

#### GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMI mplementing the details and specifications on this plan sheet will result in the construction

activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the

	delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction				
SECTION E: GROUND STABILIZATION					
Required Ground Stabilization Timeframes					
		A. 1.111			

	Re	equired Ground Stabil	ization Timeframes		
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		
(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		
(d)	Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed		
(e)	Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zone -10 days for Falls Lake Watershed unless there is zero slope		

**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.

there is zero slope

### **GROUND STABILIZATION SPECIFICATION**

Temporary Stabilization	Permanent Stabilization
Temporary grass seed covered with straw or other mulches and tackifiers Hydroseeding Rolled erosion control products with or without temporary grass seed Appropriately applied straw or other mulch Plastic sheeting	Permanent grass seed covered with straw or other mulches and tackifiers Geotextile fabrics such as permanent soil reinforcement matting Hydroseeding Shrubs or other permanent plantings covere with mulch Uniform and evenly distributed ground cover sufficient to restrain erosion Structural methods such as concrete, asphalt retaining walls Rolled erosion control products with grass see

### **POLYACRYLAMIDES (PAMS) AND FLOCCULANTS**

- . Select flocculants that are appropriate for the soils being exposed during construction, selecting from the NC DWR List of Approved PAMS/Flocculants.
- Apply flocculants at or before the inlets to Erosion and Sediment Control Measures. Apply flocculants at the concentrations specified in the NC DWR List of Approved
- PAMS/Flocculants and in accordance with the manufacturer's instructions. . Provide ponding area for containment of treated Stormwater before discharging
- 5. Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

### **EQUIPMENT AND VEHICLE MAINTENANCE**

- Maintain vehicles and equipment to prevent discharge of fluids.
- Provide drip pans under any stored equipment. Identify leaks and repair as soon as feasible, or remove leaking equipment from the
- 4. Collect all spent fluids, store in separate containers and properly dispose as
- hazardous waste (recycle when possible). Remove leaking vehicles and construction equipment from service until the problem
- has been corrected. . Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

### LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

- Never bury or burn waste. Place litter and debris in approved waste containers. Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
- Locate waste containers at least 50 feet away from storm drain inlets and surface
- waters unless no other alternatives are reasonably available. Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
- Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers. Anchor all lightweight items in waste containers during times of high winds.
- Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.

#### 8. Dispose waste off-site at an approved disposal facility. 9. On business days, clean up and dispose of waste in designated waste containers.

- PAINT AND OTHER LIQUID WASTE 1. Do not dump paint and other liquid waste into storm drains, streams or wetlands. 2. Locate paint washouts at least 50 feet away from storm drain inlets and surface
- waters unless no other alternatives are reasonably available. Contain liquid wastes in a controlled area.
- . Containment must be labeled, sized and placed appropriately for the needs of site. Prevent the discharge of soaps, solvents, detergents and other liquid wastes from

## PORTABLE TOILETS

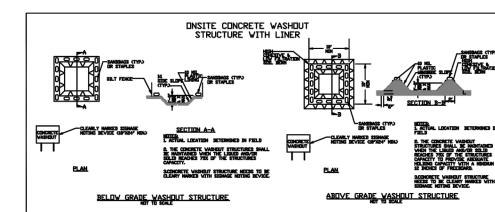
construction sites.

- Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place
- on a gravel pad and surround with sand bags. Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
- Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

### EARTHEN STOCKPILE MANAGEMENT

- . Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably
- Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
- . Provide stable stone access point when feasible.
- . Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.





### CONCRETE WASHOUTS

- Do not discharge concrete or cement slurry from the site.
- Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
- Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
- Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two
- types of temporary concrete washouts provided on this detail. Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must
- be pumped out and removed from project. Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive
- spills or overflow. Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the
- approving authority. Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
- Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
- At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

### HERBICIDES, PESTICIDES AND RODENTICIDES

- Store and apply herbicides, pesticides and rodenticides in accordance with label Store herbicides, pesticides and rodenticides in their original containers with the
- label, which lists directions for use, ingredients and first aid steps in case of Do not store herbicides, pesticides and rodenticides in areas where flooding is
- possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately. 4. Do not stockpile these materials onsite.

#### HAZARDOUS AND TOXIC WASTE Create designated hazardous waste collection areas on-site.

- Place hazardous waste containers under cover or in secondary containment.
- Do not store hazardous chemicals, drums or bagged materials directly on the ground.

PART III

## NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

EFFECTIVE: 04/01/19

## SELF-INSPECTION, RECORDKEEPING AND REPORTING

## SECTION A: SELF-INSPECTION

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

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts.  If no daily rain gauge observations are made during weeken holiday periods, and no individual-day rainfall informatio available, record the cumulative rain measurement for those attended days (and this will determine if a site inspectio needed). Days on which no rainfall occurred shall be recorde "zero." The permittee may use another rain-monitoring de approved by the Division.
(2) E&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	il. Identification of the measures inspected,     Date and time of the inspection,     Name of the person performing the inspection,     Indication of whether the measures were operating properly,     Description of maintenance needs for the measure,     Description, evidence, and date of corrective actions taken.
(3) Stormwater discharge outfalls (SDCs)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the discharge outfalls inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration, 5. Indication of visible sediment leaving the site, 6. Description, evidence, and date of corrective actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If visible sedimentation is found outside site limits, then a record the following shall be made:  1. Actions taken to clean up or stabilize the sediment that has the site limits,  2. Description, evidence, and date of corrective actions taken,  3. An explanation as to the actions taken to control future releases.
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If the stream or wetland has increased visible sedimentation or stream has visible increased turbidity from the construction activity, then a record of the following shall be made:  1. Description, evidence and date of corrective actions taken, is 2. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item (2)(a) of this permits the section of the required reports to the description of the permits of the section of the
(6) Ground stabilization measures	After each phase of grading	1. The phase of grading (installation of perimeter E&SC measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover).  2. Documentation that the required ground stabilization measures have been provided within the required timeframe or an assurance that they will be provided as soon as possible.

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

#### SECTION B: RECORDKEEPING 1. E&SC Plan Documentation

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

	(a) Each E&SC measure has been installed and does not significantly deviate from the locations, dimensions and relative elevation shown on the approved E&SC plan.
	(b) A phase of grading has been completed.
	(c) Ground cover is located and installed in accordance with the approved E&SC plan.
	(d) The maintenance and repair requirements for all E&SC measures have been performed.
	(e) Corrective actions have been taken to E&SC measures.
2	. Additional Documentation to be Kept o

#### Initial and date each E&SC measure on a copy of the approved E&SC plan or complete, date s and sign an inspection report that lists each E&SC measure shown on the approved E&SC plan. This documentation is required upon the initial installation of the E&SC measures or if

Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate completion of the construction phase.

installation.

Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications. Complete, date and sign an inspection report.

Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

the E&SC measures are modified after initial

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

- (a) This General Permit as well as the Certificate of Coverage, after it is received.
- (b) Records of inspections made during the previous twelve months. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.

3. Documentation to be Retained for Three Years

All data used to complete the e-NOI and all inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

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

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

## SELF-INSPECTION, RECORDKEEPING AND REPORTING

#### SECTION C: REPORTING 1. Occurrences that Must be Reported

Permittees shall report the following occurrences: (a) Visible sediment deposition in a stream or wetland.

## (b) Oil spills if:

- They are 25 gallons or more,
- They are less than 25 gallons but cannot be cleaned up within 24 hours,
- They cause sheen on surface waters (regardless of volume), or They are within 100 feet of surface waters (regardless of volume).
- (c) 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

## . 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) 858-0368.

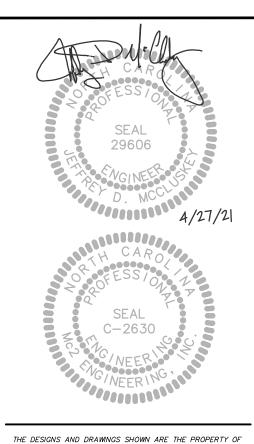
Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment	Within 24 hours, an oral or electronic notification.
deposition in a	Within 7 calendar days, a report that contains a description of the
stream or wetland	sediment and actions taken to address the cause of the 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 sediment-
	related 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 compliar
	with the federal or state impaired-waters conditions.
(b) Oil spills and	Within 24 hours, an oral or electronic notification. The notification
release of	shall include information about the date, time, nature, volume and
hazardous	location of the spill or release.
substances per Item	
1(b)-(c) above	
(c) Anticipated	<ul> <li>A report at least ten days before the date of the bypass, if possible.</li> </ul>
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.
(e) Noncompliance	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 environment[40	been corrected, the anticipated time noncompliance is expected to
CFR 122.41(I)(7)]	continue; and steps taken or planned to reduce, eliminate, and
CER 122,41(I)(7)]	prevent reoccurrence of the noncompliance. [40 CFR 122.41(I)(6).

case-by-case basis.



**EFFECTIVE: 04/01/19** 

Division staff may waive the requirement for a written report on a



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RIDGE SHINNVILLE

NCG01 **NOTES** 

	R	EVISIONS
7	4/27/21	BELMONT COMMENTS

FINAL DRAWING FOR REVIEW PURPOSES ONLY

PROJECT NO .: DESIGNED BY:

REVIEWED BY:

18 - 017



- 9. ALL BACKFILL AND FILL MATERIAL USED IN RIGHTS OF WAY AND UTILITY EASEMENTS MUST BE NON- PLASTIC IN NATURE, FREE FROM ROOTS, VEGETATIVE MATTER, WASTE, CONSTRUCTION MATERIAL OR OTHER OBJECTIONABLE MATERIAL. SAID MATERIAL MUST BE CAPABLE OF BEING COMPACTED BY MECHANICAL MEANS AND THE MATERIAL MUST HAVE NO TENDENCY TO FLOW OR BEHAVE IN A PLASTIC MANNER UNDER TAMPING BLOWS OR PROOF ROLLING. 10. MATERIALS DEEMED BY THE CITY INSPECTOR AS UNSUITABLE FOR BACKFILL OR FILL PURPOSES SHALL BE REMOVED AND REPLACED
- WITH SELECT BACKFILL MATERIAL.
- 11. ALL TRENCHES IN THE STREET RIGHT OF WAY SHALL BE BACKFILLED WITH SUITABLE MATERIAL IMMEDIATELY AFTER THE PIPE IS LAID. THE FILL AROUND THE PIPE SHALL BE PLACED IN LAYERS NOT TO EXCEED SIX INCHES AND EACH LAYER MUST BE COMPACTED THOROUGHLY.
- UNDER NO CIRCUMSTANCES SHALL WATER BE PERMITTED TO RISE IN UN-BACKFILLED TRENCHES AFTER THE PIPE HAS BEEN
- ALL SUBGRADE SHALL BE COMPACTED TO 100% OF THE MAXIMUM DENSITY OBTAINABLE WITH THE STANDARD PROCTOR TEST TO A DEPTH OF EIGHT INCHES, AND A DENSITY OF 95% STANDARD PROCTOR FOR DEPTHS GREATER THAN EIGHT INCHES.
- 14. NO GRADING MAY OCCUR WITHOUT FIRST OBTAINING A GRADING PERMIT FROM THE CITY OF BELMONT. THE CITY WILL NOT ISSUE THIS PERMIT UNTIL AN APPROVED EROSION CONTROL PERMIT HAS BEEN OBTAINED.
- 15. SOIL COMPACTION TESTING IN RIGHTS OF WAYS AND UTILITY EASEMENTS IS REQUIRED WITH THE CITY TO RECEIVE COPIES OF SAID TEST RESULTS. THE CONTRACTOR/OWNER SHALL RETAIN A QUALIFIED INDEPENDENT TESTING FIRM TO PERFORM SUCH TESTS.
- 16. THE CITY DOES NOT REVIEW BUILDING PERMIT APPLICATIONS FOR INDIVIDUAL BUILDING CONSTRUCTION. THEREFORE BELMONT DOES NOT REVIEW LOT GRADING IN DETAIL. THE DEVELOPER AND HOMEBUILDING HAVE FULL RESPONSIBILITY REGARDING LOT DRAINAGE AND PROTECTION OF PROPOSED HOUSES FROM WATER
- 17. PROPOSED SLOPES ARE SHOWN IN THE DIRECTION FROM LOW GRADE TO HIGH GRADE.

TENSAR EROSION CONTROL BLANKET PER KEYNOTE

- GRADING KEY NOTES: (A) PROPOSED CATCH BASIN "CB" (NCDOT 840.02 - 1 - 2/C9.2), CURB INLET FRAME AND GRATE (NCDOT 840.03 - 3-4/C9.2) ALONG WITH DRAINAGE STRUCTURE STEPS (840.66) SEE DETAILS 7/C9.2. CONTRACTOR MAY USE EITHER BRICK OR
- $\langle \mathtt{B} \rangle$  proposed open throat catch basin "ot" (NCDOT 840.04 - 5-6/C9.3) WITH 2 INLETS AND MANHOLE ACCESS (NCDOT 840.54 -8/C9.2) ALONG WITH DRAINAGE STRUCTURE STEPS (840.66) SEE DETAILS 7/C9.3. CONTRACTOR MAY USE EITHER BRICK OR PRECAST STRUCTURE.

PRECAST STRUCTURE.

- (C) AFTER RECEIVING APPROVAL FROM GASTON COUNTY NATURAL RESOURCES TO REMOVE TSSB #3 AND #5 CONTRACTOR SHALL REMOVE TEMPORARY PIPE FROM CATCH BASIN INTO TSSB #3 AND TSSB #5 AND INSTALL CONCRETE AND BRICK PIPE PLUG (NCDOT 840.71 - 9/C9.2)
- (D) AFTER RECEIVING APPROVAL FROM GASTON COUNTY NATURAL RESOURCES TO REMOVE TSSB #6, #7 AND #8 CONTRACTOR SHALL EXTEND PIPE TO FES 40, FES 60 AND FES
- (E) CONTRACTOR SHALL INSTALL DROP INLET/CATCH BASIN INLET PROTECTION ON "CB". SEE DETAIL 5/C9.1.
- \( \mathbf{f} \) INSTALL CONCRETE FLARED END SECTION "FES" PER 7/C9.1 AND RIP RAP OUTLET PROTECTION SEE DETAIL 8/C9.0.

- (G) INSTALL CONCRETE FLARED END SECTION "FES" PER 7/C9.1 FOR THE INLET INTO THE CULVERT.
- $\langle$   $\mathsf{h}$  angle Contractor shall plant tall fescue ON PROPOSED 2:1 AND 3:1 SLOPES FOR GROUND STABILIZATION IN AREAS THAT ARE LOCATED WITHIN PROPOSED LOTS. LANDSCAPER SHALL PREPARE SOIL BY ADDING STARTER FERTILIZER, LIMESTONE AND FESCUE SEED MIX. CONTRACTOR SHALL THEN INSTALL TENSAR NORTH AMERICAN GREEN S75 SLOPE MATTING ON SHOWN 3:1 AND 2:1 SLOPES. SEE INSTALLATION DETAILS 9/C9.1.
- $\langle | \rangle$  SOIL TYPE BOUNDARY
- (J) INSTALL TREE PROTECTION AT BEGINNING OF CLEARING PER DETAIL 8/C9.1.
- (K) CONTRACTOR SHALL DEMOLISH AND REMOVE EXISTING STORM SEWER AND CONSTRUCT CB 51 OVERTOP OF EXISTING STORM SEWER PIPE TO REMAIN.
- (L) 25' CLEARANCE AROUND EXISTING DUKE POWER TRANSMISSION TOWER.
- (M) CONTRACTOR SHALL INSTALL OUTLET CONTROL STRUCTURE OC 91 PER DETAIL 1/C9.8.
- (N) INSTALL PERMANENT ROCK INLET PROTECTION 5' FROM FACE OF OC 91 TO ACT AS INLET PROTECTION/TRASH PROTECTION.

		Q <sub>10</sub>					Upstream	Downstream	_	
From	То	Total	Slope	Pipe	Actual	Length	Invert	Invert	Pipe	Rim
upstre am	downstream	Discharge		Diameter	Velocity		(From)	(To)	Mate rial	Elevation
		(cfs)	(Ft/Ft)	(In)	(fps)	(Ft)	(Ft)	(Ft)		(Ft)
W 19141 4	(10.7			<u> </u>			<u> </u>	<u> </u>	C18 A 4141 FB / FB / FB / FB	1 (- 1)
FES 4	CB 3	5.76	0.0050	18	4.92	24.44	717.90	717.78	CLASS IV RCP	
CB 3	CB 2	8.50	0.0050	24	5.42	24.00	717.78	717.66	CLASS IV RCP	721.07
CB 2	FES 1	11.24	0.0050	24	5.82	24.44	717.66	717.54	CLASS IV RCP	721.07
										<u> </u>
CB 19	CB 18	3,67	0,0471	15	10,24	195,03	712,40	703.22	CLASS III RCP	715,84
CB 18	CB 17	6.20	0.0290	15	9.69	195.00	703.02	697.36	CLASS III RCP	706.67
(B 17	CB 16	12,79	0,0290	18	11,62	195,00	697,11	691,46	CLASS III RCP	700,92
CB 16	CB 15	15.53	0.0255	18	11.61	195.00	691.26	686.28	CLASS III RCP	695.48
CB 15	CB 14	18.02	0.0275	24	12.36	130.02	685.78	682.21	CLASS III RCP	690,04
CB 14	CB 13	19.71	0,0100	24	8.68	64.65	682.01	681.36	CLASS III RCP	686.54
CB 13	CB 12	28.81	0.0150	24	10.97	24.00	681.16	680.80	CLASS III RCP	685.93
CB 12	CB II	31,28	0,0060	30	8,01	69,75	680,30	679,88	CLASS III RCP	685,93
CB II	FES 10	33.35	0.0065	30	8.37	44.00	677.38	677.10	CLASS III RCP	686.11
(1) 11	1.17.4 143	33.30	0.0000	50	0.57	44.00	077.50	077.10	C-17/K/A/Y III IXX-F	000.11
CD 174	C'D 17	224	0.0050	1.2	4.30	24.00	607.40	607.26	Z31 A 495 111 D Z3D	700.03
CB 17A	CB 17	3.34	0.0050	15	4.30	24.00	697.48	697.36	CLASS III RCP	700.92
				I			T		T 2.2 3.2.4 2.2. 2.2.	T 22121 2121
CB 22	CB 21	2.66	0.0100	15	5.23	128.91	685.55	684.26	CLASS III RCP	688.99
CB 21	CB 20	4.71	0.0110	15	6.29	126.13	684.06	682.68	CLASS III RCP	687.70
CB 20	CB 13	7.34	0.0125	15	7.31	71.07	682,48	681.59	CLASS III RCP	686.11
CB 35	CB 34	2,07	0.0265	15	7,21	178,63	684,12	679,39	CLASS III RCP	687,56
CB 34	CB 33	6.98	0.0230	15	9.16	194.09	679.19	674.72	CLASS III RCP	683.03
CB 33	CB 32	12.04	0.0520	15	14.24	194.72	674.52	664.40	CLASS III RCP	678.20
CB 32	CB 31	16.15	0.0890	15	18.74	206.91	664.20	645.78	CLASS III RCP	667.98
CB 31	FES 30	21.35	0.0090	24	8.47	91.30	644.28	643.46	CLASS III RCP	649.38
	1	1	(11177777		122-17	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	(717.20)	0.15.10		1,1,1,0,1
C'B 34A	CB 34	2.47	0.0085	15	4.83	24.00	679.59	679.39	CLASS III RCP	683.03
(1) 54/1	(//) 34	2.47	(71/1///////	147	4.00	24.00	077.57	0//25/	X/1/X/9/9 111 IXX/1	005105
C(1) 22 A	Z 10 22	2.24	0.0107	1.5	6 54	36.13	675.43	674.72	CLASS III RCP	678.87
CB 33A	CB 33	2.24	0.0197	15	6.54	30.13	075.43	6/4./2	CLASS III KCP	0/0.0/
4113 30 A	(17) 70					20.45		44440	*** ****	440.33
CB 32 A	CB 32	2.87	0.0518	15	10.07	28.65	665.88	664.40	CLASS III RCP	669.32
CB 31A	CB 31	3.80	0.0050	15	4.43	24.00	645.94	645.82	CLASS III RCP	649.38
CB 45	CB 44	2.28	0,0050	15	3,89	24,00	617,93	617.81	CLASS III RCP	621.37
CB 44	CB 43	3.01	0.0150	15	6.29	49.46	617.61	616.87	CLASS III RCP	621.37
CB 43	CB 42	3,54	0,0400	15	9,53	45,10	616,67	614,87	CLASS III RCP	620,38
CB 42	CB 41	15.26	0.0050	24	6.27	24.00	614.12	614.00	CLASS III RCP	621.28
CB 41	FES 40	17.60	0.0050	30	6.51	46.73	613.50	613.26	CLASS III RCP	621.28
,	1	1	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	517		10175	(712)	0.15.20		1,21,21,
OT 42A	CB 42	8.45	0.0050	24	5.41	23.24	614.25	614.13	CLASS III RCP	618.50
(71 42/1	V D 42	0.45	0.0050	2-4		23.24	014.25	014.13	V.1/4/5/5 111 KV F	010.50
Z (1) 43 D	/ (D. 43	2.26	0.0770	1.5	10.70	1.45.50	(35.45	21100	Z (1 A 4 (4) 111 13 Z (1)	630.00
CB 42B	CB 42	2.26	0.0739	15	10.78	145.79	625.65	614.88	CLASS III RCP	629.09
OT 53	CB 52	3.43	0.0500	15	10.33	34.88	632.25	630.51	CLASS III RCP	637.00
CB 52	CB 51	5,79	0,0100	15	6,39	24,00	630,31	630,07	CLASS III RCP	634,03
CB 51	EX HW 50	6.79	0.0400	15	11.17	86.00	629.87	626.43	EX. RCP	634.03
CB 64	CB 63	0.81	0,0050	15	3.06	24.00	599,37	599.25	CLASS III RCP	602.81
CB 63	CB 62	2.54	0.0112	15	5.40	96.99	599.05	597.97	CLASS IV RCP	602.81
CB 62	CB 61	11,23	0,0050	24	5,82	24,00	597,22	597,10	CLASS IV RCP	600,42
CB 61	FES 60	11.80	0.0050	24	5.89	103.15	597.10	596.58	CLASS IV RCP	600.42
4 10 3/4	2 247 3737		*************		A-117 F				STATE	26 26 26 TM
FES 62A	CB 62	7.68	0.0050	18	5.23	40.56	598.00	597.80	CLASS IV RCP	<del>                                     </del>
1137 04/1	V-D-04	7.00	0.0020	10	0.40	40.70	270.00	277.00	X/I/X/2/2 LY IXX/I	+
(11) ===	610 = 1	704	0.0015	1.5	7.07	00.77	E00.40	EV= 55	A11 A4141 FFF F5-6175	707.12
CB 75	CB 74	3.04	0.0215	15	7.23	99,36	599.68	597.55	CLASS III RCP	603.12
CB 74	CB 73	4.56	0.0200	15	7.79	102.00	597.35	595.31	CLASS III RCP	601.04
CB 73	CB 72	8.37	0,0120	18	7.51	79.27	595,06	594.11	CLASS III RCP	598.96
CB 72	CB 71	13.33	0.0050	24	6.07	24.00	593.61	593,49	CLASS III RCP	597.94
CB 71	FES 70	16,60	0,0075	24	7,46	111,59	584,84	584,00	CLASS III RCP	597,94
FES 72A	CB 72	3.10	0.0310	15	8.38	184.29	598.00	592.29	CLASS III RCP	
	•	. ,	•	•	,	•	•	•		'
CV 81	FES 80	32.14	0.0800	30	6.95	88.00	613.00	605.96	CLASS III RCP	
	1 137 000	52.17	***************************************	l 217	174.74	17774777	1 ********	J. 1000.00	1 A. Lander III IX I	1

| Upstream | Downstream |

 $\mathbf{Q}_{10}$ 

REVISIONS 2 | 11/27/18 | BELMONT COMMENTS 7 | 4/27/21 | BELMONT COMMENTS 8 6/11/21 NCDOT/BELMONT CMTS

GRADING PLAN

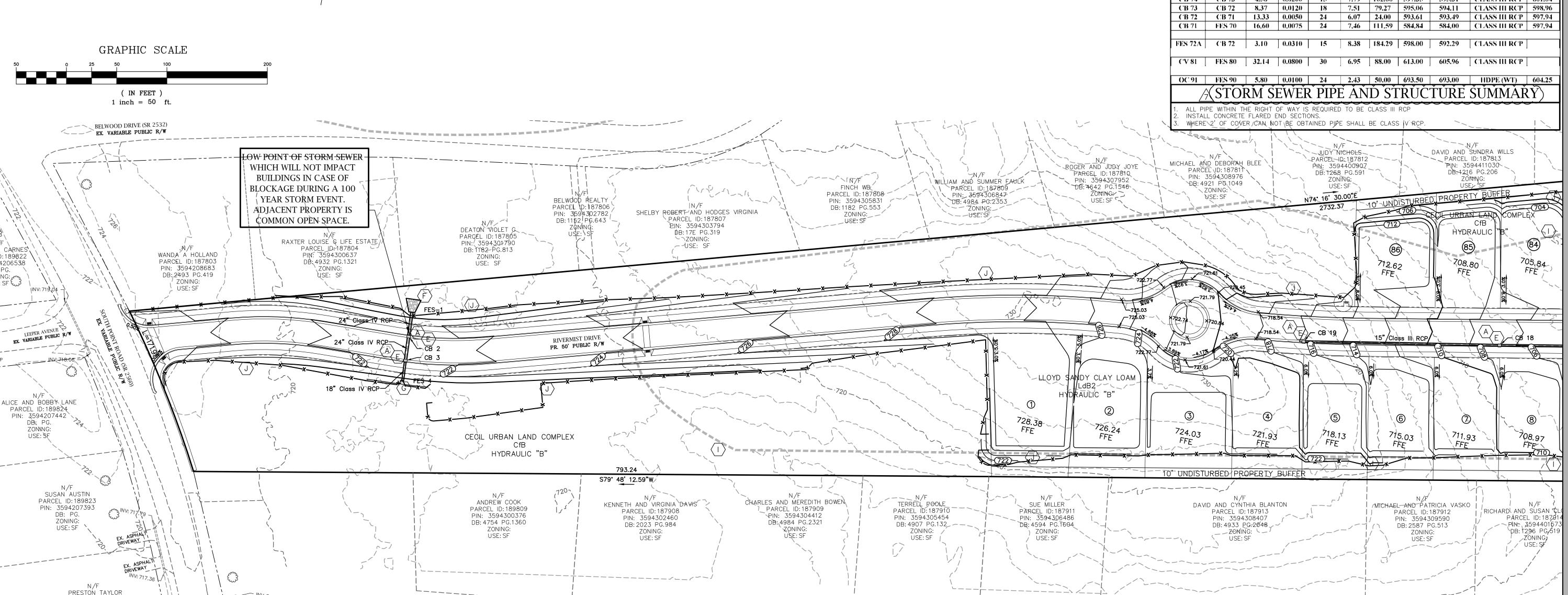
- WEST SITE

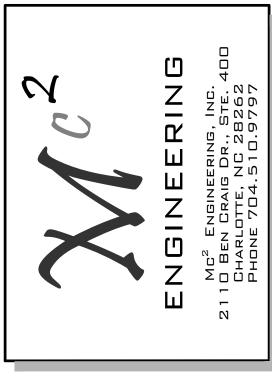
FINAL DRAWING FOR REVIEW

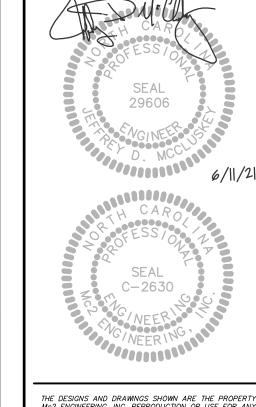
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DATE:

REVIEWED BY: OCTOBER 8, 2018





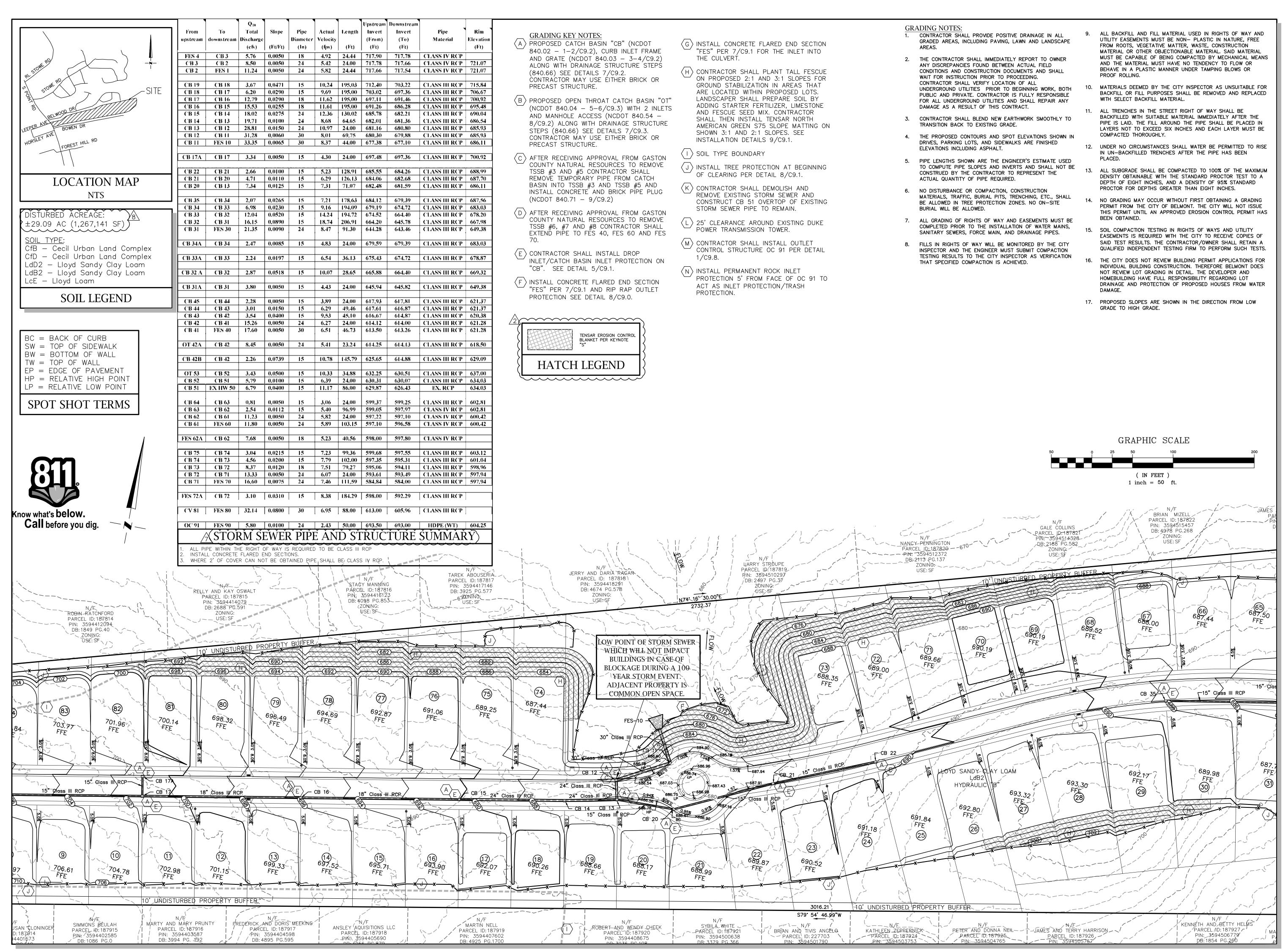


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RCH ROAD
28031 **P** 

B

RIDGE SHINNVILLE



ENGINEERING, INC.

110 BEN GRAIG DR., STE. 400
GHARLOTTE, NG 28262
PHONE 704.510.9797

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PARTNERS, L
HURCH ROAD
NC 28031

SHINNVILLE RIDGE PA

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GRADING PLAN
- CENTRAL
SITE

REVISIONS

2 11/27/18 BELMONT COMMENTS

7 4/27/21 BELMONT COMMENTS

8 6/11/21 NCDOT/BELMONT CMTS

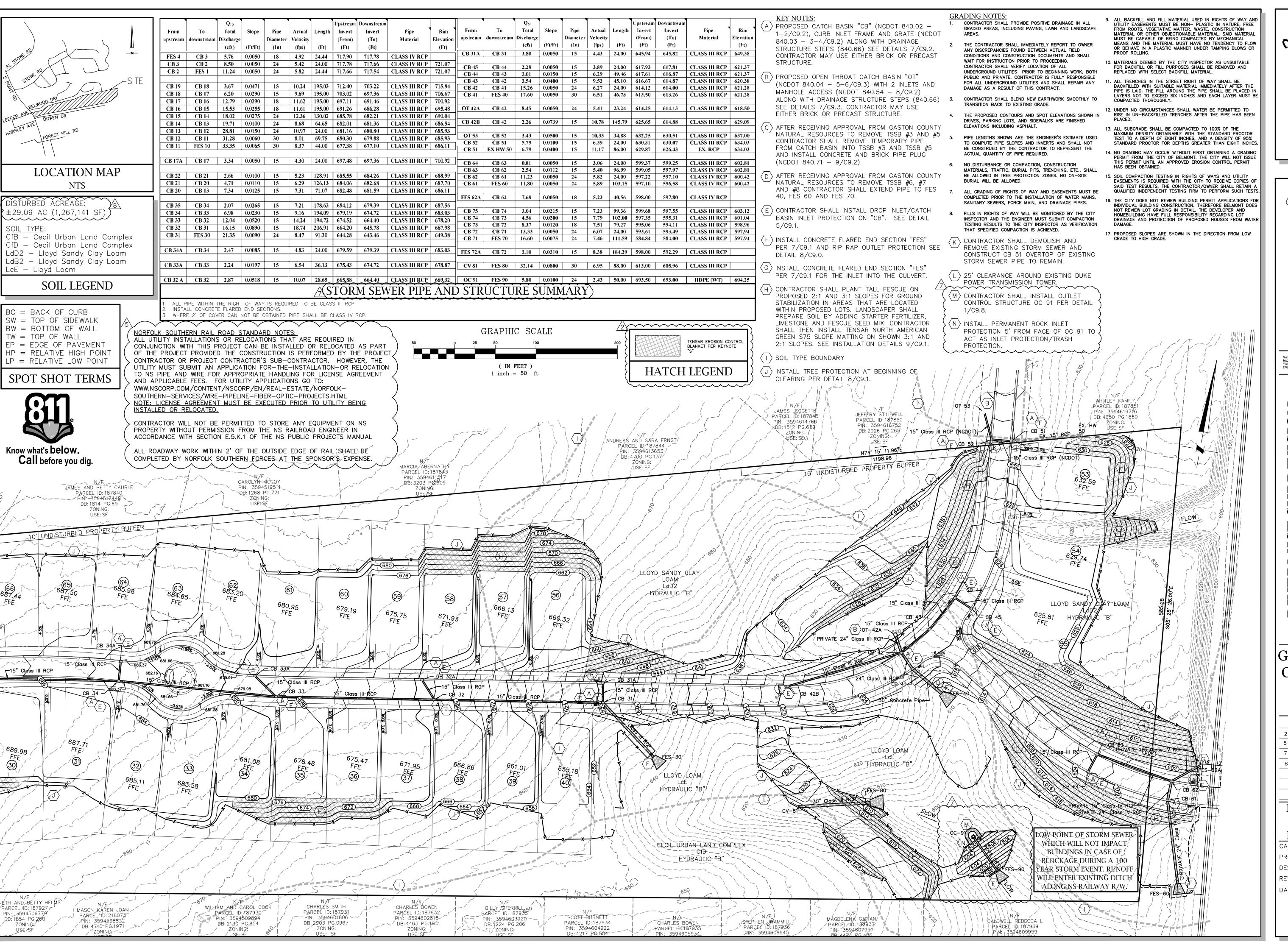
FINAL DRAWING
FOR REVIEW

PURPOSES ONLY
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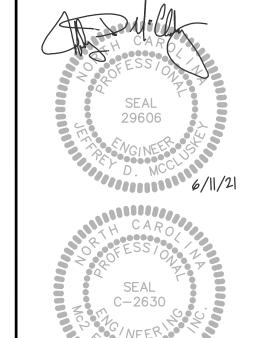
CAD FILE: 18-017 BASE.I
PROJECT NO.: 18DESIGNED BY:
REVIEWED BY:

Y: JDM
OCTOBER 8, 2018

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ARTNERS, CH ROAD

SHINNVILLE RIDGE

## GRADING PLAN **CENTRAL SITE** (PT II)

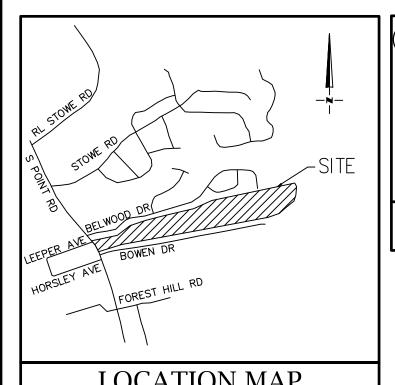
REVISIONS					
2	11/27/18	BELMONT COMMENTS			
5	10/30/20	NS COMMENTS			
7	4/27/21	BELMONT COMMENTS			
8	6/11/21	NCDOT/BELMONT CMTS			

## FINAL DRAWING FOR REVIEW

PURPOSES ONLY CAD FILE:

PROJECT NO. DESIGNED BY: REVIEWED BY:

OCTOBER 8, 2018



LOCATION MAP NTS

**KEY NOTES:** 

(A) PROPOSED CATCH BASIN "CB" (NCDOT 840.02 1-2/C9.2), CURB INLET FRAME AND GRATE (NCDOT 840.03 - 3-4/C9.2) ALONG WITH DRAINAGE STRUCTURE STEPS (840.66) SEE DETAILS 7/C9.2. CONTRACTOR MAY USE EITHER BRICK OR PRECAST STRUCTURE.

- (B) PROPOSED OPEN THROAT CATCH BASIN "OT" (NCDOT 840.04 - 5-6/C9.3) WITH 2 INLETS AND MANHOLE ACCESS (NCDOT 840.54 - 8/C9.2) ALONG WITH DRAINAGE STRUCTURE STEPS (840.66) SEE DETAILS 7/C9.3. CONTRACTOR MAY USE EITHER BRICK OR PRECAST STRUCTURE.
- (C) AFTER RECEIVING APPROVAL FROM GASTON COUNTY NATURAL RESOURCES TO REMOVE TSSB #3 AND #5 CONTRACTOR SHALL REMOVE TEMPORARY PIPE FROM CATCH BASIN INTO TSSE #3 AND TSSB #5 AND INSTALL CONCRETE AND BRICK PIPE PLUG (NCDOT 840.71 - 9/C9.2)
- (D) AFTER RECEIVING APPROVAL FROM GASTON COUNTY NATURAL RESOURCES TO REMOVE TSSB #6, #7 AND #8 CONTRACTOR SHALL EXTEND PIPE TO FES 40, FES 60 AND FES 70.
- (E) CONTRACTOR SHALL INSTALL DROP INLET/CATCH BASIN INLET PROTECTION ON "CB". SEE DETAIL 5/C9.1.
- $^{'}$ F $^{>}$ INSTALL CONCRETE FLARED END SECTION "FES" PER 7/C9.1 AND RIP RAP OUTLET PROTECTION SEE DETAIL 8/C9.0.
- (G) INSTALL CONCRETE FLARED END SECTION "FES"
- (H) CONTRACTOR SHALL PLANT TALL FESCUE ON PROPOSED 2:1 AND 3:1 SLOPES FOR GROUND STABILIZATION IN AREAS THAT ARE LOCATED WITHIN PROPOSED LOTS. LANDSCAPER SHALL PREPARE SOIL BY ADDING STARTER FERTILIZER
- CLEARING PER DETAIL 8/C9.1.
- OVERTOP OF EXISTING STORM SEWER PIPE TO
- TRANSMISSION TOWER.
- STRUCTURE OC 91 PER DETAIL 1/C9.8.
- FROM FACE OF OC 91 TO ACT AS INLET PROTECTION/TRASH PROTECTION.

## RIGHTS OF WAY RESTRICTIONS

1. STRUCTURES, BUILDINGS, MANUFACTURED HOMES, MOBILE HOMES AND TRAILERS, SATELLITE SIGNAL RECEIVER SYSTEMS, SWIMMING POOLS (AND ANY ASSOCIATED EQUIPMENT AND DECKING), GRAVES, BILLBOARDS, DUMPSTERS, SIGNS, WELLS, SEPTIC SYSTEMS OR STORAGE TANKS AND SYSTEMS (WHETHER ABOVE OR BELOW GROUND), REFUSE OF ANY TYPE, FLAMMABLE MATERIAL, BUILDING MATERIAL, WRECKED OR DISABLED VEHICLES AND ALL OTHER OBJECTS (WHETHER ABOVE OR BELOW GROUND) WHICH MAY, IN DUKE ENERGY'S OPINION, INTERFERE WITH THE ELECTRIC TRANSMISSION RIGHT OF WAY, IN ANY WAY, ARE NOT ALLOWED WITHIN THE RIGHTS-OF-WAY LIMITS. TRANSFORMERS, TELEPHONE/CABLE PEDESTALS (AND ASSOCIATED EQUIPMENT), AND FIRE HYDRANTS ARE NOT ALLOWED. MANHOLES, WATER VALVES, WATER METERS AND BACKFLOW PREVENTORS ARE NOT PERMITTED.

2. FENCES SHALL NOT BE ATTACHED TO POLES OR TOWERS. FENCES SHALL NOT EXCEED 10 FEET IN HEIGHT AND SHALL BE INSTALLED GREATER THAN 25 FEET FROM POLES, TOWERS AND GUY ANCHORS. FENCES SHALL NOT PARALLEL THE CENTERLINE WITHIN THE RIGHTS OF WAY BUT MAY CROSS FROM ONE SIDE TO THE OTHER AT ANY ANGLE NOT LESS THAN 30 DEGREES WITH THE CENTERLINE. IF A FENCE CROSSES THE RIGHTS OF WAY, A GATE (16 FOOT WIDE GATE AT EACH CROSSING) SHALL BE INSTALLED BY THE PROPERTY OWNER, PER DUKE ENERGY'S SPECIFICATIONS, TO ALLOW FREE ACCESS REQUIRED BY DUKE ENERGY EQUIPMENT.

3. CONTACT DUKE ENERGY AND OBTAIN WRITTEN APPROVAL BEFORE GRADING OR FILLING ON THE RIGHTS OF WAY. GRADING (CUTS OR FILL) SHALL BE NO CLOSER THAN 25 FEET FROM A POLE OR TOWER LEG. AND THE SLOPE SHALL NOT EXCEED 4:1 ON THE RIGHTS OF WAY. GRADING OR FILLING WITHIN THE RIGHTS OF WAY OR NEAR A STRUCTURE, WHICH WILL PREVENT FREE EQUIPMENT/VEHICLE ACCESS, OR CREATES GROUND TO CONDUCTOR CLEARANCE VIOLATIONS, WILL NOT BE PERMITTED. SEDIMENTATION CONTROL, INCLUDING RE-VEGETATION, IS REQUIRED PER STATE REGULATIONS.

4. STREETS, ROADS, DRIVEWAYS, SEWER LINES, WATER LINES, AND OTHER UTILITY LINES, OR ANY UNDERGROUND FACILITIES SHALL NOT PARALLEL THE CENTERLINE WITHIN THE RIGHTS OF WAY, BUT MAY CROSS, FROM ONE SIDE TO THE OTHER, AT ANY ANGLE NOT LESS THAN 30 DEGREES WITH THE CENTERLINE. NO PORTION OF SUCH FACILITY SHALL BE LOCATED WITHIN 25 FEET OF DUKE ENERGY'S SUPPORTING STRUCTURES. INTERSECTIONS OF ROADS, DRIVEWAYS, OR ALLEYWAYS ARE NOT PERMITTED WITHIN THE RIGHTS

±29.09 AC (1,267,141 SF CfB - Cecil Urban Land Complex CfD — Cecil Urban Land Complex LdD2 — Lloyd Sandy Clay Loam LdB2 - Lloyd Sandy Clay Loam LcE — Llovd Loam SOIL LEGEND BC = BACK OF CURB

SW = TOP OF SIDEWALK $\mathsf{BW} = \mathsf{BOTTOM}$  OF  $\mathsf{WALL}$ TW = TOP OF WALLEP = EDGE OF PAVEMENT HP = RELATIVE HIGH POINT LP = RELATIVE LOW POINT

SPOT SHOT TERMS

TENSAR EROSION CONTROL HATCH LEGEND 

EX. NORFOLK SOUTHERN -

RAILWAY COMPANY

ELEV = 600.66

RAILWAY CL

LOW POINT OF STORM SEWER

WHICH WILL NOT IMPACT

BUILDINGS IN CASE OF

BLOCKAGE DURING A 100 YEAR STORM EVENT. RUNOFF

WILL ENTER EXISTING DITCH

ALONG NS RAILWAY R/W.

WHICH WILL NOT IMPACT BUILDINGS IN CASE OF BLOCKAGE DURING A 100 YEAR STORM EVENT. ADJACENT PROPERTY IS COMMON OPEN SPACE AND LOT 41 IS GRADED ABOVE ADJACENT COS.

> 計版な、RAIL (EAST ELEV = 600.66

> > DB: **Y**98 RG.319

WITHIN THE RIGHTS-OF-WAY LIMITS.

WITHIN THE RIGHT OF WAY

LOW POINT OF STORM SEWER

FLOW

PER 7/C9.1 FOR THE INLET INTO THE CULVERT.

LIMESTONE AND FESCUE SEED MIX. CONTRACTOR SHALL THEN INSTALL TENSAR NORTH AMERICAN GREEN S75 SLOPE MATTING ON SHOWN 3:1 AND 2:1 SLOPES. SEE INSTALLATION DETAILS 9/C9.1.

( I ) SOIL TYPE BOUNDARY

 $\langle$  J  $\rangle$  INSTALL TREE PROTECTION AT BEGINNING OF

EXISTING STORM SEWER AND CONSTRUCT CB 51 RFMAIN

L > 25' CLEARANCE AROUND EXISTING DUKE POWER

(M) CONTRACTOR SHALL INSTALL OUTLET CONTROL

(N) INSTALL PERMANENT ROCK INLET PROTECTION 5'

## DUKE ELECTRIC TRANSMISSION

THIS LIST OF RIGHTS-OF-WAY RESTRICTIONS HAS BEEN DEVELOPED TO ANSWER THE MOST FREQUENTLY ASKED QUESTIONS ABOUT PROPERTY OWNER USE OF DUKE ENERGY'S ELECTRIC TRANSMISSION RIGHTS OF WAY. THIS LIST DOES NOT COVER ALL RESTRICTIONS OR ALL POSSIBLE SITUATIONS. YOU SHOULD CONTACT THE ASSET PROTECTION RIGHT-OF-WAY SPECIALIST IF YOU HAVE ADDITIONAL CONCERNS ABOUT THE RIGHTS OF WAY. THIS LIST OF RESTRICTIONS IS SUBJECT TO CHANGE AT ANY TIME AND WITHOUT NOTICE. DUKE ENERGY RESERVES ALL RIGHTS CONVEYED TO IT BY THE RIGHT-OF-WAY AGREEMENT APPLICABLE TO THE SUBJECT PROPERTY. ALL ACTIVITY WITHIN THE RIGHTS OF WAY SHALL BE REVIEWED BY AN ASSET PROTECTION RIGHTOF-WAY SPECIALIST. IT IS STRONGLY SUGGESTED THAT YOU CONTACT DUKE ENERGY AND SUBMIT PLANS FOR APPROVAL PRIOR TO CONSTRUCTION OF ANY IMPROVEMENTS WITHIN THE RIGHTS OF WAY.

D. DUKE ENERGY CAROLINAS MAY EXERCISE THE RIGHT TO CUT "DANGER TREES" OUTSIDE THE RIGHTS OF WAY LIMITS AS AUTHORIZED BY THE RIGHT OF WAY AGREEMENT APPLICABLE TO THE SUBJECT PROPERTY AND AS REQUIRED TO PROPERLY MAINTAIN AND OPERATE THE TRANSMISSION LINE.

5. ANY DRAINAGE FEATURE THAT ALLOWS WATER TO POND, CAUSES EROSION, DIRECTS STORM WATER

6. CONTACT DUKE ENERGY PRIOR TO THE CONSTRUCTION OF LAKES, PONDS OR RETENTION FACILITIES, ETC.

A. A BARRIER, SUFFICIENT TO WITHSTAND A 15 MPH VEHICULAR IMPACT, SHALL BE ERECTED BY TH

B. ANY ACCESS AREAS, ENTRANCES, OR EXITS SHALL CROSS (FROM ONE SIDE TO THE OTHER) THE

C. LIGHTING STRUCTURES WITHIN THE RIGHTS-OF-WAY LIMITS MUST BE APPROVED BY DUKE ENERGY

A. IT DOES NOT INTERFERE WITH THE ACCESS OF EXISTING STRUCTURES OR THE SAFE AND RELIABLE

B. WITH PRIOR WRITTEN APPROVAL, DUKE ENERGY CAROLINAS DOES NOT OBJECT TO PLANTS, SHRUBS

C. DUKE ENERGY CAROLINAS RESERVES THE RIGHT TO OBJECT TO THE PLANTING OF ALL PLANTS,

AND TREES THAT ARE OF A SPECIES THAT WILL NOT EXCEED, AT MATURITY, FIFTEEN (15) FEET IN

SHRUBS AND TREES WITHIN THE RIGHT OF WAY EASEMENT THAT MAY INTERFERE WITH THE PROPER

PARTY CONSTRUCTING THE PARKING AREA TO PROTECT THE POLE, TOWER OR GUY ANCHOR. THE

BARRIER SHALL BE LOCATED IN SUCH A MANNER AS TO RESTRICT PARKING TO AT LEAST 5 FEET

RIGHTS OF WAY AT OR NEAR RIGHT ANGLES TO THE CENTERLINE, AND SHALL NOT PASS WITHIN 25

FEET OF ANY STRUCTURE. PARKING LOT ENTRANCES/EXITS CANNOT CREATE AN INTERSECTION

TOWARD THE RIGHTS OF WAY, OR LIMITS ACCESS TO OR AROUND A STRUCTURE IS PROHIBITED.

7. DUKE ENERGY DOES NOT OBJECT TO PARKING WITHIN THE RIGHTS OF WAY, PROVIDED THAT:

D. SIGNS AND OTHER ATTACHMENTS TO DUKE ENERGY STRUCTURES ARE PROHIBITED.

8. DUKE ENERGY CAROLINAS WILL NOT OBJECT TO CERTAIN VEGETATION PLANTINGS AS LONG AS:

BEFORE INSTALLING. TOTAL HEIGHT MAY NOT EXCEED 15 FEET.

OPERATION AND MAINTENANCE OF THE LINE.

OPERATION AND MAINTENANCE OF THE LINE.

NORFOLK SOUTHERN RAIL ROAD STANDARD NOTES ALL UTILITY INSTALLATIONS OR RELOCATIONS THAT ARE REQUIRED IN CONJUNCTION WITH THIS PROJECT CAN BE INSTALLED OR RELOCATED AS PART OF THE PROJECT PROVIDED THE CONSTRUCTION IS PERFORMED BY THE PROJECT CONTRACTOR OR PROJECT CONTRACTOR'S SUB-CONTRACTOR. HOWEVER, THE UTILITY MUST SUBMIT AN APPLICATION FOR-THE-INSTALLATION-OR RELOCATION TO NS PIPE AND WIRE FOR

\_\_\_\_\_\_

HYDRAULIC "NO"

RODNEY HÚFFSTICKLER

PARCEL ID:187699

DB: 4980 PG.1875

/ ZONING:\

ELEVATION=573.6

ELEVATION=57

PROTECTION PAD

ELEVATION=5/3.6

MINIMUM FLOOD
PROTECTION PAD
ELEVATION=573.6

MINIMUM FROOD PROTECTION PAD

ELEVATION=573.6

USE·NACA

ONSOUTHERN RAILWAY

COMPANY

PARCEL ID: 187906

/PIN: 3594711998

DB: 798 PG.319

USE: VACANT

603.31

15" Çlaşs N

~*~*~~~~~*~* 

APPROPRIATE HANDLING FOR LICENSE AGREEMENT AND APPLICABLE FEES. FOR UTILITY APPLICATIONS GO TO:

WWW.NSCORP.COM/CONTENT/NSCORP/EN/REAL-ESTATE/NORFOLK-SOUTHERN-SERVICES/WIRE-PIPELINE-FIBER-OPTIC-PROJECTS.HTML NOTE: LICENSE AGRÉEMENT MUST BE EXECUTED PRIOR TO UTILITY BEING INSTALLED OR RELOCATED.

CONTRACTOR WILL NOT BE PERMITTED TO STORE ANY EQUIPMENT ON NS PROPERTY WITHOUT PERMISSION FROM THE NS RAILROAD ENGINEER IN ACCORDANCE WITH SECTION E.5.K.1 OF THE NS PUBLIC PROJECTS MANUAL

ALL ROADWAY WORK WITHIN 2' OF THE OUTSIDE EDGE OF RAIL SHALL BE COMPLETED BY NORFOLK SOUTHERN FORCES AT THE SPONSOR'S EXPENSE.

CB 18 | 3,67 | 0,0471 | 15 | 10,24 | 195,03 | 712,40 | 703,22 | CLASS III RCP | 715,84 6.20 0.0290 15 9.69 195.00 703.02 697.36 CLASS HERCP 706.67 CB 16 | 12.79 | 0.0290 | 18 | 11.62 | 195.00 | 697.11 | 691.46 | CLASS III RCP | 700.92 CLASS III RCP 686.54 0,0100 8.68 682.01 CB 13 CB 12 28.81 0.0150 24 10.97 24.00 681.16 680.80 CLASS III RCP 685.93 CB 11 31,28 0,0060 30 8,01 69,75 680,30 679,88 CLASS III RCP 685,93 CB 11 FES 10 33.35 0.0065 30 8.37 44.00 677.38 677.10 CLASS HI RCP 686.11 CB 17A CB 17 3.34 0.0050 15 4.30 24.00 697.48 697.36 CLASS III RCP 700.92 CB 22 | CB 21 | 2.66 | 0.0100 | 15 | 5.23 | 128.91 | 685.55 | 684.26 | CLASS III RCP | 688.99 4.71 0.0110 15 6.29 126.13 684.06 682.68 CLASS III RCP 687.70 CB 20 | CB 13 | 7.34 | 0.0125 | 15 | 7.31 | 71.07 | 682.48 | 681.59 | CLASS III RCP | 686.11 2,07 | 0,0265 | 15 | 7,21 | 178,63 | 684,12 | 679,39 | CLASS III RCP | 687,56 6.98 | 0.0230 | 15 | 9.16 | 194.09 | 679.19 | 674.72 | CLASS III RCP | 683.03 | 12.04 | 0.0520 | 15 | 14.24 | 194.72 | 674.52 | 664.40 | CLASS III RCP | 678.20 16.15 0.0890 15 | 18.74 | 206.91 | 664.20 | - 645.78 | CLASS III RCP | 667.98 CB 31 FES 30 21.35 0.0090 24 8.47 91.30 644.28 643.46 CLASS III RCP 649.38 CB 34A CB 34 2.47 0.0085 15 4.83 24.00 679.59 679.39 CLASS III RCP 683.03 CB 33A | CB 33 | 2.24 | 0.0197 | 15 | 6.54 | 36.13 | 675.43 | 674.72 | CLASS III RCP | 678.87 2.87 | 0.0518 | 15 | 10.07 | 28.65 | 665.88 | 664.40 | CLASS III RCP | 669.32 3.80 | 0.0050 | 15 | 4.43 | 24.00 | 645.94 | 645.82 | CLASS III RCP | 649.38 - 15 | 3.89 | 24.00 | 617.93 | 617.81 | CLASS HERCP | 621.37 3.01 | 0.0150 | 15 | 6.29 | 49.46 | 617.61 | 616.87 | CLASS III RCP | 621.37 CB 43 CB 42 3,54 0,0400 15 9,53 45,10 616,67 614,87 CLASS III RCP 620,38 CB 42 CB 41 15.26 0.0050 24 6.27 24.00 614.12 614.00 CLASS III RCP 621.28 CB 41 FES 40 17.60 0.0050 30 6.51 46.73 613.50 613.26 CLASS III RCP 621.28 OT 42A CB 42 8.45 0.0050 24 5.41 23.24 614.25 614.13 CLASS III RCP 618.50 CB 42B | CB 42 | 2.26 | 0.0739 | 15 | 10.78 | 145.79 | 625.65 | 614.88 | CLASS III RCP | 629.09 OT 53 | CB 52 | 3.43 | 0.0500 | 15 | 10.33 | 34.88 | 632.25 | 630.51 | CLASS III RCP | 637.00 CB 51 EX HW 50 6.79 0.0400 15 11.17 86.00 629.87 626.43 EX. RCP 634.03 24.00 | 599.37 2.54 | 0.0112 | 15 | 5.40 | 96.99 | 599.05 | 597.97 | CLASS IV RCP | 602.81 CB 62 | CB 61 | 11,23 | 0,0050 | 24 | 5,82 | 24,00 | 597,22 | 597,10 | CLASS IV RCP | 600,42 CB 61 FES 60 11.80 0.0050 24 5.89 103.15 597.10 596.58 CLASS IV RCP 600.42 7.79 | 102.00 | 597.35 CB 73 | CB 72 | 8.37 | 0.0120 | 18 | 7.51 | 79.27 | 595.06 | 594.11 | CLASS III RCP | 598.96 CB 72 CB 71 13.33 0.0050 24 6.07 24.00 593.61 593.49 CLASS III RCP 597.94 CB 71 FES 70 16.60 0.0075 24 7.46 111.59 584.84 584.00 CLASS III RCP 597.94 FES 72A | CB 72 | 3.10 | 0.0310 | 15 | 8.38 | 184.29 | 598.00 | 592.29 | CLASS III RCP | CV 81 | FES 80 | 32.14 | 0.0800 | 30 | 6.95 | 88.00 | 613.00 | 605.96 | CLASS III RCP | OC 91 FES 90 5.80 0.0100 24 2.43 50.00 693.50 693.00 HDPE (WT) 604.25

ALL PIPE WITHIN THE RIGHT OF WAY IS REQUIRED TO BE CLASS III RCP INSTALL CONCRETE FLARED END SECTIONS WHERE 2' OF COVER CAN NOT BE OBTAINED PIPE SHALL BE CLASS IV RCP.

Total

downstream | Discharge |

Diameter Velocity

(From)

8.50 0.0050 24 5.42 24.00 717.78 717.66 CLASS IV RCP 721.07

FES 1 11.24 0.0050 24 5.82 24.44 717.66 717.54 CLASS IV RCP 721.07

(To)

Material

Elevation

(Ft)

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THE CONTRACTOR SHALL IMMEDIATELY REPORT TO OWNER ANY DISCREPANCIES FOUND BETWEEN ACTUAL FIELD CONDITIONS AND CONSTRUCTION DOCUMENTS AND SHALL WAIT FOR INSTRUCTION PRIOR TO PROCEEDING. CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO BEGINNING WORK, BOTH PUBLIC AND PRIVATE. CONTRACTOR IS FULLY RESPONSIBLE FOR ALL UNDERGROUND UTILITIES AND SHALL REPAIR ANY DAMAGE AS A RESULT OF THIS CONTRACT.

CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE IN ALL

GRADED AREAS, INCLUDING PAVING, LAWN AND LANDSCAPE

**GRADING NOTES:** 

CONTRACTOR SHALL BLEND NEW EARTHWORK SMOOTHLY TO TRANSITION BACK TO EXISTING GRADE.

THE PROPOSED CONTOURS AND SPOT ELEVATIONS SHOWN IN DRIVES, PARKING LOTS, AND SIDEWALKS ARE FINISHED ELEVATIONS INCLUDING ASPHALT.

PIPE LENGTHS SHOWN ARE THE ENGINEER'S ESTIMATE USED TO COMPUTE PIPE SLOPES AND INVERTS AND SHALL NOT BE CONSTRUED BY THE CONTRACTOR TO REPRESENT THE ACTUAL QUANTITY OF PIPE REQUIRED.

NO DISTURBANCE OR COMPACTION, CONSTRUCTION MATERIALS, TRAFFIC, BURIAL PITS, TRENCHING, ETC., SHALL BE ALLOWED IN TREE PROTECTION ZONES. NO ON-SITE BURIAL WILL BE ALLOWED.

ALL GRADING OF RIGHTS OF WAY AND EASEMENTS MUST BE COMPLETED PRIOR TO THE INSTALLATION OF WATER MAINS, SANITARY SEWERS, FORCE MAIN, AND DRAINAGE PIPES.

FILLS IN RIGHTS OF WAY WILL BE MONITORED BY THE CITY INSPECTOR AND THE ENGINEER MUST SUBMIT COMPACTION TESTING RESULTS TO THE CITY INSPECTOR AS VERIFICATION THAT SPECIFIED COMPACTION IS ACHIEVED.

ALL BACKFILL AND FILL MATERIAL USED IN RIGHTS OF WAY AND UTILITY EASEMENTS MUST BE NON- PLASTIC IN NATURE, FREE FROM ROOTS, VEGETATIVE MATTER, WASTE, CONSTRUCTION MATERIAL OR OTHER OBJECTIONABLE MATERIAL. SAID MATERIAL MUST BE CAPABLE OF BEING COMPACTED BY MECHANICAL MEANS AND THE MATERIAL MUST HAVE NO TENDENCY TO FLOW OR BEHAVE IN A PLASTIC MANNER UNDER TAMPING BLOWS OR PROOF ROLLING.

MATERIALS DEEMED BY THE CITY INSPECTOR AS UNSUITABLE FOR BACKFILL OR FILL PURPOSES SHALL BE REMOVED AND REPLACED WITH SELECT BACKFILL MATERIAL.

ALL TRENCHES IN THE STREET RIGHT OF WAY SHALL BE BACKFILLED WITH SUITABLE MATERIAL IMMEDIATELY AFTER THE PIPE IS LAID. THE FILL AROUND THE PIPE SHALL BE PLACED IN LAYERS NOT TO EXCEED SIX INCHES AND EACH LAYER MUST BE COMPACTED THOROUGHLY.

12. UNDER NO CIRCUMSTANCES SHALL WATER BE PERMITTED TO RISE IN UN-BACKFILLED TRENCHES AFTER THE PIPE HAS BEEN

ALL SUBGRADE SHALL BE COMPACTED TO 100% OF THE MAXIMUM DENSITY OBTAINABLE WITH THE STANDARD PROCTOR TEST TO A DEPTH OF EIGHT INCHES, AND A DENSITY OF 95% STANDARD PROCTOR FOR DEPTHS GREATER THAN EIGHT INCHES.

14. NO GRADING MAY OCCUR WITHOUT FIRST OBTAINING A GRADING PERMIT FROM THE CITY OF BELMONT. THE CITY WILL NOT ISSUE THIS PERMIT UNTIL AN APPROVED EROSION CONTROL PERMIT HAS BEEN OBTAINED.

SOIL COMPACTION TESTING IN RIGHTS OF WAYS AND UTILITY EASEMENTS IS REQUIRED WITH THE CITY TO RECEIVE COPIES OF SAID TEST RESULTS. THE CONTRACTOR/OWNER SHALL RETAIN A QUALIFIED INDEPENDENT TESTING FIRM TO PERFORM SUCH TESTS.

THE CITY DOES NOT REVIEW BUILDING PERMIT APPLICATIONS FOR INDIVIDUAL BUILDING CONSTRUCTION. THEREFORE BELMONT DOES NOT REVIEW LOT GRADING IN DETAIL. THE DEVELOPER AND HOMEBUILDING HAVE FULL RESPONSIBILITY REGARDING LOT DRAINAGE AND PROTECTION OF PROPOSED HOUSES FROM WATER

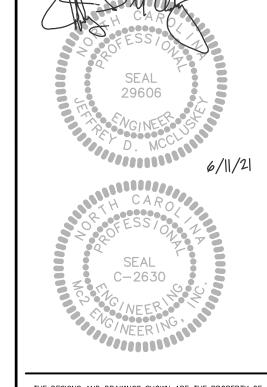
17. PROPOSED SLOPES ARE SHOWN IN THE DIRECTION FROM LOW GRADE TO HIGH GRADE.

DAMAGE



GRAPHIC SCALE ( IN FEET ) 1 inch = 50 ft.

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ARTNERS

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**GRADING PLAN** - EAST SITE

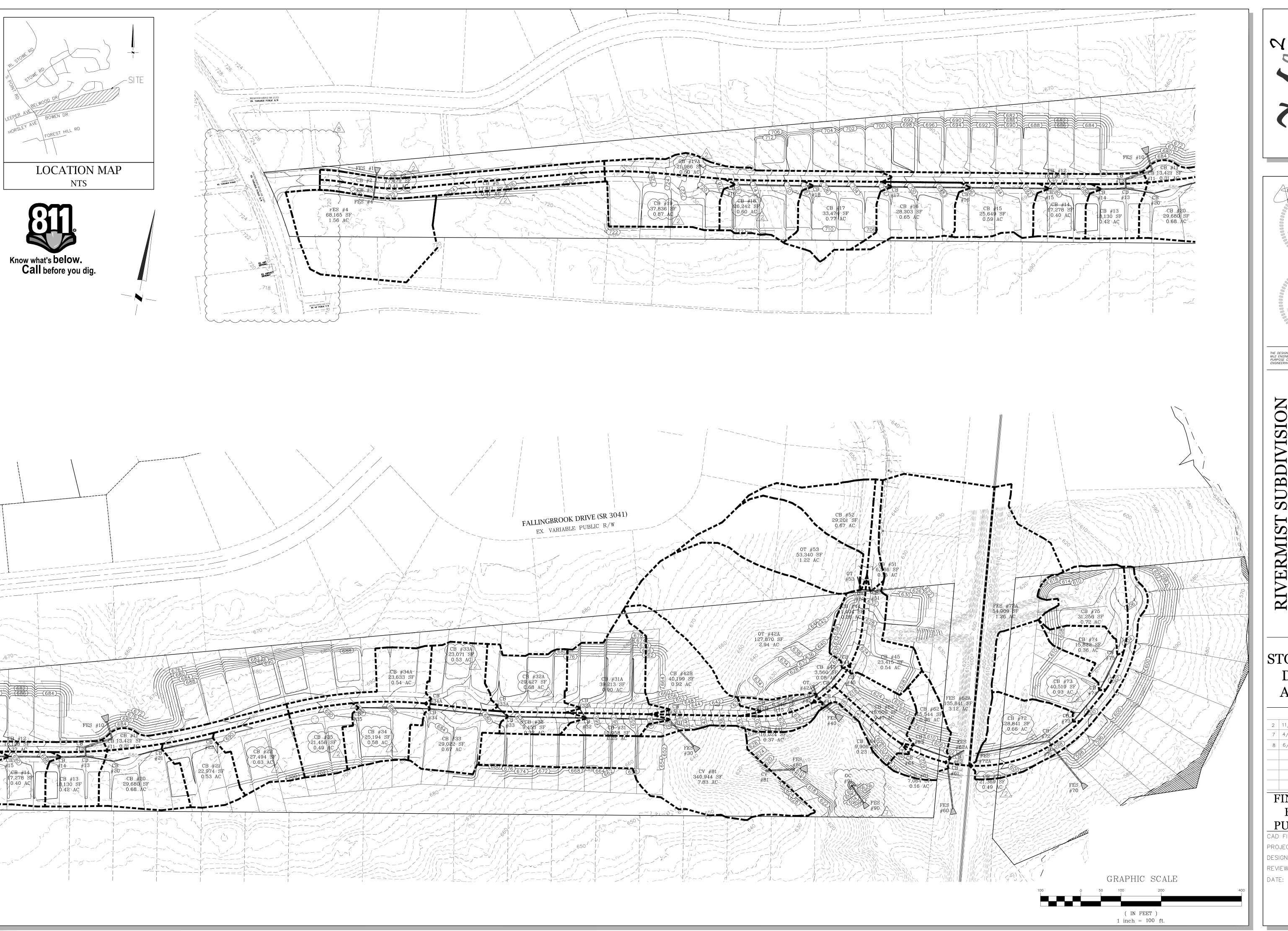
REVISIONS 2 | 11/27/18 | BELMONT COMMENTS 5 | 10/30/20 | NS COMMENTS 7 | 4/27/21 | BELMONT COMMENTS 8 | 6/11/21 | NCDOT/BELMONT CMTS

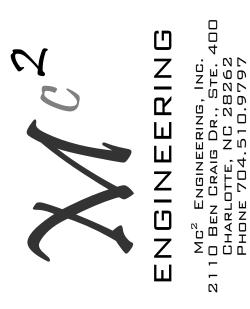
> FINAL DRAWING FOR REVIEW

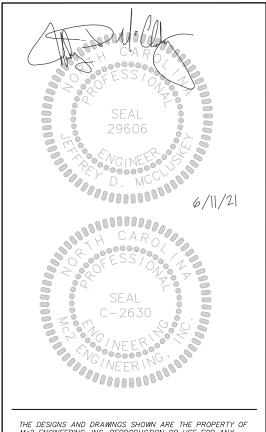
PURPOSES ONLY CAD FILE:

18-017 BASE.DWG PROJECT NO. 18 - 017DESIGNED BY:

REVIEWED BY: **OCTOBER 8, 2018** 







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SHINNVILLE RIDGE

RIVERMIST

# STORM SEWER DRAINAGE AREA PLAN

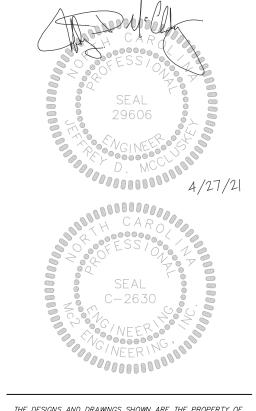
	REVISIONS					
2	11/27/18	BELMONT COMMENTS				
7	4/27/21	BELMONT COMMENTS				
8	6/11/21	NCDOT/BELMONT CMTS				

## FINAL DRAWING FOR REVIEW

DESIGNED BY: REVIEWED BY:

OCTOBER 8, 2018





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JBDIVISION I ROAD PARTNERS, I URCH ROAD

SHINNVILLE RIDGE RIVERMIST

SCM DRAINAGE AREA PLAN

	REVISIONS						
7	4/27/21	BELMONT COMMENTS					

FINAL DRAWING FOR REVIEW **PURPOSES ONLY** 

PROJECT NO.: DESIGNED BY:

REVIEWED BY: