PROPOSED SITE PLAN DOCUMENTS

FOR —

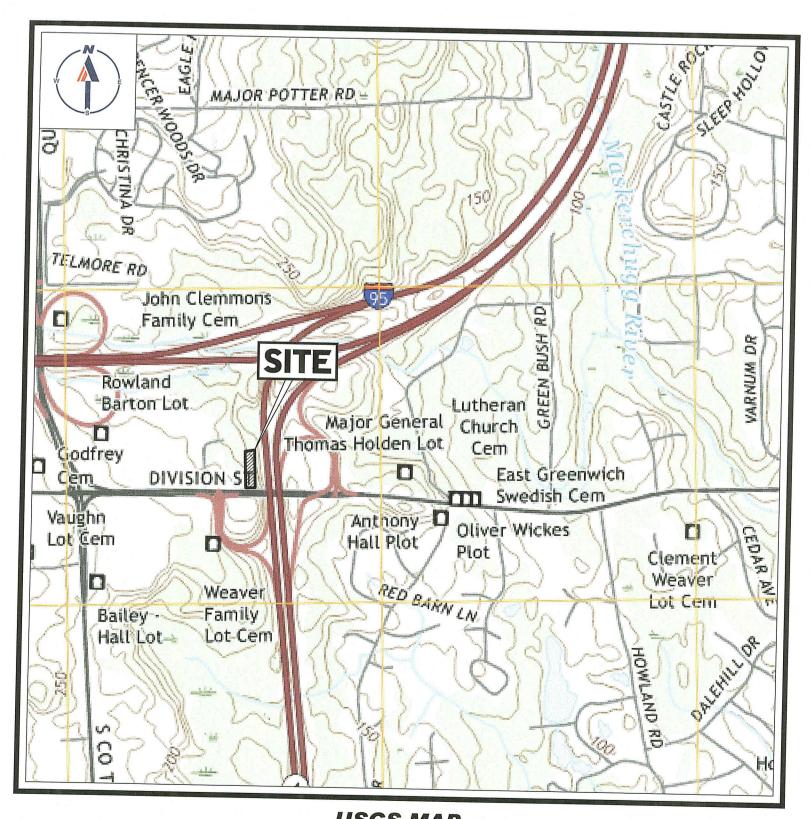
1119 DIVISION SITE, LLC

PROPOSED

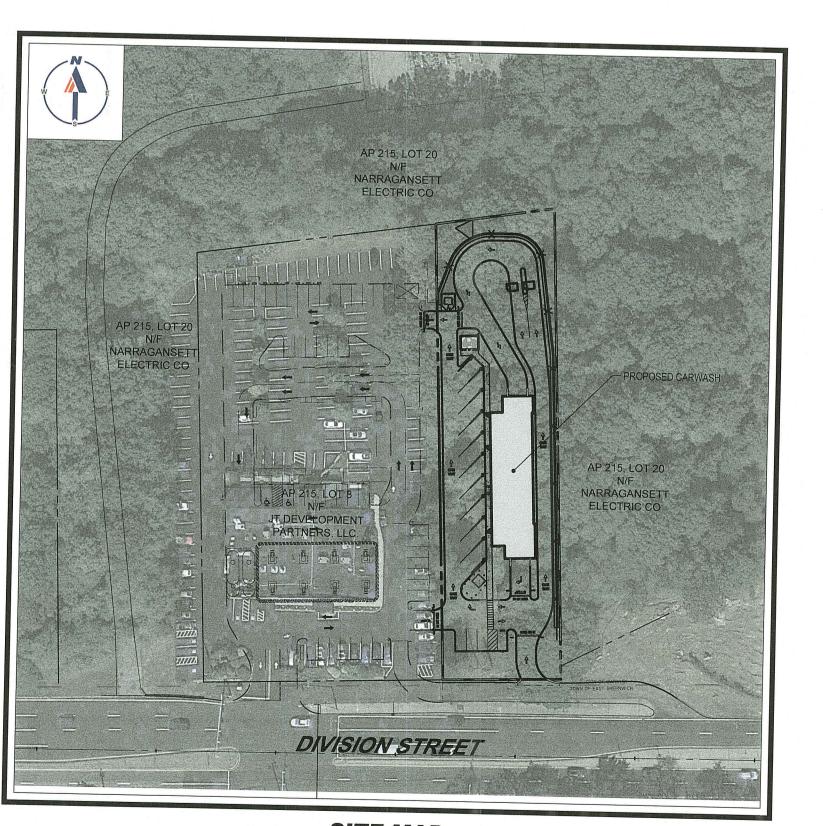
DRIVE-THRU CARWASH

LOCATION OF SITE:

1119 DIVISION STREET, CITY OF WARWICK,
KENT COUNTY, RHODE ISLAND
MAP 215, LOT 7



SCALE: 1" = 1,000'
SOURCE: EAST GREENWICH RHODE
ISLAND USGS QUADRANGLE



SCALE: 1" = 80'
SOURCE: GOOGLE AERIAL IMAGERY

PREPARED BY



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RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
REVIEWED SITE PLAN APPLICATION #: 22 - 0458
DATED: FEB 2 0 2023
SEE LETTER OF SAME DATE

NOWLY L. FREEMAN

Environmental Management

FEB - 2 2023

Office of Water Resources

SITE CIVIL AND CONSULTING ENGINEERING
LAND SURVEYING
PROGRAM MANAGEMENT
LANDSCAPE ARCHITECTURE
SUSTAINABLE DESIGN
PERMITTING SERVICES
TRANSPORTATION SERVICES

	F	REVISIONS	
REV	DATE	COMMENT	DRAWN BY
1	08/23/2022	REVISED FOR RIDOT SUBMISSION	CPB
2	08/25/2022	REVISED FOR RIDEM SUBMISSION	JF CPB JF
3	10/06/2022	REVISED FOR SEWER SUBMISSION	CPB JF
4	10/18/2022	REVISED PER RIDOT COMMENTS	CPB JF
5	01/04/2023	REVISED PER SEWER REVIEW COMMENTS	CPB JF
6	01/27/2023	REVISED PER RIDEM COMMENTS	СРВ
	-	- In the second	JF
		on	



PERMIT SET

THIS DRAWING IS INTENDED FOR M REVIEW AND APPROVAL. IT IS NOT IN DOCUMENT UNLESS INDIC	TENDED AS A CONSTRUCTION
PROJECT No.: DRAWN BY:	W211249

 PROJECT No.:
 W211249

 DRAWN BY:
 CPB

 CHECKED BY:
 JF

 DATE:
 02/24/2022

 CAD I.D.:
 W211249-CVL-6

PROPOSED SITE

PLAN DOCUMENTS

1119 DIVISION SITE, LLC

PROPOSED DRIVE-THRU CARWASH

MAP: 215 LOT: 7 1119 DIVISION STREET, CITY OF WARWICK, KENT COUNTY, RHODE ISLAND

BOHLER

352 TURNPIKE ROAD SOUTHBOROUGH, MA 01772 Phone: (508) 480-9900

www.BohlerEngineering.com

J.G. SWERLING

PROFESSIONAL ENGINEER:

MASSACHUSETTS LICENSE No. 41697

NEW HAMPSHIRE LICENSE No. 14695

MAINE LICENSE No. 13816

CONNECTICUT LICENSE No. 30785

RHODE ISLAND LICENSE No. 11425

SHEET TITL

SHEET

COVER

REVISION 6 - 01/27/2023

C-101

THE FOLLOWING DOCUMENTS ARE INCORPORATED BY REFERENCE AS PART OF THIS SITE PLAN:

CONTRACTOR MUST HAVE COPIES OF ALL PERMITS AND APPROVALS ON SITE AT ALL TIMES.

 "ALTA/NSPS LAND TITLE SURVEY, 1119 DIVISION STREET" PREPARED BY DIPRETE ENGINEERING, DATED 07/14/2021 • "FINAL PLAN SUBMISSION, 1149 DIVISION STREET" PREPARED BY DIPRETE ENGINEERING, DATED 04/27/2022.

• "SOAP CAR WASH, SCHEMATIC DESIGN PHASE #1" PREPARED BY CORDSTEN DESIGN ARCHITECTURE, INC., DATED 04/22/2022 "GEOTECHNICAL ENGINEERING REPORT FOR THE PROPOSED CAR WASH" PREPARED BY PAUL B. ALDINGER & ASSOCIATES, INC., DATED 06/17/202

PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR MUST VERIFY THAT HE/SHE HAS THE LATEST EDITION OF THE DOCUMENTS REFERENCED ABOVE.

ALL ACCESSIBLE (A/K/A ADA) PARKING SPACES MUST BE CONSTRUCTED TO MEET, AT A MINIMUM, THE MORE STRINGENT OF THE REQUIREMENTS OF THE "AMERICANS WITH DISABILITIES ACT" (ADA) CODE (42 U.S.C. § 12101 et seq. AND 42 U.S.C. § 4151 et seq.) OR THE REQUIREMENTS OF THE JURISDICTION WHERE THE

PROJECT IS TO BE CONSTRUCTED, AND ANY AND ALL AMENDMENTS TO BOTH WHICH ARE IN EFFECT WHEN THESE PLANS ARE COMPLETED. . PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO 4.

THE OWNER/CONTRACTOR MUST BE FAMILIAR WITH AND RESPONSIBLE FOR THE PROCUREMENT OF ANY AND ALL CERTIFICATIONS REQUIRED FOR THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY

CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED THE COMMENTS TO ALL PLANS AND OTHER

DOCUMENTS REVIEWED AND APPROVED BY THE PERMITTING AUTHORITIES AND CONFIRMED THAT ALL NECESSARY OR REQUIRED PERMITS HAVE BEEN OBTAINED.

ALL WORK MUST BE PERFORMED IN ACCORDANCE WITH THESE PLANS. SPECIFICATIONS AND CONDITIONS OF APPROVAL. AND ALL APPLICABLE REQUIREMENTS RULES, REGULATIONS, STATUTORY REQUIREMENTS, CODES, LAWS AND STANDARDS OF ALL GOVERNMENTAL ENTITIES WITH JURISDICTION OVER THIS PROJECT.

THE GEOTECHNICAL REPORT AND RECOMMENDATIONS SET FORTH HEREIN ARE A PART OF THE REQUIRED CONSTRUCTION DOCUMENTS AND, IN CASE OF 7. CONFLICT, DISCREPANCY OR AMBIGUITY, THE MORE STRINGENT REQUIREMENTS AND/OR RECOMMENDATIONS CONTAINED IN THE PLANS AND THE GEOTECHNICAL REPORT AND RECOMMENDATIONS SHALL TAKE PRECEDENCE UNLESS SPECIFICALLY NOTED OTHERWISE ON THE PLANS. THE CONTRACTOR MUST NOTIFY THE ENGINEER, IN WRITING, OF ANY SUCH CONFLICT, DISCREPANCY OR AMBIGUITY BETWEEN THE GEOTECHNICAL REPORTS AND PLANS AND SPECIFICATIONS PRIOR TO PROCEEDING WITH ANY FURTHER WORK.

THESE PLANS ARE BASED ON INFORMATION PROVIDED TO BOHLER ENGINEERING BY THE OWNER AND OTHERS PRIOR TO THE TIME OF PLAN PREPARATION. CONTRACTOR MUST FIELD VERIFY EXISTING CONDITIONS AND NOTIFY BOHLER ENGINEERING, IN WRITING, IMMEDIATELY IF ACTUAL SITE CONDITIONS DIFFER FROM THOSE SHOWN ON THE PLAN, OR IF THE PROPOSED WORK CONFLICTS WITH ANY OTHER SITE FEATURES.

ALL DIMENSIONS SHOWN ON THE PLANS MUST BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR MUST NOTIFY ENGINEER, IN WRITING, IF ANY CONFLICTS, DISCREPANCIES, OR AMBIGUITIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION. NO EXTRA COMPENSATION WILL BE PAID TO THE CONTRACTOR FOR WORK WHICH HAS TO BE REDONE OR REPAIRED DUE TO DIMENSIONS OR GRADES SHOWN INCORRECTLY ON THESE 9. PLANS PRIOR TO CONTRACTOR GIVING ENGINEER WRITTEN NOTIFICATION OF SAME AND ENGINEER, THEREAFTER, PROVIDING CONTRACTOR WITH WRITTEN AUTHORIZATION TO PROCEED WITH SUCH ADDITIONAL WORK.

9. CONTRACTOR MUST REFER TO THE ARCHITECTURAL/BUILDING PLANS "OF RECORD" FOR EXACT LOCATIONS AND DIMENSIONS OF ENTRY/EXIT POINTS, ELEVATIONS, PRECISE BUILDING DIMENSIONS, AND EXACT BUILDING UTILITY LOCATIONS

0 PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST COORDINATE THE BUILDING LAYOUT BY CAREFUL REVIEW OF THE ENTIRE SITE PLAN AND THE LATEST ARCHITECTURAL PLANS (INCLUDING, BUT NOT LIMITED TO, STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND FIRE SUPPRESSION PLAN WHERE APPLICABLE). CONTRACTOR MUST IMMEDIATELY NOTIFY OWNER, ARCHITECT AND SITE ENGINEER, IN WRITING, OF ANY CONFLICTS, DISCREPANCIES OR

MBIGUITIES WHICH EXIST 1. DEBRIS MUST NOT BE BURIED ON THE SUBJECT SITE AND ALL UNSUITABLE EXCAVATED MATERIAL AND DEBRIS (SOLID WASTE) MUST BE DISPOSED OF IN ACCORDANCE WITH THE REQUIREMENTS OF ANY AND ALL GOVERNMENTAL AUTHORITIES WHICH HAVE JURISDICTION OVER THIS PROJECT OR OVER CONTRACTOR.

2. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING WHEN SHORING IS REQUIRED AND FOR INSTALLING ALL SHORING REQUIRED DURING EXCAVATION (TO BE 11. ALL FILL, COMPACTION, AND BACKFILL MATERIALS REQUIRED FOR UTILITY INSTALLATION MUST BE AS PER THE RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT AND MUST 9. PERFORMED IN ACCORDANCE WITH CURRENT OSHA STANDARDS) AND ANY ADDITIONAL PRECAUTIONS TO BE TAKEN TO ASSURE THE STABILITY OF ADJACENT, NEARBY AND CONTIGUOUS STRUCTURES AND PROPERTIES.

3. THE CONTRACTOR IS TO EXERCISE EXTREME CARE WHEN PERFORMING ANY WORK ACTIVITIES ADJACENT TO PAVEMENT STRUCTURES FTC WHICH ARE TO REMAIN EITHER FOR AN INITIAL PHASE OF THE PROJECT OR AS PART OF THE FINAL CONDITION. CONTRACTOR IS RESPONSIBLE FOR TAKING ALL APPROPRIATE 12 MEASURES REQUIRED TO ENSURE THE STRUCTURAL STABILITY OF SIDEWALKS AND PAVEMENT, UTILITIES, BUILDINGS, AND INFRASTRUCTURE WHICH ARE TO REMAIN, AND TO PROVIDE A SAFE WORK AREA FOR THIRD PARTIES. PEDESTRIANS AND ANYONE INVOLVED WITH THE PROJECT

4. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE DONE TO ANY NEW OR EXISTING CONSTRUCTION OR PROPERTY DURING THE COURSE OF CONSTRUCTION, INCLUDING BUT NOT LIMITED TO DRAINAGE, UTILITIES, PAVEMENT, STRIPING, CURB, ETC. AND SHALL BEAR ALL COSTS ASSOCIATED WITH SAME 11 O INCLUDE, BUT NOT BE LIMITED TO, REDESIGN, RE-SURVEY, RE-PERMITTING AND CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR AND MUST REPLACE LL SIGNAL INTERCONNECTION CABLE, WIRING CONDUITS, AND ANY UNDERGROUND ACCESSORY EQUIPMENT DAMAGED DURING CONSTRUCTION AND MUST BEAR LL COSTS ASSOCIATED WITH SAME. THE REPAIR OF ANY SUCH NEW OR EXISTING CONSTRUCTION OR PROPERTY MUST RESTORE SUCH CONSTRUCTION OR 🔟 PROPERTY TO A CONDITION EQUIVALENT TO OR BETTER THAN THE CONDITIONS PRIOR TO COMMENCEMENT OF THE CONSTRUCTION, AND IN CONFORMANCE WITH APPLICABLE CODES, LAWS RULES, REGULATIONS, STATUTORY REQUIREMENTS AND STATUTES. CONTRACTOR MUST BEAR ALL COSTS ASSOCIATED WITH SAM CONTRACTOR IS RESPONSIBLE TO DOCUMENT ALL EXISTING DAMAGE AND TO NOTIFY THE OWNER AND THE CONSTRUCTION MANAGER PRIOR TO THE START OF

15. ALL CONCRETE MUST BE AIR ENTRAINED AND HAVE THE MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS UNLESS OTHERWISE NOTED ON THE PLANS,

16. THE ENGINEER IS NOT RESPONSIBLE FOR CONSTRUCTION METHODS, MEANS, TECHNIQUES OR PROCEDURES, GENERALLY OR FOR THE CONSTRUCTION MEANS. METHODS, TECHNIQUES OR PROCEDURES FOR COMPLETION OF THE WORK DEPICTED BOTH ON THESE PLANS, AND FOR ANY CONFLICTS/SCOPE REVISIONS WHICH RESULT FROM SAME. CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE METHODS/MEANS FOR COMPLETION OF THE WORK PRIOR TO THE COMMENCEMENT

7. THE ENGINEER OF RECORD IS NOT RESPONSIBLE FOR JOB SITE SAFETY. THE ENGINEER OF RECORD HAS NOT BEEN RETAINED TO PERFORM OR BE RESPONSIBLE FOR JOB SITE SAFETY. SAME BEING WHOLLY OUTSIDE OF ENGINEER'S SERVICES AS RELATED TO THE PROJECT. THE ENGINEER OF RECORD IS NOT RESPONSIBLE O IDENTIFY OR REPORT ANY JOB SITE SAFETY ISSUES, AT ANY TIME.

8. ALL CONTRACTORS MUST CARRY THE SPECIFIED STATUTORY WORKER'S COMPENSATION INSURANCE, EMPLOYER'S LIABILITY INSURANCE AND LIMITS OF COMMERCIAL GENERAL LIABILITY INSURANCE (CGL). ALL CONTRACTORS MUST HAVE THEIR CGL POLICIES ENDORSED TO NAME BOHLER ENGINEERING. AND ITS PAST PRESENT AND FUTURE OWNERS, OFFICERS, DIRECTORS, PARTNERS, SHAREHOLDERS, MEMBERS, PRINCIPALS, COMMISSIONERS, AGENTS, SERVANTS, 18. EMPLOYEES, AFFILIATES, SUBSIDIARIES, AND RELATED ENTITIES, AND ITS SUBCONTRACTORS AND SUBCONSULTANTS AS ADDITIONAL NAMED INSURED AND TO PROVIDE CONTRACTUAL LIABILITY COVERAGE SUFFICIENT TO INSURE THIS HOLD HARMLESS AND INDEMNITY OBLIGATIONS ASSUMED BY THE CONTRACTORS. ALL PROVIDE CONTRACTUAL LIABILITY GOVERAGE SUFFICIENT TO INSURE THIS HOLD HARWILLESS AND INDEPTION ACCOMMENT OBJECT TO COMMENCING. THE SOCIAL CONTRACTOR MUST FURNISH BOHLER ENGINEERING WITH CERTIFICATIONS OF INSURANCE AS EVIDENCE OF THE REQUIRED INSURANCE PRIOR TO COMMENCING. 19. IN THE EVENT OF DISCREPANCIES AND/OR CONFLICTS BETWEEN PLANS, THE SITE PLAN WILL TAKE PRECEDENCE AND CONTRACTOR MUST 17. CONTRACTOR IS RESPONSIBLE FOR SITE JOB SAFETY, WHICH MUST INCLUDE, BUT NOT BE LIMITED TO, THE INSTALLATION AND MAINTENANCE OF BARRIERS, FENCING AND WORK AND UPON RENEWAL OF EACH POLICY DURING THE ENTIRE PERIOD OF CONSTRUCTION AND FOR ONE YEAR AFTER THE COMPLETION OF CONSTRUCTION. IN ADDITION, ALL CONTRACTORS WILL, TO THE FULLEST EXTENT PERMITTED UNDER THE LAW, INDEMNIFY, DEFEND AND HOLD HARMLESS BOHLER ENGINEERING AND ITS PAST PRESENT AND FUTURE OWNERS OFFICERS DIRECTORS PARTNERS SHAREHOLDERS MEMBERS PRINCIPALS COMMISSIONERS AGENTS SERVANTS 20. MPLOYEES, AFFILIATES, SUBSIDIARIES, AND RELATED ENTITIES, AND ITS SUBCONTRACTORS AND SUBCONSULTANTS FROM AND AGAINST ANY DAMAGES, VURIES, CLAIMS, ACTIONS, PENALTIES, EXPENSES, PUNITIVE DAMAGES, TORT DAMAGES, STATUTORY CLAIMS, STATUTORY CAUSES OF ACTION, LOSSES, CAUSES OF ACTION, LIABILITIES OR COSTS, INCLUDING, BUT NOT LIMITED TO, REASONABLE ATTORNEYS' FEES AND DEFENSE COSTS, ARISING OUT OF OR IN ANY WAY CONNECTED WITH OR TO THE PROJECT, INCLUDING ALL CLAIMS BY EMPLOYEES OF THE CONTRACTORS, ALL CLAIMS BY THIRD PARTIES AND ALL CLAIMS RELATED. TO THE PROJECT. CONTRACTOR MUST NOTIFY ENGINEER, IN WRITING, AT LEAST THIRTY (30) DAYS PRIOR TO ANY TERMINATION, SUSPENSION OR CHANGE OF ITS

19. BOHLER ENGINEERING WILL REVIEW OR TAKE OTHER APPROPRIATE ACTION ON THE CONTRACTOR SUBMITTALS, SUCH AS SHOP DRAWINGS, PRODUCT DATA, SAMPLES, AND OTHER DATA, WHICH THE CONTRACTOR IS REQUIRED TO SUBMIT, BUT ONLY FOR THE LIMITED PURPOSE OF CHECKING FOR CONFORMANCE WITH THE DESIGN INTENT AND THE INFORMATION SHOWN IN THE CONSTRUCTION CONTRACT DOCUMENTS. CONSTRUCTION MEANS AND/OR METHODS AND/OR FECHNIQUES OR PROCEDURES. COORDINATION OF THE WORK WITH OTHER TRADES. AND CONSTRUCTION SAFETY PRECAUTIONS ARE THE SOLE RESPONSIBILITY 23 THE CONTRACTOR AND BOHLER HAS NO RESPONSIBILITY OR LIABILITY FOR SAME HEREUNDER. BOHLER ENGINEERING'S SHOP DRAWING REVIEW WILL BE CONDUCTED WITH REASONABLE PROMPTNESS WHILE ALLOWING SUFFICIENT TIME TO PERMIT ADEQUATE REVIEW. REVIEW OF A SPECIFIC ITEM MUST NOT INDICATE THAT BOHLER ENGINEERING HAS REVIEWED THE ENTIRE ASSEMBLY OF WHICH THE ITEM IS A COMPONENT. BOHLER ENGINEERING WILL NOT BE RESPONSIBLE FOR ANY DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS NOT PROMPTLY AND IMMEDIATELY BROUGHT TO ITS ATTENTION, IN WRITING, BY TH CONTRACTOR. BOHLER ENGINEERING WILL NOT BE REQUIRED TO REVIEW PARTIAL SUBMISSIONS OR THOSE FOR WHICH SUBMISSIONS OF CORRELATED ITEMS 25. HAVE NOT BEEN RECEIVED

20. NEITHER THE PROFESSIONAL ACTIVITIES OF BOHLER ENGINEERING, NOR THE PRESENCE OF BOHLER ENGINEERING AND/OR ITS PAST, PRESENT AND FUTURE OWNERS, OFFICERS, DIRECTORS, PARTNERS, SHAREHOLDERS, MEMBERS, PRINCIPALS, COMMISSIONERS, AGENTS, SERVANTS, EMPLOYEES, AFFILIATES, SUBSIDIARIES, AND RELATED ENTITIES, AND ITS SUBCONTRACTORS AND SUBCONSULTANTS AT A CONSTRUCTION/PROJECT SITE, SHALL RELIEVE THE GENERAL CONTRACTOR OF ITS OBLIGATIONS. DUTIES AND RESPONSIBILITIES INCLUDING. BUT NOT LIMITED TO. CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES PROCEDURES NECESSARY FOR PERFORMING, OVERSEEING, SUPERINTENDING AND COORDINATING THE WORK IN ACCORDANCE WITH THE CONTRACT OCUMENTS AND COMPLIANCE WITH ANY HEALTH OR SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES WITH JURISDICTION OVER THE PROJECT AND/OR PROPERTY. BOHLER ENGINEERING AND ITS PERSONNEL HAVE NO AUTHORITY TO EXERCISE ANY CONTROL OVER ANY CONSTRUCTION CONTRACTOR OR ITS EMPLOYEES IN CONNECTION WITH THEIR WORK OR ANY HEALTH OR SAFETY PROGRAMS OR PROCEDURES. THE GENERAL CONTRACTOR IS SOLELY RESPONSIBLE FOR JOB SITE SAFETY. BOHLER ENGINEERING SHALL BE INDEMNIFIED BY THE GENERAL CONTRACTOR AND MUST BE NAMED AN ADDITIONAL INSURED UNDER THE GENERAL CONTRACTOR'S POLICIES OF GENERAL LIABILITY INSURANCE AS DESCRIBED ABOVE IN NOTE 19 FOR JOB SITE SAFETY.

21.IF THE CONTRACTOR DEVIATES FROM THE PLANS AND SPECIFICATIONS, INCLUDING THE NOTES CONTAINED HEREIN, WITHOUT FIRST OBTAINING THE PRIOR WRITTEN AUTHORIZATION OF THE ENGINEER FOR SUCH DEVIATIONS, THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE PAYMENT OF ALL COSTS INCURRED IN CORRECTING ANY WORK DONE WHICH DEVIATES FROM THE PLANS, ALL FINES AND/OR PENALTIES ASSESSED WITH RESPECT THERETO AND ALL COMPENSATORY OR PUNITIVE DAMAGES RESULTING THEREFROM AND FURTHER SHALL DEFEND INDEMNIFY AND HOLD HARMLESS THE ENGINEER TO THE FULLEST EXTENT PERMITTED UNDER THE LAW, IN ACCORDANCE WITH PARAGRAPH 19 HEREIN, FOR AND FROM ALL FEES, ATTORNEYS' FEES, DAMAGES, COSTS, JUDGMENTS,

22. CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE AND PROTECTION OF TRAFFIC PLAN FOR ALL WORK THAT AFFECTS PUBLIC TRAVEL EITHER IN THE R.O.W. OR ON SITE. THE COST FOR THIS ITEM MUST BE INCLUDED IN THE CONTRACTOR'S PRICE

23. ALL SIGNING AND PAVEMENT STRIPING MUST CONFORM TO MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES OR LOCALLY APPROVED SUPPLEMENT.

WITH THE APPROVED PLANS. IF CONTRACTOR AND/OR OWNER FAIL TO BUILD OR CONSTRUCT IN STRICT ACCORDANCE WITH APPROVED PLANS, THEY AGREE TO JOINTLY AND SEVERALLY INDEMNIFY AND HOLD ENGINEER HARMLESS FOR ALL INJURIES AND DAMAGES THAT ENGINEER SUFFERS AND COSTS THAT ENGINEER

25. OWNER MUST MAINTAIN AND PRESERVE ALL PHYSICAL SITE FEATURES AND DESIGN FEATURES DEPICTED ON THE PLANS AND RELATED DOCUMENTS, IN STRICT ACCORDANCE WITH THE APPROVED PLAN(S) AND DESIGN AND, FURTHER ENGINEER IS NOT RESPONSIBLE FOR ANY FAILURE TO SO MAINTAIN OR PRESERVE SITE AND/OR DESIGN FEATURES. IF OWNER FAILS TO MAINTAIN AND/OR PRESERVE ALL PHYSICAL SITE FEATURES AND/OR DESIGN FEATURES DEPICTED ON THE PLANS AND RELATED DOCUMENTS, OWNER AGREES TO INDEMNIFY AND HOLD ENGINEER HARMLESS FOR ALL INJURIES AND DAMAGES THAT ENGINEER SUFFERS AND COSTS THAT ENGINEER INCURS AS A RESULT OF SAID FAILURE.

26. ALL DIMENSIONS MUST BE TO FACE OF CURB, EDGE OF PAVEMENT, OR EDGE OF BUILDING, UNLESS NOTED OTHERWISE.

27. ALL CONSTRUCTION AND MATERIALS MUST COMPLY WITH AND CONFORM TO APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, LAWS, ORDINANCES, RULES AND CODES, AND ALL APPLICABLE OSHA REQUIREMENTS.

28. CONTRACTOR AND OWNER MUST INSTALL ALL ELEMENTS AND COMPONENTS IN STRICT COMPLIANCE WITH AND ACCORDANCE WITH MANUFACTURER'S STANDARDS AND RECOMMENDED INSTALLATION CRITERIA AND SPECIFICATIONS. IF CONTRACTOR AND/OR OWNER FAIL TO DO SO, THEY AGREE TO JOINTLY AND SEVERALLY INDEMNIFY AND HOLD ENGINEER HARMLESS FOR ALL INJURIES AND DAMAGES THAT ENGINEER SUFFERS AND COSTS THAT ENGINEER INCURS AS A RESULT OF SAID FAILURE.

29. CONTRACTOR IS RESPONSIBLE TO MAINTAIN ON-SITE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IN COMPLIANCE WITH EPA REQUIREMENTS FOR SITES WHERE ONE (1) ACRE OR MORE (UNLESS THE LOCAL JURISDICTION REQUIRES FEWER) IS DISTURBED BY CONSTRUCTION ACTIVITIES. CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ALL ACTIVITIES, INCLUDING THOSE OF SUBCONTRACTORS, ARE IN COMPLIANCE WITH THE SWPPP, INCLUDING BUT NOT LIMITED TO LOGGING ACTIVITIES (MINIMUM ONCE PER WEEK AND AFTER RAINFALL EVENTS) AND CORRECTIVE MEASURES, AS APPROPRIATE.

30. AS CONTAINED IN THESE DRAWINGS AND ASSOCIATED APPLICATION DOCUMENTS PREPARED BY THE SIGNATORY PROFESSIONAL ENGINEER, THE USE OF THE WORDS CERTIFY OR CERTIFICATION CONSTITUTES AN EXPRESSION OF "PROFESSIONAL OPINION" REGARDING THE INFORMATION WHICH IS THE SUBJECT OF THE UNDERSIGNED PROFESSIONAL'S KNOWLEDGE OR BELIEF AND IN ACCORDANCE WITH COMMON ACCEPTED PROCEDURE CONSISTENT WITH THE APPLICABLE STANDARDS OF PRACTICE, AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE, EITHER EXPRESSED OR IMPLIED.

GENERAL GRADING & UTILITY PLAN NOTES

ANY CONSTRUCTION OR EXCAVATION. SANITARY SEWER AND ALL OTHER UTILITY SERVICE CONNECTION POINTS MUST BE INDEPENDENTLY CONFIRMED BY THE CONTRACTOR IN THE FIELD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. ALL DISCREPANCIES MUST IMMEDIATELY BE REPORTED, IN WRITING, TO THE ENGINEER. CONSTRUCTION MUST COMMENCE BEGINNING AT THE LOWEST INVERT (POINT OF CONNECTION) AND PROGRESS UP GRADIENT. PROPOSED INTERFACE POINTS (CROSSINGS) WITH EXISTING UNDERGROUND UTILITIES SHALL BE FIELD VERIFIED BY TEST PIT PRIOR TO COMMENCEMENT OF CONSTRUCTION.

2. CONTRACTOR MUST VERTICALLY AND HORIZONTALLY LOCATE ALL UTILITIES AND SERVICES INCLUDING, BUT NOT LIMITED TO, GAS, WATER, ELECTRIC, SANITARY AND STORM SEWER. TELEPHONE, CABLE, FIBER OPTIC CABLE, ETC. WITHIN THE LIMITS OF DISTURBANCE OR WORK SPACE, WHICHEVER IS GREATER. THE CONTRACTOR MUST USE, REFER TO, AND COMPLY 3. WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY NOTIFICATION SYSTEM TO LOCATE ALL THE UNDERGROUND UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ALL DAMAGE TO ANY EXISTING UTILITIES DURING CONSTRUCTION, AT NO COST TO THE OWNER. CONTRACTOR SHALL BEAR ALL COSTS ASSOCIATED WITH DAMAGE TO ANY EXISTING

3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW ALL CONSTRUCTION CONTRACT DOCUMENTS INCLUDING, BUT NOT LIMITED TO, ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THE PROJECT WORK SCOPE PRIOR TO THE INITIATION AND COMMENCEMENT OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT AND/OR DISCREPANCY 5. BETWEEN THE DOCUMENTS RELATIVE TO THE SPECIFICATIONS OR THE RELATIVE OR APPLICABLE CODES, REGULATIONS, LAWS, RULES, STATUTES AND/OR ORDINANCES. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER OF RECORD, IN WRITING, OF SAID CONFLICT AND/OR DISCREPANCY PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR'S FAILURE TO NOTIFY THE PROJECT ENGINEER SHALL CONSTITUTE CONTRACTOR'S FULL AND COMPLETE ACCEPTANCE OF ALL RESPONSIBILITY TO COMPLETE THE SCOPE OF WORK AS DEFINED BY THE DRAWINGS AND IN FULL COMPLIANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS, LAWS, STATUTES, ORDINANCES AND CODES AND, FURTHER, CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH SAME.

THE CONTRACTOR MUST LOCATE AND CLEARLY AND UNAMBIGUOUSLY DEFINE VERTICALLY AND HORIZONTALLY ALL ACTIVE AND INACTIVE UTILITY AND/OR SERVICE SYSTEMS THAT ARE TO BE REMOVED. THE CONTRACTOR IS RESPONSIBLE TO PROTECT AND MAINTAIN ALL ACTIVE AND INACTIVE SYSTEMS THAT ARE NOT BEING REMOVED/RELOCATED DURING SITE

THE CONTRACTOR MUST FAMILIARIZE ITSELF WITH THE APPLICABLE UTILITY SERVICE PROVIDER REQUIREMENTS AND IS RESPONSIBLE FOR ALL COORDINATION REGARDING UTILITY DEMOLITION AS IDENTIFIED OR REQUIRED FOR THE PROJECT. THE CONTRACTOR MUST PROVIDE THE OWNER WITH WRITTEN NOTIFICATION THAT THE EXISTING UTILITIES AND SERVICES HAVE BEEN TERMINATED AND ABANDONED IN ACCORDANCE WITH THE JURISDICTION AND UTILITY COMPANY REQUIREMENTS AND ALL OTHER APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES.

THE CONTRACTOR MUST INSTALL ALL STORM SEWER AND SANITARY SEWER COMPONENTS WHICH FUNCTION BY GRAVITY PRIOR TO THE INSTALLATION OF ALL OTHER UTILITIES. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF SITE PLAN DOCUMENTS AND ARCHITECTURAL DESIGN FOR EXACT BUILDING UTILITY CONNECTION LOCATIONS, GREASE TRAP

REQUIREMENTS/DETAILS, DOOR ACCESS, AND EXTERIOR GRADING. THE ARCHITECT WILL DETERMINE THE UTILITY SERVICE SIZES. THE CONTRACTOR MUST COORDINATE INSTALLATION OF UTILITIES/SERVICES WITH THE INDIVIDUAL COMPANIES, TO AVOID CONFLICTS AND TO ENSURE THAT PROPER DEPTHS ARE ACHIEVED. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT INSTALLATION OF ALL IMPROVEMENTS COMPLIES WITH ALL UTILITY REQUIREMENTS WITH JURISDICTION AND/OR CONTROL OF THE SITE AND ALL OTHER APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES AND, FURTHER, IS RESPONSIBLE FOR COORDINATING THE UTILITY TIE-INS/CONNECTIONS PRIOR TO CONNECTING TO THE EXISTING UTILITY/SERVICE. WHERE A CONFLICT(S) EXISTS BETWEEN THESE SITE PLANS AND THE ARCHITECTURAL PLANS, OR WHERE ARCHITECTURAL PLAN UTILITY CONNECTION

WATER SERVICE MATERIALS, BURIAL DEPTH, AND COVER REQUIREMENTS MUST BE SPECIFIED BY THE LOCAL UTILITY COMPANY. CONTRACTOR'S PRICE FOR WATER SERVICE MUST INCLUDE ALL FEES, COSTS AND APPURTENANCES REQUIRED BY THE UTILITY TO PROVIDE FULL AND COMPLETE WORKING SERVICE. CONTRACTOR MUST CONTACT THE APPLICABLE MUNICIPALITY TO CONFIRM THE PROPER WATER METER AND VAULT, PRIOR TO COMMENCING CONSTRUCTION.

ALL NEW UTILITIES/SERVICES, INCLUDING ELECTRIC, TELEPHONE, CABLE TV, ETC. ARE TO BE INSTALLED UNDERGROUND. ALL NEW UTILITIES/SERVICES MUST BE INSTALLED IN ACCORDANCE WITH THE UTILITY/SERVICE PROVIDER INSTALLATION SPECIFICATIONS AND STANDARDS

POINTS DIFFER, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER, IN WRITING, AND PRIOR TO CONSTRUCTION, RESOLVE SAME.

10. SITE GRADING MUST BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT REFERENCED IN THIS PLAN SET. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING AND REPLACING UNSUITABLE MATERIALS WITH SUITABLE MATERIALS AS SPECIFIED IN THE GEOTECHNICAL REPORT. ALL EXCAVATED OR FILLED AREAS MUST BE COMPACTED AS OUTLINED IN THE GEOTECHNICAL REPORT. MOISTURE CONTENT AT TIME OF PLACEMENT MUST BE SUBMITTED IN A COMPACTION REPORT PREPARED BY A QUALIFIED GEOTECHNICAL ENGINEER, REGISTERED WITH THE STATE WHERE THE WORK IS PERFORMED, VERIFYING THAT ALL FILLED AREAS AND SUBGRADE AREAS WITHIN THE BUILDING PAD AREA AND AREAS TO BE PAVED HAVE BEEN COMPACTED IN ACCORDANCE WITH THESE PLANS, SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT AND ALL APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES. SUBBASE MATERIAL FOR SIDEWALKS, CURB, OR ASPHALT MUST BE FREE OF ORGANICS AND OTHER UNSUITABLE MATERIALS. SHOULD SUBBASE BE DEEMED UNSUITABLE BY OWNER/DEVELOPER, OR DWNER/DEVELOPER'S REPRESENTATIVE, SUBBASE IS TO BE REMOVED AND FILLED WITH APPROVED FILL MATERIAL COMPACTED AS DIRECTED BY THE GEOTECHNICAL REPORT. EARTHWORK ACTIVITIES INCLUDING, BUT NOT LIMITED TO, EXCAVATION, BACKFILL, AND COMPACTING MUST COMPLY WITH THE RECOMMENDATIONS IN THE GEOTECHNICAL REPORT AND ALL APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES. EARTHWORK ACTIVITIES MUST COMPLY WITH THE STANDARD STATE DOT SPECIFICATIONS FOR ROADWAY CONSTRUCTION (LATEST EDITION) AND ANY AMENDMENTS OR REVISIONS THERETO.

BE COORDINATED WITH THE APPLICABLE UTILITY COMPANY SPECIFICATIONS. WHEN THE PROJECT DOES NOT HAVE GEOTECHNICAL RECOMMENDATIONS, FILL AND COMPACTION MUST, AT A MINIMUM, COMPLY WITH THE STATE DOT REQUIREMENTS AND SPECIFICATIONS AND CONSULTANT SHALL HAVE NO LIABILITY OR RESPONSIBILITY FOR OR AS RELATED TO FILL, COMPACTION AND BACKFILL. FURTHER, CONTRACTOR IS FULLY RESPONSIBLE FOR EARTHWORK BALANCE

THE CONTRACTOR MUST COMPLY, TO THE FULLEST EXTENT, WITH THE LATEST OSHA STANDARDS AND REGULATIONS, AND/OR ANY OTHER AGENCY WITH JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE "MEANS AND METHODS" REQUIRED TO MEET THE INTENT AND PERFORMANCE CRITERIA OF OSHA, AS WELL AS ANY OTHER ENTITY THAT HAS JURISDICTION FOR EXCAVATION AND/OR TRENCHING PROCEDURES AND CONSULTANT SHALL HAVE NO RESPONSIBILITY FOR OR AS RELATED FOR OR AS RELATED TO EXCAVATION AND TRENCHING PROCEDURES.

PAVEMENT MUST BE SAW CUT IN STRAIGHT LINES, AND EXCEPT FOR EDGE OF BUTT JOINTS, MUST EXTEND TO THE FULL DEPTH OF THE EXISTING PAVEMENT. ALL DEBRIS FROM REMOVAL OPERATIONS MUST BE REMOVED FROM THE SITE AT THE TIME OF EXCAVATION. STOCKPILING OF DEBRIS WILL NOT BE PERMITTED.

THE TOPS OF EXISTING MANHOLES, INLET STRUCTURES, AND SANITARY CLEANOUT TOPS MUST BE ADJUSTED, AS NECESSARY, TO MATCH PROPOSED GRADES IN ACCORDANCE WITH ALL APPLICABLE STANDARDS. REQUIREMENTS. RULES. STATUTES, LAWS, ORDINANCES AND CODES

DURING THE INSTALLATION OF SANITARY SEWER, STORM SEWER, AND ALL UTILITIES, THE CONTRACTOR MUST MAINTAIN A CONTEMPORANEOUS AND THOROUGH RECORD OF CONSTRUCTION TO IDENTIFY THE AS-INSTALLED LOCATIONS OF ALL UNDERGROUND INFRASTRUCTURE. THE CONTRACTOR MUST CAREFULLY NOTE ANY INSTALLATIONS THAT DEVIATE FROM THE INFORMATION CONTAINED IN THE UTILITY PLAN. THIS RECORD MUST BE KEPT ON A CLEAN COPY OF THE DRAINAGE OR UTILITY PLAN, WHICH CONTRACTOR MUST PROMPTLY PROVIDE TO THE OWNER AT THE COMPLETION OF WORK.

WHEN THE SITE IMPROVEMENT PLANS INVOLVE MULTIPLE BUILDINGS, SOME OF WHICH MAY BE BUILT AT A LATER DATE, THE CONTRACTOR MUST EXTEND ALL LINES, INCLUDING BUT NOT LIMITED TO STORM SEWER, SANITARY SEWER, UTILITIES, AND IRRIGATION LINE, TO A POINT AT LEAST FIVE (5) FEET BEYOND THE PAVED AREAS FOR WHICH THE CONTRACTOR IS RESPONSIBLE. CONTRACTOR MUST CAP ENDS AS APPROPRIATE, MARK LOCATIONS WITH A 2X4, AND MUST NOTE THE LOCATION OF ALL OF THE ABOVE ON A CLEAN COPY OF THE DRAINAGE OR UTILITY PLAN, WHICH CONTRACTOR MUST PROMPTLY PROVIDE TO THE OWNER UPON COMPLETION OF THE WORK.

THE CONTRACTOR IS FULLY RESPONSIBLE FOR VERIFICATION OF EXISTING TOPOGRAPHIC INFORMATION AND UTILITY INVERT ELEVATIONS PRIOR TO COMMENCING ANY CONSTRUCTION. CONTRACTOR MUST CONFIRM AND ENSURE 0.75% MINIMUM SLOPE AGAINST ALL ISLANDS, GUTTERS, AND CURBS; 1.0% ON ALL CONCRETE SURFACES; AND 1.5% MINIMUM ON ASPHALT (EXCEPT WHERE ADA REQUIREMENTS OR EXISTING TOPOGRAPHY LIMIT GRADES), TO PREVENT PONDING. CONTRACTOR MUST IMMEDIATELY IDENTIFY, IN WRITING TO THE ENGINEER, ANY DISCREPANCIES THAT MAY OR COULD AFFECT THE PUBLIC SAFETY, HEALTH OR GENERAL WELFARE, OR PROJECT COST. IF CONTRACTOR PROCEEDS WITH CONSTRUCTION WITHOUT PROVIDING PROPER NOTIFICATION, MUST BE AT THE CONTRACTOR'S OWN RISK AND, FURTHER, CONTRACTOR SHALL INDEMNIFY, DEFEND AND HOLD HARMLESS THE DESIGN ENGINEER FOR ANY DAMAGES, COSTS, INJURIES, ATTORNEY'S FEES AND THE LIKE WHICH RESULT FROM SAME

GUTTER GRADE ALONG CURB FACE. IT IS CONTRACTOR'S OBLIGATION TO ENSURE THAT DESIGN ENGINEER APPROVES FINAL CURBING CUT SHEETS PRIOR TO INSTALLATION OF SAME.

IMMEDIATELY NOTIFY THE DESIGN ENGINEER, IN WRITING, OF ANY DISCREPANCIES AND/OR CONFLICTS

WHERE RETAINING WALLS (WHETHER OR NOT THEY MEET THE JURISDICTIONAL DEFINITION) ARE IDENTIFIED ON PLANS, ELEVATIONS IDENTIFIED ARE FOR THE EXPOSED PORTION OF THE

WALL. WALL FOOTINGS/FOUNDATION ELEVATIONS ARE NOT IDENTIFIED HEREIN AND ARE TO BE SET/DETERMINED BY THE CONTRACTOR BASED ON FINAL STRUCTURAL DESIGN SHOP DRAWINGS PREPARED BY THE APPROPRIATE PROFESSIONAL LICENSED IN THE STATE WHERE THE CONSTRUCTION OCCURS. STORM DRAINAGE PIPE: UNLESS INDICATED OTHERWISE, ALL STORM SEWER PIPE MUST BE REINFORCED CONCRETE PIPE (RCP) CLASS III WITH SILT TIGHT JOINTS. WHEN HIGH-DENSITY POLYETHYLENE PIPE (HDPE) IS CALLED FOR ON THE PLANS, IT MUST CONFORM TO AASHTO M294 AND TYPE S (SMOOTH INTERIOR WITH ANGULAR CORRUGATIONS) WITH GASKET FOR

UNLESS INDICATED OTHERWISE ON THE DRAWINGS, SANITARY SEWER PIPE SHALL BE AS FOLLOWS: FOR PIPES LESS THAN 12 FT. DEEP: POLYVINYL CHLORIDE (PVC) SDR 35 PER ASTM D3034

SILT TIGHT JOINT. PVC PIPE FOR ROOF DRAIN CONNECTION MUST BE SDR 26 OR SCHEDULE 40 UNLESS INDICATED OTHERWISE

 FOR PIPES MORE THAN 12 FT. DEEP: POLYVINYL CHLORIDE (PVC) SDR 26 PER ASTM D3034 FOR PIPE WITHIN 10 FT. OF BUILDING, PIPE MATERIAL SHALL COMPLY WITH APPLICABLE BUILDING AND PLUMBING CODES. CONTRACTOR TO VERIFY WITH LOCAL OFFICIALS.

STORM AND SANITARY SEWER PIPE LENGTHS INDICATED ARE NOMINAL AND MEASURED CENTER OF INLET AND/OR MANHOLES STRUCTURE TO CENTER OF STRUCTURE 26. STORMWATER ROOF DRAIN LOCATIONS ARE BASED ON PRELIMINARY ARCHITECTURAL PLANS. CONTRACTOR IS RESPONSIBLE TO AND FOR VERIFYING LOCATIONS OF SAME BASED ON

SEWERS CROSSING STREAMS AND/OR LOCATION WITHIN 10 FEET OF THE STREAM EMBANKMENT, OR WHERE SITE CONDITIONS SO INDICATE, MUST BE CONSTRUCTED OF STEEL REINFORCED CONCRETE, DUCTILE IRON OR OTHER SUITABLE MATERIAL. SEWERS CONVEYING SANITARY FLOW COMBINED SANITARY AND STORMWATER FLOW OR INDUSTRIAL FLOW MUST BE SEPARATED FROM WATER MAINS BY A DISTANCE OF AT LEAST 10 FEET HORIZONTALLY. IF SUCH LATERAL SEPARATION IS NOT POSSIBLE, THE PIPES MUST BE IN SEPARATE TRENCHES WITH THE SEWER AT LEAST 18 INCHES BELOW THE BOTTOM OF THE WATER MAIN, OR SUCH OTHER SEPARATION AS APPROVED BY THE GOVERNMENT AGENCY WITH

WHERE APPROPRIATE SEPARATION FROM A WATER MAIN IS NOT POSSIBLE, THE SEWER MUST BE ENCASED IN CONCRETE, OR CONSTRUCTED OF DUCTILE IRON PIPE USING MECHANICAL OR SLIP-ON JOINTS FOR A DISTANCE OF AT LEAST 10 FEET ON EITHER SIDE OF THE CROSSING. IN ADDITION, ONE FULL LENGTH OF SEWER PIPE SHOULD BE LOCATED

ADA INSTRUCTIONS TO CONTRACTOR: SO BOTH JOINTS WILL BE AS FAR FROM THE WATER LINE AS POSSIBLE. WHERE A WATER MAIN CROSSES UNDER A SEWER, ADEQUATE STRUCTURAL SUPPORT FOR THE SEWER

WATER MAIN PIPING MUST BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS AND SPECIFICATIONS OF THE LOCAL WATER PURVEYOR. IN THE ABSENCE OF SUCH REQUIREMENTS, WATER MAIN PIPING MUST BE CEMENT-LINED DUCTILE IRON (DIP) MINIMUM CLASS 52 THICKNESS. ALL PIPE AND APPURTENANCES MUST COMPLY WITH THE APPLICABLE AWWA STANDARDS IN EFFECT AT THE TIME OF APPLICATION.

29. CONTRACTOR MUST ENSURE THAT ALL UTILITY TRENCHES LOCATED IN EXISTING PAVED ROADWAYS INCLUDING SEWER, WATER AND STORM SYSTEMS, MUST BE REPAIRED IN ACCORDANCE WITH REFERENCED MUNICIPAL, COUNTY AND/OR DOT DETAILS AS APPLICABLE. CONTRACTOR MUST COORDINATE INSPECTION AND APPROVAL OF COMPLETED WORK WITH THE AGENCY WITH JURISDICTION OVER SAME

30. LOCATION OF PROPOSED UTILITY POLE RELOCATION IS AT THE SOLE DISCRETION OF UTILITY COMPANY

24. ENGINEER IS NOT RESPONSIBLE FOR ANY INJURY OR DAMAGES RESULTING FROM CONTRACTOR'S FAILURE TO BUILD OR CONSTRUCT IN STRICT ACCORDANCE 31. CONSULTANT IS NEITHER LIABLE NOR RESPONSIBLE FOR ANY SUBSURFACE CONDITIONS AND FURTHER, SHALL HAVE NO LIABILITY FOR ANY HAZARDOUS MATERIALS, HAZARDOUS SUBSTANCES, OR POLLUTANTS ON, ABOUT OR UNDER THE PROPERTY

GENERAL DEMOLITION NOTES

"ALTA/NSPS LAND TITLE SURVEY, 1119 DIVISION STREET" PREPARED BY DIPRETE ENGINEERING, DATED 07/14/2021.

CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, (29 U.S.C. 651 et seq.), AS MENDED AND ANY MODIFICATIONS, AMENDMENTS OR REVISIONS TO SAME.

BOHLER ENGINEERING HAS NO CONTRACTUAL, LEGAL, OR OTHER RESPONSIBILITY FOR JOB SITE SAFETY OR JOB SITE SUPERVISION, OR ANYTHING RELATED TO SAME. THE DEMOLITION PLAN IS INTENDED TO PROVIDE GENERAL INFORMATION, ONLY, REGARDING ITEMS TO BE DEMOLISHED AND/OR REMOVED. THE CONTRACTOR MUST ALSO REVIEW THE OTHER SITE PLAN DRAWINGS AND INCLUDE IN DEMOLITION ACTIVITIES ALL INCIDENTAL WORK NECESSARY FOR THE CONSTRUCTION OF THE NEW SITE

CONTRACTOR MUST RAISE ANY QUESTIONS CONCERNING THE ACCURACY OR INTENT OF THESE PLANS OR SPECIFICATIONS, CONCERNS REGARDING THE APPLICABLE SAFETY STANDARDS, OR THE SAFETY OF THE CONTRACTOR OR THIRD PARTIES IN PERFORMING THE WORK ON THIS PROJECT, WITH BOHLER ENGINEERING, IN WRITING, AND RESPONDED TO BY BOHLER, IN WRITING, PRIOR TO THE INITIATION OF ANY SITE ACTIVITY AND ANY DEMOLITION ACTIVITY. ALL DEMOLITION ACTIVITIES MUST BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THESE PLANS AND SPECIFICATIONS AND ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, RULES, REQUIREMENTS, STATUTES, ORDINANCES AND CODES.

PRIOR TO STARTING ANY DEMOLITION, CONTRACTOR IS RESPONSIBLE FOR/TO:

A.OBTAINING ALL REQUIRED PERMITS AND MAINTAINING THE SAME ON SITE FOR REVIEW BY THE ENGINEER AND OTHER PUBLIC AGENCIES WITH JURISDICTION THROUGHOUT THE DURATION OF THE PROJECT, SITE WORK, AND DEMOLITION WORK.

B. NOTIFYING, AT A MINIMUM, THE MUNICIPAL ENGINEER, DESIGN ENGINEER, AND LOCAL SOIL CONSERVATION DISTRICT, 72 HOURS PRIOR TO THE START OF WORK. C.INSTALLING THE REQUIRED SOIL EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO SITE DISTURBANCE.

D.IN ACCORDANCE WITH STATE LAW, THE CONTRACTOR MUST CALL THE STATE ONE-CALL DAMAGE PROTECTION SYSTEM FOR UTILITY MARKOUT, IN ADVANCE OF ANY

E. LOCATING AND PROTECTING ALL UTILITIES AND SERVICES, INCLUDING BUT NOT LIMITED TO GAS, WATER, ELECTRIC, SANITARY AND STORM SEWER, TELEPHONE, CABLE, FIBER OPTIC CABLE, ETC. WITHIN AND ADJACENT TO THE LIMITS OF PROJECT ACTIVITIES. THE CONTRACTOR MUST USE AND COMPLY WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY NOTIFICATION SYSTEM TO LOCATE ALL THE UNDERGROUND UTILITIES.

F. PROTECTING AND MAINTAINING IN OPERATION, ALL ACTIVE UTILITIES AND SYSTEMS THAT ARE NOT BEING REMOVED DURING ALL DEMOLITION ACTIVITIES.

3. ARRANGING FOR AND COORDINATING WITH THE APPLICABLE UTILITY SERVICE PROVIDER(S) FOR THE TEMPORARY OR PERMANENT TERMINATION OF SERVICE REQUIRED BY THE PROJECT PLANS AND SPECIFICATIONS. THE CONTRACTOR MUST PROVIDE THE UTILITY ENGINEER AND OWNER WRITTEN NOTIFICATION THAT THE EXISTING UTILITIES AND SERVICES HAVE BEEN TERMINATED AND ABANDONED IN ACCORDANCE WITH JURISDICTIONAL AND UTILITY COMPANY REQUIREMENTS.

H. COORDINATION WITH UTILITY COMPANIES REGARDING WORKING "OFF-PEAK" HOURS OR ON WEEKENDS AS MAY BE REQUIRED TO MINIMIZE THE IMPACT ON THE AFFECTED PARTIES. WORK REQUIRED TO BE DONE "OFF-PEAK" IS TO BE DONE AT NO ADDITIONAL COST TO THE OWNER.

I. IN THE EVENT THE CONTRACTOR DISCOVERS ANY HAZARDOUS MATERIAL, THE REMOVAL OF WHICH IS NOT ADDRESSED IN THE PROJECT PLANS AND SPECIFICATIONS, THE CONTRACTOR MUST IMMEDIATELY CEASE ALL WORK AND IMMEDIATELY NOTIFY THE OWNER AND ENGINEER OF THE DISCOVERY OF SUCH MATERIALS.

THE FIRM OR ENGINEER OF RECORD IS NOT RESPONSIBLE FOR JOB SITE SAFETY OR SUPERVISION. CONTRACTOR MUST PROCEED WITH THE DEMOLITION IN A SYSTEMATIC AND SAFE MANNER, FOLLOWING ALL THE OSHA REQUIREMENTS, TO ENSURE PUBLIC AND CONTRACTOR SAFETY.

THE CONTRACTOR MUST PROVIDE ALL "MEANS AND METHODS" NECESSARY TO PREVENT MOVEMENT, SETTLEMENT, OR COLLAPSE OF EXISTING STRUCTURES, AND ANY OTHER IMPROVEMENTS THAT ARE REMAINING ON OR OFF SITE. THE CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS OF DAMAGE TO ALL ITEMS THAT ARE TO REMAIN. CONTRACTOR MUST USE NEW MATERIAL FOR ALL REPAIRS. CONTRACTOR'S REPAIR MUST INCLUDE THE RESTORATION OF ANY ITEMS REPAIRED TO THE PRE-DEMOLITION CONDITION, OR BETTER. CONTRACTOR SHALL PERFORM ALL REPAIRS AT THE CONTRACTOR'S SOLE EXPENSE.

THE CONTRACTOR MUST NOT PERFORM ANY EARTH MOVEMENT ACTIVITIES, DEMOLITION OR REMOVAL OF FOUNDATION WALLS, FOOTINGS, OR OTHER MATERIALS WITHIN THE LIMITS OF DISTURBANCE UNLESS SAME IS IN STRICT ACCORDANCE AND CONFORMANCE WITH THE PROJECT PLANS AND SPECIFICATIONS, AND/OR UNDER THE WRITTEN DIRECTION OF THE OWNER'S STRUCTURAL OR GEOTECHNICAL ENGINEER.

CONTRACTOR MUST BACKFILL ALL EXCAVATION RESULTING FROM, OR INCIDENTAL TO, DEMOLITION ACTIVITIES. BACKFILL MUST BE ACCOMPLISHED WITH APPROVED BACKFILL MATERIALS, AND MUST BE SUFFICIENTLY COMPACTED TO SUPPORT NEW IMPROVEMENTS AND PERFORMED IN COMPLIANCE WITH THE RECOMMENDATIONS AND GUIDANCE IN THE GEOTECHNICAL REPORT. BACKFILLING MUST OCCUR IMMEDIATELY AFTER DEMOLITION ACTIVITIES, AND MUST BE DONE SO AS TO PREVENT WATER ENTERING THE EXCAVATION. FINISHED SURFACES MUST BE GRADED TO PROMOTE POSITIVE DRAINAGE. 11. EXPLOSIVES MUST NOT BE USED WITHOUT PRIOR WRITTEN CONSENT OF BOTH THE OWNER AND ALL APPLICABLE GOVERNMENTAL AUTHORITIES. ALL THE REQUIRED

PERMITS AND EXPLOSIVE CONTROL MEASURES THAT ARE REQUIRED BY THE FEDERAL, STATE, AND LOCAL GOVERNMENTS MUST BE IN PLACE PRIOR TO CONTRACTOR STARTING AN EXPLOSIVE PROGRAM AND/OR ANY DEMOLITION. THE CONTRACTOR IS ALSO RESPONSIBLE FOR ALL INSPECTION AND SEISMIC VIBRATION TESTING THAT IS REQUIRED TO MONITOR THE EFFECTS ON ALL LOCAL STRUCTURES

CONTRACTOR MUST PROVIDE TRAFFIC CONTROL AND GENERALLY ACCEPTED SAFE PRACTICES IN CONFORMANCE WITH THE CURRENT FHWA "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD), AND THE FEDERAL, STATE, AND LOCAL REGULATIONS WHEN DEMOLITION RELATED ACTIVITIES IMPACT ROADWAYS AND/OR ROADWAY

13. CONTRACTOR MUST CONDUCT DEMOLITION ACTIVITIES IN SUCH A MANNER TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, SIDEWALKS, WALKWAYS, AND OTHER ADJACENT FACILITIES. STREET CLOSURE PERMITS MUST BE RECEIVED FROM THE APPROPRIATE GOVERNMENTAL AUTHORITY PRIOR TO THE COMMENCEMENT OF ANY ROAD OPENING OR DEMOLITION ACTIVITIES IN OR ADJACENT TO THE RIGHT-OF-WAY.

14. DEMOLITION ACTIVITIES AND EQUIPMENT MUST NOT USE AREAS OUTSIDE THE DEFINED PROJECT LIMIT LINE, WITHOUT WRITTEN PERMISSION OF THE OWNER AND ALL VERNMENTAL AGENCIES WITH JURISDICTION

THE CONTRACTOR MUST USE DUST CONTROL MEASURES TO LIMIT AIRBORNE DUST AND DIRT RISING AND SCATTERING IN THE AIR IN ACCORDANCE WITH FEDERAL, STATE. AND/OR LOCAL STANDARDS. AFTER THE DEMOLITION IS COMPLETE, CONTRACTOR MUST CLEAN ALL ADJACENT STRUCTURES AND IMPROVEMENTS TO REMOVE ALL DUST AND DEBRIS CAUSED BY THE DEMOLITION OPERATIONS. THE CONTRACTOR IS RESPONSIBLE FOR RETURNING ALL ADJACENT AREAS TO THEIR "PRE-DEMOLITION"

PROPOSED TOP OF CURB ELEVATIONS ARE GENERALLY 6" ABOVE EXISTING LOCAL ASPHALT GRADE UNLESS OTHERWISE NOTED. FIELD ADJUST TO CREATE A MINIMUM OF 0.75%

16. CONTRACTOR IS RESPONSIBLE TO SAFEGUARD THE SITE AS NECESSARY TO PERFORM THE DEMOLITION IN SUCH A MANNER AS TO PREVENT THE ENTRY OF UNAUTHORIZED

OTHER APPROPRIATE SAFETY ITEMS NECESSARY TO PROTECT THE PUBLIC FROM AREAS OF CONSTRUCTION AND CONSTRUCTION ACTIVITY.

CONTRACTOR IS REQUIRED TO SECURE ALL NECESSARY AND/OR REQUIRED PERMITS AND APPROVALS FOR ALL OFF SITE MATERIAL SOURCES AND DISPOSAL FACILITIES. CONTRACTOR

18. THIS DEMOLITION PLAN IS INTENDED TO IDENTIFY THOSE EXISTING ITEMS/CONDITIONS WHICH ARE TO BE REMOVED. IT IS NOT INTENDED TO PROVIDE DIRECTION AS TO THE MEANS, METHODS, SEQUENCING, TECHNIQUES AND PROCEDURES TO BE USED TO ACCOMPLISH THAT WORK. ALL MEANS, METHODS, SEQUENCING, TECHNIQUES AND PROCEDURES TO BE USED MUST BE IN STRICT ACCORDANCE WITH ALL STATE, FEDERAL, LOCAL, AND JURISDICTIONAL REQUIREMENTS. THE CONTRACTOR MUST COMPLY WITH ALL OSHA AND OTHER SAFETY PRECAUTIONS NECESSARY TO PROVIDE A SAFE WORK SITE.

> 19. DEBRIS MUST NOT BE BURIED ON THE SUBJECT SITE. ALL DEMOLITION WASTES AND DEBRIS (SOLID WASTE) MUST BE DISPOSED OF IN ACCORDANCE WITH ALL MUNICIPAL, COUNTY, STATE, AND FEDERAL LAWS AND APPLICABLE CODES. THE CONTRACTOR MUST MAINTAIN RECORDS TO DEMONSTRATE PROPER DISPOSAL ACTIVITIES, TO BE PROMPTLY PROVIDED TO THE OWNER UPON REQUEST.

> 20. CONTRACTOR MUST MAINTAIN A RECORD SET OF PLANS UPON WHICH IS INDICATED THE LOCATION OF EXISTING UTILITIES THAT ARE CAPPED, ABANDONED IN PLACE, OR RELOCATED DUE TO DEMOLITION ACTIVITIES. THIS RECORD DOCUMENT MUST BE PREPARED IN A NEAT AND WORKMAN-LIKE MANNER, AND TURNED OVER TO THE OWNER/DEVELOPER UPON COMPLETION OF THE WORK.

CONTRACTORS MUST EXERCISE APPROPRIATE CARE AND PRECISION IN CONSTRUCTION OF ADA (ACCESSIBLE) ACCESSIBLE COMPONENTS AND ACCESS ROUTES FOR THE SITE. THESE COMPONENTS, AS CONSTRUCTED, MUST COMPLY WITH ALL APPLICABLE STATE AND LOCAL ACCESSIBILITY LAWS AND REGULATIONS AND THE CURRENT ADA AND/OR STATE ARCHITECTURAL ACCESS BOARD STANDARDS AND REGULATIONS' BARRIER FREE ACCESS AND ANY MODIFICATIONS, REVISIONS OR UPDATES TO SAME. FINISHED SURFACES ALONG THE ACCESSIBLE ROUTE OF TRAVEL FROM PARKING SPACE, PUBLIC TRANSPORTATION, PEDESTRIAN ACCESS, INTER-BUILDING ACCESS, TO POINTS OF ACCESSIBLE BUILDING ENTRANCE/EXIT, MUST COMPLY WITH THESE ADA AND/OR ARCHITECTURAL ACCESS BOARD CODE REQUIREMENTS. THESE INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:

PARKING SPACES AND PARKING AISLES - SLOPE SHALL NOT EXCEED 1:50 (1/4" PER FOOT OR NOMINALLY 2.0%) IN ANY DIRECTION.

CURB RAMPS - SLOPE MUST NOT EXCEED 1:12 (8.3%) FOR A MAXIMUM OF SIX (6) FEET

• LANDINGS - MUST BE PROVIDED AT EACH END OF RAMPS, MUST PROVIDE POSITIVE DRAINAGE, AND MUST NOT EXCEED 1:50 (1/4" PER FOOT OR NOMINALLY 2.0%) IN ANY

• PATH OF TRAVEL ALONG ACCESSIBLE ROUTE - MUST PROVIDE A 36-INCH OR GREATER UNOBSTRUCTED WIDTH OF TRAVEL (CAR OVERHANGS AND/OR HANDRAILS CANNOT REDUCE THIS MINIMUM WIDTH). THE SLOPE MUST BE NO GREATER THAN 1:20 (5.0%) IN THE DIRECTION OF TRAVEL, AND MUST NOT EXCEED 1:50 (1/4" PER FOOT OR NOMINALLY 2.0%) IN CROSS SLOPE. WHERE PATH OF TRAVEL WILL BE GREATER THAN 1:20 (5.0%), ADA RAMP MUST BE ADHERED TO. A MAXIMUM SLOPE OF 1:12 (8.3%), FOR A MAXIMUM RISE OF 2.5 FEET, MUST BE PROVIDED. THE RAMP MUST HAVE ADA HAND RAILS AND "LEVEL" LANDINGS ON EACH END THAT ARE CROSS SLOPED NO MORE THAN 1:50 IN ANY DIRECTION (1/4" PER FOOT OR NOMINALLY 2.0%) FOR POSITIVE DRAINAGE.

• DOORWAYS - MUST HAVE A "LEVEL" LANDING AREA ON THE EXTERIOR SIDE OF THE DOOR THAT IS SLOPED AWAY FROM THE DOOR NO MORE THAN 1:50 (1/4" PER FOOT OR NOMINALLY 2.0%) FOR POSITIVE DRAINAGE. THIS LANDING AREA MUST BE NO LESS THAN 60 INCHES (5 FEET) LONG, EXCEPT WHERE OTHERWISE PERMITTED BY ADA STANDARDS FOR ALTERNATIVE DOORWAY OPENING CONDITIONS. (SEE ICC/ANSI A117.1-2003 AND OTHER REFERENCED INCORPORATED BY CODE.)

• WHEN THE PROPOSED CONSTRUCTION INVOLVES RECONSTRUCTION, MODIFICATION, REVISION OR EXTENSION OF OR TO ADA COMPONENTS FROM EXISTING DOORWAYS OR SURFACES, CONTRACTOR MUST VERIFY EXISTING ELEVATIONS SHOWN ON THE PLAN. NOTE THAT TABLE 405.2 OF THE DEPARTMENT OF JUSTICE'S ADA STANDARDS FOR ACCESSIBLE DESIGN ALLOWS FOR STEEPER RAMP SLOPES, IN RARE CIRCUMSTANCES. THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE DESIGN ENGINEER OF ANY DISCREPANCIES AND/OR FIELD CONDITIONS THAT DIFFER IN ANY WAY OR ANY RESPECT FROM WHAT IS SHOWN ON THE PLANS, IN WRITING, BEFORE COMMENCEMENT OF WORK. CONSTRUCTED IMPROVEMENTS MUST FALL WITHIN THE MAXIMUM AND MINIMUM LIMITATIONS IMPOSED BY THE BARRIER FREE REGULATIONS AND THE AL

• THE CONTRACTOR MUST VERIFY THE SLOPES OF CONTRACTOR'S FORMS PRIOR TO POURING CONCRETE. IF ANY NON-CONFORMANCE IS OBSERVED OR EXISTS CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER PRIOR TO POURING CONCRETE. CONTRACTOR IS RESPONSIBLE FOR ALL COSTS TO REMOVE, REPAIR AND REPLACE NON-CONFORMING CONCRETE.

IT IS STRONGLY RECOMMENDED THAT THE CONTRACTOR REVIEW THE INTENDED CONSTRUCTION WITH THE LOCAL BUILDING CODE PRIOR TO COMMENCEMENT OF CONSTRUCTION

> OFFICE OF WATER RESOURCES FRESHWATER WETLANDS PROGRAM REVIEWED SITE PLAN APPLICATION #: 22-0458
>
> DATED: FEB 2 0 2023 SEE LETTER OF SAME DATE
> NAMELY L. FREEMAN

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

TYPICAL ABBREVIATIONS

KEY	DESCRIPTION	KEY	DESCRIPTION
ВС	BOTTOM CURB	PROP.	PROPOSED
TC	TOP CURB	TBR/R	TO BE REMOVED AND REPLACED
вос	BACK OF CURB	TBR	TO BE REMOVED
BW	BOTTOM OF WALL GRADE	TPF	TREE PROTECTION FENCE
TW	TOP OF WALL	BLDG.	BUILDING
EXIST.	EXISTING	SF	SQUARE FEET
BM.	BENCHMARK	SMH	SEWER MANHOLE
EOP	EDGE OF PAVEMENT	DMH	DRAIN MANHOLE
<u>မ</u>	CENTERLINE	STM.	STORM
FF	FINISHED FLOOR	SAN.	SANITARY
V.I.F.	VERIFY IN FIELD	CONC.	CONCRETE
GC	GENERAL CONTRACTOR	ARCH.	ARCHITECTURAL
HP	HIGH POINT	DEP.	DEPRESSED
LP	LOW POINT	R	RADIUS
TYP.	TYPICAL	MIN.	MINIMUM
INT.	INTERSECTION	MAX.	MAXIMUM
PC.	POINT OF CURVATURE	No. /#	NUMBER
PT.	POINT OF TANGENCY	W.	WIDE
PI.	POINT OF INTERSECTION	DEC.	DECORATIVE
PVI.	POINT OF VERTICAL INTERSECTION	ELEV.	ELEVATION
STA.	STATION	UNG.	UNDERGROUND
GRT	GRATE	R.O.W.	RIGHT OF WAY
INV.	INVERT	LF	LINEAR FOOT
DIP	DUCTILE IRON PIPE	LOD	LIMIT OF DISTURBANCE
PVC	POLYVINYL CHLORIDE PIPE	LOW	LIMIT OF WORK
HDPE	HIGH DENSITY POLYETHYLENE PIPE	L.S.A.	LANDSCAPED AREA
RCP	REINFORCED CONCRETE PIPE	±	PLUS OR MINUS
S	SLOPE	o	DEGREE
ME	MEET EXISTING	Ø / DIA.	DIAMETER

TYPICAL LEGEND

EXISTING		PROPOSED
	PROPERTY LINE	
	SETBACK	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	EASEMENT	
	CURB	
0	STORM MANHOLE	©
<u>(S)</u>	SEWER MANHOLE	©
	CATCH BASIN	
	WETLAND FLAG	
	WETLAND LINE	
× 54.83	SPOT ELEVATION	53.52
× 7C 54.58 G 53.78	TOP & BOTTOM OF CURB	TC=54.32 BC=53.82
——ОН——— 53 ——ОН———	CONTOUR	50
	FLOW ARROW	5%_
\(\frac{1}{2}\)	PAINTED ARROW	4
P V V	RIDGE LINE	
	GAS LINE	G
	TELEPHONE LINE	Т
<u> </u>	ELECTRIC LINE	E
W—————————————————————————————————————	WATER LINE	
OHOH	OVERHEAD WIRE	
Analysis program ordered success Analysis process granted process and process	STORM PIPE	
=======	SANITARY LINE	SS
10	PARKING COUNT	4
and a grant	SIGN	-
<	LIGHT POLE	
	GUIDE RAIL	I I
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REVISIONS REV DATE REVISED FOR RIDOT SUBMISSION REVISED FOR RIDEM SUBMISSION REVISED FOR SEWER 10/06/2022 SUBMISSION 4 10/18/2022 COMMENTS REVISED PER RIDOT REVISED PER SEWER 5 01/04/2023 REVIEW COMMENTS REVISED PER RIDEM CPB 01/27/2023 COMMENTS

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02/24/2022

W211249-CVL-

PROJECT:

DATE:

CAD I.D.:

PROPOSED SITE PLAN DOCUMENTS

1119 DIVISION

SITE, LLC **PROPOSED**

DRIVE-THRU CARWASH MAP: 215 LOT: 7 1119 DIVISION STREET CITY OF WARWICK, KENT COUNTY,

352 TURNPIKE ROAD SOUTHBOROUGH, MA 01772 Phone: (508) 480-9900

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RHODE ISLAND

J.G. SWERLING

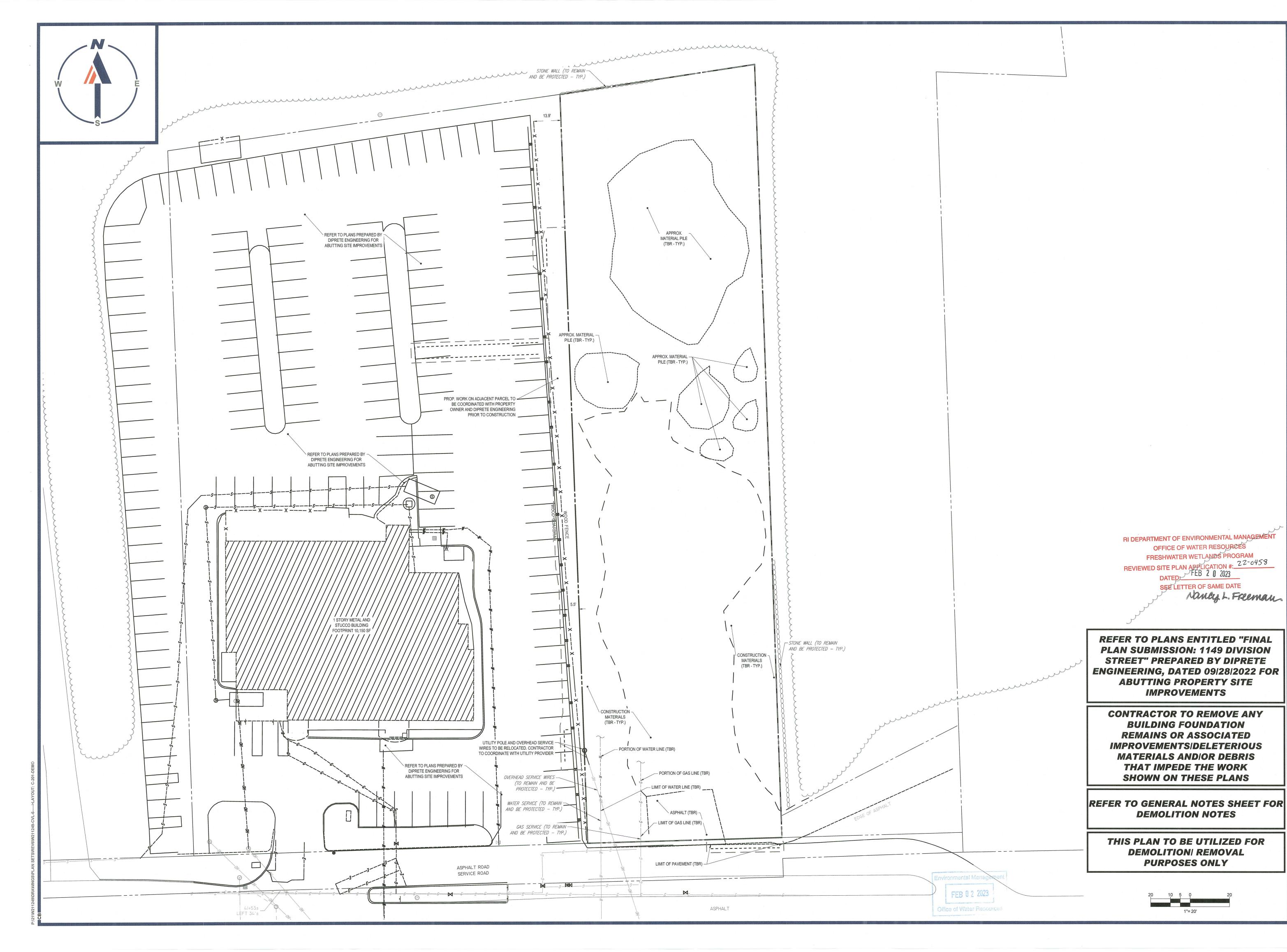
PROFESSIONAL ENGINEER MASSACHUSETTS LICENSE No. 41697 NEW HAMPSHIRE LICENSE No. 14695 MAINE LICENSE No. 13816

CONNECTICUT LICENSE No. 30785

RHODE ISLAND LICENSE No. 11425

GENERAL NOTES SHEET

SHEET NUMBER:





REVISIONS

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	3	10/00/2022	SUBMISSION	JF
	4	10/18/2022	REVISED PER RIDOT	СРВ
	4	10/10/2022	COMMENTS	JF
	5	01/04/2023	REVISED PER SEWER	CPB
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02/24/2022 W211249-CVL-6

Nancy L. Freeman

PROPOSED SITE **PLAN DOCUMENTS**

1119 DIVISION SITE, LLC

PROPOSED DRIVE-THRU CARWASH

MAP: 215 LOT: 7 1119 DIVISION STREET, CITY OF WARWICK, KENT COUNTY, RHODE ISLAND

352 TURNPIKE ROAD SOUTHBOROUGH, MA 01772 Phone: (508) 480-9900

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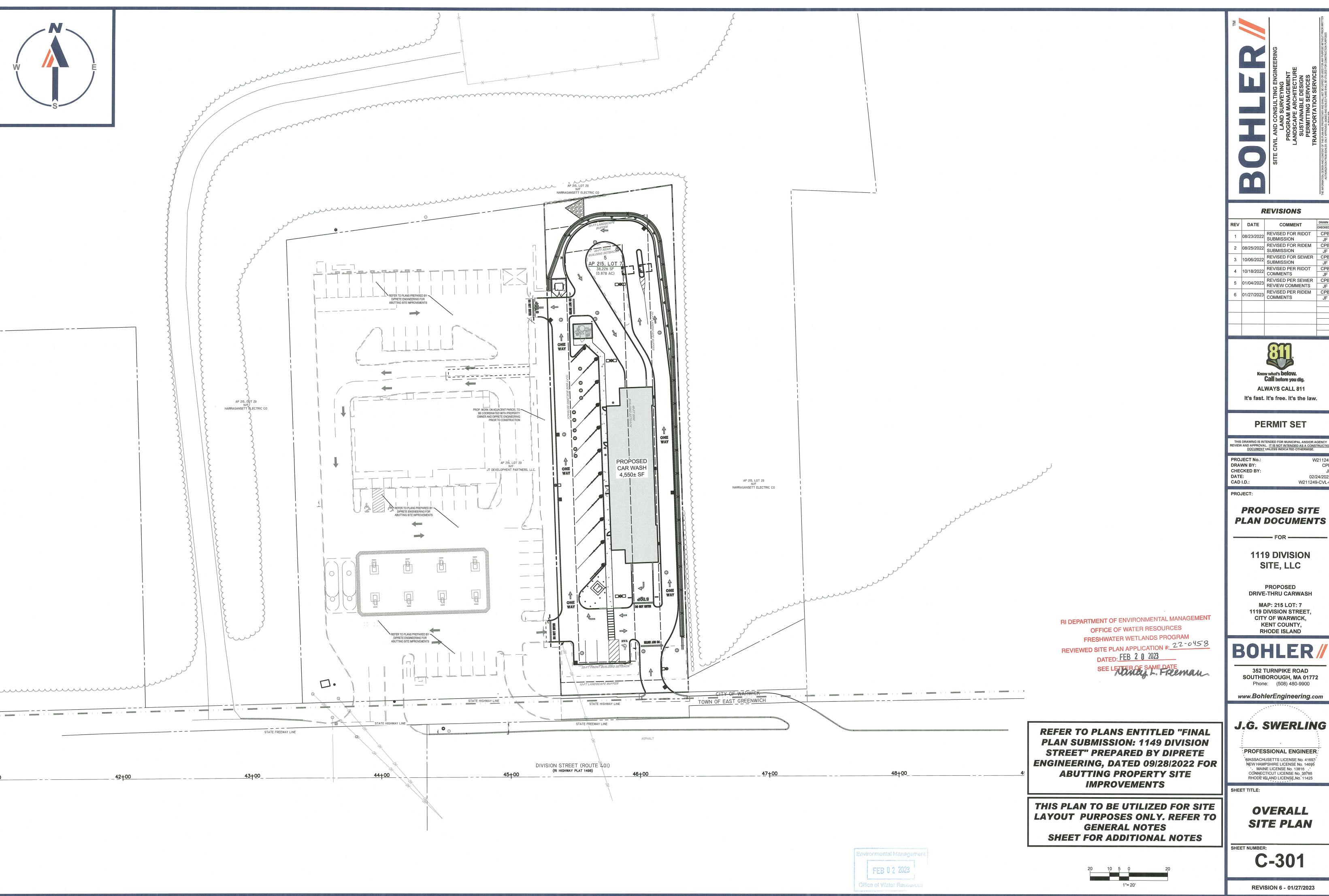
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SHEET TITLE:

DEMOLITION PLAN

C-201



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3	10/06/2022	REVISED FOR SEWER	CPB
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	10/10/2022	COMMENTS	JF
5	01/04/2023	REVISED PER SEWER	СРВ
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SITE, LLC

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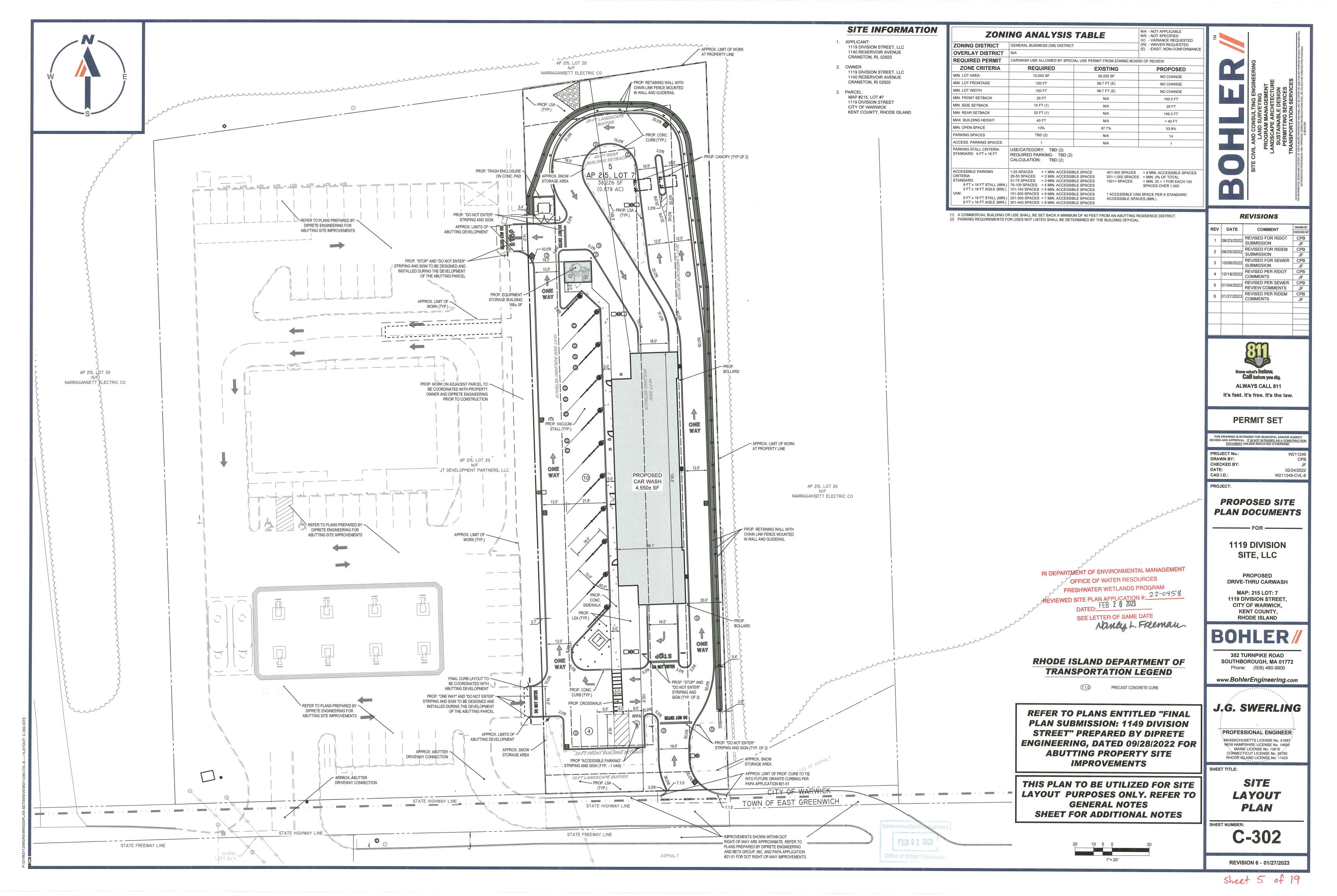
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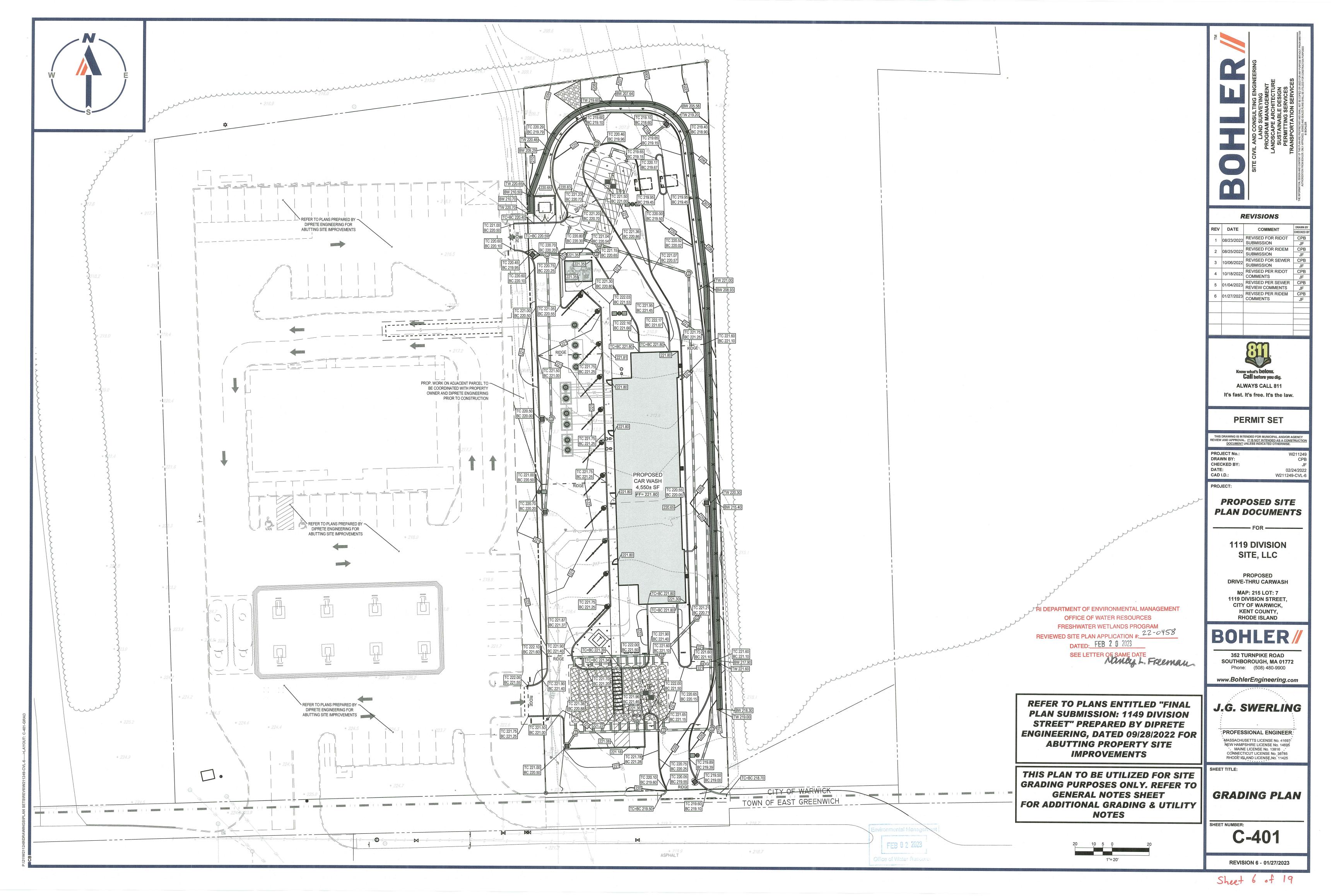
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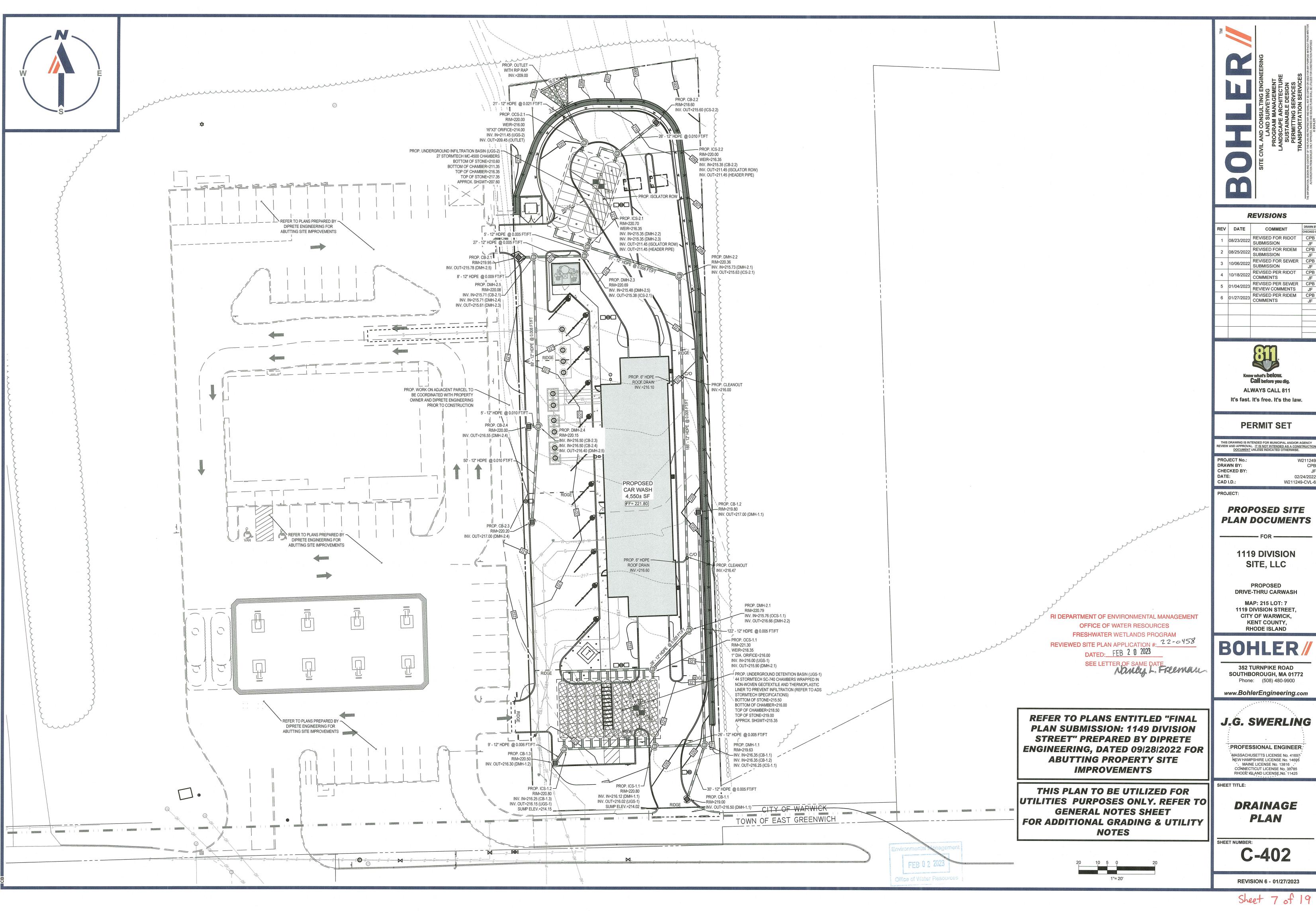
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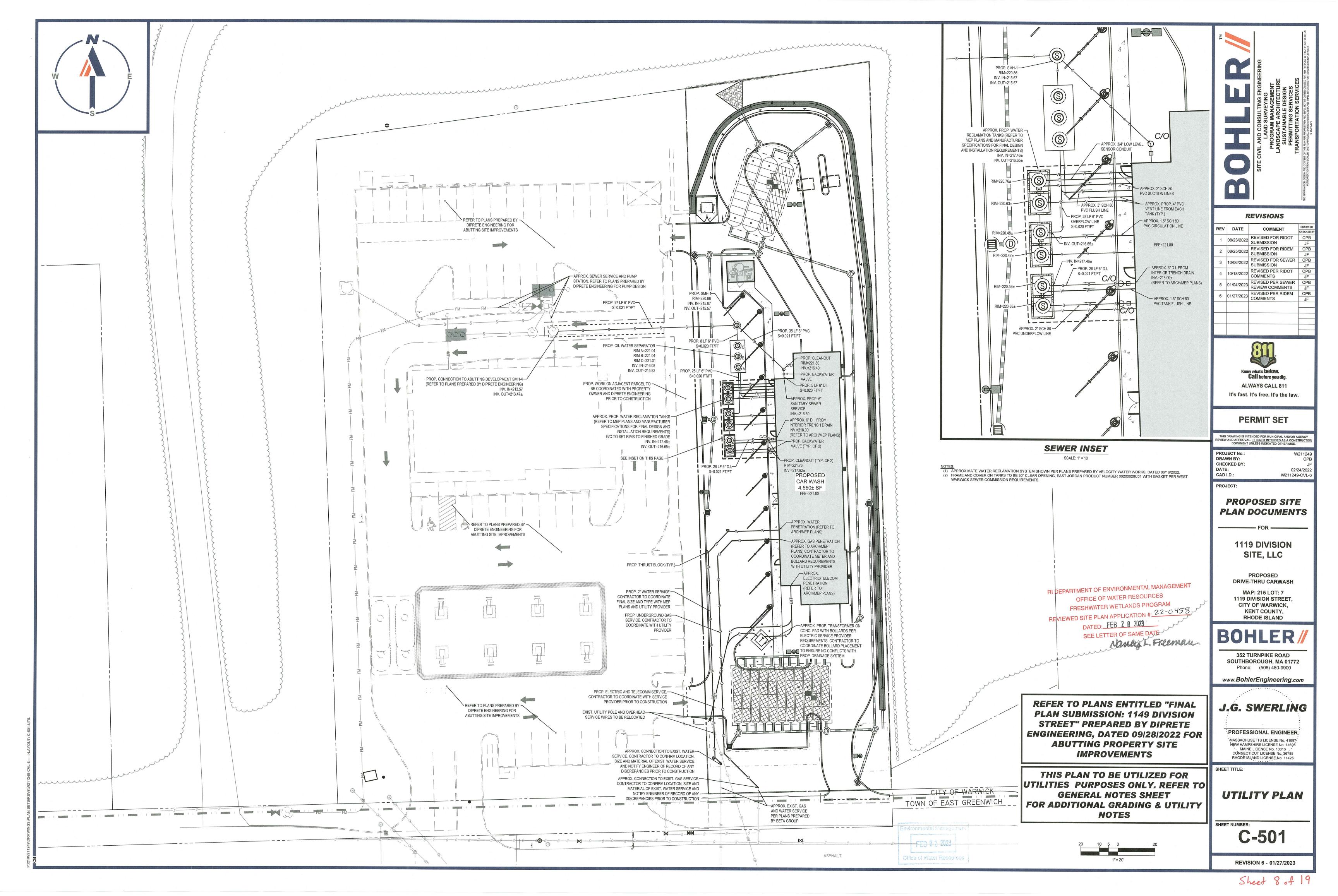
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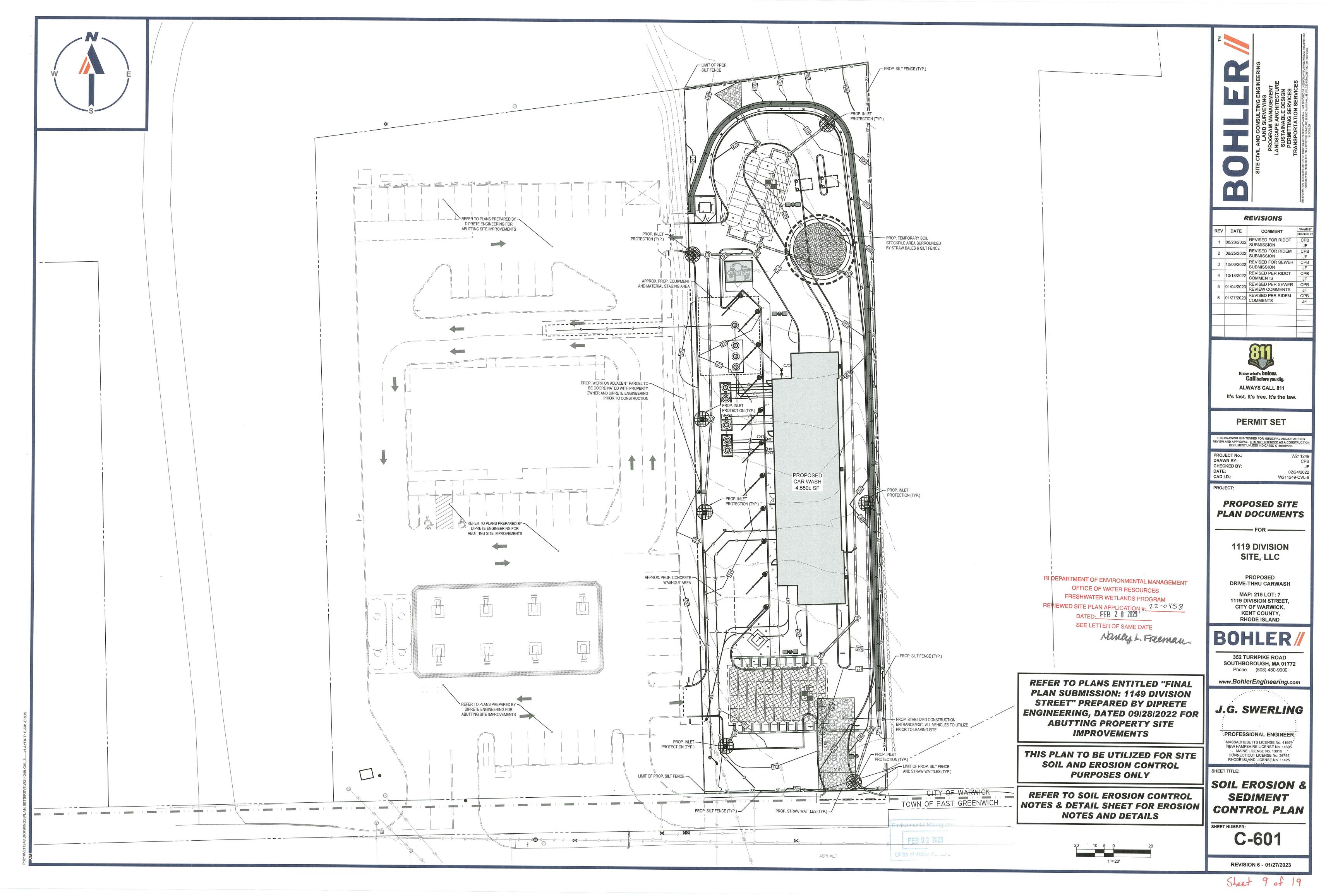
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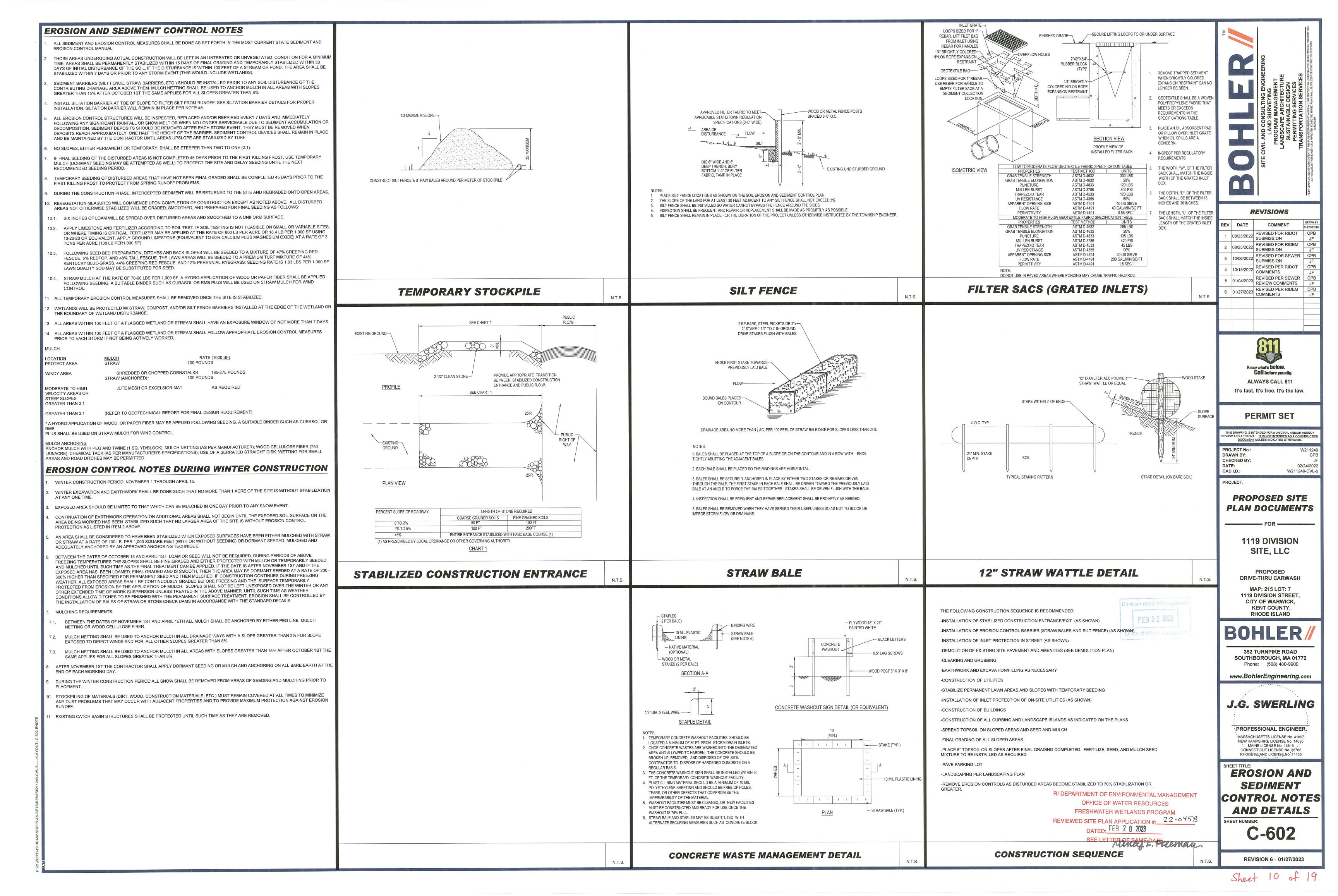


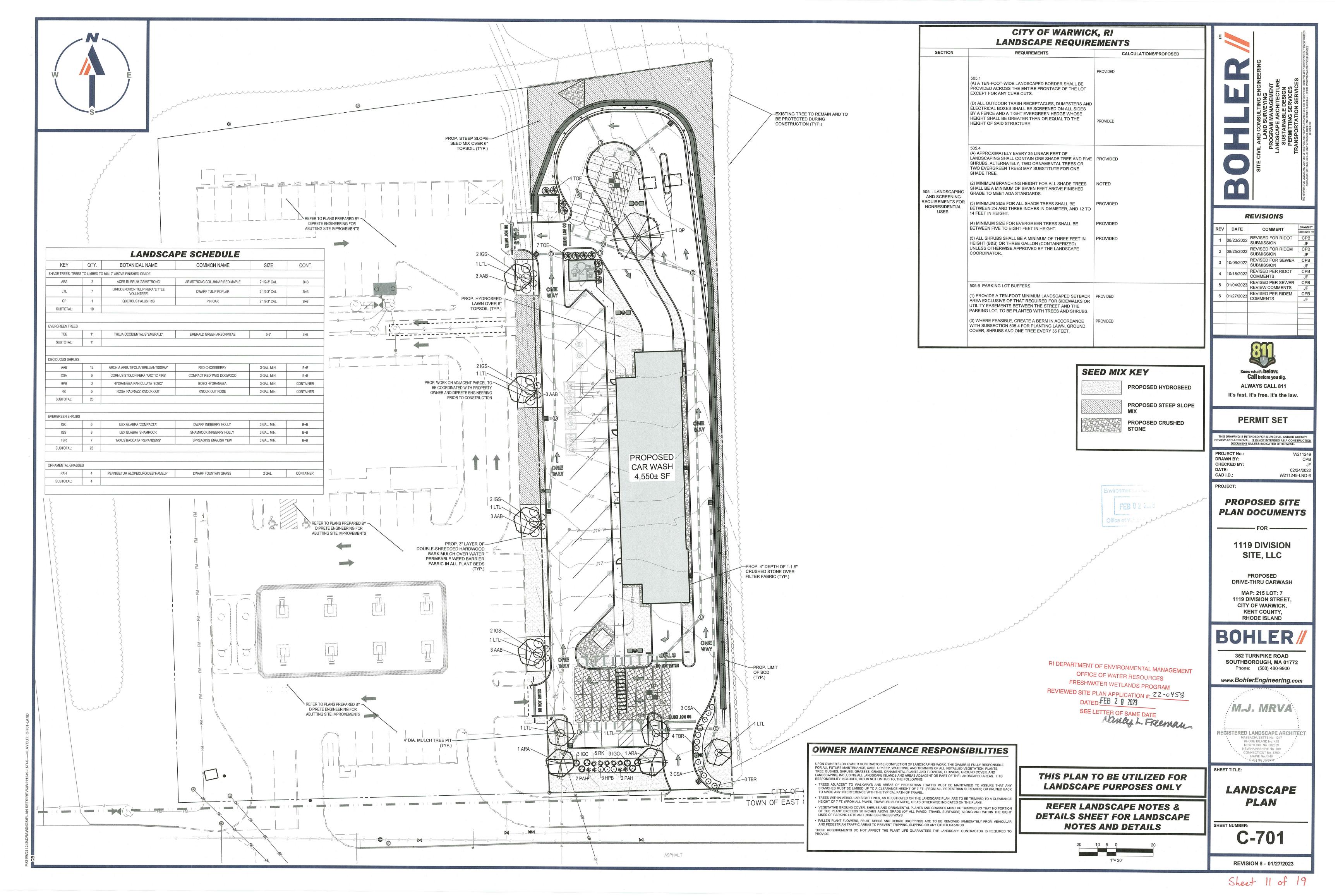












LANDSCAPE SPECIFICATIONS 9.3. ANY INJURED ROOTS OR BRANCHES SHALL BE PRUNED TO MAKE CLEAN-CUT ENDS PRIOR TO PLANTING UTILIZING CLEAN. SHARP TOOLS. ONLY INJURED OR DISEASED BRANCHING SHALL BE REMOVED. THE LANDSCAPE CONTRACTOR SHALL BE REQUIRED TO PERFORM ALL CLEARING, FINISHED GRADING, SOIL PREPARATION, PERMANENT SEEDING OR SODDING, PLANTING AND MULCHING INCLUDING ALL LABOR, MATERIALS, TOOLS AND EQUIPMENT 9.4. ALL PLANTING CONTAINERS, BASKETS AND NON-BIODEGRADABLE MATERIALS SHALL BE REMOVED FROM ROOT BALLS DURIN PLANTING. NATURAL FIBER BURLAP MUST BE CUT FROM AROUND THE TRUNK OF THE TREE AND FOLDED DOWN AGAINST THE NECESSARY FOR THE COMPLETION OF THIS PROJECT, UNLESS OTHERWISE CONTRACTED BY THE GENERAL CONTRACTOR. ROOT BALL PRIOR TO BACKFILLING. 9.5. POSITION TREES AND SHRUBS AT THEIR INTENDED LOCATIONS AS PER THE PLANS AND SECURE THE APPROVAL OF THE GENERAL - ALL HARDSCAPE MATERIALS SHALL MEET OR EXCEED SPECIFICATIONS AS OUTLINED IN THE STATE DEPARTMENT TOPSOIL - NATURAL, FRIABLE, LOAMY SILT SOIL HAVING AN ORGANIC CONTENT NOT LESS THAN 5%. A PH RANGE BETWEEN 4.5-7.0. IT SHALL BE FREE OF DEBRIS, ROCKS LARGER THAN ONE INCH (1"), WOOD, ROOTS, VEGETABLE MATTER AND CLAY 2.3. LAWN - ALL DISTURBED AREAS ARE TO BE TREATED WITH A MINIMUM 6" THICK LAYER OF TOPSOIL, OR AS DIRECTED BY THE LOCAL ORDINANCE OR CLIENT, AND SEEDED OR SODDED IN ACCORDANCE WITH THE PERMANENT STABILIZATION METHODS INDICATED ON THE LANDSCAPE PLAN LAWN SEED MIXTURE SHALL BE FRESH, CLEAN NEW CROP SEED. SOD SHALL BE STRONGLY ROOTED, WEED AND DISEASE/PEST FREE WITH A UNIFORM THICKNESS. SOD INSTALLED ON SLOPES GREATER THAN 4:1 SHALL BE PEGGED TO HOLD SOD IN PLACE. MULCH - ALL PLANTING BEDS SHALL BE MULCHED WITH A 3" THICK LAYER OF DOUBLE SHREDDED HARDWOOD BARK MULCH, UNLESS OTHERWISE STATED ON THE LANDSCAPE PLAN AND/OR LANDSCAPE PLAN NOTES /DETAILS. 2.5.1. FERTILIZER SHALL BE DELIVERED TO THE SITE MIXED AS SPECIFIED IN THE ORIGINAL UNOPENED STANDARD BAGS SHOWING WEIGHT, ANALYSIS AND NAME OF MANUFACTURER. FERTILIZER SHALL BE STORED IN A WEATHERPROOF PLACE SO THAT IT CAN BE KEPT DRY PRIOR TO USE FOR THE PURPOSE OF BIDDING, ASSUME THAT FERTILIZER SHALL BE 10% NITROGEN, 6% PHOSPHORUS AND 4% POTASSIUM BY WEIGHT. A FERTILIZER SHOULD NOT BE SELECTED WITHOUT A SOIL TEST PERFORMED BY A CERTIFIED SOIL LABORATORY PLANT MATERIAL ALL PLANTS SHALL IN ALL CASES CONFORM TO THE REQUIREMENTS OF THE "AMERICAN STANDARD FOR NURSERY STOCK" (ANSI Z60.1), LATEST EDITION, AS PUBLISHED BY THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION (FORMERLY THE AMERICAN ASSOCIATION OF NURSERYMEN). IN ALL CASES, BOTANICAL NAMES SHALL TAKE PRECEDENCE OVER COMMON NAMES FOR ANY AND ALL PLANT MATERIAL. 1 PART COMPOSTED COW MANURE BY VOLUME 9.8.2. PLANTS SHALL BE LEGIBLY TAGGED WITH THE PROPER NAME AND SIZE. TAGS ARE TO REMAIN ON AT LEAST ONE PLANT 2.6.3. OF EACH SPECIES FOR VERIFICATION PURPOSES DURING THE FINAL INSPECTION TREES WITH ABRASION OF THE BARK, SUN SCALDS, DISFIGURATION OR FRESH CUTS OF LIMBS OVER 11/4", WHICH HAVE NOT BEEN COMPLETELY CALLUSED, SHALL BE REJECTED. PLANTS SHALL NOT BE BOUND WITH WIRE OR ROPE AT ANY TIME SO AS TO DAMAGE THE BARK OR BREAK BRANCHES. 9.8.4.3. ALL PLANTS SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY AND SHALL HAVE A NORMAL HABIT OF GROWTH: WELL DEVELOPED BRANCHES, DENSELY FOLIATED, VIGOROUS ROOT SYSTEMS AND BE FREE OF DISEASE, INSECTS, PESTS, EGGS OR LARVAE CALIPER MEASUREMENTS OF NURSERY GROWN TREES SHALL BE TAKEN AT A POINT ON THE TRUNK SIX INCHES (6")

ABOVE THE NATURAL GRADE FOR TREES UP TO AND INCLUDING A FOUR INCH (4") CALIPER SIZE. IF THE CALIPER AT SIX

12" ABOVE THE NATURAL GRADE.

GENERAL WORK PROCEDURES

BEGINNING OF WORK

THE TREE PROTECTION ZONE.

SHALL BE PERFORMED BY A CERTIFIED SOIL LABORATORY.

CONTRACTOR DEPENDING ON SITE CONDITIONS

ADDED TO INCREASE DRAINAGE.

TOPSOIL THAT IS IN A MUDDY OR FROZEN CONDITION

SOIL MODIFICATIONS

SOIL LABORATORY

FINISHED GRADING

TOPSOILING

2.6.8. TREES AND SHRUBS SHALL BE HANDLED WITH CARE BY THE ROOT BALL

INCHES (6") ABOVE THE GROUND EXCEEDS FOUR INCHES (4") IN CALIPER, THE CALIPER SHOULD BE MEASURED AT A POINT

SHRUBS SHALL BE MEASURED TO THE AVERAGE HEIGHT OR SPREAD OF THE SHRUB, AND NOT TO THE LONGEST BRANCH.

CONTRACTOR TO UTILIZE WORKMANLIKE INDUSTRY STANDARDS IN PERFORMING ALL LANDSCAPE CONSTRUCTION. THE SITE

IS TO BE LEFT IN A CLEAN STATE AT THE END OF EACH WORKDAY. ALL DEBRIS, MATERIALS AND TOOLS SHALL BE PROPERLY

WASTE MATERIALS AND DEBRIS SHALL BE COMPLETELY DISPOSED OF AT THE CONTRACTOR'S EXPENSE. DEBRIS SHALL NOT

BEFORE AND DURING PRELIMINARY GRADING AND FINISHED GRADING, ALL WEEDS AND GRASSES SHALL BE DUG OUT BY THE

DAMAGED BRANCH SHALL BE CUT OFF AT THE BRANCH COLLAR. CONTRACTOR SHALL ENSURE THAT CUTS ARE SMOOTH AND

STRAIGHT. ANY EXPOSED ROOTS SHALL BE CUT BACK WITH CLEAN, SHARP TOOLS AND TOPSOIL SHALL BE PLACED AROUND

THE REMAINDER OF THE ROOTS. EXISTING TREES SHALL BE MONITORED ON A REGULAR BASIS FOR ADDITIONAL ROOT OR

BRANCH DAMAGE AS A RESULT OF CONSTRUCTION. ROOTS SHALL NOT BE LEFT EXPOSED FOR MORE THAN ONE (1) DAY.

INSTALLATION OF ANY LANDSCAPE MATERIAL. UTILITY COMPANIES SHALL BE CONTACTED THREE (3) DAYS PRIOR TO THE

SHALL BE ESTABLISHED AT THE DRIP LINE OR AT THE LIMIT OF CONSTRUCTION DISTURBANCE, WHICHEVER IS GREATER.

A FORTY-EIGHT INCH (48") HIGH WOODEN SNOW FENCE OR ORANGE COLORED HIGH-DENSITY 'VISI-FENCE', OR APPROVED

EQUAL, MOUNTED ON STEEL POSTS SHALL BE PLACED ALONG THE BOUNDARY OF THE TREE PROTECTION ZONE. POSTS

SHALL BE LOCATED AT A MAXIMUM OF EIGHT FEET (8') ON CENTER OR AS INDICATED WITHIN THE TREE PROTECTION DETAIL.

WHEN THE TREE PROTECTION FENCING HAS BEEN INSTALLED, IT SHALL BE INSPECTED BY THE APPROVING AGENCY PRIOR TO

DEMOLITION, GRADING, TREE CLEARING OR ANY OTHER CONSTRUCTION. THE FENCING ALONG THE TREE PROTECTION ZONE

AT NO TIME SHALL MACHINERY, DEBRIS, FALLEN TREES OR OTHER MATERIALS BE PLACED, STOCKPILED OR LEFT STANDING IN

CONTRACTOR SHALL ATTAIN A SOIL TEST FOR ALL AREAS OF THE SITE PRIOR TO CONDUCTING ANY PLANTING. SOIL TESTS

OF PLANT MATERIAL. SOIL MODIFICATIONS, AS SPECIFIED HEREIN, MAY NEED TO BE CONDUCTED BY THE LANDSCAPE

LANDSCAPE CONTRACTOR SHALL REPORT ANY SOIL OR DRAINAGE CONDITIONS CONSIDERED DETRIMENTAL TO THE GROWTH

THE FOLLOWING AMENDMENTS AND QUANTITIES ARE APPROXIMATE AND ARE FOR BIDDING PURPOSES ONLY. COMPOSITION

OF AMENDMENTS SHOULD BE REVISED DEPENDING ON THE OUTCOME OF A TOPSOIL ANALYSIS PERFORMED BY A CERTIFIED

TO INCREASE A SANDY SOIL'S ABILITY TO RETAIN WATER AND NUTRIENTS, THOROUGHLY TILL ORGANIC MATTER INTO THE

TOP 6-12" LUSE COMPOSTED BARK, COMPOSTED LEAF MULCH OR PEAT MOSS. ALL PRODUCTS SHOULD BE COMPOSTED

TO A DARK COLOR AND BE FREE OF PIECES WITH IDENTIFIABLE LEAF OR WOOD STRUCTURE. AVOID MATERIAL WITH A PH

TO INCREASE DRAINAGE, MODIFY HEAVY CLAY OR SILT (MORE THAN 40% CLAY OR SILT) BY ADDING COMPOSTED PINE

BRING THE SAND CONTENT TO MORE THAN 60% OF THE TOTAL MIX. SUBSURFACE DRAINAGE LINES MAY NEED TO BE

ALL LAWN AND PLANTING AREAS SHALL BE GRADED TO A SMOOTH, EVEN AND UNIFORM PLANE WITH NO ABRUPT CHANGE OF

ALL PLANTING AREAS SHALL BE GRADED AND MAINTAINED TO ALLOW FREE FLOW OF SURFACE WATER IN AND AROUND THE

ON-SITE TOPSOIL MAY BE USED TO SUPPLEMENT THE TOTAL AMOUNT REQUIRED. TOPSOIL FROM THE SITE MAY BE REJECTED

CONTRACTOR SHALL FURNISH TO THE APPROVING AGENCY AN ANALYSIS OF BOTH IMPORTED AND ON-SITE TOPSOIL TO BE

ALL LAWN AREAS ARE TO BE CULTIVATED TO A DEPTH OF SIX INCHES (6"). ALL DEBRIS EXPOSED FROM EXCAVATION AND

FOLLOWING SHALL BE TILLED INTO THE TOP FOUR INCHES (4") IN TWO DIRECTIONS (QUANTITIES BASED ON A 1,000 SQUARE

CONDITIONS ARE SUITABLE AND IN ACCORDANCE WITH ACCEPTED LOCAL PRACTICE. PLANTS SHALL NOT BE INSTALLED IN

CULTIVATION SHALL BE DISPOSED OF IN ACCORDANCE WITH GENERAL WORK PROCEDURES SECTION ABOVE. THE

UTILIZED IN ALL PLANTING AREAS. THE PH AND NUTRIENT LEVELS MAY NEED TO BE ADJUSTED THROUGH SOIL MODIFICATIONS

7.1. UNLESS OTHERWISE CONTRACTED, THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF

7.2. LANDSCAPE CONTRACTOR SHALL VERIFY THAT SUBGRADE FOR INSTALLATION OF TOPSOIL HAS BEEN ESTABLISHED. THE

SURFACE AS DEPICTED WITHIN THIS SET OF CONSTRUCTION PLANS, UNLESS OTHERWISE DIRECTED BY THE PROJECT

CONTRACTOR SHALL PROVIDE A 6" THICK MINIMUM LAYER OF TOPSOIL, OR AS DIRECTED BY THE LOCAL ORDINANCE OR

CLIENT, IN ALL PLANTING AREAS. TOPSOIL SHOULD BE SPREAD OVER A PREPARED SURFACE IN A UNIFORM LAYER TO

TOPSOIL AND THE ESTABLISHMENT OF FINE-GRADING WITHIN THE DISTURBANCE AREA OF THE SITE.

IF IT HAS NOT BEEN PROPERLY REMOVED, STORED AND PROTECTED PRIOR TO CONSTRUCTION.

AS NEEDED TO ACHIEVE THE REQUIRED LEVELS AS SPECIFIED IN THE MATERIALS SECTION ABOVE

PLANTING BEDS. STANDING WATER SHALL NOT BE PERMITTED IN PLANTING BEDS.

SUBGRADE OF THE SITE MUST MEET THE FINISHED GRADE LESS THE REQUIRED TOPSOIL THICKNESS (1"±).

BARK (UP TO 30% BY VOLUME) AND/OR AGRICULTURAL GYPSUM. COARSE SAND MAY BE USED IF ENOUGH IS ADDED TO

MODIFY EXTREMELY SANDY SOILS (MORE THAN 85%) BY ADDING ORGANIC MATTER AND/OR DRY, SHREDDED CLAY LOAM

SHALL BE REGULARLY INSPECTED BY THE LANDSCAPE CONTRACTOR AND MAINTAINED UNTIL ALL CONSTRUCTION ACTIVITY

LOCAL STANDARDS THAT MAY REQUIRE A MORE STRICT TREE PROTECTION ZONE SHALL BE HONORED.

CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING TREES TO REMAIN. A TREE PROTECTION ZONE

CONTRACTOR SHALL ARRANGE TO HAVE A UTILITY STAKE-OUT TO LOCATE ALL UNDERGROUND UTILITIES PRIOR TO

ALL EXISTING TREES TO REMAIN SHALL BE PRUNED TO REMOVE ANY DAMAGED BRANCHES. THE ENTIRE LIMB OF ANY

BE BURIED, INCLUDING ORGANIC MATERIALS, BUT SHALL BE REMOVED COMPLETELY FROM THE SITE.

ROOTS AND DISPOSED OF IN ACCORDANCE WITH GENERAL WORK PROCEDURES OUTLINED HEREIN.

CONTRACTOR SHALL WATER EXISTING TREES AS NEEDED TO PREVENT SHOCK OR DECLINE.

LANDSCAPE ARCHITECT PRIOR TO EXCAVATING PITS. MAKING NECESSARY ADJUSTMENTS AS DIRECTED. 9.6. PRIOR TO THE ISSUANCE OF ANY CERTIFICATE OF OCCUPANCY, THE PROPOSED LANDSCAPE, AS SHOWN ON THE APPROVED LANDSCAPE PLAN, MUST BE INSTALLED, INSPECTED AND APPROVED BY THE APPROVING AGENCY. THE APPROVING AGENCY SHALL TAKE INTO ACCOUNT SEASONAL CONSIDERATIONS IN THIS REGARD AS FOLLOWS. THE PLANTING OF TREES, SHRUBS VINES OR GROUND COVER SHALL OCCUR ONLY DURING THE FOLLOWING PLANTING SEASONS: 9.6.1. PLANTS: MARCH 15 TO DECEMBER 15 LAWN: MARCH 15 TO JUNE 15 OR SEPT. 1 TO DECEMBER 1 PLANTINGS REQUIRED FOR A CERTIFICATE OF OCCUPANCY SHALL BE PROVIDED DURING THE NEXT APPROPRIATE SEASON AT THE MUNICIPALITY'S DISCRETION. CONTRACTOR SHOULD CONTACT APPROVING AGENCY FOR POTENTIAL 9.7. FURTHERMORE, THE FOLLOWING TREE VARIETIES ARE UNUSUALLY SUSCEPTIBLE TO WINTER DAMAGE. WITH TRANSPLANT SHOCK AND THE SEASONAL LACK OF NITROGEN AVAILABILITY, THE RISK OF PLANT DEATH IS GREATLY INCREASED. IT IS NOT RECOMMENDED THAT THESE SPECIES BE PLANTED DURING THE FALL PLANTING SEASON:

ACER RUBRUM PLATANUS X ACERIFOLIA BETULA VARIETIES POPULUS VARIETIES **CARPINUS VARIETIES** PRUNUS VARIETIES CRATAEGUS VARIETIES PYRUS VARIETIES KOELREUTERIA QUERCUS VARIETIES LIQUIDAMBAR STYRACIFLUA TILIA TOMENTOS LIRIODENDRON TULIPIFERA ZELKOVA VARIETIES

9.8. PLANTING PITS SHALL BE DUG WITH LEVEL BOTTOMS, WITH THE WIDTH TWICE THE DIAMETER OF ROOT BALL. THE ROOT BAL SHALL REST ON UNDISTURBED GRADE. EACH PLANT PIT SHALL BE BACKFILLED IN LAYERS WITH THE FOLLOWING PREPARED SOIL MIXED THOROUGHLY: 1 PART PEAT MOSS

3 PARTS TOPSOIL BY VOLUME 9.8.4. 21 GRAMS 'AGRIFORM' PLANTING TABLETS (OR APPROVED EQUAL) AS FOLLOWS: 2 TABLETS PER 1 GALLON PLANT 3 TABLETS PER 5 GALLON PLANT 4 TABLETS PER 15 GALLON PLANT LARGER PLANTS: 2 TABLETS PER 1/2" CALIPER OF TRUNK

9.9. FILL PREPARED SOIL AROUND BALL OF PLANT HALF-WAY AND INSERT PLANT TABLETS. COMPLETE BACKFILL AND WATER 9.10. ALL PLANTS SHALL BE PLANTED SO THAT THE TOP OF THE ROOT BALL, THE POINT AT WHICH THE ROOT FLARE BEGINS, IS SET

AT GROUND LEVEL AND IN THE CENTER OF THE PIT. NO SOIL IS TO BE PLACED DIRECTLY ON TOP OF THE ROOT BALL. 9.11. ALL PROPOSED TREES DIRECTLY ADJACENT TO WALKWAYS OR DRIVEWAYS SHALL BE PRUNED AND MAINTAINED TO A

PLANTING. ALL GROUND COVER AREAS SHALL BE WEEDED AND TREATED WITH A PRE-EMERGENT CHEMICAL AS PER

MANUFACTURER'S RECOMMENDATION 9.13. NO PLANT, EXCEPT GROUND COVERS, GRASSES OR VINES, SHALL BE PLANTED LESS THAN TWO FEET (2') FROM EXISTING

9.12. GROUND COVER AREAS SHALL RECEIVE A 1/4" LAYER OF HUMUS RAKED INTO THE TOP 1" OF PREPARED SOIL PRIOR TO

9.14. ALL PLANTING AREAS AND PLANTING PITS SHALL BE MULCHED AS SPECIFIED HEREIN TO FILL THE ENTIRE BED AREA OR SAUCER. NO MULCH IS TO TOUCH THE TRUNK OF THE TREE OR SHRUB.

9.15. ALL PLANTING AREAS SHALL BE WATERED IMMEDIATELY UPON INSTALLATION IN ACCORDANCE WITH THE WATERING SPECIFICATIONS AS LISTED HEREIN.

10. TRANSPLANTING (WHEN REQUIRED)

10.1. ALL TRANSPLANTS SHALL BE DUG WITH INTACT ROOT BALLS CAPABLE OF SUSTAINING THE PLANT. 10.2. IF PLANTS ARE TO BE STOCKPILED BEFORE REPLANTING, THEY SHALL BE HEALED IN WITH MULCH OR SOIL, ADEQUATELY

WATERED AND PROTECTED FROM EXTREME HEAT, SUN AND WIND. 10.3. PLANTS SHALL NOT BE DUG FOR TRANSPLANTING BETWEEN APRIL 10 AND JUNE 30.

10.4. UPON REPLANTING, BACKFILL SOIL SHALL BE AMENDED WITH FERTILIZER AND ROOT GROWTH HORMONE. 10.5. TRANSPLANTS SHALL BE GUARANTEED FOR THE LENGTH OF THE GUARANTEE PERIOD SPECIFIED HEREIN

10.6. F TRANSPLANTS DIE, SHRUBS AND TREES LESS THAN SIX INCHES (6") DBH SHALL BE REPLACED IN KIND. TREES GREATER THAN SIX INCHES (6") DBH MAY BE REQUIRED TO BE REPLACED IN ACCORDANCE WITH THE MUNICIPALITY'S TREE REPLACEMENT GUIDELINES

11.1. NEW PLANTINGS OR LAWN AREAS SHALL BE ADEQUATELY IRRIGATED BEGINNING IMMEDIATELY AFTER PLANTING. WATER MATERIALS IN THE PLANTING HOLE ARE THOROUGHLY SATURATED. WATERING SHALL CONTINUE AT LEAST UNTIL PLANTS AR 11.2. SITE OWNER SHALL PROVIDE WATER IF AVAILABLE ON SITE AT TIME OF PLANTING. IF WATER IS NOT AVAILABLE ON SITE.

PLANTED TREES. 11.3. IF AN IRRIGATION SYSTEM HAS BEEN INSTALLED ON THE SITE, IT SHALL BE USED TO WATER PROPOSED PLANT MATERIAL, BU ANY FAILURE OF THE SYSTEM DOES NOT ELIMINATE THE CONTRACTOR'S RESPONSIBILITY OF MAINTAINING THE DESIRED MOISTURE LEVEL FOR VIGOROUS, HEALTHY GROWTH.

CONTRACTOR SHALL SUPPLY ALL NECESSARY WATER. THE USE OF WATERING BAGS IS RECOMMENDED FOR ALL NEWLY

12. **GUARANTEE** 12.1. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANTS FOR A PERIOD OF 1 YEAR FROM APPROVAL OF LANDSCAPE INSTALLATION BY THE APPROVING AGENCY. CONTRACTOR SHALL SUPPLY THE OWNER WITH A MAINTENANCE BOND FOR TEN PERCENT (10%) OF THE VALUE OF THE LANDSCAPE INSTALLATION WHICH WILL BE RELEASED AT THE CONCLUSION OF THE GUARANTEE PERIOD AND WHEN A FINAL INSPECTION HAS BEEN COMPLETED AND APPROVED BY THE OWNER OR AUTHORIZED

12.2. ANY DEAD OR DYING PLANT MATERIAL SHALL BE REPLACED FOR THE LENGTH OF THE GUARANTEE PERIOD. REPLACEMENT OF PLANT MATERIAL SHALL BE CONDUCTED AT THE FIRST SUCCEEDING PLANTING SEASON. ANY DEBRIS SHALL BE DISPOSED OF OFF-SITE, WITHOUT EXCEPTION.

12.3. TREES AND SHRUBS SHALL BE MAINTAINED BY THE CONTRACTOR DURING CONSTRUCTION AND THROUGHOUT THE 90 DAY MAINTENANCE PERIOD AS SPECIFIED HEREIN. CULTIVATION, WEEDING, WATERING AND THE PREVENTATIVE TREATMENTS SHALL BE PERFORMED AS NECESSARY TO KEEP PLANT MATERIAL IN GOOD CONDITION AND FREE OF INSECTS AND DISEASE. LAWNS SHALL BE MAINTAINED THROUGH WATERING, FERTILIZING, WEEDING, MOWING, TRIMMING AND OTHER OPERATIONS SUCH AS ROLLING, REGARDING AND REPLANTING AS REQUIRED TO ESTABLISH A SMOOTH, ACCEPTABLE LAWN, FREE OF **ERODED OR BARE AREAS**

13.1. UPON THE COMPLETION OF ALL LANDSCAPE INSTALLATION AND BEFORE THE FINAL ACCEPTANCE, THE CONTRACTOR SHALL REMOVE ALL UNUSED MATERIALS, EQUIPMENT AND DEBRIS FROM THE SITE. ALL PAVED AREAS ARE TO BE CLEANED.

13.2. THE SITE SHALL BE CLEANED AND LEFT IN A NEAT AND ACCEPTABLE CONDITION AS APPROVED BY THE OWNER OR AUTHORIZED REPRESENTATIVE

"QUICK EROSION CONTROL COVER MIX" AS PREPARED BY

ERNST CONSERVATION SEEDS. INC

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8884 MERCER PIKE, MEADVILLE, PA 16335

14. MAINTENANCE (ALTERNATIVE BID): 14.1. A 90 DAY MAINTENANCE PERIOD SHALL COMMENCE AT THE END OF ALL LANDSCAPE INSTALLATION OPERATIONS. THE 90 DAY MAINTENANCE PERIOD ENSURES TO THE OWNER/OPERATOR THAT THE NEWLY INSTALLED LANDSCAPING HAS BEEN MAINTAINED AS SPECIFIED ON THE APPROVED LANDSCAPE PLAN. ONCE THE INITIAL 90 DAY MAINTENANCE PERIOD HAS EXPIRED, THE OWNER/OPERATOR MAY REQUEST THAT BIDDERS SUBMIT AN ALTERNATE MAINTENANCE BID FOR A MONTHLY MAINTENANCE CONTRACT. THE ALTERNATE MAINTENANCE CONTRACT WILL ENCOMPASS ANY WORK THAT IS CONSIDERED APPROPRIATE TO ENSURE THAT PLANT AND LAWN AREAS ARE HEALTHY AND MANICURED TO THE APPROVAL OF THE OWNER/OPERATOR.

UNDISTURBED SOIL IN BOTTOM OF HOLE TREE PROTECTION DURING SITE TREE PLANTING DETAIL CONSTRUCTION

AVOID PURCHASING TREES WITH TWO

PLANTING: OTHERWISE, DO NOT PRUN

SPECIFIC STRUCTURAL CORRECTIONS

SET ROOT BALL FLUSH TO GRADE OR

SEVERAL INCHES HIGHER IN POORLY

3" DOUBLE SHREDDED HARDWOOD

SPECIFIED) (DO NOT PLACE MULCH IN

BARK MULCH (UNLESS OTHERWISE

- LANDSCAPE FABRIC AS SPECIFIED.

CONTACT WITH TREE TRUNK)

- ALL PLANTING CONTAINERS,

NON-BIODEGRADABLE MATERIALS

SHALL BE REMOVED FROM ROOT

BASKETS AND

- SET ROOT BALL ON

TREE AT PLANTING EXCEPT FOR

LEADERS OR REMOVE ONE AT

DRAINING SOILS.

- 4" BUILT-UP EARTH SAUCER

AREA OF SITE

CONSTRUCTION

ELEVATION

TREE PROTECTION FENCE SHALL BE

INSTALLED TO FOLLOW TREE CANOPY

DRIP LINE OR PROPOSED LIMITS OF

4' HIGH WOOD & WIRE SNOW FENCE

-WOOD & WIRE SNOW FENCE USED AS

ON CENTER. AS AN OPTION,

CONSTRUCTION EQUIPMENT.

REMAIN UNDISTURBED DURING

CONSTRUCTION.

BELOW GRADE).

BE USED.

W/WOOD STAKES AT A MAXIMUM OF 8'

ORANGE/FLOURESCENT HIGH-DENSITY

"VISI-FENCE" OR APPROVED EQUAL CAN

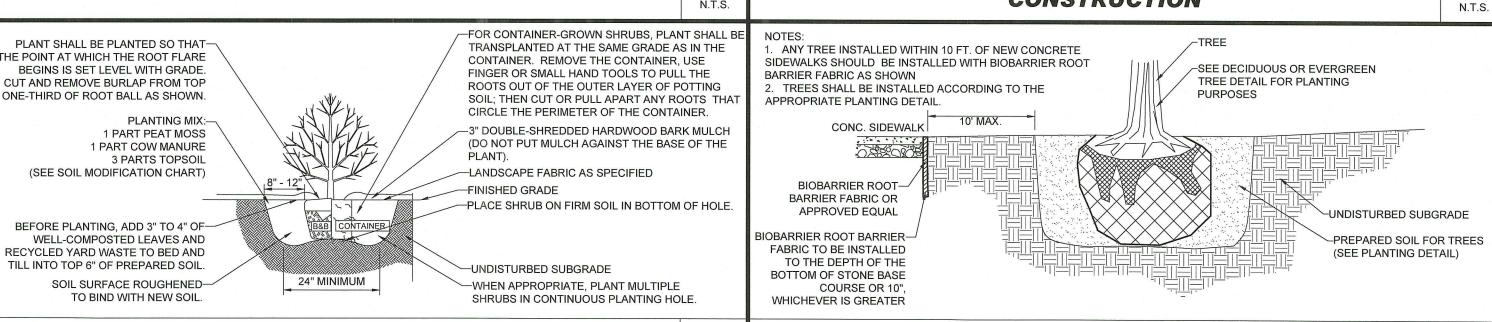
TREE GUARD TO PREVENT DAMAGE FROM

TREE DRIP LINE/TREE PROTECTION ZONE

-AREA WITHIN TREE PROTECTION ZONE TO

MAXIMUM CENTER TO CENTER (MINIMUM 2'

-6' WOOD OR STEEL FENCE POSTS AT 8'



SHRUB PLANTING DETAIL BIOBARRIER ROOT BARRIER DETAIL N.T.S. -SET ROOT BALL FLUSH TO GRADE OR SEVERAL INCHES HIGHER IN POORLY DRAINING –Ֆ[©]BUSLT-UP EARTH SAUCER INTO 6" OF PLANTING RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT MIXTURE, AS SPECIFIED -SET ROOT BALL ON FIRM CUT BACK SLOPE TO-OFFICE OF WATER RESOURCES PAD IN BOTTOM OF HOLE PROVIDE A FLAT SURFACE 1" DOUBLE SHREDDED-FOR PLANTING PROPOSED HARDWOOD BARK MULCH FRESHWATER WETLANDS PROGRAM -TOP SOIL FILL (COMPACTED) GRADE FOR PLANTING AREA REVIEWED SITE PLAN APPLICATION. #: 22-0458 (SLOPE NOT TO EXCEED 2:1) NOT TO EXCEED 2:1 DATED:_ FEB 2 0 2023 EDGING-UNDISTURBED SUBGRADE-(AS SPECIFIED) FINISHED GRADE-DIG WIDE, SHALLOW-SEE LETTER OF SAME DATE - 4"-6" DEEPER THAN ROOT BALL **HOLE WITH TAMPED** TAMP SOIL SOLIDLY-AROUND BASE OF ROOT EQUAL | EQUAL | EQUAL | EQUAL | EQUAL | EQUAL | BALL REFER TO TREE PLANTING DETAIL FOR GENERAL PLANTING **SPECIFICATIONS**

GROUNDCOVER PLANTING TREE PLANTING DETAIL - ON SLOPE N.T.S. 18" STAKE INTO UNDISTURBED-GROUND EVERY 30" O.C. LAP 1. PRIOR TO SEEDING, AREA IS TO BE TOPSOILED, FINE GRADED, AND RAKED OF ALL JOINTS AS PER MANUFACTURERS DEBRIS LARGER THAN 2" DIAMETER. RECOMMENDATION 2. PRIOR TO SEEDING, CONSULT MANUFACTURER'S RECOMMENDATIONS AND 3/16" x 4" BLACK-ALUMINUM EDGING 3. SEEDING RATES: PERENNIAL RYEGRASS 1/2 LB/1000 SQ FT LAWN OR GRAVEL AREA- KENTUCKY BLUEGRASS 1 LB/1000 SQ FT 1/2 LB/1000 SQ FT SPREADING FESCUE 1/2 LB/1000 SQ F FERTILIZER (16.32.16) 2 LB/1000 SQ FT 1 GAL/800 GAL TANK TACKIFIER 35 LB/800 GAL TANK FIBER MULCH 30 LB/1000 SQ FT -PREPARED

4. GERMINATION RATES WILL VARY AS TO TIME OF YEAR FOR SOWING. CONTRACTOR TO IRRIGATE SEEDED AREA UNTIL AN ACCEPTABLE STAND OF COVER IS ESTABLISHED BY UNDISTURBED SUBGRADE-**HYDROSEED SPECIFICATIONS**

AS SPECIFIED

BLACK ALUMINUM EDGING

FASTEN FREE END TO STAKE OR

PROJECT: PROPOSED SITE **PLAN DOCUMENTS** 1119 DIVISION SITE, LLC PROPOSED DRIVE-THRU CARWASH N.T.S. MAP: 215 LOT: 7 1119 DIVISION STREET CITY OF WARWICK, KENT COUNTY, RHODE ISLAND **352 TURNPIKE ROAD** SOUTHBOROUGH, MA 01772 Phone: (508) 480-9900 www.BohlerEngineering.com M.J. MRVA REGISTERED LANDSCAPE ARCHITEC RHODE ISLAND No. 419 NEW HAMPSHIRE No. 109 SHEET TITLE: LANDSCAPE THIS END NOTES & TO STAKE **DETAILS**

REVISIONS

SUBMISSION

SUBMISSION

SUBMISSION

10/18/2022 COMMENTS

6 01/27/2023 COMMENTS

5 01/04/2023 REVIEW COMMENTS

COMMENT

REVISED FOR RIDEM

REVISED PER RIDOT

REVISED FOR SEWER

REVISED PER SEWER

REVISED PER RIDEM

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02/24/2022

W211249-LND-6

REVISED FOR RIDOT

50.0% Lolium multiflorum (Annual Ryegrass) 50.0% Lolium perenne, 'Blackcat II' (Perennial Ryegrass)

TREE TRUNK SPECIFIED ARBORTIE GREEN (OR WHITE) STAKING AND GUYING MATERIAL IS TO BE FLAT WOVEN POLYPROPYLENE MATERIAL. 3/4" WIDE, 900 LB. BREAK STRENGTH ARBORTIE SHALL BE FASTENED TO STAKES IN A MANNER WHICH PERMITS TREE MOVEMENT AND SUPPORTS THE TREE. - MIN. OF THREE (3) TYPICAL STAKES TO EACH GUYING INSTALLATION TIE A SIMPLE KNOT 18-24" VIIIIII VIIIIIV FROM EITHER END OF THE ARBORTIF (DEPENDING ON THE DIAMETER OF THE TREE)

INSTRUCTIONS.

RED FESCUE

LIQUID LIME

.) NO SOIL OR MULCH SHALL BE PLACED AGAINST ROOT COLLAR OF PLANT. .) REMOVE ALL NON-BIODEGRADABLE MATERIAL AND ROPE FROM TRUNK & TOP OF

4.) THOROUGHLY SOAK THE TREE ROOT BALL AND ADJACENT PREPARED SOIL SEVERAL

5.) THE BOTTOM OF PLANTING PIT EXCAVATIONS SHOULD BE ROUGH TO AVOID MATTING

NEW SOIL IS ADDED. IT IS PREFERABLE TO TILL THE FIRST LIFT (2 TO 3 IN.) OF PLANTING

6.) REFER TO THE CHART "GENERAL RANGE OF SOIL MODIFICATIONS & VOLUMES FOR VARIOUS SOIL CONDITIONS" TO DETERMINE MINIMUM WIDTH OF PREPARED SOIL.

AFTER PLANTING AND REGULARLY THROUGHOUT THE FOLLOWING TWO SUMMERS.

ROOT BALL. FOLD BURLAP BACK 1/3 FROM ROOT BALL.

TIMES DURING THE FIRST MONTH

REINFORCED RUBBER HOSE (1/2" DIA.

FOLD BURLAP AWAY FROM TOP OF

12 GAUGE GALVANIZED WIRE GUYS

2" DIA. HARDWOOD STAKES 2/3

TWICE THE WIDTH OF ROOTBALL

PREPARED SOIL FOR TREES

FOR PREPARED SOIL FOR TREES.

(RECOMMENDATION ONLY, SEE SOIL MOD.

TREE HT. 3 PER TREE

1 PART PEAT MOSS

3 PARTS TOPSOIL-

1 PART COW MANURE

UNDISTURBED SUBGRADE -

DIG WIDE SHALLOW HOLE

TAMP SOIL SOLIDLY AROUND -

WITH TAMPED SIDES

BASE OF ROOT BALL

OF SOIL LAYERS AS

SOIL INTO THE SUBSOIL.

PLANTING DEPTH SHALL BE THE SAME AS GROWN IN NURSERY

7.) SUBSTITUTE ARBORVITAE STAKING SYSTEM WHEN SPECIFIED.

BLACK)

ROOT BALL

AROUND TREE AFTER KNOT IS TIGHTENED WRAP THIS END AROUND TO STAKE TREE. BEGIN A NEW KNOT BELOW THE KNOT THAT WAS TIED IN STEP 1.

THIS END TO STAKE FOLLOW MOTION OF ARBORTIE AS SHOWN, FINISHING THE KNOT BY PULLING TIGHTLY ON POINTS A AND B AT THE SAME TIME.

ARBORTIE STAKING DETAIL

THIS END TO STAKE STEP 4:

ANCHOR

THIS END TO STAKE STEP 5 SLIDE KNOT JUST COMPLETED

THE ARBORKNOT PROVIDES UP TO THE KNOT TIED IN STEP 1 SECURE. GIRDLE FREE

ATTACHMENT OF THE

ARBORTIE TO TREE

C-702

REVISION 6 - 01/27/2023

APPLICATION RATE: 50 LBS. / ACRE

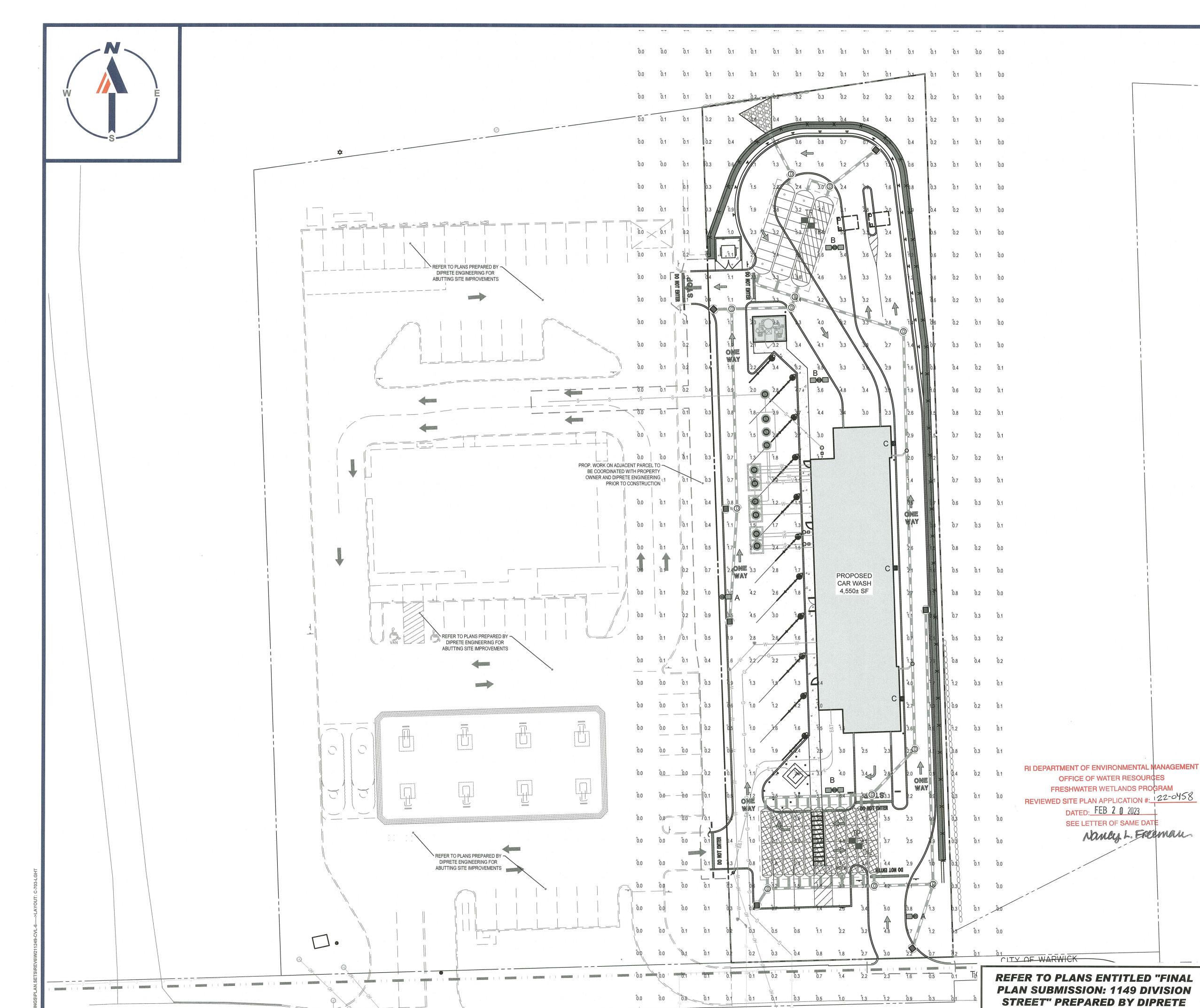
SLOPE SEED MIX SPECIFICATIONS

FOOT AREA - FOR BID PURPOSES ONLY [SEE SPECIFICATION 6.A.]): 8.4.1. 20 POUNDS 'GRO-POWER' OR APPROVED SOIL CONDITIONER/FERTILIZER 8.4.2. 20 POUNDS NITRO-FORM (COURSE) 38-0-0 BLUE CHIP OR APPROVED NITROGEN FERTILIZER

8.5. THE SPREADING OF TOPSOIL SHALL NOT BE CONDUCTED UNDER MUDDY OR FROZEN CONDITIONS. INSOFAR THAT IT IS FEASIBLE, PLANT MATERIAL SHALL BE PLANTED ON THE DAY OF DELIVERY. IN THE EVENT THAT THIS IS

NOT POSSIBLE, LANDSCAPE CONTRACTOR SHALL PROTECT UNINSTALLED PLANT MATERIAL. PLANTS SHALL NOT REMAIN UNPLANTED FOR LONGER THAN A THREE DAY PERIOD AFTER DELIVERY. PLANTS THAT WILL NOT BE PLANTED FOR A PERIOD OF TIME GREATER THAN THREE DAYS SHALL BE HEALED IN WITH TOPSOIL OR MULCH TO HELP PRESERVE ROOT MOISTURE.

PLANTING OPERATIONS SHALL BE PERFORMED DURING PERIODS WITHIN THE PLANTING SEASON WHEN WEATHER AND SOIL



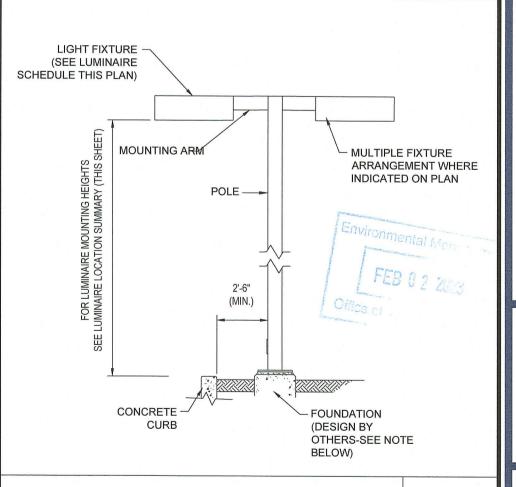
LIGHTING NOTES

- 1. THIS LIGHTING PLAN DEPICTS PROPOSED SUSTAINED ILLUMINATION LEVELS CALCULATED USING DATA PROVIDED BY THE NOTED MANUFACTURER(S). ACTUAL SUSTAINED SITE ILLUMINATION LEVELS AND PERFORMANCE OF LUMINAIRES MAY VARY DUE TO VARIATIONS IN WEATHER, ELECTRICAL VOLTAGE, TOLERANCE IN LAMPS, THE SERVICE LIFE OF EQUIPMENT AND LUMINAIRES AND OTHER RELATED VARIABLE FIELD CONDITIONS.
- THE LIGHT LOSS FACTORS USED IN THESE LIGHTING CALCULATIONS ARE 0.90 FOR ALL LED LUMINAIRES, 0.80 FOR ALL HIGH PRESSURE SODIUM LUMINAIRES OR 0.72 FOR ALL METAL HALIDE LUMINAIRES UNLESS OTHERWISE SPECIFIED. THESE FACTORS ARE INDICATIVE OF TYPICAL LIGHTING INDUSTRY MODELING STANDARDS.
- THE LIGHTING VALUES AND CALCULATION POINTS DEPICTED ON THIS PLAN ARE ALL ANALYZED ON A
 HORIZONTAL GEOMETRIC PLANE AT ELEVATION ZERO (GROUND LEVEL) UNLESS OTHERWISE NOTED.
 THE VALUES DEPICTED ON THIS PLAN ARE IN FOOTCANDLES.
- 4. THE LUMINAIRES, LAMPS AND LENSES MUST BE REGULARLY INSPECTED/MAINTAINED TO ENSURE THAT THEY FUNCTION PROPERLY. THIS WORK SHOULD INCLUDE, BUT NOT BE LIMITED TO, FREQUENT VISUAL INSPECTIONS, CLEANING OF LENSES, AND RELAMPING (IF NECESSARY) AT LEAST ONCE EVERY SIX (6) MONTHS. FAILURE TO FOLLOW THE ABOVE STEPS COULD CAUSE THE LUMINAIRES, LAMPS AND LENSES TO FAIL PROPERLY TO FUNCTION.
- 5. WHERE APPLICABLE, THE EXISTING CONDITION LIGHT LEVELS ILLUSTRATED ARE REPRESENTATIVE OF AN APPROXIMATION UTILIZING LABORATORY DATA FOR SIMILAR FIXTURES, UNLESS ACTUAL FIELD MEASUREMENTS ARE TAKEN WITH A LIGHT METER AND ARE, CONSEQUENTLY, APPROXIMATIONS ONLY. DUE TO FACTORS SUCH AS FIXTURE MAINTENANCE, EQUIPMENT TOLERANCES, WEATHER CONDITIONS, ETC, ACTUAL LIGHT LEVELS MAY DIFFER. EXISTING LIGHT LEVELS DEPICTED ON THIS PLAN SHOULD BE CONSIDERED APPROXIMATE.
- 6. THIS LIGHTING PLAN IS INTENDED TO SHOW THE LOCATIONS AND TYPE OF LUMINAIRES, ONLY. POWER SYSTEM, CONDUITS, WIRING, VOLTAGES AND OTHER ELECTRICAL COMPONENTS ARE THE RESPONSIBILITY OF THE ARCHITECT, MEP AND/OR LIGHTING CONTRACTOR, AS INDICATED IN THE CONSTRUCTION CONTRACT DOCUMENTS. THESE ITEMS MUST BE INSTALLED AS REQUIRED BY STATE AND LOCAL REGULATIONS. LIGHT POLE BASES ARE THE RESPONSIBILITY OF THE STRUCTURAL ENGINEER, AS INDICATED IN THE CONSTRUCTION CONTRACT DOCUMENTS. CONTRACTOR IS RESPONSIBLE FOR INSTALLING LIGHTING FIXTURES AND APPURTENANCES IN ACCORDANCE WITH ALL APPLICABLE BUILDING AND ELECTRICAL CODES AND ALL OTHER APPLICABLE RULES, REGULATIONS, LAWS AND STATUTES.
- 7. CONTRACTOR MUST BRING TO DESIGNER'S ATTENTION, PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, ANY LIGHT LOCATIONS THAT CONFLICT WITH DRAINAGE, UTILITIES, OR OTHER
- IT IS THE LIGHTING CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE PROJECT ARCHITECT OR OWNER REGARDING THE POWER SOURCE(S) FROM WITHIN THE BUILDING, AND TIMING DEVICES NECESSARY TO MEET THE DESIGN INTENT.
- 9. THE LIGHTING CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CONTRACTOR REQUIREMENTS INDICATED IN THE SITE PLAN, INCLUDING BUT NOT LIMITED TO, GENERAL NOTES, GRADING AND UTILITY NOTES, SITE SAFETY, AND ALL GOVERNMENTAL RULES, LAWS, ORDINANCES, REGULATIONS AND THE
- 10. THE CONTRACTOR MUST VERIFY THAT INSTALLATION OF LIGHTING FIXTURES COMPLIES WITH THE REQUIREMENTS FOR SEPARATION FROM OVERHEAD ELECTRICAL WIRES PER STATE REGULATIONS.
- 11. UPON OWNER'S ACCEPTANCE OF THE COMPLETED PROJECT, THE OWNER SHALL BE RESPONSIBLE FOR ALL MAINTENANCE, SERVICING, REPAIR AND INSPECTION OF THE LIGHTING SYSTEM AND ALL OF ITS COMPONENTS AND RELATED SYSTEMS, TO ENSURE ADEQUATE LIGHTING LEVELS ARE PRESENT AND FUNCTIONING AT ALL TIMES.

AREA SUMMARY ILLUMINANCE FC 2.60 6.6 0.4 6.50 16.50	10.50	LABEL CALCTYPE UNITS AVG MAX MIN AVG/MIN MAX/MIN									
	I IIMINAIDE COUEDIUE	AREA SUMI	MARY	ILLUMINANCE	FC	2.60	6.6	0.4	6.50	16.50	
	LUMINAIDE COUEDUIE										
LUMINAIRE SCHEDULE				LUMIN	IAIRE	SC	HEDU	JLE			
SYMBOL QTY ARRANGEMENT LUMENS LLF DESCRIPTION	SYMBOL QTY ARRANGEMENT LUMENS LLF DESCRIPTION	SYMBOL	QTY /						DN		

NUMERIC SUMMARY

SYMBOL	QTY	ARRANGEMENT	LUMENS	LLF	DESCRIPTION
⊕ □ A	2	SINGLE	16394	0.90	LSI LIGHTING LED TYPE 3 AREA LIGHT WITH SHIELD MOUNTED @ 25'; XGBM-3-LED-SS-NW-HSS
□⊕ □в	3	DOUBLE @ 180	16394	0.90	LSI LIGHTING LED TYPE 3 AREA LIGHT MOUNTED @ 25'; XGBM-3-LED-SS-NW
⊠ c	3	BUILDING	3377	0.90	LSI LIGHTING LED WALL SCONCE MOUNTED @ 14'; XGBWM3-FT-LED-28-450-NW-UE

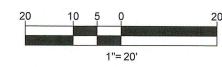


NOTE: THIS DETAIL IS FOR BID AND BUDGETARY PURPOSES ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING A FOUNDATION DESIGN PREPARED BY A QUALIFIED STRUCTURAL ENGINEER CONSIDERING LIGHTING MANUFACTURER REQUIREMENTS, LOCAL WIND LOADS AND SITE SPECIFIC SOIL PARAMETERS.

AREA LIGHT DETAIL

SOME SITE CONDITIONS AND/OR LOCATIONS MAY REQUIRE VIBRATION DAMPENING MEASURES AS DETERMINED BY A STRUCTURAL ENGINEER.
 THE STRUCTURAL ENGINEER SHALL BE NOTIFIED OF THE INTENT TO MOUNT ANYTHING TO THE POLE, ASIDE FROM THE LIGHT FIXTURES, INCLUDING BUT NOT LIMITED TO CAMERAS, BANNERS, FLAGS, SIGNAGE, ETC. AS IT WILL IMPACT THE POLE AND FOUNDATION DESIGN.

THIS PLAN TO BE UTILIZED FOR LIGHTING PURPOSES ONLY



ENGINEERING, DATED 09/28/2022 FOR ABUTTING PROPERTY SITE

IMPROVEMENTS

SITE CIVIL AND CONSULTI
LAND SURVE
PROGRAM MANA
LANDSCAPE ARCH
SUSTAINABLE I
PERMITTING SE

	IR	REVISIONS	v
REV	DATE	COMMENT	DRAWN BY
. 1	08/23/2022	REVISED FOR RIDOT SUBMISSION	CPB JF
2	08/25/2022	REVISED FOR RIDEM SUBMISSION	CPB
3	10/06/2022	REVISED FOR SEWER SUBMISSION	CPB JF
4	10/18/2022	REVISED PER RIDOT COMMENTS	CPB JF
5	01/04/2023	REVISED PER SEWER REVIEW COMMENTS	CPB JF
6	01/27/2023	REVISED PER RIDEM COMMENTS	CPB JF
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PROJECT No.: W211249

 PROJECT No.:
 W211249

 DRAWN BY:
 CPB

 CHECKED BY:
 JF

 DATE:
 02/24/2022

 CAD I.D.:
 W211249-CVL-6

PROJECT:

PROPOSED SITE PLAN DOCUMENTS

----- FOR ------

1119 DIVISION SITE, LLC

PROPOSED

DRIVE-THRU CARWASH

MAP: 215 LOT: 7
1119 DIVISION STREET,
CITY OF WARWICK,

KENT COUNTY, RHODE ISLAND

BOHLER //

352 TURNPIKE ROAD SOUTHBOROUGH, MA 01772 Phone: (508) 480-9900

www.BohlerEngineering.com

J.G. SWERLING

PROFESSIONAL ENGINEER.

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MAINE LICENSE No. 13816.

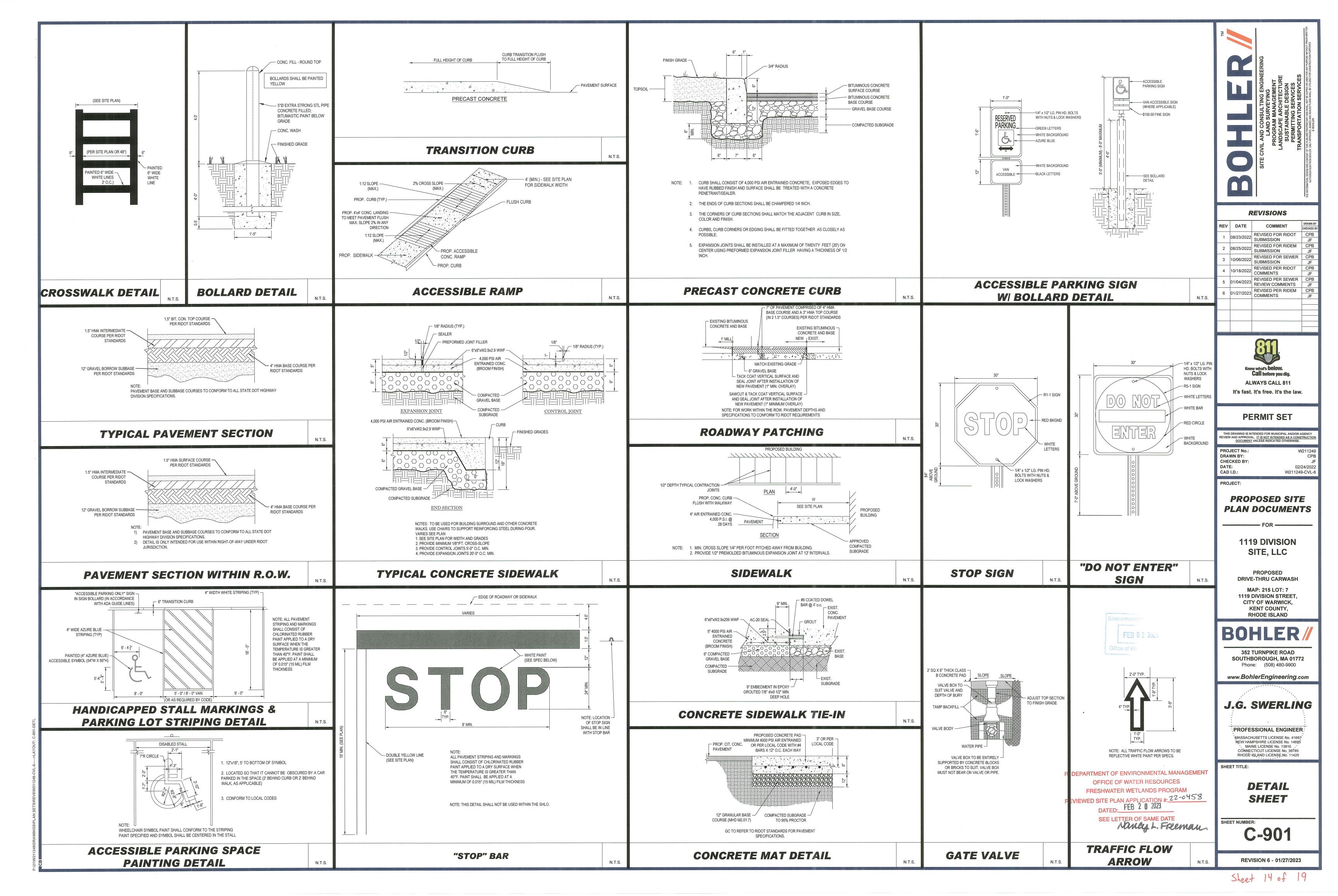
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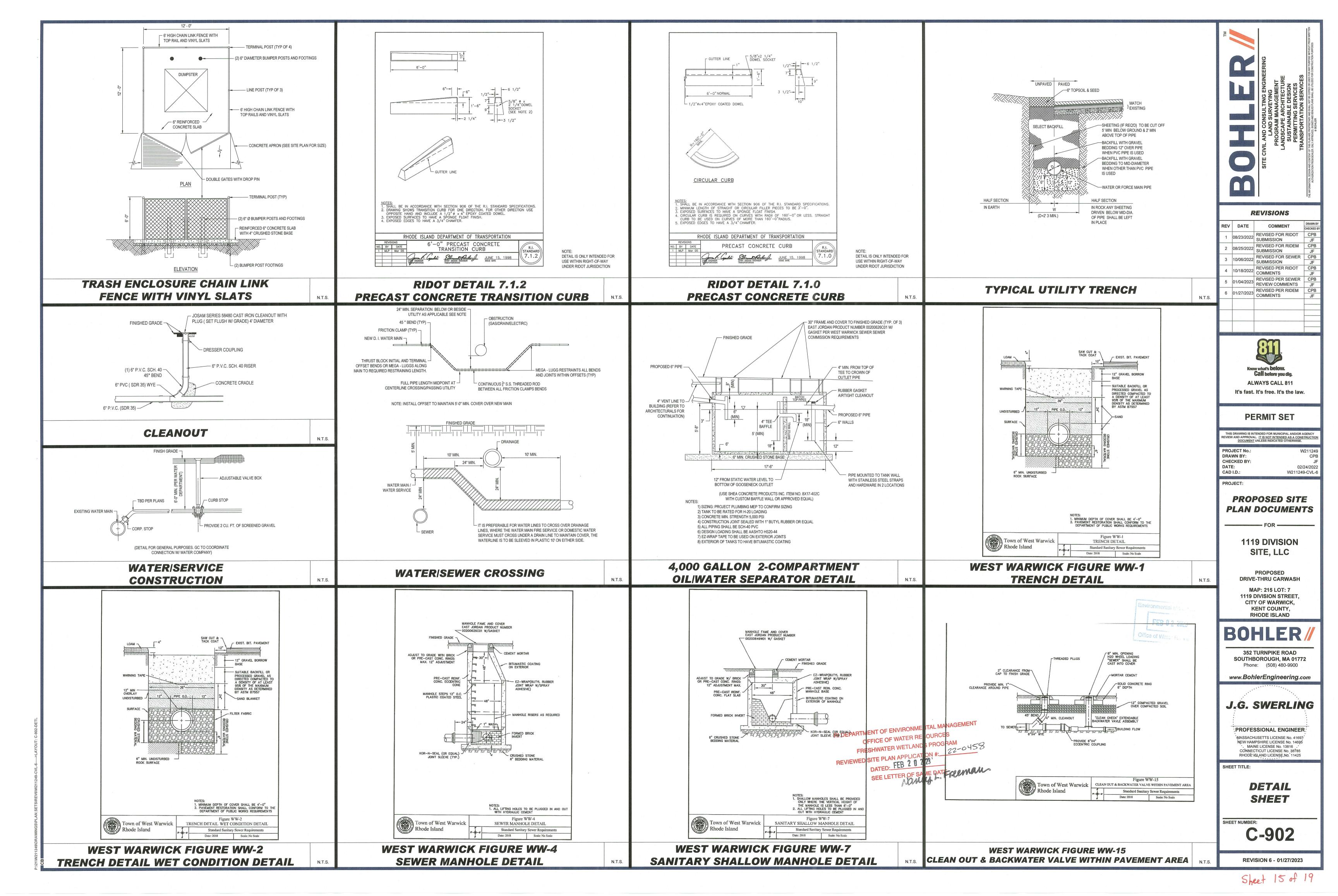
RHODE ISLAND LICENSE, No. 11425

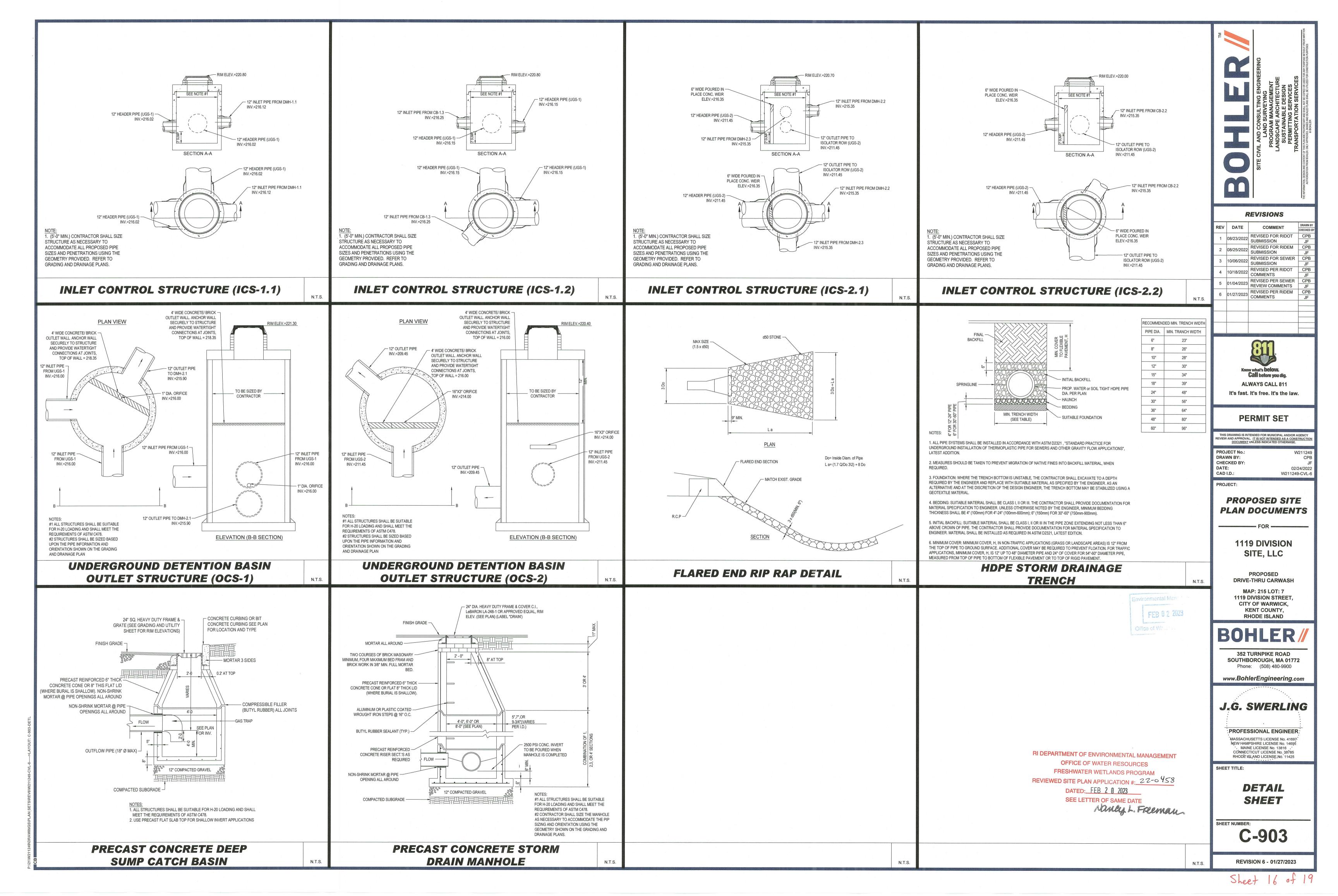
LIGHTING

PLAN

C-703









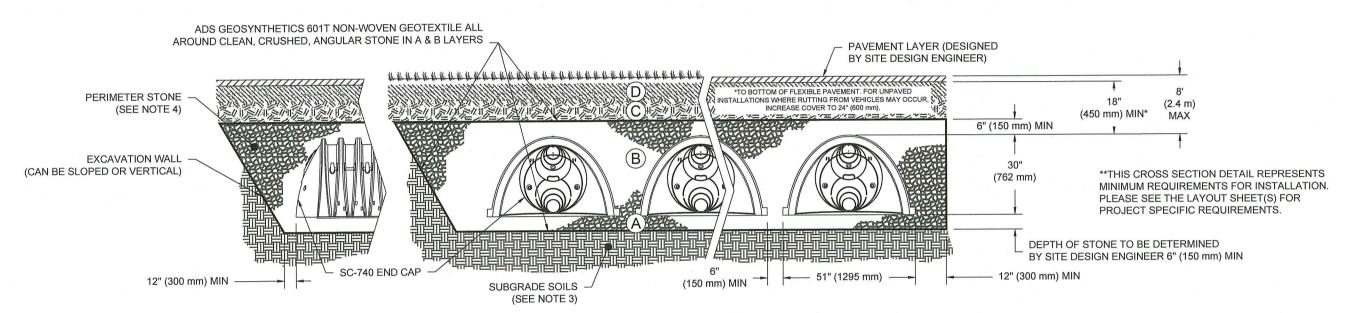
ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
С	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145 ¹ A-1, A-2-4, A-3 OR AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
В	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
А	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{2,3}

THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".

STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGNS, CONTACT STORMTECH FOR

4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



SC-740 CROSS SECTION DETAIL

CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS"

SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH

CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.

4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.

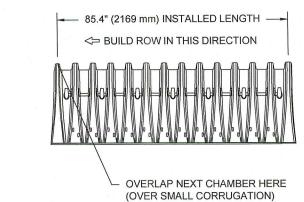
TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.

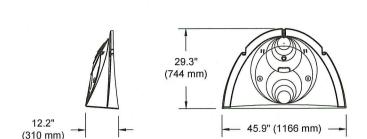
TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2"

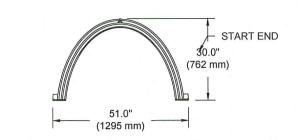
• TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 550

LBS/FT/%. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW

90.7" (2304 mm) ACTUAL LENGTH -----







NOMINAL CHAMBER SPECIFICATIONS SIZE (W X H X INSTALLED LENGTH CHAMBER STORAGE MINIMUM INSTALLED STORAGE*

51.0" X 30.0" X 85.4" (1295 mm X 762 mm X 2169 mm) 45.9 CUBIC FEET (1.30 m^3) 74.9 CUBIC FEET (2.12 m^3) 75.0 lbs. (33.6 kg)

*ASSUMES 6" (152 mm) STONE ABOVE, BELOW, AND BETWEEN CHAMBERS

PRE-FAB STUB AT BOTTOM OF END CAP WITH FLAMP END WITH "BR"

PRE-FAB STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"

PART#	STUB	Α	В	C
SC740EPE06T / SC740EPE06TPC	6" (150 mm)	10.9" (277 mm)	18.5" (470 mm)	
SC740EPE06B / SC740EPE06BPC	6 (150 11111)	10.9 (277 11111)		0.5" (13 mm)
SC740EPE08T /SC740EPE08TPC	8" (200 mm)	12.2" (310 mm)	16.5" (419 mm)	
SC740EPE08B / SC740EPE08BPC	6 (200 IIIII)	12.2 (31011111)		0.6" (15 mm)
SC740EPE10T / SC740EPE10TPC	10" (250 mm)	13.4" (340 mm)	14.5" (368 mm)	
SC740EPE10B / SC740EPE10BPC	10 (250 11111)	13.4 (340 11111)		0.7" (18 mm)
SC740EPE12T / SC740EPE12TPC	12" (300 mm)	14.7" (373 mm)	12.5" (318 mm)	
SC740EPE12B / SC740EPE12BPC	12 (300 11111)	14.7 (3/311111)		1.2" (30 mm)
SC740EPE15T / SC740EPE15TPC	15" (375 mm)	18.4" (467 mm)	9.0" (229 mm)	
SC740EPE15B / SC740EPE15BPC	15 (3/5 11111)	10.4 (407 11111)		1.3" (33 mm)
SC740EPE18T / SC740EPE18TPC	18" (450 mm)	19.7" (500 mm)	5.0" (127 mm)	
SC740EPE18B / SC740EPE18BPC	16 (450 11111)	19.7 (300 11111)		1.6" (41 mm)
SC740EPE24B*	24" (600 mm)	18.5" (470 mm)		0.1" (3 mm)
SC740EPE24BR*	24" (600 mm)	18.5" (470 mm)	A B B ' B B B	0.1" (3 mm)

ALL STUBS, EXCEPT FOR THE SC740EPE24B/SC740EPE24BR ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT

* FOR THE SC740EPE24B/SC740EPE24BR THE 24" (600 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL. NOTE: ALL DIMENSIONS ARE NOMINAL

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT A. INSPECTION PORTS (IF PRESENT)

A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED

A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)

A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY

ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED

B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS. 2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

SC-740 STORMTECH CHAMBER SPECIFICATIONS

CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.

BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

- CHAMBERS SHALL BE STORMTECH SC-740.
- 2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE
- 3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP)
- CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" 4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD
- IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION. 5. THE STRUCTURAL DESIGN OF THE CHAMBERS. THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL FNSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET

FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH

- 6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO
- REQUIREMENTS FOR HANDLING AND INSTALLATION: • TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL,
- INTERLOCKING STACKING LUGS. TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE
- TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 550 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL
- ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE
- THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
- THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
- THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
- 9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-740 SYSTEM

- 1. STORMTECH SC-740 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A
- 2. STORMTECH SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
- CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS.
- STORMTECH RECOMMENDS 3 BACKFILL METHODS: STONESHOOTER LOCATED OFF THE CHAMBER BED.
- BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
- BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
- 4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS. 5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
- 6. MAINTAIN MINIMUM 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
- 7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" (20-50 mm).
- THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
- 9. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

- 1. STORMTECH SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
- THE USE OF CONSTRUCTION EQUIPMENT OVER SC-740 CHAMBERS IS LIMITED:
- NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS. NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN
- ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE". WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION
- 3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.
- USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR

MC-3500 TECHNICAL SPECIFICATIONS AND NOTES

FEB 0 2 2023 Office of Water Resources

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF WATER RESOURCES FRESHWATER WETLANDS PROGRAM REVIEWED SITE PLAN APPLICATION #: 22-0458 DATED: FEB 2 0 2023 SEE LETTER OF SAME DATE

DETAIL SHEET

SHEET TITLE:

REVISION 6 - 01/27/2023

REVISIONS

08/23/2022 SUBMISSION

2 08/25/2022 SUBMISSION

3 10/06/2022 SUBMISSION

4 10/18/2022 COMMENTS

6 01/27/2023 COMMENTS

5 01/04/2023 REVIEW COMMENTS

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SITE, LLC

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352 TURNPIKE ROAD SOUTHBOROUGH, MA 01772 Phone: (508) 480-9900

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COMMENT

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REV DATE

12" (300 mm) MIN WIDTH CONCRETE COLLAR NOT REQUIRED FOR UNPAVED APPLICATIONS CONCRETE COLLAR **PAVEMENT** BODY (PART# 2708AG4IPKIT) OR TRAFFIC RATED BOX W/SOLID LOCKING COVER 4" (100 mm) **CONCRETE SLAB** SDR 35 PIPE 6" (150 mm) MIN THICKNESS 4" (100 mm) INSERTA TEE TO BE CENTERED ON CORRUGATION CREST STORMTECH CHAMBER

INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION CREST.

SC-740 4" (100MM) INSPECTION PORT DETAIL

N.T.S.

Nonly L. Freeman SHEET NUMBER:

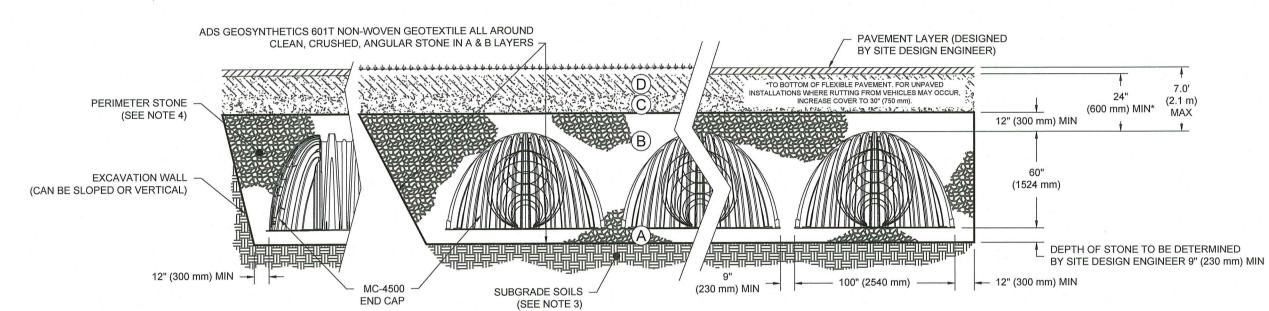


ACCEPTABLE FILL MATERIALS: STORMTECH MC-4500 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
С	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145 ¹ A-1, A-2-4, A-3 OR AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
В	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43 ¹ 3, 4	NO COMPACTION REQUIRED.
А	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43 ¹ 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. 2,3

PLEASE NOTE:

- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
- STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR. 3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGNS, CONTACT STORMTECH FOR
- 4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



*FOR COVER DEPTHS GREATER THAN 7.0' (2.1 m) PLEASE CONTACT STORMTECH

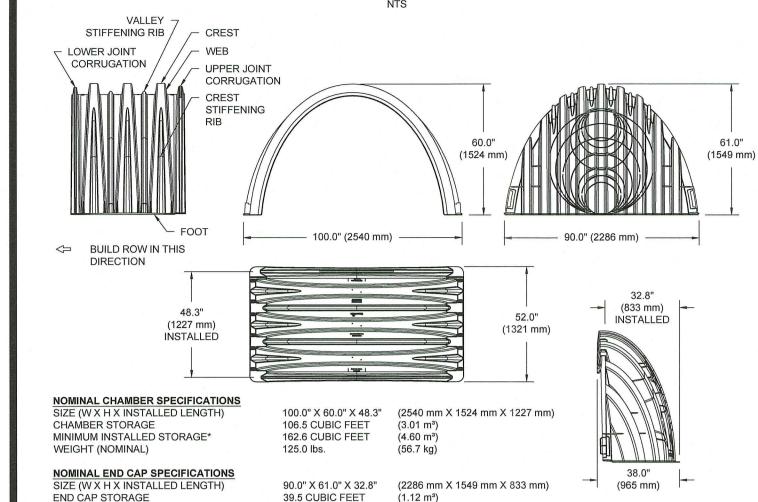
MC-4500 CROSS SECTION DETAIL

- 1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 60x101 IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS
- 3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION
- FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
- 4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS. 5 REQUIREMENTS FOR HANDLING AND INSTALLATION
- TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.

STORMTECH END CAP

- TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
- TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 500 LBS/IN/IN. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

MC-4500 TECHNICAL SPECIFICATION



WEIGHT (NOMINAL) 90 lbs. *ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION AND BETWEEN CHAMBERS, 12" (305 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY.

PARTIAL CUT HOLES AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"

115.3 CUBIC FEET

(3.26 m³)

MINIMUM INSTALLED STORAGE*

PARTIAL CUT HOLES AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T' END CAPS WITH A PREFABRICATED WELDED STUB END WITH "W 42.54" (1081 mm) 6" (150 mm) 0.86" (22 mm) MC4500IEPP06F 10.50" (1029 mm MC4500IEPP08

8" (200 mm) 1.01" (26 mm) 38.37" (975 mm) MC4500IEPP1 10" (250 mm) 1.33" (34 mm) MC4500IEPP10I 35.69" (907 mm) MC4500IFPP12 12" (300 mm) .55" (39 mm) MC4500IEPP12E 32.72" (831 mm) 15" (375 mm) MC4500IEPP15E 29.36" (746 mm) MC4500IEPP18TW 18" (450 mm) MC4500IEPP18B 1.97" (50 mm) MC4500IEPP18BW MC4500IEPP24

23.05" (585 mm) MC4500IEPP24TV 24" (600 mm) MC4500IEPP24B 2.26" (57 mm) MC4500IEPP24BW 30" (750 mm) MC4500IEPP30BW 36" (900 mm) MC4500IEPP36BW 3.55" (90 mm) MC4500IEPP42BW 42" (1050 mm NOTE: ALL DIMENSIONS ARE NOMINAL

INVENTORIED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS, CUSTOM INVERT LOCATIONS ON THE MC-4500 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm). THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.

CUSTOM PREFABRICATED INVERTS

ARE AVAILABLE UPON REQUEST

MC-4500 STORMTECH CHAMBER SPECIFICATIONS

- CHAMBERS SHALL BE STORMTECH MC-4500.
- 2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE
- 3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 60x101.
- CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
- THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
- CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO
- REQUIREMENTS FOR HANDLING AND INSTALLATION: TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL,
 - INTERLOCKING STACKING LUGS. TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE
- TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 450 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE
- ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE
- DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS: THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER. THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95
- FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LIRED BRIDGE DESIGN SPECIFICATIONS FOR THERMOPI ASTIC PIPE
- THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
- 9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-4500 CHAMBER SYSTEM

- STORMTECH MC-4500 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A
- STORMTECH MC-4500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
- CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR EXCAVATOR SITUATED OVER THE CHAMBERS.
- STORMTECH RECOMMENDS 3 BACKFILL METHODS: BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
- BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS
- JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
- MAINTAIN MINIMUM 9" (230 mm) SPACING BETWEEN THE CHAMBER ROWS.

PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

- INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
- EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE MEETING THE AASHTO M43 DESIGNATION OF #3 OR #4.
- STONE SHALL BE BROUGHT UP EVENLY AROUND CHAMBERS SO AS NOT TO DISTORT THE CHAMBER SHAPE. STONE DEPTHS SHOULD NEVER DIFFER BY MORE THAN 12" (300 mm) BETWEEN ADJACENT CHAMBER ROWS.
- STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW
- THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIAL BEARING CAPACITIES TO THE
- 12. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

UNDER THE STORMTECH STANDARD WARRANTY

- STORMTECH MC-4500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
- 2. THE USE OF EQUIPMENT OVER MC-4500 CHAMBERS IS LIMITED: NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
- ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE" WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION

NO RUBBER TIRED LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN

3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING. USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.



REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED

USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH

LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL

USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW

i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO

ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE

OF SEDIMENT AND RECORD ON MAINTENANCE LOG

INSPECTION OF SEDIMENT LEVELS (OPTIONAL) A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO

B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF

B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO

A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING

B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER

STEP 2. IF NOT, PROCEED TO STEP 3.

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT

B. ALL ISOLATOR PLUS ROWS

ISOLATOR ROW PLUS

PLUS THROUGH OUTLET PIPE

ENTRY IF ENTERING MANHOLE

C. VACUUM STRUCTURE SUMP AS REQUIRED

OBSERVATIONS AND ACTIONS

STORMTECH SYSTEM.

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD

AVOID A CONFINED SPACE ENTRY

STEP 2. IF NOT, PROCEED TO STEP 3.

SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED

STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS

A. INSPECTION PORTS (IF PRESENT)

DRIVE-THRU CARWASH

MAP: 215 LOT: 7 1119 DIVISION STREET CITY OF WARWICK, KENT COUNTY, **RHODE ISLAND**

REVISIONS

SUBMISSION

SUBMISSION

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COMMENTS

08/23/2022

2 08/25/202

5 01/04/2023

6 01/27/2023 COMMENTS

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PLAN DOCUMENTS

1119 DIVISION SITE, LLC

PROPOSED

W211249-CVL-6

DRAWN BY:

CAD I.D.:

PROJECT:

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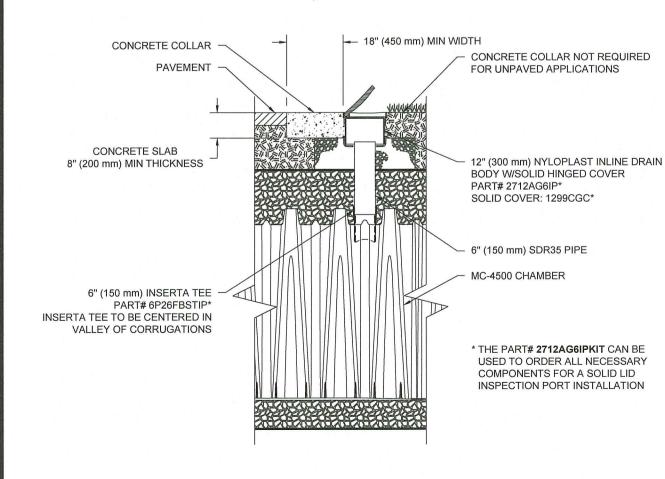
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SHEET TITLE:

DETAIL SHEET

MC-4500 TECHNICAL SPECIFICATIONS AND NOTES



MC-4500 6" (150 mm) INSPECTION PORT DETAIL

INSTALL FLAMP ON 24" (600 mm) ACCESS PIPE COVER PIPE CONNECTION TO END CAP WITH ADS PART #: MC450024RAMP OPTIONAL INSPECTION PORT GEOSYNTHETICS 601T NON-WOVEN GEOTEXTILE MC-4500 CHAMBER MC-4500 END CAP STORMTECH HIGHLY RECOMMENDS FLEXSTORM NSERTS IN ANY UPSTREAM STRUCTURES WITH OPEN **GRATES** ELEVATED BYPASS MANIFOLD SUMP DEPTH TBD BY CATCH BASIN SITE DESIGN ENGINEER OR MANHOLE 24" (600 mm) HDPE ACCESS PIPE REQUIRED ONE LAYER OF ADSPLUS175 WOVEN USE FACTORY PARTIAL CUT END CAP PART #: GEOTEXTILE BETWEEN FOUNDATION MC4500REPE24BC OR MC4500REPE24BW 10.3' (3.1 m) MIN WIDE CONTINUOUS FABRIC

RI DEPARTMENT OF ENVIRONMENTAL MANAGROUESEAMS

OFFICE OF WATER RESOURCES FRESHWATER WETLANDS PROGRAM REVIEWED SITE PLAN APPLICATION #: 22-0458 DATED: FEB 2 0 2023

SEE LETTER POMILIPATE FREMANIA

MC-4500 ISOLATOR ROW PLUS DETAIL

12" (300 mm) MIN SEPARATION 12" (300 mm) MIN INSERTION -MANIFOLD STUB -MANIFOLD HEADER -- MANIFOLD HEADER - MANIFOLD STUB 12" (300 mm) 12" (300 mm) MIN SEPARATION NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL FOR A PROPER FIT IN END CAP OPENING

MC-SERIES END CAP INSERTION DETAIL

THE PART# 2712AG6IPKIT CAN BE

USED TO ORDER ALL NECESSARY COMPONENTS FOR A SOLID LID INSPECTION PORT INSTALLATION

(24" [600 mm] MIN RECOMMENDED)

N.T.S.

2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE

N.T.S.