

EARNSCLIFFE MILL/PARAGON MILL REDEVELOPMENT

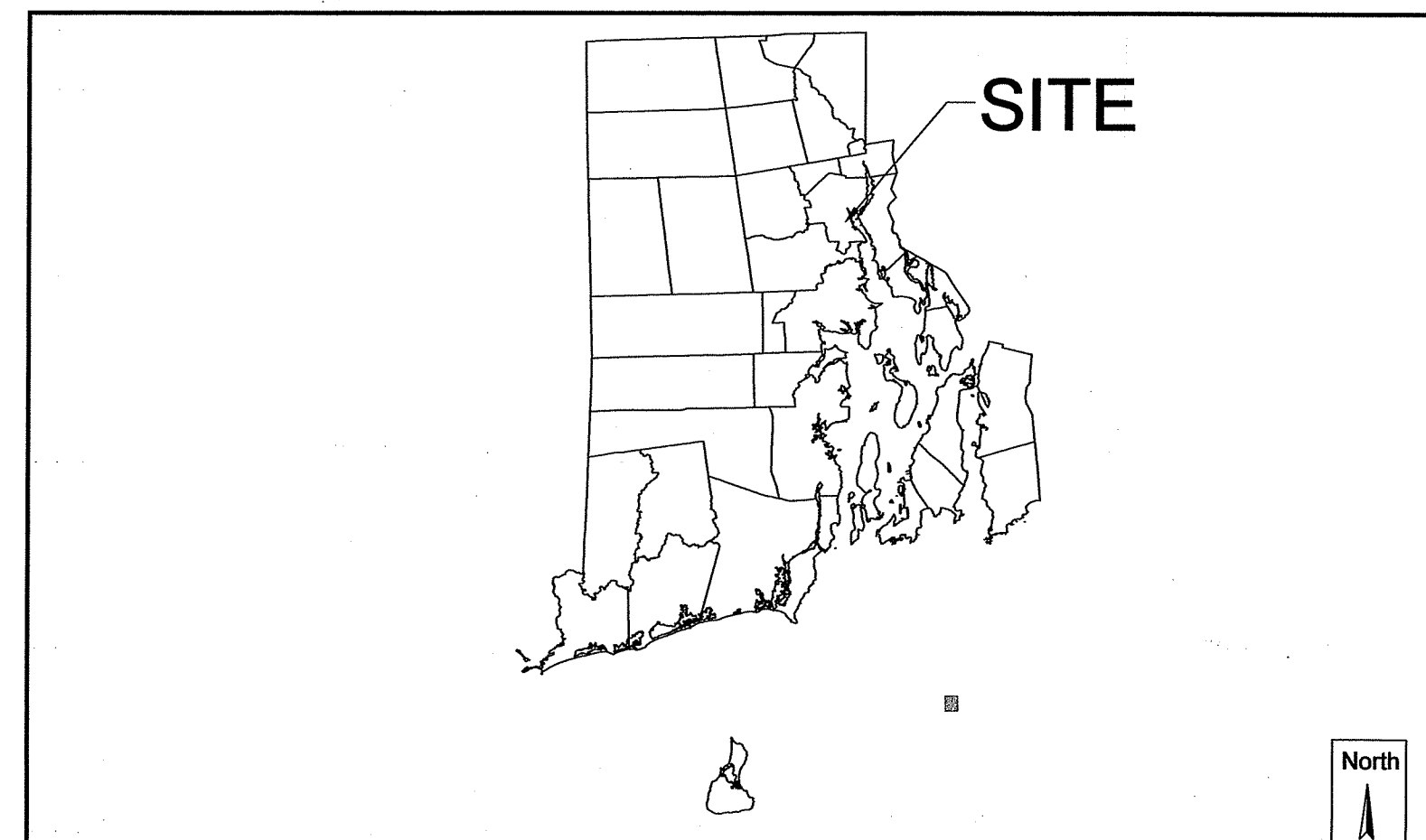
PERMITTING SET

144 DELAINE ST. PROVIDENCE, RI

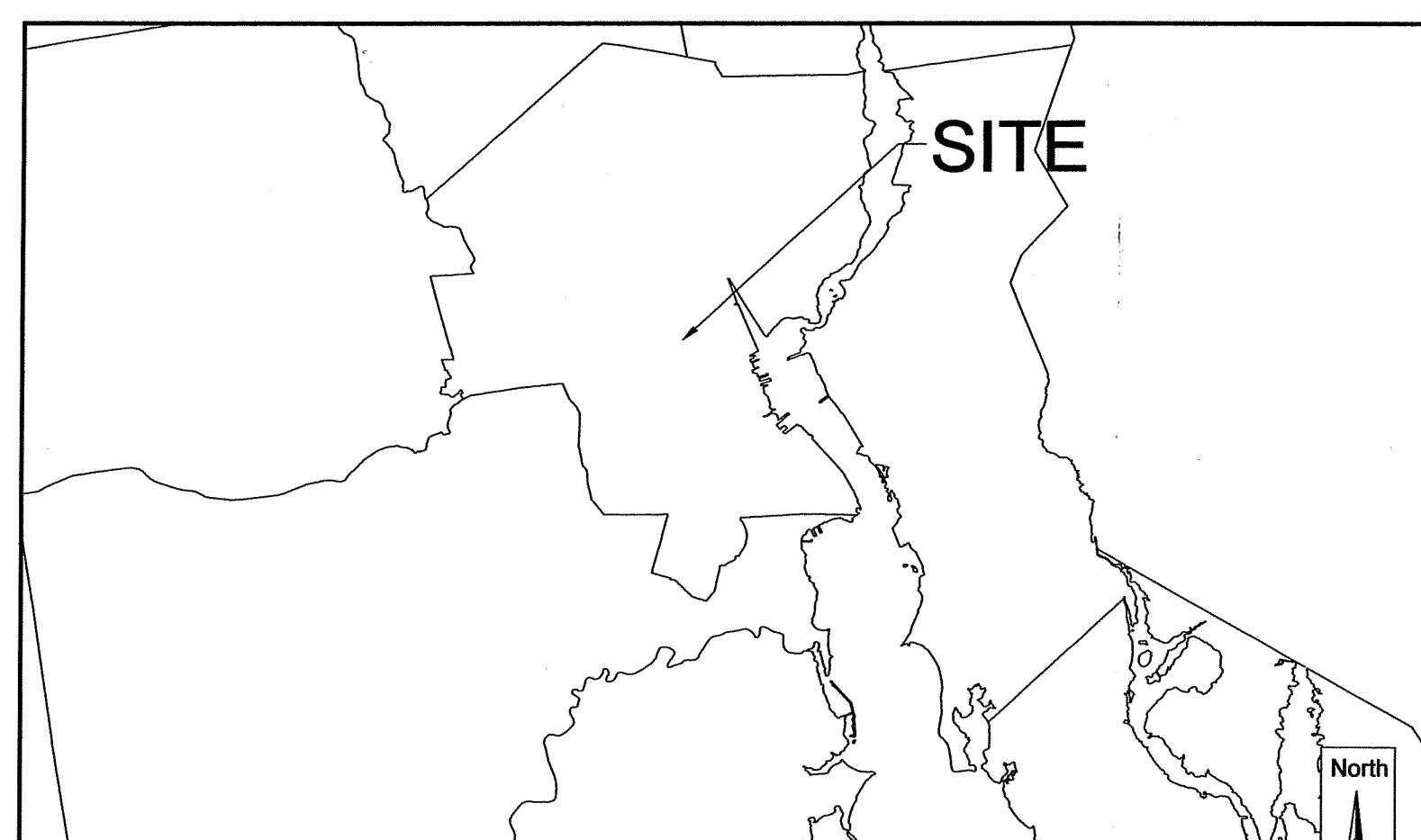
NOVEMBER 19, 2020

Environmental Management
MAR 22 2021
Office of Water Resources

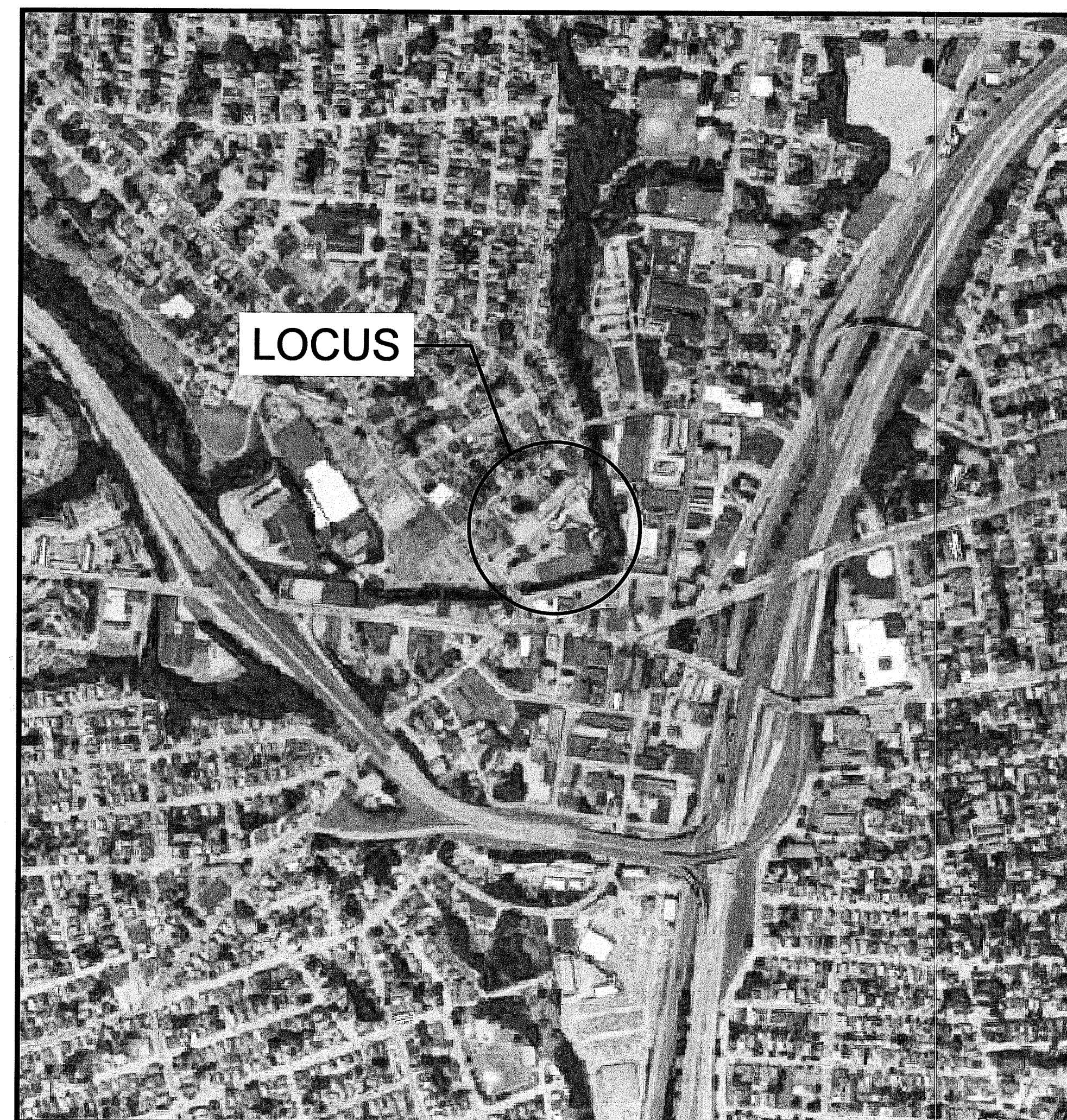
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RHODE ISLAND
Graphic Scale
0 70000
SCALE IN FEET
1:70000



CITY OF PROVIDENCE
Graphic Scale
0 10000
SCALE IN FEET
1:10000



VICINITY MAP
Graphic Scale
1-inch = 500-feet

GENERAL NOTES:

- THIS PLAN SET IS FOR PERMITTING ONLY.
- SURVEY CONDUCTED BY HORSLEY WITTEN GROUP (HW) IN JUNE & JULY, 2020. ELEVATION DATUM IS ASSUMED BASED ON TOWN PROVIDED SURVEY.
- PROPERTY LINES APPROXIMATE ONLY.
- ABUTTER INFORMATION FROM ASSESSOR'S MAP.
- SITE INFORMATION:
 - PLAT: 62
 - LOT: 430, 432, 435, 443, 573
 - ADDRESS: 144 DELAINE STREET
 - ZONING DISTRICT: INDUSTRIAL M-MU-75
- THE PROPERTY IS LOCATED WITHIN F.I.R.M. ZONE "AE" AS SHOWN ON COMMUNITY PANEL NO. 44007C0304J DATED OCTOBER 2, 2015.
- THE WETLAND DELINEATION SHOWN HEREON WAS CONDUCTED BY HORSLEY WITTEN GROUP ON JUNE 16, 2020.

Plan Set: **EARNSCLIFFE MILL/PARAGON MILL
REDEVELOPMENT
PERMITTING SET
144 DELAINE ST. PROVIDENCE, RI**

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Date Issued: NOVEMBER 19, 2020

Designed By: EBUJ

Drawn By: EBUJ

Checked By: JF

Registration: JONATHAN A. FORD
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REGISTERED PROFESSIONAL ENGINEER (CIVIL)

Revisions

Rev. Date By Appr. Description

Project Number: 20062

Sheet Number: 1 of 21

Drawing Number: C-1

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED MAR 22 2021 FILE # 21-0034
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Martin B. Wencsek

GENERAL CONSTRUCTION NOTES:

1. ALL SITE WORK TO COMPLETE THIS PROJECT AS INDICATED ON THE DRAWINGS AND IN THE SPECIFICATIONS IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
2. IMMEDIATELY CONTACT AND COORDINATE WITH THE ENGINEER AND OWNER IF ANY DEVIATION OR ALTERATION OF THE WORK PROPOSED ON THESE DRAWINGS IS REQUIRED.
3. UTILIZE ALL PRECAUTIONS AND MEASURES TO ENSURE THE SAFETY OF THE PUBLIC, ALL PERSONNEL AND PROPERTY DURING CONSTRUCTION IN ACCORDANCE WITH OSHA STANDARDS, INCLUDING THE INSTALLATION OF TEMPORARY FENCING BARRICADES, SAFETY LIGHTING, CONES, POLICE DETAIL AND/OR FLAGMEN AS DETERMINED NECESSARY BY THE CITY OF PROVIDENCE. THE CONTRACTOR IS RESPONSIBLE FOR THE COST OF POLICE DETAIL AND FOR COORDINATING WITH THE LOCAL OR STATE POLICE DEPARTMENT FOR ALL REQUIRED POLICE DETAIL.
4. MAKE ALL NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN ALL NECESSARY CONSTRUCTION PERMITS, PAY ALL FEES INCLUDING POLICE DETAILS AND POST ALL BONDS, IF NECESSARY, ASSOCIATED WITH THE SAME, AND COORDINATE WITH THE OWNER AND THE ENGINEER.
5. ALL EXISTING CONDITIONS SHOWN ARE APPROXIMATE AND ARE BASED ON THE BEST INFORMATION AVAILABLE. PRIOR TO THE START CONSTRUCTION VERIFY THAT THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS DO NOT CONFLICT WITH ANY KNOWN EXISTING OR OTHER PROPOSED IMPROVEMENTS. IF ANY CONFLICTS ARE DISCOVERED, NOTIFY THE OWNER AND THE ENGINEER PRIOR TO INSTALLING ANY PORTION OF THE SITE WORK WHICH WOULD BE AFFECTED.
6. THE LOCATION AND/or ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS INDICATED ON THE DRAWINGS ARE BASED ON RECORDS OF VARIOUS UTILITY COMPANIES, AND WHEREVER POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES IN THE FIELD PRIOR TO THE START OF CONSTRUCTION. CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY IN THE CITY, AND "DUGSAFE" (1-888-344-7233) AT LEAST THREE BUSINESS DAYS PRIOR TO ANY EXCAVATION WORK IN PREVIOUSLY UNALTERED AREAS TO REQUEST EXACT FIELD LOCATION OF UTILITIES. THE CONTRACTOR MUST RESOLVE CONFLICTS BETWEEN THE PROPOSED UTILITIES AND FIELD-LOCATED UTILITIES AND REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED, INCOMPLETELY OR INACCURATELY SHOWN. THE CONTRACTOR MUST MAINTAIN ACCURATE RECORDS OF THE LOCATION AND ELEVATION OF ALL WORK INSTALLED AND EXISTING UTILITIES FOUND DURING CONSTRUCTION FOR THE PREPARATION OF THE AS-BUILT PLAN.
7. COORDINATE AND MAKE ALL CONNECTION ARRANGEMENTS WITH UTILITY COMPANIES, AS REQUIRED.
8. THE CONTRACTOR MUST MAINTAIN ALL EXISTING UTILITIES IN WORKING ORDER AND FREE FROM DAMAGE DURING THE ENTIRE DURATION OF THE PROJECT. REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT NO COST TO THE OWNER. THE CONTRACTOR IS RESPONSIBLE FOR ALL COST RELATED TO THE REPAIR OF UTILITIES. EXCAVATION REQUIRED WITHIN THE PROXIMITY OF EXISTING UTILITY LINES MUST BE DONE BY HAND.
9. COORDINATE ALL TRENCHING WORK WITHIN ROADWAYS WITH THE PROPER LOCAL & STATE AGENCY. THE CONTRACTOR IS RESPONSIBLE FOR ALL TRENCH SAFETY INCLUDING ANY LOCAL AND/OR STATE PERMITS REQUIRED FOR THE TRENCH WORK. IF THIS WORK IS REQUIRED TO OCCUR OUTSIDE THE AGREED UPON HOURS OF OPERATION FOR THE FACILITY, THE CONTRACTOR MUST PLAN ACCORDINGLY.
10. SAWCUT ALL TRENCH WORK WITHIN EXISTING PAVEMENT AS INDICATED ON THE DRAWINGS, BACKFILL AND COMPACT TRENCH WORK AS INDICATED ON THE DRAWING AND IN THE SPECIFICATIONS. IF SETTLEMENT OCCURS DUE TO INADEQUATE COMPACTION, AS DETERMINED BY THE ENGINEER, WITHIN THE WARRANTY PERIOD, CONTRACTOR IS REQUIRED TO REMOVE, PATCH AND REPAVE AFTER ONE COMPLETE 12-MONTH CYCLE.
11. IMPORT ONLY CLEAN MATERIAL. MATERIAL FROM AN EXISTING OR FORMER 21E SITE AS DEFINED BY THE MASSACHUSETTS CONTINGENCY PLAN 310 CMR 40.0000 WILL NOT BE ACCEPTED.
12. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH AND MAINTAIN ALL CONTROL POINTS AND BENCHMARKS DURING CONSTRUCTION INCLUDING BENCHMARK LOCATIONS AND ELEVATIONS AT CRITICAL AREAS. COORDINATE WITH THE ENGINEER THE LOCATION OF ALL CONTROL POINTS AND BENCHMARKS.
13. SITE LAYOUT SURVEY REQUIRED FOR CONSTRUCTION MUST BE PROVIDED BY THE CONTRACTOR AND PERFORMED BY A RHODE ISLAND REGISTERED PROFESSIONAL LAND SURVEYOR. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE SURVEYOR FOR ALL SITE SURVEY WORK.
14. MAINTAIN ALL GRADE STAKES SET BY THE SURVEYOR. GRADE STAKES ARE TO REMAIN UNTIL A FINAL INSPECTION OF THE ITEM HAS BEEN COMPLETED BY THE ENGINEER. RE-STAKING OF PREVIOUSLY SURVEYED SITE FEATURES IS THE RESPONSIBILITY (INCLUDING COST) OF THE CONTRACTOR.
15. UNLESS OTHERWISE INDICATED ON THE DRAWINGS AND/OR IN THE SPECIFICATIONS, ALL SITE CONSTRUCTION MATERIALS AND METHODOLOGIES ARE TO CONFORM TO THE MOST RECENT VERSION OF THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
16. PROVIDE ALL CONSTRUCTION SERVICE IN ACCORDANCE WITH APPLICABLE LAWS AND REGULATIONS REGARDING NOISE, VIBRATION, DUST, SEDIMENTATION CONTAINMENT, AND TRENCH WORK.
17. COLLECT SOLID WASTES AND STORE IN A SECURED DUMPSTER. THE DUMPSTER MUST MEET ALL LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS.
18. RESTORE ALL SURFACES EQUAL TO THEIR ORIGINAL CONDITION AFTER CONSTRUCTION IS COMPLETE PER SPECIFICATIONS. LEAVE ALL AREAS NOT DISTURBED BY CONSTRUCTION IN THEIR NATURAL STATE. TAKE CARE TO PREVENT DAMAGE TO SHRUBS, TREES, OTHER LANDSCAPING AND/OR NATURAL FEATURES. WHEREAS THE PLANS DO NOT SHOW ALL LANDSCAPE FEATURES, EXISTING CONDITIONS MUST BE VERIFIED BY THE CONTRACTOR IN ADVANCE OF THE WORK.
19. CONSTRUCT ALL WHEELCHAIR RAMPS IN ACCORDANCE WITH RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AND CONSTRUCTION AND TRAFFIC STANDARD DETAILS DRAWING NUMBER 107.1.0 AND 107.2.0. CONSTRUCT RAMPS WITH AN 8% MAX. SLOPE AND 2% CROSS SLOPE.
20. PROVIDE A UNIT PRICE COST IN CUBIC YARD MEASURE FOR LEDGE AND/OR BOULDER REMOVAL. LEDGE AND/OR BOULDERS LESS THAN 1 CUBIC YARD IN SIZE BASED ON THE AVERAGE DIMENSIONS WILL NOT BE CONSIDERED PAYABLE ROCK. PROVIDE UNIT PRICES FOR BOTH ON AND OFF SITE DISPOSAL. IF ADDITIONAL FILL MATERIAL IS REQUIRED INCLUDE THE COST OF ALL FILL MATERIAL.
21. REGULARLY INSPECT THE PERIMETER OF THE PROPERTY TO CLEAN UP AND REMOVE LOOSE CONSTRUCTION DEBRIS BEFORE IT LEAVES THE SITE. PROMPTLY REMOVE ALL DEMOLITION DEBRIS FROM THE SITE TO AN APPROVED DUMP SITE.
22. ALL TRUCKS LEAVING THE SITE MUST BE COVERED.
23. DO NOT WASH ANY CONCRETE TRUCKS ONSITE. REMOVE BY HAND ANY CEMENT OR CONCRETE DEBRIS LEFT IN THE DISTURBED AREA.
24. BURIAL OF ANY STUMPS, SOLID DEBRIS, AND/OR STONES/BOULDERS ONSITE IS PROHIBITED. DO NOT USE ROAD SALT OR OTHER DE-ICING CHEMICALS ON THE ACCESS ROADWAY.
25. AT THE END OF CONSTRUCTION, REMOVE ALL CONSTRUCTION DEBRIS AND SURPLUS MATERIALS FROM THE SITE (AS INDICATED IN THE SPECIFICATIONS), PERFORM A THOROUGH INSPECTION OF THE WORK PERIMETER. COLLECT AND REMOVE ALL MATERIALS AND BLOWN OR WATER CARRIED DEBRIS FROM THE SITE.

GENERAL DEMOLITION NOTES:

THIS PLAN SET DOES NOT INCLUDE DETAILS & SPECIFICATIONS FOR ALL DEMOLITION WORK REQUIRED WITHIN THE PROPOSED CONSTRUCTION LIMITS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE OWNER, PROJECT ARCHITECT, MECHANICAL ENGINEERS AND OTHER PROJECT ENGINEERS INVOLVED WITH THE PROPOSED NEW CONSTRUCTION TO DEVELOP A SUITABLE DEMOLITION PLAN, WHICH WILL ALLOW THE FACILITIES TO REMAIN IN OPERATION DURING THE ENTIRETY OF CONSTRUCTION.

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, PARKING ISLANDS, BITUMINOUS CONCRETE, CEMENT CONCRETE, GRAVEL, CURBS, WALKWAYS, SIDEWALKS, BERMS, FENCES, BOLLARDS, POSTS, PLANTING BEDS, TREES, SHRUBS, UTILITIES, DRAINAGE STRUCTURES AND ALL OTHER STRUCTURES SHOWN AND NOT SHOWN WITHIN CONSTRUCTION LIMITS, AND WHERE NEEDED, TO ALLOW FOR NEW CONSTRUCTION. ALL FACILITIES TO BE REMOVED ARE TO BE UNDERCUT 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.
5. REFER TO MECHANICAL AND UTILITY PLANS AND SPECIFICATIONS FOR ALL WORK WHICH REQUIRES UTILITIES TO BE REMOVED, RELOCATE OR ABANDONED AND LEFT IN PLACE.
6. PROVIDE NOTICE TO ALL UTILITY COMPANIES REGARDING DESTRUCTION AND REMOVAL OF ALL SERVICE LINES AND CAP ALL UTILITY LINES, AS REQUIRED, BEFORE PROCEEDING WITH THE WORK.
7. MAINTAIN CONTINUOUS ACCESS AND OPERATION FOR SURROUNDING FACILITIES, AS DEEMED BY THE OWNER, AT ALL TIMES DURING DEMOLITION OF THE EXISTING FACILITIES.
8. PRIOR TO DEMOLITION OCCURRING, ALL EROSION CONTROL DEVICES ARE TO BE INSTALLED.

BASIC CONSTRUCTION SEQUENCE:

THE FOLLOWING CONSTRUCTION SEQUENCE IS TO BE USED AS A GENERAL GUIDELINE. COORDINATE WITH THE OWNER, ENGINEERS, AND LANDSCAPE ARCHITECT AND SUBMIT A PROPOSED CONSTRUCTION SEQUENCE FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.

1. SURVEY AND STAKE THE PROPOSED LIMIT OF DISTURBANCE AND LIMIT OF SEDIMENTATION BARRIERS.
2. PLACE SEDIMENTATION BARRIERS 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 LOCAL MUNICIPALITY AND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (DEM).
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 THE SITE AS REQUIRED.
5. SURVEY AND STAKE CENTERLINE OF THE PROPOSED ROADS, STORMWATER MANAGEMENT AREAS, AND DRAINAGE LINES.
6. EXCAVATE AND ROUGH GRADE THE PROPOSED STORMWATER MANAGEMENT AREAS AND ANY ADDITIONAL TEMPORARY BASINS NECESSARY TO CONTROL SITE RUNOFF AND SEDIMENTS. TEMPORARILY STABILIZED/SEED PERMANENT STORMWATER MANAGEMENT AREAS AS NECESSARY TO REDUCE SOIL SLOPE EROSION AND SEDIMENT ACCUMULATION.
7. BEGIN CLEARING AND GRUBBING THE AREAS OF ROADWAYS AND STORMWATER MANAGEMENT AREAS. TOPSOIL IS TO BE STRIPPED FROM THE AREA OF THE PROPOSED ROADWAYS AND STORMWATER MANAGEMENT AREAS AND STOCKPILED IN APPROVED LOCATIONS. TOPSOIL STOCKPILES MUST BE PROTECTED BY A SEDIMENT BARRIER.
8. INSTALL TEMPORARY CONVEYANCE DEVICES (SWALES, CHECK DAMS, PIPES, ETC.) AS NECESSARY TO CONVEY RUNOFF TO TREATMENT AREAS.
9. BEGIN ROUGH GRADING AREAS FOR ROADS, PARKING AND BUILDINGS. BRING ROUGH GRADING TO PROPER ELEVATIONS AS SOON AS PRACTICABLE. COORDINATE WORK TO MINIMIZE TIME SOILS ARE UN-STABILIZED.
10. BEGIN UTILITY CONSTRUCTION. THE CONTRACTOR IS FREE TO INSTALL THE UTILITIES IN THE SEQUENCE HE/SHE CHOOSES. IMMEDIATELY REPAIR, REPLACE AND STABILIZE ANY EROSION CONTROL DEVICES DISTURBED DURING THE UNDERGROUND UTILITY CONSTRUCTION. MODIFY TEMPORARY CONVEYANCE DEVICES, AS NECESSARY, TO CONVEY RUNOFF TO TREATMENT AREAS.
11. INSTALL DRAINAGE PIPES, DRAINAGE MANHOLES, CATCH BASINS, AND UNDERGROUND DRAINAGE STRUCTURES. BEGIN WORK AT THE STORMWATER MANAGEMENT AREAS AND PROGRESS UP-GRADE/IN. PROTECT DISCHARGE OUTLETS WITH RIP-RAP APRONS. THE STORMWATER MANAGEMENT AREA(S) AND DRAINAGE NETWORK ARE TO BE PROTECTED FROM SEDIMENTATION UNTIL ALL UN-STABILIZED AREAS ARE STABILIZED WITH STONE SUB-BASE OR VEGETATION. INSTALL SEDIMENT BARRIERS AT ALL POINTS OF ENTRY INTO THE DRAINAGE NETWORK. TAKE PARTICULAR CARE TO PROTECT THE UNDERGROUND STRUCTURES FROM SEDIMENT.
12. PERMANENTLY SEED ALL DISTURBED AREAS OUTSIDE OF THE AREA TO BE PAVED.
13. UPON COMPLETION OF UNDERGROUND UTILITIES INSTALLATION, PLACE COMPACTED GRAVEL FOUNDATION AND ROUGH GRADE THE ROADWAYS/PARKING AREAS IN ACCORDANCE WITH THE SITE PLANS AND IN ACCORDANCE WITH APPLICABLE STATE AND LOCAL REGULATIONS AS SOON AS POSSIBLE.
14. BEGIN ROAD AND PARKING CONSTRUCTION PER SITE PLANS AND IN ACCORDANCE WITH APPLICABLE STATE AND LOCAL REGULATIONS. ROADS AND PARKING AREAS ARE NOT TO BE PAVED UNTIL THE ENTIRE PERMANENT DRAINAGE SYSTEM HAS BEEN INSTALLED AND ALL PIPE CONNECTIONS COMPLETE.
15. FINISH PERMANENT STABILIZATION. COMPLETE PERMANENT STORMWATER MANAGEMENT AREA SEEDING AND PLANTING AFTER THE CONTRIBUTING AREA TO THE BASIN HAS REACHED A MINIMUM OF 80% STABILIZATION AND IS NO LONGER REQUIRED AS A CONSTRUCTION SEDIMENTATION BASIN.
16. COMPLETE ALL REMAINING PLANTING AND SEEDING.
17. SWEEP THE ROADWAY TO REMOVE ALL SEDIMENTS. REPAIR DRAINAGE OUTLETS AND BASINS AS REQUIRED. CLEAN AND FLUSH THE DRAINAGE STRUCTURES AND PIPES AT THE END OF CONSTRUCTION AND REMOVE ALL ACCUMULATED SEDIMENTS IN THE STORMWATER MANAGEMENT AREAS. CONTRACTOR MUST INSPECT THE DRAINAGE NETWORK AND REPAIR ANY DAMAGE IMMEDIATELY.
17. ENGINEER TO APPROVE THE REMOVAL OF ALL TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES FOLLOWING VEGETATIVE ESTABLISHMENT OF ALL DISTURBED AREAS AND DETERMINE WHEN THE CONTRIBUTING AREA HAS REACHED A MINIMUM OF 80% STABILIZATION.

GENERAL GRADING AND DRAINAGE NOTES:

1. ALL CUT AND FILL SLOPES SHALL BE 3:1 OR FLATTER UNLESS OTHERWISE NOTED.
2. EXISTING GRADE CONTOUR INTERVALS SHOWN AT 1 FOOT.
3. PROPOSED GRADE CONTOUR INTERVALS SHOWN AT 1 FOOT.
4. ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH FIT AND CONTINUOUS GRADE.
5. PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS. IMMEDIATELY NOTIFY THE ENGINEER IF POSITIVE DRAINAGE CANNOT BE PROVIDED.
6. UNLESS INDICATED OTHERWISE ON THE DRAWINGS OR DETAIL, A MINIMUM CONCRETE FOUNDATION REVEAL OF 8" TO BE PROVIDED AT ALL BUILDING CORNERS. NOTIFY THE ENGINEER AND ARCHITECT IF ANY DEVIATION OR ALTERATION OF FOUNDATION REVEAL IS REQUIRED.
7. REFER TO ARCHITECTURAL PLAN AND SPECIFICATIONS FOR EARTHWORK AND COMPACTION REQUIREMENTS FOR ALL SLABS AND BUILDING FOUNDATIONS.
8. PROPOSED ELEVATIONS ARE SHOWN TO FINISH PAVEMENT OR GRADE UNLESS NOTED OTHERWISE.
9. ALL EARTHWORK AND SITE PREPARATION MUST BE DONE IN STRICT ACCORDANCE WITH THE RECOMMENDATIONS OF ANY SUBSURFACE INVESTIGATION OR GEOTECHNICAL REPORTS PREPARED FOR THIS SITE.
10. 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 NOT COMPLETELY AND PROPERLY INSTALLED. THIS INCLUDES THE STABILIZATION OF ALL DISTURBED AREAS CONTRIBUTING TO THE DRAINAGE SYSTEMS AND ANY STORMWATER BASIN FLOORS AND SIDE SLOPES.
11. SEE DRAINAGE PLANS, CAPPING PLANS, AND SOIL MANAGEMENT PLANS BY OTHERS FOR DETAILS AND REQUIREMENTS.

WATER & SEWER INSTALLATION NOTES

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

UTILITY TYPE	MIN. COVER OVER	MIN. HORIZONTAL DISTANCE
	TOP OF PIPE	TO DRAIN STRUCTURE
SANITARY FORCEMAIN	5'	3'
GRAVITY FORCEMAIN	4'	2'
WATER MAIN	5'	2'
2. INSULATE SANITARY FORCE MAINS, WATER MAINS, HYDRANT PIPING AND DEAD END WATER LINES S 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-FEET 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.

WATER SYSTEM INSTALLATION NOTES:

1. CONSTRUCT THE WATER MAIN AND ITS APPURTENANCE 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 MAIN 4-INCHES AND GREATER IN DIAMETER ARE DUCTILE IRON CLASS 52. ONLY USE HDPE 3608 OR AS INDICATED ON DRAWINGS OR AS APPROVED BY THE ENGINEER.
3. SUPPLY TWO COPIES OF SWORN 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: MUELLER (A 2360 SERIES), CLOW (AWWA STANDARD C509 SERIES), AMERICAN DARLING (RESILIENT WEDGE) OR APPROVED EQUAL.
5. PROVIDE GATE VALVES ON ALL HYDRANT BRANCHES AND WATER MAIN. THE GATE VALVE TO TURN TO THE RIGHT TO OPEN (CLOCKWISE). ALL BOLTS AND NUTS MUST BE RUST PROOF STEEL.
6. CLEAR ALL NEWLY INSTALLED WATER SYSTEM COMPONENTS OF ALL FOREIGN MATERIALS SUCH AS DIRT AND MISCELLANEOUS DEBRIS PRIOR TO SYSTEM TESTING. NO TESTING IS ALLOWED WITHOUT REMOVAL OF ALL FOREIGN MATERIALS.
7. CONTRACTOR IS RESPONSIBLE FOR CONDUCTING A PRESSURE TEST AND DISINFECTION TEST OF ALL WATER MAINS. 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 PRESSURE AND DISINFECTION TESTS. THE CONTRACTOR MUST PROVIDE ALL NECESSARY EQUIPMENT AND CHEMICALS TO PROPERLY CONDUCT THE TESTS.
8. INSTALL AND REMOVE ALL NECESSARY BLOWOFFS 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-DATE AS-BUILT DRAWINGS AND NOTES INDICATING THE HORIZONTAL AND VERTICAL LOCATION WITH TWO TIES OF ALL SYSTEM COMPONENTS INSTALLED. AS-BUILT DRAWINGS AND NOTES WILL BE UTILIZED BY THE ENGINEER FOR THE PREPARATION OF RECORD PLANS.

SEWER SYSTEM OPERATION & MAINTENANCE:

1. CLEAN ALL NEWLY INSTALLED FACILITIES, INCLUDING SEWER COLLECTION SYSTEM 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.
3. TEST SEWER PIPES FOR LEAKAGE WITH THE FOLLOWING PROCEDURE:
INTRODUCE LOW PRESSURE AIR INTO THE SEAL LINE (WITH PNEUMATIC PLUGS) UNTIL THE INTERNAL AIR PRESSURE REACHES 4 psi GREATER THAN THE AVERAGE BACK PRESSURE OF ANY GROUNDWATER THAT MAY BE OVER THE PIPE.
ALLOW AT LEAST 2 MINUTES FOR AIR PRESSURE TO STABILIZE.
AFTER THE STABILIZATION PERIOD (0.5 psi MINIMUM PRESSURE IN THE PIPE), THE PORTION OF PIPE TESTED IS ACCEPTABLE IF THE TIME REQUIRED IN MINUTES FOR THE PRESSURE TO DECREASE FROM 3.5 TO 3 psi IS NOT LESS THAN 1.90 TIMES THE LENGTH OF PIPE BEING TESTED.
4. VACUUM TEST ALL SEWER MANHOLES. TESTS MUST BE WITNESSED BY THE ENGINEER UNLESS THE SEASONAL GROUNDWATER LEVEL IS MORE THAN 10 FEET FROM THE BOTTOM OF THE MANHOLE.
5. MANDREL TEST ALL SEWER MAINS AFTER 30 DAYS. TESTS MUST BE WITNESSED BY A TOWN REPRESENTATIVE OR THE ENGINEER.

LEGEND:

GENERAL

EXISTING

PROPOSED

44

44

50

50

EL. 98.48

EL. 95.00

PROPERTY INFORMATION

EXISTING

PROPOSED

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OHW

OHW

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FM

FM

E/T/C

ET/C

UGE

UGE

C

C

T

T

W

W

ENVIRONMENTAL

WETLAND BOUNDARY

FLOOD

FEMA FLOOD ZONE

SYMBOLS

BENCHMARK

BOUNDARY

CONTROL POINT

EXISTING SHRUB

EXISTING TREE

EXISTING EVERGREEN TREE

TREE STUMP

EXISTING SPOT GRADE

SPOT GRADE

SEWER MANHOLE

ELECTRIC MANHOLE

TELEPHONE MANHOLE

MANHOLE

TV BOX

UNKNOWN MANHOLE

METER PIT

DRAIN MANHOLE

CATCHBASIN

BIORETENTION OUTLET

RECHARGE BASIN W/ INLET

RECHARGE BASIN

RECHARGE BASIN W/ MANHOLE

FLARED END OUTLET

STONE APRON

INLET PROTECTION

WATER VALVE

SEWER VALVE

GAS VALVE

CURB STOP

CLEAN OUT

PIPE STUB

THRUST BLOCK

UTILITY BOX

HYDRANT

UTILITY POLE W/GUY

UTILITY POLE

GUY

LIGHT POST

MONITORING WELL

WATER WELL

TEST PIT

BORING

WETLAND FLAG

MAIL BOX

ROCK

SIGN

HANDICAP SYMBOL

NUMBER OF PARKING SPACES

VEHICLE CIRCULATION

VEHICLE CIRCULATION

Environmental Management

MAR 2 2 2021

Office of Water Resources

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

OFFICE OF WATER RESOURCES

FRESHWATER WETLANDS PROGRAM

APPROVED WITH CONDITIONS

AS SPECIFIED IN THE LETTER OF APPROVAL

DATED MAR 2 2 2021 FILE # 21-0034

NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL

APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Jonathan A. Ford

Revisions

DATE

BY

DESCRIPTION

01/11/2021

EB

IF NOTES CLARIFICATION

Horsley Witten Group, Inc.

Sustainable Environmental Solutions

350 Main Street, Suite 200

Providence, RI 02903

401-272-1717 voice

401-437-8388 fax

Checked By:

Drawn By:

Designed By:

Date:

NOVEMBER 18, 2020

EB/JV

EB/JV

Plan Set:

Prepared For:

Survey Provided By:

EA Engineering, Science, and Technology, Inc., PBC

301 Metro Center Blvd, Suite 102

Warwick, Rhode Island 02886

(401) 736-3440

Registration:

JONATHAN A. FORD

No.

8784

REGISTERED PROFESSIONAL ENGINEER (CIVIL)

Project Number:

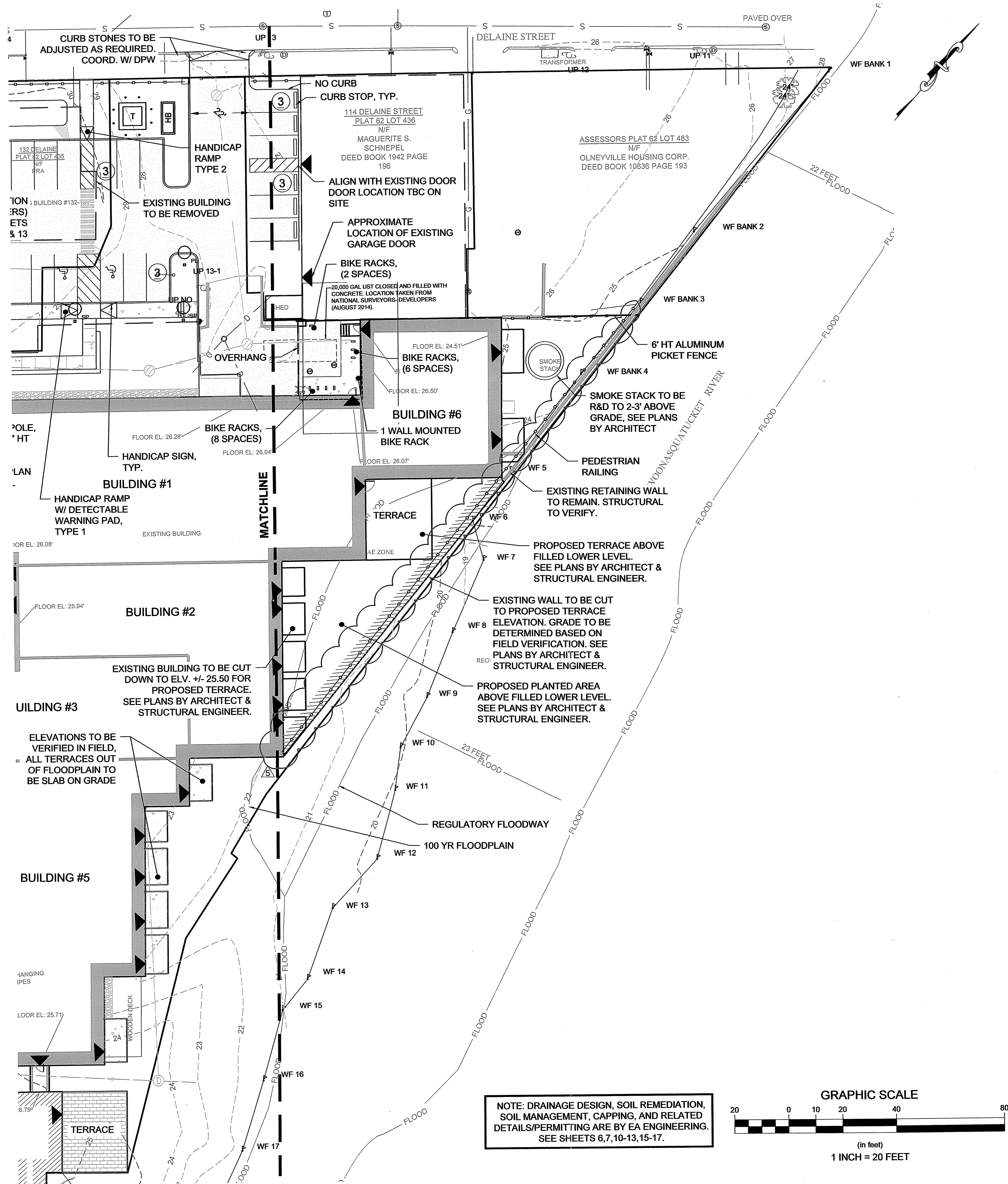
Sheet :

20062

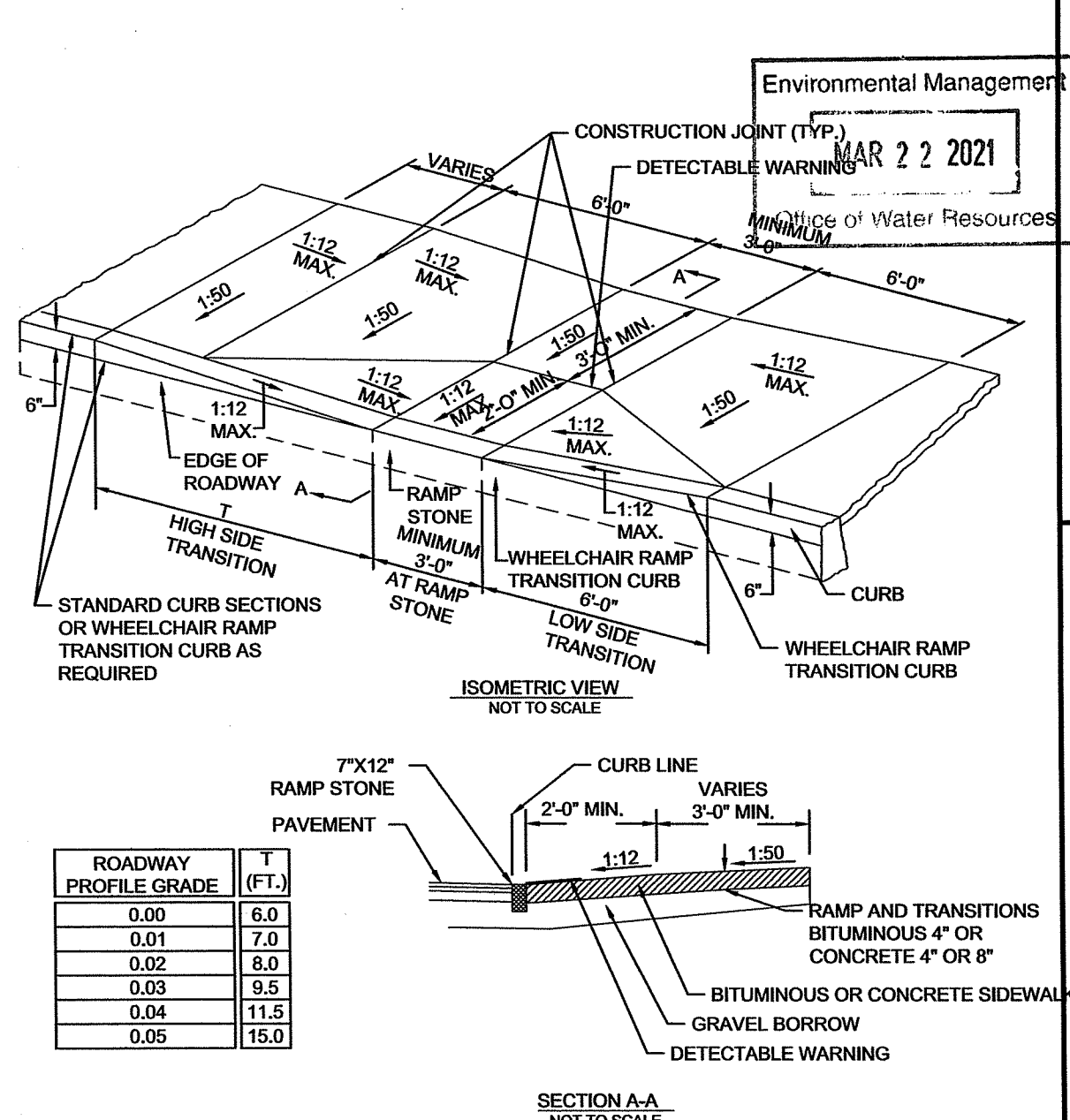
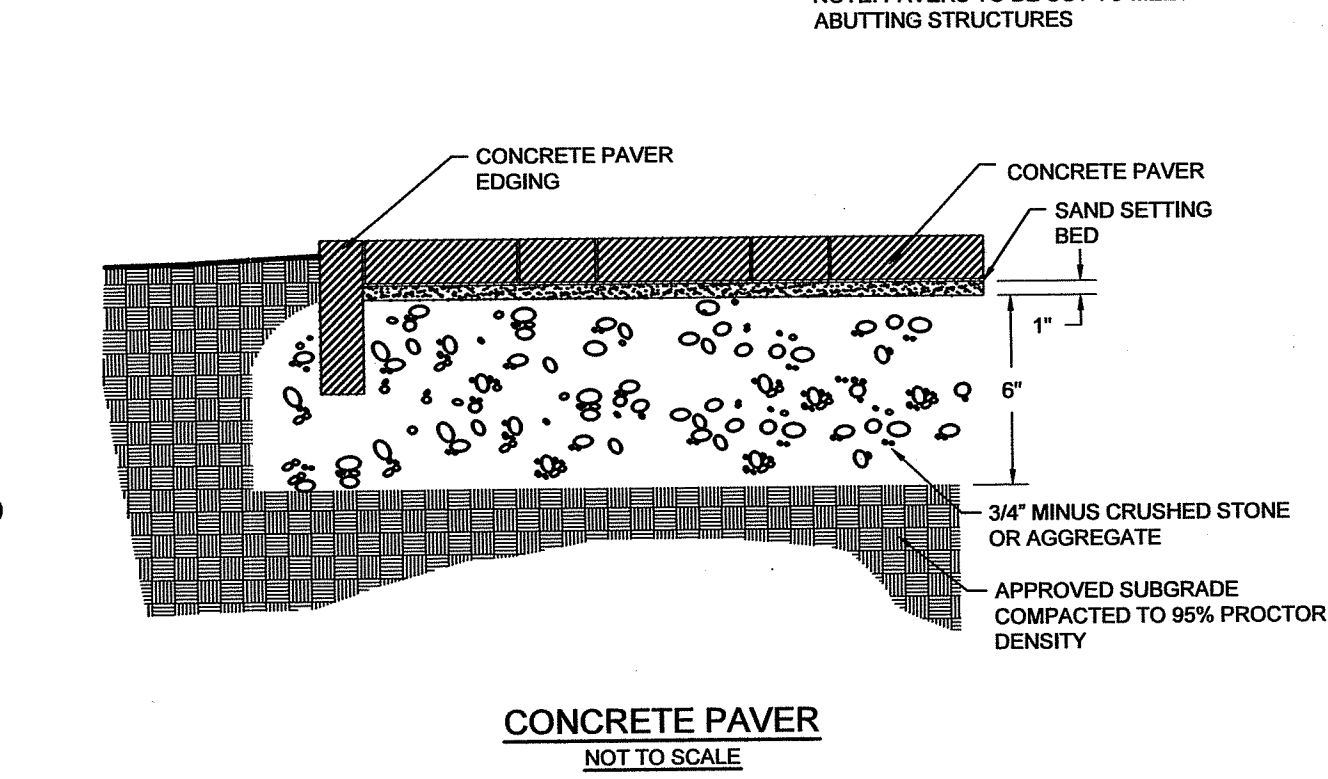
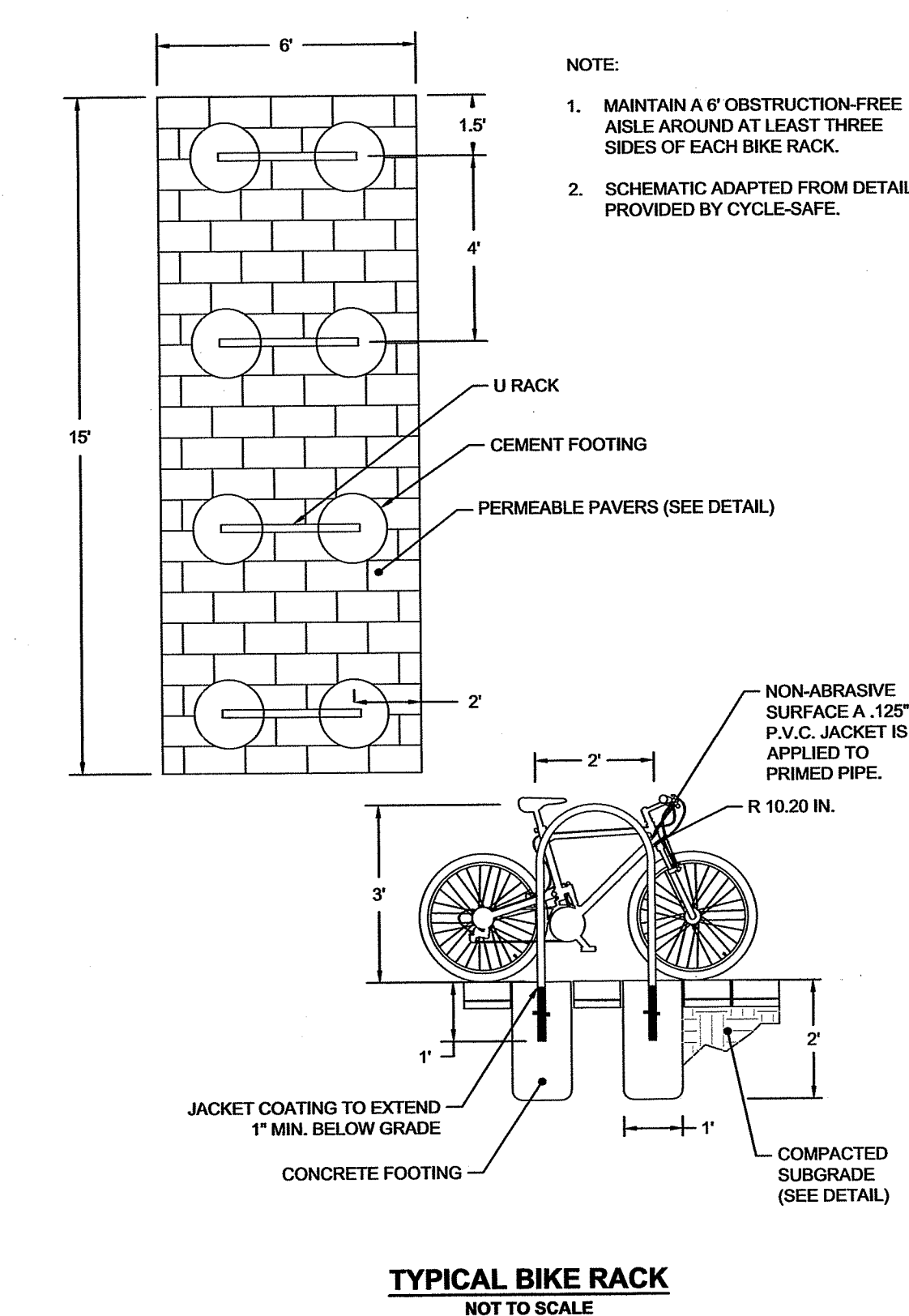
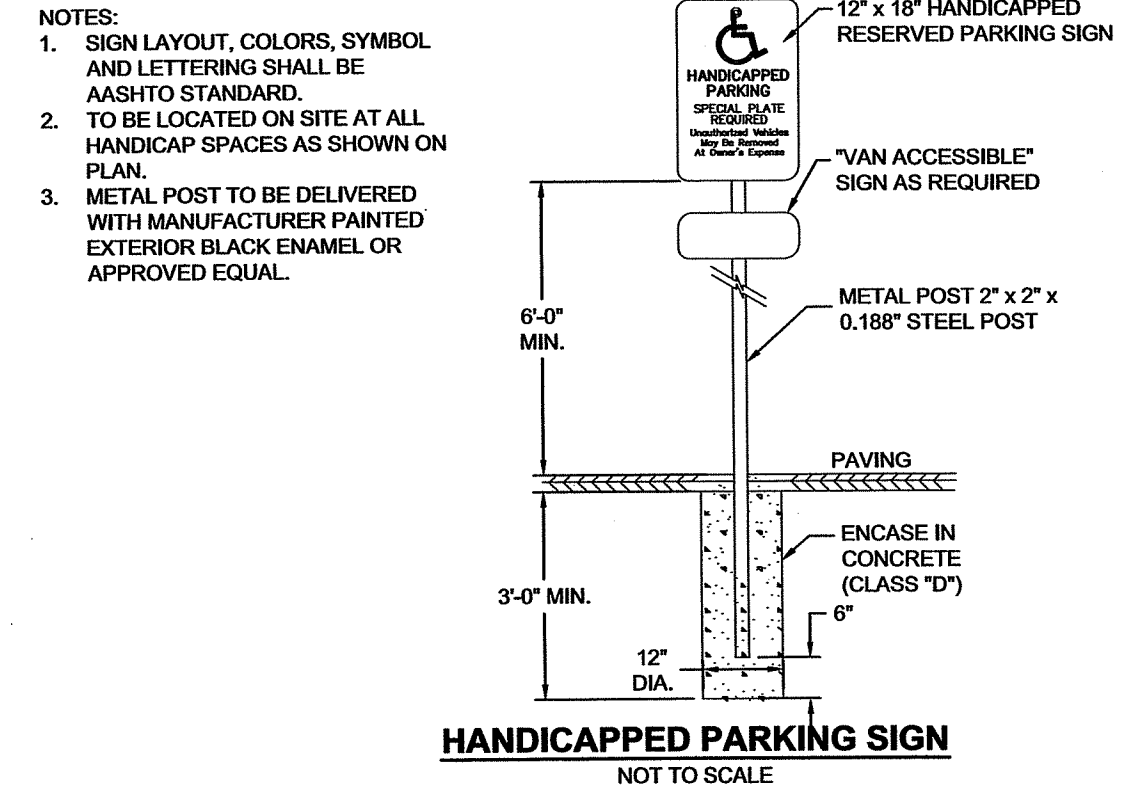
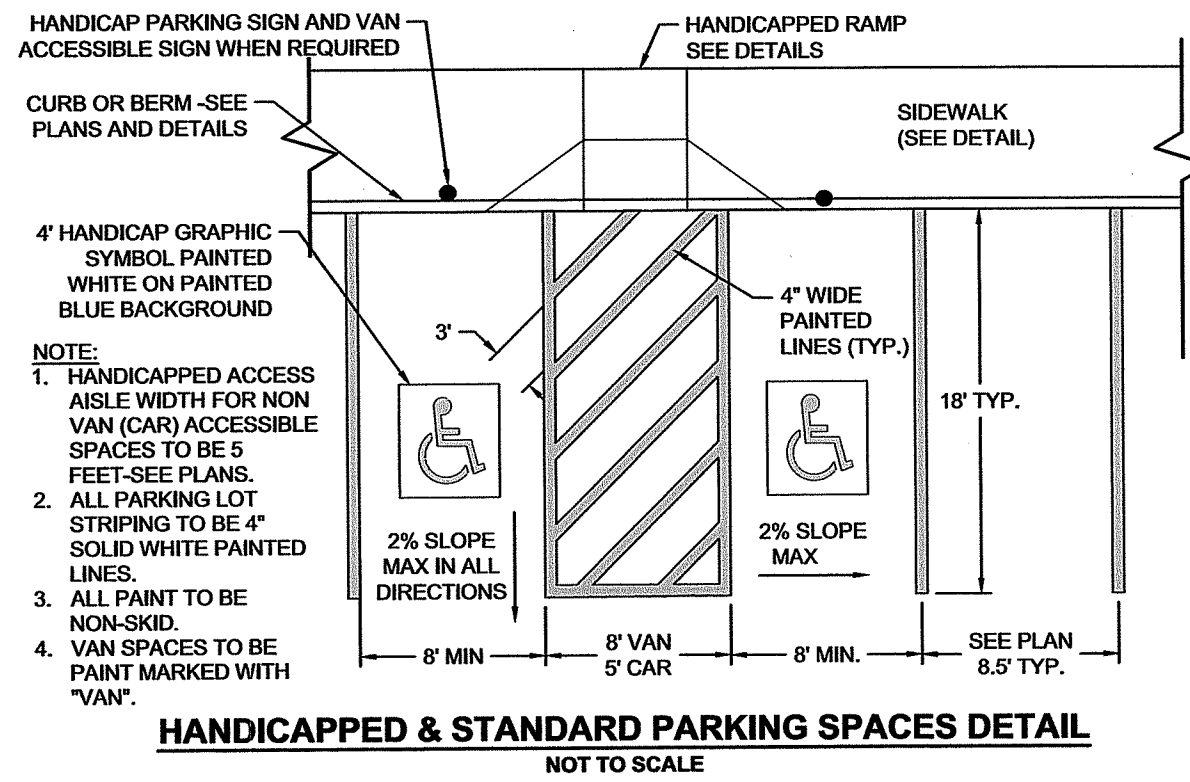
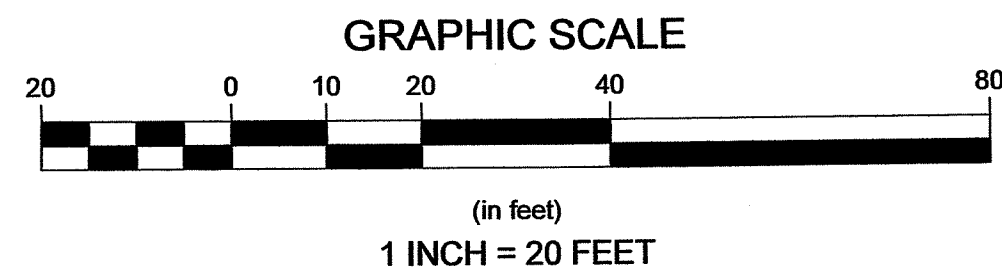
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C - 2

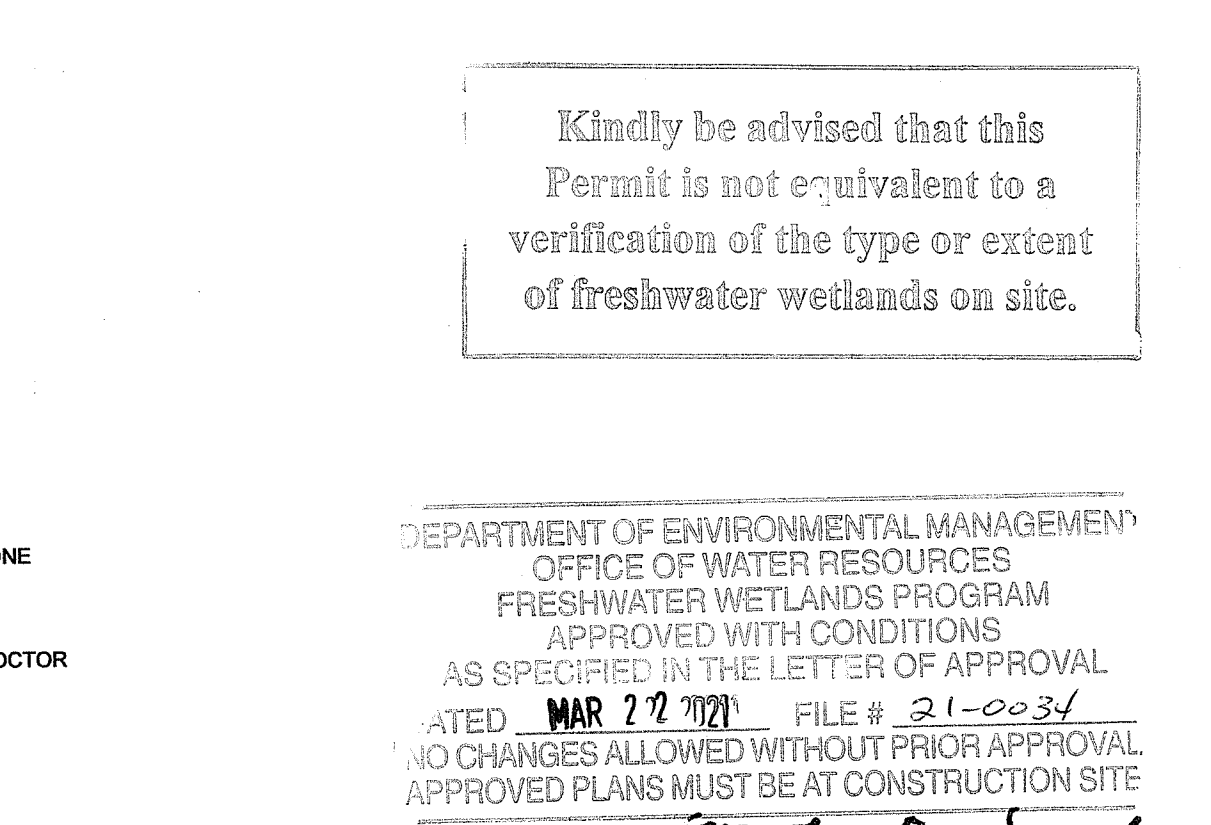
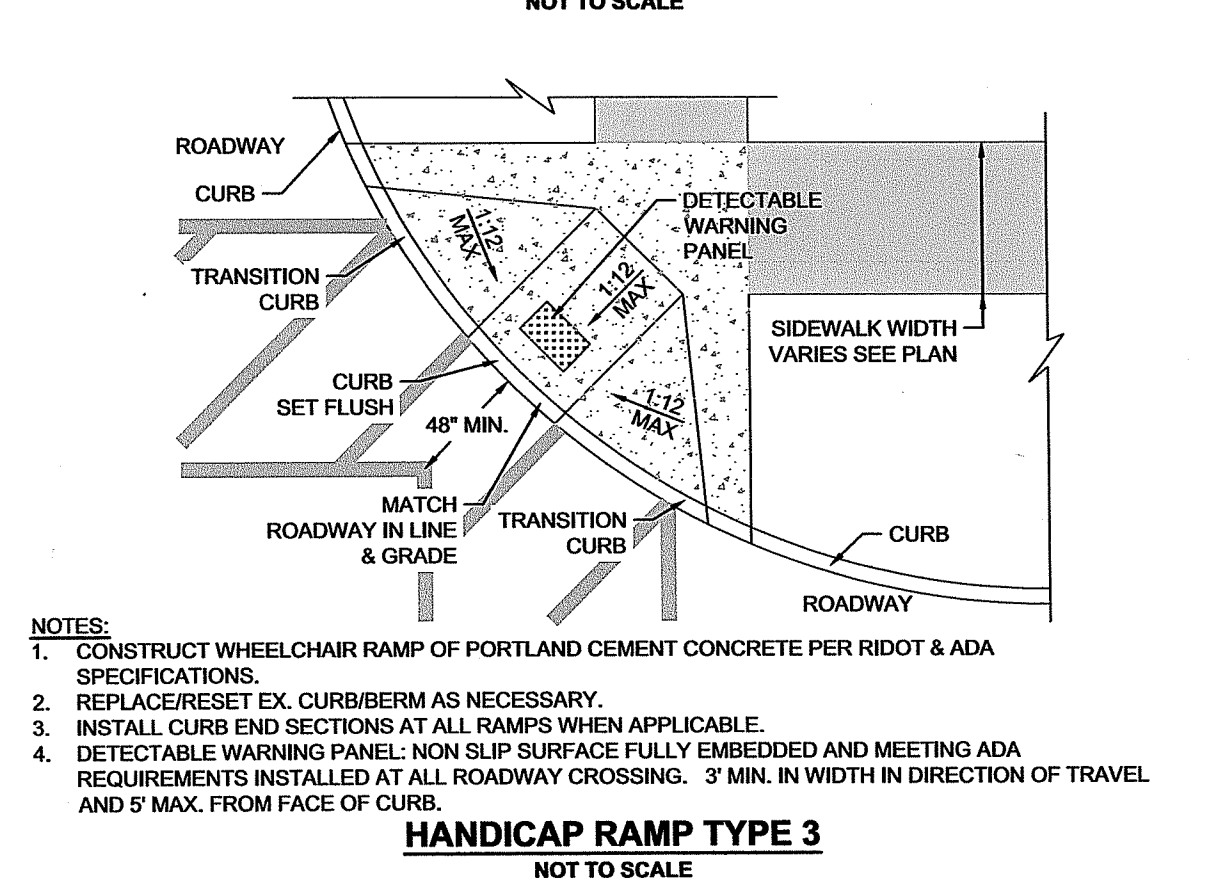
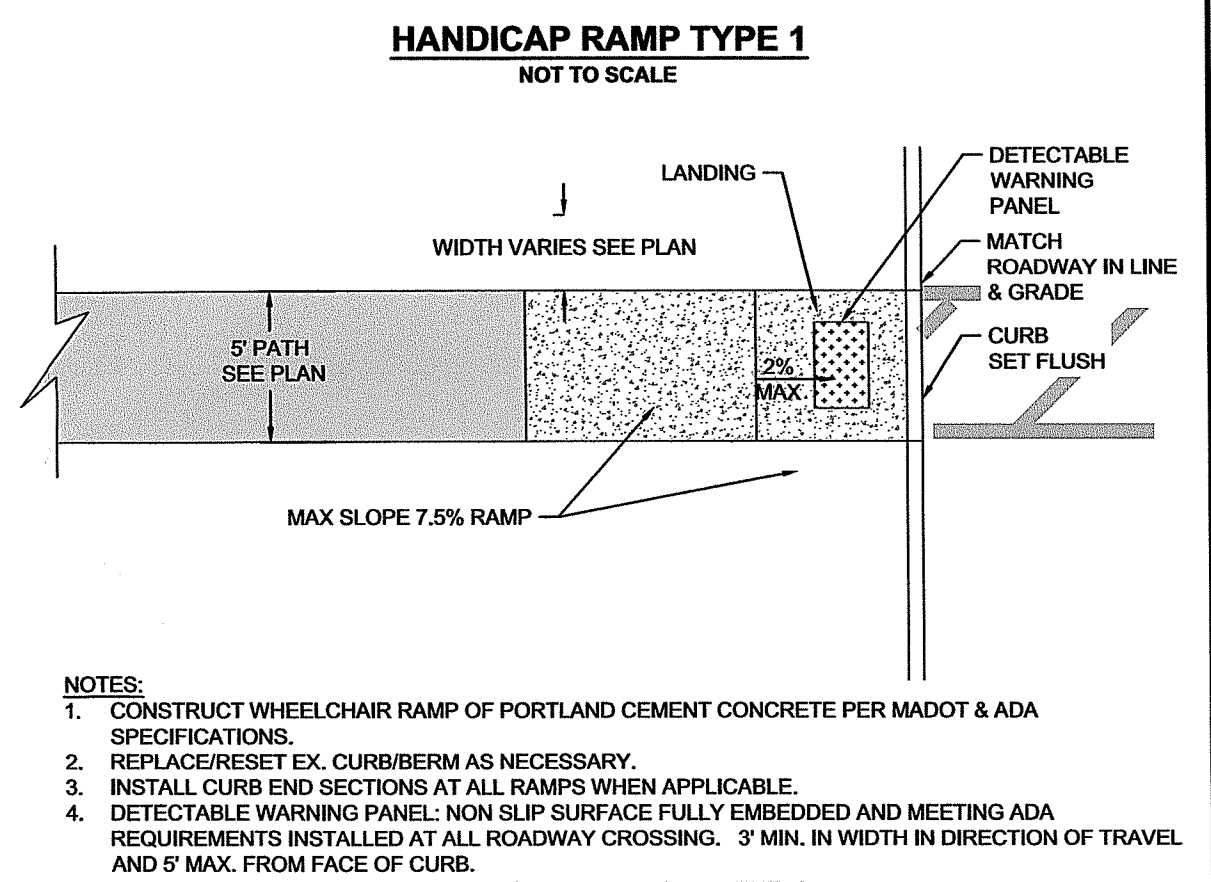


NOTE: DRAINAGE DESIGN, SOIL REMEDIATION, SOIL MANAGEMENT, CAPPING, AND RELATED DETAILS/PERMITTING ARE BY EA ENGINEERING. SEE SHEETS 6,7,10-13,15-17.



ROADWAY PROFILE GRADE (FT.)

ROADWAY PROFILE GRADE (FT.)	ROADWAY PROFILE GRADE (FT.)
0.00	6.0
0.01	7.0
0.02	8.0
0.03	9.5
0.04	11.5
0.05	15.0



Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED MAR 22 2021 FILE # 21-0031
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Revisions

Rev.	Date	By	App. Description
1	01/12/21	EB	SYMBOL UPDATE

Horsley Witten Group, Inc.
Sustainable Environmental Solutions
www.horsleywitten.com
85 Dorrance Street, Suite 200
Providence, RI 02903
401-272-1717 ext. 200
401-437-8388 fax

EARNSLIFFE MILL/PARAGON MILL REDEVELOPMENT PERMITTING SET
144 DELAINE ST. PROVIDENCE, RI

SITE PLAN 2

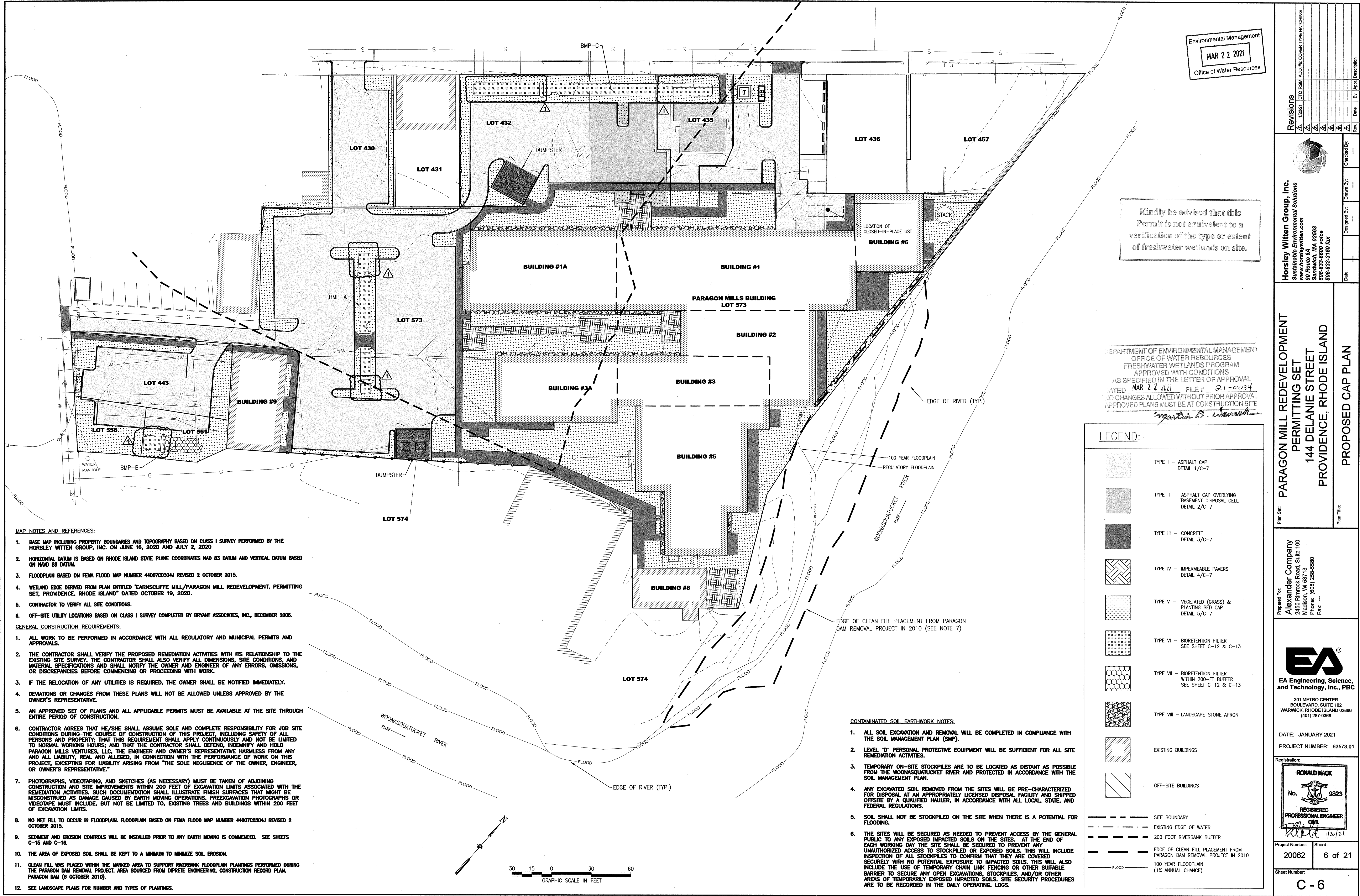
Prepared For: Alexander Company
2450 Rimrock Road, Suite 100
Madison, WI 53713
Phone: (608) 255-5580
Fax: (608) 255-5580

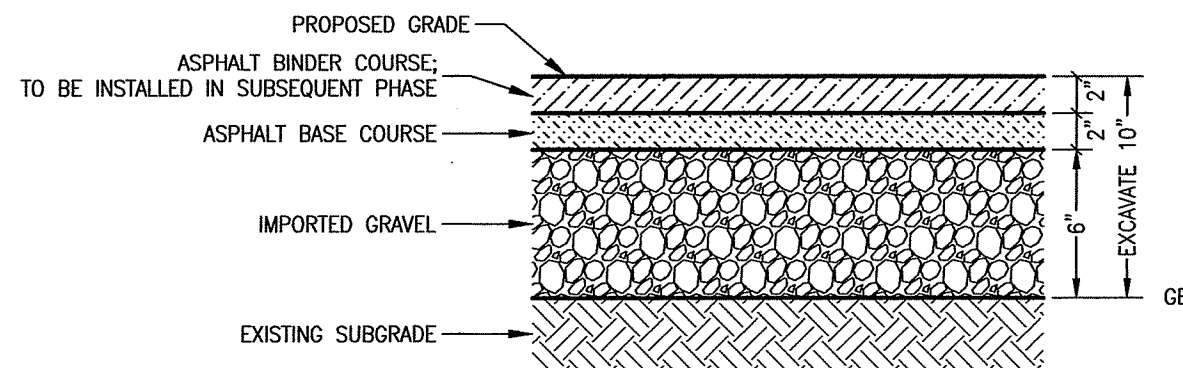
Survey Provided By: Horsley Witten Group, Inc.
90 Route 6A
Sandwich, MA
Phone: (508) 333-6800
Fax: (508) 333-3150
Dated: JULY 2, 2020

EA
EA Engineering, Science, and Technology, Inc., PBC
301 Metro Center Blvd, Suite 102
Worwick, Rhode Island 02868
(401) 736-3440

Registration:
JONATHAN A. FORD
No. 8784
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

Project Number: 20062
Sheet: 5 of 21
Sheet Number: C-5

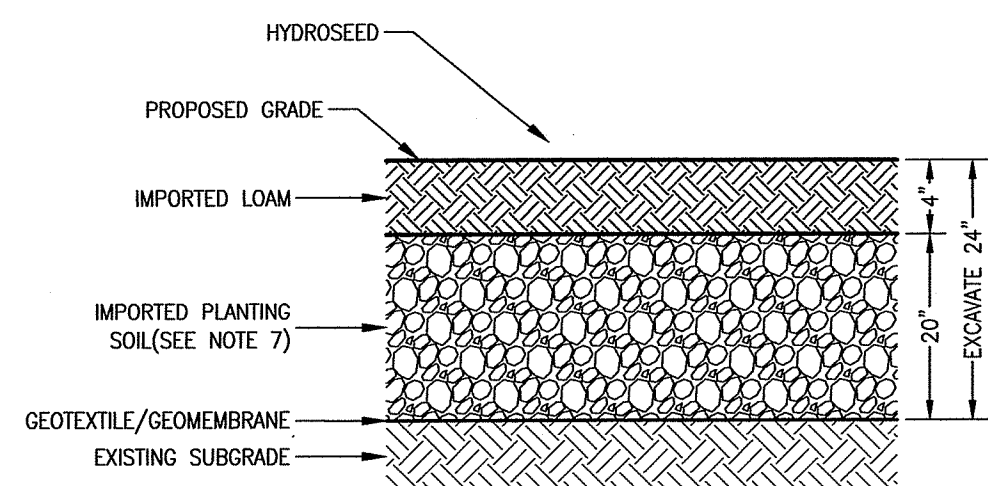




1 TYPE I CAP - ASPHALT
C-6 NOT TO SCALE

NOTES:

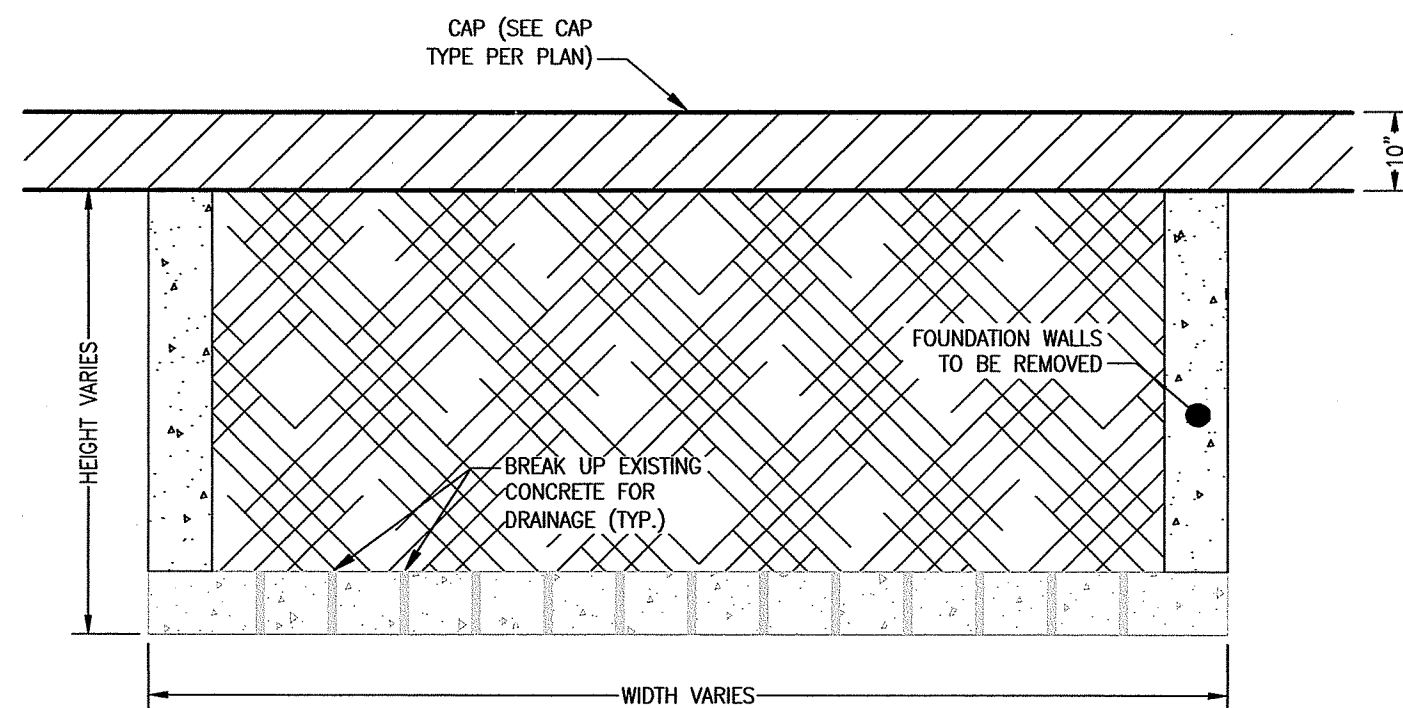
- IMPORTED GRAVEL SHALL BE GRAVEL BORROW AND CONFORM TO THE RIDOT BLUE BOOK SPECIFICATIONS FOR BANK RUN OR PLANT-PROCESS SAND AND GRAVEL. ALL FILL TO BE APPROVED BY THE ENGINEER PRIOR TO IMPORTING TO THE SITE.
- THICKNESSES SHOWN REPRESENT THE FULL-COMPACTION DEPTHS.
- IMPORTED GRAVEL TO BE INSTALLED IN MAXIMUM LIFTS OF 4 INCHES AND BE COMPACTED TO A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY.
- ALL IMPORTED GRAVEL SHALL ADHERE TO RIDEM RESIDENTIAL DIRECT EXPOSURE CRITERIA.
- ASPHALT BASE COURSE SHALL CONFORM TO REQUIREMENTS OF BITUMINOUS CONCRETE PAVEMENT BASE COURSE AS DEFINED IN THE RIDOT BLUE BOOK SPECIFICATIONS.



5 TYPE V CAP - GRASS AND PLANTING BEDS
C-6 NOT TO SCALE

NOTES:

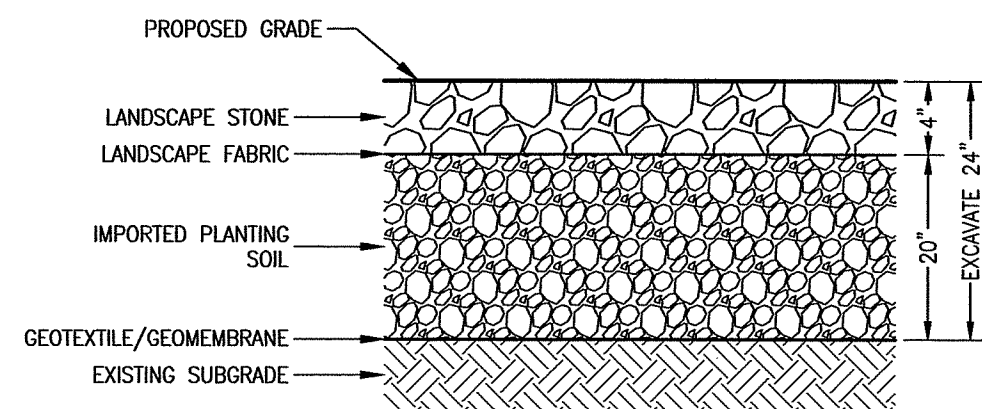
- IMPORTED SOIL SHALL CONFORM TO THE RIDOT BLUE BOOK SPECIFICATIONS. IMPORTED SOIL SHALL BE GRAVEL BORROW AND CONFORM TO THE RIDOT BLUE BOOK SPECIFICATIONS FOR BANK RUN OR PLANT-PROCESSED SAND AND GRAVEL. ALL FILL TO BE APPROVED BY THE ENGINEER PRIOR TO IMPORTING TO THE SITE.
- GEOTEXTILE SHALL BE MIRAFI 140N OR APPROVED EQUAL. GEOMEMBRANE SHALL BE US FABRICS HDPE 30 MIL SMOOTH. GEOMEMBRANE SHALL BE USED ONLY WITHIN SEDIMENT FOREBAY AREAS.
- THICKNESSES SHOWN REPRESENT THE FULL-COMPACTION DEPTHS.
- GEOTEXTILE SHALL BE OVERLAPPED 1 FOOT MINIMUM.
- IMPORTED SOIL TO BE INSTALLED IN MAXIMUM LIFTS OF 4 INCHES AND BE COMPACTED TO A MINIMUM OF 90% OF THE MAXIMUM DRY DENSITY.
- ALL IMPORTED SOIL AND IMPORTED SOIL SHALL ADHERE TO RIDEM RESIDENTIAL DIRECT EXPOSURE CRITERIA.
- AREAS TO BE PLANTED WITH PERENNIALS AND SHRUBS WILL USE 4" IMPORTED SOIL AND 20" OF PLANTING SOIL (24" MIN. TOTAL DEPTH).



2 TYPE II CAP - DISPOSAL CELL WITH TYPE I CAP
C-6 NOT TO SCALE

NOTES:

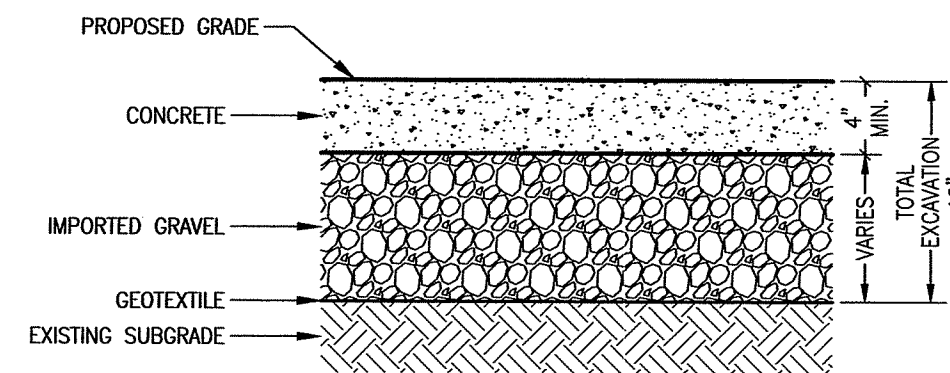
- NATIVE EXCAVATED SOIL TO BE INSTALLED IN DEMOLISHED BUILDING FOUNDATIONS TO BE INSTALLED IN 6" LIFTS AND COMPACTED USING A VIBRATORY COMPACTOR TO A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY.
- THICKNESSES SHOWN REPRESENT THE FULL-COMPACTION DEPTHS.



6 TYPE VIII CAP - LANDSCAPE STONE APRON
C-6 NOT TO SCALE

NOTES:

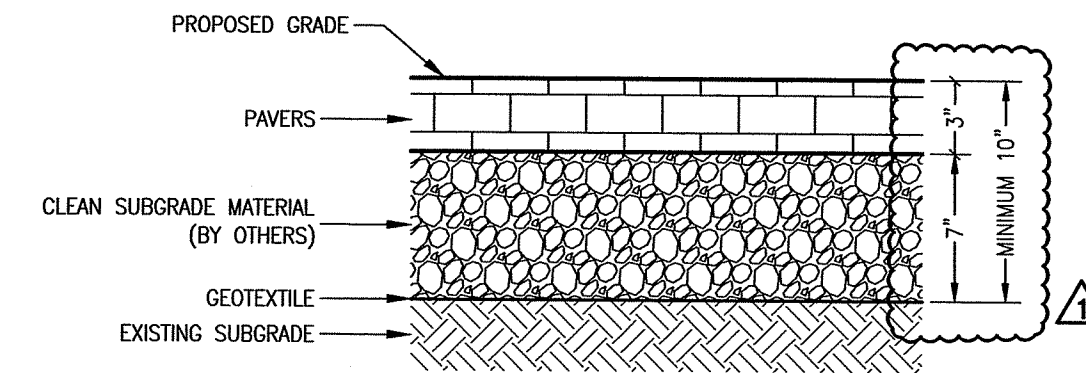
- GEOTEXTILE SHALL BE MIRAFI 140N OR APPROVED EQUAL. GEOMEMBRANE SHALL BE US FABRICS HDPE 30 MIL SMOOTH. GEOMEMBRANE SHALL BE USED ONLY WITHIN SEDIMENT FOREBAY AREAS.
- THICKNESSES SHOWN REPRESENT THE FULL-COMPACTION DEPTHS.
- GEOTEXTILE SHALL BE OVERLAPPED 1 FOOT MINIMUM.
- ALL IMPORTED SOIL AND IMPORTED SOIL SHALL ADHERE TO RIDEM RESIDENTIAL DIRECT EXPOSURE CRITERIA.



3 TYPE III CAP - CONCRETE
C-6 NOT TO SCALE

NOTES:

- IMPORTED GRAVEL SHALL BE GRAVEL BORROW AND CONFORM TO THE RIDOT BLUE BOOK SPECIFICATIONS FOR BANK RUN OR PLANT-PROCESS SAND AND GRAVEL. ALL FILL TO BE APPROVED BY THE ENGINEER PRIOR TO IMPORTING TO THE SITE.
- THICKNESSES SHOWN REPRESENT THE FULL-COMPACTION DEPTHS.
- IMPORTED GRAVEL TO BE INSTALLED IN MAXIMUM LIFTS OF 4 INCHES AND BE COMPACTED TO A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY.
- ALL IMPORTED GRAVEL SHALL ADHERE TO RIDEM RESIDENTIAL DIRECT EXPOSURE CRITERIA.
- CONCRETE SHALL CONFORM TO CLASS HP CONCRETE AS DEFINED BY RIDOT BLUE BOOK SPECIFICATIONS.



4 TYPE IV CAP - IMPERMEABLE PAVERS
C-6 NOT TO SCALE

NOTES:

- THICKNESSES SHOWN REPRESENT THE FULL-COMPACTION DEPTHS.

GENERAL CONSTRUCTION REQUIREMENTS:

- ALL WORK TO BE PERFORMED IN ACCORDANCE WITH ALL REGULATORY AND MUNICIPAL PERMITS AND APPROVALS.
- THE CONTRACTOR SHALL VERIFY THE PROPOSED REMEDIATION ACTIVITIES WITH ITS RELATIONSHIP TO THE EXISTING SITE SURVEY. THE CONTRACTOR SHALL ALSO VERIFY ALL DIMENSIONS, SITE CONDITIONS, AND MATERIAL SPECIFICATIONS AND SHALL NOTIFY THE OWNER AND ENGINEER OF ANY ERRORS, OMISSIONS, OR DISCREPANCIES BEFORE COMMENCING OR PROCEEDING WITH WORK.
- DEVIATIONS OR CHANGES FROM THESE PLANS WILL NOT BE ALLOWED UNLESS APPROVED BY THE OWNER'S REPRESENTATIVE.
- AN APPROVED SET OF PLANS AND ALL APPLICABLE PERMITS MUST BE AVAILABLE AT THE SITE THROUGH ENTIRE PERIOD OF CONSTRUCTION.

CONTAMINATED SOIL EARTHWORK NOTES:

- ALL SOIL EXCAVATION AND REMOVAL WILL BE COMPLETED IN COMPLIANCE WITH THE SOIL MANAGEMENT PLAN (SMP).
- LEVEL 'D' PERSONAL PROTECTIVE EQUIPMENT WILL BE SUFFICIENT FOR ALL SITE REMEDIATION ACTIVITIES.
- TEMPORARY ON-SITE STOCKPILES ARE TO BE LOCATED AS DISTANT AS POSSIBLE FROM THE WOONASQUATUCKET RIVER AND PROTECTED IN ACCORDANCE WITH THE SOIL MANAGEMENT PLAN.
- ANY EXCAVATED SOIL REMOVED FROM THE SITES WILL BE PRE-CHARACTERIZED FOR DISPOSAL AT AN APPROPRIATELY LICENSED DISPOSAL FACILITY AND SHIPPED OFFSITE BY A QUALIFIED HAULER, IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS.
- SOIL SHALL NOT BE STOCKPILED ON THE SITE WHEN THERE IS A POTENTIAL FOR FLOODING.
- THE SITES WILL BE SECURED AS NEEDED TO PREVENT ACCESS BY THE GENERAL PUBLIC TO ANY EXPOSED IMPACTED SOILS ON THE SITES. AT THE END OF EACH WORKING DAY THE SITE SHALL BE SECURED TO PREVENT ANY UNAUTHORIZED ACCESS TO STOCKPILED OR EXPOSED SOILS. THIS WILL INCLUDE INSPECTION OF ALL STOCKPILES TO CONFIRM THAT THEY ARE COVERED SECURELY WITH NO POTENTIAL EXPOSURE TO IMPACTED SOILS. THIS WILL ALSO INCLUDE THE USE OF TEMPORARY CHAIN LINK FENCING OR OTHER SUITABLE BARRIER TO SECURE ANY OPEN EXCAVATIONS, STOCKPILES, AND/OR OTHER AREAS OF TEMPORARILY EXPOSED IMPACTED SOILS. SITE SECURITY PROCEDURES ARE TO BE RECORDED IN THE DAILY OPERATING LOGS.

Revisions		DATE	BY	DESCRIPTION
1	ADD	1/2/21	EA	ADD RECAP PROFILE MOD
2	ADD	1/2/21	EA	
3	ADD	1/2/21	EA	
4	ADD	1/2/21	EA	
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17	ADD	1/2/21	EA	
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19	ADD	1/2/21	EA	
20	ADD	1/2/21	EA	

Horsley Witten Group, Inc.
Sustainable Environmental Solutions
100 Route 1A
Sandwich, MA 02563
508-533-6600 voice
508-533-3760 fax

Checked By: _____
Drawn By: _____
Designed By: _____
Date: _____

PARAGON MILL REDEVELOPMENT
PERMITTING SET
144 DELANIE STREET
PROVIDENCE, RHODE ISLAND
PROPOSED CAP PLAN DETAILS

Prepared For:
Alexander Company
2450 Rimrock Road, Suite 100
Madison, WI 53713
Phone: (608) 268-5580
Fax: _____

EA
EA Engineering, Science,
and Technology, Inc., PBC
301 METRO CENTER
BOULEVARD, SUITE 102
WARWICK, RHODE ISLAND 02886
(401) 287-0368

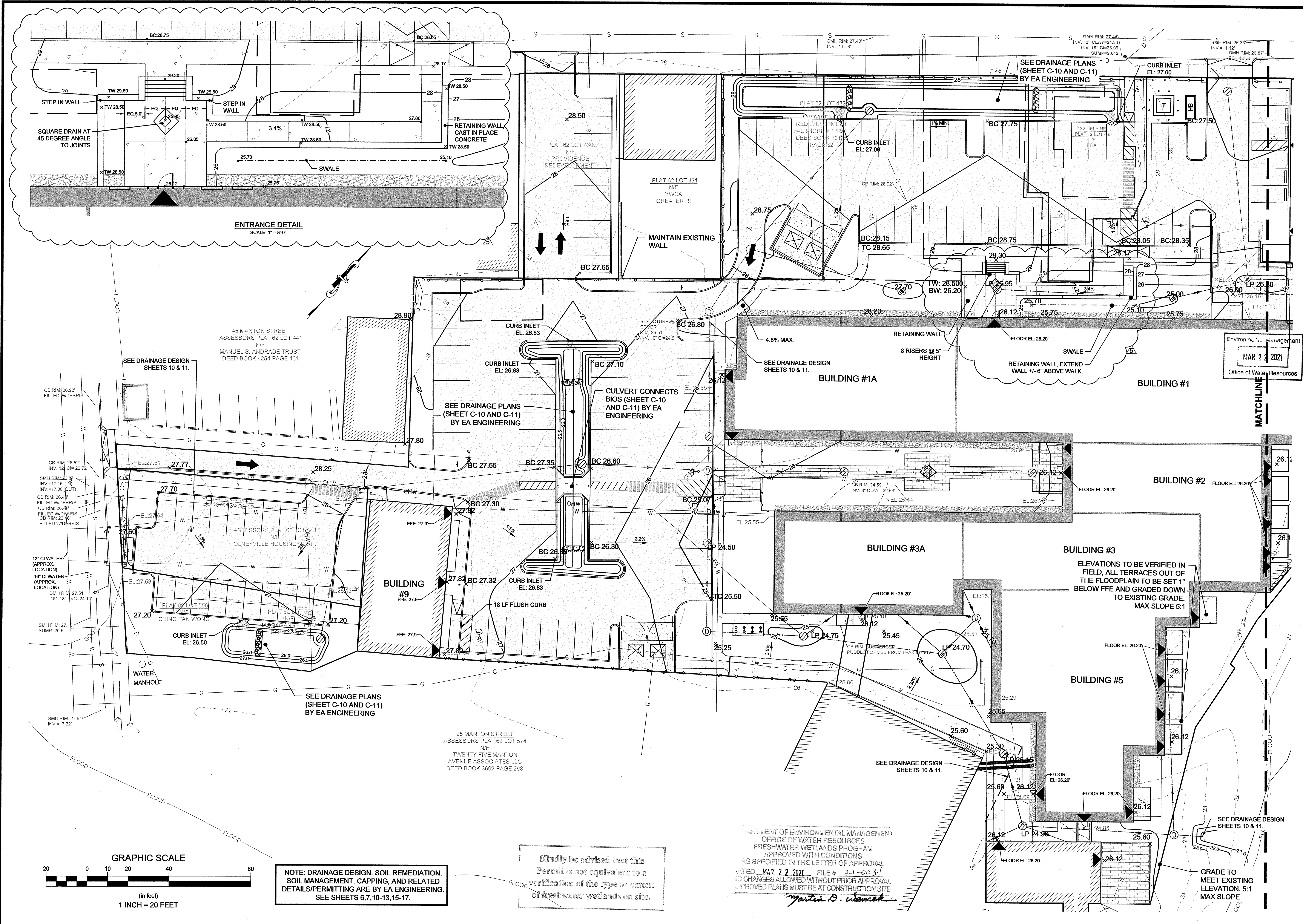
DATE: JANUARY 2021
PROJECT NUMBER: 63573.01

Registration:
RONALD MACK
No. 9823
REGISTERED
PROFESSIONAL ENGINEER
CIVIL
1/20/21

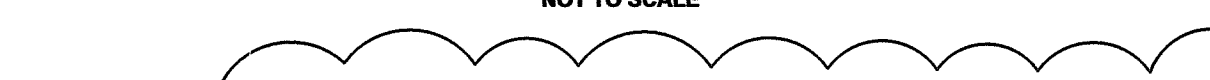
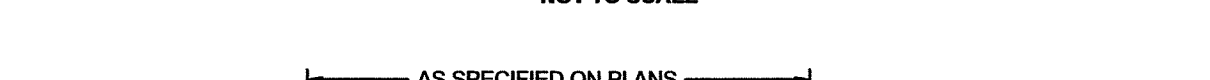
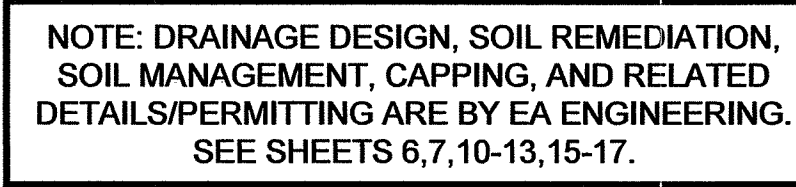
Project Number: 20062
Sheet: 7 of 21

Sheet Number:
C - 7

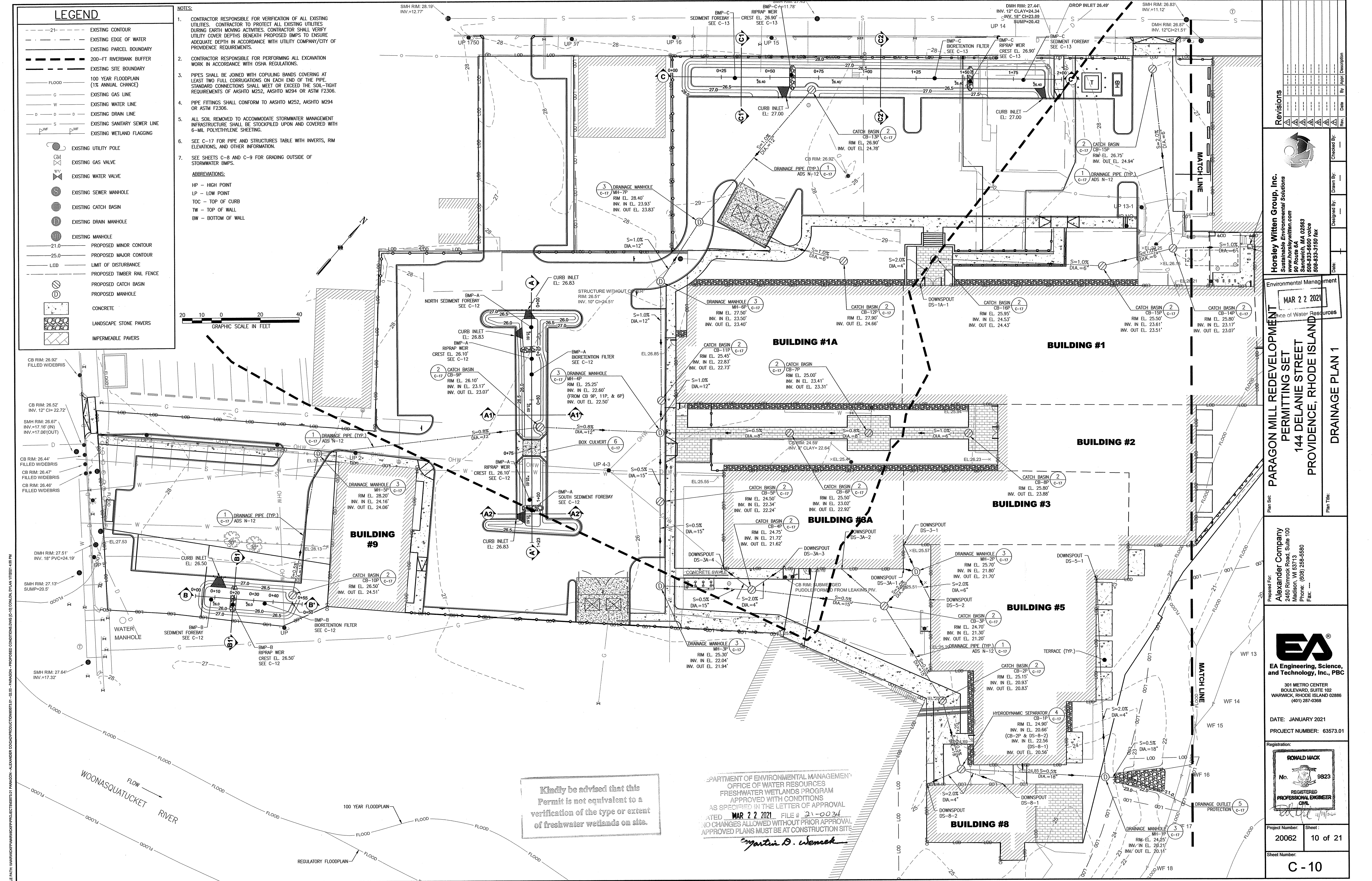
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED MAR 22 2021 FILE # 21-0034
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Martin D. Senczek



Revisions 10/11/2021 EB JF ENTRANCE DETAIL	
Horsley Witten Group, Inc. Sustainable Environmental Solutions 55 Dorchester Street, Suite 200 Providence, RI 02903 401-272-1717 voice 401-437-8388 fax	
EARNSCLIFFE MILL/PARAGON MILL REDEVELOPMENT PERMITTING SET 144 DELAINE ST. PROVIDENCE, RI	
GRADING PLAN 1	
Prepared For: Alexander Company 2450 Rimrock Road, Suite 100 Madison, WI 53713 Phone: (608) 256-5890 Fax: —	Survey Provided By: Horsley Witten Group, Inc. 90 Route 6A Sandwich, MA Phone: (508) 833-4600 Fax: (508) 833-3150 Dated: JULY 2, 2020
EA EA Engineering, Science, and Technology, Inc., PBC 301 Metro Center Blvd, Suite 102 Warwick, Rhode Island 02886 (401) 736-3440	
Registration: JONATHAN A. FORD No. 8784 REGISTERED PROFESSIONAL ENGINEER (CIVIL)	
Project Number: 20062	Sheet: 8 of 21
Sheet Number: C - 8	



The seal is rectangular with a double border. At the top, it reads "JONATHAN A. FORD". Below this is a circular emblem featuring an anchor, with "STATE OF MARYLAND" written around it. To the left of the emblem is "No." and to the right is "8784". Below the emblem is a banner that says "REGISTERED". Underneath the banner, it reads "PROFESSIONAL ENGINEER" and "(CIVIL)". A signature is written across the bottom of the seal.



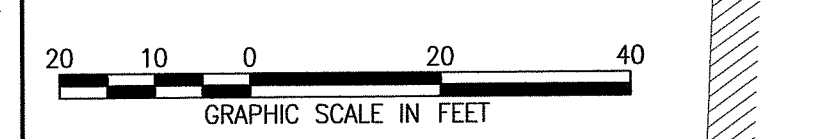
LEGEND

- 21 --- EXISTING CONTOUR
- EXISTING EDGE OF WATER
- EXISTING PARCEL BOUNDARY
- EXISTING SITE BOUNDARY
- FLOOD --- 100 YEAR FLOODPLAIN (1% ANNUAL CHANCE)
- G --- EXISTING GAS LINE
- W --- EXISTING WATER LINE
- D --- EXISTING DRAIN LINE
- S --- EXISTING SANITARY SEWER LINE
- EXISTING WETLAND FLAGGING
- EXISTING UTILITY POLE
- ⊗ EXISTING GAS VALVE
- ⊗ EXISTING WATER VALVE
- EXISTING SEWER MANHOLE
- EXISTING CATCH BASIN
- EXISTING DRAIN MANHOLE
- EXISTING MANHOLE
- 21.0 --- PROPOSED MINOR CONTOUR
- 25.0 --- PROPOSED MAJOR CONTOUR
- LOD --- LIMIT OF DISTURBANCE
- PROPOSED TIMBER RAIL FENCE
- PROPOSED CATCH BASIN
- PROPOSED MANHOLE
- CONCRETE
- LANDSCAPE STONE PAVERS
- IMPERMEABLE PAVERS

- NOTES:**
- CONTRACTOR RESPONSIBLE FOR VERIFICATION OF ALL EXISTING UTILITIES. CONTRACTOR TO PROTECT ALL EXISTING UTILITIES DURING EARTH MOVING ACTIVITIES. CONTRACTOR SHALL VERIFY UTILITY COVER DEPTHS BENEATH PROPOSED BMPs TO ENSURE ADEQUATE DEPTH IN ACCORDANCE WITH UTILITY COMPANY/CITY OF PROVIDENCE REQUIREMENTS.
 - CONTRACTOR RESPONSIBLE FOR PERFORMING ALL EXCAVATION WORK IN ACCORDANCE WITH OSHA REGULATIONS.
 - PIPES SHALL BE JOINED WITH COPULING BANDS COVERING AT LEAST TWO FULL CORRUGATIONS ON EACH END OF THE PIPE. STANDARD CONNECTIONS SHALL MEET OR EXCEED THE SOIL-TIGHT REQUIREMENTS OF AASHTO M252, AASHTO M294 OR ASTM F2306.
 - PIPE FITTINGS SHALL CONFORM TO AASHTO M252, AASHTO M294 OR ASTM F2306.
 - ALL SOIL REMOVED TO ACCOMMODATE STORMWATER MANAGEMENT INFRASTRUCTURE SHALL BE STOCKPILED UPON AND COVERED WITH 6-MIL POLYETHYLENE SHEETING.
 - SEE C-17 FOR PIPE AND STRUCTURES TABLE WITH INVERTS, RIM ELEVATIONS, AND OTHER INFORMATION.
 - SEE SHEETS C-8 AND C-9 FOR GRADING OUTSIDE OF STORMWATER BMPs.

ABBREVIATIONS:

HP - HIGH POINT
LP - LOW POINT
TOC - TOP OF CURB
TW - TOP OF WALL
BW - BOTTOM OF WALL



Revisions

Rev.	Date	By	Description
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Environmental Management

PARAGON MILL REDEVELOPMENT

PERMITTING SET

144 DELANIE STREET

PROVIDENCE, RHODE ISLAND

DRAINAGE PLAN 1

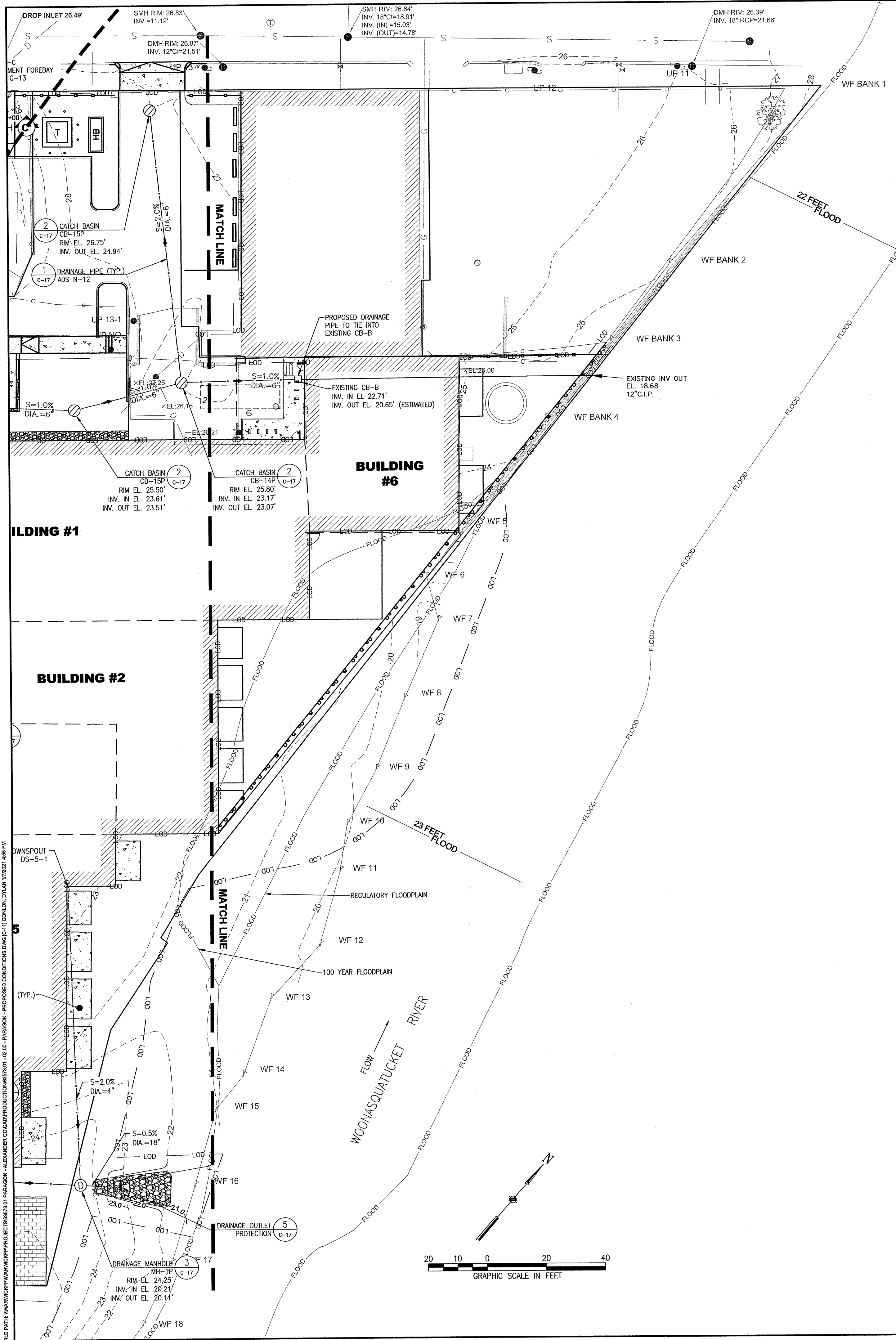
Prepared For:
Alexander Company
2450 Rimrock Road, Suite 100
Madison, VT 05713
Phone: (802) 255-5580
Fax: (802) 255-5581

EA
EA Engineering, Science, and Technology, Inc., PBC
301 METRO CENTER
BOULEVARD, SUITE 102
WARWICK, RHODE ISLAND 02886
(401) 287-0368

DATE: JANUARY 2021
PROJECT NUMBER: 63573.01

Registration:
RONALD HACK
No. 9823
REGISTERED PROFESSIONAL ENGINEER
CPE

Project Number: 20062
Sheet: 10 of 21
Sheet Number: C-10



MAP NOTES AND REFERENCES:

1. BASE MAP INCLUDING PROPERTY BOUNDARIES AND TOPOGRAPHY BASED ON CLASS I SURVEY PERFORMED BY THE HORSLEY WITTEN GROUP, INC. ON JUNE 16, 2020 AND JULY 2, 2020.
2. HORIZONTAL DATUM IS BASED ON RHODE ISLAND STATE PLANE COORDINATES NAD 83 DATUM AND VERTICAL DATUM BASED ON NAVD 88 DATUM.
3. FLOODPLAIN BASED ON FEMA FLOOD MAP NUMBER 44007C0304J REVISED 2 OCTOBER 2015.
4. WETLAND EDGE DERIVED FROM PLAN ENTITLED "EARNSCLEFFE MILL/PARAGON MILL REDEVELOPMENT, PERMITTING SET, PROVIDENCE, RHODE ISLAND" DATED OCTOBER 19, 2020.
5. CONTRACTOR TO VERIFY ALL SITE CONDITIONS.
6. OFF-SITE UTILITY LOCATIONS BASED ON CLASS I SURVEY COMPLETED BY BRYANT ASSOCIATES, INC., DECEMBER 2006.

GENERAL CONSTRUCTION REQUIREMENTS:

1. ALL WORK TO BE PERFORMED IN ACCORDANCE WITH ALL REGULATORY AND MUNICIPAL PERMITS AND APPROVALS.
2. THE CONTRACTOR SHALL VERIFY THE PROPOSED REMEDIATION ACTIVITIES WITH ITS RELATIONSHIP TO THE EXISTING SITE SURVEY. THE CONTRACTOR SHALL ALSO VERIFY ALL DIMENSIONS, SITE CONDITIONS, DRAINAGE INFRASTRUCTURE, AND MATERIAL SPECIFICATIONS AND SHALL NOTIFY THE OWNER AND ENGINEER OF ANY ERRORS, OMISSIONS, OR DISCREPANCIES BEFORE COMMENCING OR PROCEEDING WITH WORK.
3. IF THE RELOCATION OF ANY UTILITIES IS REQUIRED, THE OWNER SHALL BE NOTIFIED IMMEDIATELY.
4. DEVIATIONS OR CHANGES FROM THESE PLANS WILL NOT BE ALLOWED UNLESS APPROVED BY THE OWNER'S REPRESENTATIVE.
5. AN APPROVED SET OF PLANS AND ALL APPLICABLE PERMITS MUST BE AVAILABLE AT THE SITE THROUGH ENTIRE PERIOD OF CONSTRUCTION.
6. CONTRACTOR AGREES THAT HE/SHE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD PARAGON MILLS VENTURES, LLC, THE ENGINEER AND OWNER'S REPRESENTATIVE HARMLESS FROM ANY AND ALL LIABILITY, REAL AND ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM "THE SOLE NEGLIGENCE OF THE OWNER, ENGINEER, OR OWNER'S REPRESENTATIVE."
7. PHOTOGRAPHS, VIDEOTAPING, AND SKETCHES (AS NECESSARY) MUST BE TAKEN OF ADJOINING CONSTRUCTION AND SITE IMPROVEMENTS WITHIN 200 FEET OF EXCAVATION LIMITS ASSOCIATED WITH THE REMEDIATION ACTIVITIES. SUCH DOCUMENTATION SHALL ILLUSTRATE FINISH SURFACES THAT MIGHT BE MISCONSTRUCTED AS DAMAGE CAUSED BY EARTH MOVING OPERATIONS. PREEXCAVATION PHOTOGRAPHS OR VIDEOTAPE MUST INCLUDE, BUT NOT BE LIMITED TO, EXISTING TREES AND BUILDINGS WITHIN 200 FEET OF EXCAVATION LIMITS.

UTILITIES

1. THE DEPICTED LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE. THE CONTRACTOR SHALL NOTIFY "DIG-SAFE" AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST THREE DAYS PRIOR TO PERFORMING ANY EARTH DISTURBANCE ACTIVITIES. NO EXCAVATION SHALL COMMENCE UNTIL ALL INVOLVED UTILITY COMPANIES AND/OR CITY ENTITIES WHOSE FACILITIES MAY BE AFFECTED BY ANY WORK TO BE PERFORMED BY THE CONTRACTOR ARE NOTIFIED AT LEAST 72 HOURS IN ADVANCE.
2. UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY AND WERE COMPILED FROM A COMBINATION OF FIELD OBSERVATIONS, FIELD LOCATING, AND AVAILABLE HISTORICAL REFERENCES.
3. THE CONTRACTOR SHALL CONFIRM THE LOCATION OF OVERHEAD AND UNDERGROUND EXISTING UTILITIES AND INFRASTRUCTURE.
4. CONTRACTOR IS RESPONSIBLE FOR COORDINATION AND OBTAINING APPROVALS FROM ALL UTILITY COMPANIES PRIOR TO INITIATION OF UTILITY DISTURBANCE. RESTORATION OR REPAIR OF ANY DAMAGE TO UTILITIES NOT SCHEDULED FOR REMOVAL (INCLUDING OFFSITE UTILITIES) SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR WITH NO ADDITIONAL COST TO THE OWNER.

CONTAMINATED SOIL EARTHWORK NOTES:

1. ALL SOIL EXCAVATION AND REMOVAL WILL BE COMPLETED IN COMPLIANCE WITH THE SOIL MANAGEMENT PLAN (SMP).
2. LEVEL "D" PERSONAL PROTECTIVE EQUIPMENT WILL BE SUFFICIENT FOR ALL SITE REMEDIATION ACTIVITIES.
3. TEMPORARY ON-SITE STOCKPILES ARE TO BE LOCATED AS DISTANT AS POSSIBLE FROM THE WOONASQUATUCKET RIVER AND PROTECTED IN ACCORDANCE WITH THE SOIL MANAGEMENT PLAN.
4. ANY EXCAVATED SOIL REMOVED FROM THE SITES WILL BE PRE-CHARACTERIZED FOR DISPOSAL AT AN APPROPRIATELY LICENSED DISPOSAL FACILITY AND SHIPPED OFFSITE BY A QUALIFIED HAULER, IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS.
5. SOIL SHALL NOT BE STOCKPILED ON THE SITE WHEN THERE IS A POTENTIAL FOR FLOODING.
6. THE SITES WILL BE SECURED AS NEEDED TO PREVENT ACCESS BY THE GENERAL PUBLIC TO ANY EXPOSED IMPACTED SOILS ON THE SITES. AT THE END OF EACH WORKING DAY THE SITE SHALL BE SECURED TO PREVENT ANY UNAUTHORIZED ACCESS TO STOCKPILED OR EXPOSED SOILS. THIS WILL INCLUDE INSPECTION OF ALL STOCKPILES TO CONFIRM THAT THEY ARE COVERED SECURELY WITH NO POTENTIAL EXPOSURE TO IMPACTED SOILS. THIS WILL ALSO INCLUDE THE USE OF TEMPORARY CHAIN LINK FENCING OR OTHER SUITABLE BARRIER TO SECURE ANY OPEN EXCAVATIONS, STOCKPILES, AND/OR OTHER AREAS OF TEMPORARILY EXPOSED IMPACTED SOILS. SITE SECURITY PROCEDURES ARE TO BE RECORDED IN THE DAILY OPERATING LOGS.

SURVEY REQUIREMENTS:

1. ALL SURVEY WORK SHALL BE COMPLETED BY A RI PROFESSIONAL LAND SURVEYOR.
2. CONSTRUCTION STAKEOUT SURVEYS SHALL BE COMPLETED TO ENSURE THE REMEDIATION EXTENDS TO THE FULL EXTENT OF THE PROPERTY BOUNDARIES.
3. A METES AND BOUNDS DESCRIPTION OF THE "CONTAMINATED SITE" WHICH IS DEFINED AS THE EXTENT OF THE ENGINEERED CAP THAT WILL BE INSTALLED AND THE BUILDING FOOTPRINTS SHALL BE PROVIDED IN TEXT FORM TO SUPPORT A DEED RESTRICTION.
4. AN AS-BUILT SURVEY THAT HIGHLIGHTS ANY VARIATION TO THE ORIGINAL DESIGN

DRAINAGE NOTES:

1. CONTRACTOR RESPONSIBLE FOR VERIFICATION OF ALL EXISTING UTILITIES. CONTRACTOR TO PROTECT ALL EXISTING UTILITIES DURING EARTH MOVING ACTIVITIES. CONTRACTOR SHALL VERIFY UTILITY COVER DEPTHS BENEATH PROPOSED BMPS TO ENSURE ADEQUATE DEPTH IN ACCORDANCE WITH UTILITY COMPANY/CITY OF PROVIDENCE REQUIREMENTS.
2. CONTRACTOR RESPONSIBLE FOR PERFORMING ALL EXCAVATION WORK IN ACCORDANCE WITH OSHA REGULATIONS.
3. PIPES SHALL BE JOINED WITH COPULING BANDS COVERING AT LEAST TWO FULL CORRUGATIONS ON EACH END OF THE PIPE. STANDARD CONNECTIONS SHALL MEET OR EXCEED THE SOIL-TIGHT REQUIREMENTS OF AASHTO M252, AASHTO M294 OR ASTM F2306.
4. PIPE FITTINGS SHALL CONFORM TO AASHTO M252, AASHTO M294 OR ASTM F2306.
5. ALL SOIL REMOVED TO ACCOMMODATE STORMWATER MANAGEMENT INFRASTRUCTURE SHALL BE STOCKPILED UPON AND COVERED WITH 6-MIL POLYETHYLENE SHEETING.
6. SEE C-17 FOR PIPE AND STRUCTURES TABLE WITH INVERTS, RIM ELEVATIONS, AND OTHER INFORMATION.
7. SEE SHEETS C-8 AND C-9 FOR GRADING OUTSIDE OF STORMWATER BMPS.

LEGEND

- 21' --- EXISTING CONTOUR
- - - - - EXISTING EDGE OF WATER
- EXISTING PARCEL BOUNDARY
- 200'-FT RIVERBANK BUFFER
- EXISTING SITE BOUNDARY
- 100 YEAR FLOODPLAIN AND/OR FLOODWAY AS NOTED (1% ANNUAL CHANCE)
- G --- EXISTING GAS LINE
- W --- EXISTING WATER LINE
- D --- EXISTING DRAIN LINE
- S --- EXISTING SANITARY SEWER LINE
- EXISTING WETLAND FLAGGING
- EXISTING UTILITY POLE
- ⊗ EXISTING GAS VALVE
- ⊗ EXISTING WATER VALVE
- ⊗ EXISTING SEWER MANHOLE
- ⊗ EXISTING CATCH BASIN
- ⊗ EXISTING DRAIN MANHOLE
- ⊗ EXISTING MANHOLE
- 21.0 --- PROPOSED MINOR CONTOUR
- 25.0 --- PROPOSED MAJOR CONTOUR
- LOD --- LIMIT OF DISTURBANCE
- PROPOSED TIMBER RAIL FENCE
- ⊗ PROPOSED CATCH BASIN
- ⊗ PROPOSED MANHOLE
- CONCRETE
- LANDSCAPE STONE PAVERS
- IMPERMEABLE PAVERS

ABBREVIATIONS:

- HP - HIGH POINT
- LP - LOW POINT
- TOC - TOP OF CURB
- TW - TOP OF WALL
- BW - BOTTOM OF WALL

Environmental Management
MAR 22 2021
Office of Water Resources

Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED MAR 22 2021 FILE # 21-0034
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Martin D. Wenzel

Revisions		Checked By		Designed By		Drawn By		Date		By		Appr		Description	
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Horsley Witten Group, Inc.
Sustainable Environmental Solutions
100 Weymouth Street
Providence, RI 02903
Sandwich, MA 02563
508-833-6600 voice
508-833-3150 fax

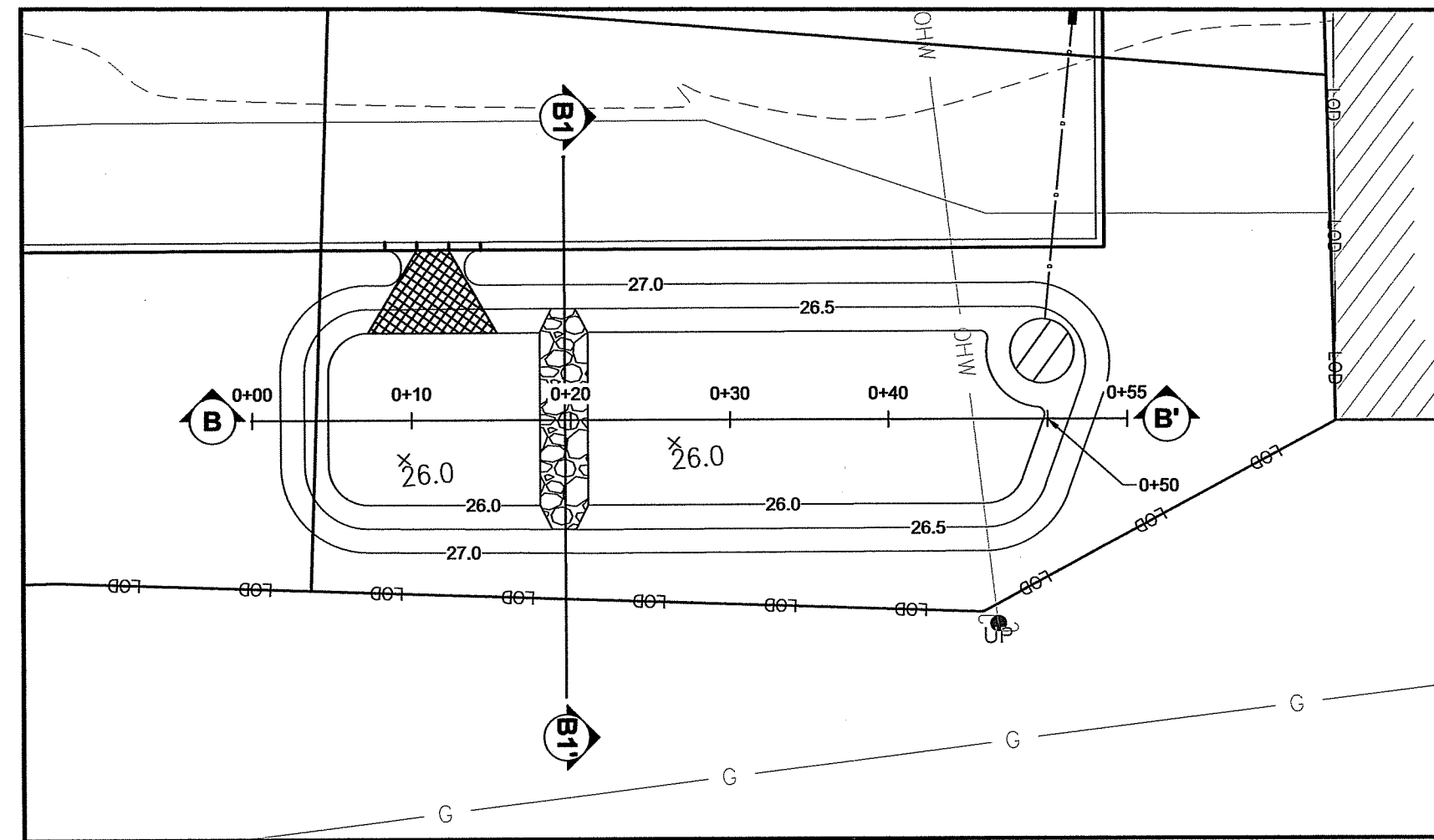
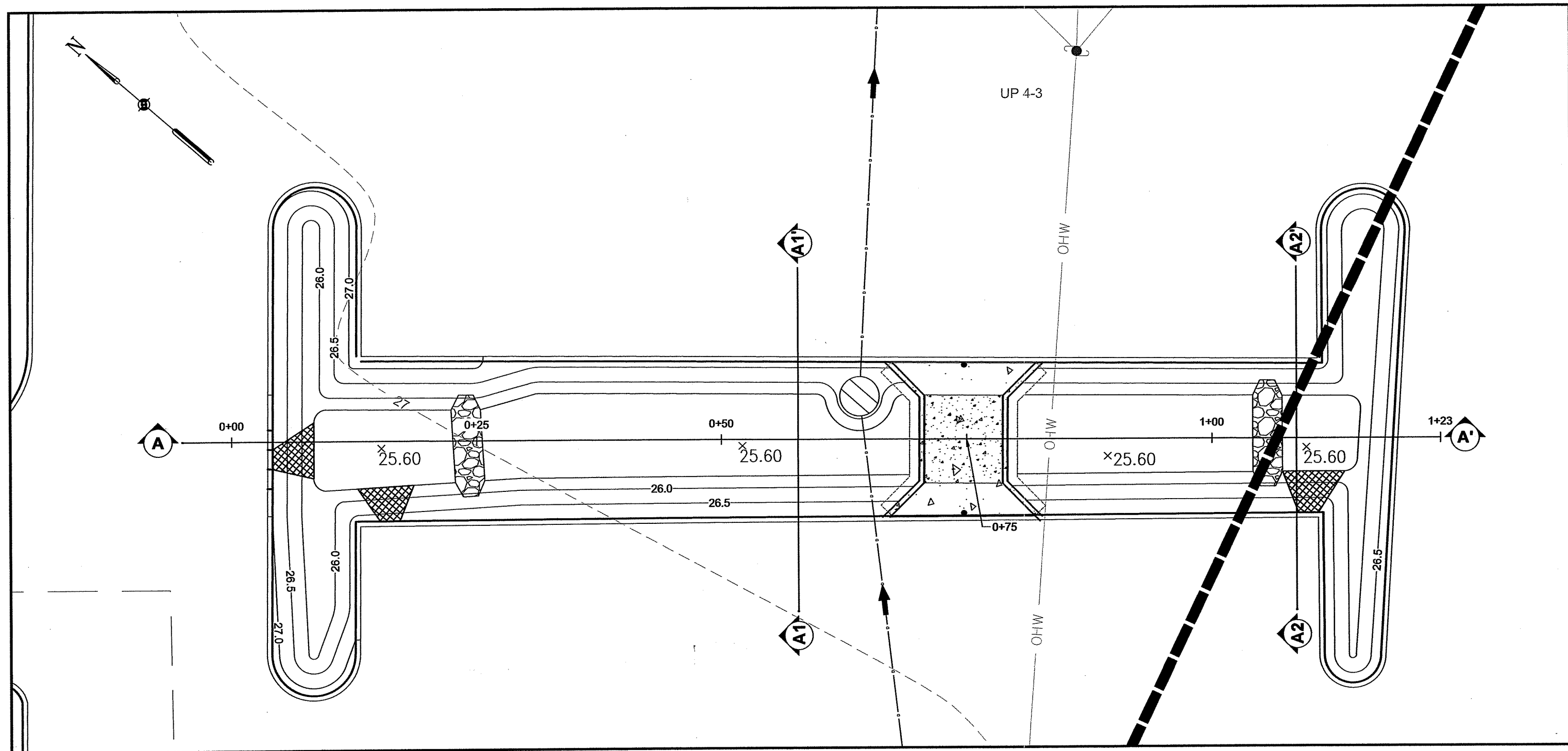
PARAGON MILL REDEVELOPMENT PERMITTING SET
144 DELANIE STREET
PROVIDENCE, RHODE ISLAND

DRAINAGE PLAN 2

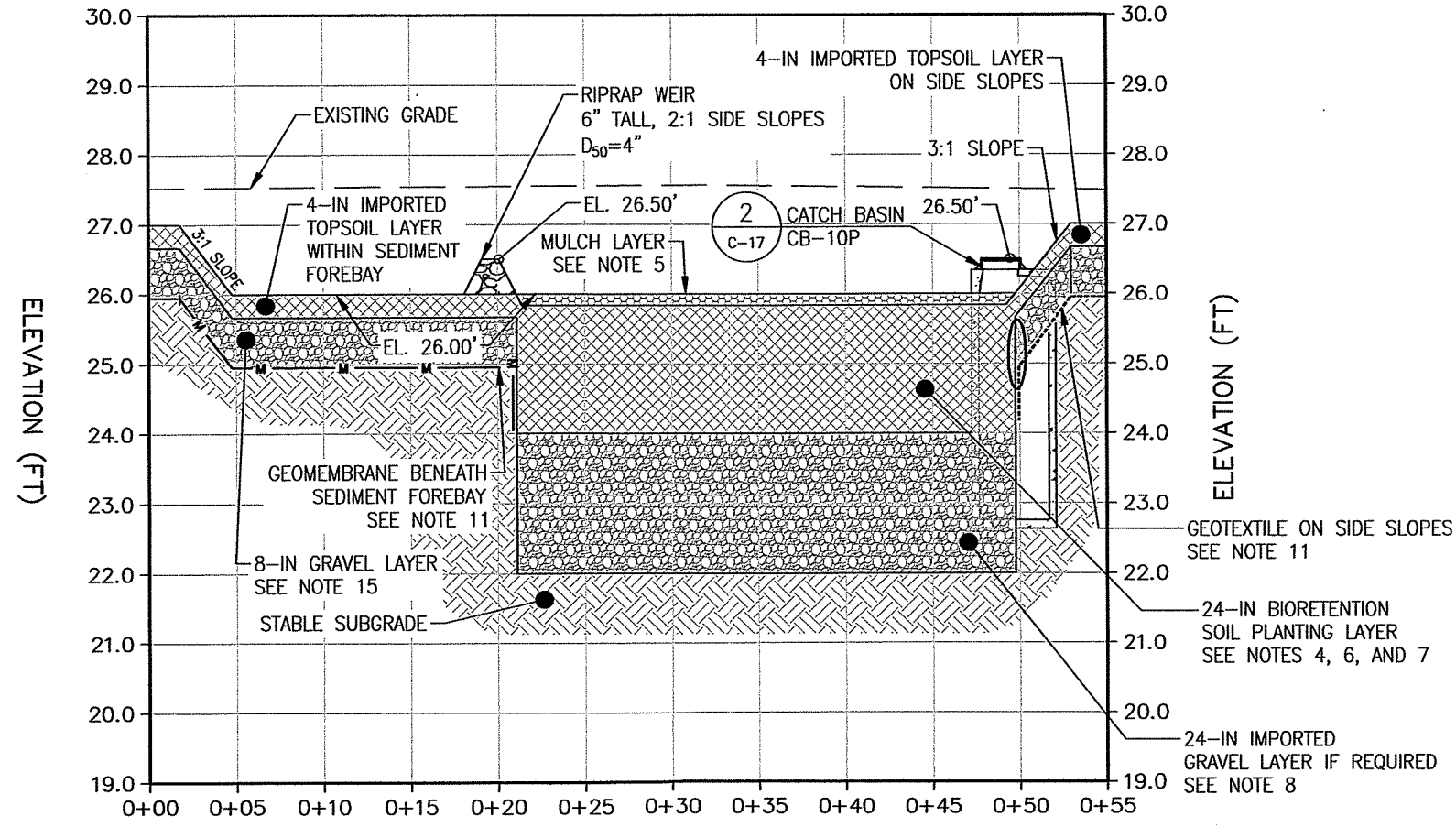
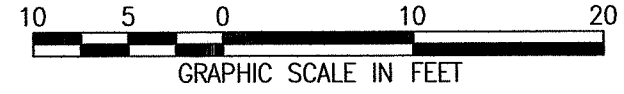
Prepared For: **Alexander Company**
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Madison, WI 53713
Phone: (608) 256-5580
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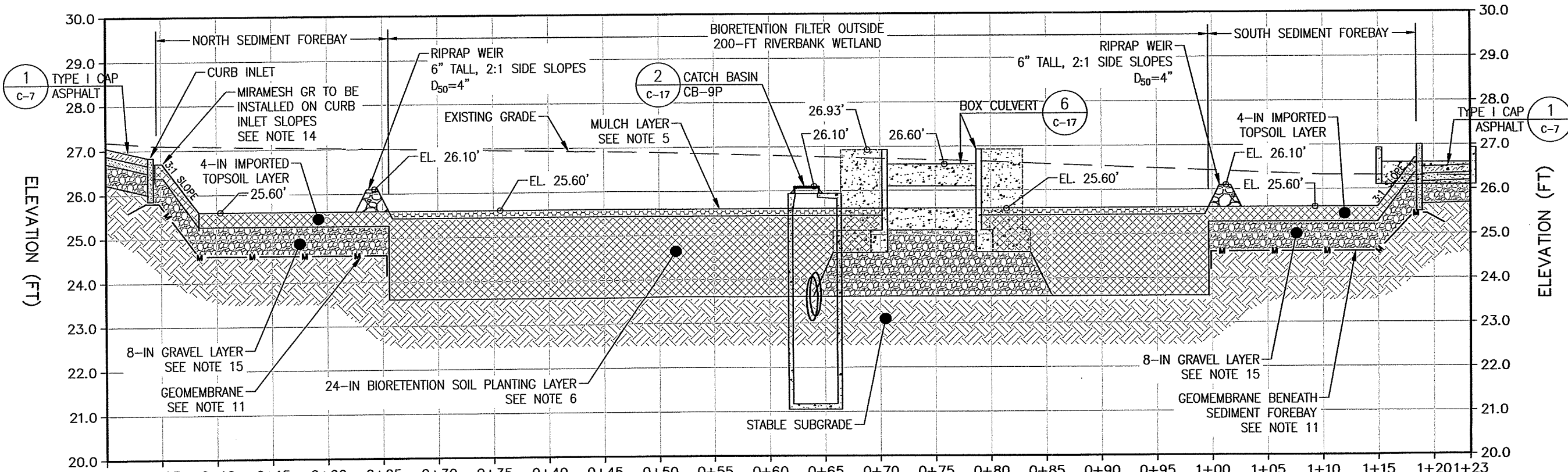
DATE: JANUARY 2021
PROJECT NUMBER: 63573.01
Registration: **RONALD MACK**
No. 9823
REGISTERED PROFESSIONAL ENGINEER
CIVIL
Project Number: 20062
Sheet: 11 of 21
Sheet Number: **C-11**



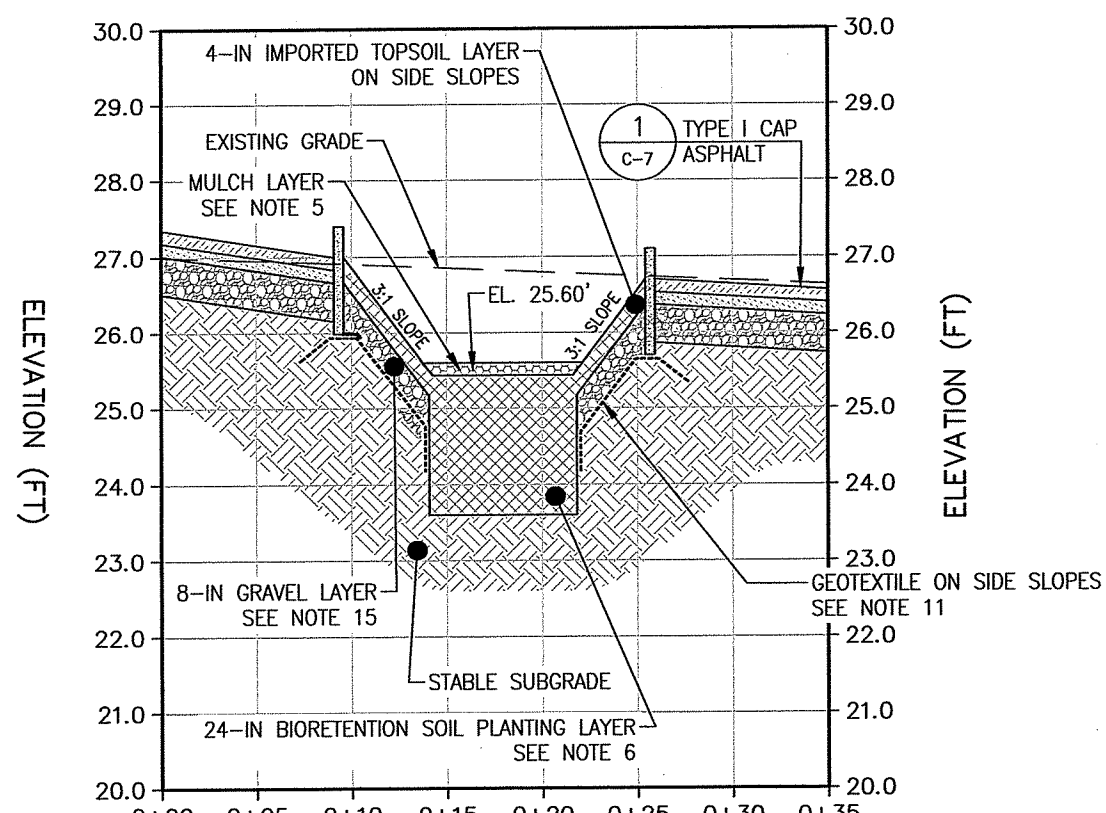
BMP-B PLAN
1"=10'



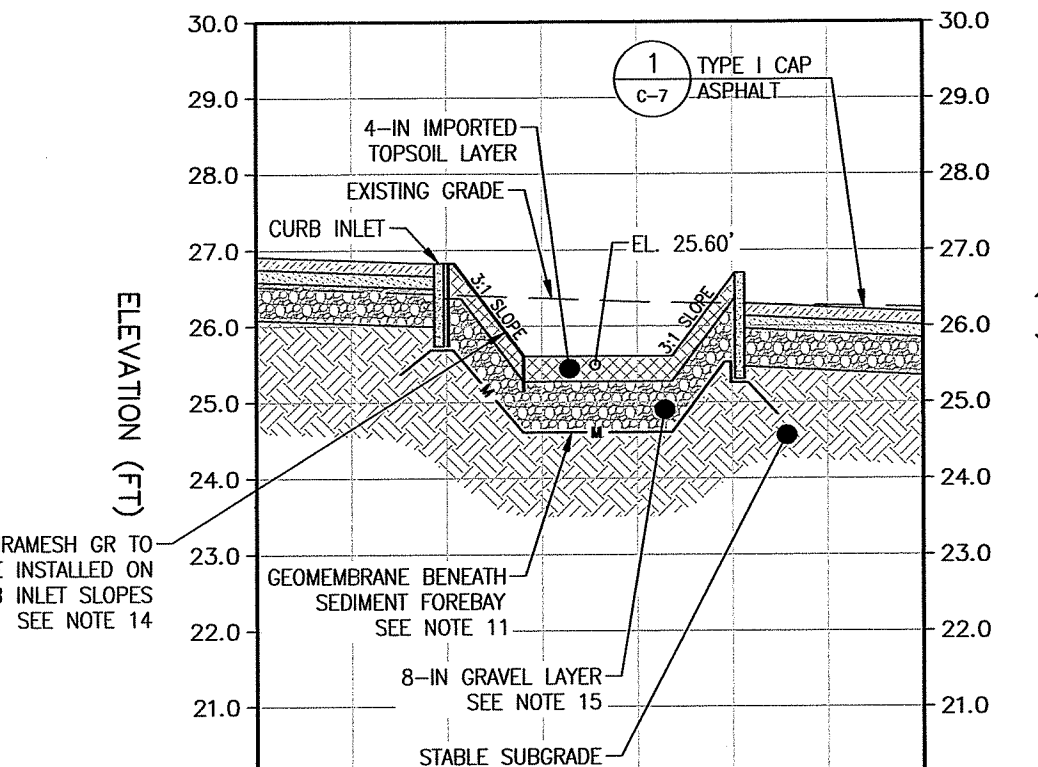
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H: 1"=10' V: 1"=2.5'



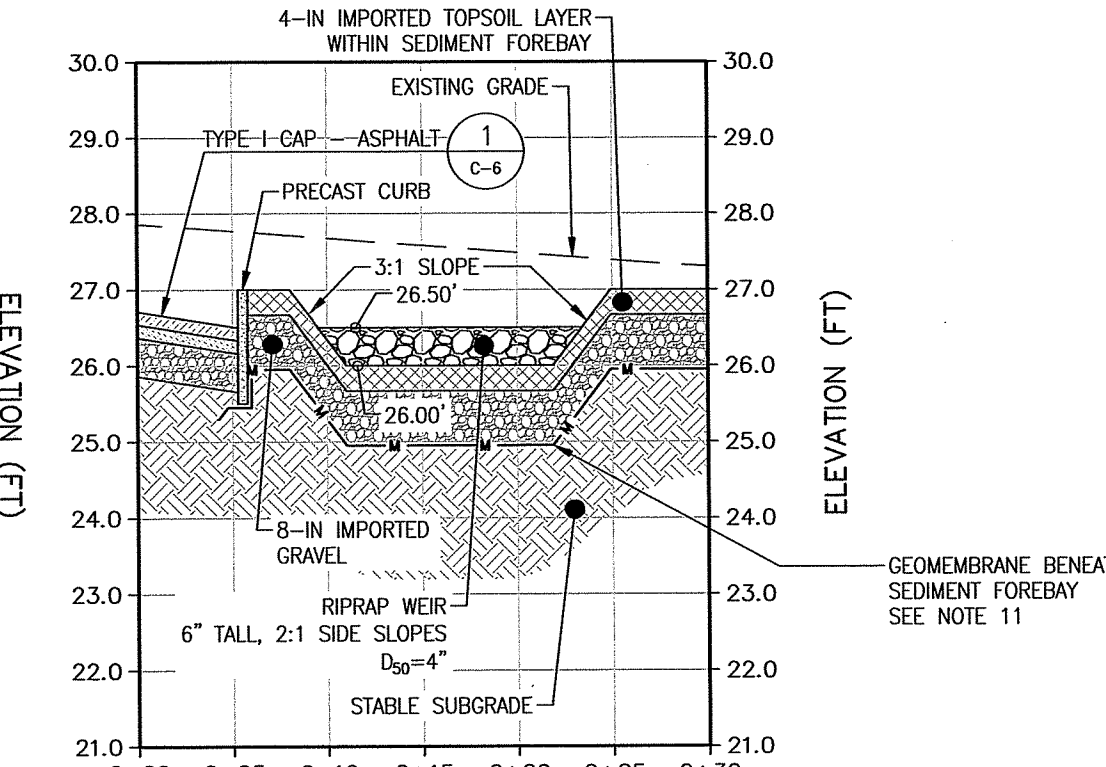
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H: 1"=10' V: 1"=2.5'



BMP-A - SECTION (A1-A1')
H: 1"=10' V: 1"=2.5'



BMP-A - SECTION (A2-A2')
H: 1"=10' V: 1"=2.5'



BMP-B - SECTION (B1-B1')
H: 1"=10' V: 1"=2.5'

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- MULCH LAYER SHALL CONSIST OF FINELY SHREDDED, WELL-AGED (6-12 MONTHS) ORGANIC HARDWOOD MULCH MIXED INTO UPPER SURFACE OF THE BIORETENTION SOIL LAYER AND SHALL BE APPROVED BY ENGINEER.
- BIORETENTION SOIL (PLANTING LAYER) SHALL CONSIST OF 85-88% SAND, 8-12% FINES, <2% CLAY, AND 3-5% ORGANIC MATTER WITH 20% BY VOLUME OF LEAF COMPOST ADDITIVE (>3 MONTHS AGED, WELL AERATED) AND SHALL BE APPROVED BY ENGINEER.
- EACH BIORETENTION SOIL LAYER SHALL BE TESTED TO ENSURE CONFORMANCE WITH RHODE ISLAND STORMWATER DESIGN AND INSTALLATION STANDARDS MANUAL BMP SPECIFICATION F.5.2.2 FOR pH, MAGNESIUM, PHOSPHORUS, POTASSIUM, AND SOLUBLE SALTS.
- BIORETENTION FILTERS WITHIN THE 200-FT RIVERBANK WETLAND (BMP-B) ARE SUBJECT TO INFILTRATION RESTRICTIONS UNLESS TESTING CONFIRMS COMPLIANCE WITH RIDEM GA LEACHABILITY CRITERIA (EA TO SAMPLE AND DIRECT CONTRACTOR). OTHERWISE, CONTRACTOR SHALL OVER-EXCAVATE THE AREAS BY 2-FT (BELOW PLANTING SOIL LAYER) AND REPLACE THIS MATERIAL WITH IMPORTED GRAVEL AS APPROVED BY ENGINEER.
- ALL SEDIMENT FOREBAY AREAS SHALL BE OVER-EXCAVATED BY 1-FT AND THIS MATERIAL REPLACED BY A GEOTEXTILE LAYER, 8-IN OF CLEAN FILL AND 4-IN OF TOPSOIL (RIDEM APPROVED CAP).
- MAXIMUM SIDE SLOPES FOR ALL VEGETATED SLOPES TO BE 3:1. RIPRAP WEIRS SHALL BE INSTALLED WITH 2:1 SIDE SLOPES MAXIMUM.
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- TENTATE MIRAFI MIRAFI GR OR EQUIVALENT TO BE INSTALLED AT EACH CURB INLET IN ACCORDANCE WITH MANUFACTURER'S GUIDELINES. UP-GRADE AND DOWN-GRADE EDGE SHOULD BE KEYED INTO UNDERLYING SOIL VERTICALLY A MINIMUM OF 6".
- GRAVEL LAYER TO MEET REQUIREMENTS FOR GRAVEL BORROW AS DEFINED BY RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS ROAD AND BRIDGE CONSTRUCTION SECTION M.01: BORROW AND AGGREGATES AND SHALL BE APPROVED BY ENGINEER.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
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Martin D. Senesch

Revisions	By	Date	Appr	Description
1	AW	03/22/21	AW	Initial Design
2	AW	03/22/21	AW	Revised Design
3	AW	03/22/21	AW	Final Design
4	AW	03/22/21	AW	Final Design
5	AW	03/22/21	AW	Final Design
6	AW	03/22/21	AW	Final Design
7	AW	03/22/21	AW	Final Design
8	AW	03/22/21	AW	Final Design
9	AW	03/22/21	AW	Final Design
10	AW	03/22/21	AW	Final Design

PARAGON MILL REDEVELOPMENT
PERMITTING SET
144 DELANIE STREET
PROVIDENCE, RHODE ISLAND
BMP-A & BMP-B PLAN & PROFILE

Prepared For:
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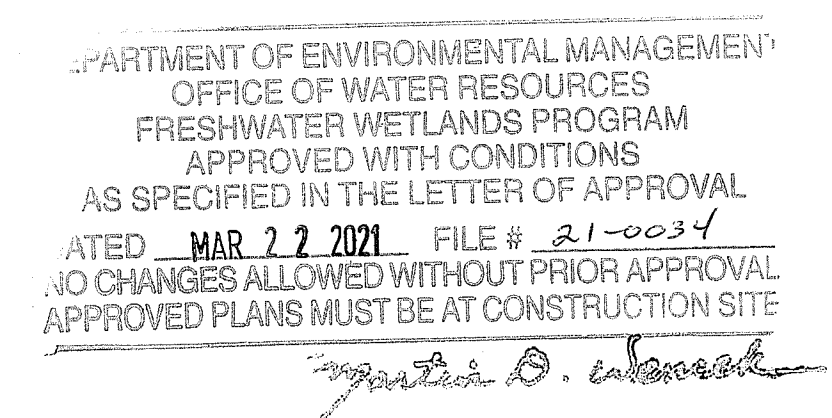
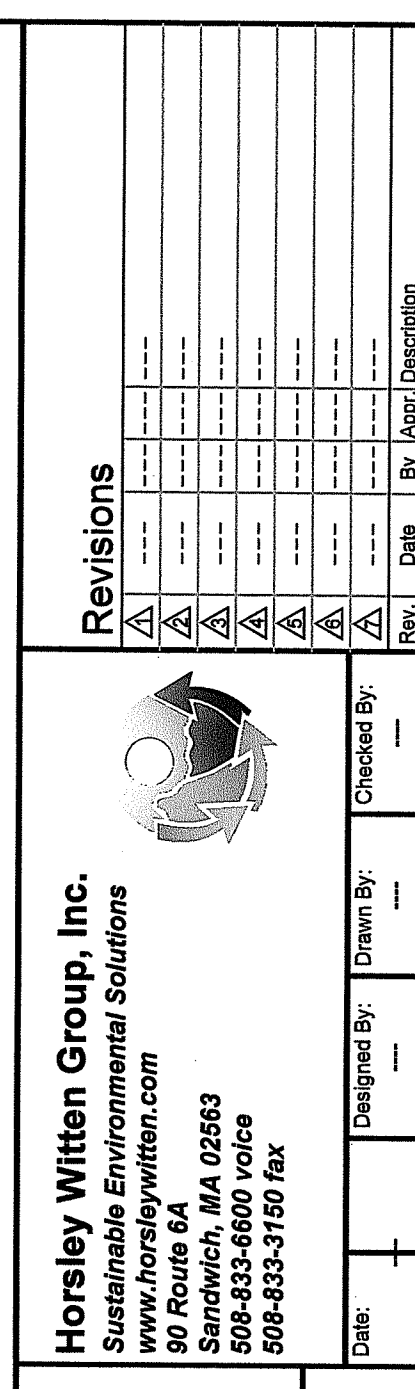
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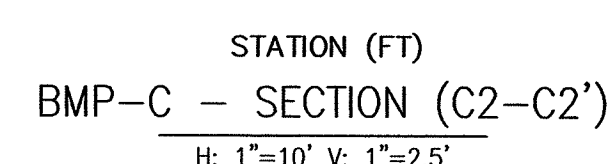
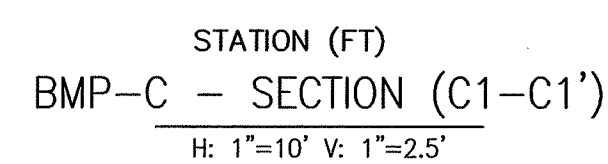
Registration:
RONALD MACK
No. 9823
REGISTERED
PROFESSIONAL ENGINEER
Civil
Ronald Mack

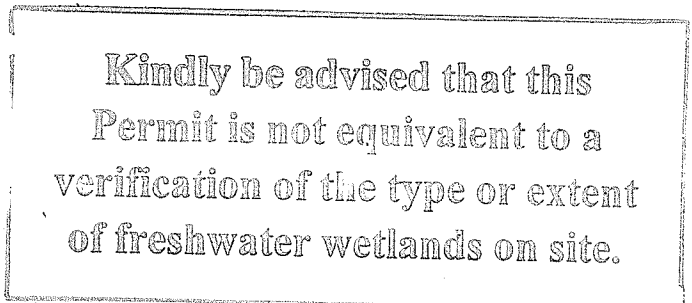
Project Number: 20062
Sheet: 12 of 21

Sheet Number:
C - 12



1. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL EXISTING UTILITIES. CONTRACTOR TO PROTECT ALL EXISTING UTILITIES DURING EARTH MOVING ACTIVITIES.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING ALL EXCAVATION WORK IN ACCORDANCE WITH OSHA REGULATIONS.
3. ALL SOIL REMOVED TO ACCOMMODATE STORMWATER MANAGEMENT INFRASTRUCTURE SHALL BE STOCKPILED UPON AND COVERED WITH 6-MIL. POLYETHYLENE SHEETING.
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5. MULCH LAYER SHALL CONSIST OF FINELY SHREDDED, WELL-AGED (6-12 MONTHS) ORGANIC HARDWOOD MULCH MIXED INTO UPPER SURFACE OF THE BIORETENTION SOIL LAYER AND SHALL BE APPROVED BY ENGINEER.
6. BIORETENTION SOIL (PLANTING LAYER) SHALL CONSIST OF 85-88% SAND, 8-12% FINES, <2% CLAY, AND 3-5% ORGANIC MATTER WITH 20% BY VOLUME OF LEAF COMPOST ADDITIVE (>3 MONTHS AGED, WELL AERATED) AND SHALL BE APPROVED BY ENGINEER.
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14. GRAVEL LAYER TO MEET REQUIREMENTS FOR GRAVEL BORROW AS DEFINED BY RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS ROAD AND BRIDGE CONSTRUCTION SECTION M.01: BORROW AND AGGREGATES AND SHALL BE APPROVED BY ENGINEER.





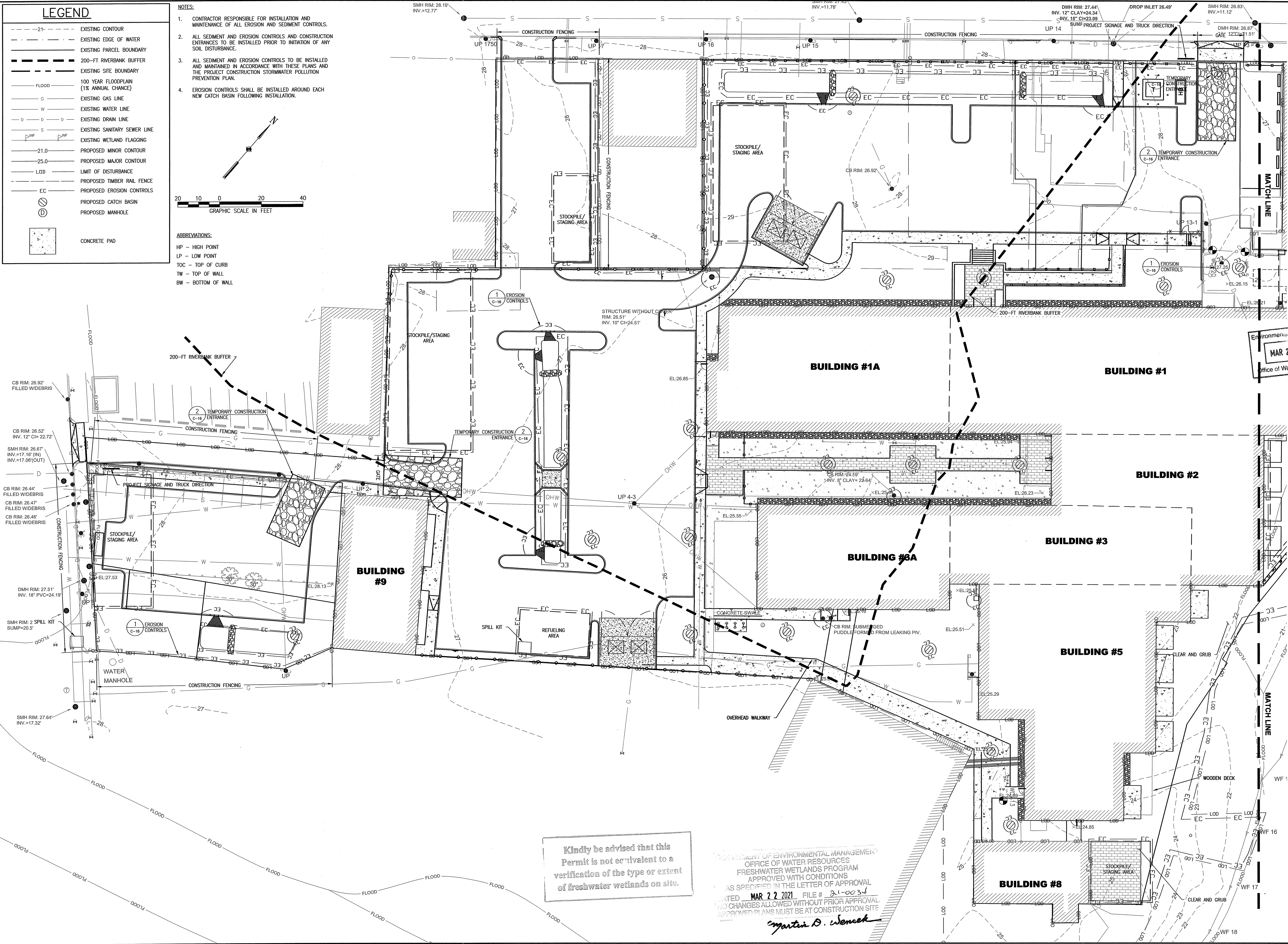
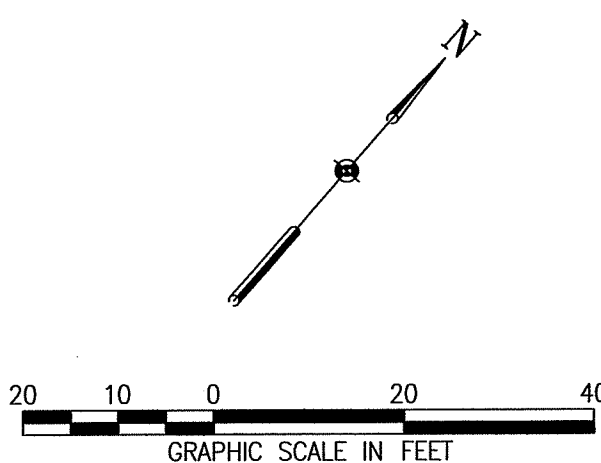
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
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Project Number:	Sheet :
20062	14 of 21
Sheet Number:	

LEGEND

---	21-	---	EXISTING CONTOUR				
---	.	---	EXISTING EDGE OF WATER				
---		---	EXISTING PARCEL BOUNDARY				
---		---	200-FT RIVERBANK BUFFER				
---		---	EXISTING SITE BOUNDARY				
---		---	100 YEAR FLOODPLAIN (1% ANNUAL CHANCE)				
---		---	FLOOD				
---		---	G	EXISTING GAS LINE			
---		---	W	EXISTING WATER LINE			
---		---	D	---	D	---	EXISTING DRAIN LINE
---		---	S	---	---	---	EXISTING SANITARY SEWER LINE
---		---	W	---	---	---	EXISTING WETLAND FLAGGING
---		---	21.0	---	---	---	PROPOSED MINOR CONTOUR
---		---	25.0	---	---	---	PROPOSED MAJOR CONTOUR
---		---	LGD	---	---	---	LIMIT OF DISTURBANCE
---		---	EC	---	---	---	PROPOSED TIMBER RAIL FENCE
---		---	(S)	---	---	---	PROPOSED EROSION CONTROLS
---		---	(D)	---	---	---	PROPOSED CATCH BASIN
---		---		---	---	---	PROPOSED MANHOLE
CONCRETE PAD							

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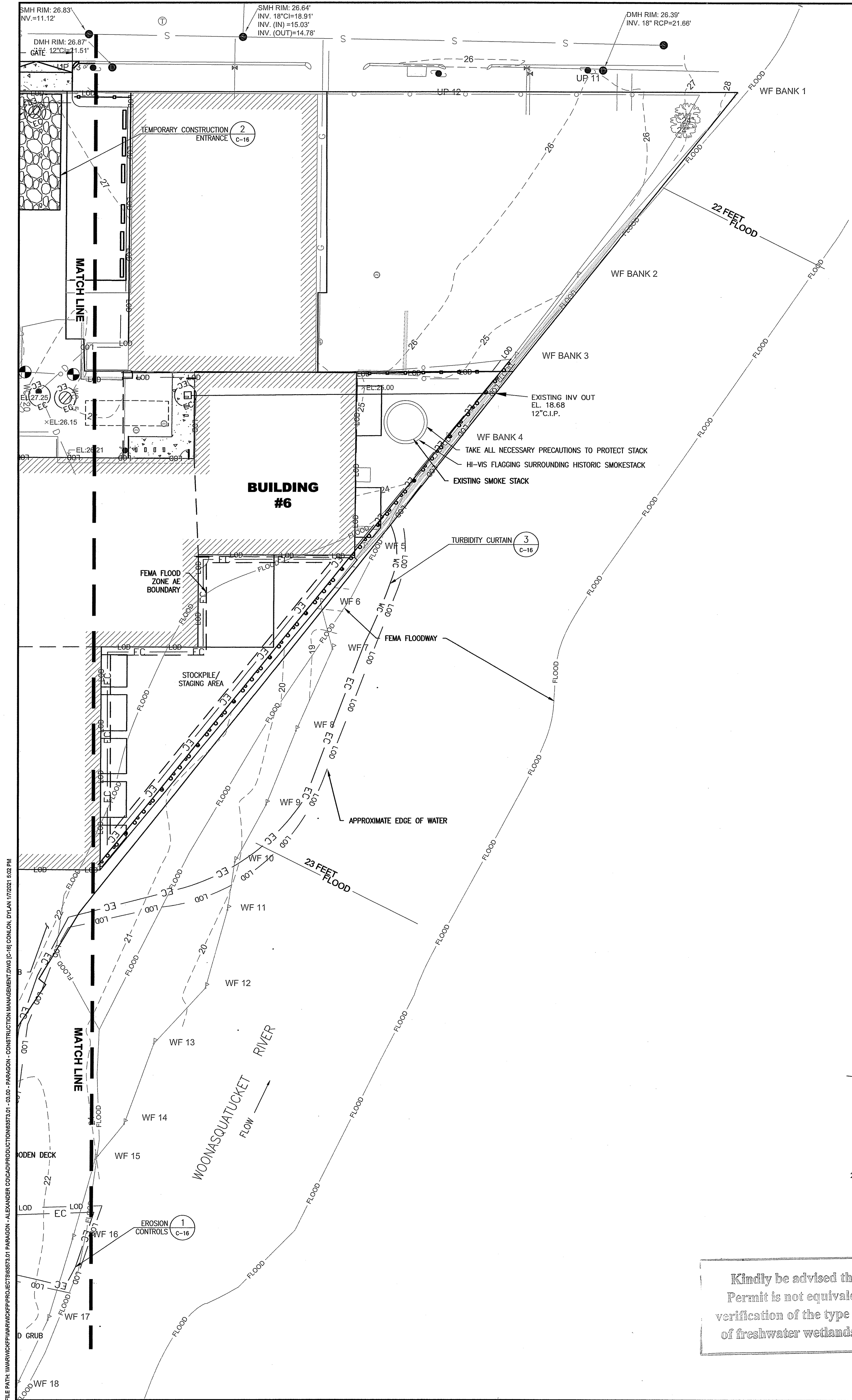


Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site.

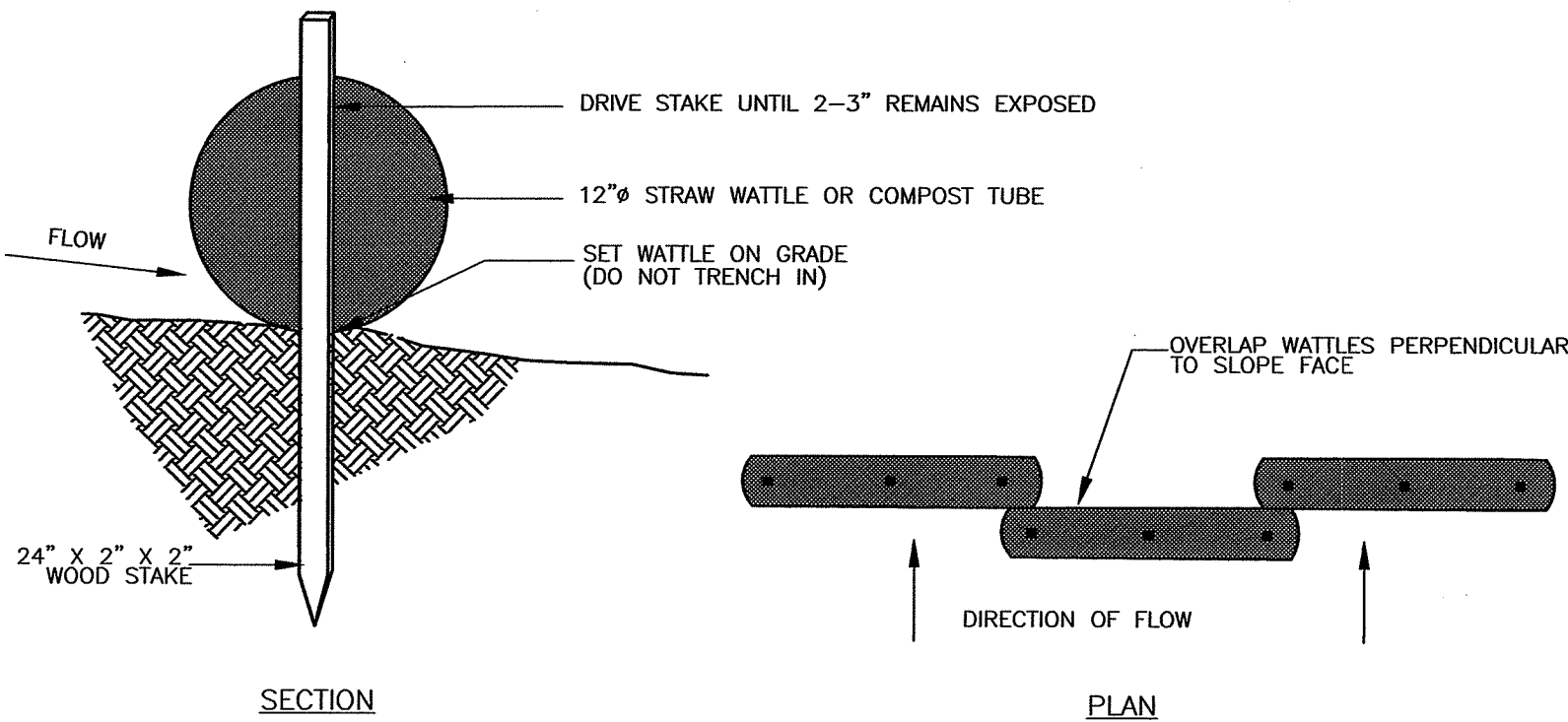
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED MAR 22 2021 FILE # 21-0034
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
WEDNESDAY MARCH 24TH AT CONSTRUCTION SITE

Martin D. Wenzek

Prepared For: Alexander Company 2450 Rimrock Road, Suite 100 Madison, WI 53713 Phone: (608) 258-5590 Fax: ---	Plan Set: PARAGON MILL REDEVELOPMENT PERMITTING SET 144 DELANIE STREET PROVIDENCE, RHODE ISLAND	Plan Title: CONSTRUCTION MANAGEMENT PLAN 1	Date: <u> 1 </u> / <u> 1 </u> / <u> 2008 </u>		Designed By: <u> </u>	Drawn By: <u> </u>	Checked By: <u> </u>
			Revisions	Rev: <u> 1 </u>	Date: <u> </u>	By: <u> </u>	Appr: <u> </u>
Horsley Witten Group, Inc. Sustainable Environmental Solutions www.horsleywitten.com 60 Route 6A South Plainfield, NJ 07080 908-333-6600 / 908-333-3150 fax							
							
EA Engineering, Science, and Technology, Inc., PBC 301 METRO CENTER BOULEVARD, SUITE 102 WARWICK, RHODE ISLAND 02886 (401) 287-0368							
DATE: JANUARY 2021 PROJECT NUMBER: 63573.01							
Registration: 							
Project Number: 20062	Sheet: 15 of 21						
Sheet Number: C - 15							



- EROSION CONTROL NOTES:**
- ALL WORK TO BE PERFORMED IN ACCORDANCE WITH SEDIMENT AND EROSION CONTROL PLAN, PREPARED BY EA ENGINEERING.
 - ANY STOCKPILED MATERIALS, INCLUDING CLEAN FILL, MUST BE UNDERLAIN AND COVERED WITH 10-MIL POLYETHYLENE SHEETING AND BE SECURED AT THE END OF EACH DAY WITH ALL APPROPRIATE EROSION AND SEDIMENT CONTROLS TO LIMIT THE LOSS OF THE COVER AND PROTECT AGAINST STORMWATER AND WIND EROSION (I.E. STRAW BALES, ROCKS, SILT FENCING).
 - TO THE DEGREE PRACTICABLE, THE STORAGE LOCATION SHALL BE SELECTED TO LIMIT THE UNAUTHORIZED ACCESS TO THE MATERIALS (I.E. AWAY FROM PUBLIC ROADWAYS/WALKWAYS).
 - NO REGULATED SOIL SHALL BE STOCKPILED ON-SITE FOR GREATER THAN THIRTY (30) DAYS.
 - IN THE EVENT THAT STOCKPILED SOILS POSE A RISK OR THREAT OF LEACHING HAZARDOUS MATERIALS, A PROPER LEAK-PROOF CONTAINER (DRUM OR LINED ROLL-OFF) OR SECONDARY CONTAINMENT SHALL BE REQUIRED AND UTILIZED.
 - DISTURBANCE OF SOIL SURFACES IS REGULATED BY STATE LAW AND LOCAL ORDINANCE. ALL WORK SHALL COMPLY WITH THE STATE LAW AND LOCAL ORDINANCE AND ISSUED PERMIT CONDITIONS TO PREVENT OR MINIMIZE SOIL EROSION.
 - THE INSTALLATION AND MAINTENANCE OF EROSION CONTROL DEVICES IS THE RESPONSIBILITY OF THE CONTRACTOR. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES THE CONTRACTOR SHALL INSTALL ALL EROSION AND SEDIMENT CONTROL DEVICES AS SHOWN ON THE PLAN, OR AS DICTATED BY THE RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT AND THE TOWN OF WESTERLY. ALL EROSION CONTROL DEVICES SHALL BE MAINTAINED IN EFFECTIVE CONDITION DURING CONSTRUCTION AND UNTIL COMPLETION OF THE PROJECT.
 - THE CONTRACTOR SHALL USE THE LATEST EDITION OF THE "STATE OF RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK" AS A GUIDE IN CONSTRUCTION AND INSTALLATION OF THE EROSION AND SEDIMENT CONTROLS INDICATED ON THE PLANS. ALL EROSION AND SEDIMENT CONTROL MEASURES OR WORKS AND REHABILITATION MEASURES MUST CONFORM TO OR EXCEED THE SPECIFICATIONS OR STANDARDS SET FORTH IN THIS HANDBOOK.
 - THE CONTRACTOR SHALL INSPECT EROSION AND SEDIMENT CONTROL DEVICES AT THE END OF EACH WORKING DAY, AFTER EACH STORM EVENT, AND AT LEAST DAILY DURING PROLONGED RAINFALL. REPAIR OR REPLACEMENT SHOULD BE MADE PROMPTLY AS NEEDED.
 - IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CLEAN ROADS, CONTROL DUST, AND TAKE ALL NECESSARY MEASURES TO ENSURE THAT THE SITE AND ALL ADJACENT ROADS BE MAINTAINED IN A MUD- AND DUST-FREE CONDITION AT ALL TIMES THROUGHOUT THE LIFE OF THE CONTRACT. DUST CONTROL SHALL INCLUDE, BUT IS NOT LIMITED TO, WATER AND/OR CRUSHED STONE OR COARSE GRAVEL. DUST SUPPRESSION TECHNIQUES (I.E. WATERING) MUST BE EMPLOYED AT ALL TIMES DURING ALL SOIL DISTURBING/HANDLING ACTIVITIES AT THE SITE IN ORDER TO MINIMIZE THE GENERATION OF FUGITIVE DUST.
 - AT THE END OF EACH WORKING DAY THE ADJOINING ROADWAY SHALL BE SWEEPED CLEAN OF SOIL AND DEBRIS.
 - THE CONTRACTOR SHALL INSTALL ALL PERIMETER SEDIMENT CONTROL BARRIERS (I.E. STRAW BALES AND SILT FENCE) AS SHOWN ON THE PLANS. A ROW OF STAKED STRAW BALES OR A SILT FENCE SHALL ALSO BE INSTALLED AROUND ANY SOIL STOCKPILE AREAS.
 - THE CONTRACTOR SHALL RESTORE DISTURBED AREAS AS INDICATED ON THE PLANS. OTHER AREAS DAMAGED DURING CONSTRUCTION SHALL BE RESEEDED OR OTHERWISE RESTORED TO THEIR ORIGINAL STATE AS CLOSELY AS POSSIBLE. TREES AND OTHER EXISTING VEGETATION NOT PROPOSED TO BE DEMOLISHED SHALL BE RETAINED AS INDICATED ON THE PLANS.
 - PERMANENT VEGETATIVE COVER SHALL BE APPLIED TO ALL DISTURBED AREAS THAT HAVE REACHED FINISHED GRADE AS SOON AS POSSIBLE, BUT NOT MORE THAN FOURTEEN (14) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT AREA HAS PERMANENTLY CEASED. THE PERMANENT SEEDING DATES ARE APRIL 1 TO MAY 31 AND AUGUST 15 TO OCTOBER 15. PERMANENT VEGETATIVE COVER WILL CONSIST OF A SEED MIX IN THE ON-SITE LOCATIONS SPECIFIED ON THE "PROPOSED CONDITIONS PLAN" IN ADDITION TO DISSUASIVE TREE AND SHRUBS ALSO SPECIFIED ON THAT PLAN. REFER TO THIS SHEET FOR PARK SEED MIXTURE COMPOSITION; APPLICATION RATE; AND DISSUASIVE TREE AND SHRUB SPACING REQUIREMENTS.
 - IF SEEDING CANNOT BE COMPLETED WITHIN THE RECOMMENDED SEEDING DATES, INSTALL TEMPORARY SEEDING. TEMPORARY SEEDING MAY BE INSTALLED FROM MARCH 15 TO NOVEMBER 15 UPON APPROVAL BY OWNER'S REPRESENTATIVE. REFER TO THIS PLAN FOR TEMPORARY SEED MIXTURE COMPOSITION AND APPLICATION RATE. IF NEITHER PERMANENT NOR TEMPORARY SEEDING CAN BE INSTALLED WITHIN THE RECOMMENDED SEEDING PERIODS, USE TEMPORARY MULCHING TO PROTECT THE SITE AND DELAY SEEDING UNTIL THE NEXT RECOMMENDED SEEDING PERIOD.
 - IF TEMPORARY MULCH IS REQUIRED; STRAW OR HAY MULCH, WOOD FIBER MULCH, AND HYDROMULCH ARE RECOMMENDED. STRAW OR HAY MULCH SHOULD BE APPLIED AT A RATE OF 2 TONS PER ACRE. WOOD FIBER MULCH SHOULD BE APPLIED AT A RATE OF 1,500-2,000 POUNDS PER ACRE, OR HYDROMULCH APPLIED AT A RATE OF 1,500 POUNDS PER ACRE. WOOD FIBER MULCH SHOULD NOT BE USED ALONE IN THE WINTER OR DURING HOT, DRY WEATHER. STRAW OR HAY MULCH MUST BE ANCHORED IMMEDIATELY AFTER SPREADING TO PREVENT WINDBLOWING. MULCH ANCHORING SHOULD ALSO BE USED ON SLOPES GREATER THAN THREE (3) PERCENT AND CONCENTRATED FLOW AREAS SUCH AS DIVERSION AND WATERWAY CHANNELS. TEMPORARY MULCHING SHOULD BE PERFORMED AS SOON AS POSSIBLE, BUT NOT MORE THAN FOURTEEN (14) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT AREA HAS TEMPORARILY CEASED UNLESS THE ACTIVITY IS TO RESUME WITHIN TWENTY-ONE (21) DAYS. ALL MULCHES MUST BE INSPECTED PERIODICALLY, IN PARTICULAR AFTER RAINSTORMS, TO CHECK FOR RILL EROSION. WHERE EROSION IS OBSERVED, ADDITIONAL MULCH MUST BE APPLIED. IF NETTING IS USED, THE NET SHALL BE INSPECTED AFTER RAINSTORMS FOR DISLOCATION OR FAILURE. IF WASHOUTS OR BREAKAGE OCCUR, THE NET MUST BE REINSTALLED AS NECESSARY AFTER REPAIRING DAMAGE TO SLOPE. INSPECTIONS SHALL TAKE PLACE UNTIL GRASSES ARE FIRMLY ESTABLISHED. GRASS IS CONSIDERED TO BE FIRMLY ESTABLISHED AT A MINIMUM HEIGHT OF THREE (3) INCHES.
 - WASTE DISPOSAL: MATERIALS WHICH COULD BE A POTENTIAL SOURCE OF STORMWATER POLLUTION SUCH AS GASOLINE, DIESEL FUEL, HYDRAULIC OIL, ETC., SHALL BE STORED AT THE END OF EACH DAY IN A STORAGE TRAILER OR COVERED LOCATION OR TAKEN OFF-SITE AND PROPERLY DISPOSED OF. ALL TYPES OF WASTE GENERATED AT THIS SITE SHALL BE DISPOSED OF IN A MANNER CONSISTENT WITH FEDERAL AND STATE LAW AND/OR REGULATIONS.



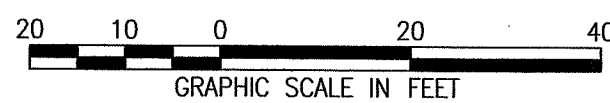
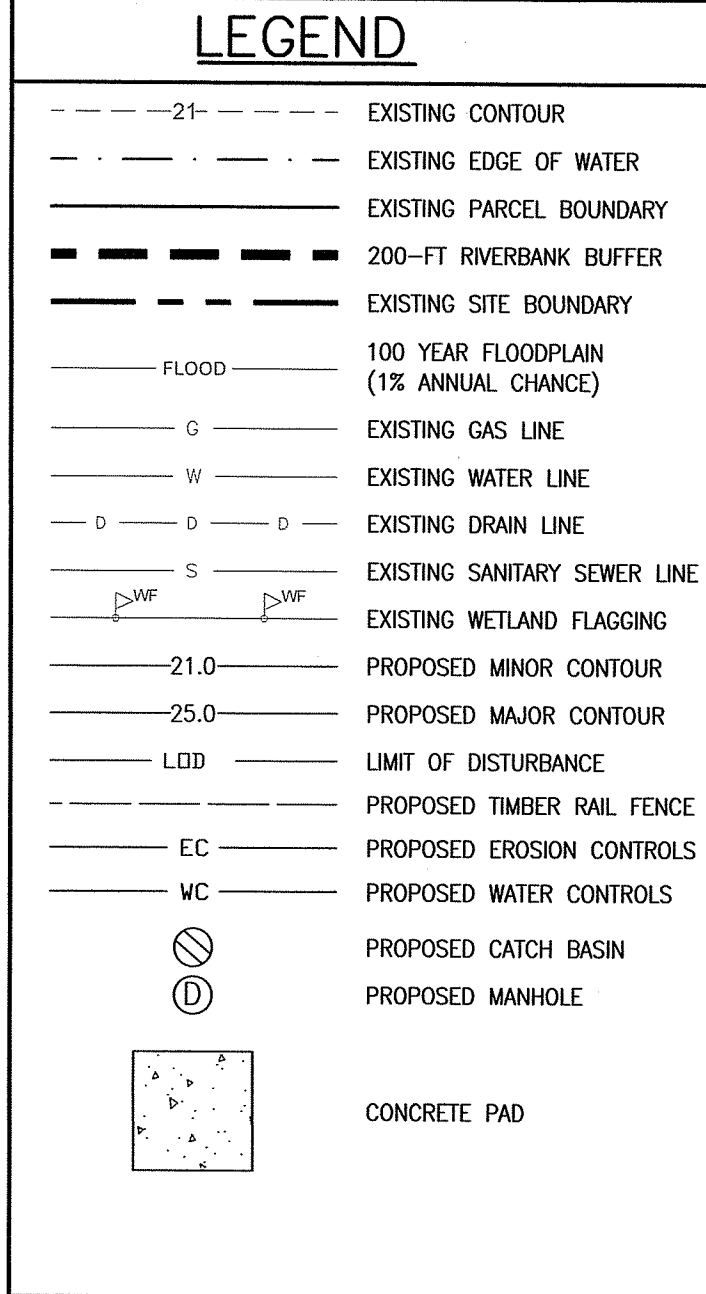
1 EROSION CONTROLS
C-15
C-16
NOT TO SCALE

- NOTE:**
- INSTALL STAKE PERPENDICULAR TO SLOPE FACE.
 - SECURE WATTLES INSTALLED ON PAVED SURFACES WITH CEMENT BLOCKS.

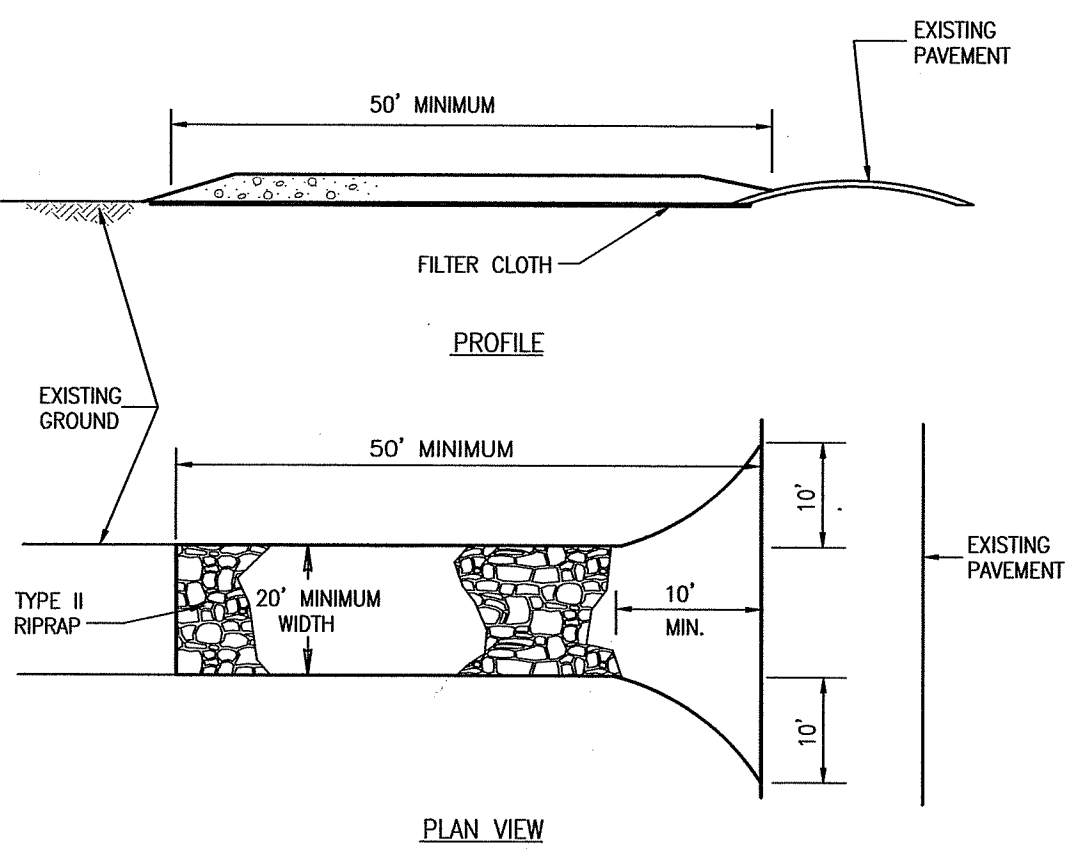
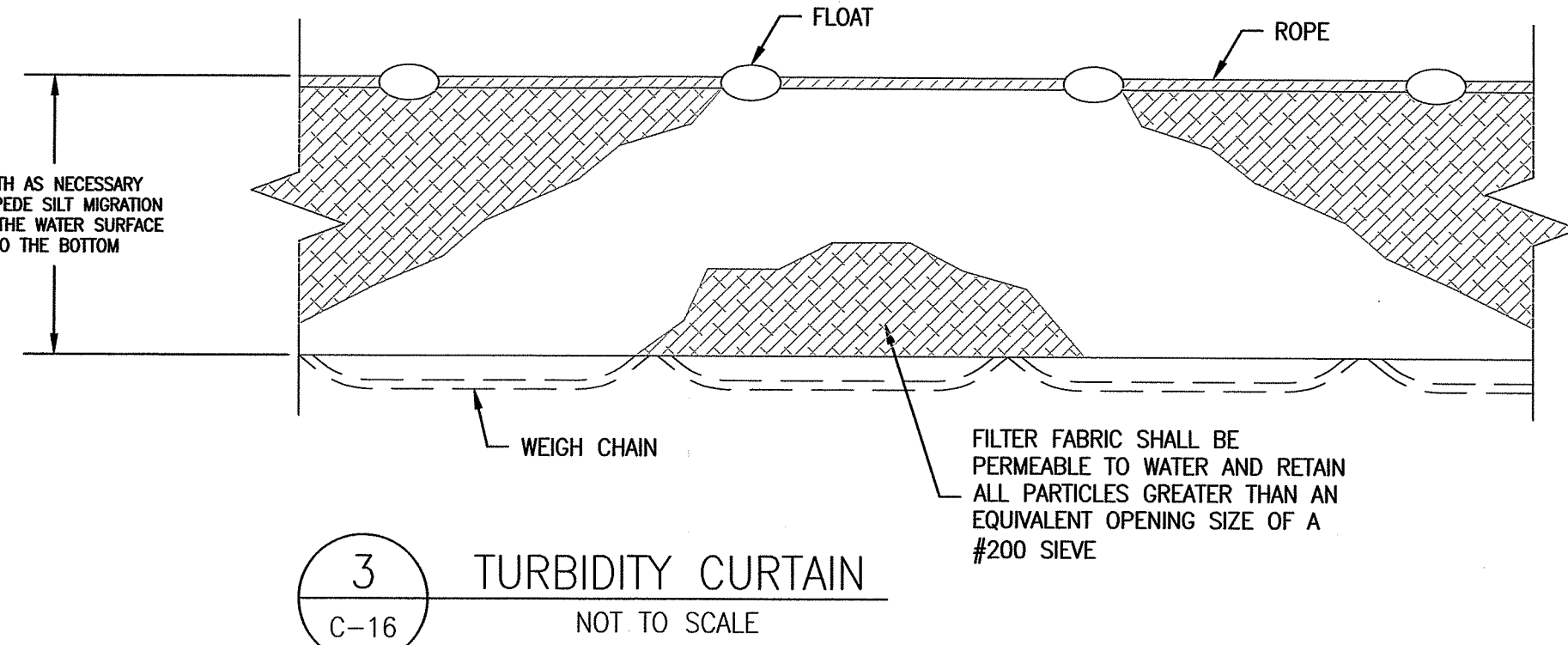
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DATED **MAR 22 2021** FILE # **21-0034**
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APPROVED PLANS MUST BE AT CONSTRUCTION SITE

- CONTROL OF ALLOWABLE NON-STORMWATER DISCHARGES: IF ALLOWABLE NON-STORM WATER DISCHARGES ARE OCCURRING AT THE SITE, SUCH DISCHARGES SHALL BE VISUALLY OBSERVED AND RECORDED AS OUTLINED BELOW AND IN ACCORDANCE WITH PART II OF THE RIPODES GENERAL PERMIT. THE LIST OF EXPECTED SOURCES OF ALLOWABLE NON-STORMWATER DISCHARGES FOR THIS PROJECT ARE AS FOLLOWS: (1) DISCHARGE FROM VEHICLE WASHDOWN WHERE NO DETERGENTS ARE USED, (2) EXTERNAL BUILDING WASHDOWN WHERE NO DETERGENTS ARE USED, (3) THE USE OF WATER TO CONTROL DUST, (4) FIRE HYDRANT FLUSHINGS, (5) LAWN WATERING, (6) POTABLE WATER SOURCES INCLUDING WATERLINE FLUSHINGS, (7) IRRIGATION DRAINAGE, (8) PAVEMENT WASHWATERS WHERE SPILLS OR LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURRED (UNLESS ALL SPILLED MATERIALS HAVE BEEN REMOVED) AND WHERE NO DETERGENTS ARE USED, AND (9) FOUNDATION OR FOOTING DRAINS WHERE FLOWS ARE NOT CONTAMINATED BY CONTACT WITH SOILS WHERE SPILLS OR LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAS OCCURRED.
- GOOD HOUSEKEEPING: THE PROJECT SITE SHALL PROVIDE FOR THE MINIMIZATION OF EXPOSURE OF CONSTRUCTION DEBRIS (INCLUDING, BUT NOT LIMITED TO, INSULATION, WIRING, PAINTS AND PAINT CANS, SOLVENTS, WALL BOARD, ETC.) TO PRECIPITATION BY MEANS OF DISPOSAL AND/OR PROPER SHELTER OR COVER. CONSTRUCTION WASTE MUST BE COVERED OR PROPERLY DISPOSED OF IN ORDER TO AVOID EXPOSURE TO PRECIPITATION AT THE END OF EACH WORKING DAY.
- GOOD HOUSEKEEPING: A FINAL CLEANING OF THE ADJACENT ROADWAY SHALL OCCUR AFTER WORK IS COMPLETE TO ENSURE THAT NO SEDIMENT IS TRACKED OFF-SITE.
- CLEANOUT OF ACCUMULATED SEDIMENT BEHIND THE STRAW BALES OR SILT FENCE IS NECESSARY IF ONE-THIRD OF THE ORIGINAL HEIGHT OF THE STRAW BALES OR SILT FENCE BECOMES FILLED WITH SEDIMENT.



- NOTES:**
- CONTRACTOR RESPONSIBLE FOR INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROLS.
 - ALL SEDIMENT AND EROSION CONTROLS AND CONSTRUCTION ENTRANCES TO BE INSTALLED PRIOR TO INITIATION OF ANY SOIL DISTURBANCE.
 - ALL SEDIMENT AND EROSION CONTROLS TO BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THESE PLANS AND THE PROJECT CONSTRUCTION STORMWATER POLLUTION PREVENTION PLAN.
 - EROSION CONTROLS SHALL BE INSTALLED AROUND EACH NEW CATCH BASIN FOLLOWING INSTALLATION.



2 TEMPORARY CONSTRUCTION ENTRANCE
C-15
C-16
NOT TO SCALE

Revisions		Checked By:		Drawn By:		Designed By:		Date	
No.	Description	By	Date	By	Date	By	Date	By	Date
1	Initial Issue								
2	Revised								
3	Revised								
4	Revised								
5	Revised								
6	Revised								
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8	Revised								
9	Revised								
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28	Revised								
29	Revised								
30	Revised								

PARAGON MILL REDEVELOPMENT PERMITTING SET
144 DELANIE STREET
PROVIDENCE, RHODE ISLAND

CONSTRUCTION MANAGEMENT PLAN 2

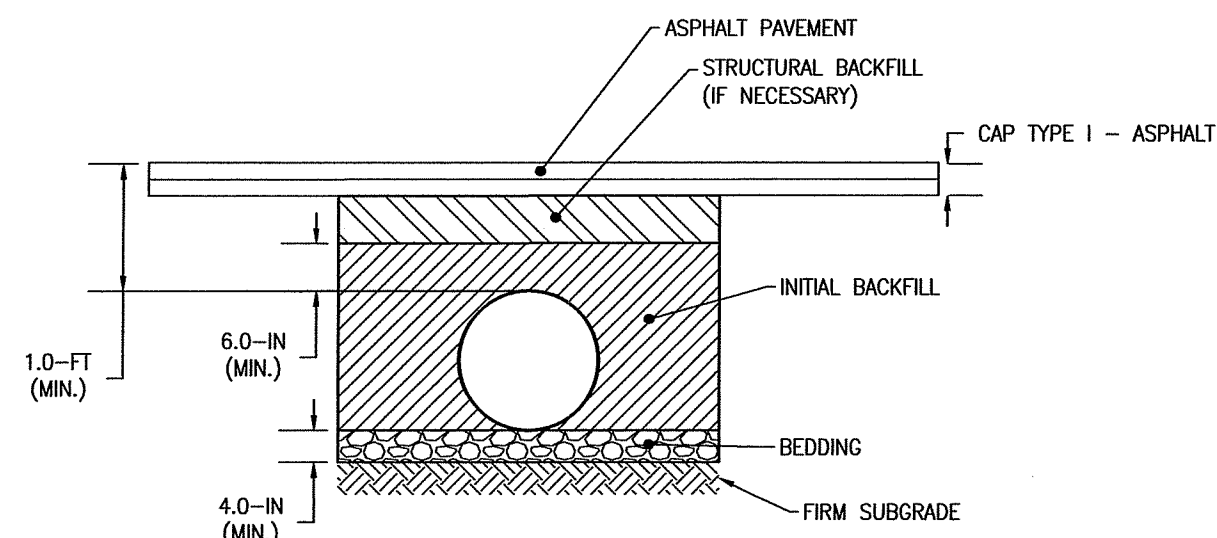
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Prepared By:
EA Engineering, Science, and Technology, Inc., PBC
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(401) 287-0368

DATE: JANUARY 2021
PROJECT NUMBER: 63573.01

Registration:
RONALD WACK
No. 9823
REGISTERED PROFESSIONAL ENGINEER
CIVIL

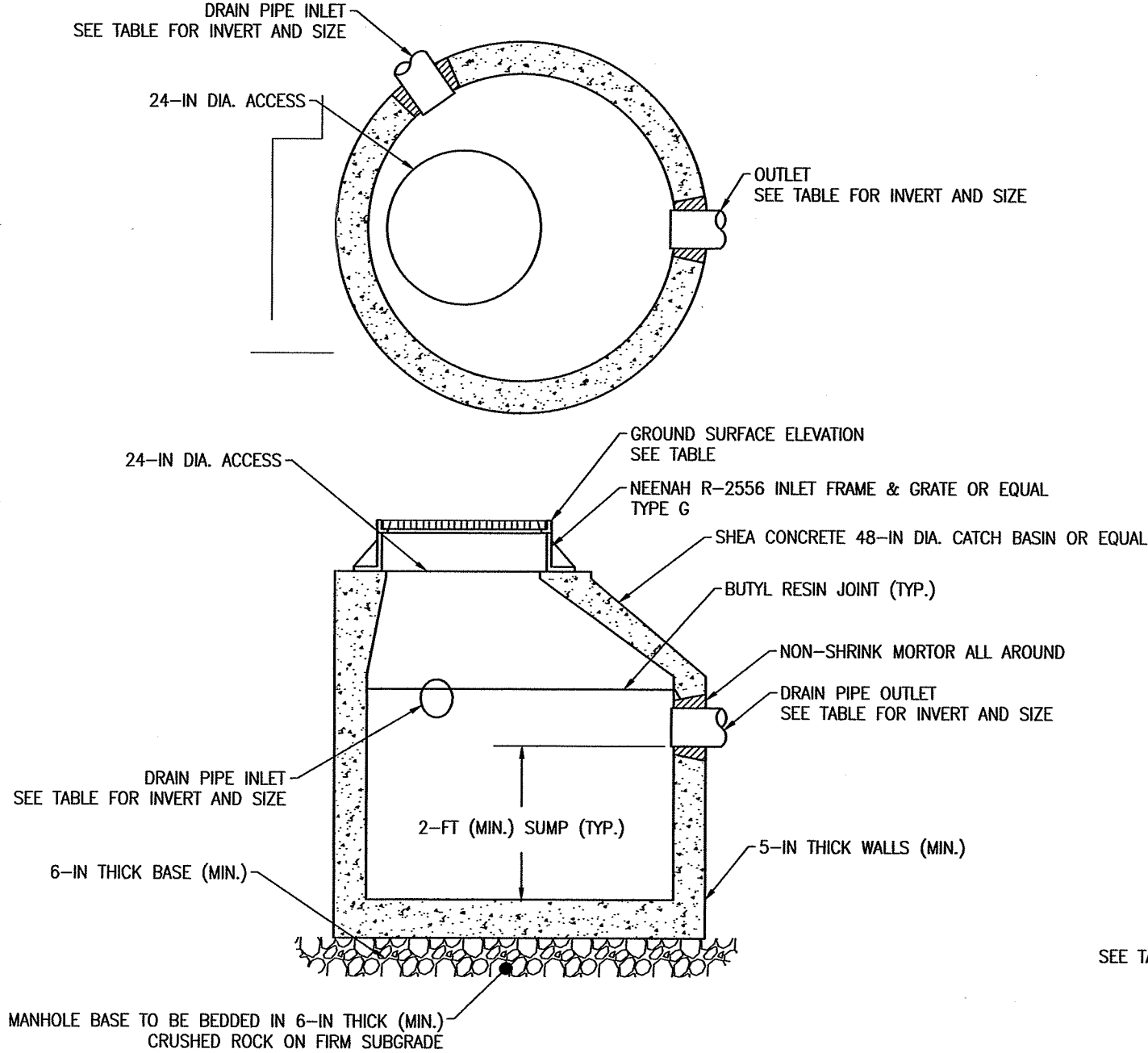
Project Number: 20062
Sheet: 16 of 21
Sheet Number: C - 16



1 DRAINAGE PIPE SECTION (TYP.)
C-10 1/2" = 1'-0"

NOTES:

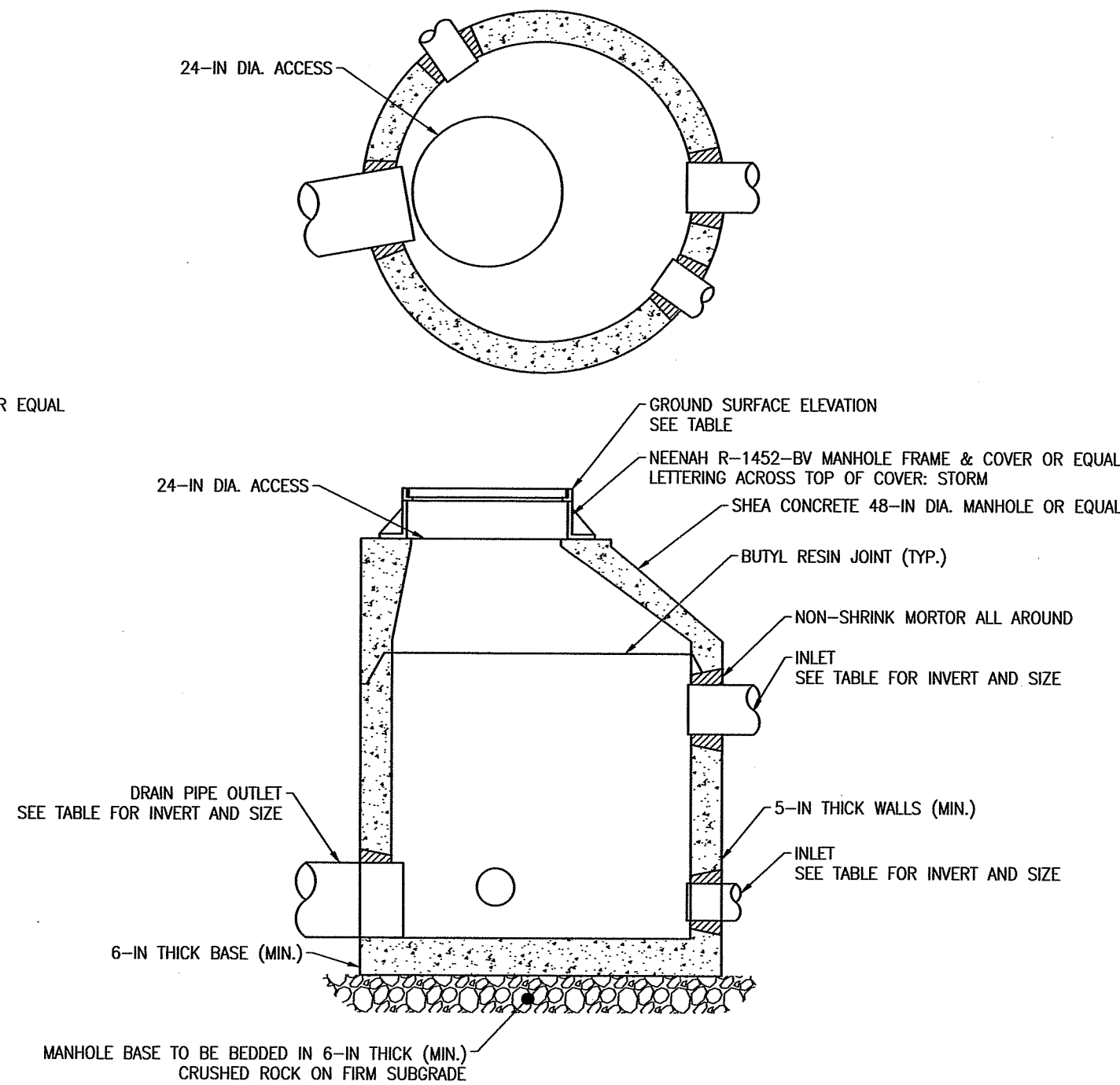
- PIPE SHALL BE INSTALLED FOLLOWING ASTM D2321.
- BEDDING SHALL BE CLASS I, CLASS II, OR CLASS III MATERIAL WITH MINIMUM THICKNESS OF 4-INCHES.
- INITIAL BACKFILL SHALL BE CLASS I, CLASS II, OR CLASS III MATERIAL EXTENDING AT LEAST 6-INCHES ABOVE CROWN OF PIPE.
- MINIMUM COVER SHALL BE 1-FT TO BOTTOM OF PAVEMENT.
- MINIMUM TRENCH WIDTH SHALL BE 24-INCHES FOR 6-IN DIA. PIPE, 26-INCHES FOR 8-IN DIA. PIPE AND 30-IN FOR 12-IN DIA. PIPE.
- ALL PIPE TO BE ADS N-12 WT PIPE OR EQUIVALENT.
- 6-INCH AND 8-INCH DIAMETER ADS PIPE SHALL BE INSTALLED IN TRENCHES OF MINIMUM WIDTH OF 23 INCHES AND 26-INCHES, RESPECTIVELY.
- PIPE BEDDING SHALL BE INSTALLED TO PROVIDE A STABLE AND UNIFORM SURFACE FOR THE INSTALLATION OF THE PIPE.
- ALL SOIL IMPORTED TO SITE TO COMPLY WITH RIDEM RESIDENTIAL DIRECT EXPOSURE CRITERIA PER RIDEM REMEDIATION REGULATIONS, 2011 REVISION.
- ALL SOIL TO BE APPROVED BY THE ENGINEER PRIOR TO USE.
- PIPE BEDDING SHALL BE GRAVEL BORROW AND CONFORM TO THE RIDOT BLUE BOOK SPECIFICATIONS FOR BANK RUN OR PLANT-PROCESSED SAND AND GRAVEL EXCEPT THAT 100% BY WEIGHT SHALL PASS THE 1.5-INCH SIEVE.



2 CATCH BASIN
C-10 1/2" = 1'-0"

NOTES:

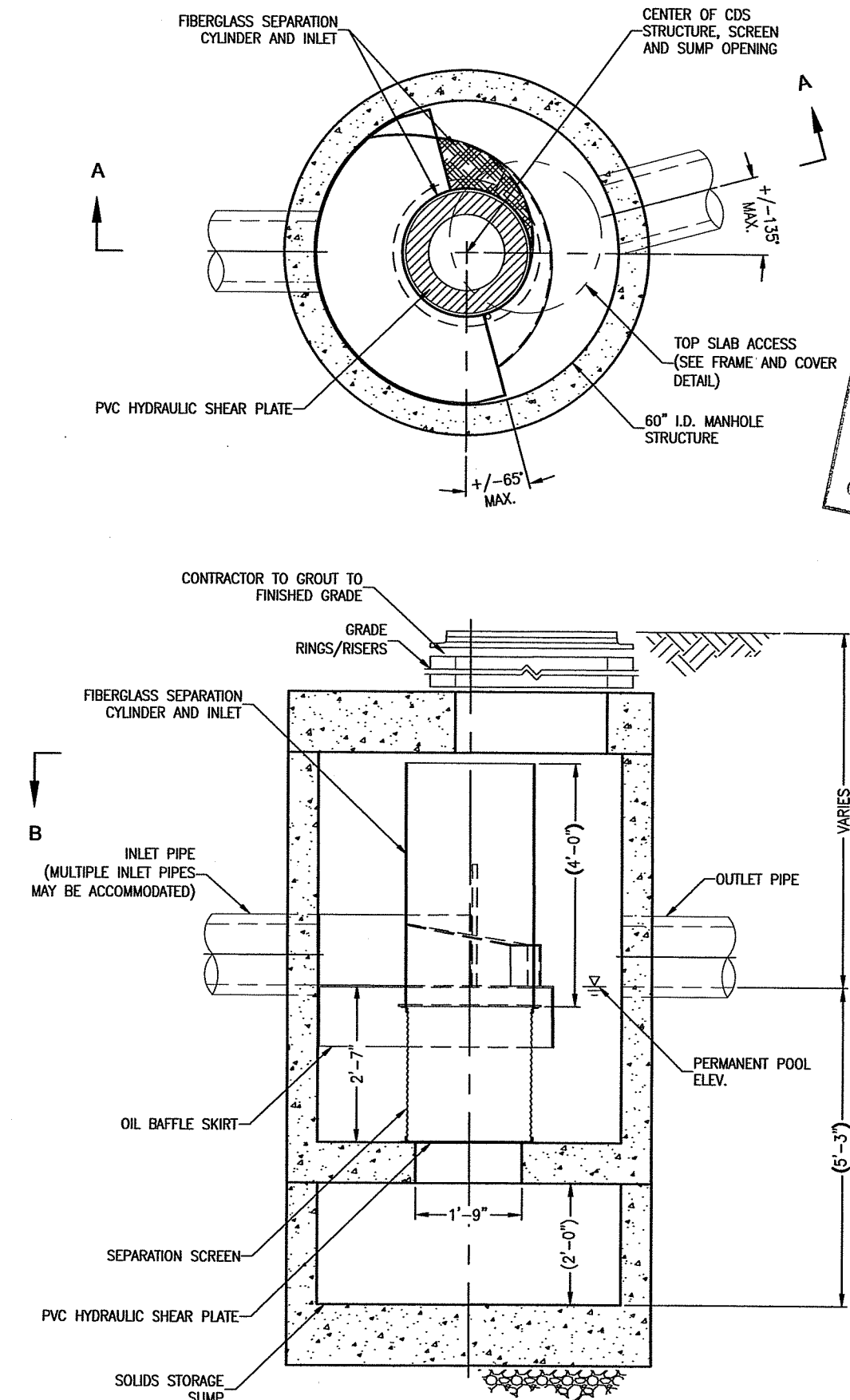
- PROVIDE LIFTING HOLES OR DEVICES FOR ALL PRECAST SECTIONS. HOLES THRU WALLS SHALL BE PLUGGED WITH NEOPRENE OR RUBBER PLUG INSERTS, MORTARED FLUSH ON EACH SIDE OF WALL WITH NON-SHRINK GROUT. HOLES NOT COMPLETELY THROUGH WALL SHALL BE FILLED FLUSH WITH NON-SHRINK GROUT.
- PROVIDE FLEXIBLE GASKET CONNECTOR BETWEEN PIPE AND CATCH BASIN STRUCTURE.
- CONCRETE: 4,000 PSI MINIMUM AFTER 28 DAYS.
- REINFORCED STEEL SHALL CONFORM TO LATEST ASTM A185 SPECIFICATION, H-20 DESIGN LOADING PER AASHTO HS-20-44, AND PRECAST REINFORCED CONCRETE MANHOLE SECTIONS ASTM C478.
- BUTYL RESIN SECTION JOINT SHALL CONFORM TO LATEST ASTM C990 SPECIFICATION.
- PRECAST CATCH BASIN SHALL BE MANUFACTURED BY SHEA CONCRETE PRODUCTS OR APPROVED EQUAL.
- SEE STRUCTURES TABLE ON THIS SHEET FOR RIM AND INVERT ELEVATIONS FOR ALL STRUCTURES.



3 DRAINAGE MANHOLE
C-10 1" = 1'-0"

NOTES:

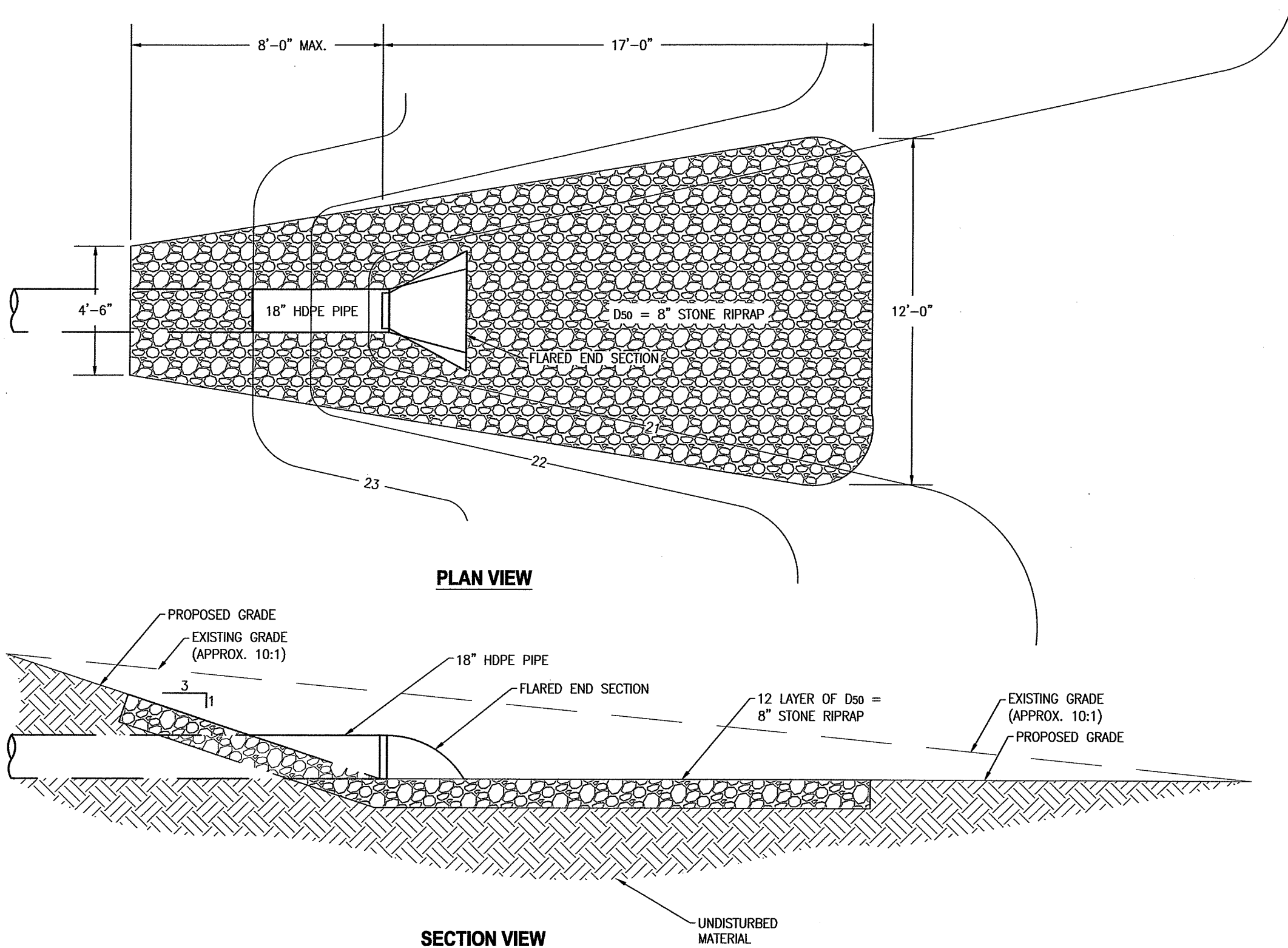
- PROVIDE LIFTING HOLES OR DEVICES FOR ALL PRECAST SECTIONS. HOLES THRU WALLS SHALL BE PLUGGED WITH NEOPRENE OR RUBBER PLUG INSERTS, MORTARED FLUSH ON EACH SIDE OF WALL WITH NON-SHRINK GROUT. HOLES NOT COMPLETELY THROUGH WALL SHALL BE FILLED FLUSH WITH NON-SHRINK GROUT.
- PROVIDE FLEXIBLE GASKET CONNECTOR BETWEEN PIPE AND MANHOLE.
- CONCRETE: 4,000 PSI MINIMUM AFTER 28 DAYS.
- REINFORCED STEEL SHALL CONFORM TO LATEST ASTM A185 SPECIFICATION, H-20 DESIGN LOADING PER AASHTO HS-20-44, AND PRECAST REINFORCED CONCRETE MANHOLE SECTIONS ASTM C478.
- BUTYL RESIN SECTION JOINT SHALL CONFORM TO LATEST ASTM C990 SPECIFICATION.
- PRECAST MANHOLE BE MANUFACTURED BY SHEA CONCRETE PRODUCTS OR APPROVED EQUAL.
- SEE STRUCTURES TABLE ON THIS SHEET FOR RIM AND INVERT ELEVATIONS FOR ALL STRUCTURES.



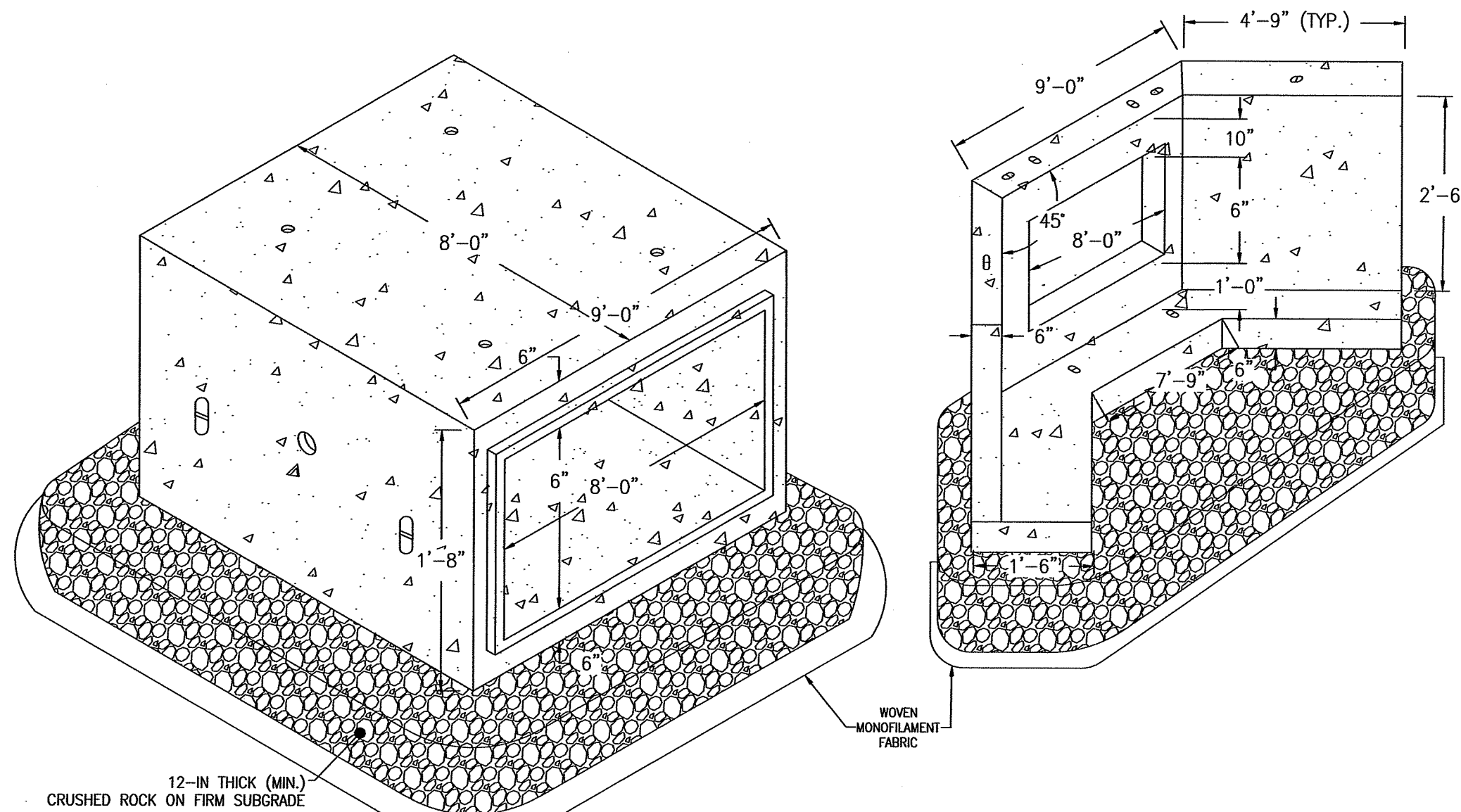
4 HYDRODYNAMIC SEPARATOR
C-10 N.T.S.

NOTES:

- HYDRODYNAMIC SEPARATOR TO BE CONTECH INLINE CDS2020-5-C OR APPROVED EQUAL.
- INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
- STRUCTURE SHALL MEET AASHTO HS20 AND CASTINGS SHALL MEET AASHTO M306 LOAD RATING.
- STRUCTURE SHALL BE INSTALLED ON 6-IN THICK (MIN.) CRUSHED ROCK BEDDING OVER FIRM SUBGRADE.
- CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS.
- CONTRACTOR TO GROUT ALL PIPES.



5 DRAINAGE OUTLET PROTECTION
C-10 1/4" = 1'-0"



6 BOX CULVERT
C-10 N.T.S.

NOTES:

- USE OLDCASTLE PRECAST BOX CULVERT AND WING WALLS OR ENGINEER APPROVED EQUAL.
- CONCRETE 28 DAY COMPRESSIVE STRENGTH = 5,000 PSI
- REINFORCEMENT REBAR GRADE 60 PER ASTM A615
- H20 DESIGN LOAD RATING PROVIDED
- SEAL JOINTS WITH 1 INCH SQUARE NEOPRENE CORD IN SHIPLAP JOINT
- TOLERANCES TO CONFORM TO ASTM C850
- INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
- STRUCTURE SHALL BE INSTALLED ON 12-IN THICK (MIN.) CRUSHED ROCK BEDDING OVER FIRM SUBGRADE.
- CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS.

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DRAIN PIPE TABLE						
UPSTREAM STRUCTURE	DOWNSTREAM STRUCTURE	LENGTH (FT)	UPSTREAM INVERT (FT)	DOWNSTREAM INVERT (FT)	MIN. SLOPE (%)	DIAMETER (IN)
MH-1P	OUTLET	11	20.11	20.05	0.5	18
DS-5-1	MH-1P	99	22.22	20.23	2.0	4
CB-1P	MH-1P	70	20.56	20.21	0.5	18
DS-8-1	CB-1P	21	22.97	22.56	2.0	4
DS-8-2	CB-1P	17	21.00	20.66	2.0	4
CB-2P	CB-1P	33	20.83	20.66	0.5	18
CB-3P	CB-2P	53	21.20	20.93	0.5	15
MH-2P	CB-3P	20	21.70	21.30	2.0	8
DS-5-2	MH-2P	14	22.08	21.80	2.0	6
DS-3-1	MH-2P	13	22.06	21.80	2.0	4
DS-3A-1	MH-2P	4	21.89	21.80	2.0	4
DS-3A-2	CB-3P	27	21.83	21.30	2.0	4
CB-4P	CB-3P	68	21.62	21.30	0.5	15
DS-3A-3	CB-4P	17	22.05	21.72	2.0	4
DS-3A-4	CB-4P	16	22.03	21.72	2.0	4
MH-3P	CB-4P	43	21.94	21.72	0.5	15
CB-5P	MH-3P	39	22.24	22.04	0.5	15
MH-4P	CB-5P	31	22.50	22.34	0.5	15
CB-6P	MH-4P	63	22.92	22.60	0.5	8
CB-7P	CB-6P	37	23.31	23.02	0.8	8
CB-8P	CB-7P	47	23.88	23.41	1.0	6
CB-9P	MH-4P	58	23.07	22.60	0.8	12
MH-5P	CB-9P	111	24.06	23.17	0.8	12
CB-10P	MH-5P	70	24.51	24.16	0.5	12
CB-11P	MH-5P	13	22.73	22.60	1.0	12
MH-6P	CB-11P	57	23.40	22.83	1.0	12
MH-7P	MH-6P	33	23.83	23.50	1.0	12
CB-12P	MH-7P	73	24.66	23.93	1.0	6
CB-13P	MH-7P	85	24.78	23.93	1.0	12
CB-14P	CB-B	36	23.07	22.71	1.0	6
CB-15P	CB-14P	33	23.51	23.17	1.0	6
CB-16P	CB-15P	82	24.43	23.61	1.0	6
DS-1A-1	CB-16P	13	24.80	24.53	2.0	4
CB-17P	CB-14P	89	24.94	23.17	2.0	6

STRUCTURE TABLE					
STRUCTURE	OUTLET INVERT (FT)	OUTLET PIPE DIAMETER (IN)	INLET INVERTS (FT)	INLET PIPE DIAMETER(S) (IN)	RIM ELEVATION (FT)
MH-1P	20.11	18	20.21	18.4	24.25
CB-1P	20.56	18	20.66, 22.56	18, 4, 4	24.90
CB-2P	20.83	18	20.93	15	25.15
CB-3P	21.20	15	21.30	15, 8, 4	24.70
MH-2P	21.70	8	21.80	6, 4, 4	25.70
CB-4P	21.62	15	21.72	15, 4, 4	24.75
MH-3P	21.94	15	22.04	15	25.30
CB-5P	22.24	15	22.34	15	24.50
MH-4P	23.05	15	23.15	12, 12, 8	25.25
CB-6P	22.92	8	23.02	8	25.50
CB-7P	23.31	8	23.41	6	25.00
CB-8P	23.88	6	23.98	6	25.80
CB-9P	23.07	12	23.17	12	25.10
MH-5P	24.06	12	24.16	12	28.20
CB-10P	24.51	12	-	-	26.50
CB-11P	22.73	12	22.83	12	25.45
MH-6P	23.4	12	23.50	12	27.50
MH-7P	23.83	12	23.93	12	28.40
CB-12P	24.66	6	-	-	27.90
CB-13P	24.78	12	-	-	26.90
CB-14P	23.07	6	23.17	6	25.80
CB-15P	23.51	6	23.61	6	25.50
CB-16P	24.43	6	24.53	6	25.25
CB-17P	24.94	6	-	-	26.75

Revisions
MAR 22 2021
Environmental Management
Office of Water Resources

Horsley Witten Group, Inc.
Sustainable Environmental Solutions
2450 Rimrock Road, Suite 100
Providence, RI 02903
Sandwich, MA 02563
508-833-6600 voice
508-833-3160 fax

PARAGON MILL REDEVELOPMENT
PERMITTING SET
144 DELANIE STREET
PROVIDENCE, RHODE ISLAND

Prepared For:
Alexander Company
2450 Rimrock Road, Suite 100
Providence, RI 02903
Phone: (608) 258-6580
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EA
EA Engineering, Science,
and Technology, Inc., PBC

301 METRO CENTER
BOULEVARD, SUITE 102
WARWICK, RHODE ISLAND 02886
(401) 287-0368

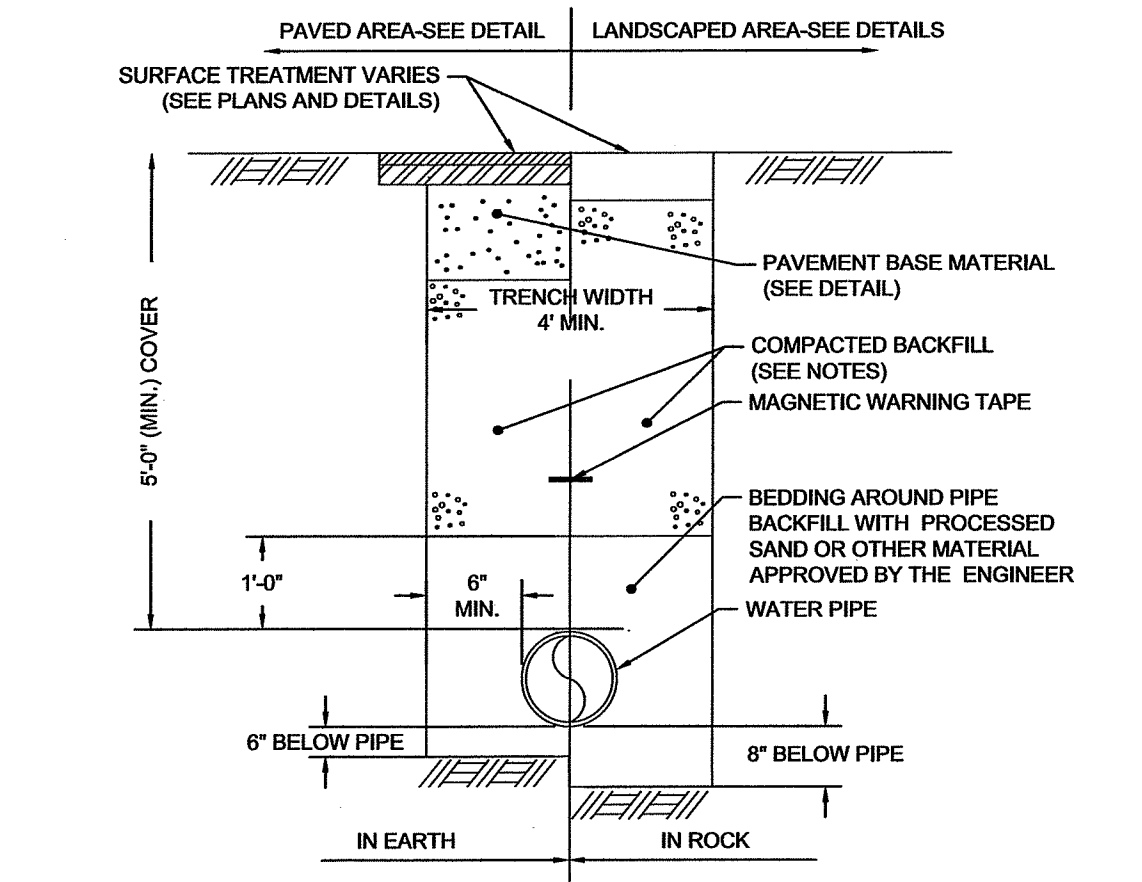
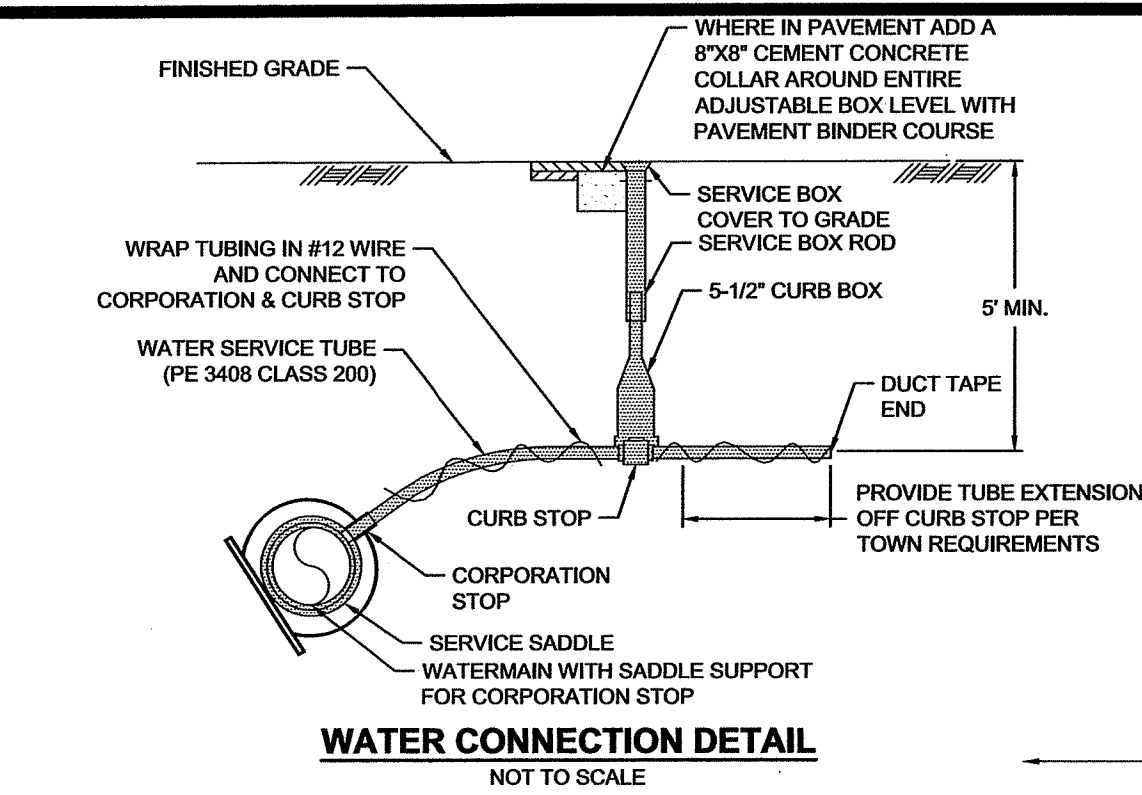
DATE: JANUARY 2021

PROJECT NUMBER: 63573.01

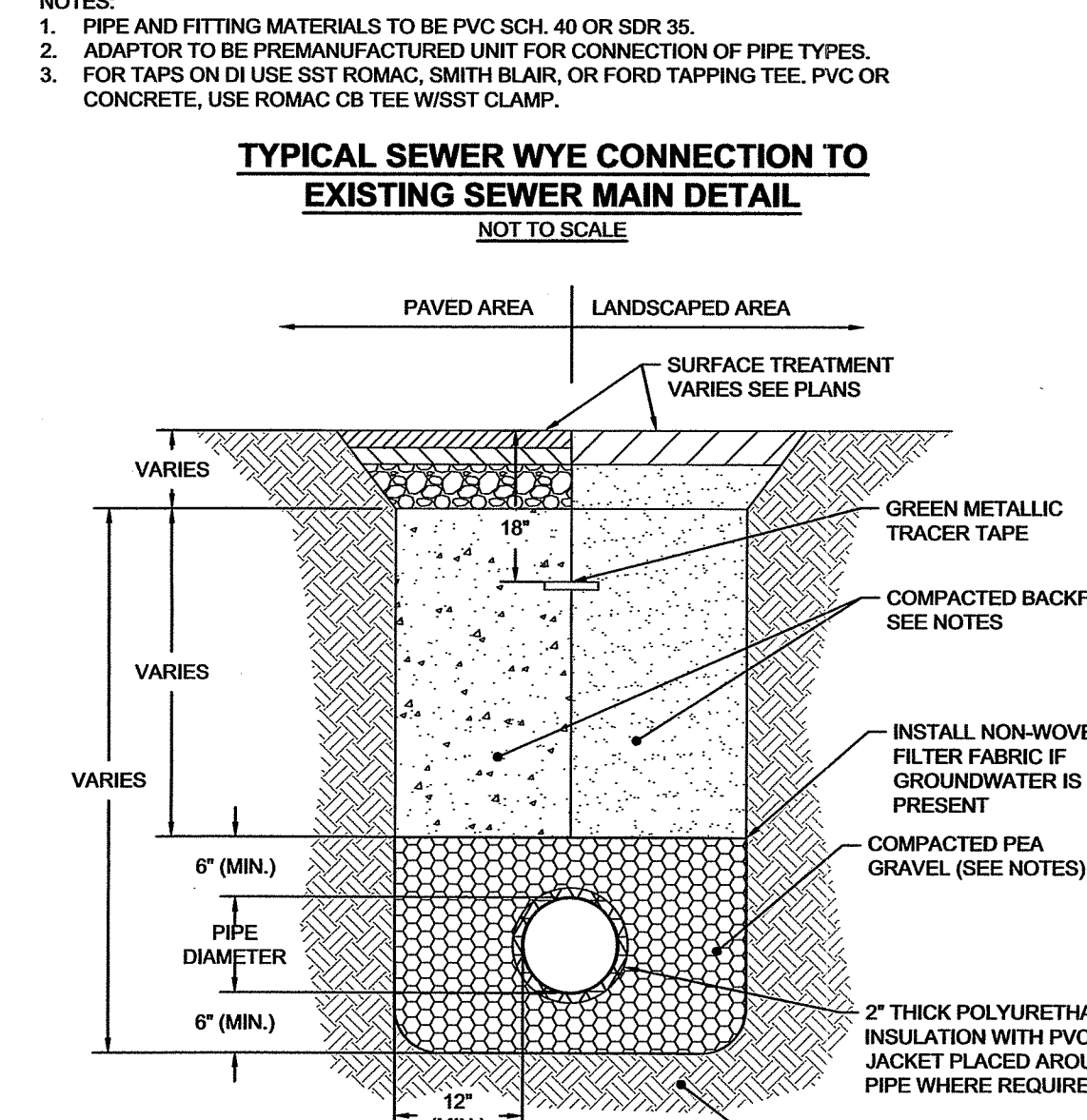
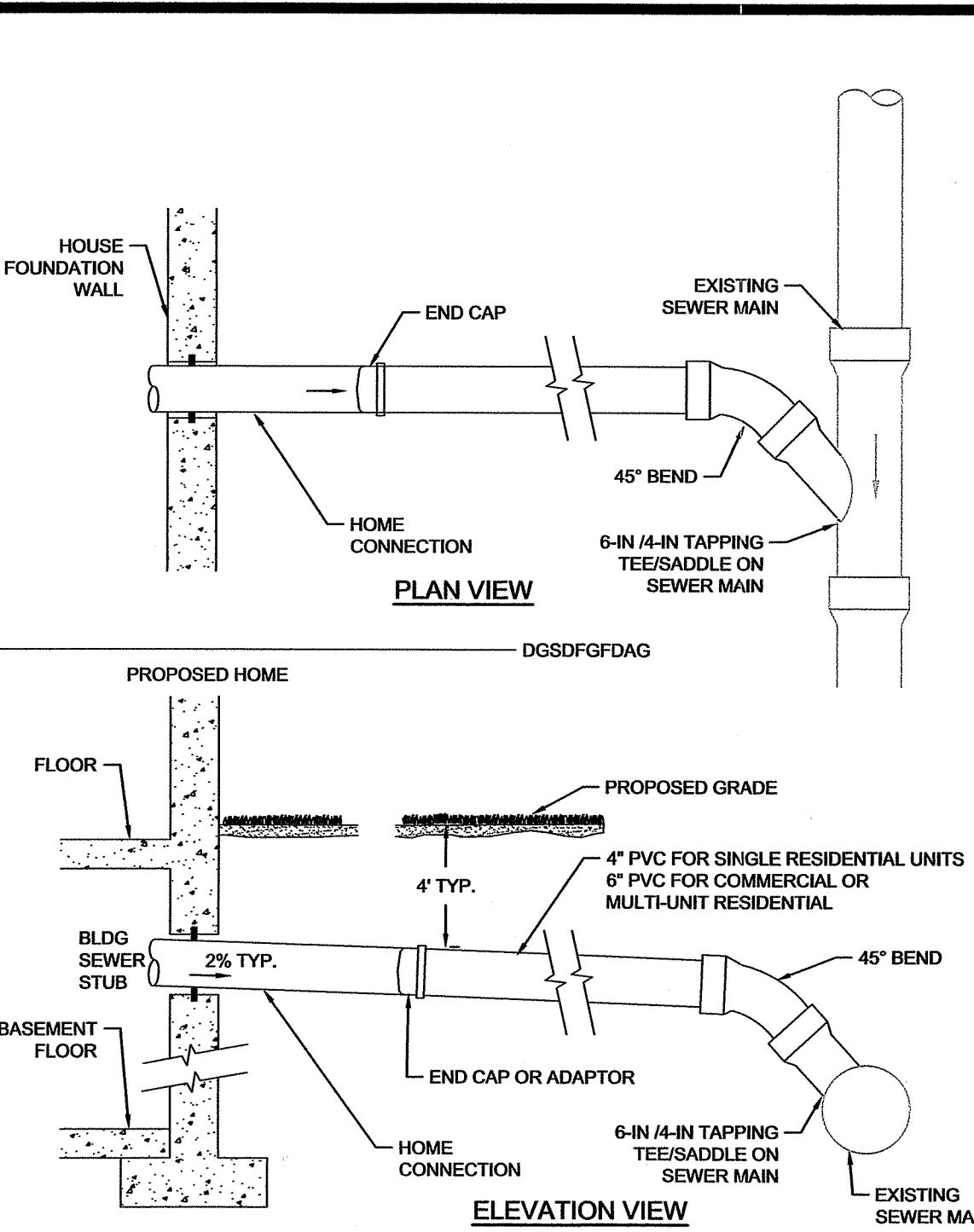
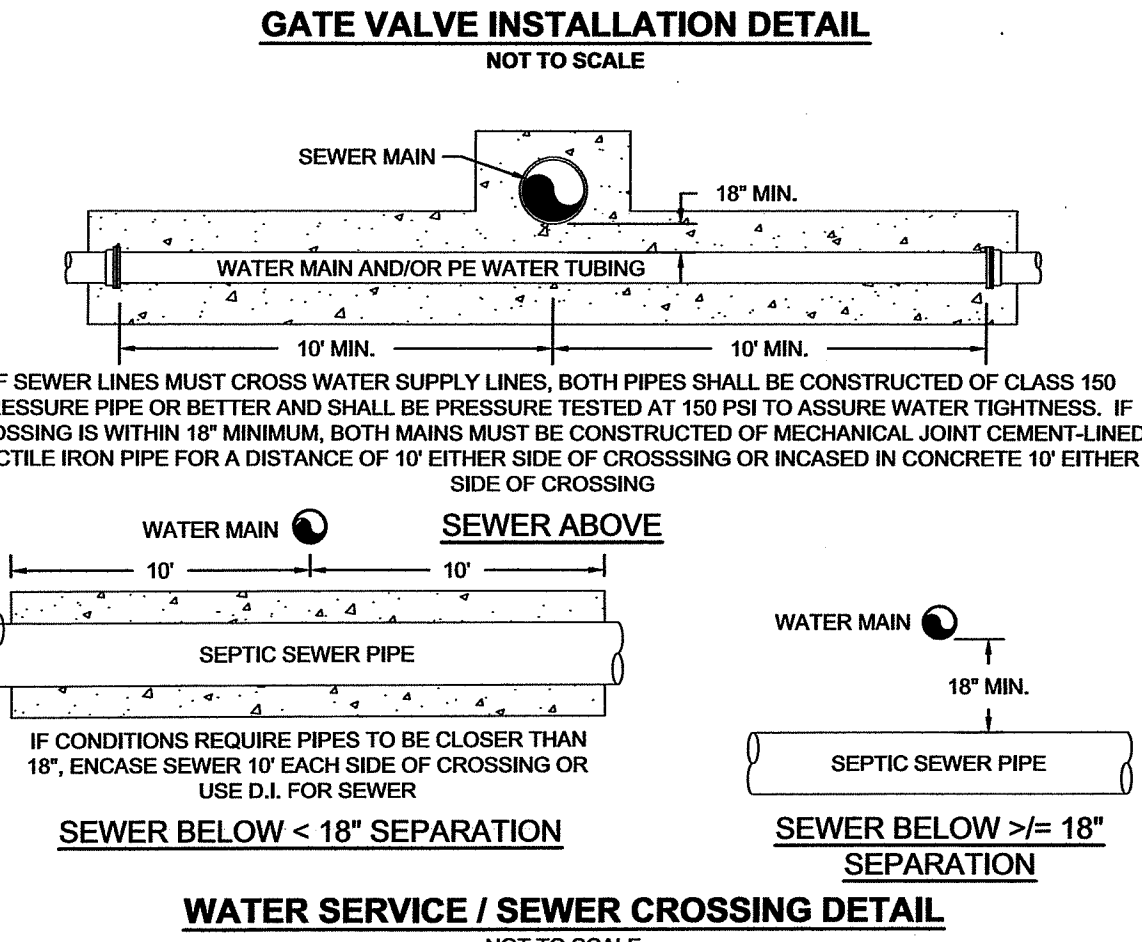
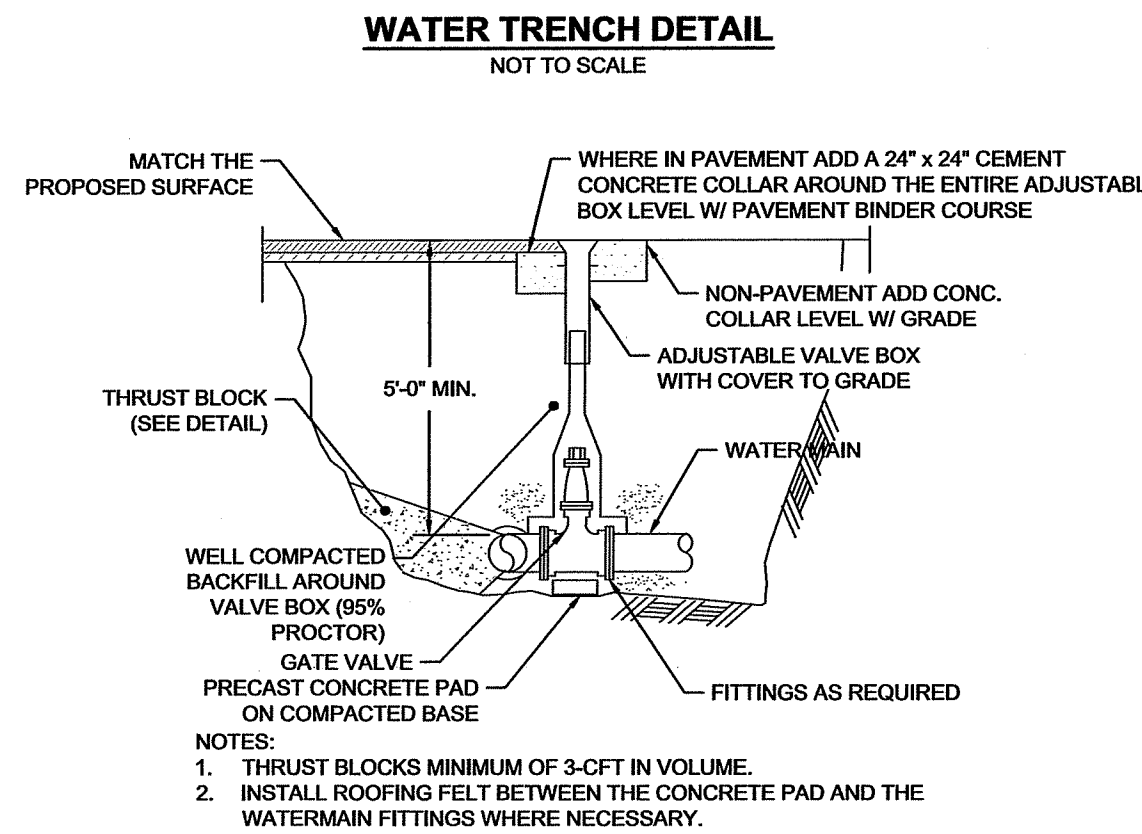
Registration:
RONALD WACK
No. 9823
REGISTERED
PROFESSIONAL ENGINEER
CIVIL

Project Number: 20062
Sheet: 17 of 21

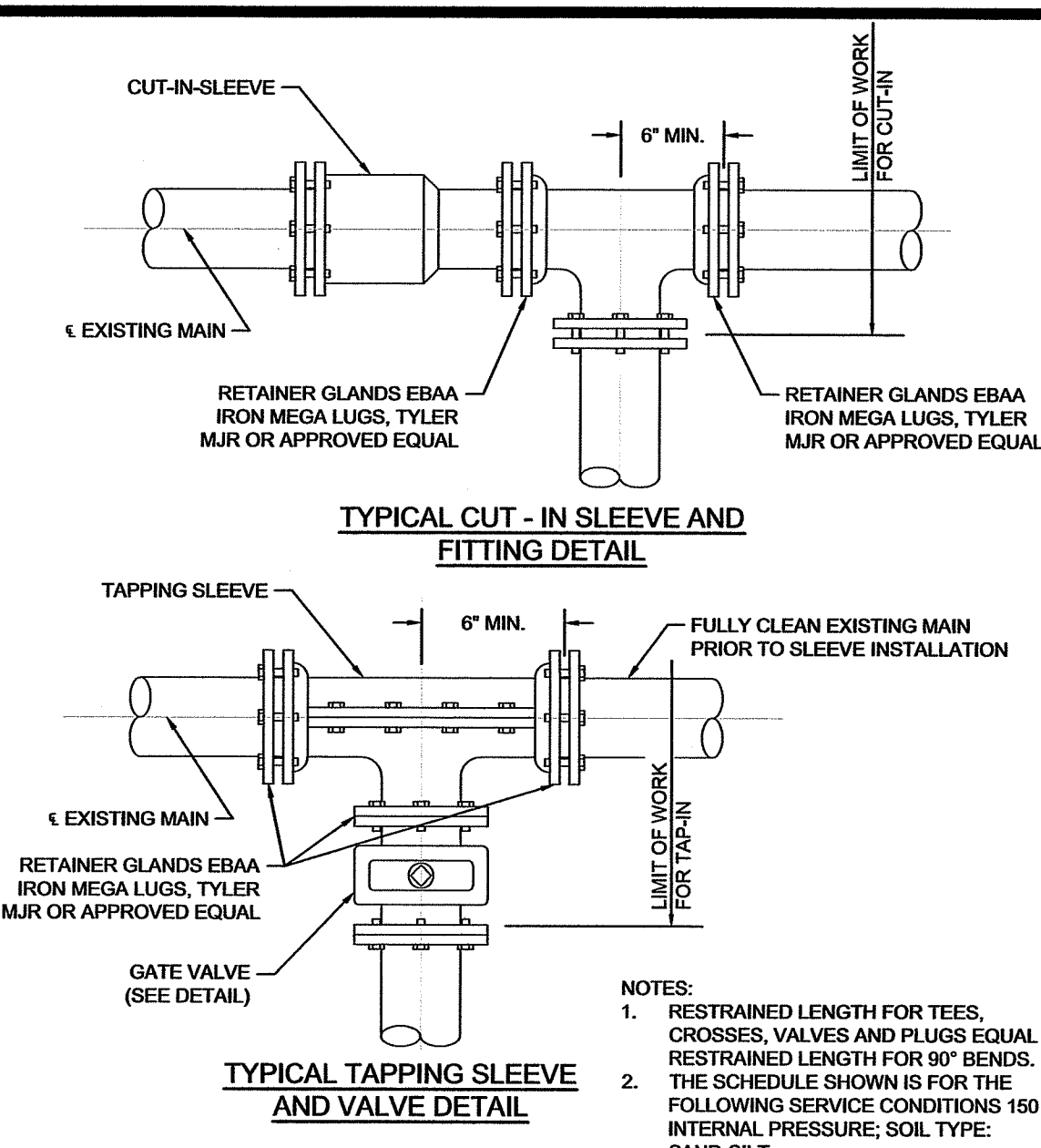
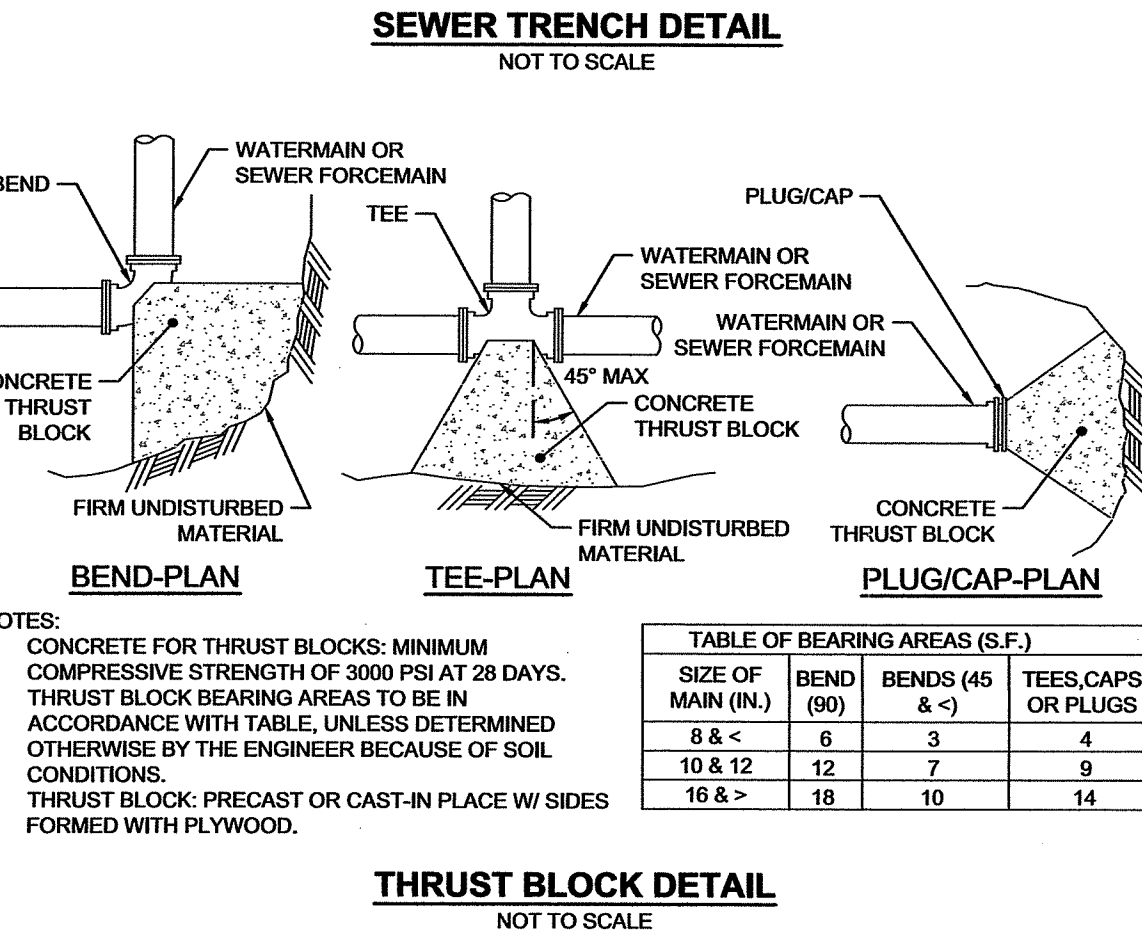
Sheet Number: C-17



- NOTES:
1. TRENCH BACKFILL: BENEATH PAVEMENT: ROADBASE AND COMPACTED TO PAVEMENT SUBGRADE REQUIREMENTS (SEE DETAIL). OUTSIDE PAVEMENT: GRAVEL BORROW TYPE B (3\"/>
 2. TRACER TAPE FOR NON-FERROUS PIPE SHALL BE CONSTRUCTED OF A METALLIC CORE BONDED TO PLASTIC LAYERS. A MINIMUM 5mm THICK METALLIC TRACER TAPE MUST BE LOCATABLE AT A DEPTH OF 18 INCHES WITH ORDINARY PIPE LOCATORS.
 3. ACHIEVE 95% COMPACTION FOR THE BEDDING.
 4. PEA GRAVEL CONSISTS OF CLEAN, HARD, ROUND PARTICLES OF GRAVEL MEETING THE FOLLOWING:
- | SIEVE SIZE | PERCENT PASSING |
|------------|-----------------|
| 3/8" | 85-95 |
| NO. 4 | 5-15 |
| NO. 8 | 0-2 |
5. INSTALL UTILITY IN ACCORDANCE WITH ALL APPLICABLE UTILITY COMPANY STANDARDS THAT MAY BE MORE STRINGENT THAN THIS DETAIL.



- NOTES:
1. GRAVITY SEWER AND FORCE MAIN SHALL BE INSULATED WHEN VERTICAL OR HORIZONTAL SOIL COVER IS LESS THAN 4 FEET AND WHERE SHOWN ON PLANS.
 2. TRACER TAPE FOR NON-FERROUS PIPE SHALL BE CONSTRUCTED OF A METALLIC CORE BONDED TO PLASTIC LAYERS. THE METALLIC TRACER TAPE SHALL BE A MINIMUM 5mm THICK AND MUST BE LOCATABLE AT A DEPTH OF 18 INCHES WITH ORDINARY PIPE LOCATORS.
 3. TRENCH BACKFILL: BENEATH PAVEMENT: BACKFILL SHALL BE ROADBASE AND COMPACTED TO PAVEMENT SUBGRADE REQUIREMENTS-SEE DETAIL. OUTSIDE PAVEMENT: GRAVEL BORROW TYPE B (3\"/>
 4. BACKFILL PLACED IN UTILITY TRENCHES INCLUDING DISTURBED AREAS SURROUNDING UTILITY TRENCHES SHALL BE PLACED AND COMPACTED IN 8\"/>
 5. CONTRACTOR SHALL ACHIEVE 95% COMPACTION FOR THE BEDDING.
 6. PEA GRAVEL SHALL CONSIST OF CLEAN, HARD, ROUND PARTICLES OF GRAVEL MEETING THE FOLLOWING:
- | SIEVE SIZE | PERCENT PASSING |
|------------|-----------------|
| 3/8" | 85-95 |
| NO. 4 | 5-15 |
| NO. 8 | 0-2 |
7. UTILITY SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE UTILITY COMPANY STANDARDS THAT MAY BE MORE STRINGENT THAN THIS DETAIL.



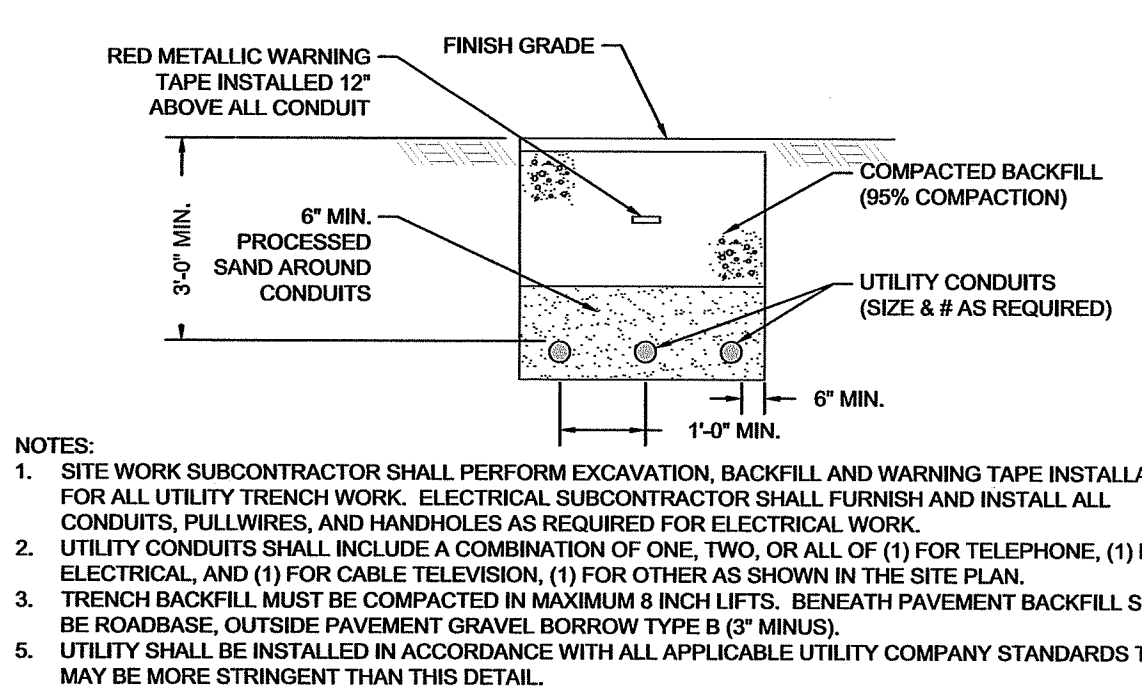
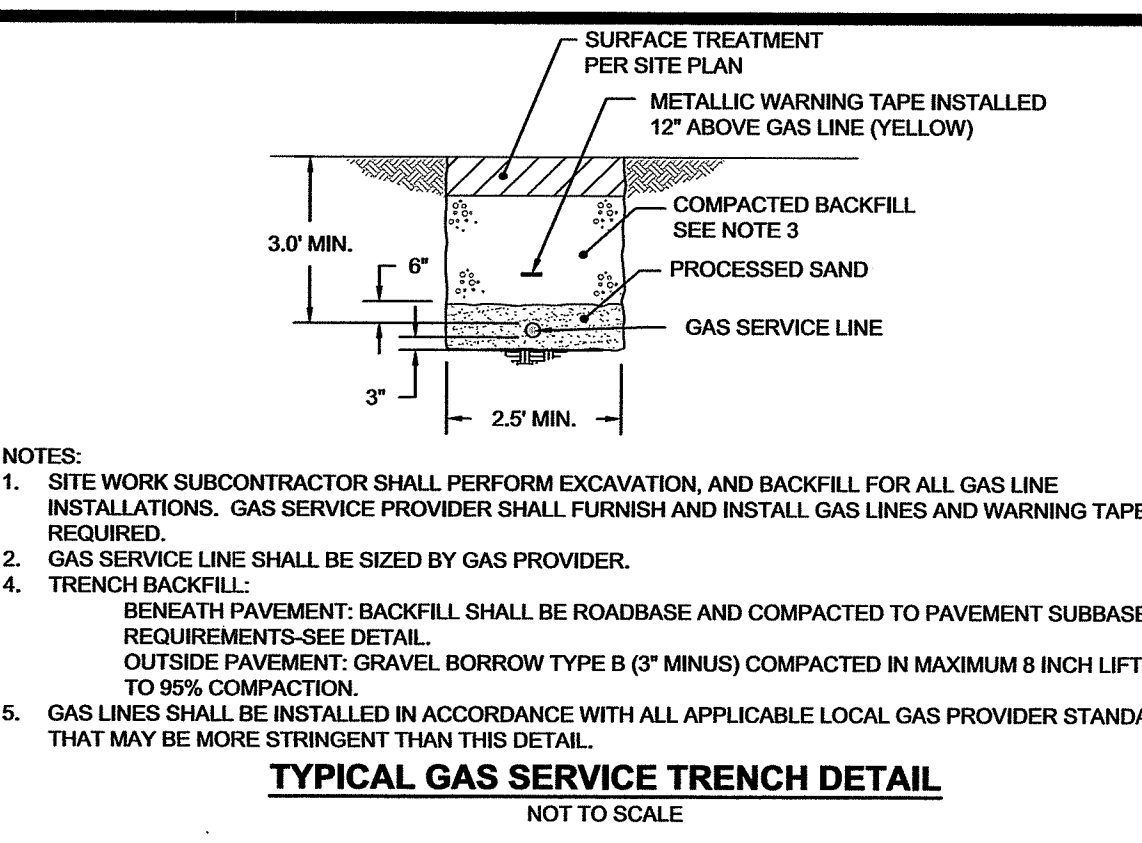
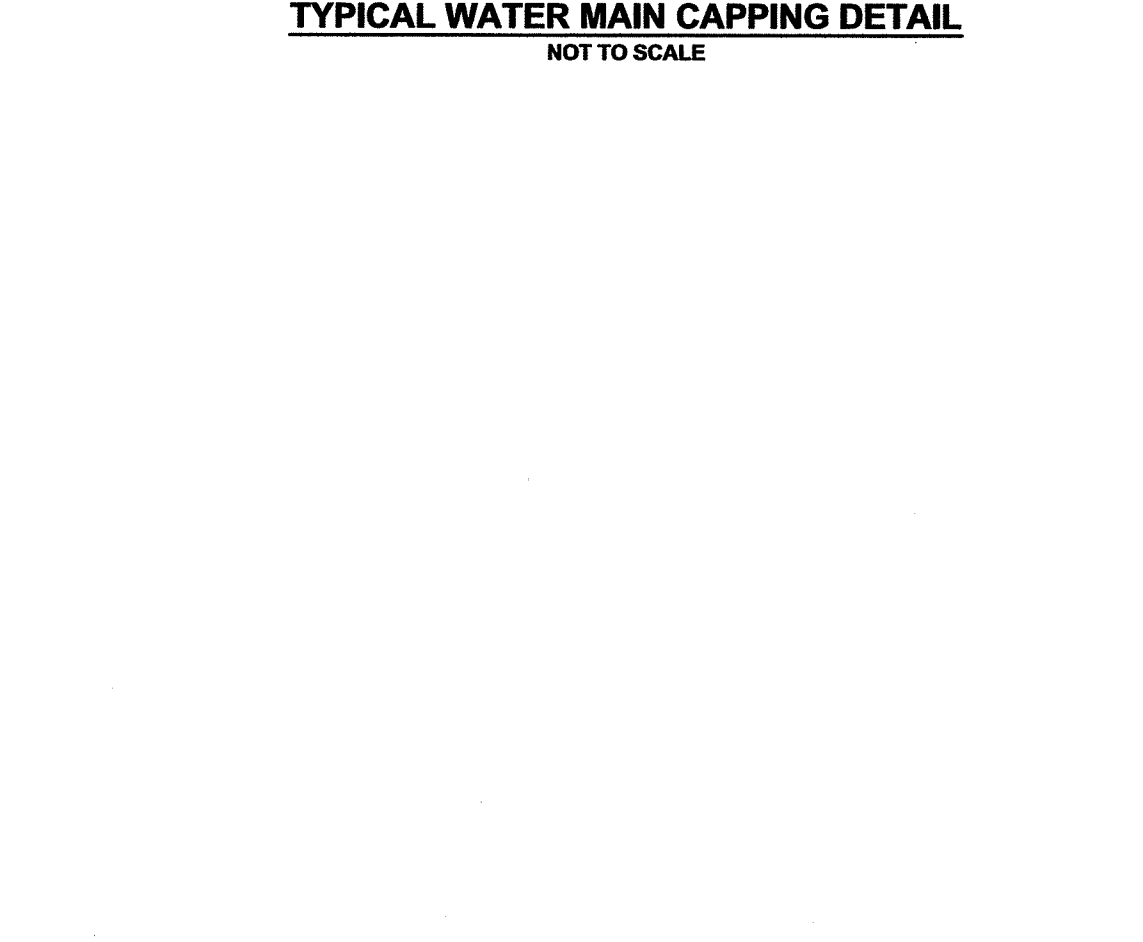
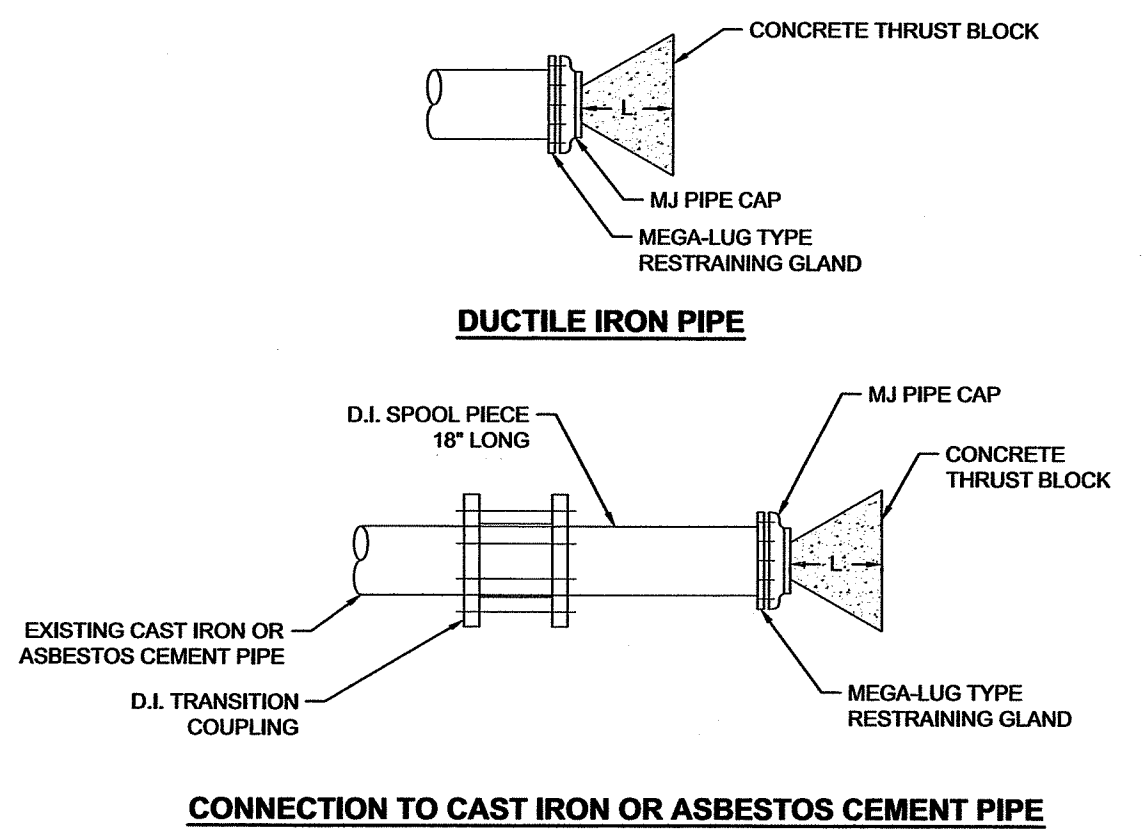
RESTRAINED JOINT SCHEDULE					
PIPE SIZE	90"	45"	22 1/2"	11 1/4"	
D. I.	D. I.	D. I.	D. I.	D. I.	
12"	92"	38"	18"	9"	
10"	78"	32"	16"	8"	
8"	66"	27"	13"	7"	
6"	51"	21"	10"	6"	
4"	38"	16"	8"	4"	

CONCRETE THRUST BLOCK		
PIPE SIZE (IN.)	MIN. DIM. "L" (IN.)	BEARING FACE(S.F.)
6" AND LESS	12	5
8	16	10
10	20	15
12	20	21
16	24	40
18	24	48
20	30	60
24	30	85

PER 100 PSI PIPE INTERNAL PRESSURE FOR BEARING LOADS OF 600 PSF

NOTES:

1. PROVIDE POLYETHYLENE BOND BREAKER AT ALL PIPE FITTINGS.
2. ALL BOLTS REMAIN FREE OF THE CONCRETE THRUST BLOCK.



NOTE: DRAINAGE DESIGN, SOIL REMEDIATION, SOIL MANAGEMENT, CAPPING, AND RELATED DETAILS/PERMITTING ARE BY EA ENGINEERING. SEE SHEETS 6,7,10-13,15-17.

Environmental Management
MAR 2 2 2021
Office of Water Resources

Revisions

No.	By	Date	Description
1	EB/JV		
2	EB/JV		
3	EB/JV		
4	EB/JV		
5	EB/JV		

Horsley Witten Group, Inc.
Sustainable Environmental Solutions
55 Dorrance Street, Suite 200
Providence, RI 02903
401-272-1717 voice
401-437-8368 fax

Drawn By: EB/JV
Checked By: JF
Designed By: EB/JV
Date: NOVEMBER 19, 2020

Project Number: 20062
Sheet: 18 of 21

Sheet Number: C - 18

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED MAR 2 2 2021 FILE # 21-0034
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

JONATHAN A. FORD
No. B784
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

Project Set:
**EARNSCLIFFE MILL/PARAGON MILL
REDEVELOPMENT
PERMITTING SET**
144 DELANE ST. PROVIDENCE, RI

Plan Title:
UTILITY DETAILS

Prepared For:
Alexander Company
2450 Rimrock Road, Suite 100
Madison, WI 53713
Phone: (608) 258-5500
Fax: ---

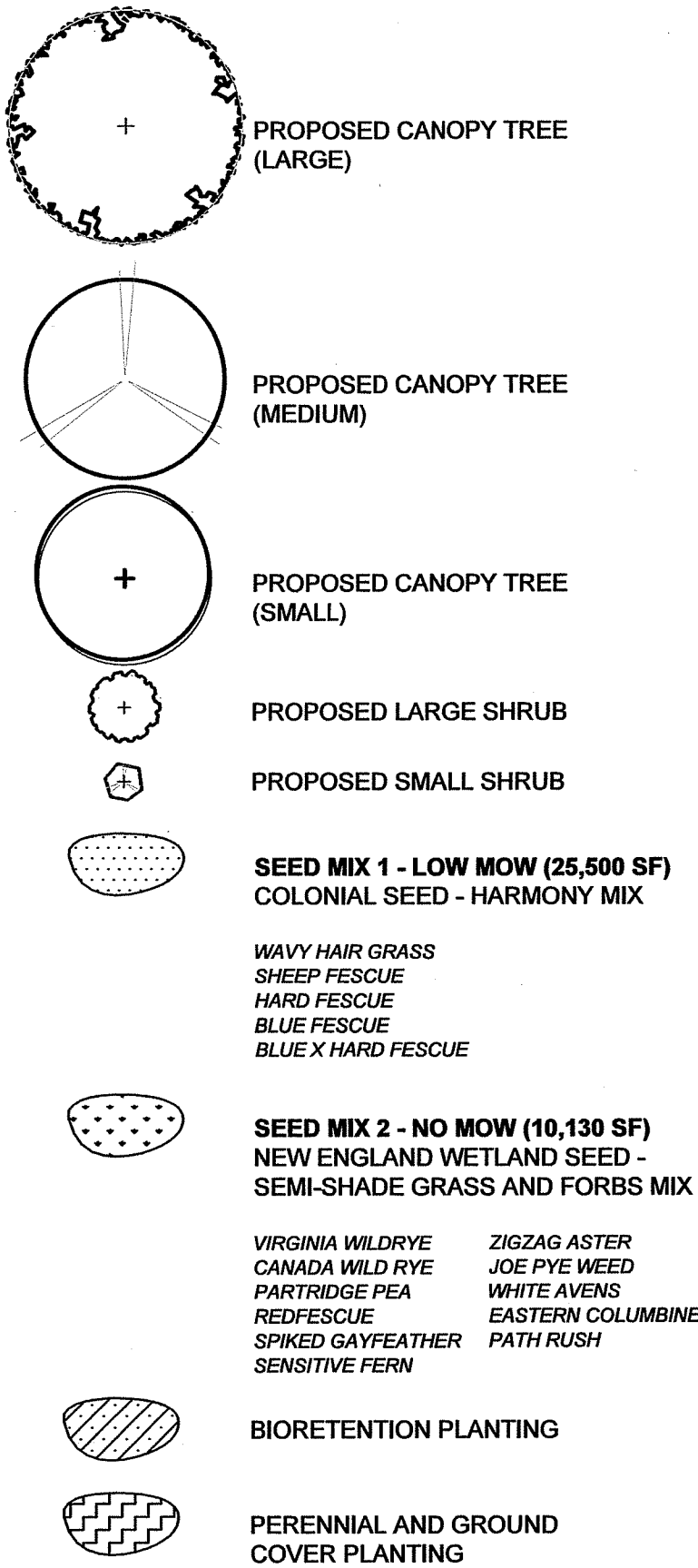
Survey Provided By:
Horsley Witten Group, Inc.
90 Route 6A
Sandwich, MA
Phone: (508) 833-8800
Fax: (508) 833-3150
Date: JULY 2, 2020

EA
EA Engineering, Science, and Technology, Inc., PBC
301 Metro Center Blvd, Suite 102
Warwick, Rhode Island 02886
(401) 736-3440

Registration:
JONATHAN A. FORD
No. B784
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

last modified: 11/23/20 printed: 11/24/20 by jv H:\Projects\2020\20062 Paragon Mill Redevelopment\Drawings\20062 la.dwg

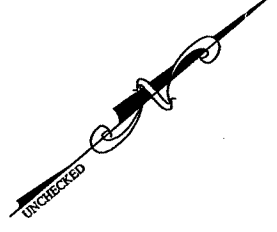
LANDSCAPE LEGEND



ZONING REQUIREMENTS			
		PROPOSED	REQUIRED
SITE INFORMATION			
TOTAL LOT AREA (SF)	142,587	-	-
TOTAL PARKING AREA (SF)	48,280	-	-
TOTAL PARKING SPACES	123	-	101
TREE CANOPY COVERAGE			
TOTAL CANOPY COVERAGE (SF)	33,600	21,388	-
LARGE TREES (1,000 SF)	23 (23,000 SF)	-	-
MEDIUM TREES (700 SF)	7 (4900 SF)	-	-
SMALL TREES (300 SF)	18 (5,700 SF)	-	-
INTERIOR LANDSCAPE			
TOTAL PARKING LOT ISLANDS (8.5'X18' MIN.) (ONE SHADE TREE PER ISLAND)	13	13	-
TOTAL INTERIOR LANDSCAPE AREA (SF)	4,970	4,828	-
PERIMETER LANDSCAPE			
LANDSCAPE BUFFER FROM STREET	5'	5'	-
60% OF BUFFER PLANTED WITH 3' PLANTS			
DELANE STREET (LF)	160	156	-
MANTON AVENUE (LF)	38	28	-
PERIMETER TREES (1 TREE PER 25')			
DELANE STREET	11	11	-
MANTON AVENUE	2	2	-
TANYARD LANE	4	4	-

45 MANTON STREET
ASSESSORS PLAT 62 LOT 441
N/P
MANUEL S. ANDRADE TRUST
DEED BOOK 4254 PAGE 161

VEGETATION ADJACENT TO
BUILDING TO BE REMOVED,
COORDINATE WITH
ADJACENT PROPERTY
OWNER



NE STREET
LAT 62 LOT 428
N/P
DRADE TRUST
667 PAGE 232

PLAT 62 LOT 430
N/P
PROVIDENCE
REDEVELOPMENT

PLAT 62 LOT 431
N/P
YWCA
GREATER RI

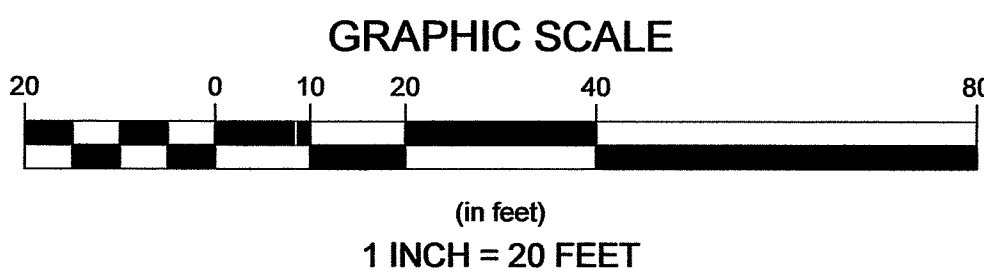
ASSESSORS PLAT 62 LOT 443
N/P
OLNEYVILLE HOUSING CORP.

PLAT 62 LOT 556
N/P
CHILDE TAYLOR

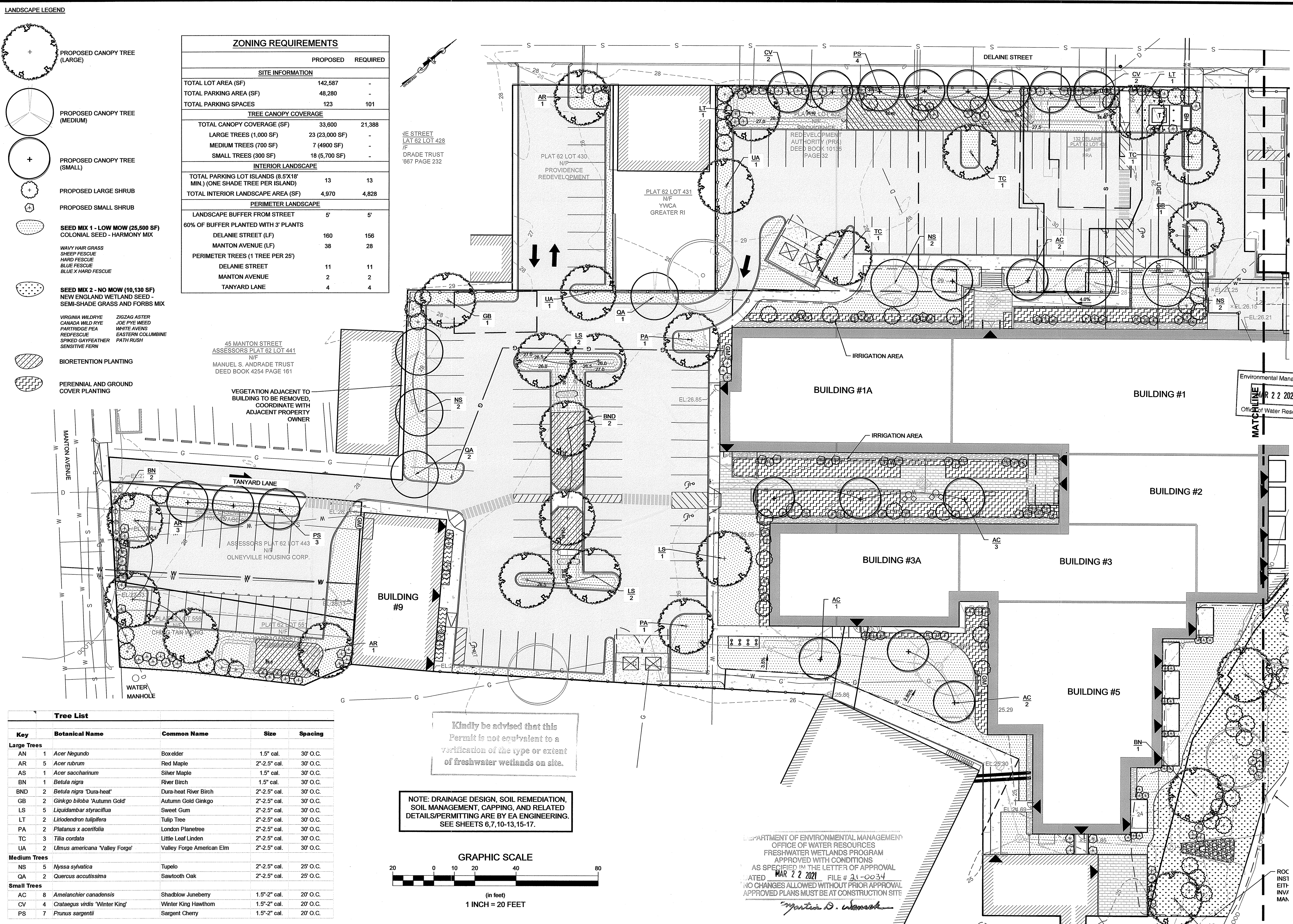
PLAT 62 LOT 556
N/P
CHILDE TAYLOR

Kindly be advised that this
Permit is not equivalent to a
verification of the type or extent
of freshwater wetlands on site.

NOTE: DRAINAGE DESIGN, SOIL REMEDIATION,
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SEE SHEETS 6,7,10-13,15-17.



Tree List				
Key	Botanical Name	Common Name	Size	Spacing
Large Trees				
AN	1	Acer Negundo	Boxelder	1.5" cal.
AR	5	Acer rubrum	Red Maple	2"-2.5" cal.
AS	1	Acer saccharinum	Silver Maple	1.5" cal.
BN	1	Betula nigra	River Birch	1.5" cal.
BND	2	Betula nigra 'Dura-heat'	Dura-heat River Birch	2"-2.5" cal.
GB	2	Ginkgo biloba 'Autumn Gold'	Autumn Gold Ginkgo	2"-2.5" cal.
LS	5	Liquidambar styraciflua	Sweet Gum	2"-2.5" cal.
LT	2	Liriodendron tulipifera	Tulip Tree	2"-2.5" cal.
PA	2	Platanus x acaenfolia	London Planetree	2"-2.5" cal.
TC	3	Tilia cordata	Little Leaf Linden	2"-2.5" cal.
UA	2	Ulmus americana 'Valley Forge'	Valley Forge American Elm	2"-2.5" cal.
Medium Trees				
NS	5	Nyssa sylvatica	Tupelo	2"-2.5" cal.
QA	2	Quercus acutissima	Sawtooth Oak	2"-2.5" cal.
Small Trees				
AC	8	Amelanchier canadensis	Shadblow Juneberry	1.5"-2" cal.
CV	4	Crataegus viridis 'Winter King'	Winter King Hawthorn	1.5"-2" cal.
PS	7	Prunus sargentii	Sargent Cherry	1.5"-2" cal.



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
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NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Signature: [Signature]

Environmental Management
R 22 2021
Office of Water Resources

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EIT1
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MAN

Revisions

Rev	Date	By	Appr	Description
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Horsley Witten Group, Inc.

Sustainable Environmental Solutions

55 Dorrance Street, Suite 200

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401-272-1717 voice

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and Technology, Inc., PBC

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Warwick, Rhode Island 02886

(401) 736-3440

Project Number:

20062

Sheet:

19 of 21

Sheet Number:

LA - 19

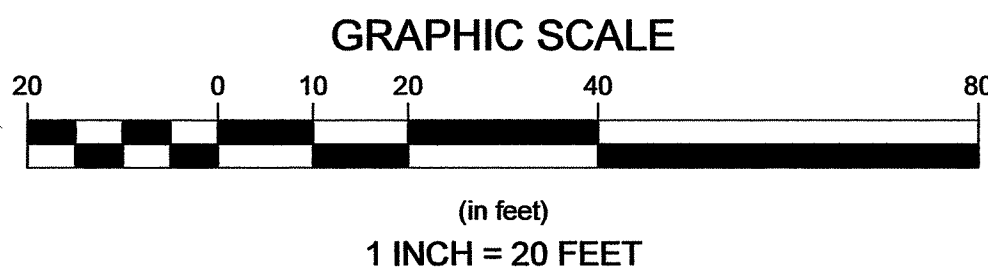
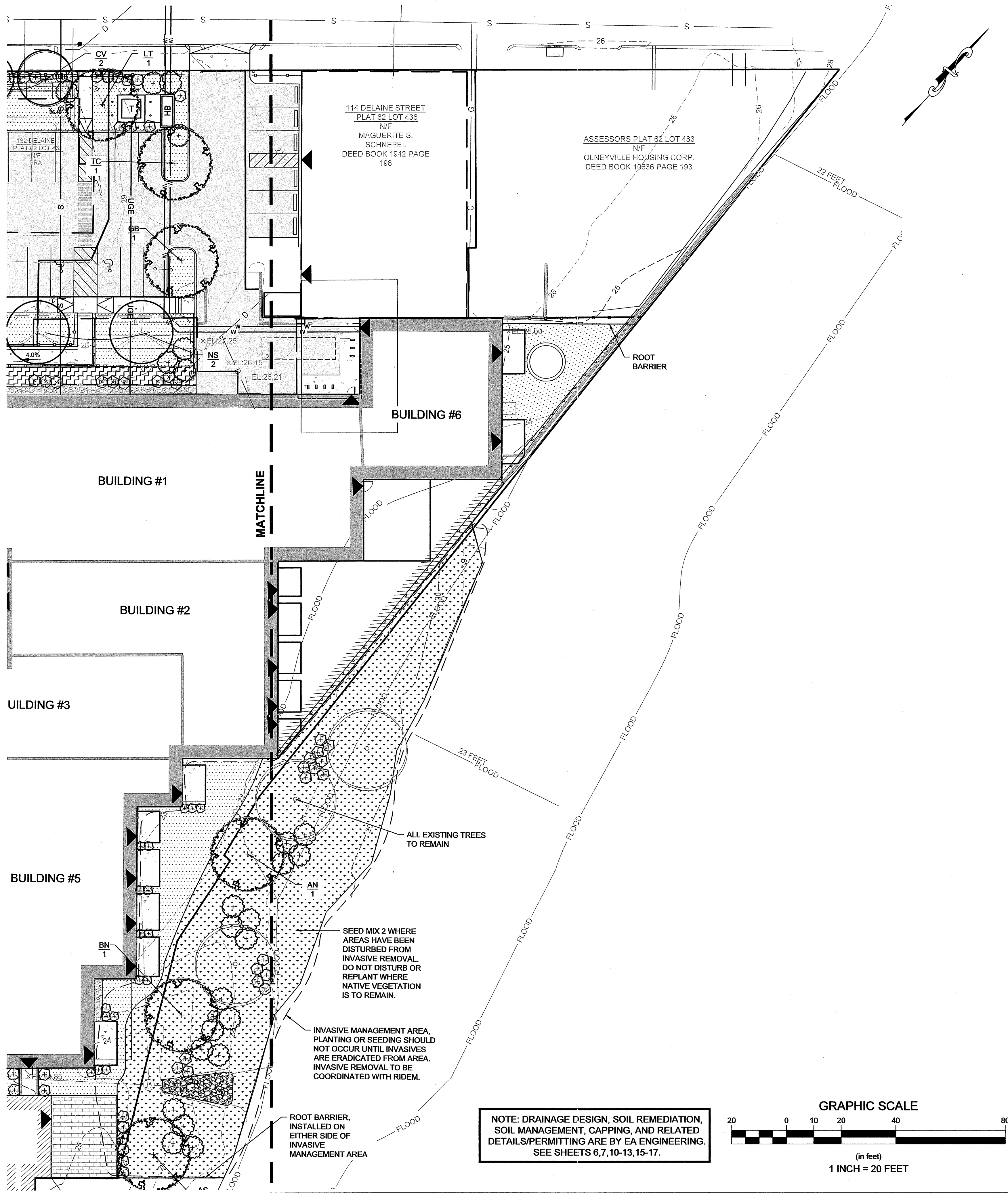
Plan Set:
EARNSCLIFFE MILL/PARAGON MILL
REDEVELOPMENT
PERMITTING SET
144 DELANE ST. PROVIDENCE, RI
CONCEPTUAL PLANTING PLAN 1

Prepared For:
Alexander Company
2450 Rimrock Road, Suite 100
Madison, WI 53713
Phone: (608) 298-5500
Fax: (608) 298-5500

Survey Provided By:
Horsley Witten Group, Inc.
90 Route 6A
Sandwich, MA
Phone: (508) 833-8600
Fax: (508) 833-3150
Date: JULY 2, 2020

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EA Engineering, Science,
and Technology, Inc., PBC
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Warwick, Rhode Island 02886
(401) 736-3440

Project Number: 20062
Sheet: 19 of 21
Sheet Number: LA - 19



Plant List			
Shrubs			
Callicarpa dichotoma	Purple Beautyberry	#3	4' O.C.
Ceanothus americanus	New Jersey Tea	#3	4' O.C.
Cephalotaxus harringtonia 'Duke Gardens'	Plum Yew	#3	3' O.C.
Clethra alnifolia	White Summer Sweet	#3	5' O.C.
Cornus sericea	Red Twig Dogwood	#3	8' O.C.
Fothergilla gardenii	Dwarf Fothergilla	#3	3' O.C.
Ilex glabra 'Compacta'	Compact Inkberry	#3	4' O.C.
Ilex verticillata	Winterberry	#3	3' O.C.
Itea virginica 'Henry's Gamet'	Henry's Gamet Virginia Sweetspire	#3	3' O.C.
Juniperus virginiana 'Grey Owl'	Grey Owl Juniper	#5	5' O.C.
Physocarpus opulifolius	Common Eastern Ninebark	#5	5' O.C.
Rhododendron 'PJM Elite'	PJM Elite Rhododendron	#5	6' O.C.
Rhus aromatica 'Gro-low'	Gro-Low Sumac	#3	4' O.C.
Sambucus nigra	elderberry	#5	8' O.C.
Swida amomum	Silky Dogwood	#5	8' O.C.
Viburnum dentatum	Arrowwood		
Ground Cover/Grasses/Perennials			
Amsonia 'Blue Ice'	Blue Ice Blue Star	#1	24" O.C.
Coreopsis verticillata 'Moonbeam'	Moonbeam Coreopsis	#1	18" O.C.
Deschampsia cespitosa 'Goldtau'	Goldtau Tufted Hair Grass	#1	18" O.C.
Eragrostis spectabilis	Purple Lovegrass	#1	24" O.C.
Geranium maculatum	Wild Geranium	#1	18" O.C.
Hemerocallis 'Stella d'oro'	Daylilies Yellow	#1	18" O.C.
Heuchera americana 'Dale's Strain'	Dale's Strain Coral Bells	#1	18" O.C.
Hosta varieties	Hostas	#1	18" O.C.
Juncus tenuis	Path Rush	PLUGS	12" O.C.
Liriope muscari 'Big Blue'	Clump Dark Green Lily Turf	#1	18" O.C.
Nepeta racemosa 'Walker's Low'	Catmint	#1	24" O.C.
Oenothera fruticosa	Narrow-leaved Sundrops	#1	24" O.C.
Onoclea sensibilis	Sensitive Fern	#1	18" O.C.
Panicum clandestinum	Deer-tongue grass	PLUGS	12" O.C.
Perovskia atriplicifolia	Russian Sage	#1	30" O.C.
Schizachyrium scoparium	Little Bluestem	#1	24" O.C.
Solidago rugosa	Wrinkleleaf Goldenrod	PLUGS	18" O.C.
Solidago uliginosa	Bog goldenrod	PLUGS	18" O.C.
Sporobolus heterolepis	Prairie Dropseed	#1	30" O.C.
Yucca filamentosa	Adams Needle Yucca	#1	24" O.C.
Bioretention planting			
Amsonia 'Blue Ice'	Blue Ice Blue Star	#1	24" O.C.
Baptisia australis	Blue False Indigo	#1	36" O.C.
Carex appalachica	Appalachina Sedge	PLUGS	12" O.C.
Carex pensylvanica	Pennsylvania Sedge	PLUGS	12" O.C.
Deschampsia cespitosa 'Goldtau'	Goldtau Tufted Hair Grass	#1	18" O.C.
Eragrostis spectabilis	Purple Lovegrass	#1	30" O.C.
Eupatorium dubium 'Little Joe'	Little Joe Pye Weed	#1	18" O.C.
Iris versicolor	Blue Flag	#1	18" O.C.
Juncus effusus	Soft Rush	#1	18" O.C.
Liatris spicata	Blazing Star	#1	24" O.C.
Pycnanthemum tenuifolium	Slender mountain mint	#1	24" O.C.
Schizachyrium scoparium	Little Bluestem	#1	48" O.C.

Environmental Management
MAR 2 2 2021
Office of Water Resources

Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
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Matthew D. Wemsek

Revisions

Rev.	Date	By	Description
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Horsley Witten Group, Inc.
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Checked By: ED/V
Drawn By: ED/V
Designed By: ED/V
Date: NOVEMBER 18, 2020

EARNSLIFFE MILL/PARAGON MILL
REDEVELOPMENT
PERMITTING SET
144 DELAINE ST. PROVIDENCE, RI
CONCEPTUAL PLANTING PLAN 2

Plan Set:
Environmental Management
MAR 2 2 2021
Office of Water Resources

Prepared For:
Alexander Company
2450 Rimrock Road, Suite 100
Madison, WI 53713
Phone: (608) 258-5580
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Survey Provided By:
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Date: JULY 2, 2020

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(401) 736-3440

Registration:
10/28/20

Project Number: 20062
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GENERAL PLANTING NOTES:

- THE FOLLOWING NOTES ARE PROVIDED AS GENERAL PLANTING GUIDELINES ONLY. THOROUGHLY REVIEW THE PROJECT SPECIFICATIONS FOR ALL LANDSCAPE REQUIREMENTS PRIOR TO THE COMMENCEMENT OF ANY LANDSCAPE WORK. SUBMIT IN WRITING TO THE LANDSCAPE ARCHITECT ANY QUESTIONS OR CLARIFICATIONS REQUIRED AT A MINIMUM OF 30 DAYS PRIOR TO ORDERING ANY MATERIALS OR BEGINNING ANY LANDSCAPE CONSTRUCTION.
- SUBMIT TO THE LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL ALL REQUIRED LANDSCAPE SUBMITTALS AS DESCRIBED IN THE SPECIFICATIONS INCLUDING A PLANT LIST WITH PLANT SIZE AND QUANTITIES TO BE ORDERED PRIOR TO DELIVERY TO THE PROJECT SITE.
- FURNISH AND INSTALL ALL PLANTS AS SHOWN ON THE DRAWINGS AND IN THE SIZE AND QUANTITIES SPECIFIED ON THE PLANTING SCHEDULE. PLANT SUBSTITUTION SELECTION MUST BE APPROVED BY BIOLOGIST OR LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
- ALL PLANTS TO COMPLY WITH APPLICABLE REQUIREMENTS OF ANSI Z60.1 "AMERICAN STANDARD FOR NURSERY STOCK" LATEST EDITION, PUBLISHED BY THE AMERICAN NURSERY AND LANDSCAPE ASSOCIATION INC.
- PLANTS TO BE GROWN UNDER CLIMATIC CONDITIONS SIMILAR TO THOSE IN THE LOCALITY OF THE PROJECT FOR AT LEAST TWO (2) YEARS. USE HEALTHY NURSERY GROWN PLANTS, FREE OF DISEASE, INSECTS, AND PESTS. EGGS OR LARVAE, AND HAVE A WELL DEVELOPED ROOT SYSTEM.
- INSTALL PLANTS WITHIN ONE (1) WEEK OF PURCHASE. IF PLANTS ARE TO BE STORED AT THE SITE PRIOR TO PLANTING, IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THEY ARE PROPERLY MAINTAINED, WATERED, AND REMAIN HEALTHY.
- PROCEED WITH PLANTING ONLY WHEN EXISTING AND FORECASTED WEATHER CONDITIONS PERMIT. SUBMIT TO THE LANDSCAPE ARCHITECT IN WRITING THE PROPOSED PLANTING SCHEDULE. OBTAIN APPROVAL OF PLANTING SCHEDULE FROM THE LANDSCAPE ARCHITECT PRIOR TO PERFORMING ANY WORK.
- SEASONS FOR PLANTING:

SPRING:	DECIDUOUS:	APRIL 1 TO JUNE 15
	EVERGREEN:	APRIL 1 TO JUNE 15
	PERENNIALS:	APRIL 15 TO JUNE 1
	GROUNDCOVERS:	APRIL 15 TO JUNE 1
FALL:	DECIDUOUS:	SEPTEMBER 15 TO NOVEMBER 15
	EVERGREEN:	SEPTEMBER 15 TO NOVEMBER 15
	PERENNIALS:	SEPTEMBER 15 TO NOVEMBER 15
	GROUNDCOVERS:	SEPTEMBER 15 TO NOVEMBER 15
- PLANTING UNDER FROZEN CONDITIONS IN EITHER THE SPRING OR FALL WILL NOT BE PERMITTED. PLANTING BEFORE OR AFTER THE ABOVE REFERENCED PLANTING DATES WILL INCREASE THE LIKELIHOOD OF PLANT OR GRASS SEED ESTABLISHMENT FAILURE. ANY DEVIATION FROM THE ABOVE REFERENCED PLANTING DATES IS UNDERTAKEN AT SOLE RISK OF THE CONTRACTOR AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ANY ADDITIONAL MAINTENANCE AND WATERING WHICH MAY BE REQUIRED TO ENSURE SATISFACTORY PLANT AND SEED ESTABLISHMENT.
- FURNISH ONE YEAR MANUFACTURER WARRANTY FOR TREES, PLANTS, AND GROUND COVER AGAINST DEFECTS INCLUDING DEATH AND UNSATISFACTORY GROWTH, EXCEPT FOR DEFECTS RESULTING FROM LACK OF ADEQUATE MAINTENANCE, NEGLIGENCE, OR ABUSE BY OWNER, OR ABNORMAL WEATHER CONDITIONS UNUSUAL FOR WARRANTY PERIOD. THE DATE OF FINAL ACCEPTANCE OF ALL COMPLETED PLANTING WORK ESTABLISHES THE END OF INSTALLATION AND INITIAL MAINTENANCE PERIOD AND THE COMMENCEMENT OF THE GUARANTEE PERIOD.
- ALL TREES WITHIN 5'-0" OF WALKWAYS AND SIDEWALKS TO HAVE A 6'-8" STANDARD BRANCHING HEIGHT.
- INSPECT ALL AREAS TO BE PLANTED OR SEEDED PRIOR TO STARTING ANY LANDSCAPE WORK. REPORT ANY DEFECTS SUCH AS INCORRECT GRADING, INCORRECT SUBGRADE ELEVATIONS OR DRAINAGE PROBLEMS, ETC. TO THE LANDSCAPE ARCHITECT AND ENGINEER PRIOR TO BEGINNING WORK. COMMENCEMENT OF WORK INDICATES ACCEPTANCE OF SUBGRADE AREAS TO BE PLANTED, AND THE LANDSCAPE CONTRACTOR ASSUMES RESPONSIBILITY FOR ALL LANDSCAPE WORK.
- PROVIDE PROPER PREPARATION OF ALL PROPOSED PLANTED AND SEEDED AREAS PER THE NOTES AND SPECIFICATIONS.
- ALL PLANT LAYOUT AND ACTUAL PLANTING LOCATIONS ARE TO BE FIELD VERIFIED BY LANDSCAPE ARCHITECT PRIOR TO PLANTING. NOTIFY THE LANDSCAPE ARCHITECT AT A MINIMUM OF 48 HOURS IN ADVANCE PRIOR TO SCHEDULING ANY FIELD INSPECTIONS.
- BALL AND BURLAP: REMOVE BURLAP AND WIRE BASKETS FROM TOPS OF BALLS AND FROM TOP HALF OF ROOTBALL AS INDICATED ON DRAWINGS. REMOVE PALLETS, IF ANY, BEFORE SETTING.
- POTTED PLANTS: REMOVE THE PLANT FROM THE POT AND LOOSEN OR SCORE THE ROOTS BEFORE PLANTING TO PROMOTE OUTWARDS ROOT GROWTH INTO THE SOIL.
- PLUGS: PLANT UPRIGHT AND NOT AT AN ANGLE. DIG PLANTING HOLES LARGE ENOUGH AND DEEP ENOUGH TO ACCOMMODATE THE ENTIRE ROOT MASS. PLANT PLUGS WITH NO TWISTED OR BALLED ROOTS AND WITH NO ROOTS EXPOSED ABOVE THE GRADE LINE. HAND PACK THE SOIL AROUND THE ENTIRE PLUG ROOT MASS.
- DIG THE THE PLANTING HOLE TO THE SAME DEPTH AS THE ROOT BALL AND TWO TO THREE TIMES WIDER. SCORE ALL SIDES OF THE HOLE, PLACE THE PLANT IN THE HOLE SO THE TOP OF ROOT BALL IS EVEN WITH SOIL SURFACE. FILL THE HOLE HALFWAY AND THEN ADD WATER ALLOWING IT TO SEEP INTO BACK FILLED MATERIAL. BE SURE TO REMOVE ALL AIR POCKETS FROM BACK FILLED SOIL. DO NOT SPREAD SOIL ON TOP OF THE ROOTBALL. IF SOIL IS EXTREMELY POOR, REPLACE BACK FILL WITH GOOD QUALITY TOP SOIL. AMEND THE SOIL, AS NECESSARY.
- CREATE A 2" TO 4" BERM AROUND THE EDGE OF PLANTING HOLE WITH REMAINING SOIL TO RETAIN WATER.
- REMOVE ALL PLANT TAGS AND FLAGS FROM THE PLANTS.
- MULCH ALL PLANTING BEDS AS INDICATED ON DRAWINGS. UNLESS NOTED OTHERWISE, ALL PLANTS TO RECEIVE 2-3 INCHES OF MULCH. DO NOT PILE OR MOUND MULCH AROUND THE PLANT STEMS OR TRUNK.
- TRIM BROKEN AND DEAD BRANCHES FROM TREES AND SHRUBS AFTER PLANTING. NEVER CUT A LEADER.

NOTE: DRAINAGE DESIGN, SOIL REMEDIATION, SOIL MANAGEMENT, CAPPING, AND RELATED DETAILS/PERMITTING ARE BY EA ENGINEERING. SEE SHEETS 6,7,10-13,15-17.

GENERAL SEEDING NOTES:

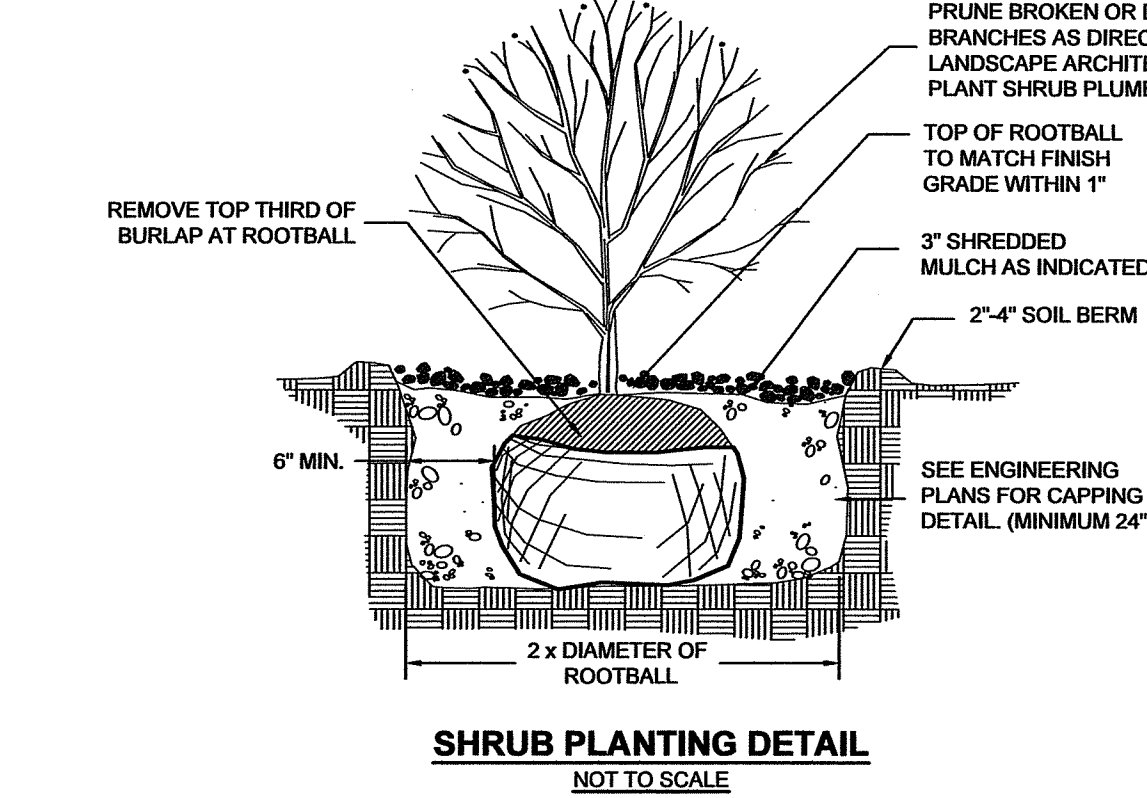
- SEND A REPRESENTATIVE SAMPLE OF THE TOPSOIL TO A TESTING LABORATORY FOR STANDARD SOIL ANALYSIS AS DESCRIBED IN THE SPECIFICATIONS. SUBMIT TO THE LANDSCAPE ARCHITECT AND ENGINEER TEST RESULTS WITH RECOMMENDED SOIL TREATMENTS TO PROMOTE PLANT AND GRASS GROWTH. CORRECT DEFICIENCIES IN THE LOAM AND STOCKPILED TOPSOIL AS DIRECTED BY THE TESTING AGENCY.
- ALL AREAS THAT ARE DISTURBED AND/OR GRADED DURING CONSTRUCTION ARE TO BE BROUGHT TO FINISHED GRADE WITH AT LEAST 4" MINIMUM DEPTH OF GOOD QUALITY LOAM AND SEEDED WITH A QUICK GERMINATING GRASS SEED SUCH AS NEW ENGLAND EROSION CONTROL RESTORATION MIX OR AS SPECIFIED ON THE PLANS.
- PRIOR TO THE PLACEMENT OF TOP SOIL, LOOSEN THE SUBGRADE OF ALL PROPOSED SEEDED AREAS TO A DEPTH OF 6" AND RAKE TO REMOVE STONES LARGER THAN 1 INCH, STICKS, ROOTS, RUBBISH AND OTHER EXTRANEOUS MATTER AND LEGALLY DISPOSE TO AN OFF SITE LOCATION.
- DO NOT SPREAD TOPSOIL IF THE SUBGRADE IS FROZEN, EXCESSIVELY WET, COMPACTED OR NOT PROPERLY PREPARED PER THE NOTES AND SPECIFICATIONS.

INVASIVE SPECIES MANAGEMENT

INVASIVE SPECIES MANAGEMENT SHOULD BE CUSTOMIZED TO THE INDIVIDUAL SPECIES. THE USE OF ANY MANAGEMENT TECHNIQUES, INCLUDING HERBICIDES, MUST BE REVIEWED AND APPROVED BY RIDEM. ALL PESTICIDE APPLICATIONS MUST BE CONDUCTED BY A RHODE ISLAND LICENSED PESTICIDE APPLICATOR.

JAPANESE KNOTWEED (FALLOPIA JAPONICA)

- SMALL STANDS OF KNOTWEED, MAY BE KILLED BY REPEATED CUTTING, BUT THIS TREATMENT MUST BE REPEATED SIX OR MORE TIMES PER SEASON, FOR A MINIMUM OF THREE YEARS. REPEATED CUTTINGS MAY EVENTUALLY TAX THE PLANT OF ITS RESOURCES. CUT EACH TIME THE PLANT REACHES SIX INCHES TALL. YOU MAY NOT WANT TO ATTEMPT MANUAL REMOVAL UNLESS YOU ARE WILLING TO CONTINUE THE PROCESS FOR THE ENTIRE GROWING SEASON AND CONTINUE FOR SEVERAL ADDITIONAL SEASONS.
- REMOVING PLANT MATERIAL FROM THE SITE IS NOT RECOMMENDED UNLESS ALL PLANT PARTS CAN BE INCINERATED, BURIED DEEPER THAN FIVE FEET, OR CHOPPED INTO PIECES SMALLER THAN ½ INCH AND COMPOSTED.
- REMOVING KNOTWEED FROM THE SOIL IS NEARLY IMPOSSIBLE DUE TO THE ROOT SYSTEM THAT CAN EXTEND 7 FEET DEEP AND 30 FEET LONG. SOIL THAT IS DISTURBED WITH KNOTWEED INFESTATION SHOULD BE MONITORED CLOSELY AS THE ROOT SYSTEMS WILL BREAK APART AND NEW PLANTS WILL EMERGE. PULLING UP THE PLANTS INCREASES THE RISK OF SPREADING KNOTWEED BECAUSE SMALL PIECES OF ROOT LEFT IN THE SOIL CAN START A NEW COLONY.
- KNOTWEED PLANTS MAY BE CONTROLLED BY APPLICATION OF A SYSTEMATIC HERBICIDE CONTAINING GLYPHOSATE (ROUNDUP ®) OR TRICLOPYR (GARLON 3A®) TO ACTIVELY GROWING PLANTS. CUT OR BREAK STEMS IN LATE SUMMER AND INJECT HERBICIDE. OR CUT STEMS IN LATE SUMMER THEN APPLY HERBICIDE SPRAY, FOLLOWING MANUFACTURER'S INSTRUCTIONS, TO THE REGROWING SHOOTS. CUTTINGS SHOULD BE TIMED SO THAT PLANTS DO NOT EXCEED THREE FEET IN HEIGHT WHEN SPRAYED.
- WHEN SPRAYING, USE A BULK HANDLED OR BACKPACK TYPE TANK SPRAYER. DISPENSE THE PRODUCT AT THE LOWEST PRESSURE AND LARGEST DROPLET SIZE POSSIBLE TO REDUCE THE RISK OF EXPOSURE AND DRIFT.
- STEM INJECTION IS ANOTHER TECHNIQUE FOR KILLING KNOTWEED (SEE [HTTP://WWW.KINJECTIONTOOLS.COM/](http://WWW.KINJECTIONTOOLS.COM/)). THE ADVANTAGE OF THESE DEVICES IS THAT PLANTS THAT ARE TOO TALL TO SPRAY EASILY MAY BE TREATED BY INJECTING HERBICIDE DIRECTLY INTO THE HOLLOW STEMS. INJECTION METHODS REDUCE INJURY TO NON-TARGET PLANT SPECIES. INJECTION IS ALSO THOUGHT TO LEAD TO MORE IMMEDIATE DEATH OF THE KNOTWEED PLANTS. INJECTION IS MORE COSTLY AND LABOR INTENSIVE THAN FOLIAR SPRAY APPLICATION. IT ALSO REQUIRES GREATER QUANTITIES OF HERBICIDE THAN FOLIAR SPRAY APPLICATION, AS EACH STEM MUST BE TREATED SEPARATELY. SUPPLEMENTAL HERBICIDE LABELS THAT GIVE SPECIFIC INSTRUCTIONS FOR STEM INJECTION USING GLYPHOSATE FORMULATIONS (RODERO ®, AQUAMASTER ®, AND GLYPRO ®) ARE AVAILABLE FROM THE MANUFACTURERS. GUIDELINES SHALL NOT BE CONSIDERED AN ENDORSEMENT AND IS FOR REFERENCE ONLY.
CAUTION: HERBICIDES CAN BE DANGEROUS TO THE USER AND THE ENVIRONMENT EVEN IF USED ACCORDING TO THE LABEL DIRECTIONS. FEDERAL LAW REQUIRES THAT THE USER READ, UNDERSTAND AND FOLLOW ALL LABEL DIRECTIONS. CONSULT WITH THE RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL PROTECTION FOR MORE INFORMATION ON THE USE OF HERBICIDES.
- ANY WEED MANAGEMENT PROGRAM SHOULD INCLUDE A PLAN TO REINTRODUCE NATIVE SPECIES INTO THE ENVIRONMENT. THIS ALLOWS THE AREAS TO RECOVER AND RESIST FUTURE INVASIONS.
- MONITOR THE SITE FOR AT LEAST TWO YEARS FOLLOWING TREATMENT TO ENSURE THAT THE KNOTWEED HAS BEEN COMPLETELY ERADICATED. SMALL STUNTED PLANTS ARE OFTEN OBSERVED RESPROUTING ON THE SITE THE YEAR FOLLOWING TREATMENT. THESE MAY BE REMOVED WITH A REPEAT APPLICATION OF THE TREATMENT. WAIT FOR ONE YEAR AFTER THE HERBICIDE APPLICATION BEFORE RESTORING THE TREATED AREA TO ENSURE THAT ERADICATION IS COMPLETE, SO THAT THE REPLANTED VEGETATION IS NOT DAMAGED BY FURTHER HERBICIDE TREATMENT.

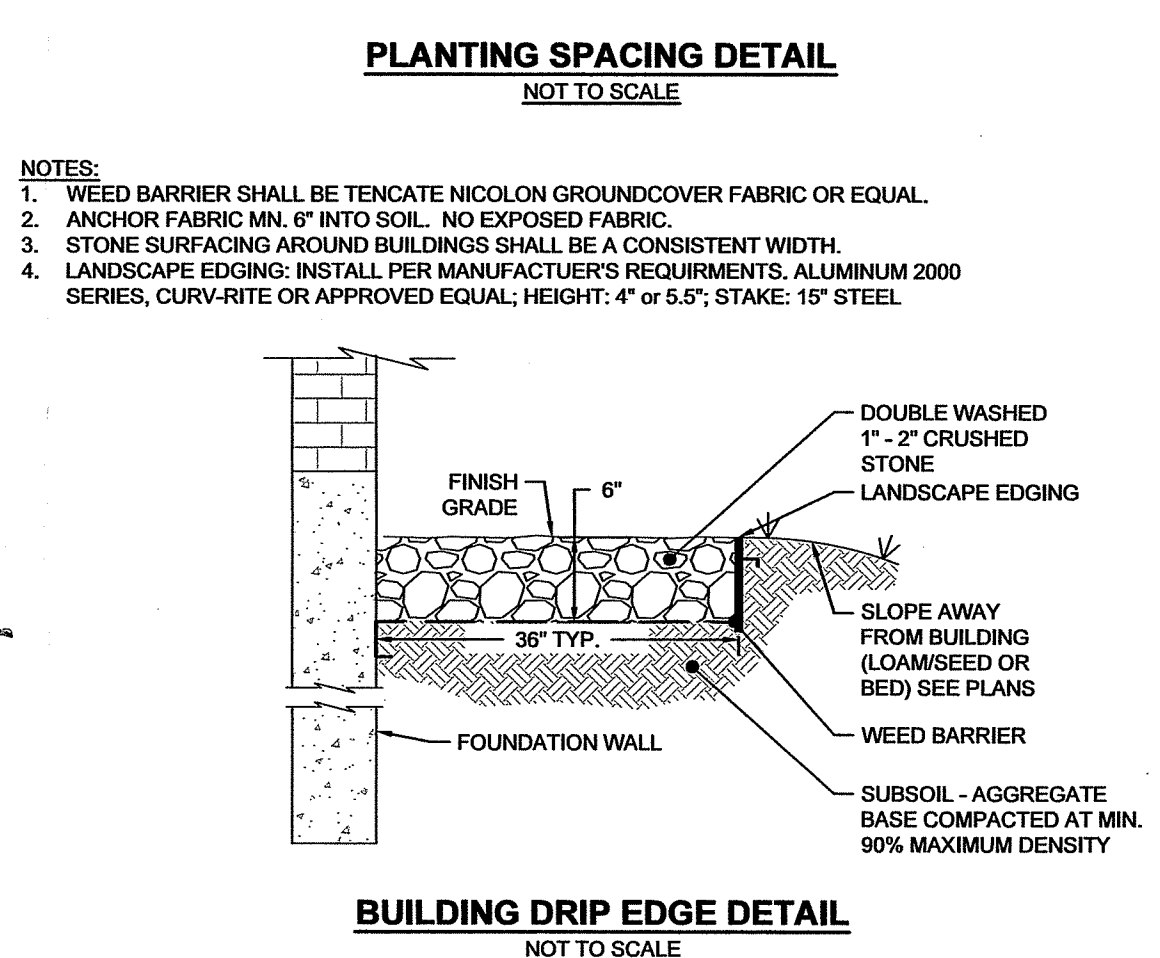
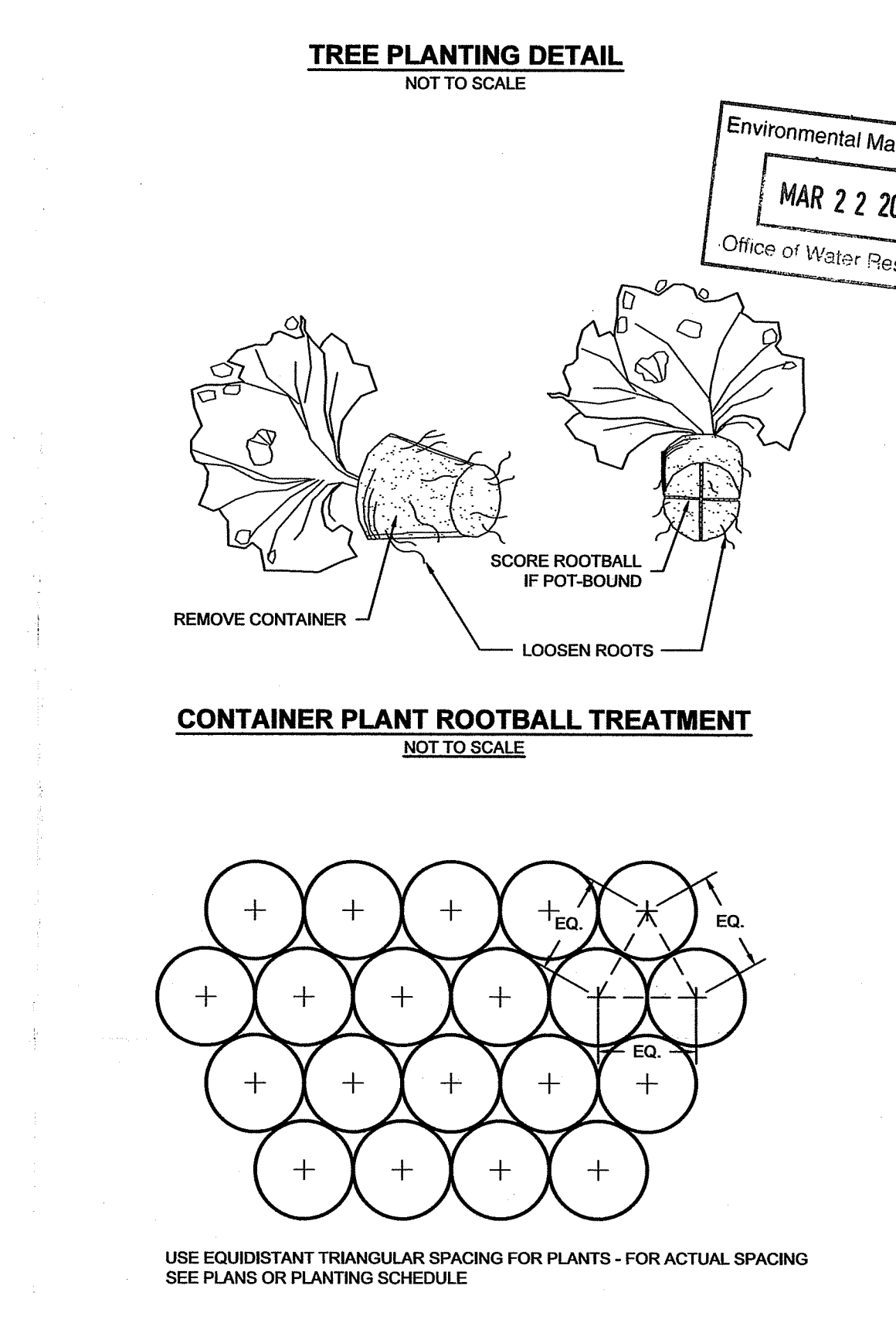
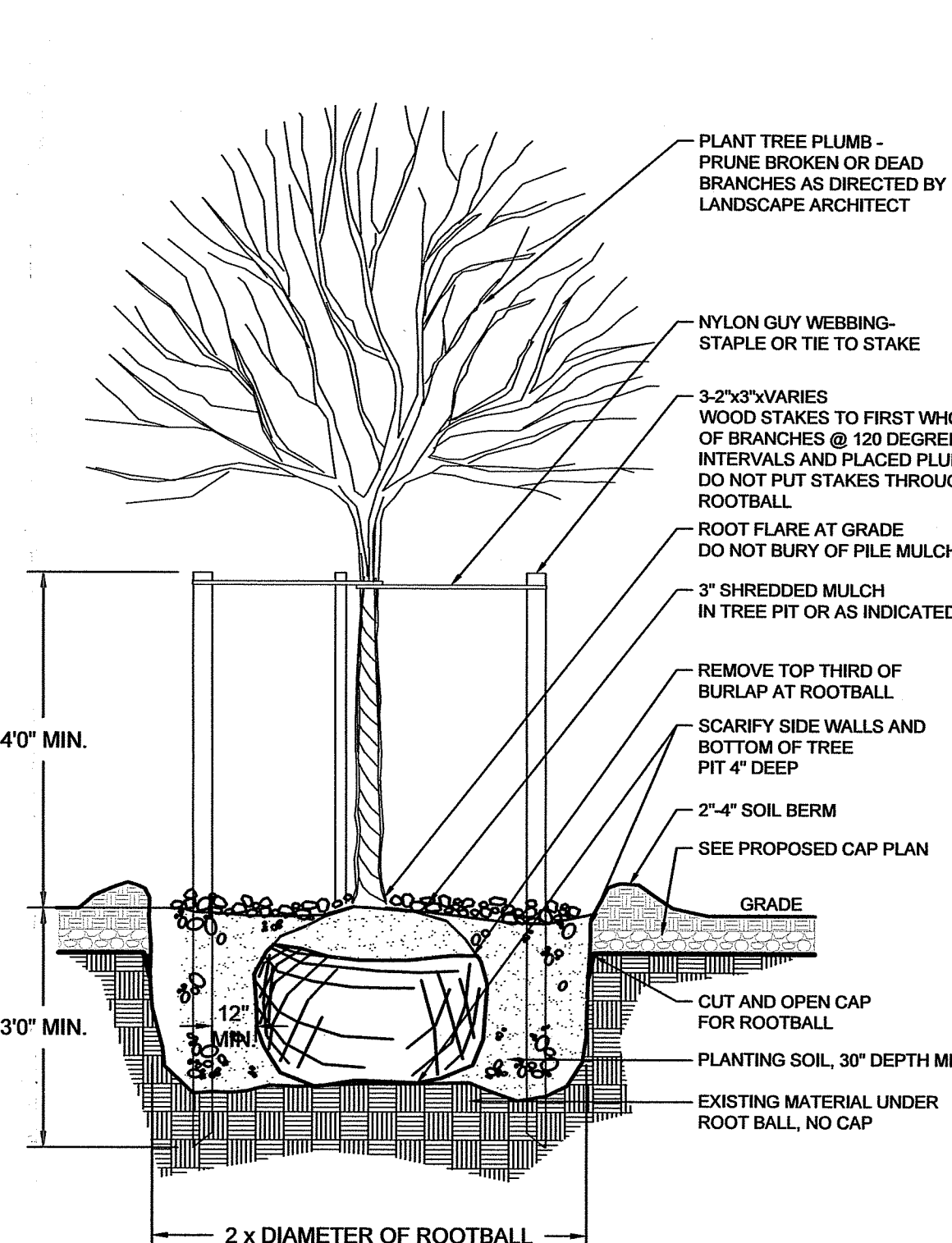
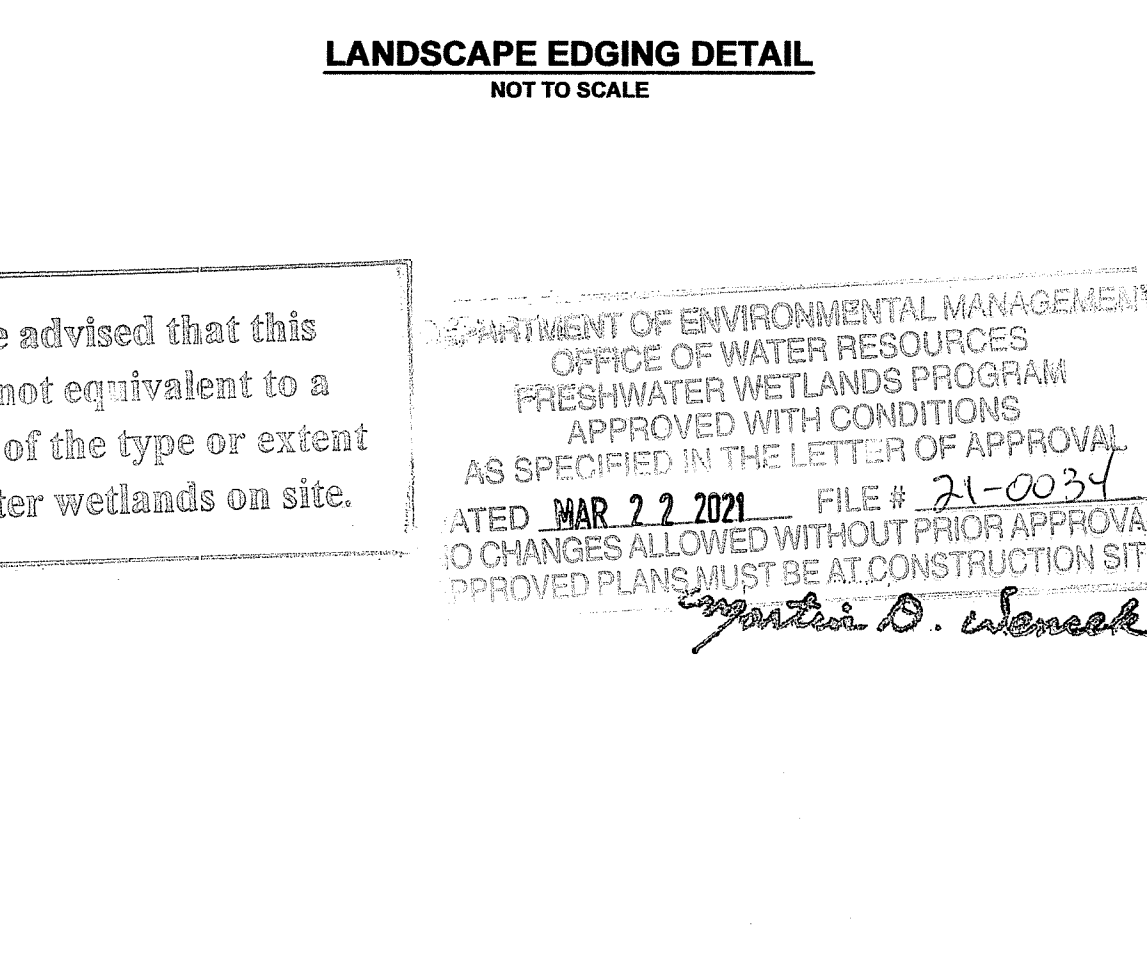
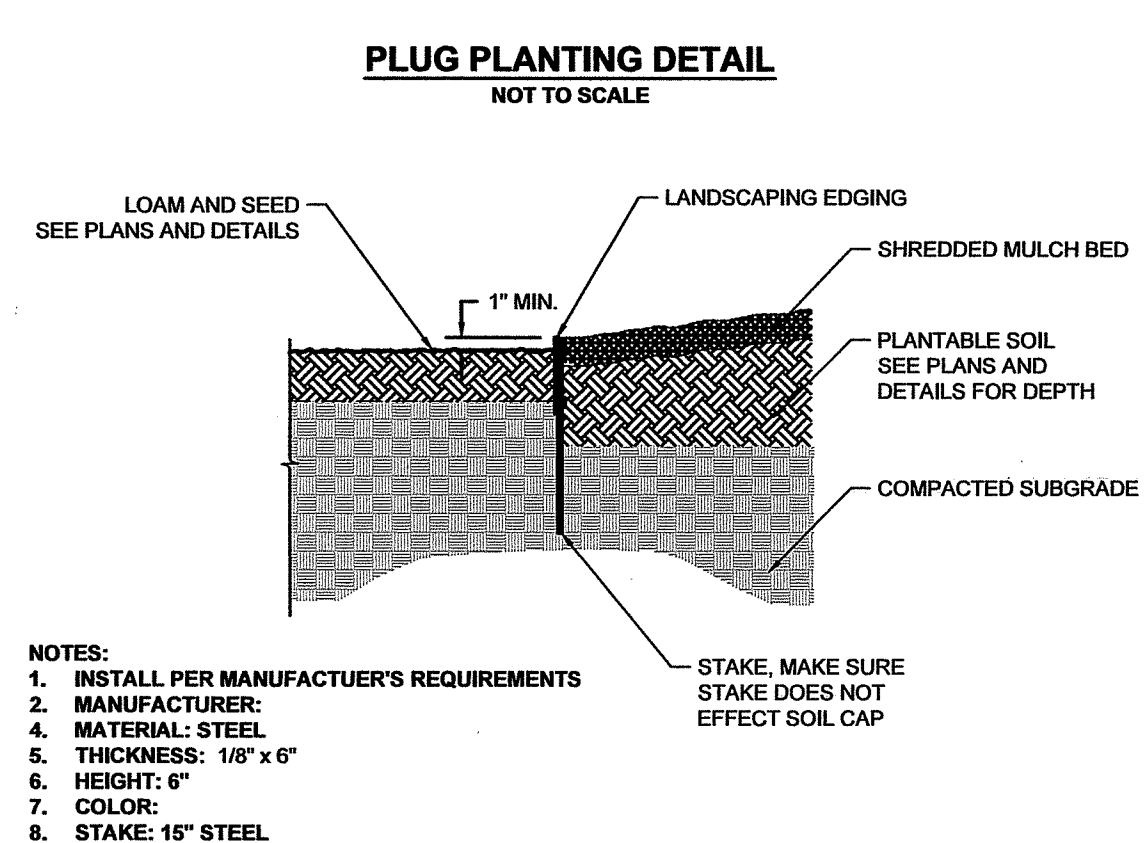
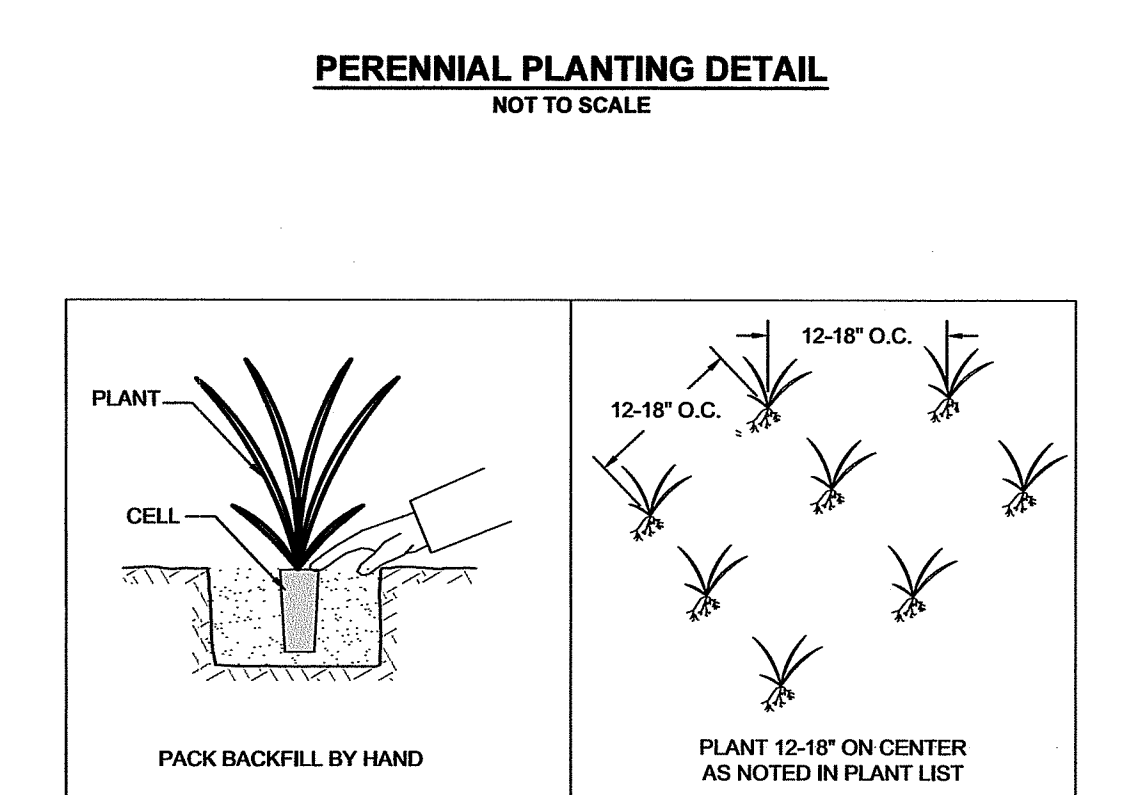
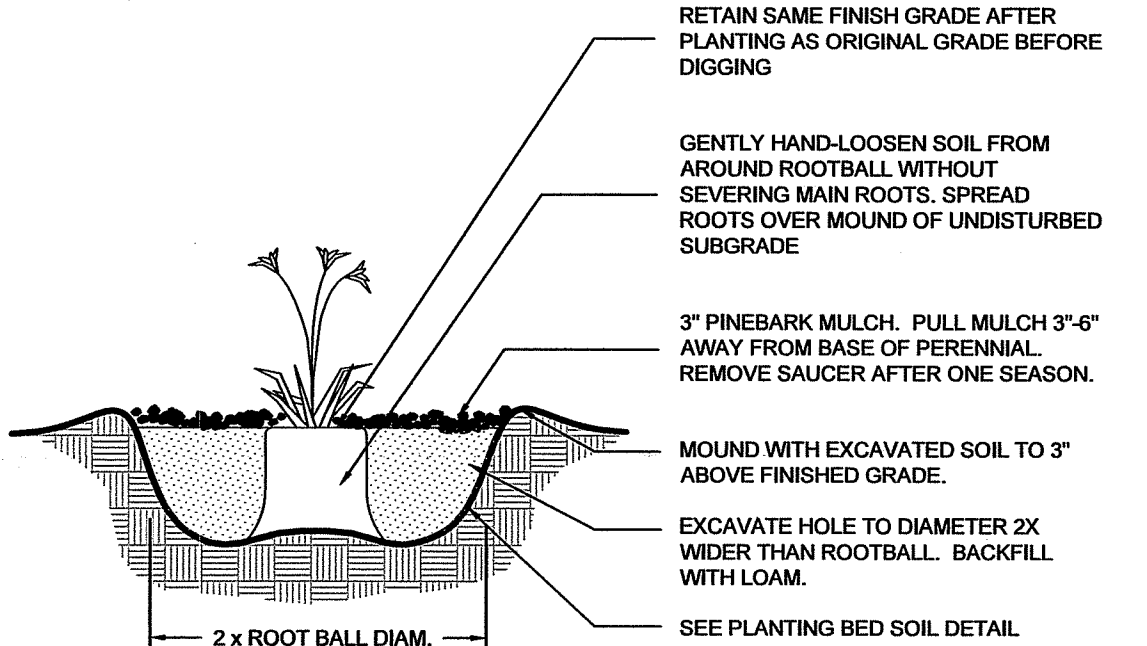
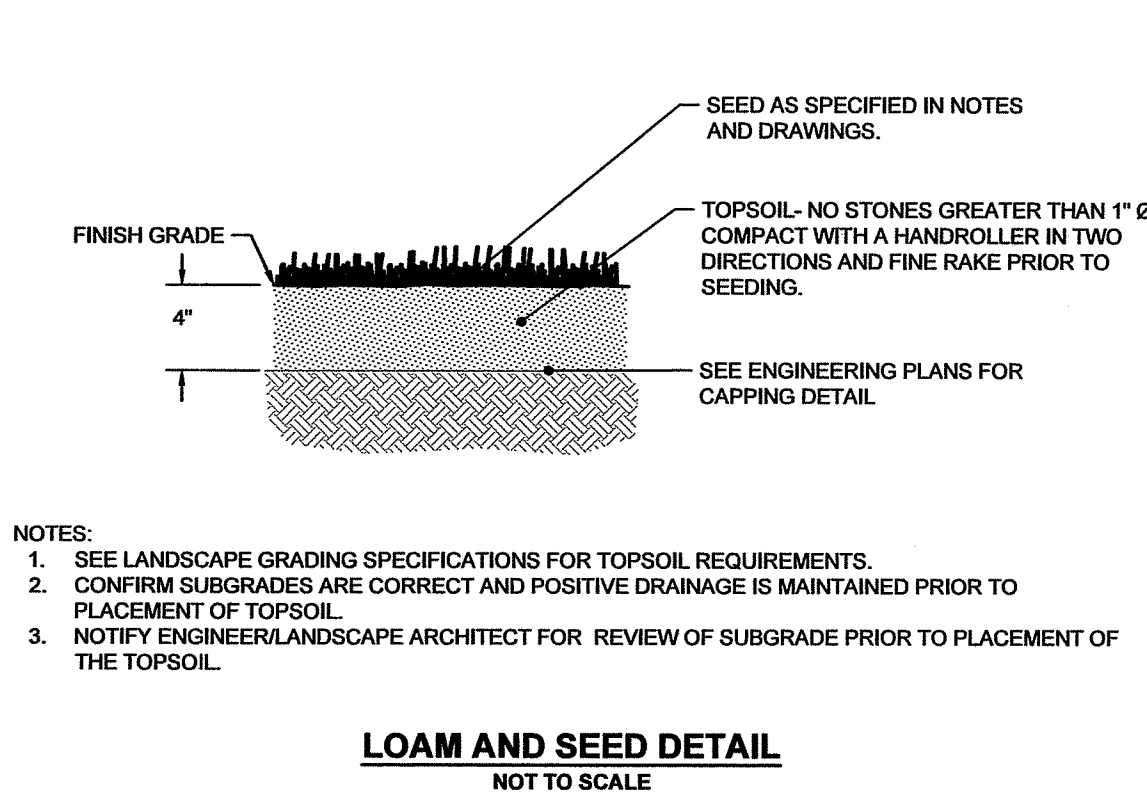


WATERING NOTES:

- PROVIDE PROPER PLANT CARE, MAINTENANCE AND WATERING ON SITE UNTIL SUCH TIME AS THE LANDSCAPING IS ACCEPTED BY THE PROPERTY OWNER AS SATISFACTORY PER THE SPECIFICATIONS OR AS DETERMINED BY ANY WRITTEN AGREEMENTS BETWEEN THE CONTRACTOR AND PROPERTY OWNER.
- ESTABLISH AN APPROPRIATE WATERING SCHEDULE FOR ALL PLANT MATERIAL BASED UPON PLANT SPECIES REQUIREMENTS AND PROVIDE IN WRITING TO THE LANDSCAPE ARCHITECT AND OWNER FOR REVIEW AND APPROVAL, ADHERE TO THE APPROVED SCHEDULE UNTIL PLANTS ARE FULLY ESTABLISHED.
- AT A MINIMUM THE NEWLY SEEDED AND/OR HYDROSEEDED LAWNS SHOULD BE WATERED DAILY. SPECIAL CARE SHOULD BE TAKEN TO ENSURE THAT THE LAWN IS NOT SATURATED DURING WATERING. IF AN IRRIGATION SYSTEM IS NOT PROVIDED, A TEMPORARY IRRIGATION SYSTEM OR HANDHELD GARDEN HOSE SHALL BE USED FOR WATERING SEEDED AREAS. THE AREA MUST BE MAINTAINED CONSISTENTLY MOIST FOR THE BEST GERMINATION RESULTS. ADDITIONAL WATERING WILL BE REQUIRED IF PLANTING AND SEEDING OCCUR OUTSIDE OF THE RECOMMENDED PLANTING SEASONS.

PLANTING LAYOUT NOTES

- HATCHED AREAS - DO NOT PLANT LARGE AREAS OF THE SAME SPECIES. RANDOMLY PLANT AS INDICATED ON THE PLANTING PLANS INTO SMALL GROUPINGS OF THE SAME SPECIES TO CREATE A MORE NATURALISTIC APPEARANCE. PLANT THE SAME PLANT SPECIES IN GROUPS OF 3-7 AND NOT LARGER THAN 7, DEPENDING ON THE OVERALL NUMBER OF PLANTINGS.



Revisions		Checked By: EBY		Drawn By: EBY		Date: NOVEMBER 19, 2020		Discussed By: EBY	
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