

°^{°°}AMERICAN[™]° ENGINEERING ASSOCIATES SOUTHEAST



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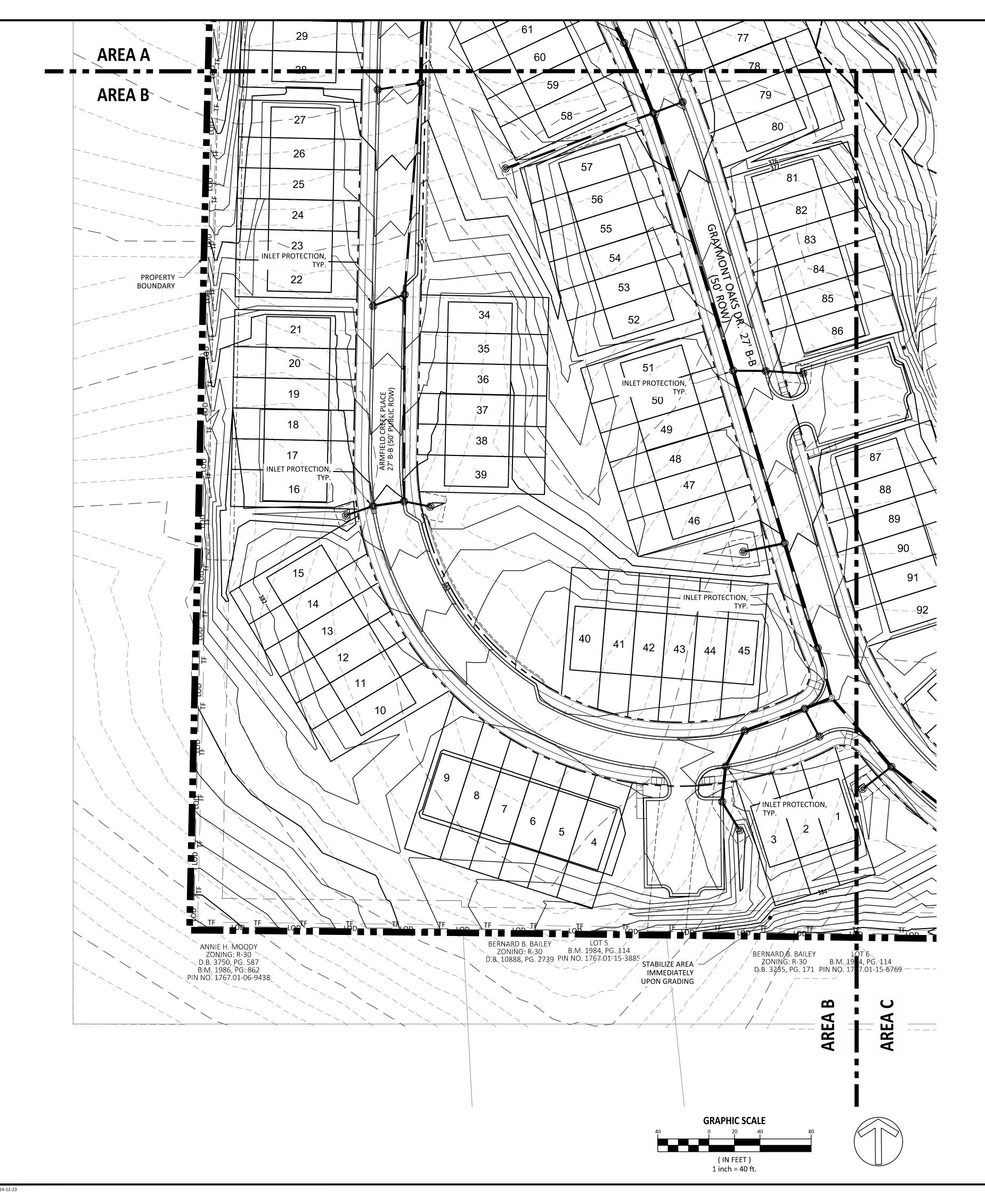
KALAS FALLS PHASE 5 CONSTRUCTION DOCUMENTS TOWN OF ROLESVILLE, WAKE COUNTY, NC

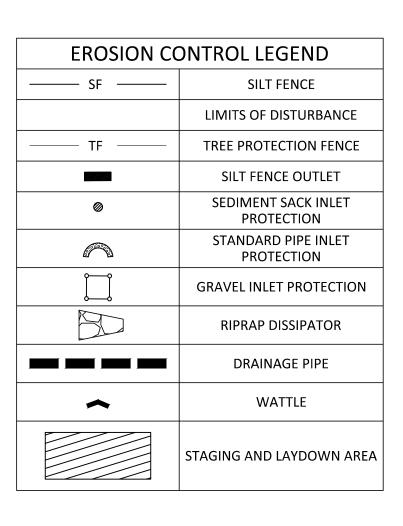
JOB NUMBER:	R180115
CHECKED BY:	Jk
DRAWN BY:	GE, RC
DATE:	12-23-2024

SHEET TITLE:

ESC PHASE 2 AREA A

SHEET NO.:





	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					







NO. DATE REVISION: STIPULATION FOR REUSE	FOR INFORMATION, ONLY									
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KALAS FALLS PHASE 5 CONSTRUCTION DOCUMENTS OWN OF ROLESVILL WAKE COUNTY, NC

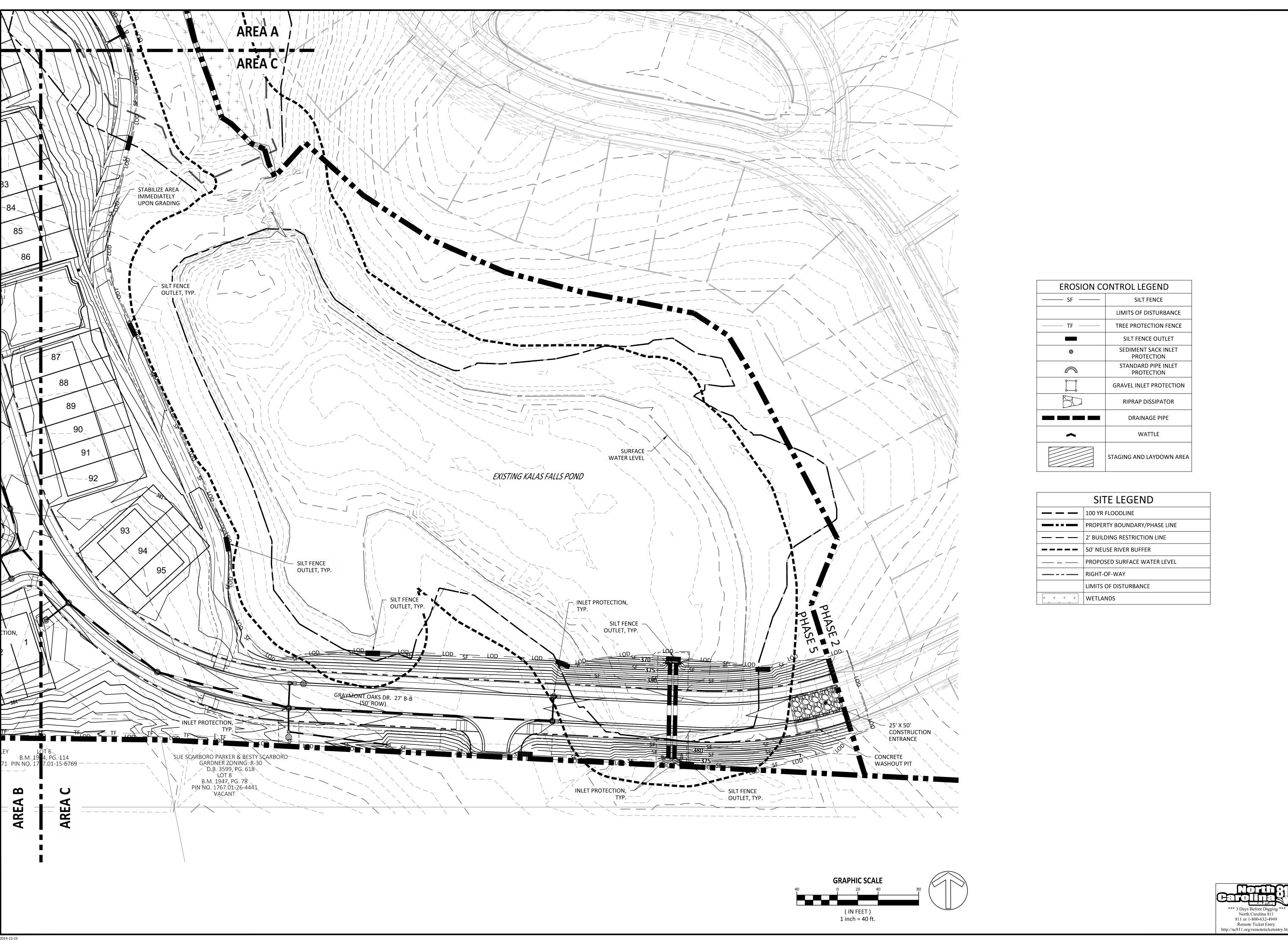
JOB NUMBER:	R180115
CHECKED BY:	JK
DRAWN BY:	GE, RC
DATE:	12-23-2024

SHEET TITLE: **ESC PHASE 2**

*** 3 Days Before Digging *** North Carolina 811 811 or 1-800-632-4949

Remote Ticket Entry http://nc811.org/remoteticketentry.ht SHEET NO.: **CE411**

AREA B



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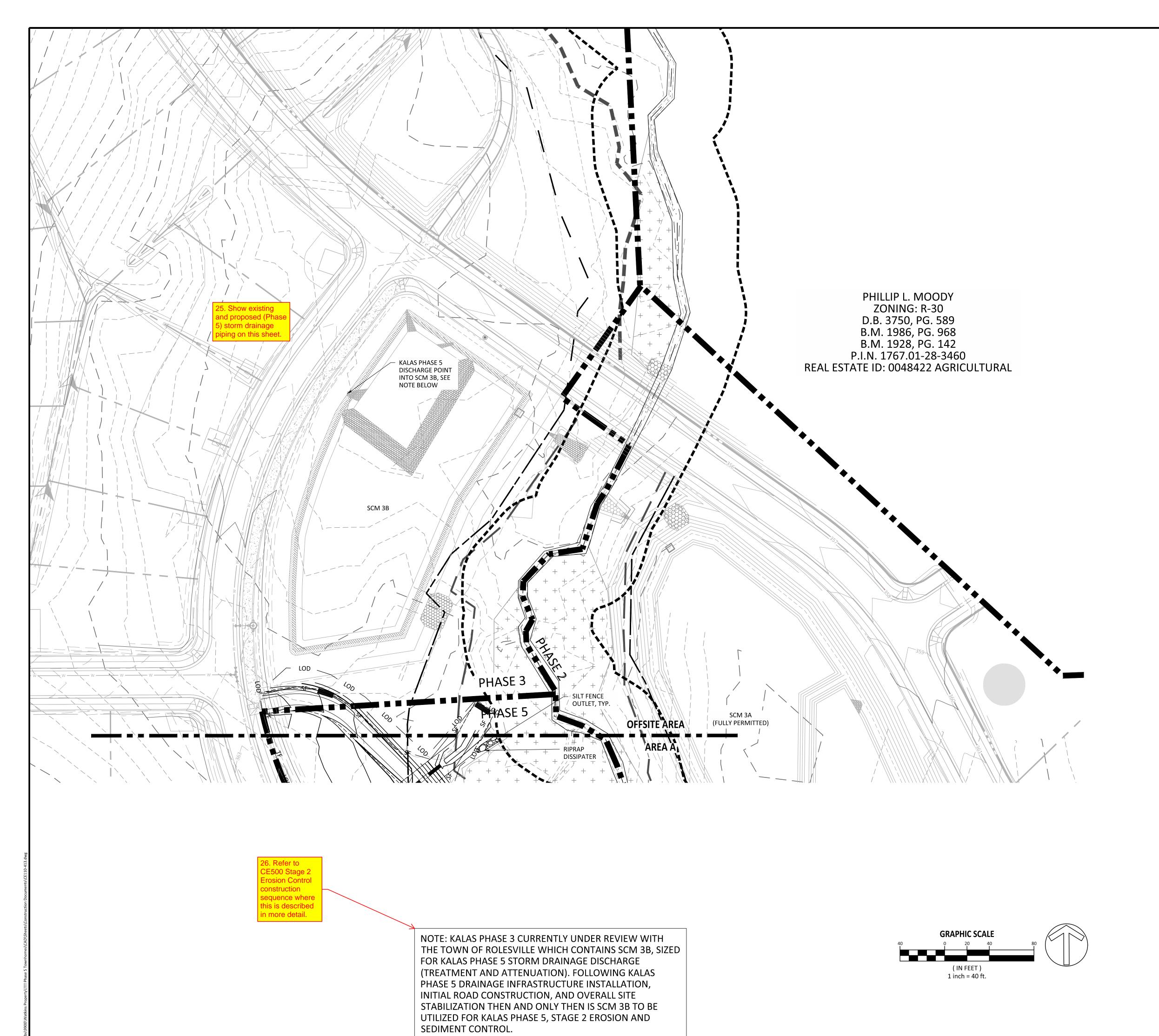
JOB NUMBER:	R180115
CHECKED BY:	Jŀ
DRAWN BY:	GE, RO
DATE:	12-23-2024

SHEET TITLE:

ESC PHASE 2 AREA C

*** 3 Days Before Digging ***
North Carolina 811 811 or 1-800-632-4949 Remote Ticket Entry

SHEET NO.: **CE412**



SF	SILT FENCE
	LIMITS OF DISTURBANCE
TF	TREE PROTECTION FENCE
	SILT FENCE OUTLET
②	SEDIMENT SACK INLET PROTECTION
	STANDARD PIPE INLET PROTECTION
	GRAVEL INLET PROTECTION
50	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			

KALAS FALLS
PHASE 5
CONSTRUCTION DOCUMENTS

STIPULATION FOR REUSE

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JOB NUMBER:	R180115
CHECKED BY:	JK
DRAWN BY:	GE, RC
DATF:	12_23_202/

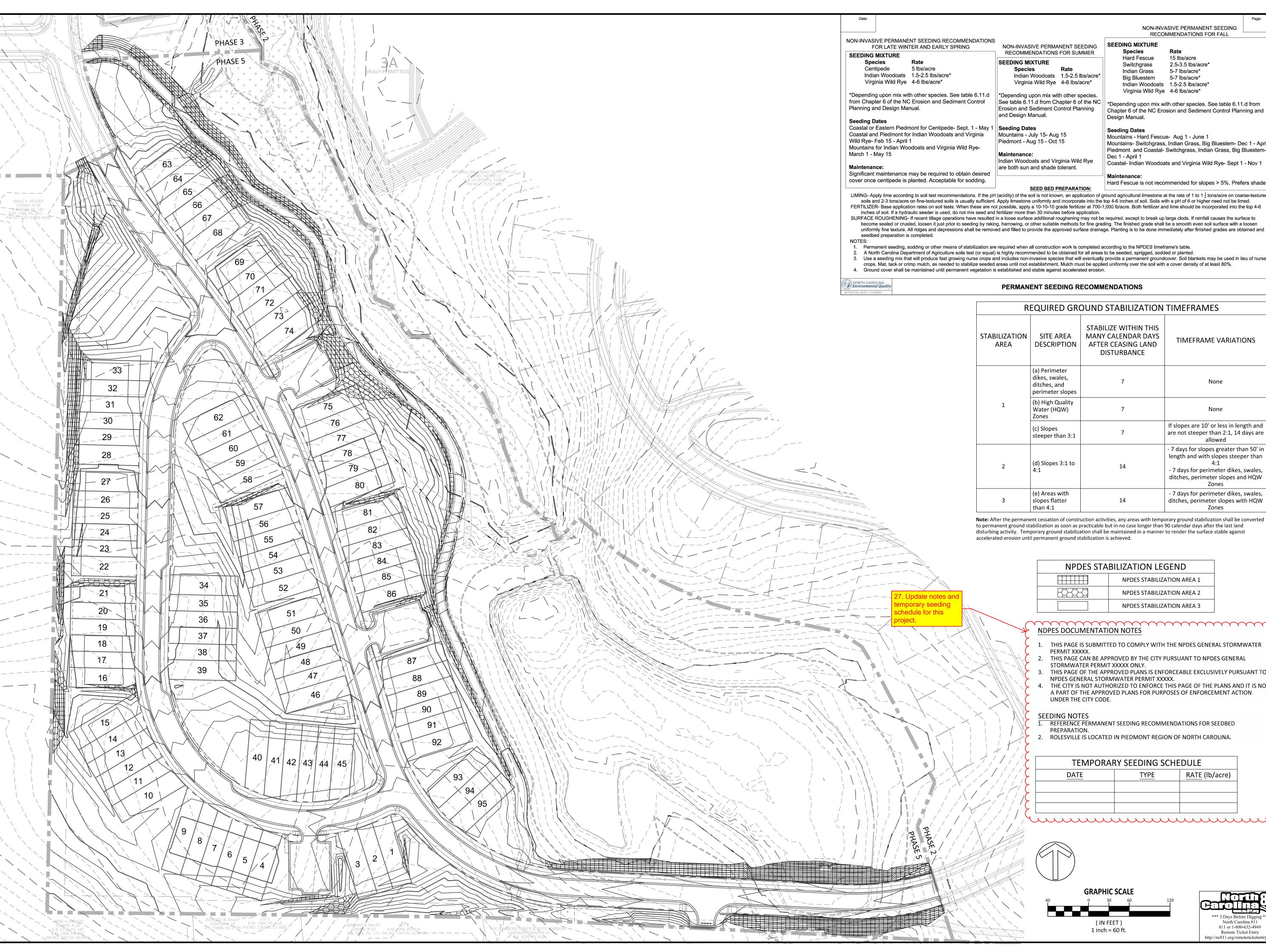
SHEET TITLE:

ESC PHASE 2 OFFSITE AREA

*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

Digging ***
a 811
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Entry
ticketentry.htm

2024 12 22



NON-INVASIVE PERMANENT SEEDING RECOMMENDATIONS FOR FALL

SEEDING MIXTURE Species

Hard Fescue 15 lbs/acre 2.5-3.5 lbs/acre* Switchgrass Indian Grass 5-7 lbs/acre* Big Bluestem 5-7 lbs/acre* Indian Woodoats 1.5-2.5 lbs/acre*

Virginia Wild Rye 4-6 lbs/acre*

See table 6.11.d from Chapter 6 of the NC | *Depending upon mix with other species. See table 6.11.d from Chapter 6 of the NC Erosion and Sediment Control Planning and Design Manual.

Seeding Dates

Mountains - Hard Fescue- Aug 1 - June 1 Mountains- Switchgrass, Indian Grass, Big Bluestem- Dec 1 - April 19 Piedmont and Coastal- Switchgrass, Indian Grass, Big Bluestem-Dec 1 - April 1 Coastal- Indian Woodoats and Virginia Wild Rye- Sept 1 - Nov 1

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CONSTRUC

R18011

12-23-202

Maintenance:

Hard Fescue is not recommended for slopes > 5%. Prefers shade.

LIMING- Apply lime according to soil test recommendations. If the pH (acidity) of the soil is not known, an application of ground agricultural limestone at the rate of 1 to 1½ tons/acre on coarse-textured soils and 2-3 tons/acre on fine-textured soils is usually sufficient. Apply limestone uniformly and incorporate into the top 4-6 inches of soil. Soils with a pH of 6 or higher need not be limed. FERTILIZER- Base application rates on soil tests. When these are not possible, apply a 10-10-10 grade fertilizer at 700-1,000 lb/acre. Both fertilizer and lime should be incorporated into the top 4-6

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.
- 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 an are not steeper than 2:1, 14 days ar 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 HQV 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

NPDES STABILIZATION LEGEND					
	NPDES STABILIZATION AREA 1				
	NPDES STABILIZATION AREA 2				
	NPDES STABILIZATION AREA 3				

NDPES DOCUMENTATION NOTES

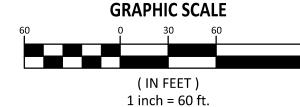
- THIS PAGE IS SUBMITTED TO COMPLY WITH THE NPDES GENERAL STORMWATER
- THIS PAGE CAN BE APPROVED BY THE CITY PURSUANT TO NPDES GENERAL
- STORMWATER PERMIT XXXXX ONLY. THIS PAGE OF THE APPROVED PLANS IS ENFORCEABLE EXCLUSIVELY PURSUANT TO
- NPDES GENERAL STORMWATER PERMIT XXXXX. THE CITY IS NOT AUTHORIZED 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.

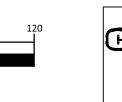
SEEDING NOTES

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

TEMPORARY SEEDING SCHEDULE					
DATE TYPE RATE (lb/acre)					







NPDES PLAN

JOB NUMBER:

CHECKED BY: DRAWN BY:

SHEET TITLE:

CE130

*** 3 Days Before Digging ** SHEET NO.: 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

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 RE 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.

WEEKLY AND AFTER OUTLET STABILIZATION STRUCTUR It would seem that by plugging the AROUND OR BELOW SIGNIFICANT (1/2 INCH OR GREATE nstream structure and not the THE RIPRAP HAS TAKEN PLACE, DIATELY MAKE ALL ream catch basins the storm pip NEEDED REPAIRS TO PREVENT FURT uld stay full and/or sediment will

tle out within the piping over time EVERY SIGNIFICANT TEMPORARY SILT DITCH - SHALL I RAINFALL. IF SIGNIFICANT EROSI E REGRADED. ANY e system is ready to be brought on BREACH OF THE DOWNHILL SIDE BE e. if the Kalas Falls Stage 3 basin is

Il set up as a Sed Basin, could it WATTLES/COMPOST SOCK - INSP **EACH SIGNIFICANT** RAINFALL EVENT (1/2 INCH OR GRE ND ANY DEBRIS. THE COMPOST SOCK MUST BE REPLAC MES 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

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
- 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.
- 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. 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
- 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
- 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
- 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

LININGS, ETC. SEED AND MULCH DENUDED AREAS PER GROUND STABILIZATION TIME FRAMES.

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.
- 2. ALL CONSTRUCTION MUST BE PERFORMED IN ACCORDANCE WITH CURRENT TOWN OF ROLESVILLE,
- WAKE COUNTY, AND CITY OF RALEIGH STANDARD SPECS AND DETAILS, AND SPECIFICATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF EXISTING CONDITIONS. CONTRACTOR
- SHALL NOTIFY ENGINEER OF DISCREPANCIES BETWEEN FIELD CONDITIONS AND THESE DRAWINGS.
- CONTRACTOR WILL KEEP STREETS CLEAN AT ALL TIMES, OR A WASH STATION WILL BE REQUIRED.
- ALL CATCH BASINS SHALL HAVE INLET PROTECTION.
- ALL CUT AND FILL SLOPES MUST BE STABALIZED WITHIN 7 DAYS AS SHOWN ON CHART TO THE LEFT 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-Y	EAR EROSI	ION & SEDII	MENT CON	ITROL TEM	1PORARY [DIVERSION D	ITCH CALCULATIONS (2:1 SID	E SLOPES)
TDD#	DRAINAGE AREA (AC)	AVERAGE SLOPE (%)	WIDTH (FT)	DEPTH (FT)	V ₁₀ (FT/S)	CALCULATED τ (LBS/FT³)	RECOMMENDED LINER	LINER ALLOWABLE τ (LBS/FT³)
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

2. Cross check this

able with the plans,

nere are several

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

- 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)

- screpancies with REQUIRED WAKE COUNTY BASIN REMOVAL SEQUENCE hat is shown on the 1. SCHEDULE A SITE MEETING WITH THE ENVIRONMENTAL CONSULTANT TO DETERMINE IF A osion control plans BASIN CAN BE REMOVED. INSTALL SILT FENCING OR OTHER TEMPORARY EROSION CONTRO 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
- 3. PERFORM SEEDBED PREPARATION, SEED, MULCH AND ASPHALT TACK ANY RESULTING BARE
- 29. The table headings appear to RS AS REQUIRED ON THE EROSION
- e flip flopped. It looks like the 5. structures under "Downstream" CONSULTANT FOR APPROVAL OF MEASURES AND ADVICE ON WHEN Structure" are actually upstream

EX. 32

OUTLET ID

FES 10 (TEMP)

FES 11 (TEMP)

FES 20 (TEMP)

FES 30B

FES 400B

USE, SO

and vice versa. The storm drainag NOTE: 4 table on sheet CD110 is the same. RONMENTA 3 CONSUL D FOR STOR

EX. 31

12

12

0. Should this be lease revise both tables ordingly.

1. Based on plan eet CE-400, should is be 376?

		PIPE SU	MMARY	(ESC)		
DOWNSTREAM STRUCTURE	UPSTREAM STRUCTURE	PIPE SIZE	LENGTH	SLOPE	DOWNSTREAM INVERT (FT)	UPSTREAM INVERT (FT
31A		36"	38.07	0.50%	352.90	353.09
32A	EX. 32	24"	109.03	2.20%	355.35	357.75
377В	377	36"	78.36	1.57%	362.27	363.50
390	377B	24"	41.68	0.84%	364.00	364.35
EX. 31	31A	30"	98.97	0.50%	353.19	353.68

48.27

0.50%

STONE CLASS

353.78

STONE

DEPTH (IN)

12

12

12

12

12

RIP RAP DISSIPATER CALCULATIONS 10-YEAR STORM

MATERIAL

(TONS)

354.03

GEO-TEXTILE

(SY)

22

30"

PIPE DIAMETER | PIPE VELOCITY

(FPS)

0.25

0.17

3.71

4.17

3.25

 \sim STRUCTURE SUMMARY (ESC) STRUCTURE NAME DETAILS 30B-FES 30" RIM = 356.18RIM = 359.0631A-DI INV IN = 353.190 INV OUT = 353.090RIM = 360.0832A-FES 24 INV OUT = 357.750 RIM = 368.55INV IN = 362.270 377-CB INV IN = 363.420 INV OUT = 362.170 RIM = 370.05INV IN = 364.000 377B-JB INV IN = 364.000 INV OUT = 363.500RIM = 370.18INV IN = 364.573 INV IN = 364.850 INV OUT = 364.350 RIM = 364.91EX. 31-JB INV IN = 353.785 INV OUT = 353.685 RIM = 364.48EX. 32-JB INV IN = 355.351 INV OUT = 354.026

START WIDTH | END WIDTH

(FT)

18

LENGTH

(FT)

12

12

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° AMERICAN °

ENGINEERING

ASSOCIATES

SOUTHEAST

C-3881

00

JOB NUMBER: R18011 CHECKED BY: DRAWN BY: GE, RO 12-23-202

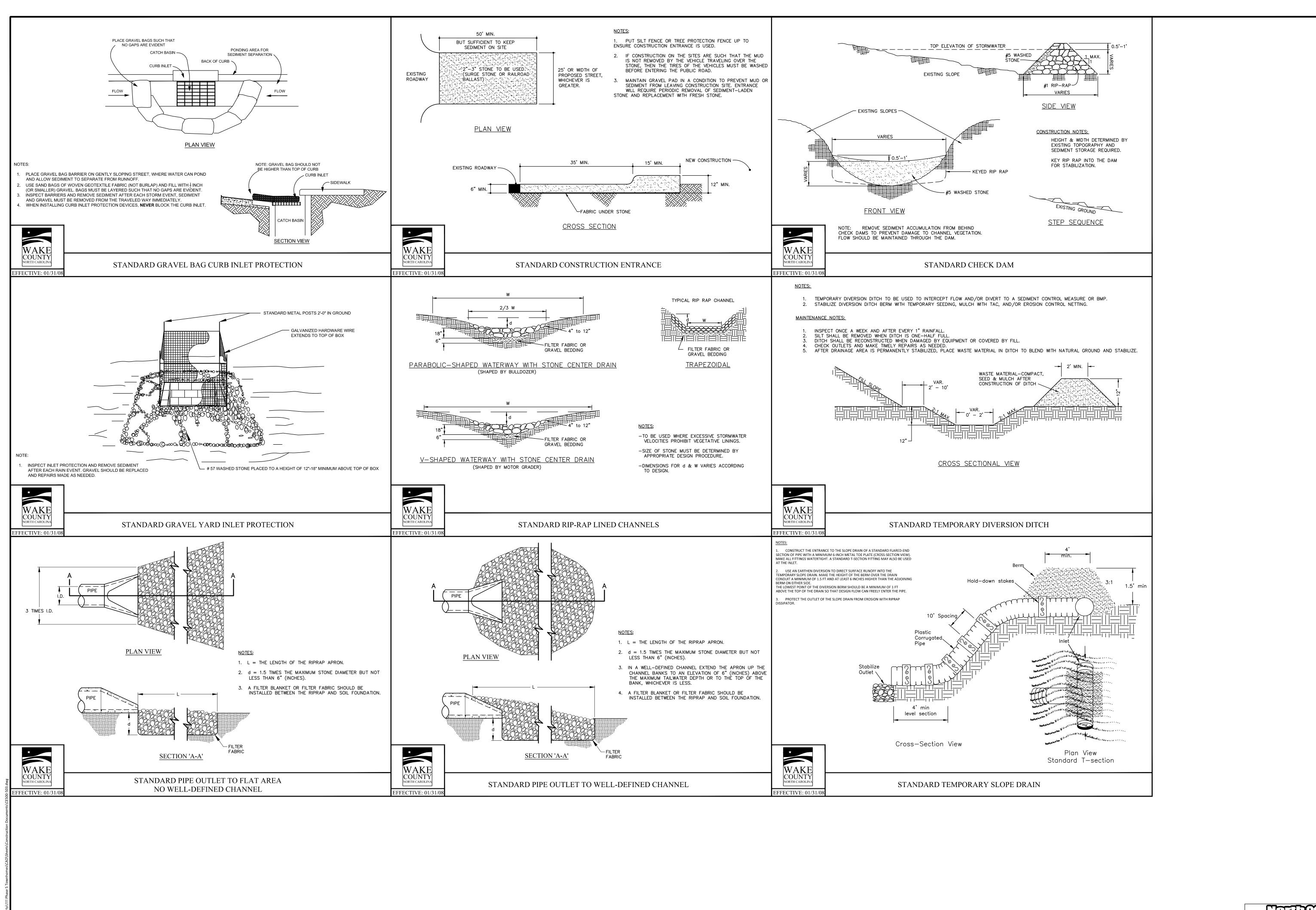
ESC DETAILS

North Carolina *** 3 Days Before Digging * North Carolina 811 811 or 1-800-632-4949 Remote Ticket Entry

nttp://nc811.org/remoteticketentry

SHEET NO .:

SHEET TITLE:

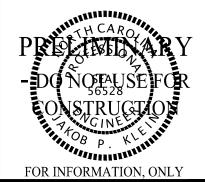


AMERICAN

American Engineering Associates - Southeast, P.A.
4020 Westchase Boulevard, Suite 450
Raleigh, NC 27607

919-469-1101





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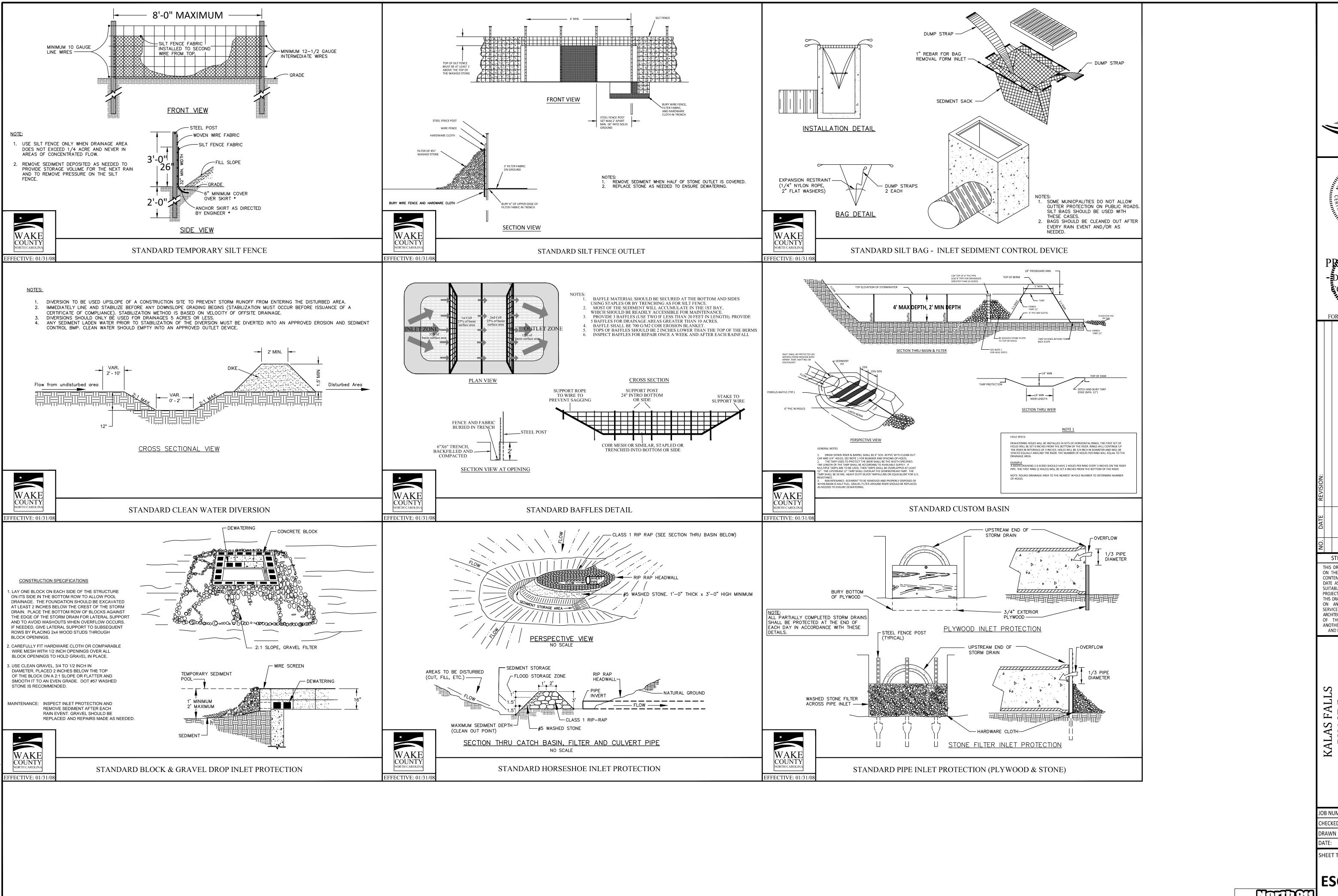
KALAS FALLS
PHASE 5
CONSTRUCTION DOCUMENTS
TOWN OF ROLESVILLE,

JOB NUMBER:	R180115
CHECKED BY:	Jŀ
DRAWN BY:	GE, RO
DATE:	12-23-2024

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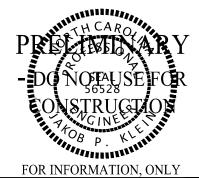
ESC DETAILS

*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
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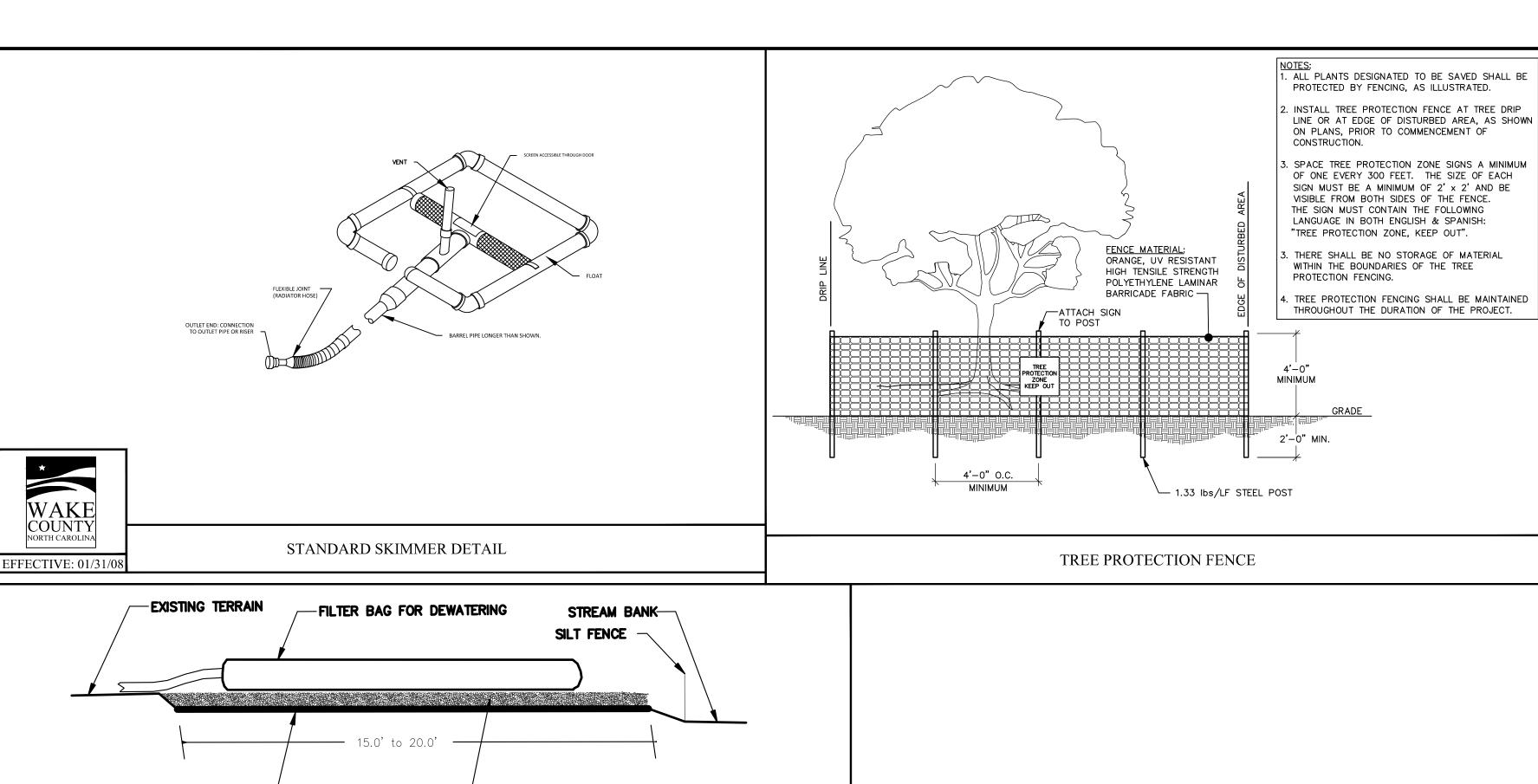
KALAS FALLS
PHASE 5
CONSTRUCTION DOCUMENTS
TOWN OF ROLESVILLE,
WAKE COUNTY, NC

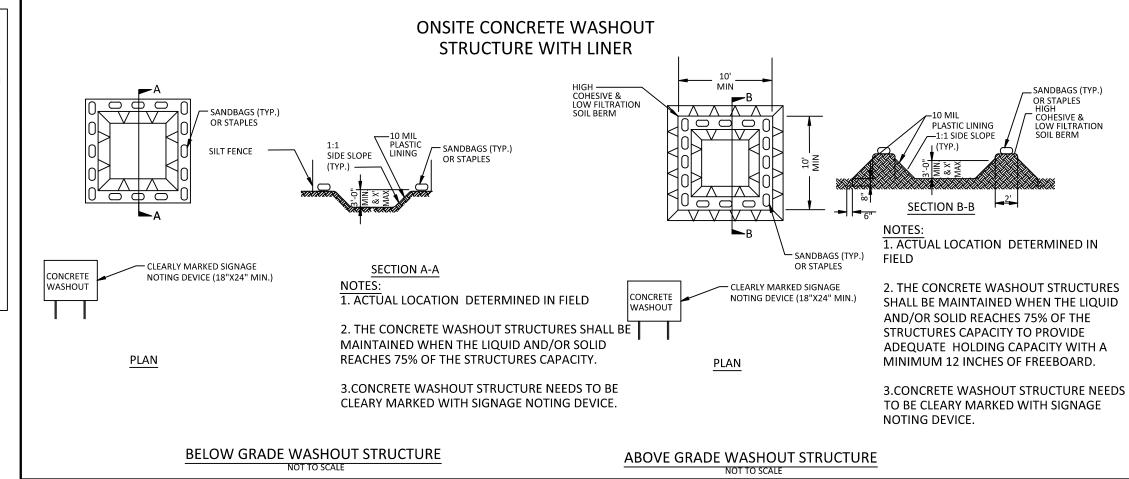
JOB NUMBER: R180115
CHECKED BY: JK
DRAWN BY: GE, RC
DATE: 12-23-2024

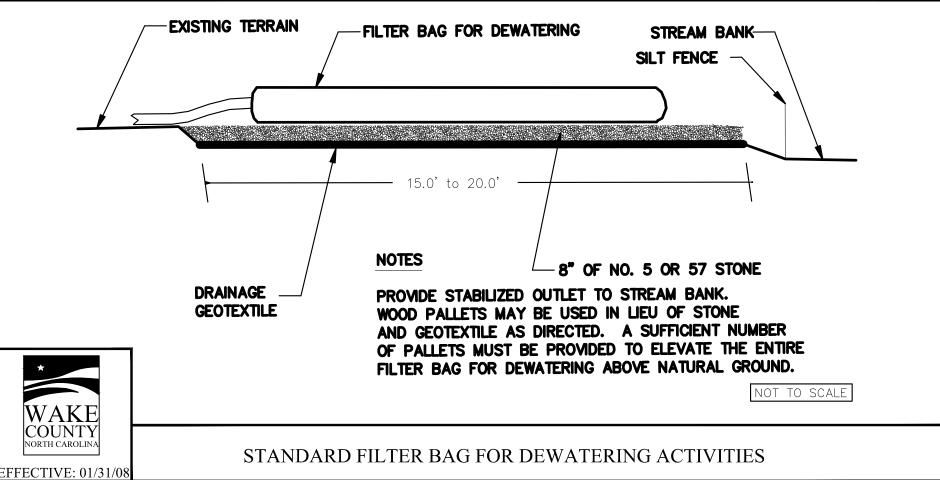
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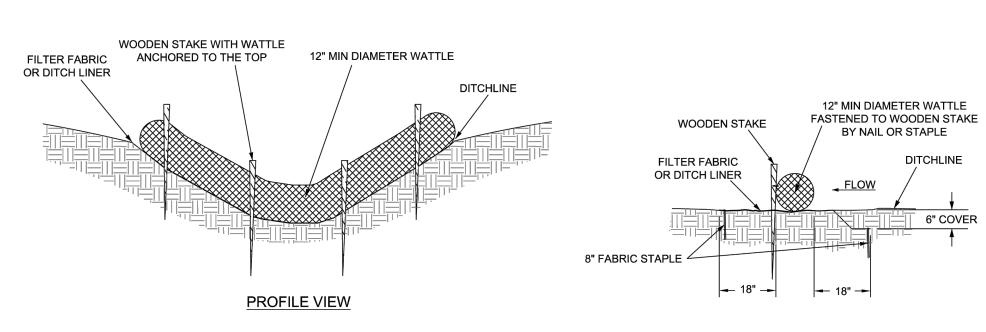
ESC DETAILS



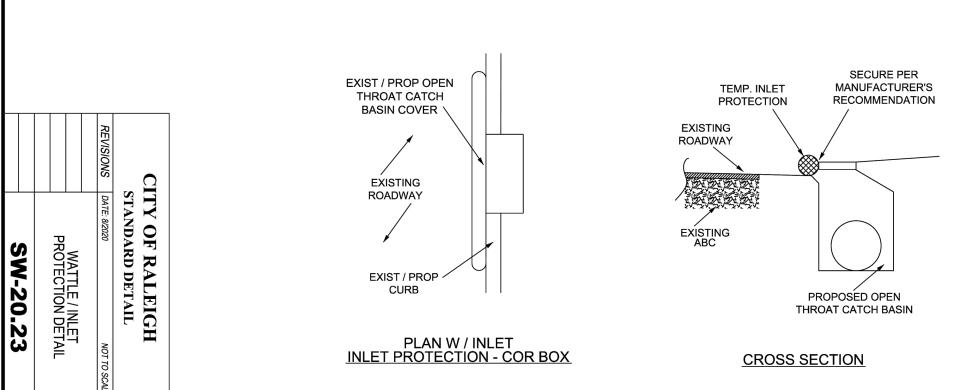


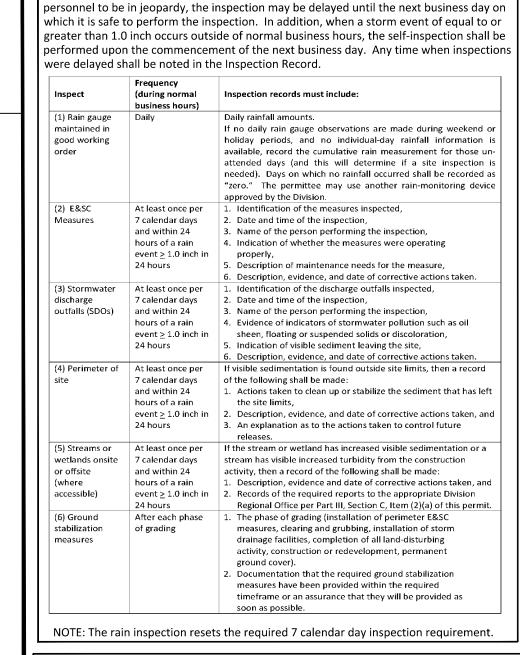






- WATTLES SHALL BE FILLED WITH STRAW OR OTHER APPROVED MATERIAL.
- 2. SPACING FOR WATTLES SHALL BE DETERMINED BY THE SITE ENGINEER. 3. WATTLES MAY BE USED FOR PROTECTION OF CATCH BASINS AND DROP
- INLETS WITH APPROVAL BY THE STORMWATER PROGRAM MANAGER OR DESIGNEE. 4. FOR USE OF WATTLE IN A DITCH, GRADE OF DITCH MUST BE <2.5%.



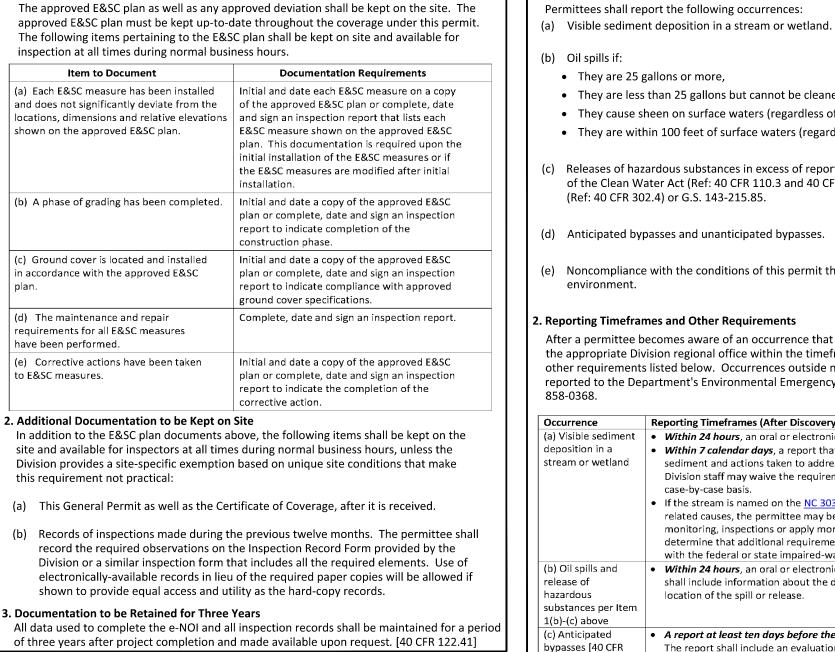


SELF-INSPECTION, RECORDKEEPING AND REPORTING

Self-inspections are required during normal business hours in accordance with the table

below. When adverse weather or site conditions would cause the safety of the inspection

SECTION A: SELF-INSPECTION



SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION B: RECORDKEEPING

1. E&SC Plan Documentation

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

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structures that withdraw water from the surface when these devices need to be drawn dow for maintenance or close out unless this is infeasible. The circumstances in which it is not feasible to withdraw water from the surface shall be rare (for example, times with extended cold weather) Non-surface withdrawals from sediment basins shall be allowed only when all of the following criteria have been met:

- (a) The E&SC plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or conditions in which it will occur. The non-surface withdrawal shall not commence until the E&SC plan authority has approved these items,
- (b) The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item (2)(c) and (d) of this permit,
- (c) Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin. Examples of appropriate controls include properly sited, designed and maintained dewatering tanks, weir tanks, and filtration systems,
- (d) Vegetated, upland areas of the sites or a properly designed stone pad is used to the extent feasible at the outlet of the dewatering treatment devices described in Item (c) above,
- (e) Velocity dissipation devices such as check dams, sediment traps, and riprap are provided at the discharge points of all dewatering devices, and
- (f) Sediment removed from the dewatering treatment devices described in Item (c) above is disposed of in a manner that does not cause deposition of sediment into waters of the United States.

 They are less than 25 gallons but cannot be cleaned up within 24 hours, • They cause sheen on surface waters (regardless of volume), or • They are within 100 feet of surface waters (regardless of volume). Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85. (d) Anticipated bypasses and unanticipated bypasses. (e) Noncompliance with the conditions of this permit that may endanger health or the 2. Reporting Timeframes and Other Requirements After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Department's Environmental Emergency Center personnel at (800) Reporting Timeframes (After Discovery) and Other Requirements Within 24 hours, an oral or electronic notification Within 7 calendar days, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis. • If the stream is named on the NC 303(d) list as impaired for sedimentrelated causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions. Within 24 hours, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release. A report at least ten days before the date of the bypass, if possible bypasses [40 CFR The report shall include an evaluation of the anticipated quality and 122.41(m)(3)] effect of the bypass (d) Unanticipated Within 24 hours, an oral or electronic notification. bypasses [40 CFR • Within 7 calendar days, a report that includes an evaluation of the 122.41(m)(3)] quality and effect of the bypass Within 24 hours, an oral or electronic notification. with the conditions • Within 7 calendar days, a report that contains a description of the of this permit that noncompliance, and its causes; the period of noncompliance, may endanger including exact dates and times, and if the noncompliance has not health or the been corrected, the anticipated time noncompliance is expected to environment[40 continue; and steps taken or planned to reduce, eliminate, and CFR 122.41(I)(7)] prevent reoccurrence of the noncompliance. [40 CFR 122.41(I)(6). Division staff may waive the requirement for a written report on a

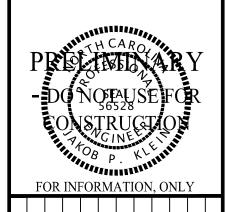
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SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: REPORTING

1. Occurrences that Must be Reported

° AMERICAN ° **ENGINEERING** ASSOCIATES SOUTHEAST



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KALAS FALLS PHASE 5 RUCTION DOCUME ISTRUC

JOB NUMBER: R18011 CHECKED BY: DRAWN BY: 12-23-202

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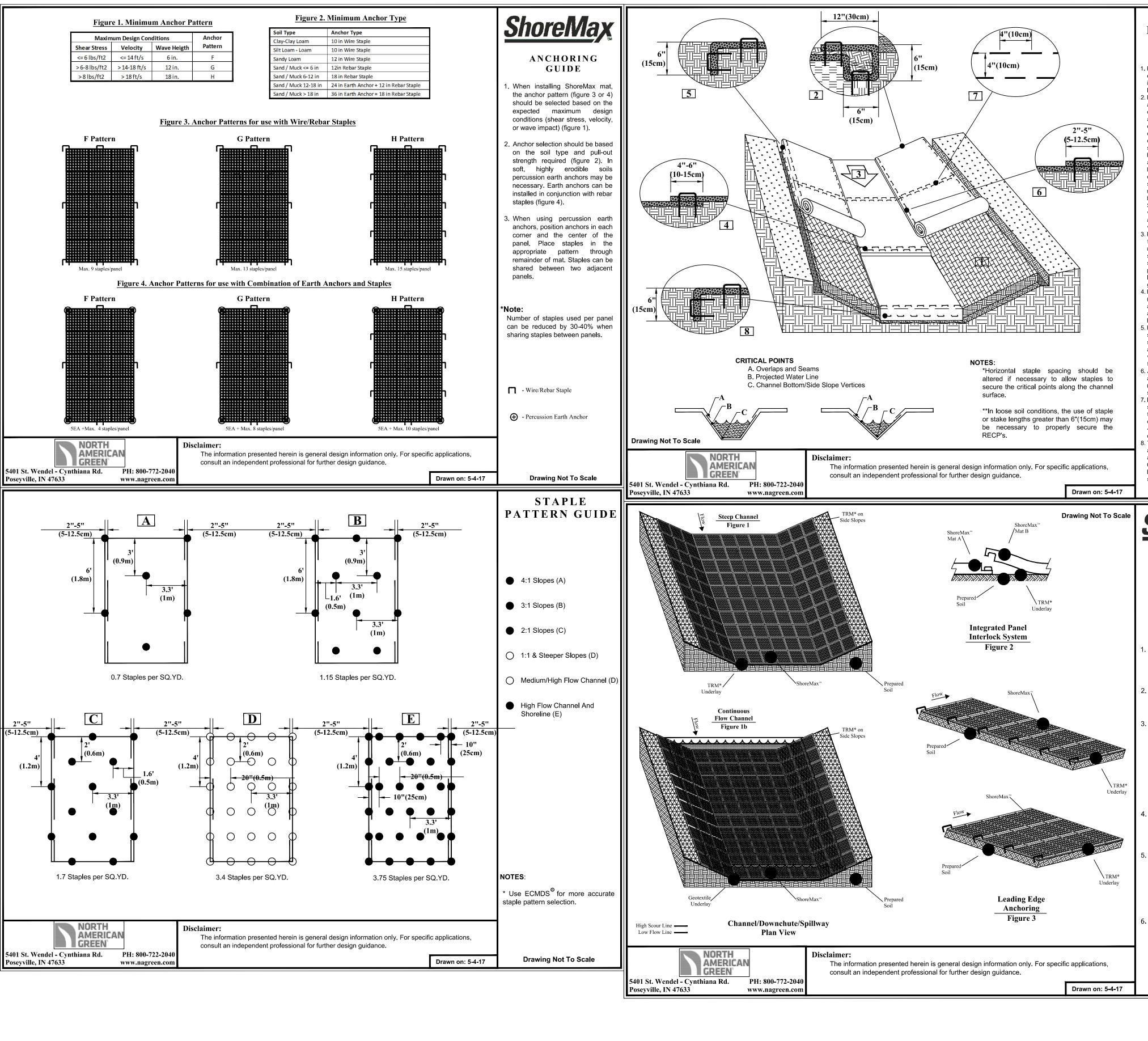
ESC DETAILS

North Carolina *** 3 Days Before Digging ** North Carolina 811 811 or 1-800-632-4949 Remote Ticket Entry

SHEET NO.: **CE503**

SHEET TITLE:

nttp://nc811.org/remoteticketentry



CHANNEL INSTALLATION DETAIL

Prepare soil before installing rolled erosion control products (RECPs), including any necessary application of lime, fertilizer, and seed. 2. Begin at the top of the channel by anchoring the RECPs in a 6"(15cm) deep X 6"(15cm) wide trench with approximately 12"(30cm) of RECPs extended beyond the up-slope portion of the trench. Use ShoreMax mat at the channel/culvert outlet as supplemental scour protection as needed. Anchor the RECPs with a row of staples/stakes approximately 12"(30cm) apart in the bottom of the trench. Backfill and compact the trench after stapling. Apply seed to the compacted soil and fold the remaining 12"(30cm) portion of RECPs back over the seed and compacted soil. Secure RECPs over compacted soil with a row of staples/stakes spaced approximately 12" apart across the width of the RECPs.

8. Roll center RECPs in direction of water flow in bottom of channel. RECPs will unroll with appropriate side against the soil surface. All RECPs must be securely fastened to soil surface by placing staples/stakes in appropriate locations as shown in the staple pattern

4. Place consecutive RECPs end-over-end (Shingle style) with a 4"-6" overlap. Use a double row of staples staggered 4" apart and 4" on center to secure RECPs

SECPS.

5. Full length edge of RECPs at top of side slopes must be anchored with a row of staples/stakes approximately 12"(30cm) apart in a 6"(15cm) deep X 6"(15cm) wide trench. Backfill and compact the trench after stapling.

6. Adjacent RECPs must be overlapped approximately 2"-5" (5-12.5cm)

(Depending on RECPs type) and stapled.
7. In high flow channel applications a staple check slot is recommended at 30 to 40 foot (9 -12m) intervals. Use a double row of staples staggered 4"(10cm) apart and 4"(10cm) on center

over entire width of the channel.

8. The terminal end of the RECPs must be anchored with a row of staples/stakes approximately 12" (30cm) apart in a 6"(15cm) deep X 6"(15cm) wide trench. Backfill and compact the trench after stapling.

ShoreMax.

STEEP CHANNEL/ CHUTE/SPILLWAY DETAIL

* ShoreMax mats can be installed over a variety of underlayments including: sod, turf reinforcement mats (TRMs), geotextiles, and in some cases erosion control blankets (ECBs).

Prepare soil before installing erosion control products, including any necessary application of lime, fertilizer, and seed (when installing TRM or ECB underlayment).

 Install turf reinforcement mat (TRM) over prepared soils

according to manufacturer's recommendations. B. Place ShoreMax mat in the bottom of the channel over the installed TRM (figure 1). The ShoreMax mat should be installed up to the appropriate elevation on the side slope as determined by the engineer. When using multiple panels, connect the panels using the Integrated Panel Interlock System (figure 2). ShoreMax mat can be laid in either direction. 4. For channels carrying continuous water flows, an appropriate geotextile should be placed under

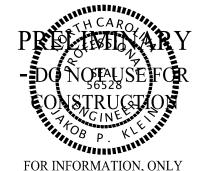
the ShoreMax mat for submerged applications (figure 1b).

5. Place staples/anchors in the appropriate pattern. Perimeter staples can be shared between two adjacent panels. In soft or highly erodible soils, percussion earth anchors may be required. View ShoreMax Anchoring Guide, for additional details.

s. At beginning of channel and areas where significant concentrated flows are directed onto the ShoreMax mat, place 1 staple/pin per linear foot along the leading edge of the ShoreMax system, resulting in 1 staple/pin on each corner and gridline (figure 3).

AMERICAN
Engineering Associates - Southeast, P.A.
4020 Westchase Boulevard, Suite 450





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KALAS FALLS PHASE 5 RUCTION DOCUMENTS

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WAKE CO

 CHECKED BY:
 Jk

 DRAWN BY:
 GE, RC

 DATE:
 12-23-2024

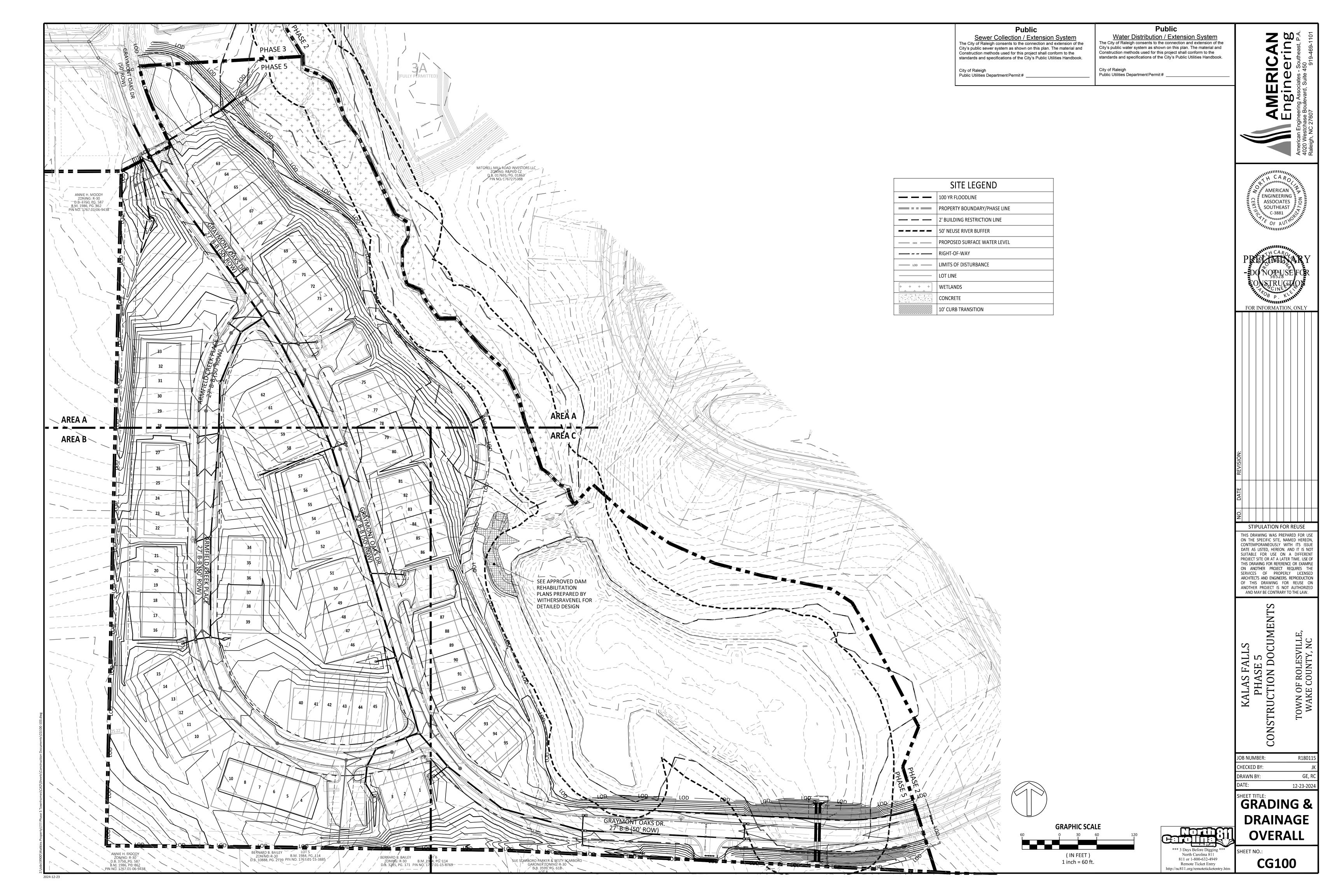
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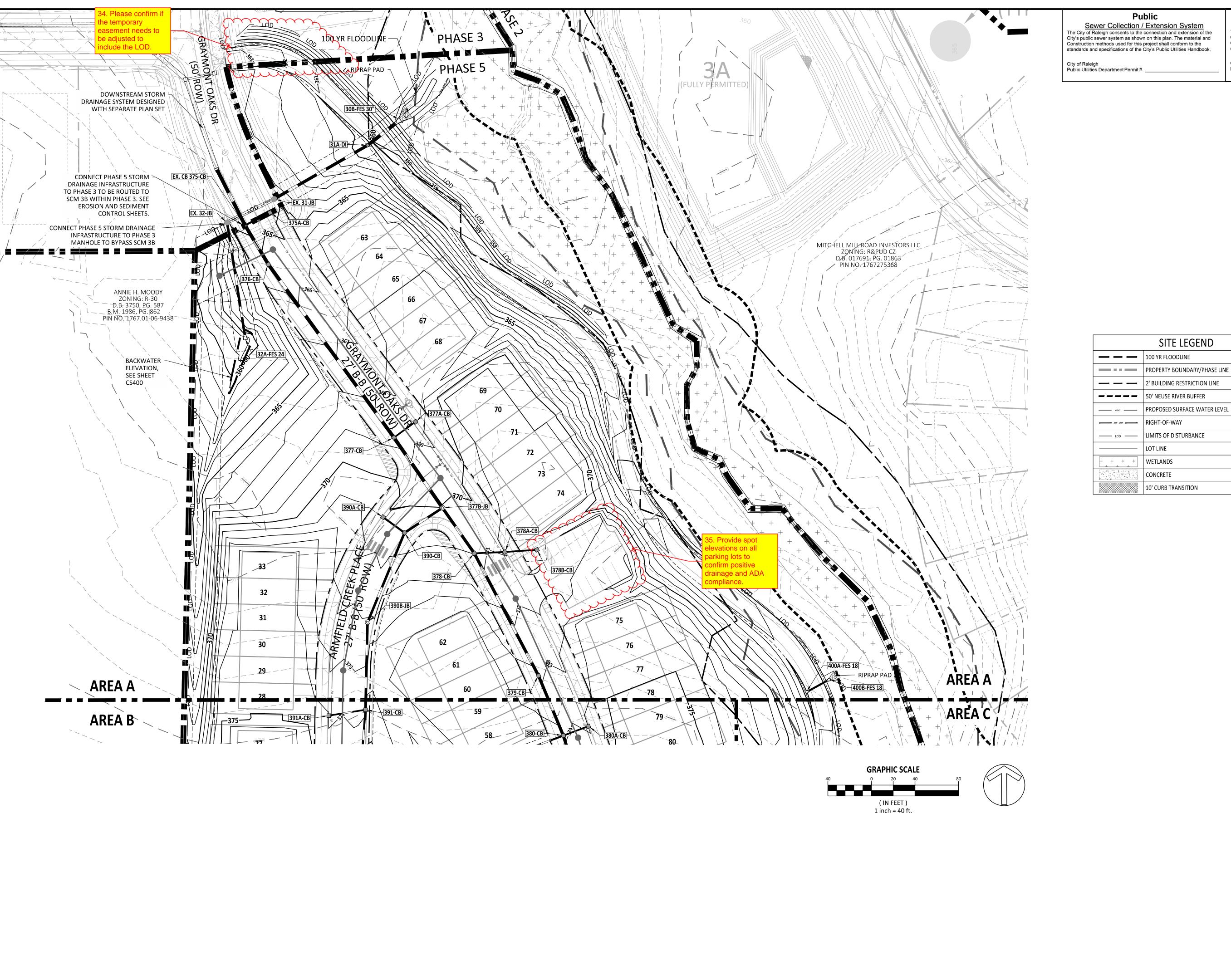
ESC DETAILS



http://nc811.org/remoteticketentry.h

SHEET NO.:





Public

SITE LEGEND

LOT LINE

CONCRETE

10' CURB TRANSITION

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

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standards and specifications of the City's Public Utilities Handbook.

Public

Water Distribution / Extension System

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Public Utilities DepartmentPermit# _

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FOR INFORMATION, ONLY

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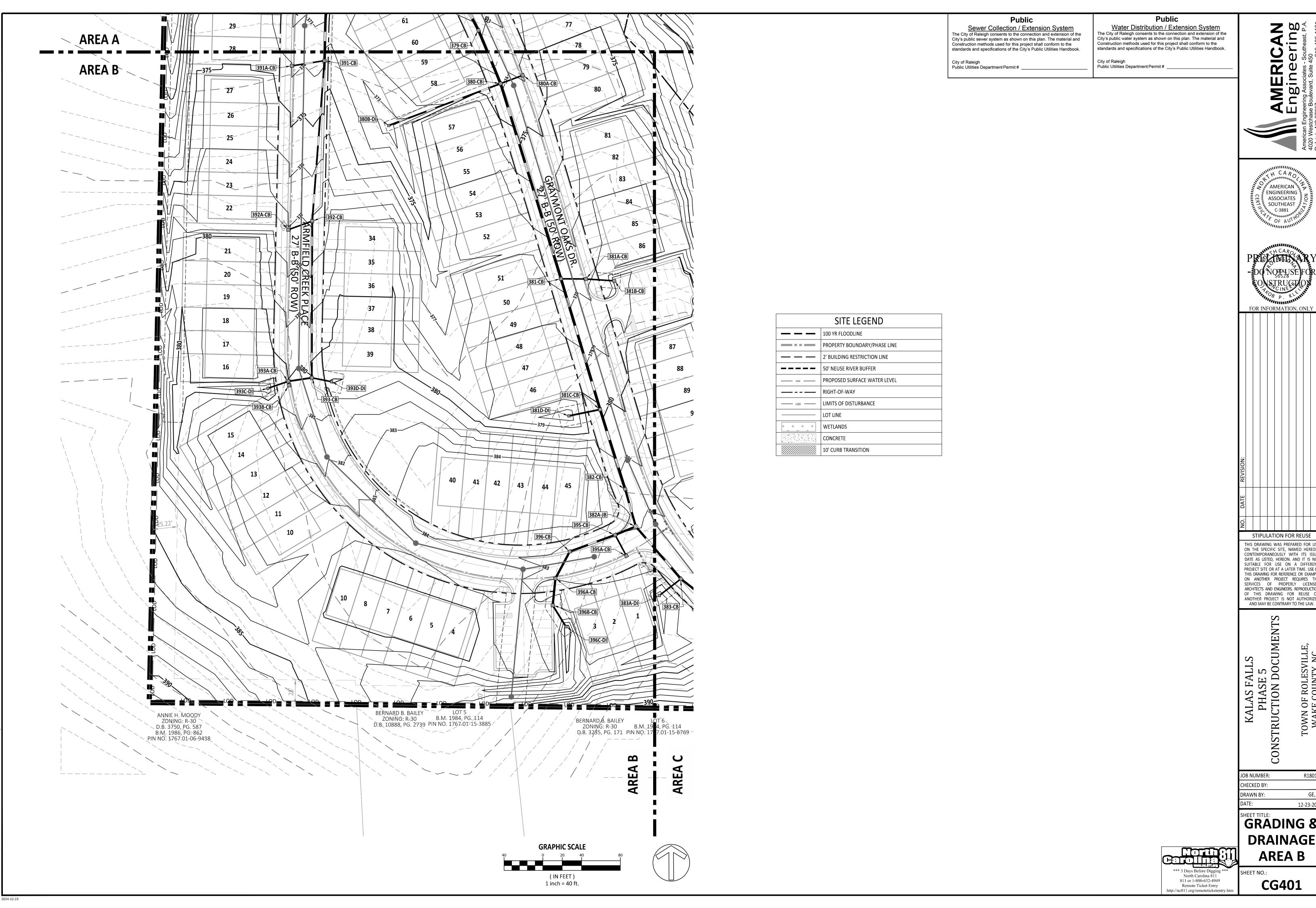
KALAS FALLS PHASE 5 CONSTRUCTION DOCUMENTS TOWN OF ROLESVILLE, WAKE COUNTY, NC

JOB NUMBER:	R180115
CHECKED BY:	JK
DRAWN BY:	GE, RC
DATE	12 22 2024

GRADING & **DRAINAGE AREA A**

*** 3 Days Before Digging ***
North Carolina 811 811 or 1-800-632-4949 Remote Ticket Entry http://nc811.org/remoteticketentry.h

SHEET NO.: **CG400**







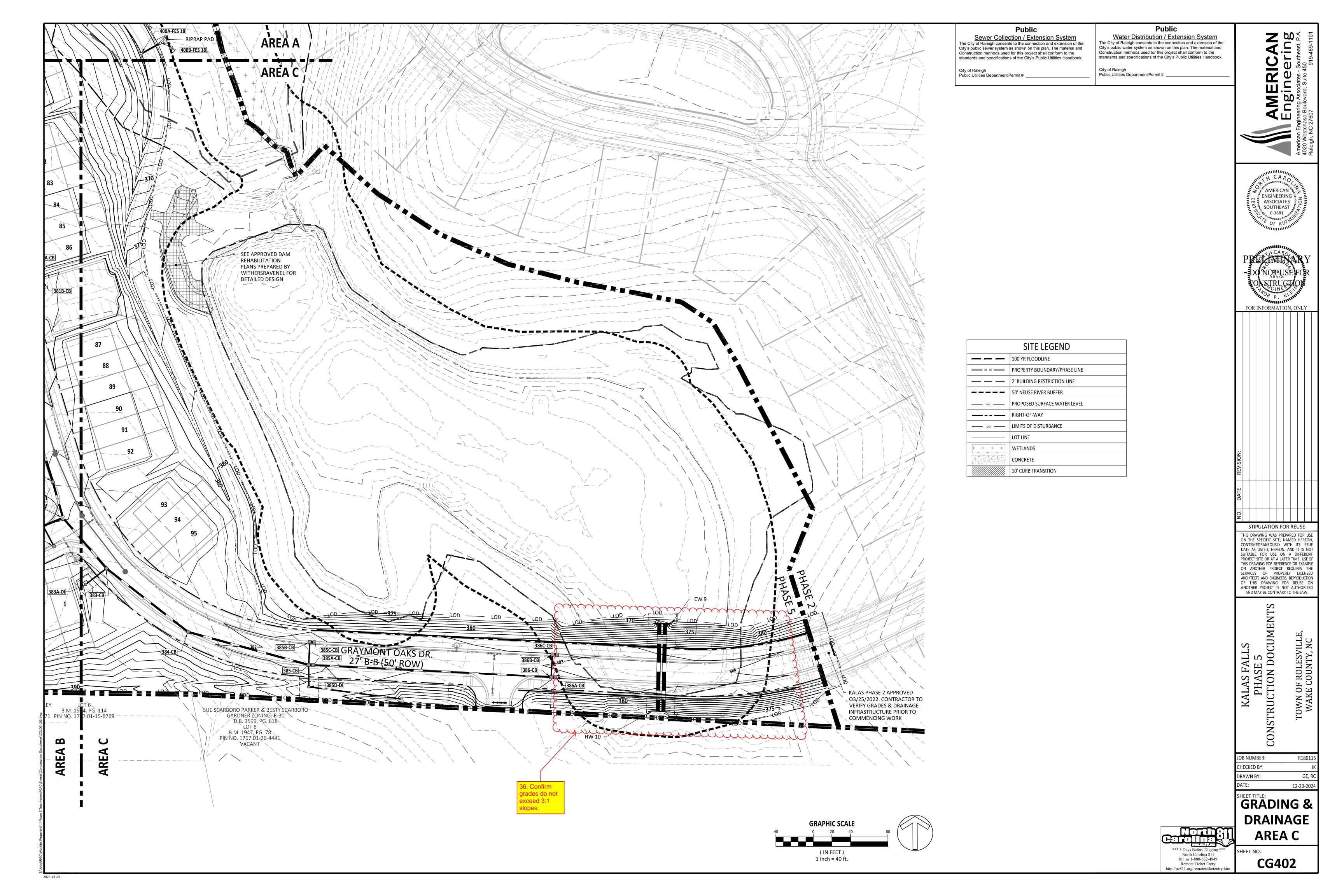
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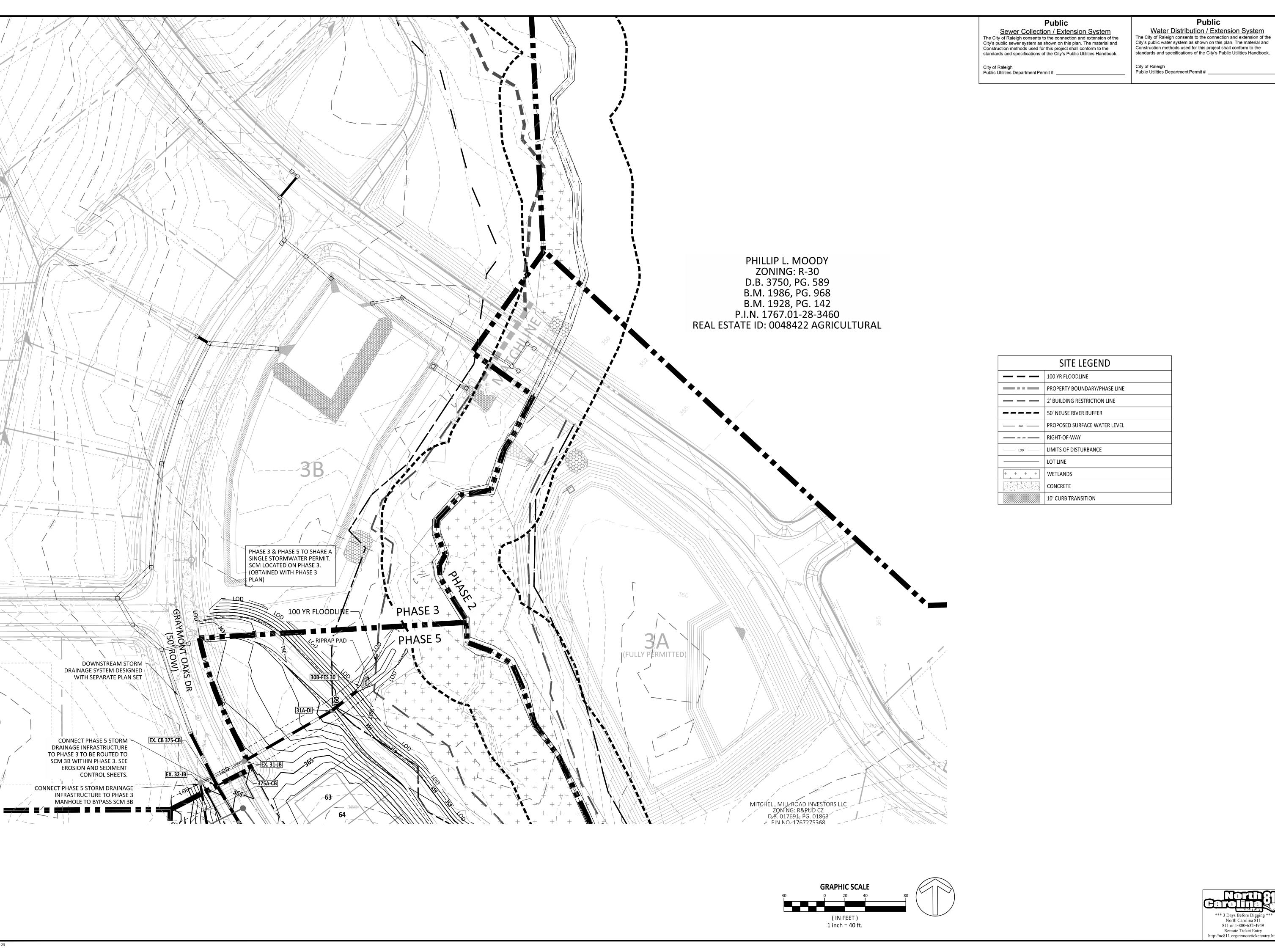
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TOWN OF ROLESVILL WAKE COUNTY, NC

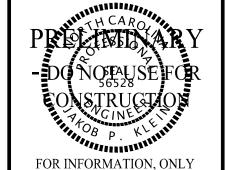
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CHECKED BY:	JK
DRAWN BY:	GE, RC
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GRADING & **DRAINAGE AREA B**





ASSOCIATES ္ရွိ SOUTHEAST ့



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KALAS FALLS PHASE 5 CONSTRUCTION DOCUMENTS

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CHECKED BY:	JK
DRAWN BY:	GE, RC
DATE:	12-23-2024

GRADING & **DRAINAGE OFFSITE**

*** 3 Days Before Digging *** SHEET NO.: North Carolina 811 811 or 1-800-632-4949 CG403 Remote Ticket Entry

PIPE SUMMARY (ESC)						
DOWNSTREAM 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" 18"	161.82	1.93%	371.77	374.90
393A 	393B	18"	4.23	2.18%	375.47 375.00	375.38
393A 393C	393 393A	15"	24.50 22.25	0.50%	375.00 375.42	375.12 375.64
393C 393D	393A 393	15"	20.82	0.99%	375.42	375.64
393D 395	393 382A	24"	23.02	0.72%	375.15	375.30
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"	27.86	0.50%	375.83	375.99
396C 396C	396A 396B	18"	27.86	0.50%	376.09	376.23
400A	396B 400B	18"	25.97	2.74%	363.30	364.00
EX. 31	31A	30"	98.97	0.50%	353.19	353.68
EX. 31	EX. 31	30"	48.27	0.50%	353.19	353.08
* EX. CB 375	EX. CB 374	36"	57.00	0.68%	357.90	358.29
			1 27.00	1 2.00/0	1 337.33	555.25

STRUCTURE S	UMMARY (ESC)				
30B-FES 30"	DETAILS 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				

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City of Raleigh
Public Utilities Department Permit #

STRUCTURE SUMMARY (ESC)

DETAILS

RIM = 378.37

INV OUT = 376.850

RIM = 382.85INV IN = 377.550

INV IN = 378.127 INV OUT = 377.300

RIM = 382.87

INV OUT = 378.171

RIM = 382.91

INV IN = 378.179 INV OUT = 377.720

RIM = 382.87

INV OUT = 378.230

RIM = 370.18INV IN = 364.573

INV IN = 364.850 INV OUT = 364.350

RIM = 370.27

INV OUT = 365.100

RIM = 372.10

INV IN = 366.551 INV OUT = 366.351

RIM = 373.82INV IN = 368.680

INV IN = 368.810 INV OUT = 368.161

RIM = 373.84

INV OUT = 369.030

RIM = 376.90INV IN = 371.770

INV IN = 371.920 INV OUT = 371.670

RIM = 377.12

INV OUT = 372.300

RIM = 380.04INV IN = 375.000

INV IN = 375.150 INV OUT = 374.900

RIM = 380.21INV IN = 375.420

INV IN = 375.378 INV OUT = 375.123

RIM = 380.20

INV OUT = 375.470

RIM = 378.29

INV OUT = 375.640

RIM = 379.93INV OUT = 375.300

RIM = 382.18INV IN = 375.480

INV IN = 376.870 INV OUT = 375.380

RIM = 382.10

INV OUT = 377.050

RIM = 382.59

INV IN = 375.832

INV OUT = 375.730

RIM = 382.84

INV IN = 376.093

INV OUT = 375.990

RIM = 382.23

INV IN = 376.732

INV OUT = 376.232

RIM = 379.55

INV OUT = 376.962

RIM = 361.68

INV OUT = 364.000

RIM = 360.35

INV IN = 363.300

RIM = 364.91

INV IN = 353.785 INV OUT = 353.685

RIM = 364.48

INV IN = 355.351 INV OUT = 354.026

RIM = 364.82INV IN = 358.400

INV IN = 359.090 INV OUT = 358.290

STRUCTURE NAME

385E-FES 15

386-CB

386A-CB

386B-CB

386C-CB

390-CB

390A-CB

390B-JB

391-CB

391A-CB

392-CB

392A-CB

393-CB

393A-CB

393B-CB

393C-DI

395-CB

395A-CB

396-CB

396A-CB

396B-CB

396C-DI

400A-FES 18

400B-FES 18

EX. 31-JB

EX. 32-JB

EX. CB 375-CB

RIM = 381.01

INV IN = 376.320 INV OUT = 376.220

385D-DI

Public

Water Distribution / Extension System

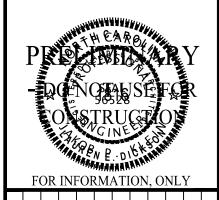
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City of Raleigh

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KALAS FALLS PHASE 5 CONSTRUCTION DOCUMENTS

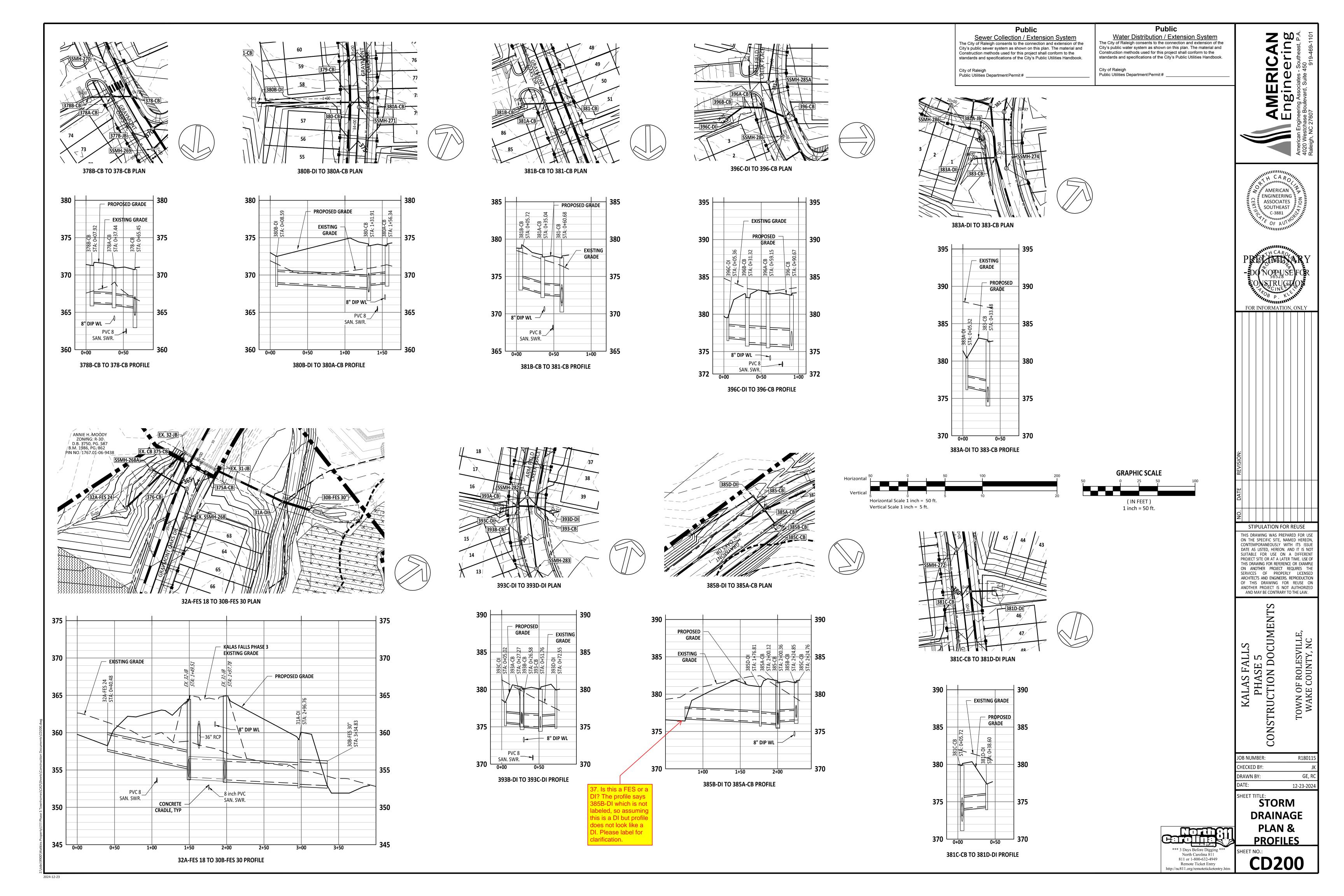
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DATE:	12-23-2024

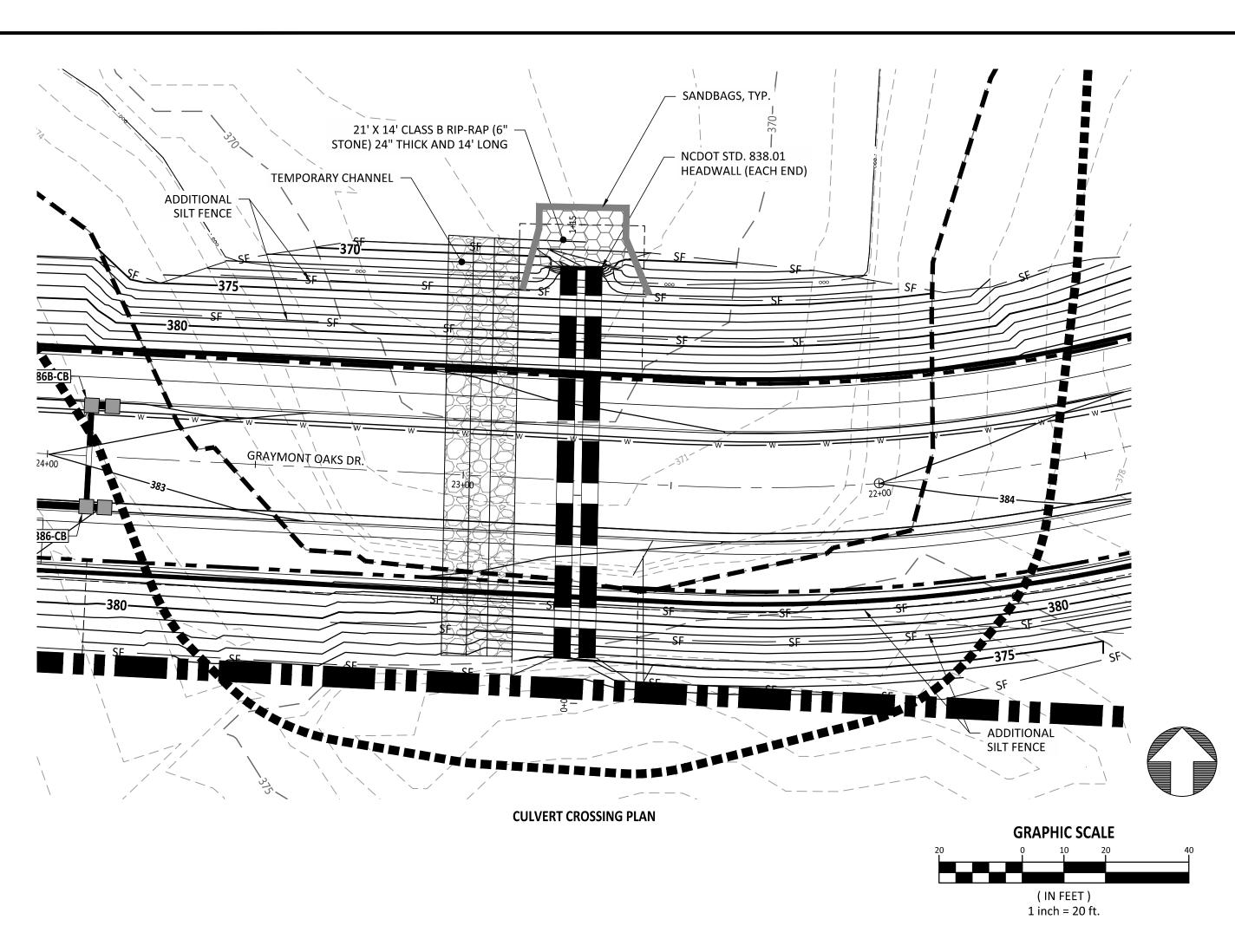
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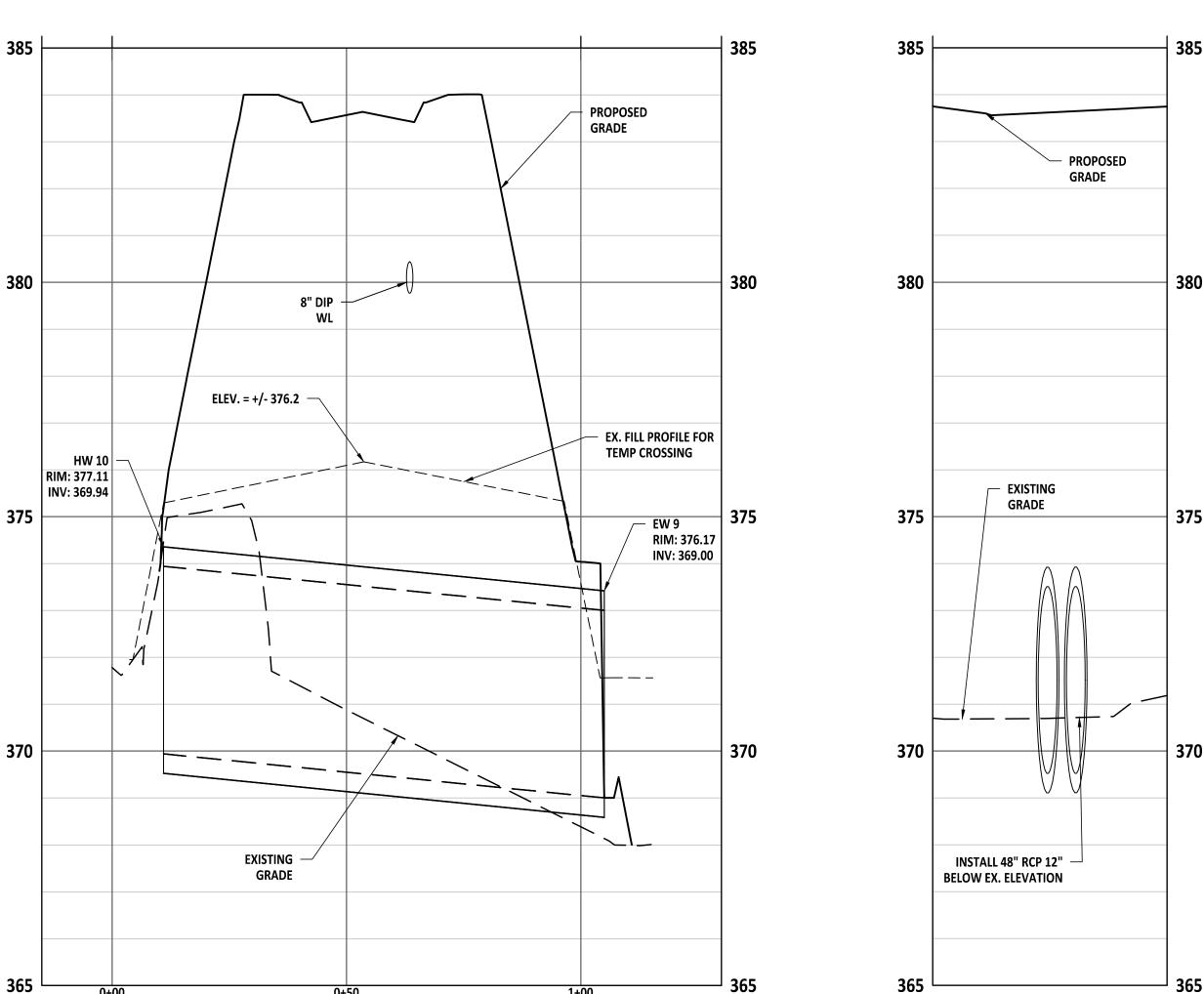
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SHEET NO.:

North Carolina 811 Remote Ticket Entry http://nc811.org/remoteticketentry.htm







CULVERT CROSSING PROFILE

SILT FENCE ∼SILT FENCE CLASS 1-**RIP-RAP OVER EXCELSIOR** BLANKET

TEMPORARY CHANNEL SECTION

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

STAGE 1A CULVERT CROSSING INSTALLATION:

CONDUCT A MEETING WITH THE WAKE COUNTY INSPECTOR PRIOR TO PROCEEDING WITH THE CONSTRUCTION OF THE CULVERT CROSSING.

- PUMP THE EXISTING POND DOWN SO IT IS BELOW THE PROPOSED PIPE INVERTS.
- INSTALL THE BYPASS CHANNEL AS SHOWN WITH LINING LEAVING A PORTION OF THE BANK ON EACH END TO ACT AS A DAM TO PREVENT WATER FLOW DURING CONSTRUCTION OF THE CHANNEL. (STEPS 4 -8 SHOULD BE ACCOMPLISHED DURING ONE WORKDAY).
- DURING A PERIOD OF DRY WEATHER AND WHEN THE WATER LEVEL OF THE POND IS BELOW THE CHANNEL INVERT, REMOVE THE DOWNSTREAM DAM FIRST AND CONSTRUCT THE REMAINDER OF THE CHANNEL TO THE EXISTING POND.
- REMOVE THE UPSTREAM DAM AND CONSTRUCT THE REMAINDER OF THE CHANNEL TO TIE TO THE LOW AREA INCLUDING LINING.
- ADD SANDBAGS ACROSS THE LOW POINT AT THE UPSTREAM END TO FORCE THE WATER FLOW INTO THE **BY-PASS CHANNEL**
- ADD SANDBAGS ACROSS THE DOWNSTREAM END OF THE LOW POINT JUST ABOVE THE POINT WHERE THE BY-PASS CHANNEL RE-ENTERS THE POND TO PREVENT FLOW INTO THE LOCATION OF THE PIPE TO BE
- SEED/SOD AND STABILIZE ALL DENUDED AREAS ONCE THE CHANNEL IS IN PLACE.
- THE PUMP IS TO REMAIN ON SITE AND TO KEEP POND ELEVATION AT OR BELOW THE CHANNEL AND PIPE

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 RIP-RAP AS SHOWN IN RIP-RAP CROSS-SECTION WITHIN THE WORKABLE AREA.
- OBTAIN WAKE COUNTY APPROVAL OF THE PIPE INSTALLATION.

STAGE 1C CULVERT CROSSING INSTALLATION

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

GENERAL NOTES

CULVERT CENTER SECTION

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH WAKE COUNTY STANDARDS AND REGULATIONS.
- 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 EITHER 7 DAYS OR 14 DAYS DEPENDING ON MEASURE AND SLOPE.
- CONTRACTOR IS RESPONSIBLE FOR MAINTAINING SELF-INSPECTION LOG.
- CUT AND FILL SLOPES THAT ARE 2:1 OR GREATER SHALL BE STABILIZED WITH PERMANENT SLOPE RETENTION DEVICES OR A SUITABLE COMBINATION OF PLANTING AND RETENTION DEVICES. SLOPES GREATER THAN 3:1 SHALL NOT BE STABILIZED WITH TURF GRASS BUT MUST BE STABILIZED WITH VEGETATION THAT REQUIRES MINIMAL MAINTENANCE SUCH AS WEEPING LOVE GRASS, RED FESCUE, OR OTHER APPROVED VARIETY.

Public

Water Distribution / Extension System

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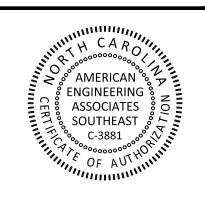
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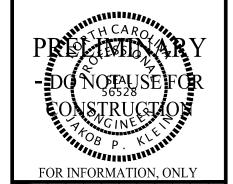
City of Raleigh

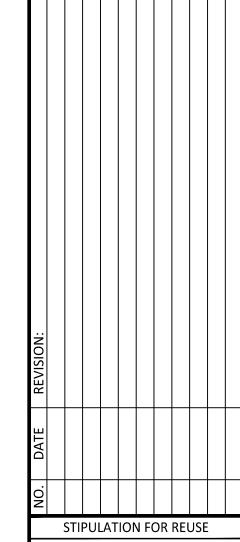
Public

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City of Raleigh Public Utilities Department Permit # D Ingg ast, P.A.







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CALAS FALLS PHASE 5 JCTION DOCUME

JOB NUMBER: R18011 CHECKED BY: DRAWN BY: 12-23-202

CON

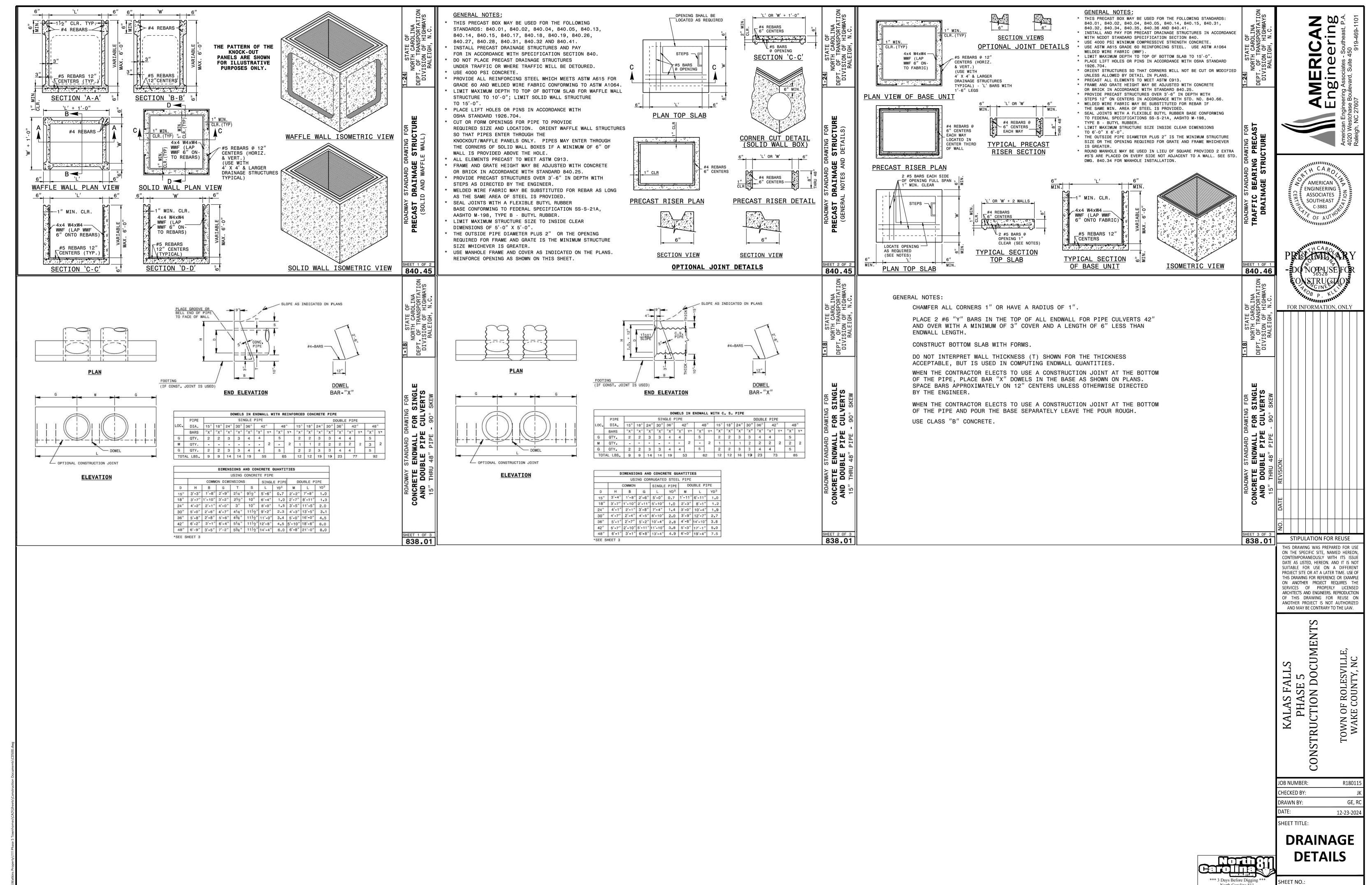
CULVERT CROSSING PLAN & **PROFILE**

*** 3 Days Before Digging ** North Carolina 811 811 or 1-800-632-4949

SHEET NO.: Remote Ticket Entry http://nc811.org/remoteticketentry

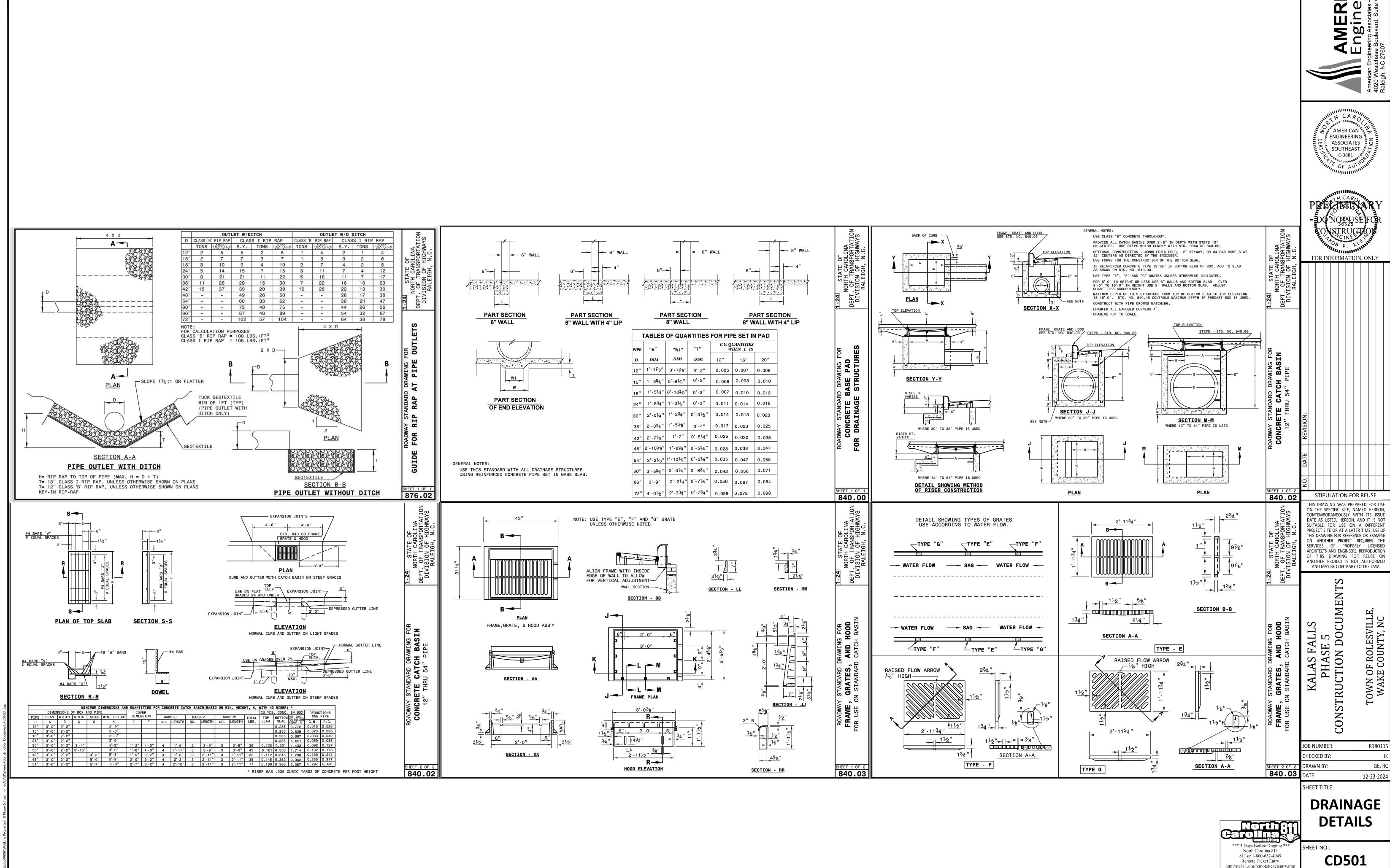
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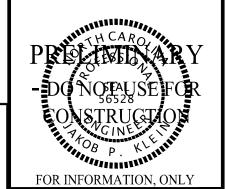
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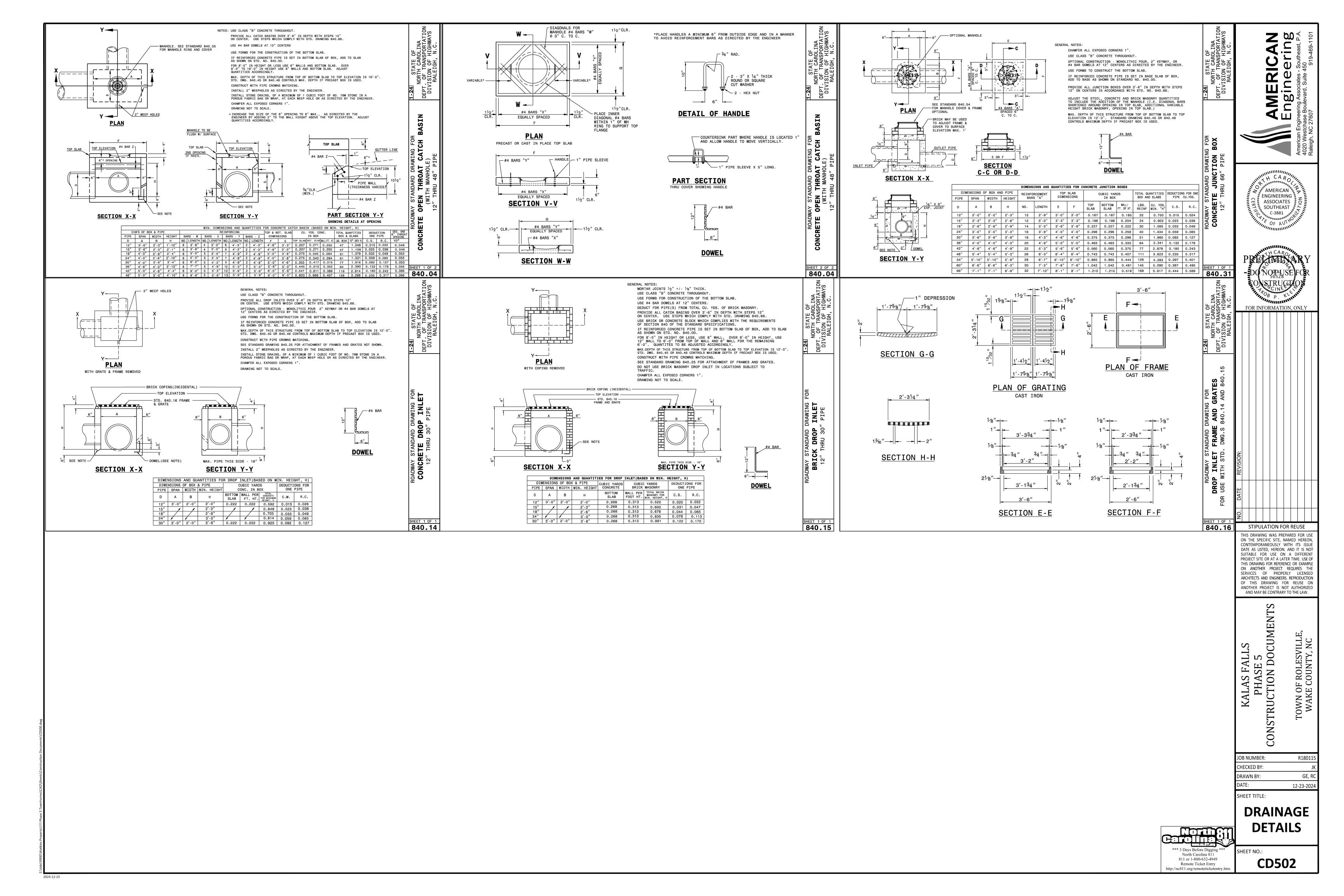
North Carolina 811
811 or 1-800-632-4949
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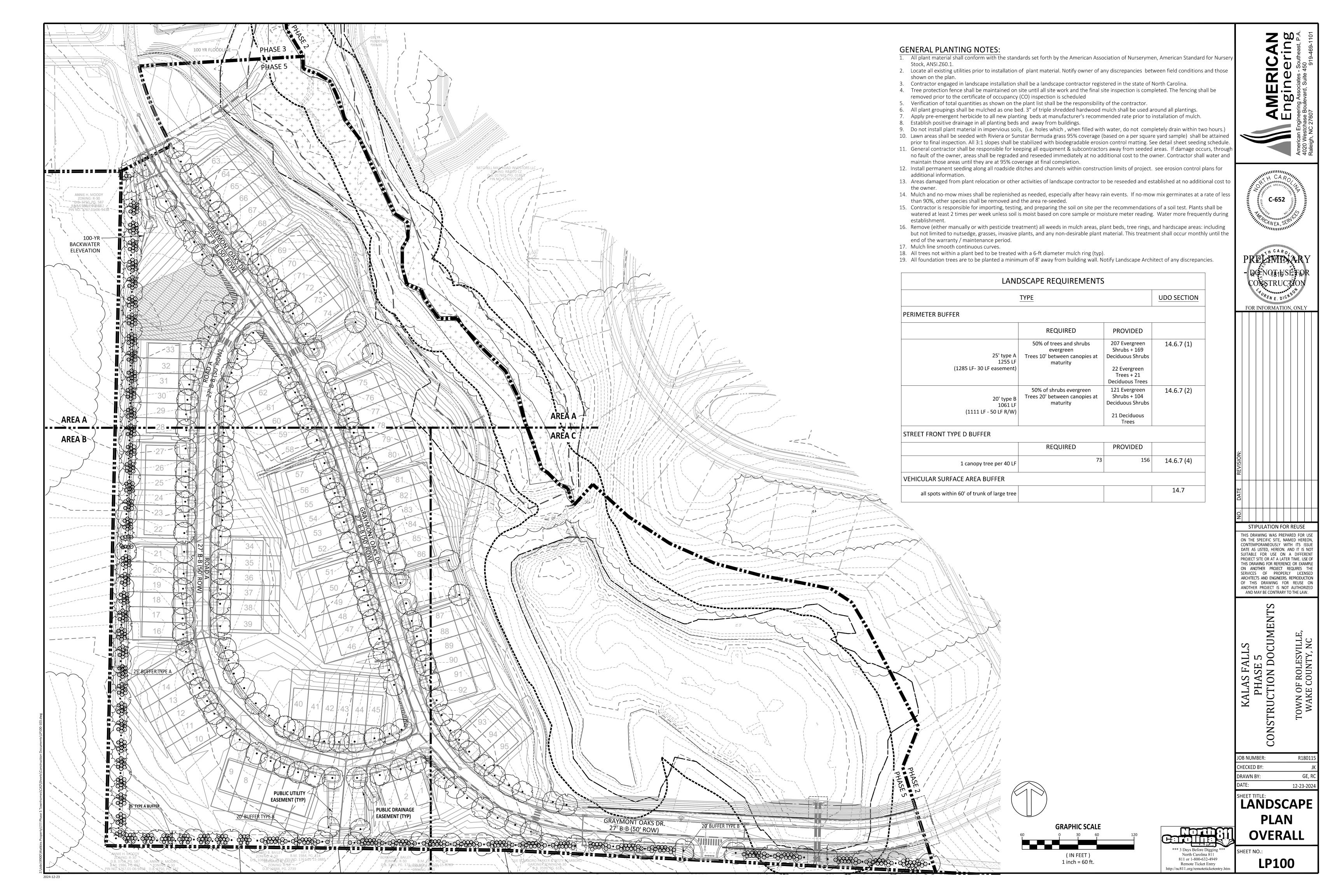
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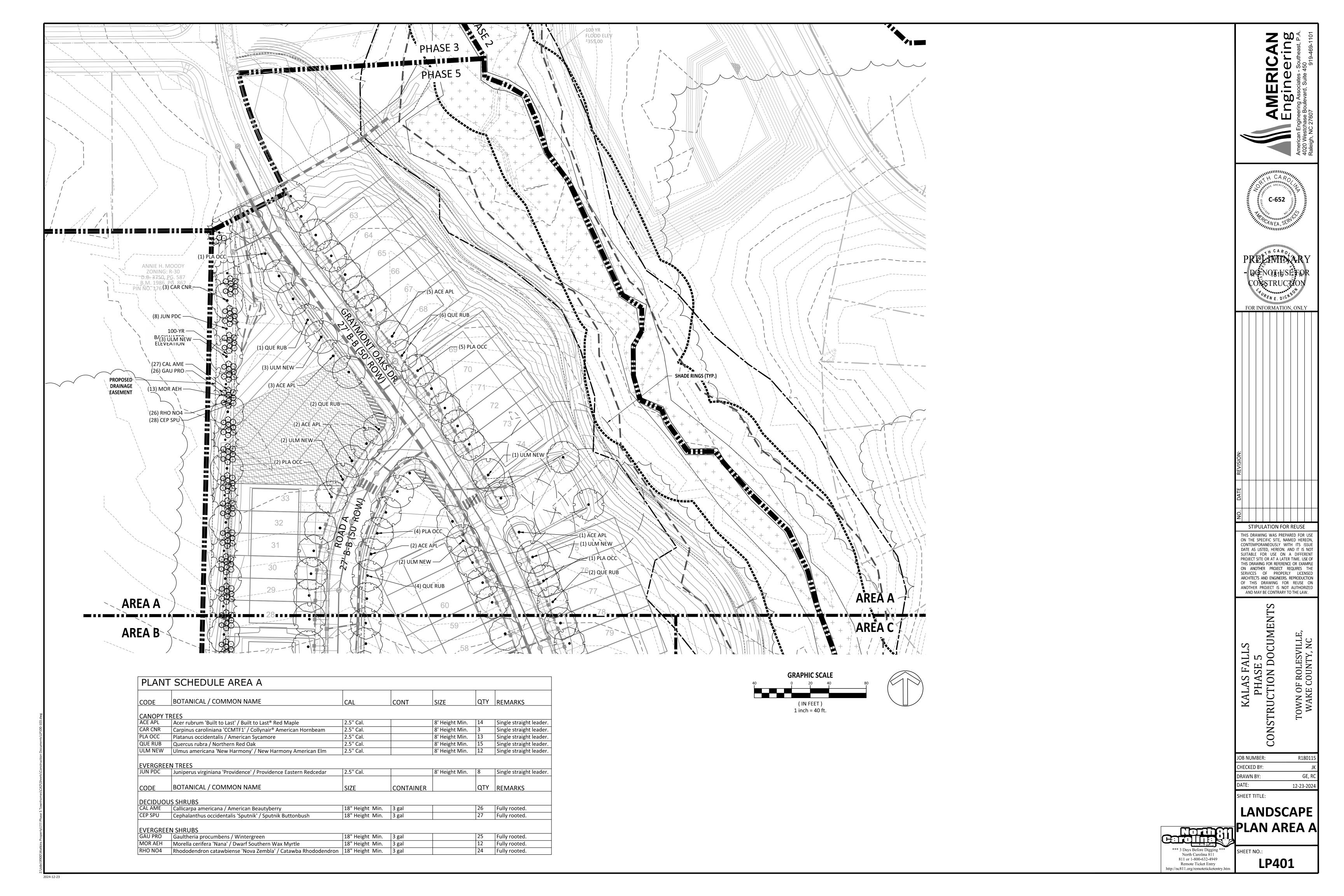


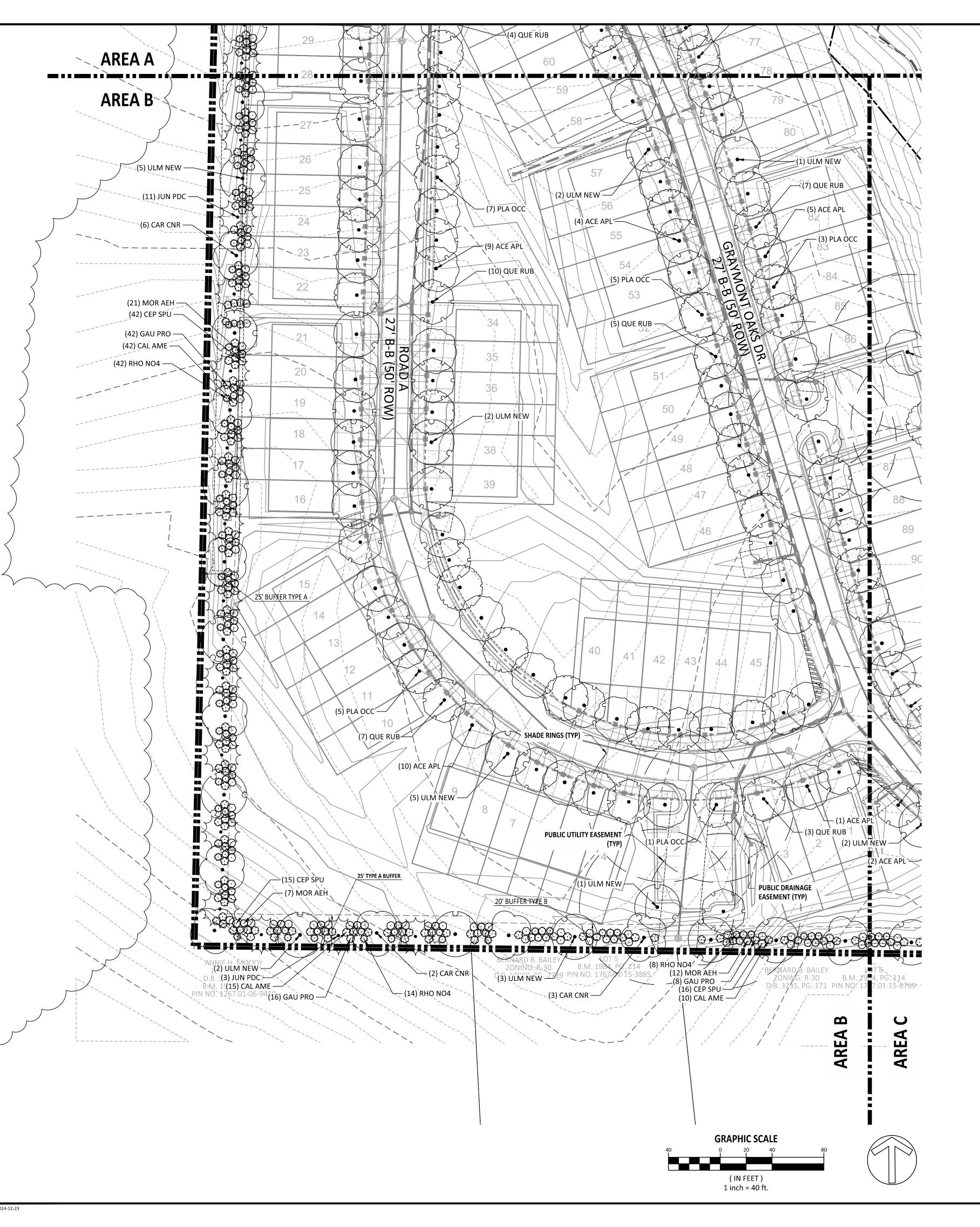


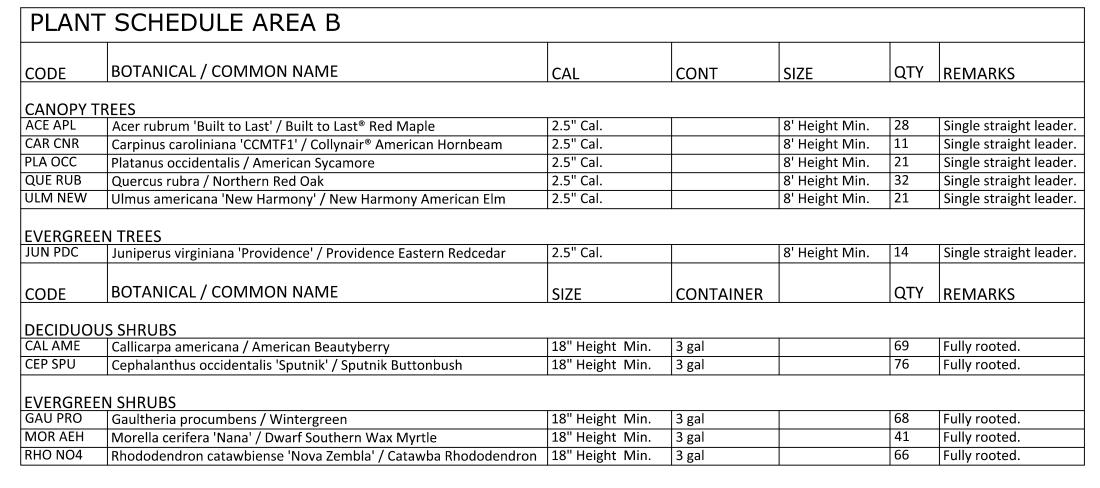
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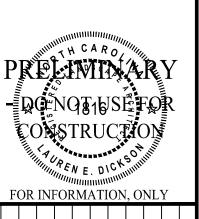












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KALAS FALLS
PHASE 5
CONSTRUCTION DOCUMENTS
TOWN OF ROLESVILLE,

JOB NUMBER: R180115
CHECKED BY: JK
DRAWN BY: GE, RC
DATE: 12-23-2024

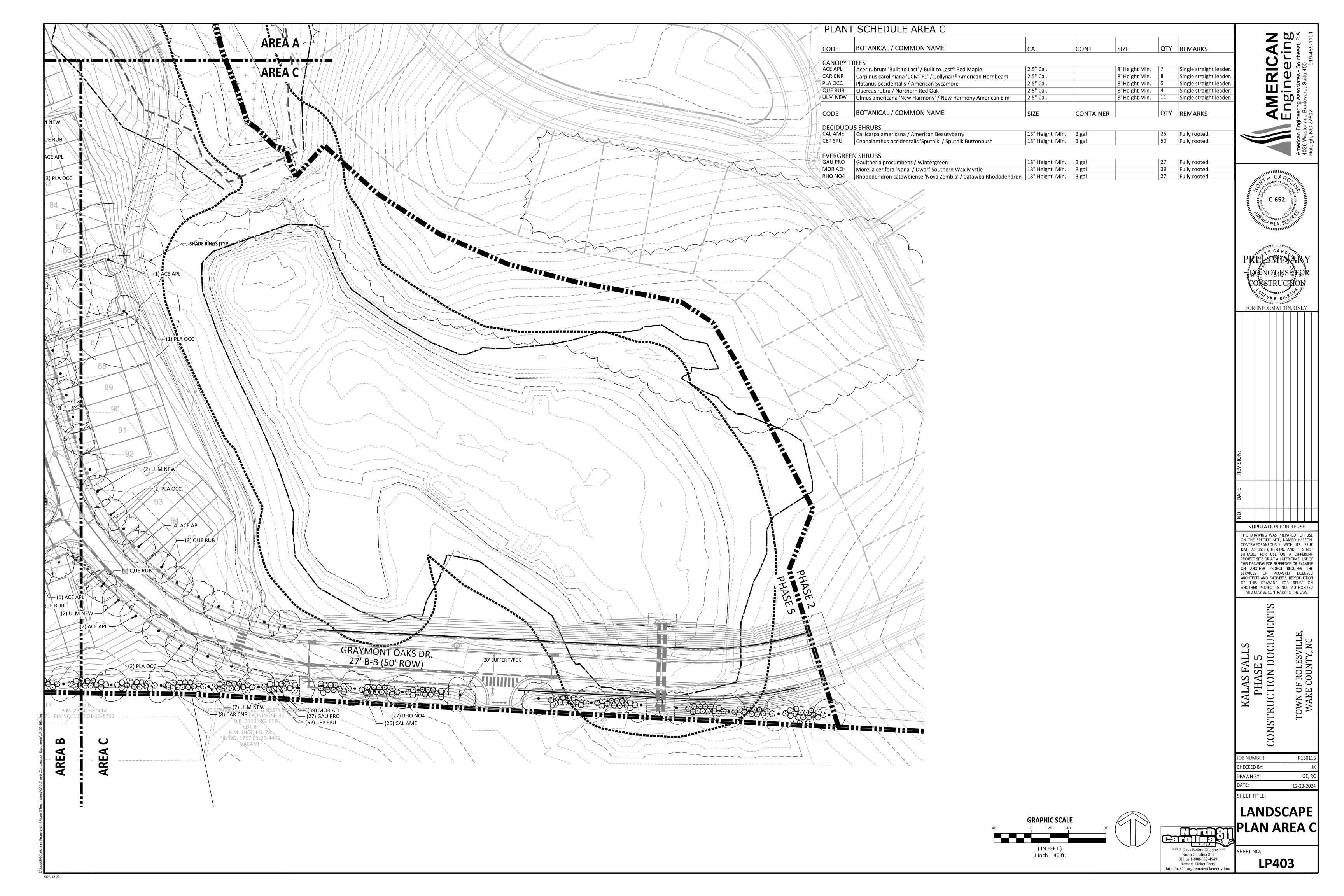
LANDSCAPE PLAN AREA B

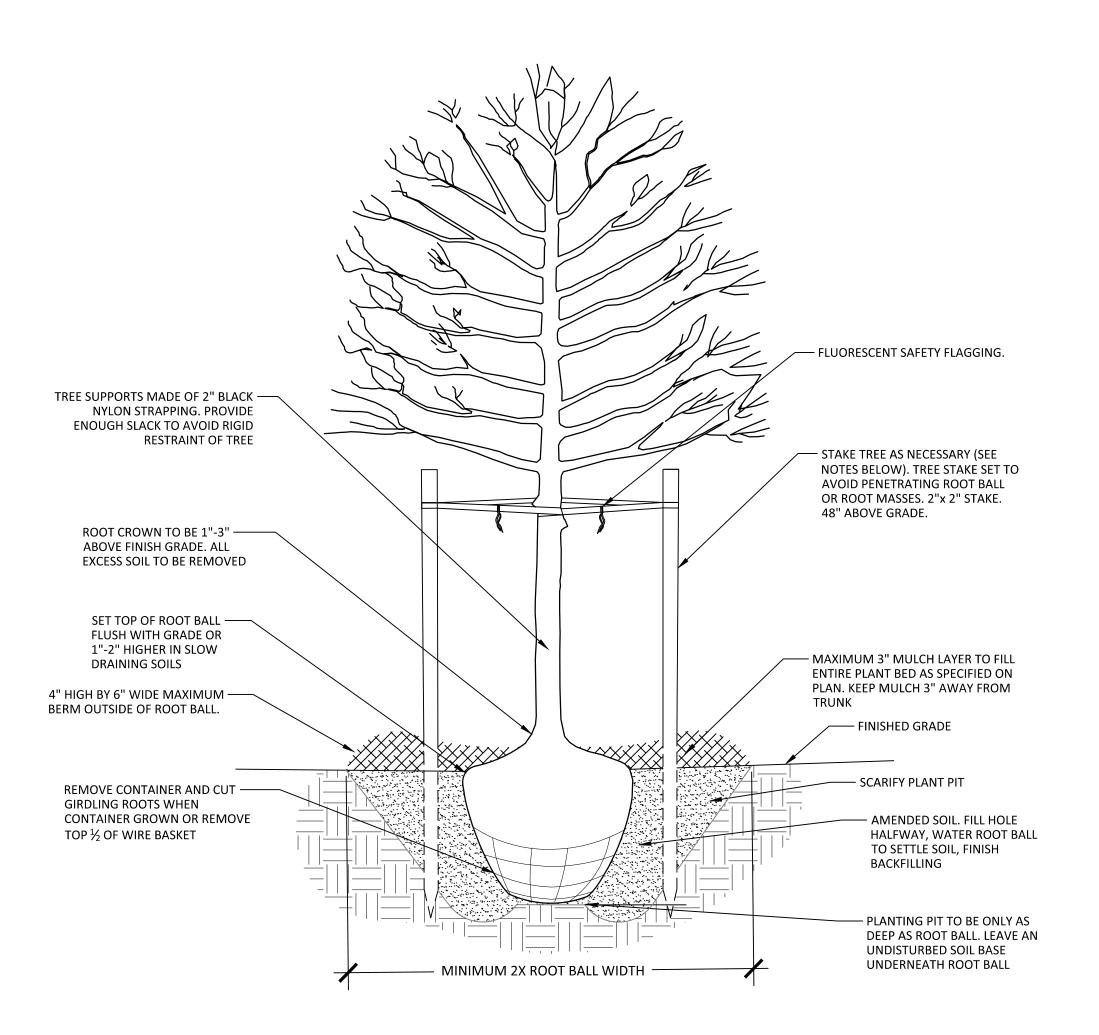
SHEET TITLE:

*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry

http://nc811.org/remoteticketentry.h

SHEET NO.: **LP402**



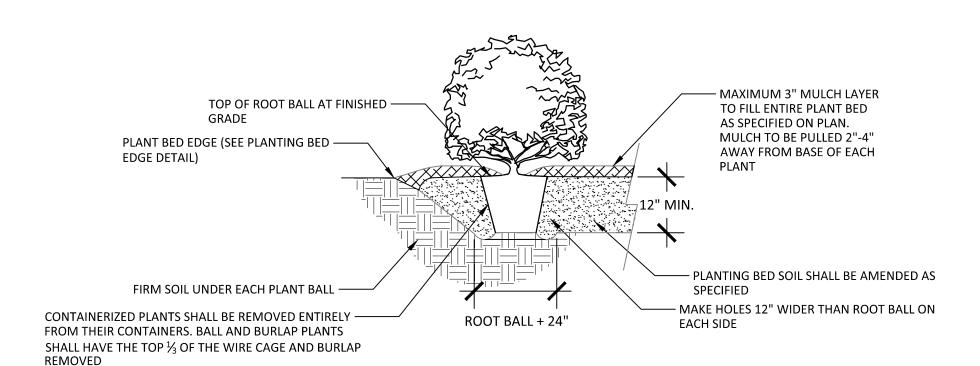


All trees shall meet American Standard for Nursery Stock (ANSI z60.1-2004)

- . 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.
- 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
- 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 P-R-01

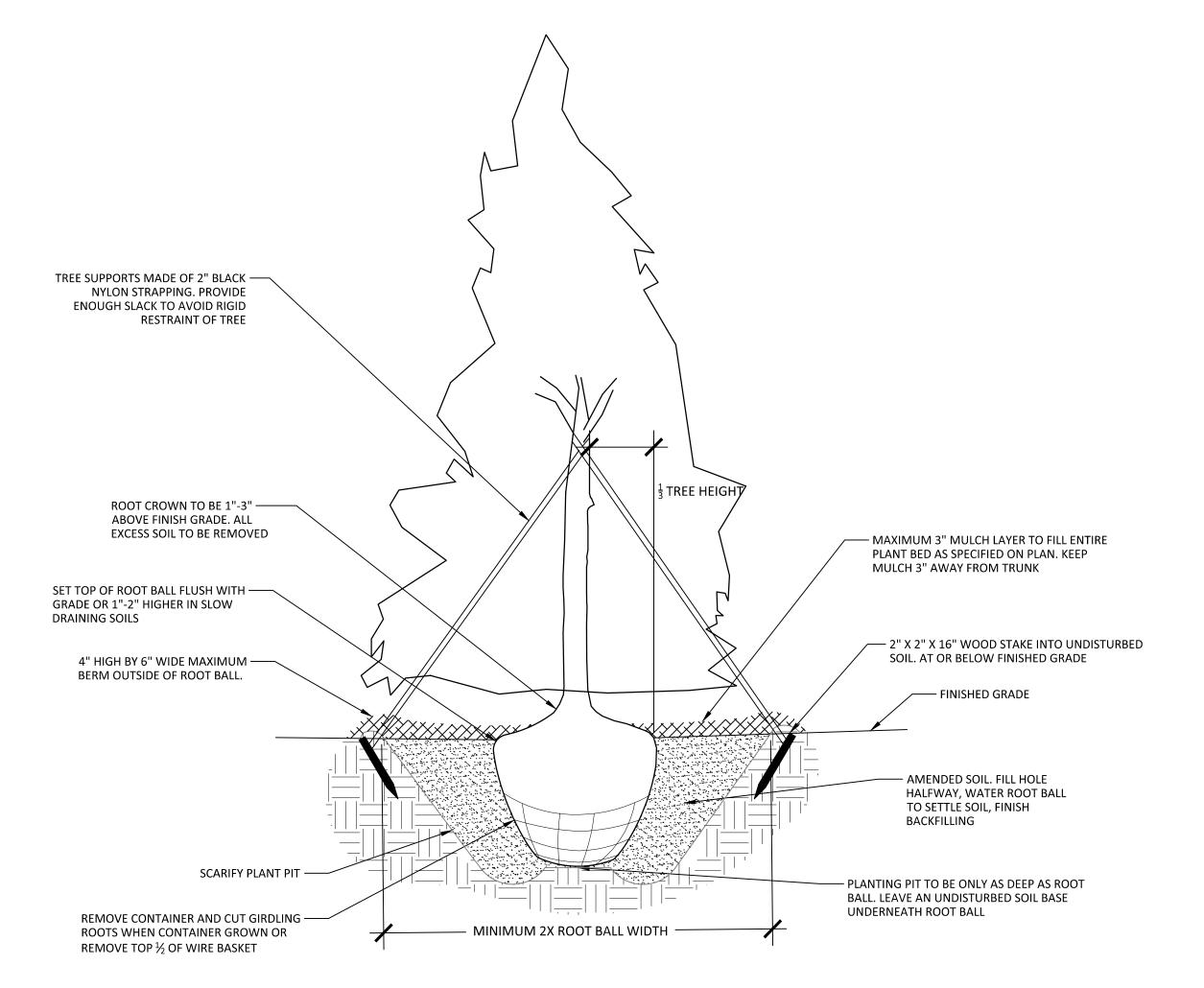


. SCARIFY ROOT MASS OF CONTAINERIZED PLANTS.

2. PLANT ROOT BALL SHOULD BE INSTALLED 1"-3" MAXIMUM ABOVE FINISHED GRADE. 3. WATER EACH PLANT IMMEDIATELY AFTER INSTALLATION AND BEFORE INSTALLATION OF MULCH.

4. PLANT PITS ONLY FOR SINGLE PLANTS. FOR PLANT BEDS, PREPARE THE ENTIRE BED AREA. 5. SPACING OF SHRUBS VARIES, REFER TO LANDSCAPE PLANS.

TYPICAL SHRUB PLANTING NOT TO SCALE P-R-02



1. 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.

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

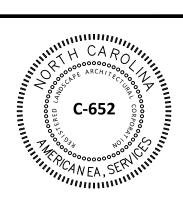
of branches that extend to the edge of the crown. Some interior twigs and lateral branches may be pruned.

TYPICAL EVERGREEN TREE PLANTING

P-R-08

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

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KALAS FALLS PHASE 5 CONSTRUCTION DOCUMEN'

JOB NUMBER: R180115 CHECKED BY: DRAWN BY: 12-23-2024

SHEET TITLE: LANDSCAPE

DETAILS SHEET NO.: **LP500**