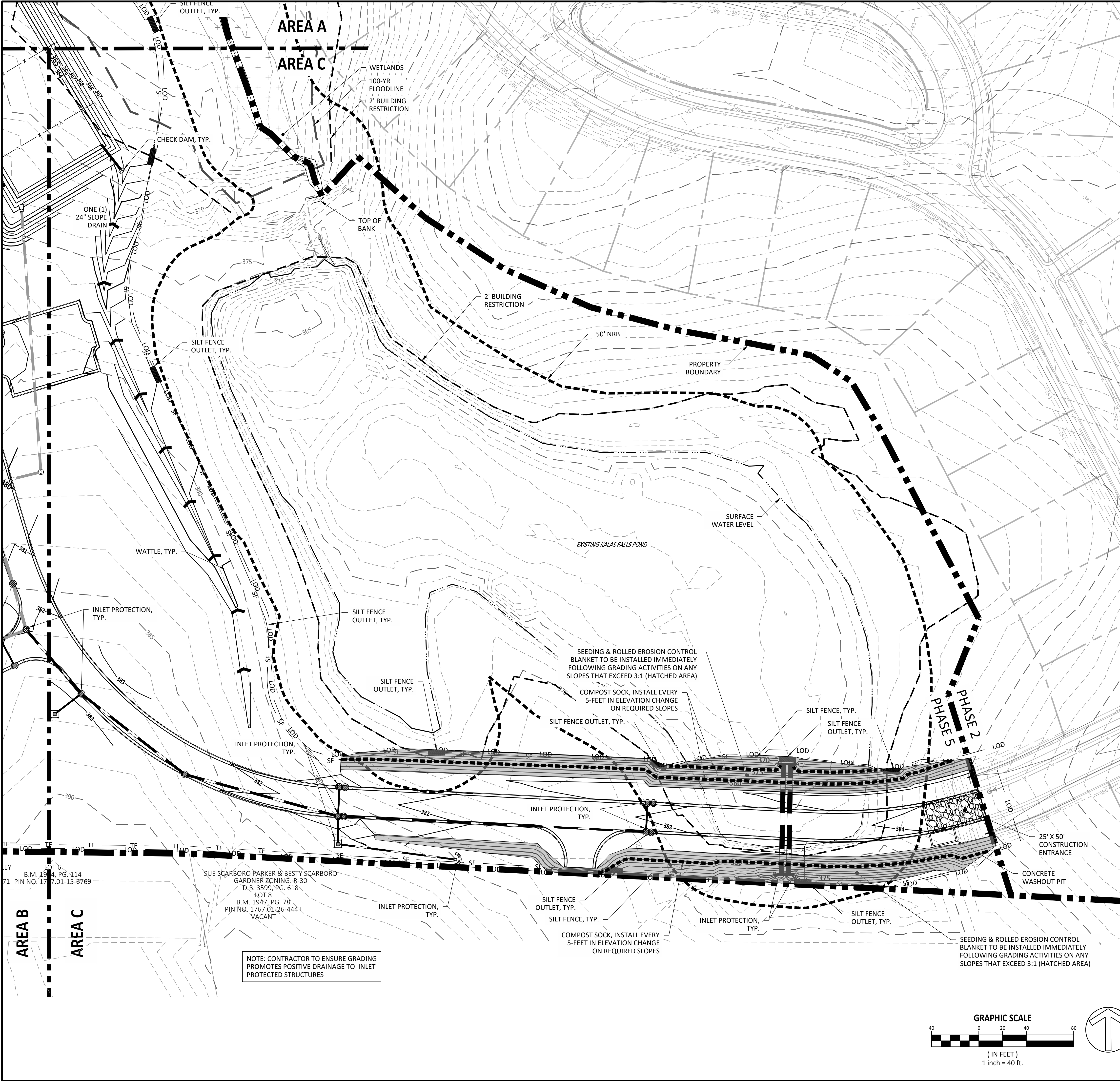
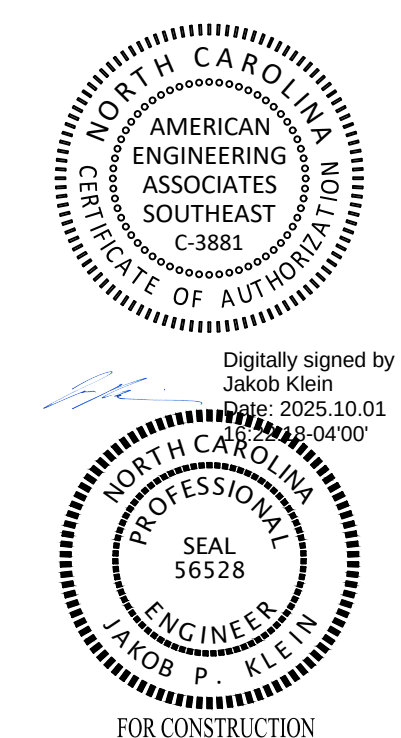




EROSION CONTROL LEGEND		REFERENCE DETAIL
	SILT FENCE	01 / CE502
	LIMITS OF DISTURBANCE	SEE PLANS
	TREE PROTECTION FENCE	02 / CE503
	TEMPORARY DIVERSION DITCH	CE500 & 06 / CE501
	COMPOST SOCK	06 / CE503
	SILT FENCE OUTLET	02 / CE502
	SEDIMENT SACK INLET PROTECTION	03 / CE502
	STANDARD PIPE INLET PROTECTION	08 / CE502
	GRAVEL INLET PROTECTION	04 / CE501
	ROCK DOUGHNUT INLET PROTECTION	04 / CE503
	GRAVEL CHECK DAM	03 / CE501
	MAINTENANCE PAD	03 / CE503
	RIPRAP DISSIPATOR	08 / CE501 & CE500
	DRAINAGE PIPE	09 / CE501
	WATTLE	05 / CE503
	SKIMMER	01 / CE503
	TEMPORARY SKIMMER BASIN	05 & 06 / CE502
	STAGING AND LAYDOWN AREA	CE500 NOTES
	CONSTRUCTION ENTRANCE	02 / CE501
	CONCRETE WASHOUT PIT	NCG01 / CE503
	EROSION CONTROL BLANKET	CE504

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

- NOTES:
- CONTRACTOR TO ENSURE GRADING PROMOTES POSITIVE DRAINAGE TO INLET PROTECTED STRUCTURES.
 - TSB IS TEMPORARY SEDIMENT BASIN.
 - SEE SHEET CE500 FOR RIP RAP DISSIPATOR CALCULATIONS.
 - SEE SHEET CD110 FOR STORM DRAINAGE INFRASTRUCTURE SCHEDULES.



NO.	DATE	REVISION:
1	09/26/2025	UPDATED FINANCIALLY RESPONSIBLE PARTY

STIPULATION FOR REUSE

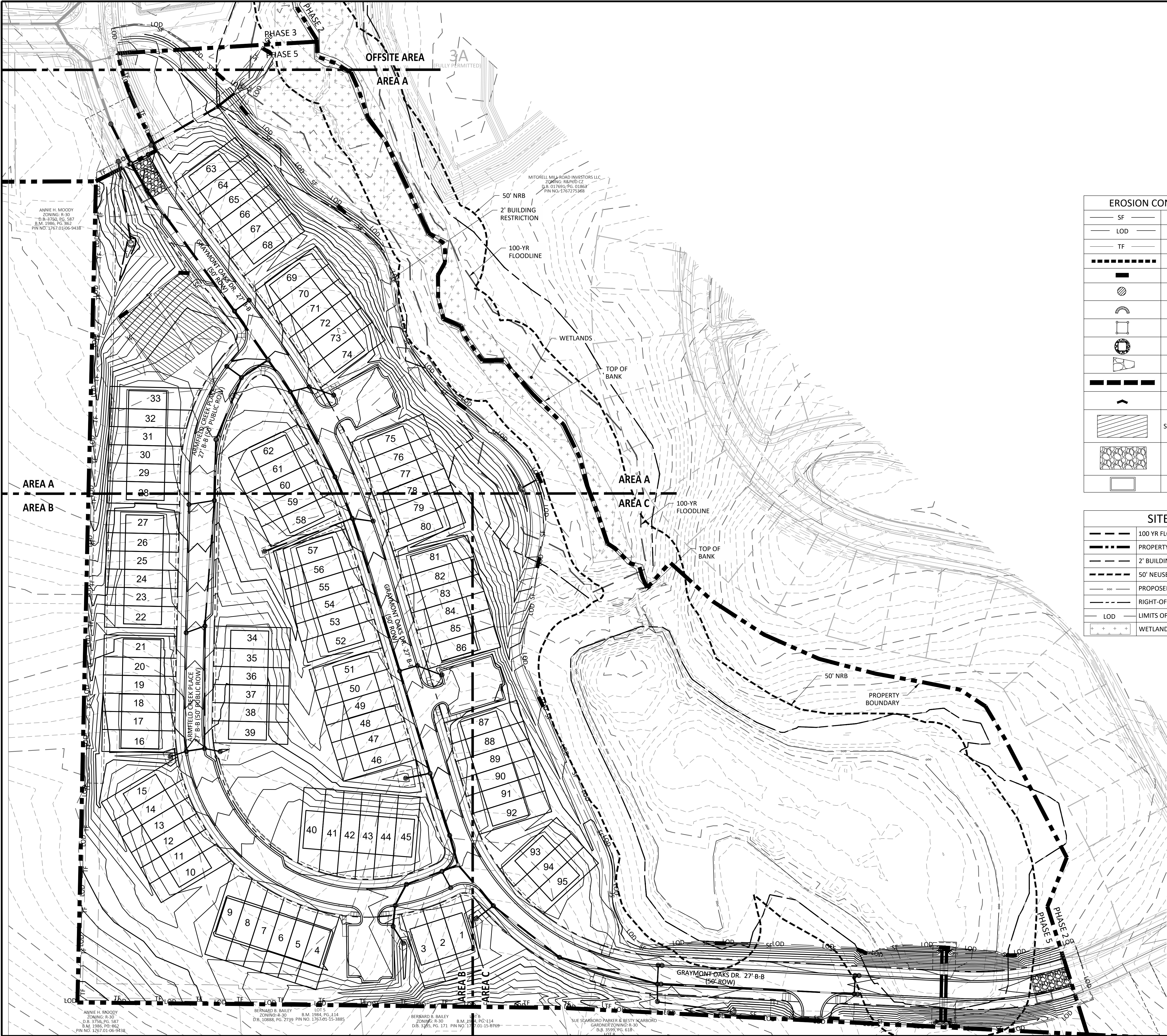
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KALAS FALLS
PHASE 5
CONSTRUCTION INFRASTRUCTURE
DOCUMENTS
CID-25-01
TOWN OF ROLESVILLE,
WAKE COUNTY, NC

JOB NUMBER: R180115
CHECKED BY: JK
DRAWN BY: GE, RC
DATE: 09-26-2025

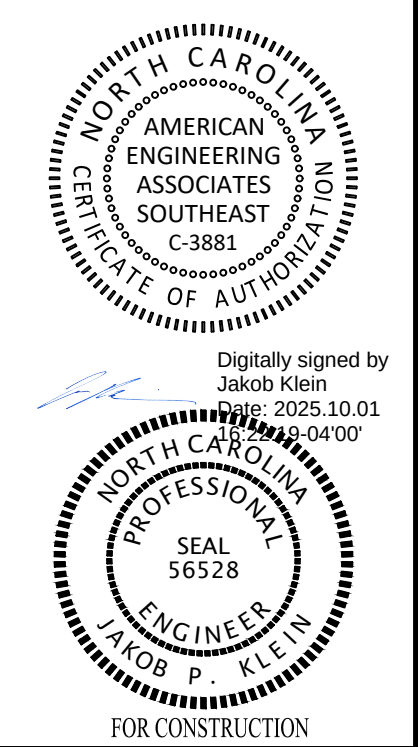
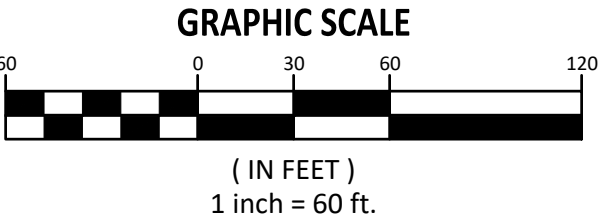
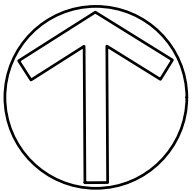
SHEET TITLE:
**ESC PHASE
2 AREA C**
SHEET NO.:
CE412





EROSION CONTROL LEGEND		REFERENCE DETAIL
	SILT FENCE	01 / CE502
	LIMITS OF DISTURBANCE	SEE PLANS
	TREE PROTECTION FENCE	02 / CE503
	COMPOST SOCK	06 / CE503
	SILT FENCE OUTLET	02 / CE502
	SEDIMENT SACK INLET PROTECTION	03 / CE502
	STANDARD PIPE INLET PROTECTION	08 / CE502
	GRAVEL INLET PROTECTION	04 / CE501
	ROCK DOUGHNUT INLET PROTECTION	04 / CE503
	RIPRAP DISSIPATOR	08 / CE501 & CE500
	DRAINAGE PIPE	09 / CE501
	WATTLE	05 / CE503
	STAGING AND LAYDOWN AREA	CE500 NOTES
	CONSTRUCTION ENTRANCE	02 / CE501
	CONCRETE WASHOUT PIT	NCG01 / CE503

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



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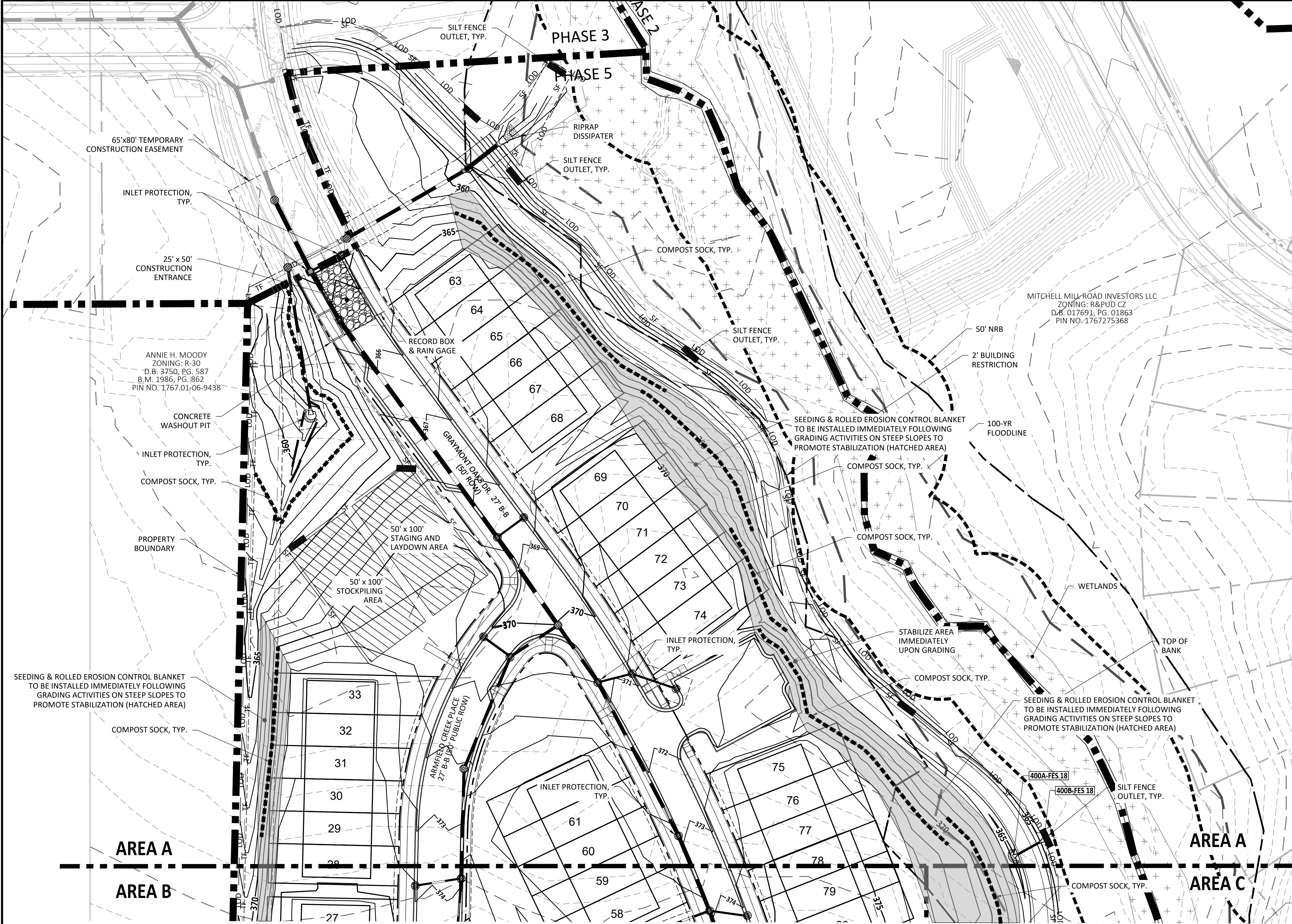
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DOCUMENTS
CID-25-01
TOWN OF ROLESVILLE,
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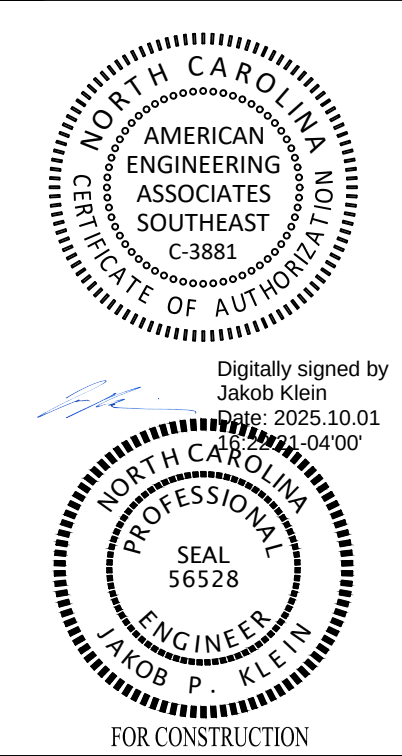
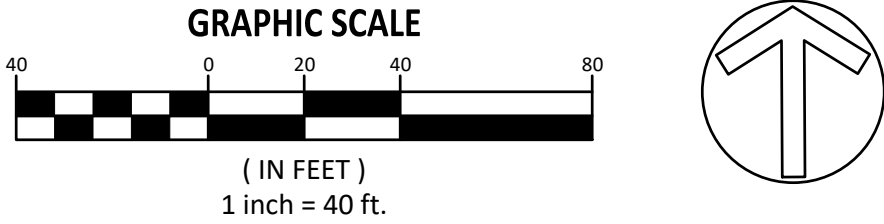
SHEET TITLE:
**ESC PHASE 3
OVERALL**

SHEET NO.:
CE120



EROSION CONTROL LEGEND		REFERENCE DETAIL
SF	SILT FENCE	01 / CE502
LOD	LIMITS OF DISTURBANCE	SEE PLANS
TF	TREE PROTECTION FENCE	02 / CE503
-----	COMPOST SOCK	06 / CE503
-----	SILT FENCE OUTLET	02 / CE502
-----	SEDIMENT SACK INLET PROTECTION	03 / CE502
-----	STANDARD PIPE INLET PROTECTION	08 / CE502
-----	GRAVEL INLET PROTECTION	04 / CE501
-----	ROCK DOUGHNUT INLET PROTECTION	04 / CE503
-----	RIPRAP DISSIPATOR	08 / CE501 & CE500
-----	DRAINAGE PIPE	09 / CE501
-----	WATTLE	05 / CE503
-----	STAGING AND LAYDOWN AREA	CE500 NOTES
-----	CONSTRUCTION ENTRANCE	02 / CE501
-----	CONCRETE WASHOUT PIT	NCG01 / CE503

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



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PHASE 5
CONSTRUCTION INFRASTRUCTURE
DOCUMENTS
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TOWN OF ROLESVILLE,
WAKE COUNTY, NC

JOB NUMBER:	R180115
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DRAWN BY:	GE, RC
DATE:	09-26-2025

SHEET TITLE:

**ESC PHASE 3
AREA A**

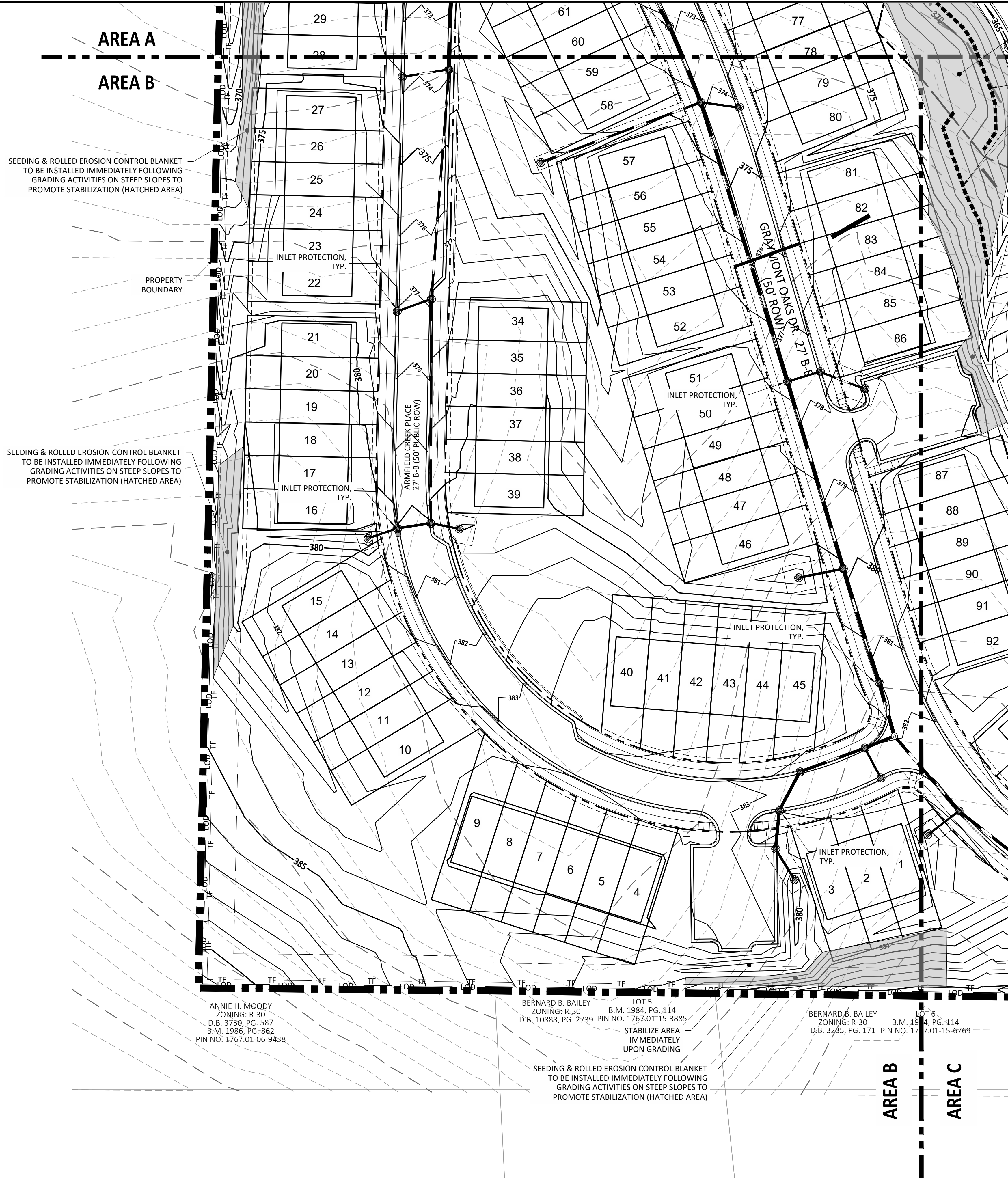
SHEET NO.:

CE420



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

Z:\Jobs\9000\Wetlands Property\1111 Phase 3 Townhomes\CAD\Sheet\Construction Documents\CE421.dwg
2025-09-26

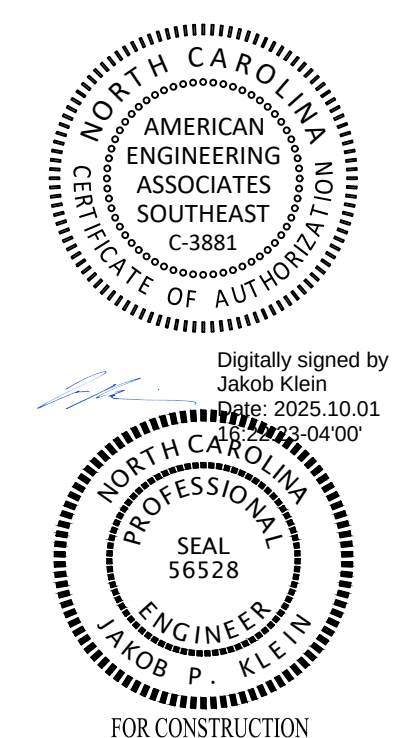


SEEDING & ROLLED EROSION CONTROL BLANKET
TO BE INSTALLED IMMEDIATELY FOLLOWING
GRADING ACTIVITIES ON STEEP SLOPES TO
PROMOTE STABILIZATION (HATCHED AREA)

COMPOST SOCK, TYP.

EROSION CONTROL LEGEND		REFERENCE DETAIL
	SILT FENCE	01 / CE502
	LIMITS OF DISTURBANCE	SEE PLANS
	TREE PROTECTION FENCE	02 / CE503
	COMPOST SOCK	06 / CE503
	SILT FENCE OUTLET	02 / CE502
	SEDIMENT SACK INLET PROTECTION	03 / CE502
	STANDARD PIPE INLET PROTECTION	08 / CE502
	GRAVEL INLET PROTECTION	04 / CE501
	ROCK DOUGHNUT INLET PROTECTION	04 / CE503
	RIPRAP DISSIPATOR	08 / CE501 & CE500
	DRAINAGE PIPE	09 / CE501
	WATTLE	05 / CE503
	STAGING AND LAYDOWN AREA	CE500 NOTES
	CONSTRUCTION ENTRANCE	02 / CE501
	CONCRETE WASHOUT PIT	NCG01 / CE503

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



NO.	DATE	REVISION	DESCRIPTION
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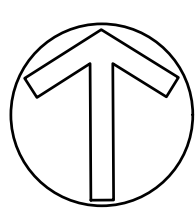
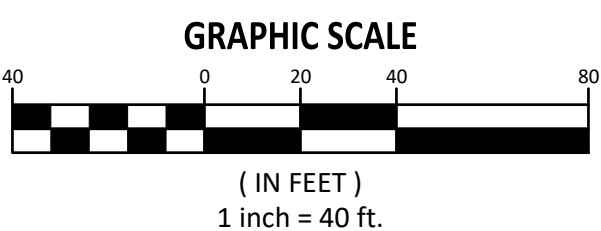
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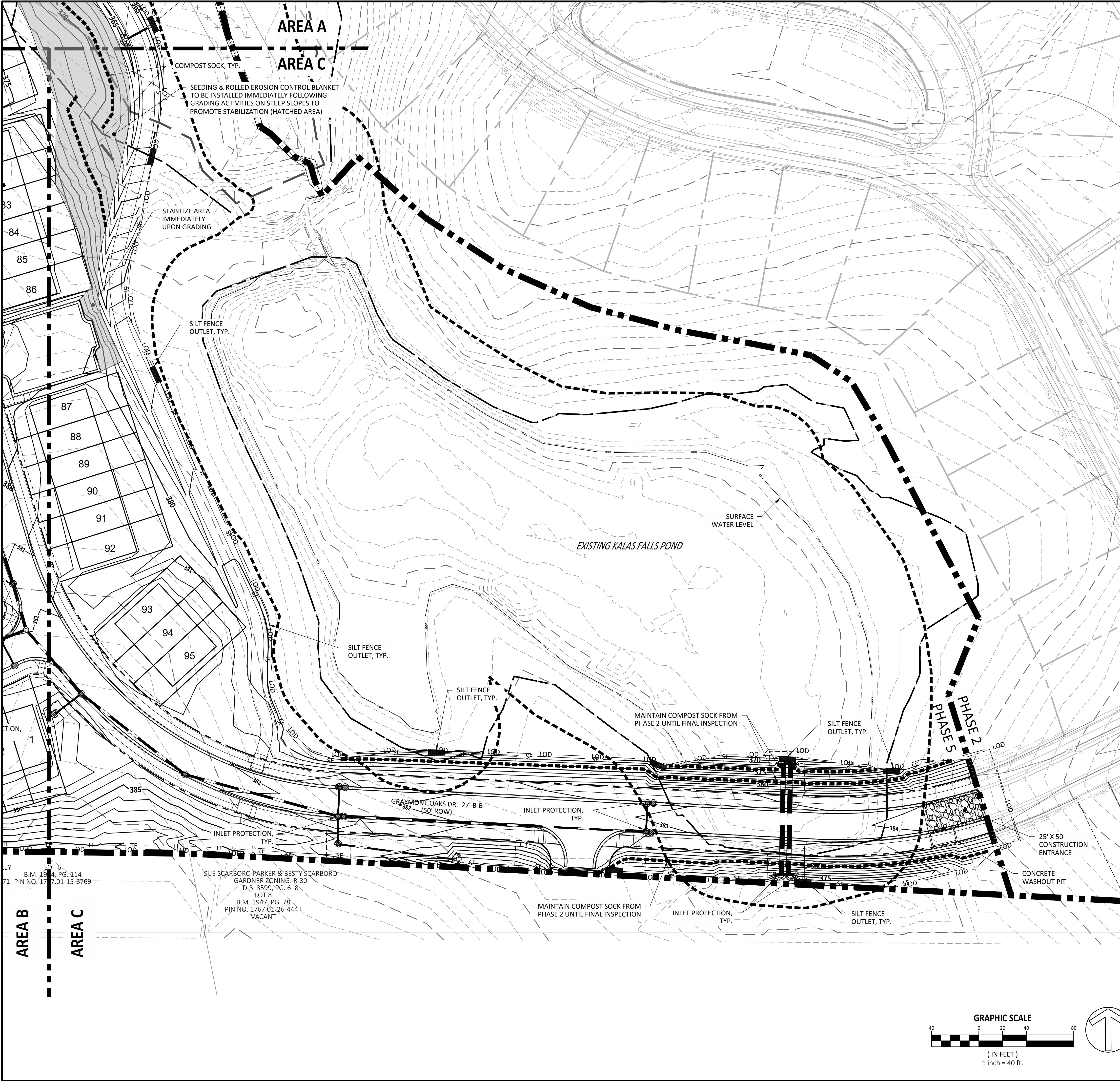
**KALAS FALLS
PHASE 5
CONSTRUCTION INFRASTRUCTURE
DOCUMENTS
CID-25-01
TOWN OF ROLESVILLE,
WAKE COUNTY, NC**

JOB NUMBER: R180115
CHECKED BY: JK
DRAWN BY: GE, RC
DATE: 09-26-2025

**ESC PHASE 3
AREA B**

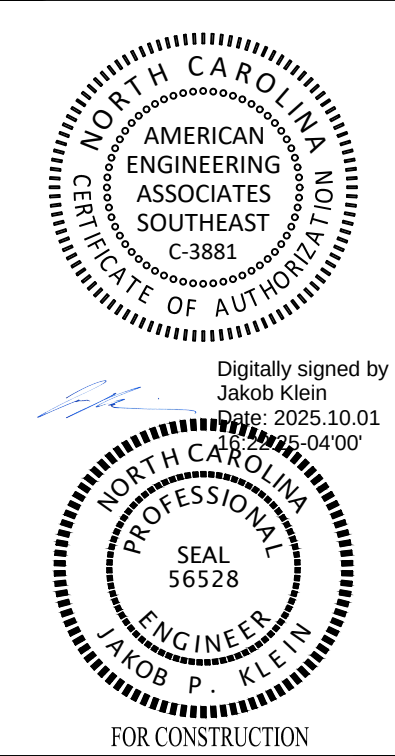
SHEET NO.:
CE421





EROSION CONTROL LEGEND		REFERENCE DETAIL
	SILT FENCE	01 / CE502
	LIMITS OF DISTURBANCE	SEE PLANS
	TREE PROTECTION FENCE	02 / CE503
	COMPOST SOCK	06 / CE503
	SILT FENCE OUTLET	02 / CE502
	SEDIMENT SACK INLET PROTECTION	03 / CE502
	STANDARD PIPE INLET PROTECTION	08 / CE502
	GRAVEL INLET PROTECTION	04 / CE501
	ROCK DOUGHNUT INLET PROTECTION	04 / CE503
	RIPRAP DISSIPATOR	08 / CE501 & CE500
	DRAINAGE PIPE	09 / CE501
	WATTLE	05 / CE503
	STAGING AND LAYDOWN AREA	CE500 NOTES
	CONSTRUCTION ENTRANCE	02 / CE501
	CONCRETE WASHOUT PIT	NCG01 / CE503

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



NO.	DATE	REVISION:
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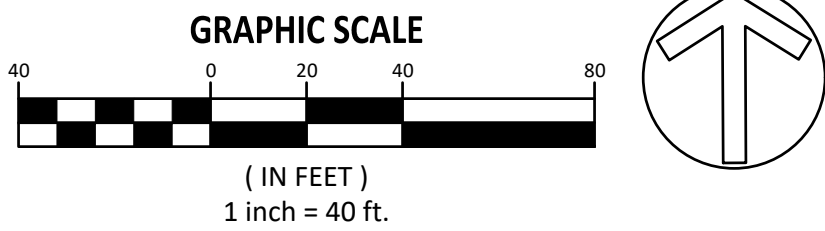
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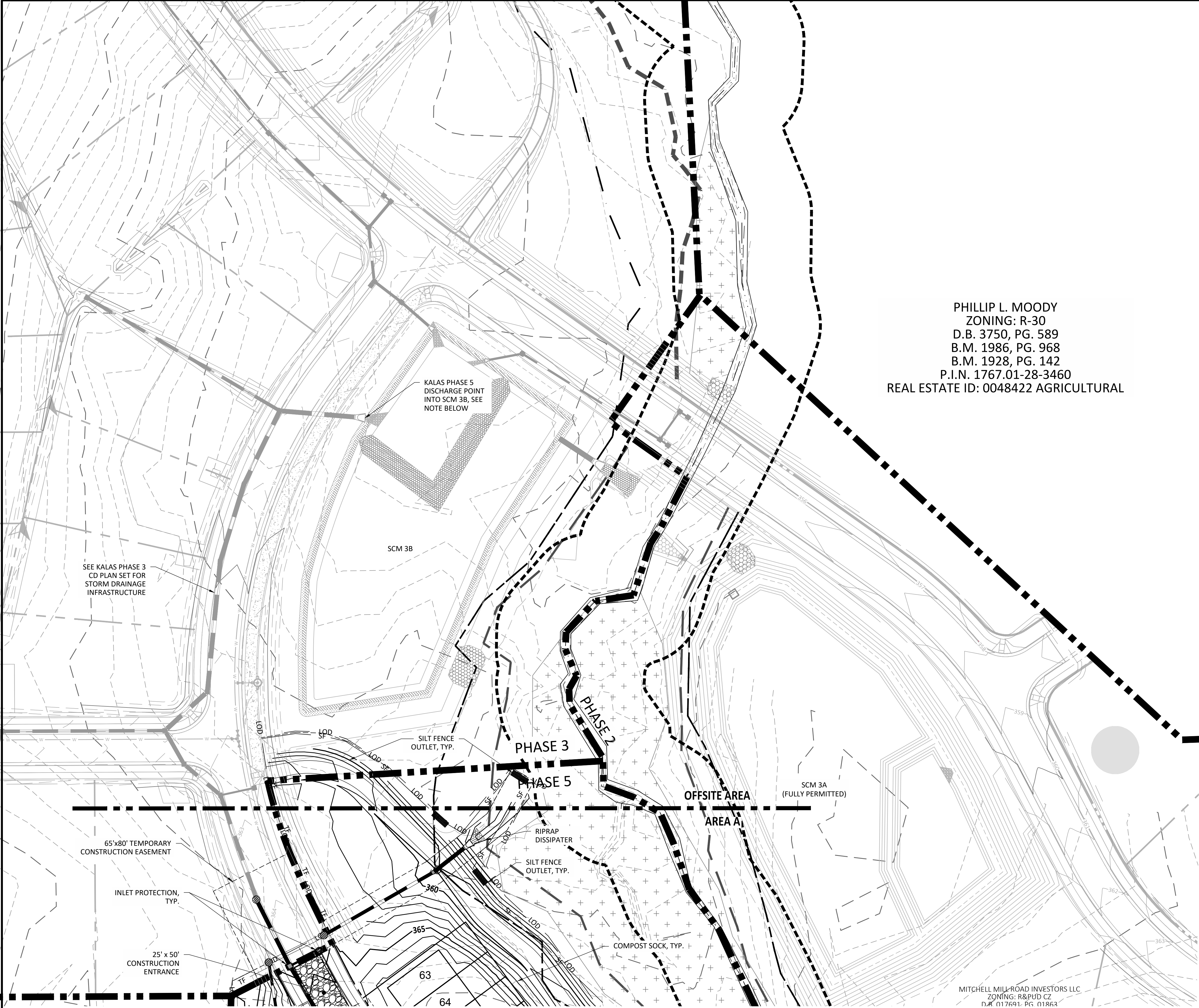
**KALAS FALLS
PHASE 5
CONSTRUCTION INFRASTRUCTURE
DOCUMENTS
CID-25-01
TOWN OF ROLESVILLE,
WAKE COUNTY, NC**

JOB NUMBER: R180115
CHECKED BY: JK
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DATE: 09-26-2025

**ESC PHASE 3
AREA C**

SHEET NO.:
CE422



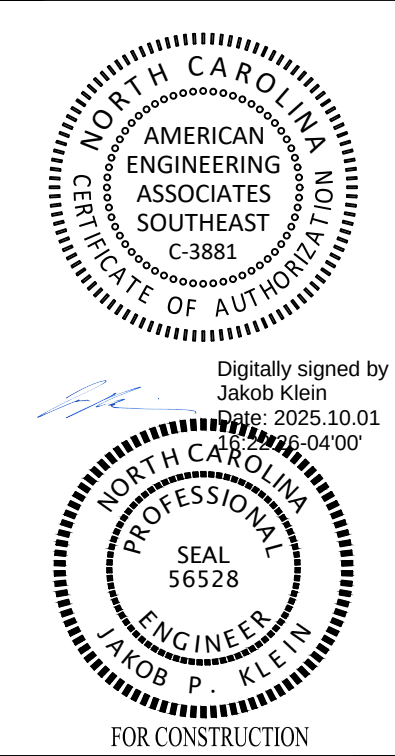
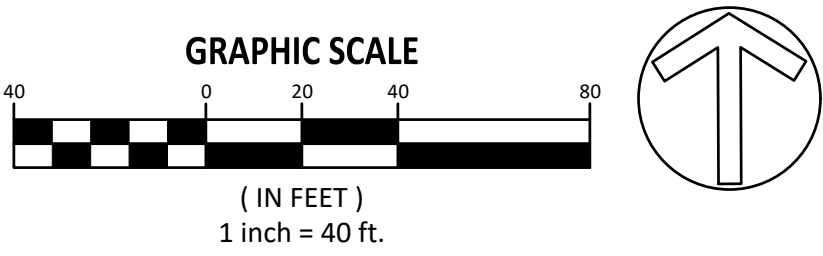


PHILLIP L. MOODY
ZONING: R-30
D.B. 3750, PG. 589
B.M. 1986, PG. 968
B.M. 1928, PG. 142
P.I.N. 1767.01-28-3460
REAL ESTATE ID: 0048422 AGRICULTURAL

EROSION CONTROL LEGEND		REFERENCE DETAIL
	SILT FENCE	01 / CE502
	LIMITS OF DISTURBANCE	SEE PLANS
	TREE PROTECTION FENCE	02 / CE503
	COMPOST SOCK	06 / CE503
	SILT FENCE OUTLET	02 / CE502
	SEDIMENT SACK INLET PROTECTION	03 / CE502
	STANDARD PIPE INLET PROTECTION	08 / CE502
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	RIPRAP DISSIPATOR	08 / CE501 & CE500
	DRAINAGE PIPE	09 / CE501
	WATTLE	05 / CE503
	STAGING AND LAYDOWN AREA	CE500 NOTES
	CONSTRUCTION ENTRANCE	02 / CE501
	CONCRETE WASHOUT PIT	NCG01 / CE503

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

NOTE: PLEASE SEE KALAS PHASE 3 CD PLAN SET FOR STORM DRAINAGE INFRASTRUCTURE WITHIN THAT PROJECT SCOPE. KALAS PHASE 5 UTILIZES SCM 3B LOCATED ON THE KALAS PHASE 3 PARCEL. A DETAILED CONSTRUCTION SEQUENCE FOR SEDIMENT CONTROL, SITE STABILAZATION, AND OUTLETTING TO SCM 3B CAN BE FOUND ON SHEET CE500 WITHIN THIS PLAN SET. THE KALAS PHASE 5 PROJECT WILL REPORT FINAL IMPERVIOUS DATA TO WAKE COUNTY TO ENSURE THE PROJECT TOTALS REMAIN AT/OR BELOW THE DESIGN FOR SCM 3B.



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KALAS FALLS
PHASE 5
CONSTRUCTION INFRASTRUCTURE
DOCUMENTS
CID-25-01
TOWN OF ROLESVILLE,
WAKE COUNTY, NC

JOB NUMBER: R180115
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DATE: 09-26-2025

SHEET TITLE:
**ESC PHASE 3
OFFSITE AREA**
SHEET NO.:
CE423





NON-INVASIVE PERMANENT SEEDING RECOMMENDATIONS FOR LATE WINTER AND EARLY SPRING		NON-INVASIVE PERMANENT SEEDING RECOMMENDATIONS FOR SUMMER		NON-INVASIVE PERMANENT SEEDING RECOMMENDATIONS FOR FALL	
SEEDING MIXTURE		SEEDING MIXTURE		SEEDING MIXTURE	
Species	Rate	Species	Rate	Species	Rate
Centipede	5 lbs/acre	Indian Woodoats	1.5-2.5 lbs/acre*	Hard Fescue	15 lbs/acre
Indian Woodoats	1.5-2.5 lbs/acre*	Virginia Wild Rye	4-6 lbs/acre*	Switchgrass	2.5-3.5 lbs/acre*
Virginia Wild Rye	4-6 lbs/acre*			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*

*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
Coastal or Eastern Piedmont for Centipede- Sept. 1 - May 1
Coastal and Piedmont for Indian Woodoats and Virginia Wild Rye- Feb 15 - April 1
Mountains for Indian Woodoats and Virginia Wild Rye- March 1 - May 15

Maintenance:
Significant maintenance may be required to obtain desired cover once centipede is planted. Acceptable for sodding.

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.

Seeding Dates
Mountains - Hard Fescue- Aug 1 - June 1
Mountains- Switchgrass, Indian Grass, Big Bluestem- Dec 1 - April 15
Piedmont and Coastal- Switchgrass, Indian Grass, Big Bluestem- Dec 1 - April 1
Coastal- Indian Woodoats and Virginia Wild Rye- Sept 1 - Nov 1

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

SEED BED PREPARATION:
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 1 1/2 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 inches of soil. If a hydraulic seeder is used, do not mix seed and fertilizer more than 30 minutes before application.
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 seedbed preparation is completed.

NOTES:
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%.
4. Ground cover shall be maintained until permanent vegetation is established and stable against accelerated erosion.

PERMANENT SEEDING RECOMMENDATIONS

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

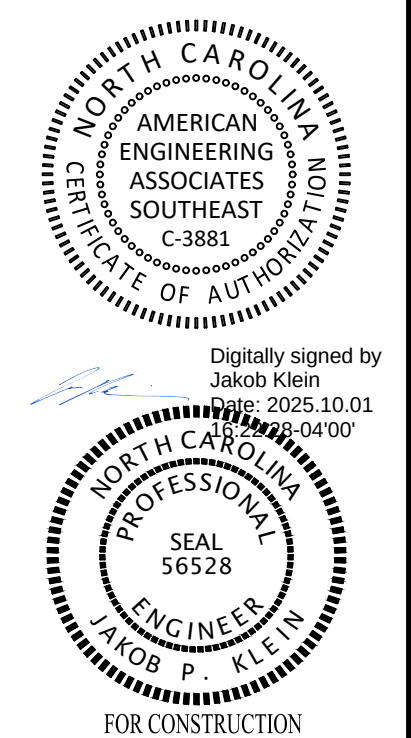
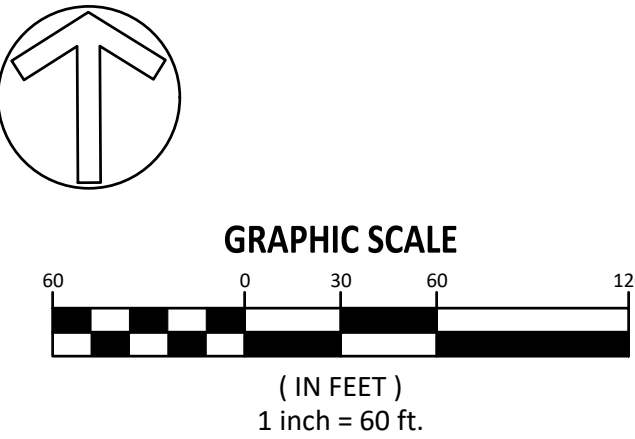
Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization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

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

- NPDES DOCUMENTATION NOTES**
- THIS PAGE IS SUBMITTED TO COMPLY WITH THE NPDES GENERAL STORMWATER PERMIT NCG010000.
 - THIS PAGE CAN BE APPROVED BY THE CITY PURSUANT TO NPDES GENERAL STORMWATER PERMIT NCG010000 ONLY.
 - THIS PAGE OF THE APPROVED PLANS IS ENFORCEABLE EXCLUSIVELY PURSUANT TO NPDES GENERAL STORMWATER PERMIT NCG010000.
 - 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.

TEMPORARY SEEDING SCHEDULE		
DATE	TYPE	RATE (lb/acre)
FEB 15 - APRIL 1	VIRGINIA WILD RYE	4-6 LBS/ACRE
AUG 15 - OCT 15	INDIAN WOODOATS	1.5-2.5 LBS/ACRE
DEC 1 - APRIL 1	SWITCHGRASS	2.5-3.5 LBS/ACRE



REVISION:		DATE		NO.	
UPDATED FINANCIALLY RESPONSIBLE PARTY		09/26/2025		1	

STIPULATION FOR REUSE
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KALAS FALLS
PHASE 5
CONSTRUCTION INFRASTRUCTURE
DOCUMENTS
CID-25-01
TOWN OF ROLESVILLE,
WAKE COUNTY, NC

JOB NUMBER:	R180115
CHECKED BY:	JK
DRAWN BY:	GE, RC
DATE:	09-26-2025
SHEET TITLE:	

NPDES PLAN

SHEET NO.:
CE130

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 RESEEDDED 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 (1/2 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:

- INSPECT ROLLED EROSION CONTROL PRODUCTS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAIN FALL EVENT REPAIR IMMEDIATELY.
- 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.
- IF EROSION OCCURS DUE TO POORLY CONTROLLED DRAINAGE, THE PROBLEM SHALL BE FIXED AND THE ERODED AREA PROTECTED.
- 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 AND/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 INSPECTED UNTIL LAND DISTURBANCE IS COMPLETE AND THE AREA ABOVE THE MEASURE HAS BEEN PERMANENTLY STABILIZED

ROCK PIPE INLET PROTECTION - INSPECT ROCK PIPE INLET PROTECTION AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2 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 SEDIMENT 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 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 KEVED 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:

- THE OWNER SHALL OBTAIN NCG01 PERMIT AND PAY ANY FEE THAT MAYBE ASSOCIATED WITH THIS PERMIT.
- 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.
- THE TEMPORARY SEDIMENT BASINS ARE TO BE FULLY CONSTRUCTED PRIOR TO THE INSTALLATION OF ANY TEMPORARY DIVERSION DITCHES (TDD) OR PERMANENT DIVERSION DITCHES (PDD). CONSTRUCT TSBs #1-#2 AS TEMPORARY SEDIMENT BASINS FOLLOWING THE PROJECT CD PLAN SET.
- INSTALL TDD AND PDD'S PER DESIGN IN THE CD PLAN SET TO CONVEY RUNOFF TO TSB #1 AND TSB#2.
- INSTALL STORMWATER INFRASTRUCTURE DI-390 THROUGH TEMPORARY 11 FES, DI-396B THROUGH TEMPORARY FES 299, AND TEMPORARY 30 FES THROUGH TEMPORARY 31 FES. INSTALL ANY ADDITIONAL STORMWATER INFRASTRUCTURE NOTED IN THE STAGE 1 CD PLAN SET. NOTE THAT IN THE CONSTRUCTION DRAWINGS, PERMANENT 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/OUTLETS FOR THE TDD'S AND PDD'S UNTIL THEY ARE EVENTUALLY MODIFIED TO FINAL SITE DESIGN IN STAGE 3 (FOLLOWING FINAL SITE STABILIZATION). SEE EROSION AND SEDIMENT CONTROL PLANS FOR MORE DETAIL.
- NOTE THAT DRAINAGE PIPES UTILIZED TO CONVEY SEDIMENT LADEN WATER TO TEMPORARY SEDIMENT TRAPS ARE PRONE TO SEDIMENT BUILD UP. PIPES SHOULD BE INSPECTED AFTER RAIN EVENTS OF 1" OR GREATER WITHIN A 24-HOUR PERIOD. CONTRACTORS ARE TO ENSURE NO DAMMING OR SIGNIFICANT SEDIMENT BUILD UP ARE PRESENT WITHIN THE PIPES. FLUSHING OF PIPES WILL BE REQUIRED PERIODICALLY TO MAINTAIN PERFORMANCE.
- ALL TEMPORARY RIP RAP IS TO BE INSTALLED AS SEEN IN THE CD PLAN SET.
- 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. NOTE THAT INLETS WITH A DRAINAGE AREA OVER 1 ACRE ARE TO HAVE ROCK DOUGHNUT INLET PROTECTION.
- 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.
- 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.
- 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 INFRASTRUCTURE AS SEEN IN THE APPROVED CONSTRUCTION DRAWINGS. THE 400A TO 400B GREENWAY CULVERTS ARE NOT TO BE INSTALLED UNTIL STAGE 3. EXCAVATE TRENCH, INSTALL SECTION(S) OF PIPE, BACKFILL AND STABILIZE GROUND DISTURBANCE WITHIN A WORKDAY. MODIFICATIONS TO STORM DRAINAGE INFRASTRUCTURE INSTALLED IN STAGE 1 MAY BE REQUIRED AS FINISH GRADE IS ESTABLISHED ON SITE.
- NOTE THAT TEMPORARY STORMWATER INFRASTRUCTURE FES 11 AND FES 299 ARE TO REMAIN IN PLACE DURING STAGE 2 TO CONVEY STORMWATER TO TSB #1 AND TSB #2.
- ALL PERMANENT RIP RAP IS TO BE INSTALLED AS SEEN IN THE CD PLAN SET.
- 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. NOTE THAT INLETS WITH A DRAINAGE AREA OVER 1 ACRE ARE TO HAVE ROCK DOUGHNUT INLET PROTECTION.
- FOLLOWING CONNECTION TO KALAS FALLS PHASE 3 STORM DRAINAGE INFRASTRUCTURE, A PLUG SHALL BE INSTALLED AT THE INVERT OUT OF STRUCTURE 377-CB. THIS IS TO ELIMINATE SEDIMENT BEING CONVEYED TO SCM 3B (REGIONAL SCM) LOCATED ON KALAS PHASE 3. THE PLUG WILL 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 3 STEP 1).
- CULVERT CROSSING BENEATH GRAYMONT OAKS DRIVE ARE TO BE INSTALLED FOLLOWING CD PLAN SET DESIGN. IDEALLY, THE CULVERT INSTALLATION IS TO BE COORDINATED WITH THE DAM REHABILITATION PROJECT (SEPARATE COVER/PERMIT) FOR THE KALAS FALLS POND.
- ROAD CONSTRUCTION SHALL TAKE PLACE.
- ANY 3:1 SLOPE OR GREATER ADJACENT TO THE GRAYMONT OAKS DRIVE ARE TO HAVE ROLLED EROSION CONTROL BLANKETS INSTALLED AS GRADES ARE BROUGHT TO FINISHED ELEVATIONS. COMPOST SOCKS ARE TO BE UTILIZED PERPENDICULAR TO THE FLOW OF WATER TO PREVENT RILL/GULLY, SEE CD PLAN SET.
- CONSTRUCTION ENTRANCE #2 TO THE EAST OF THE SITE MAY BE INSTALLED.
- CLEAN SEDIMENT BASINS WHEN ONE-HALF FULL.
- SEED AND MULCH DENUDED AREA INCLUDING ANY CUT/FILL SLOPES WITHIN FOURTEEN (14) DAYS AFTER FINISHED GRADES ARE ESTABLISHED.
- MAINTAIN SOIL EROSION CONTROL MEASURES.
- UTILITIES (WATER, ELECTRIC, GAS, CABLE TV, TELEPHONE, ETC.) WILL BE INSTALLED DURING THIS PHASE.
- CALL FOR INSPECTION BY WAKE COUNTY WATERSHED MANAGER FOR APPROVAL BEFORE PROCEEDING TO STAGE 3 CONSTRUCTION.

STAGE 3 E&SC CONSTRUCTION SEQUENCE:

- CALL FOR AN ONSITE INSPECTION BY THE WAKE COUNTY WATERSHED MANAGER FOR APPROVAL TO REMOVE/BACKFILL TSB #1 AND TSB #2 AND REMOVE PLUG IN STRUCTURE CB-377, ALLOWING FOR SITE STORMWATER RUNOFF TO BE CONVEYED TO SCM #3B.
- ONCE PROJECT IS APPROVED TO OUTLET TO SCM #3B, ANY TEMPORARY STORMWATER PIPES REMAINING CAN BE REMOVED OR ABANDONED IN PLACE AND FILLED WITH FLOWABLE FILL.
- AS SURROUNDING PROJECT AREAS ARE BROUGHT TO FINAL GRADE ELEVATIONS, ROLLED EROSION CONTROL BLANKETS SHOULD BE IMPLEMENTED ON SLOPES OF 3:1 OR GREATER TO PROMOTE PROMPT GROUND SURFACE STABILIZATION. THESE AREAS SHOULD BE SEEDED FOLLOWING THE NPDES SEEDING SCHEDULE WITHIN THE CD PLAN SET. UTILIZE COMPOST SOCKS ON SLOPES TO MINIMIZE/ATTENUATE RUNOFF AS SEEN IN CD PLAN SET.
- AS SITE IS BROUGHT TO FINAL ELEVATIONS, PERMANENT DIVERSION DITCHES SHOULD BE INSTALLED WITH RECOMMENDED LINER AS SEEN IN THE CD PLAN SET TO CONVEY STORMWATER RUNOFF.
- THE 400A TO 400B GREENWAY CULVERT AND RIP RAP CAN BE INSTALLED AS SEEN IN THE CD PLAN SET.
- VERTICAL CONSTRUCTION MAY BEGIN.
- CLEAN/INSPECT INLET PROTECTION FOLLOWING ANY STORM EVENTS OF 1" OR EVERY FOURTEEN (14) DAYS.
- SEED AND MULCH DENUDED AREA INCLUDING ANY CUT/FILL SLOPES WITHIN FOURTEEN (14) DAYS AFTER FINISHED GRADES ARE ESTABLISHED.
- MAINTAIN SOIL EROSION CONTROL MEASURES UNTIL PERMANENT GROUND IS ESTABLISHED.
- REQUEST INSPECTION BY WAKE COUNTY WATERSHED MANAGER AFTER VEGETATION IS ESTABLISHED TO REMOVE REMAINING EROSION CONTROL MEASURES.
- 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 PERMIT.
- THE OWNER IS TO FINALIZE THE NCG01 PERMIT.

NOTES FOR CONSTRUCTION:

- PLANS FOR INFRASTRUCTURE ONLY.
- 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 STABILIZED 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.
- THE AREA DESIGNATED SHALL BE USED FOR TOPSOIL STOCKPILE.
- MINIMUM CORNER CLEARANCE FROM THE CURB LINE OF INTERSECTING STREETS SHALL BE AT LEAST 20 FEET FROM THE POINT OF TANGENCY.

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 OR 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.

10-YEAR EROSION & SEDIMENT CONTROL DIVERSION DITCH CALCULATIONS (VARIAIBLE SIDE SLOPES)									
#	DRAINAGE AREA (AC)	AVERAGE SLOPE (%)	WIDTH (FT)	DEPTH (FT)	V ₁₀ (FT/S)	CALCULATED τ (LBS/FT²)	RECOMMENDED LINER	LINER ALLOWABLE τ (LBS/FT²)	
TDD 1A	2.04	0.81	6	1.5	2.53	0.76	AM. EXCELSIOR CO.; CURLEX NET FREE	1.00	
TDD 1B	1.29	2.28	6	1.5	3.28	2.13	AM. EXCELSIOR CO.; CURLEX III; 2 NETS	2.30	
TDD 1C	1.13	3.46	6	1.5	3.89	3.24	GEOCOIR/DEKOWE; 700	4.46	
PDD 1D (BYPASS)	7.98	3.01	9	1.5	4.79	2.82	AM. EXCELSIOR CO.; CURLEX HIGH VELOCITY; 2 NETS	3.00	
TDD 2A	4.82	1.05	8	2	3.25	1.31	AM. EXCELSIOR CO.; STRAW; 2 NETS	1.50	
PDD 2B	2.89	2.99	9	1.5	4.11	2.80	AM. EXCELSIOR CO.; CURLEX HIGH VELOCITY; 2 NETS	3.00	
TDD 2C	4.92	2.60	6	1.5	4.44	2.43	AM. EXCELSIOR CO.; CURLEX HIGH VELOCITY; 2 NETS	3.00	

NOTE: ALL DIVERSION DITCH (TDD) CROSS SECTIONS ARE TRIANGULAR. TRACTIVE FORCE, τ, IS CALCULATED USING: τ = (γ)(D_{CHAN})(S_{CHAN}) WHERE:

- 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)
- TDD IS TEMPORARY DIVERSION DITCH
- PDD IS PERMANENT DIVERSION DITCH

REQUIRED WAKE COUNTY BASIN REMOVAL SEQUENCE

- 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.
- 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.
- PERFORM SEEDBED PREPARATION, SEED, MULCH AND ASPHALT TACK ANY RESULTING BARE AREAS IMMEDIATELY.
- INSTALL VELOCITY DISSIPATORS AND/OR LEVEL SPREADERS AS REQUIRED ON THE EROSION CONTROL PLAN.
- 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.

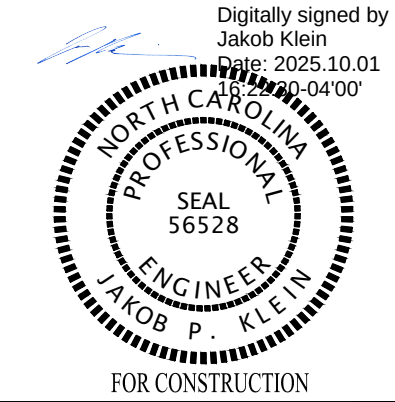
NOTE: A MEETING SHOULD ALSO BE SCHEDULED WITH THE ENVIRONMENTAL CONSULTANT TO DETERMINE WHEN A BASIN MAY BE CONVERTED FOR STORMWATER USE. SOME MUNICIPALITIES MAY ALSO REQUIRE THIS.

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	B	12	1	4	2	6	4
FES 11 (TEMP)	12	0.17	B	12	1	4	2	6	4
FES 20 (TEMP)	36	3.71	B	12	7	22	6	18	12
FES 30B	36	4.17	B	12	7	22	6	18	12
FES 400A	18	3.25	B	12	2	7	3	9	6
TDD #1C SLOPE DRAIN	18	3.41	B	12	2	7	3	9	6
TDD #2A SLOPE DRAIN	36	5.27	B	12	7	22	6	18	12
TDD #2B SLOPE DRAIN	24	4.00	B	12	3	11	4	12	8
TSB #1 SPILLWAY	---	---	B	12	17	28	16	16	14
TSB #2 SPILLWAY	---	---	B	12	17	28	16	16	14

Calculations were determined from NCDOT Detail 876.02 Guide for Rip rap at Pipe Outlets Values shown in table above are minimum quantities and dimensions

CONTRIBUTING AREAS TO SFO	
SFO IDENTIFICATION	AREA (SF)
#1	4,082
#2	10,677
#3	10,045
#4	4,193
#5	10,477
#6	10,185
#7	10,236
#8	10,044
#9	10,100

NOTE: EACH SILT FENCE OUTLET CONTRIBUTING AREA IS LIMITED TO 0.25 ACRES OR 10,890 SF. ONLY THE SILT FENCE OUTLETS WITH LARGE CONTRIBUTING AREAS WERE DELINEATED FOR CALCULATIONS TO ENSURE MAXIMUM AREAS WERE MAINTAINED. IT IS RECOMMENDED FOR THE CONTRACTOR TO INSTALL SILT FENCE OUTLETS AT EACH LOCATION SHOWN IN THE CONSTRUCTION DRAWINGS PLAN SET TO ENSURE PROPER SEDIMENT CONTROL.



NO.	DATE	REVISION	UPDATED FINANCIALLY RESPONSIBLE PARTY
1	09/26/2025		

STIPULATION FOR REUSE
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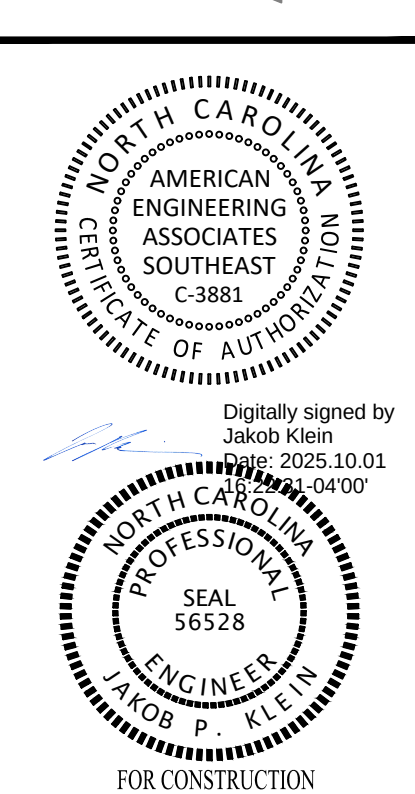
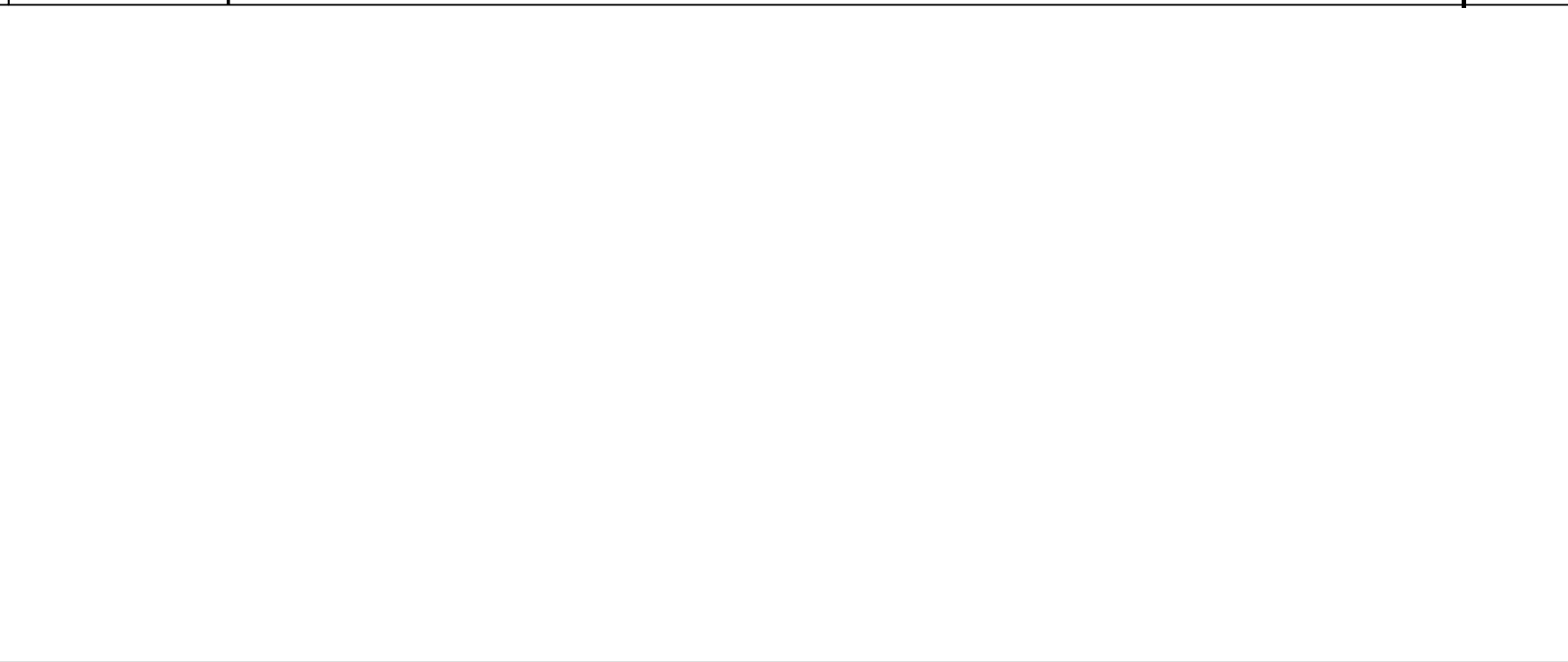
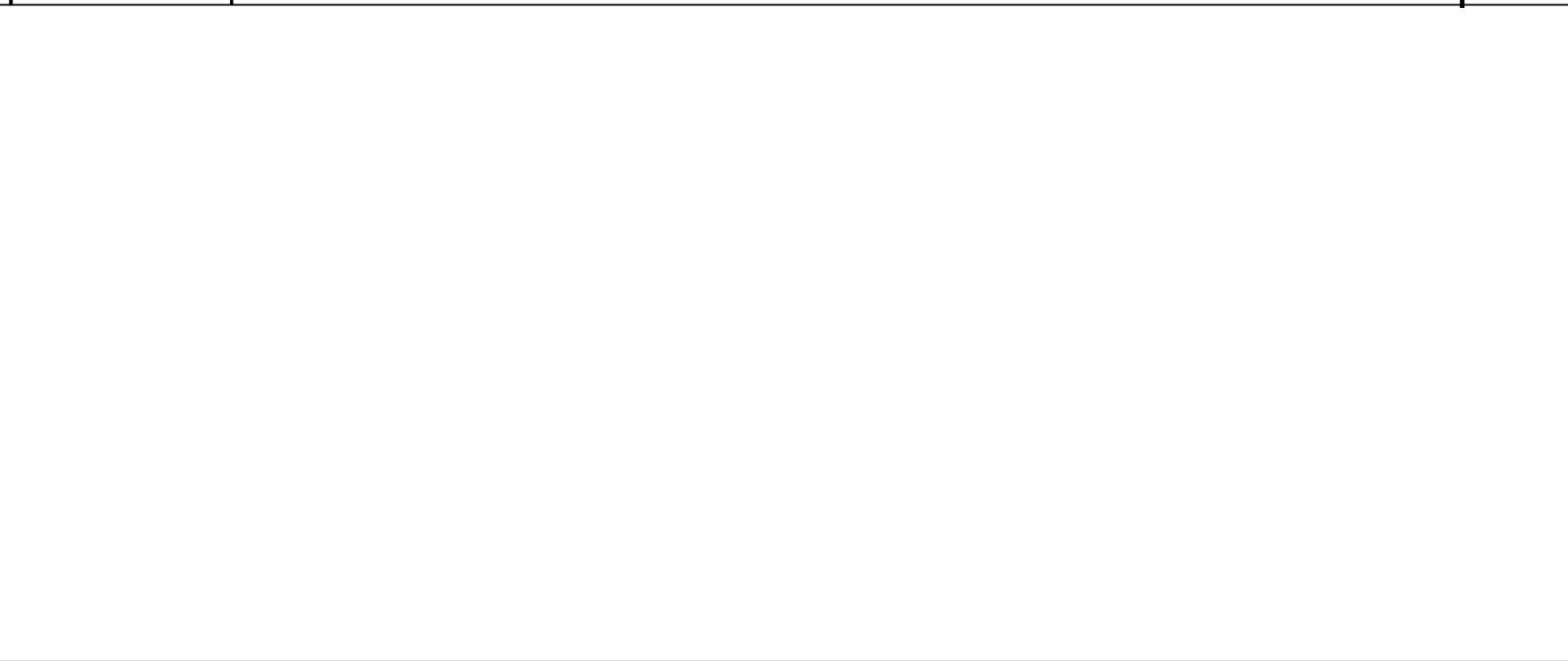
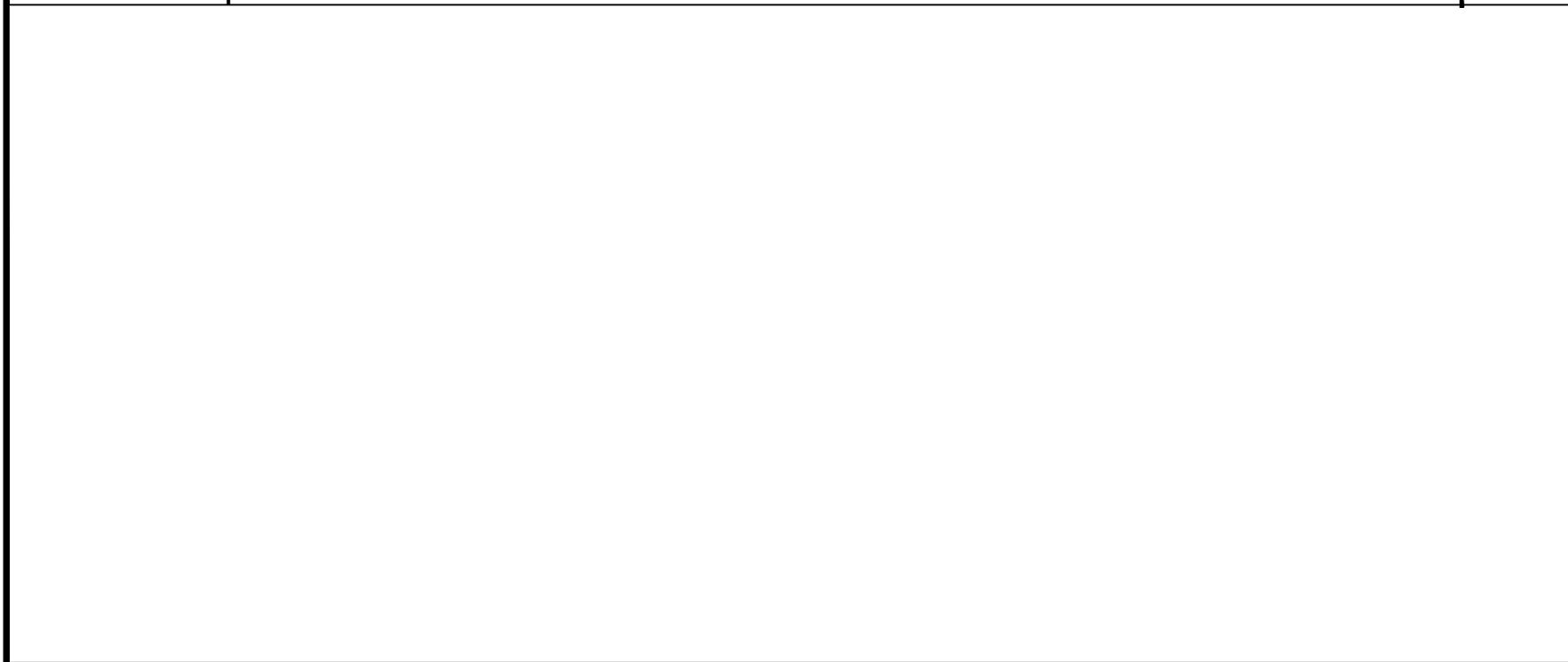
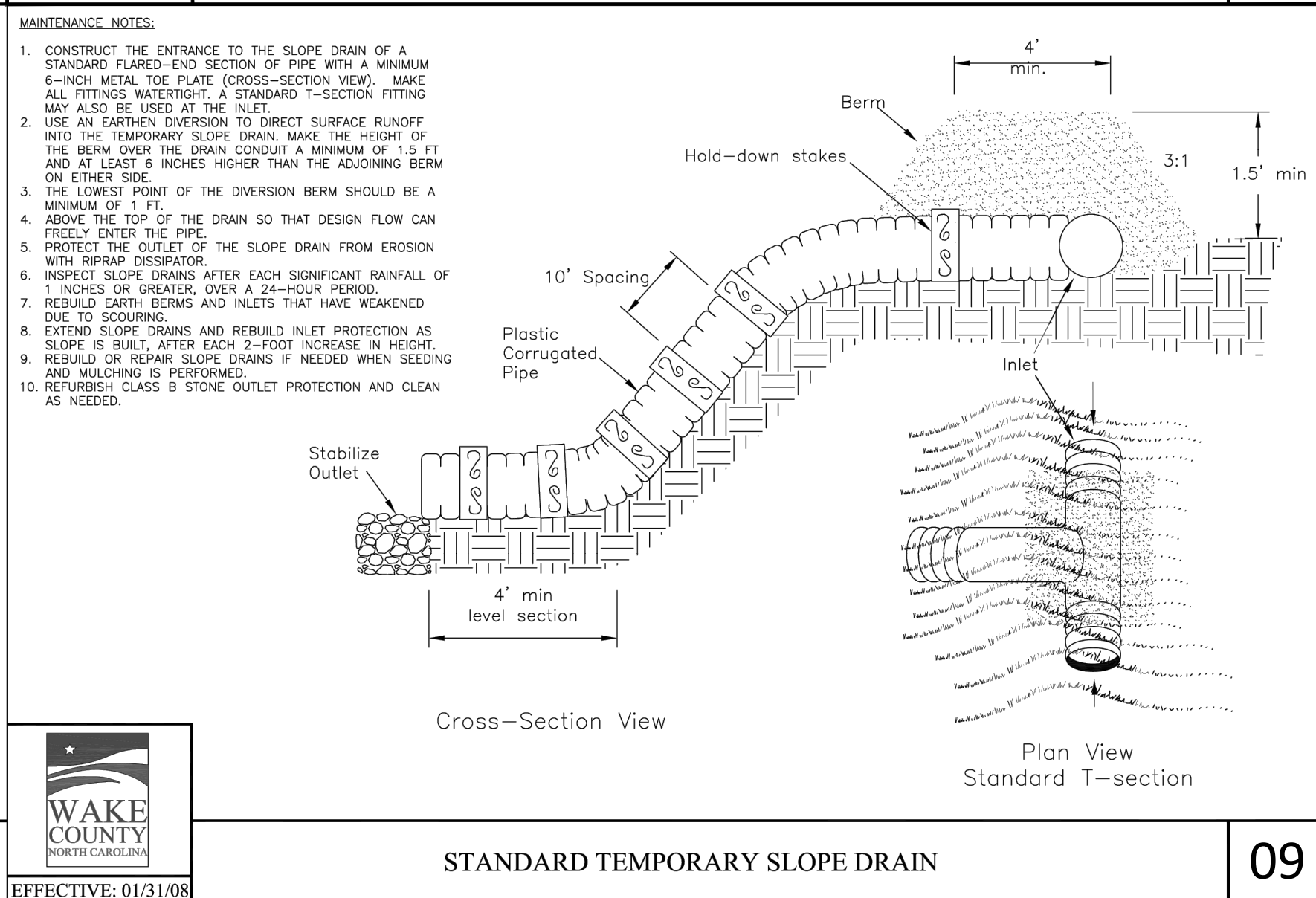
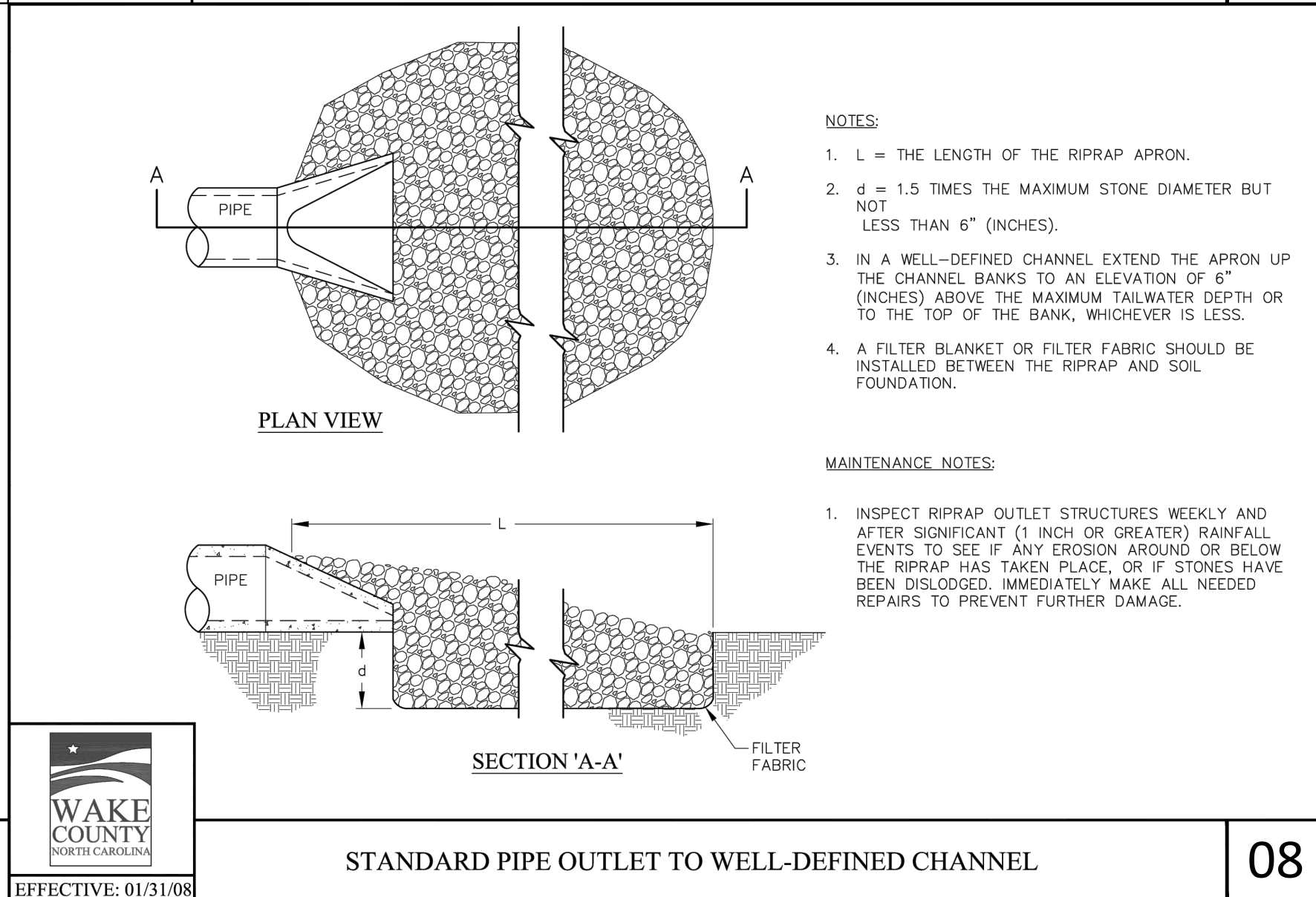
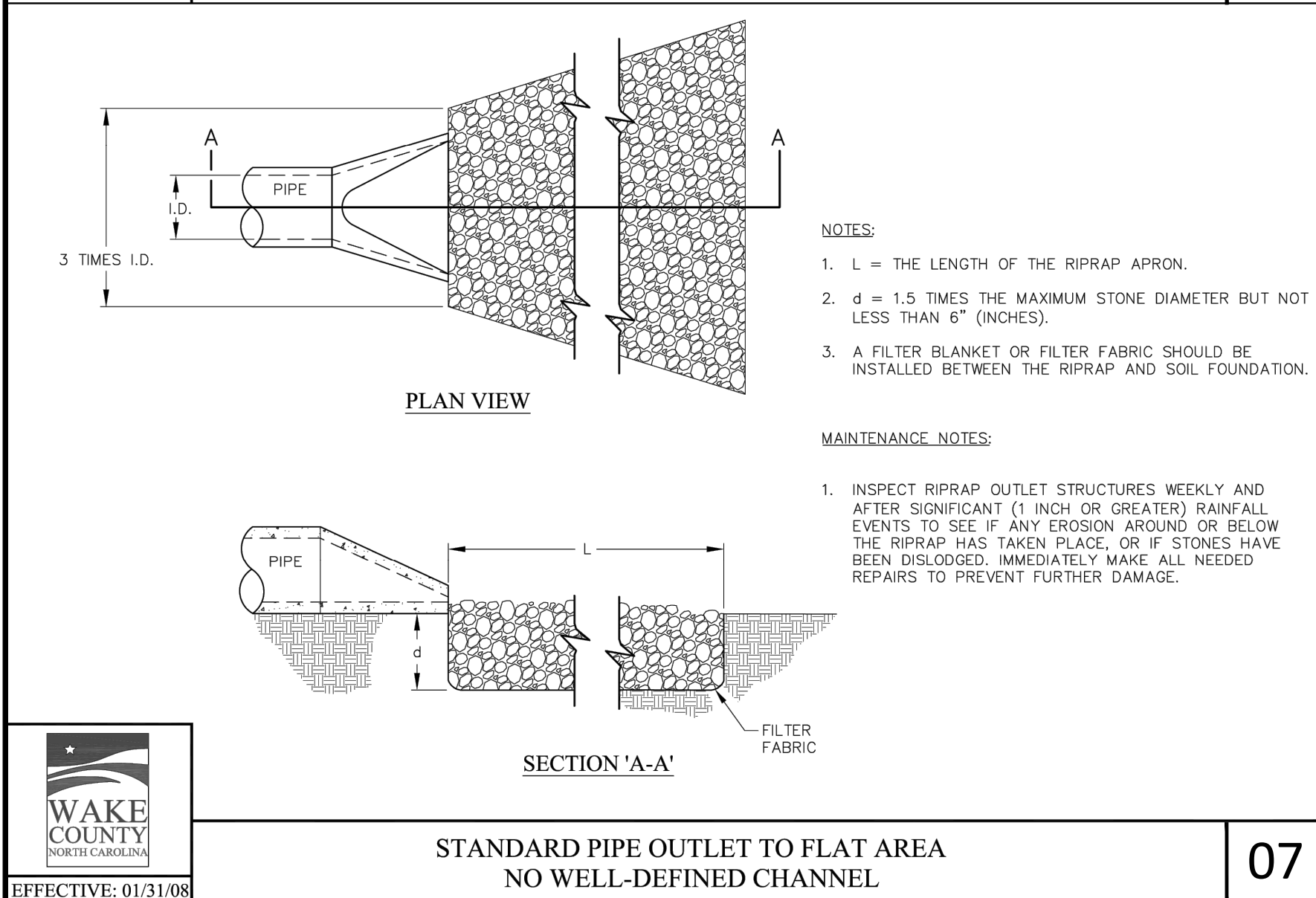
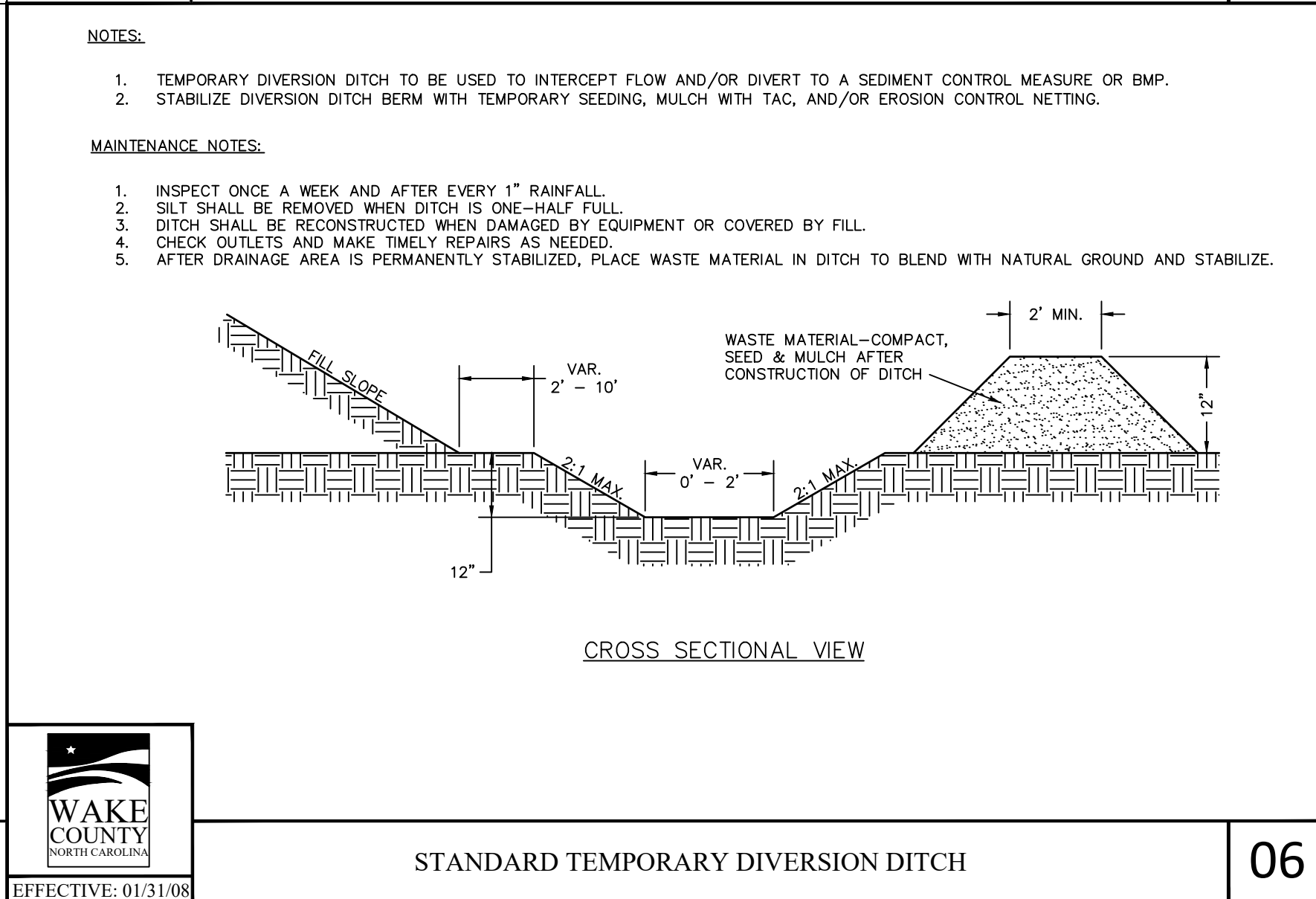
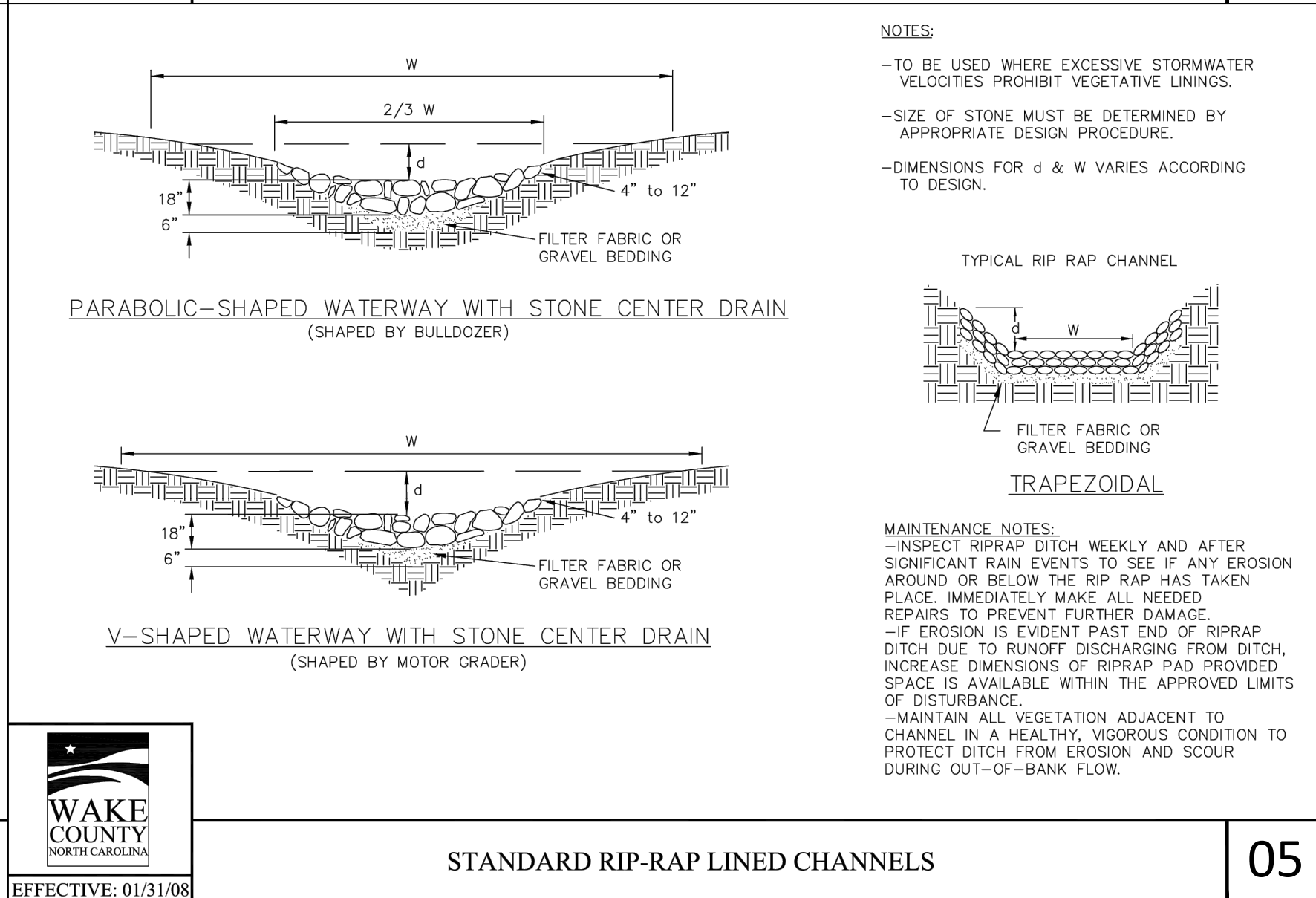
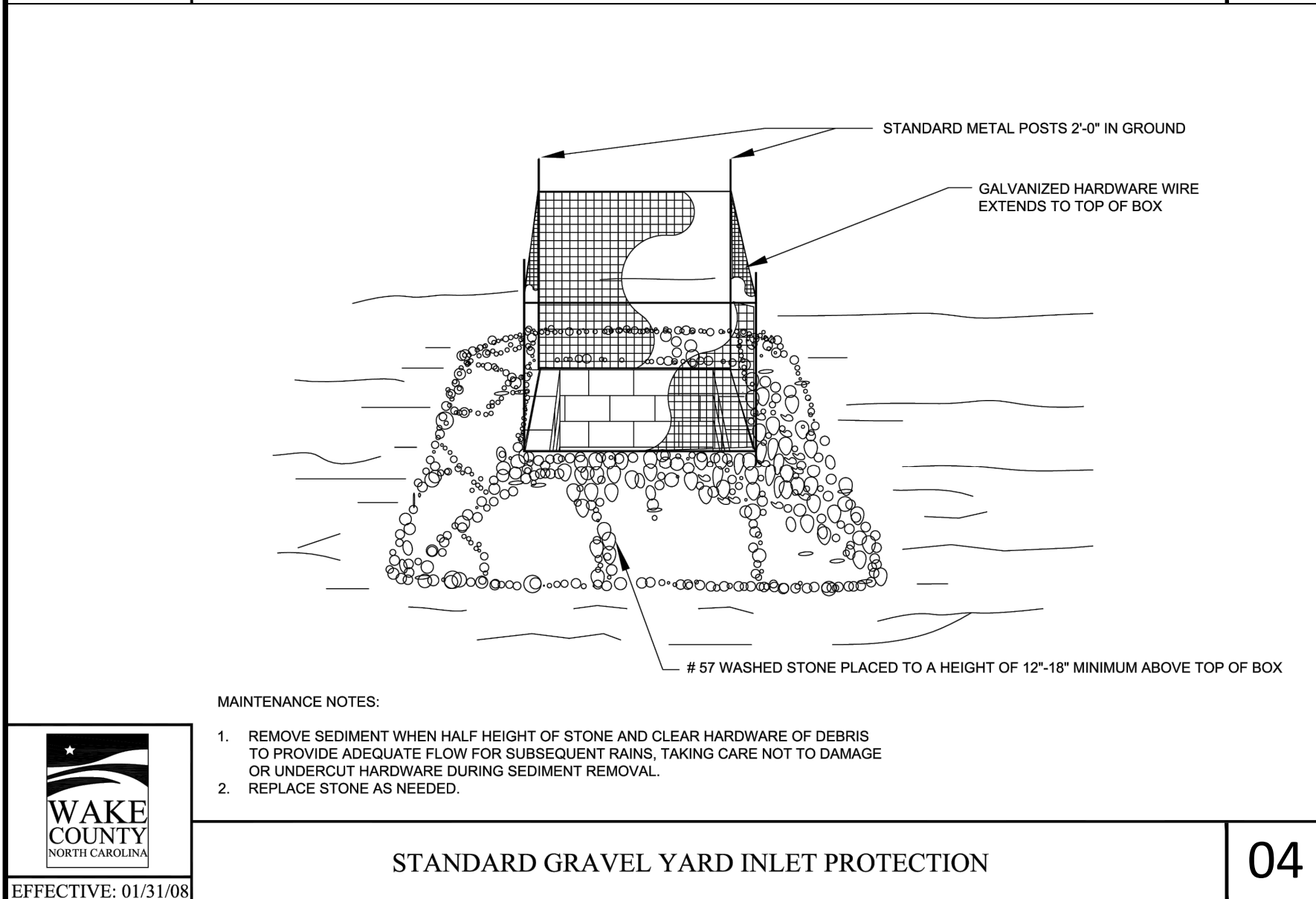
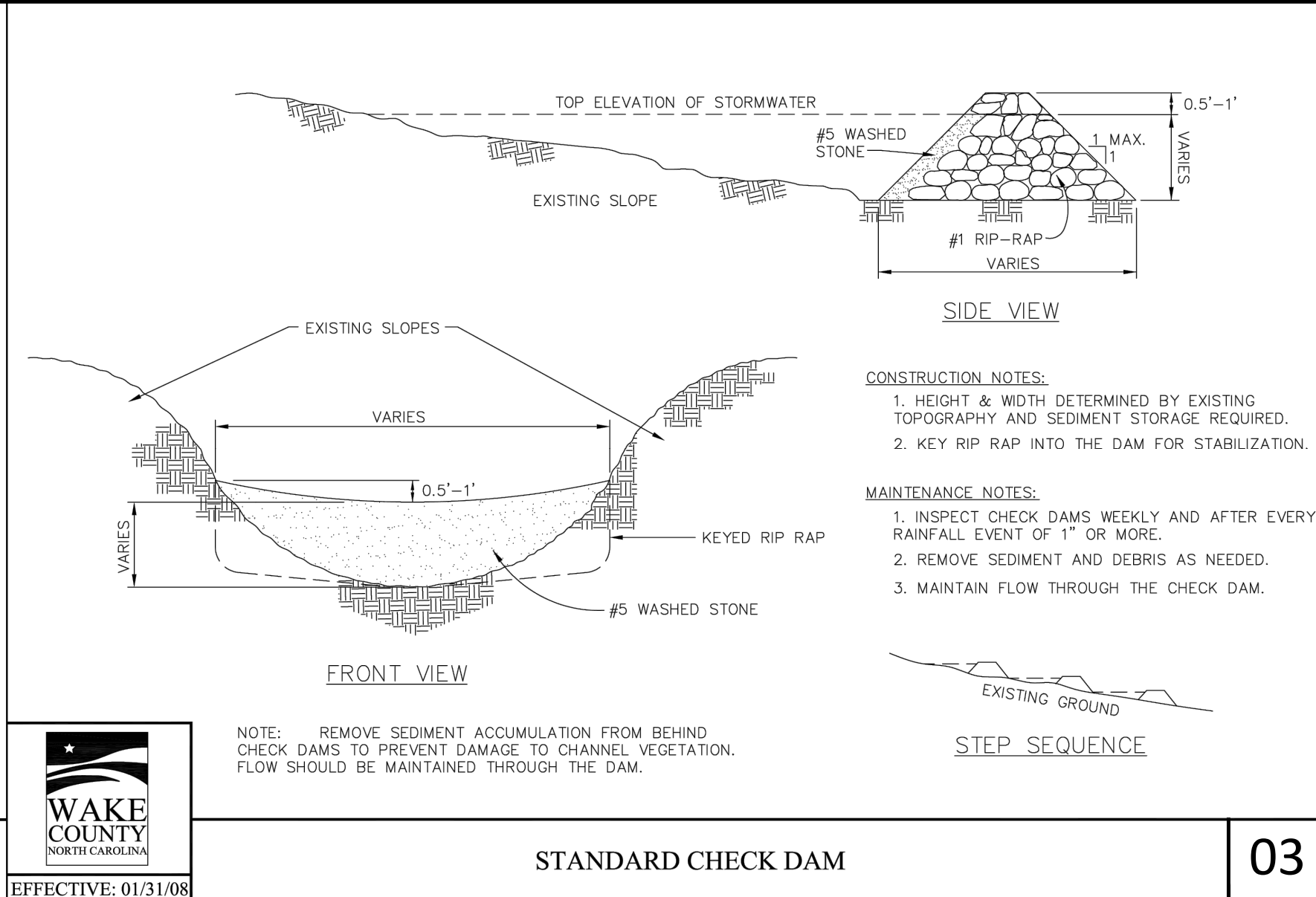
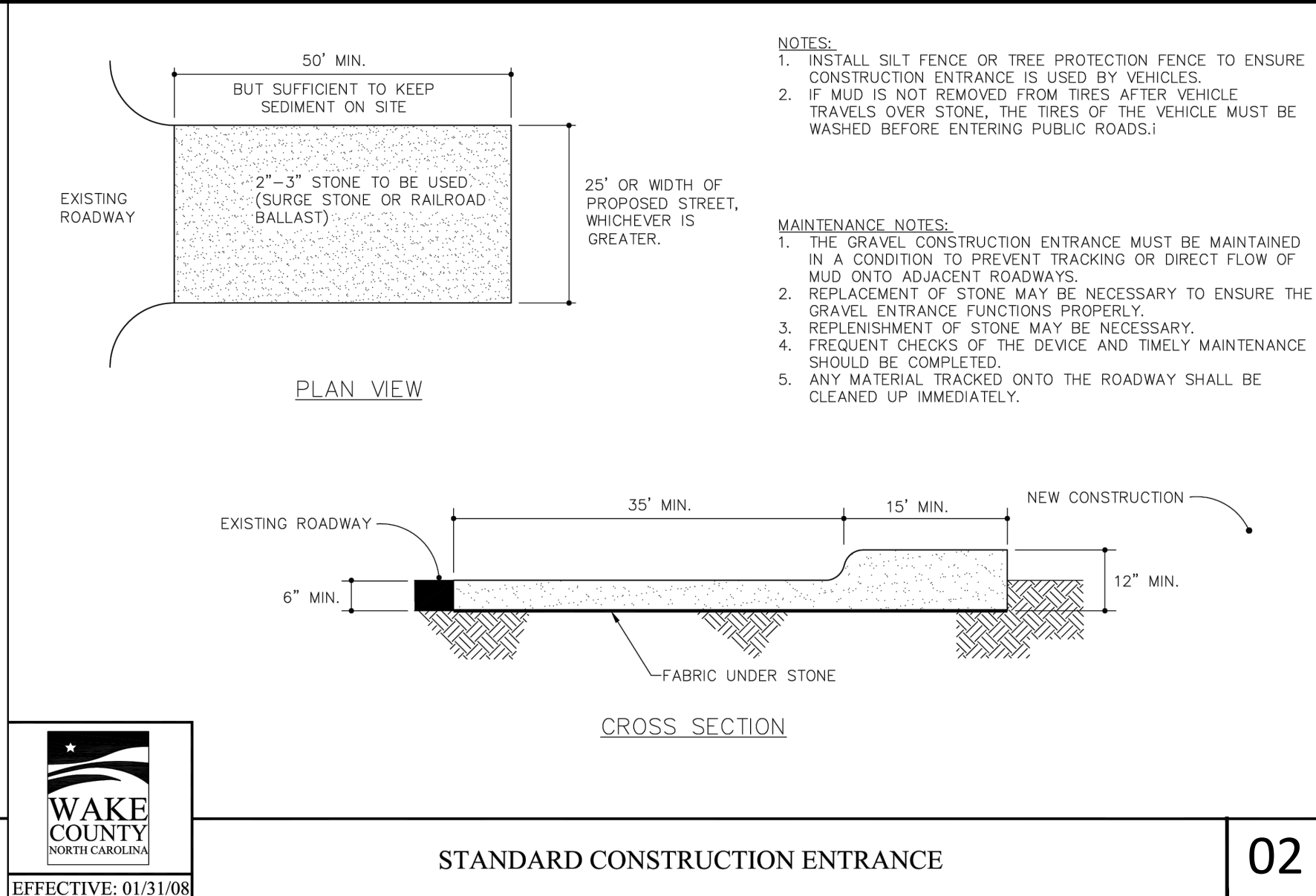
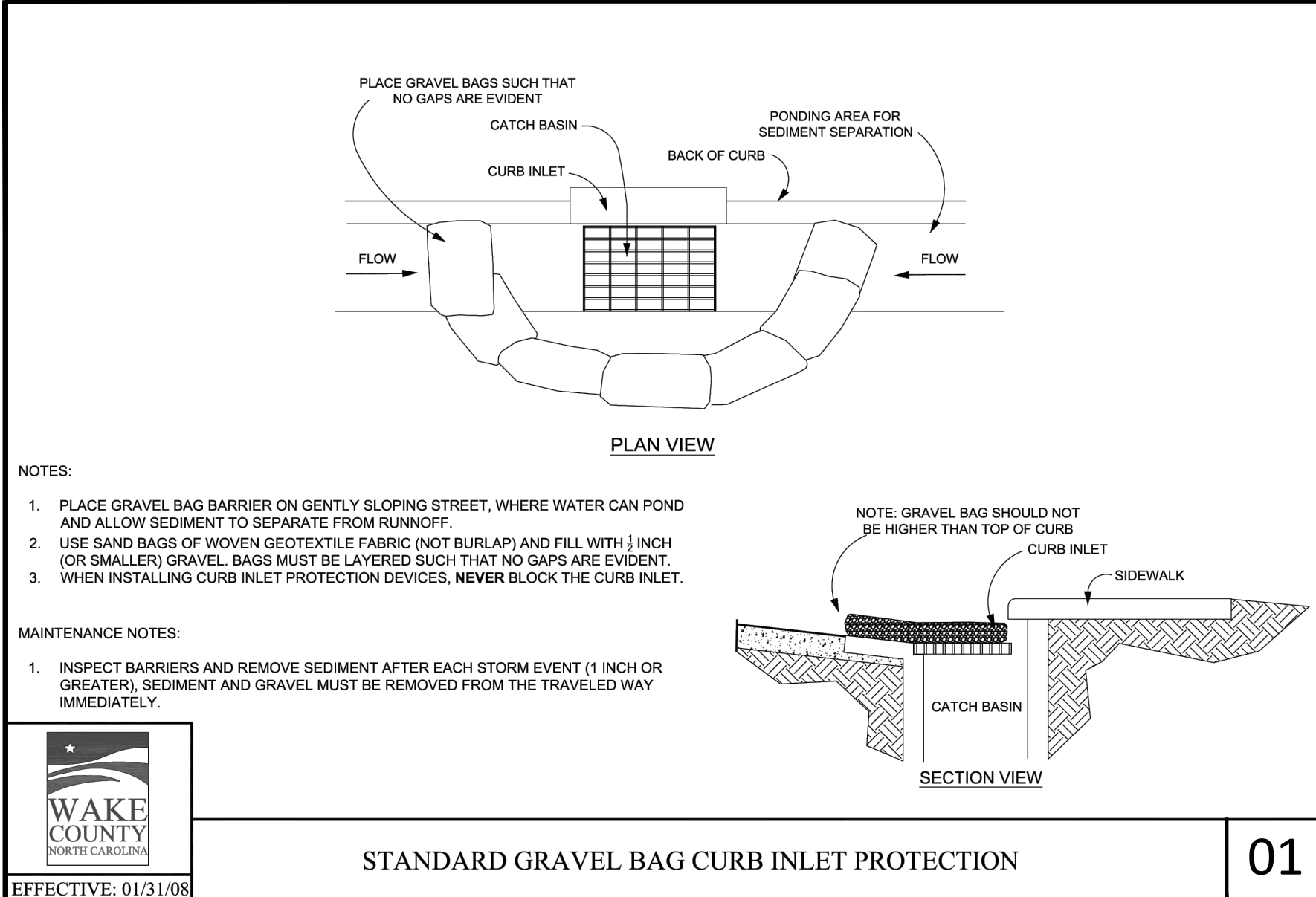
KALAS FALLS
PHASE 5
CONSTRUCTION INFRASTRUCTURE DOCUMENTS
CID-25-01
TOWN OF ROLESVILLE,
WAKE COUNTY, NC

JOB NUMBER: R180115
CHECKED BY: JK
DRAWN BY: GE, RC
DATE: 09-26-2025
SHEET TITLE:

ESC DETAILS

SHEET NO.:
CE500





NO.	DATE	REVISION
1	07/26/2025	UPDATED FINANCIALLY RESPONSIBLE PARTY

STIPULATION FOR REUSE

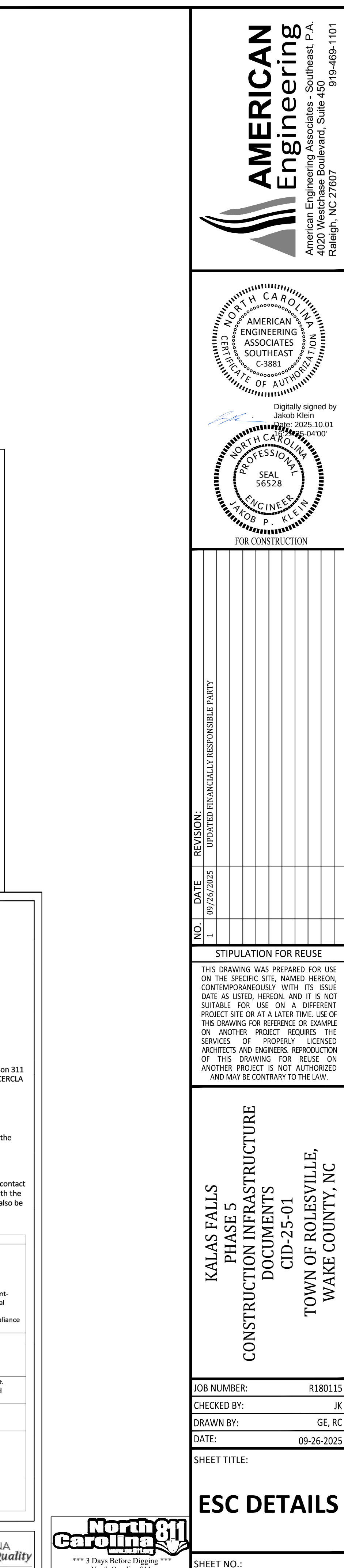
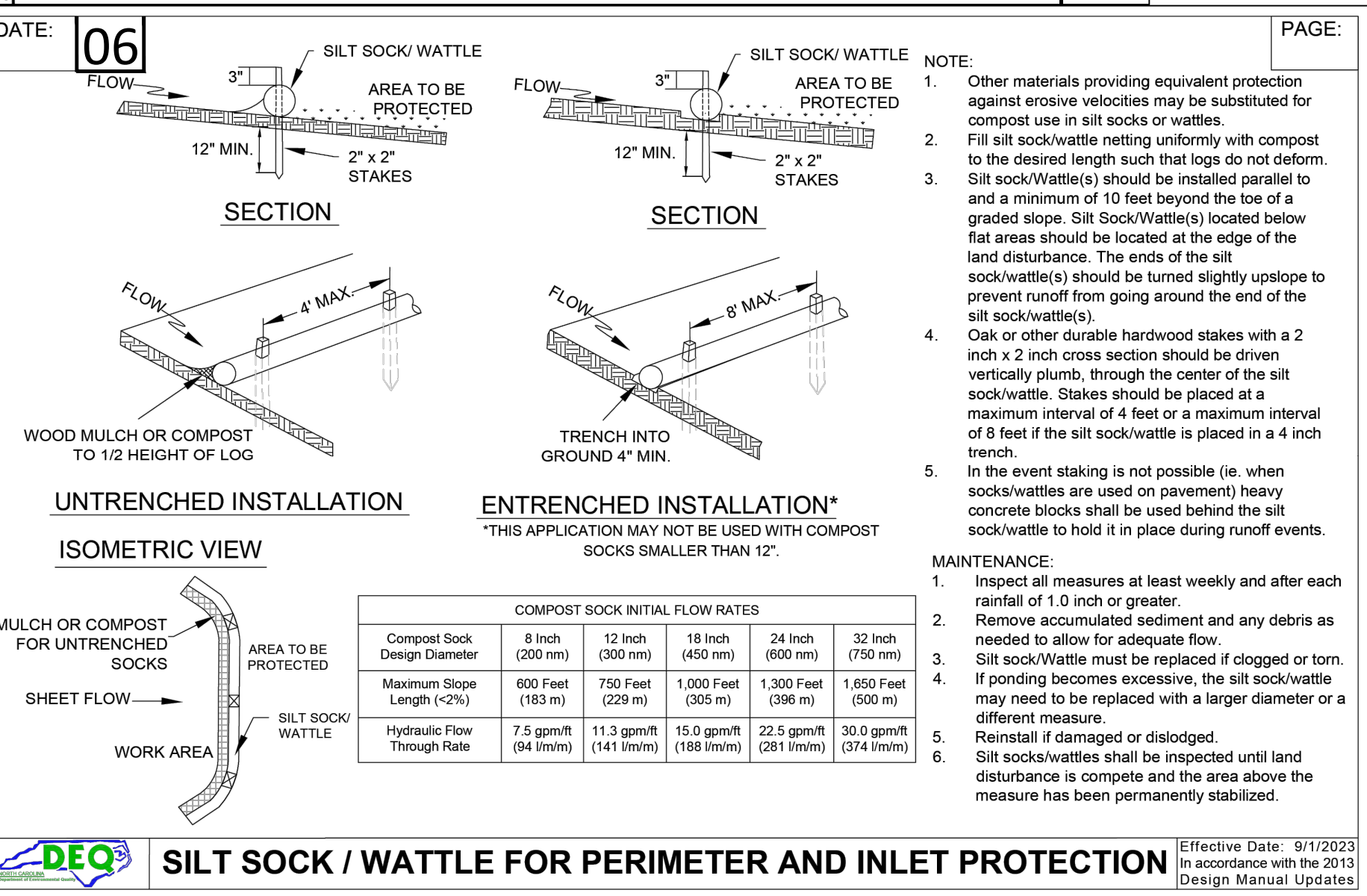
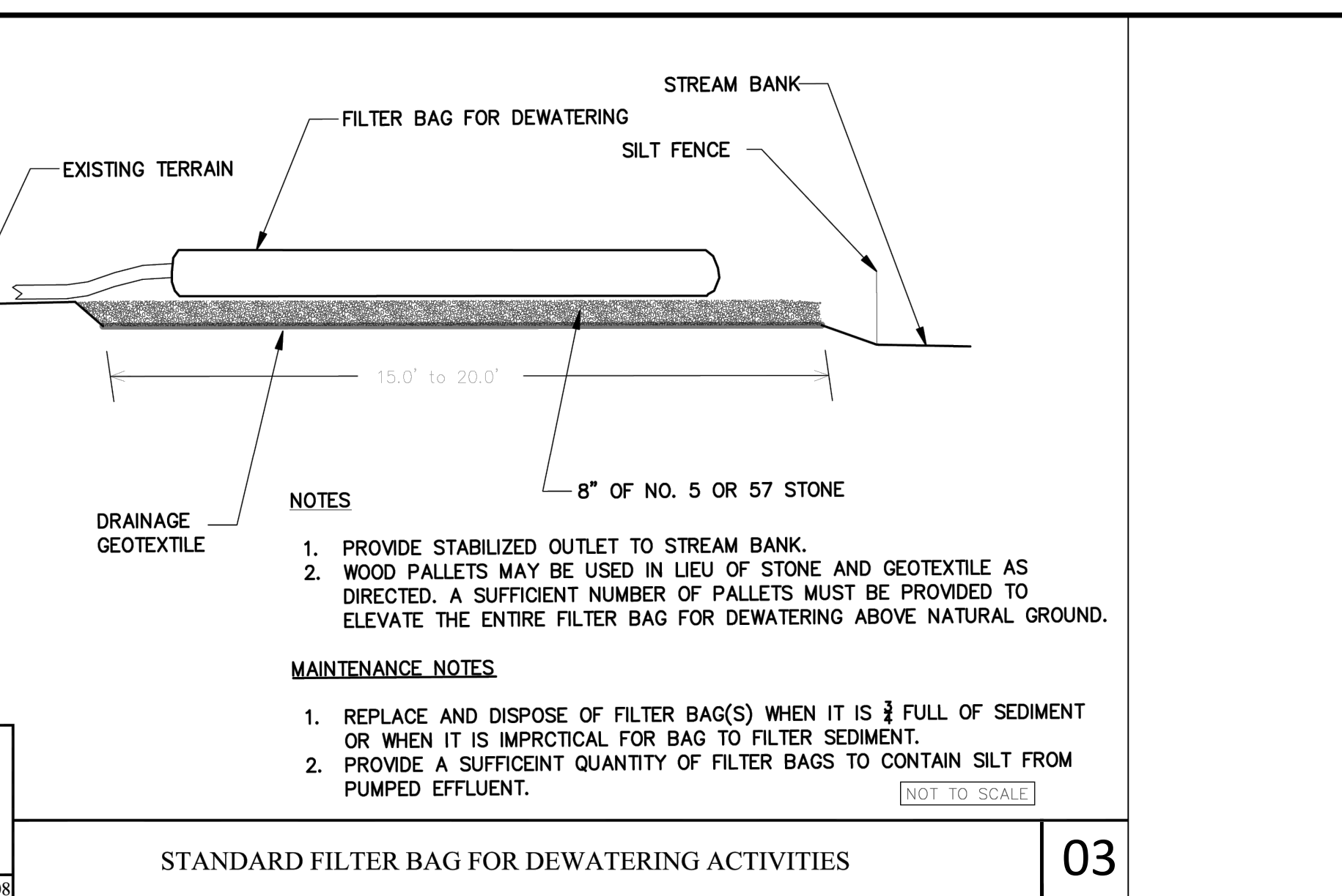
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**KALAS FALLS
PHASE 5
CONSTRUCTION INFRASTRUCTURE
DOCUMENTS
CID-25-01
TOWN OF ROLESVILLE,
WAKE COUNTY, NC**

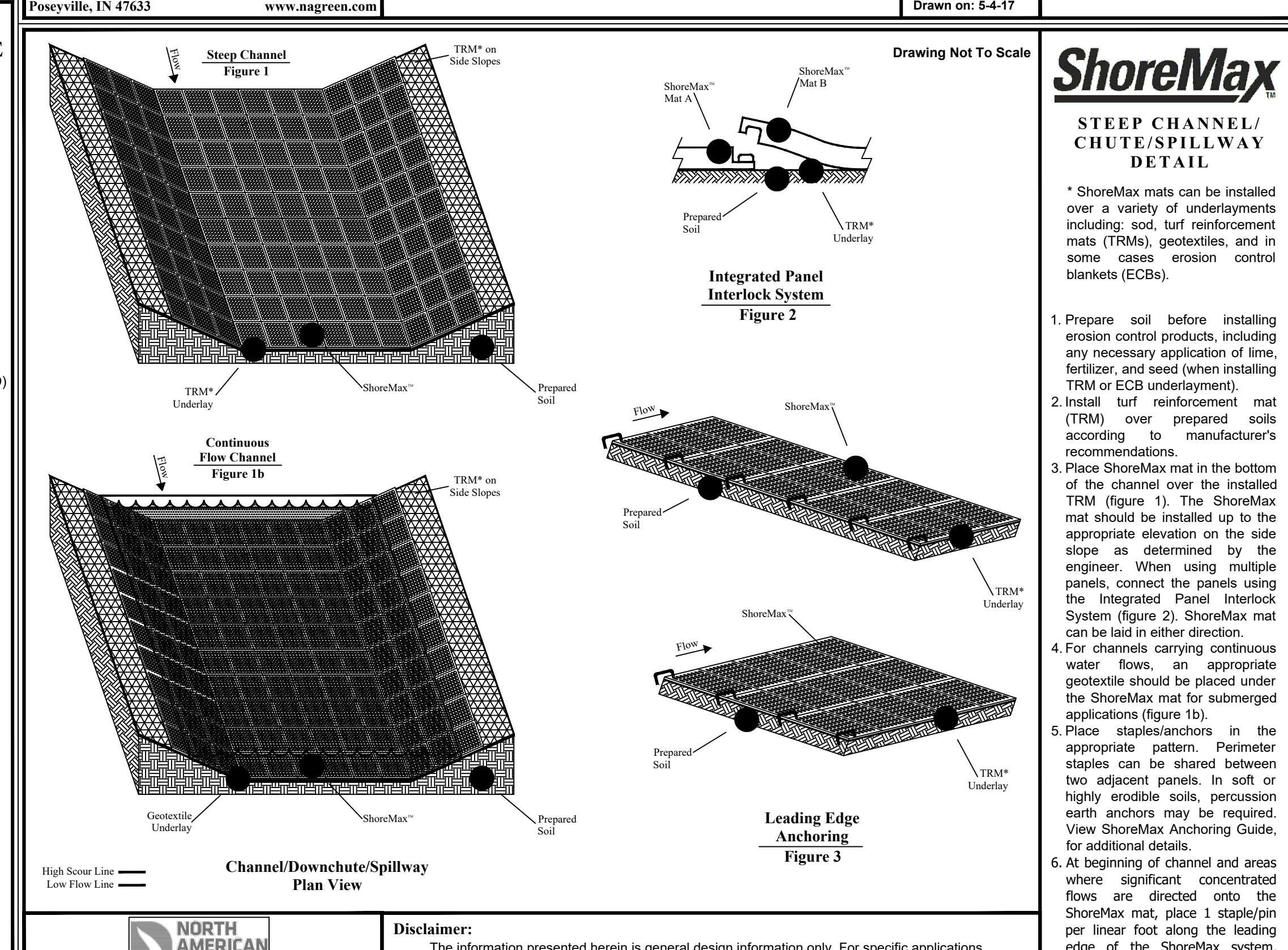
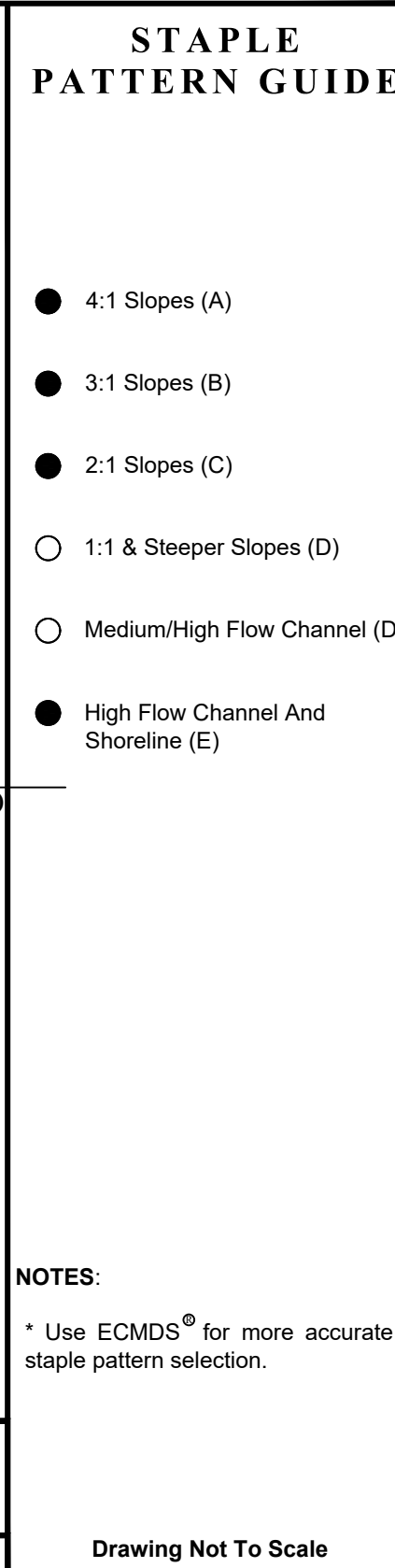
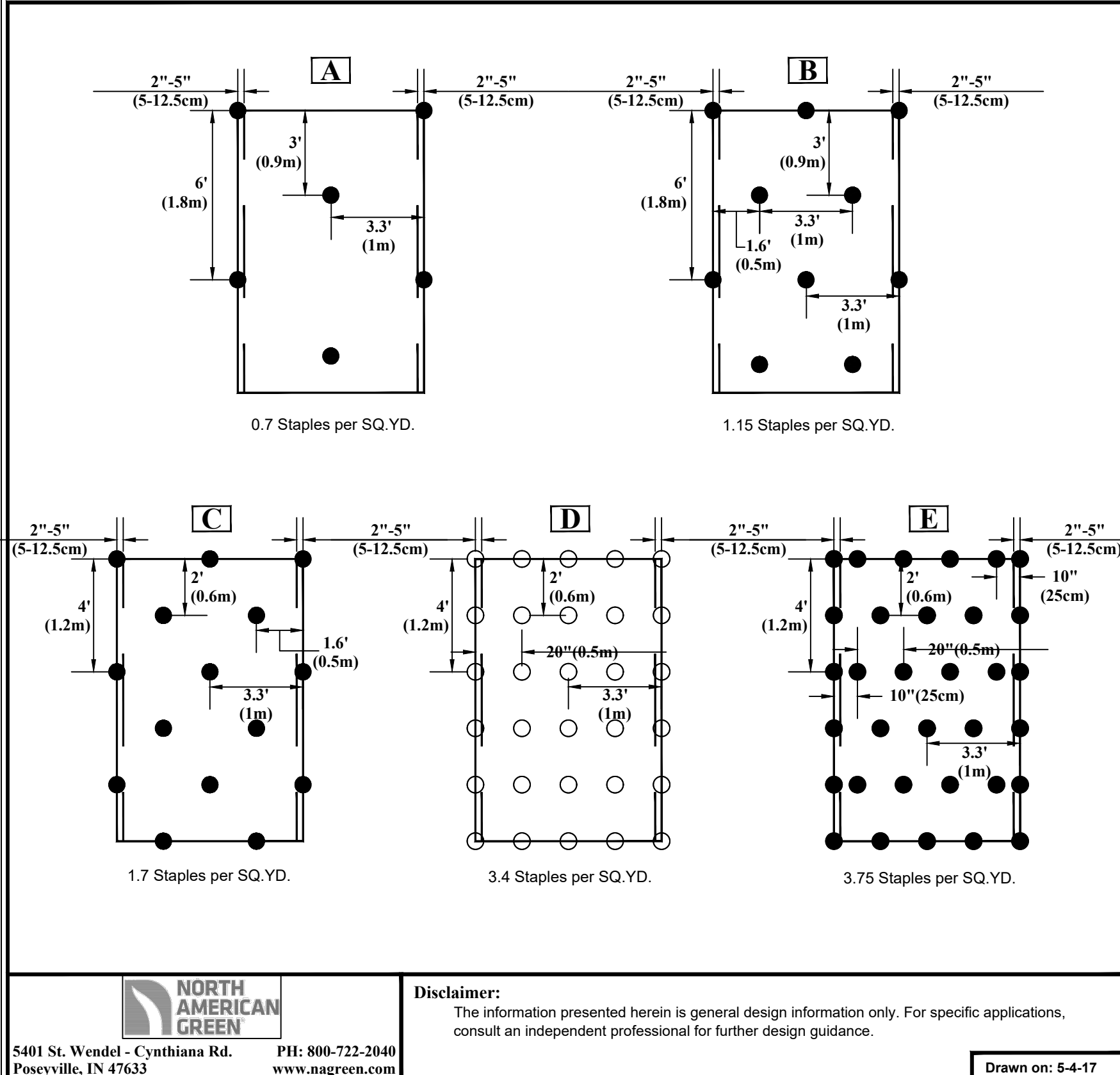
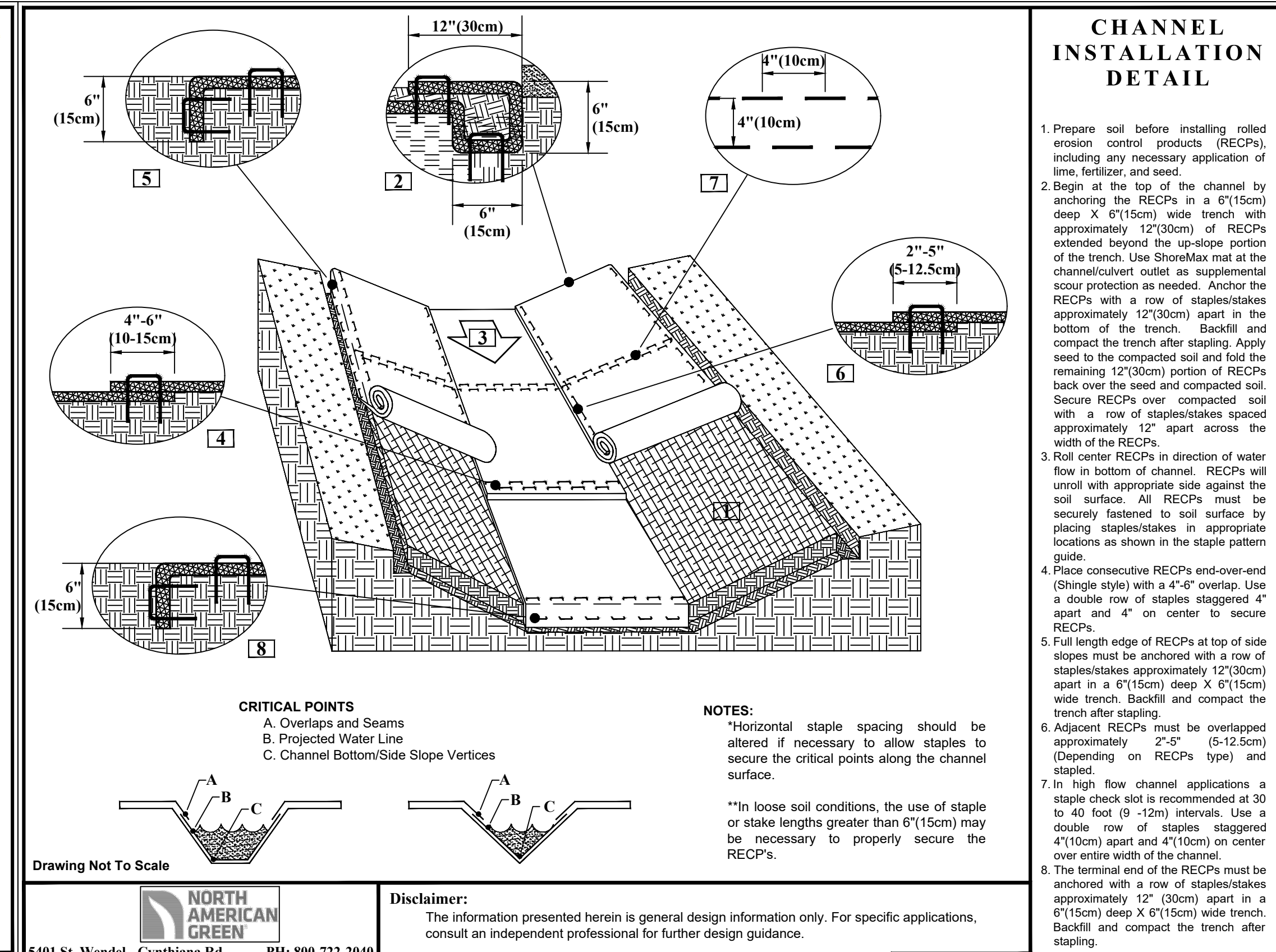
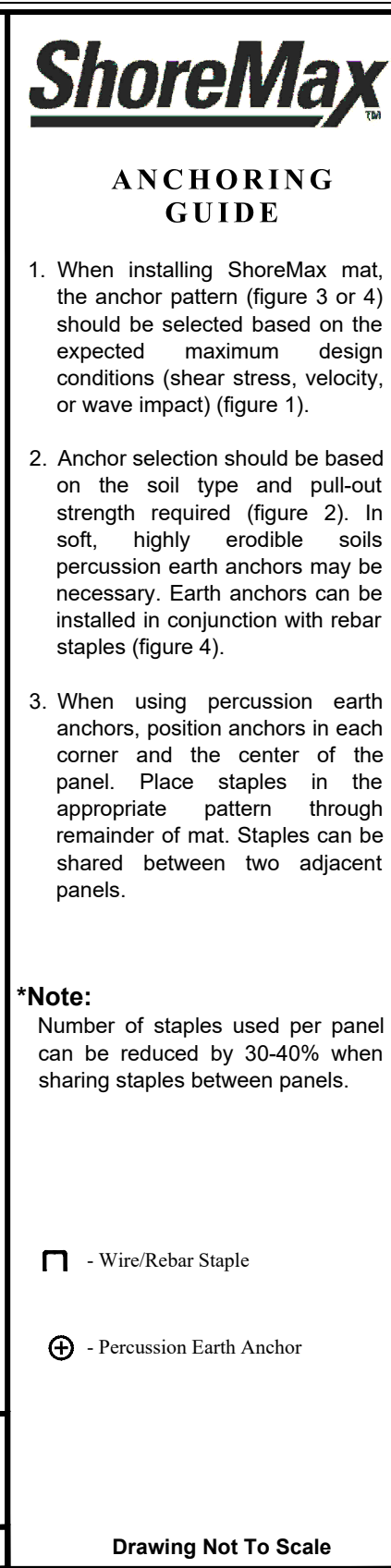
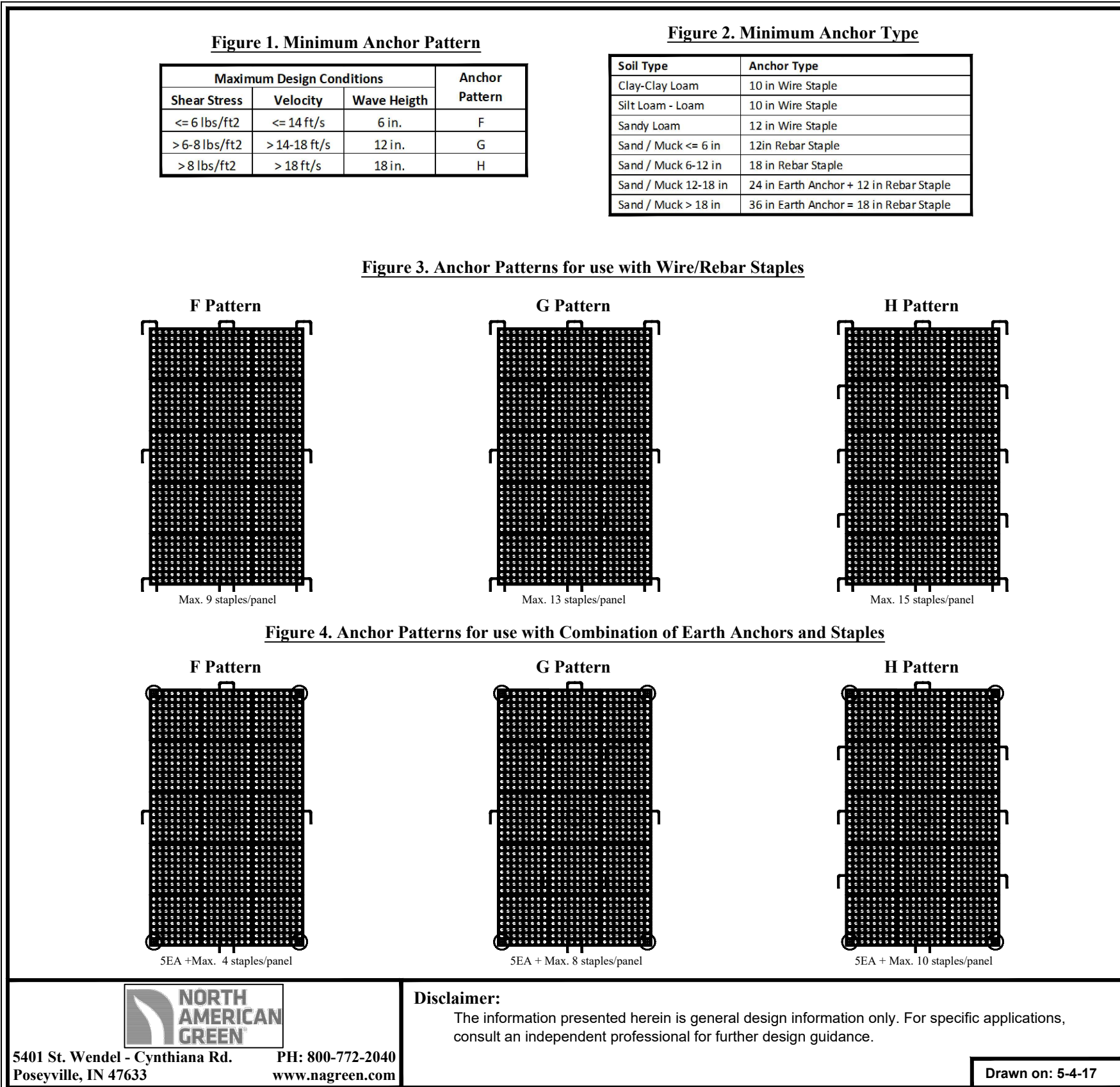
JOB NUMBER: R180115
CHECKED BY: JK
DRAWN BY: GE, RC
DATE: 09-26-2025

SHEET TITLE:
ESC DETAILS
SHEET NO.:
CE501





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2025-09-26



NO.	DATE	REVISION:
1	09/26/2025	UPDATED FINANCIALLY RESPONSIBLE PARTY

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PHASE 5
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TOWN OF ROLESVILLE,
WAKE COUNTY, NC

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DATE: 09-26-2025
SHEET TITLE:

ESC DETAILS

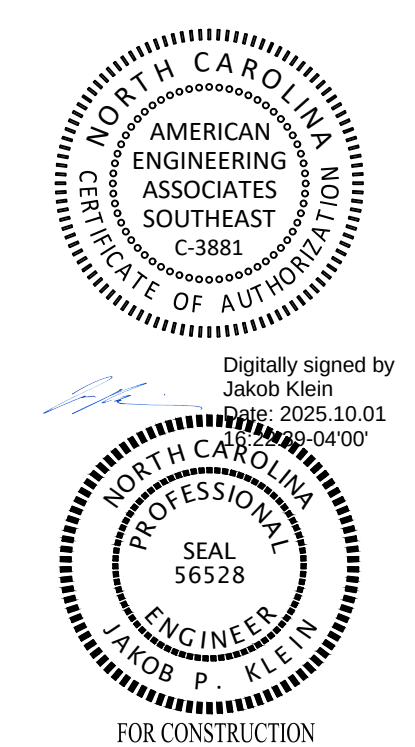
SHEET NO.:
CE504



Public
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.
City of Raleigh
Public Utilities Department Permit # 5-5618

Public
Water Distribution / Extension System
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City of Raleigh
Public Utilities Department Permit # W-4214

SITE LEGEND	
	100 YR FLOODLINE
	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
	AMENITY AREA
	CONCRETE
	10' CURB TRANSITION



NO.	DATE	REVISION:
1	09/26/2025	UPDATED FINANCIALLY RESPONSIBLE PARTY

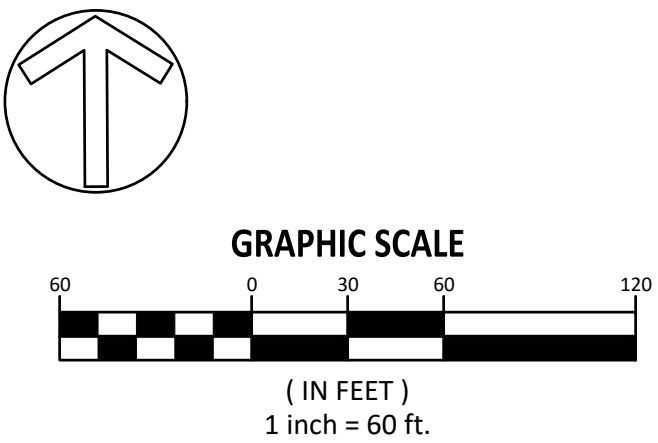
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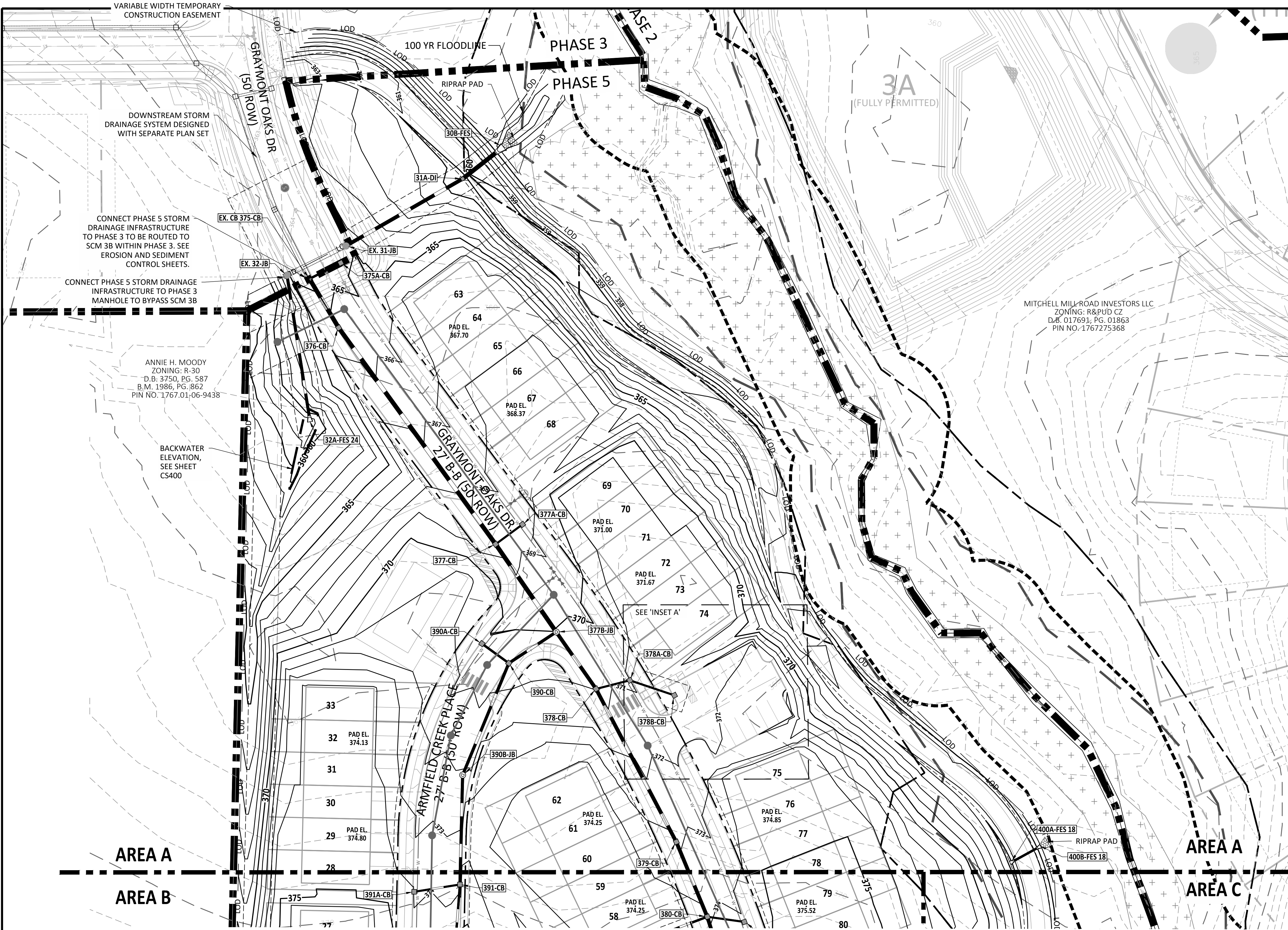
KALAS FALLS
PHASE 5
CONSTRUCTION INFRASTRUCTURE
DOCUMENTS
CID-25-01
TOWN OF ROLESVILLE,
WAKE COUNTY, NC

JOB NUMBER: R180115
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DATE: 09-26-2025

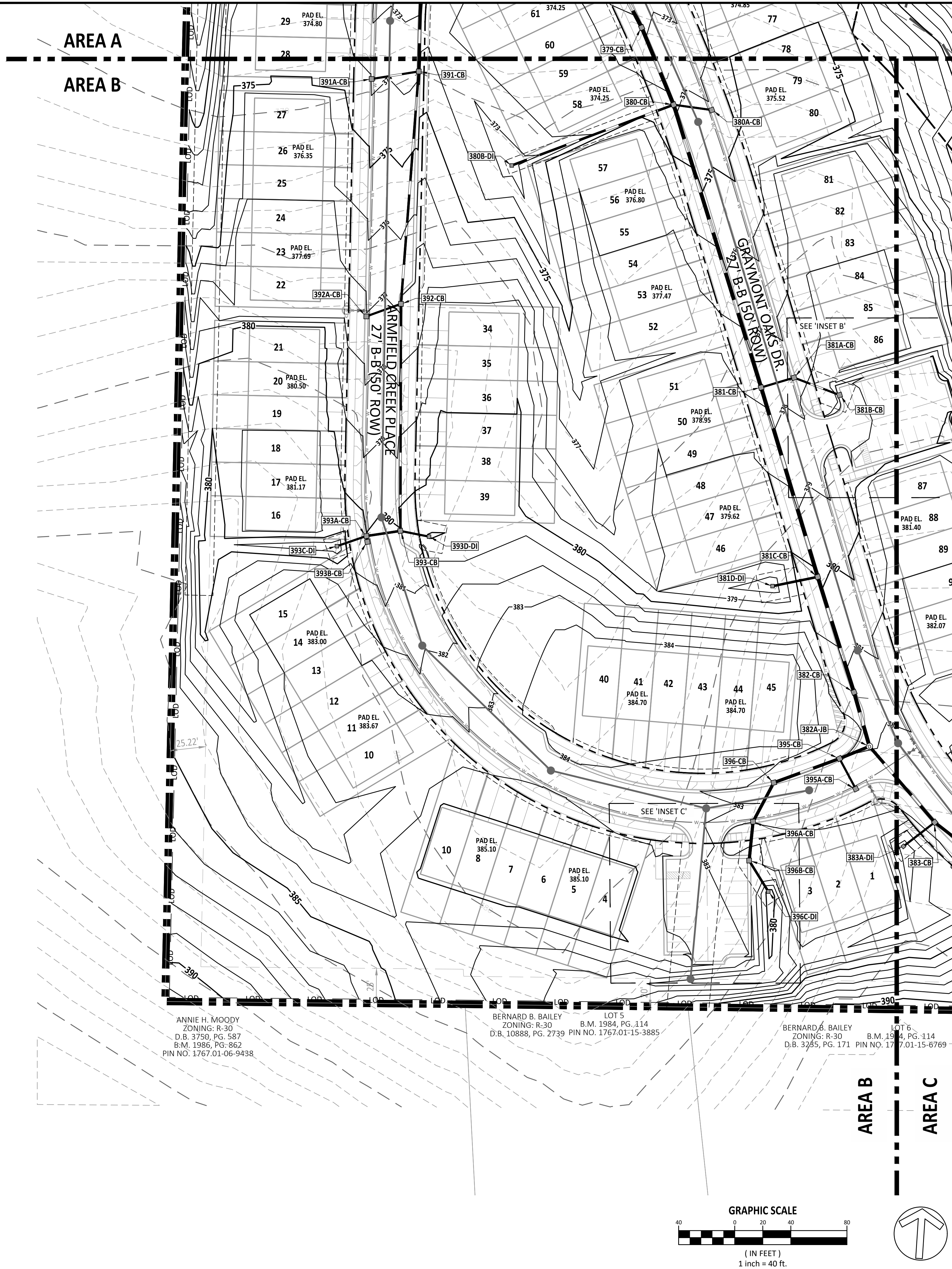
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GRADING & DRAINAGE OVERALL

SHEET NO.:
CG100





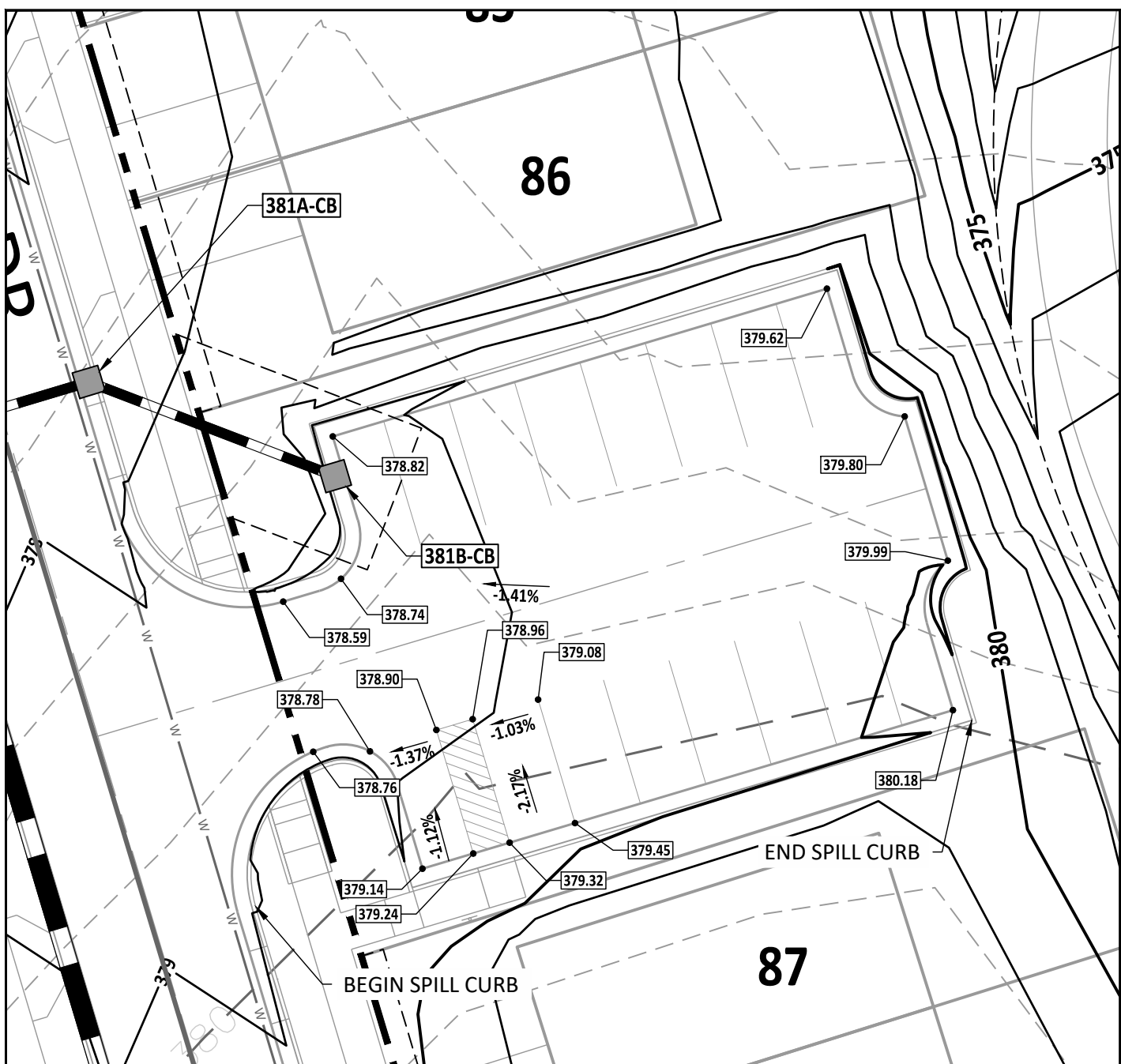
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2025-09-26



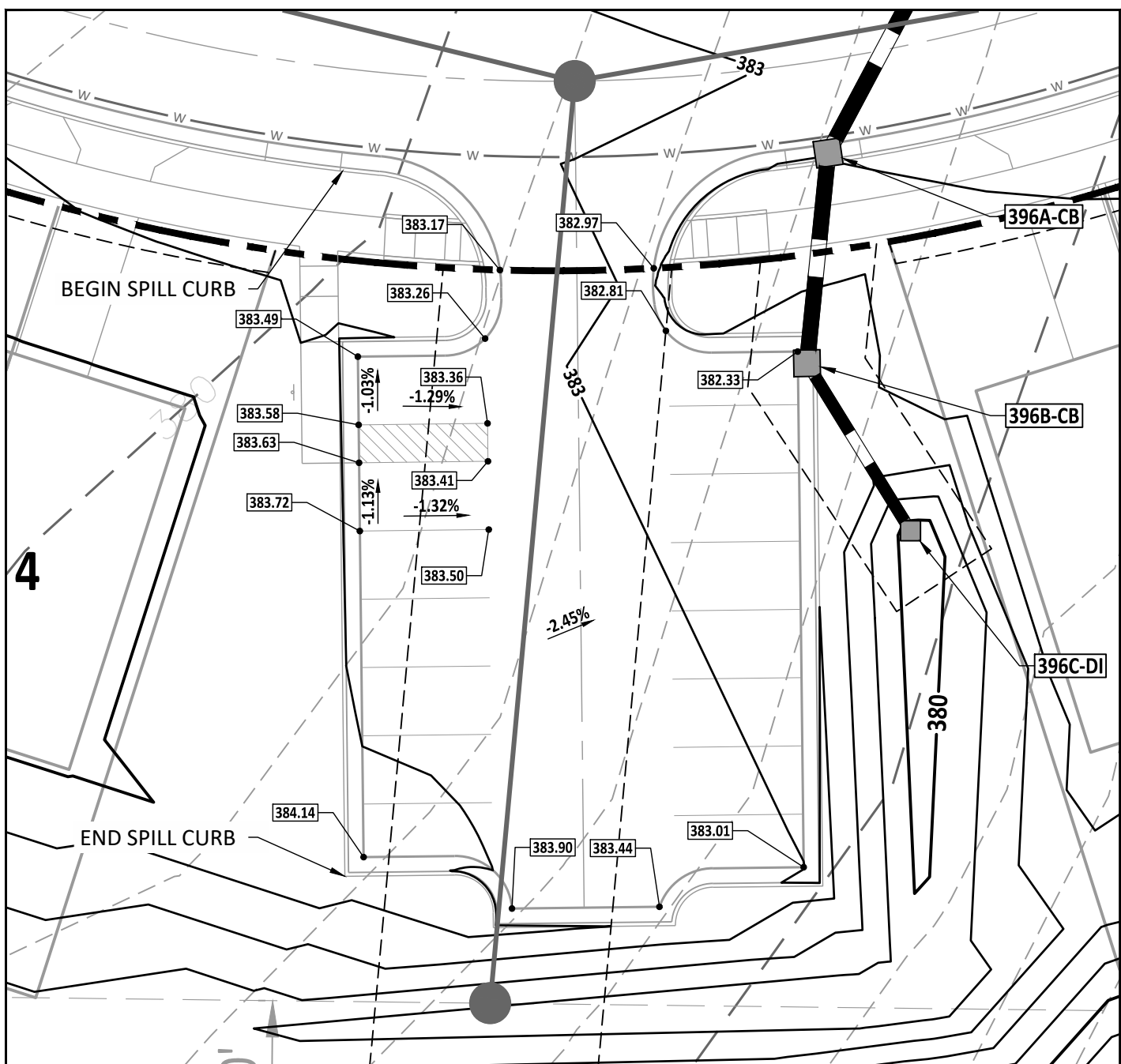
Public
Sewer Collection / Extension System
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City of Raleigh
Public Utilities Department Permit # **S-5618**

Public
Water Distribution / Extension System
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City of Raleigh
Public Utilities Department Permit # **W-4214**

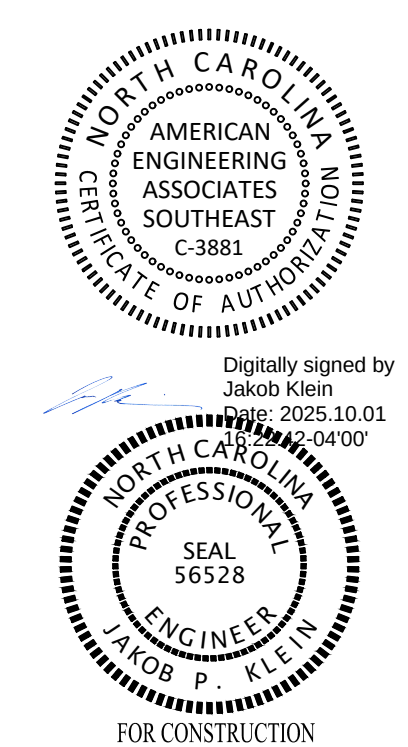
INSET B



INSET C



SITE LEGEND	
	100 YR FLOODLINE
	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
	AMENITY AREA
	CONCRETE
	10' CURB TRANSITION



NO.	DATE	REVISION:
1	09/26/2025	UPDATED FINANCIALLY RESPONSIBLE PARTY

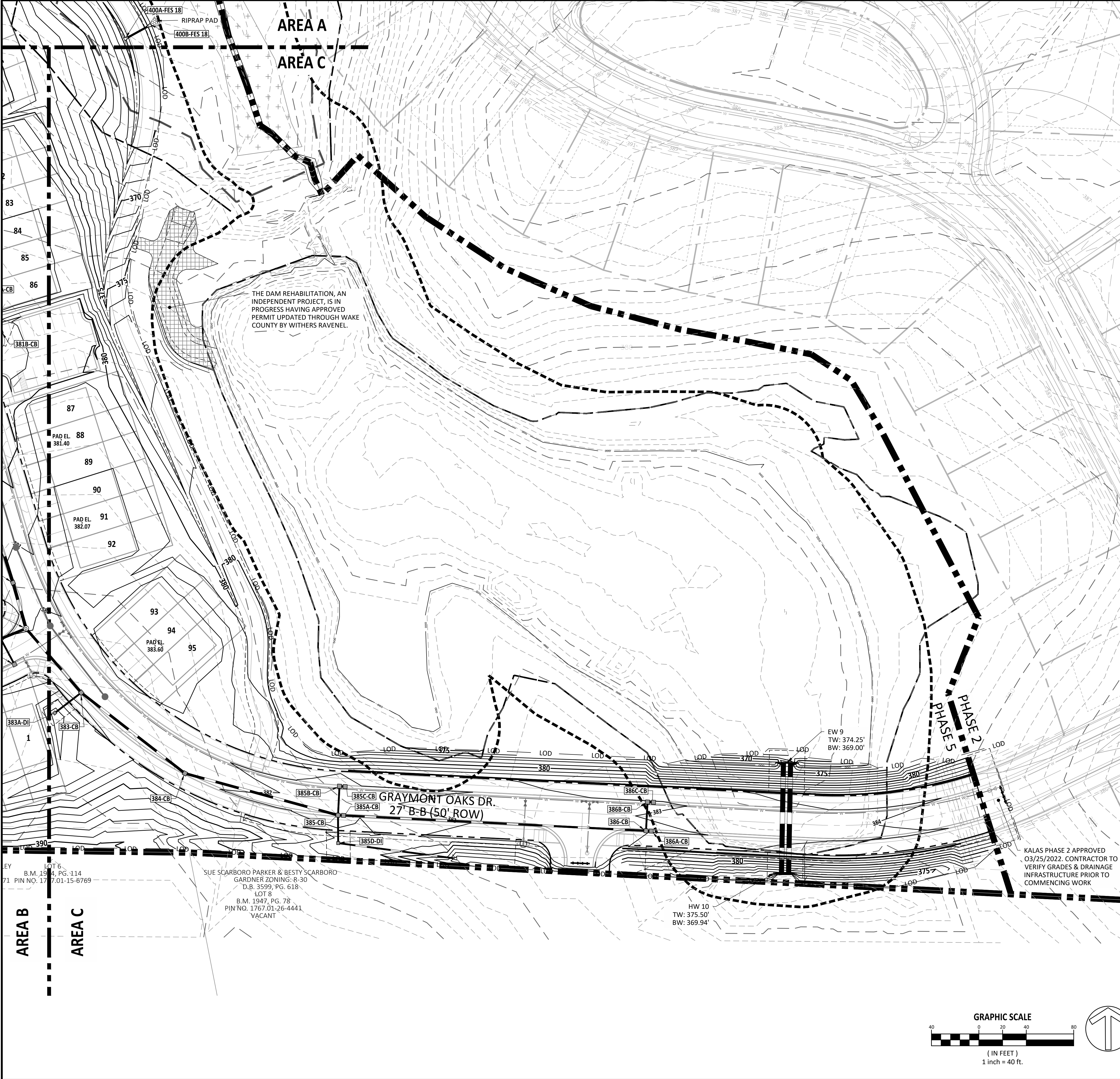
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KALAS FALLS
PHASE 5
CONSTRUCTION INFRASTRUCTURE
DOCUMENTS
CID-25-01
TOWN OF ROLESVILLE,
WAKE COUNTY, NC

JOB NUMBER: R180115
CHECKED BY: JK
DRAWN BY: GE, RC
DATE: 09-26-2025

SHEET TITLE:
GRADING & DRAINAGE
AREA B
SHEET NO.:
CG401





Public
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.

City of Raleigh
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Public
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City of Raleigh
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SITE LEGEND	
	100 YR FLOODLINE
	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
	AMENITY AREA
	CONCRETE
	10' CURB TRANSITION

KALAS PHASE 2 APPROVED 03/25/2022. CONTRACTOR TO VERIFY GRADES & DRAINAGE INFRASTRUCTURE PRIOR TO COMMENCING WORK

Public
Sewer Collection / Extension System
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Public
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City of Raleigh
Public Utilities Department Permit # W-4214

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

GRAPHIC SCALE
(IN FEET)
1 inch = 40 ft.

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

AMERICAN Engineering
American Engineering Associates - Southeast, P.A.
4020 Westchase Boulevard, Suite 450
Raleigh, NC 27607
919-469-1101

North Carolina
AMERICAN ENGINEERING ASSOCIATES SOUTHEAST
C-3881
DIGITALLY SIGNED BY
JAKOB KLEIN
Date: 2025.10.01
Time: 14:04:00
North Carolina
PROFESSIONAL ENGINEER
SEAL
56528
JAKOB P. KLEIN
FOR CONSTRUCTION

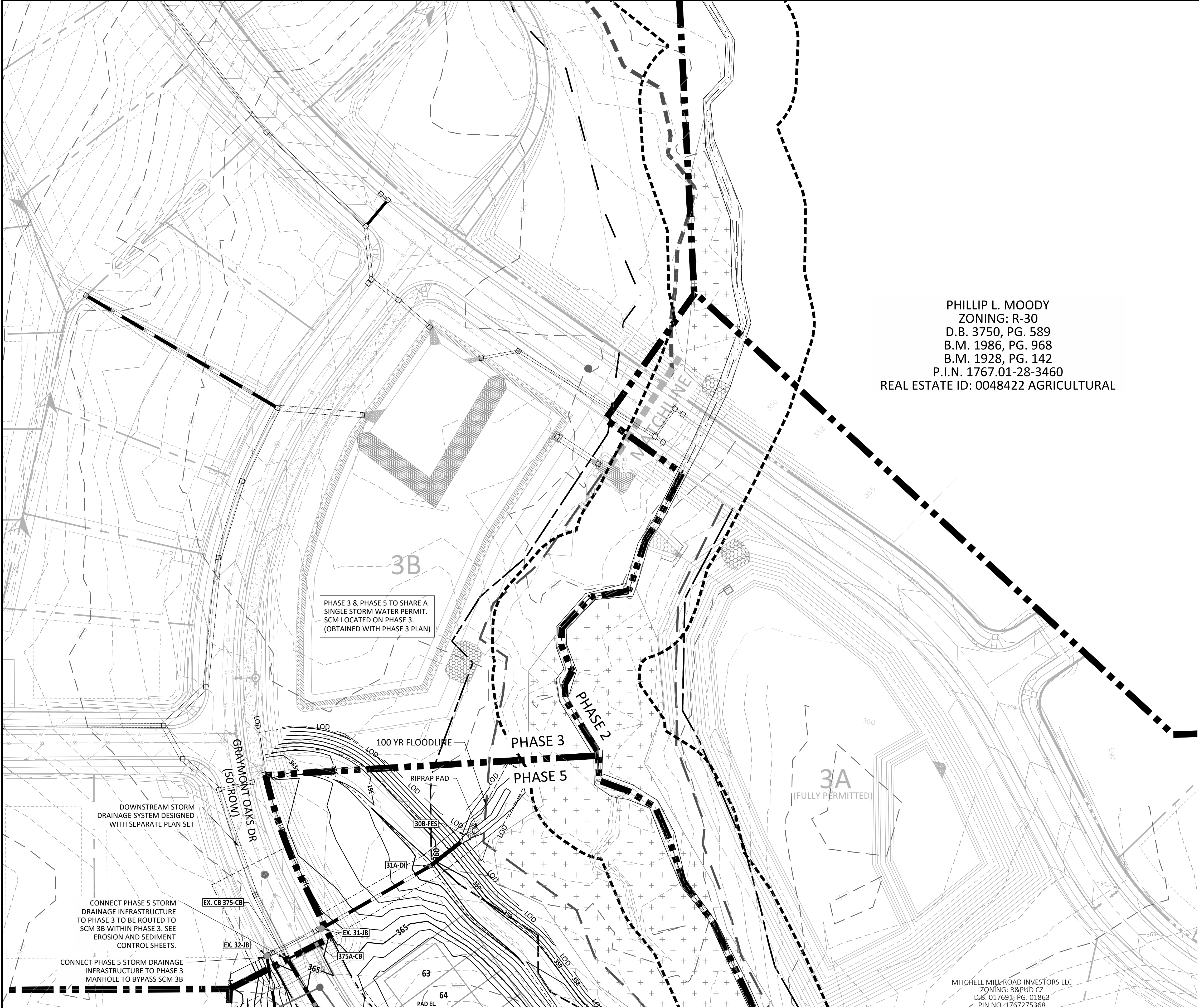
NO.	DATE	REVISION:
1	09/26/2025	UPDATED FINANCIALLY RESPONSIBLE PARTY

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KALAS FALLS
PHASE 5
CONSTRUCTION INFRASTRUCTURE
DOCUMENTS
CID-25-01
TOWN OF ROLESVILLE,
WAKE COUNTY, NC

JOB NUMBER: R180115
CHECKED BY: JK
DRAWN BY: GE, RC
DATE: 09-26-2025

SHEET TITLE:
GRADING & DRAINAGE
AREA C
CG402



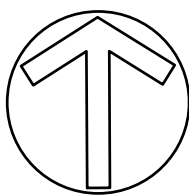
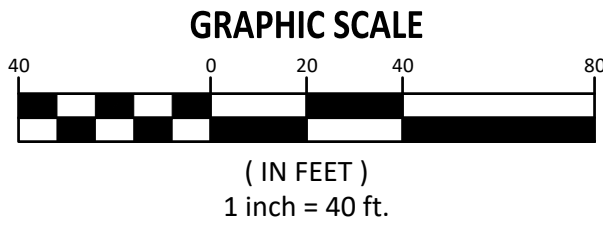
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Public
Sewer Collection / Extension System
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City of Raleigh
Public Utilities Department Permit # 5-5618

Public
Water Distribution / Extension System
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City of Raleigh
Public Utilities Department Permit # W-4214

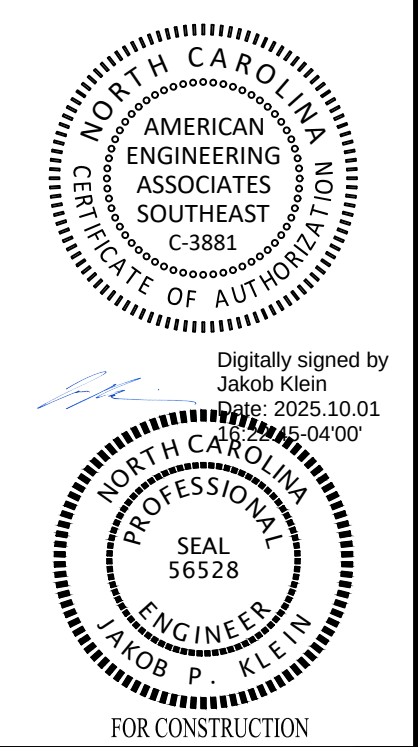
SITE LEGEND	
	100 YR FLOODLINE
	PROPERTY BOUNDARY/PHASE LINE
	2' BUILDING RESTRICTION LINE
	50' NEUSE RIVER BUFFER
	PROPOSED SURFACE WATER LEVEL
	RIGHT-OF-WAY
	LIMITS OF DISTURBANCE
	LOT LINE
	WETLANDS
	AMENITY AREA
	CONCRETE
	10' CURB TRANSITION

MITCHELL MILL ROAD INVESTORS LLC
ZONING: R&PUD CZ
D.B. 017691, PG. 01863
PIN NO. 1767275368



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

AMERICAN
Engineering
American Engineering Associates - Southeast, P.A.
4020 Westchase Boulevard, Suite 450
Raleigh, NC 27607
919-469-1101



NO.	DATE	REVISION:
1	09/26/2025	UPDATED FINANCIALLY RESPONSIBLE PARTY

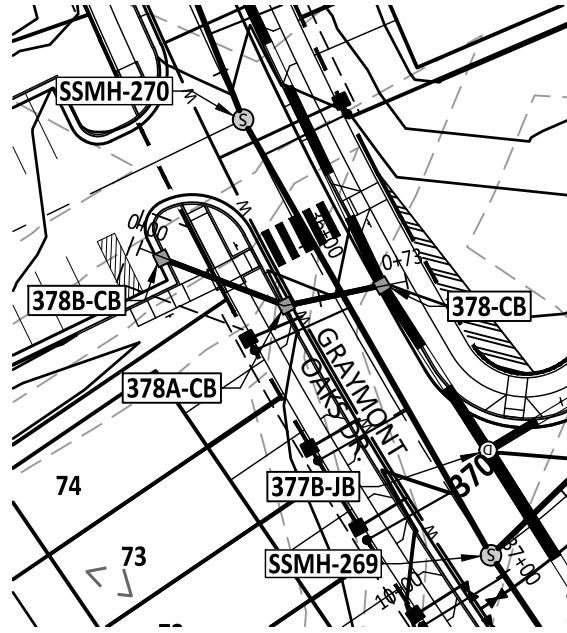
STIPULATION FOR REUSE
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KALAS FALLS
PHASE 5
CONSTRUCTION INFRASTRUCTURE
DOCUMENTS
CID-25-01
TOWN OF ROLESVILLE,
WAKE COUNTY, NC

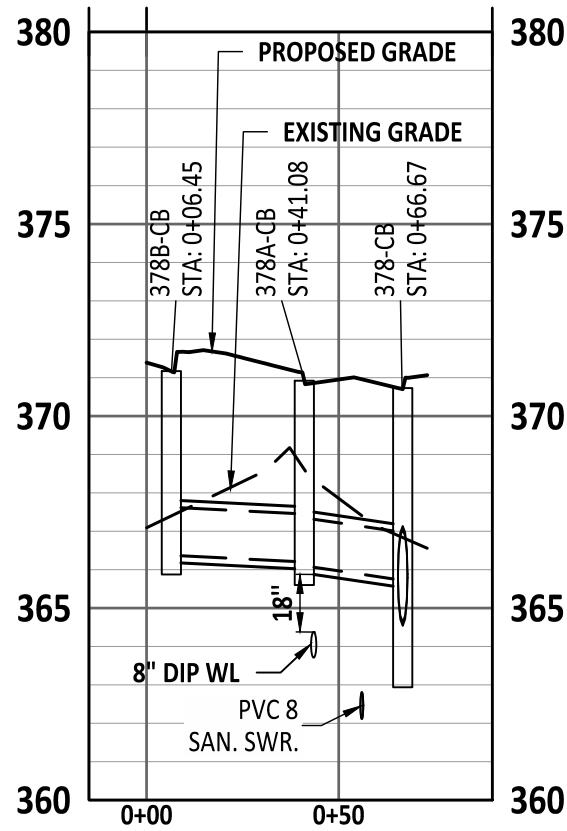
JOB NUMBER: R180115
CHECKED BY: JK
DRAWN BY: GE, RC
DATE: 09-26-2025

SHEET TITLE:
**GRADING &
DRAINAGE
OFFSITE**

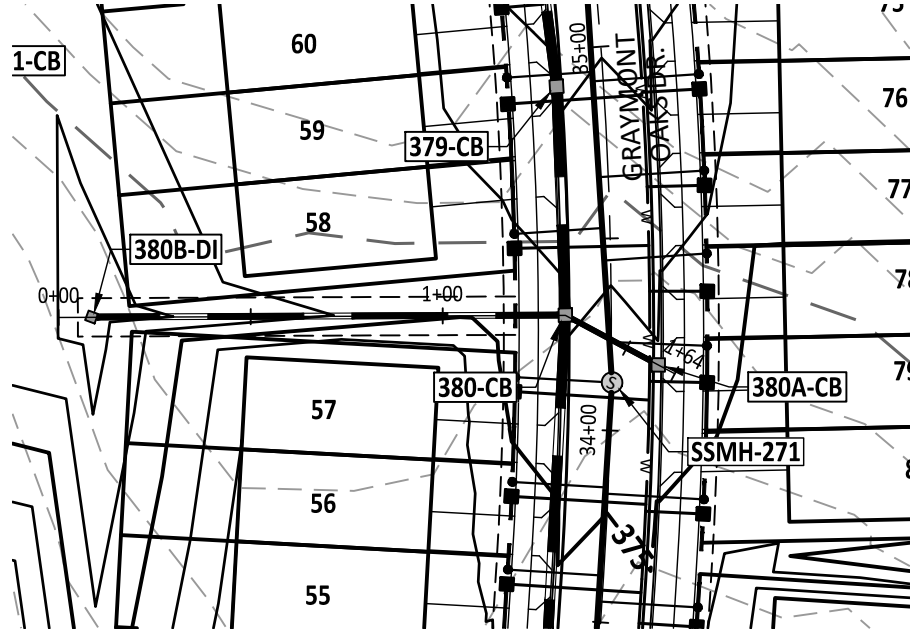
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CG403



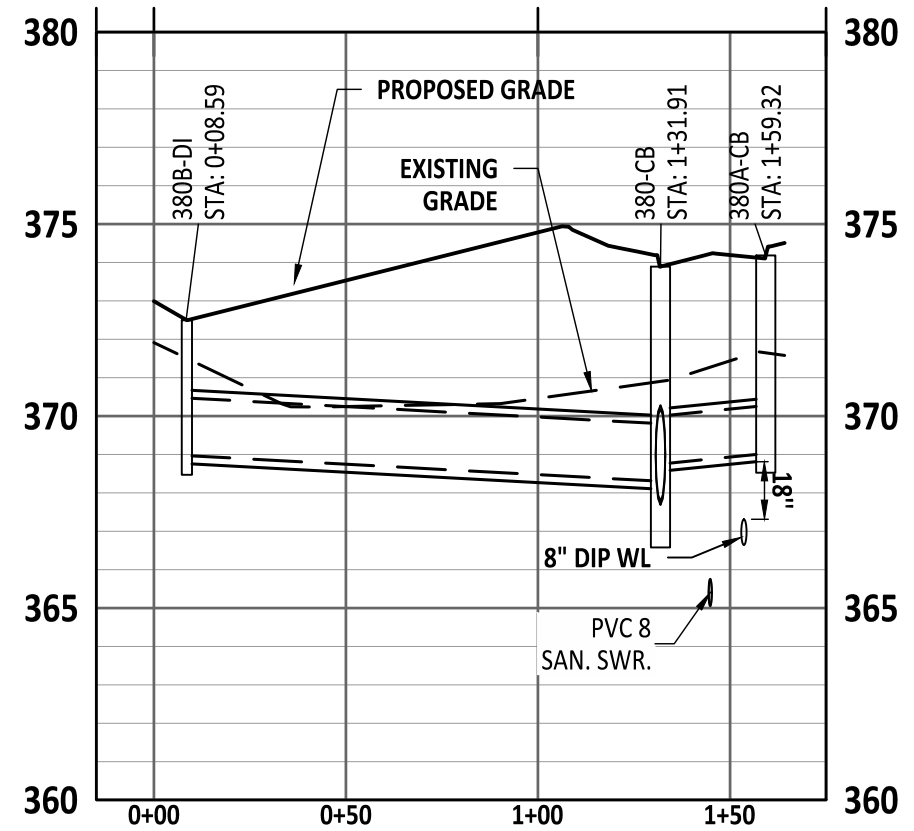
378B-CB TO 378-CB PLAN



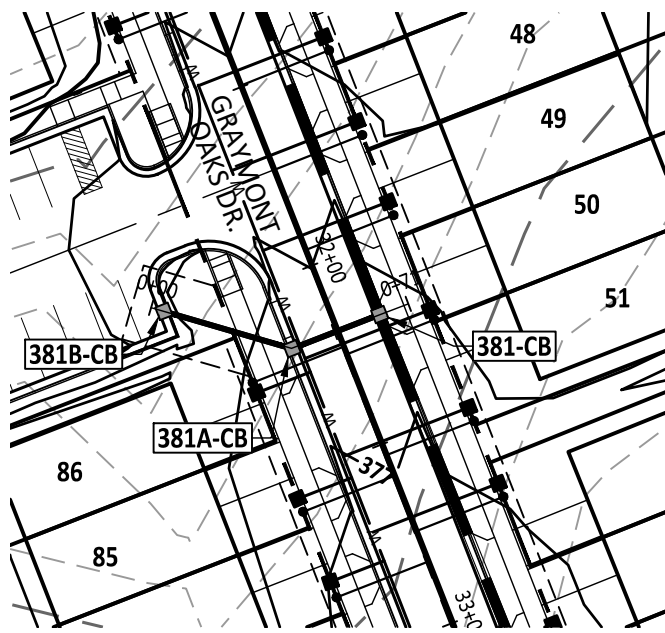
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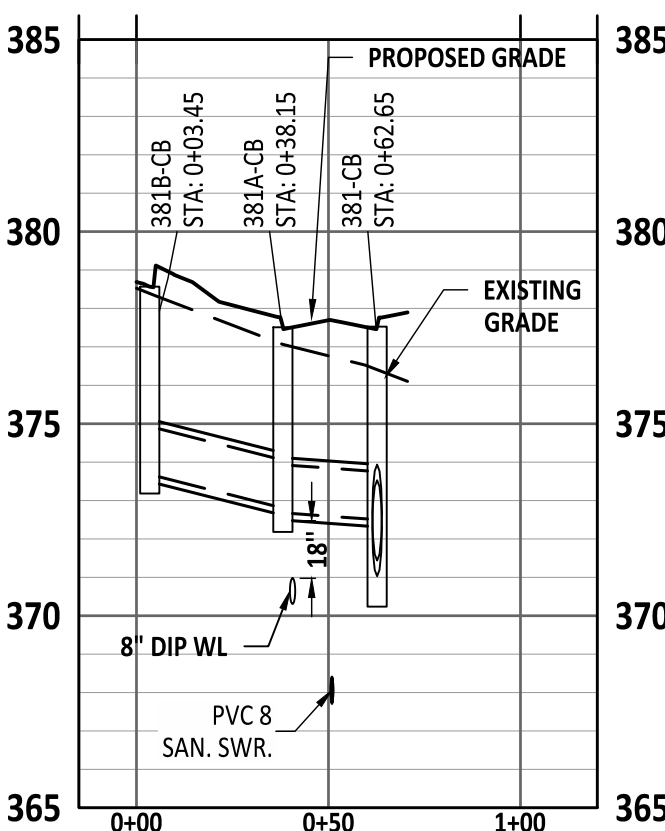
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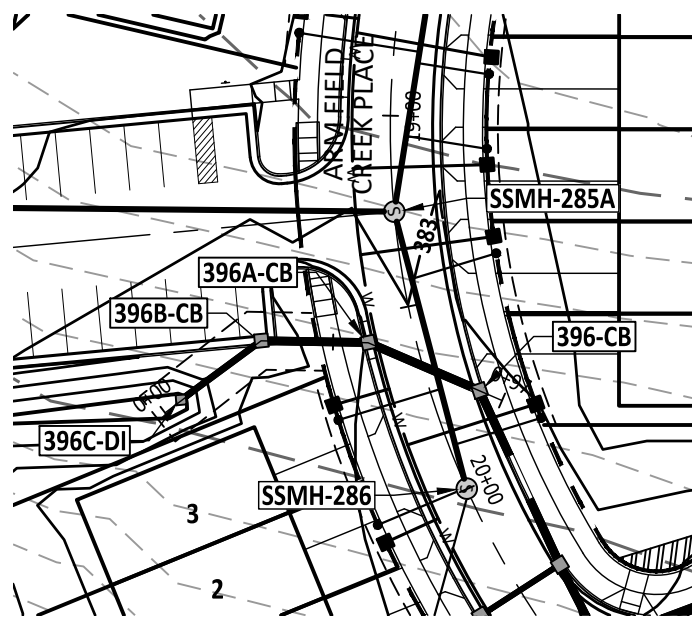
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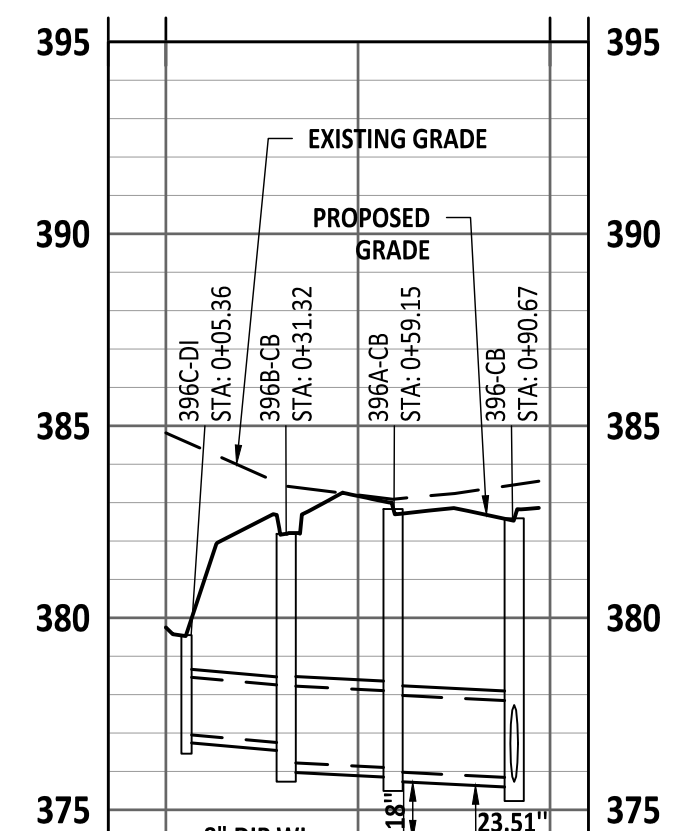
381B-CB TO 381-CB PLAN



381B-CB TO 381-CB PROFILE



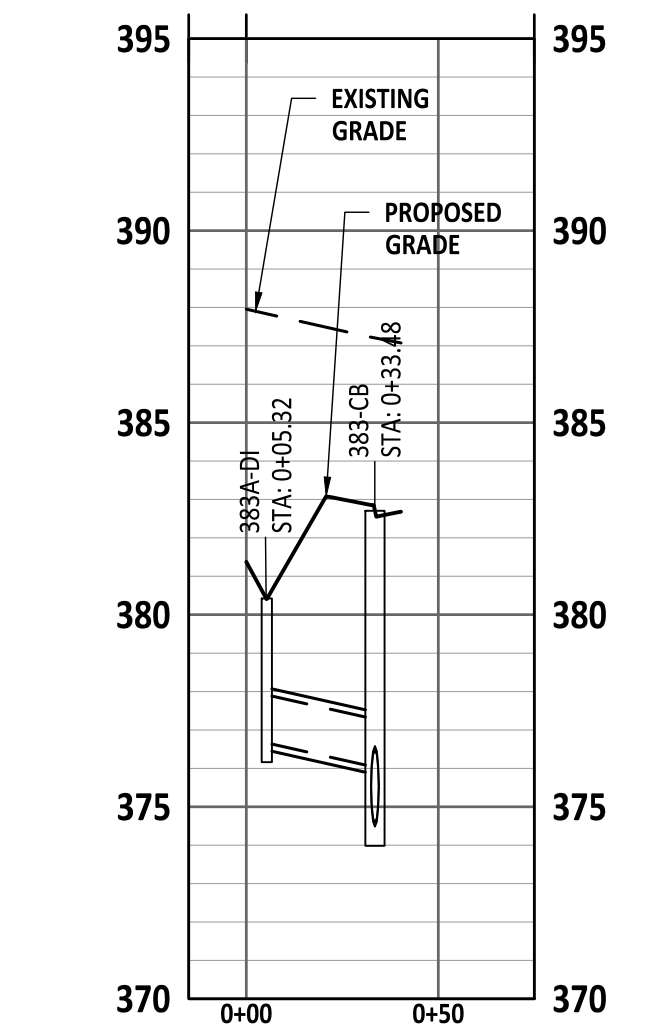
396C-DI TO 396-CB PLAN



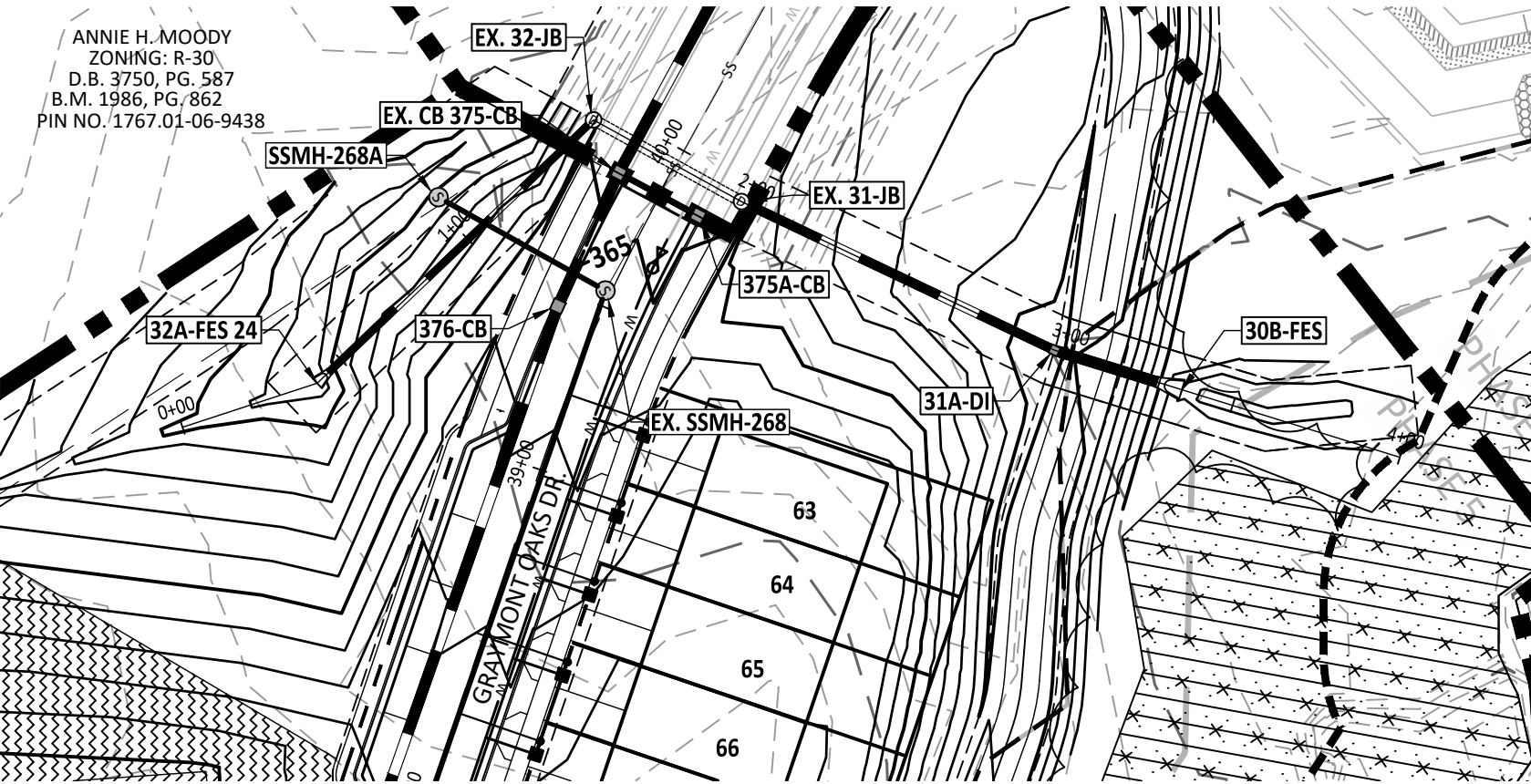
396C-DI TO 396-CB PROFILE



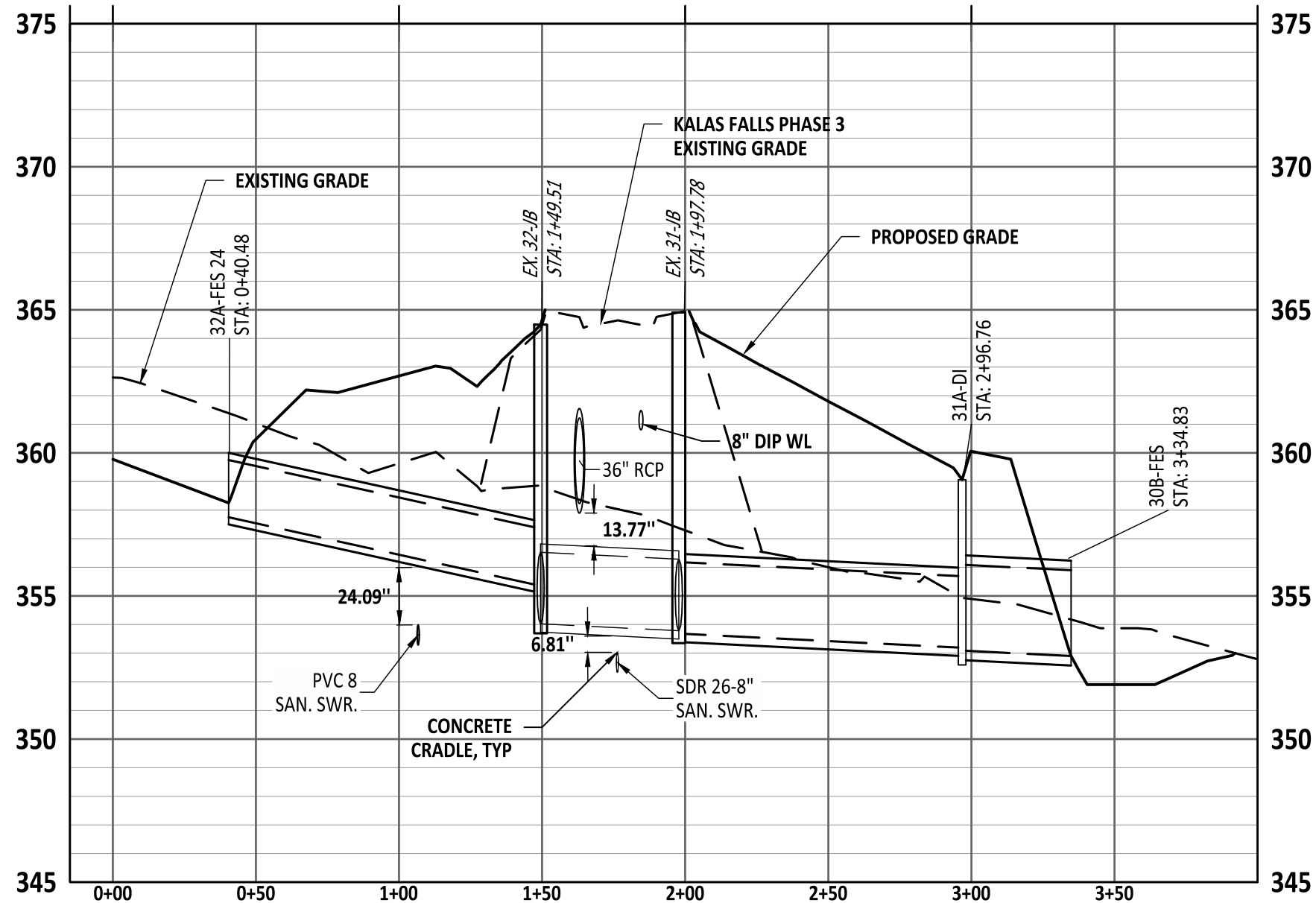
383A-DI TO 383-CB PLAN



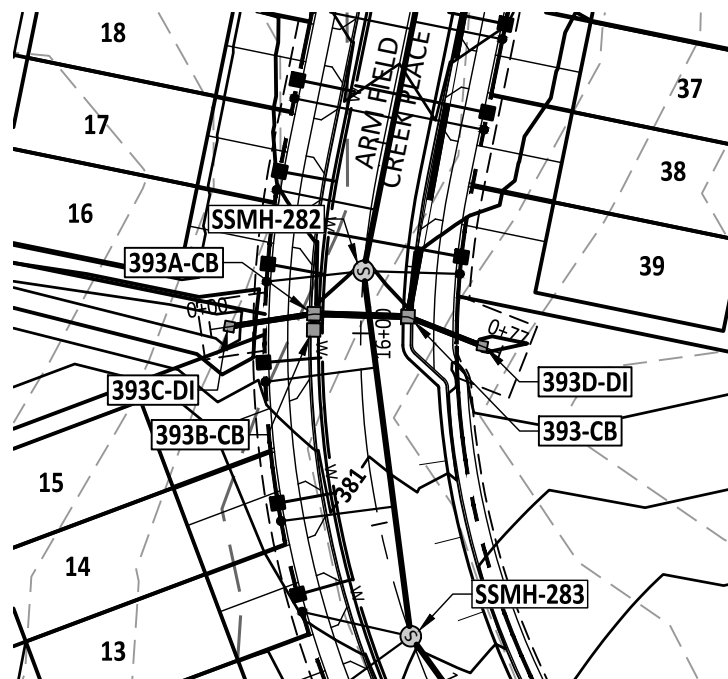
383A-DI TO 383-CB PROFILE



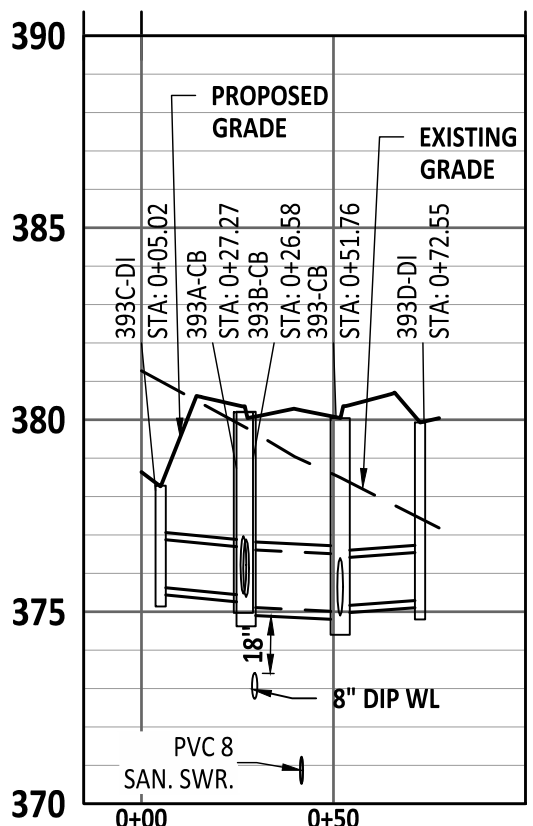
32A-FES 18 TO 30B-FES 30 PLAN



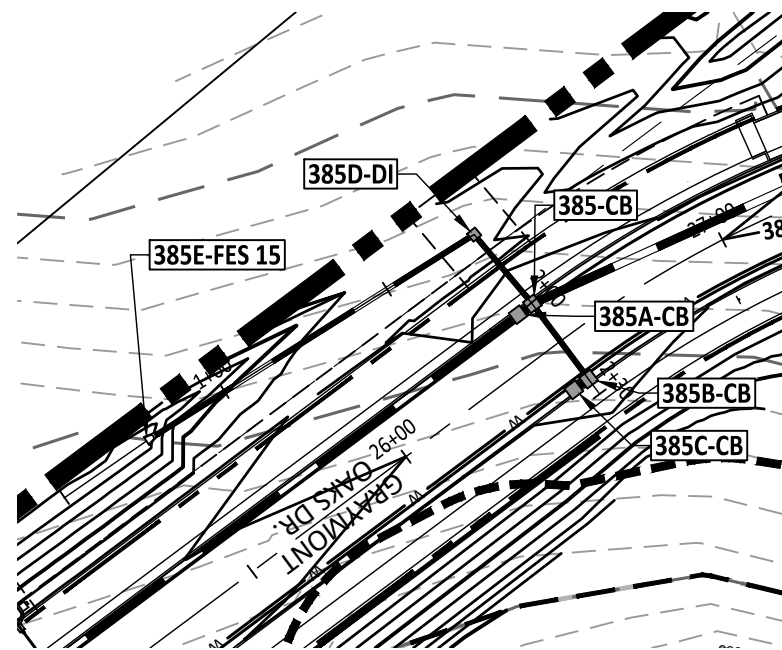
32A-FES 18 TO 30B-FES 30 PROFILE



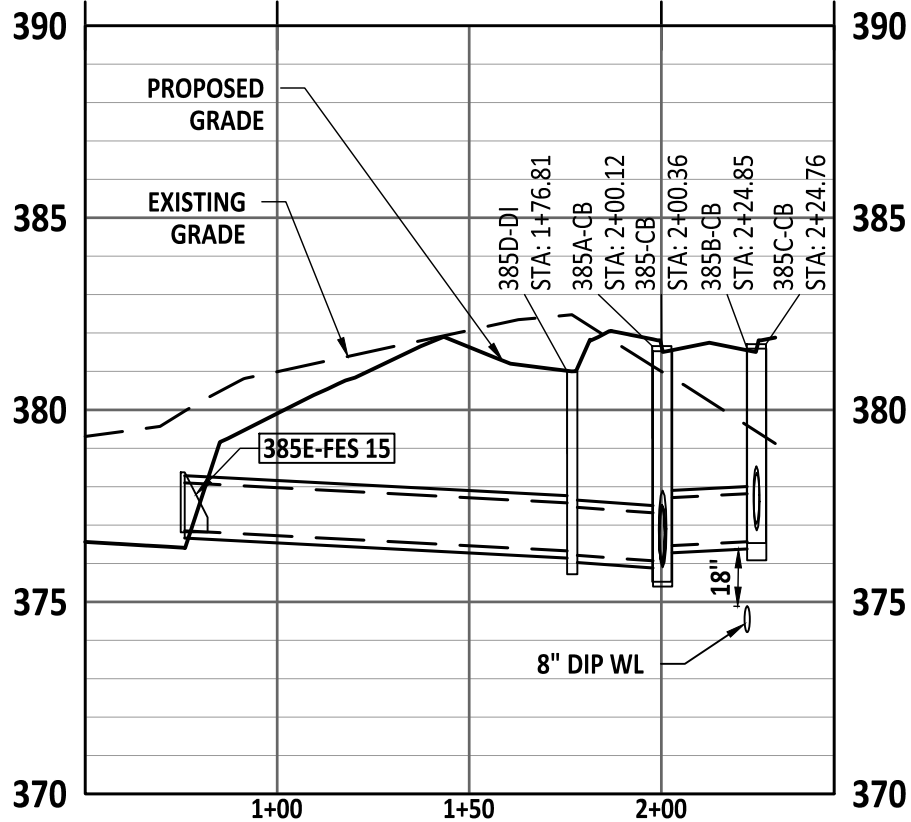
393C-DI TO 393D-DI PLAN



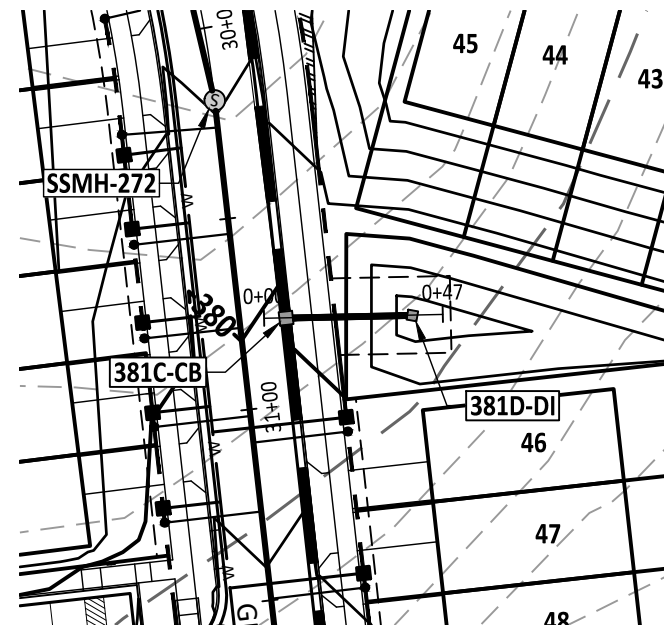
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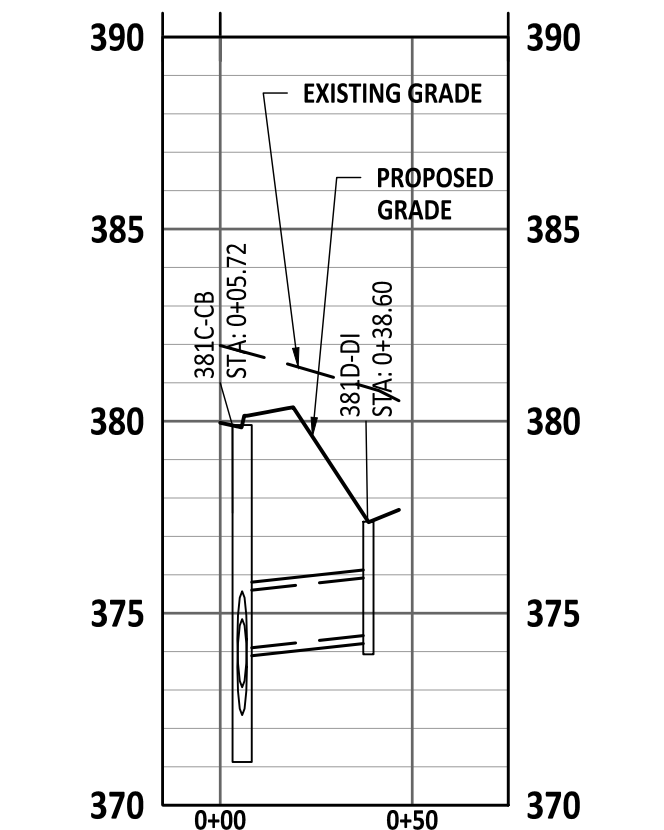
385B-DI TO 385A-CB PLAN



385B-DI TO 385A-CB PROFILE



381C-CB TO 381D-DI PLAN



381C-CB TO 381D-DI PROFILE

Public
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.

City of Raleigh
Public Utilities Department Permit # S-5618

Public
Water Distribution / Extension System
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City of Raleigh
Public Utilities Department Permit # W-4214

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

AMERICAN
ENGINEERING
ASSOCIATES
SOUTHEAST
P.A.
C-3881
DIGITALLY SIGNED BY
JAKOB P. KLEIN
2025.10.01
10:04:00

AMERICAN
ENGINEERING
ASSOCIATES
SOUTHEAST
P.A.
C-3881
DIGITALLY SIGNED BY
JAKOB P. KLEIN
2025.10.01
10:04:00

FOR CONSTRUCTION

REVISION: UPDATED FINANCIALLY RESPONSIBLE PARTY

NO. DATE

1 09/26/2025

STIPULATION FOR REUSE

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KALAS FALLS
PHASE 5
CONSTRUCTION INFRASTRUCTURE
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CID-25-01
TOWN OF ROLESVILLE,
WAKE COUNTY, NC

JOB NUMBER: R180115

CHECKED BY: JK

DRAWN BY: GE, RC

DATE: 09-26-2025

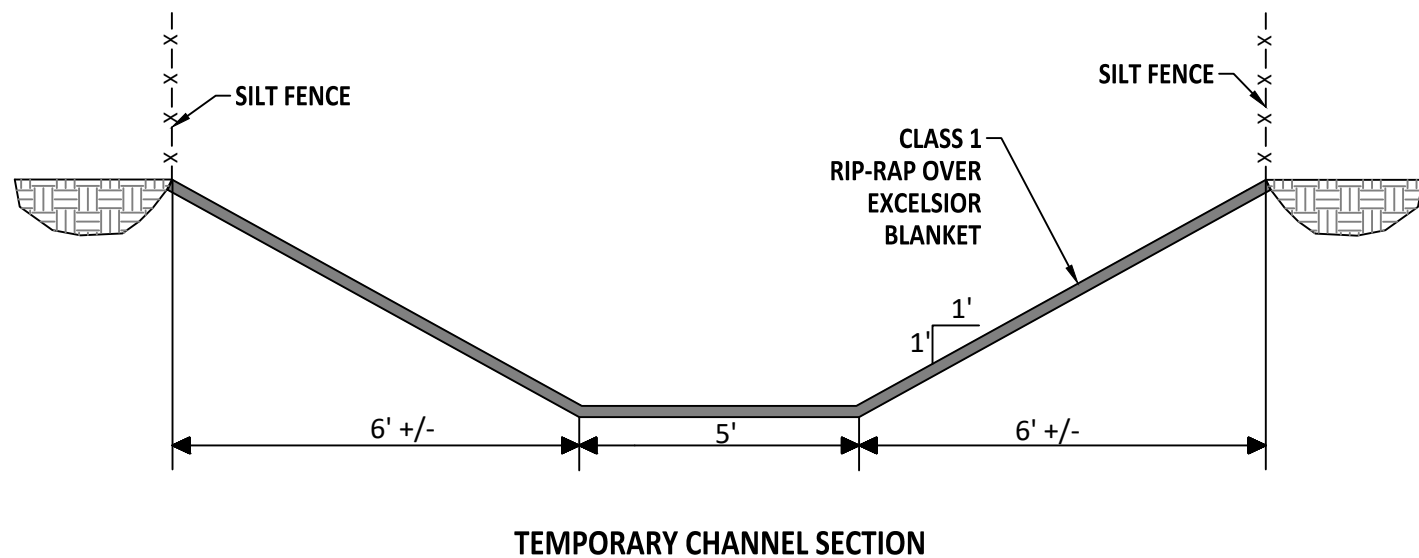
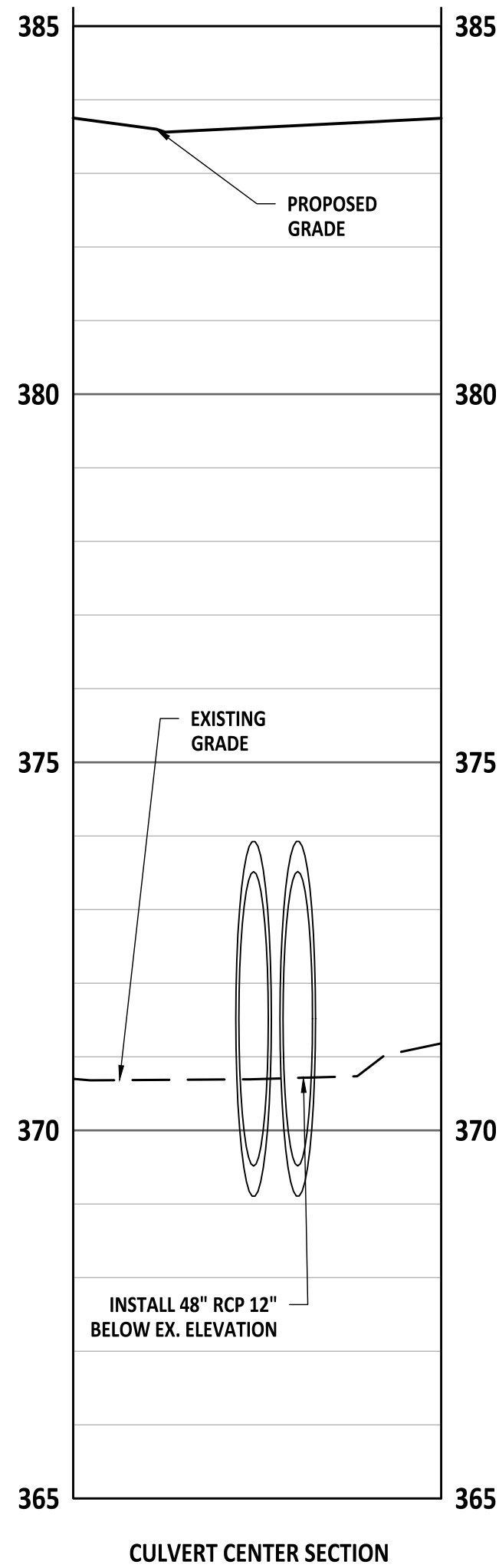
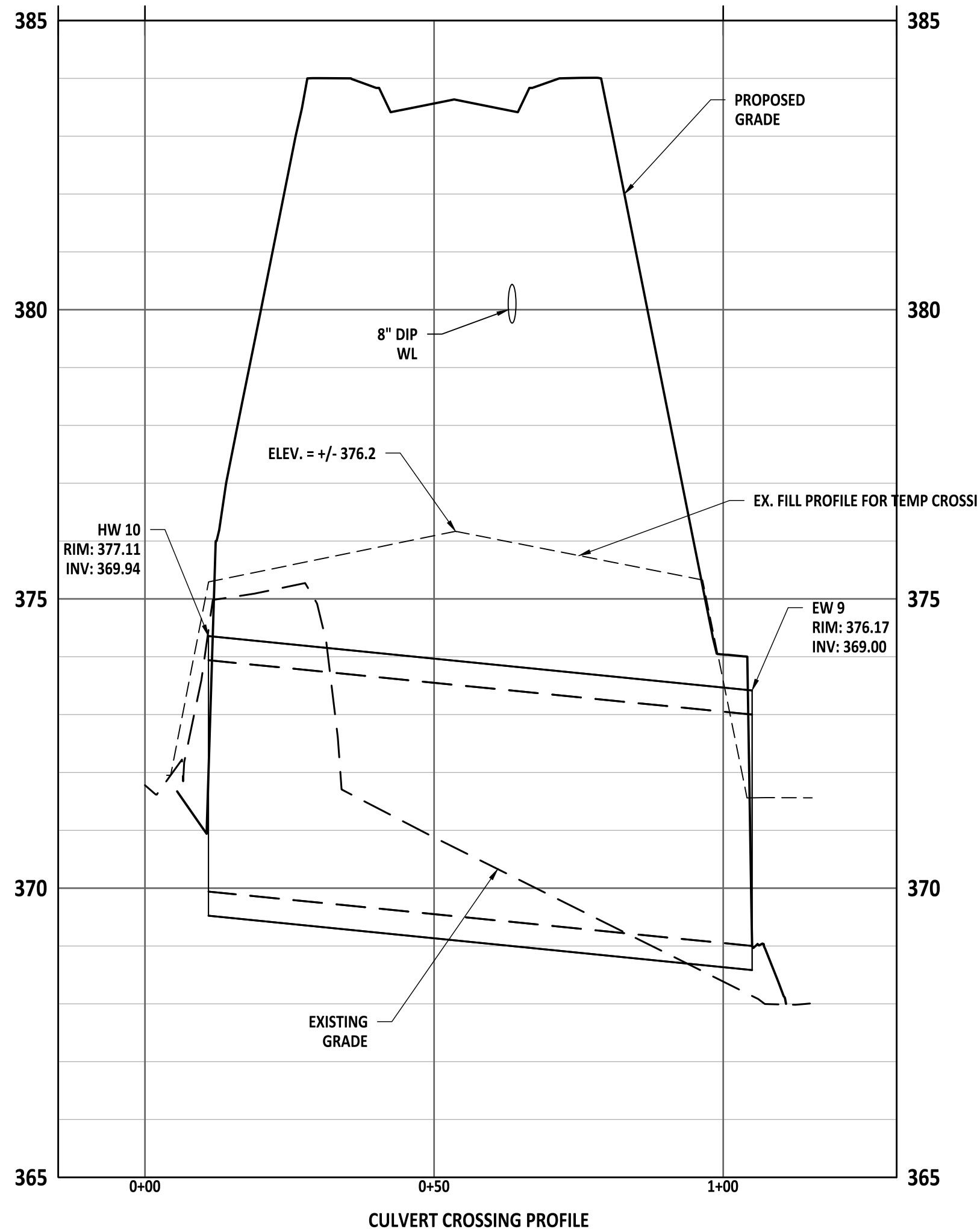
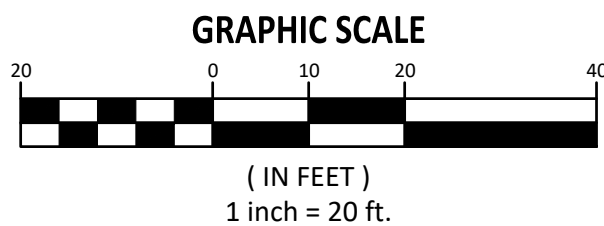
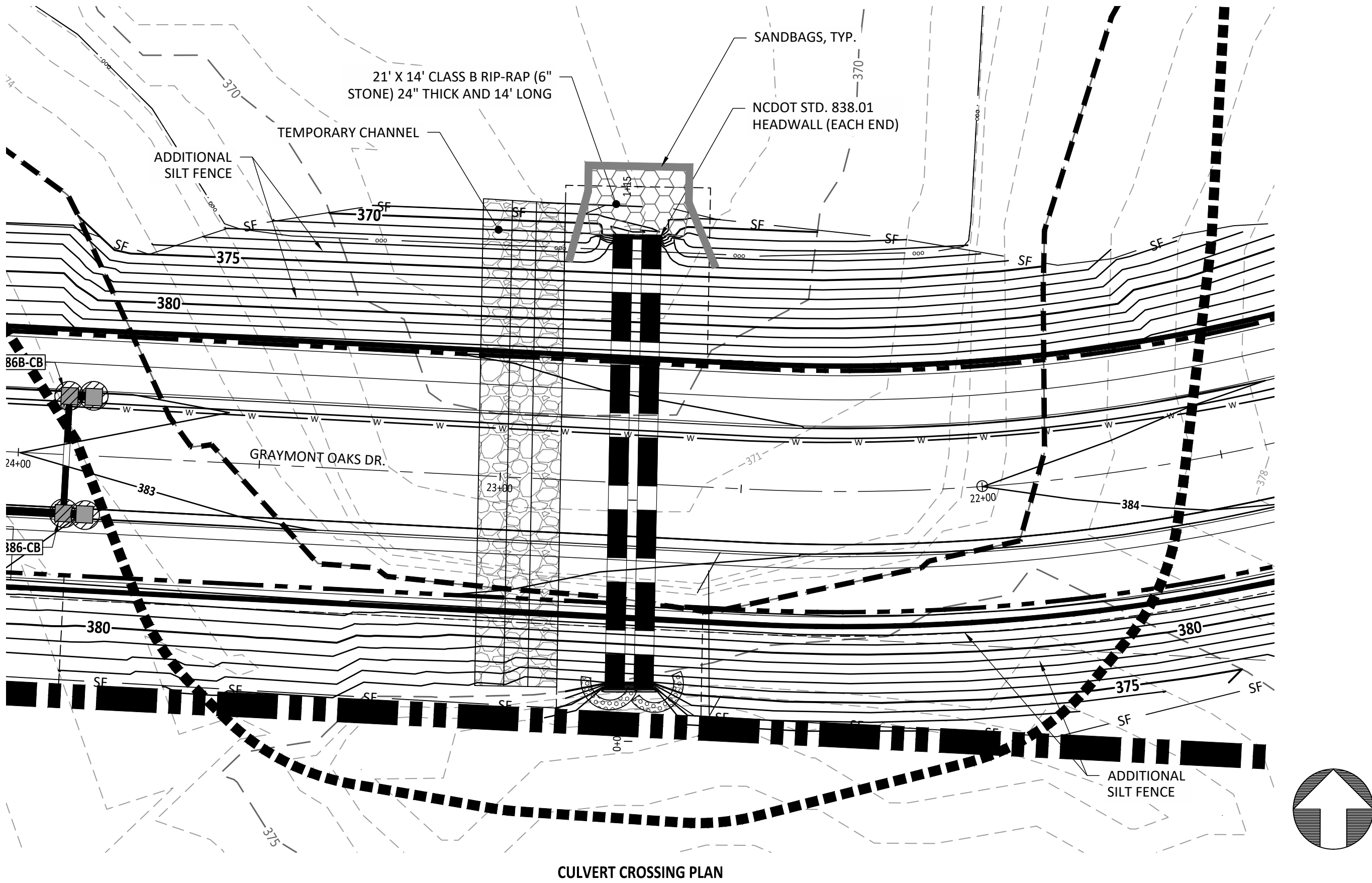
SHEET TITLE:

STORM
DRAINAGE
PLAN &
PROFILES

SHEET NO.:

CD200

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



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

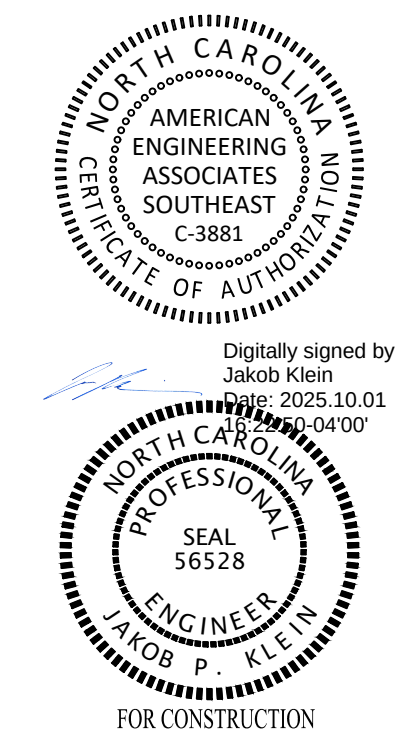
- STAGE 1A CULVERT CROSSING INSTALLATION:**
1. CONDUCT A MEETING WITH THE WAKE COUNTY INSPECTOR PRIOR TO PROCEEDING WITH THE CONSTRUCTION OF THE CULVERT CROSSING.
 2. PUMP THE EXISTING POND DOWN SO IT IS BELOW THE PROPOSED PIPE INVERTS.
 3. INSTALL THE BYPASS CHANNEL AS SHOWN WITH LINING LEAVING A PORTION 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).
 4. 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.
 5. REMOVE THE UPSTREAM DAM AND CONSTRUCT THE REMAINDER OF THE CHANNEL TO TIE TO THE LOW AREA INCLUDING LINING.
 6. ADD SANDBAGS ACROSS THE LOW POINT AT THE UPSTREAM END TO FORCE THE WATER FLOW INTO THE BY-PASS CHANNEL.
 7. 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 INSTALLED.
 8. SEED/SOD AND STABILIZE ALL DENUDED AREAS ONCE THE CHANNEL IS IN PLACE.
 9. THE PUMP IS TO REMAIN ON SITE AND TO KEEP POND ELEVATION AT OR BELOW THE CHANNEL AND PIPE INVERTS.

- STAGE 1B CULVERT CROSSING INSTALLATION:**
1. OBTAIN PERMISSION FROM THE WAKE COUNTY INSPECTOR TO PROCEED WITH THIS STEP.
 2. EXCAVATE AREA AS SHOWN AND INSTALL PIPE WITH HEADWALLS AND DOWNSTREAM RIP-RAP AS SHOWN IN RIP-RAP CROSS-SECTION WITHIN THE WORKABLE AREA.
 3. OBTAIN WAKE COUNTY APPROVAL OF THE PIPE INSTALLATION.

- STAGE 1C CULVERT CROSSING INSTALLATION**
1. WITHIN ONE ACTIVE WORKDAY, REMOVE THE TEMPORARY DAM ON DOWNSTREAM AND UPSTREAM ENDS.
 2. 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 PIPE.
 3. INSTALL EARTHEN DAM ACROSS THE DOWNSTREAM OF THE BY-PASS CHANNEL AFTER REMOVING THE LINING.
 4. REMOVE REMAINDER OF THE BY-PASS CHANNEL LINING AND FILL THE CHANNEL COMPACTING THOROUGHLY IN LAYERS.
 5. INSTALL SILT FENCE AT THE TOE OF SLOPES AND TIE TO ENDWALLS AS SHOWN ON THIS PLAN.
 6. INSTALL ADDITIONAL SILT FENCE ALONG THE SLOPE AS SHOWN AND AS NEEDED.
 7. 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.
 8. COMPLETE FILL BRINGING THE AREA TO FINISHED GRADE.
 9. INSTALL PAVEMENT AND FOLLOW THE SEEDING SCHEDULE FOR ALL BARE AREAS.
 10. REFER TO MAIN CONSTRUCTION SEQUENCE FOR OTHER DETAILS.

- GENERAL NOTES**
1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH WAKE COUNTY STANDARDS AND REGULATIONS.
 2. THERE SHALL BE NO DISTURBANCE OUTSIDE THE LIMITS SHOWN ON THIS PLAN WITHOUT AN APPROVED PLAN AMENDMENT BY WAKE COUNTY.
 3. ALL DISTURBED AREAS SHALL BE SEEDED PER THE SEEDING SCHEDULE.
 4. PERMANENT GROUND COVER SHALL BE ESTABLISHED PER NPDES SEEDING SCHEDULE AT EITHER 7 DAYS OR 14 DAYS DEPENDING ON MEASURE AND SLOPE.
 5. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING SELF-INSPECTION LOG.
 6. 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 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. City of Raleigh Public Utilities Department Permit # 5-5618	Public 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. City of Raleigh Public Utilities Department Permit # W-4214
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NO.	DATE	REVISION:
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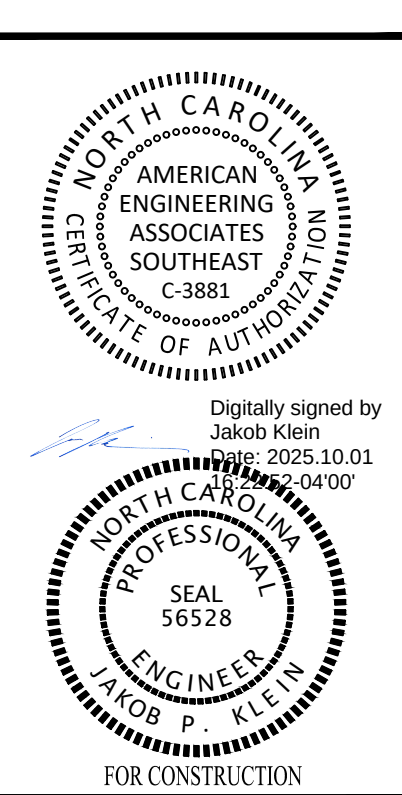
**KALAS FALLS
PHASE 5
CONSTRUCTION INFRASTRUCTURE
DOCUMENTS
CID-25-01
TOWN OF ROLESVILLE,
WAKE COUNTY, NC**

JOB NUMBER:	R180115
CHECKED BY:	JK
DRAWN BY:	GE, RC
DATE:	09-26-2025

**CULVERT
CROSSING
PLAN &
PROFILE**

SHEET NO.:
CD201



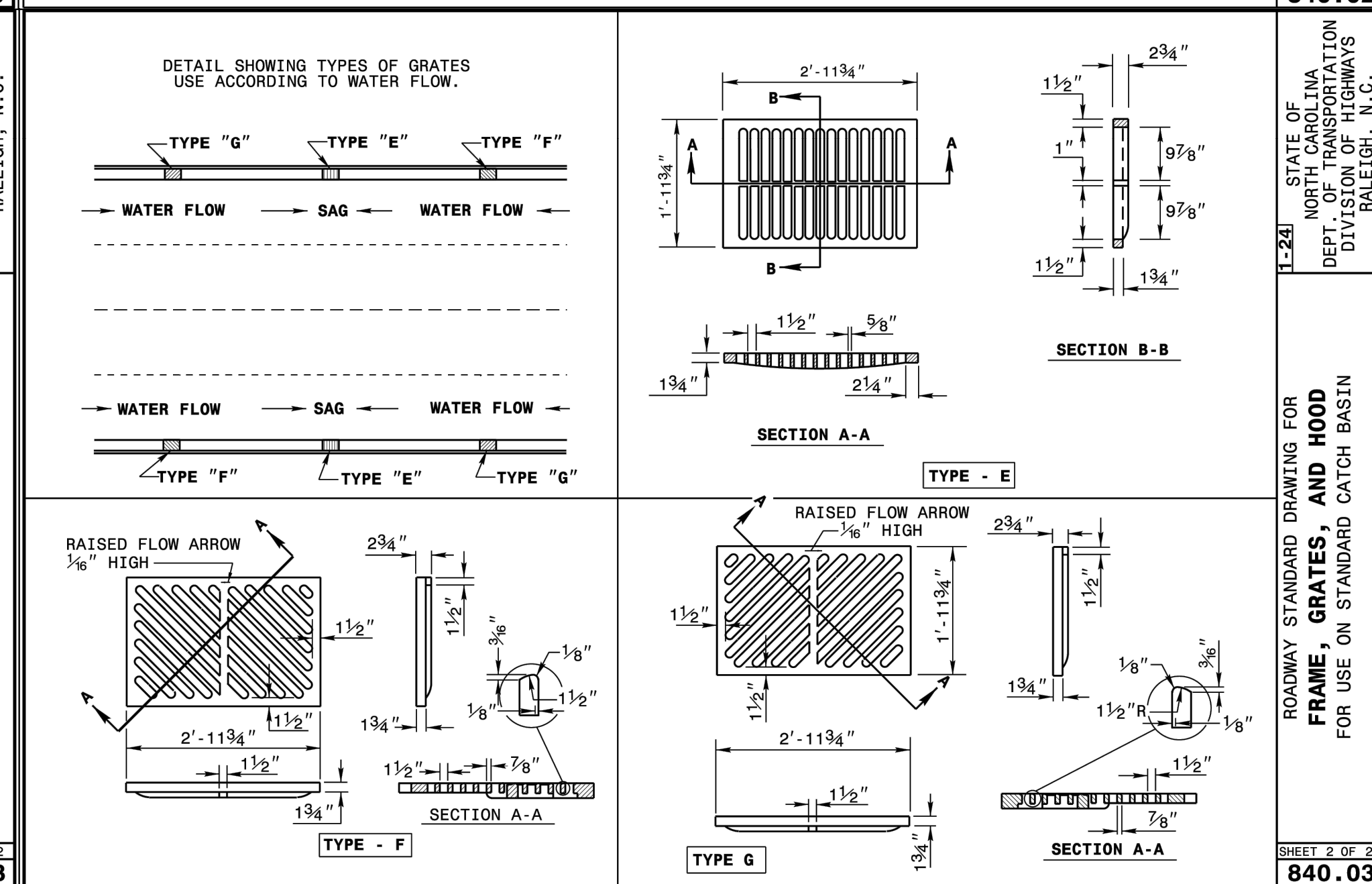
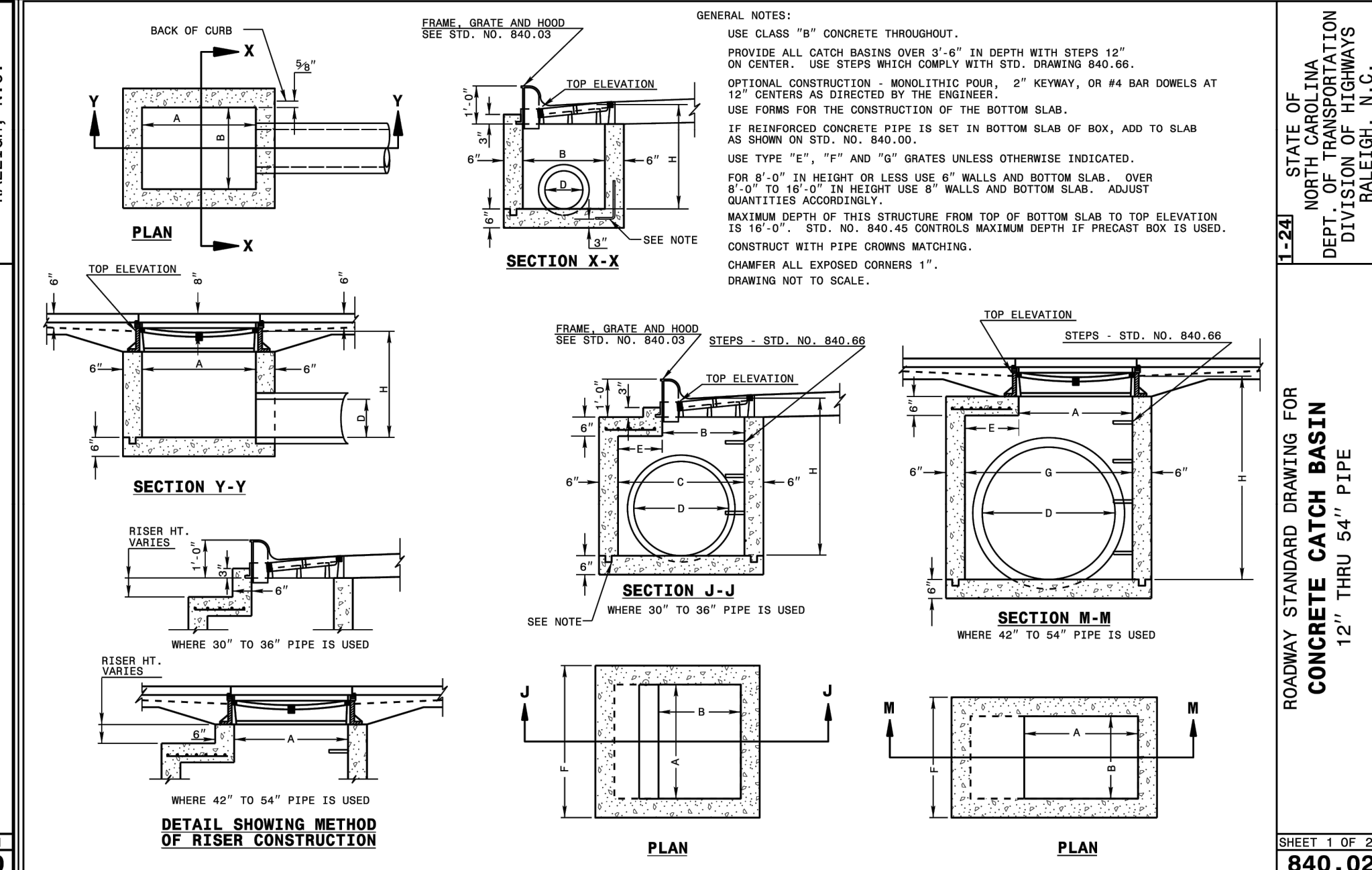
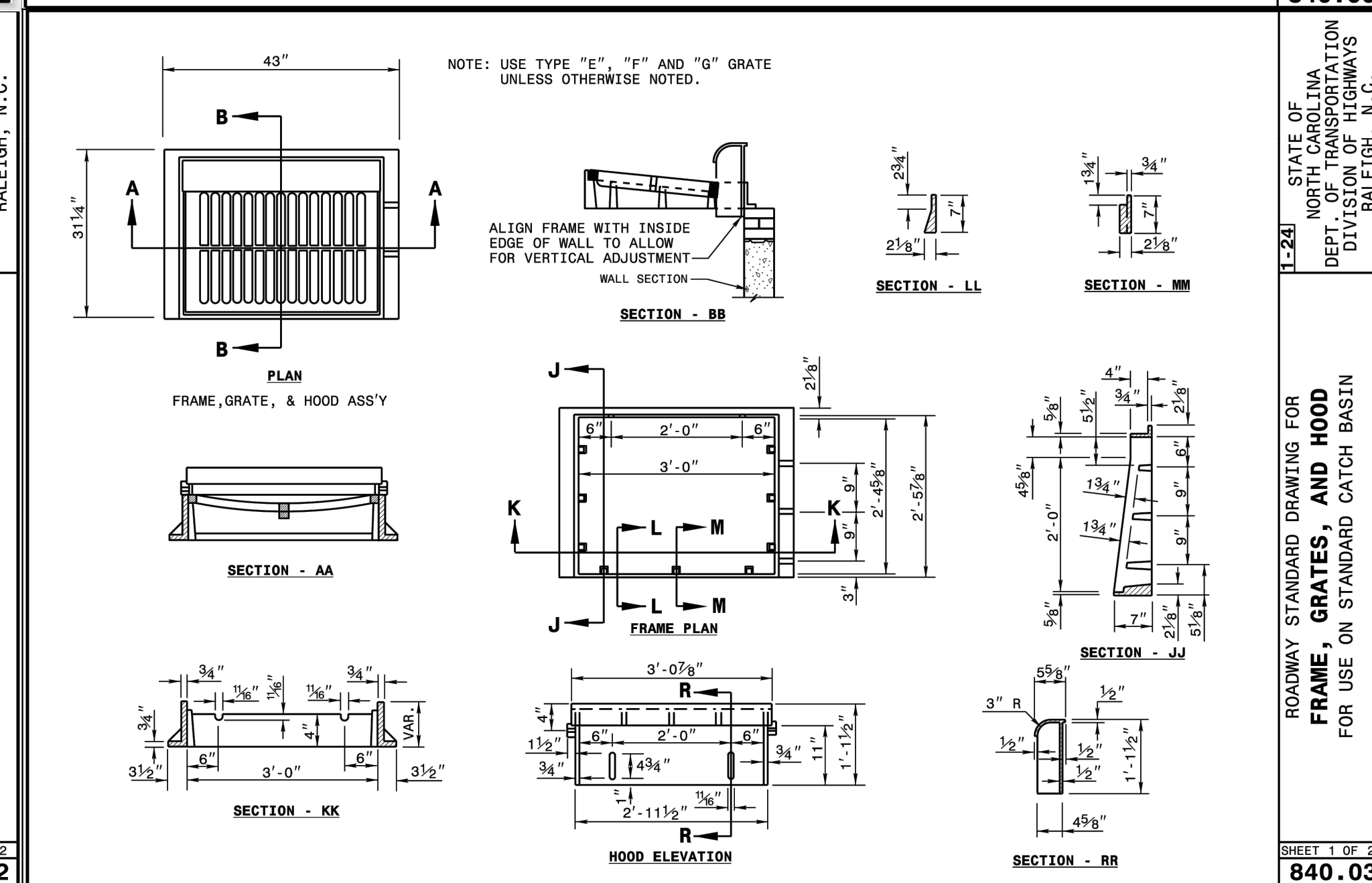
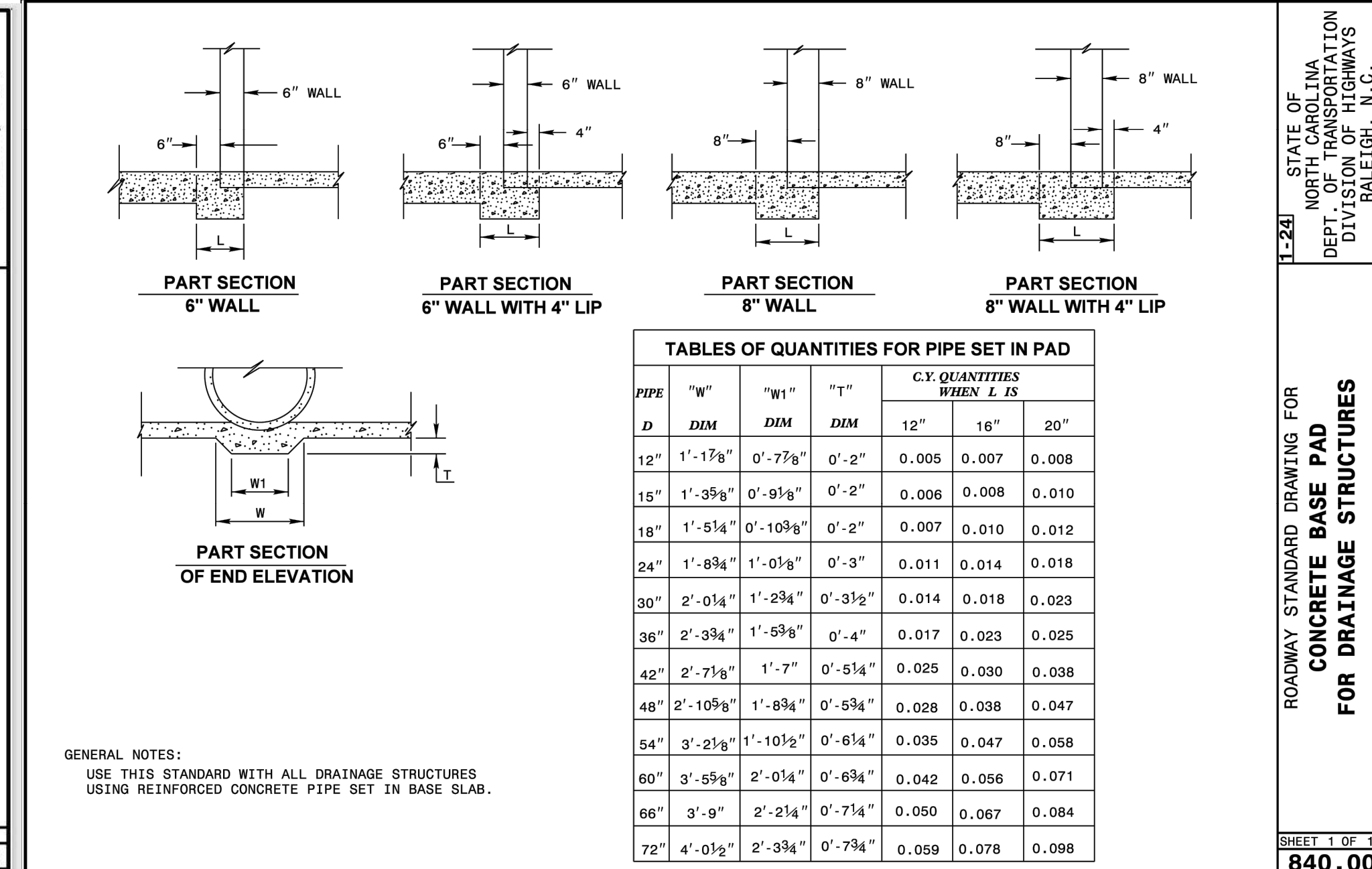
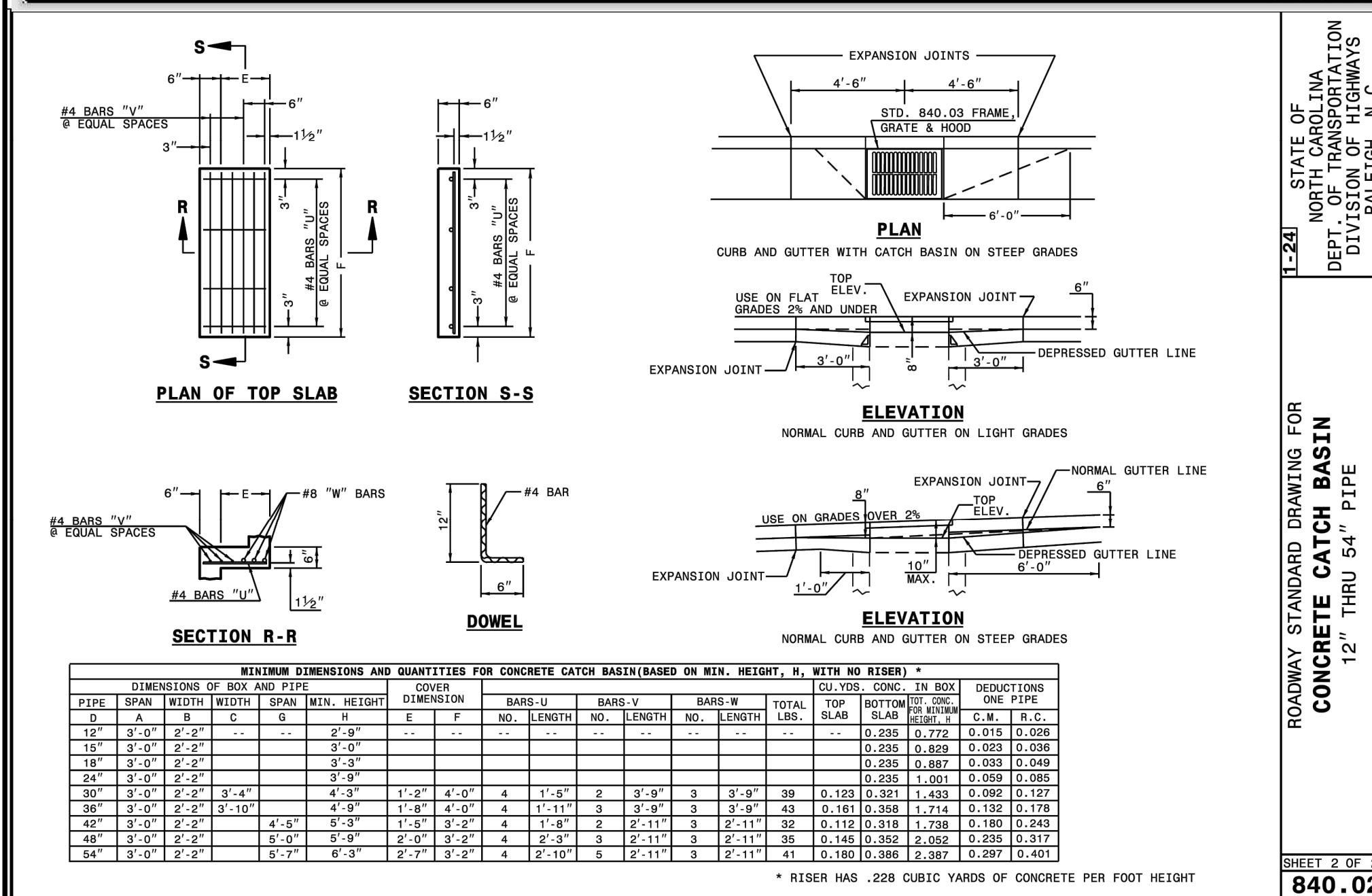
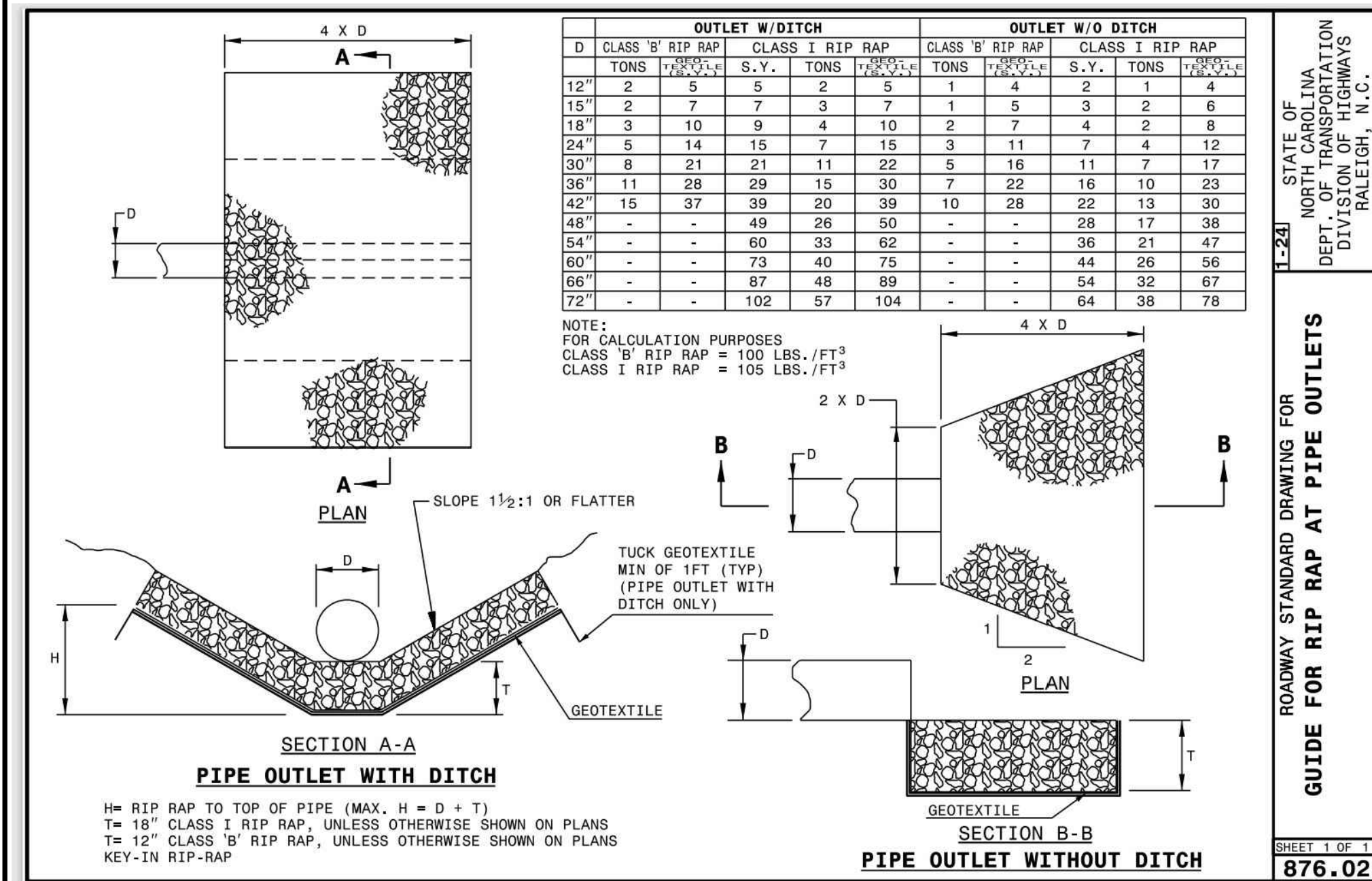


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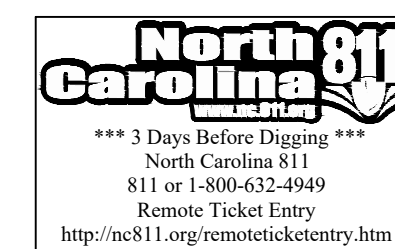
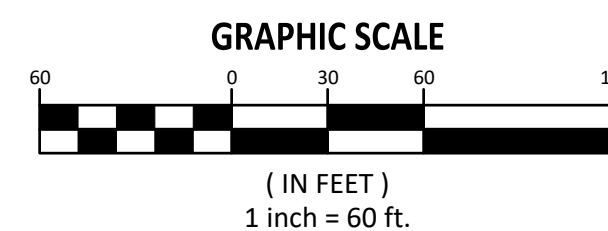
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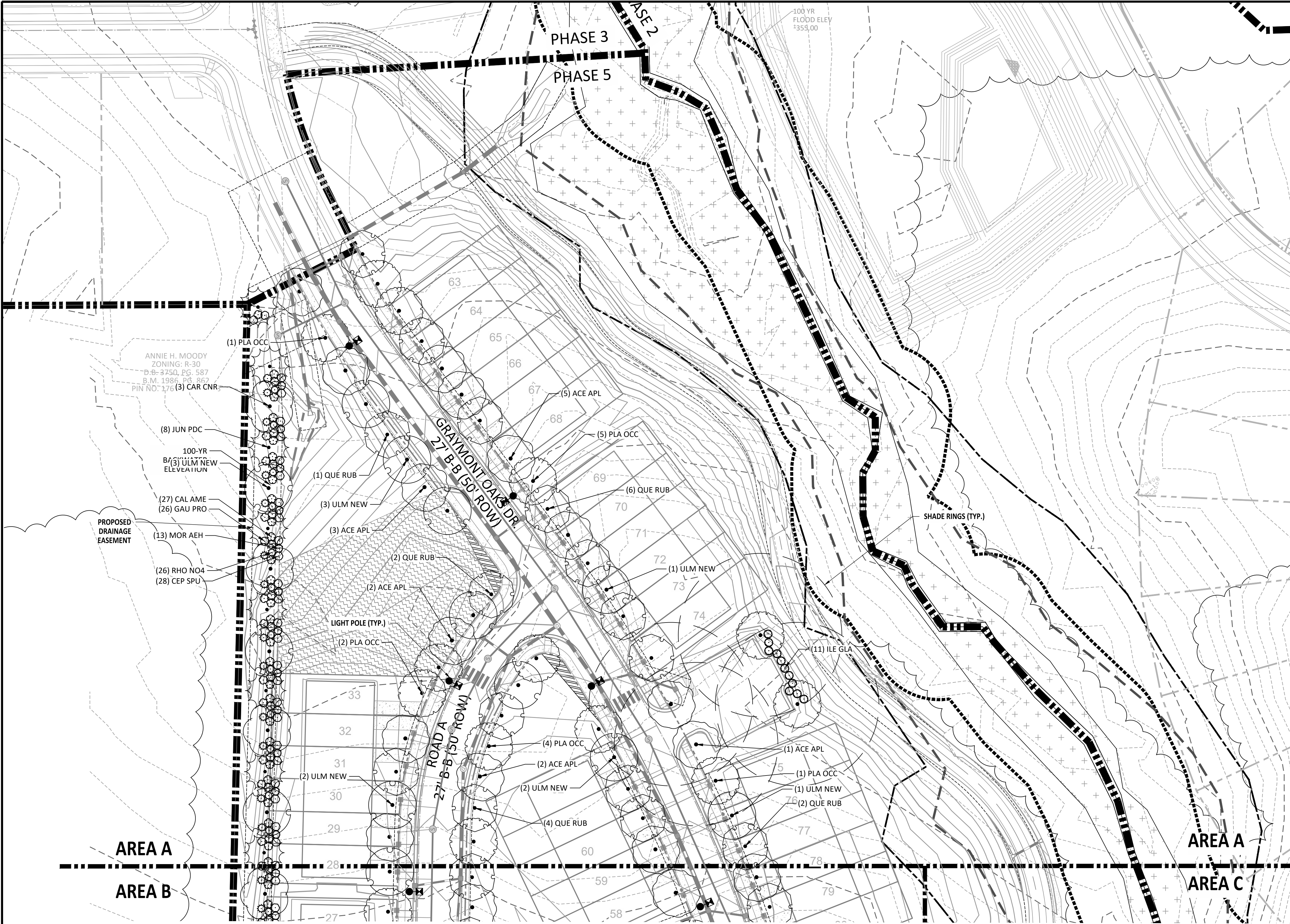
SHEET NO.:
CD500



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. Locate all existing utilities prior to installation of plant material. Notify owner of any discrepancies between field conditions and those shown on the plan.
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 on 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 the owner.
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 establishment.
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 nutcase, grasses, invasive plants, and any non-desirable plant material. This treatment shall occur monthly until the end of the warranty / maintenance period.
17. Mulch line smooth continuous curves.
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.

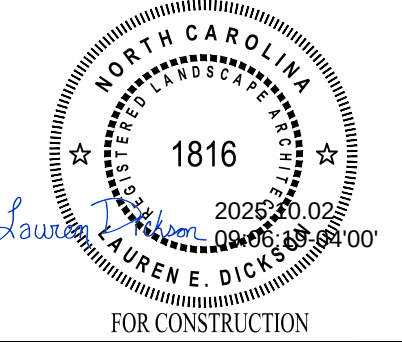
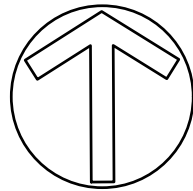
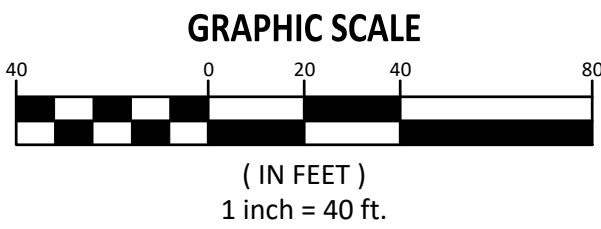
LIGHT POLES SHOWN FOR COORDINATION PURPOSES ONLY. SEE DUKE ENERGY LIGHTING PLANS FOR DETAILS.





PLANT SCHEDULE AREA A

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.	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.
EVERGREEN TREES						
JUN PDC	Juniperus virginiana 'Providence' / Providence Eastern Redcedar	2.5" Cal.		8" Height Min.	8	Single straight leader.
CODE	BOTANICAL / COMMON NAME	SIZE	CONTAINER		QTY	REMARKS
DECIDUOUS 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.
EVERGREEN SHRUBS						
GAU PRO	Gaultheria procumbens / Wintergreen	18" Height Min.	3 gal		25	Fully rooted.
ILE GLA	Ilex glabra / Inkberry Holly	18" Height Min.	3 gal		11	Fully rooted.
MOR AEH	Morella cerifera 'Nana' / Dwarf Southern Wax Myrtle	18" Height Min.	3 gal		12	Fully rooted.
RHO NO4	Rhododendron catawbiense 'Nova Zembla' / Catawba Rhododendron	18" Height Min.	3 gal		24	Fully rooted.



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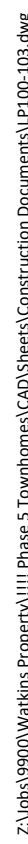
KALAS FALLS
PHASE 5
CONSTRUCTION INFRASTRUCTURE
DOCUMENTS
CID-25-01
TOWN OF ROLESVILLE,
WAKE COUNTY, NC

JOB NUMBER: R180115
CHECKED BY: JK
DRAWN BY: GE, RC
DATE: 09-26-2025

SHEET TITLE:
**LANDSCAPE
PLAN AREA A**

SHEET NO.:
LP401





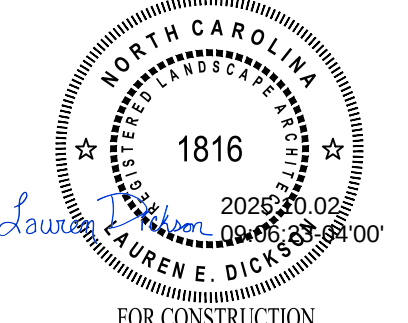
PLANT SCHEDULE AREA B						
CODE	BOTANICAL / COMMON NAME	CAL	CONT	SIZE	QTY	REMARKS
CANOPY TREES						
ACE APL	Acer rubrum 'Built to Last' / Built to Last® Red Maple	2.5" Cal.		8' Height Min.	28	Single straight leader.
CAR CNR	Carpinus caroliniana 'CCMTF1' / Collynair® American Hornbeam	2.5" Cal.		8' Height Min.	11	Single straight leader.
PLA OCC	Platanus occidentalis / American Sycamore	2.5" Cal.		8' Height Min.	21	Single straight leader.
QUE RUB	Quercus rubra / Northern Red Oak	2.5" Cal.		8' Height Min.	32	Single straight leader.
ULM NEW	Ulmus americana 'New Harmony' / New Harmony American Elm	2.5" Cal.		8' Height Min.	21	Single straight leader.
EVERGREEN TREES						
JUN PDC	Juniperus virginiana 'Providence' / Providence Eastern Redcedar	2.5" Cal.		8' Height Min.	14	Single straight leader.
CODE	BOTANICAL / COMMON NAME	SIZE	CONTAINER		QTY	REMARKS
DECIDUOUS SHRUBS						
CAL AME	Callicarpa americana / American Beautyberry	18" Height Min.	3 gal		69	Fully rooted.
CEP SPU	Cephalanthus occidentalis 'Sputnik' / Sputnik Buttonbush	18" Height Min.	3 gal		76	Fully rooted.
EVERGREEN SHRUBS						
GAU PRO	Gaultheria procumbens / Wintergreen	18" Height Min.	3 gal		68	Fully rooted.
ILE GLA	Ilex glabra / Inkberry Holly	18" Height Min.	3 gal		25	Fully rooted.
MOR AEH	Morella cerifera 'Nana' / Dwarf Southern Wax Myrtle	18" Height Min.	3 gal		41	Fully rooted.
RHO NO4	Rhododendron catawbiense 'Nova Zembla' / Catawba Rhododendron	18" Height Min.	3 gal		44	Fully rooted.





PLANT SCHEDULE AREA C

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.	7	Single straight leader.
CAR CNR	Carpinus caroliniana 'CCMTF1' / Collynair® American Hornbeam	2.5" Cal.		8' Height Min.	8	Single straight leader.
PLA OCC	Platanus occidentalis / American Sycamore	2.5" Cal.		8' Height Min.	5	Single straight leader.
QUE RUB	Quercus rubra / Northern Red Oak	2.5" Cal.		8' Height Min.	4	Single straight leader.
ULM NEW	Ulmus americana 'New Harmony' / New Harmony American Elm	2.5" Cal.		8' Height Min.	11	Single straight leader.
CODE	BOTANICAL / COMMON NAME	SIZE	CONTAINER		QTY	REMARKS
DECIDUOUS SHRUBS						
CAL AME	Callicarpa americana / American Beautyberry	18" Height Min.	3 gal		25	Fully rooted.
CEP SPU	Cephalanthus occidentalis 'Sputnik' / Sputnik Buttonbush	18" Height Min.	3 gal		50	Fully rooted.
EVERGREEN SHRUBS						
GAU PRO	Gaultheria procumbens / Wintergreen	18" Height Min.	3 gal		27	Fully rooted.
ILE GLA	Ilex glabra / Inkberry Holly	18" Height Min.	3 gal		39	Fully rooted.
MOR AEH	Morella cerifera 'Nana' / Dwarf Southern Wax Myrtle	18" Height Min.	3 gal		39	Fully rooted.



NO.	DATE	REVISION:
1	09/26/2025	UPDATED FINANCIALLY RESPONSIBLE PARTY

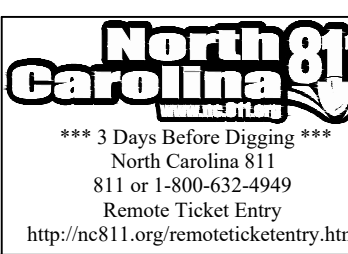
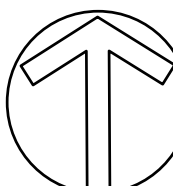
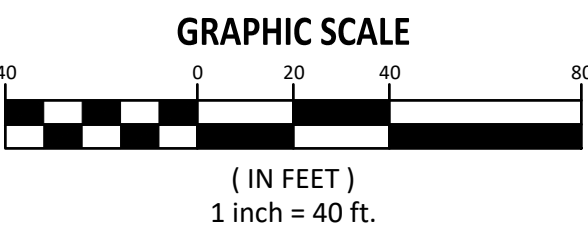
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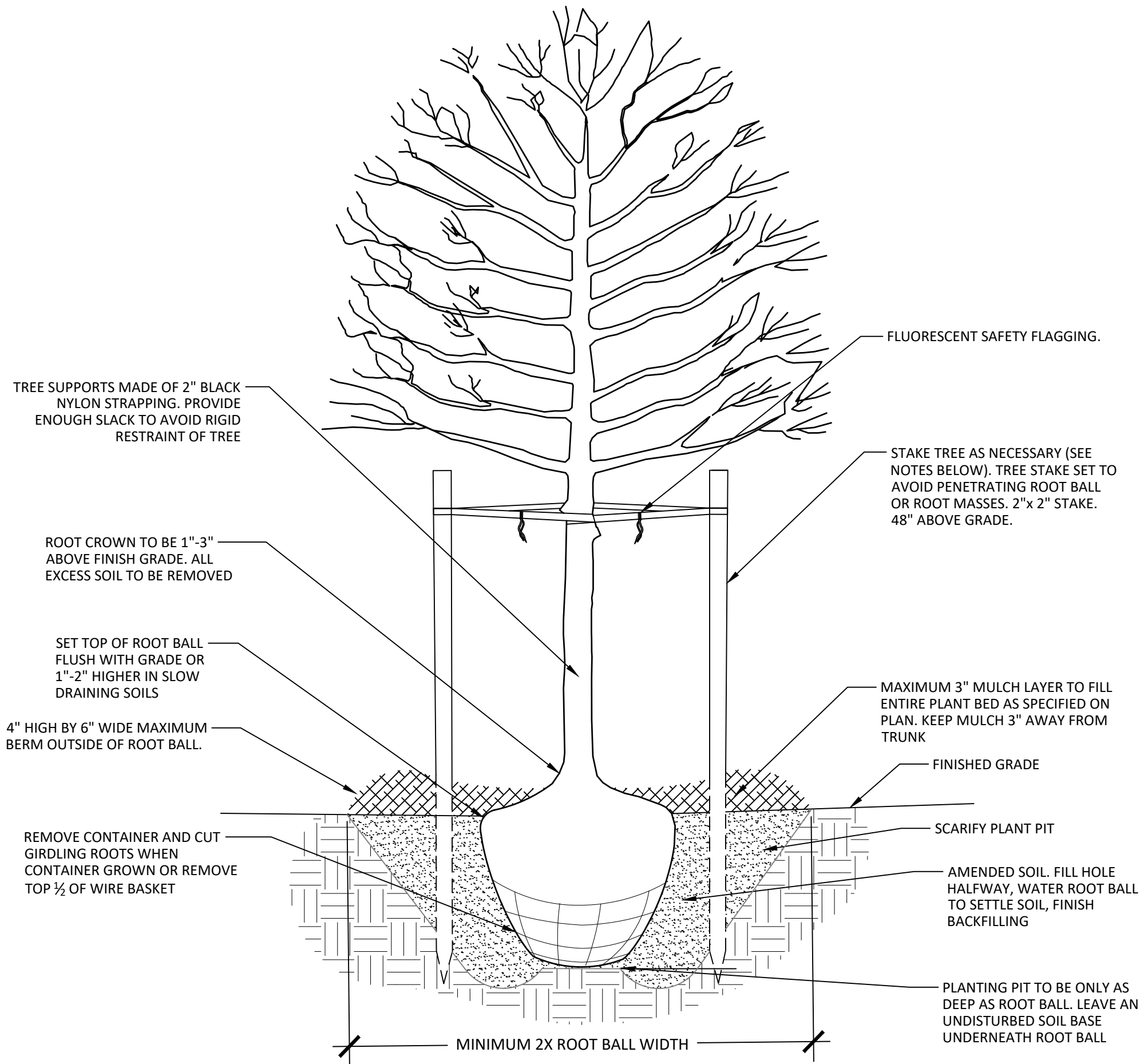
KALAS FALLS
PHASE 5
CONSTRUCTION INFRASTRUCTURE
DOCUMENTS
CID-25-01
TOWN OF ROLESVILLE,
WAKE COUNTY, NC

JOB NUMBER: R180115
CHECKED BY: JK
DRAWN BY: GE, RC
DATE: 09-26-2025

SHEET TITLE:
**LANDSCAPE
PLAN AREA C**

SHEET NO.:
LP403



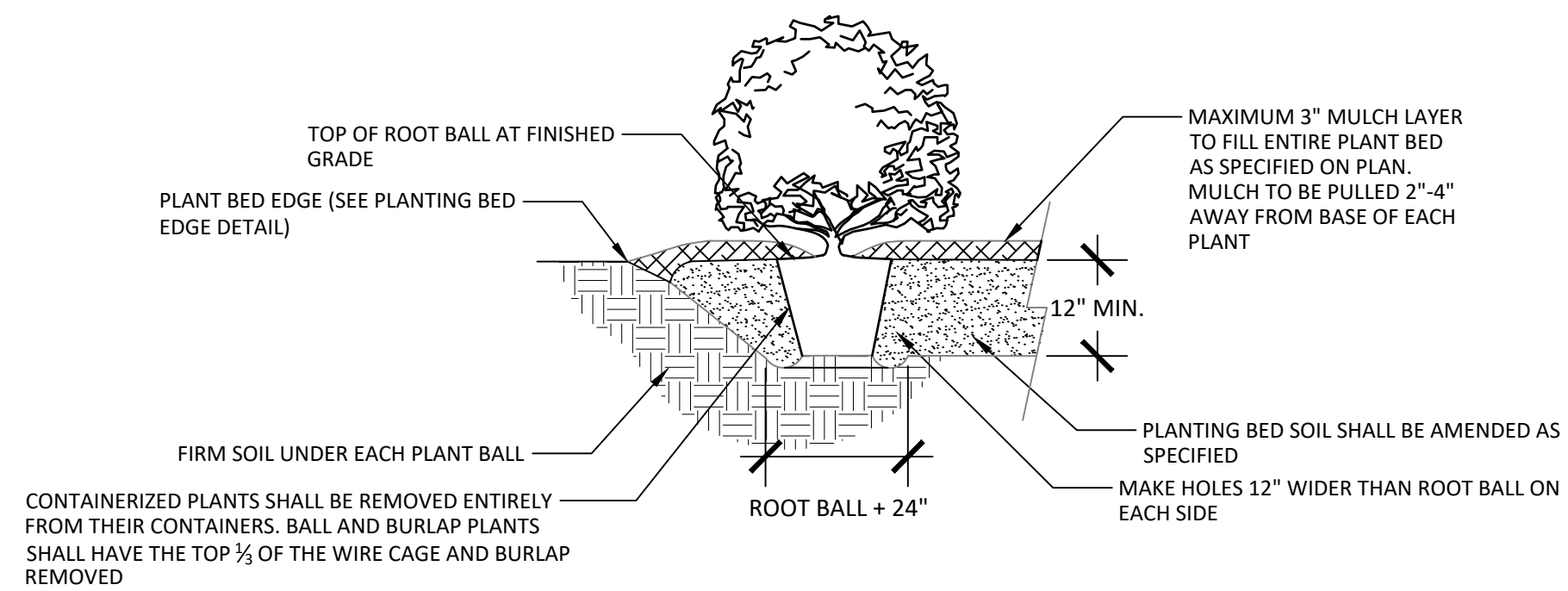


- NOTES
1. All trees shall meet American Standard for Nursery Stock (ANSI z60.1-2004)
 2. Remove wire and nylon twine from ball and canopy.
 3. Soak root ball and plant pit immediately after installation.
 4. Do not stake or wrap trunk unless:
 - a. Tree has a large crown.
 - b. Planting site is consistently 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.

1 TYPICAL TREE PLANTING

NOT TO SCALE

P-R-01

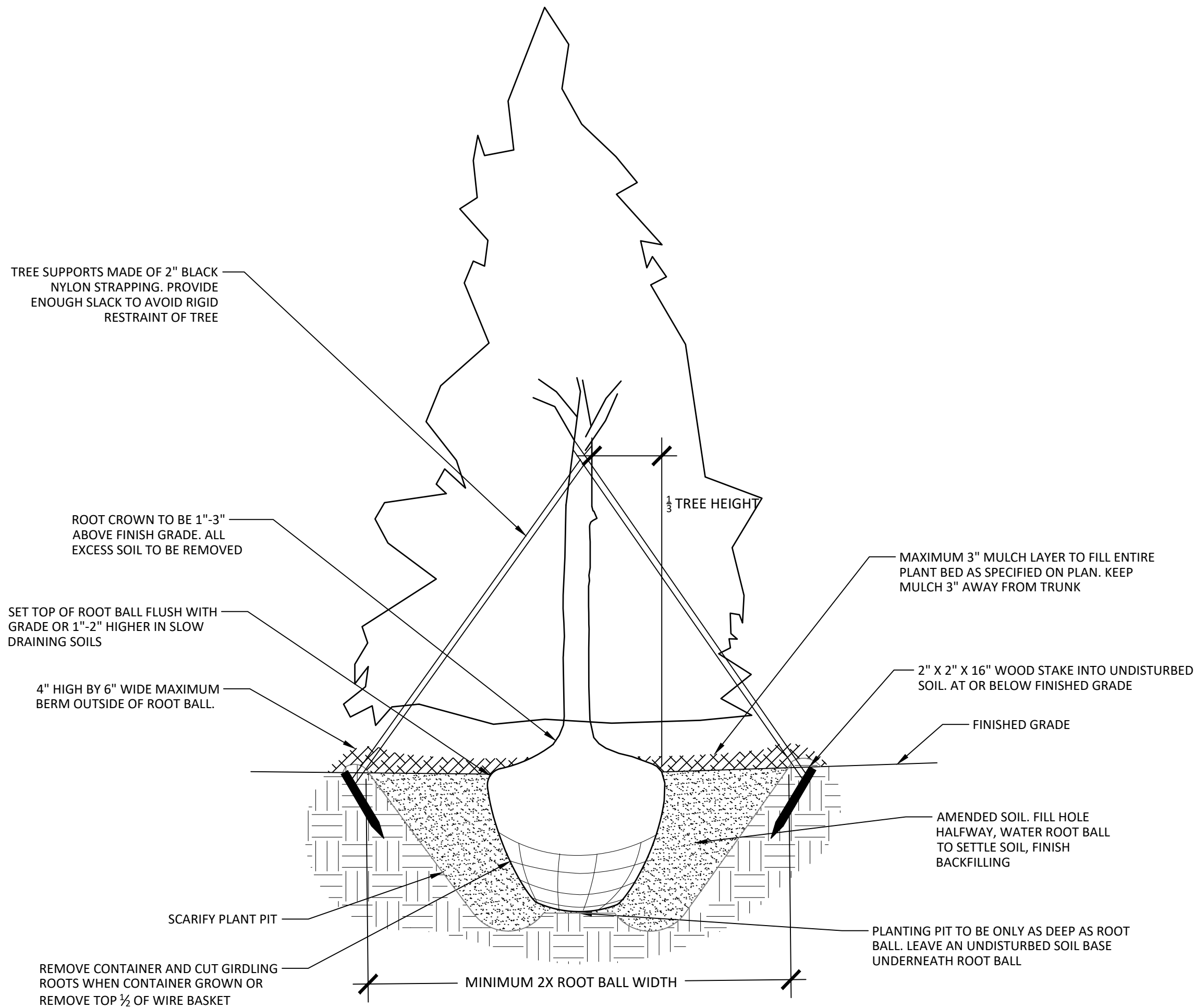


- NOTES
1. SCARIFY ROOT MASS OF CONTAINERIZED PLANTS.
 2. PLANT ROOT BALL SHOULD BE INSTALLED 1"-3" MAXIMUM ABOVE FINISHED GRADE.
 3. WATER EACH PLANT IMMEDIATELY AFTER INSTALLATION AND BEFORE INSTALLATION OF MULCH.
 4. PLANT PITS ONLY FOR SINGLE PLANTS. FOR PLANT BEDS, PREPARE THE ENTIRE BED AREA.
 5. SPACING OF SHRUBS VARIES, REFER TO LANDSCAPE PLANS.

2 TYPICAL SHRUB PLANTING

NOT TO SCALE

P-R-02

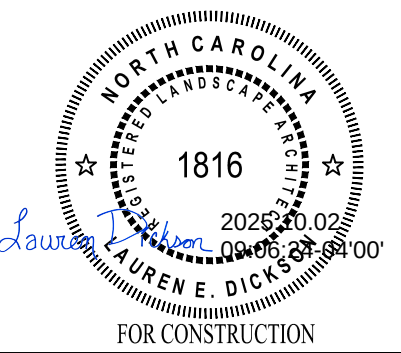
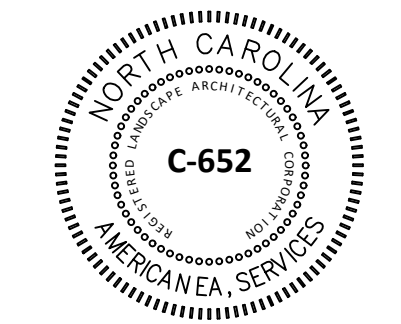


- NOTES
1. All trees shall meet American Standard for Nursery Stock (ANSI z60.1-2004)
 2. Remove wire and nylon twine from ball and canopy.
 3. Soak root ball and plant pit immediately after installation.
 4. Do not stake or wrap trunk unless:
 - a. Tree has a large crown.
 - b. Planting site is consistently 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.

3 TYPICAL EVERGREEN TREE PLANTING

NOT TO SCALE

P-R-08



NO.	DATE	REVISION:
1	09/26/2025	UPDATED FINANCIALLY RESPONSIBLE PARTY

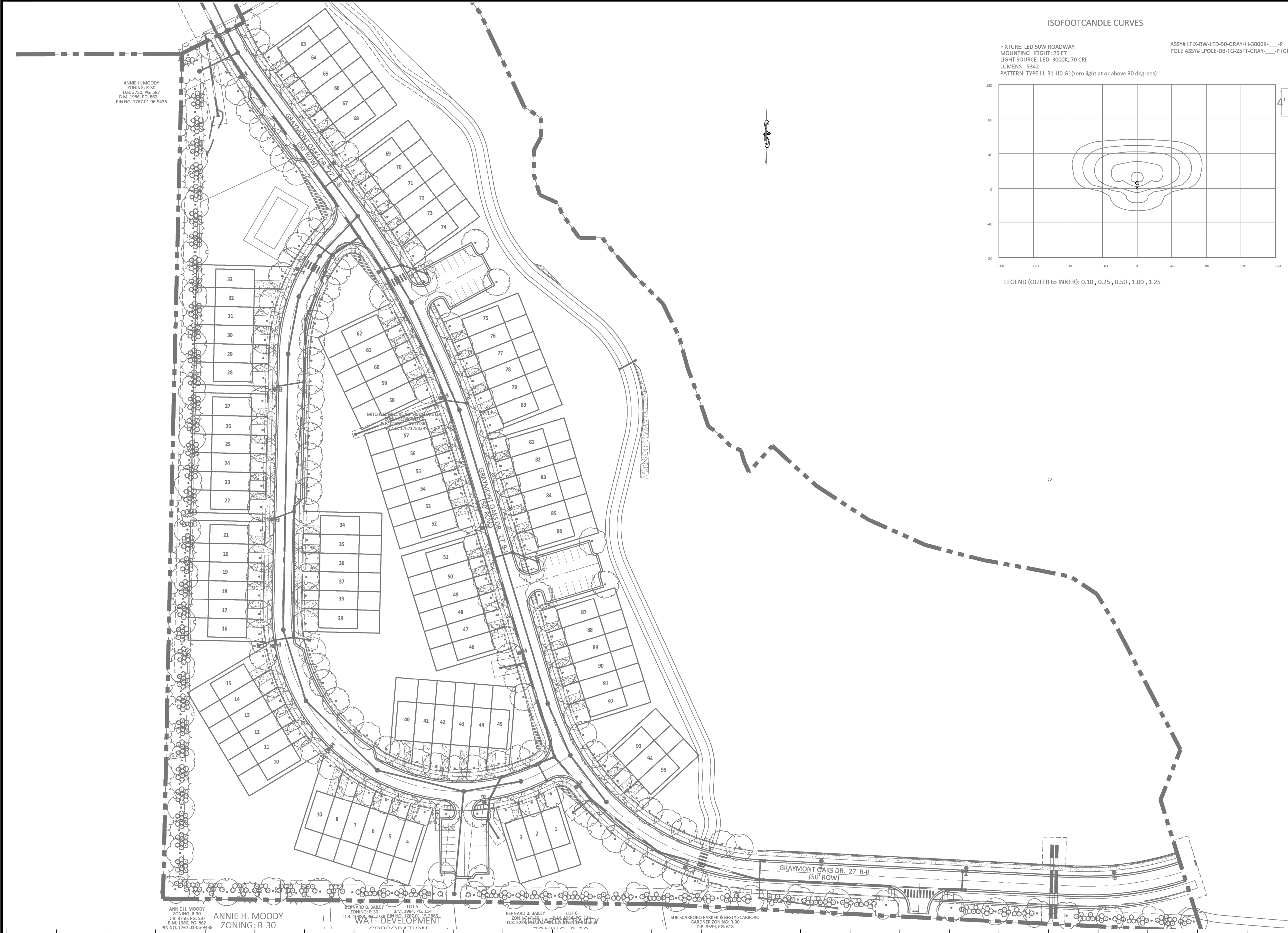
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**KALAS FALLS
PHASE 5
CONSTRUCTION INFRASTRUCTURE
DOCUMENTS
CID-25-01
TOWN OF ROLESVILLE,
WAKE COUNTY, NC**

JOB NUMBER: R180115
CHECKED BY: JK
DRAWN BY: GE, RC
DATE: 09-26-2025

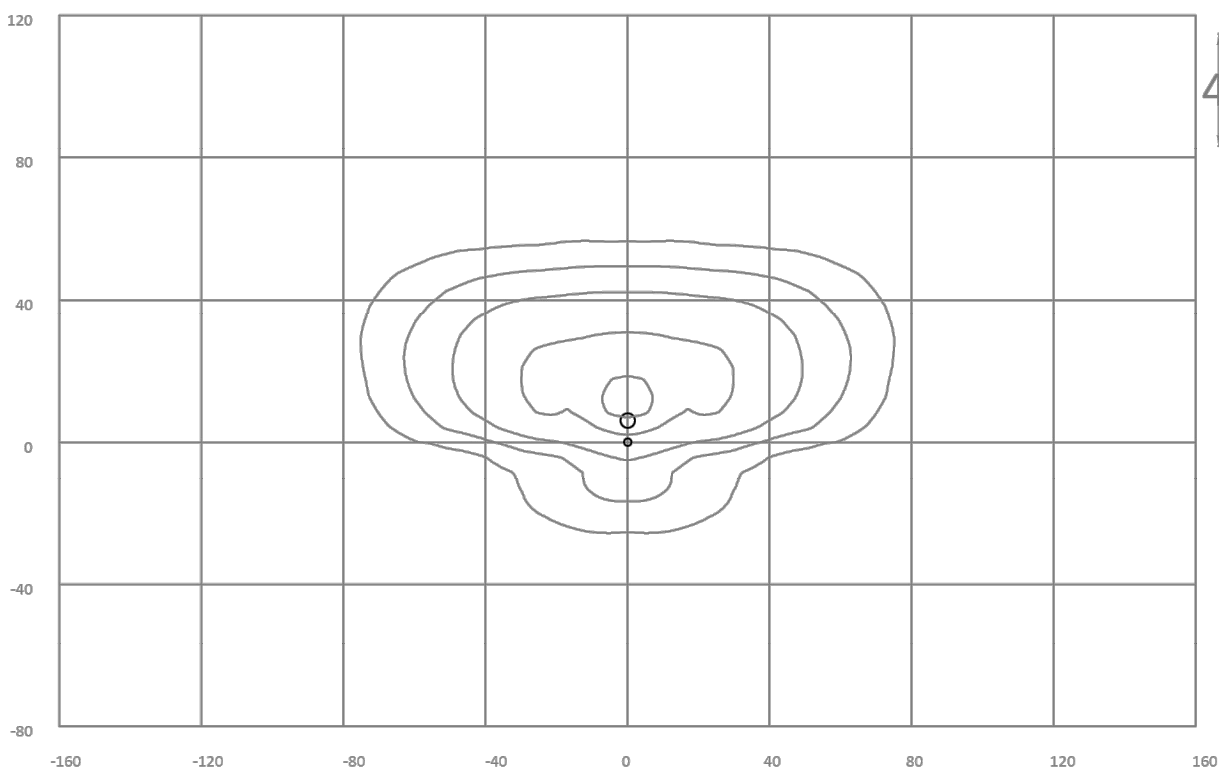
SHEET TITLE:
**LANDSCAPE
DETAILS**
SHEET NO.:
LP500



ISOFOOTCANDLE CURVES

FIXTURE: LED SOW ROADWAY
MOUNTING HEIGHT: 25 FT
LIGHT SOURCE: LED, 3000K, 70 CRI
LUMENS - 5342
PATTERN: TYPE III, B1-U0-G1(zero light at or above 90 degrees)

ASSY# LFIX-RW-LED-50-GRAY-III-3000K-___P
POLE ASSY# LPOLE-DB-FG-25FT-GRAY-___P (GRAY)



LEGEND (OUTER to INNER): 0.10, 0.25, 0.50, 1.00, 1.25

Outdoor Lighting

LED (Light emitting diode)	50 watts
Mounting height	20', 25', 35'
Color	Gray Black
Pole	Fiberglass Metal Wood
Applications	Neighborhoods Parks Streets

Light source: LED (white)
Wattage: 50 watts, 70 watts
Lumens: 5,232 - 6,170
Light pattern:IESNA Type III, III, V
IESNA cutoff classification: Full cutoff
BUG rating: Type II = B1(U0G2 (50w)
IESUG2 (70w)
Type III = B1(U0G1)
Type V = B3(U0G1 (50w only)
Color temperature: 3,000K, 4,000K

POLE AVAILABLE

	MOUNTING HEIGHT	COLOR
Fiberglass	25', 30', 35'	Gray; Black (additional cost)
Wood	25', 30', 35'	Standard
Metal (Special conditions)	25', 30', 35'	Galvanized

FEATURES

Turnkey operation	Provides hassle-free installation and service
Little or no installation cost	Frees up capital for other projects
Design services by lighting professionals included	Meets industry standards and lighting ordinances
Maintenance, electricity & warranty included	Eliminates high and unexpected repair bills
One low monthly cost on your electric bill	Convenience and savings for you

For additional information, contact us at DUKELighting@duke-energy.com.

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DUKE ENERGY
PROGRESS

ILLUMINATING A BRIGHTER FUTURE™

OVERALL SITE LIGTHING PLAN - NO GRID

ES100

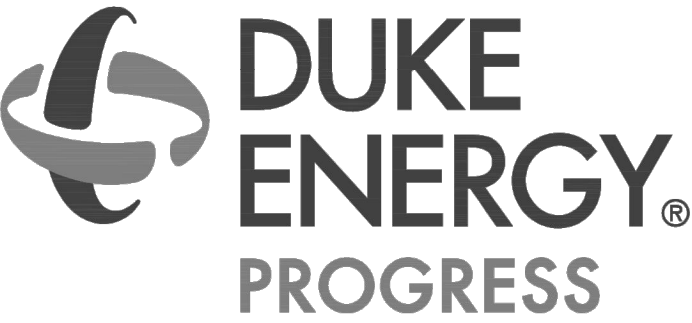
Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Road	✕	0.5 fc	1.1 fc	0.1 fc	11.0:1	5.0:1
Schedule						
Symbol	Label	QTY	Description	Number Lamps	Lamp Output	LLF
✕	A	17	LED 50w Roadway - Type III - 3000K	1	5312	0.85

NO.	DATE	REVISION	BY



LIGHTING DESIGN TOLERANCE

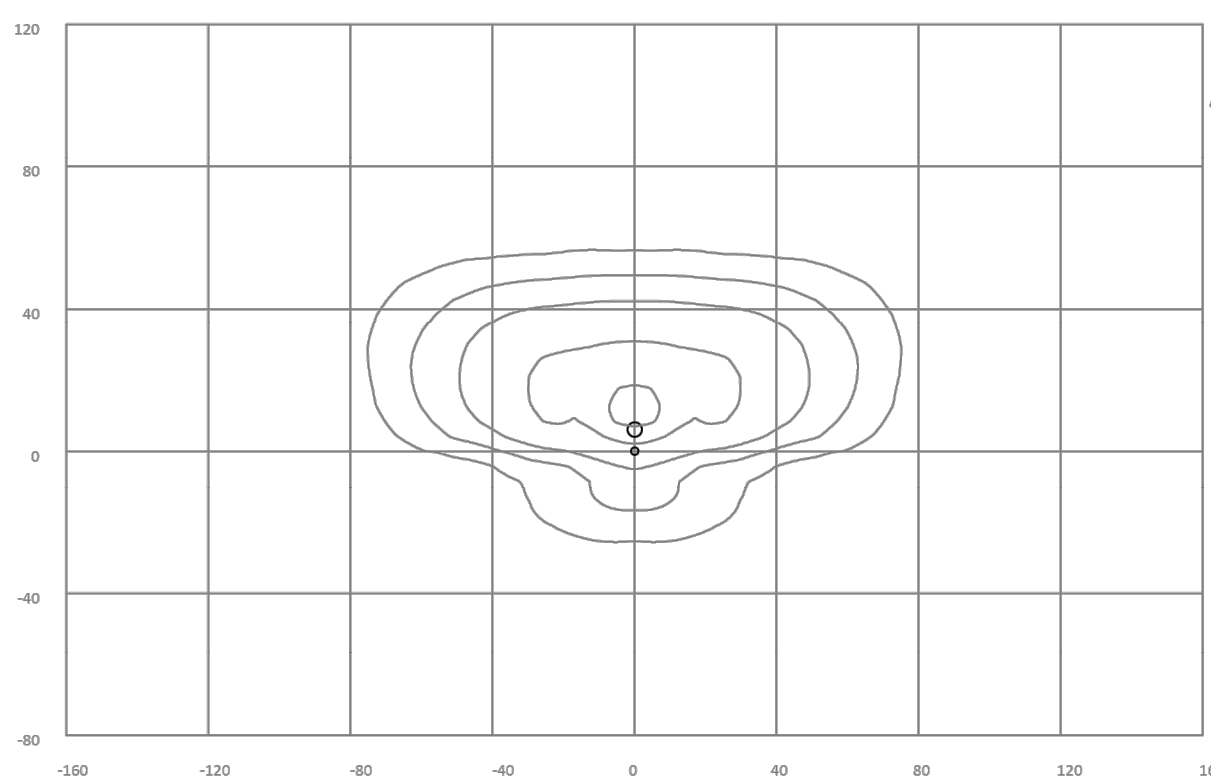
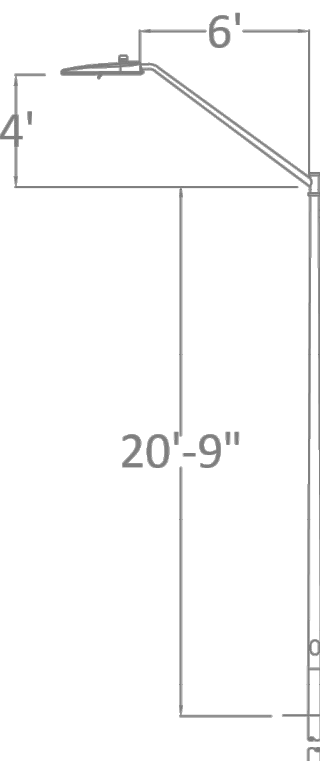
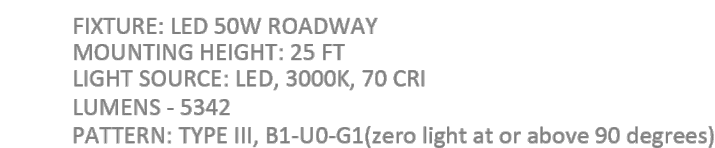
The calculated footcandle light levels in this lighting design are predicted values and are based on specific information that has been supplied to Duke Energy. Any inaccuracies in the supplied information, differences in luminaire installation, lighted area geometry including elevation differences, reflective properties of surrounding surfaces, obstructions (foliage or otherwise) in the lighted area, or lighting from sources other than listed in this design may produce different results from the predicted values. Normal tolerances of voltage, lamp output, and ballast and luminaire manufacture will also affect results.



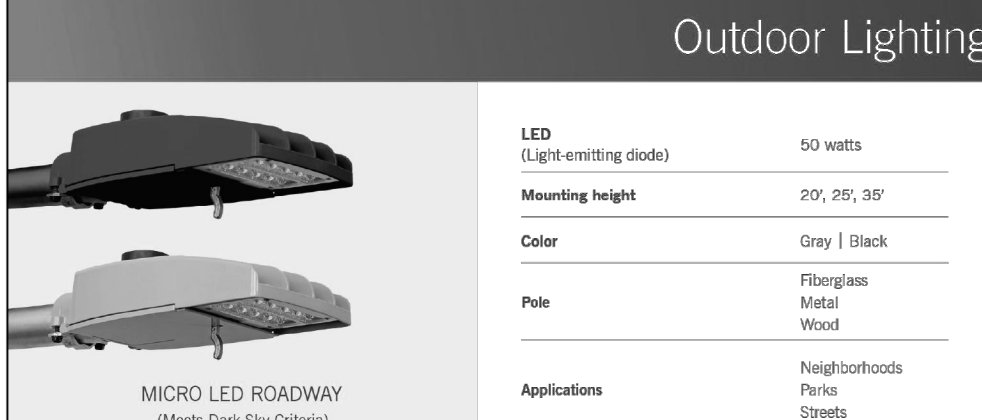
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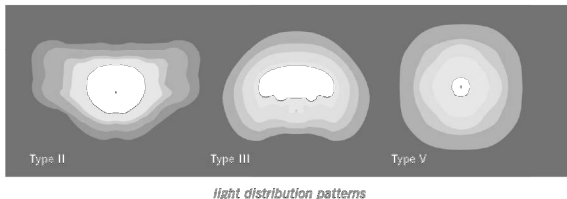
KALAS FALLS		
WAKE FOREST, NC		
STREET LIGHTING ARRANGEMENT		
Designed by	DUKE ENERGY PROGRESS LIGHTING SOLUTIONS	
Reviewed by	N. Johnson	Scale 1" = 60'
Date	04/02/2025	Size Drawing size "D"
Description	LED ROADWAY	
Drawing No.	25-0123A	Sht. 1 OF 1



LEGEND (OUTER to INNER): 0.10 , 0.25 , 0.50 , 1.00 , 1.25



Light source: LED (white)
 Wattage: 50 watts, 70 watts
 Lumens: 5,232 – 8,170
 Light pattern: IESNA Type II, III, V
 IESNA cutoff classification: Full-cutoff
 BUG rating: Type II = B1U0G2 (50w)
 B2U0G2 (70w)
 Type III = B1U0G1
 Type V = B3U0G1 (50w only)
 Color temperature: 3,000K **4,000K**



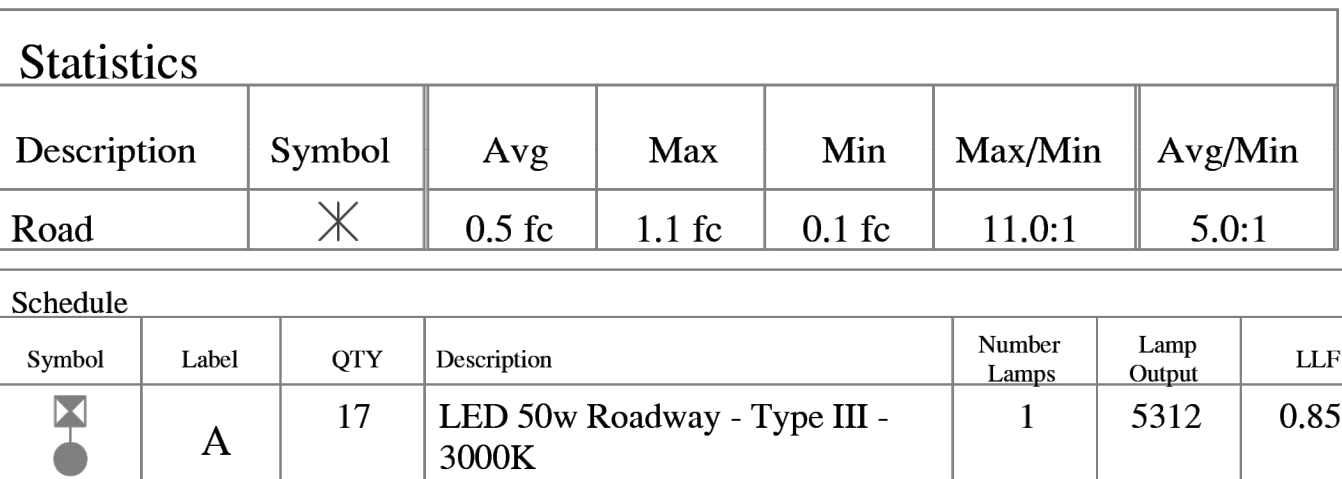
POLE AVAILABLE	MOUNTING HEIGHT	COLOR
Fiberglass	25', 30', 35'	Gray, Black (additional cost)
Wood	25', 30', 35'	Standard
Metal (Special conditions)	25', 30', 35'	Galvanized

FEATURES	BENEFITS
Turnkey operation	Provides hassle-free installation and service
Little or no installation cost	Free up capital for other projects
Design services by lighting professionals included	Meets industry standards and lighting ordinances
Maintenance, electricity & warranty included	Eliminates high and unexpected repair bills
One low monthly cost on your electric bill	Convenience and savings for you

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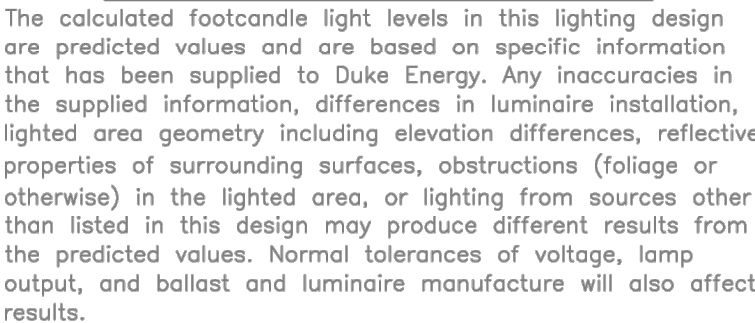
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KALAS FALLS
WAKE FOREST, NC
STREET LIGHTING ARRANGEMENT

Designed by DUKE ENERGY PROGRESS LIGHTING SOLUTIONS
 Reviewed by N. Johnson Scale 1" = 60'
 Date 04/02/2025 Size Drawing size "D"
 Description LED ROADWAY
 Drawing No. 25-0123A Sht. 1 OF 1



NO.	DATE	REVISION	BY