CONSTRUCTION DRAWINGS FOR

HARRIS CREEK FARMS

TOWN OF ROLESVILLE, WAKE COUNTY, NORTH CAROLINA

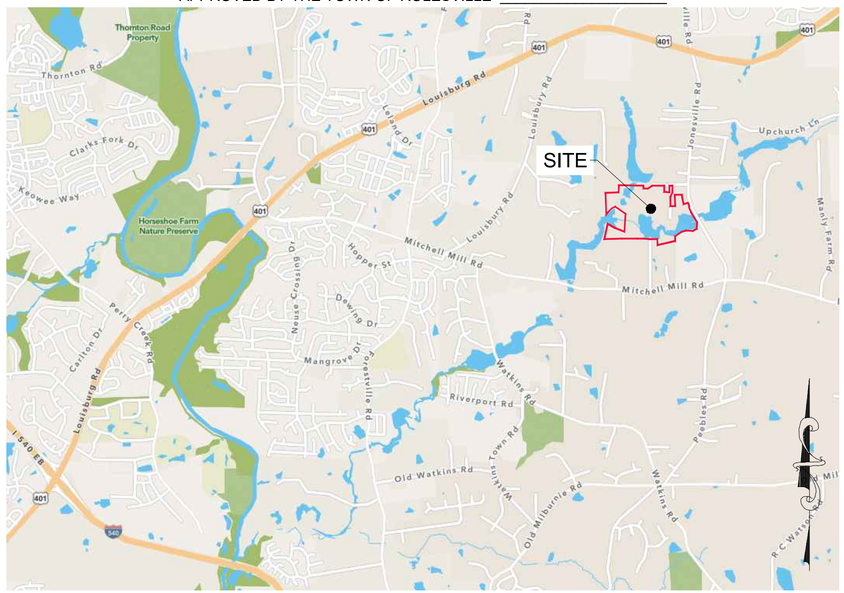
CASE NUMBER: CID 25-0004 (FKA - CID-25-03)

APPROVED BY THE TOWN OF ROLESVILLE _____

SITE DATA TABLE	
OWNER	KENNETH INVESTMENTS, LLC Contact: STEPHAN GEORGE 10030 GREEN LEVEL CHURCH RD, STE 802 CARY, NC 27519
ENGINEER:	QUANTECH ENGINEERING BRYAN A. HARRIS, PE 15000 WESTON PARKWAY, STE. 174 CARY, NC 27513 PHONE: (919) 815-9987 EMAIL: BRYAN@QUANTECHENG.COM
DEVELOPER:	THE CSC GROUP, LLC STEVE GEORGE 600 PARK OFFICES DRIVE, STE 372 RESEARCH TRIANGLE, NC 27709 PHONE: (919) 815-9987
ENVIRONMENTAL CONSULTANT	MORRIS & RITCHIE ASSOCIATES 530 HINTON POND ROAD, SUITE 104 KNIGHTDALE, NC 27545
LANDSCAPE ARCHITECT	THE STRONG ROCK COMPANIES 305 CHRCH AT N HILLS ST STE: 1110 RALEIGH, NC 27609
SURVEYOR:	BATEMAN CIVIL SURVEY COMPANY JOSH DAVIDSON 2524 RELIANCE AVE APEX, NC 27539 PHONE: 919 557-1080 Ext 109 josh@batemancivilsurvey.com
SITE ADDRESS	4928 UNIVERSAL DR WAKE FOREST, NC 27587-6356
PIN:	1757471559 , 1757277811 , 1757383572 , 1757384572 , 1757385349 , 1757385064 , 1757375975 , 1757375865 , 1757375765 , 1757375665 , 1757375575 , 1757375464 , 1757375365 , 1757375276 , 1757377990 , 1757378303 , 1757378109 , 1757378013 , 1757368816
REID:	0345866 , 0057413 , 0057430 , 0057429 , 0057429 , 0057440 , 0057441 , 0057442 , 0057443 , 0057444 , 0057445 , 0057446 , 0057447 , 0057448 , 0057431 , 0057435 , 0057436 , 0057437 , 0057438
DEED BOOK / PAGE	019248 / 01884 (all parcels)
PLAT BOOK / PAGE	BM2007 / 01224
TOTAL SITE AREA:	94.99 AC
EXISTING ZONING:	RM-CZ
CURRENT USE:	RESIDENTIAL
PROPOSED USE	RESIDENTIAL-CLUSTER (MEDIUM DENSITY)
RIVER BASIN	NEUSE RIVER BASIN
SUB WATERSHED	NEUSE (UPPER) - 03020201
FEMA FIRM PANEL #:	3720175700K
RESIDENTIAL DENSITY CALCULATIONS (CLUSTER SUBDIVISION)	
MAXIMUM DENSITY ALLOWED:	5.0 UNITS / AC
PROPOSED DENSITY:	120 UNITS / 94.99 AC = 1.26 UNITS / AC
LOTS (CLUSTER)	
MINIMUM LOT WIDTH	42.0 FT
MINIMUM LOT AREA	6,000 SF
MINIMUM BUILDING SETBACKS:	FRONT: 20' REAR: 20' CORNER: 10' SIDE: 5'
OPENSPACE (MEDIUM DENSITY, CLUSTER)	
OPEN SPACE (REQUIRED 12%)	11.40 AC
OPEN SPACE (PROPOSED)	63.60 AC
PASSIVE (REQUIRED)	5.70 AC
PASSIVE (PROPOSED)	56.04 AC
PASSIVE (NOT IN SCM OR ENVIRONMENTAL AREAS)	7.11 AC
ACTIVE (REQUIRED)	5.70 AC
ACTIVE (PROPOSED)	7.56 AC
ACTIVE SPACES (REQUIRED)	2 MEDIUM AREA (1.0 - 2.5 AC) 1 LARGE AREA (> 2.5 AC.)
ACTIVE SPACES (PROVIDED)	(2) MEDIUM AREAS Area 1 = (44,640 SF, 1.02 AC) Area 2 = (78,467 SF, 1.80 AC) (1) LARGE AREA Area 3 = (206,621 SF, 4.74 AC)
TREE SAVE SUMMARY (CLUSTER)	
EXISTING QUALIFIED TREES:	514 Total
REQUIRED TREES SAVE:	52 (10% of Total)
PROPOSED TREES SAVE:	267 (52% of Total)
STREET DATA	
CORNELL GARDEN ST	1,125 LF 50' R/W 35' BC - BC
GIDEON DR	1,245 LF VARIABLE R/W 35' BC - BC
FAMILY FAITH CIR	2,360 LF 50' R/W 35' BC - BC
PARENTS WAY	705 LF 50' R/W 27' BC - BC
SIBLINGS DR	370 LF 50' R/W 27' BC - BC
DEDICATED ROAD R.O.W.	7.64 ACRES

IMPERVIOUS AREA	
EXISTING GRAVEL ROADS	69,021 SF (1.58 AC)
PROPOSED ROADS	186,157 SF (4.27 AC)
PROPOSED PARKING LOTS	11,176 SF (0.26 AC)
PROPOSED SIDEWALKS	56,138 SF (1.29 AC)
PROPOSED GREENWAYS	65,664 SF (1.51 AC)
ALLOWABLE / LOTS	20% = 827,553 SF (19.00 AC) -319,890 SF (7.34 AC) = 507,663 SF (11.65 AC) 507,663 SF / 120 Lots = 4,230 SF / Lot

PARKING CALCULATIONS			
PRINCIPAL USES	MINIMUM REQ'D	MAX ALLOWED	PROPOSED SPACES
PARKS/PUBLIC RECREATION FACILITIES	3 PER GROSS ACRE PLUS 1 PER 1000 SF OF GROSS FLOOR AREA OF BUILDINGS 5.09 Ac * 3 = 15.26 0 SF of FLOOR = 0 SPACES ADA CALC'S 26-50 PARKING SPACES REQUIRE ONE VAN ACCESSIBLE AND ONE STANDARD	NO MAXIMUM	28 SPACES (INCLUDES 4 VAN ACCESIBLE ADA SPACES)



VICINITY MAP

0 2,500 5,000 10,000

1 inch = 2,500 ft

RALEIGH INFRASTRUCTURE INSPECTIONS QUANTITIES		
PHASES	HARRIS CREEK FARMS	WATERLINE MAIN EXTENSION
NUMBER OF LOTS	120	0
NUMBER OF UNITS	0	0
PUBLIC WATER LINE (LF)	6,128	11,286
PUBLIC SEWER LINE (LF)	5,841	0
PUBLIC FORCEMAIN (LF)	0	0
WATER SERVICE STUBS	120	0
SEWER SERVICE STUBS	120	0
AVERAGE DAILY FLOW	36,000	0

STREET INFORMATION				
STREET NAME	PUBLIC OR PRIVATE	R/W WIDTH	STREET WIDTH	STREET LENGTH IN LINEAR FEET
CORNELL GARDEN DR (EAST)	PUBLIC	60'-0"	35' B-B	697'
CORNELL GARDEN DR (WEST)	PUBLIC	50'-0"	29' B-B	483'
GIDEON DR (NORTH)	PUBLIC	VARIABLE (50' MIN)	29' B-B	251'
GIDEON DR (SOUTH)	PUBLIC	VARIABLE (50' MIN)	35' B-B	1,019'
FAMILY FAITH CIR	PUBLIC	50'-0"	29' B-B	2,421'
PARENTS WAY	PUBLIC	50'-0"	29' B-B	777'
SIBLINGS DR	PUBLIC	50'-0"	29' B-B	413'

ATTENTION CONTRACTORS

The Contractor responsible for the extension of water, sewer, and/or reuse, as approved in these plans, is responsible for contacting the Public Utilities Inspector at 919-996-3245 or https://cityworks.raleighnc.gov/pucontractors/new and schedule a Pre-construction meeting prior to beginning any construction. Raleigh Water must be contacted at (919) 996-4540 at least twenty-four hours prior to beginning any work activity around critical water and sewer infrastructure.

Failure to notify the Divisions 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.

PROJECT REZONING WAS SUBMITTED AUGUST 2022. THE PROPERTY'S RM-CZ ZONING DISTRICT IS THEREFORE SUBJECT TO LDO SECTION 3.1.B/3.1.2.B/TABLE 3.1.2. CLUSTER DEVELOPMENT STANDARDS FOR MINIMUM LOT AREA (SIZE), WIDTH, AND BUILDING SETBACKS IN EFFECT AS OF AUGUST 2022. SPECIFICALLY, THIS IS PRIOR TO THE APRIL 4. 2023 ADOPTION OF TEXT AMENDMENT TA-23-02 WHICH MODIFIED THESE CLUSTER DEVELOPMENT STANDARDS.

RALEIGH WATER - PLANS AUTHORIZED FOR CONSTRUCTION
Any work authorized by this approval must proceed in accordance with the plans. This electronic approval may not be edited once issued. Any modification to this approval once issued will terminate the approval.
Timothy Beasley
2026.09.17 09:43:44-04'00'

Rolesville
Genuine Community • Capital Connection • Est. 1837
Planning

CID-25-03 / CID-25-0004 (Govwell) / Construction Infrastructure Drawings / Harris Creek Farm

APPROVED – August 18, 2026

Town of Rolesville Planning Department

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PREVIOUS ENTITLEMENTS	
CASE	APPROVAL DATE
ANX 22-05	04-16-2024
MA 22-08	04-16-2024
PSP-24-05	2025-05-17

EROSION CONTROL, STORMWATER AND FLOODPLAIN MANAGEMENT

APPROVED

EROSION CONTROL ☐ SEC-148353-2025

STORMWATER MGMT.☐SWF-148354-2025

FLOOD STUDY ☐ SWF-_____

DATE 08/31/2026

WAKE COUNTY NORTH CAROLINA — PROTECTING WATER

Elizabeth Powell

ENVIRONMENTAL CONSULTANT SIGNATURE

AGENCY CONTACTS
Town of Rolesville Planning Department 502 Southtown Circle Rolesville, NC 27511
Wake County Watershed Management Waverly F. Atkins Building 337 S. Salisbury St Raleigh, NC 27601 Contact: Karen Pageeau Phone: (919) 796-8769 Email: karyn.pageau@wakegov.com
City of Raleigh Public Utilities Dept. One Exchange Plaza Suite 620 Raleigh, NC 27602 Phone: (919) 996-3245 Email: publicutilityinfo@raleighnc.gov
NCDOT Division 5, District 1 Office 4009 District Drive Raleigh, NC 27607

N.C. UNDERGROUND UTILITIES

811 — 3 DAYS BEFORE DIGGING CALL TOLL FREE 811 or (800)632-4949

A ONE CALL SYSTEM FOR COMMUNITY AND JOB SAFETY

Developer

THE CSC GROUP
CONTRIBUTE TO THE SUCCESS OF LOCAL COMMUNITY

10030 Green Level Church Rd, Suite 802 #149: Cary, NC 27519

Engineer

QUANTECH ENGINEERING
INNOVATIVE SOLUTIONS | ENGINEERING THE FUTURE

Firm # F-1517
275 CARPENTER HILL LANE
Cary, N.C. 27519
(919) 996-9455

Surveyor

BCSC
BATEMAN CIVIL SURVEY COMPANY
Bateman Civil Survey Company
2524 Reliance Avenue
Apex, NC 27539
919-557-1080 ext 109
www.batemancivilsurvey.com

Jurisdiction / Municipality

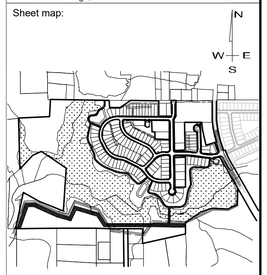
Rolesville
Genuine Community • Capital Connection • Est. 1837
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27671
Phone: 919-554-6517

CID-25-0004 (PSP-24-05)
Permit Issue to be Built

Landscape Architect

STRONGROCK
THE STRONGROCK COMPANIES
305 Church at North Hills Street
Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

Sheet map:



Seal:

NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A. HARRIS

Digitally signed by Bryan Harris
DN: CN=B...
Bryan Harris
Date: 2026.11.04 11:49:10-05'00'

Bryan Harris

Issued / Print Date: 2026-July-27 (10:28)
File Name: 1 Cover.dwg

Last Saved by: BryanHarris
Drawn by: TAN

Project:

HARRIS CREEK FARMS

CID 25-0004 (FKA - CID-25-03)

Issued for:

FINAL DRAWING
FOR CONSTRUCTION

REVISIONS

No.	Date	Description

Sheet Title:

COVER

Sheet #:

1

File Location: C:\Users\BryanHarris\Quantech\Quantech Engineering - Documents\Harris Creek Farm - Jonesville\Engineering_DWG\Construction Plans\1 Cover.dwg

GENERAL NOTES:

1. THE CONTRACTOR SHALL MARK THE LIMITS OF THE STREAM BUFFER AND WETLANDS WITH ORANGE TREE PROTECTION FENCE WITH APPROPRIATE SIGNAGE. TREE PROTECTION FENCE SHALL BE INSTALLED ALONG THE OUTER ZONE OF ANY NEUSE RIVER BUFFER OR CAPE FEAR BUFFER OR IF THERE IS ANY CONSTRUCTION WITHIN 50 FEET OF THE BUFFER EDGE. THIS MUST BE DONE PRIOR TO STARTING ANY CLEARING AND MUST BE DONE TO OBTAIN A CERTIFICATE OF COMPLIANCE.
2. IF THE DEVELOPER HAS RECEIVED APPROVAL TO WORK IN THE FIRST 20-FEET OF A STREAM BUFFER, THEN THE LAST 30-FOOT BOUNDARY SHALL BE MARKED IN THE AREA ADJACENT TO THIS WORK. OTHERWISE THE ENTIRE 50-FEET SHALL BE MARKED. THIS MARKING SHALL REMAIN IN PLACE UNTIL ALL ADJACENT DISTURBED AREAS HAVE BEEN COMPLETED AND STABILIZED.
3. CONTRACTOR WILL INSTALL TEMPORARY DIVERSION DITCHES WHEN SETTING UP EROSION CONTROL MEASURES IN THE SAME LOCATION AS THE PERMANENT DITCHES (7 DAY GROUND COVER REQUIRED).
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL LOCAL, COUNTY, OR STATE REQUIRED PERMITS.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING ANY WORK ON THE SITE.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE APPROPRIATE UTILITY COMPANY'S (ELECTRIC, GAS, TELEPHONE, ETC.)
7. THE CONTRACTOR SHALL BE AWARE OF ANY OVERHEAD POWER LINES AND SHALL TAKE ALL NECESSARY PRECAUTION TO ENSURE THAT PERSONNEL AND TRAFFIC ARE SAFE AT ALL TIMES.
8. THE UTILITY CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES, CHARTED OR UNCHARTED, LOCATED OR UNLOCATED. ANY AND ALL WORK PERFORMED TO REPAIR UTILITIES DAMAGED BY THE UTILITY CONTRACTOR MUST MEET THE APPROVAL OF THE ASSOCIATED UTILITY COMPANY AND THE UTILITY CONTRACTOR WILL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH ANY SUCH REPAIRS.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PLACEMENT OF A SUITABLE BACKFILL MATERIAL AND SHALL PLACE MATERIAL IN 12" LAYERS AND COMPACT SAID FILL TO A 95% STANDARD PROCTOR.
10. THE CONTRACTOR SHALL BE COGNIZANT OF THE EROSION CONTROL DEVICES FOR THIS PROJECT AND SHALL MAKE EVERY EFFORT TO ASSURE THAT ALL SUCH DEVICES ARE KEPT CLEAN AND IN APPROPRIATE WORKING ORDER. AFTER EACH STORM OR RAINFALL EVENT, ALL COLLECTED SEDIMENT SHALL BE REMOVED AND THE DEVICES RETURNED TO THEIR ORIGINAL CONDITION. THE CONTRACTOR SHALL REIMBURSE ANY FINES, DUE TO EROSION CONTROL FAILURES, TO THE OWNER/DEVELOPER.
11. THE CONTRACTOR SHALL MAINTAIN TRAFFIC CONTROL DURING ALL PHASES OF THIS CONSTRUCTION IN ACCORDANCE WITH NCDOT AND ALL MUNICIPALITY STANDARDS.
12. THE CONTRACTOR SHALL CONDUCT THE WORK IN A SAFE MANNER AND WITH A MINIMUM AMOUNT OF INCONVENIENCE TO TRAFFIC.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL AND SHALL ADHERE TO THE PROVISIONS OF THE MOST CURRENT EDITION OF THE ORDINANCE.
14. THE CONTRACTOR SHALL OBTAIN A LANE CLOSURE PERMIT (IF APPLICABLE) FOR ANY WORK WHICH REQUIRES THE CLOSURE OF A TRAFFIC LANE FROM THE PUBLIC WORKS DEPARTMENT-TRANSPORTATION OPERATION DIVISION AT LEAST 48 HOURS IN ADVANCE AND FOR STREET CLOSURES, AT LEAST 2 WEEKS IN ADVANCE. PROVIDE EXACT LOCATION, CROSS STREET, DATES FOR LANE CLOSURE, CONTACT PERSON AND FAX NUMBER.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE INSPECTIONS DEPARTMENT A STREET CUT PERMIT (IF APPLICABLE)
16. PRIOR TO CONSTRUCTION BEGINNING, ALL SIGNAGE AND TRAFFIC CONTROL SHALL BE IN PLACE.
17. THE CONTRACTOR SHALL REPAIR ALL DRIVEWAYS, DRIVEWAY PIPES, CURB AND GUTTER, SIDEWALKS AND STREET TO EXISTING CONDITION OR BETTER.
18. ANY CHANGES OR DEVIATIONS FROM THESE PLANS NO MATTER HOW MINOR SHALL BE DONE ONLY WITH THE EXPRESS "PRE-APPROVAL" OF THE PROJECT ENGINEER.
19. IT IS REQUIRED BY THE STATE, THAT THE ENGINEER CERTIFY THE AS-BUILT CONDITIONS OF THE UTILITIES AFTER THEY HAVE BEEN CONSTRUCTED. IT IS THEREFORE NECESSARY THAT THE ENGINEER WITNESS AND MONITOR THE CONSTRUCTION PROCESS. IT IS THE CONTRACTORS RESPONSIBILITY TO NOTIFY THE ENGINEER, WITH AT LEAST 48 HOURS OF ADVANCE NOTICE OF WHEN THE CONSTRUCTION WILL TAKE PLACE SO THAT PROPER INSPECTIONS CAN BE MADE
20. ALL EROSION CONTROL WORK SHALL CONFORM TO STANDARDS AND SPECIFICATIONS OF THE LOCAL MUNICIPALITY.
21. TO PREVENT SHORT CIRCUITING OF SEDIMENT TRAPS, ALL TRAPS CALL FOR SILT FENCE FLOW DIVERSIONS PER TRAPS DETAIL.
22. TEMPORARY DIVERSION DITCHES SHALL BE INSTALLED ALONG THE SIDES OF THE CLEARING AREA UNTIL SUCH TIME AS THE TYPICAL ROADWAY SECTION CAN BE ESTABLISHED.
23. NO EROSION CONTROL MEASURES MAY BE REMOVED WITHOUT THE PRIOR APPROVAL OF BOTH THE PROJECT ENGINEER AND LOCAL INSPECTOR.
24. THE ANGLE FOR GRADED SLOPES AND FILLS SHALL BE NO GREATER THAN THE ANGLE THAT CAN BE RETAINED BY VEGETATIVE COVER OR OTHER ADEQUATE EROSION CONTROL DEVICES OR STRUCTURES. IN ANY EVENT, SLOPES LEFT EXPOSED WILL, WITHIN 14 CALENDAR DAYS OF COMPLETION OF ANY PHASE OF GRADING, BE PLANTED OR OTHERWISE PROVIDED WITH TEMPORARY GROUND COVER, DEVICES OR STRUCTURES SUFFICIENT TO RESTRAIN EROSION. PERMANENT GROUNDCOVER WILL BE PROVIDED FOR ALL DISTURBED AREAS WITHIN 14 CALENDAR DAYS. (PER GENERAL STATUTE 113A-57 (3) AND (4) PARAGRAPH 2 & 3).
25. NO DISTURBED AREA SHALL BE ALLOWED TO REMAIN UNPROTECTED AND MUST BE MULCHED AND SEEDED WITHIN 14 DAYS OF WHEN WORK WAS CONDUCTED.
26. SEEDING OF THE SHOULDERS SHALL BE IN ACCORDANCE WITH THE EROSION CONTROL DETAIL SHEET WITH THESE PLANS.
27. THE WATER LINES SHALL BE BURIED A MINIMUM OF 3' DEEP, FROM THE TOP OF THE FINISHED GROUND ELEVATION TO THE TOP OF THE PIPE THROUGH THE ENTIRE LENGTH OF THE PIPE.
28. THE METER SETTERS SHALL BE PLACED AT LEAST SIX (6) FEET FROM THE PROPERTY LINE BETWEEN THE LOTS AND NO MORE THAN TEN (10) FEET FROM THE PROPERTY LINE BETWEEN THE LOTS. THE METER SETTERS SHALL BE LOCATED ONE (1) FOOT WITHIN THE RIGHT-OF-WAY NEAR THE LOT CORNER OF EACH LOT (UNLESS RESTRICTED BY SIDEWALK IN WHICH CASE WILL BE PLACED A REASONABLE DISTANCE FROM THE SIDEWALK BUT NO FURTHER THAN 6 FEET).
29. EACH WATER LINE TAP SHALL BE INDIVIDUAL AND MADE A MINIMUM OF 12" APART.
30. THE MINIMUM CORNER CLEARANCE FROM THE CURB LINE OR EDGE OF PAVEMENT OF INTERSECTING STREETS SHALL BE AT LEAST TWENTY (20) FEET FROM THE POINT OF TANGENCY OF THE RADIUS CURVATURE, OR TWENTY (20) FEET FROM THE INTERSECTION OF RIGHT-OF-WAY LINES, WHICHEVER IS GREATER. THE RADIUS OF THE DRIVEWAY SHALL NOT ENCROACH ON THE MINIMUM CORNER CLEARANCE.
31. WC ACCESS RAMPS WILL BE PROVIDED IN ACCORDANCE WITH THE ADA AND LOCAL STANDARD. WHERE SIDEWALK IS NOT REQUIRED ALONG THE PUBLIC ROW, CURB IS TO BE DEPRESSED AT ALL RAMP LOCATIONS.
32. WITHIN THE SIGHT TRIANGLES SHOWN ON THIS PLAN, NO OBSTRUCTION BETWEEN 2 FEET AND 8 FEET IN HEIGHT ABOVE THE CURB LINE ELEVATION SHALL BE LOCATED IN WHOLE OR PART. OBSTRUCTIONS INCLUDE BUT ARE NOT LIMITED TO ANY BERM, FOLIAGE, FENCE, WALL, SIGN, PARKED VEHICLE OR OTHER OBJECT.
33. ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH ALL STANDARDS AND SPECIFICATIONS.
34. EXISTING UNUSED UTILITY SERVICES SHALL BE ABANDONED AT MAIN AND REMOVED FROM THE ROW OR EASEMENT.
35. ALL STRUCTURAL STORM WATER SCM'S SHALL BE LOCATED OUTSIDE OF NCDOT RIGHT OF WAYS. A PERMANENT PUBLIC DRAINAGE EASEMENT SHALL BE LOCATED OUTSIDE OF THE NCDOT RIGHT OF WAY(S) FOR ACCESS. NCDOT ASSUMES NO RESPONSIBLITY FOR THE OPERATION & MAINTENANCE OR LIABILITY OF THE STRUCTURAL STORMWATER SCM'S.
36. ALL ROADWAY DITCHES MUST BE STABLE BEFORE THEY WILL BE TAKEN INTO THE STATE SYSTEM.
37. LOTS DENOTED WITH AN ASTERISK (*) NEXT TO THE LOT NUMBER MEANS THERE IS A 100 YR FLOOD EASEMENT WHICH CONSISTS OF THE 100 YR FLOOD PLAIN (BACK WATER) PLUS 1' (OBTAINED FROM GIS ELEVATIONS) OR THE LOT HAS FLOOD HAZARD SOILS ON IT.
38. BEFORE ACQUIRING A BUILDING PERMIT FOR LOTS MARKED BY AN * (ASTERISK) THE BUILDER MAY NEED TO OBTAIN A FLOOD HAZARD AREA INFORMATION. THE BUILDER'S ENGINEER, ARCHITECT AND/OR SURVEYOR (AS APPROPRIATE) MUST CERTIFY ON ANY PERMIT THAT ALL FLOOD HAZARD REQUIREMENTS ARE MET.
39. THERE SHALL BE NO FILLING OR ERECTION OF PERMANENT STRUCTURES IN THE AREAS OF FLOOD HAZARD SOILS OR FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) 100 YEAR FLOOD ZONES UNTIL A FLOOD STUDY IS APPROVED.

SITE SPECIFIC NOTES:

1. OVERALL TOPOGRAPHIC INFORMATION WAS TAKEN FROM WAKE COUNTY GIS. STREET SECTIONS AND LOCATION OF EXISTING PAVEMENT AND STRUCTURES PROVIDED BY THE SURVEYOR.
2. BOUNDARY INFORMATION WAS TAKEN FROM INFORMATION PROVIDED BY THE SURVEYOR.
3. ALL LOTS WILL BE SINGLE FAMILY RESIDENTIAL.
4. LOCAL RESIDENTIAL STREET RIGHT-OF-WAY WIDTHS SHALL BE 50' AND HAVE 24' WIDE ASPHALT PAVEMENT SECTION WITH 30 INCH VALLEY CURB & GUTTER. COLLECTOR RESIDENTIAL STREETS SHALL HAVE 60' RIGHT-OF-WAY WIDTHS AND HAVE 30' ASPHALT PAVEMENT SECTION WITH 30" STANDARD CURB & GUTTER.
5. CUL-DE-SACS SHALL HAVE A 50' RADIUS; ASPHALT PAVEMENT RADII WITHIN CUL-DE-SAC SHALL BE 35'.
6. THERE ARE FEMA FLOOD BOUNDARIES ON THIS SITE ACCORDING TO CURRENT FIRM PANEL3720175700K AND THERE WILL BE NO GRADING WITHIN THE FEMA BOUNDARIES, THERE WILL BE A PEDESTRIAN BRIDGE SPANNING ACROSS THE FEMA FLOOD ZONES IN TWO LOCATIONS.
7. 404/401 PERMITS ARE REQUIRED AND HAVE BEEN APPROVED.
8. SCM'S WILL BE MAINTAINED BY THE HOA AND EASEMENTS WILL BE RECORDED ON THE PLAT DURING THE AS-BUILT PROCESS.
9. RETAINING WALLS WILL BE MAINTAINED BY THE HOA AND EASEMENTS WILL BE RECORDED ON THE PLAT DURING THE AS-BUILT PROCESS.

LOT ADDRESSING

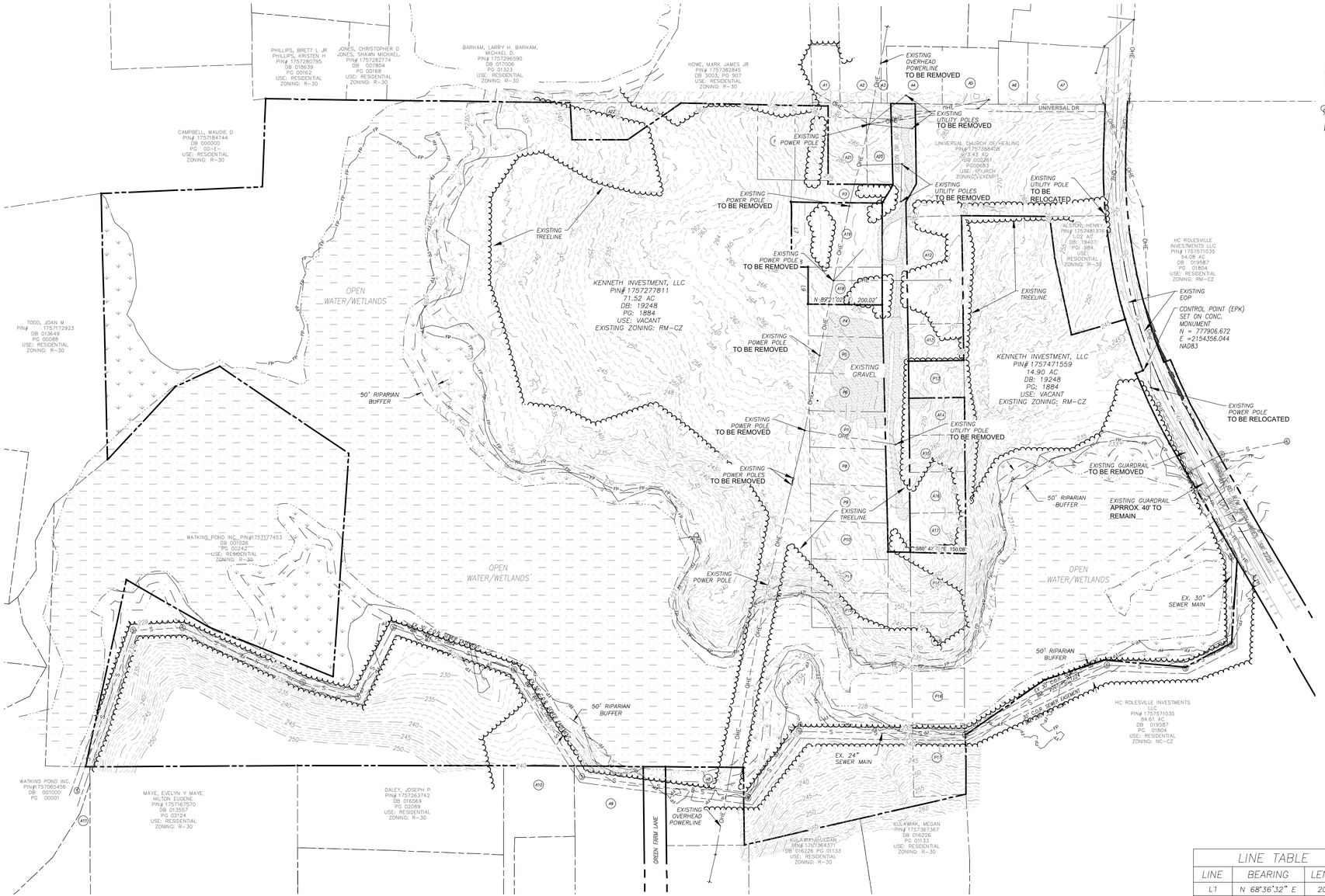
Lot #	Street #	Street Name	SDF / TH	Max Imp. Per Lot
1	1604	SIBLINGS DR	SDF	4,230 sq ft
2	1608	SIBLINGS DR	SDF	4,230 sq ft
3	1612	SIBLINGS DR	SDF	4,230 sq ft
4	1616	SIBLINGS DR	SDF	4,230 sq ft
5	1620	SIBLINGS DR	SDF	4,230 sq ft
6	1624	SIBLINGS DR	SDF	4,230 sq ft
7	1625	SIBLINGS DR	SDF	4,230 sq ft
8	1629	SIBLINGS DR	SDF	4,230 sq ft
9	1304	CORNELL GARDEN	SDF	4,230 sq ft
10	1317	CORNELL GARDEN	SDF	4,230 sq ft
11	1321	CORNELL GARDEN	SDF	4,230 sq ft
12	1325	CORNELL GARDEN	SDF	4,230 sq ft
13	1329	CORNELL GARDEN	SDF	4,230 sq ft
14	1333	CORNELL GARDEN	SDF	4,230 sq ft
15	3706	GIDEON DR	SDF	4,230 sq ft
16	3702	GIDEON DR	SDF	4,230 sq ft
17	3700	GIDEON DR	SDF	4,230 sq ft
18	3701	GIDEON DR	SDF	4,230 sq ft
19	3705	GIDEON DR	SDF	4,230 sq ft
20	3709	GIDEON DR	SDF	4,230 sq ft
21	1032	FAMILY FAITH CR	SDF	4,230 sq ft
22	1028	FAMILY FAITH CR	SDF	4,230 sq ft
23	1024	FAMILY FAITH CR	SDF	4,230 sq ft
24	1020	FAMILY FAITH CR	SDF	4,230 sq ft
25	1016	FAMILY FAITH CR	SDF	4,230 sq ft
26	3715	GIDEON DR	SDF	4,230 sq ft
27	3719	GIDEON DR	SDF	4,230 sq ft
28	3723	GIDEON DR	SDF	4,230 sq ft
29	3727	GIDEON DR	SDF	4,230 sq ft
30	3731	GIDEON DR	SDF	4,230 sq ft
31	3735	GIDEON DR	SDF	4,230 sq ft
32	1413	CORNELL GARDEN	SDF	4,230 sq ft
33	1417	CORNELL GARDEN	SDF	4,230 sq ft
34	1421	CORNELL GARDEN	SDF	4,230 sq ft
35	1425	CORNELL GARDEN	SDF	4,230 sq ft
36	1017	FAMILY FAITH CR	SDF	4,230 sq ft
37	1008	FAMILY FAITH CR	SDF	4,230 sq ft
38	1004	FAMILY FAITH CR	SDF	4,230 sq ft
39	1000	FAMILY FAITH CR	SDF	4,230 sq ft
40	976	FAMILY FAITH CR	SDF	4,230 sq ft
41	972	FAMILY FAITH CR	SDF	4,230 sq ft
42	968	FAMILY FAITH CR	SDF	4,230 sq ft
43	964	FAMILY FAITH CR	SDF	4,230 sq ft
44	960	FAMILY FAITH CR	SDF	4,230 sq ft
45	956	FAMILY FAITH CR	SDF	4,230 sq ft
46	952	FAMILY FAITH CR	SDF	4,230 sq ft
47	948	FAMILY FAITH CR	SDF	4,230 sq ft
48	944	FAMILY FAITH CR	SDF	4,230 sq ft
49	940	FAMILY FAITH CR	SDF	4,230 sq ft
50	936	FAMILY FAITH CR	SDF	4,230 sq ft
51	932	FAMILY FAITH CR	SDF	4,230 sq ft
52	928	FAMILY FAITH CR	SDF	4,230 sq ft
53	924	FAMILY FAITH CR	SDF	4,230 sq ft
54	920	FAMILY FAITH CR	SDF	4,230 sq ft
55	916	FAMILY FAITH CR	SDF	4,230 sq ft
56	912	FAMILY FAITH CR	SDF	4,230 sq ft
57	908	FAMILY FAITH CR	SDF	4,230 sq ft
58	904	FAMILY FAITH CR	SDF	4,230 sq ft
59	900	FAMILY FAITH CR	SDF	4,230 sq ft
60	901	FAMILY FAITH CR	SDF	4,230 sq ft
61	905	FAMILY FAITH CR	SDF	4,230 sq ft
62	913	FAMILY FAITH CR	SDF	4,230 sq ft
63	921	FAMILY FAITH CR	SDF	4,230 sq ft
64	925	FAMILY FAITH CR	SDF	4,230 sq ft
65	929	FAMILY FAITH CR	SDF	4,230 sq ft
66	933	FAMILY FAITH CR	SDF	4,230 sq ft
67	945	FAMILY FAITH CR	SDF	4,230 sq ft
68	949	FAMILY FAITH CR	SDF	4,230 sq ft
69	953	FAMILY FAITH CR	SDF	4,230 sq ft
70	957	FAMILY FAITH CR	SDF	4,230 sq ft
71	961	FAMILY FAITH CR	SDF	4,230 sq ft
72	965	FAMILY FAITH CR	SDF	4,230 sq ft
73	969	FAMILY FAITH CR	SDF	4,230 sq ft
74	1424	CORNELL GARDEN	SDF	4,230 sq ft
75	1420	CORNELL GARDEN	SDF	4,230 sq ft
76	1416	CORNELL GARDEN	SDF	4,230 sq ft
77	1412	CORNELL GARDEN	SDF	4,230 sq ft
78	1548	PARENTS WAY	SDF	4,230 sq ft

LOT ADDRESSING

Lot #	Street #	Street Name	SDF / TH	Max Imp. Per Lot
79	1544	PARENTS WAY	SDF	4,230 sq ft
80	1540	PARENTS WAY	SDF	4,230 sq ft
81	1536	PARENTS WAY	SDF	4,230 sq ft
82	1532	PARENTS WAY	SDF	4,230 sq ft
83	1528	PARENTS WAY	SDF	4,230 sq ft
84	1524	PARENTS WAY	SDF	4,230 sq ft
85	1520	PARENTS WAY	SDF	4,230 sq ft
86	1516	PARENTS WAY	SDF	4,230 sq ft
87	1512	PARENTS WAY	SDF	4,230 sq ft
88	1508	PARENTS WAY	SDF	4,230 sq ft
89	1504	PARENTS WAY	SDF	4,230 sq ft
90	1500	PARENTS WAY	SDF	4,230 sq ft
91	876	FAMILY FAITH CR	SDF	4,230 sq ft
92	872	FAMILY FAITH CR	SDF	4,230 sq ft
93	868	FAMILY FAITH CR	SDF	4,230 sq ft
94	864	FAMILY FAITH CR	SDF	4,230 sq ft
95	860	FAMILY FAITH CR	SDF	4,230 sq ft
96	856	FAMILY FAITH CR	SDF	4,230 sq ft
97	852	FAMILY FAITH CR	SDF	4,230 sq ft
98	848	FAMILY FAITH CR	SDF	4,230 sq ft
99	844	FAMILY FAITH CR	SDF	4,230 sq ft
100	840	FAMILY FAITH CR	SDF	4,230 sq ft
101	836	FAMILY FAITH CR	SDF	4,230 sq ft
102	832	FAMILY FAITH CR	SDF	4,230 sq ft
103	828	FAMILY FAITH CR	SDF	4,230 sq ft
104	824	FAMILY FAITH CR	SDF	4,230 sq ft
105	820	FAMILY FAITH CR	SDF	4,230 sq ft
106	1505	PARENTS WAY	SDF	4,230 sq ft
107	1517	PARENTS WAY	SDF	4,230 sq ft
108	1525	PARENTS WAY	SDF	4,230 sq ft
109	1533	PARENTS WAY	SDF	4,230 sq ft
110	1537	PARENTS WAY	SDF	4,230 sq ft
111	1541	PARENTS WAY	SDF	4,230 sq ft
112	1545	PARENTS WAY	SDF	4,230 sq ft
113	1549	PARENTS WAY	SDF	4,230 sq ft
114	1553	PARENTS WAY	SDF	4,230 sq ft
115	1557	PARENTS WAY	SDF	4,230 sq ft
116	1561	PARENTS WAY	SDF	4,230 sq ft
117	1565	PARENTS WAY	SDF	4,230 sq ft
118	3743	GIDEON DR	SDF	4,230 sq ft
119	3749	GIDEON DR	SDF	4,230 sq ft
120	3751	GIDEON DR	SDF	4,230 sq ft
SCM	880	FAMILY FAITH CR	SCM 1	
SCM	1012	FAMILY FAITH CR	SCM 2	
Sign	3725	JONESVILLE RD	North	
Sign	3721	JONESVILLE RD	South	
O.S.	1300	CORNELL GARDEN	North	
O.S.	1301	CORNELL GARDEN	South	
O.S.	1305	CORNELL GARDEN	GAZEBO	
O.S.	1309	CORNELL GARDEN	ACCESS	
O.S.	1313	CORNELL GARDEN	MAIL K.	
O.S.	1600	SIBLINGS DR	West	
O.S.	1613	SIBLINGS DR	East	
O.S.	829	FAMILY FAITH CR	PLAY	
O.S.	833	FAMILY FAITH CR	Parking	
O.S.	837	FAMILY FAITH CR	GAZEBO	
O.S.	841	FAMILY FAITH CR	DOG	
O.S.	896	FAMILY FAITH CR	ACCESS	
O.S.	1014	FAMILY FAITH CR	ACCESS	
O.S.	3644	GREEN FARM LN	Golf East	
O.S.	3643	GREEN FARM LN	Golf West	
WALL	1315	CORNELL GARDEN	R.W. #1	
WALL	1602	SIBLINGS DR	R.W. #2	
WALL	1337	CORNELL GARDEN	R.W. #3	
WALL	1404	CORNELL GARDEN	R.W. #4	
WALL	1409	CORNELL GARDEN	R.W. #5	
WALL	818	FAMILY FAITH CR	R.W. #6	
WALL	866	FAMILY FAITH CR	R.W. #7	
WALL	881	FAMILY FAITH CR	R.W. #8	
WALL	898	FAMILY FAITH CR	R.W. #9	
WALL	946	FAMILY FAITH CR	R.W. #10	
WALL	966	FAMILY FAITH CR	R.W. #11	
WALL	1010	FAMILY FAITH CR	R.W. #12	
WALL	1016	FAMILY FAITH CR	R.W. #13	
WALL	3708	GIDEON DR	R.W. #14	
WALL	3708	GIDEON DR	R.W. #15	
WALL	378	GIDEON DR	R.W. #16	
WALL	1552	PARENTS WAY	R.W. #17	

MA 22-08 REZONING CONDITIONS:

1. THE SUBJECT PROPERTY SHALL BE DEVELOPED IN GENERAL COMPLIANCE WITH THE MAP AMENDMENT (CONDITIONAL REZONING) CONCEPT PLAN DATED 01-01-24.
2. THE DEVELOPMENT SHALL CONSIST OF MAXIMUMS OF 120 SINGLE FAMILY DETACHED DWELLING UNITS/LOTS AS DETAILED IN THE MAP AMENDMENT (CONDITIONAL REZONING) CONCEPT PLAN DATED 01-01-24.
3. SINGLE FAMILY DETACHED DWELLING UNIT FACADE ANTI-MONOTONY: IN ORDER TO PROMOTE VARIATION IN HOME APPEARANCE, NO SINGLE FAMILY FRONT FACADE SHALL BE DUPLICATED FOR THREE LOTS IN A ROW, OR DIRECTLY ACROSS THE STREET. FOR THE CORNER LOTS, THIS SHALL APPLY TO THE LOTS DIAGONALLY ACROSS THE INTERSECTION.
4. ALL GARAGE DOORS SHALL EITHER CONTAIN WINDOWS OR CARRIAGE STYLE ADORNMENTS.
5. SINGLE FAMILY DETACHED DWELLING UNITS SHALL:
   A. BE A MINIMUM OF 1,500 HEATED SQUARE FEET.
   B. HAVE CEMENTITIOUS SIDING THAT SHALL VARY IN TYPE AND COLOR WITH BRICK, SHAKES, BOARD AND BATTEN, OR STONE ACCENTS PROVIDED AS DECORATIVE FEATURES.
   C. HAVE AT LEAST TWO TYPES OF FINISHES ON THE FRONT: LAP SIDING, MASONRY, SHAKES, AND BOARD BATTEN.
6. A HOME OWNERS ASSOCIATION (HOA) SHALL BE CREATED AND ALL OPEN SPACES OBSERVED IN MAP AMENDMENT (CONDITIONAL REZONING) CONCEPT PLAN DATED 01-01-24, SHALL BE OWNED AND MAINTAINED BY THE HOA.
7. FOUNDATIONS: ALL FOUNDATIONS ARE TO BE MONOLITHIC POURED SLAB FOUNDATIONS. TOP OF SLABS SHALL BE ELEVATED A MINIMUM OF 18" ABOVE FINISHED GRADE FOR ALL DWELLING UNITS. ALL FOUNDATIONS SHALL BE TREATED WITH MASONRY ON THE FRONT AND STREET-FACING SIDES FOR A MINIMUM OF 10".
8. RECREATIONAL AMENITIES: THE FOLLOWING RECREATIONAL AMENITIES SHALL BE CONSTRUCTED AS OBSERVED IN MAP AMENDMENT (CONDITIONAL REZONING) CONCEPT PLAN DATED 01-01-24. PUBLIC GREENWAY (APPROXIMATELY 5,600 LINEAR FEET), PRIVATE MULTI-USE PATHS (APPROXIMATELY 410 LINEAR FEET), GAZEBOS, PLAYGROUNDS, AND A DOG PARK, AMENITIES SHALL BE BUILT PRIOR TO ISSUANCE OF THE BUILDING PERMIT FOR THE 70TH LOT.
9. LANDSCAPING: AT LEAST 20 PERCENT (20%) OF ALL LANDSCAPING REQUIRED BY THE LDO, THAT DOES NOT ALREADY QUALIFY UNDER LDO 6.2, SHALL UTILIZE PLANT MATERIALS LISTED AS NATIVE POLLINATOR PLANTS BY THE NORTH CAROLINA WILDLIFE FEDERATION, WHERE EVERGREEN PLANTINGS OR STREET TREES ARE REQUIRED BY THE LDO, NATIVE POLLINATOR PLANTINGS SHALL NOT BE REQUIRED. SUCH PLANTINGS SHALL BE CLEARLY SHOWN IN CONSTRUCTION DRAWINGS AND INSTALLED AS PART OF SUBDIVISION INFRASTRUCTURE. NOTHING HEREIN SHALL BE CONSTRUCTED TO LIMIT THE PLANT MATERIALS PERMITTED ON THE INDIVIDUAL RESIDENTIAL LOTS.
10. SIDEWALK EASEMENT: THE DEVELOPMENT SHALL ATTEMPT TO PROCURE AN EASEMENT FROM THE OWNERS OF THOSE PROPERTIES WITH PINS: 1757-48-1376 AND 1757-38-8408 IN ORDER TO PROVIDE A 5' WIDE SIDEWALK RUNNING FROM THE DEVELOPMENT'S PROPOSED ACCESS TO JONESVILLE ROAD TO THE INTERSECTION WITH UNIVERSAL DRIVE. IF THE DEVELOPMENT PROCURES EASEMENTS FROM BOTH PROPERTY OWNERS, THE SIDEWALK SHALL BE LOCATED WITHIN SAID EASEMENTS AND CONSTRUCTED CONSISTENT WITH THE TOWN OF ROLESVILLE TRANSPORTATION PLAN, AND SHALL BE COMPLETED PRIOR TO THE ISSUANCE OF THE ONE HUNDREDTH (100TH) BUILDING PERMIT. IF THE DEVELOPMENT IS UNABLE TO PROCURE AN EASEMENT FROM EITHER OF THE PROPERTY OWNER PRIOR TO THE ISSUANCE OF THE FIRST (1ST) BUILDING PERMIT, THEN THE DEVELOPMENT SHALL PAY A FEE-IN-LIEU FOR THE SIDEWALK CONSTRUCTION TO THE TOWN OF ROLESVILLE. THE FEE-IN-LIEU SHALL BE PAID PRIOR TO THE ISSUANCE OF THE ONE HUNDREDTH (100TH) BUILDING PERMIT.
11. UNIVERSAL DRIVE: THE DEVELOPMENT SHALL ATTEMPT TO PROCURE A MINIMUM 20' WIDE ACCESS EASEMENT FROM THE OWNER OF THAT PROPERTY WITH PIN: 1757-38-8408 FOR VEHICULAR INGRESS AND EGRESS TO AND FROM GIDEON DRIVE AND JONESVILLE ROAD. THIS EASEMENT SHALL BE RECORDED WITH THE WAKE COUNTY REGISTRY. IF THE EASEMENT IS OBTAINED AND RECORDED, THE DEVELOPMENT SHALL PAVE THE EASEMENT AREA WITH A 20' WIDE ASPHALT SURFACE COAT OVER TOP OF THE EXISTING PRIVATE GRAVEL ACCESS DRIVE. THE PAVING SHALL BE COMPLETED PRIOR TO THE ISSUANCE OF THE ONE HUNDREDTH (100TH) BUILDING PERMIT.
12. PRIOR TO THE ISSUANCE OF THE FIRST BUILDING PERMIT FOR A DWELLING UNIT, THE DEVELOPMENT SHALL DONATE THIRTY FIVE THOUSAND DOLLARS AND NO CENTS ($35,000.00) TO HOMES FOR HEROES.
13. HISTORICAL MONUMENT: THE DEVELOPMENT SHALL DEDICATE A 10-FOOT BY 10-FOOT AREA LOCATED NEXT TO THE GAZEBO AND GREENWAY PARKING AREA ALONG JONESVILLE ROAD TO ALLOW THE TOWN OF ROLESVILLE TO PLACE A HISTORICAL MONUMENT RELATED TO THE JONESVILLE AREA.
14. NAMING OF ROADS: PRIOR TO THE NAMING OF ANY PUBLIC ROADS WITHIN THE DEVELOPMENT, THE PROPERTY OWNER SHALL FORMALLY REQUEST SUGGESTED ROAD NAMES FROM JONESVILLE COMMUNITY CONNECT AND WILL SUBMIT THOSE SUGGESTED NAMES TO THE POST OFFICE FOR APPROVAL. IF THE NUMBER OF THOSE APPROVED NAMES ARE EQUAL OR GREATER THAN THE NUMBER OF PUBLIC STREETS WITHIN THE DEVELOPMENT, THE DEVELOPMENT SHALL EXCLUSIVELY USE THOSE APPROVED ROAD NAMES WITHIN THE DEVELOPMENT. IF THE NUMBER OF THOSE APPROVED NAMES IS LESS THAN THE NUMBER OF PUBLIC ROADS WITHIN THE DEVELOPMENT, THE DEVELOPMENT SHALL USE ALL OF THOSE APPROVED NAMES AND THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR NAMING THE REMAINING PUBLIC ROADS.
15. BLASTING: THE PROPERTY OWNER SHALL COMPLY WITH ALL WAKE COUNTY AND NORTH CAROLINA REGULATIONS RELATED TO BLASTING. SEE 29 CFR 1926.900-909 & 13 NCAC 07F .0703-.0712. ANY PERSON DETONATING EXPLOSIVES ON THE PROPERTY SHALL FIRST NOTIFY THE TOWN OF ROLESVILLE THAT A BLAST IS PLANNED. SUCH NOTIFICATION SHALL BE RECEIVED AT LEAST TWENTY-FOUR (24) HOURS PRIOR TO THE PLANNED DETONATION AND SHALL GIVE THE TIME (WITHIN 30 MINUTES) OF THE PLANNED DETONATION AND THE LOCATION WHERE THE BLASTING IS TO BE DONE. THE PERSON DETONATING THE EXPLOSIVES SHALL GIVE AN EQUIVALENT NOTICE TO EACH PROPERTY OWNER THAT IS LOCATED WITHIN 1000 FEET OF THE PROPOSED BLASTING LOCATION. AT LEAST 60 DAYS PRIOR TO ANY BLASTING WITH EXPLOSIVE MATERIALS ON THE PROPERTY, THE PROPERTY OWNER WILL NOTIFY THE HOMEOWNERS WITHIN 1000 FEET OF THE PROPERTY OF THE EXPECTED BLASTING AND SHALL PROVIDE AN OPPORTUNITY FOR A PRE-BLASTING INSPECTION ("PBI") OF THE HOMEOWNER'S PROPERTY (INCLUDING STRUCTURES AND WELLS) TO ESTABLISH A BASELINE CONDITION OF THE HOMEOWNER'S PROPERTY. IF A NOTICED HOMEOWNER PROVIDES A WRITTEN ELECTION FOR A PBI AND PROVIDES REASONABLE ACCESS TO ITS PROPERTY AT REASONABLE TIMES, PROPERTY OWNER THROUGH ITS CONSULTANT ("BLASTING CONSULTANT") WILL CAUSE A PBI WITH REGARD TO SUCH HOMEOWNER'S PROPERTY TO BE PERFORM



EXISTING CONDITION NOTES:

1. BOUNDARY TAKEN FROM SURVEY BY GIL CLARK SURVEYING, 2329 HODGE RD, KNIGHTDALE, NC 27545 , (919) 266-9732. DATED 07-28-2022
2. TOPOGRAPHIC INFORMATION TAKEN FROM BATEMAN CIVIL SURVEY COMPANY, 2524 RELIANCE AVENUE, APEX NC 27539.
3. THE SUBJECT PROPERTY HAS FEMA 100 YR-FLOODWAY PER FEMA MAP #3720175700K WITH AN EFFECTIVE DATE OF JULY 19, 2022.
4. SITE IS LOCATED WITHIN THE NEUSE RIVER BASIN.
5. THIS SITE HAS ACCESS TO WATER, SEWER AND ELECTRICAL UTILITY SERVICES.

ADJACENT PROPERTIES

PLAN ID	PIN #	OWNER	DB/PG	USE	ZONING
A1	1757-38-4791	ROSARIO, MODESTO ESCARFULLER	19545 / 517	Residential	R-30
A2	1757-38-5884	CURTIS, HENDALL HEIRS	20-E / 3830	Residential	R-30
A3	1757-38-7858	GARCIA, SALVADOR	18610 / 2740	Residential	R-30
A4	1757-38-5884	FERRELL, CHARLES E & FERRELL, SHARON R	7662 / 727	Residential	R-30
A5	1757-38-8780	POWER ELEVEN CONSTRUCTION, LLC	19349 / 1245	Residential	R-30
A6	1757-48-0701	HARTSFIELD, ROZELIA J HEIRS HATTIE SMITH	10-E / 1220	Residential	R-30
A7	1757-48-1740	HARTSFIELD, ROZELIA J HEIRS HATTIE SMITH	10-E / 1220	Residential	R-30
A8	1757-36-1783	BIRMINGHAM, JOHN DAVIS	3642 / 732	Residential	R-30
A9	1757-26-9620	CARPENTER, BOBBY RAY CARPENTER, ALBERTA L	19601 / 2199	Residential	R-30
A10	1757-26-6697	RIVERS, SUSAN MARSHALL	3406 / 539	Residential	R-30
A11	1757-16-4026	SOUTTER, SUSAN R SOUTTER, ROBERT QUENTIN	17592 / 381	Residential	R-30
A12	1757-38-7189	DUNN, JAMES WILLIAM HEIRS MONTAGUE, BUNNIE DUNN	N/A	Vacant	R-30
A13	1757-38-7090	WW OVERTIME LLC	19202 / 2051	Vacant	R-30
A14	1757-37-7799	WHITLEY, CLEVELAND G HEIRS	N/A	Residential	R-30
A15	1757-37-7699	JARVIS, MARIE D CURTIS, HURLEY MAE	11946 / 1968	Vacant	R-30
A16	1757-37-8610	JARVIS, MYRON JARVIS, MARIE	9106 / 1133	Residential	R-30
A17	1757-37-7497	JARVIS, MARIE D CURTIS, HURLEY MAE	11946 / 1968	Residential	R-30
A18	1757-38-5155	HARRIS, OLLIE VIRGIN HEIRS HARRIS, LORINE B	98-E / 2613	Vacant	R-30
A19	1757-38-5249	CHEN, PING LI, FANXING	8518 / 367	Residential	R-30
A20	1757-27-7811	ROUSE, ELLEN CURTIS	19170 / 1070	Vacant	R-30
A21	1757-38-5562	QUIRINO, MARIA ESTELA	17501 / 945	Residential	R-30
A22	1757-28-9559	WILDER, THOMAS H III WILDER, MAGGIE	12-E / 3295	Residential	R-30

DEVELOPMENT OWNED PROPERTIES

PLAN ID	PIN #	OWNER	DB/PG	USE	ZONING
P1	1757-38-3572	KENNETH INVESTMENT, LLC	19248 / 1884	Vacant	RM-CZ
P2	1757-38-4572	KENNETH INVESTMENT, LLC	19248 / 1884	Vacant	RM-CZ
P3	1757-38-5349	KENNETH INVESTMENT, LLC	19248 / 1884	Vacant	RM-CZ
P4	1757-38-5064	KENNETH INVESTMENT, LLC	19248 / 1884	Vacant	RM-CZ
P5	1757-37-5975	KENNETH INVESTMENT, LLC	19248 / 1884	Vacant	RM-CZ
P6	1757-37-5865	KENNETH INVESTMENT, LLC	19248 / 1884	Vacant	RM-CZ
P7	1757-37-5765	KENNETH INVESTMENT, LLC	19248 / 1884	Vacant	RM-CZ
P8	1757-37-5665	KENNETH INVESTMENT, LLC	19248 / 1884	Vacant	RM-CZ
P9	1757-37-5575	KENNETH INVESTMENT, LLC	19248 / 1884	Vacant	RM-CZ
P10	1757-37-5464	KENNETH INVESTMENT, LLC	19248 / 1884	Vacant	RM-CZ
P11	1757-37-5365	KENNETH INVESTMENT, LLC	19248 / 1884	Vacant	RM-CZ
P12	1757-37-5276	KENNETH INVESTMENT, LLC	19248 / 1884	Vacant	RM-CZ
P13	1757-37-7990	KENNETH INVESTMENT, LLC	19248 / 1884	Vacant	RM-CZ
P14	1757-37-8303	KENNETH INVESTMENT, LLC	19248 / 1884	Vacant	RM-CZ
P15	1757-37-8109	KENNETH INVESTMENT, LLC	19248 / 1884	Vacant	RM-CZ
P16	1757-37-8073	KENNETH INVESTMENT, LLC	19248 / 1884	Vacant	RM-CZ
P17	1757-36-8816	KENNETH INVESTMENT, LLC	19248 / 1884	Vacant	RM-CZ

LINE TABLE

LINE	BEARING	LENGTH
L1	N 68°36'32" E	20.00'
L2	N 89°33'15" W	60.01'
L3	S 02°47'46" E	100.00'
L4	S 89°47'46" E	150.00'
L5	N 55°18'54" E	174.59'
L6	S 31°00'37" W	57.95'
L7	S 00°09'07" E	175.02'
L8	N 89°21'02" E	45.00'
L9	S 00°09'07" E	100.01'
L10	S 88°57'37" W	150.00'
L11	N 00°53'13" W	100.00'
L12	N 88°57'37" E	150.00'
L13	S 06°57'52"	113.70'
L14	N 73°55'50" E	149.95'

CURVE TABLE

CURVE	CHORD BEARING	CHORD DISTANCE	ARC LENGTH	RADIUS
C1	S 19°15'36" E	146.36'	146.42'	1462.39'
C2	S 25°28'26" E	211.09'	211.27'	1482.39'

EXISTING CONDITIONS LEGEND

EXISTING BOUNDARY / R.O.W.
EXISTING MAJOR CONTOUR
EXISTING MINOR CONTOUR
EXISTING SEWER LINE
EXISTING SANITARY SEWER MANHOLE
EXISTING WATERLINE
EXISTING EASEMENT
EXISTING TREELINE
EXISTING OVERHEAD ELECTRIC LINE
EXISTING 100 YEAR FLOOD PLAIN
EXISTING WETLANDS
EXISTING EDGE OF WATER
STREAM BUFFER ZONE 1
STREAM BUFFER ZONE 2

GRAPHIC SCALE
150 0 75 150 300 600
(IN FEET)
1 inch = 150 ft

N.C. UNDERGROUND UTILITIES
811
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Firm # F-1517
275 CARPENTER HILL LANE
Cary, N.C. 27519
(919) 996-9455

Surveyor
BCSC BATEMAN CIVIL SURVEY COMPANY
Bateman Civil Survey Company
2524 Reliance Avenue
Apex, NC 27539
919-557-1080 ext 109
www.batemancivilsurvey.com

Jurisdiction / Municipality
Rolesville
Genuine Community • Capital Connection
Est. 1837
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
CID-25-0004 (PSP-24-05)

Landscape Architect
STRONGROCK
THE STRONGROCK COMPANIES
305 Church at North Hills Street
Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

Sheet map:

Seal:
NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A HARRIS
Digitally signed by Bryan Harris
DN: CN=US, E=bharris@QuantechEng.com, O=Quantech Engineering LLP, CN=Bryan Harris
Date: 2026.11.04 11:49:18-05'00'
Bryan Harris

Issued / Print Date: 2026-July-27 (10:29)
File Name: 3 Overall Existing conditions.dwg

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Drawn by: TAN

Project:
HARRIS CREEK FARMS
CID 25-0004 (FKA - CID-25-03)

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No.	Date	Description

Sheet Title:
OVERALL EXISTING CONDITIONS & DEMOLITION PLAN

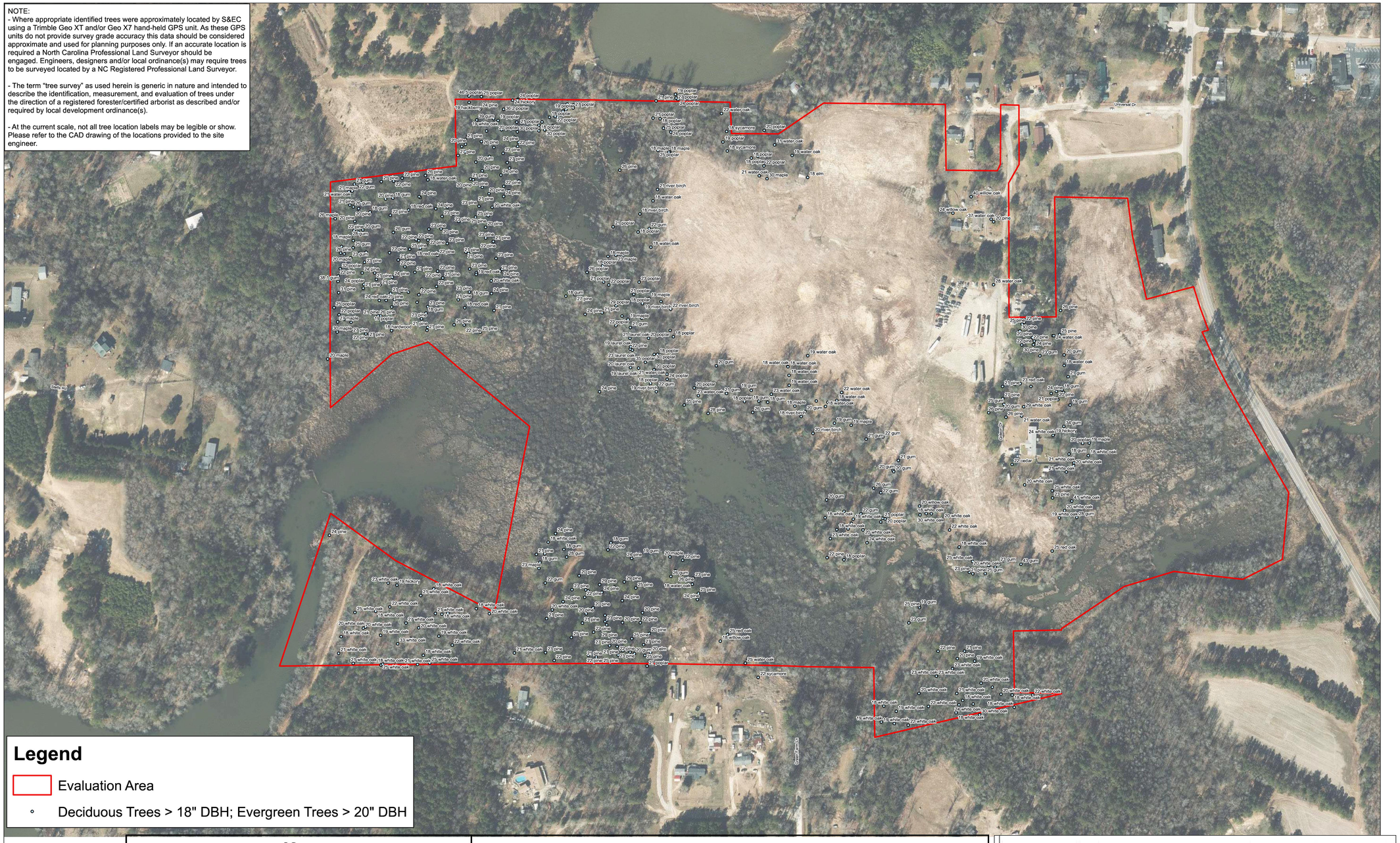
Sheet #:
3

File Location: C:\Users\BryanHarris\Quantech\Quantech Engineering - Documents\Harris Creek Farm - Jonesville\Engineering_DWG\Construction Plans\3 Overall Existing conditions.dwg

NOTE:
- Where appropriate identified trees were approximately located by S&EC using a Trimble Geo XT and/or Geo X7 hand-held GPS unit. As these GPS units do not provide survey grade accuracy this data should be considered approximate and used for planning purposes only. If an accurate location is required a North Carolina Professional Land Surveyor should be engaged. Engineers, designers and/or local ordinance(s) may require trees to be surveyed located by a NC Registered Professional Land Surveyor.

- The term "tree survey" as used herein is generic in nature and intended to describe the identification, measurement, and evaluation of trees under the direction of a registered forester/certified arborist as described and/or required by local development ordinance(s).

- At the current scale, not all tree location labels may be legible or show. Please refer to the CAD drawing of the locations provided to the site engineer.



Legend

- Evaluation Area
- Deciduous Trees > 18" DBH; Evergreen Trees > 20" DBH

Project No. 16217.W1	
Project Mgr.: SB	
Scale: 1" = 150'	N / W / E / S
09/30/2024	0 150 300 600 Feet

Town of Rolesville Tree Survey Sketch Map

Harris Tract

Source: Aerials from NC One Maps

S&EC Soil & Environmental Consultants, Inc.
8412 Falls of Neuse Road, Suite 104, Raleigh, NC 27615 • Phone (919) 846-5900 • Fax (919) 846-9467
sandec.com

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No.	Date	Description

Sheet Title:

EXISTING TREE SURVEY

Sheet #:

4

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THIS AREA WILL BE CLEANED UP BUT NOT ALL TREES WILL BE CUT DOWN. ONLY TREE IN THE WAY OF THE MAKING THE FRISBEE GOLF COURSE WILL BE CUT, OTHERS WILL REMAIN, MORE DETAIL WILL BE SHOWN IN CD's.

THIS AREA WILL BE CLEANED UP BUT NOT ALL TREES WILL BE CUT DOWN. ONLY TREE IN THE WAY OF THE MAKING THE FRISBEE GOLF COURSE WILL BE CUT, OTHERS WILL REMAIN, MORE DETAIL WILL BE SHOWN IN CD's.

S88° 47' 24"E 150.08'

TREE PLAN LEGEND

EXISTING TREE — 25 red oak

AREAS TO BE REMOVED OF TREES

GRAPHIC SCALE

120 0 60 120 240 480

(IN FEET)

1 inch = 120 ft

N.C. UNDERGROUND UTILITIES

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Bryan Harris

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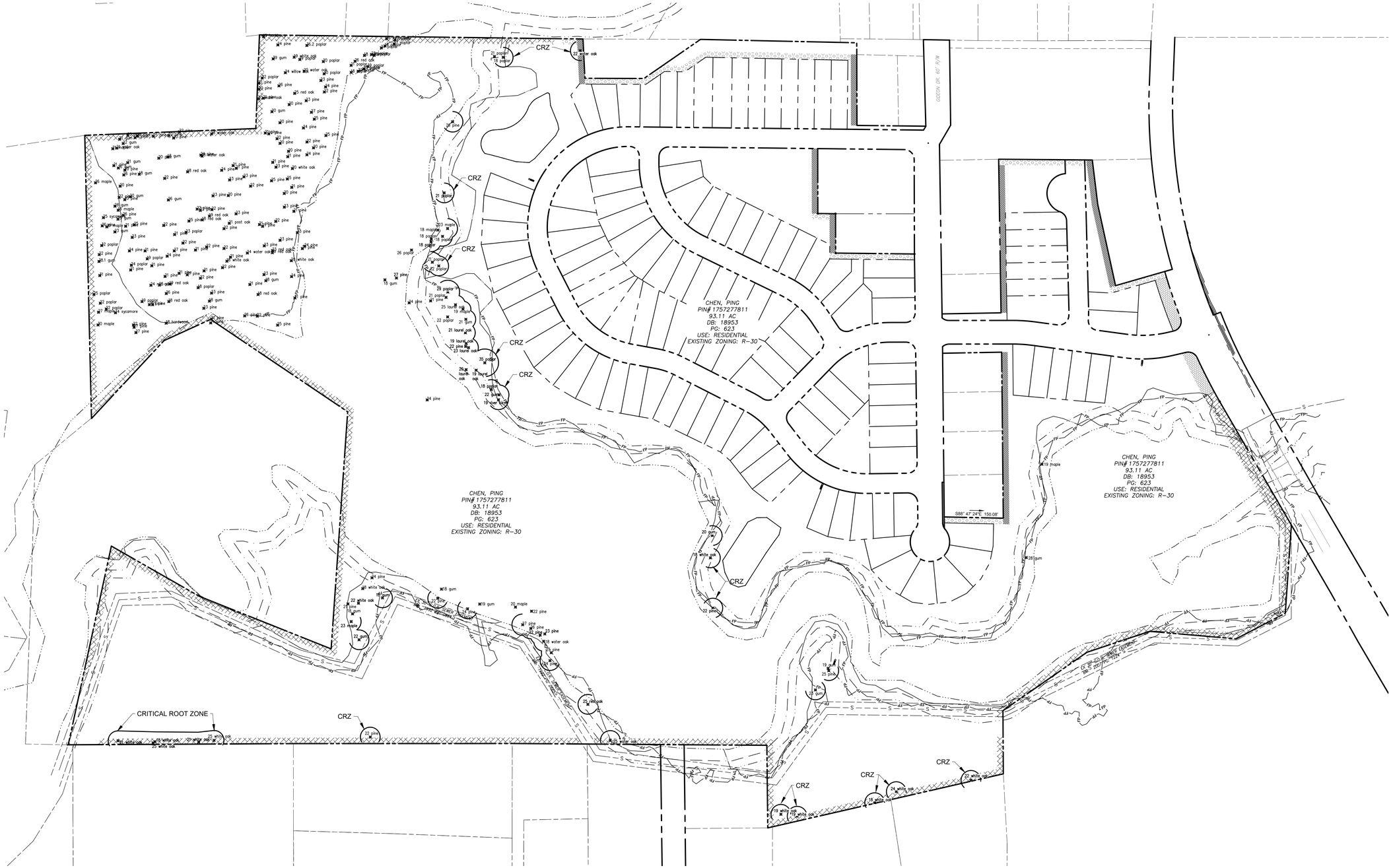
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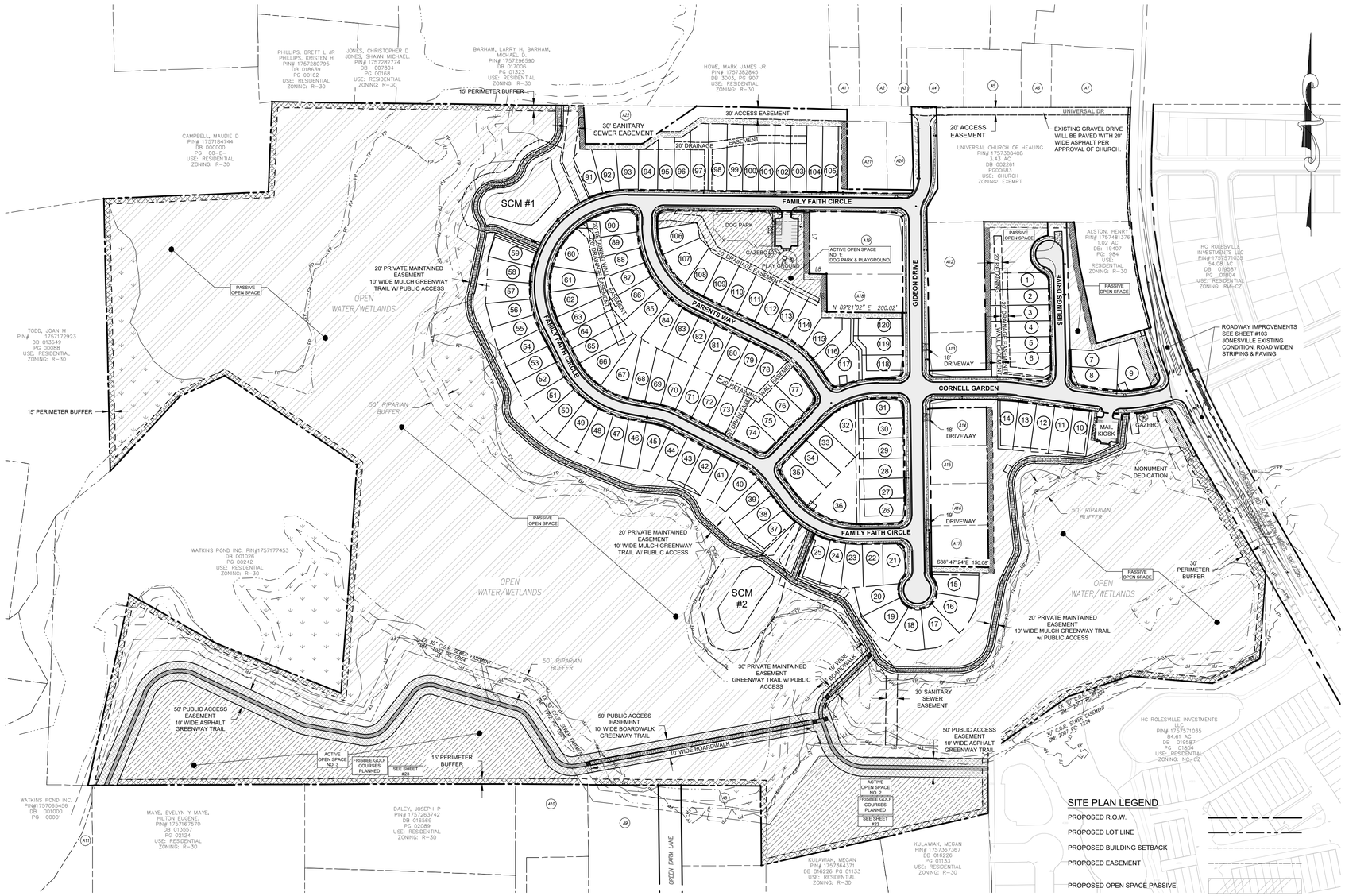
Sheet Title:

TREE REMOVAL PLAN

Sheet #:

5


CRZ
CRITICAL ROOT ZONE
CHEN, PING
PIN# 1757277811
93.11 AC
DB: 18953
PG: 623
USE: RESIDENTIAL
EXISTING ZONING: R-30
GIDEON DR. (60' R/W)
S88° 47' 24"E 150.08'
CRZ
CRZ
CRZ



SITE DATA TABLE

OWNER	KENNETH INVESTMENTS, LLC Contact: STEPHAN GEORGE 10030 GREEN LEVEL CHURCH RD, STE 802 CARY, NC 27519
ENGINEER:	QUANTECH ENGINEERING BRYAN A. HARRIS, PE 15000 WESTON PARKWAY, STE. 174 CARY, NC 27513 PHONE: (919) 815-9987 EMAIL: BRYAN@QUANTECHENG.COM
DEVELOPER:	THE CSC GROUP, LLC STEVE GEORGE 600 PARK OFFICES DRIVE, STE 372 RESEARCH TRIANGLE, NC 27709 PHONE: (919) 815-9987
ENVIRONMENTAL CONSULTANT	MORRIS & RITCHIE ASSOCIATES 530 HINTON POND ROAD, SUITE 104 KNIGHTDALE, NC 27545
SURVEYOR:	BATEMAN CIVIL SURVEY COMPANY JOSH DAVIDSON 2524 RELIANCE AVE APEX, NC 27539 PHONE: 919 557-1080 Ext 109 josh@batemancivilsurvey.com
SITE ADDRESS	4928 UNIVERSAL DR WAKE FOREST, NC 27587-6356
PIN:	1757277811, 1757471559 , 1757383572 , 1757384572 , 1757385064 , 1757375975 , 1757375865 , 1757375765 , 1757375665 , 1757375575 , 1757375464 , 1757375365 , 1757375276 , 1757378303 , 1757378109 , 1757378013 , 1757368816
DEED BOOK / PAGE	019248 / 01884 (all parcels)
PLAT BOOK / PAGE	BM2007 / 01224
TOTAL SITE AREA:	94.99 AC
EXISTING ZONING:	RM-CZ
CURRENT USE:	RESIDENTIAL
PROPOSED USE	RESIDENTIAL-CLUSTER (MEDIUM DENSITY)
RIVER BASIN	NEUSE RIVER BASIN
SUB WATERSHED	NEUSE (UPPER) - 03020201
FEMA FIRM PANEL #:	3720175700K
RESIDENTIAL DENSITY CALCULATIONS (CLUSTER SUBDIVISION)	
MAXIMUM DENSITY ALLOWED:	5.0 UNITS / AC
PROPOSED DENSITY:	120 UNITS / 94.99 AC = 1.26 UNITS / AC
LOTS (CLUSTER)	
MINIMUM LOT WIDTH	42.0 FT
MINIMUM LOT AREA	6,000 SF
MINIMUM BUILDING SETBACKS:	FRONT: 20' REAR: 20' CORNER: 10' SIDE: 5'
OPENSPACE (MEDIUM DENSITY, CLUSTER)	
OPEN SPACE (REQUIRED 12%)	11.40 AC
OPEN SPACE (PROPOSED)	63.31 AC
PASSIVE (REQUIRED)	5.70 AC
PASSIVE (PROPOSED)	55.75 AC
PASSIVE (NOT IN SCM OR ENVIRONMENTAL AREAS)	7.11 AC
ACTIVE (REQUIRED)	5.70 AC
ACTIVE (PROPOSED)	7.56 AC
ACTIVE SPACES (REQUIRED)	2 MEDIUM AREA (1.0 - 2.5 AC) 1 LARGE AREA (> 2.5 AC.)
ACTIVE SPACES (PROVIDED)	(2) MEDIUM AREAS Area 1 = (44,640 SF, 1.02 AC) Area 2 = (78,467 SF, 1.80 AC) (1) LARGE AREA Area 3 = (206,621 SF, 4.74 AC)
TREE SAVE SUMMARY (CLUSTER)	
EXISTING QUALIFIED TREES:	514 Total
REQUIRED TREES SAVE:	52 (10% of Total)
PROPOSED TREES SAVE:	267 (52% of Total)
STREET DATA	
CORNELL STREET	1,125 LF 50' R/W 35' BC - BC
GIDEON DR	1,245 LF VARIABLE R/W 35' BC - BC
FAMILY FAITH CIR	2,360 LF 50' R/W 35' BC - BC
PARENTS WAY	705 LF 50' R/W 27' BC - BC
SIBLINGS DR	370 LF 50' R/W 27' BC - BC
DEDICATED ROAD R.O.W.	7.64 ACRES

ADJACENT PROPERTIES

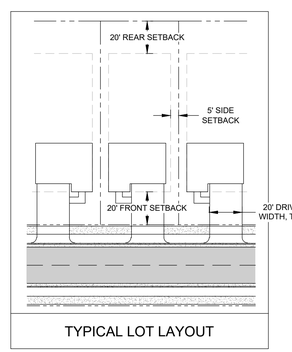
PLAN ID	PIN #	OWNER	DB/PG	USE	ZONING
A1	1757-38-4791	ROSARIO, MODESTO ESCARFULLER	19545 / 517	Residential	R-30
A2	1757-38-5884	CURTIS, HENDALL HEIRS	20-E / 3830	Residential	R-30
A3	1757-38-7858	GARCIA, SALVADOR	18610 / 2740	Residential	R-30
A4	1757-38-5884	FERRELL, CHARLES E & FERRELL, SHARON R	7662 / 727	Residential	R-30
A5	1757-38-8780	POWER ELEVEN CONSTRUCTION, LLC	19349 / 1245	Residential	R-30
A6	1757-48-0701	HARTSFIELD, ROZELIA J HEIRS HATTIE SMITH	10-E / 1220	Residential	R-30
A7	1757-48-1740	HARTSFIELD, ROZELIA J HEIRS HATTIE SMITH	10-E / 1220	Residential	R-30
A8	1757-36-1783	BIRMINGHAM, JOHN DAVIS	3642 / 732	Residential	R-30
A9	1757-26-9620	CARPENTER, BOBBY RAY CARPENTER, ALBERTA L	19601 / 2199	Residential	R-30
A10	1757-26-6697	RIVERS, SUSAN MARSHALL	3406 / 539	Residential	R-30
A11	1757-16-4026	SOUTTER, SUSAN R SOUTTER, ROBERT QUENTIN	17592 / 381	Residential	R-30
A12	1757-38-7189	DUNN, JAMES WILLIAM HEIRS MONTAGUE, BUNNIE DUNN	N/A	Vacant	R-30
A13	1757-38-7090	WW OVERTIME LLC	19202 / 2051	Vacant	R-30
A14	1757-37-7799	WHITLEY, CLEVELAND G HEIRS	N/A	Residential	R-30
A15	1757-37-7699	JARVIS, MARIE D CURTIS, HURLEY MAE	11946 / 1968	Vacant	R-30
A16	1757-37-8610	JARVIS, MYRON JARVIS, MARIE	9106 / 1133	Residential	R-30
A17	1757-37-7497	JARVIS, MARIE D CURTIS, HURLEY MAE	11946 / 1968	Residential	R-30
A18	1757-38-5155	HARRIS, OLLIE VIRGIN HEIRS HARRIS, LORINE B	98-E / 2613	Vacant	R-30
A19	1757-38-5249	CHEN, PING LI FANXING	19823 / 2163	Residential	R-30
A20	1757-27-7811	ROUSE, ELLEN CURTIS	19170 / 1070	Vacant	R-30
A21	1757-38-5562	QUIRINO, MARIA ESTELA	17501 / 945	Residential	R-30
A22	1757-28-9559	WILDER, THOMAS H III WILDER, MAGGIE	12-E / 3295	Residential	R-30

SITE PLAN LEGEND

- PROPOSED R.O.W.
- PROPOSED LOT LINE
- PROPOSED BUILDING SETBACK
- PROPOSED EASEMENT
- PROPOSED OPEN SPACE PASSIVE
- PROPOSED OPEN SPACE ACTIVE
- PROPOSED GREENWAY ACCESS EASEMENT
- PROPOSED MULCH GREENWAY
- PROPOSED ASPHALT GREENWAY
- PROPOSED BOARDWALK GREENWAY
- PROPOSED 30' JONESVILLE RD STREETSCAPE
- PROPOSED 15' BOUNDARY BUFFER CONSERVATION
- PROPOSED 15' BOUNDARY LANDSCAPE BUFFER
- PROPOSED 5' SIDEWALK
- EXISTING BOUNDARY / R.O.W.
- EXISTING EASEMENT
- EXISTING 100 YEAR FLOOD PLAIN (FP)
- EXISTING WETLANDS
- EXISTING DELINEATED STREAM
- STREAM BUFFER ZONE 1
- STREAM BUFFER ZONE 2

GENERAL SITE NOTES:

1. SEE SHEET 16 FOR ROADWAY SECTIONS AND LINE & CURVE TABLES.
2. SEE SHEET GREENWAY PLAN AND PROFILE SHEETS FOR BENCH AND TRASH RECEPTACLES.



TYPICAL LOT LAYOUT

GRAPHIC SCALE

150 0 75 150 300 600

(IN FEET)
1 inch = 150 ft

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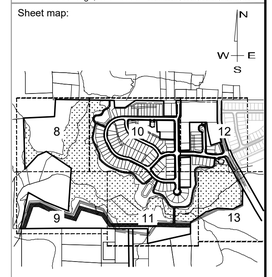
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Date: 2026.11.04 11:49:31-05'00'

Bryan Harris

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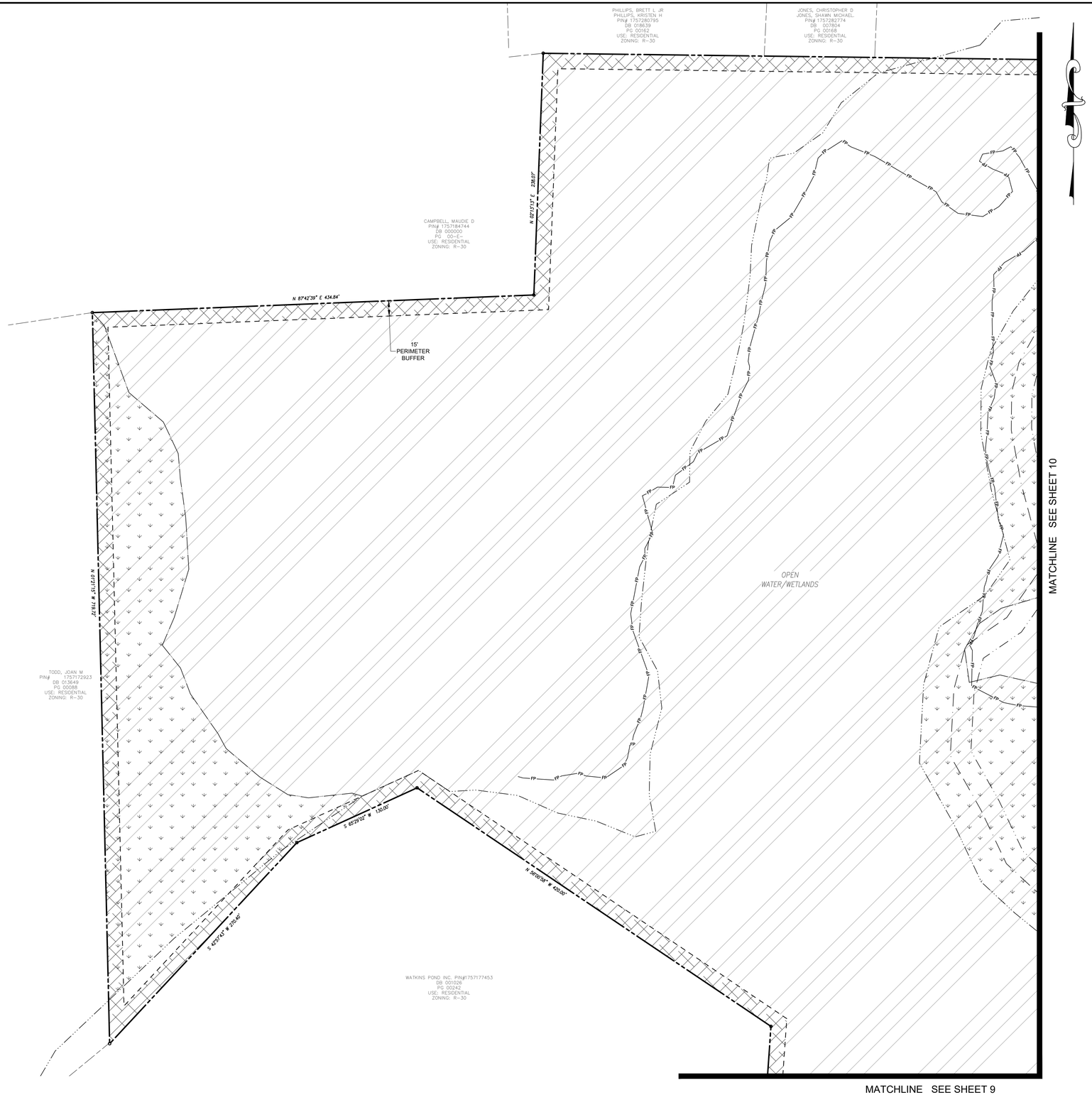
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OVERALL SITE PLAN

Sheet #:

7

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SITE PLAN LEGEND

- PROPOSED R.O.W.
- PROPOSED LOT LINE
- PROPOSED LOT SETBACK
- PROPOSED EASEMENT
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- PROPOSED OPEN SPACE ACTIVE
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GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)

1 inch = 50 ft

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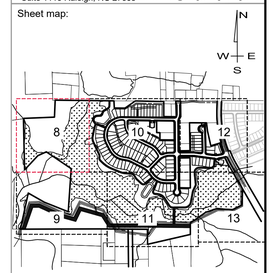
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Sheet Title:

SITE PLAN
SHEET 1 OF 6

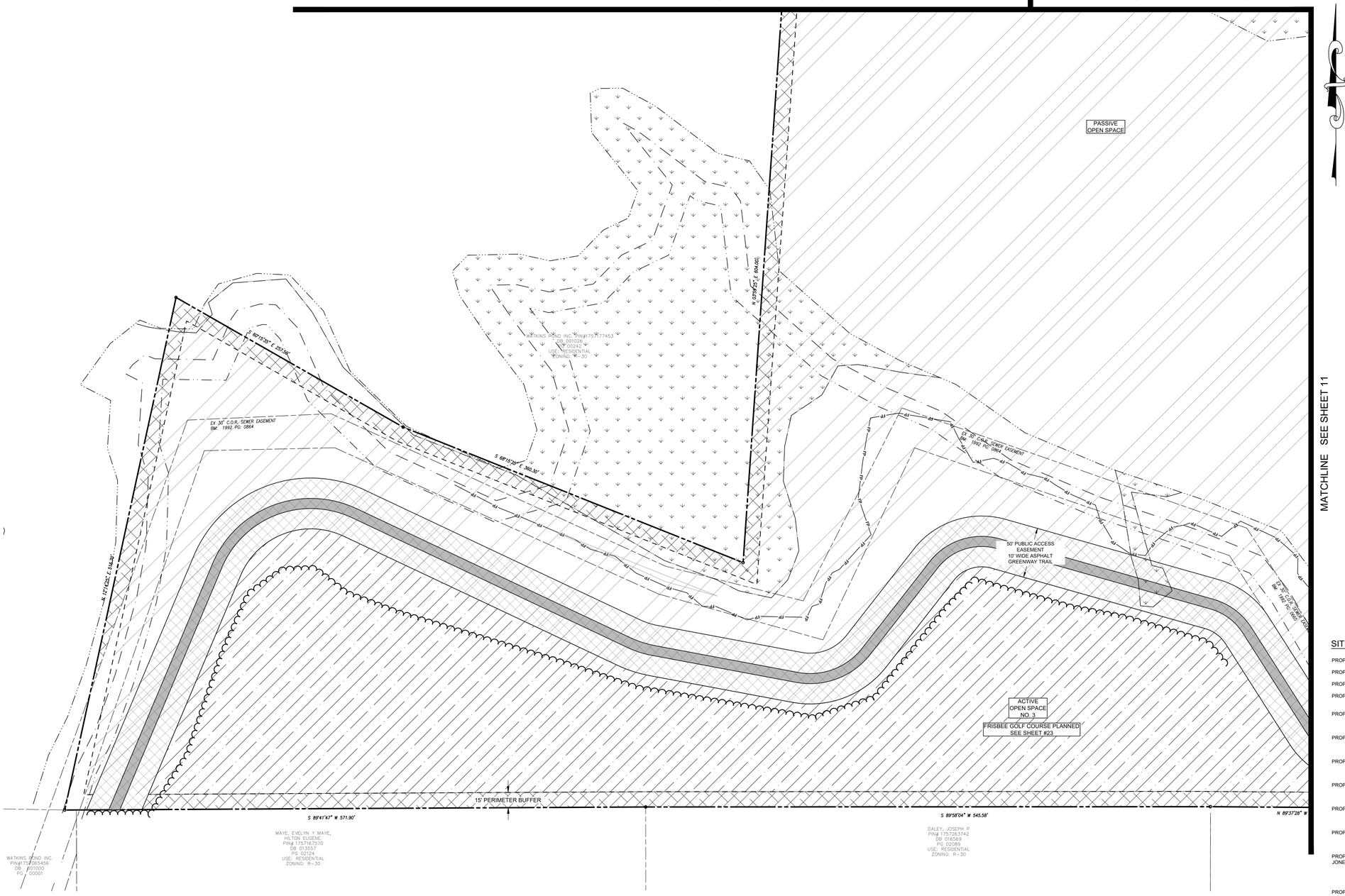
Sheet #:

8

MATCHLINE SEE SHEET 8

MATCHLINE SEE SHEET 10

MATCHLINE SEE SHEET 11



SITE PLAN LEGEND

- PROPOSED R.O.W.
- PROPOSED LOT LINE
- PROPOSED LOT SETBACK
- PROPOSED EASEMENT
- PROPOSED OPEN SPACE PASSIVE
- PROPOSED OPEN SPACE ACTIVE
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- STREAM BUFFER ZONE 1
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GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)

1 inch = 50 ft

N.C. UNDERGROUND UTILITIES

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Cary, N.C. 27519
(919) 996-9455

Surveyor

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Bateman Civil Survey Company
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Apex, NC 27539
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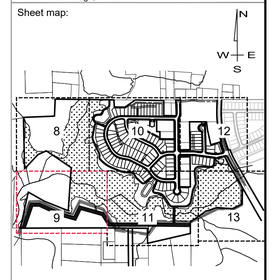
Jurisdiction / Municipality

Rolesville
Genuine Community • Capital Connection
Est. 1837
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
CID-25-0004 (PSP-24-05)

Landscape Architect

STRONGROCK
THE STRONGROCK COMPANIES
305 Church at North Hills Street Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

Sheet map:



Seal:

NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A. HARRIS

Digitally signed by Bryan Harris
DN: cn=Bryan Harris, o=QuantechEng.com, ou=Quantech Engineering LLP, email=Bryan Harris
Date: 2026.11.04 11:49:37-05'00'

Bryan Harris

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Project:

HARRIS CREEK FARMS

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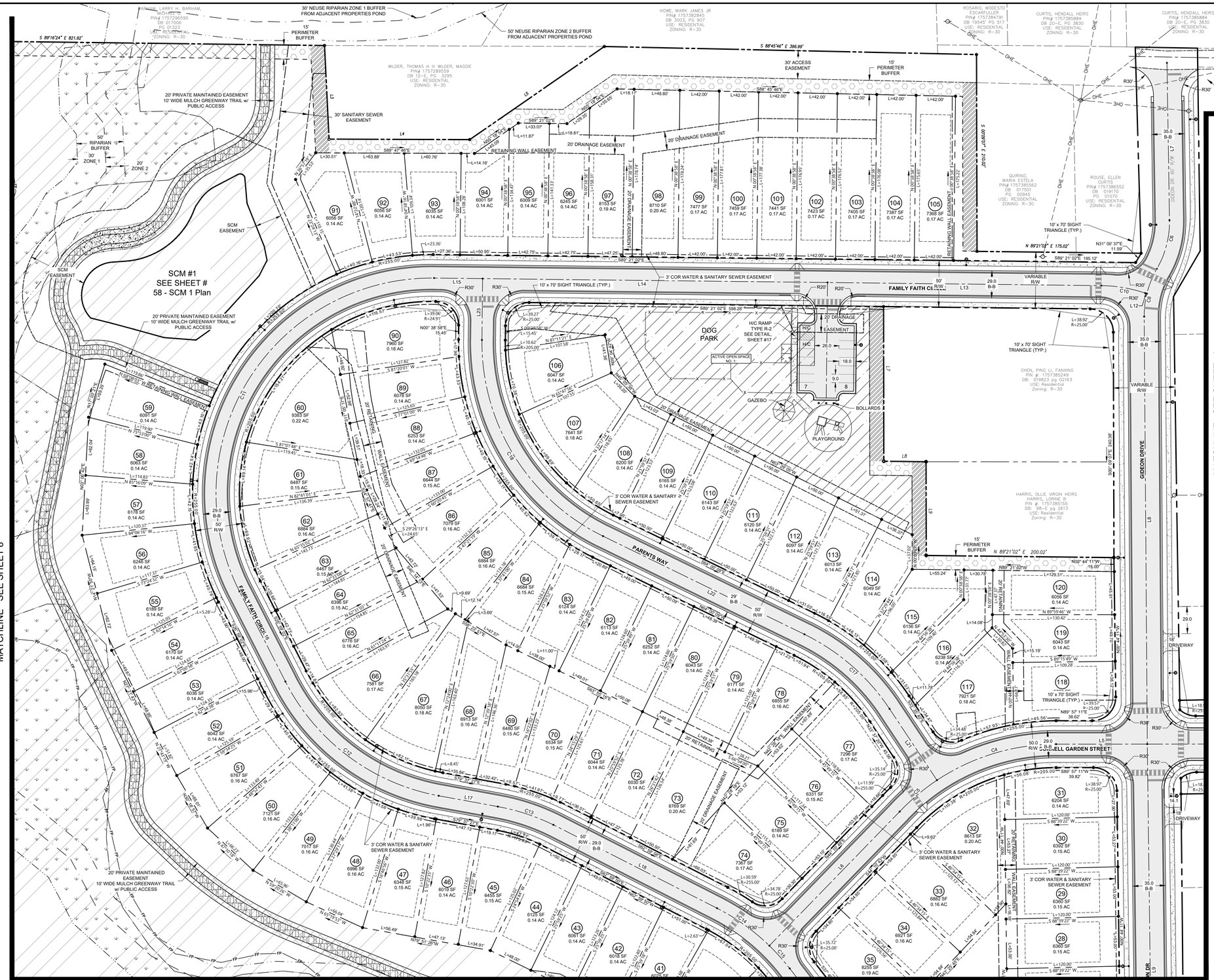
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SITE PLAN SHEET 2 OF 6

Sheet #:

9

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SITE PLAN LEGEND

- PROPOSED R.O.W.
- PROPOSED LOT LINE
- PROPOSED LOT SETBACK
- PROPOSED EASEMENT
- PROPOSED OPEN SPACE PASSIVE
- PROPOSED OPEN SPACE ACTIVE
- PROPOSED GREENWAY EASEMENT
- PROPOSED MULCH GREENWAY
- PROPOSED ASPHALT GREENWAY
- PROPOSED BOARDWALK GREENWAY
- PROPOSED 30' JONESVILLE RD STREETSCAPE
- PROPOSED 15' BOUNDARY BUFFER CONSERVATION
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- PROPOSED 5' SIDEWALK
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- EXISTING 100 YEAR FLOOD PLAIN
- EXISTING WETLANDS
- EXISTING DELINEATED STREAM
- STREAM BUFFER ZONE 1
- STREAM BUFFER ZONE 2

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft

N.C. UNDERGROUND UTILITIES
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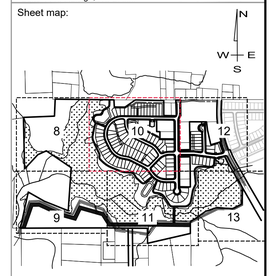
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SHEET 3 OF 6

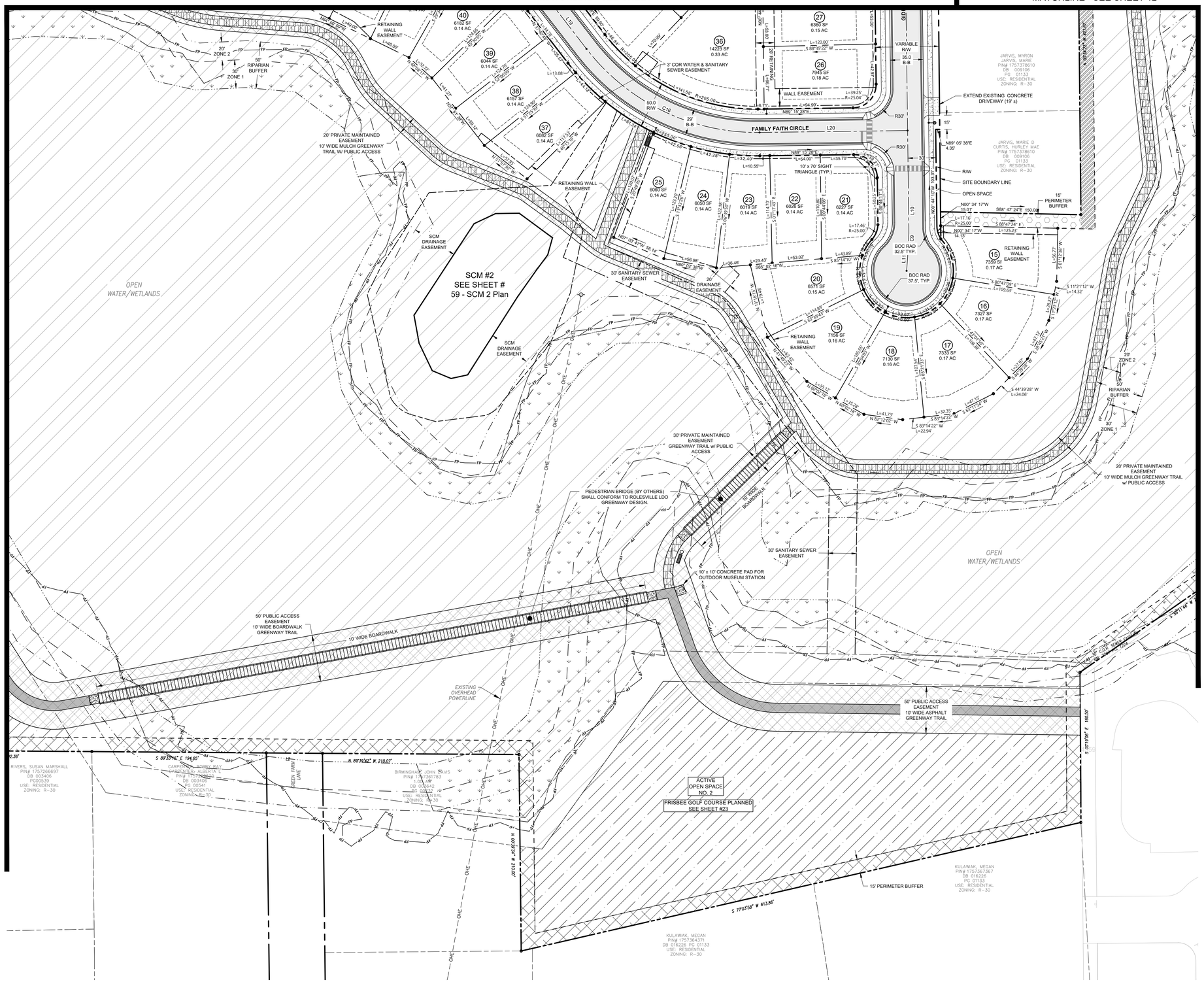
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MATCHLINE SEE SHEET 10

MATCHLINE SEE SHEET 12

MATCHLINE SEE SHEET 9

MATCHLINE SEE SHEET 13



SITE PLAN LEGEND

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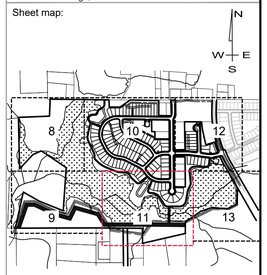
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STRONGROCK
THE STRONGROCK COMPANIES

305 Church at North Hills Street
Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

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Bryan Harris

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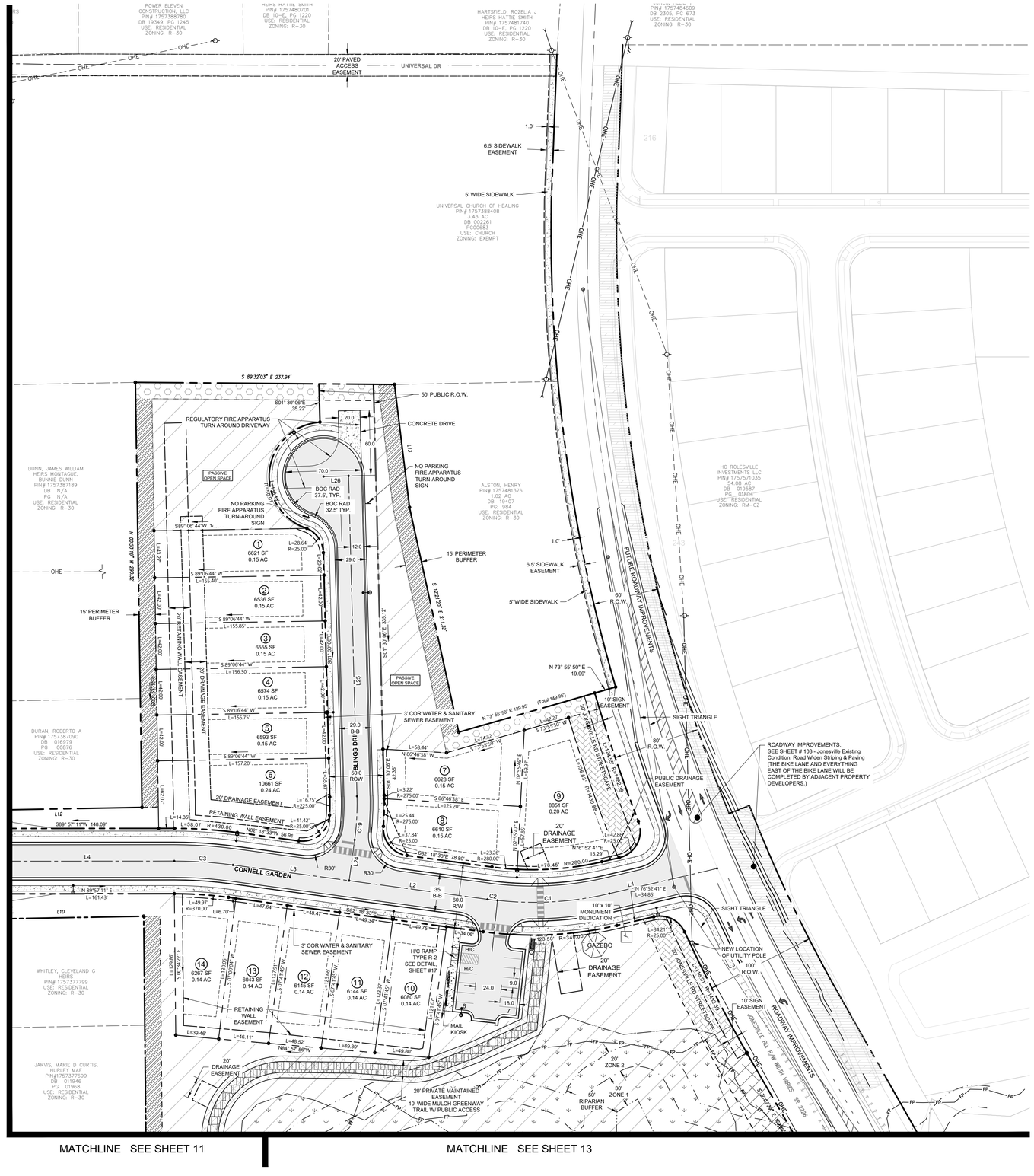
No.	Date	Description

Sheet Title:

SITE PLAN SHEET 4 OF 6

Sheet #:

11





Description	A freestanding ground sign identifying entry to a mixed-use district, neighborhood, or a residential subdivision. A sign permit is required.
Size	Sign Width: Maximum 25', excluding support structures, columns or decorative features without a sign face. Sign Height: Maximum 10', incuding support structures, columns or other features including sign face. Sign Area: For projects/developments up to 5 acres, a maximum 50 square feet (single tenant) and 100 square feet (multi-tenant); For Projects/developments 5 acres or greater, a maximum 300 square feet (single tenant) and 200 square feet (multi-tenant).
Location	2 signs per entrance, maximum. Approval for any right-of-way encroachment required by the owner of the right-of-way, consistent with Section 6.1.2.K.
Standards	Identifying signs may be placed on a subdivision wall or fence provided that no part of the wall or fence exceeds 6' in height.

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GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)

1 inch = 50 ft

N.C. UNDERGROUND UTILITIES

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Engineer

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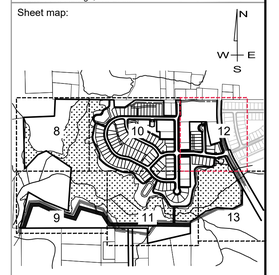
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Genuine Community • Capital Connection
Est. 1837
Town of Rolesville
502 Southtown Cir
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Phone: 919-554-6517
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Landscape Architect

STRONGROCK
THE STRONGROCK COMPANIES
305 Church at North Hills Street Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

Sheet map:



Seal:

NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A. HARRIS

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Sheet Title:

SITE PLAN
SHEET 5 OF 6

Sheet #:

12

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MATCHLINE SEE SHEET 11

MATCHLINE SEE SHEET 12



SITE PLAN LEGEND

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GRAPHIC SCALE

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(IN FEET)
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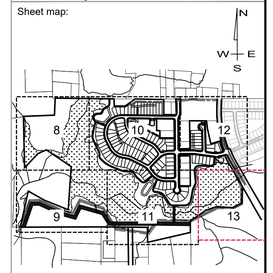
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Sheet Title:

SITE PLAN
SHEET 6 OF 6

Sheet #:

13

30' SANITARY SEWER EASEMENT

20' DRAINAGE EASEMENT

SCM #1

FAMILY FAITH CIRCLE

DOG PARK

GAZEBO

PLAY GROUND

20' RETAINING WALL EASEMENT

20' DRAINAGE EASEMENT

ACTIVE OPEN SPACE NO. 1: DOG PARK & PLAYGROUND

PARENT'S WAY

GIDEON DRIVE

PASSIVE OPEN SPACE

20' RETAINING WALL EASEMENT

20' DRAINAGE EASEMENT

SIBLINGS DRIVE

18' DRIVEWAY

CORNELL GARDEN STREET

CORNELL GARDEN

GIDEON DR

18' DRIVEWAY

19' DRIVEWAY

MAIL KIOSK

GAZEBO

MONUMENT DEDICATION

50' RIPARIAN BUFFER

20' PRIVATE MAINTAINED EASEMENT
10' WIDE MULCH GREENWAY TRAIL W/ PUBLIC ACCESS

PASSIVE OPEN SPACE

SCM #2

S88° 47' 24"E 150.08'

0 75 150 300 600

(IN FEET)
1 inch = 150 ft

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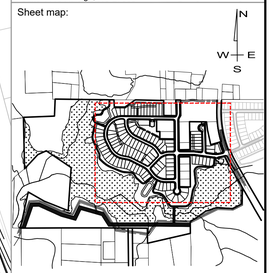
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ADRESSING PLAN

Sheet #:

14

FAMILY FAITH CIRCLE

PARENTS WAY

GIDEON DRIVE

CORNELL GARDEN

SIBLINGS DRIVE

SEE SHEET #10 FOR PARKING STALL DIMENSIONS

NO PARKING FIRE APPARATUS TURN-AROUND SIGN

SEE SHEET # 103 FOR JONESVILLE ROAD STRIPING

MAIL KIOSK

SEE SHEET #12 FOR PARKING STALL DIMENSIONS

S88° 47' 24"E 150.08'

LEGEND

	STOP SIGN W/ STREET NAME SIGN STACKED ABOVE
	STOP SIGN
25	25MPH LIMIT SIGN
HC	HANDICAP SIGN
H/C	HANDICAP PARKING STALL
	PEDESTRIAN CROSSWALK
NP	NO PARKING FIRE APPARATUS TURN-AROUND
COMM	FREE STANDING NEIGHBORHOOD SIGN
	PEDESTRIAN CROSSWALK SIGN
	PEDESTRIAN STEEP SLOPE SIGN

GRAPHIC SCALE

60 0 30 60 120 240

(IN FEET)

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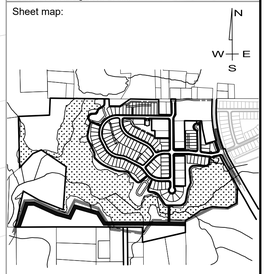
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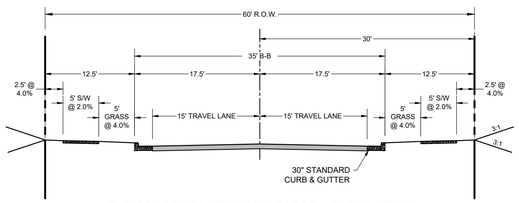
Street Centerline Line Table		
Line #	Length (ft)	BEARING
L1	101.59	N76° 52' 41"E
L2	235.96	S82° 18' 33"E
L3	235.96	S82° 18' 33"E
L4	217.09	N89° 57' 11"E
L5	94.23	N89° 57' 11"E
L6	199.48	N44° 10' 45"E
L7	167.95	N00° 55' 12"W
L8	456.14	N00° 25' 00"W
L9	382.47	N00° 44' 11"W
L10	102.62	N00° 44' 11"W
L11	21.31	N04° 15' 55"E
L12	1.97	N73° 49' 16"W
L13	292.04	N89° 21' 02"W
L14	367.89	N89° 21' 02"W
L15	51.75	N89° 21' 02"W
L16	107.86	S26° 59' 02"E
L17	64.12	S79° 37' 27"E
L18	195.83	S62° 58' 47"E
L19	70.35	S37° 40' 48"E
L20	158.26	N89° 15' 29"E
L21	91.42	N33° 35' 40"W
L22	238.98	N64° 00' 09"W
L23	65.45	N00° 38' 58"E
L24	37.82	S07° 41' 27"W
L25	294.26	S01° 30' 06"E
L26	23.00	S88° 29' 54"W

Street Centerline Curve Table		
Curve #	Length (ft)	Radius
C1	103.51	305.28
C2	9.09	95.90
C3	54.02	400.00
C4	135.16	230.00
C5	51.60	230.00
* C7	53.30	100.00
* C8	53.30	100.00
* C9	26.19	300.00
* C10	47.52	150.00
C11	472.21	230.00
C12	211.31	230.00
C13	62.61	230.00
C14	68.88	230.00
C15	32.68	230.00
C16	213.00	230.00
C17	122.07	230.00
C18	259.53	230.00
C19	40.11	250.00

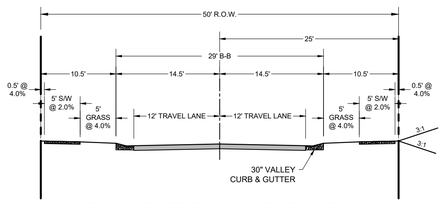
* CURVE C6, C7, C8, & C9 ARE LOCATED AT THE SHIFT IN R/W ON GIDEON BEHIND THE CHURCH.

SIDEWALK NOTES

1. WHERE IT IS NECESSARY TO REMOVE A PORTION OF EXISTING SIDEWALKS OR DRIVEWAYS, SAW A NEAT EDGE ALONG THE PAVEMENT TO BE RETAINED APPROXIMATELY 2 INCHES DEEP WITH A CONCRETE SAW BEFORE BREAKING THE ADJACENT PAVEMENT AWAY.
2. CONSTRUCT CONCRETE IN ACCORDANCE WITH TOWN STANDARDS AND NCDOT STANDARDS & SPECIFICATIONS SECTION 825 AND AND GIVE SIDEWALK FINISH, EXCEPT AS OTHERWISE PROVIDED HEREIN.
3. BROOM THE CONCRETE SURFACE IN A TRANSVERSE DIRECTION TO TRAFFIC. MAKE JOINT SPACING NO LESS THAN 5 FEET. WHERE EXISTING SIDEWALKS ARE BEING WIDENED, LINE UP NEW TRANSVERSE JOINTS WITH EXISTING JOINTS IN THE ADJACENT SIDEWALK. SEAL EXPANSION JOINTS WHERE SIDEWALK AND CURB RAMPS ARE PLACED ADJACENT TO CONCRETE CURB AND/OR GUTTER. DO NOT SEAL GROOVE JOINTS.
4. DO NOT PLACE BACKFILL ADJACENT TO THE SIDEWALK, DRIVEWAY OR CURB RAMP UNTIL AT LEAST 3 CURING DAYS, AS DEFINED IN ARTICLE 825-9, HAVE ELAPSED UNLESS OTHERWISE APPROVED. COMPACT BACKFILL TO A DEGREE COMPARABLE TO THE ADJACENT UNDISTURBED MATERIAL.
5. DO NOT PLACE VEHICLES ON THE COMPLETED WORK UNTIL 7 CURING DAYS, AS DEFINED IN ARTICLE 825-9, HAVE ELAPSED. WHEN HIGH EARLY STRENGTH CONCRETE IS USED, VEHICLES WILL BE PERMITTED ON THE COMPLETED WORK AFTER 3 CURING DAYS HAVE ELAPSED.
6. INSTALL DETECTABLE WARNINGS FOR PROPOSED CURB RAMPS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
7. PRIOR TO PLACING DETECTABLE WARNINGS IN EXISTING CONCRETE CURB RAMPS, SAW CUT TO THE FULL DEPTH OF THE CONCRETE, FOR OTHER MATERIAL REMOVE AS NECESSARY, AND ADJUST THE EXISTING SUBGRADE TO THE PROPER GRADE.
8. PLACE ALL DETECTABLE WARNINGS IN ACCORDANCE TO MANUFACTURE'S RECOMMENDATIONS.

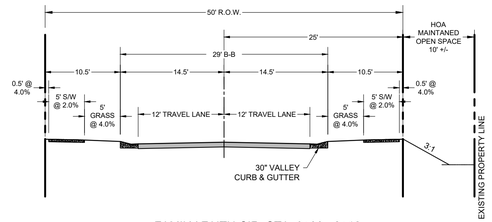


TYPICAL RESIDENTIAL COLLECTOR ROAD SECTION
1" = 10'

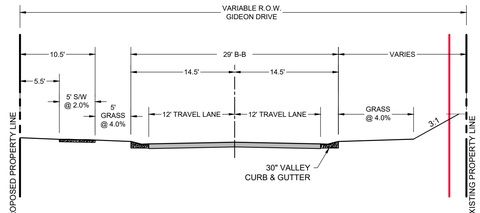


TYPICAL RESIDENTIAL LOCAL ROAD SECTION
1" = 10'

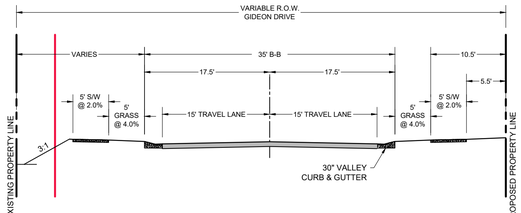
NOTE:
CORNELL GARDEN ST FROM JONESVILLE RD TO GIDEON RD IS A COLLECTOR ROAD
THE REMAINDER OF CORNELL GARDEN ST IS A LOCAL ROAD



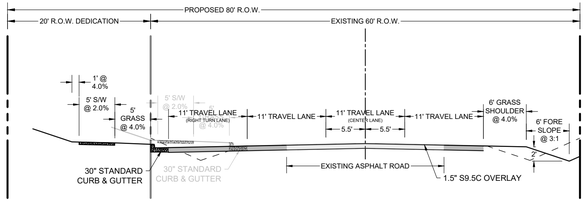
FAMILY FAITH CIR STA: 0+00 - 2+12
(VARIABLE R.O.W. WIDTH) ROAD SECTION
1" = 10'



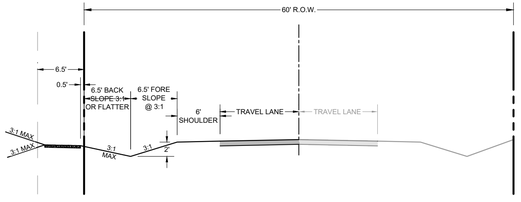
GIDEON DR STA: 0+00 - 2+30
(Gidion Dr. north of Family Faith Cir north intersection) ROAD SECTION
1" = 10'



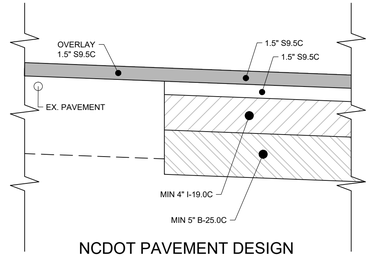
GIDEON DR STA: 2+80 - 12+10
Gidion Dr. south of Family Faith Cir north intersection) ROAD SECTION
1" = 10'



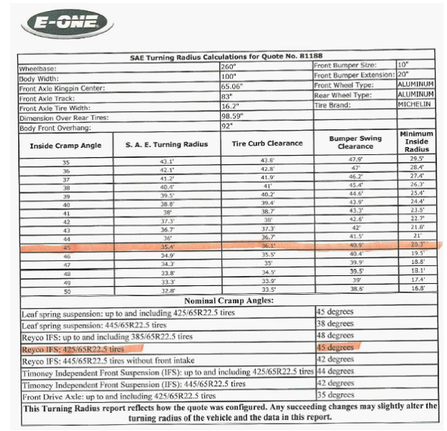
JONESVILLE ROAD SECTION
(PROPERTY FRONTAGE)
1" = 10'



JONESVILLE ROAD SECTION
(FRONTAGE OF ADJACENT PROPERTY)
1" = 10'



NCDOT PAVEMENT DESIGN



SAE Turning Radius Calculations for Quote No. 81188

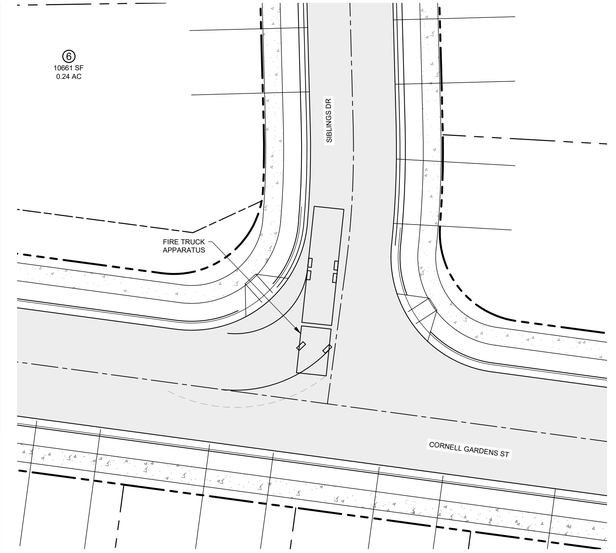
Wheelbase:	260"	Front Bumper Size:	10"
Body Width:	100"	Front Bumper Extension:	20"
Front Axle Kingpin Center:	65.06"	Front Wheel Type:	ALUMINUM
Front Axle Track:	83"	Rear Wheel Type:	ALUMINUM
Front Axle Tire Width:	16.3"	Tire Brand:	MICHELIN
Dimension Over Rear Tires:	98.59"		
Body Front Overhang:	92"		

Inside Cramp Angle	S. A. E. Turning Radius	Tire Curb Clearance	Bumper Swing Clearance	Minimum Inside Radius
35	43.1'	43.8'	47.9'	25.7'
36	42.1'	42.8'	47'	28.4'
37	41.2'	41.9'	46.2'	27.4'
38	40.4'	41'	45.4'	26.3'
39	39.5'	40.2'	44.6'	25.4'
40	38.8'	39.4'	43.9'	24.4'
41	38'	38.7'	43.3'	23.5'
42	37.3'	38'	42.6'	22.7'
43	36.7'	37.3'	42'	21.8'
44	36'	36.7'	41.5'	21'
45	35.4'	36.1'	40.9'	20.3'
46	34.9'	35.5'	40.4'	19.5'
47	34.3'	35'	39.9'	18.8'
48	33.8'	34.5'	39.5'	18.1'
49	33.3'	33.9'	39'	17.4'
50	32.8'	33.5'	38.6'	16.8'

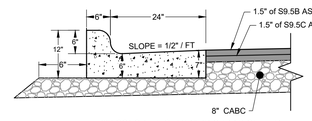
Nominal Cramp Angles:

Leaf spring suspension: up to and including 425/65R22.5 tires	45 degrees
Leaf spring suspension: 445/65R22.5 tires	38 degrees
Reyco IFS: up to and including 385/65R22.5 tires	48 degrees
Reyco IFS: 425/65R22.5 tires	45 degrees
Reyco IFS: 445/65R22.5 tires without front intake	42 degrees
Timoney Independent Front Suspension (IFS): up to and including 425/65R22.5 tires	44 degrees
Timoney Independent Front Suspension (IFS): 445/65R22.5 tires	42 degrees
Front Drive Axle: up to and including 425/65R22.5 tires	55 degrees

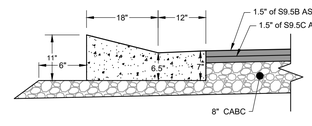
This Turning Radius report reflects how the quote was configured. Any succeeding changes may slightly alter the turning radius of the vehicle and the data in this report.



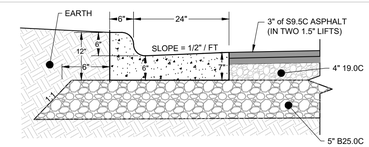
FIRE TRUCK APPARATUS RADII DETAIL
1" = 20'



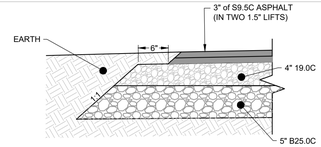
30" CONCRETE STANDARD CURB & GUTTER
& PAVEMENT DESIGN



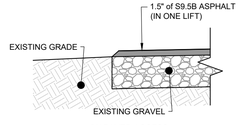
30" CONCRETE VALLEY CURB & GUTTER
& PAVEMENT DESIGN



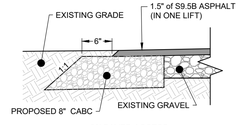
NCDOT - WITH CURB AND GUTTER
JONESVILLE & MITCHELL MILL



NCDOT - NO CURB AND GUTTER
JONESVILLE & MITCHELL MILL



20' PAVED ACCESS
(UNIVERSAL DRIVE)



20' PAVED ACCESS
(UNIVERSAL DRIVE)

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EATERAN CIVIL SURVEY COMPANY
Bateman Civil Survey Company
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Apex, NC 27539
919-557-1080 ext 109
www.batemancivilsurvey.com

Jurisdiction / Municipality
Rolesville
Genuine Community • Capital Connection
Est. 1837
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
CID-25-0004 (PSP-24-05)
Formally known as SUB-24-

Landscape Architect
STRONGROCK
THE STRONGROCK COMPANIES
305 Church at North Hills Street
Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

Sheet map:

Seal:

NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A. HARRIS

Bryan Harris

Digitally signed by Bryan Harris
DN: CN=B...
Reason: I am approving this document
Location: Bryan Harris
Date: 2026.11.04 11:50:01-05'00'

Issued / Print Date: 2026-July-27 (10:33)
File Name: 7 Overall Site Plan.dwg

Last Saved by: BryanHarris
Drawn by: TAN

Project:

HARRIS CREEK FARMS

CID 25-0004 (FKA - CID-25-03)

Issued for:

FINAL DRAWING
FOR CONSTRUCTION

REVISIONS

No.	Date	Description

Sheet Title:

SITE PLAN DATA & ROADWAY DETAILS

Sheet #:

16

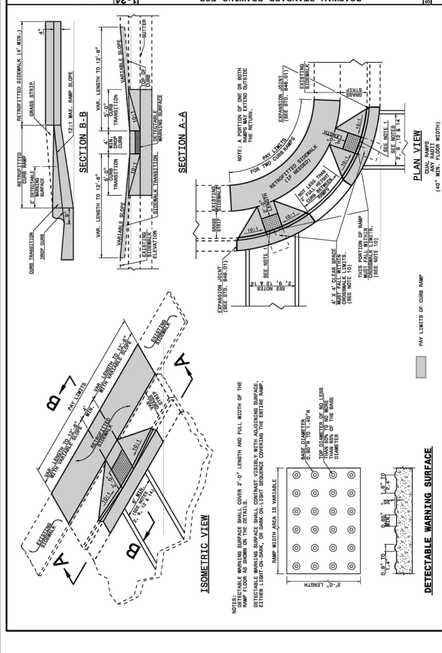
N.C. UNDERGROUND UTILITIES
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TOLL FREE 811 or (800)632-4949
A ONE CALL SYSTEM FOR COMMUNITY AND JOB SAFETY

File Location: C:\Users\BryanHarris\Quantech\Quantech Engineering - Documents\Harris Creek Farm - Jonesville\Engineering_DWG\Construction Plans\7 Overall Site Plan.dwg

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
1-24

SHEET 1 OF 13
848.06

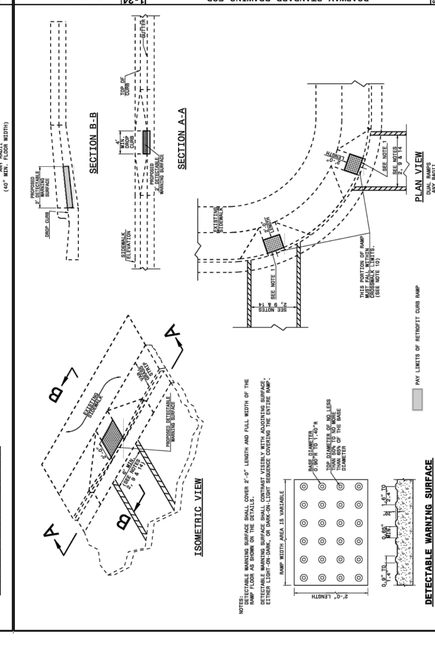
ROADWAY STANDARD DRAWING FOR
CURB RAMP
CURB RAMP AND SIDEWALK



STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
1-24

SHEET 2 OF 13
848.06

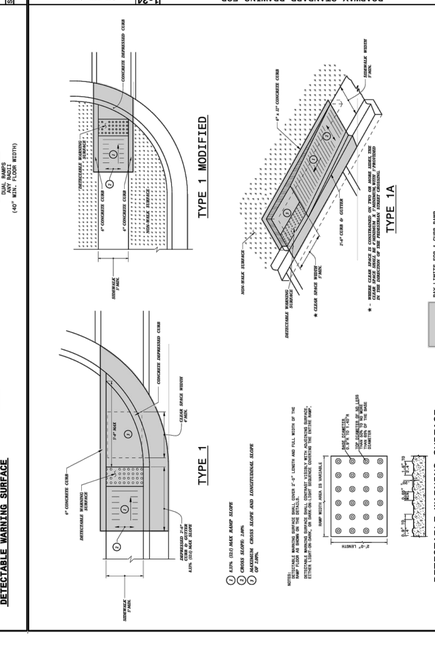
ROADWAY STANDARD DRAWING FOR
CURB RAMP
RETROFITTING DETECTABLE WARNING SURFACE ONTO EXISTING CURB RAMP



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DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
1-24

SHEET 3 OF 13
848.06

ROADWAY STANDARD DRAWING FOR
CURB RAMP
DIRECTIONAL RAMP



STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
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RALEIGH, N.C.
1-24

SHEET 4 OF 13
848.06

ROADWAY STANDARD DRAWING FOR
CURB RAMP
NOTES

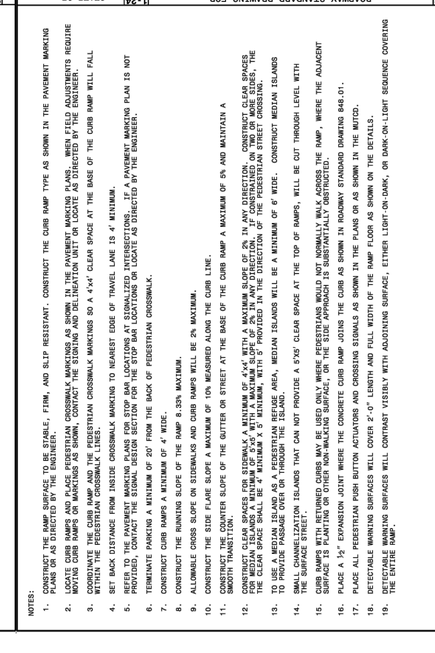
NOTES:

1. CONSTRUCT THE RAMP SURFACE TO BE STABLE, FIRM, AND SLIP RESISTANT. CONSTRUCT THE CURB RAMP TYPE AS SHOWN IN THE PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER.
2. LOCATE CURB RAMPS AND PLACE PEDESTRIAN CROSSWALK MARKINGS AS SHOWN IN THE PAVEMENT MARKING PLANS. WHEN FIELD ADJUSTMENTS REQUIRE LOCATING CURB RAMPS AT LOCATIONS OTHER THAN SHOWN IN THE PAVEMENT MARKING PLANS, NOTIFY THE ENGINEER.
3. COORDINATE THE CURB RAMP AND THE PEDESTRIAN CROSSWALK MARKINGS SO A 4'x4' CLEAR SPACE AT THE BASE OF THE CURB RAMP WILL FALL WITHIN THE PEDESTRIAN CROSSWALK MARKINGS.
4. SET BACK DISTANCE FROM INSIDE CROSSWALK MARKING TO NEAREST EDGE OF TRAVEL LANE IS 4' MINIMUM.
5. REFER TO THE PAVEMENT MARKING PLANS FOR STOP BAR LOCATIONS AT SIGNALIZED INTERSECTIONS. IF A PAVEMENT MARKING PLAN IS NOT AVAILABLE, PLACE STOP BARS 4' FROM THE NEAREST EDGE OF THE PEDESTRIAN CROSSWALK.
6. TERMINATE PARKING A MINIMUM OF 20' FROM THE BACK OF PEDESTRIAN CROSSWALK.
7. CONSTRUCT CURB RAMPS A MINIMUM OF 4' WIDE.
8. CONSTRUCT THE RUNNING SLOPE OF THE RAMP 8.33% MAXIMUM.
9. ALLOWABLE CROSS SLOPE ON SIDEWALKS AND CURB RAMPS WILL BE 2% MAXIMUM.
10. CONSTRUCT THE SIDE FLARE SLOPE A MAXIMUM OF 10% MEASURED ALONG THE CURB LINE.
11. CONSTRUCT THE COUNTER SLOPE OF THE GUTTER OR STREET AT THE BASE OF THE CURB RAMP A MAXIMUM OF 5% AND MAINTAIN A CONTINUOUS FLOW LINE.
12. CONSTRUCT CLEAR SPACES FOR SIDEWALK A MINIMUM OF 4'x4' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION. CONSTRUCT CLEAR SPACES FOR MEDIAN ISLANDS A MINIMUM OF 5'x5' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION. IF CONSTRAINED ON TWO OR MORE SIDES, THE CLEAR SPACE MAY BE REDUCED TO A MINIMUM OF 4'x4'. CONSTRUCT CLEAR SPACES FOR PEDESTRIAN REFUGE AREAS WITH A MINIMUM WIDTH OF 6'.
13. TO USE A MEDIAN ISLAND AS A PEDESTRIAN REFUGE AREA, MEDIAN ISLANDS WILL BE A MINIMUM OF 6' WIDE. CONSTRUCT MEDIAN ISLANDS TO PROVIDE PASSAGE OVER OR THROUGH THE ISLAND.
14. SMALL CHANNELIZATION ISLANDS THAT CAN NOT PROVIDE A 5'X5' CLEAR SPACE AT THE TOP OF RAMPS, WILL BE CUT THROUGH LEVEL WITH THE SURFACE STREET.
15. MOUNTABLE CURBS MAY BE USED ONLY WHERE PEDESTRIANS WOULD NOT NORMALLY WALK ACROSS THE RAMP, WHERE THE ADJACENT SURFACE IS PLANTING OR OTHER NON-WALKING SURFACE, OR THE SIDE APPROACH IS SUBSTANTIALLY OBSTRUCTED.
16. PLACE A ½" EXPANSION JOINT WHERE THE CONCRETE CURB RAMP JOINS THE CURB AS SHOWN IN ROADWAY STANDARD DRAWING 848.01.
17. PLACE ALL PEDESTRIAN PUSH BUTTON ACTUATORS AND CROSSING SIGNALS AS SHOWN IN THE PLANS OR AS SHOWN IN THE MUTCD.
18. DETECTABLE WARNING SURFACES WILL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
19. DETECTABLE WARNING SURFACES WILL CONTRAST VISIBLY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.

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SHEET 5 OF 13
848.06

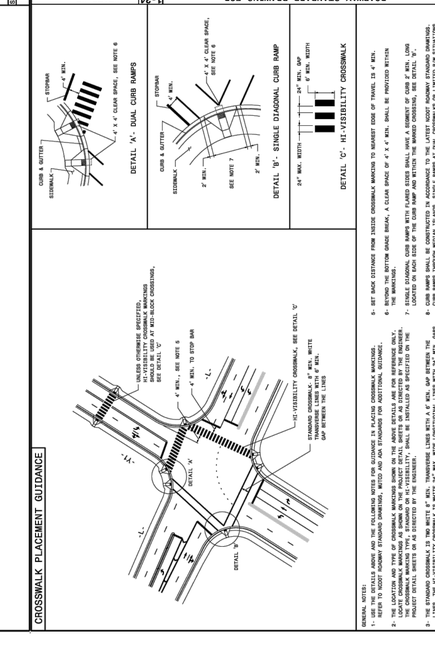
ROADWAY STANDARD DRAWING FOR
CURB RAMP
PARALLEL RAMP



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RALEIGH, N.C.
1-24

SHEET 6 OF 13
1205.07

ROADWAY STANDARD DRAWING FOR
PAVEMENT MARKINGS
PEDESTRIAN CROSSWALKS



GENERAL NOTES:

1- SET BACK DISTANCE FROM INSIDE CROSSWALK MARKING TO NEAREST EDGE OF TRAVEL IS 4' MIN.

2- EXTEND THE BOTTOM GRADE BREAK, A CLEAR SPACE OF 4' x 4' X MIN. SHALL BE PROVIDED WITHIN THE CROSSING.

3- SINGLE DIAGONAL CURB RAMPS WITH FLARED SIDES SHALL HAVE A SEGMENT OF CURB 2' MIN. LONG LOCATED ON EACH SIDE OF THE CURB RAMP AND WITHIN THE MARKED CROSSING, SEE DETAIL 'B'.

4- CURB RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE TO THE LATEST NCDOT ROADWAY STANDARD DRAWINGS, AND THE LATEST PROWAG GUIDELINES. ALL CURB RAMPS, INCLUDING THOSE NOT SHOWN ON THE PAVEMENT MARKING PLANS, WILL BE HANDLED BY SPECIAL DETAILS. CONTACT THE CONTRACT STANDARDS AND DEVELOPMENT UNIT FOR ASSISTANCE.

5- SET BACK DISTANCE FROM INSIDE CROSSWALK MARKING TO NEAREST EDGE OF TRAVEL IS 4' MIN.

6- EXTEND THE BOTTOM GRADE BREAK, A CLEAR SPACE OF 4' x 4' X MIN. SHALL BE PROVIDED WITHIN THE CROSSING.

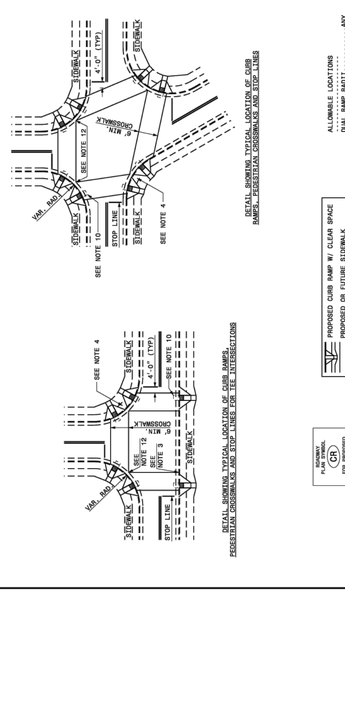
7- SINGLE DIAGONAL CURB RAMPS WITH FLARED SIDES SHALL HAVE A SEGMENT OF CURB 2' MIN. LONG LOCATED ON EACH SIDE OF THE CURB RAMP AND WITHIN THE MARKED CROSSING, SEE DETAIL 'B'.

8- CURB RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE TO THE LATEST NCDOT ROADWAY STANDARD DRAWINGS, AND THE LATEST PROWAG GUIDELINES. ALL CURB RAMPS, INCLUDING THOSE NOT SHOWN ON THE PAVEMENT MARKING PLANS, WILL BE HANDLED BY SPECIAL DETAILS. CONTACT THE CONTRACT STANDARDS AND DEVELOPMENT UNIT FOR ASSISTANCE.

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SHEET 7 OF 13
848.06

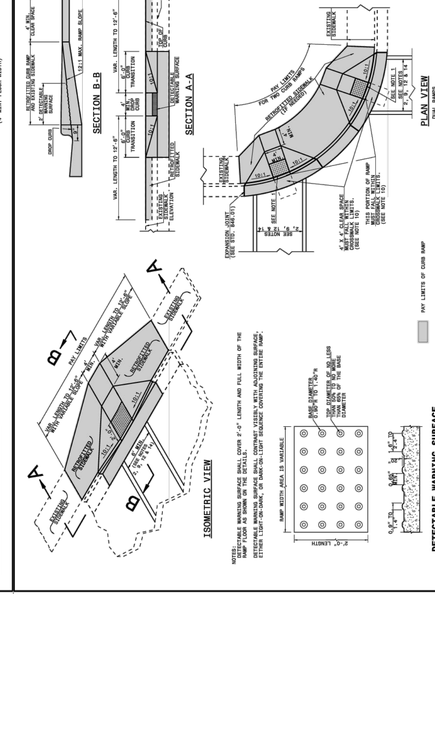
ROADWAY STANDARD DRAWING FOR
CURB RAMP
CURB RAMP LOCATION



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1-24

SHEET 8 OF 13
848.06

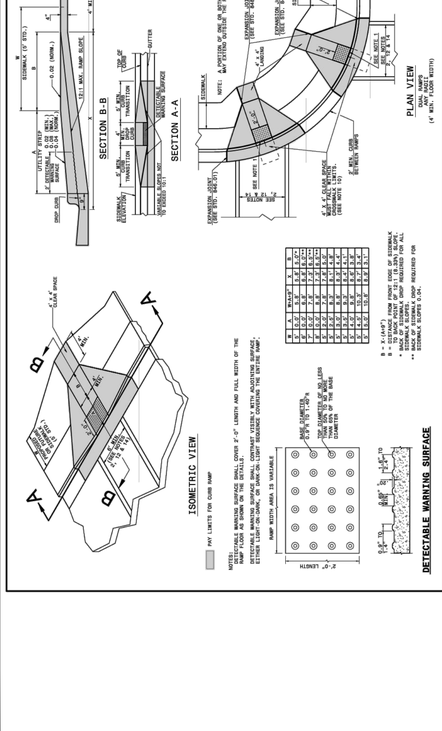
ROADWAY STANDARD DRAWING FOR
CURB RAMP
ADJACENT TO CURB



STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
1-24

SHEET 9 OF 13
848.06

ROADWAY STANDARD DRAWING FOR
CURB RAMP
PROPOSED CURB AND GUTTER



STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
1-24

SHEET 10 OF 13
848.06

ROADWAY STANDARD DRAWING FOR
CURB RAMP
CURB RAMP AND SIDEWALK WITH GRASS STRIP

File Location: C:\Users\BryanHarris\Quantech\Quantech Engineering - Documents\Harris Creek Farm - Jonesville\Engineering_DWG\Construction Plans\17 Site Details.dwg

Developer

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Engineer

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STRONGROCK
THE STRONGROCK COMPANIES
305 Church at North Hills Street
Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

Sheet map:

Seal:

NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A. HARRIS
Bryan Harris
Digitally signed by Bryan Harris
DN: CN=Bryan Harris, O=Quantech Engineering, C=US
Date: 2026.11.04 11:56:05-05'00'

Issued / Print Date: 2026-July-27 (10:33)
File Name: 17 Site Details.dwg

Last Saved by: BryanHarris
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Project:

HARRIS CREEK FARMS

CID 25-0004 (FKA - CID-25-03)

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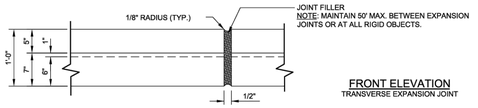
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HANDICAP RAMPS & CROSSWALK DETAILS

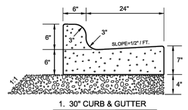
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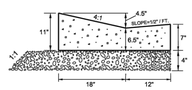
N.C. UNDERGROUND UTILITIES
811 3 DAYS BEFORE DIGGING CALL TOLL FREE 811 or (800)632-4949
A ONE CALL SYSTEM FOR COMMUNITY AND JOB SAFETY



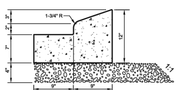
FRONT ELEVATION
TRANSVERSE EXPANSION JOINT



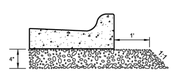
1. 30" CURB & GUTTER



2. 30" VALLEY TYPE GUTTER

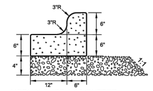


MEDIAN CURB AND GUTTER
SIDE ELEVATION

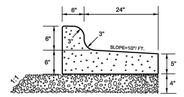


4" COMPACTED A.B.C. UNDER STANDARD CURB & GUTTER (MIN)

NO VALLEY CURB SHALL BE USED AT INTERSECTIONS, HYDRANTS, ETC.



MEDIAN CURB AND GUTTER
(NON-MOUNTABLE)



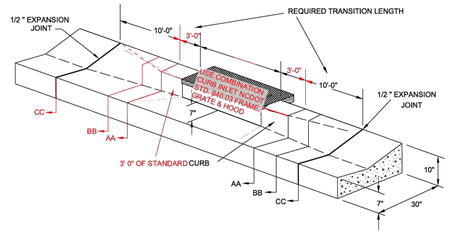
SPILL CURB DETAIL

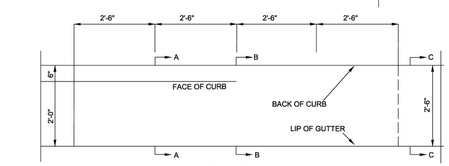
NOTES:
1. 10' MAXIMUM BETWEEN DUMMY JOINTS. 15' MAXIMUM BETWEEN DUMMY JOINTS ON MACHINE POURS.
2. 1/2" EXPANSION JOINT EVERY 50'.
3. 3000 PSI CONCRETE MINIMUM, 4" SLUMP MAXIMUM.
4. LIQUID MEMBRANE CURING COMPOUND SHALL MEET THE REQUIREMENTS OF SECTION 1026-2 OF NCDOT STANDARDS & SPECIFICATIONS FOR ROADS AND STRUCTURES.
5. ALL CONSTRUCTION JOINTS SHALL BE FILLED WITH JOINT FILLER AND SEALER IN ACCORDANCE WITH NCDOT ROADWAY STANDARD DETAIL 846.01 THE JOINT MATERIAL SHALL CONFORM TO SECTION 1028-2 OF NCDOT STANDARD & SPECIFICATIONS FOR ROADS AND STRUCTURES.
6. REFER TO NCDOT DETAIL 846.01 FOR CURB AND GUTTER SUPERELEVATION RATES.

SHEET 1 OF 2

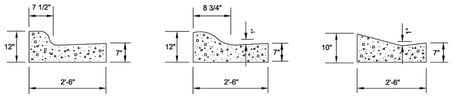
CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 8/2020	NOT TO SCALE
	CURB AND GUTTER	
	T-10.26.1	





PLAN VEIW



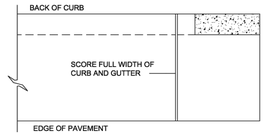
SECTION A-A SECTION B-B SECTION C-C

NOTES:
TRANSITION NOT TO BE LOCATED WITHIN THE CURB RADIUS.

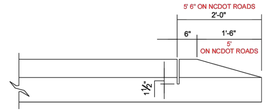
SHEET 2 OF 2

CITY OF RALEIGH
STANDARD DETAIL

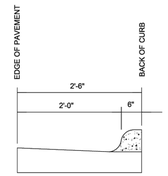
REVISIONS	DATE: 8/2020	NOT TO SCALE
Modify by Quantech Engineering LLC 14 Aug 2025	CURB TRANSITION TO 2'- 6" VALLEY GUTTER	
	T-10.26.2	



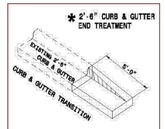
PLAN



FRONT



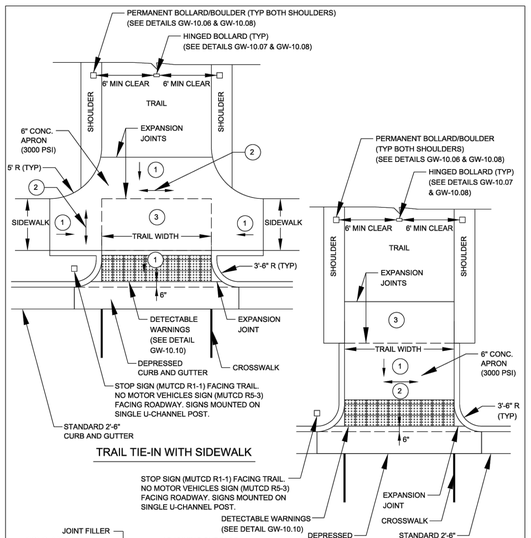
END



Exert taken from NCDOT Subdivision Manual

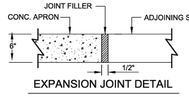
CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 8/2020	NOT TO SCALE
Modify by Quantech Engineering LLC 14 Aug 2025	STANDARD METHOD OF ENDING CURB AND GUTTER	
	T-10.25	



TRAIL TIE-IN WITH SIDEWALK

TRAIL TIE-IN WITHOUT SIDEWALK



EXPANSION JOINT DETAIL

DRIVEWAY, SIDEWALK, AND TRAIL TIE-IN

SHEET 1 OF 2

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 12/2022	NOT TO SCALE
	DRIVEWAY, SIDEWALK, AND TRAIL TIE-IN	
	GW-10.04.1	

DRIVEWAY, SIDEWALK, AND TRAIL TIE-IN - NOTES:

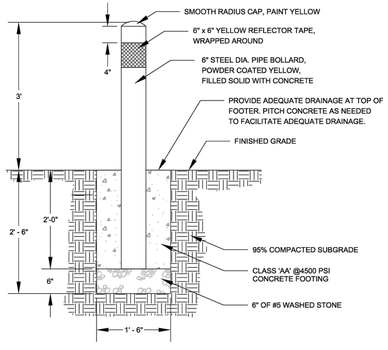
1. THE DRIVEWAY, SIDEWALK, TRAIL TIE-IN SHALL BE BUILT IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND PUBLIC RIGHT-OF-WAY ACCESSIBILITY GUIDELINES (PROWAG).
2. THE DRIVEWAY, SIDEWALK, TRAIL TIE-IN SHALL BE PLACED PARALLEL TO THE TRAIL DIRECTION OF TRAVEL.
3. DETECTABLE WARNINGS SHALL BE INSTALLED ALONG THE BACK OF CURB COVERING THE FULL WIDTH OF THE RAMP.
4. FOR THE TRAIL APRON, USE CLASS A (3000 PSI) CONCRETE WITH A SIDEWALK FINISH IN ORDER TO OBTAIN A ROUGH, NONSKID SURFACE.
5. A 1/2" EXPANSION JOINT INSTALLED FULL DEPTH WILL BE REQUIRED WHERE THE CONCRETE RAMP JOINS THE CURB AND ALSO WHERE NEW CONCRETE ABUTS EXISTING CONCRETE.
6. REMOVE AND REPLACE CURB AND GUTTER TO NEAREST JOINT.
7. BOLLARDS/BOULDERS SHOULD BE SET BACK FROM THE ROADWAY EDGE A MINIMUM OF 7 FEET AND A MAXIMUM OF 30 FEET AND WILL VARY DEPENDING ON LOCATION. OWNER SHALL INDICATE WHICH OPTION IS BEST FOR THE SITE LOCATION. BOLLARD SHALL NOT BE PLACED WITHIN THE ROADWAY RIGHT-OF-WAY UNLESS AN APPROVED RIGHT-OF-WAY OBSTRUCTION PERMIT IS SECURED WITH THE CITY OF RALEIGH RIGHT OF WAY SERVICES. SEE DETAILS GW-10.06, GW-10.07, AND GW-10.08 FOR BOLLARD/BOULDER DETAILS.
8. STOP SIGN (MUTCD R1-1) AND NO MOTOR VEHICLES SIGN (MUTCD R5-3) SHALL BE 0.063 GAUGE, 3105 ALLOY ALUMINUM AND SHALL CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL GUIDELINES.

1. 8.33% (12:1) MAX RAMP SLOPE (DRAIN TO ROADWAY)
2. CROSS SLOPE: MAXIMUM 2.00%
3. RAMP REQUIRES A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN CURB.

SHEET 2 OF 2

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 12/2022	NOT TO SCALE
	DRIVEWAY, SIDEWALK, AND TRAIL TIE-IN	
	GW-10.04.2	



PERMANENT BOLLARD

NOTES:
1. A PERMANENT BOLLARD IS TYPICALLY USED ON THE OUTSIDE OF TRAILS TO PREVENT UNAUTHORIZED MOTOR VEHICLE ENTRY. PERMANENT BOLLARDS MAY BE USED IN COMBINATION WITH HINGED BOLLARDS. IN SOME CASES, A PERMANENT BOLLARD CAN BE USED IN THE CENTER OF THE TRAIL IN LIEU OF A HINGED BOLLARD WHEN REQUESTED BY THE OWNER. SEE DETAIL GW-10.08 FOR THE VARIOUS BOLLARD COMBINATIONS. PERMANENT BOLLARDS SHOULD BE UTILIZED AT ALL MAJOR ACCESS POINTS AND TRAIL HEADS. "NO MOTOR VEHICLES" SIGNAGE (MUTCD R5-3) MAY BE USED TO REINFORCE ACCESS RULES.
2. BOLLARDS SHOULD BE SET BACK FROM THE ROADWAY EDGE A MINIMUM OF 7 FEET AND A MAXIMUM OF 30 FEET AND WILL VARY DEPENDING ON LOCATION. OWNER SHALL INDICATE WHICH OPTION IS BEST FOR THE SITE LOCATION. BOLLARD SHALL NOT BE PLACED WITHIN THE ROADWAY RIGHT-OF-WAY UNLESS AN APPROVED RIGHT-OF-WAY OBSTRUCTION PERMIT IS SECURED WITH THE CITY OF RALEIGH RIGHT OF WAY SERVICES.
3. STRIPING AN ENVELOPE AROUND THE POST IS RECOMMENDED IF THE BOLLARD IS LOCATED WITHIN THE PAVED LIMITS OF THE TRAIL (SEE DETAIL GW-10.05).
4. SEE MIDDLE BOLLARD WITH TRAIL SIDE BOLLARDS DETAIL, GW-10.08, FOR TYPICAL BOLLARD PLACEMENT.

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 12/2022	NOT TO SCALE
	PERMANENT BOLLARD	
	GW-10.06	

GREENWAY AMENITY NOTES:

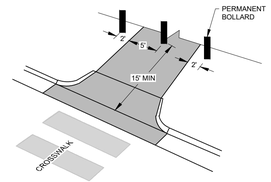
GREENWAYS SHALL PROVIDE BASIC AMENITIES FOR ALL TARGETED USERS. ALL TRAILHEAD/TRAIL ACCESS POINTS SHALL HAVE AT LEAST ONE TRASH RECEPTACLE AND ONE BENCH. BENCHES AND TRASH RECEPTACLES SHALL BE PLACED AT LEAST EVERY MILE ALONG THE GREENWAY.

TRASH RECEPTACLES SHALL BE CONSTRUCTED OF STEEL IN THE COLOR BLACK. THE RECEPTACLES SHALL BE A DUMOR PRODUCT #88 SERIES #157-32SH OR EQUIVALENT, WITH A PLASTIC LINER.

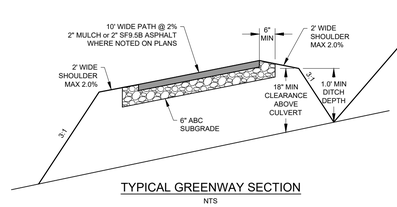
BENCHES SHALL BE 6 ft LONG AND CONSTRUCTED OF RECYCLED PLASTIC, REDWOOD COLOR; THE SUPPORTS AND LEGS SHALL BE THE THE COLOR BLACK. THE BENCHES SHALL BE A DUMOR PRODUCT #88 SERIES PL OR EQUIVALENT. BENCHES SHALL BE INSTALLED WITH A SURFACE MOUNT, CENTERED ON A 4 in x 7 ft x 5 ft CONCRETE SLAB ABUTTING THE ASPHALT GREENWAY PAVEMENT.

BOLLARDS SHALL BE PLACED AT EACH GREENWAY ACCESS POINT THAT INTERSECTS WITH A ROAD OR PARKING LOT. BOLLARDS SHALL BE SET A MINIMUM OF 15 ft FROM THE BACK OF CURB WHEN APPLICABLE. A FIXED BOLLARD SHALL BE SET 2 ft FROM THE EDGE OF PAVEMENT, OUTSIDE OF THE GREENWAY, ON EACH SIDE OF THE GREENWAY. A REMOVABLE BOLLARD SHALL BE PLACED IN THE CENTER OF AN 4 ft OR 10 ft WIDE GREENWAY.

SEE GREENWAY PLAN AND PROFILE SHEETS.



GREENWAY ENTRANCE DETAIL
NTS



TYPICAL GREENWAY SECTION
NTS

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A ONE CALL SYSTEM FOR COMMUNITY AND JOB SAFETY

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information@strongrockengineering.com

Sheet map:

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Bryan Harris
Digitally signed by Bryan Harris
DN: CN=BH, O=Quantech Engineering LLP, OU=Bryan Harris
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HARRIS CREEK FARMS
CID 25-0004 (FKA - CID-25-03)

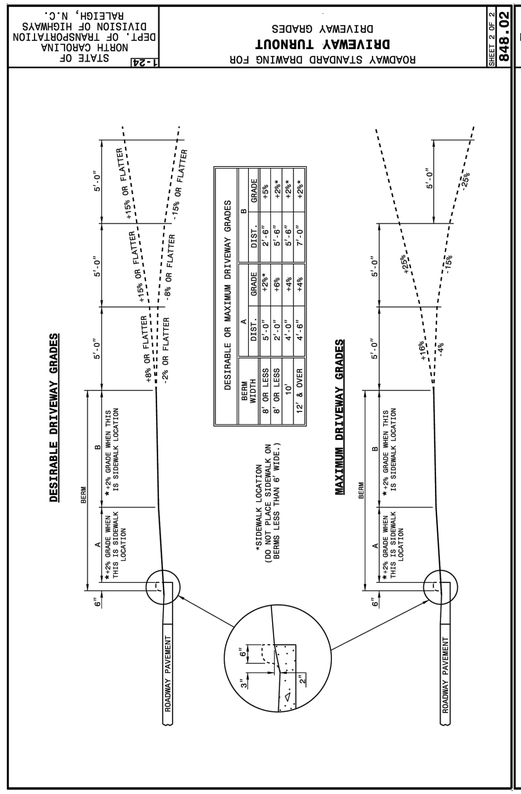
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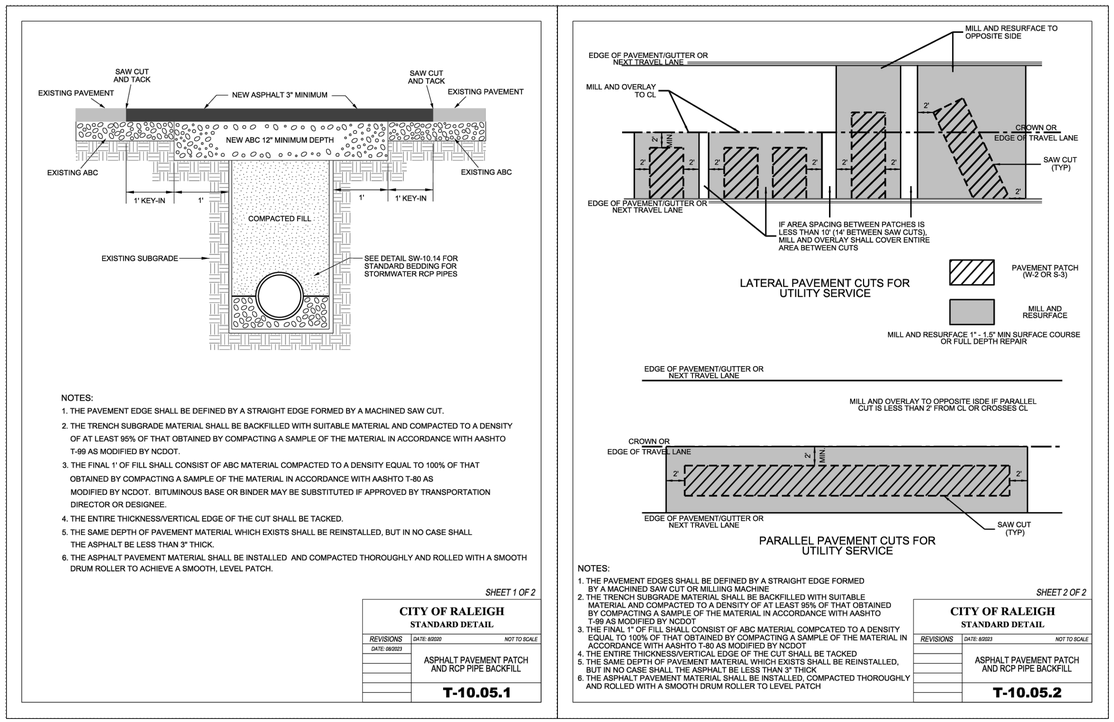
REVISIONS

No.	Date	Description

Sheet Title:
CURBING & GREENWAY DETAILS

Sheet #:
18





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CID-25-0004 (PSP-24-05)

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984-200-1932
information@strongrockengineering.com

Sheet map:

Seal:



Bryan Harris
Digitally signed by Bryan Harris
DN: CN=US, E=BryanH@QuantechEng.com, O=Quantech Engineering LLP, OU=Engineering
Date: 2026.11.04 11:50:12-05'00'

Issued / Print Date: 2026-July-27 (10:33)
File Name: 17 Site Details.dwg

Last Saved by: BryanHarris
Drawn by: TAN

Project:

HARRIS CREEK FARMS

CID 25-0004 (FKA - CID-25-03)

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REVISIONS

No.	Date	Description

Sheet Title:

DRIVERWAY & ASPHALT DETAILS

Sheet #:

19

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811
3 DAYS BEFORE DIGGING CALL TOLL FREE 811 or (800)632-4949
A ONE CALL SYSTEM FOR COMMUNITY AND JOB SAFETY

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GAZEBO/PAVILION DETAILS

24'x24' Grand Estate Vinyl Pavilion

?
?
?

DESIGN ENGINEER:

timbertech ENGINEERING

East: 22 Denver Road, Suite B Denver, PA 17517
717.335.2750 Fax 717.335.2753

West: 208 S Main Street, PO Box 509 Knox, IN 46247
219.766.2499 Fax: 219.766.2294

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Drawing Index

Page 1 - Elevations
Page 2 - Post Layout Plan
Page 3 - Roof Framing
Page 4 - Cross Section, Details
Page 5 - Page 8 - Details

GENERAL NOTES
All notes do not necessarily apply due to different requirements on each project. This plan is intended to reflect only the structural design of this pavilion. It is the responsibility of the builder to comply with all local & federal building codes prior to the start of construction to ensure building conformance. Timber Tech Engineering, Inc. is not responsible for information pertaining to this project if not shown on drawings or listed below. Revisions to the plans shall be approved by engineer of record.

DESIGN REQUIREMENTS

1. Governing Code:
   A. Roof: Live load: to: IBC 2009
2. Dead Loads:
   A. Roof ____ 5 psf
   B. Floor ____ n/a psf
   C. Other ____ n/a psf
3. Live Loads:
   A. Roof (See also note #4) ____ 37.5 psf
   B. Floor ____ n/a psf
   C. Other ____ n/a psf
4. Snow Loads:
   A. Ground Snow (Pg) ____ 45 psf
   B. Roof Snow (Ps) ____ 37.2 psf
   C. Snow Exposure Factor (Ce) ____ 1.0
   D. Snow Load Importance Factor (I) ____ 1.0
   E. Unbalanced Snow
      i. Windward Roof ____ 0 psf
      ii. Leeward Roof ____ 45 psf
5. Wind Loads:
   A. Basic Wind Speed (V) ____ 140 mph
   B. Wind Load Importance Factor (I) ____ 1.0
   C. Wind Exposure Category ____ C
   D. Enclosure Category ____ Open
   E. Internal Pressure Coefficient ____ +/-0.3 psf(-60 psf
6. Earthquake Design Data:
   (Analysis based on equivalent lateral force procedure)
   A. Spectral Response Acceleration at 1 sec, S1 ____ 0.64
   B. Spectral Response Acceleration at short periods, Ss ____ 0.82
   C. Seismic Importance Factor, I ____ 1.0
   D. Site Class ____ D
   E. Basic Structural System
      Cantilevered Column: Timber Frame
   F. Response Modification Factor (R) ____ 1.5
   G. Deflection Amplification Factor (Cd) ____ 1.5

ABBREVIATIONS:

@	at	min.	minimum
bm.	beam	mis.	miscellaneous
conc.	concrete	o/c	on center
cont.	continuous	psf	pounds per square foot
dia.	diameter	psi	pounds per square inch
exist.	existing	psl	pounds per square inch
flr.	floor	req'd.	required
ft.	foot/feet	s.s.	stainless steel
gar.	garage	st.	steel
ins.	insulation	ths.	thick
hdr.	header	typ.	typical
jst.	joist	w/	with
lad.	kips per square inch	w/o.	manufacturer
lbs.	pounds		
max.	maximum		

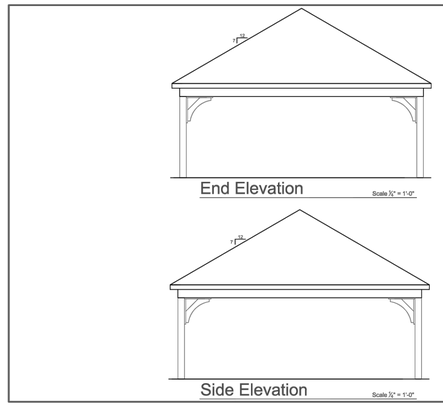
WOOD
1. General Requirements
   A. Structural wood members and connections shall be of sufficient size or capacity to carry all design loads without exceeding the allowable design values specified in "The National Design specification for Wood Construction" by the AF&PA and the "Supplement" by the American Forest and Paper Association (AF&PA).
   B. Wood members used for load supporting purposes shall have the grade mark of a lumber grading agency certified by the American Lumber Standards Committee.
2. Structural Lumber:
   A. All lumber species, graded visually or mechanically, shall comply with the NDS by AF&PA, and the "American Softwood Lumber Standard" (PS 20-94) by the U.S. Department of Commerce.
   B. The minimum grade and species for posts, beams, headers, and other primary structural members shall be #1 Southern Yellow Pine (SYP) unless specified otherwise.
   C. Lumber used for secondary framing shall be #1 Southern Yellow Pine (SYP) or better
   D. Post frame headers shall be two-span continuous beams with all multiple ply headers overlapping so that the butt joints for each ply do not occur at the same post.
   E. Mechanically laminated columns shall conform with ANSI/ASAE EP 559.
3. Pressure Preservative Treatment (PPT)
   A. Pressure treatment to be performed according to the American Wood Preservers' Bureau (AWPB) standards.
   B. Pressure treated members shall have the inspection mark of an agency accredited by the American Lumber Standards Committee.
   C. Preservative: Ammonia Copper Quaternary ammonia (ACQ) or Copper Boron Azole (CBA)
   D. Minimum waterborne treatment retention shall be 0.4 pcf for members above ground, and 0.6 pcf for members in ground contact.
   E. Tread indicated items and the following:
      1. Wood members exposed to weather or insect infestation.
      2. Wood members in direct contact with earth or concrete.
      3. Wood members exposed to high moisture content (>19% for dimension lumber, >16% for glued structural members).
      4. Wood members less than 12 inches above grade.
   F. Field treat newly exposed wood where cutting, drilling or notching pressure treated lumber.
   G. Metal connectors used in treated wood shall be hot-dip galvanized as per ASTM A153-01a.
4. Connections shall be designed and constructed according to the NDS by AF&PA and shall conform to the following:
   A. The minimum connection shall be two 12 penny nails, or as detailed on the drawings.
   B. Other connections as per standard construction practice.

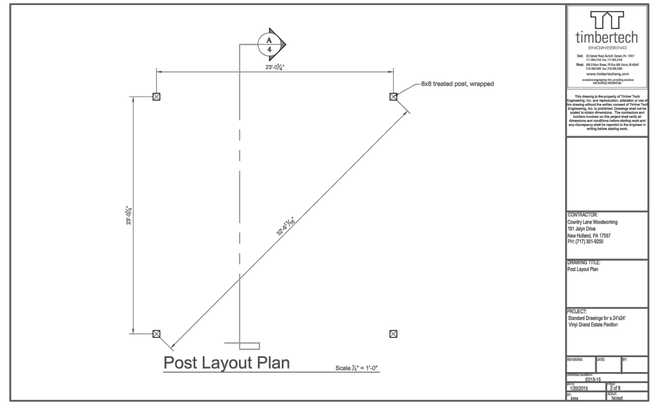
Polyvinyl Chloride Compound (PVC)
1. Sleeves for Rod Hangers:
   A. PVC sleeve material used to wrap wood members to be supplied according to Certainteed corporation specifications or equivalent.
   B. PVC sleeve material to be 0.160" thick for posts, and 0.109" thick for other structural members

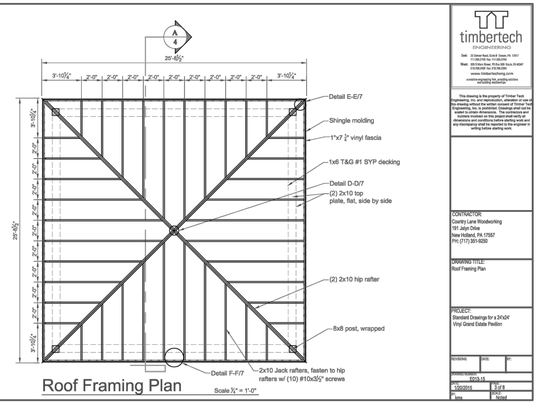
Design Reaction Chart	
Max. uplift at column base	475 lb
Max. downward force at column base	6,550 lb
Max. shear at column base	1,260 lb

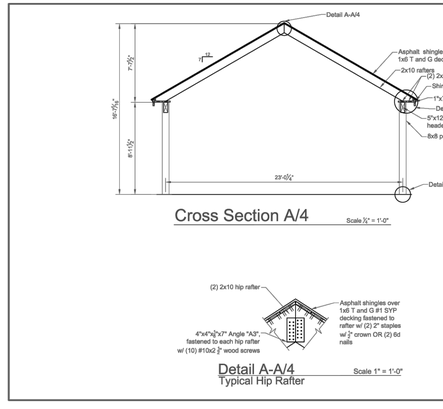
Structural System Designed for clear wind flow conditions with blockage less than or equal to 50% only. Open structure shall not have objects below the roof which inhibit wind flow by creating more than 50% blockage as per ASCE 7-05 Figure 6-18B Note2.

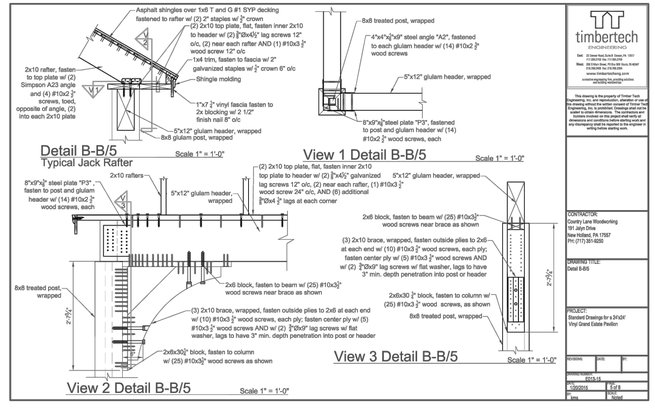
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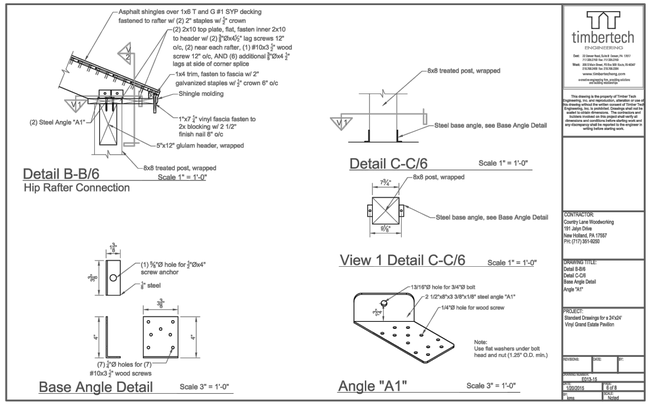


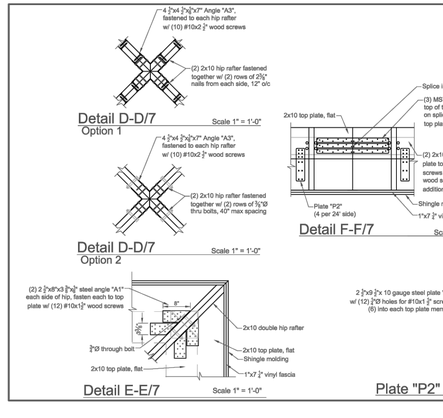


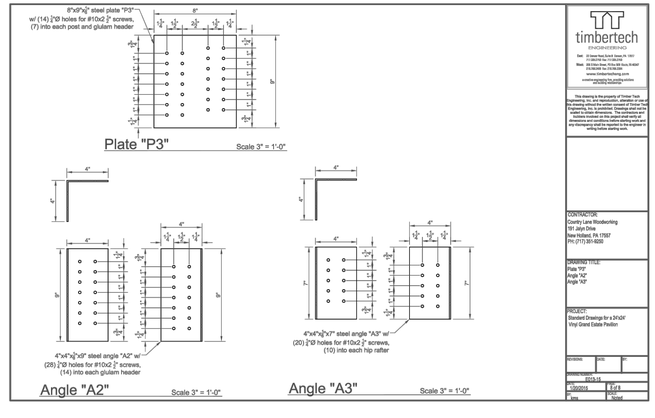












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Landscape Architect
STRONGROCK THE STRONGROCK COMPANIES
305 Church at North Hills Street
Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

Sheet map:

Seal:

NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A. HARRIS
Bryan Harris
Digitally signed by Bryan Harris
DN: CN=US, E=bryan@QuantechEng.com, O=Quantech Engineering LLP, OU=Bryan Harris
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Sheet Title:

GAZEBO-PAVILION DETAILS

Sheet #:

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N.C. UNDERGROUND UTILITIES
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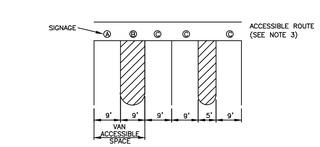
ACCESSIBLE PARKING REQUIREMENTS

TOTAL PARKING SPACES PROVIDED	MINIMUM NUMBER OF ACCESSIBLE SPACES SPACES REQUIRED	MINIMUM NUMBER OF ACCESSIBLE SPACES REQUIRED TO BE VAN ACCESSIBLE
1 TO 25	1	1
26 TO 50	2	1
51 TO 75	3	1
76 TO 100	4	1
101 TO 150	5	1
151 TO 200	6	1
201 TO 300	7	1
301 TO 400	8	1
401 TO 500	9	2
501 TO 1000	2% OF TOTAL	1 IN EVERY 8 ACCESSIBLE SPACES
1001 AND OVER	20 PLUS 1 FOR EACH 100 OVER 1000	1 IN EVERY 8 ACCESSIBLE SPACES

SECTION 4.1.2 (5) OF THE AMERICANS WITH DISABILITIES ACT (ADA). SEE 4.1.2(5) (d) FOR MEDICAL CARE FACILITIES

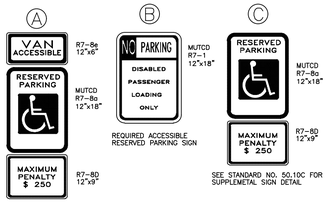
NOTES:

1. ALL 12"x18" ACCESSIBLE SIGNS (R7-8a & R7-1) SHALL BE MOUNTED AT 7 FEET FROM GRADETO BOTTOM EDGE OF SIGN FACE (MUTCD). MOUNTING HEIGHT CAN BE REDUCED TO 5 FEET IF PLACED IN AN AREA BETWEEN SIDEWALK AND BUILDING FACE IN WHICH PEDESTRIANS ARE NOT EXPECTED TO USE.
2. REFER TO MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, (MUTCD) U.S. DEPARTMENT OF TRANSPORTATION AND NORTH CAROLINA DEPARTMENT OF TRANSPORTATION SUPPLEMENT.
3. IF ACCESSIBLE ROUTE IS A RAISED SIDEWALK AREA, THEN RAMPS ARE REQUIRED AT LOADING ZONE AREA.



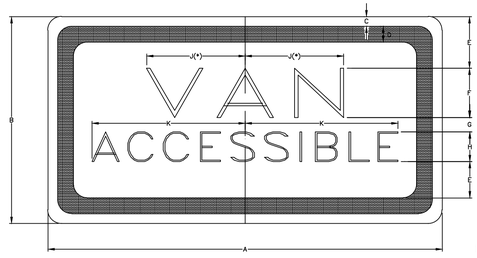
ONE OUT OF EVERY EIGHT (8)ACCESSIBLE SPACES, BUT NOT LESS THAN ONE, IS REQUIRED TO BE VAN ACCESSIBLE.

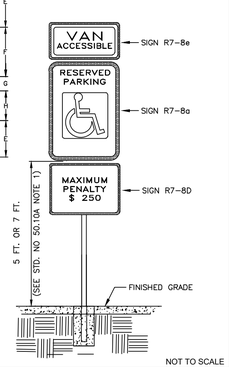
PARKING SPACE PAVEMENT MARKINGS



NOT TO SCALE

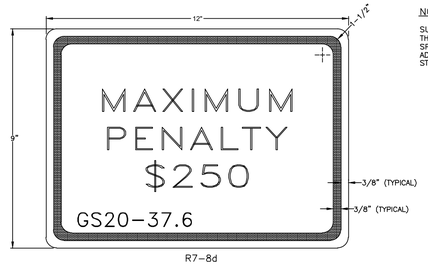
ACCESSIBLE PARKING AND SIGNAGE STANDARDS





NOT TO SCALE

SUPPLEMENTAL ACCESSIBLE SIGN (R7-8E)



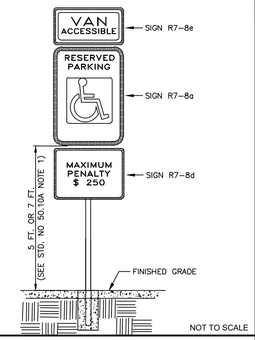
LEGEND AND BORDER – GREEN
BACKGROUND – WHITE

SIGN APPROVED FOR USE UNDER GENERAL STATUTE 20-37.6

R7-8d PENALTY SIGNS ARE REQUIRED TO ACCOMPANY ALL R7-8a PARKING SIGNS ERECTED AFTER DECEMBER 31,1990

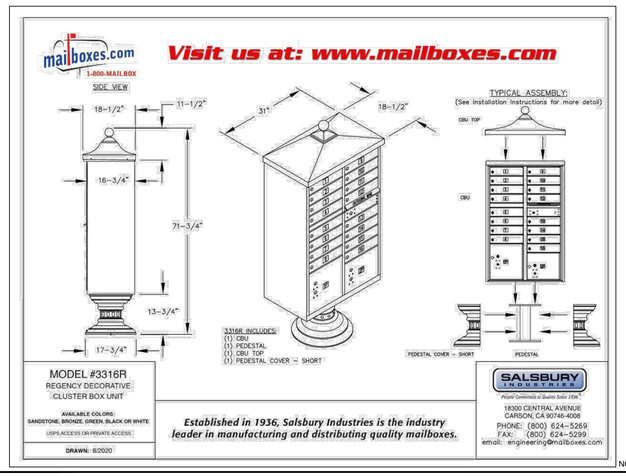
NOTE:

SUPPLEMENTAL ACCESSIBLE SIGN (R7-8e) USED IF THERE IS ONLY ONE REQUIRED ACCESSIBLE PARKING SPACE (MUST BE VAN ACCESSIBLE) AND AT EACH ADDITIONAL REQUIRED VAN ACCESSIBLE SPACE. (SEE STD. NO. 50.10B)



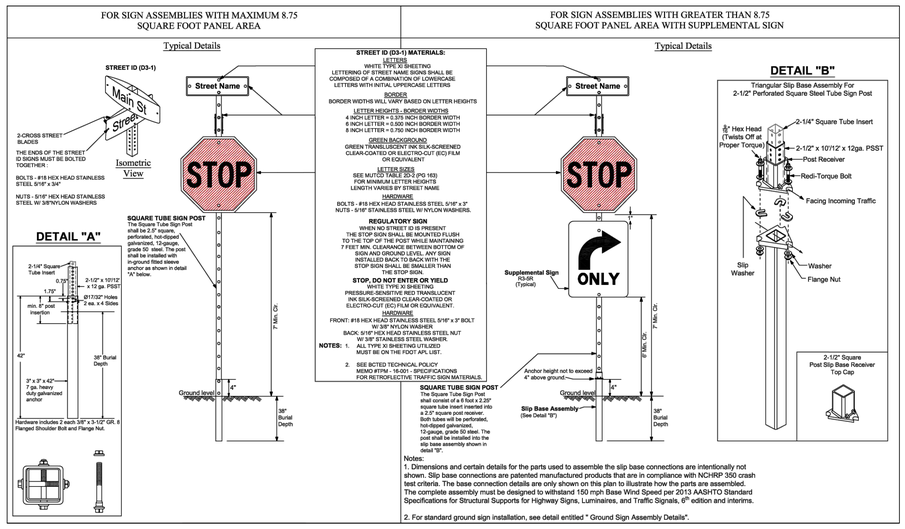
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SUPPLEMENTAL ACCESSIBLE SIGN (R7-8D)



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502 Southtown Cir
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Phone: 919-554-6517
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Landscape Architect
STRONGROCK
THE STRONGROCK COMPANIES
305 Church at North Hills Street
Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

Sheet map:

Seal:

NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A. HARRIS

Bryan Harris

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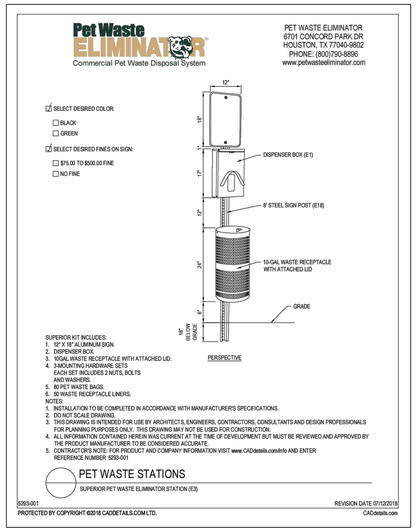
PARKING & MAIL KIOSK DETAILS

Sheet #:

21

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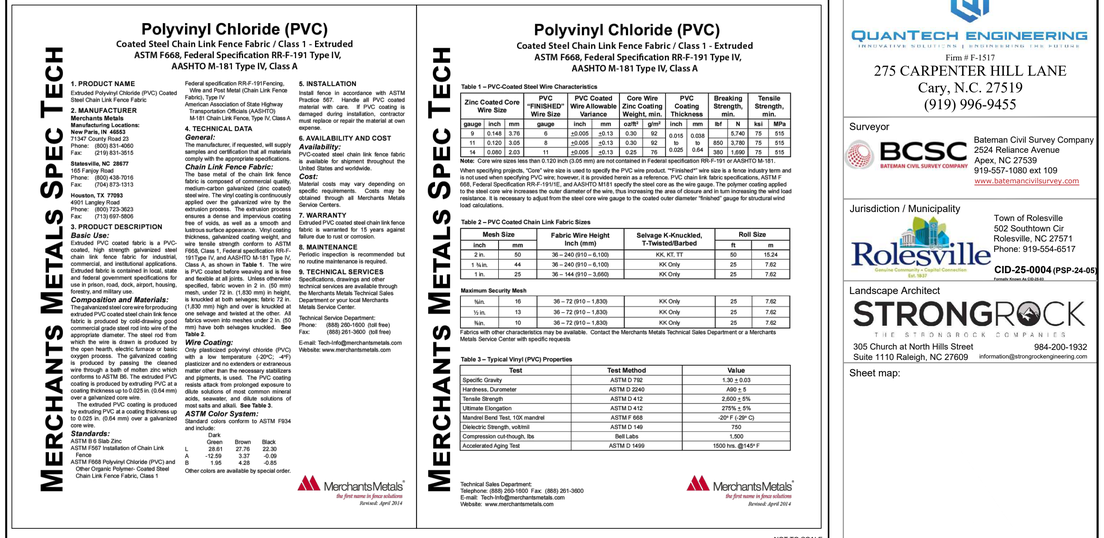
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PET WASTE STATION



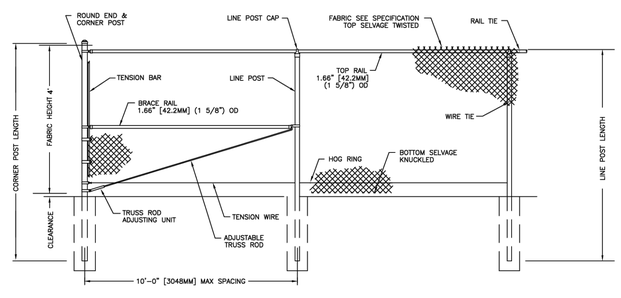
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CHAIN LINK FENCE



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PVC COATING FOR CHAIN LINK FENCE



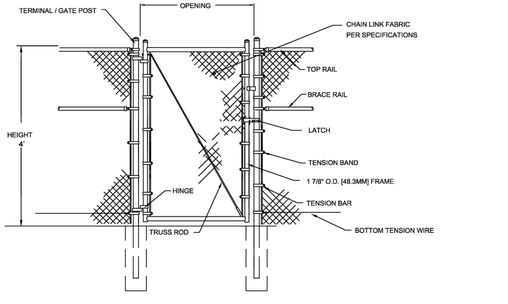
TYPICAL FENCE ELEVATION / SECTION

COAT FENCE IN FOREST GREEN COLOR

TOP RAIL / TRUSSED BRACE RAIL
BOTTOM TENSION WIRE

NOTES:
1. DESIGN AND SPECIFICATION SUBJECT TO CHANGE.
2. FOOTING AND POSTS AS REQUIRED BY SITE CONDITIONS & CODES.

Merchants Metals® the first name in fence solutions	CHAIN LINK TYPICAL FENCE ELEVATION / SECTION		
	BY: FJR 05.19.05	SCALE: NTS	DWG #: CL10
	WWW.MerchatsMetals.com		COPYRIGHT ©

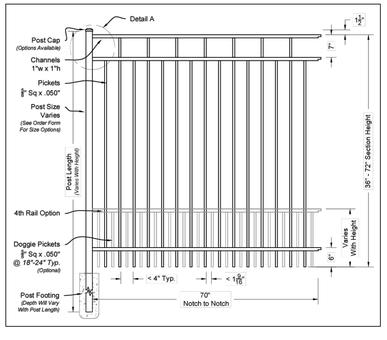


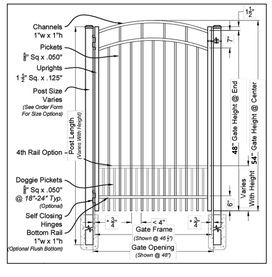
TYPICAL SINGLE SWING GATE ELEVATION / SECTION

TOP RAIL / TRUSSED BRACE RAIL
BOTTOM TENSION WIRE

NOTES:
DESIGN AND SPECIFICATION SUBJECT TO CHANGE
VERTICAL & HORIZONTAL MEMBERS MAXIMUM 8' O.C.
FOOTING AND POSTS AS REQUIRED BY SITE CONDITIONS & CODES

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- Choose a portable or surface mount.

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NOR-ASM-EM6B-02	MATERIAL • RECYCLED PLASTIC MOUNT • PORTABLE SLATS • 1 1/4" X 3" WARRANTY • 20-YEAR LIMITED	SEAT HEIGHT • 17 1/4" SEAT DEPTH • 14 1/4" LENGTH • 6' DEPTH • 26 1/8"	HEIGHT • 32 3/4" BENCH COLOR OPTIONS • BLACK, BROWN, CEDAR, CHARCOAL, GREEN, SAND, WEATHERED FRAME COLOR OPTIONS • BLACK, BROWN, GREEN ASSEMBLY • REQUIRED

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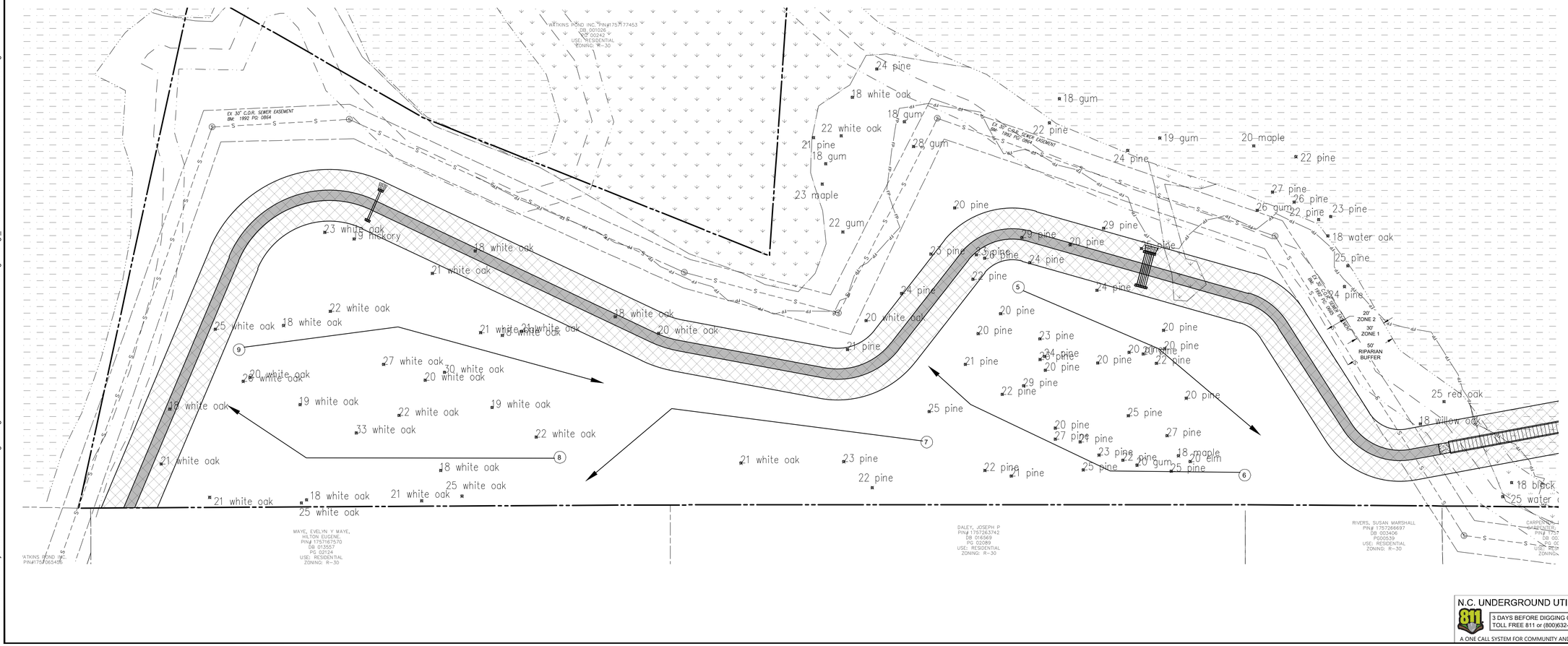
SITE AMMENITY DETAILS

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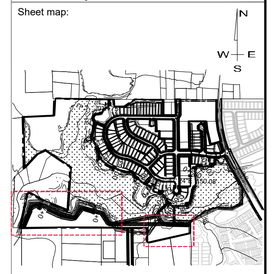
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FOR CONSTRUCTION

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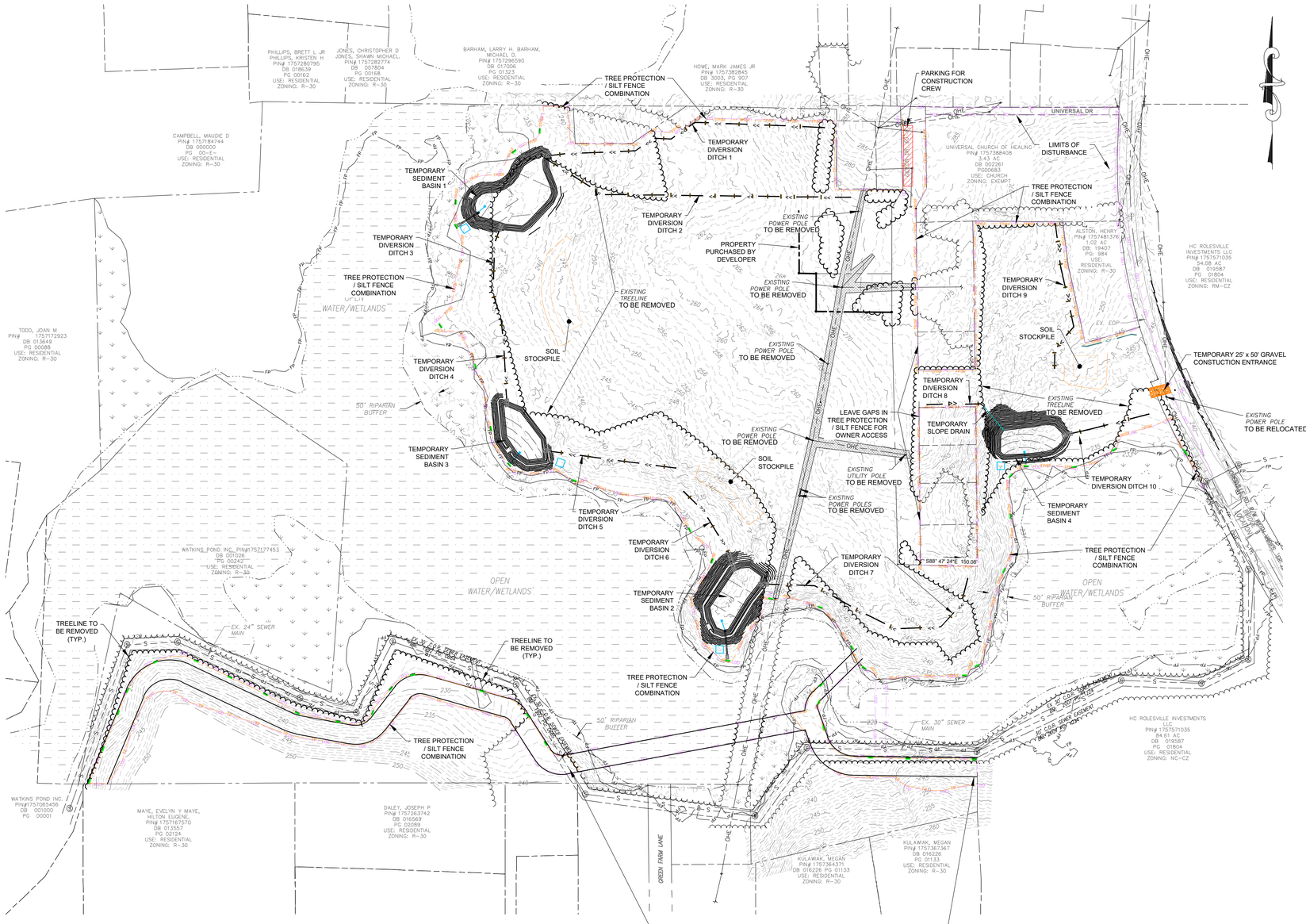
No.	Date	Description

Sheet Title:

DISC GOLF SITE PLAN

Sheet #:

23



ACCESS TO THE SOUTHERN PORTION OF THE PROJECT SITE CAN BE ACCESSED EITHER THROUGH GREEN FARM LANE THEN LEFT OR RIGHT DOWN THE SEWER EASEMENT OR FROM JONESVILLE ROAD AND DOWN THE SEWER EASEMENT. THE EASTERN END OF THE PROPOSED GREENWAY TRAIL END AT THE DEVELOPMENT FOR RESERVES AT MITCHELL MILL AND THEY WOULD ALLOW ACCESS THROUGH THERE SITE IF REQUESTED.

Construction Sequence*

STAGE 1

1. Schedule a preconstruction conference with the Environmental Consultant. Obtain a land disturbing permit.
2. Install gravel construction pad, temporary diversions, silt fence, sediment basins, and other measures as shown on the approved plan. Clear only as necessary to install these devices. Seed temporary diversions, berms and basins immediately after construction.
3. Call Environmental Consultant for an onsite inspection by the Environmental Consultant to obtain a Certificate of Compliance.
4. Stage 1 erosion control devices shall be installed before demolition of electrical lines and structures can begin.
5. Begin clearing and grubbing. Maintain devices as needed. Rough grade site and seed all slopes. As grade changes, ensure disturbed areas are draining to sediment basin per the plan

STAGE 2

6. Change ditch path as grade changes, once more area drains to sediment basin 1, ensure you make the orifice on the skimmer bigger and sediment basin 3 make the orifice on the skimmer smaller.
7. Ensure All all low points are ditched and able to drain to their prospective sediment basin.
8. As grades change, ensure any slopes greater than 5:1 has been lined with North American Green S150 or equivalent. Continue to grade sight to desired elevation and as areas are complete with fine grading, seed and straw to stabilized those areas.

STAGE 3

9. Install storm sewer with inlet protection devices as per plans or other approved measures as shown on the plan. Build retaining walls as per plans except for areas where the sediment basins are. Ensure area for sediment #3 & #4 drainage area is well stabilized.
10. Call Wake County Environmental Consultant for an inspection to get approval to remove sediment basins #3 & #4.
11. Upon authorization from Wake County, remove sediment basins #3 & #4.
12. Complete rest of wall construction and install infrastructures (sewer & water)
13. Stabilize site as areas are brought up to finish grade with vegetation, paving, ditch linings, etc. Seed and mulch denuded areas per Ground Stabilization Time Frames.
14. When construction is complete and all areas are stabilized completely, call Environmental Consultant for an inspection.
15. If site is approved, convert sediment basin #1 & #2 into SCM's as per the plans. You can remove temporary diversions, silt fence, etc. for areas not adjacent to the SCM, and seed out or stabilize any resulting bare areas. All remaining permanent erosion control devices, such as velocity dissipators, should now be installed.
16. When SCM's are established and before any wetpond plantings, call engineer to inspect SCM.
17. After engineer approves SCM, plant wet pond plants and ensure rest of site is stabilized.
18. When vegetation has become established, call for a final site inspection by the Environmental Consultant. Obtain a Certificate of Completion.

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1. EFFECTIVE OCTOBER 1, 2010, PERSONS CONDUCTING LAND-DISTURBING ACTIVITY LARGER THAN ONE ACRE MUST INSPECT THEIR PROJECT AFTER EACH PHASE OF THE PROJECT, AND DOCUMENT THE INSPECTION IN WRITING. EROSION AND SEDIMENTATION CONTROL MEASURES, INCLUDING BUT NOT LIMITED TO, SEDIMENTATION CONTROL BASINS, SEDIMENTATION TRAPS, ROCK DAMS, TEMPORARY DIVERSIONS, TEMPORARY SLOPE DRAINS, SEDIMENT FENCE OR BARRIERS, ALL FORMS OF INLET PROTECTION, STORM DRAINAGE FACILITIES, ENERGY DISSIPATERS, AND STABILIZATION METHODS OF OPEN CHANNELS MUST BE INSPECTED BY THE FINANCIALLY RESPONSIBLE PARTY, LANDOWNER, OR THEIR AGENT. THE SELF-INSPECTION REPORTING FORM IS AVAILABLE AS PDF FROM THE LAND QUALITY WEB SITE: https://deq.nc.gov/about/divisions/energy-mineral-land-resources/erosion-sediment-control/forms
2. IN ADDITION TO THE INSPECTIONS BY THE CONTRACTOR, THE OWNER, THE FINANCIALLY RESPONSIBLE PARTY, OR THEIR AGENT MUST CONDUCT INSPECTIONS IN ACCORDANCE WITH THE STATE OF NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY CONSTRUCTION GENERAL PERMIT NCG 010000 SELF-INSPECTION PROGRAM AND REPORTING REQUIREMENTS TO MONITOR AND MAINTAIN A RAIN GAUGE, RECORDS, PERMIT, AND S&E PLAN ON SITE.

EROSION CONTROL NOTES

1. TREE PROTECTION FENCE LINE ALSO INCLUDE THE LIMITS OF DISTURBANCE FOR THAT SECTION.
2. A COPY OF THE APPROVED EROSION CONTROL PLAN AND PERMIT PLACARD MUST BE ON FILE AT THE JOB SITE AT ALL TIMES.
3. ALL CONSTRUCTION SHALL CONFORM TO THE LATEST NORTH CAROLINA EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL AND WAKE COUNTY STANDARDS, SPECIFICATIONS AND DETAILS.
4. THE EROSION CONTROL INSPECTOR MAY REQUIRE ADDITIONAL FIELD MEASURES AS NECESSARY TO PROVIDE ADEQUATE PROTECTION FROM RECEIVING WATER COURSES.
5. FAILURE TO FOLLOW THE APPROVED PLAN, CONSTRUCTION SEQUENCE, AND DETAILS COULD SUBJECT THE CONTRACTOR AND/OR THE FINANCIALLY RESPONSIBLE PARTY TO FINES AND PENALTIES ISSUED BY EITHER THE WAKE COUNTY EROSION CONTROL DIVISION OR NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY.
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7. CONTRACTOR SHALL INSPECT ALL SEDIMENT/EROSION CONTROL DEVICES WEEKLY AND AFTER EACH STORM EVENT. EACH DEVICE IS TO BE MAINTAINED OR REPLACED IF SEDIMENT ACCUMULATION HAS REACHED ONE HALF OF THE CAPACITY OF THE DEVICE. SEE NPDES SELF INSPECTION PROGRAM NOTES.
8. ANY GRADING BEYOND THE DENUDED LIMITS SHOWN ON THE PLAN IS A VIOLATION OF THE COUNTY EROSION CONTROL ORDINANCE AND IS SUBJECT TO A FINE.
9. DISTURBANCE OUTSIDE OF THE SITE PROPERTY LIMITS OR PUBLIC RIGHT-OF-WAY SHALL ONLY BE AS ALLOWED BY SIGNED GRADING AGREEMENTS AND/OR EASEMENTS BETWEEN THE DEVELOPER AND THE OFFSITE PROPERTY OWNER.
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15. CONTRACTOR SHALL SEED AND STABILIZE ALL STEEP SLOPES (GREATER THAN 2H:1V) WITHIN 7 DAYS, 10 DAYS FOR MODERATE SLOPES (3H:1V OR GREATER) AND WITHIN 14 CALENDAR DAYS EVERYWHERE ELSE (STATE LAW 2009-486).

OFFSITE SPOIL NOTE:

1. IF AN OFFSITE SOIL SPOIL OR BORROW SITE IS UTILIZED, THE DISTURBED AREA FOR THE SPOILED/BORROW SITE MUST BE INCLUDED IN THE LAND-DISTURBANCE PLAN AND PERMIT UNLESS THE SPOIL/BORROW SITE ALREADY HAS A SEPARATE LAND-DISTURBANCE PERMIT.

DISTURBED AREA = 43.10 ACRES

EROSION CONTROL LEGEND (PHASE 1 & 2)

EXISTING FLOODPLAIN
EXISTING WETLAND
EXISTING EDGE OF WATER
LIMITS OF DISTURBANCE
TREE PROTECTION/SILT FENCE COMBINATION
TREE PROTECTION
SILT FENCE
SILT FENCE OUTLET
TEMPORARY DIVERSION DITCH
TEMPORARY DIVERSION BERM
TEMPORARY CONSTRUCTION ENTRANCE
SKIMMER
DITCH WATTLE
CONSTRUCTION PARKING
EXISTING TREELINE
PROPOSED TREELINE
EXTENTS OF EXISTING POWER LINES AND STRUCTURES TO BE REMOVED
TEMPORARY SLOPE DRAIN

TEMPORARY DITCHES STAGE 1

DITCH #	MATERIAL	SLOPE	LENGTH	DEPTH
DITCH 1	NAG C125BN	6.50	770	18"
DITCH 2	NAG DS75	5.37	839	18"
DITCH 3	NAG DS75	1.00	227	18"
DITCH 4	NAG DS75	1.00	226	18"
DITCH 5	NAG DS75	1.00	355	18"
DITCH 6	NAG DS75	1.00	245	18"
DITCH 7	NAG DS75	1.00	662	18"
DITCH 8	NAG DS75	9.53	153	18"
DITCH 9	NAG DS75	3.98	409	18"
DITCH 10	NAG DS75	1.00	228	18"

NOTE: DITCH LINERS WERE SPEC'D USING NORTH AMERICAN GREEN MATERIAL BUT IT CAN BE SUBSITUTED WITH ANOTHER EQUIVALENT LINER.

HARRIS CREEK

SKIMMER BASIN TABLE STAGE 1

Skimmer Basin #	Width (ft)	Length (ft)	Depth (ft)	Top Elevation	Outlet Elevation	Weir (ft)	Skimmer (in)	Orifice (in)	Dewatering Time (days)
BASIN 1	87	173	3	238.00	233.00	55.00	2.50	2.00	4.00
BASIN 2	83	166	3	241.00	236.00	40.00	2.00	2.00	4.20
BASIN 3	84	167	2	234.00	230.00	35.00	2.00	2.00	4.20
BASIN 4	75	149	2	236.00	232.00	35.00	2.00	2.00	3.30

GRAPHIC SCALE

150 0 75 150 300 600

(IN FEET)
1 inch = 150 ft

N.C. UNDERGROUND UTILITIES
811
3 DAYS BEFORE DIGGING CALL TOLL FREE 811 or (800)632-4949
A ONE CALL SYSTEM FOR COMMUNITY AND JOB SAFETY

Developer
THE CSC GROUP
CONTRIBUTE TO THE SUCCESS OF LOCAL COMMUNITY
10030 Green Level Church Rd, Suite 802 #149: Cary, NC 27519

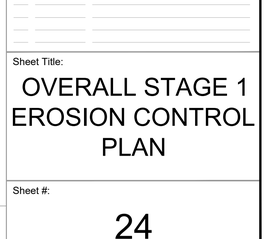
Engineer
QUANTECH ENGINEERING
INNOVATIVE SOLUTIONS | ENGINEERING THE FUTURE
Firm # F-1517
275 CARPENTER HILL LANE
Cary, N.C. 27519
(919) 996-9455

Surveyor
BCSC BATEMAN CIVIL SURVEY COMPANY
Bateman Civil Survey Company
2524 Reliance Avenue
Apex, NC 27539
919-557-1080 ext 109
www.batemancivilsurvey.com

Jurisdiction / Municipality
Rolesville Genuine Community • Capital Connection Est. 1837
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
CID-25-0004 (PSP-24-05)

Landscape Architect
STRONGROCK
THE STRONGROCK COMPANIES
305 Church at North Hills Street
Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

Sheet map:



Seal:
NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A HARRIS
Bryan Harris
Digitally signed by Bryan Harris
DN: CN=US, E=bryan@QuantechEng.com, O=Quantech Engineering LLP, OU=Bryan Harris
Date: 2026.11.04 11:50:29-05'00'

Issued / Print Date: 2026-July-27 (10:35)
File Name: 24 Overall Stage 1 Erosion Control Plan.dwg

Last Saved by: BryanHarris
Drawn by: TAN

Project:
HARRIS CREEK FARMS
CID 25-0004 (FKA - CID-25-03)

Issued for:
FINAL DRAWING FOR CONSTRUCTION

REVISIONS

No.	Date	Description

Sheet Title:
OVERALL STAGE 1 EROSION CONTROL PLAN

Sheet #:
24

File Location: C:\Users\BryanHarris\Quantech\Quantech Engineering - Documents\Harris Creek Farm - Jonesville\Engineering_DWG\Construction Plans\24 Overall Stage 1 Erosion Control Plan.dwg



GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)

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EROSION CONTROL LEGEND (PHASE 1 & 2)

EXISTING FLOODPLAIN	FP FP FP
EXISTING WETLAND	
EXISTING EDGE OF WATER	
LIMITS OF DISTURBANCE	LOD LOD
TREE PROTECTION/SILT FENCE COMBINATION	TP/SF TP/SF TP/SF
TREE PROTECTION	TP TP TP
SILT FENCE	x x
SILT FENCE OUTLET	
TEMPORARY DIVERSION DITCH	>>
TEMPORARY DIVERSION BERM	<>
TEMPORARY CONSTRUCTION ENTRANCE	
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DITCH WATTLE	
CONSTRUCTION PARKING	
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EXTENTS OF EXISTING POWER LINES AND STRUCTURES TO BE REMOVED	
TEMPORARY SLOPE DRAIN	

N.C. UNDERGROUND UTILITIES

811 3 DAYS BEFORE DIGGING CALL TOLL FREE 811 or (800)632-4949

A ONE CALL SYSTEM FOR COMMUNITY AND JOB SAFETY

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Developer

THE CSC GROUP
CONTRIBUTE TO THE SUCCESS OF LOCAL COMMUNITY
10030 Green Level Church Rd, Suite 802 #149: Cary, NC 27519

Engineer

QUANTECH ENGINEERING
INNOVATIVE SOLUTIONS | ENTERPRISING THE FUTURE
Firm # F-1517
275 CARPENTER HILL LANE
Cary, N.C. 27519
(919) 996-9455

Surveyor

BCSC BATEMAN CIVIL SURVEY COMPANY
Bateman Civil Survey Company
2524 Reliance Avenue
Apex, NC 27539
919-557-1080 ext 109
www.batemancivilsurvey.com

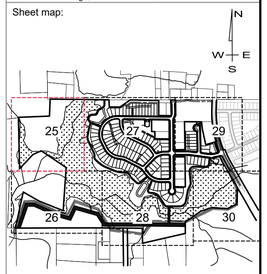
Jurisdiction / Municipality

Rolesville
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
CID-25-0004 (PSP-24-05)

Landscape Architect

STRONGROCK
THE STRONGROCK COMPANIES
305 Church at North Hills Street
Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

Sheet map:



Seal:

NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A. HARRIS

Bryan Harris

Digitally signed by Bryan Harris
DN: CN=US, E=bryan@QuantechEng.com, O=Quantech Engineering LLP, CN=Bryan Harris
Date: 2026.11.04 11:50:32 -05'00'

Issued / Print Date: 2026-July-27 (10:35)
File Name: 24 Overall Stage 1 Erosion Control Plan.dwg

Last Saved by: BryanHarris
Drawn by: TAN

Project:

HARRIS CREEK FARMS

CID 25-0004 (FKA - CID-25-03)

Issued for:

FINAL DRAWING FOR CONSTRUCTION

REVISIONS

No.	Date	Description

Sheet Title:

EC PLAN STAGE 1 SHEET 1 OF 6

Sheet #:

25

Construction Sequence*

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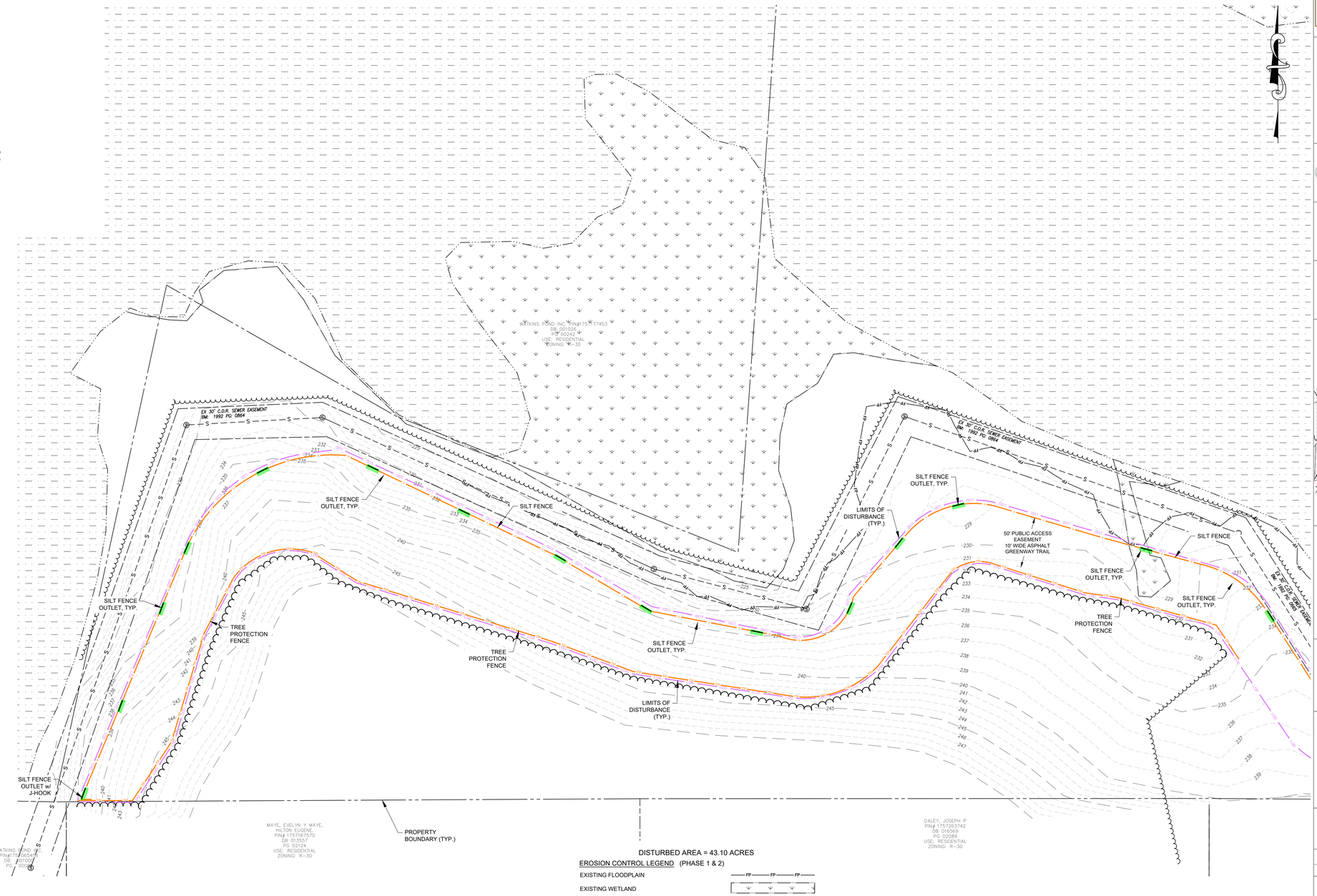
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DISTURBED AREA = 43.10 ACRES

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- EXISTING WETLAND
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GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft

N.C. UNDERGROUND UTILITIES
811 3 DAYS BEFORE DIGGING CALL TOLL FREE 811 or (800)632-4949
A ONE CALL SYSTEM FOR COMMUNITY AND JOB SAFETY

Developer
THE CSC GROUP
CONTRIBUTE TO THE SUCCESS OF LOCAL COMMUNITY
10030 Green Level Church Rd, Suite 802 #149: Cary, NC 27519

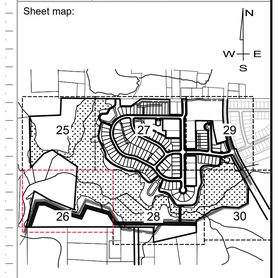
Engineer
QUANTECH ENGINEERING
INNOVATIVE SOLUTIONS | ENGINEERING THE FUTURE
Firm # F-1517
275 CARPENTER HILL LANE
Cary, N.C. 27519
(919) 996-9455

Surveyor
BCSC BATEMAN CIVIL SURVEY COMPANY
Bateman Civil Survey Company
2524 Reliance Avenue
Apex, NC 27539
919-557-1080 ext 109
www.batemancivilsurvey.com

Jurisdiction / Municipality
Rolesville
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
CID-25-0004 (PSP-24-05)

Landscape Architect
STRONGROCK
THE STRONGROCK COMPANIES
305 Church at North Hills Street
Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

Sheet map:



Seal:

NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A HARRIS

Bryan Harris

Digitally signed by Bryan Harris
DN: CN=BryanHarris@QuantechEng.com, O=Quantech Engineering LLP, C=US
Date: 2026.11.04 11:50:36-05'00'

Issued / Print Date: 2026-July-27 (10:36)
File Name: 24 Overall Stage 1 Erosion Control Plan.dwg

Last Saved by: BryanHarris
Drawn by: TAN

Project:

HARRIS CREEK FARMS

CID 25-0004 (FKA - CID-25-03)

Issued for:

FINAL DRAWING FOR CONSTRUCTION

REVISIONS

No.	Date	Description

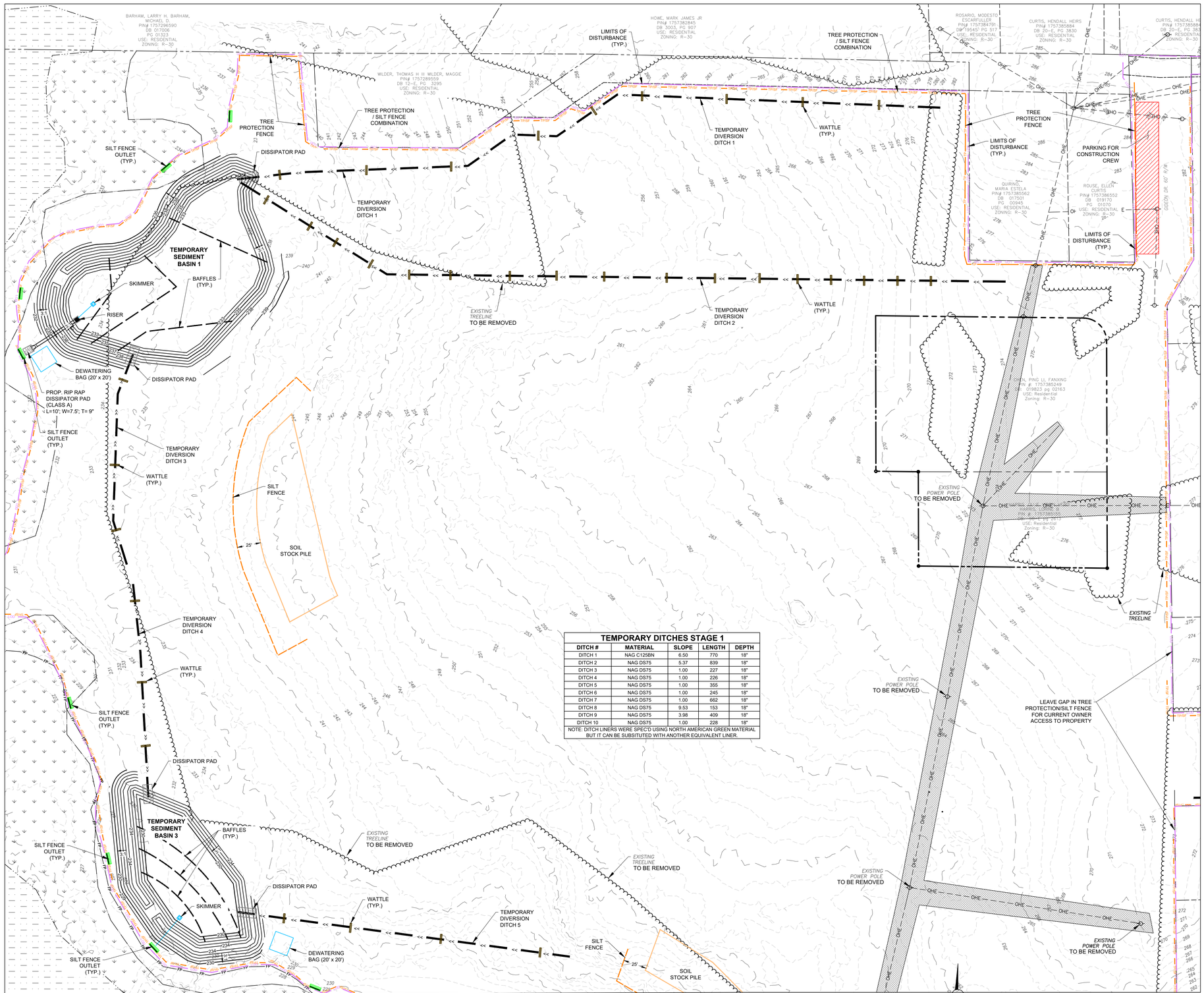
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EC PLAN STAGE 1 SHEET 2 OF 6

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26

File Location: C:\Users\BryanHarris\Quantech\Quantech Engineering - Documents\Harris Creek Farm - Jonesville\Engineering_DWG\Construction Plans\#24 Overall Stage 1 Erosion Control Plan.dwg



TEMPORARY DITCHES STAGE 1

DITCH #	MATERIAL	SLOPE	LENGTH	DEPTH
DITCH 1	NAG C125BN	6.50	770	18"
DITCH 2	NAG DS75	5.37	839	18"
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NOTE: DITCH LINERS WERE SPECTO USING NORTH AMERICAN GREEN MATERIAL BUT IT CAN BE SUBSITUTED WITH ANOTHER EQUIVALENT LINER.

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HARRIS CREEK

SKIMMER BASIN TABLE STAGE 1

Skimmer Basin #	Width (ft)	Length (ft)	Depth (ft)	Top Elevation	Outlet Elevation	Weir (ft)	Skimmer (in)	Orifice (in)	Dewatering Time (days)
BASIN 1	87	173	3	238.00	233.00	55.00	2.50	2.00	4.00
BASIN 2	83	166	3	241.00	236.00	40.00	2.00	2.00	4.20
BASIN 3	84	167	2	234.00	230.00	35.00	2.00	2.00	4.20
BASIN 4	75	149	2	236.00	232.00	35.00	2.00	2.00	3.30

Construction Sequence*

STAGE 1

1. Schedule a preconstruction conference with the Environmental Consultant. Obtain a land disturbing permit.
2. Install gravel construction pad, temporary diversions, silt fence, sediment basins, and other measures as shown on the approved plan. Clear only as necessary to install these devices. Seed temporary diversions, berms and basins immediately after construction.
3. Call Environmental Consultant for an onsite inspection by the Environmental Consultant to obtain a Certificate of Compliance.
4. Stage 1 erosion control devices shall be installed before demolition of electrical lines and structures can begin.
5. Begin clearing and grubbing. Maintain devices as needed. Rough grade site and seed all slopes. As grade changes, ensure disturbed areas are draining to sediment basin per the plan

STAGE 2

6. Change ditch path as grade changes, once more area drains to sediment basin 1, ensure you make the orifice on the skimmer bigger and sediment basin 3 make the orifice on the skimmer smaller.
7. Ensure All all low points are ditched and able to drain to their prospective sediment basin.
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STAGE 3

9. Install storm sewer with inlet protection devices as per plans or other approved measures as shown on the plan. Build retaining walls as per plans except for areas where the sediment basins are. Ensure area for sediment #3 & #4 drainage area is well stabilized.
10. Call Wake County Environmental Consultant for an inspection to get approval to remove sediment basins #3 & #4.
11. Upon authorization from Wake County, remove sediment basins #3 & #4.
12. Complete rest of wall construction and install infrastructures (sewer & water)
13. Stabilize site as areas are brought up to finish grade with vegetation, paving, ditch linings, etc. Seed and mulch denuded areas per Ground Stabilization Time Frames.
14. When construction is complete and all areas are stabilized completely, call Environmental Consultant for an inspection.
15. If site is approved, convert sediment basin #1 & #2 into SCM's as per the plans. You can remove temporary diversions, silt fence, etc. for areas not adjacent to the SCM, and seed out or stabilize any resulting bare areas. All remaining permanent erosion control devices, such as velocity dissipators, should now be installed.
16. When SCM's are established and before any wetpond plantings, call engineer to inspect SCM.
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(IN FEET)

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811 3 DAYS BEFORE DIGGING CALL TOLL FREE 811 or (800)632-4949

A ONE CALL SYSTEM FOR COMMUNITY AND JOB SAFETY

Developer

THE CSC GROUP
CONTRIBUTE TO THE SUCCESS OF LOCAL COMMUNITY
10030 Green Level Church Rd, Suite 802 #149: Cary, NC 27519

Engineer

QUANTECH ENGINEERING
INNOVATIVE SOLUTIONS | DISTINGUISHING THE FUTURE
Firm # F-1517
275 CARPENTER HILL LANE
Cary, N.C. 27519
(919) 996-9455

Surveyor

BCSC EASTERN CIVIL SURVEY COMPANY
Bateman Civil Survey Company
2524 Reliance Avenue
Apex, NC 27539
919-557-1080 ext 109
www.batemancivilsurvey.com

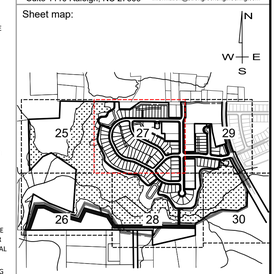
Jurisdiction / Municipality

Rolesville
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
CID-25-0004 (PSP-24-05)
Formally known as CID-25-03

Landscape Architect

STRONGROCK
THE STRONGROCK COMPANIES
305 Church at North Hills Street
Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

Sheet map:



Seal:

NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A. HARRIS

Bryan Harris

Digitally signed by Bryan Harris
DN: CN=BryanHarris@QuantechEng.com, O=Quantech Engineering LLP, CN=Bryan Harris
Date: 2026.11.04 11:50:39-05'00'

Issued / Print Date: 2026-July-27 (10:36)
File Name: 24 Overall Stage 1 Erosion Control Plan.dwg

Last Saved by: BryanHarris
Drawn by: TAN

Project:

HARRIS CREEK FARMS

CID 25-0004 (FKA - CID-25-03)

Issued for:

FINAL DRAWING FOR CONSTRUCTION

REVISIONS

No.	Date	Description

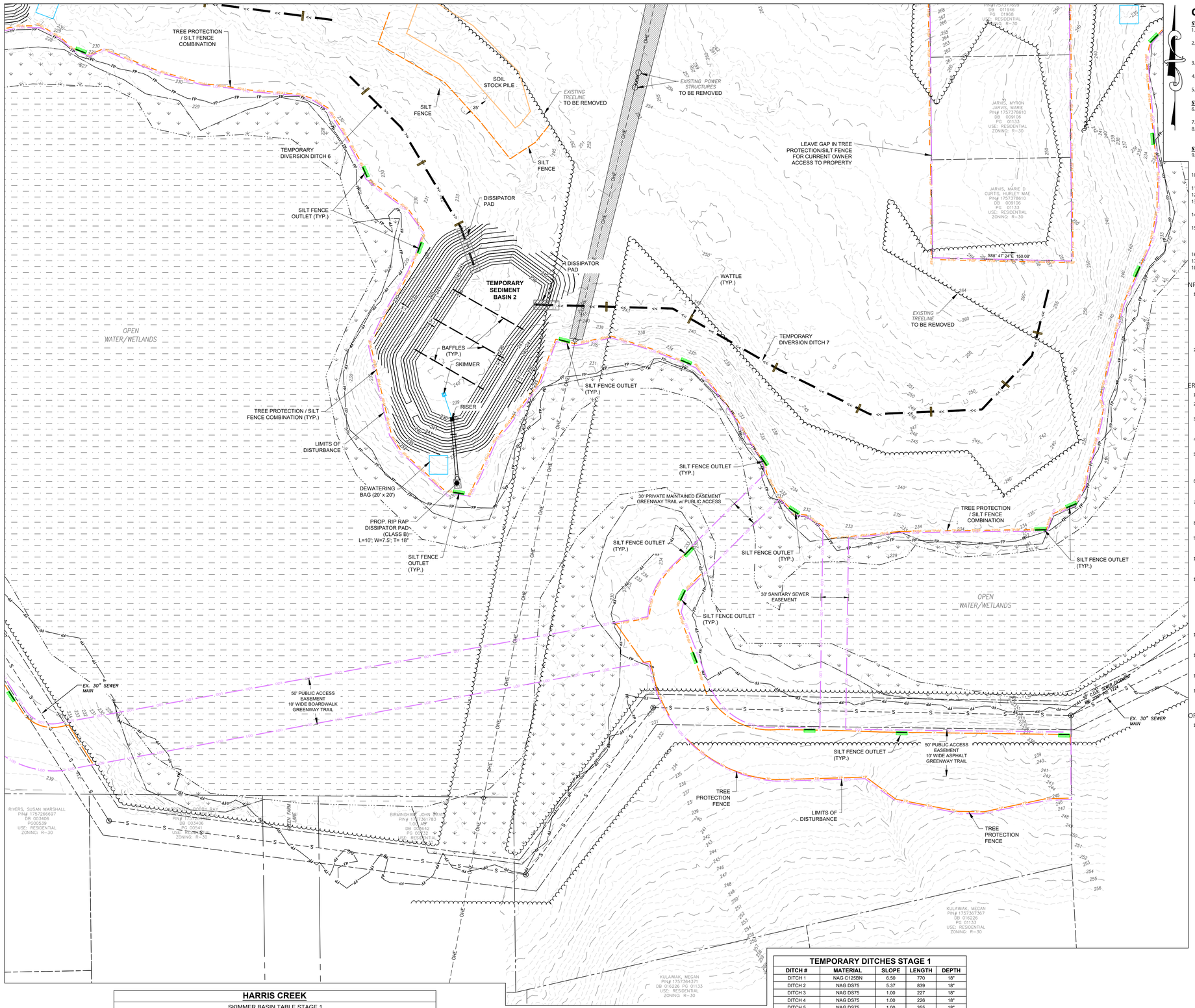
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EC PLAN STAGE 1 SHEET 3 OF 6

Sheet #:

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HARRIS CREEK

SKIMMER BASIN TABLE STAGE 1

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- EXTENTS OF EXISTING POWER LINES AND STRUCTURES TO BE REMOVED
- TEMPORARY SLOPE DRAIN

N.C. UNDERGROUND UTILITIES

811 3 DAYS BEFORE DIGGING CALL TOLL FREE 811 or (800)632-4949

A ONE CALL SYSTEM FOR COMMUNITY AND JOB SAFETY

Developer

THE CSC GROUP
CONTRIBUTE TO THE SUCCESS OF LOCAL COMMUNITY
10030 Green Level Church Rd, Suite 802 #149: Cary, NC 27519

Engineer

QUANTECH ENGINEERING
INNOVATIVE SOLUTIONS | ENGINEERING THE FUTURE
Firm # F-1517
275 CARPENTER HILL LANE
Cary, N.C. 27519
(919) 996-9455

Surveyor

BCSC BATEMAN CIVIL SURVEY COMPANY
Bateman Civil Survey Company
2524 Reliance Avenue
Apex, NC 27539
919-557-1080 ext 109
www.batemancivilsurvey.com

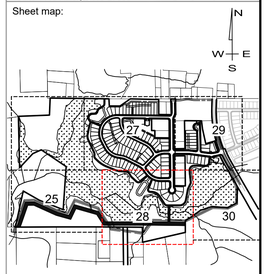
Jurisdiction / Municipality

Rolesville
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
CID-25-0004 (PSP-24-05)
Permits Issue to JOB-00

Landscape Architect

STRONGROCK
THE STRONGROCK COMPANIES
305 Church at North Hills Street
Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

Sheet map:



Seal:

NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A. HARRIS

Bryan Harris

Digitally signed by Bryan Harris
DN: C=US, E=bryan@quantechEng.com, O=Quantech Engineering LLP, CN=Bryan Harris
Date: 2026.11.04 11:50:43-05'00'

Issued / Print Date: 2026-July-27 (10:37)
File Name: 24 Overall Stage 1 Erosion Control Plan.dwg

Last Saved by: BryanHarris
Drawn by: TAN

Project:

HARRIS CREEK FARMS

CID 25-0004 (FKA - CID-25-03)

Issued for:

FINAL DRAWING FOR CONSTRUCTION

REVISIONS

No.	Date	Description

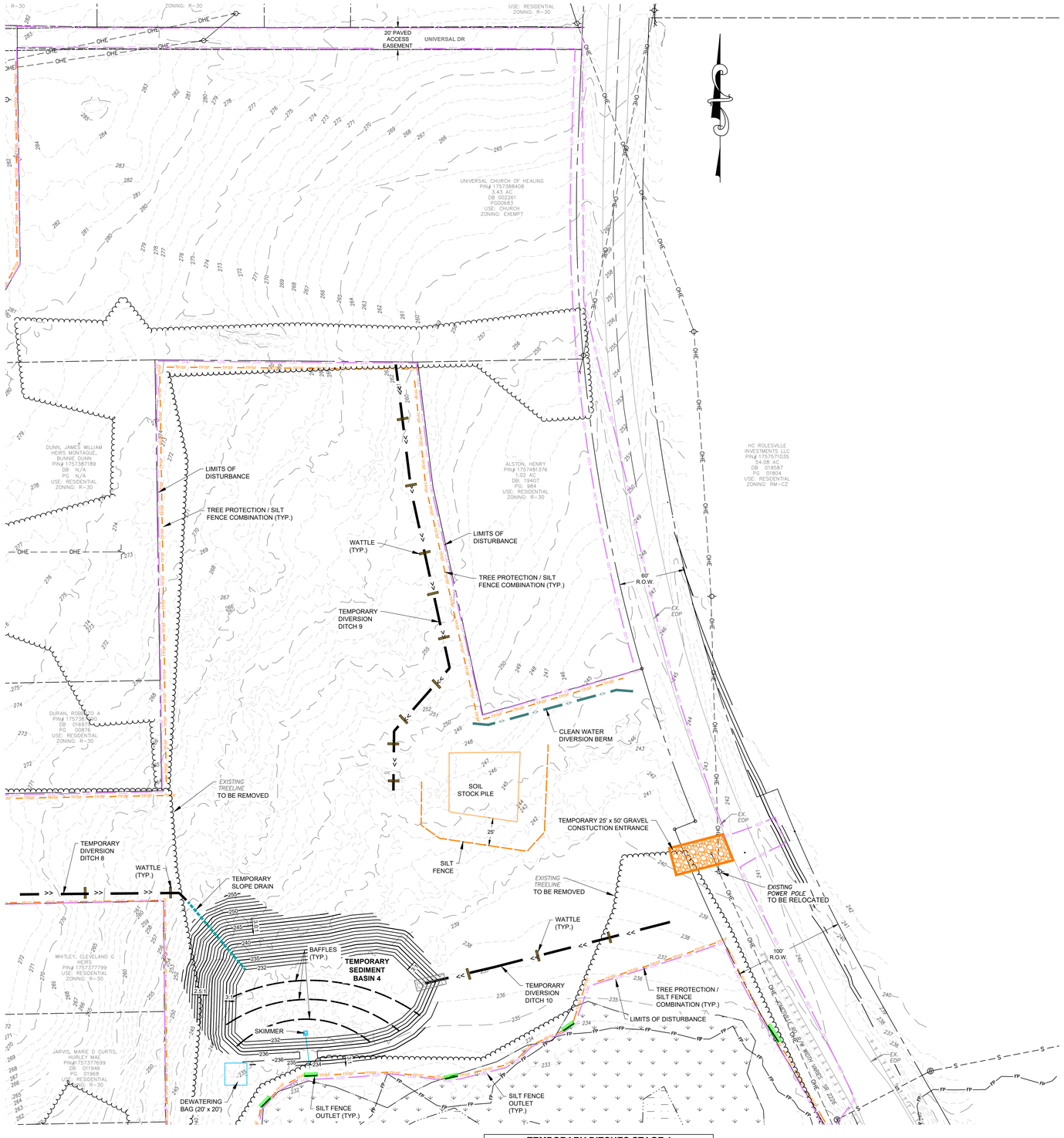
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EC PLAN STAGE 1 SHEET 4 OF 6

Sheet #:

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HARRIS CREEK

SKIMMER BASIN TABLE STAGE 1

Skimmer Basin #	Width (ft)	Length (ft)	Depth (ft)	Top Elevation	Outlet Elevation	Weir (ft)	Skimmer (in)	Orifice (in)	Dewatering Time (days)
BASIN 1	87	173	3	238.00	233.00	55.00	2.50	2.00	4.00
BASIN 2	83	166	3	241.00	236.00	40.00	2.00	2.00	4.20
BASIN 3	84	167	2	234.00	230.00	35.00	2.00	2.00	4.20
BASIN 4	75	149	2	236.00	232.00	35.00	2.00	2.00	3.30

TEMPORARY DITCHES STAGE 1

DITCH #	MATERIAL	SLOPE	LENGTH	DEPTH
DITCH 1	NAG C125BN	6.50	770	18"
DITCH 2	NAG DS75	5.37	839	18"
DITCH 3	NAG DS75	1.00	227	18"
DITCH 4	NAG DS75	1.00	226	18"
DITCH 5	NAG DS75	1.00	355	18"
DITCH 6	NAG DS75	1.00	245	18"
DITCH 7	NAG DS75	1.00	662	18"
DITCH 8	NAG DS75	9.53	153	18"
DITCH 9	NAG DS75	3.98	409	18"
DITCH 10	NAG DS75	1.00	228	18"

NOTE: DITCH LINERS WERE SPECD USING NORTH AMERICAN GREEN MATERIAL BUT IT CAN BE SUBSTITUTED WITH ANOTHER EQUIVALENT LINER.

Construction Sequence*

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5. Begin clearing and grubbing. Maintain devices as needed. Rough grade site and seed all slopes. As grade changes, ensure disturbed areas are draining to sediment basin per the plan

STAGE 2

6. Change ditch path as grade changes, once more area drains to sediment basin 1, ensure you make the orifice on the skimmer bigger and sediment basin 3 make the orifice on the skimmer smaller.
7. Ensure All all low points are ditched and able to drain to their prospective sediment basin.
8. As grades change, ensure any slopes greater than 5:1 has been lined with North American Green S150 or equivalent. Continue to grade sight to desired elevation and as areas are complete with fine grading, seed and straw to stabilized those areas.

STAGE 3

9. Install storm sewer with inlet protection devices as per plans or other approved measures as shown on the plan. Build retaining walls as per plans except for areas where the sediment basins are. Ensure area for sediment #3 & #4 drainage area is well stabilized.
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275 CARPENTER HILL LANE
Cary, N.C. 27519
(919) 996-9455

Surveyor

BCSC BATEMAN CIVIL SURVEY COMPANY
Bateman Civil Survey Company
2524 Reliance Avenue
Apex, NC 27539
919-557-1080 ext 109
www.batemancivilsurvey.com

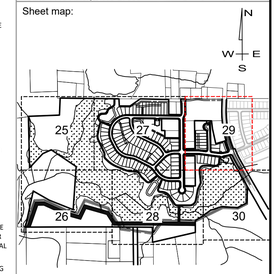
Jurisdiction / Municipality

Rolesville
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
CID-25-0004 (PSP-24-05)

Landscape Architect

STRONGROCK
THE STRONGROCK COMPANIES
305 Church at North Hills Street
Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

Sheet map:



Seal:

NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A. HARRIS

Bryan Harris

Digitally signed by Bryan Harris
DN: CN=BJS, E=bharris@QuantechEng.com, O=Quantech Engineering LLP, C=US
Date: 2026.11.04 11:50:47-05'00'

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File Name: 24 Overall Stage 1 Erosion Control Plan.dwg

Last Saved by: BryanHarris
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Project:

HARRIS CREEK FARMS

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FINAL DRAWING FOR CONSTRUCTION

REVISIONS

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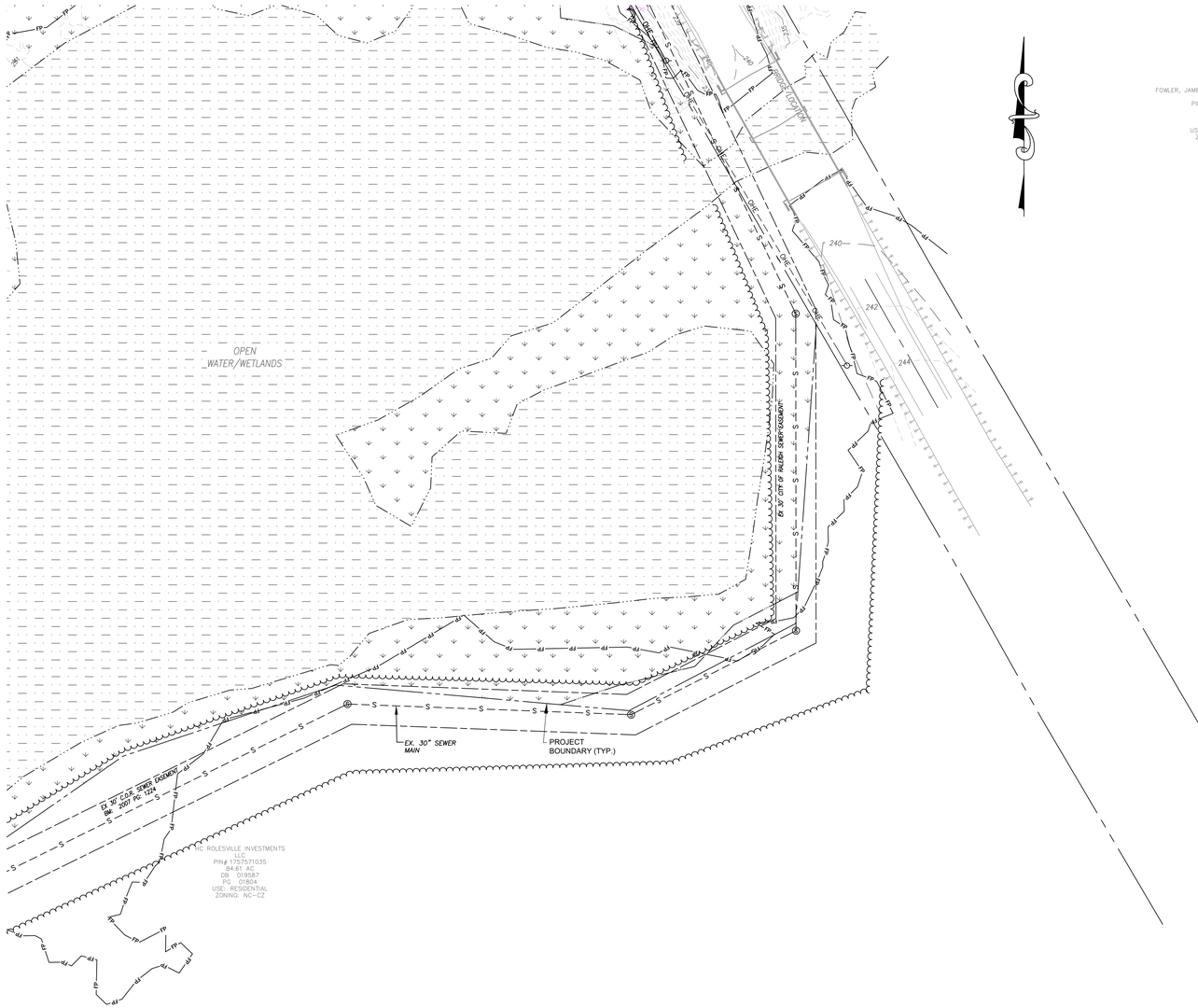
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EC PLAN STAGE 1 SHEET 5 OF 6

Sheet #:

29

File Location: C:\Users\BryanHarris\Quantech\Quantech Engineering - Documents\Harris Creek Farm - Jones\ville\Engineering_DWG\Construction Plans\24 Overall Stage 1 Erosion Control Plan.dwg



GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)

1 inch = 50 ft

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DISTURBED AREA = 43.10 ACRES

EROSION CONTROL LEGEND (PHASE 1 & 2)

- EXISTING FLOODPLAIN
- EXISTING WETLAND
- EXISTING EDGE OF WATER
- LIMITS OF DISTURBANCE
- TREE PROTECTION/SILT FENCE COMBINATION
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- SILT FENCE
- SILT FENCE OUTLET
- TEMPORARY DIVERSION DITCH
- TEMPORARY DIVERSION BERM
- TEMPORARY CONSTRUCTION ENTRANCE
- SKIMMER
- DITCH WATTLE
- CONSTRUCTION PARKING
- EXISTING TREELINE
- PROPOSED TREELINE
- EXTENTS OF EXISTING POWER LINES AND STRUCTURES TO BE REMOVED
- TEMPORARY SLOPE DRAIN

N.C. UNDERGROUND UTILITIES

811 3 DAYS BEFORE DIGGING CALL TOLL FREE 811 or (800)632-4949

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THE CSC GROUP
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10030 Green Level Church Rd, Suite 802 #149: Cary, NC 27519

Engineer

QUANTECH ENGINEERING
INNOVATIVE SOLUTIONS | ENGINEERING THE FUTURE
Firm # F-1517
275 CARPENTER HILL LANE
Cary, N.C. 27519
(919) 996-9455

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BCSC BATEMAN CIVIL SURVEY COMPANY
Bateman Civil Survey Company
2524 Reliance Avenue
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919-557-1080 ext 109
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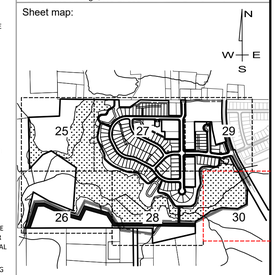
Jurisdiction / Municipality

Rolesville Granville County's Capital Connection Est. 1837
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
CID-25-0004 (PSP-24-05)
Formally Known As CID-25-03

Landscape Architect

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THE STRONGROCK COMPANIES
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Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

Sheet map:



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NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A. HARRIS

Digitally signed by Bryan Harris
DN: C=US, E=BryanH@QuantechEng.com, O=Quantech Engineering LLP, CN=Bryan Harris
Date: 2026.11.04 11:50:50-05'00'

Bryan Harris

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Drawn by: TAN

Project:

HARRIS CREEK FARMS

CID 25-0004 (FKA - CID-25-03)

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REVISIONS

No.	Date	Description

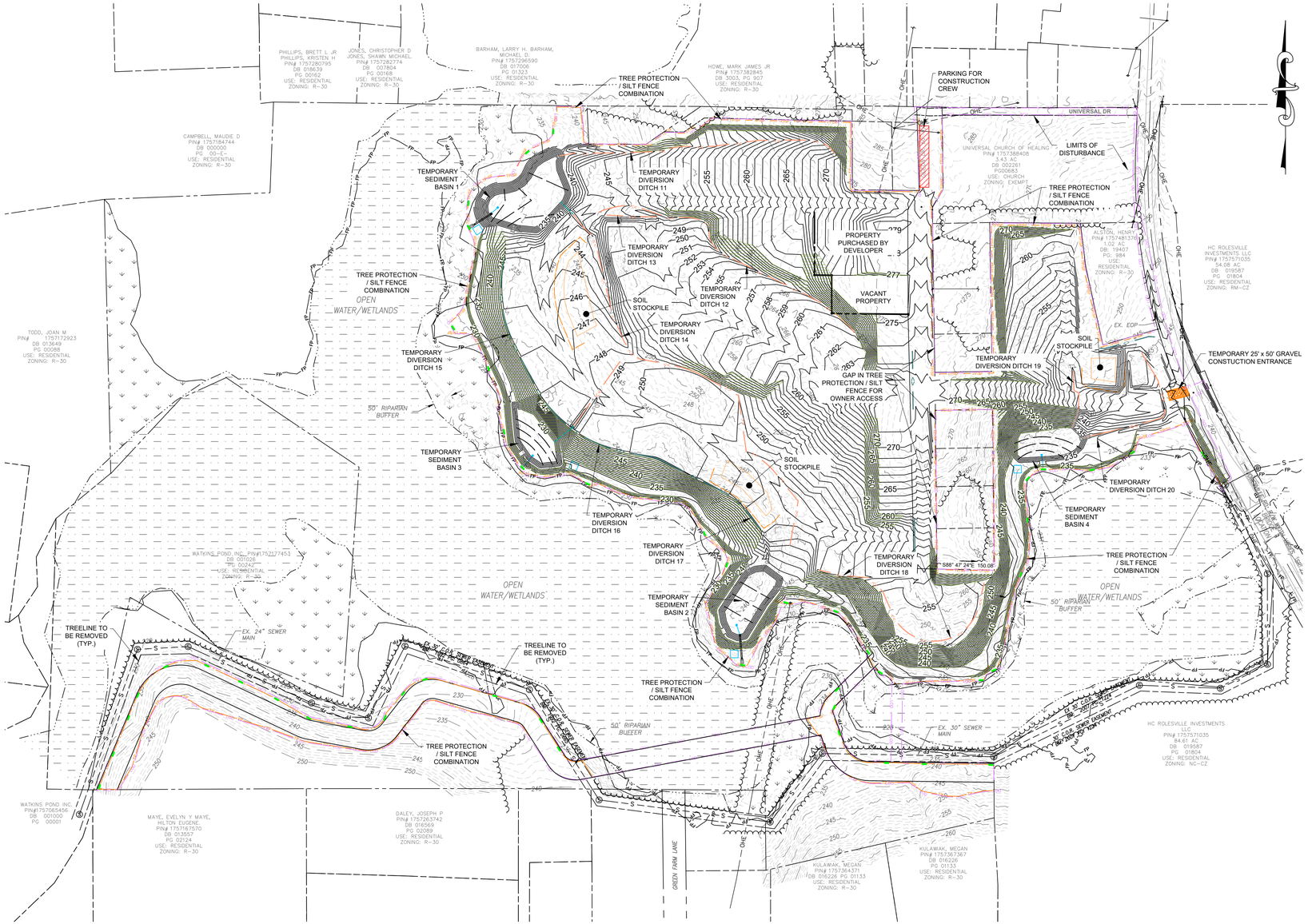
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EC PLAN STAGE 1 SHEET 6 OF 6

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★ DUE TO GRADING CHANGES SEDIMENT BASIN SIZES HAVE CHANGED

SIZES CHANGED

HARRIS CREEK

SKIMMER BASIN TABLE STAGE 2

Skimmer Basin #	Width (ft)	Length (ft)	Depth (ft)	Top Elevation	Outlet Elevation	Weir (ft)	Skimmer (in)	Orifice (in)	Dewatering Time (days)
BASIN 1B	113	225	3	238.00	233.00	55.00	2.50	2.50	4.40
BASIN 2B	83	166	3	241.00	236.00	40.00	2.00	2.00	4.20
BASIN 3B	42	83	2	234.00	230.00	35.00	2.00	1.00	4.20
BASIN 4B	79	157	2	236.00	232.00	35.00	2.00	2.00	3.70

BASIN 3 & 4 ARE REMOVED BETWEEN STAGE 2 AND STAGE 3. SEE SHEET 48 FOR BASIN REMOVAL SEQUENCE.

TEMPORARY DITCHES STAGE 2

DITCH #	MATERIAL	SLOPE	LENGTH	DEPTH
DITCH 11	NAG DS75	3.91	735	18"
DITCH 12	NAG DS75	1.64	792	18"
DITCH 13	NAG DS75	0.70	130	18"
DITCH 14	NAG DS75	1.00	598	18"
DITCH 15	NAG DS75	1.00	752	18"
DITCH 16	NAG DS75	1.20	208	18"
DITCH 17	NAG C125BN	4.20	568	18"
DITCH 18	NAG DS75	1.10	609	18"
DITCH 19	NAG DS150	2.78	162	18"
DITCH 20	NAG DS75	1.74	397	18"

NOTE: DITCH LINERS WERE SPEC'D USING NORTH AMERICAN GREEN MATERIAL BUT IT CAN BE SUBSTITUTED WITH ANOTHER EQUIVALENT LINER.

Construction Sequence*

STAGE 1

1. Schedule a preconstruction conference with the Environmental Consultant. Obtain a land disturbing permit.
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3. Call Environmental Consultant for an onsite inspection by the Environmental Consultant to obtain a Certificate of Compliance.
4. Stage 1 erosion control devices shall be installed before demolition of electrical lines and structures can begin.
5. Begin clearing and grubbing. Maintain devices as needed. Rough grade site and seed all slopes. As grade changes, ensure disturbed areas are draining to sediment basin per the plan

STAGE 2

6. Change ditch path as grade changes, once more area drains to sediment basin 1, ensure you make the orifice on the skimmer bigger and sediment basin 3 make the orifice on the skimmer smaller.
7. Ensure All all low points are ditched and able to drain to their prospective sediment basin.
8. As grades change, ensure any slopes greater than 5:1 has been lined with North American Green S150 or equivalent. Continue to grade sight to desired elevation and as areas are complete with fine grading, seed and straw to stabilized those areas.

STAGE 3

9. Install storm sewer with inlet protection devices as per plans or other approved measures as shown on the plan. Build retaining walls as per plans except for areas where the sediment basins are. Ensure area for sediment #3 & #4 drainage area is well stabilized.
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EXTENTS OF EXISTING POWER LINES AND STRUCTURES TO BE REMOVED
TEMPORARY SLOPE DRAIN
STEEP SLOPES

GRAPHIC SCALE

150 0 75 150 300 600

(IN FEET)
1 inch = 150 ft

N.C. UNDERGROUND UTILITIES

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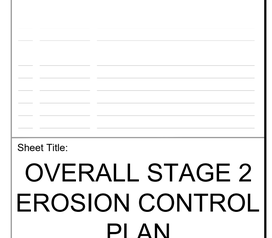
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Sheet map:



Seal:

NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A. HARRIS

Bryan Harris

Digitally signed by Bryan Harris DN: C=US, E=bryan@quantechEng.com, O=Quantech Engineering LLP, CN=Bryan Harris Date: 2026.11.04 11:50:53-05'00'

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Project:

HARRIS CREEK FARMS

CID 25-0004 (FKA - CID-25-03)

Issued for:

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REVISIONS

No.	Date	Description

Sheet Title:

OVERALL STAGE 2 EROSION CONTROL PLAN

Sheet #:

31

File Location: C:\Users\BryanHarris\Quantech\Quantech Engineering - Documents\Harris Creek Farm - Jonesville\Engineering_DWG\Construction Plans\24 Overall Stage 1 Erosion Control Plan.dwg



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DISTURBED AREA = 43.10 ACRES

EROSION CONTROL LEGEND (PHASE 1 & 2)

- EXISTING FLOODPLAIN
- EXISTING WETLAND
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- TREE PROTECTION/SILT FENCE COMBINATION
- TREE PROTECTION
- SILT FENCE
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- SKIMMER
- DITCH WATTLE
- CONSTRUCTION PARKING
- EXISTING TREELINE
- PROPOSED TREELINE
- EXTENTS OF EXISTING POWER LINES AND STRUCTURES TO BE REMOVED
- TEMPORARY SLOPE DRAIN
- STEEP SLOPES

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft

N.C. UNDERGROUND UTILITIES
811 3 DAYS BEFORE DIGGING CALL TOLL FREE 811 or (800)632-4949
A ONE CALL SYSTEM FOR COMMUNITY AND JOB SAFETY

File Location: C:\Users\BryanHarris\Quantech\Quantech Engineering - Documents\Harris Creek Farm - Jonesville\Engineering_DWG\Construction Plans\24 Overall Stage 1 Erosion Control Plan.dwg

Developer
THE CSC GROUP
CONTRIBUTE TO THE SUCCESS OF LOCAL COMMUNITY
10030 Green Level Church Rd, Suite 802 #149: Cary, NC 27519

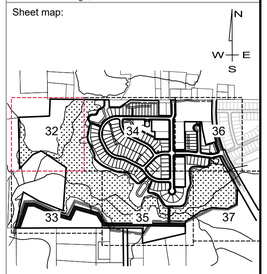
Engineer
QUANTECH ENGINEERING
INNOVATIVE SOLUTIONS | ENTERPRISING THE FUTURE
Firm # F-1517
275 CARPENTER HILL LANE
Cary, N.C. 27519
(919) 996-9455

Surveyor
BCSC EASTERN CIVIL SURVEY COMPANY
Bateman Civil Survey Company
2524 Reliance Avenue
Apex, NC 27539
919-557-1080 ext 109
www.batemancivilsurvey.com

Jurisdiction / Municipality
Rolesville Gracious Community • Capital Connection Est. 1837
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
CID-25-0004 (PSP-24-05)
Formally Known As CID-25-03

Landscape Architect
STRONGROCK
THE STRONGROCK COMPANIES
305 Church at North Hills Street
Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

Sheet map:



Seal:

NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A. HARRIS

Bryan Harris

Digitally signed by Bryan Harris
DN: CN=US, E=bryan@QuantechEng.com, O=Quantech Engineering LLP, CN=Bryan Harris
Date: 2026.11.04 11:50:56-05'00'

Issued / Print Date: 2026-July-27 (10:38)
File Name: 24 Overall Stage 1 Erosion Control Plan.dwg

Last Saved by: BryanHarris
Drawn by: TAN

Project:

HARRIS CREEK FARMS

CID 25-0004 (FKA - CID-25-03)

Issued for:

FINAL DRAWING FOR CONSTRUCTION

REVISIONS

No.	Date	Description

Sheet Title:

EC PLAN STAGE 2 SHEET 1 OF 6

Sheet #:

32

Construction Sequence*

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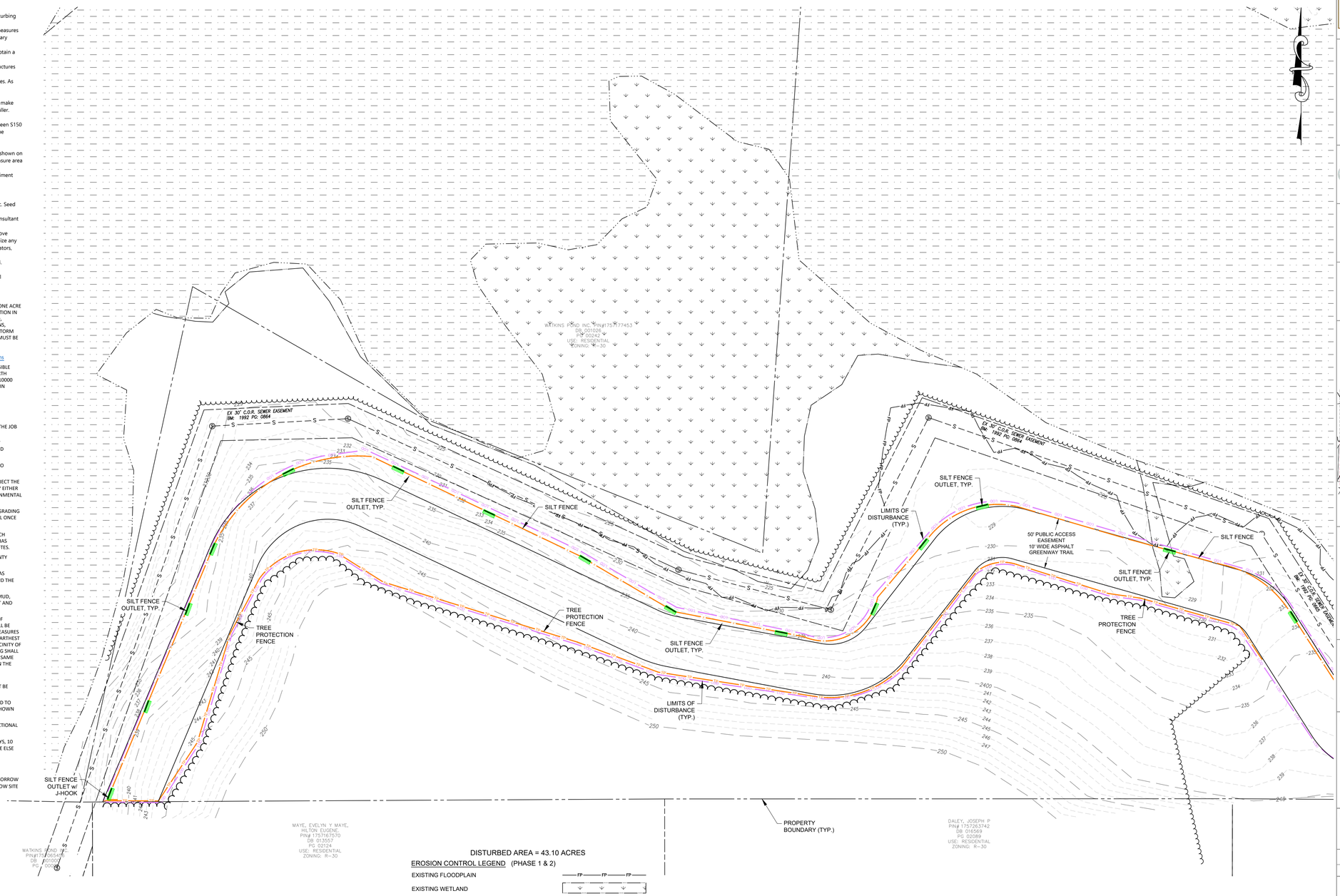
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EROSION CONTROL LEGEND (PHASE 1 & 2)

EXISTING FLOODPLAIN	FP FP FP
EXISTING WETLAND	
EXISTING EDGE OF WATER	
LIMITS OF DISTURBANCE	LOD LOD
TREE PROTECTION/SILT FENCE COMBINATION	TP/SF TP/SF TP/SF
TREE PROTECTION	TP TP TP
SILT FENCE	
SILT FENCE OUTLET	
TEMPORARY DIVERSION DITCH	>>
TEMPORARY DIVERSION BERM	<>
TEMPORARY CONSTRUCTION ENTRANCE	
SKIMMER	
DITCH WATTLE	
CONSTRUCTION PARKING	
EXISTING TREELINE	
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EXTENTS OF EXISTING POWER LINES AND STRUCTURES TO BE REMOVED	
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GRAPHIC SCALE
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CONTRIBUTE TO THE SUCCESS OF LOCAL COMMUNITY
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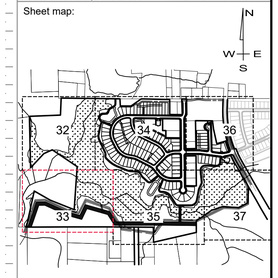
Engineer
QUANTECH ENGINEERING
INNOVATIVE SOLUTIONS | DESIGNING THE FUTURE
Firm # P-1517
275 CARPENTER HILL LANE
Cary, N.C. 27519
(919) 996-9455

Surveyor
BCSC BATEMAN CIVIL SURVEY COMPANY
Bateman Civil Survey Company
2524 Reliance Avenue
Apex, NC 27539
919-557-1080 ext 109
www.batemancivilsurvey.com

Jurisdiction / Municipality
Rolesville Gracious Community • Capital Connection Est. 1837
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
CID-25-0004 (PSP-24-05)
Formally Known As CID-25-03

Landscape Architect
STRONGROCK
THE STRONGROCK COMPANIES
305 Church at North Hills Street
Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

Sheet map:



Seal:
NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A HARRIS
Bryan Harris
Digitally signed by Bryan Harris
DN: CN=Bryan Harris, O=Quantech Engineering LLP, OU=Bryan Harris
Date: 2026.11.04 11:51:05-05'00'

Issued / Print Date: 2026-July-27 (10:39)
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Drawn by: TAN

Project:
HARRIS CREEK FARMS
CID 25-0004 (FKA - CID-25-03)

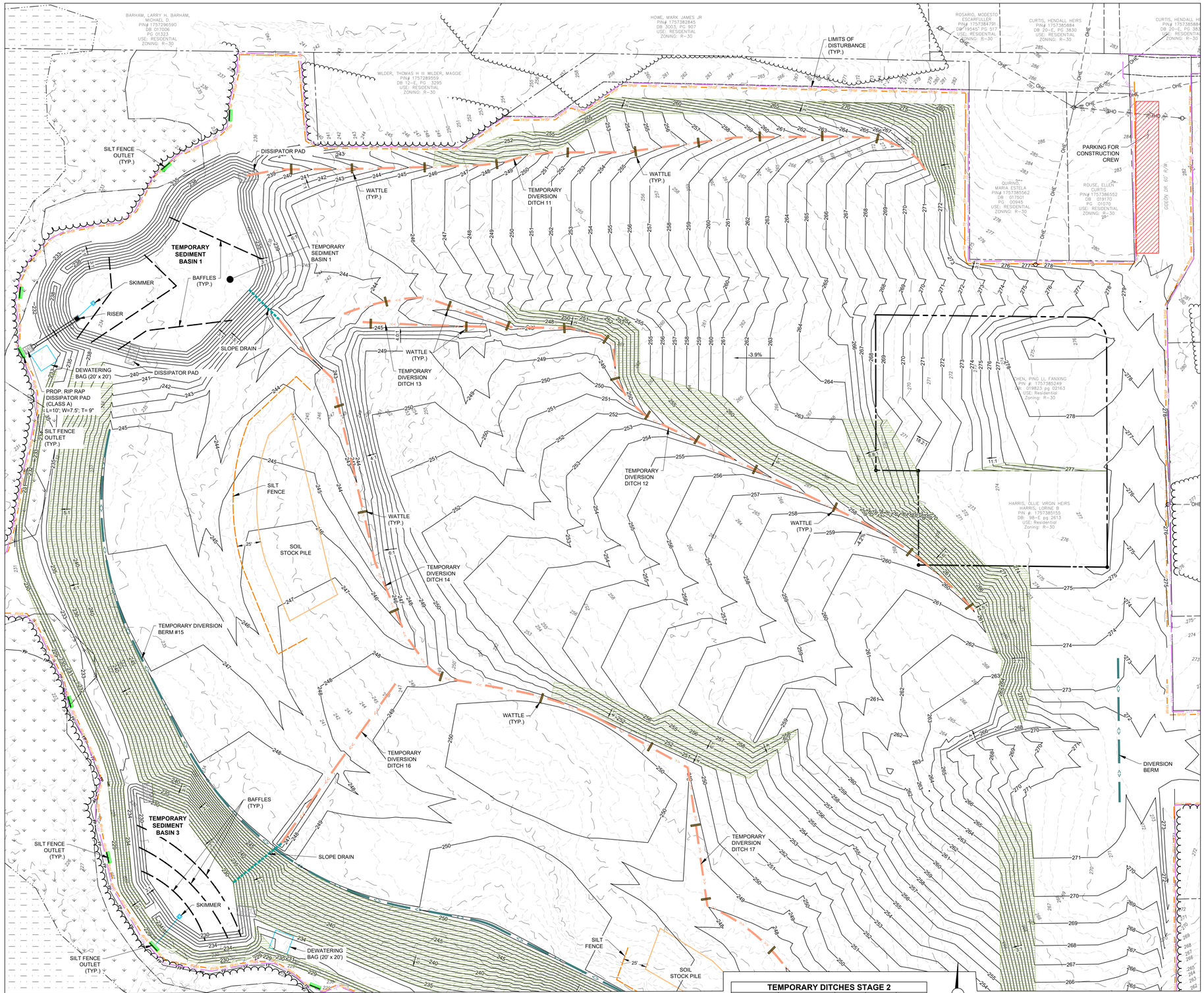
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REVISIONS

No.	Date	Description

Sheet Title:
EC PLAN STAGE 2 SHEET 2 OF 6

Sheet #:
33



* DUE TO GRADING CHANGES SEDIMENT BASIN SIZES HAVE CHANGED — SIZES CHANGED

HARRIS CREEK

SKIMMER BASIN TABLE STAGE 2

Skimmer Basin #	Width (ft)	Length (ft)	Depth (ft)	Top Elevation	Outlet Elevation	Weir (ft)	Skimmer (in)	Orifice (in)	Dewatering Time (days)
BASIN 1B	113	225	3	238.00	233.00	55.00	2.50	2.50	4.40
BASIN 2B	83	166	3	241.00	236.00	40.00	2.00	2.00	4.20
BASIN 3B	42	83	2	234.00	230.00	35.00	2.00	1.00	4.20
BASIN 4B	79	157	2	236.00	232.00	35.00	2.00	2.00	3.70

BASIN 3 & 4 ARE REMOVED BETWEEN STAGE 2 AND STAGE 3. SEE SHEET 48 FOR BASIN REMOVAL SEQUENCE.

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TEMPORARY DITCHES STAGE 2

DITCH #	MATERIAL	SLOPE	LENGTH	DEPTH
DITCH 11	NAG DS75	3.91	735	18"
DITCH 12	NAG DS75	1.64	792	18"
DITCH 13	NAG DS75	0.70	130	18"
DITCH 14	NAG DS75	1.00	598	18"
DITCH 15	NAG DS75	1.00	752	18"
DITCH 16	NAG DS75	1.20	208	18"
DITCH 17	NAG C125BN	4.20	568	18"
DITCH 18	NAG DS75	1.10	609	18"
DITCH 19	NAG DS150	2.78	162	18"
DITCH 20	NAG DS75	1.74	397	18"

NOTE: DITCH LINERS WERE SPEC'D USING NORTH AMERICAN GREEN MATERIAL BUT IT CAN BE SUBSTITUTED WITH ANOTHER EQUIVALENT LINER.

GRAPHIC SCALE

50 0 25 50 100 200

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A ONE CALL SYSTEM FOR COMMUNITY AND JOB SAFETY

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CONTRIBUTE TO THE SUCCESS OF LOCAL COMMUNITY
10030 Green Level Church Rd, Suite 802 #149: Cary, NC 27519

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QUANTECH ENGINEERING
INNOVATIVE SOLUTIONS | ENGINEERING THE FUTURE
Firm # F-1517
275 CARPENTER HILL LANE
Cary, N.C. 27519
(919) 996-9455

Surveyor

BCSC EASTERN CIVIL SURVEY COMPANY
Bateman Civil Survey Company
2524 Reliance Avenue
Apex, NC 27539
919-557-1080 ext 109
www.batemancivilsurvey.com

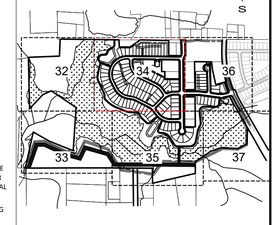
Jurisdiction / Municipality

Rolesville — Granite Community • Capital Connection — Est. 1837
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
CID-25-0004 (PSP-24-05)
Permits Issued As Of: 01-08-26

Landscape Architect

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THE STRONGROCK COMPANIES
305 Church at North Hills Street, Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

Sheet map:



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NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A HARRIS

Bryan Harris

Digitally signed by Bryan Harris
DN: CN=Bryan Harris, O=Quantech Engineering LLP, OU=Bryan Harris
Date: 2026.11.04 11:51:07-05'00'

Issued / Print Date: 2026-July-27 (10:39)
File Name: 24 Overall Stage 1 Erosion Control Plan.dwg

Last Saved by: BryanHarris
Drawn by: TAN

Project:

HARRIS CREEK FARMS

CID 25-0004 (FKA - CID-25-03)

Issued for:

FINAL DRAWING FOR CONSTRUCTION

REVISIONS

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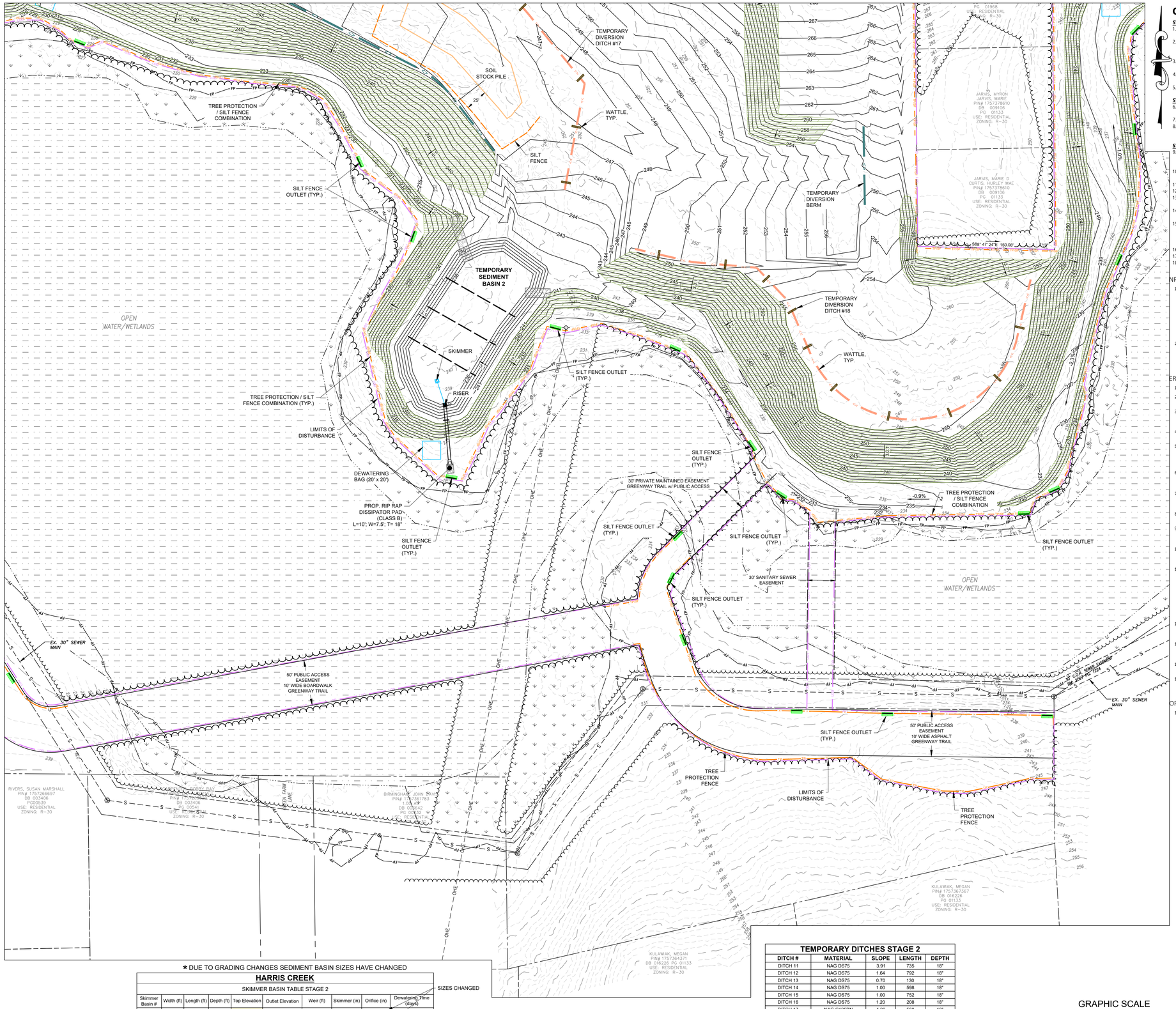
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EC PLAN STAGE 2 SHEET 3 OF 6

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★ DUE TO GRADING CHANGES SEDIMENT BASIN SIZES HAVE CHANGED

HARRIS CREEK

SKIMMER BASIN TABLE STAGE 2

SIZES CHANGED

Skimmer Basin #	Width (ft)	Length (ft)	Depth (ft)	Top Elevation	Outlet Elevation	Weir (ft)	Skimmer (in)	Orifice (in)	Dewatering Time (days)
BASIN 1B	113	225	3	238.00	233.00	55.00	2.50	2.50	4.40
BASIN 2B	83	166	3	241.00	236.00	40.00	2.00	2.00	4.20
BASIN 3B	42	83	2	234.00	230.00	35.00	2.00	1.00	4.20
BASIN 4B	79	157	2	236.00	232.00	35.00	2.00	2.00	3.70

BASIN 3 & 4 ARE REMOVED BETWEEN STAGE 2 AND STAGE 3. SEE SHEET 4B FOR BASIN REMOVAL SEQUENCE.

NOTE:

ENSURE THAT EACH LOW POINT ALONG THE SILT FENCING HAS A SILT FENCE OUTLET AND THAT THERE IS NO MORE THAN 100' BETWEEN EACH SILT FENCE OUTLET.

TEMPORARY DITCHES STAGE 2

DITCH #	MATERIAL	SLOPE	LENGTH	DEPTH
DITCH 11	NAG DS75	3.91	735	18"
DITCH 12	NAG DS75	1.64	792	18"
DITCH 13	NAG DS75	0.70	130	18"
DITCH 14	NAG DS75	1.00	598	18"
DITCH 15	NAG DS75	1.00	752	18"
DITCH 16	NAG DS75	1.20	208	18"
DITCH 17	NAG C125BN	4.20	568	18"
DITCH 18	NAG DS75	1.10	609	18"
DITCH 19	NAG DS150	2.78	162	18"
DITCH 20	NAG DS75	1.74	397	18"

NOTE: DITCH LINERS WERE SPECD USING NORTH AMERICAN GREEN MATERIAL BUT IT CAN BE SUBSTITUTED WITH ANOTHER EQUIVALENT LINER.

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)

1 inch = 50 ft

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4. Stage 1 erosion control devices shall be installed before demolition of electrical lines and structures can begin.
5. Begin clearing and grubbing. Maintain devices as needed. Rough grade site and seed all slopes. As grade changes, ensure disturbed areas are draining to sediment basin per the plan

STAGE 2

6. Change ditch path as grade changes, once more area drains to sediment basin 1, ensure you make the orifice on the skimmer bigger and sediment basin 3 make the orifice on the skimmer smaller.
7. Ensure All all low points are ditched and able to drain to their prospective sediment basin.
8. As grades change, ensure any slopes greater than 5:1 has been lined with North American Green S150 or equivalent. Continue to grade sight to desired elevation and as areas are complete with fine grading, seed and straw to stabilized those areas.

STAGE 3

9. Install storm sewer with inlet protection devices as per plans or other approved measures as shown on the plan. Build retaining walls as per plans except for areas where the sediment basins are. Ensure area for sediment #3 & #4 drainage area is well stabilized.
10. Call Wake County Environmental Consultant for an inspection to get approval to remove sediment basins #3 & #4.
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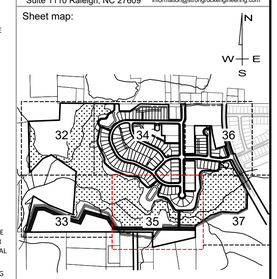
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Sheet map:



Seal:

NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A. HARRIS

Bryan Harris

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Date: 2026.11.04 11:51:05-05'00'

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File Name: 24 Overall Stage 1 Erosion Control Plan.dwg

Last Saved by: BryanHarris

Drawn by: TAN

Project:

HARRIS CREEK FARMS

CID 25-0004 (FKA - CID-25-03)

Issued for:

FINAL DRAWING FOR CONSTRUCTION

REVISIONS

No.	Date	Description

Sheet Title:

EC PLAN STAGE 2 SHEET 4 OF 6

Sheet #:

35

File Location: C:\Users\BryanHarris\Quantech\Quantech Engineering - Documents\Harris Creek Farm - Jones\ville\Engineering_DWG\Construction Plans\24 Overall Stage 1 Erosion Control Plan.dwg



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1. IF AN OFFSITE SOIL SPOIL OR BORROW SITE IS UTILIZED, THE DISTURBED AREA FOR THE SPOILED/BORROW SITE MUST BE INCLUDED IN THE LAND-DISTURBANCE PLAN AND PERMIT UNLESS THE SPOIL/BORROW SITE ALREADY HAS A SEPARATE LAND-DISTURBANCE PERMIT.

DISTURBED AREA = 43.10 ACRES

EROSION CONTROL LEGEND (PHASE 1 & 2)

- EXISTING FLOODPLAIN
- EXISTING WETLAND
- EXISTING EDGE OF WATER
- LIMITS OF DISTURBANCE
- TREE PROTECTION/SILT FENCE COMBINATION
- TREE PROTECTION
- SILT FENCE
- SILT FENCE OUTLET
- TEMPORARY DIVERSION DITCH
- TEMPORARY DIVERSION BERM
- TEMPORARY CONSTRUCTION ENTRANCE
- SKIMMER
- DITCH WATTLE
- CONSTRUCTION PARKING
- EXISTING TREELINE
- PROPOSED TREELINE
- EXTENTS OF EXISTING POWER LINES AND STRUCTURES TO BE REMOVED
- TEMPORARY SLOPE DRAIN
- STEEP SLOPES

* DUE TO GRADING CHANGES SEDIMENT BASIN SIZES HAVE CHANGED

HARRIS CREEK

SKIMMER BASIN TABLE STAGE 2

Skimmer Basin #	Width (ft)	Length (ft)	Depth (ft)	Top Elevation	Outlet Elevation	Weir (ft)	Skimmer (in)	Orifice (in)	Dewatering Time (days)
BASIN 1B	113	225	3	238.00	233.00	55.00	2.50	2.50	4.40
BASIN 2B	83	166	3	241.00	236.00	40.00	2.00	2.00	4.20
BASIN 3B	42	83	2	234.00	230.00	35.00	2.00	1.00	4.20
BASIN 4B	79	157	2	236.00	232.00	35.00	2.00	2.00	3.70

SIZES CHANGED

BASIN 3 & 4 ARE REMOVED BETWEEN STAGE 2 AND STAGE 3. SEE SHEET 48 FOR BASIN REMOVAL SEQUENCE.

TEMPORARY DITCHES STAGE 2

DITCH #	MATERIAL	SLOPE	LENGTH	DEPTH
DITCH 11	NAG DS75	3.91	735	18"
DITCH 12	NAG DS75	1.64	792	18"
DITCH 13	NAG DS75	0.70	130	18"
DITCH 14	NAG DS75	1.00	598	18"
DITCH 15	NAG DS75	1.00	752	18"
DITCH 16	NAG DS75	1.20	208	18"
DITCH 17	NAG C125BN	4.20	568	18"
DITCH 18	NAG DS75	1.10	609	18"
DITCH 19	NAG DS150	2.78	162	18"
DITCH 20	NAG DS75	1.74	397	18"

NOTE: DITCH LINERS WERE SPEC'D USING NORTH AMERICAN GREEN MATERIAL BUT IT CAN BE SUBSTITUTED WITH ANOTHER EQUIVALENT LINER.

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)

1 inch = 50 ft

Developer

THE CSC GROUP
CONTRIBUTE TO THE SUCCESS OF LOCAL COMMUNITY
10030 Green Level Church Rd, Suite 802 #149: Cary, NC 27519

Engineer

QUANTECH ENGINEERING
INNOVATIVE SOLUTIONS | ENGINEERING THE FUTURE
Firm # P-1517
275 CARPENTER HILL LANE
Cary, N.C. 27519
(919) 996-9455

Surveyor

BCSC BATEMAN CIVIL SURVEY COMPANY
Bateman Civil Survey Company
2524 Reliance Avenue
Apex, NC 27539
919-557-1080 ext 109
www.batemancivilsurvey.com

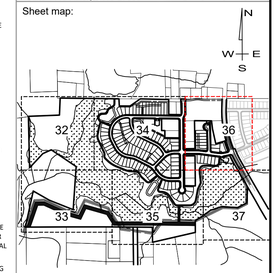
Jurisdiction / Municipality

Rolesville
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
CID-25-0004 (PSP-24-05)

Landscape Architect

STRONGROCK
THE STRONGROCK COMPANIES
305 Church at North Hills Street
Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

Sheet map:



Seal:

Bryan Harris

Digitally signed by Bryan Harris
DN: CN=US, E=bryan@quantechEng.com, O=Quantech Engineering LLP, CN=Bryan Harris
Date: 2026.11.04 11:51:08-05'00'

Issued / Print Date: 2026-July-27 (10:40)
File Name: 24 Overall Stage 1 Erosion Control Plan.dwg

Last Saved by: BryanHarris
Drawn by: TAN

Project:

HARRIS CREEK FARMS

CID 25-0004 (FKA - CID-25-03)

Issued for:

FINAL DRAWING FOR CONSTRUCTION

REVISIONS

No.	Date	Description

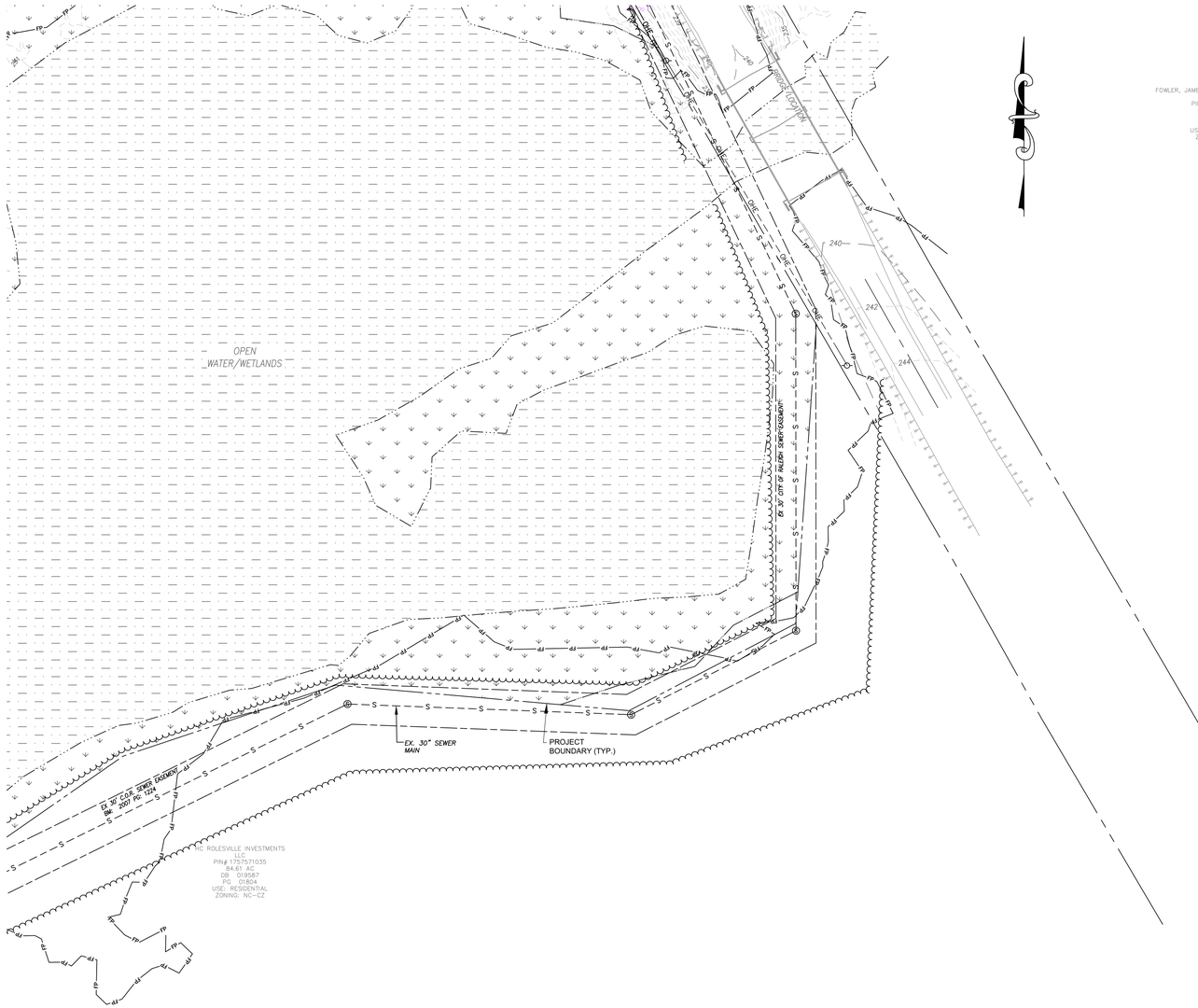
Sheet Title:

EC PLAN STAGE 2
SHEET 5 OF 6

Sheet #:

36

File Location: C:\Users\BryanHarris\Quantech\Quantech Engineering - Documents\Harris Creek Farm - Jonesville\Engineering_DWG\Construction Plans\24 Overall Stage 1 Erosion Control Plan.dwg



Construction Sequence*

STAGE 1

1. Schedule a preconstruction conference with the Environmental Consultant. Obtain a land disturbing permit.
2. Install gravel construction pad, temporary diversions, silt fence, sediment basins, and other measures as shown on the approved plan. Clear only as necessary to install these devices. Seed temporary diversions, berms and basins immediately after construction.
3. Call Environmental Consultant for an onsite inspection by the Environmental Consultant to obtain a Certificate of Compliance.
4. Stage 1 erosion control devices shall be installed before demolition of electrical lines and structures can begin.
5. Begin clearing and grubbing. Maintain devices as needed. Rough grade site and seed all slopes. As grade changes, ensure disturbed areas are draining to sediment basin per the plan

STAGE 2

6. Change ditch path as grade changes, once more area drains to sediment basin 1, ensure you make the orifice on the skimmer bigger and sediment basin 3 make the orifice on the skimmer smaller.
7. Ensure All all low points are ditched and able to drain to their prospective sediment basin.
8. As grades change, ensure any slopes greater than 5:1 has been lined with North American Green S150 or equivalent. Continue to grade sight to desired elevation and as areas are complete with fine grading, seed and straw to stabilized those areas.

STAGE 3

9. Install storm sewer with inlet protection devices as per plans or other approved measures as shown on the plan. Build retaining walls as per plans except for areas where the sediment basins are. Ensure area for sediment #3 & #4 drainage area is well stabilized.
10. Call Wake County Environmental Consultant for an inspection to get approval to remove sediment basins #3 & #4.
11. Upon authorization from Wake County, remove sediment basins #3 & #4.
12. Complete rest of wall construction and install infrastructures (sewer & water)
13. Stabilize site as areas are brought up to finish grade with vegetation, paving, ditch linings, etc. Seed and mulch denuded areas per Ground Stabilization Time Frames.
14. When construction is complete and all areas are stabilized completely, call Environmental Consultant for an inspection.
15. If site is approved, convert sediment basin #1 & #2 into SCM's as per the plans. You can remove temporary diversions, silt fence, etc. for areas not adjacent to the SCM, and seed out or stabilize any resulting bare areas. All remaining permanent erosion control devices, such as velocity dissipators, should now be installed.
16. When SCM's are established and before any wetpond plantings, call engineer to inspect SCM.
17. After engineer approves SCM, plant wet pond plants and ensure rest of site is stabilized.
18. When vegetation has become established, call for a final site inspection by the Environmental Consultant. Obtain a Certificate of Completion.

NPDES SELF INSPECTION PROGRAM

1. EFFECTIVE OCTOBER 1, 2010, PERSONS CONDUCTING LAND-DISTURBING ACTIVITY LARGER THAN ONE ACRE MUST INSPECT THEIR PROJECT AFTER EACH PHASE OF THE PROJECT, AND DOCUMENT THE INSPECTION IN WRITING. EROSION AND SEDIMENTATION CONTROL MEASURES, INCLUDING BUT NOT LIMITED TO, SEDIMENTATION CONTROL BASINS, SEDIMENTATION TRAPS, ROCK DAMS, TEMPORARY DIVERSIONS, TEMPOTERY SLOPE DRAINS, SEDIMENT FENCE OR BARRIERS, ALL FORMS OF INLET PROTECTION, STORM DRAINAGE FACILITIES, ENERGY DISSIPATERS, AND STABILIZATION METHODS OF OPEN CHANNELS MUST BE INSPECTED BY THE FINANCIALLY RESPONSIBLE PARTY, LANDOWNER, OR THEIR AGENT. THE SELF-INSPECTION REPORTING FORM IS AVAILABLE AS PDF FROM THE LAND QUALITY WEB SITE: https://deq.nc.gov/about/divisions/energy-mineral-land-resources/erosion-sediment-control/forms
2. IN ADDITION TO THE INSPECTIONS BY THE CONTRACTOR, THE OWNER, THE FINANCIALLY RESPONSIBLE PARTY, OR THEIR AGENT MUST CONDUCT INSPECTIONS IN ACCORDANCE WITH THE STATE OF NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY CONSTRUCTION GENERAL PERMIT NCG 010000 SELF-INSPECTION PROGRAM AND REPORTING REQUIREMENTS TO MONITOR AND MAINTAIN A RAIN GAUGE, RECORDS, PERMIT, AND S&E PLAN ON SITE.

EROSION CONTROL NOTES

1. TREE PROTECTION FENCE LINE ALSO INCLUDE THE LIMITS OF DISTURBANCE FOR THAT SECTION.
2. A COPY OF THE APPROVED EROSION CONTROL PLAN AND PERMIT PLACARD MUST BE ON FILE AT THE JOB SITE AT ALL TIMES.
3. ALL CONSTRUCTION SHALL CONFORM TO THE LATEST NORTH CAROLINA EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL AND WAKE COUNTY STANDARDS, SPECIFICATIONS AND DETAILS.
4. THE EROSION CONTROL INSPECTOR MAY REQUIRE ADDITIONAL FIELD MEASURES AS NECESSARY TO PROVIDE ADEQUATE PROTECTION FROM RECEIVING WATER COURSES.
5. FAILURE TO FOLLOW THE APPROVED PLAN, CONSTRUCTION SEQUENCE, AND DETAILS COULD SUBJECT THE CONTRACTOR AND/OR THE FINANCIALLY RESPONSIBLE PARTY TO FINES AND PENALTIES ISSUED BY EITHER THE WAKE COUNTY EROSION CONTROL DIVISION OR NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY.
6. EROSION AND SEDIMENT CONTROL DEVICES MUST BE INSTALLED AND INSPECTED PRIOR TO ANY GRADING ON SITE. THE CONTRACTOR SHALL CALL FOR AN INSPECTION BY WAKE COUNTY EROSION CONTROL ONCE INITIAL MEASURES ARE IN PLACE. (SEE CONSTRUCTION SEQUENCES)
7. CONTRACTOR SHALL INSPECT ALL SEDIMENT/EROSION CONTROL DEVICES WEEKLY AND AFTER EACH STORM EVENT. EACH DEVICE IS TO BE MAINTAINED OR REPLACED IF SEDIMENT ACCUMULATION HAS REACHED ONE HALF OF THE CAPACITY OF THE DEVICE. SEE NPDES SELF INSPECTION PROGRAM NOTES.
8. ANY GRADING BEYOND THE DENUDED LIMITS SHOWN ON THE PLAN IS A VIOLATION OF THE COUNTY EROSION CONTROL ORDINANCE AND IS SUBJECT TO A FINE.
9. DISTURBANCE OUTSIDE OF THE SITE PROPERTY LIMITS OR PUBLIC RIGHT-OF-WAY SHALL ONLY BE AS ALLOWED BY SIGNED GRADING AGREEMENTS AND/OR EASEMENTS BETWEEN THE DEVELOPER AND THE OFFSITE PROPERTY OWNER.
10. NO DEBRIS SHALL BE TRACKED ONTO PUBLIC RIGHT OF WAY. IF THE SITUATION OCCURS WHERE MUD, ROCK AND DEBRIS IS TRACKED ONTO PAVEMENT, THE CONTRACTOR SHALL CLEAN THE PAVEMENT AND INSTALL ADDITIONAL MEASURES TO PREVENT THE FUTURE OCCURRENCE.
11. PROTECTION OF EXISTING VEGETATION: AT THE START OF GRADING INVOLVING THE STRIPPING OF TOPSOIL OR LOWERING OF EXISTING GRADE AROUND TREES, A CLEAN SHARP, VERTICAL CUT SHALL BE MADE AT THE EDGE OF THE TREE SAVE AREA AT THE SAME TIME AS OTHER EROSION CONTROL MEASURES ARE INSTALLED. THE TREE PROTECTION FENCING SHALL BE INSTALLED ON THE SIDE OF THE CUT FARTHEST AWAY FROM THE TREE TRUNK AND SHALL REMAIN IN PLACE UNTIL ALL CONSTRUCTION IN THE VICINITY OF THE TREES IS COMPLETE. NO STORAGE OF MATERIALS, FILL, OR EQUIPMENT AND NO TRESPASSING SHALL BE ALLOWED WITHIN THE BOUNDARY OF THE PROTECTED AREA AND SHALL BE INSTALLED AT THE SAME TIME AS THE EROSION CONTROL MEASURES AND SHALL BE IN PLACE UNTIL ALL CONSTRUCTION IN THE VICINITY OF THE TREES IS COMPLETE.
12. PROVIDE INLET PROTECTION AROUND ALL SITE STORM INLETS. PROTECT OPEN PIPES UNDER CONSTRUCTION WITH EITHER PLYWOOD OR WITH MESH AND GRAVEL WEIRS. RUNOFF SHALL NOT BE ALLOWED IN ANY OPEN TRENCH.
13. CONTRACTOR WILL FIELD LOCATE SILT FENCE OUTLETS AT LOW POINTS IN SILT FENCE AS REQUIRED TO PROVIDE RELIEF FROM CONCENTRATED FLOWS AND PONDING. APPROXIMATE LOCATIONS ARE SHOWN ON EROSION CONTROL PLANS.
14. TEMPORARY DIVERSIONS SHALL BE MAINTAINED DAILY BY CONTRACTOR SO THAT THEY ARE FUNCTIONAL AT THE END OF EACH WORKDAY AND WHEN STOPPING WORK FOR RAIN.
15. CONTRACTOR SHALL SEED AND STABILIZE ALL STEEP SLOPES (GREATER THAN 2H:1V) WITHIN 7 DAYS, 10 DAYS FOR MODERATE SLOPES (3H:1V OR GREATER) AND WITHIN 14 CALENDAR DAYS EVERYWHERE ELSE (STATE LAW 2009-486).

OFFSITE SPOIL NOTE:

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DISTURBED AREA = 43.10 ACRES

EROSION CONTROL LEGEND (PHASE 1 & 2)

- EXISTING FLOODPLAIN
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- SKIMMER
- DITCH WATTLE
- CONSTRUCTION PARKING
- EXISTING TREELINE
- PROPOSED TREELINE
- EXTENTS OF EXISTING POWER LINES AND STRUCTURES TO BE REMOVED
- TEMPORARY SLOPE DRAIN
- STEEP SLOPES

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)

1 inch = 50 ft

N.C. UNDERGROUND UTILITIES

811 3 DAYS BEFORE DIGGING CALL TOLL FREE 811 or (800)632-4949

A ONE CALL SYSTEM FOR COMMUNITY AND JOB SAFETY

Developer

THE CSC GROUP
CONTRIBUTE TO THE SUCCESS OF LOCAL COMMUNITY
10030 Green Level Church Rd, Suite 802 #149: Cary, NC 27519

Engineer

QUANTECH ENGINEERING
INNOVATIVE SOLUTIONS | ENGINEERING THE FUTURE
Firm # F-1517
275 CARPENTER HILL LANE
Cary, N.C. 27519
(919) 996-9455

Surveyor

BCSC BATEMAN CIVIL SURVEY COMPANY
Bateman Civil Survey Company
2524 Reliance Avenue
Apex, NC 27539
919-557-1080 ext 109
www.batemancivilsurvey.com

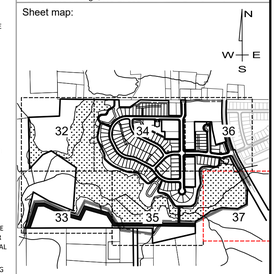
Jurisdiction / Municipality

Rolesville Granville County's Capital Connection Est. 1837
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
CID-25-0004 (PSP-24-05)
Formally known as CID-25-03

Landscape Architect

STRONGROCK
THE STRONGROCK COMPANIES
305 Church at North Hills Street
Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

Sheet map:



Seal:

NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A. HARRIS

Digitally signed by Bryan Harris
DN: C=US, E=BryanH@QuantechEng.com, O=Quantech Engineering LLP, CN=Bryan Harris
Date: 2026.11.04 11:51:11-05'00'

Bryan Harris

Issued / Print Date: 2026-July-27 (10:41)
File Name: 24 Overall Stage 1 Erosion Control Plan.dwg

Last Saved by: BryanHarris
Drawn by: TAN

Project:

HARRIS CREEK FARMS

CID 25-0004 (FKA - CID-25-03)

Issued for:

FINAL DRAWING
FOR CONSTRUCTION

REVISIONS

No.	Date	Description

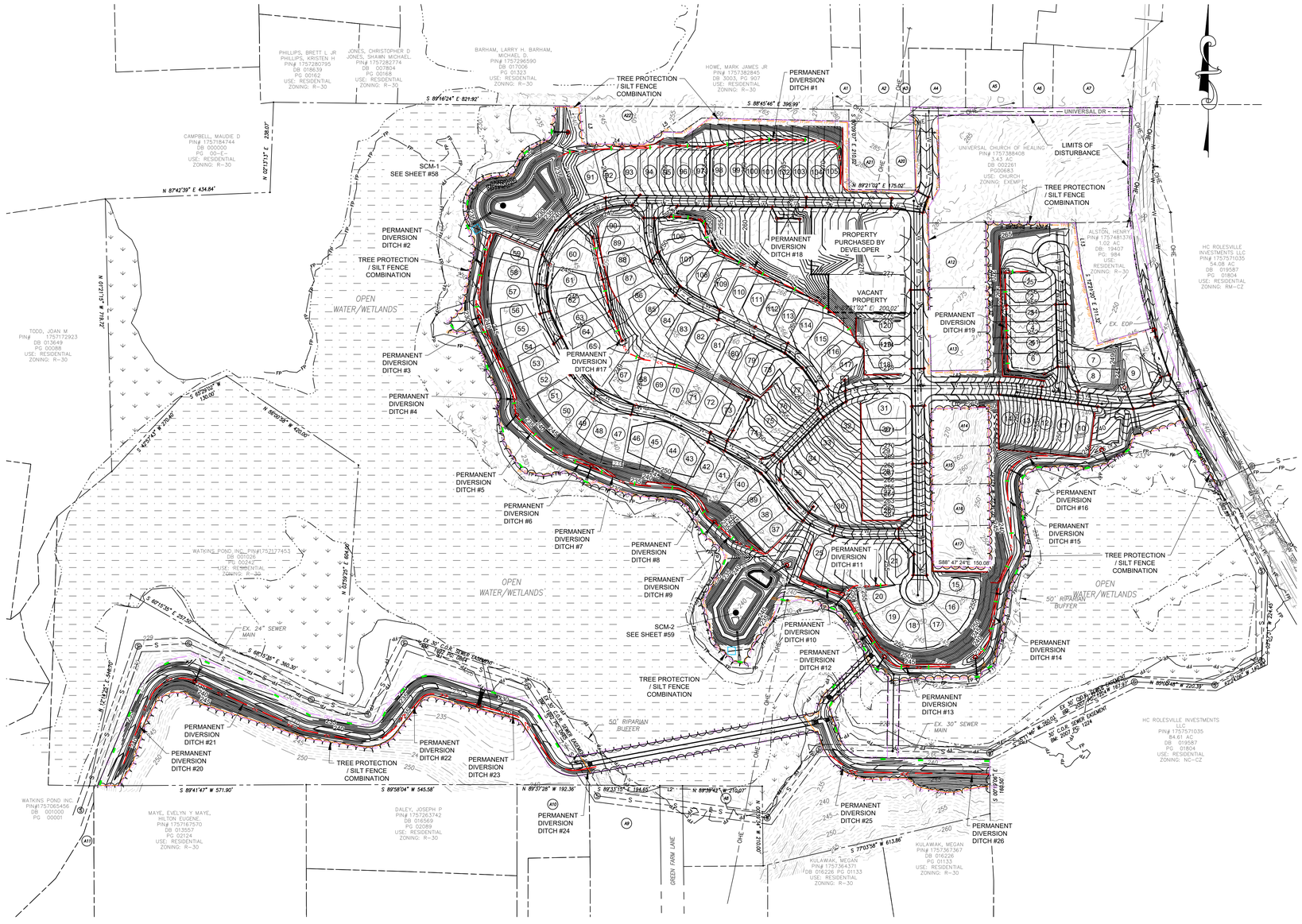
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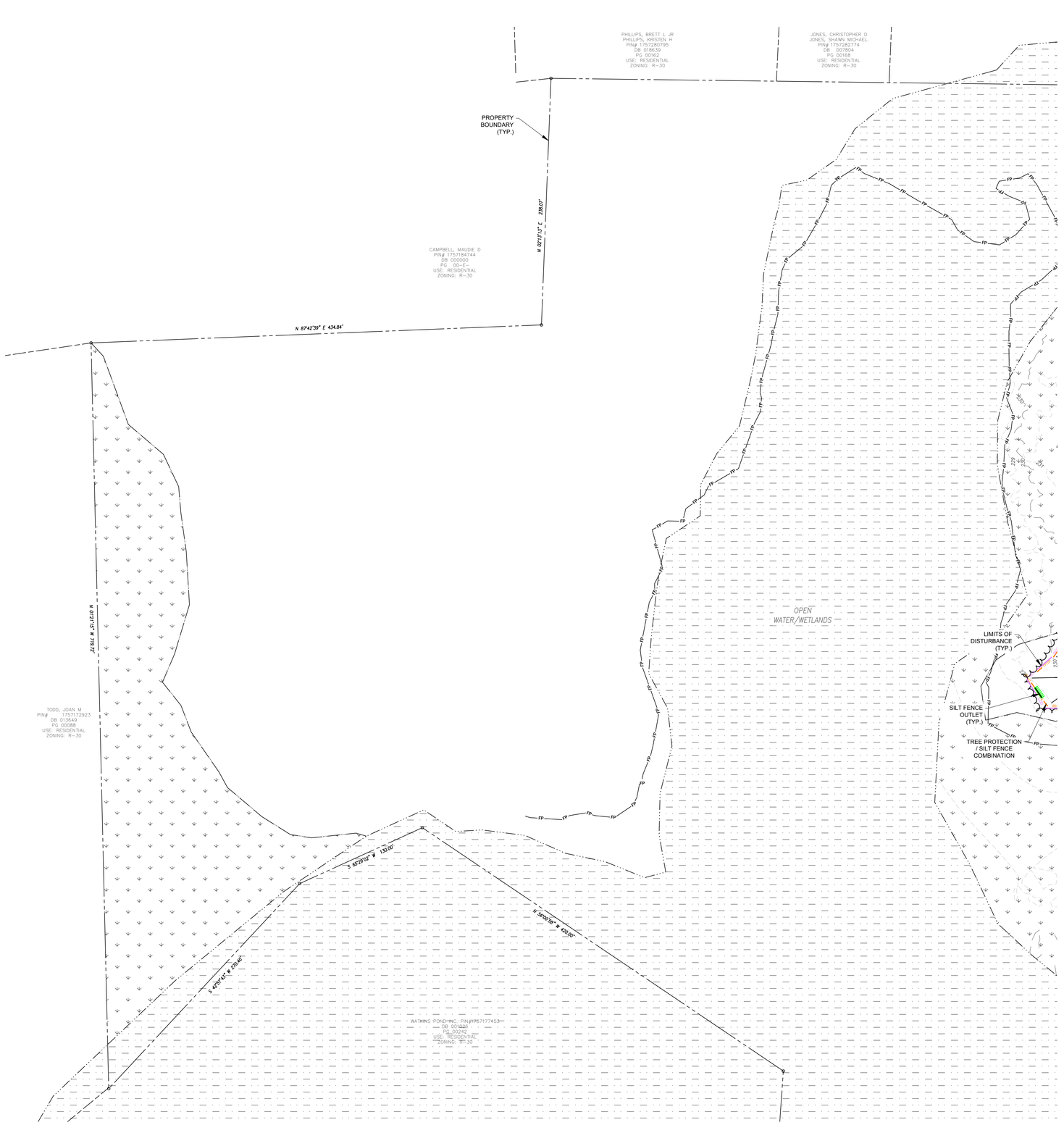
EC PLAN STAGE 2
SHEET 6 OF 6

Sheet #:

37

File Location: C:\Users\BryanHarris\Quantech\Quantech Engineering - Documents\Harris Creek Farm - JonesvilleEngineering_DWG\Construction Plans\24 Overall Stage 1 Erosion Control Plan.dwg


TREE PROTECTION / SILT FENCE COMBINATION
PERMANENT DIVERSION DITCH #1
PERMANENT DIVERSION DITCH #2
PERMANENT DIVERSION DITCH #3
PERMANENT DIVERSION DITCH #4
PERMANENT DIVERSION DITCH #5
PERMANENT DIVERSION DITCH #6
PERMANENT DIVERSION DITCH #7
PERMANENT DIVERSION DITCH #8
PERMANENT DIVERSION DITCH #9
PERMANENT DIVERSION DITCH #10
PERMANENT DIVERSION DITCH #11
PERMANENT DIVERSION DITCH #12
PERMANENT DIVERSION DITCH #13
PERMANENT DIVERSION DITCH #14
PERMANENT DIVERSION DITCH #15
PERMANENT DIVERSION DITCH #16
PERMANENT DIVERSION DITCH #17
PERMANENT DIVERSION DITCH #18
PERMANENT DIVERSION DITCH #19
PERMANENT DIVERSION DITCH #20
PERMANENT DIVERSION DITCH #21
PERMANENT DIVERSION DITCH #22
PERMANENT DIVERSION DITCH #23
PERMANENT DIVERSION DITCH #24
PERMANENT DIVERSION DITCH #25
PERMANENT DIVERSION DITCH #26
SCM-1 SEE SHEET #58
SCM-2 SEE SHEET #59
PROPERTY PURCHASED BY DEVELOPER
VACANT PROPERTY
LIMITS OF DISTURBANCE
OPEN WATER/WETLANDS
50' RIPARIAN BUFFER
UNIVERSAL DR
GREEN FARM LANE
EX. 24" SEWER MAIN
EX. 30" SEWER MAIN
EX. EOP
PHILLIPS, BRETT L JR
PHILLIPS, KRISTEN H
PIN# 1757280795
DB 019639
PG 00162
USE: RESIDENTIAL
ZONING: R-30
JONES, CHRISTOPHER D
JONES, SHAWN MICHAEL
PIN# 1757282774
DB 007804
PG 00168
USE: RESIDENTIAL
ZONING: R-30
BARHAM, LARRY H, BARHAM, MICHAEL D
PIN# 1757296590
DB 017006
PG 01323
USE: RESIDENTIAL
ZONING: R-30
HOWE, MARK JAMES JR
PIN# 1757382845
DB 3053, PG 907
USE: RESIDENTIAL
ZONING: R-30
CAMPBELL, MAUDIE D
PIN# 1757184744
DB 000000
PG 00-E-
USE: RESIDENTIAL
ZONING: R-30
TODD, JOAN M
PIN# 1757172923
DB 013649
PG 00088
USE: RESIDENTIAL
ZONING: R-30
WATKINS POND INC, PIN#1757177453
DB 001026
PG 00242
USE: RESIDENTIAL
ZONING: R-30
WATKINS POND INC
PIN#1757065456
DB 001000
PG 00001
MAYE, EVELYN Y MAYE, HILTON EUGENE
PIN# 1757167570
DB 013557
PG 02124
USE: RESIDENTIAL
ZONING: R-30
DALEY, JOSEPH P
PIN# 1757263742
DB 016569
PG 02089
USE: RESIDENTIAL
ZONING: R-30
KULAWAK, MEGAN
PIN# 1757364371
DB 016226 PG 01133
USE: RESIDENTIAL
ZONING: R-30
KULAWAK, MEGAN
PIN# 1757367367
DB 016226
PG 01133
USE: RESIDENTIAL
ZONING: R-30
UNIVERSAL CHURCH OF HEALING
PIN# 1757388408
5.43 AC
DB 002261
PG00683
USE: CHURCH
ZONING: EXEMPT
ALSTON, HENRY
PIN# 1757481370
1.02 AC
DB: 19407
PG: 984
USE: RESIDENTIAL
ZONING: R-30
HC ROLESVILLE INVESTMENTS LLC
PIN# 1757571035
54.08 AC
DB 019587
PG 01804
USE: RESIDENTIAL
ZONING: RM-CZ
HC ROLESVILLE INVESTMENTS LLC
PIN# 1757571035
84.61 AC
DB 019587
PG 01804
USE: RESIDENTIAL
ZONING: NC-CZ
S 89°16'24" E 821.92'
N 87°42'39" E 434.84'
N 01°31'15" W 719.72'
S 01°31'15" E 238.07'
S 88°45'46" E 396.99'
N 01°09'07" E 210.20'
N 89°21'02" E 175.02'
S 01°31'15" E 1,149.59'
S 01°31'15" E 1,213.25'
S 01°31'15" E 1,213.25'
S 01°31'15" E 1,213.25



Construction Sequence*

STAGE 1

1. Schedule a preconstruction conference with the Environmental Consultant. Obtain a land disturbing permit.
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STAGE 2

6. Change ditch path as grade changes, once more area drains to sediment basin 1, ensure you make the orifice on the skimmer bigger and sediment basin 3 make the orifice on the skimmer smaller.
7. Ensure All all low points are ditched and able to drain to their prospective sediment basin.
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STAGE 3

9. Install storm sewer with inlet protection devices as per plans or other approved measures as shown on the plan. Build retaining walls as per plans except for areas where the sediment basins are. Ensure area for sediment #3 & #4 drainage area is well stabilized.
10. Call Wake County Environmental Consultant for an inspection to get approval to remove sediment basins #3 & #4.
11. Upon authorization from Wake County, remove sediment basins #3 & #4.
12. Complete rest of wall construction and install infrastructures (sewer & water)
13. Stabilize site as areas are brought up to finish grade with vegetation, paving, ditch linings, etc. Seed and mulch denuded areas per Ground Stabilization Time Frames.
14. When construction is complete and all areas are stabilized completely, call Environmental Consultant for an inspection.
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DISTURBED AREA = 43.10 ACRES

EROSION CONTROL LEGEND (PHASE 3)

- EXISTING FLOODPLAIN
- EXISTING WETLAND
- EXISTING EDGE OF WATER
- LIMITS OF DISTURBANCE
- TREE PROTECTION/SILT FENCE COMBINATION
- SILT FENCE
- SILT FENCE OUTLET
- SKIMMER
- INLET PROTECTION
- HORSE SHOE INLET PROTECTION
- DITCH WATTLE
- EXISTING TREELINE
- PROPOSED TREELINE
- PERMANENT DIVERSION DITCH

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft

N.C. UNDERGROUND UTILITIES
811
3 DAYS BEFORE DIGGING CALL TOLL FREE 811 or (800)632-4949
A ONE CALL SYSTEM FOR COMMUNITY AND JOB SAFETY

File Location: C:\Users\BryanHarris\Quantech\Quantech Engineering - Documents\Harris Creek Farm - Jonesville\Engineering_DWG\Construction Plans\24 Overall Stage 1 Erosion Control Plan.dwg

Developer

THE CSC GROUP
CONTRIBUTE TO THE SUCCESS OF LOCAL COMMUNITY
10030 Green Level Church Rd, Suite 802 #149: Cary, NC 27519

Engineer

QUANTECH ENGINEERING
INNOVATIVE SOLUTIONS | ENGINEERING THE FUTURE
Firm # F-1517
275 CARPENTER HILL LANE
Cary, N.C. 27519
(919) 996-9455

Surveyor

BCSC EATEMAN CIVIL SURVEY COMPANY
Bateman Civil Survey Company
2524 Reliance Avenue
Apex, NC 27539
919-557-1080 ext 109
www.batemancivilsurvey.com

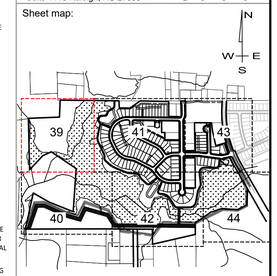
Jurisdiction / Municipality

Rolesville
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
CID-25-0004 (PSP-24-05)

Landscape Architect

STRONGROCK
THE STRONGROCK COMPANIES
305 Church at North Hills Street
Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

Sheet map:



Seal:

NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A. HARRIS

Bryan Harris

Digitally signed by Bryan Harris
DN: CN=BL...
E=bharris@QuantechEng.com, O=Quantech Engineering LLP, OU=Bryan Harris
Date: 2026.11.04 11:51:16-05'00'

Issued / Print Date: 2026-July-27 (10:41)
File Name: 24 Overall Stage 1 Erosion Control Plan.dwg

Last Saved by: BryanHarris
Drawn by: TAN

Project:

HARRIS CREEK FARMS

CID 25-0004 (FKA - CID-25-03)

Issued for:

FINAL DRAWING FOR CONSTRUCTION

REVISIONS

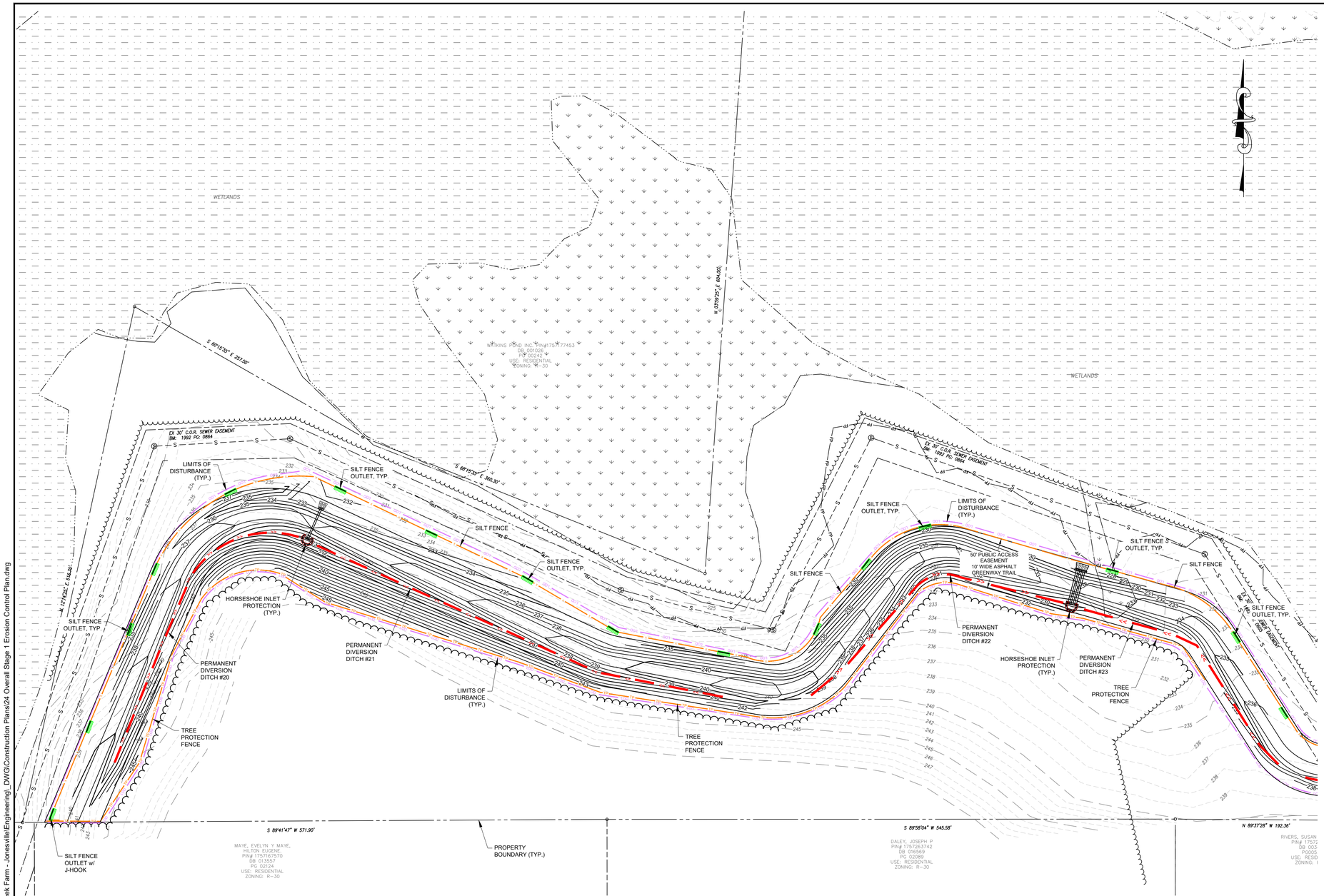
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Sheet Title:

EC PLAN STAGE 3 SHEET 1 OF 6

Sheet #:

39



Construction Sequence*

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5. Begin clearing and grubbing. Maintain devices as needed. Rough grade site and seed all slopes. As grade changes, ensure disturbed areas are draining to sediment basin per the plan

STAGE 2

6. Change ditch path as grade changes, once more area drains to sediment basin 1, ensure you make the orifice on the skimmer bigger and sediment basin 3 make the orifice on the skimmer smaller.
7. Ensure All all low points are ditched and able to drain to their prospective sediment basin.
8. As grades change, ensure any slopes greater than 5:1 has been lined with North American Green S150 or equivalent. Continue to grade sight to desired elevation and as areas are complete with fine grading, seed and straw to stabilized those areas.

STAGE 3

9. Install storm sewer with inlet protection devices as per plans or other approved measures as shown on the plan. Build retaining walls as per plans except for areas where the sediment basins are. Ensure area for sediment #3 & #4 drainage area is well stabilized.
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PERMANENT DITCHES

DITCH #	MATERIAL	SLOPE (%)	LENGTH (ft)	DEPTH
DITCH 1	NAG C125BN	7.79	849	18"
DITCH 2	NAG DS75	6.91	215	18"
DITCH 3	NAG DS75	2.76	97	18"
DITCH 4	NAG DS75	5.83	182	18"
DITCH 5	NAG DS75	2.79	84	18"
DITCH 6	NAG DS75	2.41	127	18"
DITCH 7	NAG DS75	2.70	159	18"
DITCH 8	NAG DS75	1.01	166	18"
DITCH 9	NAG DS75	6.60	153	18"
DITCH 10	NAG DS75	4.56	115	18"
DITCH 11	NAG DS75	4.53	110	18"
DITCH 12	NAG DS75	2.18	165	18"
DITCH 13	NAG DS75	7.44	170	18"
DITCH 14	NAG DS75	1.06	188	18"
DITCH 15	NAG DS75	1.00	301	18"
DITCH 16	NAG DS75	1.21	105	18"
DITCH 17	NAG DS75	1.28	495	18"
DITCH 18	NAG DS75	2.50	608	18"
DITCH 19	NAG DS75	2.89	316	18"
DITCH 20	NAG DS75	2.39	317	18"
DITCH 21	NAG DS75	1.19	426	18"
DITCH 22	NAG DS75	2.53	299	18"
DITCH 23	NAG SC150	1.84	257	18"
DITCH 24	NAG DS75	2.34	82	18"
DITCH 25	NAG DS75	1.43	286	18"
DITCH 26	NAG DS75	1.00	87	18"

NOTE: DITCH LINERS WERE SPECIFIED USING NORTH AMERICAN GREEN MATERIAL BUT IT CAN BE SUBSTITUTED WITH ANOTHER EQUIVALENT LINER.

DISTURBED AREA = 43.10 ACRES

EROSION CONTROL LEGEND (PHASE 3)

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EXISTING WETLAND
EXISTING EDGE OF WATER
LIMITS OF DISTURBANCE
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(IN FEET)
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File Location: C:\Users\BryanHarris\Quantech\Quantech Engineering - Documents\Harris Creek Farm - Jonesville\Engineering_DWG\Construction Plans\24 Overall Stage 1 Erosion Control Plan.dwg

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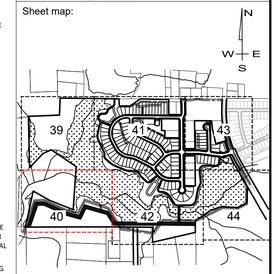
Engineer
QUANTECH ENGINEERING
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Firm # F-1517
275 CARPENTER HILL LANE
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www.batemancivilsurvey.com

Jurisdiction / Municipality
Rolesville Gracious Community • Capital Connection Est. 1837
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
CID-25-0004 (PSP-24-05)
Formally Known As CID-25-03

Landscape Architect
STRONGROCK
THE STRONGROCK COMPANIES
305 Church at North Hills Street
Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

Sheet map:



Seal:

NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A HARRIS

Bryan Harris

Digitally signed by Bryan Harris
DN: CN=Bryan Harris, O=Quantech Engineering LLP, OU=Bryan Harris
Date: 2026.11.04 11:51:19-05'00'

Issued / Print Date: 2026-July-27 (10:42)
File Name: 24 Overall Stage 1 Erosion Control Plan.dwg

Last Saved by: BryanHarris
Drawn by: TAN

Project:

HARRIS CREEK FARMS

CID 25-0004 (FKA - CID-25-03)

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REVISIONS

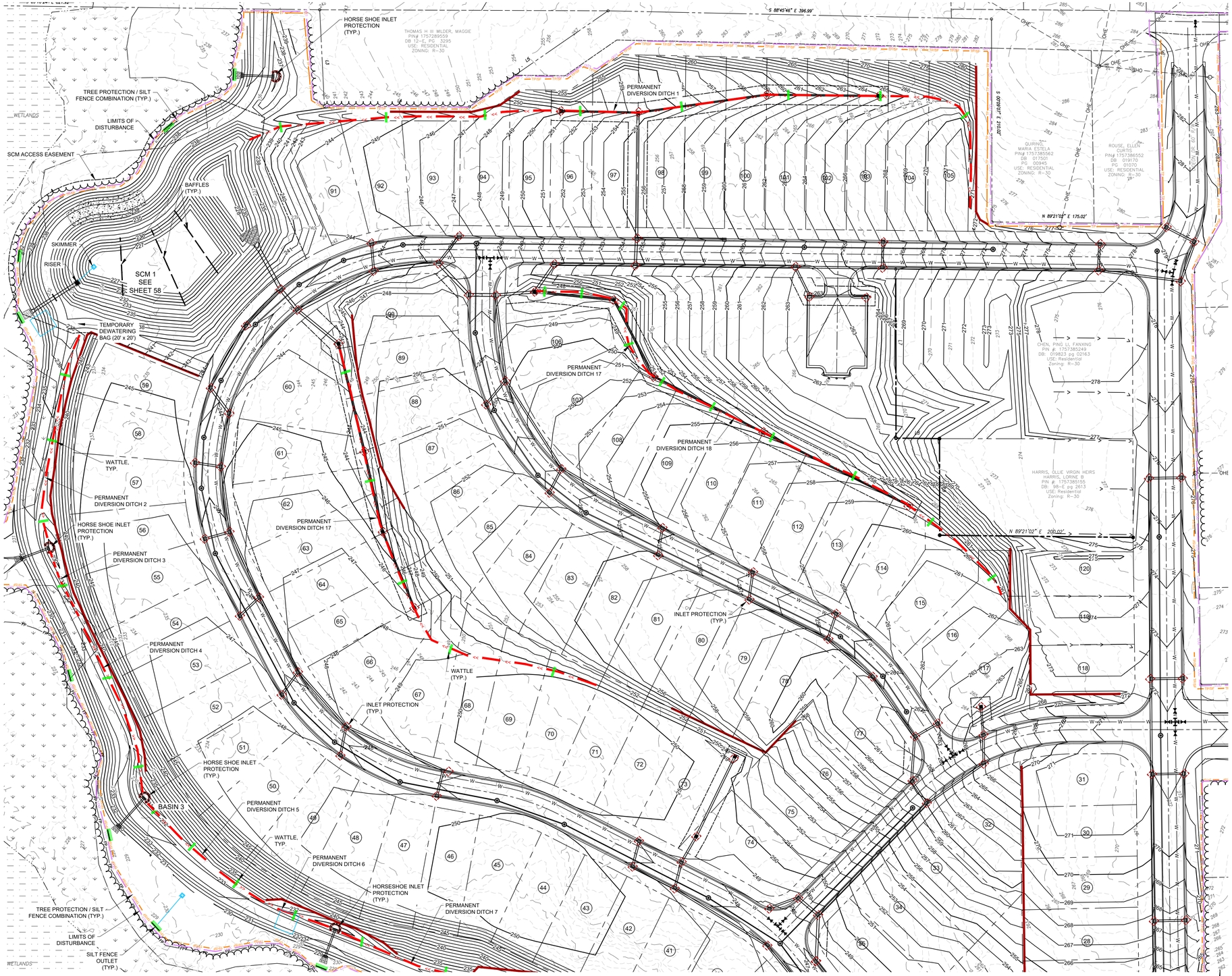
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Sheet Title:

EC PLAN STAGE 3 SHEET 2 OF 6

Sheet #:

40



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DISTURBED AREA = 43.10 ACRES

EROSION CONTROL LEGEND (PHASE 3)

- EXISTING FLOODPLAIN
- EXISTING WETLAND
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- LIMITS OF DISTURBANCE
- TREE PROTECTION/SILT FENCE COMBINATION
- SILT FENCE
- SILT FENCE OUTLET
- SKIMMER
- INLET PROTECTION
- HORSE SHOE INLET PROTECTION
- DITCH WATTLE
- EXISTING TREELINE
- PROPOSED TREELINE
- PERMANENT DIVERSION DITCH

PERMANENT DITCHES				
DITCH #	MATERIAL	SLOPE (%)	LENGTH (ft)	DEPTH
DITCH 1	NAG C125BN	7.79	949	18"
DITCH 2	NAG DS75	6.91	215	18"
DITCH 3	NAG DS75	2.76	97	18"
DITCH 4	NAG DS75	5.83	182	18"
DITCH 5	NAG DS75	2.79	84	18"
DITCH 6	NAG DS75	2.41	127	18"
DITCH 7	NAG DS75	2.70	159	18"
DITCH 8	NAG DS75	1.01	166	18"
DITCH 9	NAG DS75	6.60	153	18"
DITCH 10	NAG DS75	4.56	115	18"
DITCH 11	NAG DS75	4.53	110	18"
DITCH 12	NAG DS75	2.18	165	18"
DITCH 13	NAG DS75	7.44	170	18"
DITCH 14	NAG DS75	1.06	188	18"

PERMANENT DITCHES				
DITCH #	MATERIAL	SLOPE (%)	LENGTH (ft)	DEPTH
DITCH 15	NAG DS75	1.00	301	18"
DITCH 16	NAG DS75	1.21	105	18"
DITCH 17	NAG DS75	1.28	495	18"
DITCH 18	NAG DS75	2.50	608	18"
DITCH 19	NAG DS75	2.89	316	18"
DITCH 20	NAG DS75	2.39	317	18"
DITCH 21	NAG DS75	1.19	426	18"
DITCH 22	NAG DS75	2.53	299	18"
DITCH 23	NAG SC150	1.84	257	18"
DITCH 24	NAG DS75	2.34	82	18"
DITCH 25	NAG DS75	1.43	286	18"
DITCH 26	NAG DS75	1.00	87	18"

NOTE: DITCH LINERS WERE SPEC'D USING NORTH AMERICAN GREEN MATERIAL BUT IT CAN BE SUBSITUTED WITH ANOTHER EQUIVALENT LINER.

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)

1 inch = 50 ft

N.C. UNDERGROUND UTILITIES

811 3 DAYS BEFORE DIGGING CALL TOLL FREE 811 or (800)632-4949

A ONE CALL SYSTEM FOR COMMUNITY AND JOB SAFETY

File Location: C:\Users\BryanHarris\Quantech\Quantech Engineering - Documents\Harris Creek Farm - Jonesville\Engineering_DWG\Construction Plans\24 Overall Stage 1 Erosion Control Plan.dwg

Developer

THE CSC GROUP
CONTRIBUTE TO THE SUCCESS OF LOCAL COMMUNITY
10030 Green Level Church Rd, Suite 802 #149: Cary, NC 27519

Engineer

QUANTECH ENGINEERING
INNOVATIVE SOLUTIONS | ENGINEERING THE FUTURE
Firm # P-1517
275 CARPENTER HILL LANE
Cary, N.C. 27519
(919) 996-9455

Surveyor

BCSC BATEMAN CIVIL SURVEY COMPANY
Bateman Civil Survey Company
2524 Reliance Avenue
Apex, NC 27539
919-557-1080 ext 109
www.batemancivilsurvey.com

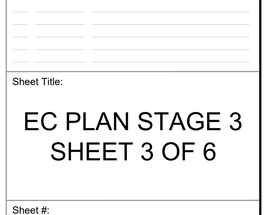
Jurisdiction / Municipality

Rolesville Growing Together in a Capital Connection Est. 1837
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
CID-25-0004 (PSP-24-05)
Formerly known as CID-25-03

Landscape Architect

STRONGROCK
THE STRONGROCK COMPANIES
305 Church at North Hills Street
Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

Sheet map:



Seal:

NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A. HARRIS

Bryan Harris

Digitally signed by Bryan Harris
DN: CN=BH, E=Bryan@QuantechEng.com, O=Quantech Engineering LLP, C=US
Reason: I am approving this document
Date: 2026.11.04 11:51:22 -05'00'

Issued / Print Date: 2026-July-27 (10:43)
File Name: 24 Overall Stage 1 Erosion Control Plan.dwg

Last Saved by: BryanHarris
Drawn by: TAN

Project:

HARRIS CREEK FARMS

CID 25-0004 (FKA - CID-25-03)

Issued for:

FINAL DRAWING FOR CONSTRUCTION

REVISIONS

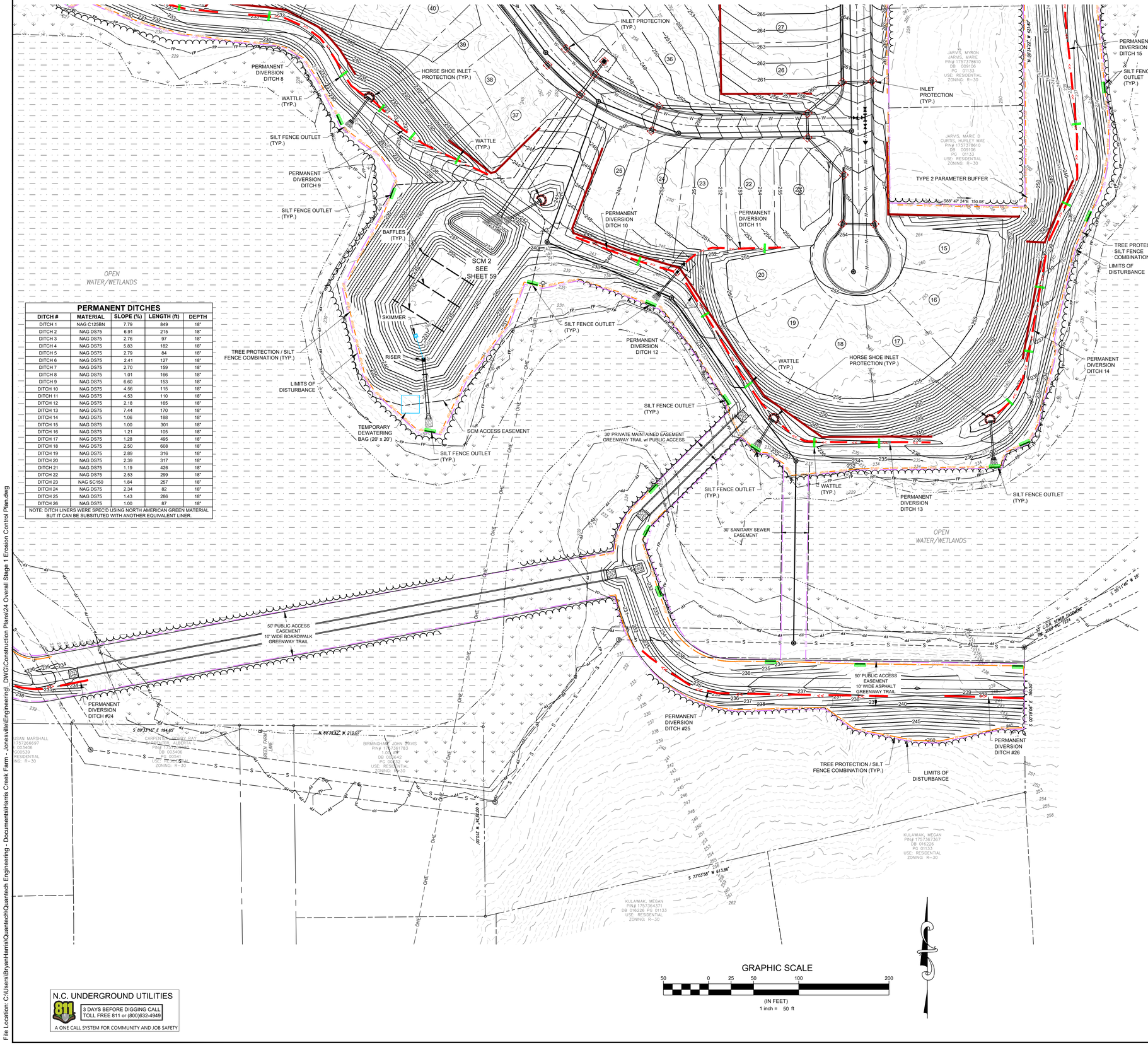
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EC PLAN STAGE 3 SHEET 3 OF 6

Sheet #:

41



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Construction Sequence*

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1. Schedule a preconstruction conference with the Environmental Consultant. Obtain a land disturbing permit.
2. Install gravel construction pad, temporary diversions, silt fence, sediment basins, and other measures as shown on the approved plan. Clear only as necessary to install these devices. Seed temporary diversions, berms and basins immediately after construction.
3. Call Environmental Consultant for an onsite inspection by the Environmental Consultant to obtain a Certificate of Compliance.
4. Stage 1 erosion control devices shall be installed before demolition of electrical lines and structures can begin.
5. Begin clearing and grubbing. Maintain devices as needed. Rough grade site and seed all slopes. As grade changes, ensure disturbed areas are draining to sediment basin per the plan

STAGE 2

6. Change ditch path as grade changes, once more area drains to sediment basin 1, ensure you make the orifice on the skimmer bigger and sediment basin 3 make the orifice on the skimmer smaller.
7. Ensure All all low points are ditched and able to drain to their prospective sediment basin.
8. As grades change, ensure any slopes greater than 5:1 has been lined with North American Green S150 or equivalent. Continue to grade sight to desired elevation and as areas are complete with fine grading, seed and straw to stabilized those areas.

STAGE 3

9. Install storm sewer with inlet protection devices as per plans or other approved measures as shown on the plan. Build retaining walls as per plans except for areas where the sediment basins are. Ensure area for sediment #3 & #4 drainage area is well stabilized.
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15. If site is approved, convert sediment basin #1 & #2 into SCM's as per the plans. You can remove temporary diversions, silt fence, etc. for areas not adjacent to the SCM, and seed out or stabilize any resulting bare areas. All remaining permanent erosion control devices, such as velocity dissipators, should now be installed.
16. When SCM's are established and before any wetpond plantings, call engineer to inspect SCM.
17. After engineer approves SCM, plant wet pond plants and ensure rest of site is stabilized.
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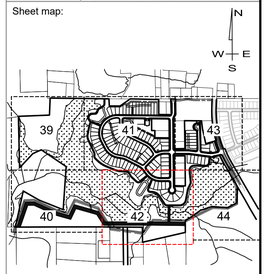
Engineer
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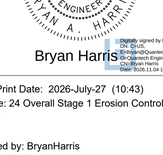
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Sheet map:



Seal:



Bryan Harris
Digitally signed by Bryan Harris
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Date: 2026.11.04 11:51:25-05'00'

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Last Saved by: BryanHarris
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Project:

HARRIS CREEK FARMS

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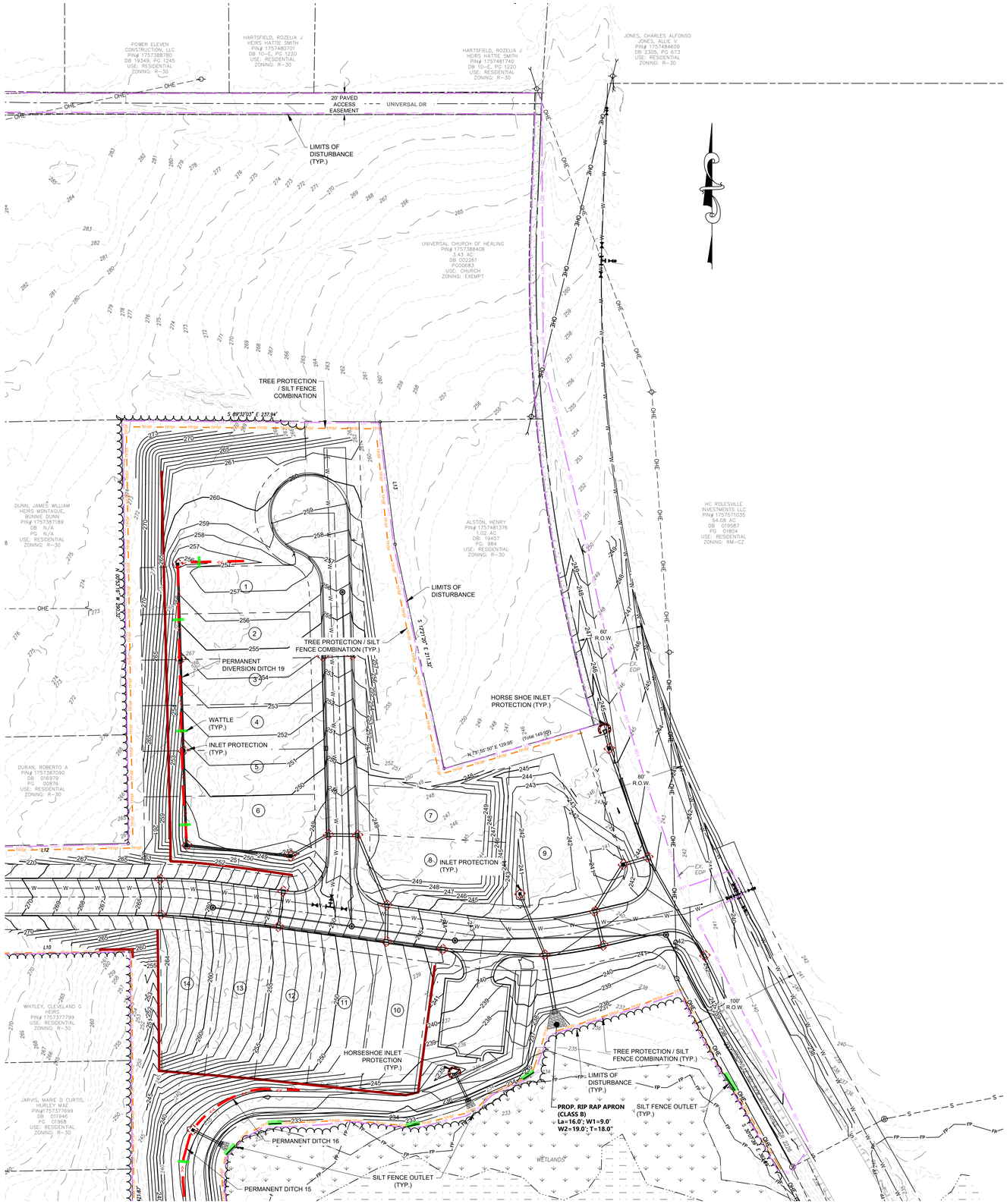
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EC PLAN STAGE 3 SHEET 4 OF 6

Sheet #:

42

File Location: C:\Users\BryanHarris\Quantech\Quantech Engineering - Documents\Harris Creek Farm - Jonesville\Engineering_DWG\Construction Plans\24 Overall Stage 1 Erosion Control Plan.dwg



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9. DISTURBANCE OUTSIDE OF THE SITE PROPERTY LIMITS OR PUBLIC RIGHT-OF-WAY SHALL ONLY BE AS ALLOWED BY SIGNED GRADING AGREEMENTS AND/OR EASEMENTS BETWEEN THE DEVELOPER AND THE OFFSITE PROPERTY OWNER.
10. NO DEBRIS SHALL BE TRACKED ONTO PUBLIC RIGHT OF WAY. IF THE SITUATION OCCURS WHERE MUD, ROCK AND DEBRIS IS TRACKED ONTO PAVEMENT, THE CONTRACTOR SHALL CLEAN THE PAVEMENT AND INSTALL ADDITIONAL MEASURES TO PREVENT THE FUTURE OCCURRENCE.
11. PROTECTION OF EXISTING VEGETATION: AT THE START OF GRADING INVOLVING THE STRIPPING OF TOPSOIL OR LOWERING OF EXISTING GRADE AROUND TREES, A CLEAN SHARP, VERTICAL CUT SHALL BE MADE AT THE EDGE OF THE TREE SAVE AREA AT THE SAME TIME AS OTHER EROSION CONTROL MEASURES ARE INSTALLED. THE TREE PROTECTION FENCING SHALL BE INSTALLED ON THE SIDE OF THE CUT FARTHEST AWAY FROM THE TREE TRUNK AND SHALL REMAIN IN PLACE UNTIL ALL CONSTRUCTION IN THE VICINITY OF THE TREES IS COMPLETE. NO STORAGE OF MATERIALS, FILL, OR EQUIPMENT AND NO TRESPASSING SHALL BE ALLOWED WITHIN THE BOUNDARY OF THE PROTECTED AREA AND SHALL BE INSTALLED AT THE SAME TIME AS THE EROSION CONTROL MEASURES AND SHALL BE IN PLACE UNTIL ALL CONSTRUCTION IN THE VICINITY OF THE TREES IS COMPLETE.
12. PROVIDE INLET PROTECTION AROUND ALL SITE STORM INLETS. PROTECT OPEN PIPES UNDER CONSTRUCTION WITH EITHER PLYWOOD OR WITH MESH AND GRAVEL WEIRS. RUNOFF SHALL NOT BE ALLOWED IN ANY OPEN TRENCH.
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14. TEMPORARY DIVERSIONS SHALL BE MAINTAINED DAILY BY CONTRACTOR SO THAT THEY ARE FUNCTIONAL AT THE END OF EACH WORKDAY AND WHEN STOPPING WORK FOR RAIN.
15. CONTRACTOR SHALL SEED AND STABILIZE ALL STEEP SLOPES (GREATER THAN 2H:1V) WITHIN 7 DAYS, 10 DAYS FOR MODERATE SLOPES (3H:1V OR GREATER) AND WITHIN 14 CALENDAR DAYS EVERYWHERE ELSE (STATE LAW 2009-486)

OFFSITE SPOIL NOTE:

1. IF AN OFFSITE SOIL SPOIL OR BORROW SITE IS UTILIZED, THE DISTURBED AREA FOR THE SPOILED/BORROW SITE MUST BE INCLUDED IN THE LAND-DISTURBANCE PLAN AND PERMIT UNLESS THE SPOIL/BORROW SITE ALREADY HAS A SEPARATE LAND-DISTURBANCE PERMIT.

PERMANENT DITCHES

DITCH #	MATERIAL	SLOPE (%)	LENGTH (ft)	DEPTH
DITCH 1	NAG C125BN	7.79	849	18"
DITCH 2	NAG DS75	6.91	215	18"
DITCH 3	NAG DS75	2.76	97	18"
DITCH 4	NAG DS75	5.83	182	18"
DITCH 5	NAG DS75	2.79	84	18"
DITCH 6	NAG DS75	2.41	127	18"
DITCH 7	NAG DS75	2.70	159	18"
DITCH 8	NAG DS75	1.01	166	18"
DITCH 9	NAG DS75	6.60	153	18"
DITCH 10	NAG DS75	4.56	115	18"
DITCH 11	NAG DS75	4.53	110	18"
DITCH 12	NAG DS75	2.18	165	18"
DITCH 13	NAG DS75	7.44	170	18"
DITCH 14	NAG DS75	1.06	188	18"
DITCH 15	NAG DS75	1.00	301	18"
DITCH 16	NAG DS75	1.21	105	18"
DITCH 17	NAG DS75	1.28	495	18"
DITCH 18	NAG DS75	2.50	608	18"
DITCH 19	NAG DS75	2.89	316	18"
DITCH 20	NAG DS75	2.39	317	18"
DITCH 21	NAG DS75	1.19	426	18"
DITCH 22	NAG DS75	2.53	299	18"
DITCH 23	NAG SC150	1.84	257	18"
DITCH 24	NAG DS75	2.34	82	18"
DITCH 25	NAG DS75	1.43	286	18"
DITCH 26	NAG DS75	1.00	87	18"

NOTE: DITCH LINERS WERE SPEC'D USING NORTH AMERICAN GREEN MATERIAL BUT IT CAN BE SUBSITUTED WITH ANOTHER EQUIVALENT LINER.

DISTURBED AREA = 43.10 ACRES

EROSION CONTROL LEGEND (PHASE 3)

EXISTING FLOODPLAIN
EXISTING WETLAND
EXISTING EDGE OF WATER
LIMITS OF DISTURBANCE
TREE PROTECTION/SILT FENCE COMBINATION
SILT FENCE
SILT FENCE OUTLET
SKIMMER
INLET PROTECTION
HORSE SHOE INLET PROTECTION
DITCH WATTLE
EXISTING TREELINE
PROPOSED TREELINE
PERMANENT DIVERSION DITCH

GRAPHIC SCALE

50 0 25 50 100 200
(IN FEET)
1 inch = 50 ft

N.C. UNDERGROUND UTILITIES
811
3 DAYS BEFORE DIGGING CALL TOLL FREE 811 or (800)632-4949
A ONE CALL SYSTEM FOR COMMUNITY AND JOB SAFETY

Developer
THE CSC GROUP
CONTRIBUTE TO THE SUCCESS OF LOCAL COMMUNITY
10030 Green Level Church Rd, Suite 802 #149: Cary, NC 27519

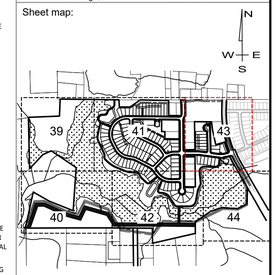
Engineer
QUANTECH ENGINEERING
INNOVATIVE SOLUTIONS | ENGINEERING THE FUTURE
Firm # F-1517
275 CARPENTER HILL LANE
Cary, N.C. 27519
(919) 996-9455

Surveyor
BCSC EASTERN CIVIL SURVEY COMPANY
Bateman Civil Survey Company
2524 Reliance Avenue
Apex, NC 27539
919-557-1080 ext 109
www.batemancivilsurvey.com

Jurisdiction / Municipality
Rolesville
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
CID-25-0004 (PSP-24-05)

Landscape Architect
STRONGROCK
THE STRONGROCK COMPANIES
305 Church at North Hills Street
Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

Sheet map:



Seal:



Bryan Harris

Digitally signed by Bryan Harris
DN: E=BJH, CN=Bryan Harris, O=Quantech Engineering LLP, C=US
Date: 2026.11.04 11:51:28-05'00'

Issued / Print Date: 2026-July-27 (10:44)
File Name: 24 Overall Stage 1 Erosion Control Plan.dwg

Last Saved by: BryanHarris
Drawn by: TAN

Project:

HARRIS CREEK FARMS

CID 25-0004 (FKA - CID-25-03)

Issued for:

FINAL DRAWING FOR CONSTRUCTION

REVISIONS

No.	Date	Description

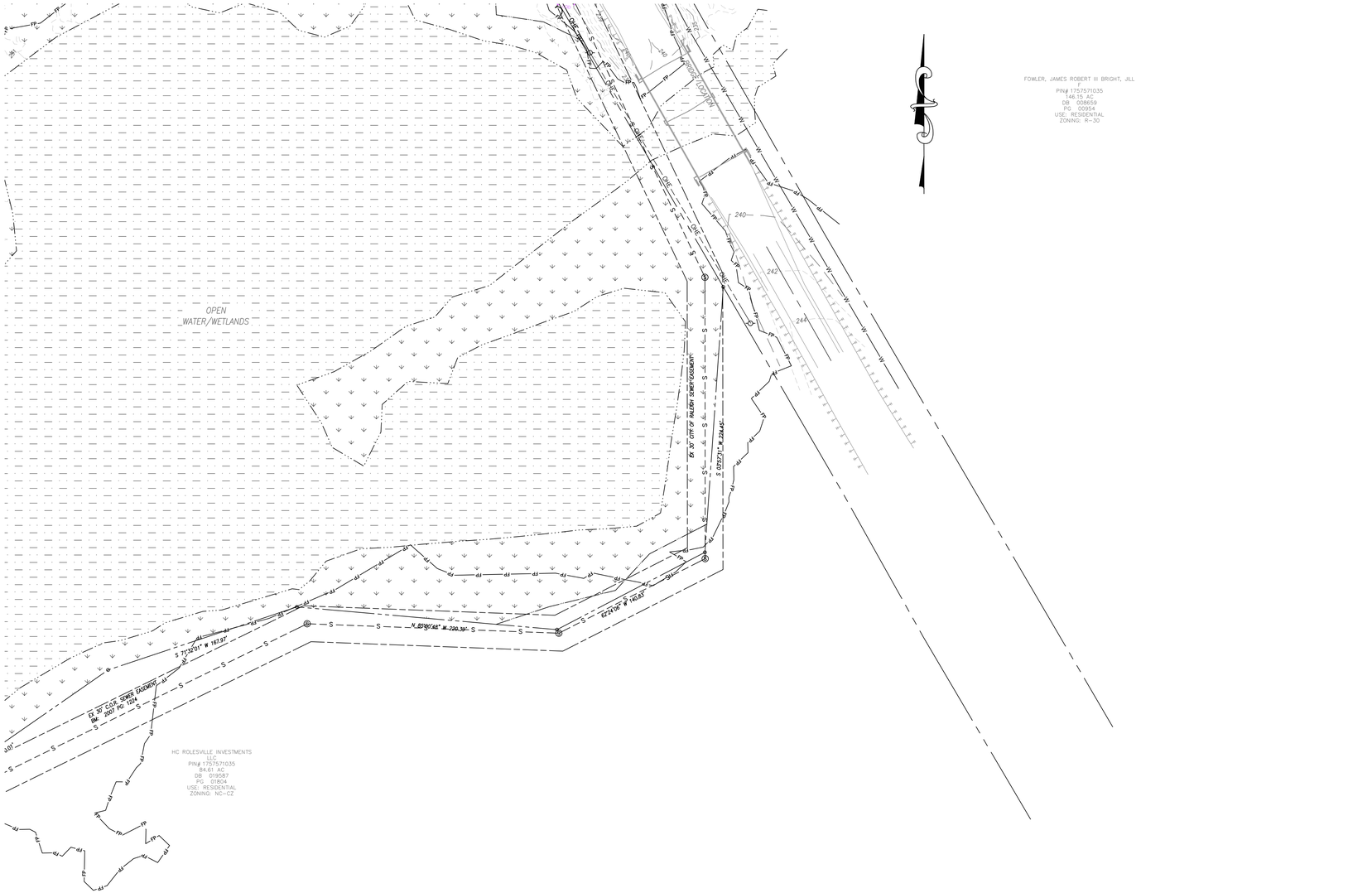
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EC PLAN STAGE 3 SHEET 5 OF 6

Sheet #:

43

File Location: C:\Users\BryanHarris\Quantech\Quantech Engineering - Documents\Harris Creek Farm - Jonesville\Engineering_DWG\Construction Plans\24 Overall Stage 1 Erosion Control Plan.dwg



GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft

Construction Sequence*

STAGE 1

1. Schedule a preconstruction conference with the Environmental Consultant. Obtain a land disturbing permit.
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3. Call Environmental Consultant for an onsite inspection by the Environmental Consultant to obtain a Certificate of Compliance.
4. Stage 1 erosion control devices shall be installed before demolition of electrical lines and structures can begin.
5. Begin clearing and grubbing. Maintain devices as needed. Rough grade site and seed all slopes. As grade changes, ensure disturbed areas are draining to sediment basin per the plan

STAGE 2

6. Change ditch path as grade changes, once more area drains to sediment basin 1, ensure you make the orifice on the skimmer bigger and sediment basin 3 make the orifice on the skimmer smaller.
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STAGE 3

9. Install storm sewer with inlet protection devices as per plans or other approved measures as shown on the plan. Build retaining walls as per plans except for areas where the sediment basins are. Ensure area for sediment #3 & #4 drainage area is well stabilized.
10. Call Wake County Environmental Consultant for an inspection to get approval to remove sediment basins #3 & #4.
11. Upon authorization from Wake County, remove sediment basins #3 & #4.
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13. Stabilize site as areas are brought up to finish grade with vegetation, paving, ditch linings, etc. Seed and mulch denuded areas per Ground Stabilization Time Frames.
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15. If site is approved, convert sediment basin #1 & #2 into SCM's as per the plans. You can remove temporary diversions, silt fence, etc. for areas not adjacent to the SCM, and seed out or stabilize any resulting bare areas. All remaining permanent erosion control devices, such as velocity dissipators, should now be installed.
16. When SCM's are established and before any wetpond plantings, call engineer to inspect SCM.
17. After engineer approves SCM, plant wet pond plants and ensure rest of site is stabilized.
18. When vegetation has become established, call for a final site inspection by the Environmental Consultant. Obtain a Certificate of Completion.

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1. EFFECTIVE OCTOBER 1, 2010, PERSONS CONDUCTING LAND-DISTURBING ACTIVITY LARGER THAN ONE ACRE MUST INSPECT THEIR PROJECT AFTER EACH PHASE OF THE PROJECT, AND DOCUMENT THE INSPECTION IN WRITING. EROSION AND SEDIMENTATION CONTROL MEASURES, INCLUDING BUT NOT LIMITED TO, SEDIMENTATION CONTROL BASINS, SEDIMENTATION TRAPS, ROCK DAMS, TEMPORARY DIVERSIONS, TEMPORARY SLOPE DRAINS, SEDIMENT FENCE OR BARRIERS, ALL FORMS OF INLET PROTECTION, STORM DRAINAGE FACILITIES, ENERGY DISSIPATERS, AND STABILIZATION METHODS OF OPEN CHANNELS MUST BE INSPECTED BY THE FINANCIALLY RESPONSIBLE PARTY, LANDOWNER, OR THEIR AGENT. THE SELF-INSPECTION REPORTING FORM IS AVAILABLE AS PDF FROM THE LAND QUALITY WEB SITE: https://deq.nc.gov/about/divisions/energy-mineral-land-resources/erosion-sediment-control/forms
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EROSION CONTROL NOTES

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4. THE EROSION CONTROL INSPECTOR MAY REQUIRE ADDITIONAL FIELD MEASURES AS NECESSARY TO PROVIDE ADEQUATE PROTECTION FROM RECEIVING WATER COURSES.
5. FAILURE TO FOLLOW THE APPROVED PLAN, CONSTRUCTION SEQUENCE, AND DETAILS COULD SUBJECT THE CONTRACTOR AND/OR THE FINANCIALLY RESPONSIBLE PARTY TO FINES AND PENALTIES ISSUED BY EITHER THE WAKE COUNTY EROSION CONTROL DIVISION OR NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY.
6. EROSION AND SEDIMENT CONTROL DEVICES MUST BE INSTALLED AND INSPECTED PRIOR TO ANY GRADING ON SITE. THE CONTRACTOR SHALL CALL FOR AN INSPECTION BY WAKE COUNTY EROSION CONTROL ONCE INITIAL MEASURES ARE IN PLACE. (SEE CONSTRUCTION SEQUENCES)
7. CONTRACTOR SHALL INSPECT ALL SEDIMENT/EROSION CONTROL DEVICES WEEKLY AND AFTER EACH STORM EVENT. EACH DEVICE IS TO BE MAINTAINED OR REPLACED IF SEDIMENT ACCUMULATION HAS REACHED ONE HALF OF THE CAPACITY OF THE DEVICE. SEE NPDES SELF INSPECTION PROGRAM NOTES.
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DISTURBED AREA = 43.10 ACRES

EROSION CONTROL LEGEND (PHASE 3)

EXISTING FLOODPLAIN	FP FP FP
EXISTING WETLAND	
EXISTING EDGE OF WATER	
LIMITS OF DISTURBANCE	LOD LOD
TREE PROTECTION/SILT FENCE COMBINATION	TP/SF TP/SF TP/SF
SILT FENCE	
SILT FENCE OUTLET	
SKIMMER	
INLET PROTECTION	
HORSE SHOE INLET PROTECTION	
DITCH WATTLE	
EXISTING TREELINE	
PROPOSED TREELINE	
PERMANENT DIVERSION DITCH	>>

N.C. UNDERGROUND UTILITIES
811 3 DAYS BEFORE DIGGING CALL TOLL FREE 811 or (800)632-4949
A ONE CALL SYSTEM FOR COMMUNITY AND JOB SAFETY

File Location: C:\Users\BryanHarris\Quantech\Quantech Engineering - Documents\Harris Creek Farm - Jonesville\Engineering_DWG\Construction Plans\24 Overall Stage 1 Erosion Control Plan.dwg

Developer
THE CSC GROUP
CONTRIBUTE TO THE SUCCESS OF LOCAL COMMUNITY
10030 Green Level Church Rd, Suite 802 #149: Cary, NC 27519

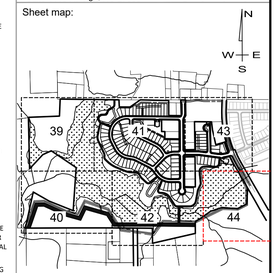
Engineer
QUANTECH ENGINEERING
INNOVATIVE SOLUTIONS | ENGINEERING THE FUTURE
Firm # P-1517
275 CARPENTER HILL LANE
Cary, N.C. 27519
(919) 996-9455

Surveyor
BCSC BATEMAN CIVIL SURVEY COMPANY
Bateman Civil Survey Company
2524 Reliance Avenue
Apex, NC 27539
919-557-1080 ext 109
www.batemancivilsurvey.com

Jurisdiction / Municipality
Rolesville Granite Community • Capital Connection Est. 1837
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
CID-25-0004 (PSP-24-05)
Formally Known As CID-25-03

Landscape Architect
STRONGROCK
THE STRONGROCK COMPANIES
305 Church at North Hills Street
Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

Sheet map:



Seal:



Bryan Harris

Digitally signed by Bryan Harris
DN: CN=US, E=bryan@QuantechEng.com, O=Quantech Engineering LLP, OU=Not Valid for Use
Date: 2026.11.04 11:51:31-05'00'

Issued / Print Date: 2026-July-27 (10:44)
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Last Saved by: BryanHarris
Drawn by: TAN

Project:

HARRIS CREEK FARMS

CID 25-0004 (FKA - CID-25-03)

Issued for:

FINAL DRAWING
FOR CONSTRUCTION

REVISIONS

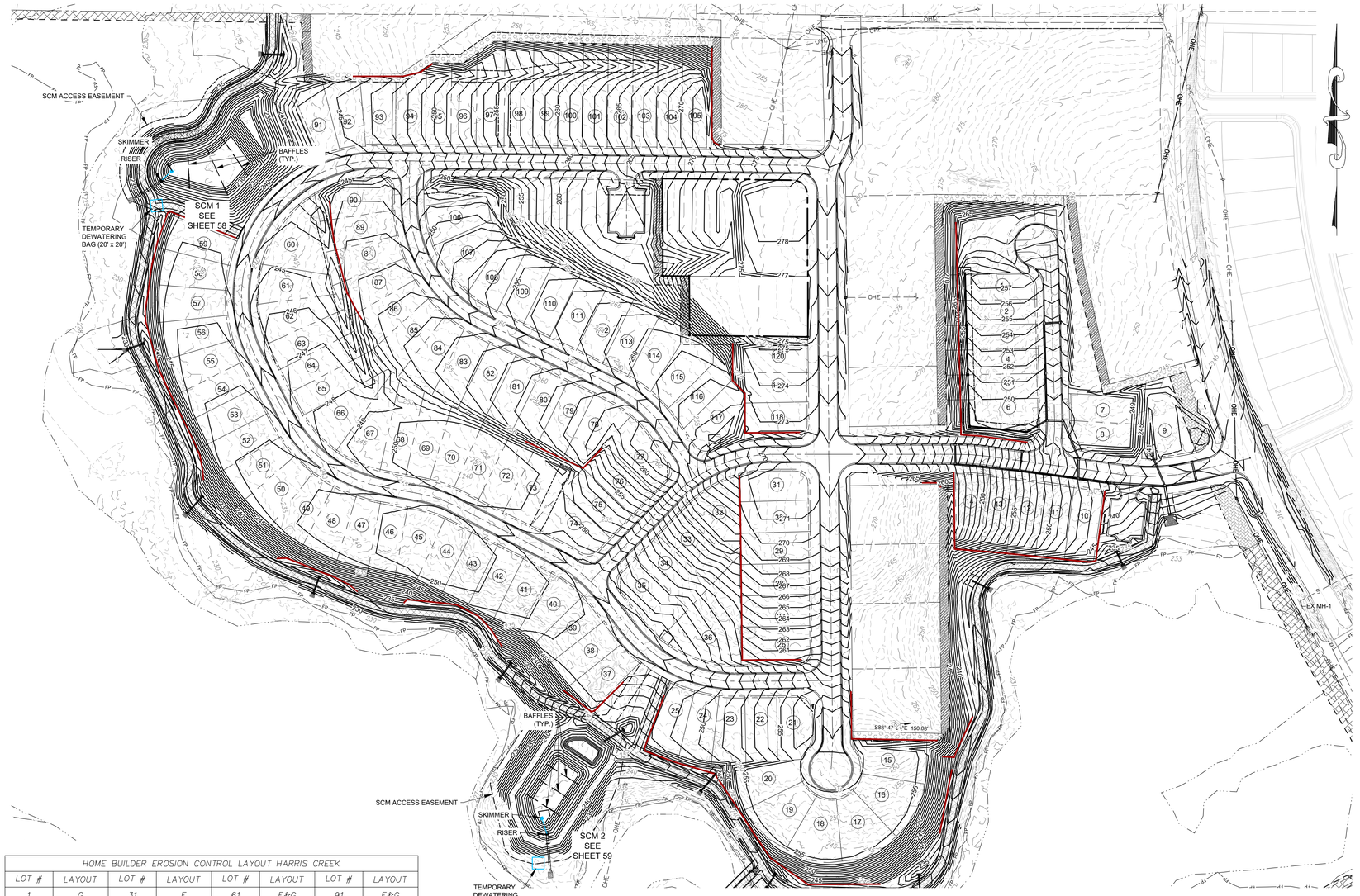
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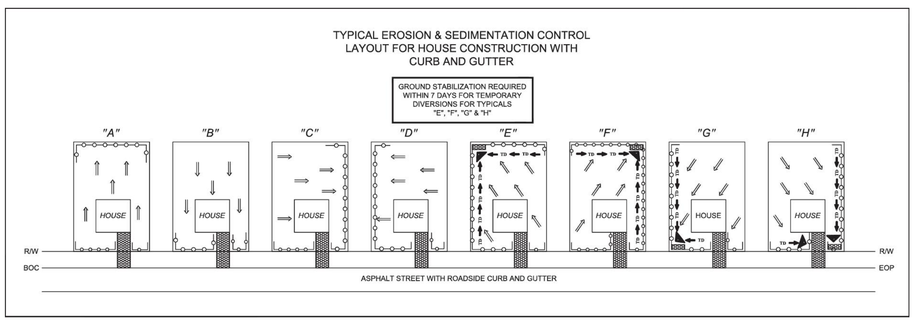
EC PLAN STAGE 3 SHEET 6 OF 6

Sheet #:

44



HOME BUILDER EROSION CONTROL LAYOUT HARRIS CREEK							
LOT #	LAYOUT	LOT #	LAYOUT	LOT #	LAYOUT	LOT #	LAYOUT
1	G	31	E	61	E&G	91	E&G
2	G	32	E	62	E&G	92	E&G
3	G	33	C	63	E&G	93	E&G
4	G	34	C	64	E&G	94	E&G
5	G	35	C	65	E&G	95	E&G
6	G	36	C	66	E&G	96	E&G
7	E	37	C	67	E&G	97	E&G
8	F	38	E&G	68	E&G	98	E&G
9	G	39	E&G	69	E&G	99	E&G
10	E&G	40	E&G	70	A&B	100	E&G
11	E&G	41	E&G	71	A&B	101	E&G
12	E&G	42	E&G	72	F&H	102	E&G
13	E&G	43	E&G	73	F&H	103	E&G
14	E&G	44	E&G	74	D	104	E&G
15	E&G	45	H&F	75	E	105	E&G
16	E	46	H&F	76	E	106	E&G
17	A	47	H&F	77	E	107	E&G
18	A	48	H&F	78	F&H	108	E&G
19	A	49	H&F	79	F&H	109	E&G
20	A	50	H&F	80	F&H	110	E&G
21	F	51	H&F	81	F&H	111	E&G
22	F&H	52	H&F	82	F&H	112	E&G
23	F&H	53	H&F	83	F&H	113	E&G
24	F&H	54	H&F	84	F&H	114	E&G
25	F&H	55	H&F	85	F&H	115	E&G
26	F&H	56	H&F	86	F&H	116	E&G
27	E	57	H&F	87	F&H	117	D
28	E	58	H&F	88	F&H	118	D
29	E	59	H&F	89	F&H	119	E&G
30	E	60	H	90	F&H	120	E&G



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3. ALL CONSTRUCTION SHALL CONFORM TO THE LATEST NORTH CAROLINA EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL AND WAKE COUNTY STANDARDS, SPECIFICATIONS AND DETAILS.
4. THE EROSION CONTROL INSPECTOR MAY REQUIRE ADDITIONAL FIELD MEASURES AS NECESSARY TO PROVIDE ADEQUATE PROTECTION FROM RECEIVING WATER COURSES.
5. FAILURE TO FOLLOW THE APPROVED PLAN, CONSTRUCTION SEQUENCE, AND DETAILS COULD SUBJECT THE CONTRACTOR AND/OR THE FINANCIALLY RESPONSIBLE PARTY TO FINES AND PENALTIES ISSUED BY EITHER THE WAKE COUNTY EROSION CONTROL DIVISION OR NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY.
6. EROSION AND SEDIMENT CONTROL DEVICES MUST BE INSTALLED AND INSPECTED PRIOR TO ANY GRADING ON SITE. THE CONTRACTOR SHALL CALL FOR AN INSPECTION BY WAKE COUNTY EROSION CONTROL ONCE INITIAL MEASURES ARE IN PLACE. (SEE CONSTRUCTION SEQUENCES)
7. CONTRACTOR SHALL INSPECT ALL SEDIMENT/EROSION CONTROL DEVICES WEEKLY AND AFTER EACH STORM EVENT. EACH DEVICE IS TO BE MAINTAINED OR REPLACED IF SEDIMENT ACCUMULATION HAS REACHED ONE HALF OF THE CAPACITY OF THE DEVICE. SEE NPDES SELF INSPECTION PROGRAM NOTES.
8. ANY GRADING BEYOND THE DENUDED LIMITS SHOWN ON THE PLAN IS A VIOLATION OF THE COUNTY EROSION CONTROL ORDINANCE AND IS SUBJECT TO A FINE.
9. DISTURBANCE OUTSIDE OF THE SITE PROPERTY LIMITS OR PUBLIC RIGHT-OF-WAY SHALL ONLY BE AS ALLOWED BY SIGNED GRADING AGREEMENTS AND/OR EASEMENTS BETWEEN THE DEVELOPER AND THE OFFSITE PROPERTY OWNER.
10. NO DEBRIS SHALL BE TRACKED ONTO PUBLIC RIGHT OF WAY. IF THE SITUATION OCCURS WHERE MUD, ROCK AND DEBRIS IS TRACKED ONTO PAVEMENT, THE CONTRACTOR SHALL CLEAN THE PAVEMENT AND INSTALL ADDITIONAL MEASURES TO PREVENT THE FUTURE OCCURRENCE.
11. PROTECTION OF EXISTING VEGETATION: AT THE START OF GRADING INVOLVING THE STRIPPING OF TOPSOIL OR LOWERING OF EXISTING GRADE AROUND TREES, A CLEAN SHARP, VERTICAL CUT SHALL BE MADE AT THE EDGE OF THE TREE SAVE AREA AT THE SAME TIME AS OTHER EROSION CONTROL MEASURES ARE INSTALLED. THE TREE PROTECTION FENCING SHALL BE INSTALLED ON THE SIDE OF THE CUT FARTHEST AWAY FROM THE TREE TRUNK AND SHALL REMAIN IN PLACE UNTIL ALL CONSTRUCTION IN THE VICINITY OF THE TREES IS COMPLETE. NO STORAGE OF MATERIALS, FILL, OR EQUIPMENT AND NO TRESPASSING SHALL BE ALLOWED WITHIN THE BOUNDARY OF THE PROTECTED AREA AND SHALL BE INSTALLED AT THE SAME TIME AS THE EROSION CONTROL MEASURES AND SHALL BE IN PLACE UNTIL ALL CONSTRUCTION IN THE VICINITY OF THE TREES IS COMPLETE.
12. PROVIDE INLET PROTECTION AROUND ALL SITE STORM INLETS. PROTECT OPEN PIPES UNDER CONSTRUCTION WITH EITHER PLYWOOD OR WITH MESH AND GRAVEL WEIRS. RUNOFF SHALL NOT BE ALLOWED IN ANY OPEN TRENCH.
13. CONTRACTOR WILL FIELD LOCATE SILT FENCE OUTLETS AT LOW POINTS IN SILT FENCE AS REQUIRED TO PROVIDE RELIEF FROM CONCENTRATED FLOWS AND PONDING. APPROXIMATE LOCATIONS ARE SHOWN ON EROSION CONTROL PLANS.
14. TEMPORARY DIVERSIONS SHALL BE MAINTAINED DAILY BY CONTRACTOR SO THAT THEY ARE FUNCTIONAL AT THE END OF EACH WORKDAY AND WHEN STOPPING WORK FOR RAIN.
15. CONTRACTOR SHALL SEED AND STABILIZE ALL STEEP SLOPES (GREATER THAN 2H:1V) WITHIN 7 DAYS, 10 DAYS FOR MODERATE SLOPES (3H:1V OR GREATER) AND WITHIN 14 CALENDAR DAYS EVERYWHERE ELSE (STATE LAW 2009-486).

OFFSITE SPOIL NOTE:

1. IF AN OFFSITE SOIL SPOIL OR BORROW SITE IS UTILIZED, THE DISTURBED AREA FOR THE SPOILED/BORROW SITE MUST BE INCLUDED IN THE LAND-DISTURBANCE PLAN AND PERMIT UNLESS THE SPOIL/BORROW SITE ALREADY HAS A SEPARATE LAND-DISTURBANCE PERMIT.

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft

N.C. UNDERGROUND UTILITIES

811 3 DAYS BEFORE DIGGING CALL TOLL FREE 811 or (800)632-4949

A ONE CALL SYSTEM FOR COMMUNITY AND JOB SAFETY

Developer
THE CSC GROUP
CONTRIBUTE TO THE SUCCESS OF LOCAL COMMUNITY
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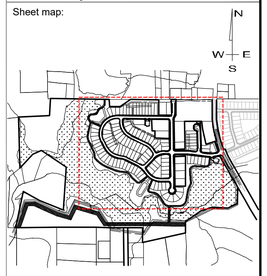
Engineer
QUANTECH ENGINEERING
INNOVATIVE SOLUTIONS | ENGINEERING THE FUTURE
Firm # F-1517
275 CARPENTER HILL LANE
Cary, N.C. 27519
(919) 996-9455

Surveyor
BCSC BATEMAN CIVIL SURVEY COMPANY
Bateman Civil Survey Company
2524 Reliance Avenue
Apex, NC 27539
919-557-1080 ext 109
www.batemancivilsurvey.com

Jurisdiction / Municipality
Rolesville Genuine Community • Capital Connection Est. 1837
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
CID-25-0004 (PSP-24-05)

Landscape Architect
STRONGROCK
THE STRONGROCK COMPANIES
305 Church at North Hills Street
Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

Sheet map:



Seal:

NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A. HARRIS

Digitally signed by Bryan Harris
DN: CN=BA
Quantech Engineering LLP, C=US
Date: 2026.11.04 11:51:34-05'00'

Bryan Harris

Issued / Print Date: 2026-July-27 (10:45)
File Name: 45 EC HOMEBUILDER PLAN.dwg

Last Saved by: 23623
Drawn by: TAN

Project:

HARRIS CREEK FARMS

CID 25-0004 (FKA - CID-25-03)

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FINAL DRAWING
FOR CONSTRUCTION

REVISIONS

No.	Date	Description

Sheet Title:

EC HOMEBUILDER PLAN

Sheet #:

45

File Location: C:\Users\BryanHarris\Quantech\Quantech Engineering - Documents\Harris Creek Farm - Jonesville\Engineering_DWG\Construction Plans\45 EC HOMEBUILDER PLAN.dwg

PART III
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 business day. Any time when inspections were delayed shall be noted in the Inspection Record.

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 weekend or holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those un-attended days (and this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero." The permittee may use another rain-monitoring device 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	1. Identification of the measures inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Indication of whether the measures were operating properly, 5. Description of maintenance needs for the measure, 6. Description, evidence, and date of corrective actions taken.
(3) Stormwater discharge outfalls (SDOs)	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 of the following shall be made: 1. Actions taken to clean up or stabilize the sediment that has left the site limits, 2. Description, evidence, and date of corrective actions taken, and 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 wetlbed has increased visible sedimentation or a 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, and 2. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item (2)(e) of this permit.
(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.

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

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.

Item to Document	Documentation Requirements
(a) Each E&SC measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC plan.	Initial and date each E&SC measure on a copy of the approved E&SC plan or complete, date 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 the E&SC measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate completion of the construction phase.
(c) Ground cover is located and installed in accordance with the approved E&SC plan.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.
(d) The maintenance and repair requirements for all E&SC measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&SC measures.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

2. Additional Documentation to be Kept on Site

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]

PART III
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 environment.

2. Reporting Timeframes and Other Requirements

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Department's Environmental Emergency Center personnel at (800) 858-0368.

Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	• ***Within 24 hours,*** an oral or electronic notification. • ***Within 7 calendar days,*** a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis. • If the stream is named on the NC 303(d) list as impaired for 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 compliance with the federal or state impaired-waters conditions.
(b) Oil spills and release of hazardous substances per Item 1(b)-(c) above	• ***Within 24 hours,*** an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	• ***A report at least ten days before the date of the bypass, if possible.*** The report shall include an evaluation of the anticipated quality and effect of the bypass.
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	• ***Within 24 hours,*** an oral or electronic notification. • ***Within 7 calendar days,*** a report that includes an evaluation of the quality and effect of the bypass.
(e) Noncompliance with the conditions of this permit that may endanger health or the environment [40 CFR 122.41(l)(7)]	• ***Within 24 hours,*** an oral or electronic notification. • ***Within 7 calendar days,*** a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. [40 CFR 122.41(l)(6). • Division staff may waive the requirement for a written report on a case-by-case basis.

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.

NORTH CAROLINA Environmental Quality

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

EFFECTIVE: 04/01/19

GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT

Implementing 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

Site Area Description	Required Ground Stabilization Timeframes: 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 Zones -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.

GROUND STABILIZATION SPECIFICATION

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

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 covered with mulch • Uniform and evenly distributed ground cover sufficient to restrain erosion • Structural methods such as concrete, asphalt or retaining walls • Rolled erosion control products with grass seed

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

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

EQUIPMENT AND VEHICLE MAINTENANCE

1. Maintain vehicles and equipment to prevent discharge of fluids.
2. Provide drip pans under any stored equipment.
3. Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
4. Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
5. Remove leaking vehicles and construction equipment from service until the problem has been corrected.
6. 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

1. Never bury or burn waste. Place litter and debris in approved waste containers.
2. Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
3. Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
4. 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.
5. Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
6. Anchor all lightweight items in waste containers during times of high winds.
7. 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

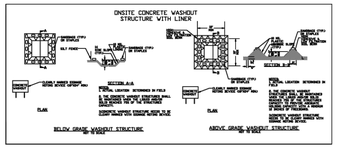
1. Do not dump paint and other liquid waste into storm drains, streams or wetlands.
2. Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
3. Contain liquid wastes in a controlled area.
4. Containment must be labeled,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

PORTABLE TOILETS

1. 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.
2. Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
3. 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

1. 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 available.
2. Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
3. Provide stable stone access point when feasible.
4. 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

1. Do not discharge concrete or cement slurry from the site.
2. Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
3. 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.
4. 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.
5. 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.
6. 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.
7. 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.
8. 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.
9. 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.
10. 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

1. Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
2. 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 accidental poisoning.
3. 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

1. Create designated hazardous waste collection areas on-site.
2. Place hazardous waste containers under cover or in secondary containment.
3. Do not store hazardous chemicals, drums or bagged materials directly on the ground.

NORTH CAROLINA Environmental Quality

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

EFFECTIVE: 04/01/19

DATE: PAGE:

CONSIDERATIONS FOR CONSTRUCTION SCHEDULING

CONSTRUCTION ACTIVITY	SCHEDULE CONSIDERATION
CONSTRUCTION ACCESS: Construction entrance, construction routes, equipment parking areas.	First land-disturbing activity- Stabilize bare areas immediately with gravel and temporary vegetation as construction takes place.
SEDIMENT TRAPS AND BARRIERS: Basin traps, sediment fences, and outlet protection.	Install principal basins after construction site is accessed. Install additional traps and barriers as needed during grading.
RUNOFF CONTROL: Diversions, perimeter dikes, water bars, and outlet protection.	Install key practices after principal sediment traps and before land grading. Install additional runoff-control measures during grading.
RUNOFF CONVEYANCE SYSTEM: Stabilize streambanks, storm drains, channels, inlet and outlet protection, and slope drains.	Where necessary, stabilize streambanks as early as possible. Install principal runoff conveyance system with runoff-control measures. Install remainder of system after grading.
LANDING CLEARING AND GRADING: Site preparation- cutting, filling and grading, sediment traps, barriers, diversions, drains, and surface roughening.	Begin major clearing and grading **AFTER** principal sediment and key runoff-control measures are installed. Clear borrow and disposal areas only as needed. Install additional control measures as grading progresses. Mark trees and buffer areas for preservation.
SURFACE STABILIZATION: Temporary and permanent seeding, mulching, sodding and riprap.	Apply temporary or permanent stabilization measures immediately on all disturbed areas where work is delayed or complete.
BUILDING CONSTRUCTION: Buildings, utilities, and paving.	Install necessary additional erosion and sedimentation control practices as work takes place.
LANDSCAPE AND FINAL STABILIZATION: Topsoiling, trees and shrubs, permanent seeding, mulching, sodding, and riprap.	Last construction phase: Stabilize all open areas, including borrow and spoil areas. Remove and stabilize all temporary control areas.

NOTE: The above are the main aspects of a typical construction sequence in general terms. A detailed Construction Sequence should be site specific based on your project and site needs. As a minimum, the construction sequence schedule should show the following:

- The erosion and sedimentation control practices to be installed,
- Principal development activities,
- What measures should be in place before other activities are begun, and
- Compatibility with the general construction schedule of the contract.

Many timely construction techniques can reduce the erosion potential of a site, such as (1) shaping earthen fills daily to prevent overflows and (2) constructing temporary diversions ahead of anticipated storms. These types of activities cannot be put on the construction sequence schedule, but should be used whenever possible.

DEQ

CONSTRUCTION SEQUENCING

Effective Date: 9/1/2023
In accordance with the 2013 Design Manual Updates

DATE: PAGE:

SPACING GUIDE FOR SLOPE BREAKS

	SLOPE	SPACING (FT)
Steep Slopes	2:1	20
	3:1	35
	4:1	45
Long Slopes	15-25%	50
	10-15%	80
	6-10%	125
	3-6%	200
	<3%	300

Use slope breaks, such as diversions, wattles, or benches, as appropriate, to reduce the length of cut-and-fill slope to limit sheet and rill erosion and prevent gullying.

MAINTENANCE:
1. Periodically check all graded areas and the supporting erosion and sedimentation control practices, especially after heavy rainfalls.
2. Promptly remove all sediment from diversions and other water-disposal practices.
3. If washouts or breaks occur, repair immediately.
4. Prompt maintenance of small eroded areas before they become significant gullies is an essential part of an effective erosion and sedimentation control plan.

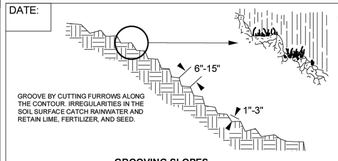
NOTES:
1. Construct and maintain all erosion and sediment control practices and measures in accordance with the approved sedimentation control plan and construction schedule.
2. Remove good topsoil from areas to be graded and filled, and preserve it for use in finishing the grading of all critical areas.
3. Scarify areas to be topsoiled to a minimum depth of 2 inches before placing topsoil.
4. Clear and grub areas to be filled by removing trees, vegetation, roots, or other objectionable material that would affect the planned stability of the fill.
5. Ensure that fill material is free of brush, rubbish, rocks, logs, stumps, building debris, and other materials inappropriate for constructing stable fills.
6. Place all fill in layers not to exceed 9 inches in thickness, and compact the layers as required to reduce erosion, slippage, settlement, or other related problems.
7. Do not incorporate frozen, soft, mucky, or highly compressible materials into fill slopes.
8. Do not place fill on a frozen foundation, due to possible subsidence and slippage.
9. Keep diversions and other water conveyance measures free of sediment during all phases of development.
10. Handle seeps or springs encountered during construction in accordance with approved methods (subsurface drain).
11. Permanently stabilize all graded areas immediately after final grading is completed on each area in the grading plan. Apply temporary stabilization measures on all graded areas when work is to be interrupted or delayed for 30 days or longer.
12. Show topsoil, stockpiles, borrow areas, and spoil areas on the plans, and make sure they are adequately protected from erosion. Include final stabilization of these areas in the plan.

DEQ

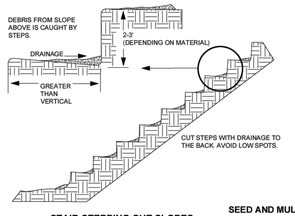
LAND GRADING

Effective Date: 9/1/2023
In accordance with the 2013 Design Manual Updates

DATE: PAGE:



GROOVING SLOPES



STAIR STEPPING CUT SLOPES

CUT SLOPE ROUGHENING FOR AREAS NOT TO BE MOWED:
1. Stair-step grade or groove cut slopes with a gradient steeper than 3:1.
2. Use stair-step grading on any erodible material soft enough to be ripped with a bulldozer. Slopes consisting of soft rock with some subsoil are particularly suited to stair-stepping.
3. Make the vertical cut distance less than the horizontal distance, and slightly slope the horizontal position of the "step" in toward the vertical wall.
4. Do not make individual vertical cuts more than 2 feet in soft materials or more than 3 feet in rocky materials.
5. Grooving uses machinery to create a series of ridges and depressions that run across the slope (on the contour).
6. Groove using any appropriate implement that can be safely operated on the slope. Such as disks, tillers, spring harrows, or the teeth on a front-end loader bucket. Do not make such grooves less than 3 inches deep nor more than 15 inches apart.

FILL SLOPE ROUGHENING FOR AREAS NOT TO BE MOWED:
1. Place fill slopes with a gradient steeper than 3:1 in lifts not to exceed 9 inches, and make sure each lift is properly compacted. Ensure that the face of the slope consists of loose, uncompacted fill 4 to 6 inches deep. Use grooving, as described above, to roughen the face of the slopes, if necessary.
2. Do not blade or scrape the final slope face.

CUTS, FILLS, AND GRADED AREAS THAT WILL BE MOWED:
1. Make mowed slopes **no steeper than 3:1**
2. Roughen these areas to shallow grooves by normal tilling, disking, harrowing, or use of a cultipacker-seeder. Make the final pass of any such tillage implement on the contour.
3. Make grooves, formed by such implements, close together (less than 10 inches) and not less than 1 inch deep.
4. Excessive roughness is undesirable where mowing is planned.

ROUGHENING WITH TRACKED MACHINERY:
1. Limit roughening with tracked machinery to sandy soils to avoid undue compaction of the soil surface. Tracking is generally not as effective as the other roughening methods described.
2. Operate tracked machinery up and down the slope to leave horizontal depressions in the soil. Do not back-blade during the final grading operation.

SEED AND MULCH ROUGHENED AREAS IMMEDIATELY TO OBTAIN OPTIMUM SEED GERMINATION AND GROWTH.

DEQ

SURFACE ROUGHENING

Effective Date: 9/1/2023
In accordance with the 2013 Design Manual Updates

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275 CARPENTER HILL LANE
Cary, N.C. 27519
(919) 996-9455

Surveyor
BCSC BATEMAN CIVIL SURVEY COMPANY
Bateman Civil Survey Company
2524 Reliance Avenue
Apex, NC 27539
919-557-1080 ext 109
www.batemancivilsurvey.com

Jurisdiction / Municipality
Rolesville
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
CID-25-0004 (PSP-24-05)

Landscape Architect
STRONGROCK
THE STRONGROCK COMPANIES
305 Church at North Hills Street
Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

Sheet map:

Seal:

NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A. HARRIS

Bryan Harris

Digitally signed by Bryan Harris
DN: cn=Bryan Harris, o=QuantechEng.com, ou=Quantech Engineering LLP, email=Bryan Harris
Date: 2026.11.04 11:51:38-05'00'

Issued / Print Date: 2026-July-27 (10:45)
File Name: 45 EC HOMEBUILDER PLAN.dwg

Last Saved by: 23623
Drawn by: TAN

Project:

HARRIS CREEK FARMS

CID 25-0004 (FKA - CID-25-03)

Issued for:

FINAL DRAWING FOR CONSTRUCTION

REVISIONS

No.	Date	Description

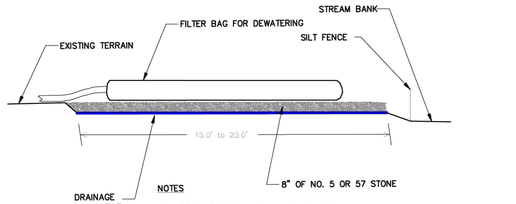
Sheet Title:

EROSION CONTROL DETAILS

Sheet #:

46

File Location: C:\Users\BryanHarris\Quantech\Quantech Engineering - Documents\Harris Creek Farm - Jonesville\Engineering\ DWG\Construction Plans\45 EC HOMEBUILDER PLAN.dwg



NOTES

1. PROVIDE STABILIZED OUTLET TO STREAM BANK.
2. WOOD PALLETS MAY BE USED IN LIEU OF STONE AND GEOTEXTILE AS DIRECTED. A SUFFICIENT NUMBER OF PALLETS MUST BE PROVIDED TO ELEVATE THE ENTIRE FILTER BAG FOR DEWATERING ABOVE NATURAL GROUND.

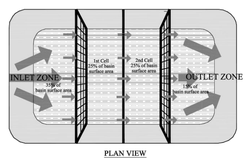
MAINTENANCE NOTES

1. REPLACE AND DISPOSE OF FILTER BAG(S) WHEN IT IS ¾ FULL OF SEDIMENT OR WHEN IT IS IMPRCTICAL FOR BAG TO FILTER SEDIMENT.
2. PROVIDE A SUFFICEINT QUANTITY OF FILTER BAGS TO CONTAIN SILT FROM PUMPED EFFLUENT.

NOT TO SCALE

WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

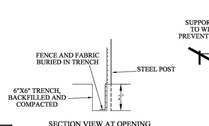
STANDARD FILTER BAG FOR DEWATERING ACTIVITIES



PLAN VIEW

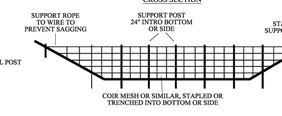
NOTES:
1. BAFFLE MATERIAL SHOULD BE SECURED AT THE BOTTOM AND SIDES USING STAPLES OR BY TRENCHING AS FOR SILT FENCE.
2. MOST OF THE SEDIMENT WILL ACCUMULATE IN THE 1ST BAY, WHICH SHOULD BE READILY ACCESSIBLE FOR MAINTENANCE.
3. PROVIDE 3 BAFFLES (USE TWO IF LESS THAN 20 FEET IN LENGTH). PROVIDE 5 BAFFLES FOR DRAINAGE AREAS GREATER THAN 10 ACRES.
4. BAFFLE SHALL BE 700 GM2 COIR EROSION BLANKET.
5. TOPS OF BAFFLES SHOULD BE 2 INCHES LOWER THAN THE TOP OF THE BERMS.

MAINTENANCE NOTES:
1. INSPECT BAFFLES FOR REPAIR ONCE A WEEK AND AFTER EACH 1" RAINFALL.
2. MAINTAIN ACCESS TO BAFFLES AND MAKE ANY REPAIRS IMMEDIATELY.
3. REMOVE SEDIMENT DEPOSITS WHEN IT REACHES HALF FULL.
4. AVOID DAMAGING BAFFLES DURING CLEANOUT AND REPLACE IF DAMAGED.
5. REMOVE BAFFLES AND SEDIMENT DEPOSITS AFTER CONTRIBUTING DRAINAGE AREA HAS BEEN PERMANENTLY STABILIZED.



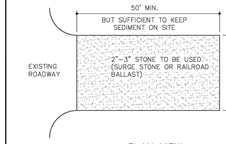
SECTION VIEW AT OPENING

CROSS SECTION



WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

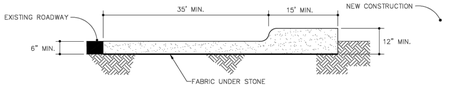
STANDARD BAFFLES DETAIL



PLAN VIEW

NOTES:
1. INSTALL SILT FENCE OR TREE PROTECTION FENCE TO ENSURE CONSTRUCTION ENTRANCE IS USED BY VEHICLES.
2. IF MUD IS NOT REMOVED FROM TIRES AFTER VEHICLE TRAVELS OVER STONE, THE TIRES OF THE VEHICLE MUST BE WASHED BEFORE ENTERING PUBLIC ROADS.

MAINTENANCE NOTES:
1. THE GRAVEL CONSTRUCTION ENTRANCE MUST BE MAINTAINED IN A CONDITION TO PREVENT TRACKING OR DIRECT FLOW OF MUD ONTO ADJACENT ROADWAYS.
2. REPLACEMENT OF STONE MAY BE NECESSARY TO ENSURE THE GRAVEL ENTRANCE FUNCTIONS PROPERLY.
3. REPLENISHMENT OF STONE MAY BE NECESSARY.
4. FREQUENT CHECKS OF THE DEVICE AND TIMELY MAINTENANCE SHOULD BE COMPLETED.
5. ANY MATERIAL TRACKED ONTO THE ROADWAY SHALL BE CLEANED UP IMMEDIATELY.



CROSS SECTION

WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

STANDARD CONSTRUCTION ENTRANCE

NOTES:

1. TEMPORARY DIVERSION DITCH TO BE USED TO INTERCEPT FLOW AND/OR DIVERT TO A SEDIMENT CONTROL MEASURE OR BMP.
2. STABILIZE DIVERSION DITCH BERM WITH TEMPORARY SEEDING, MULCH WITH TAC, AND/OR EROSION CONTROL NETTING.

MAINTENANCE NOTES:

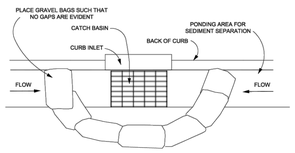
1. INSPECT ONCE A WEEK AND AFTER EVERY 1" RAINFALL.
2. SILT SHALL BE REMOVED WHEN DITCH IS ONE–HALF FULL.
3. DITCH SHALL BE RECONSTRUCTED WHEN DAMAGED BY EQUIPMENT OR COVERED BY FILL.
4. CHECK OUTLETS AND MAKE TIMELY REPAIRS AS NEEDED.
5. AFTER DRAINAGE AREA IS PERMANENTLY STABILIZED, PLACE WASTE MATERIAL IN DITCH TO BLEND WITH NATURAL GROUND AND STABILIZE.



CROSS SECTIONAL VIEW

WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

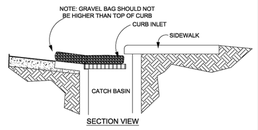
STANDARD TEMPORARY DIVERSION DITCH



PLAN VIEW

NOTES:
1. PLACE GRAVEL BAG BARRIER ON GENTLY SLOPING STREET, WHERE WATER CAN POND AND ALLOW SEDIMENT TO SEPARATE FROM RUNNOFF.
2. USE SAND BAGS OF WOVEN GEOTEXTILE FABRIC (NOT BURLAP) AND FILL WITH ∂ INCH OR SMALLER) GRAVEL. BAGS MUST BE LAYERED SUCH THAT NO GAPS ARE EVIDENT.
3. WHEN INSTALLING CURB INLET PROTECTION DEVICES, **NEVER** BLOCK THE CURB INLET.

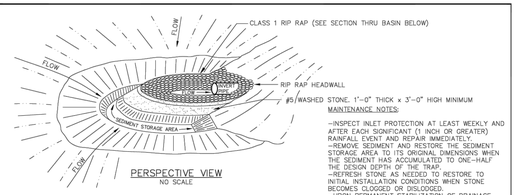
MAINTENANCE NOTES:
1. INSPECT BARRIERS AND REMOVE SEDIMENT AFTER EACH STORM EVENT (1 INCH OR GREATER), SEDIMENT AND GRAVEL MUST BE REMOVED FROM THE TRAVELED WAY IMMEDIATELY.



SECTION VIEW

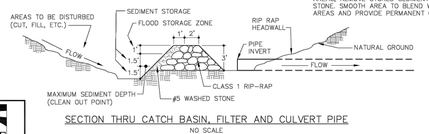
WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

STANDARD GRAVEL BAG CURB INLET PROTECTION



PERSPECTIVE VIEW
NO SCALE

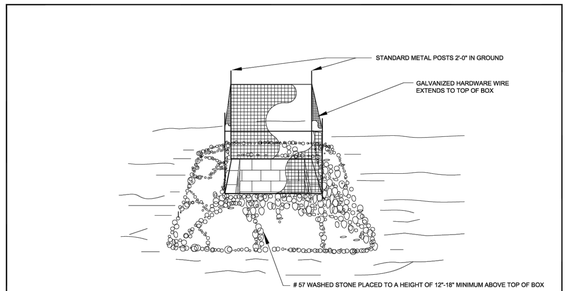
MAINTENANCE NOTES:
–INSPECT INLET PROTECTION AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1 INCH OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY.
–REMOVE SEDIMENT AND RESTORE THE SEDIMENT STORAGE AREA TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE–HALF THE DESIGN DEPTH OF THE TRAP.
–REFRESH STONE AS NEEDED TO RESTORE TO INITIAL INSTALLATION CONDITIONS WHEN STONE BECOMES CLOGGED OR DISLODGED.
–UPON PERMANENT STABILIZATION OF DRAINAGE AREAS, REMOVE STORED SEDIMENT & TEMPORARY STONE. SMOOTH AREA TO BLEND WITH ADJOINING AREAS AND PROVDE PERMANENT GROUNDCOVER.



SECTION THRU CATCH BASIN, FILTER AND CULVERT PIPE
NO SCALE

WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

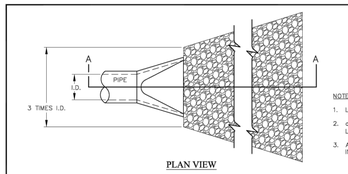
STANDARD HORSESHOE INLET PROTECTION



MAINTENANCE NOTES:
1. REMOVE SEDIMENT WHEN HALF HEIGHT OF STONE AND CLEAR HARDWARE OF DEBRIS TO PROVIDE ADEQUATE FLOW FOR SUBSEQUENT RAINS, TAKING CARE NOT TO DAMAGE OR UNDERCUT HARDWARE DURING SEDIMENT REMOVAL.
2. REPLACE STONE AS NEEDED.

WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

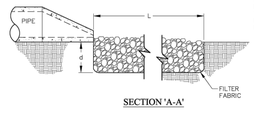
STANDARD GRAVEL YARD INLET PROTECTION



PLAN VIEW

NOTES:
1. L = THE LENGTH OF THE RIPRAP APRON.
2. d = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6" (INCHES).
3. A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIPRAP AND SOIL FOUNDATION.

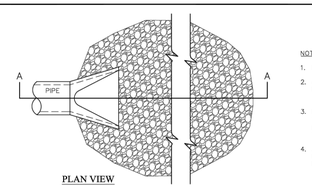
MAINTENANCE NOTES:
1. INSPECT RIPRAP OUTLET STRUCTURES WEEKLY AND AFTER SIGNIFICANT (1 INCH OR GREATER) RAINFALL EVENTS TO SEE IF ANY EROSION AROUND OR BELOW THE RIPRAP HAS TAKEN PLACE, OR IF STONES HAVE BEEN DISLODGED. IMMEDIATELY MAKE ALL NEEDED REPAIRS TO PREVENT FURTHER DAMAGE.



SECTION 'A-A'

WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

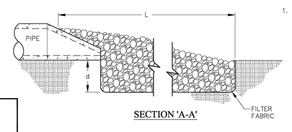
STANDARD PIPE OUTLET TO FLAT AREA NO WELL-DEFINED CHANNEL



PLAN VIEW

NOTES:
1. L = THE LENGTH OF THE RIPRAP APRON.
2. d = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6" (INCHES).
3. IN A WELL–DEFINED CHANNEL EXTEND THE APRON UP THE CHANNEL BANKS TO AN ELEVATION OF 6" (INCHES) ABOVE THE MAXIMUM TAILWATER DEPTH OR TO THE TOP OF THE BANK, WHICHEVER IS LESS.
4. A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIPRAP AND SOIL FOUNDATION.

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

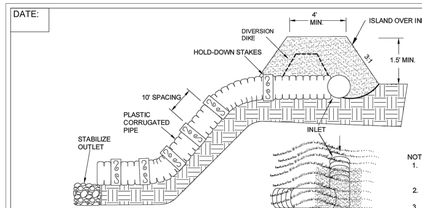


SECTION 'A-A'

WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

STANDARD PIPE OUTLET TO WELL-DEFINED CHANNEL

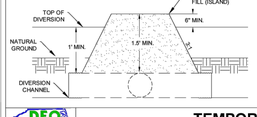
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CROSS-SECTION VIEW

PLAN VIEW
STANDARD T-SECTION

Size of Slope Drain	
Max. Drainage Area per Pipe (Acres)	Pipe Diameter (Inches)
0.50	12
0.75	15
1.00	18
>1.00*	as designed
* Inlet design becomes more complex beyond this size.	



NOTES:
1. Place slope drains on undisturbed soil or well compacted fill at locations and elevations shown on the plan.
2. Slightly slope the section of pipe under the dike toward its outlet.
3. Hand tamp the soil under and around the entrance section in lifts not to exceed 6 inches.
4. Fill over the drain at the top of the slope to a minimum of 1.5 feet depth, 4 feet top width and 3:1 side slopes.
2. Ensure all slope drain connections are watertight.
3. Compact fill material and securely fasten the exposed section of the drain with grommets or stakes spaced no more than 10 feet apart.
4. Extend the drain beyond the toe of the slope, and adequately protect the outlet from erosion.
5. Make the compacted, settled dike ridge no less than 1 foot above the top of the pipe at every point.
6. Immediately stabilize all disturbed areas following construction.

MAINTENANCE:
1. Inspect all measures at least weekly and after each rainfall of 1.0 inch or greater; repair immediately.

DEQ EQUITY

TEMPORARY SLOPE DRAINS

Effective Date: 9/1/2023

Seedbed Preparation:

1. Chisel compacted areas and spread topsoil three inches deep over adverse soil conditions, if available.
2. Rip the entire area to six inches deep.
3. Remove all loose rock, roots and other obstructions, leaving surface reasonably smooth and uniform.
4. Apply agricultural lime, fertilizer and superphosphate uniformly and mix with soil (see mixture below).
5. Continue tillage until a well-pulverized, firm, reasonably uniform seedbed is prepared four to six inches deep.
6. Seed on a freshly prepared seedbed and cover seed lightly with seeding equipment or cultipack after seeding.
7. Mulch immediately after seeding and anchor mulch.
8. Inspect all seeded areas and make necessary repairs or reseedings within the planting season, if possible. If stand should be more than 60% damaged, reestablish following the original lime, fertilizer and seeding rates.
9. Consult Wake County Soil & Water or NC State Cooperative Extension on maintenance treatment and fertilization after permanent cover is established.

Mixture:

Agricultural Limestone	2 tons/acre (3 tons/acre in clay soils)
Fertilizer	1,000 lbs/acre – 10-10-10
Superphosphate	500 lbs/acre – 20% analysis
Mulch	2 tons/acre – small grain straw
Anchor	Asphalt emulsion at 400 gals/acre

Seeding Schedule:

For Shoulders, Side Ditches, Slopes (Max 3:1):

Date	Type	Planting Rate
Aug 15–Nov 1	Tall Fescue	300 lbs/acre
Nov 1–Mar 1	Tall Fescue & Abruzzi Rye	300 lbs/acre
Mar 1–Apr 15	Tall Fescue	300 lbs/acre
Apr 15–Jun 30	Hulled Common Bermudagrass	25 lbs/acre
Jul 1–Aug 15	Tall Fescue AND Browntop Millet or Sorghum-Sudan Hybrids***	125 lbs/acre (Tall Fescue): 35 lbs/acre (Browntop Millet); 30 lbs/acre (Sorghum-Sudan Hybrids)

For Shoulders, Side Ditches, Slopes (3:1 to 2:1):

Date	Type	Planting Rate
Mar 1–Jun 1	Sericea Lespedeza (scarified) and use the following combinations:	50 lbs/acre (Sericea Lespedeza);
Mar 1–Apr 15	Add Tall Fescue	120 lbs/acre
Mar 1–Jun 30	Or add Weeping Love grass	10 lbs/acre
Mar 1–Jun 30	Or add Hulled Common Bermudagrass	25 lbs/acre
Jun 1–Sept 1	Tall Fescue AND Browntop Millet or Sorghum-Sudan Hybrids***	120 lbs/acre (Tall Fescue); 35 lbs/acre (Browntop Mullet); 30 lbs/acre (Sorghum-Sudan Hybrids)
Sept 1–Mar 1	Sericea Lespedeza (unhulled unscarified) AND Tall Fescue	70 lbs/acre (Sericea Lespedeza); 120 lbs/acre (Tall Fescue)
Nov 1–Mar 1	AND Abruzzi Rye	25 lbs/acre

Consult Wake County Soil & Water Conservation District or NC State Cooperative Extension for additional information concerning other alternatives for vegetation of denuded areas. The above vegetation rates are those that do well under local conditions; other seeding rate combinations are possible.

*** TEMPORARY: Reseed according to optimum season for desired permanent vegetation. Do not allow temporary cover to grow more than 12" in height before mowing; otherwise, fescue may be shaded out.

Required Wake County Construction Sequence*

1. **Schedule a preconstruction conference with the Environmental Consultant. Obtain a land disturbing permit.**
2. **Install gravel construction pad, temporary diversions, silt fence, sediment basins, and other measures as shown on the approved plan. Clear only as necessary to install these devices. Seed temporary diversions, berms and basins immediately after construction.**
3. **Call Environmental Consultant for an onsite inspection by the Environmental Consultant to obtain a Certificate of Compliance.**
4. **Stage 1 erosion control devices shall be installed before demolition of electrical lines and structures can begin.**
5. **Begin clearing and grubbing. Maintain devices as needed. Rough grade site and seed all slopes.**
6. **Install storm sewer with inlet protection devices as per plans or other approved measures as shown on the plan. Build retaining walls as per plans except for areas where the sediment basins are. Ensure area for sediment #3 & #4 drainage area is well stabilized.**
7. **Call Wake County Environmental Consultant for an inspection to get approval to remove sediment basins #3 & #4.**
8. **Upon authorization from Wake County, remove sediment basins #3 & #4.**
9. **Complete rest of wall construction and install infrastructures (sewer & water)**
10. **Stabilize site as areas are brought up to finish grade with vegetation, paving, ditch linings, etc. Seed and mulch denuded areas per Ground Stabilization Time Frames.**
11. **When construction is complete and all areas are stabilized completely, call Environmental Consultant for an inspection.**
12. **If site is approved, convert sediment basin #1 & #2 into SCM's as per the plans. You can remove temporary diversions, silt fence, etc. for areas not adjacent to the SCM, and seed out or stabilize any resulting bare areas. All remaining permanent erosion control devices, such as velocity dissipators, should now be installed.**
13. **When SCM's are established and before any wetpond plantings, call engineer to inspect SCM.**
14. **After engineer approves SCM, plant wet pond plants and ensure rest of site is stabilized.**
15. **When vegetation has become established, call for a final site inspection by the Environmental Consultant. Obtain a Certificate of Completion.**

Soil stockpiles shall be located on the approved plan and shall adhere to the following requirements:

Criteria's

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 lines.
c. 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 be unavailable.
g. Any concentrated flow likely to affect the stockpile shall be diverted to an approved BMP.
h. 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

i. 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.
l. Establish and maintain a vegetative buffer at the toe of the slope (where practical).

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Landscape Architect
STRONGROCK THE STRONGROCK COMPANIES
305 Church at North Hills Street
Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

Sheet map:

Seal:

NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A. HARRIS

Bryan Harris

Digitally signed by Bryan Harris
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Project:

HARRIS CREEK FARMS

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Sheet Title:

EROSION CONTROL DETAILS

Sheet #:

47

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DATE: PAGE:

Design Criteria

Drainage Area:		5 acres or less	
Dike Design		**Channel Design**	
Side Slope:	2:1 or flatter	Shape:	Parabolic, Trapezoidal, or V-Shaped
	3:1 of flatter where vehicles must cross	Side Slope:	2:1 or flatter
Width:	2.0 ft minimum		3:1 or flatter where vehicles must cross
Height:	1.5 ft minimum	Stabilization:	Based on velocity of reaches
Freeboard:	0.5 ft minimum		
Settlement:	10% of total fill height minimum		

NOTES:
1. Remove and properly dispose of all trees, brush, stumps, and other objectionable material. Fill and compact all ditches and gullies that will be crossed by machinery to natural ground level or above.
2. Disk the base of the dike before placing fill.
3. Ensure that the constructed cross section meets all design requirements.
4. Compact the dike by tracking with construction equipment.
5. Divert all sediment laden water into a temporary sediment trap or sediment basin. Runoff from undisturbed areas should empty into an outlet protection device such as a level spreader or riprap outlet structure unless well stabilized natural outlets exist.
6. Ensure that the top of the dike is not lower at any point than the design elevation plus the specified settlement after it has been compacted.
7. Leave sufficient area along the dike to permit machine re-grading and cleanout.
8. Immediately seed and mulch the dike after its construction, and stabilize the flow portion in accordance with design requirements.

Maintenance:
1. Inspect diversion dikes at least weekly and after each rainfall of 1.0 inch or greater.
2. Immediately remove sediment from the flow area and repair the dike.
3. Check outlets, and make timely repairs as needed to avoid gully formation.
4. when area above the temporary diversion dike is permanently stabilized, remove the dike, and fill and stabilized the channel to blend with the natural surface.

DEQ Land Quality

DIVERSION DIKE (PERIMETER PROTECTION)

Effective Date: 9/1/2023
In accordance with the 2013 Design Manual Updates

DATE: PAGE:



NOTES:
1. Side slopes should be 2:1 or flatter in all cases and 3:1 or flatter where vehicles cross.
2. Diversions should have stable outlets, either natural or constructed. Site spacing may need to be adjusted for field conditions to use the most suitable areas for water disposal.
3. Install the diversion as soon as the right-of-way has been cleared and graded.
4. Disk the base for the constructed ridge before placing fill.
5. Track the ridge to compact it to the design cross section.
6. Locate the outlet on an undisturbed area. Adjust field spacing on the diversion to use the most stable outlet areas. When natural areas are not deemed satisfactory, provide outlet protection.
7. Immediately seed and mulch the portions of the diversions not subject to construction traffic. Areas to be crossed by vehicles should be stabilized with gravel.

Spacing of Water Bars on Right-of-Way Less than 100 ft Wide

Slope (%)	Spacing (ft)
<5	125
5 to 10	100
10 to 20	75
20 to 35	50
>35	25

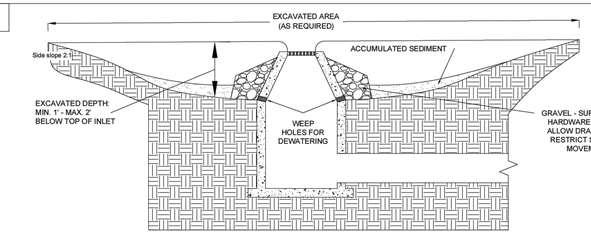
MAINTENANCE:
1. Inspect all measures at least weekly and after each rainfall of 1.0 inch or greater. Inspect diversions for wear and repair immediately.
2. Immediately remove sediment from the flow area, and repair the dike.
3. Check outlet areas, and make timely repairs as needed.
4. Once permanent road drainage is established and the area above the temporary right-of-way diversions are permanently stabilized, removed the dike, fill the channel to blend with the natural ground and appropriately stabilize all disturbed areas.

DEQ Land Quality

RIGHT-OF-WAY DIVERSIONS (WATER BARS)

Effective Date: 9/1/2023
In accordance with the 2013 Design Manual Updates

DATE: PAGE:



Notes:
1. Clear the area of all debris that might hinder excavation and disposal of spoil.
2. Grade the approach to the inlet uniformly.
3. Protect weep holes by gravel.
4. When the contributing drainage area has been permanently stabilized, seal weep holes, fill the basin with stable soil to final grading elevations, compact it properly and stabilize.

Maintenance:
1. Inspect all measures at least weekly and after each rainfall of 1.0 inch or greater.
2. Clean, and properly maintain the excavated basin after every storm until the contributing drainage area has been permanently stabilized.
3. remove sediment when the volume of the basin has been reduced by one-half.
4. Spread all excavated material evenly over the surrounding land area or stockpile and stabilize appropriately.

DEQ Land Quality

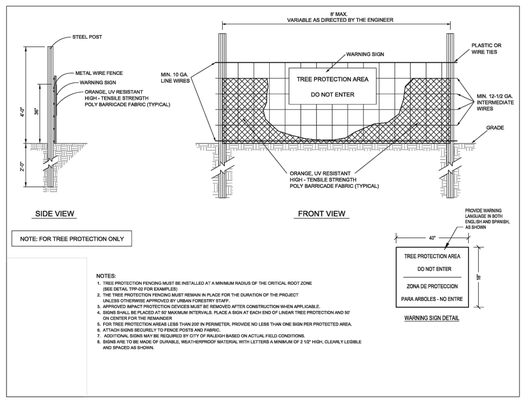
EXCAVATED DROP INLET PROTECTION (TEMPORARY)

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In accordance with the 2013 Design Manual Updates

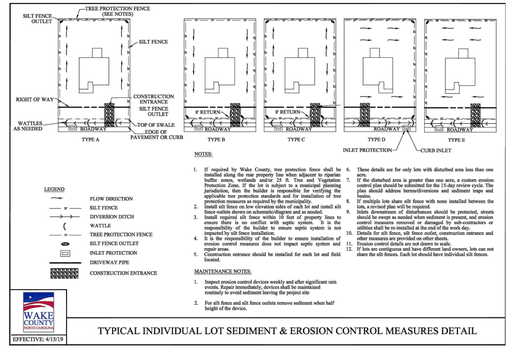
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Required Wake County Basin Removal Sequence

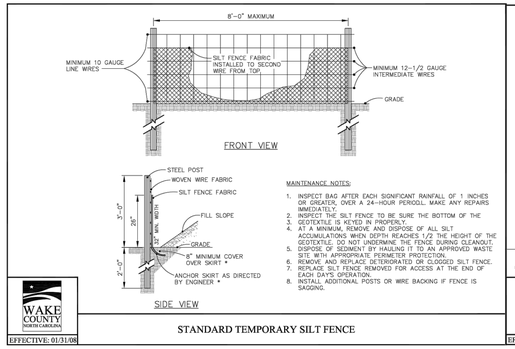
1. **Schedule a site meeting with the Environmental Consultant to determine if a basin can be removed. Install silt fencing or other temporary erosion control measures as needed prior to removal of the basin.**
2. **Contact NCDEQ – Raleigh Regional Office (919) 791-4200 to determine the Division of Energy, Mineral and Land Resources contact person to receive dewatering notifications. *At least 10 days prior to beginning dewatering activity*, send Email to NCDEQ-DEMLR contact person and copy Environmental Consultant that met you onsite. The email should include: E&SC Jurisdiction: Wake County, Wake County Project: Name, Number, and Location (city/town), Environmental Consultant Name, and address the following: a)Reason for conversion, b)Basin #, c)Dewatering method, and d) all other necessary info from Part II, Section G, Item 4 of the NCG01. (keep email for your NPDES monitoring documentation)**
3. **After receiving positive confirmation from NCDEQ-DEMLR that you may remove the basin OR on > Day 11, whichever is sooner. Remove Basin(s) and associated temporary diversion ditches. If pipes need to be extended, perform this operation at this time. Fine grade area in preparation for seeding.**
4. **Perform seedbed preparation, seed, mulch and anchor any resulting bare areas immediately.**
5. **Install velocity dissipators and/or level spreaders as required on the Erosion Control Plan.**
6. **When site is fully stabilized, call Environmental Consultant for approval of removing remaining temporary erosion control measures and advice on when site can be issued a Certificate of Completion. Note: A meeting should also be scheduled with the Environmental Consultant to determine when a basin may be converted for stormwater use. Some municipalities may also require this.**



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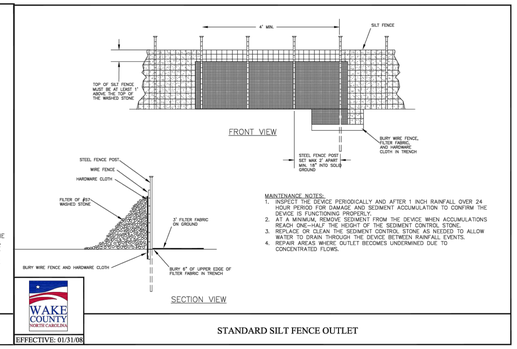


TYPICAL INDIVIDUAL LOT SEDIMENT & EROSION CONTROL MEASURES DETAIL



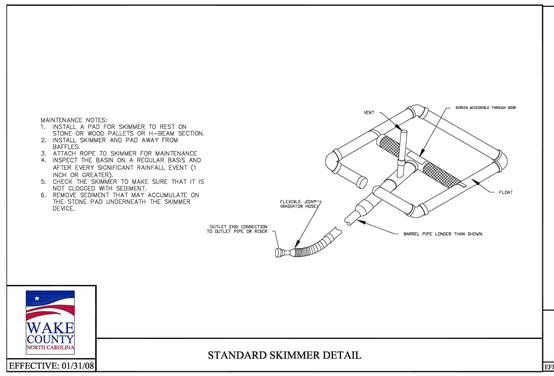
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STANDARD TEMPORARY SILT FENCE



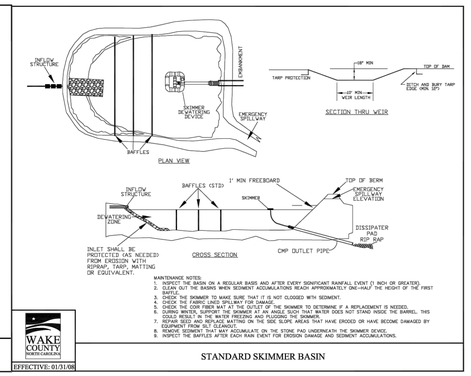
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STANDARD SILT FENCE OUTLET



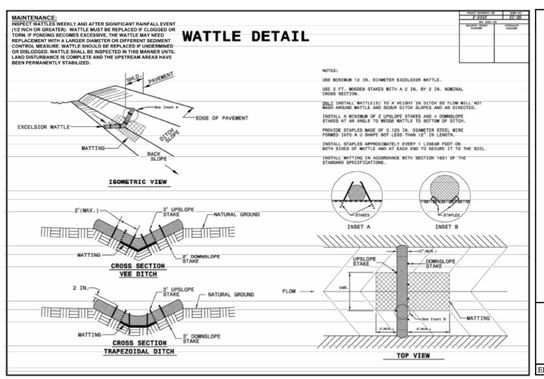
WAKE COUNTY NORTH CAROLINA
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STANDARD SKIMMER DETAIL

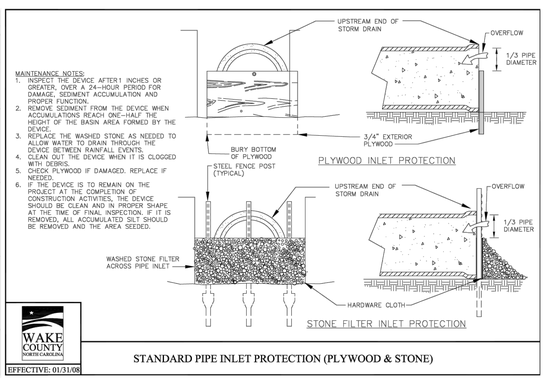


WAKE COUNTY NORTH CAROLINA
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STANDARD SKIMMER BASIN



WAKE COUNTY NORTH CAROLINA
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WAKE COUNTY NORTH CAROLINA
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STANDARD PIPE INLET PROTECTION (PLYWOOD & STONE)

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Surveyor
BCSC BATEMAN CIVIL SURVEY COMPANY
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919-557-1080 ext 109
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Jurisdiction / Municipality
Rolesville
Genuine Community • Capital Connection
Est. 1837
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
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Formally Known As A-25-04.1A

Landscape Architect
STRONGROCK
THE STRONGROCK COMPANIES
305 Church at North Hills Street
Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

Sheet map:

Seal:

NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A. HARRIS

Bryan Harris

Digitally signed by Bryan Harris
DN: CN=US, E=bharris@QuantechEng.com, O=Quantech Engineering LLP, CN=Bryan Harris
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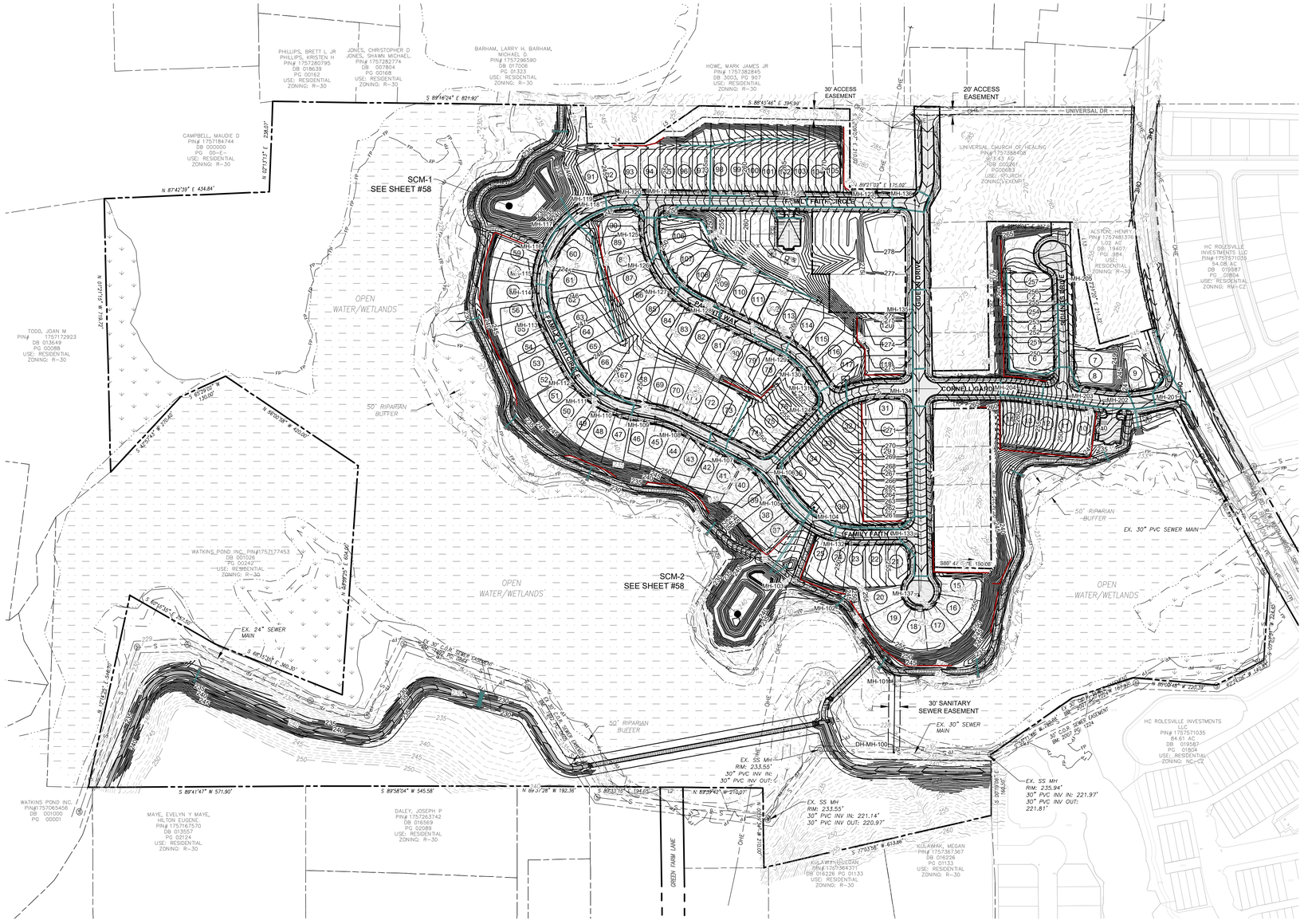
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EROSION CONTROL DETAILS

Sheet #:

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STORM PIPE NETWORK NOTES:

1. SEE SHEET #57 "STORM PIPE NETWORK TABLES" FOR PIPE AND STRUCTURE DATA.
2. SEE GREENWAY PLAN & PROFILE SHEET #S 96 - 102 FOR STORM CULVERT PIPE DATA, DETAILS, AND DISSIPATOR PADS.

GRADING AND STORMWATER PLAN NOTES:

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF ROLESVILLE STANDARDS AND SPECIFICATIONS.
2. ALL PERMITS SHALL BE OBTAINED FROM THE CITY OF ROLESVILLE, WAKE COUNTY, NCDOT, NCDEQ-DWR, AND USACE AS APPLICABLE PRIOR TO BEGINNING CONSTRUCTION. A COPY OF ALL PERMITS SHALL BE SUBMITTED TO THE TOWN OF ROLESVILLE FOR THEIR RECORDS.
3. SCMS SHALL BE DESIGNED TO CONTROL AND TREAT THE DIFFERENCE IN STORMWATER RUNOFF VOLUME LEAVING THE PROJECT SITE BETWEEN THE PRE- AND POST-DEVELOPMENT CONDITIONS FOR, AT A MINIMUM, THE 1-YEAR, 24-HOUR STORM.
4. SCMS SHALL BE DESIGNED TO HAVE A MINIMUM OF 85% AVERAGE ANNUAL REMOVAL FOR TOTAL SUSPENDED SOLIDS.
5. ALL SCMS ASSOCIATED WITH THIS PROJECT WILL REQUIRE MAINTENANCE EASEMENTS AND AN OPERATION AND MAINTENANCE AGREEMENT TO BE NOTED ON THE FINAL PLAT. ALL OF THESE ITEMS WILL NEED TO BE RECORDED WITH THE COUNTY REGISTER OF DEEDS.
6. AT THE START OF GRADING INVOLVING THE LOWERING OF THE EXISTING GRADE AROUND A TREE OR STRIPPING OF TOPSOIL, A CLEAN, SHARP, VERTICAL CUT SHALL BE MADE AT THE EDGE OF THE TREE SAVE AREA AT THE SAME TIME AS OTHER EROSION CONTROL MEASURES ARE INSTALLED. TREE PROTECTION FENCING SHALL BE INSTALLED ON THE SIDE OF THIS CUT FARTHEST AWAY FROM THE TREE TRUNK.
7. NO STORAGE OF MATERIALS, DUMPING OF WASTE MATERIALS, FILL, OR PARKING OF EQUIPMENT SHALL BE ALLOWED WITHIN THE ROOT PROTECTION ZONE, AND NO TRESPASSING SHALL BE ALLOWED WITHIN THE BOUNDARY OF THE ROOT PROTECTION ZONE.
8. PRIOR TO BEGINNING CONSTRUCTION OF THE SCM(S), A PRECONSTRUCTION MEETING SHALL BE SCHEDULED WITH CITY STORMWATER IN ACCORDANCE WITH THE STANDARD PUBLIC WORKS' STORMWATER NOTE ON THE PLANS. THIS MEETING SHOULD BE SEPARATE FROM THE ENGINEERING INSPECTIONS' PRECONSTRUCTION MEETING AND SCHEDULING IT IS THE RESPONSIBILITY OF THE OWNER/DEVELOPER/ENGINEER. THE MEETING MUST BE ATTENDED BY THE PROJECT CONTRACTOR RESPONSIBLE FOR SCM CONSTRUCTION, THE BMP CERTIFYING ENGINEER (BCE) WHO HAS BEEN SECURED TO PROVIDE THE AS-BUILT CERTIFICATION, AND THE GEOTECHNICAL ENGINEER (REQUIRED WHEN EARTHEN DAMS INVOLVED). WATER/SEWER PERMITS WILL NOT BE ISSUED OR WHEN SUCH PERMITS ARE NOT REQUIRED, FINAL CONSTRUCTION DRAWING APPROVAL WILL NOT BE GRANTED UNTIL THIS MEETING HAS BEEN SCHEDULED.
9. THE ACCESS SHALL HAVE A MAXIMUM CENTERLINE GRADE AND CROSS-SLOPE OF FIFTEEN PERCENT (15%) AND TEN PERCENT (10%) RESPECTIVELY.
10. THE SLOPES MAY BE 2:1 BELOW THE PERMANENT PONDING ELEVATION INSIDE THE SCM ONLY. EVERYWHERE ELSE THE SLOPES MUST BE 3:1 OR FLATTER.
11. RETAINING WALLS AND ASSOCIATED DRAINAGE TO BE DESIGNED BY OTHERS. CONTRACTOR SHALL COORDINATE DESIGN AND SUBMIT SEALED PLAN FOR REVIEW AND APPROVAL BY THE TOWN INSPECTIONS DEPARTMENT.

GRADING PLAN LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED BOUNDARY
- PROPOSED R.O.W.
- EXISTING SEWER LINE
- EXISTING SEWER MANHOLE
- PROPOSED SEWER LINE
- PROPOSED SEWER MANHOLE
- EXISTING WATER LINE
- PROPOSED WATERLINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- PROPOSED STORM WATER INLET
- PROPOSED STORM PIPE
- PROPOSED RETAINING WALL

GRAPHIC SCALE

150 0 75 150 300 600

(IN FEET)
1 inch = 150 ft

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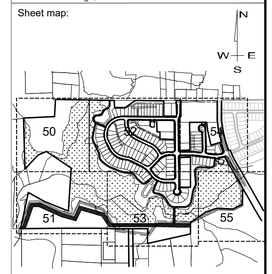
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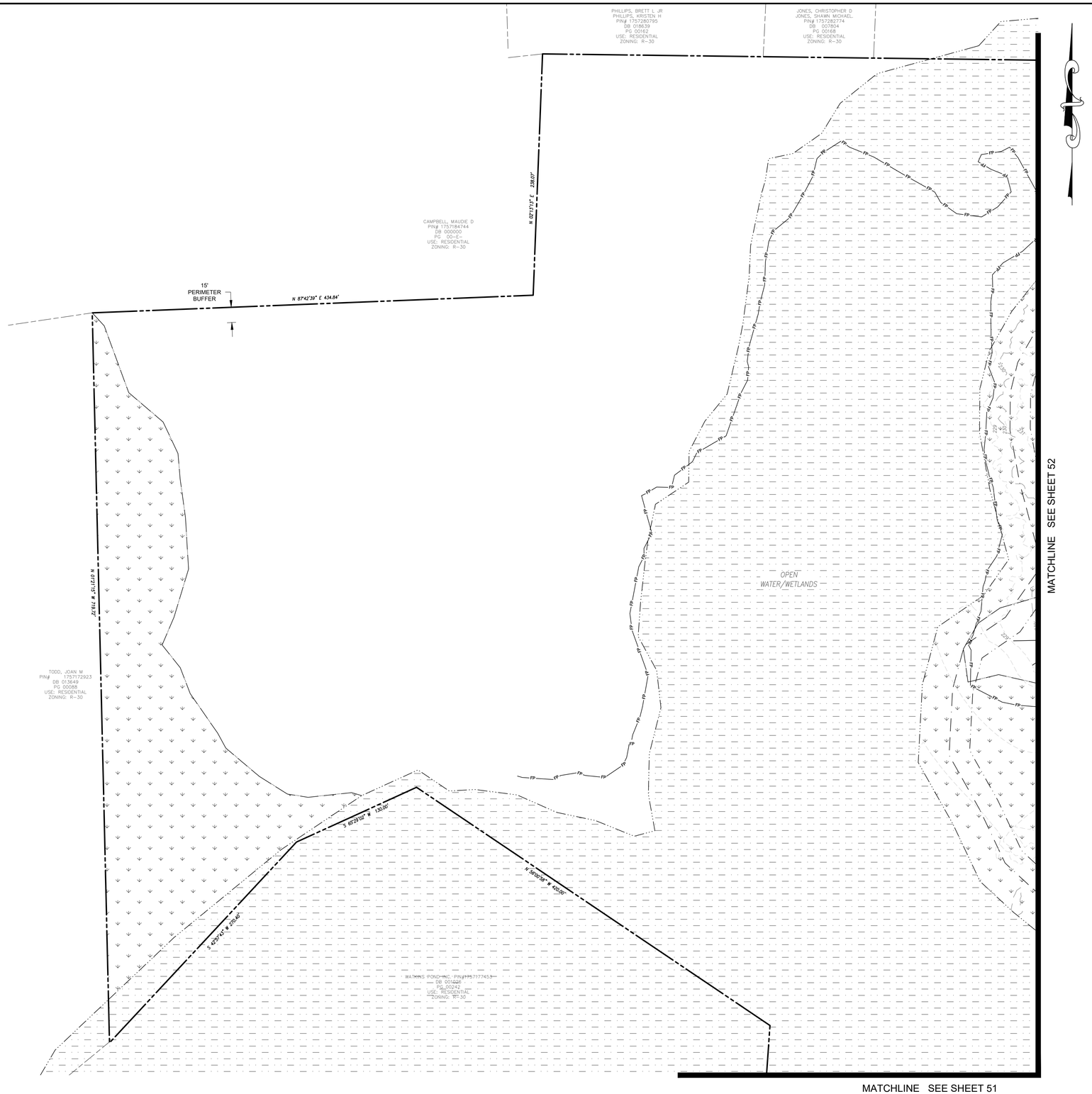
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Sheet Title:

OVERALL GRADING & DRAINAGE PLAN

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49



GRADING PLAN LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED R.O.W.
- PROPOSED LOT LINE
- EXISTING SEWER LINE
- EXISTING SEWER MANHOLE
- PROPOSED SEWER LINE
- PROPOSED SEWER MANHOLE
- EXISTING WATER LINE
- PROPOSED WATERLINE
- PROPOSED GATE VALVE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- PROPOSED STORM WATER INLET
- PROPOSED STORM PIPE
- PROPOSED RETAINING WALL

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)

1 inch = 50 ft

N.C. UNDERGROUND UTILITIES

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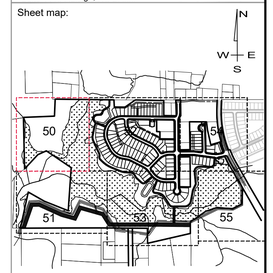
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305 Church at North Hills Street
Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

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HARRIS CREEK FARMS

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GRADING & DRAINAGE PLAN SHEET 1 OF 6

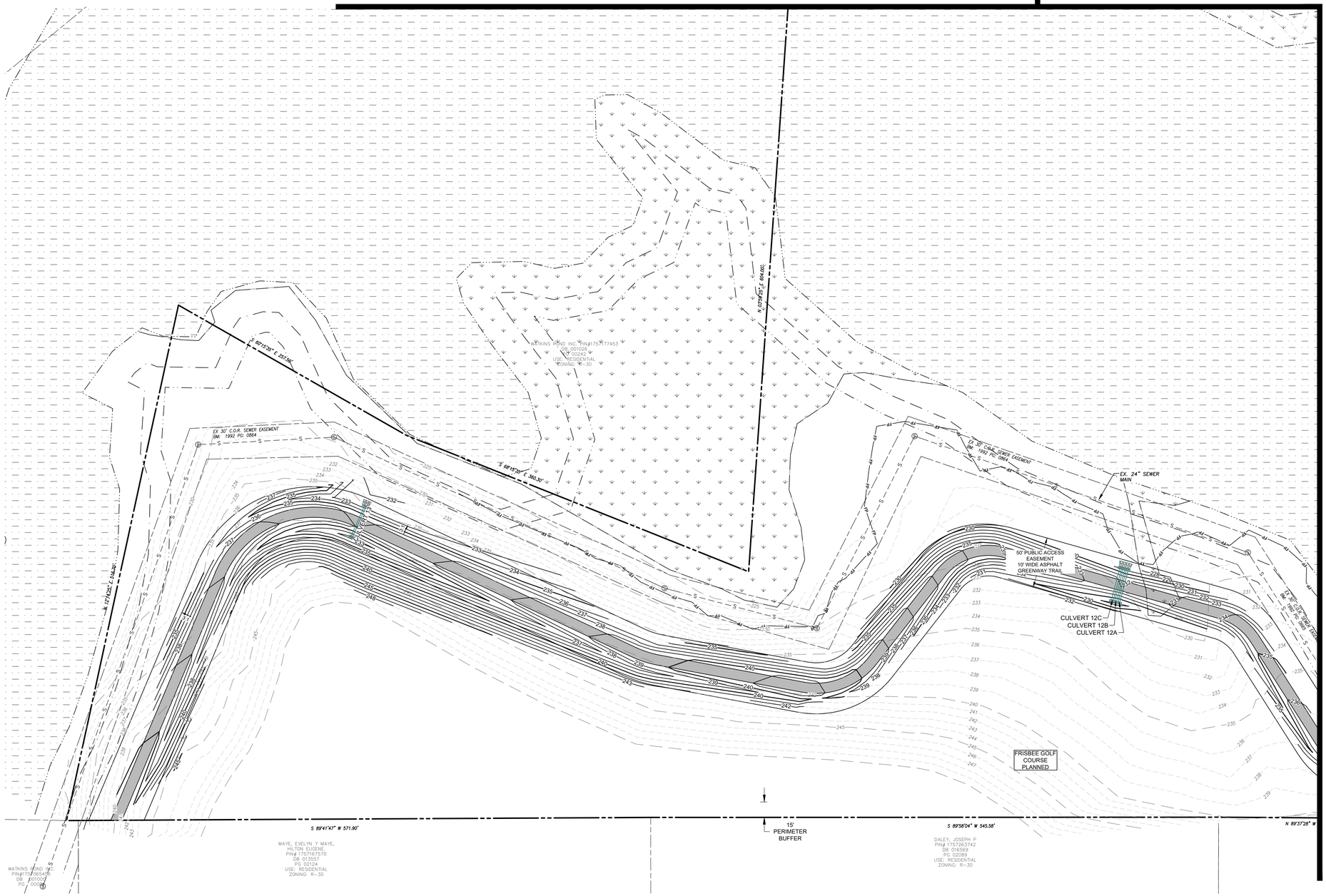
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GRADING PLAN LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED R.O.W.
- PROPOSED LOT LINE
- EXISTING SEWER LINE
- EXISTING SEWER MANHOLE
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- PROPOSED GATE VALVE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- PROPOSED STORM WATER INLET
- PROPOSED STORM PIPE
- PROPOSED RETAINING WALL

STORM PIPE NETWORK NOTES:

1. SEE SHEET #57 "STORM PIPE NETWORK TABLES" FOR PIPE AND STRUCTURE DATA.
2. SEE GREENWAY PLAN & PROFILE SHEET #S 96 - 102 FOR STORM CULVERT PIPE DATA, DETAILS, AND DISSIPATOR PADS.

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)

1 inch = 50 ft

N.C. UNDERGROUND UTILITIES

811 3 DAYS BEFORE DIGGING CALL TOLL FREE 811 or (800)632-4949

A ONE CALL SYSTEM FOR COMMUNITY AND JOB SAFETY

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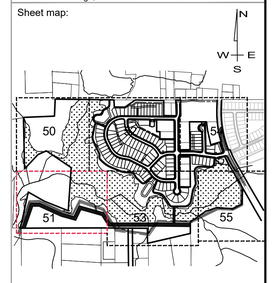
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THE STRONGROCK COMPANIES
305 Church at North Hills Street
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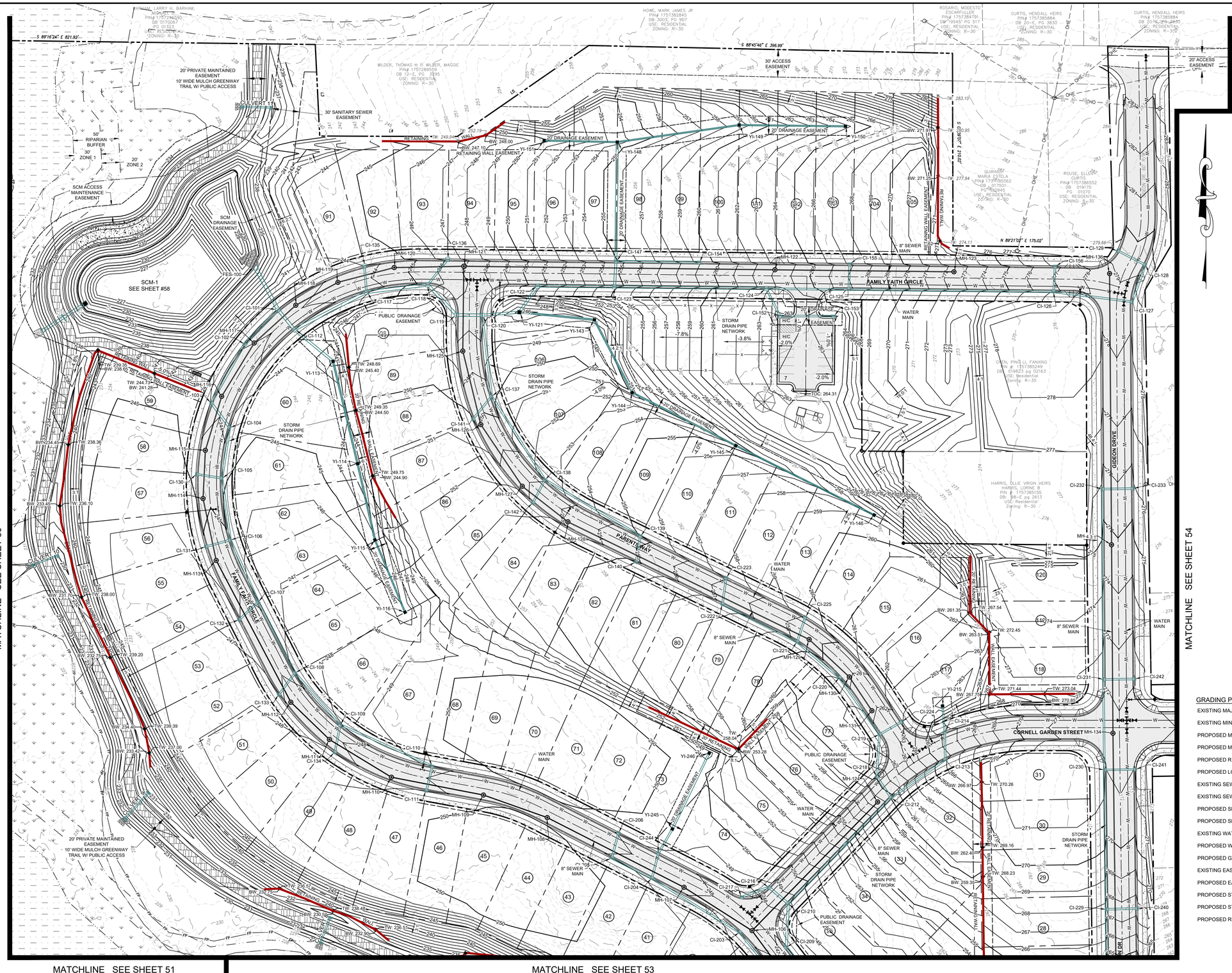
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Sheet Title:

GRADING & DRAINAGE PLAN SHEET 2 OF 6

Sheet #:

51



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GRAPHIC SCALE

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(IN FEET)

1 inch = 50 ft

GRADING PLAN LEGEND

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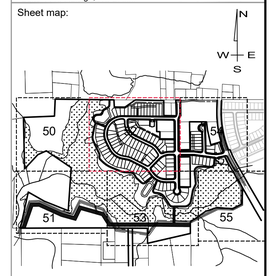
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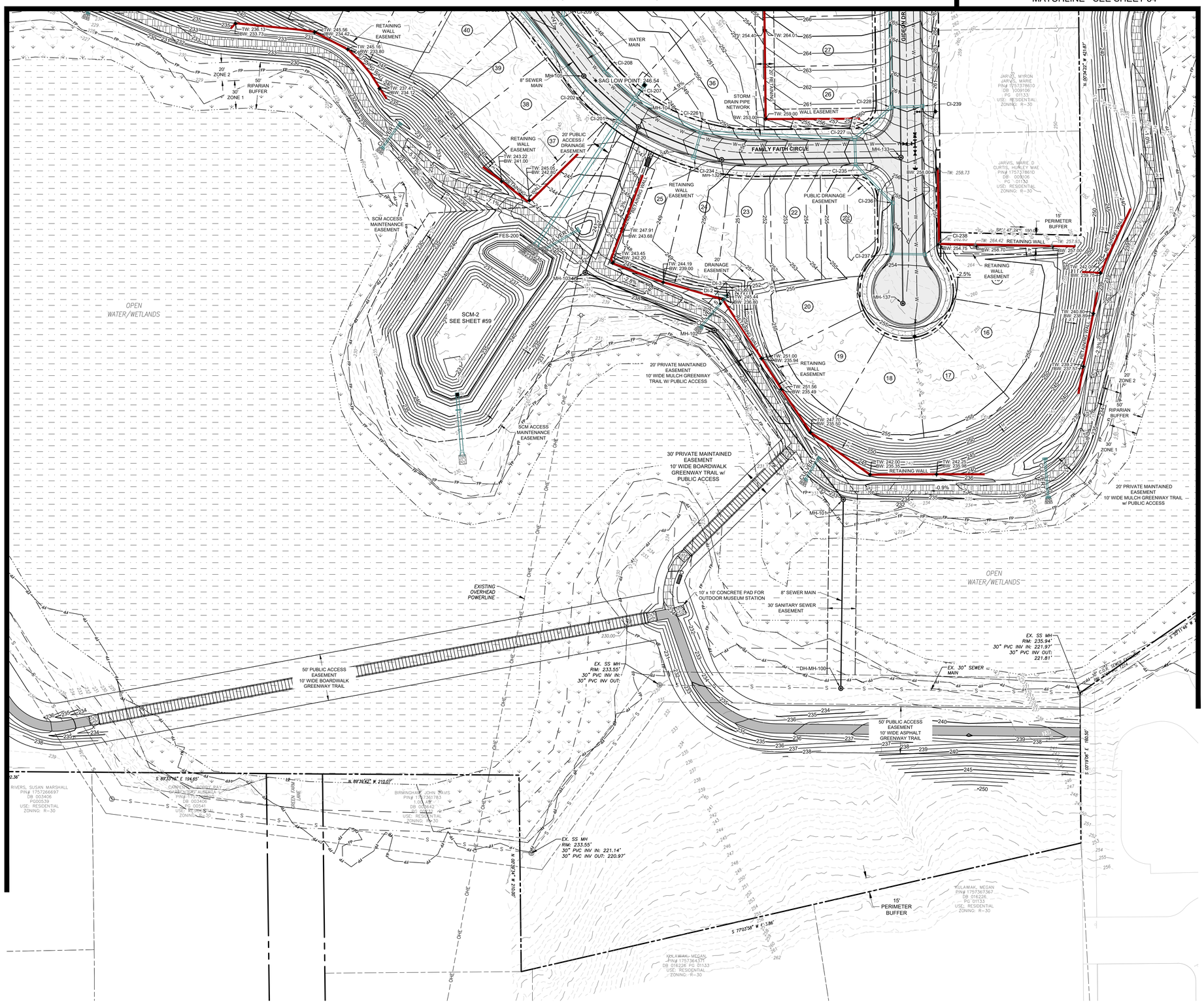
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GRADING & DRAINAGE PLAN SHEET 3 OF 6

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52



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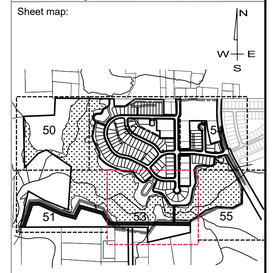
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Rolesville, NC 27571
Phone: 919-554-6517
CID-25-0004 (PSP-24-05)
Formerly known as CID-25-03

Landscape Architect

STRONGROCK
THE STRONGROCK COMPANIES
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information@strongrockengineering.com

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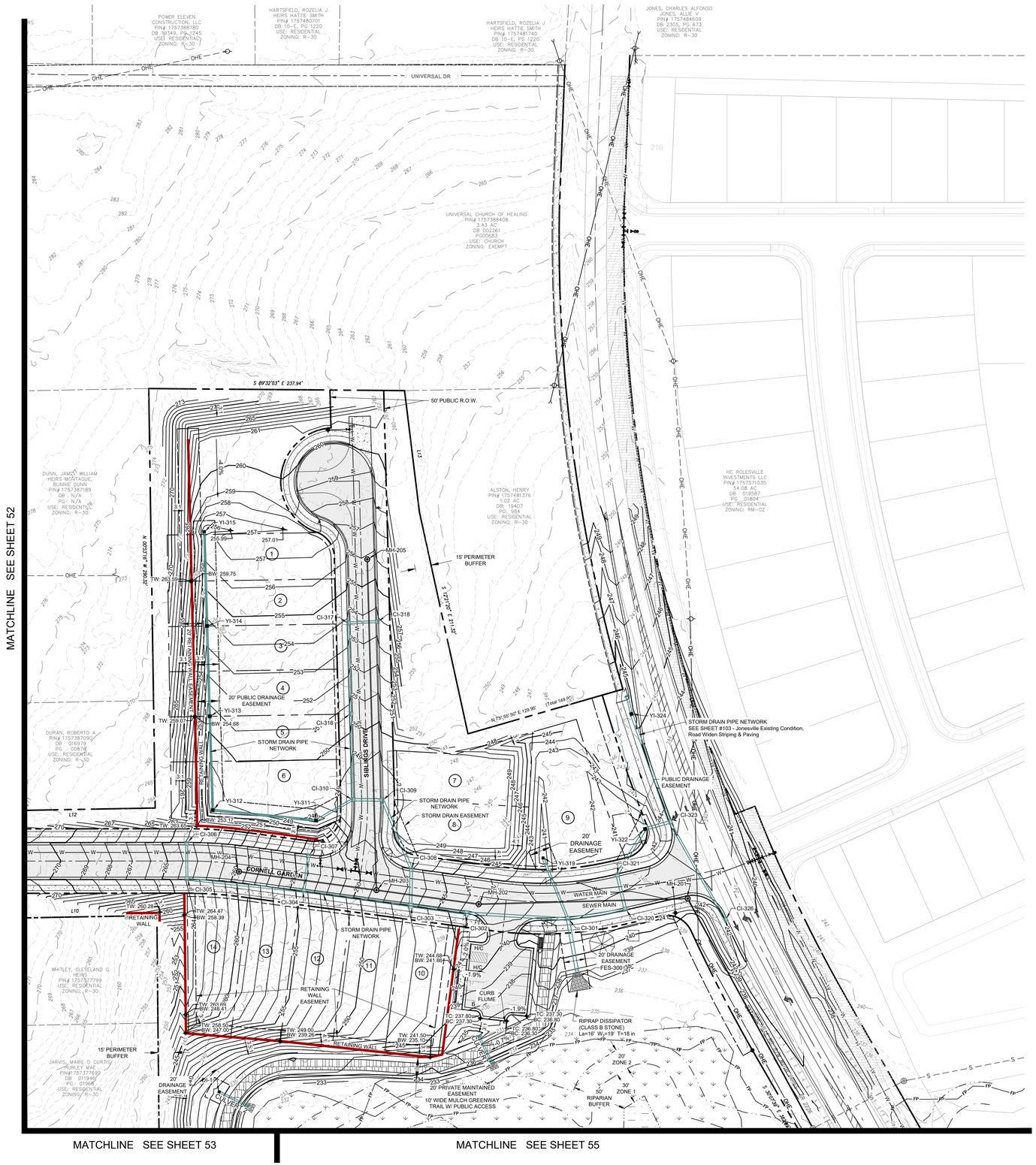
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GRADING & DRAINAGE PLAN SHEET 4 OF 6

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53

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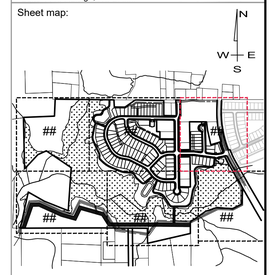
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GRADING & DRAINAGE PLAN SHEET 5 OF 6

Sheet #:

54

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MATCHLINE SEE SHEET 54

MATCHLINE SEE SHEET 53



GRADING PLAN LEGEND

EXISTING MAJOR CONTOUR	
EXISTING MINOR CONTOUR	
PROPOSED MAJOR CONTOUR	
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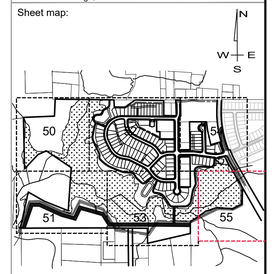
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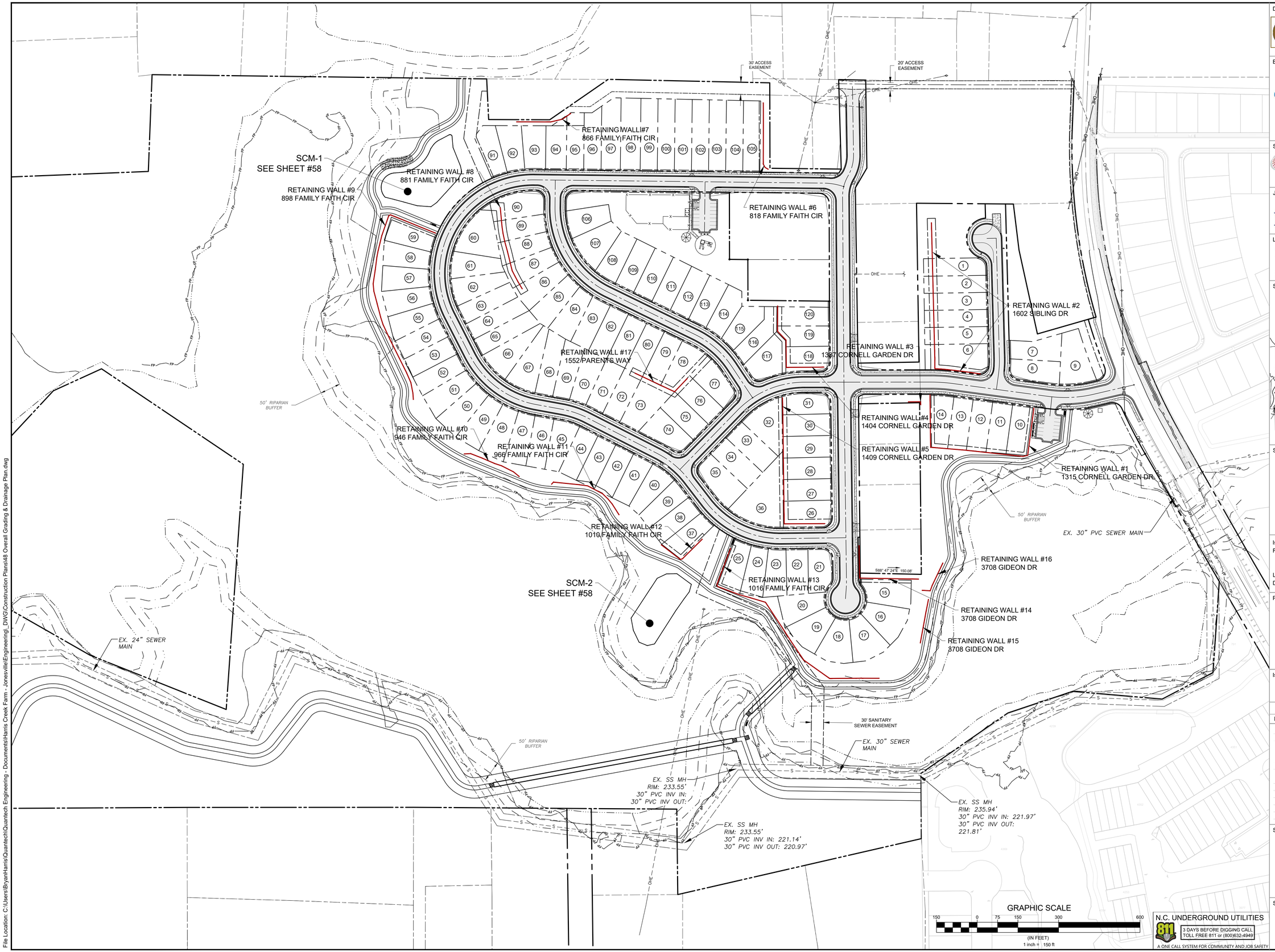
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GRADING & DRAINAGE PLAN SHEET 6 OF 6

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55



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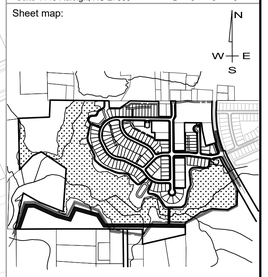
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Sheet Title:

RETAINING WALL IDENTIFICATION SHEET

Sheet #:

56

STORM PIPE NETWORK (SCM-1)

PIPE TABLE			
PIPE NAME	Start Structure	Length-Size-Material-Slope	End Structure
SW Pipe 101	100	55 LF of 36" RCP @ 5.83%	101
SW Pipe 102	101	53 LF of 30" RCP @ 1.34%	102
SW Pipe 103	102	74 LF of 24" RCP @ 1.22%	103
SW Pipe 104	103	34 LF of 24" RCP @ 1.48%	104
SW Pipe 105	104	56 LF of 18" RCP @ 1.00%	105
SW Pipe 106	105	68 LF of 18" RCP @ 1.00%	106
SW Pipe 107	106	75 LF of 18" RCP @ 1.43%	107
SW Pipe 108	107	88 LF of 18" RCP @ 1.15%	108
SW Pipe 109	108	76 LF of 18" RCP @ 1.07%	109
SW Pipe 110	109	111 LF of 18" RCP @ 1.05%	110
SW Pipe 111	110	29 LF of 18" RCP @ 1.21%	111
SW Pipe 112	101	29 LF of 30" RCP @ 1.00%	112
SW Pipe 113	112	55 LF of 24" RCP @ 1.01%	113
SW Pipe 114	113	115 LF of 18" HDPE DW @ 1.00%	114
SW Pipe 115	114	86 LF of 18" HDPE DW @ 1.05%	115
SW Pipe 116	115	86 LF of 15" HDPE DW @ 1.05%	116
SW Pipe 117	112	89 LF of 30" RCP @ 1.02%	117
SW Pipe 118	117	68 LF of 30" RCP @ 1.04%	118
SW Pipe 119	118	46 LF of 30" RCP @ 1.03%	119
SW Pipe 120	119	29 LF of 30" RCP @ 1.00%	120
SW Pipe 121	120	41 LF of 24" RCP @ 1.11%	121
SW Pipe 122	121	35 LF of 24" RCP @ 1.01%	122
SW Pipe 123	122	85 LF of 24" RCP @ 1.07%	123
SW Pipe 124	123	166 LF of 24" RCP @ 5.62%	124
SW Pipe 125	124	91 LF of 18" RCP @ 7.33%	125
SW Pipe 126	125	224 LF of 18" RCP @ 4.43%	126
SW Pipe 127	126	87 LF of 18" RCP @ 2.66%	127
SW Pipe 128	127	43 LF of 18" RCP @ 1.40%	128
SW Pipe 129	128	35 LF of 18" RCP @ 1.47%	129
SW Pipe 130	105	29 LF of 18" RCP @ 1.79%	130
SW Pipe 131	106	29 LF of 18" RCP @ 1.00%	131
SW Pipe 132	107	30 LF of 18" RCP @ 1.00%	132
SW Pipe 133	108	31 LF of 18" RCP @ 1.00%	133
SW Pipe 134	109	32 LF of 18" RCP @ 1.92%	134
SW Pipe 135	117	29 LF of 18" RCP @ 1.05%	135
SW Pipe 136	118	36 LF of 18" RCP @ 1.14%	136
SW Pipe 137	120	89 LF of 18" RCP @ 1.69%	137
SW Pipe 138	137	109 LF of 18" RCP @ 2.31%	138
SW Pipe 139	138	121 LF of 18" RCP @ 2.81%	139
SW Pipe 140	139	30 LF of 18" RCP @ 4.79%	140
SW Pipe 141	137	33 LF of 18" RCP @ 1.00%	141
SW Pipe 142	138	29 LF of 18" RCP @ 2.42%	142
SW Pipe 143	121	83 LF of 18" HDPE DW @ 1.94%	143
SW Pipe 144	143	90 LF of 18" HDPE DW @ 2.57%	144
SW Pipe 145	144	127 LF of 15" HDPE DW @ 3.07%	145
SW Pipe 146	145	169 LF of 15" HDPE DW @ 2.31%	146
SW Pipe 147	123	29 LF of 24" RCP @ 1.07%	147
SW Pipe 148	147	131 LF of 24" RCP @ 1.74%	148
SW Pipe 149	148	135 LF of 15" HDPE DW @ 3.35%	149
SW Pipe 150	149	116 LF of 15" HDPE DW @ 4.74%	150
SW Pipe 151	148	80 LF of 15" HDPE DW @ 1.00%	151
SW Pipe 152	124	34 LF of 18" RCP @ 1.50%	152
SW Pipe 153	152	59 LF of 18" RCP @ 1.20%	153
SW Pipe 154	147	91 LF of 18" RCP @ 1.00%	154
SW Pipe 155	125	29 LF of 18" RCP @ 1.07%	155
SW Pipe 156	126	29 LF of 18" RCP @ 1.43%	156

STRUCTURE TABLE				
STRUCTURE #	TYPE	RIM ELEV	INV IN	INV OUT
100	FES	INV : 236.47	233.05' From Strc #: 101	
101	CI	RIM: 243.16	236.30' From Strc #: 102 237.72' From Strc #: 112	236.20'
102	CI	RIM: 243.41	237.20' From Strc #: 103	237.00'
103	CI	RIM: 243.86	238.20' From Strc #: 104	238.10'
104	CI	RIM: 244.28	238.80' From Strc #: 105	238.70'
105	CI	RIM: 244.88	239.46' From Strc #: 106 240.10' From Strc #: 130	239.36'
106	CI	RIM: 245.61	240.24' From Strc #: 107 240.24' From Strc #: 131	240.14'
107	CI	RIM: 246.37	241.40' From Strc #: 108 241.40' From Strc #: 132	241.30'
108	CI	RIM: 247.25	242.50' From Strc #: 133 242.50' From Strc #: 109	242.40'
109	CI	RIM: 248.06	243.40' From Strc #: 134 243.40' From Strc #: 110	243.30'
110	CI	RIM: 247.53	244.66' From Strc #: 111	244.56'
111	CI	RIM: 249.21		245.00'
112	CI	RIM: 243.05	238.10' From Strc #: 117 238.10' From Strc #: 113	238.00'
113	YI	RIM: 242.05	238.95' From Strc #: 114	238.65'
114	YI	RIM: 243.02	240.20' From Strc #: 115	240.10'
115	YI	RIM: 244.12	241.20' From Strc #: 116	241.10'
116	YI	RIM: 246.25		242.10'
117	CI	RIM: 244.03	239.25' From Strc #: 118 239.60' From Strc #: 135	239.00'
118	CI	RIM: 245.81	240.05' From Strc #: 119 241.70' From Strc #: 136	239.95'
119	CI	RIM: 247.84	240.62' From Strc #: 120	240.52'
120	CI	RIM: 247.84	241.00' From Strc #: 121 241.90' From Strc #: 137	240.90'
121	YI	RIM: 245.65	241.55' From Strc #: 122 242.00' From Strc #: 143	241.45'
122	CI	RIM: 250.95	242.00' From Strc #: 123	241.90'
123	CI	RIM: 254.98	243.00' From Strc #: 147 245.70' From Strc #: 124	242.90'
124	CI	RIM: 262.93	255.50' From Strc #: 125 257.20' From Strc #: 152	255.00'
125	CI	RIM: 267.26	262.50' From Strc #: 155 262.20' From Strc #: 126	262.10'
126	CI	RIM: 277.24	272.20' From Strc #: 127 272.70' From Strc #: 156	272.10'
127	CI	RIM: 278.93	274.60' From Strc #: 128	274.50'
128	CI	RIM: 279.82	275.30' From Strc #: 129	275.20'
129	CI	RIM: 279.83		275.80'
130	CI	RIM: 244.85		240.61'
131	CI	RIM: 245.60		240.52'
132	CI	RIM: 246.46		241.69'
133	CI	RIM: 247.37		242.80'
134	CI	RIM: 248.19		244.00'
135	CI	RIM: 244.12		239.90'
136	CI	RIM: 246.58		242.10'
137	CI	RIM: 249.88	243.50' From Strc #: 141 243.50' From Strc #: 138	243.40'
138	CI	RIM: 252.42	246.10' From Strc #: 139 246.80' From Strc #: 142	246.00'
139	CI	RIM: 255.16	249.60' From Strc #: 140	249.50'
140	CI	RIM: 255.34		251.00'
141	CI	RIM: 250.14		243.83'
142	CI	RIM: 252.57		247.50'
143	YI	RIM: 247.25	243.70' From Strc #: 144	243.60'
144	YI	RIM: 250.41	246.10' From Strc #: 145	246.00'
145	YI	RIM: 254.36	250.10' From Strc #: 146	250.00'
146	YI	RIM: 258.12		254.00'
147	CI	RIM: 255.04	243.50' From Strc #: 148 250.20' From Strc #: 154	243.30'
148	YI	RIM: 253.51	250.00' From Strc #: 149 245.96' From Strc #: 151	245.76'
149	YI	RIM: 258.50	255.00' From Strc #: 150	254.50'
150	YI	RIM: 263.54		260.50'
151	YI	RIM: 249.75		246.75'
152	CI	RIM: 262.88	257.80' From Strc #: 153	257.70'
153	CI	RIM: 262.89		258.50'
154	CI	RIM: 259.30		251.11'
155	CI	RIM: 267.28		262.80'
156	CI	RIM: 277.27		273.10'

STORM PIPE NETWORK (SCM-2)

PIPE TABLE			
PIPE NAME	Start Structure	Length-Size-Material-Slope	End Structure
SW Pipe-201	200	162 LF of 36" RCP @ 1.76%	201
SW Pipe-202	201	49 LF of 18" RCP @ 1.03%	202
SW Pipe-203	202	120 LF of 18" RCP @ 1.17%	203
SW Pipe-204	203	113 LF of 18" RCP @ 1.07%	204
SW Pipe-205	204	50 LF of 18" RCP @ 1.02%	205
SW Pipe-206	205	29 LF of 18" RCP @ 1.05%	206
SW Pipe-207	201	29 LF of 30" RCP @ 1.07%	207
SW Pipe-208	207	44 LF of 24" RCP @ 1.16%	208
SW Pipe-209	208	74 LF of 24" RCP @ 1.09%	209
SW Pipe-210	209	48 LF of 24" RCP @ 1.05%	210
SW Pipe-211	210	90 LF of 24" RCP @ 2.78%	211
SW Pipe-212	211	72 LF of 24" RCP @ 2.68%	212
SW Pipe-213	212	73 LF of 18" RCP @ 1.94%	213
SW Pipe-214	213	31 LF of 18" RCP @ 0.99%	214
SW Pipe-215	214	29 LF of 15" RCP @ 1.05%	215
SW Pipe-216	210	29 LF of 24" RCP @ 1.07%	216
SW Pipe-217	216	32 LF of 18" RCP @ 1.29%	217
SW Pipe-218	212	29 LF of 18" RCP @ 1.05%	218
SW Pipe-219	218	46 LF of 18" RCP @ 1.10%	219
SW Pipe-220	219	76 LF of 18" RCP @ 1.06%	220
SW Pipe-221	220	61 LF of 18" RCP @ 1.16%	221
SW Pipe-222	221	92 LF of 18" RCP @ 1.04%	222
SW Pipe-223	222	30 LF of 18" RCP @ 1.19%	223
SW Pipe-224	219	29 LF of 18" RCP @ 1.06%	224
SW Pipe-225	221	29 LF of 18" RCP @ 1.04%	225
SW Pipe-226	207	80 LF of 30" RCP @ 2.77%	226
SW Pipe-227	226	165 LF of 30" RCP @ 2.61%	227
SW Pipe-228	227	52 LF of 24" RCP @ 7.22%	228
SW Pipe-229	228	138 LF of 24" RCP @ 3.49%	229
SW Pipe-230	229	153 LF of 24" RCP @ 1.12%	230
SW Pipe-231	230	99 LF of 18" RCP @ 1.11%	231
SW Pipe-232	231	208 LF of 18" RCP @ 1.54%	232
SW Pipe-233	232	35 LF of 18" RCP @ 1.18%	233
SW Pipe-234	226	29 LF of 18" RCP @ 1.07%	234
SW Pipe-235	227	29 LF of 18" RCP @ 1.43%	235
SW Pipe-236	235	57 LF of 18" RCP @ 1.24%	236
SW Pipe-237	236	55 LF of 18" RCP @ 1.00%	237
SW Pipe-238	237	37 LF of 15" RCP @ 1.00%	238
SW Pipe-239	228	35 LF of 18" RCP @ 1.76%	239
SW Pipe-240	229	35 LF of 18" RCP @ 1.18%	240
SW Pipe-241	230	35 LF of 15" RCP @ 1.17%	241
SW Pipe-242	231	35 LF of 18" RCP @ 1.17%	242
SW Pipe-243	207	18 LF of 18" RCP @ 1.11%	243
SW Pipe-244	204	29 LF of 18" RCP @ 1.04%	244
SW Pipe-245	244	31 LF of 18" RCP @ 1.16%	245
SW Pipe-246	245	92 LF of 18" RCP @ 1.03%	246

STRUCTURE TABLE				
STRUCTURE #	TYPE	RIM ELEV	INV IN	INV OUT
200	FES	INV : 240.92	237.55' From Strc #: 201	
201	CI	RIM: 246.99	240.60' From Strc #: 202 240.60' From Strc #: 207	240.40'
202	CI	RIM: 246.74	241.20' From Strc #: 203	241.10'
203	CI	RIM: 247.72	242.70' From Strc #: 204	242.60'
204	CI	RIM: 248.90	244.00' From Strc #: 244 244.00' From Strc #: 205	243.90'
205	CI	RIM: 249.37	244.70' From Strc #: 206	244.50'
206	CI	RIM: 249.43		245.00'
207	CI	RIM: 246.98	243.00' From Strc #: 243 241.10' From Strc #: 208 241.30' From Strc #: 226	240.90'
208	CI	RIM: 246.74	241.70' From Strc #: 209	241.60'
209	CI	RIM: 247.26	242.60' From Strc #: 210	242.50'
210	CI	RIM: 248.94	244.70' From Strc #: 211 243.20' From Strc #: 216	243.10'
211	CI	RIM: 254.00	247.29' From Strc #: 212	247.19'
212	CI	RIM: 260.15	256.50' From Strc #: 213 249.40' From Strc #: 218	249.20'
213	CI	RIM: 265.98	258.00' From Strc #: 214	257.90'
214	CI	RIM: 266.70	258.60' From Strc #: 215	258.30'
215	YI	RIM: 262.22		258.90'
216	CI	RIM: 248.86	243.60' From Strc #: 217	243.50'
217	CI	RIM: 247.95		244.00'
218	CI	RIM: 260.60	249.80' From Strc #: 219	249.70'
219	CI	RIM: 262.78	258.70' From Strc #: 224 250.40' From Strc #: 220	250.30'
220	CI	RIM: 261.07	251.30' From Strc #: 221	251.20'
221	CI	RIM: 259.66	252.10' From Strc #: 222 255.20' From Strc #: 225	252.00'
222	CI	RIM: 257.63	253.15' From Strc #: 223	253.05'
223	CI	RIM: 257.43		253.50'
224	CI	RIM: 262.82		259.00'
225	CI	RIM: 259.51		255.50'
226	CI	RIM: 248.63	243.60' From Strc #: 227 243.60' From Strc #: 234	243.50'
227	CI	RIM: 255.71	251.20' From Strc #: 228 248.00' From Strc #: 235	247.90'
228	CI	RIM: 260.48	256.00' From Strc #: 229 256.00' From Strc #: 239	254.90'
229	CI	RIM: 267.89	263.40' From Strc #: 240 261.50' From Strc #: 230	260.80'
230	CI	RIM: 271.50	267.20' From Strc #: 241 263.50' From Strc #: 231	263.20'
231	CI	RIM: 272.67	268.10' From Strc #: 242 268.10' From Strc #: 232	264.60'
232	CI	RIM: 276.09	271.40' From Strc #: 233	271.30'
233	CI	RIM: 276.09		271.80'
234	CI	RIM: 248.63		243.90'
235	CI	RIM: 255.74	248.50' From Strc #: 236	248.40'
236	CI	RIM: 255.12	249.30' From Strc #: 237	249.20'
237	CI	RIM: 254.15	249.94' From Strc #: 238	249.84'
238	CI	RIM: 254.15		250.31'
239	CI	RIM: 260.52		256.60'
240	CI	RIM: 267.89		263.80'
241	CI	RIM: 271.50		267.60'
242	CI	RIM: 272.67		268.50'
243	CI	RIM: 247.48		243.20'
244	CI	RIM: 248.95	244.40' From Strc #: 245	244.30'
245	YI	RIM: 249.46	244.85' From Strc #: 246	244.75'
246	YI	RIM: 248.64		245.80'

STORM PIPE NETWORK (EAST)

PIPE TABLE			
PIPE NAME	Start Structure	Length-Size-Material-Slope	End Structure
SW Pipe 301	300	55 LF of 30" RCP @ 0.70%	301
SW Pipe 302	301	95 LF of 24" RCP @ 2.12%	302
SW Pipe 303	302	53 LF of 24" RCP @ 4.75%	303
SW Pipe 304	303	101 LF of 18" RCP @ 6.89%	304
SW Pipe 305	304	110 LF of 18" RCP @ 7.68%	305
SW Pipe 306	305	35 LF of 18" RCP @ 1.17%	306
SW Pipe 307	304	35 LF of 18" RCP @ 1.17%	307
SW Pipe 308	303	35 LF of 24" RCP @ 1.75%	308
SW Pipe 309	308	70 LF of 24" RCP @ 1.59%	309
SW Pipe 310	309	29 LF of 24" RCP @ 1.07%	310
SW Pipe 311	310	40 LF of 18" RCP @ 1.03%	311
SW Pipe 312	311	97 LF of 18" HDPE DW @ 1.04%	312
SW Pipe 313	312	88 LF of 15" HDPE DW @ 2.40%	313
SW Pipe 314	313	85 LF of 15" HDPE DW @ 3.81%	314
SW Pipe 315	314	88 LF of 15" HDPE DW @ 2.28%	315
SW Pipe 316	310	80 LF of 18" RCP @ 3.13%	316
SW Pipe 317	316	85 LF of 18" RCP @ 2.60%	317
SW Pipe 318	317	29 LF of 18" RCP @ 2.85%	318
SW Pipe 319	301	62 LF of 18" RCP @ 1.30%	319
SW Pipe 320	301	55 LF of 24" RCP @ 0.50%	320
SW Pipe 321	320	34 LF of 24" RCP @ 0.50%	321
SW Pipe 322	321	50 LF of 24" RCP @ 0.75%	322
SW Pipe 323	322	24 LF of 24" RCP @ 1.33%	323
SW Pipe 324	323	107 LF of 24" RCP @ 3.20%	324
SW Pipe 325	324	18 LF of 18" RCP @ 4.09%	325
SW Pipe 326	323	105 LF of 18" RCP @ 0.72%	326

STRUCTURE TABLE				
STRUCTURE #	TYPE	RIM ELEV	INV IN	INV OUT
300	FES	INV : 237.67	235.34' From Strc #: 301	
301	CI	RIM: 241.34	236.90' From Strc #: 302 235.82' From Strc #: 320 237.00' From Strc #: 319	235.72'
302	CI	RIM: 244.05	239.00' From Strc #: 303	238.90'
303	CI	RIM: 246.75	241.60' From Strc #: 308 243.00' From Strc #: 304	241.50'
304	CI	RIM: 254.32	249.90' From Strc #: 307 250.60' From Strc #: 305	249.90'
305	CI	RIM: 263.91	259.50' From Strc #: 306	259.00'
306	CI	RIM: 263.91		259.90'
307	CI	RIM: 254.32		250.30'
308	CI	RIM: 246.98	242.30' From Strc #: 309	242.20'
309	CI	RIM: 248.74	243.50' From Strc #: 310	243.40'
310	CI	RIM: 248.74	244.00' From Strc #: 316 243.90' From Strc #: 311	243.80'
311	YI	RIM: 247.47	244.40' From Strc #: 312	244.30'
312	YI	RIM: 248.06	245.50' From Strc #: 313	245.40'
313	YI	RIM: 250.42	247.70' From Strc #: 314	247.60'
314	YI	RIM: 253.58	251.00' From Strc #: 315	250.90'
315	YI	RIM: 255.46		253.00'
316	CI	RIM: 250.76	246.70' From Strc #: 317	246.50'
317	CI	RIM: 253.94	249.10' From Strc #: 318	248.90'
318	CI	RIM: 253.97		249.90'
319	YI	RIM: 240.10		237.80'
320	CI	RIM: 241.17	236.19' From Strc #: 321	236.09'
321	CI	RIM: 241.17	236.46' From Strc #: 322	236.36'
322	YI	RIM: 240.60	236.93' From Strc #: 323	236.83'
323	CI	RIM: 243.70	237.35' From Strc #: 326 237.35' From Strc #: 324	237.25'
324	YI	RIM: 244.74	242.00' From Strc #: 325	240.76'
325	FES	RIM: 244.51		242.72'
326	CI	RIM: 242.00		238.10'

STORM PIPE NETWORK (GREENWAY CULVERTS)

PIPE TABLE	
PIPE NAME	Length-Size-Material-Slope
CULVERT 1	29 LF of 15" RCP @ 1.31%
CULVERT 2	30 LF of 15" RCP @ 1.10%
CULVERT 3	44 LF of 15" RCP @ 1.58%
CULVERT 4	30 LF of 15" RCP @ 1.10%
CULVERT 5	34 LF of 15" RCP @ 1.50%
CULVERT 5A	12 LF of 15" RCP @ 1.71%
CULVERT 6	40 LF of 15" RCP @ 1.21%
CULVERT 7	34 LF of 15" RCP @ 1.27%
CULVERT 8	32 LF of 15" RCP @ 2.09%
CULVERT 9	41 LF of 15" RCP @ 2.42%
CULVERT 10	32 LF of 15" RCP @ 1.11%
CULVERT 11	34 LF of 15" RCP @ 1.03%
CULVERT 12A	36 LF of 18" Reinforced Concrete Pipe @ 1.13%
CULVERT 12B	36 LF of 18" Reinforced Concrete Pipe @ 1.13%
CULVERT 12C	36 LF of 18" Reinforced Concrete Pipe @ 1.13%
CULVERT 13	34 LF of 15" RCP @ 1.12%

STRUCTURE TABLE				
STRUCTURE #	TYPE	RIM ELEV	INV IN	INV OUT
1	DI	RIM = 235.20		233.25'
2	DI	RIM = 236.10	234.10'	234.10'
3	DI	RIM = 243.60		234.30'

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)

1 inch = 50 ft

N.C. UNDERGROUND UTILITIES

811 3 DAYS BEFORE DIGGING CALL TOLL FREE 811 or (800)632-4949

A ONE CALL SYSTEM FOR COMMUNITY AND JOB SAFETY

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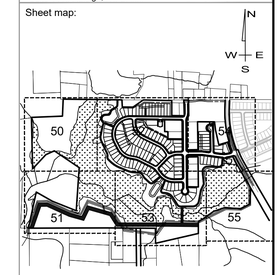
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Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
CID-25-0004 (PSP-24-05)
Formally known as CID-25-03

Landscape Architect

STRONGROCK
THE STRONGROCK COMPANIES
305 Church at North Hills Street
Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

Sheet map:



Seal:

NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A. HARRIS

Bryan Harris

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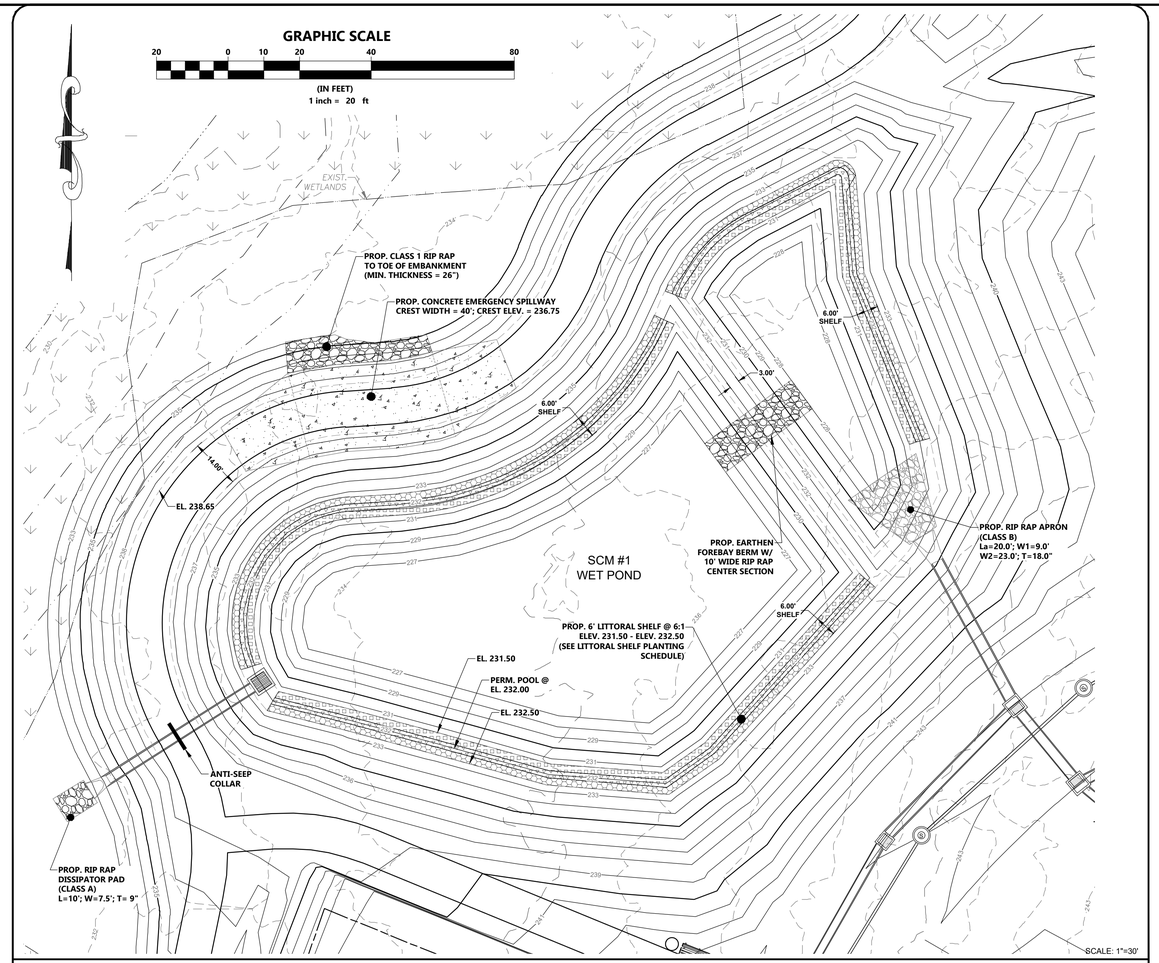
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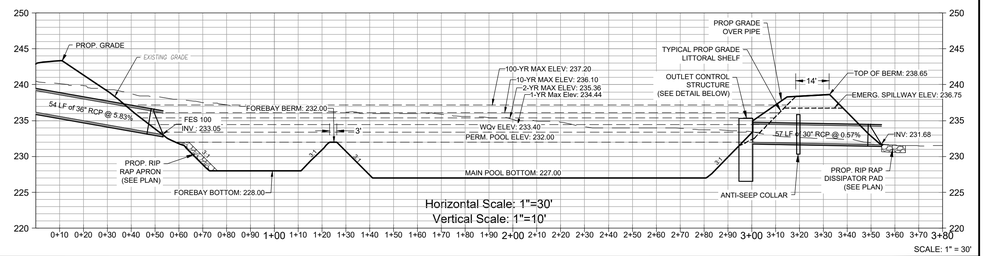
STORM PIPE NETWORK TABLES

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57



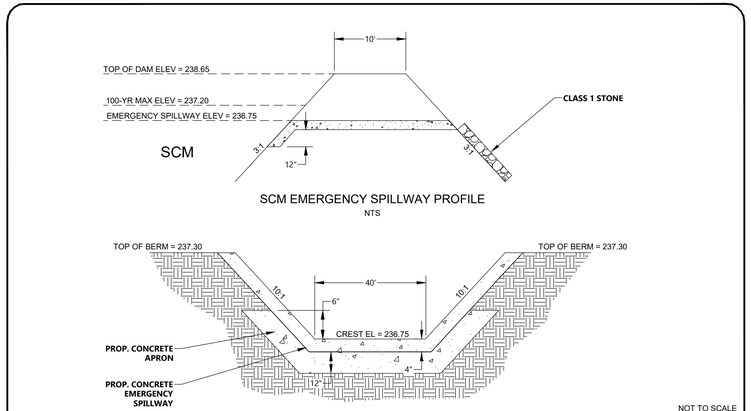
SCM 1 - WET POND PLAN VIEW



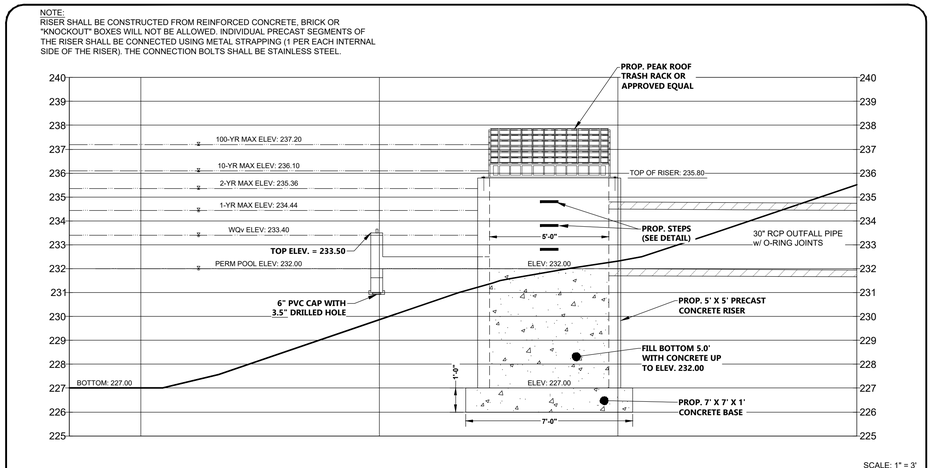
SCM 1 - WET POND SECTION

LITTORAL SHELF PLANTING SCHEDULE

ELEV. RANGE	SHELF AREA	SYMBOL	BOTANICAL NAME	COMMON NAME	QUANTITY	SPACING
231.50 - 231.83	1,020 sf		ASCLEPIAS INCARNATA	SWAMP MILKWEED	255	24"-36" O.C.
231.83 - 232.17	1,042 sf		CAREX TENERA	QUILL SEDGE	265	24"-36" O.C.
232.17 - 232.50	1,063 sf		CHELONE GLABRA	WHITE TURTLEHEAD	270	24"-36" O.C.



SCM 1 - EMERGENCY SPILLWAY



SCM 1 - OUTLET CONTROL STRUCTURE

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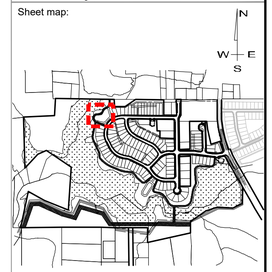
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Surveyor
BCSC BATEMAN CIVIL SURVEY COMPANY
Bateman Civil Survey Company
2524 Reliance Avenue
Apex, NC 27539
919-557-1080 ext 109
www.batemancivilsurvey.com

Jurisdiction / Municipality
Rolesville Genuine Community • Capital Connection Est. 1837
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
CID-25-0004 (PSP-24-05)
Expires: August 14, 2026

Landscape Architect
STRONGROCK
THE STRONGROCK COMPANIES
305 Church at North Hills Street Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

Sheet map:



Seal:

NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A. HARRIS
Bryan Harris
Digitally signed by Bryan Harris
DN: CN=Bryan Harris, O=Quantech Engineering LLP, OU=Bryan Harris
Date: 2026.11.04 11:52:15-05'00'

Issued / Print Date: 2026-July-27 (10:48)
File Name: 58 SCM 1 Plan.dwg

Last Saved by: Bryan
Drawn by: TAN

Project:

HARRIS CREEK FARMS

CID 25-0004 (FKA - CID-25-03)

Issued for:
FINAL DRAWING FOR CONSTRUCTION

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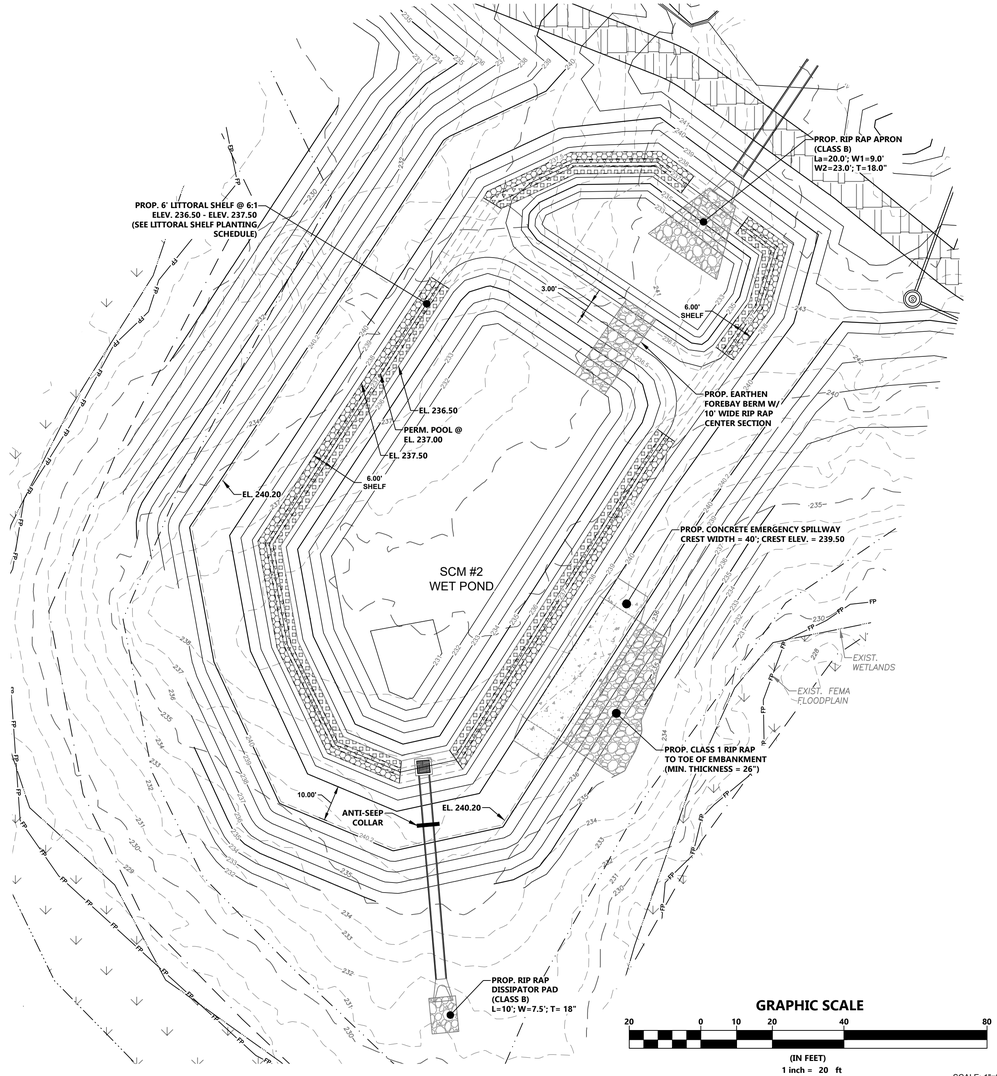
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SCM 1 PLAN

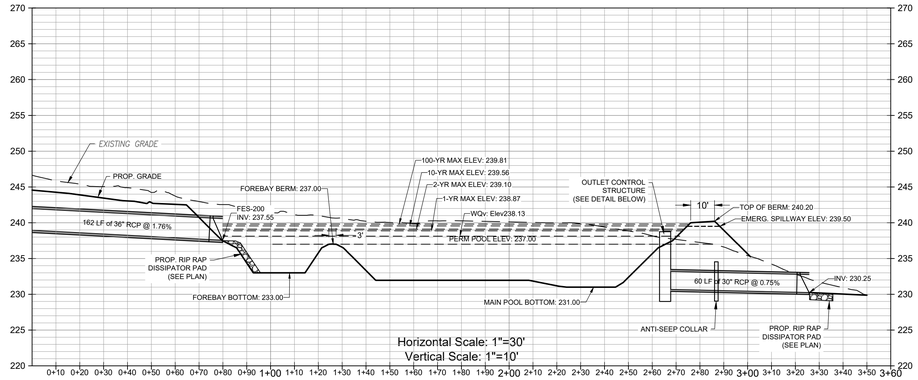
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SCALE: 1"=20'

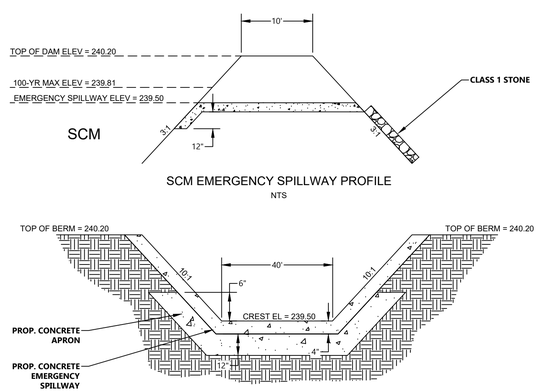
SCM 2 - WET POND PLAN VIEW



SCALE: 1" = 30'

SCM 2 - WET POND SECTION

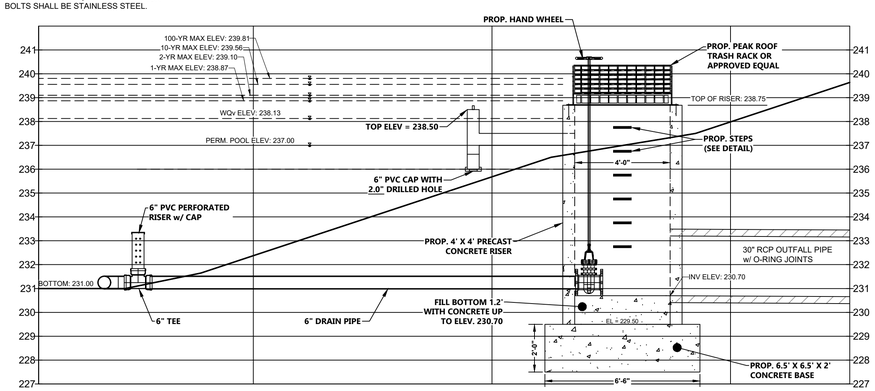
LITTORAL SHELF PLANTING SCHEDULE						
ELEV. RANGE	SHELF AREA	SYMBOL	BOTANICAL NAME	COMMON NAME	QUANTITY	SPACING
236.50 - 236.83	696 sf		ASCLEPIAS INCARNATA	SWAMP MILKWEED	175	24"-36" O.C.
236.83 - 237.17	723 sf		CAREX TENERA	QUILL SEDGE	185	24"-36" O.C.
237.17 - 237.50	750 sf		CHELONE GLABRA	WHITE TURTLEHEAD	190	24"-36" O.C.



NOT TO SCALE

SCM 2 - EMERGENCY SPILLWAY

NOTE:
RISER SHALL BE CONSTRUCTED FROM REINFORCED CONCRETE, BRICK OR "KNOCKOUT" BOXES WILL NOT BE ALLOWED. INDIVIDUAL PRECAST SEGMENTS OF THE RISER SHALL BE CONNECTED USING METAL STRAPPING (1 PER EACH INTERNAL SIDE OF THE RISER). THE CONNECTION BOLTS SHALL BE STAINLESS STEEL.



SCALE: 1" = 3'

SCM 2 - OUTLET CONTROL STRUCTURE

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10030 Green Level Church Rd, Suite 802 #149: Cary, NC 27519

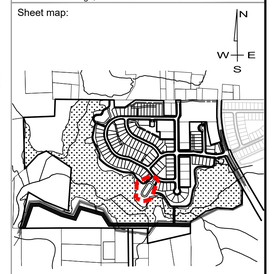
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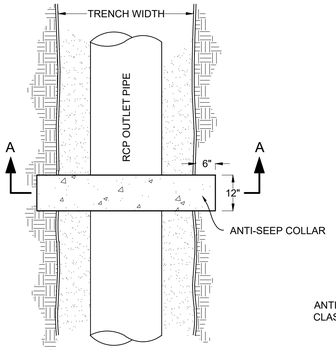
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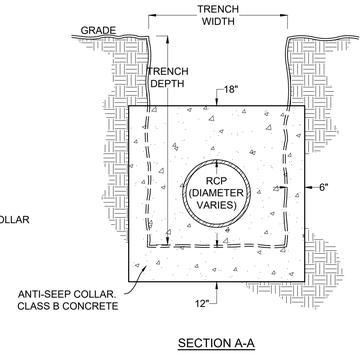
SCM 2 PLAN

Sheet #:

59



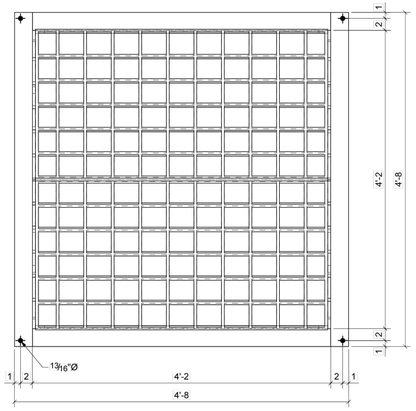
PLAN VIEW

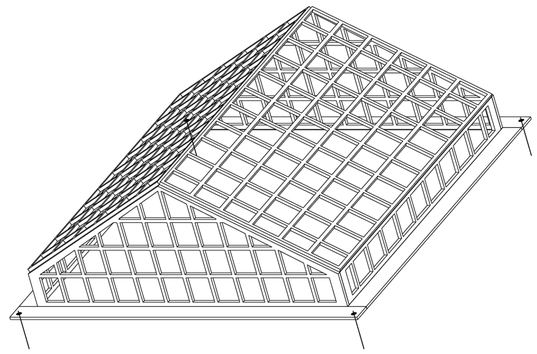


SECTION A-A

NOT TO SCALE

ANTI-SEEP COLLAR





MADE IN THE U.S.A.

AVAILABLE MATERIALS:
~~MILD STEEL (NO FINISH) - WGT: 243.8 lbs.~~
~~MILD STEEL (GALVANIZED) - WGT: 249.6 lbs.~~
STAINLESS STEEL - WGT: 243.8 lbs.
ALUMINUM - WGT: 82.3 lbs.

CUSTOM SIZES AVAILABLE

AVAILABLE UPON REQUEST WITH:
ACCESS PORT
ANTI-VORTEX PLATES

TRASHRACKS.com
101 IRONWOOD ROAD
MIDDLESBORO, KY 40965
PH: (606) 248-5560
FAX: (606) 248-6308
JRHOE.COM

TITLE:
LPK-4848
48"x48" PEAKED ROOF TRASH RACK

SIZE: B | DWG. NO.: 369231 | REV.: 0 | SHEET 1 / 1

NOT TO SCALE

TRASH RACK

SCM NOTES:

EMBANKMENTS

1. ALL EARTHEN FILLS SHALL BE CLEARED, GRUBBED AND STRIPPED OF ALL VEGETATIVE MATERIAL, TOPSOIL, AND ORGANIC MATTER PRIOR TO CONSTRUCTION.
2. A CUTOFF TRENCH (KEY TRENCH) OF A MINIMUM WIDTH OF FIVE FEET (5'), CENTERED ON THE CENTERLINE OF THE DAM, SHALL BE INCORPORATED. THE CUTOFF TRENCH SHALL EXTEND TO A MINIMUM DEPTH OF TWO FEET (2'), HOWEVER IN ALL CASES IT SHALL EXTEND INTO SOILS SUITABLE FOR THE EMBANKMENT FOUNDATION.
3. SOIL MATERIALS USED FOR EARTH FILL WHICH ARE CONSIDERED PERMEABLE OR WHICH EXHIBIT SIGNIFICANT SHRINK/SWELL, SHALL NOT BE USED IN THE EMBANKMENT UNLESS A SPECIFIC DETAILED DESIGN REPORT FROM A GEOTECHNICAL ENGINEER IS SUBMITTED AND ACCEPTED AS PART OF THE PLAN APPROVAL.
4. ALL EMBANKMENTS SHALL BE METHODICALLY BACK-FILLED WITH HIGHLY IMPERMEABLE MATERIAL AND COMPACTED TO AT LEAST NINETY-FIVE PERCENT (95%) OF STANDARD PROCTOR DENSITY.
5. THE MINIMUM TOP WIDTH OF THE DAM SHALL BE TEN FEET (10') SO UNIMPEDED ACCESS AROUND THE FACILITY CAN BE OBTAINED.
6. AN ADDITIONAL FIVE PERCENT (5%) OF THE DESIGN HEIGHT OF AN EARTHEN EMBANKMENT DAM SHALL BE ADDED TO THE TOP OF DAM ELEVATION DURING FILL PLACEMENT TO NEGATE FUTURE SETTLEMENT OF THE EMBANKMENT AND UNDERLYING SOILS.
7. ALL DISTURBED GROUND AREAS AND EMBANKMENTS SURROUNDING THE POND SHALL HAVE PERMANENT GROUND COVER ESTABLISHED IN ACCORDANCE WITH DURHAM GUIDELINES PRIOR TO FINAL ACCEPTANCE. SERICEA LESPEDEZA, WEEPING LOVEGRASS AND CROWN VETCH SHALL NOT BE INCORPORATED INTO THE GROUND COVER FOR THE DAM EMBANKMENT, AS THESE TYPES OF VEGETATION ARE DIFFICULT TO MAINTAIN, ENCOURAGE BURROWING ANIMAL HABITATS, AND PREVENT A THOROUGH INSPECTION OF THE DAM EMBANKMENT.
8. CONCRETE DAMS AND CONCRETE SPILLWAY STRUCTURES SHALL BE DESIGNED AND BUILT IN ACCORDANCE WITH THE AMERICAN CONCRETE INSTITUTE'S (ACI) LATEST GUIDELINES. PARTICULAR ATTENTION SHALL BE PAID TO DESIGN AND ANALYSIS, WATER TIGHTNESS, CONCRETE QUALITY, AND CONSTRUCTION PRACTICES. STRUCTURES SHALL BE DESIGNED AND CONSTRUCTED TO MAINTAIN WATER-TIGHTNESS BY CONTROLLING AND LIMITING CRACKING WITH PROPER JOINT DESIGN AND SPACING.
9. THE DAM SAFETY LAW OF 1967 (15A NCAC 02K .0201) REQUIRES ANY PERSON WHO PROPOSES TO CONSTRUCT, ALTER OR REMOVE A DAM TO FILE A STATEMENT WITH THE STATE DAM SAFETY ENGINEER CONCERNING THE LOCATION OF THE DAM, INCLUDING THE NAME OF THE STREAM AND COUNTY, HEIGHT, PURPOSE, AND IMPOUNDMENT CAPACITY, AT LEAST 10 DAYS BEFORE THE START OF CONSTRUCTION. IF THE STATE DETERMINES THAT THE DAM IS NOT EXEMPT FROM THE LAW, ADDITIONAL REQUIREMENTS IN ACCORDANCE WITH THE DAM SAFETY LAW OF 1967 AS AMENDED WILL BE IMPOSED.

OUTLETS

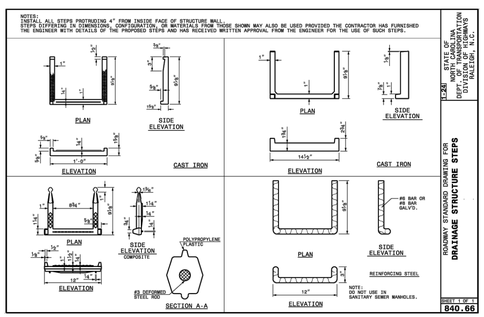
10. ALL RISER STRUCTURES, INCLUDING WEIR WALL TYPE STRUCTURES AND FLASHBOARD RISERS, SHALL BE CONSTRUCTED PRINCIPALLY OF REINFORCED CONCRETE. BRICK/CONCRETE BLOCK AND MORTAR TYPE STRUCTURES WILL NOT BE ACCEPTED. THE USE OF BRICK/CONCRETE BLOCK IN SOME ELEMENTS OF A RISER STRUCTURE MAY BE ACCEPTABLE. SUCH PROPOSALS WILL BE CONSIDERED ON A CASE-BY-CASE BASIS.
11. ALL RISER STRUCTURES SHALL BE LOCATED SUCH THAT DIRECT ACCESS FROM THE DAM EMBANKMENT CAN BE ACHIEVED. RISER STRUCTURES SITED COMPLETELY WITHIN THE LIMITS OF THE PERMANENT POOL WILL NOT BE ACCEPTABLE; AT LEAST ONE SIDE OF THE RISER SHALL BE ACCESSIBLE BY FOOT DURING PERMANENT POOL CONDITIONS.
12. ACCESS SHALL ALWAYS BE PROVIDED TO THE INSIDE AND INVERT OF THE RISER STRUCTURE. THIS CAN BE ACCOMPLISHED BEST WITH THE PROVISION OF A TRASH RACK ACCESS HATCH OR A MANHOLE LID AND THE PROVISION OF STEPS DOWN THE INSIDE FACE OF THE RISER. WHEN THE TOP OF THE RISER IS GREATER THAN FOUR FEET ABOVE THE ADJACENT GROUND SURFACE, STEPS UP THE OUTSIDE FACE OF THE RISER SHALL BE PROVIDED AS WELL.

TRASH RACKS

13. TOP-MOUNTED (OVERFLOW) TRASH RACKS SHALL BE BOLTED TO THE TOP OF THE STRUCTURE WITH STAINLESS STEEL HARDWARE. MOUNTING THE TRASH RACK TO THE RISER IN SHEAR SHALL BE PROHIBITED.
14. ALL RISER TRASH RACKS SHALL HAVE A LOCKING ACCESS HATCH WITH A MINIMUM CLEAR SPACE OPENING OF 2' BY 3' AND AN ACCEPTED DESIGN LIFE OF 75 YEARS.
15. INSTALL A DEVICE TO HOLD THE TRASH RACK ACCESS HATCH IN THE OPEN POSITION SUCH THAT IT DOES NOT CAUSE BREAKAGE OR OTHER DAMAGE.

RISER

16. STEPS IN THE RISER SHALL LINE UP WITH THE REQUIRED TRASH RACK ACCESS HATCH. THE ACCESS HATCH SHALL BE A MINIMUM OF 2' BY 3' IN SIZE. NO OTHER INTERNAL STRAPS OR PARTS OF THE RISER AND/OR TRASH RACK WILL INHIBIT ACCESS TO THE RISER WHEN USING THE TRASH RACK ACCESS HATCH.
17. PROVIDE STEPS OUTSIDE THE RISER AS NEEDED TO PROVIDE ACCESS.



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Sheet map:

Seal:

NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A. HARRIS

Bryan Harris

Digitally signed by Bryan Harris
DN: CN=US, E=bryan@QuantechEng.com, O=Quantech Engineering LLP, CN=Bryan Harris
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HARRIS CREEK FARMS

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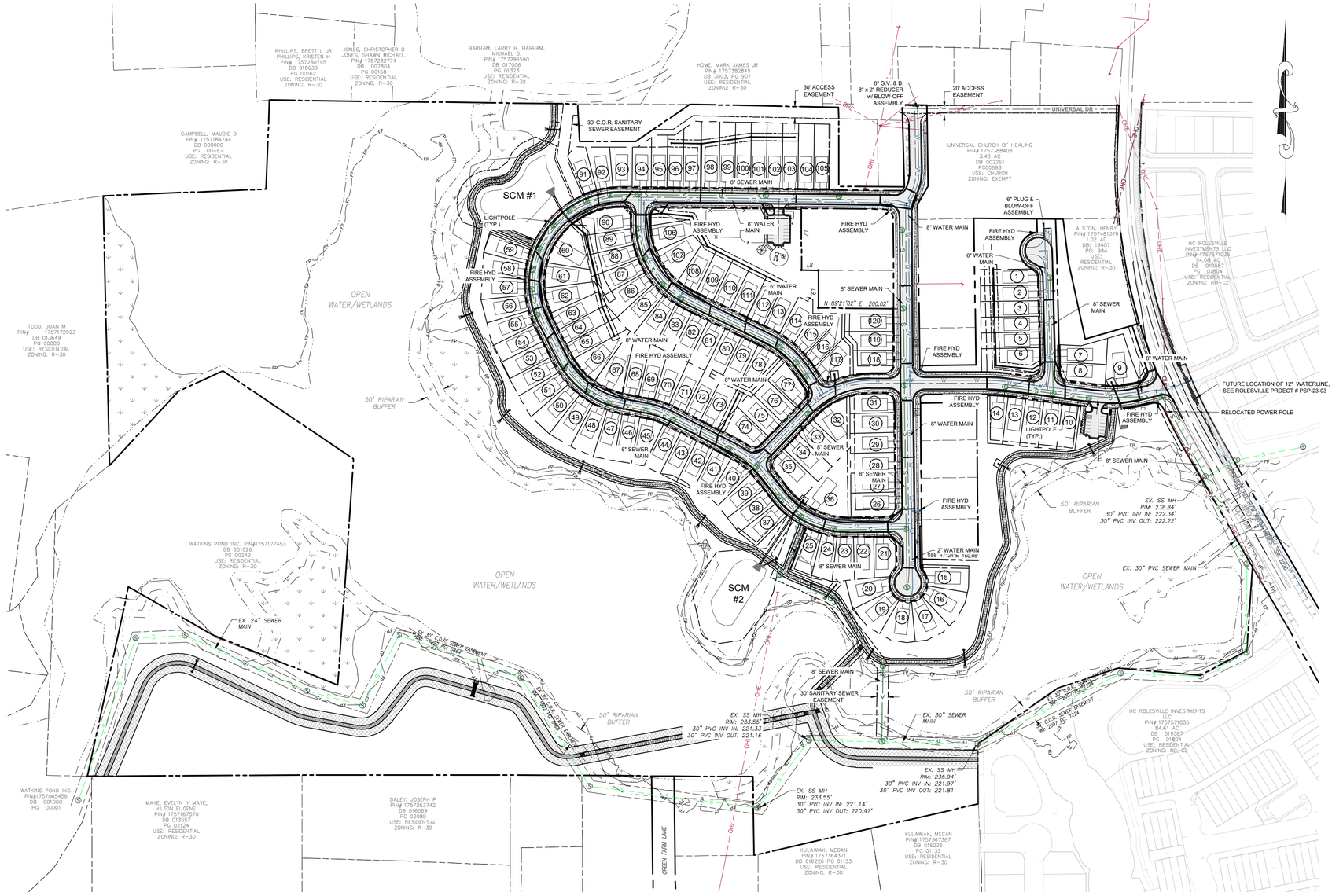
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SCM DETAILS

Sheet #:

60

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UTILITY PLAN LEGEND

PROPOSED R.O.W.	
PROPOSED LOT LINE	
EXISTING SEWER LINE	S
EXISTING SEWER MANHOLE	S
PROPOSED SEWER LINE	S
PROPOSED SEWER MANHOLE	S
EXISTING WATER LINE	W
PROPOSED WATERLINE	W
PROPOSED FIRE HYDRANT	
EXISTING EASEMENT	
PROPOSED EASEMENT	
LIGHT POLE	

CONDITION OF APPROVAL NOTE:

1. 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 18" min. vertical separation at all sanitary sewer & RCP stormdrain 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.
3. 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.
4. Developer shall provide 30 days advance written notice to owner for any work required within an existing City of Raleigh Utility Easement traversing private property.
5. 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.
6. SEWER BYPASS PUMPING – A bypass plan sealed by an NC Professional Engineer shall be provided to Raleigh Water prior to pumping operations for approval. The operations and equipment shall comply with the Public Utilities Handbook.
7. 3.0' minimum cover is required on all water mains & sewer force mains. 4.0' minimum cover is required on all reuse mains.
8. 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.
9. Install 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.
10. Inspections of 4" and larger water mains of the private distribution system will be inspected as part of the infrastructure permit.
11. Private sewer mains as part of a collection system are permitted and inspected under the private Infrastructure permit for sewer.
12. Any water or sewer services on private property that will be installed under Construction Drawings may require a Plumbing Utility Permit in the City of Raleigh. Consult with the Engineering Inspection Coordinator during the pre-construction meeting on the necessary permits.
13. Install sewer services with cleanouts located at ROW or easement line & spaced per the current NC Plumbing code.
14. 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 upstreammanhole.
15. All environmental permits applicable to the project must be obtained from NCDWQ, USACE &/or FEMA for any riparian buffer, wetland &/or floodplain impacts (respectively) prior to construction.
16. NCDOT / Railroad Encroachment Agreements are required for any utility work (including main extensions & service taps) within state or railroad ROW prior to construction.
17. Grease Interceptor / Oil Water Separator sizing calculations & installation specifications shall be approved by the RW FOG Program Coordinator prior to issuance of a UC and/or Building Permit. Contact (919) 996-4516 or fog@raleighnc.gov for more information.
18. Cross-connection control protection devices are required based on the degree of health hazard involved as listed in Appendix B of the Rules Governing Public Water Systems in North Carolina.
19. The devices shall meet the American Society of Sanitary Engineering (ASSE) standards and be on the University of Southern California approval list.
20. The device and installation shall meet the guidelines of Appendix A – Guidelines and Requirements for the Cross Connection Program in Raleigh's Service Area.
21. 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 Cross.connection@raleighnc.gov for more information.
22. NOTICE for projects that involve an oversized main or urban main replacement. Any City reimbursement greater than $250,000.00 must undergo the public bidding process.
23. Private sub-metering - No resale of water shall occur without approval of the North Carolina Utility Commission. Sub-metering shall be in accordance with Section 1400 of the "SAFE DRINKING WATER ACT".

CONDITION OF APPROVAL NOTE:

1. A WATER MODEL IS REQUIRED TO BE COMPLETED BY THE PROJECT ENGINEER TO DEMONSTRATE THAT THE PROPOSED WATERLINE EXTENSION WILL PROVIDE ADEQUATE FIRE FLOW AND PRESSURE FOR THE PROPOSED DEVELOPMENT.

GRAPHIC SCALE

150 0 75 150 300 600

(IN FEET)

1 inch = 150 ft

N.C. UNDERGROUND UTILITIES

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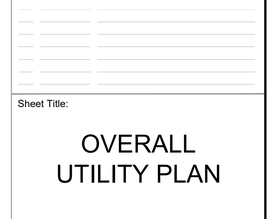
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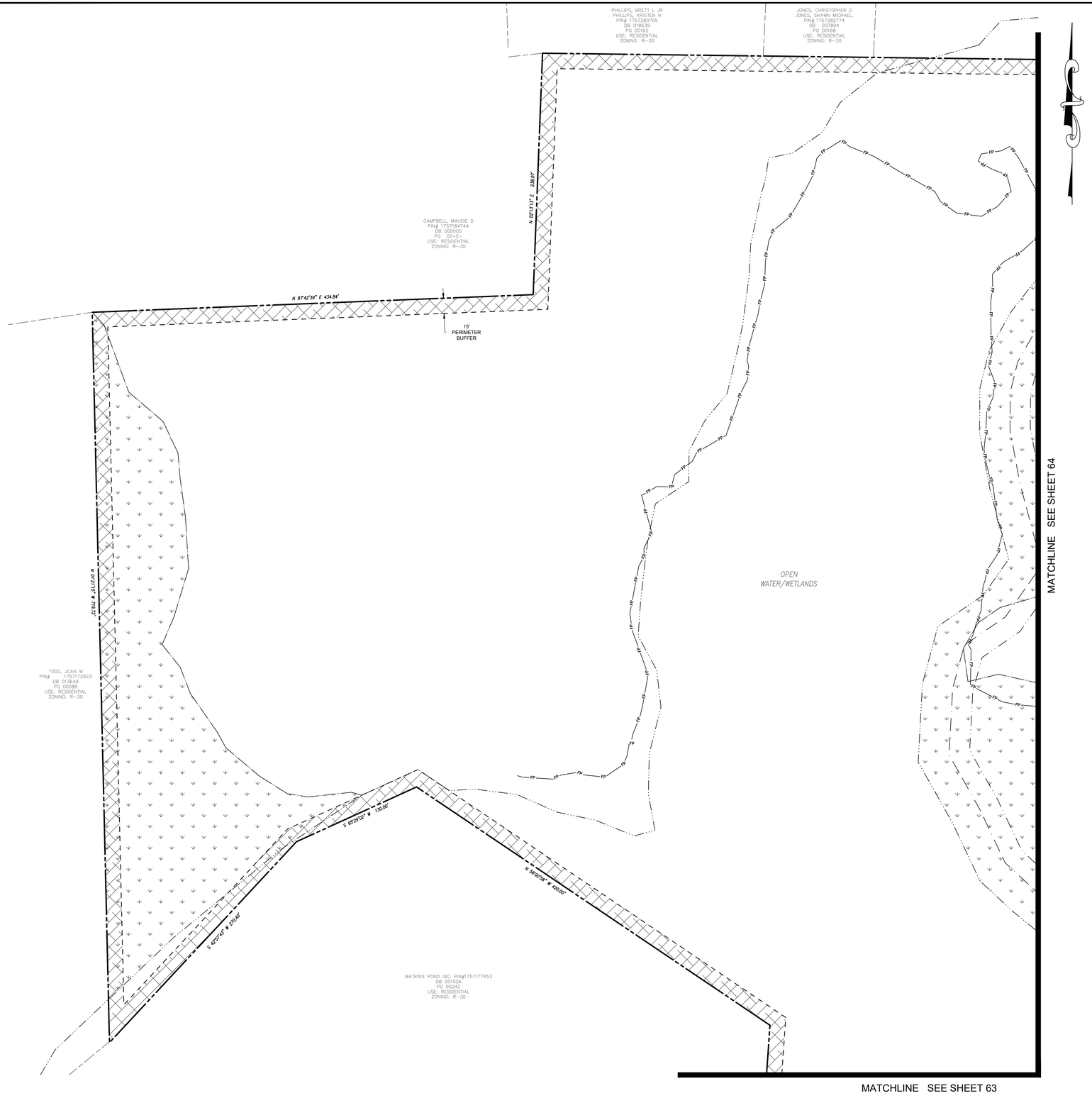
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OVERALL UTILITY PLAN

Sheet #:

61

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GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)

1 inch = 50 ft

N.C. UNDERGROUND UTILITIES

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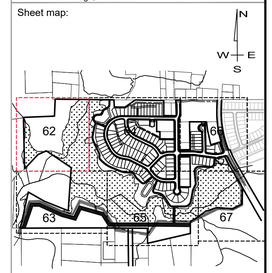
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Landscape Architect

STRONGROCK
THE STRONGROCK COMPANIES

305 Church at North Hills Street
Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

Sheet map:



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NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A. HARRIS

Bryan Harris

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Date: 2026.11.04 11:52:26-05'00'

Issued / Print Date: 2026-July-27 (10:49)
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Sheet Title:

UTILITY PLAN
SHEET 1 OF 6

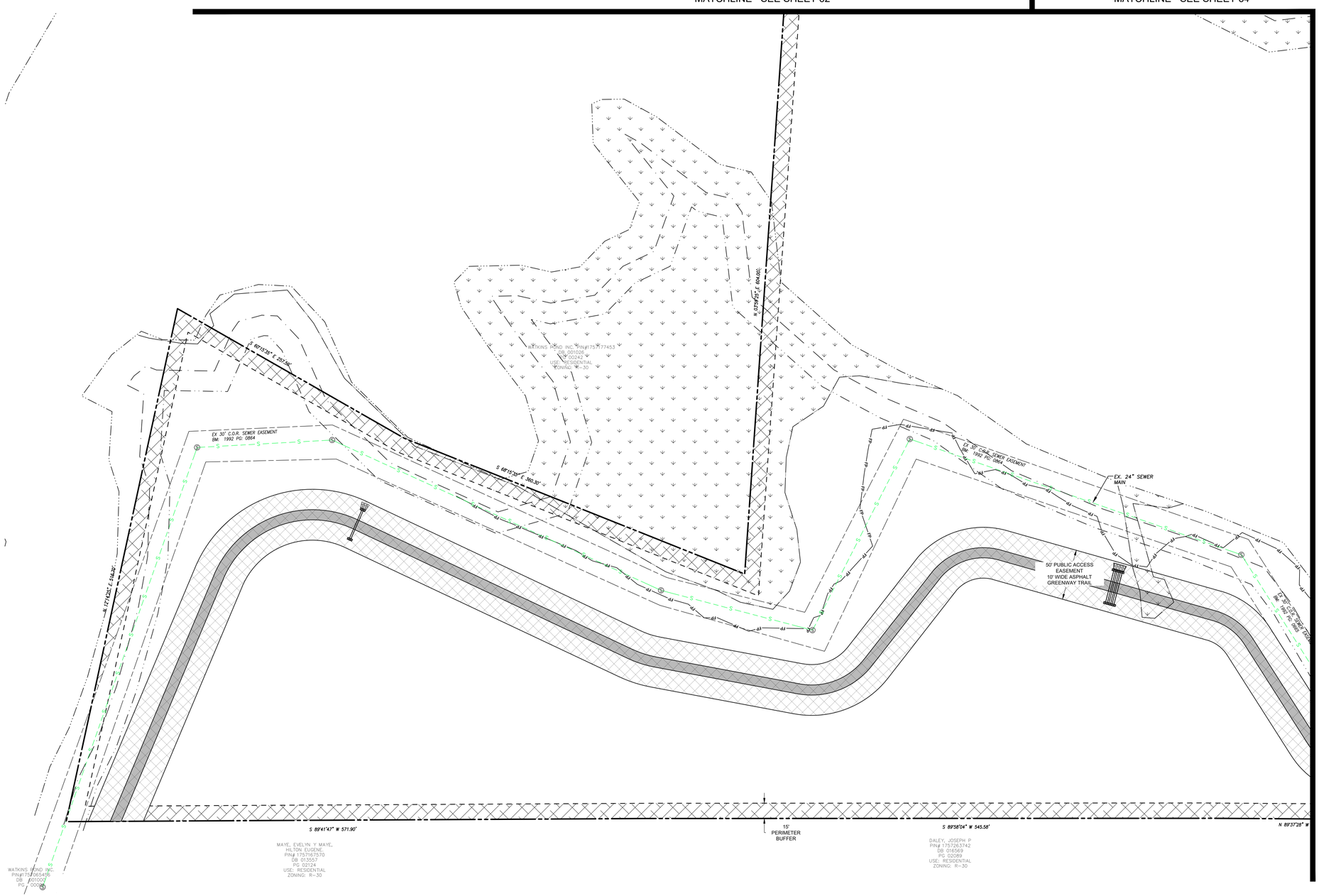
Sheet #:

62

MATCHLINE SEE SHEET 62

MATCHLINE SEE SHEET 64

MATCHLINE SEE SHEET 65



UTILITY PLAN LEGEND

PROPOSED R.O.W.	
PROPOSED LOT LINE	
EXISTING SEWER LINE	S
EXISTING SEWER MANHOLE	S
PROPOSED SEWER LINE	S
PROPOSED SEWER MANHOLE	S
PROPOSED SEWER CLEANOUT	
EXISTING WATER LINE	W
PROPOSED WATERLINE	W
PROPOSED WATER SERVICE	
PROPOSED GATE VALVE	
PROPOSED FIRE HYDRANT	
EXISTING EASEMENT	
PROPOSED EASEMENT	
LIGHT POLE	

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)

1 inch = 50 ft

N.C. UNDERGROUND UTILITIES

811

3 DAYS BEFORE DIGGING CALL TOLL FREE 811 or (800)632-4949

A ONE CALL SYSTEM FOR COMMUNITY AND JOB SAFETY

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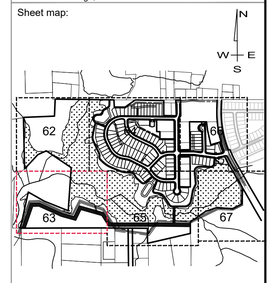
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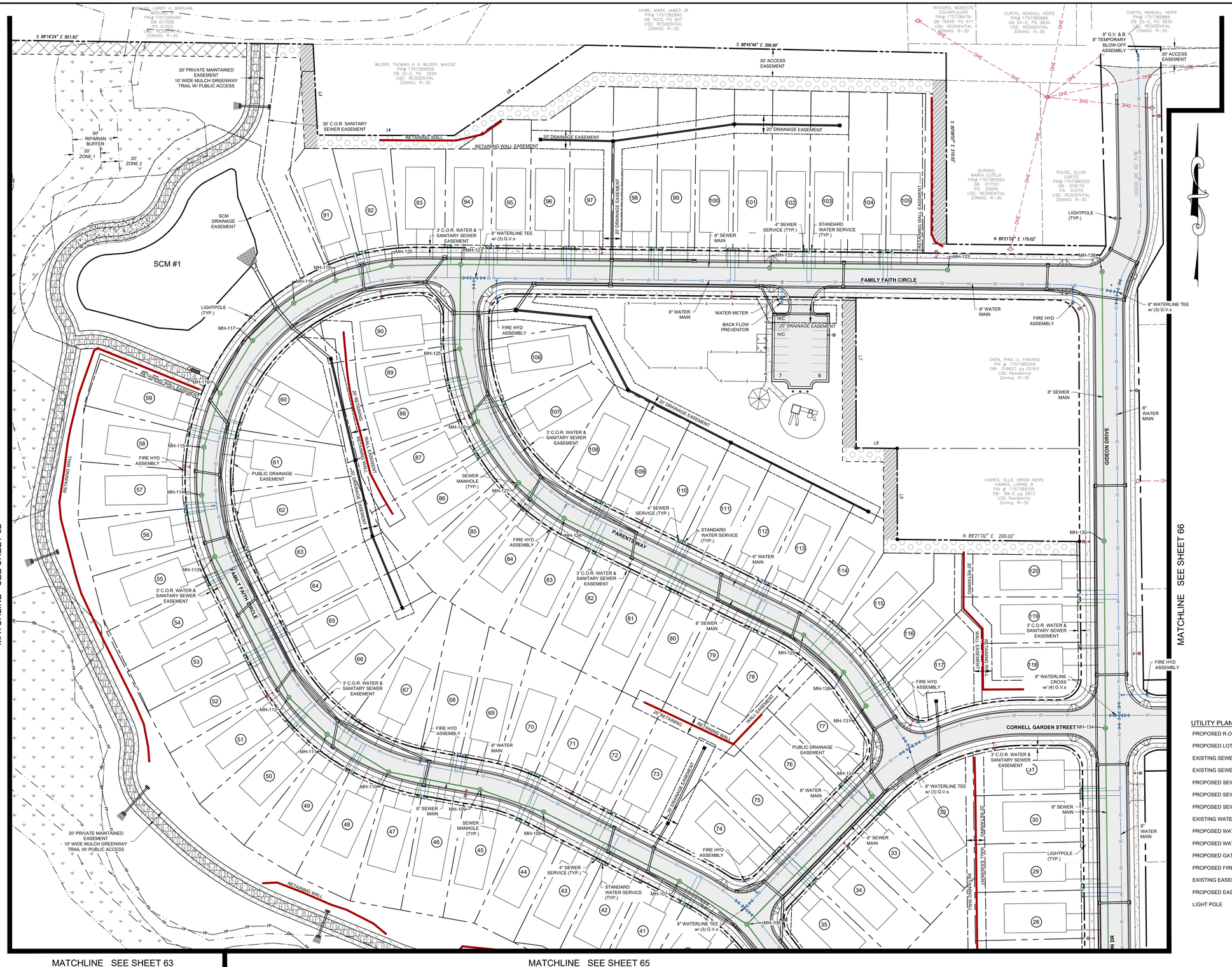
No.	Date	Description

Sheet Title:

UTILITY PLAN
SHEET 2 OF 6

Sheet #:

63



UTILITY PLAN LEGEND

- PROPOSED R.O.W.
- PROPOSED LOT LINE
- EXISTING SEWER LINE
- EXISTING SEWER MANHOLE
- PROPOSED SEWER LINE
- PROPOSED SEWER MANHOLE
- PROPOSED SEWER CLEANOUT
- EXISTING WATER LINE
- PROPOSED WATERLINE
- PROPOSED WATER SERVICE
- PROPOSED GATE VALVE
- PROPOSED FIRE HYDRANT
- EXISTING EASEMENT
- PROPOSED EASEMENT
- LIGHT POLE

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)

1 inch = 50 ft

N.C. UNDERGROUND UTILITIES

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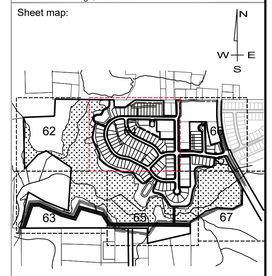
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No.	Date	Description

Sheet Title:

UTILITY PLAN SHEET 3 OF 6

Sheet #:

64

MATCHLINE SEE SHEET 64

MATCHLINE SEE SHEET 66

MATCHLINE SEE SHEET 63

MATCHLINE SEE SHEET 67

RETAINING WALL EASEMENT
4" SEWER SERVICE (TYP.)
STANDARD WATER SERVICE (TYP.)
MH-105
MH-104
MH-133
FAMILY FAITH CIRCLE
3' C.O.R. WATER & SANITARY SEWER EASEMENT
RETAINING WALL
FIRE HYD ASSEMBLY
LIGHTPOLE (TYP.)
8" WATERLINE TEE w/ (3) G.V.s
8" x 6" REDUCER
6" WATER MAIN
JARVIS, MYRON
JARVIS, MARIE
PIN# 1757378610
DB 009106
PG 01133
USE: RESIDENTIAL
ZONING: R-30
JARVIS, MARIE D
LURTIS, HURLEY MAE
PIN# 1757378610
DB 009106
PG 01133
USE: RESIDENTIAL
ZONING: R-30
S88° 47' 24"E 150.08'
20' ZONE 2
50' RIPARIAN BUFFER
30' ZONE 1
OPEN WATER/WETLANDS
SCM #2
SCM DRAINAGE EASEMENT
40' SANITARY SEWER EASEMENT
30' SANITARY SEWER EASEMENT
20' DRAINAGE EASEMENT
20' PRIVATE MAINTAINED EASEMENT 10' WIDE MULCH GREENWAY TRAIL W/ PUBLIC ACCESS
30' PRIVATE MAINTAINED EASEMENT 10' WIDE BOARDWALK GREENWAY TRAIL w/ PUBLIC ACCESS
20' PRIVATE MAINTAINED EASEMENT 10' WIDE MULCH GREENWAY TRAIL w/ PUBLIC ACCESS
30' SANITARY SEWER EASEMENT
8" SEWER MAIN
MH-101
EXISTING OVERHEAD POWERLINE
EX. SS MH
RIM: 233.55'
30" PVC INV IN: 221.33'
30" PVC INV OUT: 221.16'
EX. 30" PVC SEWER MAIN
EX. SS MH
RIM: 235.94'
30" PVC INV IN: 221.97'
30" PVC INV OUT: 221.81'
DH-MH-100
50' PUBLIC ACCESS EASEMENT 10' WIDE BOARDWALK GREENWAY TRAIL
50' PUBLIC ACCESS EASEMENT 10' WIDE ASPHALT GREENWAY TRAIL
EXISTING 20' SEWER EASEMENT
EX. SS MH
RIM: 233.55'
30" PVC INV IN: 221.14'
30" PVC INV OUT: 220.97'
RIVERS, SUSAN MARSHALL
PIN# 1757266697
DB 003406
PG00539
USE: RESIDENTIAL
ZONING: R-30
CARPENTER, BOBBY RAY
EXECUTRIX, ALBERTA T.
PIN# 1757276629
DB 003406
PG 00541
USE: RESIDENTIAL
ZONING: R-30
GREEN FARM LANE
BIRMINGHAM, JOHN DAVIS
PIN# 1757361783
DB 009642
PG 00432
USE: RESIDENTIAL
ZONING: R-30
KULAWIAK, MEGAN
PIN# 1757364371
DB 016226 PG 01133
USE: RESIDENTIAL
ZONING: R-30
KULAWIAK, MEGAN
PIN# 1757367367
DB 016226
PG 01133
USE: RESIDENTIAL
ZONING: R-30
1359

UTILITY PLAN LEGEND

- PROPOSED R.O.W.
- PROPOSED LOT LINE
- EXISTING SEWER LINE
- EXISTING SEWER MANHOLE
- PROPOSED SEWER LINE
- PROPOSED SEWER MANHOLE
- PROPOSED SEWER CLEANOUT
- EXISTING WATER LINE
- PROPOSED WATERLINE
- PROPOSED WATER SERVICE
- PROPOSED GATE VALVE
- PROPOSED FIRE HYDRANT
- EXISTING EASEMENT
- PROPOSED EASEMENT
- LIGHT POLE

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)

1 inch = 50 ft

N.C. UNDERGROUND UTILITIES

811 3 DAYS BEFORE DIGGING CALL TOLL FREE 811 or (800)632-4949

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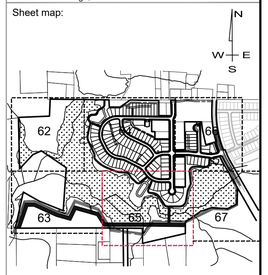
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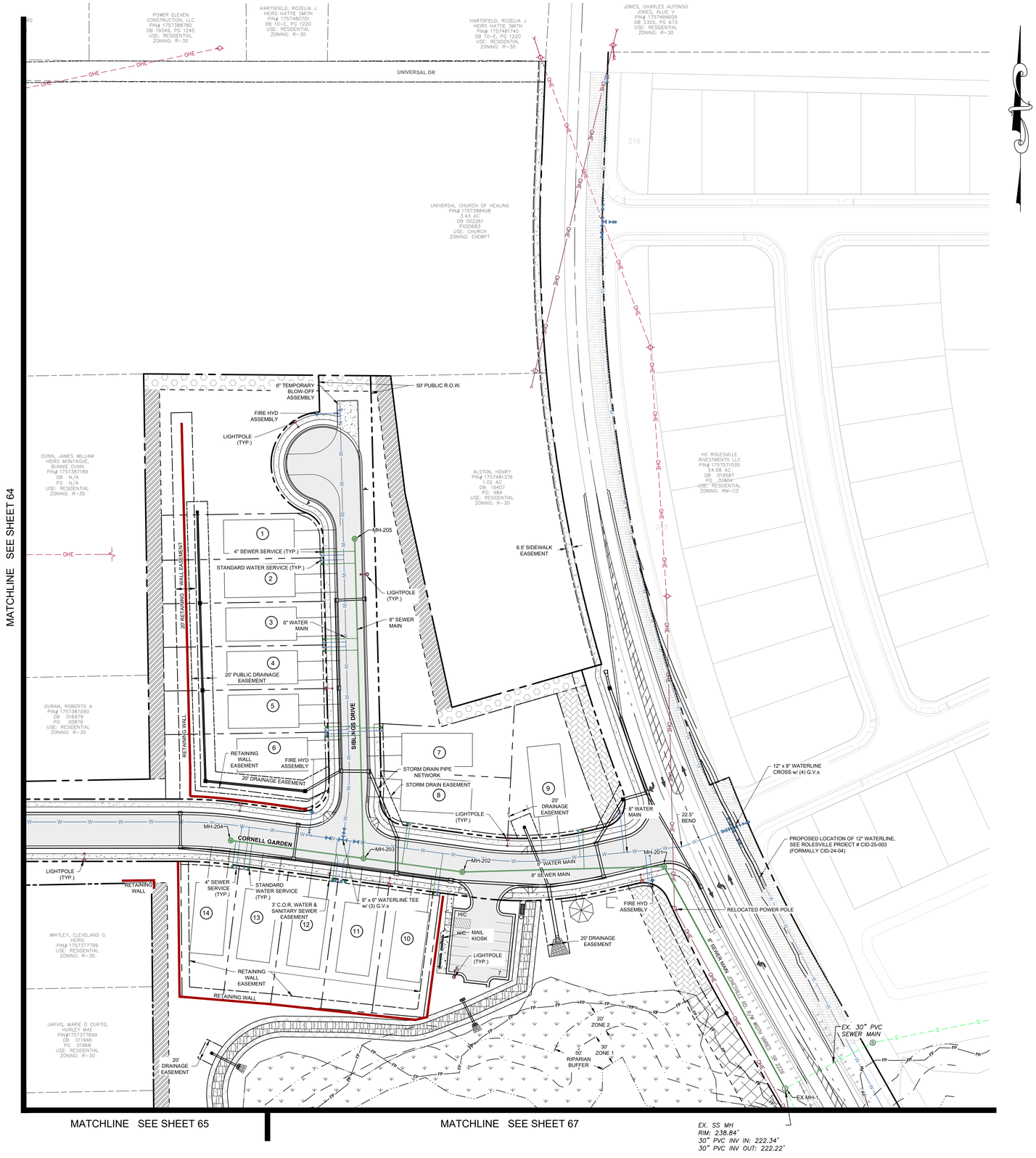
No.	Date	Description

Sheet Title:

UTILITY PLAN SHEET 4 OF 6

~~Sheet #~~:

65



UTILITY PLAN LEGEND

PROPOSED R.O.W.	
PROPOSED LOT LINE	
EXISTING SEWER LINE	S
EXISTING SEWER MANHOLE	S
PROPOSED SEWER LINE	S
PROPOSED SEWER MANHOLE	S
PROPOSED SEWER CLEANOUT	
EXISTING WATER LINE	W
PROPOSED WATERLINE	W
PROPOSED WATER SERVICE	
PROPOSED GATE VALVE	
PROPOSED FIRE HYDRANT	
EXISTING EASEMENT	
PROPOSED EASEMENT	
LIGHT POLE	

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)

1 inch = 50 ft

N.C. UNDERGROUND UTILITIES

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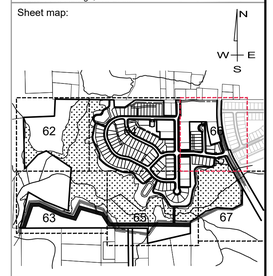
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Sheet Title:

UTILITY PLAN
SHEET 5 OF 6

Sheet #:

66

MATCHLINE SEE SHEET 66

MATCHLINE SEE SHEET 65



UTILITY PLAN LEGEND

PROPOSED R.O.W.	
PROPOSED LOT LINE	
EXISTING SEWER LINE	S
EXISTING SEWER MANHOLE	S
PROPOSED SEWER LINE	S
PROPOSED SEWER MANHOLE	S
PROPOSED SEWER CLEANOUT	
EXISTING WATER LINE	W
PROPOSED WATERLINE	W
PROPOSED WATER SERVICE	
PROPOSED GATE VALVE	
PROPOSED FIRE HYDRANT	
EXISTING EASEMENT	
PROPOSED EASEMENT	
LIGHT POLE	

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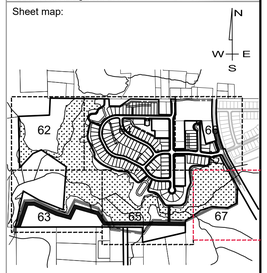
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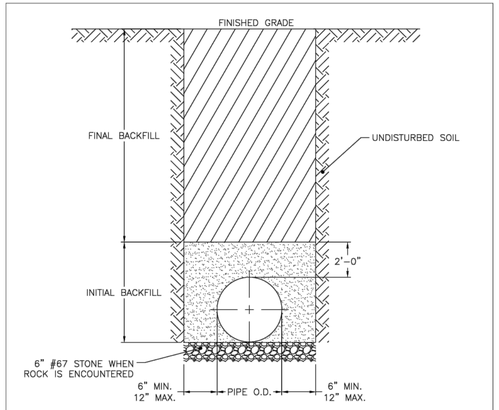
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UTILITY PLAN
SHEET 6 OF 6

Sheet #:

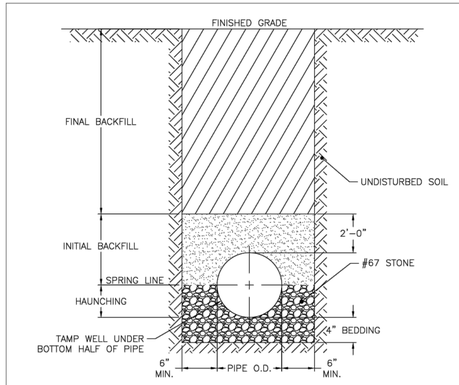
67



NOTES:
1. FOR TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.
2. NO ROCKS OR BOULDERS 4" OR LARGER TO BE USED IN INITIAL BACKFILL.
3. ALL BACKFILL MATERIAL SHALL BE SUITABLE NATIVE MATERIAL.
4. BACKFILL SHALL BE TAMPED IN 6" LIFTS IN TRAFFIC AREAS, 12" IN NON-TRAFFIC AREAS.
5. ACHIEVE 80% COMPACTION IN NON-TRAFFIC AREAS, AND 95% COMPACTION IN TRAFFIC AREAS.
6. IF IN EASEMENT, 4" TOPSOIL AND 12" CLEAN SELECT FILL MAY BE REQUIRED.
7. NO BOULDERS 8" IN DIAMETER OR GREATER ALLOWED IN FINAL BACKFILL.

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 01/18/2025	NOT TO SCALE
	TRENCH BOTTOM DIMENSIONS & BACKFILLING REQUIREMENTS FOR DUCTILE IRON	
	S-4	

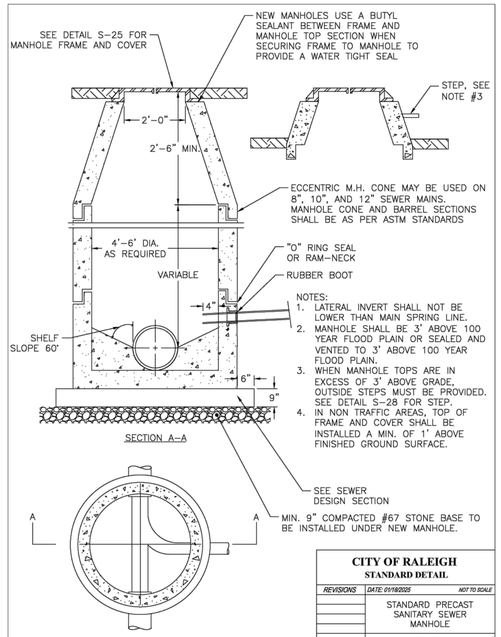


TYPICAL TRENCH BOTTOM DIMENSIONS FOR SDR 35 PVC GRAVITY PIPE

NOTES:
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4. BACKFILL SHALL BE TAMPED IN 6" LIFTS IN TRAFFIC AREAS, 12" IN NON-TRAFFIC AREAS.

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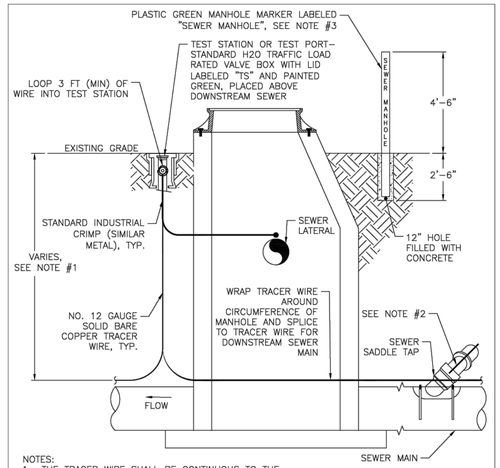
REVISIONS	DATE: 01/18/2025	NOT TO SCALE
	TRENCH BOTTOM DIMENSIONS & BACKFILLING REQUIREMENTS FOR PVC GRAVITY SEWER MAIN	
	S-5	



NOTES:
1. LATERAL INVERT SHALL NOT BE LOWER THAN MAIN SPRING LINE.
2. MANHOLE SHALL BE 3' ABOVE 100 YEAR FLOOD PLAIN OR SEALED AND VENTED TO 3' ABOVE 100 YEAR FLOOD PLAIN.
3. WHEN MANHOLE TOPS ARE IN EXCESS OF 3' ABOVE GRADE, OUTSIDE STEPS MUST BE PROVIDED. SEE DETAIL S-28 FOR STEP.
4. IN NON TRAFFIC AREAS, TOP OF FRAME AND COVER SHALL BE INSTALLED A MIN. OF 1' ABOVE FINISHED GROUND SURFACE.

CITY OF RALEIGH
STANDARD DETAIL

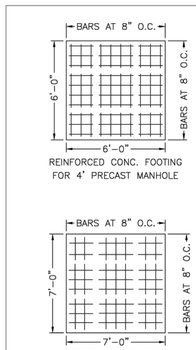
REVISIONS	DATE: 01/18/2025	NOT TO SCALE
	STANDARD PRECAST SANITARY SEWER MANHOLE	
	S-20	



NOTES:
1. THE TRACER WIRE SHALL BE CONTINUOUS TO THE GREATEST EXTENT POSSIBLE. FOR GRAVITY MAIN AND OR LATERAL INSTALLATIONS LESS THAN 8 FT, THE TRACING WIRE SHALL BE ATTACHED TO THE PIPE. TRACER WIRE SHALL BE LAID FLAT AND SECURELY AFFIXED TO THE PIPE AT 10 FOOT INTERVALS. FOR GRAVITY MAIN AND OR LATERAL INSTALLATION DEEPER THAN 8 FT, THE TRACING WIRE SHALL BE INSTALLED AT A DEPTH OF 7-8 FT. THE WIRE SHALL BE PROTECTED FROM DAMAGE DURING THE EXECUTION OF THE WORK. NO BREAKS OF CUTS IN THE TRACER WIRE SHALL BE PERMITTED.
2. WHERE LATERAL TAPS ARE MADE BY SERVICE SADDLES, THE TRACER WIRE SHALL NOT BE ALLOWED TO TO BE PLACED BETWEEN THE SADDLE AND MAIN.
3. MANHOLE MARKERS SHALL BE PLACED ADJACENT TO MANHOLES AT THE DISCRETION OF OWNER OR OWNER'S REPRESENTATIVE.

CITY OF RALEIGH
STANDARD DETAIL

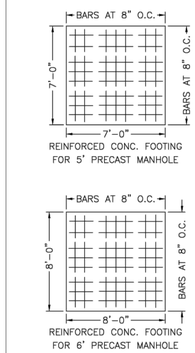
REVISIONS	DATE: 01/18/2025	NOT TO SCALE
	GRAVITY SEWER MAIN TRACER WIRE AND MANHOLE MARKER	
	S-20A	



REINFORCED CONC. FOOTING FOR 4' PRECAST MANHOLE

BILL OF MATERIAL FOR 4' MANHOLE BASE

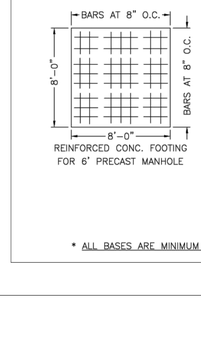
BAR SIZE	BAR LENGTH	NO. OF BARS	BAR WT. (LBS.)
#5	5'-6"	18	103
CL. "A" CONCRETE TOTAL CU. YDS.			1.0



REINFORCED CONC. FOOTING FOR 5' PRECAST MANHOLE

BILL OF MATERIAL FOR 5' MANHOLE BASE

BAR SIZE	BAR LENGTH	NO. OF BARS	BAR WT. (LBS.)
#5	6'-6"	20	136
CL. "A" CONCRETE TOTAL CU. YDS.			1.4



REINFORCED CONC. FOOTING FOR 6' PRECAST MANHOLE

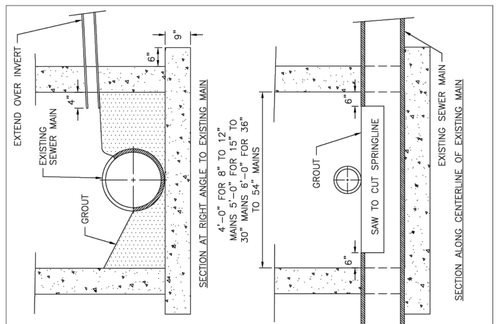
BILL OF MATERIAL FOR 6' MANHOLE BASE

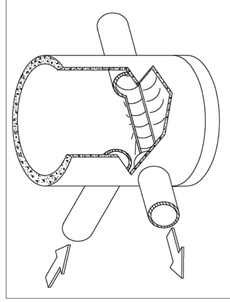
BAR SIZE	BAR LENGTH	NO. OF BARS	BAR WT. (LBS.)
#5	7'-6"	24	165
CL. "A" CONCRETE TOTAL CU. YDS.			1.8

* ALL BASES ARE MINIMUM 9" THICK

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 01/18/2025	NOT TO SCALE
	EXTENDED BASE OR CAST-IN-PLACE REINFORCED CONCRETE BASE	
	S-21	

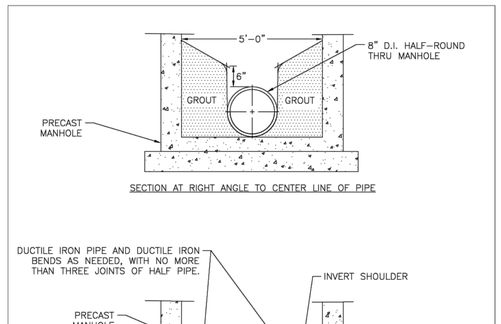


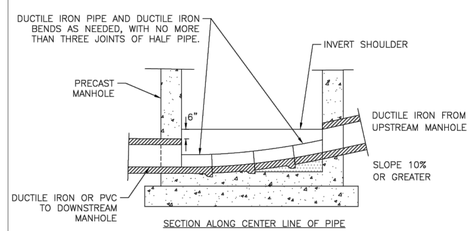


NOTES:
1. FLOW SHALL BE MAINTAINED DURING CONSTRUCTION.
2. THIS DETAIL TO BE USED WHEN A 5' OR LARGER MANHOLE IS NECESSITATES CONSTRUCTION OF A NEW MANHOLE.
3. SEE DETAIL S-20 FOR PRECAST MANHOLES.
4. THE CONTRACTOR SHALL PROVIDE A MINIMUM 9" COMPACTED #67 STONE BASE.
5. PIPE SHALL BE DIP, CONCRETE, AND PVC ONLY. (NOT ALLOWED ON VCP)
6. SEE DETAIL S-21 FOR REQUIREMENTS OF POURED IN-PLACE BASE.

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 01/18/2025	NOT TO SCALE
	STANDARD MANHOLE INSTALLATION OVER EXISTING SEWER MAIN	
	S-22	





NOTE:
NO HORIZONTAL ALIGNMENT CHANGE CAN BE MADE WITHIN THIS MANHOLE TYPE. USE ON GRADES 10% OR GREATER.

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 01/18/2025	NOT TO SCALE
	STANDARD HIGH VELOCITY MANHOLE INVERT	
	S-23	

GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)
1 inch = 50 ft

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BCSC BATEMAN CIVIL SURVEY COMPANY
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2524 Reliance Avenue
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919-557-1080 ext 109
www.batemancivilsurvey.com

Jurisdiction / Municipality
Rolesville
Genuine Community • Capital Connection
Est. 1837
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
CID-25-0004 (PSP-24-05)
Levels have not built

Landscape Architect
STRONGROCK
THE STRONGROCK COMPANIES
305 Church at North Hills Street
Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

Sheet map:

Seal:
NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A. HARRIS
Digitally signed by Bryan Harris
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Date: 2026.11.04 11:52:45-05'00'
Bryan Harris

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Project:

HARRIS CREEK FARMS

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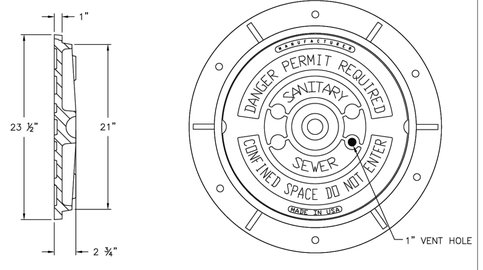
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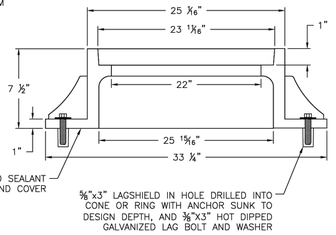
Sheet #:
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MANHOLE FRAME AND COVER



COVER 120 LBS. MINIMUM



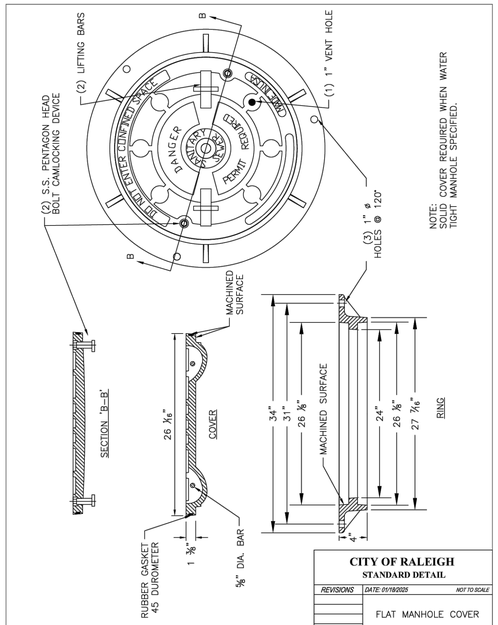
⅝"x3" LAGSHIELD IN HOLE DRILLED INTO CONE OR RING WITH ANCHOR SUNK TO DESIGN DEPTH, AND ⅜"X3" HOT DIPPED GALVANIZED LAG BOLT AND WASHER

BUTYL-NEK OR APPROVED SEALANT BETWEEN FRAME AND COVER

NOTES:
1. ALL MANHOLE FRAMES SHALL BE DOMESTICALLY CAST.
2. FRAME SHALL BE A MINIMUM WEIGHT OF 182 LBS. WITHIN PUBLIC ROW AND 160 LBS. WITHIN EASEMENTS.
3. COVER SHALL WEIGH A MIN. OF 120 LBS.
4. ALL MANHOLE FRAMES OUTSIDE OF PAVED SURFACES SHALL BE BOLTED TO THE CONE SECTION OR RING WITH A MINIMUM OF 4 BOLTS PER FRAME.

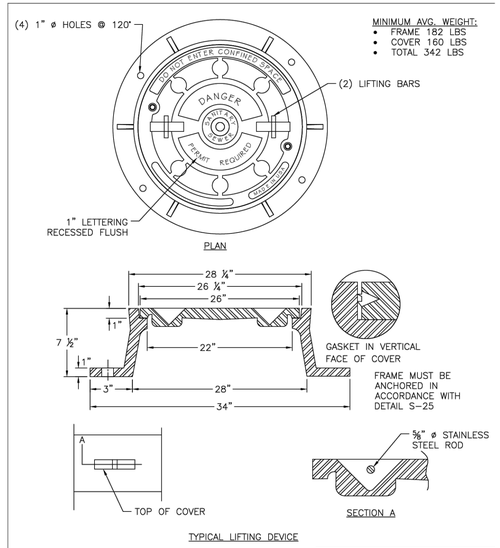
CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 01/19/2025	NOT TO SCALE
	STANDARD MANHOLE COVER	
	S-25	



CITY OF RALEIGH
STANDARD DETAIL

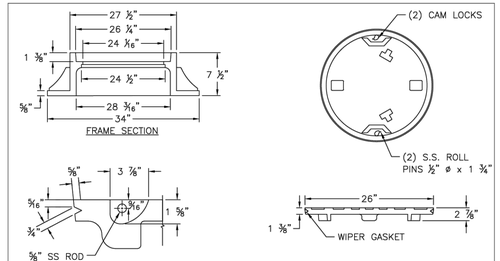
REVISIONS	DATE: 01/19/2025	NOT TO SCALE
	FLAT MANHOLE COVER	
	S-25A	



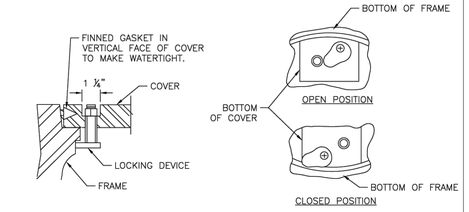
TYPICAL LIFTING DEVICE

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 05/24/2024	NOT TO SCALE
	MANHOLE FRAME AND WATERTIGHT COVER	
	S-26	



TYPICAL CAM LOCK MANHOLE

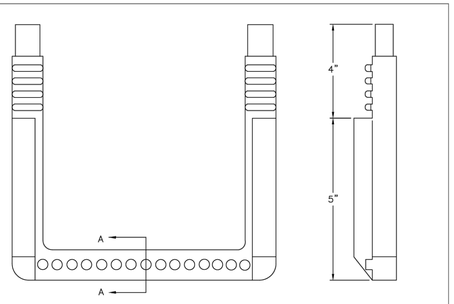


TYPICAL LOCKING DEVICE

NOTE:
1. WHEN WATERTIGHT NOT SPECIFIED, TOP SHALL HAVE ONE 1" VENT HOLE.
2. STANDARD: PENTAGON HEAD S.S. OPTIONAL: S.S. HEX HEAD BOLT.
3. RING MUST BE ANCHORED IN ACCORDANCE WITH DETAIL S-25.

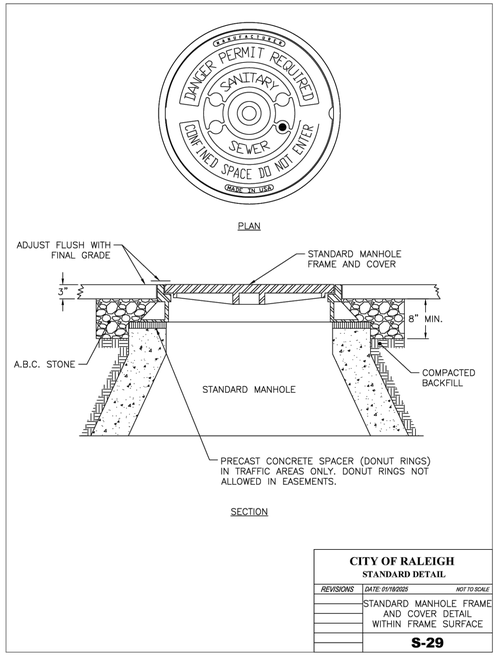
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STANDARD DETAIL

REVISIONS	DATE: 01/19/2025	NOT TO SCALE
	WATERTIGHT MANHOLE FRAME WITH CAM LOCK COVER	
	S-27	



CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 01/19/2025	NOT TO SCALE
	STANDARD SLIP RESISTANT MANHOLE STEP DETAIL	
	S-28	



SECTION

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 01/19/2025	NOT TO SCALE
	STANDARD MANHOLE FRAME AND COVER DETAIL WITHIN FRAME SURFACE	
	S-29	

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft

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Rolesville
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Landscape Architect
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THE STRONGROCK COMPANIES
305 Church at North Hills Street Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

Sheet map:

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NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A. HARRIS
Bryan Harris
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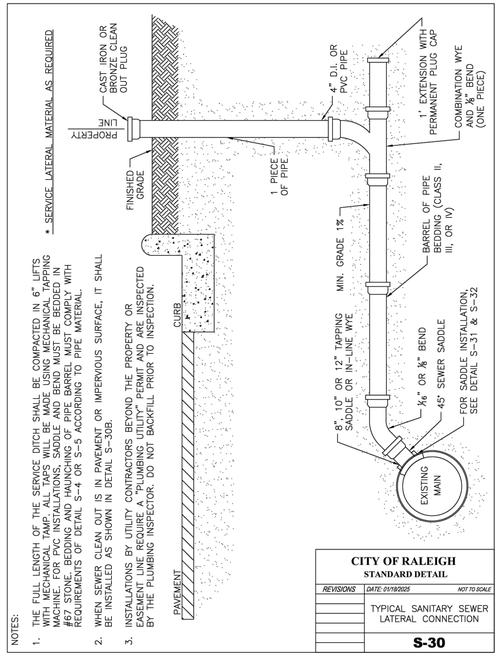
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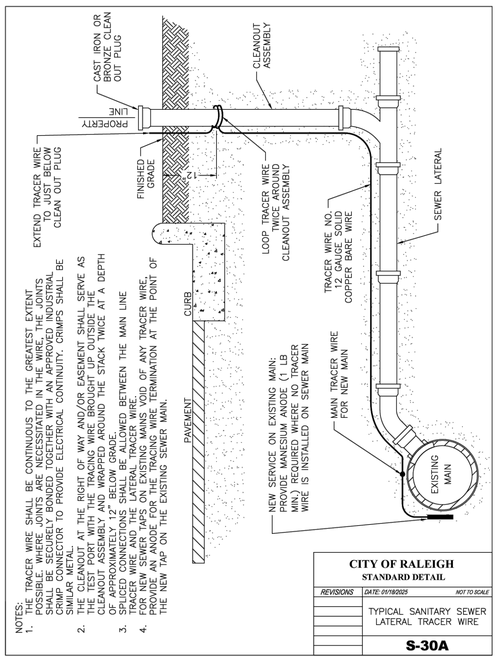
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Sheet #:
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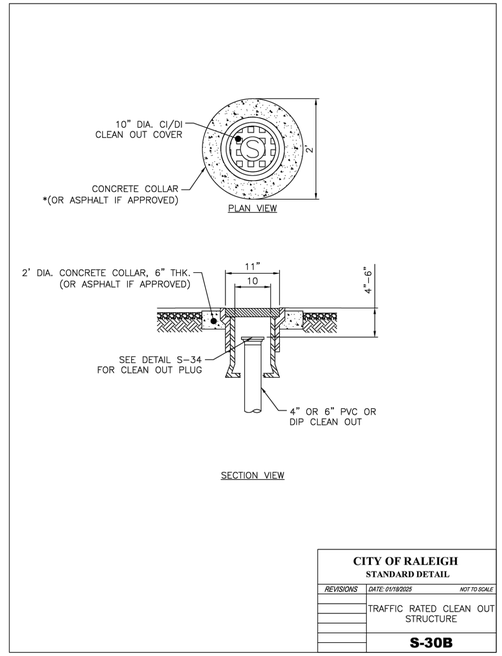
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STANDARD DETAIL

REVISIONS	DATE: 01/18/2025	NOT TO SCALE
	TYPICAL SANITARY SEWER LATERAL CONNECTION	
	S-30	



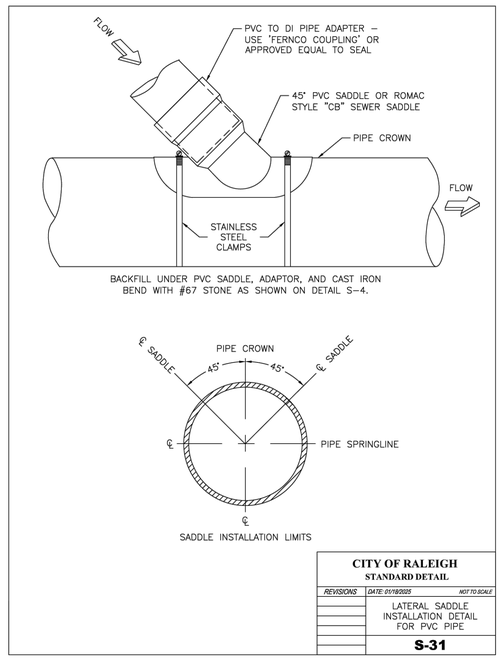
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STANDARD DETAIL

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	TYPICAL SANITARY SEWER LATERAL TRACER WIRE	
	S-30A	



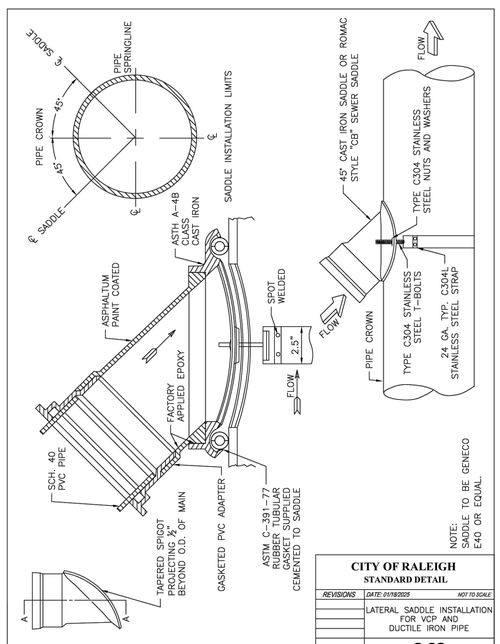
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STANDARD DETAIL

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	TRAFFIC RATED CLEAN OUT STRUCTURE	
	S-30B	



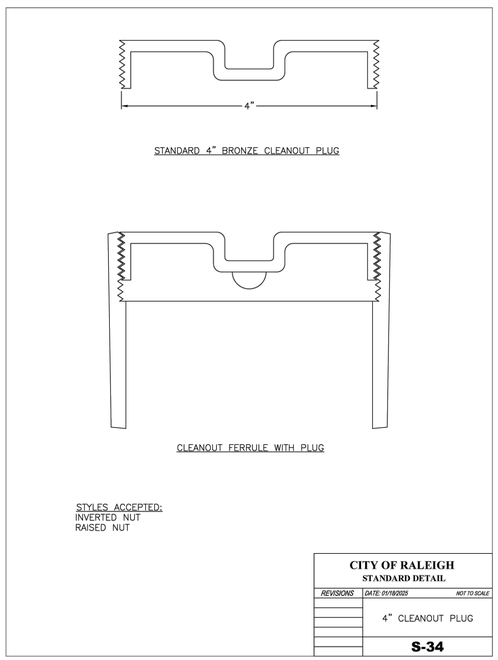
CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 01/18/2025	NOT TO SCALE
	LATERAL SADDLE INSTALLATION DETAIL FOR PVC PIPE	
	S-31	



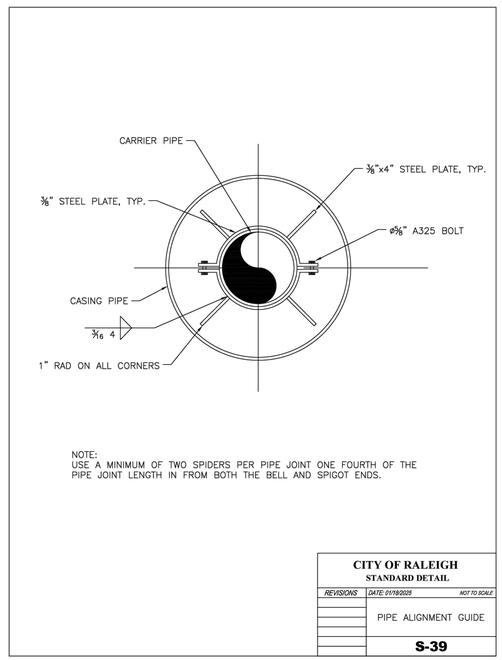
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	LATERAL SADDLE INSTALLATION FOR VCP AND DUCTILE IRON PIPE	
	S-32	



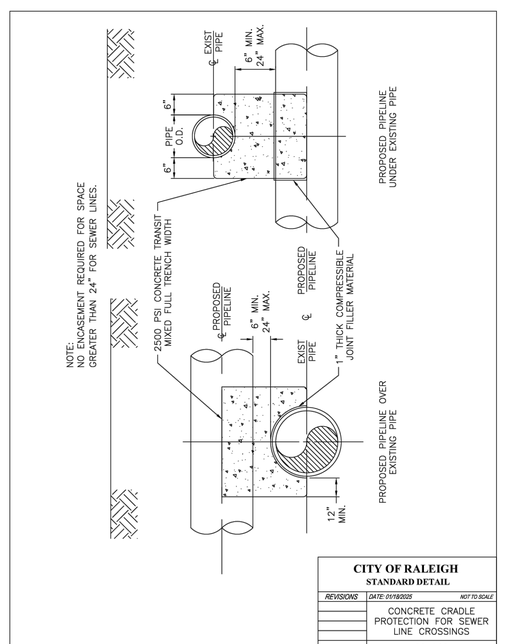
CITY OF RALEIGH
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REVISIONS	DATE: 01/18/2025	NOT TO SCALE
	4" CLEANOUT PLUG	
	S-34	



CITY OF RALEIGH
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REVISIONS	DATE: 01/18/2025	NOT TO SCALE
	PIPE ALIGNMENT GUIDE	
	S-39	



CITY OF RALEIGH
STANDARD DETAIL

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	CONCRETE CRADLE PROTECTION FOR SEWER LINE CROSSINGS	
	S-49	

GRAPHIC SCALE
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(IN FEET)
1 inch = 50 ft

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Cary, N.C. 27519
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2524 Reliance Avenue
Apex, NC 27539
919-557-1080 ext 109
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Jurisdiction / Municipality
Rolesville
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
CID-25-0004 (PSP-24-05)

Landscape Architect
STRONGROCK
THE STRONGROCK COMPANIES
305 Church at North Hills Street
Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

Sheet map:

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NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A. HARRIS
Bryan Harris
Digitally signed by Bryan Harris
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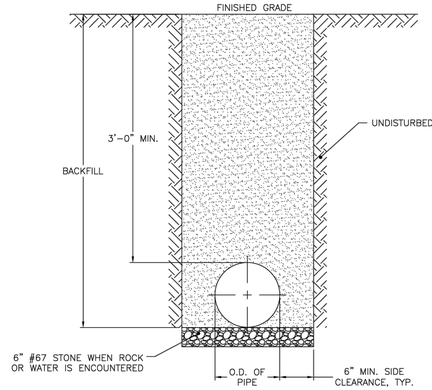
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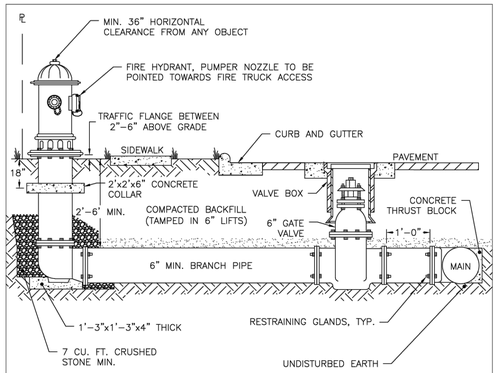
Sheet #:
70



NOTES:
1. TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.
2. NO ROCKS OR BOULDERS 4" OR LARGER TO BE USED IN BACKFILL.
3. ALL BACKFILL MATERIAL SHALL BE SUITABLE NATIVE MATERIAL.
4. BACKFILL SHALL BE TAMPED IN 6" LIFTS.
5. ACHIEVE 95% COMPACTION IN BACKFILL.

CITY OF RALEIGH
STANDARD DETAIL

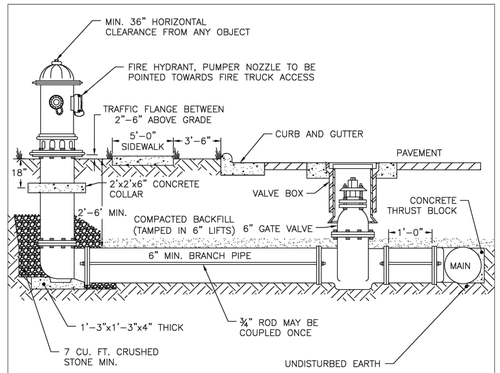
REVISIONS	DATE: 01/18/2025 NOT TO SCALE
	TRENCH BOTTOM DIMENSIONS AND BACKFILLING REQUIREMENTS FOR DUCTILE IRON
	W-3



NOTES:
1. FIRE HYDRANT SHALL BE AS MANUFACTURED: MUELLER, AMERICAN DARLING, KENNEDY OR CLOW.
2. BRANCH PIPE SHALL BE DUCTILE IRON AWWA C150.
3. 6" GATE VALVE SHALL BE AWWA C500 OPEN LEFT.
4. RODS AND BOLTS SHALL BE ¾" 316 STAINLESS STEEL.
5. FIRE HYDRANTS WILL BE INSTALLED IN TRUE VERTICAL POSITION.
6. RODS SHALL NOT BE COUPLED MORE THAN ONCE. IF THE LENGTH FROM THE VALVE TO THE HYDRANT EXCEEDS 20' THEN A MECHANICAL RESTRAINING GLAND WITH A REBAR CAGE SHALL BE INSTALLED NO MORE THAN 10' FROM HYDRANT AND POURED IN CONCRETE.
7. FIRE HYDRANTS TO BE LOCATED IN ROW OR 2.5 FOOT EASEMENT (ON ALL SIDES OF HYDRANT) FOOT EASEMENT ADJACENT TO ROW.
8. ANYTIME SITE WORK, CONSTRUCTION, ROAD WORK, OR ANY OTHER WORK CHANGES THE GRADE OF THE FIRE HYDRANT, THE PERSON RESPONSIBLE FOR THE WORK IS RESPONSIBLE FOR ADJUSTING THE FIRE HYDRANT TO STAY WITHIN COMPLIANCE.

CITY OF RALEIGH
STANDARD DETAIL

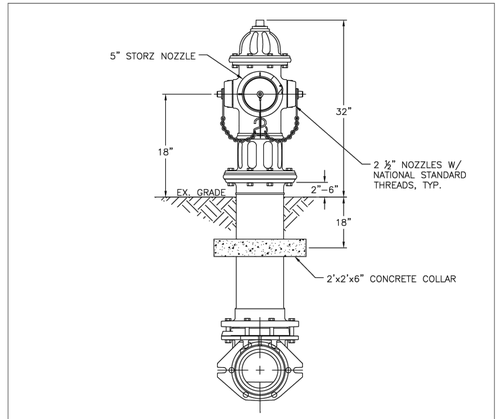
REVISIONS	DATE: 01/18/2025 NOT TO SCALE
	STANDARD FIRE HYDRANT INSTALLATION (RESTRAINT GLANDS)
	W-4



NOTES:
1. FIRE HYDRANT SHALL BE AS MANUFACTURED: MUELLER, AMERICAN DARLING, KENNEDY OR CLOW.
2. BRANCH PIPE SHALL BE DUCTILE IRON AWWA C150.
3. 6" GATE VALVE SHALL BE AWWA C500 OPEN LEFT.
4. RODS AND BOLTS SHALL BE ¾" 316 STAINLESS STEEL.
5. FIRE HYDRANTS WILL BE INSTALLED IN TRUE VERTICAL POSITION.
6. RODS SHALL NOT BE COUPLED MORE THAN ONCE. IF THE LENGTH FROM THE VALVE TO THE HYDRANT EXCEEDS 20' THEN A MECHANICAL RESTRAINING GLAND WITH A REBAR CAGE SHALL BE INSTALLED NO MORE THAN 10' FROM HYDRANT AND POURED IN CONCRETE.
7. FIRE HYDRANTS TO BE LOCATED IN ROW OR 2.5 FOOT EASEMENT (ON ALL SIDES OF HYDRANT) FOOT EASEMENT ADJACENT TO ROW.
8. ANYTIME SITE WORK, CONSTRUCTION, ROAD WORK, OR ANY OTHER WORK CHANGES THE GRADE OF THE FIRE HYDRANT, THE PERSON RESPONSIBLE FOR THE WORK IS RESPONSIBLE FOR ADJUSTING THE FIRE HYDRANT TO STAY WITHIN COMPLIANCE.

CITY OF RALEIGH
STANDARD DETAIL

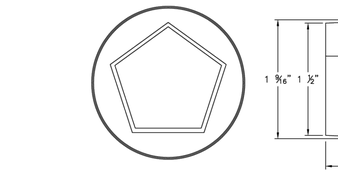
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	STANDARD FIRE HYDRANT INSTALLATION (RESTRAINT RODS)
	W-4A

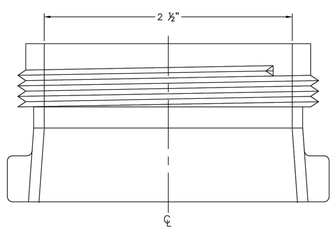


NOTES:
1. ALL PUBLIC FIRE HYDRANTS IN THE CITY OF RALEIGH AND THE MERGER TOWNS OF GARNER, ROLESVILLE, WAKE FOREST, KNIGHTDALE, WENDELL AND ZEBULON SHALL BE PAINTED CHROME YELLOW WITH HIGH REFLECTIVE ALUMINUM SILVER CAPS, BONNETS AND OPERATING NUTS.
2. ALL PRIVATE FIRE HYDRANTS SHALL BE RED.

CITY OF RALEIGH
STANDARD DETAIL

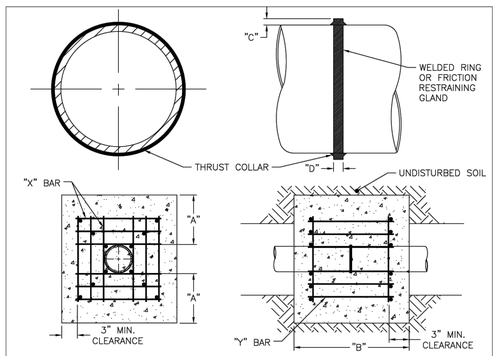
REVISIONS	DATE: 01/18/2025 NOT TO SCALE
	STANDARD FIRE HYDRANT WITH 5" STORZ PUMPER NOZZLE
	W-5





CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 01/18/2025 NOT TO SCALE
	HYDRANT OPERATING NUT AND 2 ½" OUTLET THREADS
	W-6



REINFORCING REQUIREMENTS

I.D. PIPE	REBAR SIZE	"X" BAR LENGTH	"X" BAR WEIGHT	"Y" BAR LENGTH	"Y" BAR WEIGHT	NO. REQUIRED
6"–36"	#5	2'–2"+ O.D. PIPE	1.043 LBS/FT	1'–1"	1.1 LBS. EACH	X–24 Y–12
≥48"	#6	3'–0"+ O.D. PIPE	1.502 LBS/FT	1'–3"	1.9 LBS. EACH	X–24 Y–12

THRUST COLLAR AND THRUST SCHEDULE

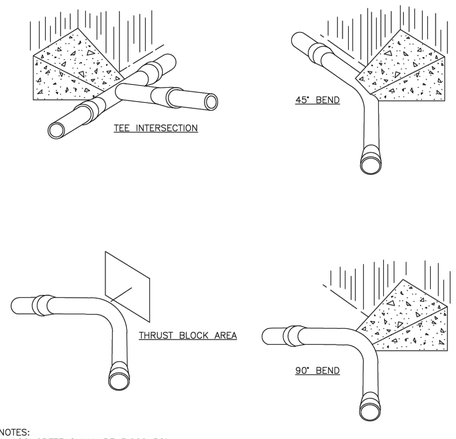
I.D. PIPE	"A"	"B"	"C"	"D"
6"–16"	1'–4"	1'–7"	2"	⅜"
20"–24"	1'–4"	1'–7"	3"	½"
30"–36"	1'–4"	1'–7"	4"	⅝"
≥48"	1'–8"	1'–9"	6"	⅞"

NOTES:
1. SEE DETAIL W–9 FOR THRUST BLOCK LOCATIONS.
2. CONCRETE SHALL BE 3,000 PSI AND TRANSIT MIXED.
3. REINFORCING BARS SHALL BE DEFORMED AND TIED TOGETHER.
4. TRENCH BOTTOM WIDTH IN VICINITY OF THRUST BLOCK INSTALLATION SHALL BE THE MINIMUM WIDTH AS SHOWN ON DETAIL W–3.
5. BACKFILL TAMPED IN 6" LIFTS, SEE DETAIL W–3.
6. THRUST COLLAR MUST BE FACTORY WELDED ON BOTH SIDES ALONG BOTH EDGES OF COLLAR AROUND CIRCUMFERENCE.

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 01/18/2025 NOT TO SCALE
	THRUST BLOCKING DESIGN DATA FOR WATER MAINS
	W-7

THRUST BLOCKING



NOTES:
1. CONCRETE SHALL BE 3,000 PSI.
2. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT FITTINGS.
3. TRENCHES SHALL CONFORM TO DETAIL W–3.
4. SEE DETAIL W–10 & W–11 (THRUST BLOCK TABLES) FOR AREA OF CONCRETE REQUIRED.
5. ALL BENDS AND INTERSECTIONS SHALL HAVE CONCRETE THRUST BLOCKING.

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 01/18/2025 NOT TO SCALE
	THRUST BLOCKING VIEWS
	W-9

REACTION BEARING AREAS FOR HORIZONTAL WATER PIPE BENDS BASED ON TEST PRESSURE OF 200 PSI

ALL AREAS GIVEN IN SQUARE FEET

SIZE OF BEND	DEGREE OF BEND	STATIC THRUST IN POUNDS	MODERATELY DRY CLAY 4,000 LBS/FT²	SOFT CLAY 2,000 LBS/FT²	1,600 LBS/FT² GRAVEL/ COARSE SAND	8,000 LBS/FT² DRY CLAY (ALWAYS DRY)	SAND, COMPACT FIRM 8,000 LBS/FT²	SAND–CLEAN DRY 4,000 LBS/FT²	SOIL 1,000 LBS/FT² QUICKSAND (VERY POOR)	ROCK–POOR 10,000 LBS/FT²
6"	11 ¼°	1,108	1	1	1	1	1	1	2	1
	22 ½°	2,207	1	2	2	1	1	1	3	1
	45°	4,328	2	3	3	1	1	2	5	1
	90°	7,996	2	4	5	1	1	2	8	1
	PLUG	5,655	2	3	4	1	1	2	6	1
8"	11 ¼°	1,970	1	1	2	1	1	1	2	1
	22 ½°	3,922	1	2	3	1	1	1	4	1
	45°	7,694	2	4	5	1	1	2	8	1
	90°	14,215	4	8	9	2	2	4	15	2
	PLUG	10,053	3	5	6	2	2	3	10	1
12"	11 ¼°	4,433	2	3	3	1	1	2	5	1
	22 ½°	8,826	3	5	6	2	2	3	9	1
	45°	17,312	5	9	11	3	3	5	18	2
	90°	31,983	8	16	19	4	4	8	32	4
	PLUG	22,619	6	12	14	3	3	6	23	3
16"	11 ¼°	7,881	2	4	5	1	1	2	8	1
	22 ½°	15,691	4	8	10	2	2	4	16	2
	45°	30,779	8	16	19	4	4	8	31	4
	90°	56,861	15	29	35	8	8	15	57	6
	PLUG	40,213	10	21	25	5	5	10	41	5

NOTES:
1. REACTION BEARING AREAS ARE IN SQUARE FEET MEASURED IN A VERTICAL PLANE IN THE TRENCH SIDE AT AN ANGLE OF 90° TO THE THRUST VECTOR.
2. USE 6" 90° BEND VALUE FOR HYDRANTS FOR ADDITIONAL SAFETY FACTOR.

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 01/18/2025 NOT TO SCALE
	THRUST BLOCKING DESIGN QUANTITY TABLE
	W-10

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)

1 inch = 50 ft

N.C. UNDERGROUND UTILITIES

811 3 DAYS BEFORE DIGGING CALL TOLL FREE 811 or (800)632-4949

A ONE CALL SYSTEM FOR COMMUNITY AND JOB SAFETY

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10030 Green Level Church Rd, Suite 802 #149: Cary, NC 27519

Engineer

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275 CARPENTER HILL LANE
Cary, N.C. 27519
(919) 996-9455

Surveyor

BCSC BATEMAN CIVIL SURVEY COMPANY
Bateman Civil Survey Company
2524 Reliance Avenue
Apex, NC 27539
919-557-1080 ext 109
www.batemancivilsurvey.com

Jurisdiction / Municipality

Rolesville Genuine Community • Capital Connection Est. 1837
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
CID-25-0004 (PSP-24-05)

Landscape Architect

STRONGROCK
THE STRONGROCK COMPANIES
305 Church at North Hills Street 984-200-1932
Suite 1110 Raleigh, NC 27609 information@strongrockengineering.com

Sheet map:

Seal:

NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A. HARRIS
Bryan Harris
Digitally signed by Bryan Harris
DN: CN=Bryan Harris, O=Quantech Engineering, LLP, OU=Bryan Harris
Date: 2026.11.06 11:52:54-05'00'

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Project:

HARRIS CREEK FARMS

CID 25-0004 (FKA - CID-25-03)

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No.	Date	Description

Sheet Title:

WATER DETAILS 1 OF 4

Sheet #:

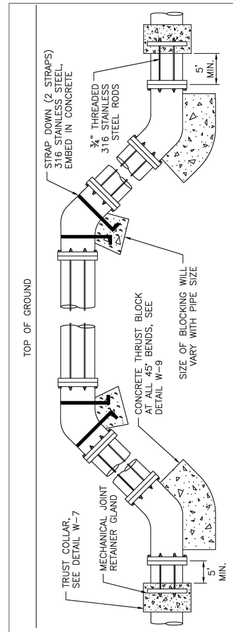
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REACTION BEARING AREAS FOR HORIZONTAL WATER PIPE BENDS BASED ON TEST PRESSURE OF 200 PSI										
ALL AREAS GIVEN IN SQUARE FEET										
SIZE OF BEND	DEGREE OF BEND	STATIC THRUST IN POUNDS	MODERATELY DRY CLAY 4,000 LBS/FT²	SOFT CLAY 2,000 LBS/FT²	1,600 LBS/FT² GRAVE/ COARSE SAND	8,000 LBS/FT² DRY CLAY (ALWAYS DRY)	SAND, COMPACT FIRM 8,000 LBS/FT²	SAND–CLEAN DRY 4,000 LBS/FT²	SOIL 1,000 LBS/FT² QUICKSAND (VERY POOR)	ROCK–POOR 10,000 LBS/FT²
24"	11 ¼°	17,734	5	9	11	3	3	5	18	2
	22 ½°	35,305	9	18	22	5	5	9	36	4
	45°	69,252	18	35	42	9	9	18	70	7
	90°	127,936	32	64	77	16	16	32	128	113
	PLUG	90,478	23	46	55	12	12	23	91	10
30"	11 ¼°	27,709	7	14	17	4	4	7	2	3
	22 ½°	55,163	14	28	34	7	7	14	56	6
	45°	108,206	28	55	65	14	14	28	109	11
	90°	199,900	50	100	120	25	25	50	200	20
	PLUG	141,372	36	71	85	18	18	36	142	15
36"	11 ¼°	39,901	10	20	24	5	5	10	40	4
	22 ½°	79,439	20	40	48	10	10	20	30	8
	45°	155,816	39	78	94	20	20	39	156	16
	90°	287,855	72	144	172	36	36	72	288	29
	PLUG	203,575	51	102	122	26	26	51	204	21
48"	11 ¼°	70,935	18	36	43	9	9	18	71	8
	22 ½°	141,218	36	71	85	18	18	36	142	15
	45°	277,007	70	139	166	35	35	70	277	28
	90°	511,742	128	256	320	64	64	128	512	52
	PLUG	361,911	91	181	217	46	46	91	362	37

NOTES:
1. REACTION BEARING AREAS ARE IN SQUARE FEET MEASURED IN A VERTICAL PLANE IN THE TRENCH SIDE AT AN ANGLE OF 90° TO THE THRUST VECTOR.
2. USE 6" 90° BEND VALUE FOR HYDRANTS FOR ADDITIONAL SAFETY FACTOR.

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 01/18/2025	NOT TO SCALE
	THRUST BLOCKING DESIGN QUANTITY TABLE	
	W-11	



RESTRAINT REQUIREMENTS				
PIPE DIA	RODDING	RJ. GLANDS	THRUST COLLAR	THRUST BLOCKING
<12"	X	X	X	
≥12"	X	X	X	X

"X" DENOTES REQUIRED RESTRAINT.

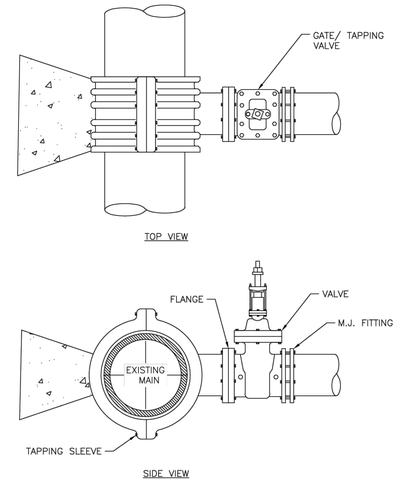
STRAP REQUIREMENTS	
STRAP WIDTH	STRAP THICKNESS
1"	⅜"
1.5"	⅜"
2"	¼"
2"	½"
4"	½"

ROD REQUIREMENTS		
SIZE OF 45° BEND	STATIC THRUST IN POUNDS	NO. OF RODS REQUIRED
6"	4,328	2
8"	7,694	4
12"	17,312	4
16"	30,779	8
24"	69,252	8

NOTES:
1. STEEL RODS AND BOLTS SHALL BE ¾" 316 STAINLESS STEEL.
2. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT BENDS.
3. RESTRAINED MECHANICAL GLANDS TO BE USED AT ALL FITTINGS.
4. 3" MINIMUM CONCRETE COVER MUST BE MAINTAINED.
5. EXTERNAL RESTRAINT REQUIRED. INTEGRAL BELL RESTRAINT REQUIRES DIRECTOR'S APPROVAL.
6. "X" DENOTES REQUIRED RESTRAINT.

CITY OF RALEIGH
STANDARD DETAIL

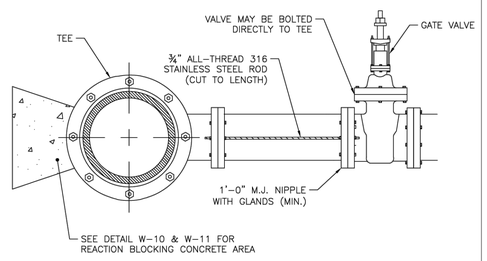
REVISIONS	DATE: 01/18/2025	NOT TO SCALE
	STANDARD VERTICAL BEND	
	W-12	



NOTES:
1. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT FITTINGS.
2. SEE DETAIL W-10 & W-11 (REACTION BLOCK TABLES) FOR AREA OF CONCRETE REQUIRED.
3. 3,000 PSI SOLID CONCRETE SHALL BE USED AS FOOTING FOR DUCTILE IRON PIPE.
4. FULL CIRCUMFERENCE SLEEVE, STAINLESS STEEL MATERIAL REQUIRED.

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 01/18/2025	NOT TO SCALE
	4"–24" STANDARD TAPPING SLEEVE AND VALVE ASSEMBLY	
	W-14	

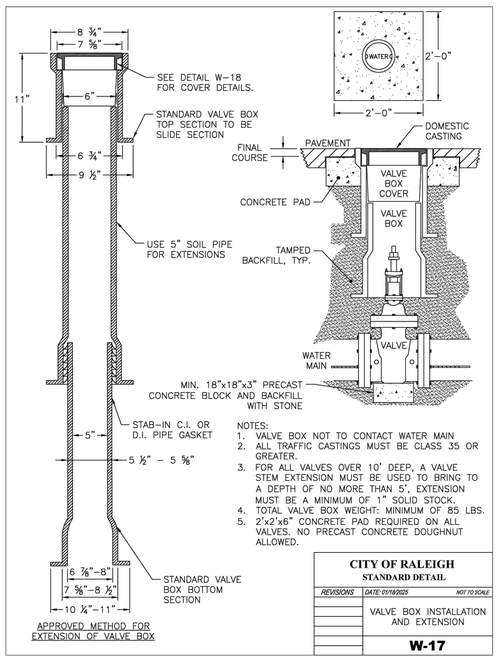


ROD REQUIREMENTS	
BRANCH SIZE	NO. OF RODS
4"	2
6"	2
8"	4
12"	4
16"	6
24"	6
30"	8
36"	8

NOTES:
1. STEEL RODS AND BOLTS SHALL BE ¾" 316 STAINLESS STEEL.
2. SEE DETAIL W–10 AND W–11 (THRUST BLOCK TABLES) FOR CONCRETE.
3. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL FITTINGS.
4. THIS RODDING REQUIREMENT DOES NOT APPLY TO FIRE HYDRANTS.

CITY OF RALEIGH
STANDARD DETAIL

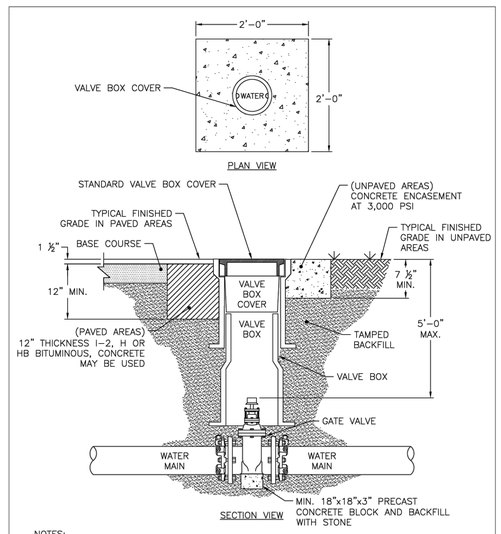
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	VALVE RESTRAINT AT TEES AND CROSSES FOR LINES (4"–24")	
	W-15	



NOTES:
1. VALVE BOX NOT TO CONTACT WATER MAIN
2. ALL TRAFFIC CASTINGS MUST BE CLASS 35 OR GREATER.
3. FOR ALL VALVES OVER 10' DEEP, A VALVE STEM EXTENSION MUST BE USED TO BRING TO A DEPTH OF NO MORE THAN 5', EXTENSION MUST BE A MINIMUM OF 1" SOLID STOCK.
4. TOTAL VALVE BOX WEIGHT: MINIMUM OF 85 LBS.
5. 2'x2'x6" CONCRETE PAD REQUIRED ON ALL VALVES. NO PRECAST CONCRETE DOUGHNUT ALLOWED.

CITY OF RALEIGH
STANDARD DETAIL

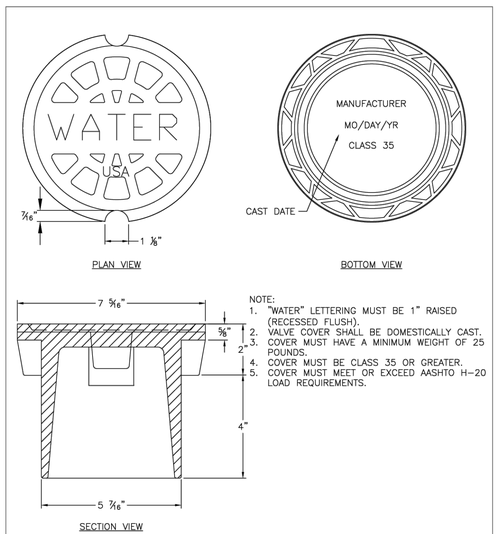
REVISIONS	DATE: 01/18/2025	NOT TO SCALE
	VALVE BOX INSTALLATION AND EXTENSION	
	W-17	



NOTES:
1. ONLY MANUFACTURED VALVE BOX EXTENSIONS SHALL BE ALLOWED.
2. VALVE OPERATING NUT MUST BE EXTENDED SO THAT THE DEPTH IS NO GREATER THAN 5' FROM THE SURFACE USING A MANUFACTURER APPROVED EXTENSION KIT.
3. PRECAST CONCRETE ENCASEMENT IS ALLOWED OUTSIDE OF PAVED AREAS.
4. VALVE BOX SHOULD NOT CONTACT MAIN OR VALVE.

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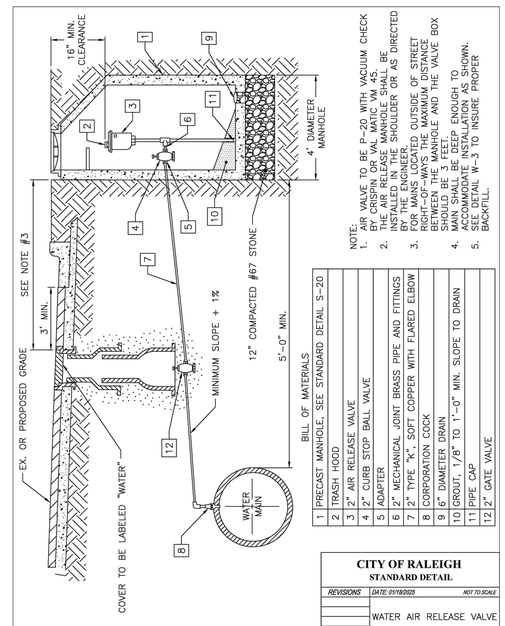
REVISIONS	DATE: 01/18/2025	NOT TO SCALE
	VALVE AND BOX INSTALLATION	
	W-17A	



NOTE:
1. "WATER" LETTERING MUST BE 1" RAISED (RECESSED FLUSH).
2. VALVE COVER SHALL BE DOMESTICALLY CAST.
3. COVER MUST HAVE A MINIMUM WEIGHT OF 25 POUNDS.
4. COVER MUST BE CLASS 35 OR GREATER.
5. COVER MUST MEET OR EXCEED AASHTO H–20 LOAD REQUIREMENTS.

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 01/18/2025	NOT TO SCALE
	5 ¼" VALVE BOX DROP LID WITH 4" SKIRT	
	W-18	



NOTE:
1. AIR VALVE TO BE P–20 WITH VACUUM CHECK AND ORIFICE VALVE. THE AIR RELEASE MANHOLE SHALL BE INSTALLED IN THE SHOULDER OR AS DIRECTED BY THE ENGINEER.
2. FOR MANHOLES LOCATED OUTSIDE OF STREET RIGHT–OF–WAYS THE MAXIMUM DISTANCE BETWEEN THE MANHOLE AND THE VALVE BOX SHALL BE 15'.
3. MAIN SHALL BE DEEP ENOUGH TO ACCOMMODATE INSTALLATION AS SHOWN.
4. SEE DETAIL W–3 TO INSURE PROPER BACKFILL.

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 01/18/2025	NOT TO SCALE
	WATER AIR RELEASE VALVE	
	W-19	

GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)
1 inch = 50 ft

N.C. UNDERGROUND UTILITIES
811
3 DAYS BEFORE DIGGING CALL TOLL FREE 811 or (800)632-4949
A ONE CALL SYSTEM FOR COMMUNITY AND JOB SAFETY

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Cary, N.C. 27519
(919) 996-9455

Surveyor
BCSC BATEMAN CIVIL SURVEY COMPANY
Bateman Civil Survey Company
2524 Reliance Avenue
Apex, NC 27539
919-557-1080 ext 109
www.batemancivilsurvey.com

Jurisdiction / Municipality
Rolesville
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
CID-25-0004 (PSP-24-05)

Landscape Architect
STRONGROCK
THE STRONGROCK COMPANIES
305 Church at North Hills Street
Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

Sheet map:

Seal:
NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A. HARRIS
Bryan Harris
Digitally signed by Bryan Harris
DN: CN=Bryan Harris, O=Quantech Engineering LLP, OU=Bryan Harris
Date: 2026.11.04 11:52:57-05'00'

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Project:
HARRIS CREEK FARMS
CID 25-0004 (FKA - CID-25-03)

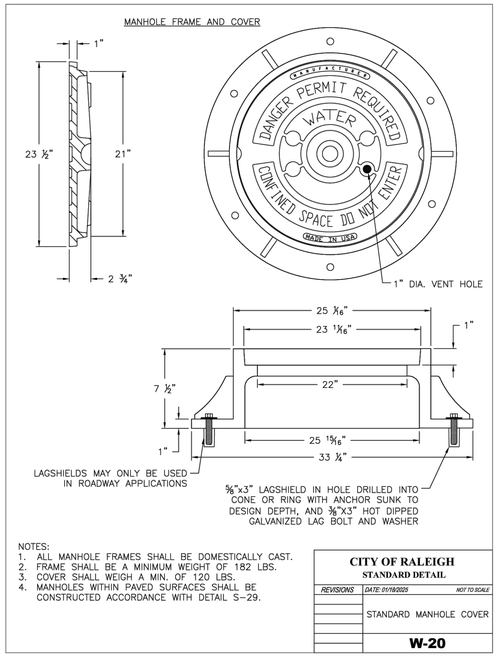
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No.	Date	Description

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WATER DETAILS 2 OF 4

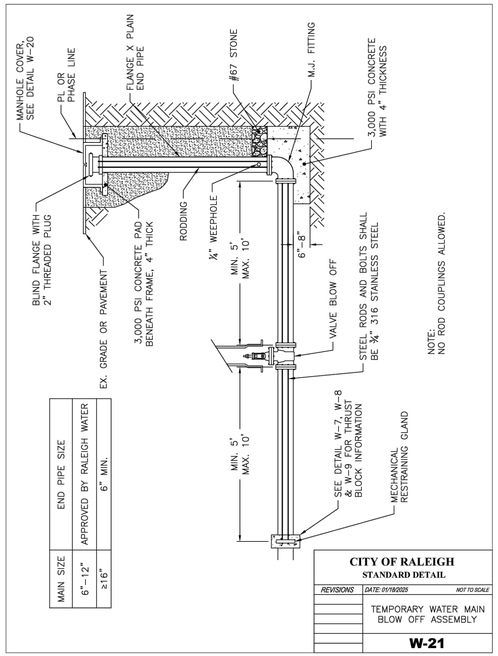
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72



NOTES:
1. ALL MANHOLE FRAMES SHALL BE DOMESTICALLY CAST.
2. FRAME SHALL BE A MINIMUM WEIGHT OF 182 LBS.
3. COVER SHALL WEIGH A MIN. OF 120 LBS.
4. MANHOLES WITHIN PAVED SURFACES SHALL BE CONSTRUCTED ACCORDANCE WITH DETAIL S-29.

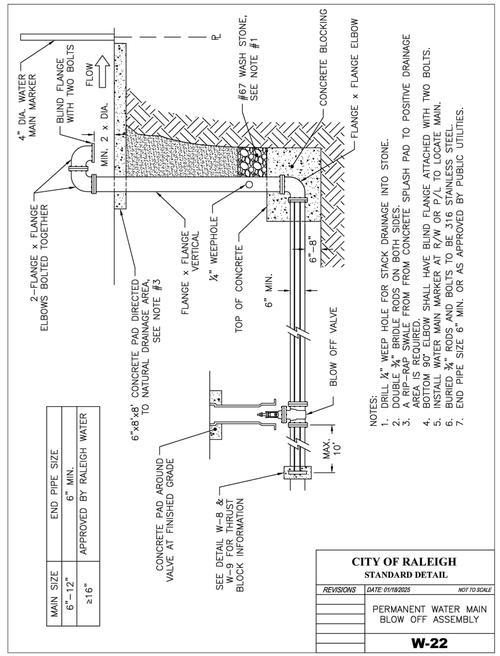
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REVISIONS	DATE: 01/19/2025	NOT TO SCALE
	STANDARD MANHOLE COVER	
	W-20	



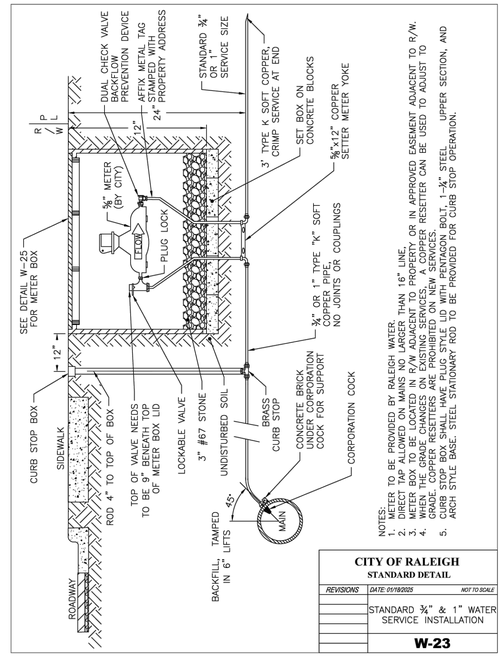
CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 01/19/2025	NOT TO SCALE
	TEMPORARY WATER MAIN BLOW OFF ASSEMBLY	
	W-21	



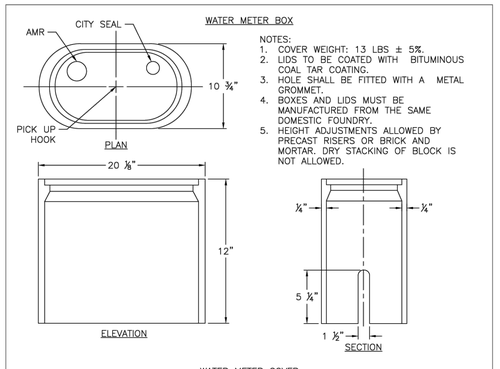
CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 01/19/2025	NOT TO SCALE
	PERMANENT WATER MAIN BLOW OFF ASSEMBLY	
	W-22	



CITY OF RALEIGH
STANDARD DETAIL

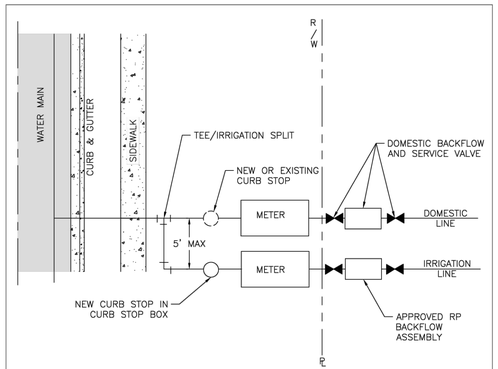
REVISIONS	DATE: 01/19/2025	NOT TO SCALE
	STANDARD ¾" & 1" WATER SERVICE INSTALLATION	
	W-23	



NOTES:
1. COVER WEIGHT: 13 LBS ± 5%.
2. LIDS TO BE COATED WITH BITUMINOUS COAL TAR COATING.
3. HOLE SHALL BE FITTED WITH A METAL GROMMET.
4. BOXES AND LIDS MUST BE MANUFACTURED FROM THE SAME DOMESTIC FOUNDRY.
5. HEIGHT ADJUSTMENTS ALLOWED BY PRECAST RISERS OR BRICK AND MORTAR. DRY STACKING OF BLOCK IS NOT ALLOWED.

CITY OF RALEIGH
STANDARD DETAIL

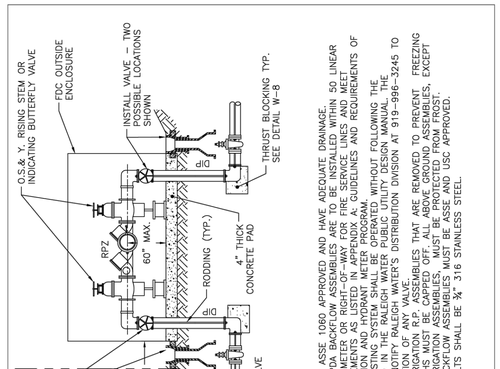
REVISIONS	DATE: 01/19/2025	NOT TO SCALE
	WATER METER BOX	
	W-25	



NOTES:
1. IRRIGATION METER SHALL BE LOCATED ON THE SIDE OF DOMESTIC METER WITH INCREASING ADDRESSES.
2. REQUIRED CONTAINMENT BACKFLOWS ARE TO BE INSTALLED WITHIN 50 LINEAR PIPING FEET OF THE METER OR RIGHT-OF-WAY FOR FIRE SERVICE LINES AND MEET INSTALLATION REQUIREMENTS AS LISTED IN APPENDIX A: GUIDELINES AND REQUIREMENTS OF THE CROSS CONNECTION AND HYDRANT METER PROGRAM.
3. BACKFLOW RISER/STANDPIPE SHALL BE OF COPPER OR BRASS.
4. THE RP RELIEF VALVE SHALL BE A MINIMUM OF 12" ABOVE ANY MATERIAL (MULCH INCLUDED) OR GRADE.
5. A SERVICE VALVE IS REQUIRED BEFORE AND AFTER THE BACKFLOW ASSEMBLY FOR MAINTENANCE AND REPLACEMENT PURPOSES.
6. ENCLOSURE MUST BE ASSE 1060 APPROVED AND HAVE ADEQUATE DRAINAGE.

CITY OF RALEIGH
STANDARD DETAIL

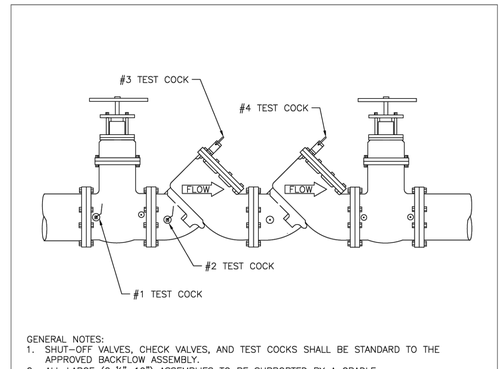
REVISIONS	DATE: 01/19/2025	NOT TO SCALE
	IRRIGATION TAP ON NEW AND EXISTING SERVICES	
	W-35	



NOTES:
1. ENCLOSURE MUST BE ASSE 1060 APPROVED AND HAVE ADEQUATE DRAINAGE.
2. CONTAINMENT RPZ/RPDA BACKFLOWS ARE TO BE INSTALLED WITHIN 50 LINEAR PIPING FEET OF THE METER OR RIGHT-OF-WAY FOR FIRE SERVICE LINES AND MEET INSTALLATION REQUIREMENTS AS LISTED IN APPENDIX A: GUIDELINES AND REQUIREMENTS OF THE CROSS CONNECTION AND HYDRANT METER PROGRAM.
3. THE CROSS CONNECTION AND HYDRANT METER PROGRAM SHALL NOT BE OPERATED WITHOUT FOLLOWING THE PROCEDURE OUTLINED IN THE RALEIGH WATER PUBLIC UTILITY DESIGN MANUAL. THE CONTRACTOR SHALL NOTIFY RALEIGH WATER'S DISTRIBUTION DIVISION AT 919-996-3245 TO REQUEST THE OPERATION OF ANY VALVE.
4. REDUCED PRESSURE ASSEMBLIES THAT ARE REMOVED TO PREVENT FREEZING IN THE WINTER MONTHS MUST BE CAPPED OFF, ALL ABOVE GROUND ASSEMBLIES, EXCEPT RESIDENTIAL LAWN IRRIGATION ASSEMBLIES, MUST BE PROTECTED FROM FROST.
5. ALL CONTAINMENT BACKFLOW ASSEMBLIES MUST BE ASSE AND USC APPROVED.
6. STEEL RODS AND BOLTS SHALL BE ¾" 316 STAINLESS STEEL.

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 01/19/2025	NOT TO SCALE
	REDUCED PRESSURE ZONE AND REDUCED PRESSURE DETECTOR ASSEMBLY	
	W-36	



GENERAL NOTES:
1. SHUT-OFF VALVES, CHECK VALVES, AND TEST COCKS SHALL BE STANDARD TO THE APPROVED BACKFLOW ASSEMBLY.
2. ALL LARGE (2 ½"-10") ASSEMBLIES TO BE SUPPORTED BY A CRADLE.
3. ENCLOSURE FOUNDATIONS SHALL BE CONSTRUCTED OF 4" OF CONCRETE OR 6" OF STONE.
4. ASSEMBLIES MUST BE ON CURRENT APPROVAL LIST.
5. 2 ½" AND LARGER ASSEMBLIES SHALL BE FUSION BONDED EPOXY COATED INCLUDING SHUTOFF VALVES.
6. ENCLOSURE MUST BE ASSE 1060 APPROVED AND HAVE ADEQUATE DRAINAGE.
7. CONTAINMENT RPZ/RPDA BACKFLOWS ARE TO BE INSTALLED WITHIN 50 LINEAR PIPING FEET OF THE METER OR RIGHT-OF-WAY FOR FIRE SERVICE LINES AND MEET INSTALLATION REQUIREMENTS AS LISTED IN APPENDIX A: GUIDELINES AND REQUIREMENTS OF THE CROSS CONNECTION AND HYDRANT METER PROGRAM.
8. NO VALVE IN THE EXISTING SYSTEM SHALL BE OPERATED WITHOUT FOLLOWING THE PROCEDURE OUTLINED IN THE RALEIGH WATER PUBLIC UTILITY DESIGN MANUAL. THE CONTRACTOR SHALL NOTIFY RALEIGH WATER'S DISTRIBUTION DIVISION AT 919-996-3245 TO REQUEST THE OPERATION OF ANY VALVE.
9. ALL CONTAINMENT BACKFLOW ASSEMBLIES MUST BE ASSE AND USC APPROVED.
10. STEEL RODS AND BOLTS SHALL BE ¾" 316 STAINLESS STEEL.

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 01/19/2025	NOT TO SCALE
	STANDARD DOUBLE CHECK VALVE ASSEMBLY	
	W-38	

GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)
1 inch = 50 ft

N.C. UNDERGROUND UTILITIES
811
3 DAYS BEFORE DIGGING CALL TOLL FREE 811 or (800)632-4949
A ONE CALL SYSTEM FOR COMMUNITY AND JOB SAFETY

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Firm # F-1517
275 CARPENTER HILL LANE
Cary, N.C. 27519
(919) 996-9455

Surveyor
BCSC BATEMAN CIVIL SURVEY COMPANY
Bateman Civil Survey Company
2524 Reliance Avenue
Apex, NC 27539
919-557-1080 ext 109
www.batemancivilsurvey.com

Jurisdiction / Municipality
Rolesville Genuine Community • Capital Connection Est. 1837
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
CID-25-0004 (PSP-24-05)
Formerly known as CID-25-03

Landscape Architect
STRONGROCK
THE STRONGROCK COMPANIES
305 Church at North Hills Street
Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

Sheet map:

Seal:
NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A. HARRIS
Bryan Harris
Digitally signed by Bryan Harris
DN: cn=Bryan Harris, o=Quantech Engineering, LLC, ou=Bryan Harris
Date: 2026.11.04 11:53:00-05'00'

Issued / Print Date: 2026-July-27 (10:51)
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Drawn by: TAN

Project:

HARRIS CREEK FARMS

CID 25-0004 (FKA - CID-25-03)

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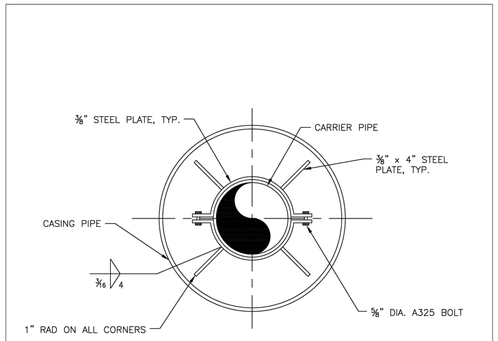
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Sheet Title:

WATER DETAILS 3 OF 4

Sheet #:

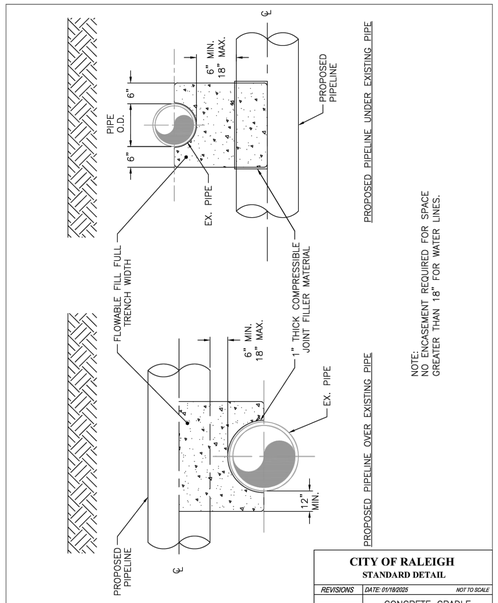
73



NOTE:
USE A MINIMUM OF TWO SPIDERS PER PIPE JOINT ONE FOURTH OF THE PIPE JOINT LENGTH IN FROM BOTH THE BELL AND SPIGOT ENDS.

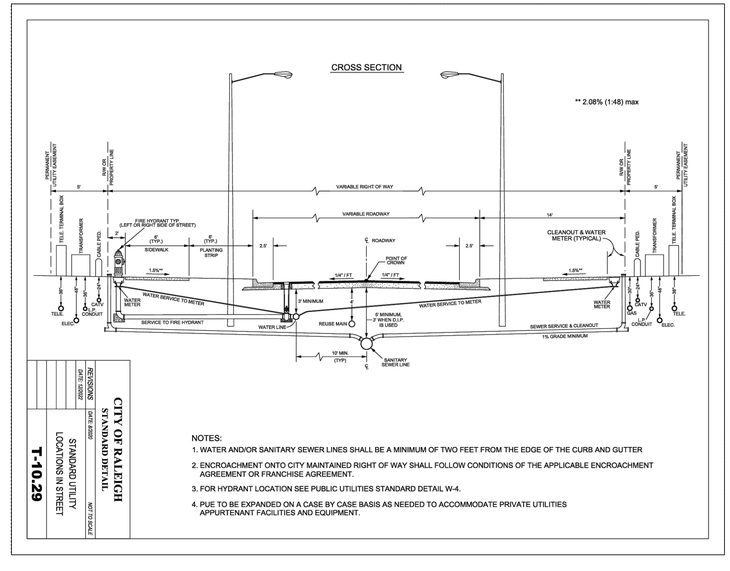
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STANDARD DETAIL

REVISIONS	DATE: 01/19/2025	NOT TO SCALE
	PIPE ALIGNMENT GUIDE	
	W-40	



CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 01/19/2025	NOT TO SCALE
	CONCRETE CRADLE PROTECTION FOR WATER LINE CROSSINGS	
	W-41	



NOTES:
1. WATER AND/OR SANITARY SEWER LINES SHALL BE A MINIMUM OF TWO FEET FROM THE EDGE OF THE CURB AND GUTTER
2. ENCROACHMENT ONTO CITY MAINTAINED RIGHT OF WAY SHALL FOLLOW CONDITIONS OF THE APPLICABLE ENCROACHMENT AGREEMENT OR FRANCHISE AGREEMENT.
3. FOR HYDRANT LOCATION SEE PUBLIC UTILITIES STANDARD DETAIL W-4.
4. PUE TO BE EXPANDED ON A CASE BY CASE BASIS AS NEEDED TO ACCOMMODATE PRIVATE UTILITIES APPURTENANT FACILITIES AND EQUIPMENT.

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 03/07	DATE: 03/08	DATE: 01/25	NOT TO SCALE
				UTILITY STANDARD LOCATIONS IN STREET
				T-10.29

GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)
1 inch = 50 ft

N.C. UNDERGROUND UTILITIES
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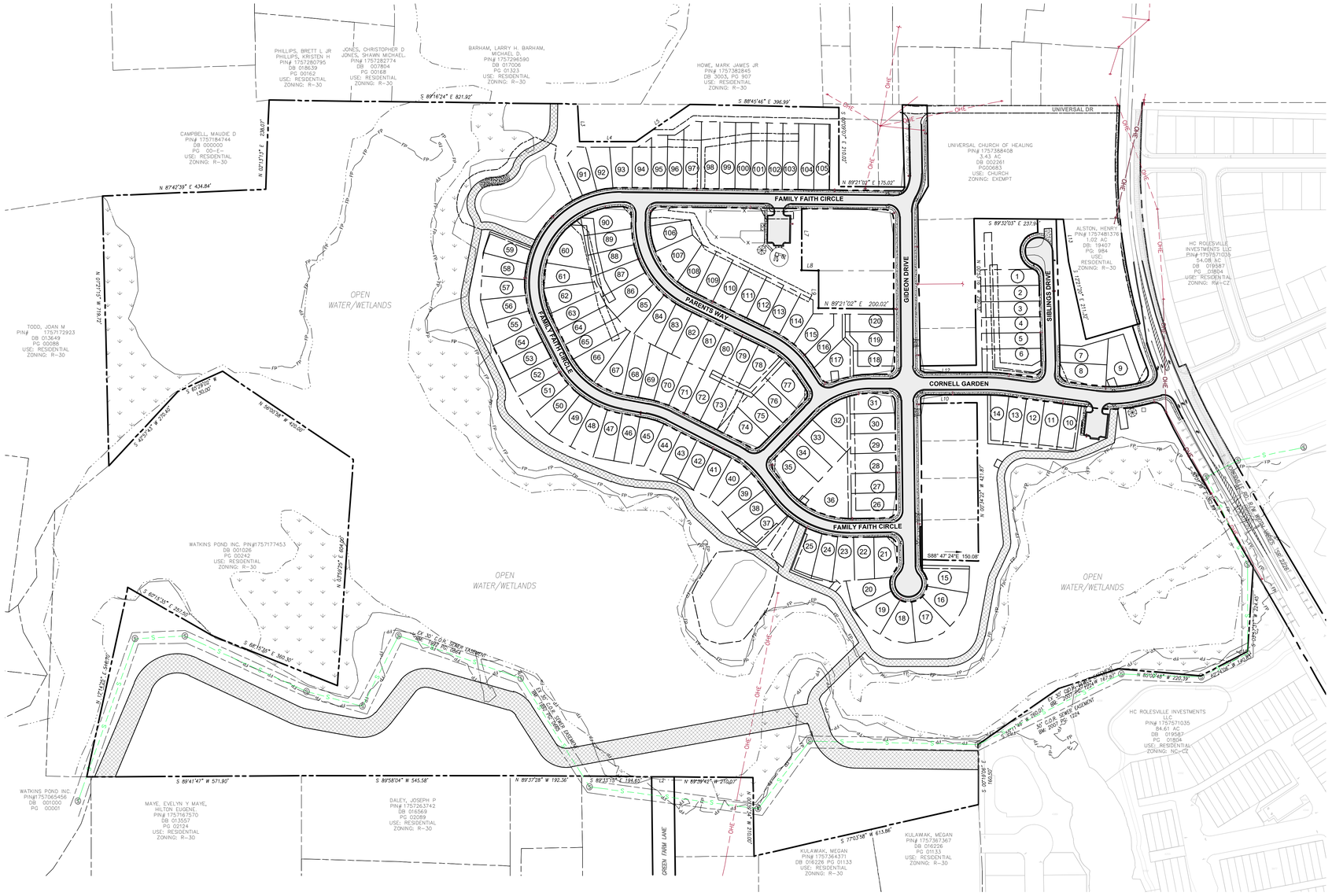
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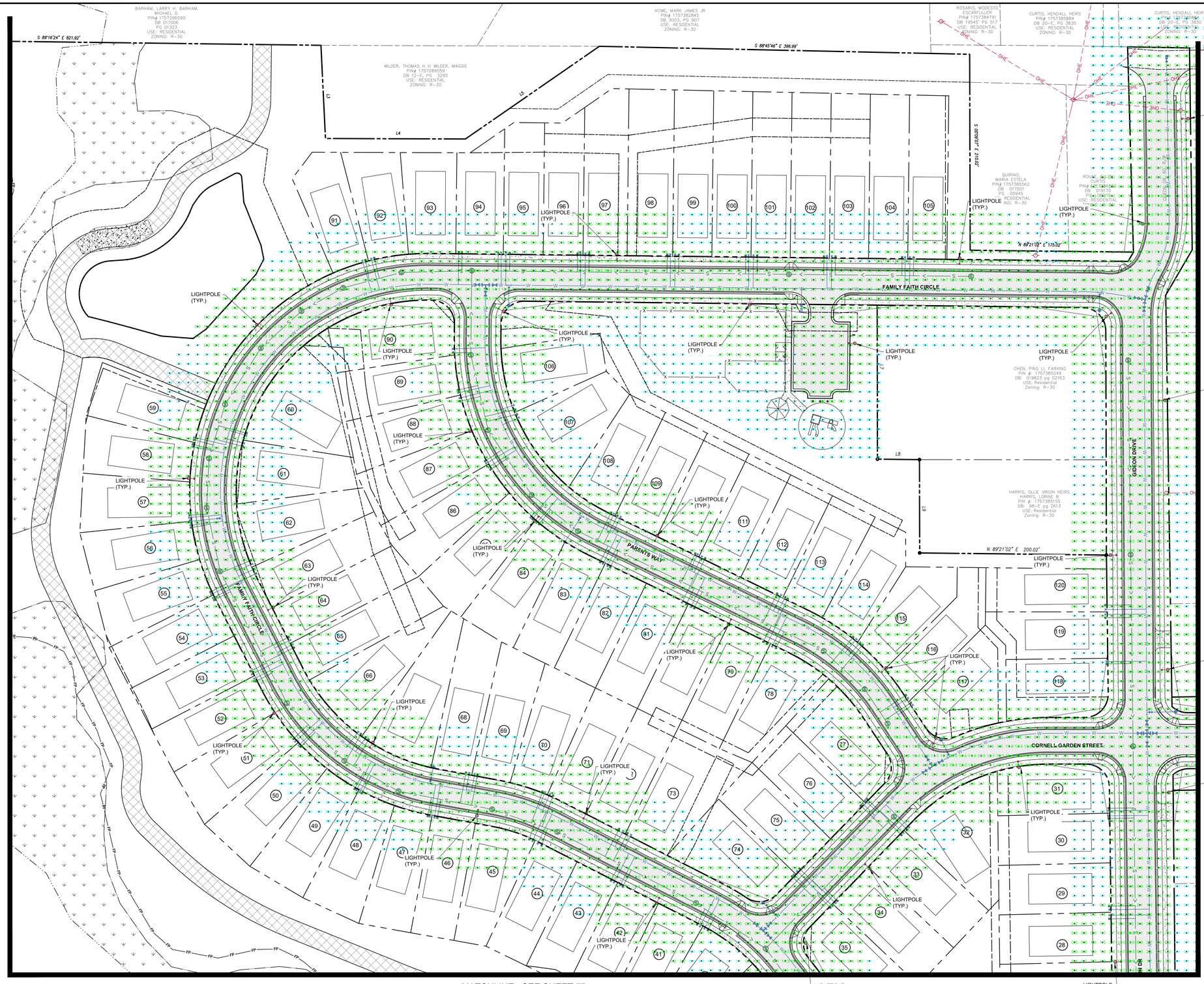
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No.	Date	Description

Sheet Title:
WATER DETAILS 4 OF 4

Sheet #:
74


FAMILY FAITH CIRCLE
GIDEON DRIVE
PARENTS WAY
FAMILY FAITH CIRCLE
CORNELL GARDEN
FAMILY FAITH CIRCLE
SIBLINGS DRIVE
UNIVERSAL DR
OPEN WATER/WETLANDS
OPEN WATER/WETLANDS
OPEN WATER/WETLANDS
PHILLIPS, BRETT L JR
PHILLIPS, KRISTEN H
PIN# 1757280795
DB 018639
PG 00162
USE: RESIDENTIAL
ZONING: R-30
JONES, CHRISTOPHER D
JONES, SHAWN MICHAEL
PIN# 1757282774
DB 007804
PG 00168
USE: RESIDENTIAL
ZONING: R-30
BARHAM, LARRY H, BARHAM, MICHAEL D
PIN# 1757296590
DB 017006
PG 01323
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ZONING: R-30
HOWE, MARK JAMES JR
PIN# 1757382845
DB 3053, PG 957
USE: RESIDENTIAL
ZONING: R-30
CAMPBELL, MAUDIE D
PIN# 1757184744
DB 000000
PG 00-E-
USE: RESIDENTIAL
ZONING: R-30
UNIVERSAL CHURCH OF HEALING
PIN# 1757388408
3.43 AC
DB 002261
PG00683
USE: CHURCH
ZONING: EXEMPT
ALSTON, HENRY
PIN# 1757481370
1.02 AC
DB: 19407
PG: 984
USE: RESIDENTIAL
ZONING: R-30
HC ROLESVILLE INVESTMENTS LLC
PIN# 1757571035
54.08 AC
DB 019587
PG 01804
USE: RESIDENTIAL
ZONING: RM-CZ
TODD, JOAN M
PIN# 1757172923
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WATKINS POND INC, PIN#1757177453
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PG 00242
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ZONING: R-30
DALEY, JOSEPH P
PIN# 1757263742
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KULAWIAK, MEGAN
PIN# 1757363471
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84.61 AC
DB 019587
PG 01804
USE: RESIDENTIAL
ZONING: NC-CZ
GREEN FARM LANE
S 89°16'24" E 821.92'
N 87°43'39" E 434.84'
S 88°45'46" E 396.99'
N 89°21'02" E 175.02'
N 89°21'02" E 200.02'
S 89°32'03" E 237.64'
S 88° 47' 24" E 150.08'
S 89°41'47" W 571.90'
S 89°58'04" W 545.58'
N 89°37'28" W 192.36'
S 89°33'25" E 191.62'
N 89°39'43" W 210.07'
S 27°03'58" W 613.86'
S 85°00'45" W 220.39'
S 85°47'46" W 280.01'
S 27°11'06" E 160.05'
N 27°11'06" W 19.27'
N 12°42'57" E 249.93'
N 07°47'13" E 238.07'
N 07°57'15" W 1,319.27'
N 07°59'52" E 604.90'
S 65°51'47" W 278.40'
N 36°00'38" W 435.65'
S 68°10'39" E 360.30'
S 68°10'39" E 280.26'
S 88°47'24" E 417.87'
S 27°11'06" E 211.35'
S 27°11'06" E 211.35'
S 85°47'46" W 280.01'
S 27°11'06" E 160.05'
N



Target Point Set
8910 points at z=0, sp 10ft by 10ft

HORIZONTAL FOOTCANDLES

Average:	2.2
Maximum:	20.8
Minimum:	0.0
Avg Min:	N/A
Max Min:	N/A
Coef Var:	1.71
UnifGrad:	N/A

GRAPHIC SCALE

50 0 25 50 100 200
(IN FEET)
1 inch = 50 ft

N.C. UNDERGROUND UTILITIES
811 3 DAYS BEFORE DIGGING CALL TOLL FREE 811 or (800)632-4949
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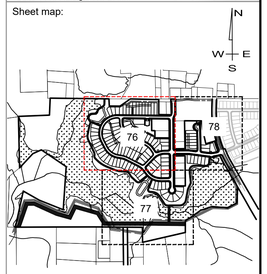
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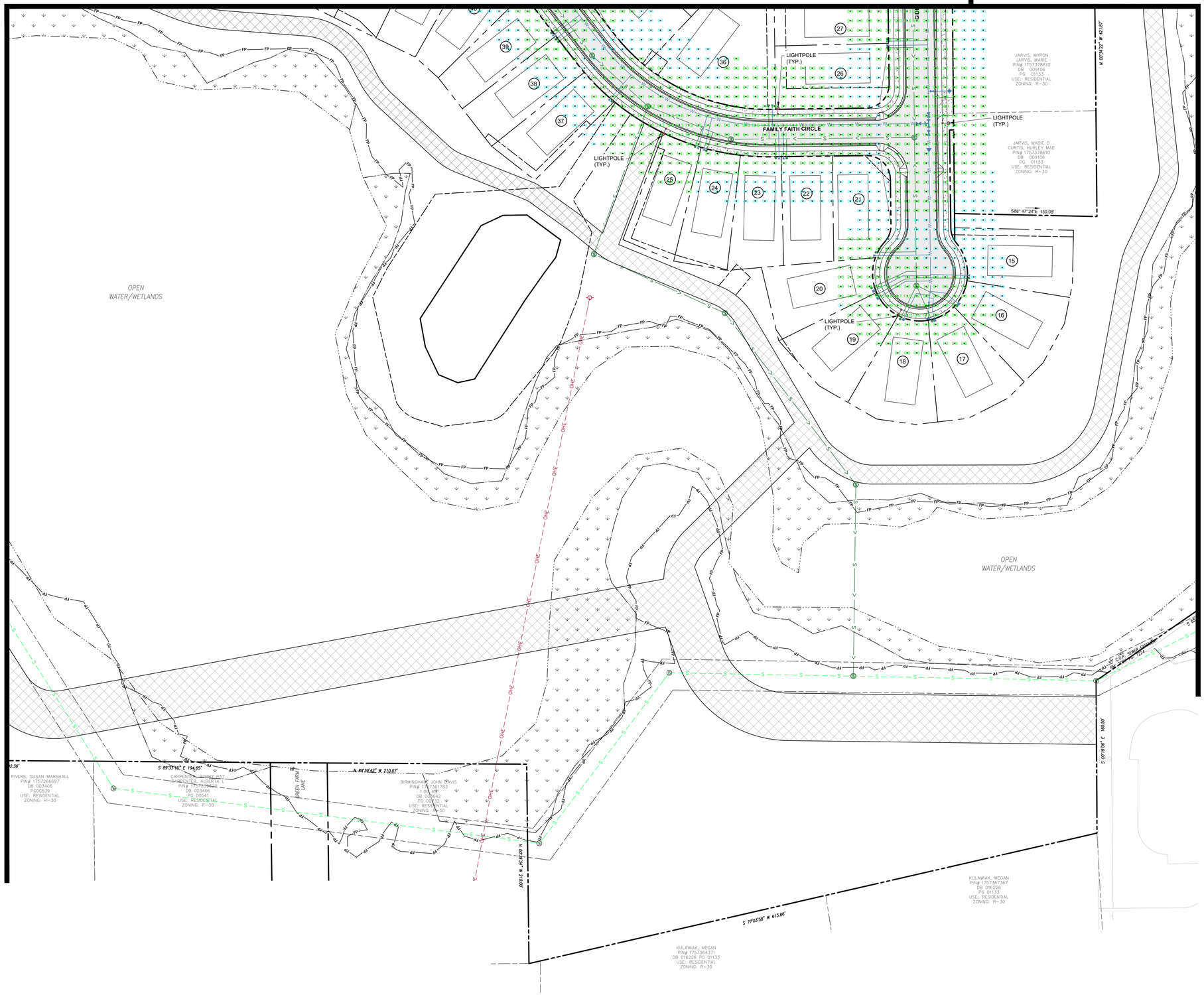
LIGHTING PLAN SHEET 1 OF 3

Sheet #:

76

MATCHLINE SEE SHEET 76

MATCHLINE SEE SHEET 78



Target Point Set
8910 points at z=0, sp 10ft by 10ft

HORIZONTAL FOOTCANDLES

Average:	2.2
Maximum:	20.8
Minimum:	0.0
Avg Min:	N/A
Max Min:	N/A
Coef Var:	1.71
UnifGrad:	N/A

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft

N.C. UNDERGROUND UTILITIES
811 3 DAYS BEFORE DIGGING CALL TOLL FREE 811 or (800)632-4949
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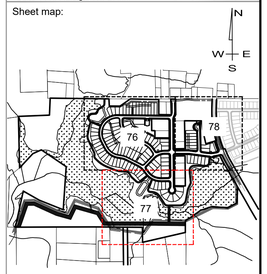
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Sheet map:



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Bryan Harris

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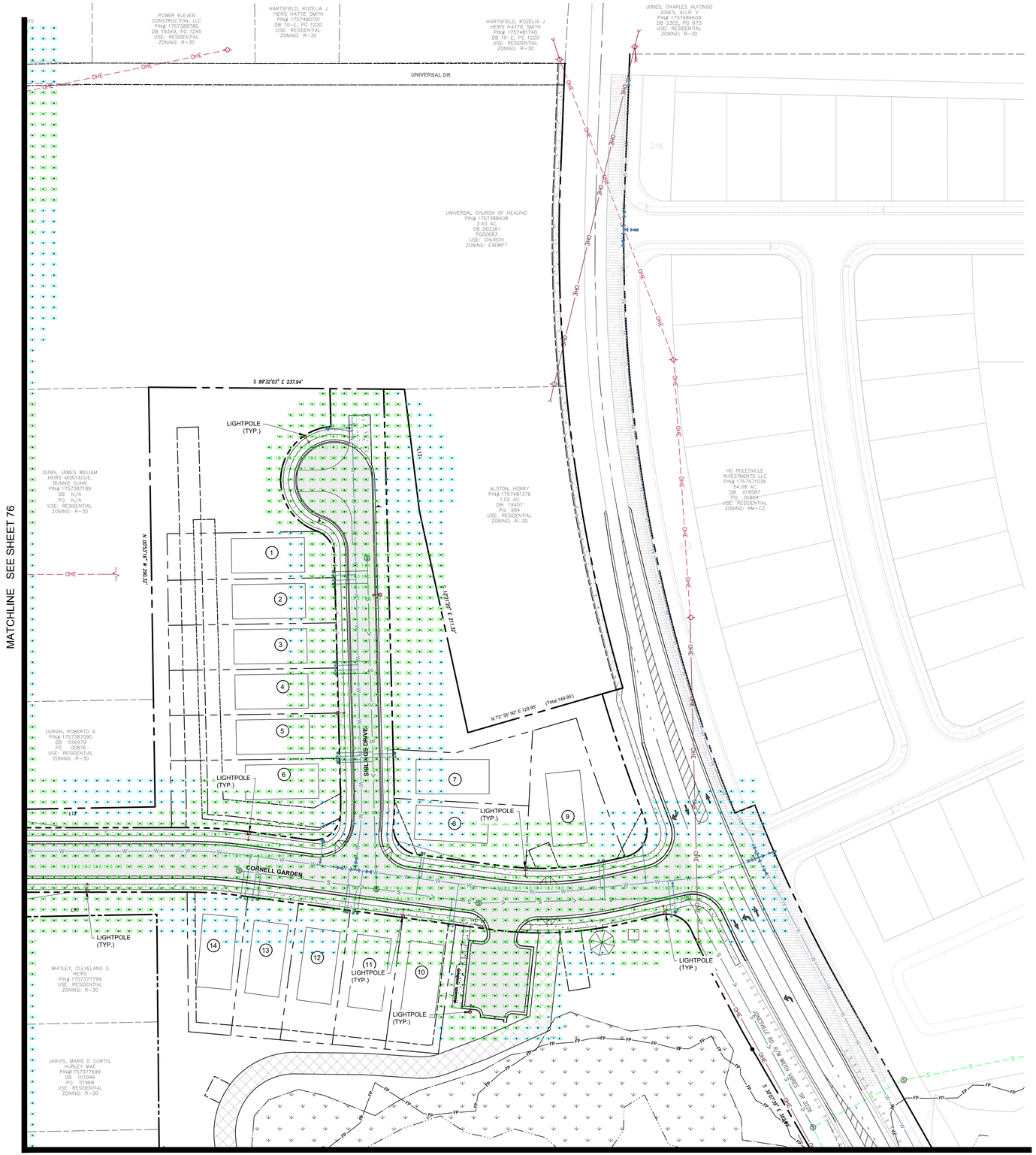
No.	Date	Description

Sheet Title:

LIGHTING PLAN SHEET 2 OF 3

Sheet #:

77



Target Point Set
8910 points at z=0, sp 10ft by 10ft

HORIZONTAL FOOTCANDLES

Average:	2.2
Maximum:	20.8
Minimum:	0.0
Avg Min:	N/A
Max Min:	N/A
Coef Var:	1.71
UnifGrad:	N/A

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft

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Surveyor

BCSC
BATEMAN CIVIL SURVEY COMPANY
Bateman Civil Survey Company
2524 Reliance Avenue
Apex, NC 27539
919-557-1080 ext 109
www.batemancivilsurvey.com

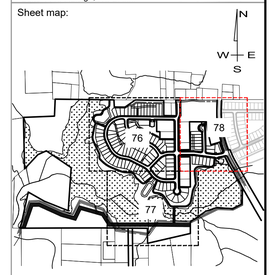
Jurisdiction / Municipality

Rolesville
Genuine Community • Capital Connection
Est. 1837
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
CID-25-0004 (PSP-24-05)

Landscape Architect

STRONGROCK
THE STRONGROCK COMPANIES
305 Church at North Hills Street
Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

Sheet map:



Seal:

NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A HARRIS

Bryan Harris

Digitally signed by Bryan Harris
DN: CN=Bryan Harris, O=QuanTechEng.com, OU=Quantech Engineering LLP, C=US, E=Bryan Harris
Date: 2026.11.04 11:53:17-05'00'

Issued / Print Date: 2026-July-27 (10:52)
File Name: 75 Overall Lighting Plan.dwg

Last Saved by: Bryan
Drawn by: TAN

Project:

HARRIS CREEK FARMS

CID 25-0004 (FKA - CID-25-03)

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FOR CONSTRUCTION

REVISIONS

No.	Date	Description

Sheet Title:

LIGHTING PLAN SHEET 3 OF 3

Sheet #:

78

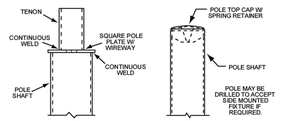
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CATALOG NUMBER:	
JOB NAME:	
CUSTOMER NAME:	
NOTES:	TYPE:
	DATE:

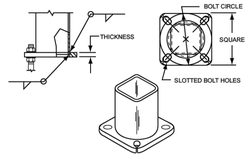
FEATURES AND SPECIFICATIONS

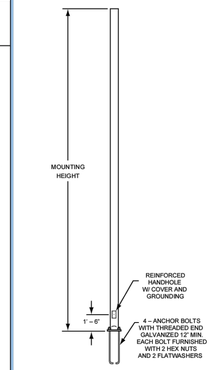
AREA LIGHTING
POLES
SQUARE STRAIGHT STEEL POLES

POLE TIP DETAILS



POLE BASE DETAILS





ORDERING INFORMATION

Nominal Mounting Height (ft)	Catalog Number	Shaft			Pole Base			Maximum Loading			
								90MPH	100MPH	110MPH	120MPH
		Base O.D. (in)	Wall Thk. (ga)	Gross Weight (lbs)	Bolt Circle Range*	Plate Width (in)	Plate Thk. (in)	EPA (ft^2)	EPA (ft^2)	EPA (ft^2)	EPA (ft^2)
12	SSS12411BZ	4.00	11	90	8 to 11	8.0	0.75	23.0	18.2	14.6	11.7
14	SSS14411BZ	4.00	11	105	8 to 11	8.0	0.75	18.7	14.5	11.5	9.1
16	SSS16411BZ	4.00	11	120	8 to 11	8.0	0.75	15.1	11.5	8.9	6.9
18	SSS18411BZ	4.00	11	135	8 to 11	8.0	0.75	12.2	9.1	6.8	5.1
20	SSS20411BZ	4.00	11	150	8 to 11	8.0	0.75	9.5	6.9	4.9	3.4
20	SSS20507BZ	5.00	7	250	9 to 11	11.0	1.00	30.5	23.7	18.6	14.7
20	SSS20511BZ	5.00	11	180	9 to 11	11.0	0.75	20.0	14.9	11.5	8.8

*-Consult Factory for Specific Bolt Circle Measurements. Continued

Actual performance can vary depending on operating conditions. Specifications are subject to change without notice.

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PO BOX 2348 | BURLINGTON, NC 27216
800-849-8485 | FAX: 336-227-0110 | www.atlaslightingproducts.com

L

AREA LIGHTING
POLES
SQUARE STRAIGHT STEEL POLES

ORDERING INFORMATION CONTINUED

Nominal Mounting Height (ft)	Catalog Number	Shaft			Pole Base			Maximum Loading			
								90MPH	100MPH	110MPH	120MPH
		Base O.D. (in)	Wall Thk. (ga)	Gross Weight (lbs)	Bolt Circle Range*	Plate Width (in)	Plate Thk. (in)	EPA (ft^2)	EPA (ft^2)	EPA (ft^2)	EPA (ft^2)
25	SSS25411BZ	4.00	11	188	8 to 11	8.0	0.75	9.3	6.4	4.3	2.6
25	SSS25407BZ	4.00	7	250	8 to 11	8.0	0.75	11.2	8.0	5.5	3.7
25	SSS25511BZ	5.00	11	225	9 to 11	11.0	0.75	16.0	11.4	8.0	5.6
25	SSS25507BZ	5.00	7	313	9 to 11	11.0	1.00	34.0	26.2	20.0	15.9
30	SSS30407BZ	4.00	7	300	8 to 11	8.25	0.75	6.5	3.7	1.8	0.3
30	SSS30507BZ	5.00	7	375	9 to 11	11.0	1.00	24.1	17.5	13.0	9.4
30	SSS30607BZ	6.00	7	462	12	12.5	1.00	34.3	25.8	19.4	14.6
35	SSS35607BZ	6.00	7	539	12	12.5	1.00	24.8	17.7	12.2	8.4

*-Consult Factory for Specific Bolt Circle Measurements.

ORDERING INFORMATION

S | S | S | 20 | – | 4 | – | 11 | – | T | | – | BZ | 3

- SHAPE: S = Square, R = Round
- SHAFT: S = Straight, T = Tapered
- STRUCTURE: S = Steel, A = Aluminum, C = Concrete, F = Fiberglass
- HEIGHT (FT)*: 18 = 18 ft, 20 = 20 ft, 25 = 25 ft, 30 = 30 ft. *Other sizes available
- DIAMETER/ WIDTH (IN)*: 4 = 4 in, 5 = 5 in, 6 = 6 in. *Other sizes available
- GAUGE (IN): 11 = 11 in, 07 = 07 in
- TENON DETAIL: T = Welded, Blank = None
- BASE DETAIL: E = Embedded, Blank = Anchor
- COLOR*: BZ = Bronze, W = White, S = Anodized Silver, B = Black
- DRILL PATTERN: 1 = 1, 2 = 2 @ 90°, 3 = 2 @ 180°, 4 = 3 @ 90°, 5 = 4 @ 90°, 6 = Drop Mount

Actual performance can vary depending on operating conditions. Specifications are subject to change without notice.

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800-849-8485 | FAX: 336-227-0110 | www.atlaslightingproducts.com

L

Atlas Lighting Products | Atlas LED

Project Information	
Job Name	
Type	Square Pole Tenon Adapter - Up to 4 @ 90°
Catalog Number	500-SPTABZ
Approved by	

500-SPTABZ
Square Pole Tenon Adapter - Up to 4 @ 90°

SPECIFICATIONS:

Construction:
Die Cast Aluminum
Removable Top Bracket Cover Included
(3) Sides have Removable Hole Plugs installed

Mounting:
Mounting Cleat(s) Included w/ SLP Fixture(s)
Bracket is Pre-drilled for Mounting up to (4) Fixtures

Weight:
4.19 lbs. / 1.9 kg.

Overall Height:
10.25" (26.035 cm)

Overall Width:
4" (10.16 cm)

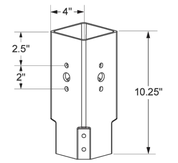
Overall Depth:
4" (10.16 cm)



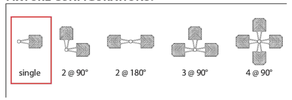
ORDERING INFORMATION:

CATALOG #	DESCRIPTION	FINISH
500-SPTABZ	For Square Poles w/ Tenon	Bronze

DIMENSIONS:



FIXTURE CONFIGURATIONS:



Made in the USA of US and imported parts. Meets Buy American requirements within the ARRA.

ATLAS LIGHTING PRODUCTS, INC.
PO BOX 2348 | BURLINGTON, NC 27216
800-849-8485 | FAX: 336-227-0110 | www.atlasled.com

Atlas Lighting Products

Project Information	
Job Name	
Fixture Type	Eagle Series
Catalog Number	SLPM
Approved by	

Eagle Series

2nd Generation LED Site Lighter

3000K or warmer CCTs only

SPECIFICATIONS:

Construction:
Designed for commercial and industrial applications, providing cooler operating temperatures, brighter light and longer LED life. The die cast aluminum housing utilizes external airflow fins allow for greater heat dissipation. The easy access driver compartment is a thermally independent compartment, separate from LED generated heat, for cooler operation and longer driver life.

Optics:
Atlas Site Lighter Pro fixtures utilize precision engineered individual lenses for maximum light intensity. The lens is made of optical grade polycarbonate. Advanced one piece optic board engineered for maximum light intensity. Types II, III, V and Forward Throw distributions are available. Types II, III and Forward Throw optics are rotatable allowing for optimal placement of the fixtures on the perimeter of any layout.

Mounting:
The easy mount bracket makes installation to any style pole quick and easy. Tenon and other mounting accessories also available.
For round poles **500-SLPMRPA** is required.

Thermal Management:
Atlas Site Lighter Pro fixtures are designed as a complete system to optimize LED life and light output. The thermal stacking heat removal technology extracts heat from within the housing moving it away from LEDs and components. The lower temperatures result in long LED life (200,000+ hrs[1]) and component life and also allows for higher light output.

Listings:
Luminaire is certified to UL/cUL Standards for Wet Locations
[2]The following qualify for DesignLights Consortium Premium:
SLPM6L (All colors/options), SLPM9L (All colors/options), SLPM12L (All colors/options), SLPM18L (All colors/options), SLPM24L (All colors/options), all other luminaires are DesignLights Consortium qualified. All are eligible for rebates from DLC member utilities.

AC Input:
120/208/240/277/347/480 V

Driver:
Constant current, 120-277 VAC, 50-60 Hz
High Efficiency – min. 88%
Off-State Power: 0 Watts
0-10 V Dimming

LEDs:
Available in 3000K, 4000K, 4500K and 5000K, CCT
Epoxy Guard™ protective conformal coated boards

Reduced Glare:
Positioning of the LED modules within the housing result in light directed to desired locations and reduces offensive light.

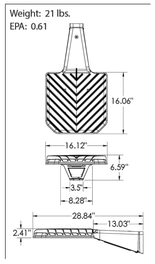
Testing:
Atlas LED luminaires have been tested by an independent laboratory in accordance with IESNA LM-79 & LM-80.

Warranty: Five-year limited warranty

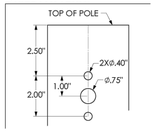
[1]*LED Life Span Based Upon LM-80 Test Results*

DIMENSIONS:

Weight: 21 lbs.
EPA: 0.61



DRILL PATTERN:



For round poles **500-SLPMRPA** is required.

Rebates and Incentives are available in many areas. Contact an Atlas Representative for more information.

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PO BOX 2348 | BURLINGTON, NC 27216
800-849-8485 | FAX: 336-227-0110 | www.atlasled.com

*The majority of Atlas Lighting Products are assembled in USA facilities by an American Workforce utilizing both Domestic and Foreign components. Meets Buy American requirements within the ARRA.

Atlas Lighting Products

Eagle Series

2nd Generation LED Site Lighter

ORDERING INFORMATION

SLPM | 9L | T3 | 4K | | | | | |

- PRODUCT SERIES: SLPM = 2nd Generation Site Lighter Pro
- LUMEN PACKAGE: 6L = 6,000 Lumens, 9L = 9,000 Lumens, 12L = 12,000 Lumens, 18L = 18,000 Lumens, 24L = 24,000 Lumens, 30L = 30,000 Lumens, 36L = 36,000 Lumens, 43L = 43,000 Lumens
- DISTRIBUTION: T2 = Type 2, T3 = Type 3, T5 = Type 5, FT = Forward Throw, T2L = Type 2 Rotated Left, T3L = Type 3 Rotated Left, FTL = Forward Throw Rotated Left, T2R = Type 2 Rotated Right, T3R = Type 3 Rotated Right, FTR = Forward Throw Rotated Right
- COLOR TEMP.: 3K = 3000K, 4K = 4000K, 45K = 4500K, 5K = 5000K
- VOLTAGE: Blank = 120-277, 4 = 347/480
- DIMMING: Blank = 0-10vdc
- COLOR RENDERING: Blank = 70CRI
- FIXTURE COLOR: Blank = Bronze, BK = Black, SL = Silver, WT = White
- OPTIONS: PR = 7 Pin Photocell Receptacle, SP = Surge Protection, IC = Integrated Motion Control, BTM = Bluetooth Microwave Motion Control *includes photocontrol*

Lumen Package	Distribution	CRI	3000K CCT		4000K CCT		4500K CCT		5000K CCT		Wattage
			Delivered Lumens	Efficacy (LPW)	Delivered Lumens	Efficacy (LPW)	Delivered Lumens	Efficacy (LPW)	Delivered Lumens	Efficacy (LPW)	
6L	T2	70	5908	153	6067	158	6093	159	6152	160	39
	T3	70	5824	151	5981	155	6006	155	6065	157	
	FT	70	5712	148	5866	152	5891	153	5948	154	
	T5	70	5848	152	6005	156	6031	156	6090	158	
9L	T2	70	9155	159	9401	163	9442	164	9533	166	58
	T3	70	9082	158	9326	162	9366	163	9457	164	
	FT	70	8866	154	9104	158	9144	159	9232	160	
	T5	70	9086	158	9330	162	9370	163	9461	164	
12L	T2	70	12030	160	12354	164	12407	165	12527	167	75
	T3	70	11900	159	12220	163	12272	164	12391	165	
	FT	70	11670	156	11984	160	12035	160	12152	162	
	T5	70	11950	159	12271	164	12324	164	12444	166	
18L	T2	70	17840	155	18320	159	18398	160	18577	162	115
	T3	70	17810	155	18289	159	18367	160	18546	161	
	FT	70	17340	151	17806	155	17883	156	18056	157	
	T5	70	17820	155	18299	159	18378	160	18556	161	
24L	T2	70	23640	148	24276	152	24380	153	24616	154	160
	T3	70	23620	148	24255	152	24359	153	24596	154	
	FT	70	23030	144	23650	148	23751	149	23981	150	
	T5	70	23660	148	24296	152	24401	153	24637	154	
30L	T2	70	29450	140	30242	144	30372	145	30666	146	210
	T3	70	29440	140	30232	144	30361	145	30656	146	
	FT	70	28750	137	29523	141	29650	141	29937	143	
	T5	70	29470	141	30263	144	30392	145	30687	146	
36L	T2	70	35260	133	36208	137	36364	137	36716	139	265
	T3	70	35220	133	36167	137	36322	137	36675	139	
	FT	70	34490	131	35418	134	35570	135	35914	136	
	T5	70	35200	133	36147	137	36302	137	36654	139	
43L	T2	70	42200	121	43335	124	43521	125	43943	126	348
	T3	70	41940	120	43068	124	43253	124	43672	125	
	FT	70	41300	118	42411	122	42593	122	43006	123	
	T5	70	41970	120	43099	124	43284	124	43703	125	

ATLAS LIGHTING PRODUCTS, INC.
PO BOX 2348 | BURLINGTON, NC 27216
800-849-8485 | FAX: 336-227-0110 | www.atlasled.com

The majority of Atlas Lighting Products are assembled in USA facilities by an American Workforce utilizing both Domestic and Foreign components. Meets Buy American requirements within the ARRA.

GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)
1 inch = 50 ft

N.C. UNDERGROUND UTILITIES
811
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A ONE CALL SYSTEM FOR COMMUNITY AND JOB SAFETY

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THE CSC GROUP
CONTRIBUTE TO THE SUCCESS OF LOCAL COMMUNITY
10030 Green Level Church Rd, Suite 802 #149: Cary, NC 27519

Engineer
QUANTECH ENGINEERING
INNOVATIVE SOLUTIONS | ENGINEERING THE FUTURE
Firm # F-1517
275 CARPENTER HILL LANE
Cary, N.C. 27519
(919) 996-9455

Surveyor
BCSC BATEMAN CIVIL SURVEY COMPANY
Bateman Civil Survey Company
2524 Reliance Avenue
Apex, NC 27539
919-557-1080 ext 109
www.batemancivilsurvey.com

Jurisdiction / Municipality
Rolesville
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
CID-25-0004 (PSP-24-05)

Landscape Architect
STRONGROCK
THE STRONGROCK COMPANIES
305 Church at North Hills Street
Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

Sheet map:

Seal:



Bryan Harris
Digitally signed by Bryan Harris
DN: CN=Bryan Harris, O=QuanTech Engineering, LLP, OU=Bryan Harris
Date: 2026.11.04 11:53:23 -05'00'

Issued / Print Date: 2026-July-27 (10:52)
File Name: 75 Overall Lighting Plan.dwg

Last Saved by: Bryan
Drawn by: TAN

Project:

HARRIS CREEK FARMS

CID 25-0004 (FKA - CID-25-03)

Issued for:

FINAL DRAWING
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REVISIONS

No.	Date	Description

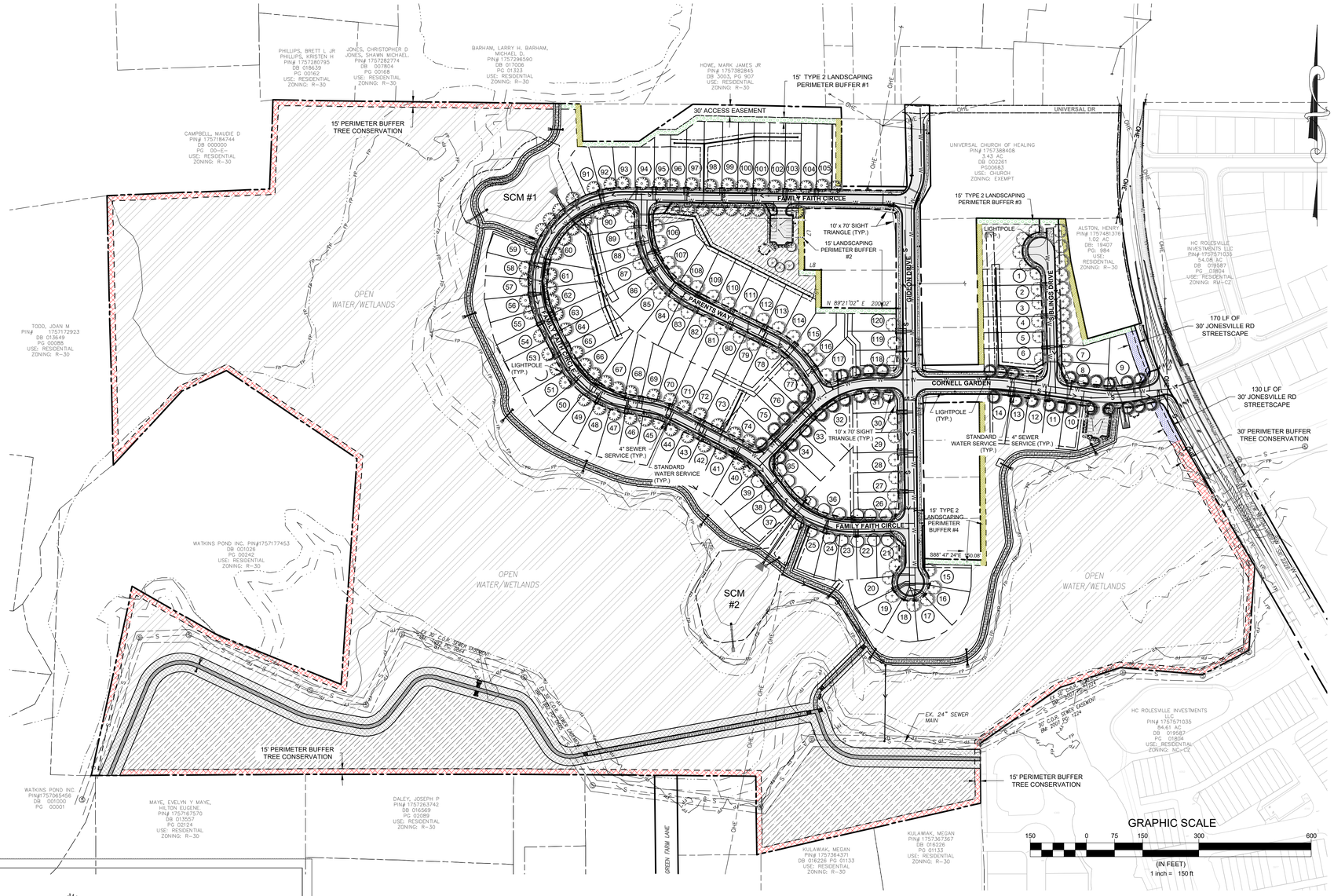
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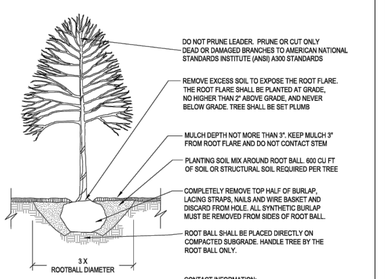
LIGHTING PLAN & DETAILS

Sheet #:

79

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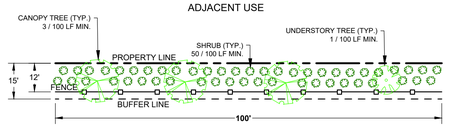




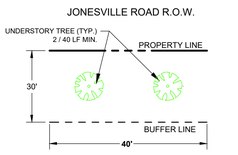
CONTACT INFORMATION:
CITY OF RALEIGH PARKS, RECREATION AND CULTURAL RESOURCES DEPARTMENT URBAN FORESTER:
TREES@RALEIGHNC.GOV
WWW.RALEIGHNC.GOV

NOTES:
1. TREES MUST MEET THE TREE QUALITY STANDARDS IN CH. 2 OF THE CITY TREE MANUAL.
2. CONTRACTOR IS RESPONSIBLE FOR ADEQUATE DRAINAGE OF ALL PLANTING PITS. (POSITIVE DRAINAGE AWAY FROM PIT)
3. TREES SHALL BE PLANTED BETWEEN OCTOBER 1ST AND APRIL 30TH.
4. A TREE IMPACT PERMIT IS REQUIRED.
5. ELECTRICAL OUTLETS AND OTHER UTILITIES ARE PROHIBITED IN THE PLANTING AREA IMMEDIATELY SURROUNDING THE TREE.
6. IF STAKING IN ACCORDANCE WITH THE CITY TREE MANUAL, THE STAKING MUST BE REMOVED WITHIN ONE YEAR.
7. TREES WILL HAVE A MINIMUM 1 YEAR WARRANTY AFTER THE INITIAL PLANTING IS APPROVED BY THE CITY.

A 74 TREE PLANTING DETAIL



TYPE 2 PERIMETER BUFFER PER LDO WITH FENCING DETAIL



UNDERSTORY TREE OPTION USED DUE TO OVERHEAD ELECTRIC ALONG JONESVILLE ROAD

JONESVILLE STREETSCAPE DETAIL

PERIMETER BUFFER DETAILS

NTS

LANDSCAPING NOTES:

1. TREES SHALL NOT BE PLANTED BETWEEN THE CURB AND SIDEWALK (A GRASS STRIP IS REQUIRED). STREET TREES MAY BE INSTALLED IN A LINEAR FASHION OR IN CLUSTERS OR GROUPINGS OF LARGER AND/OR SMALL TREES IN COMBINATION WITH ASSOCIATED PLANTINGS TO ENHANCE THE VISUAL APPEARANCE OF THE STREETSCAPE AND VIEWS FROM THE ADJACENT PROPERTIES.
2. EACH LARGE CANOPY TREE IN THE STREETSCAPE SHALL BE PROVIDED WITH AT LEAST THREE HUNDRED-AND-FIFTY (350) SQUARE FEET OF PERVIOUS GROUND AREA FOR ROOT GROWTH. ANY PLANTING AREA BOUNDED BY AN IMPERVIOUS SURFACE SHALL BE AT LEAST 10 FEET WIDE.
3. ALL SLOPES STEEPER THAN (2) TO ONE (1) SHALL BE STABILIZED WITH PERMANENT SLOPE RETENTION DEVICES OR A SUITABLE COMBINATION OF PLANTINGS AND RETENTION DEVICES.
4. JONESVILLE LANDSCAPE TYPE 2 BUFFER WILL COUNT TOWARDS THE STREETSCAPE REQUIREMENTS.
5. PLANT SPECIES REPLACEMENT BY WRITTEN PERMISSION BY LANDSCAPE ARCHITECT OF RECORD IF SUPPLY CHAIN CONSTRICTIONS OCCUR, PLANT STOCK AVAILABILITY IS LIMITED; OR INDIVIDUAL SPECIES ARE SUBJECT TO EXTRAORDINARY DISEASE OR INFESTATION ISSUES.

PLANTING REQUIREMENTS:

THE PERIMETER BUFFER SHALL HAVE
- (3) CANOPY TREES / 100 LF
- (1) UNDERSTORY TREE / 100 LF
- (50) SHRUBS / 100 LF

THE STREETSCAPE FOR JONESVILLE ROAD SHALL HAVE
- (2) UNDERSTORY TREES / 40 LF

THE STREETSCAPE FOR ALL INTERNAL SUBDIVISION ROADS SHALL HAVE
- (1) TREE / 60 LF EACH SIDE OF ROAD

PLANTING CALCULATIONS

JONESVILLE STREETSCAPE	300 LF / 40 = 7.5 x (2) = 15 UNDERSTORY TREES
PERIMETER BUFFER (REQUIRED / AREA)	
#1	1,170 LF / 100 = 11.7 x (3) = 36 CANOPY TREES 1,170 LF / 100 = 11.7 x (1) = 12 UNDERSTORY TREES 1,170 LF / 100 = 11.7 x (50) = 585 SHRUBS
#2	560 LF / 100 = 5.6 x (3) = 17 CANOPY TREES 560 LF / 100 = 5.6 x (1) = 6 UNDERSTORY TREES 560 LF / 100 = 5.6 x (50) = 280 SHRUBS
#3	1,220 LF / 100 = 12.2 x (3) = 37 CANOPY TREES 1,220 LF / 100 = 12.2 x (1) = 13 UNDERSTORY TREES 1,220 LF / 100 = 12.2 x (50) = 610 SHRUBS
#4	830 LF / 100 = 8.3 x (3) = 25 CANOPY TREES 830 LF / 100 = 8.3 x (1) = 9 UNDERSTORY TREES 830 LF / 100 = 8.3 x (50) = 415 SHRUBS
PERIMETER BUFFER TOTALS (REQUIRED)	115 CANOPY TREES 40 UNDERSTORY TREES 1,890 SHRUBS
PERIMETER BUFFER TOTALS (PROPOSED)	115 CANOPY TREES 40 UNDERSTORY TREES 1,890 SHRUBS
INTERNAL ROAD STREETSCAPE (REQUIRED / STREET)	
* CORNELL GARDEN ST	1,125 LF / 60 = 18.75 x (1) = 19 19 / SIDE = 38 CANOPY TREES (OR 76 UNDERSTORY TREES)
GIDEON DR	1,245 LF / 60 = 20.75 x (1) = 21 21 / SIDE = 42 CANOPY TREES (OR 84 UNDERSTORY TREES)
FAMILY FAITH CIR	2,360 LF / 60 = 39.33 x (1) = 40 40 / SIDE = 80 CANOPY TREES (OR 160 UNDERSTORY TREES)
PARENTS WAY	705 LF / 60 = 11.75 x (1) = 12 12 / SIDE = 24 CANOPY TREES (OR 48 UNDERSTORY TREES)
SIBLINGS DR	370 LF / 60 = 6.17 x (1) = 7 7 / SIDE = 14 CANOPY TREES (OR 28 UNDERSTORY TREES)
INTERNAL ROAD TOTALS (REQUIRED)	198 TREES
INTERNAL ROAD TOTALS (PROPOSED)	198 TREES

* CORNELL GARDEN ST FROM JONESVILLE ROAD TO THE INTERSECTION OF STREET "B" (GIDEON DR.) IS A COLLECTOR ROAD AND WILL HAVE A 15' WIDE STREETSCAPE. THE REMAINDER OF CORNELL GARDEN ST AND ALL OTHER INTERNAL ROADS ARE LOCAL ROADS AND WILL HAVE A 10' WIDE STREETSCAPE.

LANDSCAPING PLAN LEGEND

- EXISTING BOUNDARY
- PROPOSED R.O.W.
- PERIMETER BUFFER LINE
- PERIMETER BUFFER TREE CONSERVATION
- TYPE 2 PERIMETER BUFFER NORTHERN EXPOSURE
- TYPE 2 PERIMETER BUFFER WESTERN EXPOSURE
- JONESVILLE STREET YARD BUFFER
- PASSIVE OPEN SPACE
- ACTIVE OPEN SPACE

NOTES:
1. SEE LANDSCAPE PLAN SHEETS 81 - 83 FOR PERIMETER BUFFERS.
2. SEE LANDSCAPE PLAN SHEETS 84 - 86 FOR STREET TREE AND PARKING LOT TREE AND SHRUB PLACEMENT.

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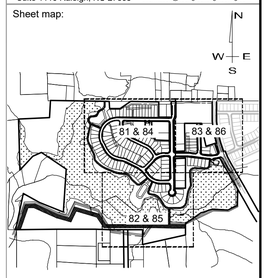
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Town of Rolesville
502 Southtown Cir
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Phone: 919-554-6517
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Landscape Architect
STRONGROCK THE STRONGROCK COMPANIES
305 Church at North Hills Street
Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

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OVERALL LANDSCAPING PLAN

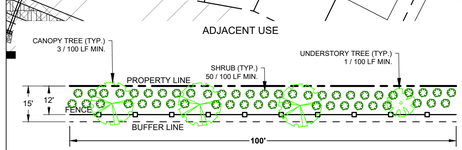
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SYM	QTY	BOTANICAL NAME	COMMON NAME	TYPE	CALIPER (inches)	HEIGHT (feet)	CONT	REMARKS
PERIMETER BUFFER TREES (SEE OVERALL LANDSCAPE PLAN SHEET FOR CALCULATIONS)								
CANOPY TREES								
	31	*Acer buergerianum*	Trident Maple	B&B	3	10		Western Buffer
	31	*Aesculus flava*	Yellow Buckeye	B&B	3	10		Western Buffer
	27	*Cladrastis kentuckea*	Yellowwood	B&B	3	10		Northern Buffer
	26	*Nyssa sabatica*	Black Gum	B&B	3	10		Northern Buffer
	115							
UNDERSTORY TREES								
	7	*Magnolia x soulangeana 'Jane'*	Jane Saucer Magnolia	B&B	1.5	6		Multi-stem
	7	*Carrtrena americana*	Wild Olive	B&B	1.5	6		Broadleaf evergreen moist soil areas
	7	*Parrietia persica*	Persian Parriotia	B&B	1.5	6		Full sun Western buffer
	7	*Cupressus arizonica*	Arizona Cypress	B&B	1.5	6		Full sun Western Buffer
	6	*Ilex x Jones Sawn*	James Swan Holly	B&B	1.5	6		Northern Buffer
	6	*Ilex x Emily Bruner*	Emily Runer Holly	B&B	1.5	6		Northern Buffer
	40							
SHURBS								
	400	*Ilex cornuta 'Amicet Dolcambre'*	Needlepoint Holly			18"	5 Gal	Western Buffer
	400	*Buddleja sup*	Butterfly Bush			18"	5 Gal	Western Buffer
	200	*Clethera alnifolia*	Sweet Pepperbush			18"	5 Gal	Western Buffer
	230	*Prunsc laurocerasus 'Otto luyken*	Otto Luyken Cherry Laurel			18"	5 Gal	Northern Buffer
	330	*Ilex crenatana Helleri*	Helleri Holly			18"	5 Gal	Northern Buffer
	330	*Viburnum obreatum*	Walter's Viburnum			18"	5 Gal	Northern Buffer
	1890							
JONESVILLE ROAD STREETSCAPE BUFFER			***SEE OVERALL LANDSCAPE SHEET FOR CALCULATIONS***					
	15	*Lagerstroemia indica 'Catawba'*	Catawba Crepe Myrtle		1.5	6		Multi-stem Purple flower



TYPE 2 PERIMETER BUFFER PER LDO WITH FENCING DETAIL

PERIMETER BUFFER DETAILS

NTS

LANDSCAPING PLAN LEGEND

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- PROPOSED R.O.W.
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- PASSIVE OPEN SPACE
- ACTIVE OPEN SPACE

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)

1 inch = 50 ft

N.C. UNDERGROUND UTILITIES

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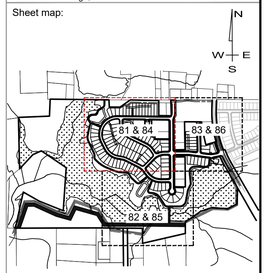
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Formally known as SB-24-06

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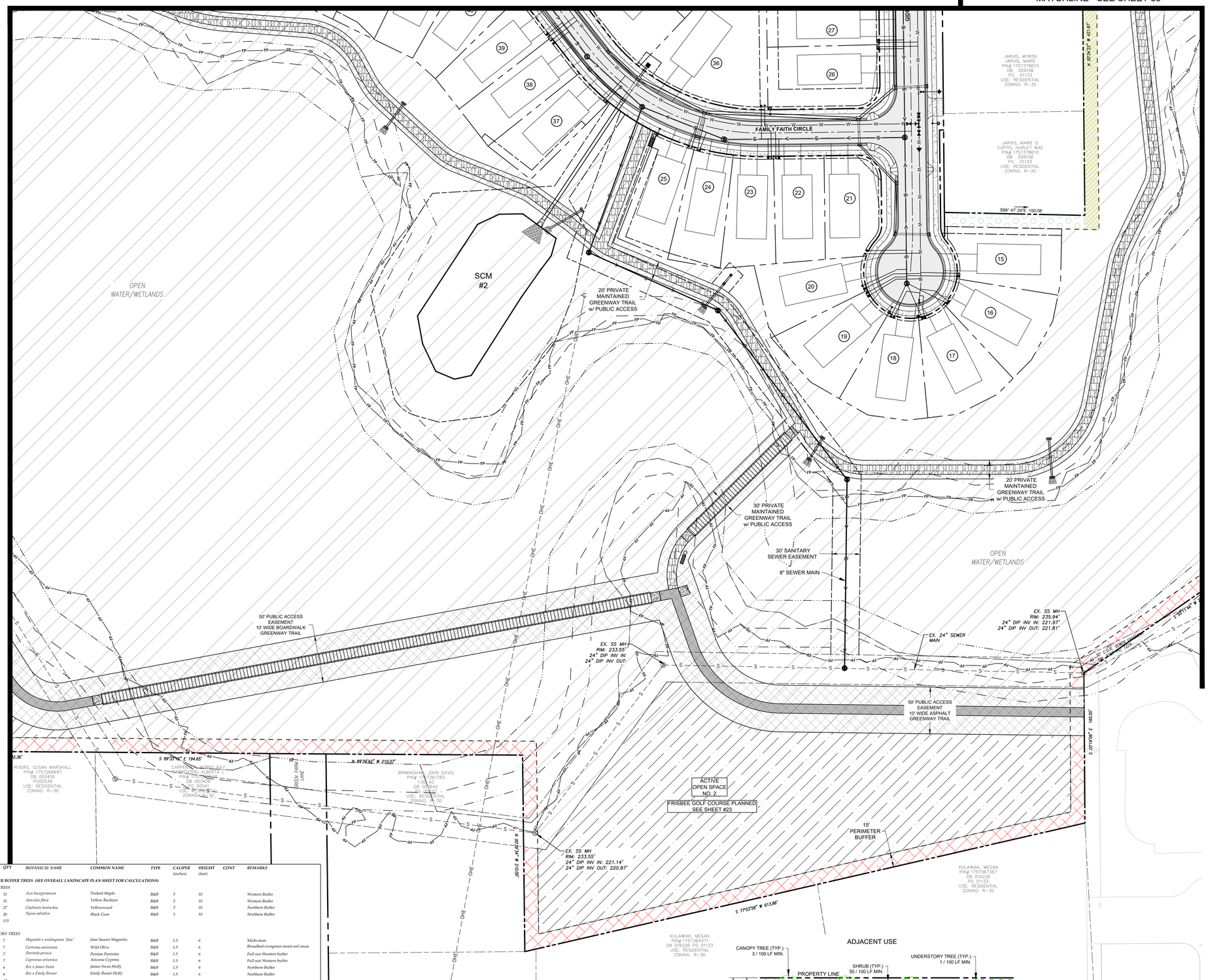
LANDSCAPING PLAN SHEET 1 OF 6 PERIMETER BUFFER

Sheet #:

81

MATCHLINE SEE SHEET 81

MATCHLINE SEE SHEET 83



SYM	QTY	BOTANICAL NAME	COMMON NAME	TYPE	CALIPER (inches)	HEIGHT (feet)	CONT	REMARKS
PERIMETER BUFFER TREES (SEE OVERALL LANDSCAPE PLAN SHEET FOR CALCULATIONS)								
CANOPY TREES								
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	26	*Nyssa sabatica*	Black Gum	B&B	3	10		Northern Buffer
	115							
UNDERSTORY TREES								
	7	*Magnolia x soulangeana 'Jane'*	Jane Saucer Magnolia	B&B	1.5	6		Multi-stem
	7	*Cartrema americana*	Wild Olive	B&B	1.5	6		Broadleaf evergreen moist soil areas
	7	*Parrotia persica*	Persian Parriotia	B&B	1.5	6		Full sun Western buffer
	7	*Cupressus arizonica*	Arizona Cypress	B&B	1.5	6		Full sun Western buffer
	6	*Ilex x James Swan*	James Swan Holly	B&B	1.5	6		Northern Buffer
	6	*Ilex x Emily Bruner*	Emily Runer Holly	B&B	1.5	6		Northern Buffer
	40							
SHURBS								
	400	*Ilex cornuta 'Assicet Dolcambre'*	Needlepoint Holly			18"	5 Gal	Western Buffer
	400	*Buddleja sep*	Butterfly Bush			18"	5 Gal	Western Buffer
	200	*Clethera alnifolia*	Sweet Pepperbush			18"	5 Gal	Western Buffer
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	330	*Viburnum obovatum*	Walter's Viburnum			18"	5 Gal	Northern Buffer
	1890							
JONESVILLE ROAD STRIETSCAPE BUFFER			***SEE OVERALL LANDSCAPE SHEET FOR CALCULATIONS***					
	15	*Lagerstroemia indica 'Catawba'*	Catawba Crepe Myrtle		1.5	6		Multi-stem Purple flower

ADJACENT USE

TYPE 2 PERIMETER BUFFER PER LDO WITH FENCING DETAIL

PERIMETER BUFFER DETAILS

NTS

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GRAPHIC SCALE

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(IN FEET)

1 inch = 50 ft

N.C. UNDERGROUND UTILITIES

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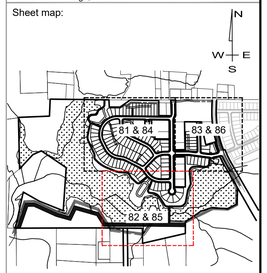
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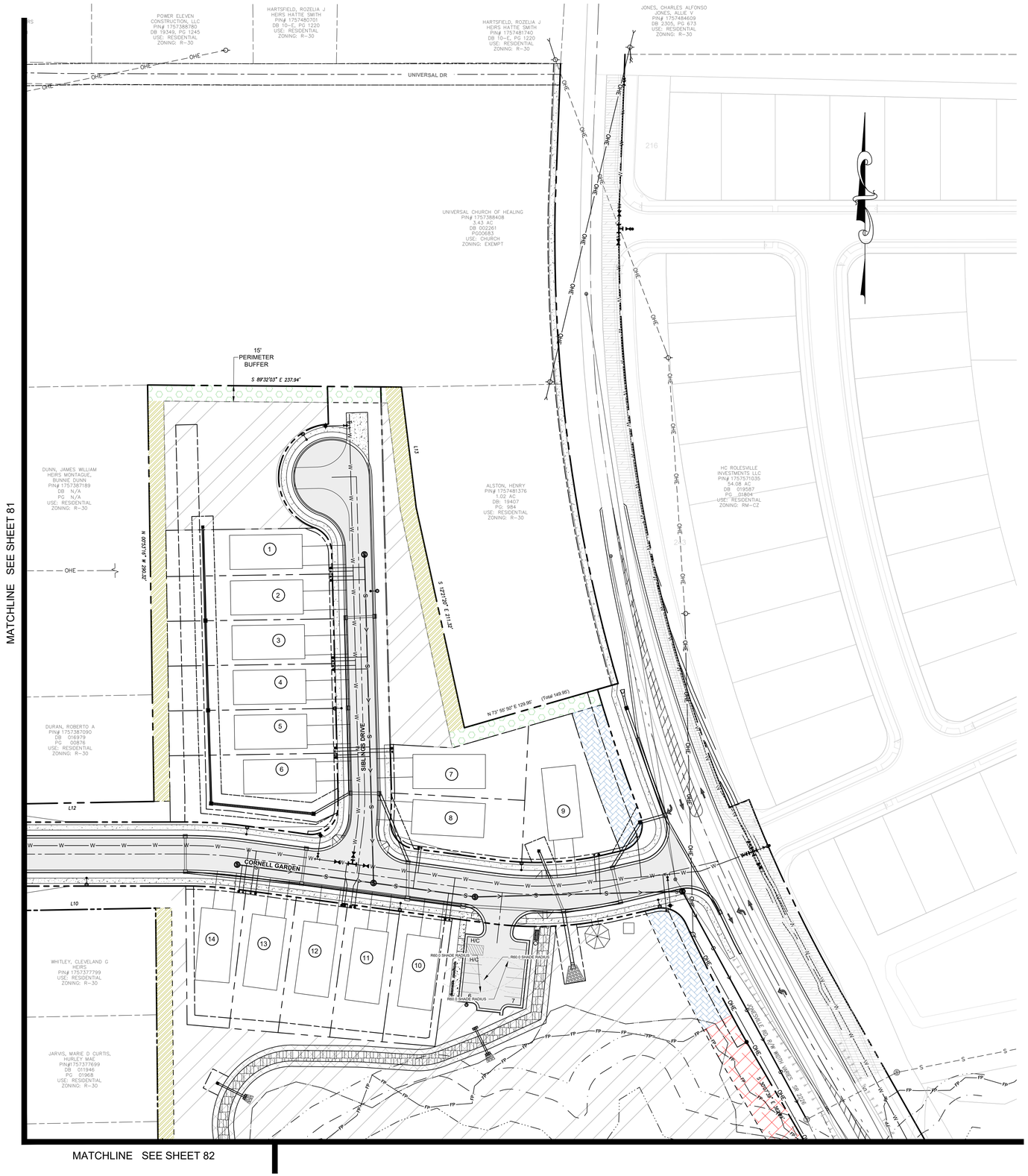
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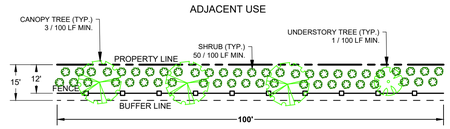
LANDSCAPING PLAN SHEET 2 OF 6 PERIMETER BUFFER

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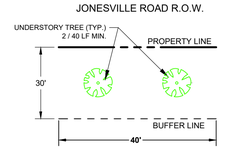
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TYPE 2 PERIMETER BUFFER PER LDO WITH FENCING DETAIL



UNDERSTORY TREE OPTION USED DUE TO OVERHEAD ELECTRIC ALONG JONESVILLE ROAD

JONESVILLE STREETSCAPE DETAIL

PERIMETER BUFFER DETAILS

NTS

SYM	QTY	BOTANICAL NAME	COMMON NAME	TYPE	CALIPER (inches)	HEIGHT (feet)	CONT	REMARKS
PERIMETER BUFFER TREES (SEE OVERALL LANDSCAPE PLAN SHEET FOR CALCULATIONS)								
CANOPY TREES								
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	330	*Viburnum obvatum*	Walter's Viburnum			18"	5 Gal	Northern Buffer
	1890							
JONESVILLE ROAD STREETSCAPE BUFFER			***SEE OVERALL LANDSCAPE SHEET FOR CALCULATIONS***					
	15	*Lagerstroemia indica 'Catawba'*	Catawba Crepe Myrtle		1.5	6		Multi-stem Purple flower

LANDSCAPING PLAN LEGEND

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- PASSIVE OPEN SPACE
- ACTIVE OPEN SPACE

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft

N.C. UNDERGROUND UTILITIES
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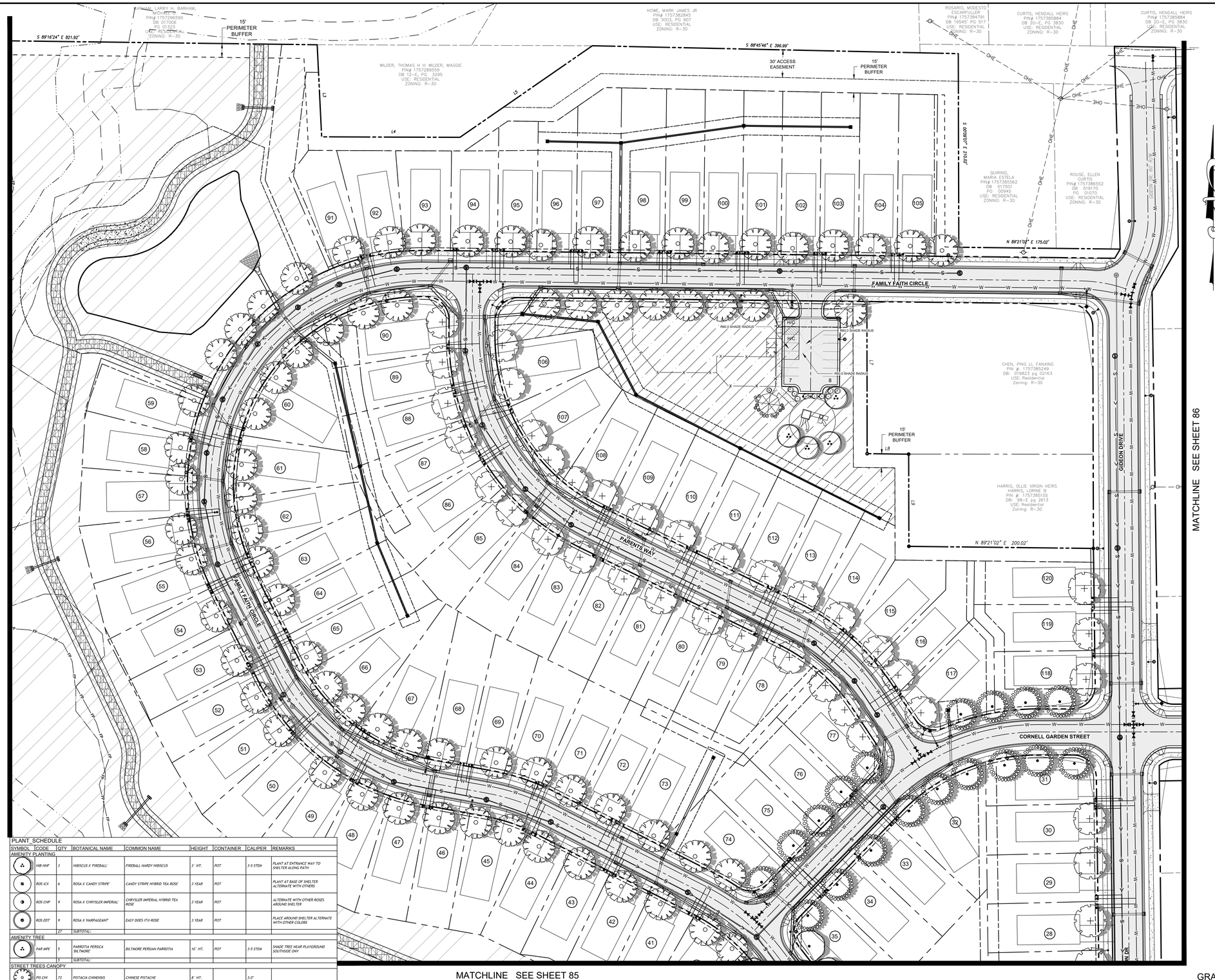
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LANDSCAPING PLAN SHEET 3 OF 6 PERIMETER BUFFER

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PLANT SCHEDULE

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	HEIGHT	CONTAINER	CALIPER	REMARKS
AMENITY PLANTING								
	HIB HAF	3	HIBISCUS X 'FIREBALL'	FIREBALL HARDY HIBISCUS	3' HT.	POT	3-5 STEM	PLANT AT ENTRANCE WAY TO SHELTER ALONG PATH
	ROS ICH	6	ROSA X 'CANDY STRIPE'	CANDY STRIPE HYBRID TEA ROSE	3 YEAR	POT		PLANT AT BASE OF SHELTER ALTERNATE WITH OTHERS
	ROS CHP	9	ROSA X 'CHRYSLER IMPERIAL'	CHRYSLER IMPERIAL HYBRID TEA ROSE	3 YEAR	POT		ALTERNATE WITH OTHER ROSES AROUND SHELTER
	ROS EDT	9	ROSA X 'HARPAGEANT'	EASY DOES IT® ROSE	3 YEAR	POT		PLACE AROUND SHELTER ALTERNATE WITH OTHER COLORS
		27	SUBTOTAL:					
AMENITY TREE								
	PAR MPE	5	PARROTIA PERSICA 'BILTMORE'	BILTMORE PERSIAN PARROTIA	10' HT.	POT	3-5 STEM	SHADE TREE NEAR PLAYGROUND SOUTHSIDE ONY
		5	SUBTOTAL:					
STREET TREES CANOPY								
	PIS CHI	73	PISTACIA CHINENSIS	CHINESE PISTACHE	8' HT.		3.0"	
	QUE ACU	68	QUERCUS ACUTISSIMA	SAWTOOTH OAK	8' HT.		3.0"	
	QUE NIG	38	QUERCUS NIGRA	WATER OAK	8' HT.		3.0"	
	PAR PER	19	PARROTIA PERSICA	PERSIAN IRONWOOD	8' HT.		3.0"	
		198	SUBTOTAL:					
SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER		REMARKS
PARKING LOT SCREENING								
	ILE NEL	33	ILEX X 'NELLIE R. STEVENS'	NELLIE R. STEVENS HOLLY	3 GAL.			PLACE BETWEEN 2'-5' OF BACK OF CURB
		33	SUBTOTAL:					

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft

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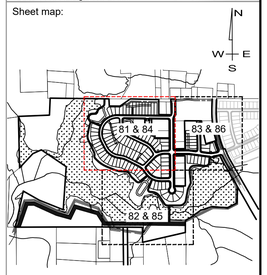
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Project:

HARRIS CREEK FARMS

CID 25-0004 (FKA - CID-25-03)

Issued for:

FINAL DRAWING
FOR CONSTRUCTION

REVISIONS

No.	Date	Description

Sheet Title:

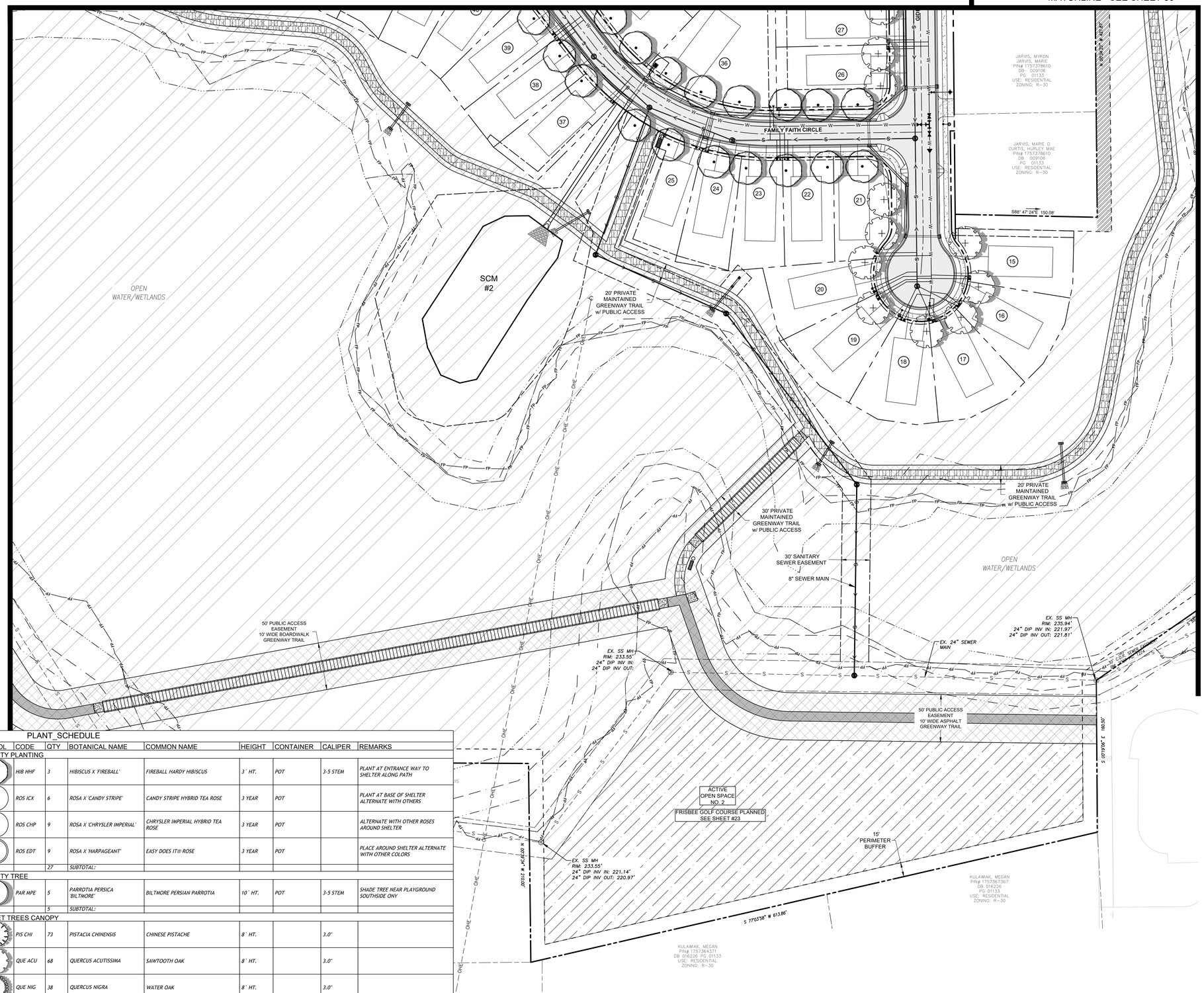
LANDSCAPING PLAN
SHEET 4 OF 6
STREET TREES

Sheet #:

84

MATCHLINE SEE SHEET 84

MATCHLINE SEE SHEET 86



PLANT_SCHEDULE

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	HEIGHT	CONTAINER	CALIPER	REMARKS
AMENITY PLANTING								
	HIB HHF	3	HIBISCUS X 'FIREBALL'	FIREBALL HARDY HIBISCUS	3` HT.	POT	3-5 STEM	PLANT AT ENTRANCE WAY TO SHELTER ALONG PATH
	ROS ICX	6	ROSA X 'CANDY STRIPE'	CANDY STRIPE HYBRID TEA ROSE	3 YEAR	POT		PLANT AT BASE OF SHELTER ALTERNATE WITH OTHERS
	ROS CHP	9	ROSA X 'CHRYSLER IMPERIAL'	CHRYSLER IMPERIAL HYBRID TEA ROSE	3 YEAR	POT		ALTERNATE WITH OTHER ROSES AROUND SHELTER
	ROS EDT	9	ROSA X 'HARPAGEANT'	EASY DOES IT® ROSE	3 YEAR	POT		PLACE AROUND SHELTER ALTERNATE WITH OTHER COLORS
		27	SUBTOTAL:					
AMENITY TREE								
	PAR MPE	5	PARROTIA PERSICA 'BILTMORE'	BILTMORE PERSIAN PARROTIA	10` HT.	POT	3-5 STEM	SHADE TREE NEAR PLAYGROUND SOUTHSIDE ONY
		5	SUBTOTAL:					
STREET TREES CANOPY								
	PIS CHI	73	PISTACIA CHINENSIS	CHINESE PISTACHE	8` HT.		3.0"	
	QUE ACU	68	QUERCUS ACUTISSIMA	SAWTOOTH OAK	8` HT.		3.0"	
	QUE NIG	38	QUERCUS NIGRA	WATER OAK	8` HT.		3.0"	
	PAR PER	19	PARROTIA PERSICA	PERSIAN IRONWOOD	8` HT.		3.0"	
		198	SUBTOTAL:					
SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER		REMARKS
PARKING LOT SCREENING								
	ILE NEL	33	ILEX X 'NELLIE R. STEVENS'	NELLIE R. STEVENS HOLLY	3 GAL.			PLACE BETWEEN 2'-5' OF BACK OF CURB
		33	SUBTOTAL:					

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft

N.C. UNDERGROUND UTILITIES

811 3 DAYS BEFORE DIGGING CALL TOLL FREE 811 or (800)632-4949

A ONE CALL SYSTEM FOR COMMUNITY AND JOB SAFETY

Developer

THE CSC GROUP
CONTRIBUTE TO THE SUCCESS OF LOCAL COMMUNITY
10030 Green Level Church Rd, Suite 802 #149: Cary, NC 27519

Engineer

QUANTECH ENGINEERING
INNOVATIVE SOLUTIONS | ENGINEERING THE FUTURE
Firm # F-1517
275 CARPENTER HILL LANE
Cary, N.C. 27519
(919) 996-9455

Surveyor

BCSC BATEMAN CIVIL SURVEY COMPANY
Bateman Civil Survey Company
2524 Reliance Avenue
Apex, NC 27539
919-557-1080 ext 109
www.batemancivilsurvey.com

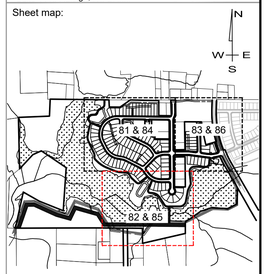
Jurisdiction / Municipality

Rolesville
Genuine Community • Capital Connection
Est. 1837
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
CID-25-0004 (PSP-24-05)

Landscape Architect

STRONGROCK
THE STRONGROCK COMPANIES
305 Church at North Hills Street
Suite 1110 Raleigh, NC 27609
984-200-1932
information@strongrockengineering.com

Sheet map:



Seal:



Issued / Print Date: 2026-July-27 (10:53)
File Name: 80 Overall Landscaping Plan.dwg

Last Saved by: BryanHarris
Drawn by: TAN

Project:

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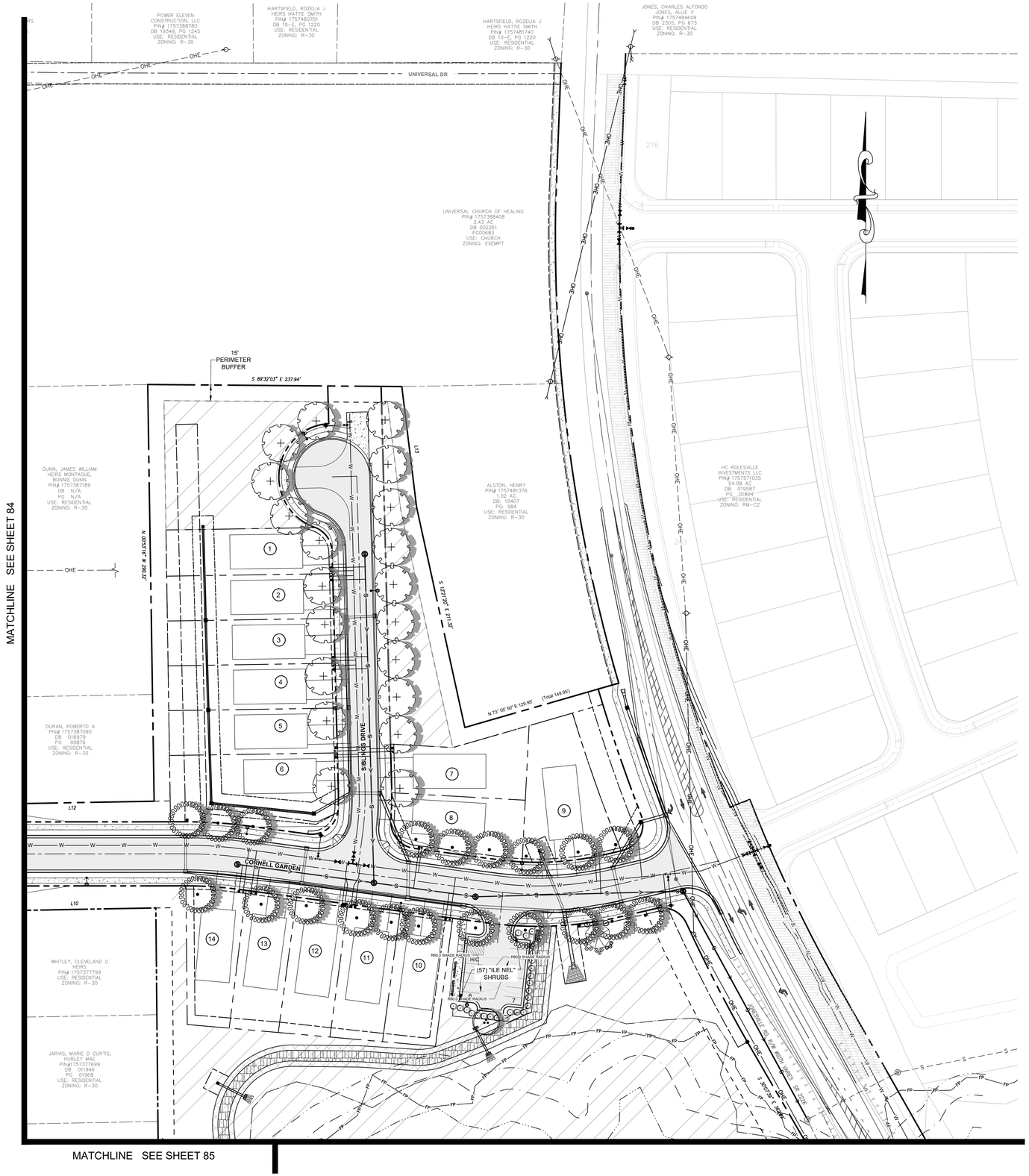
Sheet Title:

LANDSCAPING PLAN
SHEET 5 OF 6
STREET TREES

Sheet #:

85

File Location: C:\Users\BryanHarris\Quantech\Quantech Engineering - Documents\Harris Creek Farm - Jonesville\Engineering_DWG\Construction Plans\80 Overall Landscaping Plan.dwg



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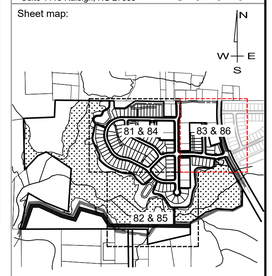
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SHEET 6 OF 6
STREET TREES

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