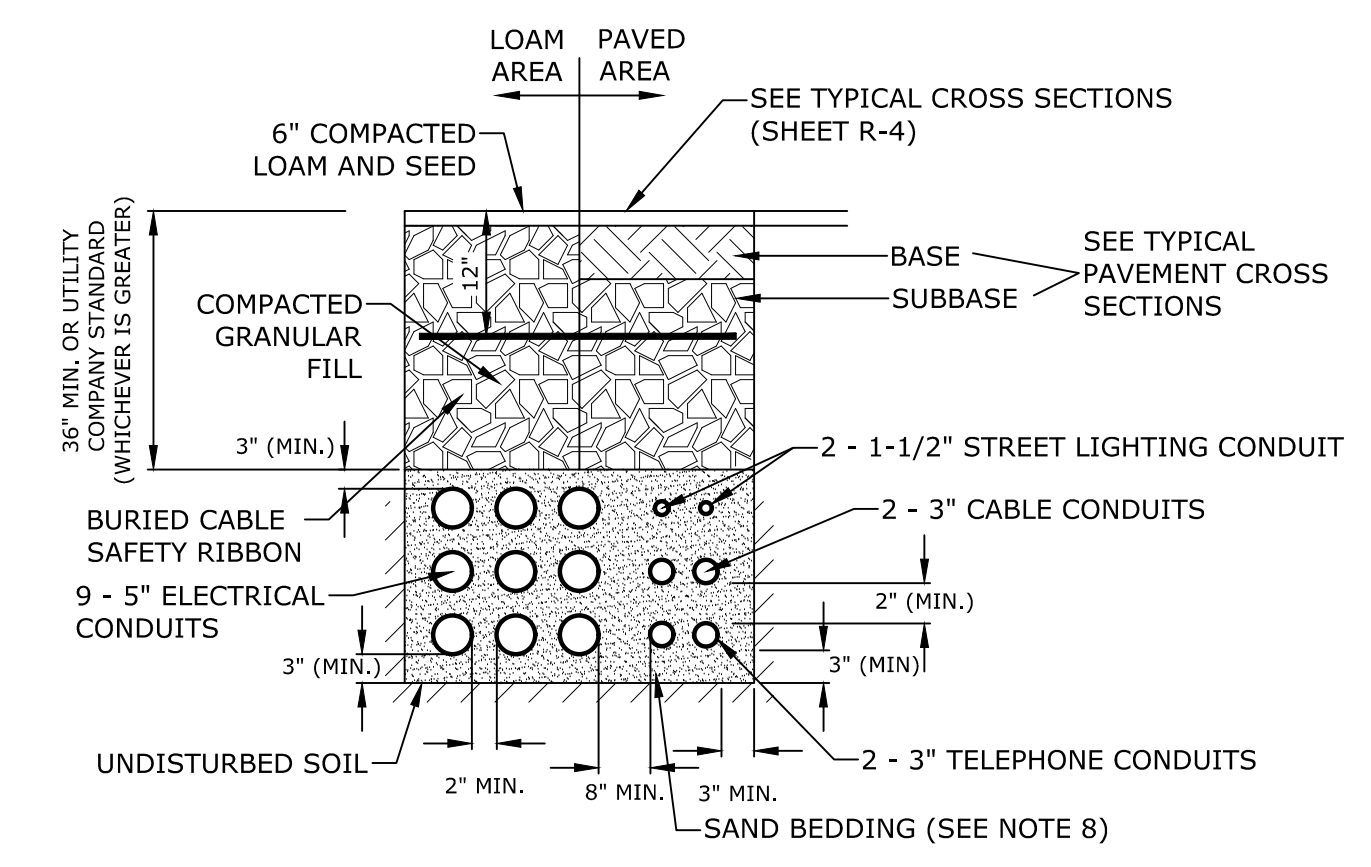


Proposed Industrial Development
Lonza Biologics
Portsmouth, New Hampshire

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F	11/6/2018	P.B. Submission
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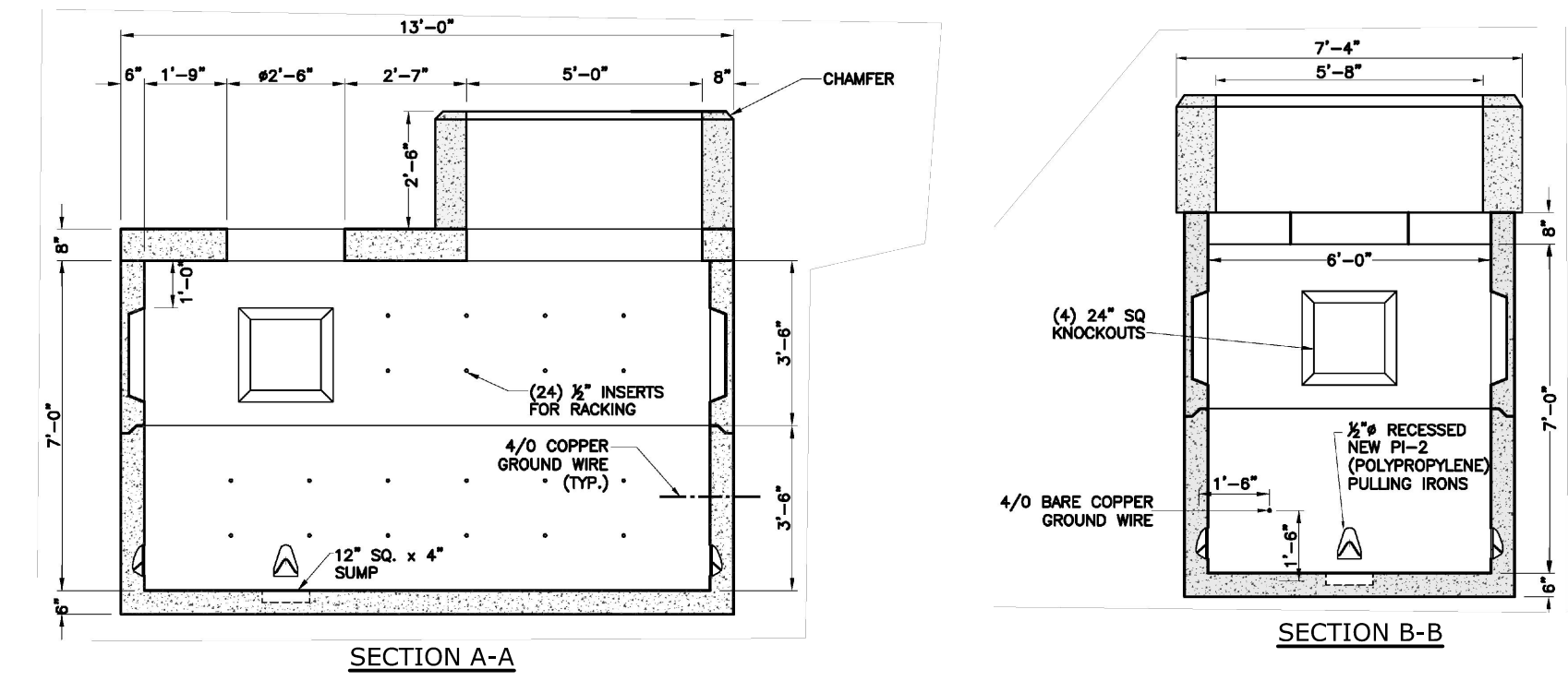
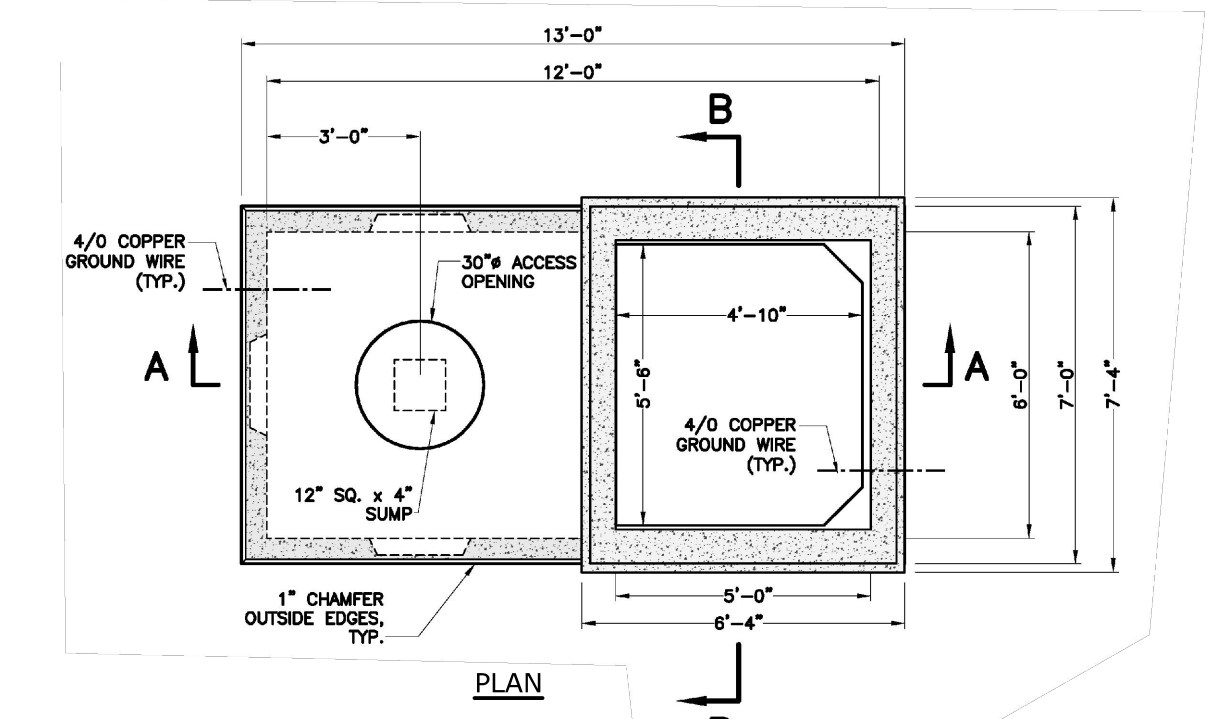
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DATE:	04/03/2018
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APPROVED:	BLM

DETAILS SHEETS
SCALE: AS SHOWN
C-506



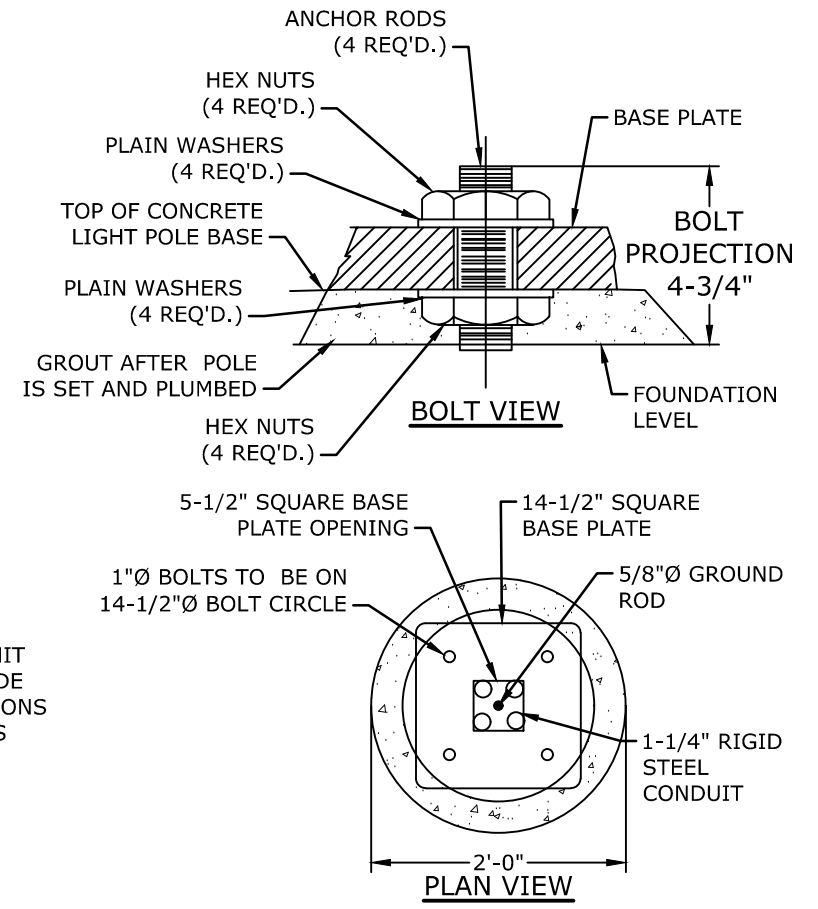
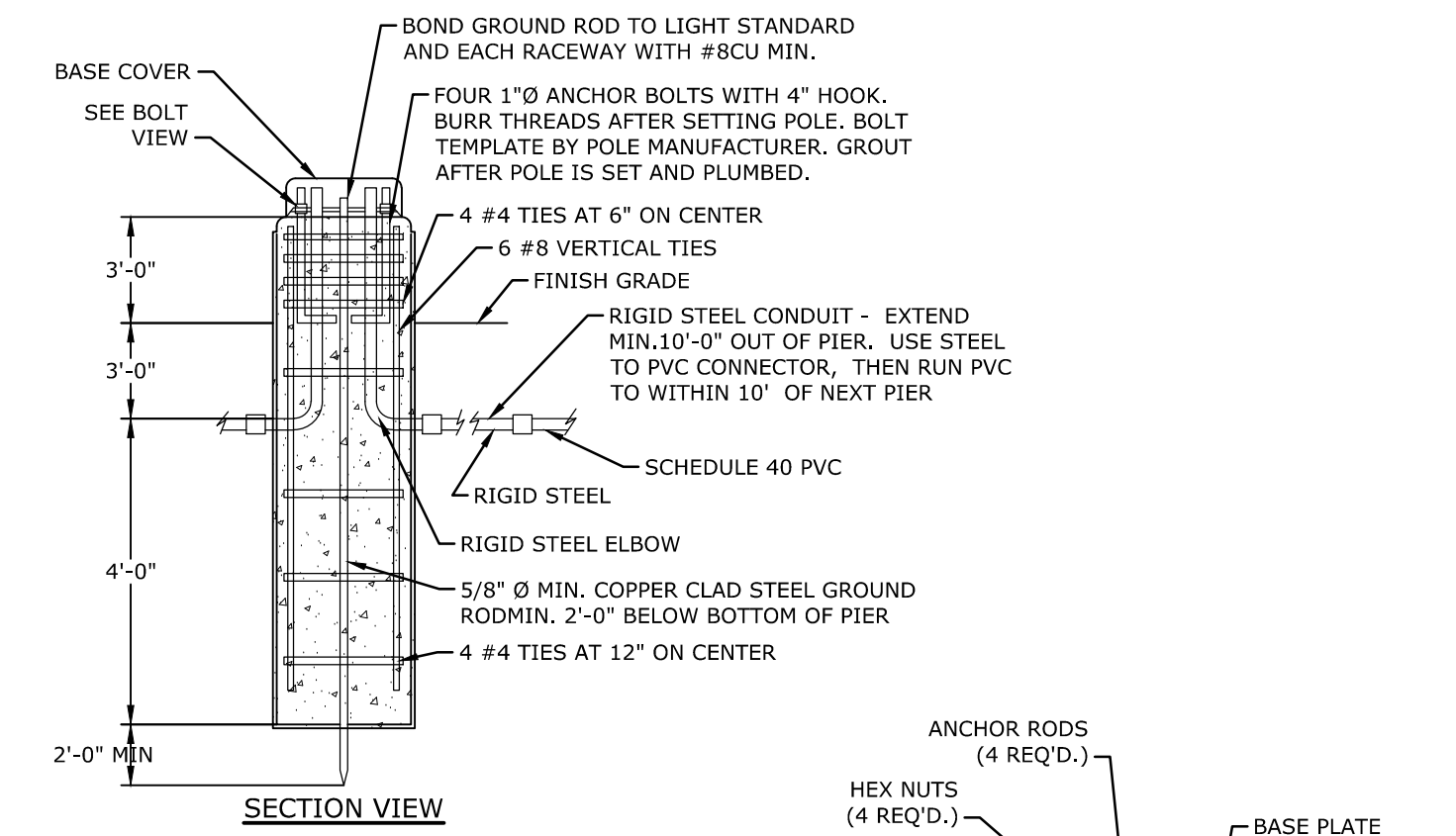
- NOTES:**
- NUMBER, MATERIAL, AND SIZE OF UTILITY CONDUITS TO BE DETERMINED BY LOCAL UTILITY OR AS SHOWN ON ELECTRICAL DRAWINGS. CONTRACTOR TO PROVIDE ONE SPARE CONDUIT FOR EACH UTILITY TO BUILDING.
 - DIMENSIONS SHOWN REPRESENT OWNERS MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS MAY BE GREATER BASED ON UTILITY COMPANY STANDARDS, BUT SHALL NOT BE LESS THAN THOSE SHOWN.
 - NO CONDUIT RUN SHALL EXCEED 360 DEGREES IN TOTAL BENDS.
 - A SUITABLE PULLING STRING, CAPABLE OF 200 POUNDS OF PULL, MUST BE INSTALLED IN THE CONDUIT BEFORE UTILITY COMPANY IS NOTIFIED TO INSTALL CABLE. THE STRING SHOULD BE BLOWN INTO THE CONDUIT AFTER THE RUN IS ASSEMBLED TO AVOID BONDING THE STRING TO THE CONDUIT.
 - UTILITY COMPANY MUST BE GIVEN THE OPPORTUNITY TO INSPECT THE CONDUIT PRIOR TO BACKFILL. THE CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS SHOULD THE UTILITY COMPANY BE UNABLE TO INSTALL ITS CABLE IN A SUITABLE MANNER.
 - ALL CONDUIT INSTALLATIONS MUST CONFORM TO THE CURRENT EDITION OF THE NATIONAL ELECTRIC SAFETY CODE, STATE AND LOCAL CODES AND ORDINANCES, AND, WHERE APPLICABLE, THE NATIONAL ELECTRIC CODE.
 - ALL 90° SWEEPS WILL BE MADE USING RIGID GALVANIZED STEEL. SWEEPS WITH A 36 TO 48 INCH RADIUS.
 - SAND BEDDING TO BE REPLACED WITH CONCRETE ENCASEMENT WHERE COVER IS LESS THAN 3 FEET, WHEN LOCATED BELOW PAVEMENT, OR WHERE SHOWN ON THE UTILITIES PLAN.

ELECTRICAL AND COMMUNICATION CONDUIT
NO SCALE



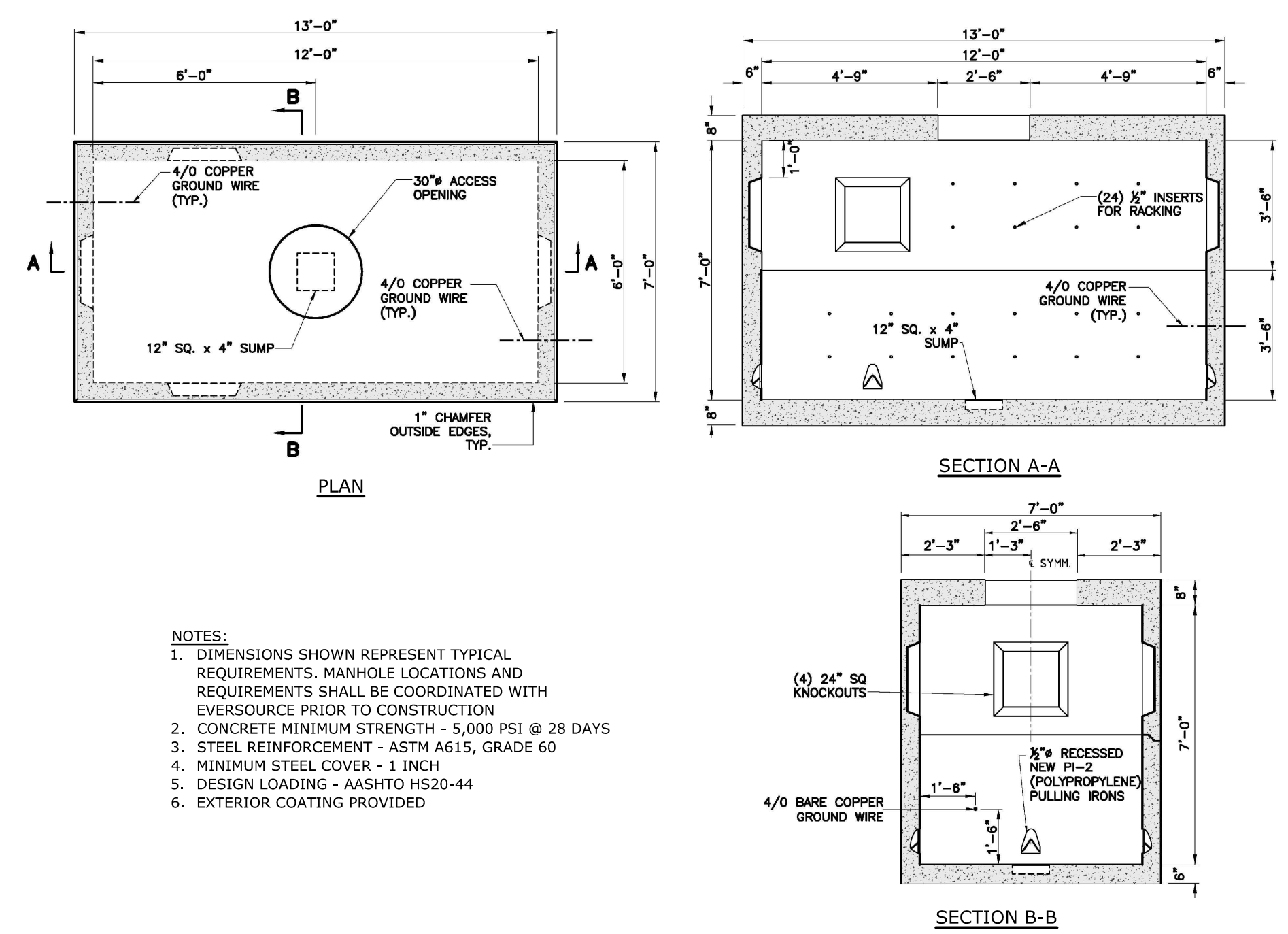
- NOTES:**
- DIMENSIONS SHOWN REPRESENT TYPICAL REQUIREMENTS. MANHOLE LOCATIONS AND REQUIREMENTS SHALL BE COORDINATED WITH EVERSOURCE PRIOR TO CONSTRUCTION
 - CONCRETE MINIMUM STRENGTH - 5,000 PSI @ 28 DAYS
 - STEEL REINFORCEMENT - ASTM A615, GRADE 60, 1" MIN. COVER
 - DESIGNED FOR HS20-44 LOADING
 - EXTERIOR COATING PROVIDED

SWITCH GEAR PAD AND MANHOLE
NO SCALE



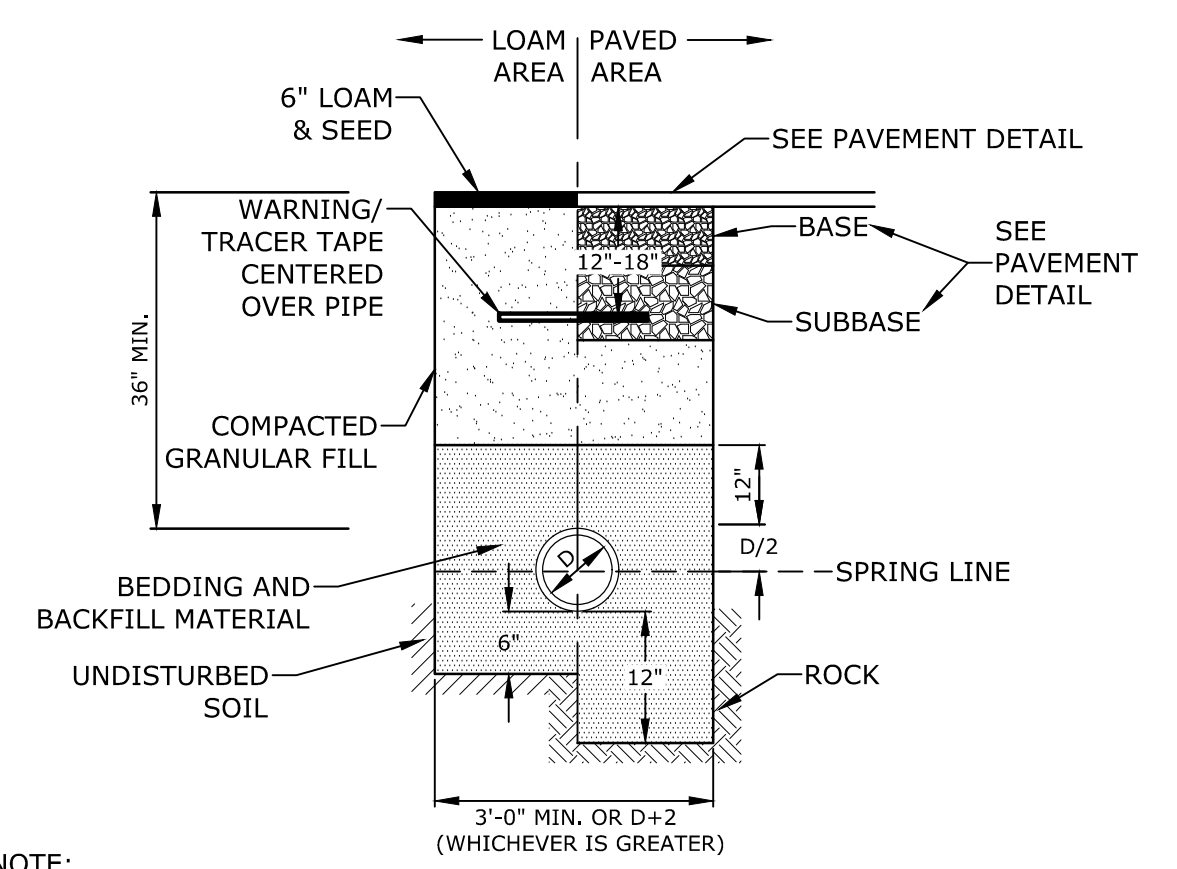
- NOTES:**
- PAINT BASE SAFETY YELLOW (UNLESS PROTECTED BY CURBED ISLAND).
 - CONCRETE TO BE CLASS A, 4000 PSI, AIR ENTRAINED STEEL TO BE 60 KSI
 - REFER TO ELECTRICAL PLANS FOR WIRING DETAILS.
 - LIGHT POLE BASE DETAIL FOR BIDDING PURPOSES ONLY. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL, TO INCLUDE PERFORMANCE SPECIFICATIONS, CALCULATIONS AND NH LICENSED STRUCTURAL ENGINEER'S STAMP FOR LIGHT POLE FOUNDATION.

TYPICAL LIGHT POLE BASE
NO SCALE



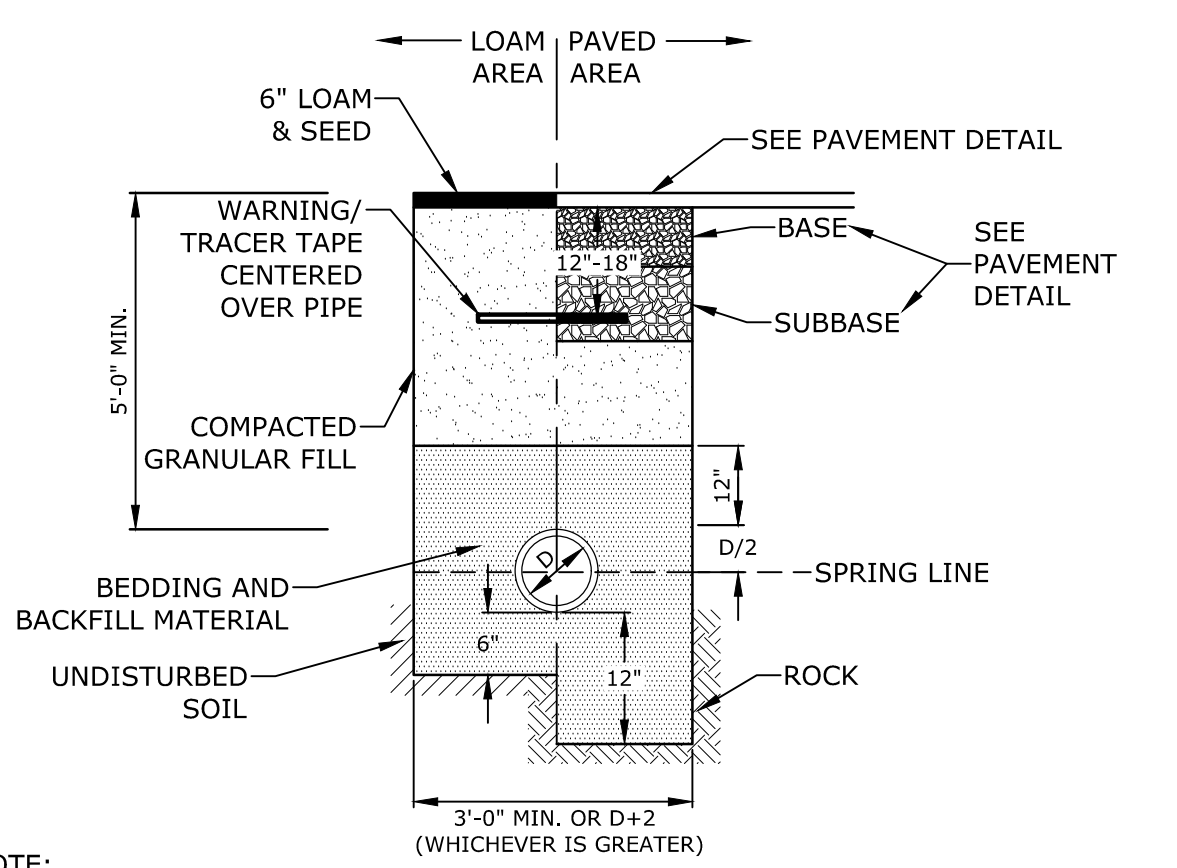
- NOTES:**
- DIMENSIONS SHOWN REPRESENT TYPICAL REQUIREMENTS. MANHOLE LOCATIONS AND REQUIREMENTS SHALL BE COORDINATED WITH EVERSOURCE PRIOR TO CONSTRUCTION
 - CONCRETE MINIMUM STRENGTH - 5,000 PSI @ 28 DAYS
 - STEEL REINFORCEMENT - ASTM A615, GRADE 60
 - MINIMUM STEEL COVER - 1 INCH
 - DESIGN LOADING - AASHTO HS20-44
 - EXTERIOR COATING PROVIDED

TYPICAL ELECTRIC MANHOLE
NO SCALE



- NOTE:**
- SAND BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 12" ABOVE TOP OF PIPE.
 - GAS SHALL BE INSTALLED PER UNTIL STANDARDS. COORDINATE ALL INSTALLATIONS WITH UNTIL AND THE CITY OF PORTSMOUTH.

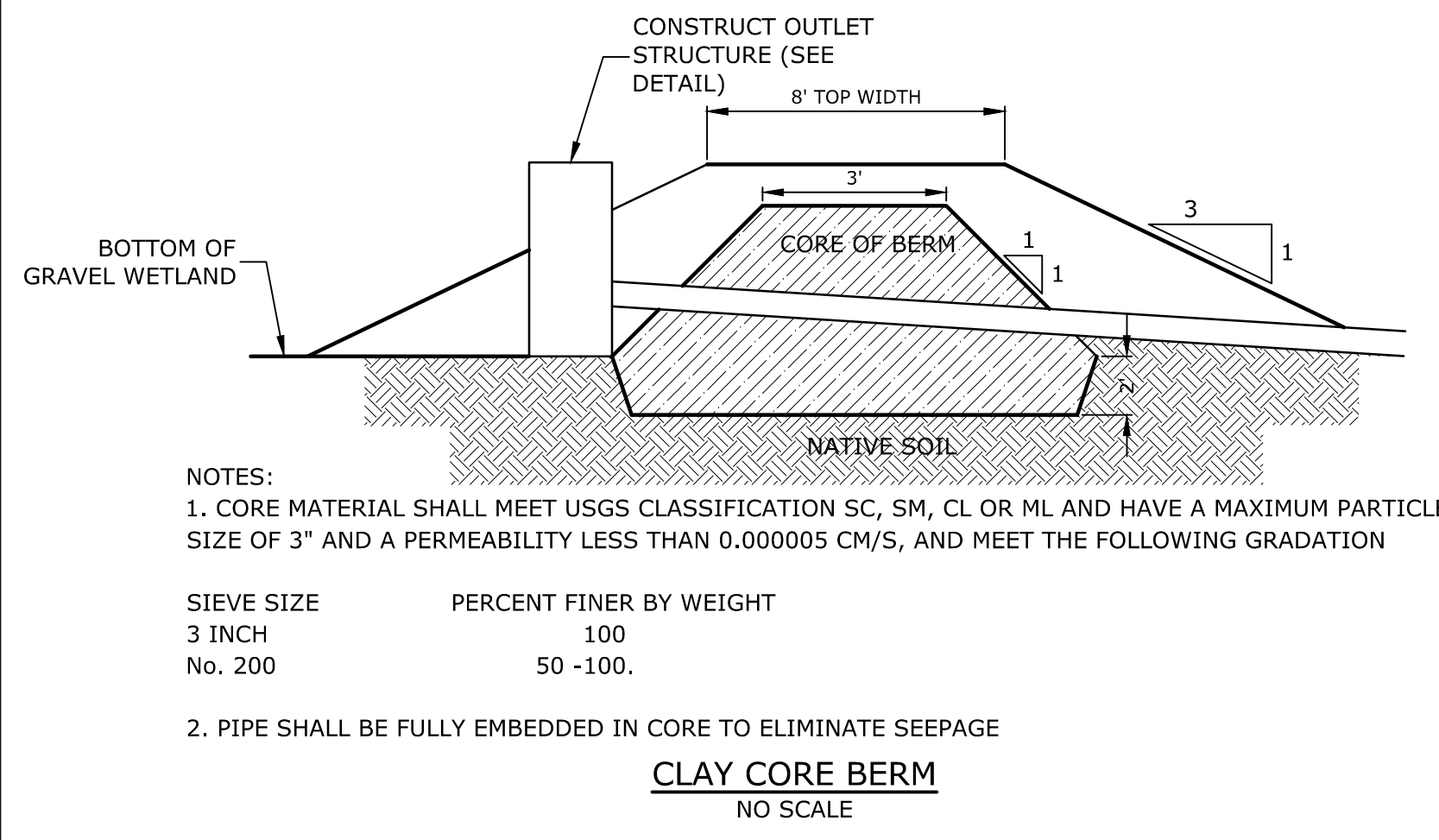
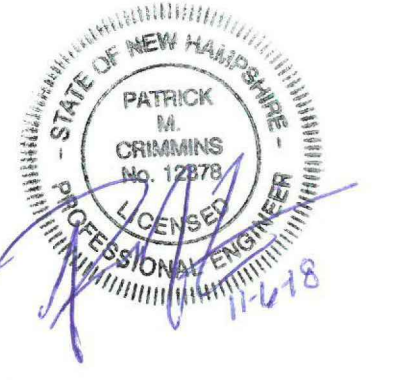
GAS TRENCH
NO SCALE



- NOTE:**
- SAND BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 12" ABOVE TOP OF PIPE.
 - WATER MAIN SHALL BE INSTALLED PER CITY OF PORTSMOUTH STANDARDS. COORDINATE ALL INSTALLATIONS WITH THE CITY OF PORTSMOUTH.

WATER TRENCH
NO SCALE

Last Save Date: November 5, 2018 2:00 PM By: MAHANSEN
Plot Date: Monday, November 05, 2018 Plotted By: Neil A. Hansen
P&E File Location: J:\L0700\Lonza Biologics Expansion.was 12/26/013 From Parcel Redevelopment Drawings - Figures\AutoCAD\Sheet\L0700-CD-501 to C-508.dwg Layout Tab: C-506

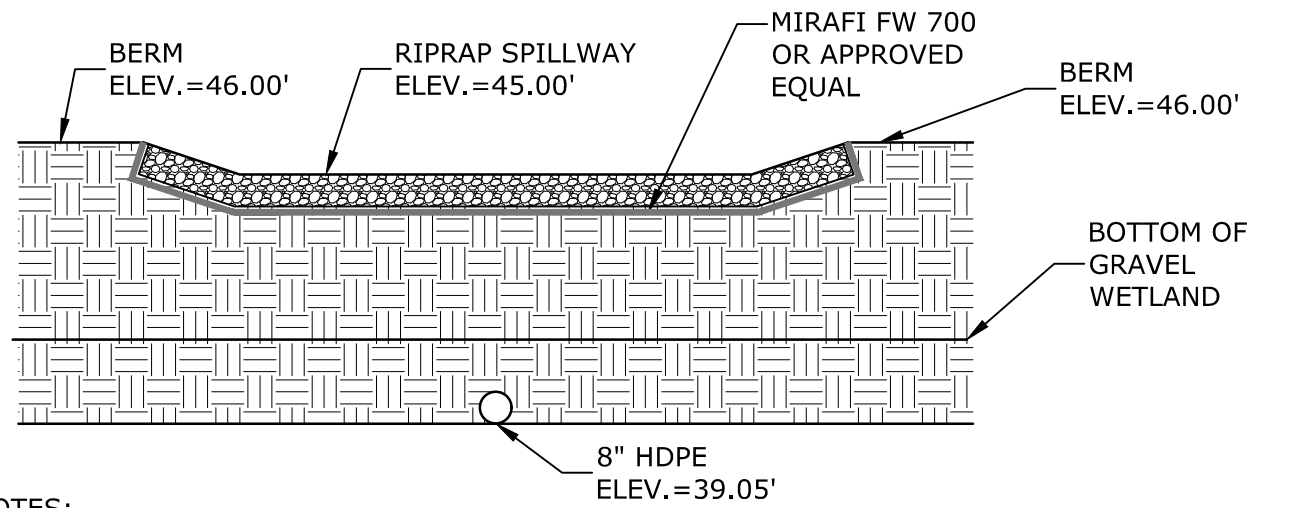


NOTES:
1. CORE MATERIAL SHALL MEET USGS CLASSIFICATION SC, SM, CL OR ML AND HAVE A MAXIMUM PARTICLE SIZE OF 3" AND A PERMEABILITY LESS THAN 0.00005 CM/S, AND MEET THE FOLLOWING GRADATION

SIEVE SIZE	PERCENT FINER BY WEIGHT
3 INCH	100
No. 200	50 -100.

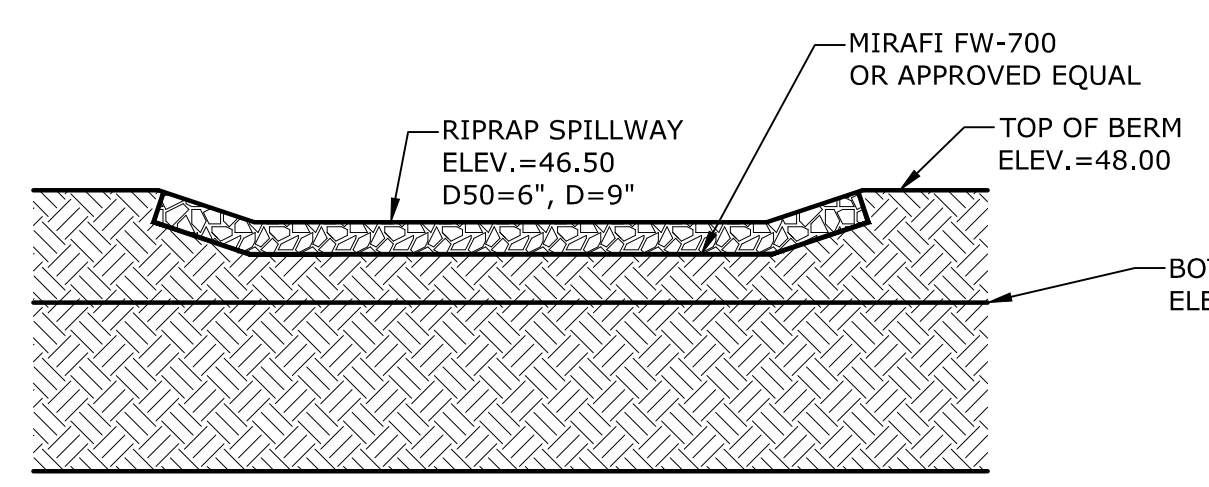
2. PIPE SHALL BE FULLY EMBEDDED IN CORE TO ELIMINATE SEEPAGE

CLAY CORE BERM
NO SCALE



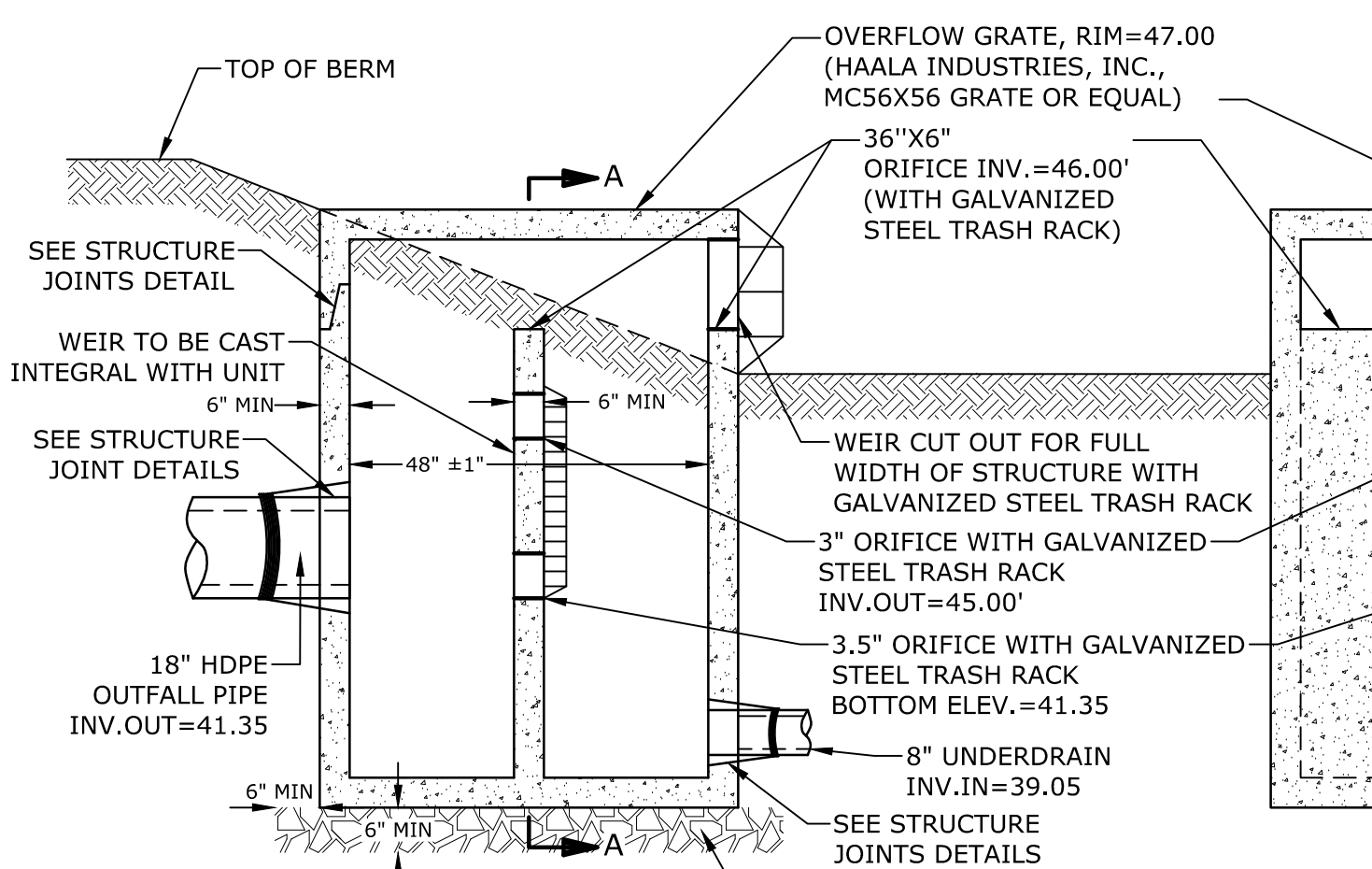
NOTES:
1. SEE GRADING, DRAINAGE & EROSION CONTROL PLANS FOR LOCATIONS AND ELEVATIONS.

GRAVEL WETLAND SPILLWAY
NO SCALE



NOTE:
SEE GRADING, DRAINAGE & EROSION CONTROL PLANS, SHEET C-110, FOR LOCATIONS AND ELEVATIONS.

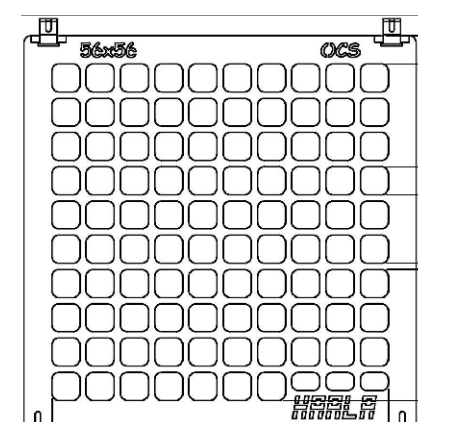
RIPRAP OVERFLOW SPILLWAY
NO SCALE



NOTES:
1. ALL SECTIONS SHALL BE 4,000 PSI CONCRETE (TYPE II CEMENT).
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQUARE INCHES PER LINEAR FOOT IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER OF THE THIRDE WALL.
3. ALL TONGUE OR THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQUARE INCHES PER LINEAR FOOT.
4. THE STRUCTURES SHALL BE DESIGNED FOR H2O LOADING.
5. ALL JOINTS ON THE STRUCTURE AND PIPING SHALL BE WATERTIGHT.

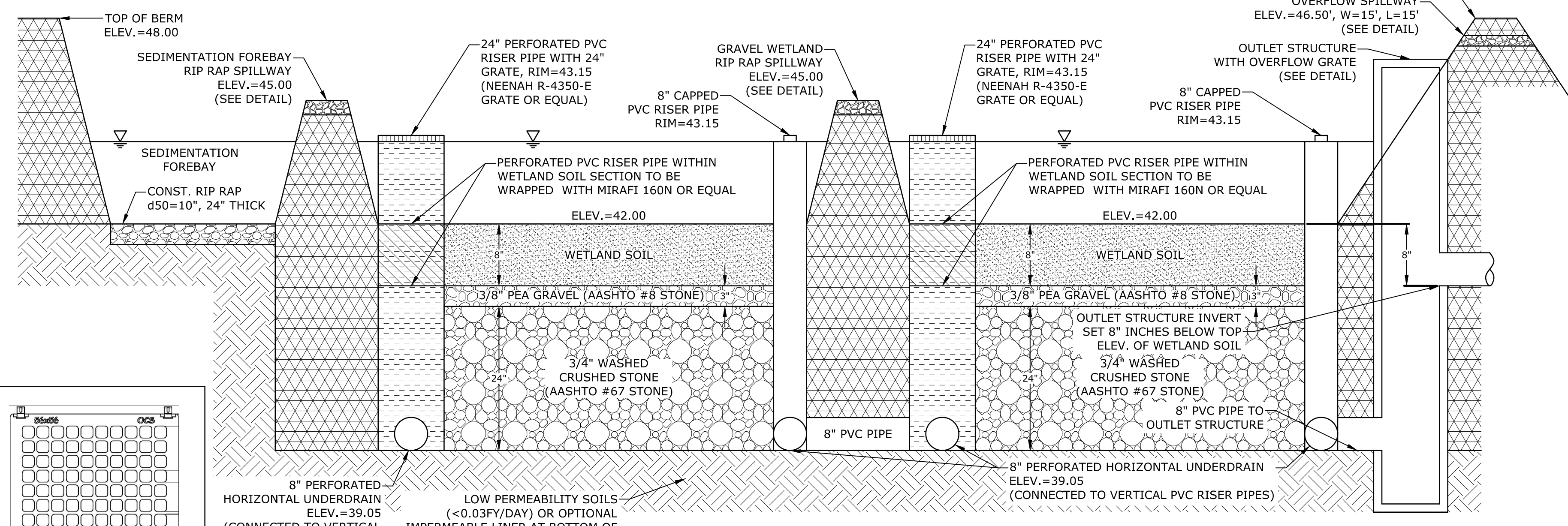
OUTLET STRUCTURE (POS100)
NO SCALE

NHDOT ITEM No. 304.4 (CRUSHED STONE - FINE)	
SIEVE SIZE	% PASSING
2"	100
1-1/2"	85-100
3/4"	45-75
#4	10-45
#200	0-5



NOTES:
1. OUTLET STRUCTURE GRATE SHALL BE HAALA INDUSTRIES, INC. MC56X56 TOP MOUNT GRATE OR EQUAL.
2. GRATE TO BE SECURED TO CONCRETE STRUCTURE.

HAALA MC56X56 GRATE
NO SCALE

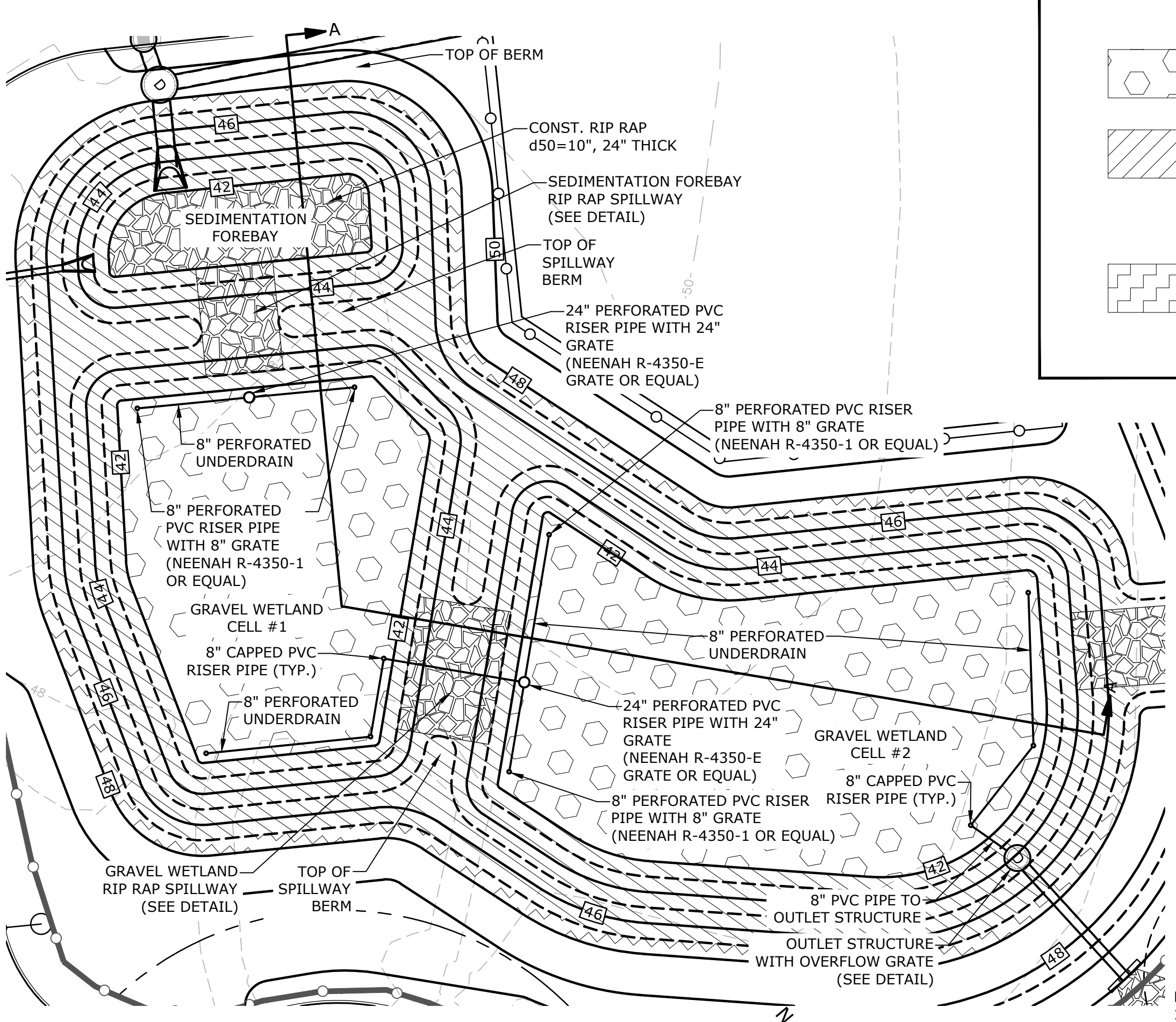


TYPICAL SECTION A-A VIEW

NOTES:
1. WETLAND SOIL SHALL BE A SANDY CLAY LOAM WITH A HYDRAULIC CONDUCTIVITY OF 0.1-0.01 FT/DAY. ORGANIC CONTENT SHALL BE GREATER THAN 15% BY VOLUME. CLAY CONTENT SHALL BE LESS THAN 15% BY VOLUME.
2. CONTRACTOR MAY REUSE EXISTING ON-SITE WETLAND SOILS. TESTING MUST BE PERFORMED BY THE CONTRACTOR PRIOR TO SOIL REUSE TO DETERMINE IF THE EXISTING WETLAND SOILS MEET THE CRITERIA LISTED IN NOTE 1. IF THE EXISTING SOILS DO NOT MEET THE CRITERIA OF WETLAND SOILS AS DEFINED IN NOTE 1 THEY MAY NOT BE REUSED.
3. INFILTRATION TESTING OF THE NATIVE SOILS AT THE SUBGRADE OF THE PROPOSED GRAVEL WETLAND SHALL OCCUR PRIOR TO THE INSTALLATION OF THE GRAVEL WETLAND AND SHALL BE COORDINATED WITH THE ENGINEER. IF THE NATIVE SOILS EXCEED A PERMEABILITY RATE OF 0.03 FT/DAY THE SOILS SHOULD AMENDED OR LOW PERMEABILITY LINER ADDED AS DETERMINED BY THE ENGINEER.
4. INFILTRATION TEST RESULTS SHALL BE SENT TO NHDES.
5. PERFORATED PVC RISERS SHALL HAVE VERTICAL SLOTS CUT INTO PVC RISERS ABOVE GRADE MEASURING 3"x1/8\".

AASHTO #67 STONE (#4 TO 3/4")		AASHTO #8 STONE (#8 TO 3/8")	
SIEVE SIZE	% PASSING	SIEVE SIZE	% PASSING
1"	100	1/2"	100
3/4"	90-100	3/8"	85-100
3/8"	20-55	#4	10-30
#4	0-10	#8	0-10
#8	0-5	#16	0-5

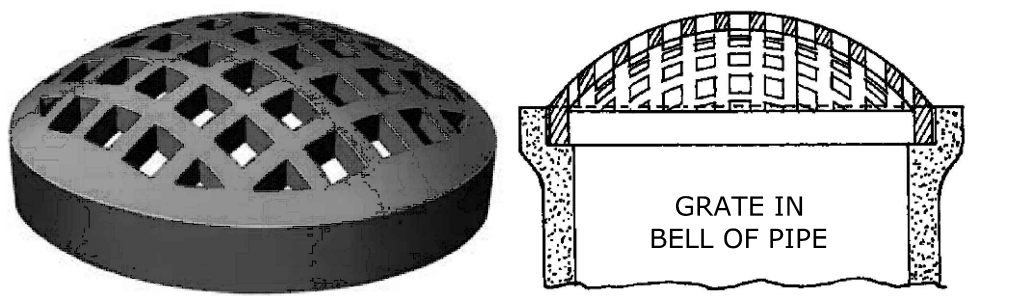
GRAVEL WETLAND
NO SCALE



GRAVEL WETLAND #1 PLANTING PLAN
SCALE: 1" = 20'

GRAVEL WETLAND PLANTING PLAN		
SPECIES	PLANT SIZE	QUANTITY/SPACING
NEW ENGLAND WETMIX, WETLAND SEED MIX OR EQUIVALENT		18LB/ACRE
"RED OSIER DOGWOOD" CORNUS SERICEA AND "SUMMERSWEET CLETHRA" CLETHRA ALNIFOLIA AND "SILKY DOGWOOD" CORNUS AMOMUM AND "HIGHBUSH BLUEBERRY" VACCINIUM CORYMBOSUM AND "WINTERBERRY" ILEX VERTICILLATA	2'-3'	8'-10' ON CENTER
	2'-3'	8'-10' ON CENTER

GRAVEL WETLAND INSPECTION / MAINTENANCE REQUIREMENTS		
INSPECTION / MAINTENANCE	FREQUENCY	ACTION
MONITOR TO ENSURE THAT GRAVEL WETLAND FUNCTIONS EFFECTIVELY AFTER STORMS	FOUR (4) TIMES ANNUALLY (QUARTERLY) AND AFTER ANY RAINFALL EVENT EXCEEDING 2.5" IN A 24-HR PERIOD	- TRASH AND DEBRIS TO BE REMOVED - ANY REQUIRED MAINTENANCE SHALL BE ADDRESSED - INSPECT SOIL AND REPAIR ERODED AREAS, ESPECIALLY ON SLOPES. - CHECK INLETS, OUTLETS, AND OVERFLOW SPILLWAY FOR BLOCKAGE, STRUCTURAL INTEGRITY AND EVIDENCE OF EROSION.
INSPECT VEGETATION	ANNUALLY	- INSPECT THE CONDITION OF ALL GRAVEL WETLAND VEGETATION - PRUNE BACK OVERGROWTH - REPLACE DEAD VEGETATION - REMOVE ANY INVASIVE SPECIES - COORDINATE WITH UNH STORMWATER CENTER FOR FURTHER VEGETATION MANAGEMENT GUIDELINES
INSPECT DRAWDOWN TIME	ANNUALLY	- HIRE QUALIFIED PROFESSIONAL TO ASSESS THE CONDITION OF THE FACILITY TO DETERMINE MEASURES REQUIRED TO RESTORE THE FILTRATION FUNCTION, INCLUDING BUT NOT LIMITED TO REMOVAL OF ACCUMULATED SEDIMENTS OR RECONSTRUCTION OF THE FILTER.



NOTES:
1. 8" GRAVEL WETLAND GRATES SHALL NEENAH R-4350-1 GRATE OR EQUAL.
2. 24" GRAVEL WETLAND GRATES SHALL NEENAH R-4350-E GRATE OR EQUAL.

NEENAH R-4350 SERIES GRATE
NO SCALE

Proposed Industrial Development

Lonza Biologics

Portsmouth,
New Hampshire

MARK	DATE	DESCRIPTION
F	11/6/2018	P.B. Submission
E	8/30/2018	Revised Aot Submission
D	8/21/2018	Revised TAC Submission
C	6/18/2018	NHDES Aot Submission
B	5/21/2018	TAC Submission
A	4/3/2018	TAC W.S. Submission

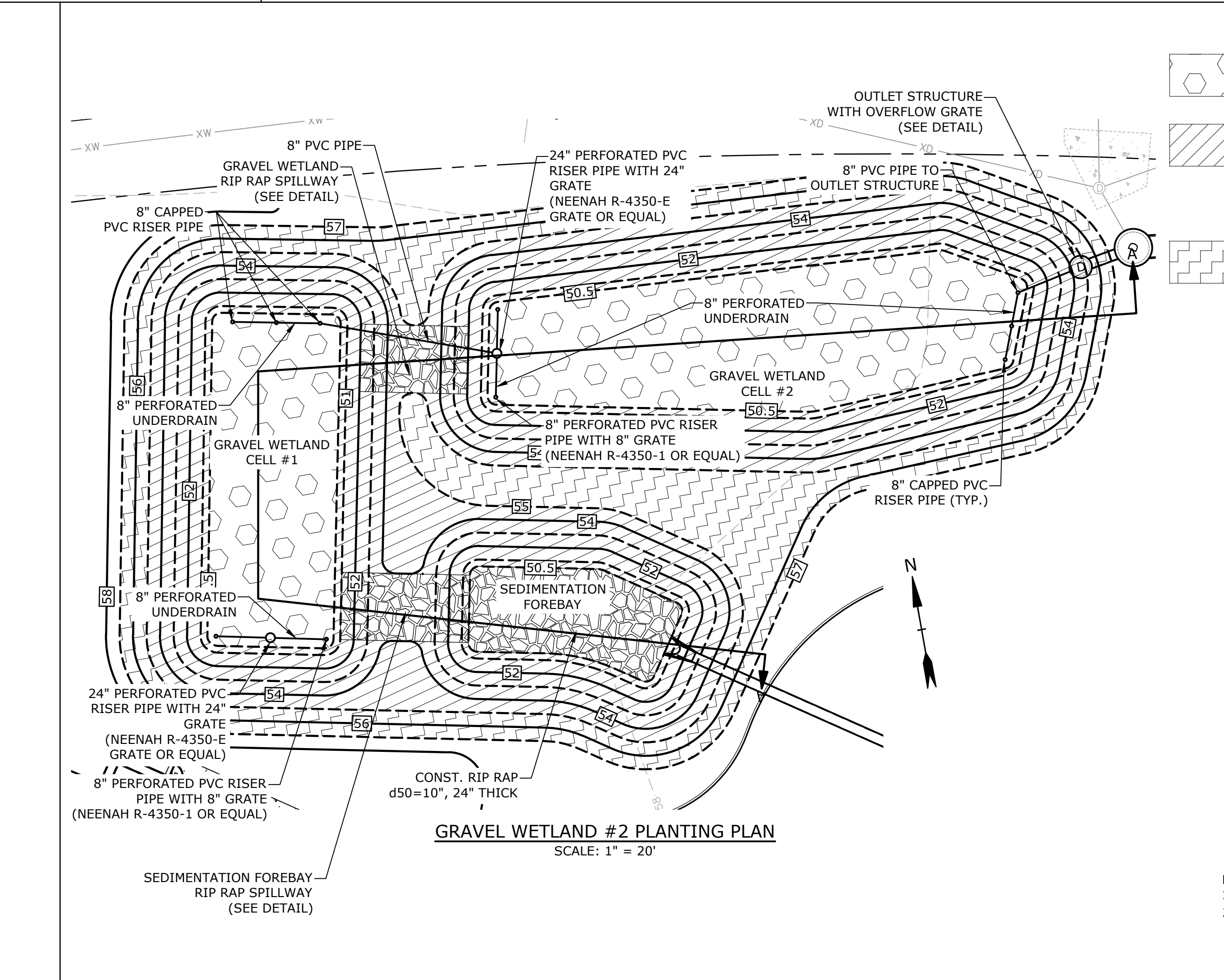
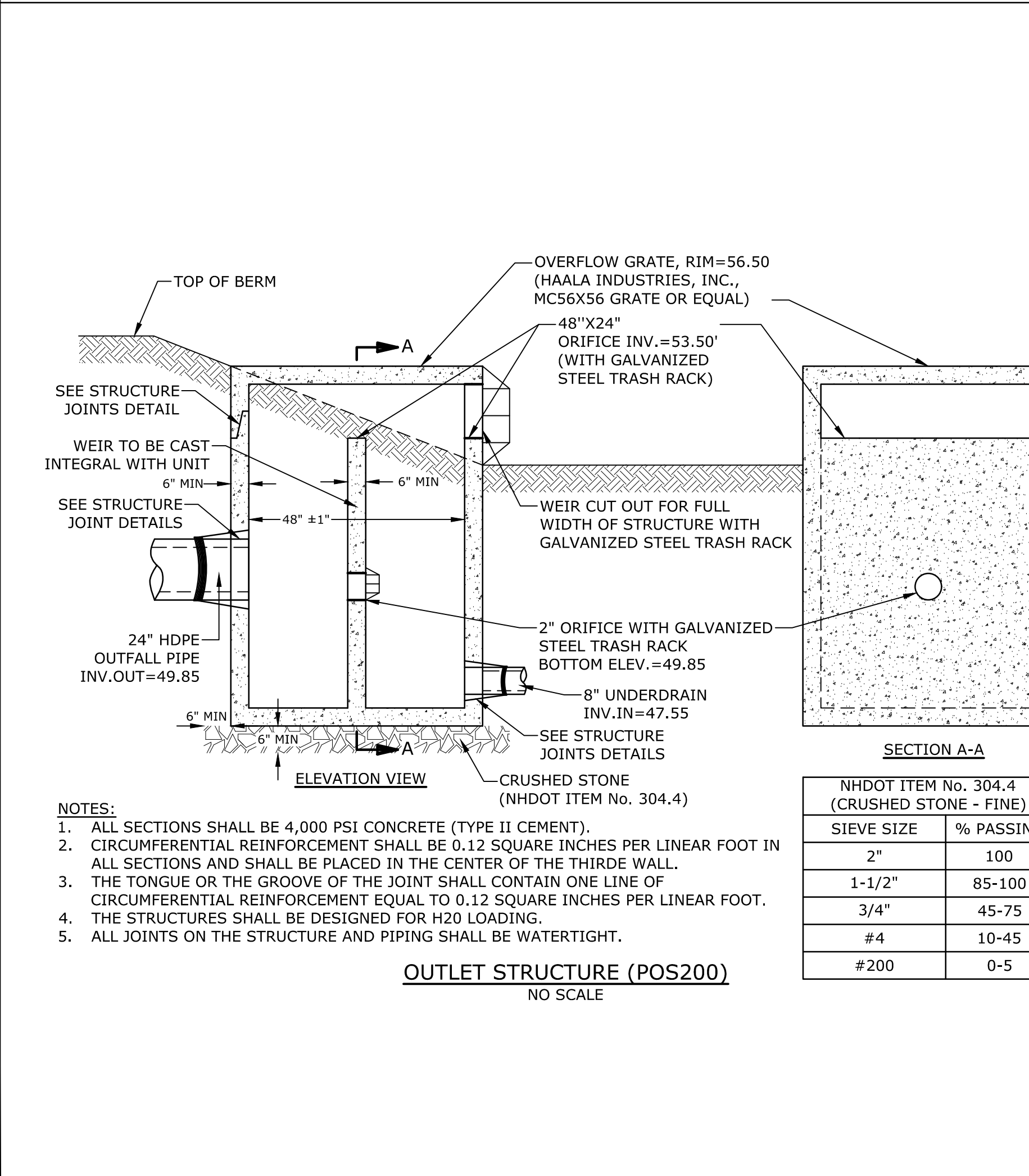
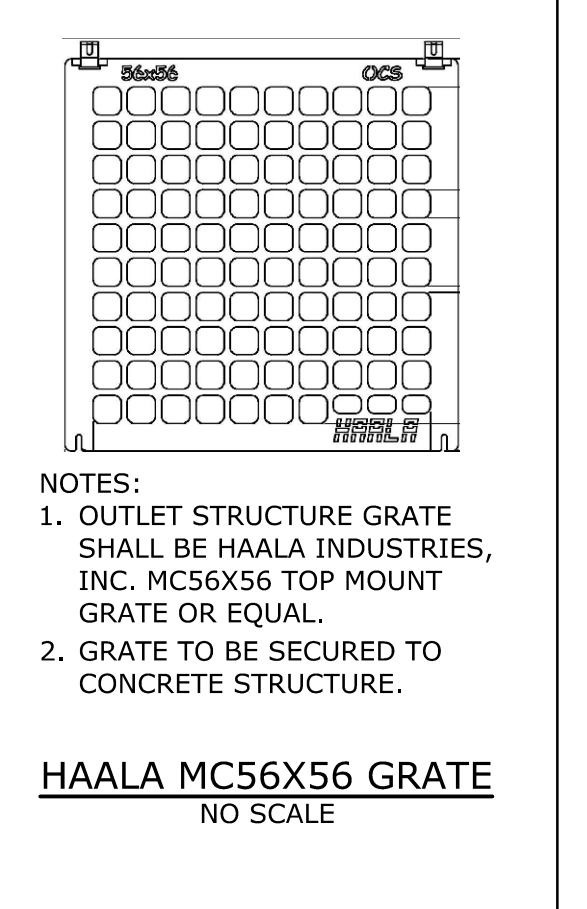
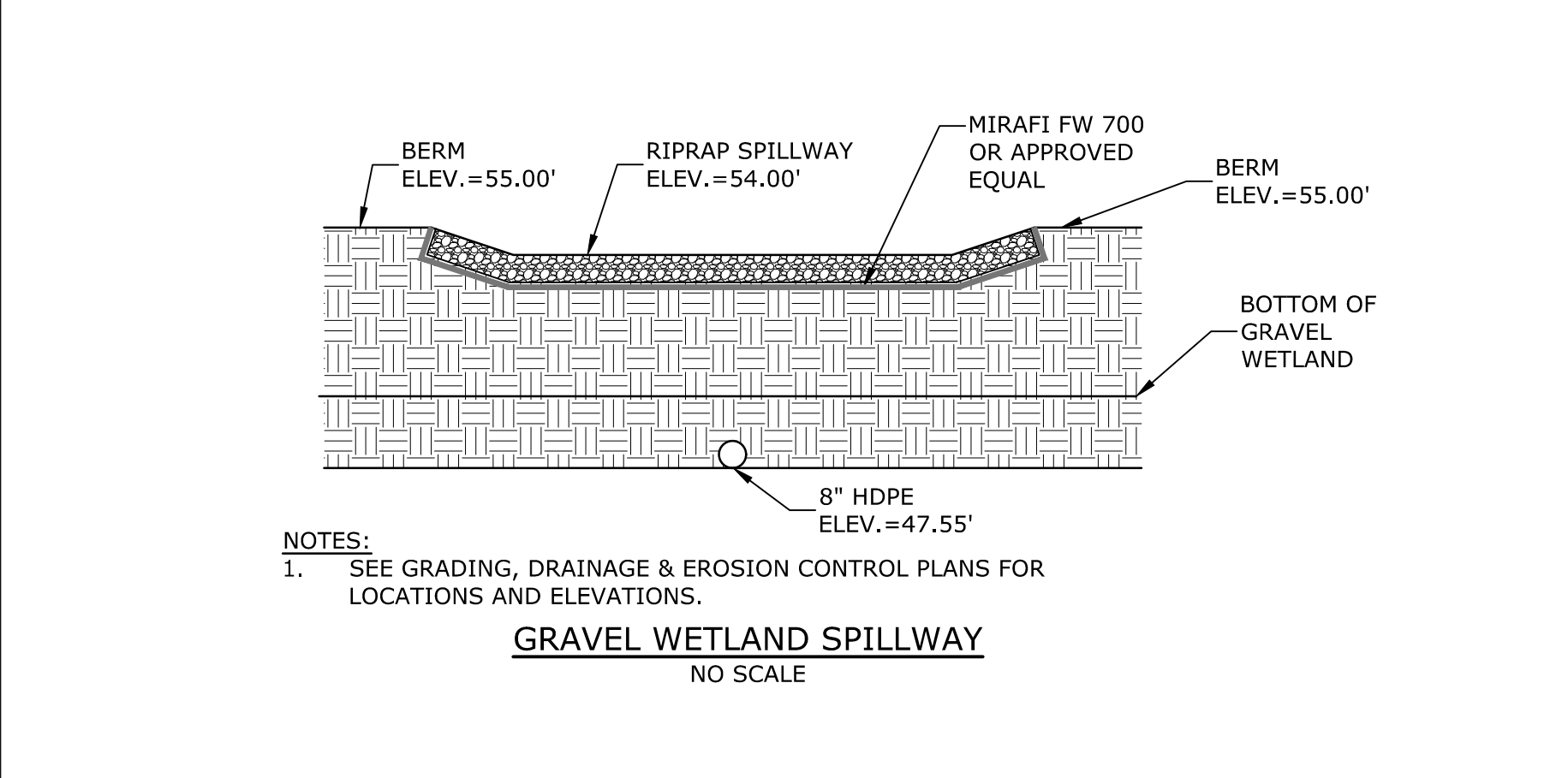
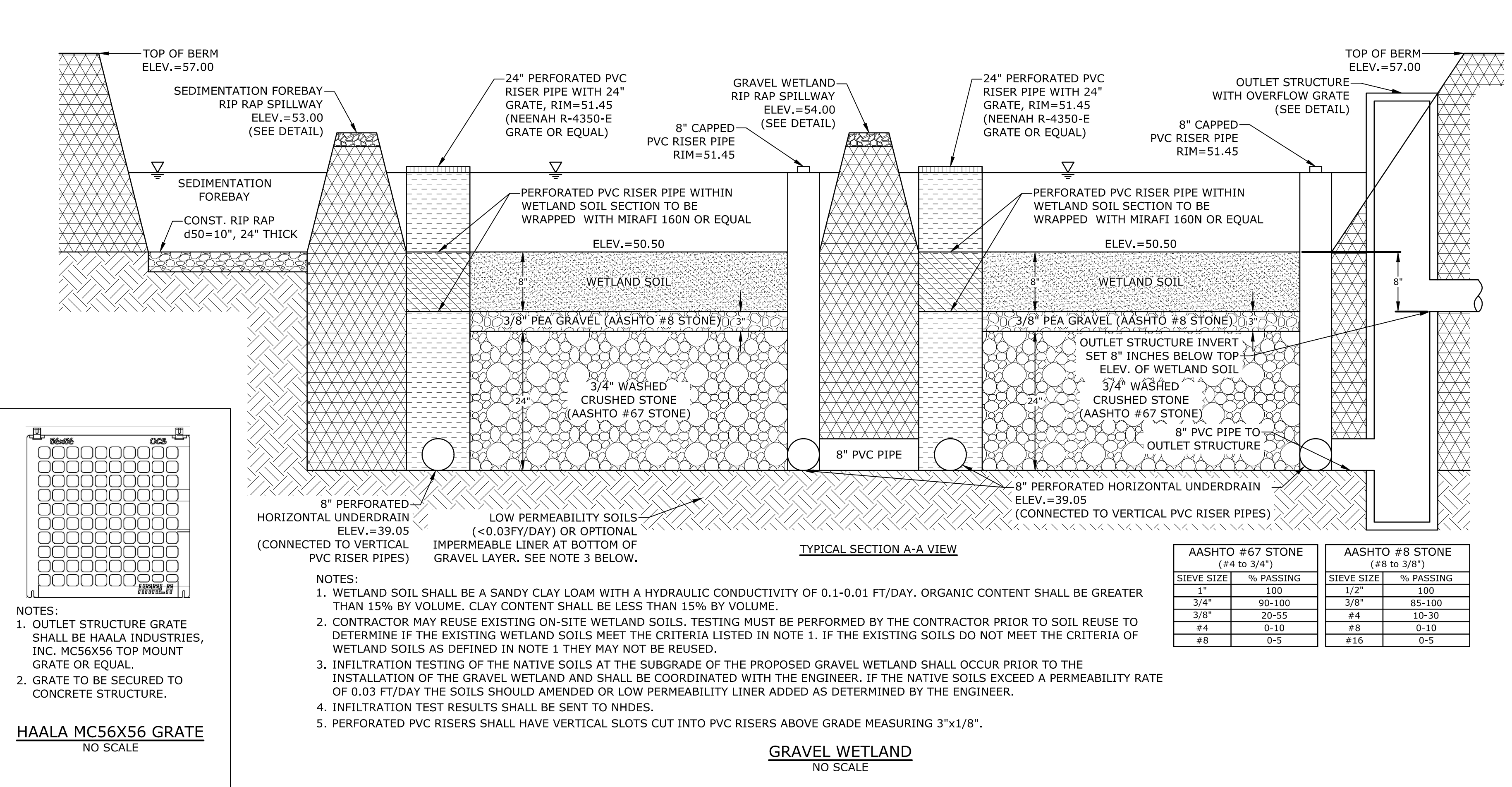
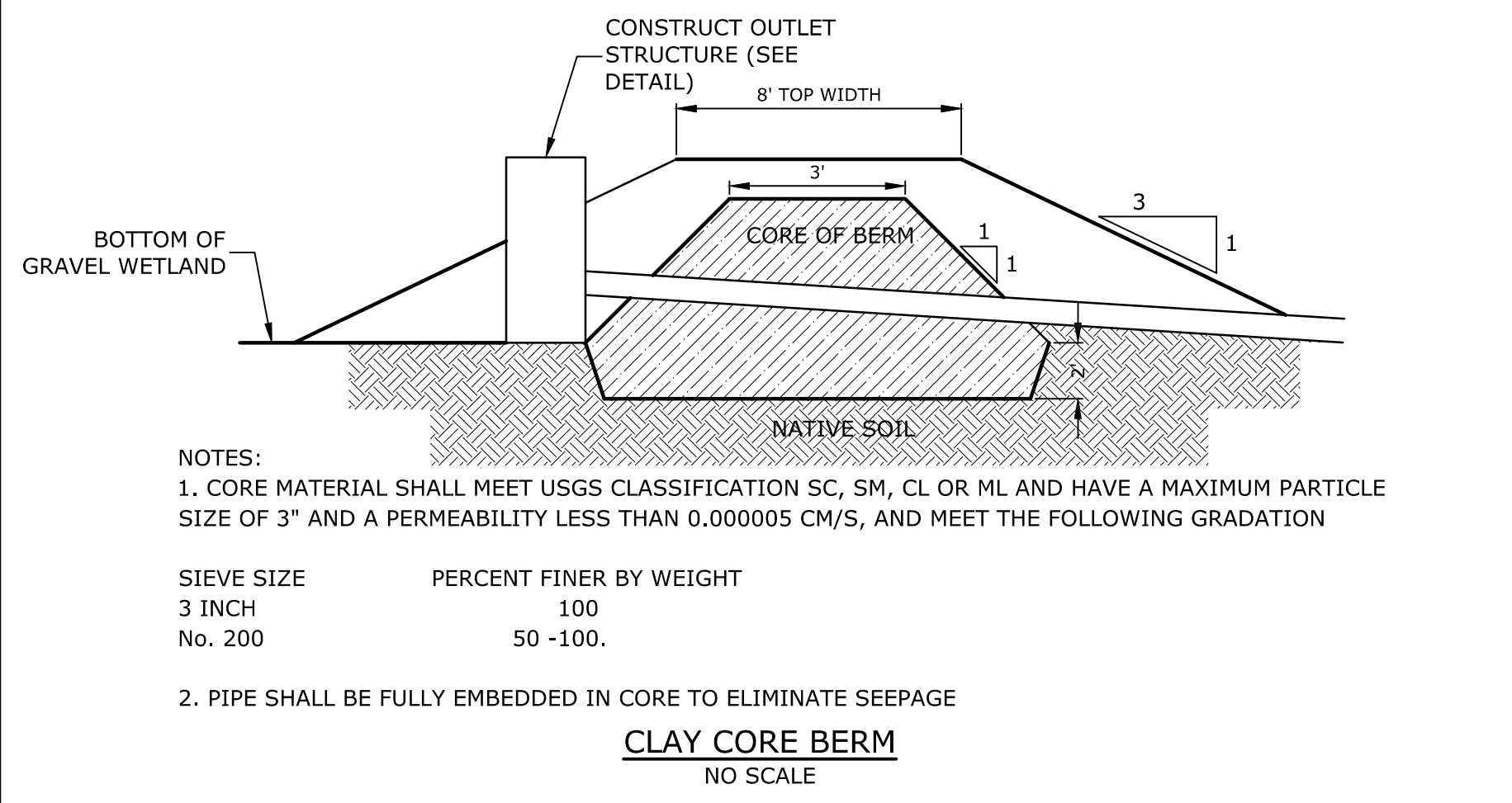
PROJECT NO: L-0700-013
DATE: 04/03/2018
FILE:
DRAWN BY: NAH
CHECKED BY: PMC
APPROVED BY: BLM

DETAILS SHEETS

SCALE: AS SHOWN

C-507

Last Save Date: November 5, 2018 2:00 PM By: MAHANSEN
Plot Date: Monday, November 05, 2018 Plotted By: Neil A. Hansen
File Location: J:\L-0700 Lonza Biologics Expansion.was 1276 0.13 from Parcel Redevelopment Drawings - Figures AutoCAD Sheet\LOT0700-CD-501 to C-508.dwg Layout Tab: C-507

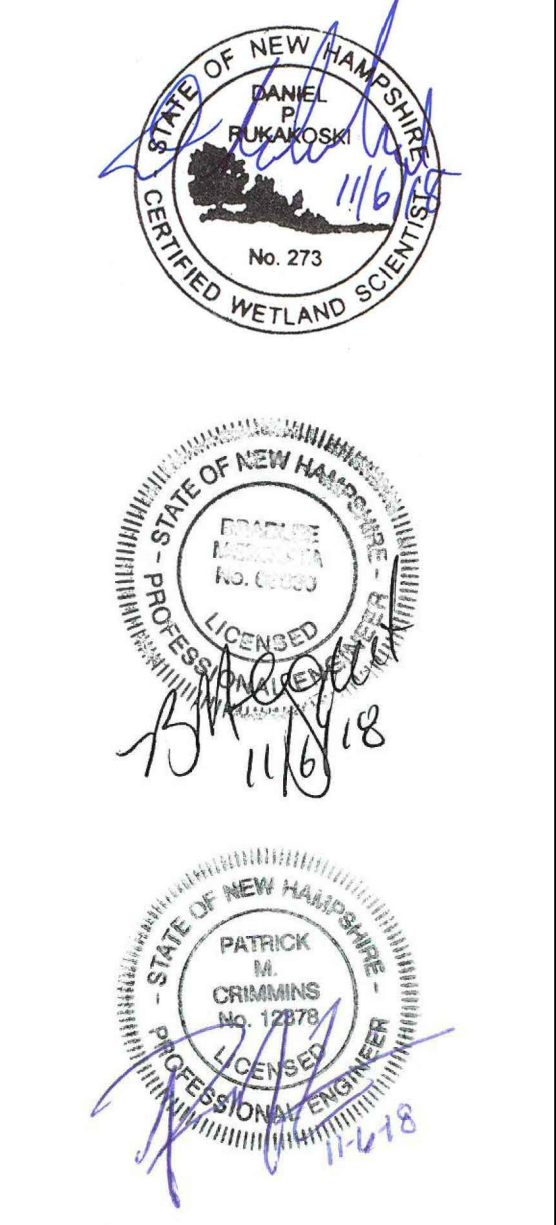


GRAVEL WETLAND PLANTING PLAN

SPECIES	PLANT SIZE	QUANTITY/SPACING
NEW ENGLAND WETMIX, WETLAND SEED MIX OR EQUIVALENT		18LB/ACRE
"RED OSIER DOGWOOD" CORNUS SERICEA AND "SUMMERSWEET CLETHRA" CLETHRA ALNIFOLIA	2'-3'	8'-10' ON CENTER
"SILKY DOGWOOD" CORNUS AMOMUM AND "HIGHBUSH BLUEBERRY" VACCINIUM CORYMOSUM AND "WINTERBERRY" ILEX VERTICILLATA	2'-3'	8'-10' ON CENTER

GRAVEL WETLAND INSPECTION / MAINTENANCE REQUIREMENTS

INSPECTION / MAINTENANCE	FREQUENCY	ACTION
MONITOR TO ENSURE THAT GRAVEL WETLAND FUNCTIONS EFFECTIVELY AFTER STORMS	FOUR (4) TIMES ANNUALLY (QUARTERLY) AND AFTER ANY RAINFALL EVENT EXCEEDING 2.5" IN A 24-HR PERIOD	- TRASH AND DEBRIS TO BE REMOVED - ANY REQUIRED MAINTENANCE SHALL BE ADDRESSED - INSPECT SOIL AND REPAIR ERODED AREAS, ESPECIALLY ON SLOPES. - CHECK INLETS, OUTLETS, AND OVERFLOW SPILLWAY FOR BLOCKAGE, STRUCTURAL INTEGRITY AND EVIDENCE OF EROSION.
INSPECT VEGETATION	ANNUALLY	- INSPECT THE CONDITION OF ALL GRAVEL WETLAND VEGETATION - PRUNE BACK OVERGROWTH - REPLACE DEAD VEGETATION - REMOVE ANY INVASIVE SPECIES - COORDINATE WITH UNH STORMWATER CENTER FOR FURTHER VEGETATION MANAGEMENT GUIDELINES
INSPECT DRAWDOWN TIME	ANNUALLY	- HIRE QUALIFIED PROFESSIONAL TO ASSESS THE CONDITION OF THE FACILITY TO DETERMINE MEASURES REQUIRED TO RESTORE THE FILTRATION FUNCTION, INCLUDING BUT NOT LIMITED TO REMOVAL OF ACCUMULATED SEDIMENTS OR RECONSTRUCTION OF THE FILTER.



Proposed Industrial Development
Lonza Biologics

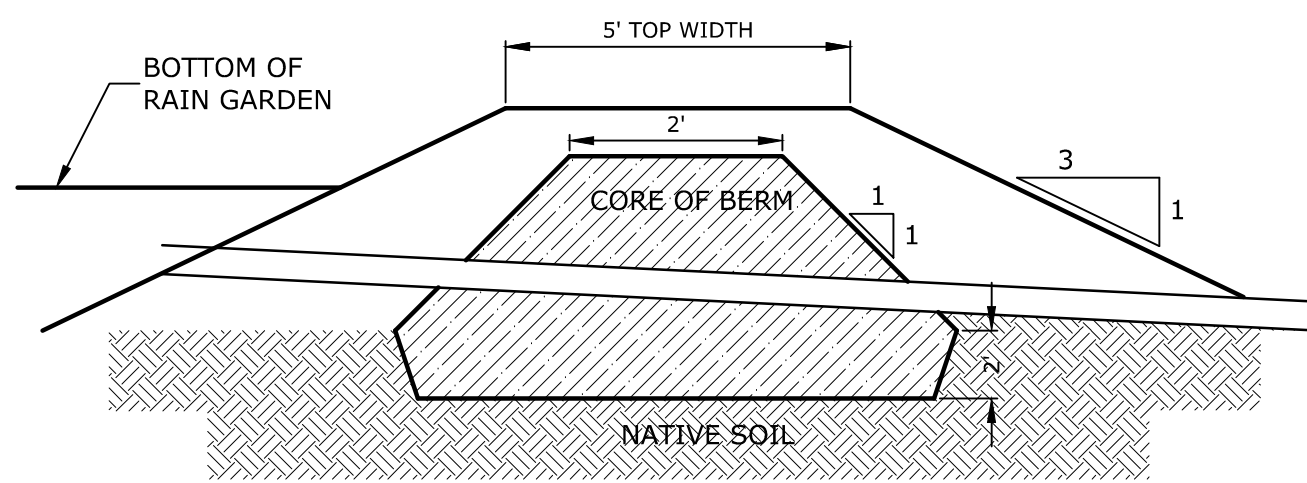
Portsmouth, New Hampshire

MARK	DATE	DESCRIPTION
F	11/6/2018	P.B. Submission
E	8/30/2018	Revised Aot Submission
D	8/21/2018	Revised TAC Submission
C	6/18/2018	NHDES Aot Submission
B	5/21/2018	TAC Submission
A	4/3/2018	TAC W.S. Submission

PROJECT NO:	L-0700-013
DATE:	04/03/2018
FILE:	
DRAWN BY:	NAH
CHECKED:	PMC
APPROVED:	BLM

DETAILS SHEETS
SCALE: AS SHOWN
C-508

Last Save Date: November 5, 2018 2:00 PM By: MAHANSEN
Plot Date: Monday, November 05, 2018 Plotted By: Neil A. Hansen
File Location: J:\L-0700\Lonza Biologics Expansion.was 12.76 0.13 from Parcel Redevelopment Drawings - Figures\AutoCAD\Sheet\LOT0700-CD-501 to C-508.dwg Layout Tab: C-508

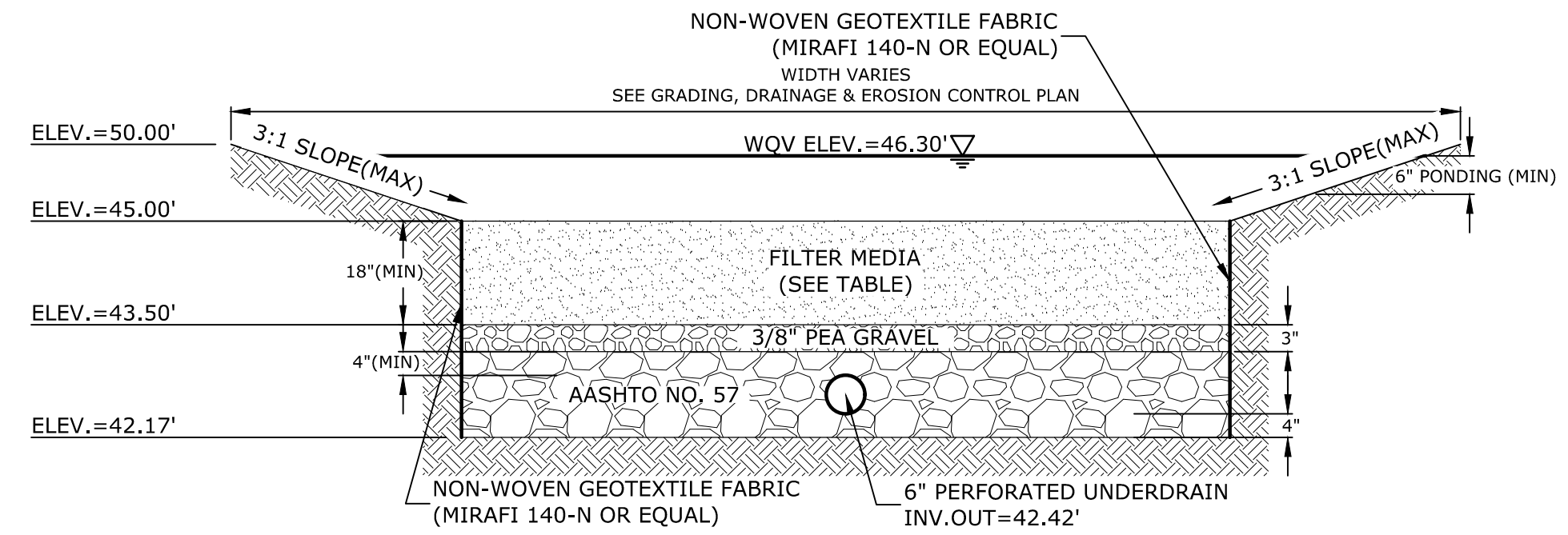


NOTES:
 1. CORE MATERIAL SHALL MEET USGS CLASSIFICATION SC, SM, CL OR ML AND HAVE A MAXIMUM PARTICLE SIZE OF 3" AND A PERMEABILITY LESS THAN 0.00005 CM/S, AND MEET THE FOLLOWING GRADATION

SIEVE SIZE	PERCENT FINER BY WEIGHT
3 INCH	100
No. 200	50 -100.

2. PIPE SHALL BE FULLY EMBEDDED IN CORE TO ELIMINATE SEEPAGE

CLAY CORE BERM
NO SCALE



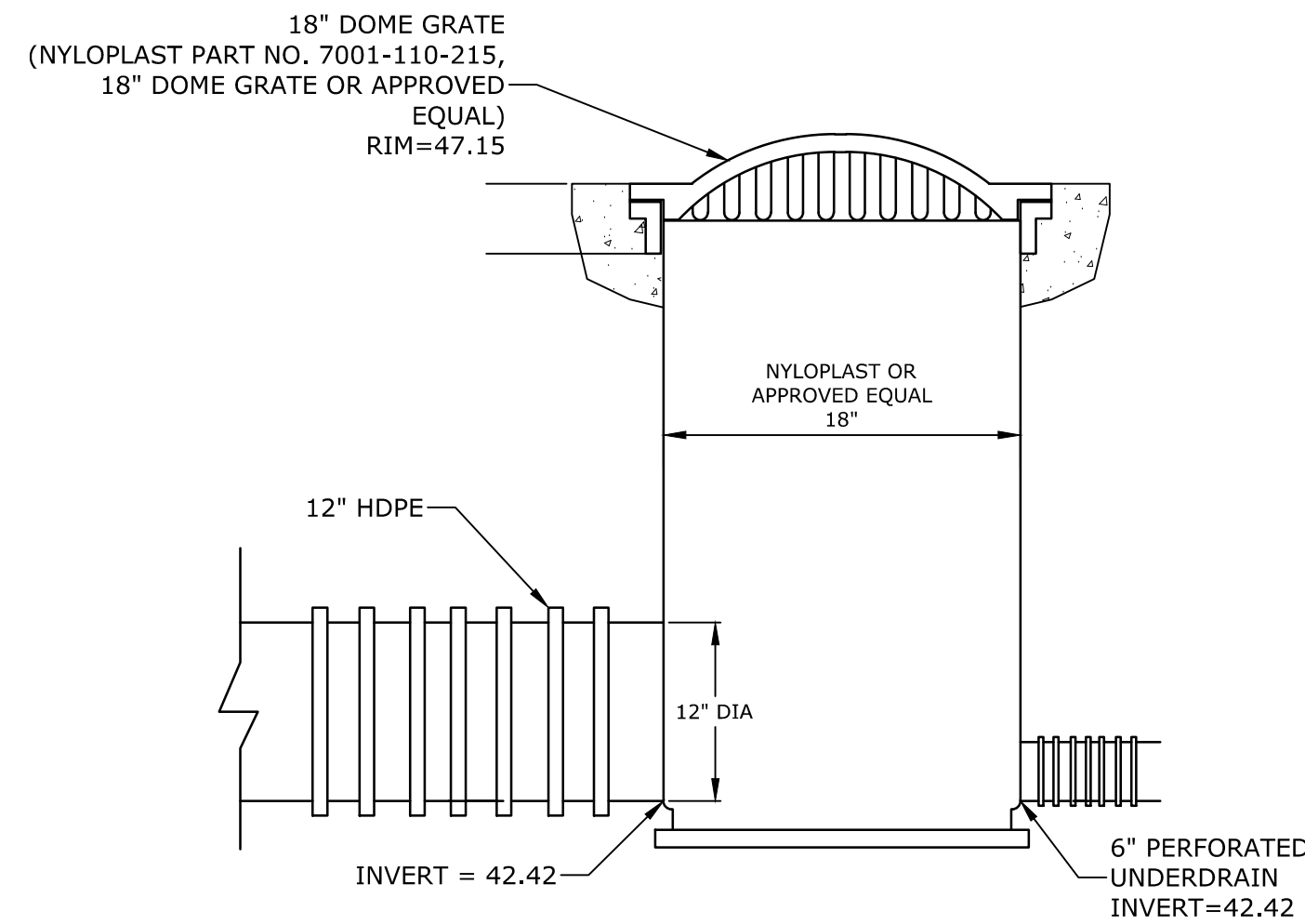
FILTER MEDIA COMPOSITION:

COMPONENT MATERIAL	PERCENT OF MIXTURE BY VOLUME	GRADATION OF MATERIAL
		SIEVE NO. PERCENT PASSING
ASTM C-33 CONCRETE SAND	50-55	SEE NOTE #5
LOAMY SAND TOPSOIL	20-30	200 15-25
MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH	20-30	200 5 MAX.

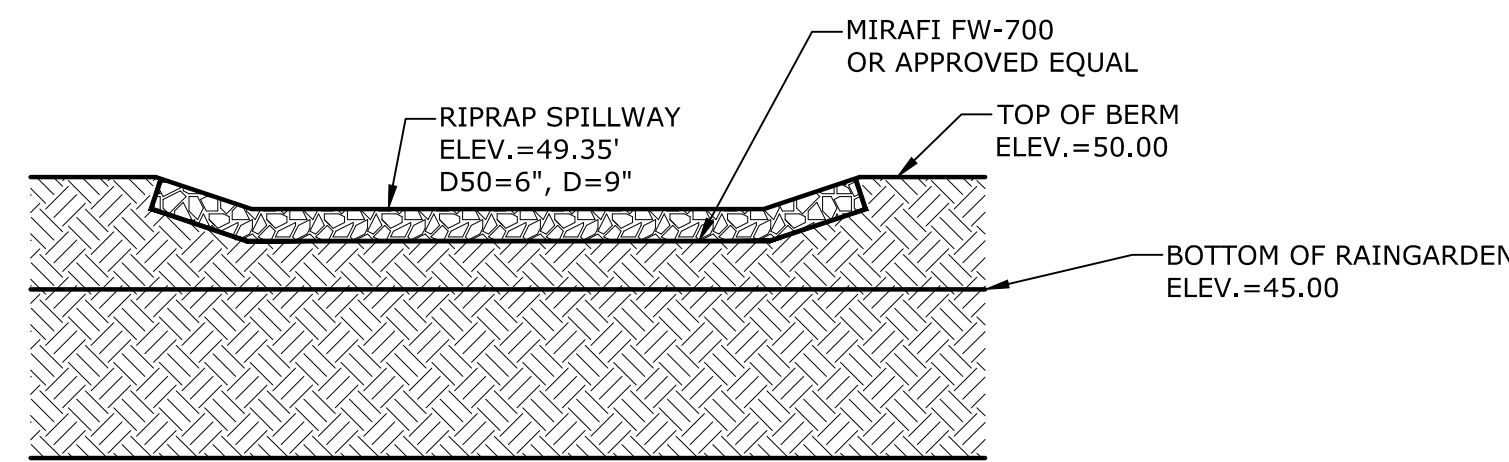
NOTES:
 1. RAIN GARDENS SHALL NOT BE PLACED INTO SERVICE UNTIL THE PRACTICE HAS BEEN PLANTED AND ITS CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
 2. DO NOT TRAFFIC EXPOSED SOIL SURFACES WITH CONSTRUCTION EQUIPMENT. CONTRACTOR SHALL KEEP ALL EXCAVATION EQUIPMENT OUTSIDE OF THE LIMIT OF THE RAIN GARDEN.
 3. SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR LOCATIONS, LAYOUTS, AND ELEVATIONS.
 4. THE SAND PORTION OF THE FILTER MEDIA SHALL MEET THE FOLLOWING GRADATION (ASTM C-33):

SIEVE SIZE	PERCENT PASSING
3/8"	100
#4	95-100
#8	80-100
#16	50-85
#30	25-60
#50	5-30
#100	0-10

RAIN GARDEN
NO SCALE

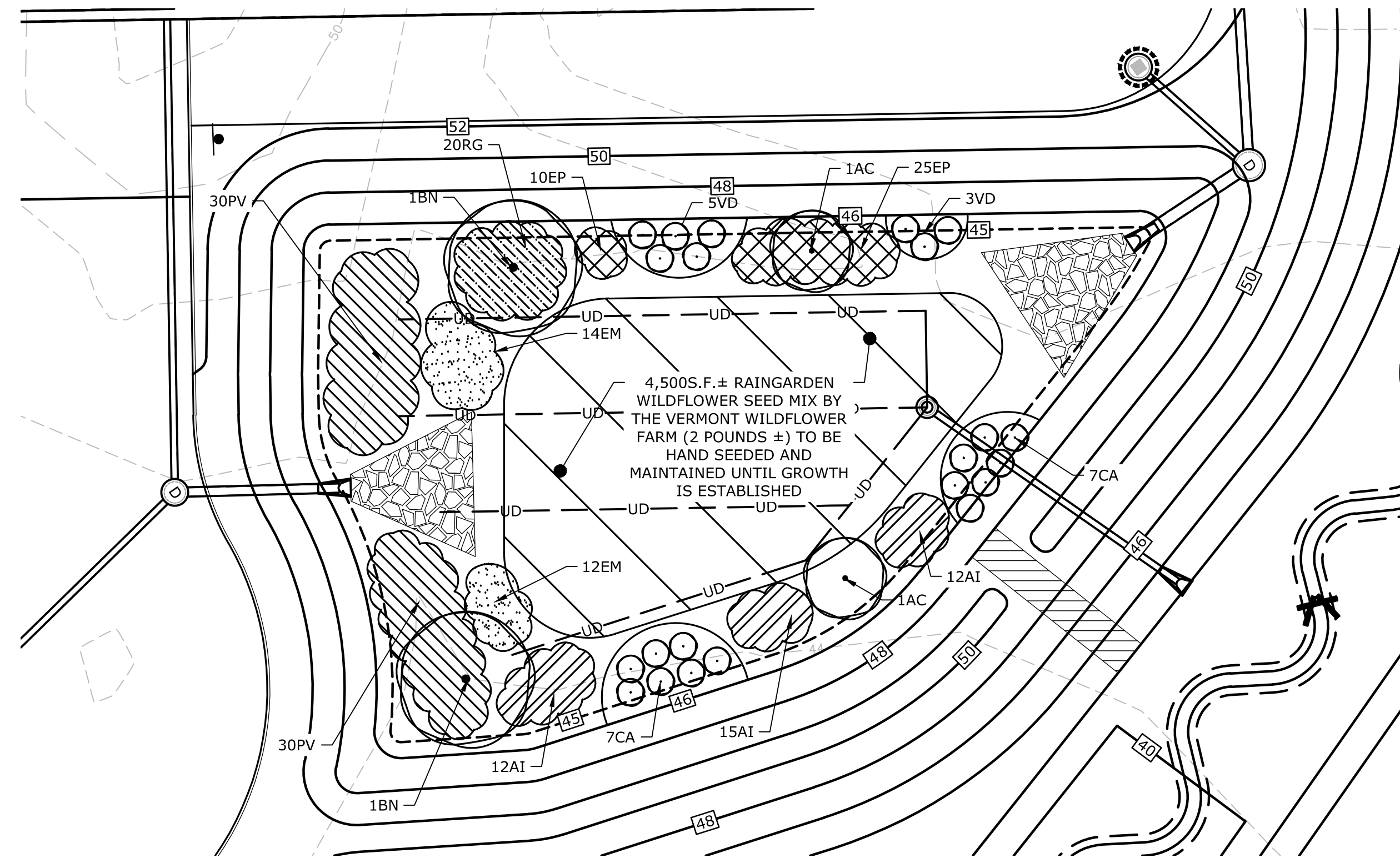


OUTLET STRUCTURE DETAIL (POS300)
NO SCALE



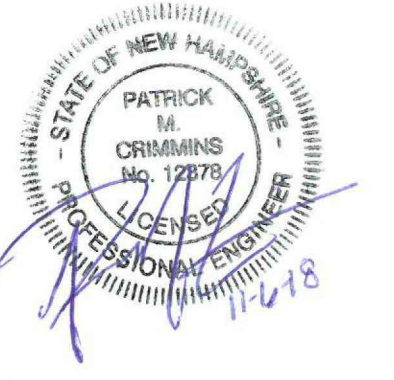
NOTE:
 SEE GRADING, DRAINAGE & EROSION CONTROL PLANS, SHEET C-110, FOR LOCATIONS AND ELEVATIONS.

RIPRAP OVERFLOW SPILLWAY
NO SCALE



RAIN GARDEN PLANTING PLAN
SCALE: 1" = 20'

RAINGARDEN PLANT SCHEDULE				
CODE	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
TREES				
BN	BETULA NIGRA	RIVER BIRCH	12 - 14' HT	B & B (CLUMP)
AC	AMELANCHIER CANADENSIS	SHADBLOW SERVICEBERRY	6 - 7' HT	B & B (CLUMP)
SHRUBS				
VD	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	5 GALLON	CONTAINER
CA	CLETHRA ALNIFOLIA	SUMMERSWEET CLETHRA	5 GALLON	CONTAINER
PERENNIALS				
PV	PANICUM VIRGATUM 'SHENANDOAH'	SHENANDOAH SWITCH GRASS	3 GALLON	CONTAINER
EM	EUPATORIUM MACULATUM	JOE PYE WEED	2 GALLON	CONTAINER
AI	ASCLEPIAS INCARNATA	MARSH MILKWEED	2 GALLON	CONTAINER
RG	RUDBECKIA 'GOLDSTURM'	GOLDSTURM BLACKEYED SUSAN	1 GALLON	CONTAINER
EP	ECHINACEA 'PURPUREA'	PURPLE CONEFLOWER	1 GALLON	CONTAINER



Proposed Industrial Development

Lonza Biologics

Portsmouth, New Hampshire

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A	4/3/2018	TAC W.S. Submission

PROJECT NO: L-0700-013
 DATE: 04/03/2018
 FILE:
 DRAWN BY: NAH
 CHECKED: PMC
 APPROVED: BLM

DETAILS SHEETS

SCALE: AS SHOWN

C-509



CITY OF PORTSMOUTH

Community Development Department
(603) 610-7281

Planning Department
(603) 610-7216

PLANNING DEPARTMENT

January 18, 2019

Lonza Biologic
Attn: Simon Trigg, Director of
Planning, Purchasing & Logistics
101 International Drive
Portsmouth, NH 03801

**RE: Conditional Use Permit Application for Property Located at
70 & 80 Corporate Drive**

Dear Mr Trigg:

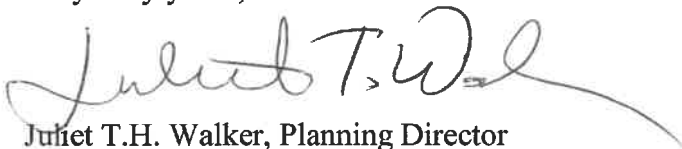
The Planning Board, at its regularly scheduled meeting of January 17, 2019, considered your Conditional Use Permit application under Chapter 300 of the Pease Land Use Controls, Part 304-A Pease Wetlands Protection, for work within the inland wetland buffer for the construction of three proposed industrial buildings with heights of 105 feet: Proposed Building #1 with a 132,000 s.f. footprint; Proposed Building #2: 150,000 s.f. footprint; Proposed Building #3 with a 62,000 s.f. footprint; and two 4-story parking garages, with 55,555± s.f. of impact to the wetland, 66,852 ± s.f. of impact to the wetland buffer and a 1,000 l.f. stream restoration for Hodgson Brook resulting in 42,500 s.f. of wetland creation. As a result of said consideration, the Board voted to **grant** the Conditional Use Permit as presented.

Page 2

RE: 70 & 80 Corporate Drive
Wetland Conditional Use Permit
January 18, 2019

The minutes and audio recording of this meeting are available through the Planning Department.

Very truly yours,

A handwritten signature in cursive script, appearing to read "Juliet T.H. Walker". The signature is written in black ink and is positioned above the typed name.

Juliet T.H. Walker, Planning Director
for Dexter Legg, Chairman of the Planning Board
JTHW:ig

cc: Robert Marsilia, Building Inspector
Rosann Maurice-Lentz, City Assessor
George Combes, Lonza
Patrick Crimmins, P. E., Tighe & Bond
Robert Ciandella, Esq.
Town of Greenland
Town of Newington
Rockingham Planning Commission
Maria Stowell, P. E., PDA

From: [Juliet T.H. Walker](mailto:Juliet.T.H.Walker)
To: [Tracy A. Gora](mailto:Tracy.A.Gora)
Subject: FW: LONZA Biologics proposed 1 Million Square Foot Expansion & Water Use
Date: Tuesday, March 16, 2021 8:28:05 AM
Attachments: [2019 Portsmouth & PDA Water Supply.xls](#)
[2019 Portsmouth & PDA Water Demand.xls](#)
[Portsmouth PDA Water Supply Summary.pdf](#)
[Portsmouth PDA Water System Graphic.pdf](#)

From: dexter legg [mailto:dexter.legg@gmail.com]
Sent: Tuesday, March 16, 2021 7:09 AM
To: Juliet T.H. Walker <jthwalker@cityofportsmouth.com>
Subject: Fwd: LONZA Biologics proposed 1 Million Square Foot Expansion & Water Use

Begin forwarded message:

From: JAH <samjakemax@aol.com>
Date: March 15, 2021 at 10:51:38 PM EDT
To: dexter.legg@gmail.com, clarkcj7@gmail.com,
chellman@tndengineering.com, pharris_portsnhplan@icloud.com,
Pawhelan@comcast.net, kconard@cityofportsmouth.com
Cc: andy42152@aol.com
Subject: LONZA Biologics proposed 1 Million Square Foot Expansion & Water Use
Reply-To: JAH <samjakemax@aol.com>

Dear Chairman Legg and Planning Board members:

I understand at the next planning board meeting on March 18, LONZA Biologics will be asking the Planning Board to approve Conditional Use Permits related to the expansion its facility at the Pease Development Authority. (PDA)

According to NHDES OneStop, [Registered Water User \(state.nh.us\)](http://RegisteredWaterUser.state.nh.us) in 2020 LONZA used 359,000 gallons of water per day at its existing 1 million square foot facility. Therefore it is reasonable to assume the proposed 1 million square foot facility will use an additional 359,000 gallons per day. (enough water to supply 1,500 homes) 359,000 gallons represents 30% of the PDA water system supply capacity of 1.206 million gallons per day (consisting of the Haven Well (now off line) , Smith Well and Harrison Well). After this expansion is complete, LONZA alone will consume 60% of the PDA's water system capacity.

Therefore as stewards of the public trust, it behooves the Planning Board to table this CUP request until the following questions are answered to the Planning Board's satisfaction

- 1) What is the current safe yield of the PDA water system's 3 supply wells (Haven, Smith and Harrison) ?
- 2) When is the Haven Well (the PDA's most productive well at 524 gpm or 755,000 gallons per day) scheduled to be back on line ?
- 3) What assurances has the PDA given Portsmouth that this LONZA expansion project, and

future PDA projects, will not require the Portsmouth Water System to supply water to the PDA water system in order to satisfy the PDA demand ?

4) When will the Portsmouth Water System and PDA water system return to being operated as independent and separate water systems as they were from the late 1950's until May, 2014 ?

City Hall should not have the sole authority to dole out huge chunks of water like Santa tossing candy from a parade float. Water allotments of this magnitude should first be made as a request to the Planning Board for a recommendation and then final approval with the City Council.

Our finite water resources belong to the People of Portsmouth, not City Hall.

Regards,

Jim Hewitt

P.S. The Portsmouth Water System has been supplying about 1/3 of the water the PDA needs since the Haven Well went off line in May, 2014 from PFAS contamination. See attached water supply and demand spreadsheets for the Portsmouth Water System and PDA Water System for 2019. Below and attached is additional and back up information.

<https://www.seacoastonline.com/news/20190917/city-did-not-protect-against-lonza-water-grab>

<https://www.seacoastonline.com/news/20190930/city-water-ratepayers-subsidizing-pease-golf-cours>

<https://www.seacoastonline.com/news/20180424/lonza-expansion-will-stress-portsmouths-resources>

[Portsmouth Annual Water Quality Report - Page 1 - Created with Publitas.com](#)

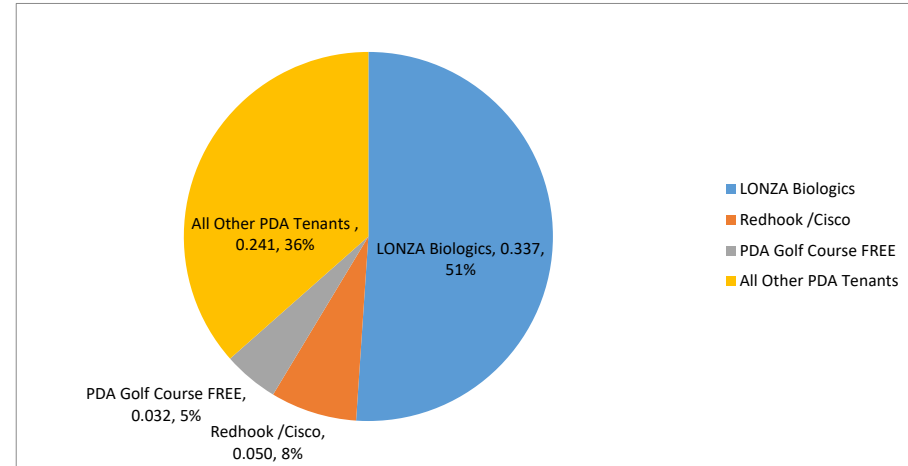
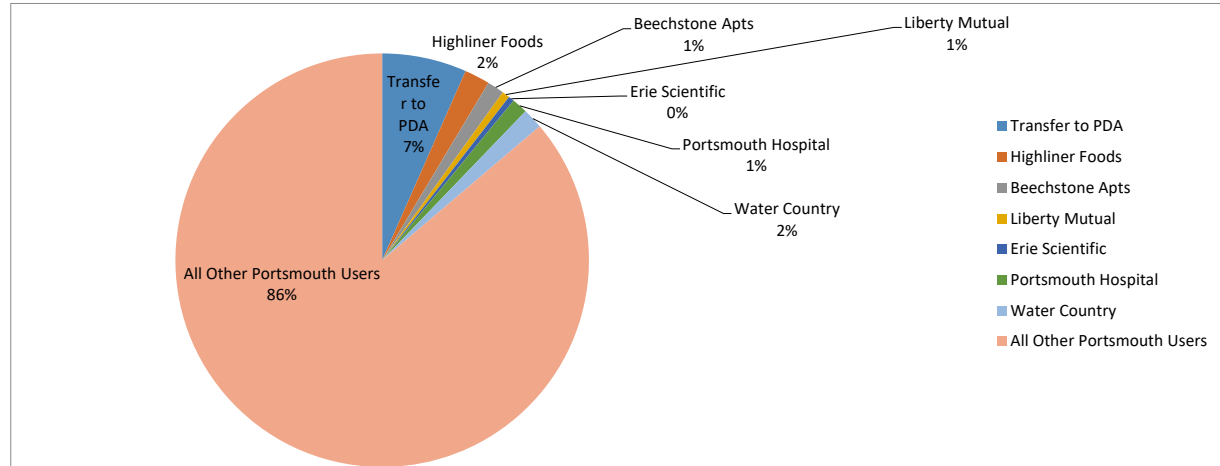
[Pease Tradeport Annual Water Quality Report - Page 1 - Created with Publitas.com](#)

http://files.cityofportsmouth.com/publicworks/Portsmouth_WaterSystem_MasterPlan_2013.pdf

2019 PORTSMOUTH WATER SYSTEM DEMAND SUMMARY million gallons per day (mgd)

2019 PEASE DEVELOPMENT AUTHORITY WATER SYSTEM DEMANDS

PORTSMOUTH WATER DEMANDS	Transfer to PDA	Highliner Foods	Beechstone Apts	Liberty Mutual	Erie Scientific	Portsmouth Hospital	Water Country	All Other Portsmouth	TOTAL (MGD)	PDA WATER DEMANDS	LONZA Biologics	Redhook /Cisco	PDA Golf Course FREE	All Other PDA Tenants	TOTAL (MGD)
Million Gallons per Day (MGD)	0.220	0.066	0.044	0.020	0.015	0.041	0.053	2.870	3.329	Million Gallons per Day (MGD)	0.337	0.050	0.032	0.241	0.660

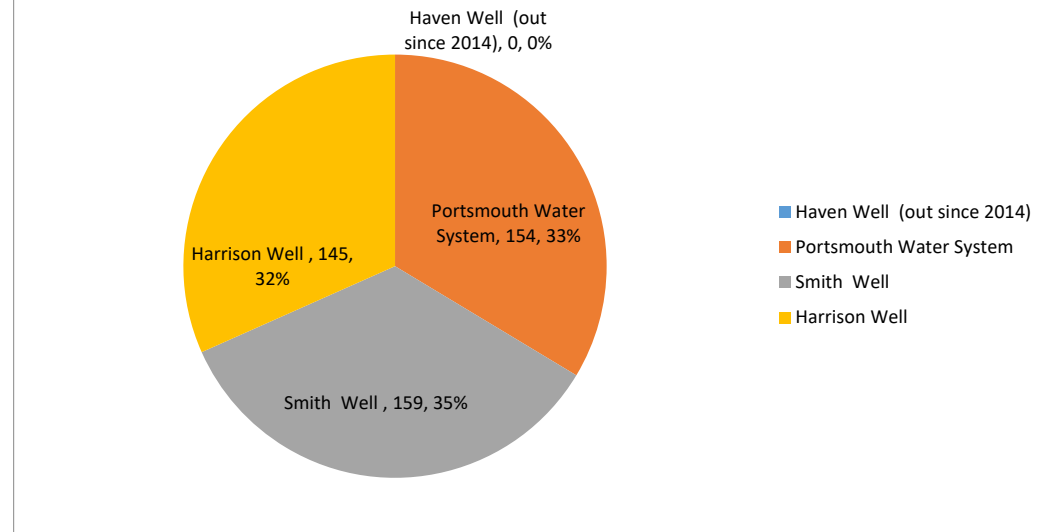
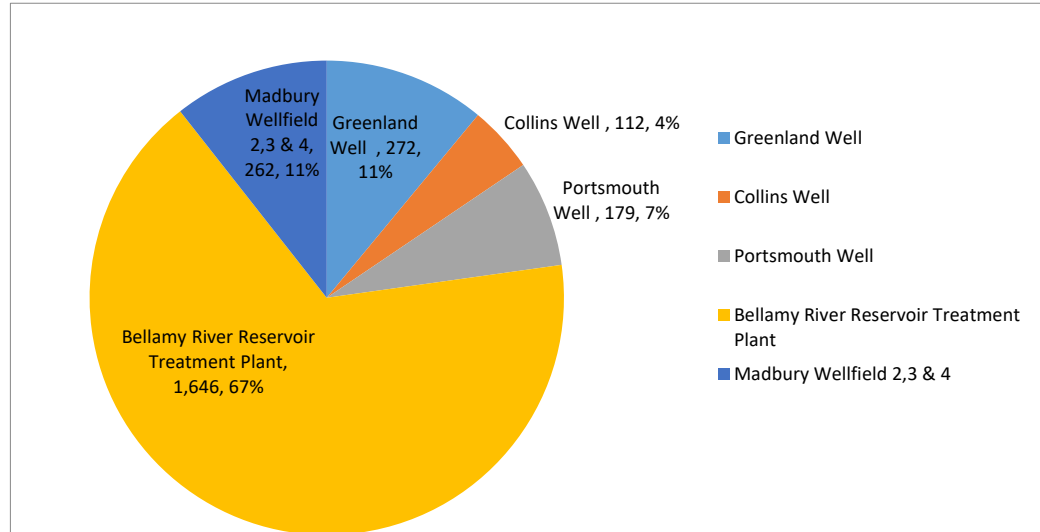


7

2019 PORTSMOUTH WATER SYSTEM SUPPLY SUMMARY
PWSID 1951010
gpm (gallons per minute)

2019 PEASE DEVELOPMENT AUTHORITY WATER SYSTEM SUPPLY SUMMARY
PWSID 1951020
gpm (gallons per minute)

PORTSMOUTH WATER SOURCES	Greenland Well	Collins Well	Portsmouth Well	Bellamy River Reservoir	Madbury Wellfield 2,3 & 4	TOTAL (GPM)	PDA WATER SOURCES	Haven Well (out since 2014)	Portsmouth Water System	Smith Well	Harrison Well	TOTAL (GPM)
2019 Yield (gpm)	272	112	179	1,646	262	2,472	2019 Yield (gpm)	0	154	159	145	458
Safe Sustainable Yield (gpm)	457	156	264	1,736	647	3,260	Safe Sustainable Yield (gpm)	534	154 ?	153	133	458



Projected System-Wide Demands

Based on projected demand increases in Greenland and Pease and some increase due to redevelopment in Portsmouth, we project that system-wide water demand will increase at approximately 1% per year. The following table summarizes the anticipated Average and Maximum Day through 2030:

TABLE ES-4
Projected Water Demand for the Portsmouth Water System through 2030

Year	Average Day Demand (mgd)	Maximum Day Demand (mgd)	Maximum Month Demand (mgd)
Average '04-'11	4.59	7.02	5.71
2015	4.78	7.31	5.94
2020	5.02	7.68	6.24
2025	5.28	8.07	6.56
2030	5.55	8.48	6.90

Available Water Supply

Sustainable Yields

We analyzed the withdrawals from the City's sources utilizing monthly data for 2003 to 2011. This data was analyzed for the months that the sources were actually in service (for example, the Collins Well has had periods where it has been offline for maintenance). The average and maximum monthly pumpage was assessed for each source. The 75th percentile of average pumpage is taken as the likely sustainable yield of the supply source. This data was compared with the 2003 Weston & Sampson Master Plan Update data. The Table ES-5 presents a summary. Appendix B includes all of the monthly pumpage data for reference.

PORTSMOUTH PDA

TABLE ES-5
Pumpage Data and Likely Sustained Yield of Portsmouth's Water Supply Sources

2003 to 2011 Pumpage Data	WTF								TOTAL Sources	MGD
	Finished Water	Madbury Wells	Greenland Well	Port #1 Well	Collins Well	Haven Well	Smith Well	Harrison Well ⁶		
Total Operating Months ¹	108	108	108	108	85	105	91	67	108	
Total Pumpage (MG) ²	7,612	2,481	1,670	1,261	485	699	447	331	15,010	
Average Monthly Pumpage (MG) ³	70	23	15	12	6	7	5	5	139	
Max Month Pumpage (MG)	109	37	22	18	12	15	11	10	192	
75% Month Pumpage (Total MG)	84	27	20	13	7	8	6	6	171	
75% Month Pumpage (Average GPM)	1,909	735	454	301	159	180	142	132	4,012	5.78
W&S Safe Yield (GPM) ⁴	1,736	559	460	227	153	534	163	134	3,966	5.71
T&B Likely Sust. Yield (GPM) ⁵	1,736	647	457	264	156	534	153	133	4,080	5.87

Notes:

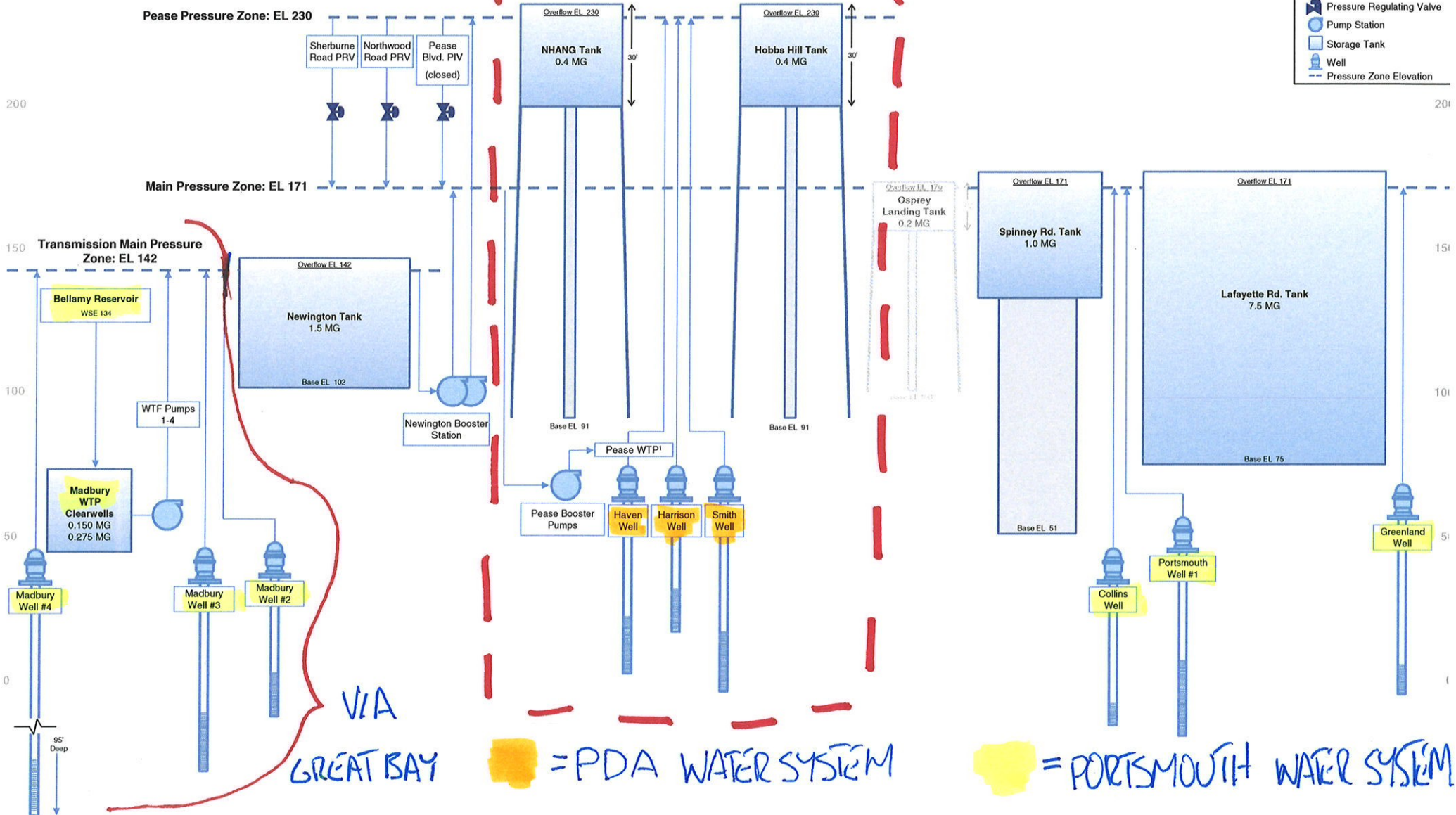
- Total Operating Months includes all months the source of supply was in operation and pumping at a close to normal capacity. Some months show minimal pumpage and are likely due to well maintenance or low water demand. These months were dropped from the analysis.
- Total Pumpage includes the total water pumped for all the months the source was considered to be fully operational.
- Average Monthly Pumpage includes the Total Pumpage divided by the Total Operating Months
- Water Supply Master Plan and Madbury WTP Evaluation Report, Weston & Sampson, June 2003 and Updated Assessment of Bellamy Reservoir Yield, 2008.
- Average of the 75% Average Day Pumpage and the W&S Safe Yield GPM except:
 - Madbury WTF safe yield is assumed to be 2.5 MGD per the W&S Bellamy Reservoir Assessment
 - The Haven Well pumpage history includes some years where the well flow was restricted by an agreement with the Pease Air Base; therefore, the calculated yield of 534 GPM is the likely safe yield of this source
- The Harrison Well was placed into service in May 2006 after rehabilitation of the well and pump facilities.

Notes

1. The Pease WTP is only used if triggered by VOC levels in monitoring wells.

LEGEND

- Direction of Flow
- ⊗ Pressure Regulating Valve
- ⊕ Pump Station
- ▭ Storage Tank
- ⊕ Well
- - - Pressure Zone Elevation



VERTICAL DATUM: USGS
HORIZONTAL SCALE: NOT TO SCALE

Figure 3-1 Distribution System Schematic - The Portsmouth Water System

The City of Portsmouth, NH



**Civil
Site Planning
Environmental
Engineering**

133 Court Street
Portsmouth, NH
03801-4413

COPY

January 18, 2021

Juliet T. H. Walker, Planning Director
City of Portsmouth Municipal Complex
1 Junkins Avenue
Portsmouth, New Hampshire 03801

**Re: Application for Subdivision
"Watson's Landing"
Assessor's Map 209, Lot 33
1 Clark Drive
Altus Project No. 5090**

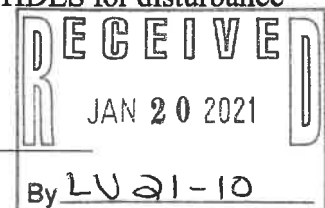
Dear Juliet,

On behalf of the Applicant, Fredrick W. Watson Revocable Trust, Robert D. Watson, Trustee, Altus Engineering, Inc. respectfully submits an application for a four-lot residential subdivision located at 1 Clark Drive that we have christened "Watson's Landing". In addition to four home sites, this project entails the construction of a new cul-de-sac from Cutts Street, an upgraded sidewalk connection to the existing pedestrian corridor to Market Street, a new DPW accessway to an existing City sewer easement and associated utilities and drainage infrastructure.

We are requesting a waiver of Subdivision Regulation Section VI.2.A, Lot Arrangement. As shown on the Subdivision Plan Sheet C-2, the lot line between proposed Lots 2 and 3 does not technically meet the intent of the regulation. Although radial to the right of way for approximately 4', the line then jogs approximately 90-degrees to the south east towards the water. This was done with the intent of making the four lots as perpendicular to each other as possible and to make the lots better fit the existing topography of the site. It is our opinion that this allows a more logical layout and provides desirable water frontage to each lot.

A second waiver from the Residential Street Minimum Standards diagram in the Subdivision Regulations is also needed for roadway width. We are proposing 20' on the main roadway and 24' on the cul-de-sac where 32' is required. This is being done to reduce speed, impervious surfaces and runoff as well as construction costs.

This project also requires two Conditional Use Permits. The first involves impacts to the 100' wetland buffer for demolition of the existing house and pool, construction of the aforementioned sewer accessway and installation of utilities and stormwater facilities. Despite there being no direct wetland impacts, this work will also require a wetland permit from NHDES for disturbance within the State's 100' tidal buffer.



The second Conditional Use Permit is required for a noise sensitive land use (housing with outdoor activity areas) within the Highway Noise Overlay District. In support of this, the Applicant commissioned a noise analysis per Zoning Section 10.675 that shows the entirety of the development is outside the applicable 65 dB sound contour as required. Should you require testimony from the consultant who prepared this work, please let me know and I will arrange to have him available for TAC and/or the Planning Board.

Please call me if you have any questions or need any additional information.

Sincerely,

ALTUS ENGINEERING, INC.

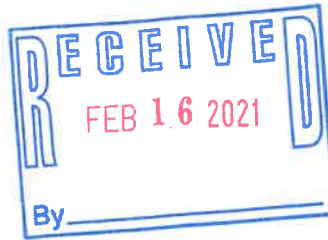
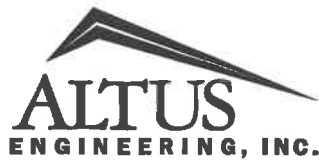


Erik B. Saari
Vice President

ebs/5090-APP-PB-CovLtr-011821

Enclosures

eCopy: Robert Watson
Eric Reuter



Civil
Site Planning
Environmental
Engineering

133 Court Street
Portsmouth, NH
03801-4413

LETTER OF TRANSMITTAL

TO:

Tracy Gora
Planning Department
City of Portsmouth
1 Junkins Ave.
Portsmouth, NH 03801

DATE: February 16, 2021	PROJECT: 5090
ATTENTION: Tracy Gora	
RE: Watson's Landing TAC Re-Submission Material	

We Are Sending You:

- Attached
- Under Separate Cover via _____ the following items:
- Shop Drawings
- Prints
- Plans
- Samples
- Specifications
- Copy of Letter
- Change Order
- Forms/Reports

COPIES	DATE	NO.	DESCRIPTION
1	02/16/21	1	Cover Letter
1	02/16/21	2	Drainage Analysis
1	02/16/21	3	Plan Set
1	02/16/21	4	Sheet C-6 Conditional Use Permit Plan (22x34 – for Planning Board)
1	02/16/21	5	Sheet C-7 Planting Plan (22x34 – for Planning Board)
1	02/16/21	6	Sheet C-6 Conditional Use Permit Plan (22x34 – for Con. Comm.)
1	02/16/21	7	Sheet C-7 Planting Plan (22x34 – for Con. Comm.)
9	02/16/21	8	Sheet C-6 Conditional Use Permit Plan (11x17 – for Con. Comm.)
9	02/16/21	9	Sheet C-7 Planting Plan (11x17 – for Con. Comm.)

These are transmitted as Checked Below:

- For Approval
- For Your Use
- As Requested
- For Review and Comment
- For Bids Due _____ 20 _____
- Approved as Submitted
- Approved as Noted
- Returned for Corrections
- _____
- Resubmit _____ Copies for Approval
- Submit _____ Copies for Distribution
- Return _____ Corrected Prints
- Prints Returned After Loan to Us

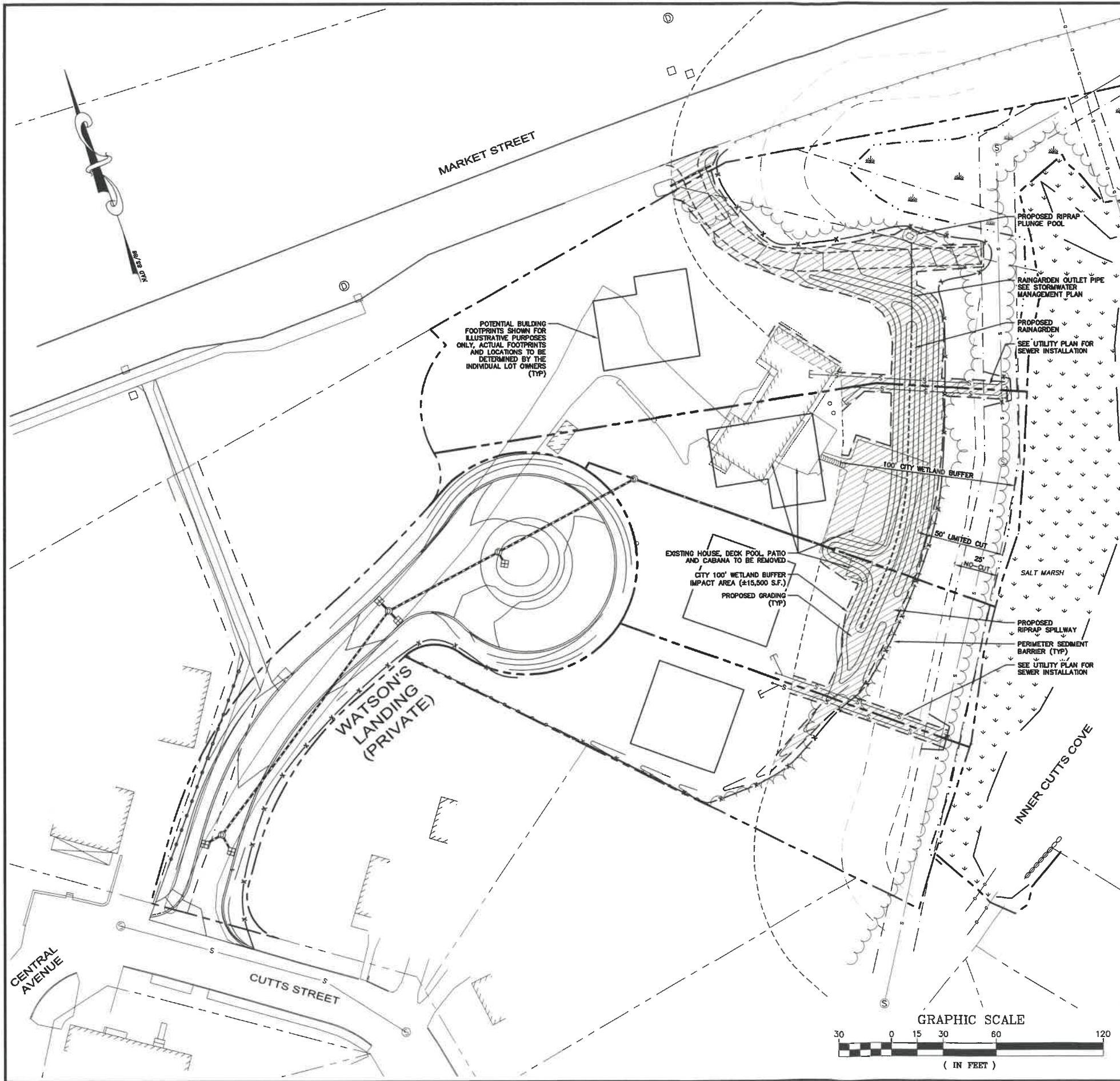
Remarks:

Hi Tracy,
Here is the hard copy of the materials for the today's TAC deadline. Enjoy!

COPY TO: _____

SIGNED: _____

Erik Saari, Vice President

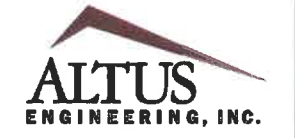
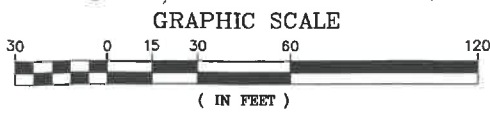


CONDITIONAL USE PERMIT NOTES

1. ZONING SECTION 10.1016 - CONDITIONAL USE PERMIT REQUIRED FOR EARTH DISTURBANCE IN THE 100' CITY WETLAND BUFFER.
2. PROJECT PARCEL: MAP 209 LOT 33, 135,176 S.F. (3.10 ACRES) TO HIGHEST OBSERVABLE TIDE LINE (HOTL).
3. WETLAND AREA ON LOT: ±16,397 S.F. (±0.38 ACRES)
4. 100' WETLAND BUFFER ANALYSIS (EXISTING CONDITIONS):
 LAWN: ±23,540 S.F.
 BRUSH/WOODLAND: ±20,735 S.F.
 IMPERVIOUS: ±3,326 S.F.
 TOTAL BUFFER: ±47,601 S.F. (±1.09 ACRES)
5. AREA OF 100' WETLAND BUFFER IMPACT:
 ONSITE: ±15,125 S.F.
 OFFSITE: ±375 S.F. (MARKET STREET RIGHT OF WAY)
 TOTAL: ±15,500 S.F. (±0.36 ACRES)
6. AREA OF TREE/BRUSH REMOVAL IN BUFFER:
 0-25': ±501 S.F. (FOR SEWER AND DPW ACCESSWAY ONLY)
 25'-50': ±252 S.F. (FOR SEWER AND DPW ACCESSWAY ONLY)
 50'-100': ±756 S.F.
 TOTAL: ±1,509 S.F.
7. PROPOSED IMPERVIOUS SURFACES IN BUFFER: 0 S.F.
8. PROPOSED WETLAND IMPACT: 0 S.F.
9. WETLANDS WERE DELINEATED BY MICHAEL CUOMO, NH CERTIFIED SOILS SCIENTIST #006 AND NH CERTIFIED WETLANDS SCIENTIST #004, ON SEPTEMBER 15, 2020.
10. CONSTRUCTION ACTIVITIES SHALL BE MANAGED IN STRICT ACCORDANCE WITH NH RSA 430:53 AND AGR 3800 RELATIVE TO INVASIVE SPECIES. NO INVASIVE SPECIES SHALL BE INSTALLED ON THE PROJECT SITE FOR ANY REASON.

LEGEND

- — — — — PROPERTY LINE
- - - - - EASEMENT LINE
- - - - - 100' CITY WETLAND SETBACK
- - - - - 50' CITY WETLAND SETBACK (LIMITED CUT)
- - - - - 25' CITY WETLAND SETBACK (NO-CUT)
- - - - - 100' STATE TIDAL BUFFER
- - - - - FRESHWATER WETLAND BOUNDARY
- - - - - TIDAL WETLAND BOUNDARY
- VGC SGC EXISTING PAVEMENT/CURB
- S S EXISTING SEWER/MANHOLE
- X X SILTFENCE/SEDIMENT BARRIER/CONST. FENCE
- Existing tree line/brush line
- Proposed disturbance in wetland buffer
- Proposed vegetation removal in 25' no-cut zone
- FRESHWATER WETLAND
- SALTMARSH



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



NOT FOR CONSTRUCTION

ISSUED FOR: TAC

ISSUE DATE: FEBRUARY 16, 2021

NO.	DESCRIPTION	BY	DATE
0	TAC	EBS	01/18/21
1	TAC	EBS	02/16/21

DRAWN BY: EBS
 APPROVED BY: EDW
 DRAWING FILE: 5090-SITE.dwg

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

OWNER:
**FREDERICK W. WATSON
 REVOCABLE TRUST,
 ROBERT D. WATSON,
 TRUSTEE**
 63 SLEEPY HOLLOW DRIVE
 GREENLAND, NH 03840

APPLICANT:
**FREDERICK W. WATSON
 REVOCABLE TRUST,
 ROBERT D. WATSON,
 TRUSTEE**
 63 SLEEPY HOLLOW DRIVE
 GREENLAND, NH 03840

PROJECT:
**WATSON'S LANDING
 TAX MAP 209, LOT 33
 1 CLARK DRIVE
 PORTSMOUTH, NH 03801**

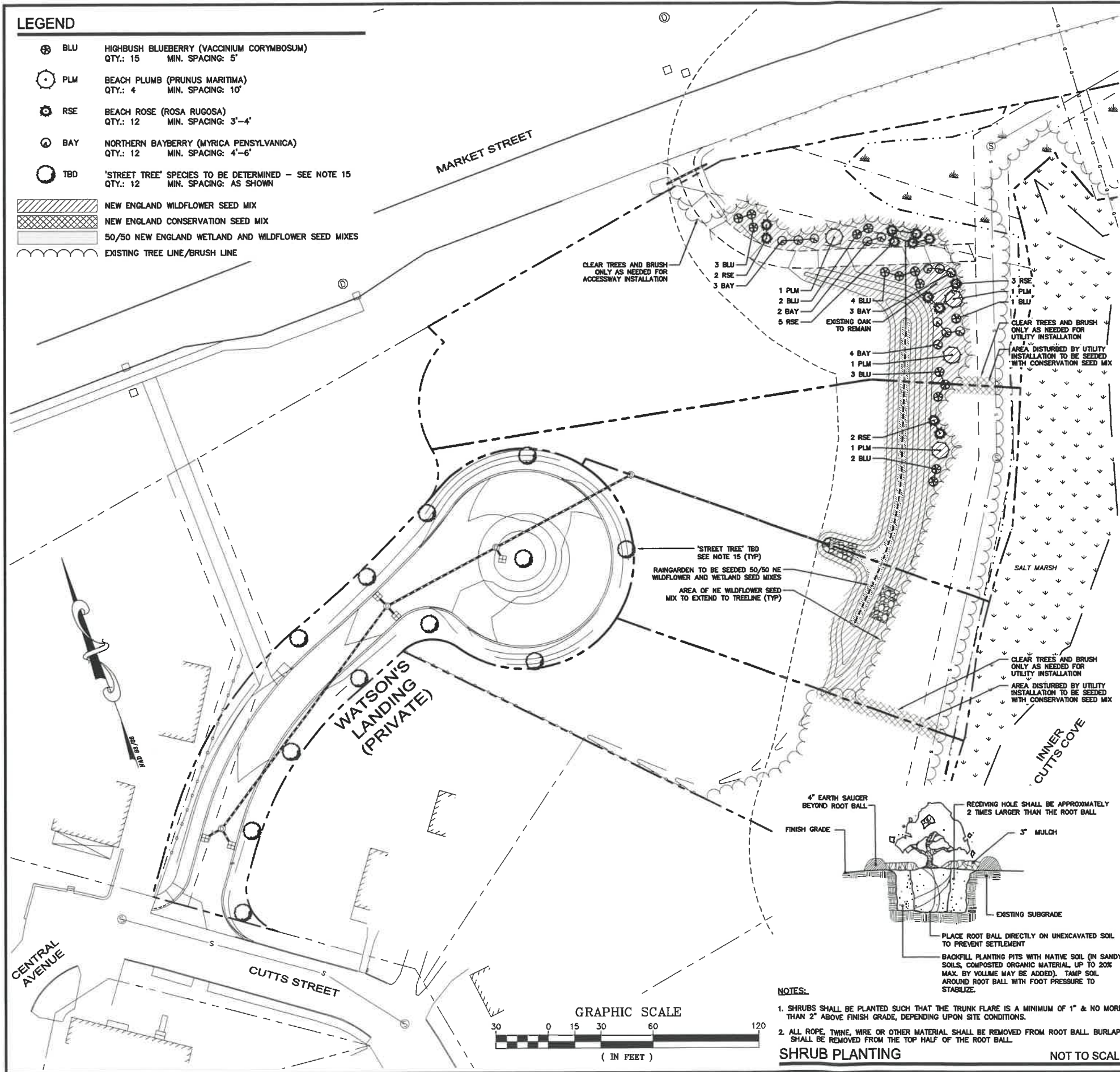
TITLE:
**CONDITIONAL USE
 PERMIT PLAN**

SHEET NUMBER:
C-6

PS090

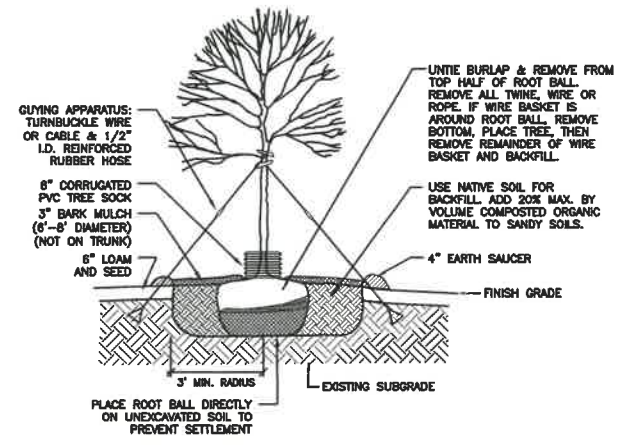
LEGEND

- ⊕ BLU Highbush Blueberry (*Vaccinium corymbosum*)
QTY.: 15 MIN. SPACING: 5'
 - ⊙ PLM Beach Plum (*Prunus maritima*)
QTY.: 4 MIN. SPACING: 10'
 - ⊗ RSE Beach Rose (*Rosa rugosa*)
QTY.: 12 MIN. SPACING: 3'-4'
 - ⊙ BAY Northern Bayberry (*Myrica pensylvanica*)
QTY.: 12 MIN. SPACING: 4'-6'
 - ⊙ TBD 'STREET TREE' SPECIES TO BE DETERMINED - SEE NOTE 15
QTY.: 12 MIN. SPACING: AS SHOWN
- NEW ENGLAND WILDFLOWER SEED MIX
 - NEW ENGLAND CONSERVATION SEED MIX
 - 50/50 NEW ENGLAND WETLAND AND WILDFLOWER SEED MIXES
 - EXISTING TREE LINE/BRUSH LINE



PLANTING NOTES

- THE CONTRACTOR SHALL LOCATE AND VERIFY THE EXISTENCE OF ALL UTILITIES PRIOR TO STARTING WORK.
- THE CONTRACTOR SHALL SUPPLY ALL PLANT MATERIALS IN QUANTITIES SUFFICIENT TO COMPLETE THE PLANTINGS SHOWN ON THE DRAWINGS.
- ALL MATERIAL SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY THE CURRENT AMERICAN STANDARD FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
- ALL PLANT MATERIALS SHALL BE EXACTLY AS SPECIFIED BY THE ENGINEER AND BEAR LEGIBLE TAGS INDICATING THEIR SPECIES. IF PLANT SPECIES CULTIVARS ARE FOUND TO VARY FROM THAT SPECIFIED AT ANY TIME DURING THE GUARANTEE PERIOD, THE ENGINEER RESERVES THE RIGHT TO HAVE THE CONTRACTOR REPLACE THAT PLANT MATERIAL. ALL PLANT AND SEED SUBSTITUTIONS MUST BE APPROVED BY THE ENGINEER.
- 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.
- 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.
- NO PLANT SHALL BE PUT IN THE GROUND BEFORE GRADING HAS BEEN FINISHED AND APPROVED BY THE ENGINEER. ALL FINAL GRADES SHALL BE PER THE GRADING AND DRAINAGE PLAN.
- ALL PLANTS SHALL BE INSTALLED AND DETAILED AND ALL WORK DONE PER THE PROJECT SPECIFICATIONS.
- 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.
- 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 ENGINEER IN WRITING OR OTHERWISE FORFEIT HIS CLAIM.
- FINAL ACCEPTANCE BY THE ENGINEER WILL BE MADE UPON THE CONTRACTOR'S REQUEST AFTER ALL CORRECTIVE WORK HAS BEEN COMPLETED.
- BY THE END OF THE GUARANTEE PERIOD, THE CONTRACTOR SHALL HAVE REPLACED ANY PLANT MATERIAL THAT IS MISSING, NOT TRUE TO SIZE AS SPECIFIED, THAT HAS DIED, THAT HAVE LOST ITS NATURAL SHAPE DUE TO DEAD BRANCHES, EXCESSIVE PRUNING OR INADEQUATE OR IMPROPER CARE, OR IS, IN THE OPINION OF THE ENGINEER, IN UNHEALTHY OR UNSIGHTLY CONDITION.
- UNLESS OTHERWISE SPECIFIED BELOW, ALL DISTURBED AREAS SHALL BE SEED WITH THE SEED MIXTURES SHOWN ON SHEET D-1.
- SPECIALTY SEED MIXTURES AND SOME PLANTINGS ARE AVAILABLE FROM:
NEW ENGLAND WETLAND PLANTS, INC., 820 WEST STREET, AMHERST, MA.
THIS IS NOT INTENDED TO BE AN EXCLUSIVE SUPPLIER. THE CONTRACTOR MAY USE ANY SUPPLIER PROVIDED THAT THE PLANTS AND SEED MIXTURES MEET THE PROJECT SPECIFICATIONS. THE CONTRACTOR SHOULD NOTE THAT LOCAL SUPPLIERS ARE PREFERABLE.
- CONTRACTOR SHALL CONSULT WITH THE CITY TREES AND GREENERY COMMITTEE ONCE ROUGH ROADWAY GRADING IS COMPLETE IN ORDER TO COORDINATE STREET TREE SPECIES, LOCATIONS AND PLANTING SPECIFICATIONS.



- NOTES:
- PLANT TREE SUCH THAT TOP OF ROOT BALL IS FLUSH WITH GRADE (1" - 2" HIGHER IN SLOW DRAINING SOIL). TRUNK FLARE MUST BE VISIBLE AT THE TOP OF THE ROOT BALL.
 - THREE FLAGGED GUY WIRES TO BE EQUALLY SPACED ABOUT TREE. WOODEN STAKES (24" LENGTH) MAY BE SUBSTITUTED FOR METAL ANCHORS. EITHER OPTION SHALL BE DRIVEN OUTSIDE THE ROOT BALL, PREFERABLY IN UNEXCAVATED SOIL AND REMOVED AT THE END OF THE FIRST GROWING SEASON OR WHEN TREE IS STABILIZED.
 - COORDINATE PRUNING WITH LANDSCAPE ARCHITECT WHEN POSSIBLE. DO NOT HEAVILY PRUNE THE TREE AT PLANTING. DO NOT REMOVE THE TERMINAL BUDS OF BRANCHES THAT EXTEND TO THE EDGE OF THE CROWN. PRUNING OF DEAD OR BROKEN BRANCHES OR CO-DOMINANT LEADERS IS PERMITTED.

SHRUB PLANTING NOT TO SCALE

DECIDUOUS TREE PLANTING NOT TO SCALE

ALTUS ENGINEERING, INC.

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



NOT FOR CONSTRUCTION

ISSUED FOR: TAC

ISSUE DATE: FEBRUARY 16, 2021

REVISIONS NO.	DESCRIPTION	BY	DATE
0	TAC	EBS	02/16/21

DRAWN BY: EBS
APPROVED BY: EDW
DRAWING FILE: 5090-SITE.dwg

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

OWNER:
FREDERICK W. WATSON REVOCABLE TRUST, ROBERT D. WATSON, TRUSTEE
53 SLEEPY HOLLOW DRIVE GREENLAND, NH 03840

APPLICANT:
FREDERICK W. WATSON REVOCABLE TRUST, ROBERT D. WATSON, TRUSTEE
53 SLEEPY HOLLOW DRIVE GREENLAND, NH 03840

PROJECT:
WATSON'S LANDING TAX MAP 209, LOT 33 1 CLARK DRIVE PORTSMOUTH, NH 03801

TITLE:

PLANTING PLAN

SHEET NUMBER:

C-7

March 9, 2021

Planning Board Members
Re: Meeting March 18, 2021
Application 1 Clark Drive
Wetland Conditional Use Permit
Subdivision Approval

Kyle Langelier
304 Leslie Drive

I am submitting my comments in written form regarding the storm water management infrastructure which will result in 15,500 square feet/.356 acres of impact in the 100-foot wetland buffer and subdivision approval for the Clark Drive project.

Since I purchased my home on Cutts Cove there has been many changes that have adversely impacted the marsh frontage and natural habitat of the resident wildlife.

During the past few years the following projects has contributed to the over flooding, loss of marsh grasses, relocation of wildlife and introduction of harmful bird species into Cutts Cove.

The list comprises of the following projects:

State of NH Bridge project
Leslie Drive filtered outfall project
Market Street Extension upgrades including storm water drainage into the cove
Upgrades to the connector from the Bypass to Market Street Extension
Bohenko Gateway Park

Canada goose control program which pistol blanks and hunting dogs were used to remove them from the new park and relocated to private property on the inner cove

This project will impact a large percentage of the cove frontage as well as displace the resident animal population.

To alleviate irreparable damage to this area of Cutts Cove I would request a stringent city inspection schedule be set up to monitor the impact area that will be disturbed during and after construction and if any concerns noted be mitigated immediately.

I would also request that if any wildlife is relocated to other properties in the neighborhood the problem be addressed by the developer and not left up to the homeowners to burden the cost of removal.

Thank you

Kyle Langelier
aprazits@gmail.com
603-436-5222



**Civil
Site Planning
Environmental
Engineering**

133 Court Street
Portsmouth, NH
03801-4413

March 5, 2021

Juliet T. H. Walker, Planning Director
City of Portsmouth Municipal Complex
1 Junkins Avenue
Portsmouth, New Hampshire 03801

**Re: Application for Subdivision
“Watson’s Landing”
Assessor’s Map 209, Lot 33
1 Clark Drive
Altus Project No. 5090**

Dear Juliet,

Enclosed please find application materials for the March 18, 2021 Planning Board hearing revised pursuant to comments received at the March 2, 2021 TAC meeting. In order to assist in your and DPW’s review, we have outlined our changes below so as to correspond to your March 4, 2021 letter:

1. We respectfully request a waiver from the Residential Street Minimum Standards diagram in the Subdivision Regulations is also needed for roadway width. We are proposing 20’ on the main roadway and 24’ on the cul-de-sac where 32’ is required. This is being done to reduce speed, impervious surfaces and runoff as well as construction costs. The waiver requirement is noted in Note 9 on Sheet C-2.
2. The path to Market Street and sidewalk along the proposed roadway has been widened to 10’ as shown on Sheet C-3.
3. The existing fence along the west side of the path to Market Street is being replaced as noted on Sheet C-3. The fence on the opposite side is being removed with no replacement.
4. We have amended the Typical Raingarden Detail on Sheet D-2 to include a specification for the berm material.
5. Note #15 on Sheet C-7, the Typical Raingarden Detail on Sheet D-2 and the Raingarden section of the Stormwater Inspection and Maintenance Manual include language indicating mowing requirements for the berm.
6. The Typical Raingarden Detail on Sheet D-2 and the Raingarden section of the Stormwater Inspection and Maintenance Manual include language providing direction as to when filter media replacement may be required.

7. Note #17 on Sheet C-2 and a note on the cover page of the Stormwater Inspection and Maintenance Manual requires that the Manual be included in the HOA documents.
 8. As shown on Sheet C-4 and as discussed at TAC, we have added an outlet structure in the raingarden to redirect a portion of stormwater discharge away from the overflow weir. A detail for the new outlet structure has been added to Sheet D-2. We have also adjusted the berm height as noted on Sheet C-4 and in the Typical Raingarden Detail on Sheet D-2 to ensure 1-foot of freeboard for all analyzed storm events.
 9. Note 25 on Sheet C-5 includes the requirements that sewer laterals in the same trench maintain 3' separation and be located entirely on their respective lots.
 10. Note 24 on Sheet C-5 indicates the flow test requirements.
 11. The Trees and Greenery Committee requirements have been removed from Sheet C-7.
 12. Note 20 on Sheet C-2 indicates that the proposed roadway will be subject to a blanket easement for valve and hydrant access and leak detection.
 13. Note 19 on Sheet C-2 specifies the right of access for abutting lots.
 14. Note 24 on Sheet C-1 outlines water main termination requirements.
 15. Note 23 on Sheet C-4 indicating the responsibilities of the Engineer of Record regarding construction of the stormwater system.
 16. Note 25 on Sheet C-5 includes the requirements for DPW's involvement in sewer construction.
 17. Note 24 on Sheet C-4 and the Catch Basin and General Cleanup sections of the Stormwater Inspection and Maintenance Manual indicate catch basin and roadway sweeping requirements.
- Unnumbered Item. The Bituminous Sidewalk detail on Sheet D-3 has been updated to call for 12.5mm (1/2") 50 gyration design for the binder pavement course.
18. Note 23 indicates that the applicant or future homeowner's association shall enter into a maintenance agreement with the City for the fire hydrant and hydrant flushing.

We are also requesting a waiver of Subdivision Regulation Section VI.2.A, Lot Arrangement as called for in Note 9 on Sheet C-2. As shown on the Subdivision Plan Sheet C-2, the lot line between proposed Lots 2 and 3, although technically compliant, does not meet the intent of the regulation. Although radial to the right of way for approximately 4', the line then jogs approximately 90-degrees to the south east towards the water. This was done with the intent of making the four lots as perpendicular to each other as possible and to make the lots better fit the existing topography of the site. It is our opinion that this allows a more logical layout and provides desirable water frontage to each lot.

This project also requires two Conditional Use Permits. The first involves impacts to the 100' City wetland buffer for demolition of the existing house and pool, construction of a grassed accessway to the existing City sewer easement along the waterfront as requested by DPW, connection of sewer laterals to the existing sewer main and the installation of a raingarden.

The second Conditional Use Permit is required for a noise sensitive land use (housing with outdoor activity areas) within the Highway Noise Overlay District. In support of this, the Applicant commissioned a noise analysis per Zoning Section 10.675 that shows the entirety of the development is outside the applicable 65 dB sound contour as required.

Please call me if you have any questions or need any additional information.

Sincerely,

ALTUS ENGINEERING, INC.

Erik B. Saari
Vice President

ebs/5090-APP-PB-CovLtr-030521

Enclosures

eCopy: Robert Watson
Eric Reuter



City of Portsmouth, New Hampshire

Subdivision Application Checklist

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

Applicant Responsibilities (Section III.C): Applicable fees are due upon application submittal along with required number of copies of the Preliminary or final plat and supporting documents and studies. Please consult with Planning staff for submittal requirements.

Fredrick W. Watson Revocable Trust,

Owner: Robert D. Watson, Trustee Date Submitted: _____

Applicant: Same

Phone Number: (603) 501-0966 E-mail: rdpawnh@comcast.net

Site Address 1: 1 Clark Drive Map: 209 Lot: 33

Site Address 2: _____ Map: _____ Lot: _____

Application Requirements			
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page or Plan Sheet/Note #)	Waiver Requested
<input checked="" type="checkbox"/>	Completed Application form. (III.C.2-3)	Viewpoint	N/A
<input checked="" type="checkbox"/>	All application documents, plans, supporting documentation and other materials provided in digital Portable Document Format (PDF). (III.C.4)	Viewpoint	N/A

Requirements for Preliminary/Final Plat			
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Required for Preliminary / Final Plat
<input checked="" type="checkbox"/>	Name and address of record owner, any option holders, descriptive name of subdivision, engineer and/or surveyor or name of person who prepared the plat. (Section IV.1/V.1)	Sheet C-2, Title Block	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat

Requirements for Preliminary/Final Plat				
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Required for Preliminary / Final Plat	Waiver Requested
<input checked="" type="checkbox"/>	<p>Preliminary Plat Names and addresses of all adjoining property owners. (Section IV.2)</p> <p>Final Plat Names and addresses of all abutting property owners, locations of buildings within one hundred (100) feet of the parcel, and any new house numbers within the subdivision. (Section V.2)</p>	Sheet C-2	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	N/A
<input checked="" type="checkbox"/>	North point, date, and bar scale. (Section IV.3/V3)	Required on all Plan Sheets	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	N/A
<input checked="" type="checkbox"/>	Zoning classification and minimum yard dimensions required. (Section IV.4/V.4)	Sheet C-2, Notes 4 & 5	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	N/A
<input checked="" type="checkbox"/>	<p>Preliminary Plat Scale (not to be smaller than one hundred (100) feet = 1 inch) and location map (at a scale of 1" = 1000'). (Section IV.5)</p> <p>Final Plat Scale (not to be smaller than 1"=100'), Location map (at a scale of 1"=1,000') showing the property being subdivided and its relation to the surrounding area within a radius of 2,000 feet. Said location map shall delineate all streets and other major physical features that my either affect or be affected by the proposed development. (Section V.5)</p>	Cover Sheet, Sheet 1 of 1, Sheet C-2	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	N/A
<input checked="" type="checkbox"/>	Location and approximate dimensions of all existing and proposed property lines including the entire area proposed to be subdivided, the areas of proposed lots, and any adjacent parcels in the same ownership. (Section IV.6)	Sheet C-2	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	
<input checked="" type="checkbox"/>	Dimensions and areas of all lots and any and all property to be dedicated or reserved for schools, parks, playgrounds, or other public purpose. Dimensions shall include radii and length of all arcs and calculated bearing for all straight lines. (Section V.6/ IV.7)	Sheet C-2	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	N/A
<input checked="" type="checkbox"/>	Location, names, and present widths of all adjacent streets, with a designation as to whether public or private and approximate location of existing utilities to be used. Curbs and sidewalks shall be shown. (Section IV.8/V.7)	Sheets C-2 & C-5	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	

Requirements for Preliminary/Final Plat				
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Required for Preliminary / Final Plat	Waiver Requested
<input checked="" type="checkbox"/>	Location of significant physical features, including bodies of water, watercourses, wetlands, railroads, important vegetation, stone walls and soils types that may influence the design of the subdivision. (Section IV.9/V.8)	Sheet 1 of 1	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	
<input checked="" type="checkbox"/>	Preliminary Plat Proposed locations, widths and other dimensions of all new streets and utilities, including water mains, storm and sanitary sewer mains, catch basins and culverts, street lights, fire hydrants, sewerage pump stations, etc. (Section IV.10) Final Plat Proposed locations and profiles of all proposed streets and utilities, including water mains, storm and sanitary sewer mains, catchbasins and culverts, together with typical cross sections. Profiles shall be drawn to a horizontal scale of 1"=50' and a vertical scale of 1"=5', showing existing centerline grade, existing left and right sideline grades, and proposed centerline grade. (Section V.9)	Sheets C-3, C-4 & C-5	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	
<input checked="" type="checkbox"/>	When required by the Board, the plat shall be accompanied by profiles of proposed street grades, including extensions for a reasonable distance beyond the subject land; also grades and sizes of proposed utilities. (Section IV.10)	Sheets C-3 & C-5	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	
<input checked="" type="checkbox"/>	Base flood elevation (BFE) for subdivisions involving greater than five (5) acres or fifty (50) lots. (Section IV.11)	Sheet C-2 Note 7 & Sheet C-4	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	
<input type="checkbox"/>	For subdivisions of five (5) lots or more, or at the discretion of the Board otherwise, the preliminary plat shall show contours at intervals no greater than two (2) feet. Contours shall be shown in dotted lines for existing natural surface and in solid lines for proposed final grade, together with the final grade elevations shown in figures at all lot corners. If existing grades are not to be changed, then the contours in these areas shall be solid lines. (Section IV.12/ V.12)	N/A (<5 lots)	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	

Requirements for Preliminary/Final Plat				
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Required for Preliminary / Final Plat	Waiver Requested
<input checked="" type="checkbox"/>	Dates and permit numbers of all necessary permits from governmental agencies from which approval is required by Federal or State law. (Section V.10)	Sheet C-2	<input type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	
<input type="checkbox"/>	For subdivisions involving greater than five (5) acres or fifty (50) lots, the final plat shall show hazard zones and shall include elevation data for flood hazard zones. (Section V.11)	N/A (<5 acres)	<input type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	
<input checked="" type="checkbox"/>	Location of all permanent monuments. (Section V.12)	Sheet C-2	<input type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	

General Requirements¹

<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	1. Basic Requirements: (VI.1) a. Conformity to Official Plan or Map b. Hazards c. Relation to Topography d. Planned Unit Development	Sheet C-2, Note #7 Sheet C-3 N/A	
<input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	2. Lots: (VI.2) a. Lot Arrangement b. Lot sizes c. Commercial and Industrial Lots	Waiver Sheet C-2 N/A	VI.2.A
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	3. Streets: (VI.3) a. Relation to adjoining Street System b. Street Rights-of-Way c. Access d. Parallel Service Roads e. Street Intersection Angles f. Merging Streets g. Street Deflections and Vertical Alignment h. Marginal Access Streets i. Cul-de-Sacs j. Rounding Street Corners k. Street Name Signs l. Street Names m. Block Lengths n. Block Widths o. Grade of Streets p. Grass Strips	Sheet C-3 Sheet C-3 Sheet C-3 N/A Sheet C-3 N/A Sheet C-3 N/A Sheet C-3 Sheet C-3 Sheet C-3 Sheet C-3 N/A N/A Sheet C-3 N/A	
<input checked="" type="checkbox"/>	4. Curbing: (VI.4)	Sheets C-3 & C-4	
<input checked="" type="checkbox"/>	5. Driveways: (VI.5)	Sheet C-3	
<input checked="" type="checkbox"/>	6. Drainage Improvements: (VI.6)	Sheets C-3 & C-4	
<input checked="" type="checkbox"/>	7. Municipal Water Service: (VI.7)	Sheet C-5	
<input checked="" type="checkbox"/>	8. Municipal Sewer Service: (VI.8)	Sheet C-5	
<input checked="" type="checkbox"/>	9. Installation of Utilities: (VI.9)	Sheet D-4	
<input checked="" type="checkbox"/>	a. All Districts	Trench Details	
<input checked="" type="checkbox"/>	b. Indicator Tape		
<input type="checkbox"/>	10. On-Site Water Supply: (VI.10)	N/A	
<input type="checkbox"/>	11. On-Site Sewage Disposal Systems: (VI.11)	N/A	
<input checked="" type="checkbox"/>	12. Open Space: (VI.12)	Sheet C-4	
<input checked="" type="checkbox"/>	a. Natural Features	N/A	
<input type="checkbox"/>	b. Buffer Strips	N/A	
<input type="checkbox"/>	c. Parks	N/A	
<input checked="" type="checkbox"/>	d. Tree Planting	Sheet C-4	
<input type="checkbox"/>	13. Flood Hazard Areas: (VI.13)	N/A	
<input type="checkbox"/>	a. Permits	N/A	
<input type="checkbox"/>	b. Minimization of Flood Damage	N/A	
<input type="checkbox"/>	c. Elevation and Flood-Proofing Records	N/A	
<input type="checkbox"/>	d. Alteration of Watercourses	N/A	
<input checked="" type="checkbox"/>	14. Erosion and Sedimentation Control (VI.14)	Sheet C-4	

<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input checked="" type="checkbox"/>	15. Easements (VI.15)	Sheet C-2	
<input checked="" type="checkbox"/>	a. Utilities		
<input checked="" type="checkbox"/>	b. Drainage		
<input checked="" type="checkbox"/>	16. Monuments: (VI.16)		
<input checked="" type="checkbox"/>	17. Benchmarks: (VI.17)		
<input checked="" type="checkbox"/>	18. House Numbers (VI.18)		

Design Standards			
	Required Items for Submittal	Indicate compliance and/or provide explanation as to alternative design	Waiver Requested
<input checked="" type="checkbox"/>	1. Streets have been designed according to the design standards required under Section (VII.1). a. Clearing b. Excavation c. Rough Grade and Preparation of Sub-Grade d. Base Course e. Street Paving f. Side Slopes g. Approval Specifications h. Curbing i. Sidewalks j. Inspection and Methods	Compliant	
<input checked="" type="checkbox"/>	2. Storm water Sewers and Other Drainage Appurtenances have been designed according to the design standards required under Section (VII.2). a. Design b. Standards of Construction	Compliant	
<input checked="" type="checkbox"/>	3. Sanitary Sewers have been designed according to the design standards required under Section (VII.3). a. Design b. Lift Stations c. Materials d. Construction Standards	Compliant	
<input checked="" type="checkbox"/>	4. Water Mains and Fire Hydrants have been designed according to the design standards required under Section (VII.4). a. Connections to Lots b. Design and Construction c. Materials d. Notification Prior to Construction	Compliant	

Applicant's/Representative's Signature:  Date: 01/18/21

Erik Saari, Agent

¹ See City of Portsmouth, NH Subdivision Rules and Regulations for details.
Subdivision Application Checklist/April 2019

WATSON'S LANDING Residential Subdivision

Owner/Applicant:

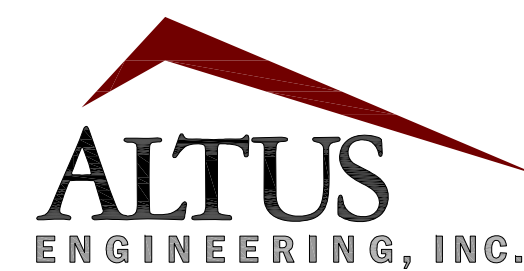
FREDERICK W. WATSON REVOCABLE TRUST
Robert D. Watson, Trustee

53 Sleepy Hollow Drive
Greenland, NH 03840
(603) 501-0966

1 Clark Drive

Portsmouth, New Hampshire

Civil Engineer:



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

Assessor's Parcel 209, Lot 33

ISSUED FOR PLANNING BOARD

Plan Issue Date:

DECEMBER 1, 2020	TAC WORK SESSION
JANUARY 18, 2021	TAC
FEBRUARY 16, 2021	TAC
MARCH 5, 2021	PLANNING BOARD

Surveyor:

KNIGHT HILL LAND SURVEYING SERVICES, INC.
c/o David Hislop, LLS

34 Old Post Road
Newington, NH 03801
(603) 436-1330

Soil Scientist/Wetland Scientist:

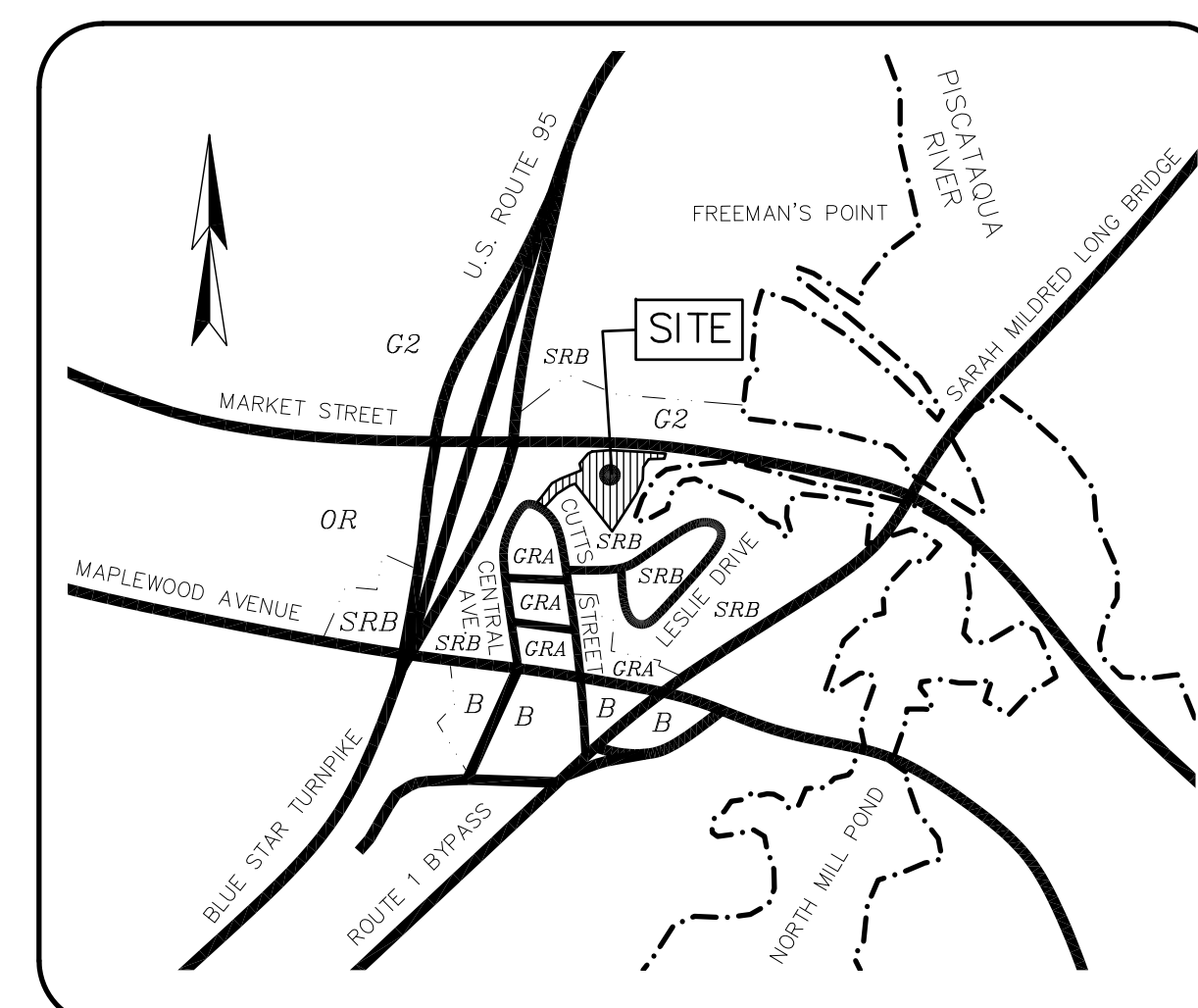
MICHAEL CUOMO, CWS

6 York Pond Road
York, ME 03909
(207) 363-4532

Acoustics Consultant:

REUTER ASSOCIATES, LLC
Eric L. Reuter, FASA, INCE Bd. Cert., Principal

10 Vaughan Mall, Suite 201A
Portsmouth, NH 03801
(603) 430-2081



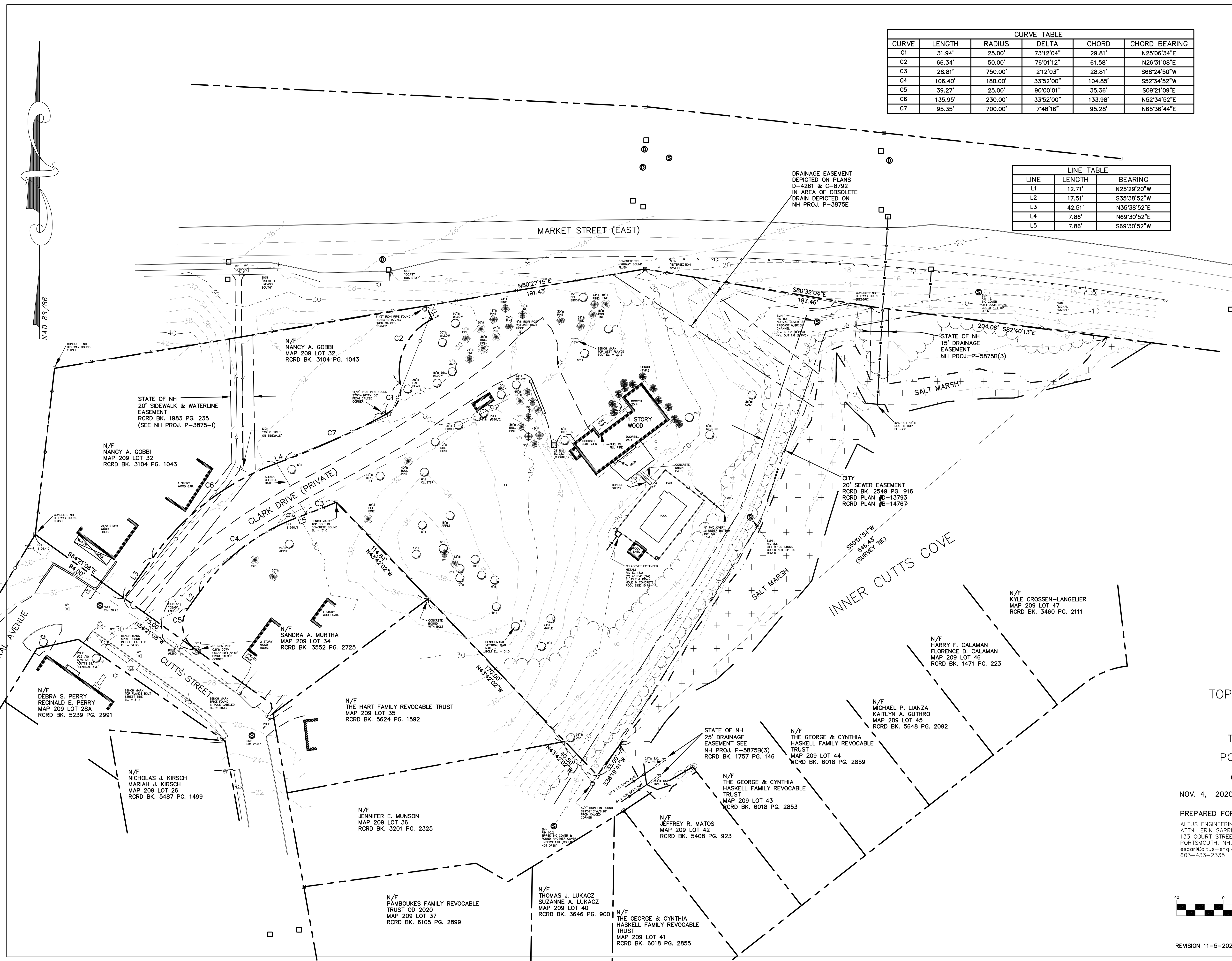
LOCUS NOT TO SCALE

Sheet Index

Title	Sheet No.:	Rev.	Date
Topo/Boundary Worksheet (by KHLSS)	1 of 1	0	11/04/20
Demolition Plan	C-1	3	03/05/21
Subdivision Plan	C-2	3	03/05/21
Roadway Plan & Profile	C-3	3	03/05/21
Stormwater Management Plan	C-4	3	03/05/21
Utility Plan	C-5	3	03/05/21
Conditional Use Permit Plan	C-6	2	03/05/21
Planting Plan	C-7	1	03/05/21
Detail Sheet	D-1	3	03/05/21
Detail Sheet	D-2	3	03/05/21
Detail Sheet	D-3	3	03/05/21
Detail Sheet	D-4	1	01/18/21

Permit Summary:

	Submitted	Received
NHDES Wetlands Permit	January 27, 2021	
NHDES Shoreland Permit	January 27, 2021	
Notice of Intent	By Contractor 14 days prior to construction	



CURVE TABLE					
CURVE	LENGTH	RADIUS	DELTA	CHORD	CHORD BEARING
C1	31.94'	25.00'	73°12'04"	29.81'	N25°06'34"E
C2	66.34'	50.00'	76°01'12"	61.58'	N26°31'08"E
C3	28.81'	750.00'	2°12'03"	28.81'	S68°24'50"W
C4	106.40'	180.00'	33°52'00"	104.85'	S52°34'52"W
C5	39.27'	25.00'	90°00'01"	35.36'	S09°21'09"E
C6	135.95'	230.00'	33°52'00"	133.98'	N52°34'52"E
C7	95.35'	700.00'	7°48'16"	95.28'	N65°36'44"E

LINE TABLE		
LINE	LENGTH	BEARING
L1	12.71'	N25°29'20"W
L2	17.51'	S35°38'52"W
L3	42.51'	N35°38'52"E
L4	7.86'	N69°30'52"E
L5	7.86'	S69°30'52"W

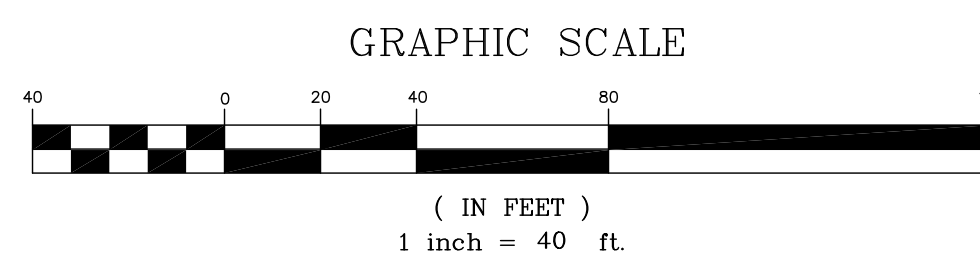
- GENERAL NOTES:**
- 1.) THE EXISTING DETAILS SHOWN WERE LOCATED BY KNIGHT HILL LAND SURVEYING SERVICES, INC. IN OCTOBER 2020.
 - 2.) ELEVATION DATUM NAVD88 ESTABLISHED FROM CUTTS STREET RECONSTRUCTION BENCH MARK SPIKES FOUND IN POLES ACROSS FROM SUBJECT PROPERTY AS LABELED. NH STATE PLANE COORDINATE BASE OF CAD DRAWING ESTABLISHED FROM AMBIT ENGINEERING SUBDIVISION PLAN.
 - 3.) OWNER OF RECORD: FREDERICK W. WATSON REVOCABLE TRUST OF 1998. TAX MAP 209 LOT 33. RECORD DEED: RCRD BOOK 5200 PG. 1329. LOT AREA TO SALT MARSH: 3.1± ACRES.
 - 4.) SUBJECT LOT SUBJECT TO AND BENEFITS FROM AN ELECTRIC AND COMMUNICATIONS SERVICE & MAINTENANCE EASEMENT TO NH ELECTRIC CO. & NEW ENGLAND TELEPHONE & TELEGRAPH CO. PER 1957 DEED BK. 1447 PG. 227. THE DEED HAS NO EASEMENT WIDTH DETAILS.
 - 5.) SUBJECT LOT SUBJECT TO RIGHTS TO THE STATE OF NH TO MAINTAIN SLOPES AND EMBANKMENTS PER 1969 DEED BK. 1957 PG. 146. SEE STATE PLANS PER PLAN REFERENCE 1.

- PLAN REFERENCES:**
- 1.) "STATE OF NH DPW FEDERAL AID PROJECT I-95-(24)14 RIGHT OF WAY PLANS" NH PROJ. P-3875E, NH PROJ. P-3875H-1, NH PROJ. P-3875I, NH PROJ. P-5875B, NH PROJ. P-5875B(2) & NH PROJ. 5875B(3).
 - 2.) "PLAN OF LOTS PORTSMOUTH, NH FOR HERBERT W. POPE" BY JOHN W. DURGIN, REVISED JAN. 1974, RCRD PLAN D-4261.
 - 3.) "LOT LINE REVISION PORTSMOUTH NH FOR HERBERT W. POPE" BY JOHN W. DURGIN ASSOC., DATED JUNE 12, 1979, RCRD PLAN C-8792.
 - 4.) "EASEMENT PLAN OF LAND IN PORTSMOUTH, NH" BY WHITMAN & HOWARD, INC., DATED APRIL 4, 1985, RCRD PLAN D-13793.
 - 5.) "SUBDIVISION PLAN OF LAND IN PORTSMOUTH, NH" BY WHITMAN & HOWARD, INC., DATED OCT. 15, 1985, RCRD PLAN B-14767.
 - 6.) "LOT LINE ADJUSTMENT PLAN 200 CHASE DR. & 373 CUTTS AVE." BY JAMES VERA & ASSOC., DATED 5-23-2013, RCRD PLAN D-38287.
 - 7.) "PLAN OF BERSUM GARDENS FOR MARGO CONST. CO., PORTSMOUTH, NH" BY JOHN W. DURGIN, DATED OCT. 1955, RCRD PLAN 02178.
 - 8.) "PLAN OF LAND PORTSMOUTH NH FOR JOSEPH LAMB" BY JOHN W. DURGIN, DATED DEC. 1968, RCRD PLAN 1303.
 - 9.) "IMPROVEMENTS TO MAPLEWOOD AVE. UTILITY PLAN & PROFILE - CENTRAL & CUTTS FOR PORTSMOUTH DPW" BY GPI, CERTIFIED 1-18-18, SHEETS 52 & 53 OF 184.

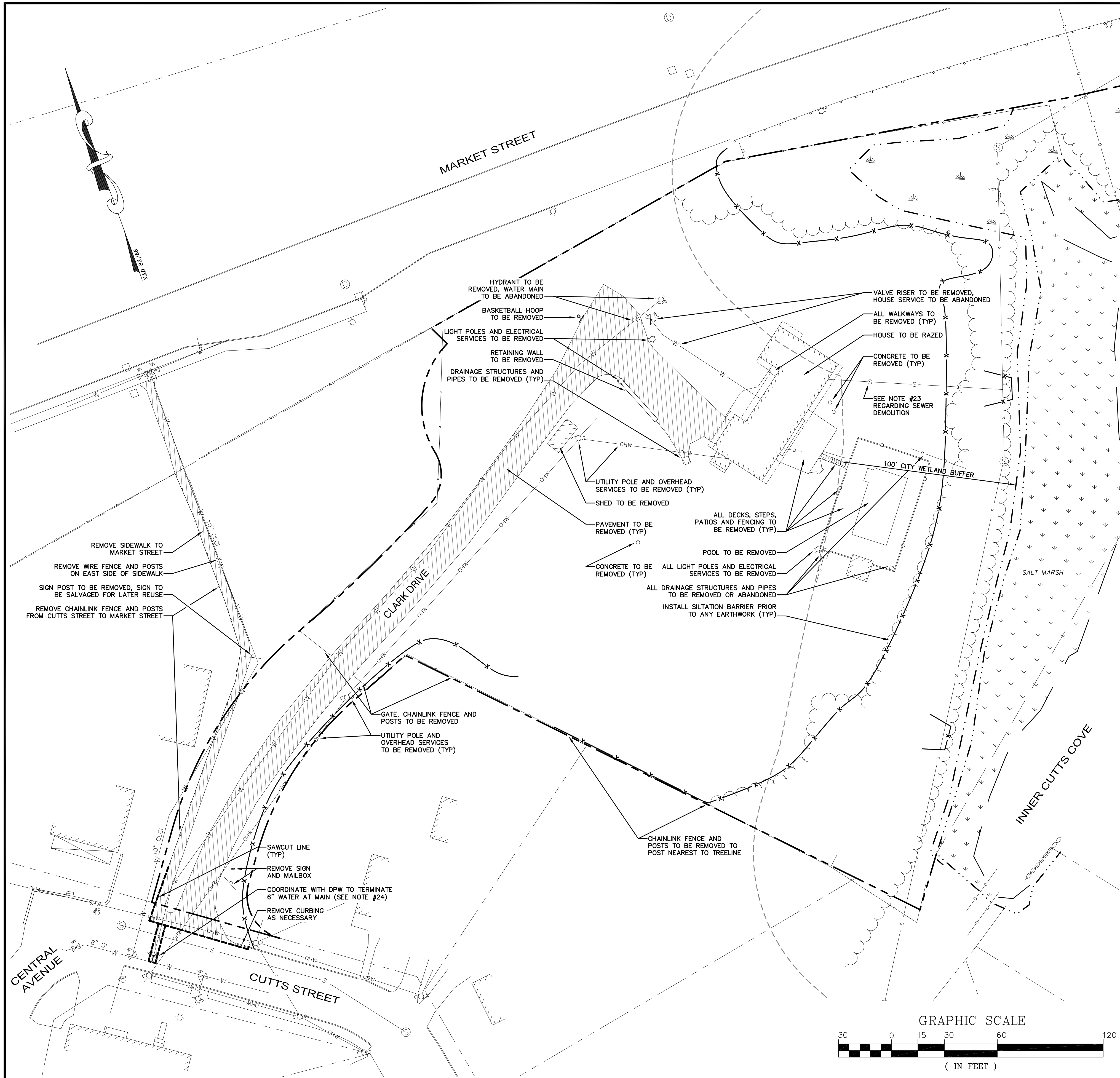
TOPO/BOUNDARY WORKSHEET
 1 CLARK DRIVE (PRIVATE)
 TAX MAP 209 LOT 33
 PORTSMOUTH, NEW HAMPSHIRE
 COUNTY OF ROCKINGHAM
 NOV. 4, 2020 SCALE 1" = 40' PROJECT # 2222PNTS

PREPARED FOR:
 ALTUS ENGINEERING, INC.
 ATTN: ERIK SARRI, PE.
 C/O DAVID HISLOP, LLS
 PORTSMOUTH, NH, 03801
 esaari@altus-eng.com
 603-433-2335

PREPARED BY:
 KNIGHT HILL LAND SURVEYING
 SERVICES, INC.
 C/O DAVID HISLOP, LLS
 34 OLD POST RD.
 NEWINGTON, NH, 03801
 dave@khlandsurveying.com
 603-436-1330

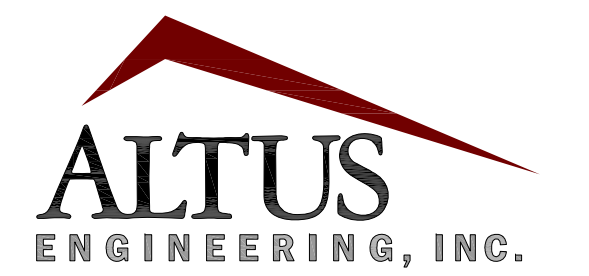


REVISION 11-5-2020 CHANGE ELEVATION DATUM FROM NAVD29 TO NAVD88

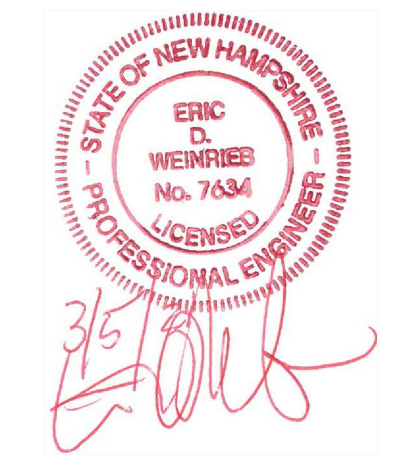


DEMOLITION NOTES

1. CITY DEMOLITION PERMIT REQUIRED PRIOR TO ANY DEMOLITION ACTIVITIES. CONTRACTOR IS NOTIFIED THAT THIS PERMIT PROCESS MAY REQUIRE A 30-DAY LEAD TIME.
2. CONTRACTOR SHALL PRESERVE AND PROTECT ALL EXISTING UTILITIES SCHEDULED TO REMAIN.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE TIMELY NOTIFICATION OF ALL PARTIES, CORPORATIONS, COMPANIES, INDIVIDUALS AND STATE AND LOCAL AUTHORITIES OWNING AND/OR HAVING JURISDICTION OVER ANY UTILITIES RUNNING TO, THROUGH OR ACROSS AREAS TO BE DISTURBED BY DEMOLITION AND/OR CONSTRUCTION ACTIVITIES WHETHER OR NOT SAID UTILITIES ARE SUBJECT TO DEMOLITION, RELOCATION, MODIFICATION AND/OR CONSTRUCTION.
4. ALL UTILITY DISCONNECTIONS/DEMOLITIONS/RELOCATIONS SHALL BE COORDINATED BETWEEN THE CONTRACTOR, ALL APPROPRIATE UTILITY COMPANIES, PORTSMOUTH DPW AND ABUTTING PROPERTY OWNERS. UNLESS OTHERWISE SPECIFIED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RELATED EXCAVATION, TRENCHING AND BACKFILLING.
5. WHERE SPECIFIED TO REMAIN, MANHOLE RIMS, CATCH BASIN GRATES, VALVE COVERS, HANDHOLES, ETC. SHALL BE ADJUSTED TO FINISH GRADE UNLESS OTHERWISE SPECIFIED.
6. SEE EROSION CONTROL PLANS FOR EROSION AND SEDIMENT CONTROL MEASURES THAT SHALL BE IN PLACE PRIOR TO DEMOLITION ACTIVITIES.
7. ALL MATERIALS SCHEDULED FOR DEMOLITION OR REMOVAL ON PRIVATE PROPERTY SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE SPECIFIED.
8. ALL MATERIAL SCHEDULED TO BE REMOVED SHALL BE LEGALLY DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS/CODES.
9. WATER: PORTSMOUTH DPW WATER DIVISION, JIM TOW, (603) 427-1530.
10. SEWER: PORTSMOUTH DPW SEWER DIVISION, JIM TOW, (603) 427-1530.
11. TELECOMMUNICATIONS: CONSOLIDATED, JOE COSIDINE, (603) 427-5525.
12. CABLE: COMCAST, MIKE COLLINS, (603) 679-5695, EXT. 1037.
13. ELECTRICAL: EVERSOURCE, MICHAEL BUSBY, (603) 332-4227, EXT. 5555334.
14. GAS: UNITIL, DAVID BEAULIEU, (603) 294-5144.
15. CONTRACTOR TO CONTACT PORTSMOUTH DPW A MINIMUM OF TWO WEEKS PRIOR TO ANY DEMOLITION TO COORDINATE ALL WORK CONCERNING DISCONNECTION/DEMOLITION OF ANY PROPOSED WATER AND SEWER LINE IMPROVEMENTS.
16. ALL WATER MAIN AND SERVICE DISCONNECTIONS SHALL CONFORM TO PORTSMOUTH DPW STANDARDS.
17. NO BURNING SHALL BE PERMITTED PER LOCAL REGULATIONS.
18. HAZARDOUS MATERIALS ENCOUNTERED DURING DEMOLITION AND CONSTRUCTION ACTIVITIES SHALL BE ABATED IN STRICT ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL REGULATIONS.
19. AT NO TIME SHALL ANY UTILITY SERVICE OR VEHICULAR ACCESS TO ADJOINING PROPERTIES BE COMPLETELY INTERRUPTED UNLESS A FULL SHUTDOWN IS COORDINATED WITH ALL AFFECTED PARTIES AND UTILITY PROVIDER(S).
20. SHOULD GROUNDWATER BE ENCOUNTERED DURING EXCAVATION, APPROPRIATE BEST MANAGEMENT PRACTICES SHALL BE EMPLOYED TO ENSURE SEDIMENT LADEN WATER IS NOT DISCHARGED INTO THE CITY DRAINAGE SYSTEM. A DISCHARGE PERMIT SHALL BE OBTAINED PRIOR TO DISCHARGING GROUNDWATER.
21. EXISTING HOUSE IS SERVICED BY AN INTERNAL HEATING OIL TANK. REMOVAL AND DISPOSAL OF TANK SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE REGULATIONS.
22. THIS PLAN IS INTENDED TO PROVIDE MINIMUM GUIDELINES FOR THE DEMOLITION OF EXISTING SITE FEATURES. UNLESS OTHERWISE NOTED TO REMAIN, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL BUILDINGS, PAVEMENT, CONCRETE, CURBING, SIGNS, POLES, UTILITIES, FENCES, VEGETATION AND OTHER EXISTING FEATURES AS NECESSARY TO FULLY CONSTRUCT THE PROJECT.
23. EXISTING SEWER SERVICE LOCATION IS APPROXIMATE. CONTRACTOR SHALL PERFORM TEST PITS AND OTHER WORK AS NECESSARY TO LOCATE LINE. SERVICE SHALL BE TERMINATED AT THE MAIN IN ACCORDANCE WITH DPW STANDARDS AND THE LINE ABANDONED.
24. 6" PRIVATE WATER MAIN IN CLARK DRIVE SHALL BE TERMINATED AT THE MAIN IN CUTTS STREET BY REMOVING THE VALVE AND INSTALLING A BLIND FLANGE ON THE TEE. CONTRACTOR SHALL COORDINATE ALL RELATED WORK WITH PORTSMOUTH DPW TO INCLUDE ANY REQUIRED SERVICE INTERRUPTIONS AND STREET CLOSURES.



133 Court Street Portsmouth, NH 03801
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ISSUED FOR: **PLANNING BOARD**

ISSUE DATE: **MARCH 5, 2021**

REVISIONS		
NO.	DESCRIPTION	BY DATE
0	TAC WORK SESSION	EBS 12/01/20
1	TAC	EBS 01/18/21
2	TAC	EBS 02/16/21
3	PLANNING BOARD	EBS 03/05/21

DRAWN BY: _____ EBS
APPROVED BY: _____ EDW
DRAWING FILE: _____ 5090-SITE.dwg

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

OWNER:
**FREDERICK W. WATSON
REVOCABLE TRUST,
ROBERT D. WATSON,
TRUSTEE**
**53 SLEEPY HOLLOW DRIVE
GREENLAND, NH 03840**

APPLICANT:
**FREDERICK W. WATSON
REVOCABLE TRUST,
ROBERT D. WATSON,
TRUSTEE**
**53 SLEEPY HOLLOW DRIVE
GREENLAND, NH 03840**

PROJECT:
**WATSON'S LANDING
TAX MAP 209, LOT 33
1 CLARK DRIVE
PORTSMOUTH, NH 03801**

TITLE:
DEMOLITION PLAN

SHEET NUMBER:
C-1

PS090

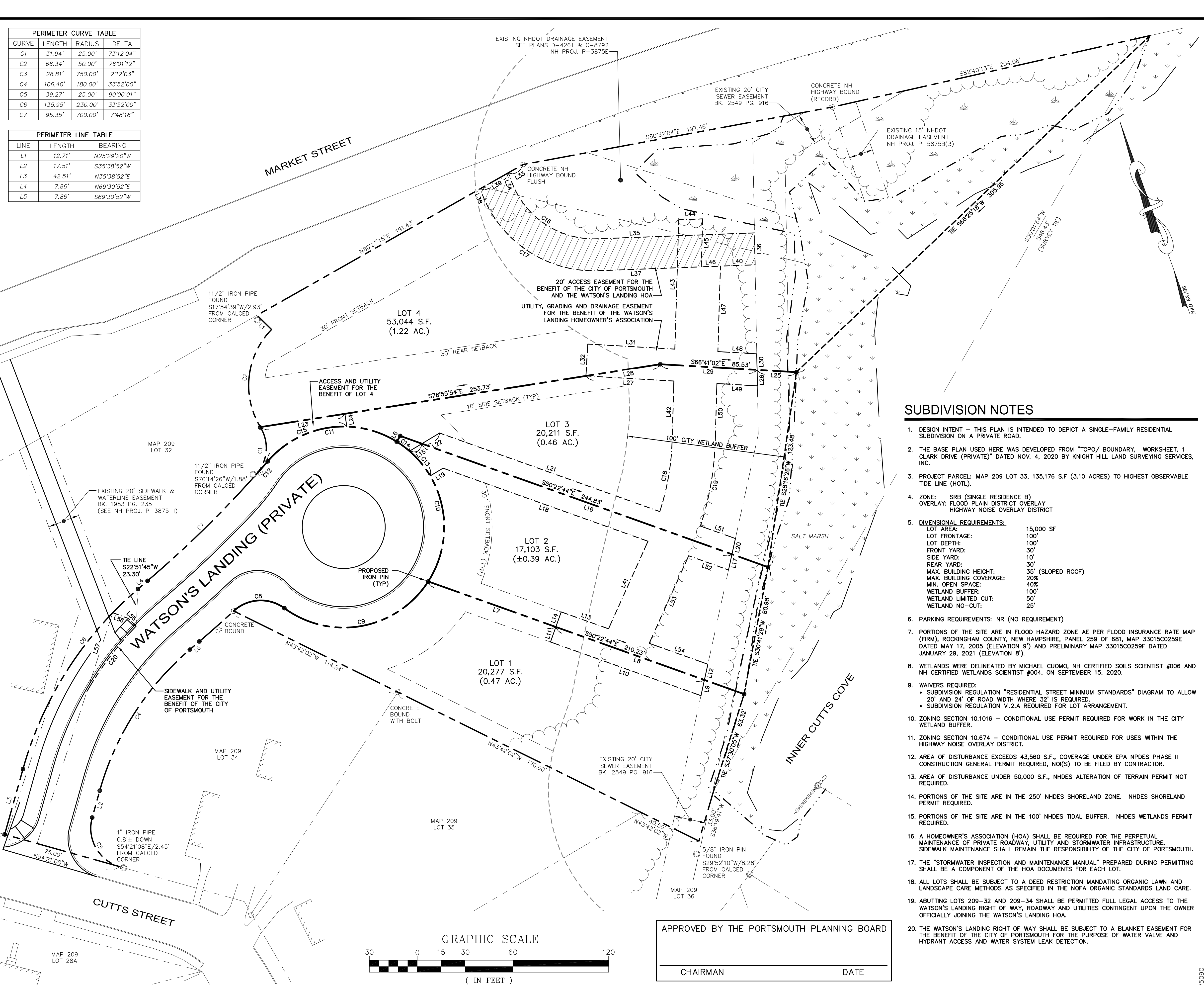
PROPOSED CURVE TABLE			
CURVE	LENGTH	RADIUS	DELTA
C8	34.44'	25.00'	78°55'33"
C9	102.80'	63.00'	93°29'17"
C10	100.00'	63.00'	90°56'33"
C11	89.06'	63.00'	80°59'39"
C12	10.94'	700.00'	0°53'43"
C13	20.33'	63.00'	18°29'23"
C14	10.00'	63.00'	9°05'41"
C15	56.04'	63.00'	50°57'51"
C16	68.91'	55.00'	71°50'59"
C17	94.05'	75.00'	71°50'59"
C18	45.01'	157.00'	16°25'37"
C19	53.45'	184.00'	16°38'43"
C20	51.39'	209.00'	14°05'14"

PERIMETER CURVE TABLE			
CURVE	LENGTH	RADIUS	DELTA
C1	31.94'	25.00'	73°12'04"
C2	66.34'	50.00'	76°01'12"
C3	28.81'	750.00'	2°12'03"
C4	106.40'	180.00'	33°52'00"
C5	39.27'	25.00'	90°00'01"
C6	135.95'	230.00'	33°52'00"
C7	95.35'	700.00'	7°48'16"

PERIMETER LINE TABLE		
LINE	LENGTH	BEARING
L1	12.71'	N25°29'20"W
L2	17.51'	S35°38'52"W
L3	42.51'	N35°38'52"E
L4	7.86'	N69°30'52"E
L5	7.86'	S69°30'52"W

PROPOSED LINE TABLE		
LINE	LENGTH	BEARING
L6	4.20'	N51°48'32"E
L7	84.93'	S50°22'44"E
L8	98.89'	S50°22'44"E
L9	10.08'	S32°22'09"W
L10	100.16'	N50°22'44"W
L11	10.00'	N39°37'15"E
L12	10.08'	S32°22'09"W
L13	31.50'	S50°22'44"E
L14	10.00'	N39°37'15"E
L15	9.04'	N79°01'34"E
L16	206.39'	S50°22'44"E
L17	10.08'	S32°22'09"W
L18	136.39'	N50°22'44"W
L19	9.41'	S79°01'34"W
L20	10.08'	S32°22'09"W
L21	146.57'	S50°22'44"E
L22	12.94'	N79°01'34"E
L23	53.59'	S78°55'54"E
L24	8.10'	N11°04'05"E
L25	24.70'	N66°41'02"W
L26	10.03'	S18°55'08"W
L27	55.25'	N66°41'02"W
L28	47.14'	S78°55'54"E
L29	60.83'	S66°41'02"W
L30	10.03'	S18°55'08"E
L31	54.69'	S66°41'02"E
L32	20.00'	N23°18'57"E
L33	10.65'	S80°27'15"W
L34	5.86'	S01°18'19"E
L35	98.72'	S72°09'18"E
L36	20.00'	N18°55'08"E
L37	98.34'	N72°09'18"W
L38	2.61'	N0°18'19"W
L39	20.26'	N80°27'15"E
L40	21.75'	S72°09'18"E
L41	60.20'	N44°16'30"E
L42	37.65'	N21°42'25"E
L43	81.09'	N21°42'25"E
L44	15.03'	S72°09'18"E
L45	30.07'	S21°42'25"W
L46	12.03'	S72°09'18"E
L47	53.60'	S21°42'25"E
L48	24.43'	S66°41'03"E
L49	25.40'	N66°41'02"E
L50	36.89'	S21°42'25"W
L51	23.33'	S50°22'44"E
L52	26.51'	N50°22'44"W
L53	60.20'	S44°16'30"W
L54	39.03'	S50°22'44"E
L55	7.00'	N63°47'19"W
L56	10.26'	N40°14'38"W
L57	51.91'	N38°09'39"E

PROPOSED CURVE TABLE			
CURVE	LENGTH	RADIUS	DELTA
C1	31.94'	25.00'	73°12'04"
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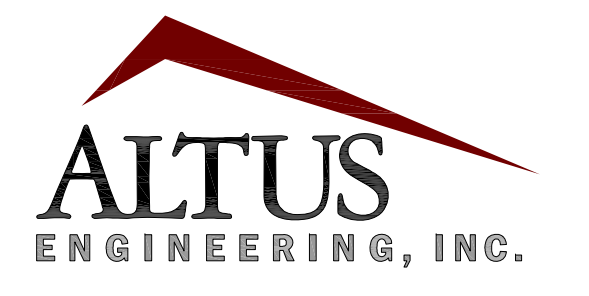
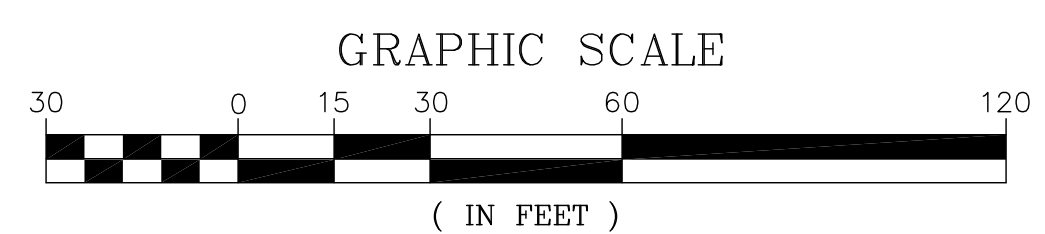
SUBDIVISION NOTES

- DESIGN INTENT - THIS PLAN IS INTENDED TO DEPICT A SINGLE-FAMILY RESIDENTIAL SUBDIVISION ON A PRIVATE ROAD.
- THE BASE PLAN USED HERE WAS DEVELOPED FROM "TOPO/ BOUNDARY, WORKSHEET, 1 CLARK DRIVE (PRIVATE)" DATED NOV. 4, 2020 BY KNIGHT HILL LAND SURVEYING SERVICES, INC.
- PROJECT PARCEL: MAP 209 LOT 33, 135,176 S.F. (3.10 ACRES) TO HIGHEST OBSERVABLE TIDE LINE (HOTL).
- ZONE: SRB (SINGLE RESIDENCE B) OVERLAY: FLOOD PLAIN DISTRICT OVERLAY HIGHWAY NOISE OVERLAY DISTRICT
- DIMENSIONAL REQUIREMENTS:

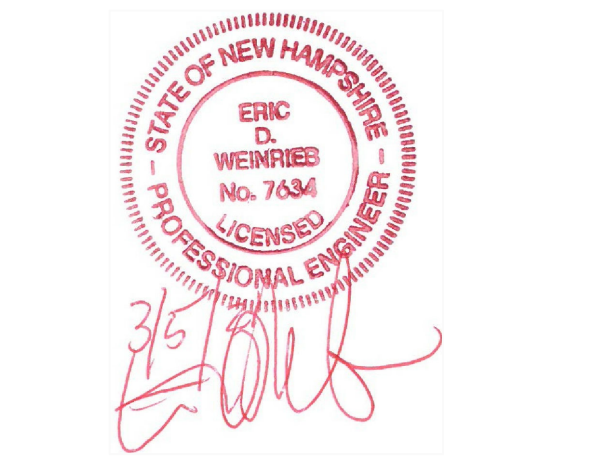
LOT AREA:	15,000 SF
LOT FRONTAGE:	100'
LOT DEPTH:	100'
FRONT YARD:	30'
SIDE YARD:	10'
REAR YARD:	30'
MAX. BUILDING HEIGHT:	35' (SLOPED ROOF)
MAX. BUILDING COVERAGE:	20%
MIN. OPEN SPACE:	40%
WETLAND BUFFER:	100'
WETLAND LIMITED CUT:	50'
WETLAND NO-CUT:	25'
- PARKING REQUIREMENTS: NR (NO REQUIREMENT)
- PORTIONS OF THE SITE ARE IN FLOOD HAZARD ZONE AE PER FLOOD INSURANCE RATE MAP (FIRM), ROCKINGHAM COUNTY, NEW HAMPSHIRE, PANEL 258 OF 681, MAP 33015C0259E DATED MAY 17, 2005 (ELEVATION 9') AND PRELIMINARY MAP 33015C0259F DATED JANUARY 29, 2021 (ELEVATION 8').
- WETLANDS WERE DELINEATED BY MICHAEL CUOMO, NH CERTIFIED SOILS SCIENTIST #006 AND NH CERTIFIED WETLANDS SCIENTIST #004, ON SEPTEMBER 15, 2020.
- WAIVERS REQUIRED:
 - SUBDIVISION REGULATION "RESIDENTIAL STREET MINIMUM STANDARDS" DIAGRAM TO ALLOW 20' AND 24' OF ROAD WIDTH WHERE 32' IS REQUIRED.
 - SUBDIVISION REGULATION V.I.Z.A. REQUIRED FOR LOT ARRANGEMENT.
- ZONING SECTION 10.1016 - CONDITIONAL USE PERMIT REQUIRED FOR WORK IN THE CITY WETLAND BUFFER.
- ZONING SECTION 10.674 - CONDITIONAL USE PERMIT REQUIRED FOR USES WITHIN THE HIGHWAY NOISE OVERLAY DISTRICT.
- AREA OF DISTURBANCE EXCEEDS 43,560 S.F., COVERAGE UNDER EPA NPDES PHASE II CONSTRUCTION GENERAL PERMIT REQUIRED, NO(S) TO BE FILED BY CONTRACTOR.
- AREA OF DISTURBANCE UNDER 50,000 S.F., NHDES ALTERATION OF TERRAIN PERMIT NOT REQUIRED.
- PORTIONS OF THE SITE ARE IN THE 250' NHDES SHORELAND ZONE. NHDES SHORELAND PERMIT REQUIRED.
- PORTIONS OF THE SITE ARE IN THE 100' NHDES TIDAL BUFFER. NHDES WETLANDS PERMIT REQUIRED.
- A HOMEOWNER'S ASSOCIATION (HOA) SHALL BE REQUIRED FOR THE PERPETUAL MAINTENANCE OF PRIVATE ROADWAY, UTILITY AND STORMWATER INFRASTRUCTURE. SIDEWALK MAINTENANCE SHALL REMAIN THE RESPONSIBILITY OF THE CITY OF PORTSMOUTH.
- THE "STORMWATER INSPECTION AND MAINTENANCE MANUAL" PREPARED DURING PERMITTING SHALL BE A COMPONENT OF THE HOA DOCUMENTS FOR EACH LOT.
- ALL LOTS SHALL BE SUBJECT TO A DEED RESTRICTION MANDATING ORGANIC LAWN AND LANDSCAPE CARE METHODS AS SPECIFIED IN THE NOFA ORGANIC STANDARDS LAND CARE.
- ABUTTING LOTS 209-32 AND 209-34 SHALL BE PERMITTED FULL LEGAL ACCESS TO THE WATSON'S LANDING RIGHT OF WAY, ROADWAY AND UTILITIES CONTINGENT UPON THE OWNER OFFICIALLY JOINING THE WATSON'S LANDING HOA.
- THE WATSON'S LANDING RIGHT OF WAY SHALL BE SUBJECT TO A BLANKET EASEMENT FOR THE BENEFIT OF THE CITY OF PORTSMOUTH FOR THE PURPOSE OF WATER VALVE AND HYDRANT ACCESS AND WATER SYSTEM LEAK DETECTION.

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN _____ DATE _____



133 Court Street
(603) 433-2335
Portsmouth, NH 03801
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DRAWN BY: EBS
APPROVED BY: EDW
DRAWING FILE: 5090-SITE.dwg

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

OWNER:
**FREDERICK W. WATSON
REVOCABLE TRUST,
ROBERT D. WATSON,
TRUSTEE**
53 SLEEPY HOLLOW DRIVE
GREENLAND, NH 03840

APPLICANT:
**FREDERICK W. WATSON
REVOCABLE TRUST,
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53 SLEEPY HOLLOW DRIVE
GREENLAND, NH 03840

PROJECT:
**WATSON'S LANDING
TAX MAP 209, LOT 33
1 CLARK DRIVE
PORTSMOUTH, NH 03801**

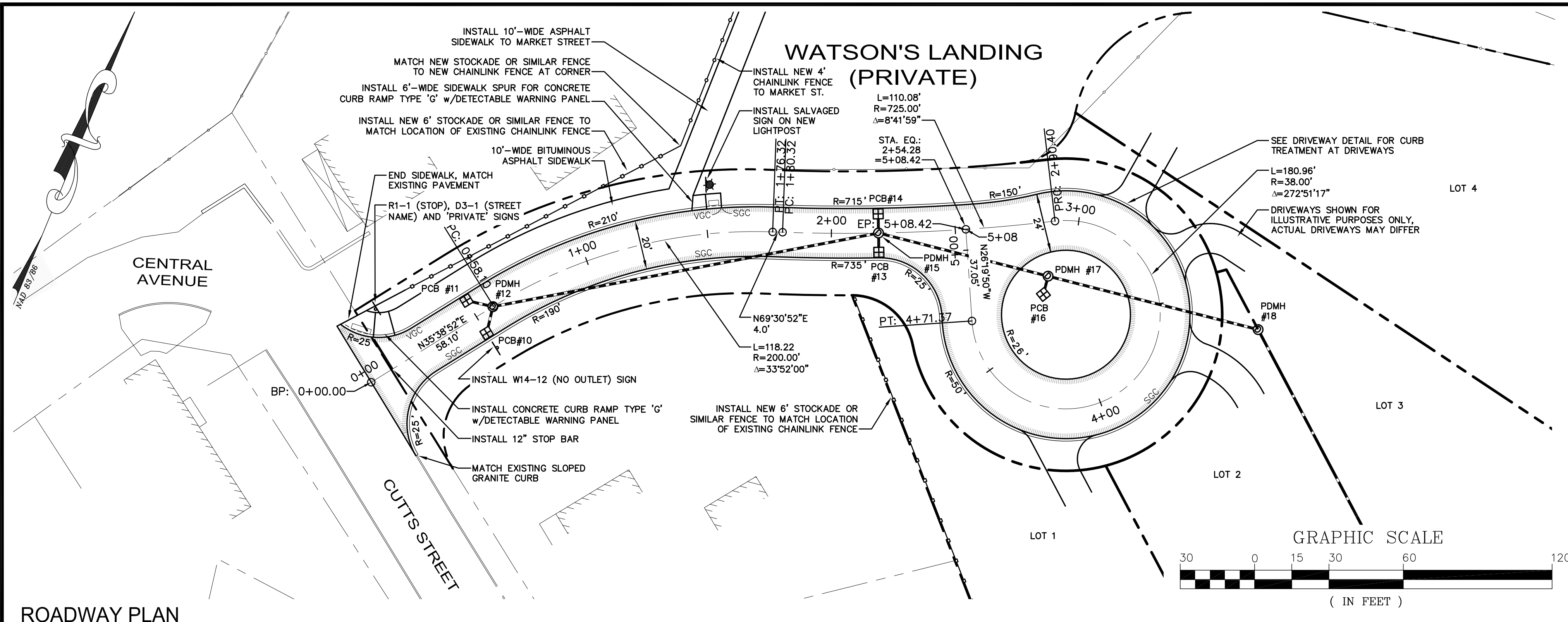
TITLE:

SUBDIVISION PLAN

SHEET NUMBER:

C-2

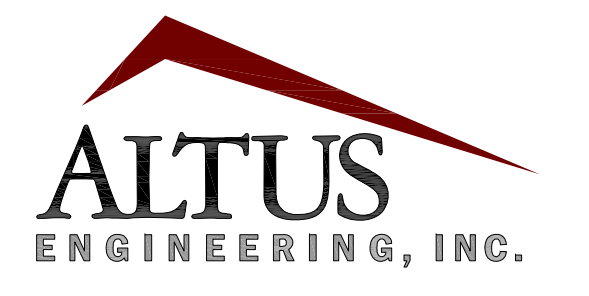
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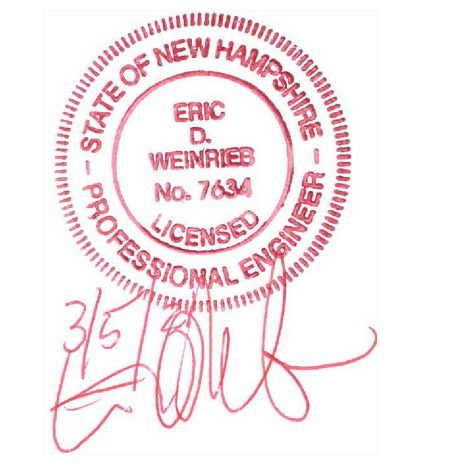
ROADWAY PLAN

LEGEND

- PROPERTY LINE
- EASEMENT LINE
- BUILDING SETBACK
- 100' CITY WETLAND SETBACK
- 50' CITY WETLAND SETBACK (LIMITED CUT)
- 25' CITY WETLAND SETBACK (NO-CUT)
- 100' STATE TIDAL BUFFER
- STATE SHORELAND SETBACKS
- FRESHWATER WETLAND BOUNDARY
- TIDAL WETLAND BOUNDARY
- FLOODPLAIN
- EXISTING PAVEMENT/CURB
- PROP. PAVEMENT/VERTICAL OR SLOPED GRANITE CURB
- EXISTING/PROPOSED GUARDRAIL
- EXISTING/PROPOSED STOCKADE FENCE
- EXISTING/PROPOSED CHAINLINK FENCE
- EXISTING CONTOUR
- 60' --- PROPOSED CONTOUR/INTERMEDIATE CONTOUR
- 100.00 --- 104.00TW --- 100.00BW --- PROPOSED SPOT GRADE/TOP & BOTTOM OF WALL
- PROPOSED RETAINING WALL
- W --- EXISTING WATER/CURB STOP/VALVE/HYDRANT
- S --- EXISTING SEWER/MANHOLE
- G --- EXISTING GAS/VALVE
- OHW --- UGU --- EXIST. OVERHEAD/UNDERGROUND UTILITIES/POLE
- D --- EXISTING DRAINAGE/CB/DMH
- W --- F --- PROPOSED THRUST BLOCK/CURB STOP/VALVE/HYDRANT
- W --- F --- PROPOSED DOMESTIC/FIRE WATER SERVICE LINE
- S --- PROPOSED SEWER/MANHOLE/CLEANOUT
- FM --- PROPOSED SEWER FORCEMAIN
- G --- PROPOSED GAS
- OHW --- UGU --- PROPOSED OVERHEAD UTILITIES/UTILITY POLE
- UGE --- PROPOSED UNDERGROUND ELECTRIC/PHONE/TV
- PROPOSED DRAINAGE (HARD PIPE)/CB/DCB/DMH/FES
- PROPOSED DRAINAGE (PERFORATED PIPE)/CLEANOUT
- CPP FES HDWL --- CORRUGATED PLASTIC PIPE/FLARED END SECTION/HEADWALL
- 4% --- PROPOSED GROUND SLOPE/APPROX. GRADE/STONE CHECK DAM
- x --- SILTFENCE/SEDIMENT BARRIER/CONST. FENCE
- STABILIZED CONSTRUCTION EXIT
- PROPOSED SAWCUT
- EXISTING TREE LINE/BRUSH LINE
- PROPOSED EROSION CONTROL BLANKET
- PROPOSED RIPRAP
- PROPOSED RAINGARDEN
- PROPOSED DISTURBANCE IN WETLAND SETBACK
- FRESHWATER WETLAND
- SALTMARSH



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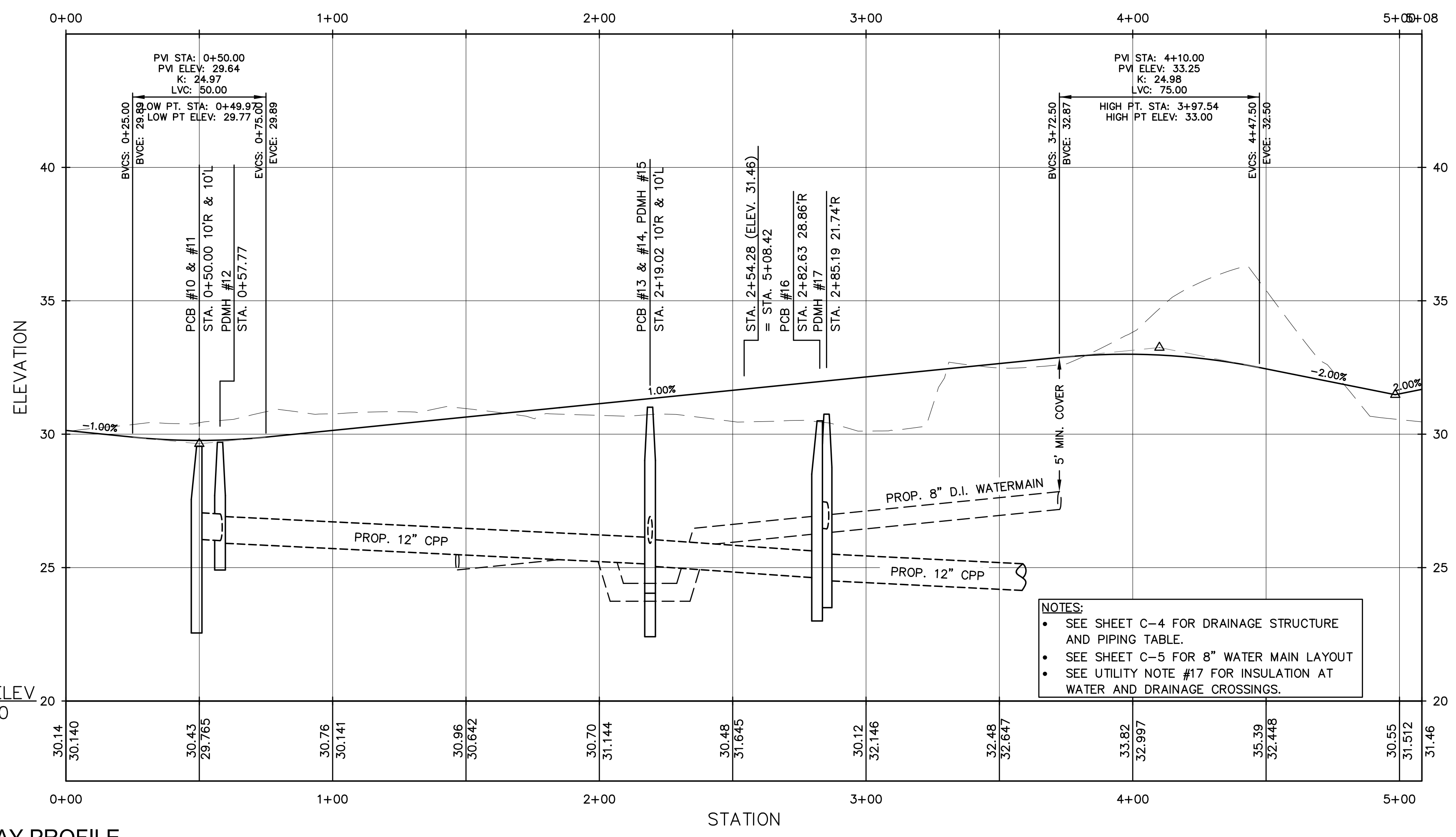
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53 SLEEPY HOLLOW DRIVE GREENLAND, NH 03840

APPLICANT:
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PROJECT:
WATSON'S LANDING
TAX MAP 209, LOT 33
1 CLARK DRIVE PORTSMOUTH, NH 03801

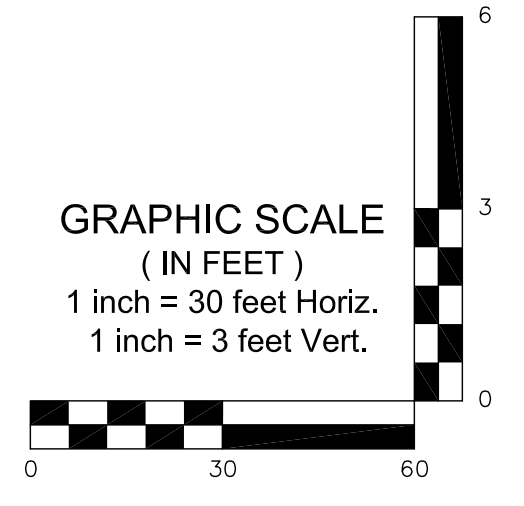
TITLE:
ROADWAY PLAN AND PROFILE

SHEET NUMBER:
C-3



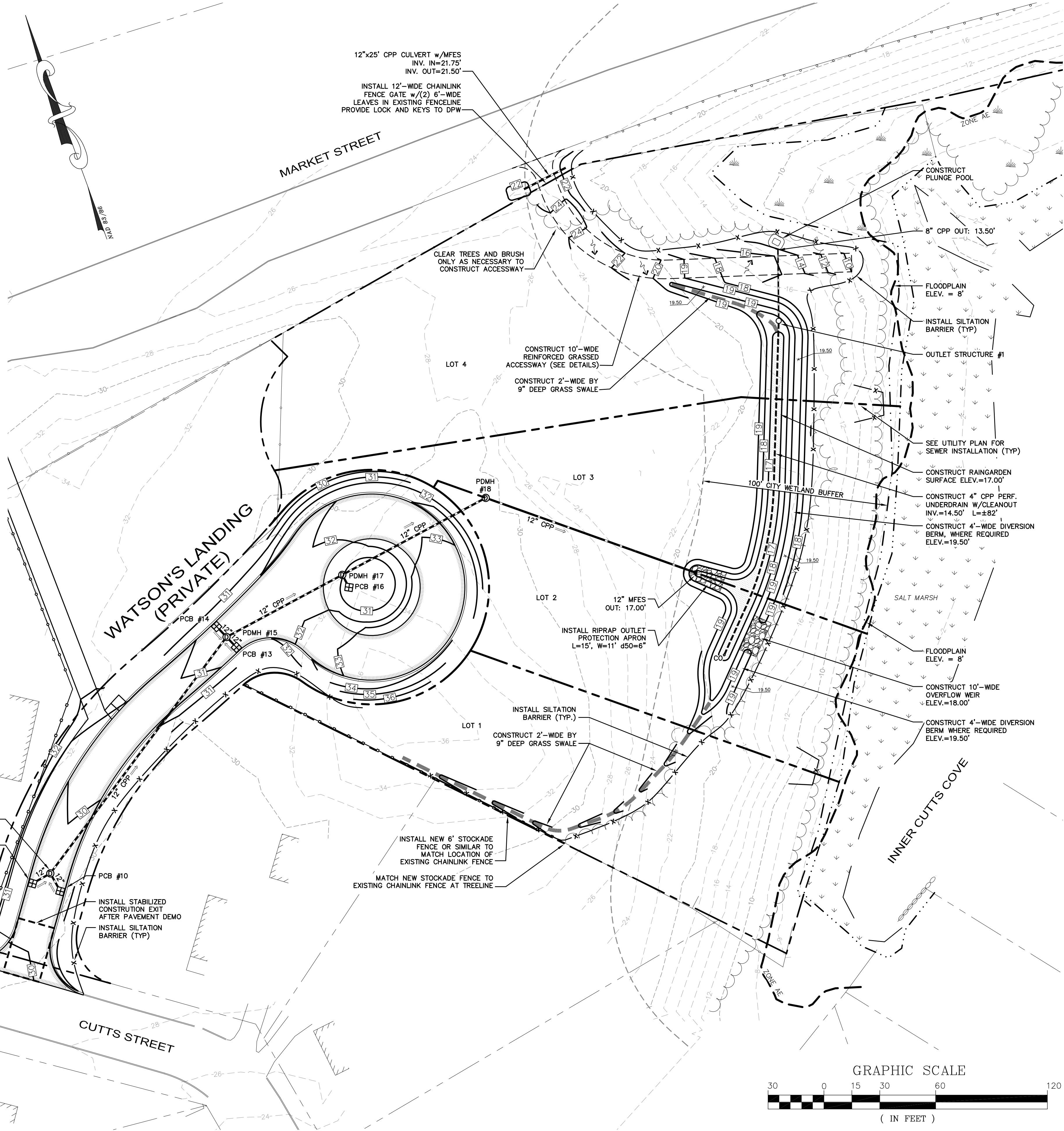
ROADWAY PROFILE

NOTES:
• SEE SHEET C-4 FOR DRAINAGE STRUCTURE AND PIPING TABLE.
• SEE SHEET C-5 FOR 8" WATER MAIN LAYOUT
• SEE UTILITY NOTE #17 FOR INSULATION AT WATER AND DRAINAGE CROSSINGS.



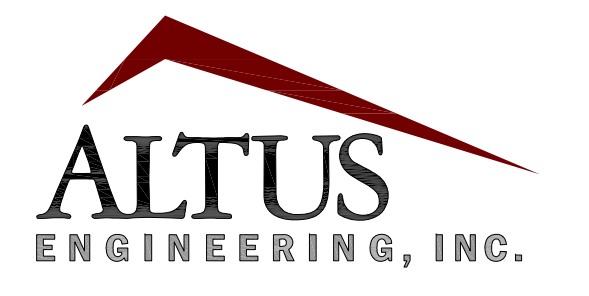
DRAINAGE SCHEDULE

- PCB #10
RIM: 29.55
OUT: 26.05 [PDMH #12]
12" CPP L=8'± S=0.0050'/'
- PCB #11
RIM: 29.55
OUT: 26.05 [PDMH #12]
12" CPP L=8'± S=0.0050'/'
- PDMH #12
RIM: 29.70
IN: 26.01 [PCB #10]
IN: 26.01 [PCB #11]
OUT: 25.91
12" CPP L=155'± S=0.0050'/'
- PCB #13
RIM: 31.10
OUT: 27.10 [PDMH #15]
12" CPP L=5'± S=0.0100'/'
- PCB #14
RIM: 31.10
OUT: 27.10 [PDMH #15]
12" CPP L=5'± S=0.0100'/'
- PDMH #15
RIM: 31.25
IN: 25.14 [PDMH #12]
IN: 27.05 [PCB #13]
IN: 27.05 [PCB #14]
OUT: 25.04 [PDMH #17]
12" CPP L=67'± S=0.0050'/'
- PCB #16
RIM: 30.50
OUT: 26.50 [PDMH #17]
12" CPP L=5'± S=0.0100'/'
- PDMH #17
RIM: 30.75
IN: 24.70 [PDMH #15]
IN: 26.45 [PCB #16]
OUT: 24.60 [PDMH #18]
12" CPP L=84'± S=0.005'/'
- PDMH #18
RIM: 30.00
IN: 24.18 [PCB #17]
OUT: 24.08 [OUTFALL]
12" CPP L=117'± S=0.0605'/'
DAYLIGHT ELEV. 17.00
- OUTLET STRUCTURE #1
RIM: 18.00'
IN: 14.50' [UNDERDRAIN]
OUT: 14.00' [OUTFALL]
8" CPP L=38'± S=0.0132'/'
DAYLIGHT ELEV.: 13.50'

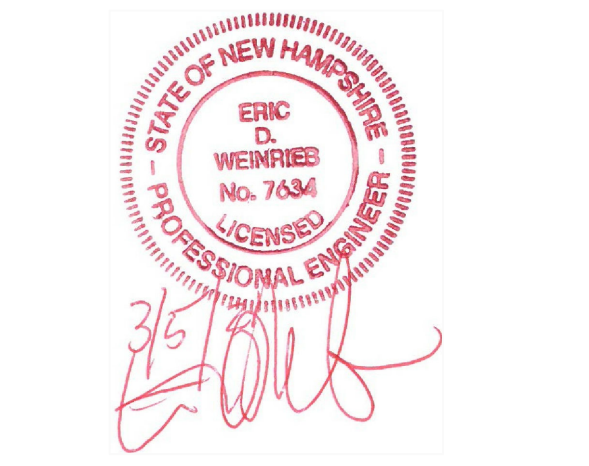


STORMWATER MANAGEMENT NOTES

1. DO NOT BEGIN CONSTRUCTION UNTIL ALL STATE AND LOCAL PERMITS HAVE BEEN APPLIED FOR AND RECEIVED.
2. CONTRACTOR SHALL OBTAIN A "DIGSAFE" NUMBER AT LEAST 72 HOURS PRIOR TO COMMENCING CONSTRUCTION.
3. ALL CONSTRUCTION SHALL MEET THE MINIMUM CONSTRUCTION STANDARDS OF THE CITY OF PORTSMOUTH AND NHDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION. THE MORE STRINGENT SPECIFICATION SHALL GOVERN.
4. ALL BENCHMARKS AND TOPOGRAPHY SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO INITIATING CONSTRUCTION.
5. UNLESS OTHERWISE AGREED IN WRITING, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING TEMPORARY BENCHMARKS (TBM) AND PERFORMING ALL CONSTRUCTION SURVEY LAYOUT.
6. PRIOR TO CONSTRUCTION, FIELD VERIFY JUNCTIONS, LOCATIONS AND ELEVATIONS/INVERTS OF ALL EXISTING STORMWATER AND UTILITY LINES. PRESERVE AND PROTECT LINES TO BE RETAINED.
7. TEMPORARY INLET PROTECTION MEASURES SHALL BE INSTALLED IN ALL EXISTING AND PROPOSED CATCH BASINS WITHIN 100' OF THE PROJECT SITE WHEN SITE WORK WITHIN CONTRIBUTING AREAS IS ACTIVE OR SAID AREAS HAVE NOT BEEN STABILIZED.
8. PROTECTION OF SUBGRADE: THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN STABLE, DEWATERED SUBGRADES FOR FOUNDATIONS, PAVEMENT AREAS, UTILITY TRENCHES, AND OTHER AREAS DURING CONSTRUCTION. SUBGRADE DISTURBANCE MAY BE INFLUENCED BY EXCAVATION METHODS, MOISTURE, PRECIPITATION, GROUNDWATER CONTROL, AND CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO PREVENT SUBGRADE DISTURBANCE. SUCH PRECAUTIONS MAY INCLUDE DIVERTING STORMWATER RUNOFF AWAY FROM CONSTRUCTION AREAS, REDUCING TRAFFIC IN SENSITIVE AREAS, AND MAINTAINING AN EFFECTIVE DEWATERING PROGRAM. SOILS EXHIBITING HEAVING OR INSTABILITY SHALL BE OVER EXCAVATED TO MORE COMPETENT BEARING SOIL AND REPLACED WITH FREE DRAINING STRUCTURAL FILL. IF THE EARTHWORK IS PERFORMED DURING FREEZING WEATHER, EXPOSED SUBGRADES ARE SUSCEPTIBLE TO FROST. NO FILL OR UTILITIES SHALL BE PLACED ON FROZEN GROUND. THIS WILL LIKELY REQUIRE REMOVAL OF A FROZEN SOIL CRUST AT THE COMMENCEMENT OF EACH DAY'S OPERATIONS. THE FINAL SUBGRADE ELEVATION WOULD ALSO REQUIRE AN APPROPRIATE DEGREE OF INSULATION AGAINST FREEZING.
9. IF SUITABLE, EXCAVATED MATERIALS SHALL BE PLACED AS FILL WITHIN UPLAND AREAS ONLY AND SHALL NOT BE PLACED WITHIN WETLANDS. PLACEMENT OF BORROW MATERIALS SHALL BE PERFORMED IN A MANNER THAT PREVENTS LONG TERM DIFFERENTIAL SETTLEMENT. EXCESSIVELY WET MATERIALS SHALL BE STOCKPILED AND ALLOWED TO DRAIN BEFORE PLACEMENT. FROZEN MATERIAL SHALL NOT BE USED FOR CONSTRUCTION.
10. ALL CATCH BASIN, MANHOLE AND OTHER DRAINAGE RIMS SHALL BE SET FLUSH WITH OR NO LESS THAN 0.1' BELOW FINISH GRADE. ANY RIM ABOVE SURROUNDING FINISH GRADE SHALL NOT BE ACCEPTED.
11. IN ORDER TO PROVIDE VISUAL CLARITY ON THE PLANS, DRAINAGE AND OTHER UTILITY STRUCTURES MAY NOT BE DRAWN TO SCALE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER SIZING AND LOCATION OF ALL STRUCTURES AND IS DIRECTED TO RESOLVE ANY POTENTIAL DISCREPANCY WITH THE ENGINEER PRIOR TO CONSTRUCTION.
12. ALL CPP PIPE SHALL BE ADS N-12 OR APPROVED EQUAL.
13. TOTAL AREA OF PROJECT DISTURBANCE IS ±47,550 S.F. (>1 ACRE), PROJECT SUBJECT TO EPA NPDES PHASE II. CONTRACTOR SHALL BE RESPONSIBLE FOR REQUIRED NOI, SWPPP AND MINIMUM WEEKLY INSPECTIONS.
14. NO EARTHWORK, STUMPING OR GRUBBING SHALL COMMENCE UNTIL ALL APPROPRIATE SEDIMENT AND EROSION CONTROL MEASURES HAVE BEEN INSTALLED. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE PROPERLY MAINTAINED IN GOOD WORKING ORDER FOR THE DURATION OF CONSTRUCTION AND THE SITE IS STABILIZED.
15. SEE DETAIL SHEETS FOR PERTINENT SEDIMENT AND EROSION CONTROL DETAILS AND ADDITIONAL NOTES.
16. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE DESIGN STANDARDS AND SPECIFICATIONS SET FORTH IN THE NHDES NH STORMWATER MANUALS, VOL. 1-3, DATED DECEMBER 2008 AS AMENDED.
17. CONTRACTOR SHALL CONTROL DUST BY SPRAYING WATER, SWEEPING PAVED SURFACES, PROVIDING TEMPORARY VEGETATION, AND/OR MULCHING EXPOSED AREAS AND STOCKPILES.
18. THE CONTRACTOR SHALL TAKE WHATEVER MEANS NECESSARY TO PREVENT EROSION, PREVENT SEDIMENT FROM LEAVING THE SITE AND/OR ENTERING WETLANDS AND ENSURE PERMANENT SOIL STABILIZATION.
19. ALL EROSION CONTROL BLANKETS AND FASTENERS SHALL BE BIODEGRADABLE.
20. ALL SWALES AND DETENTION PONDS SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
21. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE SIX (6") INCHES OF COMPACTED LOAM, LIMESTONE, ORGANIC FERTILIZER, SEED, AND MULCH USING APPROPRIATE SOIL STABILIZATION TECHNIQUES.
22. UPON COMPLETION OF CONSTRUCTION, ALL DRAINAGE INFRASTRUCTURE SHALL BE CLEANED OF ALL DEBRIS AND SEDIMENT AND ALL TEMPORARY EROSION AND SEDIMENT CONTROLS REMOVED AND ANY AREAS DISTURBED BY THE REMOVAL SMOOTHED AND REVEGETATED.
23. THE ENGINEER OF RECORD SHALL SUBMIT A WRITTEN REPORT WITH PHOTOGRAPHS AND ENGINEERS STAMP CERTIFYING THAT THE STORMWATER INFRASTRUCTURE WAS CONSTRUCTED TO THE APPROVED PLANS AND WILL MEET THE DESIGN PERFORMANCE.
24. ALL ROADWAY CATCH BASINS SHALL BE CLEANED ANNUALLY AND THE ROADWAY SWEEPED EVERY SPRING. SEDIMENT AND DEBRIS REMOVED FROM CATCH BASIN SUMPS SHALL BE DISPOSED OF AT A SOLID WASTE FACILITY.



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SCALE:
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REVOCABLE TRUST,
ROBERT D. WATSON,
TRUSTEE**

53 SLEEPY HOLLOW DRIVE
GREENLAND, NH 03840

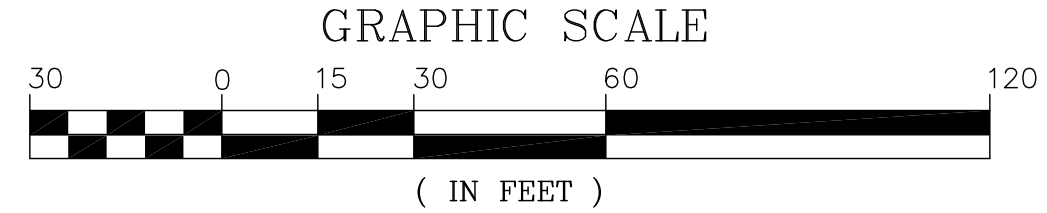
APPLICANT:
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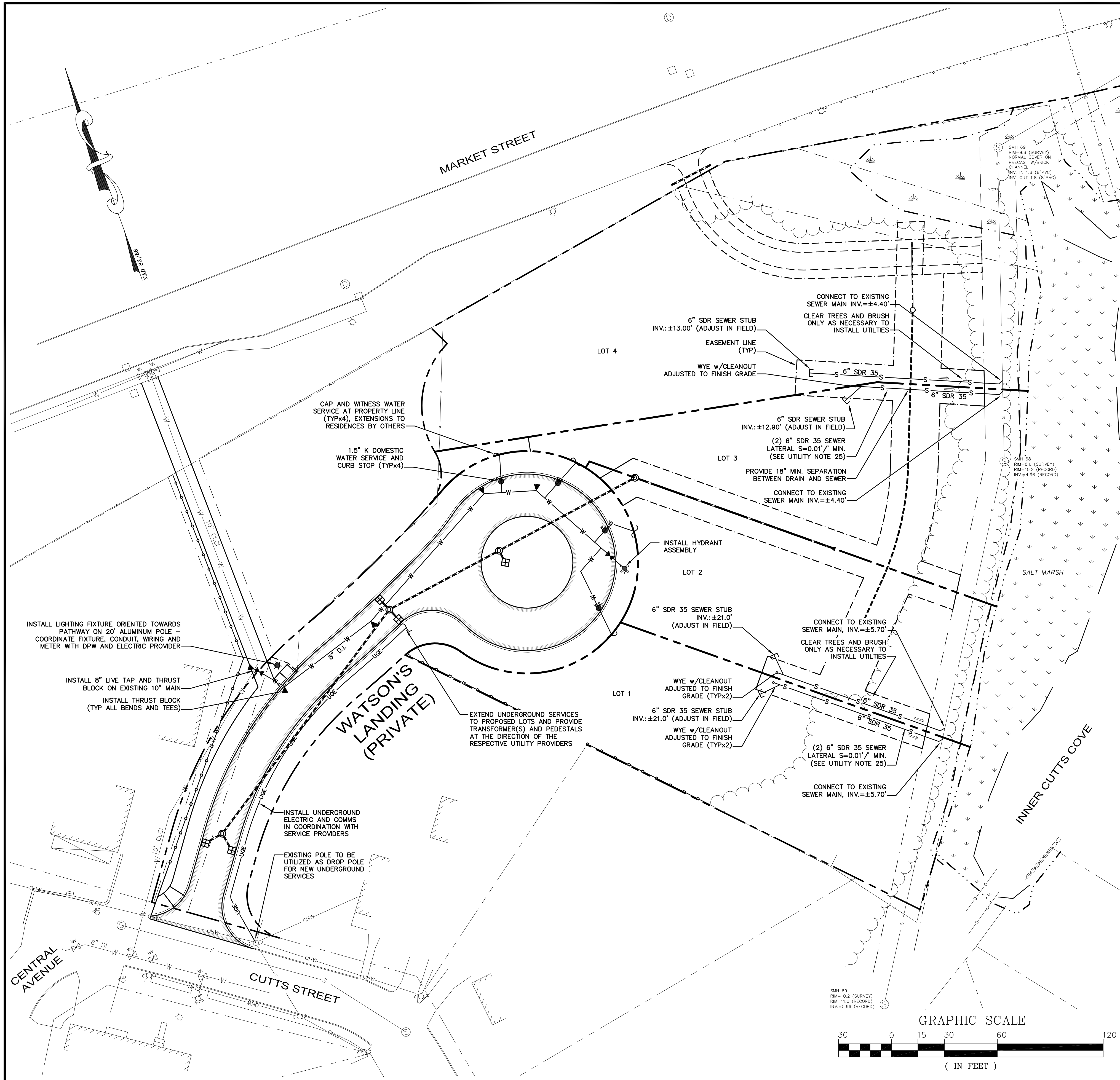
53 SLEEPY HOLLOW DRIVE
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PROJECT:
**WATSON'S LANDING
TAX MAP 209, LOT 33
1 CLARK DRIVE
PORTSMOUTH, NH 03801**

TITLE:
**STORMWATER
MANAGEMENT PLAN**

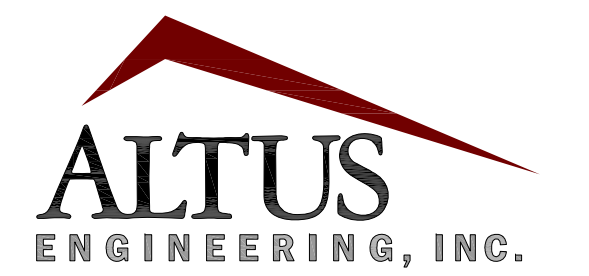
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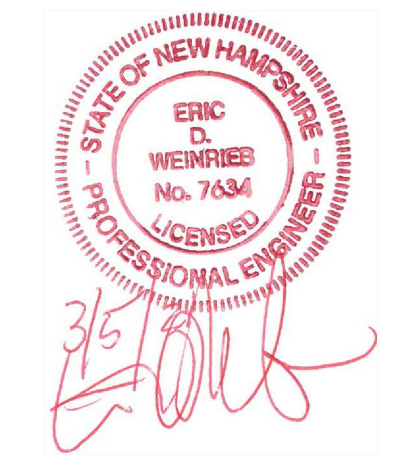


UTILITY NOTES

1. THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES SHOWN HEREON ARE APPROXIMATE AND ARE BASED UPON THE FIELD LOCATION OF ALL VISIBLE STRUCTURES (IE. CATCH BASINS, MANHOLES, WATER GATES, ETC.) AND INFORMATION COMPILED FROM PLANS PROVIDED BY UTILITY PROVIDERS AND GOVERNMENTAL AGENCIES. AS SUCH, THEY ARE NOT INCLUSIVE AS OTHER UTILITIES AND UNDERGROUND STRUCTURES THAT ARE NOT SHOWN ON THE PLANS MAY EXIST. THE ENGINEER, SURVEYOR AND OWNER ACCEPT NO RESPONSIBILITY FOR POTENTIAL INACCURACIES IN THE PLAN AND/OR UNFORESEEN CONDITIONS. THE CONTRACTOR SHALL NOTIFY, IN WRITING, SAID AGENCIES, UTILITY PROVIDERS, CITY OF PORTSMOUTH DPW AND OWNER'S AUTHORIZED REPRESENTATIVE AND CALL DIG SAFE AT 1 (800) DIG-SAFE AT LEAST SEVENTY-TWO (72) HOURS PRIOR TO ANY EXCAVATION WORK.
2. PRIOR TO CONSTRUCTION, IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND FIELD VERIFY JUNCTIONS, LOCATIONS AND ELEVATIONS/INVERTS OF ALL EXISTING AND PROPOSED STORMWATER AND UTILITY LINES. CONFLICTS SHALL BE ANTICIPATED AND ALL EXISTING LINES TO BE RETAINED SHALL BE PROTECTED. ANY DAMAGE DONE TO EXISTING UTILITIES SHALL BE REPAIRED AND, IF NECESSARY, EXISTING UTILITIES SHALL BE RELOCATED AT NO EXTRA COST TO THE OWNER. ALL CONFLICTS SHALL BE RESOLVED WITH THE INVOLVEMENT OF THE ENGINEER, DPW AND APPROPRIATE UTILITIES.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE POSTING OF ALL BONDS AND PAYMENT OF ALL TAP, TIE-IN AND CONNECTION FEES.
4. ALL ROAD/LANE CLOSURES OR OTHER TRAFFIC INTERRUPTIONS SHALL BE COORDINATED WITH THE PORTSMOUTH POLICE DEPARTMENT AND DPW AT LEAST TWO WEEKS PRIOR TO COMMENCING RELATED CONSTRUCTION.
5. ALL CONSTRUCTION SHALL MEET THE MINIMUM CONSTRUCTION STANDARDS OF THE CITY OF PORTSMOUTH AND NHDOT STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, LATEST EDITION. THE MORE STRINGENT SPECIFICATION SHALL GOVERN.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRENCHING, BEDDING, BACKFILL & COMPACTION FOR ALL UTILITY TRENCHING IN ADDITION TO ALL CONDUIT INSTALLATION AND COORDINATION OF ALL REQUIRED INSPECTIONS.
7. ALL TRENCHING, PIPE LAYING AND BACKFILLING SHALL CONFORM TO FEDERAL OSHA AND CITY REGULATIONS.
8. FINAL UTILITY LOCATIONS TO BE COORDINATED BETWEEN THE ARCHITECT, CONTRACTOR, APPROPRIATE UTILITY COMPANIES AND THE PORTSMOUTH DPW.
9. WATER: PORTSMOUTH DPW WATER DIVISION, JIM TOW, (603) 427-1530.
10. SEWER: PORTSMOUTH DPW SEWER DIVISION, JIM TOW, (603) 427-1530.
11. TELECOMMUNICATIONS: CONSOLIDATED, JOE CONSIDINE, (603) 427-5525.
12. CABLE: COMCAST, MIKE COLLINS, (603) 679-5695, EXT. 1037.
13. ELECTRICAL: EVERSOURCE, MICHAEL BUSBY, (603) 332-4227, EXT. 5555334. ALL ELECTRIC CONDUIT INSTALLATION SHALL BE INSPECTED BY EVERSOURCE PRIOR TO BACKFILL, 48-HOUR MINIMUM NOTICE REQUIRED.
14. GAS: UNITIL, DAVID BEAULIEU, (603) 294-5144.
15. DETECTABLE WARNING TAPE SHALL BE PLACED OVER THE ENTIRE LENGTH OF ALL BURIED UTILITIES, COLORS PER THE RESPECTIVE UTILITY PROVIDERS.
16. ALL WATER MAIN AND SERVICE INSTALLATIONS SHALL BE CONSTRUCTED AND TESTED PER PORTSMOUTH DPW STANDARDS AND SPECIFICATIONS. ALL OTHER UTILITIES SHALL BE TO THE STANDARDS AND SPECIFICATIONS OF THE RESPECTIVE UTILITY PROVIDERS.
17. WHERE WATER LINES CROSS, RUN ADJACENT TO OR ARE WITHIN 5' OF STORM DRAINAGE PIPES OR STRUCTURES, 2"-THICK CLOSED CELL RIGID BOARD INSULATION SHALL BE INSTALLED FOR FROST PROTECTION.
18. PER PORTSMOUTH DPW SPECIFICATIONS, ALL NEW DUCTILE IRON WATERLINES SHALL BE WRAPPED WITH A WATER TIGHT POLYETHYLENE WRAPPING FOR THEIR FULL LENGTH, ALL DOMESTIC WATER SERVICES SHALL BE PROVIDED WITH BACKFLOW PREVENTERS AND ALL JOINTS SHALL HAVE THREE (3) WEDGES PER JOINT.
19. WATER AND SANITARY SEWER LINES SHALL BE LOCATED AT LEAST 10' HORIZONTALLY FROM EACH OTHER. WHERE CROSSING, 18" MINIMUM VERTICAL CLEARANCE SHALL BE PROVIDED WITH WATER INSTALLED OVER SEWER.
20. CONTRACTOR SHALL PROVIDE DPW WITH DETAILS OF TEMPORARY & PERMANENT GROUNDWATER DEWATERING DESIGN IF NECESSARY.
21. THE APPLICANT OR ASSIGNS SHALL AGREE TO PAY FOR THE SERVICES OF A THIRD-PARTY OVERSIGHT ENGINEER, TO BE SELECTED BY THE CITY, TO MONITOR THE INSTALLATION OF UTILITIES INCLUDING SEWER, WATER AND DRAINAGE.
22. RESIDENTIAL HOUSES SHALL BE EQUIPPED WITH NFPA 13D-COMPLIANT SPRINKLER SYSTEMS IF THEIR FRONT DOORS ARE LOCATED GREATER THAN 50' FROM THE EDGE OF ROADWAY PAVEMENT.
23. THE APPLICANT OR FUTURE HOMEOWNER'S ASSOCIATION SHALL ENTER INTO A MAINTENANCE AGREEMENT WITH THE PORTSMOUTH DPW FOR THE PROPOSED FIRE HYDRANT AND HYDRANT FLUSHING.
24. A HYDRANT FLOW TEST SHALL BE CONDUCTED EVERY FIVE YEARS IN COORDINATION WITH PORTSMOUTH DPW WATER DIVISION. THIS REQUIREMENT SHALL BE INCLUDED IN ANY HOMEOWNER'S ASSOCIATION DOCUMENTS.
25. ALL MEANS, METHODS, MATERIALS AND INSTALLATION OF NEW SEWER LATERALS SHALL BE APPROVED AND WITNESSED BY PORTSMOUTH DPW PRIOR TO BACKFILLING. SEWER LATERALS MAY BE CONSTRUCTED IN THE SAME TRENCH PROVIDED THAT A MINIMUM SEPARATION OF 3' IS MAINTAINED AND THE LINES ARE LOCATED ON THEIR RESPECTIVE LOTS IN THEIR ENTIRETY.



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PROJECT:
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TAX MAP 209, LOT 33
1 CLARK DRIVE
PORTSMOUTH, NH 03801**

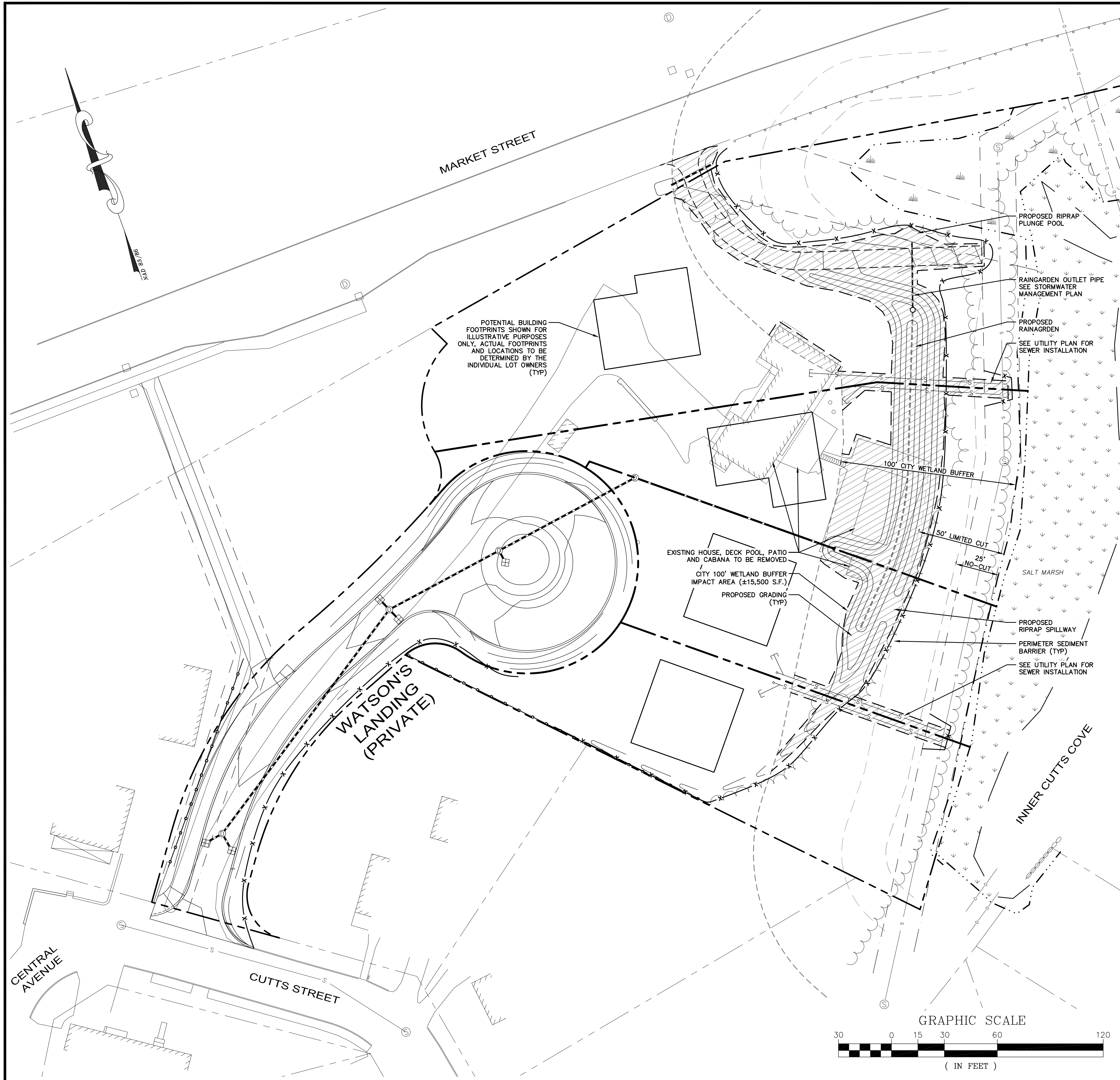
TITLE:

UTILITY PLAN

SHEET NUMBER:

C-5

P5090

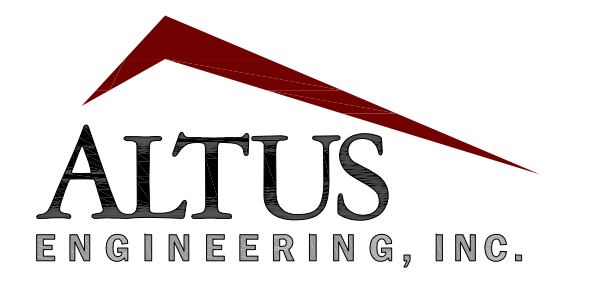
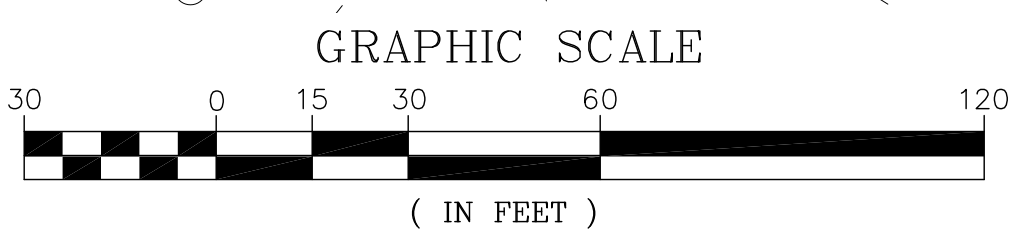


CONDITIONAL USE PERMIT NOTES

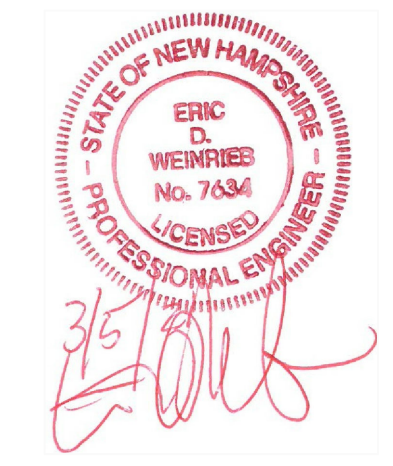
- ZONING SECTION 10.1016 – CONDITIONAL USE PERMIT REQUIRED FOR EARTH DISTURBANCE IN THE 100' CITY WETLAND BUFFER.
- PROJECT PARCEL: MAP 209 LOT 33, 135,176 S.F. (3.10 ACRES) TO HIGHEST OBSERVABLE TIDE LINE (HOTL).
- WETLAND AREA ON LOT: ±16,397 S.F. (±0.38 ACRES)
- 100' WETLAND BUFFER ANALYSIS (EXISTING CONDITIONS):
LAWN: ±23,540 S.F.
BRUSH/WOODLAND: ±20,735 S.F.
IMPERVIOUS: ±3,326 S.F.
TOTAL BUFFER: ±47,601 S.F. (±1.09 ACRES)
- AREA OF 100' WETLAND BUFFER IMPACT:
ONSITE: ±15,125 S.F.
OFFSITE: ±375 S.F. (MARKET STREET RIGHT OF WAY)
TOTAL: ±15,500 S.F. (±0.36 ACRES)
- AREA OF TREE/BRUSH REMOVAL IN BUFFER:
0-25': ±501 S.F. (FOR SEWER AND DPW ACCESSWAY ONLY)
25'-50': ±252 S.F. (FOR SEWER AND DPW ACCESSWAY ONLY)
50'-100': ±756 S.F.
TOTAL: ±1,509 S.F.
- PROPOSED IMPERVIOUS SURFACES IN BUFFER: 0 S.F.
- PROPOSED WETLAND IMPACT: 0 S.F.
- WETLANDS WERE DELINEATED BY MICHAEL CUOMO, NH CERTIFIED SOILS SCIENTIST #006 AND NH CERTIFIED WETLANDS SCIENTIST #004, ON SEPTEMBER 15, 2020.
- CONSTRUCTION ACTIVITIES SHALL BE MANAGED IN STRICT ACCORDANCE WITH NH RSA 430:53 AND AGR 3800 RELATIVE TO INVASIVE SPECIES. NO INVASIVE SPECIES SHALL BE INSTALLED ON THE PROJECT SITE FOR ANY REASON.

LEGEND

- — — — — PROPERTY LINE
- - - - - EASEMENT LINE
- - - - - 100' CITY WETLAND SETBACK
- - - - - 50' CITY WETLAND SETBACK (LIMITED CUT)
- - - - - 25' CITY WETLAND SETBACK (NO-CUT)
- - - - - 100' STATE TIDAL BUFFER
- - - - - FRESHWATER WETLAND BOUNDARY
- - - - - TIDAL WETLAND BOUNDARY
- — — — — VGC SGC EXISTING PAVEMENT/CURB
- (S) — (S) — EXISTING SEWER/MANHOLE
- x - x - SILTFENCE/SEDIMENT BARRIER/CONST. FENCE
- - - - - EXISTING TREE LINE/BRUSH LINE
- [Hatched Box] PROPOSED DISTURBANCE IN WETLAND BUFFER
- [Dotted Box] PROPOSED VEGETATION REMOVAL IN 25' NO-CUT ZONE
- [Stippled Box] FRESHWATER WETLAND
- [Wavy Box] SALTMARSH



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PROJECT:
WATSON'S LANDING

TAX MAP 209, LOT 33

1 CLARK DRIVE
PORTSMOUTH, NH 03801

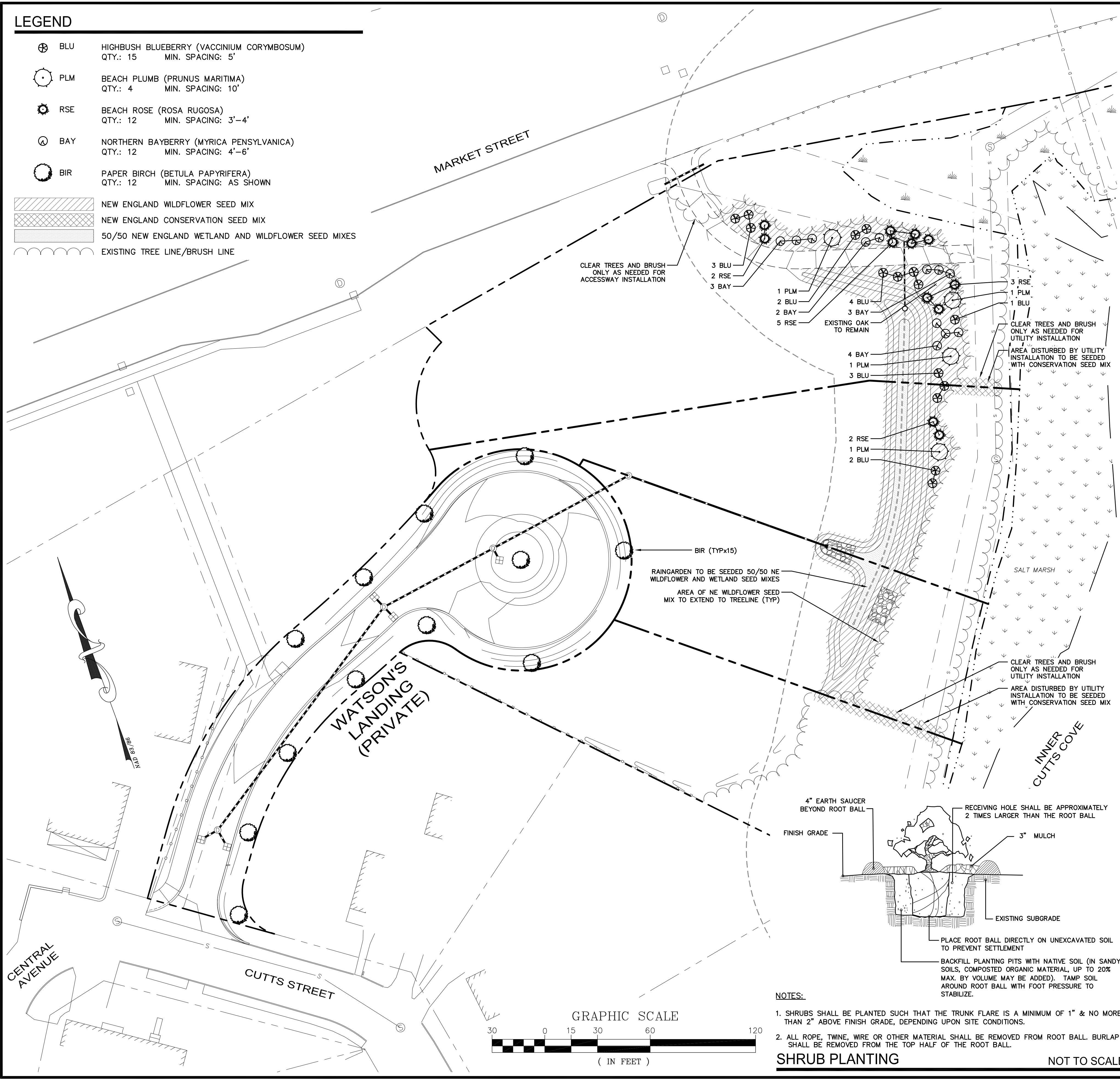
TITLE:
**CONDITIONAL USE
PERMIT PLAN**

SHEET NUMBER:
C-6

P5090

LEGEND

- ⊗ BLU Highbush Blueberry (*Vaccinium corymbosum*)
QTY.: 15 MIN. SPACING: 5'
 - ⊙ PLM Beach Plum (*Prunus maritima*)
QTY.: 4 MIN. SPACING: 10'
 - ⊗ RSE Beach Rose (*Rosa rugosa*)
QTY.: 12 MIN. SPACING: 3'-4'
 - ⊙ BAY Northern Bayberry (*Myrica pensylvanica*)
QTY.: 12 MIN. SPACING: 4'-6'
 - ⊙ BIR Paper Birch (*Betula papyrifera*)
QTY.: 12 MIN. SPACING: AS SHOWN
- NEW ENGLAND WILDFLOWER SEED MIX
 - NEW ENGLAND CONSERVATION SEED MIX
 - 50/50 NEW ENGLAND WETLAND AND WILDFLOWER SEED MIXES
 - EXISTING TREE LINE/BRUSH LINE



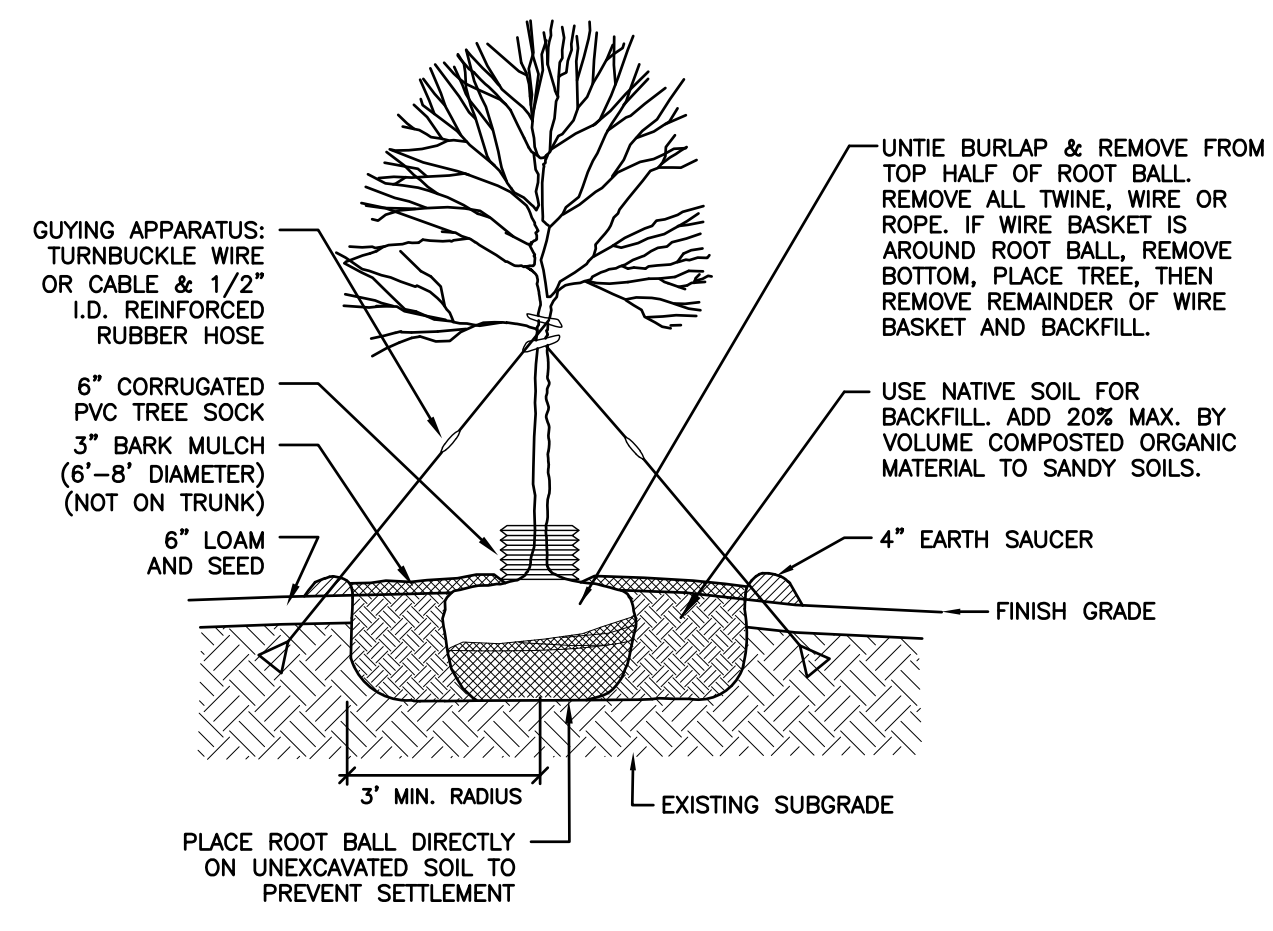
NOTES:

- SHRUBS SHALL BE PLANTED SUCH THAT THE TRUNK FLARE IS A MINIMUM OF 1" & NO MORE THAN 2" ABOVE FINISH GRADE, DEPENDING UPON SITE CONDITIONS.
- ALL ROPE, TWINE, WIRE OR OTHER MATERIAL SHALL BE REMOVED FROM ROOT BALL. BURLAP SHALL BE REMOVED FROM THE TOP HALF OF THE ROOT BALL.

SHRUB PLANTING NOT TO SCALE

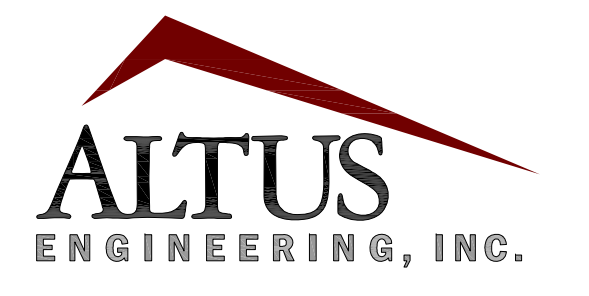
PLANTING NOTES

- THE CONTRACTOR SHALL LOCATE AND VERIFY THE EXISTENCE OF ALL UTILITIES PRIOR TO STARTING WORK.
- THE CONTRACTOR SHALL SUPPLY ALL PLANT MATERIALS IN QUANTITIES SUFFICIENT TO COMPLETE THE PLANTINGS SHOWN ON THE DRAWINGS.
- ALL MATERIAL SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY THE CURRENT AMERICAN STANDARD FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
- ALL PLANT MATERIALS SHALL BE EXACTLY AS SPECIFIED BY THE ENGINEER AND BEAR LEGIBLE TAGS INDICATING THEIR SPECIES. IF PLANT SPECIES CULTIVARS ARE FOUND TO VARY FROM THAT SPECIFIED AT ANY TIME DURING THE GUARANTEE PERIOD, THE ENGINEER RESERVES THE RIGHT TO HAVE THE CONTRACTOR REPLACE THAT PLANT MATERIAL. ALL PLANT AND SEED SUBSTITUTIONS MUST BE APPROVED BY THE ENGINEER.
- 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.
- 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.
- NO PLANT SHALL BE PUT IN THE GROUND BEFORE GRADING HAS BEEN FINISHED AND APPROVED BY THE ENGINEER. ALL FINAL GRADES SHALL BE PER THE GRADING AND DRAINAGE PLAN.
- ALL PLANTS SHALL BE INSTALLED AND DETAILED AND ALL WORK DONE PER THE PROJECT SPECIFICATIONS.
- 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.
- 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 ENGINEER IN WRITING OR OTHERWISE FORFEIT HIS CLAIM.
- FINAL ACCEPTANCE BY THE ENGINEER WILL BE MADE UPON THE CONTRACTOR'S REQUEST AFTER ALL CORRECTIVE WORK HAS BEEN COMPLETED.
- BY THE END OF THE GUARANTEE PERIOD, THE CONTRACTOR SHALL HAVE REPLACED ANY PLANT MATERIAL THAT IS MISSING, NOT TRUE TO SIZE AS SPECIFIED, THAT HAS DIED, THAT HAVE LOST ITS NATURAL SHAPE DUE TO DEAD BRANCHES, EXCESSIVE PRUNING OR INADEQUATE OR IMPROPER CARE, OR IS, IN THE OPINION OF THE ENGINEER, IN UNHEALTHY OR UNSIGHTLY CONDITION.
- UNLESS OTHERWISE SPECIFIED BELOW, ALL DISTURBED AREAS SHALL BE SEED WITH THE SEED MIXTURES SHOWN ON SHEET D-1.
- SPECIALTY SEED MIXTURES AND SOME PLANTINGS ARE AVAILABLE FROM:
NEW ENGLAND WETLAND PLANTS, INC., 820 WEST STREET, AMHERST, MA.
THIS IS NOT INTENDED TO BE AN EXCLUSIVE SUPPLIER. THE CONTRACTOR MAY USE ANY SUPPLIER PROVIDED THAT THE PLANTS AND SEED MIXTURES MEET THE PROJECT SPECIFICATIONS. THE CONTRACTOR SHOULD NOTE THAT LOCAL SUPPLIERS ARE PREFERABLE.
- RAINGARDEN BERM SHALL BE MOWED AT LEAST TWICE ANNUALLY TO MAINTAIN A VIGOROUS STAND OF VEGETATION AND TO PREVENT THE ESTABLISHMENT OF WOODY SPECIES.



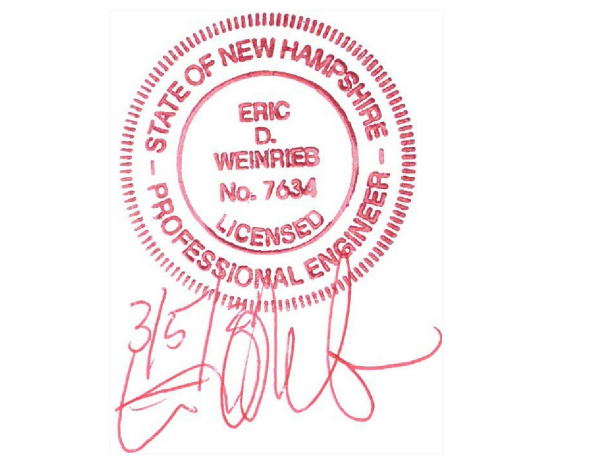
- NOTES:**
- PLANT TREE SUCH THAT TOP OF ROOT BALL IS FLUSH WITH GRADE (1" - 2" HIGHER IN SLOW DRAINING SOIL). TRUNK FLARE MUST BE VISIBLE AT THE TOP OF THE ROOT BALL.
 - THREE FLAGGED GUY WIRES TO BE EQUALLY SPACED ABOUT TREE. WOODEN STAKES (24" LENGTH) MAY BE SUBSTITUTED FOR METAL ANCHORS. EITHER OPTION SHALL BE DRIVEN OUTSIDE THE ROOT BALL, PREFERABLY IN UNEXCAVATED SOIL AND REMOVED AT THE END OF THE FIRST GROWING SEASON OR WHEN TREE IS STABILIZED.
 - COORDINATE PRUNING WITH LANDSCAPE ARCHITECT WHEN POSSIBLE. DO NOT HEAVILY PRUNE THE TREE AT PLANTING. DO NOT REMOVE THE TERMINAL BUDS OF BRANCHES THAT EXTEND TO THE EDGE OF THE CROWN. PRUNING OF DEAD OR BROKEN BRANCHES OR CO-DOMINANT LEADERS IS PERMITTED.

DECIDUOUS TREE PLANTING NOT TO SCALE



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

OWNER:
**FREDERICK W. WATSON
REVOCABLE TRUST,
ROBERT D. WATSON,
TRUSTEE**
53 SLEEPY HOLLOW DRIVE
GREENLAND, NH 03840

APPLICANT:
**FREDERICK W. WATSON
REVOCABLE TRUST,
ROBERT D. WATSON,
TRUSTEE**
53 SLEEPY HOLLOW DRIVE
GREENLAND, NH 03840

PROJECT:
**WATSON'S LANDING
TAX MAP 209, LOT 33
1 CLARK DRIVE
PORTSMOUTH, NH 03801**

TITLE:

PLANTING PLAN

SHEET NUMBER:

C-7

PS090

SEDIMENT AND EROSION CONTROL NOTES

PROJECT NAME AND LOCATION

1 CLARK DRIVE
PORTSMOUTH, NEW HAMPSHIRE
TAX MAP 209 LOT 33

LATITUDE: 43.084° N
LONGITUDE: 70.771° W

OWNER/APPLICANT:

FREDERICK W. WATSON REVOCABLE TRUST, ROBERT D. WATSON, TRUSTEE
53 SLEEPY HOLLOW DRIVE
GREENLAND, NH 03840

DESCRIPTION

The project consists of the demolition of a single family residence and creation of a 4-lot subdivision along with a private cul-de-sac and associated site improvements.

DISTURBED AREA

The total area to be disturbed for the development is approximately ±47,550 S.F. (±1.09 acres). USEPA NPDES Phase II compliance required.

PROJECT PHASING

The proposed road and associated utilities will be completed in one phase. Construction of individual house lots to be done later at the owner's discretion.

NAME OF RECEIVING WATER

The site drains over land to Inner Cutts Cove and eventually the Piscataqua River.

SEQUENCE OF MAJOR ACTIVITIES

1. Install temporary erosion control measures including perimeter controls, stabilized construction entrance and inlet sediment filters as noted on the plan. All temporary erosion control measures shall be maintained in good working condition for the duration of the project.
2. Remove landscaping, strip loam and stockpile.
3. Demolish existing site features, single family residence, utilities, etc. as shown on Demolition Plan.
4. Rough grade site including placement of borrow materials.
5. Construct building and associated improvements.
6. Construct drainage structures, culverts, utilities & sidewalk base course materials.
7. Install base course paving & curbing.
8. Install top course paving and sidewalks.
9. Loam (6" min) and seed all disturbed areas not paved or otherwise stabilized.
10. When all construction activity is complete and site is stabilized, remove all temporary erosion control measures and any sediment that has been trapped by these devices.
11. House construction on individual lots will be done by others subsequent to roadway construction.

TEMPORARY EROSION & SEDIMENT CONTROL AND STABILIZATION PRACTICES

All work shall be in accordance with state and local permits. Work shall conform to the practices described in the "New Hampshire Stormwater Manual, Volumes 1 - 3", issued December 2008, as amended. As indicated in the sequence of Major Activities, perimeter controls shall be installed prior to commencing any clearing or grading of the site. Structural controls shall be installed concurrently with the applicable activity. Once construction activity ceases permanently in an area and permanent measures are established, perimeter controls shall be removed.

During construction, runoff will be diverted around the site with stabilized channels where possible. Sheet runoff from the site shall be filtered through appropriate perimeter controls. All storm drain inlets shall be provided with inlet protection measures.

Temporary and permanent vegetation and mulching is an integral component of the erosion and sedimentation control plan. All areas shall be inspected and maintained until vegetative cover is established. These control measures are essential to erosion prevention and also reduce costly rework of graded and shaped areas.

Temporary vegetation shall be maintained in these areas until permanent seeding is applied. Additionally, erosion and sediment control measures shall be maintained until permanent vegetation is established.

INSTALLATION, MAINTENANCE AND INSPECTION PROCEDURES FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES

A. GENERAL

These are general inspection and maintenance practices that shall be used to implement the plan:

1. The smallest practical portion of the site shall be denuded at one time.
2. All control measures shall be inspected at least once each week and following any storm event of 0.5 inches or greater.
3. All measures shall be maintained in good working order; if a repair is necessary, it will be initiated within 24 hours.
4. Built-up sediment shall be removed from perimeter barriers when it has reached one-third the height of the barrier or when "bulges" occur.
5. All diversion dikes shall be inspected and any breaches promptly repaired.
6. Temporary seeding and planting shall be inspected for bare spots, washouts, and unhealthy growth.
7. The owner's authorized engineer shall inspect the site on a periodic basis to review compliance with the Plans.
8. An area shall be considered stable if one of the following has occurred:
 - a. Base course gravels have been installed in areas to be paved;
 - b. A minimum of 85% vegetated growth as been established;
 - c. A minimum of 3 inches of non-erosive material such as stone or riprap has been installed; - or -
 - d. Erosion control blankets have been properly installed.
9. The length of time of exposure of area disturbed during construction shall not exceed 45 days.

B. MULCHING

Mulch shall be used on highly erodible soils, on critically eroding areas, on areas where conservation of moisture will facilitate plant establishment, and where shown on the plans.

1. Timing - In order for mulch to be effective, it must be in place prior to major storm events. There are two (2) types of standards which shall be used to assure this:
 - a. Apply mulch prior to any storm event. This is applicable when working within 100 feet of wetlands. It will be necessary to closely monitor weather predictions, usually by contacting the National Weather Service in Concord, to have adequate warning of significant storms.
 - b. Required Mulching within a specified time period. The time period can range from 21 to 28 days of inactivity on an area, the length of time varying with site conditions. Professional judgment shall be used to evaluate the interaction of site conditions (soil erodibility, season of year, extent of disturbance, proximity to sensitive resources, etc.) and the potential impact of erosion on adjacent areas to choose an appropriate time restriction.
2. Guidelines for Winter Mulch Application -

Type	Rate per 1,000 s.f.	Use and Comments
Hay or Straw	70 to 90 lbs.	Must be dry and free from mold. May be used with plantings.
Wood Chips or Bark Mulch	460 to 920 lbs.	Used mostly with trees and shrub plantings.

INSTALLATION, MAINTENANCE AND INSPECTION PROCEDURES FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES (CONTINUED)

Jute and Fibrous Matting (Erosion Blanket) As per manufacturer Specifications Used in slope areas, water courses and other Control areas.

Crushed Stone 1/4" to 1-1/2" dia. Spread more than 1/2" thick Effective in controlling wind and water erosion.

Erosion Control Mix 2" thick (min)

- The organic matter content is between 80 and 100%, dry weight basis.
- Particle size by weight is 100% passing a 6" screen and a minimum of 70 % maximum of 85% passing a 0.75" screen.
- The organic portion needs to be fibrous and elongated.
- Large portions of silts, clays or fine sands are not acceptable in the mix.
- Soluble salts content is less than 4.0 mmhos/cm.
- The pH should fall between 5.0 and 8.0.

3. Maintenance - All mulches must be inspected periodically, in particular after rainstorms, to check for rill erosion. If less than 90% of the soil surface is covered by mulch, additional mulch shall be immediately applied.

C. PERMANENT SEEDING -

1. Bedding - stones larger than 1 1/2", trash, roots, and other debris that will interfere with seeding and future maintenance of the area should be removed. Where feasible, the soil should be tilled to a depth of 5" to prepare a seedbed and mix fertilizer into the soil.
2. Fertilizer - lime and fertilizer should be applied evenly over the area prior to or at the time of seeding and incorporated into the soil. Kinds and amounts of lime and organic fertilizer should be based on an evaluation of soil tests. When a soil test is not available, the following minimum amounts should be applied:

Agricultural Limestone @ 100 lbs. per 1,000 s.f.	24	0.55
10-20-20 organic fertilizer @ 12 lbs. per 1,000 s.f.	24	0.55
3. Seed Mixture (recommended):

Type	Lbs. / Acre	Lbs. / 1,000 sq ft
Tall Fescue	24	0.55
Creeping Red Fescue	24	0.55
Total	48	1.10

Seed Mixture (For slope embankments):
Grass Seed: Provide fresh, clean, new-crop seed complying with tolerance for purity and germination established by Official Seed Analysts of North America. Provide seed mixture composed of grass species, proportions and minimum percentages of purity, germination, and maximum percentage of weed seed, as specified:

Type	Min. Purity (%)	Min. Germination (%)	Kg./Hectare (Lbs./Acres)
Creeping Red Fescue (c)	96	85	45 (40)
Perennial Rye Grass (a)	98	90	35 (30)
Redtop	95	80	5 (5)
Alsike Clover	97	90(e)	5 (5)
			Total 90 (80)

Min. Purity (%) Min. Germination (%) Kg./Hectare (Lbs./Acres)

Creeping Red Fescue (c) 96 85 45 (40)
Perennial Rye Grass (a) 98 90 35 (30)
Redtop 95 80 5 (5)
Alsike Clover 97 90(e) 5 (5)
Total 90 (80)

a. Ryegrass shall be a certified fine-textured variety such as Pennfine, Fiesta, Yorktown, Diplomat, or equal.
b. Fescue varieties shall include - Creeping Red and/or Hard Reliant, Scaldis, Koket, or Jamestown.

4. Sodding - sodding is done where it is desirable to rapidly establish cover on a disturbed area. Sodding an area may be substituted for permanent seeding procedures anywhere on site. Bed preparation, fertilizing, and placement of sod shall be performed according to the S.C.S. Handbook. Sodding is recommended for steep sloped areas, areas immediately adjacent to sensitive water courses, easily erodible soils (fine sand/silt), etc.

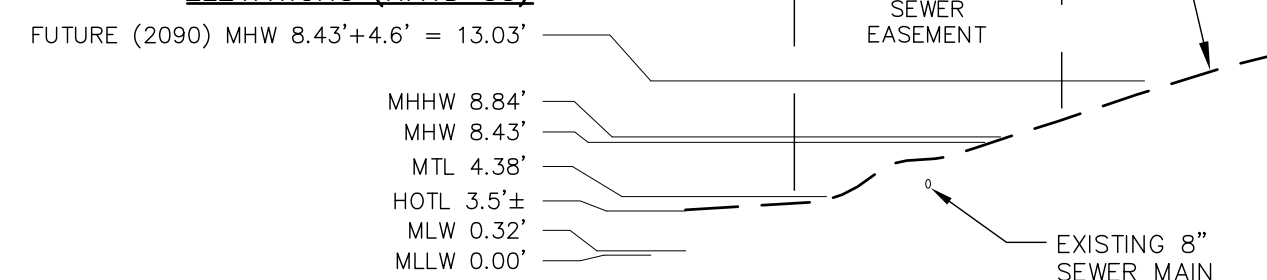
WINTER CONSTRUCTION NOTES

1. All proposed vegetated areas which do not exhibit a minimum of 85% vegetative growth by October 15th, or which are disturbed after October 15th, shall be stabilized by seeding and installing erosion control blankets on slopes greater than 3:1, and elsewhere seeding and placing 3 to 4 tons of mulch per acre, secured with anchored netting. The installation of erosion control blankets or mulch and netting shall not occur over accumulated snow or on frozen ground and shall be completed in advance of thaw or spring melt events;
2. All ditches or swales which do not exhibit a minimum of 85% vegetative growth by October 15th, or which are disturbed after October 15th, shall be stabilized temporarily with stone or erosion control blankets appropriate for the design flow conditions; and
3. After November 15th, incomplete road or parking surfaces where work has stopped for the winter season shall be protected with a minimum of 3 inches of crushed gravel per NHDOT Item 304.3.

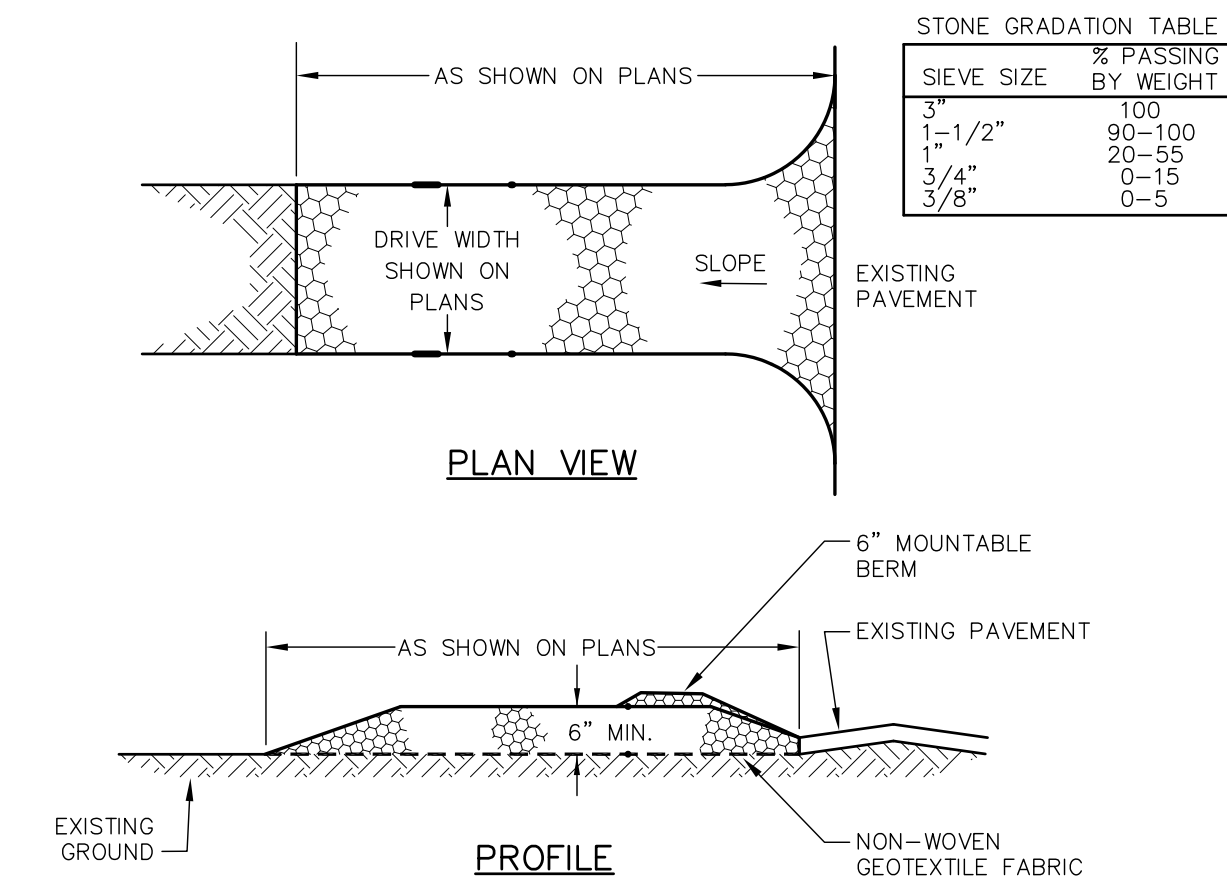
NOTES:

1. ALL TIDAL DATA FROM NOAA.
2. HOTL FROM WETLANDS MAPPING.
3. FUTURE SEA LEVEL RISE PER NH COASTAL FLOOD RISK STUDY.

ELEVATIONS (NAVD 88)



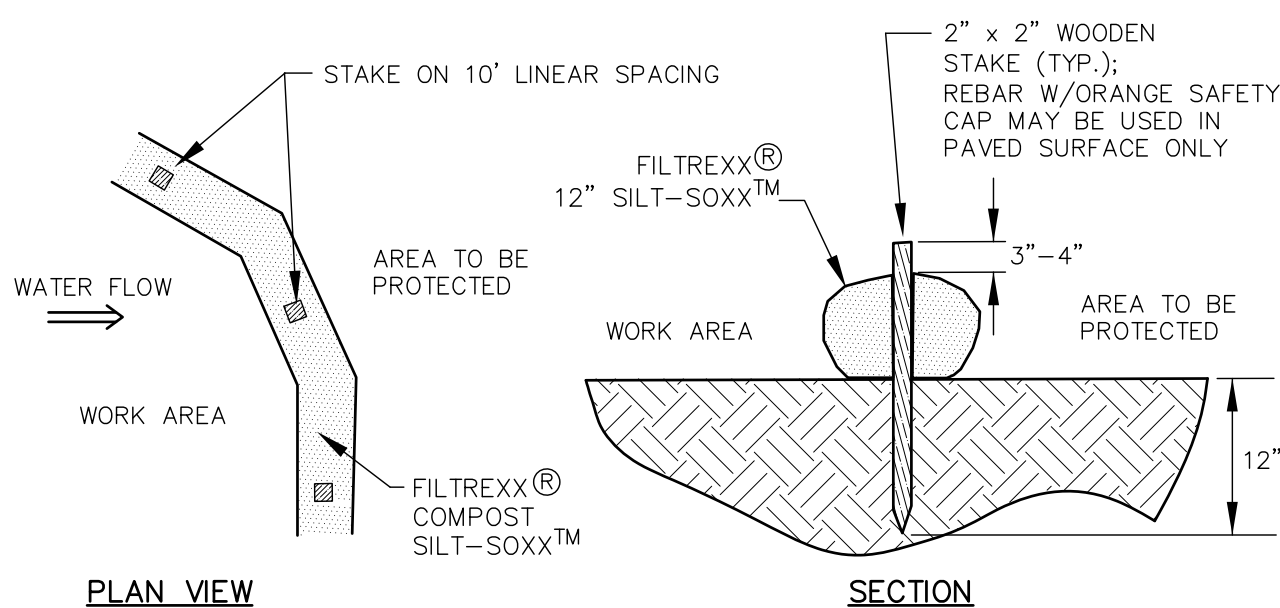
TYPICAL SHORELAND CROSS SECTION NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

1. **STONE SIZE** - NHDOT STANDARD STONE SIZE #4 - SECTION 703 OF NHDOT STANDARD.
2. **LENGTH** - DETAILED ON PLANS (50 FOOT MINIMUM).
3. **THICKNESS** - SIX (6) INCHES (MINIMUM).
4. **WIDTH** - FULL DRIVE WIDTH UNLESS OTHERWISE SPECIFIED.
5. **FILTER FABRIC** - MIRAFI 600X OR EQUAL APPROVED BY ENGINEER.
6. **SURFACE WATER CONTROL** - ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
7. **MAINTENANCE** - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS WILL REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. **WHEELS SHALL BE CLEANED TO REMOVE MUD PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY.** WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. **STABILIZED CONSTRUCTION EXITS SHALL BE INSTALLED AT ALL ENTRANCES TO PUBLIC RIGHTS-OF-WAY, AT LOCATIONS SHOWN ON THE PLANS, AND/OR WHERE AS DIRECTED BY THE ENGINEER.**

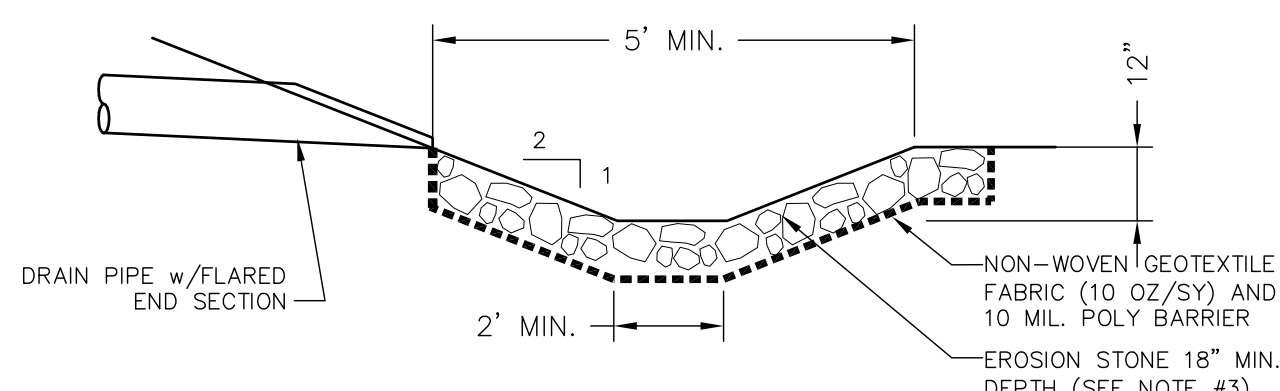
STABILIZED CONSTRUCTION EXIT NOT TO SCALE



NOTES:

1. SILT-SOXX MAY BE USED IN PLACE OF SILT FENCE OR OTHER SEDIMENT BARRIERS.
2. ALL MATERIAL TO MEET FILTREXX SPECIFICATIONS.
3. SILT-SOXX COMPOST/SOIL/ROCK/SEED FILL MATERIAL SHALL BE ADJUSTED AS NECESSARY TO MEET THE REQUIREMENTS OF THE SPECIFIC APPLICATION.
4. ALL SEDIMENT TRAPPED BY SILT-SOXX SHALL BE DISPOSED OF PROPERLY.

TUBULAR SEDIMENT BARRIER NOT TO SCALE

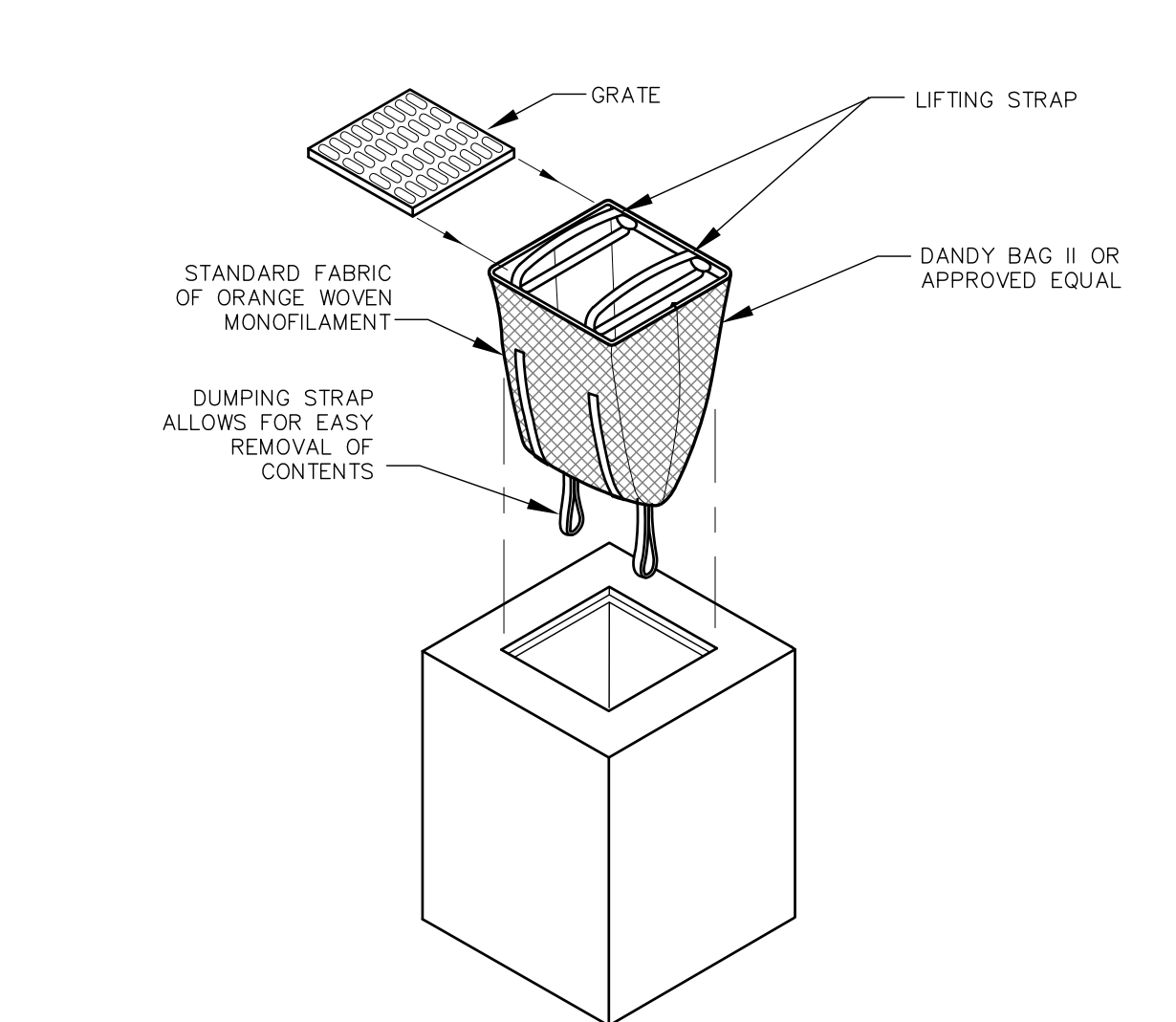


NOTES:

1. CONSTRUCT PLUNGE POOL TO THE WIDTHS AND LENGTHS SHOWN ON THE PLAN.
2. THE SUBGRADE FOR THE GEOTEXTILE FABRIC AND RIPRAP SHALL BE PREPARED TO ACCOUNT FOR THE DEPTH OF RIPRAP.
3. EROSION STONE USED FOR THE PLUNGE POOL SHALL MEET THE FOLLOWING GRADATION:

SIZE	PERCENT PASSING BY WEIGHT
18"	100
12"	90-100
4"	0-15
4. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE EROSION STONE. 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 REPAIRS OR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 18".
5. THE EROSION STONE 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.

PLUNGE POOL NOT TO SCALE



INSTALLATION AND MAINTENANCE:

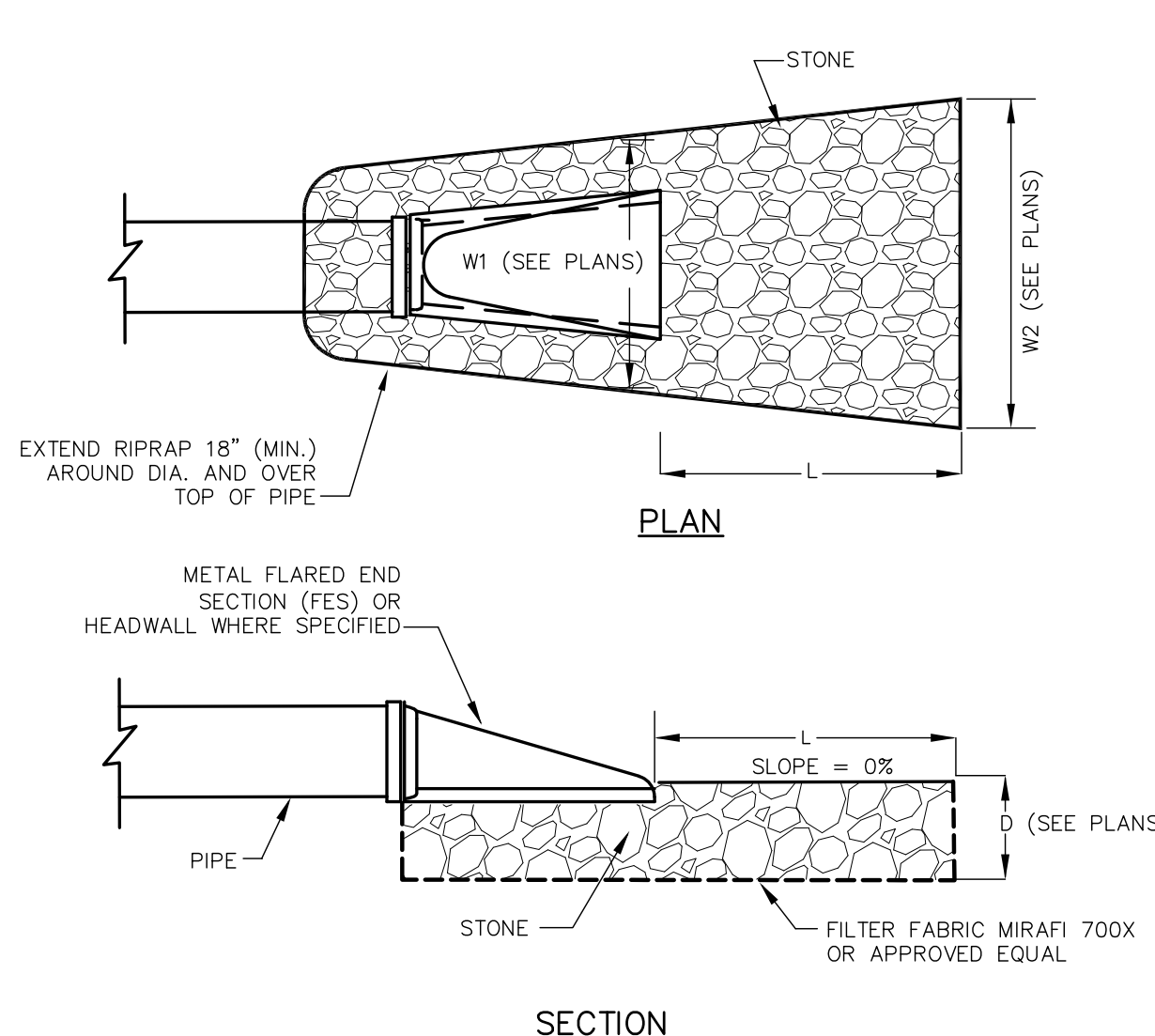
INSTALLATION: REMOVE THE GRATE FROM CATCH BASIN. IF USING OPTIONAL OIL ABSORBENTS; PLACE ABSORBENT PILLOW IN UNIT. STAND GRATE ON END. MOVE THE TOP LIFTING STRAPS OUT OF THE WAY AND PLACE THE GRATE INTO CATCH BASIN INSERT SO THE GRATE IS BELOW THE TOP STRAPS AND ABOVE THE LOWER STRAPS. HOLDING THE LIFTING DEVICES, INSERT THE GRATE INTO THE INLET.

MAINTENANCE: REMOVE ALL ACCUMULATED SEDIMENT AND DEBRIS FROM VICINITY OF THE UNIT AFTER EACH STORM EVENT. AFTER EACH STORM EVENT AND AT REGULAR INTERVALS, LOOK INTO THE CATCH BASIN INSERT. IF THE CONTAINMENT AREA IS MORE THAN 1/3 FULL OF SEDIMENT, THE UNIT MUST BE EMPTIED. TO EMPTY THE UNIT, LIFT THE UNIT OUT OF THE INLET USING THE LIFTING STRAPS AND REMOVE THE GRATE. IF USING OPTIONAL ABSORBENTS; REPLACE ABSORBENT WHEN NEAR SATURATION.

UNACCEPTABLE INLET PROTECTION METHOD:

A SIMPLE SHEET OF GEOTEXTILE UNDER THE GRATE IS NOT ACCEPTABLE.

STORM DRAIN INLET PROTECTION NOT TO SCALE



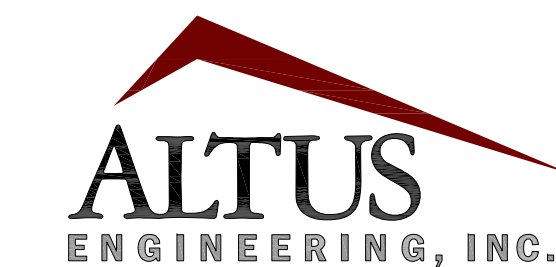
MAINTENANCE

THE OUTLET PROTECTION SHOULD BE CHECKED AT LEAST ANNUALLY AND AFTER EVERY MAJOR STORM. IF THE RIPRAP HAS BEEN DISPLACED, UNDERMINED OR DAMAGED, IT SHOULD BE REPAIRED IMMEDIATELY. THE CHANNEL IMMEDIATELY BELOW THE OUTLET SHOULD BE CHECKED TO SEE THAT EROSION IS NOT OCCURRING. THE DOWNSTREAM CHANNEL SHOULD BE KEPT CLEAR OF OBSTRUCTIONS SUCH AS FALLEN TREES, DEBRIS, AND SEDIMENT THAT COULD CHANGE FLOW PATTERNS AND/OR TAILWATER DEPTHS ON THE PIPES. REPAIRS MUST BE CARRIED OUT IMMEDIATELY TO AVOID ADDITIONAL DAMAGE TO THE OUTLET PROTECTION APRON.

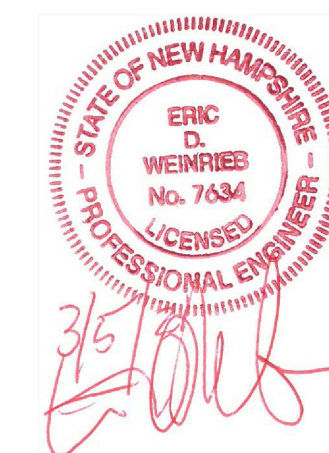
CONSTRUCTION SPECIFICATIONS

1. THE SUBGRADE FOR THE FILTER MATERIAL, GEOTEXTILE FABRIC, AND RIPRAP SHALL BE PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS.
2. THE ROCK OR GRAVEL USED FOR FILTER OR RIPRAP SHALL CONFORM TO THE SPECIFIED GRADATION.
3. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE ROCK RIPRAP. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 12 INCHES.
4. STONE FOR THE RIP RAP MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.

RIPRAP OUTLET PROTECTION NOT TO SCALE



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



NOT FOR CONSTRUCTION

ISSUED FOR: PLANNING BOARD

ISSUE DATE: MARCH 5, 2021

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	TAC WORK SESSION	EBS	12/01/20
1	TAC	EBS	01/18/21
1	TAC	EBS	02/16/21
2	PLANNING BOARD	EBS	03/05/21

DRAWN BY: EBS

APPROVED BY: EDW

DRAWING FILE: 5090-DETAILS.dwg

SCALE: 22" x 34" NOT TO SCALE

OWNER:
**FREDERICK W. WATSON
REVOCABLE TRUST,
ROBERT D. WATSON,
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53 SLEEPY HOLLOW DRIVE
GREENLAND, NH 03840

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53 SLEEPY HOLLOW DRIVE
GREENLAND, NH 03840

PROJECT:

WATSON'S LANDING

TAX MAP 209, LOT 33

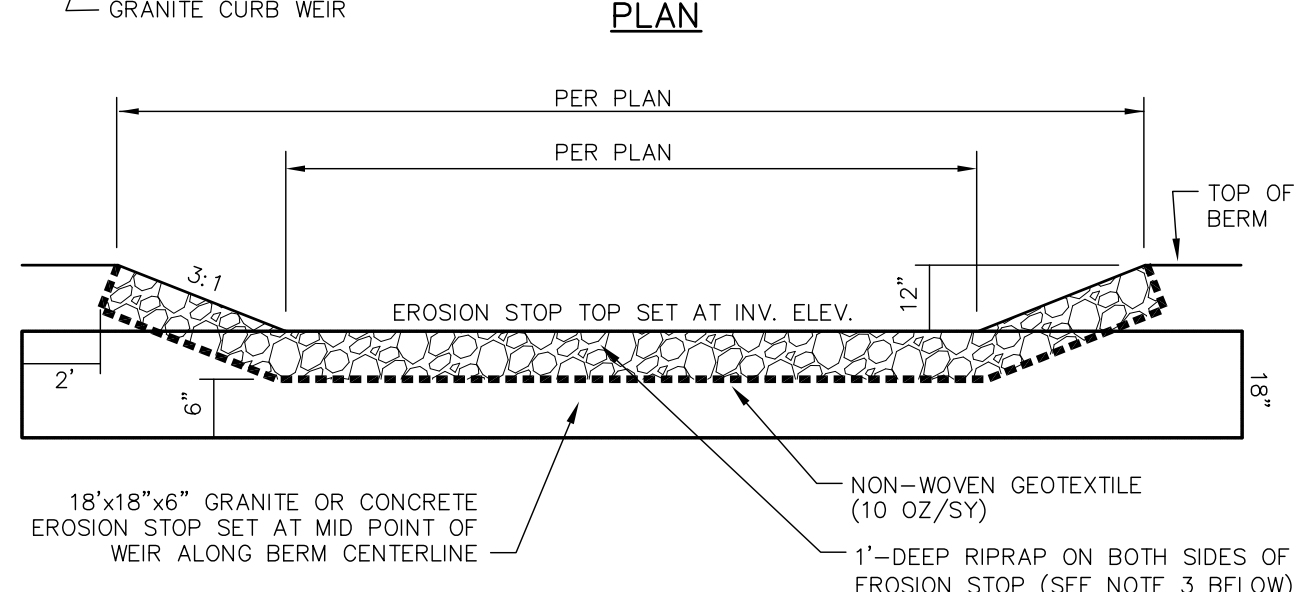
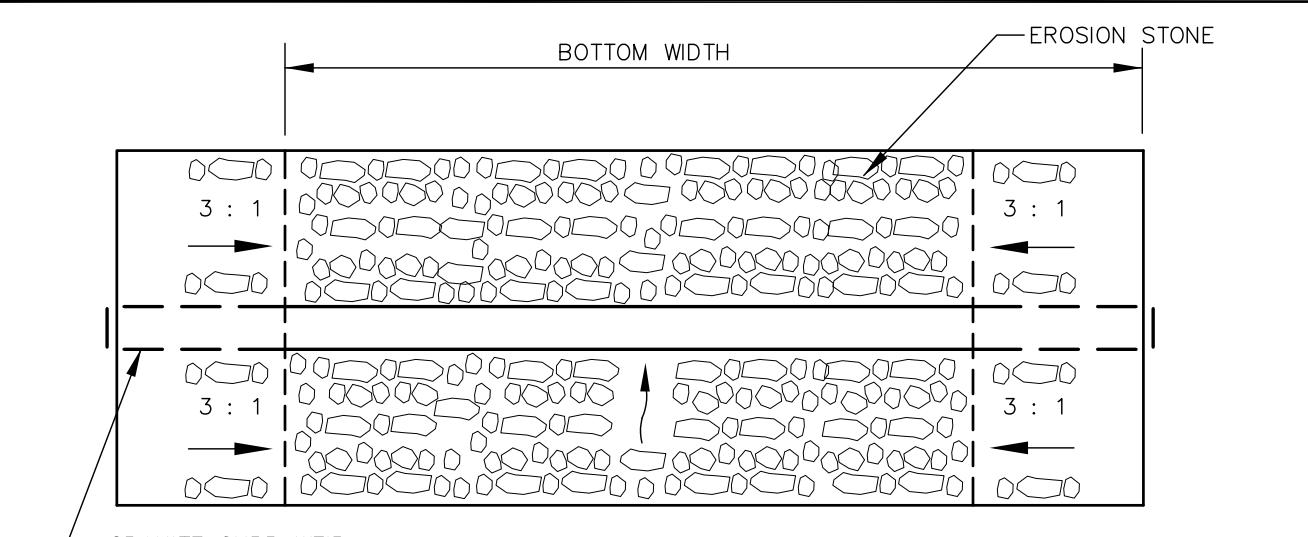
1 CLARK DRIVE
PORTSMOUTH, NH 03801

TITLE:

DETAIL SHEET

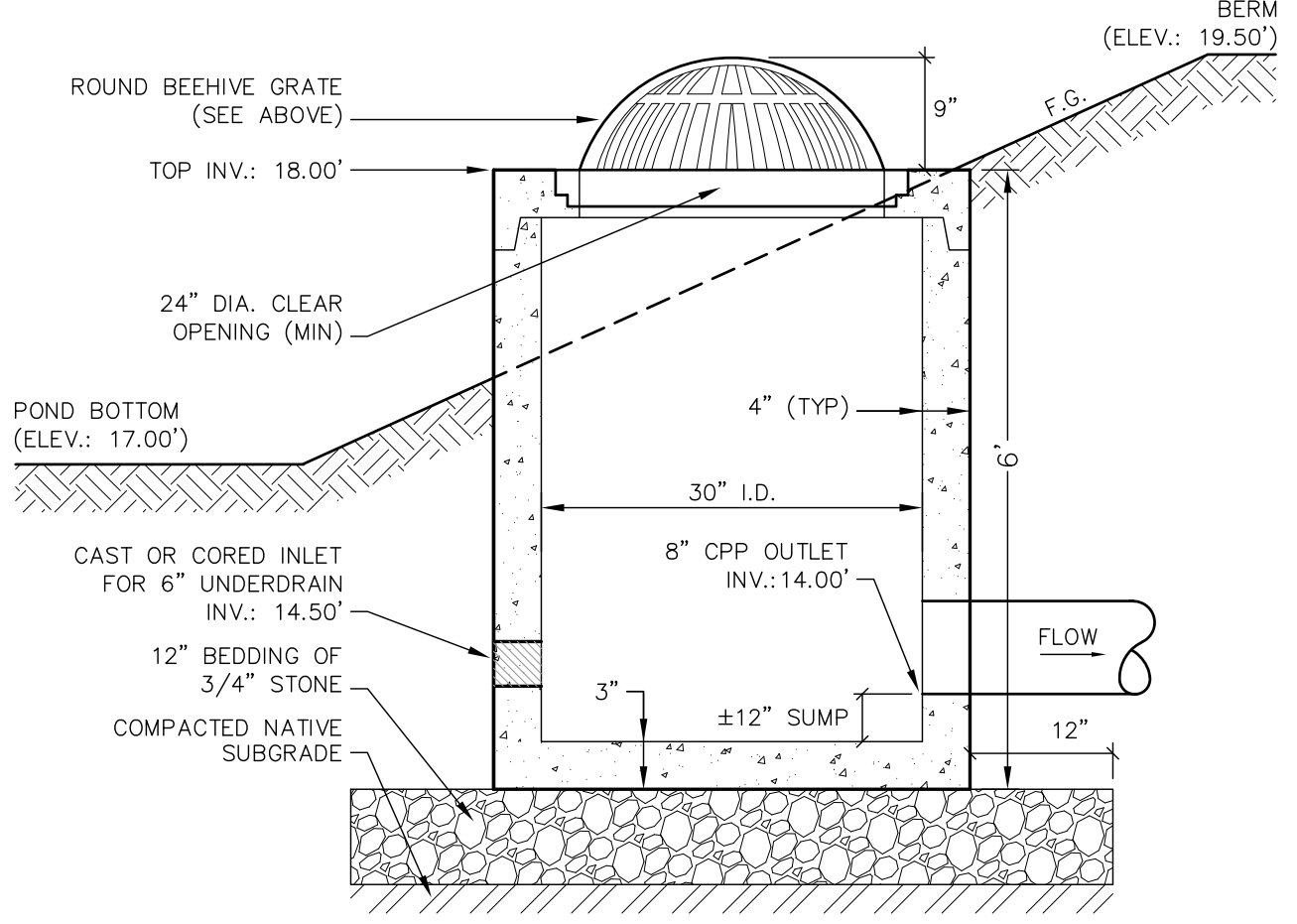
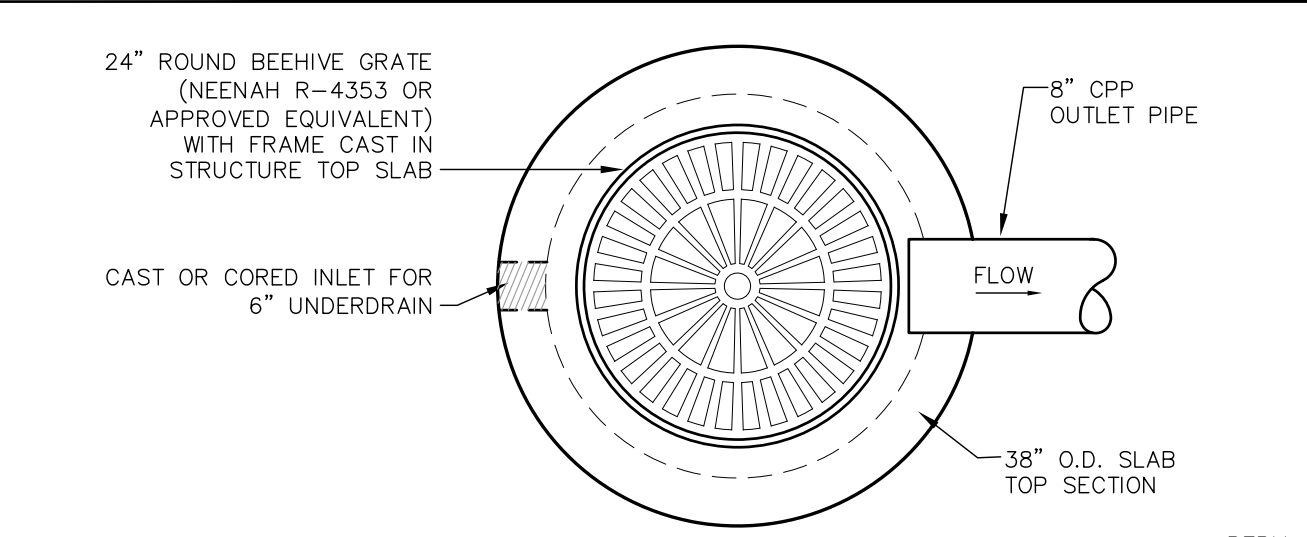
SHEET NUMBER:

D-1



- CONSTRUCT EMERGENCY OVERFLOW WEIR TO THE WIDTHS AND LENGTHS SHOWN ON THE PLAN.
 - THE SUBGRADE FOR THE GEOTEXTILE FABRIC AND RIPRAP SHALL BE PREPARED TO LINES AND GRADES SHOWN ON THE PLAN.
 - UNLESS OTHERWISE SPECIFIED OR DIRECTED, RIPRAP USED FOR THE EMERGENCY OVERFLOW WEIR SHALL MEET THE FOLLOWING GRADATION:
- | SIZE | PERCENT PASSING BY WEIGHT |
|------|---------------------------|
| 4" | 90-100 |
| 2" | 0-15 |
- GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE EROSION STONE. 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 REPAIRS OR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 18 INCHES.
 - THE EROSION STOP MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.

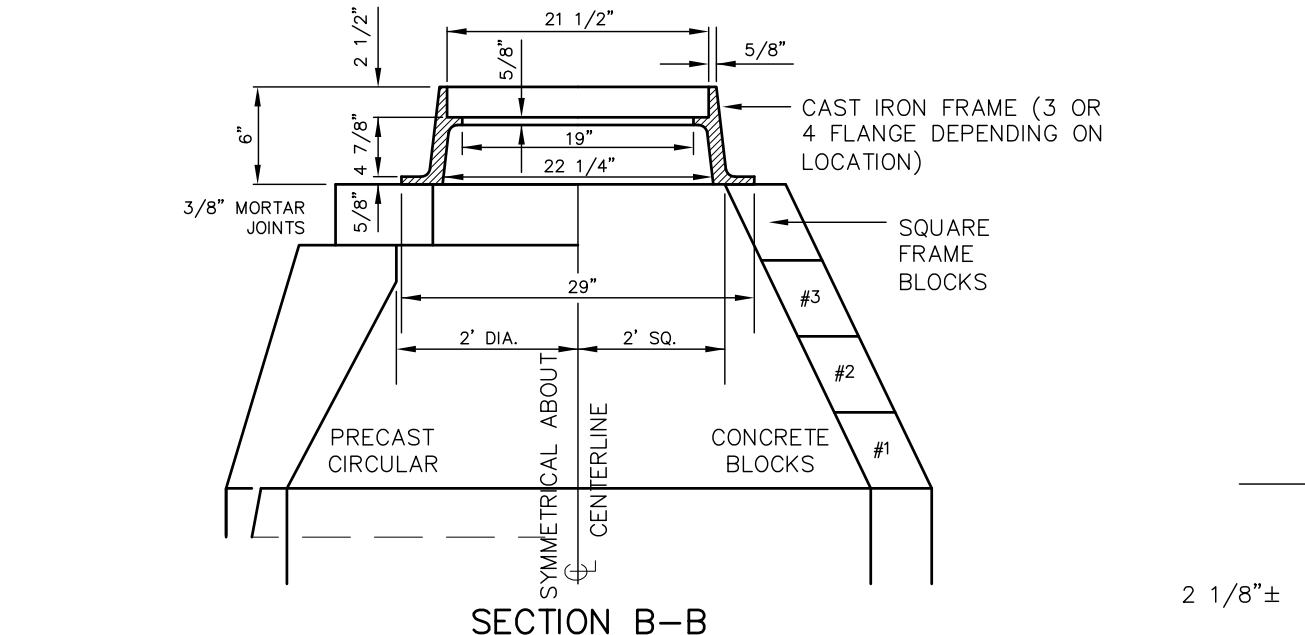
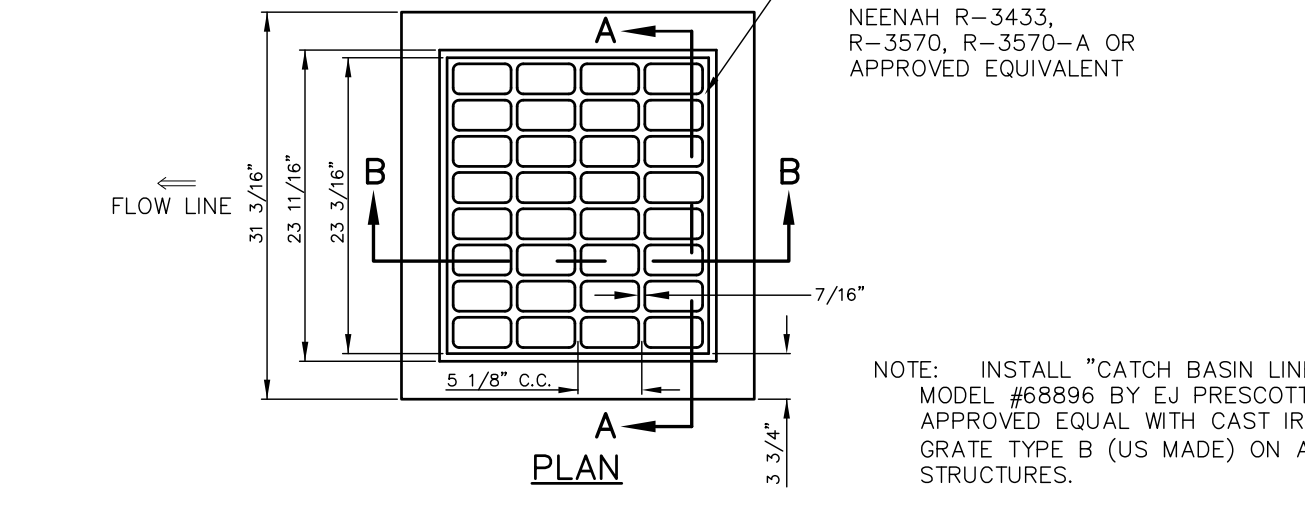
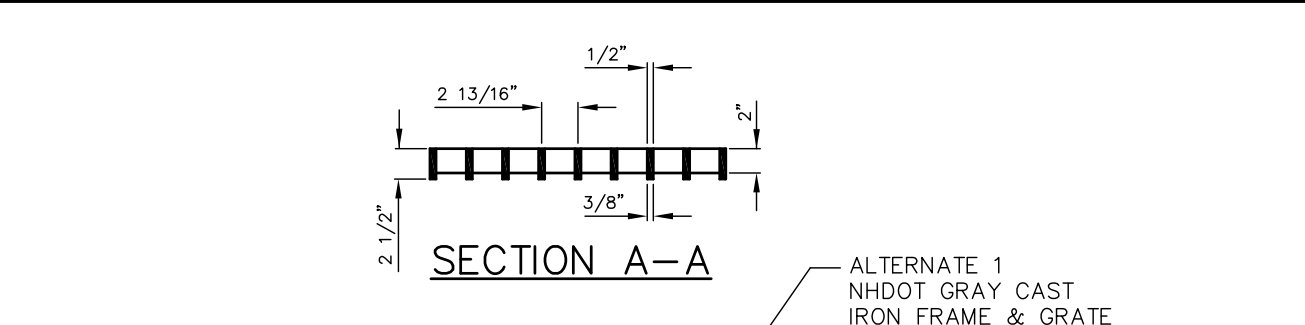
RIPRAP SPILLWAY / OVERFLOW WEIR NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

- OUTLET STRUCTURE SHALL BE CONSTRUCTED ONSITE OR PRECAST TO EQUAL DIMENSIONS.
- ALL JOINTS AND PIPE OPENINGS SHALL BE SEALED WATERTIGHT WITH MORTAR.
- STRUCTURE IS TO BE BUILT TO WITHSTAND H2O LOADING.
- SOIL UNDERLYING THE STRUCTURE'S GRAVEL BASE PAD AND THE PAD ITSELF ARE TO BE COMPACTED TO 95% MODIFIED PROCTOR.
- ALL CONCRETE SHALL BE 4,000 PSI MINIMUM.

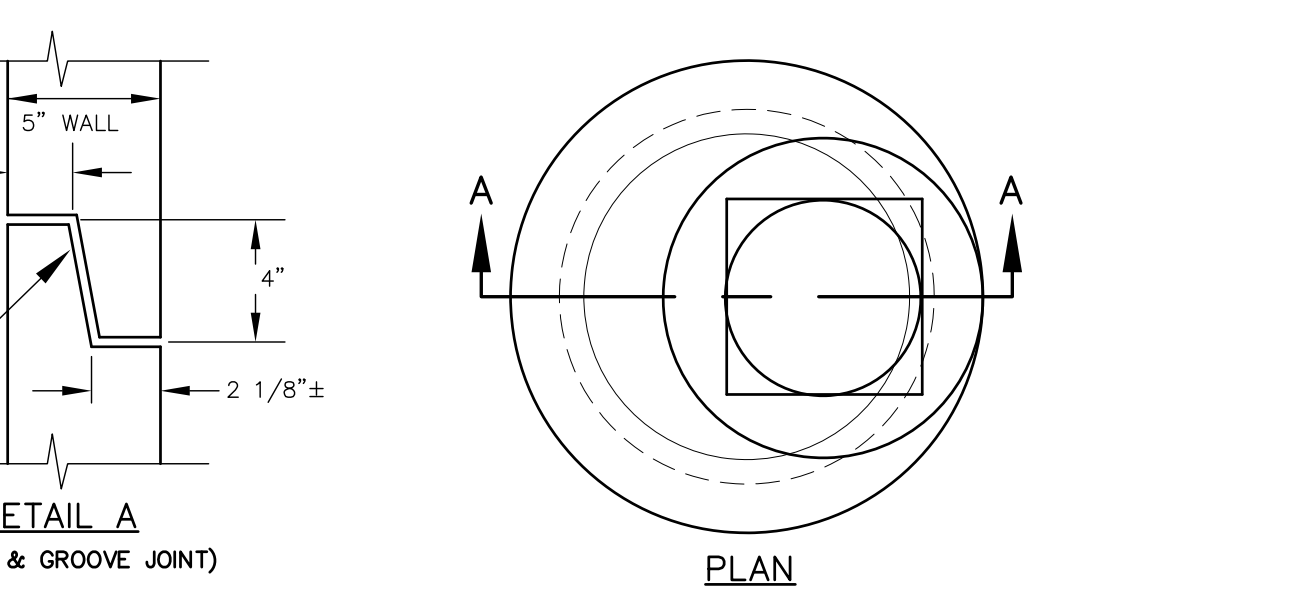
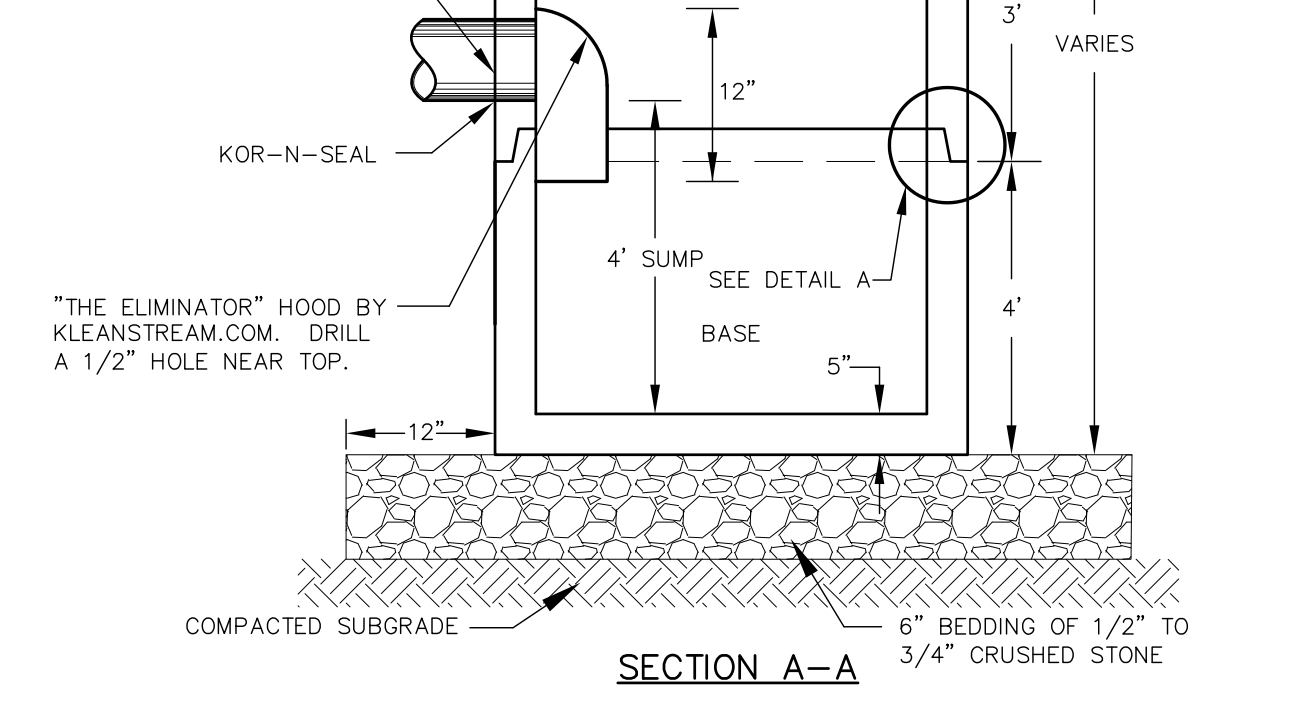
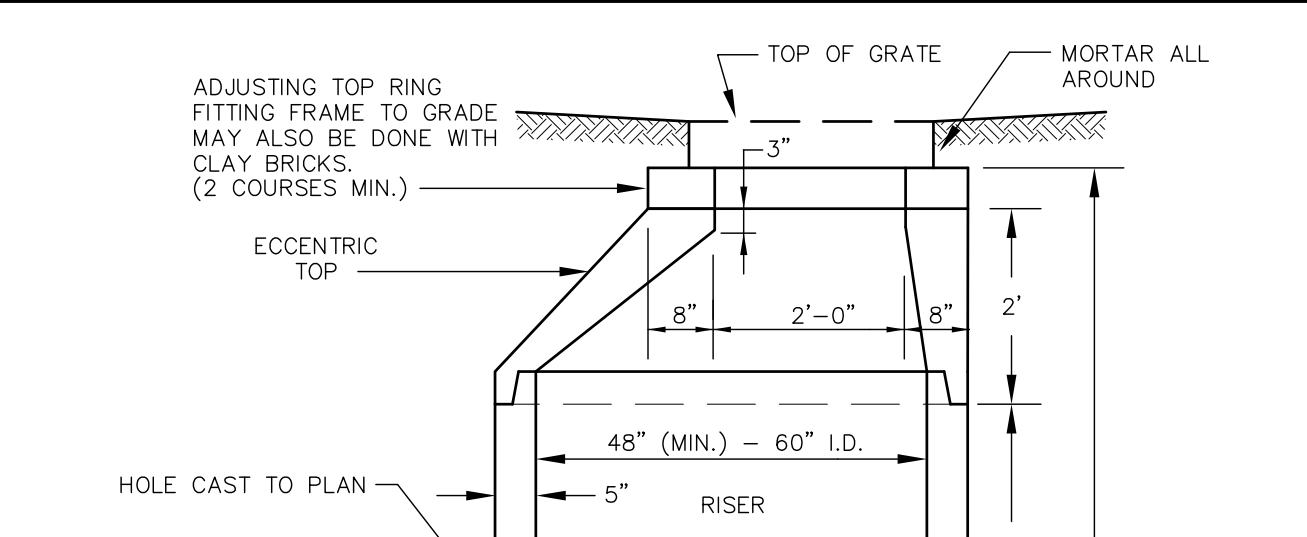
OUTLET STRUCTURE #1 NOT TO SCALE



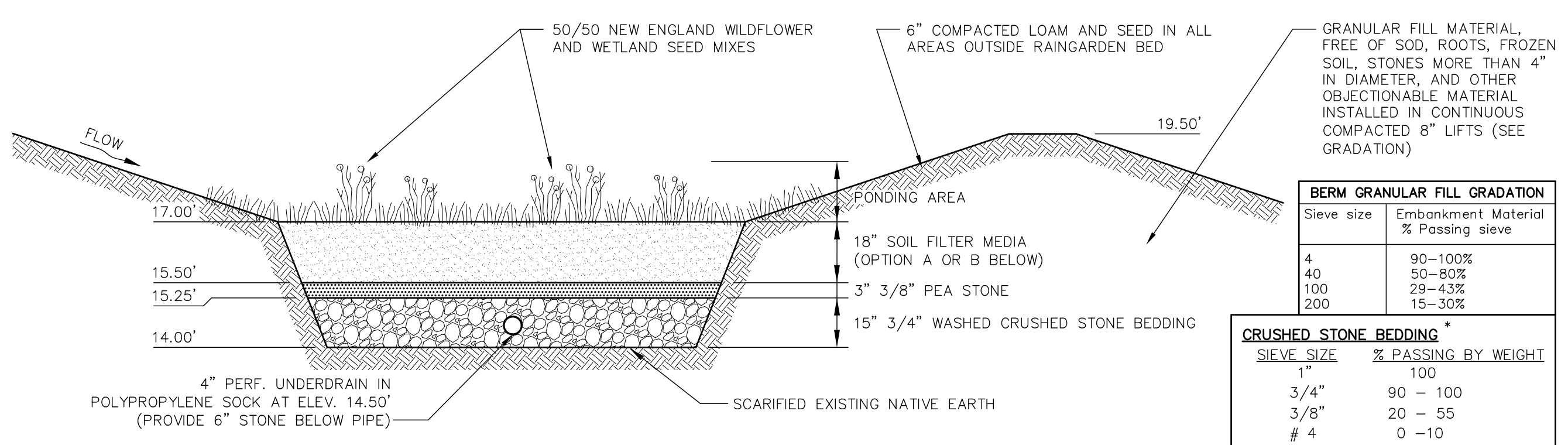
DEEP SUMP CATCH BASIN

- ALL SECTIONS SHALL BE CONCRETE CLASS AA (4000 PSI).
- CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ. IN. PER LINEAR FT. IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
- THE TONGUE OR GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER LINEAR FT.
- RISERS OF 1', 2', 3' & 4' CAN BE USED TO REACH DESIRED DEPTH.
- THE STRUCTURES SHALL BE DESIGNED FOR H2O LOADING.
- USE H2O LOADING SLAB TOP SECTION IN LIEU OF ECCENTRIC TOP WHERE PIPE INVERT IS WITHIN 4' OF FINISH GRADE.
- FRAME AND GRATE DIMENSIONS ARE TYPICAL BUT MAY VARY BASED ON PRODUCT SELECTED OR EQUIVALENT APPROVED BY THE ENGINEER.

DEEP SUMP CATCH BASIN NOT TO SCALE



CLEANOUT DETAIL NOT TO SCALE



- WHEN CONTRACTOR EXCAVATES RAIN GARDEN AREA TO SUBGRADE, DESIGN ENGINEER SHALL PERFORM SUBSURFACE EVALUATION PRIOR TO THE PLACEMENT OF ANY SELECT MATERIAL OR OTHER BACKFILL.
- SOIL FILTER MEDIA SHALL EITHER OPTION A OR OPTION B AT CONTRACTOR'S DISCRETION.
- DO NOT PLACE RAINGARDEN INTO SERVICE UNTIL IT HAS BEEN PLANTED AND ITS CONTRIBUTING AREAS STABILIZED.
- DO NOT DISCHARGE SEDIMENT-LADEN WATERS FROM CONSTRUCTION ACTIVITIES TO THE RAINGARDEN DURING ANY STAGE OF CONSTRUCTION.
- DO NOT TRAFFIC EXPOSED SURFACES OF RAINGARDEN WITH CONSTRUCTION EQUIPMENT. IF FEASIBLE, PERFORM EXCAVATION ACTIVITIES WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE BASIN.

MAINTENANCE REQUIREMENTS

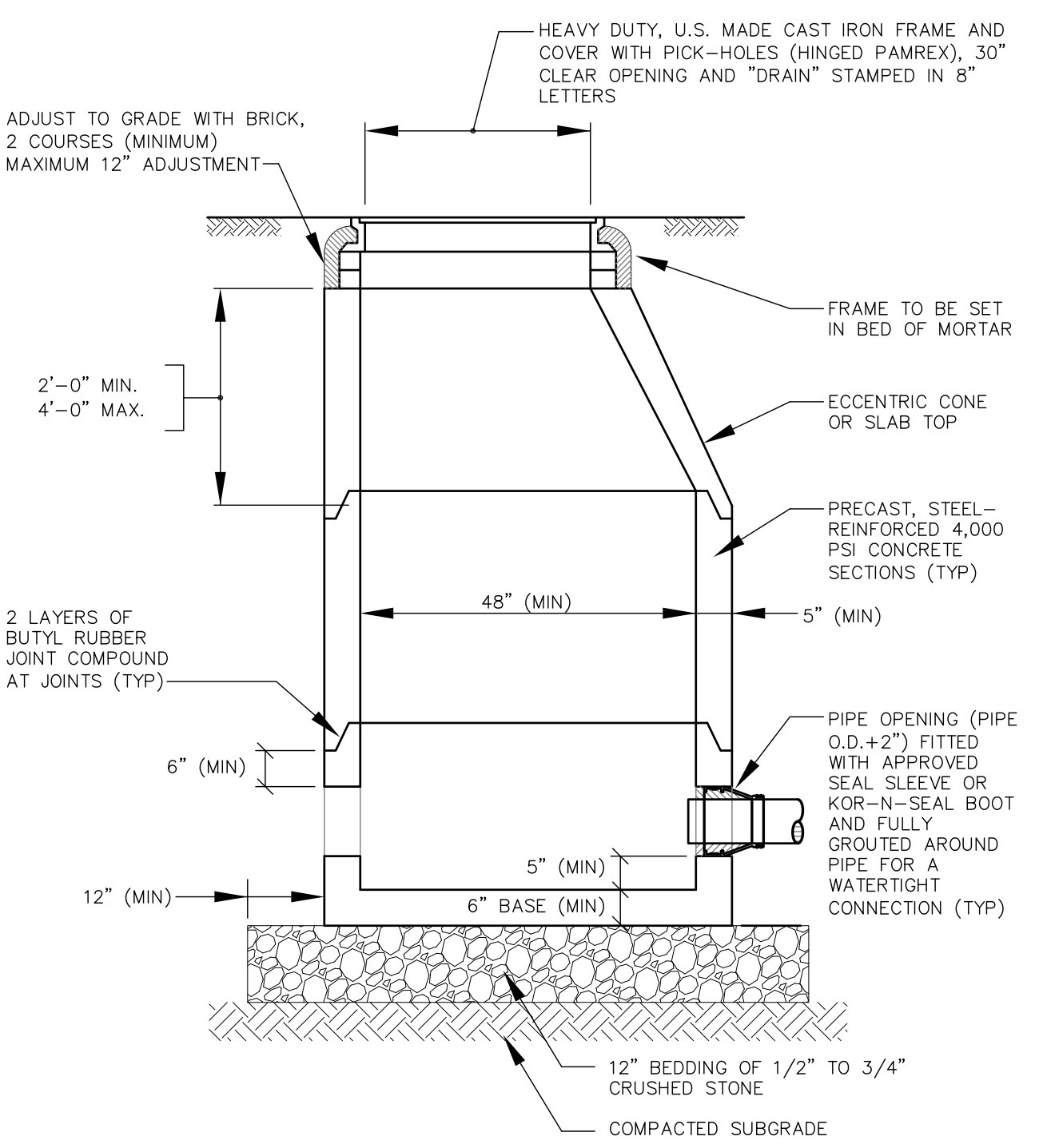
- SYSTEMS SHOULD BE INSPECTED AT LEAST TWICE ANNUALLY, AND FOLLOWING ANY RAINFALL EXCEEDING 2.5 INCHES IN A 24-HOUR PERIOD, WITH MAINTENANCE OR REHABILITATION CONDUCTED AS A WARRANTED BY SUCH INSPECTION.
- PRETREATMENT MEASURES SHOULD BE INSPECTED AT LEAST TWICE ANNUALLY, AND CLEANED OF ACCUMULATED SEDIMENT AS WARRANTED BY INSPECTION, BUT NO LESS THAN ONCE ANNUALLY.
- AT LEAST ONCE ANNUALLY, SYSTEM SHOULD BE INSPECTED FOR DRAWDOWN TIME. IF BIORETENTION SYSTEM DOES NOT DRAIN WITHIN 72-HOURS FOLLOWING A RAINFALL EVENT, THEN A QUALIFIED PROFESSIONAL SHOULD ASSESS THE CONDITION OF THE FACILITY TO DETERMINE MEASURES REQUIRED TO RESTORE FILTRATION FUNCTION OR INFILTRATION FUNCTION (AS APPLICABLE), INCLUDING BUT NOT LIMITED TO REMOVAL OF ACCUMULATED SEDIMENTS OR RECONSTRUCTION OF THE FILTER MEDIA.
- VEGETATION SHOULD BE INSPECTED AT LEAST ANNUALLY, AND MAINTAINED IN HEALTHY CONDITION, INCLUDING WEED WHACKING, REMOVAL, AND REPLACEMENT OF DEAD OR DISEASED VEGETATION, AND REMOVAL OF INVASIVE SPECIES. BERM AREAS ARE TO BE MOWED TWICE ANNUALLY.

DESIGN REFERENCES

- UNH STORMWATER CENTER
- EPA (1999A)
- NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL, VOLUME 2, DECEMBER 2008 AS AMENDED.

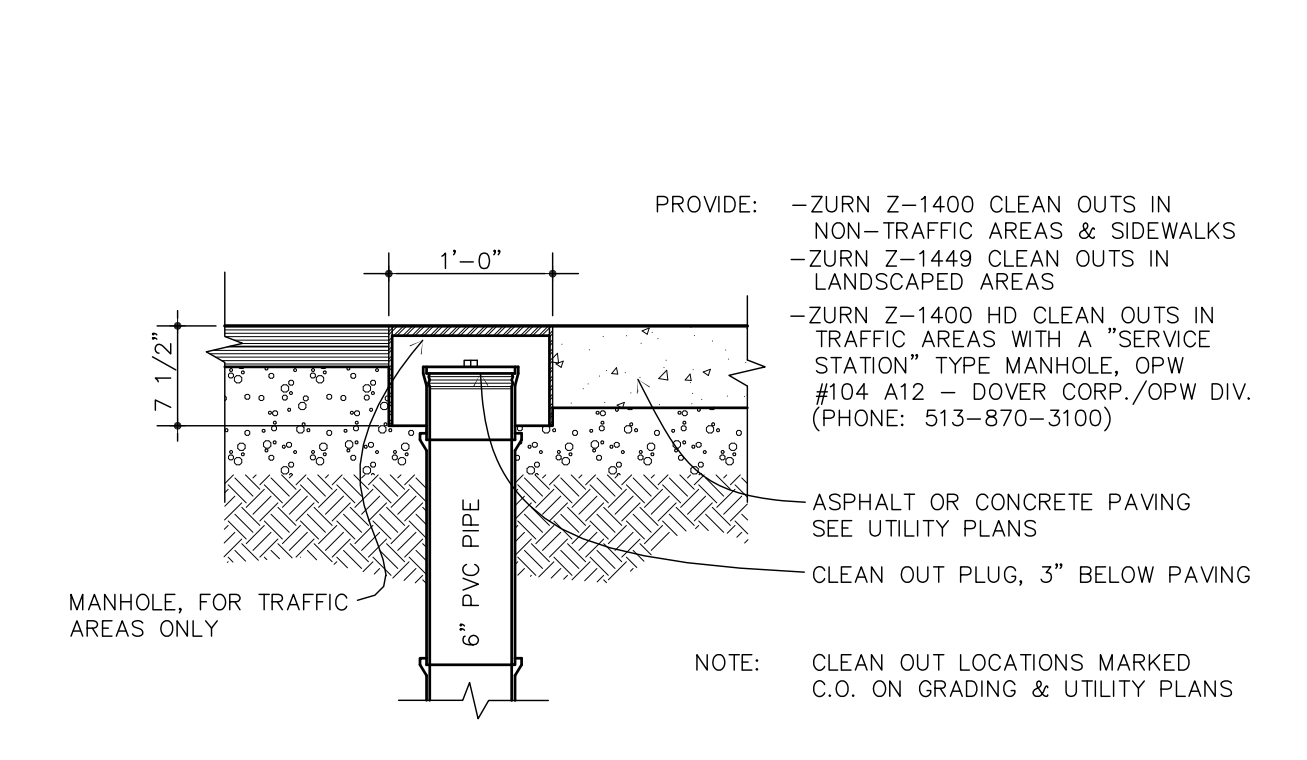
TYPICAL RAINGARDEN NOT TO SCALE

FILTER MEDIA MIXTURES			
Component Material	Percent of Mixture by Volume	Gradation of material	
		Sieve No.	Percent by Weight Passing Standard Sieve
Filter Media Option A			
ASTM C-33 concrete sand	50 to 55		
Loamy sand topsoil, with fines as indicated	20 to 30	200	15 to 25
Moderately fine shredded bark or wood fiber mulch, with fines as indicated	20 to 30	200	< 5
Filter Media Option B			
Moderately fine shredded bark or wood fiber mulch, with fines as indicated	20 to 30	200	< 5
Loamy coarse sand	70 to 80	10	85 to 100
		20	70 to 100
		60	15 to 40
		200	8 to 15



- ALL SECTIONS SHALL BE CONCRETE CLASS AA (4000 PSI).
- CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ. IN. PER LINEAR FT. IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
- THE TONGUE OR GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER LINEAR FT.
- RISERS OF 1', 2', 3' & 4' CAN BE USED TO REACH DESIRED DEPTH.
- ALL MANHOLE STRUCTURES SHALL BE DESIGNED FOR H2O LOADING.
- USE H-20 LOADING SLAB TOP SECTION IN LIEU OF ECCENTRIC TOP WHERE PIPE INVERT IS WITHIN 4 FT OF GRADE.
- MANHOLE STEPS ARE NOT PERMITTED.

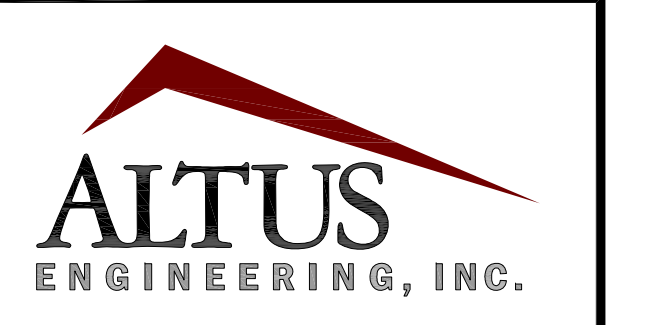
DRAIN MANHOLE DETAIL (PDMH) NOT TO SCALE



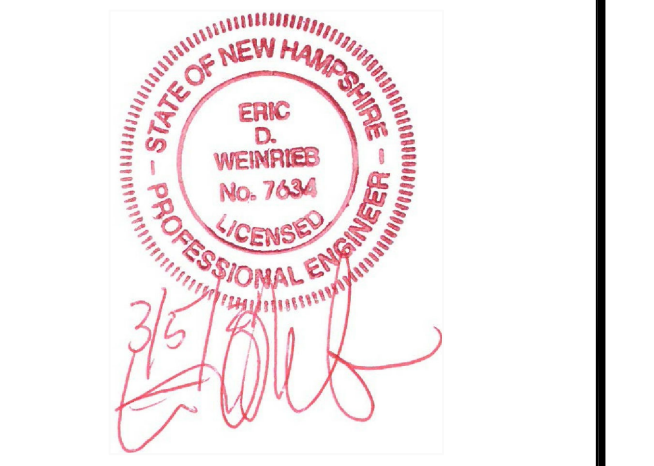
DRIVEWAY & GUTTER SECTION NOT TO SCALE

- CONSISTENT SLOPE TO GUTTER LINE TO BE MAINTAINED ALONG CURVES.
- TO BE USED WHERE DRIVEWAYS INTERRUPT A CURBED GUTTER LINE

DRIVEWAY & GUTTER SECTION NOT TO SCALE



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ISSUED FOR: **PLANNING BOARD**

ISSUE DATE: **MARCH 5, 2021**

REVISIONS		
NO.	DESCRIPTION	BY DATE
0	TAC WORK SESSION	EBS 12/01/20
1	TAC	EBS 01/18/21
2	TAC	EBS 02/16/21
3	PLANNING BOARD	EBS 03/05/21

DRAWN BY: _____ EBS

APPROVED BY: _____ EDW

DRAWING FILE: 5090-DETAILS.dwg

SCALE: **22" x 34" NOT TO SCALE**

OWNER:
FREDERICK W. WATSON REVOCABLE TRUST, ROBERT D. WATSON, TRUSTEE
53 SLEEPY HOLLOW DRIVE GREENLAND, NH 03840

APPLICANT:
FREDERICK W. WATSON REVOCABLE TRUST, ROBERT D. WATSON, TRUSTEE
53 SLEEPY HOLLOW DRIVE GREENLAND, NH 03840

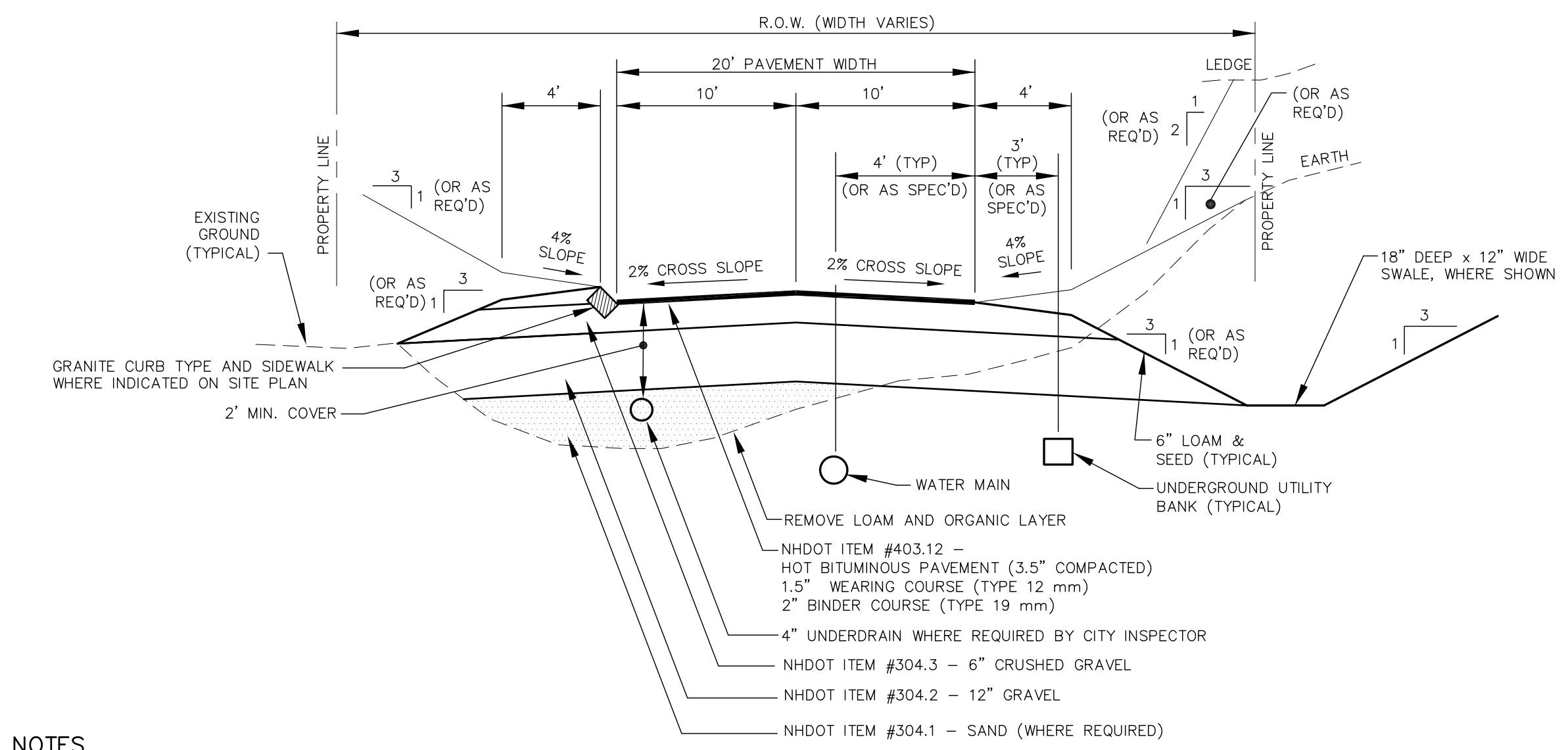
PROJECT:
WATSON'S LANDING TAX MAP 209, LOT 33 1 CLARK DRIVE PORTSMOUTH, NH 03801

TITLE:

DETAIL SHEET

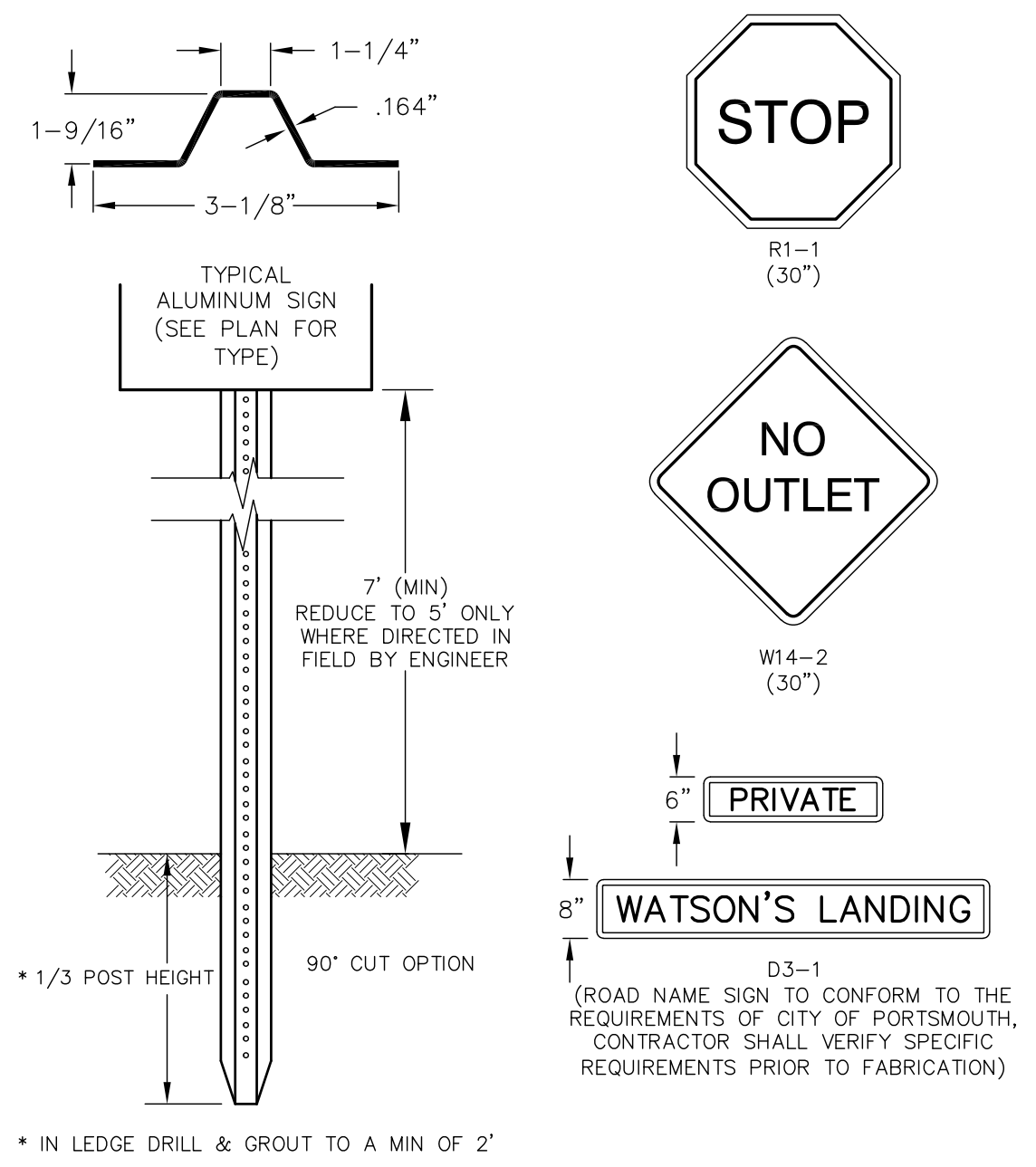
SHEET NUMBER:

D-2



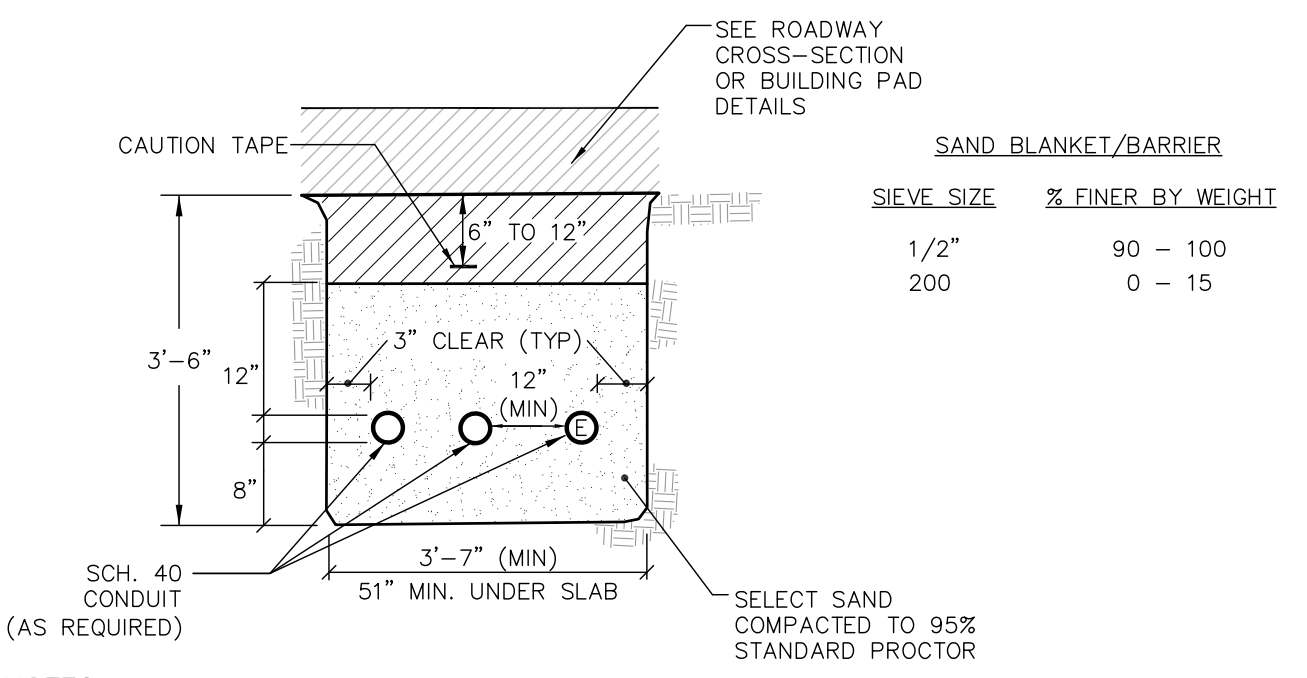
- NOTES**
1. EACH GRAVEL BASE COURSE TO BE CONSTRUCTED AT THE PAVEMENT CROSS SLOPE.
 2. REMOVE LEDGE 18" BELOW LOWEST WORK BEING INSTALLED.
 3. COMPACT ALL MATERIALS TO 95% STANDARD PROCTOR.
 4. REMOVE ALL LOAM, CLAY, MUCK, ORGANIC, YIELDING OR OTHERWISE UNSTABLE MATERIAL TO A MINIMUM OF 20" BELOW THE FINISHED GRADE AND INSTALL COMPACTED SAND (OR GRAVEL BORROW APPROVED BY THE ENGINEER) TO SUBGRADE AS NECESSARY.
 5. THE OVER-EXCAVATION OF UNSUITABLE MATERIAL BEYOND THAT SPECIFIED ABOVE, THE INSTALLATION OF UNDERDRAINAGE, AND/OR THE INSTALLATION OF GEOTEXTILE FABRIC SHALL BE PROVIDED UPON DETERMINATION OF THE DEPARTMENT OF PUBLIC WORKS.
 6. SUBGRADE SHALL BE FREE OF VOIDS THAT ALLOW MOVEMENT AND/OR SETTLEMENT OF MATERIALS.
 7. SUBGRADE SHALL BE PROOF-ROLLED WITH A FULLY LOADED DUMP TRUCK PRIOR TO PLACEMENT OF SELECT GRAVELS. PROOF-ROLLING SHALL BE WITNESSED AND APPROVED BY THE ENGINEER.

TYPICAL ROADWAY CROSS SECTION NOT TO SCALE



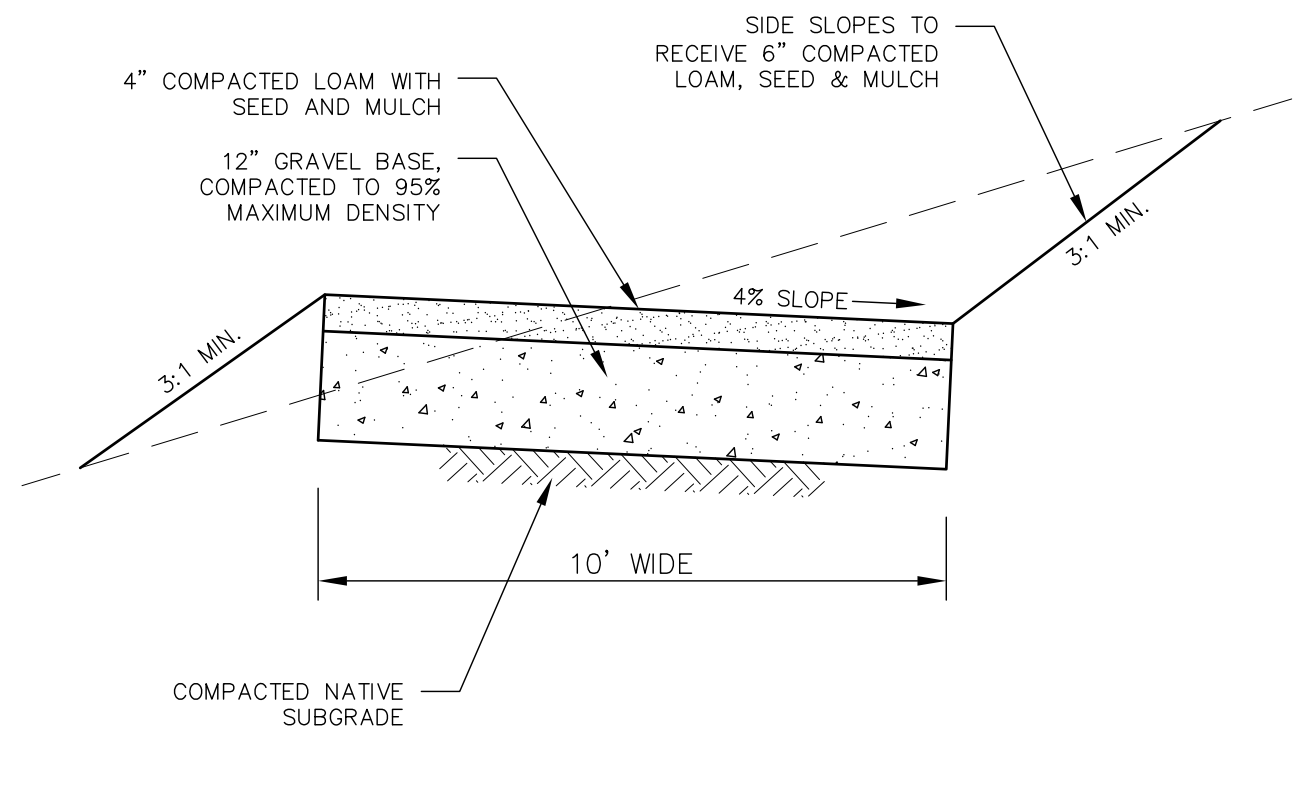
- NOTES**
1. ALL SIGNS SHALL MEET THE REQUIREMENTS OF AND BE INSTALLED AS INDICATED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
- LENGTH: AS REQUIRED
 WEIGHT PER LINEAR FOOT: 2.50 LBS (MIN.)
 HOLES: 3/8" DIAMETER, 1" C-C FULL LENGTH
 STEEL: SHALL CONFORM TO ASTM A-499 (GRADE 60) OR ASTM A-576 (GRADE 1070 - 1080)

SIGN DETAILS NOT TO SCALE

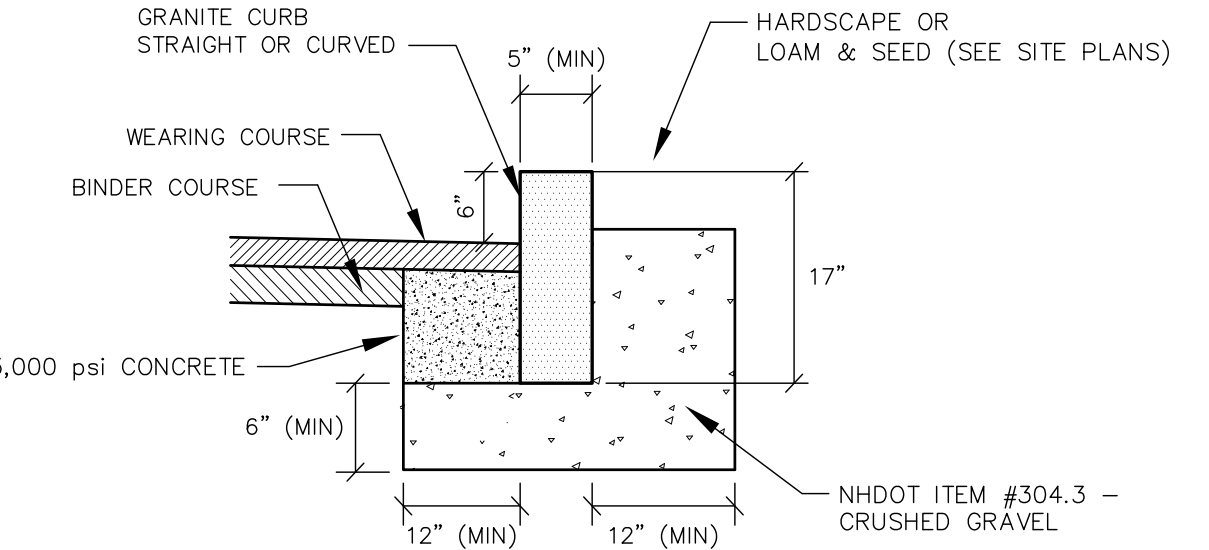


- NOTES**
1. ALL CONDUIT IS TO BE SCHEDULE 40 PVC, ELECTRICAL GRADE, GRAY IN COLOR AND INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS. A 10-FOOT HORIZONTAL SECTION OF RIGID GALVANIZED STEEL CONDUIT WILL BE REQUIRED AT EACH SWEEP, UNLESS IN THE OPINION OF THE SERVICE PROVIDER DESIGNER, THE SWEEP-PVC JOINT IS NOT SUBJECT TO FAILURE DURING PULLING OF THE CABLE. ALL JOINTS ARE TO BE WATERTIGHT.
 2. ALL 90 DEGREE SWEEPS WILL BE MADE WITH RIGID GALVANIZED STEEL WITH A MINIMUM RADIUS OF 36 INCHES FOR PRIMARY CABLES AND 24 INCHES FOR SECONDARY CABLES.
 3. BACKFILL MAY BE MADE WITH EXCAVATED MATERIAL OR COMPARABLE, UNLESS MATERIAL IS DEEMED UNSUITABLE BY SERVICE PROVIDER. BACKFILL SHALL BE FREE OF FROZEN LUMPS, ROCKS, DEBRIS, AND RUBBISH. ORGANIC MATERIAL SHALL NOT BE USED AS BACKFILL. BACKFILL SHALL BE IN 6-INCH LAYERS AND THOROUGHLY COMPACTED.
 4. A SUITABLE PULLING STRING, CAPABLE OF 300 POUNDS OF PULL, MUST BE INSTALLED IN THE CONDUIT BEFORE SERVICE PROVIDER IS NOTIFIED TO INSTALL CABLE. THE STRING SHOULD BE BLOWN INTO THE CONDUIT AFTER THE RUN IS ASSEMBLED TO AVOID BONDING THE STRING TO THE CONDUIT. A MINIMUM OF TWENTY-FOUR (24") INCHES OF ROPE SLACK SHALL REMAIN AT THE END OF EACH DUCT. PULL ROPE SHALL BE INSTALLED IN ALL CONDUIT FOR FUTURE PULLS. PULL ROPE SHALL BE NYLON ROPE HAVING A MINIMUM TENSILE STRENGTH OF THREE HUNDRED (300#) LBS.
 5. SERVICE PROVIDER SHALL BE GIVEN THE OPPORTUNITY TO INSPECT ALL CONDUIT PRIOR TO BACKFILL. THE CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS SHOULD SERVICE PROVIDER BE UNABLE TO INSTALL ITS CABLE IN A SUITABLE MANNER.
 6. TYPICAL CONDUIT SIZES ARE 3-INCH FOR SINGLE PHASE PRIMARY AND SECONDARY VOLTAGE CABLES, 4-INCH FOR THREE PHASE SECONDARY, AND 5-INCH FOR THREE PHASE PRIMARY. HOWEVER, SERVICE PROVIDERS MAY REQUIRE DIFFERENT NUMBERS, TYPES AND SIZES OF CONDUIT THAN THOSE SHOWN HERE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL CONDUIT SIZES, TYPES AND NUMBERS WITH EACH SERVICE PROVIDER PRIOR TO ORDERING THEM.
 7. ROUTING OF CONDUIT, LOCATION OF MANHOLES, TRANSFORMERS, CABINETS, HANDHOLES, ETC., SHALL BE DETERMINED BY SERVICE PROVIDER DESIGN PERSONNEL. THE CONTRACTOR SHALL COORDINATE WITH ALL SERVICE PROVIDERS PRIOR TO THE INSTALLATION OF ANY CONDUIT.
 8. ALL CONDUIT INSTALLATIONS MUST CONFORM TO THE CURRENT EDITION OF THE NATIONAL ELECTRIC SAFETY CODE, STATE AND LOCAL CODES AND ORDINANCES, AND WHERE APPLICABLE, THE NATIONAL ELECTRIC CODE. WHERE REQUIRED BY UTILITY PROVIDER, CONDUIT SHALL BE SUPPORTED IN PLACE USING PIPE STANCHIONS PLACED EVERY FIVE (5') FEET ALONG THE CONDUIT RUN.
 9. UNDER A BUILDING SLAB THE CONDUIT SHALL BE ENCASED IN 8" OF CONCRETE ON ALL SIDES.
 10. ALL CONDUIT TERMINATIONS SHALL BE CAPPED TO PREVENT DEBRIS FROM ENTERING CONDUIT.

ELECTRIC / COMMUNICATION TRENCH NOT TO SCALE

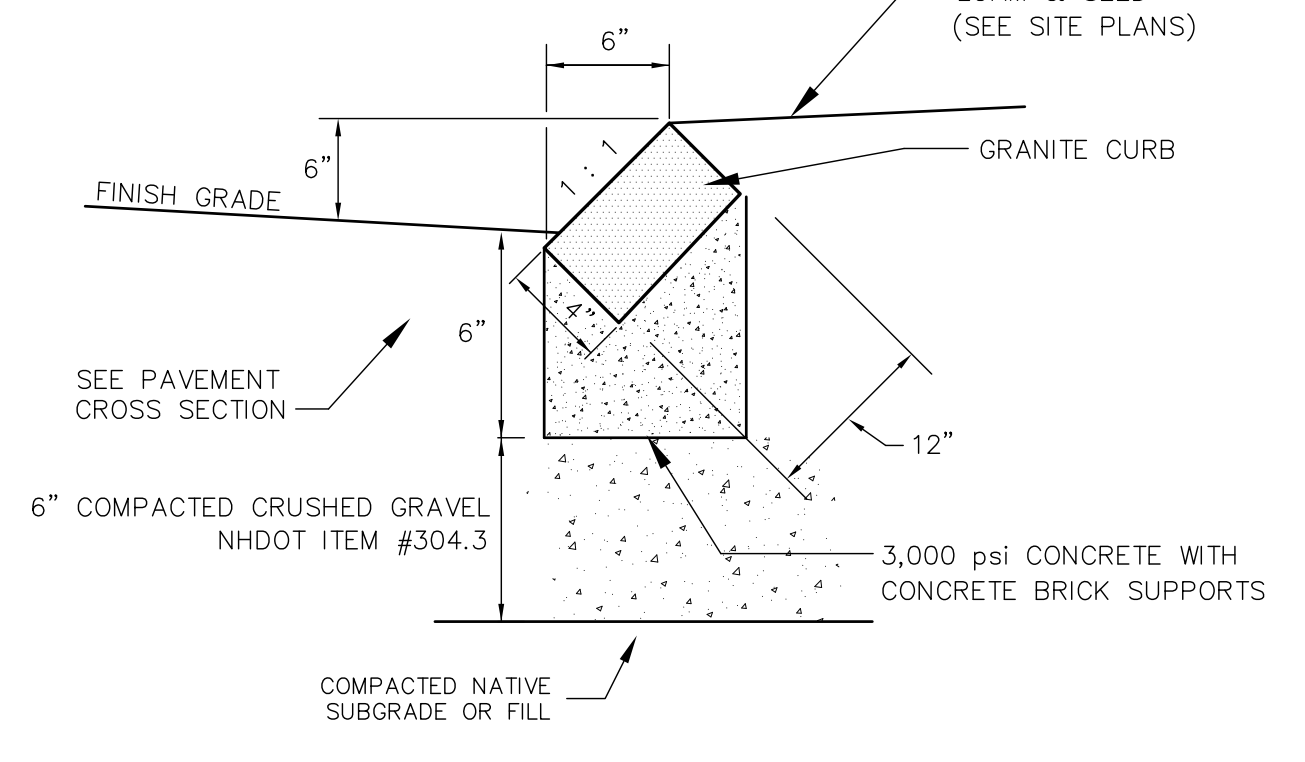


REINFORCED GRASS ACCESSWAY NOT TO SCALE



- NOTES:**
1. SEE PLANS FOR CURB LOCATION.
 2. ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
 3. MINIMUM LENGTH OF CURB STONES = 3'
 4. MAXIMUM LENGTH OF CURB STONES = 10'
 5. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES - SEE CHART.
 6. CURB ENDS TO ROUNDED AND BATTERED FACES TO BE CUT WHEN CALLED FOR ON THE PLANS.

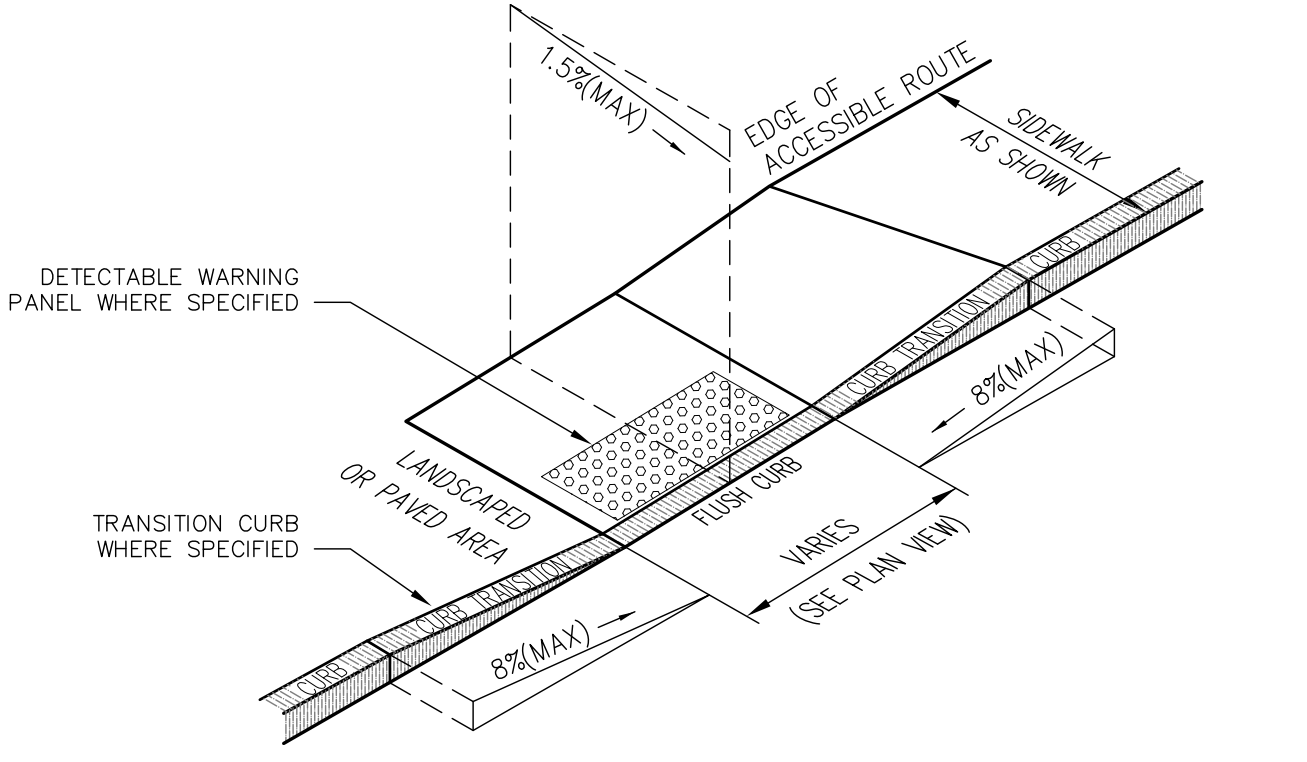
RADIUS	MAX. LENGTH
21'	3'
22'-28'	4'
29'-35'	5'
36'-42'	6'
43'-49'	7'
50'-56'	8'
57'-60'	9'
OVER 60'	10'



- NOTES**
1. SEE SITE PLAN FOR LIMITS OF CURBING
 2. ADJOINING STONES OF STRAIGHT CURB LAID ON CURVES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH
 3. MINIMUM LENGTH OF STRAIGHT CURB STONES = 18"
 4. MAXIMUM LENGTH OF STRAIGHT CURB STONES = 8'
 5. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES - SEE CHART

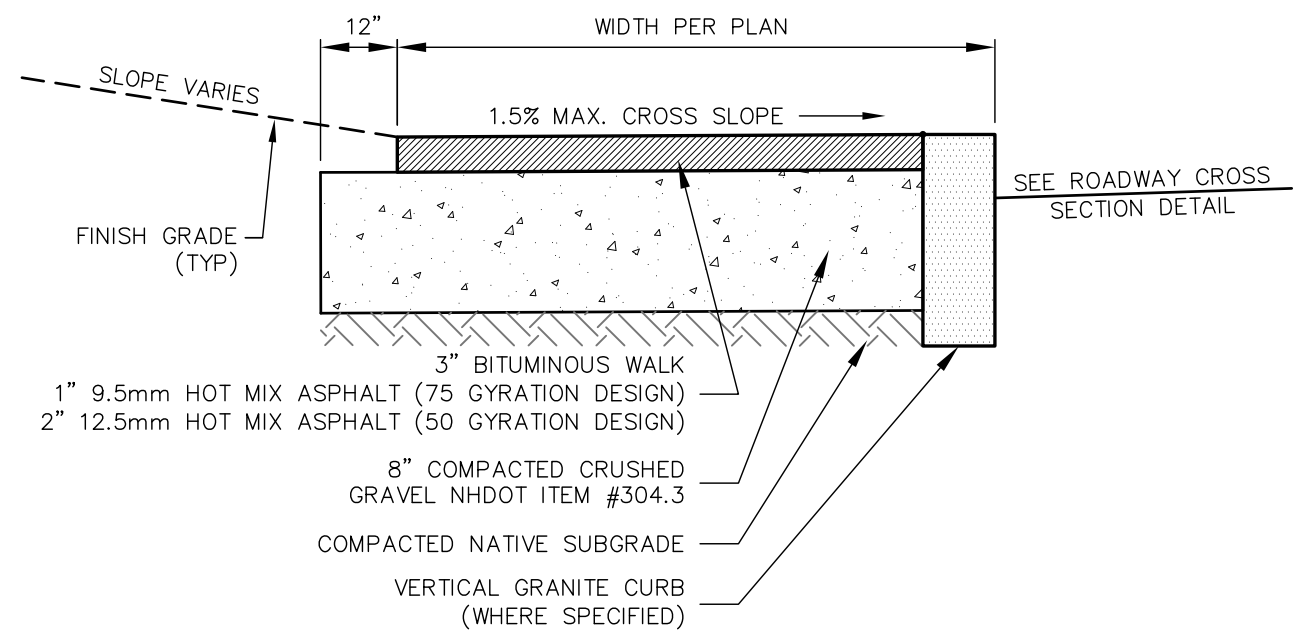
RADIUS FOR STONES WITH SQUARE JOINTS	MAXIMUM LENGTH
16'-28'	1'-6"
29'-41'	2'
42'-55'	3'
56'-68'	4'
69'-82'	5'
83'-96'	6'
97'-110'	7'
OVER 110'	8'

SLOPED GRANITE CURB NOT TO SCALE



- NOTES:**
1. THE MAXIMUM ALLOWABLE CROSS SLOPE OF AN ACCESSIBLE ROUTE (SIDEWALK) AND CURB SHALL BE 1.5%.
 2. THE MAXIMUM ALLOWABLE SLOPE OF AN ACCESSIBLE ROUTE EXCLUDING CURB RAMPS SHALL BE 5%.
 3. THE MAXIMUM ALLOWABLE SLOPE OF AN ACCESSIBLE ROUTE (SIDEWALK) CURB RAMP SHALL BE 8%.
 4. CURB TREATMENT VARIES, SEE PLANS FOR CURB TYPE.
 5. BASE OF RAMP SHALL BE GRADED TO PREVENT THE PONDING OF WATER.
 6. SEE TYPICAL SIDEWALK SECTION FOR RAMP CONSTRUCTION.
 7. ALL CURB RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH AMERICANS WITH DISABILITIES ACT (ADA) AND ALL APPLICABLE CODES.
 8. FLUSH CURB SECTIONS SHALL HAVE A MAXIMUM LIP REVEAL OF 1/2" AT THE EDGE OF PAVEMENT.
 9. EDGES OF SIDEWALK FOOTINGS ALONG FLUSH CURBS SHALL BE HAUNCHED SO AS TO EXTEND TO A MINIMUM DEPTH OF 1' BELOW FINISH GRADE.
 10. NO RAMP SHALL BE LESS THAN 4' IN WIDTH.
 11. DETECTABLE WARNING PANELS SHALL BE CAST IRON WITH NO SURFACE COATING AND SHALL BE ALLOWED TO TRANSITION TO THEIR NATURAL PATINA.

CURB RAMP (TYPE 'G') NOT TO SCALE



BITUMINOUS SIDEWALK NOT TO SCALE

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STATE OF NEW HAMPSHIRE
 ERIC D. WEINFRIB
 No. 7634
 LICENSED PROFESSIONAL ENGINEER
 3/5/2021

NOT FOR CONSTRUCTION

ISSUED FOR: **PLANNING BOARD**

ISSUE DATE: **MARCH 5, 2021**

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	TAC WORK SESSION	EBS	12/01/20
1	TAC	EBS	01/18/21
2	TAC	EBS	02/16/21
3	PLANNING BOARD	EBS	03/05/21

DRAWN BY: _____ EBS
 APPROVED BY: _____ EDW
 DRAWING FILE: _____ 5090-DETAILS.dwg

SCALE: **22" x 34" NOT TO SCALE**

OWNER:
FREDERICK W. WATSON REVOCABLE TRUST, ROBERT D. WATSON, TRUSTEE
 53 SLEEPY HOLLOW DRIVE GREENLAND, NH 03840

APPLICANT:
FREDERICK W. WATSON REVOCABLE TRUST, ROBERT D. WATSON, TRUSTEE
 53 SLEEPY HOLLOW DRIVE GREENLAND, NH 03840

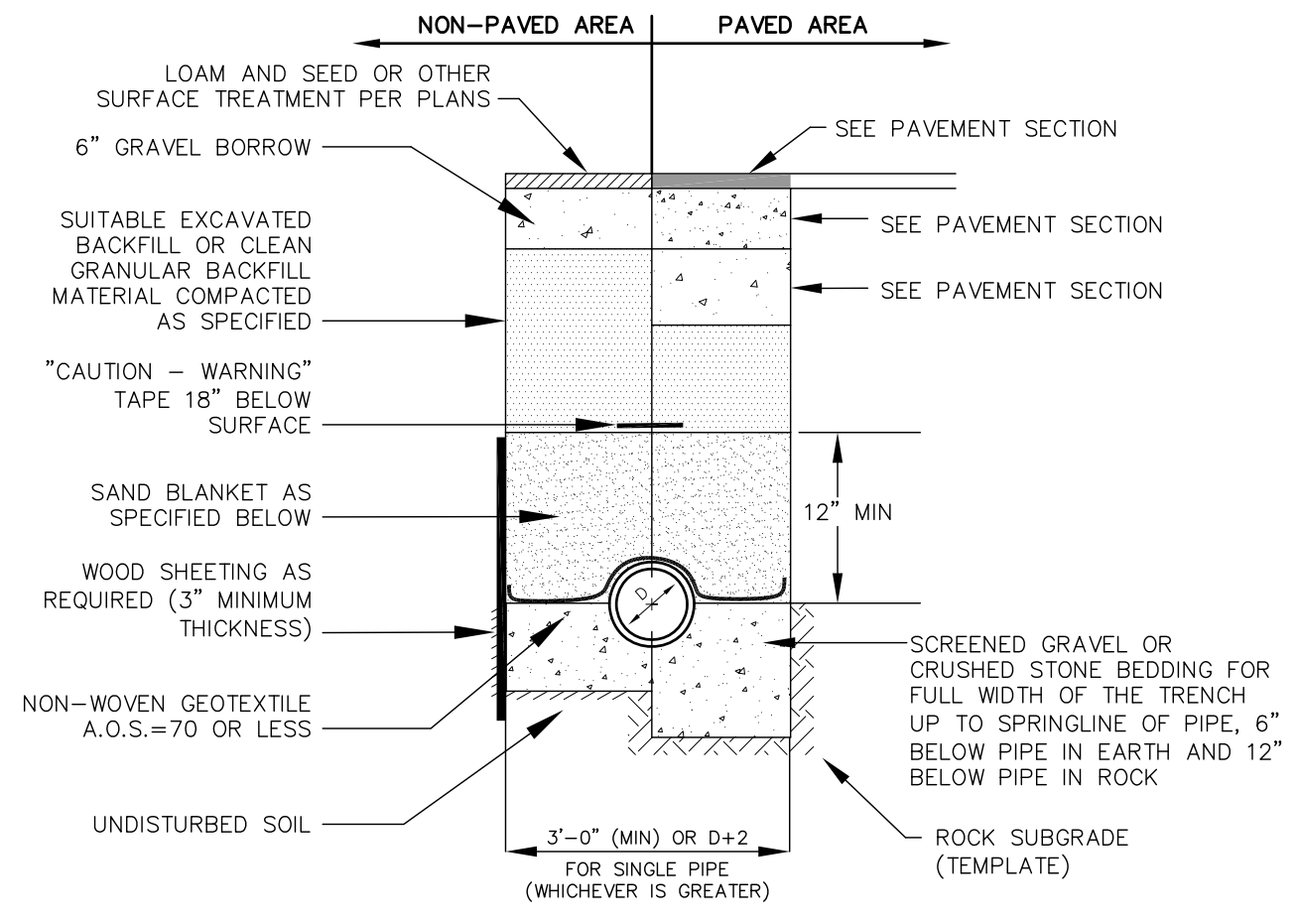
PROJECT:
WATSON'S LANDING
TAX MAP 209, LOT 33
1 CLARK DRIVE PORTSMOUTH, NH 03801

TITLE:

DETAIL SHEET

SHEET NUMBER:

D-3



- NOTES**
- BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T 99, METHOD C. SUITABLE BACKFILL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99, METHOD C.
 - INSULATE GRAVITY SEWER AND FORCEMAINS WHERE THERE IS LESS THAN 5'-0" OF COVER WITH 2" THICK CLOSED CELL RIGID BOARD INSULATION, 18" ON EACH SIDE OF PIPE.
 - MAINTAIN 12" MINIMUM HORIZONTAL SEPARATION AND WIDEN TRENCH ACCORDINGLY IF MULTIPLE PIPES ARE IN TRENCH.

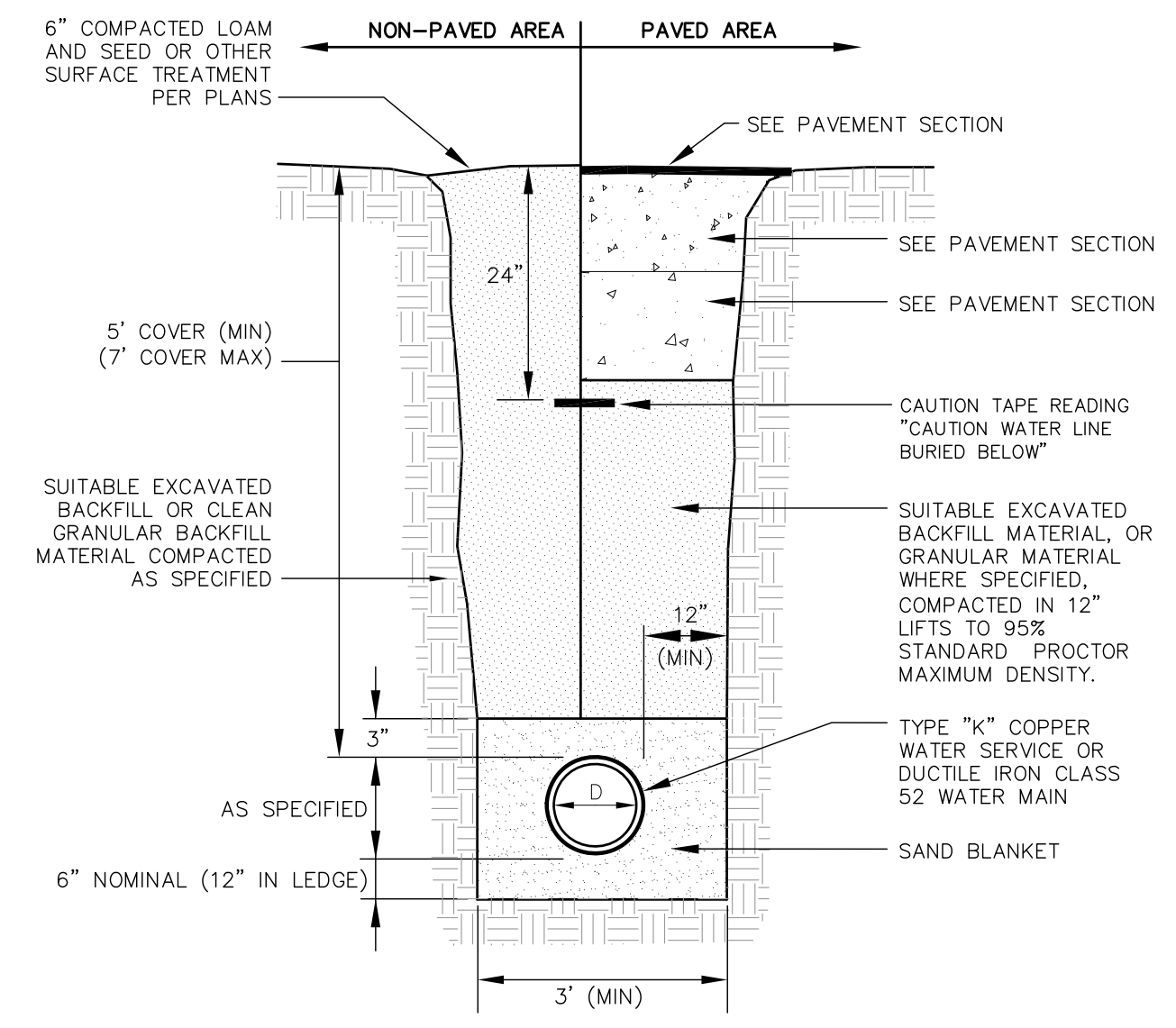
SAND BLANKET/BARRIER		SCREENED GRAVEL OR CRUSHED STONE BEDDING*	
SIEVE SIZE	% FINER BY WEIGHT	SIEVE SIZE	% PASSING BY WEIGHT
1/2"	90 - 100	1"	100
200	0 - 15	3/4"	90 - 100
		3/8"	20 - 55
		# 4	0 - 10
		# 8	0 - 5

* EQUIVALENT TO STANDARD STONE SIZE #67 - SECTION 703 OF NHDOT STANDARD SPECIFICATIONS

DRAINAGE, SEWER & FORCEMAIN TRENCH NOT TO SCALE

STANDARD TRENCH NOTES

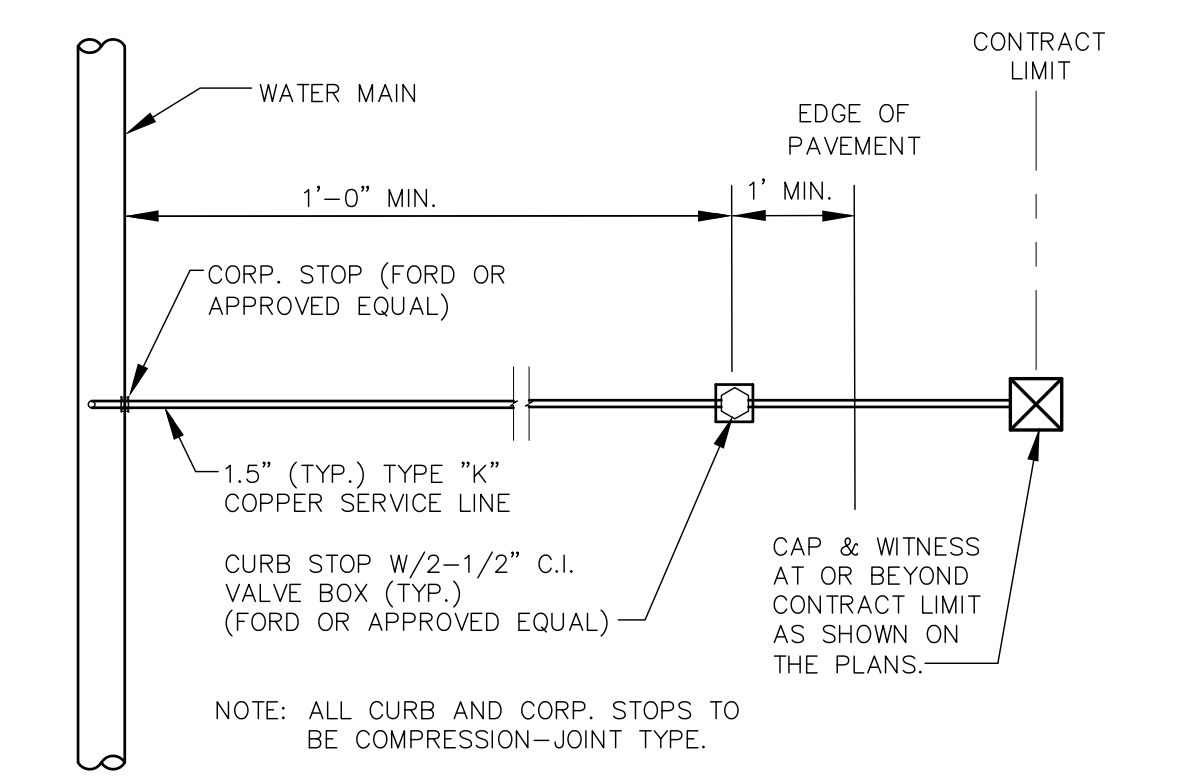
- ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE: BACKFILL AS STATED IN THE TECHNICAL SPECIFICATIONS OR AS SHOWN ON THE DRAWING.
- BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING THE GRADATION SHOWN IN THE TRENCH DETAIL. WHERE ORDERED BY THE ENGINEER TO STABILIZE THE BASE, SCREENED GRAVEL OR CRUSHED STONE 1-1/2 INCH TO 1/2 INCH SHALL BE USED.
- SAND BLANKET: CLEAN SAND FREE FROM ORGANIC MATTER MEETING THE GRADATION SHOWN IN THE TRENCH DETAIL. BLANKET MAY BE REPLACED WITH BEDDING MATERIAL FOR CAST-IRON, DUCTILE IRON, AND REINFORCED CONCRETE PIPE PROVIDED THAT NO STONE LARGER THAN 2" IS IN CONTACT WITH THE PIPE AND THE GEOTEXTILE IS RELOCATED ACCORDINGLY.
- SUITABLE MATERIAL: IN ROADS, ROAD SHOULDERS, WALKWAYS AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOP SOIL, ALL WET OR SOFT MUCK, PEAT, OR CLAY, ALL EXCAVATED LEDGE MATERIAL, ALL ROCKS OVER 6 INCHES IN LARGEST DIMENSION, AND ANY MATERIAL WHICH, AS DETERMINED BY THE ENGINEER, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION. IN CROSS COUNTRY CONSTRUCTION, SUITABLE MATERIAL SHALL BE AS DESCRIBED ABOVE, EXCEPT THAT THE ENGINEER MAY PERMIT THE USE OF TOP SOIL, LOAM, MUCK, OR PEAT, IF SATISFIED THAT THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE AND PROVIDED THAT EASY ACCESS TO THE SEWER FOR MAINTENANCE AND POSSIBLE RECONSTRUCTION WILL BE PRESERVED.
- BASE COURSE AND PAVEMENT SHALL MEET THE REQUIREMENTS OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES - DIVISIONS 300 AND 400 RESPECTIVELY.
- SHEETING, IF REQUIRED: WHERE SHEETING IS PLACED ALONGSIDE THE PIPE AND EXTENDS BELOW MID-DIAMETER, IT SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION 1 FOOT ABOVE THE TOP OF PIPE. WHERE SHEETING IS ORDERED BY THE ENGINEER TO BE LEFT IN PLACE, IT SHALL BE CUT OFF AT LEAST 3 FEET BELOW FINISHED GRADE, BUT NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE.
- W = MAXIMUM ALLOWABLE TRENCH WIDTH TO A PLANE 12 INCHES ABOVE THE PIPE. FOR PIPES 15 INCHES NOMINAL DIAMETER OR LESS, W SHALL BE NO MORE THAN 36 INCHES. FOR PIPES GREATER THAN 15 INCHES IN NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS PIPE OUTSIDE DIAMETER (O.D.) ALSO, W SHALL BE THE PAYMENT WIDTH FOR LEDGE EXCAVATION AND FOR ORDERED EXCAVATION BELOW GRADE.
- FOR CROSS COUNTRY CONSTRUCTION, BACKFILL, FILL AND/OR LOAM SHALL BE MOUND TO A HEIGHT OF 6 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
- CONCRETE FOR ENCASEMENT SHALL CONFORM TO THE NEW HAMPSHIRE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS STANDARD SPECIFICATION REQUIREMENTS FOR CLASS A (3000#) CONCRETE AS FOLLOWS:
CEMENT: 6.0 BAGS PER CUBIC YARD
WATER: 5.75 GALLONS PER BAG
CEMENT MAXIMUM SIZE OF AGGREGATE: 1 INCH
CONCRETE ENCASEMENT IS NOT ALLOWED FOR PVC PIPE.
- CONCRETE FULL ENCASEMENT: IF FULL ENCASEMENT IS UTILIZED, DEPTH OF CONCRETE BELOW PIPE SHALL BE 1/4 I.D. (4" MINIMUM). BLOCK SUPPORT SHALL BE SOLID CONCRETE BLOCKS.
- NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES DESIGN STANDARDS REQUIRE TEN FEET (10') SEPARATION BETWEEN WATER AND SEWER. REFER TO TOWN'S STANDARD SPECIFICATIONS FOR METHODS OF PROTECTION IN AREAS THAT CANNOT MEET THESE REQUIREMENTS.



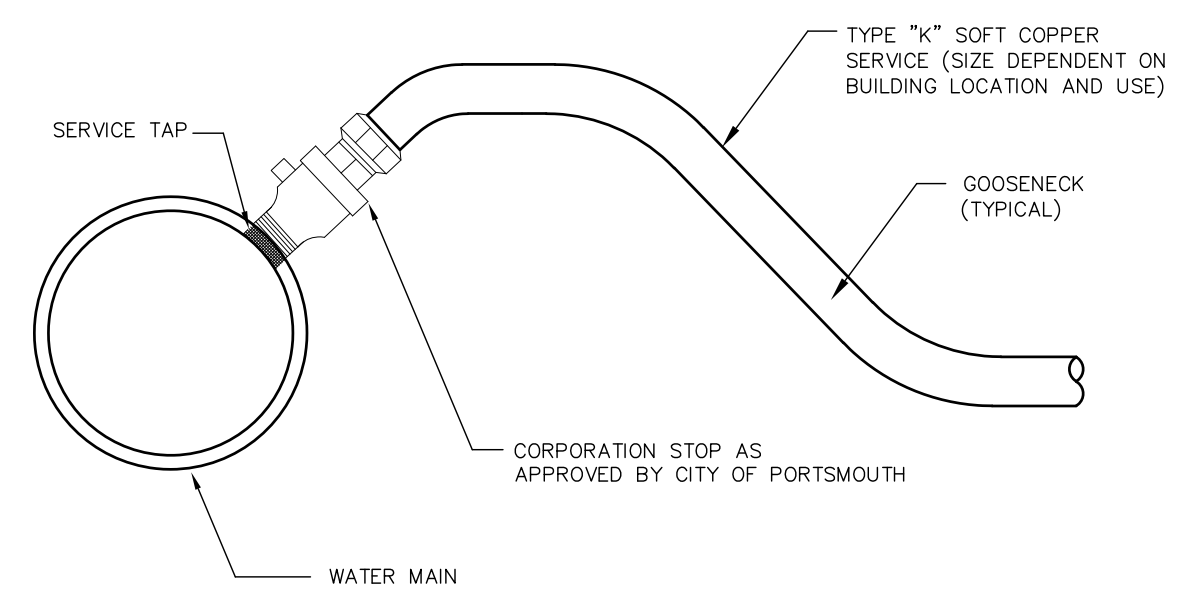
SAND BLANKET/BARRIER	
SIEVE SIZE	% FINER BY WEIGHT
1/2"	90 - 100
200	0 - 15

- NOTES**
- BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T 99, METHOD C. SUITABLE BACKFILL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99, METHOD C.
 - DUCTILE IRON WATER MAINS SHALL BE POLY WRAPPED FOR THEIR ENTIRE LENGTH.
 - WATER MAINS SHALL HAVE 3 WEDGES PER JOINT.

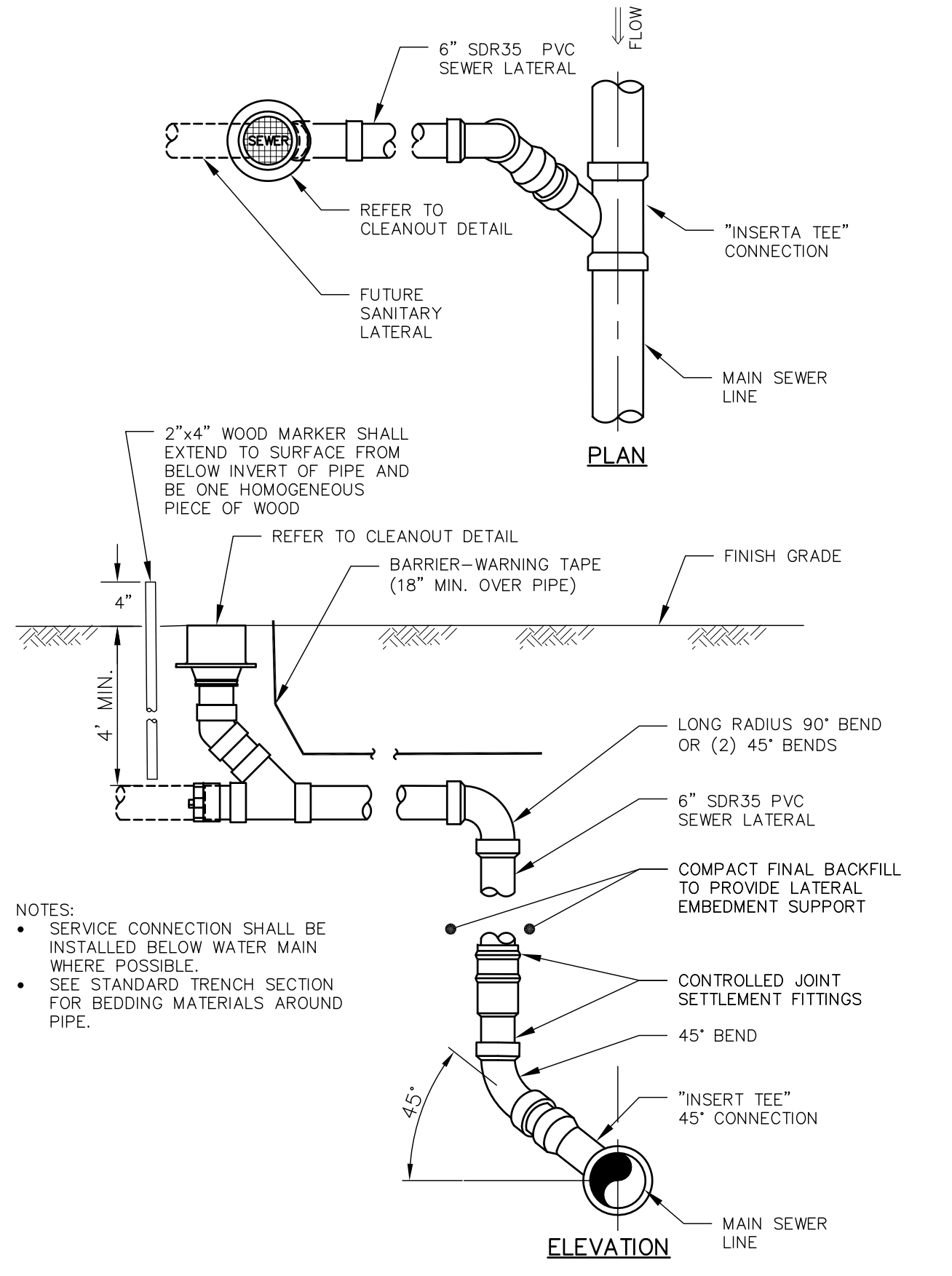
WATER MAIN TRENCH NOT TO SCALE



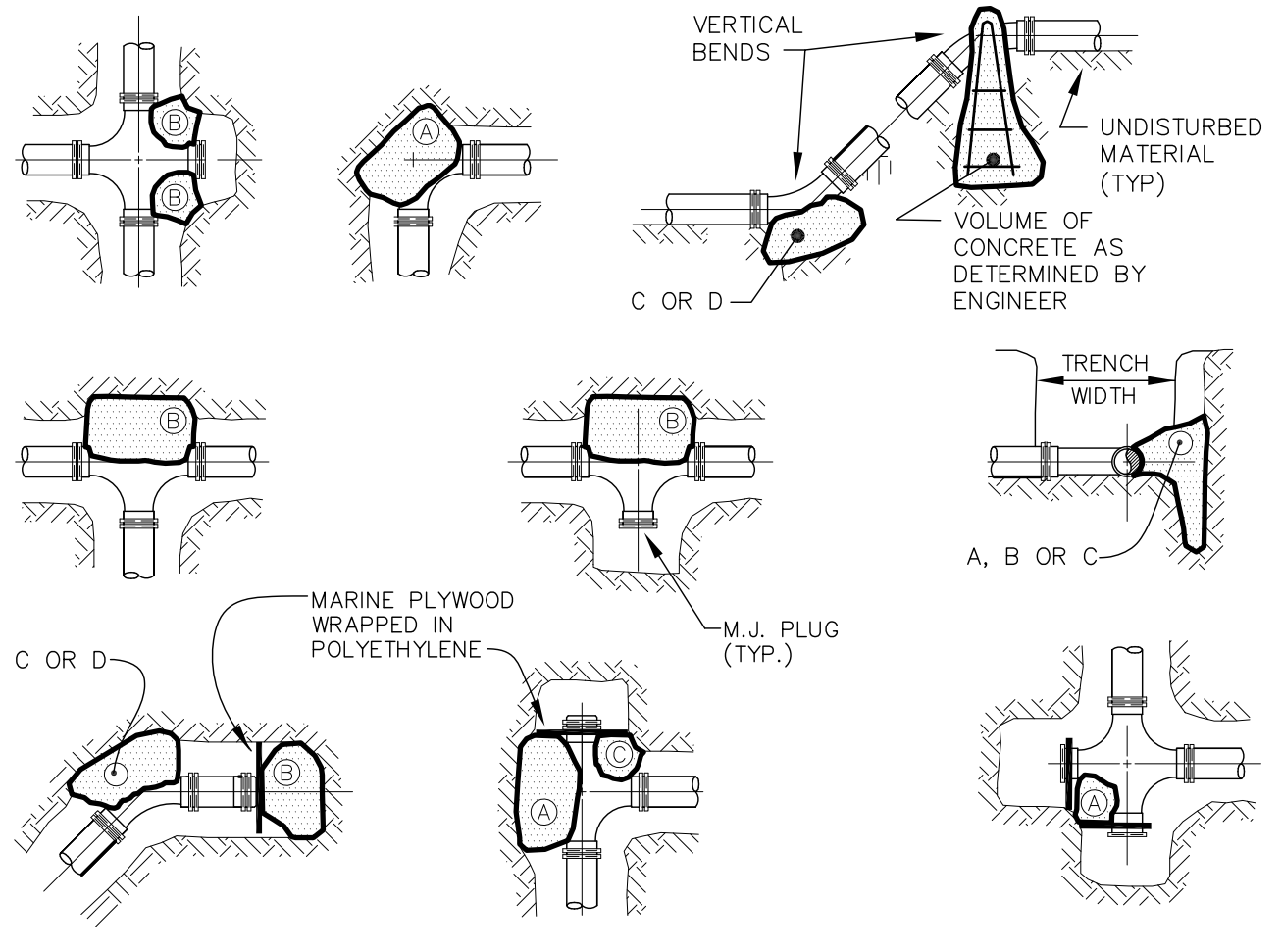
NOTE: ALL MATERIALS AND SPECIFICATIONS SHALL CONFORM TO CITY OF PORTSMOUTH WATER DEPARTMENT STANDARDS AND REQUIREMENTS. VERIFY PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITIES.



WATER SERVICE CONNECTION NOT TO SCALE



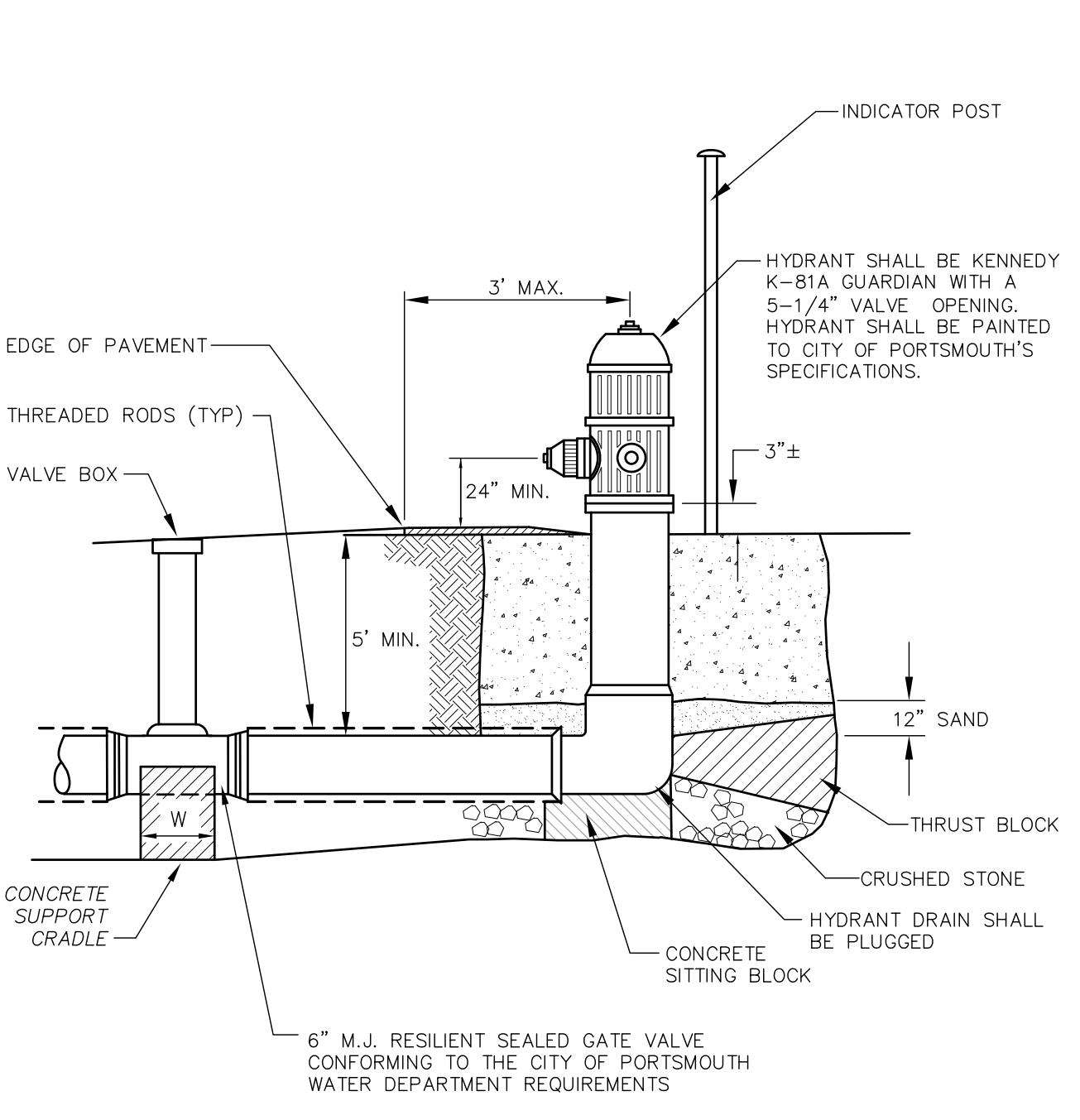
DEEP SEWER SERVICE CONNECTION NOT TO SCALE



REACTION TYPE	PIPE SIZE				
	4"	6"	8"	10"	12"
A 90°	0.89	2.19	3.82	11.14	17.24
B 180°	0.65	1.55	2.78	8.38	12.00
C 45°	0.48	1.19	2.12	6.02	9.32
D 22-1/2°	0.25	0.60	1.06	3.08	4.74
E 11-1/4°	0.13	0.30	0.54	1.54	2.38

- NOTES**
- POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL. WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL.
 - NO JOINTS SHALL BE COVERED WITH CONCRETE. POLYETHYLENE (6 MIL) SHALL BE PLACED AROUND FITTINGS PRIOR TO CONCRETE PLACEMENT.
 - ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.
 - PLACE BOARD IN FRONT OF ALL PLUGS BEFORE POURING THRUST BLOCKS. WHERE M.J. PIPE IS USED, M.J. PLUG WITH RETAINER GLAND MAY BE SUBSTITUTED FOR END BLOCKINGS.

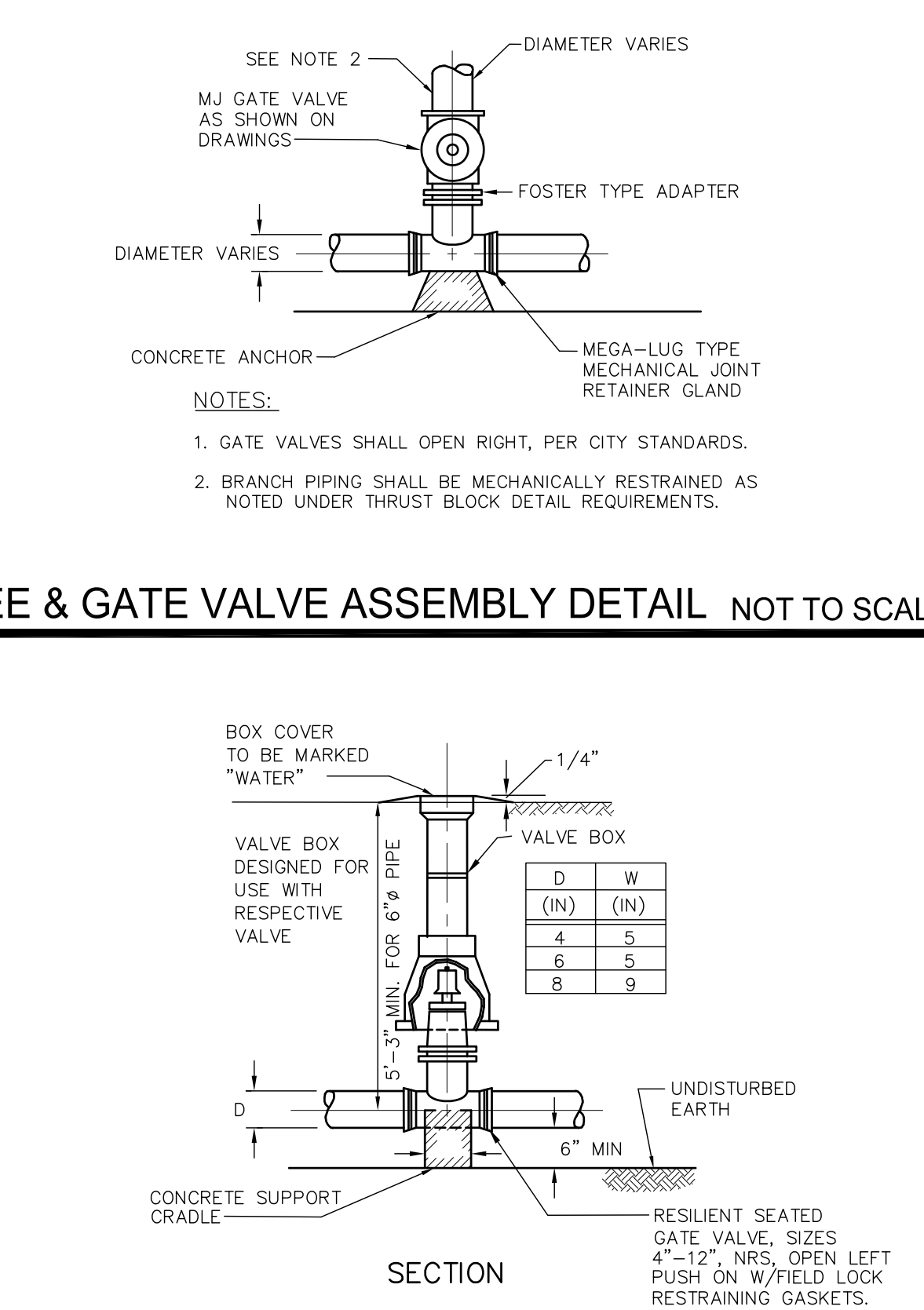
THRUST BLOCKING NOT TO SCALE



- NOTES**
- HYDRANT INSTALLATION AND OPERATION TO CONFORM TO REGULATIONS OF THE CITY OF PORTSMOUTH WATER & FIRE DEPARTMENTS.
 - GATE VALVES & HYDRANTS TO OPEN RIGHT (CLOCKWISE).

FIRE HYDRANT NOT TO SCALE

TEE & GATE VALVE ASSEMBLY DETAIL NOT TO SCALE



WATER VALVE DETAIL NOT TO SCALE

ALTUS ENGINEERING, INC.
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(603) 433-2335 www.altus-eng.com

STATE OF NEW HAMPSHIRE
ERIC D. WEINRIEB
No. 7634
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ISSUE DATE: JANUARY 18, 2021

REVISIONS NO.	DESCRIPTION	BY	DATE
0	TAC WORK SESSION	EBS	12/01/20
1	TAC	EBS	01/18/21

DRAWN BY: EBS
APPROVED BY: EDW
DRAWING FILE: 5090-DETAILS.dwg

SCALE: 22" x 34" NOT TO SCALE

OWNER: **FREDERICK W. WATSON REVOCABLE TRUST, ROBERT D. WATSON, TRUSTEE**
53 SLEEPY HOLLOW DRIVE GREENLAND, NH 03840

APPLICANT: **FREDERICK W. WATSON REVOCABLE TRUST, ROBERT D. WATSON, TRUSTEE**
53 SLEEPY HOLLOW DRIVE GREENLAND, NH 03840

PROJECT: **WATSON'S LANDING TAX MAP 209, LOT 33 1 CLARK DRIVE PORTSMOUTH, NH 03801**

TITLE:

DETAIL SHEET

SHEET NUMBER:

D-4

DRAINAGE ANALYSIS
FOR
Site Development
of
Watson's Landing Residential Subdivision

1 Clark Drive
Portsmouth, NH

Tax Map 209, Lot 33

January 18, 2021
Revised February 16, 2021

Prepared For:

Frederick W. Watson Revocable Trust
Robert D. Watson, Trustee
53 Sleepy Hollow Drive
Greenland, NH 03840

Prepared By:

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



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Section 1

Narrative

PROJECT DESCRIPTION

The Frederick W. Watson Revocable Trust is proposing to subdivide an existing residential lot located at 1 Clark Drive in Portsmouth, NH. The property is identified as Assessor's Map 209, Lot 33, is approximately 3.1 (+/-) acres in size and is located in the City's Single Residence B (SRB) district. The site currently has a single-family residence, pool, and private roadway surrounded by a large lawn area with limited woodlands.

The proposed project will raze the existing house, construct an approximately 325' long private cul-de-sac roadway and create four single-family residential lots serviced by municipal water and sewer.

Runoff from the development will be directed to a 170-foot long rain garden to provide stormwater treatment. The stormwater management system proposed for the site will reduce peak flows and treat site runoff prior to discharging to Inner Cutts Cove, a tidal water adjacent to the site.

Site Soils

The NRCS indicates that the subject property consists of several primary soil classifications:
799 – Urban-Land-Canton complex, HSG C

Pre-Development (Existing Conditions)

The pre-development site conditions reflect the existing conditions of the site, which include the existing house, pool and private roadway. The current site primarily discharges radially to the east and southeast to Inner Cutts Cove, identified as Point of Analysis #1 (POA #1). The Pre-Development analysis models the existing site conditions for the point of analysis.

The grades and elevations shown on the plans are based on the site survey completed by Knight Hill Surveying Services, Inc. and included in the plan set as Topo/Boundary Worksheet. The study pre-development area was analyzed as one (1) watershed, which discharges to POA #1 as identified above.

Post-Development (Proposed Site Design)

The existing house, patio and pool will be razed and a new roadway with associated site improvements will be constructed. The remainder of the lot will be subdivided into four (4) single-family house lots to be developed by others. Significant impervious areas for conceptual houses and driveways were included in the analysis to simulate future lot development.

The proposed stormwater system is depicted on the attached Post-Development Watershed Plan. For the post development analysis, the site was divided into seven (7) watershed areas to more accurately



depict the post-development conditions. The same point of analysis used in the Pre-Development model (POA #1) was used for comparison of the Pre and Post development conditions.

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

CALCULATION METHODS

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

Disclaimer

Altus Engineering, Inc. notes that stormwater modeling is limited in its capacity to precisely predict peak rates of runoff and flood elevations. Results should not be considered to represent actual storm events due to the number of variables and assumptions involved in the modeling effort. Surface roughness coefficients (n), entrance loss coefficients (k_e), velocity factors (k_v) and times of concentration (T_c) are based on subjective field observations and engineering judgment using available data. For design purposes, curve numbers (C_n) describe the average conditions. However, curve numbers will vary from storm to storm depending on the antecedent runoff conditions (ARC) including saturation and frozen ground. Also, higher water elevations than predicted by modeling could occur if drainage channels, closed drain systems or culverts are not maintained and/or become blocked by debris before and/or during a storm event as this will impact flow capacity of the structures. Structures should be re-evaluated if future changes occur within relevant drainage areas in order to assess any required design modifications.

Drainage Analysis

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

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

*Rainfall Intensities Reflect 15% Increase per AoT	2-Yr Storm (3.69 inch)	10-Yr Storm (5.60 inch)	25-Yr Storm (7.10 inch)	50-Yr Storm (8.50 inch)
POA #1				
Pre	4.56	9.41	13.45	17.29
Post	4.27	8.97	12.73	16.31
Change	-0.29	-0.44	-0.72	-0.98

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

CONCLUSION

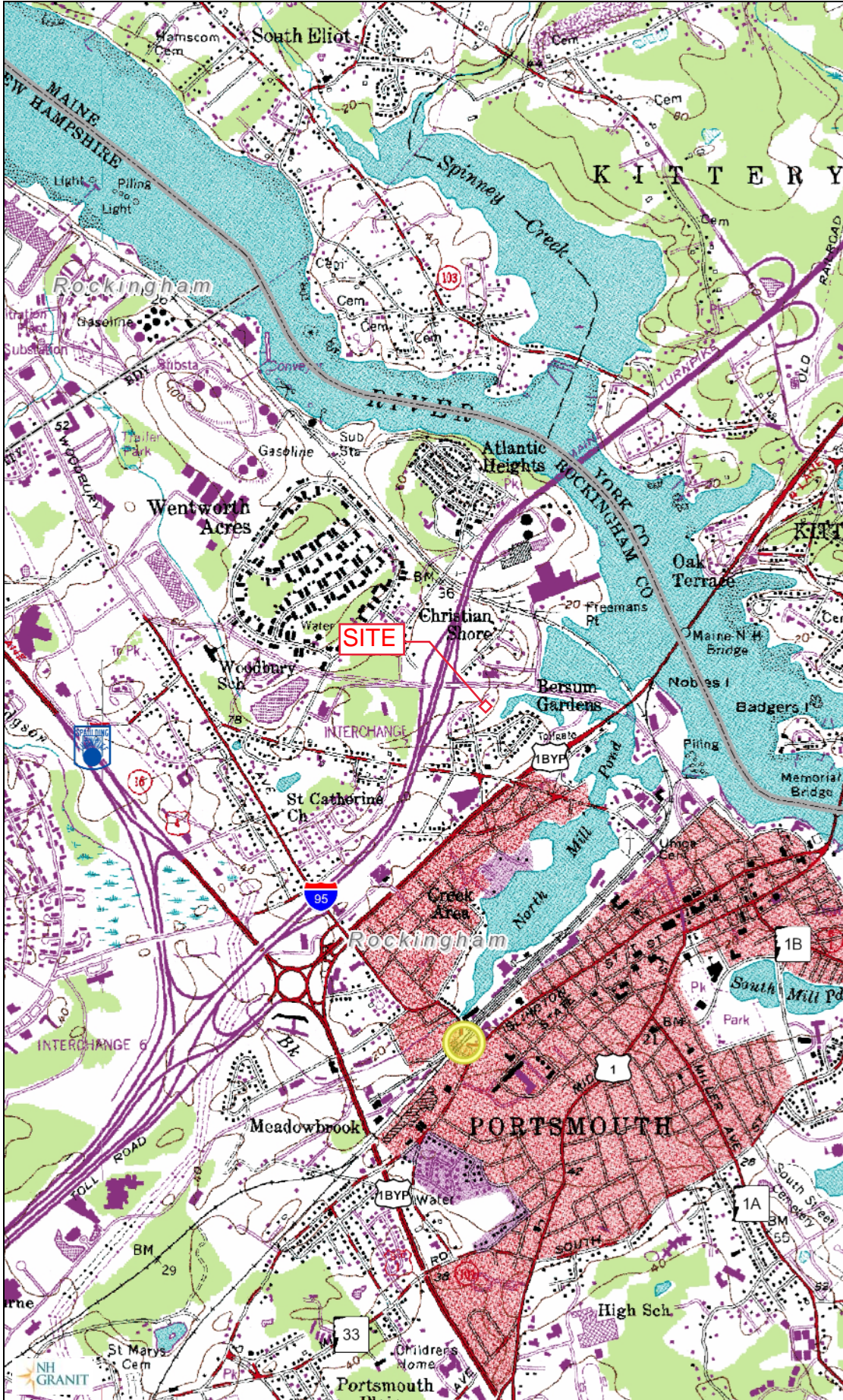
This proposed site development of Watson's Landing subdivision off of Clark Drive in Portsmouth, NH will have minimal adverse effect on abutting properties and infrastructure as a result of stormwater runoff or siltation. Post-construction peak rates of runoff from the site will be lower than the existing conditions for all analyzed storm events. The new stormwater management system will also provide appropriate treatment of runoff from the entirety of the proposed impervious area. Appropriate steps will be taken to properly mitigate erosion and sedimentation through the use of temporary and permanent Best Management Practices for sediment and erosion control, including deep sump catch basins with grease hoods, vegetated swales and a raingarden.

Section 2

Aerial Photo and USGS Map



Map by NH GRANIT



Legend

- State
- County
- City/Town

Map Scale

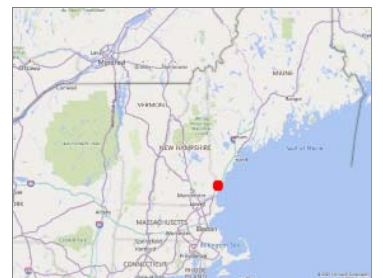
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Map Generated: 12/23/2020



Notes



Section 3

Drainage Calculations

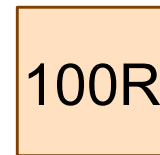
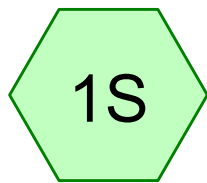
Pre-Development

2-Year, 24-Hour Summary

10-Year, 24-Hour Complete

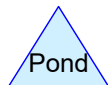
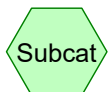
25-Year, 24-Hour Summary

50-Year, 24-Hour Summary



POA #1

Project Site to POA #1



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Type III 24-hr 2-yr Rainfall=3.69"

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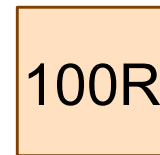
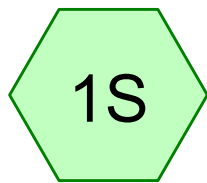
Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Project Site to POA #1 Runoff Area=151,238 sf 12.17% Impervious Runoff Depth=1.50"
Flow Length=550' Tc=14.6 min CN=76 Runoff=4.56 cfs 0.435 af

Reach 100R: POA #1

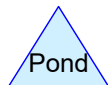
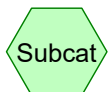
Avg. Flow Depth=0.22' Max Vel=1.65 fps Inflow=4.56 cfs 0.435 af
n=0.025 L=1.0' S=0.0100 '/ Capacity=120.83 cfs Outflow=4.56 cfs 0.435 af

Total Runoff Area = 3.472 ac Runoff Volume = 0.435 af Average Runoff Depth = 1.50"
87.83% Pervious = 3.049 ac 12.17% Impervious = 0.422 ac



POA #1

Project Site to POA #1



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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
2.116	74	>75% Grass cover, Good, HSG C (1S)
0.346	98	Paved parking, HSG C (1S)
0.076	98	Roofs, HSG C (1S)
0.933	70	Woods, Good, HSG C (1S)
3.472	76	TOTAL AREA

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
3.472	HSG C	1S
0.000	HSG D	
0.000	Other	
3.472		TOTAL AREA

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Type III 24-hr 10-yr Rainfall=5.60"

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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 1S: Project Site to POA #1 Runoff Area=151,238 sf 12.17% Impervious Runoff Depth=3.04"
Flow Length=550' Tc=14.6 min CN=76 Runoff=9.41 cfs 0.879 af

Reach 100R: POA #1

Avg. Flow Depth=0.31' Max Vel=2.07 fps Inflow=9.41 cfs 0.879 af
n=0.025 L=1.0' S=0.0100 '/ Capacity=120.83 cfs Outflow=9.41 cfs 0.879 af

Total Runoff Area = 3.472 ac Runoff Volume = 0.879 af Average Runoff Depth = 3.04"
87.83% Pervious = 3.049 ac 12.17% Impervious = 0.422 ac

Summary for Subcatchment 1S: Project Site to POA #1

Runoff = 9.41 cfs @ 12.21 hrs, Volume= 0.879 af, Depth= 3.04"

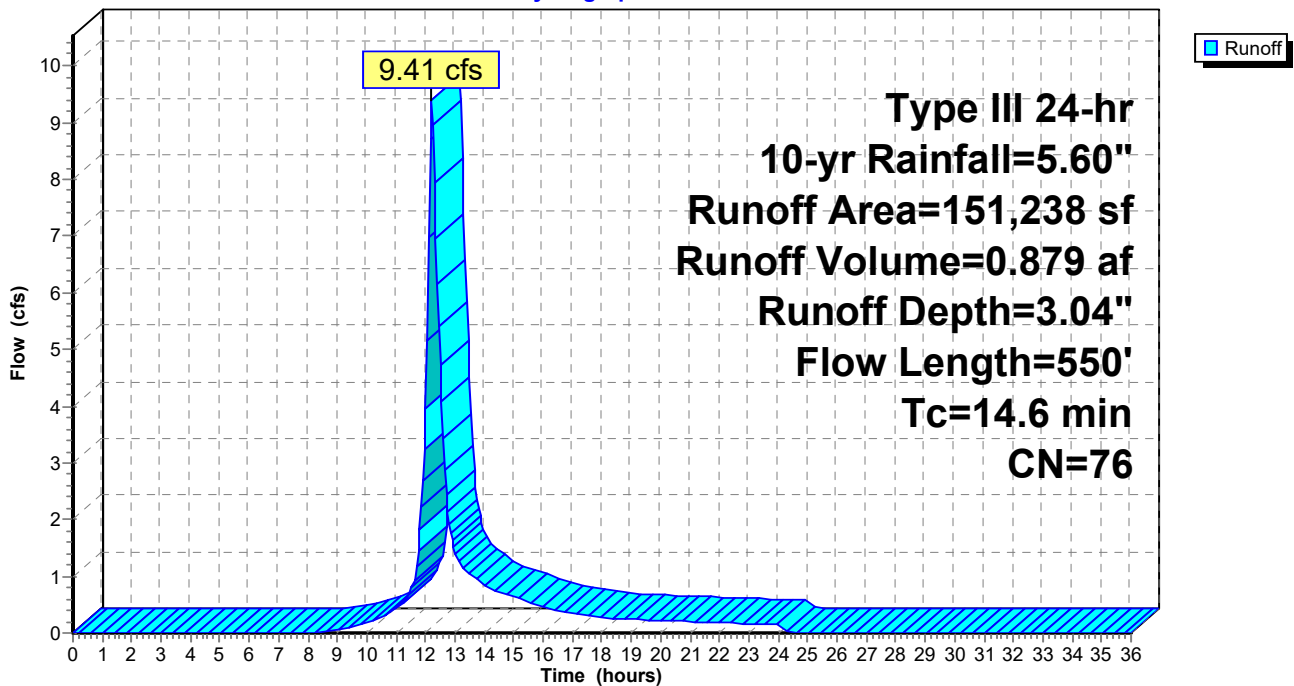
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.60"

Area (sf)	CN	Description
15,072	98	Paved parking, HSG C
3,330	98	Roofs, HSG C
40,658	70	Woods, Good, HSG C
92,178	74	>75% Grass cover, Good, HSG C
151,238	76	Weighted Average
132,836		87.83% Pervious Area
18,402		12.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.0400	0.24		Sheet Flow, Grass: Short n= 0.150 P2= 3.69"
6.5	320	0.0030	0.82		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
1.2	130	0.1400	1.87		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
14.6	550	Total			

Subcatchment 1S: Project Site to POA #1

Hydrograph



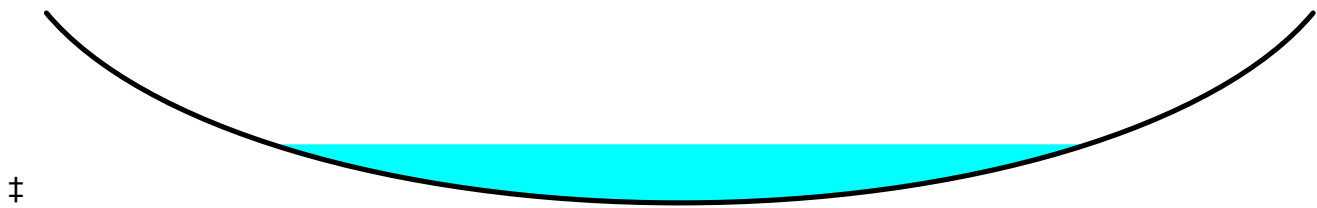
Summary for Reach 100R: POA #1

Inflow Area = 3.472 ac, 12.17% Impervious, Inflow Depth = 3.04" for 10-yr event
 Inflow = 9.41 cfs @ 12.21 hrs, Volume= 0.879 af
 Outflow = 9.41 cfs @ 12.21 hrs, Volume= 0.879 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Max. Velocity= 2.07 fps, Min. Travel Time= 0.0 min
 Avg. Velocity = 0.75 fps, Avg. Travel Time= 0.0 min

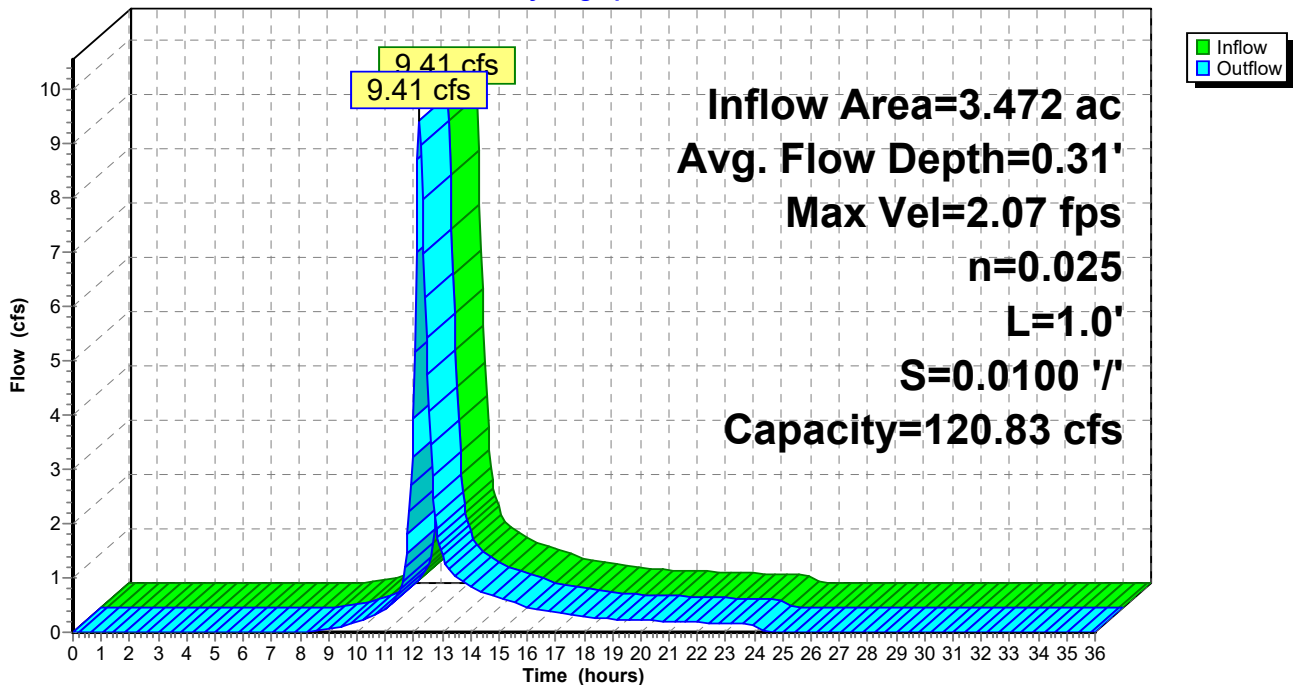
Peak Storage= 5 cf @ 12.21 hrs
 Average Depth at Peak Storage= 0.31'
 Bank-Full Depth= 1.00' Flow Area= 26.7 sf, Capacity= 120.83 cfs

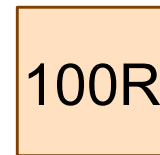
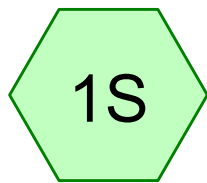
40.00' x 1.00' deep Parabolic Channel, n= 0.025 Earth, clean & winding
 Length= 1.0' Slope= 0.0100 '/'
 Inlet Invert= 1.00', Outlet Invert= 0.99'



Reach 100R: POA #1

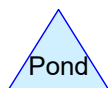
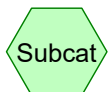
Hydrograph





POA #1

Project Site to POA #1



5090 Pre

Type III 24-hr 25-yr Rainfall=7.10"

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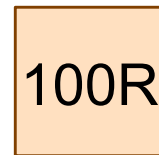
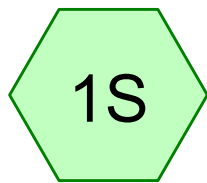
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Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Project Site to POA #1 Runoff Area=151,238 sf 12.17% Impervious Runoff Depth=4.35"
Flow Length=550' Tc=14.6 min CN=76 Runoff=13.45 cfs 1.258 af

Reach 100R: POA #1

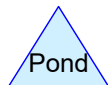
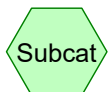
Avg. Flow Depth=0.36' Max Vel=2.31 fps Inflow=13.45 cfs 1.258 af
n=0.025 L=1.0' S=0.0100 '/ Capacity=120.83 cfs Outflow=13.45 cfs 1.258 af

Total Runoff Area = 3.472 ac Runoff Volume = 1.258 af Average Runoff Depth = 4.35"
87.83% Pervious = 3.049 ac 12.17% Impervious = 0.422 ac



POA #1

Project Site to POA #1



Section 4

Drainage Calculations

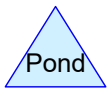
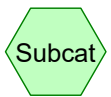
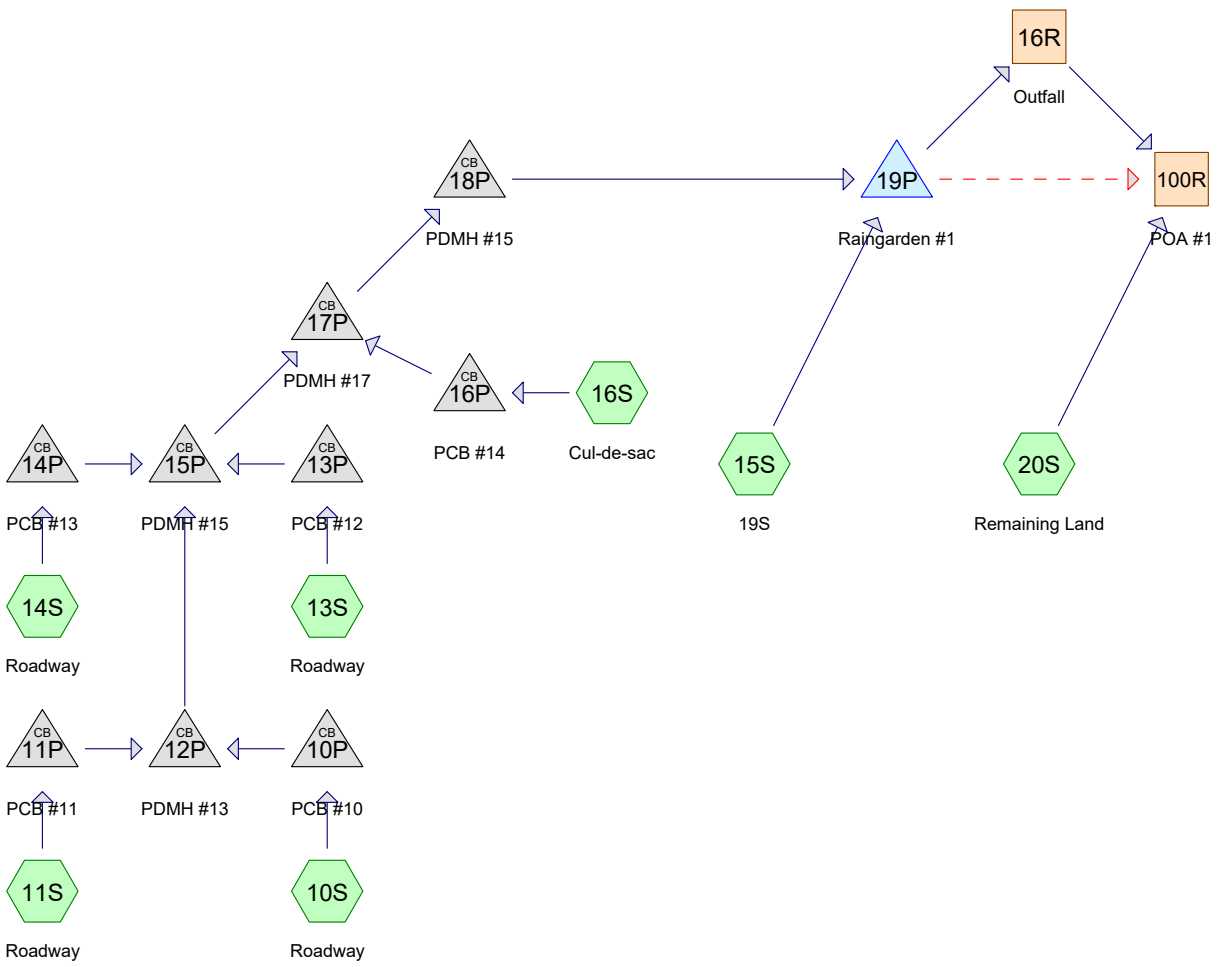
Post-Development

2-Year, 24-Hour Summary

10-Year, 24-Hour Complete

25-Year, 24-Hour Summary

50-Year, 24-Hour Summary



Routing Diagram for 5090 Post - Copy
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Type III 24-hr 2-yr Rainfall=3.69"

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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 10S: Roadway	Runoff Area=4,876 sf 59.56% Impervious Runoff Depth=2.44" Tc=6.0 min CN=88 Runoff=0.31 cfs 0.023 af
Subcatchment 11S: Roadway	Runoff Area=6,718 sf 62.13% Impervious Runoff Depth=2.53" Tc=6.0 min CN=89 Runoff=0.44 cfs 0.033 af
Subcatchment 13S: Roadway	Runoff Area=3,183 sf 56.17% Impervious Runoff Depth=2.35" Tc=6.0 min CN=87 Runoff=0.20 cfs 0.014 af
Subcatchment 14S: Roadway	Runoff Area=2,407 sf 100.00% Impervious Runoff Depth=3.46" Tc=6.0 min CN=98 Runoff=0.19 cfs 0.016 af
Subcatchment 15S: 19S	Runoff Area=77,120 sf 25.21% Impervious Runoff Depth=1.79" Flow Length=480' Tc=17.3 min CN=80 Runoff=2.63 cfs 0.264 af
Subcatchment 16S: Cul-de-sac	Runoff Area=4,819 sf 55.95% Impervious Runoff Depth=2.35" Tc=6.0 min CN=87 Runoff=0.30 cfs 0.022 af
Subcatchment 20S: Remaining Land	Runoff Area=52,115 sf 0.00% Impervious Runoff Depth=1.19" Flow Length=175' Tc=8.5 min CN=71 Runoff=1.41 cfs 0.118 af
Reach 16R: Outfall	Avg. Flow Depth=0.09' Max Vel=0.77 fps Inflow=0.11 cfs 0.134 af n=0.100 L=75.0' S=0.1200 '/' Capacity=4.89 cfs Outflow=0.11 cfs 0.134 af
Reach 100R: POA #1	Avg. Flow Depth=0.21' Max Vel=1.62 fps Inflow=4.27 cfs 0.466 af n=0.025 L=1.0' S=0.0100 '/' Capacity=120.83 cfs Outflow=4.27 cfs 0.466 af
Pond 10P: PCB #10	Peak Elev=26.39' Inflow=0.31 cfs 0.023 af 12.0" Round Culvert n=0.013 L=8.0' S=0.0050 '/' Outflow=0.31 cfs 0.023 af
Pond 11P: PCB #11	Peak Elev=26.46' Inflow=0.44 cfs 0.033 af 12.0" Round Culvert n=0.013 L=8.0' S=0.0050 '/' Outflow=0.44 cfs 0.033 af
Pond 12P: PDMH #13	Peak Elev=26.42' Inflow=0.75 cfs 0.055 af 12.0" Round Culvert n=0.013 L=155.0' S=0.0050 '/' Outflow=0.75 cfs 0.055 af
Pond 13P: PCB #12	Peak Elev=27.35' Inflow=0.20 cfs 0.014 af 12.0" Round Culvert n=0.013 L=5.0' S=0.0100 '/' Outflow=0.20 cfs 0.014 af
Pond 14P: PCB #13	Peak Elev=27.35' Inflow=0.19 cfs 0.016 af 12.0" Round Culvert n=0.013 L=5.0' S=0.0100 '/' Outflow=0.19 cfs 0.016 af
Pond 15P: PDMH #15	Peak Elev=25.69' Inflow=1.14 cfs 0.086 af 12.0" Round Culvert n=0.013 L=67.0' S=0.0051 '/' Outflow=1.14 cfs 0.086 af
Pond 16P: PCB #14	Peak Elev=26.81' Inflow=0.30 cfs 0.022 af 12.0" Round Culvert n=0.013 L=5.0' S=0.0100 '/' Outflow=0.30 cfs 0.022 af

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Type III 24-hr 2-yr Rainfall=3.69"

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Page 3

Pond 17P: PDMH #17

Peak Elev=25.35' Inflow=1.44 cfs 0.107 af
12.0" Round Culvert n=0.013 L=84.0' S=0.0050 '/ Outflow=1.44 cfs 0.107 af

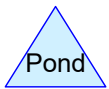
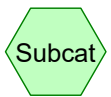
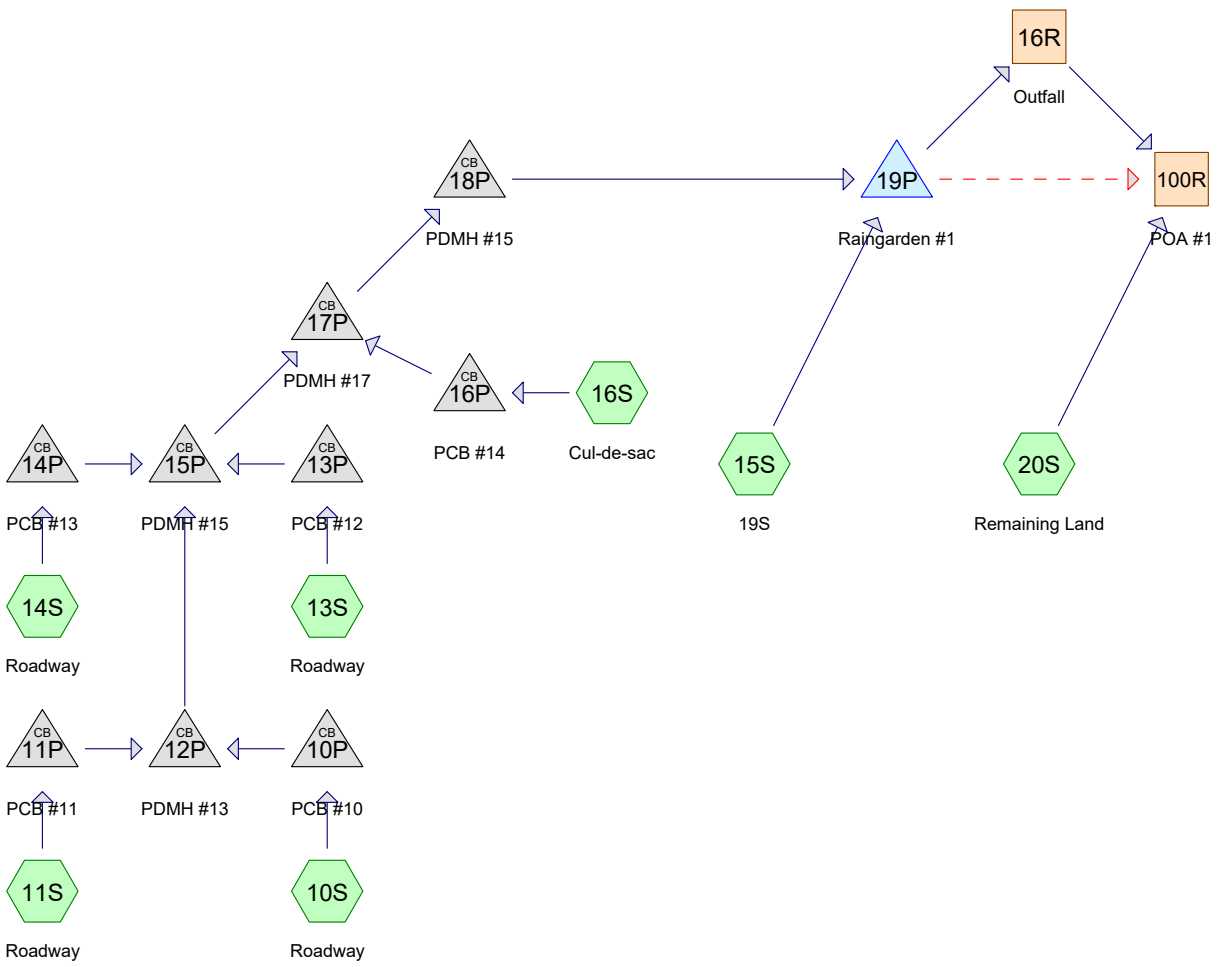
Pond 18P: PDMH #15

Peak Elev=24.72' Inflow=1.44 cfs 0.107 af
12.0" Round Culvert n=0.013 L=117.0' S=0.0605 '/ Outflow=1.44 cfs 0.107 af

Pond 19P: Raingarden #1

Peak Elev=18.25' Storage=3,716 cf Inflow=3.39 cfs 0.371 af
Primary=0.11 cfs 0.134 af Secondary=3.17 cfs 0.214 af Outflow=3.28 cfs 0.347 af

Total Runoff Area = 3.472 ac Runoff Volume = 0.489 af Average Runoff Depth = 1.69"
77.91% Pervious = 2.705 ac 22.09% Impervious = 0.767 ac



Routing Diagram for 5090 Post - Copy
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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.772	74	>75% Grass cover, Good, HSG C (10S, 11S, 13S, 15S, 16S, 20S)
0.427	98	Paved parking, HSG C (10S, 11S, 13S, 14S, 15S, 16S)
0.340	98	Roofs, HSG C (11S, 15S)
0.933	70	Woods, Good, HSG C (20S)
3.472	78	TOTAL AREA

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
3.472	HSG C	10S, 11S, 13S, 14S, 15S, 16S, 20S
0.000	HSG D	
0.000	Other	
3.472		TOTAL AREA

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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	10P	26.05	26.01	8.0	0.0050	0.013	12.0	0.0	0.0
2	11P	26.05	26.01	8.0	0.0050	0.013	12.0	0.0	0.0
3	12P	25.91	25.14	155.0	0.0050	0.013	12.0	0.0	0.0
4	13P	27.10	27.05	5.0	0.0100	0.013	12.0	0.0	0.0
5	14P	27.10	27.05	5.0	0.0100	0.013	12.0	0.0	0.0
6	15P	25.04	24.70	67.0	0.0051	0.013	12.0	0.0	0.0
7	16P	26.50	26.45	5.0	0.0100	0.013	12.0	0.0	0.0
8	17P	24.60	24.18	84.0	0.0050	0.013	12.0	0.0	0.0
9	18P	24.08	17.00	117.0	0.0605	0.013	12.0	0.0	0.0
10	19P	14.50	14.03	47.0	0.0100	0.012	6.0	0.0	0.0

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Type III 24-hr 10-yr Rainfall=5.60"

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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 10S: Roadway	Runoff Area=4,876 sf 59.56% Impervious Runoff Depth=4.24" Tc=6.0 min CN=88 Runoff=0.53 cfs 0.040 af
Subcatchment 11S: Roadway	Runoff Area=6,718 sf 62.13% Impervious Runoff Depth=4.35" Tc=6.0 min CN=89 Runoff=0.74 cfs 0.056 af
Subcatchment 13S: Roadway	Runoff Area=3,183 sf 56.17% Impervious Runoff Depth=4.14" Tc=6.0 min CN=87 Runoff=0.34 cfs 0.025 af
Subcatchment 14S: Roadway	Runoff Area=2,407 sf 100.00% Impervious Runoff Depth=5.36" Tc=6.0 min CN=98 Runoff=0.30 cfs 0.025 af
Subcatchment 15S: 19S	Runoff Area=77,120 sf 25.21% Impervious Runoff Depth=3.42" Flow Length=480' Tc=17.3 min CN=80 Runoff=5.05 cfs 0.505 af
Subcatchment 16S: Cul-de-sac	Runoff Area=4,819 sf 55.95% Impervious Runoff Depth=4.14" Tc=6.0 min CN=87 Runoff=0.51 cfs 0.038 af
Subcatchment 20S: Remaining Land	Runoff Area=52,115 sf 0.00% Impervious Runoff Depth=2.58" Flow Length=175' Tc=8.5 min CN=71 Runoff=3.22 cfs 0.257 af
Reach 16R: Outfall	Avg. Flow Depth=0.09' Max Vel=0.80 fps Inflow=0.12 cfs 0.149 af n=0.100 L=75.0' S=0.1200 '/' Capacity=4.89 cfs Outflow=0.12 cfs 0.149 af
Reach 100R: POA #1	Avg. Flow Depth=0.30' Max Vel=2.03 fps Inflow=8.97 cfs 0.921 af n=0.025 L=1.0' S=0.0100 '/' Capacity=120.83 cfs Outflow=8.97 cfs 0.921 af
Pond 10P: PCB #10	Peak Elev=26.50' Inflow=0.53 cfs 0.040 af 12.0" Round Culvert n=0.013 L=8.0' S=0.0050 '/' Outflow=0.53 cfs 0.040 af
Pond 11P: PCB #11	Peak Elev=26.59' Inflow=0.74 cfs 0.056 af 12.0" Round Culvert n=0.013 L=8.0' S=0.0050 '/' Outflow=0.74 cfs 0.056 af
Pond 12P: PDMH #13	Peak Elev=26.60' Inflow=1.27 cfs 0.095 af 12.0" Round Culvert n=0.013 L=155.0' S=0.0050 '/' Outflow=1.27 cfs 0.095 af
Pond 13P: PCB #12	Peak Elev=27.44' Inflow=0.34 cfs 0.025 af 12.0" Round Culvert n=0.013 L=5.0' S=0.0100 '/' Outflow=0.34 cfs 0.025 af
Pond 14P: PCB #13	Peak Elev=27.41' Inflow=0.30 cfs 0.025 af 12.0" Round Culvert n=0.013 L=5.0' S=0.0100 '/' Outflow=0.30 cfs 0.025 af
Pond 15P: PDMH #15	Peak Elev=25.94' Inflow=1.90 cfs 0.145 af 12.0" Round Culvert n=0.013 L=67.0' S=0.0051 '/' Outflow=1.90 cfs 0.145 af
Pond 16P: PCB #14	Peak Elev=26.92' Inflow=0.51 cfs 0.038 af 12.0" Round Culvert n=0.013 L=5.0' S=0.0100 '/' Outflow=0.51 cfs 0.038 af

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Type III 24-hr 10-yr Rainfall=5.60"

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Pond 17P: PDMH #17

Peak Elev=25.68' Inflow=2.41 cfs 0.183 af
12.0" Round Culvert n=0.013 L=84.0' S=0.0050 '/ Outflow=2.41 cfs 0.183 af

Pond 18P: PDMH #15

Peak Elev=24.98' Inflow=2.41 cfs 0.183 af
12.0" Round Culvert n=0.013 L=117.0' S=0.0605 '/ Outflow=2.41 cfs 0.183 af

Pond 19P: Raingarden #1

Peak Elev=18.39' Storage=4,173 cf Inflow=6.34 cfs 0.688 af
Primary=0.12 cfs 0.149 af Secondary=6.13 cfs 0.515 af Outflow=6.25 cfs 0.664 af

Total Runoff Area = 3.472 ac Runoff Volume = 0.946 af Average Runoff Depth = 3.27"
77.91% Pervious = 2.705 ac 22.09% Impervious = 0.767 ac

Summary for Subcatchment 10S: Roadway

Runoff = 0.53 cfs @ 12.09 hrs, Volume= 0.040 af, Depth= 4.24"

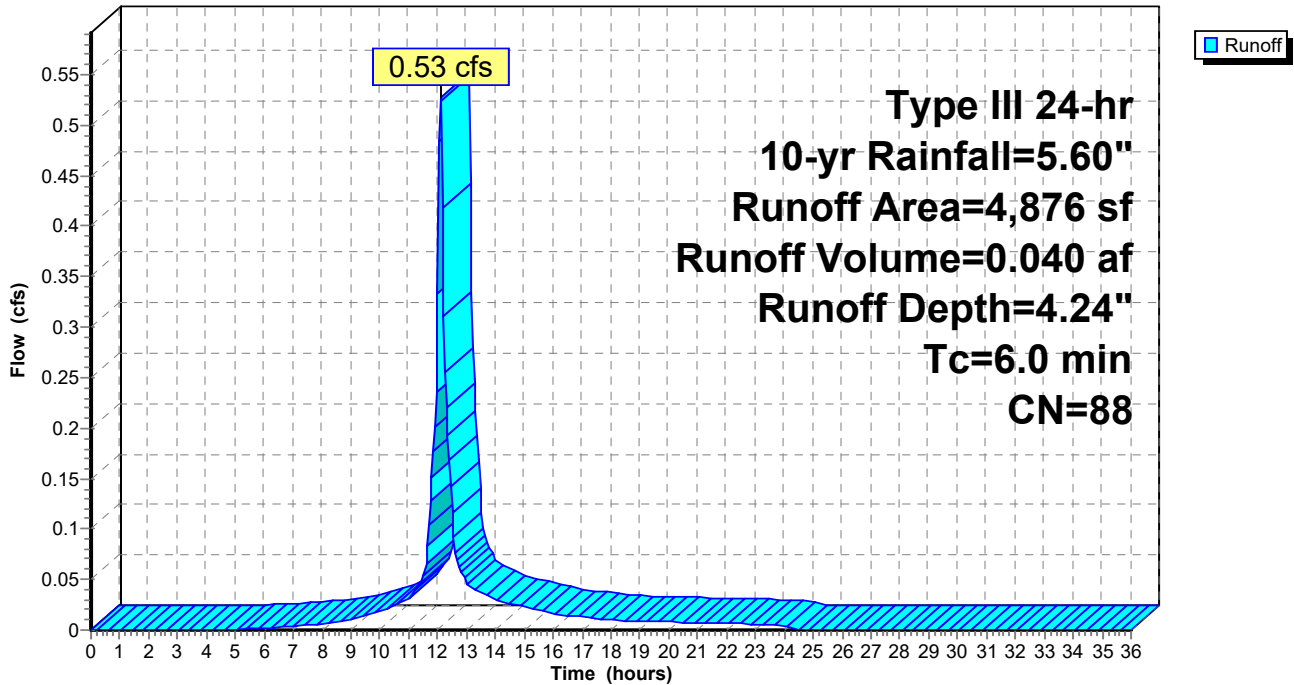
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-yr Rainfall=5.60"

Area (sf)	CN	Description
2,904	98	Paved parking, HSG C
0	98	Roofs, HSG C
1,972	74	>75% Grass cover, Good, HSG C
4,876	88	Weighted Average
1,972		40.44% Pervious Area
2,904		59.56% Impervious Area

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

Subcatchment 10S: Roadway

Hydrograph



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Type III 24-hr 10-yr Rainfall=5.60"

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Summary for Subcatchment 11S: Roadway

Runoff = 0.74 cfs @ 12.09 hrs, Volume= 0.056 af, Depth= 4.35"

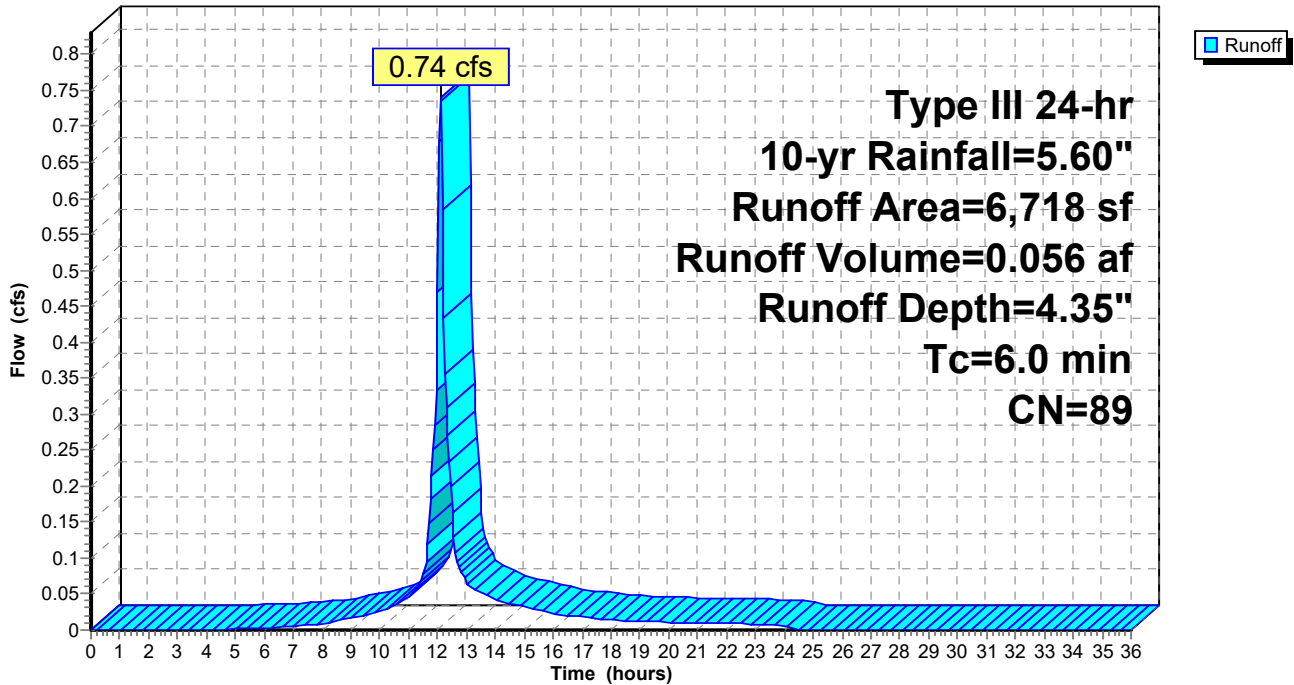
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-yr Rainfall=5.60"

Area (sf)	CN	Description
3,359	98	Paved parking, HSG C
815	98	Roofs, HSG C
2,544	74	>75% Grass cover, Good, HSG C
6,718	89	Weighted Average
2,544		37.87% Pervious Area
4,174		62.13% Impervious Area

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

Subcatchment 11S: Roadway

Hydrograph



Summary for Subcatchment 13S: Roadway

Runoff = 0.34 cfs @ 12.09 hrs, Volume= 0.025 af, Depth= 4.14"

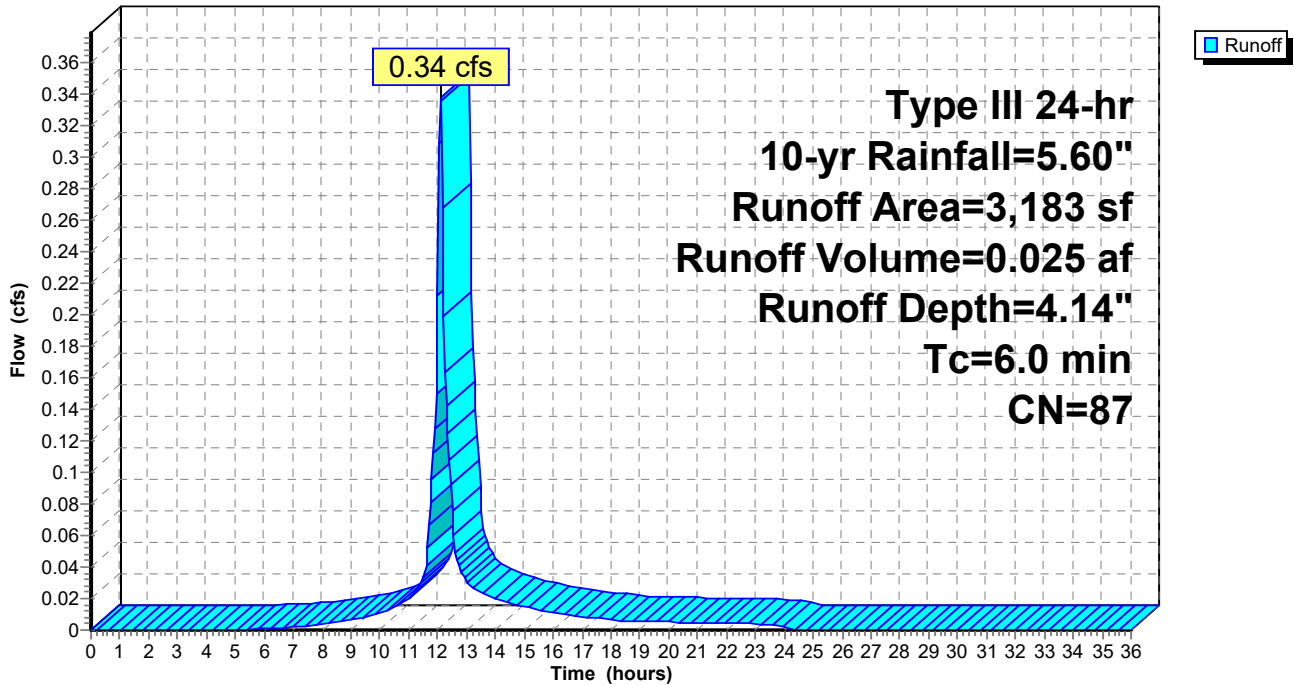
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-yr Rainfall=5.60"

Area (sf)	CN	Description
1,788	98	Paved parking, HSG C
0	98	Roofs, HSG C
1,395	74	>75% Grass cover, Good, HSG C
3,183	87	Weighted Average
1,395		43.83% Pervious Area
1,788		56.17% Impervious Area

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

Subcatchment 13S: Roadway

Hydrograph



Summary for Subcatchment 14S: Roadway

Runoff = 0.30 cfs @ 12.09 hrs, Volume= 0.025 af, Depth= 5.36"

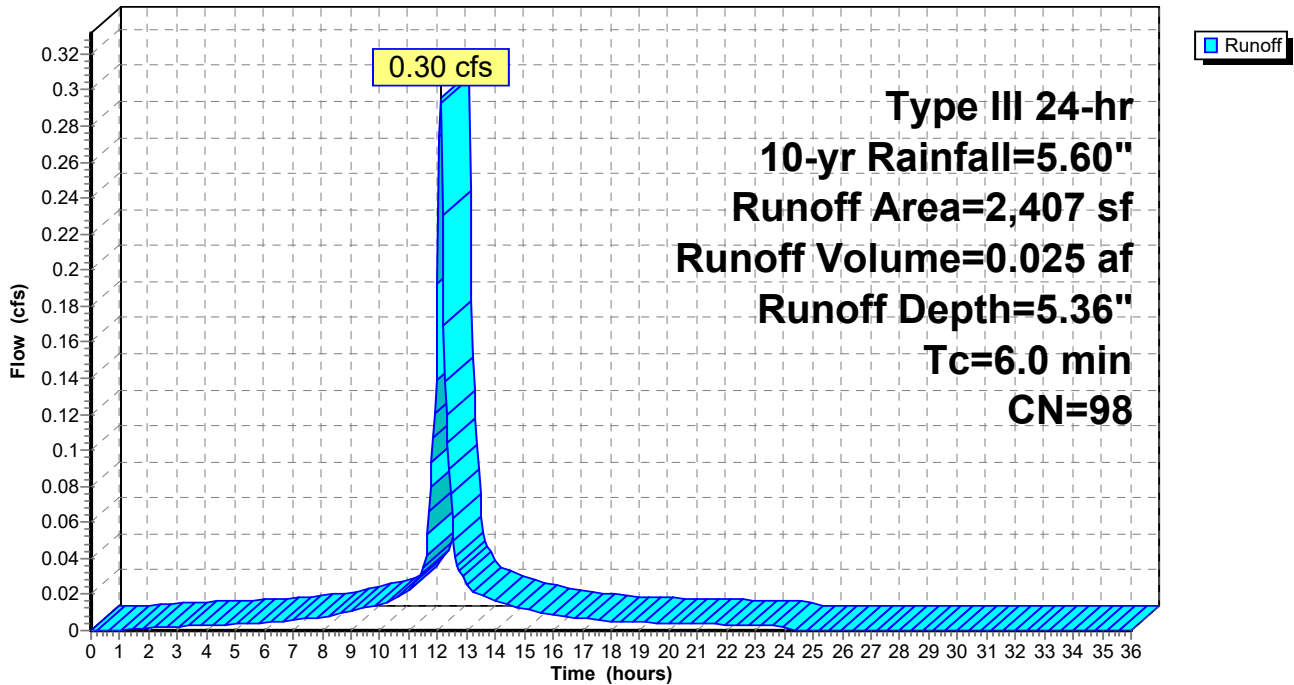
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-yr Rainfall=5.60"

Area (sf)	CN	Description
2,407	98	Paved parking, HSG C
0	98	Roofs, HSG C
0	74	>75% Grass cover, Good, HSG C
2,407	98	Weighted Average
2,407		100.00% Impervious Area

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

Subcatchment 14S: Roadway

Hydrograph



Summary for Subcatchment 15S: 19S

Runoff = 5.05 cfs @ 12.24 hrs, Volume= 0.505 af, Depth= 3.42"

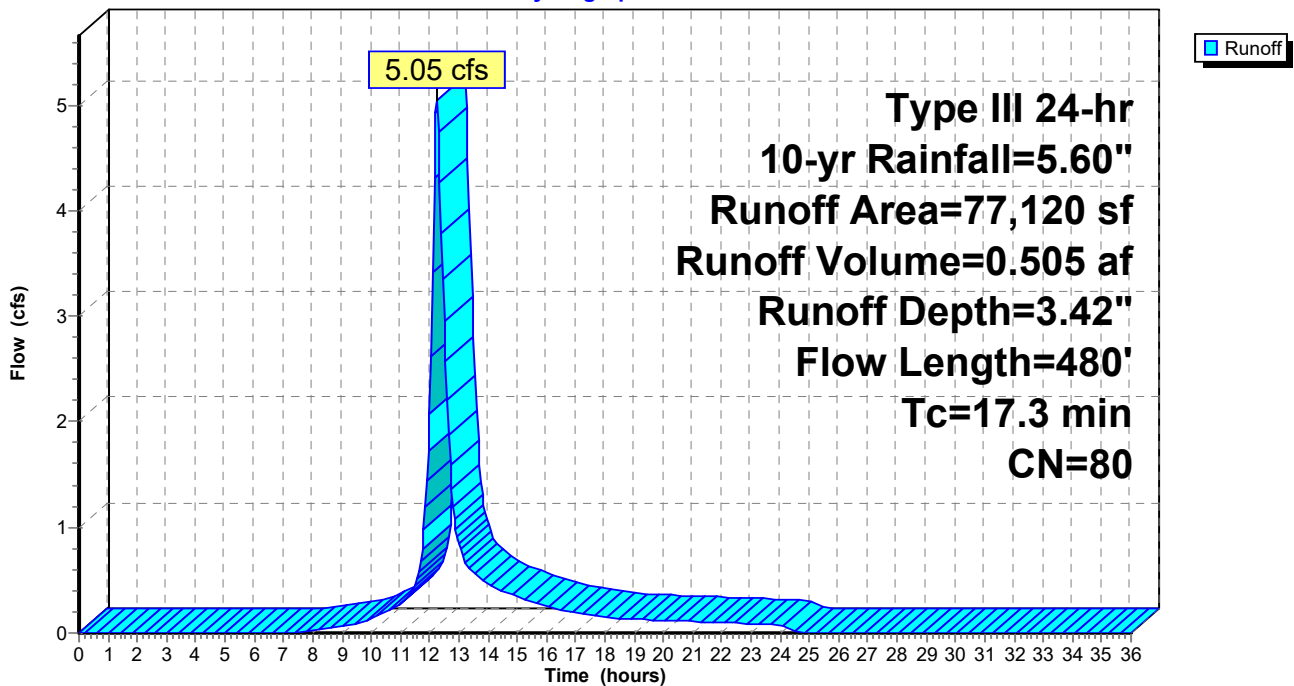
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.60"

Area (sf)	CN	Description
5,444	98	Paved parking, HSG C
14,000	98	Roofs, HSG C
57,676	74	>75% Grass cover, Good, HSG C
77,120	80	Weighted Average
57,676		74.79% Pervious Area
19,444		25.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.2	100	0.0400	0.11		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.69"
2.0	315	0.0300	2.60		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
0.1	65	0.0600	10.80	45.37	Channel Flow, Area= 4.2 sf Perim= 5.0' r= 0.84' n= 0.030 Earth, grassed & winding
17.3	480	Total			

Subcatchment 15S: 19S

Hydrograph



Summary for Subcatchment 16S: Cul-de-sac

Runoff = 0.51 cfs @ 12.09 hrs, Volume= 0.038 af, Depth= 4.14"

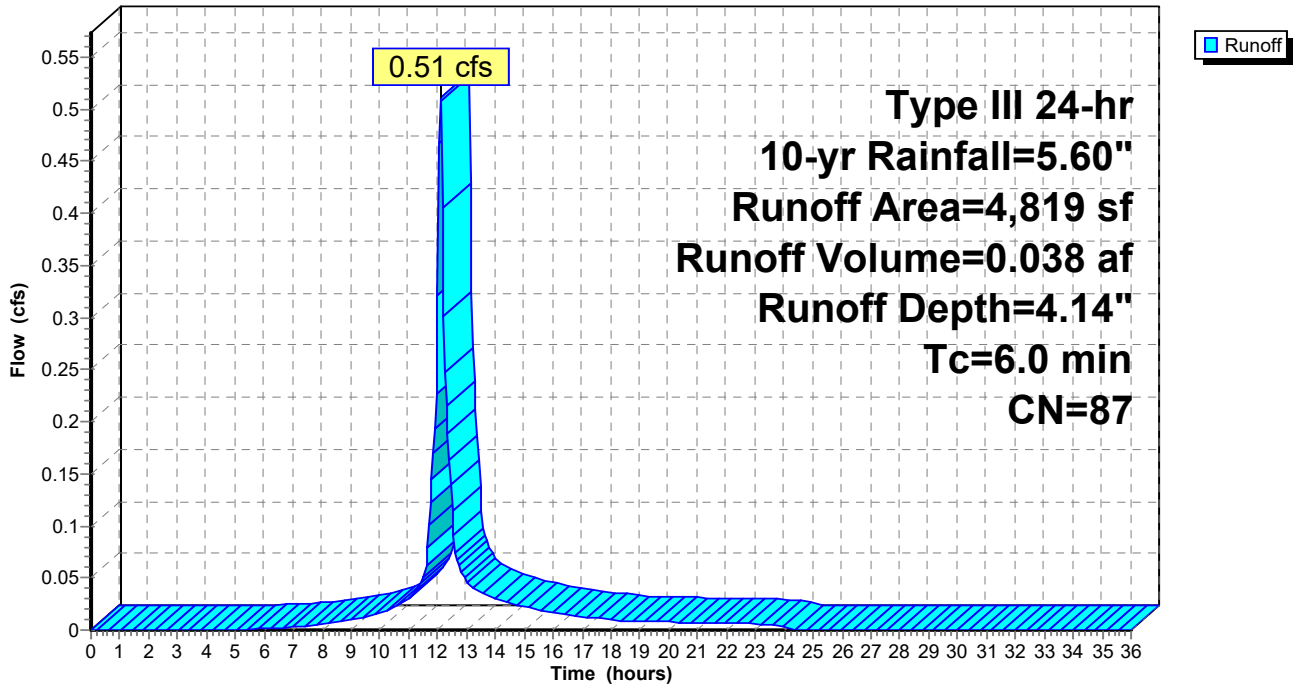
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-yr Rainfall=5.60"

Area (sf)	CN	Description
2,696	98	Paved parking, HSG C
0	98	Roofs, HSG C
2,123	74	>75% Grass cover, Good, HSG C
4,819	87	Weighted Average
2,123		44.05% Pervious Area
2,696		55.95% Impervious Area

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

Subcatchment 16S: Cul-de-sac

Hydrograph



Summary for Subcatchment 20S: Remaining Land

Runoff = 3.22 cfs @ 12.13 hrs, Volume= 0.257 af, Depth= 2.58"

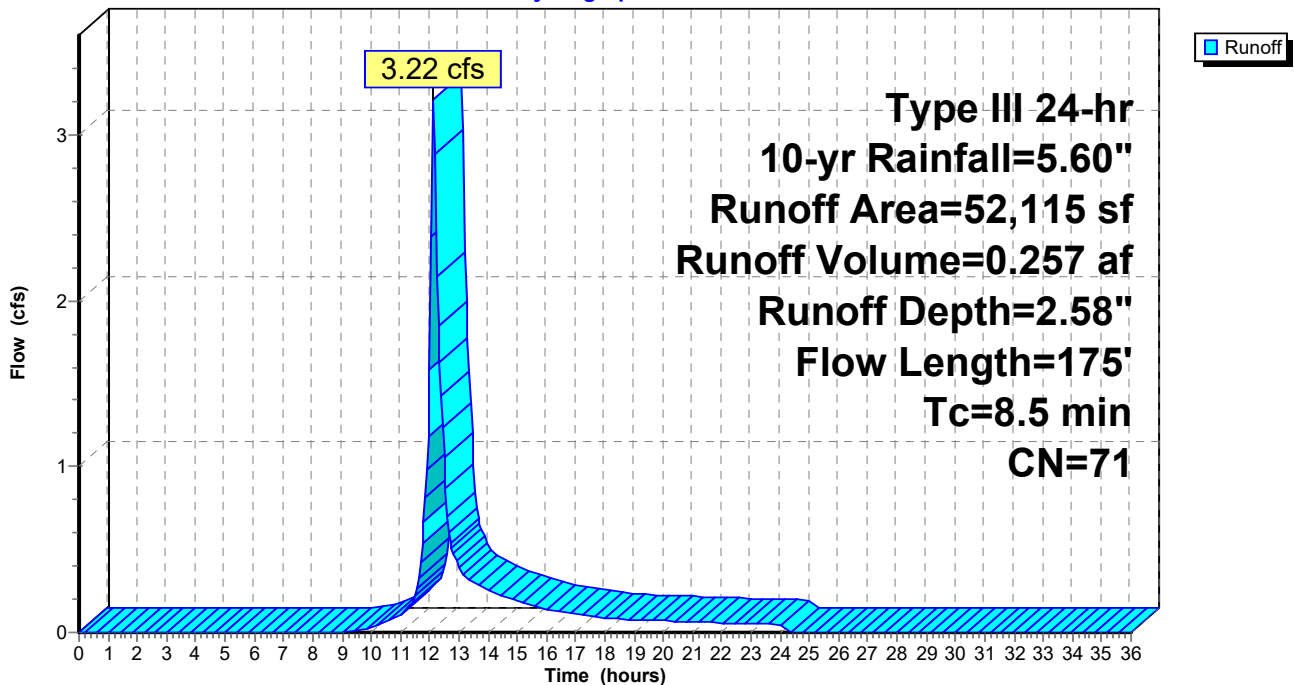
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.60"

Area (sf)	CN	Description
40,658	70	Woods, Good, HSG C
11,457	74	>75% Grass cover, Good, HSG C
52,115	71	Weighted Average
52,115		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.2	35	0.0850	0.26		Sheet Flow, Grass: Short n= 0.150 P2= 3.69"
5.3	50	0.1400	0.16		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.69"
1.0	90	0.0900	1.50		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
8.5	175	Total			

Subcatchment 20S: Remaining Land

Hydrograph



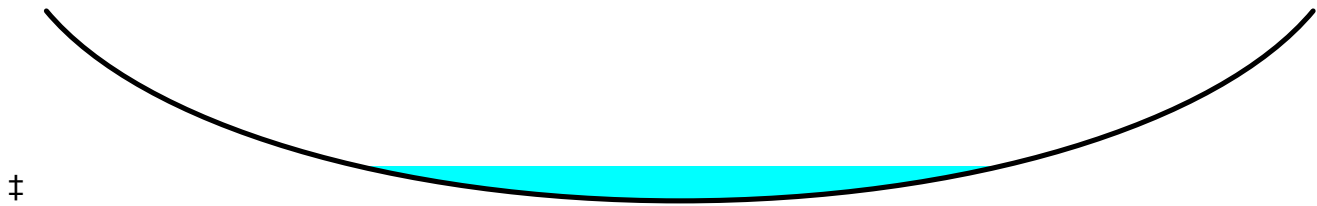
Summary for Reach 16R: Outfall

Inflow Area = 2.276 ac, 33.71% Impervious, Inflow Depth > 0.78" for 10-yr event
 Inflow = 0.12 cfs @ 12.24 hrs, Volume= 0.149 af
 Outflow = 0.12 cfs @ 12.28 hrs, Volume= 0.149 af, Atten= 0%, Lag= 2.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Max. Velocity= 0.80 fps, Min. Travel Time= 1.6 min
 Avg. Velocity = 0.64 fps, Avg. Travel Time= 1.9 min

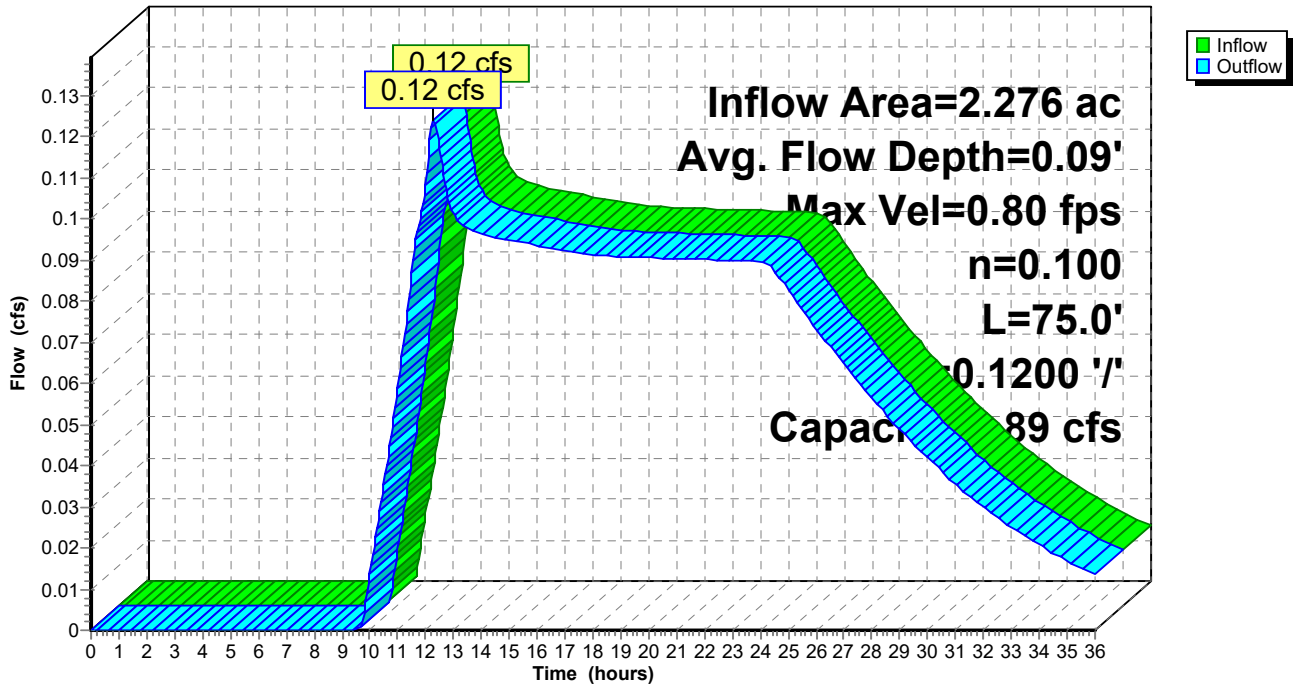
Peak Storage= 12 cf @ 12.26 hrs
 Average Depth at Peak Storage= 0.09'
 Bank-Full Depth= 0.50' Flow Area= 2.0 sf, Capacity= 4.89 cfs

6.00' x 0.50' deep Parabolic Channel, n= 0.100 Earth, dense brush, high stage
 Length= 75.0' Slope= 0.1200 '/'
 Inlet Invert= 14.00', Outlet Invert= 5.00'



Reach 16R: Outfall

Hydrograph



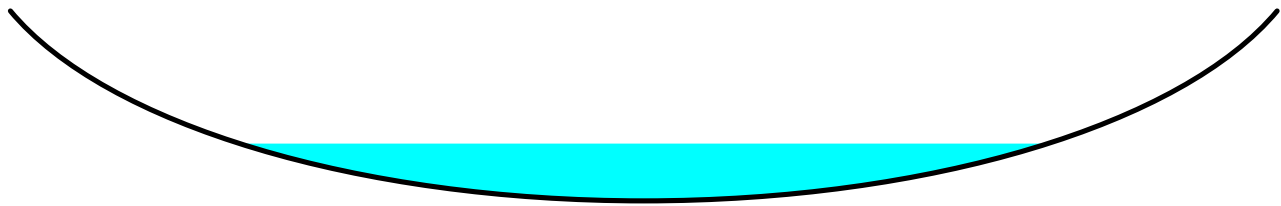
Summary for Reach 100R: POA #1

Inflow Area = 3.472 ac, 22.09% Impervious, Inflow Depth > 3.18" for 10-yr event
 Inflow = 8.97 cfs @ 12.17 hrs, Volume= 0.921 af
 Outflow = 8.97 cfs @ 12.17 hrs, Volume= 0.921 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Max. Velocity= 2.03 fps, Min. Travel Time= 0.0 min
 Avg. Velocity = 0.61 fps, Avg. Travel Time= 0.0 min

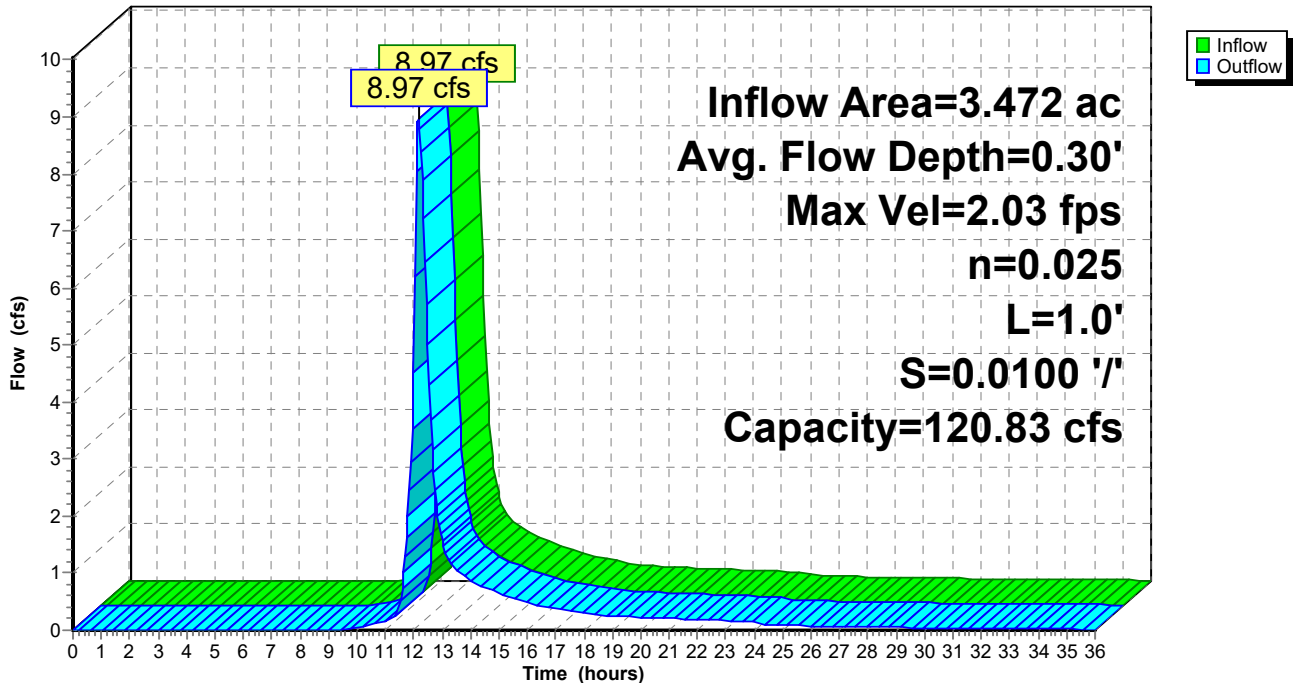
Peak Storage= 4 cf @ 12.17 hrs
 Average Depth at Peak Storage= 0.30'
 Bank-Full Depth= 1.00' Flow Area= 26.7 sf, Capacity= 120.83 cfs

40.00' x 1.00' deep Parabolic Channel, n= 0.025 Earth, clean & winding
 Length= 1.0' Slope= 0.0100 '/'
 Inlet Invert= 1.00', Outlet Invert= 0.99'



Reach 100R: POA #1

Hydrograph



Summary for Pond 10P: PCB #10

Inflow Area = 0.112 ac, 59.56% Impervious, Inflow Depth = 4.24" for 10-yr event
 Inflow = 0.53 cfs @ 12.09 hrs, Volume= 0.040 af
 Outflow = 0.53 cfs @ 12.09 hrs, Volume= 0.040 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.53 cfs @ 12.09 hrs, Volume= 0.040 af

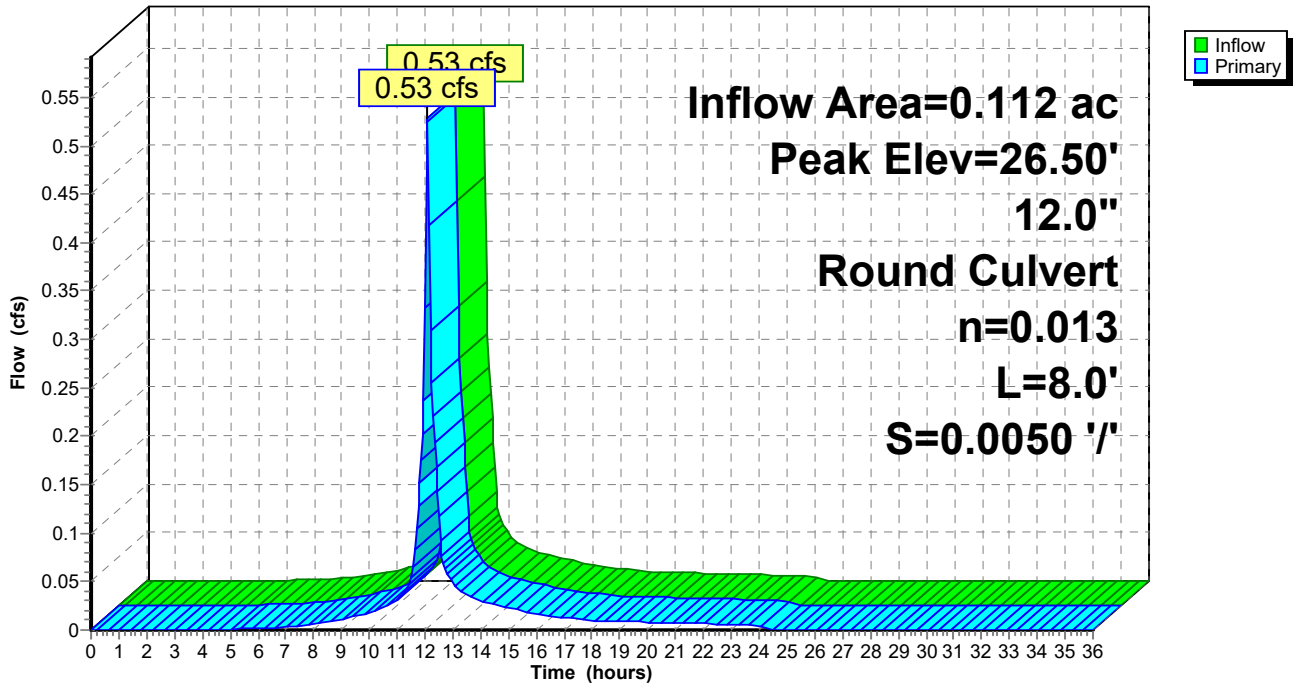
Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Peak Elev= 26.50' @ 12.09 hrs
 Flood Elev= 29.55'

Device	Routing	Invert	Outlet Devices
#1	Primary	26.05'	12.0" Round Culvert L= 8.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 26.05' / 26.01' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.51 cfs @ 12.09 hrs HW=26.49' (Free Discharge)
 ↳ **1=Culvert** (Barrel Controls 0.51 cfs @ 2.27 fps)

Pond 10P: PCB #10

Hydrograph



Summary for Pond 11P: PCB #11

Inflow Area = 0.154 ac, 62.13% Impervious, Inflow Depth = 4.35" for 10-yr event
 Inflow = 0.74 cfs @ 12.09 hrs, Volume= 0.056 af
 Outflow = 0.74 cfs @ 12.09 hrs, Volume= 0.056 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.74 cfs @ 12.09 hrs, Volume= 0.056 af

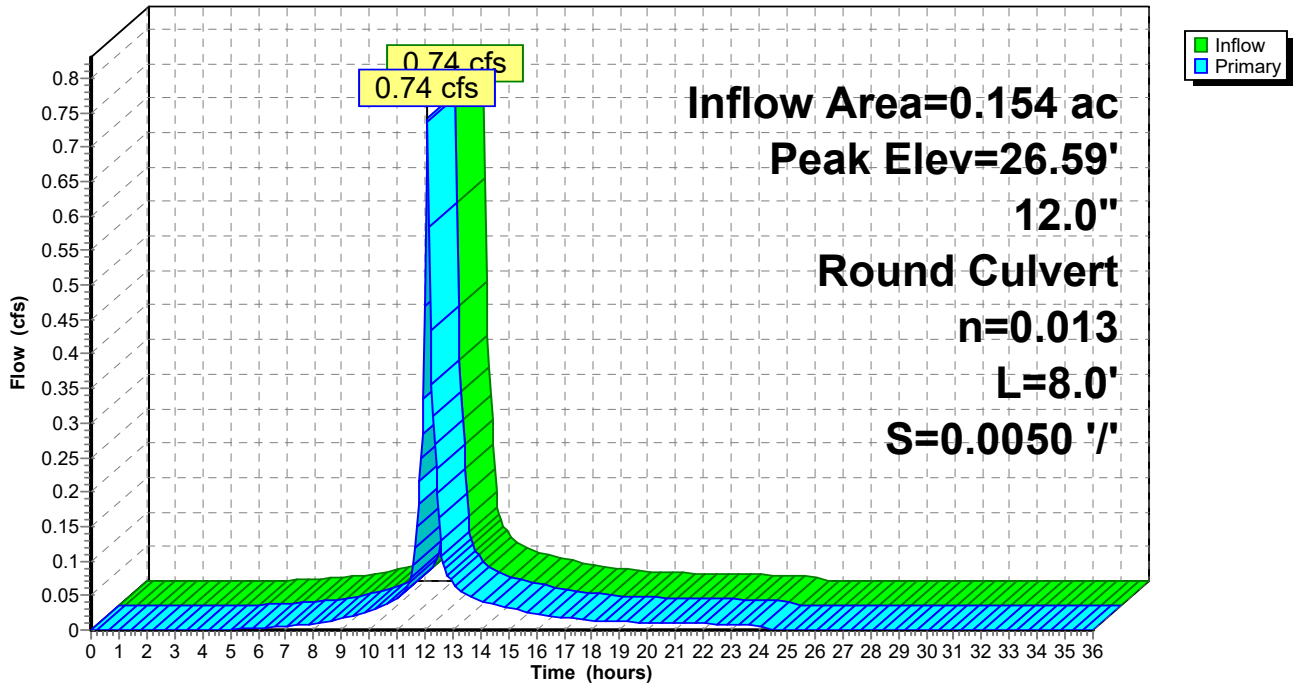
Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Peak Elev= 26.59' @ 12.09 hrs
 Flood Elev= 29.55'

Device	Routing	Invert	Outlet Devices
#1	Primary	26.05'	12.0" Round Culvert L= 8.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 26.05' / 26.01' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.72 cfs @ 12.09 hrs HW=26.58' (Free Discharge)
 ←1=Culvert (Barrel Controls 0.72 cfs @ 2.48 fps)

Pond 11P: PCB #11

Hydrograph



Summary for Pond 12P: PDMH #13

Inflow Area = 0.266 ac, 61.05% Impervious, Inflow Depth = 4.30" for 10-yr event
 Inflow = 1.27 cfs @ 12.09 hrs, Volume= 0.095 af
 Outflow = 1.27 cfs @ 12.09 hrs, Volume= 0.095 af, Atten= 0%, Lag= 0.0 min
 Primary = 1.27 cfs @ 12.09 hrs, Volume= 0.095 af

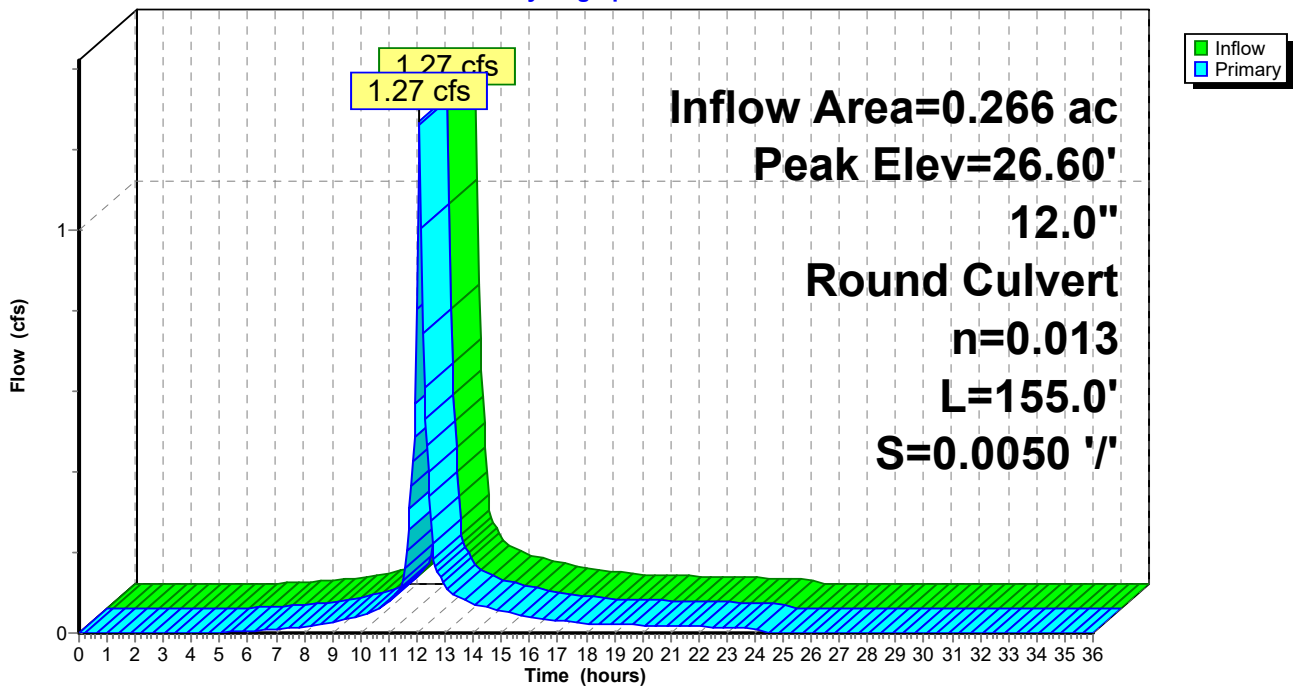
Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Peak Elev= 26.60' @ 12.09 hrs
 Flood Elev= 29.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	25.91'	12.0" Round Culvert L= 155.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 25.91' / 25.14' S= 0.0050 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.24 cfs @ 12.09 hrs HW=26.59' (Free Discharge)
 ↳ **1=Culvert** (Barrel Controls 1.24 cfs @ 3.10 fps)

Pond 12P: PDMH #13

Hydrograph



Summary for Pond 13P: PCB #12

Inflow Area = 0.073 ac, 56.17% Impervious, Inflow Depth = 4.14" for 10-yr event
 Inflow = 0.34 cfs @ 12.09 hrs, Volume= 0.025 af
 Outflow = 0.34 cfs @ 12.09 hrs, Volume= 0.025 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.34 cfs @ 12.09 hrs, Volume= 0.025 af

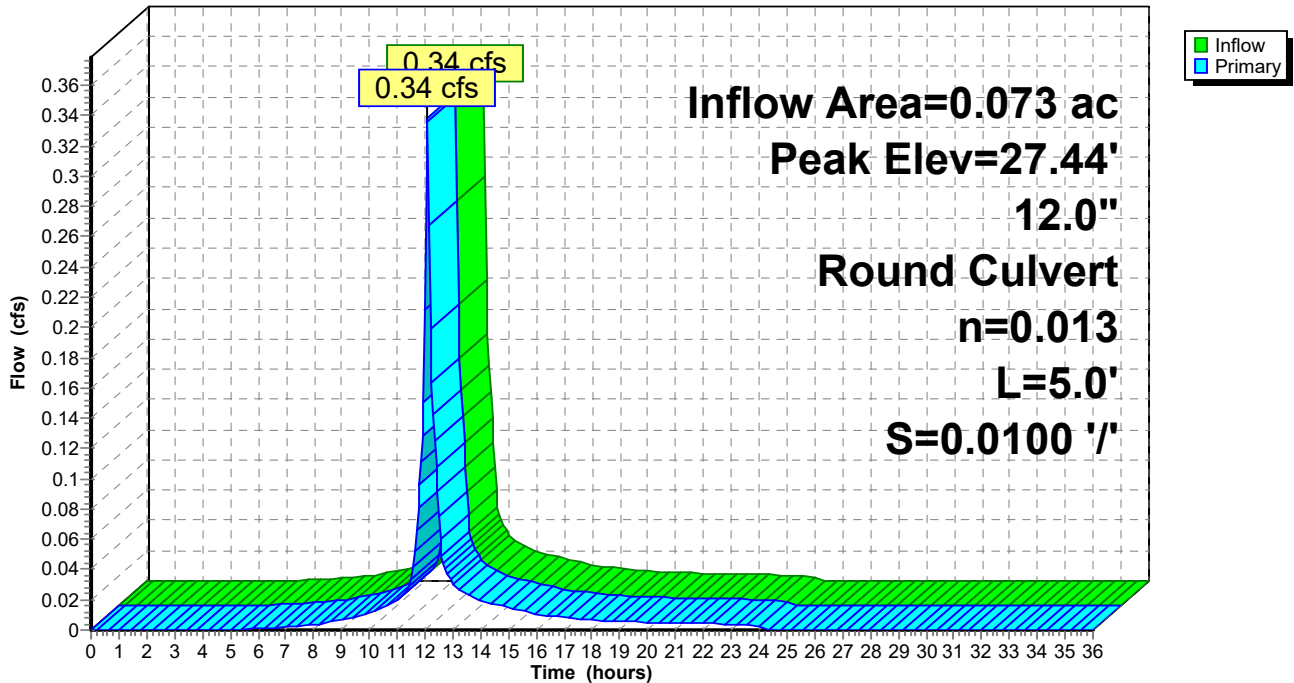
Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Peak Elev= 27.44' @ 12.09 hrs
 Flood Elev= 31.10'

Device	Routing	Invert	Outlet Devices
#1	Primary	27.10'	12.0" Round Culvert L= 5.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 27.10' / 27.05' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.33 cfs @ 12.09 hrs HW=27.43' (Free Discharge)
 ↑**1=Culvert** (Barrel Controls 0.33 cfs @ 2.17 fps)

Pond 13P: PCB #12

Hydrograph



Summary for Pond 14P: PCB #13

Inflow Area = 0.055 ac, 100.00% Impervious, Inflow Depth = 5.36" for 10-yr event
 Inflow = 0.30 cfs @ 12.09 hrs, Volume= 0.025 af
 Outflow = 0.30 cfs @ 12.09 hrs, Volume= 0.025 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.30 cfs @ 12.09 hrs, Volume= 0.025 af

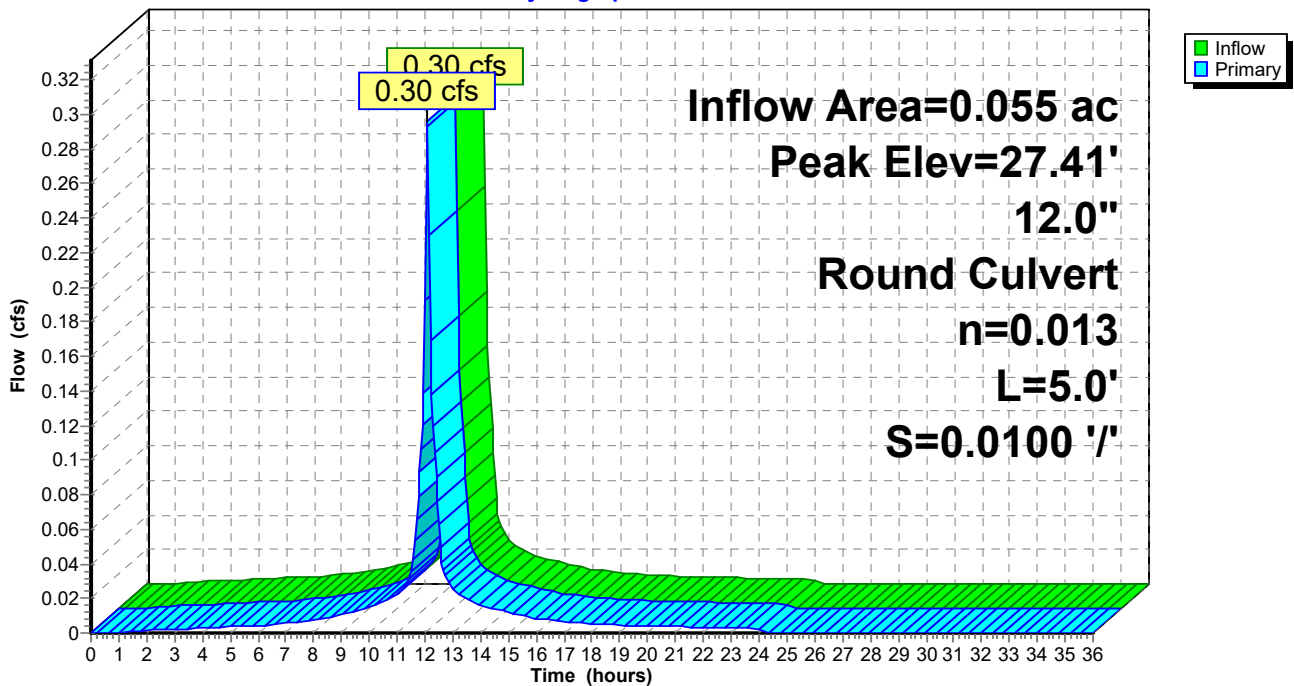
Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Peak Elev= 27.41' @ 12.09 hrs
 Flood Elev= 31.10'

Device	Routing	Invert	Outlet Devices
#1	Primary	27.10'	12.0" Round Culvert L= 5.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 27.10' / 27.05' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.29 cfs @ 12.09 hrs HW=27.41' (Free Discharge)
 ←1=Culvert (Barrel Controls 0.29 cfs @ 2.10 fps)

Pond 14P: PCB #13

Hydrograph



Summary for Pond 15P: PDMH #15

Inflow Area = 0.394 ac, 65.60% Impervious, Inflow Depth = 4.42" for 10-yr event
 Inflow = 1.90 cfs @ 12.09 hrs, Volume= 0.145 af
 Outflow = 1.90 cfs @ 12.09 hrs, Volume= 0.145 af, Atten= 0%, Lag= 0.0 min
 Primary = 1.90 cfs @ 12.09 hrs, Volume= 0.145 af

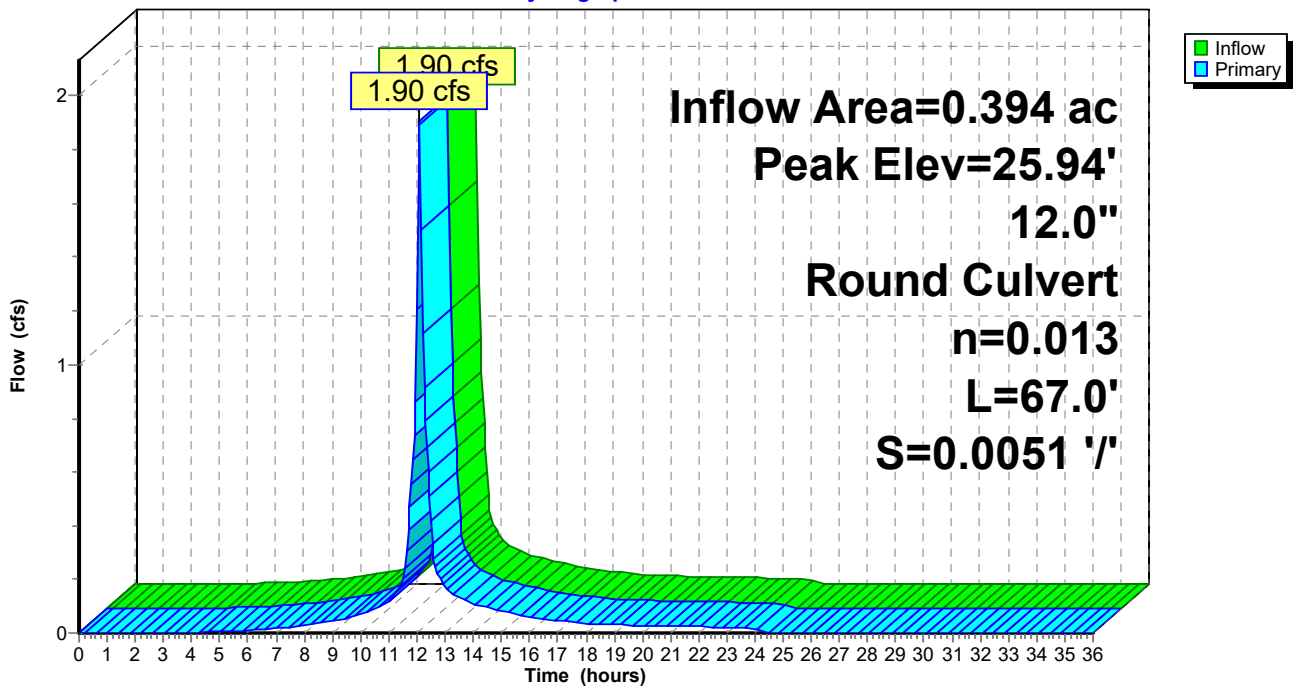
Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Peak Elev= 25.94' @ 12.09 hrs
 Flood Elev= 31.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	25.04'	12.0" Round Culvert L= 67.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 25.04' / 24.70' S= 0.0051 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.86 cfs @ 12.09 hrs HW=25.93' (Free Discharge)
 ←1=Culvert (Barrel Controls 1.86 cfs @ 3.35 fps)

Pond 15P: PDMH #15

Hydrograph



Summary for Pond 16P: PCB #14

Inflow Area = 0.111 ac, 55.95% Impervious, Inflow Depth = 4.14" for 10-yr event
 Inflow = 0.51 cfs @ 12.09 hrs, Volume= 0.038 af
 Outflow = 0.51 cfs @ 12.09 hrs, Volume= 0.038 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.51 cfs @ 12.09 hrs, Volume= 0.038 af

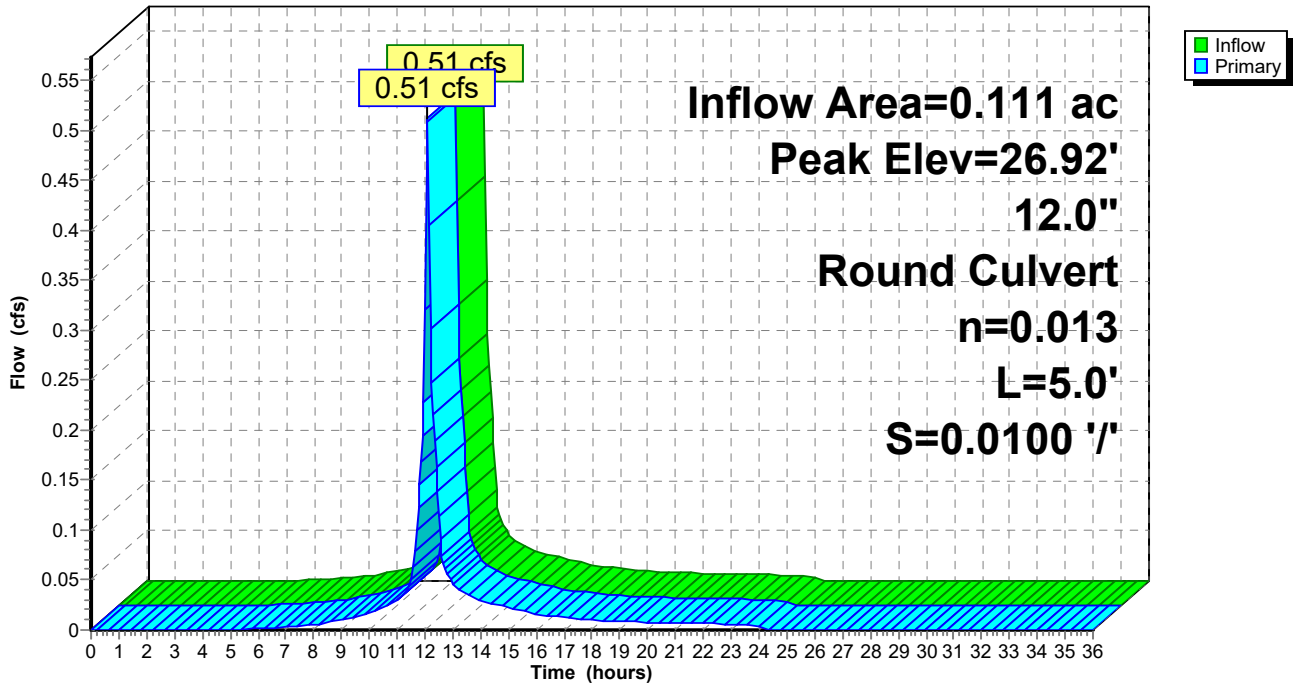
Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Peak Elev= 26.92' @ 12.09 hrs
 Flood Elev= 30.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	26.50'	12.0" Round Culvert L= 5.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 26.50' / 26.45' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.50 cfs @ 12.09 hrs HW=26.92' (Free Discharge)
 ←1=Culvert (Barrel Controls 0.50 cfs @ 2.38 fps)

Pond 16P: PCB #14

Hydrograph



Summary for Pond 17P: PDMH #17

Inflow Area = 0.505 ac, 63.49% Impervious, Inflow Depth = 4.36" for 10-yr event
 Inflow = 2.41 cfs @ 12.09 hrs, Volume= 0.183 af
 Outflow = 2.41 cfs @ 12.09 hrs, Volume= 0.183 af, Atten= 0%, Lag= 0.0 min
 Primary = 2.41 cfs @ 12.09 hrs, Volume= 0.183 af

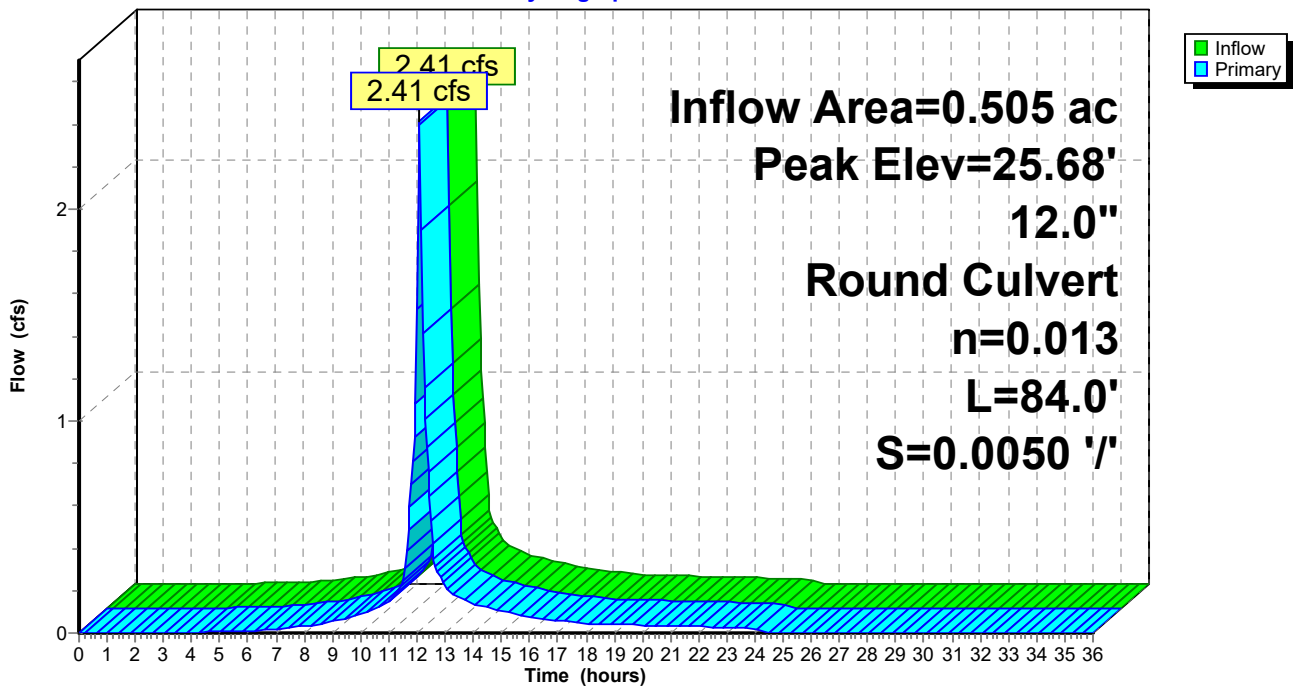
Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Peak Elev= 25.68' @ 12.09 hrs
 Flood Elev= 30.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	24.60'	12.0" Round Culvert L= 84.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 24.60' / 24.18' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=2.36 cfs @ 12.09 hrs HW=25.66' (Free Discharge)
 ←1=Culvert (Barrel Controls 2.36 cfs @ 3.53 fps)

Pond 17P: PDMH #17

Hydrograph



Summary for Pond 18P: PDMH #15

Inflow Area = 0.505 ac, 63.49% Impervious, Inflow Depth = 4.36" for 10-yr event
 Inflow = 2.41 cfs @ 12.09 hrs, Volume= 0.183 af
 Outflow = 2.41 cfs @ 12.09 hrs, Volume= 0.183 af, Atten= 0%, Lag= 0.0 min
 Primary = 2.41 cfs @ 12.09 hrs, Volume= 0.183 af

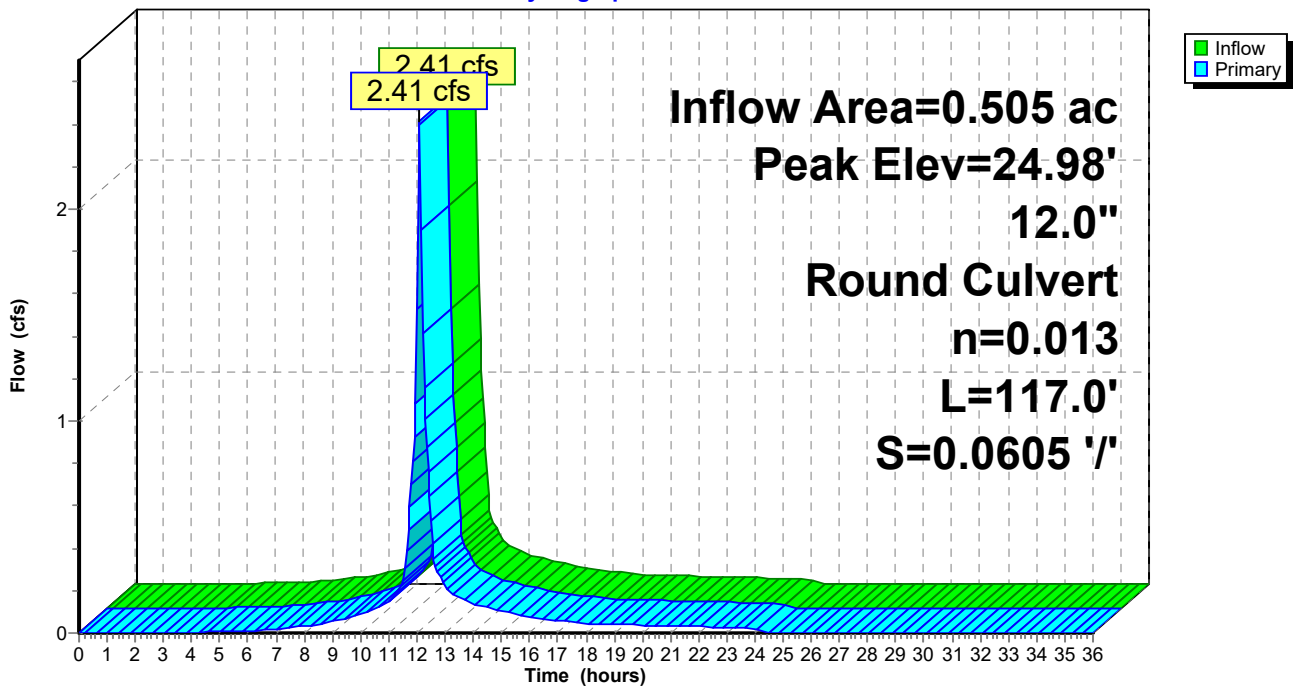
Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Peak Elev= 24.98' @ 12.09 hrs
 Flood Elev= 30.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	24.08'	12.0" Round Culvert L= 117.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 24.08' / 17.00' S= 0.0605 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=2.36 cfs @ 12.09 hrs HW=24.97' (Free Discharge)
 ←1=Culvert (Inlet Controls 2.36 cfs @ 3.20 fps)

Pond 18P: PDMH #15

Hydrograph



Summary for Pond 19P: Raingarden #1

Inflow Area = 2.276 ac, 33.71% Impervious, Inflow Depth = 3.63" for 10-yr event
 Inflow = 6.34 cfs @ 12.20 hrs, Volume= 0.688 af
 Outflow = 6.25 cfs @ 12.24 hrs, Volume= 0.664 af, Atten= 1%, Lag= 2.5 min
 Primary = 0.12 cfs @ 12.24 hrs, Volume= 0.149 af
 Secondary = 6.13 cfs @ 12.24 hrs, Volume= 0.515 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Peak Elev= 18.39' @ 12.24 hrs Surf.Area= 3,517 sf Storage= 4,173 cf

Plug-Flow detention time= 102.7 min calculated for 0.663 af (96% of inflow)
 Center-of-Mass det. time= 83.6 min (900.5 - 816.8)

Volume	Invert	Avail.Storage	Storage Description	
#1	14.00'	6,640 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
14.00	1,288	0.0	0	0
15.25	1,288	40.0	644	644
15.50	1,288	33.0	106	750
17.00	1,288	5.0	97	847
18.00	2,892	100.0	2,090	2,937
19.00	4,514	100.0	3,703	6,640

Device	Routing	Invert	Outlet Devices
#1	Primary	14.50'	6.0" Round Culvert L= 47.0' Ke= 0.500 Inlet / Outlet Invert= 14.50' / 14.03' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.20 sf
#2	Device 1	17.00'	2.410 in/hr Exfiltration over Surface area above 17.00' Excluded Surface area = 1,288 sf
#3	Secondary	18.00'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.12 cfs @ 12.24 hrs HW=18.38' (Free Discharge)

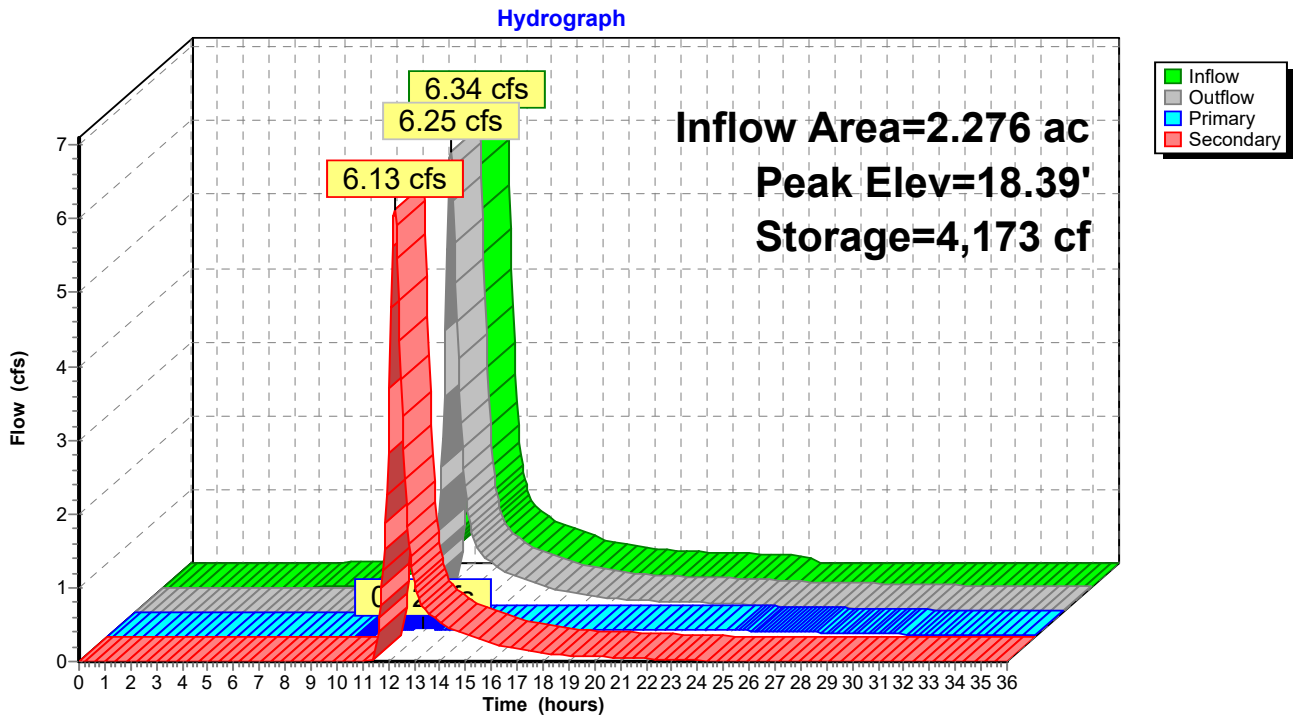
↑1=Culvert (Passes 0.12 cfs of 1.43 cfs potential flow)

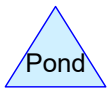
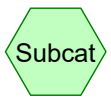
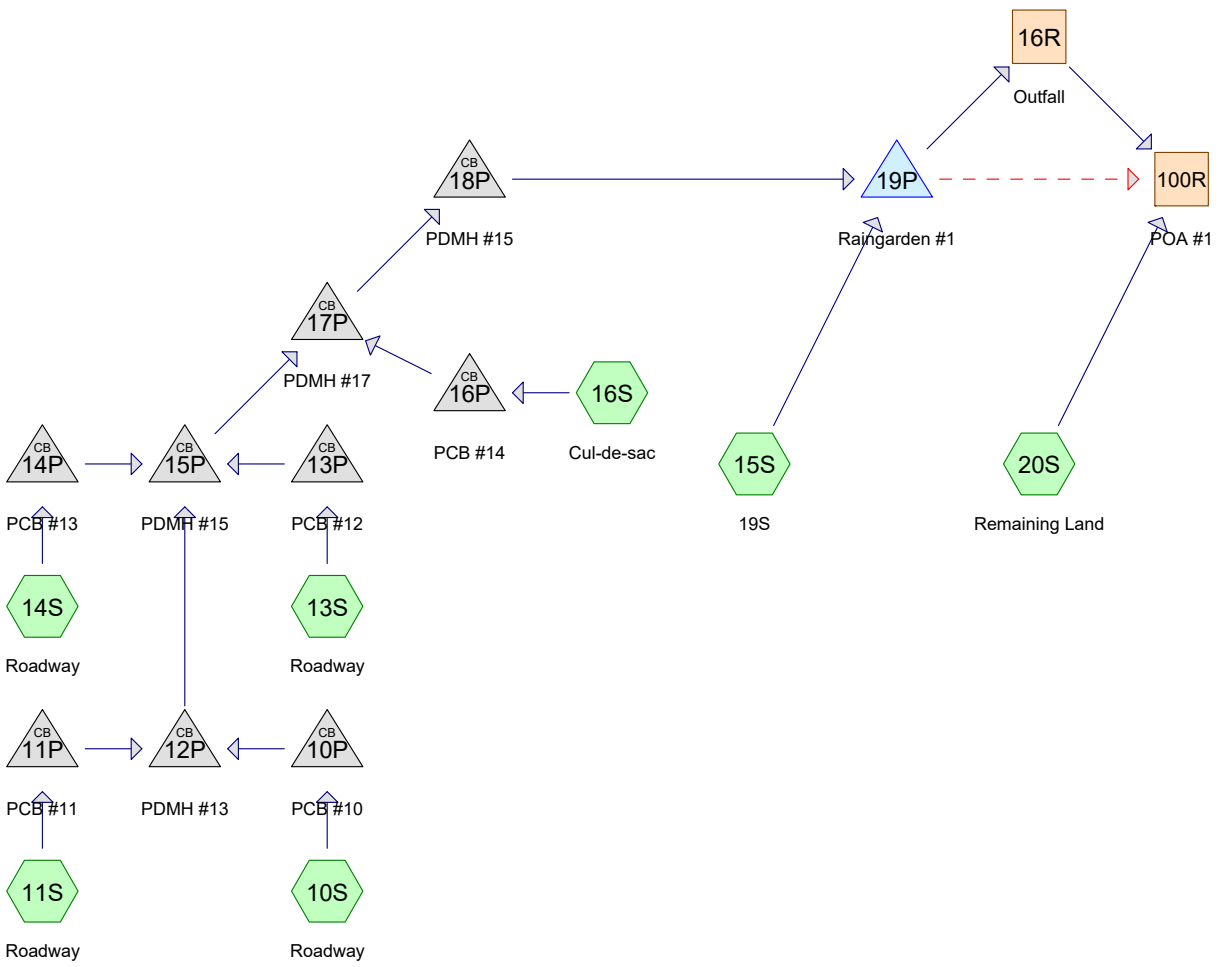
↑2=Exfiltration (Exfiltration Controls 0.12 cfs)

Secondary OutFlow Max=6.09 cfs @ 12.24 hrs HW=18.38' (Free Discharge)

↑3=Broad-Crested Rectangular Weir (Weir Controls 6.09 cfs @ 1.58 fps)

Pond 19P: Raingarden #1





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Type III 24-hr 25-yr Rainfall=7.10"

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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 10S: Roadway	Runoff Area=4,876 sf 59.56% Impervious Runoff Depth=5.69" Tc=6.0 min CN=88 Runoff=0.70 cfs 0.053 af
Subcatchment 11S: Roadway	Runoff Area=6,718 sf 62.13% Impervious Runoff Depth=5.81" Tc=6.0 min CN=89 Runoff=0.97 cfs 0.075 af
Subcatchment 13S: Roadway	Runoff Area=3,183 sf 56.17% Impervious Runoff Depth=5.58" Tc=6.0 min CN=87 Runoff=0.45 cfs 0.034 af
Subcatchment 14S: Roadway	Runoff Area=2,407 sf 100.00% Impervious Runoff Depth=6.86" Tc=6.0 min CN=98 Runoff=0.38 cfs 0.032 af
Subcatchment 15S: 19S	Runoff Area=77,120 sf 25.21% Impervious Runoff Depth=4.79" Flow Length=480' Tc=17.3 min CN=80 Runoff=7.02 cfs 0.706 af
Subcatchment 16S: Cul-de-sac	Runoff Area=4,819 sf 55.95% Impervious Runoff Depth=5.58" Tc=6.0 min CN=87 Runoff=0.68 cfs 0.051 af
Subcatchment 20S: Remaining Land	Runoff Area=52,115 sf 0.00% Impervious Runoff Depth=3.81" Flow Length=175' Tc=8.5 min CN=71 Runoff=4.83 cfs 0.380 af
Reach 16R: Outfall	Avg. Flow Depth=0.09' Max Vel=0.81 fps Inflow=0.13 cfs 0.158 af n=0.100 L=75.0' S=0.1200 '/' Capacity=4.89 cfs Outflow=0.13 cfs 0.158 af
Reach 100R: POA #1	Avg. Flow Depth=0.35' Max Vel=2.27 fps Inflow=12.73 cfs 1.306 af n=0.025 L=1.0' S=0.0100 '/' Capacity=120.83 cfs Outflow=12.73 cfs 1.306 af
Pond 10P: PCB #10	Peak Elev=26.57' Inflow=0.70 cfs 0.053 af 12.0" Round Culvert n=0.013 L=8.0' S=0.0050 '/' Outflow=0.70 cfs 0.053 af
Pond 11P: PCB #11	Peak Elev=26.68' Inflow=0.97 cfs 0.075 af 12.0" Round Culvert n=0.013 L=8.0' S=0.0050 '/' Outflow=0.97 cfs 0.075 af
Pond 12P: PDMH #13	Peak Elev=26.72' Inflow=1.67 cfs 0.128 af 12.0" Round Culvert n=0.013 L=155.0' S=0.0050 '/' Outflow=1.67 cfs 0.128 af
Pond 13P: PCB #12	Peak Elev=27.49' Inflow=0.45 cfs 0.034 af 12.0" Round Culvert n=0.013 L=5.0' S=0.0100 '/' Outflow=0.45 cfs 0.034 af
Pond 14P: PCB #13	Peak Elev=27.46' Inflow=0.38 cfs 0.032 af 12.0" Round Culvert n=0.013 L=5.0' S=0.0100 '/' Outflow=0.38 cfs 0.032 af
Pond 15P: PDMH #15	Peak Elev=26.15' Inflow=2.50 cfs 0.193 af 12.0" Round Culvert n=0.013 L=67.0' S=0.0051 '/' Outflow=2.50 cfs 0.193 af
Pond 16P: PCB #14	Peak Elev=27.00' Inflow=0.68 cfs 0.051 af 12.0" Round Culvert n=0.013 L=5.0' S=0.0100 '/' Outflow=0.68 cfs 0.051 af

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Type III 24-hr 25-yr Rainfall=7.10"

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Pond 17P: PDMH #17

Peak Elev=26.24' Inflow=3.18 cfs 0.245 af
12.0" Round Culvert n=0.013 L=84.0' S=0.0050 '/ Outflow=3.18 cfs 0.245 af

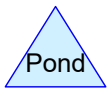
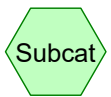
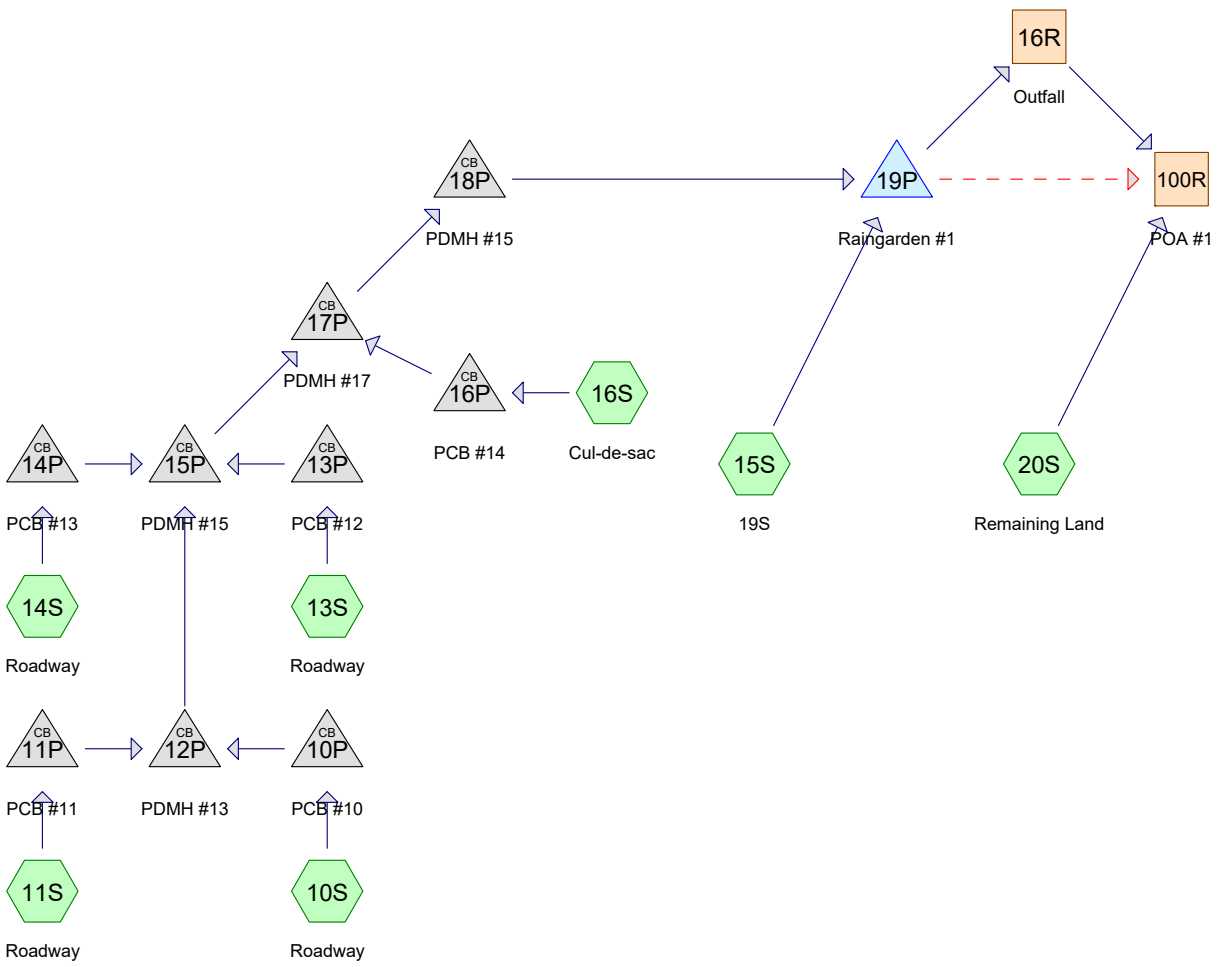
Pond 18P: PDMH #15

Peak Elev=25.28' Inflow=3.18 cfs 0.245 af
12.0" Round Culvert n=0.013 L=117.0' S=0.0605 '/ Outflow=3.18 cfs 0.245 af

Pond 19P: Raingarden #1

Peak Elev=18.47' Storage=4,485 cf Inflow=8.72 cfs 0.951 af
Primary=0.13 cfs 0.158 af Secondary=8.50 cfs 0.769 af Outflow=8.63 cfs 0.926 af

Total Runoff Area = 3.472 ac Runoff Volume = 1.331 af Average Runoff Depth = 4.60"
77.91% Pervious = 2.705 ac 22.09% Impervious = 0.767 ac



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Type III 24-hr 50-yr Rainfall=8.50"

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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 10S: Roadway	Runoff Area=4,876 sf 59.56% Impervious Runoff Depth=7.06" Tc=6.0 min CN=88 Runoff=0.85 cfs 0.066 af
Subcatchment 11S: Roadway	Runoff Area=6,718 sf 62.13% Impervious Runoff Depth=7.18" Tc=6.0 min CN=89 Runoff=1.19 cfs 0.092 af
Subcatchment 13S: Roadway	Runoff Area=3,183 sf 56.17% Impervious Runoff Depth=6.94" Tc=6.0 min CN=87 Runoff=0.55 cfs 0.042 af
Subcatchment 14S: Roadway	Runoff Area=2,407 sf 100.00% Impervious Runoff Depth=8.26" Tc=6.0 min CN=98 Runoff=0.45 cfs 0.038 af
Subcatchment 15S: 19S	Runoff Area=77,120 sf 25.21% Impervious Runoff Depth=6.10" Flow Length=480' Tc=17.3 min CN=80 Runoff=8.87 cfs 0.899 af
Subcatchment 16S: Cul-de-sac	Runoff Area=4,819 sf 55.95% Impervious Runoff Depth=6.94" Tc=6.0 min CN=87 Runoff=0.84 cfs 0.064 af
Subcatchment 20S: Remaining Land	Runoff Area=52,115 sf 0.00% Impervious Runoff Depth=5.02" Flow Length=175' Tc=8.5 min CN=71 Runoff=6.36 cfs 0.500 af
Reach 16R: Outfall	Avg. Flow Depth=0.10' Max Vel=0.82 fps Inflow=0.14 cfs 0.165 af n=0.100 L=75.0' S=0.1200 '/' Capacity=4.89 cfs Outflow=0.14 cfs 0.165 af
Reach 100R: POA #1	Avg. Flow Depth=0.40' Max Vel=2.45 fps Inflow=16.31 cfs 1.677 af n=0.025 L=1.0' S=0.0100 '/' Capacity=120.83 cfs Outflow=16.31 cfs 1.677 af
Pond 10P: PCB #10	Peak Elev=26.63' Inflow=0.85 cfs 0.066 af 12.0" Round Culvert n=0.013 L=8.0' S=0.0050 '/' Outflow=0.85 cfs 0.066 af
Pond 11P: PCB #11	Peak Elev=26.75' Inflow=1.19 cfs 0.092 af 12.0" Round Culvert n=0.013 L=8.0' S=0.0050 '/' Outflow=1.19 cfs 0.092 af
Pond 12P: PDMH #13	Peak Elev=26.85' Inflow=2.04 cfs 0.158 af 12.0" Round Culvert n=0.013 L=155.0' S=0.0050 '/' Outflow=2.04 cfs 0.158 af
Pond 13P: PCB #12	Peak Elev=27.54' Inflow=0.55 cfs 0.042 af 12.0" Round Culvert n=0.013 L=5.0' S=0.0100 '/' Outflow=0.55 cfs 0.042 af
Pond 14P: PCB #13	Peak Elev=27.49' Inflow=0.45 cfs 0.038 af 12.0" Round Culvert n=0.013 L=5.0' S=0.0100 '/' Outflow=0.45 cfs 0.038 af
Pond 15P: PDMH #15	Peak Elev=26.55' Inflow=3.05 cfs 0.238 af 12.0" Round Culvert n=0.013 L=67.0' S=0.0051 '/' Outflow=3.05 cfs 0.238 af
Pond 16P: PCB #14	Peak Elev=27.06' Inflow=0.84 cfs 0.064 af 12.0" Round Culvert n=0.013 L=5.0' S=0.0100 '/' Outflow=0.84 cfs 0.064 af

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Type III 24-hr 50-yr Rainfall=8.50"

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Pond 17P: PDMH #17

Peak Elev=26.74' Inflow=3.88 cfs 0.302 af
12.0" Round Culvert n=0.013 L=84.0' S=0.0050 '/ Outflow=3.88 cfs 0.302 af

Pond 18P: PDMH #15

Peak Elev=25.63' Inflow=3.88 cfs 0.302 af
12.0" Round Culvert n=0.013 L=117.0' S=0.0605 '/ Outflow=3.88 cfs 0.302 af

Pond 19P: Raingarden #1

Peak Elev=18.54' Storage=4,754 cf Inflow=10.96 cfs 1.202 af
Primary=0.14 cfs 0.165 af Secondary=10.71 cfs 1.012 af Outflow=10.85 cfs 1.177 af

Total Runoff Area = 3.472 ac Runoff Volume = 1.702 af Average Runoff Depth = 5.88"
77.91% Pervious = 2.705 ac 22.09% Impervious = 0.767 ac

Section 5

BMP and Riprap Calculations



FILTRATION PRACTICE DESIGN CRITERIA (Env-Wq 1508.07)

Type/Node Name: _____

Pond 16P - Raingarden 1

Enter the type of filtration practice (e.g., bioretention system) and the node name in the drainage analysis, if applicable

Yes		Have you reviewed the restrictions on unlined systems outlined in Env-Wq 1508.07(a)?	
2.28	ac	A = Area draining to the practice	
0.77	ac	A _I = Impervious area draining to the practice	
0.34	decimal	I = percent impervious area draining to the practice, in decimal form	
0.35	unitless	R _v = Runoff coefficient = 0.05 + (0.9 x I)	
0.81	ac-in	WQV = 1" x R _v x A	
2,929	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
732	cf	25% x WQV (check calc for sediment forebay volume)	
2,197	cf	75% x WQV (check calc for surface sand filter volume)	
Deep Sump CB		Method of Pretreatment? (not required for clean or roof runoff)	
	cf	V _{SED} = sediment forebay volume, if used for pretreatment	← ≥ 25%WQV
1,288	sf	A _{SA} = surface area of the practice	
-	iph	K _{sat} DESIGN = design infiltration rate ¹	
Yes	Yes/No	If K _{sat} (prior to factor of safety) is < 0.50 iph, has an underdrain been provided?	
-	hours	T _{DRAIN} = drain time = V / (A _{SA} * I _{DESIGN})	← ≤ 72-hrs
15.50	feet	E _{FC} = elevation of the bottom of the filter course material ²	
14.50	feet	E _{UD} = invert elevation of the underdrain (UD), if applicable	
12.00	feet	E _{SHWT} = elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
12.00	feet	E _{ROCK} = elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
1.00	feet	D _{FC to UD} = depth to UD from the bottom of the filter course	← ≥ 1'
3.50	feet	D _{FC to ROCK} = depth to bedrock from the bottom of the filter course	← ≥ 1'
3.50	feet	D _{FC to SHWT} = depth to SHWT from the bottom of the filter course	← ≥ 1'
18.54	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
19.00	ft	Elevation of the top of the practice	
YES		50 peak elevation ≤ Elevation of the top of the practice	← yes

If a surface sand filter or underground sand filter is proposed:

YES	ac	Drainage Area check.	← < 10 ac
	cf	V = volume of storage ³ (attach a stage-storage table)	← ≥ 75%WQV
	inches	D _{FC} = filter course thickness	← 18", or 24" if within GPA
Sheet	_____	Note what sheet in the plan set contains the filter course specification	
Yes/No		Access grate provided?	← yes

RIPRAP CALCULATIONS

Location: PDMH #15 - 12" Culvert (HydroCAD Pond #15P)

Date: 12/31/2020 By: EBS

La	Apron Length, Ft.	Calculated
Tw	Tailwater, Ft.	1.4
Q	Flow, 10 Yr Storm, CFS	2.41
D50	Median Stone Dia., Ft.	Calculated
D	Depth of Stone, In	Calculated
Do	Pipe Diameter, Ft	1.00
W1	Width @ Start, Ft.	Calculated
W2	Width @ End, Ft	Calculated
W	Width of Channel	5

W1: $3(Do) = 3 \text{ Ft.}$

Width @ Start: 3 Ft.

D50: $0.02(Q)^{4/3} / Tw(Do)$ D50= 0.05 Ft.
or 0.6 In.

Median Stone Size: 6 In.

D: $2.25 * D50$ **Depth of Riprap: 14 In.**

La: If $Tw \leq Do/2$: $Do/2 = 0.5 \text{ Ft.}$
Tw= 1.38 Ft.

and $La = 1.8Q/Do^{3/2} + 7Do$
W2=width of channel
or
W2=3Do+La

If $Tw > Do/2$:
and $La = 3Q/Do^{3/2} + 7Do$
W2=width of channel

Length of Apron: 15 Ft.

Width @ End: 5 Ft.



Section 6

NRCC Extreme Precipitation Table

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	70.763 degrees West
Latitude	43.072 degrees North
Elevation	0 feet
Date/Time	Wed, 23 Dec 2020 12:00:25 -0500

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	Add 15%	1day	2day	4day	7day	10day	
1yr	0.26	0.40	0.50	0.65	0.81	1.04	1yr	0.70	0.98	1.21	1.56	2.03	2.66	3.06	2.35	2.81	3.22	3.94	4.55	1yr
2yr	0.32	0.50	0.62	0.81	1.02	1.30	2yr	0.88	1.18	1.52	1.94	2.49	3.21	3.69	2.84	3.43	3.94	4.68	5.33	2yr
5yr	0.37	0.58	0.73	0.98	1.25	1.61	5yr	1.08	1.47	1.89	2.43	3.14	4.07	4.68	3.60	4.40	5.04	5.94	6.70	5yr
10yr	0.41	0.65	0.82	1.12	1.45	1.89	10yr	1.25	1.73	2.23	2.89	3.75	4.87	5.60	4.31	5.32	6.09	7.11	7.98	10yr
25yr	0.48	0.76	0.97	1.34	1.77	2.34	25yr	1.53	2.14	2.78	3.63	4.74	6.17	7.10	5.46	6.83	7.80	9.03	10.05	25yr
50yr	0.54	0.86	1.10	1.54	2.07	2.76	50yr	1.79	2.53	3.29	4.32	5.66	7.39	8.50	6.54	8.25	9.42	10.81	11.98	50yr
100yr	0.60	0.97	1.25	1.77	2.42	3.26	100yr	2.09	2.98	3.90	5.16	6.77	8.85	10.18	7.83	9.98	11.38	12.96	14.27	100yr
200yr	0.67	1.10	1.43	2.05	2.82	3.83	200yr	2.44	3.52	4.62	6.13	8.08	10.61	12.55	9.39	12.07	13.76	15.55	17.02	200yr
500yr	0.80	1.31	1.71	2.48	3.48	4.76	500yr	3.00	4.38	5.76	7.70	10.22	13.48	16.14	11.93	15.52	17.67	19.78	21.49	500yr

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.23	0.36	0.44	0.59	0.72	0.88	1yr	0.63	0.86	0.92	1.33	1.68	2.24	2.49	1yr	1.98	2.40	2.87	3.18	3.90	1yr
2yr	0.31	0.49	0.60	0.81	1.00	1.19	2yr	0.86	1.16	1.37	1.82	2.34	3.06	3.45	2yr	2.71	3.32	3.82	4.55	5.08	2yr
5yr	0.35	0.54	0.67	0.92	1.17	1.40	5yr	1.01	1.37	1.61	2.12	2.73	3.79	4.19	5yr	3.35	4.03	4.72	5.53	6.24	5yr
10yr	0.39	0.59	0.73	1.03	1.33	1.60	10yr	1.14	1.56	1.80	2.39	3.06	4.37	4.86	10yr	3.87	4.67	5.44	6.41	7.20	10yr
25yr	0.44	0.67	0.83	1.19	1.56	1.90	25yr	1.35	1.86	2.10	2.75	3.53	4.72	5.89	25yr	4.18	5.66	6.65	7.79	8.68	25yr
50yr	0.48	0.73	0.91	1.31	1.76	2.17	50yr	1.52	2.12	2.35	3.07	3.93	5.33	6.80	50yr	4.72	6.54	7.72	9.04	10.02	50yr
100yr	0.54	0.81	1.01	1.47	2.01	2.47	100yr	1.73	2.41	2.63	3.41	4.35	6.00	7.85	100yr	5.31	7.55	8.98	10.51	11.56	100yr
200yr	0.59	0.89	1.13	1.63	2.28	2.81	200yr	1.96	2.75	2.93	3.78	4.79	6.72	9.06	200yr	5.95	8.71	10.42	12.22	13.37	200yr
500yr	0.68	1.02	1.31	1.90	2.71	3.36	500yr	2.34	3.29	3.41	4.31	5.45	7.82	10.94	500yr	6.92	10.52	12.69	14.96	16.19	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	0.44	0.54	0.72	0.89	1.08	1yr	0.77	1.06	1.26	1.74	2.21	2.98	3.16	1yr	2.64	3.04	3.58	4.37	5.04	1yr
2yr	0.34	0.52	0.64	0.86	1.07	1.27	2yr	0.92	1.24	1.48	1.96	2.51	3.42	3.70	2yr	3.03	3.56	4.09	4.84	5.63	2yr
5yr	0.40	0.62	0.77	1.05	1.34	1.62	5yr	1.15	1.58	1.88	2.53	3.25	4.34	4.96	5yr	3.84	4.77	5.38	6.37	7.16	5yr
10yr	0.47	0.72	0.89	1.25	1.61	1.98	10yr	1.39	1.93	2.28	3.11	3.95	5.34	6.20	10yr	4.72	5.96	6.82	7.84	8.75	10yr
25yr	0.58	0.88	1.09	1.56	2.05	2.57	25yr	1.77	2.51	2.95	4.07	5.15	7.78	8.34	25yr	6.88	8.02	9.15	10.34	11.41	25yr
50yr	0.67	1.02	1.27	1.83	2.46	3.13	50yr	2.12	3.06	3.60	5.00	6.32	9.74	10.46	50yr	8.62	10.06	11.44	12.72	13.96	50yr
100yr	0.79	1.19	1.49	2.16	2.96	3.81	100yr	2.55	3.72	4.37	6.16	7.76	12.18	13.10	100yr	10.78	12.60	14.31	15.69	17.09	100yr
200yr	0.92	1.39	1.76	2.55	3.56	4.65	200yr	3.07	4.55	5.34	7.58	9.54	15.28	16.44	200yr	13.53	15.81	17.92	19.35	20.92	200yr
500yr	1.15	1.71	2.19	3.19	4.53	6.04	500yr	3.91	5.90	6.93	10.02	12.56	20.65	22.20	500yr	18.27	21.34	24.13	25.51	27.34	500yr



Section 7

NRCS Soils Report



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for Rockingham County, New Hampshire

PROPOSED SUBDIVISION



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

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scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

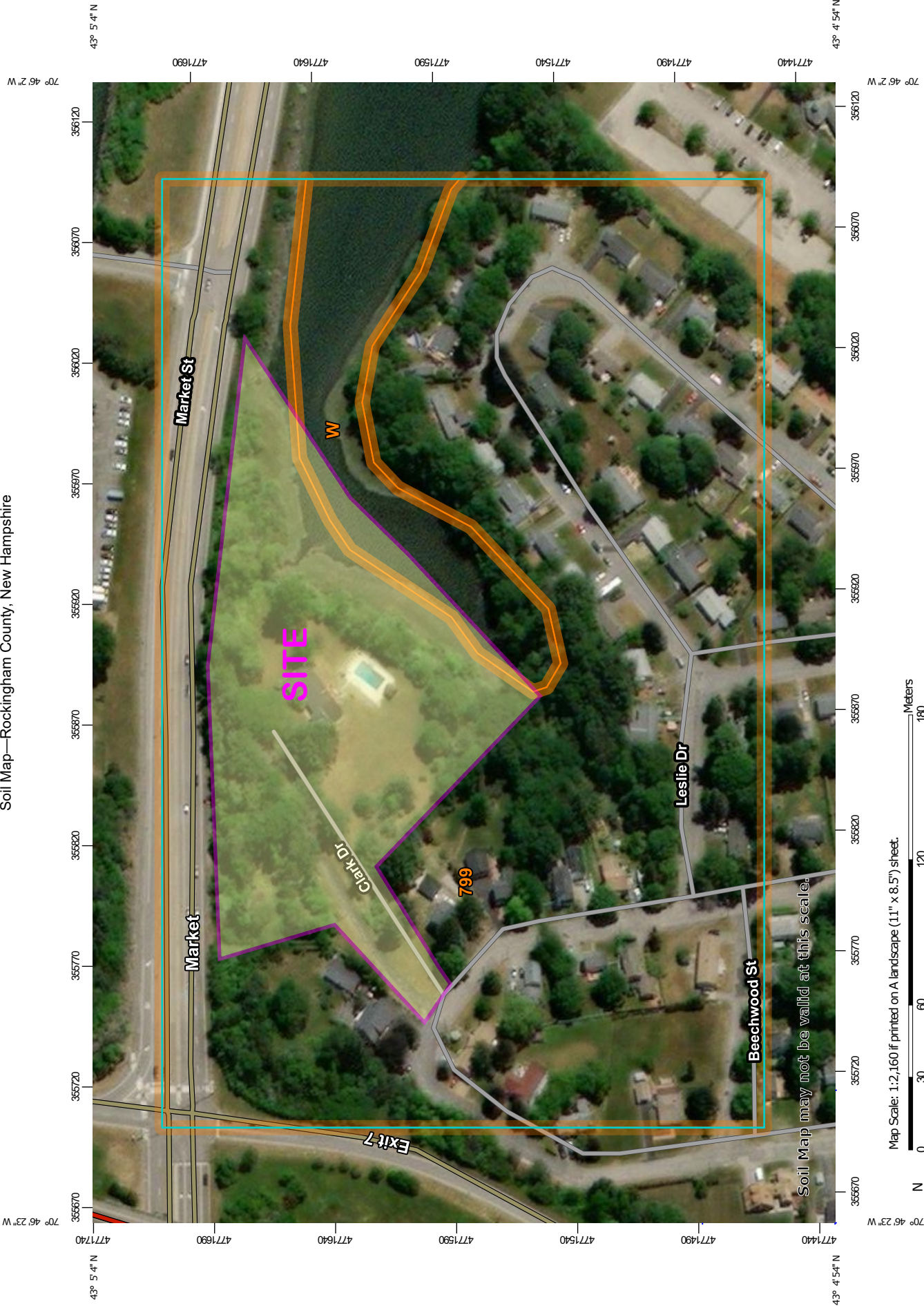
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identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Soil Map—Rockingham County, New Hampshire



Soil Map may not be valid at this scale.

Map Scale: 1:2,160 if printed on A landscape (11" x 8.5") sheet.



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 Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points
- Special Point Features**
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features
- 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 1:24,000.

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: Rockingham County, New Hampshire
 Survey Area Data: Version 22, 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.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
799	Urban land-Canton complex, 3 to 15 percent slopes	5.2	91.2%
W	Water	0.5	8.8%
Totals for Area of Interest		5.7	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

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onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Rockingham County, New Hampshire

799—Urban land-Canton complex, 3 to 15 percent slopes

Map Unit Setting

National map unit symbol: 9cq0
Elevation: 0 to 1,000 feet
Mean annual precipitation: 42 to 46 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 120 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 55 percent
Canton and similar soils: 20 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Canton

Setting

Parent material: Till

Typical profile

H1 - 0 to 5 inches: gravelly fine sandy loam
H2 - 5 to 21 inches: gravelly fine sandy loam
H3 - 21 to 60 inches: loamy sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 5.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: A
Ecological site: F144AY034CT - Well Drained Till Uplands
Hydric soil rating: No

Minor Components

Udorthents

Percent of map unit: 5 percent
Hydric soil rating: No

Squamscott and scitico

Percent of map unit: 4 percent
Landform: Marine terraces

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Hydric soil rating: Yes

Boxford and eldridge

Percent of map unit: 4 percent

Hydric soil rating: No

Chatfield

Percent of map unit: 4 percent

Hydric soil rating: No

Scituate and newfields

Percent of map unit: 4 percent

Hydric soil rating: No

Walpole

Percent of map unit: 4 percent

Landform: Depressions

Hydric soil rating: Yes

W—Water

Map Unit Setting

National map unit symbol: 9cq3

Elevation: 200 to 2,610 feet

Farmland classification: Not prime farmland

Map Unit Composition

Water: 100 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

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- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

Section 8

Stormwater Operations & Maintenance Plan

STORMWATER INSPECTION AND MAINTENANCE MANUAL

Watson's Landing Assessor's Map 209, Lot 33

OWNER AT TIME OF SUBDIVISION APPROVAL:
Frederick W. Watson Revocable Trust
Robert D. Watson, Trustee
53 Sleepy Hollow Drive
Greenland, NH 03840

Proper inspection, maintenance, and repair are key elements in maintaining a successful stormwater management program on a developed property. Routine inspections ensure permit compliance and reduce the potential for deterioration of infrastructure or reduced water quality. The following responsible parties shall be in charge of managing the stormwater facilities:

RESPONSIBLE PARTIES:

Owner: Frederick D. Watson Revocable Trust or Assigns (603) 501-0966
Name Company Phone

Inspection: Frederick D. Watson Revocable Trust or Assigns (603) 501-0966
Name Company Phone

Maintenance: Frederick D. Watson Revocable Trust or Assigns (603) 501-0966
Name Company Phone

NOTE: Inspection and maintenance responsibilities shall transfer to any future property owner(s) and any related homeowner's association(s). This form shall be updated as needed to reflect these changes.

RAINGARDENS

Function – Raingardens and infiltration ponds provide treatment to runoff prior to directing it to stormwater systems by filtering sediment and suspended solids, trapping them in the bottom of the garden and in the filter media itself. Additional treatment is provided by the native water-tolerant vegetation which removes nutrients and other pollutants through bio-uptake. Stormwater detention and infiltration can also be provided as the filtering process slows runoff, decreases the peak rate of discharge and promotes groundwater recharge.

Detention ponds temporarily store runoff and allow for its controlled release during and after a storm event, decreasing peak rates of runoff and minimizing flooding.

Raingardens shall be managed (Per AGR 3800 and RSA 430:53) to: prevent and control the spread of invasive plant, insect, and fungal species; minimize the adverse environmental and economic effects invasive species cause to agriculture, forests, wetlands, wildlife, and other natural resources of the state; and protect the public from potential health problems attributed to certain invasive species.

Maintenance

- Inspect annually and after significant rainfall event.
- If a raingarden does not completely drain within 72-hours following a rainfall event, then a qualified professional should assess the condition of the facility to determine measures required to restore its filtration and/or infiltration function(s), including but not limited to removal of accumulated sediments and/or replacement or reconstruction of the filter media.
- Replace any riprap dislodged from spillways, inlets and outlets.
- Remove any obstructions, litter and accumulated sediment or debris as warranted but no less than once a year.
- Mowing of any grassed area in or adjacent to a raingarden shall be performed at least twice per year (when areas are not inundated) to keep the vegetation in vigorous condition. The cut grass shall be removed to prevent the decaying organic litter from clogging the filter media or choking other vegetation.
- Select vegetation should be maintained in healthy condition. This may include pruning, removal and replacement of dead or diseased vegetation.
- Remove any invasive species, Per AGR 3800 and RSA 430:53.
- Remove any hard wood growth from raingardens.

CULVERTS AND DRAINAGE PIPES

Function – Culverts and drainage pipes convey stormwater away from buildings, walkways, and parking areas and to surface waters or closed drainage systems.

Maintenance

- Culverts and drainage pipes shall be inspected semi-annually, or more often as needed, for accumulation of debris and structural integrity. Leaves and other debris shall be removed from the inlet and outlet to insure the functionality of drainage structures. Debris shall be disposed of on site where it will not concentrate back at the drainage structures or at a solid waste disposal facility.
- Riprap Areas - Culvert outlets and inlets shall be inspected during annual maintenance and operations for erosion and scour. If scour or creek erosion is identified, the outlet owner shall take appropriate means to prevent further erosion. Increased lengths of riprap may require a NHDES Permit and/or local permit.

CATCH BASINS

Function – Catch basins collect stormwater, primarily from paved surfaces and roofs. Stormwater from paved areas often contains sediment and contaminants. Catch basin sumps serve to trap sediment, trace metals, nutrients and debris. Hooded catch basins trap hydrocarbons and floating debris.

Maintenance

- Remove leaves and debris from structure grates on an as-needed basis.
- Sumps shall be inspected and cleaned (as needed) on an annual basis to protect water quality and infiltration capacity. Catch basin debris shall be disposed of at a solid waste disposal facility.

LEVEL SPREADERS AND RIP RAP OUTLETS

Function – Level spreaders and rip rap outlets covert concentrated stormwater flows into less-erosive sheet flow, minimizing erosion and maximizing the treatment capabilities of associated buffers. Vegetated buffers, either forested or meadow, slow runoff which promotes and reduces peak rates of runoff. The reduced velocities and the presence of vegetation encourage the filtration of sediment and the limited bio-uptake of nutrients.

Maintenance

- Inspect level spreaders and buffers at least annually for signs of erosion, sediment buildup, or vegetation loss.
- Inspect level for signs of condensed flows. Level spreader and rip rap shall be maintained to disperse flows evenly over level spreader.
- If a meadow buffer, provide periodic mowing as needed to maintain a healthy stand of herbaceous vegetation.
- If a forested buffer, then the buffer should be maintained in an undisturbed condition, unless erosion occurs.
- If erosion of the buffer (forested or meadow) occurs, eroded areas should be repaired and replanted with vegetation similar to the remaining buffer. Corrective action should include eliminating the source of the erosion problem and may require retrofit or reconstruction of the level spreader.
- Remove debris and accumulated sediment and dispose of properly.

VEGETATIVE SWALES

Function – Vegetative swales filter sediment from stormwater, promote infiltration, and the uptake of contaminants. They are designed to treat runoff and dispose of it safely into the natural drainage system.

Maintenance

- Timely maintenance is important to keep a swale in good working condition. Mowing of grassed swales shall be monthly to keep the vegetation in vigorous condition. The cut vegetation shall be removed to prevent the decaying organic litter from adding pollutants to the discharge from the swale.
- Fertilizing shall be bi-annual or as recommended from soil testing.
- Inspect swales following significant rainfall events.
- Woody vegetation shall not be allowed to become established in the swales or rock riprap outlet protection and if present shall be removed.

- Accumulated debris disrupts flow and leads to clogging and erosion. Remove debris and litter as necessary.
- Inspect for eroded areas. Determine cause of erosion and correct deficiency as required. Monitor repaired areas.

LANDSCAPED AREAS - FERTILIZER MANAGEMENT

Function – Fertilizer management involves controlling the rate, timing and method of fertilizer application so that the nutrients are taken up by the plants thereby reducing the chance of polluting the surface and ground waters. Fertilizer management can be effective in reducing the amounts of phosphorus and nitrogen in runoff from landscaped areas, particularly lawns.

Maintenance

- Have the soil tested by your landscaper or local Soil Conservation Service for nutrient requirements and follow the recommendations.
- Do not apply fertilizer to frozen ground.
- Clean up any fertilizer spills.
- Do not allow fertilizer to be broadcast into water bodies.
- When fertilizing a lawn, water thoroughly, but do not create a situation where water runs off the surface of the lawn.

LANDSCAPED AREAS - LITTER CONTROL

Function – Landscaped areas tend to filter debris and contaminates that may block drainage systems and pollute the surface and ground waters.

Maintenance

- Litter Control and lawn maintenance involves removing litter such as trash, leaves, lawn clippings, pet wastes, oil and chemicals from streets, parking lots, and lawns before materials are transported into surface waters.
- Litter control shall be implemented as part of the grounds maintenance program.

DE-ICING CHEMICAL USE AND STORAGE

Function – Sand and salt are used for de-icing of drives.

Maintenance

- Salt is highly water-soluble. Contamination of fresh water wetlands and other sensitive areas can occur when salt is stored in open areas. Salt piles shall be covered at all times if not stored in a shed. Runoff from stockpiles shall be contained to keep the runoff from entering the drainage system.
- When shared driveways and walks are free of snow and ice, they should be swept clean. Disposal shall be in a solid waste disposal facility.
- **Salt use shall be minimized.** Sand shall be used for de-icing activities when possible. Salt is highly water-soluble. Contamination of fresh water wetlands and other sensitive areas can occur when salt is stored in open areas. Owner shall not store salt piles on site.

CONTROL OF INVASIVE PLANTS

Function – Invasive plants are introduced, alien, or non-native plants, which have been moved by people from their native habitat to a new area. Some exotic plants are imported for human use such as landscaping, erosion control, or food crops. They also can arrive as "hitchhikers" among shipments of other plants, seeds, packing materials, or fresh produce. Some exotic plants become invasive and cause harm by:

- becoming weedy and overgrown;
- killing established shade trees;
- obstructing pipes and drainage systems;
- forming dense beds in water;
- lowering water levels in lakes, streams, and wetlands;
- destroying natural communities;
- promoting erosion on stream banks and hillsides; and
- resisting control except by hazardous chemical.

Maintenance

During maintenance activities, check for the presence of invasive plants and remove in a safe manner as described in the attached "Methods for Disposing Non-Native Invasive Plants" prepared by the UNH Cooperative Extension.

GENERAL CLEAN UP

Upon completion of the project, the contractor shall remove all temporary stormwater structures (i.e., temporary stone check dams, silt fence, temporary diversion swales, catch basin inlet basket, etc.). Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required shall be dressed to conform to the existing grade, prepared, and seeded. Remove any sediment in catch basins and clean drain pipes that may have accumulated during construction. Once in operation, all paved areas of the site should be swept at least once annually, preferably at the end of winter prior to significant spring rains.

APPENDIX

- A. Stormwater System Operations and Maintenance Report
- B. Site Grading and Drainage Plan

STORM WATER SYSTEM OPERATION AND MAINTENANCE REPORT

General Information		
Project Name		
Owner		
Inspector's Name(s)		
Inspector's Contact Information		
Date of Inspection	Start Time:	End Time:
Type of Inspection: <input type="checkbox"/> Annual Report <input type="checkbox"/> Post-storm event <input type="checkbox"/> Due to a discharge of significant amounts of sediment		
Notes:		

General Site Questions and Discharges of Significant Amounts of Sediment			
Subject	Status	Notes	
<i>A discharge of significant amounts of sediment may be indicated by (but is not limited to) observations of the following. Note whether any are observed during this inspection:</i>			
<i>Notes/ Action taken:</i>			
1	Do the current site conditions reflect the attached site plan?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
2	Is the site permanently stabilized, temporary erosion and sediment controls are removed, and stormwater discharges from construction activity are eliminated?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
3	Is there evidence of the discharge of significant amounts of sediment to surface waters, or conveyance systems leading to surface waters?	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Permit Coverage and Plans				
#	BMP/Facility	Inspected	Corrective Action Needed and Notes	Date Corrected
	Rain Garden	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	Catch Basin	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	Drainage Pipes	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	Riprap Aprons	<input type="checkbox"/> Yes <input type="checkbox"/> No		
		<input type="checkbox"/> Yes <input type="checkbox"/> No		
		<input type="checkbox"/> Yes <input type="checkbox"/> No		

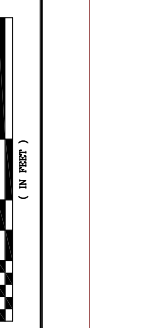
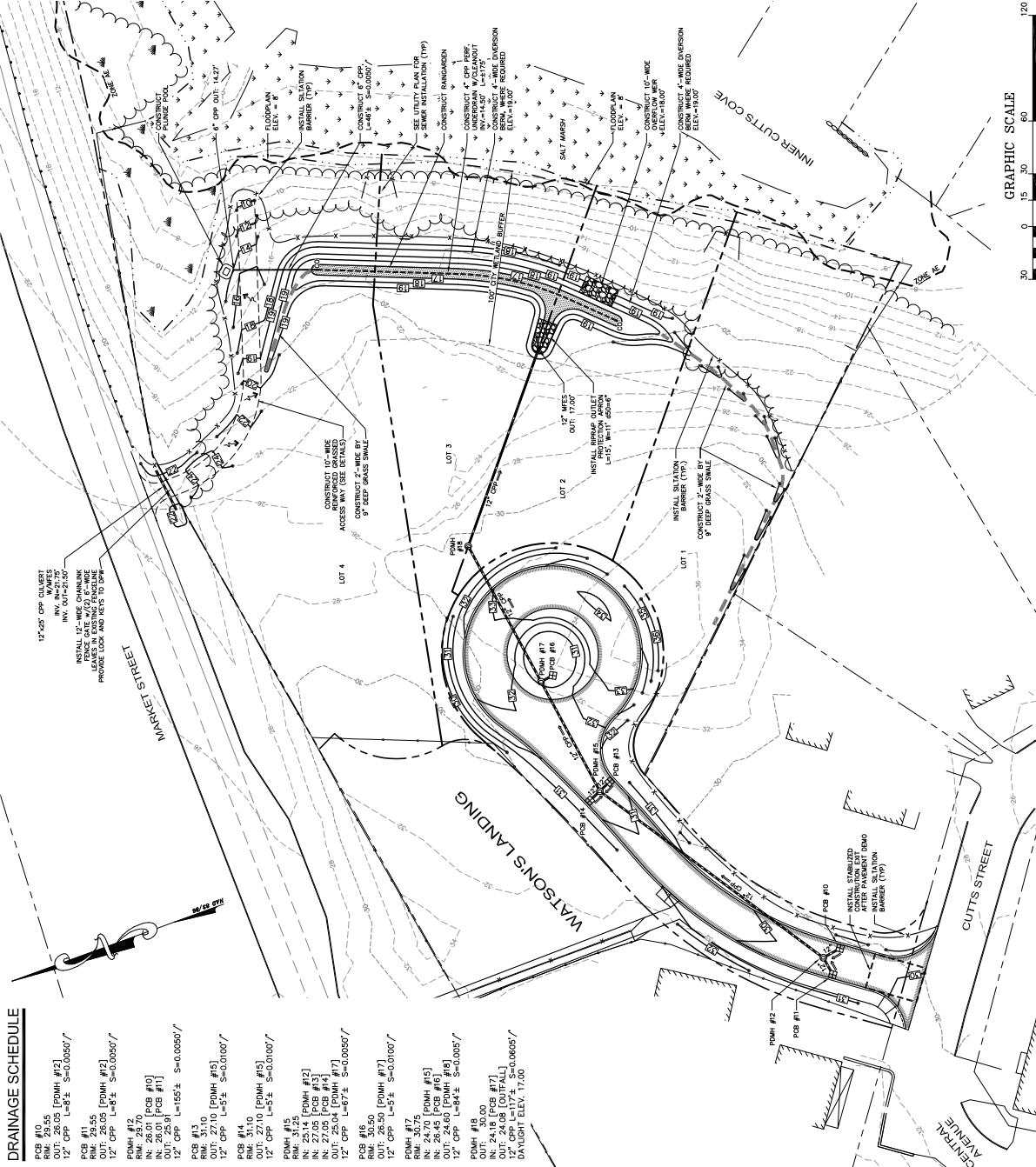
ISSUED FOR:	NOT FOR CONSTRUCTION
DATE:	TAC
ISSUE DATE:	FEBRUARY 16, 2021
REVISIONS:	BY DATE
0 1st WORK SESSION	ERS 2/07/20
1 2nd WORK SESSION	ERS 07/16/21
2 3rd WORK SESSION	ERS 07/16/21

DRAWN BY:	ERS
DRAWING FILE:	5980-SITE.dwg
SCALE:	22" x 34" 1" = 30' 11" x 17" 1" = 60'
OWNER:	FREDERICK W. WATSON REVOCABLE TRUST, ROBERT D. WATSON, TRUSTEE
PROJECT:	63 SLEEPY HOLLOW DRIVE GREENLAND, NH 03840

APPROVED BY:	FREDERICK W. WATSON REVOCABLE TRUST, ROBERT D. WATSON, TRUSTEE
PROJECT:	63 SLEEPY HOLLOW DRIVE GREENLAND, NH 03840
DATE:	TAX MAP 208, LOT 33 1 CLARK DRIVE PORTSMOUTH, NH 03801
TITLE:	STORMWATER MANAGEMENT PLAN
SHEET NUMBER:	C-4

STORMWATER MANAGEMENT NOTES

- TOTAL AREA OF PROJECT DISTURBANCE: 3,472,550 S.F.
- DO NOT BEGIN CONSTRUCTION UNTIL ALL STATE AND LOCAL PERMITS HAVE BEEN APPLIED FOR AND RECEIVED.
- CONTRACTOR SHALL OBTAIN A "DOWNSIDE" NUMBER AT LEAST 72 HOURS PRIOR TO COMMENCING CONSTRUCTION.
- ALL CONSTRUCTION SHALL MEET THE MINIMUM CONSTRUCTION STANDARDS OF THE CITY OF PORTSMOUTH AND NHDOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION. THE MOST RECENT EDITION OF THE MORE STRINGENT SPECIFICATION SHALL GOVERN.
- ALL BENCHMARKS AND TOPOGRAPHY SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO INITIATING CONSTRUCTION.
- UNLESS OTHERWISE AGREED IN WRITING, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING TEMPORARY BENCHMARKS (TBM) AND PERFORMING ALL CONSTRUCTION SURVEY LAYOUTS.
- PRIOR TO CONSTRUCTION, FIELD VERIFY ANCHORS, LOCATIONS AND ELEVATIONS/INVERTS OF ALL EXISTING STORMWATER AND UTILITY LINES. PRESERVE AND PROTECT LINES TO BE RETAINED.
- TEMPORARY INLET PROTECTION MEASURES SHALL BE INSTALLED IN ALL EXISTING AND PROPOSED CATCH BASINS WITHIN 100' OF THE ACTIVE OR SAID AREAS HAVE NOT BEEN STABILIZED.
- PROTECTION OF SUBGRADE: THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN STABLE, DEWATERED SUBGRADES FOR FOUNDATIONS, EXCAVATION METHODS, MOISTURE, PRECIPITATION, GROUNDWATER CONSTRUCTION. SUBGRADE DISTURBANCE MAY BE MITIGATED BY TAKE PRECAUTIONS TO PREVENT SUBGRADE DISTURBANCE. SUCH PRECAUTIONS MAY INCLUDE DIVERTING STORMWATER AWAY FROM EXCAVATION AREAS, INSTALLING TEMPORARY DRAINAGE SYSTEMS, AND MAINTAINING AN EFFECTIVE DEWATERING PROGRAM. SHALL WORK COMPETENT BEARERS SOIL AND REPAIR AREAS WITH FINE DRAINING STRUCTURAL FILL IF THE EARTHWORK IS PERFORMED DURING FROST. NO FILL OR UTILITIES SHALL BE PLACED ON FROZEN SOIL GROUND. THIS WILL LIKELY REQUIRE REMOVAL OF A FROZEN SOIL FINAL SUBGRADE ELEVATION WILL ALSO REQUIRE AN APPROPRIATE DEGREE OF INSULATION AGAINST FREEZING.
- IF SUITABLE, EXCAVATED MATERIALS SHALL BE PLACED AS FILL WITHIN AND AREAS OF BORROW MATERIALS SHALL BE PLACED WITHIN AND AREAS OF BORROW MATERIALS SHALL BE PLACED PERFORMED IN A MANNER THAT PREVENTS LONG TERM DIFFERENTIAL SETTLEMENT. ALL FILL SHALL BE PROPERLY PLACED, COMPACTED AND ALLOWED TO DRAIN BEFORE PLACEMENT. FROZEN MATERIAL SHALL NOT BE USED FOR CONSTRUCTION.
- ALL CATCH BASIN, MANHOLE AND OTHER DRAINAGE RIMS SHALL BE SET FLUSH WITH OR NO LESS THAN 0.1' BELOW FINISH GRADE. ANY RIM ABOVE SURROUNDING FINISH GRADE SHALL NOT BE ACCEPTED.
- NO PROJECT SUBJECT TO EPA NPDES PHASE II, NOL, SWPPP AND MINIMUM WEEKLY INSPECTIONS REQUIRED.
- NO EARTHWORK, STUMPING OR GRUBBING SHALL COMMENCE UNTIL ALL APPROPRIATE SEDIMENT AND EROSION CONTROL MEASURES HAVE BEEN INSTALLED AND INSPECTIONS HAVE BEEN COMPLETED. ALL MEASURES SHALL BE PROPERLY MAINTAINED IN GOOD WORKING ORDER FOR THE DURATION OF CONSTRUCTION AND THE SITE IS STABILIZED.
- SEE DETAIL SHEETS FOR PERTINENT SEDIMENT AND EROSION CONTROL DETAILS AND ADDITIONAL NOTES.
- ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE NH STORMWATER MANUALS, VOL. 1-3, DATED DECEMBER 2008 AS AMENDED.
- CONTRACTOR SHALL CONTROL DUST BY SPRAYING WATER, SWEEPING PAVED SURFACES PROVIDING TEMPORARY VEGETATION, AND/OR MULCHING EXPOSED AREAS AND STOCKPILES.
- THE CONTRACTOR SHALL TAKE WHATEVER MEANS NECESSARY TO PREVENT EROSION AND SEDIMENT FROM ENTERING NEARBY WATER AND/OR ENTERING WETLANDS AND ENSURE PERMANENT SOIL STABILIZATION.
- ALL EROSION CONTROL BLANKETS AND FASTENERS SHALL BE BIODEGRADABLE.
- ALL SWALES AND DETENTION PONDS SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
- ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITION USING FERTILIZER, SEED, AND MULCH USING APPROPRIATE SOIL STABILIZATION TECHNIQUES.
- UPON COMPLETION OF CONSTRUCTION, ALL DRAINAGE MEASURES SHALL BE FIELD VERIFIED AND ALL TEMPORARY EROSION AND SEDIMENT CONTROLS REMOVED AND ANY AREAS DISTURBED BY THE REMOVAL SMOOTHED AND REVEGETATED.



DRAINAGE SCHEDULE

PCB #10	12" x 25" CPP CULVERT
OUT: 28.05' [PDWH #12]	INV. 071+21.50'
12" CPP	L=85± S=0.00567'
PCB #11	12" x 25" CPP
IN: 28.01' [PCB #10]	INV. 071+21.50'
12" CPP	L=85± S=0.00567'
PCB #12	12" x 25" CPP
IN: 28.01' [PCB #10]	INV. 071+21.50'
12" CPP	L=85± S=0.00567'
PCB #13	12" x 25" CPP
IN: 28.01' [PCB #10]	INV. 071+21.50'
12" CPP	L=85± S=0.00567'
PCB #14	12" x 25" CPP
IN: 28.01' [PCB #10]	INV. 071+21.50'
12" CPP	L=85± S=0.00567'
PCB #15	12" x 25" CPP
IN: 28.01' [PCB #10]	INV. 071+21.50'
12" CPP	L=85± S=0.00567'
PCB #16	12" x 25" CPP
IN: 28.01' [PCB #10]	INV. 071+21.50'
12" CPP	L=85± S=0.00567'
PCB #17	12" x 25" CPP
IN: 28.01' [PCB #10]	INV. 071+21.50'
12" CPP	L=85± S=0.00567'
PCB #18	12" x 25" CPP
IN: 28.01' [PCB #10]	INV. 071+21.50'
12" CPP	L=85± S=0.00567'
PCB #19	12" x 25" CPP
IN: 28.01' [PCB #10]	INV. 071+21.50'
12" CPP	L=85± S=0.00567'
PCB #20	12" x 25" CPP
IN: 28.01' [PCB #10]	INV. 071+21.50'
12" CPP	L=85± S=0.00567'
PCB #21	12" x 25" CPP
IN: 28.01' [PCB #10]	INV. 071+21.50'
12" CPP	L=85± S=0.00567'
PCB #22	12" x 25" CPP
IN: 28.01' [PCB #10]	INV. 071+21.50'
12" CPP	L=85± S=0.00567'
PCB #23	12" x 25" CPP
IN: 28.01' [PCB #10]	INV. 071+21.50'
12" CPP	L=85± S=0.00567'
PCB #24	12" x 25" CPP
IN: 28.01' [PCB #10]	INV. 071+21.50'
12" CPP	L=85± S=0.00567'
PCB #25	12" x 25" CPP
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12" CPP	L=85± S=0.00567'
PCB #26	12" x 25" CPP
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12" CPP	L=85± S=0.00567'
PCB #27	12" x 25" CPP
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12" CPP	L=85± S=0.00567'
PCB #28	12" x 25" CPP
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12" CPP	L=85± S=0.00567'
PCB #29	12" x 25" CPP
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PCB #30	12" x 25" CPP
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12" CPP	L=85± S=0.00567'
PCB #31	12" x 25" CPP
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12" CPP	L=85± S=0.00567'
PCB #32	12" x 25" CPP
IN: 28.01' [PCB #10]	INV. 071+21.50'
12" CPP	L=85± S=0.00567'
PCB #33	12" x 25" CPP
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PCB #34	12" x 25" CPP
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PCB #37	12" x 25" CPP
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PCB #38	12" x 25" CPP
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PCB #39	12" x 25" CPP
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PCB #40	12" x 25" CPP
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PCB #41	12" x 25" CPP
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PCB #42	12" x 25" CPP
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PCB #43	12" x 25" CPP
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PCB #44	12" x 25" CPP
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PCB #45	12" x 25" CPP
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12" CPP	L=85± S=0.00567'
PCB #63	12" x 25" CPP
IN: 28.01' [PCB #10]	INV. 071+21.50'
12" CPP	L=85± S=0.00567'
PCB #64	12" x 25" CPP
IN: 28.01' [PCB #10]	INV. 071+21.50'
12" CPP	L=85± S=0.00567'
PCB #65	12" x 25" CPP
IN: 28.01' [PCB #10]	INV. 071+21.50'
12" CPP	L=85± S=0.00567'
PCB #66	12" x 25" CPP
IN: 28.01' [PCB #10]	INV. 071+21.50'
12" CPP	L=85± S=0.00567'
PCB #67	12" x 25" CPP
IN: 28.01' [PCB #10]	INV. 071+21.50'
12" CPP	L=85± S=0.00567'
PCB #68	12" x 25" CPP
IN: 28.01' [PCB #10]	INV. 071+21.50'
12" CPP	L=85± S=0.00567'
PCB #69	12" x 25" CPP
IN: 28.01' [PCB #10]	INV. 071+21.50'
12" CPP	L=85± S=0.00567'
PCB #70	12" x 25" CPP
IN: 28.01' [PCB #10]	INV. 071+21.50'
12" CPP	L=85± S=0.00567'
PCB #71	12" x 25" CPP
IN: 28.01' [PCB #10]	INV. 071+21.50'
12" CPP	L=85± S=0.00567'
PCB #72	12" x 25" CPP
IN: 28.01' [PCB #10]	INV. 071+21.50'
12" CPP	L=85± S=0.00567'
PCB #73	12" x 25" CPP
IN: 28.01' [PCB #10]	INV. 071+21.50'
12" CPP	L=85± S=0.00567'
PCB #74	12" x 25" CPP
IN: 28.01' [PCB #10]	INV. 071+21.50'
12" CPP	L=85± S=0.00567'
PCB #75	12" x 25" CPP
IN: 28.01' [PCB #10]	INV. 071+21.50'
12" CPP	L=85± S=0.00567'
PCB #76	12" x 25" CPP
IN: 28.01' [PCB #10]	INV. 071+21.50'
12" CPP	L=85± S=0.00567'
PCB #77	12" x 25" CPP
IN: 28.01' [PCB #10]	INV. 071+21.50'
12" CPP	L=85± S=0.00567'
PCB #78	12" x 25" CPP
IN: 28.01' [PCB #10]	INV. 071+21.50'
12" CPP	L=85± S=0.00567'
PCB #79	12" x 25" CPP
IN: 28.01' [PCB #10]	INV. 071+21.50'
12" CPP	L=85± S=0.00567'
PCB #80	12" x 25" CPP
IN: 28.01' [PCB #10]	INV. 071+21.50'
12" CPP	L=85± S=0.00567'
PCB #81	12" x 25" CPP
IN: 28.01' [PCB #10]	INV. 071+21.50'
12" CPP	L=85± S=0.00567'
PCB #82	12" x 25" CPP
IN: 28.01' [PCB #10]	INV. 071+21.50'
12" CPP	L=85± S=0.00567'
PCB #83	12" x 25" CPP
IN: 28.01' [PCB #10]	INV. 071+21.50'
12" CPP	L=85± S=0.00567'
PCB #84	12" x 25" CPP
IN: 28.01' [PCB #10]	INV. 071+21.50'
12" CPP	L=85± S=0.00567'
PCB #85	12" x 25" CPP

Section 9

Watershed Plans

Pre-Development Drainage Area Plan

Post-Development Drainage Area Plan

NOT FOR CONSTRUCTION

ISSUED FOR: **TAC**

ISSUE DATE: **JANUARY 18, 2021**

REVISIONS	NO.	DESCRIPTION	BY	DATE
0	TAC		EBS	01/18/21

DRAWN BY: _____ EBS
APPROVED BY: _____ EDW
DRAWING FILE: _____ 5090-SITE.dwg

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

OWNER:
**FREDERICK W. WATSON
REVOCABLE TRUST,
ROBERT D. WATSON,
TRUSTEE**

**63 SLEEPY HOLLOW DRIVE
GREENLAND, NH 03840**

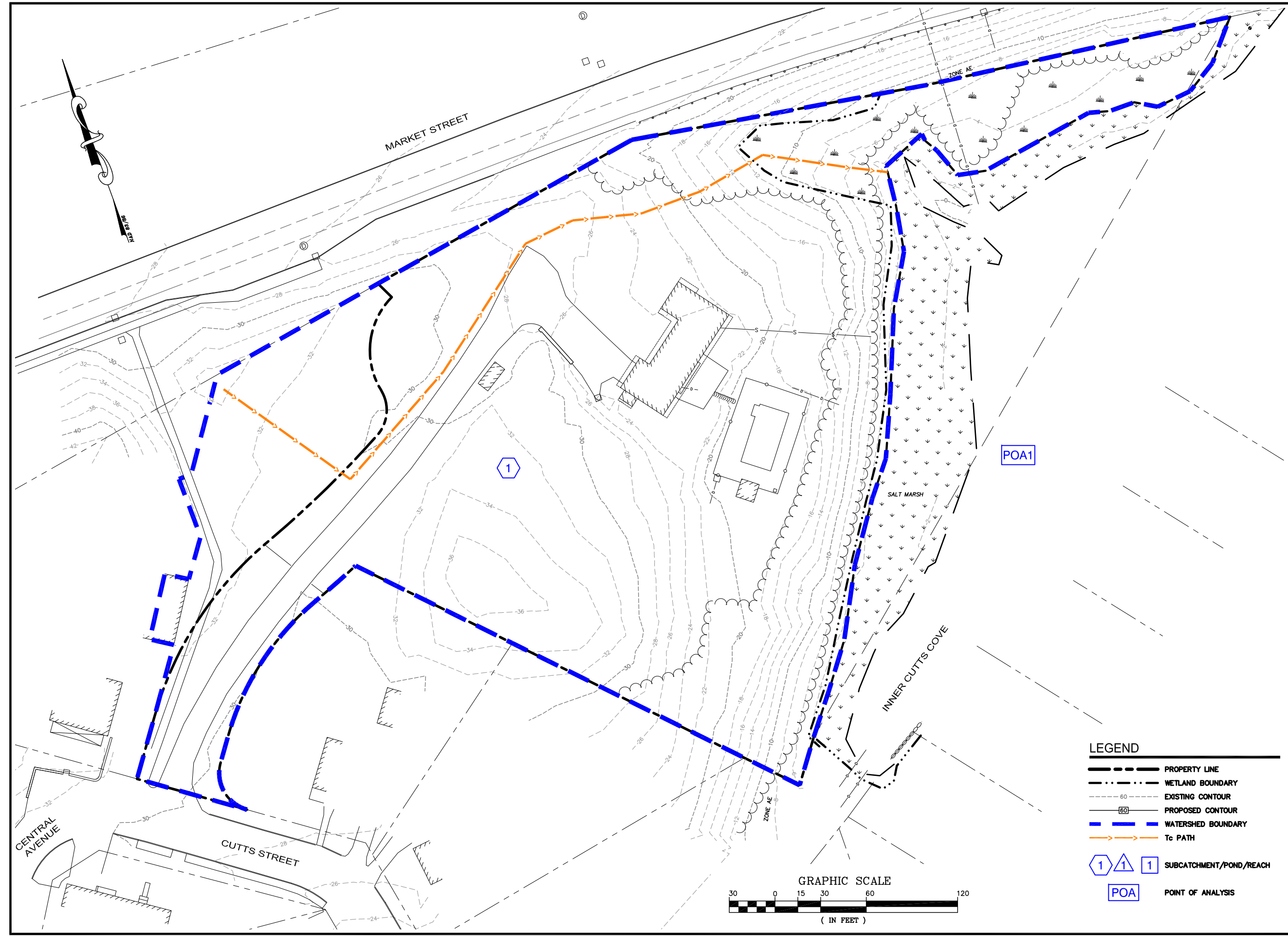
APPLICANT:
**FREDERICK W. WATSON
REVOCABLE TRUST,
ROBERT D. WATSON,
TRUSTEE**

**63 SLEEPY HOLLOW DRIVE
GREENLAND, NH 03840**

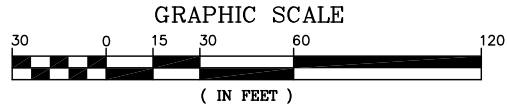
PROJECT:
**WATSON'S LANDING
TAX MAP 209, LOT 33
1 CLARK DRIVE
PORTSMOUTH, NH 03801**

TITLE:
**PRE-DEVELOPMENT
WATERSHED PLAN**

SHEET NUMBER:
WS-1



- LEGEND**
- PROPERTY LINE
 - .-.- WETLAND BOUNDARY
 - - - - - EXISTING CONTOUR
 - - - - - PROPOSED CONTOUR
 - - - - - WATERSHED BOUNDARY
 - - - - - Tc PATH
 - 1 1 1 SUBCATCHMENT/POND/REACH
 - POA POINT OF ANALYSIS



NOT FOR CONSTRUCTION

ISSUED FOR: TAC

ISSUE DATE: JANUARY 18, 2021

REVISIONS	NO.	DESCRIPTION	BY	DATE
0	TAC		EBS	01/18/21

DRAWN BY: EBS
APPROVED BY: EDW
DRAWING FILE: 5090-SITE.dwg

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

OWNER:
**FREDERICK W. WATSON
REVOCABLE TRUST,
ROBERT D. WATSON,
TRUSTEE**

63 SLEEPY HOLLOW DRIVE
GREENLAND, NH 03840

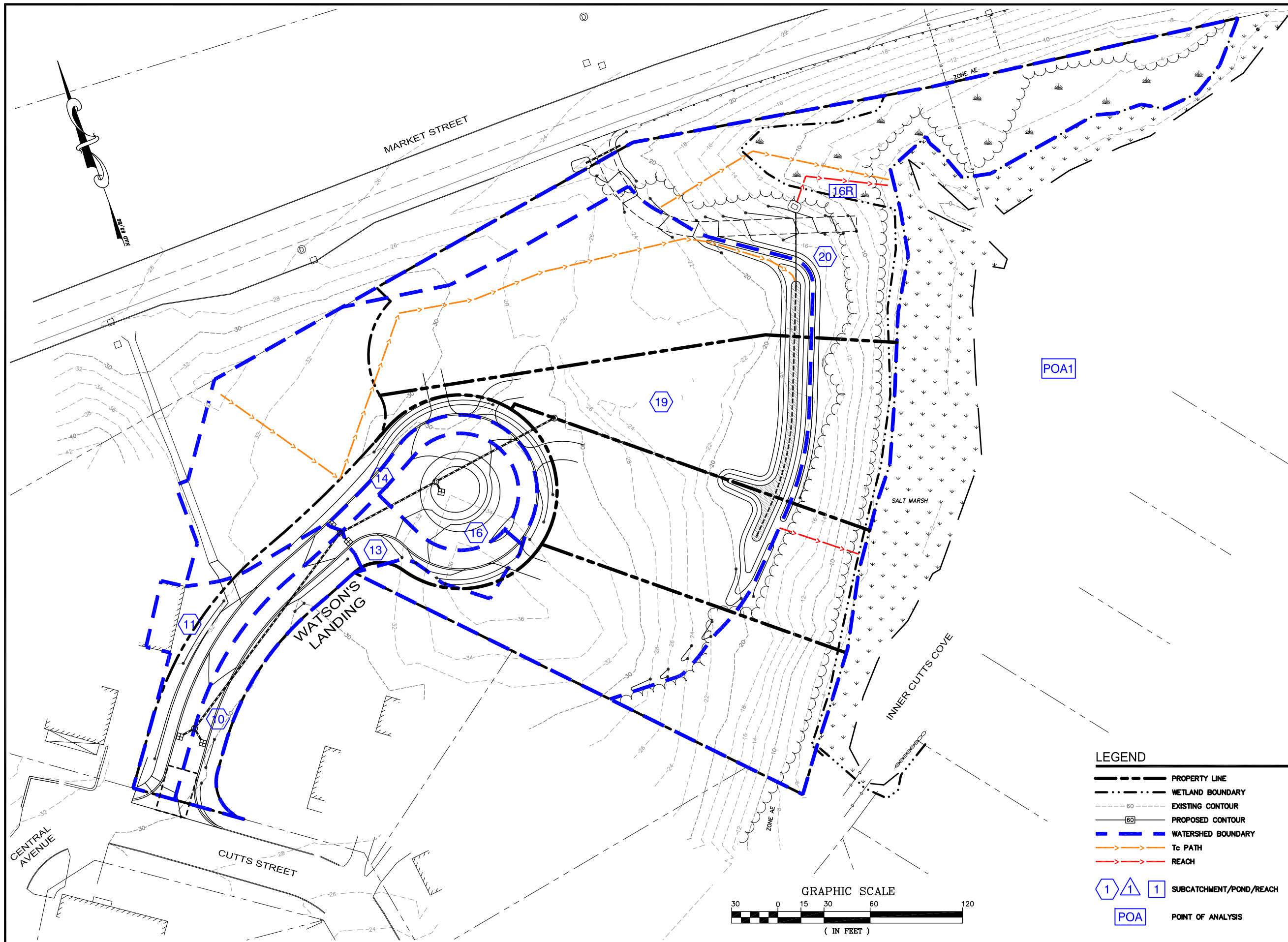
APPLICANT:
**FREDERICK W. WATSON
REVOCABLE TRUST,
ROBERT D. WATSON,
TRUSTEE**

63 SLEEPY HOLLOW DRIVE
GREENLAND, NH 03840

PROJECT:
**WATSON'S LANDING
TAX MAP 209, LOT 33
1 CLARK DRIVE
PORTSMOUTH, NH 03801**

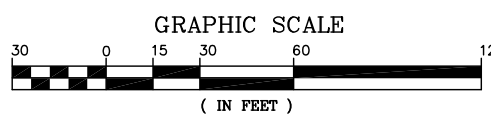
TITLE:
POST-DEVELOPMENT
WATERSHED PLAN

SHEET NUMBER:
WS-2



LEGEND

- PROPERTY LINE
- WETLAND BOUNDARY
- EXISTING CONTOUR
- PROPOSED CONTOUR
- WATERSHED BOUNDARY
- Tc PATH
- REACH
- SUBCATCHMENT/POND/REACH
- POINT OF ANALYSIS



P5090

STORMWATER INSPECTION AND MAINTENANCE MANUAL

Watson's Landing Assessor's Map 209, Lot 33

OWNER AT TIME OF SUBDIVISION APPROVAL:
Frederick W. Watson Revocable Trust
Robert D. Watson, Trustee
53 Sleepy Hollow Drive
Greenland, NH 03840

Proper inspection, maintenance, and repair are key elements in maintaining a successful stormwater management program on a developed property. Routine inspections ensure permit compliance and reduce the potential for deterioration of infrastructure or reduced water quality. The following responsible parties shall be in charge of managing the stormwater facilities:

RESPONSIBLE PARTIES:

Owner: Frederick D. Watson Revocable Trust or Assigns (603) 501-0966
Name Company Phone

Inspection: Frederick D. Watson Revocable Trust or Assigns (603) 501-0966
Name Company Phone

Maintenance: Frederick D. Watson Revocable Trust or Assigns (603) 501-0966
Name Company Phone

NOTES:

Inspection and maintenance responsibilities shall transfer to any future property owner(s) and any related homeowner's association (HOA).

This manual shall become part of any HOA documents.

This manual shall be updated as needed to reflect any changes related to any transfer of ownership and/or any delegation of inspection and maintenance responsibilities to an HOA.

RAINGARDENS

Function – Raingardens and infiltration ponds provide treatment to runoff prior to directing it to stormwater systems by filtering sediment and suspended solids, trapping them in the bottom of the garden and in the filter media itself. Additional treatment is provided by the native water-tolerant vegetation which removes nutrients and other pollutants through bio-uptake. Stormwater detention and infiltration can also be provided as the filtering process slows runoff, decreases the peak rate of discharge and promotes groundwater recharge.

Raingardens shall be managed (Per AGR 3800 and RSA 430:53) to: prevent and control the spread of invasive plant, insect, and fungal species; minimize the adverse environmental and economic effects invasive species cause to agriculture, forests, wetlands, wildlife, and other natural resources of the state; and protect the public from potential health problems attributed to certain invasive species.

Maintenance

- Inspect annually and after significant rainfall events.
- If a raingarden does not completely drain within 72-hours following a rainfall event, then a qualified professional shall be retained to assess the condition of the facility to determine measures required to restore its filtration and/or infiltration function(s), including but not limited to removal of accumulated sediments and/or replacement or reconstruction of the filter media. Filter media shall be replaced with material matching the specification on the design drawings or the NHDES Stormwater Manual.
- Replace any riprap dislodged from spillways, inlets and outlets.
- Remove any obstructions, litter and accumulated sediment or debris as warranted but no less than once a year.
- Mowing of any grassed area in or adjacent to a raingarden, including its berm, shall be performed at least twice per year (when areas are not inundated) to keep the vegetation in vigorous condition. The cut grass shall be removed to prevent the decaying organic litter from clogging the filter media or choking other vegetation.
- Select vegetation should be maintained in healthy condition. This may include pruning, removal and replacement of dead or diseased vegetation.
- Remove any invasive species, Per AGR 3800 and RSA 430:53.
- Remove any hard wood growth from raingardens.

CULVERTS AND DRAINAGE PIPES

Function – Culverts and drainage pipes convey stormwater away from buildings, walkways, and parking areas and to surface waters or closed drainage systems.

Maintenance

- Culverts and drainage pipes shall be inspected semi-annually, or more often as needed, for accumulation of debris and structural integrity. Leaves and other debris shall be removed from the inlet and outlet to insure the functionality of drainage structures. Debris shall be disposed of on site where it will not concentrate back at the drainage structures or at a solid waste disposal facility.
- Riprap Areas - Culvert outlets and inlets shall be inspected during annual maintenance and operations for erosion and scour. If scour or creek erosion is identified, the outlet owner shall take appropriate means to prevent further erosion. Increased lengths of riprap may require a NHDES Permit and/or local permit.

CATCH BASINS

Function – Catch basins collect stormwater, primarily from paved surfaces and roofs. Stormwater from paved areas often contains sediment and contaminants. Catch basin sumps serve to trap sediment, trace metals, nutrients and debris. Hooded catch basins trap hydrocarbons and floating debris.

Maintenance

- Remove leaves and debris from structure grates on an as-needed basis.
- Sumps shall be inspected and cleaned annually and any removed sediment and debris shall be disposed of at a solid waste disposal facility.

LEVEL SPREADERS AND RIP RAP OUTLETS

Function – Level spreaders and rip rap outlets covert concentrated stormwater flows into less-erosive sheet flow, minimizing erosion and maximizing the treatment capabilities of associated buffers. Vegetated buffers, either forested or meadow, slow runoff which promotes and reduces peak rates of runoff. The reduced velocities and the presence of vegetation encourage the filtration of sediment and the limited bio-uptake of nutrients.

Maintenance

- Inspect level spreaders and buffers at least annually for signs of erosion, sediment buildup, or vegetation loss.
- Inspect level for signs of condensed flows. Level spreader and rip rap shall be maintained to disperse flows evenly over level spreader.
- If a meadow buffer, provide periodic mowing as needed to maintain a healthy stand of herbaceous vegetation.
- If a forested buffer, then the buffer should be maintained in an undisturbed condition, unless erosion occurs.
- If erosion of the buffer (forested or meadow) occurs, eroded areas should be repaired and replanted with vegetation similar to the remaining buffer. Corrective action should include eliminating the source of the erosion problem and may require retrofit or reconstruction of the level spreader.
- Remove debris and accumulated sediment and dispose of properly.

LANDSCAPED AREAS - FERTILIZER MANAGEMENT

Function – Fertilizer management involves controlling the rate, timing and method of fertilizer application so that the nutrients are taken up by the plants thereby reducing the chance of polluting the surface and ground waters. Fertilizer management can be effective in reducing the amounts of phosphorus and nitrogen in runoff from landscaped areas, particularly lawns.

Maintenance

- Have the soil tested by your landscaper or local Soil Conservation Service for nutrient requirements and follow the recommendations.
- Do not apply fertilizer to frozen ground.
- Clean up any fertilizer spills.
- Do not allow fertilizer to be broadcast into water bodies.
- When fertilizing a lawn, water thoroughly, but do not create a situation where water runs off the surface of the lawn.

LANDSCAPED AREAS - LITTER CONTROL

Function – Landscaped areas tend to filter debris and contaminates that may block drainage systems and pollute the surface and ground waters.

Maintenance

- Litter Control and lawn maintenance involves removing litter such as trash, leaves, lawn clippings, pet wastes, oil and chemicals from streets, parking lots, and lawns before materials are transported into surface waters.
- Litter control shall be implemented as part of the grounds maintenance program.

VEGETATIVE SWALES

Function – Vegetative swales filter sediment from stormwater, promote infiltration, and the uptake of contaminates. They are designed to treat runoff and dispose of it safely into the natural drainage system.

Maintenance

- Timely maintenance is important to keep a swale in good working condition. Mowing of grassed swales shall be monthly to keep the vegetation in vigorous condition. The cut vegetation shall be removed to prevent the decaying organic litter from adding pollutants to the discharge from the swale.
- Fertilizing shall be bi-annual or as recommended from soil testing.
- Inspect swales following significant rainfall events.
- Woody vegetation shall not be allowed to become established in the swales or rock riprap outlet protection and if present shall be removed.
- Accumulated debris disrupts flow and leads to clogging and erosion. Remove debris and litter as necessary.
- Inspect for eroded areas. Determine cause of erosion and correct deficiency as required. Monitor repaired areas.

DE-ICING CHEMICAL USE AND STORAGE

Function – Sand and salt are used for de-icing of drives.

Maintenance

- Salt is highly water-soluble. Contamination of freshwater wetlands and other sensitive areas can occur when salt is stored in open areas. Salt piles shall be covered at all times if not stored in a shed. Runoff from stockpiles shall be contained to keep the runoff from entering the drainage system.
- When shared driveways and walks are free of snow and ice, they should be swept clean. Disposal shall be in a solid waste disposal facility.
- **Salt use shall be minimized.** Sand shall be used for de-icing activities when possible. Salt is highly water-soluble. Contamination of freshwater wetlands and other sensitive areas can occur when salt is stored in open areas. Owner shall not store salt piles on site.

CONTROL OF INVASIVE PLANTS

Function – Invasive plants are introduced, alien, or non-native plants, which have been moved by people from their native habitat to a new area. Some exotic plants are imported for human use such as landscaping, erosion control, or food crops. They also can arrive as "hitchhikers" among shipments of other plants, seeds, packing materials, or fresh produce. Some exotic plants become invasive and cause harm by:

- becoming weedy and overgrown;
- killing established shade trees;
- obstructing pipes and drainage systems;
- forming dense beds in water;
- lowering water levels in lakes, streams, and wetlands;
- destroying natural communities;
- promoting erosion on stream banks and hillsides; and
- resisting control except by hazardous chemical.

Maintenance

During maintenance activities, check for the presence of invasive plants and remove in a safe manner as described in the attached "Methods for Disposing Non-Native Invasive Plants" prepared by the UNH Cooperative Extension.

GENERAL CLEAN UP

- Upon completion of the project, the contractor shall remove all temporary stormwater structures (i.e., temporary stone check dams, silt fence, temporary diversion swales, catch basin inlet filter, etc.). Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required shall be dressed to conform to the existing grade, prepared, and seeded. Remove any sediment in catch basins and clean drain pipes that may have accumulated during construction.
- Once in operation, all paved areas of the site should be swept at least once annually at the end of winter/early spring prior to significant spring rains.

APPENDIX

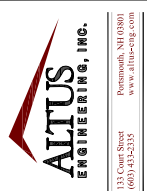
- A. Stormwater System Operations and Maintenance Report
- B. Site Grading and Drainage Plan

STORM WATER SYSTEM OPERATION AND MAINTENANCE REPORT

General Information		
Project Name		
Owner		
Inspector's Name(s)		
Inspector's Contact Information		
Date of Inspection	Start Time:	End Time:
Type of Inspection: <input type="checkbox"/> Annual Report <input type="checkbox"/> Post-storm event <input type="checkbox"/> Due to a discharge of significant amounts of sediment		
Notes:		

General Site Questions and Discharges of Significant Amounts of Sediment			
Subject	Status	Notes	
<i>A discharge of significant amounts of sediment may be indicated by (but is not limited to) observations of the following. Note whether any are observed during this inspection:</i>			
<i>Notes/ Action taken:</i>			
1	Do the current site conditions reflect the attached site plan?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
2	Is the site permanently stabilized, temporary erosion and sediment controls are removed, and stormwater discharges from construction activity are eliminated?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
3	Is there evidence of the discharge of significant amounts of sediment to surface waters, or conveyance systems leading to surface waters?	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Permit Coverage and Plans				
#	BMP/Facility	Inspected	Corrective Action Needed and Notes	Date Corrected
	Rain Garden	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	Catch Basins	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	Drainage Pipes	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	Riprap Aprons	<input type="checkbox"/> Yes <input type="checkbox"/> No		
		<input type="checkbox"/> Yes <input type="checkbox"/> No		
		<input type="checkbox"/> Yes <input type="checkbox"/> No		



NOT FOR CONSTRUCTION
ISSUED FOR:
PLANNING BOARD
ISSUE DATE: MARCH 5, 2021
REVISIONS:
NO. DESCRIPTION
0 1st WORK SESSION
1 2nd WORK SESSION
2 3rd WORK SESSION
3 PLANNING BOARD
DATE
BY
EDW
5900-SITE.dwg
SCALE: 22" x 34" 1" = 30' 11" x 17" 1" = 60'
DRAWN BY:
APPROVED BY:
PROJECT:
DATE:
TITLE:

NOT FOR CONSTRUCTION

ISSUED FOR:

PLANNING BOARD

ISSUE DATE: MARCH 5, 2021

REVISIONS:

NO. DESCRIPTION

0 1st WORK SESSION

1 2nd WORK SESSION

2 3rd WORK SESSION

3 PLANNING BOARD

DATE

BY

EDW

5900-SITE.dwg

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

DRAWN BY:

APPROVED BY:

PROJECT:

DATE:

TITLE:

OWNER:

FREDERICK W. WATSON
REVOCABLE TRUST,
ROBERT D. WATSON,
TRUSTEE

63 SLEEPY HOLLOW DRIVE
GREENLAND, NH 03840

APPLICANT:

FREDERICK W. WATSON
REVOCABLE TRUST,
ROBERT D. WATSON,
TRUSTEE

63 SLEEPY HOLLOW DRIVE
GREENLAND, NH 03840

PROJECT:

WATSON'S LANDING

TAX MAP 208, LOT 33

1 CLARK DRIVE
PORTSMOUTH, NH 03801

TITLE:

PROJECT:

WATSON'S LANDING

TAX MAP 208, LOT 33

1 CLARK DRIVE
PORTSMOUTH, NH 03801

TITLE:

PROJECT:

WATSON'S LANDING

TAX MAP 208, LOT 33

1 CLARK DRIVE
PORTSMOUTH, NH 03801

TITLE:

PROJECT:

WATSON'S LANDING

TAX MAP 208, LOT 33

1 CLARK DRIVE
PORTSMOUTH, NH 03801

TITLE:

PROJECT:

WATSON'S LANDING

TAX MAP 208, LOT 33

1 CLARK DRIVE
PORTSMOUTH, NH 03801

TITLE:

PROJECT:

WATSON'S LANDING

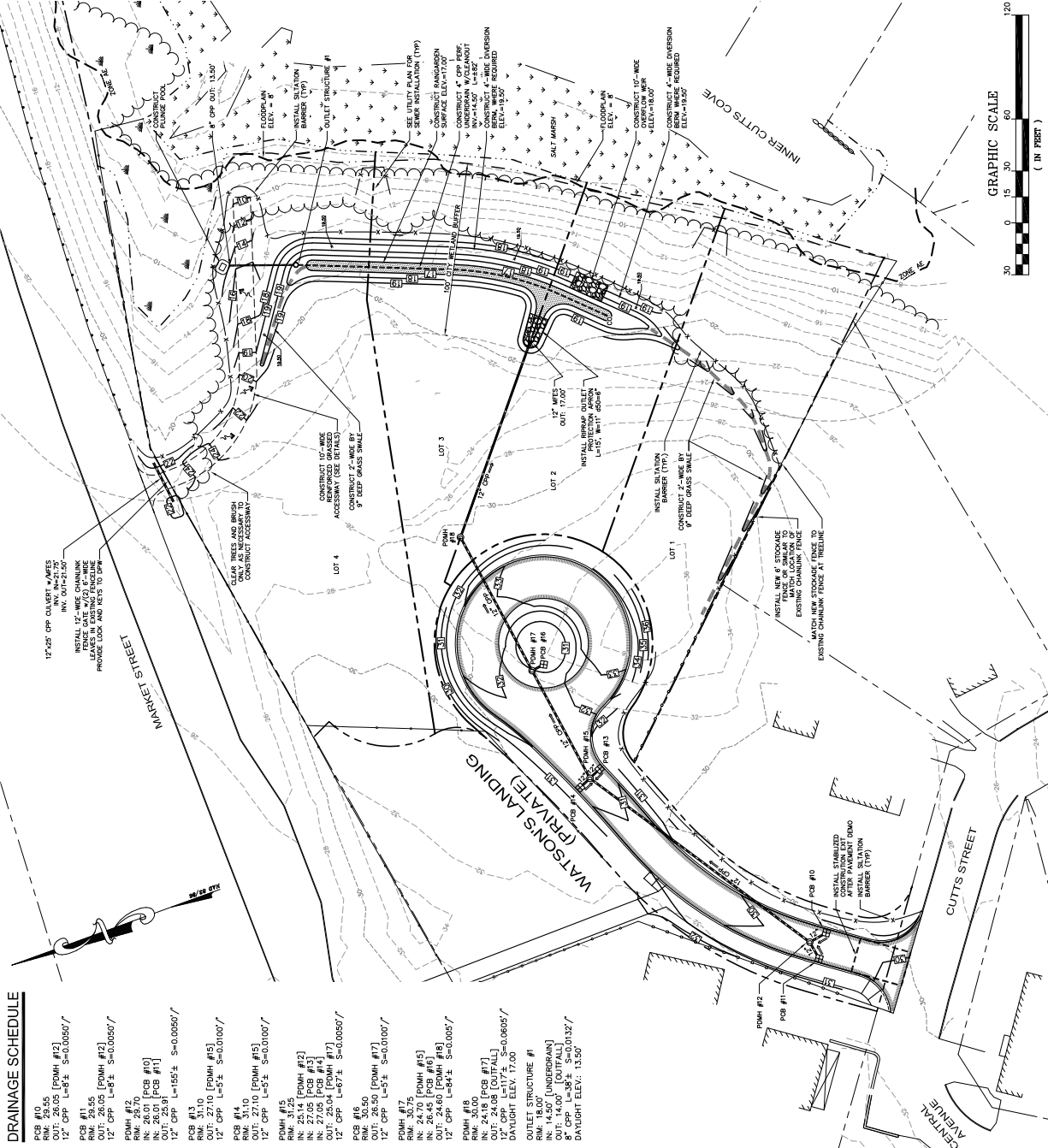
TAX MAP 208, LOT 33

1 CLARK DRIVE
PORTSMOUTH, NH 03801

TITLE:

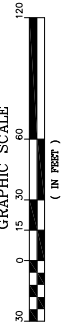
STORMWATER MANAGEMENT NOTES

- DO NOT BEGIN CONSTRUCTION UNTIL ALL STATE AND LOCAL PERMITS HAVE BEEN APPLIED FOR AND RECEIVED.
- CONTRACTOR SHALL OBTAIN A "DISSAFE" NUMBER AT LEAST 72 HOURS PRIOR TO COMMENCING CONSTRUCTION.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CONSTRUCTION SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION, THE MORE STRINGENT SPECIFICATION SHALL GOVERN.
- ALL BENCHMARKS AND TOPOGRAPHY SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
- UNLESS OTHERWISE NOTED IN NOTES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING TEMPORARY BENCHMARKS (TBM) AND PERFORMING ALL CONSTRUCTION SURVEY LEADINGS TO CONSTRUCTION. FIELD VERIFICATION SHALL BE PERFORMED PRESERVE AND PROTECT LINES TO BE RETAINED.
- TEMPORARY INLET PROTECTION MEASURES SHALL BE INSTALLED IN ALL EXISTING AND PROPOSED CATCH BASINS WITHIN 100' OF THE PROPOSED CONSTRUCTION. TEMPORARY PROTECTION MEASURES SHALL BE INSTALLED IN ALL AREAS THAT HAVE NOT BEEN STABILIZED.
- PROTECTION OF SUBGRADE: THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN STABLE, UNDISTURBED SUBGRADES FOR FOUNDATIONS, PAVEMENT AND OTHER STRUCTURES. SUBGRADE DISTURBANCE MAY BE INCURRED BY EXCAVATION METHODS. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO PREVENT SUBGRADE DISTURBANCE. SUCH PRECAUTIONS MAY INCLUDE DREDGING TRAFFIC IN SENSITIVE AREAS, AND MAINTAINING AN EFFECTIVE BARRIER TO PREVENT EXCAVATION FROM OCCURRING. EXCAVATION SHALL BE COVERED IMMEDIATELY WITH A MORE COMPETENT BEARING SOIL AND REPLACED WITH REEDED DRAINING STRUCTURES. THE EARTHWORK IS SUSCEPTIBLE TO PROCT. NO FILL OR UTILITIES SHALL BE PLACED ON SOIL CRUST AT THE COMMENCEMENT OF EACH DAY'S OPERATIONS. THE FINAL SUBGRADE ELEVATION SHOULD REQUIRE AN APPROPRIATE MARGIN OF RESERVATION AGAINST FREEZING.
- ALL FILL MATERIALS SHALL BE PLACED AS FILL WITHIN UPWARD AND SHALL NOT BE PLACED WITHIN WETLANDS. FILL MATERIALS SHALL BE STOCKPILED AND ALLOWED TO DRAIN BEFORE CONSTRUCTION. FROZEN MATERIAL SHALL NOT BE USED FOR CONSTRUCTION.
- ALL CATCH BASIN, MANHOLE AND OTHER DRAINAGE RIMS SHALL BE SET ABOVE SURROUNDING FINISH GRADE SHALL NOT BE ACCEPTED. ANY RIM IN ORDER TO PROVIDE VISUAL CLARITY ON THE PLANS, DRAINAGE AND CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER SIZING AND INSTALLATION OF DRAINAGE STRUCTURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER SIZING AND INSTALLATION OF DRAINAGE STRUCTURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER SIZING AND INSTALLATION OF DRAINAGE STRUCTURES.
- NO EARTHWORK, STUMPING OR GRUBBING SHALL COMMENCE UNTIL ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSTALLED AND THE SITE IS STABILIZED.
- SEE DETAIL SHEETS FOR FERTILIZER, SEDIMENT AND EROSION CONTROL DETAILS AND ADDITIONAL NOTES.
- ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE DESIGN STANDARDS AND SPECIFICATIONS SET FORTH IN THE N.H. CONSTRUCTION MANUALS, VOL. 1-3, DATED DECEMBER 2008 AS AMENDED.
- CONTRACTOR SHALL CONTROL DUST BY SPRAYING WATER, SWEEPING PAVED SURFACES, PROVIDING TEMPORARY VEGETATION, AND/OR MULCHING EXPOSED AREAS AND STOCKPILES.
- CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO PREVENT EROSION AND SEDIMENT FROM ENTERING WETLANDS AND ENSURE PERMANENT SOIL STABILIZATION, BIODIVERSITY.
- ALL EROSION CONTROL BARRIERS AND FASTENERS SHALL BE DIRECTING RUNOFF TO THEM.
- ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITION USING ORGANIC FERTILIZER, SEED, AND MULCH USING APPROPRIATE SOIL STABILIZATION TECHNIQUES.
- UPON COMPLETION OF CONSTRUCTION, ALL DRAINAGE INFRASTRUCTURE EROSION AND SEDIMENT CONTROLS REMOVED AND ANY AREAS DISTURBED BY THE REMOVAL SMOOTHED AND REVEGETATED.
- THE ENGINEER OF RECORD SHALL SUBMIT A WRITTEN REPORT WITH STORMWATER INFRASTRUCTURE WAS CONSTRUCTED TO THE APPROVED PLANS AND WILL MEET THE DESIGN PERFORMANCE.
- ALL ROADWAY CATCH BASINS SHALL BE CLEANED ANNUALLY AND THE CATCH BASIN SUMP SHALL BE DISPOSED OF AT A SOID WASTE FACILITY.



DRAINAGE SCHEDULE

PCB #10	12" CPD 12" CPD	12" CPD	12" CPD
PCB #11	12" CPD	12" CPD	12" CPD
PCB #12	12" CPD	12" CPD	12" CPD
PCB #13	12" CPD	12" CPD	12" CPD
PCB #14	12" CPD	12" CPD	12" CPD
PCB #15	12" CPD	12" CPD	12" CPD
PCB #16	12" CPD	12" CPD	12" CPD
PCB #17	12" CPD	12" CPD	12" CPD
PCB #18	12" CPD	12" CPD	12" CPD
PCB #19	12" CPD	12" CPD	12" CPD
PCB #20	12" CPD	12" CPD	12" CPD
PCB #21	12" CPD	12" CPD	12" CPD
PCB #22	12" CPD	12" CPD	12" CPD
PCB #23	12" CPD	12" CPD	12" CPD
PCB #24	12" CPD	12" CPD	12" CPD
PCB #25	12" CPD	12" CPD	12" CPD
PCB #26	12" CPD	12" CPD	12" CPD
PCB #27	12" CPD	12" CPD	12" CPD
PCB #28	12" CPD	12" CPD	12" CPD
PCB #29	12" CPD	12" CPD	12" CPD
PCB #30	12" CPD	12" CPD	12" CPD
PCB #31	12" CPD	12" CPD	12" CPD
PCB #32	12" CPD	12" CPD	12" CPD
PCB #33	12" CPD	12" CPD	12" CPD
PCB #34	12" CPD	12" CPD	12" CPD
PCB #35	12" CPD	12" CPD	12" CPD
PCB #36	12" CPD	12" CPD	12" CPD
PCB #37	12" CPD	12" CPD	12" CPD
PCB #38	12" CPD	12" CPD	12" CPD
PCB #39	12" CPD	12" CPD	12" CPD
PCB #40	12" CPD	12" CPD	12" CPD
PCB #41	12" CPD	12" CPD	12" CPD
PCB #42	12" CPD	12" CPD	12" CPD
PCB #43	12" CPD	12" CPD	12" CPD
PCB #44	12" CPD	12" CPD	12" CPD
PCB #45	12" CPD	12" CPD	12" CPD
PCB #46	12" CPD	12" CPD	12" CPD
PCB #47	12" CPD	12" CPD	12" CPD
PCB #48	12" CPD	12" CPD	12" CPD
PCB #49	12" CPD	12" CPD	12" CPD
PCB #50	12" CPD	12" CPD	12" CPD
PCB #51	12" CPD	12" CPD	12" CPD
PCB #52	12" CPD	12" CPD	12" CPD
PCB #53	12" CPD	12" CPD	12" CPD
PCB #54	12" CPD	12" CPD	12" CPD
PCB #55	12" CPD	12" CPD	12" CPD
PCB #56	12" CPD	12" CPD	12" CPD
PCB #57	12" CPD	12" CPD	12" CPD
PCB #58	12" CPD	12" CPD	12" CPD
PCB #59	12" CPD	12" CPD	12" CPD
PCB #60	12" CPD	12" CPD	12" CPD
PCB #61	12" CPD	12" CPD	12" CPD
PCB #62	12" CPD	12" CPD	12" CPD
PCB #63	12" CPD	12" CPD	12" CPD
PCB #64	12" CPD	12" CPD	12" CPD
PCB #65	12" CPD	12" CPD	12" CPD
PCB #66	12" CPD	12" CPD	12" CPD
PCB #67	12" CPD	12" CPD	12" CPD
PCB #68	12" CPD	12" CPD	12" CPD
PCB #69	12" CPD	12" CPD	12" CPD
PCB #70	12" CPD	12" CPD	12" CPD
PCB #71	12" CPD	12" CPD	12" CPD
PCB #72	12" CPD	12" CPD	12" CPD
PCB #73	12" CPD	12" CPD	12" CPD
PCB #74	12" CPD	12" CPD	12" CPD
PCB #75	12" CPD	12" CPD	12" CPD
PCB #76	12" CPD	12" CPD	12" CPD
PCB #77	12" CPD	12" CPD	12" CPD
PCB #78	12" CPD	12" CPD	12" CPD
PCB #79	12" CPD	12" CPD	12" CPD
PCB #80	12" CPD	12" CPD	12" CPD
PCB #81	12" CPD	12" CPD	12" CPD
PCB #82	12" CPD	12" CPD	12" CPD
PCB #83	12" CPD	12" CPD	12" CPD
PCB #84	12" CPD	12" CPD	12" CPD
PCB #85	12" CPD	12" CPD	12" CPD
PCB #86	12" CPD	12" CPD	12" CPD
PCB #87	12" CPD	12" CPD	12" CPD
PCB #88	12" CPD	12" CPD	12" CPD
PCB #89	12" CPD	12" CPD	12" CPD
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PCB #93	12" CPD	12" CPD	12" CPD
PCB #94	12" CPD	12" CPD	12" CPD
PCB #95	12" CPD	12" CPD	12" CPD
PCB #96	12" CPD	12" CPD	12" CPD
PCB #97	12" CPD	12" CPD	12" CPD
PCB #98	12" CPD	12" CPD	12" CPD
PCB #99	12" CPD	12" CPD	12" CPD
PCB #100	12" CPD	12" CPD	12" CPD



August 26, 2020

Erik Saari
Altus Engineering
133 Court St.
Portsmouth, NH 03801

SUBJECT: One Clark Drive – Highway Noise Overlay District Analysis

Dear Erik,

At your request, I have conducted a study of traffic noise levels at One Clark Drive in Portsmouth. This site lies within the City of Portsmouth's Highway Noise Overlay District, Section 10.670 of the Zoning Ordinance. As such, any redevelopment of the site is subject to both interior and exterior traffic noise level limits.

Sound Level Limits

Section 10.673 provides hourly-average limits for the interior of a dwelling (45 dBA) and outdoor activity areas (65 dBA), based on the "Loudest Traffic Hour Sound Level". Typical residential construction provides 20 dB of sound attenuation between the exterior and interior without any special insulation or glazing, making these limits effectively equivalent.

Analysis

The study was conducted in accordance with 10.675 Noise Analysis. Each subsection is addressed below:

(1) Description of the proposed development

The development will include demolition of the existing single-family structure and subdivision of the parcel into four house lots.

(2) A narrative description of the proposed site configuration and any proposed noise mitigation measures.

As indicated above, four house lots will be created. No noise mitigation is necessary or proposed.

(3) A diagram showing the proposed site configuration including the location of noise sensitive land uses and any proposed noise mitigation measures.

Figure 1, attached, depicts the proposed subdivision. The four lots should be considered noise sensitive land uses. No noise mitigation is necessary or proposed.

(4) Unadjusted 60, 65 and 70 dBA noise contours for the loudest traffic hour sound levels shown as an overlay on the site diagram. Noise contours must be developed using the FHWA Transportation Noise Model (or a replacement model that has been approved by the FHWA).

A computer model of the site was constructed in SoundPlan. Calculations were conducted using the required FHWA TNM 2.5 engine. Traffic count data for the relevant section of I-95 were obtained from the NHDOT database, as presented in the attached Figure 2.

As “loudest hour” is not a standard traffic noise metric (average hour and peak hour are typical), the DHV-30 value was used as a conservative surrogate. This design hour volume represents the 30th-highest volume hour of the year. As no DHV-30 value was published for 2019, the 2018 value was scaled proportionally according to the overall increase in volume from 2018 to 2019. Counts used in the model were 8830 automobiles and 768 heavy trucks, divided evenly across the northbound and southbound lanes.

Figure 1, attached, depicts the 60-, 65- and 70-dBA noise level contours.

To confirm that the DHV-30 data reasonably represent the loudest hour, monitoring was conducted at the site for several days, including both weekdays and a weekend. The monitor location is also indicated on Figure 1. The measured data are presented in the attached Figure 3. The loudest hours at this location were all 60 dBA. The TNM model when evaluated at this location estimates a sound level of 59.3 dBA. This is a negligible difference and satisfactorily validates the model.

The entire development is outside of the 65-dBA contour. Any portion of the site may be used for outdoor activities and dwellings of typical design and construction may exist at any location on any of the parcels.

(5) [not applicable]

Summary

The proposed redevelopment of One Clark Drive will meet the requirements of the Highway Noise Overlay District without noise mitigation.

Please feel free to contact me with any questions.

Sincerely,



Eric L. Reuter, FASA, INCE Bd. Cert.
Principal

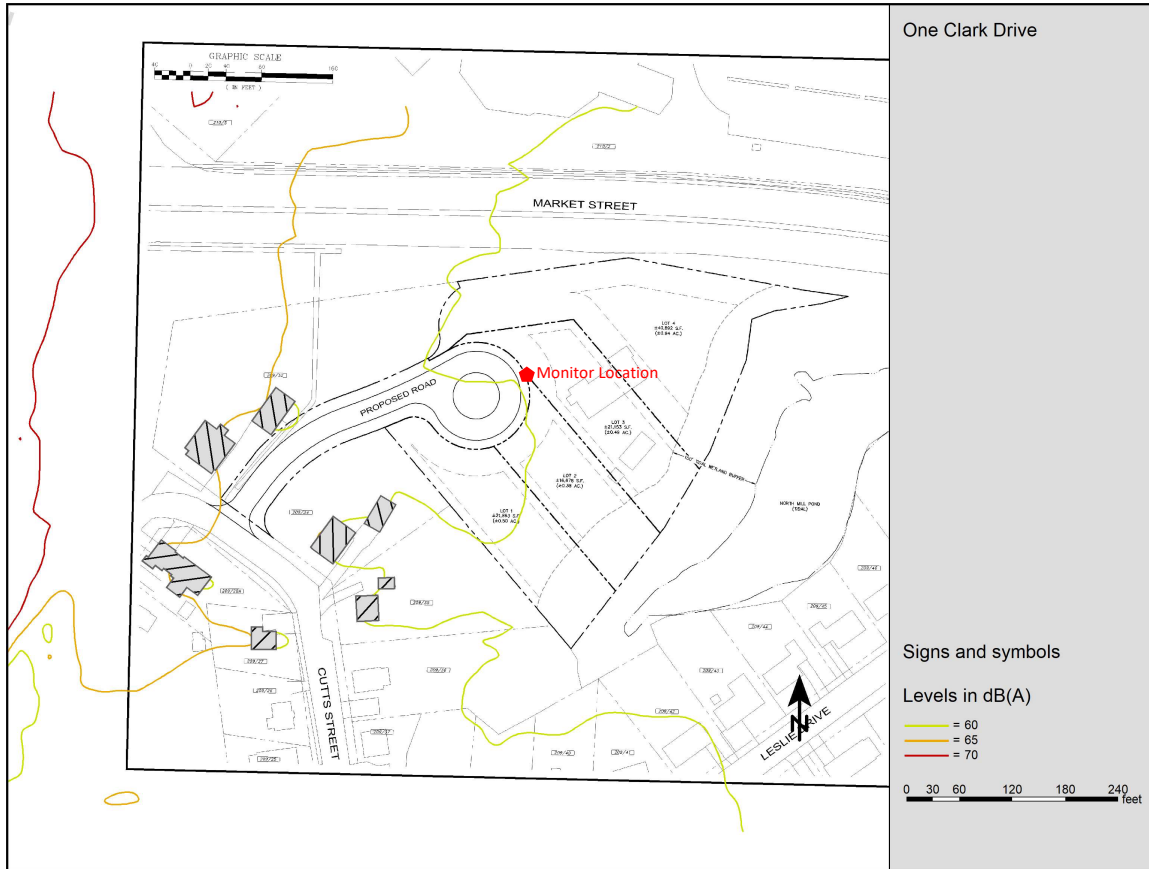


Figure 1 – Site Plan and Noise Contours

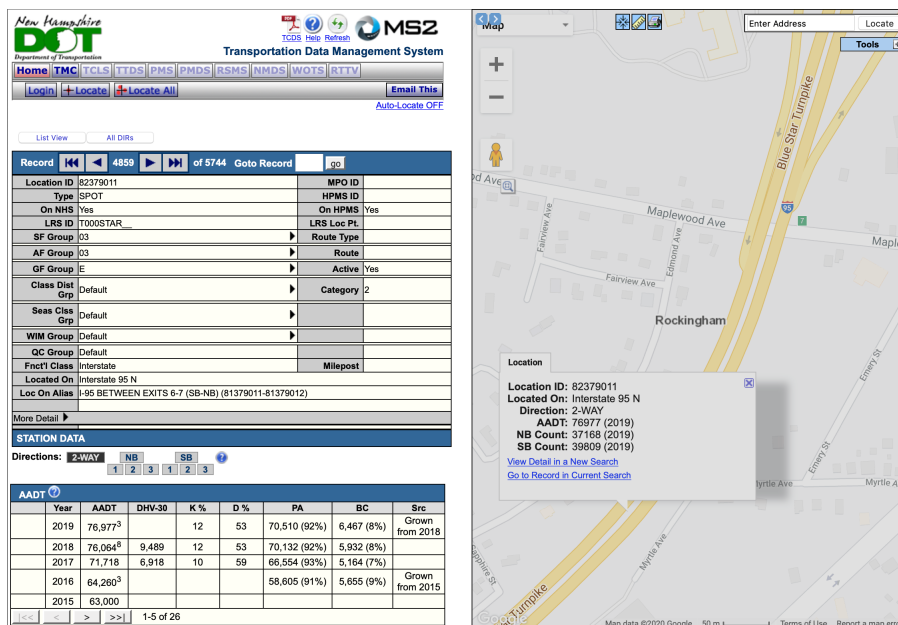


Figure 2 – NHDOT Traffic Data

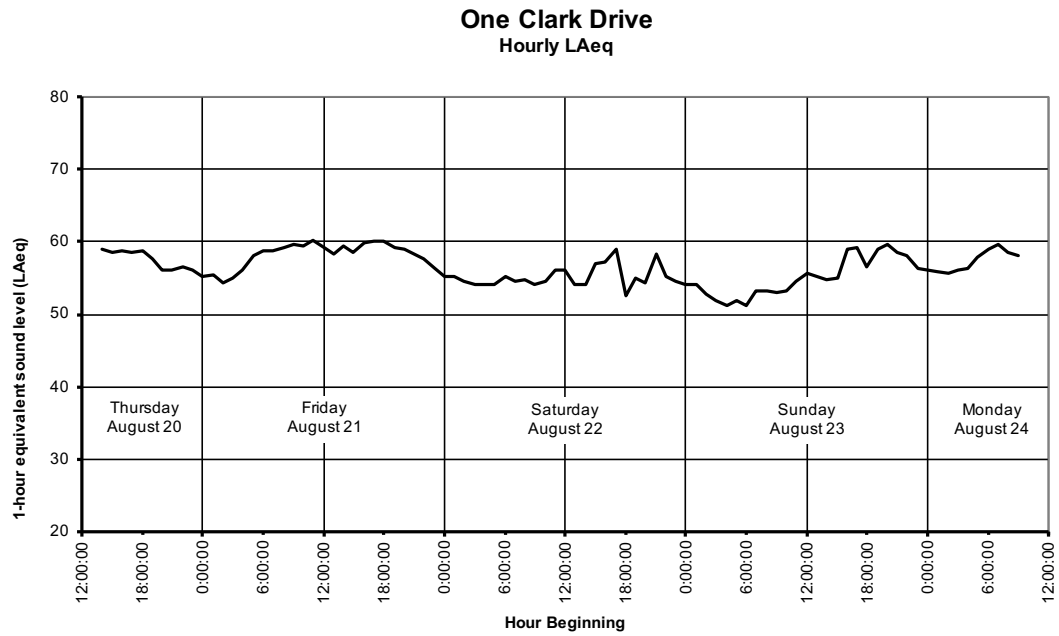
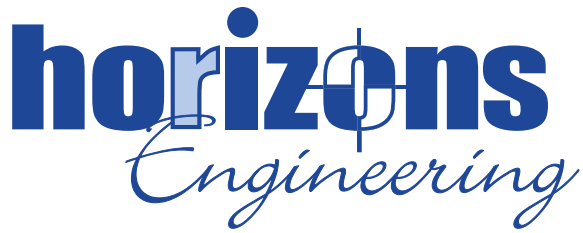


Figure 3 – Measured Data



4995 VT Route 14, PO Box 247, Sharon, VT 05065 • Ph 802-457-3151 • Fax 603-444-1343 • www.horizonsengineering.com

Project No. 16074
March 10, 2021

Ms. Juliet Walker
City of Portsmouth Planning Department
1 Junkins Ave., 3rd Floor
Portsmouth, New Hampshire 03801

**Subject: Response to Comments From Technical Advisory Committee
Woodbury Cooperative Site Improvements**

Dear Ms. Walker:

We are in receipt of your review comments on the above referenced project dated March 1, 2021. Our responses follow the numbering sequence in your letter.

- 1. The pavement edge line should tie into the corner of the property at Old Woodbury Ave, rather than the edge of the abutter's driveway.**

We agree with this comment. The changes have been made to the site plan (Sheet 3).

- 2. A stop sign and stop line should be provided on the driveway approach to Woodbury Ave.**

We agree with this comment. The changes have been made to the site plan (Sheet 3) and a detail has been added to Sheet 8.

- 3. A blanket easement will be required over the parcel for the purpose of valve access and leak detection for the water system.**

We are working with the client and the lawyers to get this easement. This will be ready prior to construction.

Horizons Engineering, Inc.

New London, NH • Newport, VT • Littleton, NH • Sharon, VT • Kennebunk, ME • Conway, NH • Newmarket, NH

- 4. The services in Echo Ave shall be terminated to the satisfaction of Portsmouth Water/Sewer Divisions.**

This is noted on the plans as previously discussed. No changes have been made to adjust the plan.

- 5. The site plan is currently shown removing a small amount of asphalt paving on lot 237/71. Do you have permission to do that?**

Changes have been made to the pavement cut so that no work will take place on lot 237/71.

- 6. Sewer connections to the City system need to be witnessed by Portsmouth Sewer. The entire system must be tested to ensure the system is tight with no groundwater leaks to the satisfaction of the City.**

Notation has been added to the plans on Sheet 4 Water and Sewer Construction Notes 10 and 11.

- 7. Work in the Portsmouth ROW's will require excavation permits. As previously stated, the City may provide some assistance with the work on old Woodbury Ave a formal request needs to be submitted.**

Notation has been added to the plans on Sheet 4 Water and Sewer Construction Note 12.

- 8. There is no water shut off shown for unit 13 or the apartment building.**

This has been corrected. Both shut offs are shown on Sheet 4.

- 9. The 8" water main entering site should be downsized immediately following the hydrant connection. The hydrant needs its own 6" gate xv valve (please show it) on the hydrant lateral. The 4" valve should be mounted directly behind the hydrant tee.**

This change has been made to Sheet 4.

- 10. Flush valve detail references an 1.5" corporation in the main. 2" corporation with 2" copper water line to hydrant.**

This change has been made to Sheet 5.

Horizons Engineering, Inc.

- 11. Water main to be bagged in poly wrap and three brass wedges shall be installed in each bell joint for water main tracing in the future. Contactor to meet with Portsmouth water before starting project.**

This change has been made to Sheet 5 Water Main Notes and Water and Sewer Construction Note 12.

- 12. It is still not clear in the sewer service detail that the concrete slab is not bonded to the sewer lateral. This must be shown properly. The 6" sewer should come through an 8" hole in the slab.**

Notation has been added to notes on Sheet 5.

- 13. There needs to be a ball valve both before and after the water meter.**

This change has been made on Sheet 5.

- 14. Water services to homes must be 1" or larger.**

This change has been noted on Sheet 5.

- 15. Applicant shall enter into agreement with Portsmouth Water regarding flushing hydrant.**

This permit will be submitted to the City of Portsmouth prior to construction.

Thank you for your comments. Please feel free to contact me with additional comments or questions.

Ryan Libbey, P.E.
Civil Design Engineer
Horizons Engineering, Inc.
4495 VT-14
P.O. Box 247
Sharon, VT 05065

Horizons Engineering, Inc.



City of Portsmouth, New Hampshire

Site Plan Application Checklist

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

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

Name of Owner/Applicant: _____ Date Submitted: _____

Phone Number: _____ E-mail: _____

Site Address: _____ Map: _____ Lot: _____

Zoning District: _____ Lot area: _____ sq. ft.

Application Requirements			
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page or Plan Sheet/Note #)	Waiver Requested
<input type="checkbox"/>	Fully executed and signed Application form. (2.5.2.3)		N/A
<input type="checkbox"/>	All application documents, plans, supporting documentation and other materials provided in digital Portable Document Format (PDF) on compact disc, DVD or flash drive. (2.5.2.8)		N/A

Site Plan Review Application Required Information			
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input type="checkbox"/>	Statement that lists and describes "green" building components and systems. (2.5.3.1A)		
<input type="checkbox"/>	Gross floor area and dimensions of all buildings and statement of uses and floor area for each floor. (2.5.3.1B)		N/A
<input type="checkbox"/>	Tax map and lot number, and current zoning of all parcels under Site Plan Review. (2.5.3.1C)		N/A
<input type="checkbox"/>	Owner's name, address, telephone number, and signature. Name, address, and telephone number of applicant if different from owner. (2.5.3.1D)		N/A

Site Plan Review Application Required Information

<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input type="checkbox"/>	Names and addresses (including Tax Map and Lot number and zoning districts) of all direct abutting property owners (including properties located across abutting streets) and holders of existing conservation, preservation or agricultural preservation restrictions affecting the subject property. (2.5.3.1E)		N/A
<input type="checkbox"/>	Names, addresses and telephone numbers of all professionals involved in the site plan design. (2.5.3.1F)		N/A
<input type="checkbox"/>	List of reference plans. (2.5.3.1G)		N/A
<input type="checkbox"/>	List of names and contact information of all public or private utilities servicing the site. (2.5.3.1H)		N/A

Site Plan Specifications

<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input type="checkbox"/>	Full size plans shall not be larger than 22 inches by 34 inches with match lines as required, unless approved by the Planning Director. Submittals shall be a minimum of 11 inches by 17 inches as specified by Planning Dept. staff. (2.5.4.1A)	Required on all plan sheets	N/A
<input type="checkbox"/>	Scale: Not less than 1 inch = 60 feet and a graphic bar scale shall be included on all plans. (2.5.4.1B)	Required on all plan sheets	N/A
<input type="checkbox"/>	GIS data should be referenced to the coordinate system New Hampshire State Plane, NAD83 (1996), with units in feet. (2.5.4.1C)	Required on all plan sheets	N/A
<input type="checkbox"/>	Plans shall be drawn to scale. (2.5.4.1D)	Required on all plan sheets	N/A
<input type="checkbox"/>	Plans shall be prepared and stamped by a NH licensed civil engineer. (2.5.4.1D)	Required on all plan sheets	N/A
<input type="checkbox"/>	Wetlands shall be delineated by a NH certified wetlands scientist. (2.5.4.1E)		N/A
<input type="checkbox"/>	Title (name of development project), north point, scale, legend. (2.5.4.2A)	Required on all plan sheets	N/A
<input type="checkbox"/>	Date plans first submitted, date and explanation of revisions. (2.5.4.2B)	Required on all plan sheets	N/A
<input type="checkbox"/>	Individual plan sheet title that clearly describes the information that is displayed. (2.5.4.2C)	Required on all plan sheets	N/A

Site Plan Specifications

<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input type="checkbox"/>	Source and date of data displayed on the plan. (2.5.4.2D)	Required on all plan sheets	N/A
<input type="checkbox"/>	A note shall be provided on the Site Plan stating: "All conditions on this Plan shall remain in effect in perpetuity pursuant to the requirements of the Site Plan Review Regulations." (2.5.4.2E)	Required on all plan sheets	N/A
<input type="checkbox"/>	Plan sheets submitted for recording shall include the following notes: <ul style="list-style-type: none"> a. "This Site Plan shall be recorded in the Rockingham County Registry of Deeds." b. "All improvements shown on this Site Plan shall be constructed and maintained in accordance with the Plan by the property owner and all future property owners. No changes shall be made to this Site Plan without the express approval of the Portsmouth Planning Director." (2.13.3)		N/A
<input type="checkbox"/>	Plan sheets showing landscaping and screening shall also include the following additional notes: <ul style="list-style-type: none"> a. "The property owner and all future property owners shall be responsible for the maintenance, repair and replacement of all required screening and landscape materials." b. "All required plant materials shall be tended and maintained in a healthy growing condition, replaced when necessary, and kept free of refuse and debris. All required fences and walls shall be maintained in good repair." c. "The property owner shall be responsible to remove and replace dead or diseased plant materials immediately with the same type, size and quantity of plant materials as originally installed, unless alternative plantings are requested, justified and approved by the Planning Board or Planning Director." (2.13.4)		N/A

Site Plan Specifications – Required Exhibits and Data

<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
	1. Existing Conditions: (2.5.4.3A)		
<input type="checkbox"/>	a. Surveyed plan of site showing existing natural and built features;		
<input type="checkbox"/>	b. Zoning boundaries;		
<input type="checkbox"/>	c. Dimensional Regulations;		
<input type="checkbox"/>	d. Wetland delineation, wetland function and value assessment;		
<input type="checkbox"/>	e. SFHA, 100-year flood elevation line and BFE data.		
	2. Buildings and Structures: (2.5.4.3B)		
<input type="checkbox"/>	a. Plan view: Use, size, dimensions, footings, overhangs, 1st fl. elevation;		
<input type="checkbox"/>	b. Elevations: Height, massing, placement, materials, lighting, façade treatments;		
<input type="checkbox"/>	c. Total Floor Area;		
<input type="checkbox"/>	d. Number of Usable Floors;		
<input type="checkbox"/>	e. Gross floor area by floor and use.		
	3. Access and Circulation: (2.5.4.3C)		
<input type="checkbox"/>	a. Location/width of access ways within site;		
<input type="checkbox"/>	b. Location of curbing, right of ways, edge of pavement and sidewalks;		
<input type="checkbox"/>	c. Location, type, size and design of traffic signing (pavement markings);		
<input type="checkbox"/>	d. Names/layout of existing abutting streets;		
<input type="checkbox"/>	e. Driveway curb cuts for abutting prop. and public roads;		
<input type="checkbox"/>	f. If subdivision; Names of all roads, right of way lines and easements noted;		
<input type="checkbox"/>	g. AASHTO truck turning templates, description of minimum vehicle allowed being a WB-50 (unless otherwise approved by TAC).		
	4. Parking and Loading: (2.5.4.3D)		
<input type="checkbox"/>	a. Location of off street parking/loading areas, landscaped areas/buffers;		
<input type="checkbox"/>	b. Parking Calculations (# required and the # provided).		
	5. Water Infrastructure: (2.5.4.3E)		
<input type="checkbox"/>	a. Size, type and location of water mains, shut-offs, hydrants & Engineering data;		
<input type="checkbox"/>	b. Location of wells and monitoring wells (include protective radii).		
	6. Sewer Infrastructure: (2.5.4.3F)		
<input type="checkbox"/>	a. Size, type and location of sanitary sewage facilities & Engineering data.		
	7. Utilities: (2.5.4.3G)		
<input type="checkbox"/>	a. The size, type and location of all above & below ground utilities;		
<input type="checkbox"/>	b. Size type and location of generator pads, transformers and other fixtures.		

Site Plan Specifications – Required Exhibits and Data

<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input type="checkbox"/>	8. Solid Waste Facilities: (2.5.4.3H)		
<input type="checkbox"/>	a. The size, type and location of solid waste facilities.		
<input type="checkbox"/>	9. Storm water Management: (2.5.4.3I)		
<input type="checkbox"/>	a. The location, elevation and layout of all storm-water drainage.		
<input type="checkbox"/>	10. Outdoor Lighting: (2.5.4.3J)		
<input type="checkbox"/>	a. Type and placement of all lighting (exterior of building, parking lot and any other areas of the site) and; b. photometric plan.		
<input type="checkbox"/>	11. Indicate where dark sky friendly lighting measures have been implemented. (10.1)		
<input type="checkbox"/>	12. Landscaping: (2.5.4.3K)		
<input type="checkbox"/>	a. Identify all undisturbed area, existing vegetation and that which is to be retained;		
<input type="checkbox"/>	b. Location of any irrigation system and water source.		
<input type="checkbox"/>	13. Contours and Elevation: (2.5.4.3L)		
<input type="checkbox"/>	a. Existing/Proposed contours (2 foot minimum) and finished grade elevations.		
<input type="checkbox"/>	14. Open Space: (2.5.4.3M)		
<input type="checkbox"/>	a. Type, extent and location of all existing/proposed open space.		
<input type="checkbox"/>	15. All easements, deed restrictions and non-public rights of ways. (2.5.4.3N)		
<input type="checkbox"/>	16. Location of snow storage areas and/or off-site snow removal. (2.5.4.3O)		
<input type="checkbox"/>	17. Character/Civic District (All following information shall be included): (2.5.4.3Q)		
<input type="checkbox"/>	a. Applicable Building Height (10.5A21.20 & 10.5A43.30);		
<input type="checkbox"/>	b. Applicable Special Requirements (10.5A21.30);		
<input type="checkbox"/>	c. Proposed building form/type (10.5A43);		
<input type="checkbox"/>	d. Proposed community space (10.5A46).		

Other Required Information			
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input type="checkbox"/>	Traffic Impact Study or Trip Generation Report, as required. <i>(Four (4) hardcopies of the full study/report and Six (6) summaries to be submitted with the Site Plan Application) (3.2.1-2)</i>		
<input type="checkbox"/>	Indicate where Low Impact Development Design practices have been incorporated. (7.1)		
<input type="checkbox"/>	Indicate whether the proposed development is located in a wellhead protection or aquifer protection area. Such determination shall be approved by the Director of the Dept. of Public Works. (7.3.1)		
<input type="checkbox"/>	Indicate where measures to minimize impervious surfaces have been implemented. (7.4.3)		
<input type="checkbox"/>	Calculation of the maximum effective impervious surface as a percentage of the site. (7.4.3.2)		
<input type="checkbox"/>	Stormwater Management and Erosion Control Plan. <i>(Four (4) hardcopies of the full plan/report and Six (6) summaries to be submitted with the Site Plan Application) (7.4.4.1)</i>		

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

Final Site Plan Approval Required Information

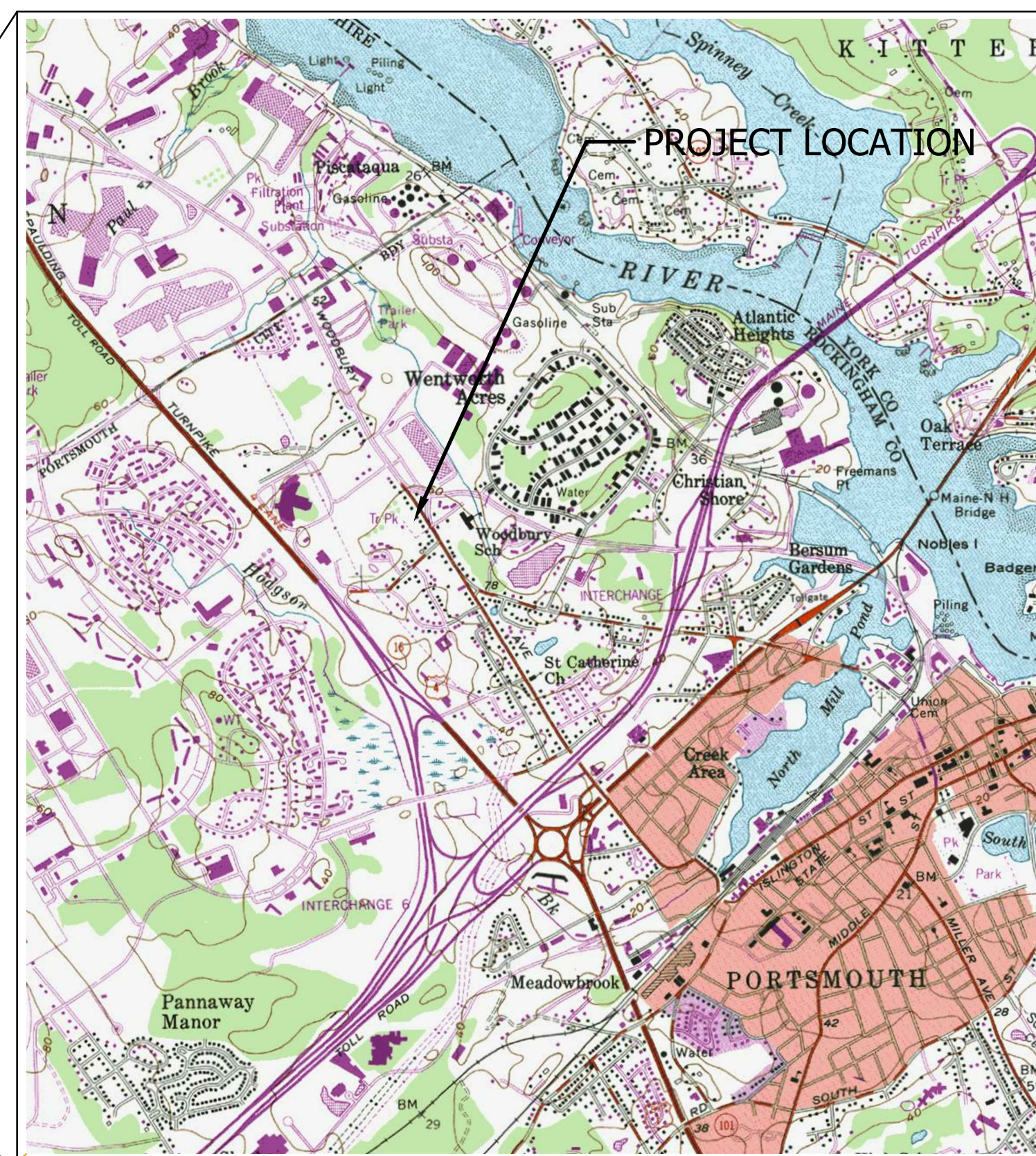
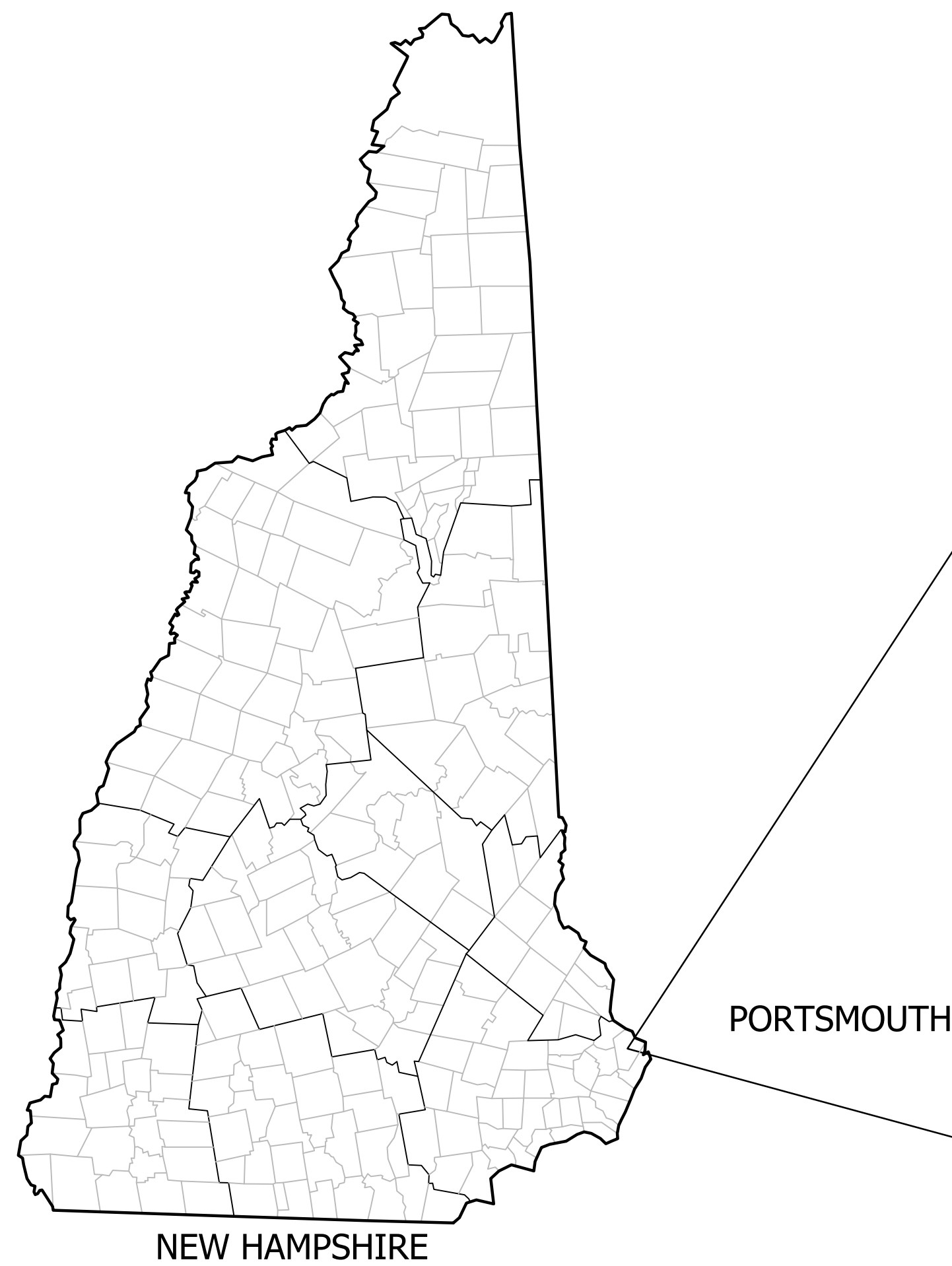
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input type="checkbox"/>	A document from each of the required private utility service providers indicating approval of the proposed site plan and indicating an ability to provide all required private utilities to the site. (2.5.3.2D)		
<input type="checkbox"/>	A list of any required state and federal permit applications required for the project and the status of same. (2.5.3.2E)		

Applicant's Signature: _____ **Date:** _____

WOODBURY COOPERATIVE

SITE IMPROVEMENTS

PORTSMOUTH, NEW HAMPSHIRE
 FEBRUARY 2021



LOCATION PLAN

SCALE: 1" = 2000'

OWNER:

WOODBURY COOPERATIVE
 ROC-NH
 7 WALL STREET
 CONCORD, NH 03301
 (603) 224-6669

ENGINEER & SURVEYOR:

horizons
Engineering Inc.

34 SCHOOL STREET
 LITTLETON, NH 03561
 (603) 444-4111

INDEX OF SHEETS:

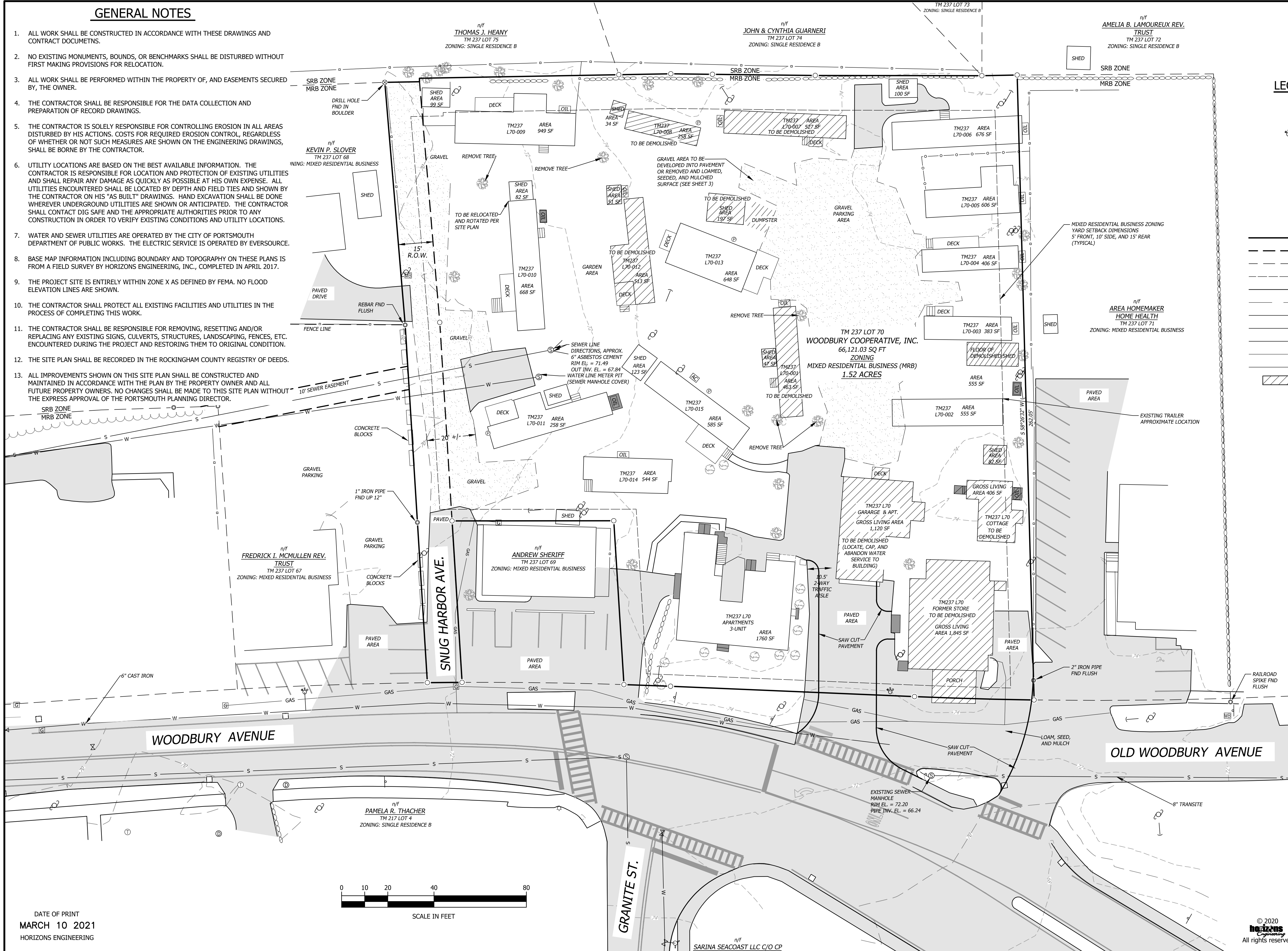
SHEET 1	:	COVER
SHEET 2	:	EXISTING CONDITIONS & DEMOLITION PLAN
SHEET 3	:	SITE AND GRADING PLAN
SHEET 4	:	UTILITY PLAN
SHEET 5	:	POTABLE WATER DETAILS
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GENERAL NOTES

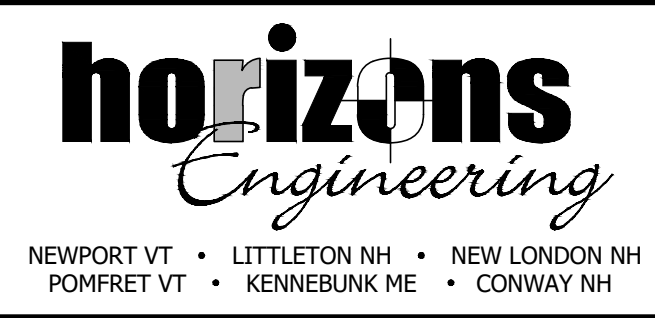
- ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THESE DRAWINGS AND CONTRACT DOCUMENTS.
- NO EXISTING MONUMENTS, BOUNDS, OR BENCHMARKS SHALL BE DISTURBED WITHOUT FIRST MAKING PROVISIONS FOR RELOCATION.
- ALL WORK SHALL BE PERFORMED WITHIN THE PROPERTY OF, AND EASEMENTS SECURED BY, THE OWNER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DATA COLLECTION AND PREPARATION OF RECORD DRAWINGS.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONTROLLING EROSION IN ALL AREAS DISTURBED BY HIS ACTIONS. COSTS FOR REQUIRED EROSION CONTROL, REGARDLESS OF WHETHER OR NOT SUCH MEASURES ARE SHOWN ON THE ENGINEERING DRAWINGS, SHALL BE BORNE BY THE CONTRACTOR.
- UTILITY LOCATIONS ARE BASED ON THE BEST AVAILABLE INFORMATION. THE CONTRACTOR IS RESPONSIBLE FOR LOCATION AND PROTECTION OF EXISTING UTILITIES AND SHALL REPAIR ANY DAMAGE AS QUICKLY AS POSSIBLE AT HIS OWN EXPENSE. ALL UTILITIES ENCOUNTERED SHALL BE LOCATED BY DEPTH AND FIELD TIES AND SHOWN BY THE CONTRACTOR ON HIS "AS BUILT" DRAWINGS. HAND EXCAVATION SHALL BE DONE WHEREVER UNDERGROUND UTILITIES ARE SHOWN OR ANTICIPATED. THE CONTRACTOR SHALL CONTACT DIG SAFE AND THE APPROPRIATE AUTHORITIES PRIOR TO ANY CONSTRUCTION IN ORDER TO VERIFY EXISTING CONDITIONS AND UTILITY LOCATIONS.
- WATER AND SEWER UTILITIES ARE OPERATED BY THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS. THE ELECTRIC SERVICE IS OPERATED BY EVERSOURCE.
- BASE MAP INFORMATION INCLUDING BOUNDARY AND TOPOGRAPHY ON THESE PLANS IS FROM A FIELD SURVEY BY HORIZONS ENGINEERING, INC., COMPLETED IN APRIL 2017.
- THE PROJECT SITE IS ENTIRELY WITHIN ZONE X AS DEFINED BY FEMA. NO FLOOD ELEVATION LINES ARE SHOWN.
- THE CONTRACTOR SHALL PROTECT ALL EXISTING FACILITIES AND UTILITIES IN THE PROCESS OF COMPLETING THIS WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING, RESETTING AND/OR REPLACING ANY EXISTING SIGNS, CULVERTS, STRUCTURES, LANDSCAPING, FENCES, ETC. ENCOUNTERED DURING THE PROJECT AND RESTORING THEM TO ORIGINAL CONDITION.
- THE SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
- ALL IMPROVEMENTS SHOWN ON THIS SITE PLAN SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE PLAN BY THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS. NO CHANGES SHALL BE MADE TO THIS SITE PLAN WITHOUT THE EXPRESS APPROVAL OF THE PORTSMOUTH PLANNING DIRECTOR.



LEGEND

○	IRON PIPE OR ROD FOUND
○	CALCULATED POINT
⊗	EXISTING WATER STRUCTURES
⊗	EXISTING SEWER MANHOLE
⊗	EXISTING CATCH BASIN
⊗	EXISTING DRAIN MANHOLE
⊗	EXISTING METER PIT
⊗	EXISTING UTILITY POLE
⊗	EXISTING SIGN
⊗	EXISTING PROPANE TANK
---	EXISTING BOUNDARY LINE
---	EXISTING EASEMENT
---	ABUTTERS LINE
---	BUILDING SETBACK LINE
---	EXISTING EDGE OF PAVEMENT
---	EXISTING EDGE OF GRAVEL
W	EXISTING WATER SERVICE
S	EXISTING SEWER SERVICE
OHE	EXISTING OVERHEAD ELECTRIC LINES
GAS	EXISTING UNDERGROUND GAS
---	EXISTING FENCE
▨	BUILDING TO BE DEMOLISHED

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WOODBURY COOPERATIVE, INC

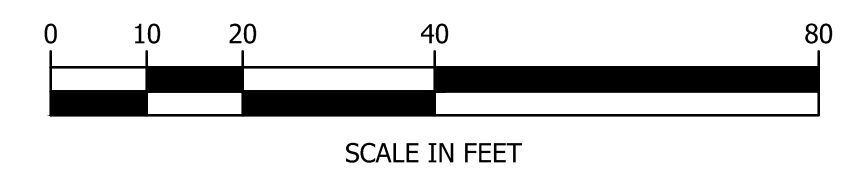
SITE IMPROVEMENTS
PORTSMOUTH, NEW HAMPSHIRE

EXISTING CONDITIONS &
DEMOLITION PLAN

NO.	DATE	REVISION DESCRIPTION	ENG	DWG

DATE: MAR. 2021 PROJECT #: 16074
 ENG'D BY: DAVIS
 CHECK'D BY: DMC
 SHEET 2 OF 9

DATE OF PRINT
MARCH 10 2021
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AREA COVERAGE TOTALS

EXISTING
 BUILDINGS, SHEDS, DECKS, CONCRETE : 15,237 SQ. FT. (0.35 ACRES)
 GRAVEL: 10,961 SQ. FT. (0.25 ACRES)
 PAVEMENT: 6,349 SQ. FT. (0.15 ACRES)
 TOTAL EXISTING IMPERVIOUS: (49.22%) 32,547 SQ. FT. (0.75 ACRES)

PROPOSED
 BUILDINGS, SHEDS, DECKS, CONCRETE: 12,820 SQ. FT. (0.30 ACRES)
 GRAVEL: 15,953 SQ. FT. (0.37 ACRES)
 PAVEMENT: 4,999 SQ. FT. (0.11 ACRES)
 TOTAL PROPOSED IMPERVIOUS: (51.07%) 33,772 SQ. FT. (0.85 ACRES)

SITE PLAN REGULATION 1.2.2

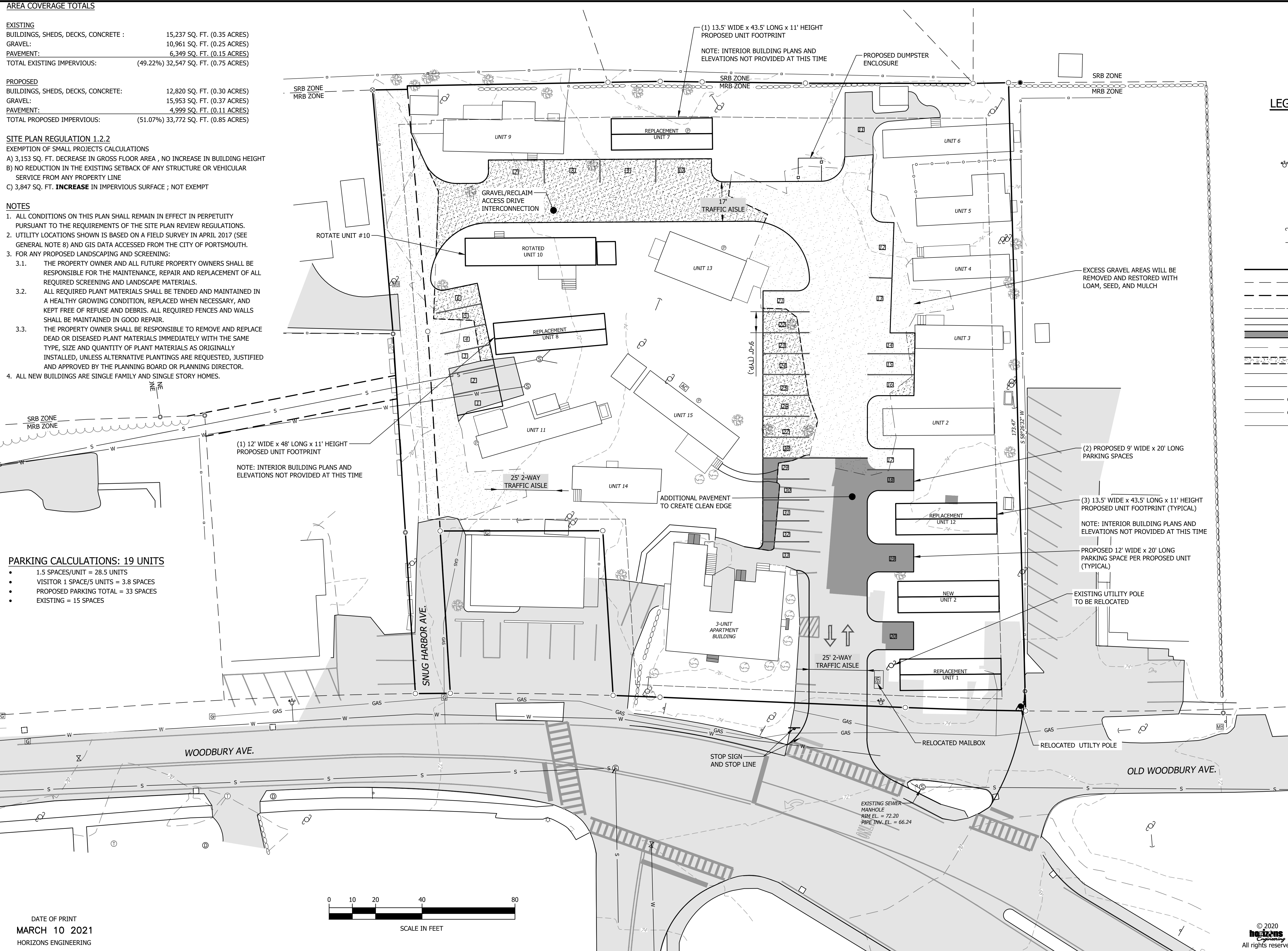
- EXEMPTION OF SMALL PROJECTS CALCULATIONS
 A) 3,153 SQ. FT. DECREASE IN GROSS FLOOR AREA, NO INCREASE IN BUILDING HEIGHT
 B) NO REDUCTION IN THE EXISTING SETBACK OF ANY STRUCTURE OR VEHICULAR SERVICE FROM ANY PROPERTY LINE
 C) 3,847 SQ. FT. **INCREASE** IN IMPERVIOUS SURFACE ; NOT EXEMPT

NOTES

- ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.
- UTILITY LOCATIONS SHOWN IS BASED ON A FIELD SURVEY IN APRIL 2017 (SEE GENERAL NOTE 8) AND GIS DATA ACCESSED FROM THE CITY OF PORTSMOUTH.
- FOR ANY PROPOSED LANDSCAPING AND SCREENING:
 - THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS SHALL BE RESPONSIBLE FOR THE MAINTENANCE, REPAIR AND REPLACEMENT OF ALL REQUIRED SCREENING AND LANDSCAPE MATERIALS.
 - ALL REQUIRED PLANT MATERIALS SHALL BE TENDED AND MAINTAINED IN A HEALTHY GROWING CONDITION, REPLACED WHEN NECESSARY, AND KEPT FREE OF REFUSE AND DEBRIS. ALL REQUIRED FENCES AND WALLS SHALL BE MAINTAINED IN GOOD REPAIR.
 - THE PROPERTY OWNER SHALL BE RESPONSIBLE TO REMOVE AND REPLACE DEAD OR DISEASED PLANT MATERIALS IMMEDIATELY WITH THE SAME TYPE, SIZE AND QUANTITY OF PLANT MATERIALS AS ORIGINALLY INSTALLED, UNLESS ALTERNATIVE PLANTINGS ARE REQUESTED, JUSTIFIED AND APPROVED BY THE PLANNING BOARD OR PLANNING DIRECTOR.
- ALL NEW BUILDINGS ARE SINGLE FAMILY AND SINGLE STORY HOMES.

PARKING CALCULATIONS: 19 UNITS

- 1.5 SPACES/UNIT = 28.5 UNITS
- VISITOR 1 SPACE/5 UNITS = 3.8 SPACES
- PROPOSED PARKING TOTAL = 33 SPACES
- EXISTING = 15 SPACES



LEGEND

- — IRON PIPE OR ROD FOUND
- — CALCULATED POINT
- — 5/8" REBAR TO BE SET
- ⊗ — EXISTING WATER STRUCTURES
- ⊕ — EXISTING SEWER MANHOLE
- ⊖ — EXISTING CATCH BASIN
- ⊙ — EXISTING DRAIN MANHOLE
- ⊗ — EXISTING METER PIT
- ⊕ — EXISTING UTILITY POLE
- ⊖ — EXISTING SIGN
- ⊙ — EXISTING PROPANE TANK
- — EXISTING BOUNDARY LINE
- — ABUTTERS LINE
- — EXISTING EASEMENT
- — SETBACK LINE
- — EXISTING EDGE OF PAVEMENT
- — PROPOSED EDGE OF PAVEMENT
- — EXISTING EDGE OF GRAVEL
- — PROPOSED EDGE OF GRAVEL
- W — EXISTING WATER SERVICE
- S — EXISTING SEWER SERVICE
- OHE — EXISTING OVERHEAD ELECTRIC LINES
- GAS — EXISTING UNDERGROUND GAS
- — EXISTING FENCE

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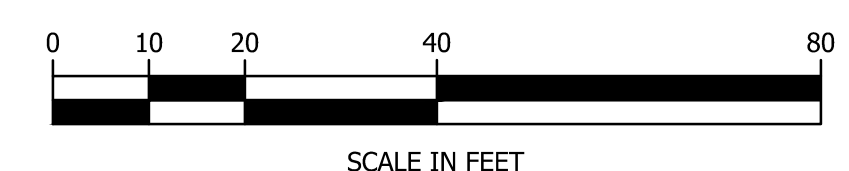
SITE IMPROVEMENTS
 PORTSMOUTH, NEW HAMPSHIRE

SITE PLAN

NO.	DATE	REVISION DESCRIPTION	ENG	DWG

DATE: MAR. 2021 PROJECT #: 16074
 ENG'D BY: RDL DRAWN BY: CLB
 CHECK'D BY: DMC ARCHIVE #:
 WILLIAM T. DAVIS No. 11918 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

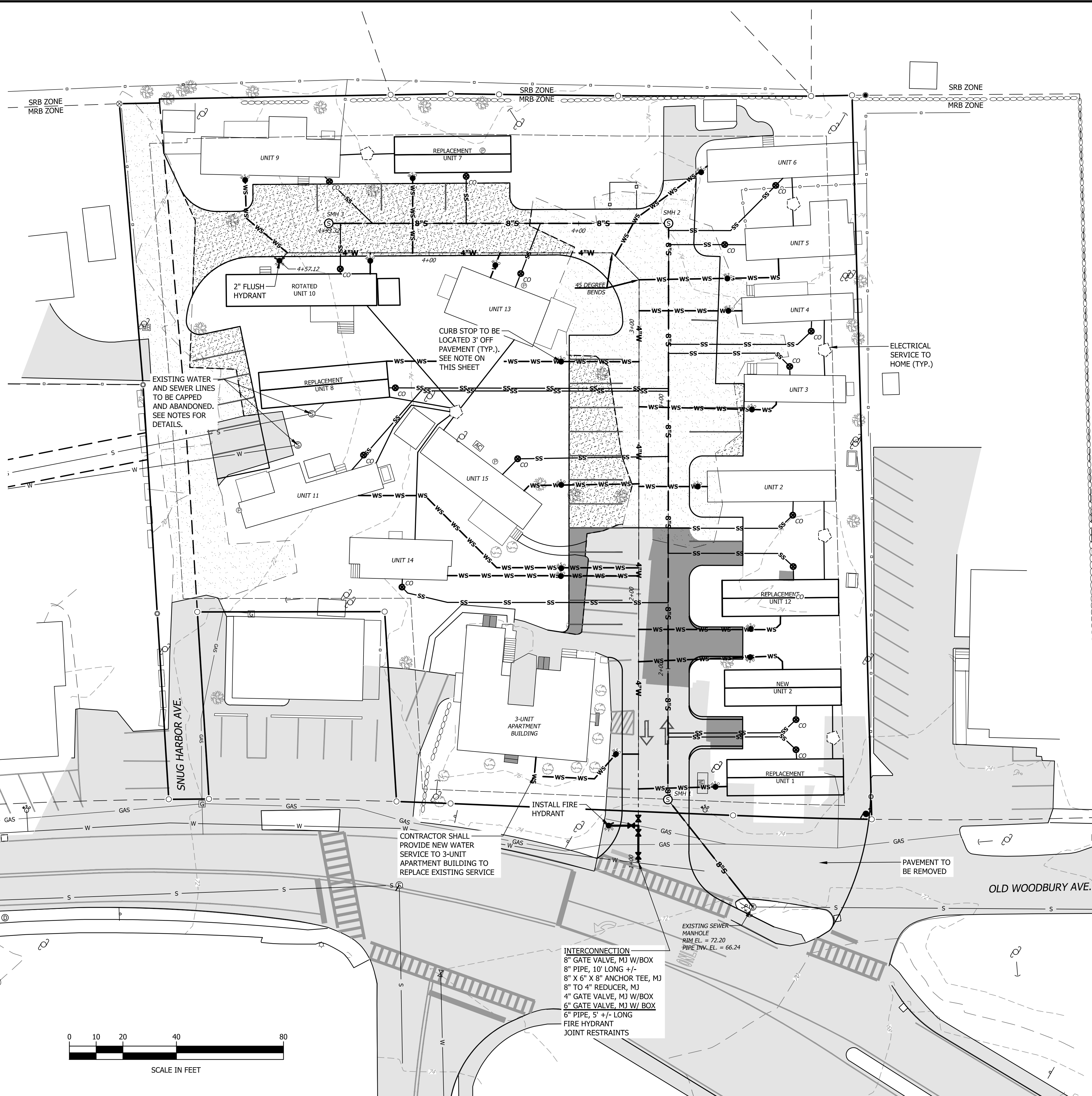
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MARCH 10 2021
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WATER AND SEWER CONSTRUCTION NOTES

- ALL NEW AND EXISTING MANUFACTURED HOMES IN THE PARK ARE TO BE CONNECTED TO THE NEW SEWER AND WATER MAINS WITH NEW SERVICE LINES.
- THE NEW WATER AND SEWER SERVICE LINES SHOWN ON THE PLANS REPRESENT THE PREFERRED ROUTING TO EACH UNIT. THE CONTRACTOR IS REQUIRED TO VERIFY THE LOCATION OF THE EXISTING UNIT SPECIFIC SEWER AND WATER SERVICE LINES AS THEY EXIT THE HEATED SPACE BELOW EACH UNIT. ADJUSTMENTS TO THE SERVICE LINE ROUTING SHOWN ARE EXPECTED AND SHALL BE APPROVED BY THE OWNER PRIOR TO INSTALLATION.
- EACH SEWER SERVICE WILL INCLUDE A CLEANOUT LOCATED WITHIN 5 FEET OF EACH UNIT AS INDICATED ON THESE PLANS, OR AS APPROVED BY THE OWNER.
- EACH WATER SERVICE LINE SHALL INCLUDE A CORPORATION STOP, CURB STOP, AND A SHUTOFF VALVE INSTALLED AT THE RESIDENCE IN AN ACCESSIBLE LOCATION.
- THE CONTRACTOR IS RESPONSIBLE FOR THE VERIFICATION OF ALL EXISTING UTILITIES INCLUDING THE EXISTING SEWER AND WATER LINES WITHIN THE PARK. MAINTENANCE OF THE EXISTING SYSTEMS OR THE USE OF TEMPORARY WATER AND SEWER SERVICE WILL BE REQUIRED DURING CONSTRUCTION, SO A FIRM UNDERSTANDING OF THE EXISTING WILL BE REQUIRED PRIOR TO THE START OF WORK.
- THE EXISTING WATER AND SEWER LINES TO THE PARK SHALL BE EXCAVATED, CAPPED, AND ABANDONED AT ECHO AVENUE. ECHO AVENUE IS TO THE SOUTH OF THE SITE PLAN THAT IS SHOWN. THE CONTRACTOR WILL COORDINATE WITH THE CITY OF PORTSMOUTH AND THE PROJECT ENGINEERS TO DETERMINE THE EXACT LOCATION. DYE TESTING SHALL BE CONDUCTED IN NEARLY HOMES PRIOR TO ABANDONING THE WATER AND SEWER MAIN LINES. IF IT IS FOUND THAT THERE ARE STILL HOMES CONNECTED TO THIS WATER MAIN, THE CITY OF PORTSMOUTH AND THE ENGINEER SHALL DEVELOP AN ALTERNATIVE PLAN FOR THE CONTRACTOR.
- THE CONTRACTOR SHALL GPS LOCATE EACH CURB STOP LOCATION AND PROVIDE THE DATA TO THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS PRIOR TO THE COMPLETION OF CONSTRUCTION.
- ALL SEWER AND WATER DESIGN SHOWN IS PRELIMINARY AND SUBJECT TO REVIEW AND APPROVAL BY NHDES WASTEWATER ENGINEERING BUREAU AND THE CITY OF PORTSMOUTH.
- THE CONTRACTOR SHALL MEET WITH REPRESENTATIVES OF THE CITY OF PORTSMOUTH PRIOR TO BEGINNING CONSTRUCTION.
- ALL SEWER CONNECTIONS SHALL BE WITNESSED BY PORTSMOUTH SEWER. THE CONTRACTOR SHALL COORDINATE ALL SEWER CONNECTIONS WITH PORTSMOUTH SEWER.
- THE NEW SEWER SHALL BE PRESSURE TESTED. ALL MANHOLES SHALL BE VACUUM TESTED. THE CITY OF PORTSMOUTH WILL REQUIRE SAME DAY TESTING ON SEWER COMPONENTS.
- THE CONTRACTOR SHALL OBTAIN EXCAVATION PERMITS FROM THE CITY OF PORTSMOUTH FOR WORK CONDUCTED WITHIN PORTSMOUTH'S RIGHT-OF-WAY.
- THE WATER MAIN SHALL BE BAGGED WITH 8MIL (MIN.) POLYWRAP.
- 3 BRASS WEDGES PER BELL JOINT FOR CONTINUITY SHALL ALSO BE INSTALLED.



LEGEND

- IRON PIPE OR ROD FOUND
- CALCULATED POINT
- 5/8" REBAR TO BE SET
- EXISTING WATER STRUCTURES
- EXISTING SEWER MANHOLE
- EXISTING CATCH BASIN
- EXISTING DRAIN MANHOLE
- EXISTING METER PIT
- EXISTING UTILITY POLE
- EXISTING SIGN
- EXISTING PROPANE TANK
- PROPOSED SEWER SERVICE CLEANOUT
- PROPOSED GATE VALVE
- PROPOSED ELECTRICAL SERVICE
- EXISTING BOUNDARY LINE
- ABUTTERS LINE
- EXISTING EASEMENT
- SETBACK LINE
- EXISTING EDGE OF PAVEMENT
- PROPOSED EDGE OF PAVEMENT
- EXISTING EDGE OF GRAVEL
- PROPOSED EDGE OF GRAVEL
- EXISTING WATER SERVICE
- EXISTING SEWER SERVICE
- EXISTING OVERHEAD ELECTRIC LINES
- EXISTING UNDERGROUND GAS
- EXISTING FENCE
- 8"S — PROPOSED 8" SEWER MAIN
- 4"W — PROPOSED 4" WATER MAIN
- 3"W — PROPOSED 3" WATER SERVICE
- 4"S — PROPOSED 4" SEWER SERVICE
- PROPOSED WATER SHUT OFF

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WOODBURY COOPERATIVE, INC

SITE IMPROVEMENTS
PORTSMOUTH, NEW HAMPSHIRE

UTILITY PLAN

NO.	DATE	REVISION DESCRIPTION	ENG	DWG

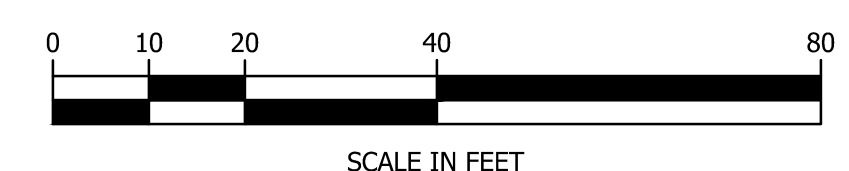
DATE: MAR. 2021 PROJECT #: 16074

ENG'D BY: RDL DRAWN BY: CLB

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STATE OF NEW HAMPSHIRE
WILLIAM DAVIS
No. 11918
LICENSED PROFESSIONAL ENGINEER

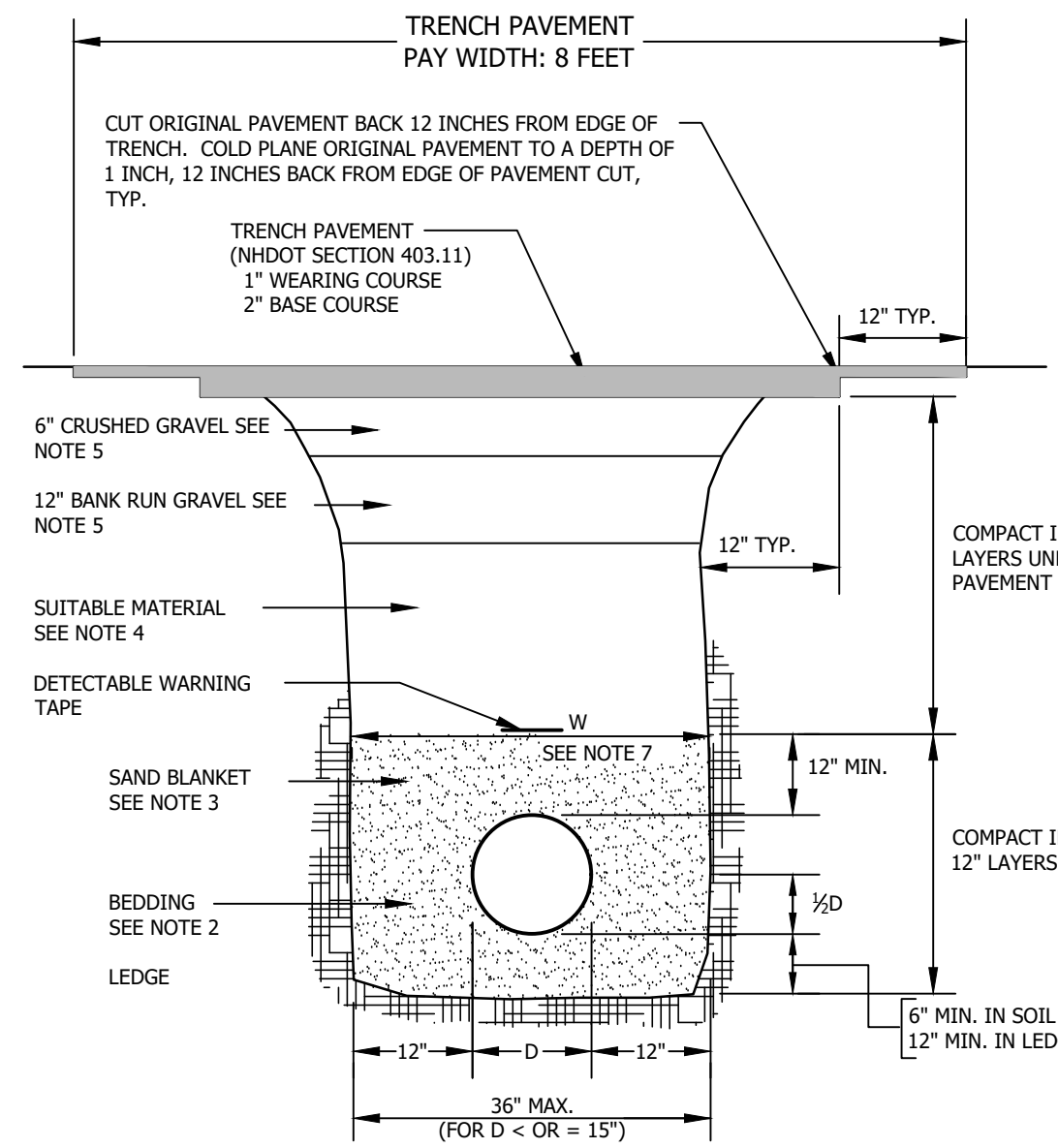


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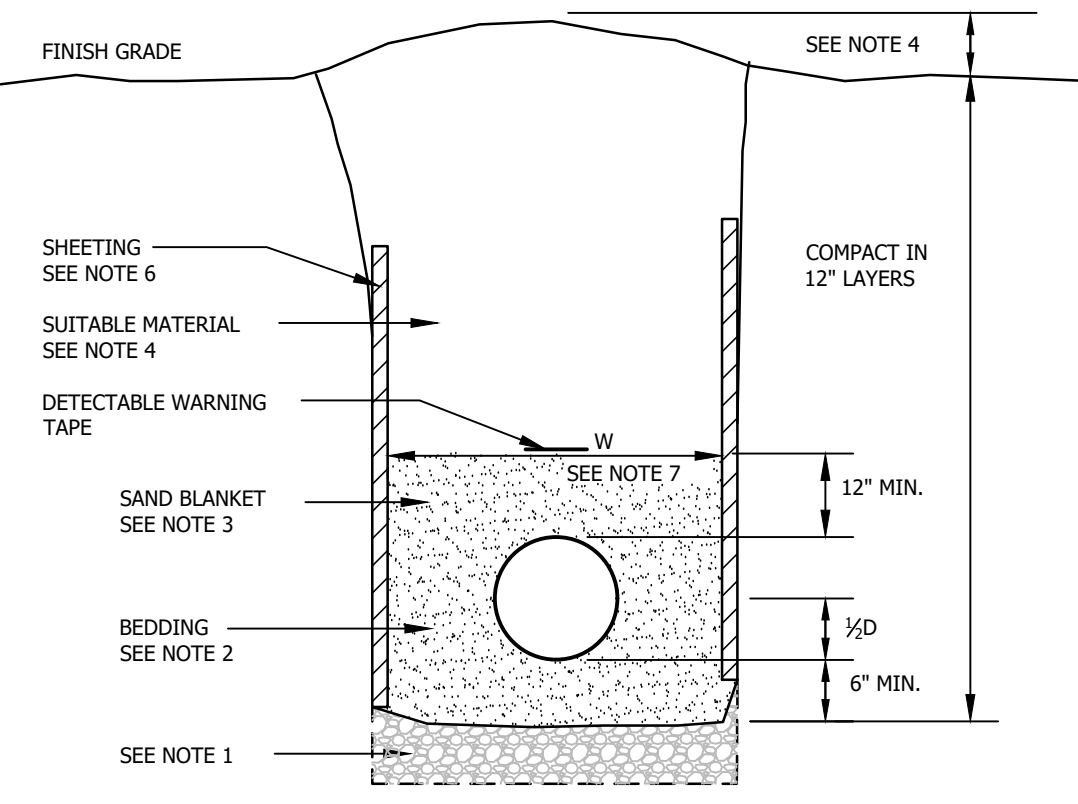
STANDARD TRENCH NOTES - WATER

- ORDERED EXCAVATION OF UNSUITABLE MATERIAL** BELOW GRADE SHALL BE REPLACED WITH BEDDING MATERIAL. SEE ALSO NOTE 4.
- BEDDING & SAND BLANKET:** CLEAN SAND FREE FROM ORGANIC MATTER, SO GRADED THAT 100% PASSES A 1/2 INCH SIEVE AND NOT MORE THAN 15% PASSES A #200 SIEVE.
- SUITABLE MATERIAL:** IN ROADS, ROAD SHOULDERS, WALKWAYS, AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED FROM THE TRENCH DURING THE COURSE OF CONSTRUCTION, AFTER EXCLUDING DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOP SOIL, WET OR SOFT MUCK, PEAT OR CLAY, EXCAVATED LEDGE MATERIAL, AND ALL ROCKS OVER SIX INCHES IN LARGEST DIMENSION, OR ANY MATERIAL NOT APPROVED BY THE ENGINEER.

TRENCH BACKFILL IN CROSS-COUNTRY LOCATIONS SHALL BE SUITABLE MATERIAL AS DESCRIBED ABOVE, EXCEPT THAT TOP SOIL, LOAM, MUCK, OR PEAT MAY BE USED PROVIDED THAT THE COMPLETED CONSTRUCTION WILL BE STABLE AND ACCESS TO THE PIPE FOR MAINTENANCE AND RECONSTRUCTION IS PRESERVED. BACKFILL SHALL BE MOUND TO A HEIGHT OF SIX INCHES ABOVE THE ORIGINAL GROUND SURFACE.
- BASE COURSE FOR TRENCH REPAIR** SHALL MEET THE REQUIREMENTS OF SECTION 300 OF THE LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION.
- SHEETING:** ALL TRENCH SUPPORTS SHALL CONFORM TO OSHA STANDARDS. CONTRACTOR IS RESPONSIBLE FOR OSHA COMPLIANCE AND WORKER SAFETY THROUGHOUT CONSTRUCTION.
- TRENCH DIMENSIONS:** W = MAXIMUM ALLOWABLE TRENCH WIDTH MEASURED 12 INCHES ABOVE THE PIPE. FOR PIPES 15 INCHES NOMINAL DIAMETER (D) OR LESS, W SHALL BE NO MORE THAN 36 INCHES; FOR PIPES GREATER THAN 15 INCHES NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS THE PIPE OUTSIDE DIAMETER. W SHALL ALSO BE THE PAYMENT WIDTH FOR LEDGE EXCAVATION AND FOR ORDERED EXCAVATION BELOW GRADE. THE MAXIMUM ALLOWABLE TRENCH PAVEMENT PAYMENT WIDTH SHALL BE 8 FEET CENTERED OVER PIPE.
- WATER/SEWER SEPARATION:** WATER MAINS SHALL BE SEPARATED FROM SANITARY SEWER BY A MINIMUM OF 10 FEET HORIZONTALLY AND A MINIMUM OF 18 INCHES VERTICALLY, WITH THE WATER MAIN ABOVE THE SEWER.
- PIPE COVER:** COVER OVER WATER SHALL BE 6 FEET MINIMUM IN ALL LOCATIONS.



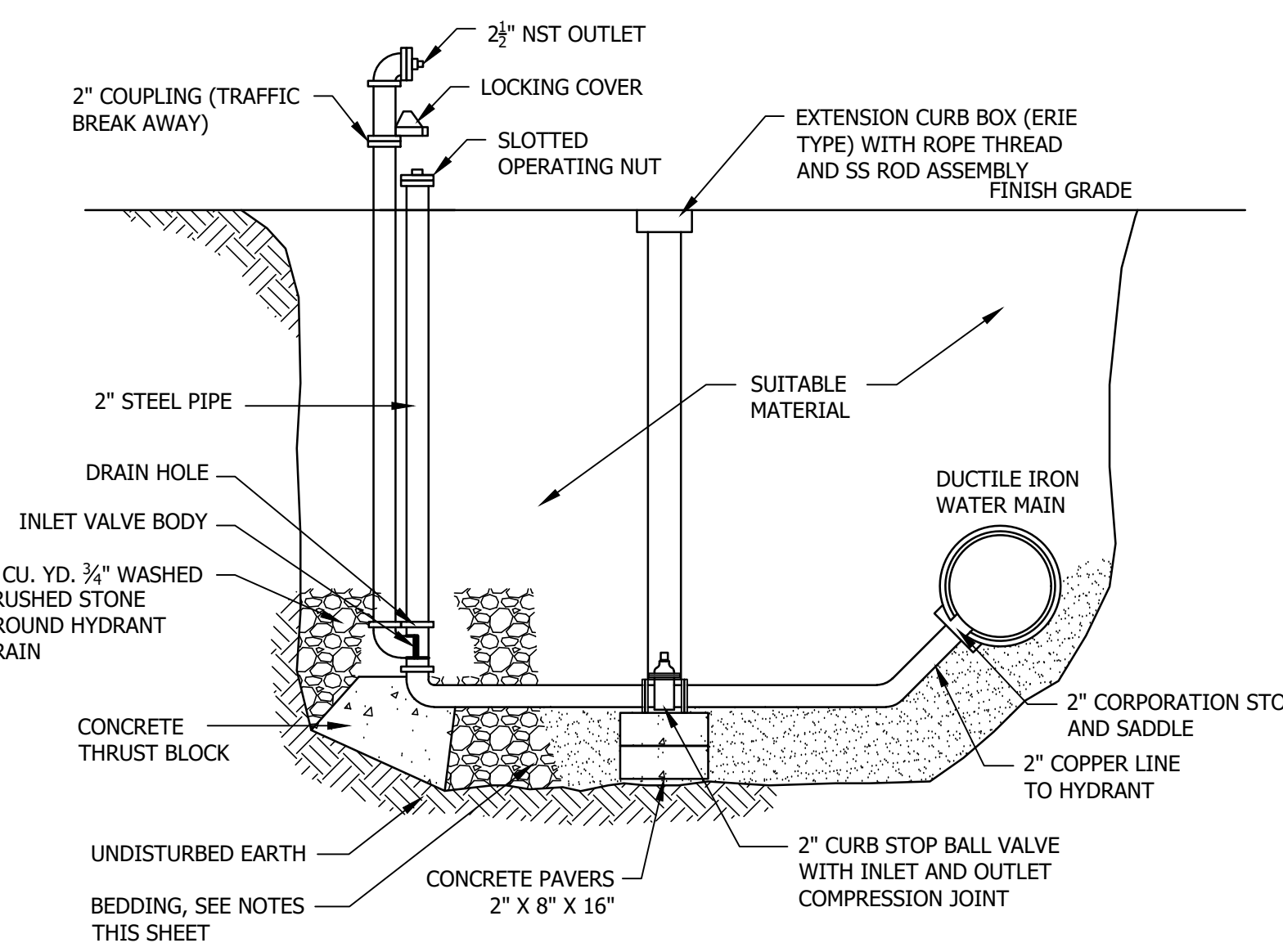
LEDGE/SUB PAVEMENT CONSTRUCTION



EARTH CONSTRUCTION WITH OR WITHOUT SHEETING

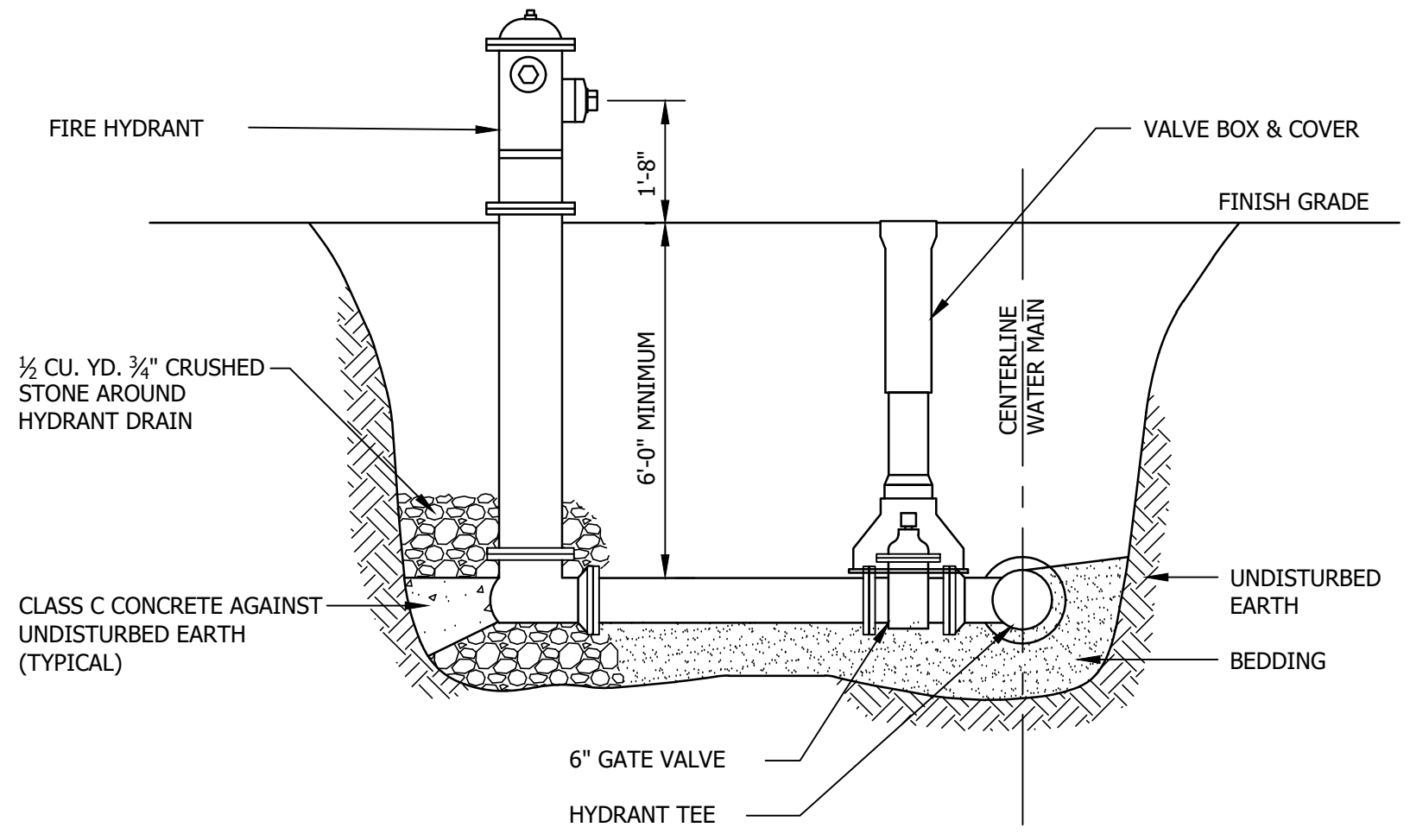
STANDARD TRENCH SECTIONS

NOT TO SCALE



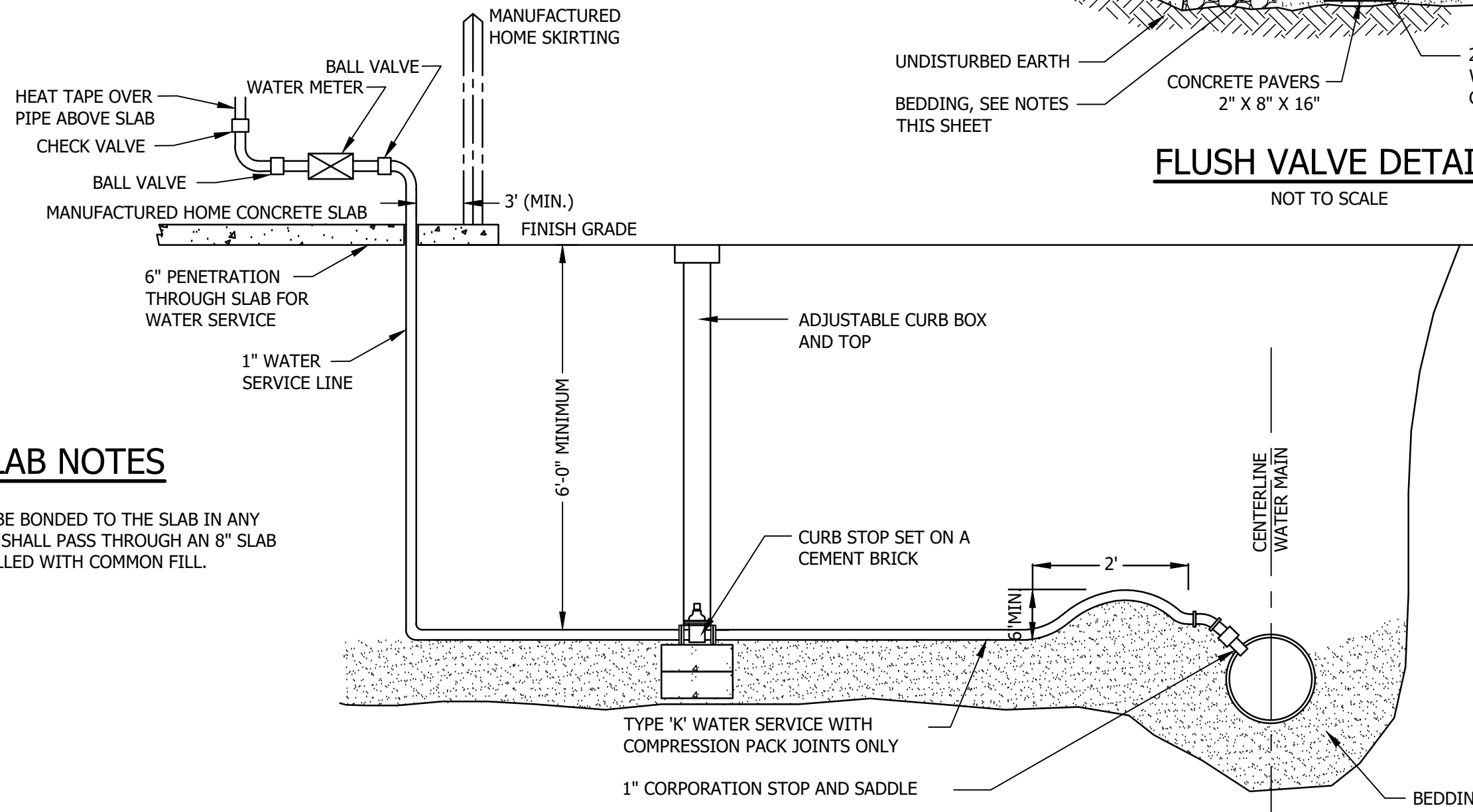
FLUSH VALVE DETAIL

NOT TO SCALE



FIRE HYDRANT DETAIL

NOT TO SCALE



WATER SERVICE CONNECTION

NOT TO SCALE

CONCRETE SLAB NOTES

- THE SEWER PIPE SHALL NOT BE BONDED TO THE SLAB IN ANY WAY. THE 6" SEWER SERVICE SHALL PASS THROUGH AN 8" SLAB PENETRATION AND BE BACKFILLED WITH COMMON FILL.

WATER MAIN NOTES

- THE WATER MAIN SHALL BE BAGGED WITH 8 MIL (MIN.) POLYWRAP.
- 3 BRASS WEDGES PER BELL JOINT FOR CONTINUITY SHALL ALSO BE INSTALLED.

- BLOCKS MUST BE POURED AGAINST UNDISTURBED SOIL
- THE PIPE JOINT AND BOLTS MUST BE ACCESSIBLE.
- CONCRETE SHOULD BE CURED FOR AT LEAST 5 DAYS AND SHOULD HAVE A COMPRESSION STRENGTH OF 3,000 LBS. AT 28 DAYS.
- BLOCKS MUST BE POSITIONED TO COUNTERACT THE DIRECTION OF THE RESULTANT THRUST FORCE.

RESTRAINED JOINTS MAY BE USED FOR RESISTING THRUST FORCES WHERE THERE IS A SHORTAGE OF SPACE OR WHERE THE SOIL BEHIND A FITTING WILL NOT PROVIDE ADEQUATE SUPPORT. THIS RESTRAINING METHOD INVOLVES PLACEMENT OF THESE SPECIAL JOINTS AT APPROPRIATE FITTINGS AND FOR A PREDETERMINED NUMBER OF PIPE LENGTHS ON EACH SIDE, (MINIMUM 15 FEET).

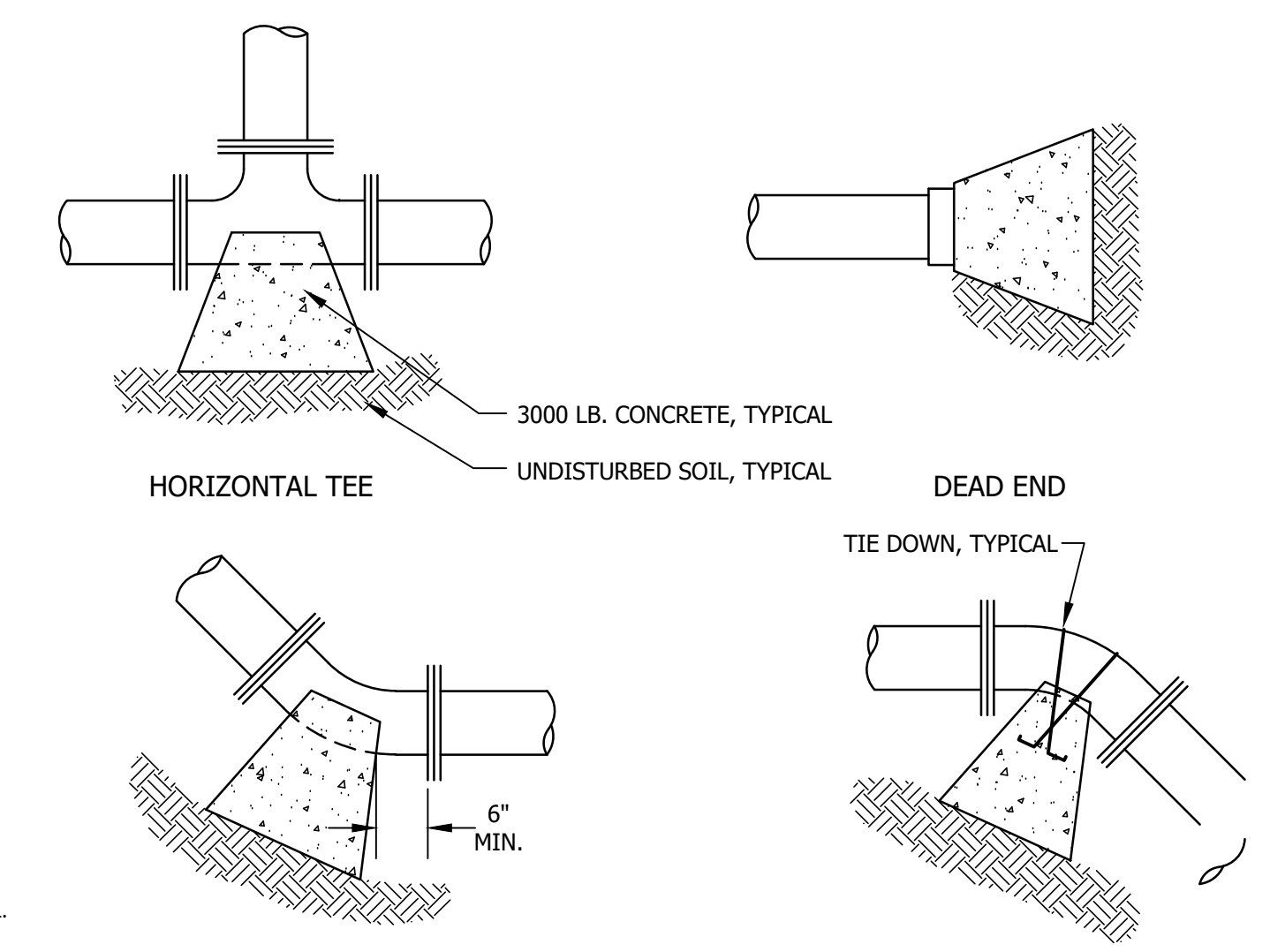
NOMINAL PIPE DIA. (INCHES)	TOTAL THRUST (POUNDS)				
	DEAD END	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND
4	1,810	2,559	1,385	706	355
6	3,739	5,288	2,862	1,459	733
8	6,433	9,097	4,923	2,510	1,261
10	9,677	13,685	7,406	3,776	1,897
12	13,685	19,353	10,474	5,340	2,683
14	18,385	26,001	14,072	7,174	3,604
16	23,779	33,628	18,199	9,278	4,661
18	29,865	42,235	22,858	11,653	5,855
20	36,644	51,822	28,046	14,298	7,183
24	52,279	73,934	40,013	20,398	10,249

NOTE:
TO DETERMINE THRUST AT PRESSURES OTHER THAN 100 PSI, MULTIPLY THE THRUST OBTAINED IN THE TABLE BY THE RATIO OF THE PRESSURE TO 100. FOR EXAMPLE, THE THRUST ON A 12 INCH, 90° BEND AT 125 PSI IS:

$$\frac{19,353 \times 125}{100} = 24,191 \text{ POUNDS}$$

TO DETERMINE THE SIZE OF A CONCRETE THRUST BLOCK, DIVIDE THE TOTAL FORCE BY THE BEARING VALUE OF THE SOIL. THE QUOTIENT WILL BE THE SIZE OF THE BEARING AREA OF THE THRUST BLOCK IN SQUARE FEET. APPROXIMATE VALUES FOR VARIOUS TYPES OF SOIL ARE LISTED BELOW.

SOIL	BEARING LOAD (LBS./SQ. FT.)
MUCK	0
SOFT CLAY	1,000
SILT	1,500
SANDY SILT	3,000
SAND	4,000
SANDY CLAY	6,000



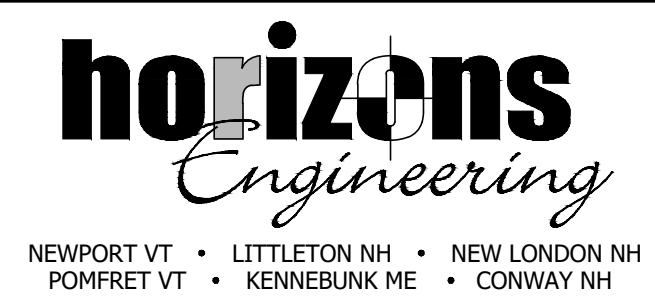
THRUST BLOCK NOTES & DETAILS

NOT TO SCALE

NOTES

- MAINGUARD #77 KUPFERLE FOUNDRY OR APPROVED EQUAL.
- PAINTED RED ABOVE GRADE.
- MINIMUM OF 4 CUBIC FEET OF CRUSHED STONE FOR PROPER DRAINAGE.
- PAY ITEM FOR FLUSHING HYDRANT INCLUDES CORPORATION AND CURB STOP IN ROADWAY.

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SITE IMPROVEMENTS
PORTSMOUTH, NEW HAMPSHIRE

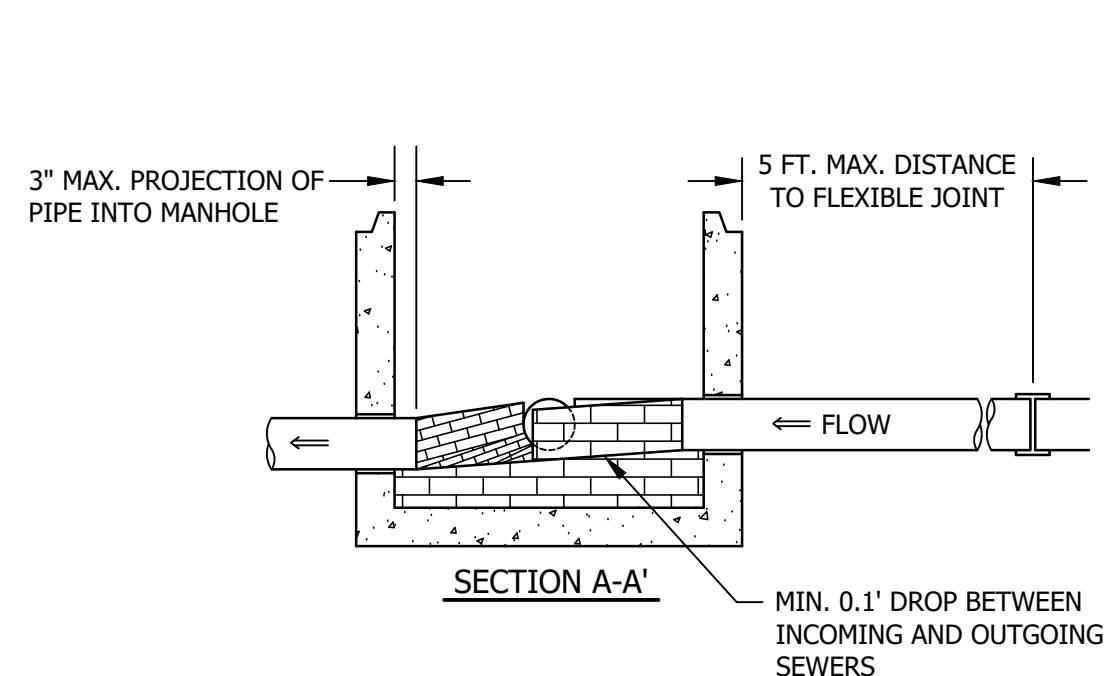
POTABLE WATER DETAILS

NO.	DATE	REVISION DESCRIPTION	ENG	DWG

	DATE:	PROJECT #:
	MAR. 2021	16074
	ENGINE'D BY:	DRAWN BY:
	RDL	CLB
CHECK'D BY:	ARCHIVE #:	
DMC		
DATE OF PRINT		SHEET 5 OF 9
MARCH 10 2021		
HORIZONS ENGINEERING		

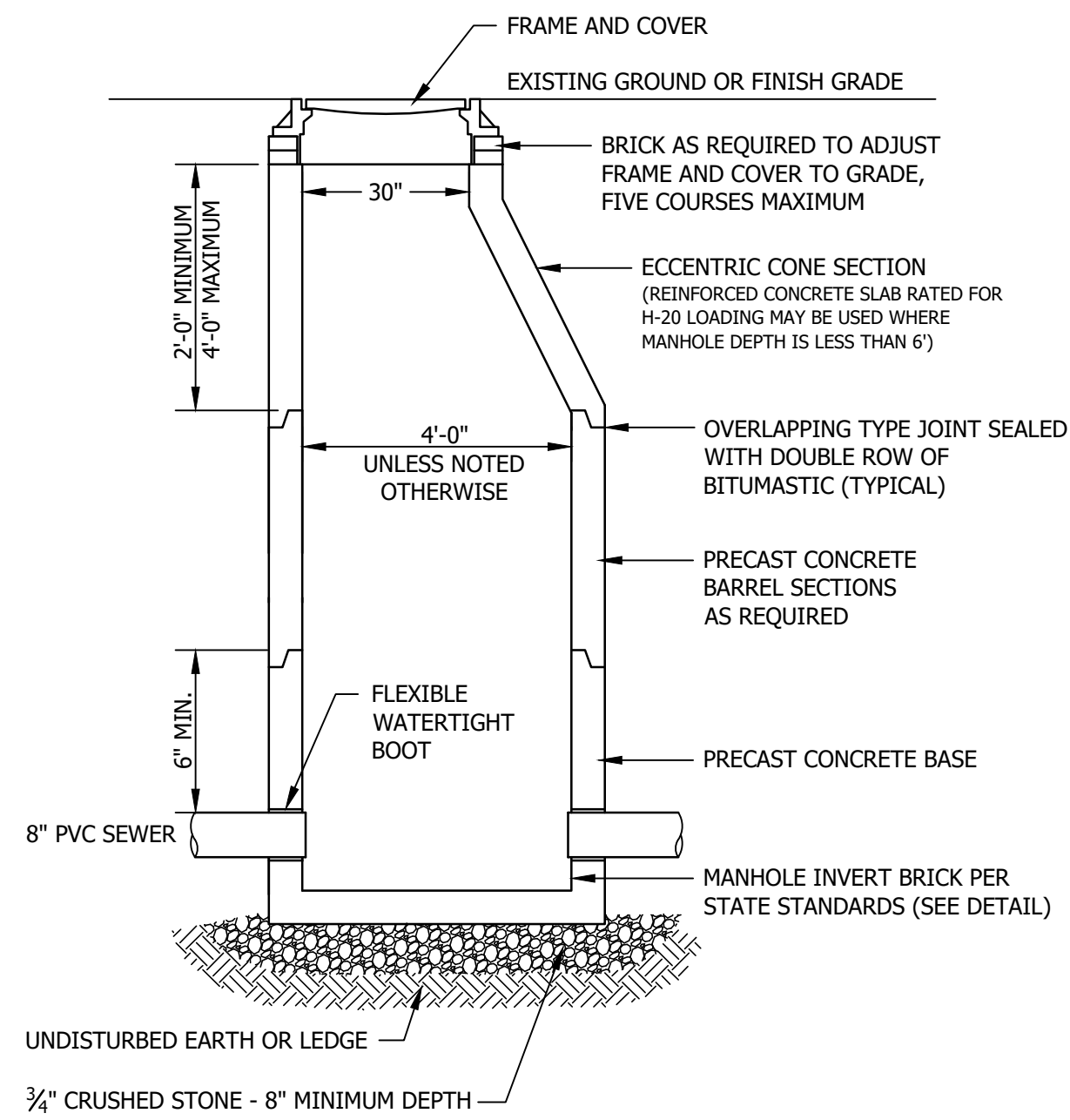
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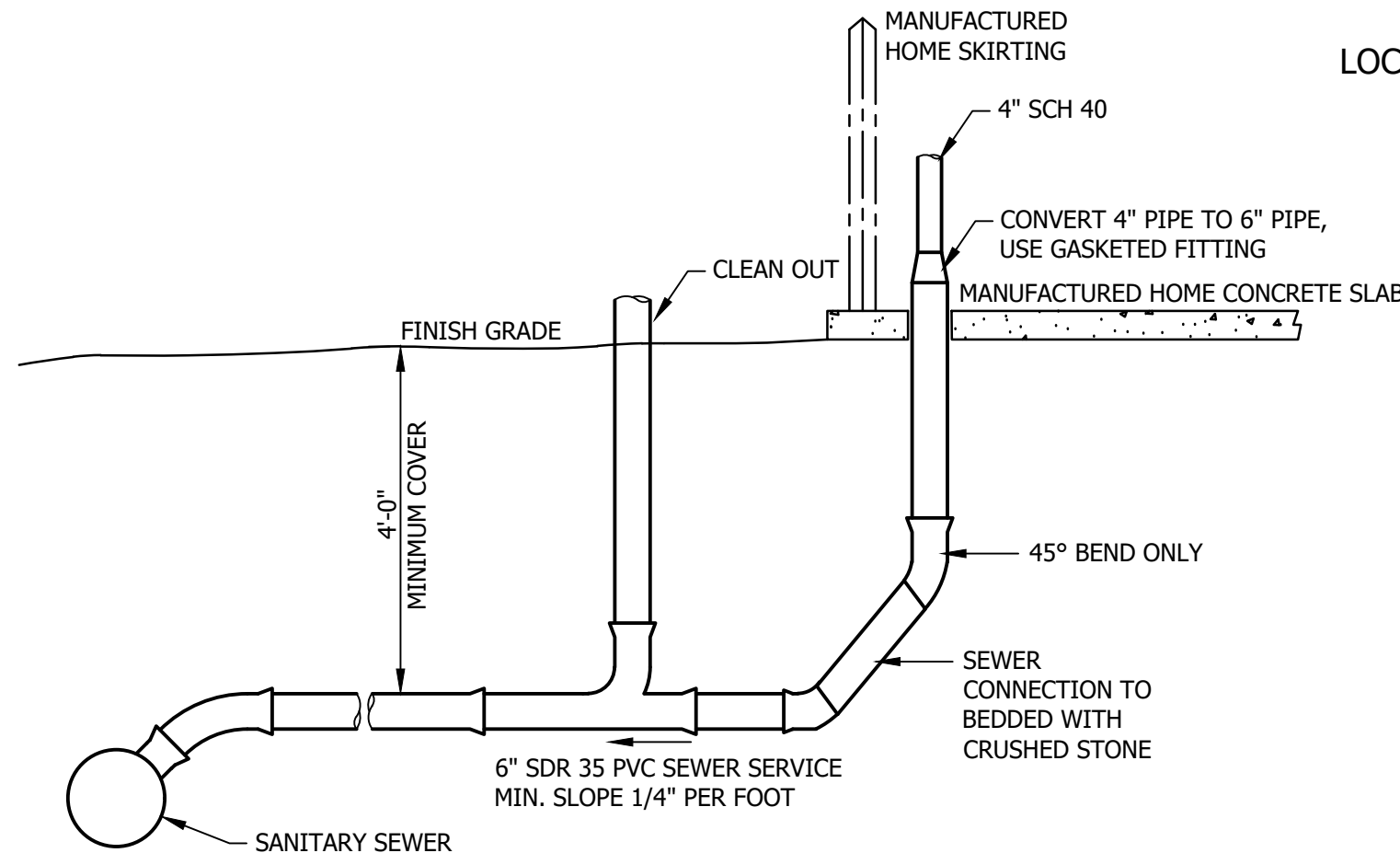
MANHOLE INVERT DETAILS

NOT TO SCALE



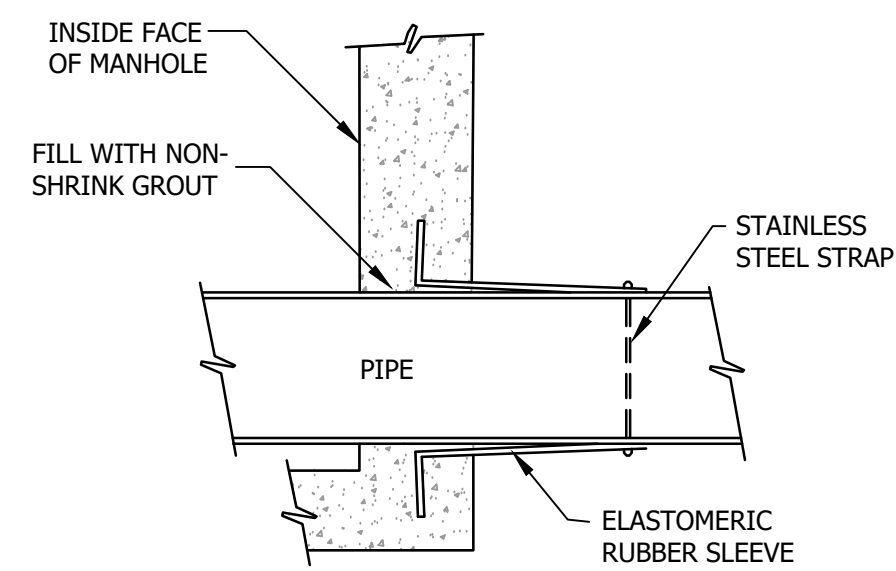
SANITARY SEWER MANHOLE DETAIL

NOT TO SCALE

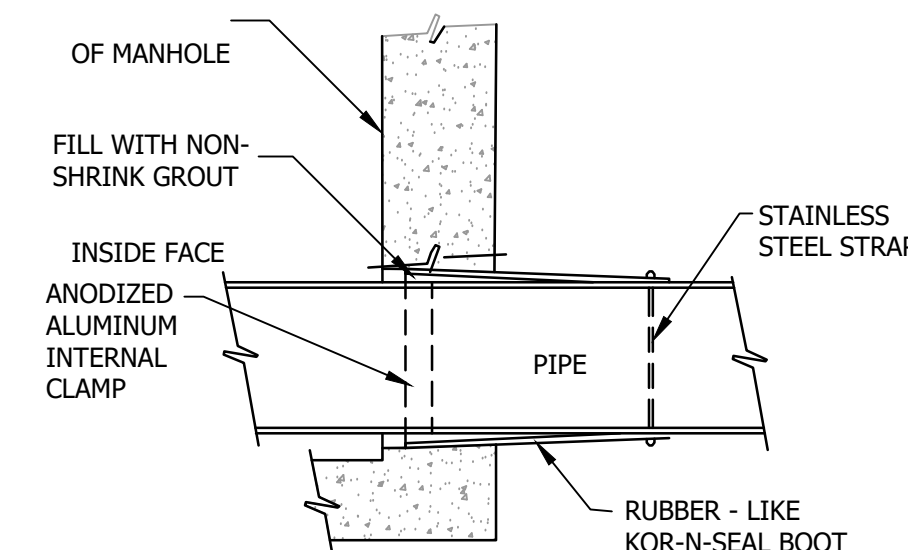


SEWER SERVICE DETAIL

NOT TO SCALE



LOCK-JOINT FLEXIBLE MANHOLE SLEEVE



KOR-N-SEAL JOINT SLEEVE

JOINTING DETAILS

NOT TO SCALE

STANDARD TRENCH NOTES - SEWER

- ORDERED EXCAVATION OF UNSUITABLE MATERIAL** BELOW GRADE SHALL BE REPLACED WITH BEDDING MATERIAL. SEE ALSO NOTE 4.
- BEDDING:** SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM ORGANIC MATTER, CLAY, AND/OR LOAM MEETING ASTM C33 STONE SIZE NO. 67.

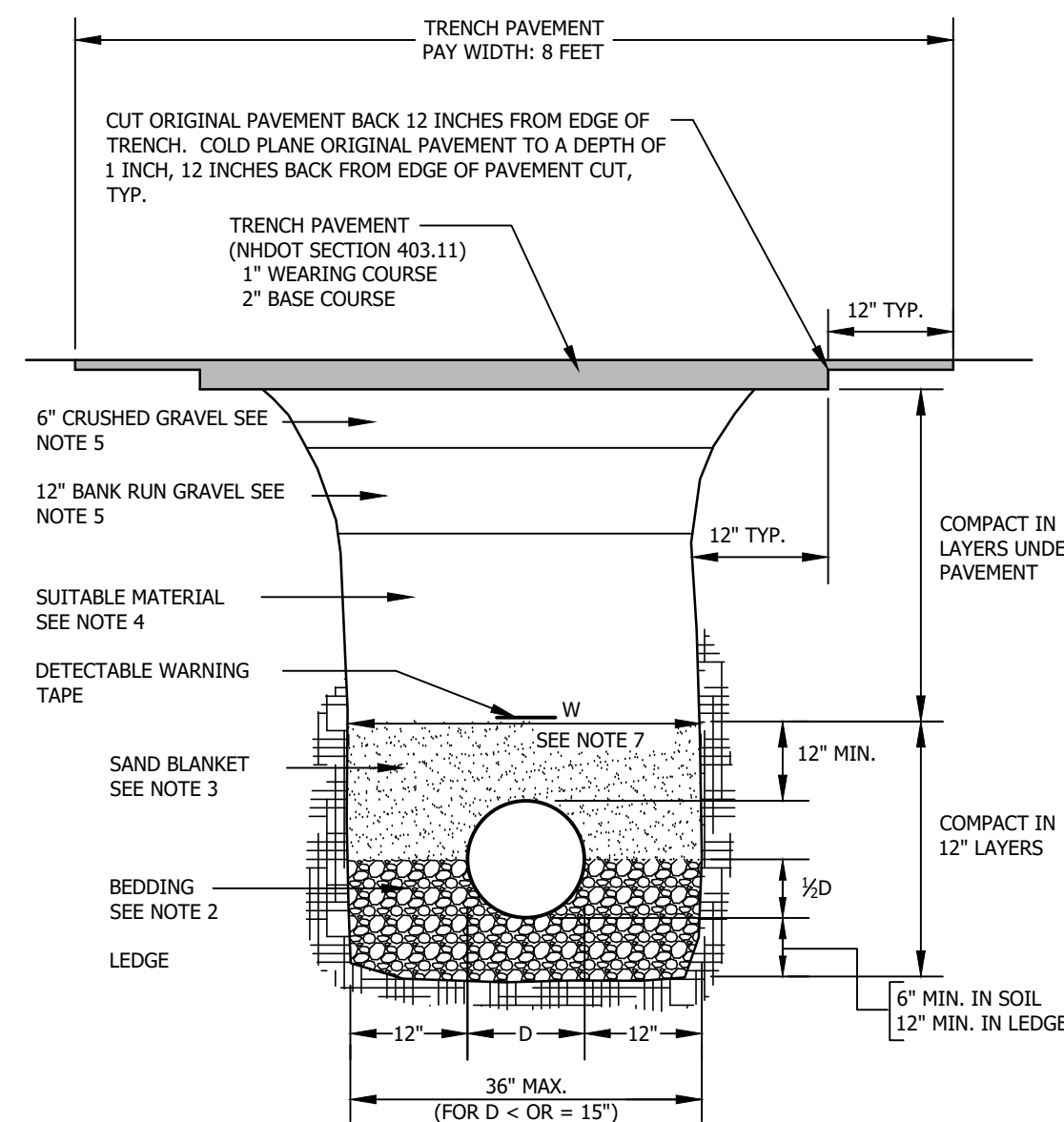
100% PASSING	1/4 INCH SCREEN
90-100% PASSING	3/8 INCH SCREEN
20-55% PASSING	3/4 INCH SCREEN
0-10% PASSING	#4 SIEVE
0-5% PASSING	#8 SIEVE
- SAND BLANKET:** CLEAN SAND FREE FROM ORGANIC MATTER, SO GRADED THAT 100% PASSES A 1/2 INCH SIEVE AND NOT MORE THAN 15% PASSES A #200 SIEVE.
- SUITABLE MATERIAL:** IN ROADS, ROAD SHOULDERS, WALKWAYS, AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED FROM THE TRENCH DURING THE COURSE OF CONSTRUCTION, AFTER EXCLUDING DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOP SOIL, WET OR SOFT MUCK, PEAT OR CLAY, EXCAVATED LEDGE MATERIAL, AND ALL ROCKS OVER SIX INCHES IN LARGEST DIMENSION, OR ANY MATERIAL NOT APPROVED BY THE ENGINEER.

TRENCH BACKFILL IN CROSS-COUNTRY LOCATIONS SHALL BE SUITABLE MATERIAL AS DESCRIBED ABOVE, EXCEPT THAT TOP SOIL, LOAM, MUCK, OR PEAT MAY BE USED PROVIDED THAT THE COMPLETED CONSTRUCTION WILL BE STABLE AND ACCESS TO THE PIPE FOR MAINTENANCE AND RECONSTRUCTION IS PRESERVED. BACKFILL SHALL BE MOUND TO A HEIGHT OF SIX INCHES ABOVE THE ORIGINAL GROUND SURFACE
- BASE COURSE FOR TRENCH REPAIR** SHALL MEET THE REQUIREMENTS OF SECTION 300 OF THE LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION.
- SHEETING:** ALL TRENCH SUPPORTS SHALL CONFORM TO OSHA STANDARDS. CONTRACTOR IS RESPONSIBLE FOR OSHA COMPLIANCE AND WORKER SAFETY THROUGHOUT CONSTRUCTION.
- TRENCH DIMENSIONS:** W = MAXIMUM ALLOWABLE TRENCH WIDTH MEASURED 12 INCHES ABOVE THE PIPE. FOR PIPES 15 INCHES NOMINAL DIAMETER (D) OR LESS, W SHALL BE NO MORE THAN 36 INCHES; FOR PIPES GREATER THAN 15 INCHES NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS THE PIPE OUTSIDE DIAMETER. W SHALL ALSO BE THE PAYMENT WIDTH FOR LEDGE EXCAVATION AND FOR ORDERED EXCAVATION BELOW GRADE. THE MAXIMUM ALLOWABLE TRENCH PAVEMENT PAYMENT WIDTH SHALL BE 8 FEET CENTERED OVER PIPE.
- PIPE INSULATION AT STORM DRAIN CROSSING:** INSTALL 2" THICK RIGID FOAM INSULATION OVER SEWER AT STORM DRAIN CROSSINGS, EXTEND INSULATION 4 FEET EITHER SIDE OF STORM DRAIN ALONG SEWER.

SEWER NOTES

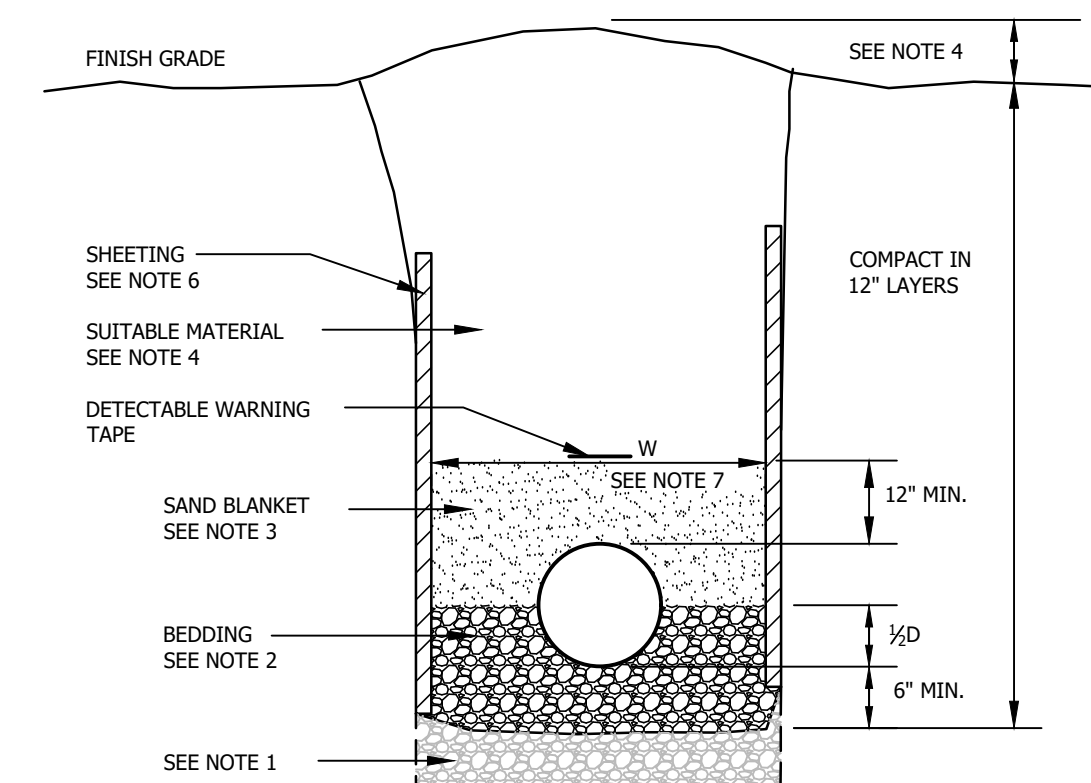
- GENERAL**
CONSTRUCTION OF ALL COMPONENTS OF THE SANITARY SEWER SYSTEM SHALL CONFORM TO THE MOST CURRENT VERSION OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES ENV-WQ 700 AND TECHNICAL SPECIFICATIONS.
- TYPES OF SEWERS**
A. THERE SHALL BE NO CONNECTION BETWEEN SANITARY SEWERS AND STORM SEWERS.
B. RUNOFF FROM ROOFS, STREETS, AND OTHER AREAS AND GROUNDWATER FROM FOUNDATION DRAINS, SUMP PUMPS, OR OTHER SUBSURFACE DRAINS SHALL BE EXCLUDED FROM SANITARY SEWERS.
- SEWER SIZE AND COVER**
A. MINIMUM PIPE SIZE FOR GRAVITY SEWER MAINS SHALL BE 8 INCHES.
B. MINIMUM PIPE SIZE FOR GRAVITY SEWER SERVICES SHALL BE 4 INCHES.
C. MINIMUM PIPE SIZE FOR FORCE MAIN SEWER SERVICES SHALL BE 2 INCHES.
D. SANITARY SEWERS SHALL HAVE 6 FEET MINIMUM COVER IN ALL ROADWAY LOCATIONS AND 4 FEET MINIMUM COVER IN ALL CROSS-COUNTRY LOCATIONS.
- PIPE AND FITTING MATERIALS:**
A. **DUCTILE IRON PIPE**
DUCTILE IRON PIPE AND FITTINGS SHALL CONFORM TO THE FOLLOWING STANDARDS OF THE AMERICAN WATER WORKS ASSOCIATION:
(1) AWWA C151 FOR DUCTILE IRON PIPE, CENTRIFUGALLY CAST IN METAL OR SAND LINED MOLDS, FOR WATER OR OTHER LIQUIDS;
(2) AWWA C150 FOR THICKNESS DESIGN OF DUCTILE IRON PIPE AND WITH ASTM A 536 IRON CASTINGS; AND
(3) JOINTS SHALL BE MECHANICAL TYPE, PUSH-ON TYPE, OR BALL-AND-SOCKET TYPE;
B. **PVC (POLY VINYL CHLORIDE) PIPE**
PVC PIPE AND FITTINGS SHALL BE APPROVED FOR SEWAGE SERVICE AND CONFORM TO THE FOLLOWING:
(1) PVC PIPE USED FOR GRAVITY SEWERS SHALL BE TYPE SDR 35 CONFORMING TO ASTM D3034;
(2) PVC PIPE USED FOR FORCE MAINS SHALL BE TYPE SDR 26 CONFORMING TO ASTM D2241 OR ASTM D1785;
(3) JOINTS SHALL BE PUSH-ON, BELL-AND-SPIGOT TYPE HAVING OIL RESISTANT COMPRESSION RINGS OF ELASTOMERIC MATERIAL CONFORMING TO ASTM D3212.
- BEDDING**
PIPE BEDDING SHALL BE SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM ORGANIC MATTER, CLAY, AND/OR LOAM MEETING ASTM C33 STONE SIZE NO. 67. BEDDING SHALL EXTEND FROM THE SPRING LINE OF THE PIPE TO A MINIMUM DEPTH OF 6" BELOW THE BOTTOM OF THE PIPE OUTSIDE SURFACE.

100% PASSING	1/4 INCH SCREEN
90-100% PASSING	3/8 INCH SCREEN
20-55% PASSING	3/4 INCH SCREEN
0-10% PASSING	#4 SIEVE
0-5% PASSING	#8 SIEVE
- MANHOLES**
A. PRECAST CONCRETE BARREL SECTIONS, CONES, AND BASES SHALL CONFORM TO ASTM C478.
B. MANHOLES SHALL BE DESIGNED FOR H-20 LOADING.
C. HORIZONTAL JOINTS BETWEEN BARREL SECTIONS SHALL BE OF AN OVERLAPPING TYPE WHICH SHALL DEPEND UPON A DOUBLE ROW OF ELASTOMERIC OR MASTIC-LIKE SEALANT FOR WATER TIGHTNESS.
D. PIPE TO MANHOLE JOINTS SHALL BE AS FOLLOWS:
(1) ELASTOMERIC, RUBBER SLEEVE WITH WATERTIGHT JOINTS AT THE MANHOLE OPENING AND PIPE SURFACES;
(2) CAST INTO THE WALL OR SECURED WITH STAINLESS STEEL CLAMPS;
(3) ELASTOMERIC SEALING RING CAST IN THE MANHOLE OPENING WITH SEAL FORMED ON THE SURFACE OF THE PIPE BY COMPRESSION OF THE RING; AND
(4) NON-SHRINK GROUTED JOINTS WHERE WATERTIGHT BONDING TO THE MANHOLE AND PIPE CAN BE OBTAINED.
E. MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT CONSTRUCTED TO CONFORM TO THE SIZE OF PIPE AND FLOW. AT CHANGES IN DIRECTION, THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST RADIUS POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE HIGHEST PIPE CROWN AND SLOPED TO DRAIN TOWARD THE FLOWING THROUGH CHANNEL. UNDERLAYMENT OF INVERT AND SHELF SHALL CONSIST OF BRICK MASONRY. INVERTS AND SHELVES SHALL BE PLACED AFTER TESTING.
- PROTECTION OF WATER SUPPLIES**
A. THERE SHALL BE NO PHYSICAL CONNECTION BETWEEN A PUBLIC OR PRIVATE WATER SUPPLY SYSTEM AND A SEWER OR SEWER APPURTENANCE WHICH WOULD PERMIT THE PASSAGE OF SEWAGE OR POLLUTED WATER INTO THE POTABLE SUPPLY. NO WATER PIPE SHALL PASS THROUGH OR COME IN CONTACT WITH ANY PART OF A SEWER OR SEWER MANHOLE.
B. NO SEWER SHALL BE LOCATED WITHIN THE WELL PROTECTIVE RADIUS ESTABLISHED IN ENV-WS 300 FOR ANY PUBLIC WATER SUPPLY WELLS OR WITHIN 100 FEET OF ANY PRIVATE WATER SUPPLY WELL.
C. SEWERS SHALL BE LOCATED AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAIN.
D. A DEVIATION FROM THE SEPARATION REQUIREMENTS OF (B) OR (C) ABOVE SHALL BE ALLOWED WHERE NECESSARY TO AVOID CONFLICT WITH SUBSURFACE STRUCTURES, UTILITY CHAMBERS, AND BUILDING FOUNDATIONS, PROVIDED THAT THE SEWER IS CONSTRUCTED IN ACCORDANCE WITH THE FORCE MAIN CONSTRUCTION REQUIREMENTS SPECIFIED IN ENV-WQ 704.06.
E. WHENEVER SEWERS MUST CROSS WATER MAINS, THE SEWER SHALL BE CONSTRUCTED AS FOLLOWS:
(1) VERTICAL SEPARATION OF THE SEWER AND WATER MAIN SHALL BE NOT LESS THAN 18 INCHES, WITH WATER ABOVE SEWER; AND
(2) SEWER PIPE JOINTS SHALL BE LOCATED AT LEAST 6 FEET HORIZONTALLY FROM THE WATER MAIN.



NOTE:
MINIMUM BEDDING DEPTH AND MAXIMUM PAYMENT LIMIT FOR LEDGE EXCAVATION = 1/2 D (12" MINIMUM)

LEDGE/SUB PAVEMENT CONSTRUCTION



EARTH CONSTRUCTION WITH OR WITHOUT SHEETING

STANDARD TRENCH SECTIONS

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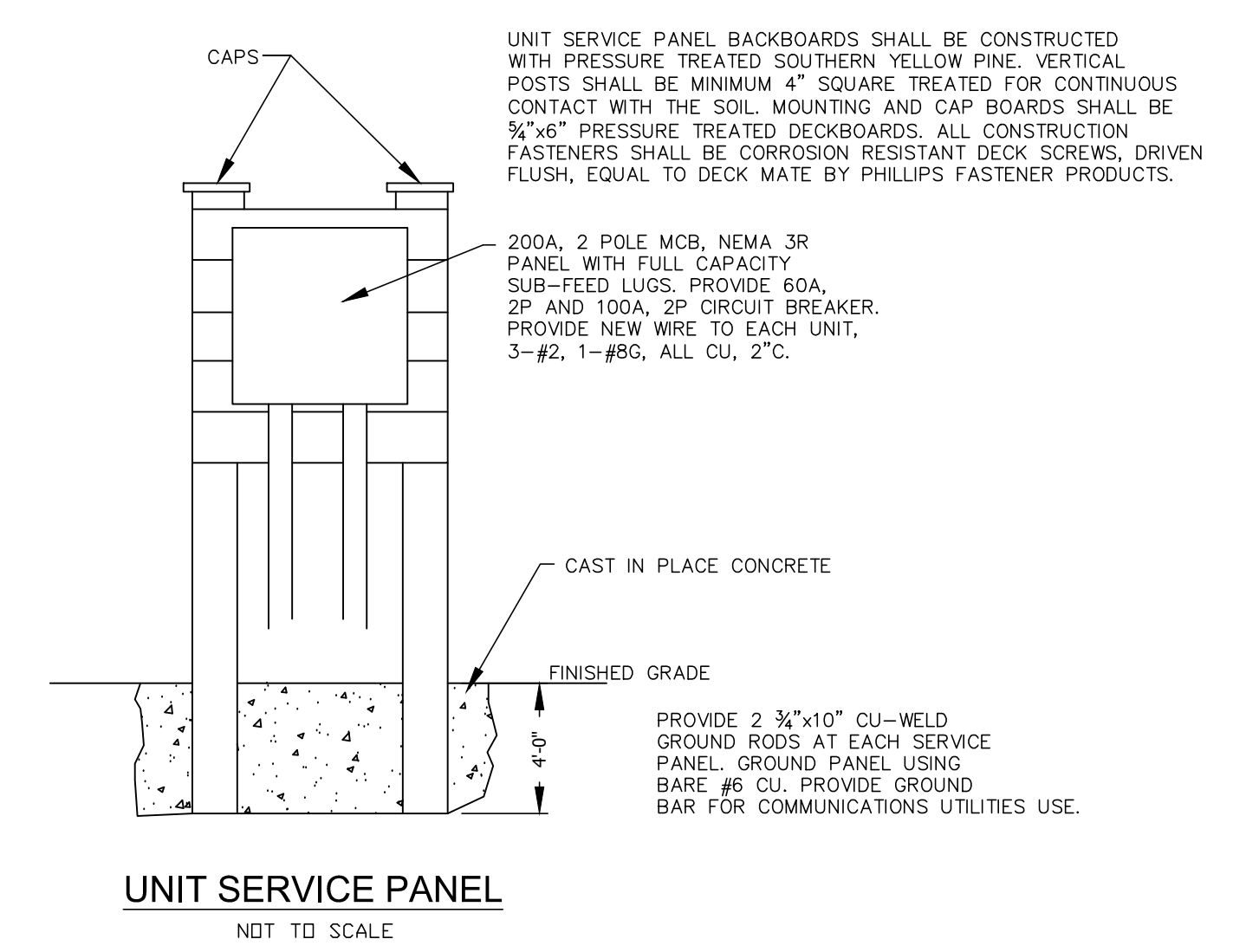
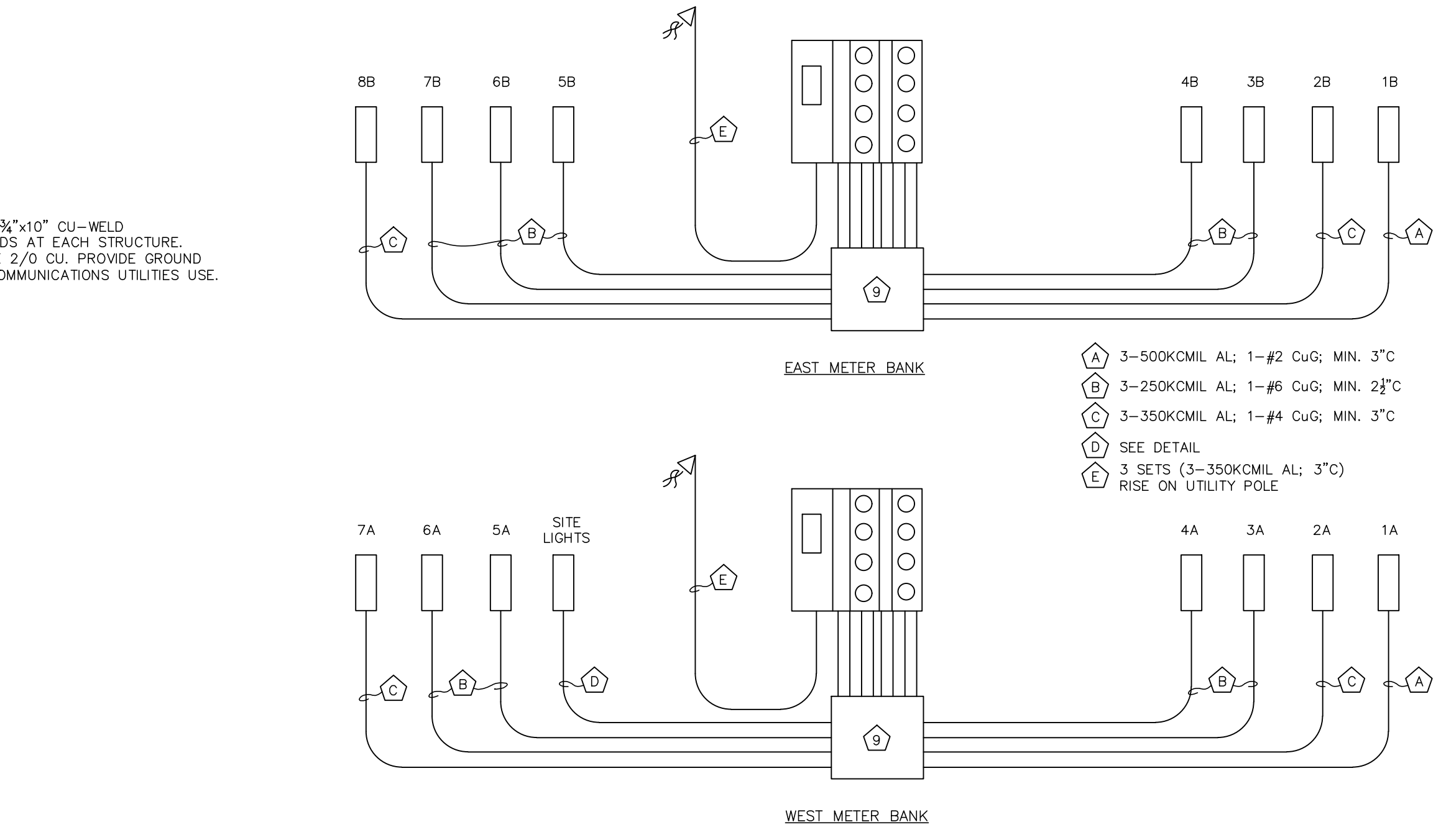
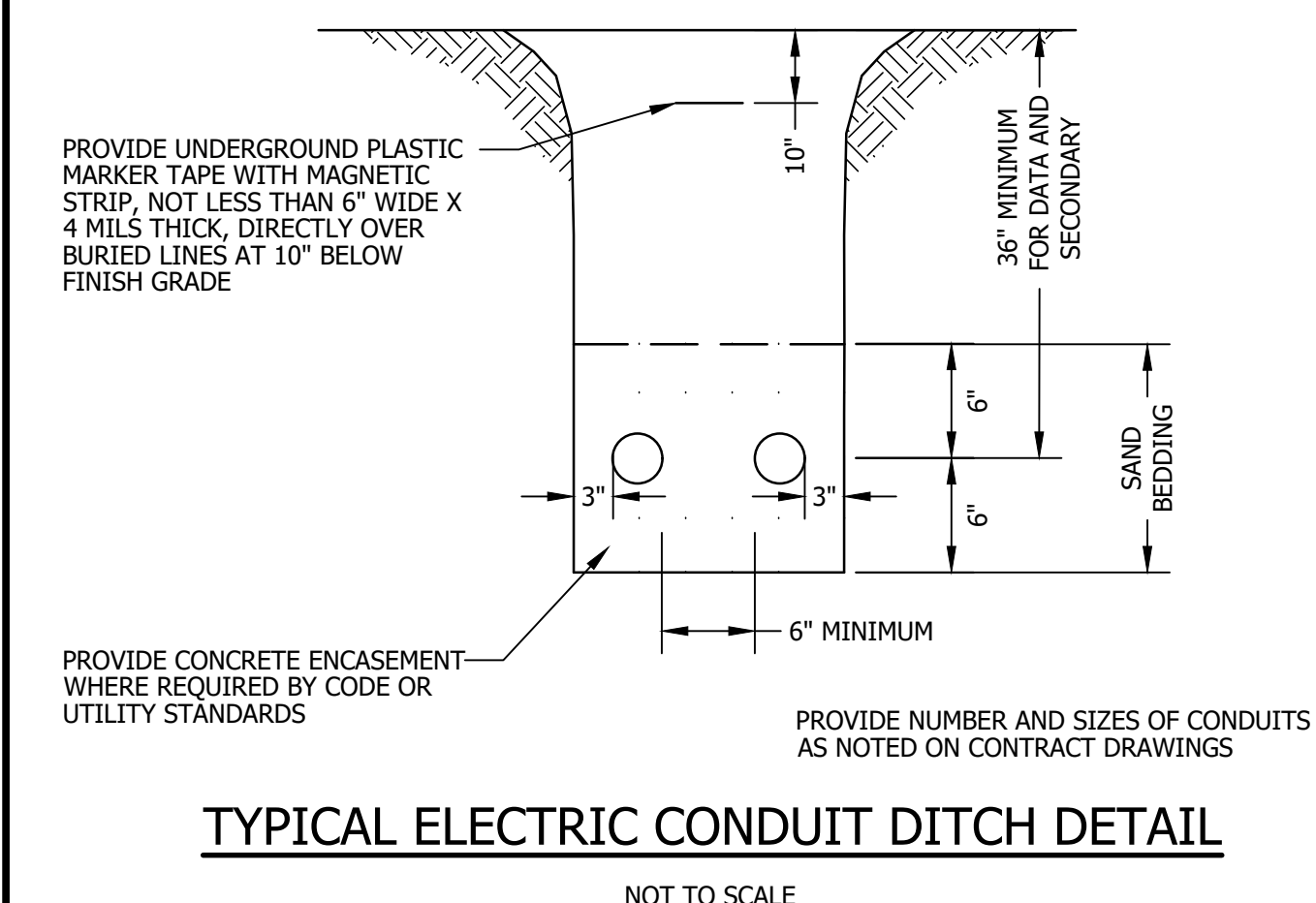
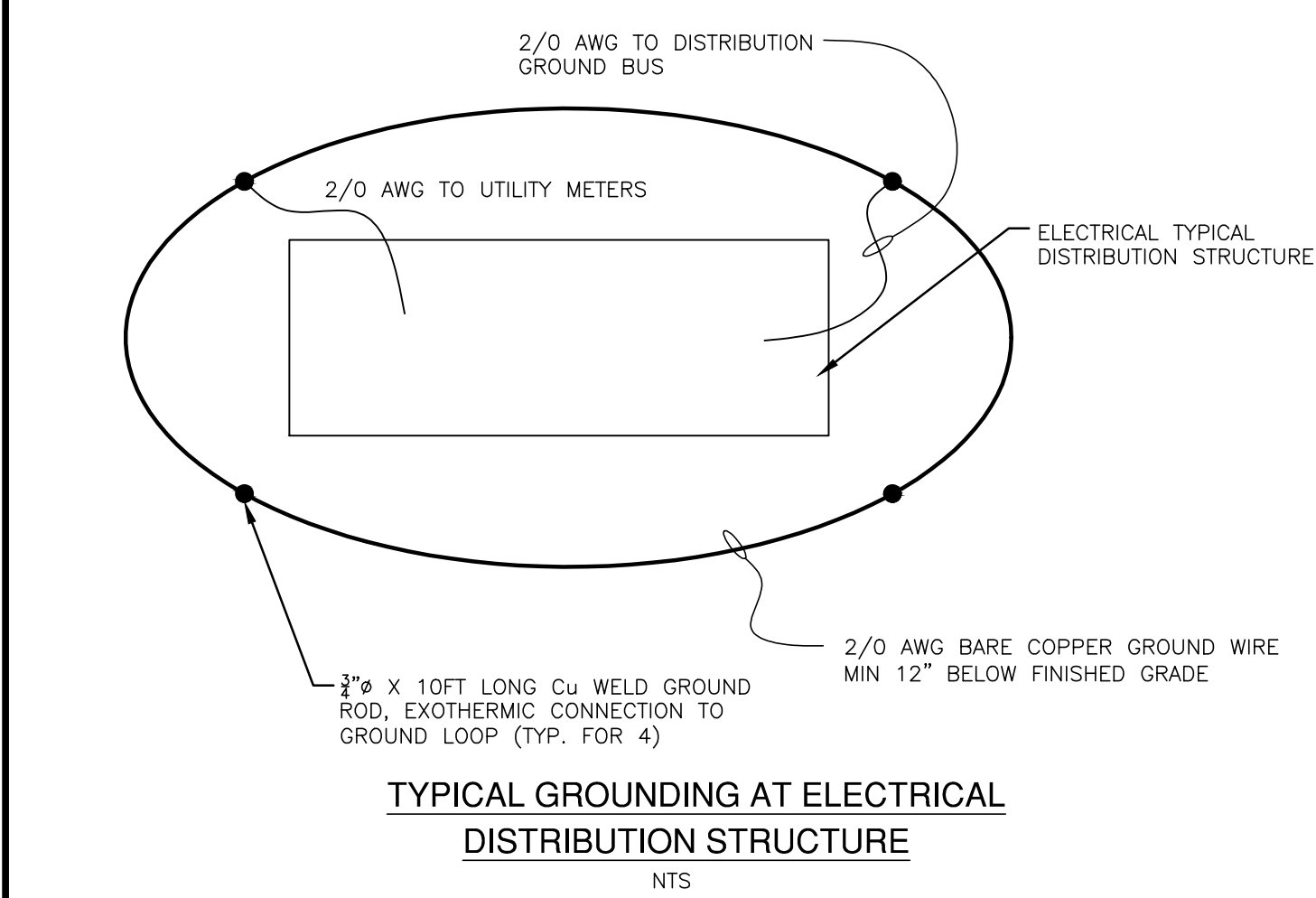
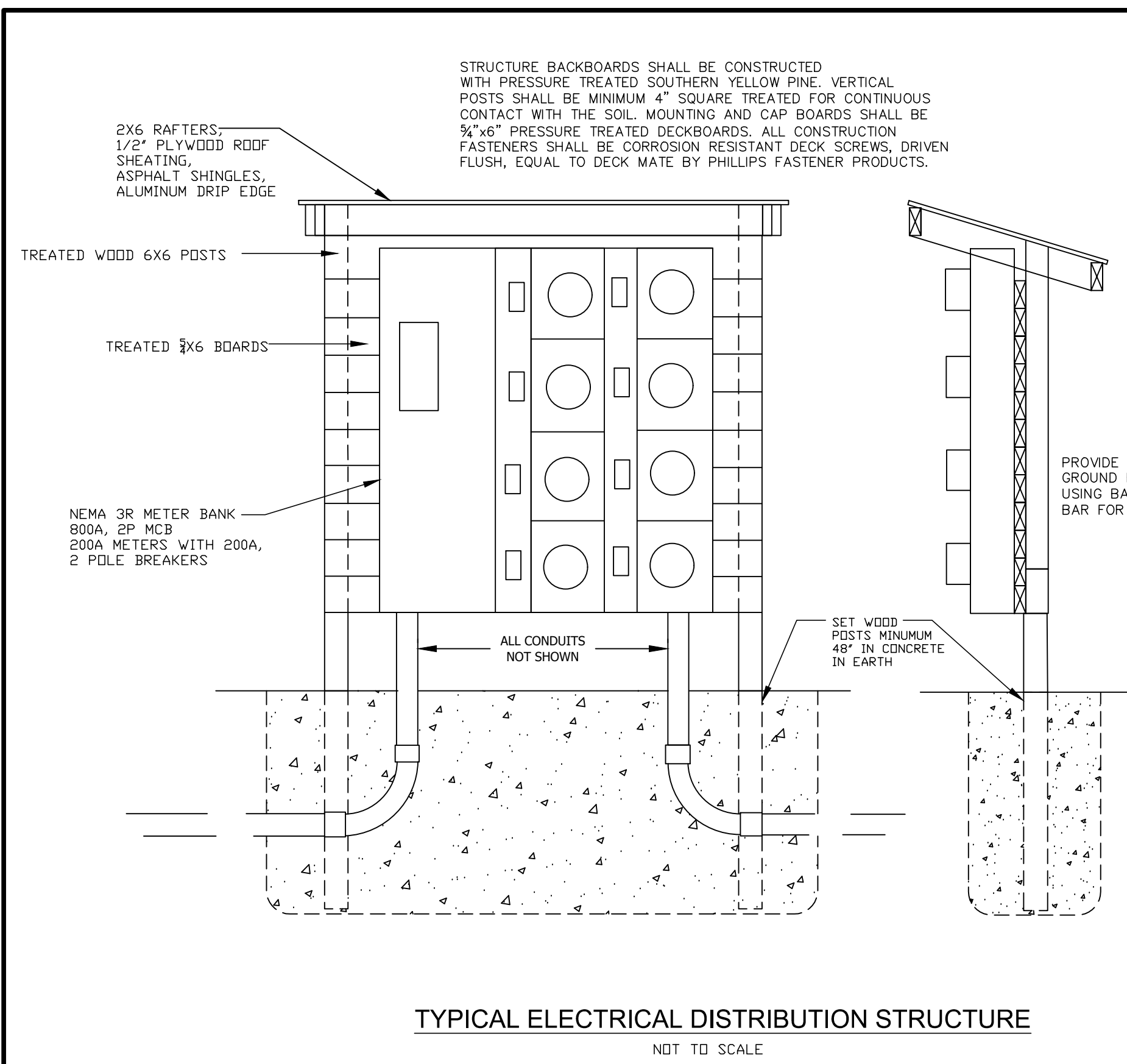
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SITE IMPROVEMENTS
PORTSMOUTH, NEW HAMPSHIRE

SEWER DETAILS

NO.	DATE	REVISION DESCRIPTION	ENG	DWG

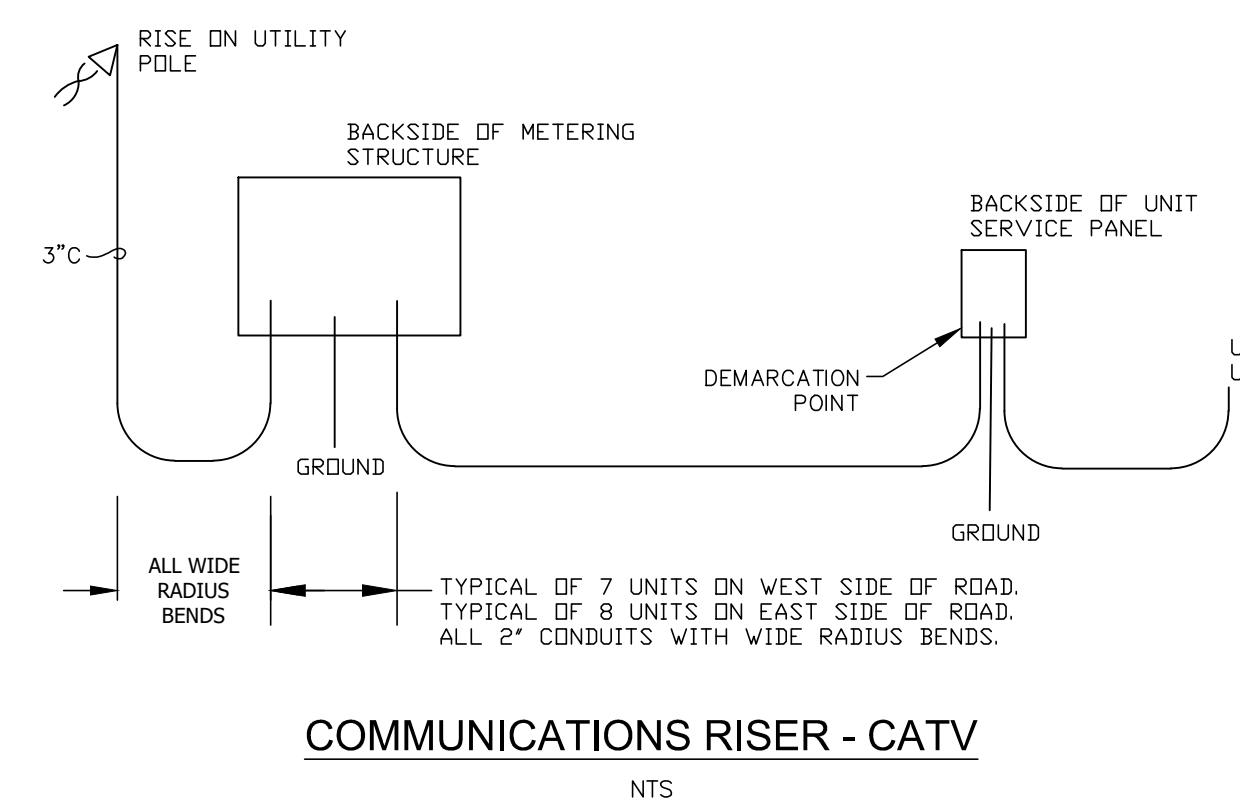
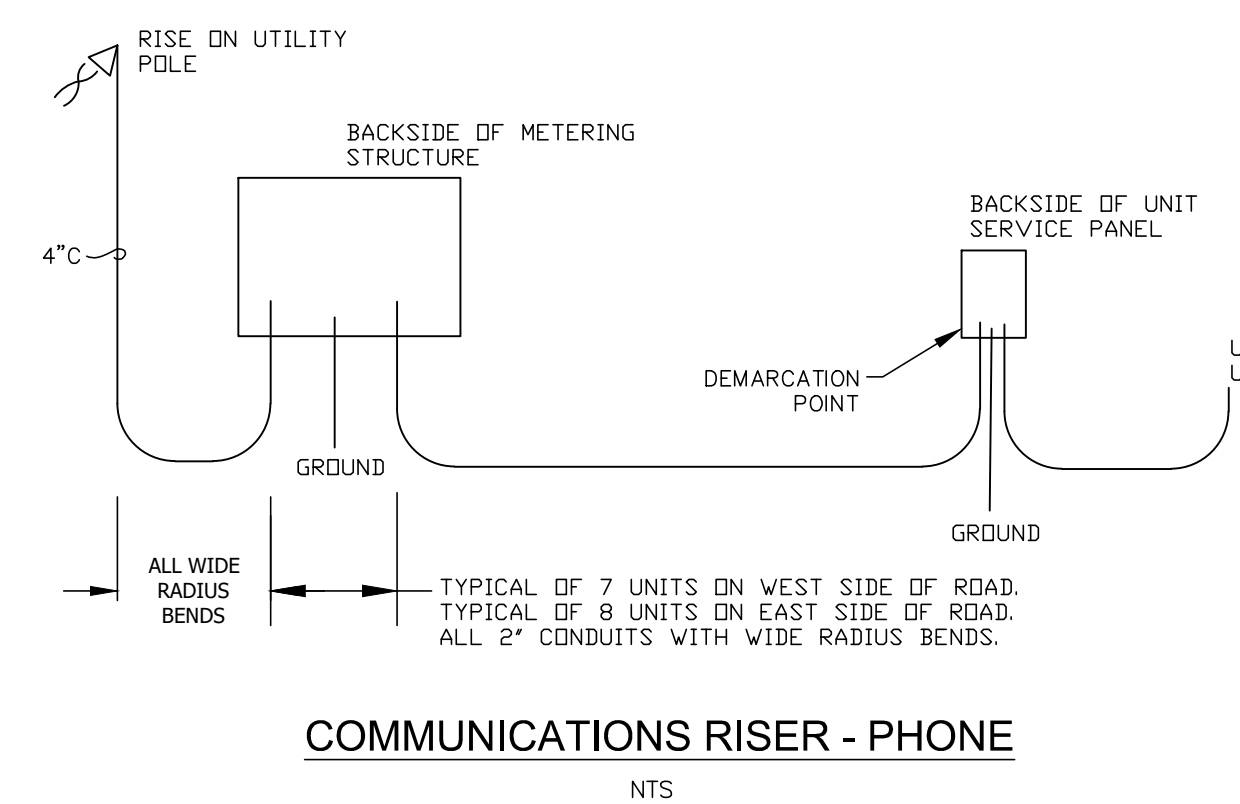
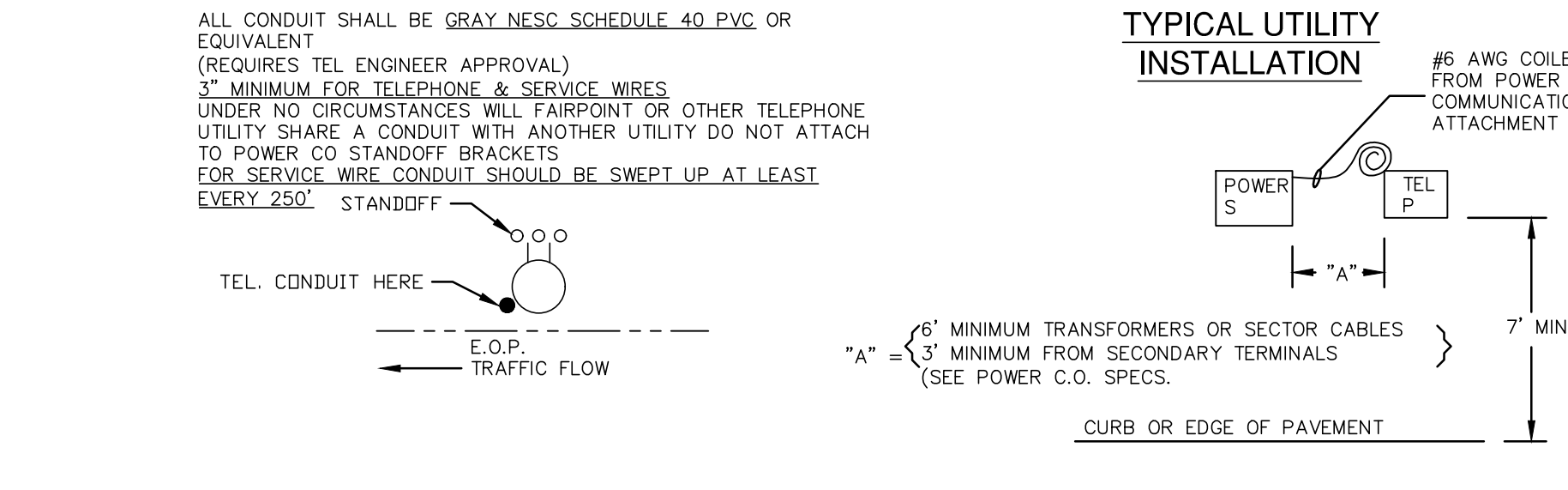
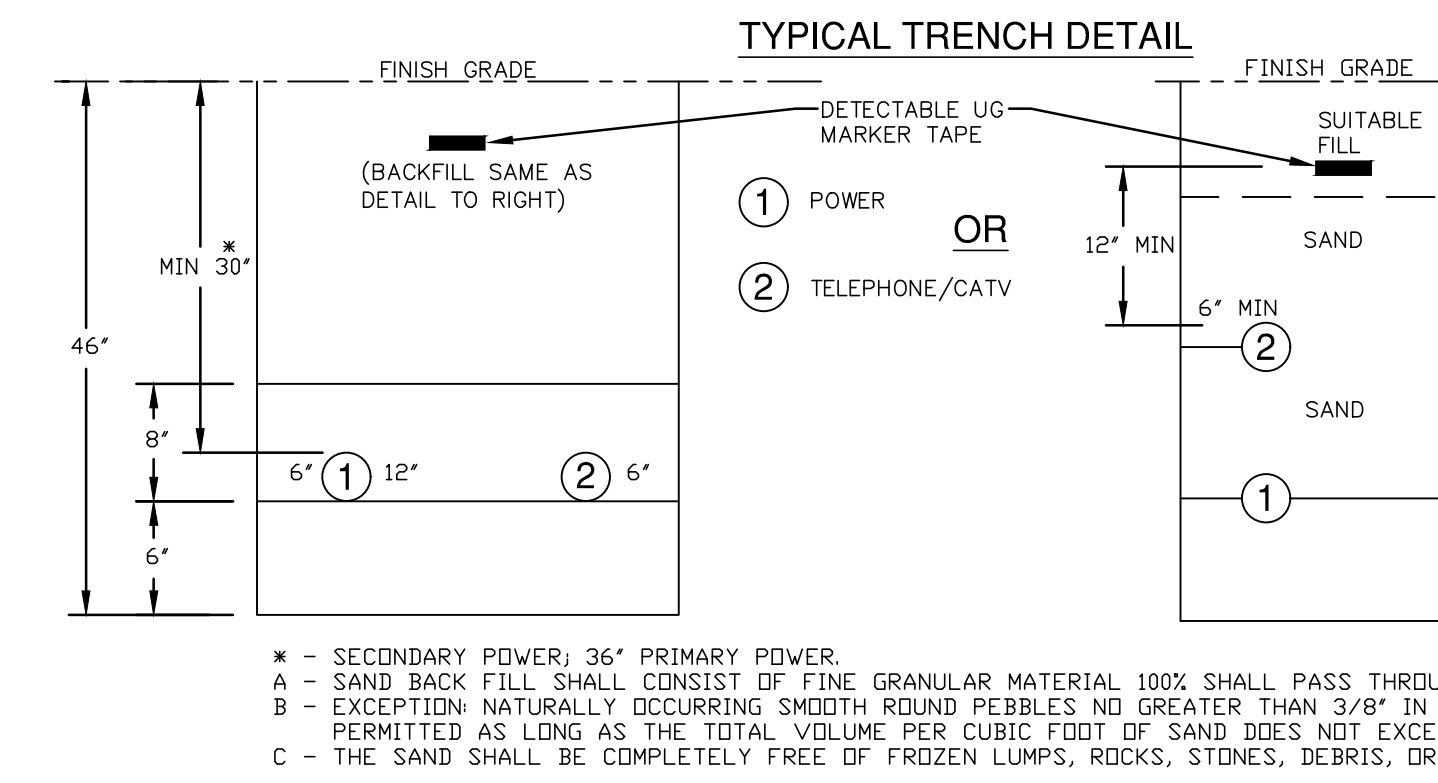
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	MAR. 2021	16074
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	RDL	CLB
CHECK'D BY:	ARCHIVE #:	
DMC		
SHEET 6 OF 9		



CONDUIT SPECIFICATIONS

IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE CONDUIT THROUGH WHICH CABLE CAN BE SUCCESSFULLY PULLED. THE CONTRACTOR IS RESPONSIBLE FOR ALL EXPENSE ASSOCIATED WITH THE REPAIR OF CONDUIT THAT CANNOT BE USED. OWNER RESERVES THE RIGHT TO REQUIRE INSPECTION OF CONDUIT PRIOR TO BACK FILLING TO ENSURE COMPLIANCE.

NOTE: WHERE LEDGE DOES NOT PERMIT DEPTHS NOTED, CONCRETE ENCASUREMENT WILL BE REQUIRED TO CONFORM TO NEC AND/OR UTILITY REQUIREMENT TO, WHICHEVER IS MORE STRINGENT.



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ELECTRICAL DETAILS

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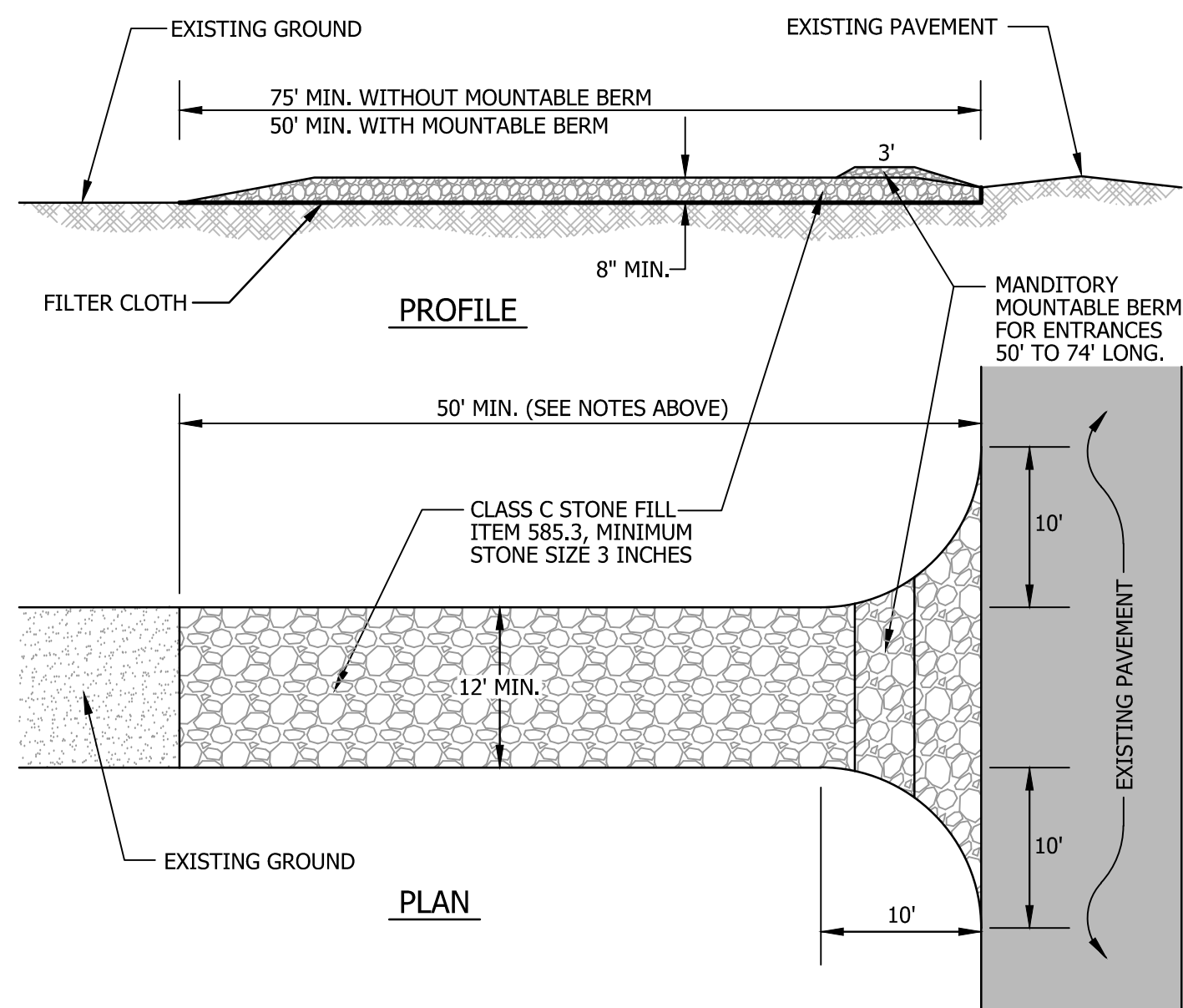
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WILLIAM T. DAVIS
No. 11518
LICENSED PROFESSIONAL ENGINEER

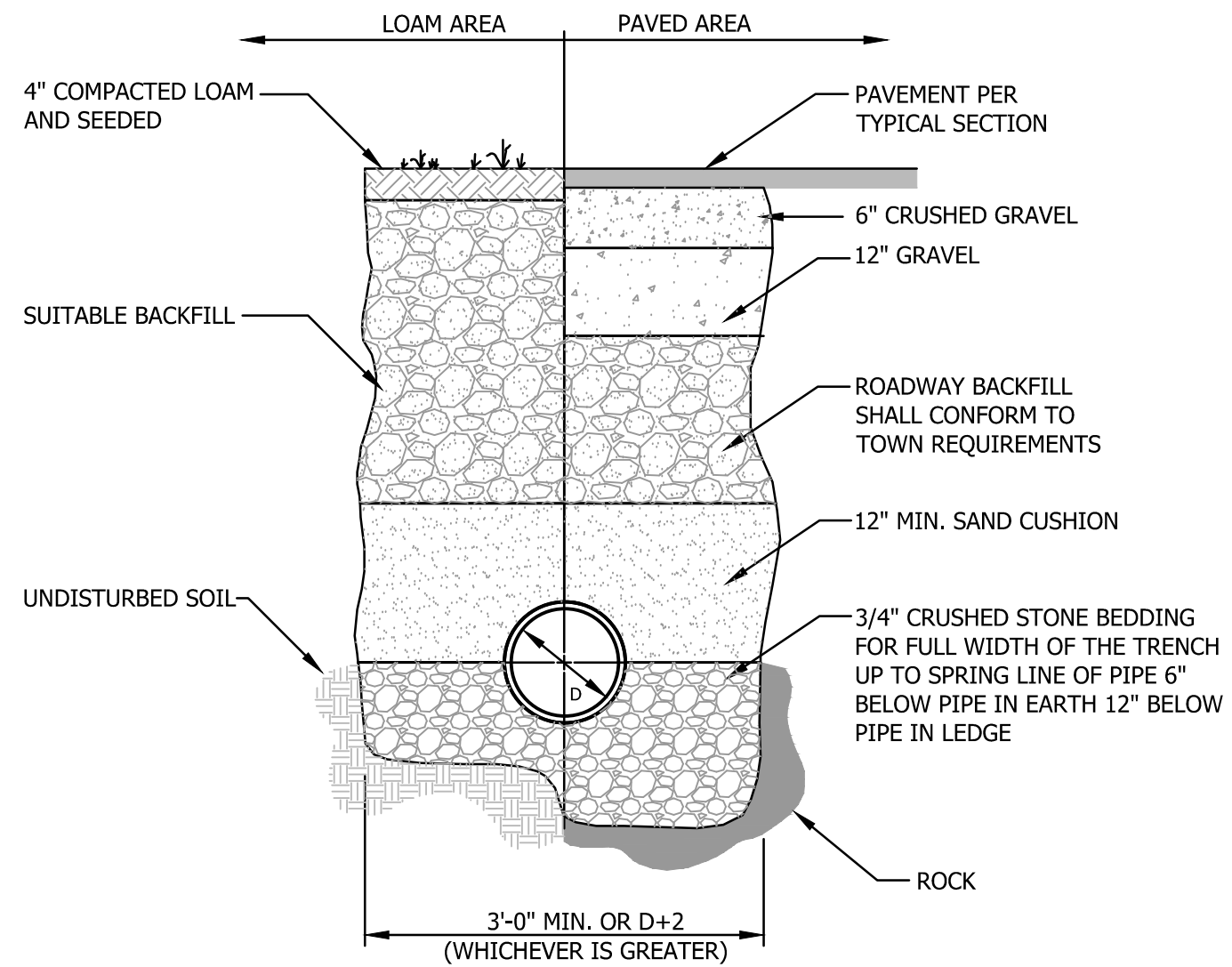
DATE OF PRINT: MARCH 10 2021
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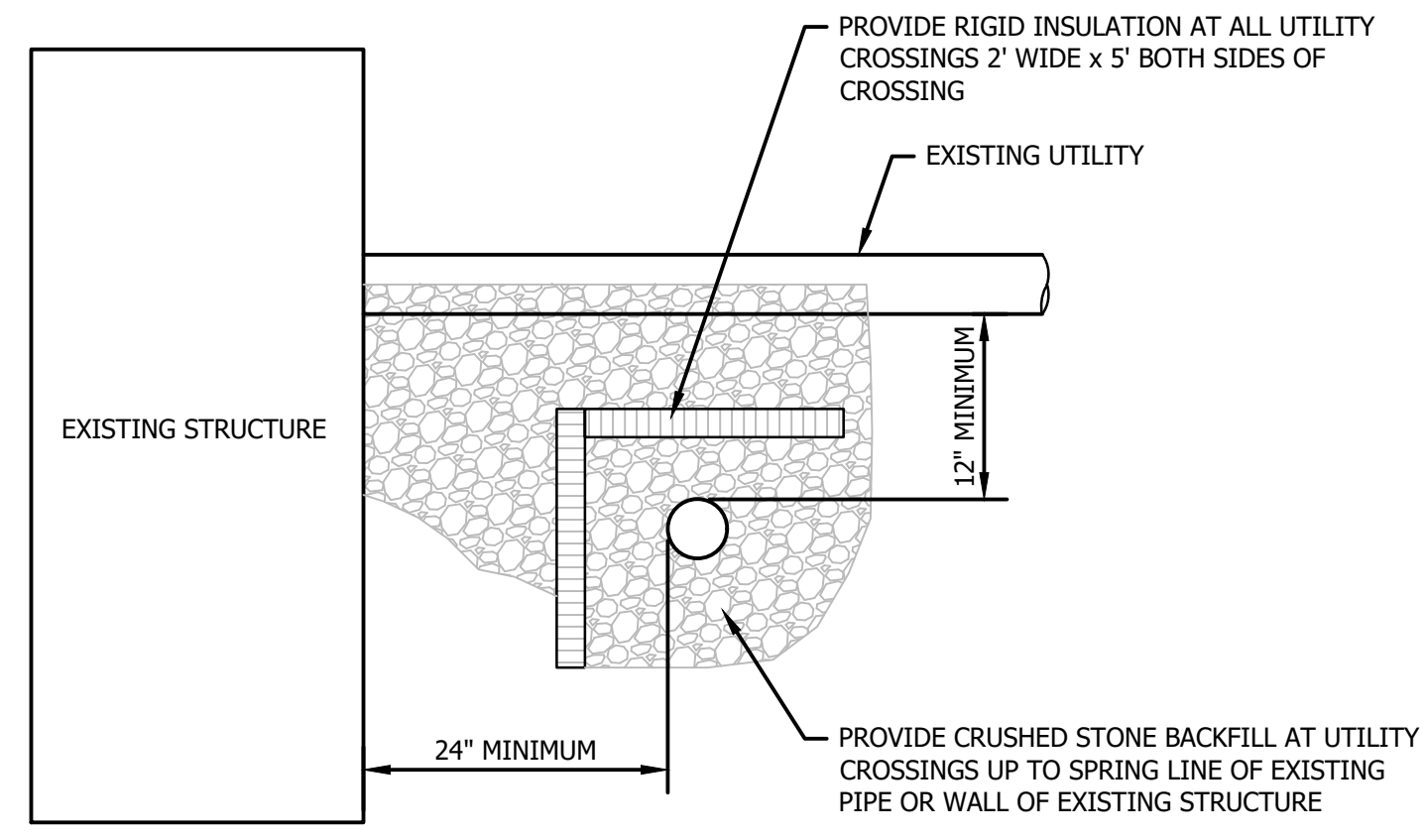
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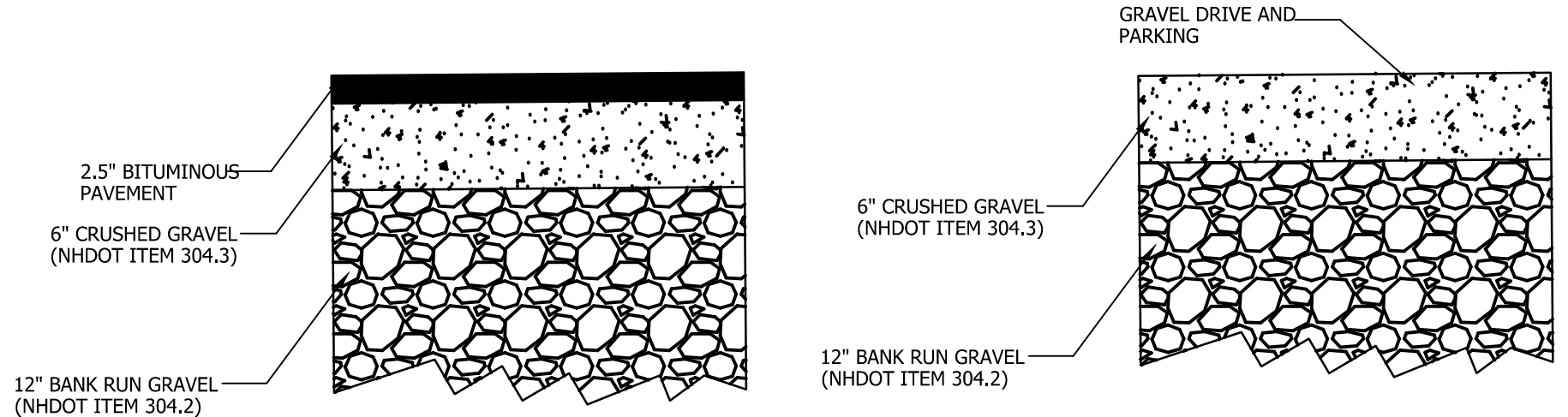
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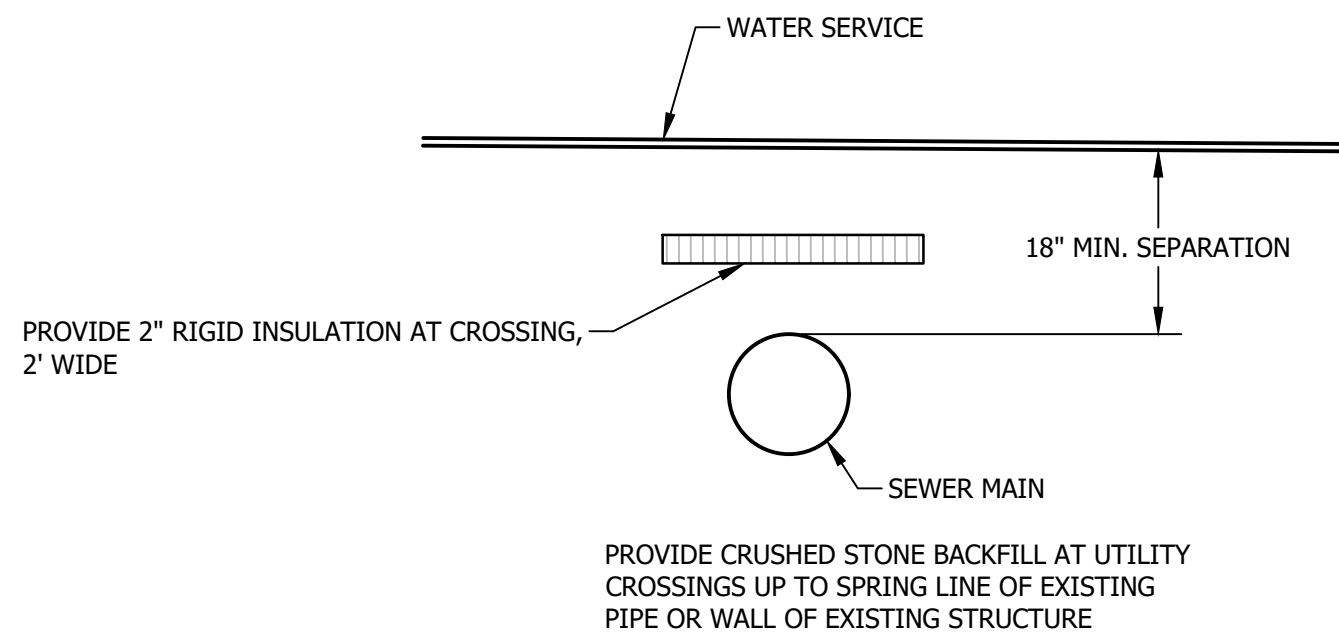
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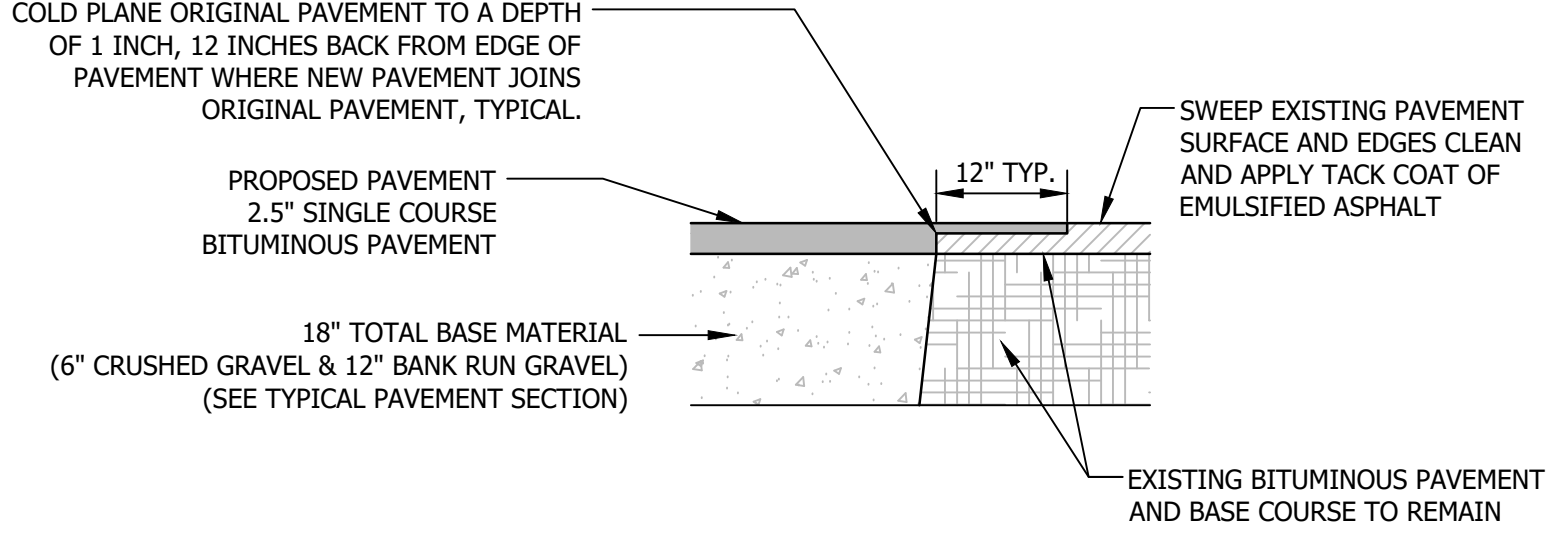
UTILITY / DRAINAGE CROSSING DETAIL
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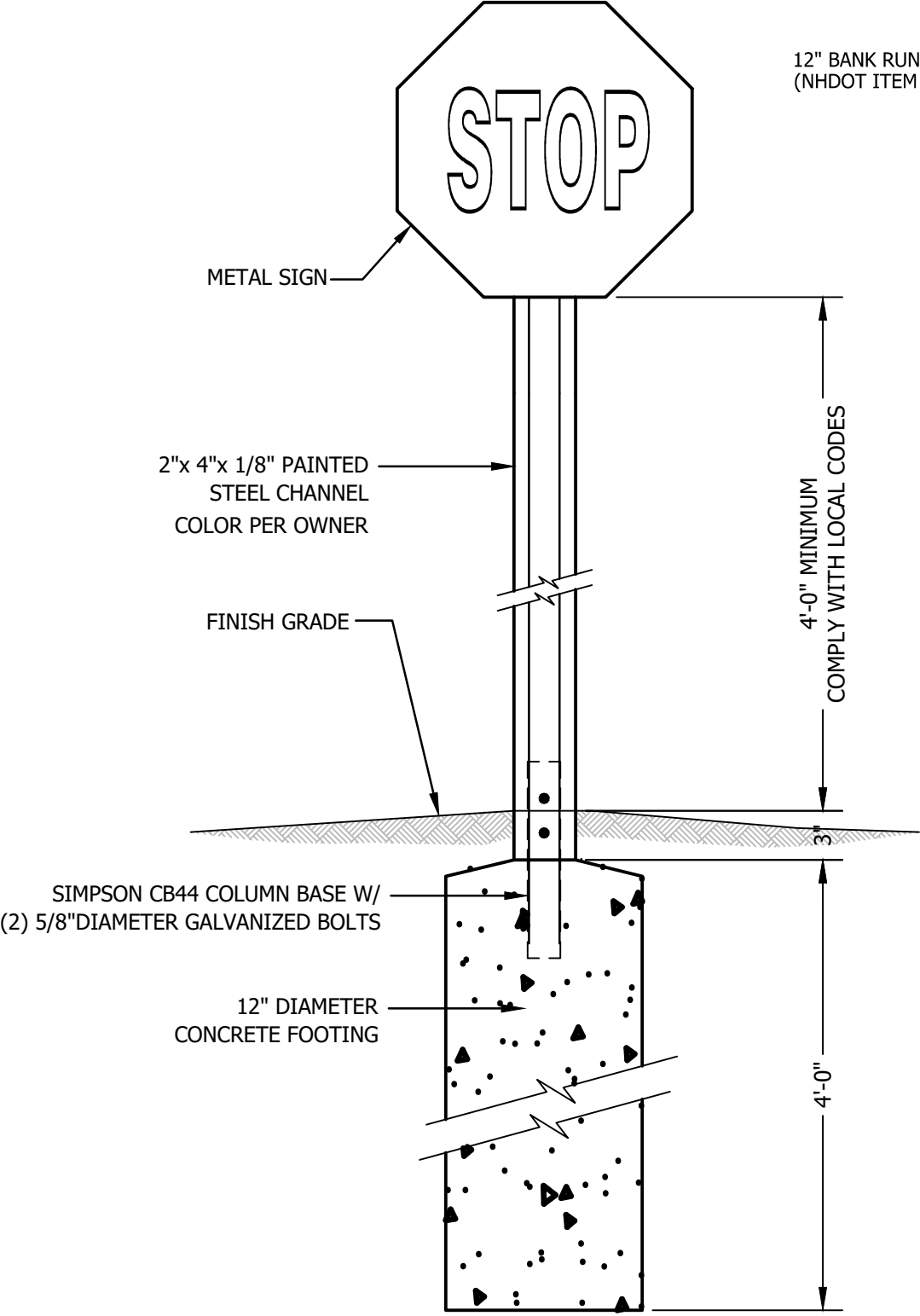
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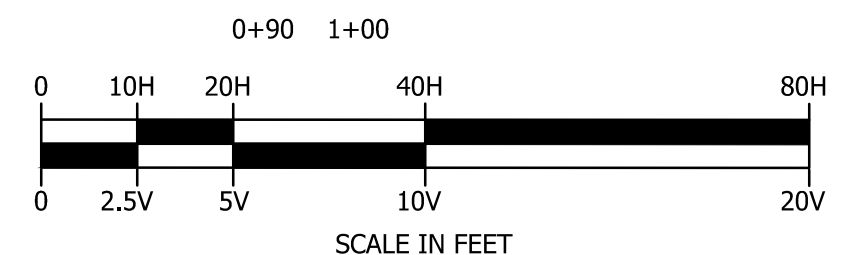
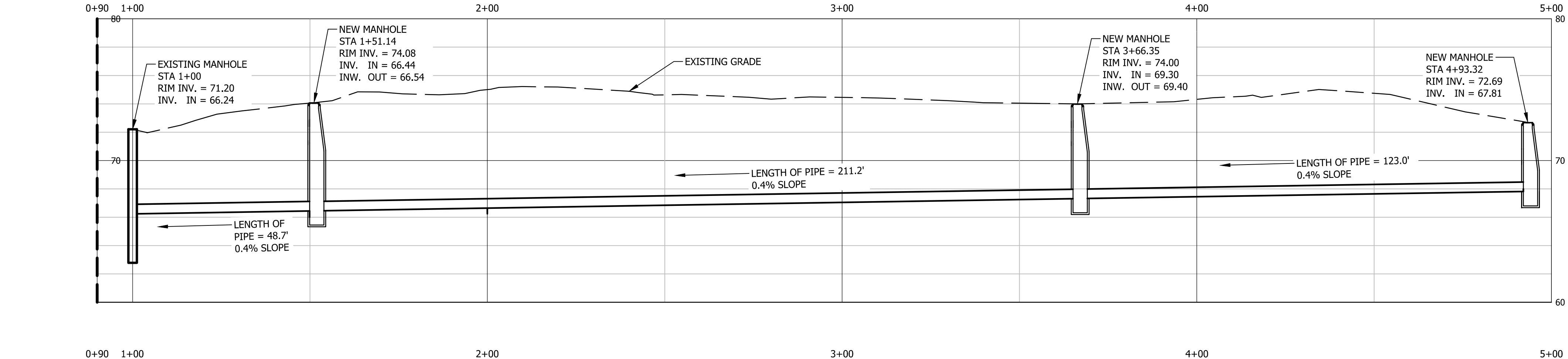
UTILITY CROSSING DETAIL
 NOT TO SCALE



PAVEMENT JOINING DETAIL
 NOT TO SCALE



TYPICAL STOP SIGN
 NOT TO SCALE



NEW SEWER MAIN
 STA 0+90 TO STA 5+00

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MISCELLANEOUS DETAILS

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SEEDING RECOMMENDATIONS

- GRADING AND SHAPING**
A. SLOPES SHALL NOT BE STEEPER THAN 2:1; 3:1 SLOPES OR FLATTER ARE PREFERRED. WHERE MOWING WILL BE DONE, 3:1 SLOPES OR FLATTER ARE RECOMMENDED.
- SEEDBED PREPARATION**
A. SURFACE AND SEEPAGE WATER SHOULD BE DRAINED OR DIVERTED FROM THE SITE TO PREVENT DROWNING OR WINTER KILLING OF THE PLANTS.
B. STONES LARGER THAN 4 INCHES AND TRASH SHOULD BE REMOVED BECAUSE THEY INTERFERE WITH SEEDING AND FUTURE MAINTENANCE OF THE AREA. WHERE FEASIBLE, THE SOIL SHOULD BE AMENDED WITH ORGANIC MATTER AND TILLED TO A DEPTH OF ABOUT 4 INCHES TO PREPARE A SEEDBED AND MIX FERTILIZER AND LIME THOROUGHLY INTO THE SOIL. THE SEEDBED SHOULD BE LEFT IN A REASONABLY FIRM AND SMOOTH CONDITION. THE LAST TILLAGE OPERATION SHOULD BE PERFORMED ACROSS THE SLOPE WHEREVER PRACTICAL.
- ESTABLISHING VEGETATION**
A. LIME AND FERTILIZER SHOULD BE APPLIED PRIOR TO OR AT THE TIME OF SEEDING AND INCORPORATED INTO THE SOIL. KINDS AND AMOUNTS OF LIME AND FERTILIZER SHOULD BE BASED ON AN EVALUATION OF SOIL TESTS. WHEN A SOIL TEST IS NOT AVAILABLE, THE FOLLOWING MINIMUM AMOUNTS SHOULD BE APPLIED:
-AGRICULTURAL LIMESTONE, 2 TONS PER ACRE OR 100 LBS. PER 1,000 SQ. FT.
-NITROGEN (N), 50 LBS., PER ACRE OR 1.1 LBS. PER 1,000 SQ. FT.
-PHOSPHATE (P₂O₅), 100 LBS. PER ACRE OR 2.2 LBS. PER 1,000 SQ. FT.
-POTASH (K₂O), 100 LBS. PER ACRE OR 2.2 LBS. PER 1,000 SQ. FT.
(NOTE: THIS IS THE EQUIVALENT OF 500 LBS. PER ACRE OF 10-20-20 FERTILIZER OR 1,000 LBS. PER ACRE OF 5-10-10).

B. SEED SHOULD BE SPREAD UNIFORMLY BY THE METHOD MOST APPROPRIATE FOR THE SITE. METHODS INCLUDE BROADCASTING, DRILLING, AND HYDROSEEDING. WHERE BROADCASTING IS USED, COVER SEED WITH .25 INCH OF SOIL OR LESS, BY CULTIPACKING OR RAKING.

C. SEEDING GUIDE:

USE	SEEDING MIXTURE (SEE 3D)	SOIL TYPE			
		DROUGHTY	WELL DRAINED	MOD. WELL DRAINED	POORLY DRAINED
STEEP CUTS AND FILLS, BORROW AND DISPOSAL AREAS	A	FAIR	GOOD	GOOD	FAIR
	B	POOR	GOOD	FAIR	FAIR
	C	FAIR	EXCELLENT	EXCELLENT	POOR
WATERWAYS, EMERGENCY SPILLWAYS, AND OTHER CHANNELS WITH FLOWING WATER	A	GOOD	GOOD	GOOD	FAIR
	B	GOOD	GOOD	GOOD	FAIR
LIGHTLY USED PARKING LOTS, ODD AREAS, UNUSED LANDS, AND LOW INTENSITY USE RECREATION SITES	A	GOOD	GOOD	GOOD	FAIR
	B	GOOD	GOOD	FAIR	POOR

D. SEEDING RATES:

MIXTURE	POUNDS PER ACRE	POUNDS PER 1,000 SQ. FT.
A TALL FESCUE	20	0.45
CREeping RED FESCUE	20	0.45
REDTOP	2	0.05
TOTAL:	42	0.95
B TALL FESCUE	15	0.35
CREeping RED FESCUE	10	0.25
CROWN VETCH OR FLATPEA	15 OR 30	0.35 OR 0.75
TOTAL:	40 OR 55	0.95 OR 1.35
C TALL FESCUE	20	0.45
FLATPEA	30	0.75
TOTAL:	50	1.20

E. WHEN SEEDED AREAS ARE MULCHED, PLANTINGS MAY BE MADE FROM EARLY SPRING TO SEPTEMBER 15. WHEN SEEDED AREAS ARE NOT MULCHED, PLANTINGS SHOULD BE MADE FROM EARLY SPRING TO MAY 20 OR FROM AUGUST 10 TO SEPTEMBER 1.

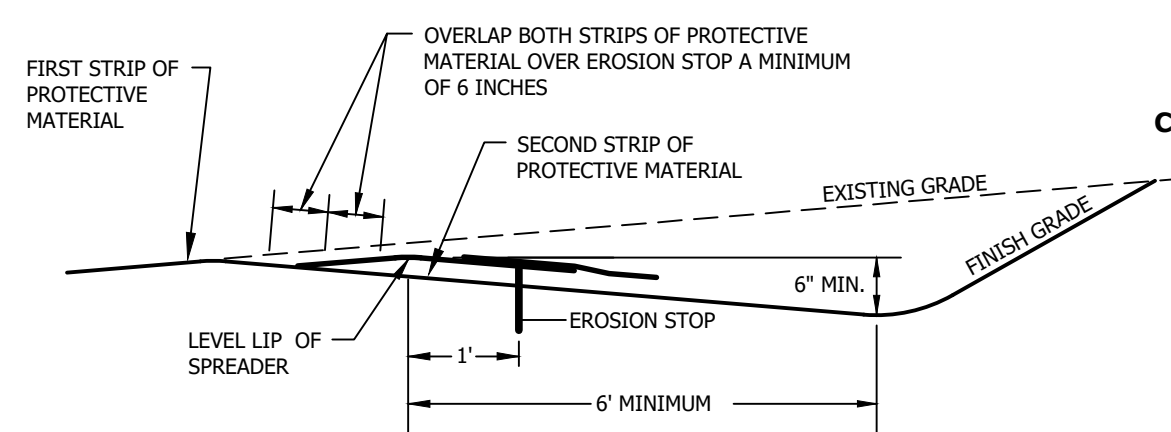
F. TEMPORARY SEEDING RATES:

SPECIES	POUNDS PER ACRE	POUNDS PER 1,000 SQ. FT.	REMARKS
WINTER RYE	112	2.5	BEST FOR FALL SEEDING. SEED FROM AUGUST TO SEPTEMBER 5TH FOR BEST COVER. SEED TO A DEPTH OF 1 INCH.
OATS	80	2.0	BEST FOR SPRING SEEDING. SEED NO LATER THAN MAY 15TH FOR SUMMER PROTECTION. SEED TO A DEPTH OF 1 INCH.
ANNUAL RYEGRASS	40	1.0	GROWS QUICKLY, BUT IS OF SHORT DURATION. USE WHERE APPEARANCES ARE NOT IMPORTANT. SEED EARLY SPRING AND/OR BETWEEN AUGUST 15TH AND SEPTEMBER 15TH. COVER SEED WITH NO MORE THAN 0.25 INCH OF SOIL.
PERENNIAL RYEGRASS	30	0.7	GOOD COVER WHICH IS LONGER LASTING THAN ANNUAL RYEGRASS. SEED BETWEEN APRIL 1ST AND JUNE 1ST AND/OR BETWEEN AUGUST 15TH AND SEPTEMBER 15TH. MULCHING WILL ALLOW SEEDING THROUGHOUT THE GROWING SEASON. SEED TO A DEPTH OF APPROXIMATELY 0.5 INCH.

- MULCH**
A. HAY, STRAW, OR OTHER MULCH, WHEN NEEDED, SHOULD BE APPLIED IMMEDIATELY AFTER SEEDING.
B. MULCH WILL BE HELD IN PLACE USING APPROPRIATE TECHNIQUES FROM THE BEST MANAGEMENT PRACTICE FOR MULCHING.
- MAINTENANCE TO ESTABLISH A STAND**
A. PLANTED AREAS SHOULD BE PROTECTED FROM DAMAGE BY FIRE, GRAZING, TRAFFIC, AND DENSE WEED GROWTH.
B. FERTILIZATION NEEDS SHOULD BE DETERMINED BY ON SITE INSPECTIONS. SUPPLEMENTAL FERTILIZER IS USUALLY THE KEY TO FULLY COMPLETE THE ESTABLISHMENT OF THE STAND BECAUSE MOST PERENNIALS TAKE 2 TO 3 YEARS TO BECOME ESTABLISHED.
C. IN WATERWAYS, CHANNELS, OR SWALES WHERE UNIFORM FLOW CONDITIONS ARE ANTICIPATED, OCCASIONAL MOWING MAY BE NECESSARY TO CONTROL GROWTH OF WOODY VEGETATION.

LEVEL LIP SPREADER INSTALLATION

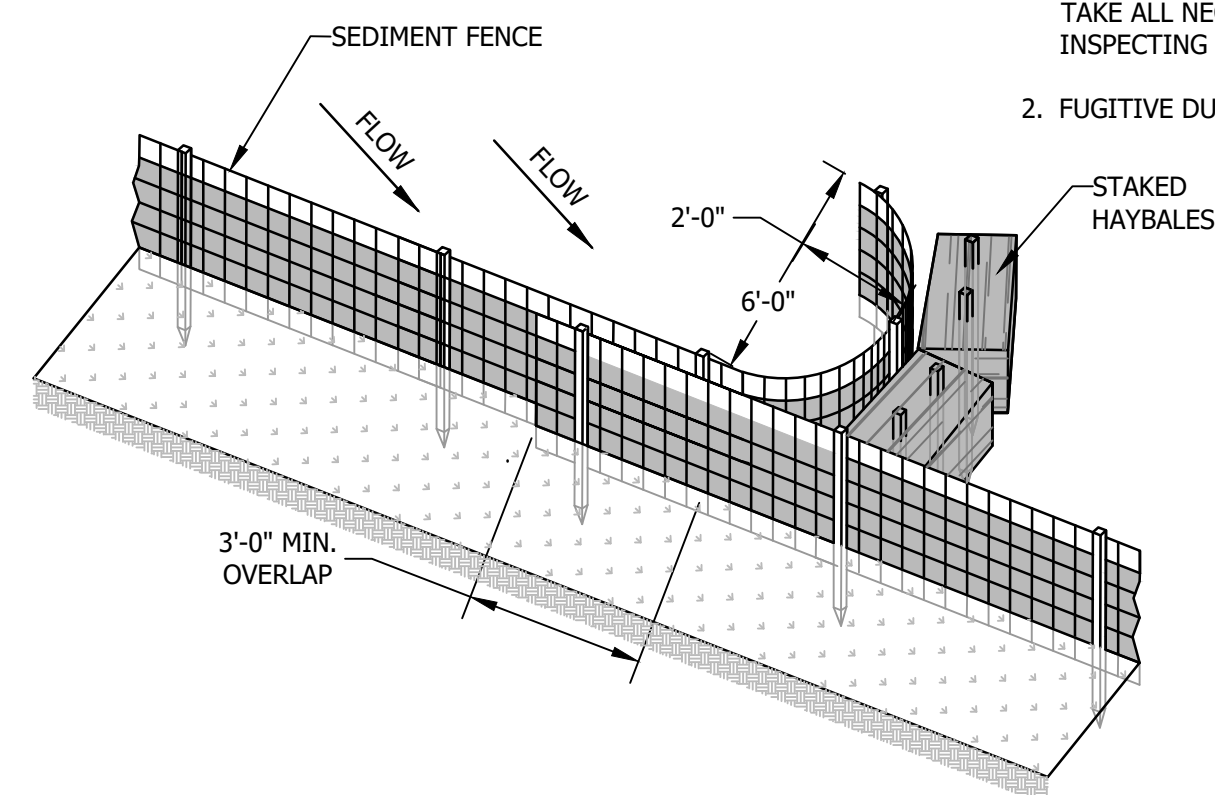
- CONSTRUCT THE LEVEL SPREADER LIP ON A ZERO PERCENT GRADE TO INSURE UNIFORM SPREADING OF RUNOFF.
- LEVEL SPREADER SHALL BE CONSTRUCTED ON UNDISTURBED SOIL AND NOT ON FILL.
- AN EROSION STOP SHALL BE PLACED VERTICALLY A MINIMUM OF SIX INCHES DEEP IN A SLIT TRENCH ONE FOOT BACK OF THE LEVEL LIP AND PARALLEL TO THE LIP. THE EROSION STOP SHALL EXTEND THE ENTIRE LENGTH OF THE LEVEL LIP.
- THE ENTIRE LEVEL LIP AREA SHALL BE PROTECTED BY PLACING TWO STRIPS OF JUTE OR EXCELSIOR MATTING ALONG THE LIP. EACH STRIP SHALL OVERLAP THE EROSION STOP BY AT LEAST SIX INCHES.
- THE ENTRANCE CHANNEL TO THE LEVEL SPREADER SHALL NOT EXCEED A 1 PERCENT GRADE FOR AT LEAST 50 FEET BEFORE ENTERING INTO THE SPREADER.
- THE FLOW FROM THE LEVEL SPREADER SHALL OUTLET ONTO STABILIZED AREAS. WATER SHOULD NOT RE-CONCENTRATE IMMEDIATELY BELOW THE SPREADER.
- PERIODIC INSPECTION AND REQUIRED MAINTENANCE SHALL BE PERFORMED.
- PROTECTIVE MATERIAL AND EROSION STOP SHALL BE NORTH AMERICAN GREEN C125 EROSION CONTROL BLANKET OR APPROVED EQUAL.



LEVEL SPREADER DETAIL

NO SCALE

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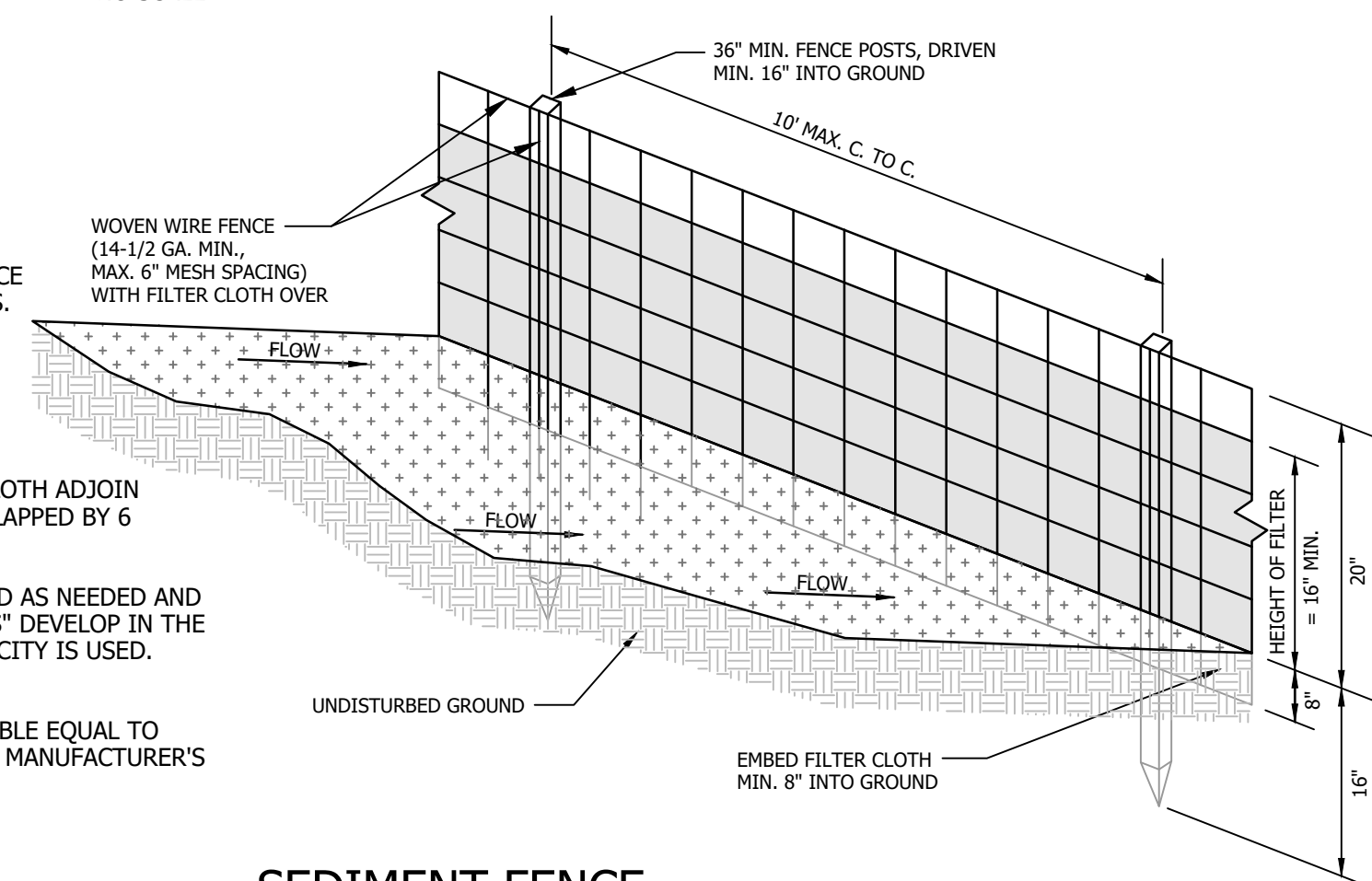


SEDIMENT FENCE POCKET

NO SCALE

CONSTRUCTION NOTES FOR SEDIMENT FENCE

- WOVEN WIRE FENCE, IF REQUIRED, TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
- FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP, MID SECTION, AND BOTTOM.
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6 INCHES, FOLDED AND STAPLED.
- MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SEDIMENT FENCE, OR 50% OF CAPACITY IS USED.
- 12" DIAMETER FILTREX SILT SOCKS SHALL BE CONSIDERED AN ACCEPTABLE EQUAL TO SEDIMENT FENCE IF INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.



SEDIMENT FENCE

NO SCALE

EROSION CONTROL GENERAL NOTES

A. KEEP SITE MODIFICATION TO A MINIMUM

- CONSIDER FITTING THE BUILDINGS AND STREETS TO THE NATURAL TOPOGRAPHY. THIS REDUCES THE NEED FOR CUTS AND FILLS. AVOID EXTENSIVE GRADING THAT WOULD ALTER DRAINAGE PATTERNS OR CREATE VERY STEEP SLOPES.
- EXPOSE AREAS OF BARE SOIL TO EROSION ELEMENTS FOR THE SHORTEST TIME POSSIBLE.
- SAVE AND PROTECT DESIRABLE EXISTING VEGETATION WHERE POSSIBLE. ERECT BARRIERS TO PREVENT DAMAGE FROM CONSTRUCTION EQUIPMENT.
- LIMIT THE GRADES OF SLOPES SO VEGETATION CAN BE EASILY ESTABLISHED AND MAINTAINED.
- AVOID SUBSTANTIAL INCREASE IN RUNOFF LEAVING THE SITE.

B. MINIMIZE POLLUTION OF WATER DURING CONSTRUCTION ACTIVITIES

- STOCKPILE TOPSOIL REMOVED FROM CONSTRUCTION AREA AND SPREAD OVER ANY DISTURBED AREAS PRIOR TO REVEGETATION. TOPSOIL STOCKPILES MUST BE PROTECTED FROM EROSION.
- PROTECT BARE SOIL AREAS EXPOSED BY GRADING ACTIVITIES WITH TEMPORARY VEGETATION OR MULCHES.
- USE SEDIMENT BASINS TO TRAP DEBRIS AND SEDIMENT WHICH WILL PREVENT THESE MATERIALS FROM MOVING OFF SITE.
- USE DIVERSIONS TO DIRECT WATER AROUND THE CONSTRUCTION AREA AND AWAY FROM EROSION PRONE AREAS TO POINTS OF SAFE DISPOSAL.
- USE TEMPORARY CULVERTS OR BRIDGES WHEN CROSSING STREAMS WITH EQUIPMENT.
- PLACE CONSTRUCTION FACILITIES, MATERIALS, AND EQUIPMENT STORAGE AND MAINTENANCE AREAS AWAY FROM DRAINAGE WAYS.

C. PROTECT AREA AFTER CONSTRUCTION.

- ESTABLISH GRASS OR OTHER SUITABLE VEGETATION ON ALL DISTURBED AREAS. SELECT SPECIES ADAPTED TO THE SITE CONDITIONS AND THE FUTURE USE OF THE AREA. FINAL GRADES SHALL BE SEEDED WITHIN 72 HOURS. STABILIZATION SHALL BE DEFINED AS 85% VEGETATIVE COVER.
- MAINTAIN VEGETATED AREAS USING PROPER VEGETATIVE 'BEST MANAGEMENT PRACTICES' DURING THE CONSTRUCTION PERIOD.
- MAINTAIN NEEDED STRUCTURAL 'BEST MANAGEMENT PRACTICES' AND REMOVE SEDIMENT FROM DETENTION PONDS AND SEDIMENT BASINS AS NEEDED.
- DETERMINE RESPONSIBILITY FOR LONG TERM MAINTENANCE OF PERMANENT 'BEST MANAGEMENT PRACTICES'.
- IF CONSTRUCTION IS ANTICIPATED DURING WINTER MONTHS, REFER TO 'COLD WEATHER SITE STABILIZATION REQUIREMENTS'.

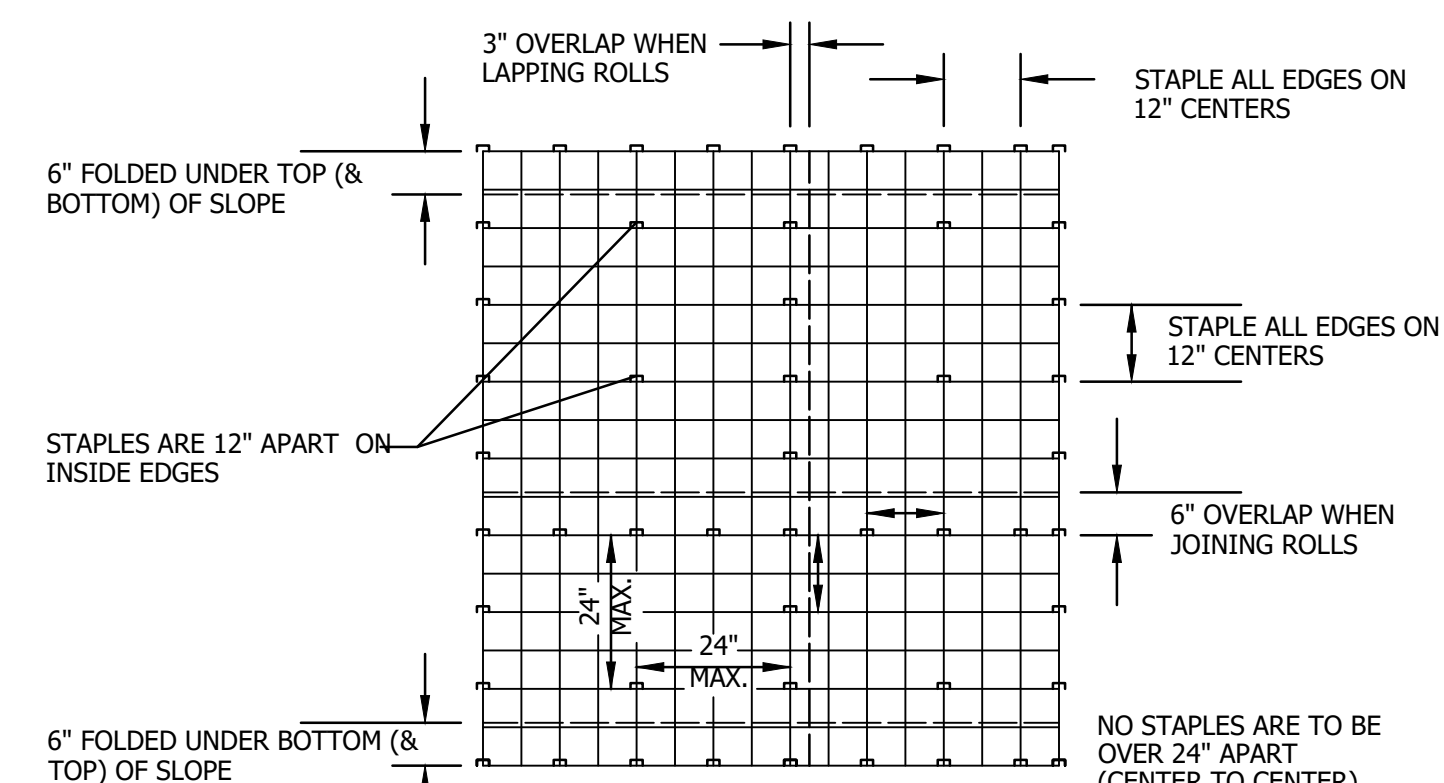
D. INVASIVE SPECIES AND FUGITIVE DUST

- THE PROJECT SHALL NOT CONTRIBUTE TO THE SPREAD OF INVASIVE SPECIES. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EVALUATE WORK AREAS FOR THE PRESENCE OF INVASIVE SPECIES, AND IF FOUND SHALL TAKE NECESSARY MEASURES TO PREVENT THEIR SPREAD IN ACCORDANCE WITH RSA 430:51-57 AND AGR 3800. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO PREVENT THE INTRODUCTION OF INVASIVE SPECIES BY INSPECTING AND CLEANING ALL EQUIPMENT ARRIVING ON SITE.
- FUGITIVE DUST SHALL BE CONTROLLED IN ACCORDANCE WITH ENV-A 1000.

COLD WEATHER SITE STABILIZATION REQUIREMENTS

TO ADEQUATELY PROTECT WATER QUALITY DURING COLD WEATHER AND DURING SPRING RUNOFF, THE FOLLOWING ADDITIONAL STABILIZATION TECHNIQUES SHALL BE EMPLOYED DURING THE PERIOD FROM OCTOBER 15 THROUGH MAY 1:

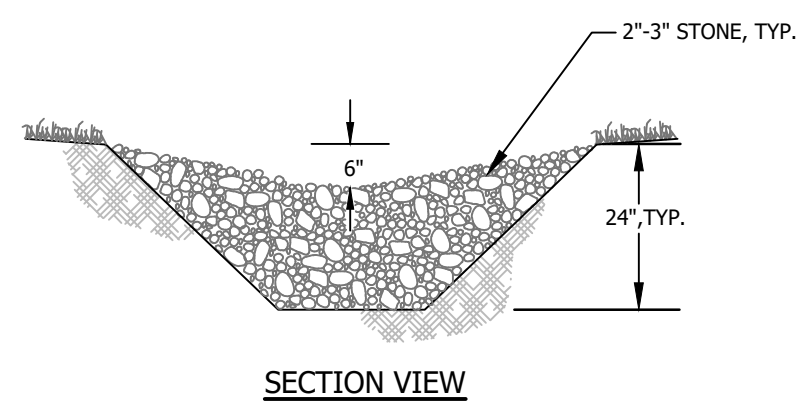
- THE AREA OF EXPOSED, UNSTABILIZED SOIL SHALL BE LIMITED TO 1 ACRE AND SHALL BE PROTECTED AGAINST EROSION BY THE METHODS DESCRIBED IN THIS SECTION PRIOR TO ANY THAW OR SPRING MELT EVENT. THE ALLOWABLE AREA OF EXPOSED SOIL MAY BE INCREASED IF A WINTER CONSTRUCTION PLAN, DEVELOPED BY A QUALIFIED ENGINEER OR A CPESC SPECIALIST, IS REVIEWED AND APPROVED BY NHDES.
- ALL PROPOSED VEGETATED AREAS HAVING A SLOPE OF LESS THAN 15% WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE SEEDED AND COVERED WITH 3 TO 4 TONS OF HAY OR STRAW MULCH PER ACRE, SECURED WITH ANCHORED NETTING OR TACKIFIER, OR 2 INCHES OF EROSION CONTROL MIX MEETING THE CRITERIA OF ENV-WQ 1506.05(D) THROUGH (H).
- ALL PROPOSED VEGETATED AREAS HAVING A SLOPE OF GREATER THAN 15% WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE SEEDED AND COVERED WITH PROPERLY INSTALLED AND ANCHORED EROSION CONTROL MATTING OR WITH A MINIMUM 4 INCH THICKNESS OF EROSION CONTROL MIX MEETING THE CRITERIA OF ENV-WQ 1506.05(D) THROUGH (H).
- INSTALLATION OF ANCHORED HAY MULCH OR EROSION CONTROL MIX, MEETING THE CRITERIA OF ENV-WQ 1506.05(D) THROUGH (H), SHALL NOT OCCUR OVER SNOW OF GREATER THAN 1 INCH IN DEPTH.
- INSTALLATION OF EROSION CONTROL MATTING SHALL NOT OCCUR OVER SNOW OF GREATER THAN ONE INCH IN DEPTH OR ON FROZEN GROUND.
- ALL PROPOSED STABILIZATION IN ACCORDANCE WITH NOTES 2 OR 3 ABOVE, SHALL BE COMPLETED WITHIN 1 DAY OF ESTABLISHING THE GRADE THAT IS FINAL OR THAT OTHERWISE WILL EXIST FOR MORE THAN 5 DAYS.
- ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS, AS DETERMINED BY THE OWNER'S ENGINEERING CONSULTANT.
- AFTER OCTOBER 15, INCOMPLETE ROAD OR PARKING AREAS WHERE ACTIVE CONSTRUCTION OF THE ROAD OR PARKING AREA HAS STOPPED FOR THE WINTER SEASON SHALL BE PROTECTED WITH A MINIMUM 3 INCH LAYER OF BASE COURSE GRAVELS MEETING THE GRADATION REQUIREMENTS OF NHDOT STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, 2016, ITEM NO. 304.1 OR 304.2.



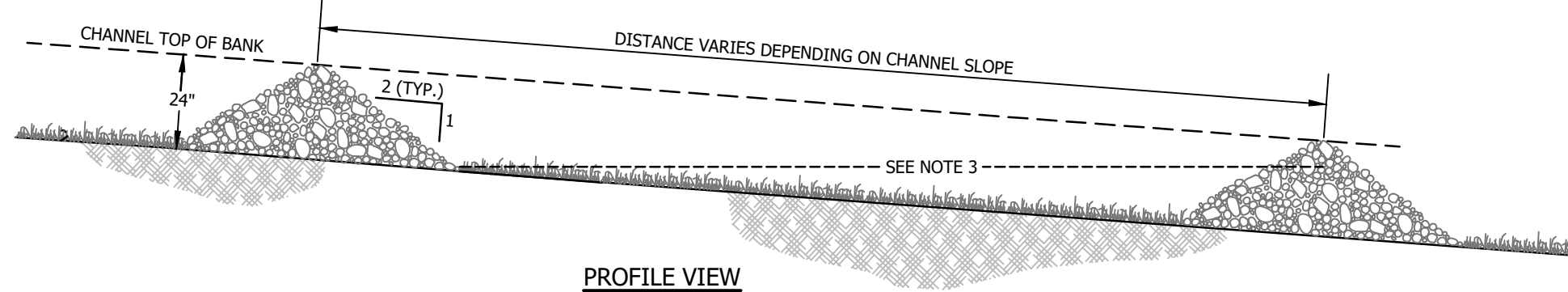
MULCH NETTING DETAIL

SOURCE: USDA SOIL CONSERVATION SERVICE

NO SCALE



SECTION VIEW



PROFILE VIEW

ROCK CHECK DAM DETAIL

NO SCALE

NO SCALE

NOTES

- CONSTRUCT ROCK CHECK DAMS WHERE INDICATED ON THE PLANS OR AS NECESSARY.
- CONSTRUCT SPILLWAY IN CENTER OF ROCK CHECK DAM 6" BELOW TOP OF CHANNEL.
- THE MAXIMUM SPACING BETWEEN THE CHECK DAMS SHOULD BE SUCH THAT THE TOE OF THE UPSTREAM CHECK DAM IS AT THE SAME ELEVATION AS THE SPILLWAY ELEVATION OF THE DOWNSTREAM CHECK DAM, THIS WILL VARY DEPENDING ON THE SLOPE OF THE CHANNEL.
- ROCK CHECK DAMS SHALL CONSIST OF A WELL GRADED MIXTURE OF 2" - 3" STONE.
- REMOVE ROCK CHECK DAMS AND ANY ACCUMULATED SILT IN CHANNEL ONCE PERMANENT CHANNEL LININGS HAVE BEEN ESTABLISHED AND STABILIZED.

CONSTRUCTION SEQUENCE

- PREPARE AN EROSION CONTROL PLAN OR A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS.
- INSTALL CONSTRUCTION ENTRANCE, SEE DETAIL.
- CUT AND CLEAR TREES WITHIN THE CLEARING LIMITS.
- INSTALL SEDIMENT FENCES, ROCK CHECK DAMS, AND OTHER APPROPRIATE EROSION CONTROL MEASURES AT LOCATIONS SHOWN ON THE PLANS AND AS NEEDED.
- GRUB SITE WITHIN GRADING LIMITS.
- STRIP AND STOCKPILE TOPSOIL AND INSTALL EROSION CONTROL MEASURES.
- INSTALL/ADJUST SEDIMENT FENCE, CHECK DAMS, AND HAYBALES, AS REQUIRED.
- CONSTRUCT PERMANENT STORMWATER CONTROLS AS SOON AS PRACTICAL. DO NOT DIRECT STORMWATER TOWARD TREATMENT BASINS, PONDS, SWALES, DITCHES AND LEVEL SPREADERS UNTIL THEY HAVE BEEN STABILIZED.
- PROCEED WITH WORK, LIMITING THE DURATION OF DISTURBANCE. THE MAXIMUM OF UNCOVERED DISTURBED EARTH AT ANY ONE TIME IS FIVE ACRES. THE MAXIMUM LENGTH OF TIME THAT DISTURBED EARTH MAY BE LEFT UNSTABILIZED IS 45 DAYS.
- BEGIN SEEDING AND MULCHING IMMEDIATELY AFTER GRADING. ALL DISTURBED AREAS SHALL BE STABILIZED WITH APPROVED METHODS WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
A) BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
B) A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
C) A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED; OR
D) EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
- INSPECT ALL EROSION CONTROL MEASURES ON A DAILY BASIS AND AFTER EVERY 0.5 INCHES OF PRECIPITATION. MAINTAIN SEDIMENT FENCE, SEDIMENT TRAPS, HAY BALES, ETC., AS NECESSARY.
- PAVE ROADWAYS AND/OR PARKING AREAS.
- PLACE TOPSOIL, SEED AND MULCH.
- COMPLETE ALL REMAINING PERMANENT EROSION CONTROL STRUCTURES.
- MONITOR THE SITE AND MAINTAIN STRUCTURES AS NEEDED UNTIL FULL VEGETATION IS ESTABLISHED.

FOR REVIEW
NOT FOR CONSTRUCTION

horizons
Engineering

NEWPORT VT • LITTLETON NH • NEW LONDON NH
POMFRET VT • KENNEBUNK ME • CONWAY NH

WOODBURY COOPERATIVE, INC

SITE IMPROVEMENTS

PORTSMOUTH, NEW HAMPSHIRE

EROSION PREVENTION & SEDIMENT CONTROL DETAILS

NO.	DATE	REVISION DESCRIPTION	ENG	DWG

	DATE:	PROJECT #:
	MAR. 2021	16074
	ENGINE'D BY:	DRAWN BY:
	RDL	CLB
CHECK'D BY:	ARCHIVE #:	
DMC		
SHEET 9 OF 9		

DATE OF PRINT
MARCH 10 2021
HORIZONS ENGINEERING

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Engineering
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BOSEN & ASSOCIATES, P.L.L.C.
ATTORNEYS AT LAW

November 10, 2020

Mayor Richard Becksted and
City Council Members
City Hall
1 Junkins Avenue
Portsmouth, NH 03801

John K. Bosen
Admitted in NH & MA

Christopher P. Mulligan
Admitted in NH & ME

Molly C. Ferrara
Admitted in NH & ME

Bernard W. Pelech
Admitted in NH & ME

**RE: Unmerger of Lots
138 Leavitt Avenue, Portsmouth, NH
Tax Map 243, Lot 50**

Dear Mayor Becksted and City Councilors:

This office represents ASRT, LLC, owner of the property at 138 Leavitt Avenue. The property consists of 8 Lots which were depicted on the 1902 Prospect Park Annex plan recorded in the Rockingham Registry of Deeds as Plan 00110 as Lots 103, 104 and 105 fronting on Peverly Hill Road, and Lots 112, 113, 114, 115, and 116 which front on Leavitt Avenue.

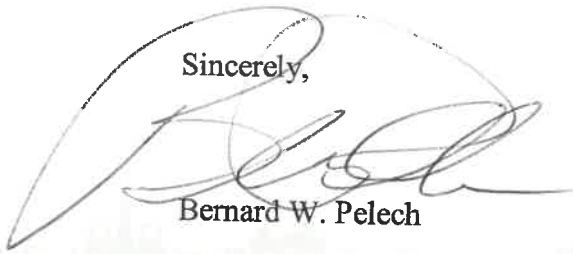
On behalf of ASRT, LLC I would respectfully request that the three lots which front on Peverly Hill Road and are vacant, be unmerged from the 5 Lots which contain a residence and detached garage fronting on Leavitt Avenue, pursuant to NH RSA 674:39 as, as they were involuntarily merged by the City of Portsmouth prior to September 18, 2010.

Enclosed herewith is the current tax card and Map Geo tax map for the Lot. Also enclosed is the recorded Prospect Park Annex Plan from 1902 showing the 8 lots which are presently owned by ASRT, LLC.

My extensive research in the registry of deeds and the City Assessor's office reveals that there has been no voluntary merger of these two lots by ASRT, LLC or any of its predecessors in title.

As such it is requested that the 8 lots presently shown as Lot 50 on Tax Map 243 be unmerged so as to create 2 lots, with 1 lot fronting on Peverly Hill Road and the second lot with the buildings thereon, fronting on Leavitt Avenue, as the requirements for unmerger set forth in NH RSA 674:39 aa are met.

Sincerely,



Bernard W. Pelech

STATEMENT OF AUTHORIZATION

The undersigned, John Samonas, member of ASRT LLC, owner of property at 138 Leavitt Avenue, Portsmouth, NH, does hereby authorize Bernard W. Pelech, as attorney, to prepare and file any and all applications for the Unmerger of Lots, with the City of Portsmouth City Council, and or the City of Portsmouth Planning Board in regards to an application for the unmerger of the lots shown as Lot 50 on Tax Map 243. and I further authorize Bernard W. Pelech to represent my interests before the City Council, and Planning Board with regard to the property located at 138 Leavitt Avenue.

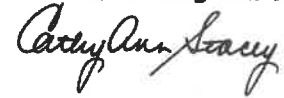
ASRT LLC

Dated: December 1, 2020

By:



John Samonas, Member



LCHIP	ROA523404	25.00
TRANSFER TAX	RO101163	4,838.00
RECORDING		14.00
SURCHARGE		2.00

WARRANTY DEED

KNOW ALL MEN BY THESE PRESENTS, that I, HEATHER A. DOOLITTLE, a married person, TRUSTEE of THE DOUGLAS E. DOOLITTLE TRUST – 2015, w/d/t dated May 15, 2015, of P.O. Box 590, Milton, New Hampshire 03851, for consideration paid, grant to ASRT, LLC, a New Hampshire limited liability company, with an address of 266 Middle Street, Portsmouth, New Hampshire 03801, with WARRANTY COVENANTS, all my right, title and interest in and to the following described premises:

Eight certain lots or parcels of land, together with the buildings thereon, situate in Portsmouth, County of Rockingham and State of New Hampshire, and bounded as follows:

Beginning at the Northwesterly corner of the premises at a point in the Easterly sideline of Peverly Hill Road at the southerly side of McClintock Avenue, and running easterly by the southerly side of McClintock Avenue 160 feet to a corner at the westerly sideline of Leavitt Avenue; thence running southerly by the westerly sideline of Leavitt Avenue 192 feet to the northeasterly corner of Lot No. 117; thence turning and running westerly by the northerly sideline of Lot No. 117, being land now or formerly of Philip B. and Pearl T. Drew 80 feet to a corner at Lot No. 107; thence turning and running northerly by Lots No. 107 and 106 being land now or formerly of Annette Guerette 80 feet to a corner; thence turning and running westerly by said land now or formerly of Annette Guerette, being Lot No. 106, 80 feet to the easterly sideline of Peverly Hill Road; thence turning and running northerly by the easterly sideline of Peverly Hill Road 112 feet to the point of beginning. Comprising Lots No. 103, 104, 105, 112, 113, 114, 115, and 116 as shown on Plans of Lots, Prospect Park Annex, Portsmouth, N.H., recorded in Rockingham County Registry of Deeds, Book 525, Page 481.

It should be noted that parcel No. 116 was acquired by quitclaim deed from the City of Portsmouth, dated October, 1966, and recorded in Rockingham County Registry of Deeds, Book 1842, Page 312. The buildings on the within conveyed premises are not on Lot 116.

Meaning and intending to convey Tract I conveyed to Douglas E. Doolittle, Trustee of The Douglas E. Doolittle Trust – 2015, by Warranty Deed of Douglas E. Doolittle dated May 14, 2015 and recorded in Book 5620, Page 2121 of the Rockingham County Registry of Deeds.

The undersigned, Heather A. Doolittle, Trustee of The Douglas E. Doolittle Trust - 2015, created by Douglas E. Doolittle as grantor under trust agreement dated May 14, 2015, has full and absolute power in said trust agreement to convey any interest in real estate and improvements thereon held in said trust, and no purchaser or third party shall be bound to inquire whether the Trustee has said power or is properly exercising said power or to see to the application of any trust asset paid to the Trustee for a conveyance thereof.

This is not the homestead property of the grantor or the grantor's spouse.

EXECUTED this 26th day of October, 2020.

THE DOUGLAS E. DOOLITTLE TRUST - 2015

[Signature]
Witness

By: Heather A Doolittle
Heather A. Doolittle, Trustee

STATE OF NEW HAMPSHIRE
COUNTY OF ROCKINGHAM, SS

Personally appeared this 26th day of October, 2020, the above-named Heather A. Doolittle, Trustee of The Douglas E. Doolittle Trust - 2015, known to me, or satisfactorily proven, to be the person whose name is subscribed in the foregoing instrument and acknowledged that she executed the same for the purposes contained therein on behalf of said trust. Before me,



[Signature]
Justice of the Peace / Notary Public
My commission expires:

138 Leavitt Avenue



Property Information
Property ID 0243-0050-0000
Location 138 LEAVITT AVE
Owner DOOLITTLE DOUGLAS E TRUST - 2015

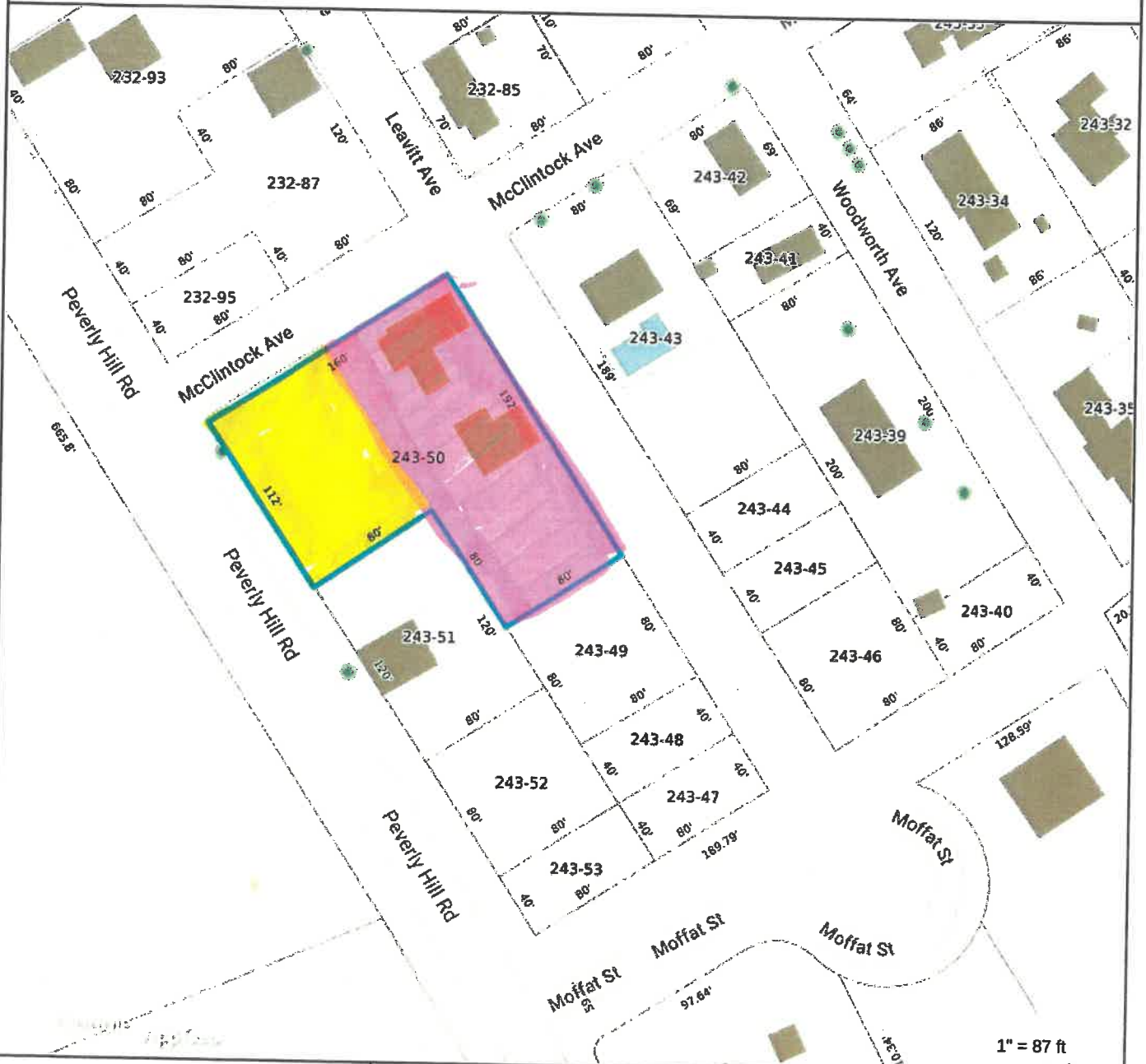


**MAP FOR REFERENCE ONLY
 NOT A LEGAL DOCUMENT**

City of Portsmouth, 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 4/1/2019
 Data updated 7/17/2019

138 Leavitt Avenue



Property Information
Property ID 0243-0050-0000
Location 138 LEAVITT AVE
Owner DOOLITTLE DOUGLAS E TRUST - 2015



**MAP FOR REFERENCE ONLY
 NOT A LEGAL DOCUMENT**

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Geometry updated 4/1/2019
 Data updated 7/17/2019

138 LEAVITT AVE

Location 138 LEAVITT AVE

Mblu 0243/ 0050/ 0000/ /

Acct# 30799

Owner DOOLITTLE DOUGLAS E TRUST - 2015

PBN

Assessment \$390,200

Appraisal \$390,200

PID 30799

Building Count 1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2020	\$196,100	\$194,100	\$390,200
Assessment			
Valuation Year	Improvements	Land	Total
2020	\$196,100	\$194,100	\$390,200

Owner of Record

Owner DOOLITTLE DOUGLAS E TRUST - 2015
Co-Owner DOOLITTLE DOUGLAS E TRUSTEE
Address 138 LEAVITT AVE
 PORTSMOUTH, NH 03801

Sale Price \$0
Certificate
Book & Page 5620/2121
Sale Date 05/26/2015
Instrument 44

Ownership History

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
DOOLITTLE DOUGLAS E TRUST - 2015	\$0		5620/2121	44	05/26/2015
DOOLITTLE DOUGLAS E TRUST - 2015	\$0		5620/2121	44	05/26/2015
DOOLITTLE DOUGLAS E	\$29,200		2268/1610		10/22/1976

Building Information

Building 1 : Section 1

Year Built: 1910

Building Photo

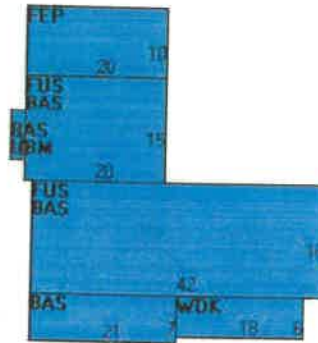
Living Area: 2,105
Replacement Cost: \$262,521
Building Percent Good: 65
Replacement Cost Less Depreciation: \$170,600

Building Attributes	
Field	Description
Model	Residential
Grade:	C-
Stories:	2
Occupancy	1
Exterior Wall 1	Aluminum Sidng
Exterior Wall 2	
Roof Structure:	Gable/Hip
Roof Cover	Asph/F GlS/Cmp
Interior Wall 1	Plastered
Interior Wall 2	
Interior Fir 1	Hardwood
Interior Fir 2	Carpet
Heat Fuel	Oil
Heat Type:	Warm Air
AC Type:	None
Total Bedrooms:	4 Bedrooms
Total Bthrms:	2
Total Half Baths:	0
Total Xtra Fixtrs:	2
Total Rooms:	8
Bath Style:	Avg Quality
Kitchen Style:	Avg Quality
Kitchen Gr	
WB Fireplaces	1
Extra Openings	0
Metal Fireplaces	0
Extra Openings	0
Bsmt Garage	



(http://images.vgsi.com/photos2/PortsmouthNHPhotos///0029/138%20LEA'

Building Layout



(http://images.vgsi.com/photos2/PortsmouthNHPhotos//Sketches/30799_3'

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	1,133	1,133
FUS	Upper Story, Finished	972	972
FEP	Porch, Enclosed	200	0
UBM	Basement, Unfinished	14	0
WDK	Deck, Wood	108	0
		2,427	2,105

Extra Features

Extra Features				Legend
Code	Description	Size	Value	Bldg #
FPL	GAS FIREPLACE	1.00 UNITS	\$1,400	1

Land

Land Use

Land Line Valuation

Use Code 1010
 Description SINGLE FAM MDL-01
 Zone SRB
 Neighborhood 125
 Alt Land Appr No
 Category

Size (Acres) 0.56
 Frontage
 Depth
 Assessed Value \$194,100
 Appraised Value \$194,100

Outbuildings

Outbuildings						Legend
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
SHD1	SHED FRAME			120.00 S.F.	\$700	1
FGR1	GARAGE-AVE	02	DETACHED	1008.00 S.F.	\$23,400	1

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2020	\$196,100	\$194,100	\$390,200
2019	\$194,700	\$194,100	\$388,800
2018	\$176,200	\$187,400	\$363,600

Assessment			
Valuation Year	Improvements	Land	Total
2020	\$196,100	\$194,100	\$390,200
2019	\$194,700	\$194,100	\$388,800
2018	\$176,200	\$187,400	\$363,600

1314 364

Know all Men by these Presents:

THAT I, Charles Barnaby of Portsmouth, County of Rockingham, and The State of New Hampshire for consideration paid, grant to William C. Hopkins and Mary C. Hopkins both of Portsmouth, County of Rockingham, and The State of New Hampshire with warranty covenants to the said William C. Hopkins and Mary C. Hopkins

as joint tenants with rights of survivorship, ~~XXX~~ One certain lot, piece or parcel of land lying situate and being in The State of New Hampshire, County of Rockingham and City of Portsmouth, and more particularly described as Lot No. One Hundred Fifteen (115) in the Prospect Park Annex, Tract the same in size and location to be in accordance with a Map or Plan of said Tract now on file with the Registry of Deeds at Exeter, in and for said County of Rockingham to which reference is hereby made for a more particular description.

Being the same premises conveyed to Nicholas Rhodes by Lorenzo S. Leavitt & als by their deed dated October 13th. 1906.

And being the same premises which I acquired by Warranty Deed of Nicholas Rhodes, dated September 22, 1942, to be recorded in Rockingham County Registry of Deeds herewith.



And I, Eleanor M. Barnaby (wife of said grantor, release to said grantee all rights of dower and homestead and other interests therein.)

Witness OUR hands and seals this 1st day of May 1954.

WITNESS:

Charles H. Lupton
Notary Public

Charles Barnaby
Eleanor M. Barnaby

STATE OF NEW HAMPSHIRE COUNTY OF Rockingham, ss

On this the 1st day of May, 1954, before me, Oscar Neukom the undersigned officer, personally appeared Charles Barnaby and Eleanor M. Barnaby known to me (or satisfactorily proven) to be the persons whose names are subscribed to the within instrument and acknowledged that they executed the same for the purpose therein contained.

In witness whereof I hereunto set my hand and official seal

Charles H. Lupton
Notary Public
State of New Hampshire

My Commission Expires: December 15, 1958.
Received and recorded May 4, 10:25 A.M., 1954

US New Stamps \$ 55 Del. O. Neukom

Dec 2 11 07 AM '65 17737

1845 312

KNOW ALL MEN BY THESE PRESENTS, that The CITY OF PORTSMOUTH, of 126 Daniel Street, Portsmouth, Rockingham County, State of New Hampshire, a municipal corporation organized under the laws of New Hampshire, for consideration paid grant to William C. and Mary C. Hopkins, 138 Leavitt Avenue, Portsmouth, Rockingham County, State of New Hampshire, with quitclaim covenants,

A parcel of land in the City of Portsmouth, New Hampshire beginning at a point, said point being 160 feet from the northerly intersection of Leavitt Avenue and Moffatt Avenue; thence running northerly along said Leavitt Avenue, a distance of 40 feet, more or less, to a point; thence turning and running westerly a distance of 80 feet, more or less, along land belonging to William C. and Mary C. Hopkins, to a point; thence turning and running southerly along land belonging to Annette Guérette a distance of 40 feet to a point; thence turning and running easterly along land of Philip B. and Pearl T. Drew, a distance of 80 feet to the point of beginning. Meaning and intending to convey the parcel shown as lot #116 on Assessor's Plan #66, and containing 3,200 square feet, more or less.

IN WITNESS WHEREOF, THE CITY OF PORTSMOUTH, by its officer thereunto duly authorized has caused these presents to be signed in its name and its corporate seal to be hereunto affixed

Witness:

CITY OF PORTSMOUTH

Led. J. Souther
Secretary
STATE OF NEW HAMPSHIRE
ROCKINGHAM, SS.

By: *Robert C. Violette*
City Manager
CITY OF PORTSMOUTH
1966.

Then personally appeared the above named Robert C. Violette in his capacity aforesaid and acknowledged the foregoing deed to be the voluntary act and deed of said CITY OF PORTSMOUTH, and he did affix the corporate seal of said City hereto, before me.

James P. Healy
Justice of the Peace
JAMES P. HEALY
JUSTICE OF THE PEACE
ROCKINGHAM COUNTY
STATE OF NEW HAMPSHIRE

2236-0244

KNOW ALL MEN BY THESE PRESENTS

THAT I, WILLIAM C. HOPKINS

of Portsmouth

Rockingham

County, State of

New Hampshire, for consideration paid, grant to Pauline Marsh

of Portsmouth

Rockingham County, State of

New Hampshire

, with WARRANTY COVENANTS,

(Description and incumbrances, if any)

Eight certain lots or parcels of land, together with the buildings thereon, situate in said Portsmouth and bounded as follows:

Beginning at the Northwesterly corner of the premises at a point in the Easterly sideline of Peverly Hill Road at the southerly side of McClintock Avenue, and running easterly by the southerly side of McClintock Avenue 160 feet to a corner at the westerly sideline of Leavitt Avenue; thence running southerly by the westerly sideline of Leavitt Avenue 192 feet to the northeasterly corner of Lot No. 117; thence turning and running westerly by the northerly sideline of Lot No. 117, being land now or formerly of Philip B. and Pearl T. Drew 80 feet to a corner at Lot No. 107; thence turning and running northerly by Lots No. 107 and 106 being land now or formerly of Annette Guerette 80 feet to a corner; thence turning and running westerly by said land now or formerly of Annette Guerette, being Lot No. 106, 80 feet to the easterly sideline of Peverly Hill Road; thence turning and running northerly by the easterly sideline of Peverly Hill Road 112 feet to the point of beginning. Comprising Lots No. 103, 104, 105, 112, 113, 114, 115 and 116 as shown on Plan of Lots, Prospect Park Annex, Portsmouth, N. H. recorded in Rockingham County Registry of Deeds Book 525 Page 481.

Parcels 103, 104, 105, 112, 113, and 114 were described in deed of Lawrence Hayes to William C. Hopkins and Mary C. Hopkins dated August 23, 1945, recorded in Rockingham County Registry of Deeds Book 1035 Page 223.

Parcel 115 was acquired by deed of Charles Barnaby dated May 1, 1954, recorded in Rockingham County Registry of Deeds Book 1314 Page 364.

Parcel 116 was acquired by deed of the City of Portsmouth dated 1966 recorded in Rockingham County Registry of Deeds Book 1845 Page 312.

Mary C. Hopkins deceased at Boston, Massachusetts, October 7, 1973, survived by William C. Hopkins.

And I, Electa Hopkins, wife of the said Grantor,

~~deceased~~ ^{the} ~~deceased~~ ^{the said Grantor,}

release to said Grantor all rights of ^{dower} ~~curtesy~~ and homestead and other interest therein.

Witness our hands and seals this 24th day of April, 1975

Witness:

Josephine A. Catalano
to both

William C. Hopkins
Electa A. Hopkins

State of New Hampshire

Rockingham

April 24, 1975

Then personally appeared the above named William C. Hopkins and Electa Hopkins, his wife, and acknowledged the foregoing instrument to be their

voluntary act and deed before me

Notary Public in the State of New Hampshire
Josephine A. Catalano

STATE OF NEW HAMPSHIRE
TAX ON TRANSFER OF REAL PROPERTY
COMMISSION
APR 24 1975
\$ 38.00

APR 29 11 37 AM '75
REC'D ROCKINGHAM COUNTY
REGISTRY OF DEEDS



CITY OF PORTSMOUTH

Assessors Office

Municipal Complex
1 Junkins Avenue
Portsmouth, New Hampshire 03801
Tel: (603) 610-7249 – Fax: (603) 427-1579

To: Dexter Legg, Chair Planning Board
Cc: Karen S. Conard, City Manager
From: Rosann Lentz, City Assessor *Rosann Lentz*
Date: December 29, 2020
RE: City Council Referral- Request of Restoration of Involuntarily Merged Lots to pre-merger status at 138 Leavitt Ave

At its meeting on December 14, 2020, the City Council considered a request from Bernard Pelech of Bosen & Associates, PLLC on behalf of the property owners of 138 Leavitt Avenue, requesting the restoration of involuntarily merged lots at 138 Leavitt Avenue to their pre-merger status pursuant to NH RSA 674:39-aa. The Council voted to refer to the Planning Board and Assessor for report back.

Description

The subject parcel is depicted on the attached tax maps from the years 1961, 1979, and most recently 2019 identified as Map 243 Lot 50. The parcel consists of .56 +- acres with a 4 bedroom 2 bath single family dwelling located on the parcel. Older assessment records identified the parcel as 8 separate lots until 1977.

Assessor's Findings

Deeds: According to the deeds researched between 1923 to 1945 (See Attachment #1), 138 Leavitt Avenue was described as having 6 individual lots numbered 103, 104, 105, 112, 113 and 114 on a plan recorded in book 525, page 481. Two additional lots, 115 and 116 were purchased by William C. & Mary C. Hopkins in 1954 and 1956 separately.

Recorded deeds in the chain of title between 1945 (See Attachment #1) and 1975 & 1976 (See Attachments #2 & #3) changed the property description. These deeds describe and combine the 8 lots into one lot per meets and bounds and identify which lots make up the merger.

Property Assessment Records:

Between 1951 and 1971 property assessment records show each lot was separately assessed.

Between 1972 to 1976 lots 112, 113 and 114 were merged by the assessor as one parcel as this is where the dwelling is situated and could not be sold separately. Lots 103, 104, 105, 115 and 116 were assessed separately and not merged.

In 1977 the assessor combined all the remaining lots which coincided with the deed change in 1976. A note on the assessment record confirms this action (See Attachment #4 & #5),

Summary

It is the finding of this office that the former 8 lots which are currently identified as Map 243 Lot 50 also known as 138 Leavitt Avenue were voluntarily merged by an owner in the chain of title prior to the adoption of RSA 674:39-a and do not meet the requirements of lot restoration by the governing body per RSA 674:39-aa.

Additionally, no written request for merger was in any file but the change to the deed coinciding with the merger by the assessor in 1977 along with conversations with Mr. Doolittle in the past, show the 8 lots were voluntarily merged.

Cc: file

Attachments: 9

2236-0244

KNOW ALL MEN BY THESE PRESENTS

THAT I, WILLIAM C. HOPKINS

of Portsmouth Rockingham County, State of New Hampshire, for consideration paid, grant to Pauline Marsh

of Portsmouth Rockingham County, State of New Hampshire, with WARRANTY COVENANTS,

(Description and boundaries, if any)

Eight certain lots or parcels of land, together with the buildings thereon, situate in said Portsmouth and bounded as follows:

Beginning at the Northwesterly corner of the premises at a point in the Easterly sideline of Peverly Hill Road at the southerly side of McClintock Avenue, and running easterly by the southerly side of McClintock Avenue 160 feet to a corner at the westerly sideline of Leavitt Avenue; thence running southerly by the westerly sideline of Leavitt Avenue 192 feet to the northeasterly corner of Lot No. 117; thence turning and running westerly by the northerly sideline of Lot No. 117, being land now or formerly of Philip B. and Pearl T. Drew 80 feet to a corner at Lot No. 107; thence turning and running northerly by Lots No. 107 and 106 being land now or formerly of Annette Guerette 80 feet to a corner; thence turning and running westerly by said land now or formerly of Annette Guerette, being Lot No. 106, 80 feet to the easterly sideline of Peverly Hill Road; thence turning and running northerly by the easterly sideline of Peverly Hill Road 112 feet to the point of beginning. Comprising Lots No. 103, 104, 105, 112, 113, 114, 115 and 116 as shown on Plan of Lots, Prospect Park Annex, Portsmouth, N. H. recorded in Rockingham County Registry of Deeds Book 525 Page 481.

Parcels 103, 104, 105, 112, 113, and 114 were described in deed of Lawrence Hayes to William C. Hopkins and Mary C. Hopkins dated August 23, 1945, recorded in Rockingham County Registry of Deeds Book 1035 Page 223.

Parcel 115 was acquired by deed of Charles Barnaby dated May 1, 1954, recorded in Rockingham County Registry of Deeds Book 1314 Page 364.

Parcel 116 was acquired by deed of the City of Portsmouth dated 1966 recorded in Rockingham County Registry of Deeds Book 1845 Page 312.

Mary C. Hopkins deceased at Boston, Massachusetts, October 7, 1973, survived by William C. Hopkins.

And I, Electa Hopkins, wife of the said Grantor,

release to said Grantor all rights of dower and homestead and other interest therein.

Witness our hands and seals this 24th day of April, 1975

Witness:

Josephine A. Catalano to both

William C. Hopkins Electa A. Hopkins

State of New Hampshire

Rockingham

April 24, 1975

Then personally appeared the above named William C. Hopkins and Electa Hopkins, his wife, and acknowledged the foregoing instrument to be their



Attachment #2

DOOLITTLE DOUGLAS E & LOUISA
138 LEAVITT AVENUE
PORTSMOUTH NH 03801

PROPERTY LOCATION	SIDE	LOCATION CODE	PLAN LOT
138 LEAVITT AVE	W	/ / / /	066 112 2
CITY OF PORTSMOUTH N.H. JOHN B. PETTY CAE, ASSESSOR	TYPE	PROJECT	CONTROL NO
	RESD	31001	1771406101120
			CARD
			1 OF 1

REMARKS-1
WALLS ARE WALLBOARD
ALSO INCLUDES LOT 113&
LOT 114
Lots 103,104,105,115,116
added to 112-10/22/76
YEAR-1979
PERMIT NO. 3066
INVENTORY FILED
YES () NO ()
RENOVATIONS-REPAIRS
AMOUNT OF PERMIT 200
VALUE CHANGE
YES () NO ()

RECORD OF TRANSFER	DATE	BOOK	PAGE	AMOUNT	MORTGAGE
1 HAYES/LAWRENCE	82345	N/A	N/A		
2 Hopkins William C & Mary C	4/24/75	2236	0244	24,000	
3 Marsh Pauline	10/22/76	2268	1610	29,200	
4					
5					
6					
7					

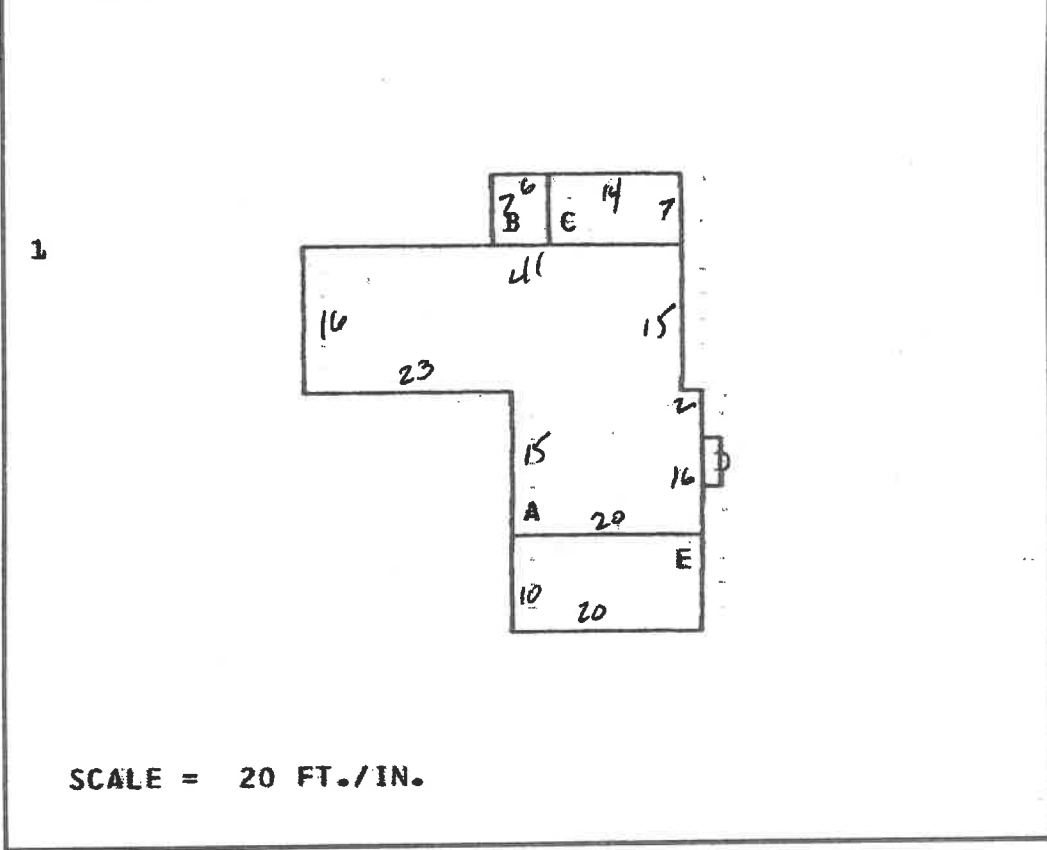
LAND FACTORS	LAND IMPROVEMENTS	SUMMARY
TOPOGRAPHY-1 LEVEL IMPROVEMTS-1 C WATER -2 SEWER -3 ELEC STREET/RD-1 IMPROVE	LOCATION DRAINAGE ZONING NEIGHBORHOOD SOIL-1 -2 FAIR GOOD 02 STATIC SANDY LOAM	19 72 LAND BLDGS TOTAL 3200 13600 16800
	VALUE	EQ
		ASSESSMENT
		19 77 LAND BLDGS TOTAL 5200 13600 18800

ACREAGE COMPUTATION							
TYPE	ACRES	PRICE	TOTAL	DEPR	VALUE	EQ	ASSESSMENT
1 H-LOT 46 A	.210	7000	3220		3220	100	3200
2 74	.55		5180		5180		5200
3							
4							
5							
6	.55						5200
ACREAGE TOTAL			3220		3220	100	3200

LOT COMPUTATION												
FRONT	REAR	FRONTAGE	DEPTH	STREET PRICE	DEPTH %	ADJ FR PR	TOTAL	DEPRECIATION	CORNER	VALUE	EQ	ASSESSMENT
1												
2												
3												
4												
LOT TOTAL												
LAND TOTAL										3220	100	3200

© UNITED APPRAISAL CO.

CONTROL NO.	STRUCTURE VALUE
177 1406101120	19700
OUT BUILDINGS	
ITEM 1 2 3 4 5 6	
PIER FOUND	X
WALL FOUND	
SKIDS	
SGLE SDG	
DBL SDG	
SHING WALLS	X
CONC BLOCK	
BRICK	
STONE	
FLOOR	W
INT FINISH	
PLUMB	
ELEC	
SIZE	
1- 22X 20 11X 32	
AREA	
1- 792 SF	
	SUB TOTAL 24202 FACTOR 5 1210
OCCUPANCY	CONSTRUCTION
DWLG 1 FAM 1-DT GAR33	2.0S FR 1.0S FR 3
	CLASS 2 3.00
	AGE OLD OLD
	REMOD NO
	COND F F
	REPLACEMENT VALUE 25412 2376
	PHYS DEPR 50 50
	PHYSICAL VALUE 12706 1188
	FUNC DEPR 25
	ACTUAL VALUE 12706 891
	EQ 100 100
	ASSESSMENT 12700 900
	SALE PRICE 2700
	DATE MO/YR 0045
	LISTED DATE 09/02/71
	LISTER 1502
	SIGNATURE X SIGNED
	REVIEW 0028
BUILDING TOTAL	
	13597 100 13600



SEG	TYPE	STOR	CONS	CLASS	DIMENSIONS
A	31	1.0	FRAM	2	7-6-7-6
B	01	1.0	FRAM	2	7-14-7-14
C	01	1.0	FRAM	2	2-7-2-7
D	01	1.0	FRAM	2	10-20-10-20
E	31	1.0	FRAM	2	

© UNITED APPRAISAL CO.

PROPERTY OWNER: MARSH PAULINE
 138 LEAVITT AVENUE
 PORTSMOUTH NH 03801

PROPERTY LOCATION: PEVERLY HILL ROAD
 CITY OF PORTSMOUTH N.H.
 JOHN B. PETTY CAE, ASSESSOR

RECORD OF TRANSFER
 1 HAYES/LAWRENCE
 2 Hopkins William C & Mary C
 3 Marsh Pauline

DATE: 82345
 4/24/75
 10/22/76

TYPE: RESD
 PROJECT: 31001
 BOOK: N/A
 PAGE: N/A

CONTROL NO: 1904066010300
 AMOUNT: 1 OF 1
 MORTGAGE

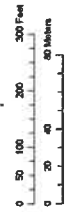
PLAN LOT 066 303

LAND FACTORS	LAND IMPROVEMENTS	SUMMARY
ZONING 02 TOPOGRAPHY-1 LEVEL STREET/RD-1 IMPROVE		19 LAND 1000 BLDGS TOTAL 1000
ACRES PRICE TOTAL DEPR VALUE EQ ASSESSMENT H-LOT 32 A .070 8000 2560 50 25 960 100 1000		19 LAND BLDGS TOTAL
ACREAGE TOTAL .070 960 100 1000		19 LAND BLDGS TOTAL
LOT COMPUTATION STREET PRICE DEPTH % ADJ PR TOTAL DEPRECIATION CORNER VALUE EQ ASSESSMENT		19 LAND BLDGS TOTAL
FRONT REAR FRONTAGE DEPTH 1 2 3 4		19 LAND BLDGS TOTAL
AND DEPRECIATION CODES 1-EXCESS FRONTAGE 2-VACANCY	LOT TOTAL LAND TOTAL	19 LAND BLDGS TOTAL ATTACHMENT 5

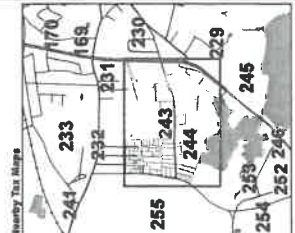
Partial Legend

- See the cover sheet for the complete legend.
- 244 Lot or lot-unit number
- 245 or 246 or 247 or 248 or 249 or 250 or 251 or 252 or 253 or 254 or 255 or 256 or 257 or 258 or 259 or 260 or 261 or 262 or 263 or 264 or 265 or 266 or 267 or 268 or 269 or 270 or 271 or 272 or 273 or 274 or 275 or 276 or 277 or 278 or 279 or 280 or 281 or 282 or 283 or 284 or 285 or 286 or 287 or 288 or 289 or 290 or 291 or 292 or 293 or 294 or 295 or 296 or 297 or 298 or 299 or 300 or 301 or 302 or 303 or 304 or 305 or 306 or 307 or 308 or 309 or 310 or 311 or 312 or 313 or 314 or 315 or 316 or 317 or 318 or 319 or 320 or 321 or 322 or 323 or 324 or 325 or 326 or 327 or 328 or 329 or 330 or 331 or 332 or 333 or 334 or 335 or 336 or 337 or 338 or 339 or 340 or 341 or 342 or 343 or 344 or 345 or 346 or 347 or 348 or 349 or 350 or 351 or 352 or 353 or 354 or 355 or 356 or 357 or 358 or 359 or 360 or 361 or 362 or 363 or 364 or 365 or 366 or 367 or 368 or 369 or 370 or 371 or 372 or 373 or 374 or 375 or 376 or 377 or 378 or 379 or 380 or 381 or 382 or 383 or 384 or 385 or 386 or 387 or 388 or 389 or 390 or 391 or 392 or 393 or 394 or 395 or 396 or 397 or 398 or 399 or 400 or 401 or 402 or 403 or 404 or 405 or 406 or 407 or 408 or 409 or 410 or 411 or 412 or 413 or 414 or 415 or 416 or 417 or 418 or 419 or 420 or 421 or 422 or 423 or 424 or 425 or 426 or 427 or 428 or 429 or 430 or 431 or 432 or 433 or 434 or 435 or 436 or 437 or 438 or 439 or 440 or 441 or 442 or 443 or 444 or 445 or 446 or 447 or 448 or 449 or 450 or 451 or 452 or 453 or 454 or 455 or 456 or 457 or 458 or 459 or 460 or 461 or 462 or 463 or 464 or 465 or 466 or 467 or 468 or 469 or 470 or 471 or 472 or 473 or 474 or 475 or 476 or 477 or 478 or 479 or 480 or 481 or 482 or 483 or 484 or 485 or 486 or 487 or 488 or 489 or 490 or 491 or 492 or 493 or 494 or 495 or 496 or 497 or 498 or 499 or 500 or 501 or 502 or 503 or 504 or 505 or 506 or 507 or 508 or 509 or 510 or 511 or 512 or 513 or 514 or 515 or 516 or 517 or 518 or 519 or 520 or 521 or 522 or 523 or 524 or 525 or 526 or 527 or 528 or 529 or 530 or 531 or 532 or 533 or 534 or 535 or 536 or 537 or 538 or 539 or 540 or 541 or 542 or 543 or 544 or 545 or 546 or 547 or 548 or 549 or 550 or 551 or 552 or 553 or 554 or 555 or 556 or 557 or 558 or 559 or 560 or 561 or 562 or 563 or 564 or 565 or 566 or 567 or 568 or 569 or 570 or 571 or 572 or 573 or 574 or 575 or 576 or 577 or 578 or 579 or 580 or 581 or 582 or 583 or 584 or 585 or 586 or 587 or 588 or 589 or 590 or 591 or 592 or 593 or 594 or 595 or 596 or 597 or 598 or 599 or 600 or 601 or 602 or 603 or 604 or 605 or 606 or 607 or 608 or 609 or 610 or 611 or 612 or 613 or 614 or 615 or 616 or 617 or 618 or 619 or 620 or 621 or 622 or 623 or 624 or 625 or 626 or 627 or 628 or 629 or 630 or 631 or 632 or 633 or 634 or 635 or 636 or 637 or 638 or 639 or 640 or 641 or 642 or 643 or 644 or 645 or 646 or 647 or 648 or 649 or 650 or 651 or 652 or 653 or 654 or 655 or 656 or 657 or 658 or 659 or 660 or 661 or 662 or 663 or 664 or 665 or 666 or 667 or 668 or 669 or 670 or 671 or 672 or 673 or 674 or 675 or 676 or 677 or 678 or 679 or 680 or 681 or 682 or 683 or 684 or 685 or 686 or 687 or 688 or 689 or 690 or 691 or 692 or 693 or 694 or 695 or 696 or 697 or 698 or 699 or 700 or 701 or 702 or 703 or 704 or 705 or 706 or 707 or 708 or 709 or 710 or 711 or 712 or 713 or 714 or 715 or 716 or 717 or 718 or 719 or 720 or 721 or 722 or 723 or 724 or 725 or 726 or 727 or 728 or 729 or 730 or 731 or 732 or 733 or 734 or 735 or 736 or 737 or 738 or 739 or 740 or 741 or 742 or 743 or 744 or 745 or 746 or 747 or 748 or 749 or 750 or 751 or 752 or 753 or 754 or 755 or 756 or 757 or 758 or 759 or 760 or 761 or 762 or 763 or 764 or 765 or 766 or 767 or 768 or 769 or 770 or 771 or 772 or 773 or 774 or 775 or 776 or 777 or 778 or 779 or 780 or 781 or 782 or 783 or 784 or 785 or 786 or 787 or 788 or 789 or 790 or 791 or 792 or 793 or 794 or 795 or 796 or 797 or 798 or 799 or 800 or 801 or 802 or 803 or 804 or 805 or 806 or 807 or 808 or 809 or 810 or 811 or 812 or 813 or 814 or 815 or 816 or 817 or 818 or 819 or 820 or 821 or 822 or 823 or 824 or 825 or 826 or 827 or 828 or 829 or 830 or 831 or 832 or 833 or 834 or 835 or 836 or 837 or 838 or 839 or 840 or 841 or 842 or 843 or 844 or 845 or 846 or 847 or 848 or 849 or 850 or 851 or 852 or 853 or 854 or 855 or 856 or 857 or 858 or 859 or 860 or 861 or 862 or 863 or 864 or 865 or 866 or 867 or 868 or 869 or 870 or 871 or 872 or 873 or 874 or 875 or 876 or 877 or 878 or 879 or 880 or 881 or 882 or 883 or 884 or 885 or 886 or 887 or 888 or 889 or 890 or 891 or 892 or 893 or 894 or 895 or 896 or 897 or 898 or 899 or 900 or 901 or 902 or 903 or 904 or 905 or 906 or 907 or 908 or 909 or 910 or 911 or 912 or 913 or 914 or 915 or 916 or 917 or 918 or 919 or 920 or 921 or 922 or 923 or 924 or 925 or 926 or 927 or 928 or 929 or 930 or 931 or 932 or 933 or 934 or 935 or 936 or 937 or 938 or 939 or 940 or 941 or 942 or 943 or 944 or 945 or 946 or 947 or 948 or 949 or 950 or 951 or 952 or 953 or 954 or 955 or 956 or 957 or 958 or 959 or 960 or 961 or 962 or 963 or 964 or 965 or 966 or 967 or 968 or 969 or 970 or 971 or 972 or 973 or 974 or 975 or 976 or 977 or 978 or 979 or 980 or 981 or 982 or 983 or 984 or 985 or 986 or 987 or 988 or 989 or 990 or 991 or 992 or 993 or 994 or 995 or 996 or 997 or 998 or 999 or 1000

- SHMS AVE Street name
- Proposed boundary
- Proposed boundary
- Water boundary
- Structure (1994 data)
- Proposed structure on this map
- Proposed structure on this map (see other map for current status)

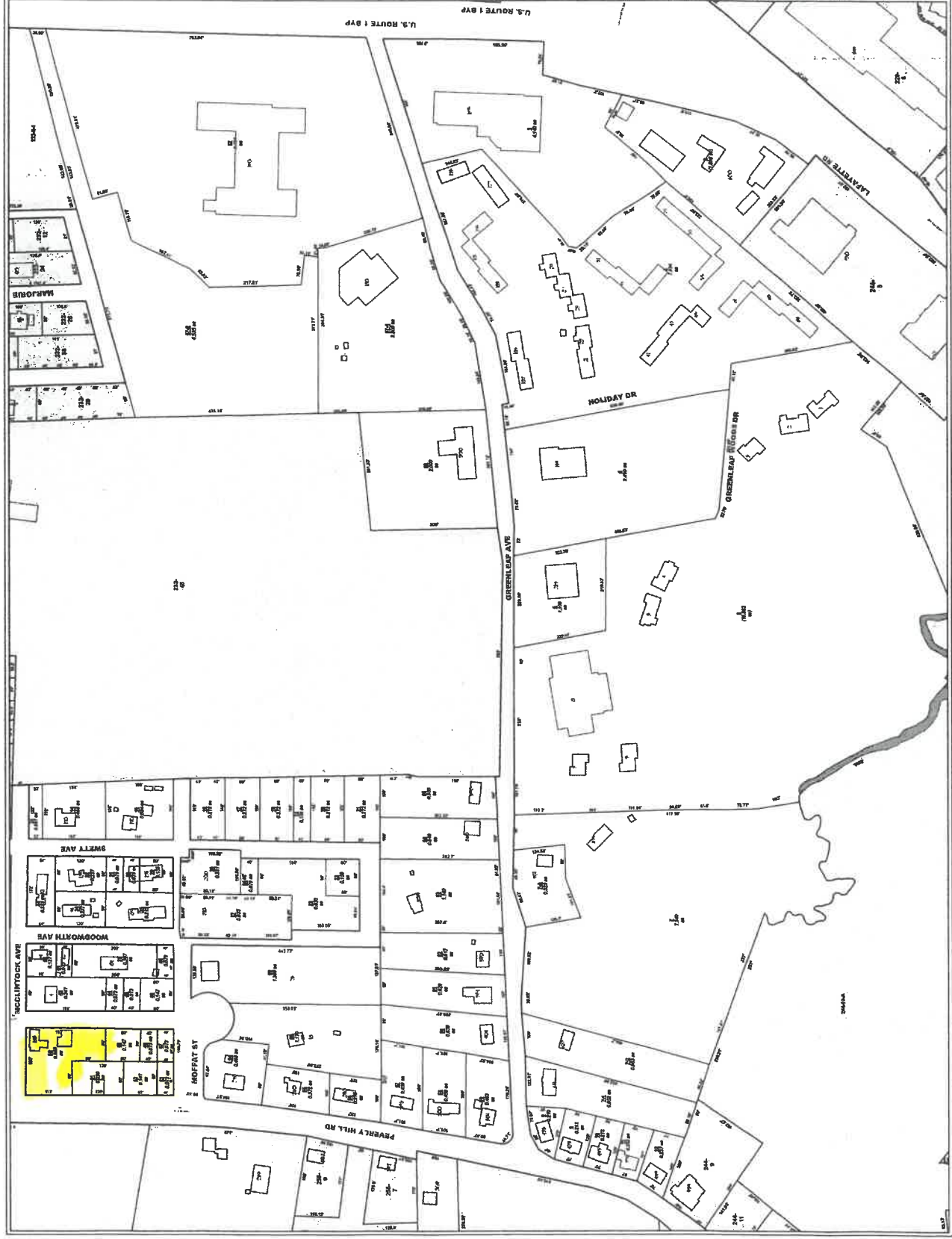


This map is for assessment purposes only. It is not intended for legal description or conveyance. Parcels are mapped as of April 1, 2019. Boundaries shown on this map are not necessarily current boundaries. Structures appearing on this map may be paper structures. Structures shown on this map may not be current structures. Let numbers like precedences over address numbers. Address numbers shown on this map may not represent current or legal addresses.



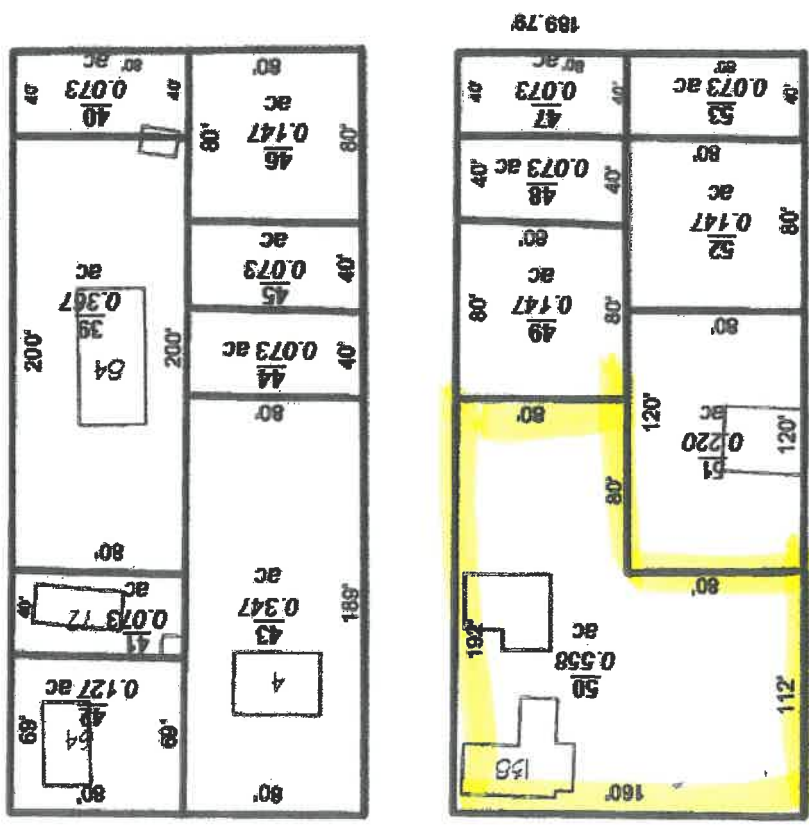
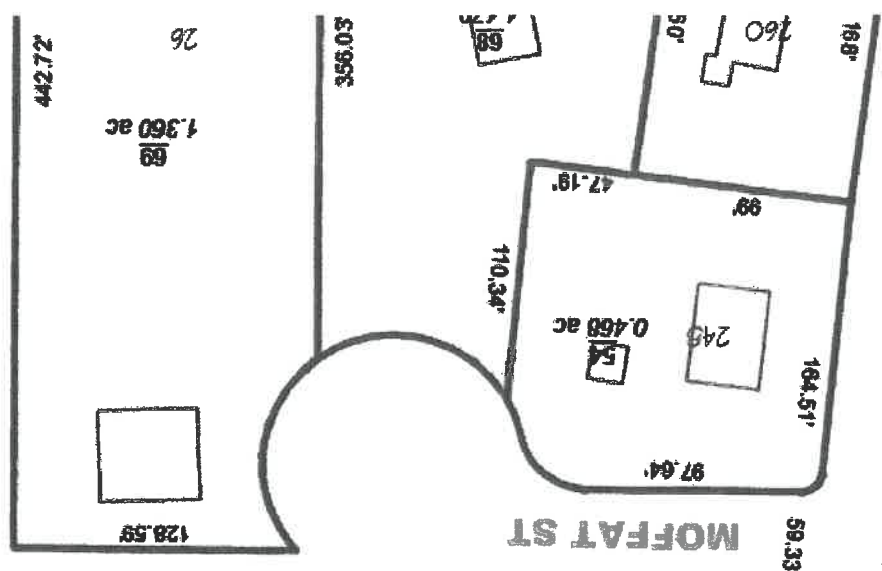
Portsmouth, New Hampshire
2019

Tax Map 243



2019

Tax Map
2019



MCCLEINTOCK AVE

APPLICATION OF ASRT, LLC
TO UNMERGER LOTS

Applicant's Response to City Assessor's Memo
to Planning Board

The City Assessor has found that, in her opinion, the eight lots composing 138 Leavitt Avenue were voluntarily merged by a previous owner in 1977.

With all due respect to the City Assessor, the applicant strongly disagrees and states that the City has failed its burden to demonstrate and prove that a voluntary merger of lots occurred.

The evidence cited by the Assessor of a voluntary merger is that the deed description in the 1975 and 1976 deeds (attachments 2 and 3) changed the property description and combined the eight lots into one per the metes and bounds description.

This is simply incorrect. Both deeds, attachments 2 and 3, describe the property as "eight certain lots or parcels of land" followed by a metes and bounds perimeter description of the eight lots.

The NH Supreme Court, in the case of Roberto v. Town of Windham, 165 N.H. 186 (2013) stated that:

"We agree that Horne's conveyance of Lots 9 through 11 as one Tract in a single deed does not, standing alone, support a finding of voluntary merger. The deed specifically provided that Horne was meaning and intending to convey Lots #9, #10 and #11."

The two deeds cited by the City Assessor both listed eight lots by number and made reference to the recorded Prospect Park Annex Plan.

The City Assessor states that the assessment records show:

1. Each lot was separately assessed from 1951 – 1971.
2. Between 1972 and 1976, lots 112, 113 and 114 were merged "by the assessor as one parcel". The remaining five lots were assessed separately and not merged.
3. "In 1977, the assessor combined all the remaining lots which coincided with the deed change in 1976."

There is no evidence whatsoever that the applicant's predecessor in title voluntarily merged the lots in 1976 or 1977, contained in the assessor's records.

There is reference to conversation with Mr. Doolittle but no record of those conversations is found in the assessment records. Those conversations, if any, would have occurred over 45 years ago and appear to be undocumented.

It should be noted that in 2015, Mr. Doolittle conveyed the property again as "eight certain lots". (See attached deed, Book 5620, Page 2121.)

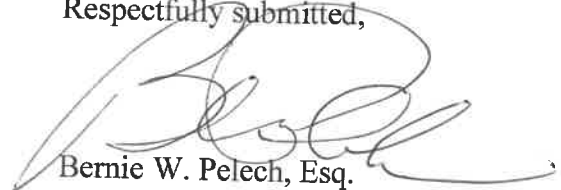
In conclusion, the City has failed to sustain its burden of proving that there was a voluntary merger of the lots by a previous owner.

The fact that a perimeter metes and bounds description of the eight lots is contained in the deeds referenced by the assessor is not in and of itself conclusive of a voluntary merger (see attached cases).

The lots which applicant seeks to unmerge are vacant, have no structures upon them, have frontage on both McClintock and Peverly Hill Road, have no frontage on Leavitt, and are in no way dependent on the Leavitt Avenue lots, nor are the Leavitt Avenue lots in any way dependent upon the lots that applicant seeks to unmerge.

Therefore, the Planning Board should recommend the unmerger to the City Council.

Respectfully submitted,



Bernie W. Pelech, Esq.
Attorney for ASRT, LLC



QUITCLAIM DEED

KNOW ALL MEN BY THESE PRESENTS, that I, DOUGLAS E. DOOLITTLE, a widower, for consideration paid, grant to DOUGLAS E. DOOLITTLE, TRUSTEE OF THE DOUGLAS E. DOOLITTLE TRUST - 2015, with an address of 138 Leavitt Avenue, City of Portsmouth, County of Rockingham and State of New Hampshire, with QUITCLAIM COVENANTS, all my right, title and interest in and to the following described premises:

Two certain tracts or parcels of land, with the buildings thereon, situate in the City of Portsmouth, County of Rockingham, State of New Hampshire, being further described as follows:

Tract I:

Eight certain lots or parcels of land, together with the buildings thereon, situate in Portsmouth, County of Rockingham and State of New Hampshire, and bounded as follows:

Beginning at the Northwesterly corner of the premises at a point in the Easterly sideline of Peverly Hill Road at the southerly side of McClintock Avenue, and running easterly by the southerly side of McClintock Avenue 160 feet to a corner at the westerly sideline of Leavitt Avenue; thence running southerly by the westerly sideline of Leavitt Avenue 192 feet to the northeasterly corner of Lot No. 117; thence turning and running westerly by the northerly sideline of Lot No. 117, being land now or formerly of Philip B. and Pearl T. Drew 80 feet to a corner at Lot No. 107; thence turning and running northerly by Lots No. 107 and 106 being land now or formerly of Annette Guerette 80 feet to a corner; thence turning and running westerly by said land now or formerly of Annette Guerette, being Lot No. 106, 80 feet to the easterly sideline of Peverly Hill Road; thence turning and running northerly by the easterly sideline of Peverly Hill Road 112 feet to the point of beginning. Comprising Lots No. 103, 104, 105, 112, 113, 114, 115, and 116 as shown on Plans of Lots, Prospect Park Annex, Portsmouth, N.H., recorded in Rockingham County Registry of Deeds, Book 525, Page 481.

It should be noted that parcel No. 116 was acquired by quitclaim deed from the City of Portsmouth, dated October, 1966, and recorded in Rockingham County Registry

2015 MAY 26 PM 2: 18 020796

ROCKINGHAM COUNTY
REGISTRY OF DEEDS

of Deeds, Book 1842, Page 312. The buildings on the within conveyed premises are not on Lot 116.

Meaning and intending to convey the same premises conveyed to Douglas E. Doolittle and Louisa Doolittle by Warranty Deed of Pauline P. Marsh dated October 22, 1976 and recorded in Book 2268, Page 1610 of the Rockingham County Registry of Deeds. See Death Certificate of Louisa Doolittle recorded herewith.

Tract II:

The property is currently shown on the City of Portsmouth Map R-43 as Lot #44 on Leavitt Avenue. The original deed is shown in Book 607, Page 447 and 448 in Rockingham County Registry of Deeds.

To wit: One 40 x 80 Building Lot on Leavitt Avenue, located in the City of Portsmouth, New Hampshire. Property is shown on Prospect Park Annex Plan, dated June 7, 1902, County of Rockingham, State of New Hampshire, as lot #126.

Meaning and intending to convey the same premises conveyed to Douglas E. Doolittle by Quitclaim Deed of Goodman, Max, heirs of dated March 7, 1997 and recorded in Book 3202, Page 1719 of the Rockingham County Registry of Deeds.

EXECUTED this 14th day of May, 2015.

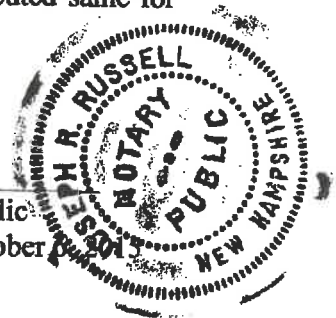
Janice E. Doolittle
Witness *Janice E. Dinwiddie*

Douglas E. Doolittle
Douglas E. Doolittle

STATE OF NEW HAMPSHIRE
COUNTY OF ROCKINGHAM

Personally appeared before me, this 14th day of May, 2015, the above-named Douglas E. Doolittle, known to me, or satisfactorily proven, to be the person whose name is subscribed to the foregoing instrument and acknowledged that he executed same for the purposes contained therein.

JR
Joseph R. Russell, Notary Public
My Commission Expires: October 2015



THE STATE OF NEW HAMPSHIRE

SUPREME COURT

In Case No. 2019-0584, Colchester Properties, LLC v. Town of Alton, the court on July 8, 2020, issued the following order:

Having considered the briefs and record submitted on appeal, we conclude that oral argument is unnecessary in this case. See Sup. Ct. R. 18(1). We affirm.

The plaintiff, Colchester Properties, LLC, appeals an order of the Superior Court (O'Neill, J.) upholding a decision of the zoning board of adjustment (ZBA) for the defendant, the Town of Alton, to uphold the denial by the town's select board of the plaintiff's application to restore previously-merged lots to their pre-merger status. See RSA 674:39-aa (Supp. 2019). On appeal, the plaintiff argues that the evidence was insufficient to establish that the plaintiff's predecessors-in-title engaged in overt actions or conduct demonstrating that they regarded the lots as merged so as to have voluntarily merged them. See RSA 674:39-aa, I(c).

We will uphold the trial court's decision unless it is unsupported by the evidence or legally erroneous. Rochester City Council v. Rochester Zoning Bd. of Adjustment, 171 N.H. 271, 275 (2018). For its part, the trial court's review of the ZBA's decision is limited to determining whether, on the balance of the probabilities, the decision was unlawful or unreasonable. Id.; see Roberts v. Town of Windham, 165 N.H. 186, 189-91 (2013). To the extent the ZBA made findings of fact on questions properly before the trial court, the findings are prima facie lawful and reasonable. Rochester City Council, 171 N.H. at 275; see Roberts, 165 N.H. at 189-91; RSA 677:6 (2016). The trial court's task is not to determine whether it agrees with the ZBA's findings, but to determine whether there is evidence on which the ZBA's findings reasonably could have been based. Rochester City Council, 171 N.H. at 275. When, as in this case, the appealing party challenges the sufficiency of the evidence, we consider whether a reasonable person could have reached the same decision as did the trial court on the evidence before it. Roberts, 165 N.H. at 191-92.

Under RSA 674:39-aa, II, an owner of land comprised of historical lots that were involuntarily merged by a municipality prior to September 18, 2010, is entitled to have the lots restored to their premerger status so long as the landowner timely submits a request for such relief to the municipality, and so long as no one in the landowner's chain of title voluntarily merged the lots.

“Voluntarily merged” lots include lots for which a landowner took “any overt action or conduct that indicates [that the] owner regarded said lots as merged such as, but not limited to, abandoning a lot line.” RSA 674:39-aa, I(c).

The property at issue was subdivided into five contiguous lots in 1961; three of the lots had frontage on Lake Winnepesaukee. At the time of the subdivision, one of the lakefront lots contained a house, a garage, and a shed, another lakefront lot contained a “boat house,” and a single driveway accessed these lots. The plaintiff’s predecessors-in-title acquired the property in 1961. At some point prior to 1967, the house burned down, and from that point until the plaintiff acquired the property in 2016, the plaintiff’s predecessors stayed in the “boat house” whenever they occupied the property. A rock wall encompassed most of the perimeter of the property.

In upholding the ZBA’s determination that the plaintiff’s predecessors-in-title had voluntarily merged the lots, the trial court relied upon the following facts: (1) the predecessors had occupied the “boat house” from after the house had burned down, and had utilized the property as a single residence accessible by a single driveway without taking any steps to treat the lots as separate lots, until the plaintiff acquired the property in 2016; (2) the predecessors had represented the property as a single lot in regulatory applications to the New Hampshire Department of Environmental Services for permission to install a “riprap” along the shoreline, and to the town for a tax abatement and for permission to relocate the single electric meter servicing the property; and (3) the deeds in the plaintiff’s chain of title uniformly described the property as a single parcel with a single metes-and-bounds description. Although the trial court acknowledged that each fact may not, alone, have supported a voluntary merger, the court concluded that when considered in its entirety, the evidence reasonably supported the finding of voluntary merger.

On appeal, the plaintiff addresses each factor relied upon by the trial court individually, and argues why that factor was insufficient to support a finding of voluntary merger. The plaintiff further argues that testimony before the ZBA that the predecessors, during their ownership, had offered to sell one of the lots or had expressed an interest in selling some of the lots compelled a finding that the lots were not voluntarily merged. In reviewing the evidence before the ZBA, however, the trial court properly declined to consider the facts individually, and instead considered them in their totality. See Roberts, 165 N.H. at 193. Moreover, the ZBA was free to accept or reject the proffered evidence as long as its decision was reasonable, and the trial court was not required to second guess the ZBA or to make contrary findings since it was acting in an appellate capacity. N.H. Alpha of SAE Trust v. Town of Hanover, 172 N.H. 69, 77 (2019).

As the appealing party, the plaintiff has the burden of demonstrating reversible error. Gallo v. Traina, 166 N.H. 737, 740 (2014). Based upon our review of the trial court's order, the plaintiff's challenges to it, the relevant law, and the record submitted on appeal, we conclude that the plaintiff has not demonstrated reversible error. See id.

Affirmed.

Hicks, Bassett, Hantz Marconi, and Donovan, JJ., concurred.

**Timothy A. Gudas,
Clerk**



**NEW HAMPSHIRE
MUNICIPAL ASSOCIATION**

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Court Issues First Interpretation of RSA 674:39-aa, Dealing With the Reversal of Administrative Lot Mergers

Roberts v. Windham

Roberts v. Windham

No. 2012-428

Tuesday, July 16, 2013

The petitioner appealed from a Superior Court order upholding the decision of the Windham Zoning Board of Adjustment denying his request to reverse the administrative merger of adjacent lots of land.

The land in question has been in petitioner's family since 1918, when a single deed conveyed four lots as described on a 1913 plan to petitioner's grandfather. In 1926, another lot was deed by purchase. The five lots were used to support a seasonal cottage and related accessory buildings, including a garage, a screen room, a dock, and a multi-use structure with a woodshed, privy, dog house and additional dock. In 1962 two additional lots were acquired by purchase. Petitioner has owned the land which consists of all or portions of 7 lots as described in the 1913 plan since 1995. The town developed tax maps in the 1960's, and has since that time taxed the property as a single lot. No person in the chain of title ever applied to the town to voluntarily merge the lots into one.

Following the enactment of RSA 674:39-aa, petitioner applied to the Selectmen of Windham to "unmerge" the lots in accordance with the statute's procedures. The Selectmen granted relief for the lots described in the 1926 and 1962 deeds, and denied relief for the remaining four lots described in the 1918 deed. They reasoned that the physical layout and use of the primary and accessory structures proved overt owner action to merge the lots into one. This decision was appealed to the Zoning Board of Adjustment, which affirmed the result using the same reasoning as the Selectmen, and further added that the failure to object to the scheme of taxation also showed an owner's intent to merge the lots. Rehearing was denied, and the Superior Court on appeal affirmed the decision.

At the Supreme Court level two questions were presented. First, since this statute places the burden of proof upon the municipality to deny a request to "unmerge" lots, does this change the standard of review used by a court on appeal? The Supreme Court quickly determined that the new statute did not change the standard of review, and the decision of the ZBA would be reviewed under the deferential standard contained in RSA 677:6.

Second, the petitioner argued that the evidence used by the municipality was not sufficient to support a denial of the request. Because the standard of review is deferential, it may only be reversed if no reasonable person could have reached the same decision based upon the available evidence. Here, the court reviewed the decision based upon the use of the property in its entirety, rather than upon each use in isolation. No single factor was dispositive. **The fact that the four lots were described in a single deed, and had been taxed as a unit for many years were not sufficient standing alone. However, when coupled with the fact that the primary and accessory buildings had been constructed to work as a unit without regard to lot lines, the evidence was sufficient to affirm the decision of the ZBA.**

In this matter of first impression, governing bodies and zoning boards of adjustment now know they should review requests to "unmerge" lots based upon all of the circumstances of actual use of the property, and that the lack of a request to voluntarily merge the lots by a current or former owner will not, standing alone, support such a request.



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