

WEST ALUMNI UTILITY IMPROVEMENTS

University of Rhode Island

West Alumni Avenue
Kingston, Rhode Island

OWNER / APPLICANT:

University of Rhode Island
Office of Capital Projects
60 Tootell Road
Kingstown, RI 02881
(401) 874-2725

CIVIL ENGINEER:



PARE CORPORATION
ENGINEERS - SCIENTISTS - PLANNERS
8 BLACKSTONE VALLEY PLACE
LINCOLN, RI 02865
401-334-4100

MECHANICAL ELECTRICAL PLUMBING ENGINEER:

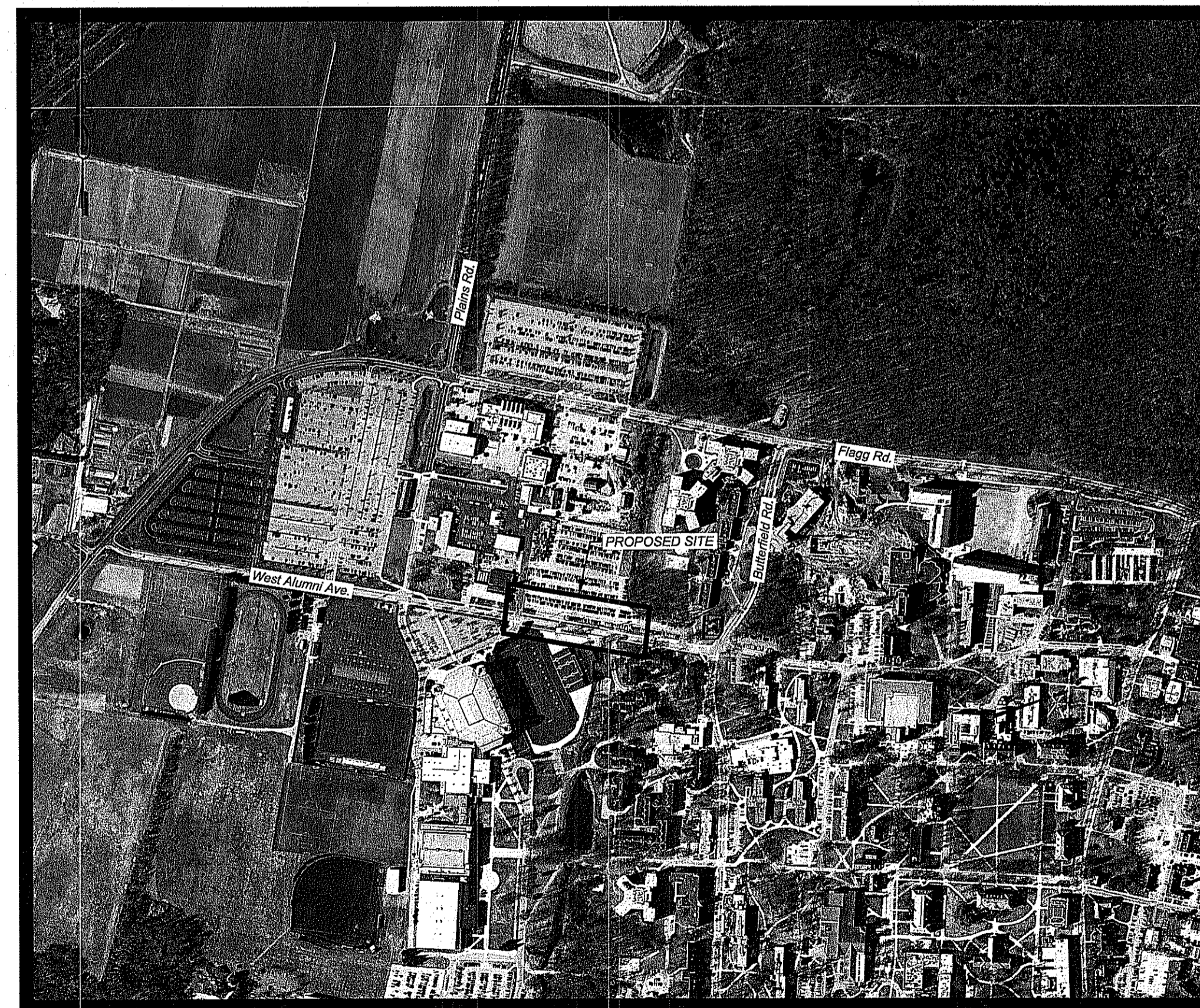


B|E|R
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LANDSCAPE ARCHITECT:



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SCALE: N.T.S.

RIDEM APPLICATION TO ALTER SUBMISSION
APRIL 18, 2018

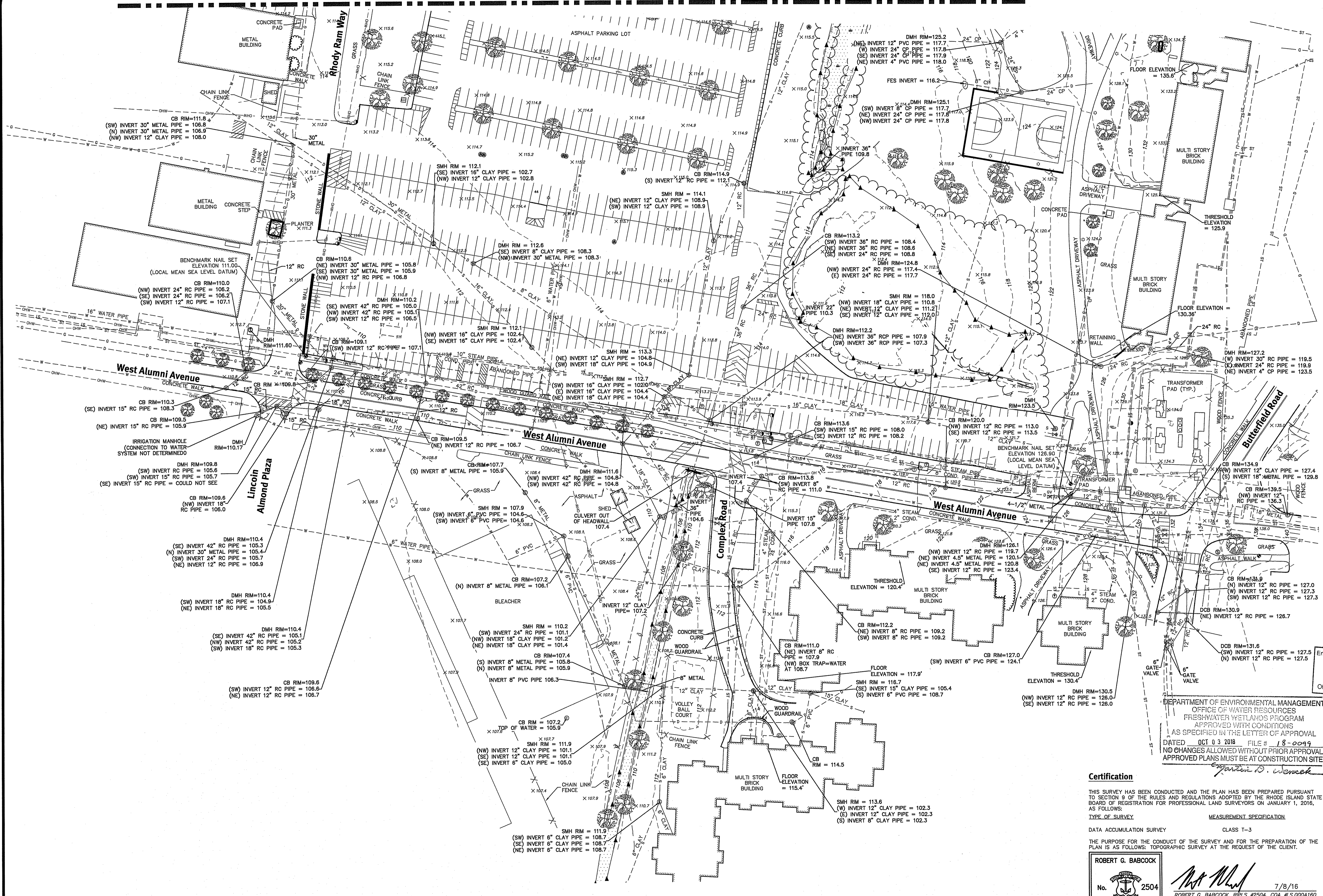
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DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED OCT 03 2010 FILE # 18-0099
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Christopher D. Wenzel

Environmental Management
MAY 4 2018
Office of Water Resources

See Sheet 1



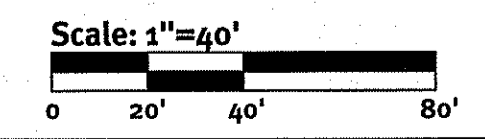
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Environmental Management
 MAY 04 2018
 Office of Water Resources
 DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
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Topographic Survey
White Horn Apartments
 South Kigatown, Rhode Island
 Client: Sasaki Associates
 60 Sakasani Street
 Woburn, MA 02472
 DE Proj No: 2406-001 Copyright 2016 by Diprete Engineering Associates, Inc.

Certification
 THIS SURVEY HAS BEEN CONDUCTED AND THE PLAN HAS BEEN PREPARED PURSUANT TO SECTION 9 OF THE RULES AND REGULATIONS ADOPTED BY THE RHODE ISLAND STATE BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS ON JANUARY 1, 2016, AS FOLLOWS:
 TYPE OF SURVEY: MEASUREMENT SPECIFICATION
 DATA ACCUMULATION SURVEY CLASS T-3
 THE PURPOSE FOR THE CONDUCT OF THE SURVEY AND FOR THE PREPARATION OF THE PLAN IS AS FOLLOWS: TOPOGRAPHIC SURVEY AT THE REQUEST OF THE CLIENT.

ROBERT G. BABCOCK
 No. 2504
 PROFESSIONAL LAND SURVEYOR
 7/8/16
 ROBERT G. BABCOCK, RIPLS #2504, COA #L.S.0001810



REFERENCE

- 1. PROJECT LOCATION: UNIVERSITY OF RHODE ISLAND, KINGSTON RI 02881
2. EXISTING CONDITIONS INFORMATION TAKEN FROM PLAN ENTITLED "TOPOGRAPHIC SURVEY, WHITE HORN APARTMENT, UNIVERSITY OF RHODE ISLAND," PREPARED BY WELCH ASSOCIATES LAND SURVEYORS, INC. DATED APRIL 20, 2016.
3. EXISTING UTILITY INFORMATION TAKEN FROM PLAN ENTITLED, "TOPOGRAPHIC SURVEY, WHITE HORN APARTMENT," PREPARED BY DIPRETE ENGINEERING DATED JUNE 26, 2016.
4. EXISTING CONDITIONS INFORMATION TAKEN FROM PROPOSED IMPROVEMENTS ON PLANS ENTITLED "BROOKSIDE APARTMENTS" PREPARED BY SASAKI DATED JULY 31, 2017, LATEST REVISION.
5. FLOOD STUDY INFORMATION TAKEN FROM FLOOD PLAN ENTITLED "FLOOD STUDY MAP," PREPARED BY GORDON R. ARCHIBALD, INC. DATED OCTOBER 2016.
6. WETLANDS AND RESOURCE AREAS WERE DELINEATED BY PARE CORPORATION ON DECEMBER 28, 2015. WETLAND FLAGS WERE LOCATED BY WELCH ASSOCIATES LAND SURVEYORS, INC. DURING A SITE VISIT ON MARCH 28, 2018, PARE VERIFIED THE ACCURACY OF THE DELINEATION AND REPLACED MISSING FLAGS.
7. VERTICAL DATUM IS MEAN SEA LEVEL.

GENERAL NOTES

- 1. PER AVAILABLE RIDEM MAPPING, THE PROJECT SITE IS LOCATED OUTSIDE OF A NATURAL HERITAGE AREA.
2. THE STATE OF RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2004 EDITION OR LATEST REVISION, AND THE RHODE ISLAND STANDARD DETAILS ARE MADE A PART HEREOF AS FULLY AND COMPLETELY AS IF ATTACHED HERETO. ALL WORK SHALL CONFORM TO THE RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION 2004 EDITION OR LATEST REVISION. THE 2004 EDITION OF THE STANDARD SPECIFICATIONS MAY BE OBTAINED AT THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION.
3. THE CONTRACTOR SHALL MAKE ALL NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN ALL NECESSARY CONSTRUCTION PERMITS, PAY ALL FEES AND POST ALL BONDS ASSOCIATED WITH THE SAME, AND COORDINATE WITH THE ENGINEER AND OWNER'S REPRESENTATIVE AS REQUIRED.
4. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR JOB SITE SAFETY. THE CONTRACTOR SHALL PROVIDE TEMPORARY FENCING AND/OR BARRIERS AROUND ALL OPEN EXCAVATED AREAS IN ACCORDANCE WITH OSHA STANDARDS, URI STANDARDS, AND THE TOWN OF SOUTH KINGSTOWN REQUIREMENTS.
5. IF ANY DEVIATION OR ALTERATION OF THE WORK PROPOSED ON THESE DRAWINGS IS REQUIRED, THE CONTRACTOR IS TO IMMEDIATELY CONTACT AND COORDINATE WITH THE ENGINEER AND OWNER'S REPRESENTATIVE.
6. ANY AREA OUTSIDE OF THE LIMIT OF WORK THAT IS DISTURBED SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT NO COST TO THE OWNER.
7. ALL SITE WORK SHALL MEET OR EXCEED THE SITE WORK SPECIFICATIONS PREPARED FOR THIS PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THAT THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS DO NOT CONFLICT WITH ANY KNOWN EXISTING OR OTHER PROPOSED IMPROVEMENTS. IF ANY CONFLICTS ARE DISCOVERED, THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE AND THE ENGINEER PRIOR TO INSTALLATION OF ANY PORTION OF THE SITE WORK WHICH WOULD BE AFFECTED.
8. ALL UTILITIES (LOCATION & ELEVATION) SHOWN SHALL BE CONSIDERED APPROXIMATE ONLY. BEFORE COMMENCING SITE WORK IN ANY AREA, CONTACT "DIP SAFE" AT 1-888-344-7233 AND DAVID LAMB, URI UTILITIES ENGINEER AT 401-874-7896 TO ACCURATELY LOCATE UNDERGROUND UTILITIES. ANY DAMAGE TO EXISTING UTILITIES OR STRUCTURES, AND THE COST TO REPAIR THE DAMAGES TO INITIAL CONDITIONS AS SHOWN ON THE PLANS, SHALL BE THE CONTRACTOR'S RESPONSIBILITY. NO EXCAVATION SHALL BE DONE UNTIL UTILITY COMPANIES ARE PROPERLY NOTIFIED.
9. NO EXCAVATION SHALL BE DONE UNTIL UTILITY COMPANIES ARE PROPERLY NOTIFIED IN ADVANCE. NOTE THAT NOT ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL RESPECTIVE UTILITY COMPANIES TO VERIFY AND LOCATE EXISTING UTILITIES.
10. WORK WITHIN FLOWING WATER SHALL OCCUR DURING THE LOW FLOW TIME OF YEAR (JULY 1 THROUGH OCTOBER 31).

LAYOUT NOTES

- 1. ALL LINES ARE PERPENDICULAR OR PARALLEL TO THE LINES FROM WHICH THEY ARE MEASURED, UNLESS OTHERWISE INDICATED.
2. ACCESSIBLE RAMPS SHALL BE CONSTRUCTED PER THE AMERICANS WITH DISABILITIES ACT (ADA) ACCESSIBILITY GUIDELINES, LATEST REVISION.
3. CONTRACTOR TO PERFORM BENCHMARK FIELD LEVEL VERIFICATION AND COORDINATE LAYOUT CHECK PRIOR TO CONSTRUCTION. CONTRACTOR SHALL CONTACT PARE CORPORATION IF ANY DISCREPANCIES ARE FOUND.
4. DIMENSIONS OF PARKING SPACES AND DRIVEWAYS ARE FROM FACE OF CURB TO FACE OF CURB. DIMENSIONS FROM BUILDING ARE FROM FACE OF BUILDING TO FACE OF CURB.

DEMOLITION NOTES

- 1. THE CONTRACTOR SHALL COORDINATE ALL DEMOLITION OF STRUCTURES, PAVEMENT AND CONCRETE MATERIALS, AND UTILITIES WITH APPROPRIATE PROPOSED SITE GENERAL, GRADING, DRAINAGE, UTILITY, AND LANDSCAPING DRAWINGS.
2. ALL NOTED UTILITIES TO BE REMOVED AND DISPOSED, RELOCATED, OR CAPPED REPRESENT ALL KNOWN SITE CONDITIONS TO BE DEMOLISHED. CONTRACTOR TO COORDINATE ANY UNFORESEEN CONDITIONS WITH THE PROJECT ENGINEER, OWNER, AND/OR RESPECTIVE UTILITY COMPANIES PRIOR TO PROCEEDING WITH THE WORK.
3. WATER, SEWER, DRAINAGE, GAS, AND OTHER SITE UTILITIES SERVING THE EXISTING FACILITIES ARE TO REMAIN ACTIVE THROUGHOUT CONSTRUCTION.
4. THERE SHALL BE NO INTERRUPTION OF UTILITY SERVICE THROUGHOUT THE DURATION OF CONSTRUCTION WITHOUT WRITTEN APPROVAL FROM THE OWNER.
5. ALL EXISTING CATCH BASINS TO REMAIN SHALL BE CLEANED PRIOR TO COMMENCING WORK.

GRADING AND UTILITY NOTES

- 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THAT THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS DO NOT CONFLICT WITH ANY KNOWN EXISTING OR OTHER PROPOSED IMPROVEMENTS. IF CONFLICTS ARE DISCOVERED, THE CONTRACTOR SHALL NOTIFY THE OWNER AND THE ENGINEER PRIOR TO INSTALLATION OF ANY PORTION OF THE SITE WORK WHICH WOULD BE AFFECTED. NO FIELD ADJUSTMENTS IN THE LOCATION OF SITE ELEMENTS SHALL BE MADE WITHOUT THE ENGINEER'S APPROVAL.
2. ALL WORK PERFORMED AND ALL MATERIALS FURNISHED SHALL CONFORM WITH THE LINES AND GRADES ON THE PLANS AND THE SITE WORK SPECIFICATIONS.
3. AT ALL LOCATIONS WHERE EXISTING CURBING OR PAVEMENT ABUTS NEW CONSTRUCTION, THE EDGE OF THE EXISTING CURB OR PAVEMENT SHALL BE SAWCUT TO A CLEAN, SMOOTH EDGE. BLEND NEW PAVEMENT AND CURBS SMOOTHLY INTO EXISTING BY MATCHING LINES, GRADES, AND JOINTS.
4. ALL UTILITY COVERS, GRATES, ETC. SHALL BE ADJUSTED TO BE FLUSH WITH THE SURROUNDING SURFACE OR PAVEMENT FINISH GRADE. RIM ELEVATIONS OF STRUCTURES AND MANHOLES ARE APPROXIMATE. FINAL ELEVATIONS ARE TO BE SET FLUSH AND CONSISTENT WITH THE GRADING PLANS.
5. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION OF PRIVATE UTILITIES BY THE UTILITY COMPANIES, AS REQUIRED.
6. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION, AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION.
7. THE CONTRACTOR SHALL PROTECT ALL UNDERGROUND DRAINAGE, SEWER, AND UTILITY FACILITIES FROM EXCESSIVE VEHICULAR LOADS DURING CONSTRUCTION. ANY DAMAGE TO THESE FACILITIES RESULTING FROM CONSTRUCTION LOADS WILL BE RESTORED TO ORIGINAL CONDITION BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.
8. GAS, ELECTRIC, AND COMMUNICATIONS ROUTING ARE SUBJECT TO REVIEW AND APPROVAL BY APPROPRIATE UTILITY COMPANIES AND DAVID LAMB, URI UTILITIES ENGINEER.
9. DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL PROTECT EXISTING UTILITIES BY PROVIDING TEMPORARY SUPPORTS OR SHEETING AS REQUIRED AT NO ADDITIONAL COST TO THE OWNER.
10. ALL WATER LINE BENDS AND TEES SHALL BE REINFORCED WITH THRUST BLOCKS. ALL WATER DISTRIBUTION PIPING AND FITTINGS SHALL BE INSPECTED BEFORE, DURING, AND AFTER CONSTRUCTION PRIOR TO TAPPING THE SERVICE MAIN.
11. EXCAVATION REQUIRED WITHIN THE PROXIMITY OF EXISTING UTILITY LINES SHALL BE DONE BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT NO COST TO THE OWNER.
12. PITCH EVENLY BETWEEN SPOT GRADES. ALL PAVED AREAS MUST PITCH TO DRAIN AT A MIN. OF 1/8" PER FOOT UNLESS OTHERWISE SPECIFIED.
14. THE PROPOSED WALKWAYS SHALL HAVE A MAXIMUM CROSS SLOPE OF 2.0% AND A MAXIMUM RUNNING SLOPE OF 5.0% AS SHOWN ON CONSTRUCTION DETAILS AND GRADING PLAN.
15. THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND DISPOSAL OF ALL ROCK AND BOULDERS UNCOVERED DURING UTILITY INSTALLATION. REFER TO EARTHWORK SPECIFICATION.
16. THE CONTRACTOR IS RESPONSIBLE FOR ALL EQUIPMENT, MATERIALS, AND LABOR REQUIRED TO CLEAN OUT EXISTING CATCH BASINS AND PIPING PRIOR TO COMMENCING WORK.
17. MATERIALS AND INSTALLATION OF GAS PIPING AND APPURTENANCES SHALL BE COORDINATED WITH THE UNIVERSITY OF RHODE ISLAND AND NATIONAL GRID. ALL COMPONENTS SHALL CONFORM TO NATIONAL GRID SPECIFICATIONS.

EROSION AND SEDIMENTATION CONTROL NOTES

- 1. THE CONTRACTOR AND RELEVANT SUBCONTRACTORS SHALL READ AND UNDERSTAND THE RIDEM FRESHWATER WETLANDS PERMIT, THE RIDEM GENERAL PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY (GENERAL PERMIT) AND THE SITE SPECIFIC SOIL EROSION AND SEDIMENT CONTROL PLAN (SESC) PREPARED FOR THE PROJECT. ALL EROSION CONTROLS SHALL BE IN ACCORDANCE WITH THE RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST REVISION.
2. THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE CONDITIONS ISSUED FOR THE PROJECT BY RIDEM AND BE RESPONSIBLE FOR CONFORMANCE WITH ALL PERMIT REQUIREMENTS AND CONSTRUCTION DOCUMENTS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING OR INSTALLING ALL TEMPORARY SEDIMENT AND EROSION CONTROLS AS SHOWN ON THESE PLANS AND SHALL MAINTAIN ALL EROSION CONTROL MEASURES AS NECESSARY DURING THE ENTIRE CONSTRUCTION PERIOD.
4. ANTI-TRACKING PADS (R.I. STD. DETAIL 9.0.0) SHALL BE PROVIDED AT ALL POINTS OF EGRESS OR INGRESS AND SHALL BE MAINTAINED TO LIMIT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADS.
5. EROSION CONTROL BARRIERS SHALL BE INSTALLED AS SHOWN ON THE EROSION CONTROL PLAN PRIOR TO COMMENCEMENT OF CONSTRUCTION OPERATIONS.
6. SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSPECTED AND MAINTAINED ON A WEEKLY BASIS AND AFTER EACH STORM EVENT OF 0.25 INCH OR GREATER DURING CONSTRUCTION TO INSURE THAT CHANNELS, DITCHES AND PIPES ARE CLEAR OF DEBRIS AND THAT THE EROSION CONTROL BARRIERS ARE INTACT. THE CONTRACTOR SHALL CORRECT IDENTIFIED DEFICIENCIES IMMEDIATELY.
7. DUST SHALL BE CONTROLLED BY WATERING OR OTHER APPROVED METHODS AS NECESSARY, OR AS DIRECTED BY THE OWNER OR OWNER'S REPRESENTATIVE.
8. THE CONTRACTOR SHALL CLEAN AND MAINTAIN EROSION CONTROL BARRIER WHEN SEDIMENT ACCUMULATES TO ONE HALF THE HEIGHT OF THE BARRIER. MATERIAL COLLECTED FROM THE SEDIMENTATION BARRIERS SHALL BE REMOVED AS NECESSARY AND DISPOSED IN AN UPLAND AREA.
9. THE CONTRACTOR SHALL SCHEDULE THE CONSTRUCTION SEQUENCE TO ALLOW THE FINISHED SUBGRADE ELEVATIONS TO DRAIN PROPERLY WITHOUT PONDING. SPECIFICALLY, ALLOW WATER TO ESCAPE WHERE PROPOSED CURB MAY RETAIN RUNOFF PRIOR TO APPLICATION OF SURFACE PAVING. PROVIDE TEMPORARY POSITIVE DRAINAGE, AS REQUIRED, TO STABILIZED DISCHARGE POINTS.
10. INSTALLATION OF THE EROSION CONTROL BARRIERS AS ILLUSTRATED IS INTENDED TO REPRESENT THE MINIMUM SEDIMENTATION CONTROL FACILITIES NECESSARY TO MEET ANTICIPATED SITE CONDITIONS. ADDITIONAL EROSION CONTROL MEASURES SHALL BE IMPLEMENTED AS CONDITIONS WARRANT OR AS DIRECTED BY THE OWNER OR OWNER'S REPRESENTATIVE AT NO ADDITIONAL COST TO THE OWNER.
11. REQUIRED SEDIMENTATION CONTROL FACILITIES MUST BE PROPERLY ESTABLISHED, CLEARLY VISIBLE AND IN OPERATION PRIOR TO INITIATING ANY LAND CLEARING ACTIVITY AND/OR OTHER CONSTRUCTION RELATED WORK. SUCH FACILITIES SHALL REPRESENT THE LIMIT OF WORK. WORKERS SHALL BE INFORMED THAT NO CONSTRUCTION ACTIVITY IS TO OCCUR BEYOND THE LIMIT OF WORK AT ANY TIME THROUGHOUT THE CONSTRUCTION PERIOD.
12. THE CONTRACTOR SHALL MAINTAIN A SUFFICIENT RESERVE OF VARIOUS EROSION CONTROL MATERIALS ONSITE AT ALL TIMES FOR EMERGENCY PURPOSES OR ROUTINE MAINTENANCE.
13. DEWATERING WASTE WATERS PUMPED FROM EXCAVATIONS WILL BE CONVEYED BY HOSE TO AN UPLAND AREA AND DISCHARGED INTO HAYBALE CORALS OR SEDIMENTATION BAGS. THE CONTRACTOR IS RESPONSIBLE FOR ALL ENGINEERING, EQUIPMENT, MATERIAL, AND LABOR REQUIRED FOR SITE WATER REMOVAL DURING CONSTRUCTION.
14. THE CONTRACTOR SHALL NOT REMOVE ANY HAYBALES, COMPOST FILTER SOCKS, OR OTHER EROSION CONTROLS UNTIL THE CONTRIBUTING DRAINAGE AREA HAS BEEN PERMANENTLY STABILIZED.
15. CONSTRUCTION SITE WASTE MATERIALS WILL BE PROPERLY CONTAINED ONSITE AND DISPOSED OFF SITE AT A LOCATION IN ACCORDANCE WITH THE LOCAL AND STATE REGULATIONS.
16. RIP-RAP OR OTHER ENERGY DISSIPATORS WILL BE USED WHERE NECESSARY TO PREVENT SCOUR.
17. ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 14 DAYS UPON COMPLETION OF WORK IN THAT AREA.
18. ALL DRAINAGE STRUCTURES SHALL BE CLEARED OF ACCUMULATED SEDIMENT PRIOR TO FINAL ACCEPTANCE OF THE PROJECT.
19. NEWLY VEGETATED AREAS SHALL BE MAINTAINED REGULARLY TO ENSURE STABLE VEGETATED SURFACES.
20. EROSION AND SEDIMENTATION CONTROLS WILL BE UTILIZED AS SHOWN ON THE PLANS. POTENTIAL EROSION AND SEDIMENTATION PROBLEMS ASSOCIATED WITH THE CONSTRUCTION OF THE PROJECT WILL BE AVOIDED THROUGH THE PROJECT SCHEDULING AND THE USE OF APPROPRIATE STANDARD CONTROLS (RHODE ISLAND SOIL EROSION AND SEDIMENTATION CONTROL HANDBOOK) AS ILLUSTRATED ON THE PROJECT PLANS.
21. WHERE EROSION CONTROLS ARE NEEDED ON IMPERVIOUS SURFACES, THE CONTRACTOR SHALL PROVIDE SAND BAG EROSION CONTROL BARRIER.
22. TEMPORARY DIVERSION MAY CONSIST OF A DITCH OR SWALE, OR MAY BE ACHIEVED USING WOOD CHIPS, COIR LOGS, OR SIMILAR MATERIALS.
23. TEMPORARY SEDIMENT TRAPS (TST) SHALL BE SIZED BY THE CONTRACTOR USING THE PARAMETERS CONTAINED IN THE RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL MANUAL.
24. THE CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN SILT SACKS IN ALL EXISTING AND NEWLY INSTALLED CATCH BASINS UNTIL THE UPSTREAM AREA IS STABILIZED.

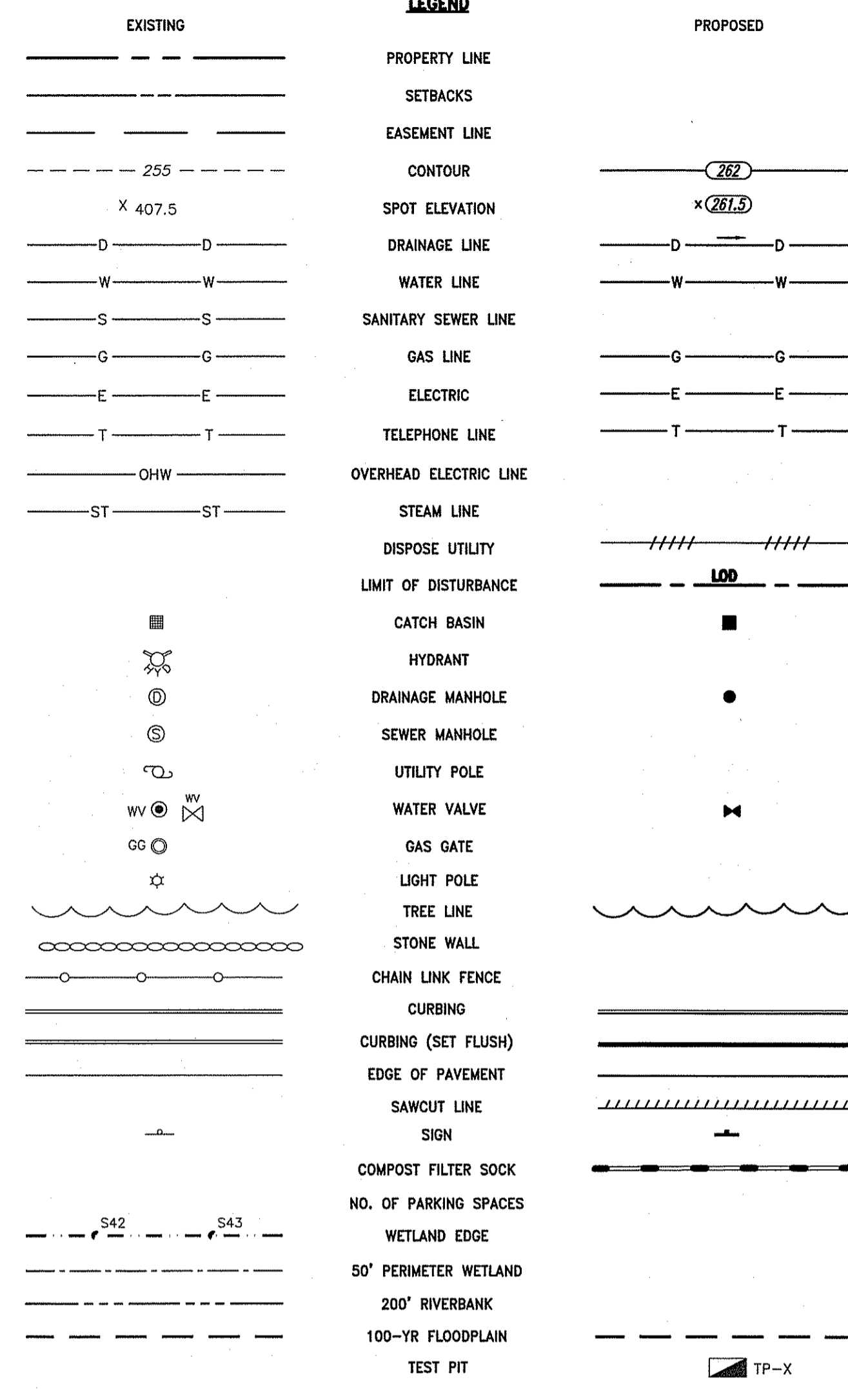
STORMWATER MANAGEMENT SYSTEM INSPECTION AND MAINTENANCE NOTES

DURING CONSTRUCTION

- 1. THE CONTRACTOR SHALL REMOVE SEDIMENT AND DEBRIS FROM ALL CATCH BASINS, MANHOLES, AND THE DRAINAGE SYSTEM ON A ROUTINE BASIS, IMMEDIATELY FOLLOWING SITE STABILIZATION, AND PRIOR TO PROJECT COMPLETION AND ACCEPTANCE.
2. THE CLOSED DRAINAGE SYSTEM AND ASSOCIATED STRUCTURES SHALL BE CLEANED AND FLUSHED BY THE CONTRACTOR AT THE COMPLETION OF CONSTRUCTION, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSPECTION AND MAINTENANCE OF THE DRAINAGE SYSTEM UNTIL ACCEPTANCE OF THE SYSTEM BY THE ENGINEER AND THE OWNER. FOLLOWING ACCEPTANCE OF THE PROPOSED DRAINAGE SYSTEM FOR THIS SITE, THE OWNER OF THE SITE SHALL BE RESPONSIBLE FOR THE LONG-TERM INSPECTION AND MAINTENANCE OF THE DRAINAGE SYSTEM.
3. ANY ACCUMULATION OF PONDING WATER IN AREAS WITHIN THE LIMITS OF DISTURBANCE, OTHER THAN DESIGNATED AREAS, SHALL BE REMOVED ACCORDINGLY AND PREVENTED IN THE FUTURE.

POST CONSTRUCTION

- 1. TRASH, LITTER, SEDIMENT AND OTHER DEBRIS SHALL BE REMOVED FROM ANY STORMWATER FACILITY (INCLUDING CATCH BASINS, MANHOLES, INLET AND OUTLET STRUCTURES) AT LEAST TWICE A YEAR, PREFERABLY SPRING AND FALL, AT THE COST OF THE OWNER.
2. THE ROADWAY SHALL BE SWEEP BY THE OWNER AS EARLY AS POSSIBLE EVERY SPRING AND ONCE IN THE FALL TO REMOVE SEDIMENTS.
3. ALL CLEANING AND MAINTENANCE OF THE DRAINAGE SYSTEM SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER.



- (ATG) = ADJUST TO GRADE
(BC) = BITUMINOUS CONCRETE PAVEMENT (SEE DETAIL)
(BOL) = BOLLARD
(CBS) = CATCH BASIN SIGN
(CFS) = COMPOST FILTER SOCK (SEE DETAIL)
(CG) = CLEAR AND GRUB TREES AND VEGETATION
(CM) = SAWCUT AND MATCH
(CS) = CRUSHED SHELLS
(CTE) = CONNECT TO EXISTING
(CW) = CROSS WALK (SEE DETAIL)
(DC) = REMOVE & DISPOSE CURB
(DCW) = REMOVE & DISPOSE CONCRETE WALK
(DD) = REMOVE & DISPOSE DRAINAGE
(DE) = REMOVE & DISPOSE ELECTRIC. REFER TO ELECTRIC.
(DFP) = REMOVE & DISPOSE FLEXIBLE PAVEMENT
(DG) = REMOVE & DISPOSE GUARDRAIL
(DGU) = REMOVE & DISPOSE GAS UTILITY
(DS) = REMOVE & DISPOSE SIGN, POST, AND FOUNDATION
(DTP) = REMOVE & DISPOSE UTILITY POLE. COORDINATE WITH ELECTRICAL ENGINEER.
(DW) = REMOVE & DISPOSE WATER
(DWP) = DETECTABLE WARNING PAVEMENT (SEE DETAIL)
(ETR) = EXISTING TO REMAIN. PROTECT DURING CONSTRUCTION.
(GV) = GATE VALVE
(HPR) = HEADWALL PROTECTION RACK
(HW) = HEADWALL (SEE DETAIL)
(LS) = LOAM AND SEED (SEE DETAIL)
(RA) = RIPRAP APRON

- (RTED) = REFER TO ELECTRICAL DRAWINGS
(RTLD) = REFER TO LANDSCAPE DRAWINGS
(RTMD) = REFER TO MECHANICAL DRAWINGS
(R&D) = REMOVE AND DISPOSE
(R&R) = REMOVE AND RESET
(R&S) = REMOVE AND STOCKPILE
(SB) = SAND BAG EROSION CONTROL BARRIER (SEE DETAIL)
(TDS) = TEMPORARY DIVERSION SWALE
(TIP) = TEMPORARY INLET PROTECTION
(TRM) = TURF REINFORCEMENT MAT
(TST) = TEMPORARY SEDIMENT TRAP
(4DY) = 4" DOUBLE YELLOW EPOXY RESIN PAVEMENT MARKING
(4W) = 4" SOLID WHITE EPOXY RESIN PAVEMENT MARKING
(4Y) = 4" SOLID YELLOW EPOXY RESIN PAVEMENT MARKING
(12W) = 12" SOLID WHITE EPOXY RESIN PAVEMENT MARKING
(4.2.2) = PRECAST 6'-0" ROUND MANHOLE - R.I. STD. 4.2.2
(4.4.0M) = PRECAST 4'-0", 5'-0", OR 6'-0" ROUND CATCH BASIN - R.I. STD. 4.4.0M
(4.7.2) = ALTERNATE TOP COVER FOR ROUND PRECAST MANHOLES AND CATCH BASINS - R.I. STD. 4.7.2
(7.1.0) = PRECAST CONCRETE CURB - R.I. STD. 7.1.0
(7.1.2) = 6'-0" PRECAST CONCRETE TRANSITION CURB - R.I. STD. 7.1.2
(7.3.0) = GRANITE CURB - R.I. STD. 7.3.0
(7.3.2) = 6'-0" GRANITE TRANSITION CURB - R.I. STD. 7.3.2
(7.3.5) = GRANITE INLET STONE (FOR SQUARE CATCH BASIN) - R.I. STD. 7.3.5
(7.4.0) = GRANITE SLOPED FACE CURB
(9.7.0) = DEWATERING BASIN - R.I. STD. 9.7.0
(9.9.0) = CONSTRUCTION ACCESS - R.I. STD. 9.9.0
(43.1.0M) = CEMENT CONCRETE SIDEWALK (MODIFIED) - R.I. STD. 43.1.0M
(43.3.1) = WHEELCHAIR RAMP FOR LIMITED RIGHT-OF-WAY AREAS - R.I. STD. 43.3.1
(48.1.0M) = DETECTABLE WARNING SYSTEM - R.I. STD. 48.1.0M

ABBREVIATIONS

- AD = AREA DRAIN
ASSF = AREA SUBJECT TO STORM FLOWAGE
BIT. = BITUMINOUS
BM = BENCHMARK
BMP = BEST MANAGEMENT PRACTICE
BS = BOTTOM OF STAIR
BW = BOTTOM OF WALL
CB = 4' DIA. CATCH BASIN UNLESS OTHERWISE NOTED
CC = VERTICAL CONCRETE CURB
CI = CAST IRON
CL = CLASS
CLDI = CEMENT-LINED DUCTILE IRON
CLF = CHAIN LINK FENCE
CO = CLEANOUT
CONC. = CONCRETE
DEMO = DEMOLITION
DIA = DIAMETER
DIV = DIVERSION
DMH = DRAIN MANHOLE
ELEV. = ELEVATION
EOP = EDGE OF PAVEMENT
EXIST. = EXISTING
EXCB = EXISTING CATCH BASIN
EXDMH = EXISTING DRAIN MANHOLE
FFE = FINISH FLOOR ELEVATION
FND. = FOUND
FT = FOOT
GRAN. = GRANITE
GTD = GRADE TO DRAIN
H = HIGH
HDPE = HIGH DENSITY POLYETHYLENE PIPE
HYD = HYDRANT
LD. = INNER DIAMETER
INV. = INVERT
LOD = LIMIT OF DISTURBANCE
LP = LOW POINT
MAX. = MAXIMUM
MIN. = MINIMUM
MON. = MONITORING
MUTCD = MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION
OCS = OUTLET CONTROL STRUCTURE
OHW = OVERHEAD WIRE
OWS = OIL WATER SEPARATOR
PE = POLYETHYLENE
PERF. = PERFORATED
PVC = POLYVINYL CHLORIDE
RCP = REINFORCED CONCRETE PIPE
RIDEM = RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
R.I.D.O.T. = RHODE ISLAND DEPARTMENT OF TRANSPORTATION
R.I. STD. = RHODE ISLAND STANDARD
R=K = RADIUS
SDR = STANDARD DIMENSIONAL RATIO
SESC = SOIL EROSION AND SEDIMENT CONTROL
SMH = SEWER MANHOLE
TBF = TREE BOX FILTER
TP = TEST PIT
TS = TOP OF STAIR
TW = TOP OF WALL
(TYP) = TYPICAL
UP = UTILITY POLE
VGC = VERTICAL GRANITE CURB
W = WIDE
W/ = WITH
YO = YARD DRAIN



OWNER/APPLICANT: UNIVERSITY OF RHODE ISLAND OFFICE OF CAPITAL PROJECTS 60 TOOTELL ROAD KINGSTON, RHODE ISLAND TEL: 401-874-2725 AP 15-4, LOT 7 & AP 23-1, LOT 1

WEST ALUMNI UTILITY IMPROVEMENTS UNIVERSITY OF RHODE ISLAND West Alumni Avenue Kingston, RI

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF WATER RESOURCES FRESHWATER WETLANDS PROGRAM APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL DATED OCT 03 2018 FILE # 18-0099 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL APPROVED PLANS MUST BE AT CONSTRUCTION SITE

DAVID L. POTTER No. 8665 REGISTERED PROFESSIONAL ENGINEER CIVIL

Environmental Management Office of Water Resources MAY 04 2018 REVISIONS

PROJECT NO.: 15180.04 DATE: APRIL 18, 2018 SCALE: NOT TO SCALE DESIGNED BY: VAH CHECKED BY: DLP DRAWN BY: AKL APPROVED BY: DLP DRAWING TITLE:

NOTES & LEGEND DRAWING NO.: C1.1 SHEET NO. 3 OF 14

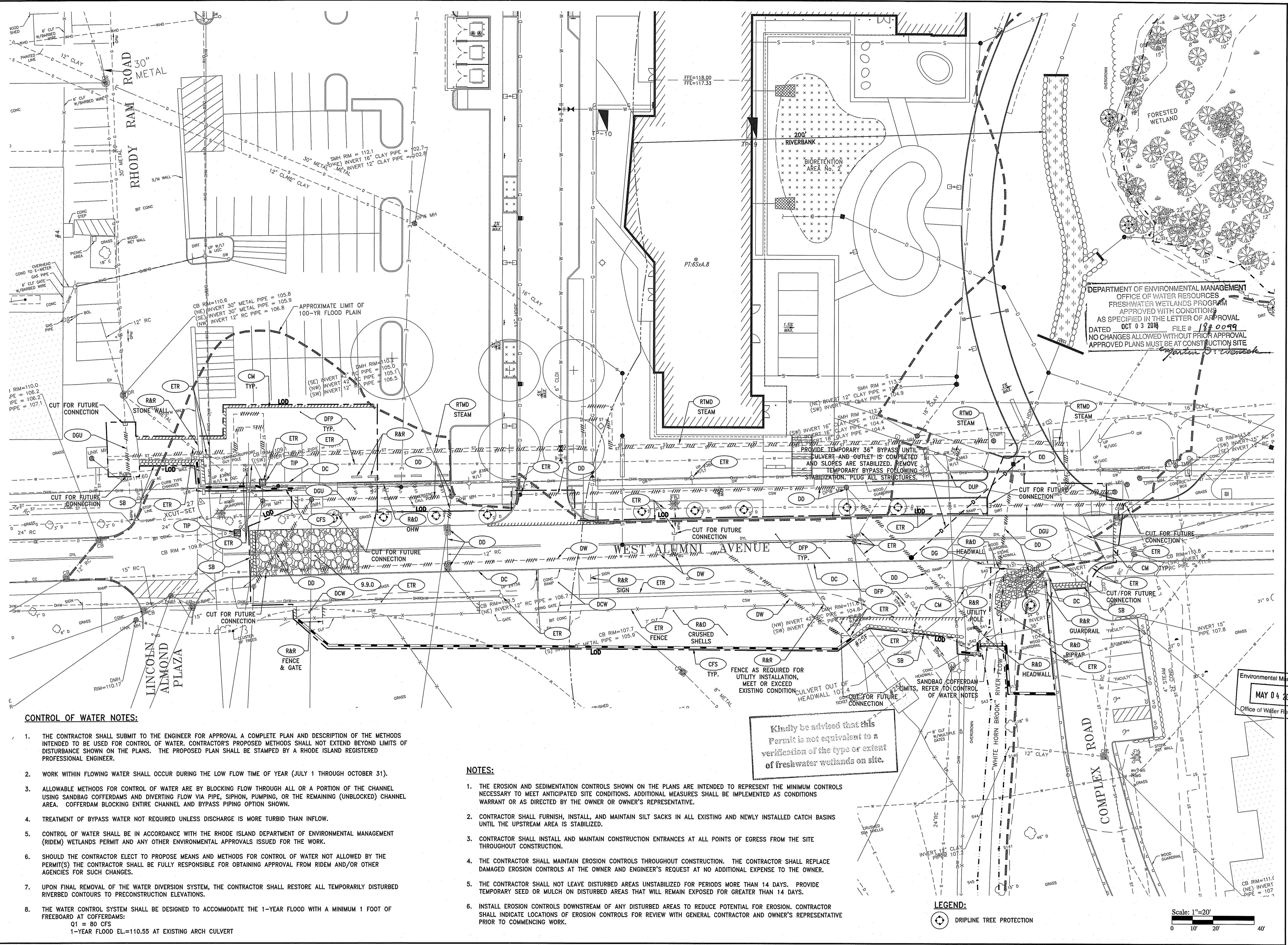
WEST ALUMNI UTILITY IMPROVEMENTS
UNIVERSITY OF RHODE ISLAND
 West Alumni Avenue
 Kingston, RI

DAVID L. POTTER
 No. 8665
 REGISTERED PROFESSIONAL ENGINEER
 CIVIL

Environmental Management
 MAY 04 2018
 Office of Water Resources

REVISIONS:

PROJECT NO.:	15180.04
DATE:	APRIL 18, 2018
SCALE:	1"=20'
DESIGNED BY:	VAH
CHECKED BY:	DLP
DRAWN BY:	AKL
APPROVED BY:	DLP
DRAWING TITLE:	DEMOLITION, EROSION & SEDIMENTATION CONTROL PLAN
DRAWING NO.:	C2.1
SHEET NO.:	4 OF 14



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
 APPROVED WITH CONDITIONS
 AS SPECIFIED IN THE LETTER OF APPROVAL
 DATED OCT 03 2018 FILE # 18-0099
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

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

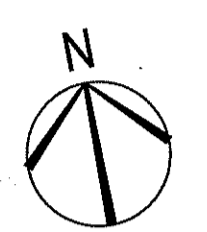
CONTROL OF WATER NOTES:

1. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL A COMPLETE PLAN AND DESCRIPTION OF THE METHODS INTENDED TO BE USED FOR CONTROL OF WATER. CONTRACTOR'S PROPOSED METHODS SHALL NOT EXTEND BEYOND LIMITS OF DISTURBANCE SHOWN ON THE PLANS. THE PROPOSED PLAN SHALL BE STAMPED BY A RHODE ISLAND REGISTERED PROFESSIONAL ENGINEER.
2. WORK WITHIN FLOWING WATER SHALL OCCUR DURING THE LOW FLOW TIME OF YEAR (JULY 1 THROUGH OCTOBER 31).
3. ALLOWABLE METHODS FOR CONTROL OF WATER ARE BY BLOCKING FLOW THROUGH ALL OR A PORTION OF THE CHANNEL USING SANDBAG COFFERDAMS AND DIVERTING FLOW VIA PIPE, SIPHON, PUMPING, OR THE REMAINING (UNBLOCKED) CHANNEL AREA. COFFERDAM BLOCKING ENTIRE CHANNEL AND BYPASS PIPING OPTION SHOWN.
4. TREATMENT OF BYPASS WATER NOT REQUIRED UNLESS DISCHARGE IS MORE TURBID THAN INFLOW.
5. CONTROL OF WATER SHALL BE IN ACCORDANCE WITH THE RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (RIDEM) WETLANDS PERMIT AND ANY OTHER ENVIRONMENTAL APPROVALS ISSUED FOR THE WORK.
6. SHOULD THE CONTRACTOR ELECT TO PROPOSE MEANS AND METHODS FOR CONTROL OF WATER NOT ALLOWED BY THE PERMIT(S) THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR OBTAINING APPROVAL FROM RIDEM AND/OR OTHER AGENCIES FOR SUCH CHANGES.
7. UPON FINAL REMOVAL OF THE WATER DIVERSION SYSTEM, THE CONTRACTOR SHALL RESTORE ALL TEMPORARILY DISTURBED RIVERBED CONTOURS TO PRECONSTRUCTION ELEVATIONS.
8. THE WATER CONTROL SYSTEM SHALL BE DESIGNED TO ACCOMMODATE THE 1-YEAR FLOOD WITH A MINIMUM 1 FOOT OF FREEBOARD AT COFFERDAMS:
 $Q1 = 80 \text{ CFS}$
 1-YEAR FLOOD EL.=110.55 AT EXISTING ARCH CULVERT

NOTES:

1. THE EROSION AND SEDIMENTATION CONTROLS SHOWN ON THE PLANS ARE INTENDED TO REPRESENT THE MINIMUM CONTROLS NECESSARY TO MEET ANTICIPATED SITE CONDITIONS. ADDITIONAL MEASURES SHALL BE IMPLEMENTED AS CONDITIONS WARRANT OR AS DIRECTED BY THE OWNER OR OWNER'S REPRESENTATIVE.
2. CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN SILT SACKS IN ALL EXISTING AND NEWLY INSTALLED CATCH BASINS UNTIL THE UPSTREAM AREA IS STABILIZED.
3. CONTRACTOR SHALL INSTALL AND MAINTAIN CONSTRUCTION ENTRANCES AT ALL POINTS OF EGRESS FROM THE SITE THROUGHOUT CONSTRUCTION.
4. THE CONTRACTOR SHALL MAINTAIN EROSION CONTROLS THROUGHOUT CONSTRUCTION. THE CONTRACTOR SHALL REPLACE DAMAGED EROSION CONTROLS AT THE OWNER AND ENGINEER'S REQUEST AT NO ADDITIONAL EXPENSE TO THE OWNER.
5. THE CONTRACTOR SHALL NOT LEAVE DISTURBED AREAS UNSTABILIZED FOR PERIODS MORE THAN 14 DAYS. PROVIDE TEMPORARY SEED OR MULCH ON DISTURBED AREAS THAT WILL REMAIN EXPOSED FOR GREATER THAN 14 DAYS.
6. INSTALL EROSION CONTROLS DOWNSTREAM OF ANY DISTURBED AREAS TO REDUCE POTENTIAL FOR EROSION. CONTRACTOR SHALL INDICATE LOCATIONS OF EROSION CONTROLS FOR REVIEW WITH GENERAL CONTRACTOR AND OWNER'S REPRESENTATIVE PRIOR TO COMMENCING WORK.

SAVE DATE:23-Apr-18 8:50:14 AM PLOT DATE:23-Apr-18 10:08:43 AM
 Z:\JOBS\15 JOBS\15180.04 SASAKI\URI WEST ALUMNI AVE UTILITIES-RIDEM\G2.1 DEMOLITION EROSION & SEDIMENTATION CONTROL PLAN.DWG



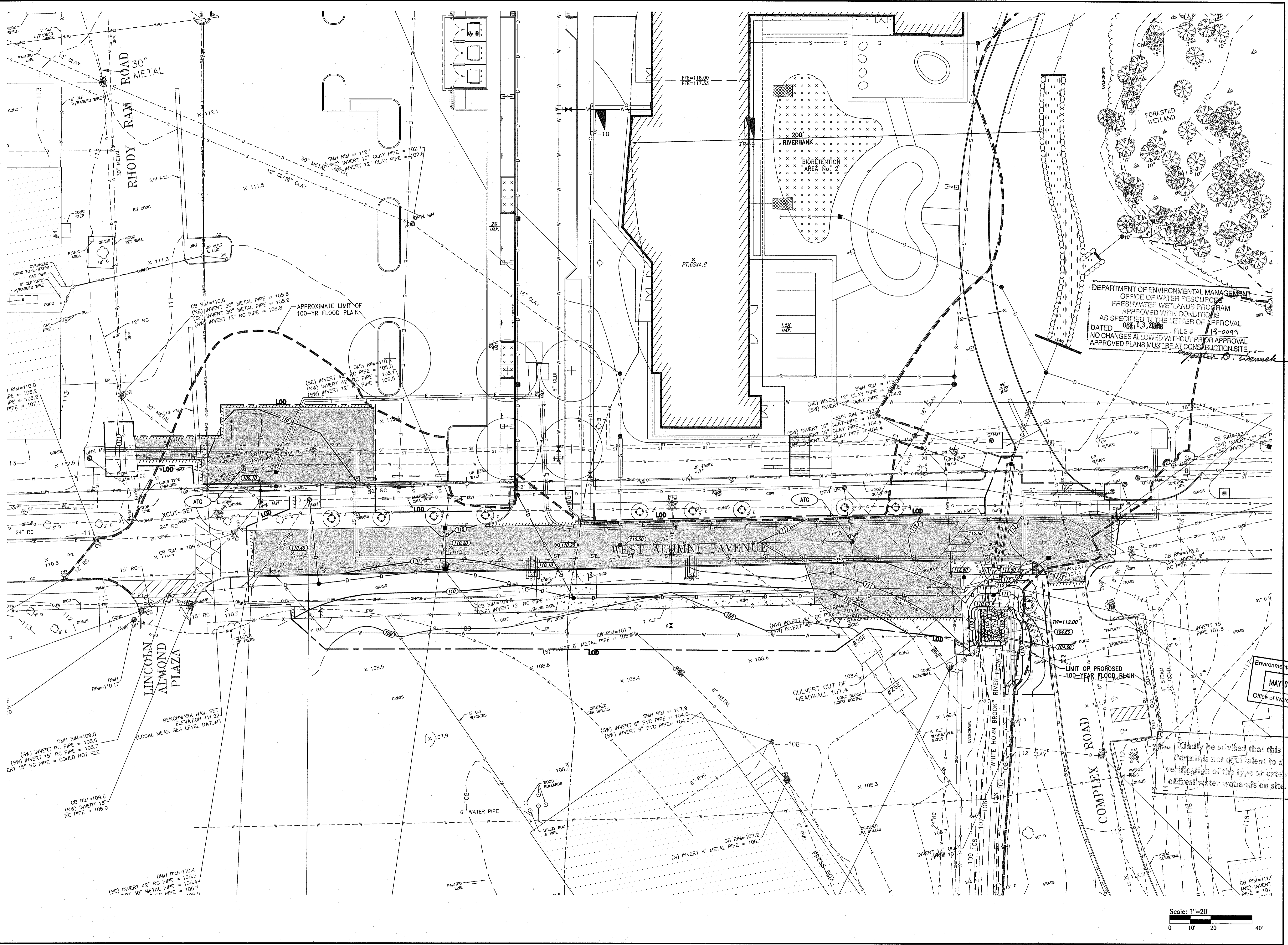
WEST ALUMNI UTILITY IMPROVEMENTS
UNIVERSITY OF RHODE ISLAND
 West Alumni Avenue
 Kingston, RI

DAVID L. POTTER
 No. 8665
 REGISTERED PROFESSIONAL ENGINEER
 (Civil)

Environmental Management
 MAY 04 2018
 REVISIONS:

PROJECT NO.: 15180.04
 DATE: APRIL 18, 2018
 SCALE: 1"=20'
 DESIGNED BY: VAH
 CHECKED BY: DLP
 DRAWN BY: AKL
 APPROVED BY: DLP
 DRAWING TITLE:

GRADING PLAN
 DRAWING NO.: C4.1
 SHEET NO.: 6 OF 14



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
 APPROVED WITH CONDITIONS
 AS SPECIFIED IN THE LETTER OF APPROVAL
 DATED 08/03/2018 FILE # 18-0099
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

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

SAVE DATE: 23-Apr-18 8:01:56 AM PLOT DATE: 23-Apr-18 10:10:08 AM
 Z:\JOBS\15 JOBS\15180.04 SASAKI\RI WEST ALUMNI AVE UTILITIES-RI\DWG\C4.1 GRADING PLAN.DWG

OWNER/APPLICANT:
 UNIVERSITY OF RHODE ISLAND
 OFFICE OF CAPITAL PROJECTS
 60 TOTTILL ROAD
 KINGSTON, RHODE ISLAND
 TEL: 401-874-2725
 AP 15-4, LOT 7 &
 AP 23-1, LOT 1



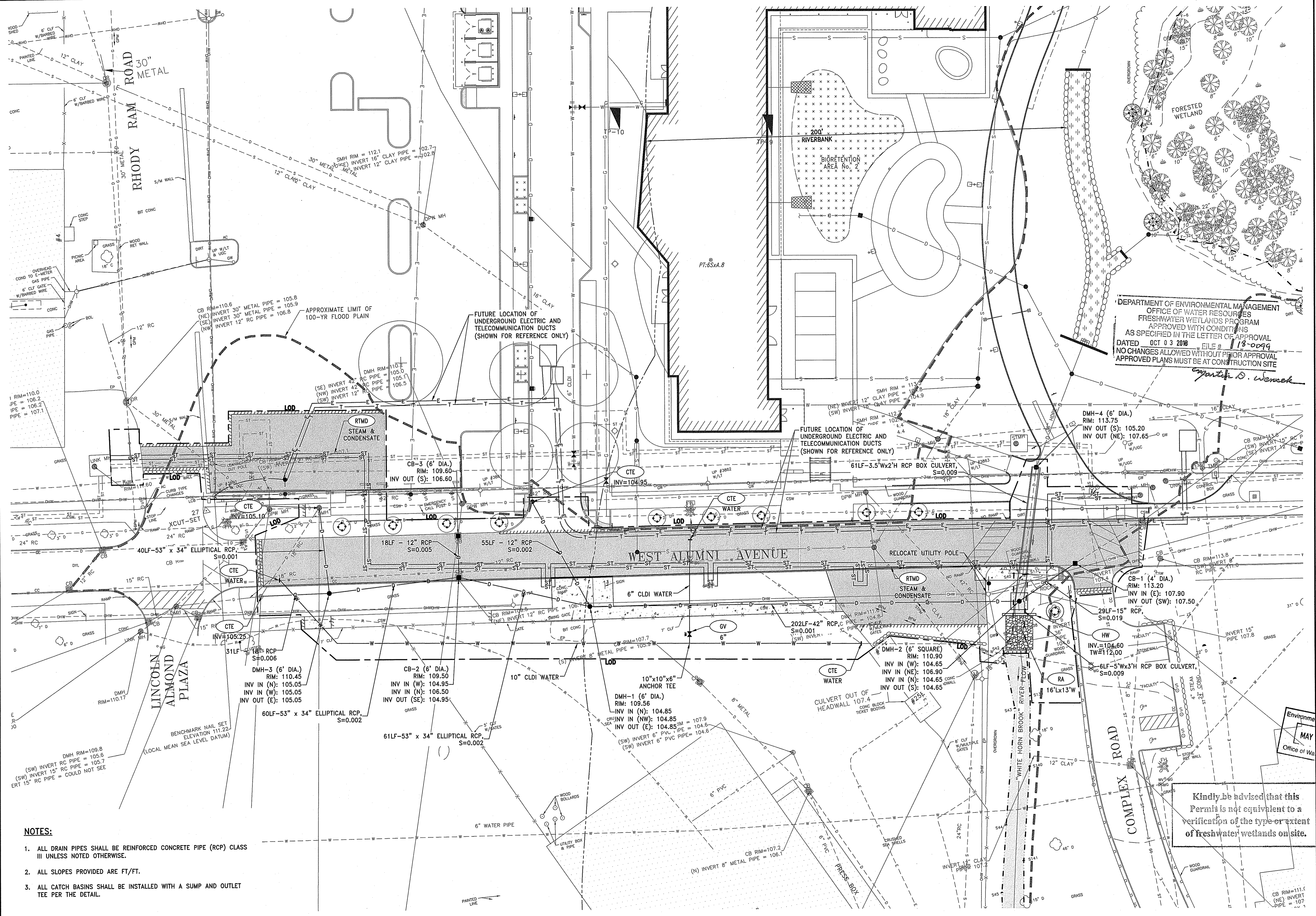
WEST ALUMNI UTILITY IMPROVEMENTS
UNIVERSITY OF RHODE ISLAND
 West Alumni Avenue
 Kingston, RI

DAVID L. POTTER
 No. 8665
 REGISTERED PROFESSIONAL ENGINEER
 CIVIL

REVISIONS:
 Environmental Management
 MAY 04 2018
 Office of Water Resources

PROJECT NO.: 15180.04
 DATE: APRIL 18, 2018
 SCALE: 1"=20'
 DESIGNED BY: VAH
 CHECKED BY: DLP
 DRAWN BY: AKL
 APPROVED BY: DLP
 DRAWING TITLE:

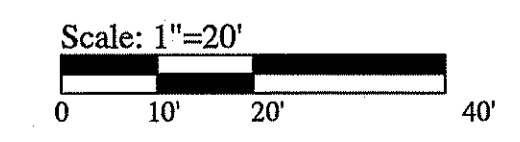
DRAINAGE & UTILITY PLAN
 DRAWING NO.:
C5.1
 SHEET NO. 7 OF 14



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
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 DATED OCT 03 2018 FILE # 18-0099
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 APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Matthew D. Wemel

Kindly be advised that this
 Permit is not equivalent to a
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 of freshwater wetlands on site.

- NOTES:**
- ALL DRAIN PIPES SHALL BE REINFORCED CONCRETE PIPE (RCP) CLASS III UNLESS NOTED OTHERWISE.
 - ALL SLOPES PROVIDED ARE FT/FT.
 - ALL CATCH BASINS SHALL BE INSTALLED WITH A SUMP AND OUTLET TEE PER THE DETAIL.

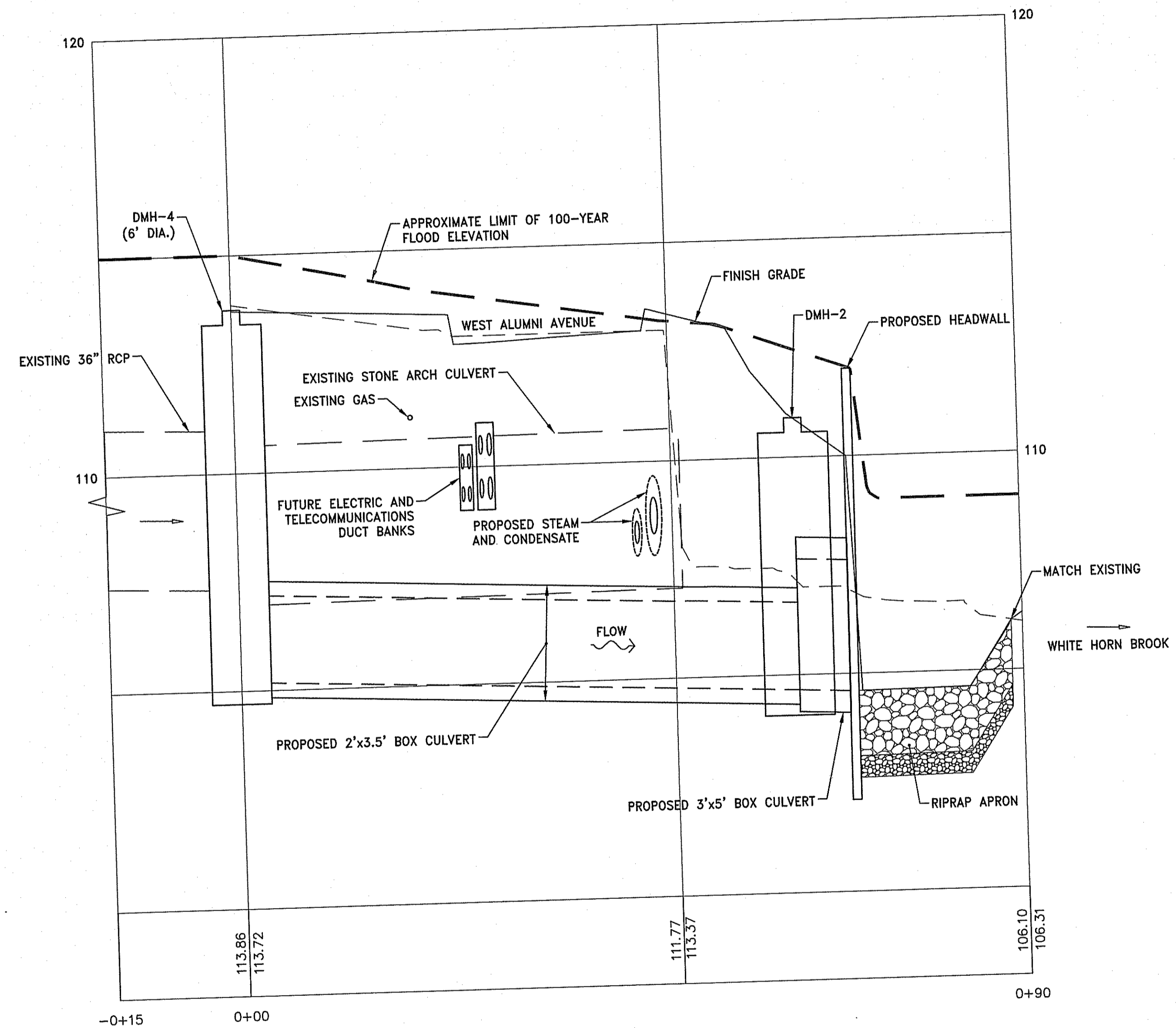


SAVE DATE: 22-Apr-18 10:08:01 AM PLOT DATE: 22-Apr-18 10:10:52 AM
 Z:\05815\058151804 SASAKI\URI WEST ALUMNI AVE UTILITIES\RIDINGS\CS1\DRAINAGE & UTILITY PLANDWG



WEST ALUMNI UTILITY IMPROVEMENTS
UNIVERSITY OF RHODE ISLAND
 West Alumni Avenue
 Kingston, RI

Environmental Management
 MAY 04 2018
 Office of Water Resources



CULVERT PROFILE
 SCALE: 1"=10' HOR.
 SCALE: 1"=2' VER.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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 FRESHWATER WETLANDS PROGRAM
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DAVID L. POTTER
 No. 8665
 REGISTERED PROFESSIONAL ENGINEER
 CIVIL
 04.18.18

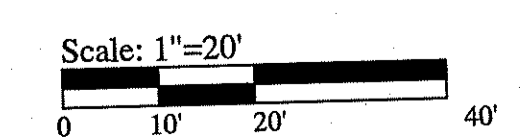
REVISIONS:

NO.	DESCRIPTION

PROJECT NO.: 15180.04
 DATE: APRIL 18, 2018
 SCALE: 1"=20'
 DESIGNED BY: VAH
 CHECKED BY: DLP
 DRAWN BY: AKL
 APPROVED BY: DLP
 DRAWING TITLE:

CULVERT PROFILE

DRAWING NO.:
C5.2
 SHEET NO. 8 OF 14



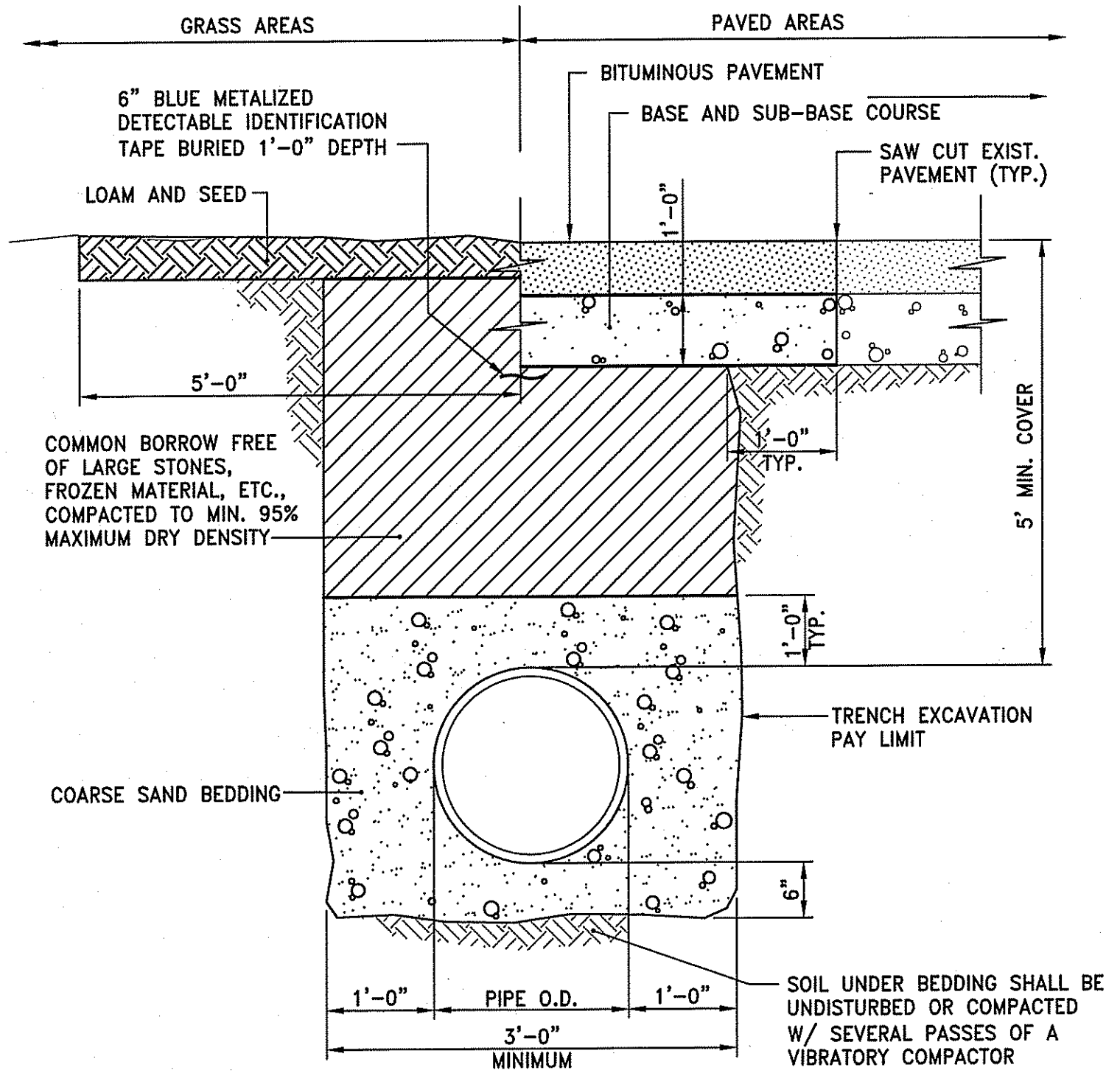
OWNER/APPLICANT:
 UNIVERSITY OF RHODE ISLAND
 OFFICE OF CAPITAL PROJECTS
 80 TOOTELL ROAD
 KINGSTON, RHODE ISLAND
 TEL: 401-874-2725
 AP 15-4, LOT 7 &
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WEST ALUMNI UTILITY IMPROVEMENTS
UNIVERSITY OF RHODE ISLAND
 West Alumni Avenue
 Kingston, RI

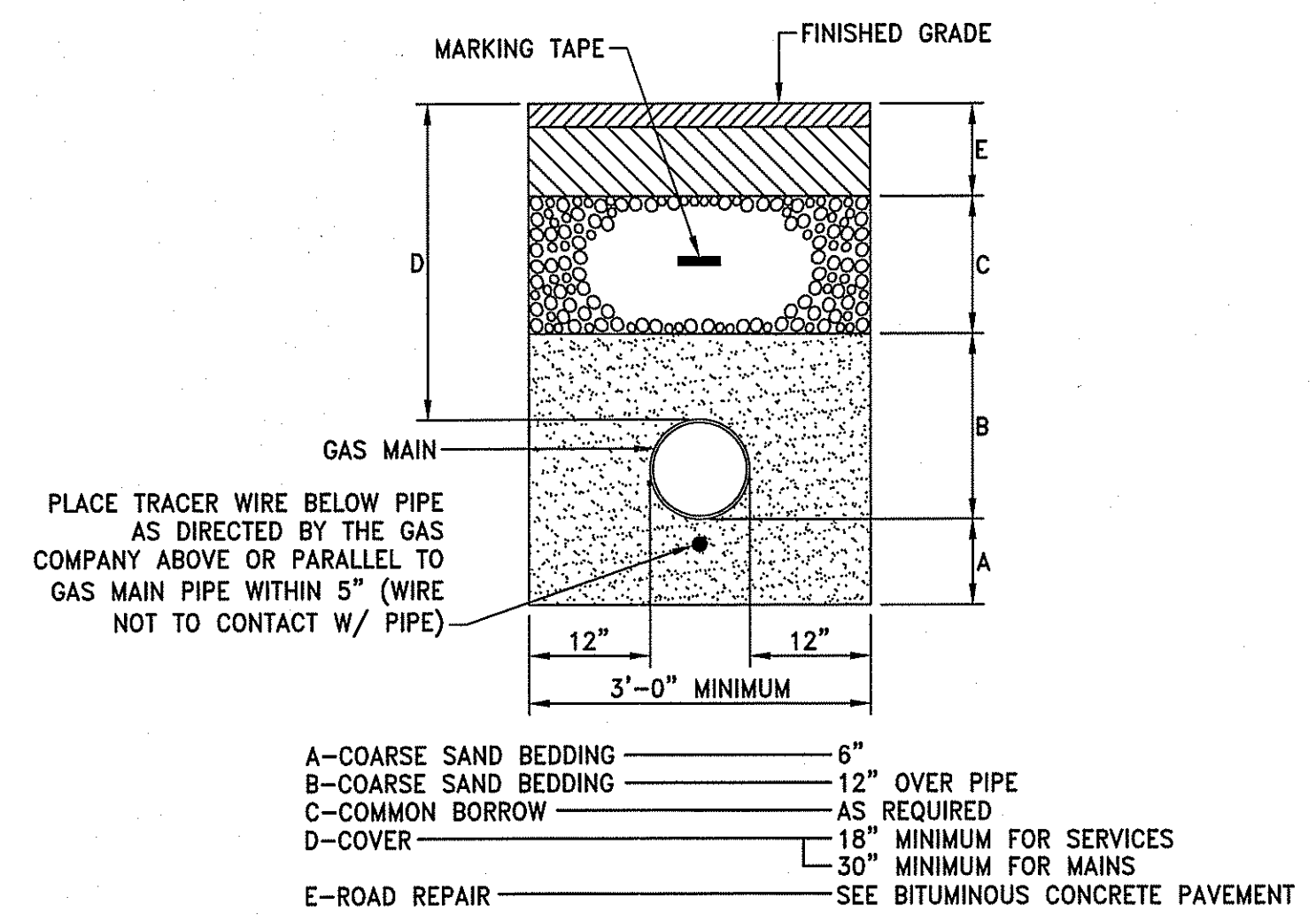
DAVID L. POTTER
 No. 8665
 REGISTERED PROFESSIONAL ENGINEER
 (CIVIL)
 04.18.18

REVISIONS:

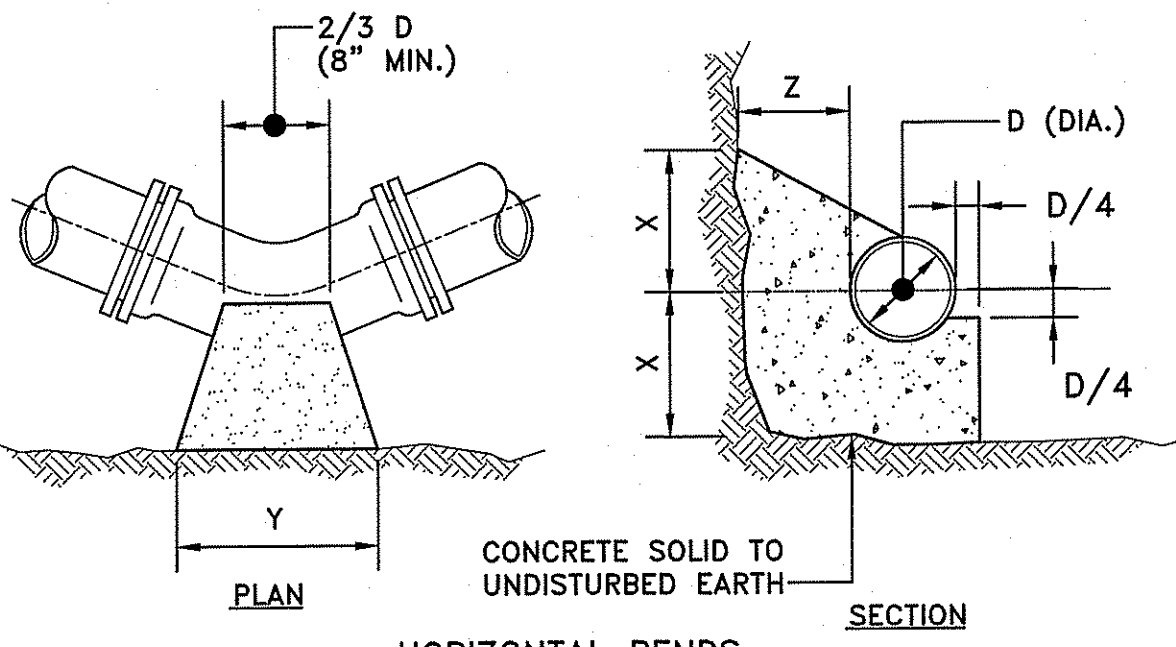
PROJECT NO.: 15180.04
 DATE: APRIL 18, 2018
 SCALE: NOT TO SCALE
 DESIGNED BY: VAH
 CHECKED BY: DLP
 DRAWN BY: AKL
 APPROVED BY: DLP
 DRAWING TITLE: DETAILS 4
 DRAWING NO.: C6.4
 SHEET NO. 12 OF 14



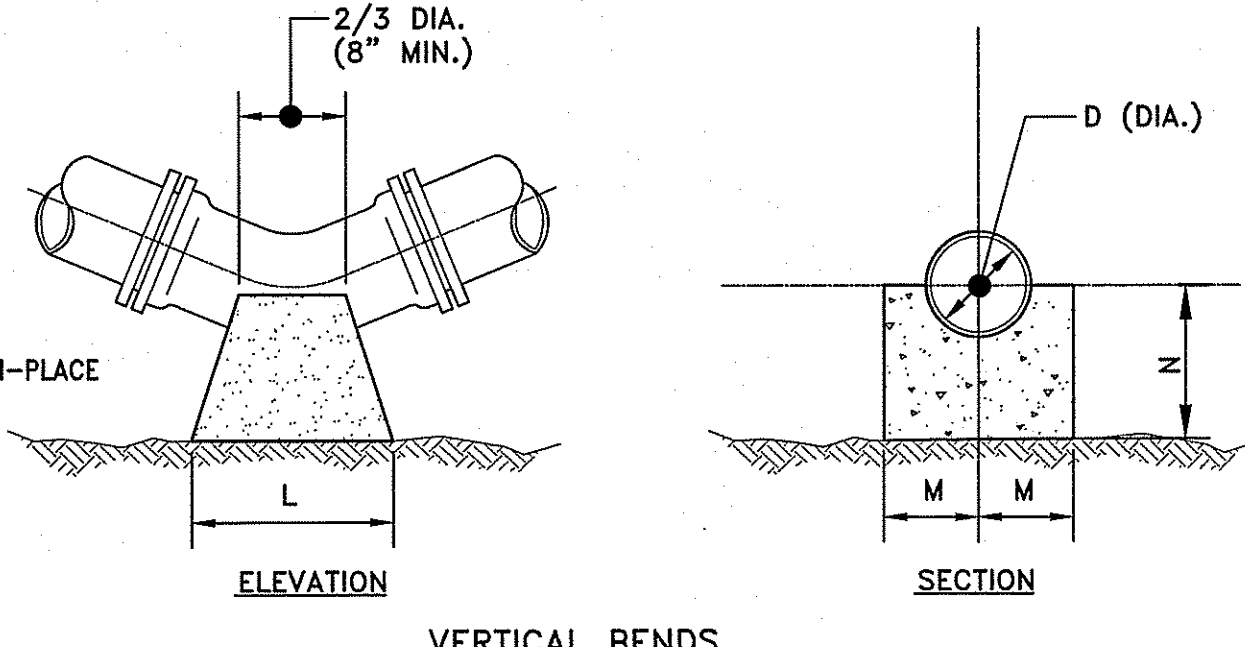
TYPICAL WATER MAIN TRENCH DETAIL
 NOT TO SCALE



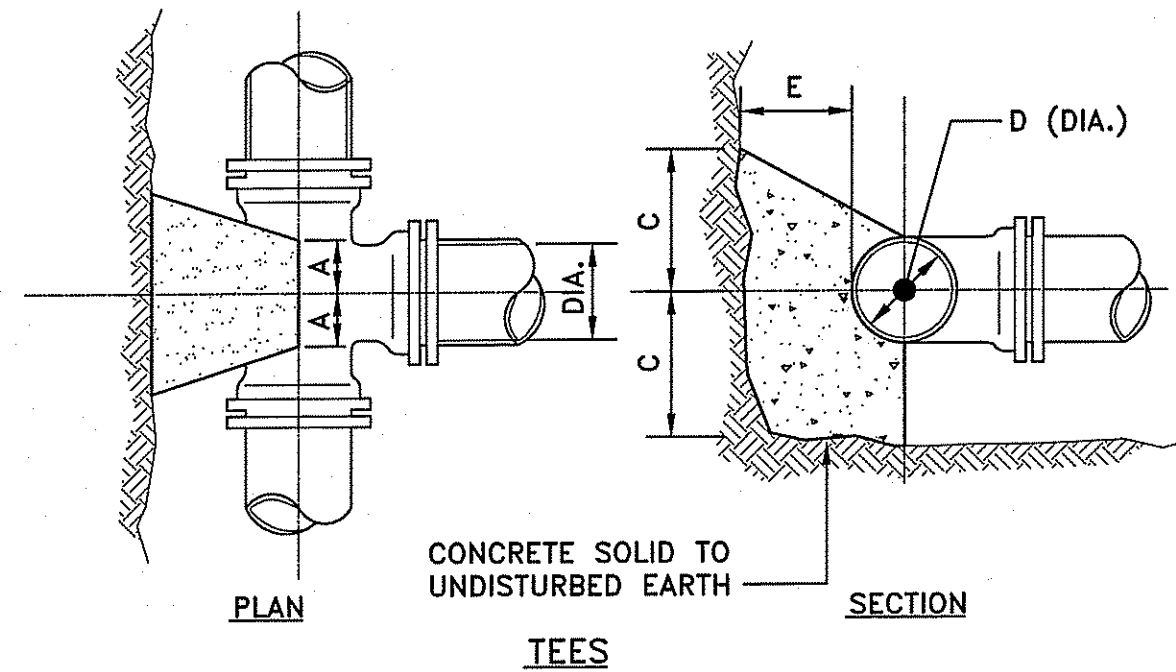
TYPICAL GAS MAIN TRENCH DETAIL
 NOT TO SCALE



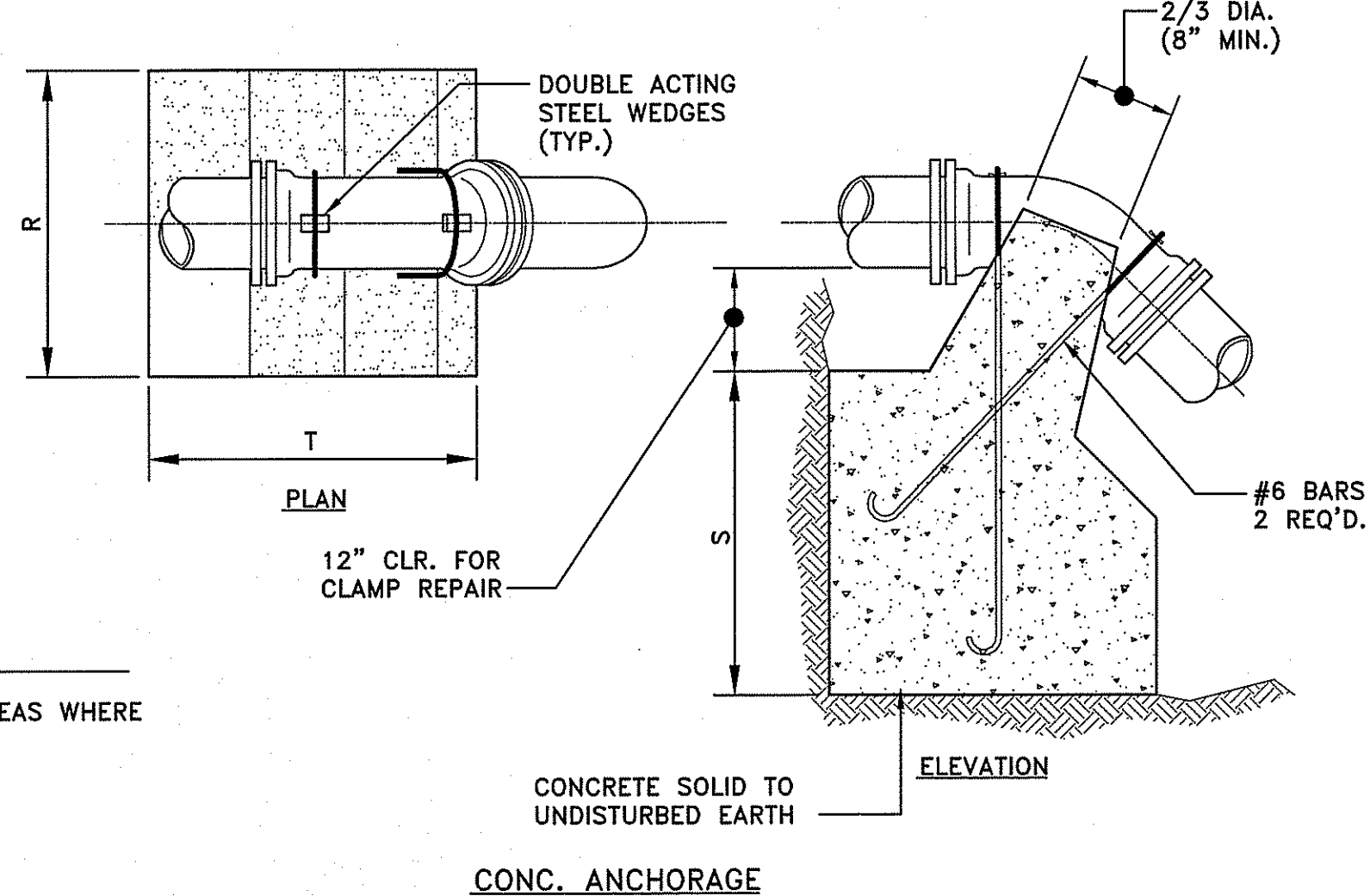
HORIZONTAL BENDS



VERTICAL BENDS



TEES

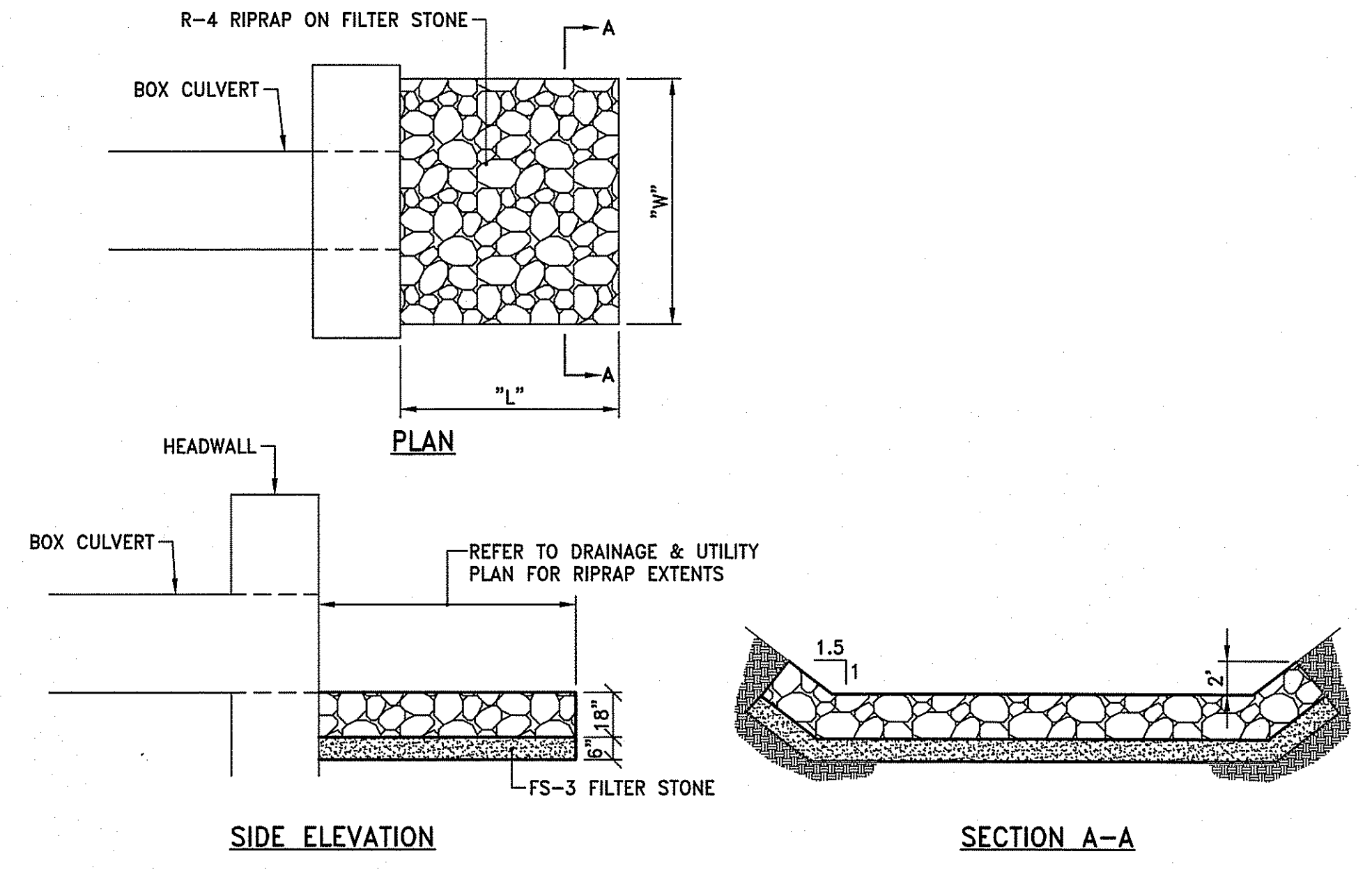


CONC. ANCHORAGE

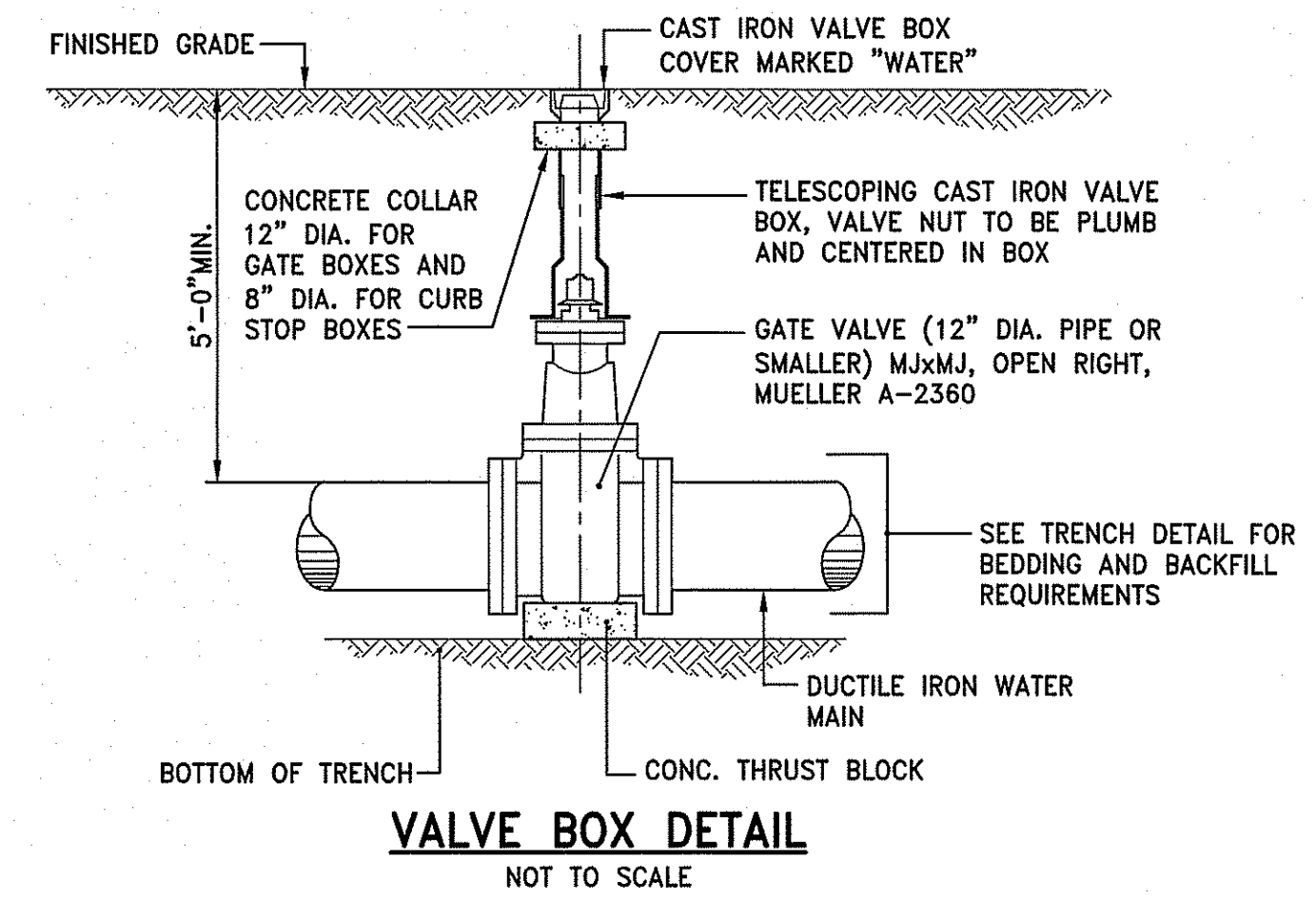
- NOTES:**
1. CONCRETE THRUST BLOCKS SHALL BEAR AGAINST UNDISTURBED EARTH. IN AREAS WHERE BEARING SOILS HAVE BEEN DISTURBED, RESTRAINED JOINTS SHALL BE USED.
 2. ALL FORCE MAIN BENDS, TEES, MAIN TAPS, AND END CAPS SHALL REQUIRE A CONCRETE THRUST BLOCK.

TEES					HORIZONTAL BENDS					VERTICAL BENDS					ANCHORAGES									
PIPE SIZE-D (DIA.)					PIPE SIZE-D (DIA.)					PIPE SIZE-D (DIA.)					PIPE SIZE-D (DIA.)									
A	6"	8"	10"	12"	X	1'-0"	1'-0"	1'-0"	1'-0"	L	1'-3"	1'-8"	2'-6"	3'-6"	R	2'-6"	3'-0"	4'-6"	5'-4"	B	6"	8"	12"	16"
B	8"	10"	12"	16"	Y	1'-0"	1'-6"	2'-0"	2'-6"	M	7"	8"	11"	1'-4"	S	2'-6"	2'-9"	3'-6"	2'-6"	C	8"	10"	12"	16"
C	10"	12"	16"	20"	Z	8"	10"	1'-2"	1'-4"	N	7"	8"	11"	1'-4"	T	3'-0"	4'-0"	4'-9"	7'-0"	E	8"	10"	12"	16"
E	8"	10"	12"	16"																				

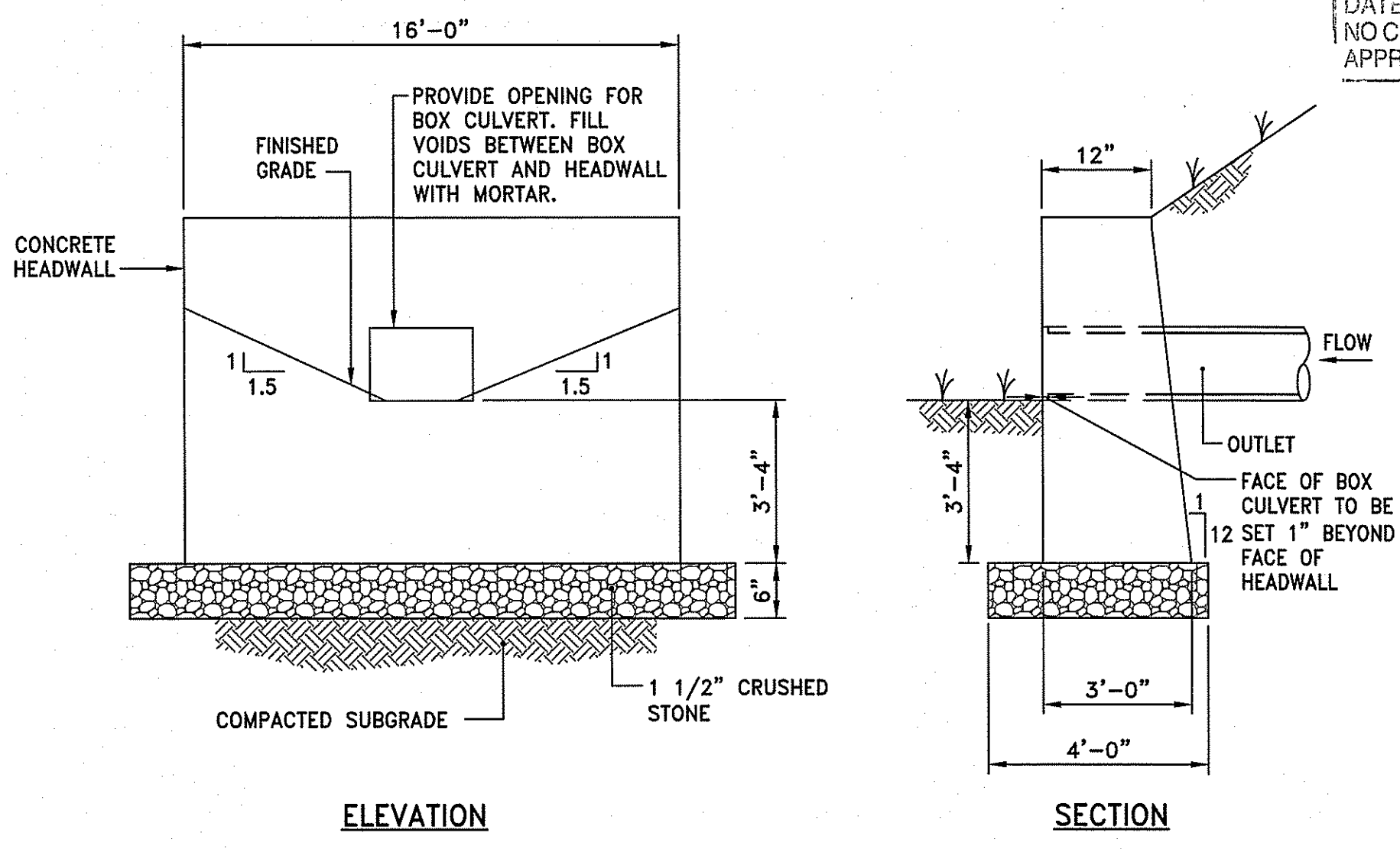
CONCRETE THRUST BLOCKS
 NOT TO SCALE



RA RIPRAP APRON
 NOT TO SCALE



VALVE BOX DETAIL
 NOT TO SCALE



HW CONCRETE HEADWALL DETAIL
 NOT TO SCALE

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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 Signature: D. Wenczek

SAVE DATE: 23-Apr-18 9:56:05 AM PLOT DATE: 23-Apr-18 10:11:23 AM
 Z:\JOBS\15_OBSS\15180.04_SASAKI\URI WEST ALUMNI AVE UTILITIES-RID\WGSCS\14.4_DETAILS.DWG

