

WATER, SEWER, AND/OR REUSE, AS APPROVED IN THESE PLANS, IS RESPONSIBLE FOR CONTACTING THE PUBLIC UTILITIES DEPARTMENT AT (919) 996-4540 AT LEAST TWENTY FOUR HOURS PRIOR TO BEGINNING ANY OF THEIR CONSTRUCTION.

FAILURE TO NOTIFY BOTH CITY DEPARTMENTS IN ADVANCE OF BEGINNING CONSTRUCTION, WILL RESULT IN THE ISSUANCE OF **MONETARY FINES**, AND REQUIRE REINSTALLATION OF ANY WATER OR SEWER FACILITIES NOT INSPECTED AS A RESULT OF THIS NOTIFICATION FAILURE.

FAILURE TO CALL FOR INSPECTION, INSTALL A DOWNSTREAM PLUG, HAVE PERMITTED PLANS ON THE JOBSITE, OR ANY OTHER VIOLATION OF CITY OF **RALEIGH STANDARDS** WILL RESULT IN A FINE AND POSSIBLE EXCLUSION FROM FUTURE WORK IN THE CITY OF RALEIGH.

ROL	
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	PROPOSED INFRAS	TRUCTURE QUANTITIES	
ITEM	OWNERSHIP	DIAMETER / MATERIAL	LENGTH
WATER	PRIVATE	1.5" TYPE 'K' SOFT COPPER	67'
SEWER	PRIVATE	4" SCHED 40 PVC	59'
STORM DRAIN	PRIVATE	8" HDPE	198'
STORM DRAIN	PRIVATE	12" HDPE	274'
STORM DRAIN	PRIVATE	15" HDPE	24'
CURB & GUTTER	PRIVATE	24"	638'
SIDEWALK	PRIVATE	VARIES	473'

CALL 48 HOURS BEFORE YOU DIG



ONE-CALL CENTER 1-800-632-4949

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SITE PLANS FOR **ESVILLE CROSSFIT**

850 GRANITE FALLS BLVD ROLESVILLE, NORTH CAROLINA PIN: 1759-82-2247

EVELOPER:

MCARN REALTY, LLC CONTACT: MARK MCARN 403 N CHEATHAM ST FRANKLINTON, NC 27525 919.632.5374 MCARN@BRASSFIELDCOMMERCIAL.COM

ENGINEER OF RECORD:

FLM ENGINEERING, INC CONTACT: JON FRAZIER, PE PO BOX 91727 RALEIGH, NC 27675 919.610.1051 JFRAZIER@FLMENGINEERING.COM

				RALEIGH, NOR	FICE BOX §	91727 INA 27675		
				FIRM NC LICEN	NSE NUMB	ER C-4222		
				REVISI	ON HISTOR	RY		
			REV	DESCRIPT		DATE	BY	
			#	TOWN OF ROL		1/23/2020	FLM	
					NTS			
T	TITLE			ORIGINAL PL	AN SIZE: 2	24" X 36"		
		ORAINAGE PLAN AND DETAILS T CONTROL PLAN - PHASE 1 T CONTROL PLAN - PHASE 2 ETAILS T CONTROL DETAILS	ISSUED FOR REVIEW DO NOT USE FOR CONSTRUCTION SCALE ADJUSTMENT This bar is 1 inch in Lengt ON ORIGINAL DRAWING 0 1" IF IT IS NOT 1 INCH ON THIS SHEET, ADJUST YOUR SCAL ACCORDINGLY					
		NTROL, STORMWATER PLAIN MANAGEMENT		ROLESVIL 350 GRANI ROLESVIL	ΓΕ FALI	DSSFIT LS BLVE)	
	EROSION CON STORMWATE	NTROL \Box S ER MGMT. \Box S		MCARN				
	FLOOD STUD	'I ∐ S		DATE: SCALE:		0-25-2019 S SHOWN		
	DATE			SIGNED BY:		FLM		
	VAKE COUNTY NORTHI CANOLINA EFFECTIVE: 08/23/17	CONMENTAL CONSULTANT SIGNATURE		PROVED BY: DJECT NO.:		FLM 19036		
		ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL TOWN OF ROLESVILLE, CITY OF RALEIGH AND WAKE COUNTY STANDARDS AND SPECIFICATIONS		C	OVER			

							STORM [ORAINAGE		ATIONS							
STRUCTU	RE NUMBER	Cc	I	A	Α	Тс	Q	Q									
FROM	то	RUNOFF COEFFICIENT	10-YEAR INTENSITY (in/hr)	DRAINAGE AREA (sf)	DRAINAGE AREA (ac)	TIME OF CONCENTRATION (min)	FLOW (cfs)	TOTAL FLOW (cfs)	SLOPE (ft/ft)	Dtheo (in)	SIZE (in)	Vfull (ft/sec)	PIPE LENGTH (ft)*	UPPER INVERT (ft)	LOWER INVERT (ft)	HOOD/TOP ELEVATION (ft)	PIPE MATERIAL**
CB-1	YI-2	0.90	7.22	4800	0.11	5.0	0.72	0.72	0.0103	6.5	12	5.0	78.00	374.00	373.20	377.50	HDPE
YI-2	CB-3	0.90	7.22	6800	0.16	5.0	1.01	1.73	0.0103	9.1	12	5.0	126.00	373.20	371.90	378.25	HDPE
CB-3	CB-4	0.90	7.22	3700	0.08	5.0	0.55	2.28	0.0103	10.1	12	5.0	58.00	371.90	371.30	379.35	HDPE
CB-4	FES-5	0.90	7.22	3800	0.09	5.0	0.57	2.85	0.0417	8.4	12	10.0	12.00	368.00	367.50	378.80	HDPE
		0.00	7.00	6200	0.14	5.0	0.00	0.00	0.0204	6.2	0	54	08.00	277.00	275.00	270.05	
JB-6	JB-9	0.90	7.22	6200	0.14	5.0	0.92	0.92	0.0204	6.3	8	5.4	98.00	377.00	375.00	379.95	HDPE
YI-7	YI-8	0.90	7.22	1000	0.02	5.0	0.15	0.15	0.0116	3.5	8	4.0	43.00	376.50	376.00	379.25	HDPE
YI-8	JB-9	0.90	7.22	1000	0.02	5.0	0.15	0.30	0.0323	3.8	8	6.7	31.00	376.00	375.00	379.25	HDPE
JB-9	OUTLET-10	-	-	-	-	-	-	1.22	0.2885	4.3	8	20.1	26.00	375.00	367.50	379.95	HDPE

*LENGTHS ARE OF THE PIPE ONLY AND DO NOT INCLUDE FLARED END SECTIONS OR OTHER END TREATMENT **DOUBLE WALL HDPE PIPE (SHALL MEET NC PLUMBING CODE, CHAPTER 11 STORM DRAINAGE, LATEST EDITION)

	SKIMMER SEDIMENT BASIN DESIGN CALCULATIONS														
SKIMMER SEDIMENT BASIN DESIGN								SKIMMER SEDIMENT BASIN EFFICIENCY					SKIMMER***		
BASIN NUMBER	DRAINAGE AREA (ac)	DISTURBED AREA (ac)	REQUIRED VOLUME 1800 CF/AC (cf)	DEPTH* (ft)	WIDTH (ft)**	LENGTH (ft)**	VOLUME PROVIDED (cf)**	RUNOFF COEFFICIENT	10-YEAR RAINFALL INTENSITY (in/hr)	FLOW Q10 (cfs)	REQUIRED SURFACE AREA 435 SF/CFS (sf)	AREA PROVIDED (sf)**	SIZE (in)	ORIFICE RADIUS (in)	ORIFICE DIAMETER (in)
SK-1	0.73	0.67	1206	2	-	-	2508	0.5	7.22	2.64	1146	1548	1.5	0.4	0.7

*DEPTH FROM BOTTOM OF BASIN TO EMERGENCY SPILLWAY ELEVATION

**BASIN SHAPE IS IRREGULAR; VOLUME AND SURFACE AREA TAKEN FROM HYDROCAD MODEL

***SKIMMER SIZED PER SIZING CALCULATOR AT WWW.FAIRCLOTHSKIMMER.COM AT A REQUIRED VOLUME DRAWDOWN RATE OF 72 HOURS

	TEMPORARY DIVERSION DITCH DESIGN																
DITCH NUMBER	RUNOFF COEFFICIENT	10-YEAR RAINFALL INTENSITY (in/hr)	DRAINAGE AREA (acres)	Q (cfs)	LENGTH (ft)	CHANNEL SECTION	BOTTOM WIDTH (ft)	LEFT SIDE SLOPE, Z:1 (ft)	RIGHT SIDE SLOPE, Z:1 (ft)	CHANNEL DEPTH (ft)	CHANNEL SLOPE (ft/ft)	NORMAL DEPTH (ft)	FREEBOARD (ft)	SHEAR STRESS (lb/ft2)	VELOCITY (fps)	MANNING'S n VALUE	TEMPORARY LINER
TD-1	0.50	7.22	0.48	1.73	172.00	TRIANGULAR	-	2.00	2.00	1.00	0.047	0.50	0.50	1.45	3.46	0.033	STRAW WITH NET
TD-2	0.50	7.22	0.11	0.40	76.00	TRIANGULAR	-	2.00	2.00	1.00	0.066	0.27	0.73	1.11	2.74	0.033	STRAW WITH NET



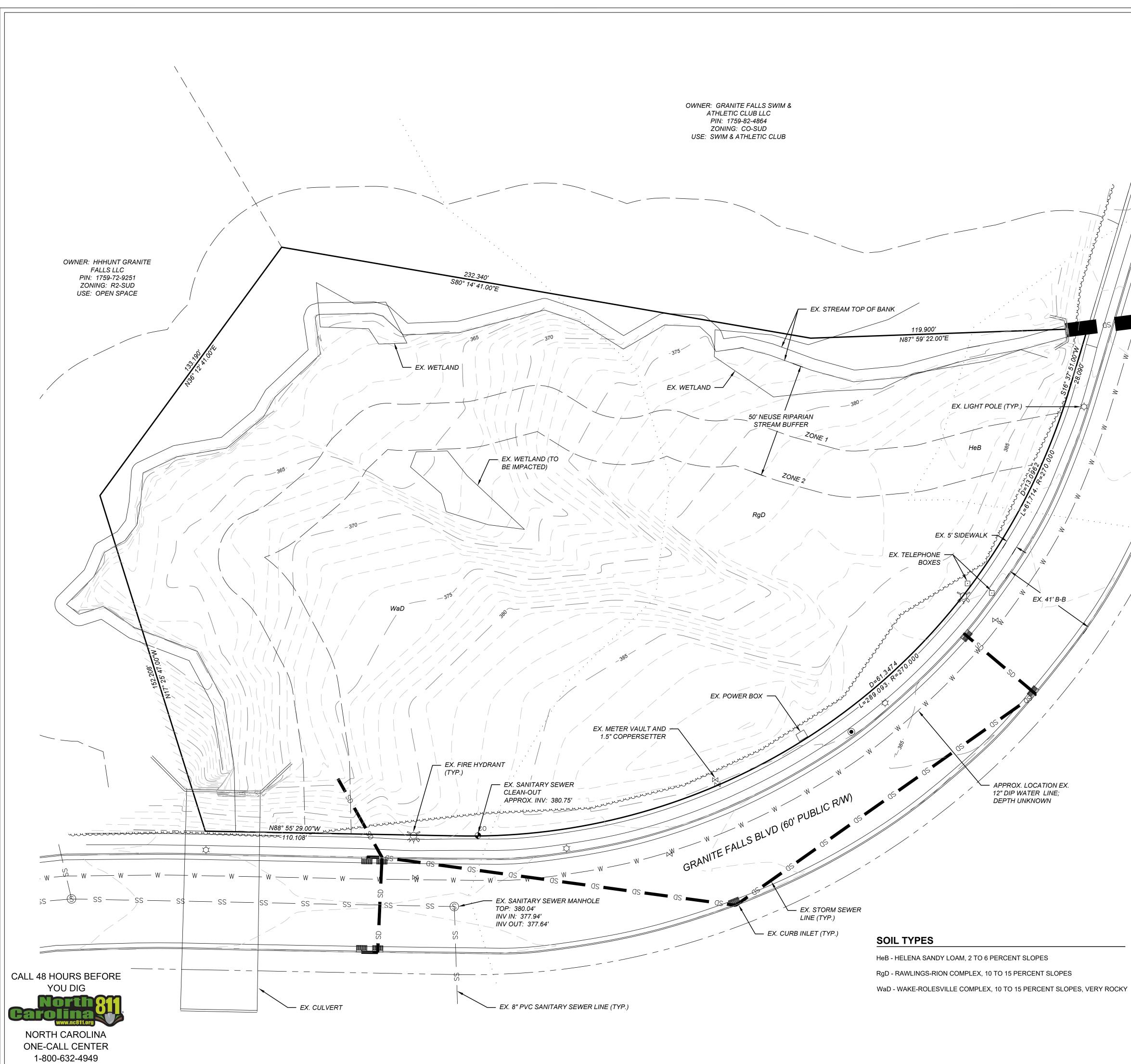
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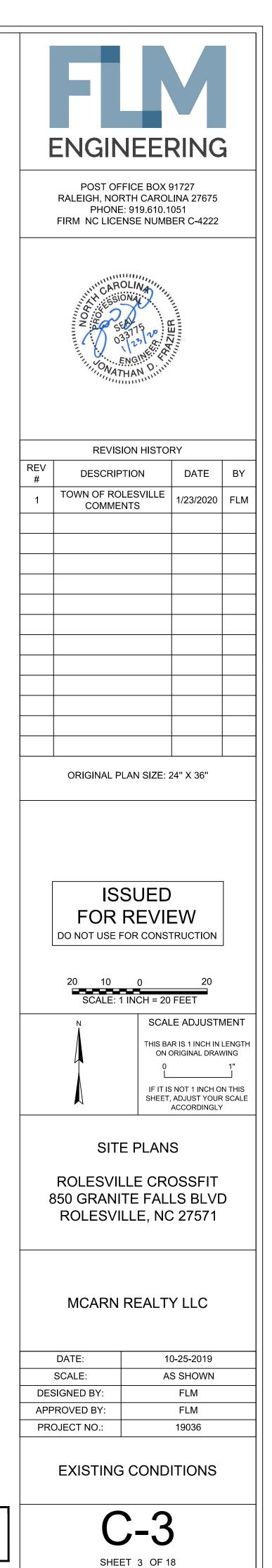
WETLA	ND 1
EMERGENCY SPILLWAY	DESIGN AND L
UPPER INVERT (ft)	371.00
LOWER INVERT (ft)	367.00
LENGTH (ft)	8.00
CHANNEL SLOPE (ft/ft)	0.500
CHANNEL SECTION	TRAPEZOID
AVG SIDE SLOPE (Z:1)	2.00
BOTTOM WIDTH (ft)	20.00
TOTAL DEPTH (ft)	1.00
WETTED PERIMETER (ft)	20.31
CROSS SECTIONAL AREA (sf)	1.41
100-YEAR/24-HOUR DESIGN FLOW (cfs)	6.73
NORMAL DEPTH (ft)	0.07
AVG VELOCITY (ft/sec)	4.77
SHEAR STRESS (lb/ft2)	2.18
LINER	NAG P300
PERMISSIBLE SHEAR STRESS (lb/ft2)	8.00
MANNING COEFFICIENT (n)	0.034

		FIONS
WE	TLAND	
JTLET STRUCTURE =	370.50	ft
	365.00	ft
RISER =	5.50	ft
WALL THICKNESS		
ALCULATIONS		
0' x 0' x 0' =		0.00
0 cf x 150 lb/cf =		0.00
4' x 4' x 2' =		32.00
48 cf x 150 lb/cf =		4800.00
[(5 x 5 x 5.5)-(4 x 4 x 5)]	x 150 lb/cf =	8625.00
GHT =		13425.0
Y CALCULATIONS		
0 cf x 62.4 lb/cf =		0.00
(5 x 5 x 6.5) x 62.4 lb/cf		8580.00
JYANCY =		8580.00
F SAFETY =		1.56
	WE UTLET STRUCTURE = RISER = WALL THICKNESS ALCULATIONS $0' \times 0' \times 0' =$ 0 cf 150 lb/cf = $4' \times 4' \times 2' =$ 48 cf 150 lb/cf = $[(5 \times 5 \times 5.5)-(4 \times 4 \times 5)]$ GHT = ALCULATIONS 0 cf x 62.4 lb/cf = $(5 \times 5 \times 6.5) \times 62.4 \text{ lb/cf}$	r RISER = 5.50 WALL THICKNESS ALCULATIONS $0' \times 0' \times 0' =$ $0 cf x 150 lb/cf =$ $4' x 4' \times 2' =$ $48 cf x 150 lb/cf =$ $[(5 x 5 x 5.5)-(4 x 4 x 5)] x 150 lb/cf =$ GHT = Y CALCULATIONS $0 cf x 62.4 lb/cf =$ $(5 x 5 x 6.5) x 62.4 lb/cf$ JYANCY =

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RAPEZOIDAL						POST OFFIC RALEIGH, NORTI	CE BOX	91727	
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6.73		_				ROAD CONT			
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NAG P300									
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ONS					1	DESCRIPTION TOWN OF ROLE COMMENT	SVILLE	DATE 1/23/2020	BY FLM
ft ft									
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0.00	cf								
0.00	lbs								
32.00 4800.00	cf Ibs								
8625.00	lbs					ORIGINAL PLA	N SIZE:	24" X 36"	
13425.00	lbs								
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8580.00	lbs					DO NOT USE FO	R CONS	TRUCTION	
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						SITE	PLAN	S	
						ROLESVILL	ECR	OSSFIT	
					8	850 GRANITE FALLS BLVD ROLESVILLE, NC 27571			D
						MCARN REALTY LLC			
						DATE: SCALE:		0-25-2019 S SHOWN	
					DES	SIGNED BY:	-	FLM	
						PROVED BY:		FLM 19036	
						CALCU	LATIC	NS	
				CTION SHALL BE IN	ק				
			ROLESVILLE, CITY C	WITH ALL TOWN OF DF RALEIGH AND WAKE		С	-2	, 	
			COUNTY STANDARD	S AND SPECIFICATIONS	_]		2 OF 1		



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NOTES

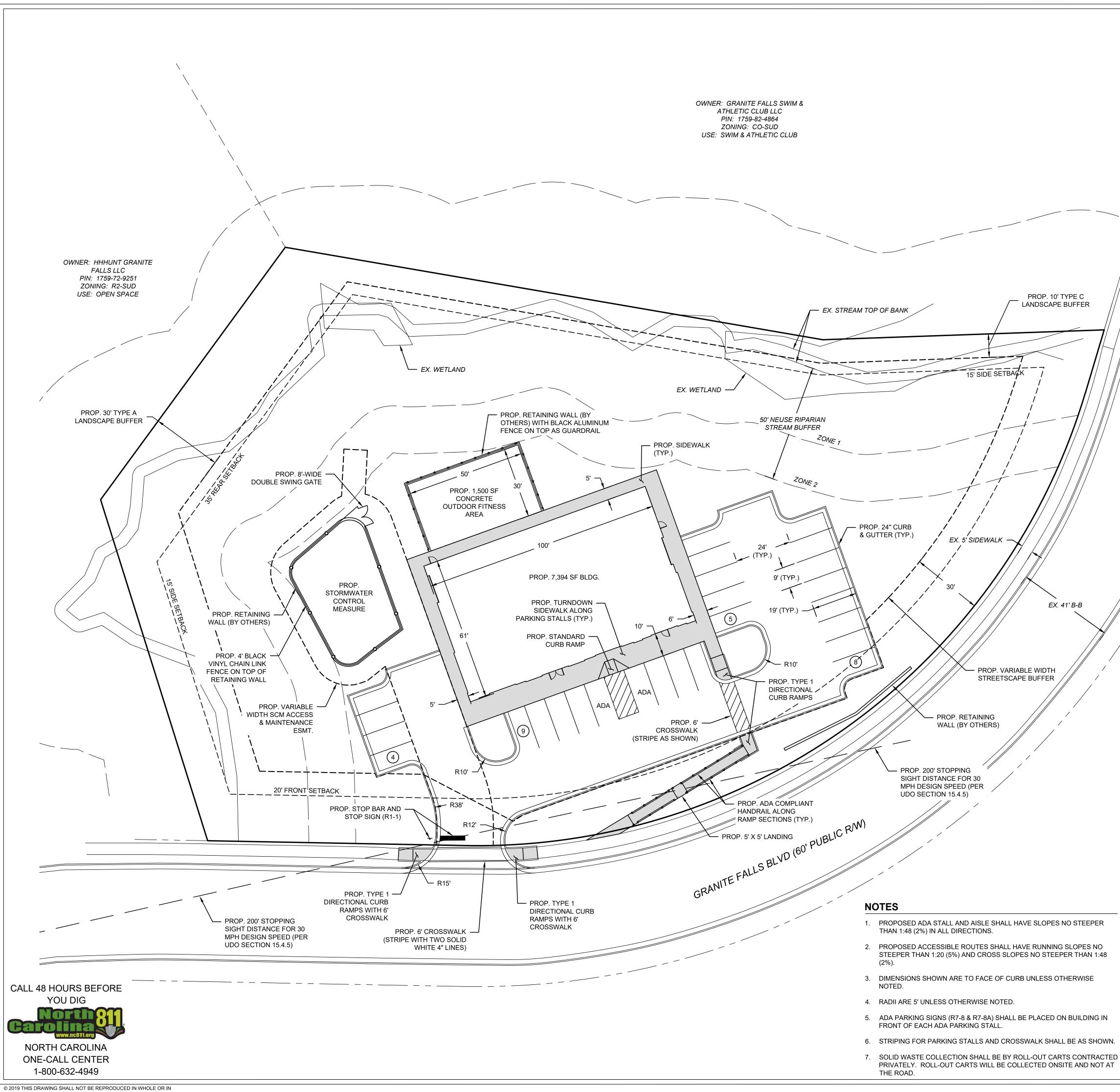
- 1. BOUNDARY AND TOPOGRAPHIC SURVEY DATA PROVIDED BY CAWTHORNE, MOSS & PANCIERA, PC ON JUNE 26, 2019.
- 2. WETLANDS AND STREAMS SHOWN DELINEATED BY CAROLINA ECOSYSTEMS, INC. AND LOCATED BY CAWTHORNE, MOSS & PANCIERA, PC. JURISDICTIONAL DETERMINATION PENDING.
- 3. THERE ARE NO FLOOD PRONE AREAS PRESENT PER FEMA FIRM PANEL NO. 3720175900J, EFFECTIVE MAY 2, 2006.
- 4. THE UTILITIES SHOWN ARE NOT GUARANTEED TO BE A REPRESENTATION OF ALL UTILITIES WITHIN THE PROJECT EXTENT.
- 5. THE CONTRACTOR SHALL CALL THE NORTH CAROLINA ONE-CALL-CENTER AT LEAST 48 HOURS PRIOR TO BEGINNING WORK.
- 6. THE CONTRACTOR SHALL VERIFY DEPTHS AND LOCATIONS OF ALL UTILITIES PRIOR TO BEGINNING WORK AND SHALL USE CARE WHEN OPERATING AROUND EXISTING UTILITIES.
- 7. 8. THE CONTRACTOR SHALL BE FINANCIALLY RESPONSIBLE FOR THE REPAIR OF ANY EXISTING UTILITIES DAMAGED DURING CONSTRUCTION.

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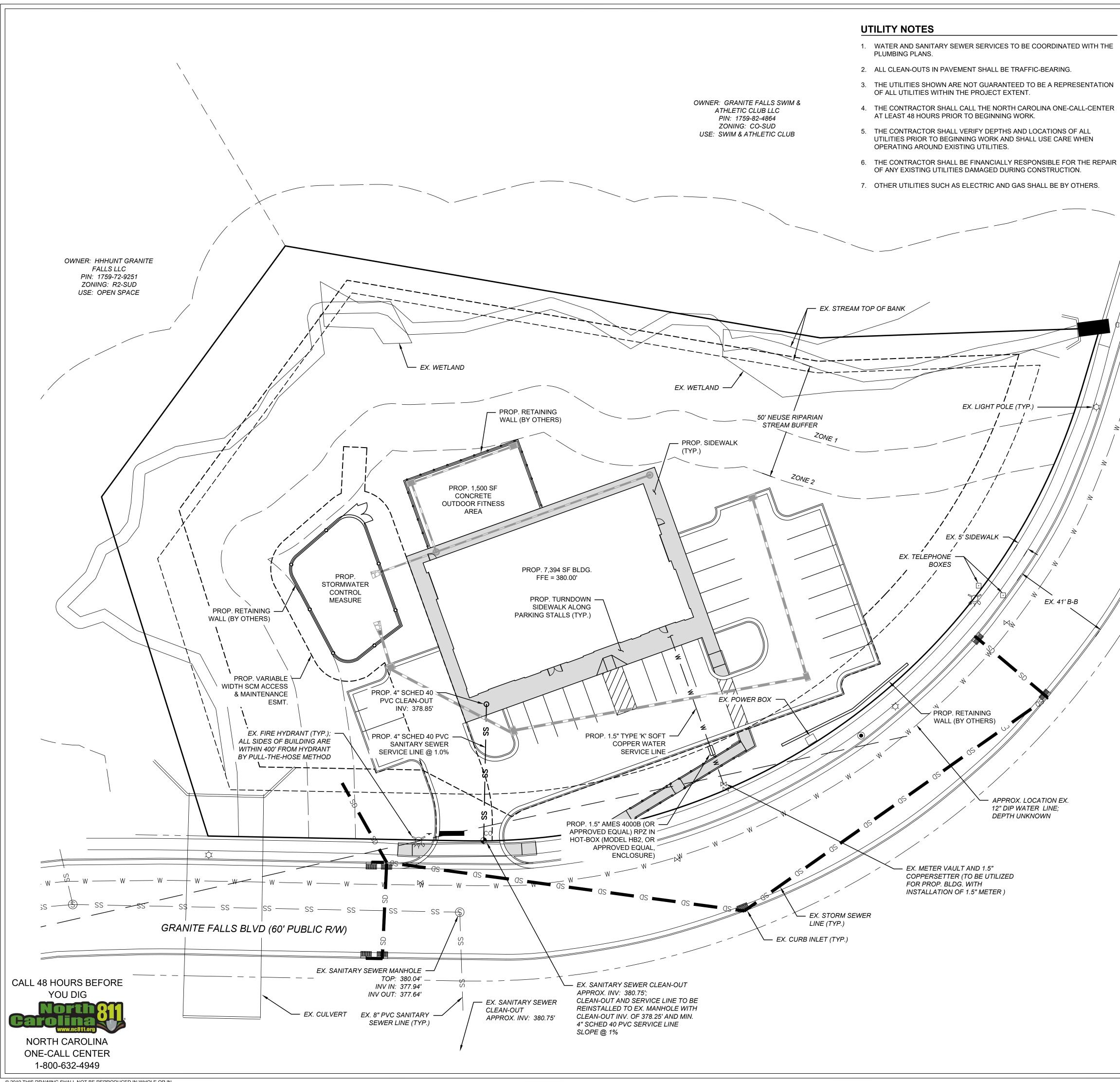
EX. PROPERTY LINE EX. RIGHT-OF-WAY EX. ADJACENT OWNERS EX. MAJOR CONTOUR (5') EX. MINOR CONTOUR (1') EX. CHANNEL/STREAM EX. STREAM BUFFER EX. WATER LINE EX. SANITARY SEWER EX. STORM SEWER EX. TREE LINE EX. SOIL LINE

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL TOWN OF ROLESVILLE, CITY OF RALEIGH AND WAKE COUNTY STANDARDS AND SPECIFICATIONS



PART WITHOUT WRITTEN PERMISSION OF FLM ENGINEERING, INC.

	POST OFFICE BOX 91727 RALEIGH, NORTH CAROLINA 27 PHONE: 919.610.1051 FIRM NC LICENSE NUMBER C-4	7675
	FIRM NULICENSE NUMBER C-4	+222
	AROLINA SSIONAL SSI	
	REVISION HISTORY REV # DESCRIPTION DAT 1 TOWN OF ROLESVILLE COMMENTS 1/23/2	
	ORIGINAL PLAN SIZE: 24" X 3	6"
	ISSUED FOR REVIEW DO NOT USE FOR CONSTRUCT	ION
SUMMARY INFORMATION		
DEVELOPMENT NAME: ROLESVILLE CROSSFIT	20 10 0	20
SITE ADDRESS: 850 GRANITE FALLS BLVD, ROLESVILLE, NC 27571	20 10 0 SCALE: 1 INCH = 20 FEET	
PIN NUMBER(S): 1759-82-2247		
TOTAL ACREAGE: 1.78 AC		
EXISTING USE: VACANT	THIS BAR IS 1 IN ON ORIGINAL	
PROPOSED USE: GYM		l
JURISDICTION: TOWN OF ROLESVILLE CURRENT ZONING DISTRICT: CO-SUD	IF IT IS NOT 1 II SHEET, ADJUST ACCORE	YOUR SCALE
SETBACKS: FRONT: 20' SIDE: 15'	SITE PLANS	
REAR: 35'		
PROPOSED BUILDING AREA: 7,394 SF REQUIRED PARKING: 1 SPACE PER 500 SF (LOW GENERATOR RETAIL) = 7,394 SF / 500 SF/SPACE = 15 SPACES PROPOSED PARKING: 26 SPACES (2 A DA 2) (AN A COESSIDEE)	ROLESVILLE CROSSI 850 GRANITE FALLS B ROLESVILLE, NC 275	LVD
PROPOSED PARKING: 26 SPACES (2 ADA, 2 VAN ACCESSIBLE)		
WATERSHED: LOWER NEUSE RIVER EXISTING IMPERVIOUS AREA: 0 SF (0.00 AC) OR 0% PROPOSED IMPERVIOUS AREA: 22,658 SF (0.53 AC) OR 29.8%		
		ן נ
LEGEND		
EX. PROPERTY LINE	DATE: 10-25-20)19
	SCALE: AS SHO	
EX. ADJACENT OWNERS	DESIGNED BY: FLM	
EX. STREAM BUFFER	APPROVED BY: FLM]
PROP. SETBACK LINE	PROJECT NO.: 19036	
PROP. EASEMENT/BUFFER		
	SITE PLAN	
· • • • • • • • • • • • • • • • • • • •		
ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL TOWN OF ROLESVILLE, CITY OF RALEIGH AND WAKE COUNTY STANDARDS AND SPECIFICATIONS	C-4	
	SHEET 4 OF 18	



CITY OF RALEIGH UTILITY NOTES

- ALL MATERIALS & CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH CITY OF RALEIGH DESIGN STANDARDS, DETAILS & SPECIFICATIONS (REFERENCE: CORPUD HANDBOOK, CURRENT EDITION)
- 2. UTILITY SEPARATION REQUIREMENTS:
- a. A DISTANCE OF 100' SHALL BE MAINTAINED BETWEEN SANITARY SEWER & ANY PRIVATE OR PUBLIC WATER SUPPLY SOURCE SUCH AS AN IMPOUNDED RESERVOIR USED AS A SOURCE OF DRINKING WATER. IF ADEQUATE LATERAL SEPARATION CANNOT BE ACHIEVED, FERROUS SANITARY SEWER PIPE SHALL BE SPECIFIED & INSTALLED TO WATERLINE SPECIFICATIONS. HOWEVER, THE MINIMUM SEPARATION SHALL NOT BE LESS THAN 25' FROM A PRIVATE WELL OR 50' FROM A PUBLIC WELL.
- b. WHEN INSTALLING WATER &/OR SEWER MAINS, THE HORIZONTAL SEPARATION BETWEEN UTILITIES SHALL BE 10'. IF THIS SEPARATION CANNOT BE MAINTAINED DUE TO EXISTING CONDITIONS, THE VARIATION ALLOWED IS THE WATER MAIN IN A SEPARATE TRENCH WITH THE ELEVATION OF THE WATER MAIN AT LEAST 18" ABOVE THE TOP OF THE SEWER & MUST BE APPROVED BY THE PUBLIC UTILITIES DIRECTOR. ALL DISTANCES ARE MEASURED FROM OUTSIDE DIAMETER TO OUTSIDE DIAMETER.
- c. WHERE IT IS IMPOSSIBLE TO OBTAIN PROPER SEPARATION, OR ANYTIME A SANITARY SEWER PASSES OVER A WATERMAIN, DIP MATERIALS OR STEEL ENCASEMENT EXTENDED 10' ON EACH SIDE OF **CROSSING MUST BE SPECIFIED & INSTALLED TO WATERLINE** SPECIFICATIONS.
- d. 5.0' MINIMUM HORIZONTAL SEPARATION IS REQUIRED BETWEEN ALL SANITARY SEWER & STORM SEWER FACILITIES, UNLESS DIP MATERIAL IS SPECIFIED FOR SANITARY SEWER
- e. MAINTAIN 18" MIN. VERTICAL SEPARATION AT ALL WATERMAIN & RCP STORM DRAIN CROSSINGS; MAINTAIN 24" MIN. VERTICAL SEPARATION AT ALL SANITARY SEWER & RCP STORM DRAIN CROSSINGS. WHERE ADEQUATE SEPARATIONS CANNOT BE ACHIEVED, SPECIFY DIP MATERIALS & A CONCRETE CRADLE HAVING 6" MIN. CLEARANCE (PER CORPUD DETAILS W-41 & S-49)
- f. ALL OTHER UNDERGROUND UTILITIES SHALL CROSS WATER & SEWER FACILITIES WITH 18" MIN. VERTICAL SEPARATION REQUIRED.
- ANY NECESSARY FIELD REVISIONS ARE SUBJECT TO REVIEW & APPROVAL OF AN AMENDED PLAN &/OR PROFILE BY THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN CONTINUOUS WATER & SEWER SERVICE TO EXISTING RESIDENCES & BUSINESSES THROUGHOUT CONSTRUCTION OF PROJECT. ANY NECESSARY SERVICE INTERRUPTIONS SHALL BE PRECEDED BY A 24 HOUR ADVANCE NOTICE TO THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT.
- 5. 3.0' MINIMUM COVER IS REQUIRED ON ALL WATER MAINS & SEWER FORCEMAINS. 4.0' MINIMUM COVER IS REQUIRED ON ALL REUSE MAINS.
- 6. IT IS THE DEVELOPER'S RESPONSIBILITY TO ABANDON OR REMOVE EXISTING WATER & SEWER SERVICES NOT BEING USED IN REDEVELOPMENT OF A SITE UNLESS OTHERWISE DIRECTED BY THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT. THIS INCLUDES ABANDONING TAP AT MAIN & REMOVAL OF SERVICE FROM ROW OR EASEMENT PER CORPUD HANDBOOK PROCEDURE.
- INSTALL COPPER WATER SERVICES WITH METERS LOCATED AT ROW OR WITHIN A 2'X2' WATERLINE EASEMENT IMMEDIATELY ADJACENT. NOTE: IT IS THE APPLICANT'S RESPONSIBILITY TO PROPERLY SIZE THE WATER SERVICE FOR EACH CONNECTION TO PROVIDE ADEQUATE FLOW & PRESSURE.
- INSTALL PVC SEWER SERVICES @ 1.0% MINIMUM GRADE WITH CLEANOUTS LOCATED AT ROW OR EASEMENT LINE & SPACED EVERY 75 LINEAR FEET MAXIMUM.
- PRESSURE REDUCING VALVES ARE REQUIRED ON ALL WATER SERVICES EXCEEDING 80 PSI; BACKWATER VALVES ARE REQUIRED ON ALL SANITARY SEWER SERVICES HAVING BUILDING DRAINS LOWER THAN 1.0' ABOVE THE NEXT UPSTREAM MANHOLE.
- 10. ALL ENVIRONMENTAL PERMITS APPLICABLE TO THE PROJECT MUST BE OBTAINED FROM NCDWR, USACE &/OR FEMA FOR ANY RIPARIAN BUFFER, WETLAND &/OR FLOODPLAIN IMPACTS (RESPECTIVELY) PRIOR TO CONSTRUCTION.
- 11. NCDOT / RAILROAD ENCROACHMENT AGREEMENTS ARE REQUIRED FOR ANY UTILITY WORK (INCLUDING MAIN EXTENSIONS & SERVICE TAPS) WITHIN STATE OR RAILROAD ROW PRIOR TO CONSTRUCTION.
- 12. GREASE INTERCEPTOR / OIL WATER SEPARATOR SIZING CALCULATIONS & INSTALLATION SPECIFICATIONS SHALL BE APPROVED BY THE CORPUD FOG PROGRAM COORDINATOR PRIOR TO ISSUANCE OF A BUILDING PERMIT. CONTACT TIM BEASLEY AT (919) 996-2334 OR timothy.beasley@raleighnc.gov FOR MORE INFORMATION.
- 13. CROSS-CONNECTION CONTROL PROTECTION DEVICES ARE REQUIRED BASED ON DEGREE OF HEALTH HAZARD INVOLVED AS LISTED IN APPENDIX-B OF THE RULES GOVERNING PUBLIC WATER SYSTEMS IN NORTH CAROLINA. THESE GUIDELINES ARE THE MINIMUM REQUIREMENTS. THE DEVICES SHALL MEET AMERICAN SOCIETY OF SANITARY ENGINEERING (ASSE) STANDARDS OR BE ON THE UNIVERSITY OF SOUTHERN CALIFORNIA APPROVAL LIST. THE DEVICES SHALL BE INSTALLED AND TESTED (BOTH INITIAL AND PERIODIC TESTING THEREAFTER) IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS OR THE LOCAL CROSS-CONNECTION CONTROL PROGRAM, WHICHEVER IS MORE STRINGENT. CONTACT JOANIE HARTLEY AT (919) 996-5923 OR joanie.hartley@raleighnc.goc FOR MORE INFORMATION

EX. PROPERTY LINE

LEGEND

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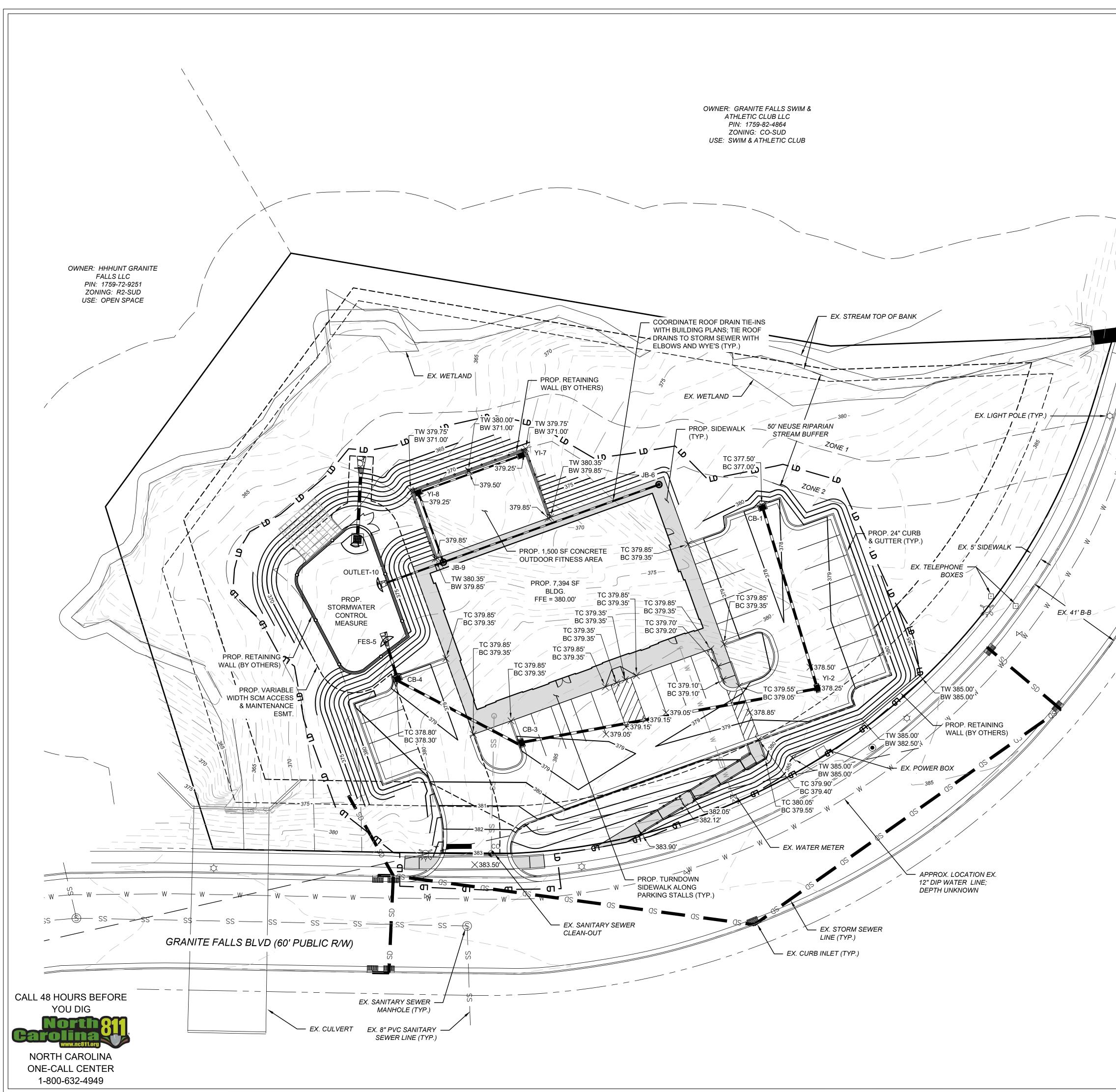
EX. RIGHT-OF-WAY EX. ADJACENT OWNERS EX. CHANNEL/STREAM EX. STREAM BUFFER EX. WATER LINE EX. SANITARY SEWER EX. STORM SEWER PROP. SETBACK LINE PROP. EASEMENT/BUFFER PROP. CHAINLINK FENCE PROP. ADA HANDRAIL/GUARDRAIL PROP. WATER LINE PROP. SANITARY SEWER PROP. STORM SEWER

> ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL TOWN OF ROLESVILLE, CITY OF RALEIGH AND WAKE COUNTY STANDARDS AND SPECIFICATIONS

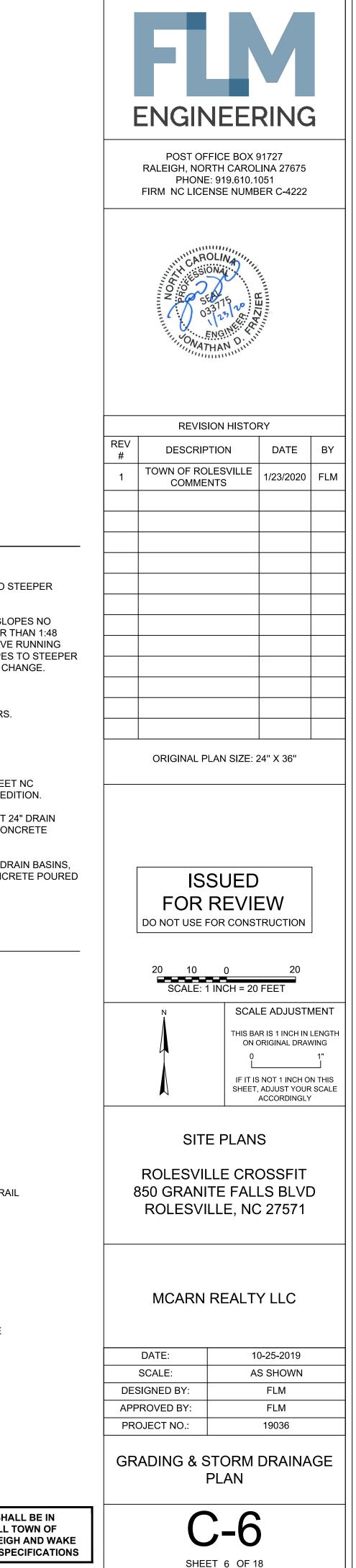
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	RALEIGH, NO	E: 919.610.1	.INA 27675 051		
		OLINA ONAL 33115 VOLUME ENGINE THAN DUIN			
	REVIS	ION HISTOR	٦Y		
REV	DESCRIF	PTION	DATE	BY	
	TOWN OF RO	LESVILLE	1/23/2020	FLM	
-	СОММЕ	NTS	1/23/2020		
ORIGINAL PLAN SIZE: 24" X 36"					
		SUED REVIE FOR CONST			
20 10 0 20 SCALE: 1 INCH = 20 FEET N SCALE ADJUSTMENT THIS BAR IS 1 INCH IN LENGTH ON ORIGINAL DRAWING 0 1" IF IT IS NOT 1 INCH ON THIS SHEET, ADJUST YOUR SCALE ACCORDINGLY					
SITE PLANS					
ROLESVILLE CROSSFIT 850 GRANITE FALLS BLVD ROLESVILLE, NC 27571					
MCARN REALTY LLC					
	DATE:		0-25-2019		
	SCALE: SIGNED BY:	AS	S SHOWN		
APF	PROVED BY:		FLM		
PRO	DJECT NO.:		19036		
UTILITY PLAN					

C-5

SHEET 5 OF 18



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NOTES

- 1. PROPOSED CONTOURS REPRESENT FINISH GRADES.
- PROPOSED ADA STALL AND AISLE SHALL HAVE SLOPES NO STEEPER 2. THAN 1:48 (2%) IN ALL DIRECTIONS.
- PROPOSED ACCESSIBLE ROUTES SHALL HAVE RUNNING SLOPES NO STEEPER THAN 1:20 (5%) AND CROSS SLOPES NO STEEPER THAN 1:48 (2%). PROPOSED ACCESSIBLE RAMP SECTIONS SHALL HAVE RUNNING SLOPES NO STEEPER THAN 1:12 (8.33%) AND CROSS SLOPES TO STEEPER THAN 1:48 (2%) WITH LANDINGS EVERY 2.5' OF ELEVATION CHANGE.
- 4. SLOPES ARE 2H:1V UNLESS OTHERWISE NOTED.
- 5. RETAINING WALLS SHOWN SHALL BE DESIGNED BY OTHERS.
- 6. SEE SHEET C-2 FOR PIPE TABLE.
- 7. ALL HDPE SHALL BE DOUBLE WALL.
- 8. ALL HDPE PIPE AND ROOF DRAIN CONNECTIONS SHALL MEET NC PLUMBING CODE CHAPTER 11 STORM DRAINAGE, LATEST EDITION.
- 9. JUNCTION BOXES JB-6 AND JB-9 SHALL BE ADS NYLOPLAST 24" DRAIN BASINS, OR APPROVED EQUAL, WITH SOLID COVER AND CONCRETE POURED IN BOTTOM TO ELIMINATE SUMP.
- 10. YARD INLETS YI-7 AN DYI-8 SHALL BE ADS NYLOPLAST 24" DRAIN BASINS, OR APPROVED EQUAL, WITH 24" DROP-IN GRATE AND CONCRETE POURED IN BOTTOM TO ELIMINATE SUMP.

LEGEND

	EX. PROPERTY LINE
	EX. RIGHT-OF-WAY
	EX. ADJACENT OWNER
· · · · · · ·	EX. CHANNEL/STREAM
	EX. STREAM BUFFER
——— W ——— W ———	EX. WATER LINE
— SS — SS —	EX. SANITARY SEWER
— SD — SD —	EX. STORM SEWER
———————————————————————————————————————	EX. MAJOR CONTOUR
	EX. MINOR CONTOUR
	PROP. SETBACK LINE
	PROP. EASEMENT/BUI
O	PROP. CHAINLINK FEN
. 	PROP. ADA HANDRAIL
—— W —— W ——	PROP. WATER LINE
— SS — SS —	PROP. SANITARY SEW
	PROP. STORM SEWER
	PROP. CURB INLET (C
	PROP. YARD INLET
	PROP. FLARED END S
٥	PROP. JUNCTION BOX
— LD — LD —	PROP. LIMIT OF DISTU
	PROP. MAJOR CONTO
	PROP. MINOR CONTO
🗙 тс	TOP OF CURB ELEVAT
X BC	BOTTOM OF CURB ELI
X TW	TOP OF WALL ELEVAT
X BW	BOTTOM OF WALL ELE
X ELEV	SPOT ELEVATION

EX. ADJACENT OWNERS EX. CHANNEL/STREAM EX. STREAM BUFFER EX. WATER LINE EX. SANITARY SEWER EX. STORM SEWER EX. MAJOR CONTOUR (5') EX. MINOR CONTOUR (1') PROP. SETBACK LINE PROP. EASEMENT/BUFFER PROP. CHAINLINK FENCE PROP. ADA HANDRAIL/GUARDRAIL PROP. WATER LINE PROP. SANITARY SEWER PROP. STORM SEWER PROP. CURB INLET (CB) PROP. YARD INLET PROP. FLARED END SECTION PROP. JUNCTION BOX PROP. LIMIT OF DISTURBANCE PROP. MAJOR CONTOUR (5') PROP. MINOR CONTOUR (1') TOP OF CURB ELEVATION BOTTOM OF CURB ELEVATION TOP OF WALL ELEVATION BOTTOM OF WALL ELEVATION SPOT ELEVATION

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL TOWN OF ROLESVILLE, CITY OF RALEIGH AND WAKE COUNTY STANDARDS AND SPECIFICATIONS

NOTES

- THE WETLAND MUST BE STABILIZED WITHIN 14 DAYS OF CONSTRUCTION. CONSTRUCTION SHALL BE SEQUENCED SO THAT VEGETATION CAN BE PLANTED AND THE WETLAND BROUGHT ONLINE WITHIN 14 DAYS. PLANTS MAY NEED TO BE WATERED DURING THIS TIME IF THE DEVICE IS NOT BROUGHT ONLINE THE SAME DAY. STABILIZATION MAY BE IN THE FORM OF FINAL VEGETATION PLANTINGS OR A TEMPORARY MEANS UNTIL THE VEGETATION BECOMES ESTABLISHED. IF USING A TEMPORARY MEANS, CONTRACTOR SHALL PROVIDE A WET HYDROSEED MIX. CONTRACTOR SHALL SCARIFY THE SOIL TO A HALF-INCH PRIOR TO HYDROSEEDING.
- INLET AND OUTLET CHANNELS SHALL BE PROTECTED FROM SCOUR THAT MAY OCCUR DURING PERIODS OF HIGH FLOW. STANDARD EROSION CONTROL MEASURES SHOULD BE USED.
- THE STORMWATER WETLAND SHOULD BE STAKED AT THE ONSET OF THE PLANTING SEASON. WATER DEPTHS IN THE WETLAND SHOULD BE MEASURED TO CONFIRM THE ORIGINAL PLANTING ZONES. AT THIS TIME, IT MAY BE NECESSARY TO MODIFY THE PLANTING PLAN TO REFLECT ALTERED DEPTHS OR THE AVAILABILITY OF WETLAND PLANT STOCK. CONTRACTOR SHALL COORDINATE PLANTINGS, PLANTING ZONES AND WATER DEPTHS WITH THE ENGINEER. SURVEYED PLANTING ZONES SHOULD BE MARKED ON AN "AS-BUILT" OR RECORD DESIGN PLAN AND LOCATED IN THE FIELD USING STAKES OR FLAGS.
- THE WETLAND DRAIN SHOULD BE FULLY OPENED FOR NO MORE THAN 3 DAYS PRIOR TO THE PLANTING DATE (WHICH SHOULD COINCIDE WITH THE DELIVERY DATE FOR THE WETLAND PLANT STOCK) TO PRESERVE SOIL MOISTURE AND WORKABILITY.
- NURSERY STOCK SHALL BE TRANSPLANTED FROM LOCAL AQUATIC PLANT NURSERIES. THE OPTIMAL PERIOD FOR TRANSPLANTING EXTENDS FROM EARLY APRIL TO MID-JUNE SO THAT THE WETLAND PLANTS WILL HAVE A FULL GROWING SEASON TO BUILD THE ROOT RESERVES NEEDED TO SURVIVE THE WINTER. HOWEVER, SOME SPECIES MAY BE PLANTED SUCCESSFULLY IN EARLY FALL. CONTRACTOR SHALL CONTACT NURSERY WELL IN ADVANCE OF CONSTRUCTION TO ENSURE THAT THEY WILL HAVE THE DESIRED SPECIES AVAILABLE.
- POST-NURSERY CARE OF WETLAND PLANTS IS VERY IMPORTANT IN THE INTERVAL BETWEEN DELIVERY OF THE PLANTS AND THEIR SUBSEQUENT INSTALLATION BECAUSE THEY ARE PRONE TO DESICCATION. STOCK SHOULD BE FREQUENTLY WATERED AND SHADED.
- SHWT TO BE EVALUATED PRIOR TO CONSTRUCTION. IF SHWT IS WITHIN 6" OF PPE ELEVATION, A CLAY LINER WILL NOT BE REQUIRED. OTHERWISE, INSTALLATION OF A 6" CLAY LINER WILL BE REQUIRED. CLAY LINER SHALL HAVE A MINIMUM 15% PASSING THE #200 SIEVE AND A MAX PERMEABILITY OF 1 X 10⁻⁵ CM/SEC. ACCEPTABLE ALTERNATIVES INCLUDE A 30 MIL POLY-LINER OR A BENTONITE LINER.
- GRADES SHOWN REPRESENT FINISH GRADE ELEVATIONS. TO ACHIEVE FINISH GRADE ELEVATIONS, INSTALL 4" OF TOPSOIL. SOIL pH, COMPACTION AND OTHER ATTRIBUTES OF THE FIRST 12-INCH DEPTH OF THE SOIL SHALL BE ANALYZED BY A SOIL SCIENTIST AND/OR LANDSCAPE ARCHITECT DURING CONSTRUCTION. AMENDMENTS SHALL BE MADE AS NECESSARY.
- PROVIDE PLANTS PER TABLE ON THIS SHEET. DAM STRUCTURE AND PERIMETER FILL SLOPES SHALL BE PLANTED WITH NON-CLUMPING TURN GRASS. TREES AND WOODY SHRUBS NOT ALLOWED.

10. CATTAILS SHALL NOT BE PLANTED IN WETLAND.

- **OUTLET STRUCTURE NOTES & SPECIFICATIONS**
- 18" RCP OUTLET SHALL BE CLASS III RCP MEETING REQUIREMENTS OF ASTM C76. THE PIPE JOINTS SHALL BE MORTAR OR FLEXIBLE PLASTIC TYPE JOINT.
- THE MANHOLE OUTLET RISER SHALL BE 4'X4' I.D. MEETING ASTM C-913. THE MANHOLE JOINTS SHALL BE ASTM C-443 RUBBER GASKET JOINTS. MANHOLE JOINTS SHALL BE SECURELY ANCHORED TO PREVENT SEPARATION. CONTRACTOR IS RESPONSIBLE FOR DESIGN OF THE MANHOLE SECTION ANCHORING SYSTEM.
- WATERTIGHT SEAL SHALL BE PROVIDED AT RISER/BARREL INTERFACE. PERVIOUS MATERIAL SUCH AS SAND, GRAVEL, OR CRUSHED STONE SHALL NOT BE USED AS BACKFILL AROUND THE PIPE OR ANTI-SEEP COLLAR. FILL MATERIAL AROUND THE RISER/BARREL STRUCTURE SHALL BE PLACED IN 4" LAYERS AND COMPACTED TO THE SAME DENSITY AS THE ADJACENT EMBANKMENT.
- OUTLET STRUCTURE SHALL BE PROVIDED WITH STEPS 1'-2" ON CENTER. STEPS SHALL BE IN ACCORDANCE WITH NCDOT STD. 840.66.
- CONCRETE ANTI-FLOATATION BLOCK SHALL BE PRECAST DURING FABRICATION. IF THE CONCRETE ANTI-FLOATATION BLOCK IS CAST SEPARATE FROM THE MANHOLE ASSEMBLY THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANCHORING THE ANTI-FLOATATION BLOCK TO THE MANHOLE RISER ASSEMBLY
- ALL POURED CONCRETE SHALL BE A MINIMUM 3,000 PSI (28 DAY) UNLESS OTHERWISE NOTED.
- NON-WOVEN GEOTEXTILE FABRIC SHALL BE PLACED AROUND EACH JOINT OF THE 18" RCP BARREL IN 2' WIDE STRIPS CENTERED ON JOINT. FABRIC SHALL BE AMOCO STYLE 4553 POLYPROPYLENE NON-WOVEN NEEDLE PUNCHED OR APPROVED EQUAL (NON-WOVEN FABRIC).

BERM SPECIFICATIONS

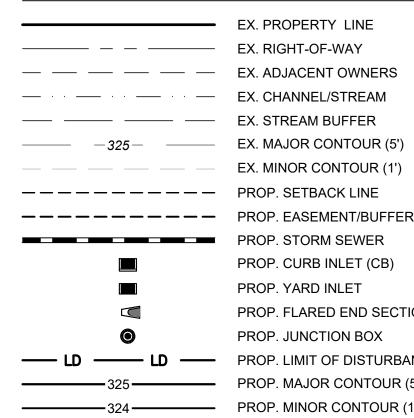
- ALL FILL SOILS FOR BERM SECTION SHALL BE CLEAN, IMPERMEABLE MATERIAL AND COMPACTED TO AT LEAST 98% STANDARD PROCTOR MAXIMUM DRY DENSITY, AT OPTIMUM MOISTURE CONTENT. NO BLASTED MATERIALS SHALL BE USED IN THE EMBANKMENT CONSTRUCTION. SOILS SHALL NOT EXHIBIT SIGNIFICANT SHRINK/SWELL OR DISPERSIVE CHARACTERISTICS. THE ON-SITE GEOTECHNICAL ENGINEER SHALL APPROVE THE SOILS FOR PLACEMENT WITHIN THE BERM SECTION. THE GEOTECHNICAL ENGINEER SHALL ALSO SPECIFY THE METHODS TO BE USED FOR PLACEMENT OF FILL.
- IN ALL FILL AREAS OF THE BERM, A SOILS COMPACTION TEST SHALL BE CONDUCTED EACH 2,500 SQUARE FEET PER VERTICAL CUT OF FILL.
- A KEY TRENCH IS TO BE PROVIDED IN ALL FILL AREAS. TRENCH TO EXTEND A MINIMUM OF FIVE FEET BELOW EXISTING GRADE. SOILS AND COMPACTION FOR KEY TRENCH SHALL MEET ALL REQUIREMENTS OF #1 ABOVE.
- FILL PLACEMENT SHALL NOT EXCEED A MAXIMUM OF 8" LIFTS. EACH LIFT SHALL BE CONTINUOUS FOR THE ENTIRE LENGTH OF EMBANKMENT. BEFORE PLACEMENT OF FILL FOR THE BERM SECTION, ALL UNSUITABLE MATERIAL SHALL BE REMOVED AND THE SURFACE PROPERLY PREPARED FOR FILL PLACEMENT.
- NO TREES OF ANY TYPE MAY BE LOCATED ON THE BERM SECTION.
- 6. SIDE SLOPES SHALL BE LINED WITH NAG S75, OR APPROVED EQUAL
- INSTALL ANTI-SEEP COLLAR AT MIDPOINT OF OUTLET PIPE. CONCRETE SHALL BE 3,000 PSI (28 DAYS) AND REINFORCED WITH #4 REBAR 12" O.C. EACH WAY. MINIMUM BEARING CAPACITY BENEATH COLLAR SHALL BE 2,000 PSF.

CALL 48 HOURS BEFORE YOU DIG

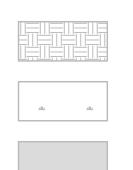


1-800-632-4949

LEGEND



EX. PROPERTY LINE EX. MAJOR CONTOUR (5') PROP. CURB INLET (CB) PROP. YARD INLET PROP. FLARED END SECTION PROP. JUNCTION BOX PROP. LIMIT OF DISTURBANCE PROP. MAJOR CONTOUR (5') —— PROP. MINOR CONTOUR (1')



SHALLOW LAND AREA

SHALLOW WATER AREA

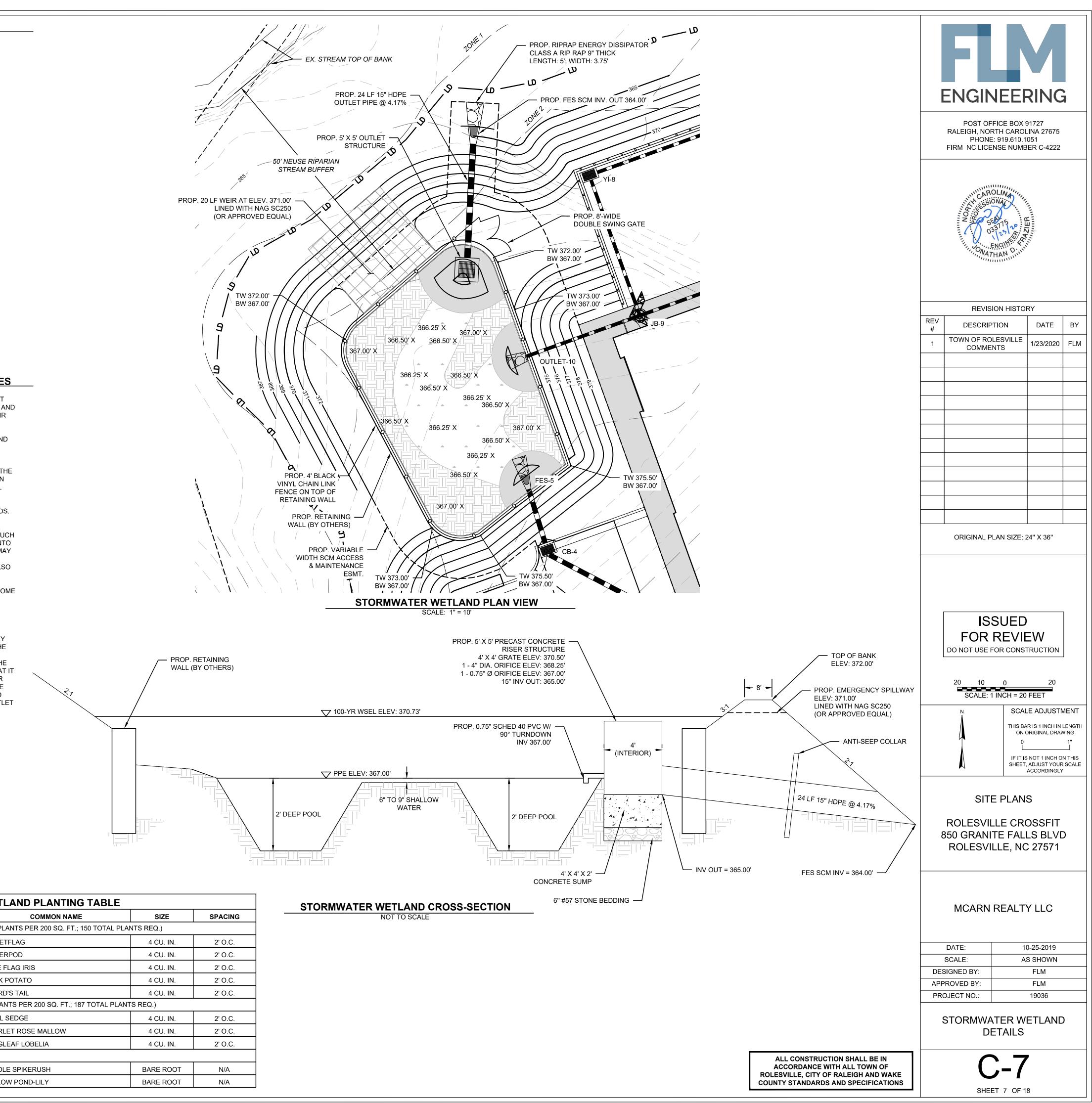
DEEP POOL AREA

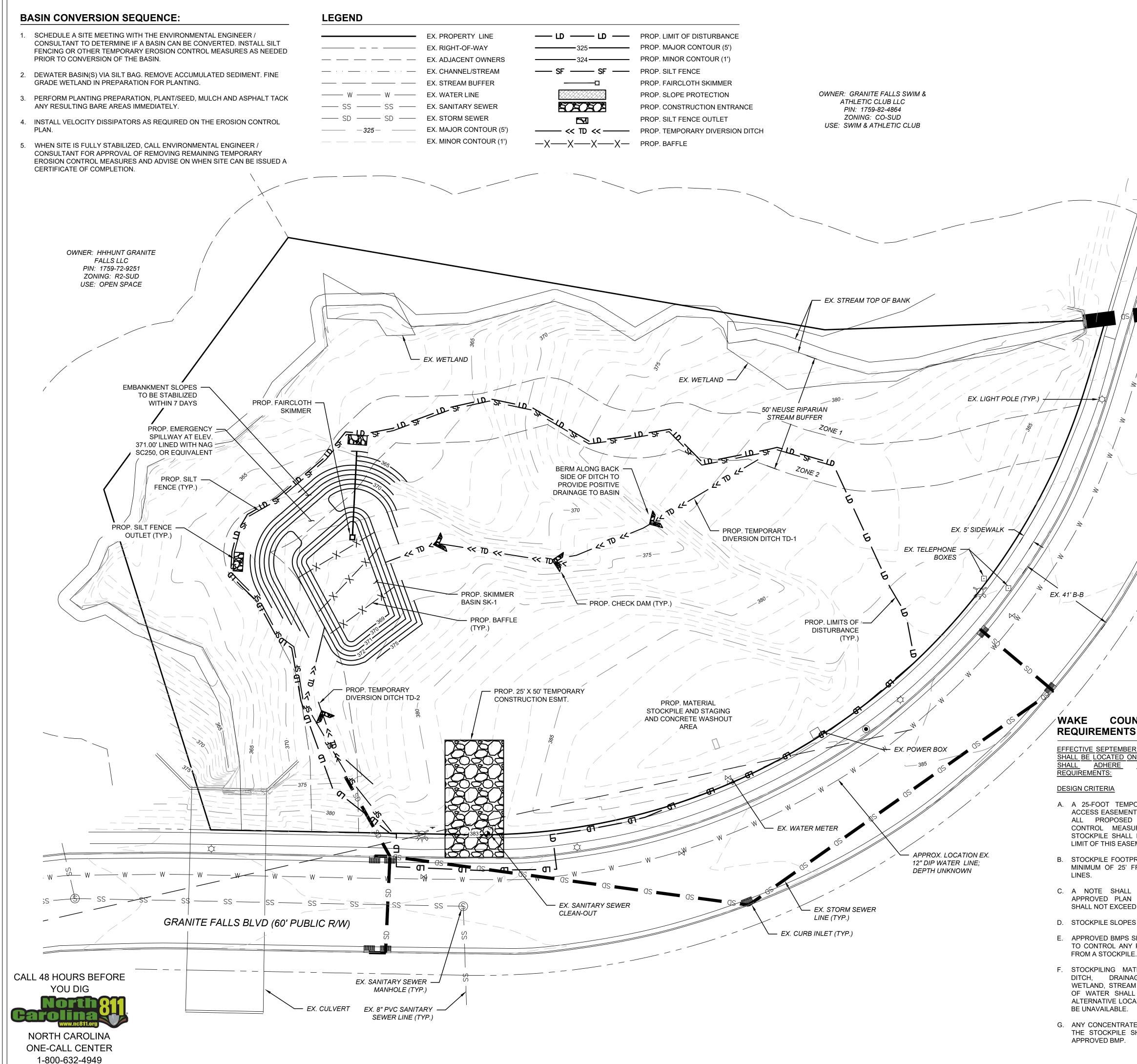
STORMWATER WETLAND MAINTENANCE NOTES

- 1. THE LANDSCAPE PROFESSIONAL MANAGING THE WETLAND MUST UNDERSTAND THE BIOLOGICAL REQUIREMENTS OF THE PLANTS AND MANAGE WATER LEVELS APPROPRIATELY TO PROVIDE FOR THEIR NEEDS.
- 2. ALTHOUGH WETLAND PLANTS REQUIRE WATER FOR GROWTH AND REPRODUCTION, THEY CAN BE KILLED BY DROWNING IN EXCESSIVELY DEEP WATER. USUALLY, INITIAL GROWTH IS BEST WITH TRANSPLANTED PLANTS IN WET, WELL-AERATED SOIL. OCCASIONAL INUNDATION FOLLOWED BY EXPOSURE TO AIR OF THE MAJORITY OF THE VEGETATION ENABLES THE PLANTS TO OBTAIN OXYGEN AND GROW OPTIMALLY. CONVERSELY, FREQUENT SOIL SATURATION IS IMPORTANT FOR WETLAND PLANT SURVIVAL.
- 3. DRAMATIC SHIFTS CAN OCCUR AS PLANT SUCCESSION PROCEEDS. THE PLANT COMMUNITY REFLECTS MANAGEMENT AND CAN INDICATE PROBLEMS OR THE RESULTS OF IMPROVEMENTS. FOR EXAMPLE, A REQUIREMENT OF SUBMERGED AQUATIC PLANTS, SUCH AS PONDWEED (POTAMOGETON SPP.), IS LIGHT PENETRATION INTO THE WATER COLUMN. THE DISAPPEARANCE OF THESE PLANTS MAY INDICATE INADEQUATE WATER CLARITY. THE APPEARANCE OF INVASIVE SPECIES OR DEVELOPMENT OF A MONOCULTURE IS ALSO A SIGN OF A PROBLEM WITH THE AQUATIC/SOIL/VEGETATIVE REQUIREMENTS. FOR INSTANCE, MANY INVASIVE SPECIES CAN QUICKLY SPREAD AND TAKE OVER A WETLAND. IF CATTAILS BECOME INVASIVE, THEY CAN BE REMOVED BY A LICENSED AQUATIC PESTICIDE APPLICATOR BY WIPING AQUATIC GLYPHOSATE, A SYSTEMIC HERBICIDE, ON THE CATTAILS.
- 4. UNLIKE MAINTENANCE REQUIREMENTS FOR WET OR DRY STORMWATER PONDS, SEDIMENT SHOULD ONLY BE SELECTIVELY REMOVED FROM STORMWATER WETLANDS, PRIMARILY FROM THE FOREBAY.SEDIMENT REMOVAL DISTURBS STABLE VEGETATION COVER AND DISRUPTS FLOWPATHS THROUGH THE WETLAND. THE TOP FEW INCHES OF SEDIMENT SHOULD BE STOCKPILED SO THAT IT CAN BE REPLACED OVER THE SURFACE OF THE WETLAND AFTER THE COMPLETION OF SEDIMENT REMOVAL TO RE-ESTABLISH THE VEGETATIVE COVER USING ITS OWN SEED BANK. ACCUMULATED SEDIMENT SHOULD BE REMOVED FROM AROUND INLET AND OUTLET STRUCTURES.

STORMWATER WETLAND PLANTING TABLE						
QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING		
SHALLOW WATE	R PLANTINGS (AREA = 600 SQ. FT.; 50 HE	RBACEOUS PLANTS PER 200 SQ. FT.; 150 TOTA	L PLANTS REQ.)			
30	ACORUS SUBCORDATUM	SWEETFLAG	4 CU. IN.	2' O.C.		
30	HYDROLEA QUADRIVALVIS	WATERPOD	4 CU. IN.	2' O.C.		
30	IRIS VIRGINICA	BLUE FLAG IRIS	4 CU. IN.	2' O.C.		
30	SAGITTARIA LATIFOLIA	DUCK POTATO	4 CU. IN.	2' O.C.		
30	SAURURUS CERNUUS	LIZARD'S TAIL	4 CU. IN.	2' O.C.		
SHALLOW LAND	PLANTINGS (AREA = 745 SQ. FT.; 50 HERE	BACEOUS PLANTS PER 200 SQ. FT.; 187 TOTAL I	PLANTS REQ.)			
63	CAREX TENERA	QUILL SEDGE	4 CU. IN.	2' O.C.		
63	HIBISCUS COCCINEUS	SCARLET ROSE MALLOW	4 CU. IN.	2' O.C.		
63	LOBELIA ELONGATA	LONGLEAF LOBELIA	4 CU. IN.	2' O.C.		
DEEP POOL						
15	ELEOCHARIS ACICULARIS	NEEDLE SPIKERUSH	BARE ROOT	N/A		
15	NUPHAR LUTEA SSP. ADVENA	YELLOW POND-LILY	BARE ROOT	N/A		

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WAKE COUNTY CONSTRUCTION SEQUENCE

1. SCHEDULE A PRECONSTRUCTION CONFERENCE WITH THE ENVIRONMENTAL CONSULTANT. OBTAIN A LAND-DISTURBING PERMIT.

PHASE 1

- 2. INSTALL GRAVEL CONSTRUCTION PAD, TEMPORARY DIVERSIONS, SILT FENCE, SKIMMER SEDIMENT BASIN OR OTHER MEASURES AS SHOWN ON THE APPROVED PLAN. CLEAR ONLY AS NECESSARY TO INSTALL THESE DEVICES. SEED TEMPORARY DIVERSIONS AND BASIN IMMEDIATELY AFTER CONSTRUCTION.
- 3. CALL WAKE COUNTY FOR AN ONSITE INSPECTION BY THE ENVIRONMENTAL CONSULTANT TO OBTAIN A CERTIFICATE OF COMPLIANCE.
- 4. BEGIN CLEARING AND GRUBBING. MAINTAIN DEVICES AS NEEDED.
- 5. BEGIN ROUGH GRADING.

PHASE 2

- 6. INSTALL STORM SEWER AND PROTECT INLETS WITH INLET PROTECTION, OR OTHER APPROVED MEASURES AS SHOWN ON THE PLAN.
- STABILIZE SITE AS AREAS ARE BROUGHT UP TO FINISH GRADE WITH VEGETATION, PAVING, ETC. SEED AND MULCH DENUDED AREAS PER GROUND STABILIZATION TIME FRAMES.
- WHEN CONSTRUCTION IS COMPLETE AND ALL AREAS ARE STABILIZED COMPLETELY, CALL WAKE COUNTY FOR AN INSPECTION BY THE ENVIRONMENTAL CONSULTANT.
- IF SITE IS APPROVED, REMOVE TEMPORARY DIVERSIONS, SILT FENCE, ETC., AND SEED OR STABILIZE ANY RESULTING BARE AREAS. ALL REMAINING PERMANENT EROSION CONTROL DEVICES, SUCH AS VELOCITY DISSIPATORS, SHOULD NOW BE INSTALLED.
- UPON STABILIZATION OF THE ENTIRE DISTURBED AREA, CONVERT SKIMMER BASIN TO STORMWATER WETLAND AS SHOWN ON THE APPROVED PLANS.
- 11 WHEN VEGETATION HAS BECOME ESTABLISHED, CALL FOR A FINAL SITE INSPECTION BY THE ENVIRONMENTAL CONSULTANT. OBTAIN A CERTIFICATE OF COMPLETION.

EROSION CONTROL NOTES

- 1. ALL LAND DISTURBING ACTIVITIES SHALL BE CONDUCTED IN ACCORDANCE WITH WAKE COUNTY AND NCDEQ STANDARDS.
- 2. ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE MAINTAINED IN PROPER WORKING CONDITION DURING THE PERIOD OF CONSTRUCTION.
- 3. ADDITIONAL EROSION CONTROL MEASURES AND/OR MODIFICATIONS TO PROPOSED MEASURES MAY BE NECESSARY DEPENDING ON ACTUAL SITE CONDITIONS.
- 4. THE TOTAL DISTURBED AREA IS 0.93 ACRE.
- 5. SILT FENCE OUTLETS TO BE PLACED AS SHOWN AND AT LOW POINTS ALONG SILT FENCE AS NECESSARY.
- 6. SEE EROSION CONTROL CALCULATIONS ON SHEET C-2.
- 7. SKIMMER BASIN GRADES SHOWN ARE 2H:1V UNLESS OTHERWISE NOTED.
- 8. CONTRACTOR SHALL ESTABLISH GROUND COVER IMMEDIATELY AFTER DISTURBANCE DURING CONSTRUCTION OF PERMANENT SWALES.
- 9. PROVIDE STABLE TRANSITION AT TEMPORARY DIVERSION ENTRANCES TO BASIN - LINE SLOPE AT ENTRANCE WITH 12" ROCK RIPRAP.

10. RIPRAP ENERGY DISSIPATOR DIMENSIONS SHOWN ON DETAIL SHEET C-14.

- 11. DISTURBED AREAS TO BE STABILIZED AND GROUND COVER SHOULD BE ACHIEVED WITHIN 7 WORKING DAYS FOLLOWING COMPLETION OF DEVELOPMENT, PER THE NPDES CONSTRUCTION STORMWATER GENERAL PERMIT.
- 12. SEE DETAIL SHEETS C-15 AND C-16 FOR EROSION AND SEDIMENT CONTROL MAINTENANCE REQUIREMENTS.

13. TREE CLEARING BEYOND THE LIMITS OF DISTURBANCE IS NOT PROPOSED.

COUNTY

EFFECTIVE SEPTEMBER 1, 2008 - SOIL STOCKPILES SHALL BE LOCATED ON THE APPROVED PLAN AND ADHERE TO THE FOLLOWING

STOCKPILE

A. A 25-FOOT TEMPORARY MAINTENANCE AND ACCESS EASEMENT SHALL BE SHOWN AROUND ALL PROPOSED STOCKPILES (EROSION CONTROL MEASURES SURROUNDING THE STOCKPILE SHALL BE SHOWN AT THE OUTER LIMIT OF THIS EASEMENT).

B. STOCKPILE FOOTPRINTS SHALL BE SETBACK A MINIMUM OF 25' FROM ADJACENT PROPERTY

C. A NOTE SHALL BE PROVIDED ON THE APPROVED PLAN THAT STOCKPILE HEIGHT SHALL NOT EXCEED 35 FEET.

D. STOCKPILE SLOPES SHALL BE 2:1 OR FLATTER.

E. APPROVED BMPS SHALL BE SHOWN ON A PLAN TO CONTROL ANY POTENTIAL SEDIMENT LOSS FROM A STOCKPILE.

F. 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

G. ANY CONCENTRATED FLOW LIKELY TO AFFECT THE STOCKPILE SHALL BE DIVERTED TO AN 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 DEVELOPMENT ORDINANCE UNIFIED (CERTIFICATIONS AND PERMITS REQUIRED).

MAINTENANCE REQUIREMENTS TO BE NOTED ON THE PLAN

- SEEDING OR COVERING STOCKPILES WITH TARPS OR MULCH IS REQUIRED AND WILL REDUCE EROSION PROBLEMS. TARPS SHOULD BE KEYED IN AT THE TOP OF THE SLOPE TO KEEP WATER FROM RUNNING UNDERNEATH THE PLASTIC.
- J. 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.
- K. 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 L BUFFER AT THE TOE OF THE SLOPE (WHERE PRACTICAL).

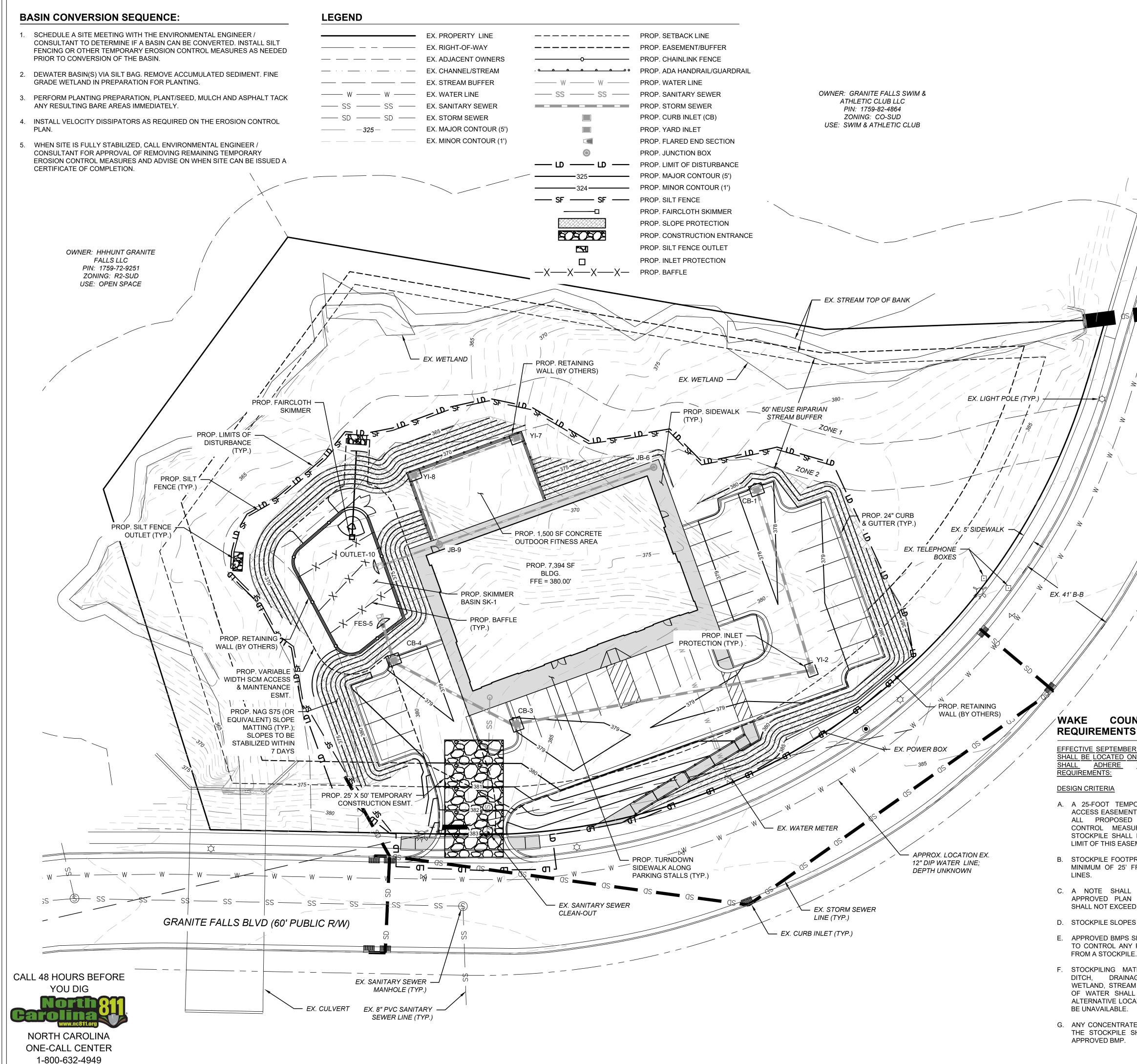
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COUNTY STANDARDS AND SPECIFICATIONS

1	POST OFFIC RALEIGH, NORTH PHONE: 9	E BOX 9	91727 INA 27675	2		
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	CAROLINA CAROLI					
	REVISION	I HISTO	RY			
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1	TOWN OF ROLES		1/23/2020	FLM		
ORIGINAL PLAN SIZE: 24" X 36"						
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SITE PLANS ROLESVILLE CROSSFIT 850 GRANITE FALLS BLVD ROLESVILLE, NC 27571						
MCARN REALTY LLC						
	DATE:		0-25-2019			
	SCALE: SIGNED BY:	A	S SHOWN			
APF	ROVED BY:		FLM			
PR	DJECT NO.:		19036			
RO	SION & SED PLAN - I			ROL		
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G. ANY CONCENTRATED FLOW LIKELY TO AFFECT THE STOCKPILE SHALL BE DIVERTED TO AN APPROVED BMP.

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- 6. SEE EROSION CONTROL CALCULATIONS ON SHEET C-2.
- 7. SKIMMER BASIN GRADES SHOWN ARE 2H:1V UNLESS OTHERWISE NOTED.
- 8. CONTRACTOR SHALL ESTABLISH GROUND COVER IMMEDIATELY AFTER DISTURBANCE DURING CONSTRUCTION OF PERMANENT SWALES.
- 9. PROVIDE STABLE TRANSITION AT TEMPORARY DIVERSION ENTRANCES TO BASIN - LINE SLOPE AT ENTRANCE WITH 12" ROCK RIPRAP.

10. RIPRAP ENERGY DISSIPATOR DIMENSIONS SHOWN ON DETAIL SHEET C-14.

- 11. DISTURBED AREAS TO BE STABILIZED AND GROUND COVER SHOULD BE ACHIEVED WITHIN 7 WORKING DAYS FOLLOWING COMPLETION OF DEVELOPMENT, PER THE NPDES CONSTRUCTION STORMWATER GENERAL PERMIT.
- 12. SEE DETAIL SHEETS C-15 AND C-16 FOR EROSION AND SEDIMENT CONTROL MAINTENANCE REQUIREMENTS.

13. TREE CLEARING BEYOND THE LIMITS OF DISTURBANCE IS NOT PROPOSED.

COUNTY

EFFECTIVE SEPTEMBER 1, 2008 - SOIL STOCKPILES SHALL BE LOCATED ON THE APPROVED PLAN AND ADHERE TO THE FOLLOWING

STOCKPILE

A. A 25-FOOT TEMPORARY MAINTENANCE AND ACCESS EASEMENT SHALL BE SHOWN AROUND ALL PROPOSED STOCKPILES (EROSION CONTROL MEASURES SURROUNDING THE STOCKPILE SHALL BE SHOWN AT THE OUTER LIMIT OF THIS EASEMENT).

B. STOCKPILE FOOTPRINTS SHALL BE SETBACK A MINIMUM OF 25' FROM ADJACENT PROPERTY

C. A NOTE SHALL BE PROVIDED ON THE APPROVED PLAN THAT STOCKPILE HEIGHT SHALL NOT EXCEED 35 FEET.

D. STOCKPILE SLOPES SHALL BE 2:1 OR FLATTER.

E. APPROVED BMPS SHALL BE SHOWN ON A PLAN TO CONTROL ANY POTENTIAL SEDIMENT LOSS FROM A STOCKPILE.

OFF-SITE SPOIL OR BORROW AREAS MUST BE IN COMPLIANCE WITH WAKE COUNTY UDO AND STATE REGULATIONS. ALL SPOIL AREAS OVER AN ACRE ARE REQUIRED TO HAVE AN APPROVED SEDIMENT CONTROL PLAN. DEVELOPER/CONTRACTOR SHALL NOTIFY WAKE COUNTY OF ANY OFFSITE DISPOSAL OF SOIL PRIOR TO DISPOSAL. FILL OF FEMA FLOODWAYS AND NON-ENCROACHMENT AREAS ARE PROHIBITED EXCEPT AS OTHERWISE PROVIDED BY SUBSECTION 14-19-2 OF THE WAKE COUNTY UNIFIED DEVELOPMENT ORDINANCE (CERTIFICATIONS AND PERMITS REQUIRED).

MAINTENANCE REQUIREMENTS TO BE NOTED ON THE PLAN

- SEEDING OR COVERING STOCKPILES WITH TARPS OR MULCH IS REQUIRED AND WILL REDUCE EROSION PROBLEMS. TARPS SHOULD BE KEYED IN AT THE TOP OF THE SLOPE TO KEEP WATER FROM RUNNING UNDERNEATH THE PLASTIC.
- J. 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.
- K. 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 L BUFFER AT THE TOE OF THE SLOPE (WHERE PRACTICAL).

ALL CONSTRUCTION SHALL BE IN

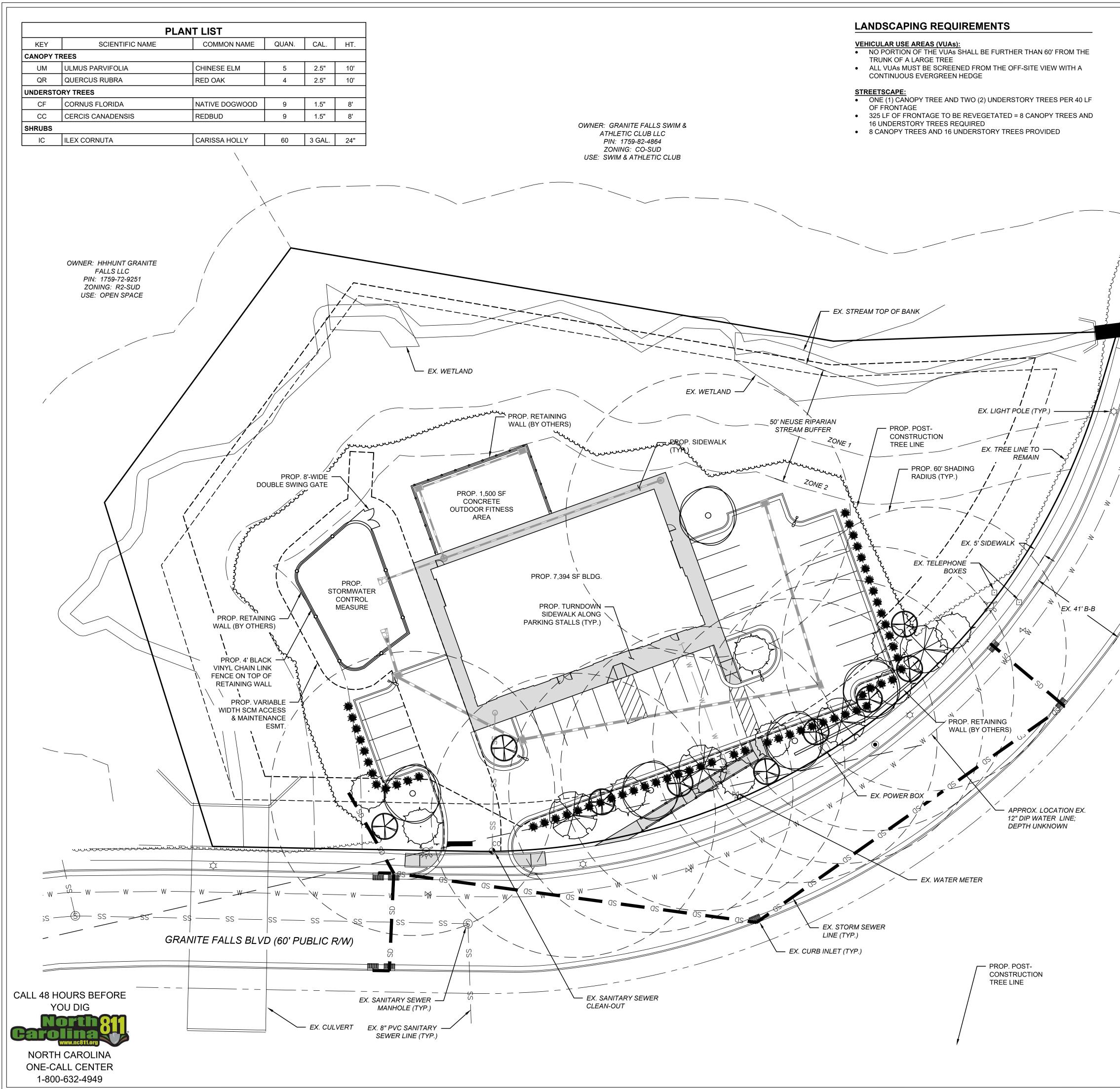
ACCORDANCE WITH ALL TOWN OF

ROLESVILLE, CITY OF RALEIGH AND WAKE

COUNTY STANDARDS AND SPECIFICATIONS

	FINEERING						
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	NATHAN DUIN						
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REV		N HISTOF					
1	DESCRIPTI TOWN OF ROLE COMMENT	SVILLE	DATE 1/23/2020	BY FLM			
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	ISSUED FOR REVIEW						
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			ADJUST YOUR ACCORDINGLY				
			S				
8	SITE PLANS ROLESVILLE CROSSFIT 850 GRANITE FALLS BLVD						
	ROLESVILI	LE, NC	27571				
	MCARN REALTY LLC						
	DATE:		0-25-2019				
חבי	SCALE:	AS	S SHOWN				
	PROVED BY:		FLM FLM				
	DJECT NO.:		19036				
RO	SION & SED PLAN -			ROL			
	C-9						

SHEET 9 OF 18



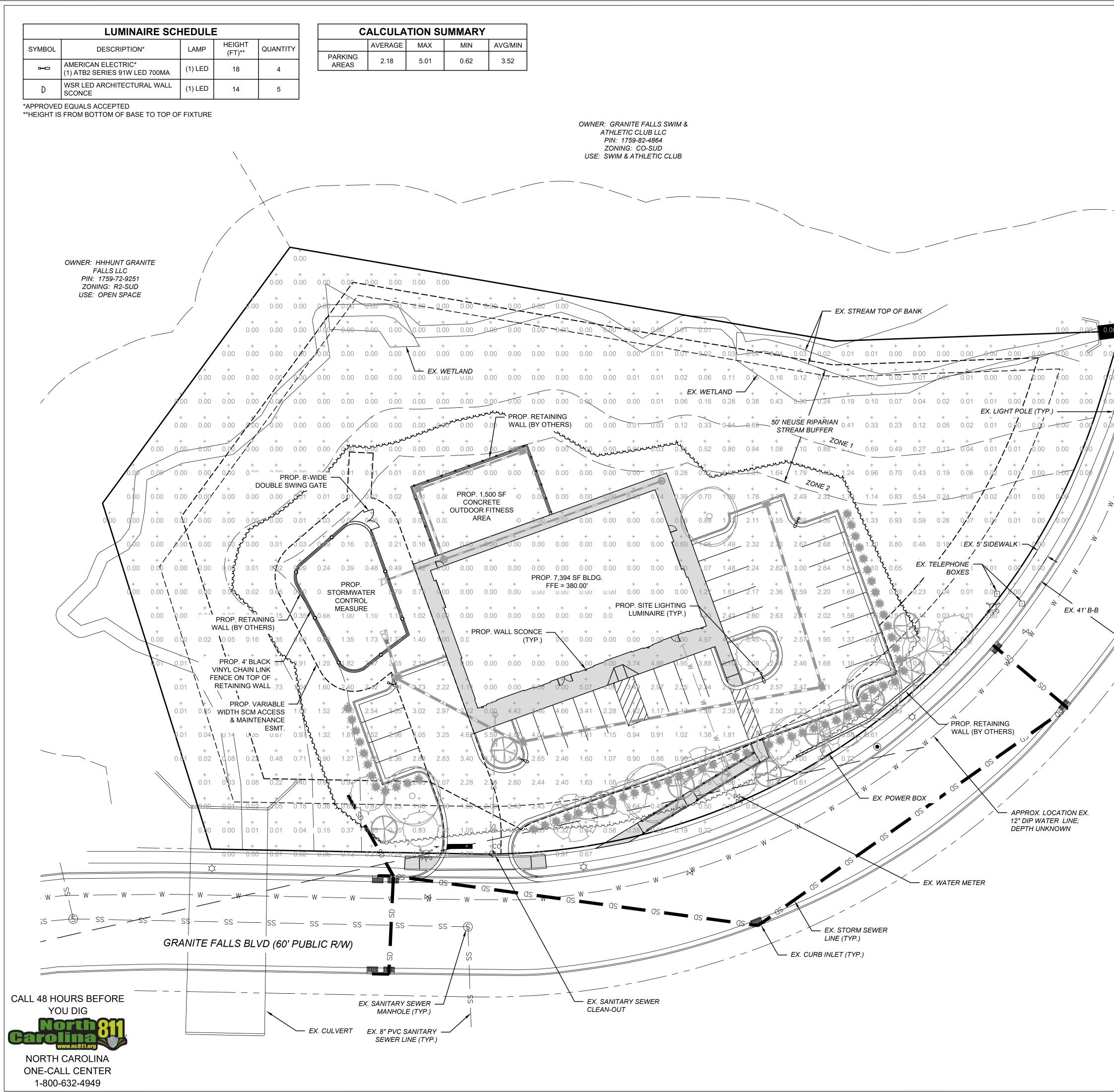
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	GEND						
		- EX. PROPERTY LINE					
		— EX. RIGHT-OF-WAY					
		- EX. CHANNEL/STREAM					
		— EX. STREAM BUFFER	- L	ENGIN	EE	RING	2
	— w — — w —	- EX. WATER LINE					
	— ss —— ss —			POST OFF	ICE BOX	91727	
	— SD —— SD —			RALEIGH, NORT	TH CARO	LINA 27675	
				PHONE: FIRM NC LICEN	919.610.1 ISE NI IME		
<u> </u>				FIRM NO LICEN		DER 0-4222	
		- PROP. SETBACK LINE					
		 PROP. EASEMENT/BUFFER 					
	0000	- PROP. CHAINLINK FENCE			111111		
. م	<u> </u>	PROP. ADA HANDRAIL/GUARDRAIL		N'N'CAHO	LINA	2	
	— W — — W —				N.		
	— SS —— SS —	PROP. SANITARY SEWER		ZECSE	115		
		PROP. STORM SEWER		03	23/2		
		PROP. TREE LINE		EN EN	IGINE R		
				"", NATH	IAN DUIN		
	O	PROP. CANOPY TREE (UM)					
	577			REVISIO	ON HISTO	RY	
		PROP. CANOPY TREE (QR)	REV	DESCRIPT		DATE	BY
			#				
	$\langle \rangle \mathcal{Y}$		1	TOWN OF ROLI COMMEN		1/23/2020	FLN
	\square						
	\mathfrak{B}	PROP. UNDERSTORY TREE (CF)					
	-						
	-						
	{ . }	PROP. UNDERSTORY TREE (CC)					
	\sim						
	*	PROP. EVERGREEN SHRUB (IC)					
	- 1						
		PROP. SITE LIGHTING LUMINAIRE					
	NTEO						
	DTES						
1.	ALL NEW PLANTINGS S	SHALL MEET THE REQUIREMENTS OF THE TOWN OF					
		DEVELOPMENT ORDINANCE (UDO) ARTICLE 14,		ORIGINAL PL/	AN SIZE:	24" X 36"	
	LANDSCAPE AND APPE	ARANCE STANDARDS.					
2.		S NOT OCCUPIED BY STRUCTURES, PAVING OR					
	SPECIFICATIONS.	GRADED AND SEEDED AS INDICATED IN					
-							
3.	ALL TREE PLANTINGS S MULCH.	SHALL BE MULCHED WITH 4" CLEAN, PINE STRAW					
							•
4.	ALL PLANT BEDS TO BE	E EDGED WITH TYPICAL "V-CHANNEL" EDGE.		ISS	SUED)	
5.	A MINIMUM OF FOUR IN	NDIVIDUAL SOIL SAMPLES SHALL BE TAKEN					
	THROUGHOUT THE SIT	E FOR OVERALL SOIL ANALYSIS.		FOR F	KEVI	EVV	
6.	CONTRACTOR TO UTIL	IZE ALL ONSITE TOPSOIL. CONTRACTOR SHALL		DO NOT USE FO	OR CONS	TRUCTION	
0.	SUPPLY ADDITIONAL T	OPSOIL AT NO ADDITIONAL COST TO OWNER IF					
	EXISTING TOPSOIL IS N PROJECT.	NOT SUFFICIENT TO MEET THE NEEDS OF THIS					
				20 10	0	20	
7.		TO RECEIVE 1 CY OF SOIL CONDITIONER FOR EACH 75 A. ACCEPTABLE SOIL CONDITIONERS SHALL BE		SCALE: 1 I	NCH = 20) FEET	
		A. ACCEPTABLE SOIL CONDITIONERS SHALL BE K, PEAT MOSS OR SHREDDED/COMPOSTED LEAVES.		N	SCA	LE ADJUSTN	/ENT
<u> </u>							
8.		D VERIFY LOCATION OF EXISTING UTILITIES BEFORE				AR IS 1 INCH IN I ORIGINAL DRAV	
~				T	0		1"
9.		IFY QUANTITIES OF PLANTINGS AS SHOWN. O ON PLANS SHALL PREVAIL OVER QUANTITIES			L F T	S NOT 1 INCH OI	
		IST IF DISCREPANCIES ARISE.				, ADJUST YOUR ACCORDINGLY	SCAL
10						AUUURDINGLY	
١U.	ALL PLANTS ARE TO BE PLANTED.	E THOROUGHLY "WATERED IN" THE SAME DAY AS					
				SITE	PLAN	S	
11.	THE PLANT HOLE WIDT OF THE ROOT BALL.	TH SHALL BE A MINIMUM THREE TIMES THE DIAMETER					
				ROLESVILI	LE CR	OSSFIT	
12.		NG AND TWINE FROM ROOT BALL. REMOVE WIRE FROM TOP 1/3 OF ROOT BALL BEFORE BACKFILLING	8	50 GRANIT	E FAL	LS BLVE)
	AROUND BALL IS COM			ROLESVIL			
		E SMOOTH BARKED AT THE TIME OF PLANTING AND			,	-	
12		F ALL TREE WRAPPING SHALL EXTEND FROM THE TOP					
13.	OF THE BACKFILL TO T						
13.		THE LOWERWOST TREE DRANCHES.					
			1				
	ALL TREES, WHEN PLA FINISHED GRADE AS TO	NTED, SHALL HAVE THE SAME RELATIONSHIP TO			ד י <i>א</i> דכ	$\mathbf{V} + \mathbf{C}$	
14.	FINISHED GRADE AS TO	NTED, SHALL HAVE THE SAME RELATIONSHIP TO O THE GRADING PLAN.		MCARN F	REALT	Y LLC	
14.	FINISHED GRADE AS TO	NTED, SHALL HAVE THE SAME RELATIONSHIP TO		MCARN F	REALT	Y LLC	
14.	FINISHED GRADE AS TO	NTED, SHALL HAVE THE SAME RELATIONSHIP TO O THE GRADING PLAN. I MEETS QUANTITY REQUIREMENTS. ALL		MCARN F	REALT	Y LLC	
14. 15.	FINISHED GRADE AS TO LANDSCAPING SHOWN INSTALLATION AND MA UDO.	NTED, SHALL HAVE THE SAME RELATIONSHIP TO O THE GRADING PLAN. I MEETS QUANTITY REQUIREMENTS. ALL		MCARN F		Y LLC 0-25-2019	
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14. 15. 16. 17.	FINISHED GRADE AS TO LANDSCAPING SHOWN INSTALLATION AND MA UDO. ALL ADDITIONAL LANDS ALL TREES SHALL BE L LUMINAIRES.	NTED, SHALL HAVE THE SAME RELATIONSHIP TO O THE GRADING PLAN. I MEETS QUANTITY REQUIREMENTS. ALL INTENANCE SHALL BE PER TOWN OF ROLESVILLE SCAPING SHALL BE PER OWNER. LOCATED A MINIMUM OF 15' FROM SITE LIGHTING	DES APP	DATE: SCALE: SIGNED BY:	1	0-25-2019 S SHOWN FLM	

ALL CONSTRUCTION SHALL BE IN
ACCORDANCE WITH ALL TOWN OF
ROLESVILLE, CITY OF RALEIGH AND WAKE
COUNTY STANDARDS AND SPECIFICATIONS

MEET THE REQUIREMENTS.

C-	1	С
SHEET	10 OF	18



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LEGEND

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EX. PROPERTY LINE EX. RIGHT-OF-WAY EX. ADJACENT OWNERS EX. CHANNEL/STREAM EX. STREAM BUFFER EX. WATER LINE **EX. SANITARY SEWER** EX. STORM SEWER PROP. SETBACK LINE PROP. EASEMENT/BUFFER PROP. CHAINLINK FENCE PROP. ADA HANDRAIL/GUARDRAIL PROP. WATER LINE PROP. SANITARY SEWER PROP. STORM SEWER PROP. SITE LIGHTING LUMINAIRE FOOT CANDLES

NOTES

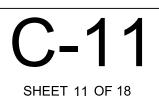
- ALL SITE LIGHTING SHALL CONFORM TO THE REQUIREMENTS O TOWN OF ROLESVILLE UNIFIED DEVELOPMENT ORDINANCE (UD 14, SECTION 14.8, EXTERIOR LIGHTING.
- THE PARKING AREA SHALL HAVE A MINIMUM LIGHT LEVEL OF 0.1 CANDLE, A MAXIMUM LIGHT LEVEL OF 6 FOOT CANDLES, AN AVE 1.9 - 2.9 FOOT CANDLES, AND A MAXIMUM AVG/MIN UNIFORMITY THE "MEDIUM" HORIZONTAL ILLUMINATION STANDARDS FOR GE PARKING AND PEDESTRIAN AREAS.
- THE MAXIMUM LIGHT LEVEL AT ANY RESIDENTIAL PROPERTY LI BE 0.3 MAINTAINED FOOT CANDLE AND AT ANY COMMERCIAL PF LINE SHALL BE 1.0 MAINTAINED FOOT CANDLE.
- THE INTENT OF THIS DRAWING IS TO SHOW FOOT CANDLE LEVE ON FIXTURES SHOWN. LIGHT LEVELS MAY VARY BASED ON ACT FIXTURE INSTALLED.
- 5. THIS IS A SITE LIGHTING CALCULATION PLAN ONLY AND DOES N PROVIDE ELECTRICAL CONNECTIONS FOR FIXTURES SHOWN. DEVELOPERS (OWNERS, BUILDERS, AND GENERAL CONTRACTO RESPONSIBLE FOR COORDINATING WITH ELECTRICAL CONTRA POWER COMPANY FOR POWER CONNECTIONS FOR ALL FIXTUR
- 6. ALL OTHER LIGHTING SHALL BE BY OWNER.
- 7. LIGHT POLES SHALL BE BLACK FIBERGLASS AND FIXTURES SHA BLACK AND AS NOTED IN THE LUMINAIRE SCHEDULE AND THE I SHEET C-12.

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		SITE F	PLAN	S	
	3	ROLESVILLE 350 GRANITE ROLESVILLI	FALI	LS BLVE)

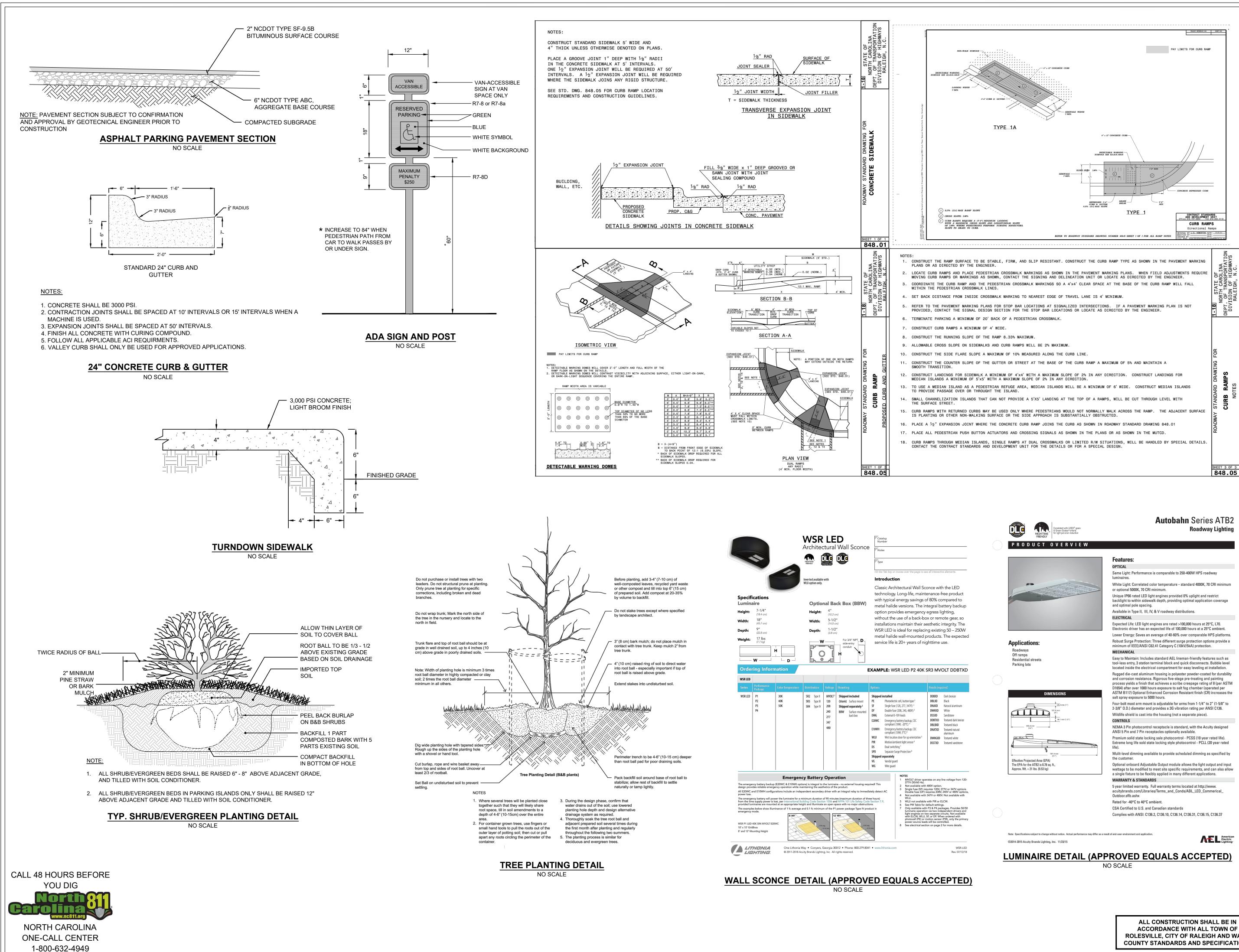
MCARN REALTY LLC

DATE:	10-25-2019
SCALE:	AS SHOWN
DESIGNED BY:	FLM
APPROVED BY:	FLM
PROJECT NO.:	19036

LIGHTING PLAN



ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL TOWN OF ROLESVILLE, CITY OF RALEIGH AND WAKE COUNTY STANDARDS AND SPECIFICATIONS



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PART WITHOUT WRITTEN PERMISSION OF FLM ENGINEERING, INC.

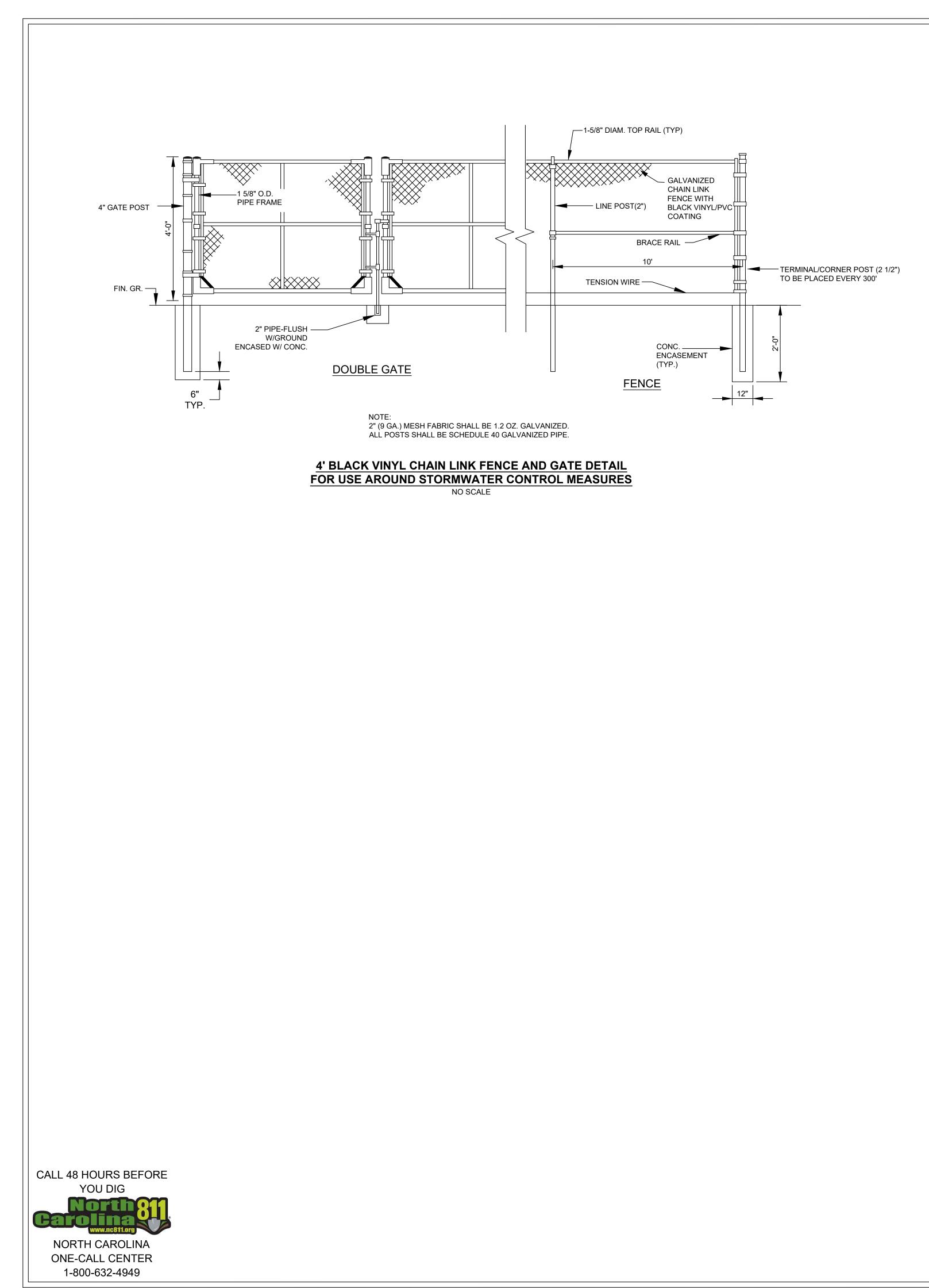
Autobahn Series ATB2 **Roadway Lighting**

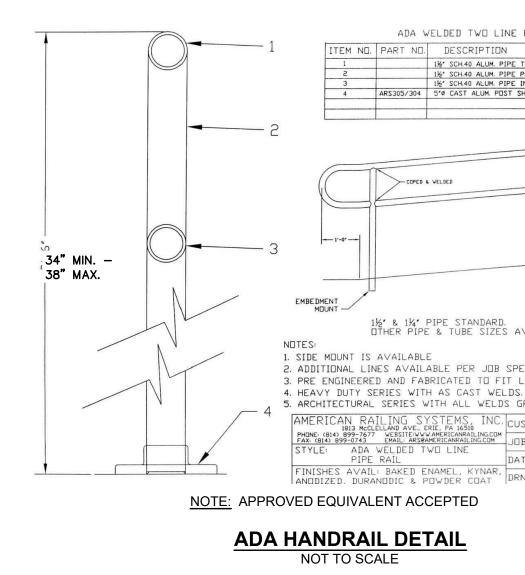
wattage to be modified to meet site specific requirements, and can also allow

Æ	American Electric Lighting

ENGINEERING					
	POST OFFIC RALEIGH, NORTH PHONE: 91 FIRM NC LICENSE	CAROL 9.610.1	.INA 27675 051		
AROLINA NATHAN					
	REVISION	HISTOF	RY		
REV #	DESCRIPTIO	N	DATE	BY	
1	TOWN OF ROLES		1/23/2020	FLM	
	ORIGINAL PLAN	JED EVIE	ΞW		
SCALE ADJUSTMENT THIS BAR IS 1 INCH IN LENGTH ON ORIGINAL DRAWING 					
MCARN REALTY LLCDATE:10-25-2019SCALE:AS SHOWNDESIGNED BY:FLMAPPROVED BY:FLM					
PROJECT NO.: 19036					
C-12 SHEET 12 OF 18					

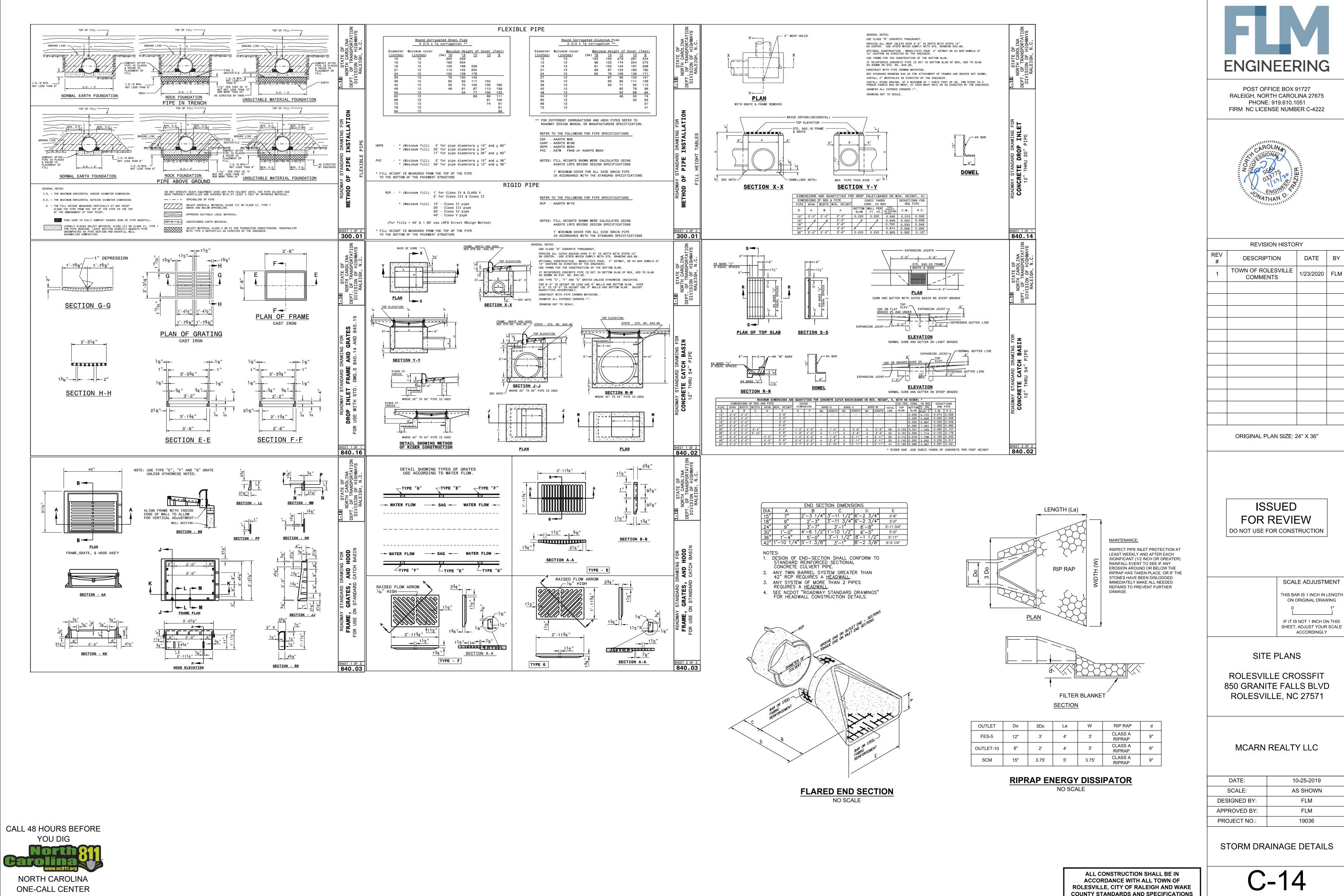
ACCORDANCE WITH ALL TOWN OF ROLESVILLE, CITY OF RALEIGH AND WAKE COUNTY STANDARDS AND SPECIFICATIONS





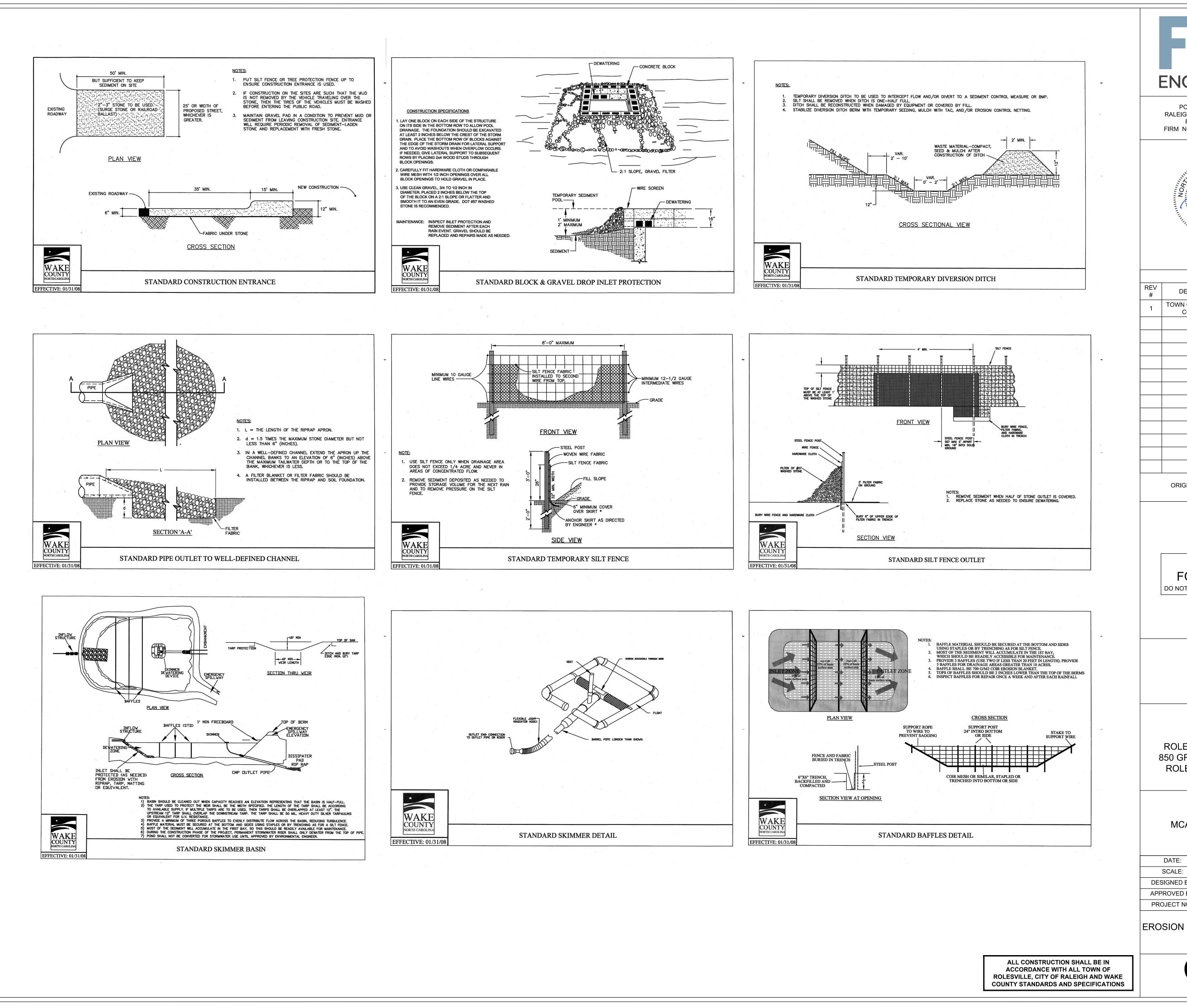
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			MCARN	REALT	Y LLC	
		DES APP	DATE: SCALE: IGNED BY: ROVED BY: DJECT NO.:		0-25-2019 S SHOWN FLM FLM 19036	
	ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL TOWN OF ROLESVILLE, CITY OF RALEIGH AND WAKE COUNTY STANDARDS AND SPECIFICATIONS		С	-1. 13 OF 1	3	



1-800-632-4949

SHEET 14 OF 18



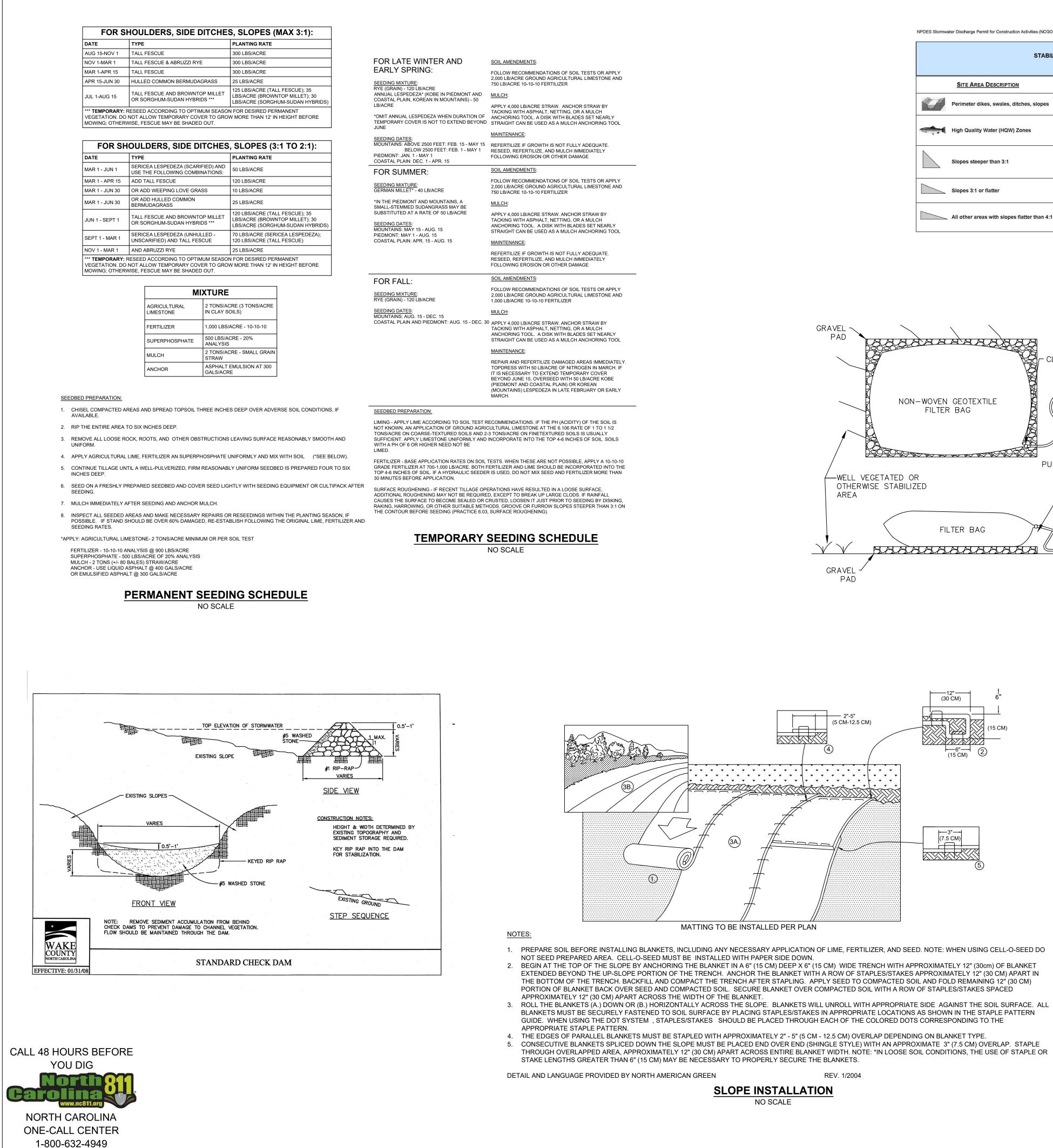


NORTH CAROLINA ONE-CALL CENTER 1-800-632-4949

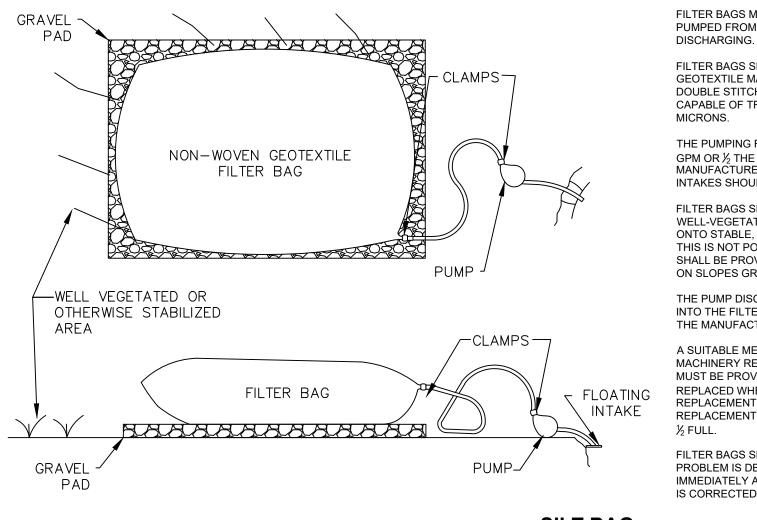
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FINEERING						
	RALEIGH, NOR PHONE:	919.610.1	.INA 27675 051			
FIRM NC LICENSE NUMBER C-4222						
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ROLESVILLE CROSSFIT 850 GRANITE FALLS BLVD ROLESVILLE, NC 27571						
MCARN REALTY LLC						
	DATE:	1()-25-2019			
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	SIGNED BY:		FLM FLM			
	DJECT NO.:		19036			
EROSION & SEDIMENT CONTROL DETAILS						
	C	_1/	ว			

SHEET 15 OF 18



NPDES S	Stormwa	ater Discharge Permit for Construction Activities (NCGO1)		NCDENR/Division of Energy, Mineral and Land Resources
	STABILIZATION TIMEFRAMES (Effective Aug. 3, 2011)			
		SITE AREA DESCRIPTION	STABILIZATION	TIMEFRAME EXCEPTIONS
No.	R	Perimeter dikes, swales, ditches, slopes	7 days	None
- Carlora	×	High Quality Water (HQW) Zones	7 days	None
	\geq	Slopes steeper than 3:1	7 days	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed.
		Slopes 3:1 or flatter	14 days	7 days for slopes greater than 50' in length.
		All other areas with slopes flatter than 4:1	14 days	None, except for perimeters and HQW Zones.



SILT BAG NO SCALE

% FULL

IS CORRECTED.



ROLLMAXTM



FILTER BAGS MAY BE USED TO FILTER WATER PUMPED FROM EXCAVATIONS PRIOR TO

FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150

THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR ½ THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS, PUMP INTAKES SHOULD BE FLOATING AND SCREENED.

FILTER BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREAS AND DISCHARGED ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE FLOW PATH SHALL BE PROVIDED. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%.

THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE FILTER BAG IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED.

A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES MUST BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME ½ FULL. SPARE REPLACEMENT BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE

FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM



Specification Sheet – VMax[®] SC250[®] Turf Reinforcement Mat

ESCRIPT			Index Property	Test Method	Typical
hine-produ	site turf reinforcement mat (C-TRM) uced mat of 70% straw and 30% coc ed into permanent three-dimensiona	onut fiber matrix	Thickness	ASTM D6525	0.62 in. (15.75 mm)
	ing. The matrix shall be evenly distril		Resiliency	ASTM 6524	95.2%
	h of the matting and stitch bonded t abilized nettings with 0.50 x 0.50 inc		Density	ASTM D792	0.891 g/cm
Denings, a	in ultra heavy UV stabilized, dramati ntermediate netting with 0.5 x 0.5 in	cally corrugated	Mass/Unit Area	ASTM 6566	16.13 oz/sy (548 g/sm)
enings, a	nd covered by an heavy duty UV sta 0.50 inch (1.27 x 1.27 cm) openings.	bilized nettings	UV Stability	ASTM D4355/ 1000 HR	100%
5	netting shall form prominent closely entire width of the mat. The three ne		Porosity	ECTC Guidelines	99%
itched to	gether on 1.50 inch (3.81cm) centers ene thread to form permanent three	with UV stabilized	Stiffness	ASTM D1388	222.65 oz-
inforcem	ent matting. All mats shall be manuf	actured with	Light Penetration	ASTM D6567	4.1%
	nread stitched along both outer edge djacent mats.	s as an overlap	Tensile Strength - MD	ASTM D6818	709 lbs/ft (10.51 kN/r
The SC250 shall meet Type 5A, 5B, and 5C specification require- ments established by the Erosion Control Technology Council			Elongation - MD	ASTM D6818	23.9%
	Federal Highway Administration's (F	57	Tensile Strength - TD	ASTM D6818	712 lbs/ft (10.56 kN/
	Material Content		Elongation - TD	ASTM D6818	36.9%
	70% Straw Fiber	0.35 lb/sq yd	Biomass Improvement	ASTM D7322	441%
Aatrix	30% Coconut Fiber	(0.19 kg/sm) 0.15 lbs/sq yd (0.08 kg/sm)			
	Top and Bottom, UV-Stabilized	5 lb/1000 sq ft	Design I	Permissible Shear	Stress
etting	Polypropylene Middle, Corrugated UV-Stabilized	(2.44 kg/100 sm) 24 lb/1000 sf		Short Duration	Long Durati
	Polypropylene	(11.7 kg/100 sm)	Phase 1: Unvegetated	3.0 psf (144 Pa)	2.5 psf (120 Pa)
hread	Polypropylene, UV Stable		Phase 2: Partially Veg.	8.0 psf (383 Pa)	8.0 psf (383 Pa)
			Phase 3: Fully Veg.	10.0 psf (480 Pa)	8.0 psf (383 Pa)
	Standard Roll Sizes		Unvegetated Velocity	9.5 fps	(2.9 m/s)
/idth	6.5 ft (2.0 m)	Vegetated Velocity	15 fps	(4.6 m/s)
ength	55.5 ft (16.9 r				
veight ± 10	% 34 lbs (15.42 k	a)			

NORTH AMERICAN GREEN SC250 **EROSION CONTROL BLANKET** NO SCALE

					L
	ORIGINAL F	PLAN SIZ	E: 2	24" X 36"	
	IS FOR DO NOT USE	FOR CO	/IE	ΞW	
		IF	О ИС 0 L IT IS EET,	AR IS 1 INCH IN DRIGINAL DRAV NOT 1 INCH O , ADJUST YOUR ACCORDINGLY	VING 1" J N THIS SCALE
	 SIT ROLESVI 350 GRAN ROLESV	ITE FA	R(OSSFIT LS BLVI)
	MCARN	REAL	.T`	Y LLC	
	 DATE:		 1	0-25-2019	
	 SCALE:			S SHOWN	
	SIGNED BY:			FLM	
	 PROVED BY:			FLM	
	 OJECT NO.:			19036	
	SION & SI	edime Etail			ROL
ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL TOWN OF ROLESVILLE, CITY OF RALEIGH AND WAKE COUNTY STANDARDS AND SPECIFICATIONS	C	-1		6 8	

ENGINEERING

POST OFFICE BOX 91727

RALEIGH, NORTH CAROLINA 27675

PHONE: 919.610.1051

FIRM NC LICENSE NUMBER C-4222

REVISION HISTORY

DATE

1/23/2020 FLM

ΒY

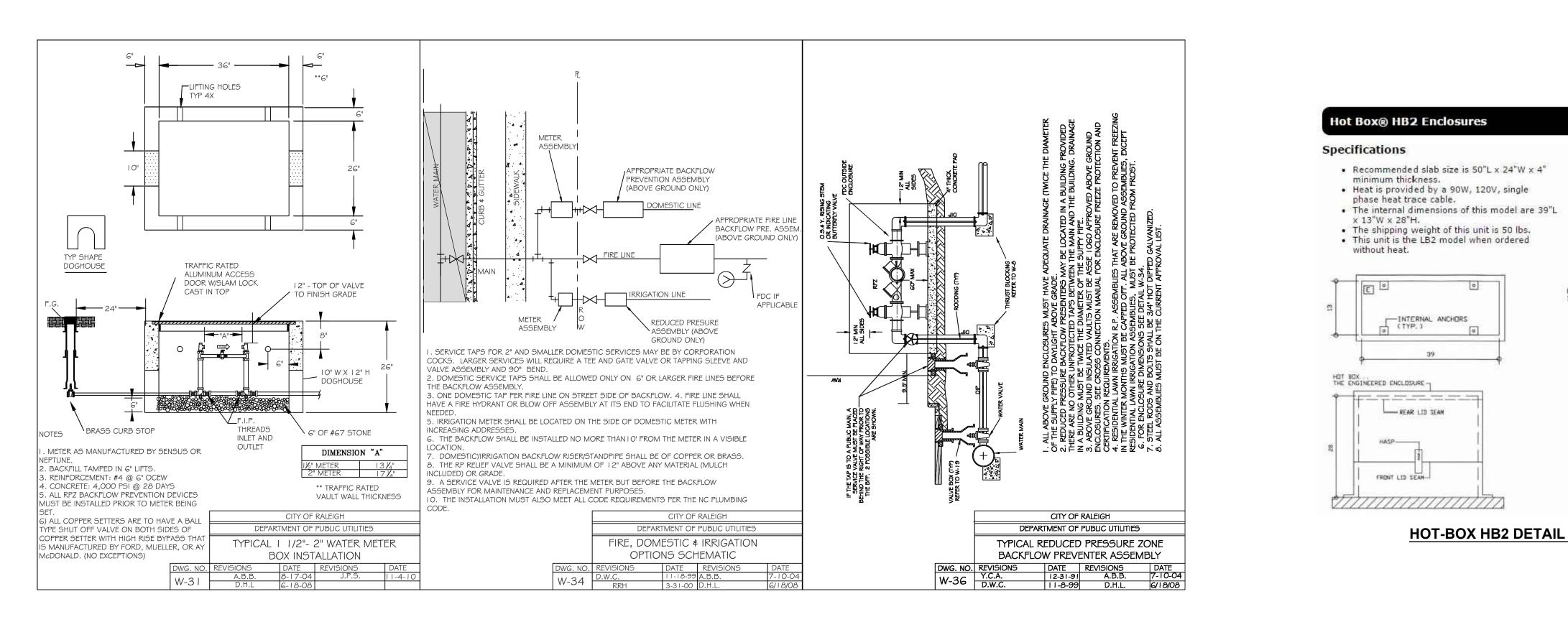
DESCRIPTION

COMMENTS

TOWN OF ROLESVILLE

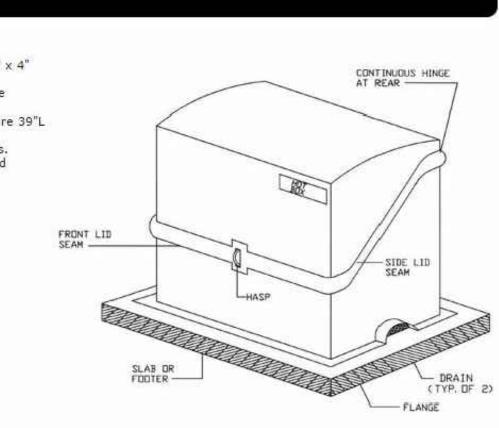
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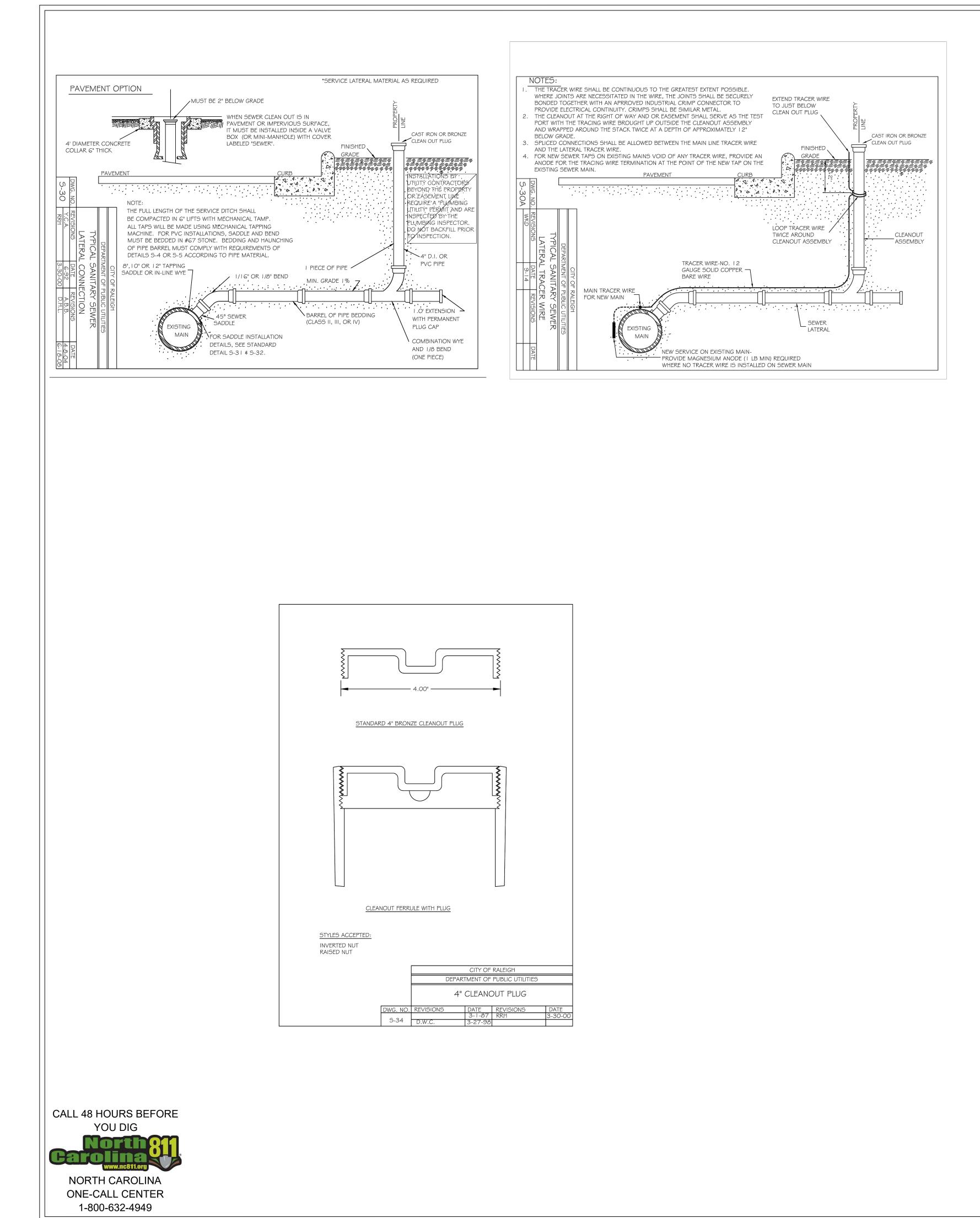


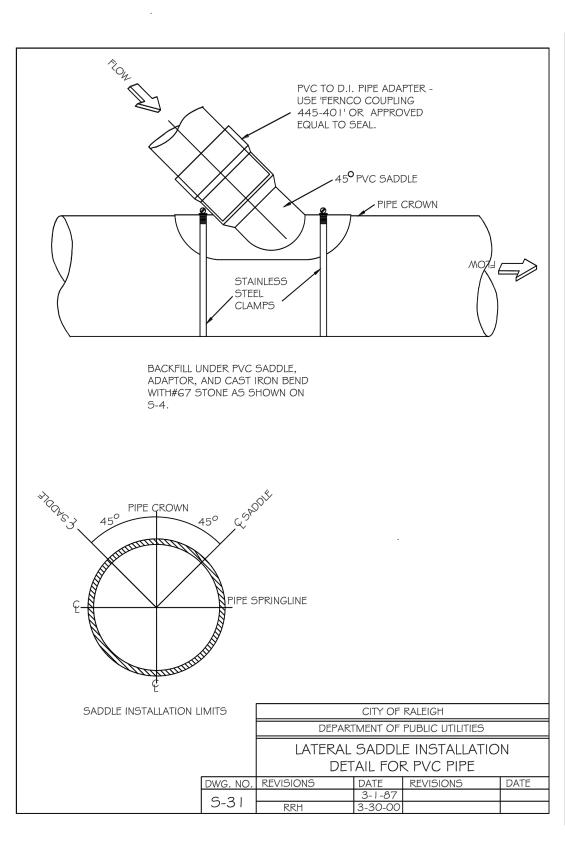


	ENGINEERING							
		POST OFF RALEIGH, NOR ⁻ PHONE: FIRM NC LICEN	TH CAROI 919.610.1	_INA 27675 051				
CONTINUOUS HINGE AT REAR		AROLINA NATIONALISSIONALIS						
		REVISIO	ON HISTO	RY				
	REV	DESCRIPT			BY			
DRAIN (TYP. DF 2) FLANGE	1	TOWN OF ROL COMMEN	ESVILLE	1/23/2020	FLM			
CEPTED)								
		ORIGINAL PL	AN SIZE∷	24" X 36"				
		ISS FOR F DO NOT USE FO		ΞW				
			THIS BA ON 0 L IF IT IS SHEET	LE ADJUSTM AR IS 1 INCH IN L ORIGINAL DRAW S NOT 1 INCH OF , ADJUST YOUR ACCORDINGLY	LENGTH /ING 1" N THIS SCALE			
	SITE PLANS ROLESVILLE CROSSFIT 850 GRANITE FALLS BLVD ROLESVILLE, NC 27571)			
		MCARN F	REALT	Y LLC				
		DATE:	1	0-25-2019				
		SCALE: SIGNED BY:	A	S SHOWN FLM				
	APF	PROVED BY:		FLM				
	PRO		R DETA	19036 AILS				
ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL TOWN OF		\mathbf{C}	-1 ⁻	7				
ROLESVILLE, CITY OF RALEIGH AND WAKE COUNTY STANDARDS AND SPECIFICATIONS			T 17 OF 1					



HOT-BOX HB2 DETAIL (APPROVED EQUALS ACCEPTED) NO SCALE





A5 ^o CAST IRON 2.5 ^o SPOT WELDE 2.5 ^o SPOT WELDE A5 ^o CAST IRON A5 ^o CAST IRON A5 ^o CAST IRON A5 ^o CAST IRON A1	POST OFFIC RALEIGH, NORTI PHONE: 9 FIRM NC LICENS	CE BOX 91727 H CAROLINA 27675 919.610.1051 SE NUMBER C-4222
		N HISTORY ON DATE BY
BE		
DLE TO		S 1/23/2020 FLM
ASTM C.361-77 RUBBER TUBULAR CANENTED TO CEMENTED TO SADDLE SADDLE NOTE: SADDLE TO BE GENECO E40 OR EQUAL		
ASTM RUBBER GASKET CEN CEN CEN		
CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES		
LATERAL SADDLE INSTALLATION DETAIL FOR VCP AND DUCTILE IRON PIPE		
NO. REVISIONS DATE REVISIONS DATE 2 3-1-87 3-1-87		
Z RRH 3-30-00		
	ORIGINAL PLA	N SIZE: 24" X 36"
	FOR R DO NOT USE FO SITE ROLESVILL 850 GRANITE ROLESVILL	UED EVIEW R CONSTRUCTION SCALE ADJUSTMENT THIS BAR IS 1 INCH IN LENGTH ON ORIGINAL DRAWING 0 1" IF IT IS NOT 1 INCH ON THIS SHEET, ADJUST YOUR SCALE ACCORDINGLY PLANS E CROSSFIT FALLS BLVD E, NC 27571 CEALTY LLC
	APPROVED BY: PROJECT NO.:	FLM 19036
		DETAILS
ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL TOWN OF		-18
ROLESVILLE, CITY OF RALEIGH AND WAKE COUNTY STANDARDS AND SPECIFICATIONS		
	SHEET	18 OF 18

