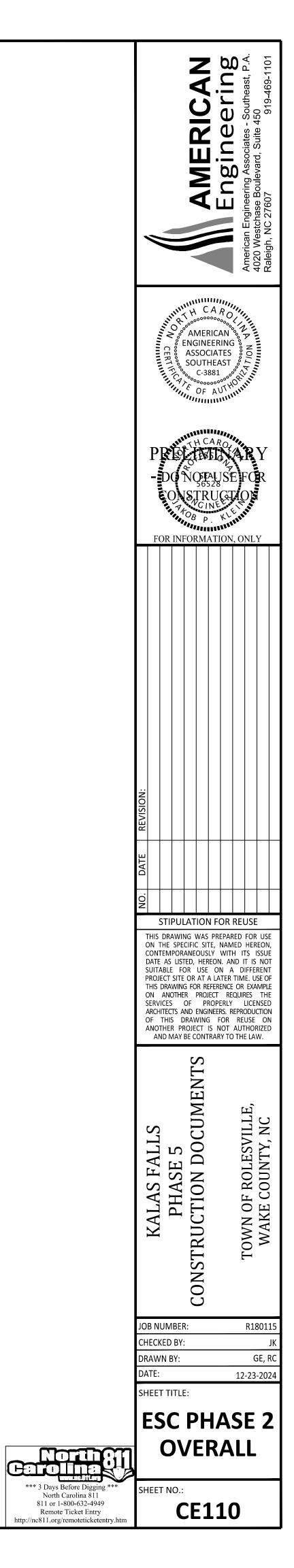


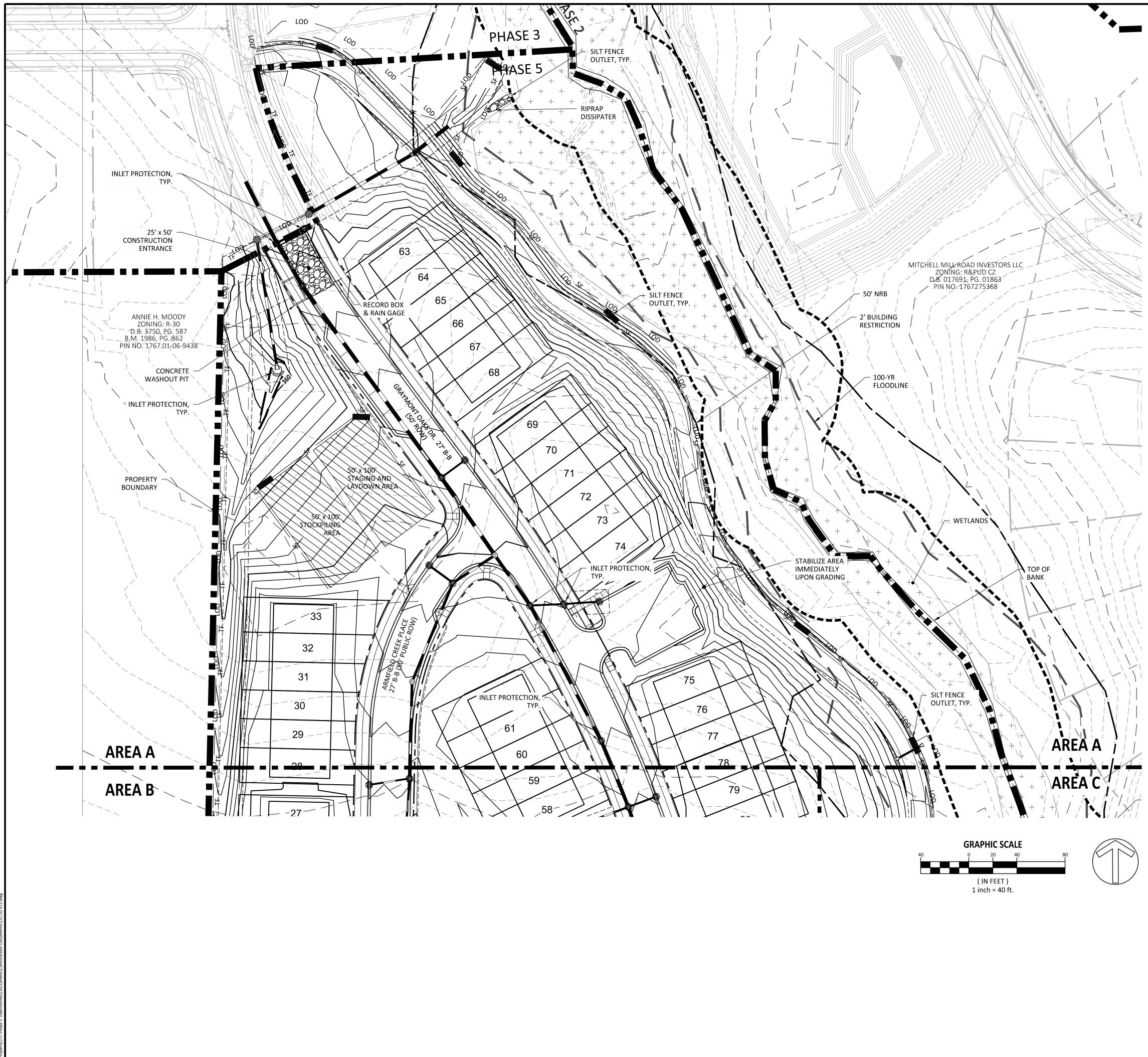
EROSION CONTROL LEGEND		
SF	SILT FENCE	
	LIMITS OF DISTURBANCE	
TF	TREE PROTECTION FENCE	
	SILT FENCE OUTLET	
0	SEDIMENT SACK INLET PROTECTION	
	STANDARD PIPE INLET PROTECTION	
	GRAVEL INLET PROTECTION	
	RIPRAP DISSIPATOR	
	DRAINAGE PIPE	
~	WATTLE	
	STAGING AND LAYDOWN AREA	

SITE LEGEND	
	100 YR FLOODLINE
	PROPERTY BOUNDARY/PHASE LINE
	2' BUILDING RESTRICTION LINE
	50' NEUSE RIVER BUFFER
000	PROPOSED SURFACE WATER LEVEL
	RIGHT-OF-WAY
	LIMITS OF DISTURBANCE
+ + + +	WETLANDS



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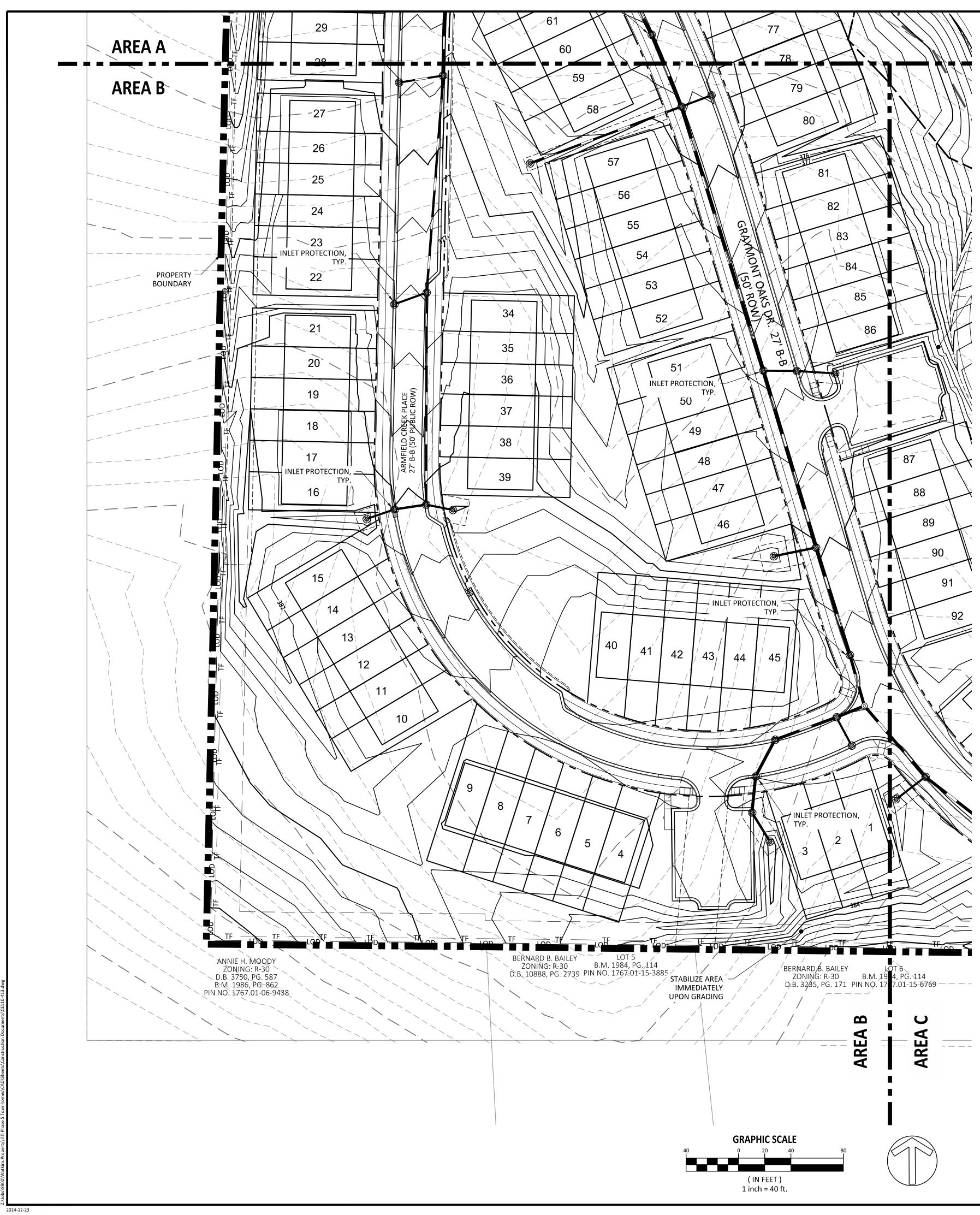




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	KALAS FALLS PHASE 5 RUCTION DOCUMENTS DWN OF ROLESVILLE, WAKE COUNTY, NC
	KALA PH CONSTRUCTI TOWN OF WAKE C
	JOB NUMBER: R180115 CHECKED BY: JK
	DRAWN BY: GE, RC DATE: 12-23-2024
	SHEET TITLE: ESC PHASE 2
	AREA A
*** 3 Days Before Digging *** North Carolina 811 811 or 1-800-632-4949 Remote Ticket Entry	SHEET NO.: CE410
http://nc811.org/remoteticketentry.htm	

EROSION CONTROL LEGEND		
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	SILT FENCE OUTLET	
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	GRAVEL INLET PROTECTION	
	RIPRAP DISSIPATOR	
	DRAINAGE PIPE	
~	WATTLE	
	STAGING AND LAYDOWN AREA	

	SITE LEGEND	
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	2' BUILDING RESTRICTION LINE	
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	LIMITS OF DISTURBANCE	
+ + + +	WETLANDS	

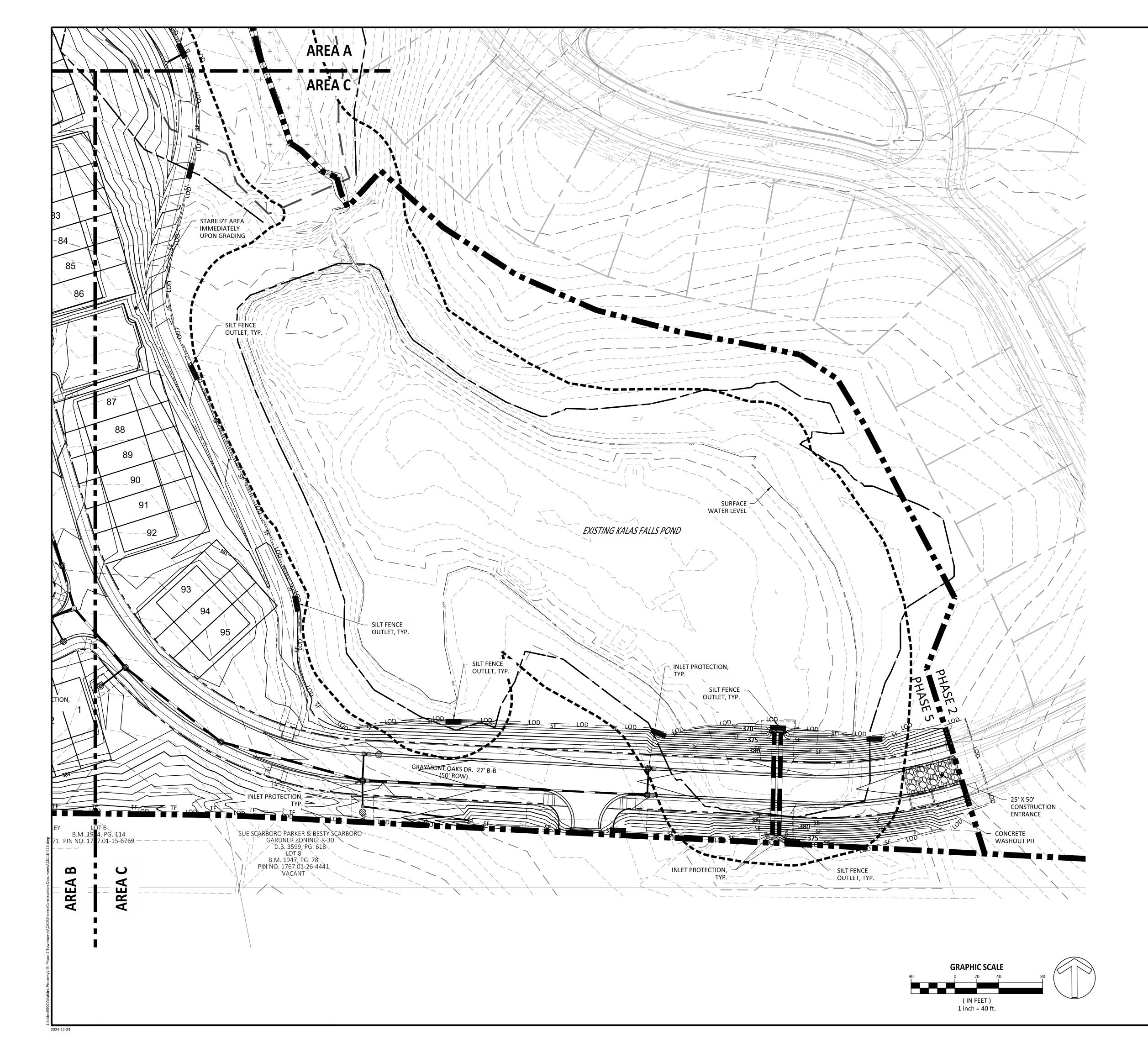


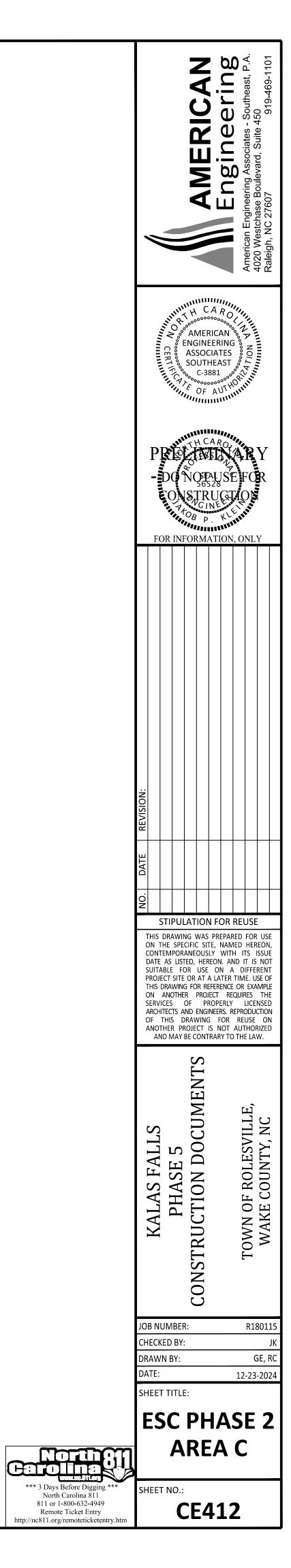
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	KALAS FALLS PHASE 5 CONSTRUCTION DOCUMENTS TOWN OF ROLESVILLE, WAKE COUNTY, NC	
	JOB NUMBER: R18011 CHECKED BY: JI DRAWN BY: GE, R0	К
	DATE: 12-23-2024 SHEET TITLE: ESC PHASE 2	4
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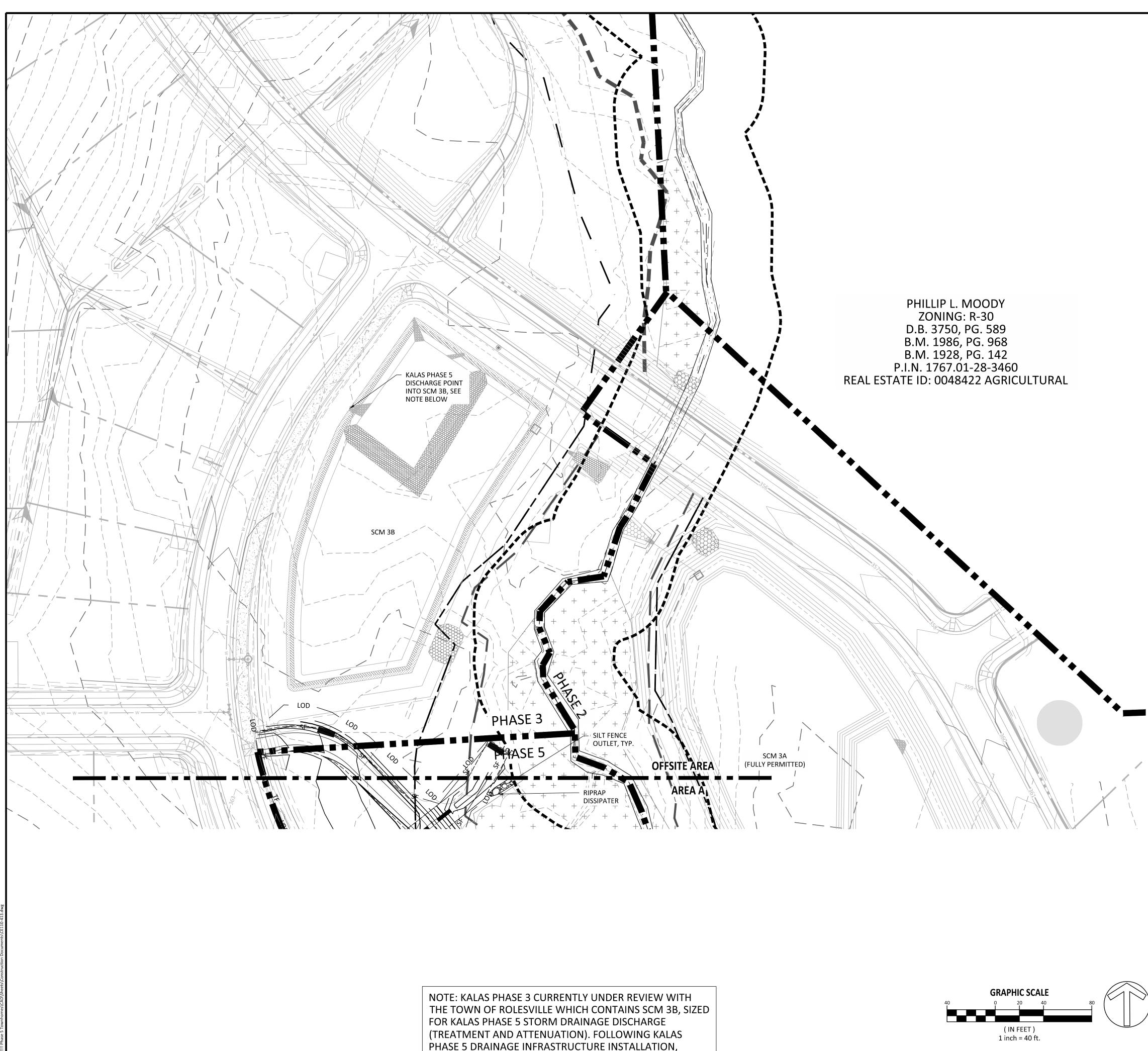
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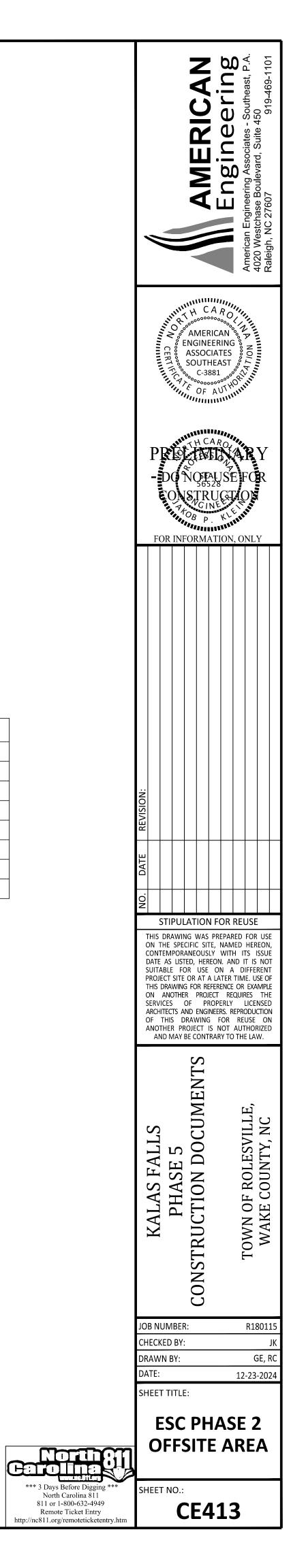


EROSION CONTROL LEGEND		
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+ + + +	WETLANDS



PHASE 5 DRAINAGE INFRASTRUCTURE INSTALLATION, INITIAL ROAD CONSTRUCTION, AND OVERALL SITE STABILIZATION THEN AND ONLY THEN IS SCM 3B TO BE UTILIZED FOR KALAS PHASE 5, STAGE 2 EROSION AND SEDIMENT CONTROL.

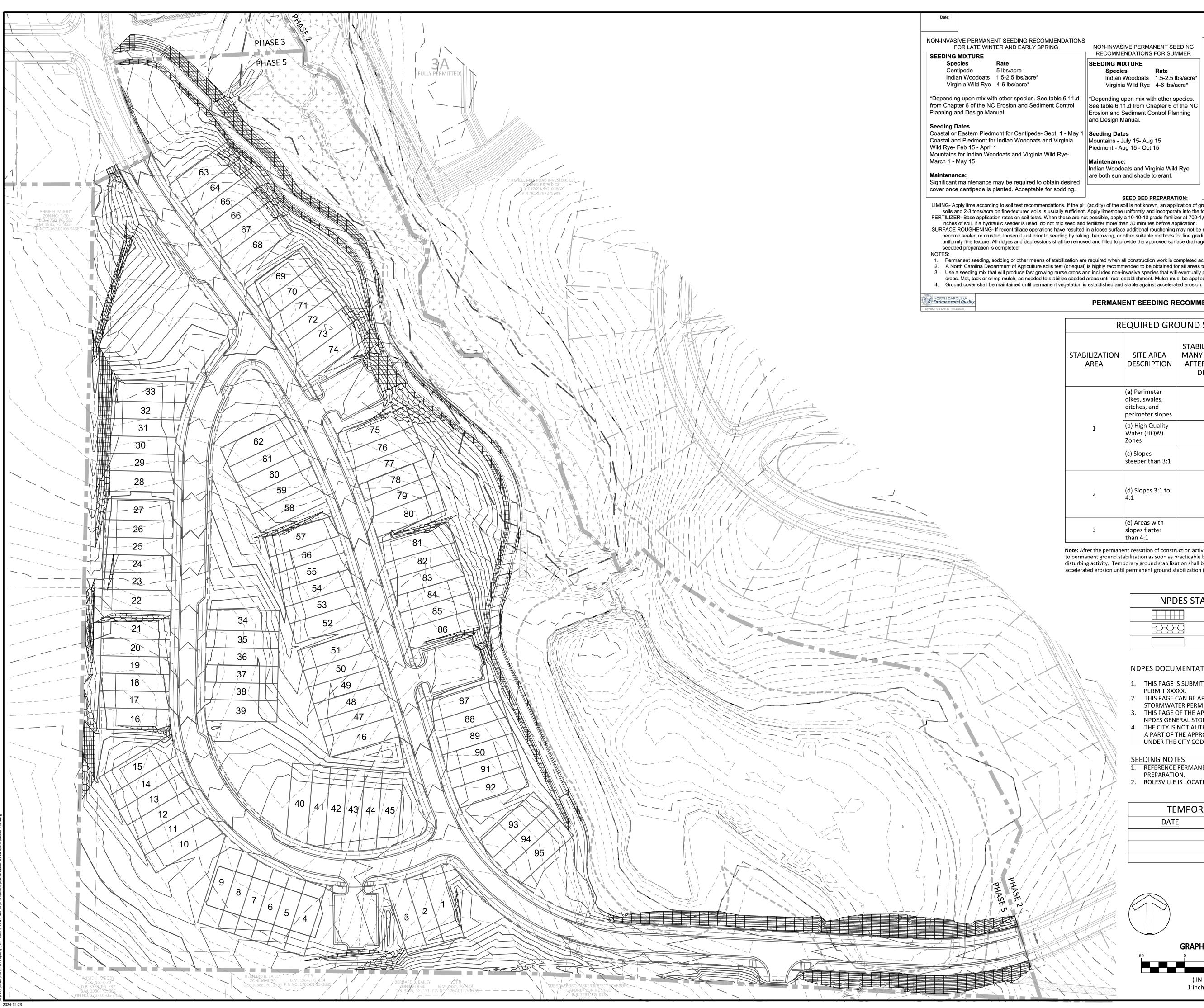


811 or 1-800-632-4949

Remote Ticket Entry

EROSION CONTROL LEGEND		
SF	SILT FENCE	
	LIMITS OF DISTURBANCE	
TF	TREE PROTECTION FENCE	
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			SIVE PERMANENT SEEDING			t, P.A.
ECOMMENDATIONS Y SPRING	NON-INVASIVE PERMANENT SEEDING RECOMMENDATIONS FOR SUMMER	SEEDING MIXTURE Species	Rate			utheas
e* 5. See table 6.11.d ediment Control	SEEDING MIXTURESpeciesRateIndian Woodoats1.5-2.5 lbs/acre*Virginia Wild Rye4-6 lbs/acre**Depending upon mix with other species.See table 6.11.d from Chapter 6 of the NCErosion and Sediment Control Planning		15 lbs/acre 2.5-3.5 lbs/acre* 5-7 lbs/acre* 5-7 lbs/acre* 1.5-2.5 lbs/acre* 4-6 lbs/acre* th other species. See table 6.11 sion and Sediment Control Plan		MERIC	ering Associates - So Boulevard, Suite 450
ede- Sept. 1 - May 1 ats and Virginia inia Wild Rye-	and Design Manual. Seeding Dates Mountains - July 15- Aug 15 Piedmont - Aug 15 - Oct 15 Maintenance: Indian Woodoats and Virginia Wild Rye are both sun and shade tolerant.	Design Manual. Seeding Dates Mountains - Hard Fescue Mountains- Switchgrass, Piedmont and Coastal- S Dec 1 - April 1		ec 1 - April 15 Bluestem-		American Engine 4020 Westchase Raleich, NC 2760
d to obtain desired able for sodding.	SEED BED PREPARATION:	Maintenance: Hard Fescue is not recor	nmended for slopes > 5%. Prefe	ers shade.	WINNIN H CAR	
oils is usually sufficient.	(acidity) of the soil is not known, an application of g Apply limestone uniformly and incorporate into the t possible, apply a 10-10-10 grade fertilizer at 700-1	top 4-6 inches of soil. Soils wit	h a pH of 6 or higher need not be lim	ned.		Goz

Page:

SURFACE ROUGHENING- If recent tillage operations have resulted in a loose surface additional roughening may not be required, except to break up large clods. If rainfall causes the surface to become sealed or crusted, loosen it just prior to seeding by raking, harrowing, or other suitable methods for fine grading. The finished grade shall be a smooth even soil surface with a loosen uniformly fine texture. All ridges and depressions shall be removed and filled to provide the approved surface drainage. Planting is to be done immediately after finished grades are obtained and

1. Permanent seeding, sodding or other means of stabilization are required when all construction work is completed according to the NPDES timeframe's table.

2. A North Carolina Department of Agriculture soils test (or equal) is highly recommended to be obtained for all areas to be seeded, sprigged, sodded or planted. 3. Use a seeding mix that will produce fast growing nurse crops and includes non-invasive species that will eventually provide a permanent groundcover. Soil blankets may be used in lieu of nurse crops. Mat, tack or crimp mulch, as needed to stabilize seeded areas until root establishment. Mulch must be applied uniformly over the soil with a cover density of at least 80%.

PERMANENT SEEDING RECOMMENDATIONS

REQUIRED GROUND STABILIZATION TIMEFRAMES

STABILIZATION AREA	SITE AREA DESCRIPTION	STABILIZE WITHIN THIS MANY CALENDAR DAYS AFTER CEASING LAND DISTURBANCE	TIMEFRAME VARIATIONS
	(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
1	(b) High Quality Water (HQW) Zones	7	None
	(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
2	(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
3	(e) Areas with slopes flatter than 4:1	14	- 7 days for perimeter dikes, swales, ditches, perimeter slopes with HQW Zones

Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

NPDES STA	BILIZATION LEGEND
	NPDES STABILIZATION AREA 1
BARA A	NPDES STABILIZATION AREA 2
	NPDES STABILIZATION AREA 3

NDPES DOCUMENTATION NOTES

- 1. THIS PAGE IS SUBMITTED TO COMPLY WITH THE NPDES GENERAL STORMWATER
- PERMIT XXXXX.
- THIS PAGE CAN BE APPROVED BY THE CITY PURSUANT TO NPDES GENERAL STORMWATER PERMIT XXXXX ONLY.
- THIS PAGE OF THE APPROVED PLANS IS ENFORCEABLE EXCLUSIVELY PURSUANT TO
- NPDES GENERAL STORMWATER PERMIT XXXXX. THE CITY IS NOT AUTHORIZED TO ENFORCE THIS PAGE OF THE PLANS AND IT IS NOT A PART OF THE APPROVED PLANS FOR PURPOSES OF ENFORCEMENT ACTION UNDER THE CITY CODE.

SEEDING NOTES

- REFERENCE PERMANENT SEEDING RECOMMENDATIONS FOR SEEDBED PREPARATION.
- ROLESVILLE IS LOCATED IN PIEDMONT REGION OF NORTH CAROLINA.

GRAPHIC SCALE

(IN FEET)

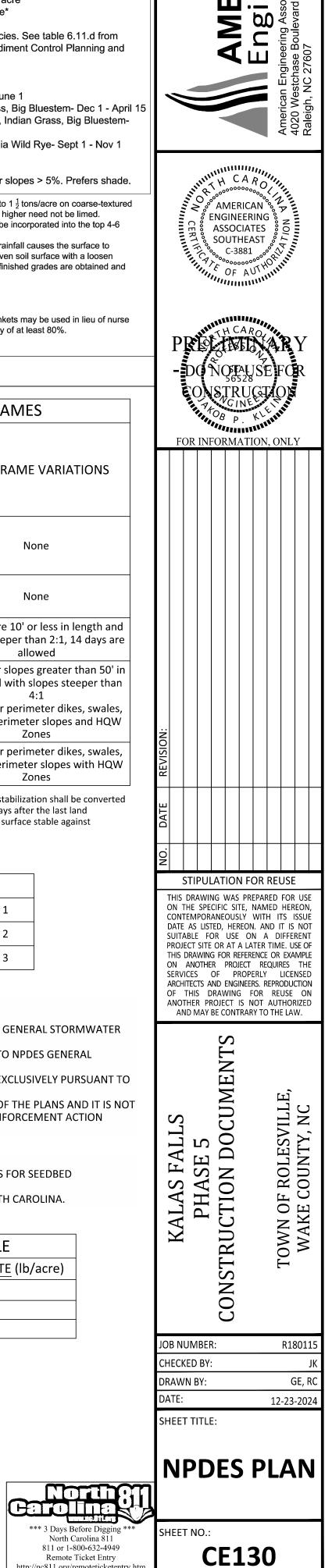
1 inch = 60 ft.

TEMPORA	RY SEEDING SCHE	DULE
DATE	TYPE	<u>RATE</u> (lb/acre)

North Carolina 811

811 or 1-800-632-4949

Remote Ticket Entry http://nc811.org/remoteticketentry.



MAINTENANCE OF EROSION CONTROL MEASURES:

SILT FENCE MAINTENANCE - INSPECT SEDIMENT FENCES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. 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.

SILT FENCE OUTLETS - SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EVERY SIGNIFICANT RAINFALL. IF DAMAGED, THEY SHALL HAVE FABRIC, POSTS OR WIRE BACKING REPLACED TO RESTORE TO ORIGINAL CONDITION.

TREE PROTECTION FENCE MAINTENANCE:

CONTINUE TO CARE FOR THE SITE UNTIL THE NEW OWNER TAKES POSSESSION. TAKE THESE STEPS AFTER ALL MATERIALS AND EQUIPMENT HAVE BEEN REMOVED FROM THE SITE:

REMOVE TREE PROTECTION ZONE FENCES.

•PRUNE ANY DAMAGED TREES. IN SPITE OF PRECAUTIONS, SOME DAMAGE TO PROTECTED TREES MAY OCCUR. IN SUCH CASES, REPAIR ANY DAMAGE TO THE CROWN, TRUNK, OR ROOT SYSTEM IMMEDIATELY.

•REPAIR ROOTS BY CUTTING OFF THE DAMAGED AREAS AND PAINTING THEM

WITH TREE PAINT. SPREAD PEAT MOSS OR MOIST TOPSOIL OVER EXPOSED ROOTS.

- •REPAIR DAMAGE TO BARK BY TRIMMING AROUND THE DAMAGED AREA AS SHOWN IN FIGURE 6.05D, TAPER THE CUT TO PROVIDE DRAINAGE, AND PAINT WITH TREE PAINT •CUT OFF ALL DAMAGED TREE LIMBS ABOVE THE TREE COLLAR AT THE TRUNK
- OR MAIN BRANCH. USE THREE SEPARATE CUTS AS SHOWN IN FIGURE 6.05D TO AVOID PEELING BARK FROM HEALTHY AREAS OF THE TREE.
- •CONTINUE MAINTENANCE CARE. PAY SPECIAL ATTENTION TO ANY STRESSED DISEASED, OR INSECT-INFESTED TREES. REDUCE TREE STRESS CAUSED BY UNINTENDED CONSTRUCTION DAMAGE BY OPTIMIZING PLANT CARE WITH WATER, MULCH, AND FERTILIZER WHERE APPROPRIATE. CONSULT YOUR TREE EXPERT IF NEEDED.
- INFORM THE PROPERTY OWNER ABOUT THE MEASURES EMPLOYED DURING

CONSTRUCTION, WHY THOSE MEASURES WERE TAKEN, AND HOW THE EFFORT CAN BE CONTINUED.

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

SOIL STOCKPILE AREAS/OTHER GRASSED AREAS MAINTENANCE - GRASS AREAS SHALL BE RESEEDED AS NECESSARY. SOIL STOCKPILE AREAS SHALL BE SEEDED WHEN THEIR USE IS COMPLETE.

TEMPORARY SEDIMENT TRAP - INSPECT TEMPORARY SEDIMENT TRAPS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (½ INCH OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. REMOVE SEDIMENT, AND RESTORE THE TRAP TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-HALF THE DESIGN DEPTH OF THE TRAP. PLACE THE SEDIMENT THAT IS REMOVED IN THE DESIGNATED DISPOSAL AREA AND REPLACE THE PART OF THE GRAVEL FACING THAT IS IMPAIRED BY SEDIMENT.

CHECK THE STRUCTURE FOR DAMAGE FROM EROSION OR PIPING. PERIODICALLY CHECK THE DEPTH OF THE SPILLWAY TO ENSURE IT IS A MINIMUM OF 1.5 FEET BELOW THE LOW POINT OF THE EMBANKMENT. IMMEDIATELY FILL ANY SETTLEMENT OF THE EMBANKMENT TO SLIGHTLY ABOVE DESIGN GRADE. ANY RIPRAP DISPLACED FROM THE SPILLWAY MUST BE REPLACED IMMEDIATELY.

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

SEDIMENT BASINS - INSPECT TEMPORARY SEDIMENT BASINS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. REMOVE SEDIMENT AND 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.

CONCRETE WASHOUT - IT SHALL BE CLEANED PERIODICALLY AS NEEDED. IF THE PLASTIC LINER IS DAMAGED, IT SHALL BE REPLACED.

BAFFLES - INSPECT BAFFLES AT LEAST ONCE A WEEK 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 AND REPLACE IF DAMAGED DURING CLEANOUT OPERATIONS. 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.

ROLLED EROSION CONTROL PRODUCTS:

- 1. INSPECT ROLLED EROSION CONTROL PRODUCTS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAIN FALL EVENT REPAIR IMMEDIATELY.
- 2. GOOD CONTACT WITH THE GROUND MUST BE MAINTAINED, AND EROSION MUST NOT OCCUR BENEATH THE RECP.
- . ANY AREAS OF THE RECP THAT ARE DAMAGED OR NOT IN CLOSE CONTACT WITH THE GROUND SHALL BE REPAIRED AND STAPLED.
- 4. IF EROSION OCCURS DUE TO POORLY CONTROLLED DRAINAGE, THE PROBLEM SHALL BE FIXED AND THE ERODED AREA PROTECTED.
- 5. MONITOR AND REPAIR THE RECP AS NECESSARY UNTIL GROUND COVER IS ESTABLISHED.

SKIMMERS - INSPECT SKIMMER SEDIMENT BASINS AT LEAST WEEKLY 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 AN11 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 RESULT IN ICE FORMING IN THE BASIN. SOME SPECIAL PRECAUTIONS SHOULD BE TAKEN IN THE WINTER TO PREVENT THE SKIMMER FROM PLUGGING WITH ICE.

GRASSED LINED CHANNEL- DURING THE ESTABLISHMENT PERIOD, CHECK GRASS-LINED CHANNELS AFTER EVERY RAINFALL.AFTER GRASS IS ESTABLISHED, PERIODICALLY CHECK THE CHANNEL; CHECK IT AFTER EVERY HEAVY RAINFALL EVENT. IMMEDIATELY MAKE REPAIRS. IT IS PARTICULARLY IMPORTANT TO CHECK THE CHANNEL OUTLET AND ALL ROAD CROSSINGS FOR BANK STABILITY AND EVIDENCE OF PIPING OR SCOUR HOLES. REMOVE ALL SIGNIFICANT SEDIMENT ACCUMULATIONS TO MAINTAIN THE DESIGNED CARRYING CAPACITY. KEEP THE GRASS IN A HEALTHY, VIGOROUS CONDITION AT ALL TIMES, SINCE IT IS THE PRIMARY EROSION PROTECTION FOR THE CHANNEL (PRACTICE 6.11, PERMANENT SEEDING).

RIP-RAP CHANNEL - INSPECT CHANNELS AT REGULAR INTERVALS AS WELL AS AFTER MAJOR RAINS, AND MAKE REPAIRS PROMPTLY. GIVE SPECIAL ATTENTION TO THE OUTLET AND INLET SECTIONS AND OTHER POINTS WHERE CONCENTRATED FLOW ENTERS. CAREFULLY CHECK STABILITY AT ROAD CROSSINGS, AND LOOK FOR INDICATIONS OF PIPING, SCOUR HOLES, OR BANK FAILURES. MAKE REPAIRS IMMEDIATELY. MAINTAIN ALL VEGETATION ADJACENT TO THE CHANNEL IN A HEALTHY. VIGOROUS CONDITION TO PROTECT THE AREA FROM EROSION AND SCOUR DURING OUT-OF-BANK FLOW.

OUTLET STABILIZATION STRUCTURE - INSPECT RIPRAP OUTLET STRUCTURES WEEKLY AND AFTER SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENTS TO SEE IF ANY EROSION AROUND OR BELOW THE RIPRAP HAS TAKEN PLACE, OR IF STONES HAVE BEEN DISLODGED. IMMEDIATELY MAKE ALL NEEDED REPAIRS TO PREVENT FURTHER DAMAGE

TEMPORARY SILT DITCH - SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EVERY SIGNIFICANT RAINFALL. IF SIGNIFICANT EROSION OF THE DITCH IS HAPPENING IT SHALL BE REGRADED. ANY BREACH OF THE DOWNHILL SIDE BERM SHALL BE FIXED IMMEDIATELY.

WATTLES/COMPOST SOCK - INSPECT COMPOST SOCKS WEEKLY AND AFTER EACH SIGNIFICANT RAINFALL EVENT (1/2 INCH OR GREATER). REMOVE ACCUMULATED SEDIMENT AND ANY DEBRIS. THE COMPOST SOCK MUST BE REPLACED IF CLOGGED OR TORN. IF PONDING BECOMES EXCESSIVE. THE SOCK MAY NEED TO BE REPLACED WITH A LARGER DIAMETER OR A DIFFERENT MEASURE. THE SOCK NEEDS TO BE REINSTALLED IF UNDERMINED OR DISLODGED. THE COMPOST SOCK SHALL BE 5 INSPECTED UNTIL LAND DISTURBANCE IS COMPLETE AND THE AREA ABOVE THE MEASURE HAS BEEN 6. SEED AND MULCH DENUDED AREA INCLUDING ANY CUT/FILL SLOPES WITHIN PERMANENTLY STABILIZED

ROCK PIPE INLET PROTECTION - INSPECT ROCK PIPE INLET PROTECTION AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (½ INCH OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. REMOVE SEDIMENT AND RESTORE THE SEDIMENT STORAGE AREA TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-HALF THE DESIGN DEPTH OF THE TRAP. PLACE THE SEDIMEN THAT IS REMOVED IN THE DESIGNATED DISPOSAL AREA AND REPLACE THE CONTAMINATED PART OF THE GRAVEL FACING.

CHECK THE STRUCTURE FOR DAMAGE. ANY RIPRAP DISPLACED FROM THE STONE HORSESHOE MUST BE REPLACED IMMEDIATELY.

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 PROVIDE PERMANENT GROUND COVER (SURFACE STABILIZATION).

STOCKPILE DESIGN CRITERIA

- A. A 25-FOOT TEMPORARY MAINTENANCE AND ACCESS EASEMENT SHALL BE SHOWN AROUND ALL PROPOSED STOCKPILES (EROSION CONTROL MEASURES SURROUNDING THE STOCKPILE SHALL BE SHOWN AT THE OUTER LIMIT OF THIS EASEMENT) STOCKPILE FOOTPRINTS SHALL BE SETBACK A MINIMUM OF 25' FROM ADJACENT
- PROPERTY LINES. A NOTE SHALL BE PROVIDED ON THE APPROVED PLAN THAT STOCKPILE HEIGHT SHALL
- NOT EXCEED 35 FEET.
- STOCKPILE SLOPES SHALL BE 2:1 OR FLATTER.
- APPROVED BMPS SHALL BE SHOWN ON A PLAN TO CONTROL ANY POTENTIAL SEDIMENT LOSS FROM A STOCKPILE.
- STOCKPILING MATERIALS ADJACENT TO A DITCH, DRAINAGEWAY, WATERCOURSE, WETLAND, STREAM BUFFER, OR OTHER BODY OF WATER SHALL BE AVOIDED UNLESS AN ALTERNATIVE LOCATION IS DEMONSTRATED TO BE UNAVAILABLE.
- ANY CONCENTRATED FLOW LIKELY TO AFFECT THE STOCKPILE SHALL BE DIVERTED TO AN APPROVED BMP. OFF-SITE SPOIL OR BORROW AREAS MUST BE IN COMPLIANCE WITH WAKE COUNTY
- UDO AND STATE REGULATIONS. ALL SPOIL AREAS OVER AN ACRE ARE REQUIRED TO HAVE AN APPROVED SEDIMENT CONTROL PLAN. DEVELOPER/CONTRACTOR SHALL NOTIFY WAKE COUNTY OF ANY OFFSITE DISPOSAL OF SOIL, PRIOR TO DISPOSAL. FILL OF FEMA FLOODWAYS AND NON-ENCROACHMENT AREAS ARE PROHIBITED EXCEPT AS OTHERWISE PROVIDED BY SUBSECTION 14-19-2 OF THE WAKE COUNTY UNIFIED DEVELOPMENT ORDINANCE (CERTIFICATIONS AND PERMITS REQUIRED).

MAINTENANCE REQUIREMENTS TO BE NOTED ON THE PLAN SEEDING OR COVERING STOCKPILES WITH TARPS OR MULCH IS REQUIRED AND WILL REDUCE EROSION PROBLEMS. TARPS SHOULD BE KEYED IN AT THE TOP OF THE SLOPE

- TO KEEP WATER FROM RUNNING UNDERNEATH THE PLASTIC. IF A STOCKPILE IS TO REMAIN FOR FUTURE USE AFTER THE PROJECT IS COMPLETE (BUILDERS, ETC.), THE FINANCIAL RESPONSIBLE PARTY MUST NOTIFY WAKE COUNTY
- OF A NEW RESPONSIBLE PARTY FOR THAT STOCKPILE. Κ. THE APPROVED PLAN SHALL PROVIDE FOR THE USE OF STAGED SEEDING AND
- MULCHING ON A CONTINUAL BASIS WHILE THE STOCKPILE IS IN USE. ESTABLISH AND MAINTAIN A VEGETATIVE BUFFER AT THE TOE OF THE SLOPE (WHERE PRACTICAL).

STAGE 1 E&SC CONSTRUCTION SEQUENCE:

- 1. THE OWNER SHALL OBTAIN NCG01 PERMIT AND PAY ANY FEE THAT MAYBE ASSOCIATED WITH THIS PERMIT. 2. SCHEDULE A PRE-CONSTRUCTION CONFERENCE WITH THE WAKE COUNTY
- WATERSHED MANAGER. ENSURE THAT ALL LIMITS OF DISTURBANCE, SURFACE WATERS, AND RIPARIAN
- BUFFERS ARE FLAGGED PRIOR TO INSTALLATION OF EROSION CONTROL MEASURES. 4. TREE PROTECTION FENCES, SILT FENCES, AND CONSTRUCTION ENTRANCES SHALL
- BE INSTALLED AS SHOWN ON THE APPROVED EROSION CONTROL PLANS. CLEAR ONLY AS NECESSARY TO INSTALL THESE DEVICES INCLUDING STOCKPILE LOCATIONS. STOCKPILE LOCATIONS SHOULD BE ENCLOSED BY SILT FENCE AS SHOWN ON THE PLANS. SEED TEMPORARY DIVERSIONS, BERMS, AND SEDIMENT
- BASINS IMMEDIATELY AFTER CONSTRUCTION. 6. THE SEDIMENT TEMPORARY SEDIMENT BASINS ARE TO BE FULLY CONSTRUCTED PRIOR TO THE INSTALLATION OF ANY TEMPORARY DIVERSION DITCHES. CONSTRUCT TSBS #1-#2 AS TEMPORARY SEDIMENT BASINS. NOTE THAT IN CONSTRUCTION DRAWINGS, THE MAJORITY OF STORMWATER PIPES AND STRUCTURES INSTALLED WITHIN STAGE 1 OF EROSION CONTROL ARE TO BE
- UTILIZED AND MAINTAINED THROUGH FINAL BUILD OUT OF THIS PROJECT. THESE PERMANENT PIPES AND STRUCTURES WILL SERVE THE TEMPORARY SEDIMENT BASINS AND ACT AS INLETS FOR THE TEMPORARY DIVERSION DITCHES UNTIL THEY ARE EVENTUALLY MODIFIED TO FINAL SITE DESIGN IN STAGE 2 (FOLLOWING FINAL SITE STABILIZATION). SEE EROSION AND SEDIMENT CONTROL PLANS FOR MORE DETAIL.
- 7. CALL FOR AN ONSITE INSPECTION BY THE WAKE COUNTY WATERSHED MANAGER TO OBTAIN A CERTIFICATE OF COMPLIANCE. ADDITIONAL MEASURES OR DITCH EXTENSIONS MAY BE REQUIRED BY THE NCDEQ/TOWN OF ROLESVILLE EROSION CONTROL FIELD INSPECTOR TO ROUTE RUNOFF TO SEDIMENT BASINS BASED ON FIELD CONDITIONS AND THESE MEASURES SHALL BE INSTALLED UPON THE INSPECTOR'S DETERMINATION.
- 8. ANY STORMWATER INFRASTRUCTURE INSTALLED SHOULD HAVE INLETS PROTECTED WITH BLOCK AND GRAVEL INLET CONTROL, SEDIMENT TRAPS, OR OTHER APPROVED MEASURES AS SHOWN IN THE PLANS.
- 9. STABILIZE SITE AREAS AS THAT ARE BROUGHT UP TO FINISH GRADE WITH VEGETATION, PAVING, DITCH-LININGS, ETC. SEED AND MULCH DENUDED AREAS PER GROUND STABILIZATION TIME FRAMES. 10. CALL FOR INSPECTION BY WAKE COUNTY WATERSHED MANAGER FOR APPROVAL
- BEFORE PROCEEDING TO STAGE 2 CONSTRUCTION.

STAGE 2 E&SC CONSTRUCTION SEQUENCE:

GENERAL SITE GRADING MAY BEGIN.

- INSTALL STORM DRAINAGE PIPE SYSTEMS AS SEEN IN THE APPROVED CONSTRUCTION DRAWINGS. MODIFICATIONS TO STORM DRAINAGE
- INFRASTRUCTURE INSTALLED IN STAGE 1 WILL BE REQUIRED AS THE FINISH GRADE IS ESTABLISHED ON SITE.
- FOLLOWING CONNECTION TO KALAS FALLS PHASE 3 STORM DRAINAGE INFRASTRUCTURE, A PLUG SHALL BE INSTALLED WITHIN THE STRUCTURE LOCATED AT THE KALAS PHASE 3 AND PHASE 5 PROPERTY LINE. THIS IS TO ENSURE NO SEDIMENT IS CONVEYED TO SCM 3B (REGIONAL SCM) LOCATED ON KALAS PHASE 3. THIS PLUG SHALL REMAIN IN PLACE UNTIL FINAL SITE STABILIZATION HAS BEEN ACHIEVED AND THE CONTRACTOR HAS APPROVAL TO CONVEY STORMWATER RUNOFF ON SITE TO SCM 3B BY THE WAKE COUNTY INSPECTOR (SEE STAGE 2: STEP 10)
- AS EACH CATCH BASIN OR YARD INLET IS INSTALLED, IT SHALL HAVE INLET PROTECTION INSTALLED. THIS IS TO REMAIN IN PLACE UNTIL THE DRAINAGE AREA(S) HAVE BEEN STABILIZED OR PAVED.
- CLEAN SEDIMENT BASINS WHEN ONE-HALF FULL.
- FOURTEEN (14) DAYS AFTER FINISHED GRADES ARE ESTABLISHED. MAINTAIN SOIL EROSION CONTROL MEASURES UNTIL PERMANENT GROUND IS ESTABLISHED.
- 8. UTILITIES (WATER, ELECTRIC, GAS, CABLE TV, TELEPHONE, ETC.) WILL BE INSTALLED DURING THIS PHASE.
- REQUEST INSPECTION BY WAKE COUNTY WATERSHED MANAGER AFTER VEGETATION IS ESTABLISHED TO REMOVE REMAINING EROSION CONTROL MEASURES
- 10. REMOVE REMAINING SOIL EROSION CONTROL MEASURES AND STABILIZE THE RESULTING BARE AREAS. CONTACT WAKE COUNTY WATERSHED MANAGER TO REQUEST A FINAL INSPECTION FOR APPROVAL TO CLOSE THE LAND DISTURBANCE PFRMIT
- 11. THE OWNER IS TO FINALIZE THE NCG01 PERMIT.

SCM CONVERSION SEQUENCE:

- 1. WHEN ALL CONTRIBUTORY AREAS TO THE STORMWATER CONTROL MEASURE (SCM) HAVE BEEN STABILIZED CONTACT THE EROSION CONTROL OFFICER FOR PERMISSION TO CONVERT THE SEDIMENT BASIN (SB) TO A SCM. REMOVE ALL SEDIMENT FROM THE BASIN AND RESTORE GRADES TO DESIGNED
- CONFIGURATION, IF NEEDED.
- CONSTRUCT FOREBAY DIVIDERS AS SHOWN ON THE PLANS.
- 4. REMOVE TEMPORARY BAFFLES FROM THE BASIN. MAKE ANY REPAIRS NECESSARY TO THE OUTLET STRUCTURE, OUTLET PIPE, EMERGENCY OVERFLOW, ETC. EXAMINE RIP-RAP TO SEE IF REFRESHING OR CLEANING OF ROCK IS NECESSARY.
- 6. INSTALL SHELF PLANTINGS AS SHOWN ON THE PLANS. CHECK THAT ALL SLOPES ARE PROPERLY STABILIZED.
- BE SURE THAT THE TRASH RACKS ARE IN PLACE AND PROPERLY FUNCTIONING. REMOVE SKIMMER AND CLOSE OUTLET VALVE. CONTACT EROSION CONTROL OFFICER FOR APPROVAL
- CONTACT A LICENSED SURVEYOR FOR SURVEY OF AS-BUILT CONDITIONS. NOTIFY ENGINEER-OF-RECORD FOR PREPARATION OF AS-BUILT DRAWINGS.

REQUIRED WAKE COUNTY CONSTRUCTION SEQUENCE*

- SCHEDULE A PRECONSTRUCTION CONFERENCE WITH THE WATERSHED MANGER. OBTAIN A
- LAND-DISTURBING PERMIT INSTALL GRAVEL CONSTRUCTION PAD, TEMPORARY DIVERSIONS, SILT FENCE, SEDIMENT BASINS
- OTHER MEASURES AS SHOWN ON THE APPROVED PLAN. CLEAR ONLY AS NECESSARY TO INSTALL THESE DEVICES. SEED TEMPORARY DIVERSIONS, BERMS AND BASINS IMMEDIATELY AFTER CONSTRUCTION.
- CALL FOR AN ONSITE INSPECTION BY THE WATERSHED MANAGER TO OBTAIN A CERTIFICATE OF COMPLIANCE. BEGIN CLEARING AND GRUBBING. MAINTAIN DEVICES AS NEEDED. ROUGH GRADE SITE.
- INSTALL STORM SEWER, IF SHOWN, AND PROTECT INLETS WITH BLOCK AND GRAVEL INLET CONTROLS. SEDIMENT TRAPS OR OTHER APPROVED MEASURES AS SHOWN ON THE PLAN. BEGIN
- CONSTRUCTION, BUILDING, ETC. STABILIZE SITE AS AREAS ARE BROUGHT UP TO FINISH GRADE WITH VEGETATION, PAVING, DITCH
- LININGS, ETC. SEED AND MULCH DENUDED AREAS PER GROUND STABILIZATION TIME FRAMES. WHEN CONSTRUCTION IS COMPLETE AND ALL AREAS ARE STABILIZED COMPLETELY, CALL FOR
- AN INSPECTION BY THE WATERSHED MANAGER. IF SITE IS APPROVED, REMOVE TEMPORARY DIVERSIONS, SILT FENCE, SEDIMENT BASINS, ETC., AND SEED OUT OR STABILIZE ANY RESULTING BARE AREAS. ALL REMAINING PERMANENT
- EROSION CONTROL DEVICES, SUCH AS VELOCITY DISSIPATORS, SHOULD NOW BE INSTALLED.
- WHEN VEGETATION HAS BECOME ESTABLISHED, CALL FOR A FINAL SITE INSPECTION BY THE WATERSHED MANAGER. OBTAIN A CERTIFICATE OF COMPLETION.

NOTES FOR CONSTRUCTION:

- PLANS FOR INFRASTRUCTURE ONLY. ALL CONSTRUCTION MUST BE PERFORMED IN ACCORDANCE WITH CURRENT TOWN OF ROLESVILLE,
- CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF EXISTING CONDITIONS. CONTRACTOR
- CONTRACTOR WILL KEEP STREETS CLEAN AT ALL TIMES, OR A WASH STATION WILL BE REQUIRED.
- ALL CATCH BASINS SHALL HAVE INLET PROTECTION.
- AND ON THE EC SHEETS. TREE PROTECTION FENCING ON THIS PROJECT WILL BE INSTALLED AND INSPECTED BEFORE THE
- GRADING PERMIT IS ISSUED. PERMANENT GROUND COVER WILL BE ESTABLISHED IN 15 WORKING DAYS OR 90 CALENDAR DAYS
- WHICHEVER IS SHORTER. 9. THE AREA DESIGNATED SHALL BE USED FOR TOPSOIL STOCKPILE.
- 10. MINIMUM CORNER CLEARANCE FROM THE CURB LINE OF INTERSECTING STREETS SHALL BE AT LEAST 20 FEET FROM THE POINT OF TANGENCY.

10-YEAR EROSION & SEDIMENT CONTROL TEMPORARY DIVERSION DITCH CALCULATIONS (2:1 SIDE SLOPES)

							•	•
TDD #	DRAINAGE AREA (AC)	AVERAGE SLOPE (%)	WIDTH (FT)	DEPTH (FT)	V ₁₀ (FT/S)	CALCULATED τ (LBS/FT ³)	RECOMMENDED LINER	LINER ALLOWABLE τ (LBS/FT ³)
1A	2.04	0.81	6	1.5	2.65	0.61	AM. EXCELISIOR CO.; CURLEX NET FREE	1.00
1B	1.29	2.28	4	1	3.71	1.29	AM. EXCELSIOR CO.; STRAW; 2 NETS	1.50
1C	1.13	3.46	4	1	4.09	1.70	AM. EXCELISOR CO.; CURLEX II.73; 2 NETS	1.75
2A	10.43	1.05	8	2	4.19	1.28	AM. EXCELSIOR CO.; STRAW; 2 NETS	1.50
2B	2.59	2.99	6	1.5	4.66	2.00	AM. EXCELSIOR CO.; CURLEX ENFORCER; 2 NETS	2.30
BYPASS	7.74	3.01	6	1.5	5.14	2.29	AM. EXCELSIOR CO.; CURLEX HIGH VELOCITY; 2 NETS	3.00

NOTE: ALL TEMPORARY DIVERSION DITCHES (TDD) ARE TRIANGULAR. TRACTIVE FORCE, τ , IS CALCULATED USING: $\tau = (\gamma)(D_{CHAN})(S_{CHAN})$ WHFRF

- γ IS THE UNIT WEIGHT OF WATER (ASSUMED TO BE 62.4 LB/FT³)
- D_{CHAN} IS THE DEPTH OF FLOW IN THE CHANNEL (FT/FT) • S_{CHAN} IS THE SLOPE OF THE CHANNEL (FT/FT)

REQUIRED WAKE COUNTY BASIN REMOVAL SEQUENCE 1. SCHEDULE A SITE MEETING WITH THE ENVIRONMENTAL CONSULTANT TO DETERMINE IF A

- BASIN CAN BE REMOVED. INSTALL SILT FENCING OR OTHER TEMPORARY EROSION CONTROL MEASURES AS NEEDED PRIOR TO REMOVAL OF THE BASIN. 2. REMOVE BASIN(S) AND ASSOCIATED TEMPORARY DIVERSION DITCHES. IF CULVERT PIPES NEED
- TO BE EXTENDED, PERFORM THIS OPERATION AT THIS TIME. FINE GRADE AREA IN PREPARATION FOR SEEDING
- 3. PERFORM SEEDBED PREPARATION, SEED, MULCH AND ASPHALT TACK ANY RESULTING BARE AREAS IMMEDIATELY
- 4. INSTALL VELOCITY DISSIPATORS AND/OR LEVEL SPREADERS AS REQUIRED ON THE EROSION CONTROL PLAN.
- 5. WHEN SITE IS FULLY STABILIZED, CALL ENVIRONMENTAL CONSULTANT FOR APPROVAL OF REMOVING REMAINING TEMPORARY EROSION CONTROL MEASURES AND ADVICE ON WHEN SITE CAN BE ISSUED A CERTIFICATE OF COMPLETION.

NOTE: A MEETING SHOULD ALSO BE SCHEDULED WITH THE ENVIRONMENTAL CONSULTANT TO DETERMINE WHEN A BASIN MAY BE CONVERTED FOR STORMWATER USE. SOME MUNICIPALITIES MAY ALSO REQUIRE THIS.

	PIPE
UPSTREAM STRUCTURE	PIPE SIZ
	36"
EX. 32	24"
377	36"
377B	24"
31A	30"
EX. 31	30"
	STRUCTURE EX. 32 377 377B 31A

	RIP RAP DISSIPATER CALCULATIONS 10-YEAR STORM								
OUTLET ID	PIPE DIAMETER (IN)	PIPE VELOCITY (FPS)	STONE CLASS	STONE DEPTH (IN)	STONE MATERIAL (TONS)	GEO-TEXTILE (SY)	START WIDTH (FT)	END WIDTH (FT)	LENGTH (FT)
FES 10 (TEMP)	12	0.25	В	12	1	4	2	6	4
FES 11 (TEMP)	12	0.17	В	12	1	4	2	6	4
FES 20 (TEMP)	36	3.71	В	12	7	22	6	18	12
FES 30B	36	4.17	В	12	7	22	6	18	12
FES 400B	18	3.25	В	12	2	7	3	9	4

WAKE COUNTY, AND CITY OF RALEIGH STANDARD SPECS AND DETAILS, AND SPECIFICATIONS. SHALL NOTIFY ENGINEER OF DISCREPANCIES BETWEEN FIELD CONDITIONS AND THESE DRAWINGS.

ALL CUT AND FILL SLOPES MUST BE STABALIZED WITHIN 7 DAYS AS SHOWN ON CHART TO THE LEFT

SUMMARY (ESC) DOWNSTREAM UPSTREAM ZE | LENGTH | SLOPE INVERT (FT) **INVERT (FT)** 38.07 0.50% 352.90 353.09 355.35 357.75 109.03 2.20% 362.27 363.50 78.36 1.57% 364.00 364.35 41.68 0.84% 98.97 0.50% 353.19 353.68 48.27 0.50% 353.78 354.03

STRUCTURE SUMMARY (ESC) STRUCTURE NAME DETAILS 30B-FES 30" RIM = 356.18 RIM = 359.06 31A-DI INV IN = 353.190 INV OUT = 353.090 RIM = 360.08 32A-FES 24 INV OUT = 357.750 RIM = 368.55 INV IN = 362.270 377-CB INV IN = 363.420 INV OUT = 362.170 RIM = 370.05 INV IN = 364.000 377B-JB INV IN = 364.000 INV OUT = 363.500 RIM = 370.18 INV IN = 364.573 390-CB INV IN = 364.850 INV OUT = 364.350 RIM = 364.91 EX. 31-JB INV IN = 353.785 INV OUT = 353.685 RIM = 364.48 EX. 32-JB INV IN = 355.351 INV OUT = 354.026

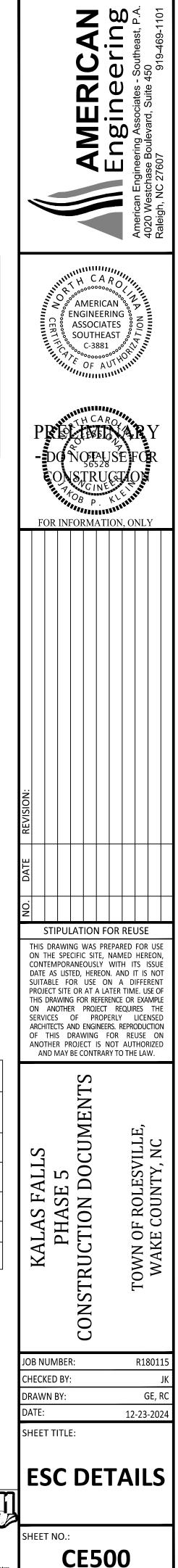
*** 3 Days Before Digging *'

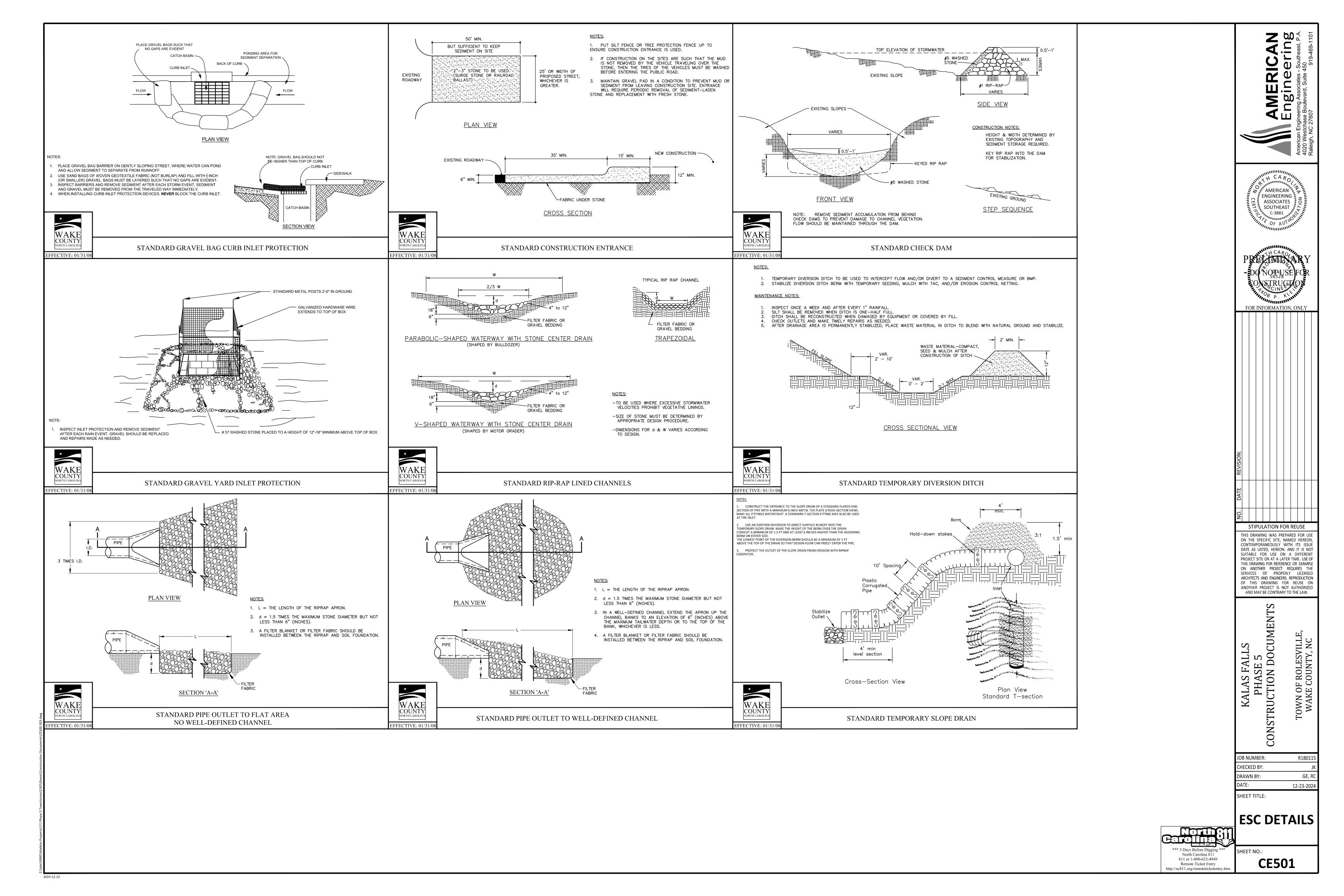
North Carolina 811

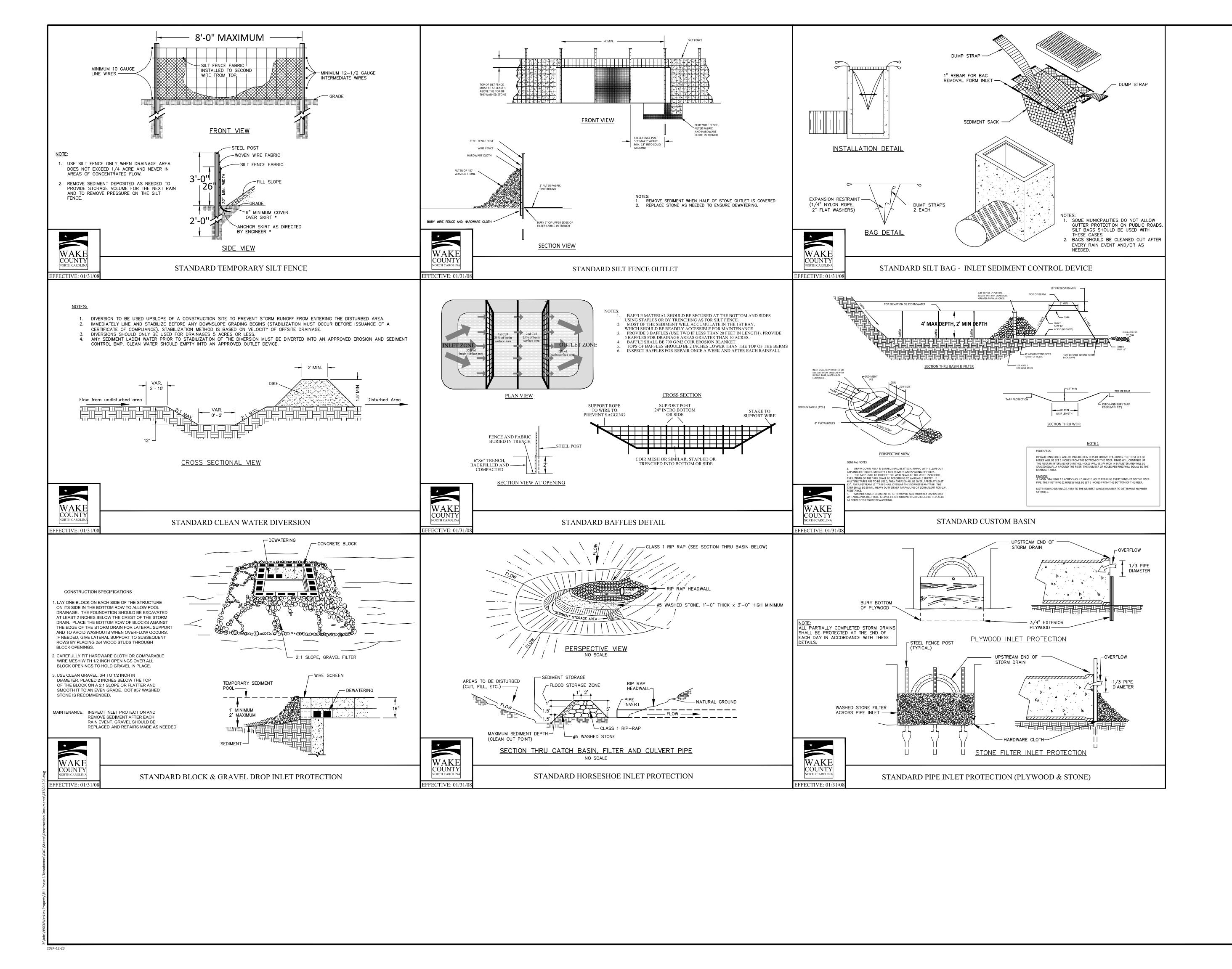
811 or 1-800-632-4949

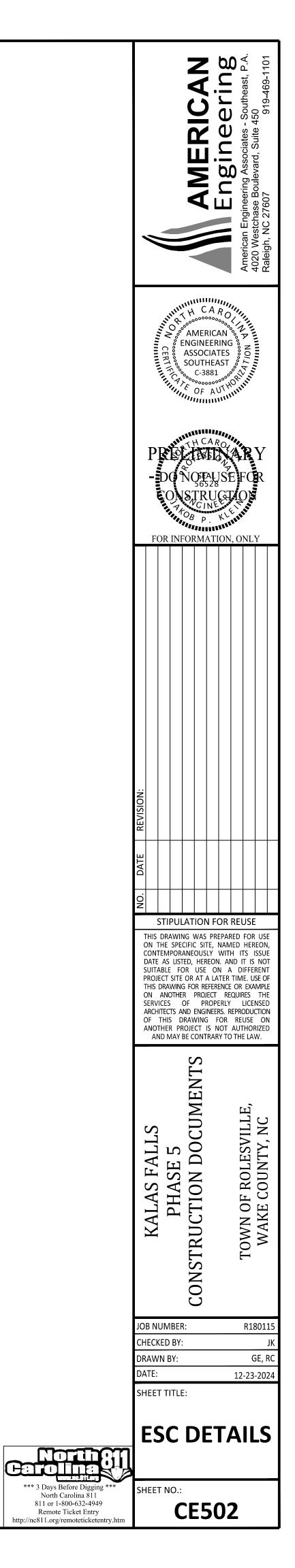
Remote Ticket Entry ttp://nc811.org/remoteticketentry

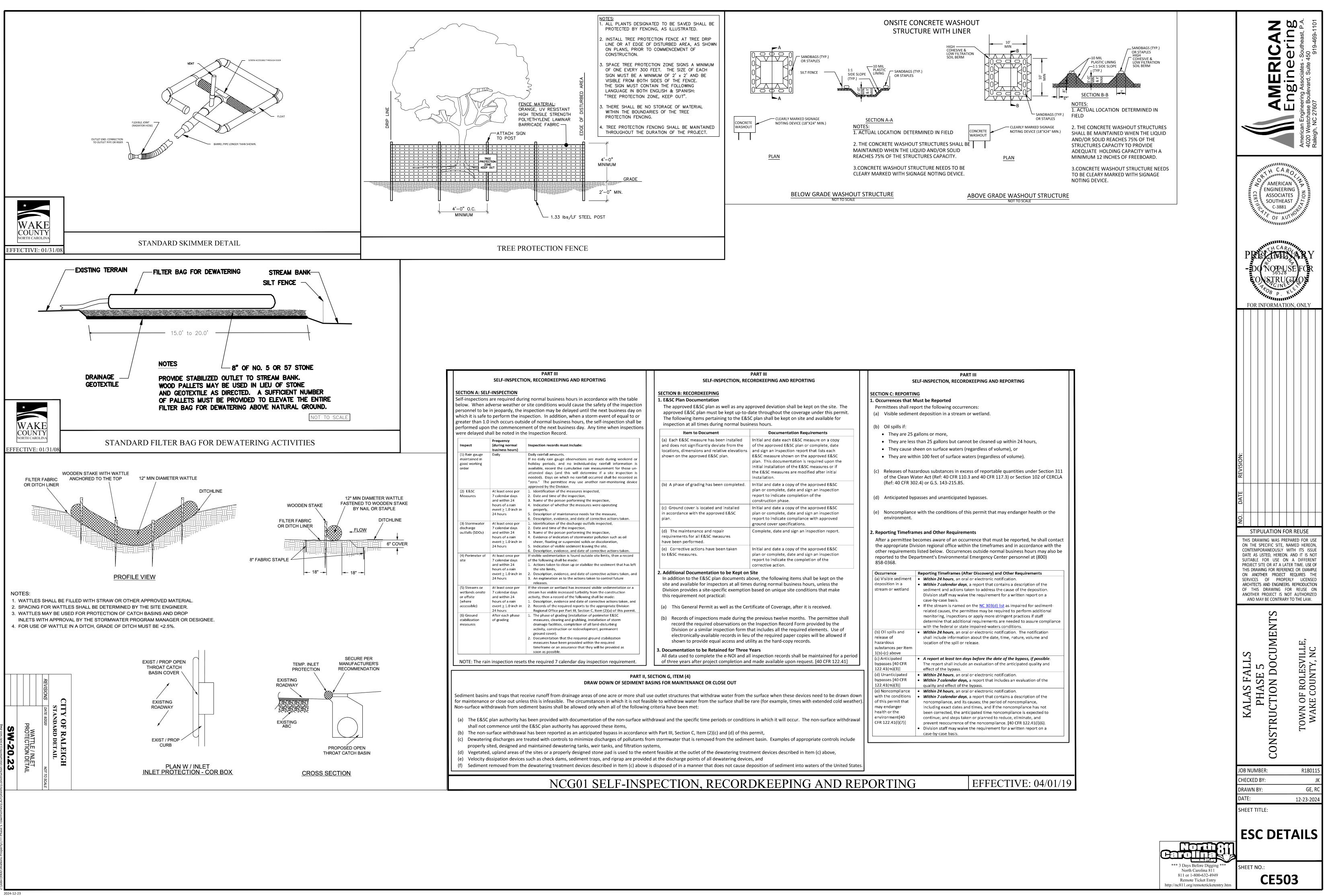
Carolina



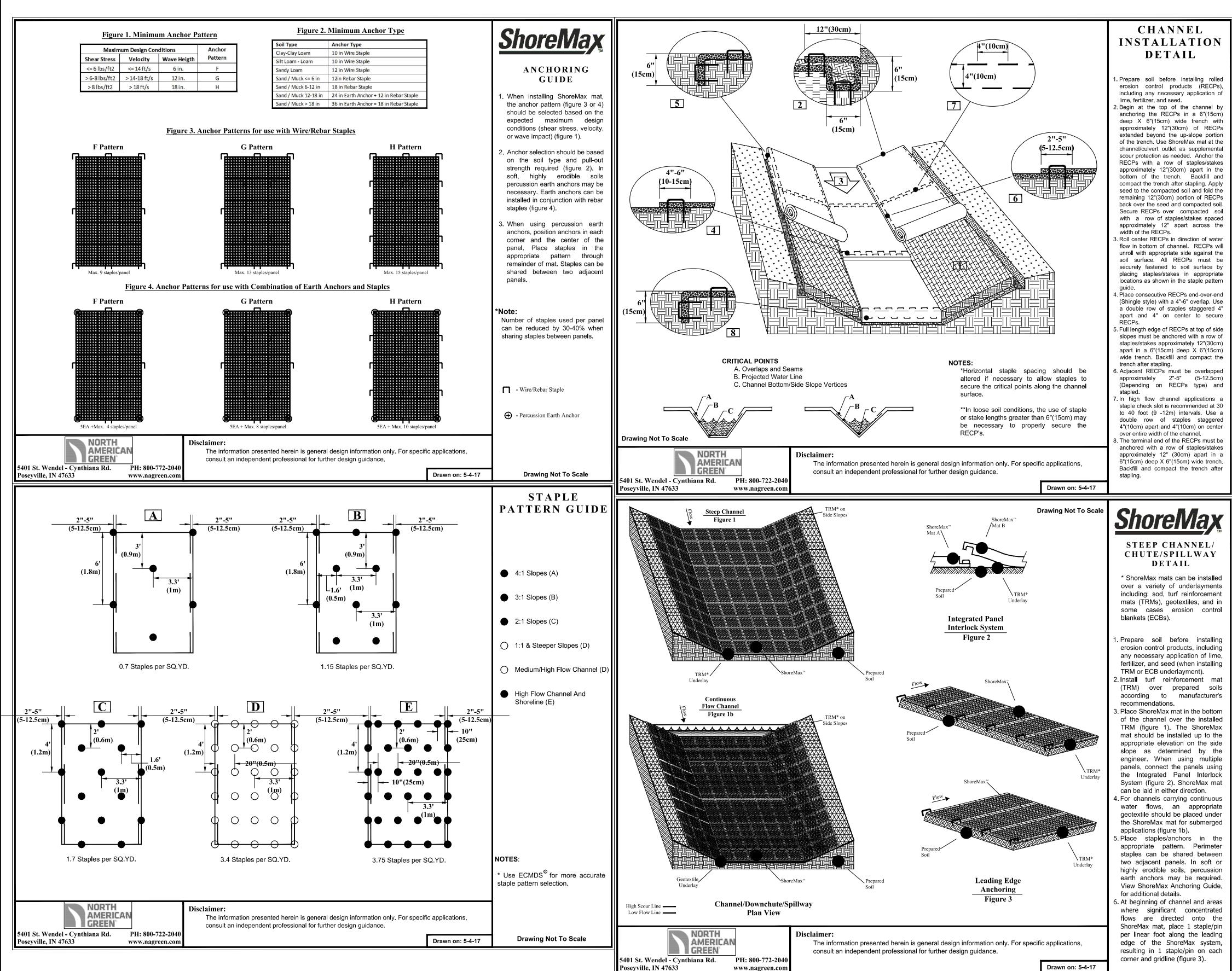








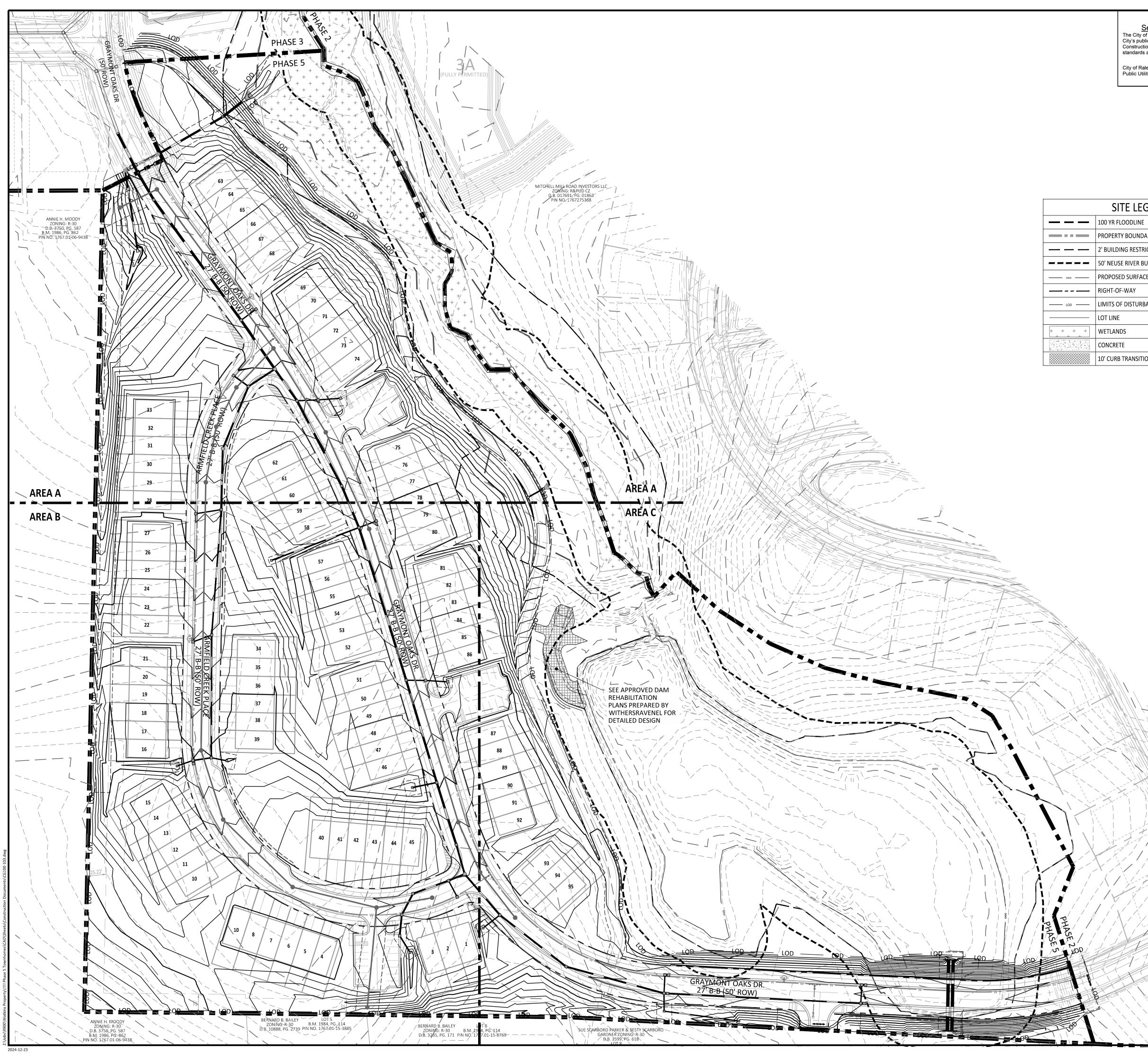
SELF-INSPECT	ION, RECORDKEEPING AND REPORTING	SELF-INSPECTION, REG	CORDKEEPING AND REPORTING	SELF-IN
SECTION A: SELF-INSPECTION		SECTION B: RECORDKEEPING		SECTION C: REPORTING
below. When adverse weather of personnel to be in jeopardy, the which it is safe to perform the ir greater than 1.0 inch occurs out performed upon the commence	ring normal business hours in accordance with the table or site conditions would cause the safety of the inspection inspection may be delayed until the next business day on aspection. In addition, when a storm event of equal to or side of normal business hours, the self-inspection shall be ment of the next business day. Any time when inspections	1. E&SC Plan Documentation The approved E&SC plan as well as any a approved E&SC plan must be kept up-to- The following items pertaining to the E&S inspection at all times during normal busi		 1. Occurrences that Must I Permittees shall report t (a) Visible sediment dep (b) Oil spills if:
were delayed shall be noted in t	he Inspection Record.	Item to Document	Documentation Requirements	 They are 25 gallon
Inspect Frequency (during normal business hours) (1) Rain gauge maintained in good working order Daily	Inspection records must include: 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 un- attended 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	(a) Each E&SC measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC plan.	E&SC measure shown on the approved E&SC plan. This documentation is required upon the initial installation of the E&SC measures or if the E&SC measures are modified after initial installation.	 They are less than They cause sheen They are within 10 (c) Releases of hazardou of the Clean Water A (Ref: 40 CFR 302.4) c
(2) E&SC At least once per Measures 7 calendar days and within 24 beying of prain	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.	(d) Anticipated bypasse
hours of a rain event ≥ 1.0 inch in 24 hours (3) Stormwater At least once per discharze Zealander daus	 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.	(e) Noncompliance with environment.
discharge 7 calendar days outfalls (SDOs) and within 24 hours of a rain event ≥ 1.0 inch in 24 hours 24 hours (4) Perimeter of At least once per site 7 calendar days and within 24 and within 24	 Date and time of the inspection, 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, Description, evidence, and date of corrective actions taken. If visible sedimentation is found outside site limits, then a record of the following shall be made: Actions taken to clean up or stabilize the sediment that has left 	 (d) The maintenance and repair requirements for all E&SC measures have been performed. (e) Corrective actions have been taken to E&SC measures. 	Complete, date and sign an inspection report. Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate the completion of the corrective action.	2. Reporting Timeframes a After a permittee becom the appropriate Division other requirements lister reported to the Departm 858-0368.
hours of a rain event ≥ 1.0 inch in 24 hours	the site limits,Description, evidence, and date of corrective actions taken, andAn explanation as to the actions taken to control future releases.	site and available for inspectors at all time	Site bove, the following items shall be kept on the es during normal business hours, unless the	OccurrenceRepo(a) Visible sediment• Mdeposition in a• M
(5) Streams or wetlands onsite At least once per 7 calendar days and within 24 (where accessible) (where accessible) and within 24 hours of a rain event ≥ 1.0 inch in 24 hours (6) Ground stabilization measures After each phase of grading	 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: Description, evidence and date of corrective actions taken, and Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item (2)(a) of this permit. The phase of grading (installation of perimeter E&SC 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 soon as possible. 	 this requirement not practical: (a) This General Permit as well as the Ce (b) Records of inspections made during t record the required observations on the Division or a similar inspection form the electronically-available records in lieu shown to provide equal access and units 3. Documentation to be Retained for Three 		stream or wetland D Ca b ca f f f f f f f f f f f f f f f f f f
NOTE: The rain inspection rese	ets the required 7 calendar day inspection requirement.		nd made available upon request. [40 CFR 122.41]	(c) Anticipated • A bypasses [40 CFR TH 122.41(m)(3)] ef
		SECTION G, ITEM (4) ASINS FOR MAINTENANCE OR CLOSE OUT		(d) Unanticipated • M bypasses [40 CFR • M 122.41(m)(3)] q (e) Noncompliance • M
for maintenance or close out unl	eceive runoff from drainage areas of one acre or more shall uless this is infeasible. The circumstances in which it is not fea ediment basins shall be allowed only when all of the following	sible to withdraw water from the surface shall be		with the conditions • N
 shall not commence until (b) The non-surface withdraw (c) Dewatering discharges are properly sited, designed a 	as been provided with documentation of the non-surface wit the E&SC plan authority has approved these items, ral has been reported as an anticipated bypass in accordance treated with controls to minimize discharges of pollutants fr nd maintained dewatering tanks, weir tanks, and filtration sys of the sites or a properly designed stone pad is used to the ext	with Part III, Section C, Item (2)(c) and (d) of this rom stormwater that is removed from the sedime stems,	permit, ent basin. Examples of appropriate controls include	environment[40 cc CFR 122.41(I)(7)] • D ca
(e) Velocity dissipation device	es such as check dams, sediment traps, and riprap are provide he dewatering treatment devices described in Item (c) above	ed at the discharge points of all dewatering devic	es, and	





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PRECINE FOR - DO NOFAUSE FOR CONSTRUCTION FOR INFORMATION, ONLY
NO. DATE
STIPULATION FOR REUSE THIS DRAWING WAS PREPARED FOR USE ON THE SPECIFIC SITE, NAMED HEREON, CONTEMPORANEOUSLY WITH ITS ISSUE DATE AS LISTED, HEREON. AND IT IS NOT SUITABLE FOR USE ON A DIFFERENT PROJECT SITE OR AT A LATER TIME. USE OF THIS DRAWING FOR REFERENCE OR EXAMPLE ON ANOTHER PROJECT REQUIRES THE SERVICES OF PROPERLY LICENSED ARCHITECTS AND ENGINEERS. REPRODUCTION OF THIS DRAWING FOR REUSE ON ANOTHER PROJECT IS NOT AUTHORIZED AND MAY BE CONTRARY TO THE LAW.
KALAS FALLS KALAS FALLS PHASE 5 TRUCTION DOCUMENTS TOWN OF ROLESVILLE, WAKE COUNTY, NC
CONST
JOB NUMBER: R18011 CHECKED BY: J DRAWN BY: GE, R
JOB NUMBER: R18011 CHECKED BY:
JOB NUMBER: R18011 CHECKED BY: J DRAWN BY: GE, R DATE: 12-23-202

Carolina



Public	Public	
<u>Sewer Collection / Extension System</u> The City of Raleigh consents to the connection and extension of the City's public sewer system as shown on this plan. The material and Construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.	Water Distribution / Extension System The City of Raleigh consents to the connection and extension of the City's public water system as shown on this plan. The material and Construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.	ring utheast, P.A
City of Raleigh Public Utilities Department Permit #	City of Raleigh Public Utilities Department Permit #	Suite 450 Suite 450

SITE LEGEND

PROPERTY BOUNDARY/PHASE LINE
2' BUILDING RESTRICTION LINE
50' NEUSE RIVER BUFFER
PROPOSED SURFACE WATER LEVEL
RIGHT-OF-WAY
LIMITS OF DISTURBANCE
LOT LINE
WETLANDS
CONCRETE

10' CURB TRANSITION

nit #	AMER Engine neering Associates se Boulevard, Suite
	American Engineering Associates American Engineering Associates 4020 Westchase Boulevard, Suite Raleigh, NC 27607
	CEE CEE CEE CEE CEE CEE CEE CEE
	PRESENTED ARY - DO NOFAUSE FOR ONSTRUCTION GINE FOR INFORMATION, ONLY
	REVISION:
	HA Image: Stipulation for Reuse
	THIS DRAWING WAS PREPARED FOR USE ON THE SPECIFIC SITE, NAMED HEREON, CONTEMPORANEOUSLY WITH ITS ISSUE DATE AS LISTED, HEREON. AND IT IS NOT SUITABLE FOR USE ON A DIFFERENT PROJECT SITE OR AT A LATER TIME. USE OF THIS DRAWING FOR REFERENCE OR EXAMPLE ON ANOTHER PROJECT REQUIRES THE SERVICES OF PROPERLY LICENSED ARCHITECTS AND ENGINEERS. REPRODUCTION OF THIS DRAWING FOR REUSE ON ANOTHER PROJECT IS NOT AUTHORIZED AND MAY BE CONTRARY TO THE LAW.
	KALAS FALLS PHASE 5 CONSTRUCTION DOCUMENTS TOWN OF ROLESVILLE, WAKE COUNTY, NC
	JOB NUMBER: R180115 CHECKED BY: JK DRAWN BY: GE, RC
	DATE: 12-23-2024 SHEET TITLE: GRADING & DRAINAGE OVERALL
*** 3 Days Before Digging *** North Carolina 811 811 or 1-800-632-4949 Remote Ticket Entry http://nc811.org/remoteticketentry.htm	SHEET NO.: CG100

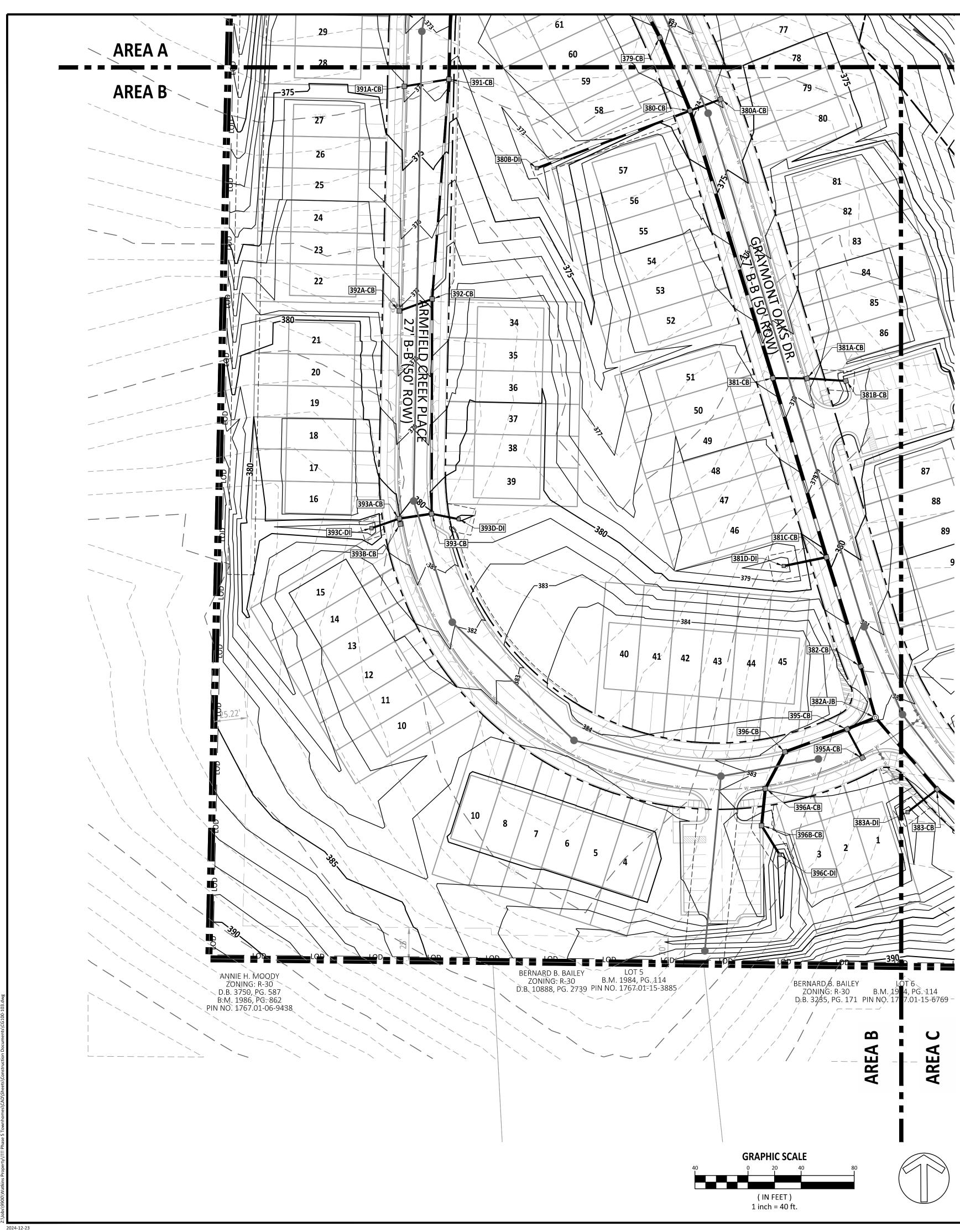
G	RAPHIC SC	ALE	
60 	0 30	60	120
	(IN FEET) 1 inch = 60 1		



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	SITE LEGEND
	100 YR FLOODLINE
	PROPERTY BOUNDARY/PHASE LINE
	2' BUILDING RESTRICTION LINE
	50' NEUSE RIVER BUFFER
000	PROPOSED SURFACE WATER LEVEL
	RIGHT-OF-WAY
LOD	LIMITS OF DISTURBANCE
	LOT LINE
+ + + +	WETLANDS
	CONCRETE
	10' CURB TRANSITION

Public on / Extension System the connection and extension of the own on this plan. The material and his project shall conform to the the City's Public Utilities Handbook.	American Engineering Associates - Southeast, P.A. 4020 Westchase Boulevard, Suite 450 Raleigh, NC 27607 919-469-1101
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	KALAS FALLS PHASE 5 STRUCTION DOCUMENTS TOWN OF ROLESVILLE, WAKE COUNTY, NC
	JOB NUMBER: R180115 CHECKED BY: JK DRAWN BY: GE, RC
	DATE: 12-23-2024 SHEET TITLE: GRADING & DRAINAGE AREA A
*** 3 Days Before Digging *** North Carolina 811 811 or 1-800-632-4949 Remote Ticket Entry http://nc811.org/remoteticketentry.htm	SHEET NO.: CG400



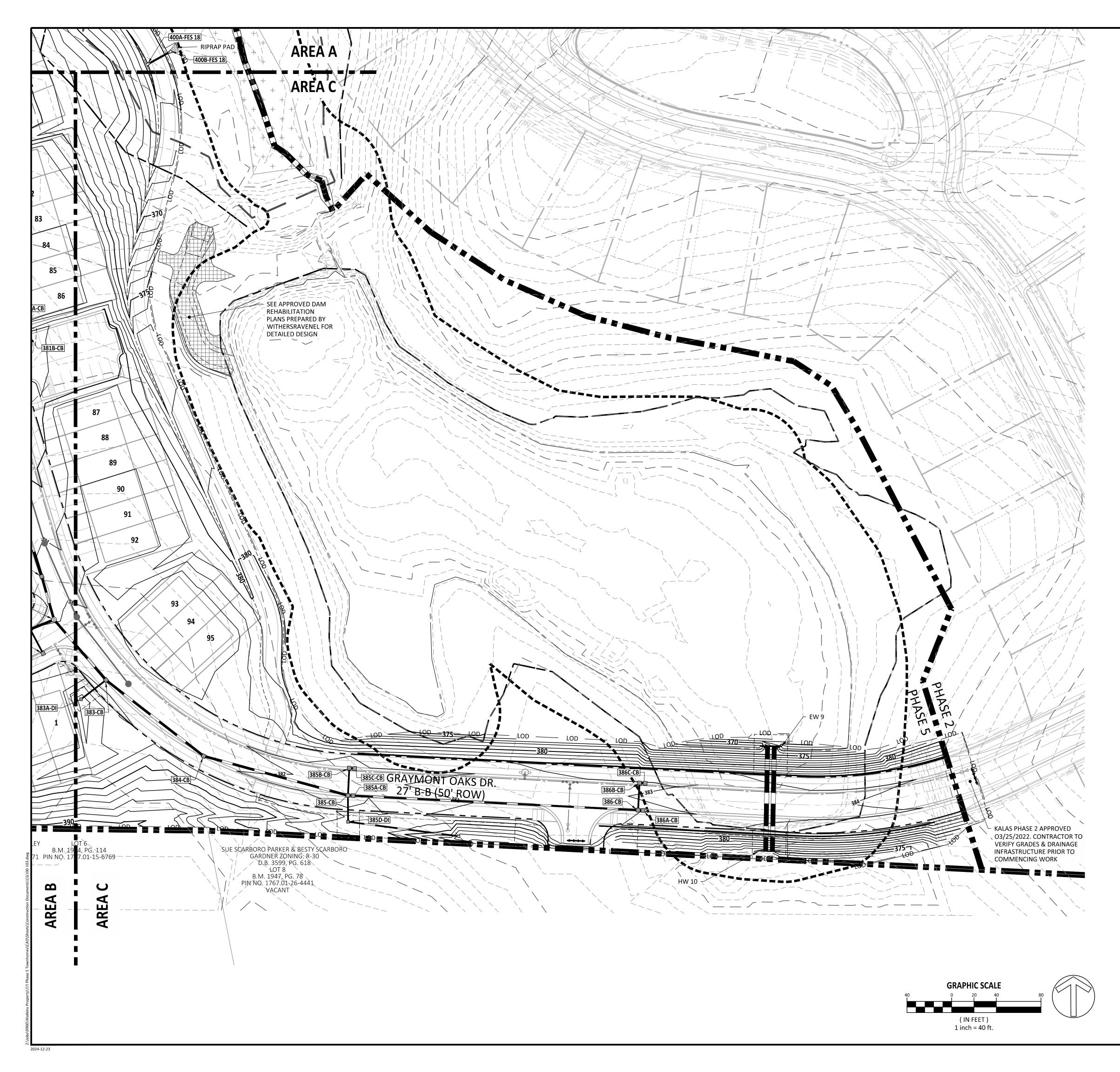
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	DRAWN BY: GE, RC DATE: 12-23-2024
	GRADING & DRAINAGE AREA B
*** 3 Days Before Digging ***	AREA D
North Carolina 811 811 or 1-800-632-4949 Remote Ticket Entry	

CG401

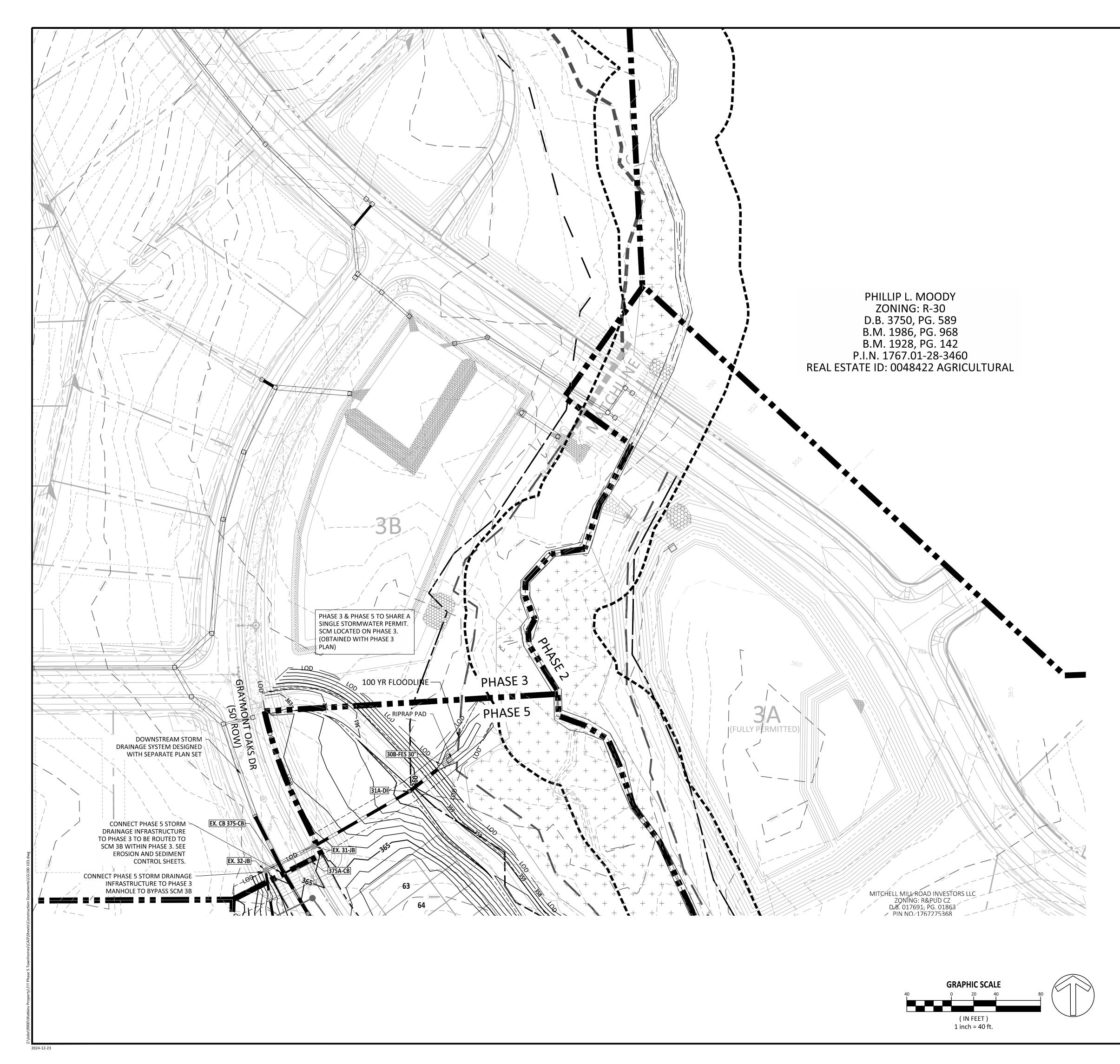
Remote Ticket Entry http://nc811.org/remoteticketentry.ht



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*** 3 Days Before Digging *** North Carolina 811 811 or 1-800-632-4949 Remote Ticket Entry http://nc811.org/remoteticketentry.htm	SHEET NO.: CG402



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000	PROPOSED SURFACE WATER LEVEL				
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DIDE CLINANAADV (ECC)

		PIPE SU	MMARY	(ESC)		
DOWNSTREAM STRUCTURE	UPSTREAM STRUCTURE	PIPE SIZE	LENGTH	SLOPE	DOWNSTREAM INVERT (FT)	UPSTREAM INVERT (FT)
EW 9	HW 10	48"	94.01	1.00%	369.00	369.94
EW 9	HW 10	48"	94.01	1.00%	369.00	369.94
31A		36"	38.07	0.50%	352.90	353.09
32A	EX. 32	24"	109.03	2.20%	355.35	357.75
375A	EX. CB 375	18"	25.75	0.66%	359.09	359.26
* 376	EX. CB 375	36"	41.87	1.07%	358.40	358.85
* 377	376	36"	196.39	1.64%	358.95	362.17
377A	377	15"	24.50	0.94%	363.42	363.65
* 377B	377	36"	78.36	1.57%	362.27	363.50
* 378	377B	30"	51.02	1.05%	364.00	364.54
378A	378	15"	28.01	1.36%	365.72	366.10
378B	378A	15"	29.51	0.51%	366.20	366.35
379	378	30"	126.90	1.42%	364.64	366.44
380	379	30"	59.53	1.73%	366.65	367.68
380A	380	15"	24.43	1.06%	368.75	369.01
380B	380	18"	123.33	0.54%	368.30	368.97
381	380	30"	210.96	1.54%	367.78	371.03
381A	381	15"	25.64	0.70%	372.50	372.68
381B	381A	15"	29.33	3.00%	372.80	373.68
381C	381	30"	140.88	0.65%	371.43	372.34
381D	381C	18"	32.88	1.09%	374.07	374.43
382	381C	30"	86.18	0.61%	373.07	373.60
382A	382	24"	40.12	0.75%	373.70	374.00
383	382A	24"	71.39	0.53%	374.10	374.48
383A	383	15"	28.16	2.24%	376.03	376.66
384	383	24"	110.82	0.50%	374.58	375.13
385	384	24"	133.90	0.50%	375.23	375.90
385A	385	18"	4.68	0.50%	376.00	376.02
385B	385C	18"	4.77	3.52%	377.03	376.86
385B	385	15"	24.49	0.53%	376.45	376.58
385D	385	15"	23.55	0.72%	376.05	376.22
385E	385D	15"	100.85	0.53%	376.32	376.85
386	386A	18"	4.38	1.01%	378.17	378.13
386	385A	18"	255.46	0.50%	376.02	377.30
386B	386C	18"	5.02	1.02%	378.23	378.18
386B	386	15"	24.33	0.70%	377.55	377.72
390	377B	24"	41.68	0.84%	364.00	364.35
390A	390	18"	24.45	1.02%	364.85	365.10
390B	390	24"	88.90	2.00%	364.57	366.35
391	390B	24"	80.42	2.00%	366.55	368.16
391A	391	15"	34.06	0.65%	368.81	369.03
392	391	18"	166.12	1.80%	368.68	371.67
392A	392	15"	26.27	1.45%	371.92	372.30
393	392	18"	161.82	1.93%	371.77	374.90
393A	393B	18"	4.23	2.18%	375.47	375.38
393A	393	18"	24.50	0.50%	375.00	375.12
393C	393A	15" 15"	22.25	0.99%	375.42	375.64
393D 395	393 382A	24"	20.82 23.02	0.72%	375.15	375.30 375.38
395 395A	382A 395	24 15"	23.02	0.50%	375.26	375.38
395A 396	395	24"	49.91	0.73%	375.48	377.05
396 396A	395	24"	31.52	0.50%	375.48	375.73
396A 396B	396 396A	24" 24"	27.86	0.50%	375.83	375.99
396B 396C	396A 396B	24 18"	27.86	0.89%	376.09	376.23
400A	400B	18	25.97	2.74%	376.73	376.96
EX. 31	31A	18 30"	98.97	0.50%	353.30	353.68
EX. 31	EX. 31	30"	48.27	0.50%	353.78	354.03
* EX. CB 375	EX. CB 374	36"	57.00	0.50%	357.90	358.29
*DENOTES CLASS IV				0.0070		

*DENOTES CLASS IV RCP

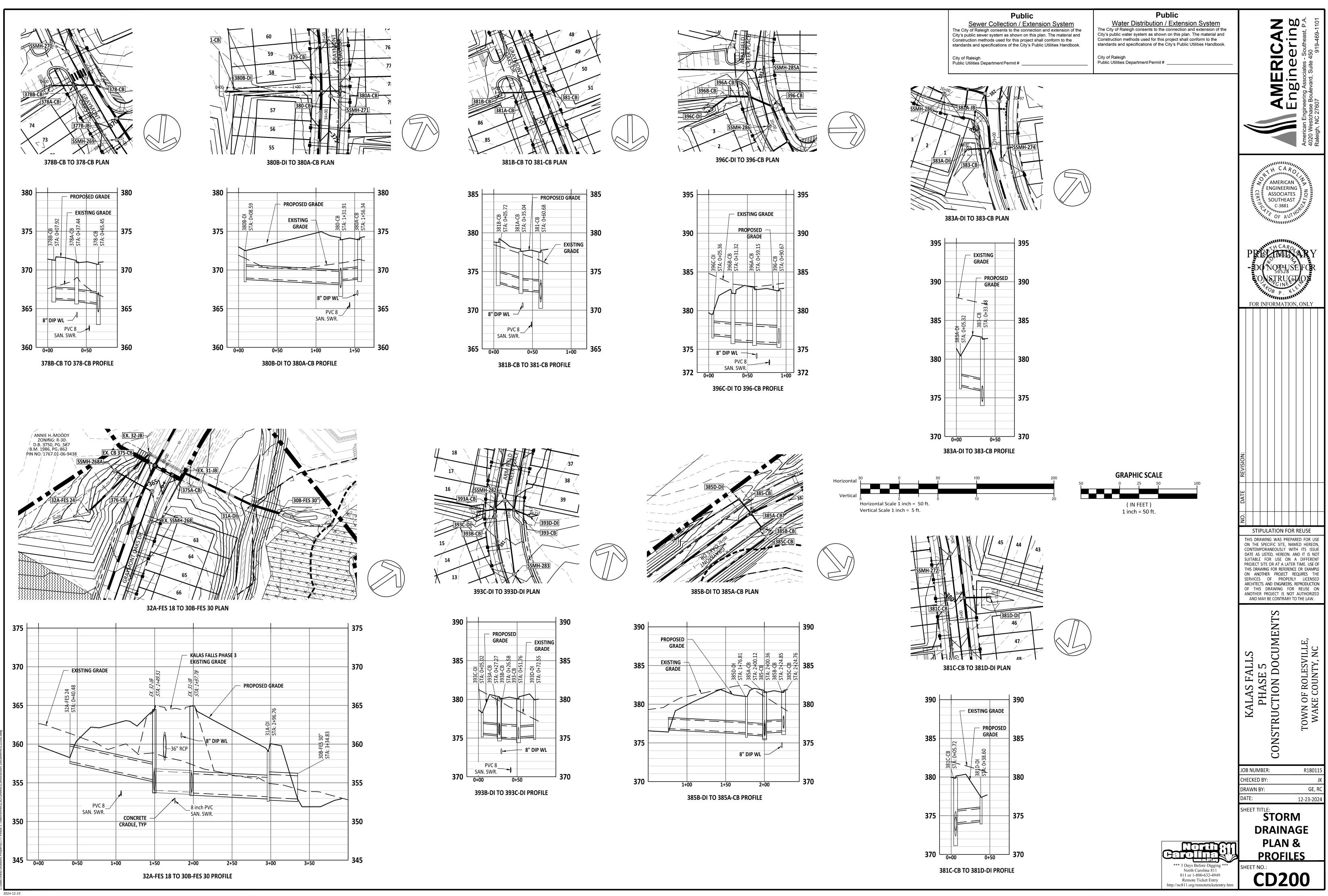
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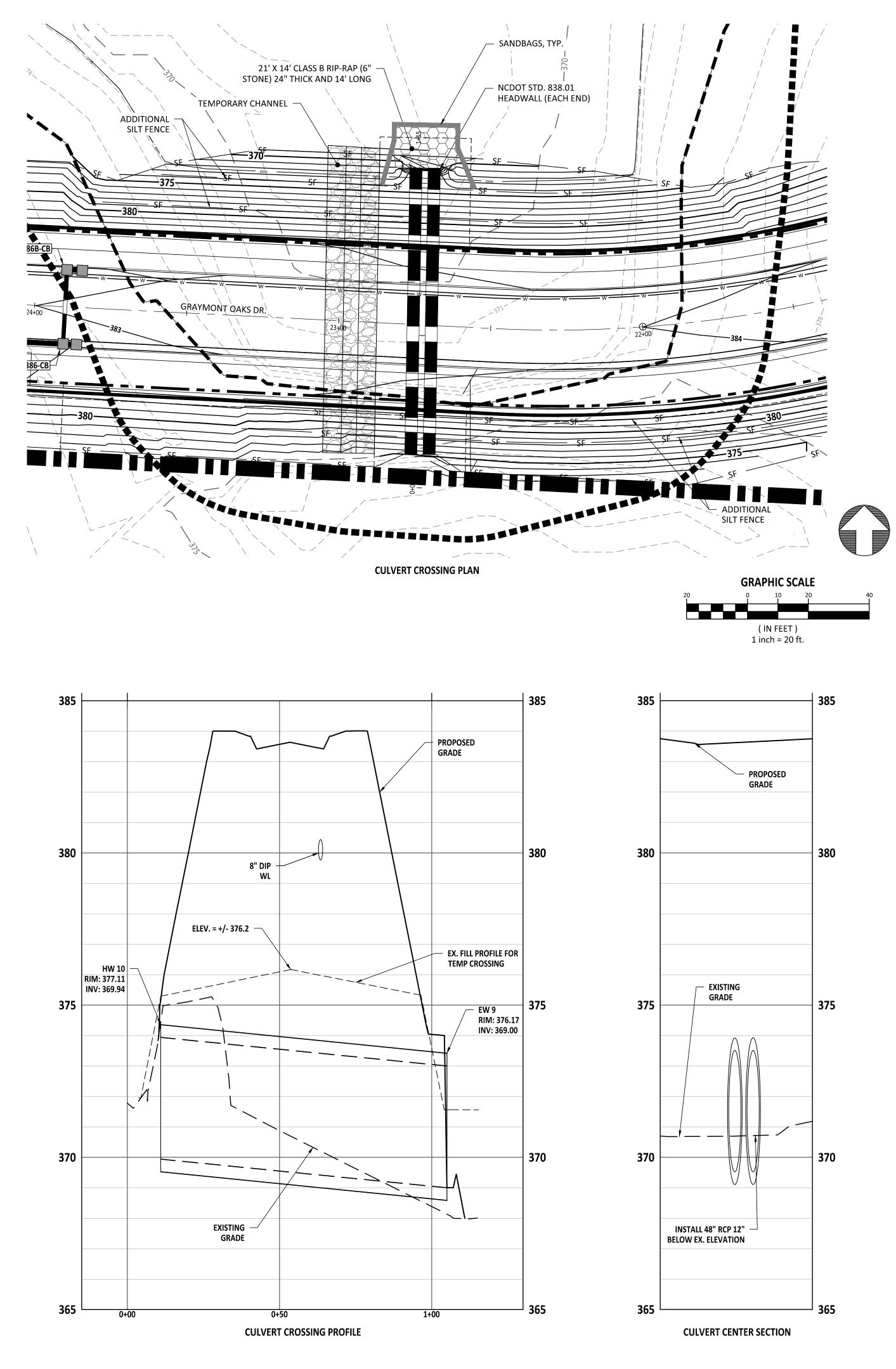
STRUCTURE S	UMMARY (ESC)
STRUCTURE NAME	DETAILS
385E-FES 15	RIM = 378.37 INV OUT = 376.850
386-CB	RIM = 382.85 INV IN = 377.550 INV IN = 378.127 INV OUT = 377.300
386A-CB	RIM = 382.87 INV OUT = 378.171
386B-CB	RIM = 382.91 INV IN = 378.179 INV OUT = 377.720
386C-CB	RIM = 382.87 INV OUT = 378.230
390-CB	RIM = 370.18 INV IN = 364.573 INV IN = 364.850 INV OUT = 364.350
390A-CB	RIM = 370.27 INV OUT = 365.100
390B-JB	RIM = 372.10 INV IN = 366.551 INV OUT = 366.351
391-CB	RIM = 373.82 INV IN = 368.680 INV IN = 368.810 INV OUT = 368.161
391A-CB	RIM = 373.84 INV OUT = 369.030
392-CB	RIM = 376.90 INV IN = 371.770 INV IN = 371.920 INV OUT = 371.670
392A-CB	RIM = 377.12 INV OUT = 372.300
393-CB	RIM = 380.04 INV IN = 375.000 INV IN = 375.150 INV OUT = 374.900
393A-CB	RIM = 380.21 INV IN = 375.420 INV IN = 375.378 INV OUT = 375.123
393B-CB	RIM = 380.20 INV OUT = 375.470
393C-DI	RIM = 378.29 INV OUT = 375.640
393D-DI	RIM = 379.93 INV OUT = 375.300
395-CB	RIM = 382.18 INV IN = 375.480 INV IN = 376.870 INV OUT = 375.380
395A-CB	RIM = 382.10 INV OUT = 377.050
396-CB	RIM = 382.59 INV IN = 375.832 INV OUT = 375.730
396A-CB	RIM = 382.84 INV IN = 376.093 INV OUT = 375.990
396B-CB	RIM = 382.23 INV IN = 376.732 INV OUT = 376.232
396C-DI	RIM = 379.55 INV OUT = 376.962
400A-FES 18	RIM = 361.68 INV OUT = 364.000
400B-FES 18	RIM = 360.35 INV IN = 363.300
EX. 31-JB	RIM = 364.91 INV IN = 353.785 INV OUT = 353.685
EX. 32-JB	RIM = 364.48 INV IN = 355.351 INV OUT = 354.026
EX. CB 375-CB	RIM = 364.82 INV IN = 358.400 INV IN = 359.090 INV OUT = 358.290

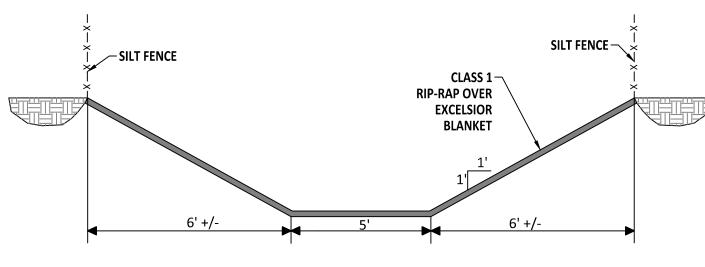
STRUCTURE S	UMMARY (ESC)
STRUCTURE NAME	DETAILS
30B-FES 30"	RIM = 356.18
31A-DI	RIM = 359.06 INV IN = 353.190 INV OUT = 353.090
32A-FES 24	RIM = 360.08 INV OUT = 357.750
375A-CB	RIM = 364.57 INV OUT = 359.260
376-CB	RIM = 365.26 INV IN = 358.950 INV OUT = 358.850
377-CB	RIM = 368.55 INV IN = 362.270 INV IN = 363.420 INV OUT = 362.170
377A-CB	RIM = 368.56 INV OUT = 363.650
377B-JB	RIM = 370.05 INV IN = 364.000 INV IN = 364.000 INV OUT = 363.500
378-CB	RIM = 370.73 INV IN = 364.638 INV IN = 365.720 INV OUT = 364.538
378A-CB	RIM = 371.07 INV IN = 366.200 INV OUT = 366.100
378B-CB	RIM = 371.27 INV OUT = 366.350
379-CB	RIM = 372.89 INV IN = 366.654 INV OUT = 366.438
380-CB	RIM = 373.89 INV IN = 367.784 INV IN = 368.750 INV IN = 368.300 INV OUT = 367.684
380A-CB	RIM = 374.05 INV OUT = 369.010
380B-DI	RIM = 372.50 INV OUT = 368.970
381-CB	RIM = 377.53 INV IN = 371.434 INV IN = 372.500 INV OUT = 371.027
381A-CB	RIM = 377.64 INV IN = 372.800 INV OUT = 372.680
381B-CB	RIM = 378.77 INV OUT = 373.680
381C-CB	RIM = 379.90 INV IN = 373.070 INV IN = 374.070 INV OUT = 372.344
381D-DI	RIM = 377.38 INV OUT = 374.430
382-CB	RIM = 381.39 INV IN = 373.700 INV OUT = 373.600
382A-JB	RIM = 381.95 INV IN = 375.265 INV IN = 374.100 INV OUT = 374.000
383-CB	RIM = 382.71 INV IN = 374.580 INV IN = 376.030 INV OUT = 374.480
383A-DI	RIM = 380.42 INV OUT = 376.660
384-CB	RIM = 382.26 INV IN = 375.230 INV OUT = 375.130
385-CB	RIM = 381.53 INV IN = 375.999 INV IN = 376.450 INV IN = 376.050 INV OUT = 375.900
385A-CB	RIM = 381.66 INV IN = 376.023 INV OUT = 376.023
385B-CB	RIM = 381.59 INV IN = 376.862 INV OUT = 376.580
385C-CB	RIM = 381.71 INV OUT = 377.030
385D-DI	RIM = 381.01 INV IN = 376.320 INV OUT = 376.220

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	JOB NUMBER:R180115CHECKED BY:JKDRAWN BY:GE, RCDATE:12-23-2024
	SHEET TITLE: STORM DRAINAGE TABLES
*** 3 Days Before Digging *** North Carolina 811 811 or 1-800-632-4949 Remote Ticket Entry http://nc811.org/remoteticketentry.htm	SHEET NO.: CD110







TEMPORARY CHANNEL SECTION

CONSTRUCTION SEQUENCE FOR THE GRAYMONT OAKS CROSSING OF THE EXISTING POND NEAR THE SC BORDER OF KALAS FALLS SUBDIVISION SHALL BE AS FOLLOWS:

STAGE 1A CULVERT CROSSING INSTALLATION:

- 1. CONDUCT A MEETING WITH THE WAKE COUNTY INSPECTOR PRIOR TO PROCEEDING CONSTRUCTION OF THE CULVERT CROSSING.
- PUMP THE EXISTING POND DOWN SO IT IS BELOW THE PROPOSED PIPE INVERTS. 2.
- 3. INSTALL THE BYPASS CHANNEL AS SHOWN WITH LINING LEAVING A PORTION OF THE BAN END TO ACT AS A DAM TO PREVENT WATER FLOW DURING CONSTRUCTION OF THE CHANNE 8 SHOULD BE ACCOMPLISHED DURING ONE WORKDAY).
- DURING A PERIOD OF DRY WEATHER AND WHEN THE WATER LEVEL OF THE POND IS CHANNEL INVERT, REMOVE THE DOWNSTREAM DAM FIRST AND CONSTRUCT THE REMAIN CHANNEL TO THE EXISTING POND.
- REMOVE THE UPSTREAM DAM AND CONSTRUCT THE REMAINDER OF THE CHANNEL TO TIE 1 5. AREA INCLUDING LINING. ADD SANDBAGS ACROSS THE LOW POINT AT THE UPSTREAM END TO FORCE THE WATER FLOW 6.
- **BY-PASS CHANNEL.** 7. ADD SANDBAGS ACROSS THE DOWNSTREAM END OF THE LOW POINT JUST ABOVE THE PO
- THE BY-PASS CHANNEL RE-ENTERS THE POND TO PREVENT FLOW INTO THE LOCATION OF THE INSTALLED.
- SEED/SOD AND STABILIZE ALL DENUDED AREAS ONCE THE CHANNEL IS IN PLACE. 8. THE PUMP IS TO REMAIN ON SITE AND TO KEEP POND ELEVATION AT OR BELOW THE CHANNE 9. INVERTS.

STAGE 1B CULVERT CROSSING INSTALLATION:

- OBTAIN PERMISSION FROM THE WAKE COUNTY INSPECTOR TO PROCEED WITH THIS STEP. EXCAVATE AREA AS SHOWN AND INSTALL PIPE WITH HEADWALLS AND DOWNSTREAM 2.
- SHOWN IN RIP-RAP CROSS-SECTION WITHIN THE WORKABLE AREA. 3. OBTAIN WAKE COUNTY APPROVAL OF THE PIPE INSTALLATION.

STAGE 1C CULVERT CROSSING INSTALLATION WITHIN ONE ACTIVE WORKDAY, REMOVE THE TEMPORARY DAM ON DOWNSTREAM AND 1.

- ENDS. 2. REMOVE LINING ON UPSTREAM END OF BY-PASS CHANNEL AND INSTALL EARTHEN DAM A UPSTREAM END OF THE BY-PASS CHANNEL. REUSE SANDBAGS TO FORCE WATER FLOW THE PIPE.
- INSTALL EARTHEN DAM ACROSS THE DOWNSTREAM OF THE BY-PASS CHANNEL AFTER REM 3. LINING.
- 4. REMOVE REMAINDER OF THE BY-PASS CHANNEL LINING AND FILL THE CHANNEL CC THOROUGHLY IN LAYERS.
- INSTALL SILT FENCE AT THE TOE OF SLOPES AND TIE TO ENDWALLS AS SHOWN ON THIS PLAN. 5. INSTALL ADDITIONAL SILT FENCE ALONG THE SLOPE AS SHOWN AND AS NEEDED. 6.
- COMPLETE FILL AROUND THE PIPE TO A LEVEL AT LEAST TWO (2) FEET ABOVE THE TOP OF 7. ALLOW CONSTRUCTION EQUIPMENT TO PASS OVER IT.
- COMPLETE FILL BRINGING THE AREA TO FINISHED GRADE. 8.
- INSTALL PAVEMENT AND FOLLOW THE SEEDING SCHEDULE FOR ALL BARE AREAS. 9.
- 10. REFER TO MAIN CONSTRUCTION SEQUENCE FOR OTHER DETAILS.

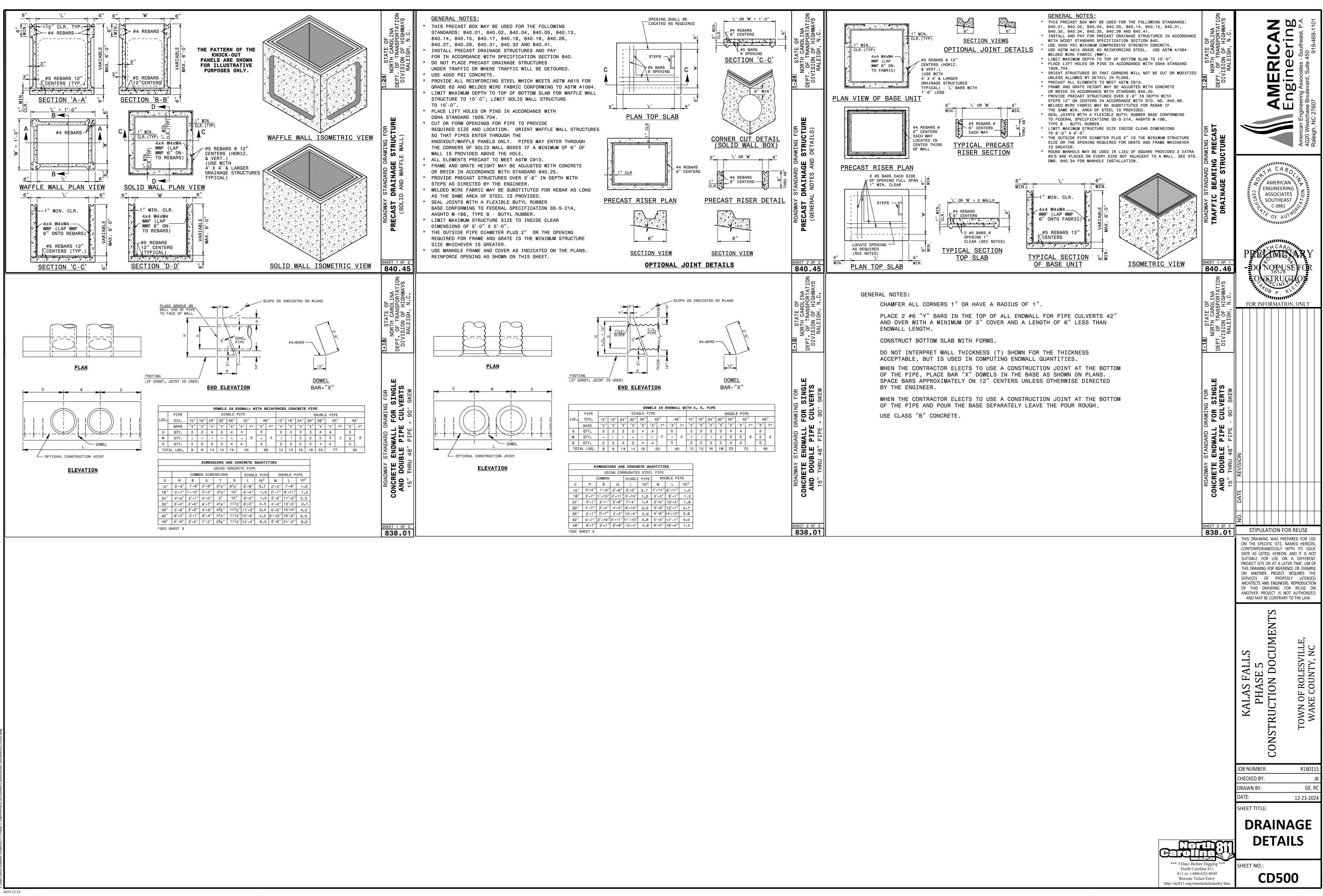
GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH WAKE COUNTY STANDARDS AND REGUL 1. 2. THERE SHALL BE NO DISTURBANCE OUTSIDE THE LIMITS SHOWN ON THIS PLAN WITHOUT AN APPROVED PLAN AMENDMENT BY WAKE COUNTY.
- ALL DISTURBED AREAS SHALL BE SEEDED PER THE SEEDING SCHEDULE.
- PERMANENT GROUND COVER SHALL BE ESTABLISHED PER NPDES SEEDING SCHEDULE AT EITH 4.
- OR 14 DAYS DEPENDING ON MEASURE AND SLOPE.
- CONTRACTOR IS RESPONSIBLE FOR MAINTAINING SELF-INSPECTION LOG. 5.
- CUT AND FILL SLOPES THAT ARE 2:1 OR GREATER SHALL BE STABILIZED WITH PERMANENT SLO 6. RETENTION DEVICES OR A SUITABLE COMBINATION OF PLANTING AND RETENTION DEVICES. S GREATER THAN 3:1 SHALL NOT BE STABILIZED WITH TURF GRASS BUT MUST BE STABILIZED W VEGETATION THAT REQUIRES MINIMAL MAINTENANCE SUCH AS WEEPING LOVE GRASS, RED I OR OTHER APPROVED VARIETY.

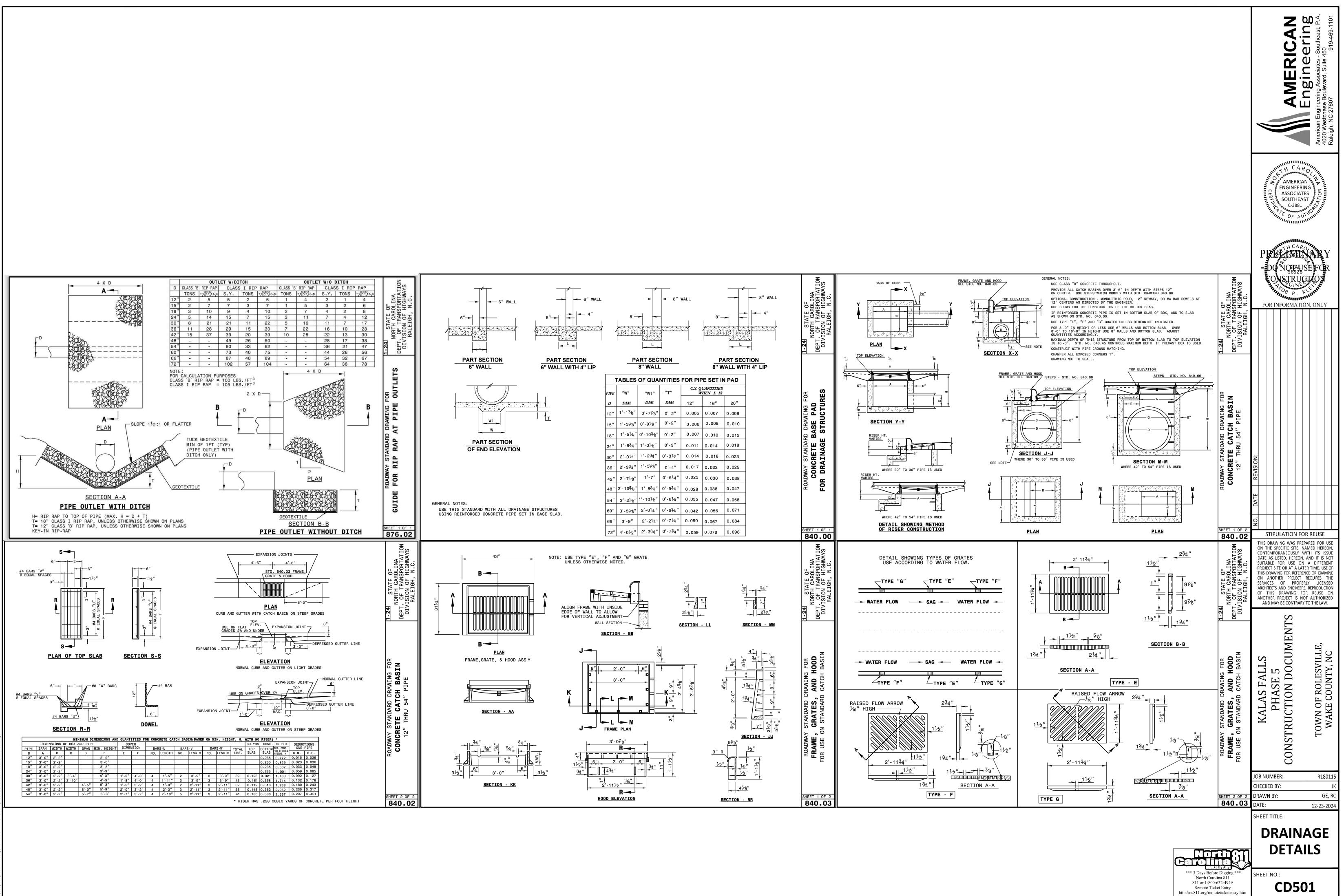
	Sewer Collection / Extension System The City of Raleigh consents to the connection and extension of the City's public sewer system as shown on this plan. The material and Construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.	The City of Raleigh consents to the City's public water system as sho Construction methods used for the	n / Extension System the connection and extension of the wn on this plan. The material and is project shall conform to the le City's Public Utilities Handbook.			AN	ring	utheast. P.A.	0 919-469-1101	
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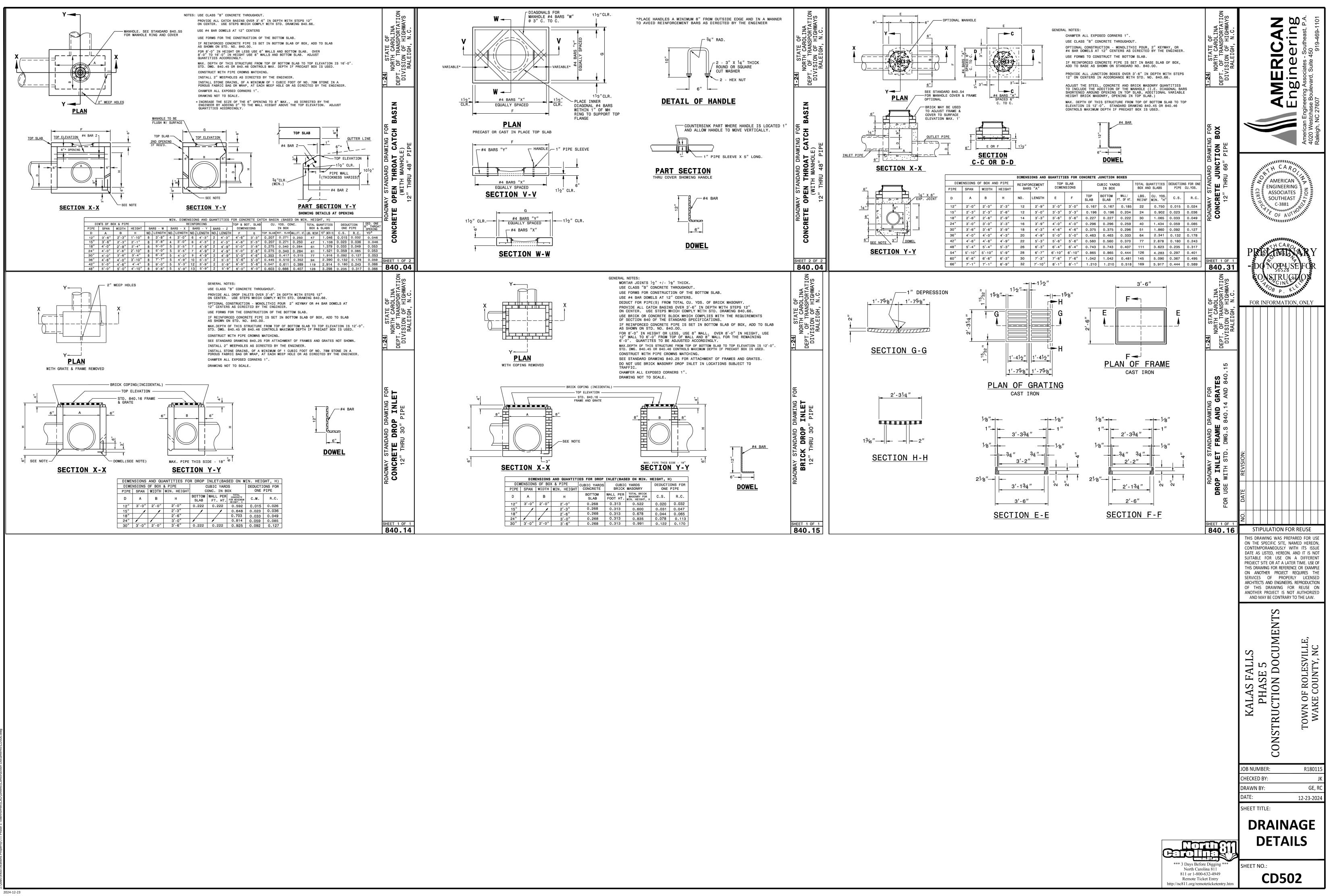
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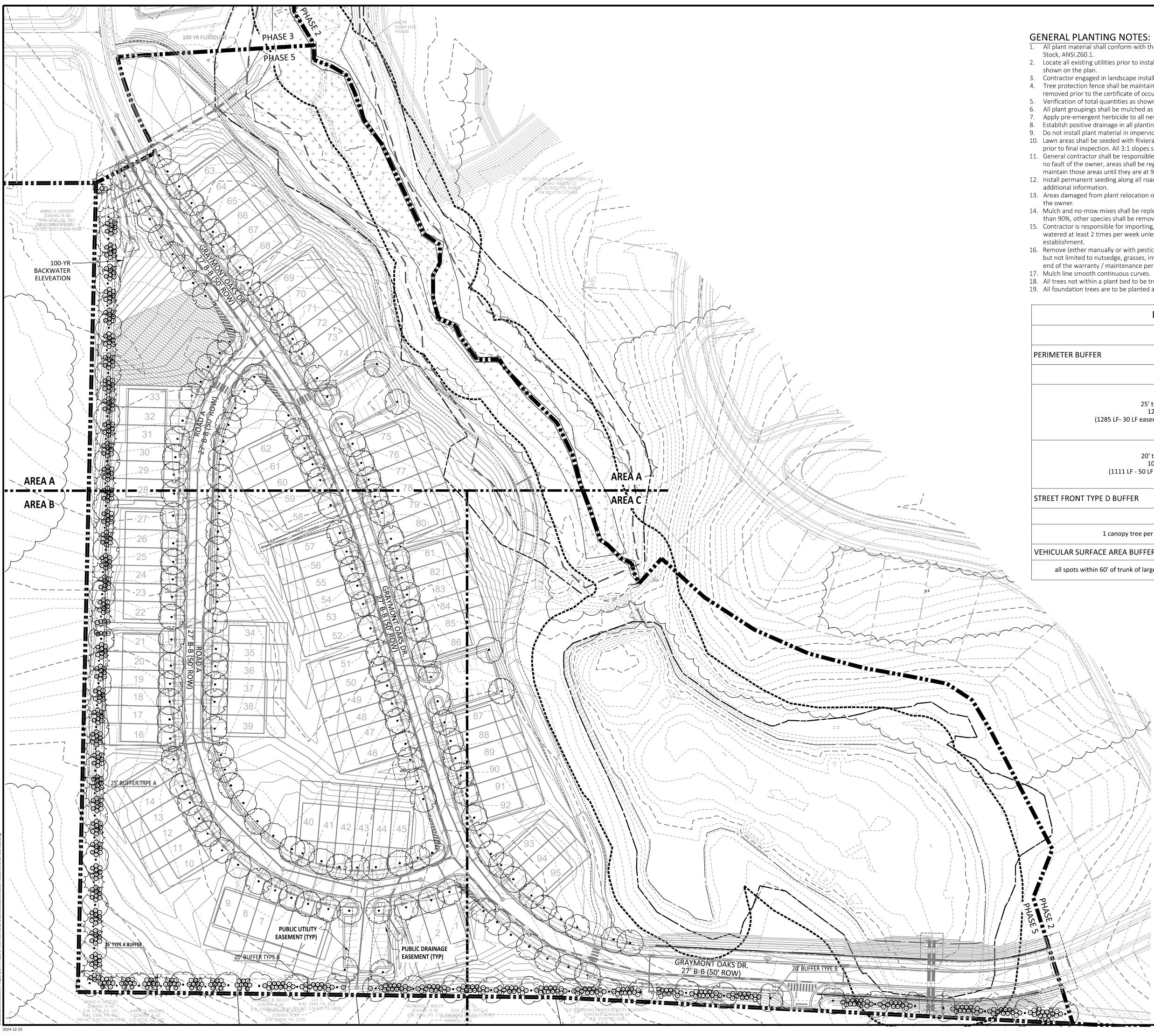












(GE	ENERAL PLANTING NOTES:
1		All plant material shall conform with the standards set forth by the American Association of Nurserymen, American Standard for Nursery
		Stock, ANSI.Z60.1.
2	2.	Locate all existing utilities prior to installation of plant material. Notify owner of any discrepancies between field conditions and those

3. Contractor engaged in landscape installation shall be a landscape contractor registered in the state of North Carolina.

4. Tree protection fence shall be maintained on site until all site work and the final site inspection is completed. The fencing shall be removed prior to the certificate of occupancy (CO) inspection is scheduled

5. Verification of total quantities as shown on the plant list shall be the responsibility of the contractor.

6. All plant groupings shall be mulched as one bed. 3" of triple shredded hardwood mulch shall be used around all plantings. 7. Apply pre-emergent herbicide to all new planting beds at manufacturer's recommended rate prior to installation of mulch. 8. Establish positive drainage in all planting beds and away from buildings.

9. Do not install plant material in impervious soils, (i.e. holes which, when filled with water, do not completely drain within two hours.) 10. Lawn areas shall be seeded with Riviera or Sunstar Bermuda grass 95% coverage (based on a per square yard sample) shall be attained prior to final inspection. All 3:1 slopes shall be stabilized with biodegradable erosion control matting. See detail sheet seeding schedule 11. General contractor shall be responsible for keeping all equipment & subcontractors away from seeded areas. If damage occurs, through no fault of the owner, areas shall be regraded and reseeded immediately at no additional cost to the owner. Contractor shall water and maintain those areas until they are at 95% coverage at final completion.

12. Install permanent seeding along all roadside ditches and channels within construction limits of project. see erosion control plans for additional information.

13. Areas damaged from plant relocation or other activities of landscape contractor to be reseeded and established at no additional cost to 14. Mulch and no-mow mixes shall be replenished as needed, especially after heavy rain events. If no-mow mix germinates at a rate of less

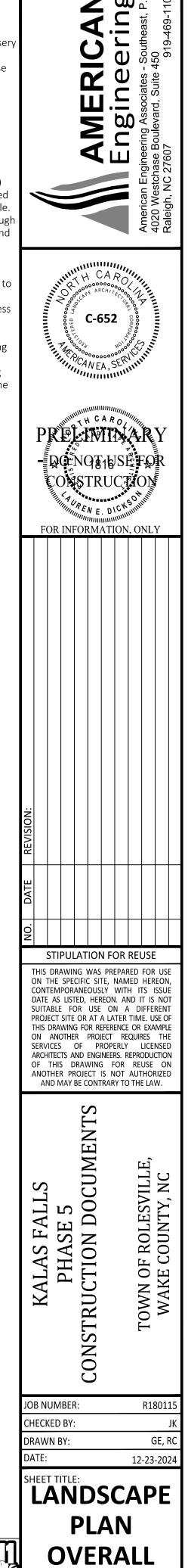
than 90%, other species shall be removed and the area re-seeded. 15. Contractor is responsible for importing, testing, and preparing the soil on site per the recommendations of a soil test. Plants shall be watered at least 2 times per week unless soil is moist based on core sample or moisture meter reading. Water more frequently during

16. Remove (either manually or with pesticide treatment) all weeds in mulch areas, plant beds, tree rings, and hardscape areas: including but not limited to nutsedge, grasses, invasive plants, and any non-desirable plant material. This treatment shall occur monthly until the end of the warranty / maintenance period.

18. All trees not within a plant bed to be treated with a 6-ft diameter mulch ring (typ).

19. All foundation trees are to be planted a minimum of 8' away from building wall. Notify Landscape Architect of any discrepancies.

LANI	DSCAPE REQUIREMENTS		
	UDO SECTION		
IMETER BUFFER			
	REQUIRED	PROVIDED	
25' type A 1255 LF (1285 LF- 30 LF easement)	50% of trees and shrubs evergreen Trees 10' between canopies at maturity	207 Evergreen Shrubs + 169 Deciduous Shrubs 22 Evergreen Trees + 21 Deciduous Trees	14.6.7 (1)
20' type B 1061 LF (1111 LF - 50 LF R/W)	50% of shrubs evergreen Trees 20' between canopies at maturity	121 Evergreen Shrubs + 104 Deciduous Shrubs 21 Deciduous Trees	14.6.7 (2)
EET FRONT TYPE D BUFFER			
	REQUIRED	PROVIDED	
1 canopy tree per 40 LF	73	156	14.6.7 (4)
IICULAR SURFACE AREA BUFFER			
all spots within 60' of trunk of large tree			14.7



	GRA	PHIC S	CALE		
60	0	30 	60 	120	
		IN FEET nch = 60			

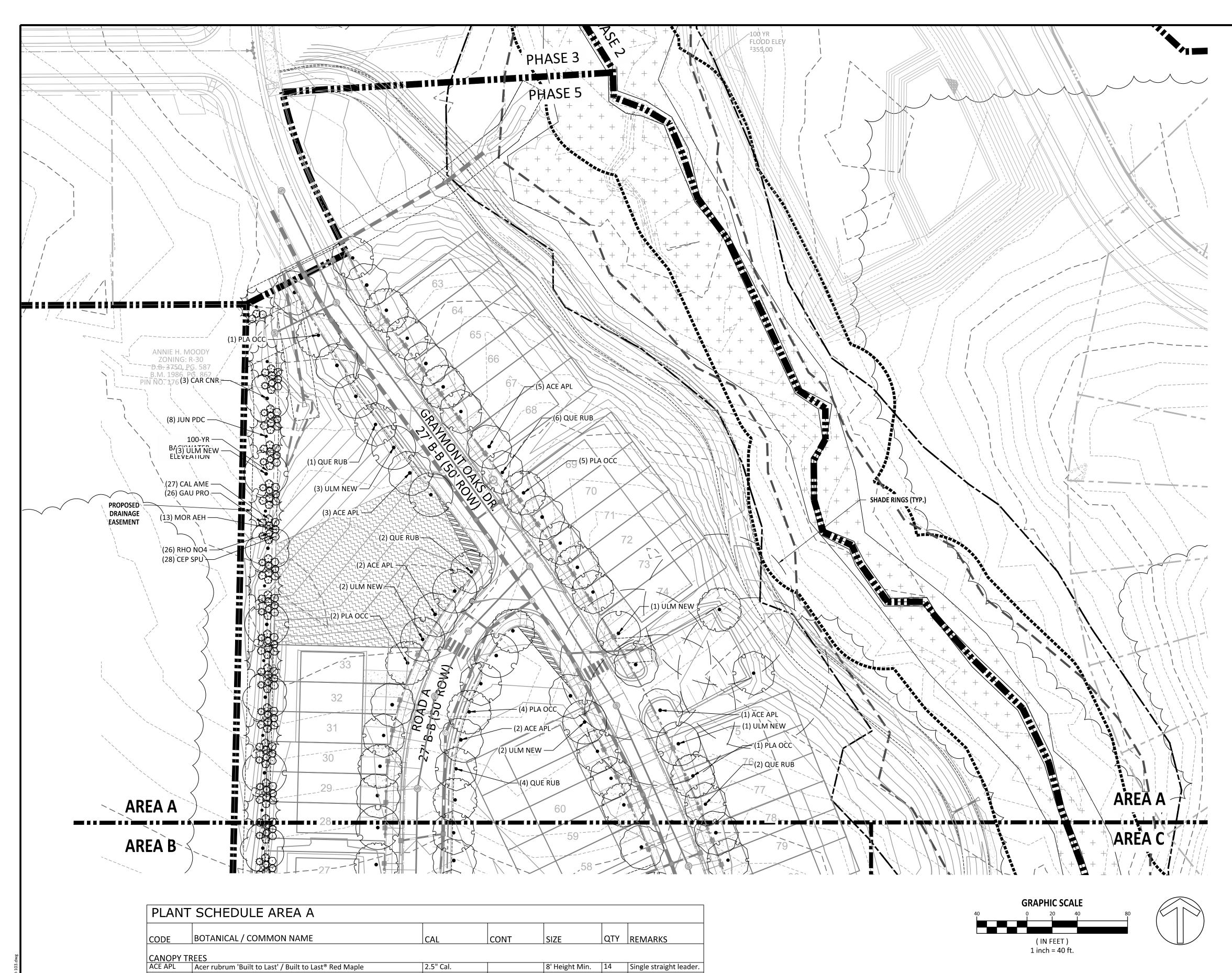
*** 3 Days Before Digging *

North Carolina 811 811 or 1-800-632-4949

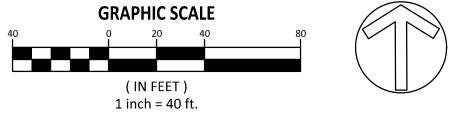
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LP100

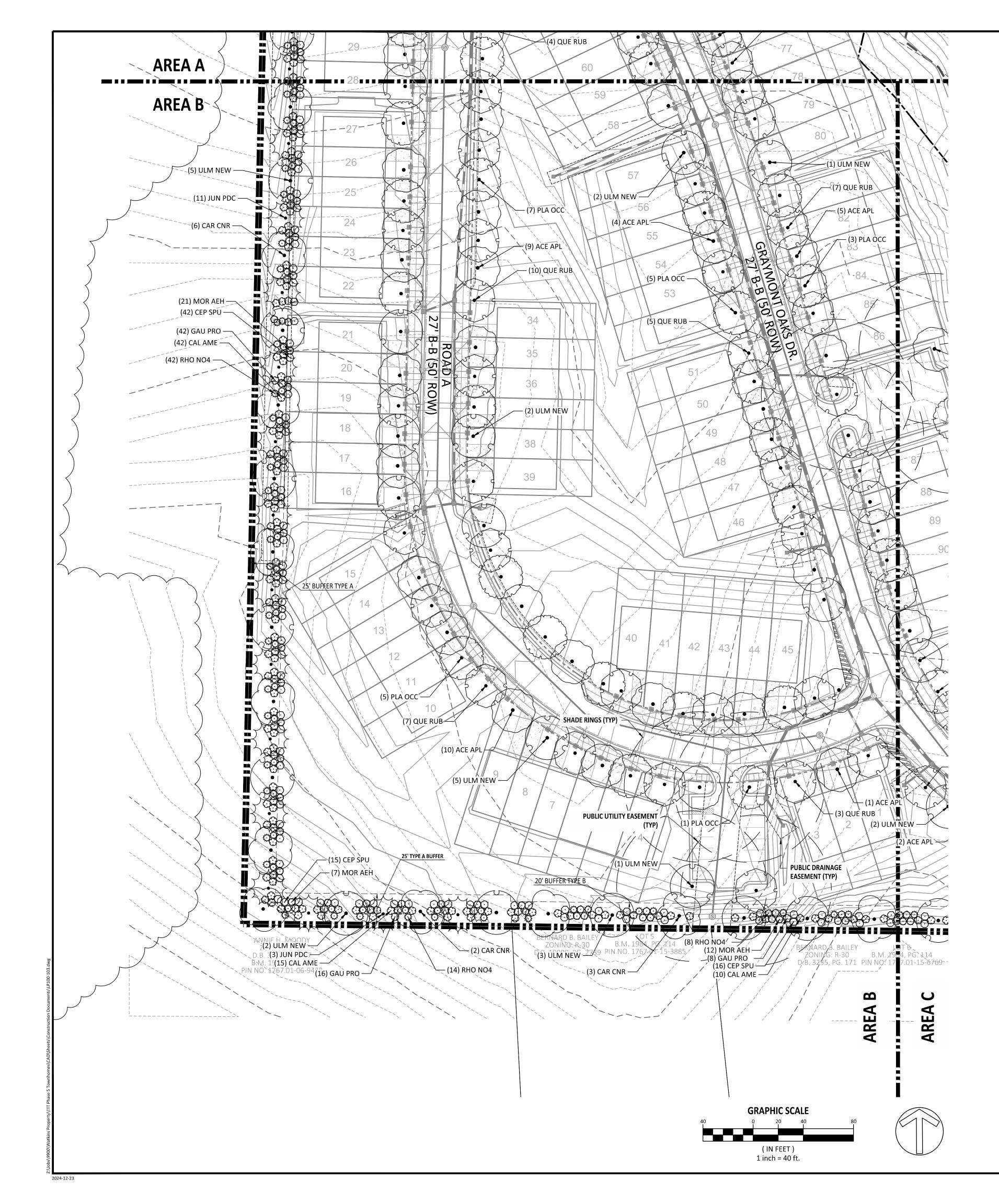




CODE	BOTANICAL / COMMON NAME	CAL	CONT	SIZE	QTY	REMARKS
CANOPY ⁻ ACE APL	Acer rubrum 'Built to Last' / Built to Last® Red Maple	2.5" Cal.		8' Height Min.	14	Single straight leader
CAR CNR	Carpinus caroliniana 'CCMTF1' / Collynair® American Hornbeam	2.5" Cal.		8' Height Min.	3	Single straight leader
PLA OCC	Platanus occidentalis / American Sycamore	2.5" Cal.		8' Height Min.	13	Single straight leader
QUE RUB	Quercus rubra / Northern Red Oak	2.5" Cal.		8' Height Min.	15	Single straight leader
ULM NEW	Ulmus americana 'New Harmony' / New Harmony American Elm	2.5" Cal.		8' Height Min.	12	Single straight leader
CODE	BOTANICAL / COMMON NAME	SIZE	CONTAINER		QTY	REMARKS
CODE		SIZE	CONTAINER		QIY	REMARKS
	US SHRUBS					
CAL AME	Callicarpa americana / American Beautyberry	18" Height Min.	3 gal		26	Fully rooted.
CEP SPU	Cephalanthus occidentalis 'Sputnik' / Sputnik Buttonbush	18" Height Min.	3 gal		27	Fully rooted.
EVERGRE	EN SHRUBS				25	Fully rooted.
	EN SHRUBS Gaultheria procumbens / Wintergreen	18" Height Min.	3 gal		25	Truny rooteu.
EVERGRE GAU PRO MOR AEH		18" Height Min. 18" Height Min.	3 gal 3 gal		12	Fully rooted.

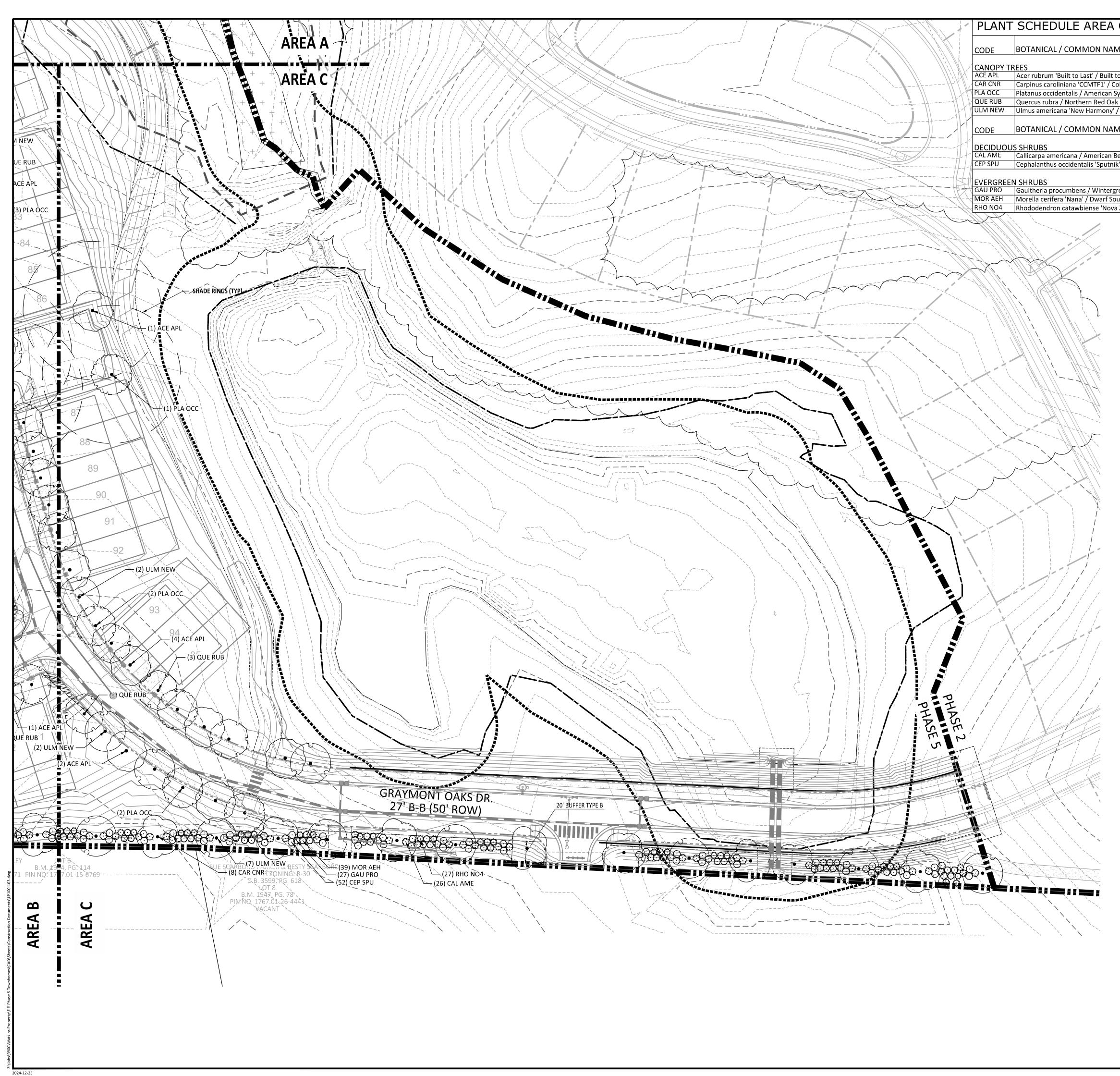


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	KALAS FALLS PHASE 5 CONSTRUCTION DOCUMENTS TOWN OF ROLESVILLE, WAKE COUNTY, NC
	JOB NUMBER:R180115CHECKED BY:JKDRAWN BY:GE, RC
	DATE: 12-23-2024 SHEET TITLE:
	LANDSCAPE
*** 3 Days Before Digging *** North Carolina 811 811 or 1-800-632-4949 Remote Ticket Entry	SHEET NO.: LP401
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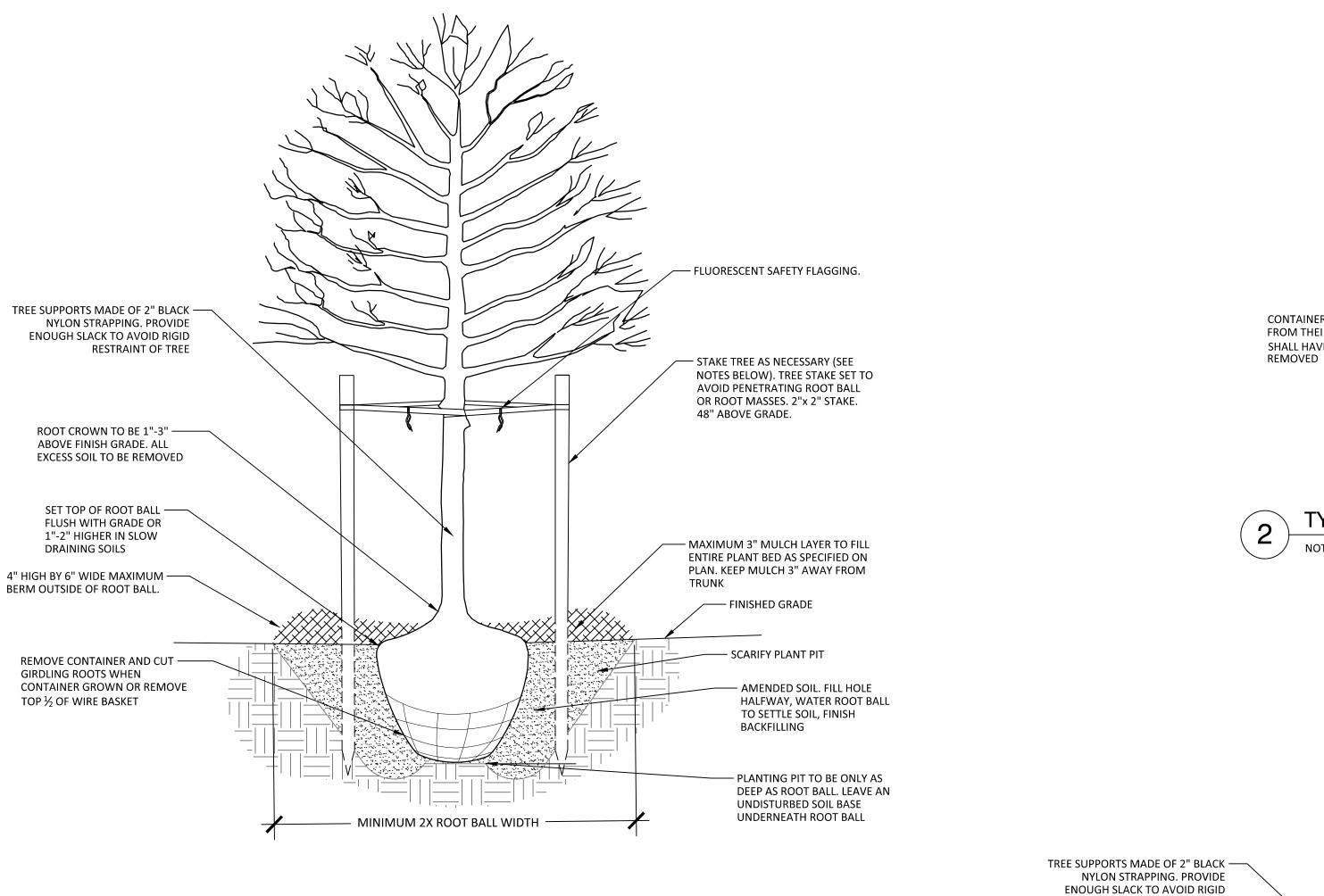


CODE	BOTANICAL / COMMON NAME	CAL	CONT	SIZE	QTY	REMARKS
CANOPY [·]	TREES					
ACE APL	Acer rubrum 'Built to Last' / Built to Last® Red Maple	2.5" Cal.		8' Height Min.	28	Single straight lead
CAR CNR	Carpinus caroliniana 'CCMTF1' / Collynair [®] American Hornbeam	2.5" Cal.		8' Height Min.	11	Single straight lead
PLA OCC	Platanus occidentalis / American Sycamore	2.5" Cal.		8' Height Min.	21	Single straight lead
QUE RUB	Quercus rubra / Northern Red Oak	2.5" Cal.		8' Height Min.	32	Single straight lead
ULM NEW	Ulmus americana 'New Harmony' / New Harmony American Elm	2.5" Cal.		8' Height Min.	21	Single straight lead
JUN PDC	Juniperus virginiana 'Providence' / Providence Eastern Redcedar	2.5" Cal.		8' Height Min.	14	Single straight lead
CODE	BOTANICAL / COMMON NAME	SIZE	CONTAINER		QTY	REMARKS
	BOTANICAL / COMMON NAME	SIZE	CONTAINER		QTY	REMARKS
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DECIDUO CAL AME	US SHRUBS	•				
DECIDUO CAL AME CEP SPU	US SHRUBS Callicarpa americana / American Beautyberry	18" Height Min.	3 gal		69	Fully rooted.
DECIDUO CAL AME CEP SPU EVERGRE	US SHRUBS Callicarpa americana / American Beautyberry Cephalanthus occidentalis 'Sputnik' / Sputnik Buttonbush	18" Height Min.	3 gal		69	Fully rooted.
DECIDUO CAL AME CEP SPU	US SHRUBS Callicarpa americana / American Beautyberry Cephalanthus occidentalis 'Sputnik' / Sputnik Buttonbush EN SHRUBS	18" Height Min. 18" Height Min.	3 gal 3 gal		69 76	Fully rooted. Fully rooted.

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	AME	CAL	CONT	SIZE	QTY	REMARKS	ritheast 19-469-
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	n Sycamore Dak	2.5" Cal. 2.5" Cal.		8' Height Min. 8' Height Min.	5 4	Single straight leader. Single straight leader.	ssociate ssociate
				8' Height Min.			
		SIZE					Enginee C 2760
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	rgreen	18" Height Min	3 gal		27	Fully rooted	Ame 402 Rale
	Southern Wax Myrtle	18" Height Min.	3 gal		39	Fully rooted.	WITH CARO
	va zembla / Catawba Knododendron	18 Height Mim.	<u>5 gai</u>				PRELIMITY CARO PRELIMITY ARY DOENOTIUSE FOR CONSTRUCTION
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						** 3 Days Before Digging *** North Carolina 811 811 or 1-800-632-4949 Remote Ticket Entry	SHEET NO.:



- All trees shall meet American Standard for Nursery Stock (ANSI z60.1-2004)
- . Remove wire and nylon twine from ball and canopy.
- 3. Soak root ball and plant pit immediately after installation.
- 4. Do not stake or wrap trunk unless:
- a. Tree has a large crown. b. Planting site is consistently windy or is a steep slope. c. Planting site is susceptible to vandalism.
- 6. Remove all staking material after 1 year.
- 7. Remove all tags and labels from plant material.
- of branches that extend to the edge of the crown. Some interior twigs and lateral branches may be pruned.



TYPICAL TREE PLANTING NOT TO SCALE

2024-12-23

8. Do not heavily prune the tree at planting. Only prune crossover limbs, co-dominant leaders, and broken or dead branches. Do not remove the terminal buds

P-R-01

NOT TO SCALE

GRADE

EDGE DETAIL)

RESTRAINT OF TREE

ABOVE FINISH GRADE. ALL EXCESS SOIL TO BE REMOVED

SET TOP OF ROOT BALL FLUSH WITH -GRADE OR 1"-2" HIGHER IN SLOW DRAINING SOILS

> 4" HIGH BY 6" WIDE MAXIMUM —— BERM OUTSIDE OF ROOT BALL.

> > SCARIFY PLANT PIT -

REMOVE CONTAINER AND CUT GIRDLING -----ROOTS WHEN CONTAINER GROWN OR REMOVE TOP ½ OF WIRE BASKET

- I. All trees shall meet American Standard for Nursery Stock (ANSI z60.1-2004) 2. Remove wire and nylon twine from ball and canopy.
- 3. Soak root ball and plant pit immediately after installation.
- 4. Do not stake or wrap trunk unless: a. Tree has a large crown.
- b. Planting site is consistently windy or is a steep slope.
- c. Planting site is susceptible to vandalism.
- 6. Remove all staking material after 1 year. 7. Remove all tags and labels from plant material.

TYPICAL EVERGREEN TREE PLANTING

3 NOT TO SCALE

