

Developer:

Powermaster Electric, Inc 7621 Purfoy Road Suite 101 Fuquay-Varina, NC 27526 919.557.4477 **Contact: Hal Farthing**

Civil Engineering:

The Curry Engineering Group, PLLC NC License # P-0799 PO Box 2018 205 S. Fuquay Ave Fuquay-Varina, NC 27526 919.552.0849 (o) 919.880.9857 (m) Contact: Don Curry, PE don@curryeng.com

Surveyor:

Mauldin-Watkins Surveying, PA P.O. BOX 444/1301 W. Broad Street Fuquay-Varina, NC 27526 919.552.9326 **Contact: Wayne Mauldin, PLS**

UTILITY AGENCIES: WATER & SEWER HARNETT COUNTY PUBLIC UTILITIES DEPT.

DATE

700 McKINNEY PARKWAY LILLINTON, NC 27546 910.893.7575 CONTACT: MR. SHANE CUMMINGS

NCDENR-PUBLIC WATER SUPPLY NCDENR DIVISION OF WATER RESOURCES RALEIGH REGIONAL OFFICE **512 N. SALISBURY STREET** RALEIGH, NC 27604 919.707.9100

POWERMASTER - 311 JARCO DRIVE

HARNETT COUNTY, NORTH CAROLINA **SITE PLAN**

1st SUBMITTAL TO HARNETT COUNTY: JULY 2, 2020

Sheet List Table

- **EXISTING CONDITIONS**
- GRADING & DRAINAGE PLAN
- SCM PLAN & SECTIONS
- STORM DRAINAGE DETAILS
- LANDSCAPE DETAILS
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- **EROSION CONTROL PLAN -**
- EROSION CONTROL DETAILS I
- **EROSION CONTROL DETAILS II**
- EROSION CONTROL DETAILS III
- **EROSION CONTROL DETAILS IV**
- PRE-DEVELOPMENT DA MAP
- POST-DEVELOPMENT DA MAP STORM DRAINAGE DA MAP

OWNER'S CONSENT FORM

AS THE OWNER OF RECORD, I HEREBY FORMALLY CONSENT TO THE PROPOSED DEVELOPMENT SHOWN ON THIS SITE PLAN AND ALL REGULATIONS AND REQUIREMENTS OF THE HARNETT COUNTY ORDINANCES. 1/4/2021 Hal B Farthing III

OWNER SIGNATURE

NCDENR-DWQ SEWER NCDENR DIVISION OF WATER RESOURCES FAYETTEVILLE REGIONAL OFFICE 225 GREEN STREET SUITE 714 FAYETTEVILLE, NC 28301 910.433.3300

General Notes:

- ORIGINAL TOPOGRAPHICAL AND BOUNDARY DATA PERFORMED BY MAULDIN-WATKINS SURVEYING, PA. SITE BENCHMARK IS
- AVAILABLE FROM SURVEYOR. CONTOURS SHOWN HEREON ARE FROM AN ACTUAL FIELD SURVEY. THE CONTRACTOR SHALL NOTIFY AND COOPERATE WITH ALL UTILITY COMPANIES OF FIRMS HAVING FACILITIES ON OR ADJACEN
- TO THE SITE BEFORE DISTURBING, ALTERING, REMOVING, RELOCATING, ADJUSTING OR CONNECTING TO SAID FACILITIES. THE OWNER SHALL PAY ALL COSTS IN CONNECTION WITH ALTERATION OF OR RELOCATION OF ANY EXISTING FACILITIES.
- ALL EXCAVATION IS UNCLASSIFIED AND SHALL INCLUDE ALL MATERIALS ENCOUNTERED.
- ALL STRUCTURAL FILL MATERIAL SHALL BE FREE OF ALL STICKS, ROCKS, AND CLUMPS OF MUD. UNUSABLE EXCAVATED MATERIALS AND ALL WASTE RESULTING FROM CLEARING AND GRUBBING SHALL BE DISPOSED OF OFF-S BY THE CONTRACTOR IN AN APPROVED SOLID WASTE LANDFILL.
- THERE IS EXISTING UNDERGROUND WATER, SEWER, ELECTRICAL, AND FIBER OPTIC ON-SITE OR WITHIN CLOSE PROXIMITY
- CONTRACTORS SHALL DIG WITH EXTREME CAUTION. CONCRETE SUB SHALL BE RESPONSIBLE FOR ALL SCORE JOINTS AND EXPANSION JOINTS. SHOULD A QUESTION ARISE ABOUT
- PROPOSED PATTERN CONSULT WITH THE ENGINEER PRIOR TO POURING.
- CONTRACTOR TO FURNISH ALL PAVEMENT MARKINGS AS SHOWN. LOCATION OF UNDERGROUND UTILITIES ARE APPROXIMATE AND MUST BE FIELD VERIFIED. CONTACT THE NC ONE CALL CENTER LEAST 48 HOURS PRIOR TO DIGGING @ 1.800.632.4949. THE SURVEYOR HAS ONLY LOCATED THE UTILITIES THAT ARE ABOVE GROUND AT THE TIME OF FIELD SURVEY. UNDERGROUND LINES SHOWN HEREON ARE APPROXIMATE OR AS REPORTED BY VARIOUS RESPONSIBLE PARTIES. THE SURVEYOR DOES NOT GUARANTEE THAT ANY UNDERGROUND STRUCTURES SUCH AS UTILITIES, TANKS AND PIPES ARE LOCATED HEREON.
- ALL PIPE LENGTHS ARE HORIZONTAL DISTANCES AND ARE APPROXIMATE.
- ALL WORK SHALL COMPLY WITH ALL APPLICABLE CODES, REGULATIONS, AND/OR LOCAL STANDARDS IMPOSED BY LOCAL UTILIT HARNETT COUNTY. AND HARNETT REGIONAL WATER. ALL CONSTRUCTION AND MATERIALS SHALL MEET HARNETT COUNTY SPECIFICATIONS AND STANDARDS, LATEST EDITION. ALI
- WORK WITHIN NCDOT RIGHT-OF-WAY SHALL MEET THE SPECIFICATIONS AND STANDARDS OF NCDOT. ALL CONCRETE PIPE IS TO BE ASTM C-76, CLASS III WITH RAM-NEK.
- THIS PROPERTY IS NOT LOCATED IN A FLOOD HAZARD ZONE PER FEMA MAP. FEMA COMMUNITY MAP #: 3720065400J, DATED OCTOBER 3, 2006
- ALL LOT DIMENSIONS SHOWN ARE APPROXIMATE. CONSULT THE BOUNDARY SURVEY OF ACTUAL SITE BOUNDARY INFORMATION WETLANDS ARE NOT PRESENT ON SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK ZONE TRAFFIC CONTROL IN OR ADJACENT TO NCDOT RIGHT-OF-WA
- ALL SIGNS, PAVEMENT MARKINGS AND OTHER TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MANUAL ON UNIFORM TRA CONTROL DEVICES (MUTCD), LATEST EDITION.
- PRIOR TO PLACING CABC STONE BASE, THE CONTRACTOR SHOULD NOTIFY THE PROJECT ENGINEER T THE SUBGRADE. ANY STONE PLACE WITHOUT PRIOR APPROVAL WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR DESIGN/FIELD CONDITIONS QUITE EASILY MAY VARY FROM THAT REPRESENTED IN THE INITIAL SOILS REPORT AND/OR
- TOPOGRAPHICAL REPORT. ISOLATED AREAS MAY SHOW UP WEAK AND ADVERSE SOILS OR GROUNDWATER CONDITIONS MAY DISCOVERED THAT WERE NOT REVEALED DURING THE INITIAL SOILS INVESTIGATION. THEREFORE, THE OWNER/CLIENT IS TO BI AWARE THAT CURRY ENGINEERING GROUP, PLLC WILL NOT AND CANNOT BE HELD RESPONSIBLE FOR ANY FAILURES TO EITHE STREET OR PARKING LOT PAVEMENT DESIGN UNLESS WE CAN BE FULLY AND TOTALLY INVOLVED IN THE CONSTRUCTION PROC WHICH MAY INCLUDE, BUT MAY NOT NECESSARILY BE LIMITED TO, TESTING SUBGRADE AND BASE DENSITY, ENGAGING THE DE ENGINEER FOR THE EVALUATION OF THE SUBGRADE AND FOR THE OBSERVATION OF PROOF ROLLING SUBGRADE AND BASE A VARIOUS STEPS OF CONSTRUCTION, OPPORTUNITY FOR THE DESIGN ENGINEER TO CALL IN A SOILS ENGINEER FOR CONSULTATION AND ADVICE, ETC. - STEPS WHICH TAKEN ALTOGETHER WITH THE INITIAL DESIGN SHOWN ON THE PLANS CONSTITUTE THE COMPLETE DESIGN OF THE ROAD, STREET OF PARKING AREA (PRIVATE OR PUBLIC). THE DESIGN ENGINEER M BE GIVEN THE FULL LATITUDE AND OPPORTUNITY TO COMPLETE THE DESIGN BY FULLY PARTICIPATING IN THE CONSTRUCTION
- PROCESS, PLAN DESIGN IS A SMALL PORTION OF THE DESIGN AND CANNOT BE SEPARATED FROM THE CONSTRUCTION PROCES THE OWNER'S/CLIENT'S DESIRE IS TO HAVE THE DESIGN ENGINEER STAND BEHIND THE COMPLETED DESIGNED PROJECT ALL UTILITY SERVICES, (POWER, TELEPHONE, CABLE, ETC.) ARE PROPOSED TO BE UNDERGROUND. DO NOT SEED OR MULCH
- DISTURBED AREAS UNTIL ALL UNDERGROUND UTILITIES HAVE BEEN INSTALLED. LIGHTS ARE LEASED AND SUPPLIED BY DUKE ENERGY. SEE PHOTOMETRICS SHEET FOR DETAILS.
- WATER IS TO BE PROVIDED BY HARNETT REGIONAL WATER.
- THE BUILDING SETBACK LINES SHOWN ON THIS PLAT ARE FOR THE ENGINEER'S USE IN ESTABLISHING MINIMUM LOT FRONTAGES 24. AT THE SETBACK LINE AND FOR RESERVING SUFFICIENT BUILDING AREA. BUILDING CONTRACTORS ARE TO VERIFY LOT LINE SETBACKS BEFORE SETTING FORMS OR DIGGING FOOTINGS
- 25. REGULATORY SIGNS, STOPS SIGNS AND STREET NAME SIGNS SHALL BE MANUFACTURED FROM HIGH INTENSITY REFLECTIVE MATERIALS.
- 26. ALL EXCESS TOPSOIL AND UNCLASSIFIED EXCAVATION IS TO BE HAULED OFF-SITE, UNLESS OTHERWISE DIRECTED BY THE OWN ALL SITE CONSTRUCTION MUST BE INSPECTED BY THE PROJECT ENGINEER AT THE FOLLOWING STAGES: 27. A. COMPLETION OF GRADING SUBGRADE PRIOR TO PLACING STONE BASE.
- B. COMPLETION OF STONE PLACEMENT PRIOR TO PAVING.
- C. FINAL INSPECTION WHEN ALL WORK IS COMPLETE.
- 28. THE SURVEYOR DID NOT VISIBLY SEE ANY CEMETERIES IN ANY OPEN AREAS UNLESS OTHERWISE NOTED.
- THIS PROPERTY DOES NOT DEPICT ENCUMBRANCES THAT ARE FOUND DURING A THOROUGH TITLE SEARCH 29
- ALL HVAC UNITS FOR THE PROPOSED BUILDING WILL BE SCREENED FROM PUBLIC RIGHT OF WAY. ALL CURB AND GUTTER TO BE 24" STANDARD CURB AND GUTTER. ALL CURB AND GUTTER WITHIN NCDOT R/W SHALL BE 30" STANDARD.
- 32. ALL CURB AND GUTTER AND SIDEWALK CONCRETE IS TO BE MINIMUM 3,000 PSI AT 28 DAYS, AIR ENTRAINED.
- ALL DIMENSIONS ARE TO FACE OF CURB UNLESS INDICATED OTHERWISE. 33.
- PROVIDE HANDICAP SIGNS, MARKING AND RAMPS AS SHOWN. HANDICAP RAMPS ARE TO MEET "ADA ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES" AS DETAILED IN THE FEDERA REGISTER, VOLUME 56, NUMBER 144 DATED JULY 26, 1991, RULES AND REGULATIONS ACTIVATED JANUARY 26, 1992. FOR ADDITIONAL INFORMATION, REFER TO THE 2012 NC STATE BUILDING CODE CHAPTER 11, "ACCESSIBILITY." ALL STREET RETURNS HAVE H.C. RAMPS.
- CONTRACTOR SHALL NOT POUR ANY CONCRETE BEFORE FORMS ARE INSPECTED BY THE PROJECT ENGINEER AND/OR OWNER. ANY CONCRETE THAT HAS NOT BEEN APPROVED BY THE ENGINEER AND/OR OWNER WILL BE THE RESPONSIBILITY OF THE CONTRACTOR
- ALL AREAS NOT COVERED BY BUILDING OR PARKING SHALL BE COVERED WITH 4" MINIMUM OF TOPSOIL, FREE OF ROOT MATTER 37. AND ROCKS AND GRASSED.

GOVERNING AGENCIES:

36.

- PLANNING/ZONING/LANDSCAPE HARNETT COUNTY PLANNING DEPT
- 108 E. FRONT ST. LILLINGTON, NC 27546 910.893.7525 OPT. 4 CONTACT: MR. LANDON CHANDLER

ENGINEERING MS CONSULTANTS, INC 920 MAIN CAMPUS DRIVE RALEIGH, NC 27606 919.818.2235 CONTACT: MR. BILL DREITZLER, PE

STORMWATER NCDEQ DIVISION OF ENERGY, MINERAL & LAND RESOURCES RALEIGH REGIONAL OFFICE **512 N. SALISBURY STREET** RALEIGH, NC 27604 919.807.6369 CONTACT: MR. ROBERT PATTERSON, PE **EROSION CONTROL** NCDEQ DIVISION OF ENERGY, MINERAL & LAND RESOURCES FAYETTEVILLE REGIONAL OFFICE 225 GREEN STREET, SUITE 714 FAYETTEVILLE, NC 28301 910.433.3300 CONTACT: MS. JODI PACE

REVISIONS	NCDEQ COMMENTS	HARNETT COUNTY COMMENTS	NCDEQ COMMENTS	NCDEQ COMMENTS	HRW COMMENTS	RELEASED FOR CONSTRUCTION	HORZ. SCALE: SCALE	ORIG. SHEET SIZE: 24 x 36
	1 2020-08-17	2 2020-08-20 HAR	3 2020-09-09	4 2020-09-22	5 2020-11-10	6 2020-12-11 RELE	DATE: 7 / 2020	FILE NO. 2019-065

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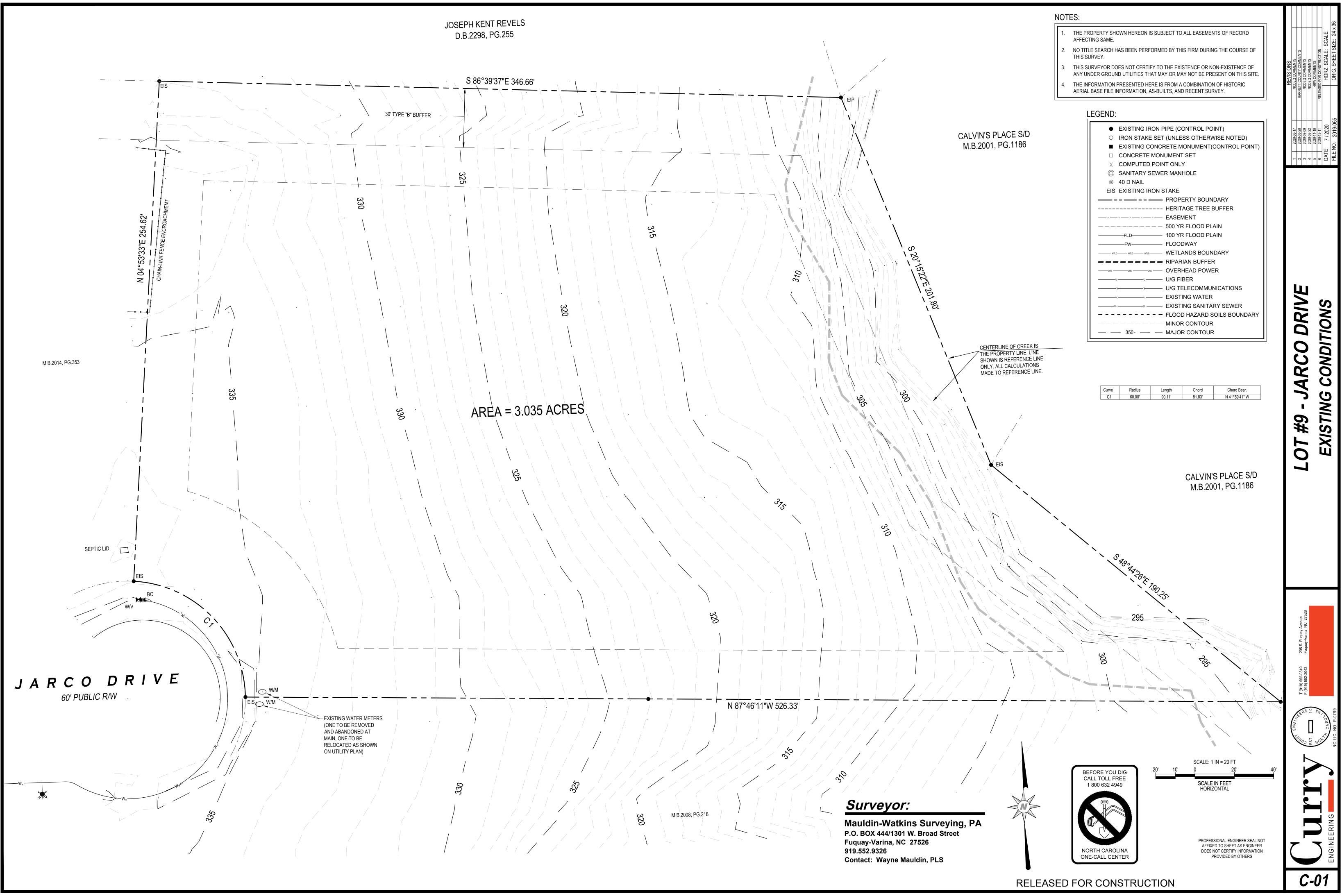
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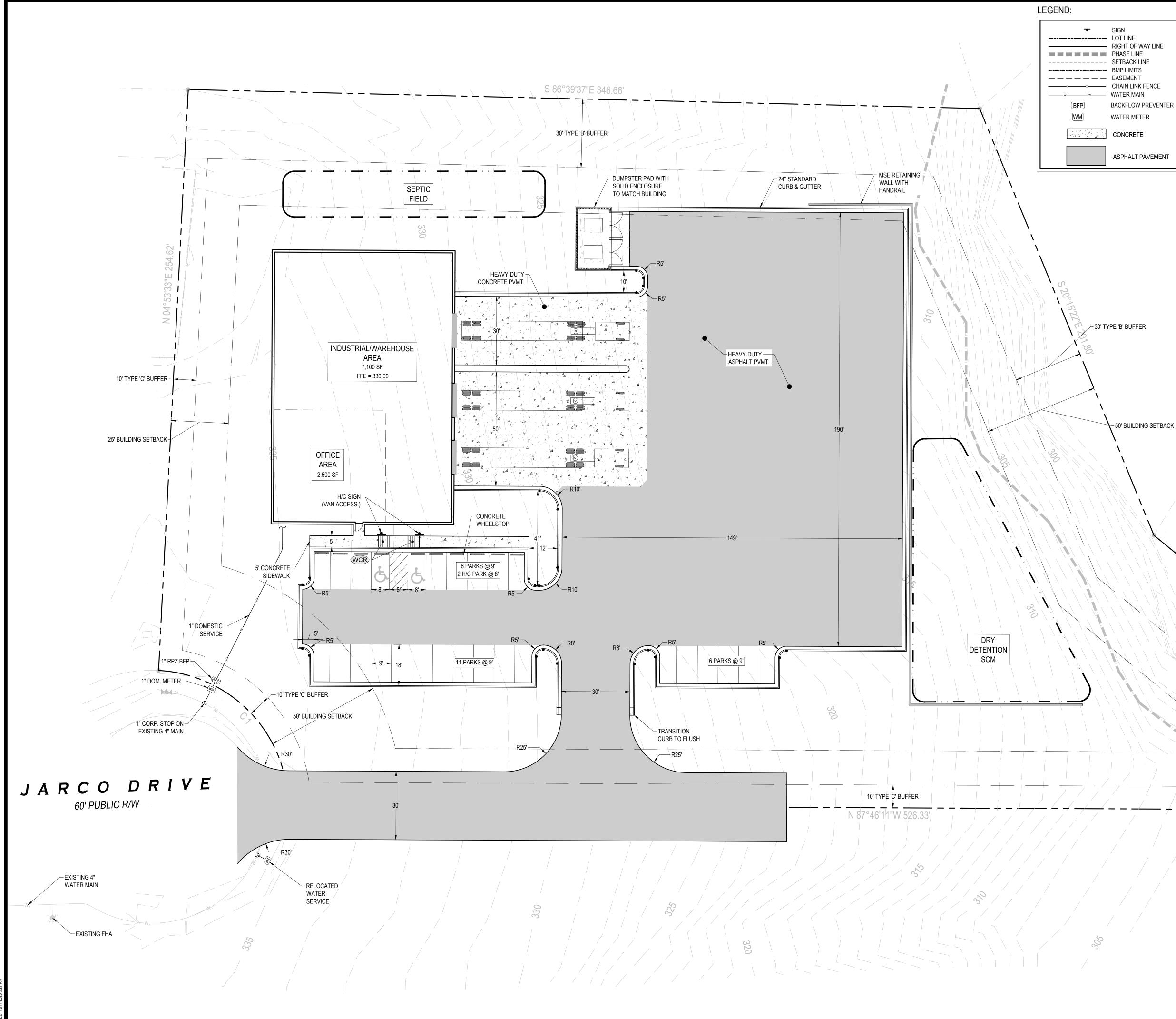
	38.	CONTRACTOR SHALL SAW-CUT TO PROVIDE SMOOTH TRANSITIONS WHERE EXISTING ASPHALT AND/OR CURB AND GUTTER IS TO BE REMOVED.	
IT		THE CONTRACTOR SHALL PROVIDE ALL THE MATERIAL AND APPURTENANCES NECESSARY FOR THE COMPLETE INSTALLATION OF THE UTILITIES. ALL PIPE AND FITTINGS SHALL BE INSPECTED PRIOR TO BEING COVERED. ALL HANDICAP SPACES ARE TO RECEIVE A HANDICAP SIGN AND HANDICAP SYMBOL PAINTED ON THE ASPHALT. NOTE STALLS TO	
		RECEIVE `VAN ACCESSIBLE' SIGNAGE.	
ITE	41.	THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF PRECISE BUILDING DIMENSIONS AND EXACT UTILITY ENTRANCE POINTS.	
	42.	INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS AND FIELD CONDITIONS WHEN POSSIBLE, BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AND ELEVATION OF ALL EXISTING UTILITIES BY DIGGING	Ψ
HE		TEST PITS BY HAND AT ALL UTILITY CROSSINGS WELL IN ADVANCE OF TRENCHING. IF THE CLEARANCES ARE LESS THAN SPECIFIED ON THE PLANS OR 12 INCHES, WHICH EVER IS LESS, CONTACT THE PROJECT ENGINEER PRIOR TO PROCEEDING WITH	N
	13	CONSTRUCTION. THE CONTRACTOR SHALL INCLUDE IN HIS CONTRACT PRICE THE REMOVAL AND DISPOSAL OF ANY EXCESS TOPSOIL HE DETERMINES	R
AT	43.	IS NOT REQUIRED TO PERFORM THE FINAL GRADING AND LANDSCAPING OPERATION.	
	44.	THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND IMPLEMENTATION OF ALL REQUIRED/NECESSARY SHEETING, SHORING, AND SPECIAL EXCAVATION MEASURES REQUIRED ON THE PROJECT TO MEET OSHA, FEDERAL, STATE AND LOCAL REGULATIONS	10
		PURSUANT TO THE INSTALLATION OF THE WORK INDICATED ON THE DRAWINGS. HARNETT COUNTY, HARNETT REGIONAL WATER, & CURRY ENGINEERING ACCEPT NO RESPONSIBILITY FOR THE DESIGN TO INSTALL SAID ITEMS.	
Y,	45.	THE CONTRACTOR SHALL INCLUDE IN THE CONTRACT PRICE DAILY RECORD KEEPING OF THE AS-BUILT CONDITION OF ALL OF THE UNDERGROUND UTILITIES, CONSTRUCTION STAKEOUT ASSOCIATED WITH THE PROJECT.	
.,	46.	,	R R
	47. 48.	THE LAND DISTURBANCE PERMIT MUST BE KEPT ON THE WORK SITE AND SHOWN UPON REQUEST. THE CONTRACTOR SHALL INCLUDE IN THE CONTRACT PRICE ALL MATERIAL AND LABOR ASSOCIATED WITH THE TESTING OF THE	M
		WATER AND SEWER LINES REQUIRED BY THE STATE OF NORTH CAROLINA DEPARTMENT OF HEALTH & HARNETT REGIONAL WATER.	
۱.	49.	THE CONTRACTOR SHALL INCLUDE IN THE CONTRACT PRICE ANY DE-WATERING NECESSARY TO CONSTRUCT THE PROJECT AS SHOWN ON THE PLANS.	
Y.	50. 51.	NATURAL GAS MAY BE AVAILABLE. SEE CONTACT INFORMATION THIS SHEET. TESTING BY CONTRACTOR: CONTRACTOR SHALL EMPLOY AT HIS EXPENSE AN OUTSIDE INDEPENDENT SOIL TESTING SERVICE	67
FIC	51.	(APPROVED BY THE ARCHITECT) TO PERFORM SOIL TESTING AND INSPECTION SERVICE FOR QUALITY CONTROL TESTING DURING	#
OLL		EARTHWORK OPERATIONS. COPIES OF RESULTS OF TESTS SHALL BE SUBMITTED BY THE TESTING SERVICE DIRECTLY TO THE CONTRACTOR, THE ARCHITECT, AND THE STRUCTURAL ENGINEERTHE TESTING SERVICE WILL CLASSIFY PROPOSED ON-SITE AND	
		BORROW SOILS TO VERIFY THAT SOILS COMPLY WITH SPECIFIED REQUIREMENTS AND TO PERFORM REQUIRED FIELD AND	
Ξ		LABORATORY TESTING. (MINIMUM REQUIRED SOIL BEARING CAPACITY IS NOTED ON THE STRUCTURAL DRAWINGS)IN PAVED AND BUILDING SLAB AREAS, THE TESTING SERVICE SHALL MAKE AT LEAST ONE FIELD DENSITY TEST FOR EACH 2000 SQUARE FEET OF	
A		FILL IN EACH COMPACTED FILL LAYER. IF A TEST SHOULD FAIL TO MEET REQUIRED DENSITY, THE CONTRACTOR SHALL RE-COMPACT THAT LAYER. THE SOIL TESTING SERVICE SHALL PERFORM ADDITIONAL TESTS AT THE CONTRACTOR'S EXPENSE TO SHOW THAT THE	
ESS		FAILED LAYER HAS REACHED THE REQUIRED COMPACTION IN FOUNDATION WALL AREAS, THE TESTING SERVICE SHALL MAKE AT	
IGN		LEAST ONE FIELD DENSITY TEST FOR EACH 100 FEET OR LESS OF WALL LENGTH OF FILL IN EACH COMPACTED FILL LAYER, WITH NO LESS THAN TWO TESTS ALONG A WALL FACE. IF A TEST SHOULD FAIL TO MEET REQUIRED DENSITY, THE CONTRACTOR SHALL	
		RE-COMPACT THAT LAYER. THE SOIL TESTING SERVICE SHALL PERFORM ADDITIONAL TESTS AT THE CONTRACTOR'S EXPENSE TO SHOW THAT THE FAILED LAYER HAS REACHED THE REQUIRED COMPACTION.	
UST	52.	COMPACTION: COMPACT EACH LAYER OF BACKFILL AND FILL SOIL MATERIALS AND THE TOP 12" OF SUBGRADE IN CUT AREAS TO 98%	
S IF		OF MAXIMUM DENSITY AS DETERMINED BY ASTM D698 FOR STRUCTURES, SLABS, AND PAVEMENTS AND 95% OF MAXIMUM DENSITY FOR LAWNS OR UNPAVED AREAS.	
	53.	THE BUILDING CONTRACTOR AND THE SITE WORK CONTRACTOR ARE TO COORDINATE THE INSTALLATION OF DRAINAGE PIPES AROUND THE BUILDING STRUCTURE.	
	54.	ANY RELOCATION OF EXISTING UTILITIES WILL BE AT THE COST OF THE DEVELOPER/OWNER. THE TOWN WILL NOT ACCEPT	
		RESPONSIBILITY FOR DAMAGES TO CURB AND GUTTER OR STREET IMPROVEMENTS INSTALLED PRIOR TO UNDERGROUND SERVICES, NOR WILL THE TOWN ABSORB THE COST FOR BORINGS TO INSTALL UNDERGROUND SERVICE, PAVEMENT PATCHING OR DAMAGE TO	
S	55.	LANDSCAPING. THESE WILL BE THE RESPONSIBILITY OF THE DEVELOPER/OWNER. FIRE DEPARTMENT VEHICULAR ACCESS TO ALL STRUCTURES UNDER CONSTRUCTION SHALL BE PROVIDED AT ALL TIMES. IN AREAS	
		WHERE GROUND SURFACES ARE SOFT OR LIKELY TO BECOME SOFT, HARD ALL WEATHER SURFACE ROADS SHALL BE PROVIDED AND MAINTAINED.	
	56.	ADDRESS NUMBERS, BOTH COMMERCIAL AND RESIDENTIAL, MUST BE POSTED ON THE FRONT OF THE STRUCTURE NEAREST TO THE	
ER.		MAIN ENTRANCE IN A POSITION TO BE PLAINLY LEGIBLE, VISIBLE, AND UNOBSTRUCTED FROM THE STREET OR ROAD FRONTING THE PROPERTY.	26
	57.	DISTURBED AREA IS IN EXCESS OF 1 ACRE AND FORMAL SEDIMENTATION & EROSION CONTROL PLAN APPROVAL WAS REQUIRED AS A CONDITION OF CONSTRUCTION PLAN APPROVAL. A COPY OF THE APPROVED EROSION CONTROL PLAN MUST BE KEPT ON SITE AT	205 S. Fuquay Avenue Fuquay-Varina, NC 275
		ALL TIMES. THE APPROVED SEDIMENTATION & EROSION CONTROL PLAN SHOULD BE REGARDED AS MINIMUM REQUIREMENTS;	uquay /
	58.	ADDITIONAL MEASURES SHALL BE PUT IN PLACE AS NEEDED TO ENSURE THAT NO SEDIMENT IS RELEASED FROM THE SITE. (CONSTRUCTION/SITE PLANS) WATER AND SEWER PERMIT APPLICATIONS HAVE BEEN APPROVED BY THE DENR. PERMIT NUMBERS	15 S. FL
		ARE AS FOLLOWS: A. WATER PERMIT NUMBER: N / A	20 Fu
	59.	B. SEWER PERMIT NUMBER: N/A COPIES OF ALL PERMITS AND APPROVED PLANS MUST BE KEPT ON SITE IN A PERMIT BOX THAT IS CONSPICUOUSLY LOCATED AND	349 343
	59.	EASILY ACCESSIBLE DURING CONSTRUCTION. THIS INCLUDES APPROVED CONSTRUCTION PLANS, APPROVED EROSION CONTROL	T (919) 552-0849 F (919) 552-2043
L	60.	PLANS, ENCROACHMENT AGREEMENTS, DRIVEWAY PERMITS, WATER/SEWER PERMITS, ETC. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL HARNETT COUNTY, HARNETT REGIONAL WATER AND NCDENR STANDARDS	r (919) = (919)
-		AND SPECIFICATIONS.	
ТО	61. 62.	MAINTAIN MINIMUM 3' COVER FOR ALL WATER PIPE. WHERE WATERLINE CROSSES:	ERS
		A. SANITARY SEWER: WATERLINE SHALL CROSS ABOVE AND MAINTAIN 2' VERTICAL SEPARATION OR 10' OF HORIZONTAL SEPARATION. IF THIS SEPARATION CANNOT MAINTAIN OR IF WATERLINE PASSES BELOW SEWER LINE THEN BOTH WATERLINE AND	HERS NONE
)		SEWER LINE SHALL BE CLASS 50 DUCTILE IRON PIPE FOR A MINIMUM OF 10' EACH SIDE OF CROSSING.	N N
L.		B. STORM SEWER: WHERE WATERLINE CROSSES ABOVE MAINTAIN 1' VERTICAL SEPARATION, WHERE WATERLINE CROSSES BELOW MAINTAIN 2' VERTICAL SEPARATION. IF THIS SEPARATION CANNOT BE MAINTAINED WATERLINE SHALL BE CLASS 50 DUCTILE IRON	Toton 2
	63	PIPE FOR MINIMUM OF 10' EACH SIDE OF CROSSING. WHERE SANITARY SEWER CROSSES STORM MAINTAIN 2' SEPARATION. IF THIS SEPARATION CANNOT BE MAINTAINED SANITARY	L L
		SEWER SHALL BE CLASS 50 DUCTILE IRON PIPE FOR MINIMUM OF 10' EACH SIDE OF CROSSING.	
		REFERENCE NC 15A, 18C, .0906 FOR ADDITIONAL CROSSING INFORMATION. THIS CRITERIA SHALL BE MET AT ALL CROSSINGS. THIS DEVELOPMENT IS WITHIN ONE MILE OF A VOLUNTARY AGRICULTURAL DISTRICT.	
	66.	HOURS OF OPERATION WILL BE 7 AM - 6 PM, MONDAY-FRIDAY.	
		SEAL	



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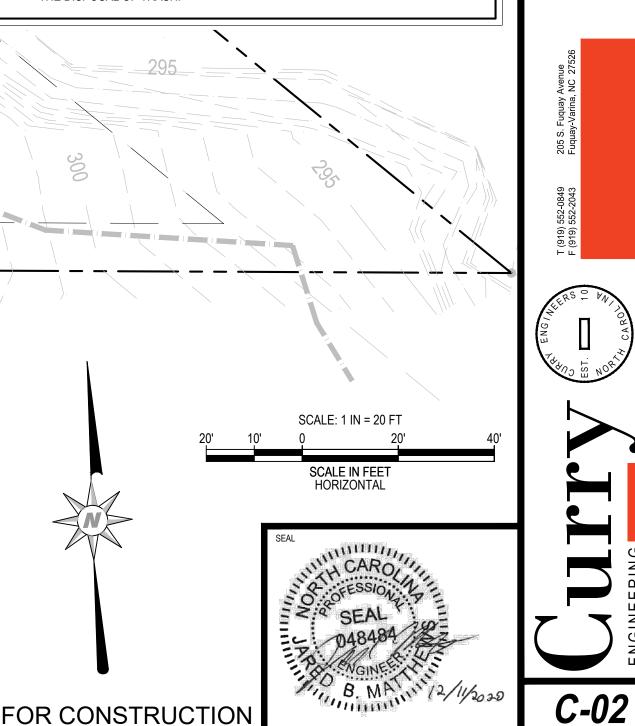
ASPHALT PAVEMENT

50' BUILDING SETBACK

- ALL CONSTRUCTION SHALL BE PER HARNETT COUNTY STANDARDS AND SPECIFICATIONS.
- 2. THERE SHALL BE NO UNPERMITTED DISTURBANCE IN THE EXISTING WETLANDS
- B. CONTRACTOR SHALL CONTACT ALL OWNERS OF EASEMENTS, RIGHT-OF-WAYS AND UTILITIES, PUBLIC OR PRIVATE, BEFORE WORKING IN THESE AREAS.
- CONTRACTOR IS RESPONSIBLE FOR DAMAGE TO ANY EXISTING ITEM AND/OR MATERIAL DUE TO CONSTRUCTION OPERATIONS. ALL STREET SURFACES, UTILITY POLES, CULVERTS, DITCHES, CURB AND GUTTER OR OTHER STRUCTURES THAT ARE DISTURBED OR DAMAGED IN ANY MANNER AS A RESULT OF CONSTRUCTION SHALL BE REPLACED OR REPAIRED BY THI CONTRACTOR IN ACCORDANCE WITH THE APPROPRIATE SPECIFICATIONS.
- IF DEPARTURES FROM THE DRAWINGS OR SPECIFICATIONS ARE DEEMED NECESSARY BY THE CONTRACTOR, DETAILS OF SUCH DEPARTURES AND REASONS THEREOF SHALL BE SUBMITTED IN WRITING TO THE FACILITY DESIGNER FOR REVIEW. NO DEPARTURES FROM THE CONTRACT DOCUMENTS WILL BE ALLOWED WITHOUT APPROVAL BY THE FACILITY DESIGNER.
- ALL UTILITY WORK WITHIN THE PUBLIC RIGHT OF WAY OR PUBLIC EASEMENTS SHALL BE TO THE LATEST EDITION OF THE HARNETT REGIONAL WATER STANDARDS AND THE UTILITY MASTER PLAN.
- THE FOLLOWING BACKFLOW PREVENTION MODEL NUMBERS SHALL BE PROVIDED: - 1" DOMESTIC BACKFLOW RPZ = WILKINS MODEL 975XL.
- . CONTRACTOR SHALL CONTACT HARNETT REGIONAL WATER PRIOR TO MAKING CONNECTION TO ANY COUNTY OWNED INFRASTRUCTURE.
- A PRE CONSTRUCTION MEETING WILL BE REQUIRED BETWEEN THE CONTRACTOR & HARNETT COUNTY.
- 10. CONTRACTOR CANNOT TAP WATER MAINS WITHOUT AN APPROVED WATER EXTENSION PERMIT ISSUED BY NCDENR - PUBLIC WATER SUPPLY.
- WATER MAINS SHALL BE CLASS 200 C900 PVC I.A.W. AWWA C900. DUCTILE IRON PIPE WATER MAINS SHALL BE CLASS 350 DIP I.A.W. AWWA C-151 WITH PUSH ON JOINTS I.A.W. AWWA C-111 DIP SHALL BE CEMENT-MORTAR LINED AND SEALED WITH BITUMINOUS MATERIAL I.A.W. AWWA C-104. ALL DIP BURIED PIPE SHALL HAVE AN BITUMINOUS EXTERIOR COATING I.A.W. AWWA C-151. MINIMUM BURIAL DEPTH FOR WATER MAIN IS 36 INCHES BELOW FINISHED GRADE. WATER MAINS SHALL BE INSTALLED WITH TYPE 1 LAYING CONDITION PER HARNETT COUNTY SPECIFICATIONS. ALL FITTINGS SHALL BE MECHANICAL JOINTS I.A.W. AWWA C-111. 12. ALL NON-METALLIC PIPING MUST BE INSTALLED WITH TRACER WIRE PER HARNETT COUNTY
- STANDARDS. 13. PRIVATE UTILITIES (TELEPHONE, NATURAL GAS, CABLE TV) ARE NOT SHOWN ON THIS PLAN.
- THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THOSE UTILITIES WHEN INSTALLING PUBLIC UTILITIES.
- 14. WATER METERS SHALL NOT BE LOCATED WITHIN DRIVEWAYS NO EXCEPTIONS.
- 15. ELECTRICAL TRANSFORMERS SHALL NOT BE LOCATED WITHIN REQUIRED LANDSCAPED BUFFERS.
- 16. ALL ELECTRICAL THROUGHOUT THE SITE SHALL BE UNDERGROUND.
- 17. REFER TO D-01 FOR HARNETT COUNTY PUBLIC UTILITIES REQUIRED NOTES.
- 18. WATER SUPPLY WATERSHED SPECIAL INTENSITY ALLOCATION PERMIT, BOA2001-0001, FOR 54% IMPERVIOUS WAS APPROVED ON 2/10/2020. 19. ALL UTILITIES, INCLUDING FIRE HYDRANTS, INSTALLED OUTSIDE OF THE PROPOSED ROW
- MUST BE IN A PUBLIC UTILITY EASEMENT. 20. A LICENSED UTILITY CONTRACTOR WILL INSTALL THE PROPOSED WATER SERVICE.
- 21. WATER USAGE: 4 STAFF AT 25 GPD PER EMPLOYEE (1 SHIFT) = 100 GPD

NOTES:

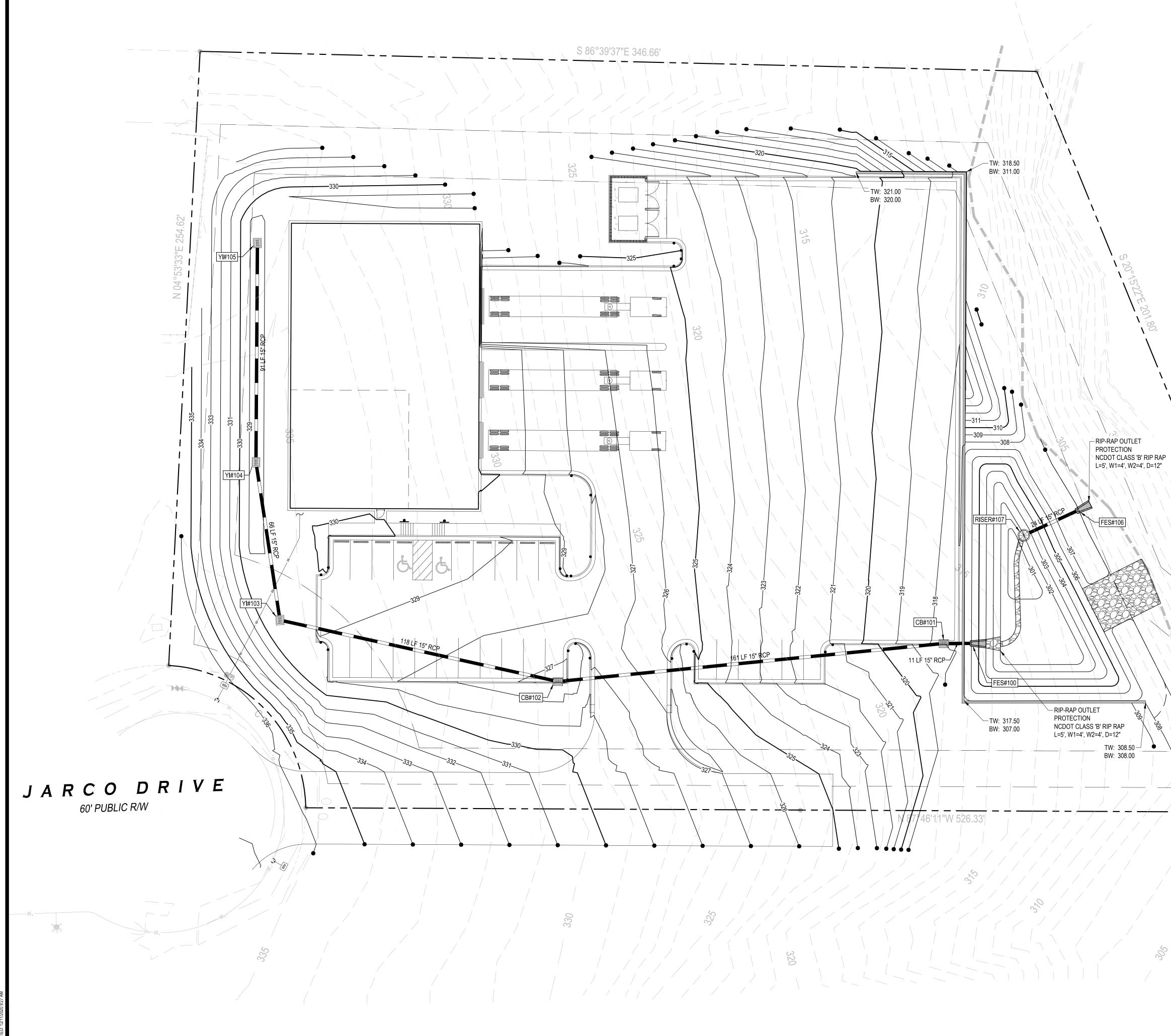
- ALL SIGNS SHOULD USE PRISMATIC SHEETING THAT MEETS MINIMUM RETROREFLECTIVITY STANDARDS FOUND IN THE LATEST EDITION OF THE MUTCD
- ALL CONSTRUCTION MUST BE PERFORMED IN ACCORDANCE WITH HARNETT COUNTY, NCDOT, AND NCDEQ STANDARD SPECIFICATIONS AND DETAILS.
- ALL ASPHALT EDGES SHALL BE SAW CUT TO PROVIDE A GOOD LONGITUDINAL JOINT. MILL 1.5 FEET AT 1.5 INCHES DEEP MINIMUM TO PROVIDE A LONGITUDINAL LAP JOINT FOR FINAL SURFACE LAYER. NO MILLING SHALL BE LEFT FOR A PERIOD OF TIME GREATER THAN 48 HOURS BEFORE A STREET IS TO BE
- PAVED/RESURFACED. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND PAYING FOR ANY
- PERMITS AND/OR CONNECTION FEES REQUIRED TO CARRY OUT THE WORK. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL GRADES PRIOR TO THE
- START OF CONSTRUCTION. EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE AND SHALL BE FIELD
- VERIFIED. ALL DIMENSIONS ARE TO EDGE OF PAVEMENT, FACE OF CURB, FACE OF
- BUILDING, OR PROPERTY LINE UNLESS SHOWN OTHERWISE.
- OWNER IS RESPONSIBLE FOR THE MAINTENANCE OF THE PARKING AREA AND ALL LANDSCAPE BUFFERING. THE OWNER IS ALSO RESPONSIBLE FOR ARRANGING THE DISPOSAL OF TRASH.



RELEASED FOR CONSTRUCTION

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	,	STORM DR	AINAGE TABLE	E
INLET#	TYPE	RIM ELEV (EOP)	INV IN (SLOPE) (FROM-SIZE)	INV OUT (SLOPE) (TO-SIZE)
100	FES	307.00	302.00 (1.00%) (101-15")	
101	СВ	317.75	314.00 (4.00%) (102-15")	302.11 (1.00%) (100-15")
102	СВ	326.80	320.52 (1.00%) (103-15")	320.42 (4.00%) (101-15")
103	YI	329.80	321.80 (1.00%) (104-15")	321.70 (1.00%) (102-15")
104	YI	328.80	322.56 (1.00%) (105-15")	322.46 (1.00%) (103-15")
105	YI	328.80		323.47 (1.00%) (104-15")
106	FES	306.52	305.00 (1.00%) (107-15")	
107	RISER	307.68		305.24 (1.00%) (106-15")

Г				
		2020-08-17	NC	NCDEQ COMMENTS
	2	2020-08-20	HARNET	HARNETT COUNTY COMMENTS
	3	2020-09-09	NC	NCDEQ COMMENTS
	4	2020-09-22	NC	NCDEQ COMMENTS
	5	2020-11-10	Ŧ	HRW COMMENTS
	9	2020-12-11	RELEASE	RELEASED FOR CONSTRUCTION
	DATE:	E: 7 / 2020		HORZ. SCALE: SCALE
	FILE	FILE NO. 2019-065	5	ORIG. SHEET SIZE: 24 x 36

PLAN

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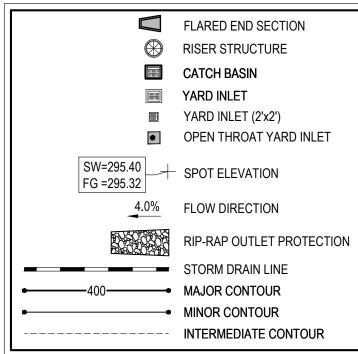
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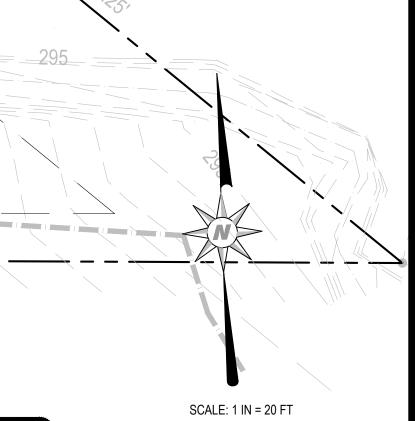
GRADING & DRAINAGE NOTES:

ALL STORM DRAINAGE PIPING SHALL BE CLASS III RCP UNLESS NOTED OTHERWISE.

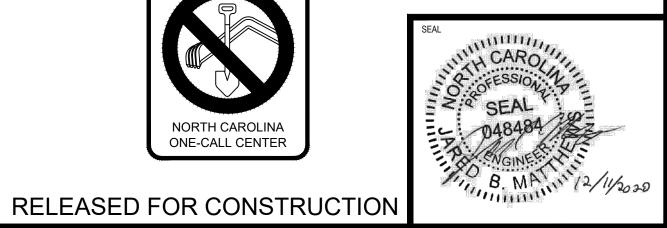
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH NCDEQ, NCDOT, AND HARNETT COUNTY STANDARDS AND SPECIFICATIONS.
- CONTRACTOR SHALL COORDINATE ALL GRADING OPERATIONS WITH THE OWNER'S GEOTECHNICAL ENGINEER, AS APPROPRIATE.
- CONTRACTOR SHALL MAINTAIN POSITIVE SLOPE AND OUTFALL OF ANY FOUNDATION DRAIN SYSTEMS.
- SPOT ELEVATIONS ON CURB REFER TO THE BACK OR TOP OF CURB (TOC) ELEVATION. ELEVATIONS ON STORM DRAINAGE TABULATIONS (SEE DETAIL SHEET) REFER TO EDGE OF PAVEMENT (EOP) ELEVATION.
- ALL STORM DRAIN HOODS, MANHOLE COVERS AND GRATES ARE TO BE LABELED "NO DUMPING DRAINS TO STREAM".
- CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL GRADES PRIOR TO THE START OF CONSTRUCTION.
- THIS SITE IS ANTICIPATED TO BE A BALANCE EARTHWORK SITE. IN THE EVENT MATERIAL IS TAKEN OFF-SITE OR RECEIVED FROM AN OFF-SITE SOURCE, NCDEQ MUST BE NOTIFIED AND THE MATERIAL MUST ORIGINATE FROM A PERMITTED FACILITY.
- RETAINING WALLS OVER 4' IN HEIGHT MUST BE PERMITTED SEPARATELY.

LEGEND:

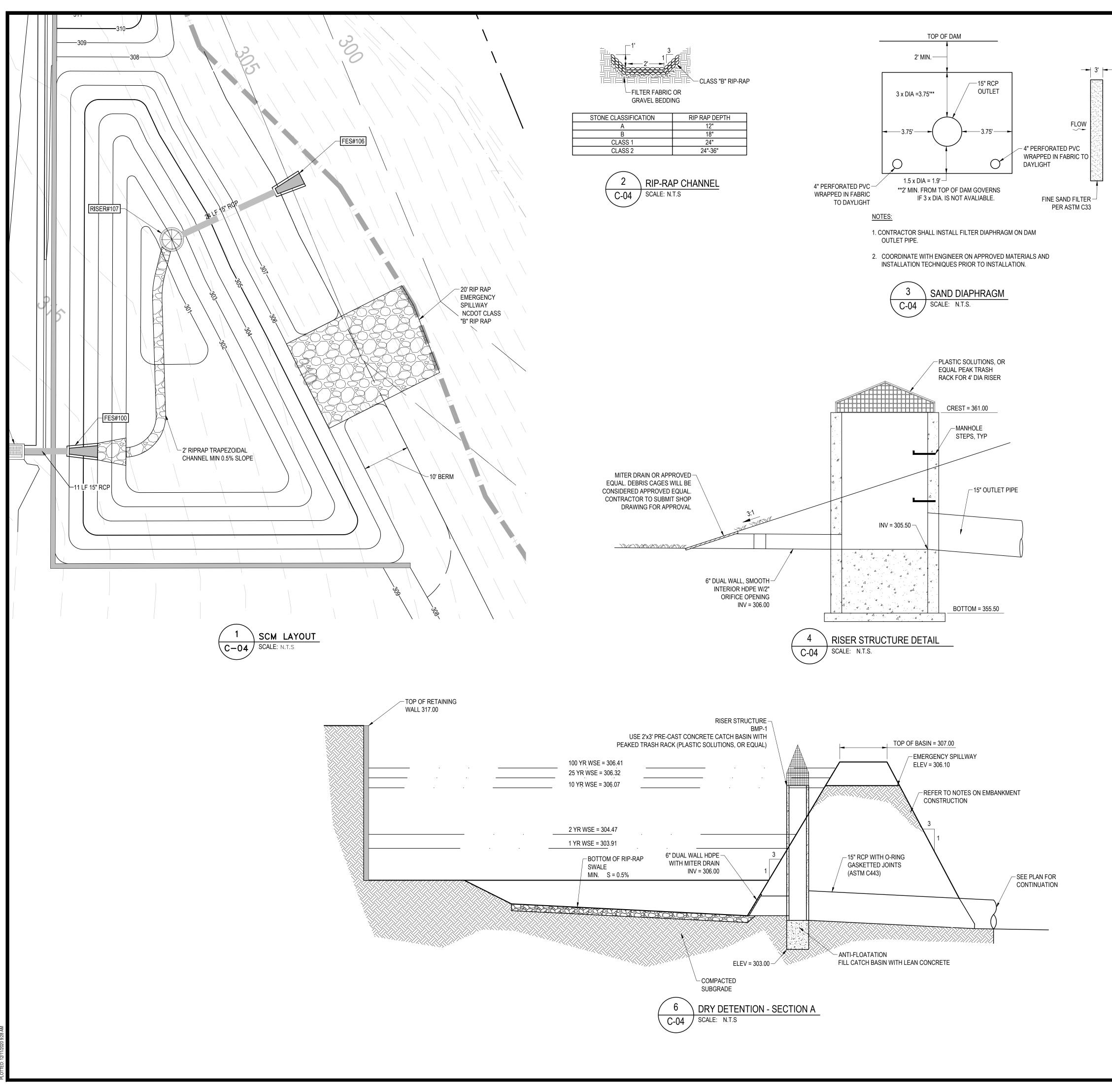




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PROJECTS FOLDER-ZEBULONI2019/2019-065 HAL FARTHING - JARCO LOT 9 - HARNETT COUNTYPLANSISITE PLANISHEET FILESIC-04 SCM PLAN & SECTI

									7
_	G	ENERAL NOTES:	٦						30
	1.	THIS SITE IS LOCATED IN THE CAPE FEAR RIVER BASIN, MEDIUM DENSITY COMMERCIAL.						$\exists_{\mathbf{u}}$	>
	2.	DRY DETENTION BASIN SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE NORTH CAROLINA DEPARTMENT OF NATURAL RESOURCES STORMWATER BMP MANUAL - LATEST EDITION. DRY DETENTION BASIN PROVIDES MINIMAL WATER QUALITY TREATMENT.			NTS		ACH.	LE: SCALE	0
	3.	THE PROJECT MEETS THE REQUIREMENTS OF NCDEQ BMP MANUAL, LATEST EDITION.		S	NTS	NTS	LS	SCALE:	
	4.	MAXIMUM SLOPE OF BASIN IS 3:1.		0	TV CC	MME	MEN		¢
	5.	ALL SIDE SLOPES, EMBANKMENTS AND SPILLWAYS SHALL BE COMPACTED TO MINIMUM 95% STANDARD PROCTOR PER ASTM-D698.		REVIS	ETT COUN	NCDEQ COMMENT	HRW CON	HORZ.	
	6.	CONTROLLED FILL, AS SPECIFIED BY THE RESIDENT ENGINEER, IN THE DAM EMBANKMENT SHALL BE PLACED IN 6-INCH LOOSE LAYERS (3-INCH LOOSE LAYERS WITHIN 3-FEET OF EITHER SIDE OF THE PRINCIPAL SPILLWAY PIPE TO A DEPTH OF 2-FEET OVER THE PIPE) AND SHALL BE COMPACTED TO A DENSITY OF NO LESS THAN 95% OF THE STANDARD PROCTOR MAXIMUM DENSITY AT A MOISTURE CONTENT OF + OR - TWO PERCENTAGE POINTS OF THE OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM-D698.		-	HARN		HRW		L
	7.	ALL VISIBLE ORGANIC DEBRIS SUCH AS ROOTS AND LIMBS SHALL BE REMOVED FROM THE FILL MATERIAL PRIOR TO COMPACTION TO THE REQUIRED DENSITY. SOILS WITH ORGANIC MATTER CONTENT EXCEEDING 5% BY WEIGHT SHALL BE USED. STONES GREATER THAN 3-INCH (IN ANY DIRECTION) SHALL BE REMOVED FROM THE FILL PRIOR TO COMPACTION.			2020-08-17 2020-08-20	2020-09-09	2020-11-10		
	8.	FILL MATERIAL PLACED AT DENSITIES LOWER THAN SPECIFIED MINIMUM DENSITIES OR AT MOISTURE CONTENTS OUTSIDE THE SPECIFIED RANGES OR OTHERWISE NOT CONFORMING TO SPECIFIED REQUIREMENTS SHALL BE REMOVED AND REPLACED WITH ACCEPTABLE MATERIALS.			- 2	3	. ro r	o DATE:	
	9.	ANY FILL LAYER THAT IS SMOOTH DRUM ROLLED TO REDUCE MOISTURE PENETRATION DURING A STORM EVENT SHALL BE PROPERLY SCARIFIED PRIOR TO THE PLACEMENT OF THE NEXT SOIL LIFT.							
	10.	SURFACE WATER AND STREAM FLOW SHALL BE CONTINUOUSLY CONTROLLED THROUGHOUT CONSTRUCTION AND THE PLACEMENT OF CONTROLLED FILL.							
	11.	FOUNDATION AREAS MAY REQUIRE UNDERCUTTING OF COMPRESSIBLE AND/OR UNSUITABLE SOILS IN ADDITION TO THAT INDICATED ON THE PLANS. ALL SUCH UNDERCUTTING SHALL BE PERFORMED AT THE DISCRETION OF THE GEOTECHNICAL ENGINEER AND SHALL BE MONITORED AND DOCUMENTED. IN NO CASE SHALLTHERE BE AN ATTEMPT TO STABILIZE AND PORTIONS OF THE FOUNDATION SOILS WITH CRUSHED STONE.							
	12.	TREATMENT OF SEEPAGE AREAS, SUBGRADE PREPARATION, FOUNDATION DEWATERING AND ROCK FOUNDATION PREPARATION (I.E., TREATMENT WITH SLUSH GROUTING, DENTAL CONCRETE, ETC.) MAY BE REQUIRED AT THE DISCRETION OF THE RESIDENTIAL ENGINEER. ALL SUCH ACTIVITIES SHALL BE CLOSELY MONITORED AND DOCUMENTED BY THE GEOTECHNICAL ENGINEER.							
	13.	FILL ADJACENT TO THE RISER AND PRINCIPAL SPILLWAY PIPE SHALL BE PLACED SO THAT LIFTS ARE AT THE SAME LEVEL ON BOTH SIDES OF THE STRUCTURES.							
	14.	EARTHWORK COMPACTION WITHIN 3-FEET OF ANY STRUCTURES SHALL BE ACCOMPLISHED BY MEANS OF HAND TAMPERS, MANUALLY DIRECTED POWER TAMPERS OR PLATE COMPACTORS OR MINIATURE SELF-PROPELLED ROLLERS.			Ĺ			•	
	15.	COMPACTION BY MEANS OF DROP WEIGHTS FROM A CRANE OR HOIST SHALL NOT BE PERMITTED.						S.	
	16.	HEAVY EQUIPMENT SHALL NOT BE ALLOWED TO PASS OVER CAST-IN-PLACE STRUCTURES UNTIL ADEQUATE CURING TIME HAS ELAPSED.						SNC	/ /
	17.	TO RE-ESTABLISH VEGETATION AFTER CONSTRUCTION, A 2- TO 3-INCH LAYER OF TOPSOIL SHALL BE PLACED ON THE DISTURBED EMBANKMENT SURFACE AND THE AREA SEEDED AND MULCHED OR HYDROSEEDED.			5			Ĭ	/
	18.	ALL RISER STRUCTURES, INCLUDING WEIR WALL TYPE STRUCTURES, SHALL BE REINFORCED CONCRETE.			C	2		C	

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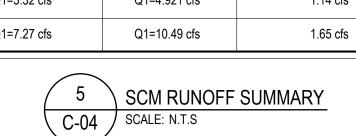
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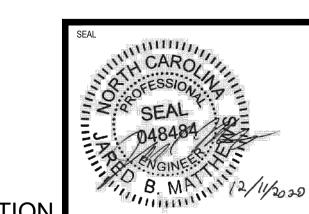
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- ALL RISER STRUCTURES, INCLUDING WEIR WALL TYPE STRUCTURES, SHALL BE REINFORCED CONCRETE. BRICK/CONCRETE BLOCK AND MORTAR TYPE STRUCTURES WILL NOT BE ACCEPTED.
 ALL RISER STRUCTURES SHALL BE LOCATED SUCH THAT DIRECT ACCESS EROM THE DAM EMBANKMENT CAN INTERPORT ACCESS.
- 19. ALL RISER STRUCTURES SHALL BE LOCATED SUCH THAT DIRECT ACCESS FROM THE DAM EMBANKMENT CAN BE ACHIEVED.
- 20. RISER STRUCTURES WITH MULTIPLE BARREL SECTIONS SHALL HAVE GASKETTED JOINTS, AND EACH SECTION SHALL BE BOLTED TO ADJACENT SECTIONS WITH STAINLESS STEEL STRAPS.

	PEA	AK RUNOFF CALCULATION	NS	
STORM EVENT	PRE	POST	POST-INFILTRATION	ELEV.
1-YR	Q1=2.07 cfs	Q1=3.13 cfs	1.14 cfs	303.91
2-YR	Q1=3.32 cfs	Q1=4.921 cfs	1.14 cfs	304.47
10-YR	Q1=7.27 cfs	Q1=10.49 cfs	1.65 cfs	306.07

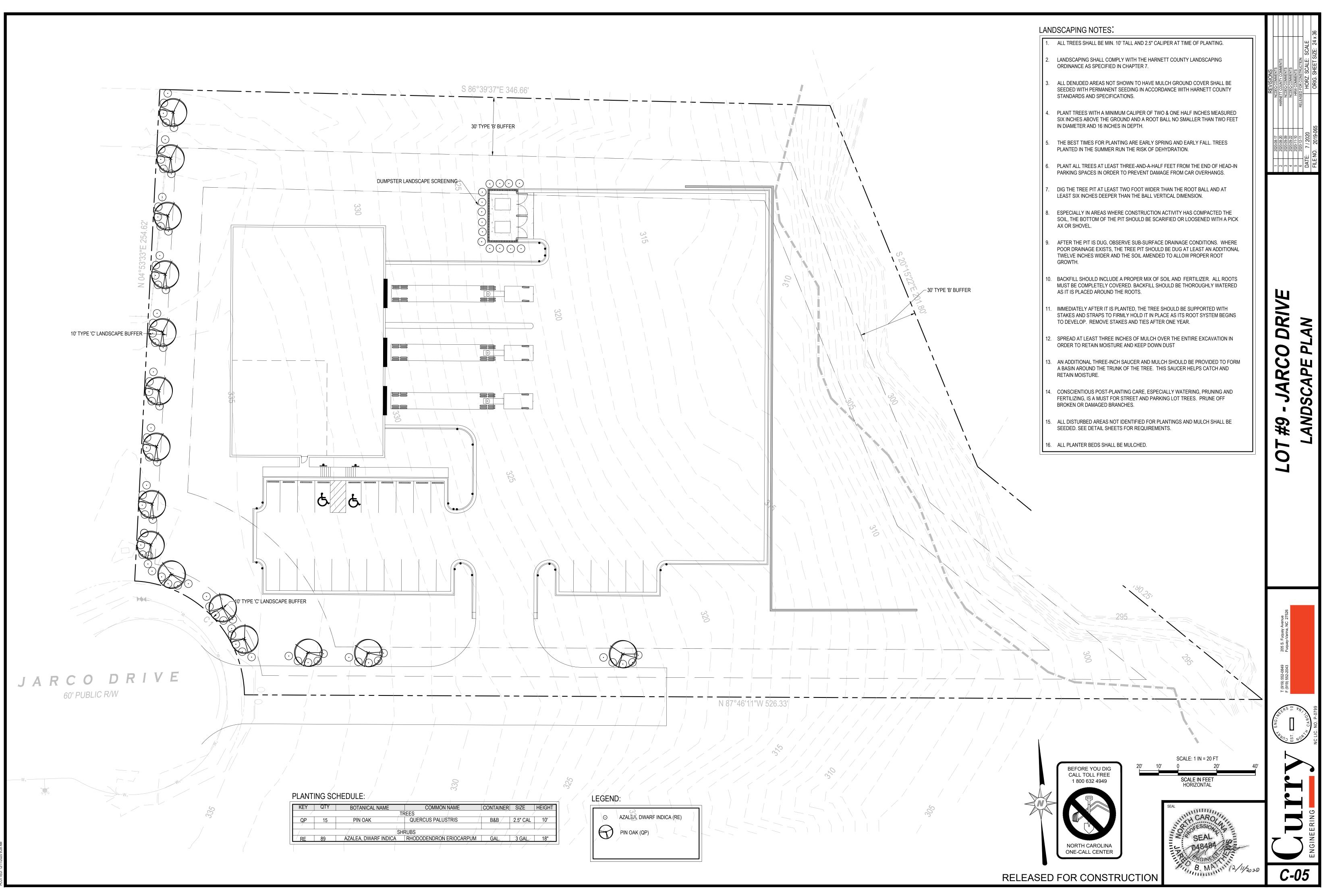




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CCTS FOLDER-ZEBULON/2019/2019-065 HAL FARTHING - JARCO LOT 9 - HARNETT COUNTY/PLANSISITE PLAN/SHEET FILES/C-05 LANDSC

2016 HCDPU REQUIRED UTILITY NOTES (Revision 6 – June 2016)

The following utility notes should be added to the coversheet of utility plans for projects located in Harnett County: A. The Fire Marshal's Office shall approve all hydrant types and

- locations in new subdivisions. However, Harnett County Department of Public Utilities (HCDPU) prefers the contractors to
- bepartment of Public offittes (nCDF0) prefers the contractors to install one of the following fire hydrants:

 Mueller Super Centurion 250 A-423 model with a 5¼" main valve opening three way (two hose nozzles and one pumper nozzle);
 American Darling Mark B-84-B model with a 5¼" main valve opening three way (two hose nozzles and one pumper nozzle);
 Waterous Pacer B-67-250 model with a 5¼" main valve opening three way (two hose nozzles and one pumper nozzle) or approved equal for standardization. B. Fire hydrants are installed at certain elevations. Any grade change in the vicinity of any fire hydrant which impedes its operation shall become the responsibility of the Utility Contractor for correction. Corrections will be monitored by the
- HCDPU Utility Construction Inspector and the Harnett County Fire Marshal. The Professional Engineer (PE) shall obtain and provide the NCDENR "Authorization to Construct" permit to the Utility Contractor before the construction of the water line shall begin The Utility Contractor must post a copy of the NCDENR "Authorization to Construct" permit issued by the North Carolina Department of Environment and Natural Resources – Division of Environmental Health. Public Water Supply Section (NCDENR-DEH, PWSS) on site prior to the start of construction. The permit
- must be maintained on site throughout the entire construction process of the proposed water lines that will serve this project. The Utility Contractor shall notify Harnett County Department of Public Utilities (HCDPU) and the Professional Engineer (PE) at least two days prior to construction commencing. The Utility Contractor must schedule a pre-construction conference with Mr. Alan Moss, HCDPU Utility Construction Inspector at least two (2) days before construction will begin and the Utility Contractor must coordinate with HCDPU for regular inspection visitations and acceptance of the water system(s). Construction work shall be performed only during the normal working hours of HCDPU which is 8:00 am - 5:00 pm Monday through Friday. Holiday and weekend work is not permitted by HCDPU.
- The Professional Engineer (PE) shall provide HCDPU and the Utility Contractor with a set of NCDENR approved plans marked "Released For Construction" at least two days prior to construction commencing. The Registered Land Surveyor (RLS) should stake out all lot corners and the grade stakes for the proposed finish grade for each street before the Utility Contractor begins construction of the water line(s). The grade stakes should be set with a consistent offset from the street centerline so as not to interfere with the street grading and utility construction.
- The Utility Contractor shall provide the HCDPU Utility Construction Inspector with material submittals and shop drawings for all project materials prior to the construction of any water line extension(s), and associated water services in Harnett County. The materials to be used on the project must meet the established specifications of HCDPU and be approved by the Engineer of Record prior to construction. All substandard materials or materials not approved for use in Harnett County found on the project site must be removed immediately when notified by the HCDPU Utility Construction Inspector.
- The water main(s), fire hydrants, service lines, meter setters and all associated appurtenances shall be constructed in strict in accordance with the standard specifications of the Harnett County Department of Public Utilities (HCDPU). The Utility Contractor shall be responsible to locate the newly installed water main(s), water service lines and all associated meter setters and meter boxes for other utility companies and their contractors until the new water main(s) have been approved by the North Carolina Department of Environment and Natural **Resources – Division of Environmental Health, Public Water**
- Supply Section (NCDENR-DEH, PWSS) and accepted by HCDPU. Prior to acceptance, all services will be inspected to insure that they are installed at the proper depth. All meter boxes must be flush with the ground level at finish grade and the meter setters must be a minimum of 8" below the meter box lid. Meter setters shall be centered in the meter box and supported by brick, block or stone.
- The Utility Contractor shall provide the Professional Engineer (PE) and HCDPU Utility Construction Inspector with a set of red line drawings identifying the complete water system installed for each project. The red line drawings should identify the materials, pipe sizes and approximate depths of the water lines as well as the gate valves, fire hydrants, meter setters, blow off assemblies and all associated appurtenances for all water line(s) constructed in Harnett County. The red line drawings should clearly identify any deviations from the NCDENR approved plans. All change orders must be approved by HCDPU and the sional Engineer (PE) in writing and properly documented in the red line field drawings.
- Potable water mains crossing other utilities and non-potable water lines (sanitary sewer, storm sewer, RCP, etc.) shall be laid to provide a minimum vertical distance of twenty-four (24") inches between the potable water main and all other utilities. NCDOT requires the new water mains to be installed under the storm water lines. The notable water main shall be installed with twenty-four (24") inches of vertical separation and with ductile iron pipe when designed to be placed under a nonpotable water line such as sanitary sewer or storm sewer lines. If these separations cannot be maintained then the water main shall be installed with ductile iron pipe. Both the potable water main and the non-potable water line must be cast iron or ductile iron pipe (DIP) if the state minimum separations cannot be maintained. The ductile iron pipe must be laid so the mechanical joints are at least (10') feet from the point where the potable water main crosses the non-potable water line.
- Potable water mains installed parallel to non-potable water lines (sanitary sewer, storm sewer, RCP, etc.) shall be laid to provide a minimum horizontal distance of ten (10') feet between the potable water main and sanitary sewer mains, sewer laterals and services. The horizontal separation between the potable water main and any other utility or storm sewer shall not be less than five (5') feet. The potable water main must be ductile iron pipe if this horizontal separation of ten (10') feet cannot be maintained. The ductile iron pipe shall extend at least ten (10') feet beyond the point where the minimum required horizontal separation of ten (10') feet can be re-established.
- Meter setters shall be installed in pairs on every other lot line where possible to leave adequate space for other utilities to be installed at a later time. The meter setters shall be installed at least one (1') foot inside the right-of-way and at least three (3') to five (5') feet from the property line between the lots.
- HCDPU requires that meter boxes for 3/4" services shall be 12" wide x 17" long ABS plastic boxes at least 18" in height with cast iron lids/covers. Meter boxes for 1" services shall be 17" wide x 21" long ABS plastic boxes at least 18" in height with plastic lids and cast iron flip covers in the center of the lids. Meter boxes for 2" services shall be 20" wide x 32" long ABS plastic boxes at least 20" in height with plastic lids and cast iron flip covers in the center of the lids.
- Master meters must be installed in concrete vaults sized for the N. meter assembly and associated appurtenances so as to provide at least eighteen (18") inches of clearance between the bottom of the concrete vault and the bottom of the meter setter. The master meter must be provided test ports if the meter is not equipped with test ports from the manufacturer in accordance with the HCDPU established standard specifications and details Ductile iron pipe must be used for the master meter vault piping and valve vault piping. The Utility Contractor must provide shop drawings for the meter vaults to HCDPU prior to ordering the concrete vaults.
- The Utility Contractor will install polyethylene SDR-9 water service lines that cross under the pavement inside a schedule 40 PVC conduit to allow for removal and replacement in the future. Two (2) independent 34" water service lines may be installed inside one (1) - two (2") inch schedule 40 PVC conduit or two (2) independent 1" water service lines may be installed inside one (1) - three (3") inch schedule 40 PVC conduit, but each water service shall be tapped directly to the water main. Split services are not allowed by HCDPU.
- The water main(s), fire hydrants, gate valves, service lines, meter setters and associated appurtenances must be rated for 200 psi and hydrostatically pressure tested to 200 psi. The hydrostatic pressure test(s) must be witnessed by the HCDPU Utility **Construction Inspector. The Utility Contractor must notify** HCDPU when they are ready to begin filling in lines and
- coordinate with Harnett County to witness all pressure testing. The Utility Contractor shall conduct a pneumatic pressure test using compressed air or other inert gas on the stainless steel tapping sleeve(s) prior to making the tap on the existing water main. This pneumatic pressure test must be witnessed by the HCDPU Utility Construction Inspector. The Utility Contractor shall use <u>Romac</u> brand stainless steel tapping sleeve(s) or approved equal for all taps made in Harnett County. All new water line extensions must begin with a resilient wedge type gate valve sized equal to the diameter of the new water line extension in order to provide a means of isolation between Harnett County's existing water mains and the new water line extensions

under construction

- All water mains will be constructed with SDR-21 PVC Pipe or Class 50 Ductile Iron Pipe rated for at least 200 psi or greater. All pipes must be protected during loading, transport, unloading, staging, and installation. PVC pipe must be protected from extended exposure to sunlight prior to installation.
- All water mains will be flushed and disinfected in strict accordance with the standard specifications of the Harnett County Department of Public Utilities. All water samples collected for bacteria testing will be collected by the HCDPU Utility Construction Inspector and tested in the HCDPU Laboratory.
- All fittings larger than two (2") inches diameter shall be ductile iron. HCDPU requires that mechanical joints be assembled with grip rings as "Megalug" fittings are not approved by Harnett County for pipe sizes smaller than twelve inches (12") diameter. PVC pipe used for water mains shall be connected by slip joint or mechanical joint with grip rings. Glued pipe joints are not allowed on PVC pipe used for water mains in Harnett County
- HCDPU requires that the Utility Contractor install tracer wire in the trench with all water lines. The tracer wire shall be 12 ga insulated, solid copper conductor and it shall be terminated at the top of the valve boxes or manholes. No spliced wire connections shall be made underground on tracer wire installed in Harnett County. The tracer wire may be secured with duct tape to the top of the pipe before backfilling. The Utility Contractor will provide Professional Engineer (PE
- and the HCDPU Utility Construction Inspector with a set of red line field drawings to identify the installed locations of the water line(s) and all associated services. All change orders must be pre-approved by HCDPU and the Professional Engineer (PE) in writing and properly documented in the red line field drawings. The Utility Contractor shall spot dig to expose each utility pipe of
- line which may conflict with construction of proposed water line extensions well in advance to verify locations of the existing utilities. The Utility Contractor shall provide both horizontal and vertical clearances to the Professional Engineer (PE) to allow the PE to adjust the water line design in order to avoid conflicts with existing underground utilities. The Utility Contractor shall coordinate with the utility owner and be responsible for temporary relocation and/or securing existing utility poles pipes, wires, cables, signs and/or utilities including services in accordance with the utility owner requirements during water line installation, grading and street construction.
- Prior to the commencement of any work within established utility easements or NCDOT right-of-ways the Utility Contractor is required to have a signed NCDOT encroachment agreement posted on site and notify all concerned utility companies in accordance with G.S. 87-102. The Utility Contractor must call the NC One Call Center at 811 or
- (800) 632-4949 to verify the location of existing utilities prior to the beginning of construction. Existing utilities shown in these plans are taken from maps furnished by various utility companies and have not been physically located or verified by the P.E. (i.e. TELEPHONE, CABLE, WATER, SEWER, ELECTRICAL POWER, FIBER OPTIC, NATURAL GAS, ETC.). The Utility Contractor will be responsible to repair any and all damages to
- the satisfaction of the related utility company. The Utility Contractor shall provide HCDPU with at least one (1) fire hydrant wrench and one (1) break-away flange kit for every subdivision with fire hydrants developed in Harnett County These items must be provided to HCDPU before the final inspection will be scheduled by the HCDPU Utility Construction Inspector. In addition, the Utility Contractor shall install a 4" x 4" concrete valve marker at the edge of the right-of-way to identify the location of each gate valve installed in the new water system with the exception of the fire hydrant isolation valves. The contractor shall measure the distance from the center of the concrete marker to the center of the valve box. This distance (in linear feet) shall be stamped on the brass plate located on the top of the concrete valve marker. In lieu of installing the concrete valve markers, the Utility Contractor may provide at least two measurements from two independent permanent above ground structures to the Professional Engineer (PE) in the red line drawings to identify the valve locations. The Professional
- Engineer (PE) must include these measurements in the As-Built Record Drawings submitted to HCDPU. The Utility Contractor will be responsible for any and all repairs due to leakage damage from poor workmanship during the one (1) year warranty period once the water system improvements have been accepted by Harnett County. Harnett County will provide maintenance and repairs when requested and bill the Developer and/or Utility Contractor if necessary due to lack of response within 48 hours of notification of warranty work. The Utility Contractor will be responsible for any and all repairs due to damages resulting from failure to locate the new water lines and associated appurtenances for other utilities and their contractors until the water lines have been approved by NCDENR and accepted by HCDPU. The final inspection of water system improvements cannot be scheduled with HCDPU until the streets nave been paved; the rights-of-way and utility ea been seeded and stabilized with an adequate stand of grass in

place to prevent erosion issues on site.

- AA The Engineer of Record is responsible to insure that construction is, at all times, in compliance with accepted sanitary engineering practices and approved plans and specifications. No field changes to the approved plans are allowed without prior written approval by HCDPU. A copy of each engineer's field report is to be submitted to HCDPU as each such inspection is made on system improvements or testing is performed by the contractor. Water and sewer infrastructure must pass all tests required by HCDPU specifications and those of all applicable regulatory agencies. These tests include, but are not limited to: air test. vacuum test, mandrel test, visual test, pressure test, bacteriological test, etc. A HCDPU Inspector must be present during testing and all test results shall be submitted to HCDPU. All tests must be satisfied before the final inspection will be scheduled with the HCDPU Inspector. The Engineer of Record must request in writing to schedule the final inspection once all construction is complete. The Developer's Engineer of Record and the HCDPU Utility Construction Inspector shall prepare a vritten punch list of any defects or deficiencies noted during the final inspection, should any exist. Upon completion of the punch list, the Developer's Engineer of Record will schedule another inspection. In the event the number of inspections performed by the HCDPU exceeds two, additional fees may be accessed to the Developer
- SANITARY SEWER The Professional Engineer (PE) shall obtain and supply a copy of the sewer permit for the construction and operation of the wastewater collection system to the Utility Contractor before the
- construction of the sanitary sewer line, sewer lift station and associated force main shall begin. The Utility Contractor must post a copy of the sewer permit issued by the North Carolina

Water Quality (NCDENR-DWQ) on site prior to the start of construction. The permit must be maintained on site during the construction of the sewer system improvements B. The Utility Contractor shall notify Harnett County Department of Public Utilities (HCDPU) and the Professional Engineer (PE) at least two days prior to construction commencing. The Utility Contractor must schedule a pre-construction conference with Mr Alan Moss, HCDPU Utility Construction Inspector at least two (2) days before construction will begin and the Utility Contractor must coordinate with HCDPU for regular inspection visitations and acceptance of the wastewater system(s). Construction work shall be performed only during the normal working hours of HCDPU which is 8:00 am - 5:00 pm Monday through Friday Holiday and weekend work is not permitted by HCDPU. The Professional Engineer (PE) shall provide HCDPU with a set of NCDENR approved plans marked "Released For Construction" at least two days prior to construction commencing. HCDPU will stamp the approved plans as "Released for Construction" and provide copies to the utility contractor. The Registered Land Surveyor (RLS) shall stake out all lot corners and establish grade stakes for the proposed finish grade for each street and sewer line before the Utility Contractor begins construction or installation of the manholes, sanitary sewer gravity line(s), sewer lift stations and/or sanitary sewer force main(s). The

Department of Environment and Natural Resources – Division of

grade stakes should be set with a consistent offset from the street

centerline so as not to interfere with the street grading or utility

construction.

HCDPU

water lines.

concrete donut for protection

manholes.

sewer systems clean. Sanitary sewer force main(s) shall be

pressure tested to 200 psi for at least 2 hours like water line

materials, pipe sizes and approximate depths of the sewer lines

sewer gravity line(s), sanitary sewer service laterals, clean-outs

sewer lift station(s) and associated force main(s). The red line

NCDENR approved plans. All change orders must be approved by

as well as the installed locations of the manhole(s), sanitary

drawings should clearly identify any deviations from the

HCDPU and the Professional Engineer (PE) in writing and

properly documented in the red line field drawings.

Utility Construction Inspector.

D. The Utility Contractor shall provide the HCDPU Utility Construction Inspector with material submittals and shop drawings for all project materials prior to the construction of any gravity sewer line(s), manhole(s), sewer lift station(s) and associated force main(s) in Harnett County. The materials to be used on the project must meet the established specifications of HCDPU and be approved by the Engineer of Record prior to construction. All substandard materials or materials not approved for use in Harnett County found on the project site must be removed immediately when notified by the HCDPU

The sanitary sewer lateral connections should be installed 90° (perpendicular) to the sanitary sewer gravity lines with schedule 40 PVC pipe. HCDPU requires the Utility Contractor to provide the Professional Engineer (PE) with accurate measurements for locating sanitary sewer service lateral and associated each sanitary sewer clean-out. These measurements should be taken from the nearest downstream manhole up along the sanitary sewer main to the in-line wye fitting (or tapping saddle) and then another measurement from the in-line wye fitting (or tapping saddle) to the 4" x 4" long sweep combination wye fitting at the bottom of the sewer clean-out stack. These field measurements must be provided to the Professional Engineer (PE) in the red line drawings from the Utility Contractor for proper documentation in the As-Built Record Drawings submitted to

The Utility Contractor shall be responsible to locate the newly installed sanitary sewer gravity line(s), sanitary sewer force main(s), sanitary sewer service lateral(s) and all associated sewer clean-out(s) in the proposed sanitary sewer system for other utility companies and their contractors until the new sanitary sewer line(s) and associated appurtenances have been approved by the North Carolina Department of Environment and Natural Resources - Division of Water Quality (NCDENR-DWQ) and accepted by HCDPU. All new sanitary sewer lines must have at least three (3 ft.) feet of cover and extend under all existing water main and storm water lines with a least 24" of vertical clearance below the bottom of the existing water main and storm

The sanitary sewer gravity line(s), manhole(s), sanitary sewer service lateral(s) and associated clean-out(s) shall be constructed in strict accordance with the standard specifications of the Harnett County Department of Public Utilities. The sanitary sewer gravity line(s) must pneumatically pressure tested with compressed air at 5 psi and the sanitary sewer force main(s) must hydrostatically pressure tested with water or air at 200 psi. Sanitary sewer manholes must be vacuum tested to 10 inches of mercury and cannot drop below 9 inches in 60 seconds for 4 ft. diameter manholes. 75 seconds for 5 ft. diameter manholes. All tests mentioned above must be witnessed by the **HCDPU Utility Construction Inspector and Engineer** H. Prior to acceptance, all sewer service laterals will be inspected to insure that they are installed at the proper depth. All sewer clean-outs must be installed so the 4" x 4" long sweep combination wye is at least three (3') feet but no more than four (4') feet below the finish grade unless otherwise approved in writing by HCDPU. The sewer cleanouts shall have a four (4") schedule 40 PVC pipe stubbed up from both ends of the 4" x 4 long sweep combination wye to be at least two (2') feet above the finish grade and cover each end with a four (4") inch temporary

cap to keep out dirt, sand, rocks, water and construction d The vertical stack on each clean-out must be provided with a Once the sanitary sewer gravity line(s) have been installed, pneumatically pressure tested and in place for at least 30 days, the Utility Contractor must contact the HCDPU Utility Construction Inspector to witness the mandrel test on each PVG sanitary sewer gravity line. The Utility Contractor will notify HCDPU to schedule the mandrel testing. The mandrel and proving ring must be supplied by the Utility Contractor. Closed circuit video camera inspections (at the Utility Contractor's expense) may be required by the HCDPU Utility Construction Inspector if the mandrel and mirror tamping testing cannot be completed with satisfactory results. The sanitary sewer lines should be flushed clean using a sewer ball of the proper diameter before any mandrel testing can be performed. The Utility Contractor is responsible to remove all dirt, sand, silt, gravel mud and debris from the newly constructed sewer lines exercising care to keep the Harnett County's existing sanitary

The Utility Contractor shall be responsible to locate the newly installed sanitary sewer system(s) for other utility companies and their contractors until the new sanitary sewer system(s) have been approved by the North Carolina Department of Environment and Natural Resources – Division of Water Quality (NCDENR-DWQ)and accepted by HCDPU. HCDPU requires that the Utility Contractor install tracer wire in the trench with all sanitary sewer force mains. The tracer wire shall be 12 ga. insulated, solid copper conductor and it shall be terminated at the top of the valve boxes or manholes. No spliced wire connections shall be made underground on tracer wire installed in Harnett County. The tracer wire may be secured with duct tape to

the top of the pipe before backfilling. The tracer wire is not required for the gravity sewer line(s) between L. The Utility Contractor shall provide the Professional Engineer (PE) and HCDPU Utility Construction Inspector with a set of red line drawings identifying the complete sewer system installed for each project. The red line drawings should identify the

location of existing utilities prior to the beginning of construction. Existing utilities shown in these plans are taken from maps furnished by various utility companies and have not been physically located by the P.E. (i.e. TELEPHONE, CABLE, WATER, SEWER, ELECTRICAL POWER, FIBER OPTIC, NATURAL GAS. ETC.). The Utility Contractor shall spot dig to expose each existing utility pipe or line which may conflict with construction of proposed sanitary sewer line extensions well in advance to verify locations of the existing utilities. The Utility Contractor shall provide both horizontal and vertical clearances to the

Professional Engineer (PE) to allow the PE to adjust the sanitary sewer line design in order to avoid conflicts with existing underground utilities. The Utility Contractor shall coordinate with the utility owner and be responsible for temporary relocation of existing utilities and/or securing existing utility poles, pipes, wires, cables, signs and/or utilities including services in accordance with the utility owner's requirements during sanitary sewer line installation, grading and street construction. When making a tap on an existing sewer force main, the Utility

Prior to the commencement of any work within established

NC One Call Center at 811 or (800) 632-4949 to verify the

is required to notify all concerned utility companies in

utility easements or NCDOT right-of-ways the Utility Contractor

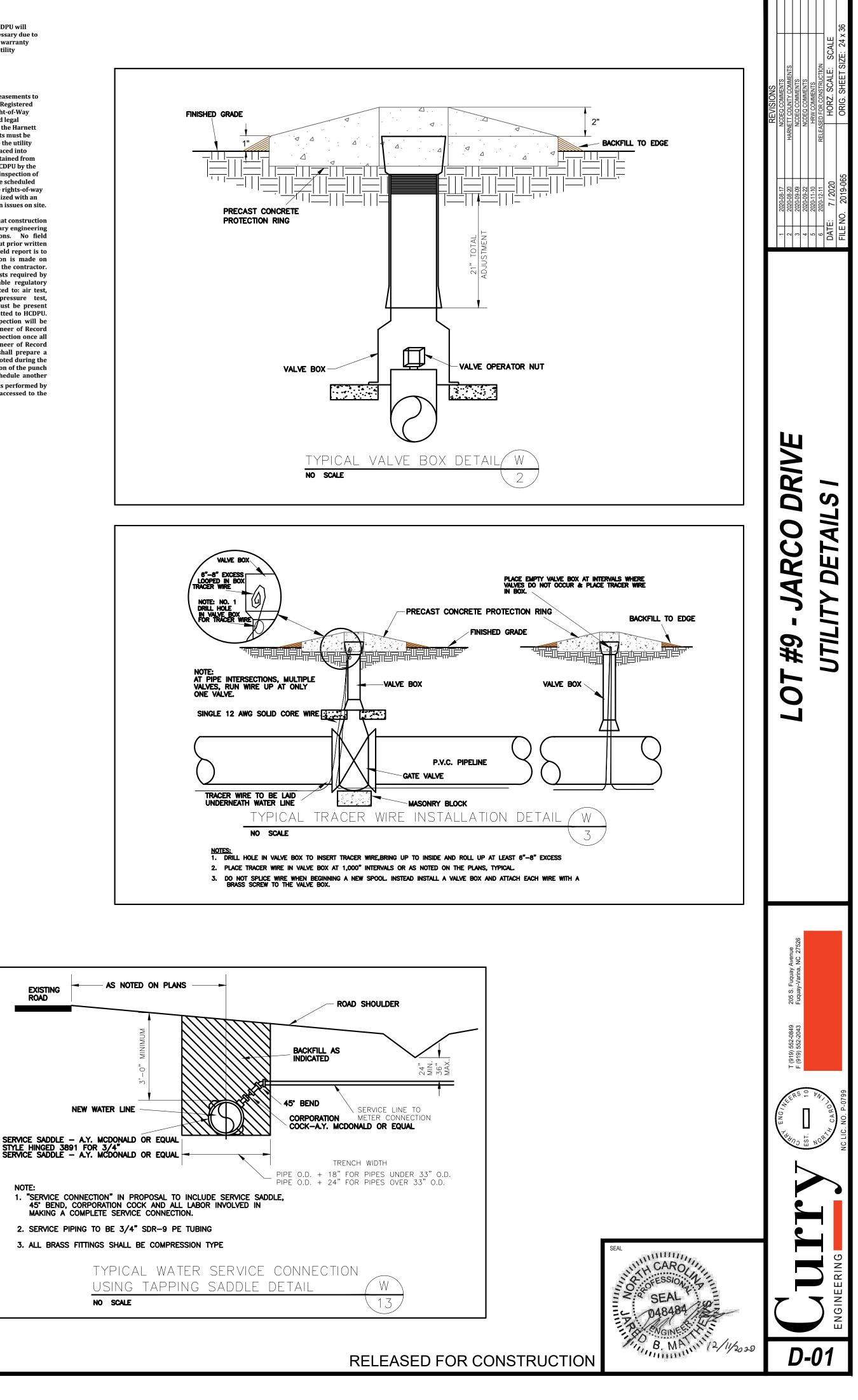
accordance with G.S. 87-102. The Utility Contractor must call the

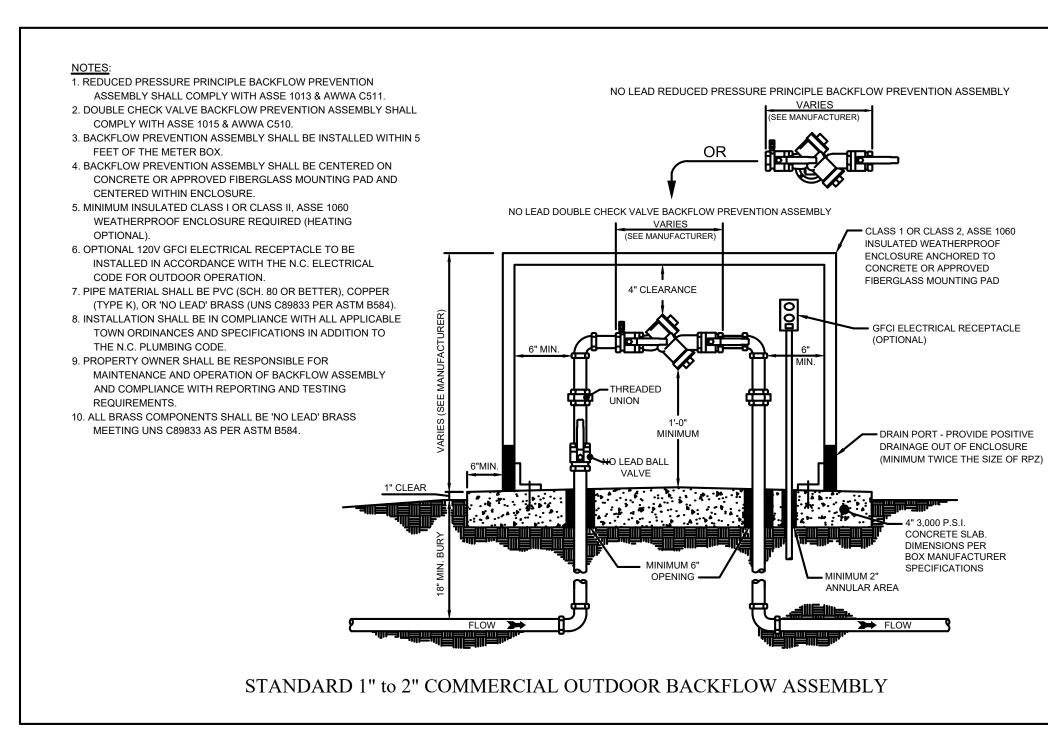
Contractor must have a permit from the North Carolina Department of Environment and Natural Resources – Division of Water Quality (NCDENR-DWQ) prior to begin the tap work. The Utility Contractor shall conduct a pneumatic pressure test using compressed air or other inert gas on the stainless steel tapping sleeve and gate valve prior to making the tap on an existing sanitary sewer force main. This pneumatic pressure test must be witnessed by the HCDPU Utility Construction Inspector. The Utility Contractor shall use Romac brand stainless steel tapping sleeve(s) or approved equal for all taps made on sanitary sewe force mains in Harnett County. The Utility Contractor shall use Romac brand Style "CB" sewer saddles with stainless steel bands or approved equal for all taps made on existing sanitary sewer gravity lines in Harnett County

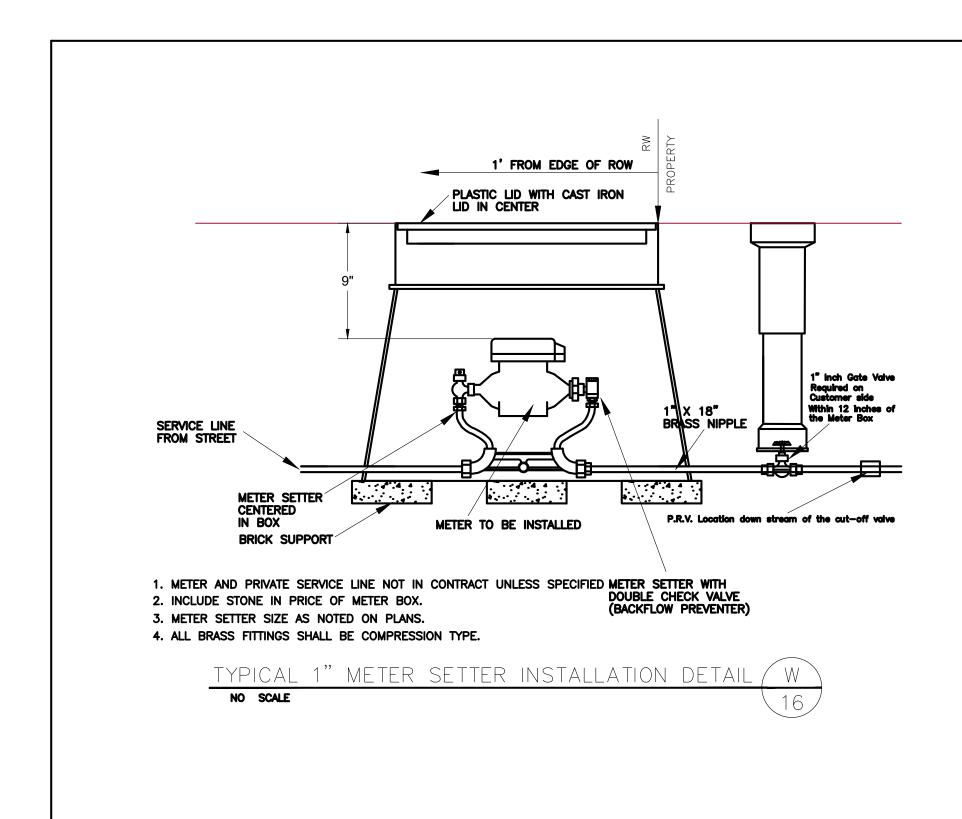
- The Utility Contractor shall provide a grease trap for each sanitary sewer service lateral that will be connected to a restaurant, food processing facility and any other commercial or industrial facility as required by the Harnett County Fat, Oil & Grease Ordinance. The grease trap must be rated for a minimum capacity of at least 1.000 gallons unless otherwise approved in writing by the HCDPU Pre-Treatment Coordinator. Garbage disposals should not be installed in homes and businesses that discharge wastewater to the Harnett County Sanitary Sewer System as they are not approved by HCDPU.
- Each sewer lift station must be provided with three phase power (at least 480 volts) and constructed to meet the minimum requirements of the latest version of the National Electrical Code (NEC) and Harnett County standard specifications and details. If three phase power is not available from the power company other arrangements must be approved by HCDPU Engineering prior to the start of construction.
- Where a new sanitary sewer force main is connected to an existing manhole in the Harnett County sewer collections system the Utility Contractor must provide a protective coating (coal tai epoxy) for the interior surfaces of the manhole to protect it against corrosion, erosion and deterioration from the release of sewer gases such as methane and hydrogen sulfide. The sewer lift station design and associated equipment must
- meet or exceed the MINIMUM REQUIREMENTS FOR HARNETT COUNTY SEWER LIFT STATIONS 2009 edition. Each sanitary sewer lift station must be constructed with an all-weather access road that is at least 20 feet wide. The lift station site must be covered with weed blocking material and at least six (6") inches of # 57 stone (crush and run). Once a sewer lift station has been installed, the Utility Contractor
- is responsible to schedule a draw down test with HCDPU Engineering and Collections staff, the Professional Engineer (PE) the Electrician, the original equipment manufacturer's (OEM) representatives [For both the Pumps and the Generator]. This draw down test must be completed with power supplied from the electrical utility company and with power supplied by the emergency generator with satisfactory results before final inspections are conducted by the HCDPU Utility Construction
- Once the Utility Contractor completes the installation of a sewer lift station, the Professional Engineer (PE) must submit the sewer permit certification and As-Built Record Drawings to the North Carolina Department of Environment and Natural Resources -Division of Water Quality (NCDENR-DWQ) and HCDPU for final approval. The Utility Contractor must supply HCDPU Engineering staff with three original Operation & Maintenance (0&M) Manuals along with the associated pump curves and electrical schematics for the associated sewer lift station quipment including all warranty ir documentation.
- Once the Utility Contractor completes the installation of a sewer lift station, the Developer must pay HCDPU the established System Control and Data Acquisition (SCADA) fees before the SCADA system will be installed at the new sewer lift station. The SCADA system must be installed and operational before the utilities may be accepted by HCDPU and placed into operation.
- HCDPU requires the Utility Contractor to provide all necessary equipment and devices for the testing and inspection of the sanitary sewer system. The equipment and devices may include but not limited to lamping with mirrors, mandrels, sewer balls, plugs, air compressors and associated compressed air lines. If the HCDPU Utility Construction Inspector deems that a closed circuit video camera inspection of the newly constructed sewer system is necessary, then all costs for the closed circuit camera inspection will be the responsibility of the Utility Contractor. All closed circuit video camera inspections must be recorded on VHS tapes that will released to HCDPU for record keeping, review and approval of the sewer system.
- Any use of sewer plugs to temporarily block Harnett County's existing sanitary sewer lines must be coordinated with the HCDPU Collections Supervisor at least two (2) days in advance of installing the plugs. The sewer plugs must be removed as soon as possible once the new sanitary sewer lines have been inspected, pressure tested, mandrel tested, approved by the North Carolina Department of Environment and Natural Resources - Division of Water Quality (NCDENR-DWQ) and accepted by HCDPU to allow the sewer to flow as designed in Harnett County's existing sanitary sewer lines or when so ordered by the HCDPU Collections Supervisor to limit interruptions to the normal flow of the sanitary sewer collection system(s). The Utility Contractor must provide the pumps hoses and necessary connectors for a temporary pump around setup if required by the HCDPU Collections Supervisor. Mr. Randolph Clegg, HCDPU Collections Supervisor may be contacted between 8:00 am and 5:00 pm Monday through Friday at (910) 893-7575 extension 3241.
- The Utility Contractor will be responsible for any and all repairs due to leakage or damage resulting from poor workmanship during the one (1) year warranty period once the sewer system mprovements have been approved by the North Carolina Department of Environment and Natural Resources – Division of Water Quality (NCDENR-DWQ) and accepted by HCDPU. The Utility Contractor will be responsible for any and all repairs due to damages resulting from failure to locate the new sanitary sewer lines and associated appurtenances for other utilities and their contractors until the sanitary sewer lines have been

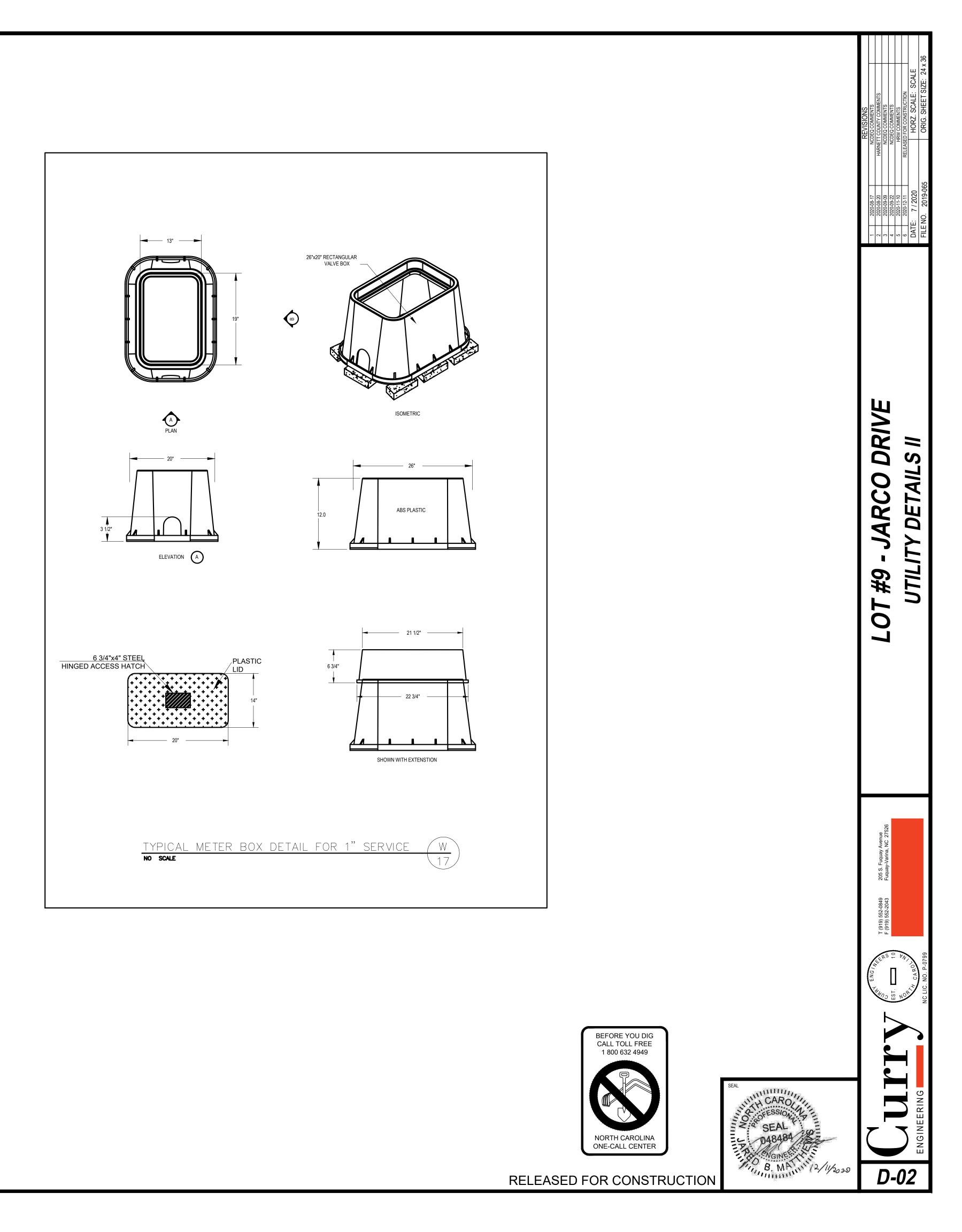
approved by NCDENR and accepted by HCDPU. HCDPU will provide maintenance and warranty repairs if necessary due to lack of response within 48 hours of notification of warranty work. HCDPU will invoice the Developer and/or Utility Contractor for materials and labor in such cases.

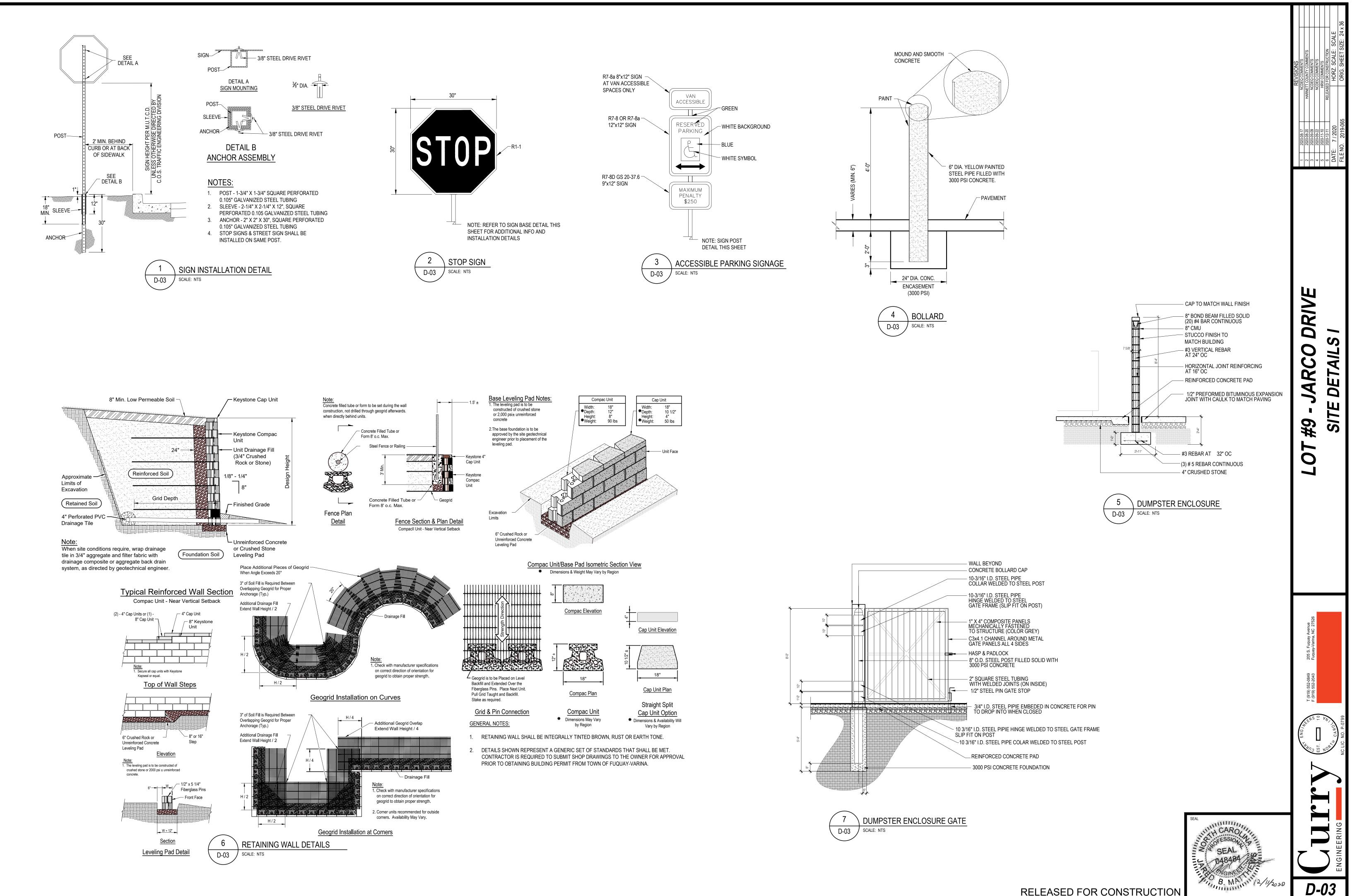
- In developments and projects that require utility easements to be established for future HCDPU right-of-way, the Registered Land Surveyor (RLS) must provide the HCDPU Right-of-Way Agent with an official copy of the recorded plat and legal description of the said easement as recorded with the Harnett County Register of Deeds. The recorded documents must be provided to the HCDPU Right-of-Way Agent before the utility improvements within the said easement can be placed into operation. Any and all easements that must be obtained from adjoining property owners must be provided to HCDPU by the Developer at no cost to Harnett County. The final inspection of all sanitary sewer system improvements cannot be scheduled with HCDPU until the streets have been paved; the rights-of-way and utility easements have been seeded and stabilized with an adequate stand of grass in place to prevent erosion issues on site
- AA. The Engineer of Record is responsible to insure that construction is, at all times, in compliance with accepted sanitary engineering practices and approved plans and specifications. No field changes to the approved plans are allowed without prior written approval by HCDPU. A copy of each engineer's field report is to be submitted to HCDPU as each such inspection is made on system improvements or testing is performed by the contractor Water and sewer infrastructure must pass all tests required by HCDPU specifications and those of all applicable regulator agencies. These tests include, but are not limited to: air test vacuum test, mandrel test, visual test, pressure test, bacteriological test, etc. A HCDPU Inspector must be present during testing and all test results shall be submitted to HCDPU. All tests must be satisfied before the final inspection will be scheduled with the HCDPU Inspector. The Engineer of Record must request in writing to schedule the final inspection once all construction is complete. The Developer's Engineer of Record and the HCDPU Utility Construction Inspector shall prepare a written punch list of any defects or deficiencies noted during the final inspection, should any exist. Upon completion of the punch list, the Developer's Engineer of Record will schedule another inspection. In the event the number of inspections performed by the HCDPU exceeds two, additional fees may be accessed to the Developer



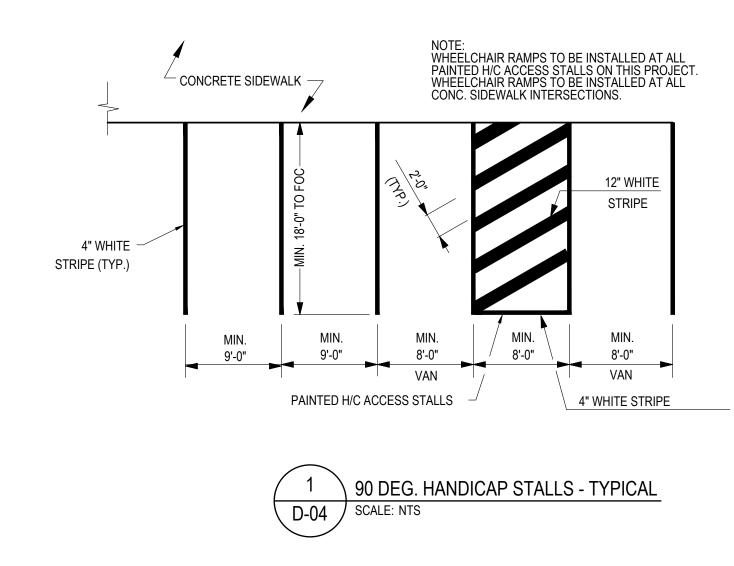


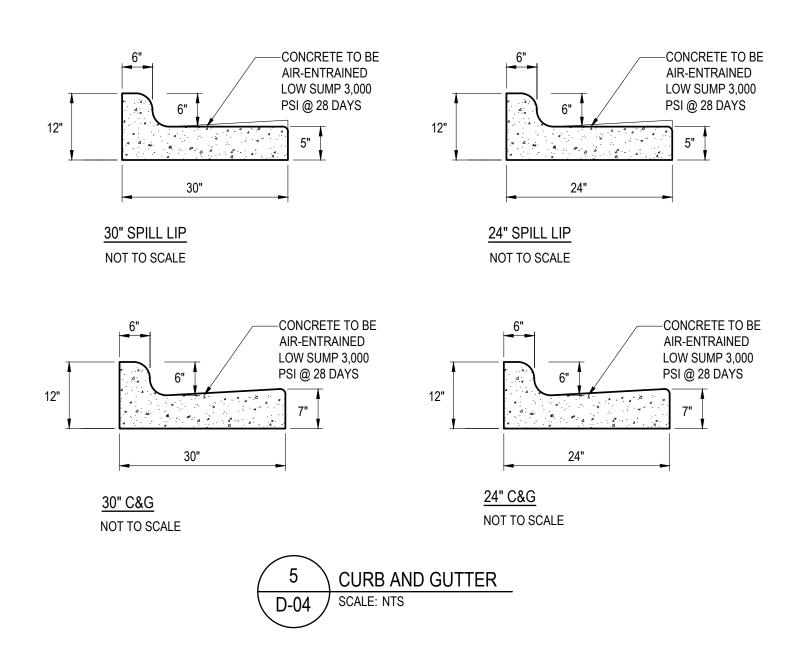


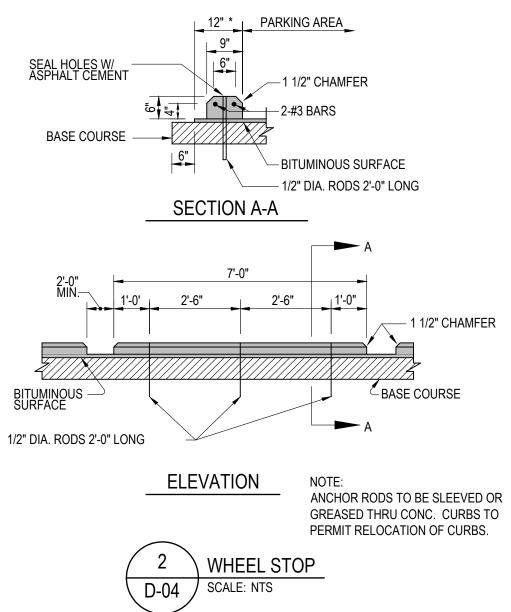


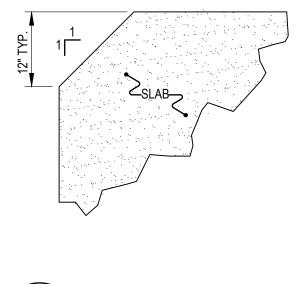


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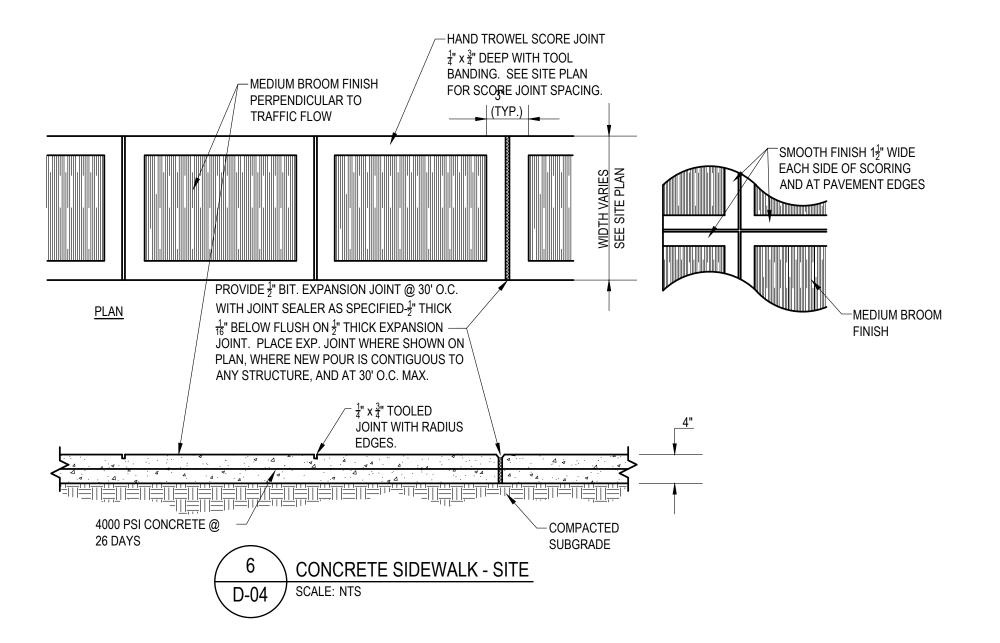




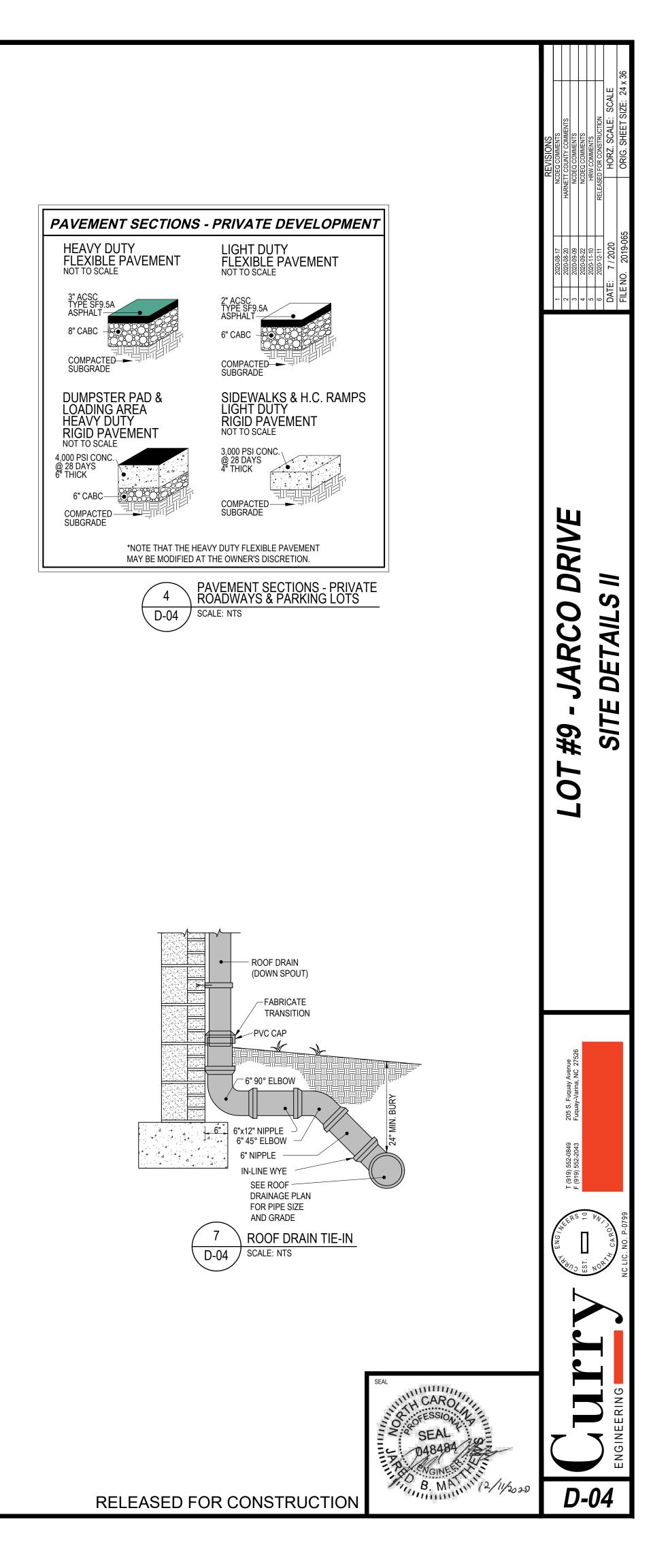




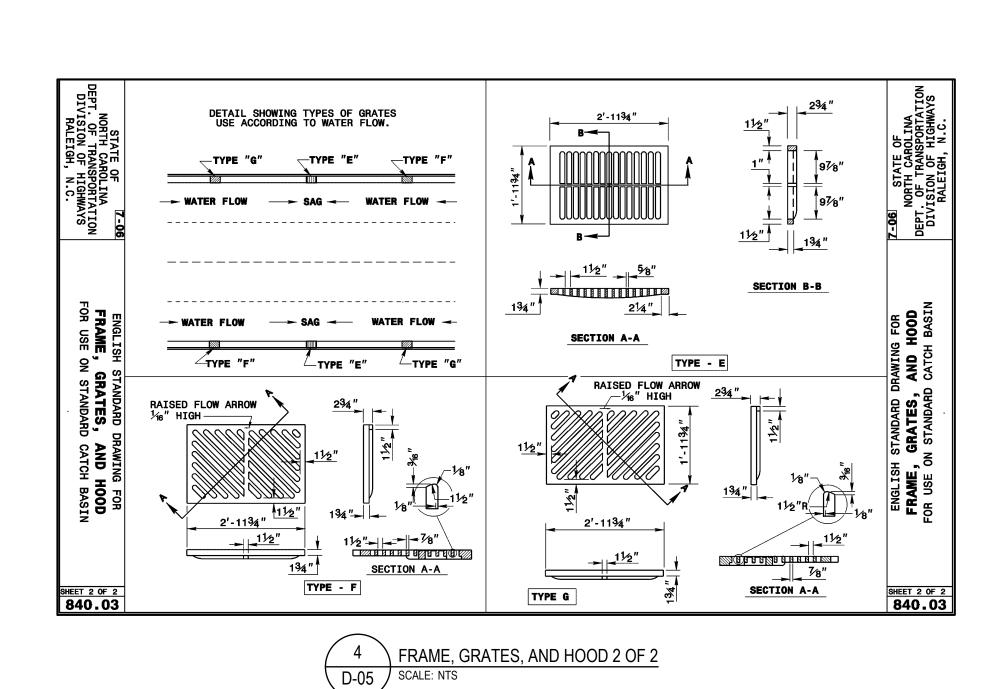
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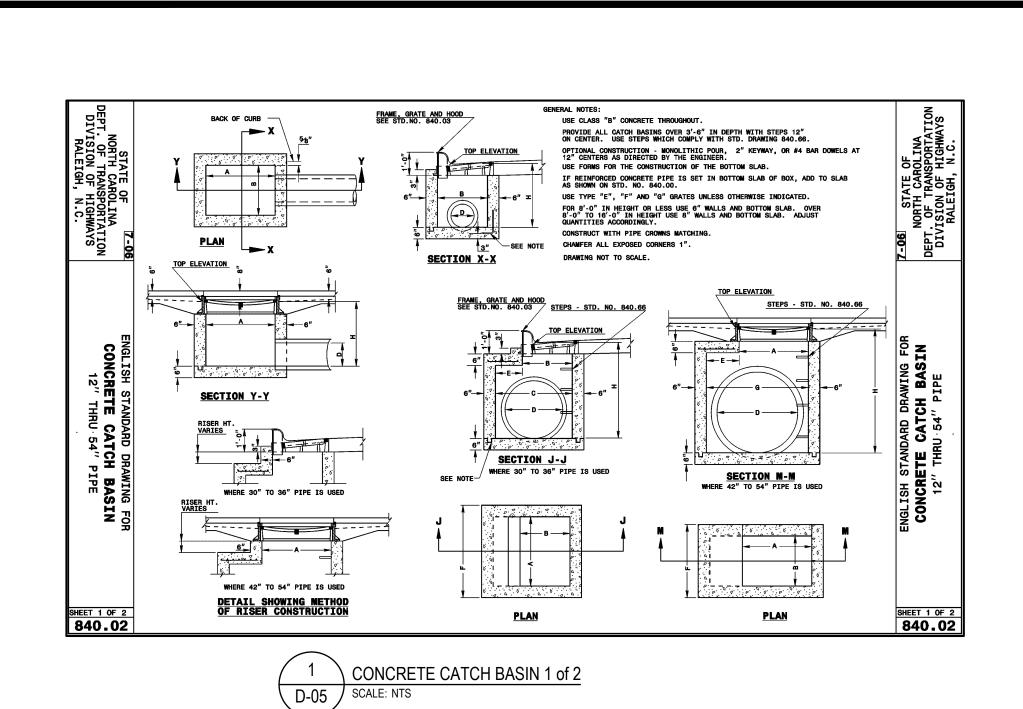


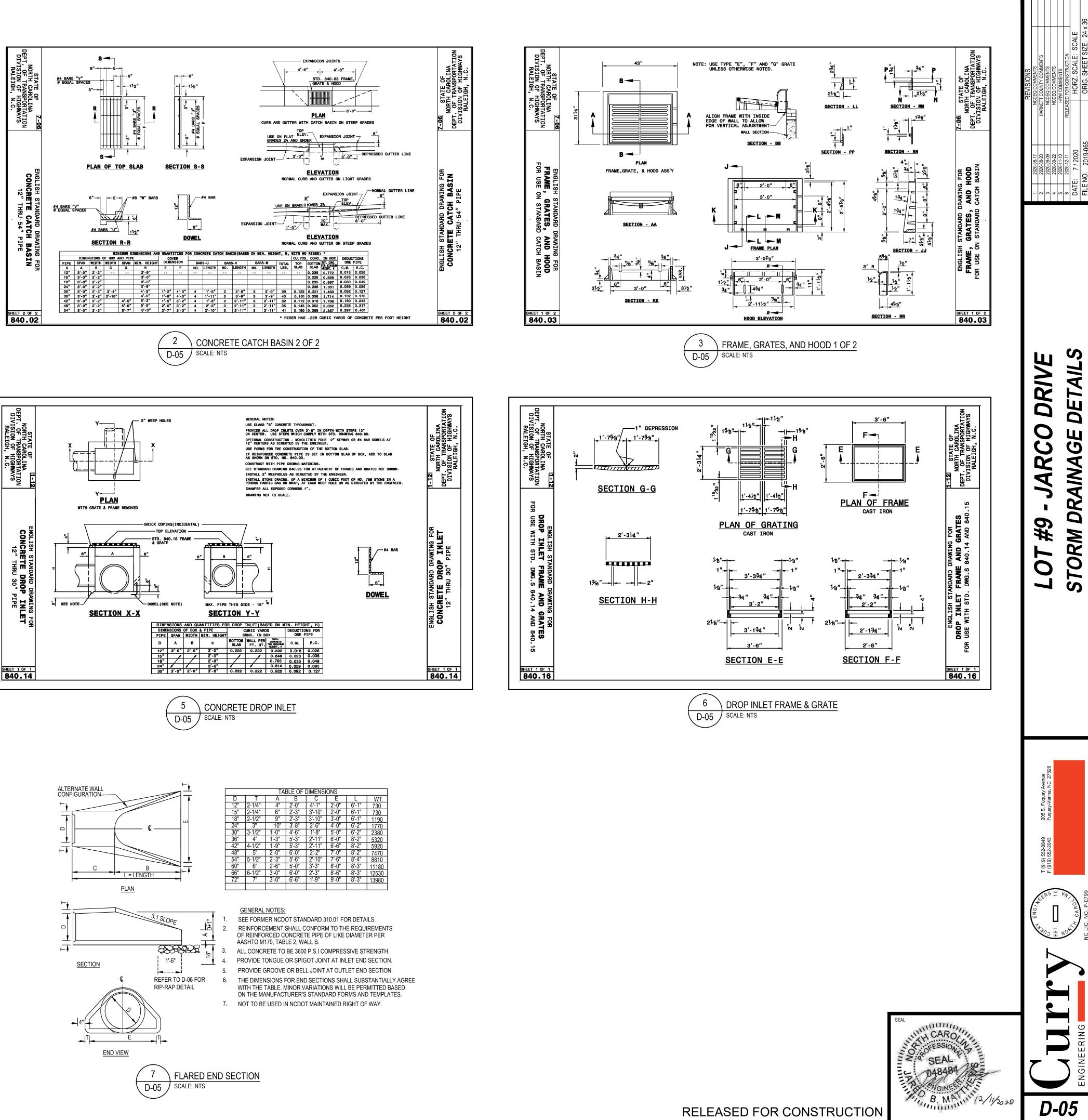
CONCRETE CORNER DETAIL D-04 / SCALE: NTS

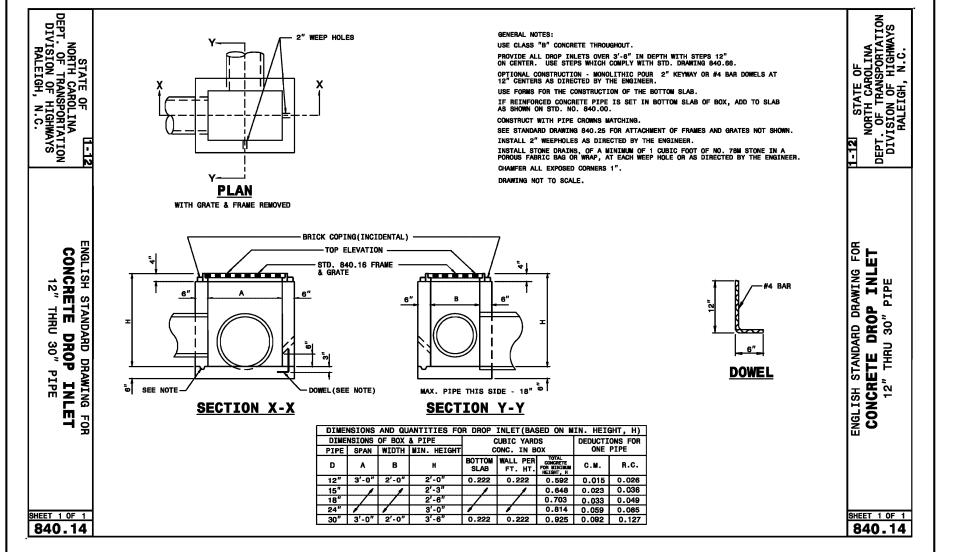


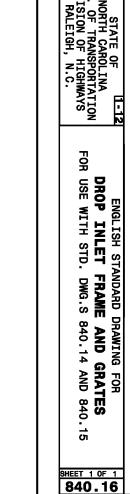


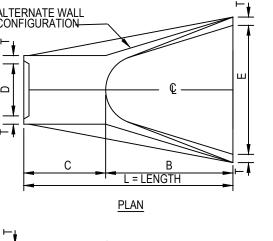


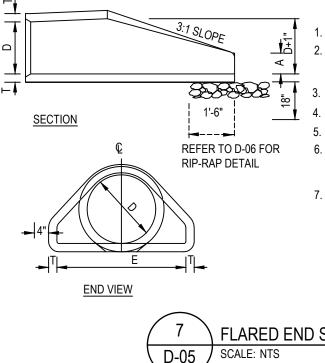




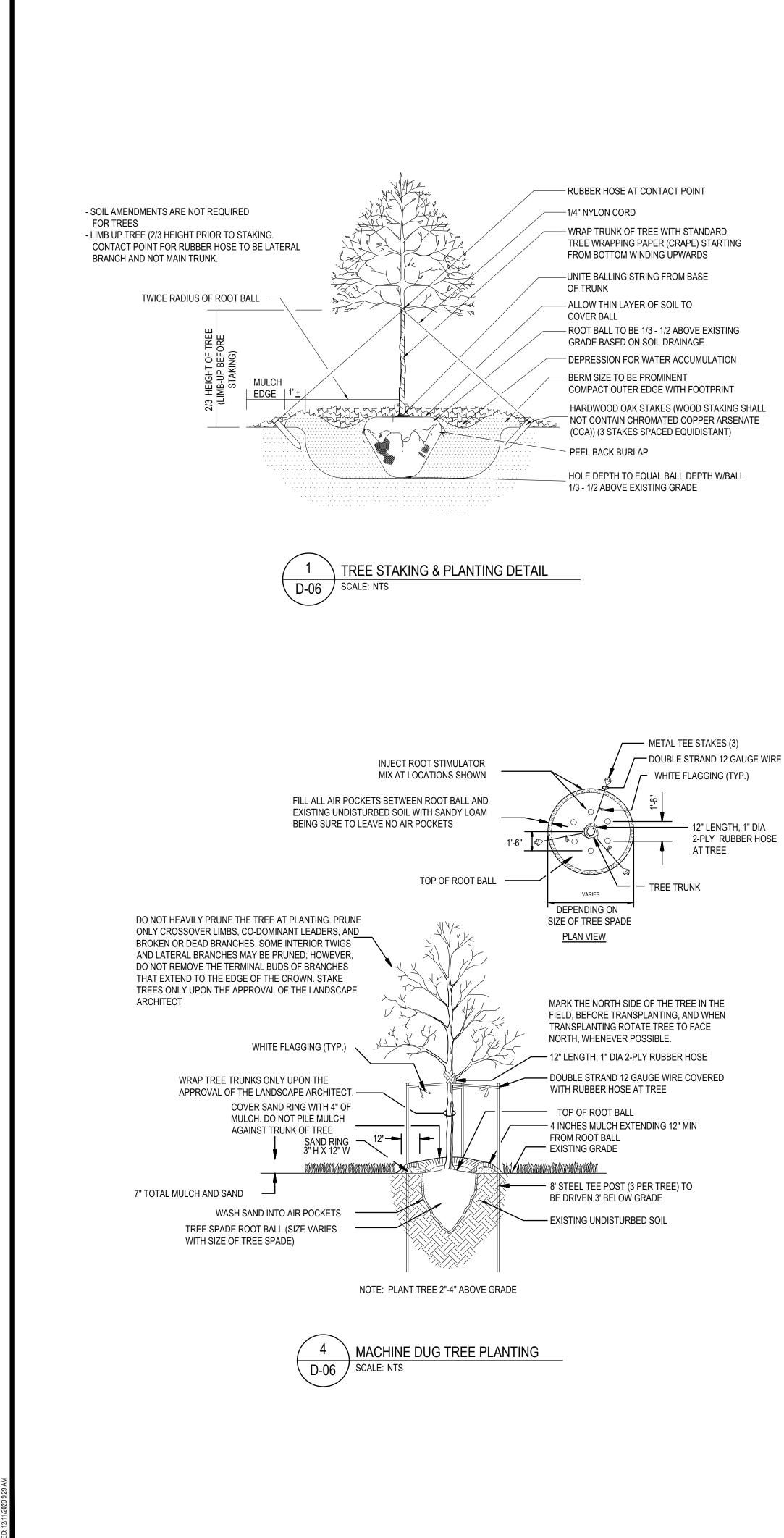


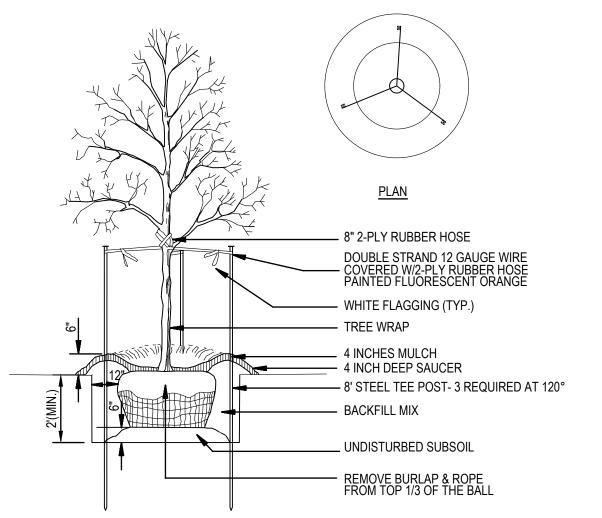






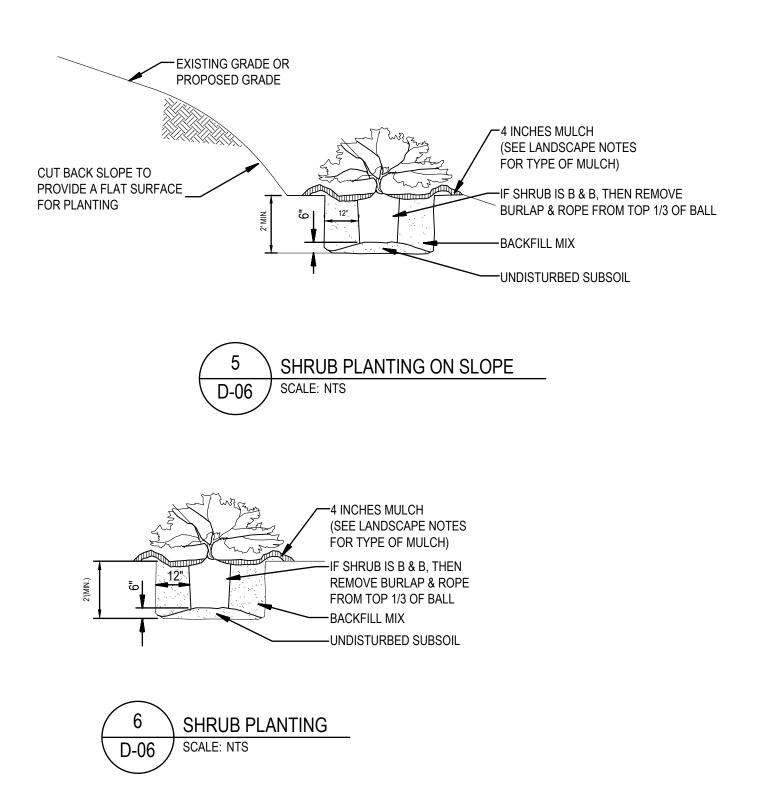
	_	TA	BLE OF I	DIMENSI	ONS	_	_
D	T	A	В	C	E	L	WT.
12"	2-1/4"	4"	2'-0"	4'-1"	2'-0"	6'-1"	730
15"	2-1/4"	6"	2'-3"	3'-10"	2'-0"	6'-1"	730
18"	2-1/2"	9"	2'-3"	3'-10"	3'-0"	6'-1"	1190
24"	3"	10"	3'-8"	2'-6"	4'-0"	6'-2"	1770
30"	3-1/2"	1'-0"	4'-6"	1'-8"	5'-0"	6'-2"	2380
36"	4"	1'-3"	5'-3"	2'-11"	6'-0"	8'-2"	5320
42"	4-1/2"	1'-9"	5'-3"	2'-11"	6'-6"	8'-2"	5920
48"	5"	2'-0"	6'-0"	2'-2"	7'-0"	8'-2"	7470
54"	5-1/2"	2'-3"	5'-6"	2'-10"	7'-6"	8'-4"	8810
60"	6"	2'-6"	5'-0"	3'-3"	8'-0"	8'-3"	11180
66"	6-1/2"	3'-0"	6'-0"	2'-3"	8'-6"	8'-3"	12530
72"	7"	3'-0"	6'-6"	1'-9"	9'-0"	8'-3"	13980

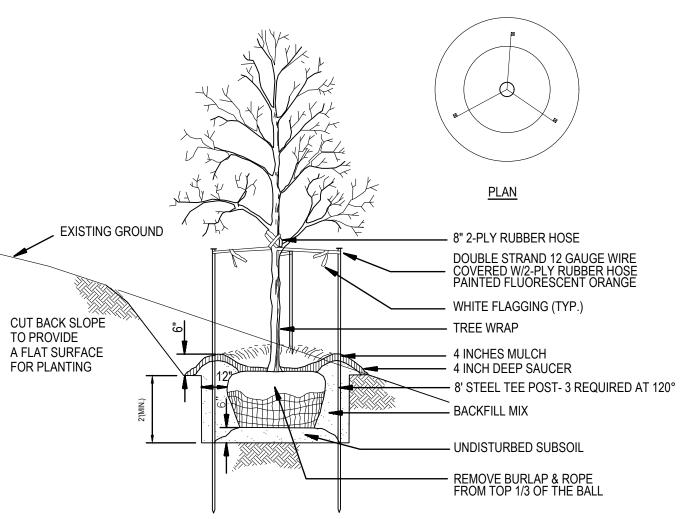




NOTE: SEE LANDSCAPE NOTES FOR THE TYPE OF MULCH MATERIAL TO USE.

2	TREE PLANTING
D-06	SCALE: NTS



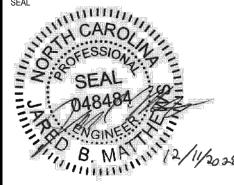


NOTE: SEE LANDSCAPE NOTES FOR THE TYPE OF MULCH MATERIAL TO USE.

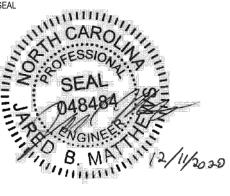


NOTE:

- PLANT TREES WITH A MINIMUM CALIPER OF TWO INCHES MEASURED SIX INCHES ABOVE THE GROUND AND A ROOT BALL NO SMALLER THAN TWO FEET IN DIAMETER AND 16 INCHES IN DEPTH. THE BEST TIMES FOR PLANTING ARE EARLY SPRING AND EARLY FALL. TREES PLANTED IN IN THE SUMMER RUN THE RISK OF DEHYDRATION.
- PLANT ALL TREES AT LEAST THREE-AND-A-HALF FEET FROM THE END OF HEAD-IN PARKING SPACES IN ORDER TO PREVENT DAMAGE FROM CAR OVERHANGS.
- DIG THE TREE PIT AT LEAST TWO FOOT WIDER THAN THE ROOT BALL AND AT LEAST SIX INCHES DEEPER THAN THE BALL VERTICAL DIMENSION.
- ESPECIALLY IN AREAS WHERE CONSTRUCTION ACTIVITY HAS COMPACTED THE SOIL, THE BOTTOM OF THE PIT SHOULD BE SCARIFIED OR LOOSENED WITH A PICK AX OR SHOVEL.
- AFTER THE PIT IS DUG, OBSERVE SUB-SURFACE DRAINAGE CONDITIONS. WHERE POOR DRAINAGE EXISTS, THE TREE PIT SHOULD BE DUG AT LEAST AN ADDITIONAL TWELVE INCHES WIDER AND THE SOIL AMENDED TO ALLOW ROOTS GROW PROPERLY.
- BACKFILL SHOULD INCLUDE A PROPER MIX OF SOIL AND FERTILIZER. ALL ROOTS MUST BE COMPLETELY COVERED. BACKFILL SHOULD BE THOROUGHLY WATERED AS IT IS PLACED AROUND THE ROOTS.
- IMMEDIATELY AFTER IT IS PLANTED, THE TREE SHOULD BE SUPPORTED WITH STAKES AND STRAPS TO FIRMLY HOLD IT IN PLACE AS ITS ROOT SYSTEM BEGINS TO DEVELOP. REMOVE STAKES AND TIES AFTER ONE YEAR.
- SPREAD AT LEAST THREE INCHES OF MULCH OVER THE ENTIRE EXCAVATION IN ORDER TO RETAIN MOISTURE AND KEEP DOWN WEEDS. AN ADDITIONAL THREE-INCH SAUCER AND MULCH SHOULD BE PROVIDED TO FORM A BASIN AROUND THE TRUNK OF THE TREE. THIS
- SAUCER HELPS CATCH AND RETAIN MOISTURE. CONSCIENTIOUS POST-PLANTING CARE, ESPECIALLY WATERING, PRUNING AND FERTILIZING, IS A MUST FOR STREET AND PARKING LOT TREES. PRUNE OFF BROKEN OR DAMAGED BRANCHES.

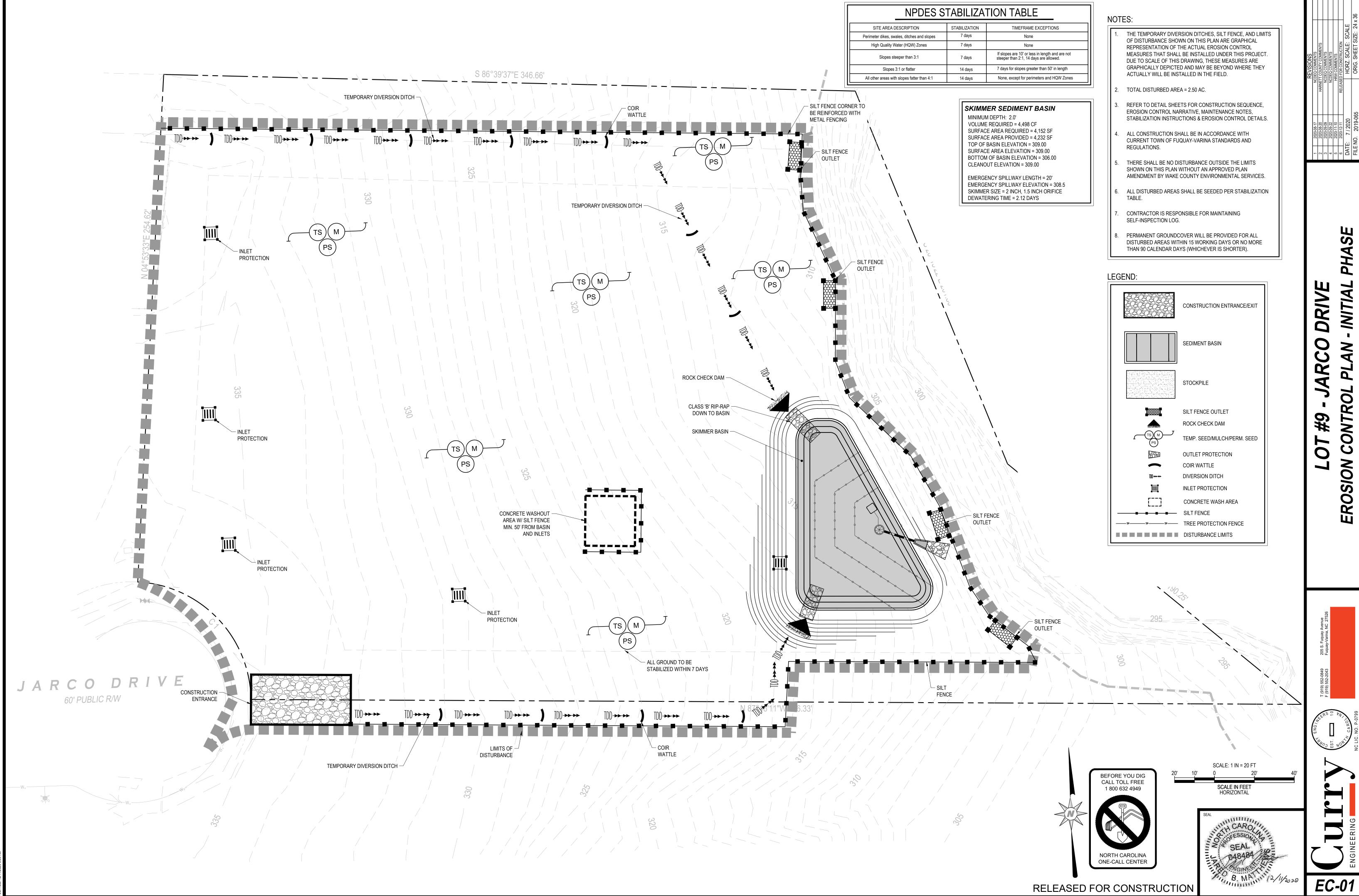






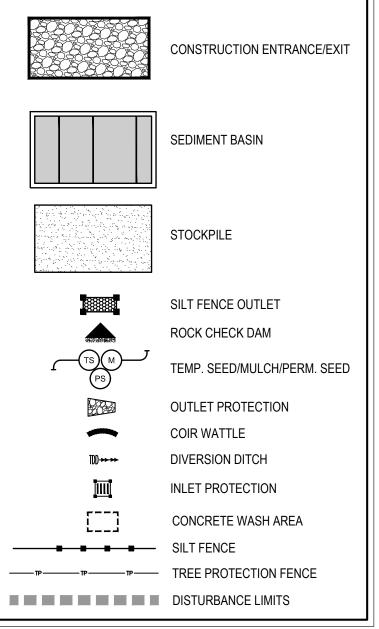
D-06

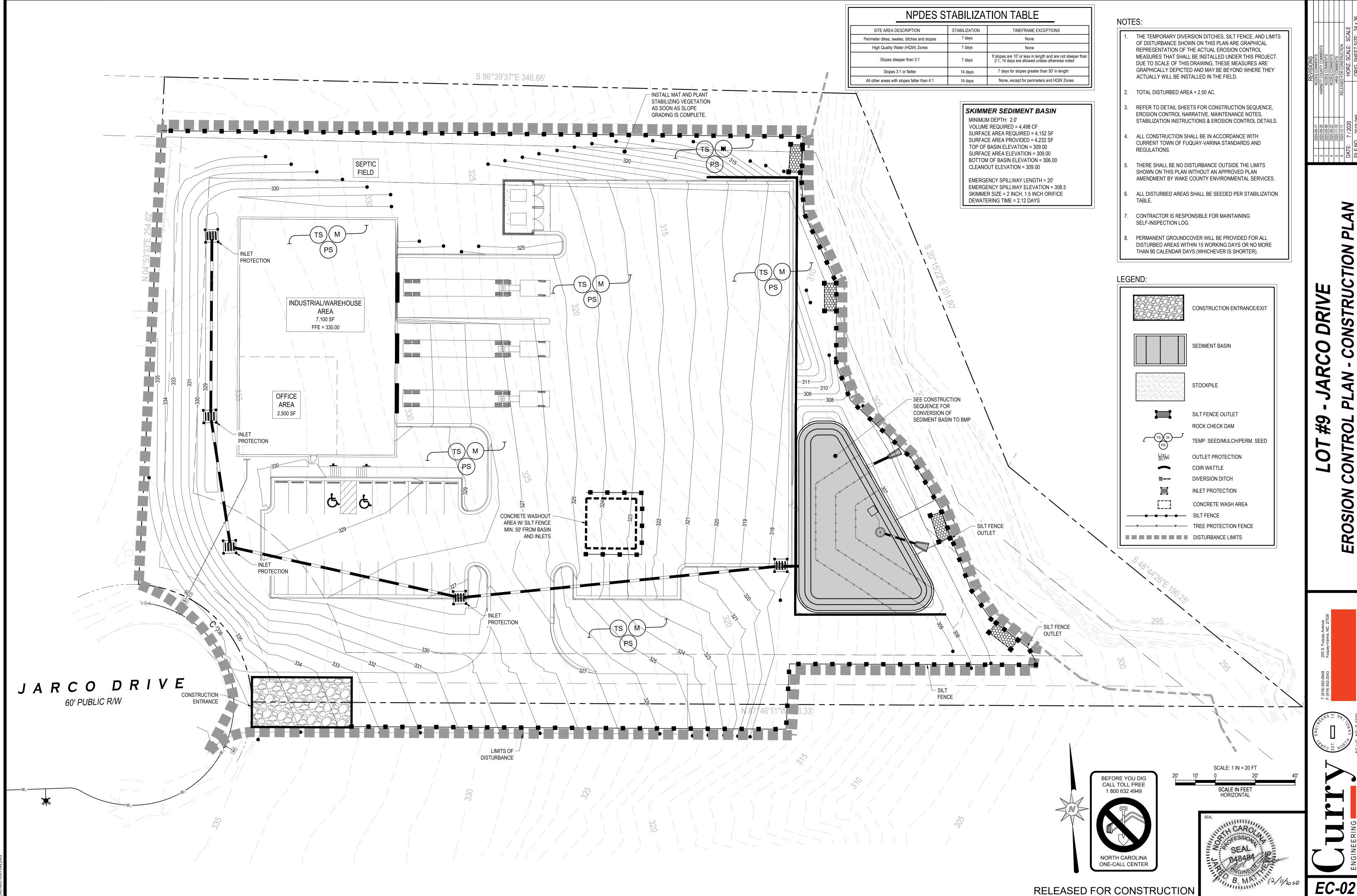
RELEASED FOR CONSTRUCTION



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	STABILIZATION	TIMEFRAME EXCEPTIONS
	7 days	None
	7 days	None
	7 days	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed.
	14 days	7 days for slopes greater than 50' in length
	14 days	None, except for perimeters and HQW Zones

MINIMUM DEPTH: 2.0'
VOLUME REQUIRED = 4,498 CF
SURFACE AREA REQUIRED = 4,152 SF
SURFACE AREA PROVIDED = 4,232 SF
TOP OF BASIN ELEVATION = 309.00
SURFACE AREA ELEVATION = 309.00
BOTTOM OF BASIN ELEVATION = 306.00
CLEANOUT ELEVATION = 309.00
EMERGENCY SPILLWAY LENGTH = 20'





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	STABILIZATION	TIMEFRAME EXCEPTIONS
	7 days	None
	7 days	None
	7 days	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed unless otherwise noted
	14 days	7 days for slopes greater than 50' in length
	14 days	None, except for perimeters and HQW Zones

SURFACE AREA ELEVATION = 309.00
BOTTOM OF BASIN ELEVATION = 306.00
CLEANOUT ELEVATION = 309.00
EMERGENCY SPILLWAY LENGTH = 20'
EMERGENCY SPILLWAY ELEVATION = 308.5

RELEASED FOR CONSTRUCTION

AN Р NOIL NSTRUC 0 S AN Q 10 Ř Ζ C EROSION

ROSIO	N CONTROL NOTES
S C	HE CONTRACTOR SHALL AT A MINIMUM IMPLEMENT THE CONTRACTOR'S REQUIREMENTS OUTLINED BELOW AND THOSE MEASURES SHOWN ON THE EROSION AND EDIMENT CONTROL PLAN. IN ADDITION THE CONTRACTOR SHALL UNDERTAKE ADDITIONAL MEASURES REQUIRED TO BE IN COMPLIANCE WITH APPLICABLE PERMIT ONDITIONS AND STATE WATER QUALITY STANDARDS.
3. A 4. G	OTAL DISTURBANCE LIMITS = 2.50 ACRES. NY GRADING BEYOND THE DENUDED LIMITS SHOWN IN THE PLAN IS A VIOLATION OF THE NORTH CAROLINA SEDIMENTATION CONTROL LAW & IS SUBJECT TO A FINE. RADING MORE THAN 1 ACRE WITHOUT AN APPROVED EROSION CONTROL PLAN IS A VIOLATION OF THE THE NORTH CAROLINA SEDIMENTATION CONTROL LAW AND IS
5. A	UBJECT TO A FINE. LL EROSION CONTROL PRACTICES SHALL BE IN ACCORDANCE WITH ALL NCDENR STANDARDS AND SPECIFICATIONS. ONSTRUCTION ENTRANCES SHALL BE MAINTAINED THROUGHOUT THE ENTIRE CONSTRUCTION PROJECT. A MINIMUM OF ONE CONSTRUCTION ENTRANCE SHALL BE
9. A	ISTALLED AND UTILIZED. THIS ENTRANCE SHALL BE BETWEEN THE LIMITS OF DISTURBANCE AND ANY ROAD RIGHT OF WAY. DJACENT PROPERTIES AND RIGHT-OF-WAY SHALL BE KEPT FREE OF MUD AND/OR SEDIMENT-LADEN RUNOFF. HE EROSION CONTROL MEASURES SHOWN ON THIS PLAN ARE RECOMMENDED AS A MINIMUM IN ORDER TO CONTROL RUN-OFF. IT IS POSSIBLE THAT MORE STRINGENT
N A	EASURES MAY BE NEEDED AS DETERMINED BY THE CONTRACTOR, PROJECT ENGINEER, AND/OR EROSION CONTROL INSPECTOR. IF IT IS DETERMINED THAT DDITIONAL RUN-OFF CONTROL IS NEEDED, SUCH MEASURES SHALL BE INSTALLED IMMEDIATELY. HOULD MAINTENANCE ISSUES ARISE, PLEASE CONTACT HUGH SURLES AT (919) 422-7065.
	ONTRACTOR SHALL LOCATE AND VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO BEGINNING WORK.
ROSIC	N & SEDIMENT CONTROL NARRATIVE
PROJE	CT DESCRIPTION
	JRPOSE OF THIS PROJECT IS TO CLEAR & GRUB AND MASS GRADING FOR AN INDUSTRIAL WAREHOUSE/DISTRIBUTION FACILITY. THE PROPERTY IS PRIVATELY OWNED. WNER INFORMATION ON EXISTING CONDITIONS PLAN. THE SITE IS CURRENTLY UNDEVELOPED.
THIS F	DXIMATELY 2.50 ACRES WILL BE DISTURBED DURING CONSTRUCTION. THE MAXIMUM FILL WILL BE APPROX. 6 FEET AND THE MAXIMUM CUT WILL BE APPROX. 10 FEET. ROJECT WILL INVOLVE REMOVAL OF TOPSOIL TO CREATE RESIDENTIAL ROADWAY, INFRASTRUCTURE, & PAD READY LOTS. AN UNDERGROUND STORM DRAINAGE M WILL BE INSTALLED TO CONVEY STORMWATER TO PERMANENT STORMWATER MANAGEMENT AREAS.
THE E	ROJECT IS SCHEDULED TO BEGIN CONSTRUCTION IN LATE FALL 2020 TO EARLY WINTER 2020 WITH PROJECT COMPLETION AND FINAL STABILIZATION BY SUMMER 2021. ROSION AND SEDIMENT CONTROL PROGRAM FOR THIS PROJECT WILL INCLUDE THE INSTALLATION OF A SUITABLE CONSTRUCTION ENTRANCE, TEMPORARY SILT NG, SILT FENCE OUTLETS, DIVERSION DITCHES, INLET PROTECTION MEASURES AND SEDIMENT BASINS.
ADJAC	<u>ENT PROPERTY</u> ENT PROPERTY OWNERS ARE NOTED ON THE EXISTING CONDITIONS PLAN. E SOILS
	DILS AT THIS SITE ARE PREDOMINATELY LOAMY SANDS. SOILS ARE MOSTLY WELL DRAINED WITH Ksat RANGES FROM MODERATELY HIGH TO HIGH. SLOPES ARE LARGELY EEN 2 TO 6% AND 8 TO 15%. SOILS ONSITE ARE CECIL FINE SANDY LOAM (CeD) AND DOTHAM LOAMY SAND (DoB).
NSTE	RUCTION SEQUENCE:
1. 2. 3.	OBTAIN A LAND-DISTURBING PERMIT FROM NCDENR. SCHEDULE A PRECONSTRUCTION CONFERENCE WITH NCDENR AT LEAST ONE WEEK PRIOR TO START OF LAND DISTURBANCE. CLEAR THE AREA NEEDED TO CONSTRUCT THE PROPOSED CONSTRUCTION ENTRANCE.
4.	CONSTRUCT THE ENTRANCE AS SHOWN ON THE PLANS. MAINTAIN THE CONSTRUCTION ENTRANCE DAILY TO ENSURE THAT MUD AND SILT WILL NOT BE TRACKED ONTO THE PAVED SURFACE. IF MUD IS TRACKED ONTO THE SURFACE, IT IS TO BE REMOVED IMMEDIATELY.
5.	CLEAR THE AREA NEEDED TO CONSTRUCT THE REMAINDER OF PERIMETER EROSION CONTROL MEASURES INCLUDING SILT FENCE, ROCKS CHECK DAMS, TEMPORARY DIVERSIONS, SKIMMER BASIN, AND OTHER MEASURES AS SHOWN ON THE APPROVED PLAN. INSTALL PROPOSED DEVICES. SEED TEMPORARY DIVERSIONS, BERMS AND BASINS IMMEDIATELY AFTER CONSTRUCTION.
6. 7.	CLEAR AND INSTALL THE SKIMMER SEDIMENT BASIN. INSTALL COIR MESH BAFFLES, SKIMMER DEVICES, AND OTHER FEATURES AND STABILIZE IMMEDIATELY AFTER CONSTRUCTION. THE PERMANENT RISER STRUCTURES FOR THE FUTURE WET DETENTION BASINS SHALL BE INSTALLED AT THIS TIME. CALL NCDENR FOR AN ONSITE INSPECTION BY THE ONSITE INSPECTOR TO OBTAIN A CERTIFICATE OF COMPLIANCE.
8. 9.	BEGIN CLEARING AND GRUBBING. MAINTAIN DEVICES AS NEEDED. ROUGH GRADE ROADWAY.
10. 11.	CONSTRUCT SEPTIC FIELD AND WATER LINES THROUGHOUT PROJECT. INSTALL STORM SEWER, AND PROTECT INLETS WITH BLOCK AND GRAVEL INLET CONTROLS, SEDIMENT TRAPS OR OTHER APPROVED MEASURES AS SHOWN ON THE PLAN.
12. 13.	INSTALL THE RETAINING WALL. CONTINUE WITH MASS GRADING OF SITE AND BEGIN CONSTRUCTION, BUILDING, ETC.
14.	STABILIZE SITE AS AREAS ARE BROUGHT UP TO FINISH GRADE WITH VEGETATION, PAVING, DITCH LININGS, ETC. SEED AND MULCH DENUDED AREAS WITHIN 7 OR 14 DAYS OF COMPLETION OF ANY PHASE OF CONSTRUCTION.
15. 16.	WHEN CONSTRUCTION IS COMPLETE AND ALL AREAS ARE STABILIZED COMPLETELY, CALL NCDENR ON SITE INSPECTOR. IF SITE IS APPROVED AND ALL UPSTREAM AREAS ARE STABILIZED, REMOVE TEMPORARY DIVERSIONS, SILT FENCE, SEDIMENT BASINS, ETC., AND SEED OUT OR STABILIZE ANY RESULTING BARE AREAS. EXISTING STORM DRAINAGE SYSTEM SHALL BE CLEANED OF ANY SEDIMENT.
17.	GRADE BMP AND INSTALL SKIMMER. STABILIZE ALL GRADING FROM BMP EXCAVATION.
18. 19.	WHEN VEGETATION HAS BECOME ESTABLISHED, CALL FOR A FINAL SITE INSPECTION BY THE ONSITE INSPECTOR. OBTAIN A CERTIFICATE OF COMPLETION. SUBMIT NOTICE OF TERMINATION TO NCDENR.
E • (N • 1	ISPECTOR REFERS TO NORTH CAROLINA LAND QUALITY INSPECTOR OR HIS REPRESENTATIVE, FIELD INSPECTIONS MAY REQUIRE ADDITIONAL SEDIMENTATION AND ROSION CONTROL MEASURES AS DEEMED NECESSARY BY THE INSPECTOR. CONSTRUCTION AND MAINTENANCE OF ALL EROSION CONTROL DEVICES SHALL CONFORM TO THE STANDARDS SET FORTH IN THE NORTH CAROLINA DEPARTMENT OF IATURAL RESOURCES LAND QUALITY SECTION: EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL. HE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF EROSION CONTROL MEASURES DURING CONSTRUCTION AND THE OWNER IS RESPONSIBLE FOR ALL ERMANENT EROSION CONTROL METHODS AFTER CONSTRUCTION IS COMPLETE, IF ANY PERMANENT METHODS ARE REQUIRED.
INTE	VANCE/INSPECTION PROCEDURES
THE FO	LLOWING ARE INSPECTION AND MAINTENANCE PRACTICES THAT WILL BE USED TO MAINTAIN EROSION AND SEDIMENT CONTROLS.
•	ALL CONTROL MEASURES WILL BE INSPECTED BY THE SUPERINTENDENT, THE PERSON RESPONSIBLE FOR THE DAY TO DAY SITE OPERATION OR SOMEONE APPOINTED B SUPERINTENDENT, DAILY AND WITHIN 24 HOURS OF EVERY RAINFALL EVENT.
•	SILT FENCE & FABRIC INLET PROTECTION: INSPECT FOR DEPTH OF SEDIMENT, TEARS, TO SEE IF THE FABRIC IS SECURELY ATTACHED TO THE FENCE POSTS, AND TO SEE THE FENCE POSTS ARE FIRMLY IN THE GROUND. BUILT UP SEDIMENT WILL BE REMOVED FROM SILT FENCE WHEN IT HAS REACHED ONE-THIRD THE HEIGHT OF THE FENCE
)	DIVERSION DIKES/SWALES: INSPECT AND ANY BREACHES PROMPTLY REPAIRED. SEDIMENT SHALL BE REMOVED FROM THE FLOW AREA IMMEDIATELY AFTER EACH RAINF/ TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT: MAINTAIN THE GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE CONSTRUCTION THIS MAY REQUIRE PERIODIC TOP-DRESSING WITH 2-3" STONE. AFTER A RAINFALL, IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED, OR TRACK
•	ONTO ROADWAYS. SEDIMENT BASIN: INSPECT AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. REMOVE SEDIMENT ANI RESTORE THE BASIN TO ITS ORIGINAL DIMENSIONS WHEN IT ACCUMULATES TO ONE-HALF THE DESIGN DEPTH. PLACE REMOVED SEDIMENT IN AN AREA WITH SEDIMENT CONTROLS. CHECK THE EMBANKMENT, SPILLWAYS, AND OUTLET FOR EROSION DAMAGE, AND INSPECT THE EMBANKMENT FOR PIPING AND SETTLEMENT. MAKE ALL
•	NECESSARY REPAIRS IMMEDIATELY. REMOVE ALL TRASH AND OTHER DEBRIS FROM THE RISER AND POOL AREA. REPAIR BAFFLES AND SKIMMERS AS NEEDED. INLET PROTECTION: INSPECT INLETS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (½ INCH OR GREATER) RAINFALL EVENT. CLEAR THE MESH WIRE OF ANY DEBRIS OR OTHER OBJECTS TO PROVIDE ADEQUATE FLOW FOR SUBSEQUENT RAINS. TAKE CARE NOT TO DAMAGE OR UNDERCUT THE WIRE MESH DURING SEDIMENT REMOVAL. REPLACE STONE AS NEEDED.
•	SEEDING, FERTILIZING, AND MULCHING: INSPECT SEEDED AREAS FOR FAILURE AND NECESSARY REPAIRS AND RE-SEEDING SHALL BE MADE WITHIN THE SAME SEASON. TEMPORARY AND PERMANENT SEEDING AND PLANTING WILL BE INSPECTED FOR BARE SPOTS, WASHOUTS, AND HEALTHY GROWTH. MAINTAIN THE ON-SITE RAIN GAUGE & DATA AND STORMWATER INSPECTION LOG SHEETS. THIS PERMIT INFORMATION MUST BE COLLECTED AND MAINTAINED UNTIL NC DEMLR H. CLOSED THE PROJECT & SURETY HAS BEEN RELEASED.
•	THE CONTACT PERSON IS REQUIRED TO MAINTAIN A LOG OF SELF-INSPECTIONS PER REQUIREMENTS AS OUTLINED IN NCG01000 PERMIT. THE REPORTS WILL BE KEPT ON SITE DURING CONSTRUCTION AND AVAILABLE UPON REQUEST TO THE
	OWNER, ENGINEER OR ANY FEDERAL, STATE OR LOCAL AGENCY APPROVING SEDIMENT AND EROSION PLANS, OR STORMWATER MANAGEMENT PLANS. THIS PERMIT INFORMATION MUST BE COLLECTED AND MAINTAINED UNTIL NC DEMLR HAS CLOSED THE PROJECT. THE SITE SUPERINTENDENT WILL SELECT UP TO THREE INDIVIDUALS WHO WILL BE RESPONSIBLE FOR INSPECTIONS. MAINTENANCE AND REPAIR ACTIVITIES, AND FILLING
•	THE SITE SUPERINTENDENT WILL SELECT UP TO THREE INDIVIDUALS WHO WILL BE RESPONSIBLE FOR INSPECTIONS, MAINTENANCE AND REPAIR ACTIVITIES, AND FILLING THE INSPECTION AND MAINTENANCE REPORT. PERSONNEL SELECTED FOR INSPECTION AND MAINTENANCE RESPONSIBILITIES WILL RECEIVE TRAINING FROM THE SITE. <u>SUPERINTENDENT</u> : THEY WILL BE TRAINED IN A
•	THE INSPECTION AND MAINTENANCE PRACTICES NECESSARY FOR KEEPING THE EROSION AND SEDIMENT CONTROLS USED ONSITE IN GOOD WORKING ORDER. <u>GROUND STABILIZATION</u> : SOIL STABILIZATION SHALL BE ACHIEVED ON ANY AREA OF A SITE WHERE LAND-DISTURBING ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED ACCORDING TO THE FOLLOWING SCHEDULE: A L DEPIMETER DIKES, SWALES, DITCHES, DEPIMETER SLOPES, AND ALL SLOPES, STEEPER THAN 3 HORIZONITAL TO 1.
	A. ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1) SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN 7 CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY.
	B. ALL OTHER DISTURBED AREAS SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS POSSIBLE BUT IN ANY EVENT WITHIN 14 CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY

SEDIMENT & EROSION CONTROLS

CONT LEAV MEAS	THE CONTRACTORS RESPONSIBILITY TO IMPLEMENT THE EROSION AND SEDIMENT CONTROLS AS SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN. IT IS ALSO THE TRACTOR'S RESPONSIBILITY TO ENSURE THESE CONTROLS ARE PROPERLY INSTALLED, MAINTAINED AND FUNCTIONING PROPERLY TO PREVENT POLLUTED WATER FROM ING THE PROJECT SITE. THE CONTRACTOR WILL ADJUST THE EROSION CONTROLS SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN AND ADD ADDITIONAL CONTROL SURES, AS REQUIRED, TO ENSURE THE SITE MEETS ALL FEDERAL, STATE AND LOCAL EROSION AND SEDIMENT CONTROL REQUIREMENTS. ALL VEGETATIVE AND STRUCTURAL SION AND SEDIMENT CONTROL PRACTICES BE TO THE STANDARDS OF THE NC DEPT. OF ENVIRONMENTAL MANAGEMENT - LAND QUALITY SECTION, AND ARTICLE 10 OF THE	PART 2: ST in Part 3A the	e Reference letter and pr	ND CONTROLS: For each	n and location o	ow, mark the corresponding box as Yes, No or of the deficiency, the original date noted, and t	N/A. For all the date it wa	items mark s noted as	Page 2 of 5 ked "No", note being
WAKI	E COUNTY UNIFIED DEVELOPMENT CODE, LATEST EDITION.	Reference		Part 2A: Storm Water			Yes	No	N/A
STRU	CTURAL PRACTICES	Α	Is the approval letter or (Readily available elect	certificate, COC and a con tronic copy of CGP is accept	y of the NPDE	ES Construction General Permit (CGP) on site	?		
1.	SILT FENCE (SEDIMENT FENCE): SILT FENCE CAN BE USED BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION. SILT FENCES SHALL BE PROVIDED WHERE	В	Is the approved plan or		/(40.0)				
	SHOWN AND AS NEEDED ON THE SITE PLAN. THESE BARRIERS SHALL BE USED TO CONTAIN SEDIMENT.	Reference		Part 2B: Storr	nwater Pollut	ant Controls	Yes	No	N/A
		С		ent controls that are shown	on the approv	ved plan installed and operating properly with			
2.	SILT FENCE OUTLET: GRAVEL SILT FENCE OUTLETS SHALL BE PROVIDED WHERE SHOWN AND AS NEEDED ON THE SITE PLAN. THESE OUTLETS SHALL BE LOCATED AT ALL LOW POINTS IN A RUN OF SILT FENCE AND USED TO DISCHARGE "CLEAN WATER" OFF-SITE.	D	no repairs needed? Are stormwater controls needed?	s that are shown on the ap	proved plan in:	stalled and operating properly with no repairs			
		E	Vehicle Tracking: Are	construction entrances ope	rating properly	/ with no repairs needed?			
3.	DIVERSION DITCHES: USE DIVERSION DITCHES TO CONVEY SEDIMENT LADEN RUNOFF TO EROSION CONTROL BMPS AS SHOWN ON THE PLANS.	F	Soil Stabilization: Are a within the required time		struction activi	ities have ceased been properly stabilized			
4		G	Are earthen stockpiles	stabilized or otherwise prot nlets and surface waters?	ected from sec	diment loss, and located at least 50 feet away			
4.	CONSTRUCTION ENTRANCE: CONSTRUCTION TRAFFIC SHALL BE LIMITED TO STABILIZED AREAS. AT A MINIMUM, A TEMPORARY GRAVEL CONSTRUCTION ENTRANCE SHALL BE PROVIDED AS SHOWN ON THIS DRAWING. VEHICLE WHEELS SHALL BE CLEAN WHEN LEAVING THE SITE TO PREVENT THE TRACKING OF MUD ON PAVED ROADS.	Reference		Part 2C: Non-Sto	rm Water Poll	utant Controls	Yes	No	N/A
		Н	Concrete, stucco, paint repairs needed?	, etc. washouts: Are wash	outs installed,	properly located, posted and operating with no	,		
5.	ROCK CHECK DAMS: ROCK CHECK DAMS CAN BE USED TO REDUCE EROSION IN A DRAINAGE CHANNEL TO LIMIT EROSION BY REDUCING VELOCITY IN OPEN CHANNELS.	1	Solid & hazardous was	tes: Are trash, debris, and	hazardous ma	aterials properly managed?			
6	SEDIMENT BASINS: SEDIMENT BASINS WITH SKIMMERS AND POROUS BAFFLES ARE USED TO RETAIN SEDIMENT ON THE CONSTRUCTION SITE, AND PREVENT	L				ing with no visible repairs needed?			
0.	SEDIMENT DAGING. SEDIMENT DAGING WITT SKIMMENS AND FOROUS DATEES ARE USED TO RETAIN SEDIMENT ON THE CONSTRUCTION SHE, AND TREVENT SEDIMENTATION IN OFF-SITE STREAMS, LAKES, AND DRAINAGE WAYS	к	Equipment and stored f and ground waters?	fluids: Are fuels, lubricants	, hydraulic fluid	ds, etc. contained so as not to enter surface			
				the release of hazardous	substances	to the appropriate DEQ Regional Office via tps://deq.nc.gov/contact/regional-offices	phone call c	or email	
7.	INLET PROTECTION: HARDWIRE CLOTH AND GRAVEL INLET PROTECTION DEVICES CAN BE USED PREVENT SEDIMENT FROM ENTERING YARD INLETS, GRATED STORM DRAINS OR DROP INLETS DURING CONSTRUCTION. THIS PRACTICE ALLOWS EARLY USE OF THE STORM DRAIN SYSTEM		ediment that has left the	low, a full description of se	edimentation is	required in Part 3A. This includes, but may no ses of the sediment loss, and what corrective a			
		Reference		Part 2	D: Sedimentat	tion	Yes	No	N/A
VEGE	ETATIVE PRACTICES	L	Are sediment or other p	collutants noted beyond the	approved or r	permitted limits of disturbance?			
Ι.	TEMPORARY SEEDING: DISTURBED AREAS THAT ARE NOT ANTICIPATED TO BE BROUGHT TO FINAL GRADE FOR A PERIOD OF MORE THAN 7 OR 14 CALENDAR DAYS MUST RECEIVE TEMPORARY SEEDING (SEE NPDES TABLE). A QUICK GROWING GRASS SPECIES, WHICH WILL PROVIDE AN EARLY COVER DURING THE SEASON IN WHICH IT IS	М	Are BMPs detected as	releasing sediment or othe	r pollutants int	o receiving waters?			
	PLANTED AND WILL NOT LATER COMPETE WITH THE PERMANENT GRASSING, SHOULD BE USED. TEMPORARY SEEDING SHALL BE PER WAKE COUNTY REQUIREMENTS.		Report visible sedi	imentation into streams of within 24 hours of t	or wetlands to discovery. ht	the appropriate DEQ Regional Office via p tps://deq.nc.gov/contact/regional-offices	hone call or	email	
2.	TEMPORARY GRASSING: THE SEEDED OR SEEDED AND MULCHED AREA(S) SHALL BE ROLLED AND WATERED OR HYDROMULCHED OR OTHER SUITABLE METHODS IF REQUIRED TO ASSURE OPTIMUM GROWING CONDITIONS FOR THE ESTABLISHMENT OF A GOOD GRASS COVER.	DEMLR Monitor	ing Form Rev. 07012020						Page 3 of 5
3.	TEMPORARY REGRASSING: IF, AFTER 14 DAYS FROM SEEDING, THE TEMPORARY GRASSED AREAS HAVE NOT ATTAINED A MINIMUM OF 75 PERCENT GOOD GRASS COVER,					es must be inspected at least ONCE PER 7 C/ R 24 HOUR PERIOD. <i>Add rows as needed.</i>	ALENDAR D/	AYS AND V	WITHIN 24
	THE AREA WILL BE REWORKED AND ADDITIONAL SEED APPLIED SUFFICIENT TO ESTABLISH THE DESIRED VEGETATIVE COVER. RESEED AND MULCH BARE SPOTS LARGER		Sedimentation Co		T	A 24 HOOK FERIOD. Add Tows as needed.			Date Previous
	THAN 9 SQUARE FEET.	Inspected			Inspection Date	Describe Actions Need Corrective actions should be performed a		ossible	Action(s) Observed
4.	PERMANENT SEEDING: ALL AREAS WHICH HAVE BEEN DISTURBED BY CONSTRUCTION WILL, AS A MINIMUM, BE SEEDED. PERMANENT SEEDING SHALL BE PER WAKE COUNTY REQUIREMENTS. IF GROWTH IS NOT ESTABLISHED BY FINAL PROJECT INSPECTION, CONTINUE SPECIFIED ATTENTION UNTIL THE STAND OF GRASS IS ACCEPTABLE.	Measure ID or L	ocation and Description	Reference(s) Operating Properly? (Y/N)		and before the next storm e			as Corrected
MAN	AGEMENT STRATEGIES								
1.	STOCKPILING MATERIAL: NO EXCAVATED MATERIAL SHALL BE STOCKPILED IN SUCH A MANNER AS TO DIRECT RUNOFF DIRECTLY OFF THE PROJECT SITE INTO ANY								
	ADJACENT WATER BODY OR STORM WATER COLLECTION FACILITY. PER NCDWQ CONSTRUCTION GENERAL PERMIT REVISED AUGUST 4, 2011 ALL EARTHEN MATERIAL STOCKPILES MUST BE LOCATED 50' FROM STORM DRAINS AND STREAMS UNLESS NO OTHER REASONABLE ALTERNATIVE IS AVAILABLE.	Report unant	cipated bypasses, or n via phor	on-compliance condition ne call or email within 24	is that may en hours of disc	ndanger health or the environment, to the a covery. <u>https://deg.nc.gov/contact/regional-office</u>	ppropriate D <u>ces</u>	EQ Regio	nal Office
2.	RIP-RAP OUTLET PROTECTION: ALL RIP-RAP SHALL BE INSTALLED WITH FILTER FABRIC BENEATH.	PART 3B' STO	RMWATER DISCHARGI	F OUTFALLS (SDOS): SD	IOs must be in	spected at least ONCE PER 7 CALENDAR DA	AYS AND WI	ГНІМ	
3.	SOIL DISPOSAL: DISPOSE OF ALL STOCKPILED MATERIAL TO AN APPROVED PERMITTED WAKE COUNTY DISPOSAL SITE.	24 HOURS OF A	A RAINFALL EVENT EQ Discharge Outfalls	UAL TO OR GREATER TH Inspected	HAN 1.0 INCH	PER 24 HOUR PERIOD. Add rows as neede	d.		Date Previous
4.	DEWATERING: ALL TRENCH/PIT DEWATERING MUST DISCHARGE TO AN APPROVED S&EC MEASURE OR SILT SACK PRIOR TO LEAVING THE SITE.	Discharge Cutfall	Streams, Turbidity	Visible Any visible oil Erosion sheen, floating or	Date	Describe Actions Need Corrective actions should be performed as s		le and	Action(s) Observed as
5.	PERMANENT EROSION CONTROL: THE EROSION CONTROL FACILITIES OF THE PROJECT SHOULD BE DESIGNED TO MINIMIZE THE IMPACT ON THE OFFSITE FACILITIES.	ID or O	utside Site Discharge?	below suspended solids or SDO? discoloration? (Y/N) (Y/N)		before the next storm ever			Corrected

NOTIFICATION OF COMBINED SELF-MONITORING AND SELF-INSPECTION FORM:

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.

TO SIMPLIFY DOCUMENTATION OF SELF-INSPECTION REPORTS AND NPDES SELF-MONITORING REPORTS, DWQ AND DEMLR DEVELOPED A COMBINED FORM. 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 SHOULD BE CONDUCTED AFTER EACH PHASE OF THE PROJECT, AND CONTINUED UNTIL PERMANENT GROUND COVER IS ESTABLISHED. THE FORM CAN BE ACCESSED AT: HTTP://PORTAL.NCDENR.ORG/WEB/LR/EROSION

IF YOU HAVE QUESTIONS OR CANNOT ACCESS THE FORM, PLEASE CONTACT THE FAYETTEVILLE REGIONAL OFFICE AT (910) 433-3300.

DUST CONTROL

VEGETATIVE COVER FOR DISTURBED AREAS NOT SUBJECT TO TRAFFIC, VEGETATION PROVIDES THE MOST PRACTICAL METHOD OF DUST CONTROL.

MULCH WHEN PROPERLY APPLIED, MULCH OFFERS A FAST, EFFECTIVE MEANS OF CONTROLLING DUST. MAINTENANCE

MAINTAIN DUST CONTROL MEASURES THROUGH DRY WEATHER PERIODS UNTIL ALL DISTURBED AREAS HAVE BEEN STABILIZED.

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INSPECTION AND MONITORING RECORDS FOR ACTIVITIES UNDER STORMWATER GENERAL PERMIT NCG010000 AND SELF-INSPECTION RECORDS FOR LAND DISTURBING ACTIVITIES PER G.S. 113A-54.1

Project Name				Land Quality or Local Program Project/Permit #	
Approving Authority		Date of Plan Approval		Expiration Date, if applicable	
NCG010000 Certificate of Coverage Number				Date of COC Issuance	
Coverage under the NC	G010000 permit must be renewed annu	ually, if issued after	April 1, 2019 until No	otice of Termination is filed and approved	
PART 1A: Rainfall Data		PART	1B: Phase(s) of the	<u>Plan</u>	
	Rain Amount (inches) Daily Rainfall Required. If no indicate with a "zero"		comple	plicable box(es) that apply to ted & current phases	x
M	indicate with a zero	Initial i	nstallation of erosion ar	nd sediment control measures	
		Clearin	ng and grubbing of exist	ting ground cover	
Т		Compl	etion of any grading tha	t requires ground cover	
w		Compl	etion of all land-disturbi	ng activity, construction or development	
Th		Perma	nent ground cover suffi	cient to restrain erosion has been established	
F					
Sat (Inspection Optional)					
Sun (Inspection Optional)					
Are there any site or project completion of inspection? If yes, explain conditions and a inaccessible.					

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C)F A RAINFAL	L EVENT EQ	UAL TO	OR GREATER TH	AN 1.0 INCH	PER 24 HOUR PERIOD. Add rows as needed.	
I	er Discharg	ge Outfalls	Inspe	cted			Date
	Any Visible Sedimentation in Streams, Wetlands or Outside Site Limits? (Y/N)	Any Increase in Stream Turbidity from Discharge? (Y/N)		Any visible oil sheen, floating or suspended solids or discoloration? (Y/N)	Inspection Date	Describe Actions Needed Corrective actions should be performed as soon as possible and before the next storm event	Previous Action(s) Observed as Corrected

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Site area description and location where construction activities have temporarily or permanently ceased	Time Limit for Ground Cover (see table below)	Have stabilization measures been installed? (Y/N)	Temporary or Permanent Stabilization (T/P)	Is Ground Cover Sufficient to Restrain Erosion? (Y/N)	Original Inspection Date	Describe Actions Needed <u>Corrective actions should be performed as</u> <u>soon as possible and before the next</u> <u>storm event</u>	Date Previous Action(s) Observed as Corrected

	GRC	DUND STABILIZATION TIMEFRAMES
Site Area Description	Stabilization	Timeframe Variations
Perimeter dikes, swales and slopes	7 Days	None
High Quality Water (HQW) Zones	7 Days	None
Slopes Steeper than 3:1	7 Days	7 days for perimeter dikes, swales, slopes and HWQ zones 14 days for slopes 10 ft or less in length and not steeper than 2:1 10 days for Falls Lake Watershed
Slopes 3:1 to 4:1	14 Days	7 days for perimeter dikes, swales, slopes and HWQ zones 7 days for slopes greater than 50 ft in length 10 days for Falls Lake Watershed
All other areas with slopes flatter than 4:1	14 Days	7 days for perimeter dikes, swales, slopes and HWQ zones 10 days for Falls Lake Watershed

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PART 3D: NEW OR REVISED MEASURES: Erosion and sedimentation control measures omitted or installed, at a minimum since the last inspection, shall be documented here or by initialing and dating each measure or practice shown on a copy of the approved erosion and sedimentation control plan. Alterations and relocations of measures shall also be documented if they significantly deviate from the approved plan. The removal of measures should also be documented. List dimensions of measures such as Sediment Basins and Dissipator Pads. Add rows as needed. Corrective actions should be included in Part 3A.

	Measure ID or Location and Description	Proposed Dimensions (ft.)	Actual Dimensions (ft.)	Significant Deviation* from Plan? (Y/N)	Date measure observed as installed, altered, relocated or removed	Installed (I) Altered (A) Relocated (R) Removed (X)	
		-					
*	Significant deviation means any omission, alteration or relocation of	an erosion or sec	limentation contro	ol measure that	at prevents it from pe	rforming as intend	ded.

Financially Respons Party (FRP) / Permit			County
INSPECTOR		Name	Employer
Inspector Type (Mark)	х	Address	1
FRP/Permittee			
Agent/Designee		Phone Number	Email Address
By this signature, I c	ertify	in accordance with the NCG010000 permit & G.S. 1	13A-54.1 that this report is accurate and complete to the best of my knowledge
Financially Responsible	Part	y / Permittee or Agent / Designee	Date & Time of Inspection



RELEASED FOR CONSTRUCTION

								x 36
REVISIONS	NCDEQ COMMENTS	HARNETT COUNTY COMMENTS	NCDEQ COMMENTS	NCDEQ COMMENTS	HRW COMMENTS	RELEASED FOR CONSTRUCTION	HORZ. SCALE: SCALE	ORIG. SHEET SIZE: 24 x 36
	N	HARNET	N	N		RELEASI		65
	2020-08-17	2020-08-20	2020-09-09	2020-09-22	2020-11-10	2020-12-11	DATE: 7 / 2020	FILE NO. 2019-065
	1	2	3	4	2	9	DAT	FILE

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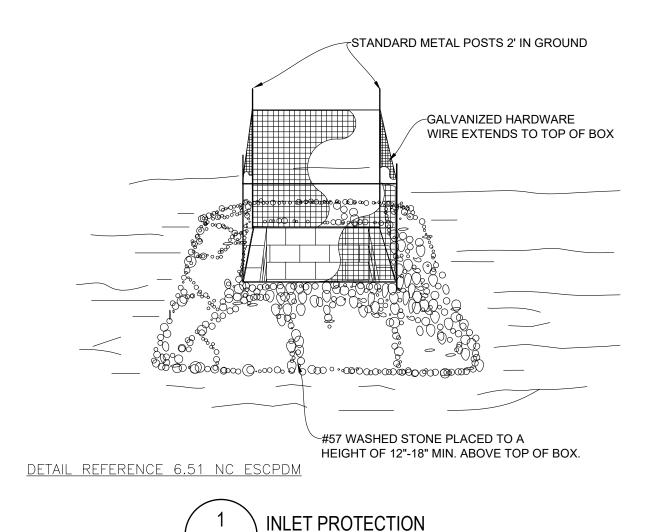
EC-03

CONSTRUCTION SPECIFICATIONS

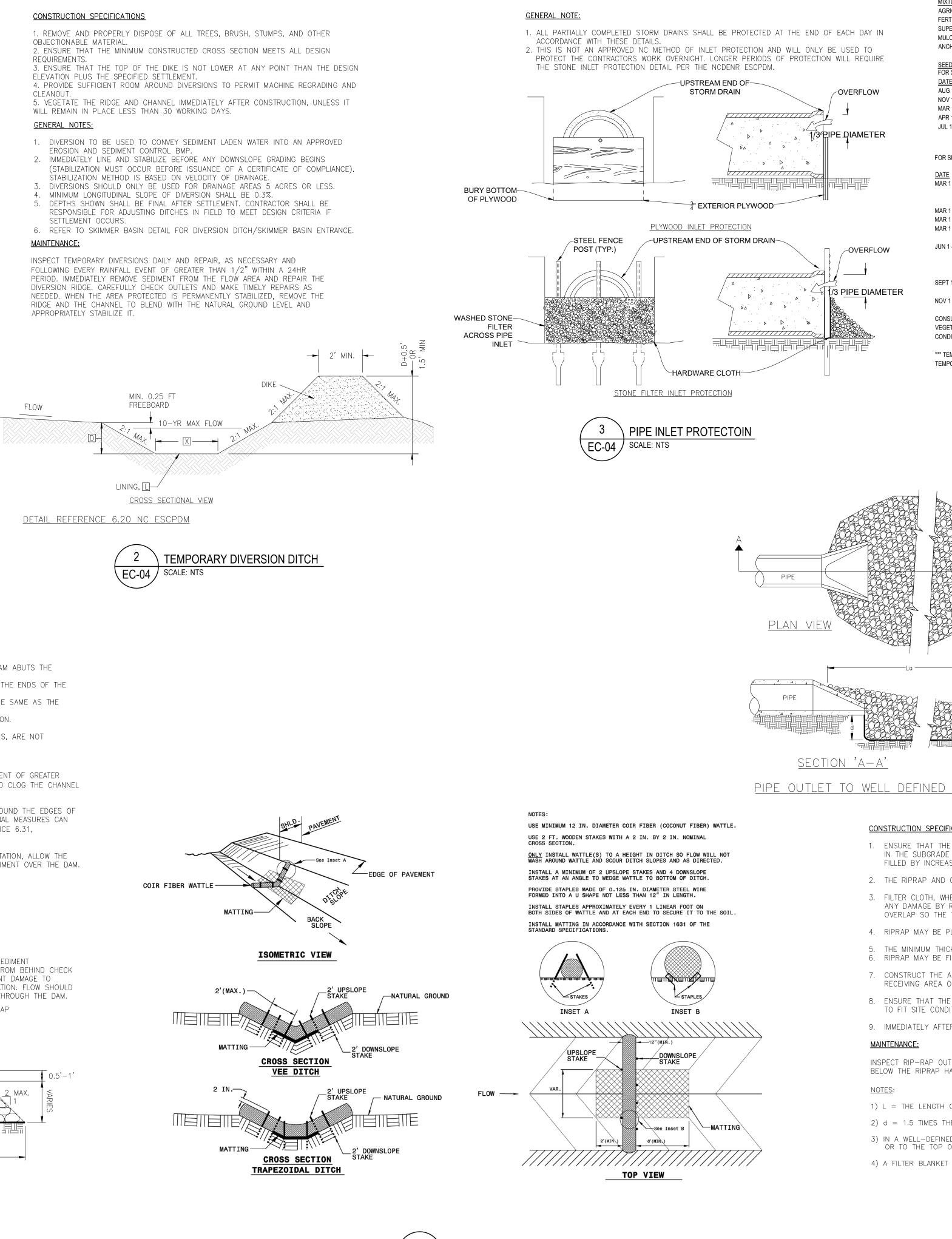
- 1. UNIFORMLY GRADE A SHALLOW DEPRESSION APPROACHING THE INLET.
- 2. DRIVE 5-FOOT STEEL POSTS 2 FEET INTO THE GROUND SURROUNDING THE INLET. SPACE POSTS EVENLY AROUND THE PERIMETER OF THE INLET, A MAXIMUM OF 4 FEET APART.
- 3. SURROUND THE POSTS WITH WIRE MESH HARDWARE CLOTH. SECURE THE WIRE MESH TO THE STEEL POSTS AT THE TOP, MIDDLE, AND BOTTOM. PLACING A 2-FOOT FLAP OF THE WIRE MESH UNDER THE GRAVEL FOR ANCHORING IS RECOMMENDED.
- 4. PLACE CLEAN GRAVEL (NC DOT #5 OR #57 STONE) ON A 2:1 SLOPE WITH A HEIGHT OF 16 INCHES AROUND THE WIRE, AND SMOOTH TO AN EVEN GRADE.
- 5. ONCE THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED, REMOVE ACCUMULATED SEDIMENT, AND ESTABLISH FINAL GRADING ELEVATIONS.
- 6. COMPACT THE AREA PROPERLY AND STABILIZED IT WITH GROUNDCOVER.

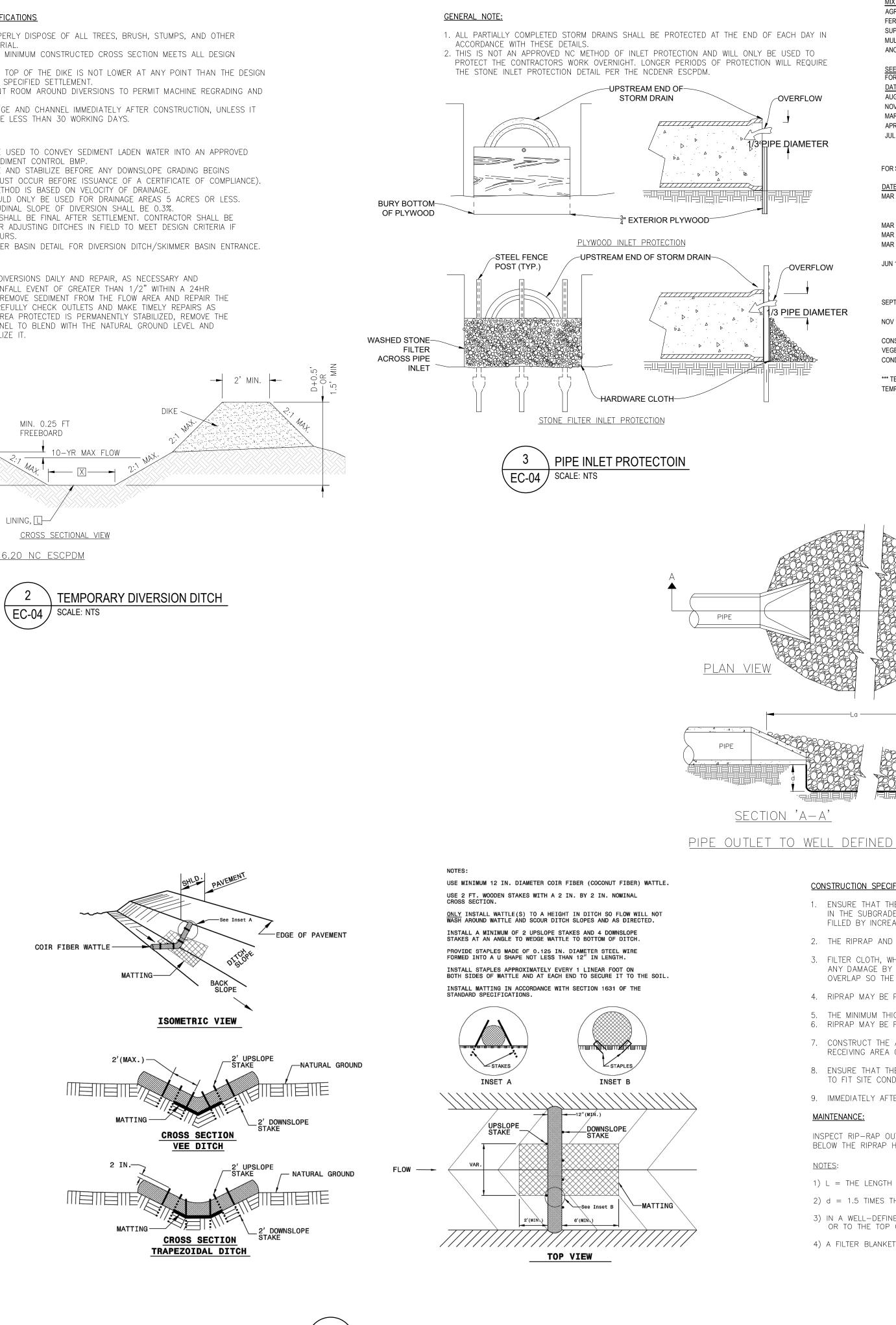
MAINTENANCE:

INSPECT INLETS DAILY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENT. CLEAR THE MESH WIRE OF ANY DEBRIS OR OTHER OBJECTS TO PROVIDE ADEQUATE FLOW FOR SUBSEQUENT RAINS. TAKE CARE NOT TO DAMAGE OR UNDERCUT THE WIRE MESH DURING SEDIMENT REMOVAL. REPLACE STONE AS NEEDED.



- EROSION AND SEDIMENT CONTROL BMP.
- SETTLEMENT OCCURS.





CONSTRUCTION SPECIFICATIONS

\ EC-04 /

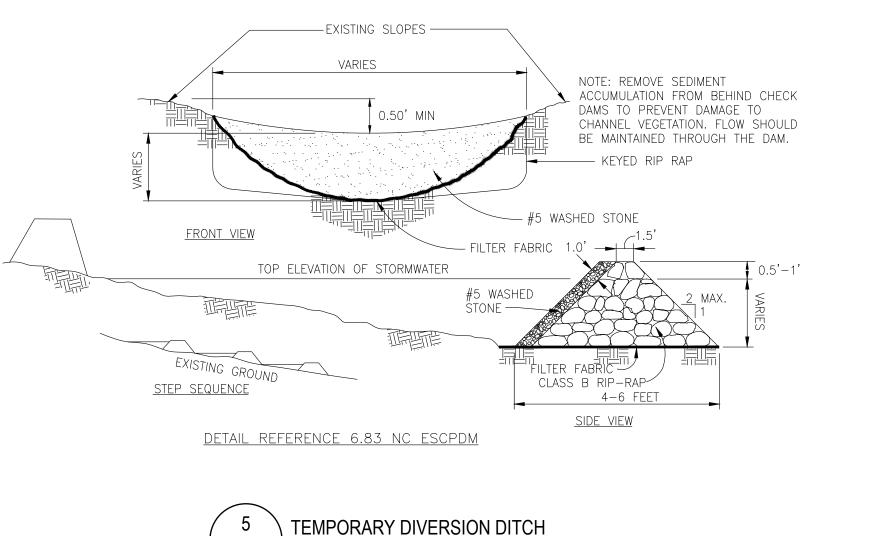
SCALE: NTS

- 1. PLACE STONE TO THE LINES AND DIMENSIONS SHOWN IN 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 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. MAINTANENCE:

INSPECT CHECK DAMS AND CHANNELS DAILY AND REPAIR, AS NECESSARY FOLLOWING EVERY RAINFALL EVENT OF GREATER THAN 1/2" WITHIN A 24HR PERIOD. CLEAN OUT SEDIMENT, STRAW, LIMBS, OR OTHER DEBRIS THAT COULD CLOG THE CHANNEL WHEN NEEDED.

ANTICIPATE SUBMERGENCE AND DEPOSITION ABOVE THE CHECK DAM AND EROSION FROM HIGH FLOWS AROUND THE EDGES OF THE DAM. CORRECT ALL DAMAGE IMMEDIATELY. IF SIGNIFICANT EROSION OCCURS BETWEEN DAMS, ADDITIONAL MEASURES CAN BE TAKEN SUCH AS, INSTALLING A PROTECTIVE RIPRAP LINER IN THAT PORTION OF THE CHANNEL (PRACTICE 6.31, RIPRAP-LINE AND PAVED CHANNELS).

REMOVE SEDIMENT ACCUMULATED BEHIND THE DAMS AS NEEDED TO PREVENT DAMAGE TO CHANNEL VEGETATION, ALLOW THE CHANNEL TO DRAIN THROUGH THE STONE CHECK DAM, AND PREVENT LARGE FLOWS FROM CARRYING SEDIMENT OVER THE DAM. ADD STONES TO DAMS AS NEEDED TO MAINTAIN DESIGN HEIGHT AND CROSS SECTION.



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COIR FIBER WATTLE DETAIL EC-04 / SCALE: NTS

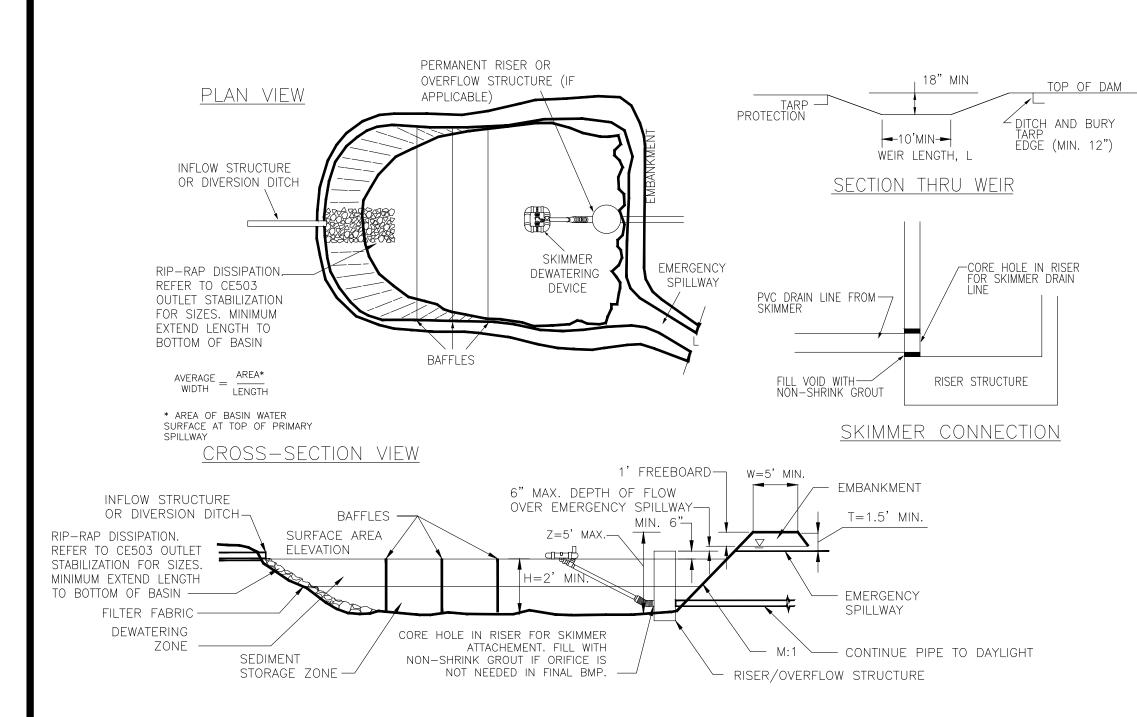
	IMESTONE2 TONS/ACRE (3 - 		SEEDBED PREPARATION: 1. CHISEL COMPACTED AREAS AND SPREAD TOPSOIL THREE INCHES DEEP	30
UPERPHOSPHA	TE	ANALYSIS	OVER ADVERSE SOIL CONDITIONS, IF AVAILABLE.	ALE 24 ×
NCHOR	ASPHALT EMULSION A		 2. RIP THE ENTIRE AREA TO SIX INCHES DEEP. 3. REMOVE ALL LOOSE ROCK, ROOTS AND OTHER OBSTRUCTIONS, LEAVING 	
EEDING SCHED OR SHOULDERS DATE	ULE 3, SIDE DITCHES, SLOPES (MAX 3:1): TYPE	PLANTING RATE	SURFACE REASONABLY SMOOTH AND UNIFORM.	EVISIONS a comments ounty comments a comments comments comments Co
UG 15 - NOV 1 OV 1 - MAR 1	TALL FESCUE TALL FESCUE TALL FESCUE & ABRUZZI RYE	300 LBS/ACRE 300 LBS/ACRE	 APPLY AGRICULTURAL LIME, FERTILIZER AND SUPERPHOSPHATE UNIFORMLY AND MIX WITH SOIL (SEE <u>MIXTURE</u>). 	REVISIONS INCEED COMMENTS INCEED COMMENTS INCE
IAR 1 - APR 15 .PR 15-JUN 30	TALL FESCUE HULLED COMMON BERMUDAGRASS	300 LBS/ACRE 25 LBS/ACRE	5. CONTINUE TILLAGE UNTIL A WELL-PULVERIZED, FIRM, REASONABLY UNIFORM SEEDBED IS PREPARED FOUR TO SIX INCHES DEEP.	RE NCDE NCDE NCDE HRW HRW
UL 1- AUG 15	TALL FESCUE AND BROWNTOP MILLET OR SORGHUM-SUDAN	125 LBS/ACRE (TALL FESCUE); 35 LBS/ACRE (BROWNTOP MILLET); 30 LBS/ACRE	6. SEED ON A FRESHLY PREPARED SEEDBED AND COVER SEED LIGHTLY	HA HA
R SHOULDERS,	HYBRIDS*** SIDE DITCHES, SLOPES (3:1 TO 2:1):	(SORGHUM-SUDAN HYBRIDS)	WITH SEEDING EQUIPMENT OR CULTIPACK AFTER SEEDING.	ى ب
<u>\TE</u> \R 1 - JUN 1	TYPE	<u>PLANTING RATE</u> 50 LBS/ACRE (SERICEA LESPEDEZA);	 MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH. INSPECT ALL SEEDED AREAS AND MAKE NECESSARY REPAIRS OR 	220-08-17 220-08-20 220-09-09 220-09-22 220-11-10 220-12-11 7 / 2020 2019-065
an i - JUIN Í	SERICEA LESPEDEZA (SCARIFIED) AND USE THE FOLLOWING COMBINATIONS:	JU LUDIAUNE (JERIUEA LEOPEDEZA);	RESEEDINGS WITHIN THE PLANTING SEASON, IF POSSIBLE. IF STAND SHOULD BE MORE THAN 60% DAMAGED, RE-ESTABLISH FOLLOWING THE	
AR 1 - APR 15 AR 1 - JUN 30	ADD TALL FESCUE OR ADD WEEPING LOVE GRASS	120 LBS/ACRE 10 LBS/ACRE	ORIGINAL LIME, FERTILIZER AND SEEDING RATES.9. CONSULT S&EC ENVIRONMENTAL ENGINEERS ON MAINTENANCE	1 20 2 2 20 3 3 20 4 20 20 6 20 20 DATE: FILE NO.
AR 1 - JUN 30	OR ADD HULLED COMMON BERMUDAGRASS	25 LBS/ACRE	9. CONSULT S&EC ENVIRONMENTAL ENGINEERS ON MAINTENANCE TREATMENT AND FERTILIZATION AFTER PERMANENT COVER IS ESTABLISHED.	
N 1 - SEPT 1	TALL FESCUE AND BROWNTOP MULLET OR SORGHUM-SUDAN HYBRIDS***	120 LBS/ACRE (TALL FESCUE); 35 LBS/ACRE (BROWNTOP MULLET); 30 LBS/ACRE (SORGHUM-SUDAN		
PT 1 - MAR 1	HYBRIDS*** SERICEA LESPEDEZA (UNHULLED -	30 LBS/ACRE (SORGHUM-SUDAN HYBRIDS) 70 LBS/ACRE (SERICEA LESPEDEZA);		
)V 1 - MAR 1	UNSCARIFIED) AND TALL FESCUE AND ABRUZZI RYE	120 LBS/ACRE (TALL FESCUE) 25 LBS/ACRE		
NSULT S&EC EI	VVIRONMENTAL ENGINEERS FOR ADDITION	NAL INFORMATION CONCERNING OTHER ALTERNAT	TIVES FOR	
	DENUDED AREAS. THE ABOVE VEGETATION ER SEEDING RATE COMBINATIONS ARE PC	I RATES ARE THOSE THAT DO WELL UNDER LOCAL DSSIBLE.		
		I FOR DESIRED PERMANENT VEGETATION. DO NOT EFORE MOWING; OTHERWISE, FESCUE MAY BE SHA		
		4 SEEDING SCHED	ULE	
		EC-04 SCALE: NTS		DRIVE ETAILS
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googen -		PIPE		
···	FILTER FABRIC		$\frac{SECTION'A-A'}{Fabric}$	
	INFI		AT AREA – NO WELL DEFINED	
) CHAN			CHANNEL DETAIL REFERENCE 6.41 NC ESCPDM	
<u>CIFICATIONS</u> THE SUBGRA	DE FOR THF FII TFR ANN RIPRA	AP FOLLOWS THE REGUIRED LINES AN	ND GRADES SHOWN IN THE PLAN. COMPACT ANY FILL REQUIRED	
DE TO THE			AS IN THE SUBGRADE ON UNDISTURBED SOIL MAY ALSO BE	
d gravel f	FILTER MUST CONFORM TO THE	SPECIFIED GRADING LIMITS SHOWN C	ON THE PLANS.	
) FROM PUNCHING OR TEARING DURING INSTALLATION. REPAIR R THE DAMAGED AREA. ALL CONNECTING JOINTS SHOULD	enue C 27526
E TOP LAY	ER IS ABOVE THE DOWNSTREAM	I LAYER A MINIMUM OF 1 FOOT. IF T	THE DAMAGE IS EXTENSIVE, REPLACE THE ENTIRE FILTER CLOTH.	iquay Av arina, N(
		TO AVOID DAMAGING THE FILTER.		205 S. Fuquay Avenue Fuquay-Varina, NC 27526
		TIMES THE MAXIMUM STONE DIAMETE IT SHOULD BE HARD, ANGULAR, HIG	ER. CHLY WEATHER-RESISTANT AND WELL GRADED.	
	N ZERO GRADE WITH NO OVERF TLY BELOW IT.	ILL AT THE END. MAKE THE TOP OF	THE RIPRAP AT THE DOWNSTREAM END LEVEL WITH THE	52-0849
HE APRON	IS PROPERLY ALIGNED WITH TH		BLY STRAIGHT THROUGHOUT ITS LENGTH. IF A CURVE IS NEEDED	(919) 552-0849 (919) 552-2043
	LACE IT IN THE UPPER SECTION RUCTION, STABILIZE ALL DISTUF			н ш арана
ILIN CUNST	NUCTION, STABILIZE ALL DISTUR	NULU ANLAS WITH VEGETATION		SEERS - Wy SEE
			AINFALL EVENTS TO SEE IF ANY EROSION AROUND OR	ENG/1
			ALL NEEDED REPAIRS TO PREVENT FURTHER DAMAGE.	C C C C C C C C C C C C C C C C C C C
	RIPRAP APRON.			
	MPRAP APRON. JM STONE DIAMETER BUT NOT	LESS THAN 6" (inches).		
NED CHANN	EL EXTEND THE APRON UP THE		OF 6" (inches) ABOVE THE MAXIMUM TAILWATER DEPTH	
	ANK, WHICHEVER IS LESS. Er fabric should be installi	ED BETWEEN THE RIPRAP AND SOIL I	FOUNDATION.	
L. ON HELE	L	SELLER, THE MILLAR AND SOLE I	· · · · · · · · · · · · · · · · · ·	



RELEASED FOR CONSTRUCTION

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GENERAL NOTES: 1. REFER TO NCESCPDM SECTION #6.64

FOR ADDITIONAL DESIGN SPECIFICATIONS REGARDING SKIMMER SEDIMENT BASINS.

- 2. DEFINITIONS:
- H DEPTH FROM BOTTOM BASIN TO
- SURFACE AREA ELEVATION • Z – HEIGHT OF BASIN
- L WIDTH OF EMERGENCY SPILLWAY
- T DISTANCE BETWEEN EMERGENCY
- SPILWWAY AND BERM. • M - SIDE SLOPE

• W – BERM WIDTH MAINTENANCE

INSPECT SKIMMER SEDIMENT BASINS DAILY AND AFTER EACH SIGNIFICANT (ONE-HALF INCH OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. REMOVE SEDIMENT AND RESTORE THE BASIN TO ITS ORIGINAL DIMENSIONS WHEN SEDIMENT ACCUMULATES TO ONE-HALF THE HEIGHT OF THE FIRST BAFFLE. PULL THE SKIMMER TO ONE SIDE SO THAT THE SEDIMENT UNDERNEATH IT CAN BE EXCAVATED EXCAVATE THE SEDIMENT FROM THE ENTIRE BASIN, NOT JUST AROUND THE SKIMMER OR THE FIRST CELL. MAKE SURE VEGETATION GROWING IN THE BOTTOM OF THE BASIN DOES NOT HOLD DOWN THE SKIMMER.

REPAIR THE BAFFLES IF THEY ARE DAMAGED. RE-ANCHOR THE BAFFLES IF WATER IS FLOWING UNDERNEATH OR AROUND THEM.

IF THE SKIMMER IS CLOGGED WITH TRASH AND THERE IS WATER IN THE BASIN. USUALLY JERKING ON THE ROPE WILL MAKE THE SKIMMER BOB UP AND DOWN AND DISLODGE THE DEBRIS AND RESTORE FLOW. IF THIS DOES NOT WORK, PULL THE SKIMMER OVER TO THE SIDE OF THE BASIN AND REMOVE THE DEBRIS. ALSO CHECK THE ORIFICE INSIDE THE SKIMMER TO SEE IF IT IS CLOGGED; IF SO REMOVE THE DEBRIS.

IF THE SKIMMER ARM OR BARREL PIPE IS CLOGGED, THE ORIFICE CAN BE REMOVED AND THE OBSTRUCTION CLEARED WITH A PLUMBER'S SNAKE OR BY FLUSHING WITH WATER. BE SURE AND REPLACE THE ORIFICE BEFORE REPOSITIONING THE SKIMMER.

CHECK THE FABRIC LINED SPILLWAY FOR DAMAGE AND MAKE ANY REQUIRED REPAIRS WITH FABRIC THAT SPANS THE FULL WIDTH OF THE SPILLWAY. CHECK THE EMBANKMENT, SPILLWAYS, AND OUTLET FOR EROSION DAMAGE, AND INSPECT THE EMBANKMENT FOR PIPING AND SETTLEMENT. MAKE ALL NECESSARY REPAIRS IMMEDIATELY. REMOVE ALL TRASH AND OTHER DEBRIS FROM THE SKIMMER AND POOL AREAS.

FREEZING WEATHER CAN BESNET ESCIET PRECAUTIONS SHOULD BE TAKEN IN THE WINTER TO PREVENT THE SKIMMER FROM PLUGGING WITH ICE.

CONSTRUCTION SPECIFICATION

1. CLEAR, GRUB, AND STRIP THE AREA UNDER THE EMBANKMENT OF ALL VEGETATION AND ROOT MAT. REMOVE ALL SURFACE SOIL CONTAINING HIGH AMOUNTS OF ORGANIC MATTER AND STOCKPILE OR DISPOSE OF IT PROPERLY. HAUL ALL OBJECTIONABLE MATERIAL TO THE DESIGNATED DISPOSAL AREA. PLACE TEMPORARY SEDIMENT CONTROL MEASURES BELOW BASIN AS NEEDED

2. ENSURE THAT FILL MATERIAL FOR THE EMBANKMENT IS FREE OF ROOTS, WOODY VEGETATION, ORGANIC MATTER, AND OTHER OBJECTIONABLE MATERIAL. PLACE THE FILL IN LIFTS NOT TO EXCEED 9 INCHES, AND MACHINE COMPACT IT. OVER FILL THE EMBANKMENT 6 INCHES TO ALLOW FOR SETTLEMENT.

3. SHAPE THE BASIN TO THE SPECIFIED DIMENSIONS. PREVENT THE SKIMMING DEVICE FROM SETTLING INTO THE MUD BY EXCAVATING A SHALLOW PIT UNDER THE SKIMMER OR PROVIDING A LOW SUPPORT UNDER THE SKIMMER OF STONE OR TIMBER.

4. CONDUIT SPILLWAYS (RISERS) - SECURELY ATTACH THE RISER TO THE BARREL OR BARREL STUB TO MAKE A WATERTIGHT STRUCTURAL CONNECTION. SECURE ALL CONNECTIONS BETWEEN THE BARREL SECTIONS BY APPROVED WATERTIGHT ASSEMBLIES. PLACE THE BARREL AND RISER ON FIRM, SMOOTH FOUNDATION OF IMPERVIOUS SOIL, DO NOT USE PERVIOUS MATERIAL SUCH AS SAND, GRAVEL OR CRUSHED STONE AS BACKFILL AROUND THE PIPE. PLACE THE FILL MATERIAL AROUND THE PIPE SPILLWAY IN 4-INCH LAYERS, AND COMPACT IT UNDER AND AROUND THE PIPE TO AT LEAST THE SAME DENSITY AS THE ADJACENT EMBANKMENT. CARE MUST BE TAKEN NOT TO RAISE THE PIPE EROM FIRM CONTACT WITH ITS FOUNDATION WHEN CONPACTING UNDER THE PIPE HAUNCHES. PLACE A MINIMUM DEPTH OF 2-FT OF COMPACTED BACKFILL OVER THE PIPE SPILLWAY BEFORE CROSSING IT WITH CONSTRUCTION EQUIPMENT. ANCHOR THE RISER IN PLACE BY CONCRETE OR ONTHER SATISFACTORY MEANS TO PREVENT FLOTATATION. IN NO CASE SHOULD THE PIPE CONDUIT BE INSTALLED BY CUTTING A TRENCH THROUGH THE DAM AFTER THE EMBANKMENT IS COMPLETE.

5. SKIMMER – PLACE THE BARREL (TYPICALLY 4–INCH SCHEDULE 40 PVC PIPE) ON A FIRM, SMOOTH FOUNDATION OF IMPERVIOUS SOIL. DO NOT USE PERVIOUS MATERIAL SUCH AS SAND, GRAVEL, OR CRUSHED STONE AS BACKFILL AROUND THE PIPE. PLACE THE FILL MATERIAL AROUND THE PIPE SPILLWAY IN 4-INCH LAYERS AND COMPACT IT UNDER AND AROUND THE PIPE TO AT LEAST THE SAME DENSITY AS THE ADJACENT EMBANKMENT. CARE MUST BE TAKEN NOT TO RAISE THE PIPE FROM THE FORM CONTACT WITH ITS FOUNDATION WHEN COMPACTING UNDER THE PIPE HAUNCHES.PLACE A MINIMUM DEPTH OF 2 FEET OF COMPACTED BACKFILL OVER THE PIPE SPILLWAY BEFORE CROSSING IT WITH CONSTRUCTION EQUIPMENT. IN NO CASE SHOULD THE PIPE CONDUIT BE INSTALLED BY CUTTING A TRENCH THROUGH THE DAM AFTER THE EMBANKMENT IS COMPLETE.

6. ASSEMBLE THE SKIMMER FOLLOWING THE MANUFACTURERS INSTRUCTIONS, OR AS DESIGNED.

7. LAY THE ASSEMBLED SKIMMER ON THE BOTTOM OF THE BASIN WITH THE FLEXIBLE JOINT AT THE INLET OF THE BARREL PIPE. ATTACH THE FLEXIBLE JOINT TO THE BARREL PIPE AND POSITION THE SKIMMER OVER THE EXCAVATED PIT OR SUPPORT. BE SURE TO ATTACH A ROPE TO THE SKIMMER AND ANCHOR IT TO THE SIDE OF THE BASIN. THIS WILL BE USED TO PULL THE SKIMMER TO THE SIDE FOR MAINTENANCE.

8. EARTHEN SPILLWAYS-INSTALL THE SPILLWAY IN UNDISTURBED SOIL TO THE GREATEST EXTENT POSSIBLE. THE ACHIEVEMENT OF PLANNED ELEVATIONS, GRADE, DESIGN WIDTH, AND ENTRANCE AND EXIT CHANNEL SLOPES ARE CRITICAL TO THE SUCCESSFUL OPERATION OF THE SPILLWAY. THE SPILLWAY SHOULD BE LINED WITH LAMINATED PLASTIC OR IMPERMEABLE GEOTEXTILE FABRIC. THE FABRIC MUST BE WIDE AND LONG ENOUGH TO COVER THE BOTTOM AND SIDES AND EXTEND ONTO THE TOP OF THE DAM FOR ANCHORING IN A TRENCH. THE EDGES MAY BE SECURED WITH 8-INCH STAPLES OR PINS. THE FABRIC MUST BE LONG ENOUGH TO EXTEND DOWN THE SLOPE AND EXIT ONTO STABLE GROUND. THE WIDTH OF THE FABRIC MUST BE ONE PIECE, NOT JOINED OR SPLICED; OTHERWISE WATER CAN GET UNDER THE FABRIC. IF THE LENGTH OF THE FABRIC IS INSUFFICIENT FOR THE ENTIRE LENGTH OF THE SPILLWAY, MULTIPLE SECTIONS, SPANNING THE COMPLETE WIDTH, MAY BE USED. THE UPPER SECTION(S) SHOULD OVERLAP THE LOWER SECTION(S) SO THAT WATER CANNOT FLOW UNDER THE FABRIC. SECURE THE UPPER EDGE AND SIDES OF THE FABRIC IN A TRENCH WITH STAPLES OR PINS. (ADAPTED FROM "A MANUAL FOR DESIGNING, INSTALLING AND MAINTAINING SKIMMER SEDIMENT BASINS." FEBRUARY, 1999. J. W. FAIRCLOTH & SON.).

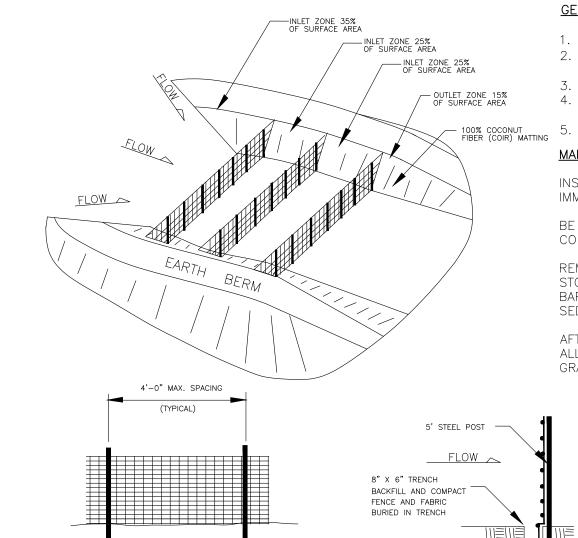
9. INLETS - DISCHARGE WATER INTO THE BASIN IN A MANNER TO PREVENT EROSION. USE TEMPORARY SLOPE DRAINS OR DIVERSIONS WITH OUTLET PROTECTION TO DIVERT SEDIMENT-LADEN WATER TO THE UPPER END OF THE POOL AREA TO IMPROVE BASIN TRAP EFFICIENCY (REFERENCES: RUNOFF CONTROL MEASURES AND OUTLET PROTECTION).

10. EROSION CONTROL-CONSTRUCT THE STRUCTURE SO THAT THE DISTURBED AREA IS MINIMIZED. DIVERT SURFACE WATER AWAY FROM BARE AREAS. COMPLETE THE EMBANKMENT BEFORE THE AREA IS CLEARED. STABILIZE THE EMERGENCY SPILLWAY EMBANKMENT AND ALL OTHER DISTURBED AREAS ABOVE THE CREST OF THE PRINCIPAL SPILLWAY IMMEDIATELY AFTER CONSTRUCTION (REFERENCES: SURFACE STABILIZATION).

11. INSTALL POROUS BAFFLES AS SPECIFIED IN PRACTICE 6.65, POROUS BAFFLES.

12. AFTER ALL THE SEDIMENT-PRODUCING AREAS HAVE BEEN PERMANENTLY STABILIZED, REMOVE THE STRUCTURE AND ALL THE UNSTABLE SEDIMENT. SMOOTH THE AREA TO BLEND WITH THE ADJOINING AREAS AND STABILIZE PROPERLY (REFERENCES: SURFACE STABILIZATION).





GENERAL NOTES:

- 1. DRIVE 5' STEEL POST AT LEAST 24" INTO SOLID GROUND.
- 2. USE STAPLES 1' APART HORIZONTALLY AND VERTICALLY TO ATTACH THE FILTER FABRIC TO THE WIRE FENCE. 3. MINIMUM BAFFLE SPACING IS 10'.
- 4. THE FLOOR OF THE BASIN IN THE OUTLET ZONE AND BERMS SHOULD BE SEEDED IMMEDIATELY AFTER THE BASIN IS CONSTRUCTED. 5. REFER TO NCESCPDM SECTION #6.65 FOR ADDITIONAL SPECIFICATIONS

MAINTENANCE

INSPECT BAFFLES DAILY AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY.

BE SURE TO MAINTAIN ACCESS TO THE BAFFLES. SHOULD THE FABRIC OF A BAFFLE COLLAPSE, TEAR, DECOMPOSE, OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY.

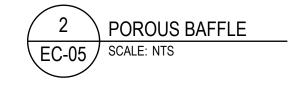
REMOVE SEDIMENT DEPOSITS WHEN IT REACHES HALF FULL TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE BAFFLES. TAKE CARE TO AVOID DAMAGING THE BAFFLES DURING CLEANOUT. SEDIMENT DEPTH SHOULD NEVER EXCEED HALF THE DESIGNED STORAGE DEPTH.

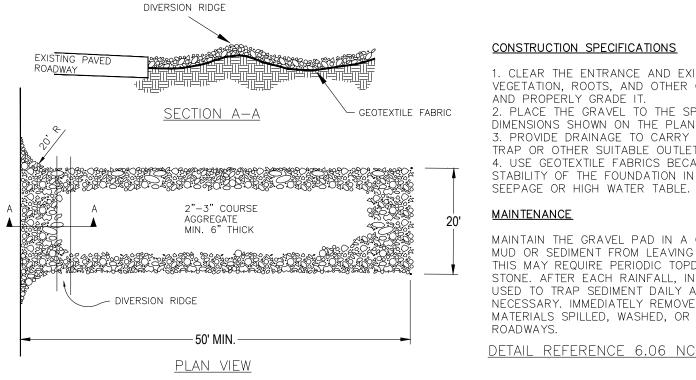
AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED, REMOVE ALL BAFFLE MATERIALS AND UNSTABLE SEDIMENT DEPOSITS, BRING THE AREA TO GRADE, AND STABILIZE IT.

CONSTRUCTION SPECIFICATION

- 1. GRADE THE BASIN SO THAT THE BOTTOM IS LEVEL FRONT TO BACK AND SIDE TO SIDE
- (PRACTICE 6.62. SEDIMENT FENCE). . STEEL POSTS SHOULD BE DRIVEN TO A DEPTH OF 24 INCHES, SPACED A MAXIMUM OF 4 FEET APART, AND INSTALLED UP THE SIDES OF THE BASIN AS WELL. THE TOP OF THE FABRIC SHOULD BE 6 INCHES HIGHER THAN THE INVERT OF THE SPILLWAY. TOPS OF BAFFLES SHOULD BE 2 INCHES LOWER THAN THE TOP OF THE BERMS.
- DISCHARGE POINT. BASINS LESS THAN 20 FEET IN LENGTH MAY USE 2 BAFFLES. WHEN USING POSTS, ADD A SUPPORT WIRE OR ROPE ACROSS THE TOP OF THE MEASURE TO PREVENT SAGGING

DETAIL REFERENCE 6.65 NC ESCPDIOR WARP POROUS MATERIAL, LIKE JUTE BACKED BY COIR MATERIAL, OVER A SAWHORSE OR THE TOP WIRE. HAMMER REBAR INTO THE SAWHORSE LEGS FOR ANCHORING. THE FABRIC SHOULD HAVE FIVE TO TEN PERCENT OPENINGS IN THE WEAVE, ATTACH FABRIC TO A ROPE AND A SUPPORT STRUCTURE WITH ZIP TIES, WIRE, OR STAPLES. 7. THE BOTTOM AND SIDES OF THE FABRIC SHOULD BE ANCHORED IN A TRENCH OR PINNED WITH 8-INCH EROSION CONTROL MATTING STAPLES.





CONSTRUCTION SPECIFICATIONS

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

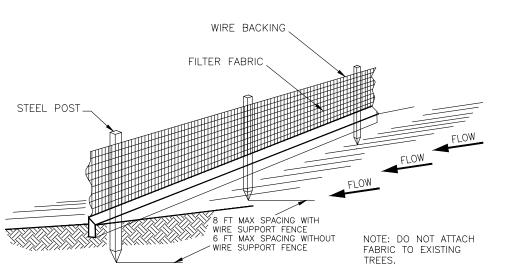
MAINTENANCE

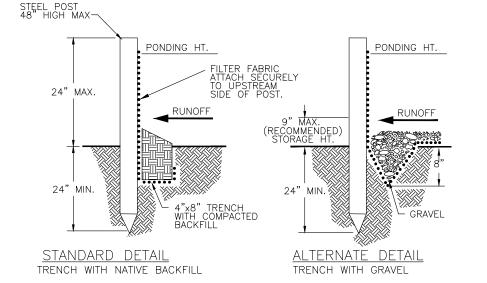
MAINTAIN THE GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. THIS MAY REQUIRE PERIODIC TOPDRESSING WITH 2-INCH STONE. AFTER EACH RAINFALL, INSPECT ANY STRUCTURE USED TO TRAP SEDIMENT DAILY AND CLEAN IT OUT AS NECESSARY. IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED, OR TRACKED ONTO PUBLIC ROADWAYS.

DETAIL REFERENCE 6.06 NC ESCPDM









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CONSTRUCTION SPECIFICATIONS

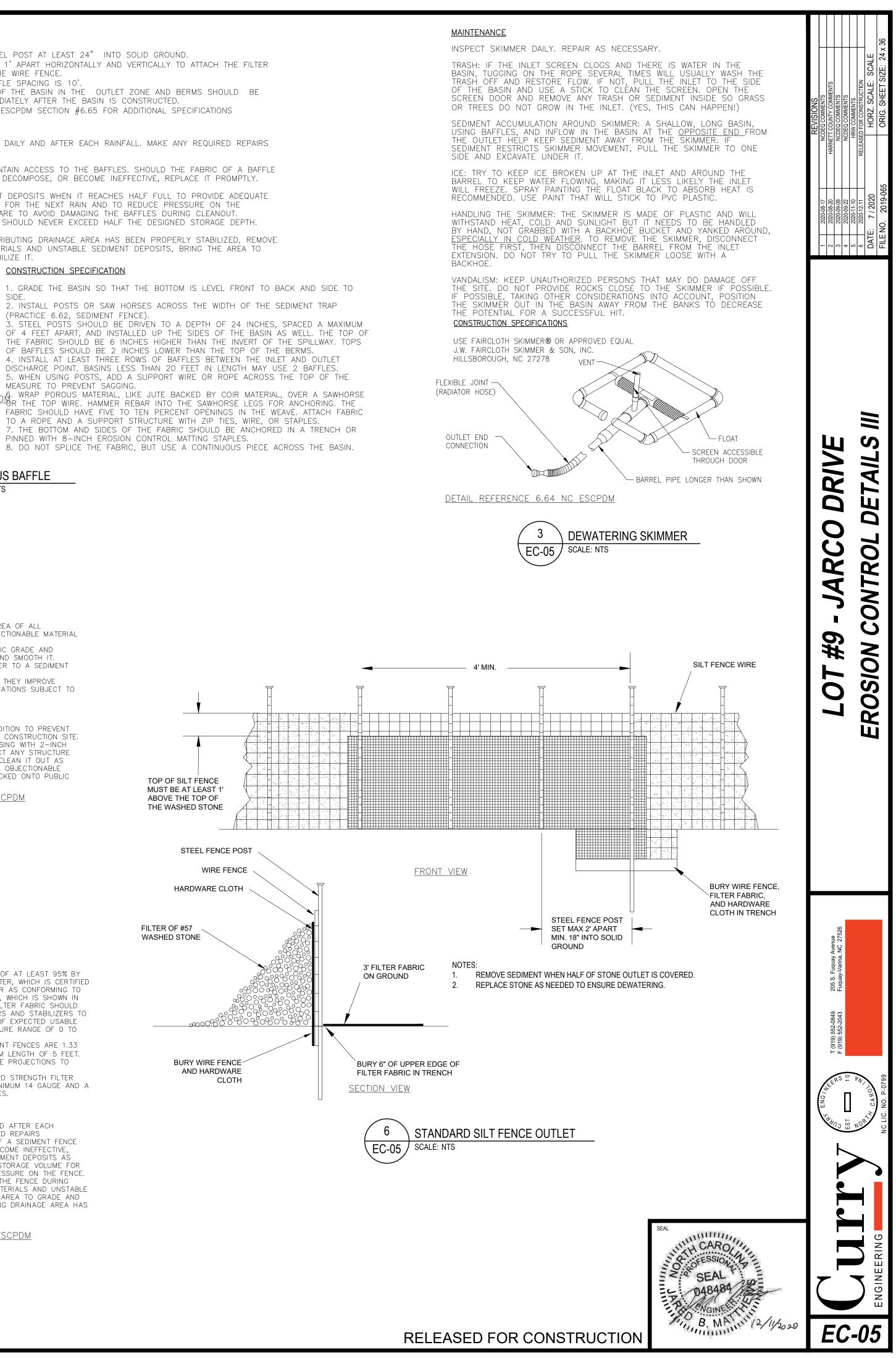
1. USE A SYNTHETIC FILTER FABRIC OF AT LEAST 95% BY WEIGHT OF POLYOLEFINS OR POLYESTER, WHICH IS CERTIFIED BY THE MANUFACTURER OR SUPPLIER AS CONFORMING TO THE REQUIREMENTS IN ASTM D 6461, WHICH IS SHOWN IN PART IN TABLE 6.62B. SYNTHETIC FILTER FABRIC SHOULD CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS TO PROVIDE A MINIMUM OF 6 MONTHS OF EXPECTED USABLE CONSTRUCTION LIFE AT A TEMPERATURE RANGE OF 0 TO 120° F 2. ENSURE THAT POSTS FOR SEDIMENT FENCES ARE 1.33 LB/LINEAR FT STEEL WITH A MINIMUM LENGTH OF 5 FEET. MAKE SURE THAT STEEL POSTS HAVE PROJECTIONS TO FACILITATE FASTENING THE FABRIC 3. FOR REINFORCEMENT OF STANDARD STRENGTH FILTER FABRIC, USE WIRE FENCE WITH A MINIMUM 14 GAUGE AND A MAXIMUM MESH SPACING OF 6 INCHES.

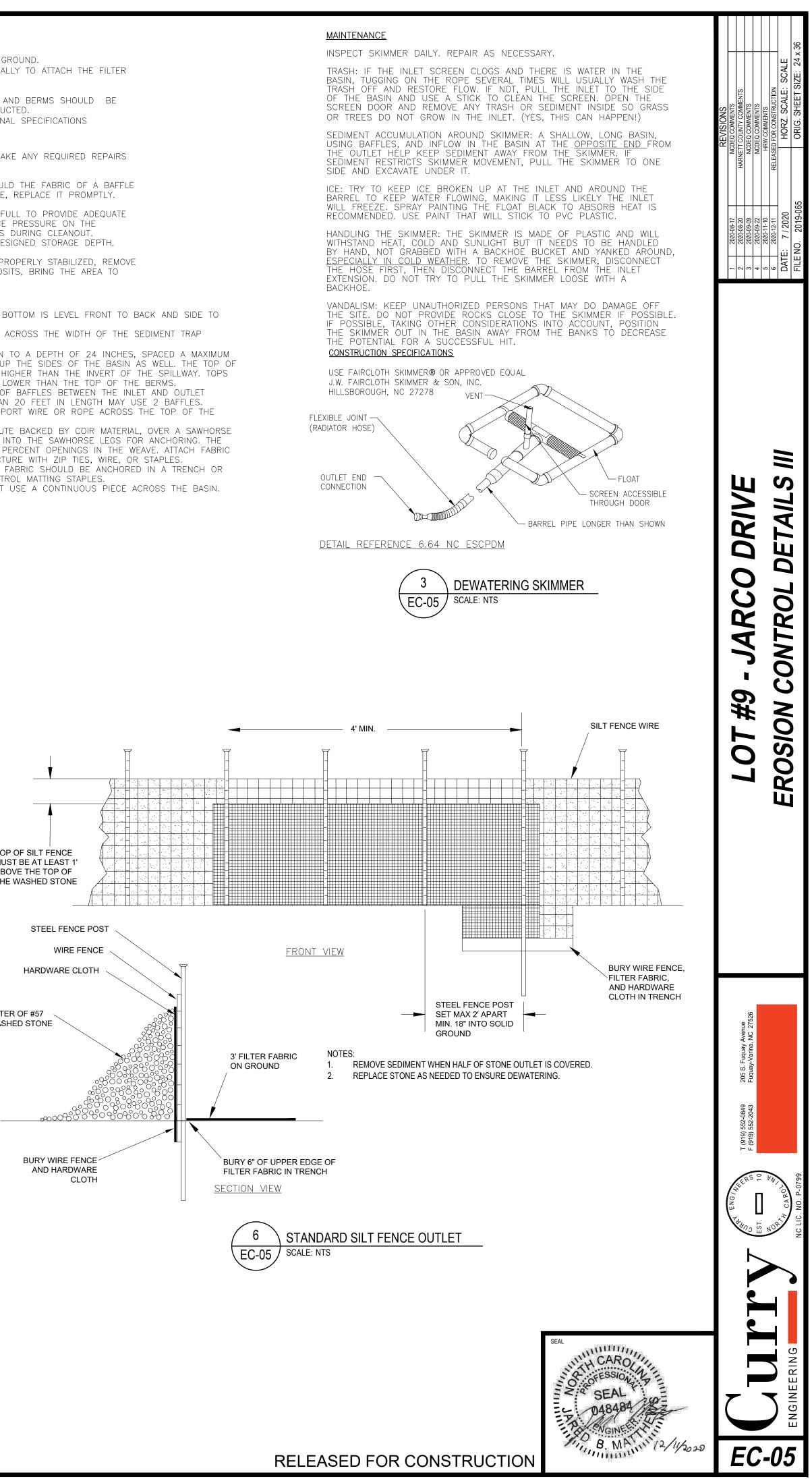
MAINTENANCE

INSPECT SEDIMENT FENCES DAILY AND AFTER EACH RAINFALL EVENT. MAKE ANY REQUIRED REPAIRS IMMEDIATELY. SHOULD THE FABRIC OF A SEDIMENT FENCE COLLAPSE, TEAR, DECOMPOSE OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY. REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE FENCE. TAKE CARE TO AVOID UNDERMINING THE FENCE DURING CLEANOUT. REMOVE ALL FENCING MATERIALS AND UNSTABLE SEDIMENT DEPOSITS AND BRING THE AREA TO GRADE AND STABILIZE IT AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

DETAIL REFERENCE 6.62 NC ESCPDM

STANDARD TEMPORARY SILT FENCE SCALE: NTS

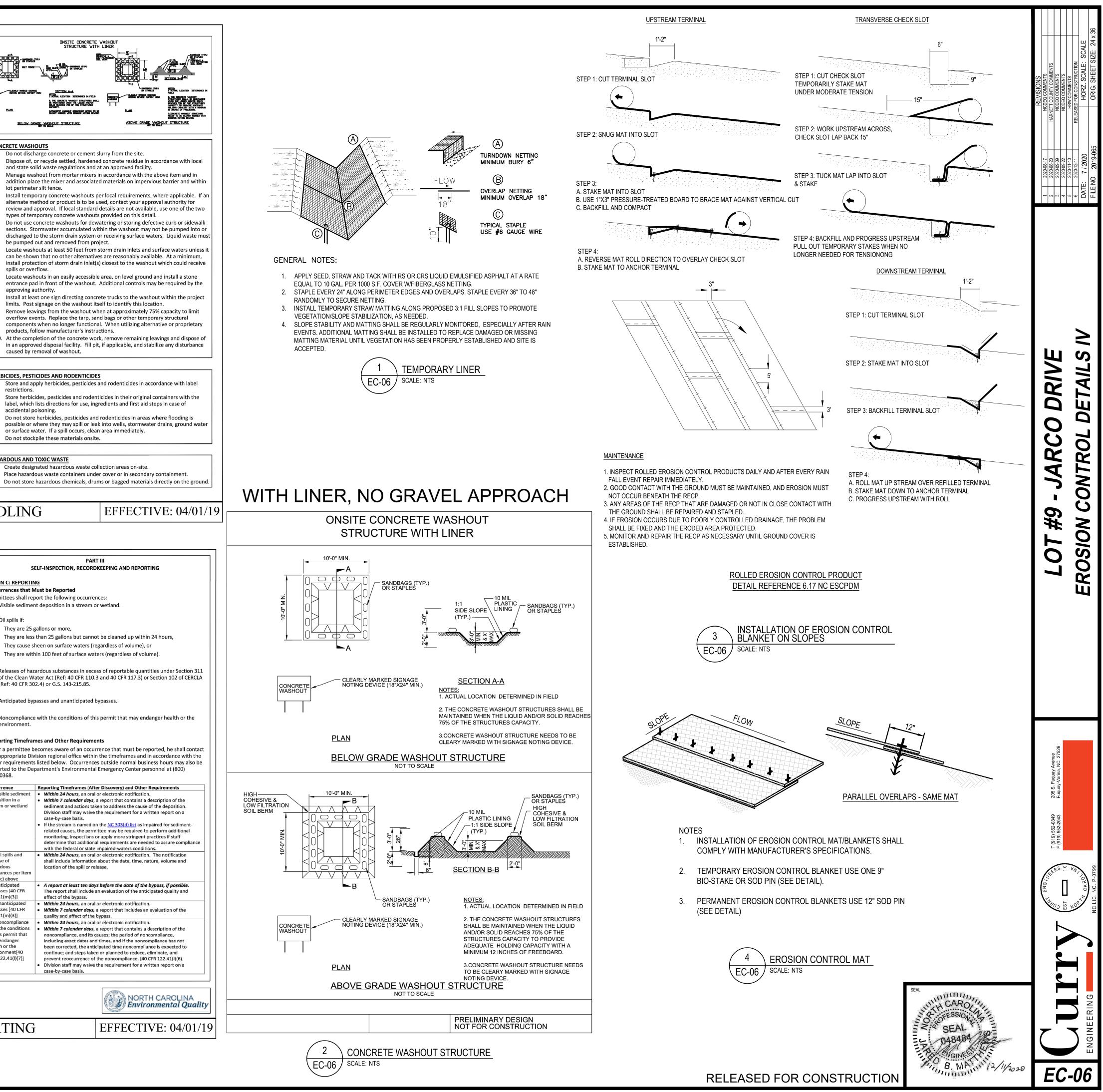


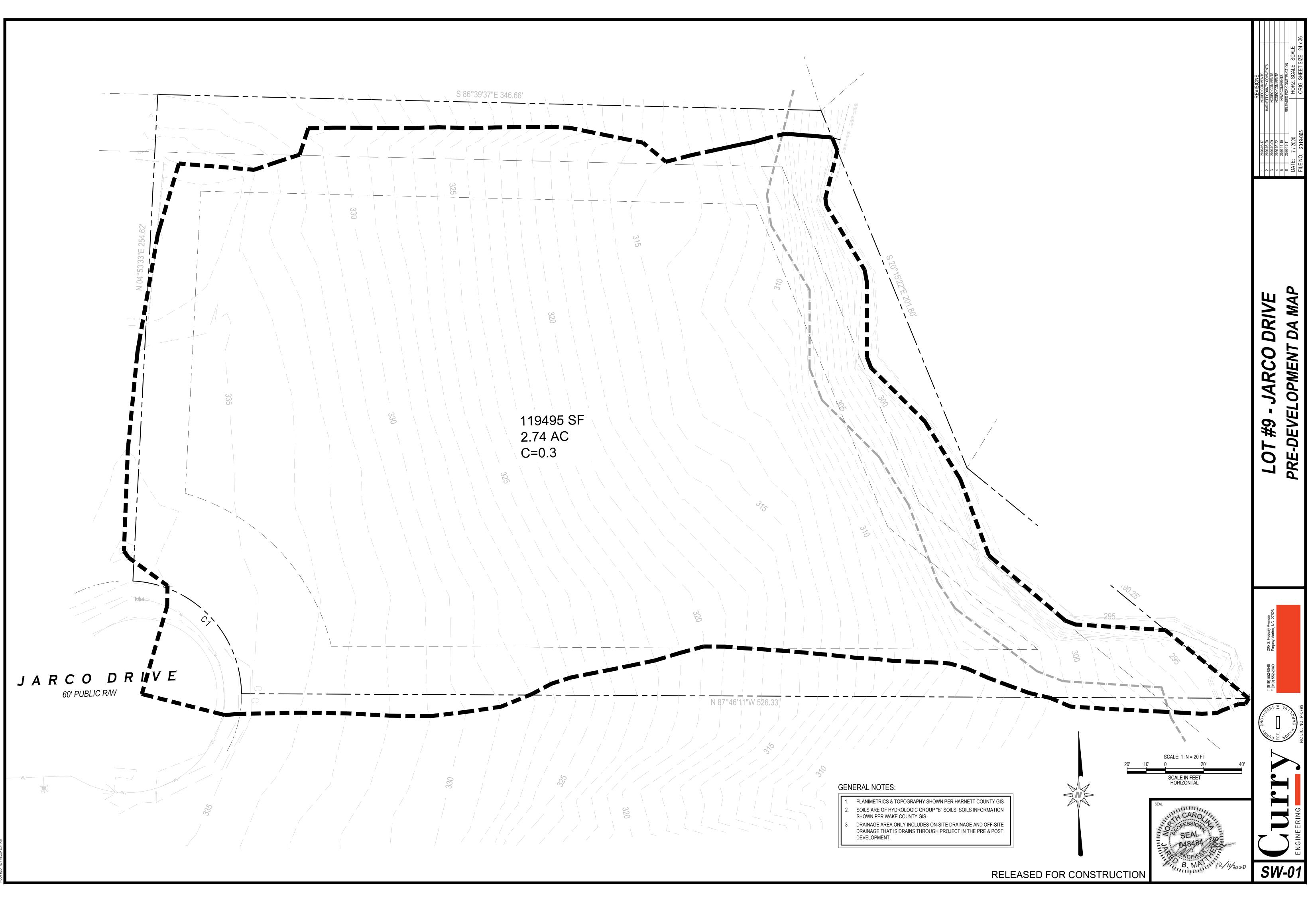


THE NCG01 CONSTRUCTIC mplementing the details a activity being considered c ections of the NCG01 Con permittee shall comply wit lelegated authority having may not apply depending o ECTION E: GROUND STAR	N GENERAL PERMIT nd specifications on ompliant with the Gr struction General Pe h the Erosion and Se jurisdiction. All deta on site conditions and BILIZATION	The second secon	 EQUIPMENT AND VEHICLE MAINTENANCE Maintain vehicles and equipment to prevent discharge of fluids. Provide drip pans under any stored equipment. Identify leaks and repair as soon as feasible, or remove leaking equipment from the project. Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible). Remove leaking vehicles and construction equipment from service until the problem has been corrected. Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products 	
Re	-	lization Timeframes	to a recycling or disposal center that handles these materials.	PLAN
Site Area Description	Stabilize within this many calendar days after ceasing land disturbance	Timeframe variations	LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE 1. Never bury or burn waste. Place litter and debris in approved waste containers.	BELOW G
 Perimeter dikes, swales, ditches, and perimeter slopes 	7	None	 Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes. Locate waste containers at least 50 feet away from storm drain inlets and surface 	CONCRETE WASH1.Do not disc2.Dispose of,
(b) High Quality Water(HQW) Zones	7	None	 waters unless no other alternatives are reasonably available. 4. Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland. 	and state s 3. Manage wa
(c) Slopes steeper than 3:1	7	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed	Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.	addition pla lot perimet 4. Install tem
(d) Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed	 Anchor all lightweight items in waste containers during times of high winds. Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow. Dispose waste off-site at an approved disposal facility. On business days, clean up and dispose of waste in designated waste containers. 	alternate m review and types of ter 5. Do not use sections. S discharged
round stabilization shall b racticable but in no case l activity. Temporary groun	e converted to perm onger than 90 calenc d stabilization shall b	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope ction activities, any areas with temporary anent ground stabilization as soon as lar days after the last land disturbing e maintained in a manner to render the	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. 3. Contain liquid wastes in a controlled area. 4. Containment must be labeled, sized and placed appropriately for the needs of site. 5. Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.	be pumped 6. Locate was can be sho install prot spills or ov 7. Locate was entrance p approving 8. Install at le
GROUND STABILIZATION	SPECIFICATION ently so that rain will ow: ilization ered with straw or rs	permanent ground stabilization is achieved. not dislodge the soil. Use one of the Permanent Stabilization Permanent grass seed covered with straw or other mulches and tackifiers Geotextile fabrics such as permanent soil	 PORTABLE TOILETS Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags. Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas. 	limits. Pos 9. Remove lea overflow e componen products, f 10. At the com in an appro caused by
 Rolled erosion control pro- without temporary grass s 	ducts with or	reinforcement matting Hydroseeding	 Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit. 	
 Appropriately applied strategy 		Shrubs or other permanent plantings covered		HERBICIDES, PEST
Plastic sheeting	•	with mulch Uniform and evenly distributed ground cover sufficient to restrain erosion Structural methods such as concrete, asphalt or retaining walls Rolled erosion control products with grass seed	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.	 Store and a restrictions. Store herbin label, which accidental p Do not store
construction, selecti 2. Apply flocculants at	at are appropriate fo ng from the <i>NC DWR</i> or before the inlets t	S r the soils being exposed during <i>List of Approved PAMS/Flocculants</i> . o Erosion and Sediment Control Measures. pecified in the NC DWR List of Approved	 Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile. Provide stable stone access point when feasible. Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated 	possible or or surface v 4. Do not stoc
PAMS/Flocculants at4. Provide ponding are offsite.	nd in accordance with a for containment of	n the manufacturer's instructions. treated Stormwater before discharging	erosion on disturbed soils for temporary or permanent control needs.	HAZARDOUS AND 1. Create desig 2. Place hazaro 3. Do not store
	eak-proof containers condary containmen	that are kept under storm-resistant cover t structures.	Environmental Quality	

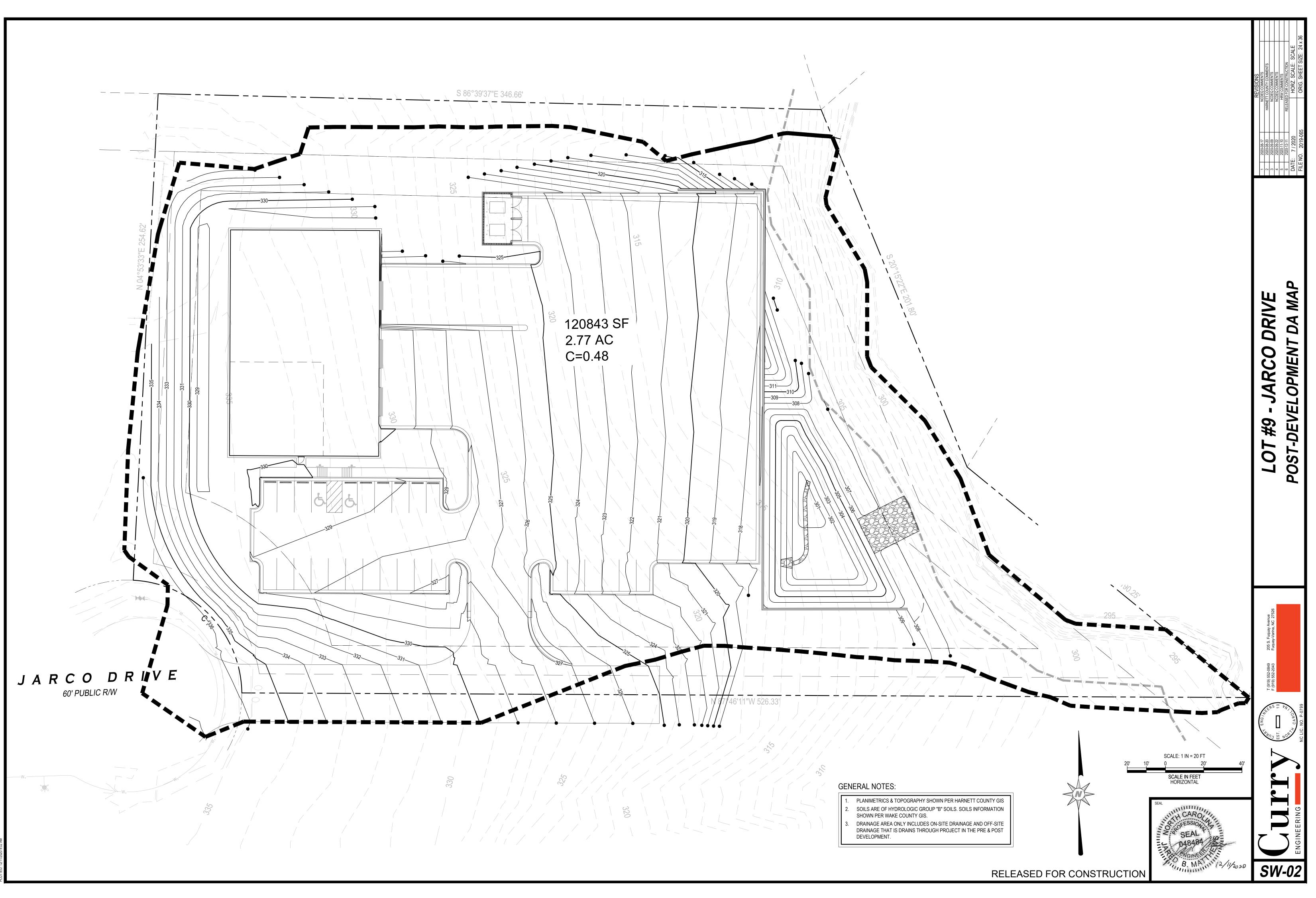
	SELF-INSPECTI			SELF-INSPECTION, RE	PART III CORDKEEPING AND REPORTING	
		,				
elf-inspections elow. When ac ersonnel to be thich it is safe to reater than 1.0 erformed upon	business hours) Daily Jain gauge aintained in bod working der Daily Daily rainfall amounts. f no daily rain gauge observations are made during weekend on holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those un attended days (and this no rainfall cocurred shall be recorded as "zero." The permittee may use another rain-monitoring device approved by the Division.) E&SC (a) E&SC (b) E&SC (c) E&SC (c			approved E&SC plan must be kept up-to-	pproved deviation shall be kept on the site. The date throughout the coverage under this permit. SC plan shall be kept on site and available for iness hours. Documentation Requirements	1
				(a) Each E&SC measure has been installed	Initial and date each E&SC measure on a copy	
Inspect (1) Rain gauge maintained in good working order	(during normal business hours)	 Daily rainfall amounts. If no daily rain gauge observations are made during weekend or holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those unattended days (and this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero." The permittee may use another rain-monitoring device approved by the Division. 1. Identification of the measures inspected, 		and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC plan.	of the approved E&SC plan or complete, date	
(2) E&SC Measures	7 calendar days and within 24	approved by the Division.1. Identification of the measures inspected,2. Date and time of the inspection,3. Name of the person performing the inspection,		(b) A phase of grading has been completed.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate completion of the construction phase.	
(3) Stormwater	event ≥ 1.0 inch in 24 hours At least once per	properly, 5. Description of maintenance needs for the measure, 6. Description, evidence, and date of corrective actions taken. 1. Identification of the discharge outfalls inspected,		(c) Ground cover is located and installed in accordance with the approved E&SC plan.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.	
discharge outfalls (SDCs)	and within 24 hours of a rain event \geq 1.0 inch in	 Name of the person performing the inspection, Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration, Indication of visible sediment leaving the site, 	4. Evidence of indicators of stormwater pollution such as oil requi n sheen, floating or suspended solids or discoloration, have 5. Indication of visible sediment leaving the site, (a)	 (d) The maintenance and repair requirements for all E&SC measures have been performed. (e) Corrective actions have been taken 	Complete, date and sign an inspection report.	2
(4) Perimeter of site	7 calendar days and within 24 hours of a rain event \geq 1.0 inch in	 If visible sedimentation is found outside site limits, then a record of the following shall be made: 1. Actions taken to clean up or stabilize the sediment that has left the site limits, 2. Description, evidence, and date of corrective actions taken, and 3. An explanation as to the actions taken to control future 		to E&SC measures.	plan or complete, date and sign an inspection report to indicate the completion of the corrective action.	
(5) Streams or wetlands onsite or offsite (where	7 calendar days and within 24 hours of a rain	If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made: 1. Description, evidence and date of corrective actions taken, and		Division provides a site-specific exemptio this requirement not practical:	es during normal business hours, unless the on based on unique site conditions that make	
accessible)	24 hours	Regional Office per Part III, Section C, Item (2)(a) of this permit.		(a) This General Permit as well as the Ce	ertificate of Coverage, after it is received.	
(6) Ground stabilization measures		 measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover). Documentation that the required ground stabilization measures have been provided within the required timeframe or an assurance that they will be provided as 		record the required observations on Division or a similar inspection form electronically-available records in lie shown to provide equal access and u 3. Documentation to be Retained for Three	, .,	
NOTE: The rair	n inspection reset	s the required 7 calendar day inspection requirement.			nd made available upon request. [40 CFR 122.41]	
			-	CTION G, ITEM (4) INS FOR MAINTENANCE OR CLOSE OUT		
or maintenance	or close out unle	ss this is infeasible. The circumstances in which it is not fe	easib	le to withdraw water from the surface shall b		
shall not c (b) The non-si (c) Dewaterin	ommence until th urface withdrawa g discharges are t	is been provided with documentation of the non-surface ne E&SC plan authority has approved these items, I has been reported as an anticipated bypass in accordanc created with controls to minimize discharges of pollutants d maintained dewatering tanks, weir tanks, and filtration s	ce wi fron	th Part III, Section C, Item (2)(c) and (d) of this n stormwater that is removed from the sedim	s permit,	
(d) Vegetated(e) Velocity di	, upland areas of ssipation devices	the sites or a properly designed stone pad is used to the e such as check dams, sediment traps, and riprap are provi e dewatering treatment devices described in Item (c) abov	exter ded	nt feasible at the outlet of the dewatering trea at the discharge points of all dewatering devic	ces, and	

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

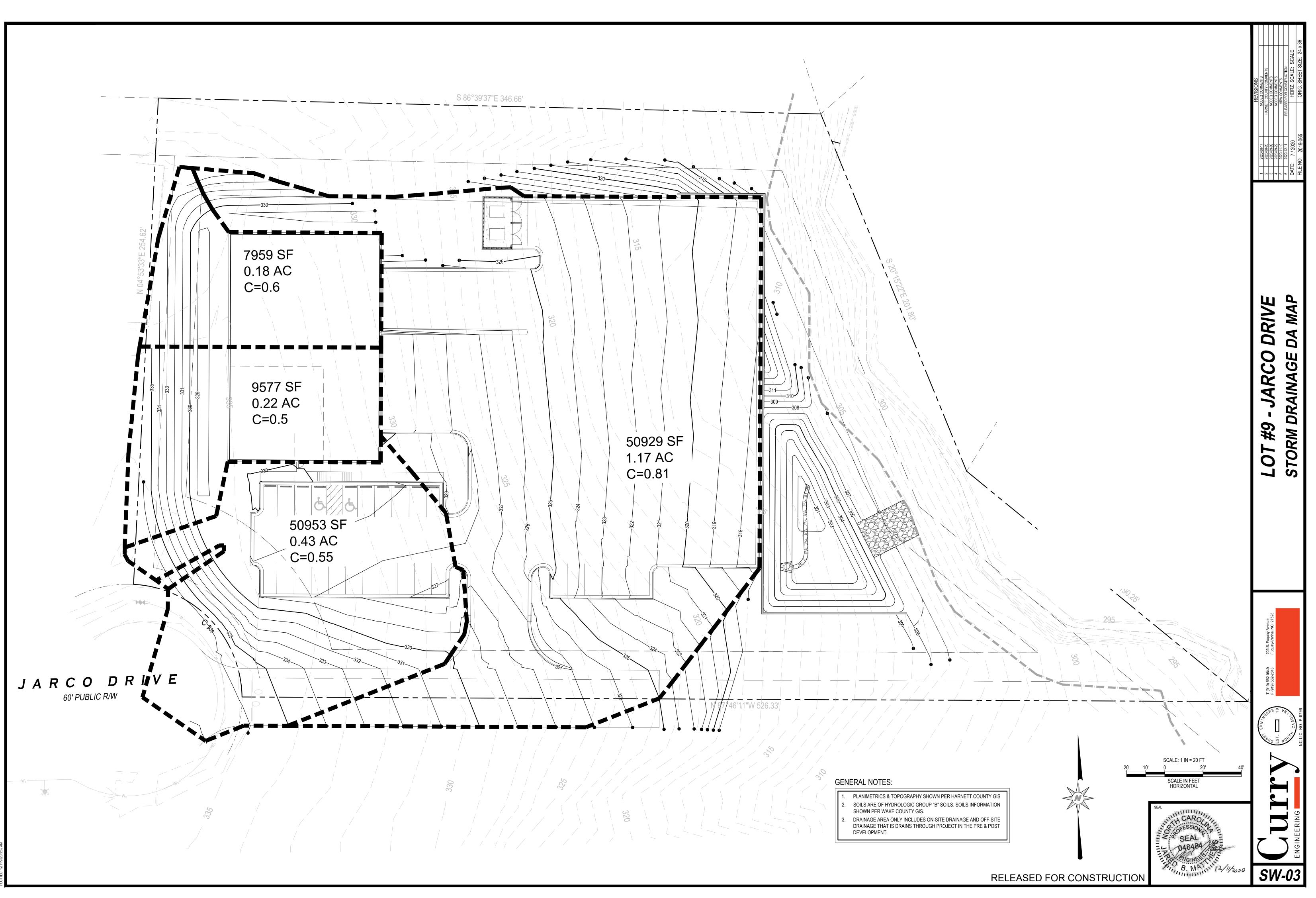




PROJECTS FOLDER-ZEBULON2019/2019-065 HAL FARTHING - JARCO LOT 9 - HARNETT COUNTY/PLANS/SITE PLAN/SHEET FILES/SW-01 PRE-DEVELOPMENT DA MAP.DW



PROJECTS FOLDER-ZEBULON/2019/2019-065 HAL FARTHING - JARCO LOT 9 - HARNETT COUNTY/PLANSISITE PLANISHEET FILESISW-02 POST-DEVELOPMENT DA MAP.DWG



PROJECTS FOLDER-ZEBULON/2019/2019-065 HAL FARTHING - JARCO LOT 9 - HARNETT COUNTY/PLANSISITE PLAN/SHEET FILESISW-03 STORM DRAINAGE DA MAP.DWG