

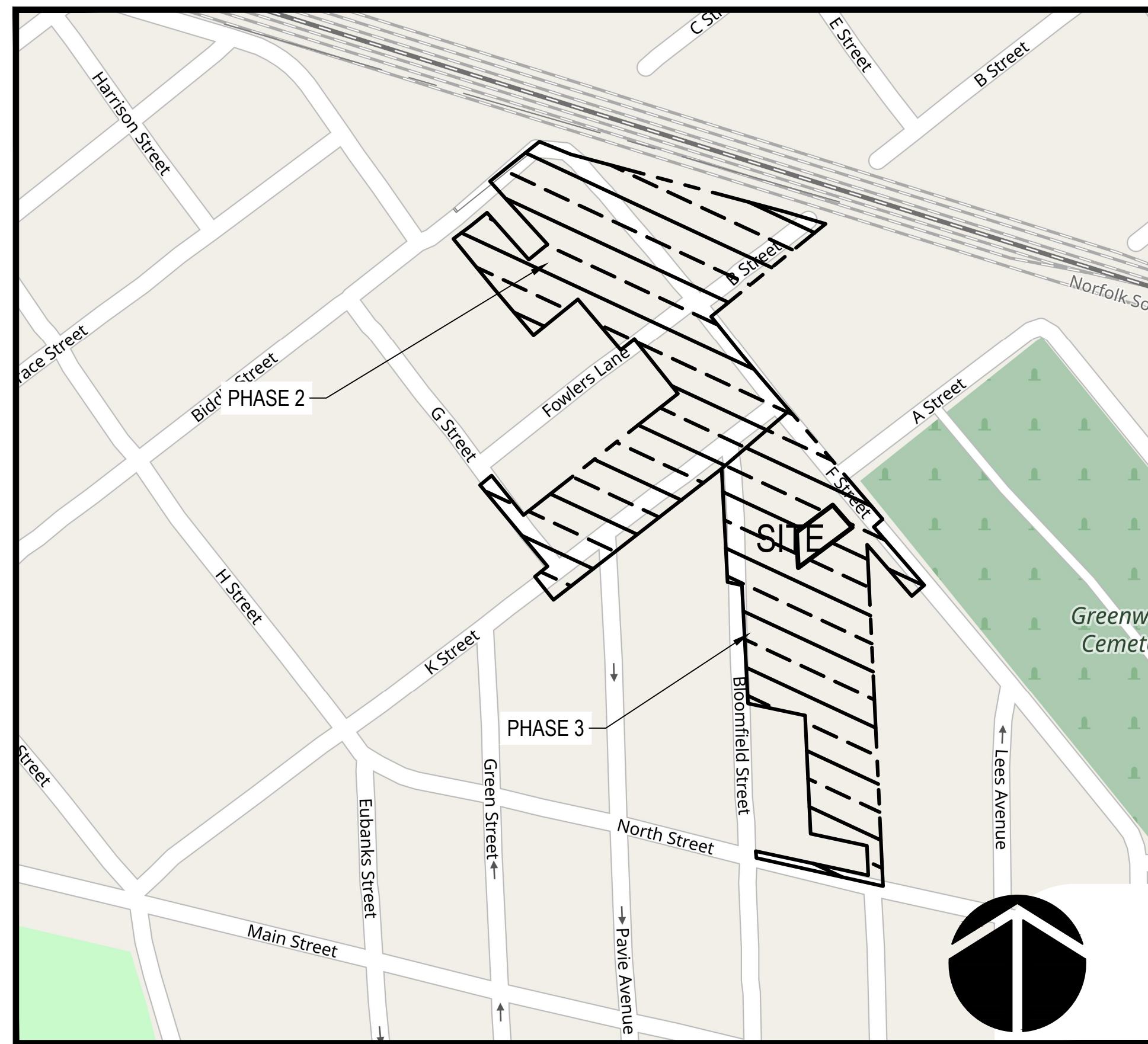
# CONSTRUCTION DRAWINGS

# DUFFYFIELD COMMUNITY STORMWATER ENHANCEMENTS PROJECT - PHASE 2 & 3

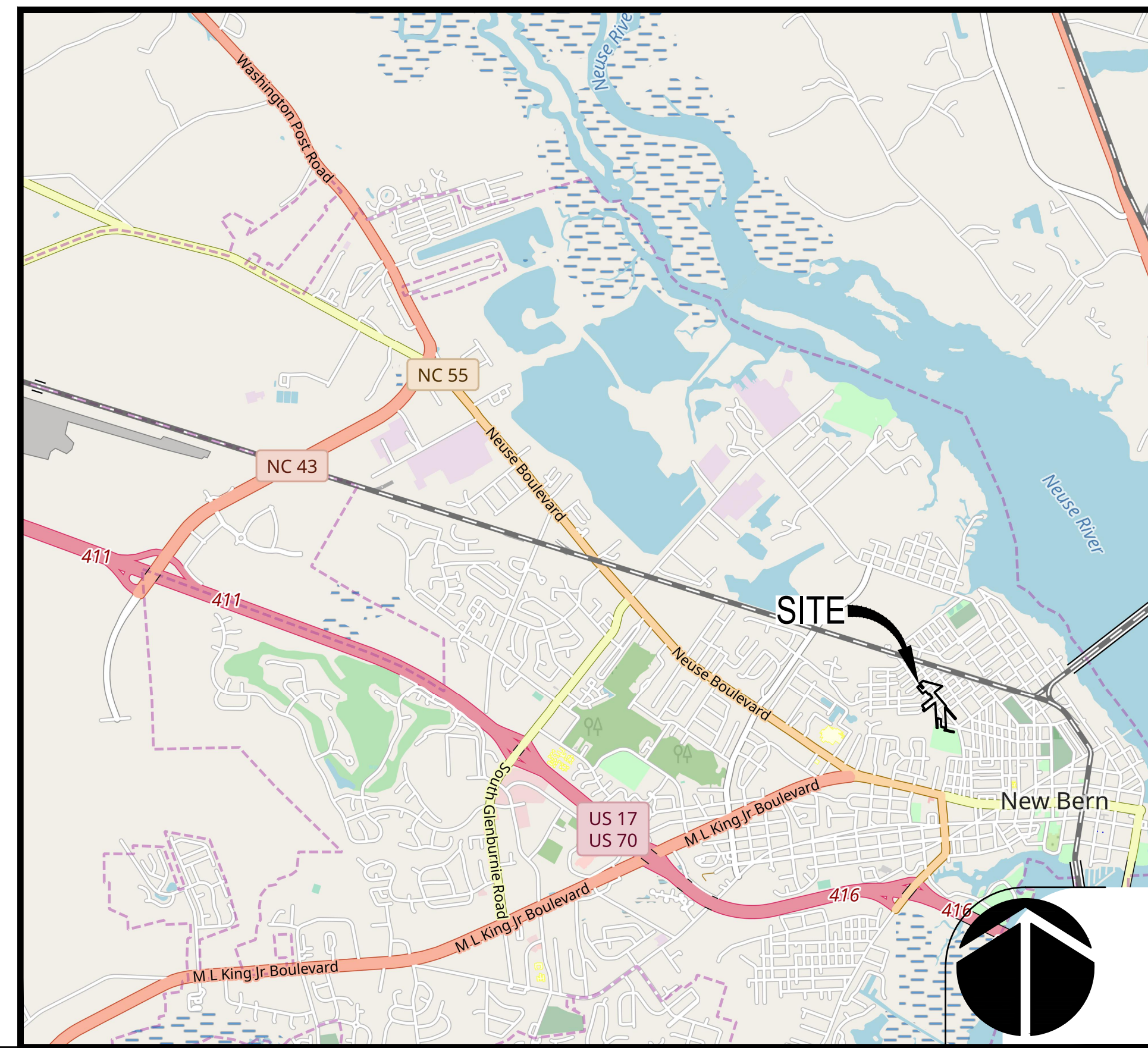
CWSRF PROJECT NO. CS370483-05  
LASII PROJECT NO. SRP-SW-ARP-0016  
NEW BERN, NORTH CAROLINA

APPROVED  
Division of Water Infrastructure  
By: steven.pusey  
Date: 6/4/2024

APRIL 21, 2023  
REVISED APRIL 23, 2024



LOCATION MAP  
APPROXIMATE SCALE 1" = 200'



VICINITY MAP  
APPROXIMATE SCALE 1" = 300'

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Revisions		
1	PERMIT PLAN SET	6/23/2023
2	REVISED PER NCCR COMMENTS	11/1/2023
3	BID PLAN SET	2/26/2024
4	REVISED PER DWI COMMENTS	4/23/2024

### CONTACTS

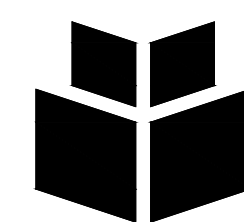
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### PREPARED BY:

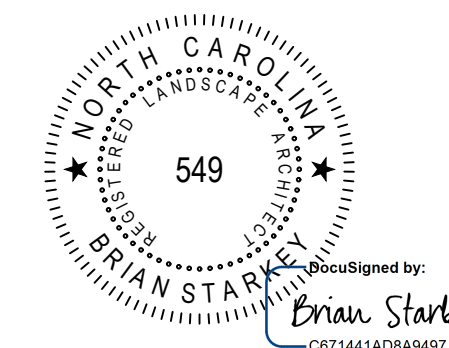
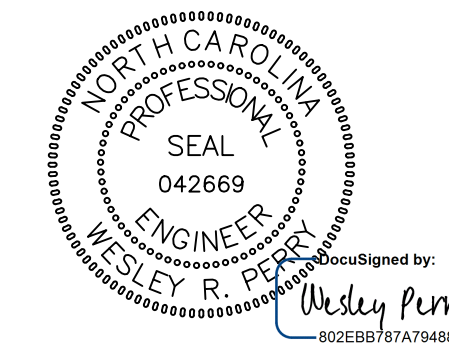


**WithersRavenel**  
Engineers | Planners | Surveyors

115 MacKenan Drive | Cary, NC 27511 | t: 919.469.3340 | license #: F-1479 | www.withersravenel.com

North Carolina Railroad Project Location Information:  
This project is located in the City of New Bern, Craven County, North Carolina at Milepost MP E-57 + 4495 feet.

All work on NCCR Corridor to be performed in accordance with NCR 102 "Specifications for Pipeline Occupancy of North Carolina Railroad Property" and "North Carolina Railroad/Norfolk Southern Railway - Special Provisions for Protection of Railway Interests (Current Version)"



### OWNER



**CITY OF NEW BERN**  
1004 South Glenburnie Road  
New Bern, North Carolina 28560  
Telephone: (252)639-7501  
Attn: Mr. George Chiles, PE

NOTE:  
THIS PROJECT IS LOCATED IN A SPECIAL FLOOD HAZARD AREA.  
CITY OF NEW BERN, CID 370074  
MAP NO. 37205580001  
REVISION DATE: 07/02/2004  
ZONE AE  
1% ANNUAL CHANCE WSEL (100-YR) = 8.0 FT (NAVD 88)

**FINAL DRAWINGS  
FOR REVIEW PURPOSES ONLY  
NOT RELEASED FOR CONSTRUCTION**

GENERAL NOTES:

- 1. EXISTING SITE CONDITIONS: THE CONTRACTOR SHALL FAMILIARIZE THEMSELVES AS TO THE EXISTING SITE CONDITIONS PRIOR TO BIDDING THE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING A WORKABLE SITE CONDITION DURING THE EXECUTION OF THIS CONTRACT. THE CONTRACTOR SHALL DOCUMENT EXISTING CONDITIONS UTILIZING PHOTOGRAPHIC AND/OR VIDEOGRAPHIC MEANS, AND SHALL FURNISH THE OWNER WITH SUCH DOCUMENTATION ON SUITABLE MEDIA (DVD, USB DRIVE, ETC.), AND SHALL BE RESPONSIBLE FOR RESTORING ALL DISTURBED AREAS TO ORIGINAL OR SATISFACTORY CONDITIONS AS APPROVED BY THE OWNER. REASONABLE CARE SHALL BE TAKEN DURING CONSTRUCTION TO AVOID DAMAGE TO VEGETATION. ORNAMENTAL SHRUBBERY AND TREE BRANCHES SHALL BE TEMPORARILY TIED BACK WHERE APPROPRIATE, TO MINIMIZE DAMAGE. TREES THAT RECEIVE DAMAGE TO TREE BRANCHES SHALL BE TRIMMED OF THOSE BRANCHES TO IMPROVE THE APPEARANCE OF THE TREE. TAKE PROPER PRECAUTIONS NOT TO DISTURB EXISTING PROPERTY CORNERS ALONG THE PERIMETER OF THE PROJECT AREA. IF NECESSARY, CONTRACTOR TO BE RESPONSIBLE FOR HIRING A REGISTERED LAND SURVEYOR TO COMPLETE THIS WORK, TO REMOVE AND RESET PROPERTY IRONS.
2. PIPE SEPARATION: THE FOLLOWING MINIMUM PIPE SEPARATIONS WILL BE MAINTAINED: 18 INCHES VERTICAL SEPARATION BETWEEN CROSSING OF SANITARY SEWER (INCLUDING FORCE MAIN) AND WATER MAIN, AND 10 FEET HORIZONTAL SEPARATION BETWEEN SANITARY SEWER (INCLUDING FORCE MAIN) AND WATER MAINS. IF THESE SEPARATIONS CANNOT BE MAINTAINED, DUCTILE IRON PIPE WILL BE USED 10 FEET EITHER SIDE OF CROSSING AND ALONG ENTIRE LENGTH OF LINE LESS THAN 10 HORIZONTAL FEET OR 18 INCHES VERTICAL SEPARATION FROM WATER MAINS. THE CONTRACTOR SHALL RECEIVE APPROVAL FROM THE OWNER BEFORE PAYMENT WILL BE MADE AT THE DUCTILE IRON PIPES.
3. SEDIMENTATION AND EROSION CONTROL: THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE PROVISIONS OF THE SEDIMENTATION POLLUTION CONTROL ACT OF 1973 AS AMENDED, GENERAL STATUTES, CHAPTER 113A, ARTICLE 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INCORPORATING CONSERVATION PROCEDURES NECESSARY TO COMPLY WITH THIS ACT IN MINIMIZING EROSION AND SEDIMENT POLLUTION ASSOCIATED WITH THE CONSTRUCTION OF THIS PROJECT AS SHOWN AND AS DIRECTED BY THE ENGINEER. EROSION CONTROL MEASURES SHOWN HEREON ARE TO BE CONSIDERED THE MINIMUM REQUIRED. ADDITIONAL DEVICES MAY BE REQUIRED TO MEET THE REQUIREMENTS OF THE ACT.
4. MATERIALS, TOOLS, TESTING: THE CONTRACTOR SHALL FURNISH ALL THE NECESSARY MATERIALS, APPARATUS, TOOLS AND LABOR. MATERIALS AND APPARATUS SHALL BE NEW AND THE BEST OF THEIR RESPECTIVE KINDS, AND SHALL BE SUBJECT TO SUCH STANDARD TESTS AS THE OWNER MAY SELECT IN DETERMINING THE FITNESS AND DURABILITY OF THE MATERIALS AND APPARATUS TO BE FURNISHED. THE TOOLS SHALL BE SUITABLE FOR THE PURPOSE INTENDED; AND ALL LABOR SHALL BE PERFORMED IN AN EXPEDITIOUS, THOROUGH, WORKMANLIKE MANNER: ALL IN ACCORDANCE WITH THE SPECIFICATIONS, THE ACCOMPANYING DRAWINGS, AND SUBJECT TO THE APPROVAL OF THE OWNER.
5. DEFECTIVE MATERIALS: SHOULD ANY MATERIALS BE FOUND DEFECTIVE OR NOT IN ACCORDANCE WITH THE SPECIFICATIONS OR ACCOMPANYING DRAWINGS, THEY SHALL BE IMMEDIATELY REPLACED BY THE CONTRACTOR, OTHERWISE THE OWNER OR ENGINEER MAY DIRECT THE SAME TO BE REMOVED AT THE CONTRACTOR'S EXPENSE.
6. CHANGES TO ACCOMMODATE MATERIALS AND EQUIPMENT TO BE PROVIDED: THE CONTRACTOR SHALL PROVIDE MATERIALS AND EQUIPMENT TO FIT AND BE CAPABLE OF USE AND/OR OPERATION WITHIN THE DIMENSIONS SHOWN. IF MATERIALS AND EQUIPMENT PROVIDED BY THE CONTRACTOR REQUIRE CHANGES IN THEIR WORK, THE CONTRACTOR SHALL MAKE THE REQUIRED CHANGES AT THEIR EXPENSE AND SHALL BE RESPONSIBLE FOR ALL ADDITIONAL EXPENSE OF THE ENGINEER INCURRED BY THE OWNER AT ACCOMMODATE THE CHANGES.
7. SUBSURFACE INVESTIGATION AND GEOTECHNICAL REPORT: THE CONTRACTOR SHALL FAMILIARIZE HIMSELF AS TO THE EXISTING SITE CONDITIONS PRIOR TO BIDDING THE PROJECT. NO SUBSURFACE INVESTIGATION OR GEOTECHNICAL REPORT IS PROVIDED.
8. OSHA: CONTRACTOR SHALL COMPLY WITH OSHA (P.L. 91-596), THE CONTRACT WORK HOURS, AND SAFETY STANDARDS ACT (P.L. 91-54).
9. TEMPORARY CONSTRUCTION ACCESS: THE CONTRACTOR SHALL PROVIDE TEMPORARY ACCESS TO THE CONSTRUCTION SITE DURING INSTALLATION. ALL WORK ASSOCIATED WITH PROVIDING ACCESS SHALL ALSO INCLUDE ANY ASSOCIATED ELECTRICAL COSTS, FENCE INSTALLATION, NECESSARY FILL MATERIAL, DRIVEWAY CULVERTS, NECESSARY SILT FENCING, AND ALL FINAL GRADING AND SEEDING ON THE SITE UNLESS OTHERWISE NOTED.
10. TEMPORARY UTILITIES: CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL TEMPORARY UTILITIES NECESSARY TO PERFORM THE CONSTRUCTION.
11. INSTALLATION WITHIN NORTH CAROLINA RAILROAD COMPANY (NC RAILROAD) RIGHTS-OF-WAY: ALL WORK PERFORMED WITHIN THE NC RAILROAD RIGHT-OF-WAY SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE NC RAILROAD "SPECIFICATIONS FOR PIPELINE OCCUPANCY OF NORTH CAROLINA RAILROAD COMPANY PROPERTY" (FORM NCR 102, JULY 2019), THE "DESIGN AND CONSTRUCTION GUIDELINES" (JANUARY 2019), AND THE "NORTH CAROLINA RAILROAD / NORFOLK SOUTHERN RAILWAY - SPECIAL PROVISIONS FOR PROTECTION OF RAILWAY INTERESTS" (SEPTEMBER 24, 2018). THE CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING THE WORK AND ADHERING TO THE RIGHT-OF-WAY ENCROACHMENT CONTRACT STANDARD AND SPECIAL PROVISIONS. THE CONTRACTOR SHALL OBTAIN A COPY OF THE RIGHT-OF-WAY ENCROACHMENT AGREEMENT FROM THE OWNER OR ENGINEER AND KEEP A COPY ON-SITE AT ALL TIMES. THE CONTRACTOR SHALL ALSO COORDINATE WITH AND NOTIFY THE NC RAILROAD AS REQUIRED PRIOR TO BEGINNING CONSTRUCTION.
12. COMPACTION OF TRENCHES: ALL TRENCHES SHALL BE COMPACTED TO A MINIMUM OF 98% OF MAXIMUM DENSITY IN CITY STREET AND NC RAILROAD RIGHTS OF WAY TO WITHIN 12" OF FINISHED GRADE. TRENCHES OUTSIDE OF RIGHTS OF WAY SHALL BE COMPACTED TO A MINIMUM OF 85% OF MAXIMUM DENSITY, ANY DENSITY TEST REQUESTED BY THE ENGINEER OR NC RAILROAD SHALL BE PAID FOR BY THE CONTRACTOR. ALL TRENCHES FOR ROAD CUTS WILL BE COMPACTED BY MECHANICAL MEANS.
13. SUBMITTALS: THE CONTRACTOR SHALL OBTAIN APPROVAL FOR ALL SHOP DRAWINGS AND SUBMITTALS FROM THE ENGINEER PRIOR TO BEGINNING ANY INSTALLATION WORK.
14. SHOP DRAWINGS: SHOP DRAWINGS SHALL BE SUBMITTED FOR ALL JUNCTION BOXES, METAL CASTINGS INCLUDING HATCHES, MANHOLE RINGS AND COVERS, VALVE BOXES, AND CATCH BASIN FRAMES AND GRATES. MANUFACTURER'S CERTIFICATIONS SHALL BE SUBMITTED TO THE ENGINEER CERTIFYING THAT PIPE MEETS THE PROJECT SPECIFICATIONS, CONCRETE MIX DESIGNS, THE DETAIL SPECIFICATIONS FOR CONCRETE PLATE MIX DESIGNS OF THE DETAIL SPECIFICATIONS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. NONE OF THE ABOVE LISTED MATERIALS SHALL BE USED ON THE PROJECTS UNLESS THE ENGINEER HAS GIVEN THE NECESSARY APPROVAL FOR THAT PARTICULAR MATERIAL. THE CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS, CERTIFICATIONS, AND MIX DESIGNS REQUIRED WITHIN THIS CONTRACT THRU PHYSICAL OR ELECTRONIC MEANS.
15. VIDEOTAPING: THE CONTRACTOR IS REQUIRED TO PROVIDE VIDEO AND STILL IMAGE DOCUMENTATION OF EXISTING CONDITIONS TO THE OWNER FOR EACH AREA PRIOR TO BEGINNING WORK IN THAT AREA, IN A FORMAT ACCEPTABLE TO THE OWNER.
16. AS-BUILT DRAWINGS AND SPECIFICATIONS AT THE JOB SITE: THE CONTRACTOR SHALL MAINTAIN, IN READABLE CONDITION AT THE JOB SITE, ONE COMPLETE SET OF WORKING CONSTRUCTION DRAWINGS, SPECIFICATIONS, AND PERMIT DOCUMENTS FOR THEIR WORK, INCLUDING ALL SHOP DRAWINGS. SUCH DRAWINGS AND SPECIFICATIONS SHALL BE AVAILABLE FOR USE BY THE OWNER OR THEIR REPRESENTATIVE AT ALL TIMES. THIS SET SHALL BE MARKED OR NOTES ACCEPTABLE TO THE ENGINEER PROVIDED, IN ORDER TO REFLECT AS-BUILT CONDITIONS. THE CHANGES INDICATING SUCH CONDITIONS SHALL BE KEPT CURRENT AT ALL TIMES. UPON COMPLETION OF THE PROJECT, THIS COMPLETE SET OF DRAWINGS AND SPECIFICATIONS, SHOWING AS-BUILT CONDITIONS, SHALL BE RETURNED TO THE OWNER OR THEIR REPRESENTATIVE.
17. SELECT BACKFILL: EXCAVATED ROCK OR ANY OTHER UNSUITABLE MATERIAL SHALL NOT BE USED AS BACKFILL MATERIAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING SUITABLE MATERIAL FOR BACKFILLING IN AREAS WHERE ROCK OR OTHER UNSUITABLE MATERIAL IS REMOVED FROM THE SITE AND SHALL BE PAID AT THE UNIT PRICE ESTABLISHED IN THE BIDS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND PROPERLY DISPOSING OF ALL ROCK AND OTHER MATERIAL DEEMED UNSUITABLE FOR BACKFILL FROM THE PROJECT SITE. OVER EXCAVATION TO REMOVE UNSUITABLE MATERIAL SHALL BE CONSIDERED IN THE PRICE OF THE WORK AS BID AND INCLUDED IN THE BID PRICE.
18. LOCATION OF UTILITIES: SUCH INFORMATION AS IS INCLUDED IN THE DRAWINGS AND SPECIFICATIONS RELATIVE TO THE IDENTIFY AND LOCATION OF EXISTING UNDERGROUND UTILITY FACILITIES IS THE BEST INFORMATION PRESENTLY AVAILABLE. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THEIR LOCATION, NOR MAKES ANY ASSERTION THAT ALL UTILITIES ARE SHOWN. THE CONTRACTOR SHALL CONTACT NCR811 AND UTILITY OWNERS AS NECESSARY PRIOR TO MOBILIZATION FOR LOCATION OF UNDERGROUND UTILITIES IN THE PROJECT AREA. THE CONTRACTOR SHALL VERIFY THE LOCATION OF THE EXISTING UTILITIES IN THE WORK AREA. EXISTING UTILITIES AND OBSTRUCTIONS THAT WILL BE ENCOUNTERED DURING CONSTRUCTION SHALL BE LOCATED AND THEIR ELEVATIONS DETERMINED IN ADVANCE OF CONSTRUCTION. THE CONTRACTOR SHALL CONTACT THE OWNERS OF THE UTILITIES FOR THE EXACT LOCATION OF ALL UNDERGROUND MAINS, CABLES, LINES, OR OTHER FACILITIES BEFORE CONSTRUCTION BEGINS. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE RELOCATION OF ANY POWER POLES OR OTHER EXISTING UTILITIES WITH THE OWNER OF THOSE UTILITIES PRIOR TO THE BEGINNING OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING UTILITY CONNECTIONS DURING CONSTRUCTION. ANY DAMAGE, WHICH OCCURS AS A RESULT OF CONSTRUCTION, SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE OWNER. IN THE EVENT OF A TEMPORARY SERVICE INTERRUPTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER OF THE UTILITY AND BEGIN REPAIRS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE OWNER TO ACCURATELY DETERMINE THE LOCATION OF EXISTING WATER MAINS AND SEWER LINES WITHIN THE PROJECT AREA. THE CONTRACTOR SHALL TAKE ADDITIONAL CAUTION IN EXCAVATING AROUND THE SERVICE LINES AND MAINS WHILE WORKING WITHIN THIS PROJECT. THE COST TO REPAIR ANY DAMAGE TO THE MAINS OR SERVICE LINES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

- 19. PIPE INSTALLATION: THE CONTRACTOR SHALL NOT LAY PIPE UNTIL THE ENGINEER HAS CHECKED AND APPROVED THE GRADE. ANY PIPE LAID WITHOUT THE APPROVAL OF THE ENGINEER SHALL BE REMOVED AND RELAYED IF DIRECTED.
A. WHENEVER THE ENGINEER AUTHORIZES THE USE OF WOOD BLOCKS OR "MUD SILLS" FOR SUPPORTING THE PIPE, SUCH SILLS SHALL BE AT LEAST 6" LONGER THAN THE O.D. OF THE PIPE AND IN SECTION SHALL BE AT LEAST 2" BY 10" FOR 12" AND LARGER PIPE. NO EXTRA COMPENSATION SHALL BE ALLOWED FOR THE USE OF SUCH MATERIAL.
B. PIPE SHALL NOT BE LAID IN WATER, AND WATER SHALL NOT BE ALLOWED TO FLOW AGAINST OR OVER THE JOINTS UNTIL THEY HAVE PROPERLY SET.
C. PIPE SHALL BE SO LAID IN THE TRENCH SUCH THAT AFTER THE INSTALLATION IS COMPLETED, THE INVERT OF THE PIPE SHALL CONFORM ACCURATELY TO LINE AND GRADE.
D. PRIOR TO BEING LOWERED INTO THE TRENCH, THE PIPE FOREMAN SHALL CAREFULLY INSPECT EACH PIPE, AND ALL FAULTY PIPES SHALL BE REJECTED AND REMOVED FROM THE JOBSITE.
E. IF APPLICABLE, A BELL HOLE SHALL BE DUG FOR EACH JOINT. BELL HOLES SHALL BE NO LARGER THAN NECESSARY FOR MAKING THE JOINT. THE BOTTOM OF THE TRENCH SHALL BE SHAPED TO FIT THE BOTTOM QUARTER OF THE PIPE TO INSURE A FIRM EVEN BEARING ON UNDISTURBED EARTH OF THE ENTIRE LENGTH OF THE PIPE.
F. PLUG OPEN END OF PIPE AT END OF DAY.
G. IF APPLICABLE, THE INTERIOR OF THE BELL OF THE LAST PIPE LAID AND THE SPIGOT OF THE NEXT PIPE SHALL BE WIPED CLEAN AND DRY AS EACH JOINT IS LAID.
H. IF APPLICABLE, RUBBER GASKETS SHALL BE INSTALLED, LUBRICATED AND PROTECTED STRICTLY AS RECOMMENDED BY THE PIPE AND/OR GASKET MANUFACTURER. IN CASE PRESSURE FROM THE COMPRESSED GASKET TENDS TO OPEN THE JOINT AFTER IT IS MADE, THE CONTRACTOR WILL PROVIDE A POSITIVE MEANS OF HOLDING PIPE JOINTS AFTER INSTALLATION TO HOLD THE JOINT AS MADE.
21. DRIVEWAY CULVERTS: THE CONTRACTOR SHALL REMOVE AND REPLACE EXISTING CULVERTS AND DRAINAGE STRUCTURES AS NECESSARY DURING CONSTRUCTION. ANY DAMAGE TO THE CULVERTS SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. CULVERTS DAMAGED BEYOND REPAIR SHALL BE REPLACED AT NO ADDITIONAL COST TO THE OWNER. SPECIAL CIRCUMSTANCES (I.E. UNREINFORCED CONCRETE PIPE) SHALL BE BROUGHT TO THE ATTENTION TO THE ENGINEER IMMEDIATELY IN ORDER TO RECEIVE ANY NECESSARY REIMBURSEMENT FOR UPGRADING MATERIALS TO CURRENT STANDARDS.
22. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL AND SHALL ADHERE TO THE PROVISIONS OF THE MUTCD (MOST CURRENT EDITION).
23. CONTRACTOR TO RESTORE/REPLACE ALL SIGNS, MAILBOXES, ETC. ENCOUNTERED DURING CONSTRUCTION TO ORIGINAL CONDITION.
24. CONTRACTOR SHALL MAINTAIN ACCESS TO PROPERTY AT ALL TIMES.
25. CONTRACTOR TO RESTORE ALL DISTURBED AREAS TO EXISTING GRADE UNLESS OTHERWISE NOTED ON DRAWINGS.
26. ALL DISTURBED AREAS SHALL BE PREPPED AND RESEEDED IN ACCORDANCE WITH SECTION 1660 OF THE NCDOT STANDARD SPECIFICATIONS. LIMITED AREAS OF THE PROJECT MAY REQUIRE SOD INSTALLATION, AT THE DIRECTION OF THE CITY ENGINEER. SODDING SHALL BE COMPLETED IN ACCORDANCE WITH SECTION 1664 OF THE NCDOT STANDARD SPECIFICATIONS.
27. POSITIVE DRAINAGE TO BE PROVIDED FOR ALL AREAS THROUGHOUT CONSTRUCTION.

EROSION CONTROL NOTES:

- 1. SEE GRADING AND EROSION CONTROL PLAN AND DETAILS ON SHEETS C6.00 - C8.04 AND C8.05.
2. ALL DISTURBED AREAS SHALL BE PREPARED AND SEEDDED IN ACCORDANCE WITH SECTION 1660 OF THE NCDOT STANDARD SPECIFICATIONS. LIMITED AREAS OF THE PROJECT MAY REQUIRE SOD INSTALLATION, AT THE DIRECTION OF THE CITY ENGINEER. SODDING SHALL BE COMPLETED IN ACCORDANCE WITH SECTION 1664 OF THE NCDOT STANDARD SPECIFICATIONS.
3. LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE =
TOTAL 311,696 SF 7.16 ACRES
4. ANY AREA DISTURBANCES BY CONTRACTOR NOT SHOWN ON THE CONSTRUCTION DRAWINGS ARE TO BE PERMITTED THROUGH THE APPROPRIATE PERMITTING AGENCY.
5. PURSUANT TO G.S. 113A-57(2), THE ANGLE FOR GRADED SLOPES AND FILLS SHALL BE NO GREATER THAN THE ANGLE THAT CAN BE MAINTAINED BY VEGETATIVE COVER OR OTHER ADEQUATE EROSION CONTROL DEVICE OR STRUCTURE.
6. PROVIDE A ROLLED EROSION CONTROL PRODUCT (RECP) TO STABILIZE DISTURBED DITCHES IF ANY SIGNS OF SCOURING ARE EVIDENT EVEN IF NO RECP HAS BEEN SHOWN ON THE CONSTRUCTION DRAWINGS.
7. NO STOCK OR WASTE PILES ARE ALLOWED WITHIN 50' OF STREAMS OR DRAINAGE STRUCTURES.
8. WHERE DEWATERING OF TRENCHES, PITS, AND OTHER EXCAVATIONS BECOMES NECESSARY THE DISCHARGE MUST BE DIVERTED TO A SEDIMENT FILTER BAG BEFORE BEING DISCHARGED TO THE GROUND.
9. ADEQUATE EROSION CONTROL MEASURES MUST BE INSTALLED, MAINTAINED, AND ADJUSTED AS NEEDED DURING THE DEMOLITION OR CLEARING AND GRUBBING PHASES AS WELL AS THROUGHOUT THE LIFE OF THE PROJECT AND UNTIL PERMANENT VEGETATION IS ESTABLISHED.

SELF INSPECTION:

NOTIFICATION OF THE DIVISION OF ENERGY, MINING AND LAND RESOURCES (DEMLR) SEDIMENT AND EROSION CONTROL SELF-INSPECTION PROGRAM:

THE SEDIMENTATION POLLUTION CONTROL ACT WAS AMENDED IN 2006 TO REQUIRE THAT PERSONS RESPONSIBLE FOR LAND-DISTURBING ACTIVITIES INSPECT A PROJECT AFTER EACH PHASE OF THE PROJECT TO MAKE SURE THAT THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN IS BEING FOLLOWED. RULES DETAILING THE DOCUMENTATION OF THESE INSPECTIONS TOOK EFFECT OCTOBER 1, 2010. THE SELF-INSPECTION PROGRAM IS SEPARATE FROM THE WEEKLY SELF-MONITORING PROGRAM OF THE NPDES STORMWATER PERMIT FOR CONSTRUCTION ACTIVITIES. THE FOCUS OF THE SELF-INSPECTION REPORT IS THE INSTALLATION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROL MEASURES ACCORDING TO THE APPROVED PLAN. THE INSPECTIONS MUST BE CONDUCTED AFTER EACH PHASE OF THE PROJECT, AND CONTINUED UNTIL PERMANENT GROUND COVER IS ESTABLISHED IN ACCORDANCE WITH NCGS 113A-54.1 AND 15A NCA4 48.0131.

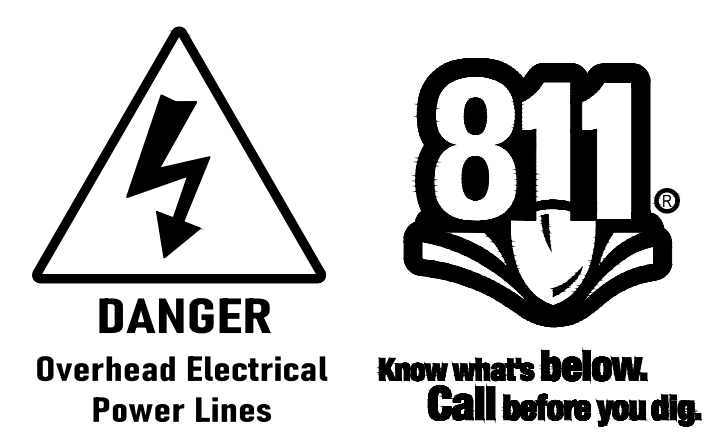
THE SELF-INSPECTION REPORT FORM IS AVAILABLE FROM:

https://deq.nc.gov/about/divisions/energy-mineral-land-resources/erosion-sediment-control/forms.

IF YOU HAVE QUESTIONS OR CANNOT ACCESS THE FORM, PLEASE CONTACT THE WASHINGTON REGIONAL OFFICE OF DEMLR AT (252) 975-3716.

LEGEND

Table with columns: DESCRIPTION, EXISTING, PROPOSED. Rows include: MINOR CONTOUR INTERVAL, MAJOR CONTOUR INTERVAL, SPOT ELEVATION, PROPERTY LINE, RIGHT-OF-WAY, EASEMENT, CENTERLINE, EDGE OF PAVEMENT, TRAIL, CONCRETE TRAIL, MULCH TRAIL, DIRT OR GRAVEL DRIVE, DIRT OR GRAVEL ROAD, STORM DRAINAGE, UNDERGROUND ELECTRIC, OVERHEAD ELECTRIC, UNDERGROUND TELEPHONE, TELEPHONE PEDESTAL, OVERHEAD TELEPHONE, OVERHEAD UTILITY, CABLE TELEVISION (CATV), CATV PEDESTAL, UTILITY POLE, LIGHT POLE, WATER LINE, WATER VALVE, FIRE HYDRANT, WATER SERVICE, GRAVITY SANITARY SEWER, SEWER SERVICE, MANHOLE, FORCE MAIN, SWALE, BUILDING OR STRUCTURE, FENCING STRUCTURE, SIGN, WOODSLINE, WATERWAYS/BODIES OF WATER, LIMIT OF DISTURBANCE, TREE PROTECTION FENCE, SILT FENCE, REINFORCED SILT FENCE OUTLET, TEMPORARY INLET PROTECTION, TEMPORARY PIPE INLET PROTECTION, WETLANDS, GRAVEL, RIP-RAP, CONCRETE, TREE (DECIDUOUS), TREE (EVERGREEN).



North Carolina Railroad Project Location Information: This project is located in the City of New Bern, Craven County, North Carolina at Milepost MP E-57 + 4495 feet.

All work on NCRRR Corridor to be performed in accordance with NCR 102 'Specifications for Pipeline Occupancy of North Carolina Railroad Property' and 'North Carolina Railroad/Norfolk Southern Railway - Special Provisions for Protection of Railway Interests (Current Version)'

FINAL DRAWINGS FOR REVIEW PURPOSES ONLY NOT RELEASED FOR CONSTRUCTION

WithersRavenel Engineers | Planners | Surveyors

DUFFYFIELD COMMUNITY STORMWATER ENHANCEMENTS PHASE 2 & 3 CWSRF PROJECT NO. CS370483-05 LASH II PROJECT NO. SRP-SW-APP-0016 CITY OF NEW BERN, CRAVEN COUNTY, NORTH CAROLINA

GENERAL NOTES & LEGEND

Job No. 09200158.20 Date 4/21/2023 Checked by WBP/BGB/BHS Date 4/23/2023 Drawn By ABD Designer WR

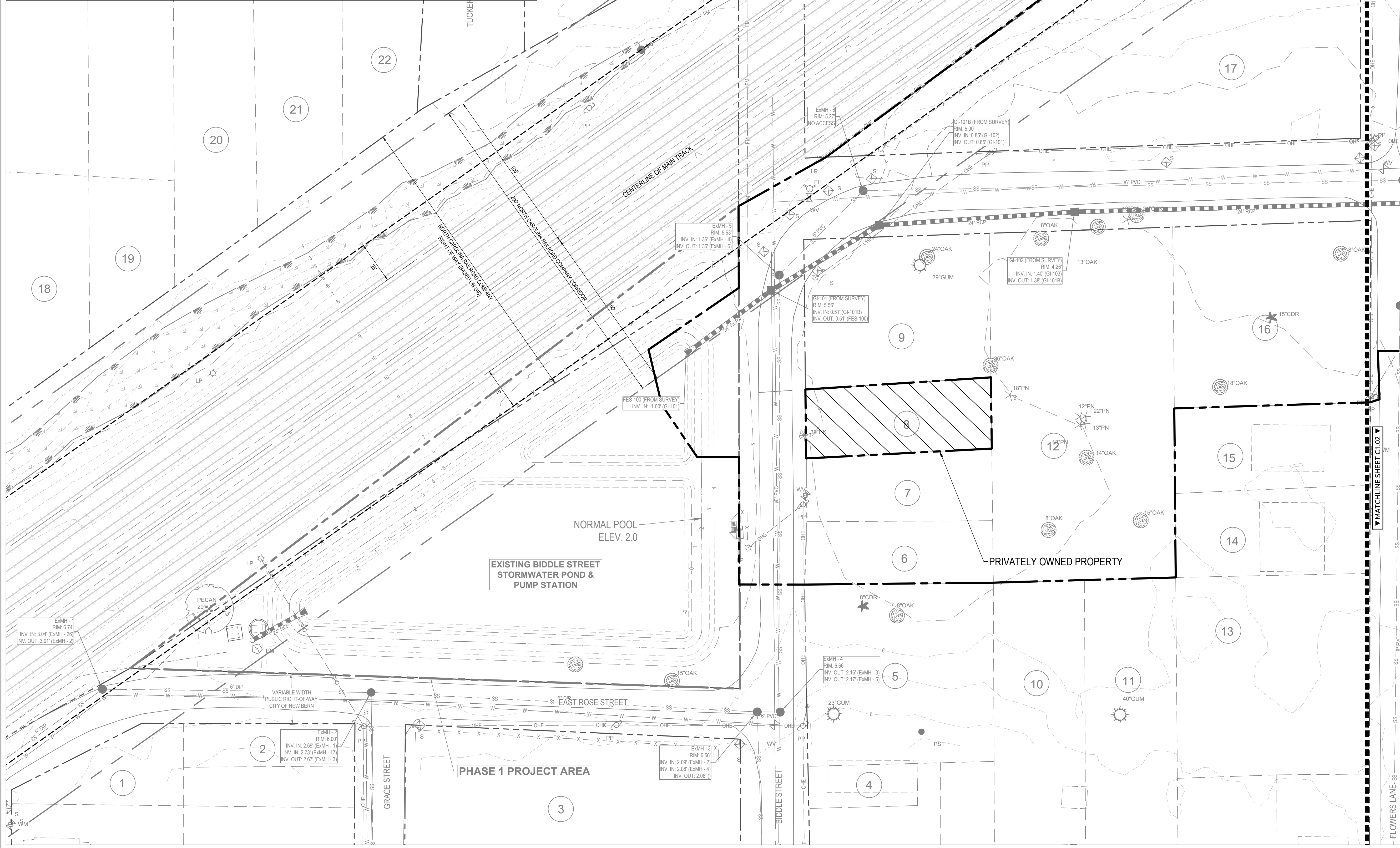


Revisions table with 4 rows: 1. PERMIT PLAN SET 4/23/2023, 2. REVISED PER NCRR COMMENTS 11/1/2023, 3. BID PLAN SET 2/26/2024, 4. REVISED PER DWI COMMENTS 4/23/2024

Sheet No. C0.01

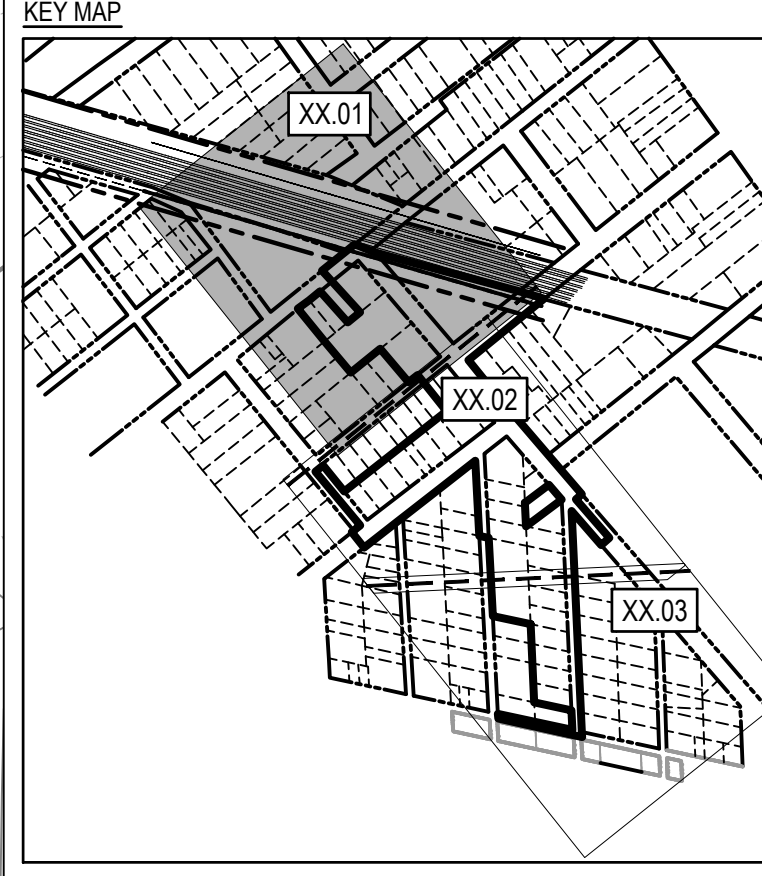


PARCEL NUMBER	PID	ACREAGE	LAND USE	OWNER	PROPERTY ADDRESS	DEED BOOK/PAGE
1	8-014-299	0.077	VACANT-RESIDENTIAL TRACT	NEW BERN - CITY OF & CRAVEN COUNTY	901 WILLIAM ST	3560 / 0882
2	8-014-300	0.06	VACANT-RESIDENTIAL TRACT	DOVE, CAROLYN MARIE	902 GRACE ST	1516 / 0672
3	8-014-306	1.15	MUNICIPAL	NEW BERN CITY BOARD OF EDUCATION	900 BIDDLE ST	0577 / 0408
4	8-006-057	0.037	RESIDENTIAL-ONE FAMILY UNIT	BOONE, WILBURE & JUDITH N	915 BIDDLE ST	1860 / 0325
5	8-006-058	0.266	VACANT-RESIDENTIAL TRACT	MCGHEE, PEARLINE CHAPMAN ET AL	913 BIDDLE ST	1327 / 0054
6	8-006-059	0.092	VACANT-VACANT TRACTS CURR EXMP	NEW BERN - CITY OF	909 BIDDLE ST	1779 / 0116
7	8-006-060	0.099	VACANT-RESIDENTIAL TRACT	NEW BERN - CITY OF & CRAVEN COUNTY	907 BIDDLE ST	1906 / 0882
8	8-006-062	0.103	VACANT-RESIDENTIAL TRACT	KEYS, CHARLIE HRS	805 BIDDLE ST	0259 / 0373
9	8-006-063	0.217	VACANT-RESIDENTIAL TRACT	NEW BERN - CITY OF	801 BIDDLE ST	1744 / 0403
10	8-006-071	0.253	RESIDENTIAL-ONE FAMILY UNIT	SUGGS, SAMUEL D & MARY ANN BRYANT	1128 G ST	3059 / 0394
11	8-006-070	0.258	VACANT-RESIDENTIAL TRACT	SUGGS, SAMUEL D & MARY ANN BRYANT	1130 G ST	3387 / 0516
12	8-006-064	0.523	VACANT-VACANT TRACTS CURR EXMP	NEW BERN - CITY OF	1115 F ST	1779 / 0116
13	8-006-068	0.324	VACANT-RESIDENTIAL TRACT	HARGETT, DARLENE D	1124 FOWLERS LN	1913 / 0575
14	8-006-067	0.141	RESIDENTIAL-TWO FAMILY UNITS	BARRETT, CHARLES G & KIMBERLY S	814 FOWLERS LN	3670 / 1775
15	8-006-066	0.136	RESIDENTIAL-ONE FAMILY UNIT	DADE, BERNARD & LILLIAN	810 FOWLERS LN	2099 / 0108
16	8-006-065	0.3	VACANT-VACANT TRACTS CURR EXMP	NEW BERN - CITY OF	1113 F ST	1779 / 0116
17	8-006-094	0.61	VACANT-RESIDENTIAL TRACT	REDEVELOPMENT COMMISSION OF THE	3840 / 1169	
18	8-014-189-B	0.143	VACANT-RESIDENTIAL TRACT	NEW BERN - CITY OF & CRAVEN COUNTY	CUTLER (OFF) ST	3318 0929
19	8-014-184	0.098	VACANT-RESIDENTIAL TRACT	NEW BERN - CITY OF & CRAVEN COUNTY	101 CUTLER ST	3335 / 0293
20	8-014-185	0.213	RESIDENTIAL-ONE FAMILY UNIT	BOECKELMANN, LYNNE	1305 CUTLER ST	3540 / 2009
21	8-014-186-A	0.184	VACANT-RESIDENTIAL TRACT	BOECKELMANN, LYNNE	1207 CUTLER ST	3540 / 2009
22	8-014-186	0.128	RESIDENTIAL-ONE FAMILY UNIT	BARLETTA, ALEXANDER & BARLETTA, SOP	1205 CUTLER ST	3735 / 0336
23	8-005-022	0.124	VACANT-RESIDENTIAL TRACT	UNKNOWN	0000 / 0000	
24	8-005-018	0.833	VACANT-RESIDENTIAL TRACT	SMITH, DAVID EARL JR & MARK	604 C ST	1440 / 0800



North Carolina Railroad Project Location Information:  
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EXISTING CONDITIONS LEGEND

(X) LOTS WITHIN/ADJACENT TO PROJECT BOUNDARY

\*REFER TO SHEETS C1.01 - C1.03 FOR LOT INFORMATION

GRAPHIC SCALE

30 0 15 30 60

30

FINAL DRAWINGS FOR REVIEW PURPOSES ONLY NOT RELEASED FOR CONSTRUCTION

Job No. 09200158.20  
 Date 4/21/2023  
 Checked by WFW/BGB/BHS

Drawn By ABD  
 Designer WR

FINAL PLAN NOT APPROVED FOR CONSTRUCTION

Revisions

1	PERMIT PLAN SET	6/23/2023
2	REVISED PER NCRR COMMENTS	11/1/2023
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4	REVISED PER DWI COMMENTS	4/23/2024

Sheet No. C1.01

**WithersRavenel**  
 Engineers | Planners | Surveyors

**DUFFYFIELD COMMUNITY STORMWATER ENHANCEMENTS PHASE 2 & 3**

CWSRF PROJECT NO. CS370483-05  
 LASII PROJECT NO. SRP-SW-ARP-0016

CITY OF NEW BERN, CRAVEN COUNTY, NORTH CAROLINA

**EXISTING CONDITIONS AREA I**

Job No. 09200158.20  
 Date 4/21/2023  
 Checked by WFW/BGB/BHS

Drawn By ABD  
 Designer WR

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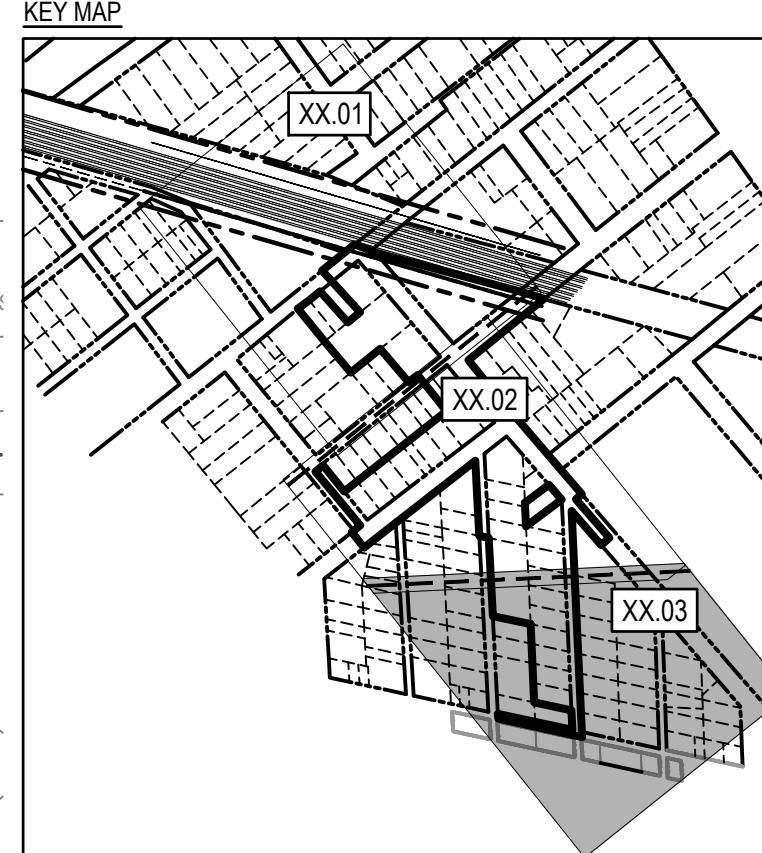
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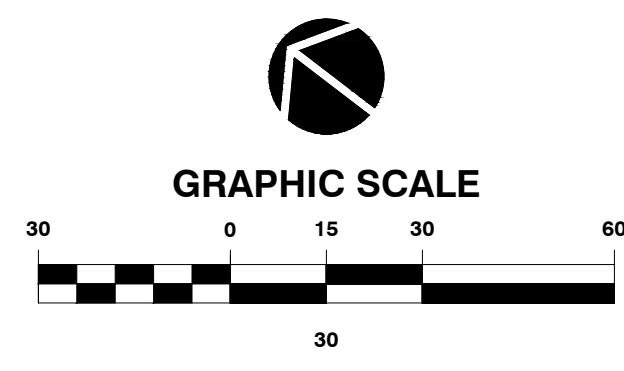
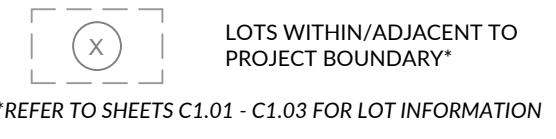
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75	8-006-205	0.118	VACANT-RESIDENTIAL TRACT	PATRICK, EARN THOMAS	BLOOMFIELD ST	1471 / 0928
76	8-006-206	0.143	VACANT-RESIDENTIAL TRACT	NEW BERN - CITY OF & CRAVEN COUNTY	1017 BLOOMFIELD ST	3544 / 0729
77	8-006-207	0.089	VACANT-RESIDENTIAL TRACT	REDEVELOPMENT COMMISSION OF THE	1015 BLOOMFIELD ST	3640 / 1169
78	8-006-208	0.116	VACANT-RESIDENTIAL TRACT	NEW BERN - CITY OF & CRAVEN COUNTY	1013 BLOOMFIELD ST	2805 / 0458
79	8-006-209	0.115	VACANT-RESIDENTIAL TRACT	BRYANT, SARAH L	BLOOMFIELD ST	0563 / 0356
80	8-006-210	0.117	VACANT-RESIDENTIAL TRACT	HABITAT FOR HUMANITY OF GREATER	BLOOMFIELD ST	1966 / 0912
81	8-006-211	0.062	VACANT-RESIDENTIAL TRACT	NEW BERN - CITY OF & CRAVEN COUNTY	1002 SAMPSON ST	2383 / 0451
82	8-006-189	0.122	VACANT-RESIDENTIAL TRACT	JACKSON, GLORIA ET AL	-	1388 / 0012
83	8-006-190	0.238	VACANT-RESIDENTIAL TRACT	SIMMONS, RICKY L HRS	1008 BLOOMFIELD ST	1616 / 0488
84	8-006-192	0.118	VACANT-RESIDENTIAL TRACT	NEW BERN - CITY OF & CRAVEN COUNTY	1012 BLOOMFIELD ST	3202 / 0792
85	8-006-405	0.12	VACANT-RESIDENTIAL TRACT	JACKSON, GLORIA ET AL	-	1396 / 0121
53	8-006-193	0.48	VACANT-RESIDENTIAL TRACT	NEW BERN - CITY OF	-	1776 / 1000
86	8-006-181	0.116	VACANT-RESIDENTIAL TRACT	NEW BERN - CITY OF	-	3756 / 0239
87	8-006-182	0.115	VACANT-RESIDENTIAL TRACT	NEW BERN - CITY OF	-	3756 / 0239
88	8-006-183	0.12	VACANT-RESIDENTIAL TRACT	NEW BERN - CITY OF	-	3756 / 0239
89	8-006-184	0.115	VACANT-RESIDENTIAL TRACT	NEW BERN - CITY OF	-	3756 / 0239
90	8-006-185	0.117	VACANT-RESIDENTIAL TRACT	NEW BERN - CITY OF	-	3756 / 0239
91	8-006-186	0.12	VACANT-RESIDENTIAL TRACT	NEW BERN - CITY OF	-	3756 / 0239
92	8-006-187	0.11	VACANT-RESIDENTIAL TRACT	NEW BERN - CITY OF & CRAVEN COUNTY	1005 MURRAY ST	2704 / 0847
93	8-006-188	0.115	VACANT-RESIDENTIAL TRACT	ATKINSON, BERTHA HRS	SAMPSON ST	0354 / 0173
94	8-006-292	0.119	RESIDENTIAL-ONE FAMILY UNIT	WALLACE, ALEX JR & THEO	923 BLOOMFIELD ST	1020 / 0905
95	8-006-307	0.122	VACANT-RESIDENTIAL TRACT	LINDSEY, TRESHA L	924 BLOOMFIELD ST	3566 / 1874
96	8-006-309	0.118	RES-PERSONAL PROP MFG HOME	ATKINSON, BERTHA HRS	933 SAMPSON ST	0305 / 0128
97	8-006-323	0.053	RESIDENTIAL-ONE FAMILY UNIT	SIMMONS, MARCUS D	931 SAMPSON ST	3558 / 0374
98	8-006-324	0.116	RES-PERSONAL PROP MFG HOME	NEW BERN - CITY OF & CRAVEN COUNTY	927 SAMPSON ST	3535 / 1906
99	8-006-324-A	0.057	VACANT-RESIDENTIAL TRACT	EDWARDS, CHARLIE HRS	-	1006 / 0828
100	8-006-337	0.048	RESIDENTIAL-ONE FAMILY UNIT	PERRY, MELVIN GRAY	915 SAMPSON ST	0380 / 0288
101	8-006-151	0.09	VACANT-RESIDENTIAL TRACT	JONES, TEMPLE	916 SAMPSON ST	1724 / 0622
102	8-006-167	0.119	RES-PERSONAL PROP MFG HOME	MANNING, RAEKWON D	912 SAMPSON ST	3515 / 0888
103	8-006-166	0.118	RES-PERSONAL PROP MFG HOME	HUDSON, LILLIE B	SAMPSON ST	1433 / 1246
104	8-006-165	0.114	VACANT-RESIDENTIAL TRACT	MITCHELL, ROBERT TAFT	MURRAY ST	2278 / 0332
105	8-006-164	0.12	VACANT-RESIDENTIAL TRACT	REDEVELOPMENT COMMISSION OF THE	MURRAY ST	3640 / 1169
106	8-006-163	0.117	RES-PERSONAL PROP MFG HOME	JERKINS, ALICE HRS	1202 LEES AVE	1202 / 0001
107	8-006-162	0.119	VACANT-RESIDENTIAL TRACT	GILES, VERONA H HRS	-	0814 / 0461
108	8-006-161	0.124	VACANT-RESIDENTIAL TRACT	GILES, VERONA H HRS	-	0734 / 0157
109	8-006-160	0.121	VACANT-RESIDENTIAL TRACT	GILES, VERONA H HRS	-	0734 / 0157
110	8-006-173	0.119	VACANT-RESIDENTIAL TRACT	NEW BERN - CITY OF & CRAVEN COUNTY	LEES AVE	3391 / 0136
111	8-006-159	0.124	VACANT-RESIDENTIAL TRACT	GILES, VERONA H HRS	-	0734 / 0157
64	8-006-157	0.439	RESIDENTIAL-ONE FAMILY UNIT	DORSEY, BEAU LEE	1019 F ST	3732 / 1513
112	8-006-144	0.121	VACANT-RESIDENTIAL TRACT	BRIMMER, GERARD	1011 F ST	3206 / 0216

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EXISTING CONDITIONS LEGEND



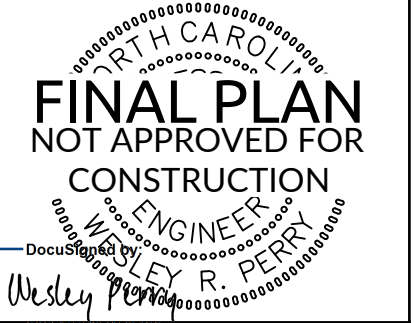
FINAL DRAWINGS  
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 NOT RELEASED FOR CONSTRUCTION



DUFFYFIELD COMMUNITY  
 STORMWATER ENHANCEMENTS  
 PHASE 2 & 3  
 CWSRF PROJECT NO. CS370483-05  
 LASII PROJECT NO. SRP-SW-ARP-0016  
 CITY OF NEW BERN, CRAVEN COUNTY, NORTH CAROLINA

EXISTING CONDITIONS  
 AREA III

Job No. 09200158.20  
 Date 4/21/2023  
 Checked By WWP/BGB/BHS  
 Drawn By ABD  
 Designer  
 WR



Revisions		
1	PERMIT PLAN SET	6/23/2023
2	REVISED PER NCRR COMMENTS	11/1/2023
3	BID PLAN SET	2/26/2024
4	REVISED PER DWI COMMENTS	4/23/2024

Sheet No.  
**C1.03**

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DUFFYFIELD COMMUNITY  
STORMWATER ENHANCEMENTS  
PHASE 2 & 3  
CWSRF PROJECT NO. CS370483-05  
LASII PROJECT NO. SRP-SW-ARP-0016  
CITY OF NEW BERN, CRAVEN COUNTY, NORTH CAROLINA

DEMOLITION PLAN

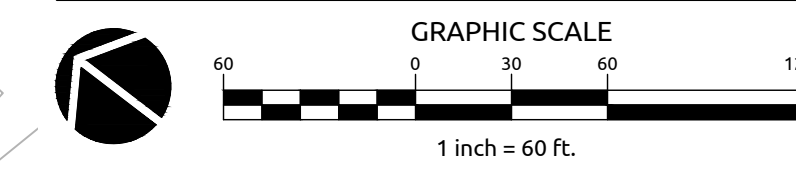
Job No. 09200158.20  
Date 4/21/2023  
Checked by WWP/BGB/BHS  
Drawn By ABD  
Designer WR



Revisions

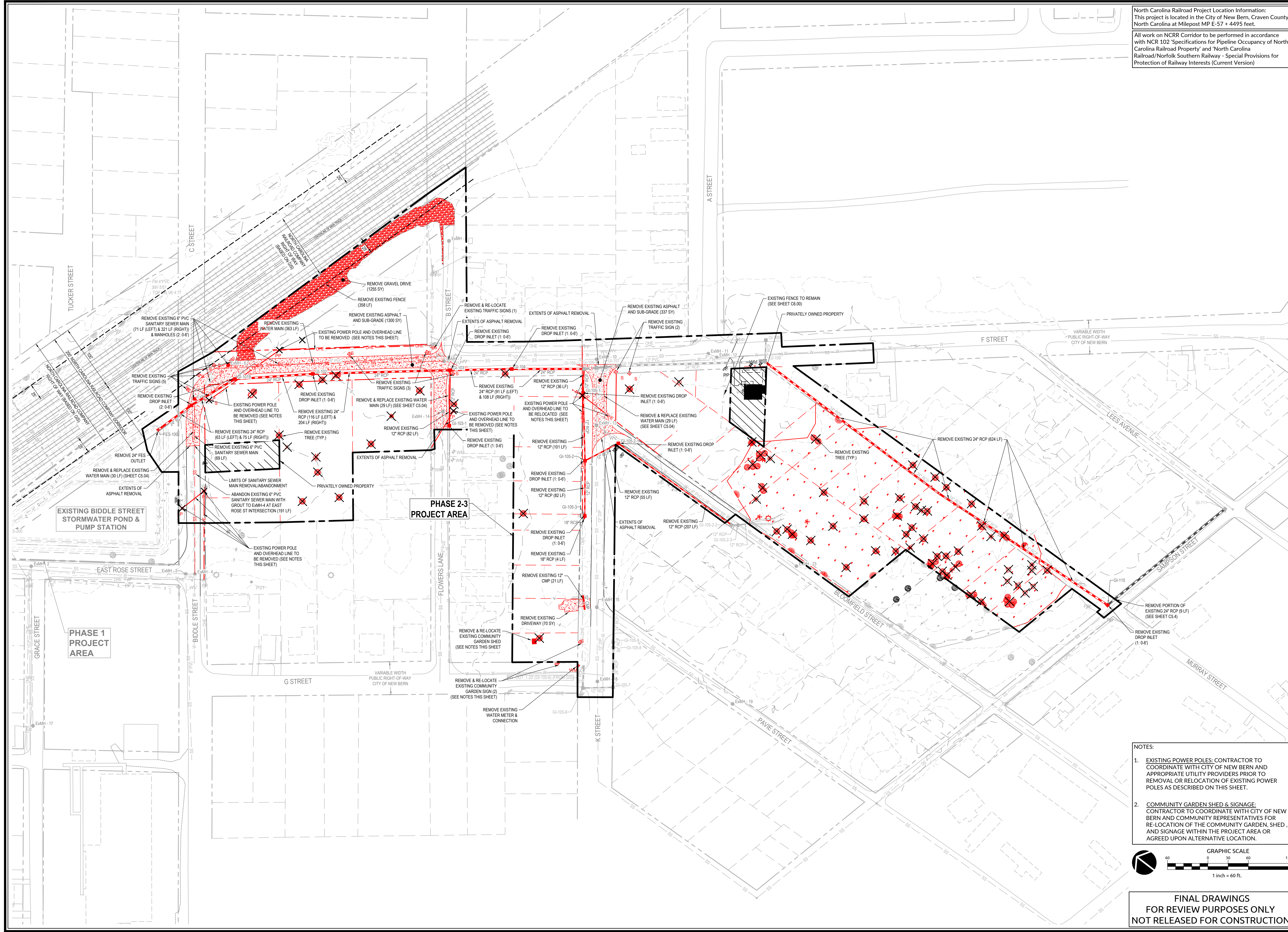
1	PERMIT PLAN SET	6/23/2023
2	REVISED PER NCRR COMMENTS	11/1/2023
3	BID PLAN SET	2/26/2024
4	REVISED PER DWI COMMENTS	4/23/2024

- NOTES:
- EXISTING POWER POLES: CONTRACTOR TO COORDINATE WITH CITY OF NEW BERN AND APPROPRIATE UTILITY PROVIDERS PRIOR TO REMOVAL OR RELOCATION OF EXISTING POWER POLES AS DESCRIBED ON THIS SHEET.
  - COMMUNITY GARDEN SHED & SIGNAGE: CONTRACTOR TO COORDINATE WITH CITY OF NEW BERN AND COMMUNITY REPRESENTATIVES FOR RE-LOCATION OF THE COMMUNITY GARDEN, SHED, AND SIGNAGE WITHIN THE PROJECT AREA OR AGREED UPON ALTERNATIVE LOCATION.



FINAL DRAWINGS  
FOR REVIEW PURPOSES ONLY  
NOT RELEASED FOR CONSTRUCTION

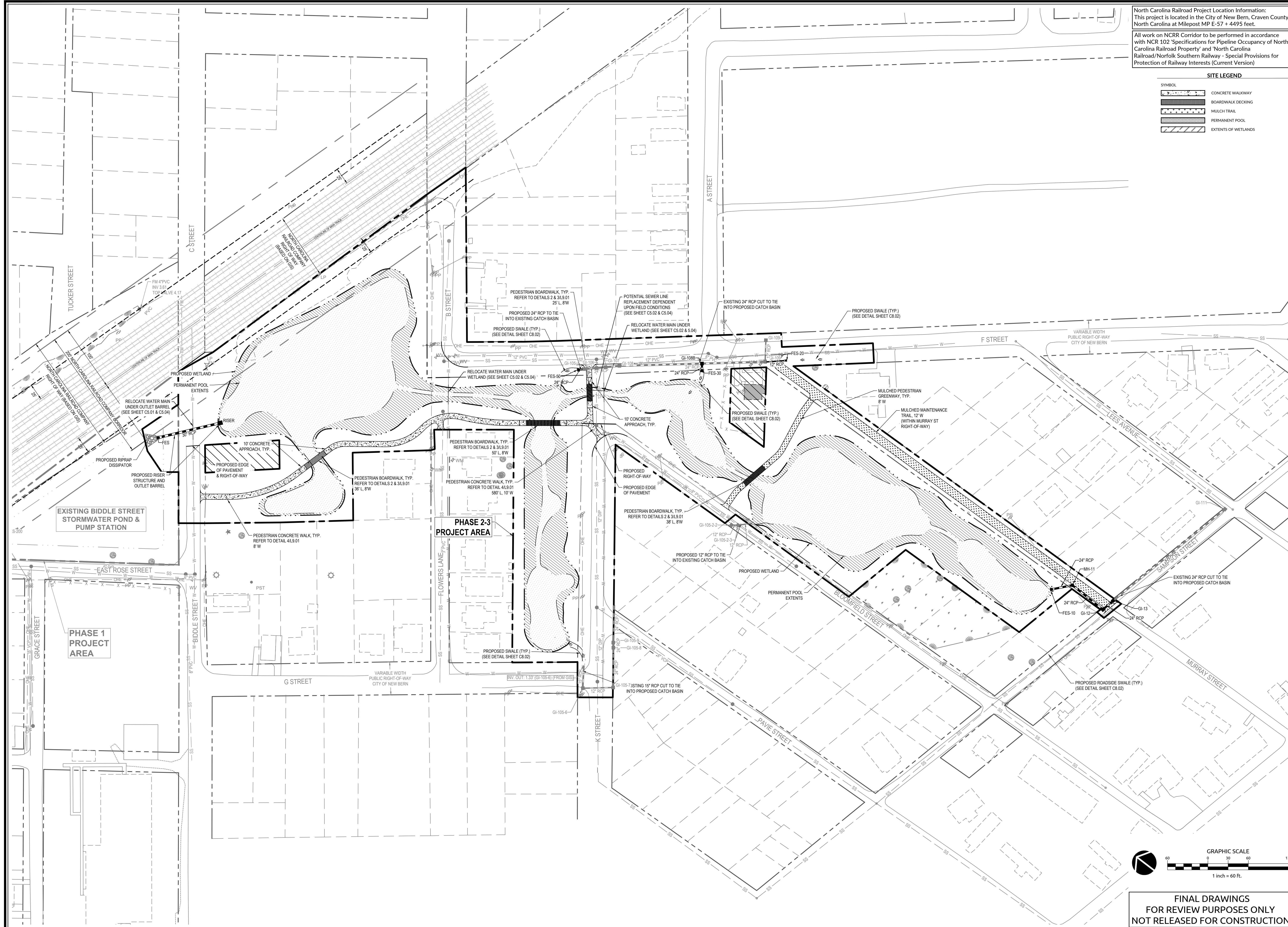
Sheet No.  
**C1.04**



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**SITE LEGEND**

SYMBOL	DESCRIPTION
	CONCRETE WALKWAY
	BOARDWALK DECKING
	MULCH TRAIL
	PERMANENT POOL
	EXTENTS OF WETLANDS



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**DUFFYFIELD COMMUNITY  
STORMWATER ENHANCEMENTS  
PHASE 2 & 3**

CWSRF PROJECT NO. CS370483-05  
LASII PROJECT NO. SRP-SW-APP-0016  
CITY OF NEW BERN, CRAVEN COUNTY, NORTH CAROLINA

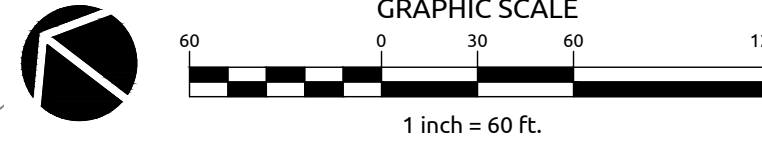
**OVERALL SITE PLAN**

Job No.	09200158.20
Date	4/21/2023
Checked By	WPR/BGB/BHS
Drawn By	ABD
Designer	WR

**FINAL PLAN  
NOT APPROVED FOR  
CONSTRUCTION**

Revisions

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2	REVISED PER NCR COMMENTS	11/1/2023
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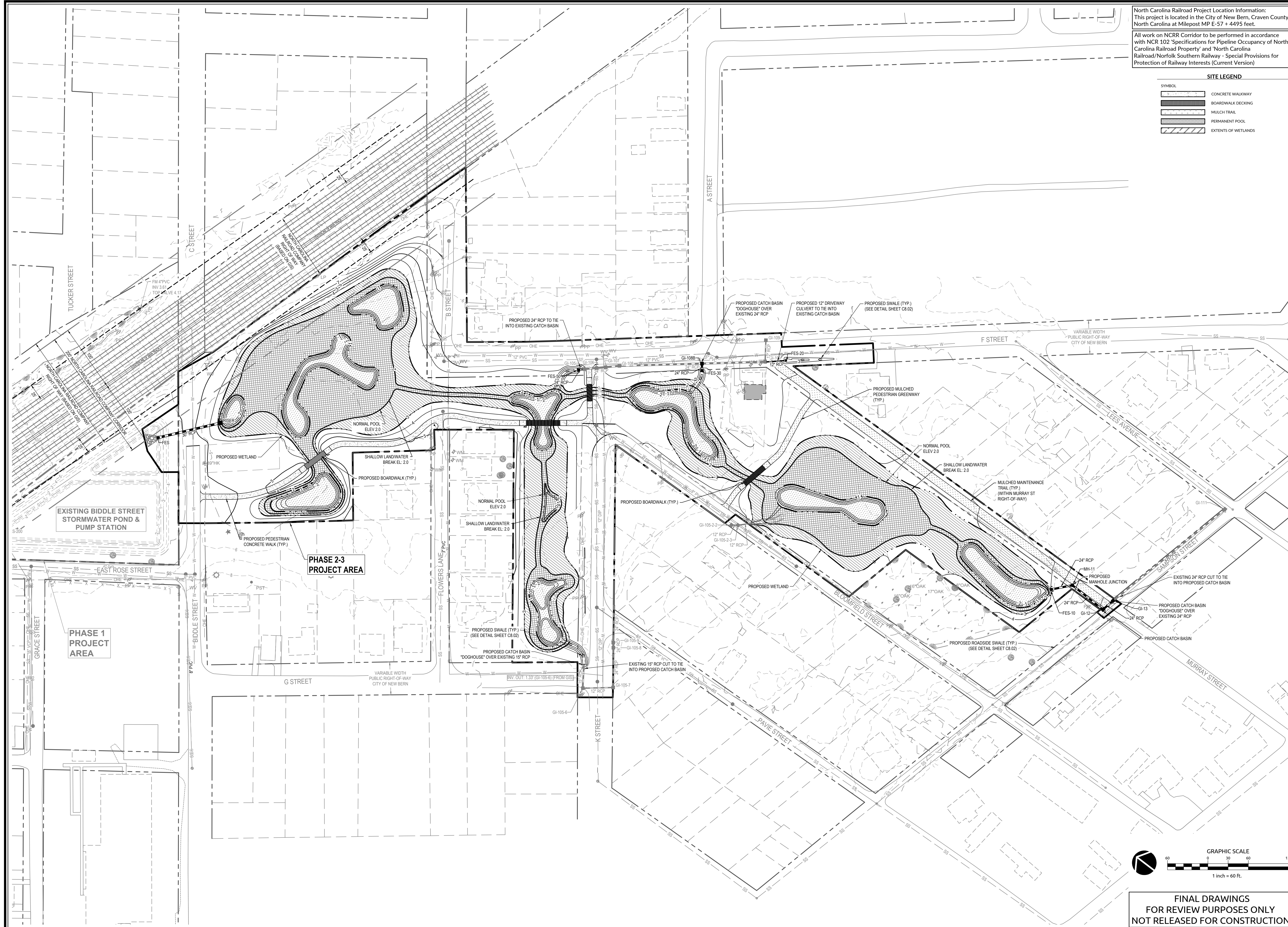
**FINAL DRAWINGS  
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Sheet No.  
**C2.00**

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**SITE LEGEND**

	CONCRETE WALKWAY
	BOARDWALK DECKING
	MULCH TRAIL
	PERMANENT POOL
	EXTENTS OF WETLANDS

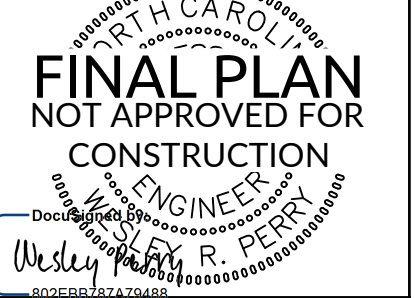


**DUFFIELD COMMUNITY  
STORMWATER ENHANCEMENTS  
PHASE 2 & 3**

CWSRF PROJECT NO. CS370483-05  
LASII PROJECT NO. SRP-SW-APP-0016  
CITY OF NEW BERN, CRAVEN COUNTY, NORTH CAROLINA

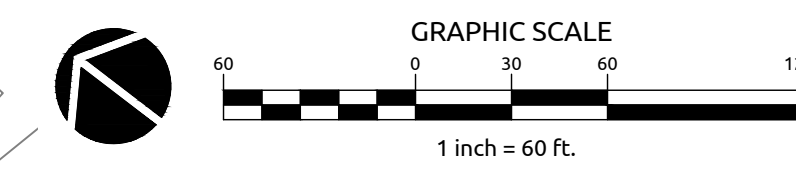
**OVERALL GRADING &  
STORM DRAINAGE PLAN**

Job No.	09200158.20	Drawn By	ABD
Date	4/21/2023	Designer	WR
Checked by	WRP/BGB/BHS		



Revisions

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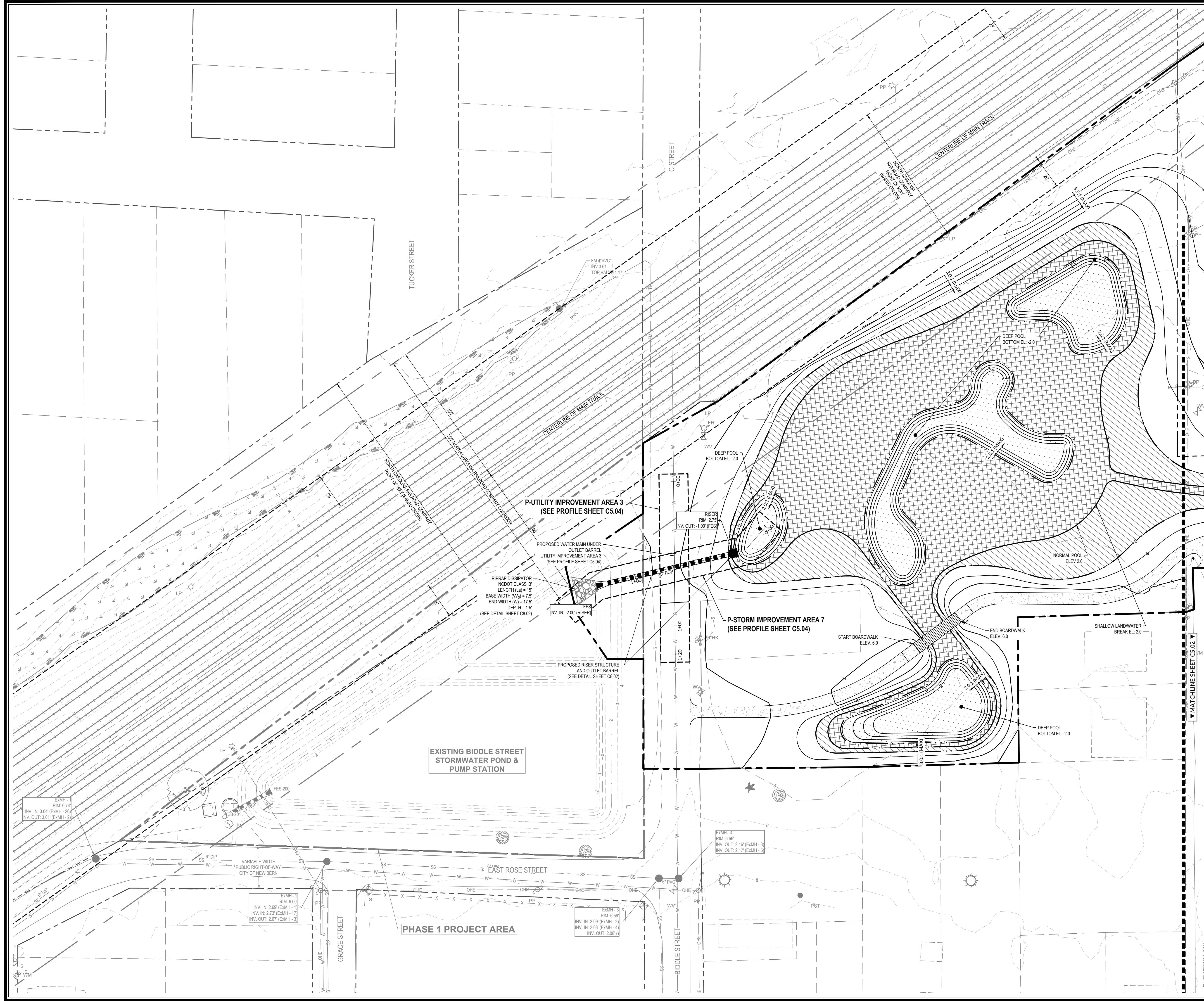


**FINAL DRAWINGS  
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Sheet No.  
**C5.00**

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**SITE LEGEND**

SYMBOL	DESCRIPTION
[Pattern]	CONCRETE WALKWAY
[Pattern]	BOARDWALK DECKING
[Pattern]	MULCH TRAIL
[Pattern]	PERMANENT POOL
[Pattern]	EXTENTS OF WETLANDS

**WithersRavenel**  
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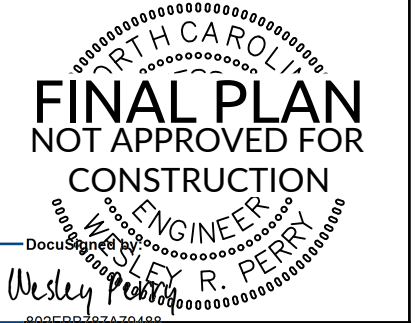
**DUFFYFIELD COMMUNITY  
 STORMWATER ENHANCEMENTS  
 PHASE 2 & 3**

CWSRF PROJECT NO. CS370483-05  
 LASII PROJECT NO. SRP-SW-APP-0016

CITY OF NEW BERN, CRAVEN COUNTY, NORTH CAROLINA

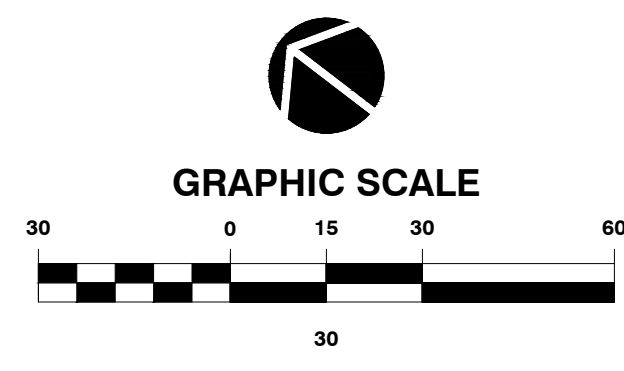
**GRADING & STORM  
 DRAINAGE PLAN AREA I**

Job No.	09200158.20	Drawn By	ABD
Date	4/21/2023	Designer	WR
Checked By	WRP/BGB/BHS		



Revisions

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**FINAL DRAWINGS  
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Sheet No.  
**C5.01**



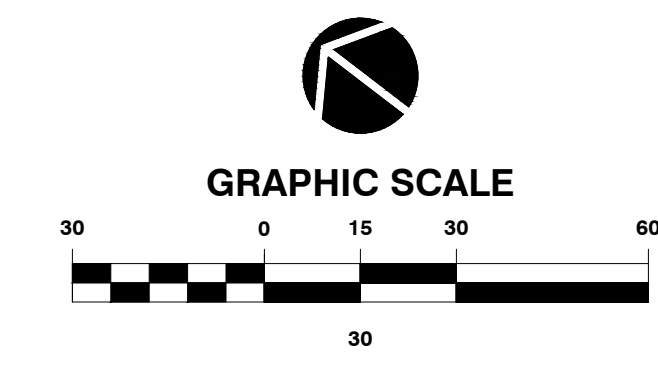
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**SITE LEGEND**

SYMBOL	DESCRIPTION
[Pattern]	CONCRETE WALKWAY
[Pattern]	BOARDWALK DECKING
[Pattern]	MULCH TRAIL
[Pattern]	PERMANENT POOL
[Pattern]	EXTENTS OF WETLANDS



**FINAL DRAWINGS  
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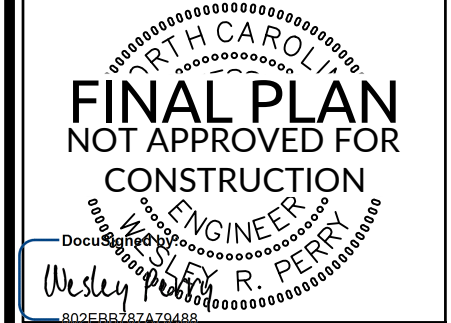
**DUFFYFIELD COMMUNITY  
 STORMWATER ENHANCEMENTS  
 PHASE 2 & 3**

CWSRF PROJECT NO. CS370483-05  
 LASH II PROJECT NO. SRP-SW-APP-0016

CITY OF NEW BERN, CRAVEN COUNTY, NORTH CAROLINA

**GRADING & STORM  
 DRAINAGE PLAN AREA III**

Job No.	09200158.20	Drawn By	ABD
Date	4/21/2023	Designer	WR
Checked By	WPR/BGB/BHS		



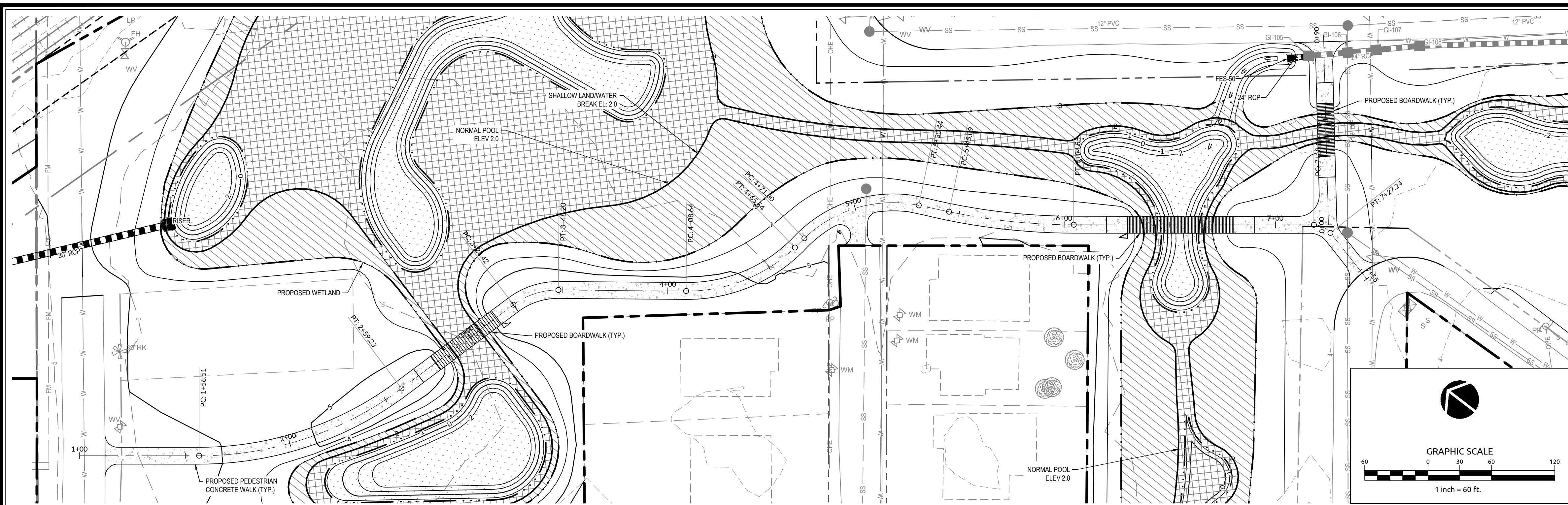
Revisions

1	PERMIT PLAN SET	6/23/2023
2	REVISED PER NCRR COMMENTS	11/1/2023
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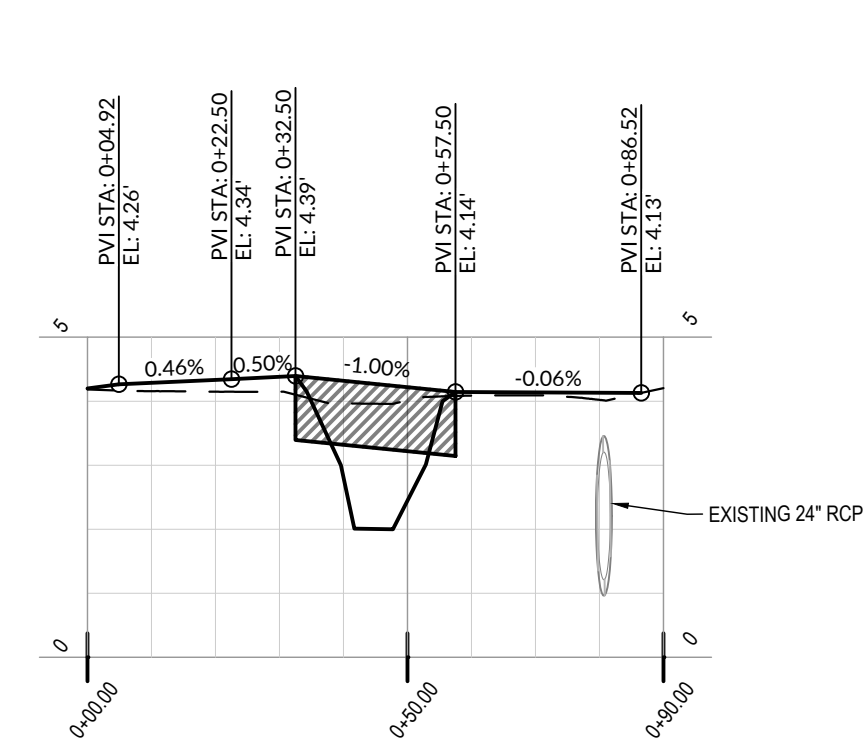
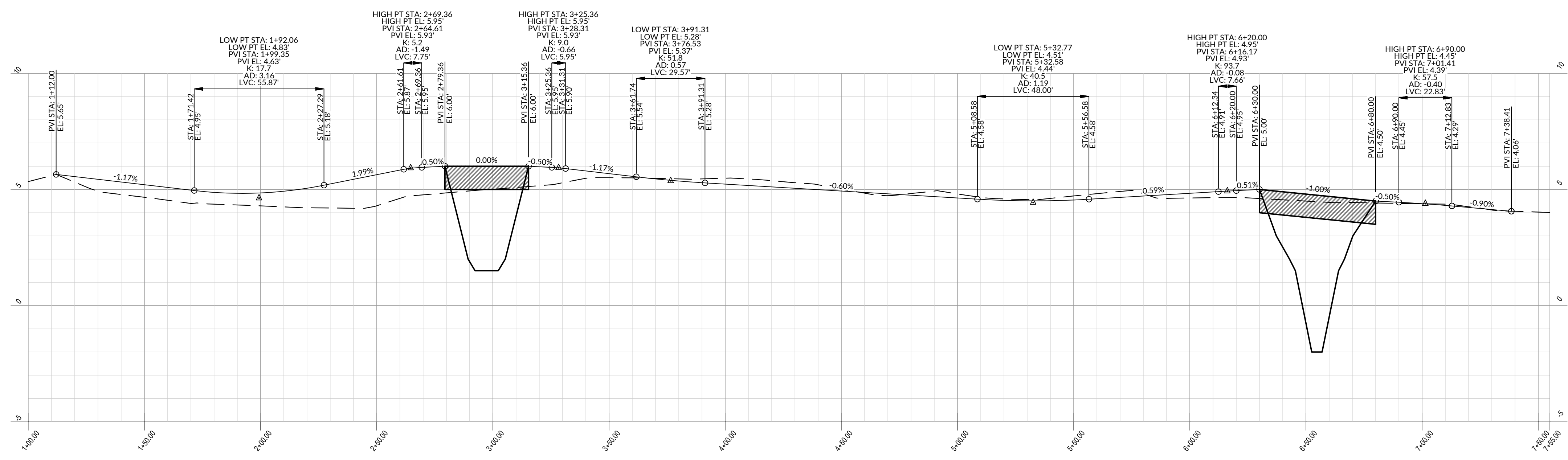
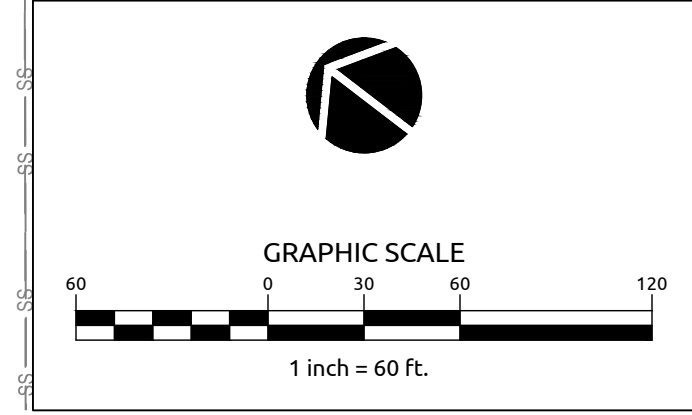
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**C5.03**



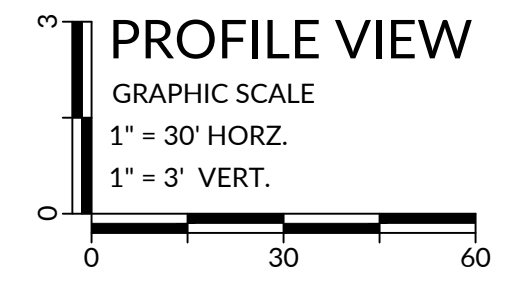




North Carolina Railroad Project Location Information:  
 This project is located in the City of New Bern, Craven County, North Carolina at Milepost MP E-57 + 4495 feet.  
 All work on NCRR Corridor to be performed in accordance with NCR 102 Specifications for Pipeline Occupancy of North Carolina Railroad Property and 'North Carolina Railroad/Norfolk Southern Railway - Special Provisions for Protection of Railway Interests (Current Version)



**CONCRETE TRAIL AND BOARDWALKS  
 F ST ENTRANCE**



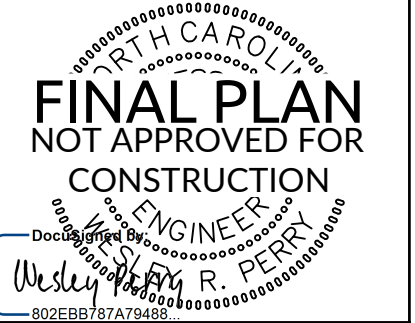
**CONCRETE TRAIL AND BOARDWALKS  
 BIDDLE ST TO K ST ENTRANCE**

**WithersRavenel**  
 Engineers | Planners | Surveyors

**DUFFYFIELD COMMUNITY  
 STORMWATER ENHANCEMENTS  
 PHASE 2 & 3**  
 CWSRF PROJECT NO. CS370483-05  
 LASII PROJECT NO. SRP-SW-APP-0016  
 CITY OF NEW BERN, CRAVEN COUNTY, NORTH CAROLINA

**MAINTENANCE TRAILS  
 PLAN & PROFILE**

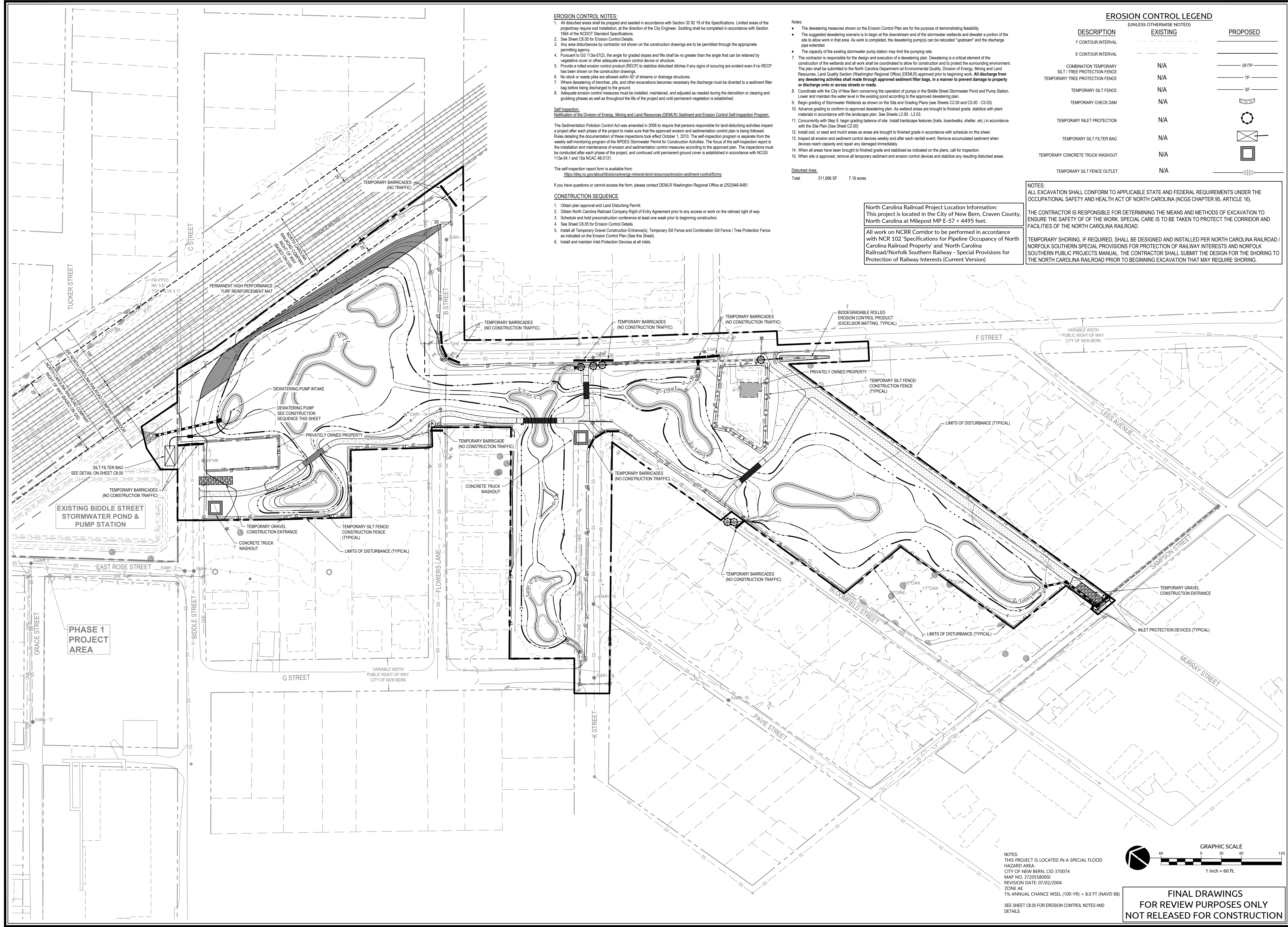
Job No.	09200158.20	Drawn By	AOB
Date	4/21/2023	Designer	WR
Checked by	WRP/BGB/BHS		



Revisions		
1	PERMIT PLAN SET	6/23/2023
2	REVISED PER NCRR COMMENTS	11/1/2023
3	BID PLAN SET	2/26/2024
4	REVISED PER DWI COMMENTS	4/23/2024

FINAL DRAWINGS  
 FOR REVIEW PURPOSES ONLY  
 NOT RELEASED FOR CONSTRUCTION

Sheet No.  
**C5.06**



- EROSION CONTROL NOTES:**
- All disturbed areas shall be prepped and seeded in accordance with Section 32.92.19 of the Specifications. Limited areas of the project may require sod installation, at the direction of the City Engineer. Sodding shall be completed in accordance with Section 1694 of the NCDOT Standard Specifications.
  - See Sheet C8.05 for Erosion Control Details.
  - Any area disturbances by contractor not shown on the construction drawings are to be permitted through the appropriate permitting agency.
  - Pursuant to SS 113a-57(2), the angle for graded slopes and fills shall be no greater than the angle that can be retained by vegetative cover or other adequate erosion control device or structure.
  - Provide a rolled erosion control product (RECP) to stabilize disturbed ditches if any signs of scouring are evident even if no RECP has been shown on the construction drawings.
  - No stock or waste piles are allowed within 50' of streams or drainage structures.
  - Where dewatering of trenches, pits, and other excavations becomes necessary the discharge must be diverted to a sediment filter bag before being discharged to the ground.
  - Adequate erosion control measures must be installed, maintained, and adjusted as needed during the demolition or clearing and grubbing phases as well as throughout the life of the project and until permanent vegetation is established.

**Self-Inspection:**  
Notification of the Division of Energy, Mining and Land Resources (DEM/LR) Sediment and Erosion Control Self-Inspection Program:  
The Sedimentation Pollution Control Act was amended in 2006 to require that persons responsible for land-disturbing activities inspect a project after each phase of the project to make sure that the approved erosion and sedimentation control plan is being followed. Rules detailing the documentation of these inspections took effect October 1, 2010. The self-inspection program is separate from the weekly self-monitoring program of the NPDES Stormwater Permit for Construction Activities. The focus of the self-inspection report is the installation and maintenance of erosion and sedimentation control measures according to the approved plan. The inspections must be conducted after each phase of the project, and continued until permanent ground cover is established in accordance with NCGS 113a-54.1 and 15a NCAC 4B.0131.

The self-inspection report form is available from:  
<https://dep.nc.gov/about/divisions/energy-mineral-land-resources/erosion-sediment-control/forms>  
If you have questions or cannot access the form, please contact DEM/LR Washington Regional Office at (252)946-6481.

- CONSTRUCTION SEQUENCE**
- Obtain plan approval and Land Disturbing Permit.
  - Obtain North Carolina Railroad Company Right of Entry Agreement prior to any access or work on the railroad right of way.
  - Schedule and hold preconstruction conference at least one week prior to beginning construction.
  - See Sheet C8.05 for Erosion Control Details.
  - Install all Temporary Gravel Construction Entrances, Temporary Silt Fence and Combination Silt Fence / Tree Protection Fence as indicated on the Erosion Control Plan (See this Sheet).
  - Install and maintain Inlet Protection Devices at all inlets.

- Notes:**
- The dewatering measures shown on the Erosion Control Plan are for the purpose of demonstrating feasibility.
  - The suggested dewatering scenario is to begin at the downstream end of the stormwater wetlands and dewater a portion of the site to allow work in that area. As work is completed, the dewatering pump(s) can be relocated "upstream" and the discharge pipe extended.
  - The capacity of the existing stormwater pump station may limit the pumping rate.
  - The contractor is responsible for the design and execution of a dewatering plan. Dewatering is a critical element of the construction of the wetlands and all work shall be coordinated to allow for construction and to protect the surrounding environment. The plan shall be submitted to the North Carolina Department of Environmental Quality, Division of Energy, Mining and Land Resources, Land Quality Section (Washington Regional Office) (DEM/LR) approved prior to beginning work. All discharge from any dewatering activities shall be made through approved sediment filter bags, in a manner to prevent damage to property or discharge onto or across streets or roads.
  - Coordinate with the City of New Bern concerning the operation of pumps in the Biddle Street Stormwater Pond and Pump Station. Lower and maintain the water level in the existing pond according to the approved dewatering plan.
  - Begin grading of Stormwater Wetlands as shown on the Site and Grading Plans (see Sheets C2.00 and C5.00 - C5.03).
  - Advance grading to conform to approved dewatering plan. As wetland areas are brought to finished grade, stabilize with plant materials in accordance with the landscape plan. See Sheets L2.00 - L2.03.
  - Concurrently with Step 9, begin grading balance of site. Install landscape features (paths, boardwalks, shelter, etc.) in accordance with the Site Plan (See Sheet C2.00).
  - Install sod, or seed and mulch areas as areas are brought to finished grade in accordance with schedule on this sheet.
  - Inspect all erosion and sediment control devices weekly and after each rainfall event. Remove accumulated sediment when devices reach capacity and repair any damaged immediately.
  - When all areas have been brought to finished grade and stabilized as indicated on the plans, call for inspection.
  - When site is approved, remove all temporary sediment and erosion control devices and stabilize any resulting disturbed areas.

**Disturbed Area:**  
Total 311,696 SF 7.16 acres

**North Carolina Railroad Project Location Information:**  
This project is located in the City of New Bern, Craven County, North Carolina at Milepost MP E-57 + 4495 feet.

All work on NCR Corridor to be performed in accordance with NCR 102 "Specifications for Pipeline Occupancy of North Carolina Railroad Property" and North Carolina Railroad/Norfolk Southern Railway - Special Provisions for Protection of Railway Interests (Current Version)

**EROSION CONTROL LEGEND**  
(UNLESS OTHERWISE NOTED)

DESCRIPTION	EXISTING	PROPOSED
1' CONTOUR INTERVAL	---	---
5' CONTOUR INTERVAL	---	---
COMBINATION TEMPORARY SILT TREE PROTECTION FENCE	N/A	SF/TP
TEMPORARY TREE PROTECTION FENCE	N/A	TP
TEMPORARY SILT FENCE	N/A	SF
TEMPORARY CHECK DAM	N/A	[Symbol]
TEMPORARY INLET PROTECTION	N/A	[Symbol]
TEMPORARY SILT FILTER BAG	N/A	[Symbol]
TEMPORARY CONCRETE TRUCK WASHOUT	N/A	[Symbol]
TEMPORARY SILT FENCE OUTLET	N/A	[Symbol]

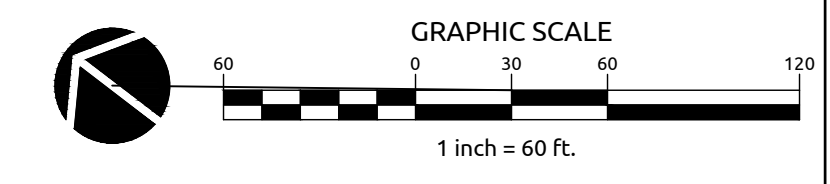
**NOTES:**  
ALL EXCAVATION SHALL CONFORM TO APPLICABLE STATE AND FEDERAL REQUIREMENTS UNDER THE OCCUPATIONAL SAFETY AND HEALTH ACT OF NORTH CAROLINA (NCGS CHAPTER 95, ARTICLE 16).

THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE MEANS AND METHODS OF EXCAVATION TO ENSURE THE SAFETY OF THE WORK. SPECIAL CARE IS TO BE TAKEN TO PROTECT THE CORRIDOR AND FACILITIES OF THE NORTH CAROLINA RAILROAD.

TEMPORARY SHORING, IF REQUIRED, SHALL BE DESIGNED AND INSTALLED PER NORTH CAROLINA RAILROAD / NORFOLK SOUTHERN SPECIAL PROVISIONS FOR PROTECTION OF RAILWAY INTERESTS AND NORFOLK SOUTHERN PUBLIC PROJECTS MANUAL. THE CONTRACTOR SHALL SUBMIT THE DESIGN FOR THE SHORING TO THE NORTH CAROLINA RAILROAD PRIOR TO BEGINNING EXCAVATION THAT MAY REQUIRE SHORING.

**PHASE 1 PROJECT AREA**

**EXISTING BIDDLE STREET STORMWATER POND & PUMP STATION**



**NOTES:**  
THIS PROJECT IS LOCATED IN A SPECIAL FLOOD HAZARD AREA.  
CITY OF NEW BERN, CID 370074  
MAP NO. 37205580001  
REVISION DATE: 07/02/2004  
ZONE AE  
1% ANNUAL CHANCE WSEL (100-YR) = 8.0 FT (NAVD 88)  
SEE SHEET C8.05 FOR EROSION CONTROL NOTES AND DETAILS.

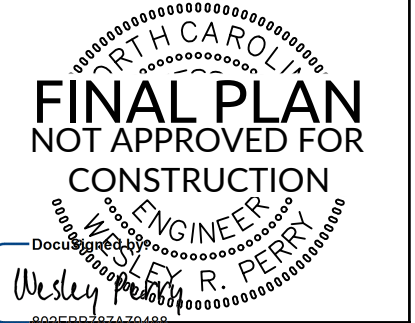
**FINAL DRAWINGS FOR REVIEW PURPOSES ONLY NOT RELEASED FOR CONSTRUCTION**

**WithersRavenel**  
Engineers | Planners | Surveyors

**DUFFYFIELD COMMUNITY STORMWATER ENHANCEMENTS PHASE 2 & 3**  
CWSRF PROJECT NO. CS370483-05  
LASII PROJECT NO. SRP-SW-APP-0016  
CITY OF NEW BERN, CRAVEN COUNTY, NORTH CAROLINA

**OVERALL SOIL EROSION AND SEDIMENT CONTROL PLAN**

Job No.	09200158.20	Drawn By	ABD
Date	4/21/2023	Designer	WR
Checked by	WRP/BGB/BHS		

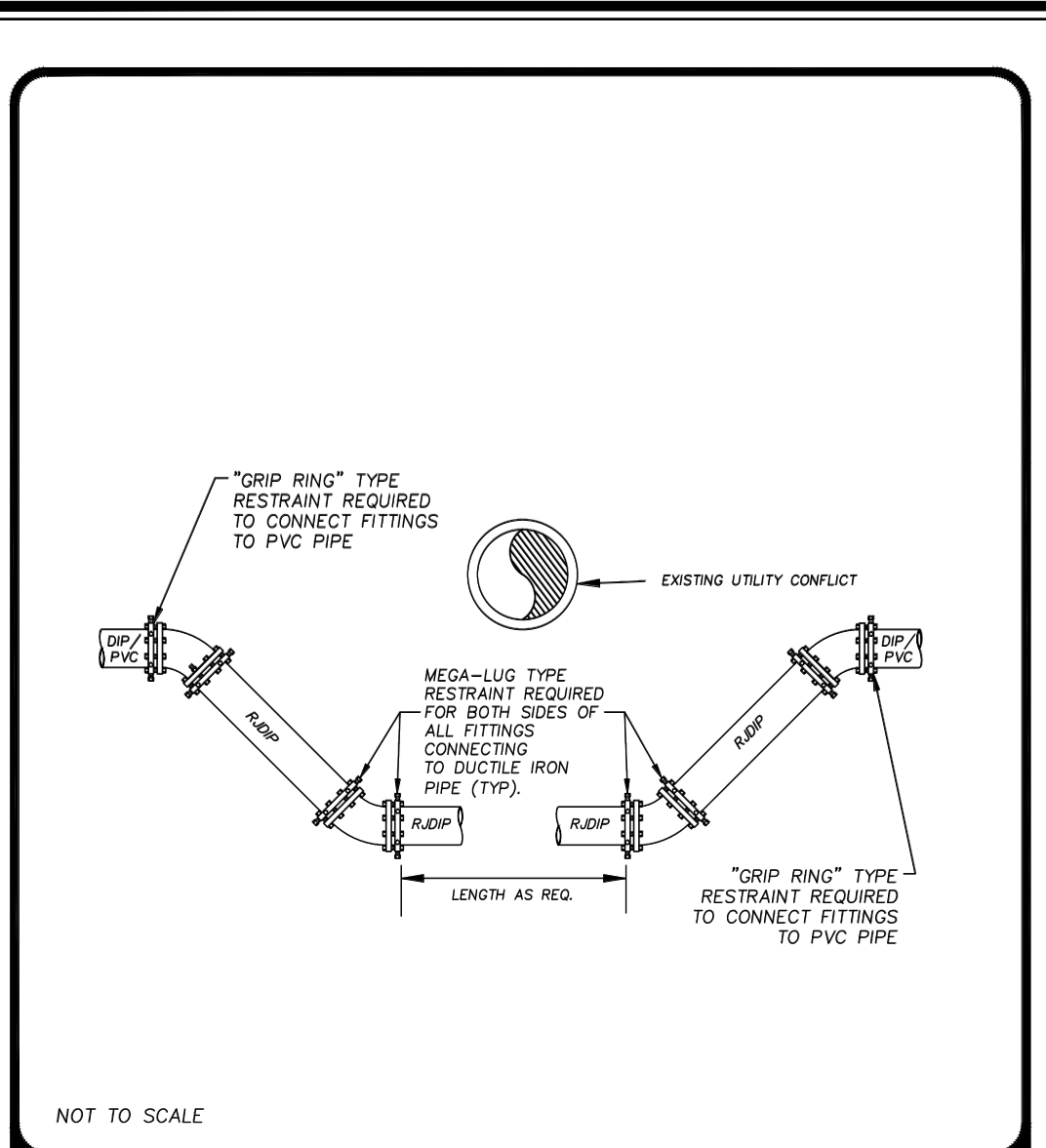


**Revisions**

1	PERMIT PLAN SET	6/23/2023
2	REVISED PER NCR COMMENTS	11/1/2023
3	BID PLAN SET	2/26/2024
4	REVISED PER DWI COMMENTS	4/23/2024

Sheet No. **C6.00**



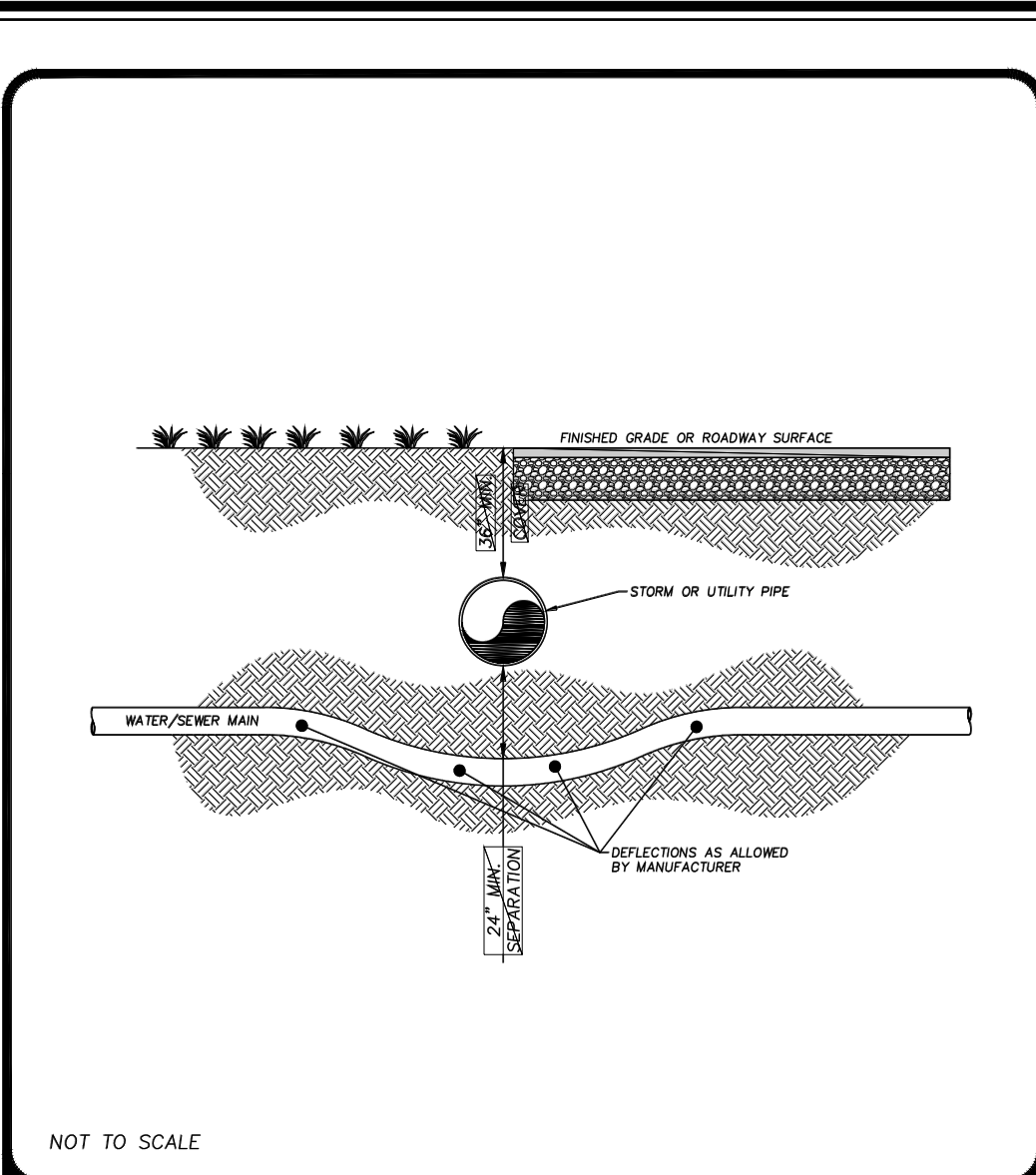


NOT TO SCALE

**NEW BERN**  
NORTH CAROLINA  
Department of Public Utilities  
P.O. Box 1128, New Bern, NC 28563  
252.638.7526 (FAX) 252.638.4103

**LOWERING WATER/SEWER MAIN UNDER A UTILITY CONFLICT**

STANDARD DRAWING No. S-18

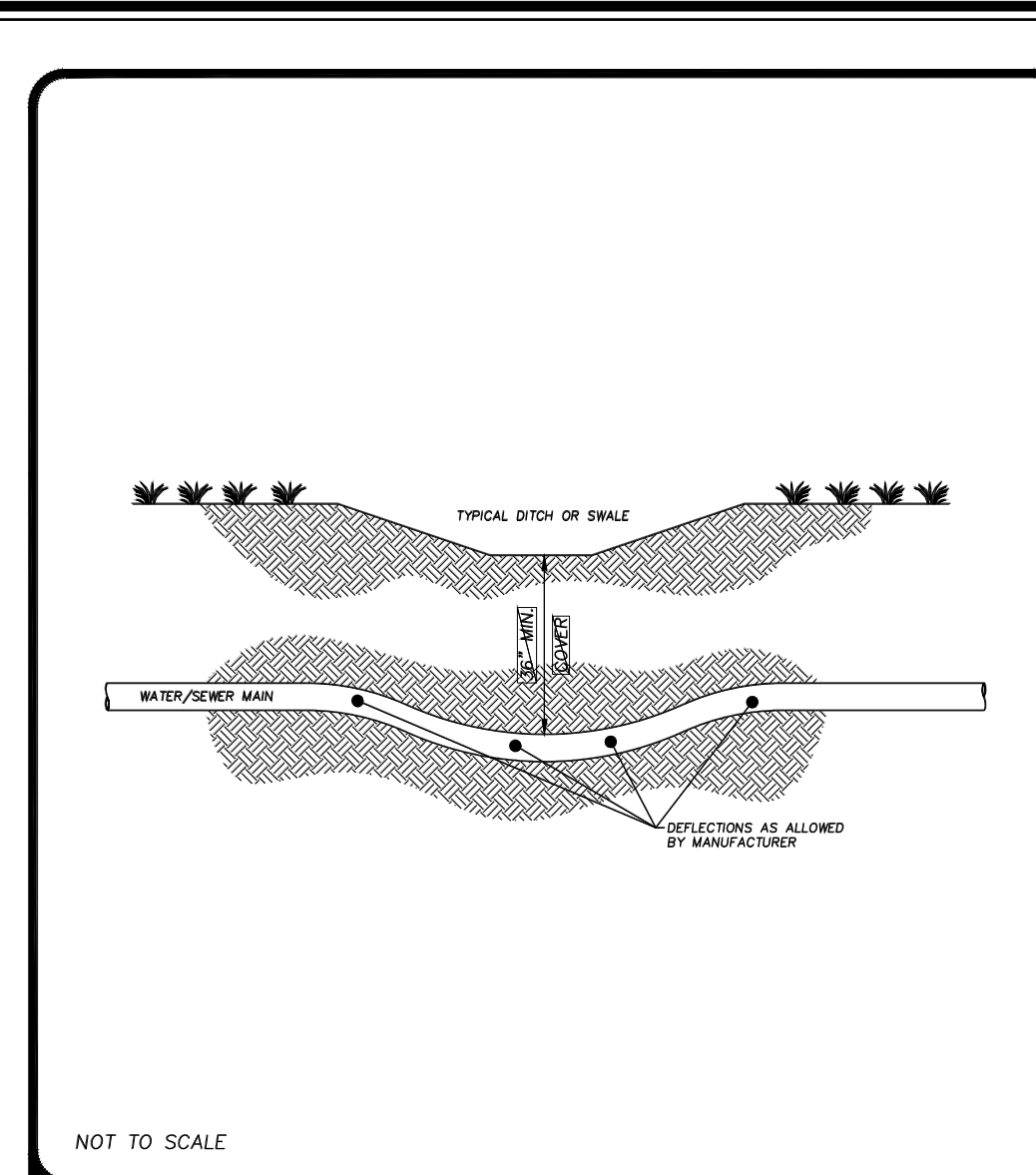


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Department of Public Utilities  
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252.638.7526 (FAX) 252.638.4103

**WATER/SEWER MAIN CROSSING UNDER STORM/UTILITY PIPE**

STANDARD DRAWING No. S-16

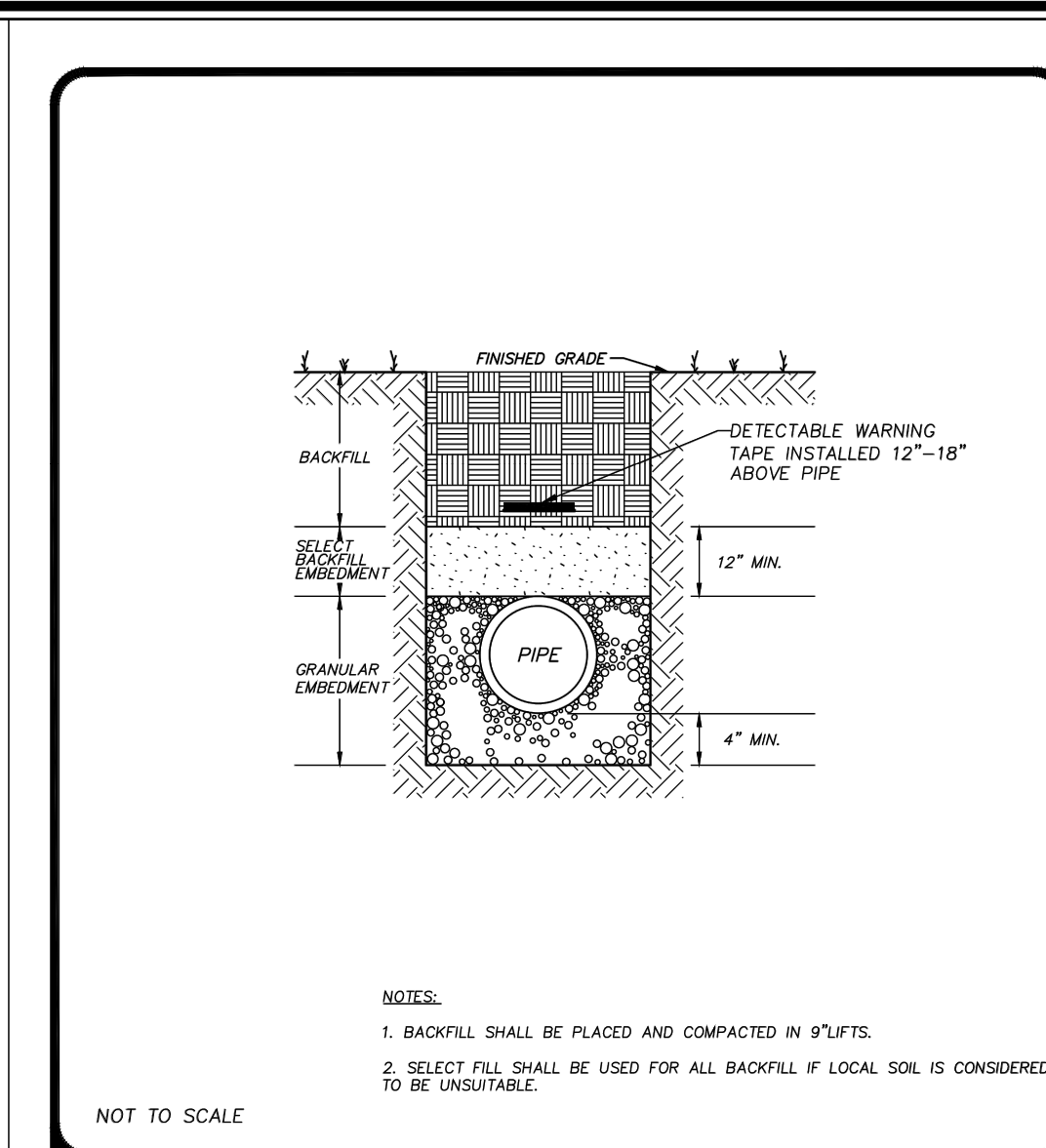


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**NEW BERN**  
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Department of Public Utilities  
P.O. Box 1128, New Bern, NC 28563  
252.638.7526 (FAX) 252.638.4103

**WATER/SEWER MAIN CROSSING UNDER DITCH**

STANDARD DRAWING No. S-15

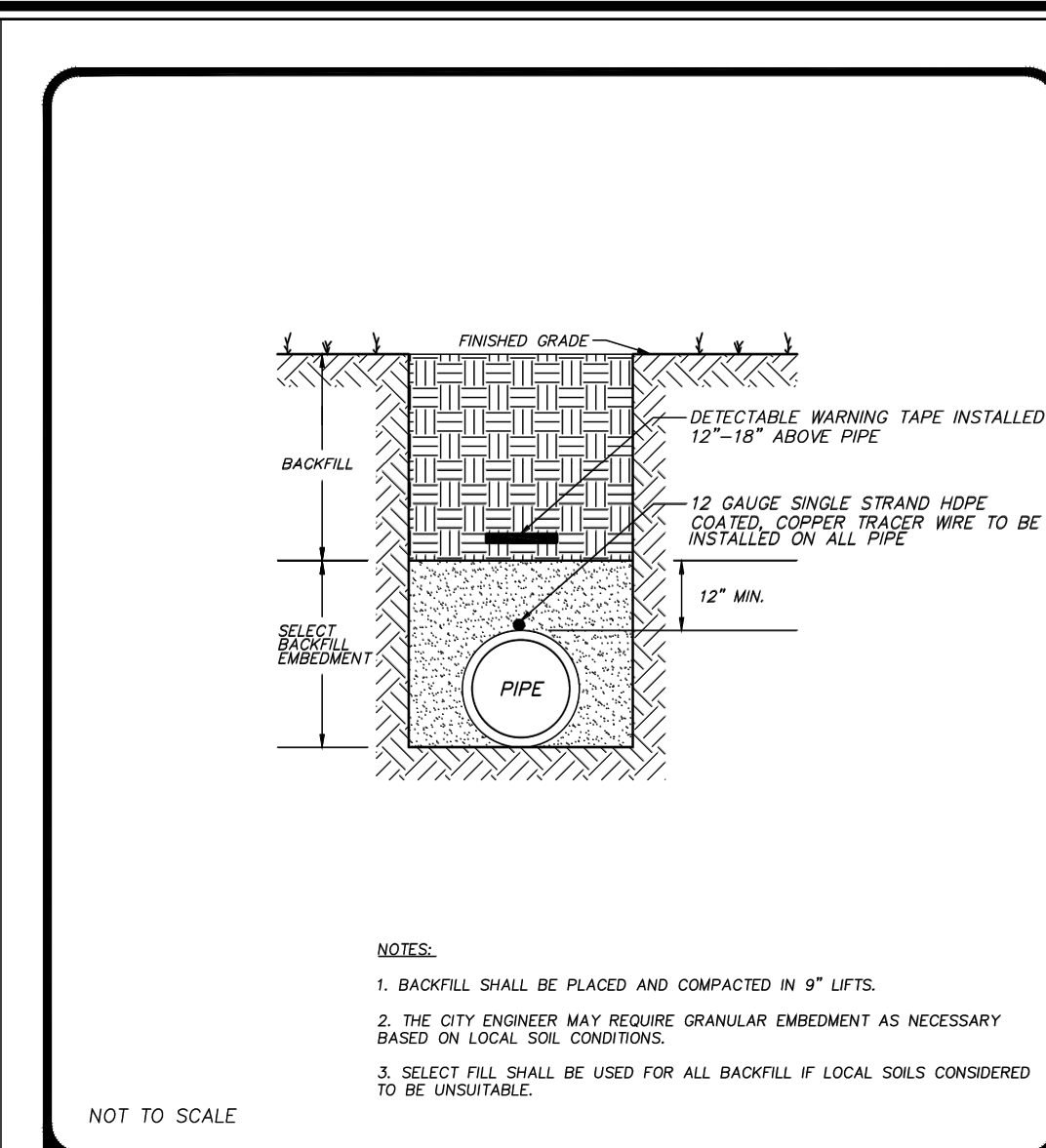


NOT TO SCALE

**NEW BERN**  
NORTH CAROLINA  
Department of Public Utilities  
P.O. Box 1128, New Bern, NC 28563  
252.638.7526 (FAX) 252.638.4103

**BEDDING FOR GRAVITY SEWER PIPE**

STANDARD DRAWING No. S-9

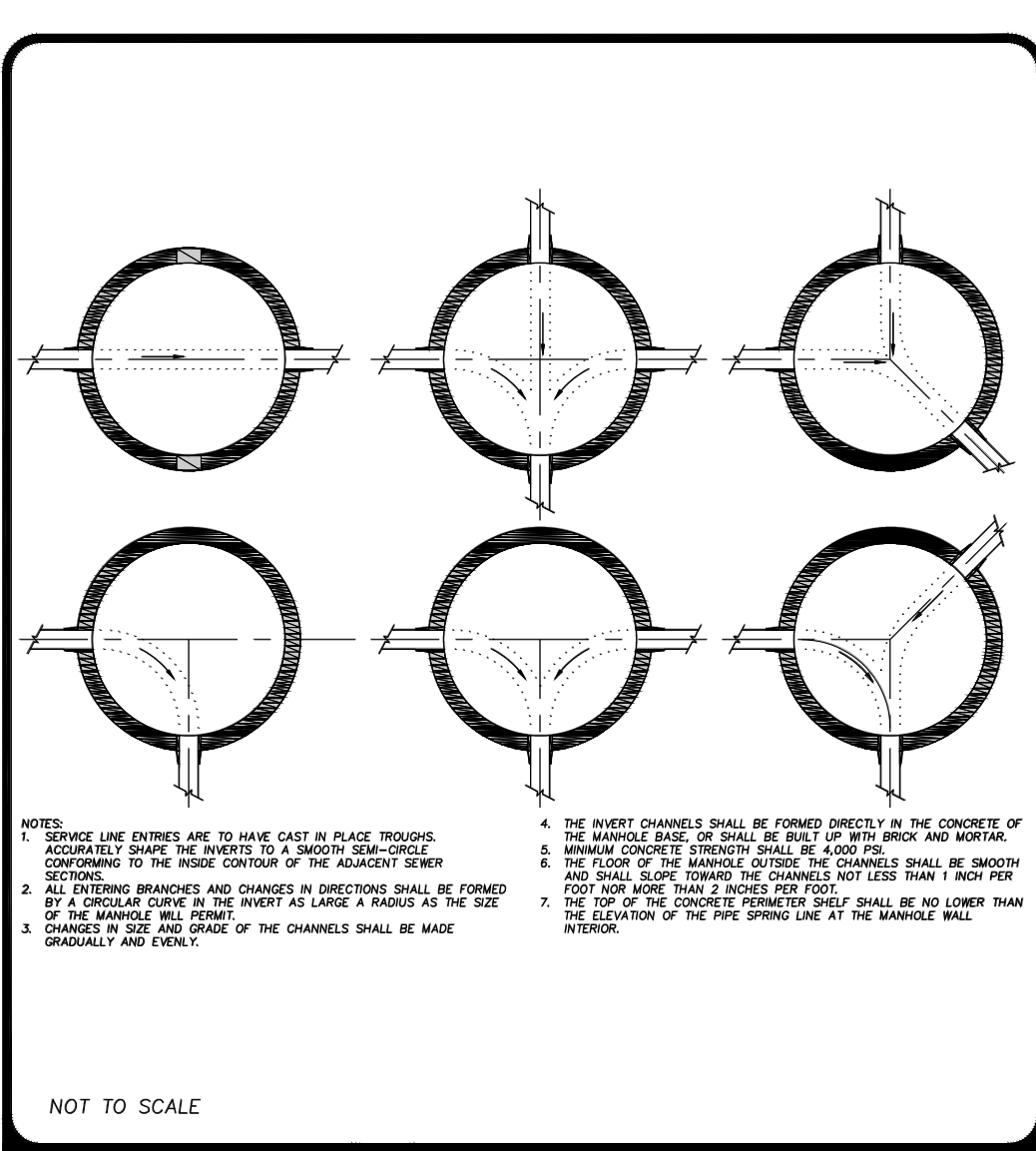


NOT TO SCALE

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NORTH CAROLINA  
Department of Public Utilities  
P.O. Box 1128, New Bern, NC 28563  
252.638.7526 (FAX) 252.638.4103

**BEDDING FOR WATER MAINS AND SEWER FORCE MAINS**

STANDARD DRAWING No. S-10

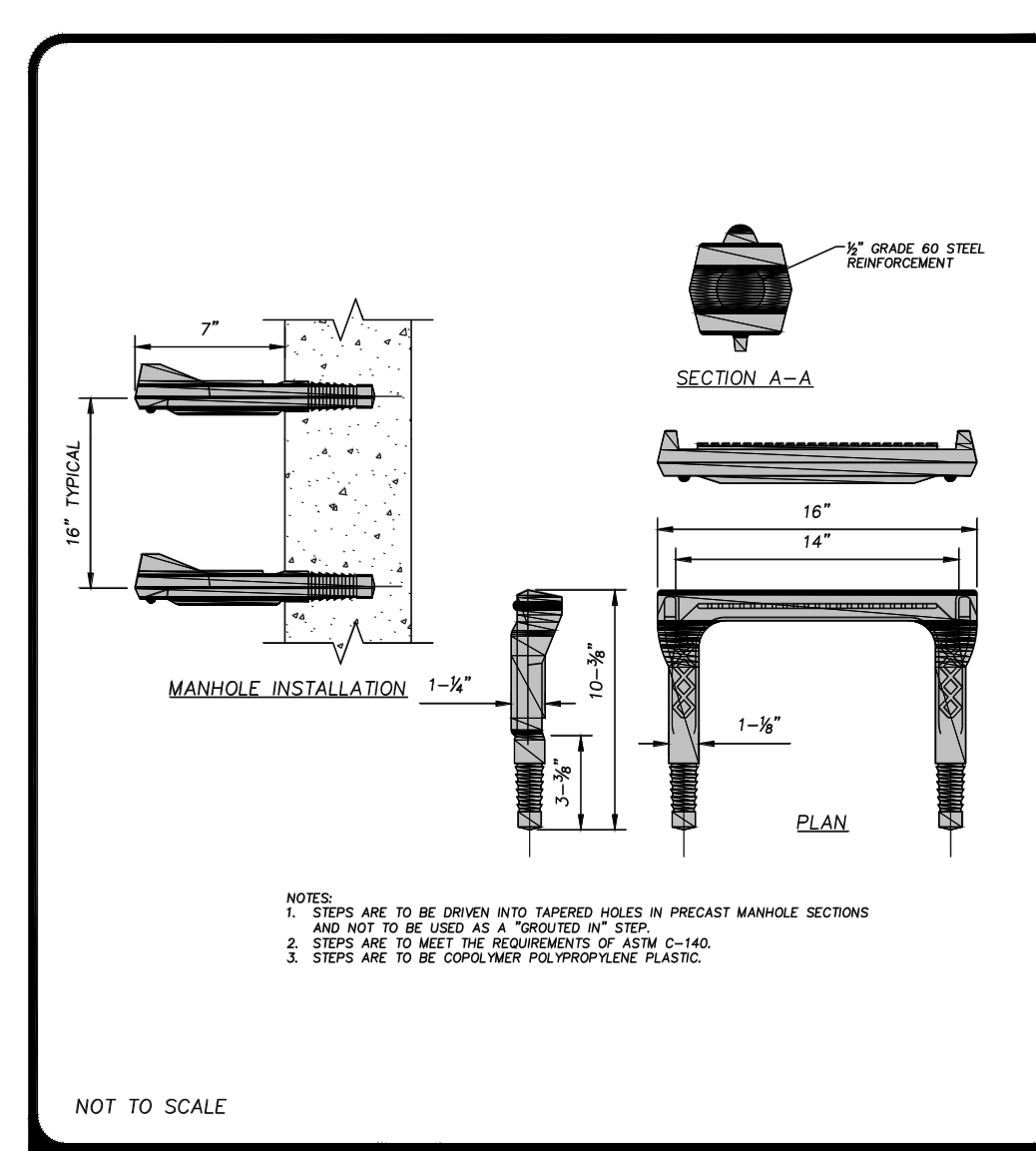


NOT TO SCALE

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NORTH CAROLINA  
Department of Public Utilities  
P.O. Box 1128, New Bern, NC 28563  
252.638.7526 (FAX) 252.638.4103

**TYPICAL MANHOLE INVERTS**

STANDARD DRAWING No. S-8

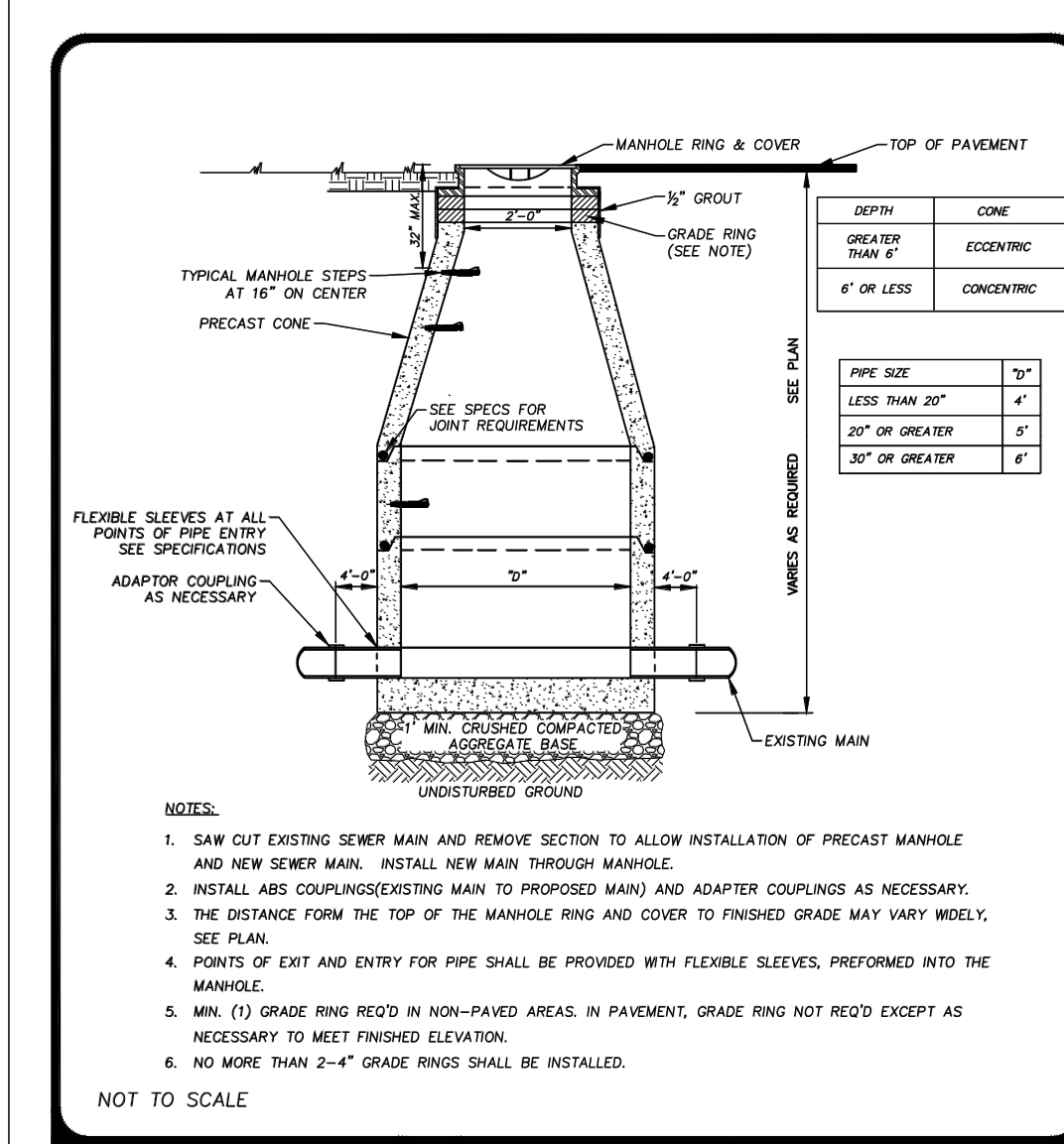


NOT TO SCALE

**NEW BERN**  
NORTH CAROLINA  
Department of Public Utilities  
P.O. Box 1128, New Bern, NC 28563  
252.638.7526 (FAX) 252.638.4103

**TYPICAL POLYPROPYLENE PLASTIC STEP DETAIL**

STANDARD DRAWING No. S-7

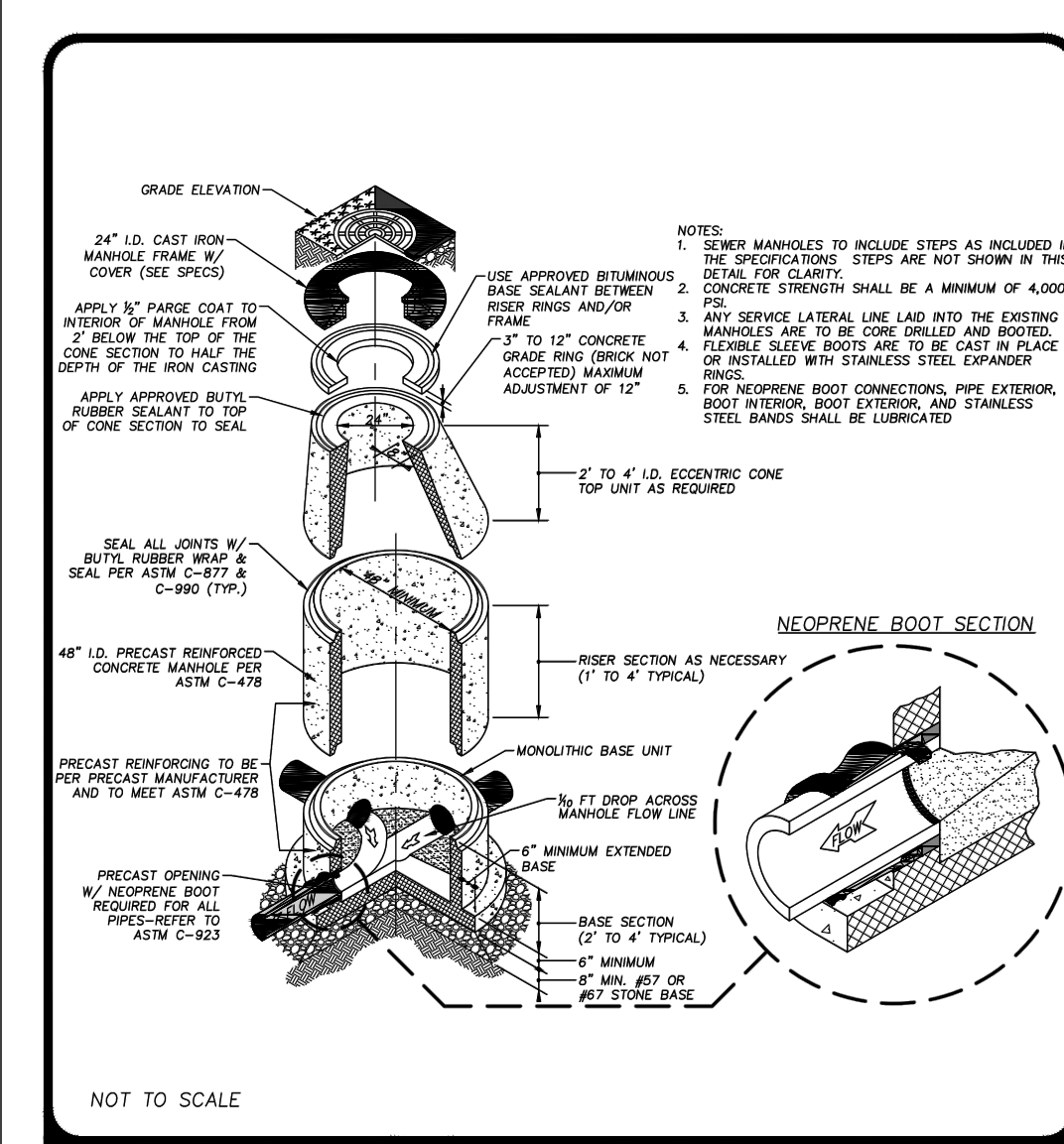


NOT TO SCALE

**NEW BERN**  
NORTH CAROLINA  
Department of Public Utilities  
P.O. Box 1128, New Bern, NC 28563  
252.638.7526 (FAX) 252.638.4103

**TYPICAL MANHOLE OVER EXISTING SEWER MAIN**

STANDARD DRAWING No. S-5



NOT TO SCALE

**NEW BERN**  
NORTH CAROLINA  
Department of Public Utilities  
P.O. Box 1128, New Bern, NC 28563  
252.638.7526 (FAX) 252.638.4103

**TYPICAL PRECAST MANHOLE**

STANDARD DRAWING No. S-4

**WithersRavenel**  
Engineers | Planners | Surveyors

115 MacKinnon Drive | Cary, NC 27511 | t: 919-469-2340 | license #: F-1479 | www.withersravenel.com

**DUFFYFIELD COMMUNITY STORMWATER ENHANCEMENTS PHASE 2 & 3**

CWSRF PROJECT NO. CS370483-05  
LASII PROJECT NO. SRP-SW-ARP-0016

CITY OF NEW BERN, CRAVEN COUNTY, NORTH CAROLINA

**UTILITY DETAILS SANITARY SEWER**

Job No. 09200158.20  
Date 4/21/2023  
Checked By WRF/BGB/BHS  
Drawn By ABD  
Designer  
WR

**FINAL PLAN NOT APPROVED FOR CONSTRUCTION**

Wesley Perry R. Perry  
Professional Engineer  
No. 17224

Revisions

1	PERMIT PLAN SET	4/23/2023
2	REVISED PER NCRR COMMENTS	11/1/2023
3	BID PLAN SET	2/26/2024
4	REVISED PER DWI COMMENTS	4/23/2024

Sheet No. **C8.01**

**811**

Know what's below. Call before you dig.

FINAL DRAWINGS FOR REVIEW PURPOSES ONLY NOT RELEASED FOR CONSTRUCTION





**PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING**

**SECTION A: SELF-INSPECTION**

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the inspection record.

Table with 3 columns: Inspect, Frequency (during normal business hours), and Inspection records must include. Rows include Rain gauge, E&SC Measures, Stormwater discharge outlets, Perimeter of site, Streams or wetlands, and Ground stabilization measures.

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

**PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING**

**SECTION B: RECORDKEEPING**

**1. E&SC Plan Documentation**  
The approved E&SC plan as well as any approved deviation shall be kept on the site. The approved E&SC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&SC plan shall be kept on site and available for inspection at all times during normal business hours.

Table with 2 columns: Item to Document and Documentation Requirements. Rows include E&SC measure installation, Phase of grading, Ground cover, and Maintenance/repair requirements.

**2. Additional Documentation to be Kept on Site**  
In addition to the E&SC plan documents above, the following items shall be kept on the site and available for inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practicable:

- (a) This General Permit as well as the Certificate of Coverage, after it is received.
(b) Records of inspections made during the previous twelve months.
(c) Documentation to be Retained for Three Years

**PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING**

**SECTION C: REPORTING**

**1. Occurrences that Must be Reported**  
Permittees shall report the following occurrences:

- (a) Visible sediment deposition in a stream or wetland.
(b) Oil spills: They are 25 gallons or more, They are less than 25 gallons but cannot be cleaned up within 24 hours, They cause sheen on surface waters, etc.
(c) Releases of hazardous substances in excess of reportable quantities.
(d) Anticipated bypasses and unanticipated bypasses.

(e) Noncompliance with the conditions of this permit that may endanger health or the environment.

**2. Reporting Timeframes and Other Requirements**  
After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below.

Table with 2 columns: Occurrence and Reporting Timeframes (After Discovery) and Other Requirements. Rows include Visible sediment, Oil spills, Anticipated bypasses, and Unanticipated bypasses.

**PART II, SECTION G, ITEM (4) DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT**

Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structures that withdraw water from the surface when these devices need to be drawn down for maintenance or close out unless this is infeasible.

- (a) The E&SC plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or conditions in which it will occur.
(b) The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item 2)(c) and (d) of this permit.
(c) Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin.

**PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING**

EFFECTIVE: 04/01/19

**GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT**

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively).

**SECTION E: GROUND STABILIZATION**

Table with 3 columns: Site Area Description, Required Ground Stabilization Timeframes, and Timeframe variations. Rows include Perimeter dikes, High Quality Water (HQW) Zones, and Slopes.

NOTE: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity.

**GROUND STABILIZATION SPECIFICATION**

Table with 2 columns: Temporary Stabilization and Permanent Stabilization. Rows include grass seed, mulch, geotextile fabrics, and erosion control products.

**POLYACRYLAMIDES (PAMS) AND FLOCCULANTS**

- 1. Select flocculants that are appropriate for the soils being exposed during construction, selecting from the NC DWR List of Approved PAMS/Flocculants.
2. Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
3. Apply flocculants at the concentrations specified in the NC DWR List of Approved PAMS/Flocculants and in accordance with the manufacturer's instructions.

**EQUIPMENT AND VEHICLE MAINTENANCE**

- 1. Maintain vehicles and equipment to prevent discharge of fluids.
2. Provide drip pans under any stored equipment.
3. Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
4. Collect all spent fluids, store in separate containers and properly dispose as hazardous waste.

**LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE**

- 1. Never bury or burn waste. Place litter and debris in approved waste containers.
2. Provide a sufficient number and size of waste containers (e.g. dumpster, trash receptacle) on site to contain construction and domestic wastes.
3. Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.

**PAINT AND OTHER LIQUID WASTE**

- 1. Do not dump paint and other liquid waste into storm drains, streams or wetlands.
2. Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.

**PORTABLE TOILETS**

- 1. Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available.
2. Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.

**EARTHEN STOCKPILE MANAGEMENT**

- 1. Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
2. Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.

**HERBICIDES, PESTICIDES AND RODENTICIDES**

- 1. Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
2. Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
3. Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water.

**HAZARDOUS AND TOXIC WASTE**

- 1. Create designated hazardous waste collection area on-site.
2. Place hazardous waste containers under cover or in secondary containment.
3. Do not store hazardous chemicals, drums or bagged materials directly on the ground.

**CONCRETE WASHOUTS**

- 1. Do not discharge concrete or cement slurry from the site.
2. Dispose of, or recycle/strengthen, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
3. Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
4. Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval.

**NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING**

EFFECTIVE: 04/01/19

**NCG01 GROUND STABILIZATION AND MATERIALS HANDLING**

EFFECTIVE: 04/01/19

**STABILIZATION REQUIREMENTS:**

NOTE: SEE LANDSCAPE PLANS AND DETAILS (L2.00 - L2.03 AND L9.00 - L9.01) FOR PERMANENT PLANTING REQUIREMENTS.

Stabilization for this project shall comply with the time frame guidelines as specified by the NCG-010000 general construction permit effective April 1, 2019 issued by the North Carolina Department of Environmental Quality Division of Water Resources.

The stabilization timeframe for High Quality Water (HQW) Zones shall be 7 calendar days with no exceptions for slope grades or lengths. High Quality Water Zones (HQW) Zones are defined by North Carolina Administrative Code 15A NCAC 04A.0105 (2).

**SEEDING AND MULCHING - (Fast)**

The kinds of seed and fertilizer, and the rates of application of seed, fertilizer, and limestone, shall be as stated below. During periods of overlapping dates, the kind of seed to be used shall be determined. All rates are in pounds per acre.

Table with 2 columns: All Roadway Areas and Waste and Borrow Locations. Rows include dates and fertilizer/seed types like Tail Fescue, Centipede, Bermudagrass, etc.

Table with 2 columns: 500# Fertilizer and 4000# Limestone. Lists various fertilizer and limestone brands like Escalade, Essential, Kity Hawk, etc.

Table with 2 columns: 500# Fertilizer and 4000# Limestone. Lists various fertilizer and limestone brands like Serengeti, Shelby, Apache III, etc.

On and fill slopes 2:1 or steeper Centipede shall be applied at the rate of 5 pounds per acre and add 20# of Serenoa Lespedeza from January 1 - December 31.

Fertilizer shall be 10-20-20 analysis. A different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as 10-20-20 analysis and as directed.

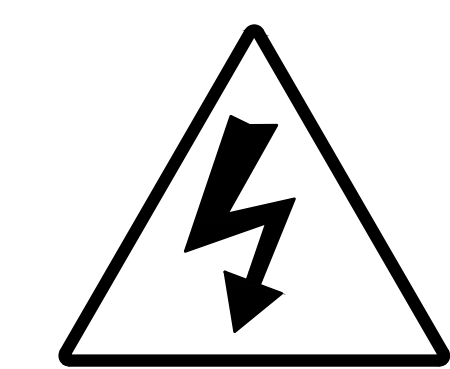
TEMPORARY SEEDING: Fertilizer shall be the same analysis as specified for Seeding and Mulching and applied at the rate of 400 pounds and seeded at the rate of 50 pounds per acre.

FERTILIZER TOPDRESSING: Fertilizer used for topdressing on all roadway areas except slopes 2:1 and steeper shall be 10-20-20 grade and shall be applied at the rate of 500 pounds per acre.

SUPPLEMENTAL SEEDING: The kinds of seed and proportions shall be the same as specified for Seeding and Mulching, with the exception that no centipede seed will be used in the seed mix for supplemental seeding.

MULCHING: Mulch and top shall be in accordance with NCDOT Specification Section 1060-5, mulch shall be applied in accordance with NCDOT Specification 1615. An approved rolled erosion control product (RECP) may be used in lieu of straw mulch.

MOWING: The minimum mowing height on this project shall be 4 inches.



**DANGER**  
Overhead Electrical Power Lines



Know what's below. Call before you dig.

FINAL DRAWINGS FOR REVIEW PURPOSES ONLY NOT RELEASED FOR CONSTRUCTION

WithersRavenel Engineers | Planners | Surveyors logo and contact information.

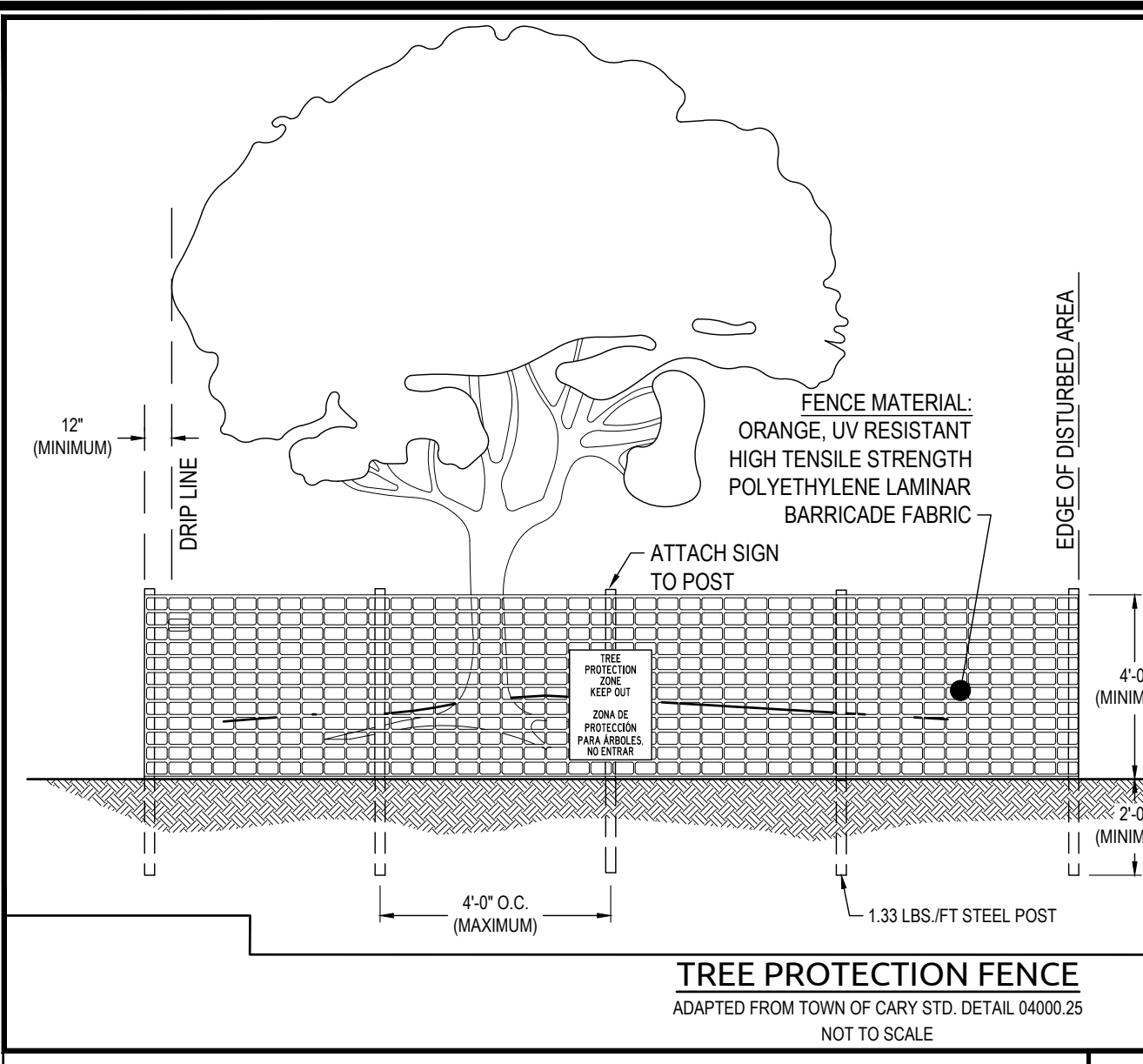
DUFFYFIELD COMMUNITY STORMWATER ENHANCEMENTS PHASE 2 & 3 project information and location: CITY OF NEW BERN, CRAVEN COUNTY, NORTH CAROLINA.

SOIL EROSION & SEDIMENT CONTROL NCG01 REQUIREMENTS title and project details.

FINAL PLAN NOT APPROVED FOR CONSTRUCTION stamp with engineer signature.

Revisions table with columns for revision number, description, and date.

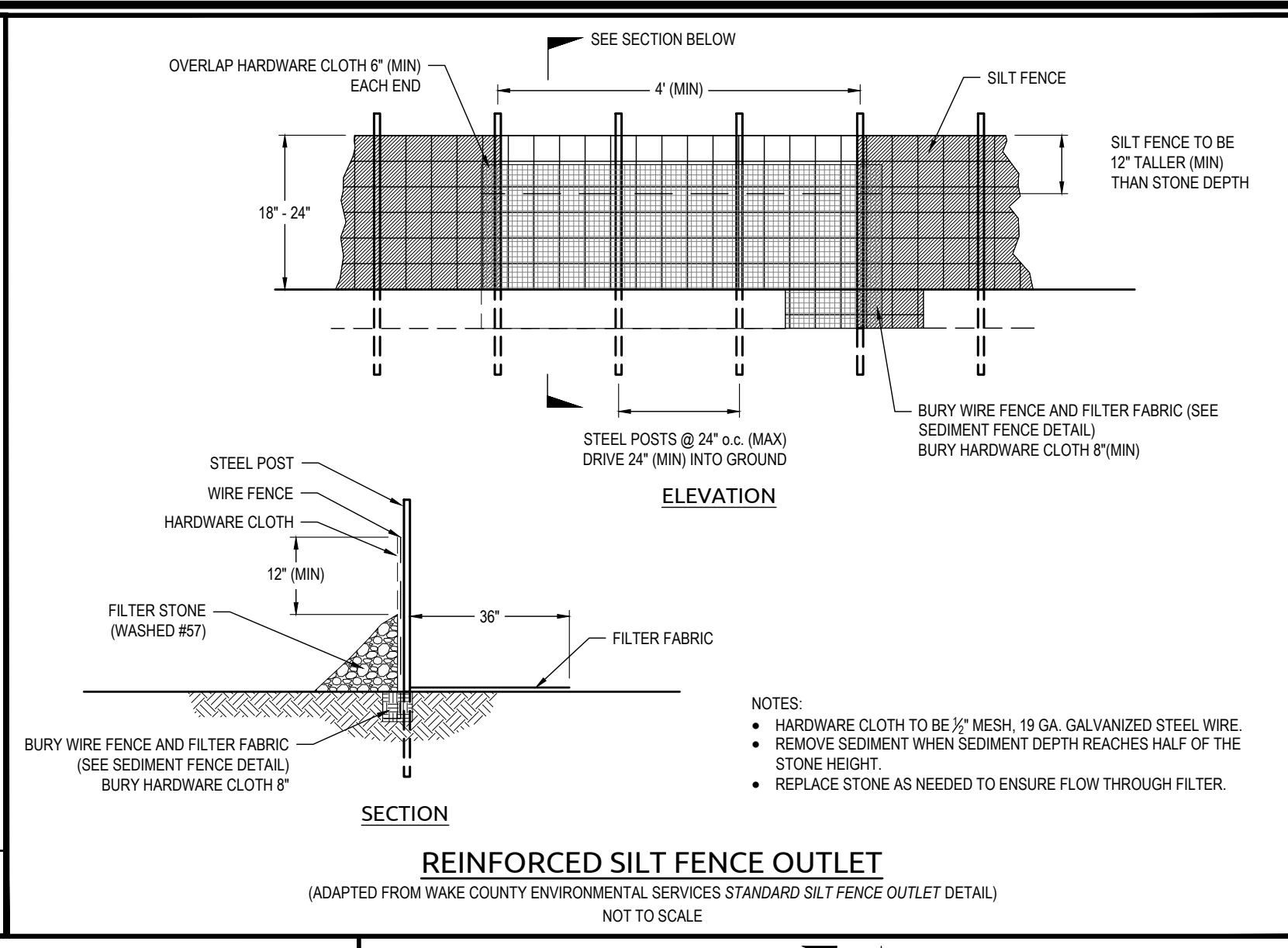
Sheet No. C8.04



**NOTES:**

1. ALL PLANT DESIGNATED TO BE SAVED SHALL BE PROTECTED BY FENCING, AS ILLUSTRATED.
2. INSTALL TREE PROTECTION FENCE A MINIMUM OF 12" OUTSIDE OF DRIP LINE OF TREE TO BE PROTECTED, OR AT EDGE OF DISTURBED AREA, PRIOR TO START OF CONSTRUCTION.
3. SPACE TREE PROTECTION ZONE SIGNS A MINIMUM OF ONE EVERY 150 FEET. THE SIZE OF EACH SIGN MUST BE A MINIMUM OF 2' X 2' AND BE VISIBLE FROM BOTH SIDES OF THE FENCE. THE SIGN MUST CONTAIN THE FOLLOWING LANGUAGE: "TREE PROTECTION ZONE, KEEP OUT" AND "ZONA DE PROTECCIÓN PARA ARBOLES, NO ENTRAR" (ENGLISH & SPANISH).
4. THERE SHALL BE NO STORAGE OF MATERIALS WITH THE BOUNDARIES OF THE TREE PROTECTION FENCING.
5. TREE PROTECTION FENCING SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT.

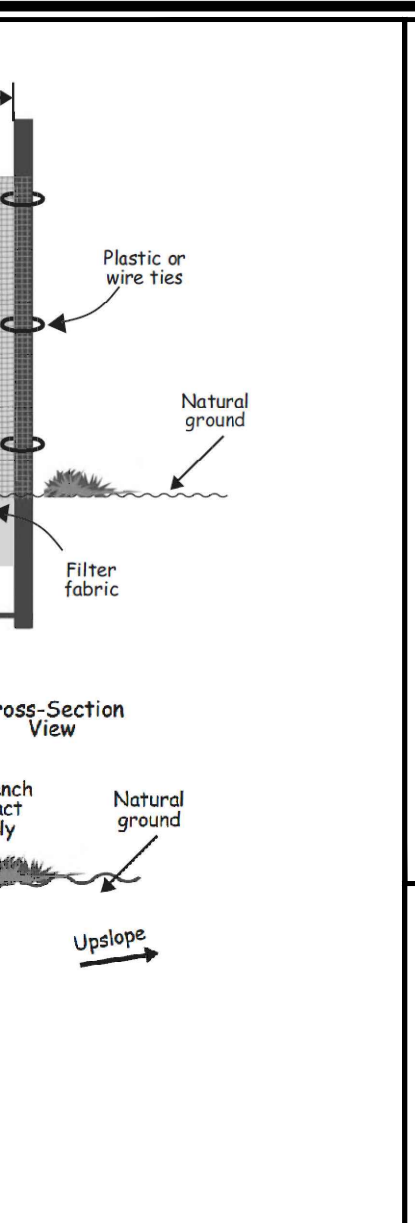
**TREE PROTECTION FENCE**  
ADAPTED FROM TOWN OF CARY STD. DETAIL 04000.25  
NOT TO SCALE



**NOTES:**

- HARDWARE CLOTH TO BE 1/2" MESH, 19 GA. GALVANIZED STEEL WIRE.
- REMOVE SEDIMENT WHEN SEDIMENT DEPTH REACHES HALF OF THE STONE HEIGHT.
- REPLACE STONE AS NEEDED TO ENSURE FLOW THROUGH FILTER.

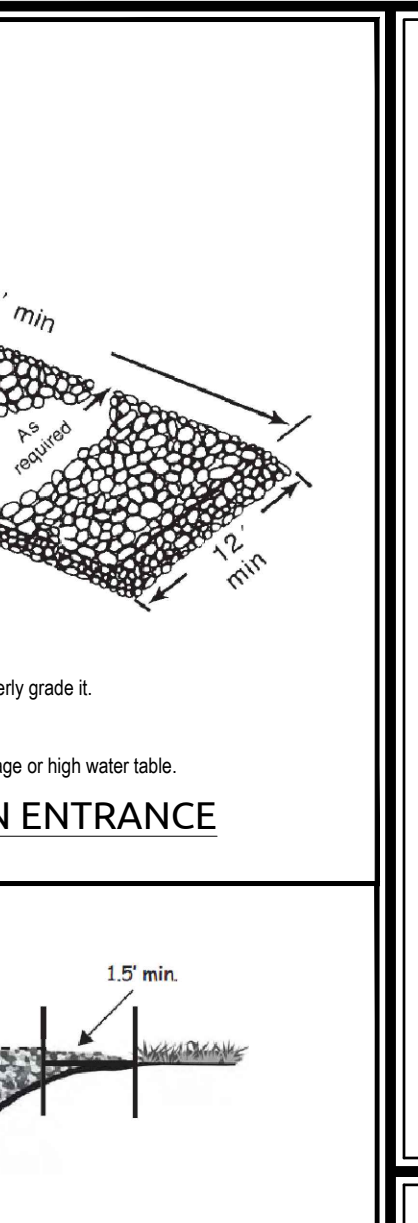
**REINFORCED SILT FENCE OUTLET**  
(ADAPTED FROM WAKE COUNTY ENVIRONMENTAL SERVICES STANDARD SILT FENCE OUTLET DETAIL)  
NOT TO SCALE



**INSTALLATION:**

1. The base of both end posts should be at least one foot higher than the middle of the fence. Check with level if necessary.
2. Install posts 4 feet apart on critical areas and 5 feet apart on standard applications.
3. Install posts 2 feet deep on the downstream side of the silt fence, and as close as possible to the fabric, enabling posts to support the fabric from upstream water pressure.
4. Install posts with nipples facing away from the silt fabric.
5. Attach the fabric to each post with three ties, all spaced within the top 8 inches of the fabric. Attach each tie diagonally 45 degrees through the fabric, with each puncture at least 1 inch vertically apart. Also, each tie should be positioned to hang on a post nipple when tightened to prevent sagging.
6. Wrap approximately 6 inches of fabric around the end posts and secure with 3 ties.
7. No more than 24 inches of a 36-inch fabric is allowed above ground level.
8. The installation should be checked and corrected for any deviations before compaction.
9. Compaction is vitally important for effective results. Compact the soil immediately next to the silt fence fabric with the front tire of the tractor, skid steer, or roller exerting at least 60 pounds per square inch. Compact the upstream side first, and then each side twice for a total of 4 trips.

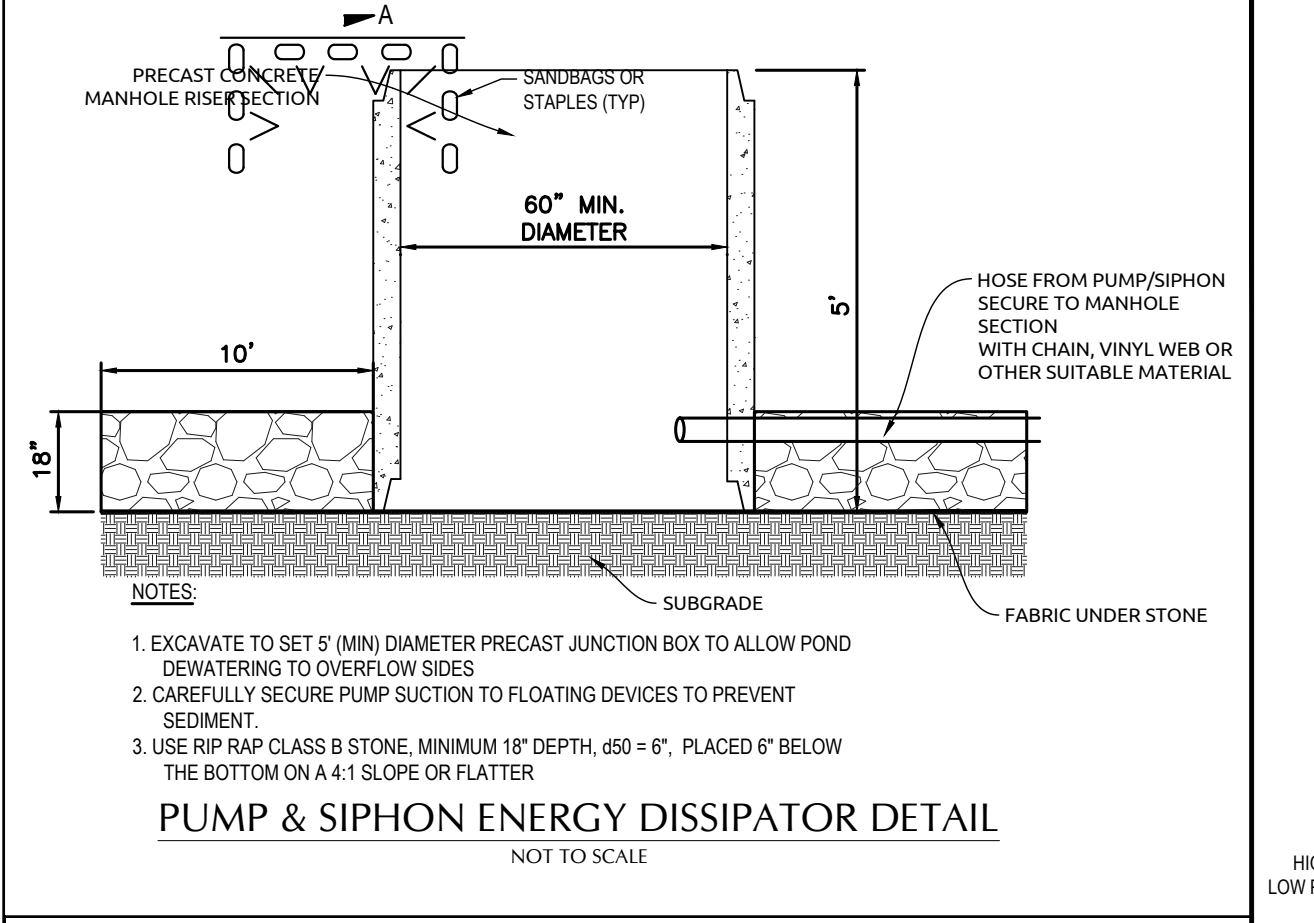
**SEDIMENT FENCE (TEMPORARY SILT FENCE)**  
NOT TO SCALE



**INSTALLATION:**

1. Clear the entrance and exit area of all vegetation, roots, and other objectionable material and properly grade it.
2. Place the gravel to the specific grade and dimensions shown on the plans, and smooth it.
3. Provide drainage to carry water to a sediment trap or other suitable outlet.
4. Use geotextile fabrics because they improve stability of the foundation in locations subject to seepage or high water table.

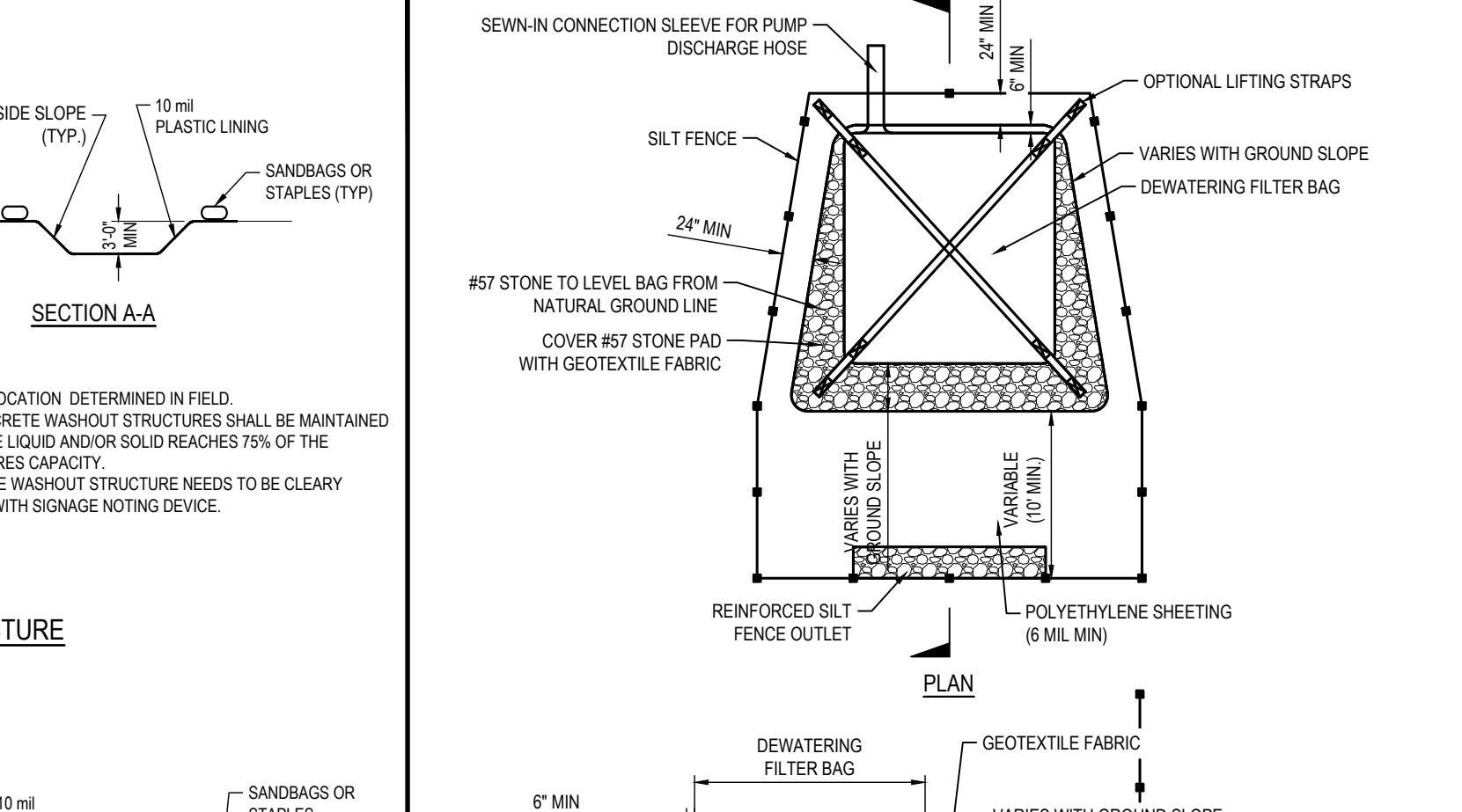
**TEMPORARY GRAVEL CONSTRUCTION ENTRANCE**  
NOT TO SCALE



**NOTES:**

1. EXCAVATE TO SET 5" (MIN) DIAMETER FLOATING JUNCTION BOX TO ALLOW POND DEWATERING TO OVERFLOW SIDES.
2. CAREFULLY SECURE PUMP SUCTION TO PREVENT SEDIMENT.
3. USE RIP-RAP CLASS B STONE, MINIMUM 18" DEPTH, 450 = 6", PLACED 6" BELOW THE BOTTOM ON 4:1 SLOPE OR FLATTER.

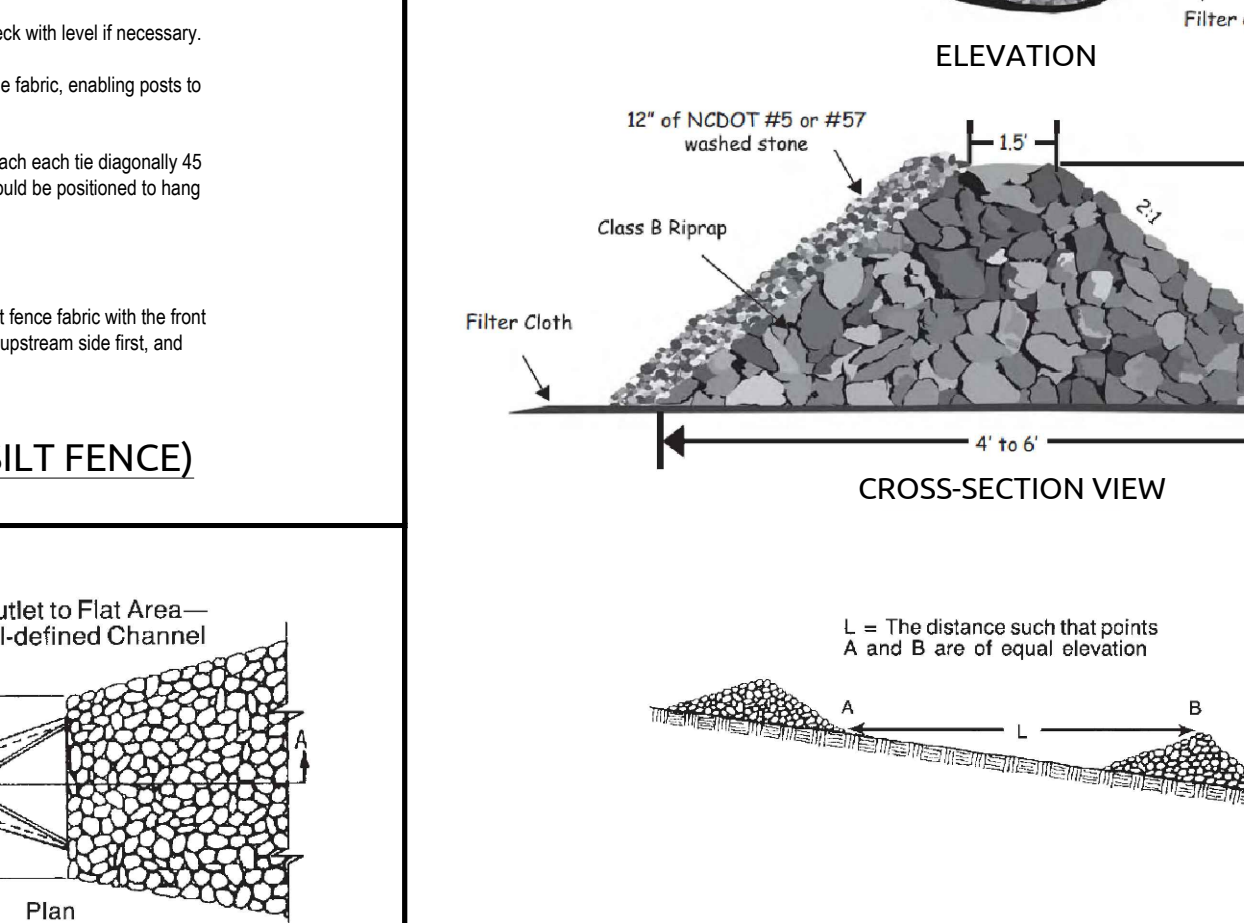
**PUMP & SIPHON ENERGY DISSIPATOR DETAIL**  
NOT TO SCALE



**NOTES:**

1. ACTUAL LOCATION DETERMINED IN FIELD.
2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY.
3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.

**BELOW GRADE WASHOUT STRUCTURE**  
NOT TO SCALE



**NOTES (DEWATERING FILTER BAG):**

1. Contractor shall exercise caution not to burst or damage the de-watering filter bag when pumping.
2. The dimensions of the de-watering filter bag shown on this drawing may vary per vendor specifications.
3. De-watering bags shall be equipped with a seam or sleeve of sufficient size to accept the pump/siphon discharge hose. The discharge hose should be extended into this sleeve a minimum of six inches and be tightly secured with a hose clamp or other suitable means to prevent leakage. Hose connection through a slit in the bag will not be acceptable.
4. The pump discharge hose connection sleeve shall be securely tied off during disposal of the de-watering filter bag to prevent leakage of collected sediments.
5. The de-watering filter bag shall be replaced when 5 inches of sediment has accumulated or in accordance with the manufacturer's recommendations.
6. Contractor shall size the bag based on the maximum flow of the pump or siphon requirements.

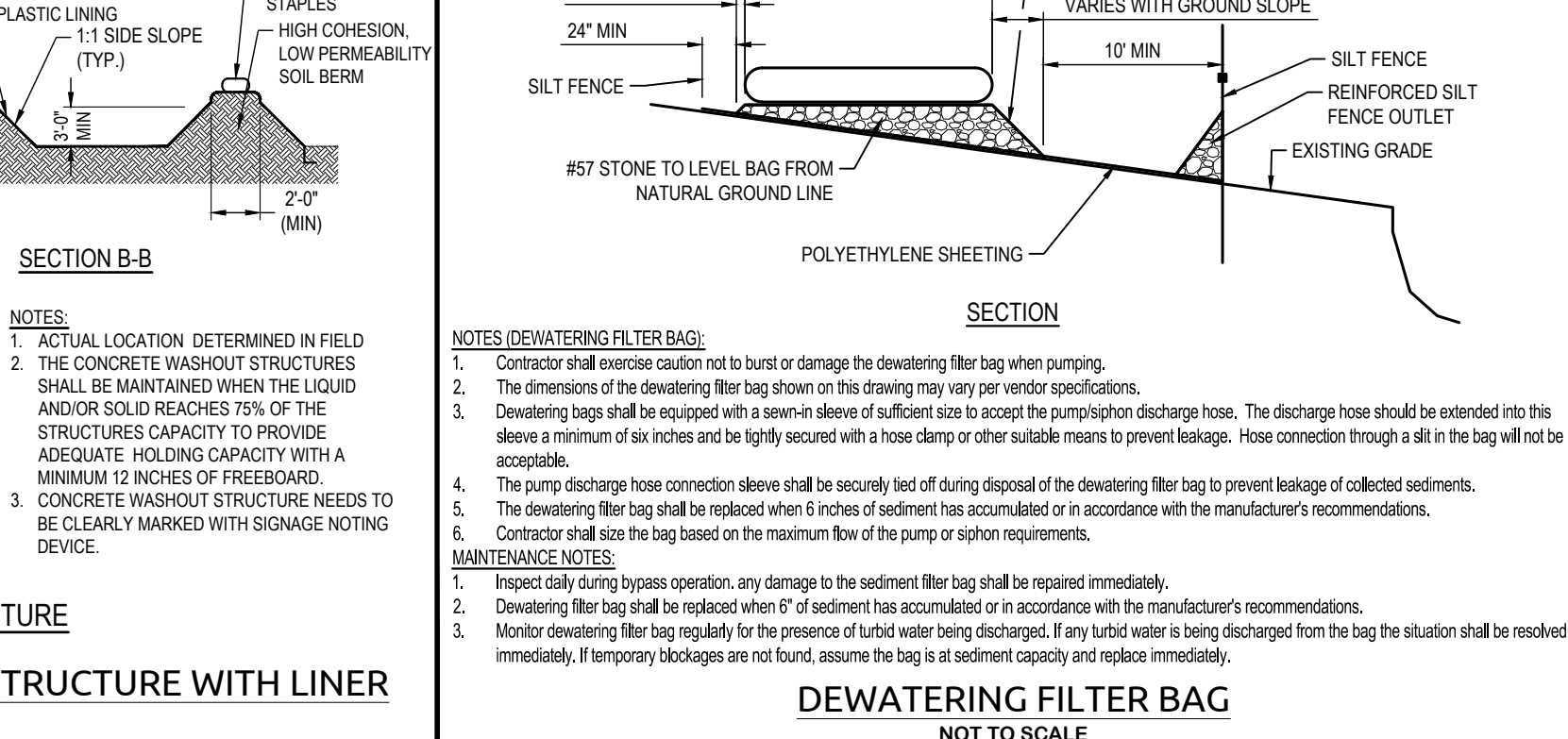
**DEWATERING FILTER BAG**  
NOT TO SCALE



**NOTES:**

1. ACTUAL LOCATION DETERMINED IN FIELD.
2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.
3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.

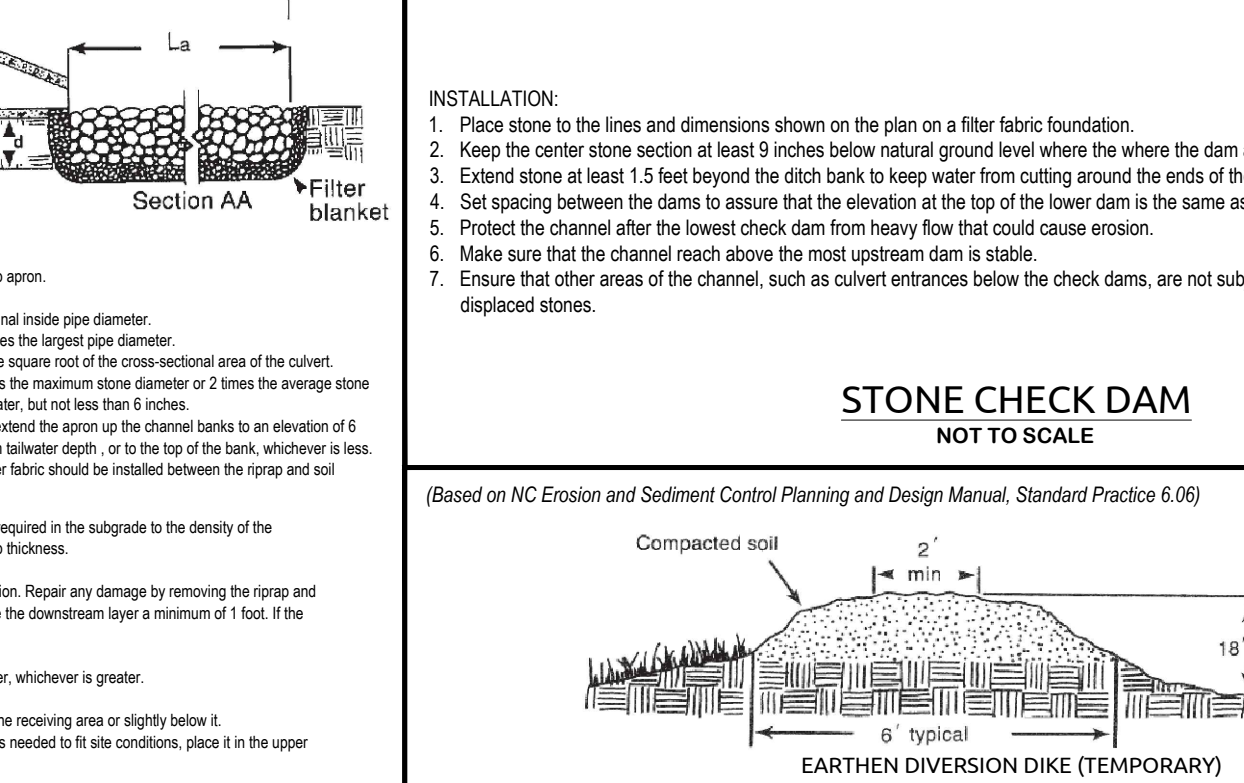
**ONSITE CONCRETE TRUCK WASHOUT STRUCTURE WITH LINER**  
NOT TO SCALE



**NOTES:**

1. Ensure that the substrate for the filter and riprap follows the required lines and grades shown in the plan. Compact any fill required in the substrate to the density of the surrounding undisturbed material. Low areas in the substrate on undisturbed soil may also be filled by increasing the riprap thickness.
2. The riprap and gravel filter must conform to the specified grading lines shown on the plans.
3. Filter cloth, when used, must meet design requirements and be properly protected from puncturing or tearing during installation. Repair any damage by removing the riprap and placing another piece of filter cloth over the damaged section. All connecting joints should overlap to the top layer in the downstream layer a minimum of 1 foot. If the damage is extensive, replace the entire filter cloth.
4. Riprap may be placed by equipment, but take care to avoid damaging the filter fabric.
5. The minimum thickness of the riprap should be 1.5 times the maximum stone diameter, or twice the average stone diameter, whichever is greater.
6. Riprap may be held in place by a coarse sand or gravel. It should be hard, angular, highly weather-resistant and well graded.
7. Construct the apron on zero grade with no uplift at the end. Make the top of the riprap at the downstream end level with the existing apron or slightly below it.
8. Ensure that the apron is properly aligned with the riprap and extends straight through its length. If a curve is needed to tie into conditions, place it in the upper section of the apron.
9. Immediately after construction, stabilize all disturbed areas with vegetation.

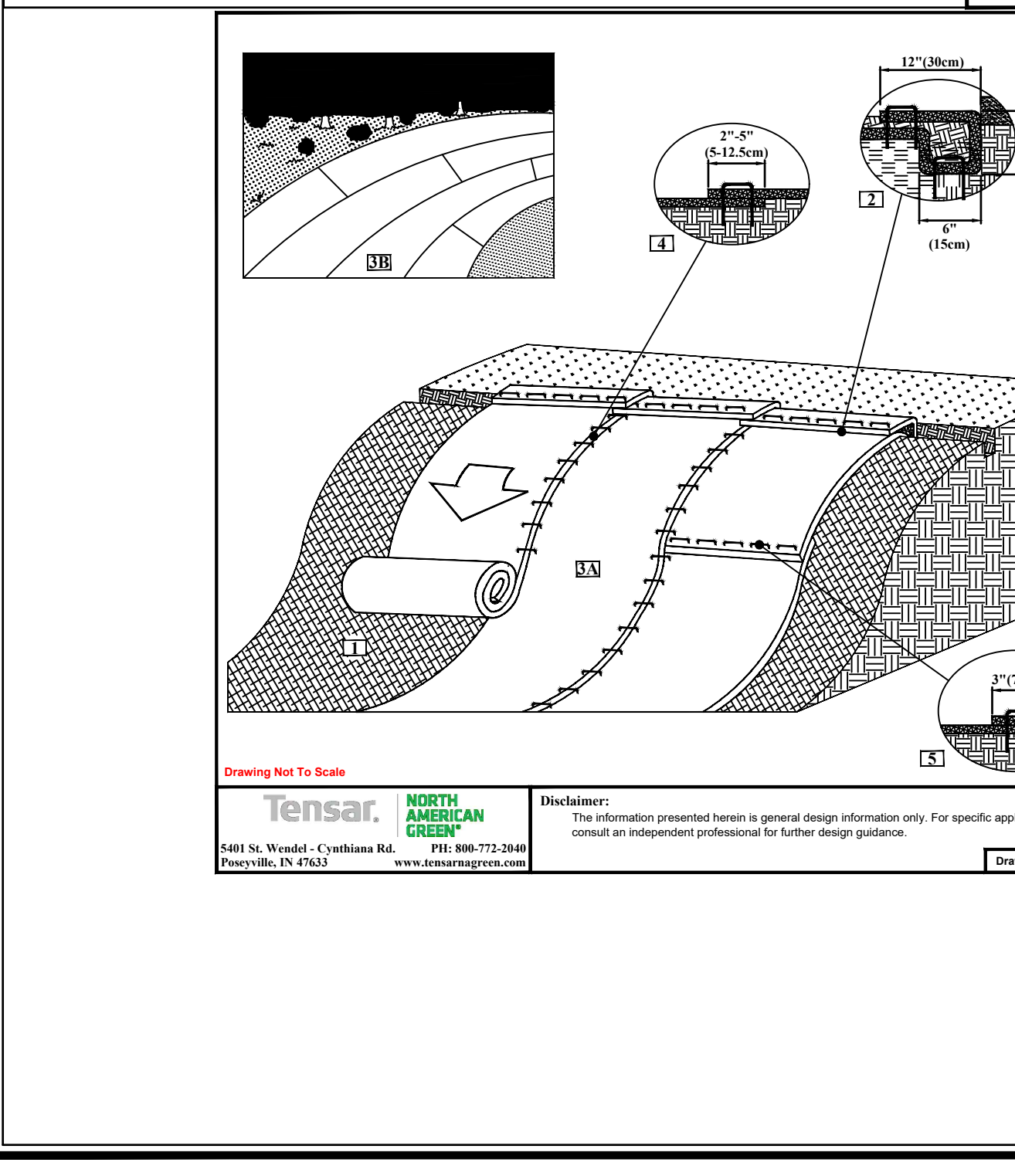
**RIPRAP OUTLET PROTECTION**  
NOT TO SCALE



**INSTALLATION:**

1. Place stone to the lines and dimensions shown on the plan on a filter fabric foundation.
2. Keep the center stone section at least 9 inches below natural ground level where the dam abuts the channel banks.
3. Extend stone at least 1.5 feet beyond the ditch bank to keep water from cutting around the ends of the check dam.
4. Set spacing between the dams to assure that the elevation at the top of the lower dam is the same as the toe elevation of the upper dam.
5. Protect the channel after the lowest check dam from heavy flow that could cause erosion.
6. Make sure that the channel reach above the most upstream dam is stable.
7. Ensure that other areas of the channel, such as culvert entrances below the check dams, are not subject to damage or blockage from displaced stones.

**STONE CHECK DAM**  
NOT TO SCALE



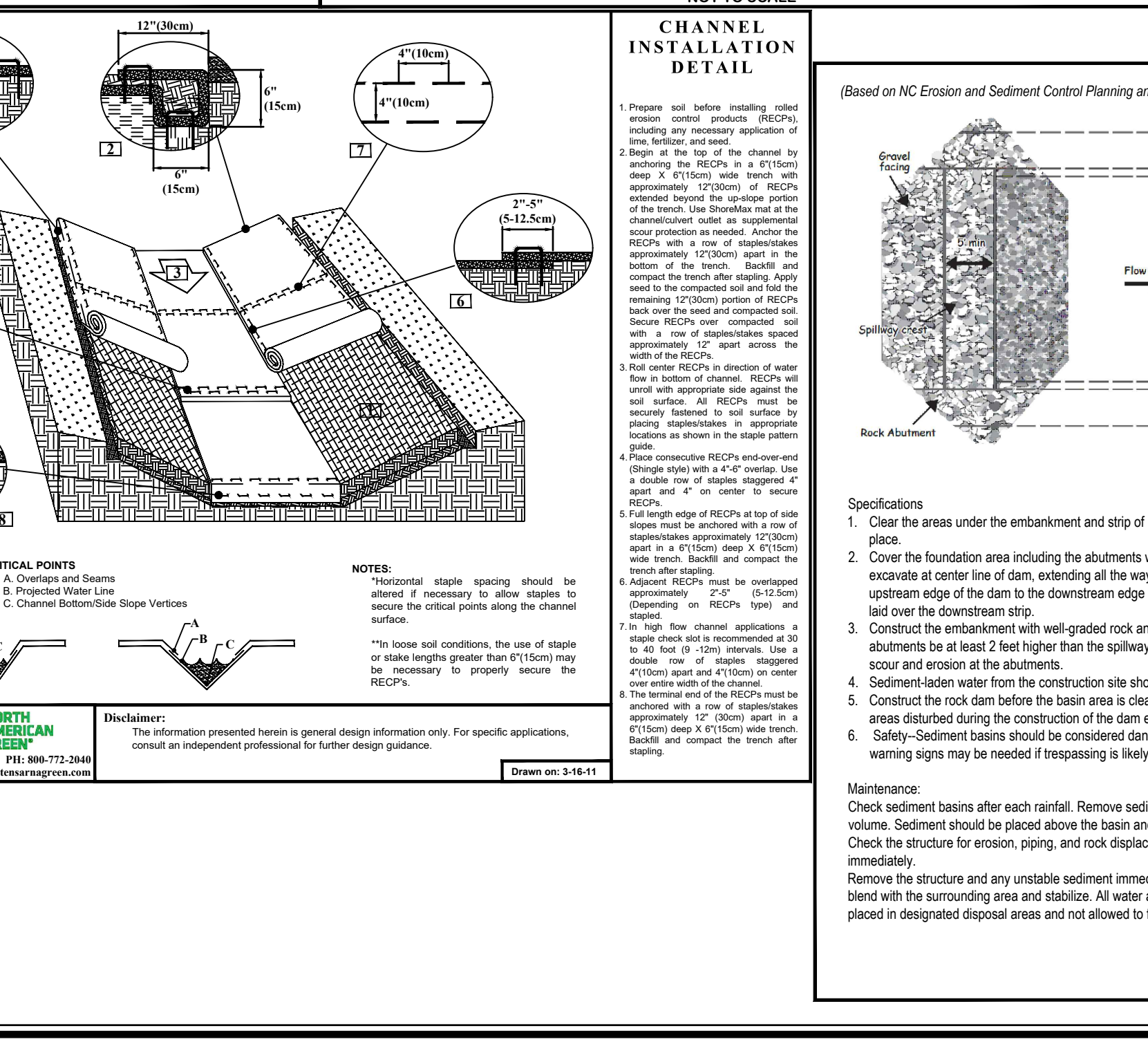
**CRITICAL POINTS**

1. Downlap and Seams
2. Proposed Water Line
3. Channel Bottom/Drain Slope Vertices

**NOTES:**

1. Prepare soil before installing erodible erosion control products (RECPs), including any necessary application of lime, fertilizer and seed.
2. Begin at the top of the slope by anchoring the RECPs in a 6" (152mm) deep x 6" (152mm) wide trench with approximately 12" (305mm) of RECPs extended beyond the up-slope portion of the trench. Secure the RECPs with a row of staples/staples approximately 12" (305mm) apart in the bottom of the trench. Backfill and compact the trench after staking. Apply seed to the compacted soil and fold the remaining 12" (305mm) portion of RECPs back over the seed and compacted soil. Secure RECPs over compacted soil with a row of staples/staples spaced approximately 12" (305mm) apart across the width of the RECPs.
3. Roll the RECPs (A) down or (B) horizontally across the slope. RECPs will unroll with appropriate side against the soil surface. All RECPs must be securely fastened to soil surface by placing staples/staples in appropriate locations as shown in the staple pattern guide.
4. The edges of parallel RECPs must be stapled with approximately 2" x 5" (51.2mm) staples depending on the RECP type.
5. Consecutive RECPs will lap over the top edge with an approximate 3/4" (19mm) overlap. Staple through overlapped areas approximately 12" (305mm) apart across entire RECPs width.

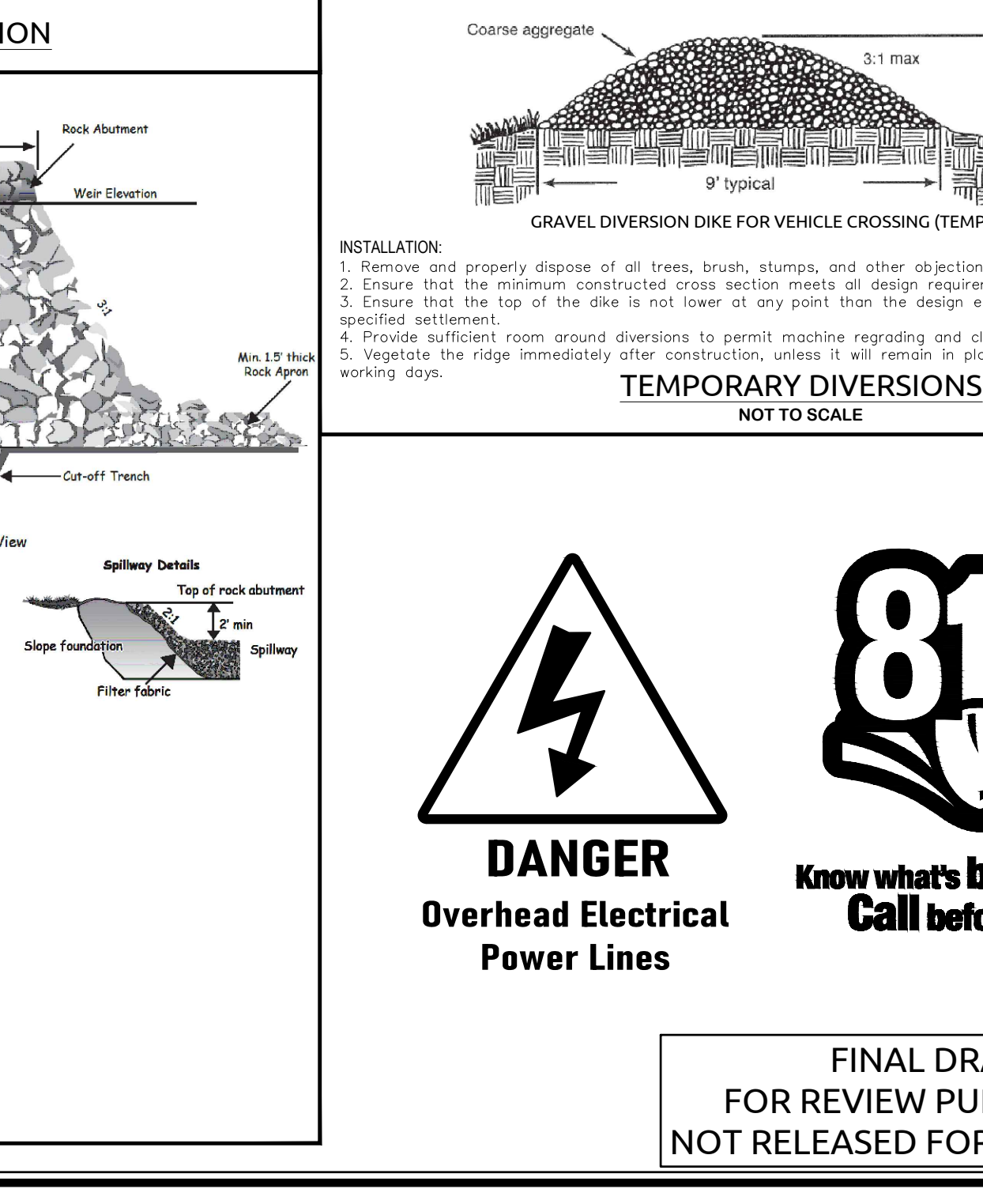
**SLOPE INSTALLATION DETAIL**  
NOT TO SCALE



**NOTES:**

1. Prepare soil before installing erodible erosion control products (RECPs), including any necessary application of lime, fertilizer and seed.
2. Begin at the top of the channel by anchoring the RECPs in a 6" (152mm) deep x 6" (152mm) wide trench with approximately 12" (305mm) of RECPs extended beyond the up-slope portion of the trench. Use staples/staples at the bottom of the trench. Backfill and compact the trench after staking. Apply seed to the compacted soil and fold the remaining 12" (305mm) portion of RECPs back over the seed and compacted soil. Secure RECPs over compacted soil with a row of staples/staples spaced approximately 12" (305mm) apart across the width of the RECPs.
3. Roll center RECPs in direction of water flow. RECPs will unroll with appropriate side against the soil surface. All RECPs must be securely fastened to soil surface by placing staples/staples in appropriate locations as shown in the staple pattern guide.
4. Place consecutive RECPs end-over-end and overlap side with side. Use staples/staples to secure RECPs to soil surface. Use staples/staples to secure RECPs to soil surface. Use staples/staples to secure RECPs to soil surface.
5. Full length edge of RECPs at top of side slope must be secured with a row of staples/staples approximately 12" (305mm) apart across the width of the RECPs.
6. Adjacent RECPs will lap over the top edge with an approximate 3/4" (19mm) overlap. Staple through overlapped areas approximately 12" (305mm) apart across entire RECPs width and compact the trench after staking.

**CHANNEL INSTALLATION DETAIL**  
NOT TO SCALE



**INSTALLATION:**

1. Clear the areas under the embankment and strip of rocks and other objectionable material. Delay clearing the reservoir area until the dam is in place.
2. Prepare the foundation area including the abutments with extra-strength filter fabric before backfilling with rock. If a cutoff trench is required, excavate at center line of dam, extending all the way up the earth abutments. Apply filter fabric under the cutoff embankment from the upstream edge of the dam to the downstream edge of the apron. Overlap filter material a minimum of 1 foot at all joints, with the upstream strip laid over the downstream strip.
3. Construct the embankment with well-graded rock and gravel to the abutment dimensions shown on the drawings. It is important that rock abutments be at least 2 feet higher than the spillway crest and at least 1 foot higher than the dam, all the way to the downstream toe, to prevent scour and erosion at the abutments.
4. Sediment-laden water from the construction site should be diverted into the basin reservoir at the furthest area from the dam.
5. Construct the rock dam before the basin area is cleared to minimize sediment yield from construction of the basin. Immediately stabilize all areas disturbed during the construction of the dam except the sediment pool (Refer to: Surface Stabilization).
6. Safety—Sediment basins should be considered dangerous before they attract children. Steep side slopes should be avoided. Fences with warning signs may be needed if trespassing is likely. All state and local requirements must be followed.

**TEMPORARY ROCK DAM**  
NOT TO SCALE

**WithersRavenel**  
Engineers | Planners | Surveyors

**DUFFYFIELD COMMUNITY STORMWATER ENHANCEMENTS PHASE 2 & 3**  
CITY OF NEW BERN, CRAVEN COUNTY, NORTH CAROLINA

**SOIL EROSION & SEDIMENT CONTROL DETAILS**

**FINAL PLAN NOT APPROVED FOR CONSTRUCTION**

Job No. 09200158.20  
Date 4/21/2023  
Checked by WVP/BGB/BHS  
Drawn by ABD  
Designer WJR

Revisions:

1	PERMIT PLAN SET	4/23/2023
2	REVISED PER NCRP COMMENTS	11/1/2023
3	BID PLAN SET	2/26/2024
4	REVISED PER DWI COMMENTS	4/23/2024

Sheet No. **C8.05**

**811**  
Know what's below. Call before you dig.

**DANGER**  
Overhead Electrical Power Lines

**FINAL DRAWINGS FOR REVIEW PURPOSES ONLY NOT RELEASED FOR CONSTRUCTION**

PLANT SCHEDULE									
SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	ROOT	SIZE	HEIGHT	NOTES	INUNDATION ZONE = 53,039 SF / 200 SF W/ 50 HERB. PLANTS = 13,260 PLANTS (DEPTH <9'')	SHRUBS
<b>SHALLOW WATER = 61,861 SF / 200 SF W/ 50 HERB. PLANTS = 15,456 PLANTS (DEPTH &lt;9'')</b>									
ASN	1546	Asclepias incarnata	Swamp Milkweed	CONT.		9' FOLIAGE HT. @ INSTALL	TRIANGULAR - MIN. 24" O.C.	EPM	1326
EUS	1546	Eutrochium fistulosum	Joe Pye Weed	CONT.		9' FOLIAGE HT. @ INSTALL	TRIANGULAR - MIN. 24" O.C.	HEA	1326
RV	1546	Iris virginica	Virginia Iris	CONT.		9' FOLIAGE HT. @ INSTALL	TRIANGULAR - MIN. 24" O.C.	KOP	1326
PTV	1546	Peltandra virginica	Arrow Arum	CONT.		9' FOLIAGE HT. @ INSTALL	TRIANGULAR - MIN. 24" O.C.	LIS	1326
SGL	1547	Sagittaria latifolia	Broadleaf Arrowhead	CONT.		9' FOLIAGE HT. @ INSTALL	TRIANGULAR - MIN. 24" O.C.	LOC	1326
SAC	1547	Saururus cernuus	Lizard's Tail	CONT.		9' FOLIAGE HT. @ INSTALL	TRIANGULAR - MIN. 24" O.C.	RCH	1326
SCT	1547	Schoenoplectus tabernaemontani	Softstem Bulrush	CONT.		9' FOLIAGE HT. @ INSTALL	TRIANGULAR - MIN. 24" O.C.	SAC	1326
SPA	1547	Sparganium americanum	American Bur-Reed	CONT.		9' FOLIAGE HT. @ INSTALL	TRIANGULAR - MIN. 24" O.C.	VEB	1326
ACO	1547	Acorus calamus	Sweetflag	CONT.		9' FOLIAGE HT. @ INSTALL	TRIANGULAR - MIN. 24" O.C.		
JCE	1547	Juncus effusus	Common Rush	CONT.		9' FOLIAGE HT. @ INSTALL	TRIANGULAR - MIN. 24" O.C.		

SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	ROOT	SIZE	HEIGHT	NOTES
CNC	1326	Conoclinium coelestem	Blue Mistflower	CONT.		9' FOLIAGE HT. @ INSTALL	TRIANGULAR - MIN. 24" O.C.
EPM	1326	Eupatorium perfoliatum	Boneset	CONT.		9' FOLIAGE HT. @ INSTALL	TRIANGULAR - MIN. 24" O.C.
HEA	1326	Helianthus angustifolius	Swamp Sunflower	CONT.		9' FOLIAGE HT. @ INSTALL	TRIANGULAR - MIN. 24" O.C.
KOP	1326	Koeleria paniculata	Saltmarsh Mallow	CONT.		9' FOLIAGE HT. @ INSTALL	TRIANGULAR - MIN. 24" O.C.
LIS	1326	Liatris spicata	Blazing Star	CONT.		9' FOLIAGE HT. @ INSTALL	TRIANGULAR - MIN. 24" O.C.
LOC	1326	Lobelia cardinalis	Cardinal Flower	CONT.		9' FOLIAGE HT. @ INSTALL	TRIANGULAR - MIN. 24" O.C.
RCH	1326	Rhynchospora colorata	Starush Whitetop	CONT.		9' FOLIAGE HT. @ INSTALL	TRIANGULAR - MIN. 24" O.C.
SAC	1326	Saururus cernuus	Lizard's Tail	CONT.		9' FOLIAGE HT. @ INSTALL	TRIANGULAR - MIN. 24" O.C.
VEB	1326	Verbena hastata	Swamp Verbena	CONT.		9' FOLIAGE HT. @ INSTALL	TRIANGULAR - MIN. 24" O.C.

SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	ROOT	SIZE	HEIGHT	NOTES
AMC	16	Amelanchier canadensis	Canadian Serviceberry	CONT.		1 GAL. MIN.	24" MIN.
CAL	11	Calliandra americana	Beautyberry	CONT.		1 GAL. MIN.	24" MIN.
CLA	49	Clethra alnifolia	Summersweet Clethra	CONT.		1 GAL. MIN.	24" MIN.
ILF	49	Illicium floridanum	Ilcum	CONT.		1 GAL. MIN.	24" MIN.
LEA	62	Leucothoe axillaris	Coastal Doghobble	CONT.		1 GAL. MIN.	24" MIN.
ILV	29	Ilex vomitoria	Yaupon Holly	CONT.		1 GAL. MIN.	24" MIN.
MAS	6	Magnolia stellata	Star Magnolia	CONT.		1 GAL. MIN.	24" MIN.
ROS	6	Rosa palustris	Swamp Rose	CONT.		1 GAL. MIN.	24" MIN.

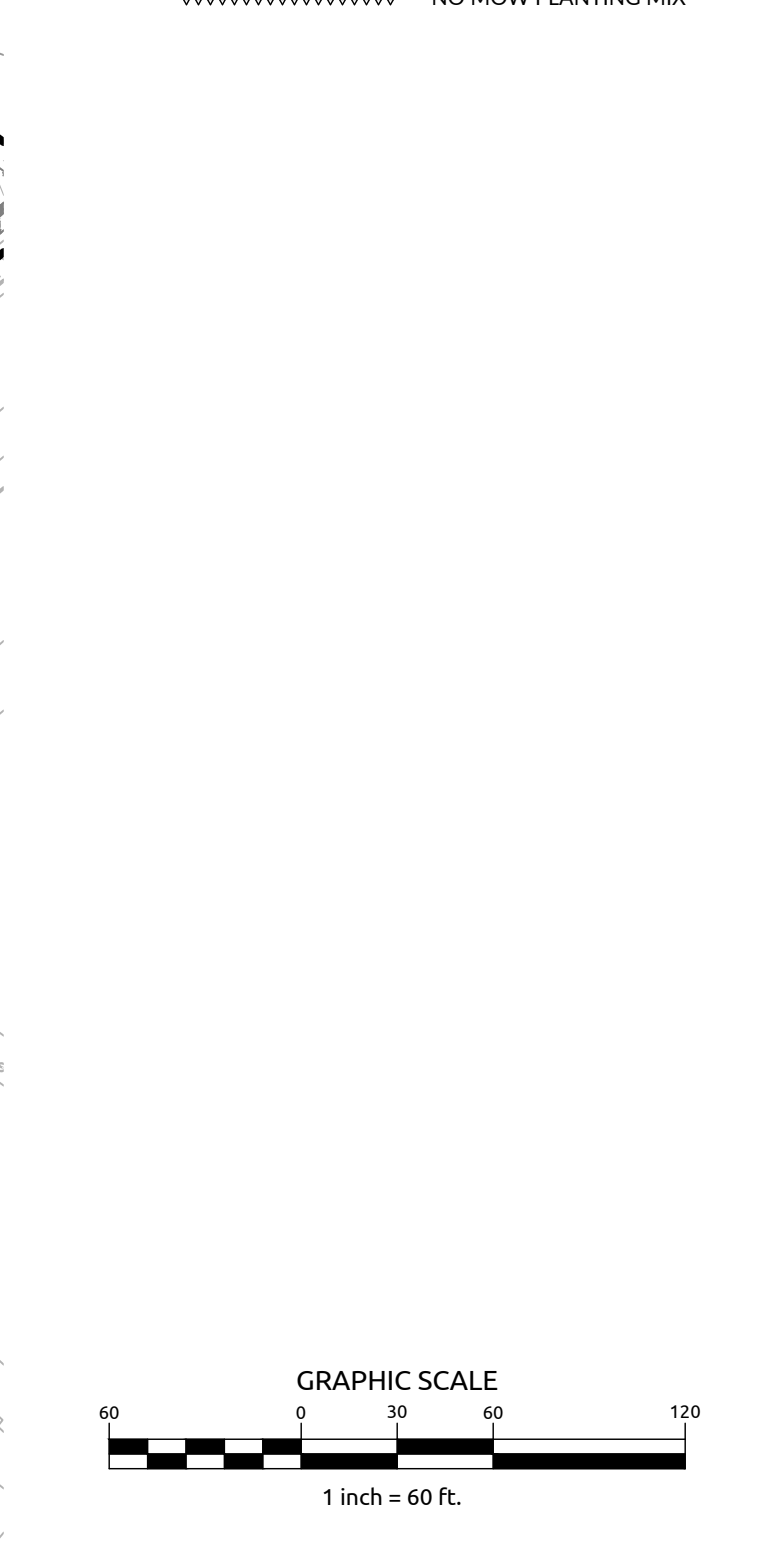
North Carolina Railroad Project Location Information:  
 This project is located in the City of New Bern, Craven County, North Carolina at Milepost MP E-57 + 4495 feet.

All work on NCR Corridor to be performed in accordance with NCR 102 Specifications for Pipeline Occupancy of North Carolina Railroad Property and North Carolina Railroad/Norfolk Southern Railway - Special Provisions for Protection of Railway Interests (Current Version)

PLANTING LEGEND									
<b>UPPER STORY TREES</b>									
BND	18	Betula nigra 'Durahart'	River Birch	CONT.		3 GAL. MIN.	8' MIN.		
NYS	16	Nyssa sylvatica	Black Gum	CONT.		3 GAL. MIN.	8' MIN.		
QUJ	26	Quercus nigra	Water Oak	CONT.		3 GAL. MIN.	12' MIN.		
TAD	44	Taxodium distichum	Bald Cypress	CONT.		3 GAL. MIN.	8' MIN.		
<b>UNDERSTORY TREES</b>									
AEP	10	Aesculus pavia	Red Buckeye	CONT.		3 GAL. MIN.	8' MIN.		
HAV	9	Hamamelis virginiana	Witchhazel	CONT.		3 GAL. MIN.	8' MIN.		
MAV	11	Magnolia virginiana	Sweetbay Magnolia	CONT.		3 GAL. MIN.	8' MIN.		



1	UPPER STORY INUNDATED TREES	BND	BETULA NIGRA
		PNS	PINUS PALUSTRIS
		NYS	NYSSA SYLVATICA
		QUJ	QUERCUS NIGRA
		TAD	TAXODIUM DISTICHUM
3	UNDERSTORY TREES	AEP	AESCULUS PAVIA
		HAV	HAMAMELIS VIRGINIANA
		MAV	MAGNOLIA VIRGINIANA
4	SHRUBS	ILV	ILEX VOMITORIA
		AMC	AMELANCHIER CANADENSIS
		ILF	ILICUM FLORIDANUM
		CAL	CALLICARPA AMERICANA
		CLA	CLETHRA ALNIFOLIA
		MAS	MAGNOLIA STELLATA
		ROS	ROSA PALUSTRIS
		LEA	LEUCOETHOE AXILLARIS
		ITV	ITEA VIRGINICA
5	PLANTING MIXES		NO MOW PLANTING MIX



FINAL DRAWINGS  
 FOR REVIEW PURPOSES ONLY  
 NOT RELEASED FOR CONSTRUCTION

**WithersRavenel**  
 Engineers | Planners | Surveyors

**DUFFYFIELD COMMUNITY  
 STORMWATER ENHANCEMENTS  
 PHASE 2 & 3**

CWSRF PROJECT NO. CS370483-05  
 LASII PROJECT NO. SRP-SW-ARP-0016  
 CITY OF NEW BERN, CRAVEN COUNTY, NORTH CAROLINA

**OVERALL PLANTING PLAN**

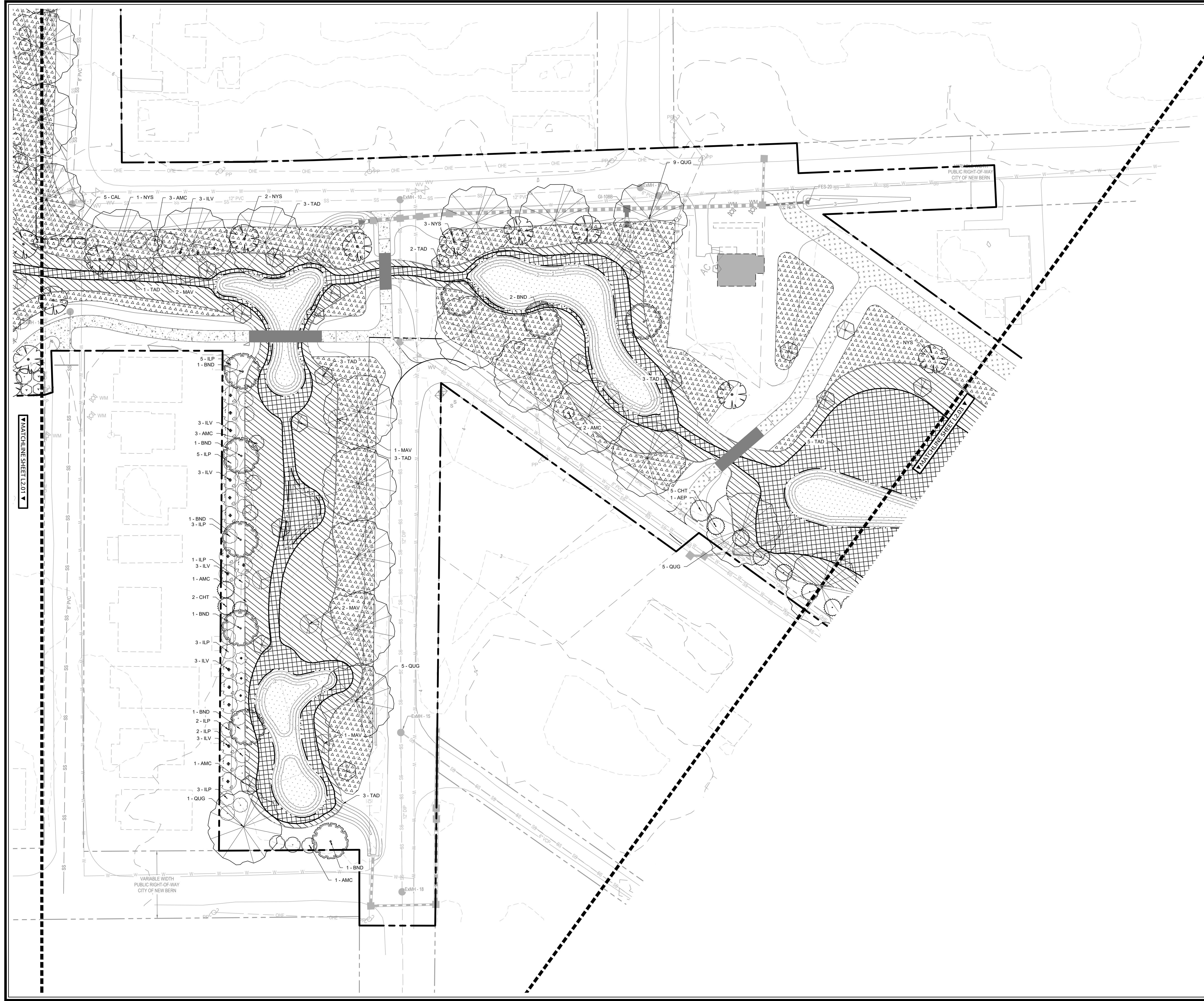
Job No.	09200158.20	Drawn By	NS/ZW
Date	4/21/2023	Designer	WR
Checked by	WRP/BGB/BHS		

**FINAL PLAN  
 NOT APPROVED FOR  
 CONSTRUCTION**

Revisions		
1	PERMIT PLAN SET	4/23/2023
2	REVISED PER NCRR COMMENTS	11/1/2023
3	BID PLAN SET	2/26/2024
4	REVISED PER DWI COMMENTS	4/23/2024

Sheet No.  
**L2.00**





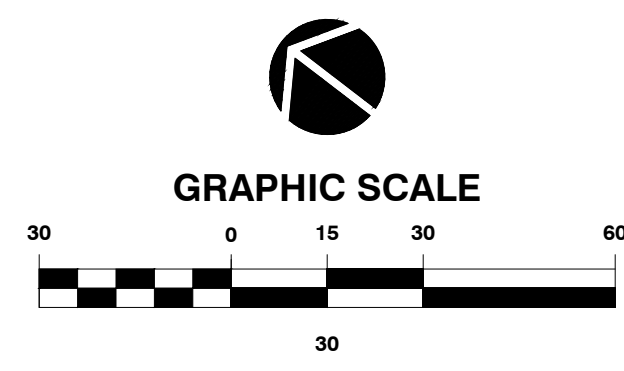
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All work on NCRR Corridor to be performed in accordance  
 with NCR 102 Specifications for Pipeline Occupancy of North  
 Carolina Railroad Property and North Carolina  
 Railroad/Norfolk Southern Railway - Special Provisions for  
 Protection of Railway Interests (Current Version)



**PLANTING LEGEND**

- 1 UPPER STORY INUNDATED TREES
  - BND BETULA NIGRA
  - PNS PINUS PALUSTRIS
  - NYS NYSSA SYLVATICA
  - QUG QUERCUS NIGRA
  - TAD TAXODIUM DISTICHUM
- 3 UNDERSTORY TREES
  - AEP AESCULUS PAVIA
  - HAV HAMAMELIS VIRGINIANA
  - MAV MAGNOLIA VIRGINIANA
- 4 SHRUBS
  - ILV ILEX VOMITORIA
  - AMC AMELANCHIER CANADENSIS
  - ILF ILICUM FLORIDANUM
  - CAL CALLICARPA AMERICANA
  - CLA CLETHRA ALNIFOLIA
  - MAS MAGNOLIA STELLATA
  - ROS ROSA PALUSTRIS
  - LEA LEUCOETHOE AXILLARIS
  - ITV ITEA VIRGINICA



**FINAL DRAWINGS  
 FOR REVIEW PURPOSES ONLY  
 NOT RELEASED FOR CONSTRUCTION**

**WithersRavenel**  
 Engineers | Planners | Surveyors

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**DUFFYFIELD COMMUNITY  
 STORMWATER ENHANCEMENTS  
 PHASE 2 & 3**

CWSRF PROJECT NO. CS370483-05  
 LASH II PROJECT NO. SRP-SW-APP-0016

CITY OF NEW BERN, CRAVEN COUNTY, NORTH CAROLINA

**PLANTING PLAN  
 ENLARGEMENT AREA II**

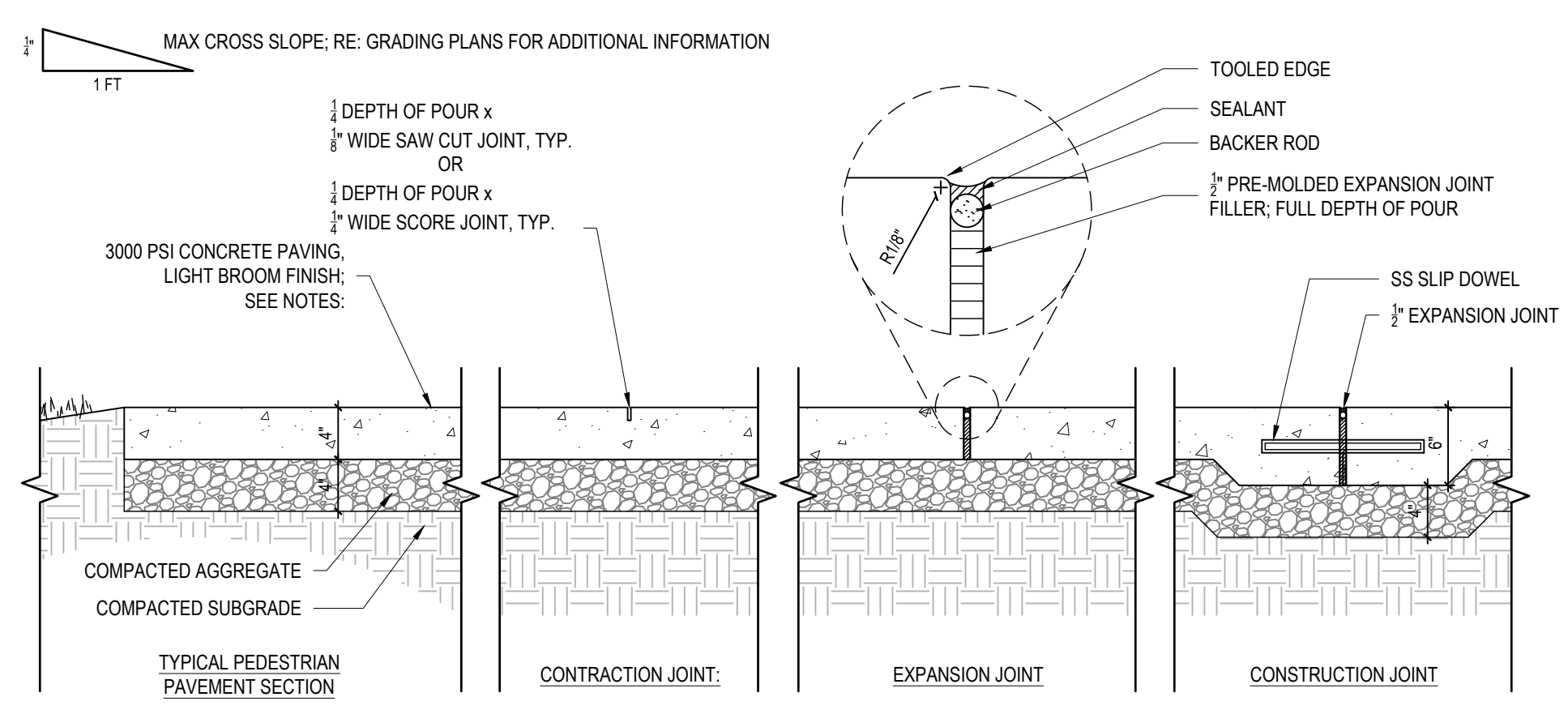
Job No.	09200158.20	Drawn By	NS/ZW
Date	4/21/2023	Designer	WR
Checked By	WRW/BGB/BHS		



Revisions		
1	PERMIT PLAN SET	4/23/2023
2	REVISED PER NCRR COMMENTS	11/1/2023
3	BID PLAN SET	2/26/2024
4	REVISED PER DWI COMMENTS	4/23/2024

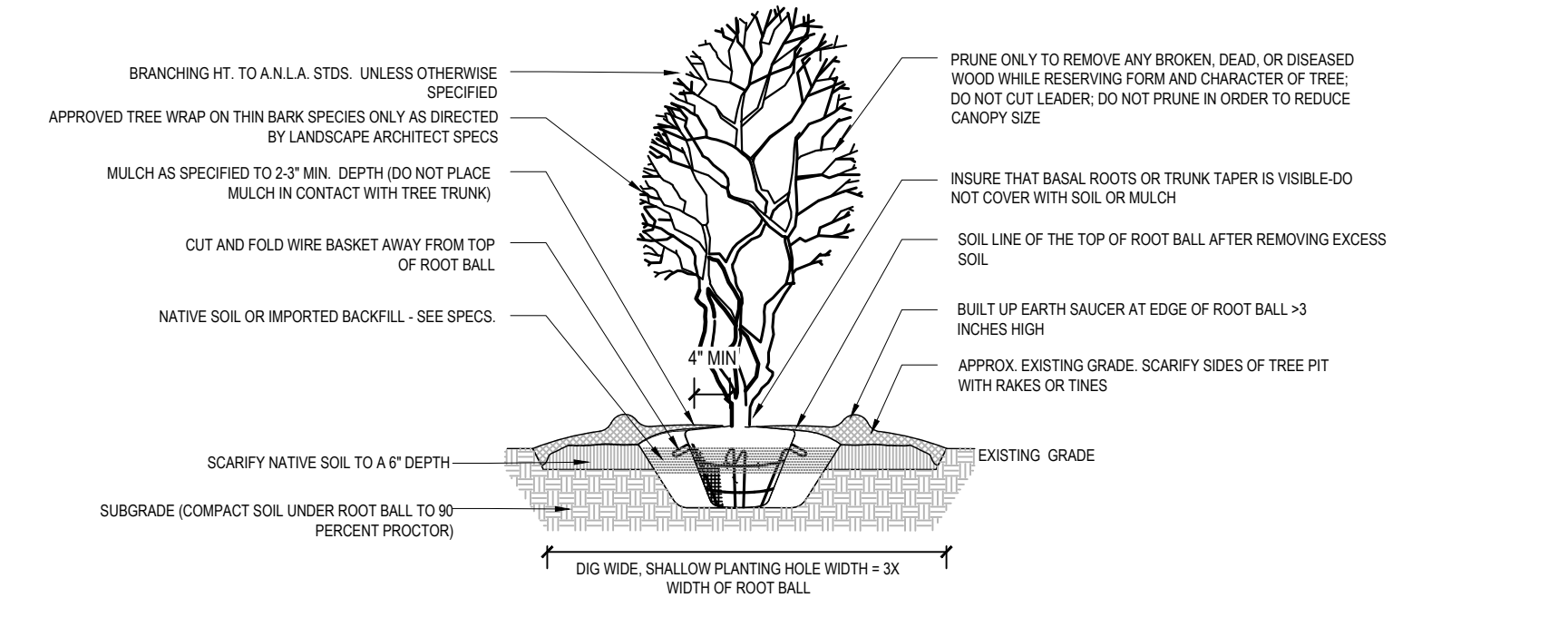
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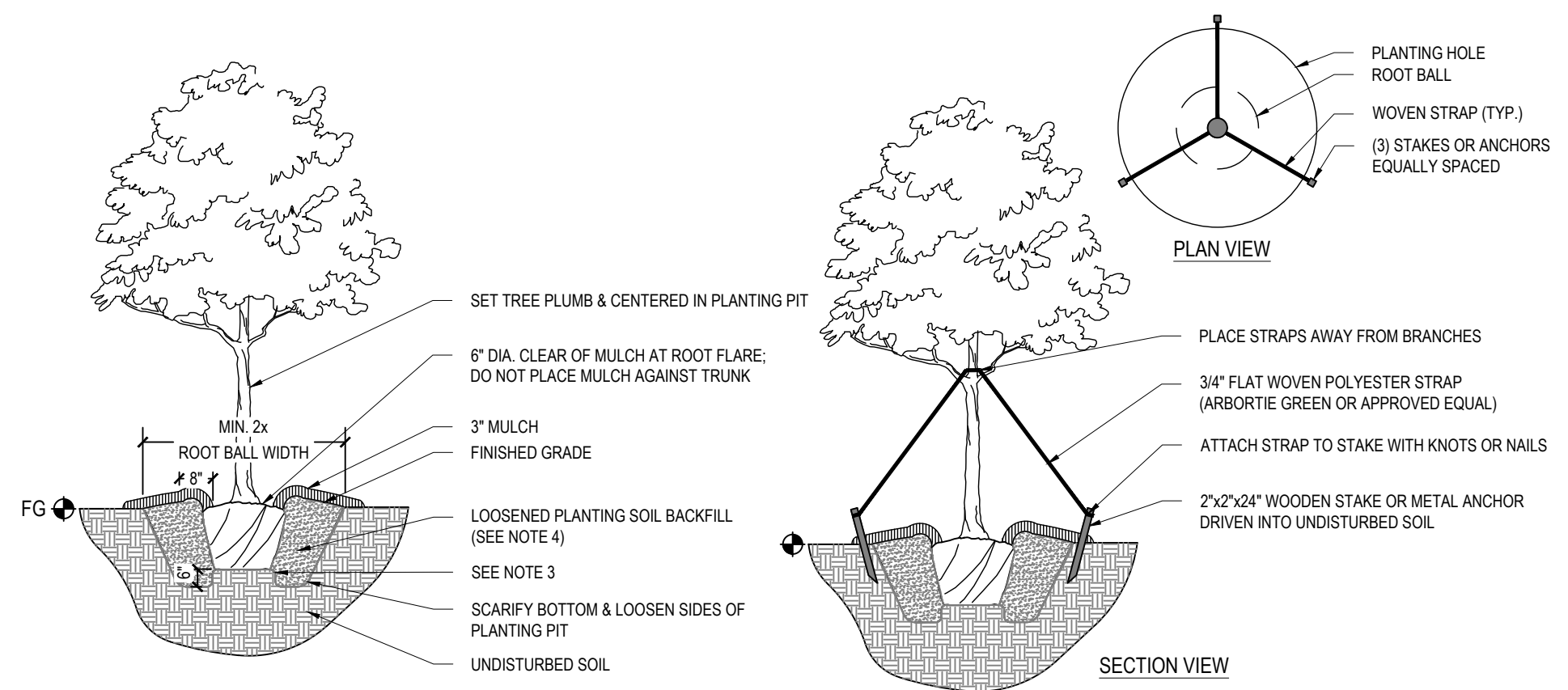
- NOTES:**
1. PROVIDE EXPANSION JOINT WHERE WALKS ARE POURED AGAINST VERTICAL SURFACES AND/OR DIFFERENT PAVING MATERIALS AND AS SPECIFIED ON PLANS OR 23'-0" MAX. O.C.
  2. PROVIDE CONTRACTION JOINT AT 5' INTERVALS UNLESS OTHERWISE NOTED (SEE PLAN).
  3. CONTRACTOR TO PROVIDE MOCK-UP OF CONCRETE FINISH, COLOR, AND SCORING FOR OWNER'S APPROVAL. MOCK-UP CAN BE USED AS PART OF FINAL PROJECT.

**1 TYPICAL CONCRETE PEDESTRIAN PAVING SECTION**  
Scale: 1" = 1'-0"



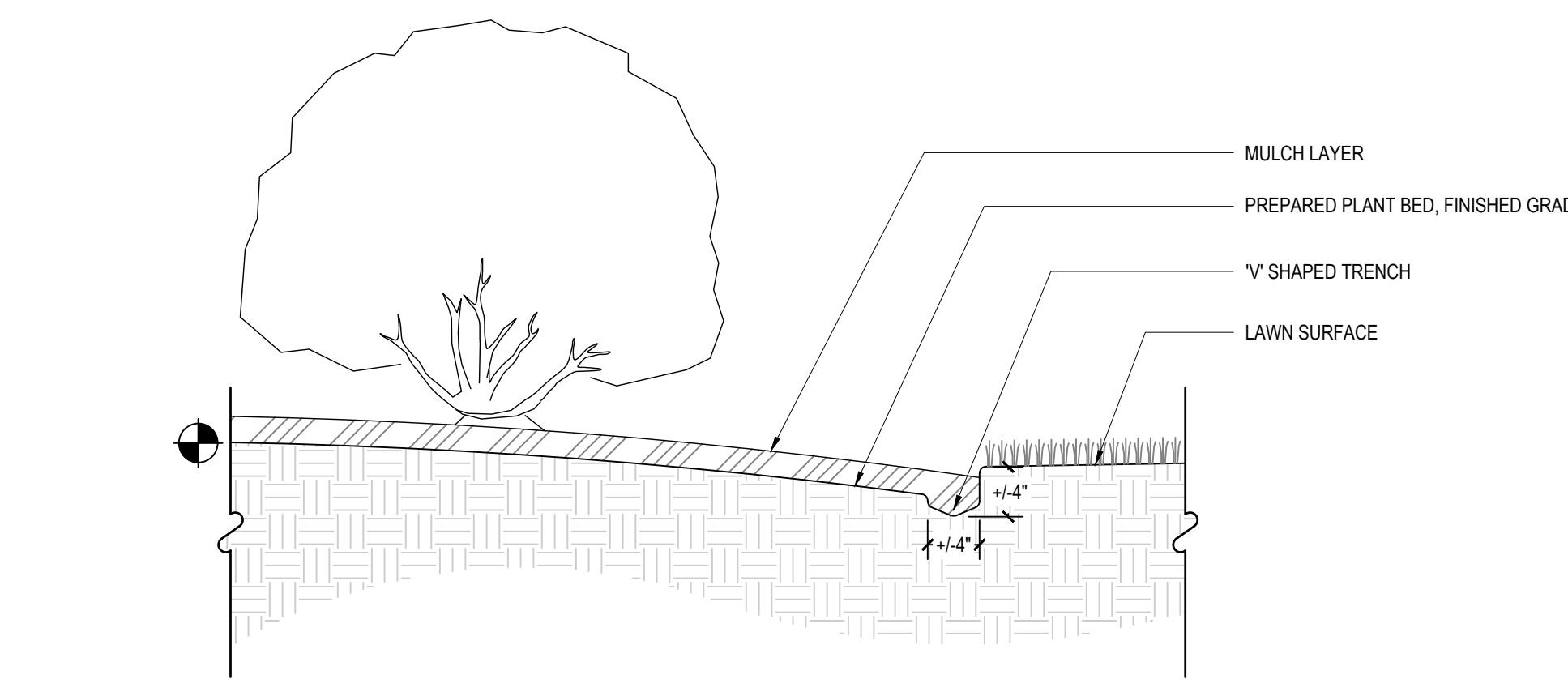
- TREE PLANTING NOTES:**
1. IF TREES SETTLE OR ARE BLOWN OUT OF PLUMB POSITION, THEY SHOULD BE STRAIGHTENED BY MAKING ADJUSTMENTS TO THE POSITION OF THE ROOTBALL - NOT BY PUSHING ON THE TRUNK AND/OR TIGHTENING THE GUY WIRE. TREES SHALL BE STRAIGHTENED DURING THE LIFE OF THE PROJECT AS THEY GET OUT OF PLUMB, NOT JUST AT THE END OF THE PROJECT.
  2. BALL DEPTHS ON SOME TREES IN A SINGLE GROUP MAY VARY. IF DEPTHS VARY, ALL TREES IN A GROUP SHOULD BE SET SO THAT THE BASE OF THE TRUNKS WILL APPEAR TO BE AT THE SAME RELATIVE ELEVATION ABOVE GRADE.
  3. NO DECIDUOUS OR EVERGREEN TREES WILL BE ACCEPTED IF THERE IS MORE THAN ONE LEADER, UNLESS THE TREE IS SPECIFIED AS MULTI-TRUNK.
  4. CONTRACTOR TO VERIFY THAT ADEQUATE DRAINAGE EXISTS PRIOR TO PLANTING.
  5. STAKING OF TREES IS NOT RECOMMENDED, EXCEPT ON WINDY SITES OR IF TREES ARE 3" CALIPER AND LARGER. IF STAKING IS DONE, FLEXIBLE STRAPS - NOT HOSE AND WIRE - SHOULD BE USED AND MUST BE REMOVED AT APPROPRIATE TIME. PROPERTY OWNER IS RESPONSIBLE FOR REPLACEMENT OF DESTROYED OR DAMAGED TREES.
  6. ALL TREES SHALL CONFORM TO THE STANDARDS SET FORTH IN THE MOST RECENT EDITION (2004 OR LATER) OF AMERICAN STANDARD FOR NURSERY STOCK PUBLISHED BY A.N.L.A.
  7. A ROOT COLLAR EXCAVATION FOR ALL TREES SPECIFIED WILL BE DONE BY THE TOWN ARBORIST TO ENSURE THAT TREES WERE PLANTED/GROWN TOO DEEPLY BY THE SOURCE (NURSERY). LANDSCAPE CONTRACTOR SHALL HAVE SUPPLIER MARK GROUND LEVEL LINE ABOVE ROOTBALL. IF TOWN ARBORIST DETERMINES THAT THERE IS EXCESSIVE SOIL OVER ROOT CROWN, THESE TREES WILL BE REJECTED.

**2 MULTI-STEM TREE PLANTING SECTION**  
Scale: 1/4" = 1'-0"

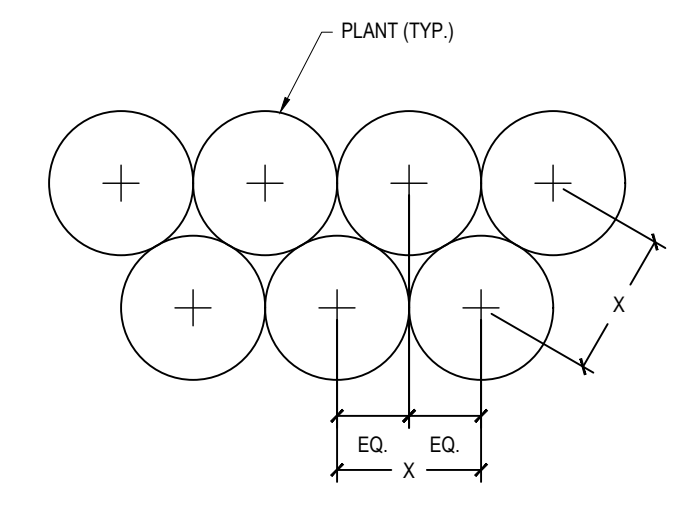


- PLANTING NOTES:**
1. FOR CONTAINER PLANTS, REMOVE CONTAINER & SCARIFY ROOT MASS PRIOR TO PLANTING.
  2. FOR B&B PLANTS, COMPLETELY REMOVE TOP HALF OF WIRE BASKET AND BURLAP MATERIAL. REMOVE ALL TWINE, ROPE AND WIRE FROM ROOT BALL.
  3. SET ROOT BALL ON UNDISTURBED STABLE SUBSOIL SO THAT TOP OF ROOT BALL IS 2-3" ABOVE FINISHED GRADE. TAMP SOIL FIRMLY AROUND BOTTOM OF ROOT BALL TO SET TREE PLUMB.
  4. DIG & TURN PLANTING SOIL TO REDUCE COMPACTION. LIGHTLY TAMP SOIL AROUND ROOT BALL IN 6" LIFTS TO BRACE THE TREE. DO NOT OVER-COMPACT. MIX COMPOST INTO EACH LIFT OF BACKFILL AS RECOMMENDED IN SOIL REPORT. POUR WATER AROUND ROOT BALL TO SETTLE SOIL, AND BACKFILL AS REQUIRED TO MEET REQUIRED FINISHED GRADE.
  5. A 3" HIGH x 8" WIDE BERM SHALL BE MADE AROUND THE ROOT BALL EDGE.
  6. PRUNE TREES ONLY AS NEEDED TO REMOVE DEAD OR BROKEN BRANCHES.
  7. TREES IN WINDY LOCATIONS OR ON STEEP SLOPES ARE TO BE ANCHORED PER DETAILS ABOVE AND PER DIRECTION FROM LANDSCAPE ARCHITECT.

**3 TREE PLANTING SECTION**  
Scale: 1/4" = 1'-0"

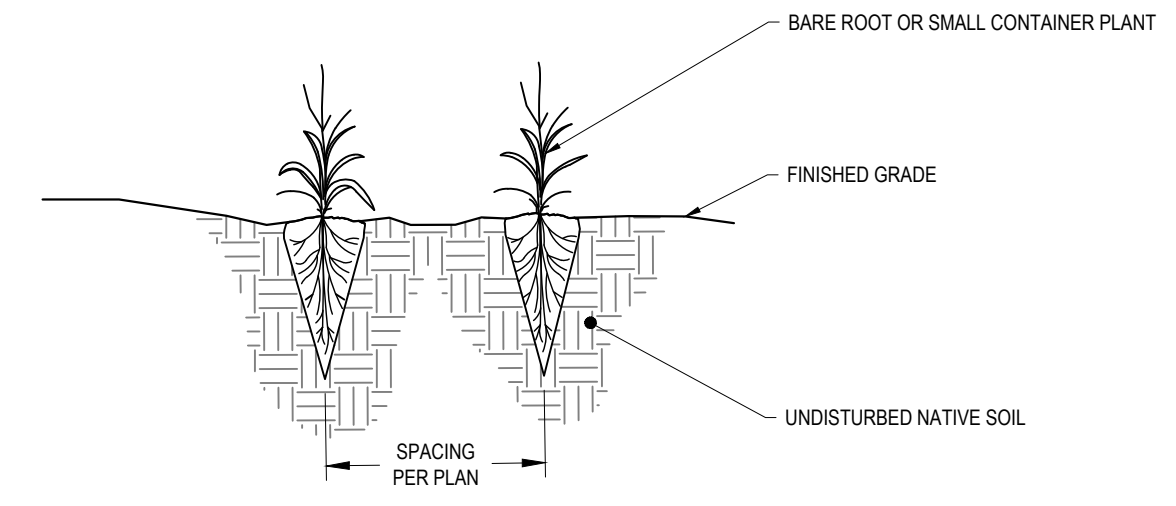


**4 BED EDGE DETAIL SECTION**  
Scale: 1" = 1'-0"



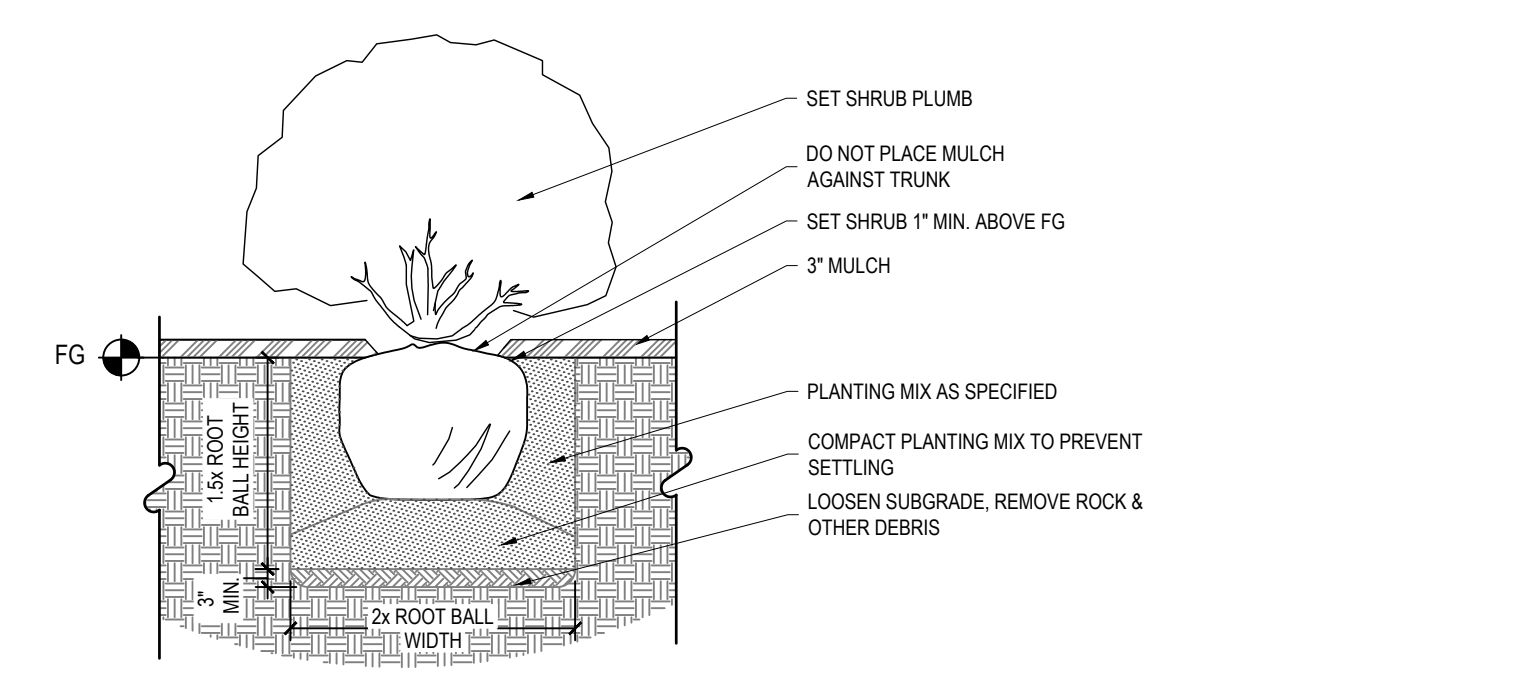
- PLANT SPACING NOTES:**
1. SEE PLANTING PLAN FOR GROUND COVER PLANTING AREAS.
  2. PLANTS SHALL BE INSTALLED IN STRAIGHT AND PARALLEL ROWS UNLESS OTHERWISE SHOWN ON DRAWINGS.
  3. SEE PLANT SCHEDULE FOR PLANT SPACING REQUIREMENTS ("X" DIMENSION IN THIS DETAIL).

**5 PLANT SPACING PLAN**  
Scale: 3/8" = 1'-0"



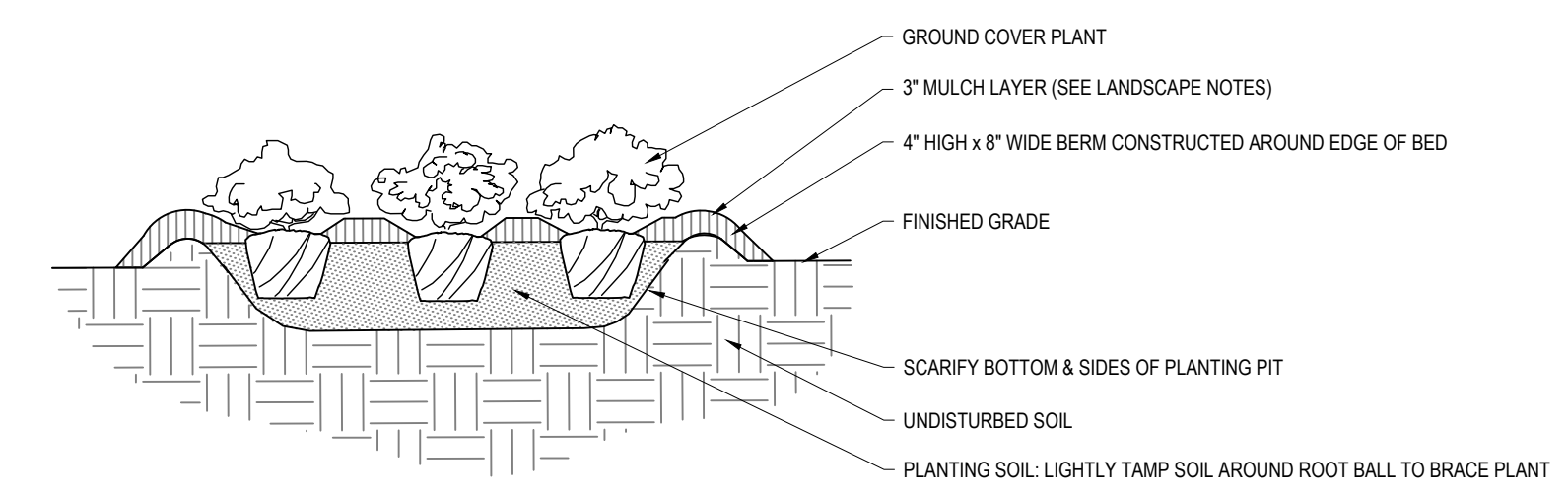
- NOTES:**
1. MAKE SUITABLE HOLE WITH A ROCK BAR OR EQUIVALENT PLANTING TOOL.
  2. INSTALL PLUG DIRECTLY INTO NATIVE SOIL.
  3. WHEN INSTALLED IN LARGE GROUPINGS, INSTALL CUTTINGS USING TRIANGULAR SPACING (SEE DETAIL) UNLESS OTHERWISE SHOWN ON THE PLANS.
  4. CUTTINGS INSTALLED IN SHALLOW WATER SHOULD AVERAGE DEPTHS OF 2 TO 4 INCHES AT NORMAL POOL.
  5. REMOVE/PRUNE PLANTINGS ONLY AS NEEDED TO REMOVE DEAD OR BROKEN BRANCHES.

**6 EMERGENT PLANTING SECTION**  
Scale: 3/8" = 1'



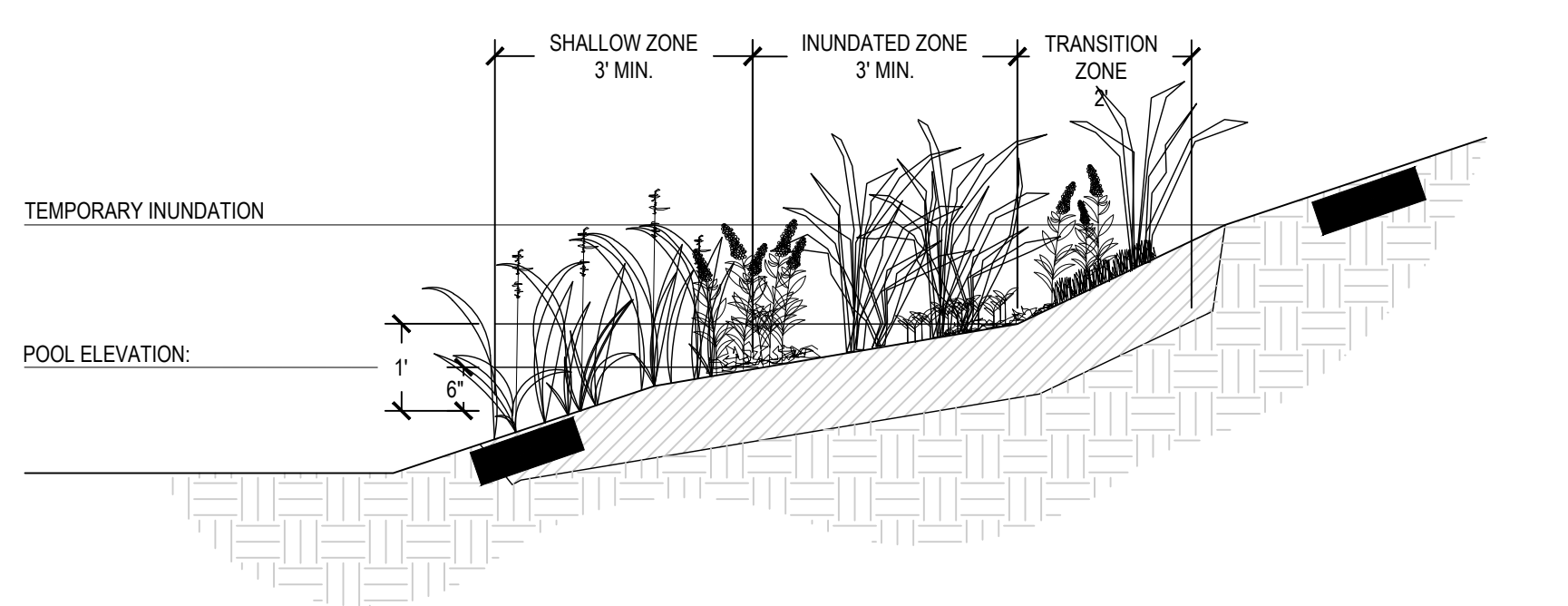
- PLANTING NOTES:**
1. FOR CONTAINER PLANTS, SPLIT THE ROOT BALL WITH 4 EQUALLY SPACED VERTICAL CUTS & SCARIFY ROOT MASS PRIOR TO PLANTING.
  2. FOR B&B PLANTS, REMOVE ALL TWINE, ROPE, WIRE & BURLAP FROM ROOT BALL.
  3. A 3" HIGH x 8" WIDE BERM SHALL BE MADE AROUND THE ROOT BALL EDGE.
  4. PLANTING AREAS WITH MULTIPLE SHRUBS ARE TO BE SIZED SO THAT THE OUTER EDGE OF PLANTING SOIL IS 8" MIN. FROM THE NEAREST SHRUB.
  5. SHRUBS ARE TO BE LOCATED SUCH THAT MATURE CANOPY IS 5' MIN. FROM FIRE HYDRANTS AND 24" MIN. FROM CURB LINE.
  6. SHRUBS ARE TO BE LOCATED WITH TRIANGULAR SPACING (SEE DETAIL) UNLESS OTHERWISE SHOWN ON THE PLANS.
  7. PRUNE SHRUBS ONLY AS NEEDED TO REMOVE DEAD OR BROKEN BRANCHES.

**7 SHRUB PLANTING SECTION**  
Scale: 3/8" = 1'-0"



- PLANTING NOTES:**
1. SPLIT PLANT ROOTS WITH 2-3 EQUALLY-SPACED VERTICAL CUTS.

**8 GROUND COVER PLANTING SECTION**  
Scale: 3/8" = 1'-0"



- SHALLOW ZONE:**  
0'-6" AQUATIC PLANT SPECIES WITH VARIATION MIXES  
6" HEIGHT MINIMUM, 6"-12" O.C. IN TRIANGULAR PLANTING SEQUENCE
- INUNDATED ZONE:**  
6"-12" WATER TOLERANT PLANT SPECIES WITH VARIATION MIXES  
6" HEIGHT MINIMUM, 6"-18" O.C. IN TRIANGULAR PLANTING SEQUENCE (SPACING DETAILED IN PLANTING SCHEDULE)
- TRANSITION ZONE:**  
12"-2' WATER TOLERANT PLANT SPECIES WITH VARIATION, MIXED SHELF  
6"-12" HEIGHT MINIMUM, 6"-36" O.C. IN TRIANGULAR PLANTING SEQUENCE (SPACING IS DETAILED IN PLANTING SCHEDULE)

**9 TYPICAL SCM PLANT ZONE SECTION**  
Scale: 1/2" = 1'-0"

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**DUFFYFIELD COMMUNITY STORMWATER ENHANCEMENTS PHASE 2 & 3**

CWSRF PROJECT NO. CS370483-05  
LASHI PROJECT NO. SRP-SW-ARP-0016

CITY OF NEW BERN, CRAVEN COUNTY, NORTH CAROLINA

**LANDSCAPE DETAILS**

Job No.	09200158.20
Date	4/21/2023
Checked By	WRF/DGB/BHS
Drawn By	ABP
Designer	WR

**FINAL PLAN NOT APPROVED FOR CONSTRUCTION**

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Revisions		
1#	PERMIT PLAN SET	6/8/2023
2#	REVISED PER NCRP COMMENTS	11/1/2023
3#	BID PLAN SET	2/6/2024
4#	REVISED PER DWI COMMENTS	4/8/2024
#	#	#
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Sheet No. **L9.00**

