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The State of New Hampshire
Department of Environmental Services

Robert R. Scott, Commissioner



July 26, 2022

His Excellency, Governor Christopher T. Sununu
and The Honorable Council
State House
Concord, NH 03301

REQUESTED ACTION

Approve the City of Dover's request to perform the following work on Cochecho River in Dover pursuant to NH Department of Environmental Services (NHDES) Wetlands Bureau permit #2019-03464, and in accordance with RSA 482-A:3. Comments submitted by the Dover Conservation Commission, stating their approval of the project as proposed, are included in the enclosed documents.

Dredge and fill 11,615 square feet within the bed and banks of the Cochecho River (impacting 1,366 linear feet along the shoreline), 19,972 square feet of palustrine wetland (emergent, forested and scrub-shrub) and 235,000 square feet within the previously-developed upland tidal buffer zone for the Cochecho Waterfront Development project. The project includes remediation from past industrial uses in conjunction with the creation of a public waterfront park and construction of internal roadways, with associated utility and stormwater management infrastructure, in preparation for future mixed-use development. In addition, the project will temporarily impact 26,700 square feet within the bed and banks of the Cochecho River and 901 square feet of palustrine emergent wetland during construction. Impacts above include 5,772 square feet for bank stabilization (located seaward of mean high water) and to construct a tidal docking structure consisting of an 11 foot by 17 foot fixed platform connected to a 5 foot by 70 foot ramp connected to a 239 foot by 6 foot seasonal float system configured parallel to the shoreline. The overall structure extends 27 feet seaward of the highest observable tide line and provides eight boat slips on 2,872 feet of frontage along the Cochecho River. Compensatory mitigation is proposed as a combination of on-site permittee-responsible mitigation and a one-time payment of \$158,586.72 into the Aquatic Resource Mitigation (ARM) Fund within the Salmon Falls / Piscataqua Rivers Watershed account.

NHDES imposed the following conditions as part of this approval:

1. All work shall be in accordance with plans by Cochecho Waterfront plans by Horsley Witten Group, Inc. dated October 24, 2019 and revised through May 27, 2022, Dover Waterfront Floating Dock System Design plans by GZA Environmental Inc. dated March 29, 2022 and the landscape plan set by Ironwood dated December 2019 and revised through May 27, 2022.
2. This permit is not valid and effective until it has been recorded with the Strafford County Registry of Deeds. Prior to starting work under this permit, the permittee shall submit a copy of the recorded permit to the NHDES Wetlands Bureau by certified mail, return receipt requested.

www.des.nh.gov

29 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
NHDES Main Line: (603) 271-3503 • Subsurface Fax: (603) 271-6683 • Wetlands Fax: (603) 271-6588
TDD Access: Relay NH 1 (800) 735-2964

3. This approval is not valid until NHDES receives a one-time payment of \$158,586.72 to the DES Aquatic Resource Mitigation (ARM) Fund. The applicant shall remit payment to NHDES. If NHDES does not receive payment within 120 days of the date of this approval letter, NHDES will deny the application.
4. All development activities associated with this project shall be conducted in compliance with applicable requirements of RSA 483-B and N.H. Code Admin. Rules Env-Wq 1400 during and after construction.
5. This permit is not valid unless an Alteration of Terrain permit or other method of compliance with RSA 485-A:17 and Env-Wq 1500 is achieved.
6. No person undertaking any activity shall cause or contribute to, or allow the activity to cause or contribute to, any violations of the surface water quality standards in RSA 485-A and Env-Wq 1700.
7. Dredging shall not disturb contaminated material unless conducted in compliance with applicable requirements of the NHDES Waste Management Division.
8. The permittee shall schedule a pre-construction meeting on-site with NHDES Land Resources Management Program staff to occur at least 48 hours prior to the start of any work authorized by this permit to review the conditions of this wetlands permit and the Alteration of Terrain permit. The meeting shall be attended by the permittee, their professional engineer(s), wetlands scientist(s), and the contractor(s) responsible for performing the work.
9. Not less than 5 state business days prior to starting work authorized by this permit, the permittee shall notify the NHDES Wetlands Bureau and the local conservation commission in writing of the date on which work under this permit is expected to start.
10. Any further alteration of areas on this property that are subject to RSA 482-A jurisdiction will require review and approval by the NHDES Wetlands Bureau.
11. This permit shall not preclude NHDES from initiating appropriate action if NHDES later determines that any of the structures depicted as "existing" on the plans submitted by or on behalf of the permittee were not previously permitted or grandfathered.
12. Work within the river, inclusive of work associated with installation of a cofferdam, shall not be conducted between March 15 - July 1. Outside of that timeframe, work within the river shall be done in the dry, at low tide (unless within the dredge window, November 15 - March 15).
13. The permittee shall monitor local weather forecasts to avoid working during or following precipitation events.
14. Construction of the dock shall occur from land, or from a barge and crane if land-based construction is not feasible, to reduce potential impacts to the salt marsh and intertidal zone.
15. The height of the pier's decking over the surface of the tidal marsh at normal high tide shall equal the width of the decking. Decking shall have 3/4-inch spacing between the decking planks.
16. Each float shall be fitted with a float stop or similar structure so that the float will have minimal contact with the underlying intertidal area.
17. Seasonal structures, including but not limited to tidal dock ramp and floats, shall be removed during the non-boating season and stored on the pier or in an upland location.
18. No concrete is to be used anywhere in the construction of the shoreline stabilization. All stone shall be dry laid or placed stone underlain with filter fabric.
19. Work authorized shall be carried out such that there are no discharges in or to spawning or nursery areas during spawning seasons. Impacts to such areas shall be avoided or minimized to the maximum extent practicable during all other times of the year.

20. All dredged and excavated material and construction-related debris shall be placed outside of the areas subject to RSA 482-A. Any spoil material deposited within 250 feet of any surface water shall comply with RSA-483-B.
21. Dredged materials, whether to be stockpiled or disposed of, shall be dewatered in sedimentation basins lined with siltation and erosion controls, and located outside of areas subject to RSA 482-A jurisdiction.
22. Precautions shall be taken to prevent import or transport of soil or seed stock containing nuisance or invasive species such as Purple Loosestrife, Knotweed, or Phragmites. The contractor responsible for work shall appropriately address invasive species in accordance with the NHDOT Best Management Practices for Roadside Invasive Plants (2008).
23. To prevent the introduction of invasive plant species to the site, the permittee's contractor(s) shall clean all soils and vegetation from construction equipment and matting before such equipment is moved to the site.
24. The permittee shall control invasive plant species such as Purple loosestrife (*Lythrum salicaria*) and Common reed (*Phragmites*) by measures agreed upon by the DES Wetlands Program if any such species is found in the stabilization areas during construction or during the early stages of vegetative establishment.
25. Equipment initially entering surface waters shall be completely free of any aquatic plants and animals. Boat washing/rinsing shall not take place in areas in subject to RSA 482-A jurisdiction.
26. The contractor responsible for completion of the work shall use techniques described in the New Hampshire Stormwater Manual, Volume 3, Erosion and Sediment Controls During Construction (December 2008).
27. Appropriate siltation and erosion controls shall be in place prior to construction, shall be maintained during construction, and shall remain until the area is stabilized. Temporary controls shall be removed once the area has been stabilized.
28. Appropriate turbidity controls shall be installed prior to construction, shall be maintained during construction such that no turbidity escapes the immediate dredge area and shall remain until suspended particles have settled and water at the work site has returned to normal clarity.
29. Prior to commencing work on a substructure located within surface waters, the permittee or permittee's contractors shall construct a cofferdam to isolate the substructure work area from the surface waters.
30. Cofferdams shall not be installed during periods of high flow, whether due to seasonal runoff or precipitation. Once the cofferdam is fully effective, confined work can proceed without restriction.
31. Discharge from dewatering of work areas shall be to sediment basins that are: a) located in uplands; b) lined with hay bales or other acceptable sediment trapping liners; c) set back as far as possible from wetlands and surface waters, with a preferred undisturbed vegetated buffer of at least 50 feet and a minimum undisturbed vegetative buffer of 20 feet.
32. The temporary cofferdam shall be entirely removed within 2 days after work within the cofferdam is completed and water has returned to normal clarity.
33. Within three days of final grading or temporary suspension of work in an area that is in or adjacent to wetlands or surface waters, all exposed soil areas shall be stabilized by seeding and mulching during the growing season, or if not within the growing season, by mulching with tackifiers on slopes less than 3:1 or netting and pinning on slopes steeper than 3:1.
34. Where construction activities occur between November 30 and May 1, all exposed soil areas shall be stabilized within 1 day of establishing the grade that is final or that otherwise will exist for more than 5 days. Stabilization shall include placing 3-inches of base course gravels, or loaming and mulching with tack or netting and pinning on slopes steeper than 3:1.

35. The permittee/permittee's contractor shall regrade temporary impacts to pre-construction conditions and plant native species similar to those within the wetland prior to impact. The permittee shall implement corrective measure promptly if needed to ensure the plantings survive.
36. Restoration of temporary impact areas shall have at least 75% successful establishment of wetlands vegetation after two (2) growing seasons, or they shall be replanted and re-established until a functional wetland is replicated in a manner satisfactory to the DES Wetlands Program.
37. Restoration of temporary impact areas shall not be considered successful if sites are invaded by nuisance species such as common reed or purple loosestrife during the first full growing season following the completion of construction. The permittee shall submit a remediation plan to DES that proposes measures to be taken to eradicate nuisance species during this same period.
38. MONITORING:
39. A certified wetlands scientist or qualified professional, as applicable, shall monitor the project during construction to verify that all work is done in accordance with the approved plans and narratives, adequate siltation and erosion controls are properly implemented, and no water quality violations occur. A follow-up report including photographs of all stages of construction shall be submitted to the NHDES Wetlands Bureau within 60 days of final site stabilization.
40. Rare species transplantation and monitoring shall be conducted in coordination with the NH Natural Heritage Bureau and in accordance with the approved "Cochecho Waterfront Development Project 5-Year Monitoring Plan for Shoreline Restoration and Living Shoreline" provided by Horsley Witten Group, Inc., dated April 2022 and received by NHDES on April 08, 2022.
41. All post-construction monitoring shall be conducted in accordance with the approved "Cochecho Waterfront Development Project 5-Year Monitoring Plan for Shoreline Restoration and Living Shoreline" provided by Horsley Witten Group, Inc., dated April 2022 and received by NHDES on April 08, 2022.

EXPLANATION

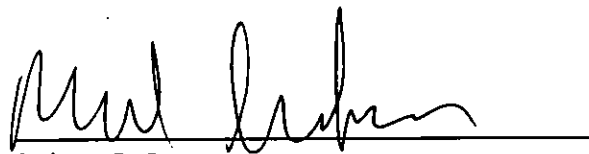
NHDES approved this project on June 16, 2022. NHDES supported its decision with the following findings:

1. This permit application was received prior to December 15, 2019 and is therefore subject to the design and approval criteria in effect at that time.
2. This is a major impact project per Env-Wt 303.02(a), (c), (d) and (i) as it will impact tidal waters, will impact more than 20,000 square feet of nontidal wetlands, will involve the construction of a major tidal docking structure and will disturb more than 200 linear feet along the tidal shoreline of the Cochecho River.
3. Per Rule Env-Wt 302.04(a)(7), the applicant coordinated with the NH Fish and Game Department and the Natural Heritage Bureau to avoid and minimize project-related impacts on rare or protected animal species and habitat identified on the NHB Datacheck Report (NHB19-1217). Cofferdam and pile installation is prohibited between March 15 to July 1 and limited to dry conditions (unless during the dredge window) to protect anadromous fish runs. Avoidance and minimization of impacts to exemplary natural communities and endangered plant species were addressed through the Natural Heritage Bureau by collection and preservation of seed material, a detailed transplantation plan and phased monitoring to ensure long term establishment and success.
4. The applicant obtained a statement, dated December 17, 2019, from the City of Dover Conservation Commission, expressing support of the project, as proposed.
5. The site is located within a Shoreland Urban Exemption zone (2008-00372).

6. The site is located within the Designated River corridor. Per RSA 482-A:3I.(e), the Cochecho River Local Advisory Committee was provided a copy of the application package.
7. Written agreement was obtained from the affected abutter located within the 20 foot setback from property lines, per Env-Wt 304.04.
8. In correspondence dated January 29, 2020, the Pease Development Authority, Division of Ports and Harbors, determined that the project would have no negative effect on navigation in the channel.
9. Per RSA 482-A:8, NHDES held a public hearing on May 05, 2022. The applicant/owner and applicant's agent provided an overview of the project and described how the project will comply with applicable NHDES wetland rules. Oral and written public testimony provided to the application record was in favor of the project, as proposed.
10. Per Env-Wt 302.03(c)d., compensatory mitigation is not required for components of the project that exclusively incorporate bioengineering methods or includes such work in combination with other qualifying criteria. The bioengineered and living shoreline stabilization strategies have been designed for projected 2100 relative sea level rise scenarios and predicted climate change. They also include detailed monitoring plans to ensure long term establishment and success.
11. Per Env-Wt 302.03(c)(2)b., c., and f., the project requires compensatory mitigation for 19,972 square feet of impact to palustrine wetlands, 115 linear feet of hard armor along the tidal river bank and 455 square feet of permanent tidal docking structure (in excess of 2,000 square feet overall).
12. The department has determined that this project is acceptable for one-time payment of \$158,586.72 into the Aquatic Resource Mitigation (ARM) Fund within the Salmon Falls / Piscataqua Rivers Watershed account.
13. The Department decision is issued in letter form and upon receipt of the ARM fund payment, the Department shall issue a posting permit in accordance with Env-Wt 803.08(f).

NHDES Wetlands Bureau permit #2019-03464 application documents are enclosed for review by the Governor and the Executive Council in consideration of this request and in accordance with RSA 482-A:3, II(a), as it is a major project located in New Hampshire public waters.

We respectfully request your approval of this item.



Robert R. Scott
Commissioner

FS



WETLANDS PERMIT APPLICATION

Water Division/ Wetlands Bureau

Land Resources Management

Check the status of your application: www.des.nh.gov/onestop



RSA/Rule: RSA 482-A/ Env-Wt 100-900

RECEIVED Administrative Use Only OCT 10 2019 NHDES	Administrative Use Only	Administrative Use Only	File # 2019-03464
			Check No. 0241740
			Amount: \$58,908.00
			Initials: JB

LAND RESOURCES MANAGEMENT

1. REVIEW TIME: Indicate your Review Time below. To determine review time, refer to Guidance Document A for instructions.

☒ Standard Review (Minimum, Minor or Major Impact)

☐ Expedited Review (Minimum Impact only)

2. MITIGATION REQUIREMENT

If mitigation is required, a Mitigation Pre-Application meeting must occur prior to submitting this Wetlands Permit Application. To determine if mitigation is required, please refer to the Determine If Mitigation is Required Frequently Asked Questions.

Mitigation Pre-Application Meeting Date: Month: 02 Day: 08 Year: 2018

☐ N/A - Mitigation is not required

3. PROJECT LOCATION:

Separate wetland permit applications must be submitted for each municipality within which wetland impacts occur.

ADDRESS: 31 River Street and Towne Dr.

TOWN/CITY: Dover

TAX MAP: 22

BLOCK:

LOT: 1 and 42

UNIT:

USGS TOPO MAP WATERBODY NAME: Cochecho River

☐ NA

STREAM WATERSHED SIZE: 185 sq mi

☐ NA

LOCATION COORDINATES (if known): 43.197, -70.868

☒ Latitude/Longitude ☐ UTM ☐ State Plane

4. PROJECT DESCRIPTION:

Provide a brief description of the project outlining the scope of work. Attach additional sheets as needed to provide a detailed explanation of your project. DO NOT reply "See Attached" in the space provided below.

The Cochecho Waterfront Development Project proposes to restore and revitalize over 2500 feet of shoreline, create a shoreline public park with public water access, and prepare the city-owned parcel for economic redevelopment by constructing a network of roads and utility infrastructure, and installing a soil cap to prevent public exposure to the underlying contaminated soils and groundwater. [CONTINUED - See Project Narrative attached]

5. SHORELINE FRONTAGE:

☐ N/A This does not have shoreline frontage.

SHORELINE FRONTAGE: 2872

Shoreline Frontage is calculated by determining the average of the distances of the actual natural navigable shoreline frontage and a straight line drawn between the property lines, both of which are measured at the normal high water line (Env-Wt 101.89).

6. RELATED NHDES LAND RESOURCES MANAGEMENT PERMIT APPLICATIONS ASSOCIATED WITH THIS PROJECT:

Please indicate if any of the following permit applications are required and, if required, the status of the application.

To determine if other Land Resources Management Permits are required, refer to the Land Resources Management Webpage.

Permit Type	Permit Required	File Number	Permit Application Status
Alteration of Terrain Permit Per RSA 485-A:17	☒ YES ☐ NO	190301-033	☐ APPROVED ☒ PENDING ☐ DENIED
Individual Sewerage Disposal per RSA 485-A:2	☐ YES ☒ NO		☐ APPROVED ☐ PENDING ☐ DENIED
Subdivision Approval Per RSA 485-A	☐ YES ☒ NO		☐ APPROVED ☐ PENDING ☐ DENIED
Shoreland Permit Per RSA 483-B	☐ YES ☒ NO		☐ APPROVED ☐ PENDING ☐ DENIED

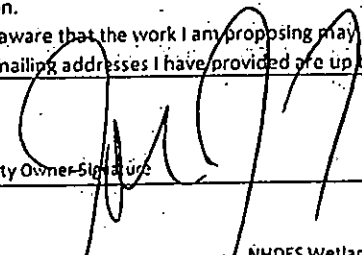
7. NATURAL HERITAGE BUREAU & DESIGNATED RIVERS:

See the Instructions & Required Attachments document for instructions to complete a & b below.

a. Natural Heritage Bureau File ID: NHB 19 - 1217

b. ☐ This project is within a Designated River corridor. The project is within 1/4 mile of: The Cochecho River; and date a copy of the application was sent to the Local River Management Advisory Committee: Month: ___ Day: ___ Year: ___

☐ N/A - This project is not within a Designated River corridor.

8. APPLICANT INFORMATION (Desired permit holder)			
LAST NAME, FIRST NAME, M.I.: Joyal, J Michael Jr.			
TRUST / COMPANY NAME: City of Dover		MAILING ADDRESS: 288 Central Ave.	
TOWN/CITY: Dover		STATE: NH	ZIP CODE: 03820
EMAIL or FAX: mjoyal@doover.nh.gov		PHONE: 603-516-6023	
ELECTRONIC COMMUNICATION: By initialing here: _____, I hereby authorize NHDES to communicate all matters relative to this application electronically.			
9. PROPERTY OWNER INFORMATION (If different than applicant)			
LAST NAME, FIRST NAME, M.I.:			
TRUST / COMPANY NAME: City of Dover		MAILING ADDRESS: 288 Central Ave.	
TOWN/CITY: Dover		STATE: NH	ZIP CODE: 03820
EMAIL or FAX: mjoyal@doover.nh.gov		PHONE: 603-516-6023	
ELECTRONIC COMMUNICATION: By initialing here _____, I hereby authorize NHDES to communicate all matters relative to this application electronically.			
10. AUTHORIZED AGENT INFORMATION			
LAST NAME, FIRST NAME, M.I.: Baker, Elizabeth S.		COMPANY NAME: Horsley Witten Group, Inc.	
MAILING ADDRESS: 113 R2 Water Street			
TOWN/CITY: Exeter		STATE: NH	ZIP CODE: 03833
EMAIL or FAX: ebaker@horsleywitten.com		PHONE: 603-658-1660	
ELECTRONIC COMMUNICATION: By initialing here EB , I hereby authorize NHDES to communicate all matters relative to this application electronically.			
11. PROPERTY OWNER SIGNATURE:			
See the <u>Instructions & Required Attachments</u> document for clarification of the below statements.			
By signing the application, I am certifying that:			
1. I authorize the applicant and/or agent indicated on this form to act in my behalf in the processing of this application, and to furnish upon request, supplemental information in support of this permit application. 2. I have reviewed and submitted information & attachments outlined in the <u>Instructions and Required Attachment</u> document. 3. All abutters have been identified in accordance with RSA 482-A:3, I and Env-Wt 100-900. 4. I have read and provided the required information outlined in Env-Wt 302.04 for the applicable project type. 5. I have read and understand Env-Wt 302.03 and have chosen the least impacting alternative. 6. Any structure that I am proposing to repair/replace was either previously permitted by the Wetlands Bureau or would be considered grandfathered per Env-Wt 101.47. 7. I have submitted a Request for Project Review (RPR) Form (www.nh.gov/nhdhr/review) to the NH State Historic Preservation Officer (SHPO) at the NH Division of Historical Resources to identify the presence of historical/ archeological resources while coordinating with the lead federal agency for National Historic Preservation Act (NHPA) 106 compliance. 8. I authorize NHDES and the municipal conservation commission to inspect the site of the proposed project. 9. I have reviewed the information being submitted and that to the best of my knowledge the information is true and accurate. 10. I understand that the willful submission of falsified or misrepresented information to the NHDES is a criminal act, which may result in legal action. 11. I am aware that the work I am proposing may require additional state, local or federal permits which I am responsible for obtaining. 12. The mailing addresses I have provided are up to date and appropriate for receipt of NHDES correspondence. NHDES will not forward returned			
 Property Owner Signature		J. Michael Joyal, Jr. Print name legibly	10/27/19 Date

irm@des.nh.gov or (603) 271-2147

NHDES Wetlands Bureau, 29 Hazen Drive, PO Box 95, Concord, NH 03302-0095

www.des.nh.gov

MUNICIPAL SIGNATURES

12. CONSERVATION COMMISSION SIGNATURE

The signature below certifies that the municipal conservation commission has reviewed this application, and:

1. Waives its right to intervene per RSA 482-A:11;
2. Believes that the application and submitted plans accurately represent the proposed project; and
3. Has no objection to permitting the proposed work.

	Print name legibly	Date
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DIRECTIONS FOR CONSERVATION COMMISSION

1. Expedited review ONLY requires that the conservation commission's signature is obtained in the space above.
2. Expedited review requires the Conservation Commission signature be obtained prior to the submittal of the original application to the Town/City Clerk for signature.
3. The Conservation Commission may refuse to sign. If the Conservation Commission does not sign this statement for any reason, the application is not eligible for expedited review and the application will be reviewed in the standard review time frame.

13. TOWN / CITY CLERK SIGNATURE

As required by Chapter 482-A:3 (amended 2014), I hereby certify that the applicant has filed four application forms, four detailed plans, and four USGS location maps with the town/city indicated below.

	Susan Mistrutta	Dover	10/29/2019
	Print name legibly	Town/City	Date

DIRECTIONS FOR TOWN/CITY CLERK:

Per RSA 482-A:3, I

1. For applications where "Expedited Review" is checked on page 1, if the Conservation Commission signature is not present, NHDES will accept the permit application, but it will NOT receive the expedited review time.
2. IMMEDIATELY sign the original application form and four copies in the signature space provided above;
3. Return the signed original application form and attachments to the applicant so that the applicant may submit the application form and attachments to NHDES by mail or hand delivery.
4. IMMEDIATELY distribute a copy of the application with one complete set of attachments to each of the following bodies: the municipal Conservation Commission, the local governing body (Board of Selectmen or Town/City Council), and the Planning Board; and
5. Retain one copy of the application form and one complete set of attachments and make them reasonably accessible for public review.

DIRECTIONS FOR APPLICANT:

1. Submit the single, original permit application form bearing the signature of the Town/ City Clerk, additional materials, and the application fee to NHDES by mail or hand delivery.

14. IMPACT AREA:

For each jurisdictional area that will be/has been impacted, provide square feet and, if applicable, linear feet of impact.

Permanent: impacts that will remain after the project is complete.

Temporary: impacts not intended to remain (and will be restored to pre-construction conditions) after the project is completed.

Intermittent Streams: linear footage distance of disturbance is measured along the thread of the channel.

Perennial Streams/Rivers: the total linear footage distance is calculated by summing the lengths of disturbance to the channel and each bank.

JURISDICTIONAL AREA	PERMANENT Sq. Ft. / Lin. Ft.	TEMPORARY Sq. Ft. / Lin. Ft.
Forested wetland	701 ☐ ATF	0 ☐ ATF
Scrub-shrub wetland	13,625 ☐ ATF	0 ☐ ATF
Emergent wetland	5,646 ☐ ATF	901 ☐ ATF
Wet meadow	0 ☐ ATF	0 ☐ ATF
Intermittent stream channel	0 / 0 ☐ ATF	0 / 0 ☐ ATF
Perennial Stream / River channel	231 / SeeBank ☐ ATF	2960 / SeeBank ☐ ATF
Lake / Pond	0 / 0 ☐ ATF	0 / 0 ☐ ATF
Bank - Intermittent stream	0 / 0 ☐ ATF	0 / 0 ☐ ATF
Bank - Perennial stream / River	11,159 / 115 ☐ ATF	12,287 / 1,355 ☐ ATF
Bank - Lake / Pond	0 / 0 ☐ ATF	0 / 0 ☐ ATF
Tidal water	SeeRiver / River ☐ ATF	SeeRiver / River ☐ ATF
Salt marsh	0 ☐ ATF	0 ☐ ATF
Sand dune	0 ☐ ATF	0 ☐ ATF
Prime wetland	0 ☐ ATF	0 ☐ ATF
Prime wetland buffer	0 ☐ ATF	0 ☐ ATF
Undeveloped Tidal Buffer Zone (TBZ)	0 ☐ ATF	0 ☐ ATF
Previously-developed upland in TBZ	235,000 ☐ ATF	0 ☐ ATF
Docking - Lake / Pond	0 ☐ ATF	0 ☐ ATF
Docking - River	224 ☐ ATF	1757 ☐ ATF
Docking - Tidal Water	SeeRiver ☐ ATF	SeeRiver ☐ ATF
Vernal Pool	0 ☐ ATF	0 ☐ ATF
TOTAL	266,586 / 115	17,905 / 1,355

15. APPLICATION FEE: See the Instructions & Required Attachments document for further instruction

☐ Minimum Impact Fee: Flat fee of \$ 200

☒ Minor or Major Impact Fee: Calculate using the below table below

Permanent and Temporary (non-docking) 282,510 sq. ft. X \$0.20 = \$ 56,502

Temporary (seasonal) docking structure: 1,757 sq. ft. X \$1.00 = \$ 1,757

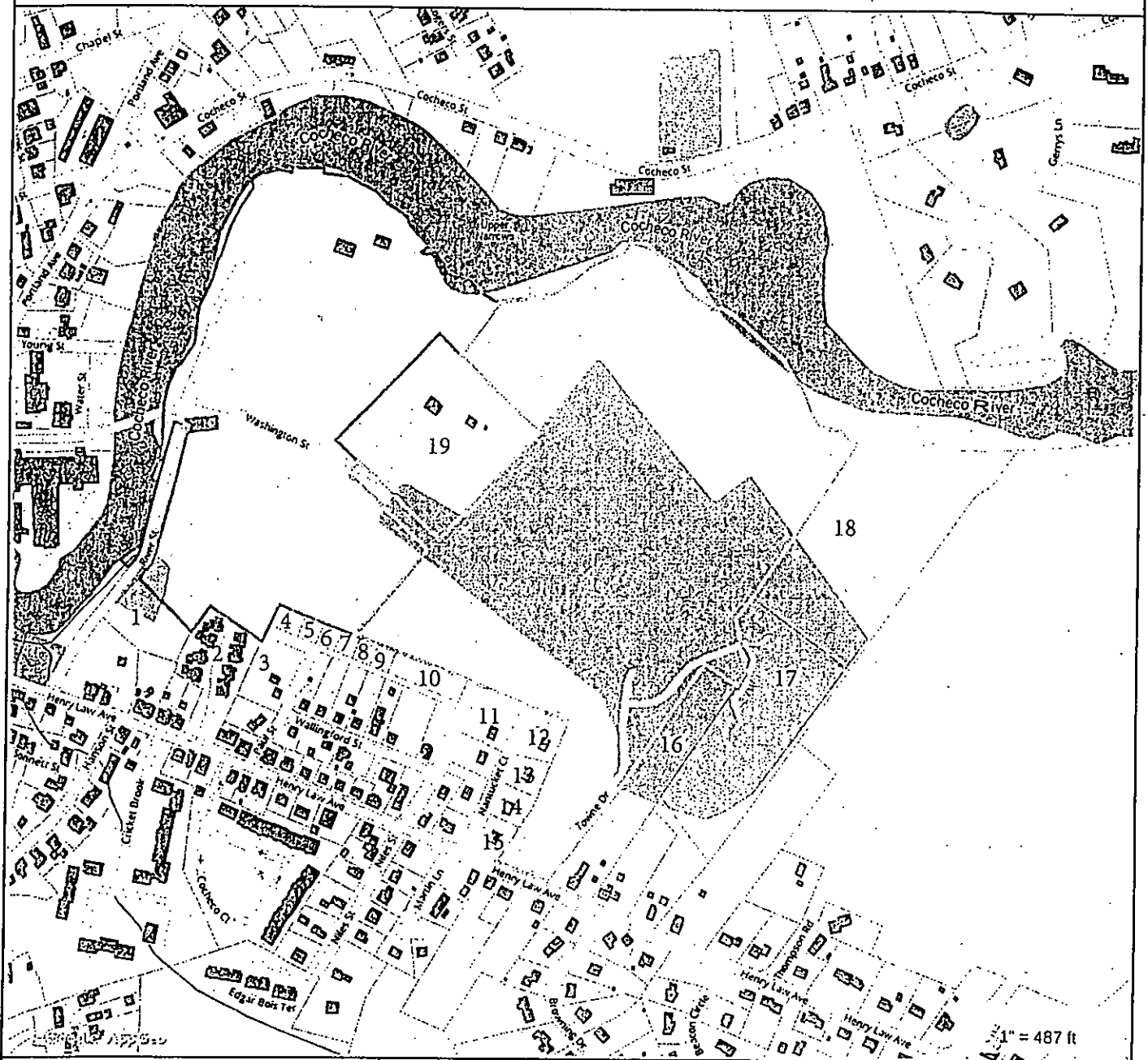
Permanent docking structure: 224 sq. ft. X \$2.00 = \$ 449

Projects proposing shoreline structures (including docks) add \$200 = \$ 200

Total = \$ 58,908

The Application Fee is the above calculated Total or \$200, whichever is greater = \$ 58,908

Abutters - Cochecho Waterfront Development Project



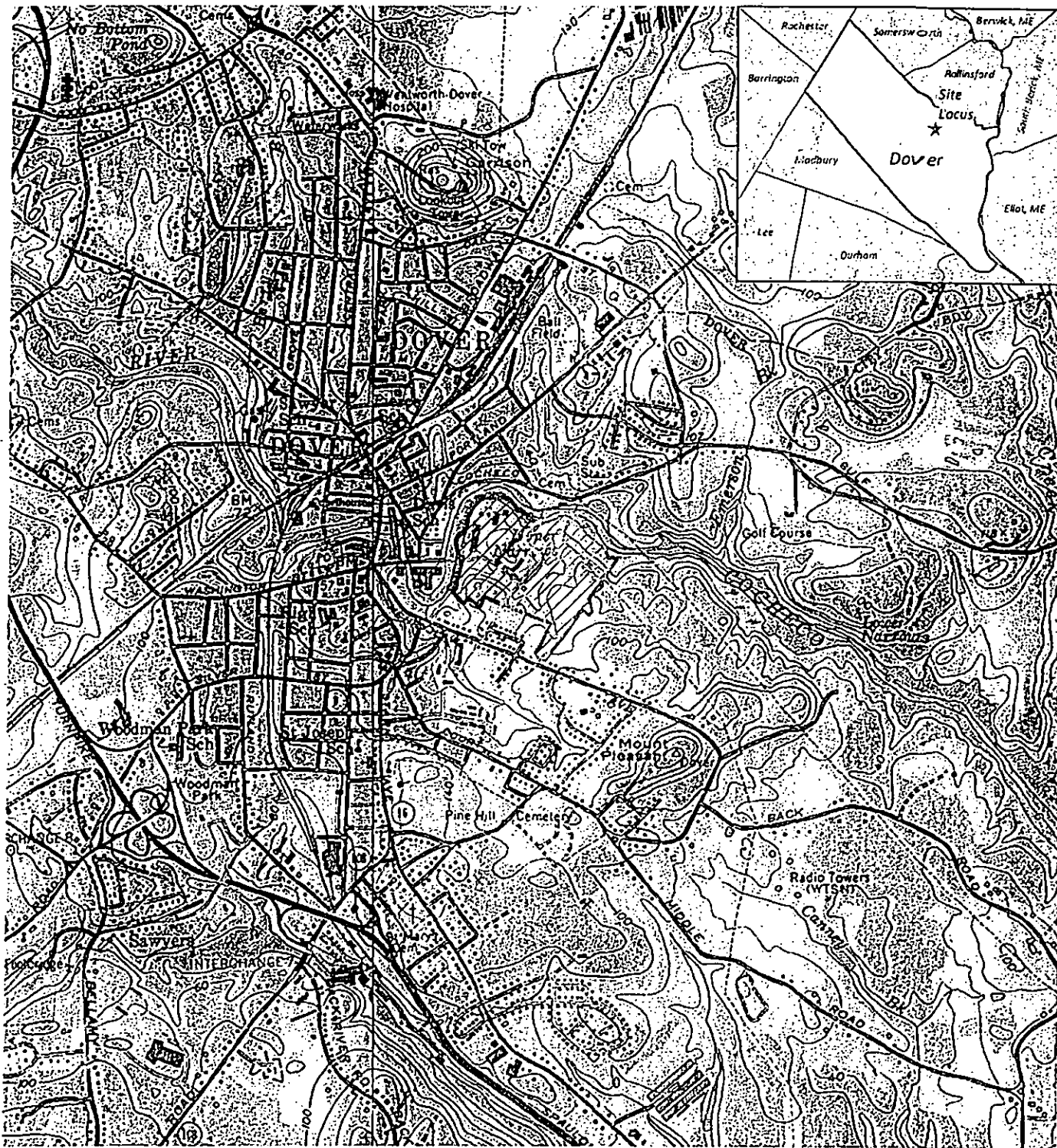
Property Information

Property ID 22042-000000
Location TOWNE DR
Owner CITY OF DOVER
Land Use 903

MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

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

Geometry updated 10/18/2019
Data updated Daily



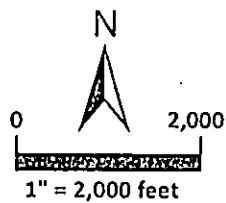
Document Path: H:\Projects\2015\15157 Union Studio Dover NH Waterfront\GIS\Maps\180410_USGS\USGS\locus.mxd

*Dover West & Dover East, NH-ME Topographic Quadrangles

Legend

Site Parcels

-  Map 22 Lot 1
-  Map 22 Lot 42



Horsley Witten Group
Sustainable Environmental Solutions

90 Route 1A - Unit 1 - Sandown, NH 03261

SC# 833-0020 - HorsleyWitten.com



USGS Locus
Cochecho Waterfront
Development
Dover, NH

Date: 10/18/2019

Figure 1

Memo

NH Dept. of Environmental Services review



NH Natural Heritage Bureau
HB Datacheck Results Letter

To: Ellie Baker, Horsley Witten Group
113 R2 Water Street
Exeter, NH 03833

From: Amy Lamb, NH Natural Heritage Bureau

Date: 7/27/2020 (valid for one year from this date)

Re: Review by NH Natural Heritage Bureau

NHB File ID: NHB20-2096

Town: Dover

Location: Tax Maps: Map 22, Lot 1

Description: This Cocheco Waterfront Development Project includes the installation of a clean soil cap on the site to protect the public from hazardous materials, in conjunction with the creation of a waterfront public park amenity, shoreline restoration and stabilization, construction of roadways and associated stormwater management facilities and utilities, in preparation for future private development of the property. Renewal of NHB19-1217; the project has not changed since the previous review.

cc: Kim Tuttle

As requested, I have searched our database for records of rare species and exemplary natural communities, with the following results.

Comments: Please continue to coordinate with NHB and the NH Fish & Game Department regarding impacts to the resources listed below.

Natural Community

Low brackish riverbank marsh

State¹

Federal

Notes

Threats to these communities are primarily alterations to the hydrology of the wetland (such as ditching or tidal restrictions that might affect the sheet flow of tidal waters across the intertidal flat) and increased input of nutrients and pollutants in storm runoff.

Plant species

eastern grasswort (*Lilaeopsis chinensis*)

State¹

Federal

Notes

Threats are primarily alterations to the hydrology of the wetland, such as ditching or tidal restrictions that might affect the sheet flow of tidal waters across the intertidal flat, activities that eliminate plants, and increased input of nutrients and pollutants in storm runoff.

seaside brookweed (*Samolus valerandi* ssp. *parviflorus*)

E

--

Notes

Occurs on river and streambanks, as well as estuarine and seashore habitats. Threats include direct destruction of the plants and major alterations of their habitat.

Vertebrate species

American Eel (*Anguilla rostrata*)

State¹

Federal

Notes

Contact the NH Fish & Game Dept (see below).

Memo

- NH Dept. of Environmental Services review



NH NATURAL HERITAGE BUREAU
NHB DATACHECK RESULTS LETTER

To: Ellie Baker, Horsley Witten Group
113 R2 Water Street
Exeter, NH 03833

From: Amy Lamb, NH Natural Heritage Bureau
Date: 4/23/2019 (valid for one year from this date)

Re: Review by NH Natural Heritage Bureau

NHB File ID: NHB19-1217

Town: Dover

Location: Tax Maps: Map 22, Lot 1

Description: This Cocheco Waterfront Development Project includes the installation of a clean soil cap on the site to protect the public from hazardous materials, in conjunction with the creation of a waterfront public park amenity, shoreline restoration and stabilization, construction of roadways and associated stormwater management facilities and utilities, in preparation for future private development of the property. Renewal of NHB18-0462, the project has not changed since the previous review.

cc: Kim Tuttle

As requested, I have searched our database for records of rare species and exemplary natural communities, with the following results.

Comments: Please continue to coordinate with NHB and the NH Fish & Game Department regarding impacts to the resources listed below.

Natural Community

Low brackish riverbank marsh

State Federal Notes

Threats to these communities are primarily alterations to the hydrology of the wetland (such as ditching or tidal restrictions that might affect the sheet flow of tidal waters across the intertidal flat) and increased input of nutrients and pollutants in storm runoff.

Plant species

eastern grasswort (*Lilaeopsis chinensis*)

State Federal Notes

E

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Threats are primarily alterations to the hydrology of the wetland, such as ditching or tidal restrictions that might affect the sheet flow of tidal waters across the intertidal flat, activities that eliminate plants, and increased input of nutrients and pollutants in storm runoff.

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Occurs on river and streambanks, as well as estuarine and seashore habitats. Threats include direct destruction of the plants and major alterations of their habitat.

Vertebrate species

American Eel (*Anguilla rostrata*)

State Federal Notes

SC

--

Contact the NH Fish & Game Dept (see below).



The State of New Hampshire
**Department of Environmental
Services**



Robert R. Scott, Commissioner

This application contains confidential information from the NH Natural Heritage Bureau (NHB) Datacheck tool provided by the NH Department of Natural and Cultural Resources, NHB. This information is being withheld from disclosure to the public.

Please direct all questions regarding the confidential information to Pamela G. Monroe, Legal Unit Administrator, NH Department of Environmental Services, at: pamela.g.monroe@des.nh.gov, or (603) 271-3137.



City of Dover, New Hampshire
CONSERVATION COMMISSION
288 Central Avenue
Dover, N.H. 03820-4169

December 17, 2019

Ms. Stefanie Giallongo
Department of Environmental Services – Wetlands Bureau
PO Box 95
Concord, NH 03302-0095

Re: Wetlands File Number 2019-03464

Dear Ms. Giallongo:

The Dover Conservation Commission reviewed the Standard Dredge and Fill Permit application for the City of Dover at 31 River Street on December 9, 2019. The applicant, per Wetlands File Number 2019-03464, proposes to redevelop a City-owned parcel adjacent to the Cochecho River, with regrading to raise the site elevation, shoreland stabilization and construction of a public riverfront park and docks and install a road and utility infrastructure network.

The Dover Conservation Commission voted unanimously on December 9, 2019 to endorse the NHDES Wetlands Permit application.

Please contact me if you have any questions.

Sincerely,


William Hunt, Chair
Dover Conservation Commission

Cc: Steven Bird, City Planner
Ellie Baker, Horsley Witten Group

**Cochecho Waterfront Development Project
Dover, NH**

March 1, 2022

List of Abutters

Property ID	Abutter Information
1	City of Dover C/O C/S Recreation/Gym and Pool
2	Dover Bluff Condominium Association
3	Patricia A. Frew
4, 5, 10	Catherine and Kevin McEneaney
6	Diane M Duffy and Erik J Sweetser
7, 8, 9	Wayne R and Patricia Taylor, Trustees Taylor Family Revocable Trust
11	Alexander and Tatiana Romanyuk
12	Peter A and Shari R Grieve
13	Jessica L and Eric J Champagne

Property ID	Abutter Information
14	Elliott and Nicole Casey
15	Robin Trefethen
16	Christopher Jon Prior
17	Dover Youth Softball League
18	City of Dover
19	Eleanor Mary Dennis
20	Robert S Mairs Rev Liv Trust
21	BNFarmDover LLC
22	COCHECO MILLS HOLDINGS LLC
23	WASHINGTON STREET MILL LLC
24	TURGEON ROBERT & EVA GEN PART
25	MARKER 44 HOLDINGS LLC

Property ID	Abutter Information
26	MAGLARAS GEORGE
27	MAIRS ROBERT S TRUSTEE
28	PUBLIC SERVICE COMPANY OF NH

Cochecho Waterfront Development Project Dover, NH

October 2019

List of Abutters

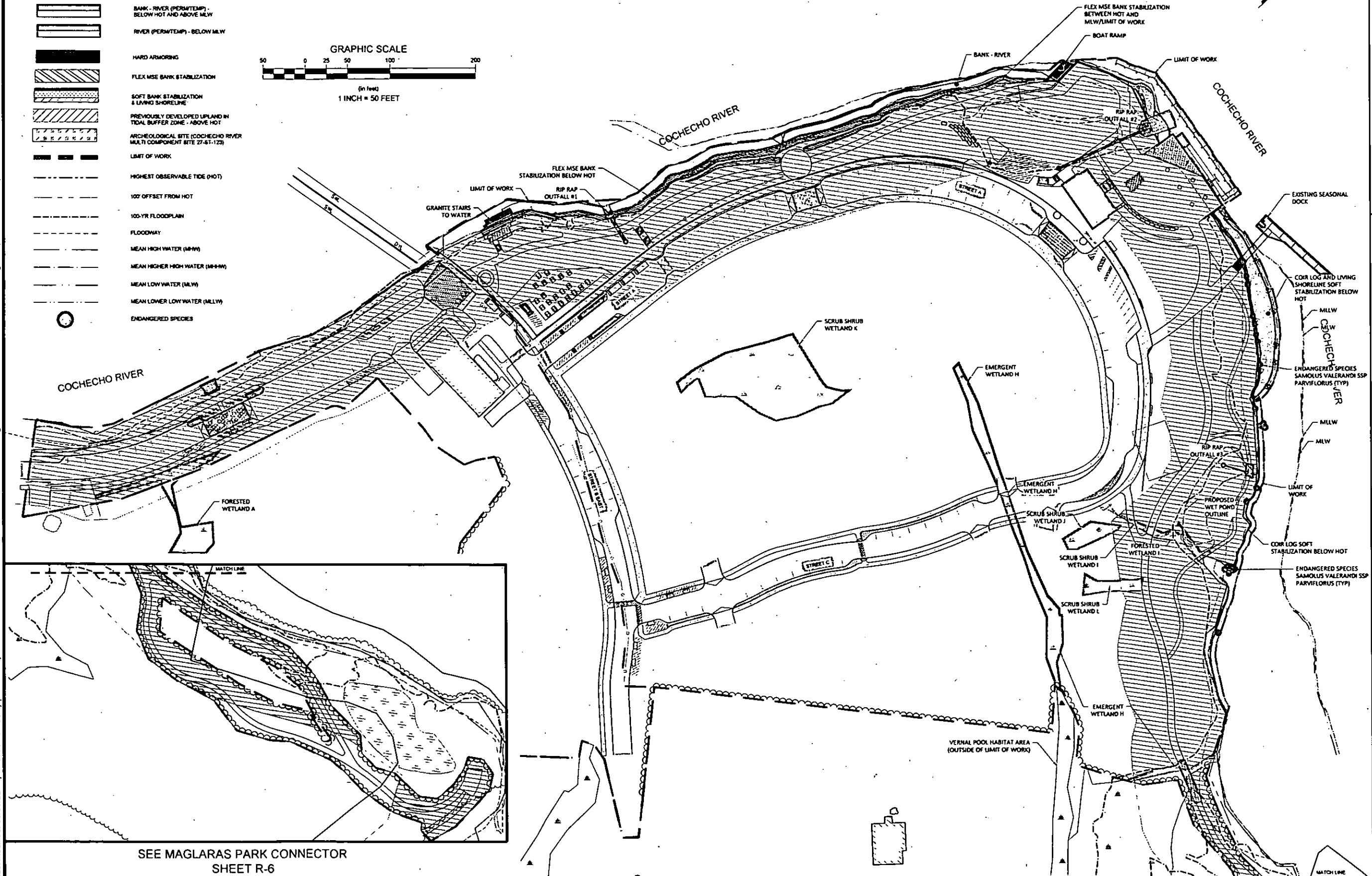
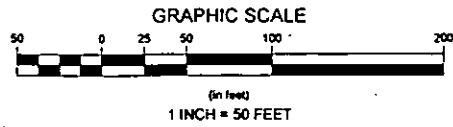
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7, 8, 9	Wayne R and Patricia Taylor, Trustees Taylor Family Revocable Trust
11	Alexander and Tatiana Romanyuk
12	Peter A and Shari R Grieve
13	Jessica L and Eric J Champagne

Property ID	Abutter Information
14	Manuel DeAguirre and Linsley Sikorski
15	Luke T and Elizabeth N Murphy
16	Christopher Jon Prior
17	Dover Youth Softball League
18	City of Dover
19	Eleanor Mary Dennis

RESOURCE LEGEND

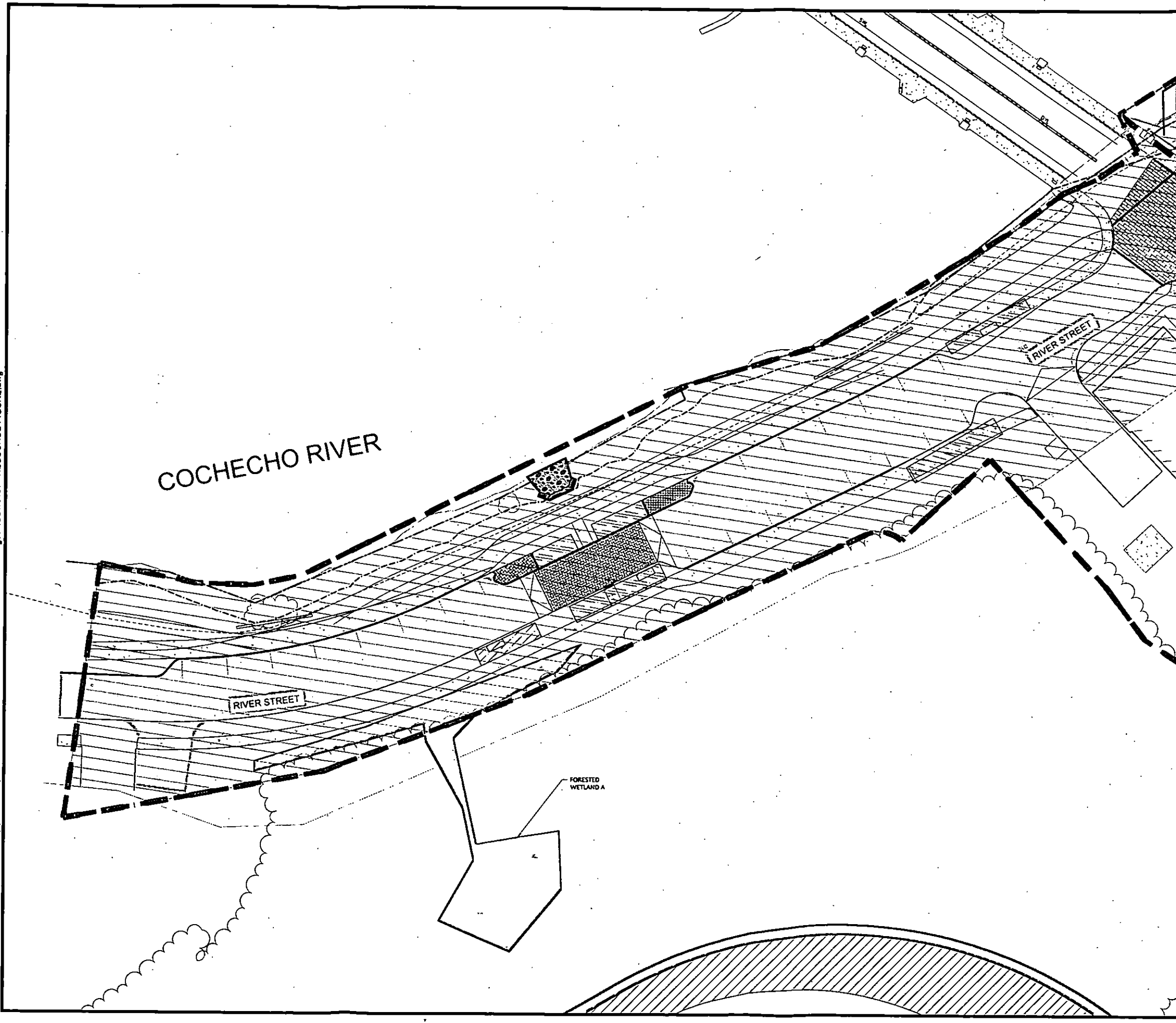
	FORESTED WETLAND
	SCRUB SHRUB WETLAND
	EMERGENT WETLAND (PERMIT TEMP)
	BANK - RIVER (PERMIT TEMP) - BELOW HOT AND ABOVE MLW
	RIVER (PERMIT TEMP) - BELOW MLW
	HARD ARMORING
	FLEX MSE BANK STABILIZATION
	SOFT BANK STABILIZATION & LIVING SHORELINE
	PREVIOUSLY DEVELOPED UPLAND IN TIDAL BUFFER ZONE - ABOVE HOT
	ARCHEOLOGICAL SITE (COCHECHO RIVER MULTI COMPONENT SITE 27-51-123)
	LIMIT OF WORK
	HIGHEST OBSERVABLE TIDE (HOT)
	100' OFFSET FROM HOT
	100-YR FLOODPLAIN
	FLOODWAY
	MEAN HIGH WATER (MHW)
	MEAN HIGHER HIGH WATER (MHHW)
	MEAN LOW WATER (MLW)
	MEAN LOWER LOW WATER (MLLW)
	ENDANGERED SPECIES

NOTES:
1. SHADED AREAS REPRESENT PROPOSED IMPACTS TO JURISDICTIONAL AREAS
2. WETLAND A CALLED OUT ON SHEET R-2 WAS PERMANENTLY IMPACTED DURING PRIOR WORK PERMITTED UNDER NHDES WETLANDS PERMIT #2016-03428. THIS IMPACT IS NOT INCLUDED IN SECTION 14 OF THE WETLAND PERMIT APPLICATION.



SEE MAGLARAS PARK CONNECTOR
SHEET R-6

last modified: 03/08/22 printed: 04/07/22 by po H:\Projects\2015\15157 Union Studio Dover NH Waterfront\Drawing\MISC\15157 - RESOURCE FIGURE.dwg

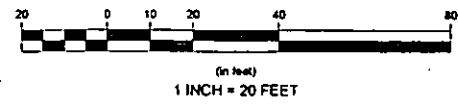


RESOURCE LEGEND

- FORESTED WETLAND
- SCRUB SHRUB WETLAND
- EMERGENT WETLAND (PERMTEMP)
- BANK - RIVER (PERMTEMP) - BELOW HOT AND ABOVE MLW
- RIVER (PERMTEMP) - BELOW MLW
- HARD ARMORING
- FLEX MSE BANK STABILIZATION
- SOFT BANK STABILIZATION & LIVING SHORELINE
- PREVIOUSLY DEVELOPED UPLAND IN TIDAL BUFFER ZONE - ABOVE HOT
- ARCHAEOLOGICAL SITE (COCHECHO RIVER MULTI COMPONENT SITE 27-ST-123)
- LIMIT OF WORK
- HIGHEST OBSERVABLE TIDE (HOT)
- 100' OFFSET FROM HOT
- 100-YR FLOODPLAIN
- FLOODWAY
- MEAN HIGH WATER (MHW)
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GRAPHIC SCALE



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RESOURCE LEGEND

- FORESTED WETLAND
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- ENDANGERED SPECIES

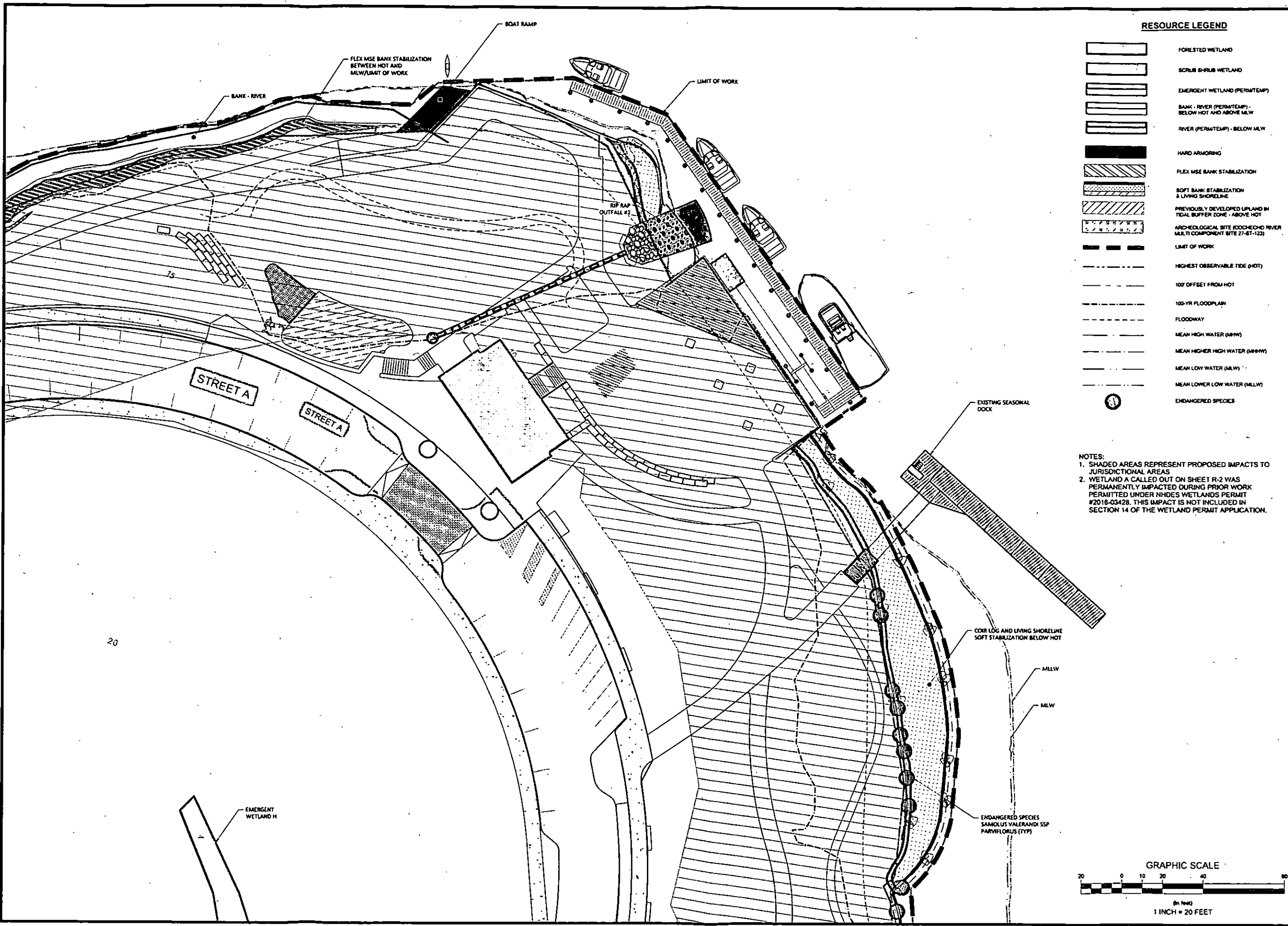
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DOVER WATERFRONT
WETLAND RESOURCE AND BUFFER IMPACTS FIGURE
DOVER, NEW HAMPSHIRE

STREET A RESOURCES (1)

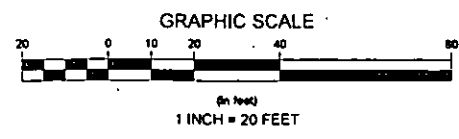
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RESOURCE LEGEND

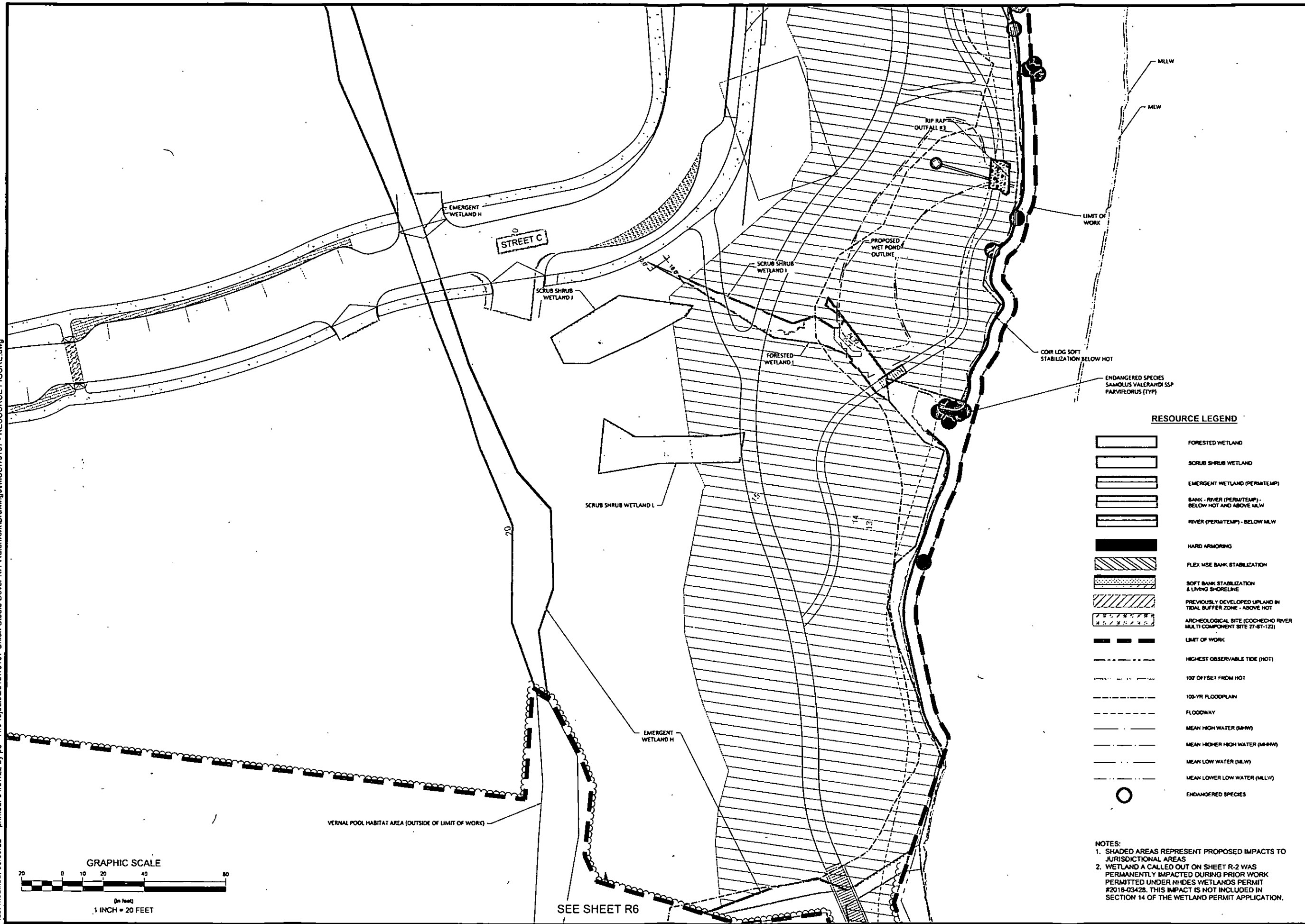
- FORESTED WETLAND
- SCRUB SHRUB WETLAND
- EMERGENT WETLAND (PERMTEMP)
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- SOFT BANK STABILIZATION & LIVING SHORELINE
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- ARCHAEOLOGICAL SITE (DOCKED RIVER MULTI COMPONENT SITE 27-ST-123)
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DOVER WATERFRONT
WETLAND RESOURCE AND BUFFER IMPACTS FIGURE
DOVER, NEW HAMPSHIRE
STREET A RESOURCES (2)

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RESOURCE LEGEND

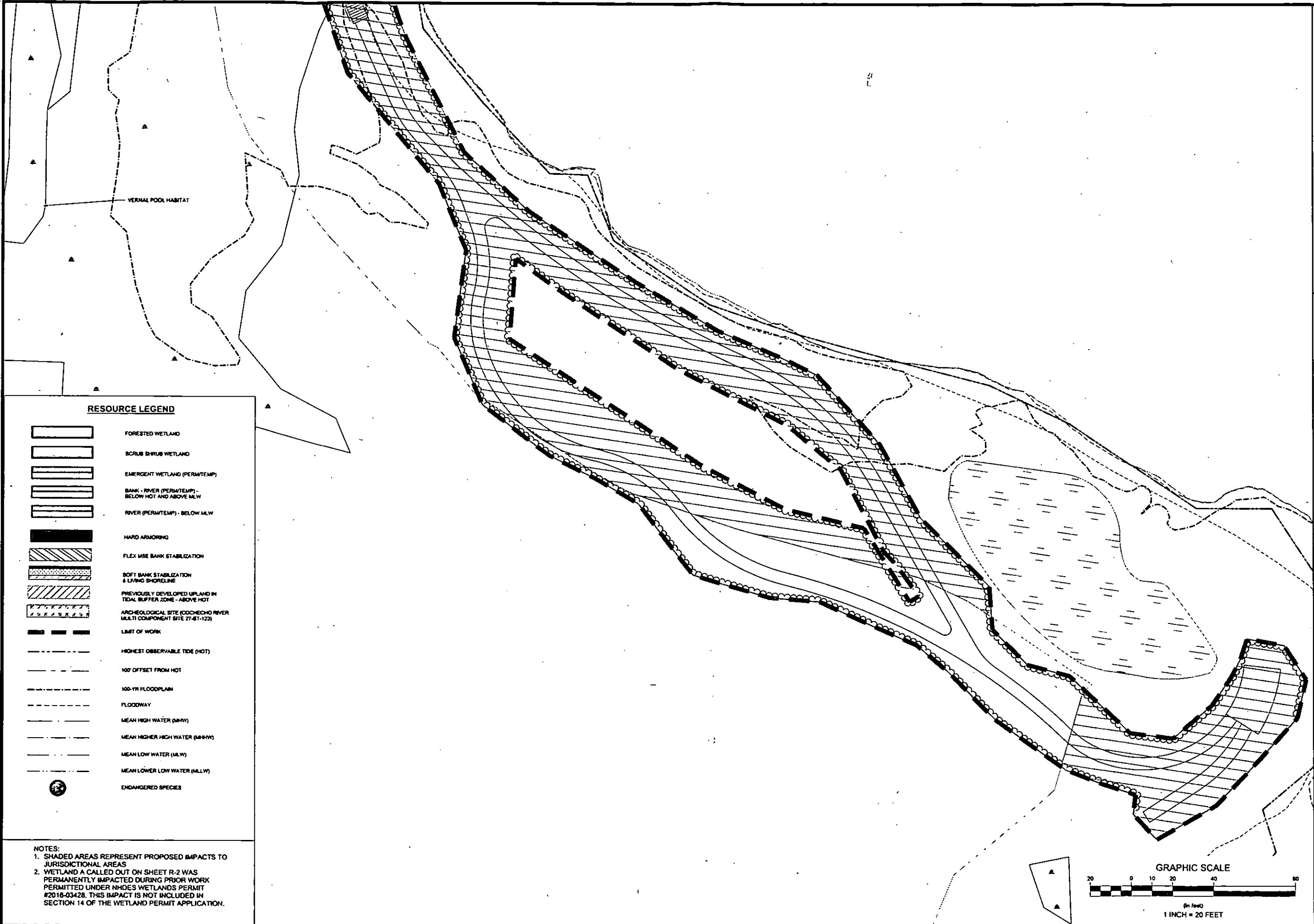
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	LIMIT OF WORK
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	FLOODWAY
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DOVER WATERFRONT WETLAND RESOURCE AND BUFFER IMPACTS FIGURE DOVER, NEW HAMPSHIRE

STREET A RESOURCES (3)

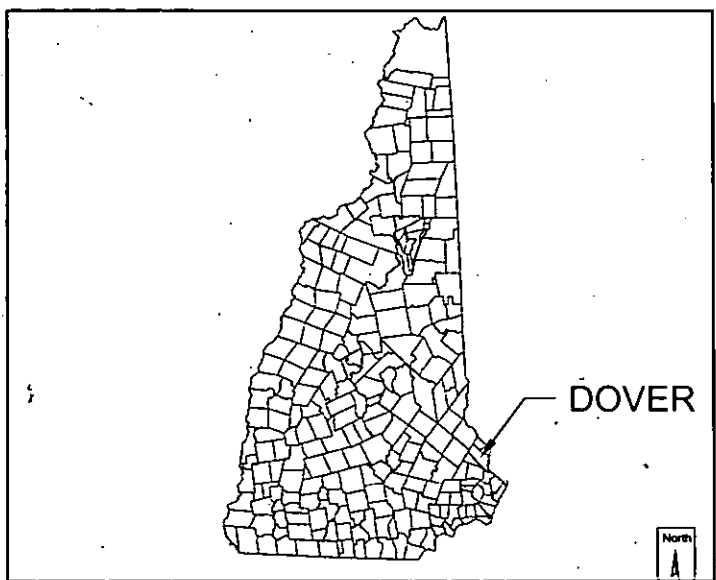
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DOVER WATERFRONT
WETLAND RESOURCE AND BUFFER IMPACTS FIGURE
DOVER, NEW HAMPSHIRE

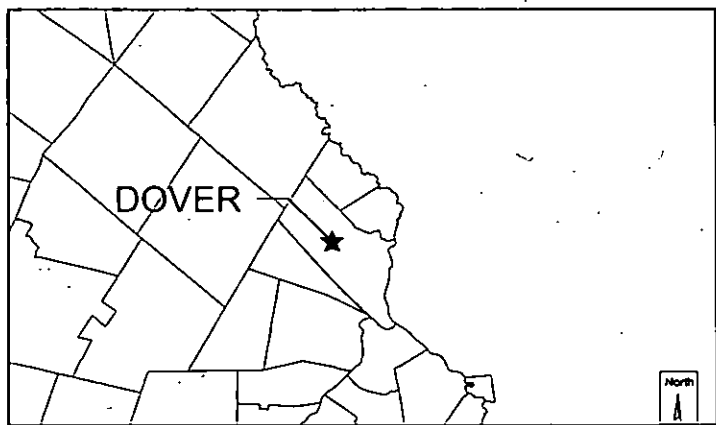
MAGLARAS PARK CONNECTOR RESOURCES

COCHECHO WATERFRONT
90% CONSTRUCTION DRAWINGS
DOVER, NEW HAMPSHIRE
MAY 27, 2022



NEW HAMPSHIRE

Graphic Scale
0 100000
SCALE IN FEET
1:100000



CITY OF DOVER

Graphic Scale
0 12000
SCALE IN FEET
1:12000



VICINITY MAP

Graphic Scale
1-inch = 1000-feet

Sheet List Table	
Sheet Number	Sheet Title
1	COVER SHEET
2	CONSTRUCTION NOTES AND LEGEND
3	EROSION CONTROL & PHASING PLAN
3A	PHASE 1 - ESC & SITE PREPARATION
3B	PHASE 2 - ESC & SITE PREPARATION
3C	PHASE 3 - ESC & SITE PREPARATION
4	OVERALL LAYOUT PLAN
5	SITE PLAN 1
6	SITE PLAN 2
7	SITE PLAN 3
8	SITE PLAN 4
9	SITE PLAN 5
10	GRADING AND DRAINAGE 1
11	GRADING AND DRAINAGE 2
12	GRADING AND DRAINAGE 3
13	GRADING AND DRAINAGE 4
14	GRADING AND DRAINAGE 5
15	UTILITY PLAN 1
16	UTILITY PLAN 2
17	ROADWAY PROFILE 1
18	ROADWAY PROFILE 2
19	ROADWAY PROFILE 3
20	ROADWAY PROFILE 4
21	ROADWAY PROFILE 5
22	SIGNAGE AND STRIPING PLAN 1
23	SIGNAGE AND STRIPING PLAN 2
24	SIGNAGE AND STRIPING PLAN 3
25	SIGNAGE AND STRIPING PLAN 4
26	SIGNAGE AND STRIPING PLAN 5
27	BANK STABILIZATION (1)
28	BANK STABILIZATION (2)
29	BANK STABILIZATION SECTIONS
30	ROADWAY CONSTRUCTION DETAILS 1
31	ROADWAY CONSTRUCTION DETAILS 2
32	STORMWATER MANAGEMENT DETAILS
33	WETLAND PROFILE & DETAILS
L-1.0 - L-1.1	TREE PROTECTION PLANS
L-2.0	PARK LAYOUT OVERVIEW
L-2.1	PARK LAYOUT AREA 1
L-2.2	PARK LAYOUT AREA 2
L-2.3	PARK LAYOUT AREA 3
L-2.4	PARK LAYOUT AREA 4
L-4.0	PLANTING PLAN - TREES
L-4.1	PLANTING PLAN AREA 1
L-4.2	PLANTING PLAN AREA 2
L-4.3	PLANTING PLAN AREA 3
L-4.4	PLANTING SCHEDULES AND SEED MIXES
L-5.0 - L-5.1	LANDSCAPE SECTIONS
L-5.2	LANDSCAPE DETAILS
L-5.3	VEGETATED WALL SECTIONS AND ELEVATIONS
L-5.4	LIGHTING CUT SHEETS
S1-4	FLOATING DOCK STRUCTURAL SHEETS

Plan Set:

COCHECHO WATERFRONT
90% CONSTRUCTION DRAWINGS
DOVER, NEW HAMPSHIRE

Prepared For:

City of Dover
288 Central Ave.
Dover, NH 03820
(603) 516-6000

Prepared By:

Horsley Witten Group, Inc.
Sustainable Environmental Solutions
www.horsleywitten.com

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90 Route 6A
Sandwich, MA 02563
(508) 833-6600 voice
(508) 833-3150 fax

294 Washington Street Suite 801
Boston, MA 02108
(857) 283-8193 voice
(617) 574-4799 fax

55 Dorrance Street, Suite 200
Providence, RI 02906
(401) 272-1717 voice
(401) 439-8308 fax

113 R2 Water Street
Exeter, NH 03833
(603) 658-1660

Revisions

10/24/19	OC	JF	WETLANDS SUBMITTAL
6/25/21	JN	JF	INTERIM ADT RFI RESPONSE
7/19/21	JN	JF	INT. WETLANDS RFI RESPONSE
10/28/21	JN	JF	ADT RFI RESPONSE
11/29/21	JF	JF	WETLANDS RESPONSE
04/04/22	PO	JF	WETLANDS RESPONSE
05/27/22	PO	JF	90% CONSTRUCTION DRAWINGS

Project Number:

15157

Sheet Number:

1 of 57

Drawing Number:

C-1



PERMITTING SET
NOT FOR CONSTRUCTION

last modified: 05/28/22 printed: 05/27/22 by po H:\Projects\2015\15157 Union Studio Dover NH Waterfront\Drawings\15157 CN.dwg

- ### GENERAL CONSTRUCTION NOTES

- ### GENERAL DEMOLITION NOTES

1. UNLESS OTHERWISE NOTED, THE CONTRACTOR IS RESPONSIBLE FOR THE RELOCATION, DEMOLITION, REMOVAL, AND DISPOSAL, IN A LOCATION APPROVED BY ALL GOVERNING AUTHORITIES OF ALL EXISTING SITE ELEMENTS AND STRUCTURES INCLUDING, BUT NOT LIMITED TO, BUILDINGS, ROADWAYS, PARKING AREAS, UTILITY CONCRETE, CEMENT CURBS, CURBS, WALLS, SIDEWALKS, BARRIERS, POLES, POSTS, PLANTING BEDS, TREES, SHRUBS, UTILITIES, DAMAGE STRUCTURES AND ALL OTHER FEATURES WHICH ARE TO BE REMOVED OR RELOCATED. THE CONTRACTOR SHALL BE RESPONSIBLE TO ALLOW FOR ANY CONSTRUCTION, ALL FACILITIES TO BE REMOVED ARE TO BE UNDERGUT TO SUITABLE MATERIAL AND BROUGHT TO GRADE WITH SUITABLE COMPACTED FILL MATERIAL PER SPECIFICATIONS.
2. REMOVE ALL DEBRIS FROM THE SITE AND DISPOSE OF THE DEBRIS IN A PROPER AND LEGAL MANNER.
3. OBTAIN ALL PERMITS REQUIRED FOR DEMOLITION AND DISPOSAL.
4. COORDINATE WITH RESPECTIVE UTILITY COMPANIES PRIOR TO THE REMOVAL AND/OR RELOCATION OF UTILITIES. COORDINATE WITH THE UTILITY COMPANIES CONCERNING PORTIONS OF THE WORK WHICH MAY BE PERFORMED BY THE UTILITY COMPANY AND ANY FEES WHICH ARE TO BE PAID TO THE UTILITY COMPANY FOR THEIR SERVICES. THE CONTRACTOR IS RESPONSIBLE FOR PAYING ALL FEES AND CHARGES.

- NEW HAMPSHIRE FISH AND GAME AOT PERMIT CONDITIONS RELATED TO THREATENED AND ENDANGERED SPECIES:

- ### BASIC CONSTRUCTION SEQUENCE

2. PLACE SEDIMENTATION BARRIERS STRAINABLES, BULK, SILT, FINE, ETC AS INDICATED ON DRAWINGS AND STAKED OUT IN THE FIELD UNDER NO CIRCUMSTANCES IS THE LIMIT OF WORK TO EXCEED ANYWHERE THE SEDIMENTATION BARRIERS/LIMIT OF DISTURBANCE AS INDICATED ON DRAWINGS AS APPROVED BY THE DEPARTMENT OF ENVIRONMENTAL SERVICES (DES). NOTE THAT THE INSTALLATION OF THE SHEET PILE COFFER DAM AS INDICATED IN THE DESIGN AND SEDIMENT CONTROL PLAN CONSTITUTES LIQUID OR IMPACTFUL ACTIVITY AS DEFINED AND PERMITTED BETWEEN MARCH 15 AND JULY 1. ADDITIONAL TURBIDITY CURTAIN OR EQUIVALENT SILTATION PROTECTION REQUIRED PRIOR TO INSTALLATION IF INSTALLATION OCCURS IN THE WET BETWEEN 15 AND NOVEMBER 15.

- ### GENERAL GRADING AND DRAINAGE NOTES

- ## DEWATERING

1. HIGH WATER TABLE IS ANTICIPATED, IF THE WATER TABLE IS ENCOUNTERED DURING EXCAVATION, TEMPORARILY LOWER THE WATER TABLE AS INDICATED IN THE SPECIFICATIONS.
2. PRIOR TO ANY Dewatering, THE Dewatering PLAN MUST BE APPROVED BY THE ENGINEER.
3. IF Dewatering IS NECESSARY DURING CONSTRUCTION, EQUIPMENT OF THE FOLLOWING CLASS MEASURES ON SITE TO PREVENT EROSION OR BOBBY RUNOFF. THESE MEASURES INCLUDE Dewatering BARRIERS, SAND FILTERS, SILT FENCERS, SILT BODIES AND/OR OTHER APPROVED DEVICES AS INDICATED IN THE DETAILS. SEE PHOSPHOR PLANS C-4, C-8, AND C-10.

THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER INSPECTION AND MAINTENANCE OF ALL STORMWATER MANAGEMENT FACILITIES AS OUTLINED BELOW UNTIL SUCH TIME THAT THE ROADWAYS AND ASSOCIATED UTILITIES ARE ACCEPTED BY THE OWNER AND THE

- NOTE: OPERATION AND MAINTENANCE CHECKLIST AVAILABLE UPON REQUEST

1. INSTALL SEWER AND WATER MAINS ACCORDING TO THE FOLLOWING GUIDELINES TO PREVENT FREEZING OF THE MAIN OR SEWER

2. INSULATE SANITARY FORCE MAINS, WATER MAINS, HYDRANT PIPING AND DEAD END WATER LINES WHERE SOIL COVER OR HORIZONTAL SEPARATION TO PRECAST STRUCTURES IS LESS THAN THE DISTANCE SPECIFIED ABOVE AND/OR WHERE SHOWN ON PLANS.
3. INSULATION 2" THICK POLYURETHANE INSULATION WITH PVC JACKET PLACED AROUND PIPE OR DESIGNER APPROVED EQUAL.

4. WATER AND SEWER SEPARATION IS TYPICALLY 10-FOOT MINIMUM HORIZONTAL AND 18-INCHES VERTICAL WITH SEWER MAINS BELOW THE WATER MAINS (SEE DETAIL). IF SITE CONDITIONS REQUIRE LESS, THEN INSTALL UTILITIES AS INDICATED ON DETAILS.

1. PRIOR TO THE START OF CONSTRUCTION A NOTICE OF INTENT (NOI) MUST BE FILED WITH EPA. REFER TO THE STORMWATER AND POLLUTION PREVENTION PLAN (SWPPP) REGARDING ALL EROSION CONTROL MATTERS. MAINTAIN A WORKING COPY OF SWPPP ON-SITE AT ALL TIMES. FOLLOW THE SWPPP PROTOCOL FOR SITE MAINTENANCE, INSPECTIONS AND PROPER

- [illegible]

1. ALL CUT AND FILL SLOPES SHALL BE 3:1 OR FLATTER UNLESS OTHERWISE NOTED.
2. EXISTING GRADES AND ELEVATIONS SHALL BE SHOWN AT 10' INTERVALS.
3. PROPOSED GRADE CONTOUR INTERVALS SHALL BE AT 1' FOOT.
4. ADJUST ANCHOR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH FIT AND CONTINUOUS GRADE.
5. PROPOSED ELEVATIONS ARE SHOWN TO FINISH PAVEMENT OR GRADE UNLESS NOTED OTHERWISE.
6. EXISTING AND PROPOSED DRAINAGE INFORMATION MUST BE SHOWN TO REFLECT THE RECOMMENDATIONS OF ANY SURFACE INVESTIGATION OR GEOTECHNICAL REPORTS PREPARED FOR THIS SITE.
7. ALL DRAINAGE STRUCTURES AND PIPES MUST BE CONNECTED TO THE DRAINAGE SYSTEM PRIOR TO THE INSTALLATION OF ANY PAVEMENT. PAVING WILL NOT BE ALLOWED IF THE DRAINAGE SYSTEM FOR THE PROPOSED PAVED AREA IS INCOMPLETE. THE PAVING CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILIZATION OF THE DISTURBED AREAS CONTRIBUTING TO THE DRAINAGE SYSTEMS AND ANY STORMWATER BASIN FLOORS AND FILL SLOPES.

1. CONSTRUCT THE WATER MAIN AND ITS APPURTENANCES IN ACCORDANCE WITH THE LOCAL WATER DEPARTMENT'S STANDARDS AND SPECIFICATIONS AND PAY FOR ALL ASSOCIATED FEES AS REQUIRED BY THE WATER DEPARTMENT.
2. ALL PROPOSED WATER MAINS 48" AND GREATER IN DIAMETER ARE DUCTILE IRON CLASS 52. ONLY USE 48" HOSE 300# OR AS INDICATED ON DRAWINGS OR AS APPROVED BY THE ENGINEER.
3. SUPPLY TWO COPIES OF INVOICES CERTIFICATES TO PROVE THAT ALL PIPES AND FITTINGS ARE INSPECTED AND TESTED AS REQUIRED BY THE STANDARD SPECIFICATIONS TO WHICH THE MATERIAL IS MANUFACTURED.
4. GATE VALVES: MULLER 1" X 250 SERIES, CLOW 1" X 100" STANDARD CSD SERIES, AMERICAN (DAIRY AND PRESIDENT) (WEDCO) OR APPROVED EQUAL.
5. PROVIDE GATE VALVES ON ALL HYDRAULIC BRANCHES AND WATER MAIN. THE GATE VALVE TO TURN IN THE LEFT TO OPEN CLOSURES, ALL BOLTS AND NUTS MUST BE NIPER PROOF STEEL.
6. CLEAR ALL NEWLY INSTALLED WATER SYSTEM COMPONENTS OF ALL FOREIGN MATERIALS SUCH AS OIL AND MISCELLANEOUS DEBRIS PRIOR TO SYSTEM TESTING. NO TESTING IS ALLOWED WITHOUT REMOVAL OF ALL FOREIGN MATERIALS.
7. CONTRACTOR IS RESPONSIBLE FOR CONDUCTING A PRELIMINARY TEST AND DISINFECTION TEST OF ALL WATER MAIN. THE TESTS MUST BE WITNESSED BY THE APPROVED INSPECTOR OR THE ENGINEER. THE CONTRACTOR MUST PROVIDE A MINIMUM OF 48-HOUR ADVANCE NOTICE TO THE LOCAL WATER DEPARTMENT PRIOR TO THE PRELIMINARY AND DISINFECTION TESTS. THE CONTRACTOR MUST PROVIDE ALL NECESSARY SUPPLIES AND CHEMICALS TO PROPERLY CONDUCT THE TESTS.
8. INSTALL AND REMOVE ALL NECESSARY BLOW-OFFS REQUIRED FOR THIS PROJECT AT NO EXTRA COST TO THE OWNER.
9. COLLECT ALL BACTERIOLOGICAL SAMPLES AND PAY FOR ALL RELATED LABORATORY FEES.
10. MAINTAIN UP-TO-GATE AS-BUILT DRAWINGS AND NOTES INDICATING THE HORIZONTAL AND VERTICAL LOCATION WITH TWO FEET OF ALL SYSTEM COMPONENTS INSTALLED. AS-BUILT DRAWINGS AND NOTES MUST BE UTILIZED BY THE ENGINEER FOR THE PREPARATION OF A SUE.

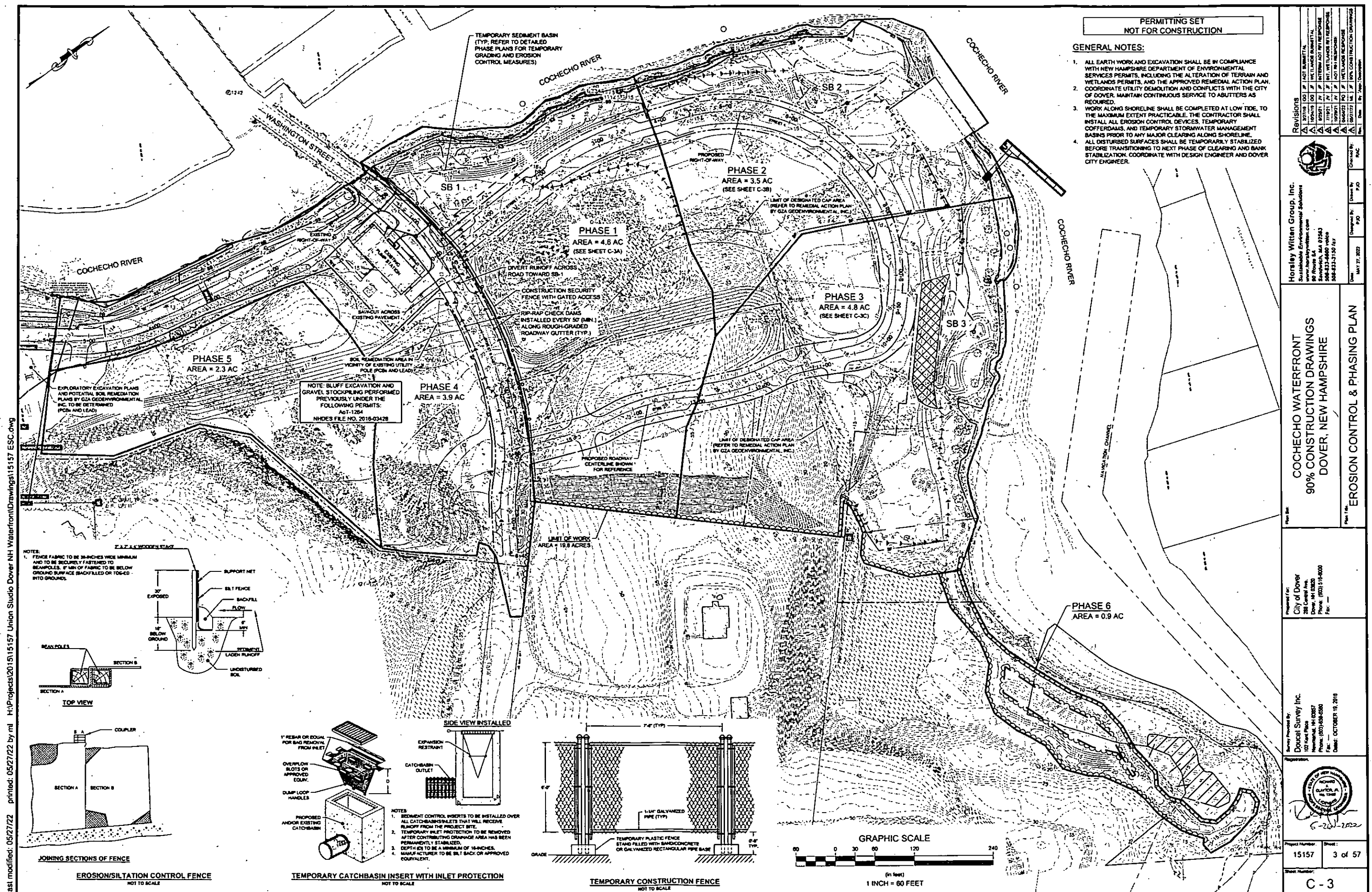
1. CLEAN ALL NEWLY INSTALLED FACILITIES, INCLUDING SEWER COLLECTION SYSTEMS OF ALL FOREIGN MATERIALS SUCH AS DIRT AND MISCELLANEOUS DEBRIS PRIOR TO SYSTEM TESTING. TESTING MUST BE WITNESSED AND INSPECTED BY THE ENGINEER. NO TESTING IS ALLOWED WITHOUT REMOVAL OF ALL FOREIGN MATERIALS.
2. CONDUCT A LEAKAGE TEST OF ALL SEWER MAINS. TEST MUST BE WITNESSED BY THE ENGINEER. THE CONTRACTOR MUST PROVIDE THE ENGINEER WITH A MINIMUM OF 48-HOURS ADVANCE NOTICE TO THE TIME OF THE PRESSURE TEST.
TEST SEWER PIPES FOR LEAKAGE WITH THE FOLLOWING PROCEDURE: INTRODUCE LOW PRESSURE AIR INTO THE SEAL LINE AND PRESSURE IN THE DISCHARGE LINE TO A MINIMUM OF 1.5 INCHES (38.1 MM) GREATER THAN THE AVERAGE AIR PRESSURE OF ANY GROUNDWATER THAT MAY BE OVER THE PIPE. ALLOW AT LEAST 2 MINUTES FOR AIR PRESSURE TO STABILIZE. AFTER THE STABILIZATION PERIOD (1.5 INCHES MINIMUM PRESSURE IN THE PIPE), THE PORTION OF PIPE TESTED IS ACCEPTABLE IF THE REQUIRED MINUTES FOR THE PRESSURE TO DECREASE FROM 1.5 TO 1 IS NOT LESS THAN 1:30 TIMES THE LENGTH OF PIPE BEING TESTED.
3. VACUUM TEST ALL SEWER MANHOLES. TESTS MUST BE WITNESSED BY THE ENGINEER AND THE SEASONAL GROUNDWATER LEVEL IS MORE THAN 18 FEET FROM THE BOTTOM OF THE MANHOLE.
4. MANHOLE TEST ALL SEWER MAINS AFTER 30 DAYS. TESTS MUST BE WITNESSED BY A CITY REPRESENTATIVE OR THE ENGINEER.

GENERAL			
EXISTING	PROPOSED		SYMBOLS
		BERM	BENCHMARK
		BERM CUT	BOUNDARY
		BUILDING	EXISTING TREE
		CENTERLINE	1:1-2:1 EXISTING SPOT GRADE
		CONTOUR - MINOR	EL. 10.00 SPOT GRADE
		CONTOUR - MAJOR	SEWER MANHOLE
		CURB	ELECTRIC MANHOLE
		CURB CUT	MANHOLE
		EDGE OF PAVEMENT	DRAIN MANHOLE
		FENCE - CHAIN LINK	CATCH-BASH
		FENCE - WIRE	BIOMEDICATION OUTLET
		FENCE - WOOD	FLARED END OUTLET
		GUARD RAIL	STONE APRON
		LIMIT OF WORK	INLET PROTECTION
		STONE	WATER VALVE
		SIDEWALK	
		STORMWATER AREA	
		TREE LINE	
		WALL - RETAINING	
		WALL - STONE	
		CONCRETE	
		CROSSMAN/PAVEMENT STRIPPING	

PROPERTY INFORMATION		
EXISTING	PROPOSED	
_____	- - - - -	ABUTTING LOT
_____	_____	EASEMENT LINE
_____	_____	PROPERTY, LOT, OR ROW
_____	_____	SETBACK LINE
UTILITIES		
EXISTING	PROPOSED	
D _____ D	[S] [W] [G] [E] [C] [F] [M]	DRAIN PIPE
G _____	G _____	GAS LINE
O-W _____	O-W _____	OVERHEAD WIRE
S _____	S _____	SANITARY SEWER
F-M _____	F-M _____	SEWER FORCE MAIN
E/C _____	E/C _____	UNDERGROUND E/C
U-G _____	U-G _____	UNDERGROUND ELEC.
W _____	W _____	WATER LINE
EROSION & SEDIMENT CONTROL		
SF _____	SILT FENCE	
SS _____	SILT BOCK	
ENVIRONMENTAL		
_____	WETLAND BOUNDARY	
_____	HIGHEST OBSERVABLE TIDE (HOT)	
_____	MEAN HIGH WATER (MHW)	
_____	MEAN LOW WATER (MLW)	
_____	MEAN HIGHER HIGH WATER (MHHW)	
_____	MEAN LOWER LOW WATER (MLLW)	
_____	FLOODWAY	
_____	100 HIGHEST OBSERVABLE TIDE BUFFER	
_____	PEMA 100-YR FLOOD ZONE	

	GAS VALVE
	CLEAN OUT
	PIPE STUB
	UTILITY BOX
	HYDRANT
	UTILITY POLE W/OUY
	UTILITY POLE
	GUY
	LIGHT POST
	MONITORING WELL
	WATER WELL
	TEST PIT
	BORING
	WETLAND FLAG
	ROCK
	SIGN
	MANHOLECAP SYMBOL
	NUMBER OF PARKING SPACES

PERMITTING SET
NOT FOR CONSTRUCTION



Revisions	Rev.	Date	By	Appr.	Description
1	307118	00	JP	ACT	SUBMITTAL
2	1007119	00	JP	INTERVAL BURNING	METAL
3	802621	NV	JP	INTERVAL ACT RESPONSE	
4	1100721	NV	JP	INTERVAL RESPONSE	
5	1006971	NV	JP	INTERVAL RESPONSE	
6	0406972	NV	JP	INTERVAL RESPONSE	
7	0001772	16	JP	80% CONSTRUCTION DRAWINGS	



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90% CONSTRUCTION DRAWINGS
DOVER, NEW HAMPSHIRE

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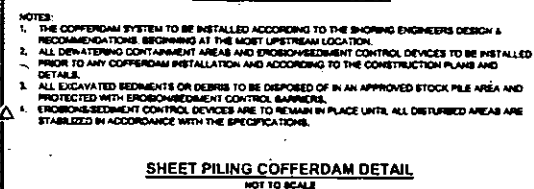
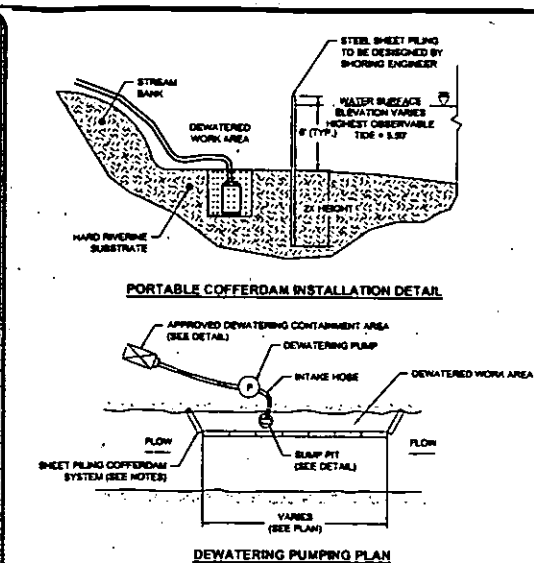
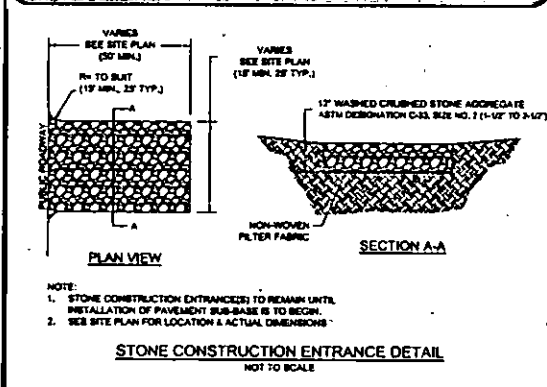
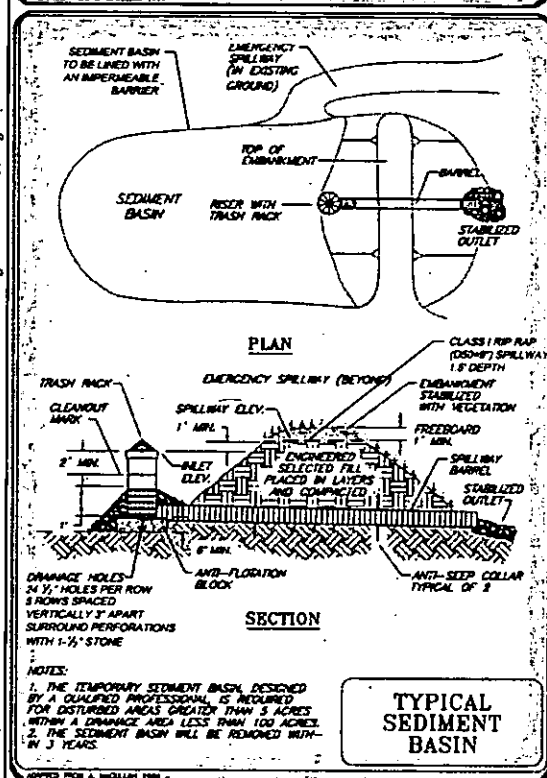
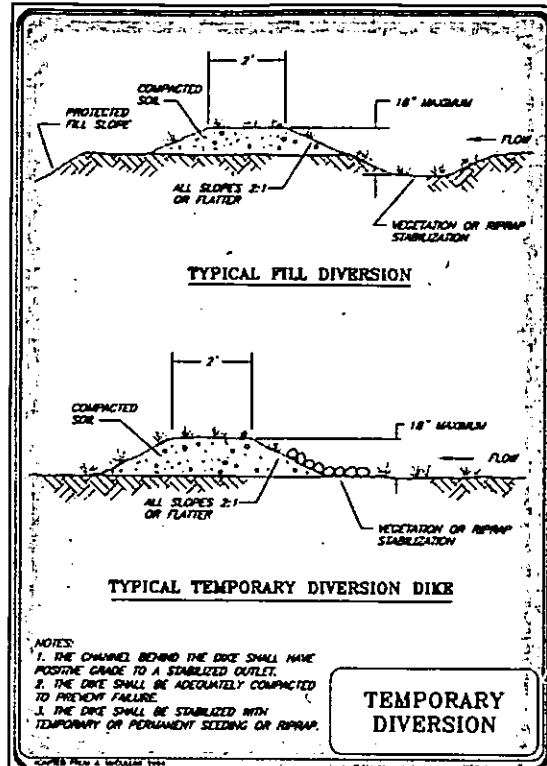
Survey Provided By:
Doucet Survey Inc.
102 Kent Place
Newmarket, NH 03857
Phone: (603)-859-0500
Fax: —
Dated: OCTOBER 19, 2018



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15157	3 of 57

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last modified: 05/27/2022 printed: 05/27/2022 by ml H:\Projects\2015\15157 Union Studio Dover NH Waterfront\Drawings\15157 ESC.dwg



SEDIMENT BASIN NOTES:

1. MATERIAL EXCAVATED DURING SEDIMENT BASIN CONSTRUCTION SHOULD BE DISPOSED OF IN ACCORDANCE WITH THE APPROVED REMEDIAL ACTION PLAN AND ALL RELATED REQUIREMENTS. COORDINATE WITH THE CITY & ENVIRONMENTAL ENGINEER.

SEDIMENT BASIN 1 SIZING

DRAINAGE AREA (LARGER BETWEEN EX AND PRO) = 3.53 AC
REQUIRED STORAGE (3,000 CF PER ACRE OF DRAINAGE AREA) = 14,130 CF
DESIGN STORAGE = 15,000 CF
EMBANKMENT ELEVATION = 12.0'
OVERFLOW SPILLWAY ELEVATION = 12.0'
BOTTOM OF BASIN = 8.0'

EROSION AND SEDIMENT CONTROL (ESC) PHASE 1 CONSTRUCTION SEQUENCE

PHASES 1 & 2 ARE INDIVIDUAL EROSION AND SEDIMENT CONTROL MANAGEMENT UNITS OF THE CONSTRUCTION SITE AND MAY TAKE PLACE CONCURRENTLY.

1. SURVEY AND STAKE THE PROPOSED LIMIT OF DISTURBANCE AND LIMIT OF SEDIMENTATION BARRIERS.
2. PLACE SEDIMENTATION BARRIERS (DIVERSION DIKES, SILT SOCK, SILT FENCE) AS INDICATED ON DRAWINGS AND STAKED OUT IN THE FIELD. UNDER NO CIRCUMSTANCES IS THE LIMIT OF WORK TO EXTEND BEYOND THE SEDIMENTATION BARRIERS LIMIT OF DISTURBANCE AS INDICATED ON DRAWINGS AS APPROVED BY THE DEPARTMENT OF ENVIRONMENTAL SERVICES (DES).
3. INSTALL TEMPORARY CONSTRUCTION ENTRANCES IN LOCATIONS INDICATED ON DRAWINGS. NO OTHER ENTRANCES ARE TO BE USED TO GAIN ACCESS TO THE SITE BY ANY CONSTRUCTION OR DELIVERY VEHICLES.
4. BEGIN CLEARING ONLY THE AREAS REQUIRED TO CONSTRUCT TEMPORARY SEDIMENT CONTROL MEASURES. CLEAR THE SITE AS REQUIRED FOR TEMPORARY SEDIMENT BARRIERS. LIMIT SITE CLEARING AS TO UNNAMED DISTURBED SURFACES AND POSSIBLE UNTREATED DISCHARGE DURING RAINFALL PRODUCING EVENTS.
5. INSTALL TEMPORARY STORMWATER MANAGEMENT SEDIMENT BASIN 1. INSTALL RIP RAP OVERFLOW SPILLWAY, STABILIZED INFLOW CHANNELS, AND TEMPORARY RISER AND BARREL AS SHOWN ON PLAN AND DETAIL. TEMPORARY SEDIMENT BASIN TO BE LINED WITH IMPERMEABLE BARRIER.
6. INSTALL SHEET PILING COFFERDAM PER CONTRACTOR'S SUBMITTAL TO LIMITS AS SHOWN ON PLAN. NOTE THAT THE INSTALLATION OF THE SHEET PILING COFFERDAM CONSTITUTES A LOAD OR IMPACTFUL ACTIVITY, AND IS THEREFORE PROHIBITED BETWEEN MARCH 15 AND JULY 1. ADDITIONAL TURBIDITY CURTAIN OR EQUIVALENT SEDIMENT PROTECTION REQUIRED PRIOR TO INSTALLATION IF INSTALLATION OCCURS IN THE NET BETWEEN JULY 15 AND NOVEMBER 15.
7. INSTALL TEMPORARY FILL DIVERSION DIKE TO DIRECT RUNOFF TO TEMPORARY SEDIMENT BASIN 1.
8. INSTALL FLOATING SEDIMENT CURTAIN AROUND OUTFALL LOCATION AS SHOWN.
9. BEGIN CLEARING LARGE VEGETATION (2' OR GREATER IN HEIGHT) ALONG RIVER BANK TO ALLOW FOR ACCESS TO CONSTRUCT DRAINAGE OUTFALL 1, DRAIN 100A, DRAIN 100, AND CONNECTING PIPE. INSTALL PLUNGE POOL/RIP RAP AT OUTFALL. RESUME WORK FOR INSTALLATION DURING LOW TIDE.
10. CONNECT SEDIMENT BASIN 1 OUTFALL PIPE TO DRAIN 100A AS SHOWN ON PLAN.
11. REMOVE REMAINING STUMPS AND OTHER VEGETATION ALONG BANK TO ALLOW FOR ACCESS DURING BANK STABILIZATION CONSTRUCTION.
12. EXCAVATE BANK TO SUBGRADE AND INSTALL FABRIC CAP AS SPECIFIED ON THE DRAWINGS AND DETAILS.
13. INSTALL BANK STABILIZATION AND PERMANENTLY STABILIZE BANK. REFER TO BANK STABILIZATION PLANS FOR INSTALLATION STEPS AND DETAILS. INSTALLATION OF LINE BARRIERS IN BANK TO BE DELAYED AS NEEDED TO TAKE PLACE DURING DORMANT SEASON.
14. CONCURRENT WITH OR FOLLOWING STEP 11, CLEAR AND GRUB REMAINING AREA IN PHASE 1. ROUGH GRADE TO THE MAXIMUM EXTENT PRACTICABLE WHILE MAINTAINING TEMPORARY STORMWATER CONTROLS AND WITHOUT DISTURBANCE INTO PHASE 2.
15. UPON COMPLETION OF SITE ROUGH GRADING, TEMPORARILY STABILIZE ANY AREA TO REMAIN IDE FOR 14 DAYS OR LONGER.
16. INSTALL UTILITIES, REMAINING PERMANENT STORM DRAINAGE NETWORK, BASE PAVING AND SIDEWALKS. UPON COMPLETION OF BASE PAVING, TEMPORARILY STABILIZE ALL UPSTREAM AREAS. FLUSH DRAINAGE SYSTEM OF ANY ACCUMULATED SEDIMENT.
17. CONVERT TEMPORARY SEDIMENT BASINS TO PERMANENT STORMWATER MANAGEMENT CONTROL PRACTICES.
18. REMOVE SHEET PILING COFFERDAM.
19. INSTALL BIOWALES AND TREE TRENCH MEDIA.
20. FINAL PAVING TO BE COMPLETED FOLLOWING PERMANENT DEVELOPMENT PROPOSAL AS DIRECTED BY CITY OF DOVER.

DEWATERING:

1. HIGH WATER TABLE IS ANTICIPATED. IF THE WATER TABLE IS ENCOUNTERED DURING EXCAVATION, TEMPORARILY LOWER THE WATER TABLE AS INDICATED IN THE SPECIFICATIONS.
2. PRIOR TO ANY DEWATERING, THE DEWATERING PLAN MUST BE APPROVED BY THE ENGINEER.
3. IF DEWATERING IS NECESSARY DURING CONSTRUCTION, IMPLEMENT THE PROPER ESC MEASURES ON SITE TO PREVENT EROSION OR SEDIMENT RUNOFF. THESE MEASURES CAN INCLUDE DEWATERING BAGS, TEMPORARY STRAWBALES, SILT FENCES, SILT SOCKS AND/OR OTHER APPROVED DEVICES AS INDICATED IN THE DETAILS.

PERMITTING SET

NOT FOR CONSTRUCTION

GRAPHIC SCALE

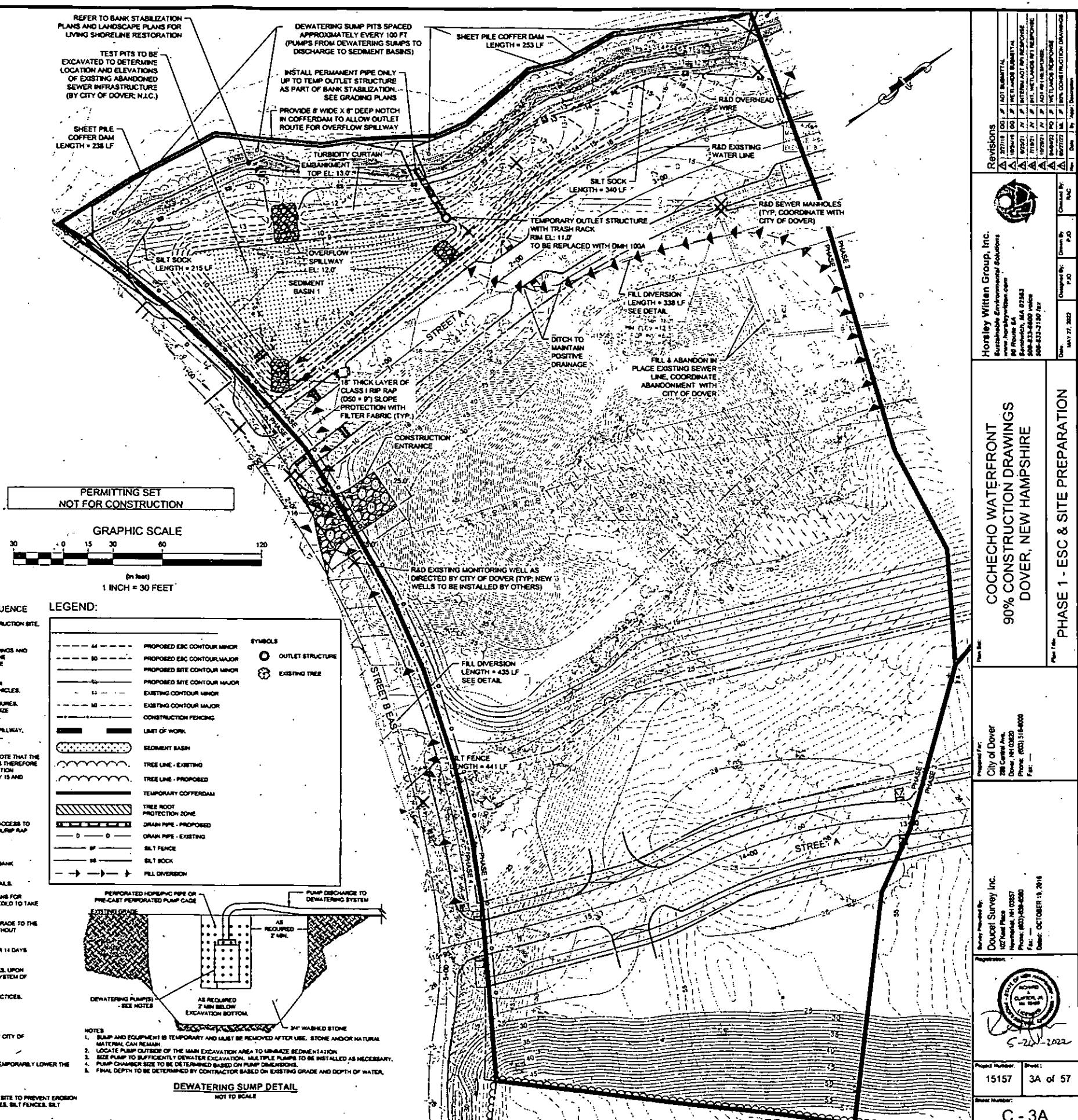
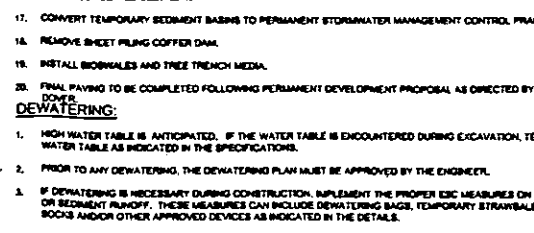
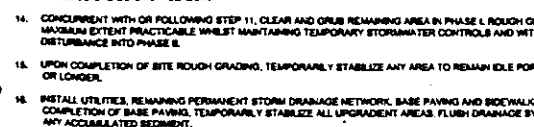
30 0 15 30 60 120

(in feet)

1 INCH = 30 FEET

LEGEND:

SYMBOLS	DESCRIPTION
---	PROPOSED ESC CONTOUR MINOR
---	PROPOSED ESC CONTOUR MAJOR
---	PROPOSED SITE CONTOUR MINOR
---	PROPOSED SITE CONTOUR MAJOR
---	EXISTING CONTOUR MINOR
---	EXISTING CONTOUR MAJOR
---	CONSTRUCTION FENCING
---	LIMIT OF WORK
---	SEDIMENT BASIN
---	TREE LINE - EXISTING
---	TREE LINE - PROPOSED
---	TEMPORARY COFFERDAM
---	TREE ROOT PROTECTION ZONE
---	DRAIN PIPE - PROPOSED
---	DRAIN PIPE - EXISTING
---	SILT FENCE
---	SILT SOCK
---	FILL DIVERSION



Revisions

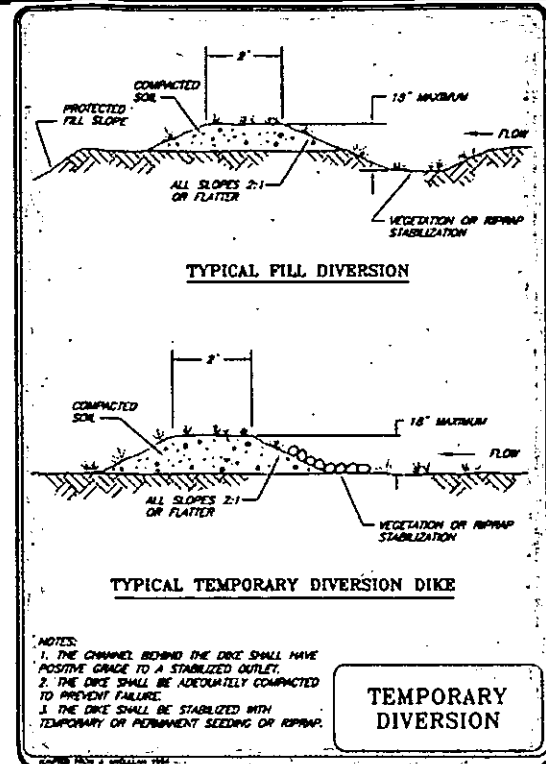
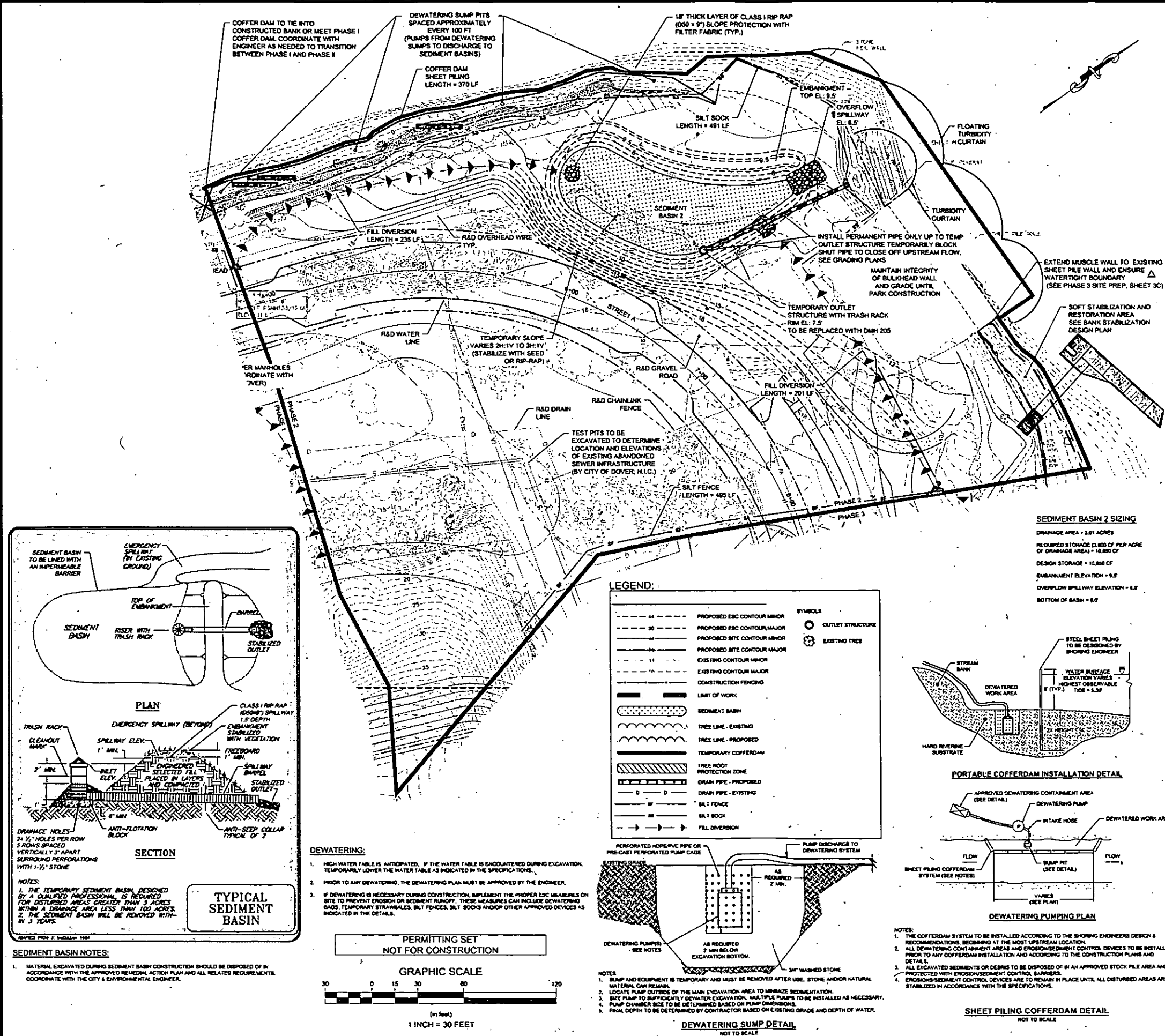
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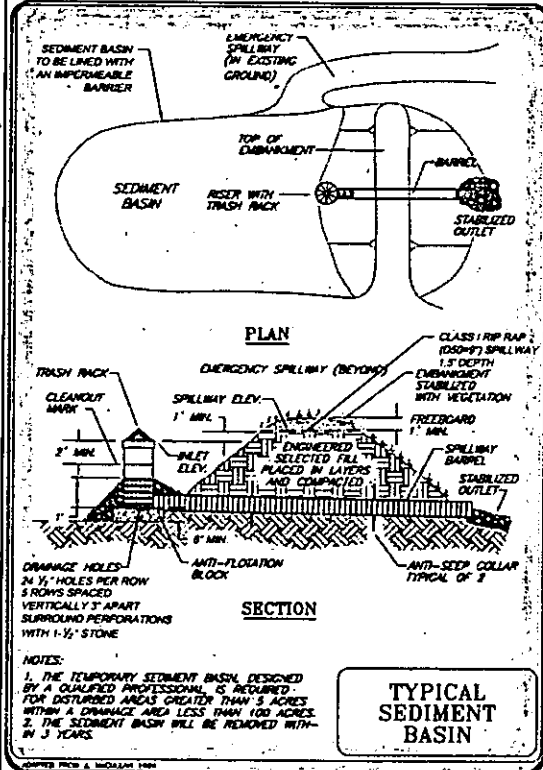
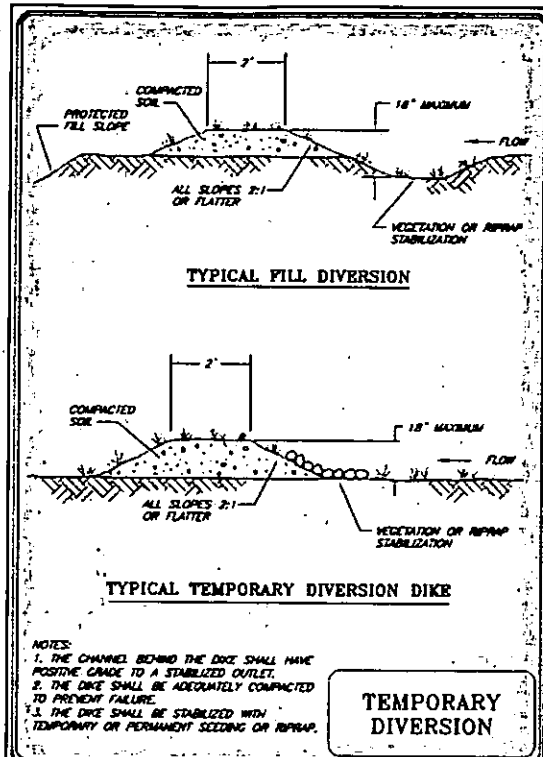
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90% CONSTRUCTION DRAWINGS
DOVER, NEW HAMPSHIRE

PHASE 1 - ESC & SITE PREPARATION

Project Number: 15157
Sheet: 3A of 57
Scale: C - 3A

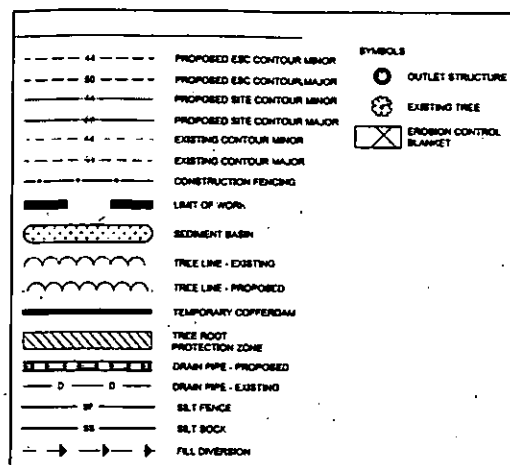
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SEDIMENT BASIN NOTES:

MATERIAL EXCAVATED DURING SEDIMENT BASIN CONSTRUCTION SHOULD BE DISPOSED OF IN ACCORDANCE WITH THE APPROVED REMEDIAL ACTION PLAN AND ALL RELATED REQUIREMENTS. COORDINATE WITH THE CITY & ENVIRONMENTAL ENGINEER.

LEGEND:



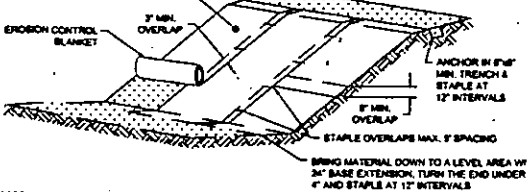
EROSION AND SEDIMENT CONTROL (ESC) PHASE 3 CONSTRUCTION SEQUENCE

PHASES 1 & 2 ARE INDIVIDUAL EROSION AND SEDIMENT CONTROL MANAGEMENT UNITS OF THE CONSTRUCTION SITE, AND MAY TAKE PLACE CONCURRENTLY.

1. SURVEY AND STAKE THE PROPOSED LIMIT OF DISTURBANCE AND LIMIT OF SEDIMENTATION BARRIERS.
2. PLACE SEDIMENTATION BARRIERS (OVERFLOW DIKES, SILT SOCK, SILT FENCE) AS INDICATED ON DRAWINGS AND STAKED OUT IN THE FIELD. UNDER NO CIRCUMSTANCES IS THE LIMIT OF WORK TO EXTEND BEYOND THE SEDIMENTATION BARRIERS/LIMIT OF DISTURBANCE AS INDICATED ON DRAWINGS AS APPROVED BY THE DEPARTMENT OF ENVIRONMENTAL SERVICES (DES).
3. MAINTAIN TEMPORARY CONSTRUCTION ENTRANCES IN LOCATIONS INSTALLED DURING PHASE 1 OF SITE PREPARATION. NO OTHER ENTRANCES ARE TO BE USED TO GAIN ACCESS TO THE SITE BY ANY CONSTRUCTION OR DELIVERY VEHICLES.
4. BEGIN CLEARING ONLY THE AREAS REQUIRED TO CONSTRUCT TEMPORARY SEDIMENT CONTROL MEASURES. CLEAR THE SITE AS REQUIRED FOR TEMPORARY SEDIMENT LIMIT SITE CLEARING AS TO PREVENT DISTURBED SURFACE AND POSSIBLE UNTREATED DISCHARGE DURING RAINFALL PRODUCING EVENTS.
5. INSTALL TEMPORARY SEDIMENT BASIN 3. INSTALL RIP RAP OVERFLOW SPILLWAY, STABILIZED INFLOW CHANNELS, AND TEMPORARY RUBBER BARREL AS SHOWN ON PLAN AND DETAIL. TEMPORARY SEDIMENT BASIN TO BE LINED WITH IMPERMEABLE BARRIER.
6. INSTALL MUSCLE WALL COFFER DAM PER MANUFACTURER'S REQUIREMENTS TO LIMITS AS SHOWN ON PLAN. ENSURE THAT THE MUSCLE WALL IS INSTALLED IN THE DRY IF INSTALLED BETWEEN MARCH 15 AND JULY 1.
7. INSTALL TEMPORARY FILL DIVERSION DIKE TO DIRECT RUNOFF TO TEMPORARY SEDIMENT BASIN 3.
8. INSTALL FLOATING SEDIMENT CURTAIN AROUND OUTFALL LOCATION AS SHOWN.
9. BEGIN CLEARING LARGE VEGETATION (7' OR GREATER IN HEIGHT) ALONG RIVER BANK TO ALLOW FOR ACCESS TO CONSTRUCT TEMPORARY DRAINAGE OUTFALL AND OVERFLOW SPILLWAY. INSTALL PLUNGE POOL/RIP RAP AT PIPE OUTFALL. SEQUENCE WORK FOR INSTALLATION DURING LOW TIDE.
10. CONNECT TEMPORARY SEDIMENT BASIN 3 OUTLET PIPE TO DRAINAGE PIPE SHOWN ON PLAN.
11. REMOVE REMAINING STUMPS AND OTHER VEGETATION ALONG BANK TO ALLOW FOR ACCESS DURING BANK STABILIZATION CONSTRUCTION.
12. EXCAVATE BANK TO SUBGRADE AND INSTALL PAVING CAP AS SPECIFIED ON THE DRAWINGS AND DETAILS.
13. INSTALL BANK STABILIZATION AND PERMANENTLY STABILIZE BANK. REFER TO BANK STABILIZATION PLANS FOR INSTALLATION STEPS AND DETAILS.
14. CONCURRENT WITH OR FOLLOWING STEP 11, CLEAR AND GRUB REMAINING AREA IN PHASE 18. ROUGH GRADE TO THE MAXIMUM EXTENT PRACTICABLE WHILE MAINTAINING TEMPORARY STORMWATER CONTROLS.
15. UPON COMPLETION OF SITE ROUGH GRADING, TEMPORARILY STABILIZE ANY AREA TO REMAIN IDE FOR 14 DAYS OR LONGER.
16. INSTALL UTILITIES, REMAINING PERMANENT STORM DRAINAGE NETWORK, BASE PAVING AND SIDEWALKS. UPON COMPLETION OF BASE PAVING, TEMPORARILY STABILIZE ALL UPGRADEMENT AREAS. PULVER DRILLAGE SYSTEM OF ANY ACCUMULATED SEDIMENT.
17. CONVERT TEMPORARY SEDIMENT BASINS TO PERMANENT STORMWATER MANAGEMENT CONTROL PRACTICES.
18. INSTALL BIOBARRIERS AND TREE TRENCH MEDIA.
19. FINAL PAVING TO BE COMPLETED FOLLOWING PERMANENT DEVELOPMENT PROPOSAL AS DIRECTED BY CITY OF DOVER.

SEDIMENT BASIN 3 SIZING

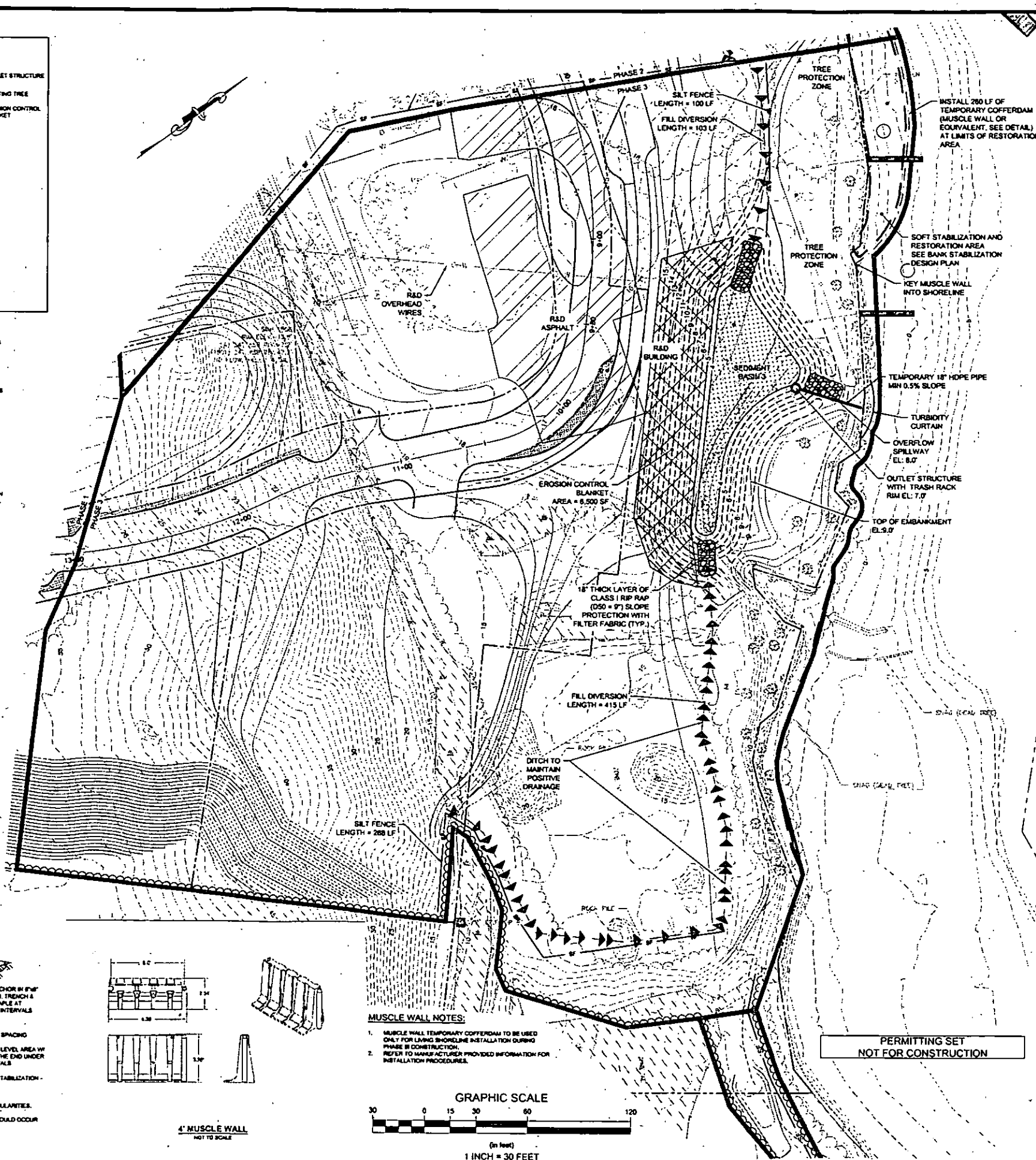
DRAINAGE AREA = 4.51 AC
REQUIRED STORAGE (2.00 CF PER ACRE OF DRAINAGE AREA) = 9.02 CF
DESIGN STORAGE = 16,250 CF
EMBANKMENT ELEVATION = 5.5'
OVERFLOW SPILLWAY ELEVATION = 6.0'
BOTTOM OF BASIN = 4.0'
NATIVE BED ME (SEE SPECIFICATIONS)



- NOTES:**
1. EROSION CONTROL BLANKET TO BE ALL NATURAL MATERIAL BUILTABLE FOR TEMPORARY STABILIZATION - NORTH AMERICAN ORIGIN BROWN STYRENE OR APPROVED EQUIVALENT.
 2. SLOPE SURFACE SHALL BE SMOOTH BEFORE PLACEMENT FOR PROPER SOIL CONTACT.
 3. STAPLING PATTERN AS PER MANUFACTURER'S RECOMMENDATIONS.
 4. DO NOT STRETCH BLANKET MATERIAL TIGHT. ALLOW THE ROLLS TO HOLD TO ANY IRREGULARITIES.
 5. FOR SLOPES LESS THAN 3:1, ROLLS MAY BE PLACED IN HORIZONTAL STRIPS.
 6. LINE, FERTILIZE AND SEED BEFORE INSTALLATION. PLANTING OF SHRUBS, TREES, ETC. SHOULD OCCUR AFTER INSTALLATION.

EROSION CONTROL BLANKET

NOT TO SCALE



MUSCLE WALL NOTES:

1. MUSCLE WALL TEMPORARY COFFERDAM TO BE USED ONLY FOR LIVING SHORELINE INSTALLATION DURING PHASE 3 CONSTRUCTION. REFER TO MANUFACTURER PROVIDED INFORMATION FOR INSTALLATION PROCEDURES.

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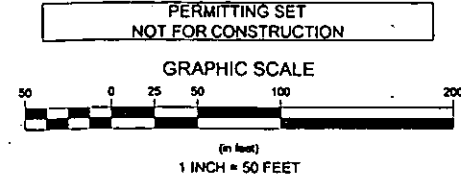
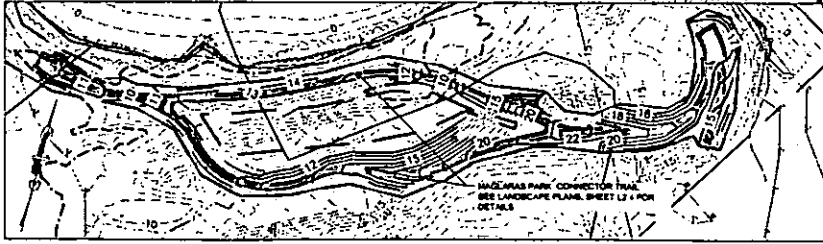


GENERAL NOTES:

1. EXISTING CONDITIONS WERE PRODUCED BY COMBINING THREE SEPARATE RECORD DRAWINGS. THE MAIN BASE PLAN WAS DONE BY GZA ENVIRONMENTAL IN 2007. RECENT TOPOGRAPHY IN TWO SEPARATE AREAS ALONG THE RIVER WERE ADDED TO THE BASE PLAN.
2. DOUGET SURVEY ON 08-01-16 OF A NORTHEASTERN PORTION OF THE RIVER BANK. ANOTHER SMALL AREA AT THE NORTHEASTERN PORTION OF THE SITE ALONG THE RIVER WAS SURVEYED BY THE UNIVERSITY OF NEW HAMPSHIRE. TOPOGRAPHY WAS ADDED TO THE AREA.
3. PAVING AND STRUCTURES IN FUTURE DEVELOPMENT AREAS OUTSIDE OF RIGHT-OF-WAY AND PARK LIMITS SHOWN FOR COORDINATION PURPOSES ONLY, NOT IN CONTRACT.

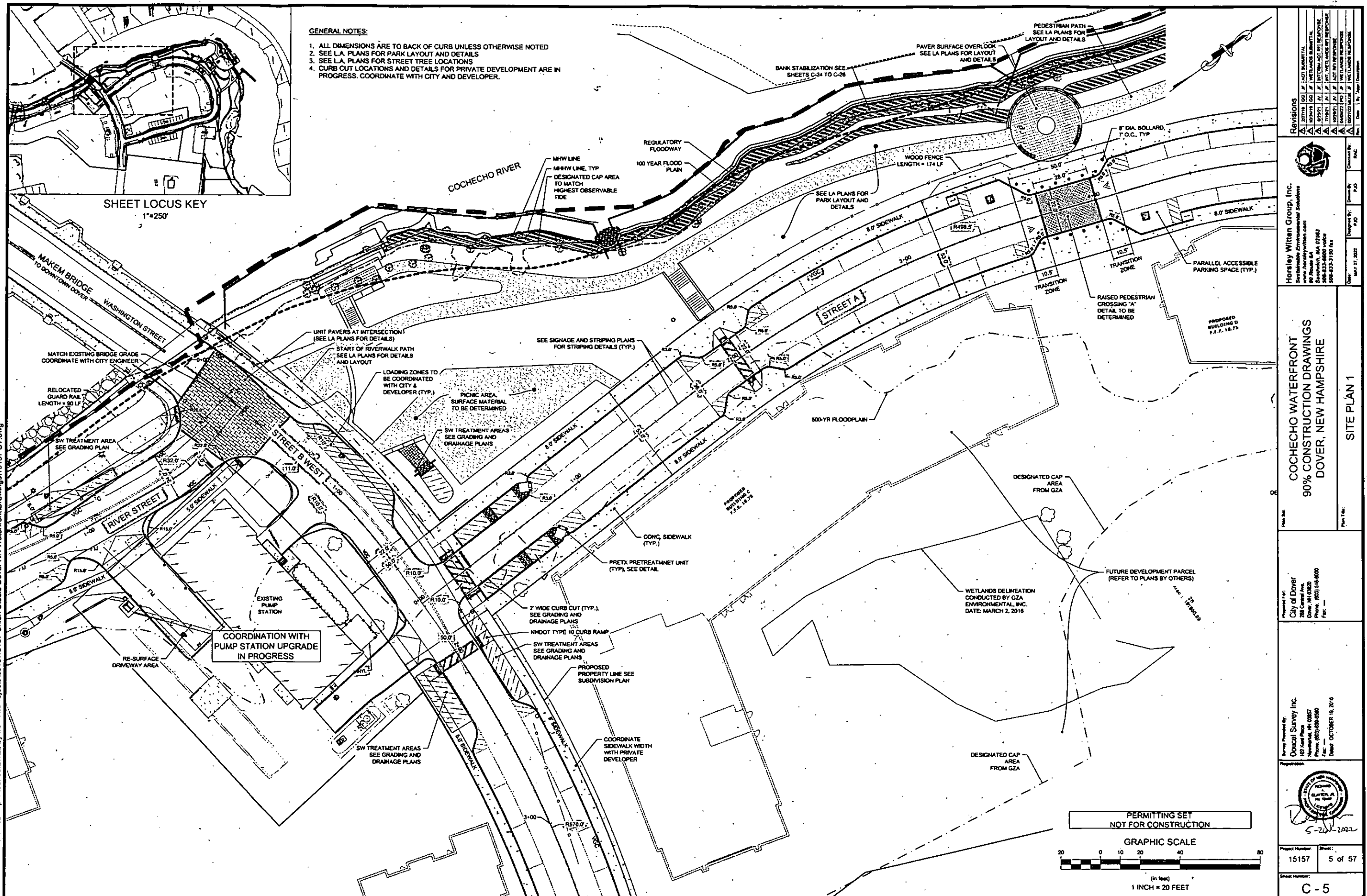
PARKING SUMMARY

- STREET A**
PARALLEL (8' x 20') = 57 SPACES
ANGLED (10' x 22') = 8 SPACES
ACCESSIBLE PARKING = 4 SPACES
- STREET B**
PARALLEL (8' x 20') = 11 SPACES
ANGLED (10' x 22') = N/A
ACCESSIBLE PARKING = N/A
- RIVER STREET**
PARALLEL (8' x 20') = 20
ANGLED (10' x 22') = N/A
ACCESSIBLE PARKING = 1 SPACE
- TOTAL**
PARALLEL (8' x 20') = 68 SPACES
ANGLED (10' x 22') = 8 SPACES
ACCESSIBLE PARKING = 5 SPACES

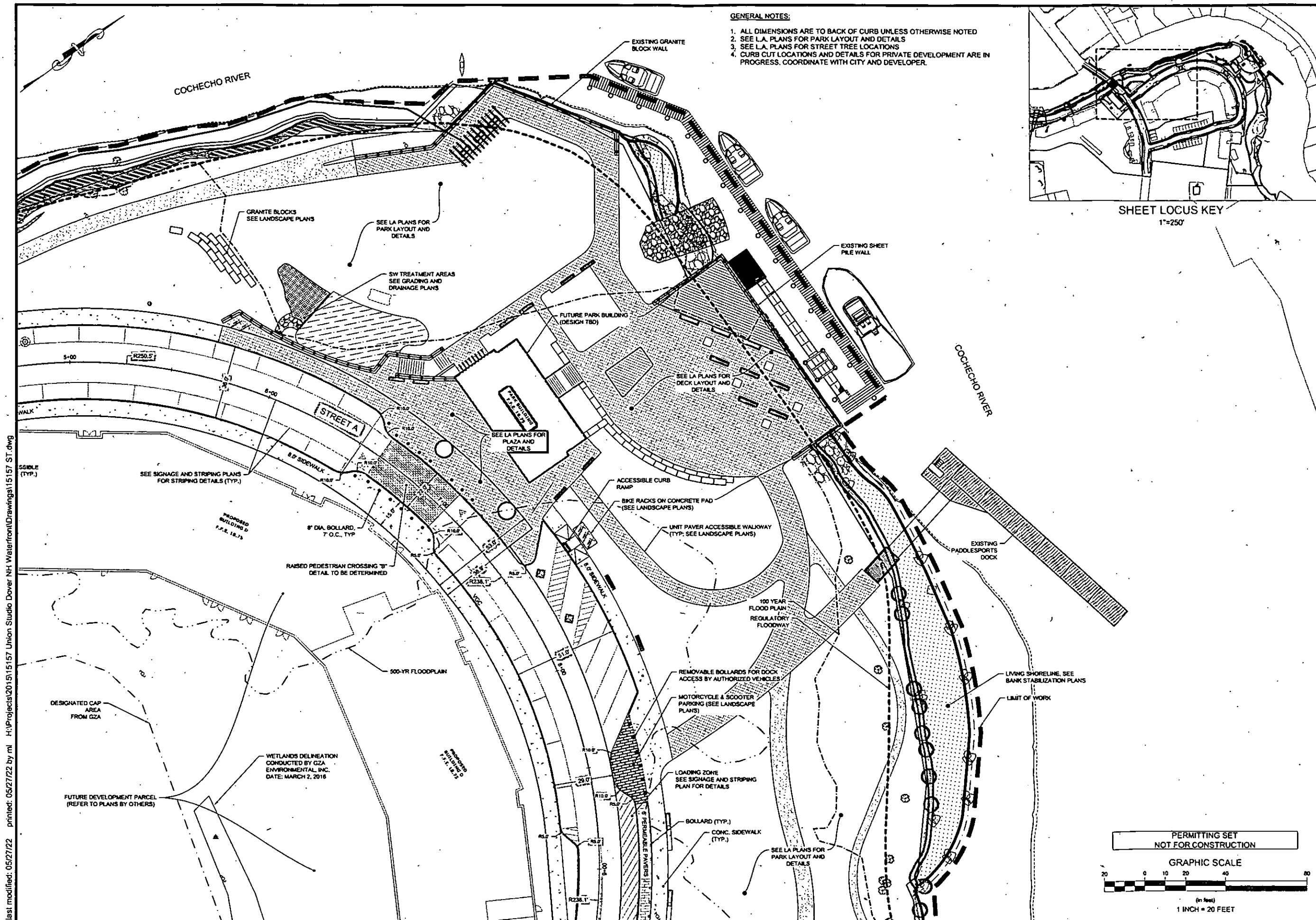


Revisions	
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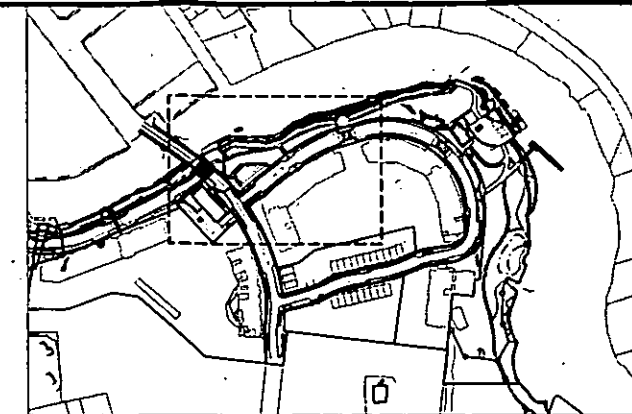


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GENERAL NOTES:

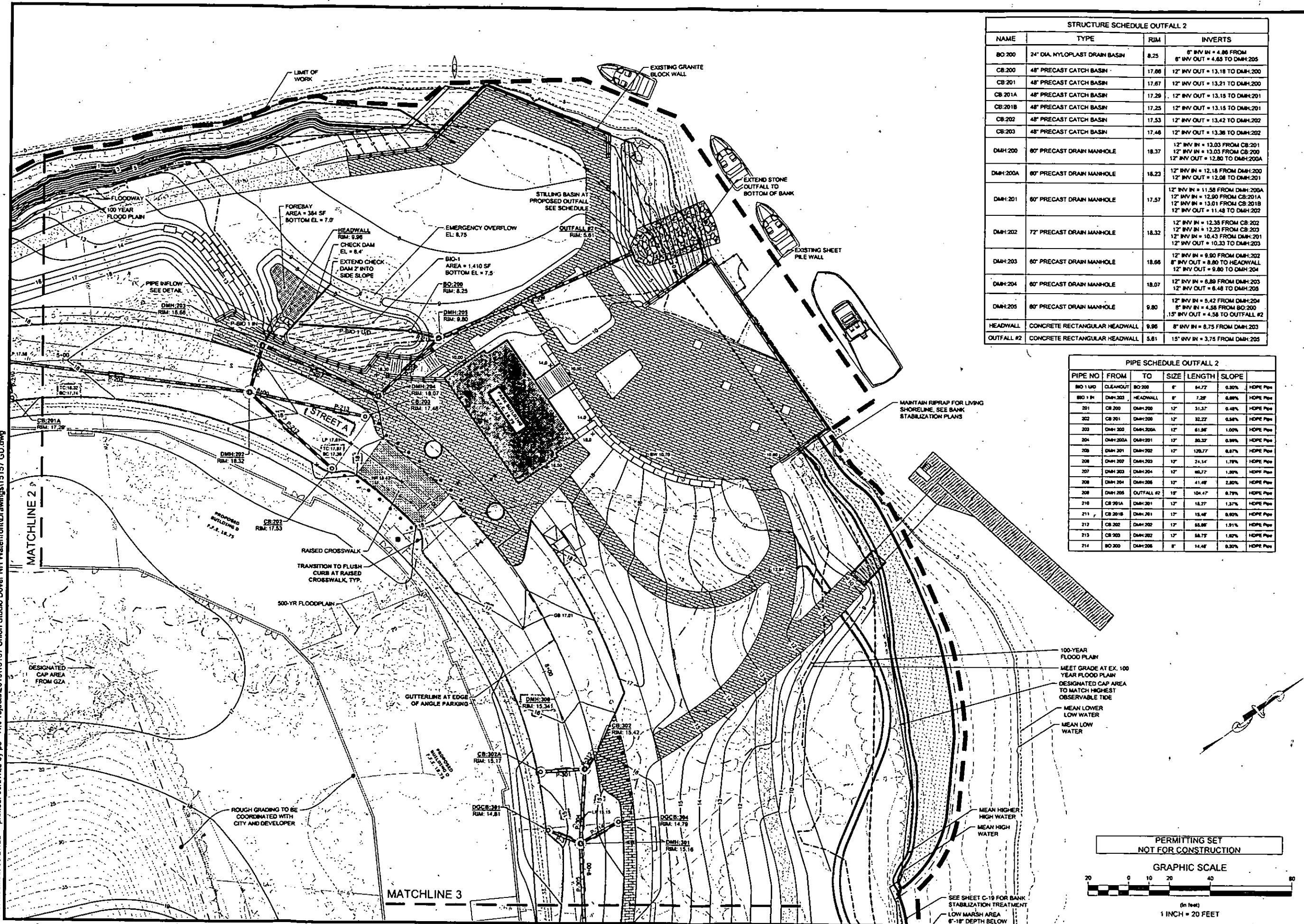
1. ALL DIMENSIONS ARE TO BACK OF CURB UNLESS OTHERWISE NOTED
2. SEE L.A. PLANS FOR PARK LAYOUT AND DETAILS
3. SEE L.A. PLANS FOR STREET TREE LOCATIONS
4. CURB CUT LOCATIONS AND DETAILS FOR PRIVATE DEVELOPMENT ARE IN PROGRESS. COORDINATE WITH CITY AND DEVELOPER.



SHEET LOCUS KEY
1"=250'

[illegible]

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STRUCTURE SCHEDULE OUTFALL 2			
NAME	TYPE	RIM	INVERTS
BO-200	24" DIA. NYLOPLAST DRAIN BASIN	8.25	8" INV IN = 4.86 FROM 8" INV OUT = 4.85 TO DMH-205
CB-200	48" PRECAST CATCH BASIN	17.86	12" INV OUT = 13.18 TO DMH-200
CB-201	48" PRECAST CATCH BASIN	17.87	12" INV OUT = 13.21 TO DMH-200
CB-201A	48" PRECAST CATCH BASIN	17.29	12" INV OUT = 13.15 TO DMH-201
CB-201B	48" PRECAST CATCH BASIN	17.25	12" INV OUT = 13.15 TO DMH-201
CB-202	48" PRECAST CATCH BASIN	17.53	12" INV OUT = 13.42 TO DMH-202
CB-203	48" PRECAST CATCH BASIN	17.46	12" INV OUT = 13.36 TO DMH-202
DMH-200	60" PRECAST DRAIN MANHOLE	18.37	12" INV IN = 13.03 FROM CB-201 12" INV IN = 13.03 FROM CB-200 12" INV OUT = 12.80 TO DMH-200A
DMH-200A	60" PRECAST DRAIN MANHOLE	18.23	12" INV IN = 12.18 FROM DMH-200 12" INV OUT = 12.08 TO DMH-201
DMH-201	60" PRECAST DRAIN MANHOLE	17.57	12" INV IN = 11.58 FROM DMH-200A 12" INV IN = 12.90 FROM CB-201A 12" INV IN = 13.01 FROM CB-201B 12" INV OUT = 11.48 TO DMH-202
DMH-202	72" PRECAST DRAIN MANHOLE	18.32	12" INV IN = 12.35 FROM CB-202 12" INV IN = 12.23 FROM CB-203 12" INV IN = 10.43 FROM DMH-201 12" INV OUT = 10.33 TO DMH-203
DMH-203	60" PRECAST DRAIN MANHOLE	18.66	12" INV IN = 9.90 FROM DMH-202 8" INV OUT = 8.80 TO HEADWALL 12" INV OUT = 9.80 TO DMH-204
DMH-204	60" PRECAST DRAIN MANHOLE	18.07	12" INV IN = 8.80 FROM DMH-203 12" INV OUT = 6.48 TO DMH-205
DMH-205	60" PRECAST DRAIN MANHOLE	9.80	12" INV IN = 5.42 FROM DMH-204 8" INV IN = 4.58 FROM BO-200 15" INV OUT = 4.58 TO OUTFALL #2
HEADWALL	CONCRETE RECTANGULAR HEADWALL	9.96	8" INV IN = 8.75 FROM DMH-203
OUTFALL #2	CONCRETE RECTANGULAR HEADWALL	5.61	15" INV IN = 3.75 FROM DMH-205

PIPE SCHEDULE OUTFALL 2					
PIPE NO	FROM	TO	SIZE	LENGTH	SLOPE
BO-1 UNO	CLEANOUT	BO-200	8"	64.72	0.30% HOPE PIPE
BO-1 IN	DMH-203	HEADWALL	8"	7.28	0.88% HOPE PIPE
201	CB-200	DMH-200	12"	31.37	0.48% HOPE PIPE
202	CB-201	DMH-200	12"	32.22	0.34% HOPE PIPE
203	DMH-200	DMH-200A	12"	61.86	1.00% HOPE PIPE
204	DMH-200A	DMH-201	12"	80.32	0.39% HOPE PIPE
205	DMH-201	DMH-202	12"	126.77	0.87% HOPE PIPE
206	DMH-202	DMH-203	12"	24.14	1.78% HOPE PIPE
207	DMH-203	DMH-204	12"	86.72	1.20% HOPE PIPE
208	DMH-204	DMH-205	12"	41.48	2.80% HOPE PIPE
209	DMH-205	OUTFALL #2	15"	104.47	6.79% HOPE PIPE
210	CB-201A	DMH-201	12"	18.27	1.37% HOPE PIPE
211	CB-201B	DMH-201	12"	15.46	0.90% HOPE PIPE
212	CB-202	DMH-202	12"	55.86	1.91% HOPE PIPE
213	CB-203	DMH-202	12"	58.75	1.90% HOPE PIPE
214	BO-200	DMH-205	8"	14.46	0.30% HOPE PIPE

COACHEO WATERFRONT
90% CONSTRUCTION DRAWINGS
DOVER, NEW HAMPSHIRE

GRADING AND DRAINAGE 2

Revisions		By	Date	Appr
1	ADD LUMINAL	PO	05/27/22	PO
2	INTERIM 10' WIDE RESPONSE	PO	05/27/22	PO
3	INTERIM 10' WIDE RESPONSE	PO	05/27/22	PO
4	INTERIM 10' WIDE RESPONSE	PO	05/27/22	PO
5	INTERIM 10' WIDE RESPONSE	PO	05/27/22	PO
6	INTERIM 10' WIDE RESPONSE	PO	05/27/22	PO
7	INTERIM 10' WIDE RESPONSE	PO	05/27/22	PO
8	INTERIM 10' WIDE RESPONSE	PO	05/27/22	PO
9	INTERIM 10' WIDE RESPONSE	PO	05/27/22	PO
10	INTERIM 10' WIDE RESPONSE	PO	05/27/22	PO



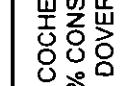
Harsley Witten Group, Inc.
Sustainable Environmental Solutions
80 Route 1
Saco, ME 04072
207-833-4600
207-833-3766 fax

Drawn By: P.O.
Checked By: P.O.
Date: MAY 27, 2022

Project No: 15157
Sheet: 11 of 57

City of Dover
288 Central Ave.
Dover, NH 03820
Phone: (603) 516-4000
Fax: (603) 516-4000

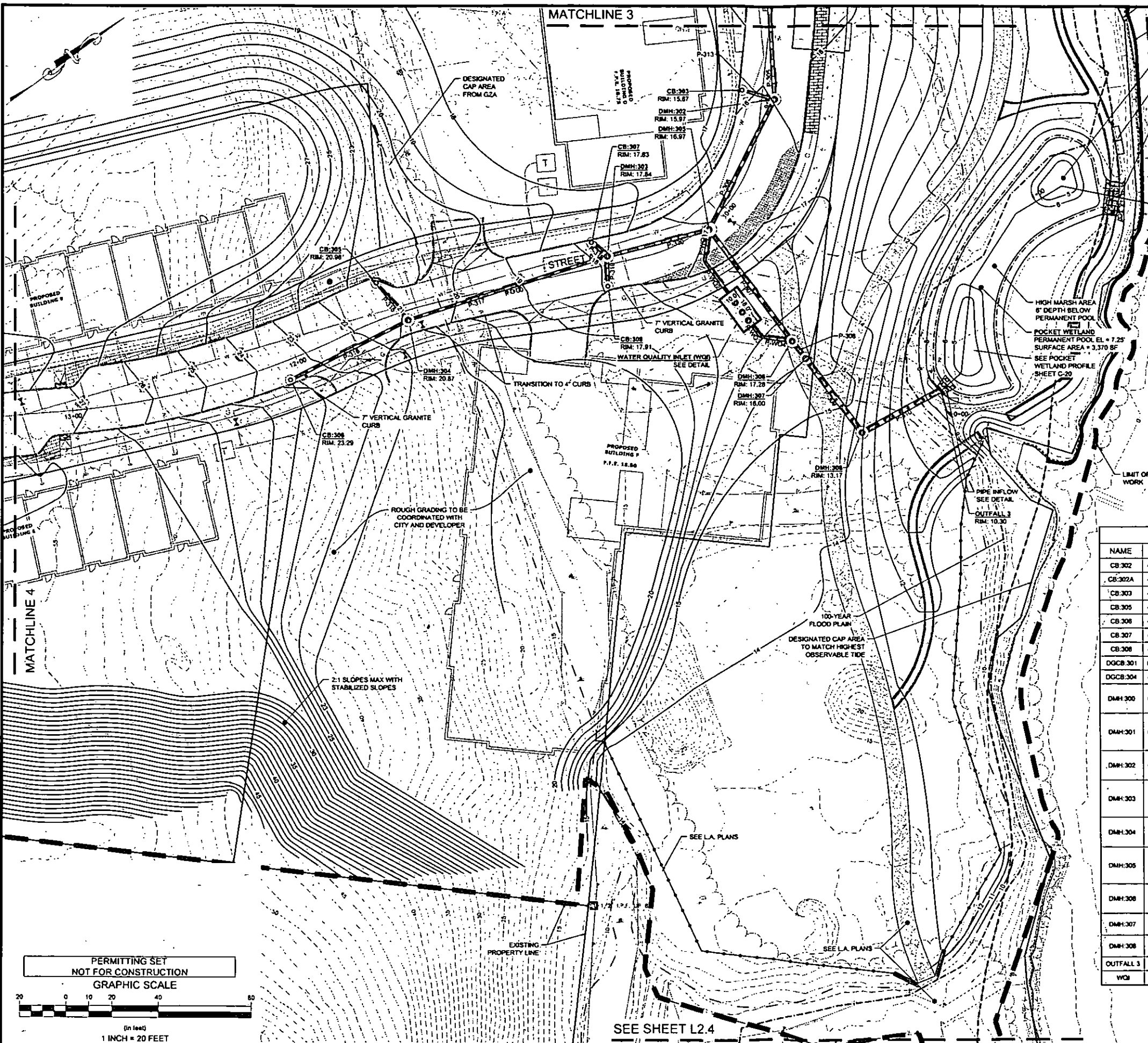
Survey Provided By:
Doucet Survey Inc.
107 Kent Place
Newmarket, NH 03857
Phone: (603) 696-4500
Fax: (603) 696-4500
Date: OCTOBER 19, 2016



Project Number: 15157
Sheet: 11 of 57

Sheet Number: C-11

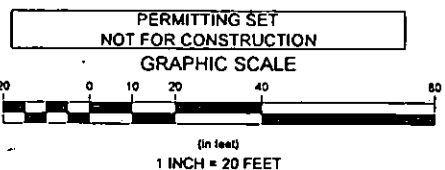
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SEE SHEET C-19 FOR BANK STABILIZATION TREATMENT
LOW MARSH AREA 6'-18" DEPTH BELOW PERMANENT POOL
BENCHES
SEE L.A. PLAN
POCKET WETLAND OVERFLOW EL = 7.25'

PIPE SCHEDULE OUTFALL 3						
PIPE NO	FROM	TO	SIZE	LENGTH	SLOPE	HOPE PIPE
WQ1	WQ3	DMH:308	12"	13.97'	0.38%	HOPE PIPE
WQ2	WQ3	WQ4	12"	8.67'	0.50%	HOPE PIPE
WQ3	WQ1	WQ2	12"	17.01'	0.39%	HOPE PIPE
WQ4	DMH:305	WQ2	12"	13.97'	0.38%	HOPE PIPE
301	CB:302A	DMH:308	12"	21.87'	1.01%	Concrete Pipe
304	DMH:308	DMH:301	12"	38.88'	1.00%	HOPE PIPE
305	DMH:301	DMH:302	12"	62.04'	1.00%	HOPE PIPE
306	DMH:302	DMH:305	12"	63.43'	0.99%	HOPE PIPE
307	DMH:305	DMH:308	12"	60.29'	1.01%	HOPE PIPE
308	DMH:308	DMH:307	12"	9.54'	0.94%	HOPE PIPE
309	DMH:307	DMH:306	24"	40.48'	0.77%	HOPE PIPE
310	DMH:306	OUTFALL 3	24"	39.14'	0.49%	HOPE PIPE
311	DGCB:301	DMH:301	12"	17.18'	0.52%	HOPE PIPE
312	CB:302	DMH:308	12"	9.10'	0.58%	HOPE PIPE
313	CB:303	DMH:302	12"	14.52'	1.52%	HOPE PIPE
314	DGCB:304	DMH:301	12"	21.48'	1.49%	HOPE PIPE
315	CB:305	DMH:304	12"	21.32'	1.50%	HOPE PIPE
316	CB:306	DMH:304	12"	57.42'	0.38%	HOPE PIPE
317	DMH:304	DMH:303	12"	60.88'	1.51%	HOPE PIPE
318	CB:307	DMH:303	12"	9.11'	1.54%	HOPE PIPE
319	CB:308	DMH:303	12"	13.00'	1.54%	HOPE PIPE
320	DMH:303	DMH:306	18"	45.87'	1.48%	HOPE PIPE

STRUCTURE SCHEDULE OUTFALL 3			
NAME	TYPE	RIM	INVERTS
CB:302	48" PRECAST CATCH BASIN	15.42	12" INV OUT = 11.33 TO DMH:300
CB:302A	48" PRECAST CATCH BASIN	15.17	12" INV OUT = 11.07 TO DMH:300
CB:303	48" PRECAST CATCH BASIN	15.87	12" INV OUT = 12.00 TO DMH:302
CB:305	48" PRECAST CATCH BASIN	20.98	12" INV OUT = 16.88 TO DMH:304
CB:306	48" PRECAST CATCH BASIN	23.29	12" INV OUT = 17.36 TO DMH:304
CB:307	48" PRECAST CATCH BASIN	17.83	12" INV OUT = 13.73 TO DMH:303
CB:308	48" PRECAST CATCH BASIN	17.91	12" INV OUT = 13.51 TO DMH:303
DGCB:301	DOUBLE GRATE INLET W/80" PRECAST CATCH BASIN	14.81	12" INV OUT = 10.71 TO DMH:301
DGCB:304	48" PRECAST CATCH BASIN	14.79	12" INV OUT = 10.89 TO DMH:301
DMH:300	60" PRECAST DRAIN MANHOLE	15.34	12" INV IN = 11.28 FROM CB:302 12" INV IN = 10.85 FROM CB:302A 15" INV OUT = 10.75 TO DMH:301
DMH:301	60" PRECAST DRAIN MANHOLE	15.16	12" INV IN = 10.37 FROM DGCB:304 12" INV IN = 10.82 FROM DGCB:301 15" INV IN = 10.38 FROM DMH:300 15" INV OUT = 10.28 TO DMH:302
DMH:302	60" PRECAST DRAIN MANHOLE	15.97	12" INV IN = 11.78 FROM CB:303 15" INV IN = 9.96 FROM DMH:301 15" INV OUT = 9.56 TO DMH:305
DMH:303	60" PRECAST DRAIN MANHOLE	17.84	12" INV IN = 15.09 FROM DMH:304 12" INV IN = 13.99 FROM CB:307 12" INV IN = 13.31 FROM CB:308 15" INV OUT = 13.21 TO DMH:305
DMH:304	60" PRECAST DRAIN MANHOLE	20.87	12" INV IN = 16.56 FROM CB:305 12" INV IN = 17.16 FROM CB:306 12" INV OUT = 16.48 TO DMH:303
DMH:305	72" PRECAST DRAIN MANHOLE	18.97	15" INV IN = 12.53 FROM DMH:303 15" INV IN = 8.93 FROM DMH:302 12" INV OUT = 8.15 TO 18" INV OUT = 8.83 TO DMH:306
DMH:306	60" PRECAST DRAIN MANHOLE	17.28	18" INV IN = 8.22 FROM DMH:305 12" INV IN = 7.95 FROM 18" INV OUT = 8.12 TO DMH:307
DMH:307	60" PRECAST DRAIN MANHOLE	16.00	18" INV IN = 8.03 FROM DMH:306 24" INV OUT = 7.53 TO DMH:308
DMH:308	60" PRECAST DRAIN MANHOLE	13.17	24" INV IN = 7.82 FROM DMH:307 24" INV OUT = 7.52 TO OUTFALL 3
OUTFALL 3	CONCRETE RECTANGULAR HEADWALL	10.30	24" INV IN = 7.33 FROM DMH:308
WQ1	WATER QUALITY INLET	17.79	12" INV IN = 8.65 FROM DMH:305 12" INV OUT = 8.05 FROM DMH:307



Revisions

2/27/18	DO	1	NOT SUBMITTAL
10/24/18	DO	2	WETLAND SUBMITTAL
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7/19/21	AN	4	WETLAND NOT RT RESPONSE
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Project Number: 15157

Sheet: 12 of 57

City of Dover

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Survey Provided By:

Doucet Survey Inc.

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Newmarket, NH 03857

Phone: (603) 458-6560

Fax: (603) 458-6560

Drawn: OCTOBER 19, 2019

Registration

Professional Engineer

State of New Hampshire

0000000000

10/19/2019

Project Number: 15157

Sheet: 12 of 57

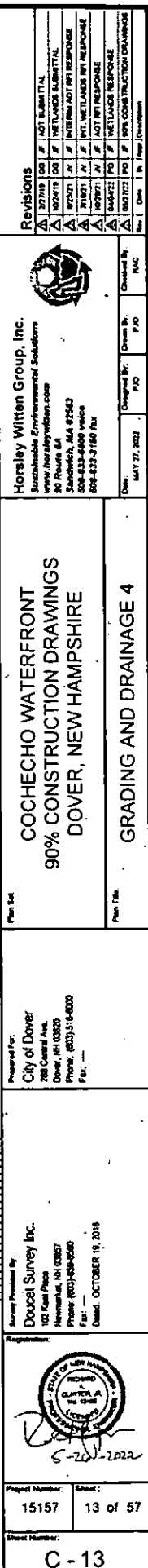
C - 12

PIPE SCHEDULE OUTFALL 1						
PIPE NO	FROM	TO	SIZE	LENGTH	SLOPE	
TT16 U02	CLEANOUT	DOB 107	8"	11.89'	0.00%	PVC Pipe
TT2 D2	TT: 5	TT: 5	8"	36.79	0.00%	PVC Pipe
TT3 U02	CLEANOUT	TT: 5	8"	41.72	0.00%	PVC Pipe
8009 U02	CLEANOUT	BO: 100A	8"	15.41'	0.52%	PVC Pipe
TT16 D1	TT: 10	DOB 107	8"	13.40'	0.00%	PVC Pipe
TT10 D2	CLEANOUT	TT: 10	8"	21.25'	0.00%	PVC Pipe
TT16 U02	TT: 10	CLEANOUT	8"	10.35'	0.00%	PVC Pipe
TT3 U01	TT: 5	DOB 104	8"	7.88'	0.00%	PVC Pipe
TT1 D2	TT: 1	TT: 1	8"	41.88'	0.00%	PVC Pipe
TT1 D1	DOB 102	TT: 3	8"	5.47'	0.00%	PVC Pipe
TT2 D2	TT: 1	TT: 1	8"	29.69'	0.00%	PVC Pipe
TT2 D1	DOB 103	CLEANOUT	8"	5.45'	0.00%	PVC Pipe
TT4 D2	TT: 4	CLEANOUT	8"	42.79'	0.00%	PVC Pipe
TT4 D1	TT: 4	DOB 100	8"	12.35'	0.00%	PVC Pipe
TT4 U02	CLEANOUT	TT: 4	8"	42.79'	0.00%	PVC Pipe

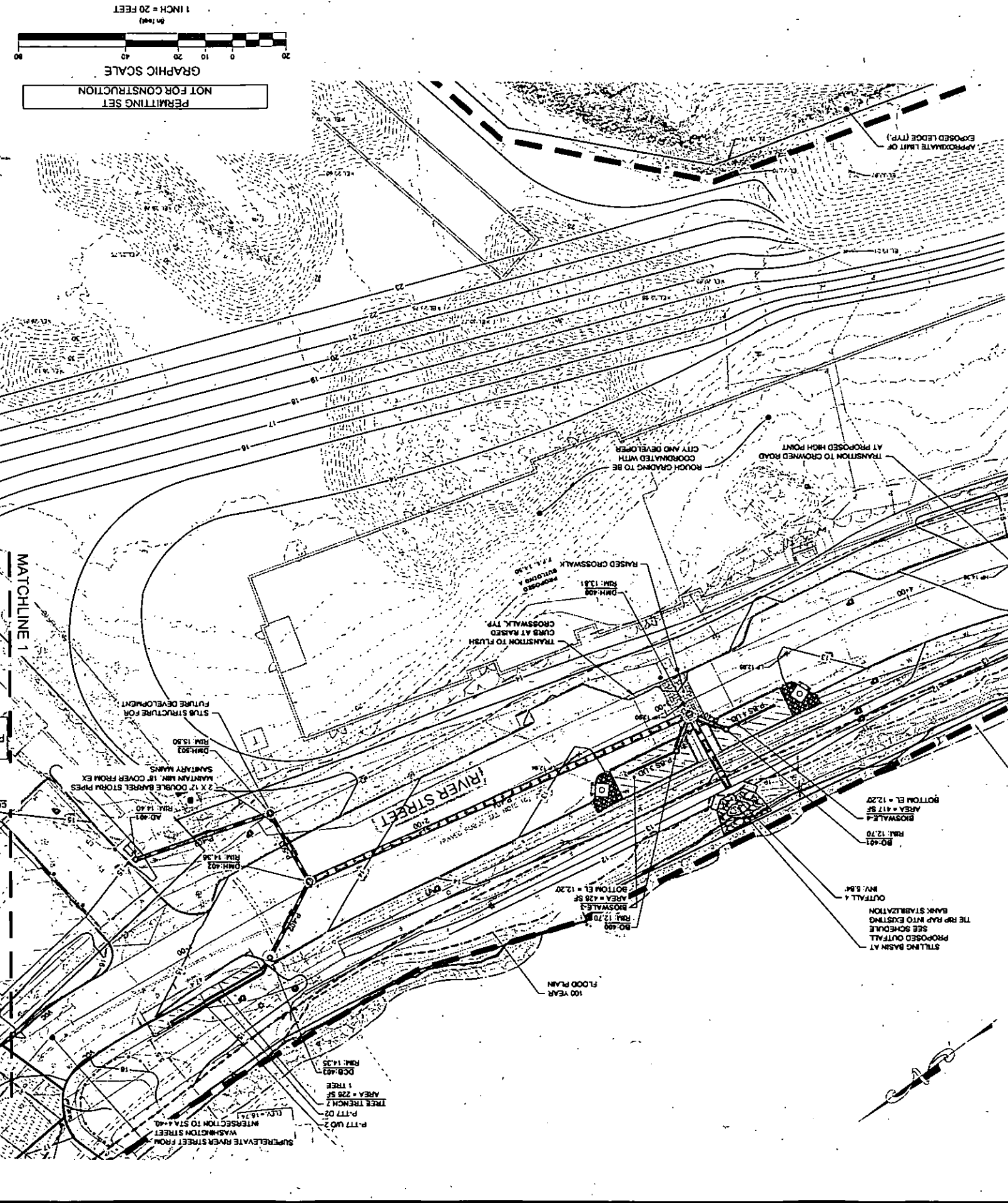
PIPE SCHEDULE OUTFALL 1						
PIPE NO	FROM	TO	SIZE	LENGTH	SLOPE	
TT4 UD1	DCB-108	TT-4	8"	13.58'	0.00%	PVC Pipe
TT3 D1	DCB-104	TT-3	8"	8.41'	0.00%	PVC Pipe
TT3 D2	TT-3	CLEANOUT	8"	47.14'	0.00%	PVC Pipe
TT3 D1	DCB-108	TT-3	8"	4.98'	0.00%	PVC Pipe
881 UD	CLEANOUT	80 UD	8"	23.81'	0.00%	HDPE Pipe
882 UD	CLEANOUT	80 UD1	8"	30.09'	0.00%	HDPE Pipe
TT3 UD1	TT-3	DCB-108	8"	7.38'	0.00%	PVC Pipe
TT2 UD1	TT-2	DCB-103	8"	7.17'	0.00%	PVC Pipe
TT1 UD1	TT-1	DCB-102	8"	8.78'	0.00%	PVC Pipe
101	E.A. INLET	D4M-108	18"	5.42'	1.94%	HDPE Pipe
102	D4M-108	D4M-108	18"	33.50'	- 1.79%	HDPE Pipe
103	D4M-108	D4M-108A	18"	99.21'	- 1.30%	HDPE Pipe
104	D4M-108A	D4M-107	18"	80.27'	2.20%	HDPE Pipe
105	D4M-107	D4M-105	18"	11.72'	2.50%	HDPE Pipe
106	D4M-105	D4M-104	18"	63.78'	2.35%	HDPE Pipe

PIPE NO	FROM	TO	SIZE	LENGTH	SLOPE	
107	DWH-104	DWH-103	18"	102.56'	2.18%	HOPS PL
108	DWH-103	DWH-102	18"	122.81'	2.85%	HOPS PL
108	DWH-102	DWH-102A	24"	14.38'	2.00%	HOPS PL
110	DWH-102A	DWH-102B	24"	17.31'	2.00%	HOPS PL
111	DWH-102B	DWH-101	-24"	12.07'	2.00%	HOPS PL
112	DWH-101	DWH-101	24"	141.34'	1.00%	HOPS PL
113	DWH-100	DWH-100A	36"	51.77'	1.10%	HOPS PL
114	DWH-100A	OUTFALL #1	36"	56.86'	1.10%	HOPS PL
115	AD-101	DWH-100A	12"	24.00'	1.50%	HOPS PL
118	DWH-106	DWH-118	12"	62.39'	1.30%	HOPS PL
117	DWH-110	DWH-111	12"	18.47'	1.52%	HOPS PL
118	DWH-111	DWH-106	12"	22.18'	1.48%	HOPS PL
119	OCB-107	DWH-116	12"	8.77'	1.48%	HOPS PL
120	OCB-108	DWH-108	12"	30.79'	1.30%	HOPS PL
121	OCB-104	DWH-118	12"	10.81'	1.48%	HOPS PL

PIPE NO	FROM	TO	SIZE	LENGTH	SLOPE	
122	DOB-106	DAM-104	12"	11.22'	2.30%	HOPPE R
123	DOB-103	DAM-102	12"	12.56'	1.50%	HOPPE R
124	DOB-102	DAM-101	12"	10.35'	0.90%	HOPPE R
126	BO-100A	DAM-102B	12"	40.49'	1.60%	HOPPE R
126	BO-100	CB-100	12"	3.97'	1.50%	HOPPE R
127	CB-100	DAM-101	12"	6.00'	1.50%	HOPPE R
128	BO-101	CB-101	12"	5.89'	1.50%	HOPPE R
129	CB-101	DAM-101	12"	10.22'	1.50%	HOPPE R
500	DAM-300	DAM-100	30"	164.08'	0.50%	HOPPE R



STRUCTURE SCHEDULE OUTFALL #			
NAME	TYPE	RM	INVERTS
AD-401	Cylindrical Structure Steel Top Rectangular Frame	14.40	12' INV OUT = 12.20 TO DASH:303
BO-400	24" DIA. MYLOPLAST DRAIN BASIN	12.70	6' INV IN = 9.20 FROM 12' INV OUT = 8.85 TO DASH:400
BO-401	24" DIA. MYLOPLAST DRAIN BASIN	12.70	6' INV IN = 10.80 FROM 12' INV OUT = 9.35 TO DASH:400
DCB-403	60" PRECAST DIVERSION CATCH BASIN	14.35	6' INV IN = 11.65 FROM 12' INV OUT = 8.87 TO DASH:402
DAH-400	72" PRECAST DRAIN MANHOLE	13.81	24' INV IN = 9.13 FROM BO-401 24' INV IN = 9.52 FROM DASH:402 12' INV IN = 8.33 FROM BO-400
DAH-402	48" PRECAST DRAIN MANHOLE	14.36	12' INV IN = 8.32 FROM DASH:400 24' INV OUT = 8.22 TO DASH:400
DAH-503	48" PRECAST DRAIN MANHOLE	15.50	12' INV IN = 12.63 FROM AD-401 12' INV OUT = 11.90 TO DASH:401

[illegible]

**COACHEHO WATERFRONT
90% CONSTRUCTION DRAWINGS
DOVER, NEW HAMPSHIRE**

Horstley Witten Group, Inc.
 Sustainable Enterprises Solutions
 10000 Highway 101
 PO Box 54
 Sandwich, MA 02563
 508-433-4600
 508-433-158 fax

Doucet Survey Inc.
 102 Cedar Ridge
 Northwood, NH 03857
 Phone: (603)-659-6600
 Fax: _____
 E-mail: OCTOBER 18, 2016

Project Provided By:
 City of Dover
 288 Central Ave.
 Northwood, NH 03857
 Phone: (603) 515-0000
 Fax: _____

Plan Title:
GRADING AND DRAINAGE 5

Plan Set:

Date: MAY 27, 2022

Designed by: PJO

Drawn by: PJO

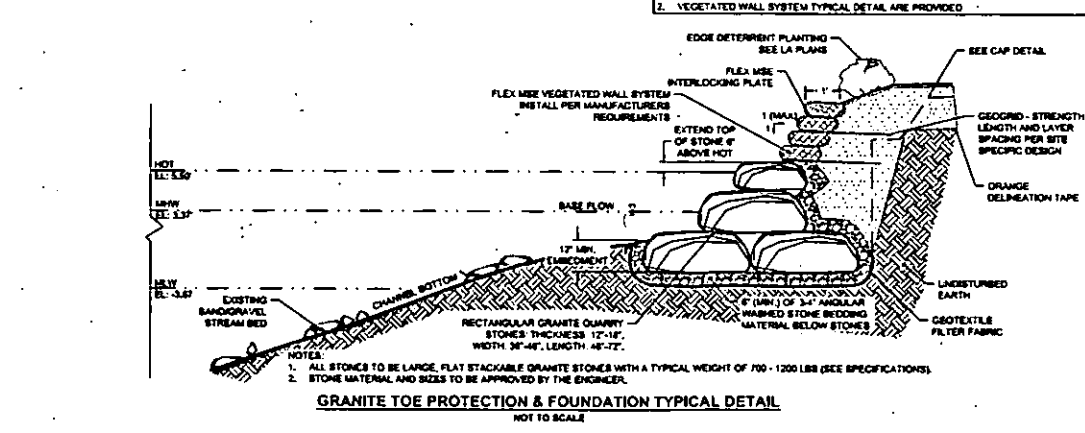
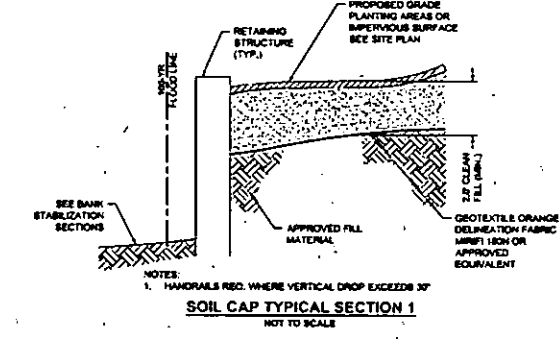
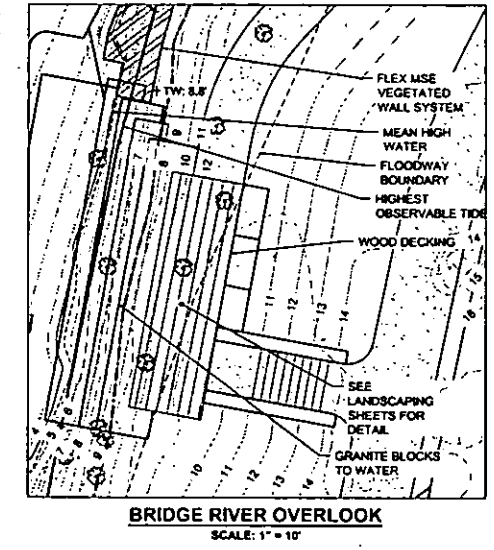
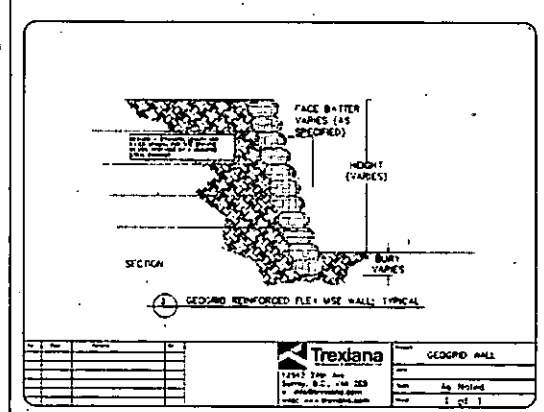
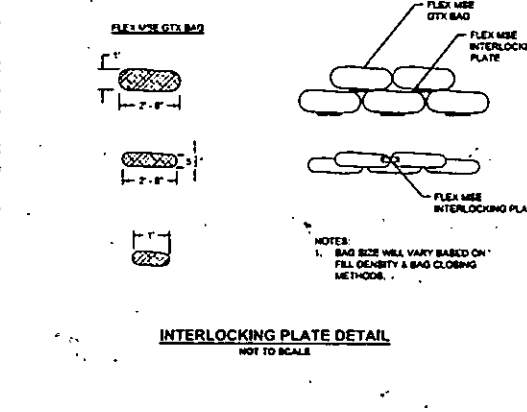
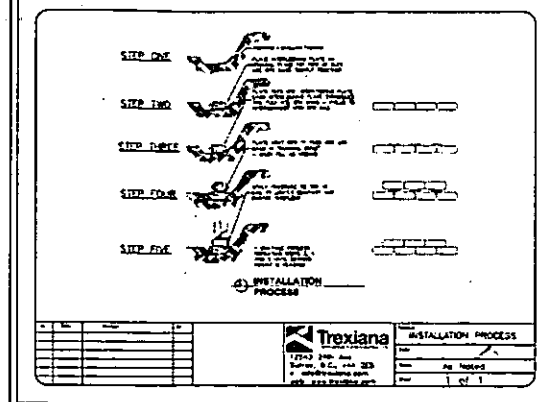
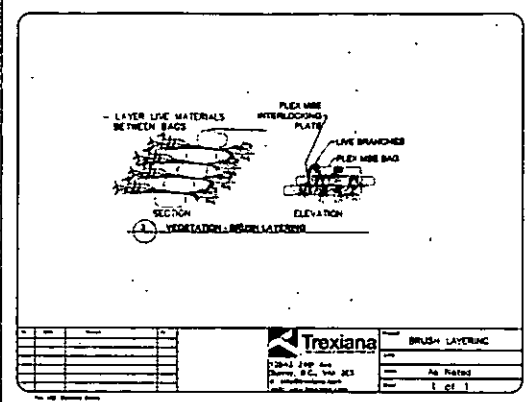
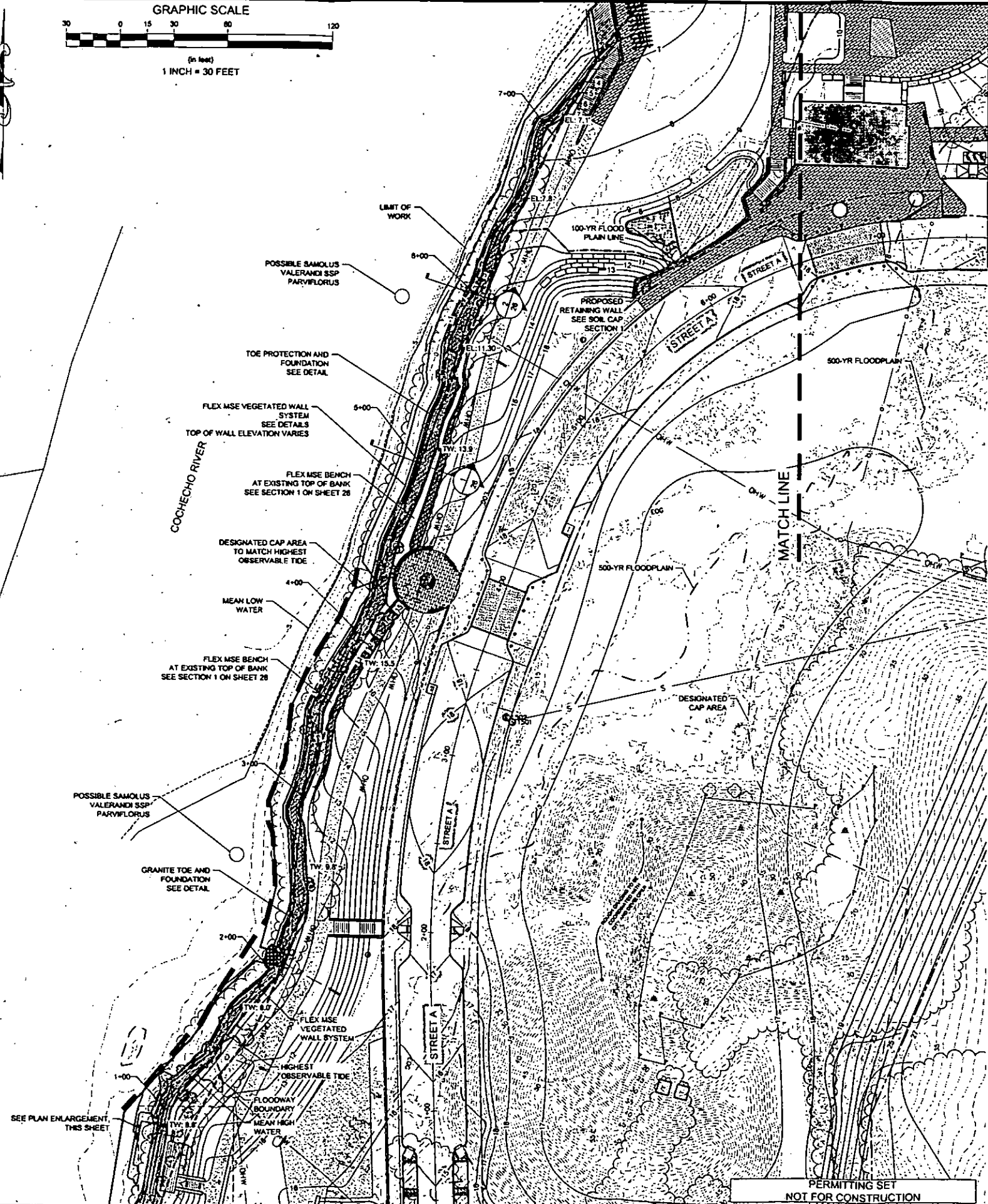
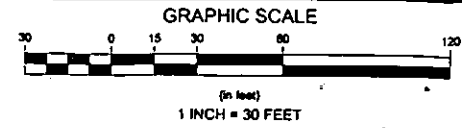
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Revisions

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2	10/25/18	OG	RETRACTED SUBMITTAL
3	02/27/21	OG	RETRACTED SUBMITTAL
4	07/27/21	JV	RETRACTED NOT FOR RESPONSE
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74	06/02/22		

last modified: 05/27/22 printed: 05/27/22 by ml H:\Projects\2016\15157 Union Studio Dover NH Waterfront\Drawings\15157 SR.dwg



Revisions

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COCHECHO WATERFRONT

90% CONSTRUCTION DRAWINGS

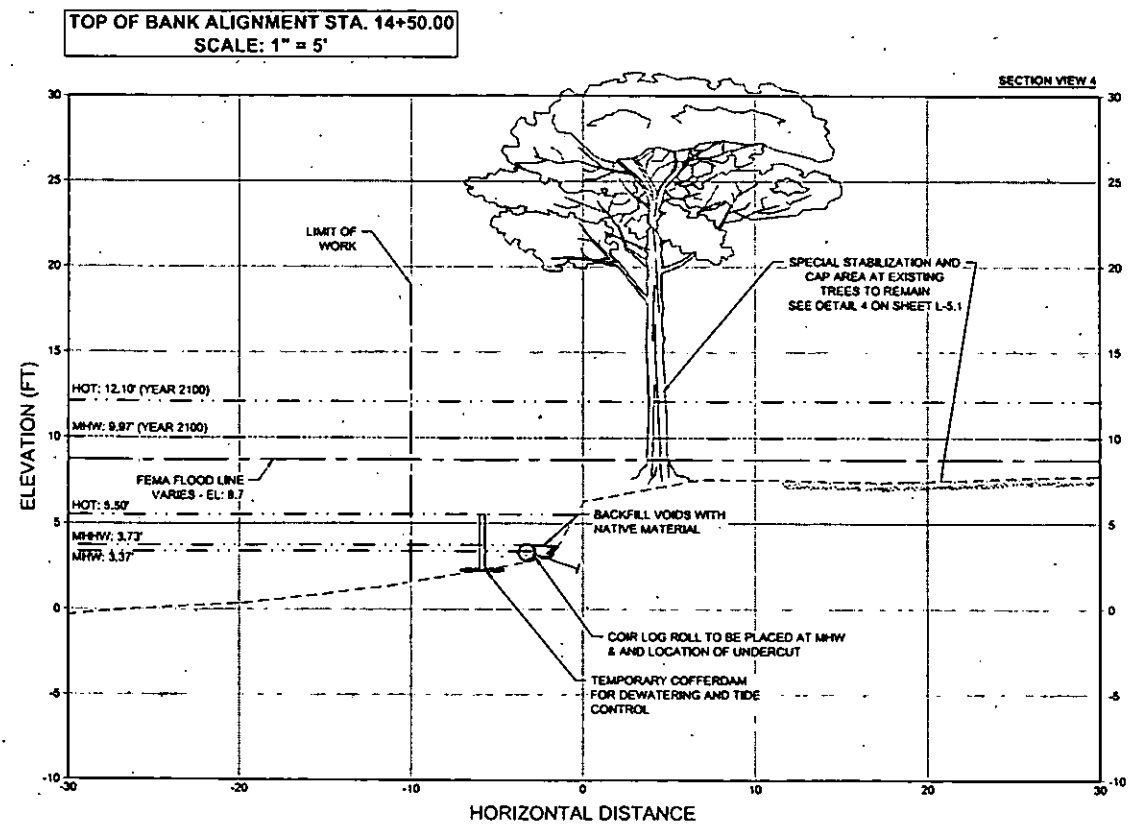
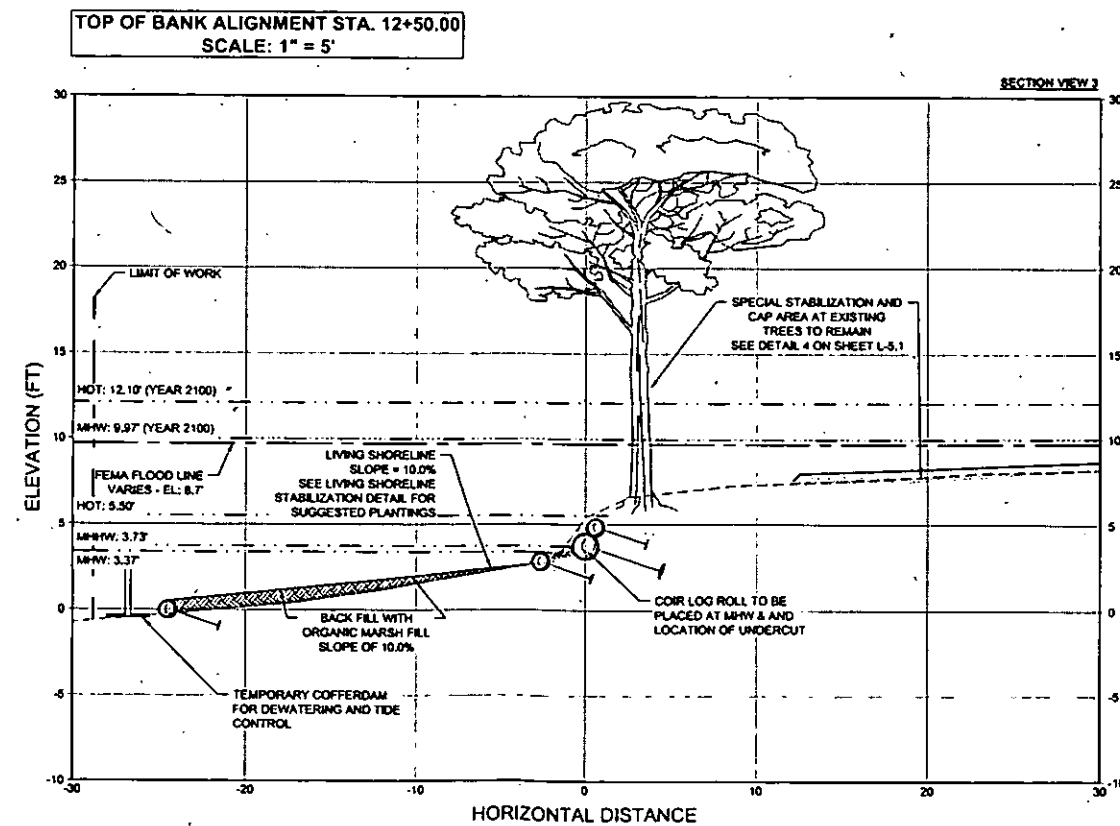
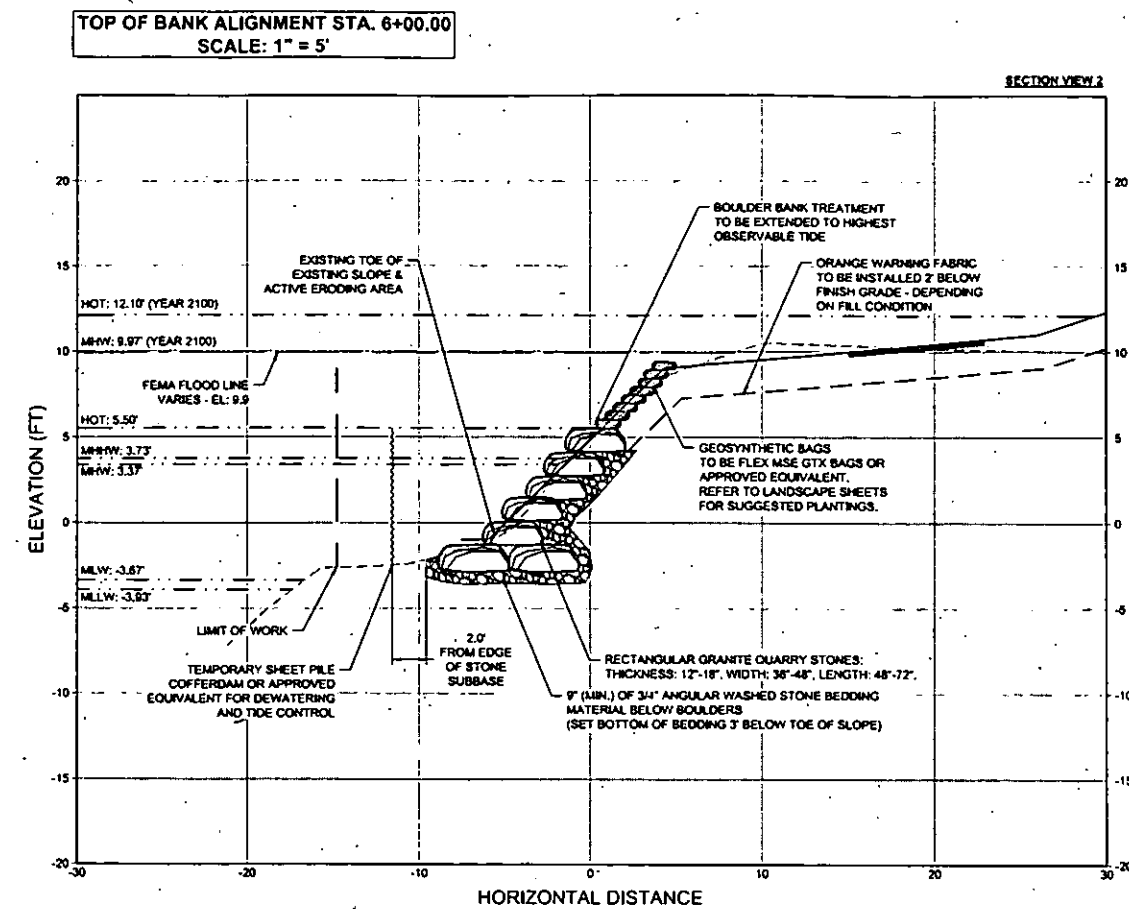
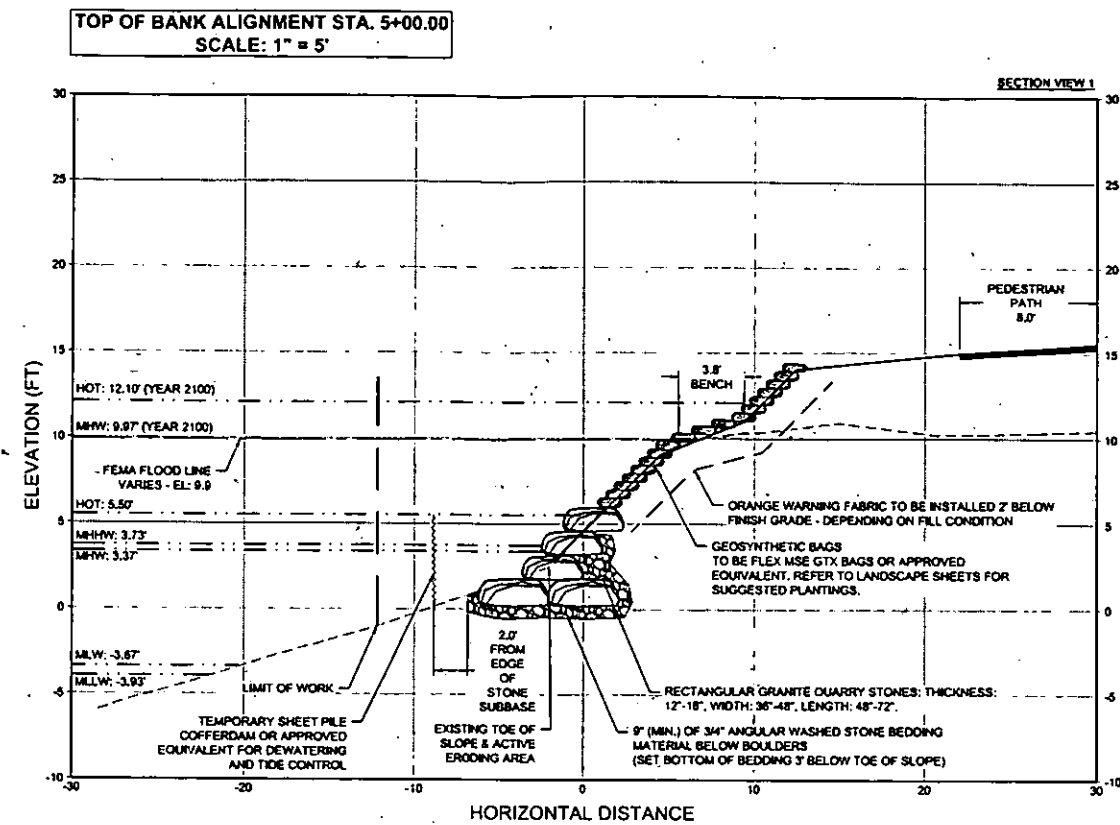
DOVER, NEW HAMPSHIRE

BANK STABILIZATION (1)

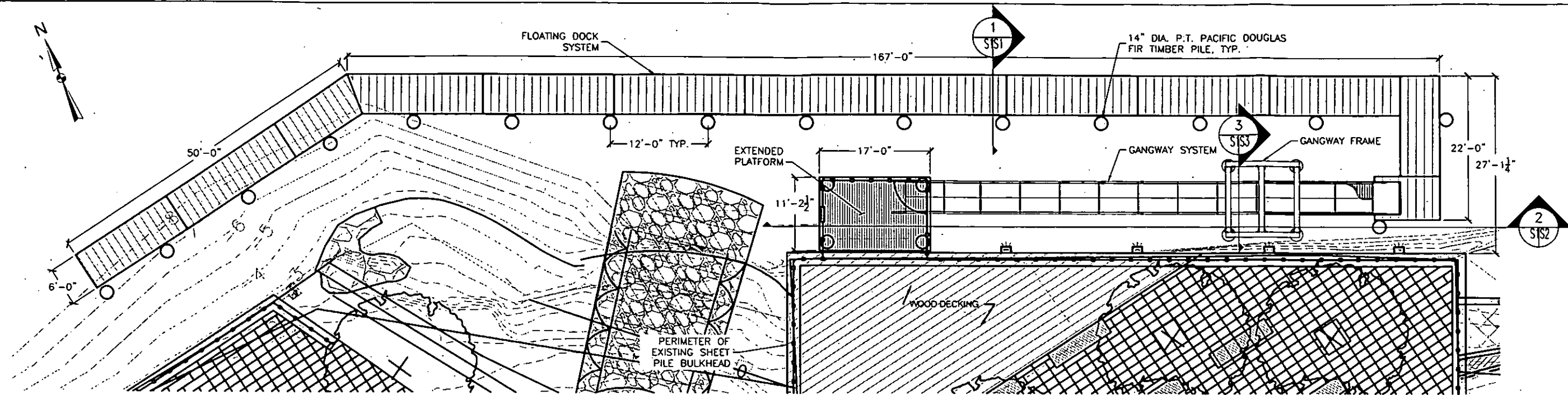
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C - 27

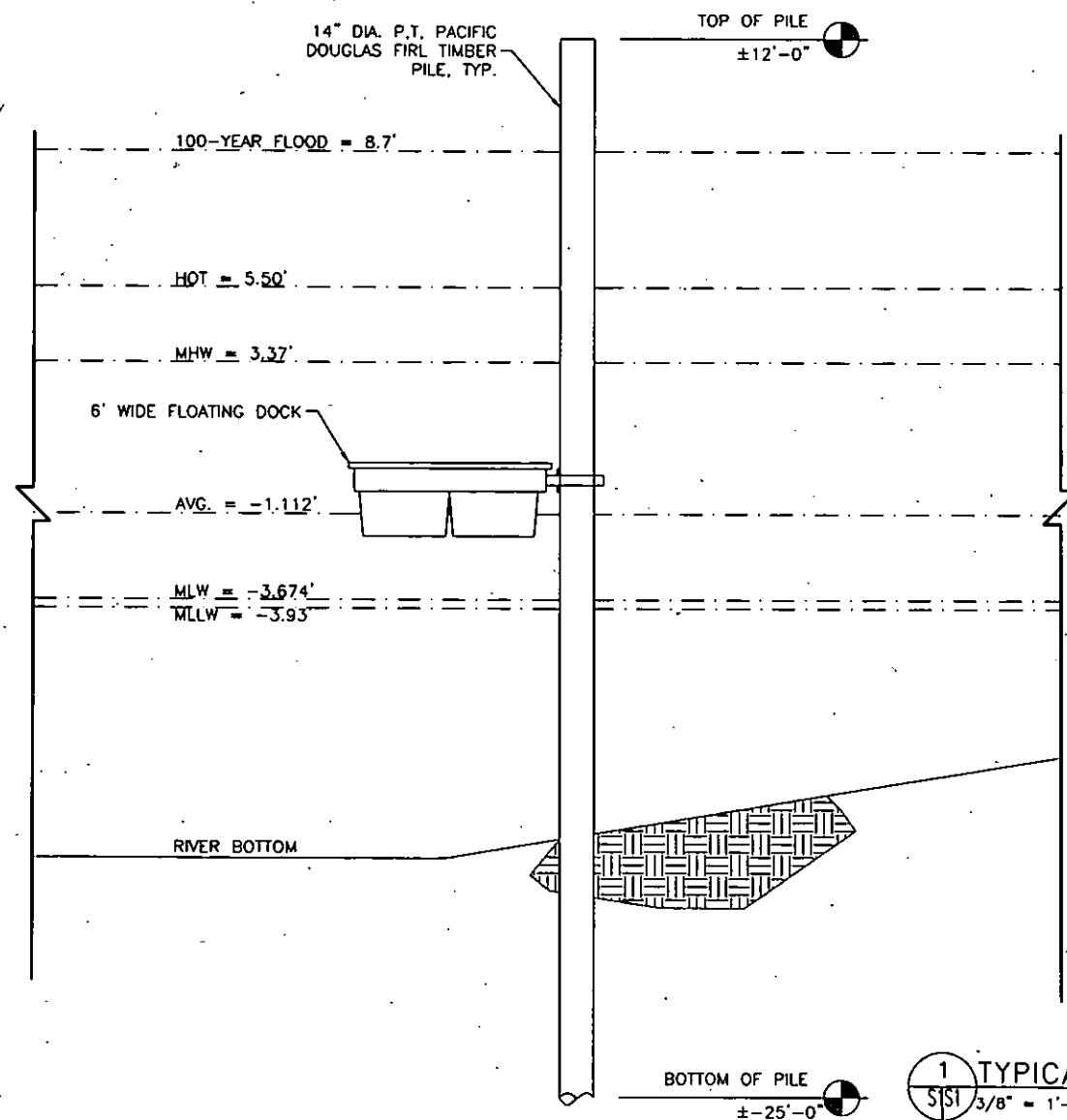
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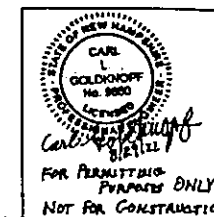


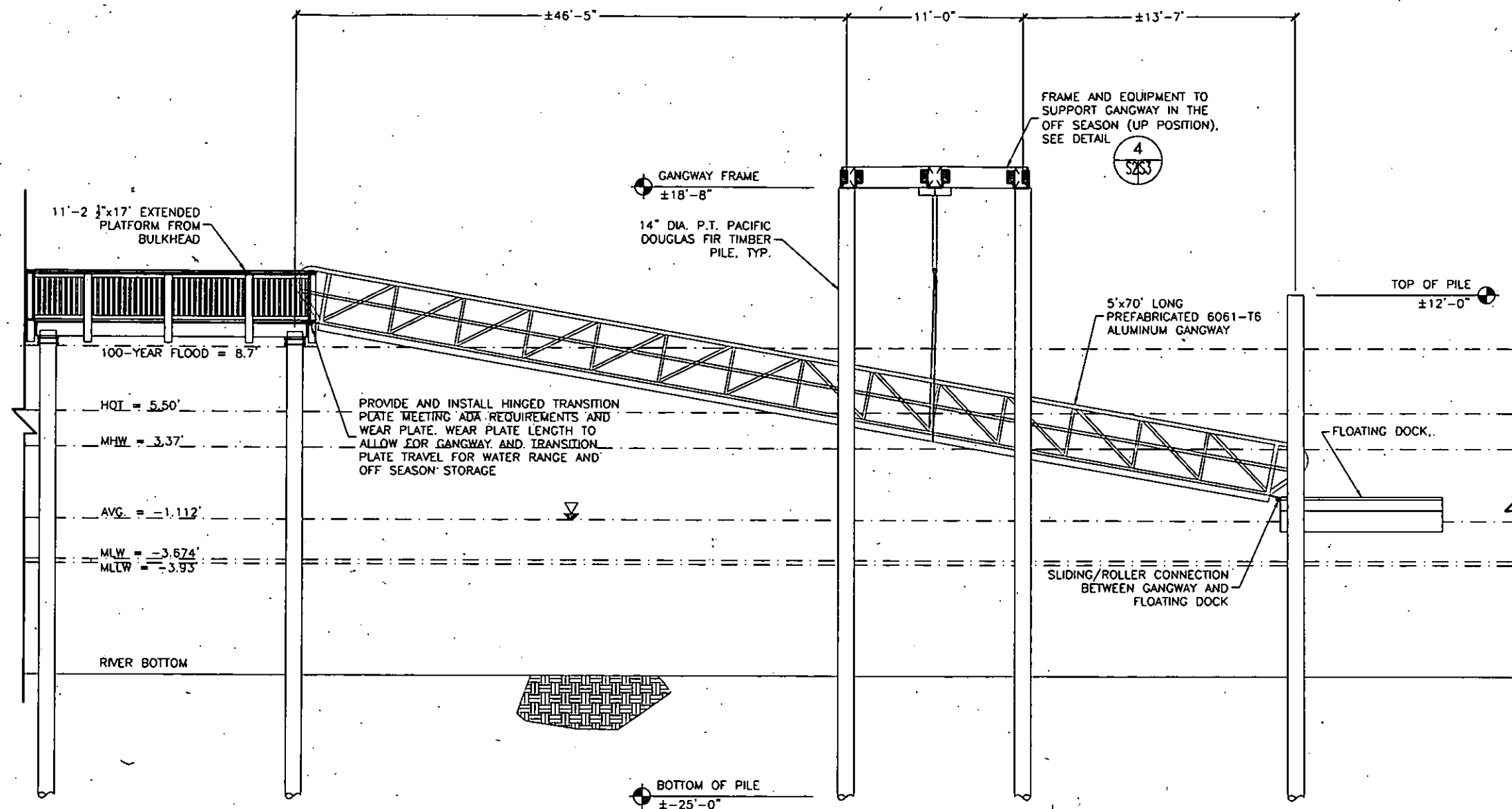
OVERALL FLOATING DOCK SYSTEM PLAN VIEW
1/8" = 1'-0"



1 TYPICAL TIMBER PILE ELEVATION
3/8" = 1'-0"

NO.	ISSUE/DESCRIPTION	BY	DATE
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DOVER WATERFRONT DOVER, NEW HAMPSHIRE			
FLOATING DOCK SYSTEM DESIGN OVERALL DOCK SYSTEM PLAN			
PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com		PREPARED FOR: CITY OF DOVER 288 CENTRAL AVE. DOVER, NH 03820	
PROJ MGR: CLG	REVIEWED BY: CLG	CHECKED BY: CLG	DRAWING
DESIGNED BY: BOW	DRAWN BY: BOW	SCALE: AS NOTED	S1
DATE: 03/29/2022	PROJECT NO: 02.0173707.00	REVISION NO: REV-0	SHEET NO. 1 OF 4

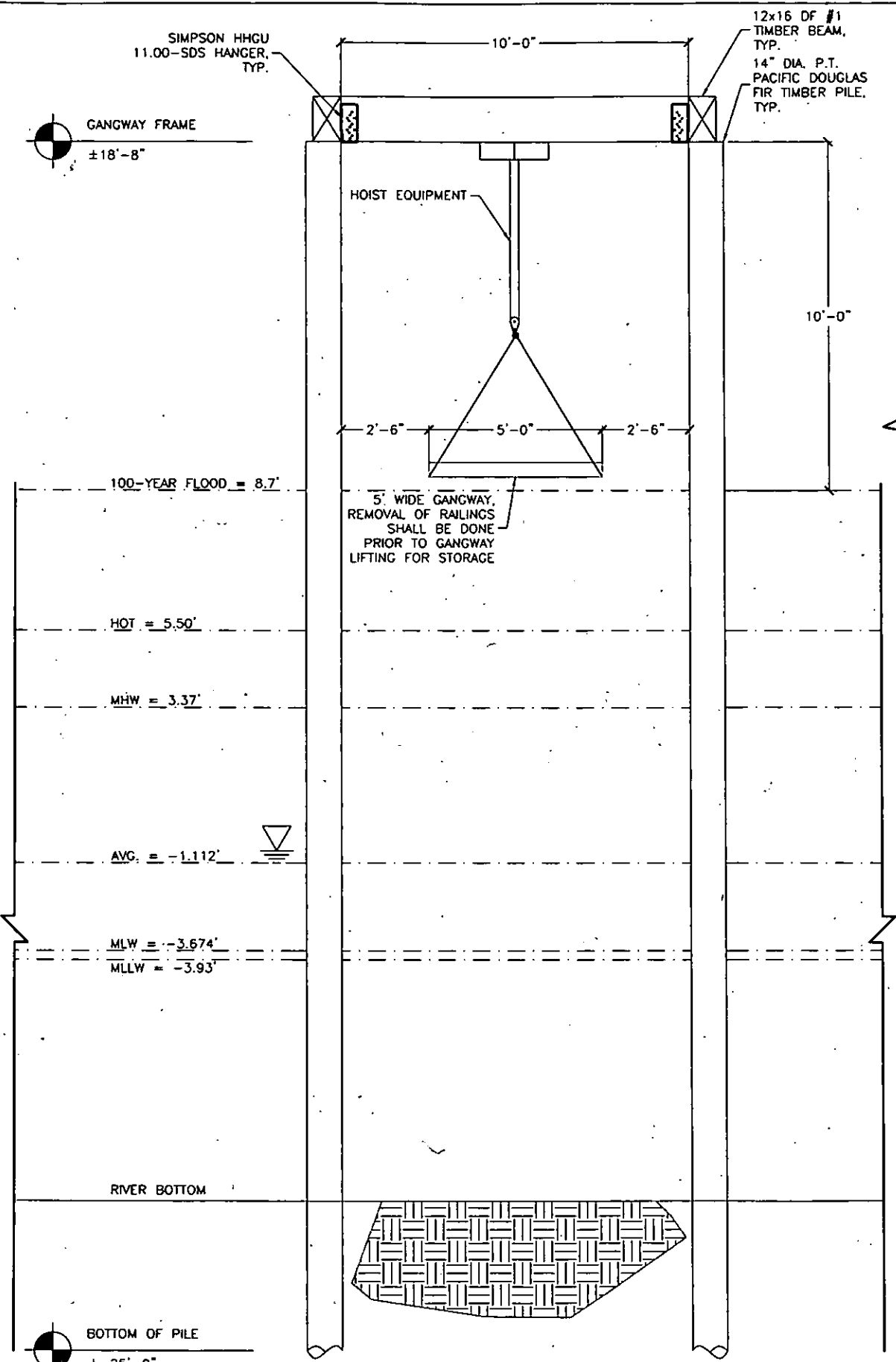




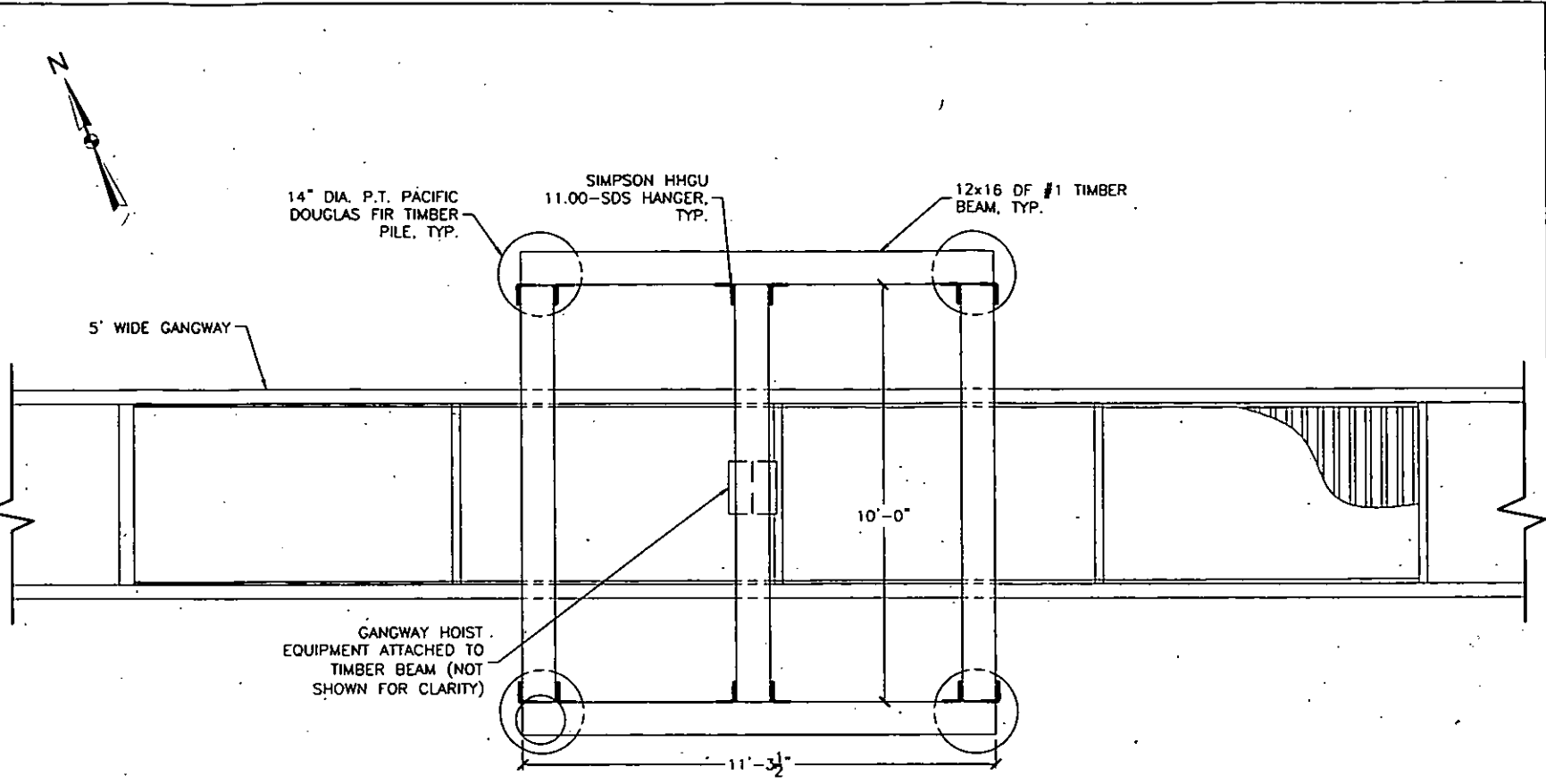
2 GANGWAY SYSTEM SECTION
5/52 3/8" = 1'-0"

NO.		ISSUE/DESCRIPTION		BY	DATE
UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR USE BY GZA CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE REPRODUCED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA. TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.					
DOVER WATERFRONT DOVER, NEW HAMPSHIRE					
<u>FLOATING DOCK SYSTEM DESIGN</u> <u>GANGWAY FRAME SECTION</u>					
PREPARED BY:  GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com			PREPARED FOR: CITY OF DOVER 288 CENTRAL AVE. DOVER, NH 03820		
PROJ MGR: CLG DESIGNED BY: BOW DATE: 03/29/2022		REVIEWED BY: CLG DRAWN BY: BOW PROJECT NO: 02.0173707.00		CHECKED BY: CLG SCALE: AS NOTED REVISION NO: REV.0	
				DRAWING S2 SHEET NO. 2 OF 4	

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3 GANGWAY FRAME SECTION
1/2" = 1'-0"

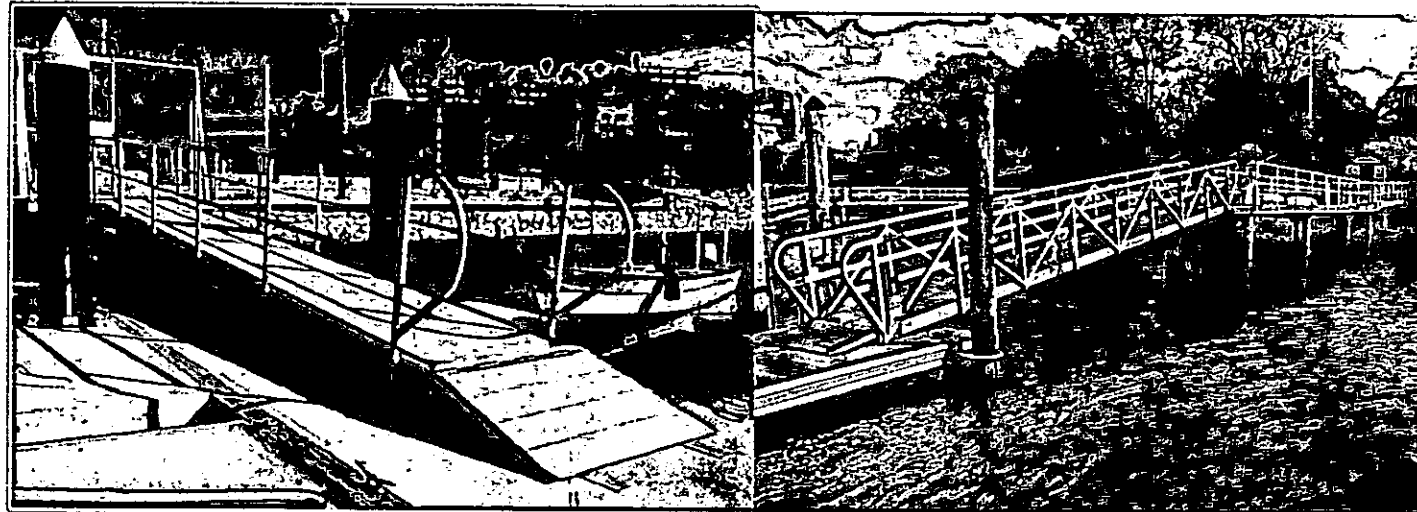


4 GANGWAY FRAME PLAN VIEW
1/2" = 1'-0"

NOTE:
1. TOP OF TIMBER PILE AT $\pm 18'-8"$, UNLESS OTHERWISE NOTED.

NO.		ISSUE/DESCRIPTION	BY	DATE
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DOVER WATERFRONT DOVER, NEW HAMPSHIRE				
FLOATING DOCK SYSTEM DESIGN GANGWAY FRAME PLAN VIEW AND SECTION				
PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com		PREPARED FOR: CITY OF DOVER 288 CENTRAL AVE. DOVER, NH 03820		
PROJ MGR: CLG	DESIGNED BY: BDW	REVIEWED BY: CLG	CHECKED BY: CLG	DRAWING
DATE: 03/29/2022	PROJECT NO: 02.0173707.00	SCALE: AS NOTED	REVISION NO: REV-0	S3
NOT FOR CONSTRUCTION				SHEET NO. 3 OF 4

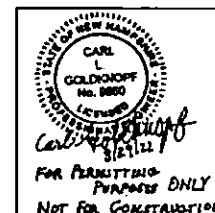
© 2022 - GZA GeoEnvironmental, Inc. GZA-C:\Users\jeth.walsh\appdata\local\temp\AutoCAD\17208\Waterfront Development_Dover NH 02-17-2022.dwg [S] March 28, 2022 - 4:28pm Beth.walsh



GANGWAY EXAMPLE PHOTOS
N.T.S.



FLOATING DOCK EXAMPLE PHOTOS
N.T.S.



NO.	ISSUE/DESCRIPTION	BY	DATE
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DOVER WATERFRONT DOVER, NEW HAMPSHIRE			
FLOATING DOCK SYSTEM DESIGN EXAMPLE OF GANGWAY FRAME AND FLOATING DOCKS			
PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com		PREPARED FOR: CITY OF DOVER 288 CENTRAL AVE. DOVER, NH 03820	
PROJ MGR: CLG	DESIGNED BY: BOW	REVIEWED BY: CLG	CHECKED BY: CLG
DATE: 03/29/2022	PROJECT NO: 02.0173707.00	SCALE: AS NOTED	REVISION NO: REV-0
DRAWING S4			SHEET NO. 4 OF 4

 Ironwood Landscape Architecture - Planning 1400 West 1st Avenue, Suite 100, Denver, CO 80202 Tel: 303.733.1000 www.ironwoodco.com	Drawn By: _____ Checked By: _____ Date: DECEMBER 2019 JAI/JM JAI/JM
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Prepared For:
City of Dover
288 Central Ave.
Dover, NH 03820
Phone: (603) 516-4000
Fax: —

Survey Provided By:
Doucet Survey, Inc.
 102 Kent Place
 Newmarket, NH 03857
 Phone: (603) 658-6560
 Fax: —
 Dates: OCTOBER 19, 2016



Project Number: 19028	Sheet : 30 of 57
Sheet Number: L-1.0	

1. EVERY EFFORT SHALL BE TAKEN TO PRESERVE THE HEALTH OF EXISTING VEGETATION TO REMAIN ON SITE. TREE PROTECTION MEASURES SHALL BE INSTALLED PER CONSTRUCTION DRAWINGS BEFORE ANY CONSTRUCTION ACTIVITY IS TO TAKE PLACE. TREE PROTECTION SHALL REMAIN INTACT THROUGHOUT THE DURATION OF THE PROJECT. ALL TREE PROTECTION SHALL BE REMOVED UPON PROJECT CLOSURE.
2. THE CRITICAL ROOT ZONE OR AN EXISTING TREE TO BE REMOVED IS DEFINED AS A CIRCULAR WHOLE CENTERED IN THE CENTER OF THE TREE TRUNK AND WHOLE RADII IS EQUAL TO THE TREE'S DIAMETER AT BREAST-HIGHT (DBH) IN INCHES TIMES 12".
3. NO WORK, EQUIPMENT STORAGE, OR STOCKPILING OR DISPOSAL OF MATERIALS SHALL TAKE PLACE WITHIN THE CRITICAL ROOT ZONE OF AN EXISTING TREE TO REMAIN UNLESS OTHERWISE CALLED OUT ON THE PLANS. ANY WORK WITHIN THE CRITICAL ROOT ZONE SHALL BE PROHIBITED WITH THE TREE. TREE PROTECTION MEASURES SHALL BE IMMEDIATELY REPLACED UPON CONSTRUCTION CLOSURE.
4. EXCAVATION WORK WITHIN THE CRITICAL ROOT ZONE OF AN EXISTING TREE TO REMAIN SHALL BE DONE WITH AN AIR SPADE AND/OR BY HAND DIGGING. IF REQUIRED, ROOTS SHALL BE CUT USING A STERILIZED HAND SAW, LOPPERS, OR HAND PRUNERS. ENSURE THAT CUTS ARE CLEAN WITH NO JAGGED EDGES. PROMPTLY BACKFILL ANY CUTS. ROOTS, IF CUT ROOTS WILL BE EXPOSED FOR MORE THAN A FEW HOURS, COVER THE EXPOSED ROOTS WITH WET BURLAP TO PREVENT THE W FROM DRYING OUT.
5. CLEAR ALL VEGETATION WITHIN THE CRITICAL ROOT ZONE OF EXISTING TREES TO REMAIN BY CUTTING AT GROUND LEVEL, LEAVING STUMPS AND ROOT SYSTEMS IN PLACE.
6. IDENTIFY AND REMOVE ALL INVASIVE SPECIES COMPLETELY, INCLUDING ROOTS AND CLIMBING VINES, IN ACCORDANCE WITH THE NEW HAMPSHIRE GUIDE TO UPLAND AND INVASIVE SPECIES BY THE NEW HAMPSHIRE DEPARTMENT OF AGRICULTURE MARKETS AND FOOD, PLANT INDUSTRY DIVISION. MOST RECENT EDITION. DISPOSE OF INVASIVE PLANTS IN A MANNER THAT RENDERS THE PLANT NONVIABLE AND NONREMOVABLE, IN ACCORDANCE WITH FEDERAL AND STATE REGULATIONS.
7. TREE REMOVAL SHALL INCLUDE REMOVAL AND DISPOSAL OF ENTIRE TREE, BRANCHES AND LIMBS AND UNDERLIES. BRANCHES AND LIMBS SHALL BE REMOVED FROM THE SITE AND UNLESS OTHERWISE SPECIFIED BY CONTRACTOR

GRAPHIC SCALE

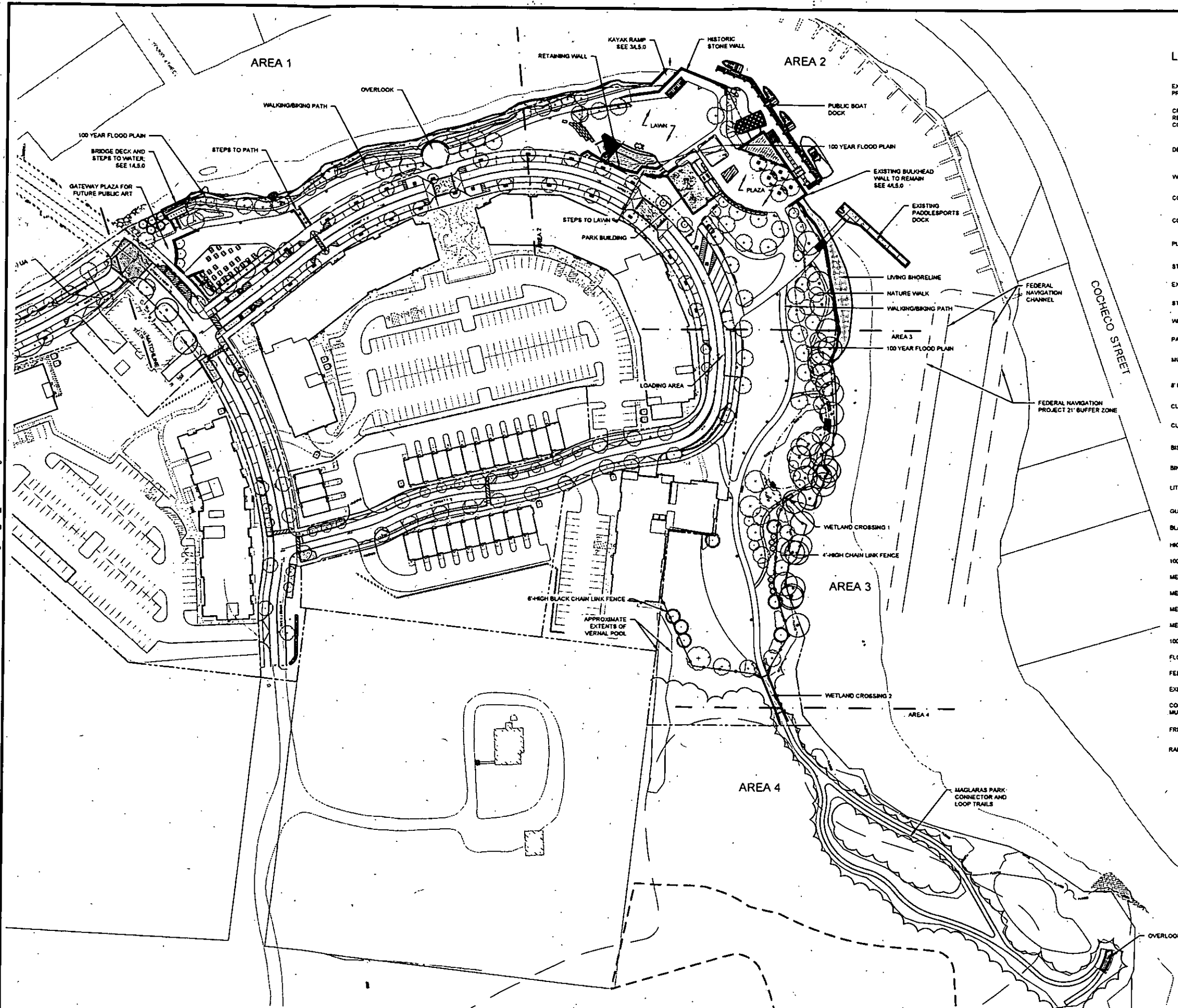


(in feet)

1 INCH = 60 FEET

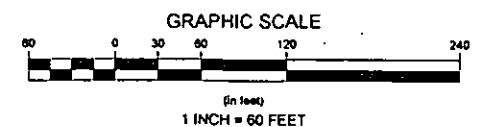
TREE PROTECTION
NOT TO SCALE

last modified: 05/28/22 printed: 05/28/22 by JR V:\15026.2 - Cochecho Waterfront Development Phase 3\Drawings\ID_SP_220526.dwg



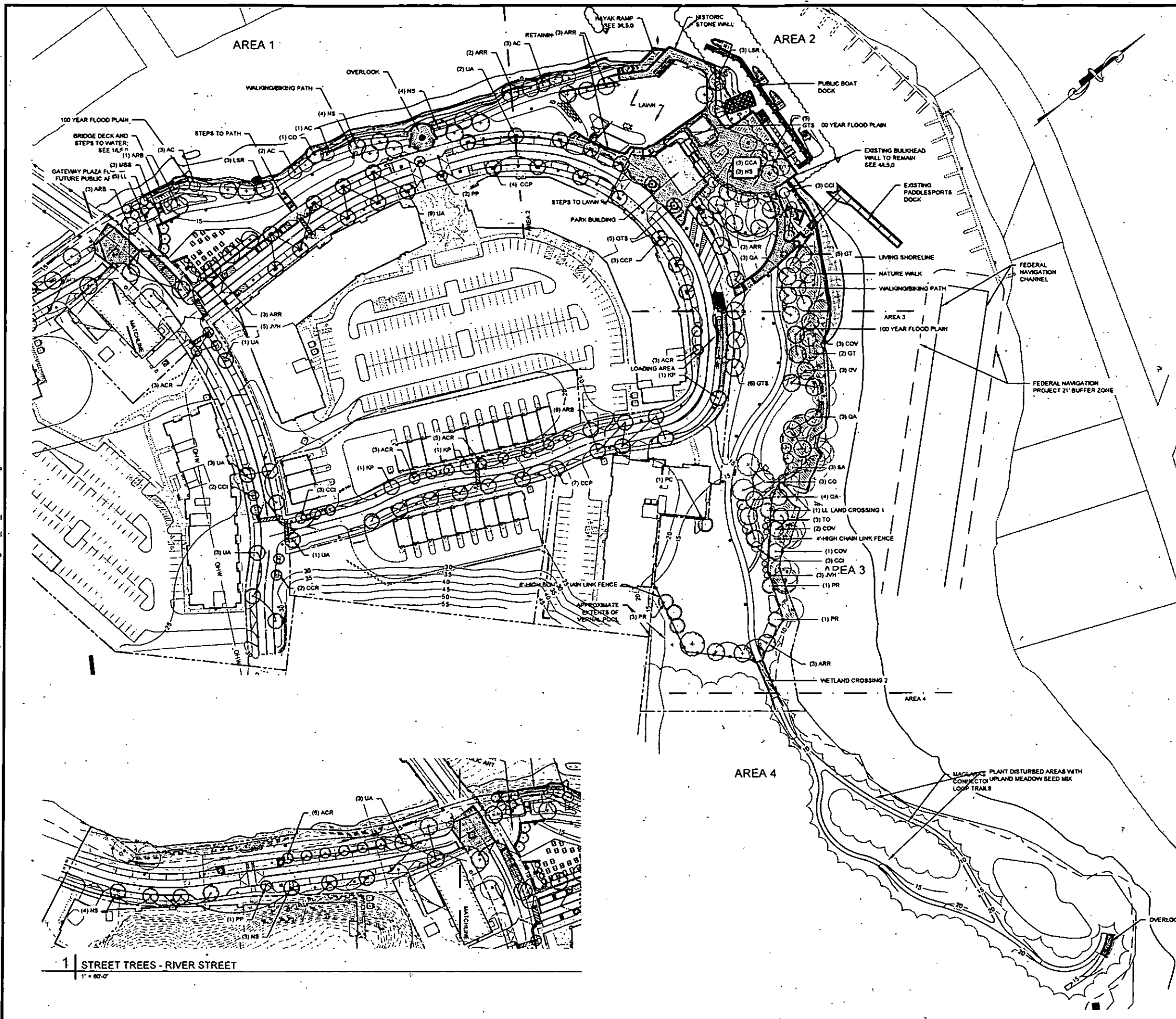
LEGEND

- EXISTING TREE TO REMAIN, SEE TREE PROTECTION PLAN
- CRITICAL ROOT ZONE OF EXISTING TREES TO REMAIN, SEE TREE PROTECTION PLAN FOR CONSTRUCTION ACTIVITY RESTRICTIONS
- DECIDUOUS TREE, SEE PLANTING PLAN
- WOOD DECKING
- CONCRETE UNIT PAVERS, SEE 24.5.2
- CONCRETE PATH, SEE 14.5.2
- PLANTED AREA, SEE PLANTING PLAN
- STONE FINES PATH, SEE 34.5.2
- EXISTING LIGHT TO REMAIN
- STREET LIGHT TYPE 1
- WALL PACK LIGHT TYPE 2
- PARK PATH LIGHT TYPE 3
- MULTIDIRECTIONAL LIGHT TYPE 4
- # BENCH
- CUSTOM CURVED BENCH
- CUSTOM STRAIGHT BENCH
- BISTRO TABLES
- BIKE RACKS
- LITTER RECEPTACLES
- GUARDRAIL
- BLACK CHAIN LINK FENCE
- HIGHEST OBSERVABLE TIDE (HOT)
- 100' HOT OFFSET
- MEAN HIGHER HIGH WATER (MHHW)
- MEAN HIGH WATER (MHW)
- MEAN LOW WATER (MLW)
- MEAN LOWER LOW WATER (MLLW)
- 100-YEAR FLOOD
- FLOODWAY
- FEDERAL NAVIGATION CHANNEL
- EXISTING PARCEL LINES
- COCHECHO RIVER MULTICOMPONENT SITE 27-6T-123
- FRESHWATER WETLANDS
- RARE PLANTS



Revisions					
1	05/28/22	1	05/28/22	1	05/28/22
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LEGEND: PLANTING PLAN
NOTE: SEE L-4.4 FOR PLANT SCHEDULE AND SEED MIXES

EXISTING TREE TO REMAIN
SEE TREE PROTECTION PLAN

DECIDUOUS TREE

MULTISTEM TREE

EVERGREEN TREE

GROUNDCOVER SHRUBS
AND PERENNIALS

TREE GRATE

GROUNDCOVER - SEE
ENLARGEMENT PLANS
FOR DETAILS

REVISIONS	
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100	05/28/22

Ironwood
Landscape Architecture + Planning
1000 Main Street, Suite 200
Dover, NH 03820
Phone: (603) 514-6000
Fax: (603) 514-6001
Email: info@ironwoodnh.com
Website: www.ironwoodnh.com

**COACHECHO WATERFRONT
90% CONSTRUCTION DRAWINGS
DOVER, NEW HAMPSHIRE**

PLANTING PLAN - TREES

Prepared For: City of Dover
288 Central Ave.
Dover, NH 03820
Phone: (603) 514-6000
Fax: (603) 514-6001
Email: info@cityofdovertownship.com

Survey Provided By: Doucet Survey, Inc.
100 Kent Place
Newmarket, NH 03857
Phone: (603) 554-5550
Fax: (603) 554-5551
Email: info@doucetsurvey.com
Date: OCTOBER 19, 2016

GRAPHIC SCALE
0 30 60 120 240
(in feet)
1 INCH = 60 FEET

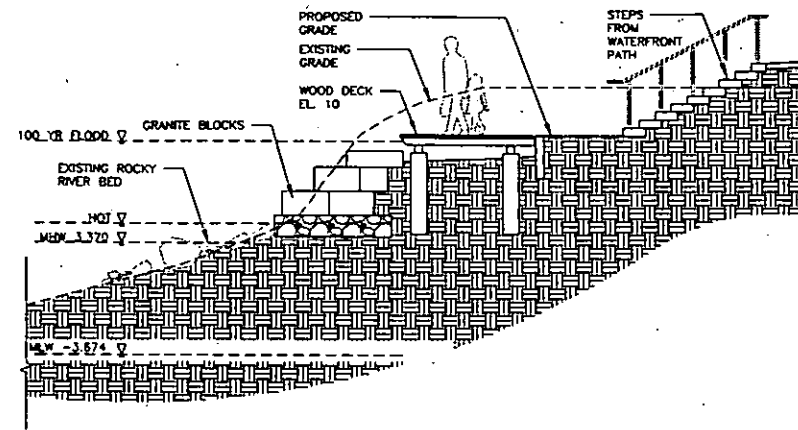
Project Number: 19026
Sheet: 37 of 57
L-4.0

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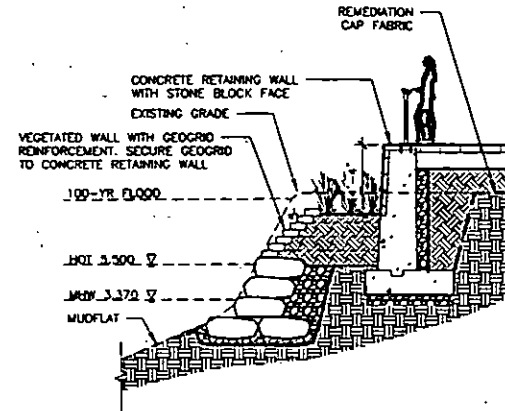
[illegible]

UPLAND MEADOW SEED MIX	
SCIENTIFIC NAME	COMMON NAME
ANDROPOGON GERARDII	BIG BLUESTEM
ASCLEPIAS SYRIACA	COMMON MILKWEED
ASTER NOVAE-ANGIAE	NEW ENGLAND ASTER
ASTER UMBRILLATUS	FLAT TOPPEDUMBRELLA ASTER
CAREX SCOPARIA	BLUNT BROOM SEDGE
COROPHIS LANCEOLATA	LARGE LEAVED COROPHIS
ELYMUS RIPARIUS	RIVERBANK WILD RYE
ELYMUS VIRGINICUS	VIRGINIA WILD RYE
EUPATORIUM PERFOLIATUM	COMMON BONESET
FESTUCA RUBRA	RED FESCUE
PANICUM CLANDESTINUM	DEER TONGUE
PANICUM VIRGATUM	SWITCH GRASS
SOLIDAGO JUNCEA	EARLY GOLDENROD
ZIZIA AUREA	GOLDEN ALEXANDERS
SHORE RETENTION AREA SEED MIX	
SCIENTIFIC NAME	COMMON NAME
ELYMUS RIPARIUS	RIVERBANK WILD RYE
FESTUCA RUBRA	RED FESCUE
SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM
ANDROPOGON GERARDII	BIG BLUESTEM
PANICUM VIRGATUM	SWITCH GRASS
BIDENS CERNUA	NODDING BUR MARIGOLD
ELYMUS RIPARIUS	RIVERBANK WILD RYE
EUPATORIUM FISTULOSUM	JOE PYE WEED
ASTER NOVAE-ANGIAE	NEW ENGLAND ASTER
VERBENA HASTATA	BLUE VERVAIN
JUNCUS EFFUSUS	SOFT RUSH
SCIRPUS CYPERNUS	WOOL GRASS
VEGETATED WALL SEED MIX	
SCIENTIFIC NAME	COMMON NAME
ELYMUS CANADENSIS	CANADA WILD RYE
FESTUCA RUBRA	RED FESCUE
ANDROPOGON GERARDII	BIG BLUESTEM
PANICUM VIRGATUM	SWITCH GRASS
JUNCUS TENAX	RATH RUSH
SOLIDAGO SEMPERVERNS	SEASIDE GOLDENROD
TURF GRASS MIX	
SCIENTIFIC NAME	COMMON NAME
FESTUCA ARUNDINACEA 'FAWN	TALL FESCUE
LOLIUM PERENNE 'AMAZING A'	PERENNIAL RYEGRASS
POA PRATENSIS 'VOLT'	KENTUCKY BLUEGRASS
POA PRATENSIS 'SHAMROCK'	KENTUCKY BLUEGRASS
LOLIUM MULTIFLORUM	ANNUAL RYEGRASS
TRIFOLIUM REPENS	WHITE CLOVER

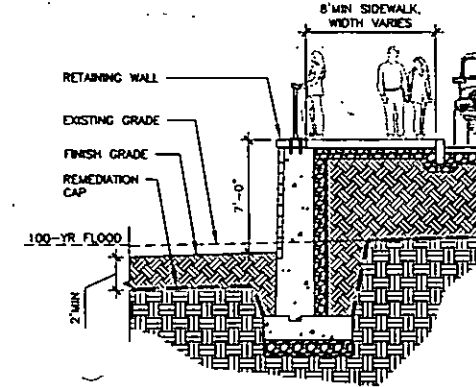
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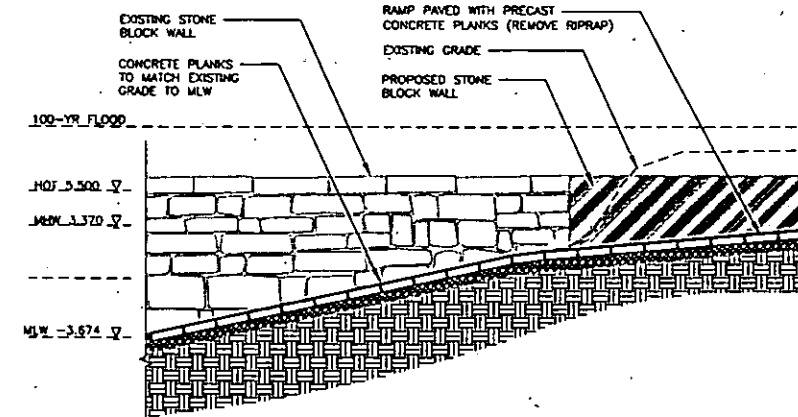
1 BRIDGE DECK SECTION
3/16" = 1'-0"



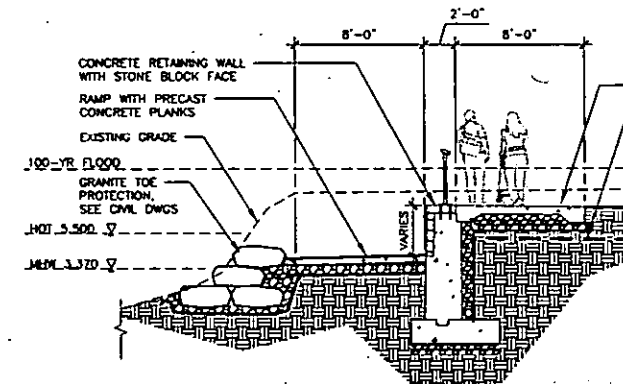
2 OVERLOOK SECTION
3/16" = 1'-0"



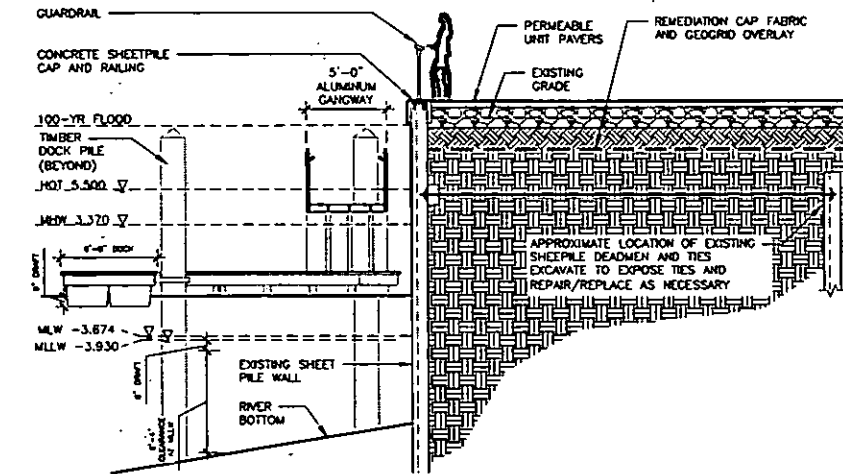
3 RETAINING WALL SECTION AT LAWN
3/16" = 1'-0"



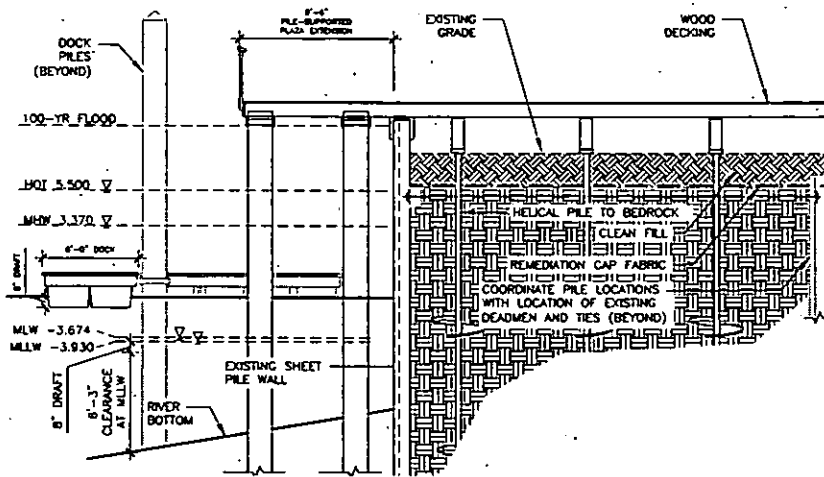
4 KAYAK RAMP LONGITUDINAL SECTION/ELEVATION
3/16" = 1'-0"



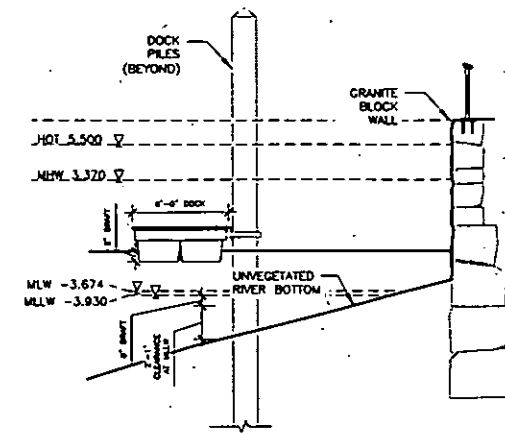
5 KAYAK RAMP CROSS SECTION
3/16" = 1'-0"



6 BULKHEAD DOCK AND PAVED PLAZA SECTION
3/16" = 1'-0"



7 BULKHEAD DOCK AND DECKED PLAZA SECTION
3/16" = 1'-0"

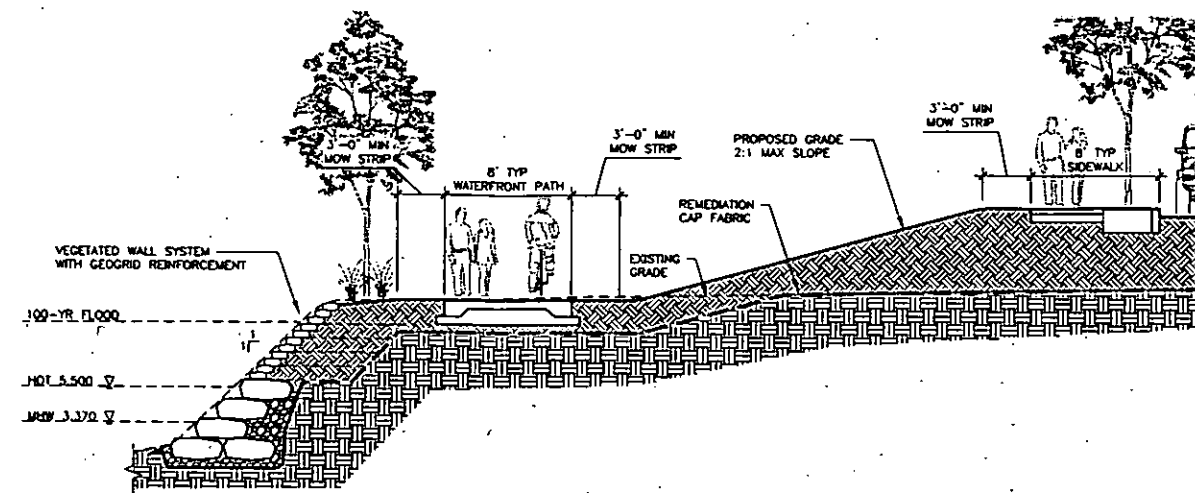


8 DOCK SECTION
3/16" = 1'-0"

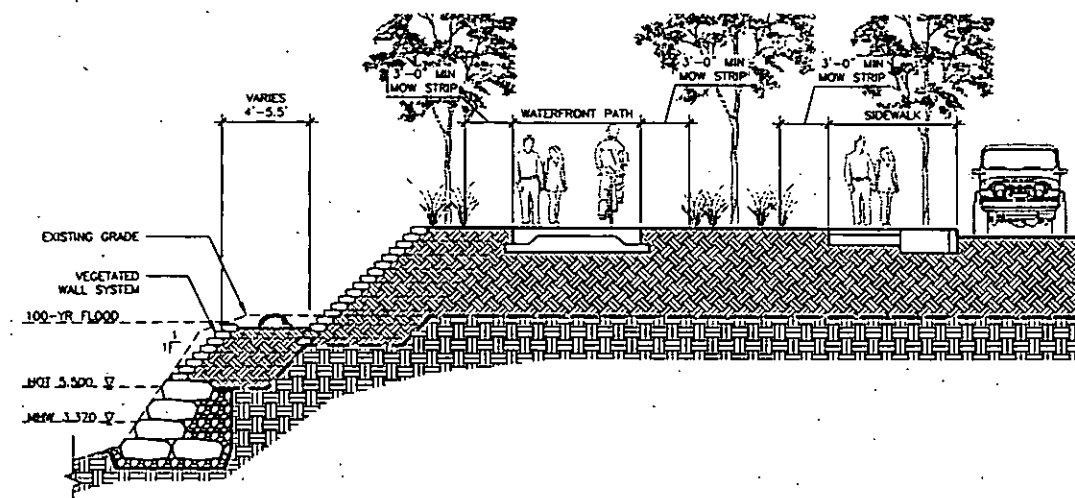
NOTES:
1. THE SECTIONS ON THIS PAGE ARE INTENDED TO ILLUSTRATE SPATIAL RELATIONSHIPS BETWEEN VARIOUS DESIGN ELEMENTS AND IS NOT INTENDED TO BE A CONSTRUCTION DETAIL. THE DESIGN OF ALL STRUCTURAL ELEMENTS INCLUDING RETAINING WALLS, DOCKS, PIERS, WETLAND CROSSINGS AND RAILINGS SHALL BE PERFORMED BY A PROFESSIONAL ENGINEER PRIOR TO CONSTRUCTION.

Revisions	
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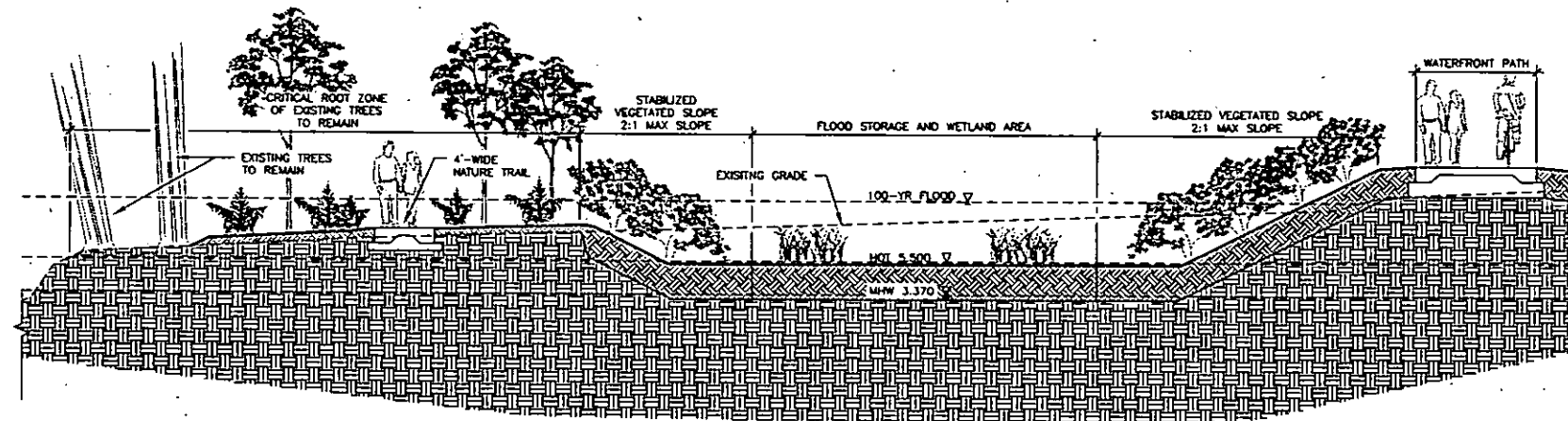
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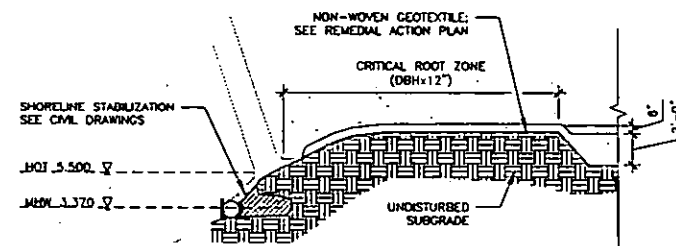
1 SHORELINE, WATERFRONT PATH, AND ROAD SECTION
3/16" = 1'-0"



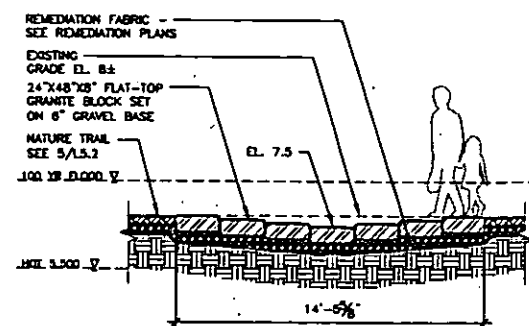
2 SECTION AT TERRACED SHORELINE, WATERFRONT PATH, AND ROAD
3/16" = 1'-0"



3 SECTION THROUGH SHORELINE AND PARK AT BIORETENTION AREA
3/16" = 1'-0"

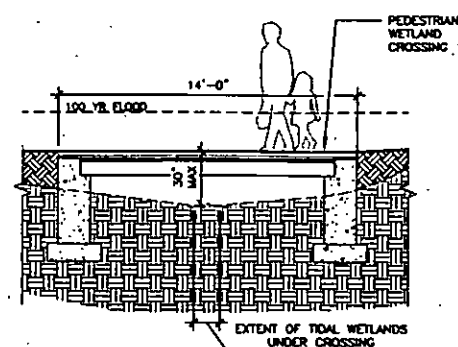


4 SPECIAL STABILIZATION AND CAP AREA AT EXISTING TREES TO REMAIN
3/16" = 1'-0"

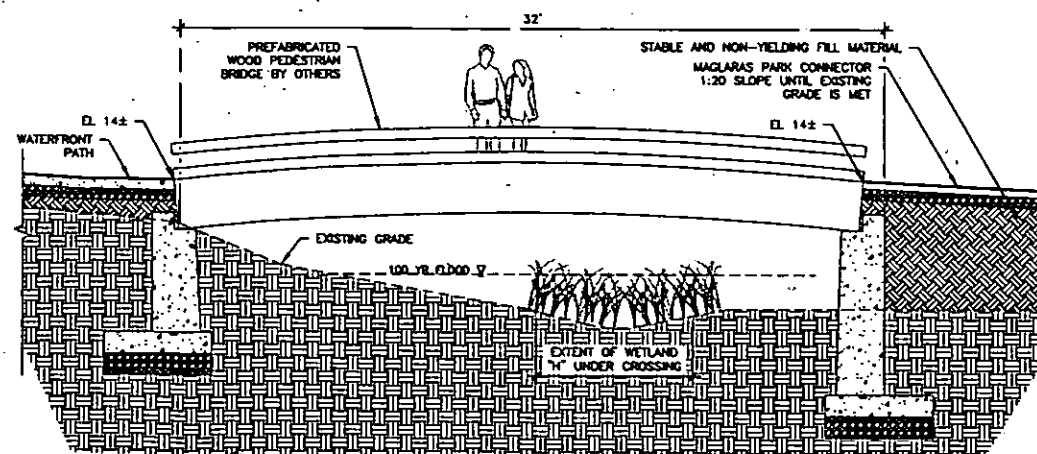


NOTE: EXCAVATION ACTIVITIES WITHIN CRITICAL ROOT ZONE OF EXISTING TREE TO REMAIN HAVE SPECIAL RESTRICTIONS; SEE TREE PROTECTION PLAN FOR MORE INFORMATION

5 STONE BLOCKS AT POCKET WETLAND OUTFALL
1/4" = 1'-0"



6 WETLAND CROSSING 1
1/4" = 1'-0"



7 WETLAND CROSSING 2
1/4" = 1'-0"

NOTES:

1. THE SECTIONS ON THIS PAGE ARE INTENDED TO ILLUSTRATE SPATIAL RELATIONSHIPS BETWEEN VARIOUS DESIGN ELEMENTS AND IS NOT INTENDED TO BE A CONSTRUCTION DETAIL. THE DESIGN OF ALL STRUCTURAL ELEMENTS INCLUDING RETAINING WALLS, DOCKS, PIERS, WETLAND CROSSINGS AND RAILINGS SHALL BE PERFORMED BY A PROFESSIONAL ENGINEER PRIOR TO CONSTRUCTION.

Revisions	Date	By	Check	Appr	Discipline
1	11/02/20	JR	JA	JA	DRAFT RESPONSE TO PUBLIC COMMENT
2	11/02/20	JR	JA	JA	RESPONSE TO PUBLIC COMMENT
3	11/02/20	JR	JA	JA	RESPONSE TO PUBLIC COMMENT
4	11/02/20	JR	JA	JA	PLANNING
5	11/02/20	JR	JA	JA	DESIGN AND PREP VARIATIONS
6	11/02/20	JR	JA	JA	DESIGN AND PREP VARIATIONS
7	11/02/20	JR	JA	JA	DESIGN AND PREP VARIATIONS
8	11/02/20	JR	JA	JA	DESIGN AND PREP VARIATIONS
9	11/02/20	JR	JA	JA	DESIGN AND PREP VARIATIONS
10	11/02/20	JR	JA	JA	DESIGN AND PREP VARIATIONS

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**COACHECHO WATERFRONT
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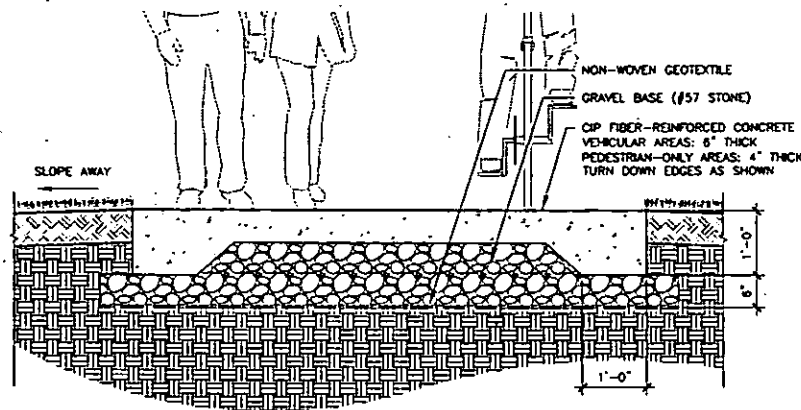
LANDSCAPE SECTIONS

Prepared For:
City of Dover
288 Canal Ave.
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Phone: (603) 515-0000
Fax: (603) 515-0000

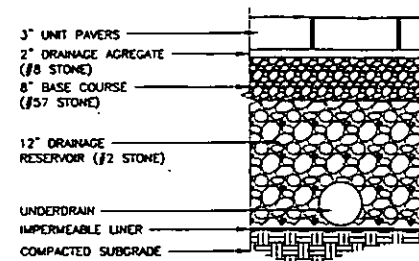
Survey Provided By:
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102 Main Street
Newmarket, NH 03857
Phone: (603) 698-6500
Fax: (603) 698-6500
Date: OCTOBER 19, 2015



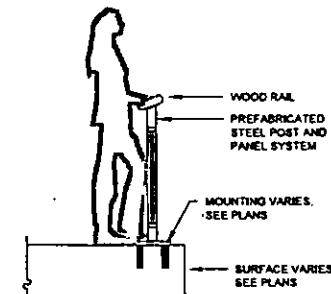
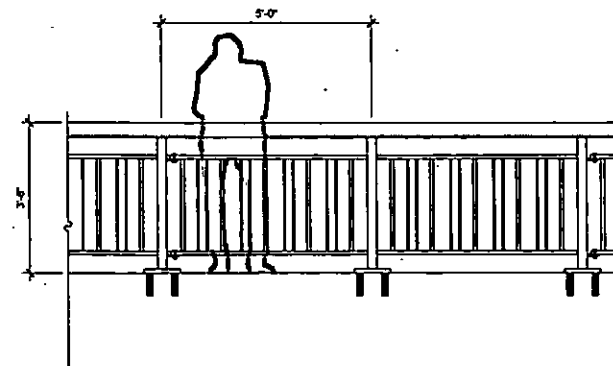
Project Number: 15028
Sheet: 43 of 57



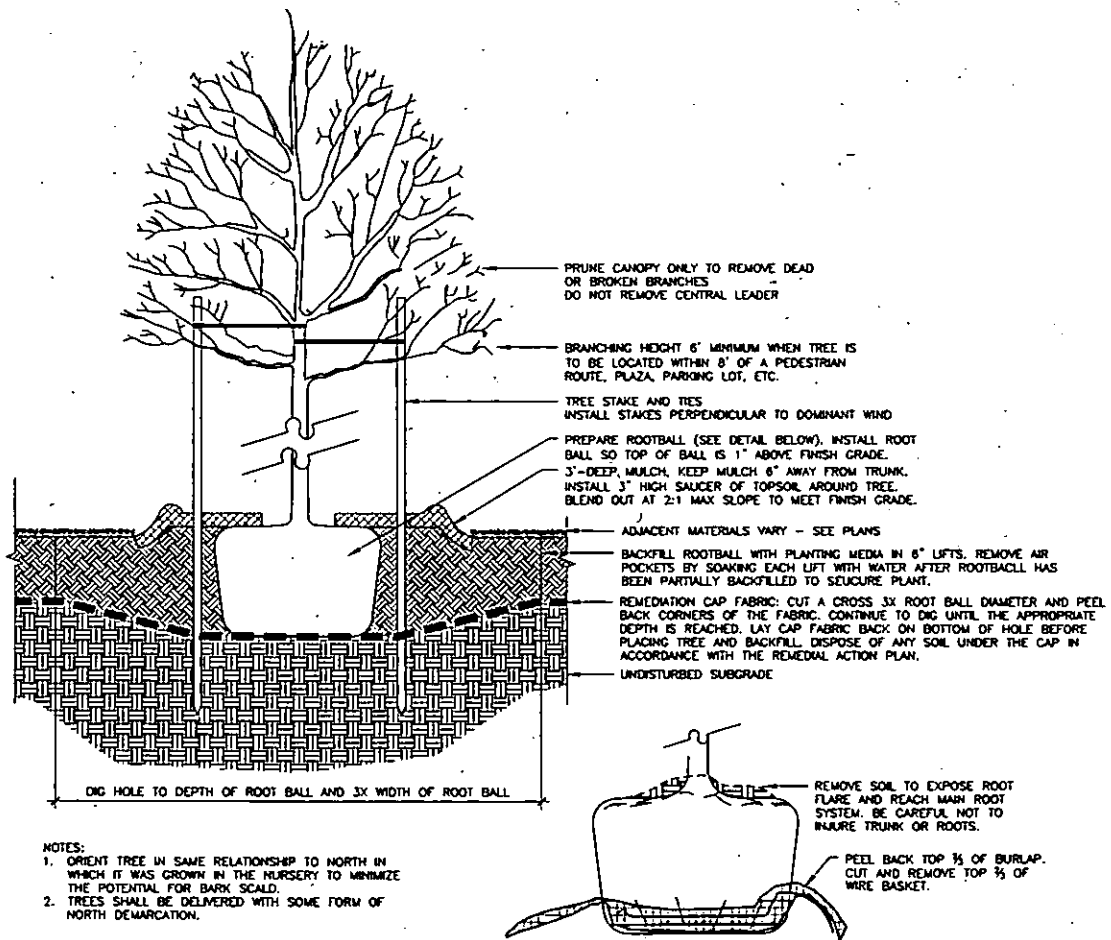
1 CONCRETE PAVING
3/4" = 1'-0"



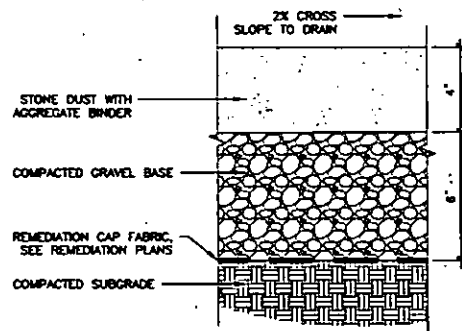
2 PERMEABLE UNIT PAVING
1-1/2" = 1'-0"



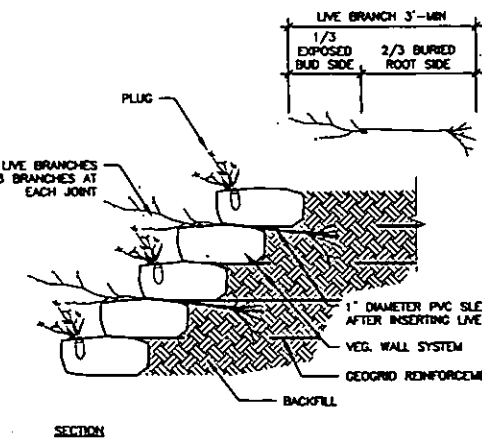
3 GUARDRAIL
1/2" = 1'-0"



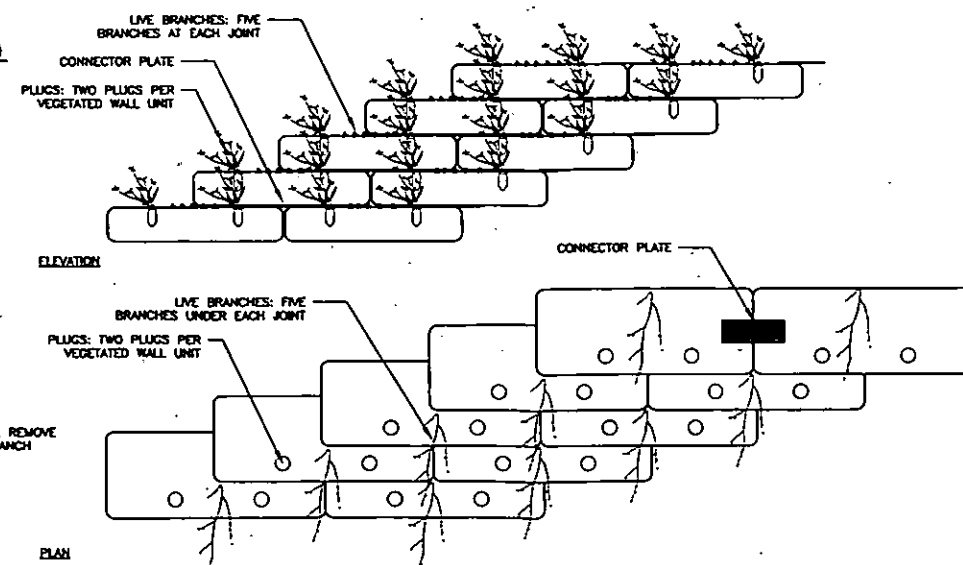
4 DECIDUOUS TREE PLANTING
3/16" = 1'-0"



5 STABILIZED STONEDUST PAVING (NATURE TRAIL)
3/4" = 1'-0"



6 LIVE BRANCH LAYERING AND PLUG PLANTING AT VEGETATED WALL
1" = 1'-0"



Revisions	By	Date	Description
1	JAN	2018	BAUT Response to Worksheet 10/1
2	JAN	2018	Response to Worksheet 10/1
3	JAN	2018	Response to Worksheet 10/1
4	JAN	2018	Response to Worksheet 10/1
5	JAN	2018	Response to Worksheet 10/1
6	JAN	2018	Response to Worksheet 10/1
7	JAN	2018	Response to Worksheet 10/1
8	JAN	2018	Response to Worksheet 10/1
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10	JAN	2018	Response to Worksheet 10/1

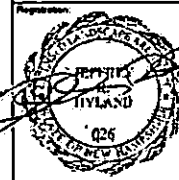
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Project No.: 18-001
Sheet No.: 44 of 57

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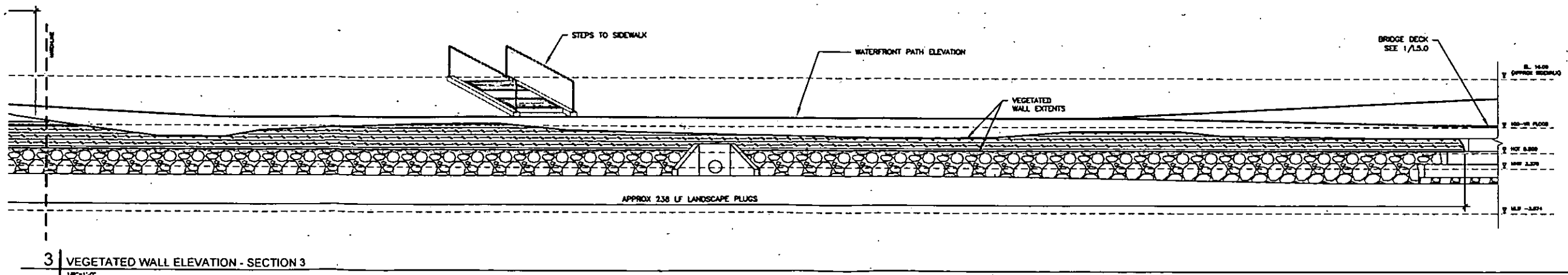
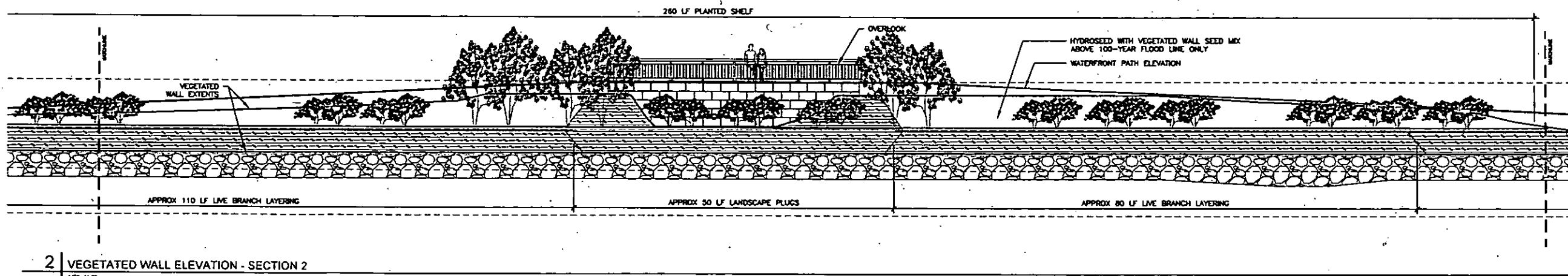
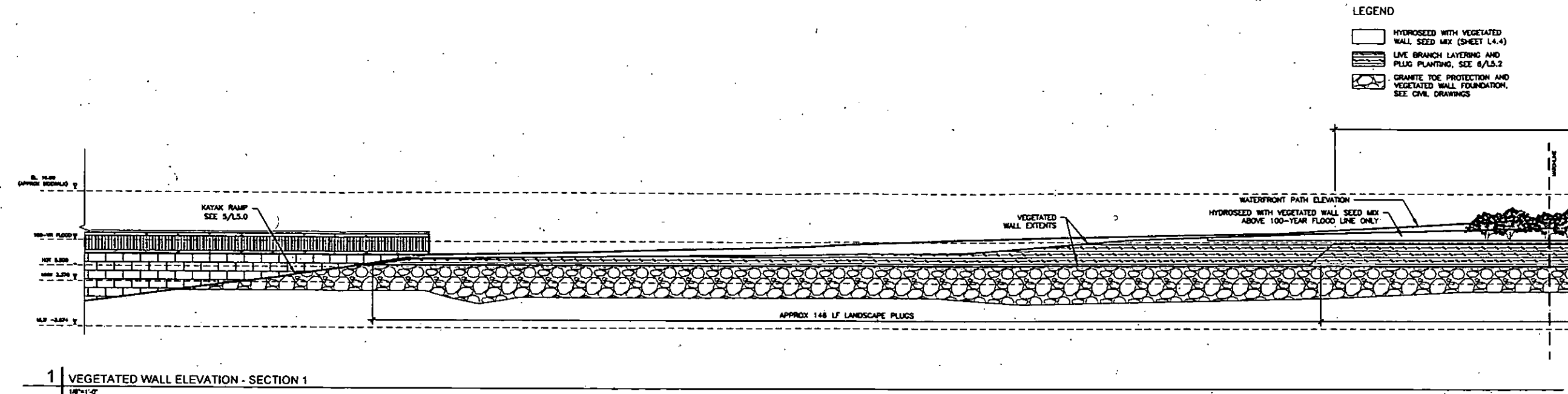
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100 West Street
Dover, NH 03820
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Date: OCTOBER 10, 2018



Project Number: 18-001
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Sheet Number: L-5.2

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- LEGEND
- HYDROSEED WITH VEGETATED WALL SEED MIX (SHEET L4.4)
 - LIVE BRANCH LAYERING AND PLUG PLANTING, SEE 6/1.5.2
 - GRANITE TOE PROTECTION AND VEGETATED WALL FOUNDATION, SEE CIVIL DRAWINGS

Revisions	
1	21/05/22 J.M. J.M. DRAFT Response to Request for Proposals in Violation of
2	21/05/22 J.M. J.M. Response to Request for Proposals in Violation of
3	21/05/22 J.M. J.M. Response to Request for Proposals in Violation of
4	21/05/22 J.M. J.M. Response to Request for Proposals in Violation of
5	21/05/22 J.M. J.M. Response to Request for Proposals in Violation of
6	21/05/22 J.M. J.M. Response to Request for Proposals in Violation of
7	21/05/22 J.M. J.M. Response to Request for Proposals in Violation of
8	21/05/22 J.M. J.M. Response to Request for Proposals in Violation of
9	21/05/22 J.M. J.M. Response to Request for Proposals in Violation of
10	21/05/22 J.M. J.M. Response to Request for Proposals in Violation of
Ironwood Landscape Architecture - Planning 100 Main Street, Suite 100 Dover, NH 03820 Phone: (603) 518-0000 Fax: (603) 518-0000 Website: www.ironwoodnh.com	
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VEGETATED WALL SYSTEM ELEVATIONS	
Project For: City of Dover 288 Central Ave. Dover, NH 03820 Phone: (603) 518-0000 Fax: (603) 518-0000	
Survey Provided By: Doucet Survey, Inc. 100 Main Street Newmarket, NH 03857 Phone: (603) 858-6500 Fax: (603) 858-6500 Date: OCTOBER 18, 2018	
Project Number: 15028	Sheet: 45 of 57
Sheet Number: L-5.3	