# CONSTRUCTION DRAWINGS FOR

# HARRIS CREEK FARMS

## TOWN OF ROLESVILLE, WAKE COUNTY, NORTH CAROLINA

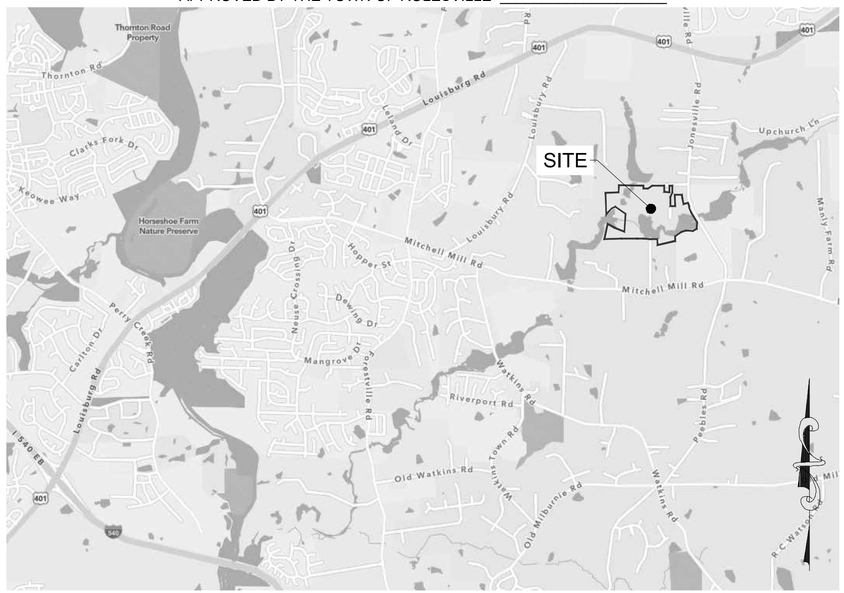
## CASE NUMBER: CID-25-03

APPROVED BY THE TOWN OF ROLESVILLE _____

| SITE DATA TABLE | |
|---|---|
| OWNER | KENNETH INVESTMENTS, LLC<br>Contact: STEPHAN GEORGE<br>10030 GREEN LEVEL CHURCH RD, STE 802<br>CARY, NC 27519 |
| ENGINEER: | QUANTECH ENGINEERING<br>BRYAN A. HARRIS, PE<br>15000 WESTON PARKWAY, STE. 174<br>CARY, NC 27513<br>PHONE: (919) 815-9987<br>EMAIL: BRYAN@QUANTECHENG.COM |
| DEVELOPER: | THE CSC GROUP, LLC<br>STEVE GEORGE<br>600 PARK OFFICES DRIVE, STE 372<br>RESEARCH TRIANGLE, NC 27709<br>PHONE: (919) 815-9987 |
| ENVIRONMENTAL CONSULTANT | MORRIS & RITCHIE ASSOCIATES<br>530 HINTON POND ROAD, SUITE 104<br>KNIGHTDALE, NC 27545 |
| SURVEYOR: | BATEMAN CIVIL SURVEY COMPANY<br>JOSH DAVIDSON<br>2524 RELIANCE AVE<br>APEX, NC 27539<br>PHONE: 919 557-1080 Ext 109<br>josh@batemancivilsurvey.com |
| SITE ADDRESS | 4928 UNIVERSAL DR<br>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'<br>REAR: 20'<br>CORNER: 10'<br>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)<br>1 LARGE AREA (> 2.5 AC.) |
| ACTIVE SPACES (PROVIDED) | (2) MEDIUM AREAS<br>Area 1 = (44,640 SF, 1.02 AC)<br>Area 2 = (78,467 SF, 1.80 AC)<br>(1) LARGE AREA<br>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 | |
| STREET A | 1,125 LF 50' R/W 35' BC - BC |
| STREET B | 1,245 LF VARIABLE R/W 35' BC - BC |
| STREET C | 2,360 LF 50' R/W 35' BC - BC |
| STREET D | 705 LF 50' R/W 27' BC - BC |
| STREET E | 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)<br>-319,890 SF (7.34 AC)<br>= 507,663 SF (11.65 AC)<br>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<br>5.09 Ac * 3 = 15.26<br>0 SF of FLOOR = 0 SPACES<br><br>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 |

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.

### *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.

**Public**

WATER DISTRIBUTION / EXTENSION SYSTEM

The City of Raleigh consents to the connection and extension of the City's public water system as shown on this plan. The material and Construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.

City of Raleigh
Public Utilities DepartmentPermit # _____

**Public**

SEWER COLLECTION / EXTENSION SYSTEM

The City of Raleigh consents to the connection and extension of the City's public sewer system as shown on this plan. The material and Construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.

City of Raleigh
Public Utilities DepartmentPermit # _____

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| 92 | Jonesville Rd Waterline 20+00 to 30+00 |
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| AGENCY CONTACTS |
|---|
| Town of Rolesville<br>Planning Department<br>502 Southtown Circle<br>Rolesville, NC 27511 |
| Wake County<br>Watershed Management<br>Waverly F. Atkins Building<br>337 S. Salisbury St<br>Raleigh, NC 27601<br>Contact: Karen Pageeau<br>Phone: (919) 796-8769<br>Email: karyn.pageau@wakegov.com |
| City of Raleigh Public Utilities Dept.<br>One Exchange Plaza Suite 620<br>Raleigh, NC 27602<br>Phone: (919) 996-3245<br>Email: publicutilityinfo@raleighnc.gov |
| NCDOT<br>Division 5, District 1 Office<br>4009 District Drive<br>Raleigh, NC 27607 |

**EROSION CONTROL, STORMWATER AND FLOODPLAIN MANAGEMENT**

**APPROVED**

EROSION CONTROL ☐ SEC-_____

STORMWATER MGMT.☐SWF-_____

FLOOD STUDY ☐ SWF-_____

DATE_____

WAKE COUNTY NORTH CAROLINA PROTECT WATER

ENVIRONMENTAL CONSULTANT SIGNATURE

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
15000 Weston Parkway
Cary, N.C. 27513
(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

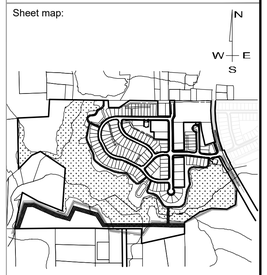
Rolesville
Genuine Community • Capital Connection
Est. 1837

Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517

**CID-25-03 (PSP-24-05)**

Other Consultants

Sheet map:




Seal:




FINAL DRAWING - FOR REVIEW PURPOSES ONLY

Issued / Print Date: 2025-September-02 (16:36)
File Name: 1 Cover.dwg

Last Saved by: BryanHarris
Drawn by: TAN

Project:

HARRIS CREEK FARMS

CID-25-03

Issued for:

PROGRESS DRAWINGS
DO NOT USE FOR CONSTRUCTION

REVISIONS

| No. | Date | Description |
|---|---|---|
| 1 | 02Sep2025 | Town of Rolesville Planning Dept. comments |

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 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 NO FEMA FLOOD BOUNDARIES ON THIS SITE ACCORDING TO CURRENT FIRM PANEL.
7. 404/401 PERMITS WILL NOT BE NEEDED.

## 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 70$^{TH}$ 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 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 (100$^{TH}$) BUILDING PERMIT. IF THE DEVELOPMENT IS UNABLE TO PROCURE AN EASEMENT FROM EITHER OF THE PROPERTY OWNER PRIOR TO THE ISSUANCE OF THE FIRST (1$^{ST}$) 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 (100$^{TH}$) 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 (100$^{TH}$) 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 PERFORMED PRIOR TO BLASTING ACTIVITIES. CONTACT INFORMATION FOR THE PURPOSE OF REPORTING DAMAGE CAUSED BY BLASTING SHALL BE PROVIDED. IF A PBI WAS PERFORMED AND THE HOMEOWNER PROVIDES NOTICE OF DAMAGE CAUSED BY BLASTING WITHIN 30 DAYS FOLLOWING BLASTING, THE PROPERTY OWNER SHALL CAUSE AN AFTER BLASTING INSPECTION ("ABI") TO BE PERFORMED AND IF A COMPARISON OF THE PBI TO THE ABI INDICATES THAT DAMAGE WAS CAUSED BY PROPERTY OWNER'S BASTING, IN THE REASONABLE OPINION OF THE BLASTING CONSULTANT, THE PROPERTY OWNER SHALL MAKE COMMERCIALLY REASONABLE EFFORTS TO REPAIR SUCH DAMAGE WITHIN 180 DAYS OF FOLLOWING COMPLETION OF BLASTING ACTIVITIES ON THE PROPERTY. ALL BLASTING OPERATIONS SHALL BE COVERED IN SUCH MANNER AS TO PREVENT FRAGMENTS OF ROCK, GRAVEL, EARTH, TREES, OR OTHER SUBSTANCES OR MATERIALS FROM BEING THROWN AGAINST OR UPON LOTS, BUILDINGS, UTILITY LINES, OR ANY STREET OR HIGHWAY. WHENEVER BLASTING IS BEING CONDUCTED IN THE VICINITY OF GAS, ELECTRIC, WATER, FIRE ALARM, TELEPHONE, TELEGRAPH, OR STEAM UTILITIES, THE BLASTER SHALL NOTIFY THE APPROPRIATE REPRESENTATIVE OF SUCH UTILITIES AT LEAST 24 HOURS IN ADVANCE OF BLASTING SPECIFYING THE LOCATION AND INTENDED TIME OF SUCH BLASTING. HOURS OF DETONATION SHALL BE LIMITED AS PROVIDED BY THE ROLESVILLE TOWN CODE. PERSONS RESPONSIBLE FOR BLASTING OPERATIONS SHALL MAINTAIN A RECORD OF EACH BLAST. ALL ORIGINAL BLASTING RECORDS SHALL BE RETAINED BY THE PERSONS RESPONSIBLE FOR THE BLASTING OPERATIONS FOR AT LEAST FIVE YEARS FOLLOWING THE CESSATION OF THE BLASTING OPERATIONS AND SHALL BE AVAILABLE FOR INSPECTION BY THE FIRE MARSHAL UPON REQUEST.

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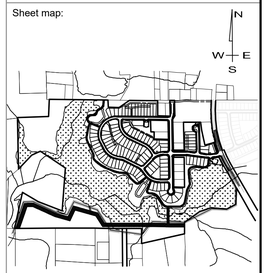
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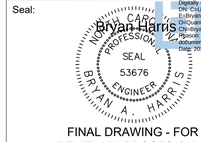
Jurisdiction / Municipality
Rolesville
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
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Other Consultants


Sheet map:




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Project:

# HARRIS CREEK FARMS

CID-25-03

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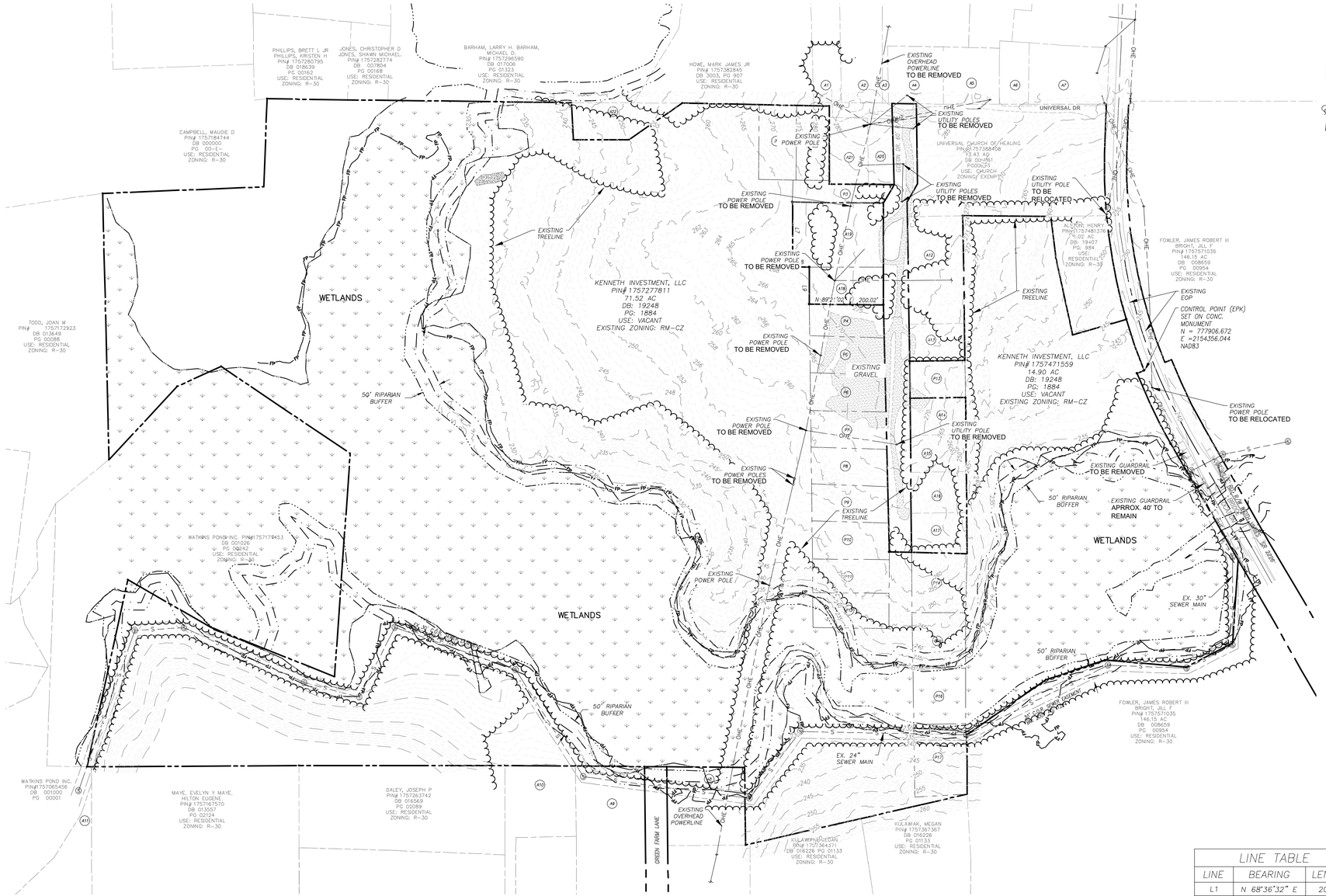
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## NOTES

Sheet #:

2

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




## 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

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CID-25-03 (PSP-24-05)

Other Consultants

Sheet map:
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Seal:
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 53676 BRYAN A. HARRIS
Bryan Harris
Digitally signed by Bryan Harris
DN: CN=Bryan Harris, E=Bryan@QuantechEng.com, O=Quantech Engineering LLP
Reason: I have reviewed this document
Date: 2025.09.03 16:51:54-04'00'
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Project:
# HARRIS CREEK FARMS
CID-25-03

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Sheet Title:
# OVERALL EXISTING CONDITIONS & DEMOLITION PLAN

Sheet #:
3

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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' | |
| 09/30/2024 | |

N W E S

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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## EXISTING TREE SURVEY

Sheet #:

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WETLANDS

WETLANDS

WETLANDS

WETLANDS

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.

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TREE PLAN LEGEND

*EXISTING TREE*

*AREAS TO BE REMOVED OF TREES*

GRAPHIC SCALE

120 0 60 120 240 480

(IN FEET)

1 inch = 120 ft

N.C. UNDERGROUND UTILITIES

811

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Genuine Community • Capital Connection
Est. 1837

Town of Rolesville
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Phone: 919-554-6517

**CID-25-03 (PSP-24-05)**

Other Consultants

Sheet map:

N
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S

Seal:

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 53676 BRYAN A. HARRIS

Bryan Harris

Digitally signed by Bryan Harris
DN: CN=Bryan Harris, E=BryanH@QuantechEng.com, O=Quantech Engineering LLP, OU=Bryan Harris
Reason: I have reviewed this document
Date: 2025.09.03 16:51:55-04'00'

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# HARRIS CREEK FARMS

CID-25-03

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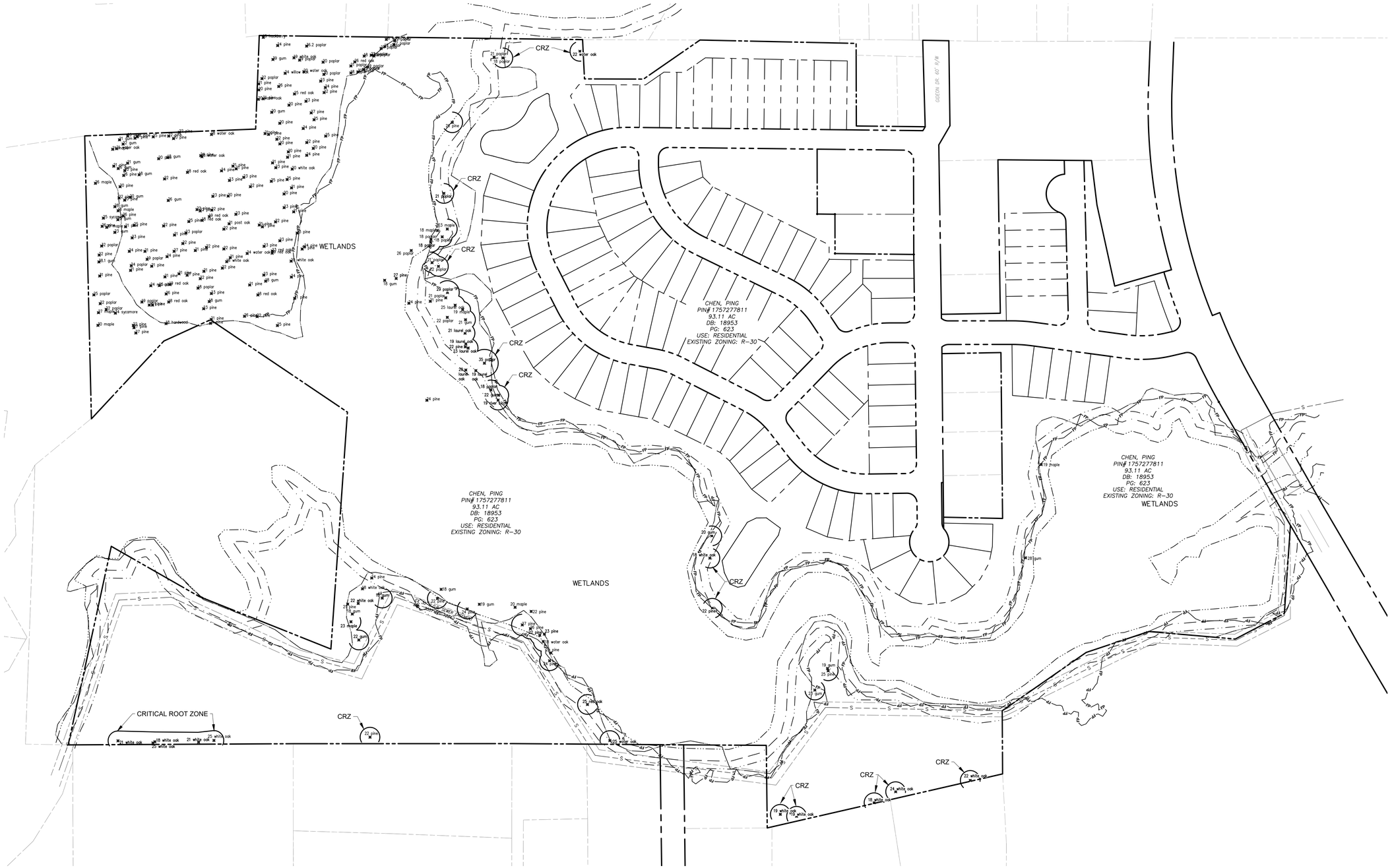
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| 1 | 02Sep2025 | Town of Rolesville Planning Dept. comments |

Sheet Title:

# TREE REMOVAL PLAN

Sheet #:

5




## TREE SAVE NOTES:

1. QUALIFYING TREES TO BE SAVED ARE SHOWN WITH CRITICAL ROOT ZONES (CRZ) AND LABELED AS "CRZ".
2. THE AREA IN THE NORTH WEST PART OF THE TRACT TO THE WEST OF THE WETLANDS WILL NOT BE DISTURBED AND ALL TREES IN THIS AREA SHALL BE SAVED.
3. ADDITIONAL QUALIFYING TREES IN WETLANDS WILL BE SAVED IN THE WETLANDS.
4. ADDITIONAL QUALIFYING TREES MAY BE SAVED IN THE ACTIVE AREAS AT THE DISCRETION OF THE CONTRACTOR.

| TREE SAVE SUMMARY | |
|---|---|
| EXISTING QUALIFIED TREES: | 514 Total |
| REQUIRED TREE SAVE: | 52 (10% of Total) |
| PROPOSED TREE SAVE: | 267 (52% of Total) |

GRAPHIC SCALE

120 0 60 120 240 480

(IN FEET)
1 inch = 120 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\3 Overall Existing conditions.dwg

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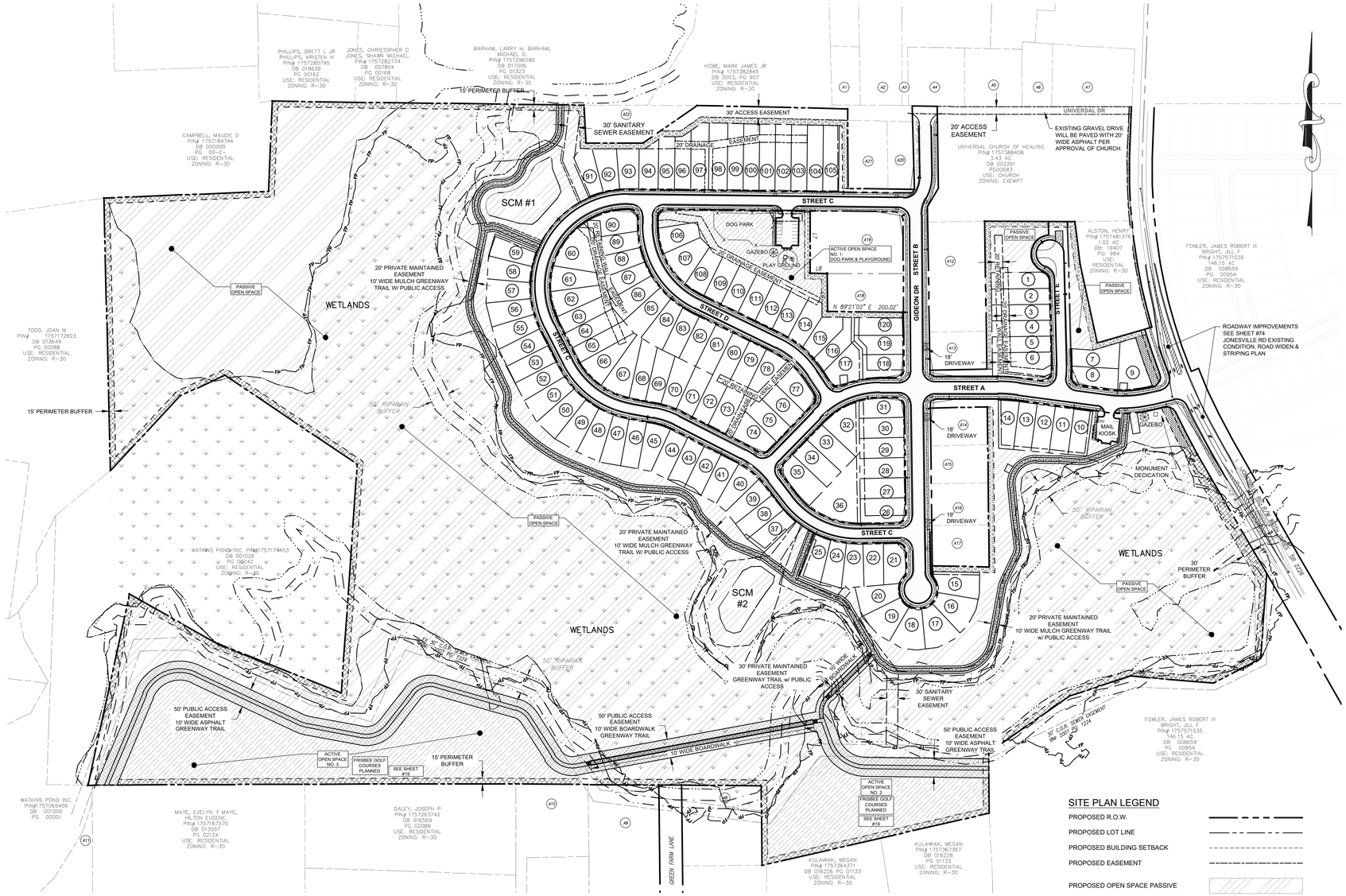
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Sheet Title:

TREE SAVE PLAN

Sheet #:

6



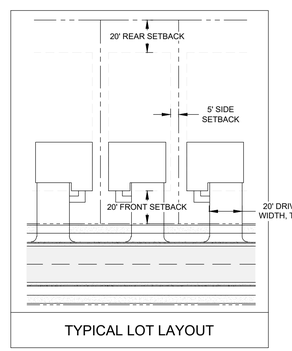

## GENERAL SITE NOTES:

1. SEE SHEET 15 FOR ROADWAY SECTIONS AND LINE & CURVE TABLES.

| SITE DATA TABLE | |
|---|---|
| OWNER | KENNETH INVESTMENTS, LLC<br>Contact: STEPHAN GEORGE<br>10030 GREEN LEVEL CHURCH RD, STE 802<br>CARY, NC 27519 |
| ENGINEER: | QUANTECH ENGINEERING<br>BRYAN A. HARRIS, PE<br>15000 WESTON PARKWAY, STE. 174<br>CARY, NC 27513<br>PHONE: (919) 815-9987<br>EMAIL: BRYAN@QUANTECHENG.COM |
| DEVELOPER: | THE CSC GROUP, LLC<br>STEVE GEORGE<br>600 PARK OFFICES DRIVE, STE 372<br>RESEARCH TRIANGLE, NC 27709<br>PHONE: (919) 815-9987 |
| ENVIRONMENTAL CONSULTANT | MORRIS & RITCHIE ASSOCIATES<br>530 HINTON POND ROAD, SUITE 104<br>KNIGHTDALE, NC 27545 |
| SURVEYOR: | BATEMAN CIVIL SURVEY COMPANY<br>JOSH DAVIDSON<br>2524 RELIANCE AVE<br>APEX, NC 27539<br>PHONE: 919 557-1080 Ext 109<br>josh@batemancivilsurvey.com |
| SITE ADDRESS | 4928 UNIVERSAL DR<br>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'<br>REAR: 20'<br>CORNER: 10'<br>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)<br>1 LARGE AREA (> 2.5 AC.) |
| ACTIVE SPACES (PROVIDED) | (2) MEDIUM AREAS<br>Area 1 = (44,640 SF, 1.02 AC)<br>Area 2 = (78,467 SF, 1.80 AC)<br>(1) LARGE AREA<br>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** | |
| STREET A | 1,125 LF 50' R/W 35' BC - BC |
| STREET B | 1,245 LF VARIABLE R/W 35' BC - BC |
| STREET C | 2,360 LF 50' R/W 35' BC - BC |
| STREET D | 705 LF 50' R/W 27' BC - BC |
| STREET E | 370 LF 50' R/W 27' BC - BC |
| DEDICATED ROAD R.O.W. | 7.64 ACRES |

## 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




TYPICAL LOT LAYOUT

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

## 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 |


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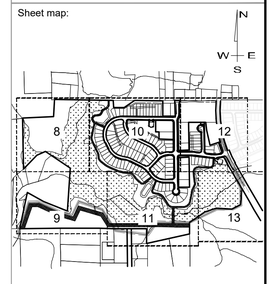
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Other Consultants

Sheet map:




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Last Saved by: BryanHarris
Drawn by: TAN

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# HARRIS CREEK FARMS

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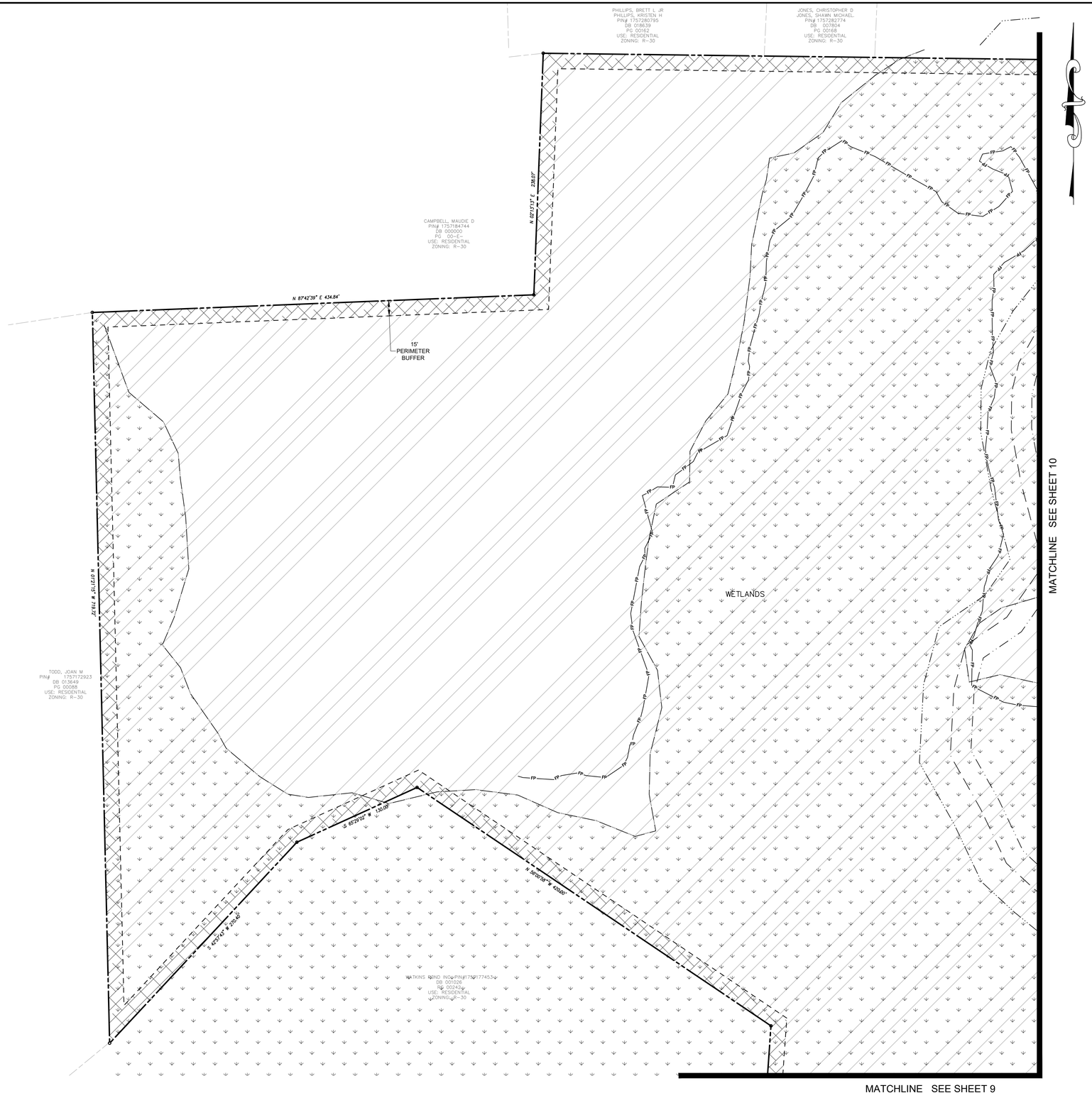
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# OVERALL SITE PLAN

Sheet #:

7

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## SITE PLAN LEGEND

- PROPOSED R.O.W.
- PROPOSED LOT LINE
- PROPOSED LOT SETBACK
- PROPOSED EASEMENT
- 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
- 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

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft

N.C. UNDERGROUND UTILITIES
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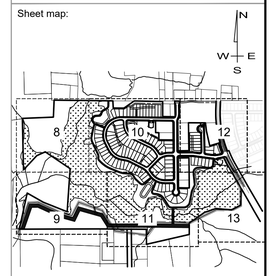
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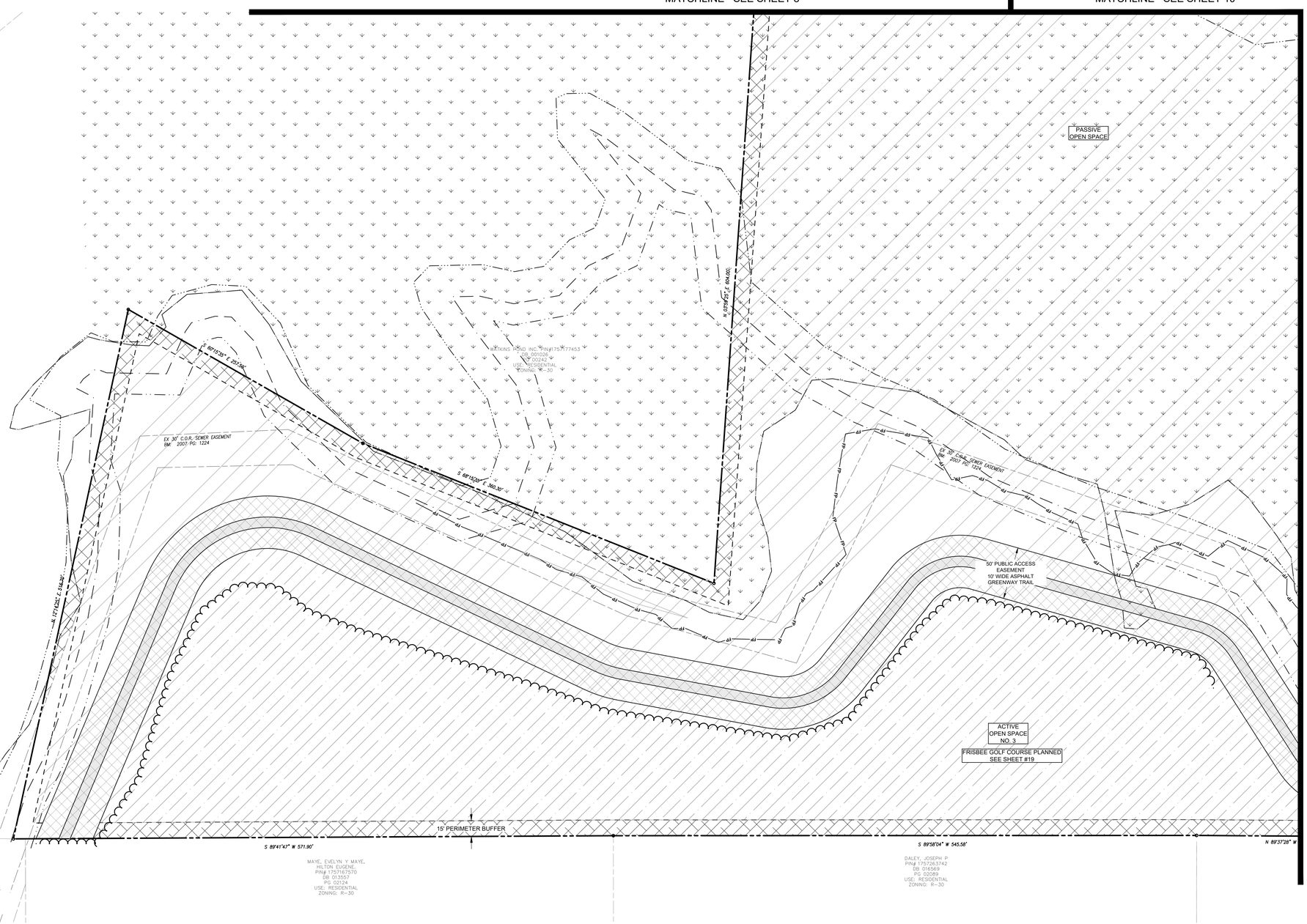
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Sheet Title:

SITE PLAN
SHEET 1 OF 6

Sheet #:

8




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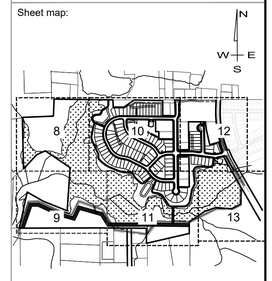
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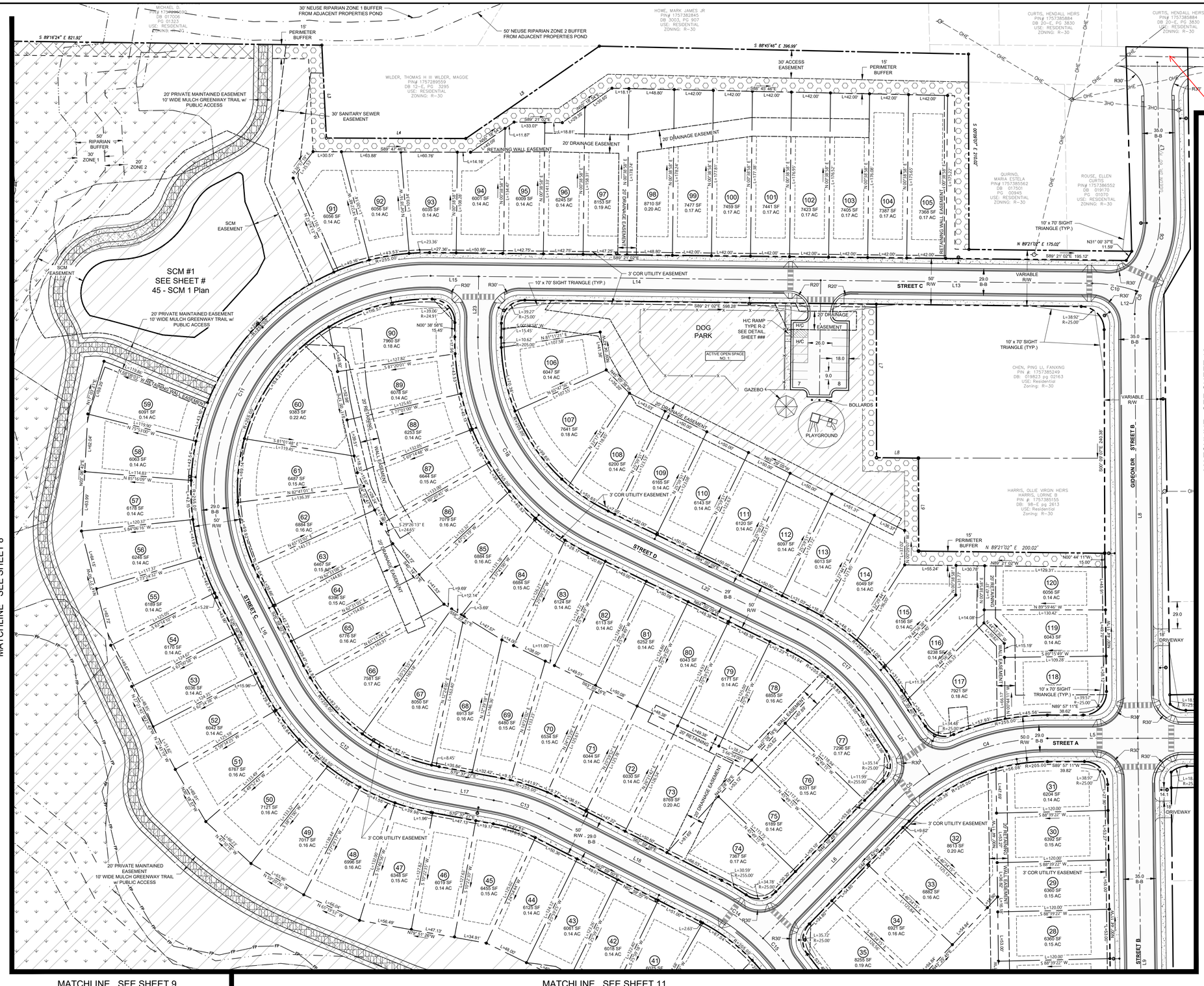
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Sheet Title:

SITE PLAN
SHEET 2 OF 6

Sheet #:

9




## SITE PLAN LEGEND

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A ONE CALL SYSTEM FOR COMMUNITY AND JOB SAFETY

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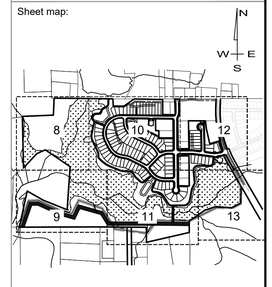
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QUANTECH ENGINEERING
INNOVATIVE SOLUTIONS | SUSTAINING THE FUTURE
Firm # F-1517
15000 Weston Parkway
Cary, N.C. 27513
(919) 996-9455

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-25-03 (PSP-24-05)

Other Consultants


Sheet map:




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# HARRIS CREEK FARMS

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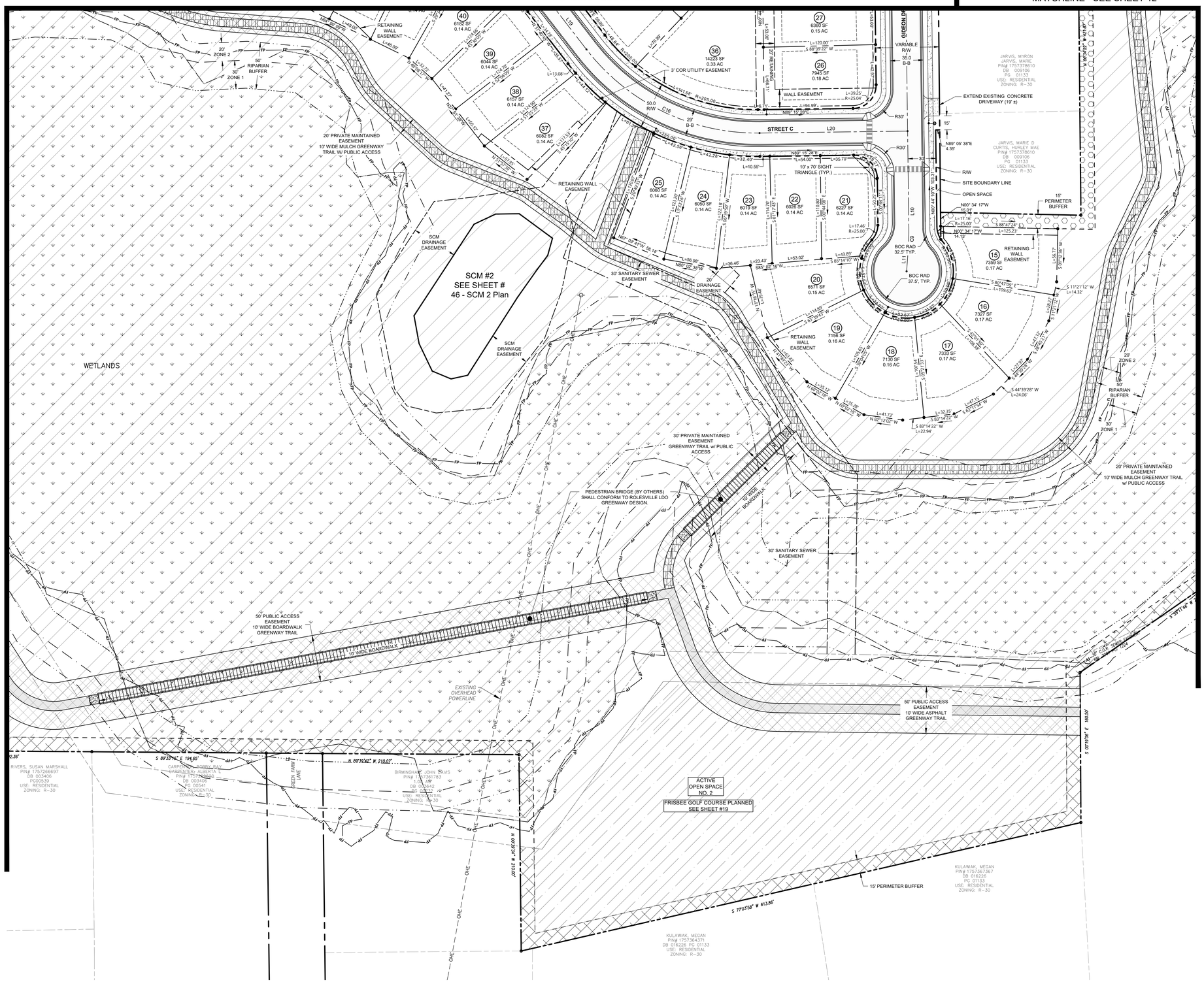
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| 1 | 02Sep2025 | Town of Rolesville Planning Dept. comments |

Sheet Title:

## SITE PLAN
## SHEET 3 OF 6

Sheet #:

10




## 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
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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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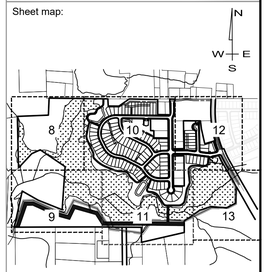
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Est. 1837

Town of Rolesville
502 Southtown Cir
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Phone: 919-554-6517

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Sheet map:




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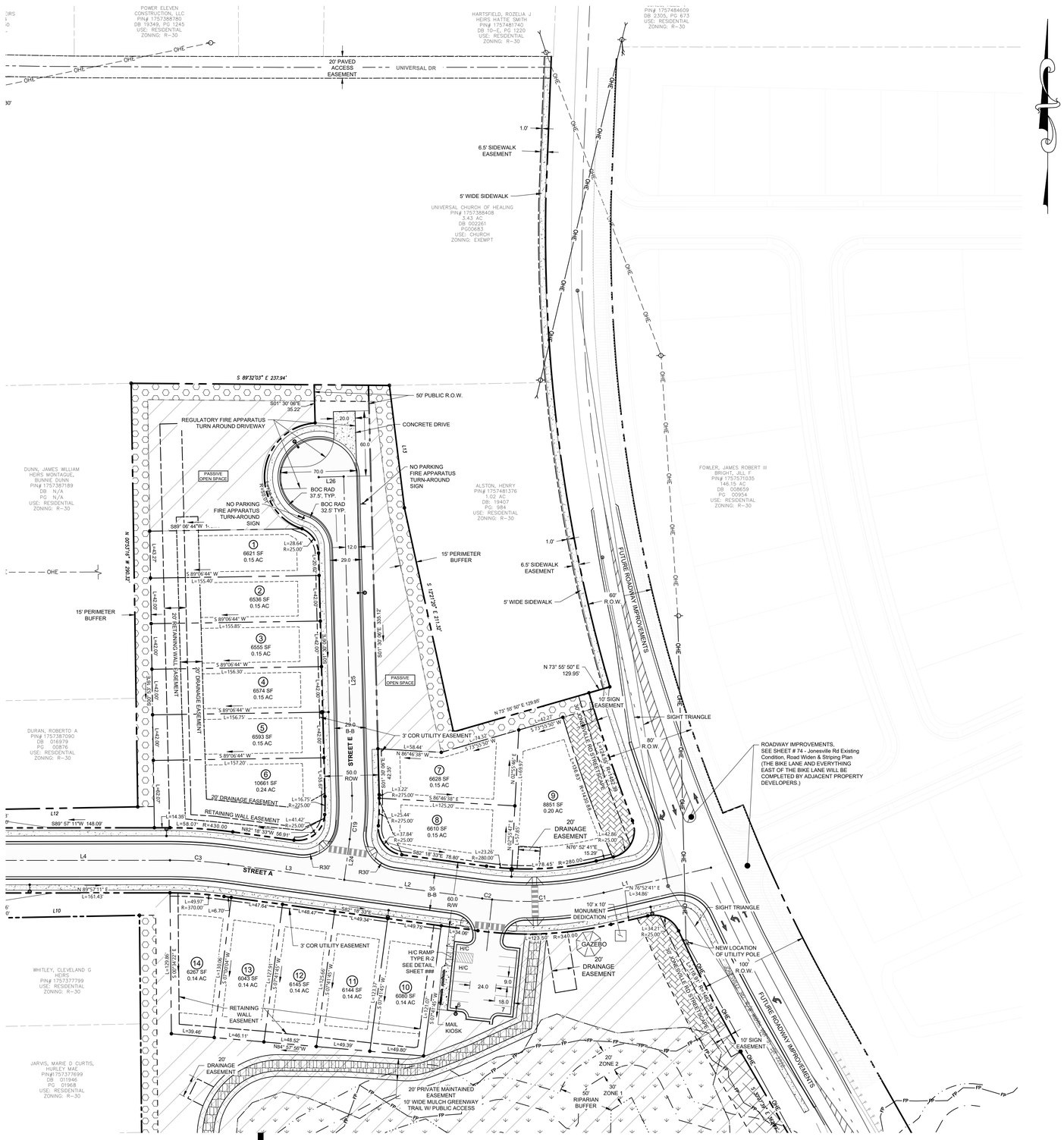
| No. | Date | Description |
|---|---|---|
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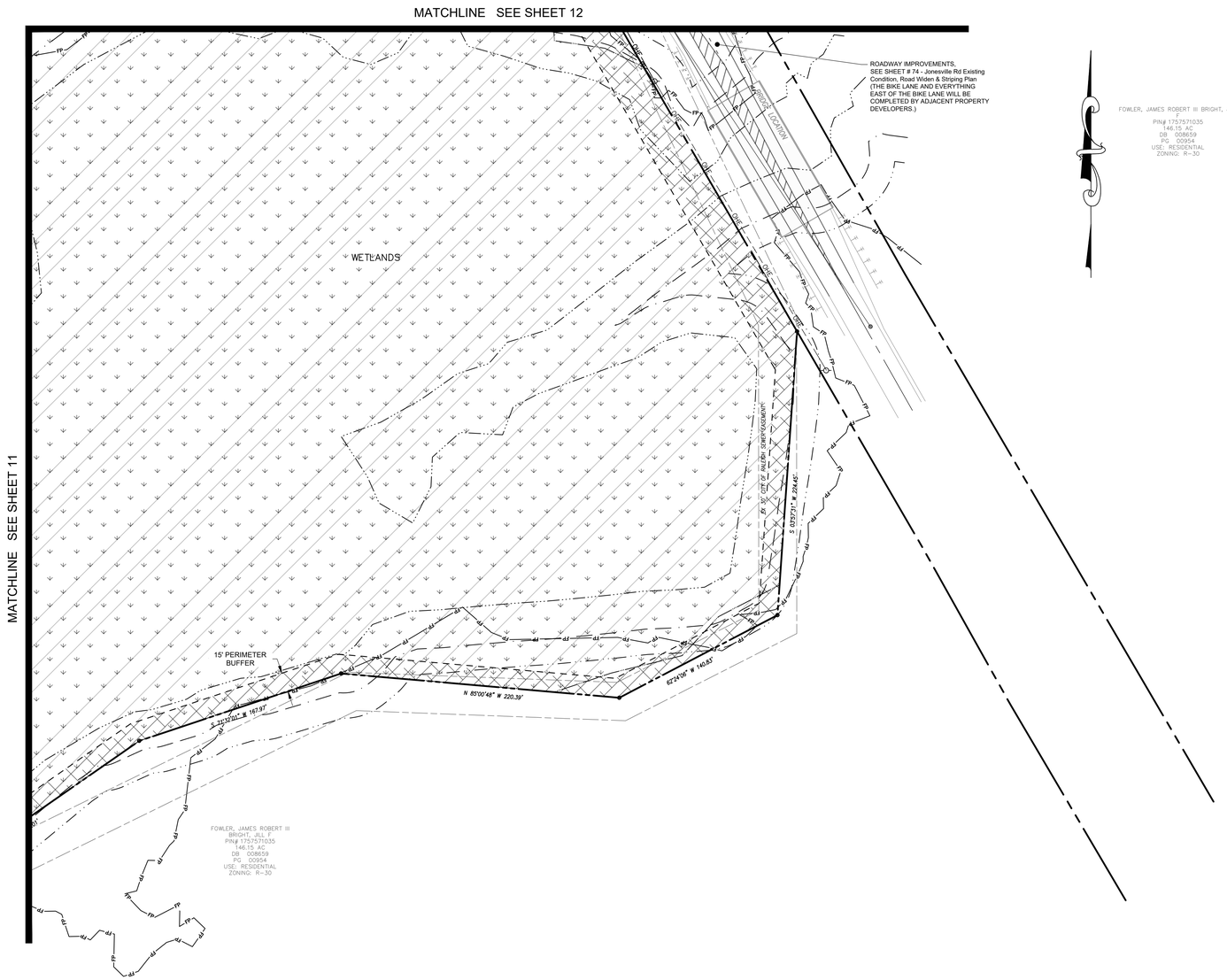
Sheet Title:

## SITE PLAN
## SHEET 4 OF 6

Sheet #:

11


POWER ELEVEN CONSTRUCTION, LLC
PIN# 1757388780
DB 19349, PG 1245
USE: RESIDENTIAL
ZONING: R-30
HARTSFIELD, ROZELIA J
HEIRS HATTIE SMITH
PIN# 1757481740
DB 10-E, PG 1220
USE: RESIDENTIAL
ZONING: R-30
PIN# 1757484609
DB 2305, PG 673
USE: RESIDENTIAL
ZONING: R-30
20' PAVED ACCESS EASEMENT
UNIVERSAL DR
OHE
1.0'
6.5' SIDEWALK EASEMENT
5' WIDE SIDEWALK
UNIVERSAL CHURCH OF HEALING
PIN# 1757388408
3.43 AC
DB 002261
PG00683
USE: CHURCH
ZONING: EXEMPT
S 89°32'03" E 237.94'
S01° 30' 06"E
35.22'
50' PUBLIC R.O.W.
REGULATORY FIRE APPARATUS TURN AROUND DRIVEWAY
CONCRETE DRIVE
20.0
60.0
L21
70.0
NO PARKING FIRE APPARATUS TURN-AROUND SIGN
PASSIVE OPEN SPACE
R=55.00'
L26
BOC RAD 37.5' TYP
BOC RAD 32.5' TYP
DUNN, JAMES WILLIAM
HEIRS MONTAGUE, BUNNIE DUNN
PIN# 1757387189
DB N/A
PG N/A
USE: RESIDENTIAL
ZONING: R-30
ALSTON, HENRY
PIN# 1757481376
1.09 AC
DB: 19407
PG: 984
USE: RESIDENTIAL
ZONING: R-30
FOWLER, JAMES ROBERT III
BRIGHT, JILL F
PIN# 1757571035
146.15 AC
DB 008659
PG 00954
USE: RESIDENTIAL
ZONING: R-30
S89° 06' 44"W 1...
L=28.64'
R=25.00'
12.0
29.0
15' PERIMETER BUFFER
1 6621 SF 0.15 AC
2 6536 SF 0.15 AC
3 6555 SF 0.15 AC
4 6574 SF 0.15 AC
5 6593 SF 0.15 AC
6 10661 SF 0.24 AC
7 6628 SF 0.15 AC
8 6610 SF 0.15 AC
9 8891 SF 0.20 AC
10 6080 SF 0.14 AC
11 6144 SF 0.14 AC
12 6145 SF 0.14 AC
13 6043 SF 0.14 AC
14 6287 SF 0.14 AC
S 89°06'44" W
L=155.40'
L=155.85'
L=156.30'
L=156.75'
L=157.20'
L=158.10'
L=39.46'
L=46.11'
L=48.62'
N84° 57' 56"W
L=49.39'
L=49.80'
L=39.46'
L=46.11'
L=48.62'
L=49.39'
L=49.80'
L=49.97'
R=370.00'
L=6.70'
L=47.84'
L=48.47'
L=49.34'
L=49.70'
L=34.06'
L=123.55'
R=340.00'
L=34.21'
R=25.00'
N 70°52'41" E
L=34.86'
N 73° 55' 50" E
129.95'
S 73°55'50" W
L=42.27'
L=14.32'
L=58.44'
N 86°46'38" W
L=3.22'
R=275.00'
L=25.44'
L=37.84'
R=25.00'
S 86°46'38" E
L=125.20'
L=23.26'
R=280.00'
L=78.45'
R=280.00'
N76° 52' 41"E
15.29'
L=42.86'
R=25.00'
N 02°25'36" E
L=169.82'
R=425.00'
L=104.93'
R=425.00'
L=42.86'
R=25.00'
S 89°32'03" E 237.94'
S 12°27'57" E 211.34'
S01° 30' 06"E 335.12'
N 89°52'11" E
L=161.43'
S89° 57' 11"W 148.09'
N82° 18' 33"W 56.91'
L=58.07'
R=430.00'
L=14.36'
L=41.42'
R=25.00'
L=16.75'
R=225.00'
L=39.27'
R=25.00'
L=42.86'
R=25.00'
L=34.21'
R=25.00'
L=34.86'
L=49.97'
R=370.00'
L=6.70'
L=47.84'
L=48.47'
L=49.34'
L=49.70'
L=34.06'
L=123.55'
R=340.00'
L=34.21'
R=25.00'
L=34.86'
L=42.27'
L=14.32'
L=58.44'
L=3.22'
R=275.00'
L=25.44'
L=37.84'
R=25.00'
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R=280.00'
L=78.45'
R=280.00'
L=42.86'
R=25.00'
L=42.86'
R=25.00'
L=169.82'
R=425.00'
L=104.93'
R=425.00'
L=42.86'
R=25.00'
L=39.46'
L=46.11'
L=48.62'
L=49.39'
L=49.80'
L=39.46'
L=46.11'
L=48.62'
L=49.39'
L=49.80







## SITE PLAN LEGEND

- PROPOSED R.O.W.
- PROPOSED LOT LINE
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- PROPOSED OPEN SPACE ACTIVE
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- EXISTING 100 YEAR FLOOD PLAIN (FP)
- 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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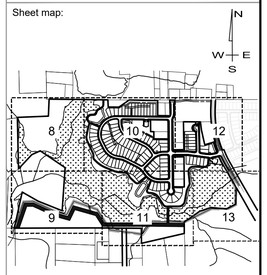
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**CID-25-03** **(PSP-24-05)**

Other Consultants

Sheet map:




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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 53676 BRYAN A. HARRIS

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# HARRIS CREEK FARMS

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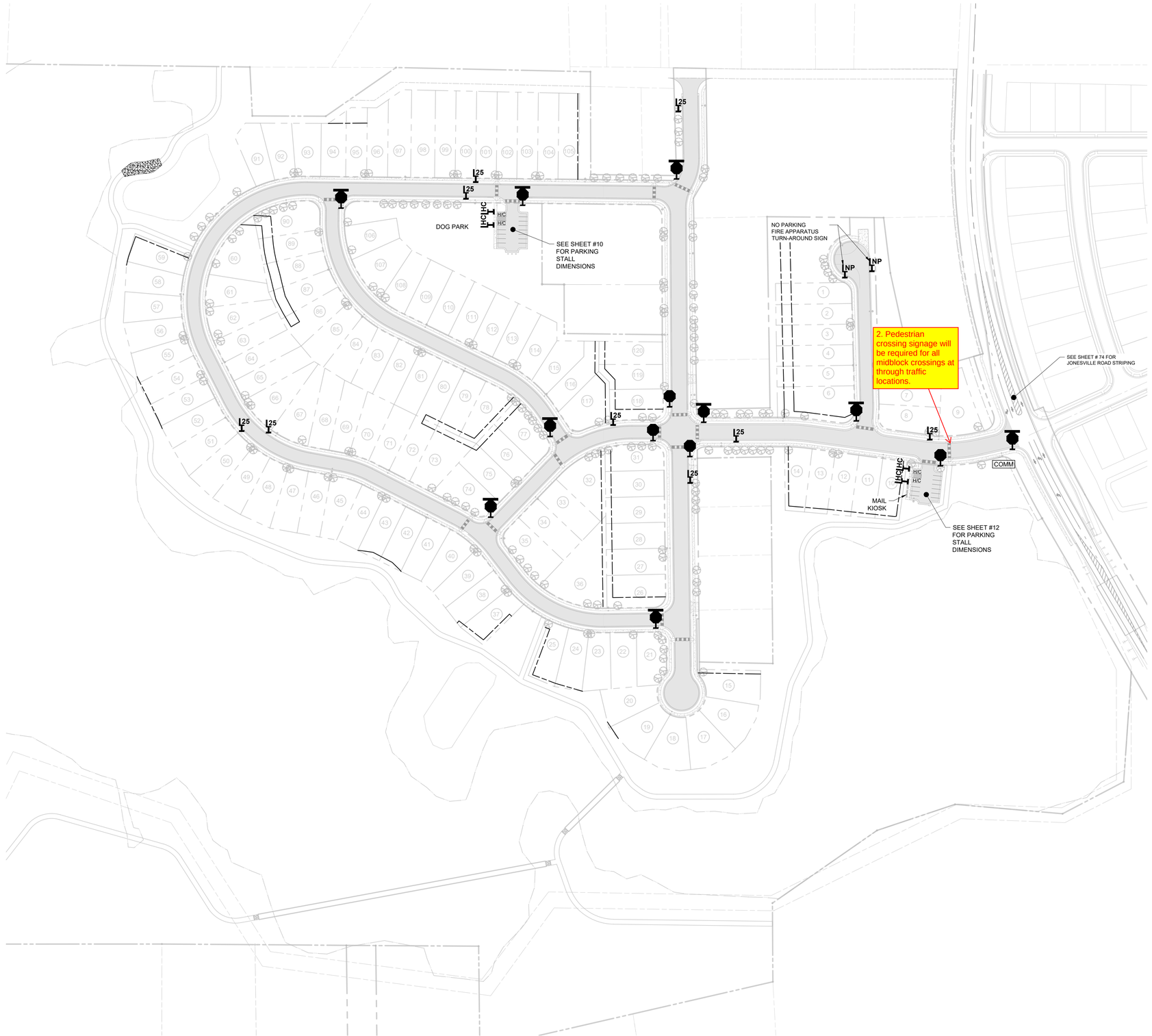
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Sheet Title:

SITE PLAN
SHEET 6 OF 6

Sheet #:

13




| LEGEND | |
|---|---|
| | STOP SIGN W/ STREET NAME SIGN STACKED ABOVE |
| | STOP SIGN |
| L25 | 25MPH LIMIT SIGN |
| LHC | HANDICAP SIGN |
| H/C | HANDICAP PARKING STALL |
| | PEDESTRIAN CROSSWALK |
| LNP | NO PARKING FIRE APPARATUS TURN-AROUND |
| COMM | FREE STANDING NEIGHBORHOOD SIGN |

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft

N.C. UNDERGROUND UTILITIES

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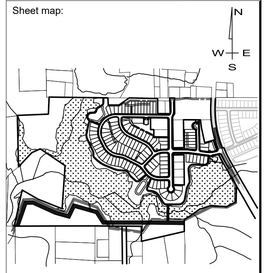
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CID-25-??

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|---|---|---|
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## SIGN & STRIPING PLAN

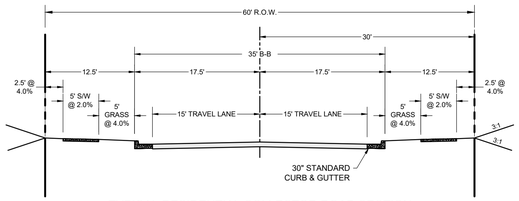
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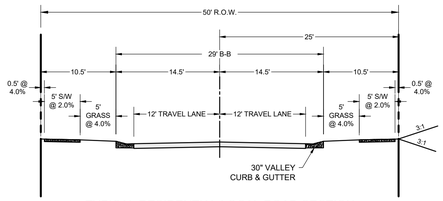
| Street Centerline Line Table | | |
|---|---|---|
| Line # | Length (ft) | BEARING |
| L1 | 101.59 | N76° 52' 41"E |
| L2 | 235.96 | S82° 18' 33"E |
| L3 | 235.96 | S82° 18' 33"E |
| L4 | 217.09 | N89° 57' 11"E |
| L5 | 94.23 | N89° 57' 11"E |
| L6 | 199.48 | N44° 10' 45"E |
| L7 | 167.95 | N00° 55' 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.

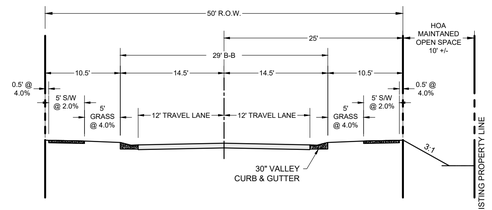



TYPICAL RESIDENTIAL COLLECTOR ROAD SECTION
1" = 10'

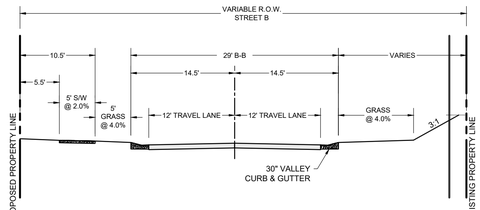



TYPICAL RESIDENTIAL LOCAL ROAD SECTION
1" = 10'

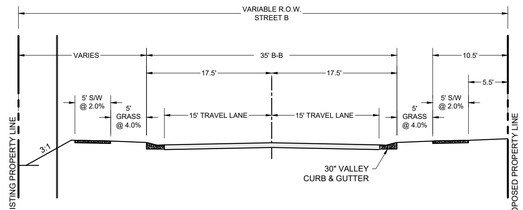
NOTE:
STREET A FROM JONESVILLE RD TO GIDEON RD IS A COLLECTOR ROAD
THE REMAINDER OF STREET "A" IS A LOCAL ROAD



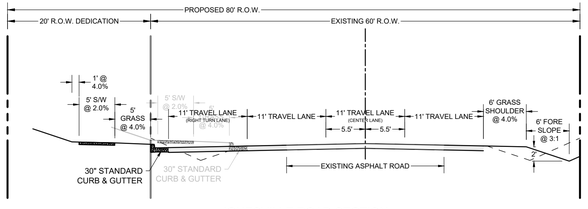

STREET C STA: 0+00 - 2+12
(VARIABLE R.O.W. WIDTH) ROAD SECTION
1" = 10'



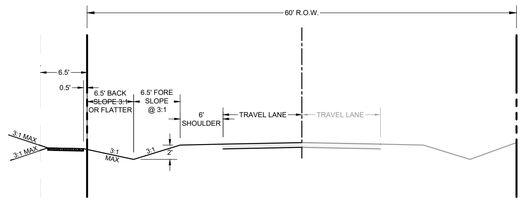

STREET B STA: 0+00 - 2+30
(Gidion Dr. north of street C north intersection) ROAD SECTION
1" = 10'




STREET B STA: 2+80 - 12+10
Gidion Dr. south of street C north intersection) ROAD SECTION
1" = 10'




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




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

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.

E-ONE

SAE Turning Radius Calculations for Quote No. 81188

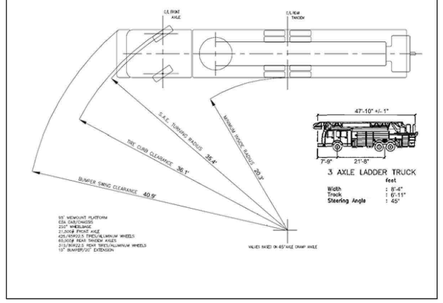
| | | | |
|---|---|---|---|
| Wheelbase: | 260" | Front Bumper Size: | 10" |
| Body Width: | 100" | Front Bumper Extension: | 20" |
| Front Axle Kingpin Center: | 65.06" | Front Wheel Type: | ALUMINUM |
| Front Axle Track: | 83" | Rear Wheel Type: | ALUMINUM |
| Front Axle Tire Width: | 16.7" | Tire Brand: | MICHELIN |
| Dimension Over Rear Tires: | 98.59" | | |
| Body Front Overhang: | 92" | | |

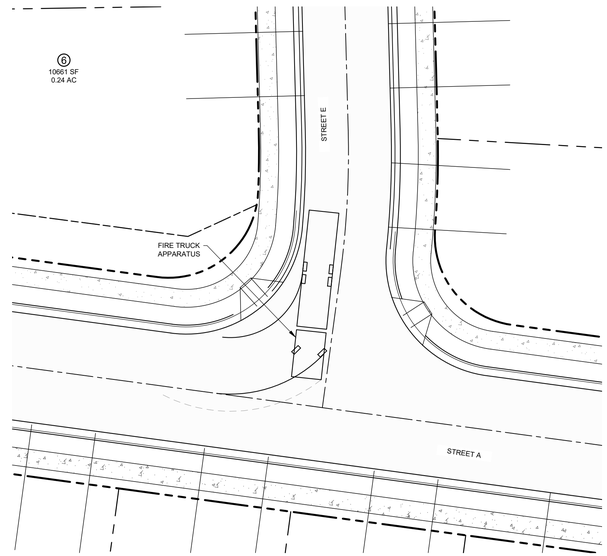
| Inside Cramp Angle | S. A. E. Turning Radius | Tire Curb Clearance | Bumper Swing Clearance | Minimum Inside Radius |
|---|---|---|---|---|
| 35 | 43.1' | 42.8' | 47.9' | 29.5' |
| 36 | 42.5' | 42.3' | 47' | 28.4' |
| 37 | 41.2' | 41.9' | 46.2' | 27.4' |
| 38 | 40.6' | 41' | 45.4' | 26.3' |
| 39 | 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' | 36.3' | 40.5' | 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:

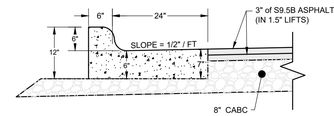
| | |
|---|---|
| Leaf spring suspension: up to and including 425/65R22.5 tires | 45 degrees |
| Leaf spring suspension: 445/65R22.5 tires | 38 degrees |
| Reyco IFS: up to and including 385/65R22.5 tires | 48 degrees |
| Reyco IFS: 425/65R22.5 tires | 45 degrees |
| Reyco IFS: 445/65R22.5 tires without 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 | 35 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.

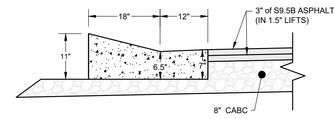


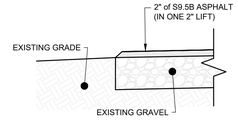

FIRE TRUCK APPARATUS RADII DETAIL
1" = 20'



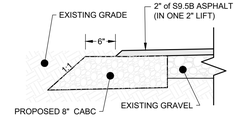

30" CONCRETE STANDARD CURB & GUTTER
& PAVEMENT DESIGN




30" CONCRETE VALLEY CURB & GUTTER
& PAVEMENT DESIGN




20' PAVED ACCESS
(UNIVERSAL DRIVE)




20' PAVED ACCESS
(UNIVERSAL DRIVE)

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(919) 996-9455

Surveyor
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Bateman Civil Survey Company
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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-25-03 (PSP-24-05)

Other Consultants

Sheet map:

Seal:
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 53676 BRYAN A. HARRIS
Bryan Harris
Digitally signed by Bryan Harris
DN: CN=Bryan Harris, E=Bryan@QuantechEng.com, O=Quantech Engineering LLP, C=US
Reason: I have reviewed this document
Date: 2025.09.03 16:52:00-04'00'
FINAL DRAWING - FOR REVIEW PURPOSES ONLY

Issued / Print Date: 2025-September-02 (16:41)
File Name: 7 Overall Site Plan.dwg

Last Saved by: BryanHarris
Drawn by: TAN

Project:
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CID-25-03

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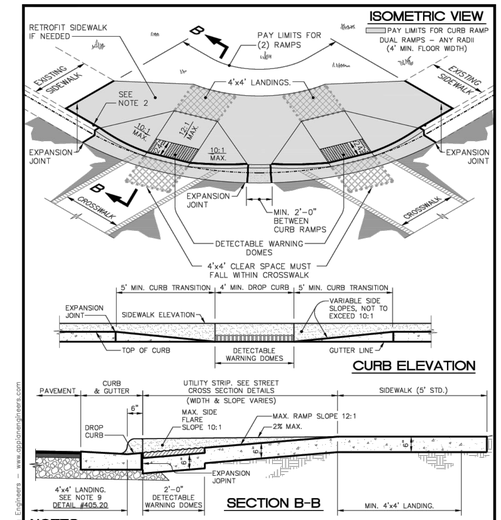
REVISIONS

| No. | Date | Description |
|---|---|---|
| 1 | 02Sep2025 | Town of Rolesville Planning Dept. comments |

Sheet Title:
SITE PLAN DATA & DETAILS

Sheet #:
15

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




## NOTES:

1. Detectable warning domes will cover 2'–0" length and full width of the ramp where it is flush with the pavement.
2. A portion of one or both ramps may extend outside the return.

Details Provided by ARMAN Consulting Engineers — www.ogsionengineers.com

CITY OF DURHAM

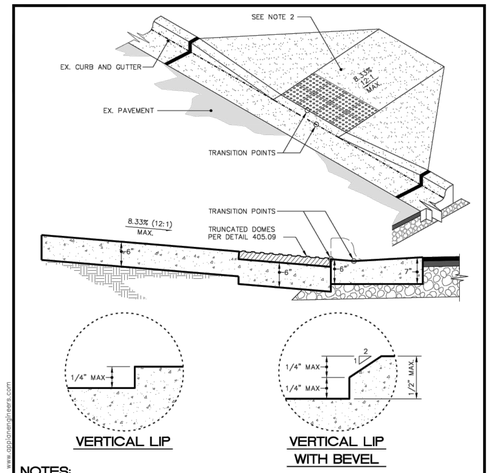
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Voice (919) 560-4326
www.durhamnc.gov

**CURB RAMPS & EXISTING SIDEWALK ADJACENT TO CURB**

| SCALE: | DETAIL#: |
|---|---|
| Not to Scale | 405.02 |
| REVISION DATE: | SHEET# |
| 06/2017 | 1 of 1 |




## NOTES:

1. The transition between the truncated dome tray and the curb should be made to be flush. The transition between the curb and the gutter should be smooth or rounded. If neither a flush or smooth transition can be constructed, and the transitions change in level, up to ¼", then the lip may be vertical and without edge treatment. If the transitions change in level, between ¼" and ½", then the lip shall be beveled with a slope no greater than 1:2.
2. This detail is for transition points only, refer to curb cut details for proper curb layout / design. (City Std. Details 405.01 thru 405.07)

Details Provided by ARMAN Consulting Engineers — www.ogsionengineers.com

CITY OF DURHAM

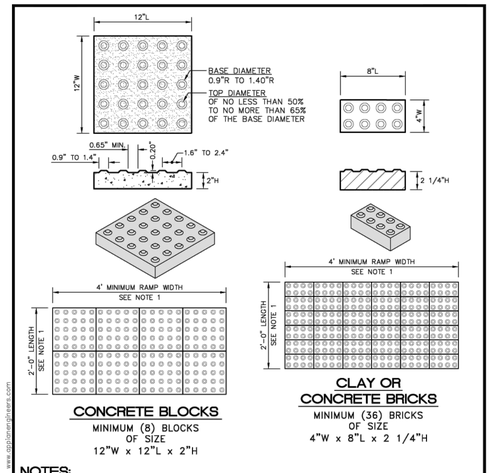
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**CURB CUT RAMP TRANSITION POINTS**

| SCALE: | DETAIL#: |
|---|---|
| Not to Scale | 405.08 |
| REVISION DATE: | SHEET# |
| 06/2017 | 1 of 1 |




## NOTES:

1. Detectable warning domes will cover 2'–0" length and full width of the ramp floor as shown on the details.
2. Detectable warning domes shall be federal yellow in color.
3. Portland cement / sand mix 50% by weight sand. Install as dry mix. Hand tamp for compaction and level before setting bricks.
4. Bricks should be butted as close together as allows. Sweep portland cement / sand mix into remaining cracks.

Details Provided by ARMAN Consulting Engineers — www.ogsionengineers.com

CITY OF DURHAM

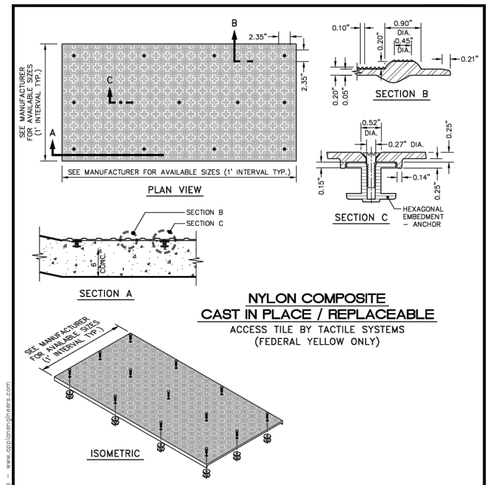
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**DETECTABLE WARNING DOMES**

| SCALE: | DETAIL#: |
|---|---|
| Not to Scale | 405.09 |
| REVISION DATE: | SHEET# |
| 3/2021 | 1 of 2 |




## NOTES:

1. Contact manufacturer for sizes and shapes available in addition to detailed installation instructions.

Details Provided by ARMAN Consulting Engineers — www.ogsionengineers.com

CITY OF DURHAM

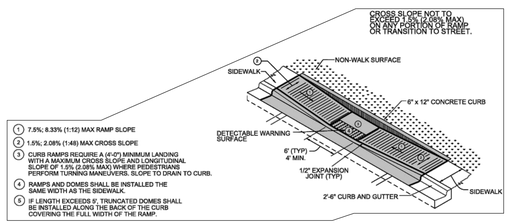
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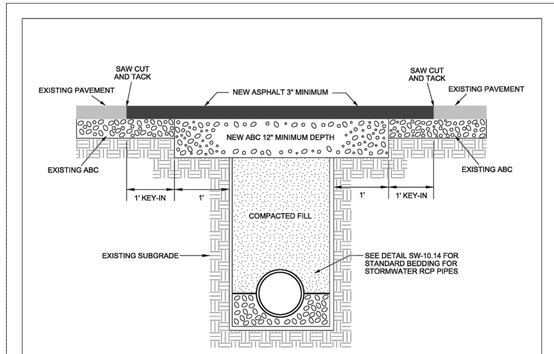
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**DETECTABLE WARNING DOMES**

| SCALE: | DETAIL#: |
|---|---|
| Not to Scale | 405.09 |
| REVISION DATE: | SHEET# |
| 3/2021 | 2 of 2 |




1. 7.5%, 8.33% (1:12) MAX RAMP SLOPE
2. 1.5%, 2.08% (1:48) MAX CROSS SLOPE
3. CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 1.5% (2.08% MAX) WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.
4. RAMPS AND DOMES SHALL BE INSTALLED THE SAME WIDTH AS THE SIDEWALK.
5. IF LENGTH EXCEEDS 5', TRUNCATED DOMES SHALL BE INSTALLED ALONG THE BACK OF THE CURB COVERING THE FULL WIDTH OF THE RAMP.



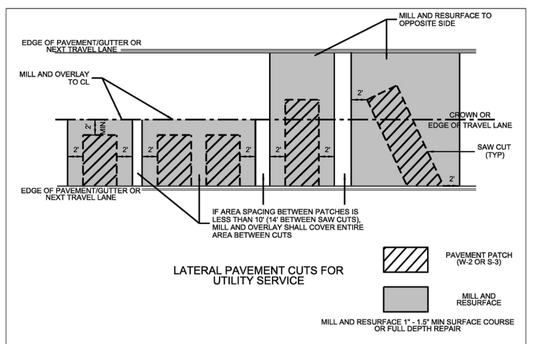

NOTES:

1. THE PAVEMENT EDGE SHALL BE DEFINED BY A STRAIGHT EDGE FORMED BY A MACHINED SAW CUT.
2. THE TRENCH SUBGRADE MATERIAL SHALL BE BACKFILLED WITH SUITABLE MATERIAL AND COMPACTED TO A DENSITY OF AT LEAST 95% OF THAT OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY NCDOT.
3. THE FINAL 1' OF FILL SHALL CONSIST OF ABC MATERIAL COMPACTED TO A DENSITY EQUAL TO 100% OF THAT OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH AASHTO T-80 AS MODIFIED BY NCDOT. BITUMINOUS BASE OR BINDER MAY BE SUBSTITUTED IF APPROVED BY TRANSPORTATION DIRECTOR OR DESIGNEE.
4. THE ENTIRE THICKNESS/VERTICAL EDGE OF THE CUT SHALL BE TACKED.
5. THE SAME DEPTH OF PAVEMENT MATERIAL WHICH EXISTS SHALL BE REINSTALLED, BUT IN NO CASE SHALL THE ASPHALT BE LESS THAN 3" THICK.
6. THE ASPHALT PAVEMENT MATERIAL SHALL BE INSTALLED AND COMPACTED THOROUGHLY AND ROLLED WITH A SMOOTH DRUM ROLLER TO ACHIEVE A SMOOTH, LEVEL PATCH.

*SHEET 1 OF 2*

**CITY OF RALEIGH**
**STANDARD DETAIL**

| REVISIONS | DATE: 8/2023 | NOT TO SCALE |
|---|---|---|
| DATE: 08/2023 | ASPHALT PAVEMENT PATCH AND RCP PIPE BACKFILL | |
| | **T-10.05.1** | |



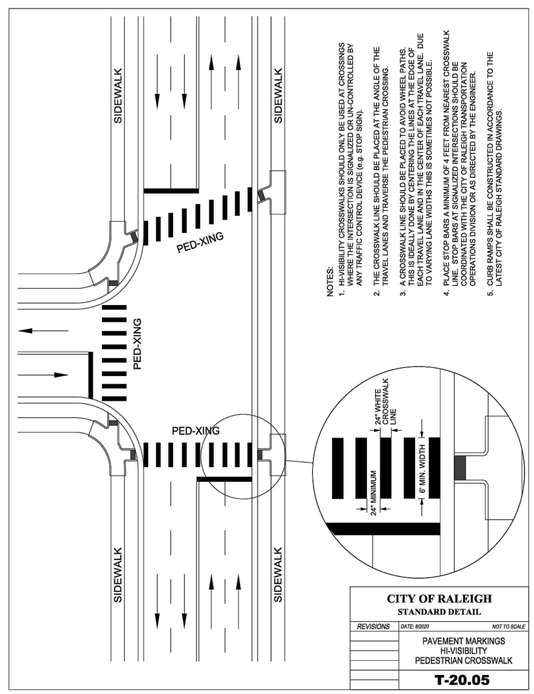

NOTES:

1. THE PAVEMENT EDGES SHALL BE DEFINED BY A STRAIGHT EDGE FORMED BY A MACHINED SAW CUT OR MILLING MACHINE
2. THE TRENCH SUBGRADE MATERIAL SHALL BE BACKFILLED WITH SUITABLE MATERIAL AND COMPACTED TO A DENSITY OF AT LEAST 95% OF THAT OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY NCDOT
3. THE FINAL 1' OF FILL SHALL CONSIST OF ABC MATERIAL COMPCATED TO A DENSITY EQUAL TO 100% OF THAT OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH AASHTO T-80 AS MODIFIED BY NCDOT
4. THE ENTIRE THICKNESS/VERTICAL EDGE OF THE CUT SHALL BE TACKED
5. THE SAME DEPTH OF PAVEMENT MATERIAL WHICH EXISTS SHALL BE REINSTALLED, BUT IN NO CASE SHALL THE ASPHALT BE LESS THAN 9" THICK
6. THE ASPHALT PAVEMENT MATERIAL SHALL BE INSTALLED, COMPACTED THOROUGHLY AND ROLLED WITH A SMOOTH DRUM ROLLER TO LEVEL PATCH

*SHEET 2 OF 2*

**CITY OF RALEIGH**
**STANDARD DETAIL**

| REVISIONS | DATE: 8/2023 | NOT TO SCALE |
|---|---|---|
| | ASPHALT PAVEMENT PATCH AND RCP PIPE BACKFILL | |
| | **T-10.05.2** | |




**CITY OF RALEIGH**
**STANDARD DETAIL**

| REVISIONS | DATE: 8/2023 | NOT TO SCALE |
|---|---|---|
| | PAVEMENT MARKINGS HI-VISIBILITY PEDESTRIAN CROSSWALK | |
| | **T-20.05** | |

3.All pedestrian ramp and street details should be NCDOT. Please review and revise the details included accordingly.

Only use City of Raleigh street details if NCDOT or Town of Rolesville does not have anything to provide the required detail.

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Bateman Civil Survey Company
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Rolesville, NC 27571
Phone: 919-554-6517
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Other Consultants

Sheet map:

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Project:

# HARRIS CREEK FARMS

CID-25-03

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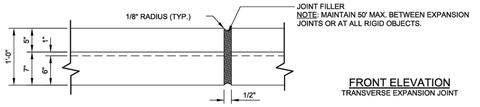
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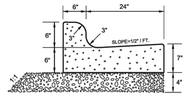
16

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811 Know what's below. Call before you dig.
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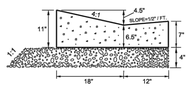
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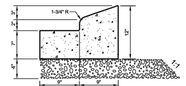

FRONT ELEVATION
TRANSVERSE EXPANSION JOINT



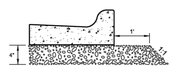

1. 30" CURB & GUTTER




2. 30" VALLEY TYPE GUTTER

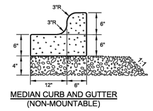



MEDIAN CURB AND GUTTER
SIDE ELEVATION

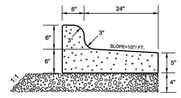



4" COMPACTED A.B.C. UNDER STANDARD CURB & GUTTER (MIN)

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




MEDIAN CURB AND GUTTER
(NON-MOUNTABLE)



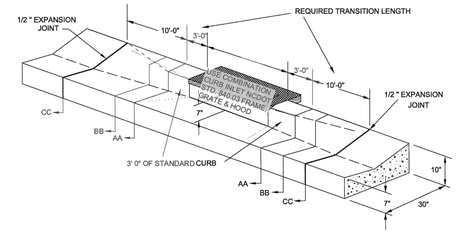

SPILL CURB DETAIL

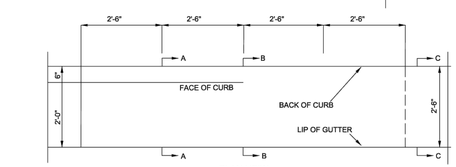
NOTES:
1. 10' MAXIMUM BETWEEN DUMMY JOINTS. 15' MAXIMUM BETWEEN DUMMY JOINTS ON MACHINE POURS.
2. 1/2" EXPANSION JOINT EVERY 50'.
3. 3000 PSI CONCRETE MINIMUM, 4" SLUMP MAXIMUM.
4. LIQUID MEMBRANE CURING COMPOUND SHALL MEET THE REQUIREMENTS OF SECTION 1026-2 OF NCDOT STANDARDS & SPECIFICATIONS FOR ROADS 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*

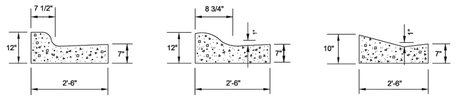
**CITY OF RALEIGH**
**STANDARD DETAIL**

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




PLAN VEIW



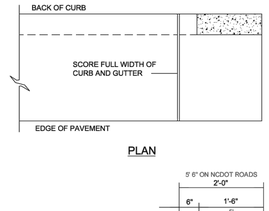

SECTION A-A SECTION B-B SECTION C-C

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

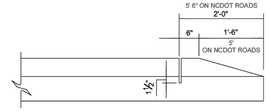
*SHEET 2 OF 2*

**CITY OF RALEIGH**
**STANDARD DETAIL**

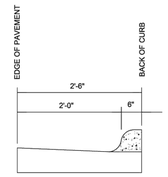
| REVISIONS | DATE: 8/2020 | NOT TO SCALE |
|---|---|---|
| Modify by Quantech Engineering LLC 14 Aug 2025 | CURB TRANSITION TO 2'- 6" VALLEY GUTTER | |
| | **T-10.26.2** | |




PLAN




FRONT




END

*SHEET 2 OF 2*

**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** | |

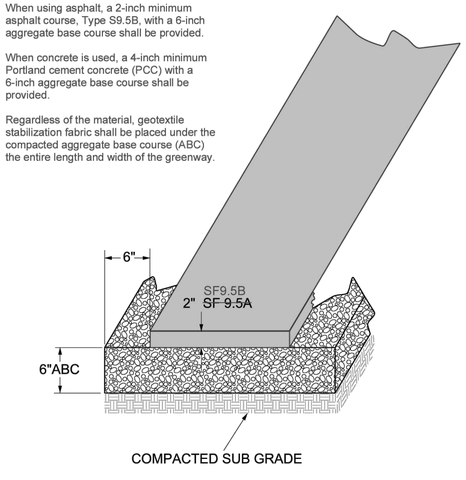
NOTE:

Greenways shall be Constructed with either asphalt or concrete pavement.

When using asphalt, a 2-inch minimum asphalt course, Type S9.5B, with a 6-inch aggregate base course shall be provided.

When concrete is used, a 4-inch minimum Portland cement concrete (PCC) with a 6-inch aggregate base course shall be provided.

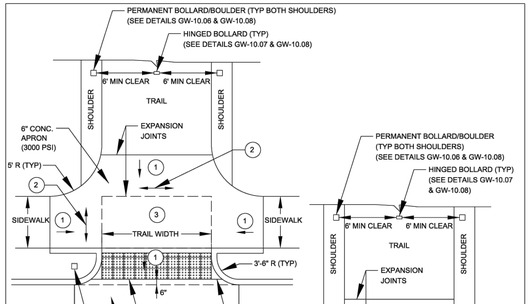
Regardless of the material, geotextile stabilization fabric shall be placed under the compacted aggregate base course (ABC) the entire length and width of the greenway.



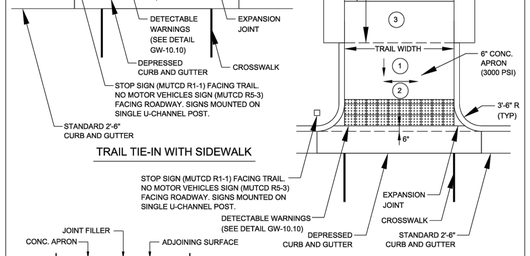

*SHEET 1 OF 2*

**CITY OF RALEIGH**
**STANDARD DETAIL**

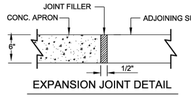
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|---|---|---|
| Modify by Quantech Engineering LLC 14 Aug 2025 | ASPHALT MULTI-PURPOSE PATH | |
| | **T-30.02.1** | |




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:

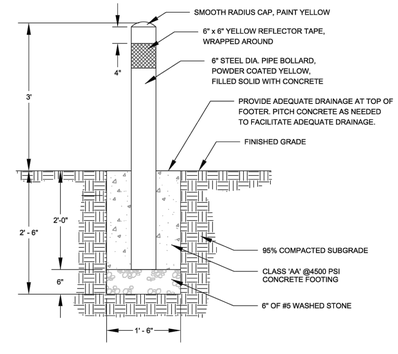
1. THE DRIVEWAY, SIDEWALK, TRAIL TIE-IN SHALL BE BUILT IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND PUBLIC RIGHT-OF-WAY ACCESSIBILITY GUIDELINES (PROWAG).
2. THE DRIVEWAY, SIDEWALK, TRAIL TIE-IN SHALL BE PLACED PARALLEL TO THE TRAIL DIRECTION OF TRAVEL.
3. DETECTABLE WARNINGS SHALL 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** | |


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15000 Weston Parkway
Cary, N.C. 27513
(919) 996-9455

Surveyor
BCSC BATEMAN CIVIL SURVEY COMPANY
Bateman Civil Survey Company
2524 Reliance Avenue
Apex, NC 27539
919-557-1080 ext 109
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Est. 1837
Town of Rolesville
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**CID-25-03** **(PSP-24-05)**

Other Consultants

Sheet map:

Seal:
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Bryan Harris
Digitally signed by Bryan Harris
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Reason: I have reviewed this document
Date: 2025.09.03 16:52:01-04'00'

FINAL DRAWING - FOR REVIEW PURPOSES ONLY

Issued / Print Date: 2025-September-02 (16:42)
File Name: 16 Site Details.dwg

Last Saved by: BryanHarris
Drawn by: TAN

Project:

# HARRIS CREEK FARMS

CID-25-03

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REVISIONS

| No. | Date | Description |
|---|---|---|
| 1 | 02Sep2025 | Town of Rolesville Planning Dept. comments |

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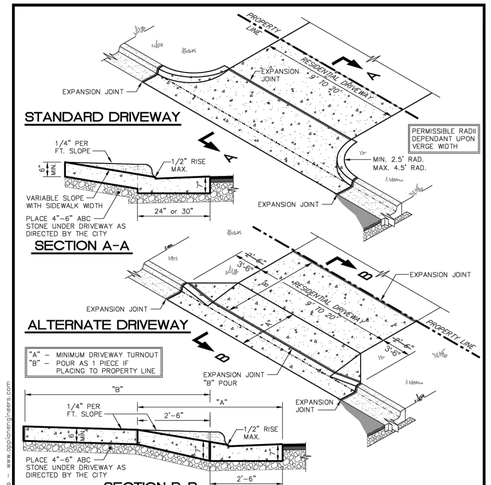
# SITE DETAILS

Sheet #:

17

N.C. UNDERGROUND UTILITIES
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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\16 Site Details.dwg

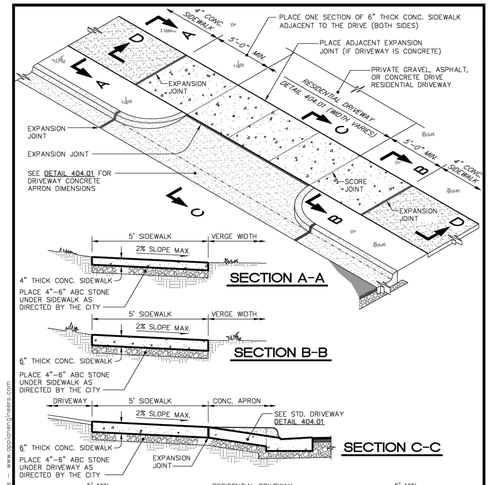



NOTES:

1. Curb and gutter section will be poured continuous through the standard and alternate driveway with the face of curb dropped down as shown.
2. Driveway will be constructed after the curb forms have been removed.
3. Driveway within R/W shall be concrete.
4. Concrete shall be non-reinforced, air-entrained with a minimum strength of 3000 lbs.

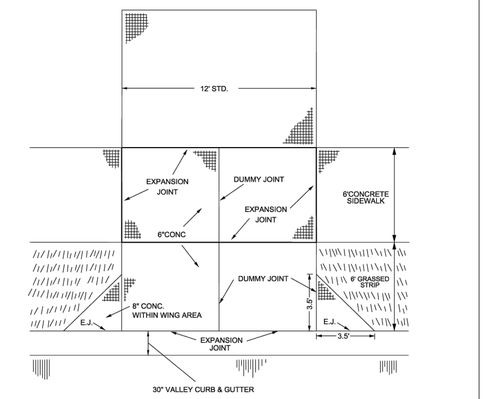
Details Provided by ASPHALL Consulting Engineers – www.asphaltengineers.com

| Dept. of Public Works<br>101 City Hall Plaza<br>Durham, NC 27701 | CITY OF DURHAM, NC<br>USE WITH THE STANDARD SPECIFICATIONS ONLY | Voice (919) 560-4326<br>www.durhamnc.gov |
|---|---|---|
| CITY OF DURHAM | DRIVEWAY FOR CURB & GUTTER STREET SECTION (RESIDENTIAL) | SCALE: Not to Scale<br>DETAIL#: 404.01<br>REVISION DATE: 06/2020<br>SHEET#: 1 of 1 |




Details Provided by ASPHALL Consulting Engineers – www.asphaltengineers.com

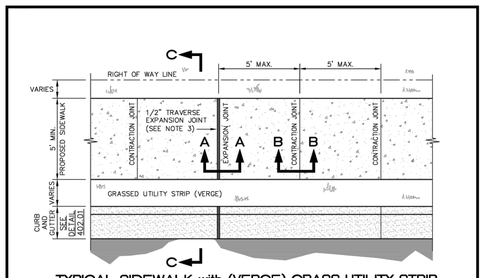
| Dept. of Public Works<br>101 City Hall Plaza<br>Durham, NC 27701 | CITY OF DURHAM, NC<br>USE WITH THE STANDARD SPECIFICATIONS ONLY | Voice (919) 560-4326<br>www.durhamnc.gov |
|---|---|---|
| CITY OF DURHAM | SIDEWALK ACROSS RESIDENTIAL DRIVEWAY APRON | SCALE: Not to Scale<br>DETAIL#: 404.02<br>REVISION DATE: 06/2017<br>SHEET#: 1 of 1 |



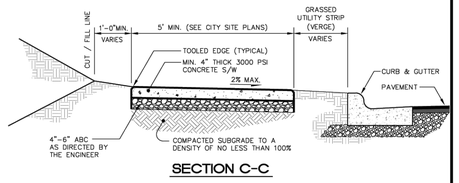

NOTES:

1. SEE STANDARD DETAIL T-10.26.1 FOR CURB AND GUTTER DETAILS.
2. EXPANSION MATERIAL SHALL EXTEND THE FULL DEPTH OF THE CONCRETE.
3. ALL CONCRETE SHALL BE 3000 PSI (MIN.).

| CITY OF RALEIGH<br>STANDARD DETAIL | | |
|---|---|---|
| REVISIONS | DATE: 8/2020 | NOT TO SCALE |
| | DRIVEWAY FOR VALLEY TYPE CURB & GUTTER | |
| | T-10.02 | |




TYPICAL SIDEWALK with (VERGE) GRASS UTILITY STRIP

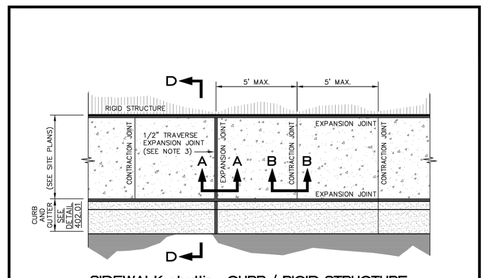



SECTION C-C

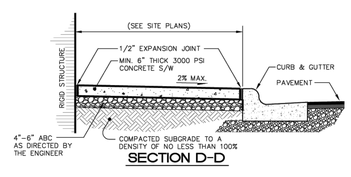
SEE SHEET 3 (THIS DETAIL) FOR SECTION A-A, B-B AND NOTES

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|---|---|---|
| CITY OF DURHAM | CONCRETE SIDEWALKS | SCALE: Not to Scale<br>DETAIL#: 402.02<br>REVISION DATE: 06/2017<br>SHEET#: 1 of 3 |




SIDEWALK abutting CURB / RIGID STRUCTURE

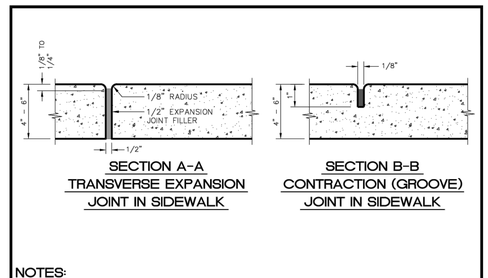



SECTION D-D

SEE SHEET 3 (THIS DETAIL) FOR SECTION A-A, B-B AND NOTES

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| CITY OF DURHAM | CONCRETE SIDEWALKS | SCALE: Not to Scale<br>DETAIL#: 402.02<br>REVISION DATE: 06/2023<br>SHEET#: 2 of 3 |




SECTION A-A
TRANSVERSE EXPANSION JOINT IN SIDEWALK

SECTION B-B
CONTRACTION (GROOVE) JOINT IN SIDEWALK

NOTES:

1. in addition to complying with Durham standards sidewalks shall conform to NCDOT standards and specifications. In cases where clarifications are needed, the City shall make the determination.
2. Contraction (Groove) joints with 1/8" radius shall be placed at 5 foot intervals and be one inch deep with joint filler.
3. One half inch (1/2") transverse expansion joints shall be placed at intervals no more than 50 feet and shall match expansion/construction joints in adjacent curb.
4. A sealed ½" expansion joint is required where the sidewalk abuts buildings or any rigid structure.
5. Joint materials shall limit shrink/swell so post construction installation results in a maximum of 1/4" from flush.
6. Concrete compressive strength shall be 3,000 psi in 28 days.
7. Top 6" of subgrade beneath the sidewalk shall be compacted to 100% Standard Proctor density. The City may require testing at its discretion.
8. Six inch depth is required at all driveways, intersections (PC to PT), at Handicap ramps, and commercially developed or zoned areas.
9. Undercutting of unsuitable subgrade material and/or placement of up to 6 inches of incidental ABC stone may be required to obtain proper bedding.
10. The minimum width of the verge is one foot; otherwise the sidewalk shall abut the back of the curb and be six feet wide and six inches thick.
11. Lids for junction boxes, structures, or utility vaults shall be non-skid, meet NCDOT standards, and be submitted to the City for review and approval prior to installation.
12. Provide a minimum one foot wide flat area at the back of sidewalks before starting any cut or fill slope.

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|---|---|---|
| CITY OF DURHAM | CONCRETE SIDEWALKS | SCALE: Not to Scale<br>DETAIL#: 402.02<br>REVISION DATE: 06/2017<br>SHEET#: 3 of 3 |


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Bateman Civil Survey Company
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www.batemancivilsurvey.com

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

Other Consultants


Sheet map:

Seal:

NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A. HARRIS

Bryan Harris

Digitally signed by Bryan Harris
DN: CN=Bryan Harris, E=Bryan@QuantechEng.com, O=Quantech Engineering LLP, C=US
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FINAL DRAWING - FOR REVIEW PURPOSES ONLY

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Drawn by: TAN

Project:

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| No. | Date | Description |
|---|---|---|
| 1 | 02Sep2025 | Town of Rolesville Planning Dept. comments |

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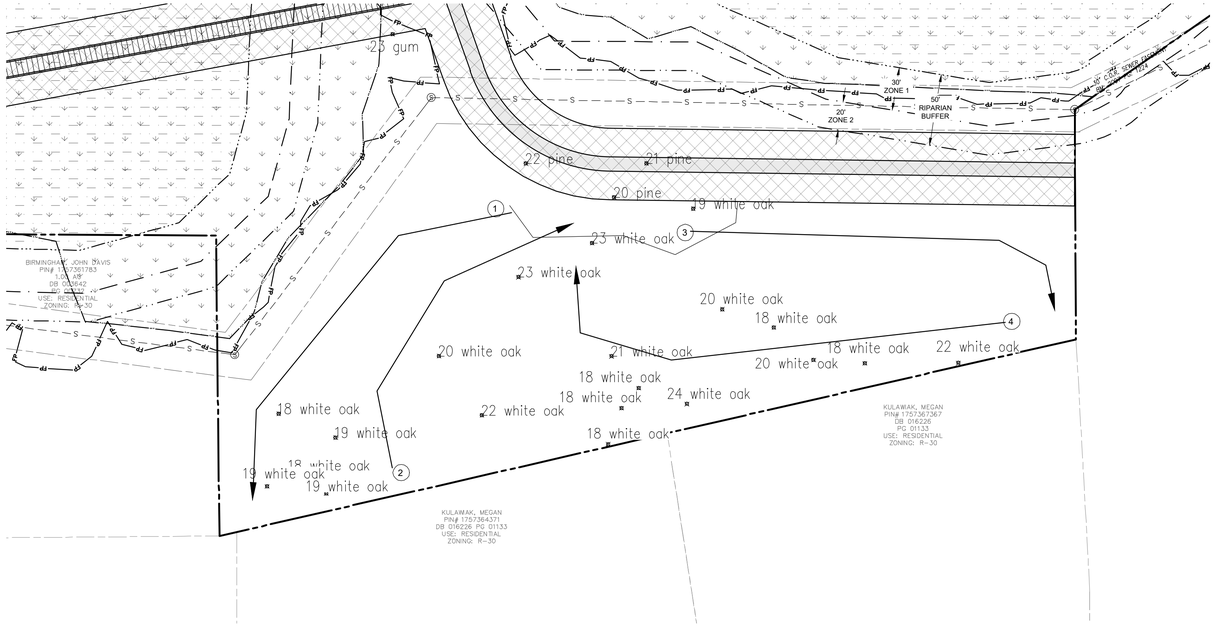
SITE DETAILS

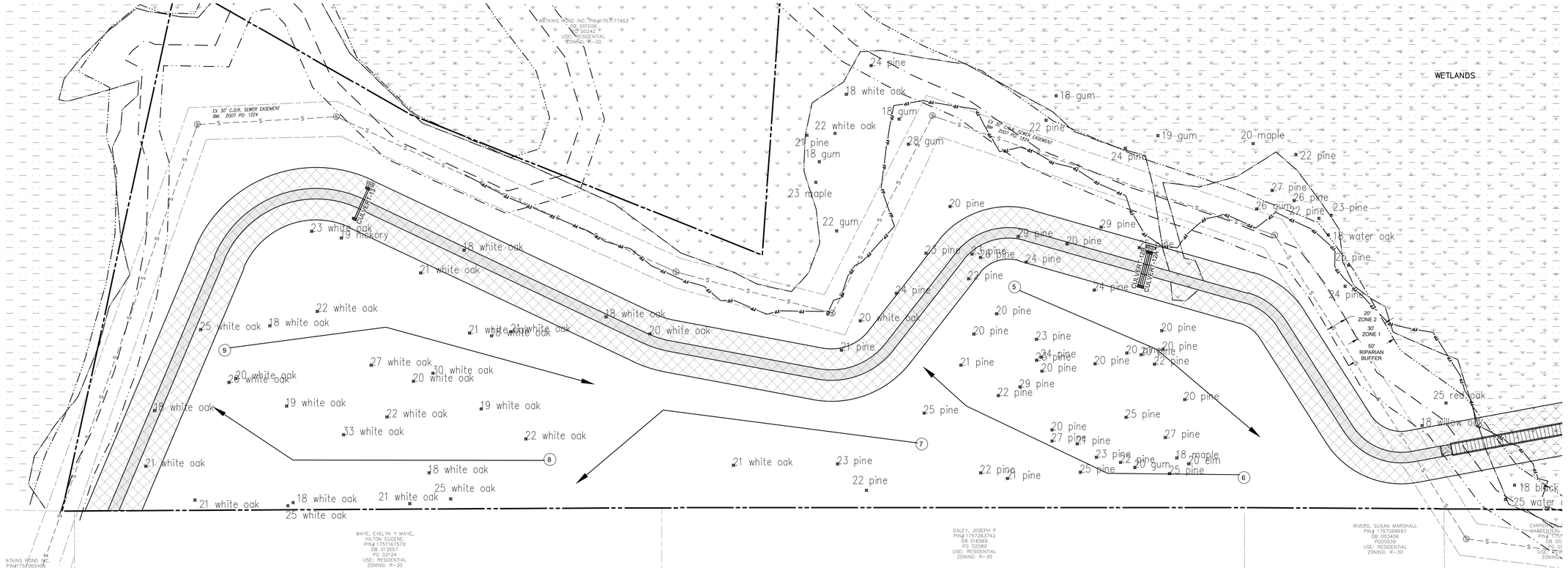
Sheet#:

18

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N.C. UNDERGROUND UTILITIES
811 3 DAYS BEFORE DIGGING CALL TOLL FREE 811 or (800)632-4949
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(919) 996-9455

Surveyor

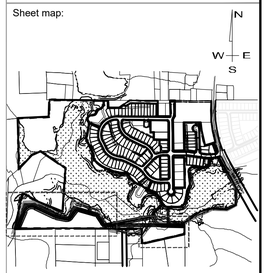
BCSC BATEMAN CIVIL SURVEY COMPANY
Bateman Civil Survey Company
2524 Reliance Avenue
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919-557-1080 ext 109
www.batemancivilsurvey.com

Jurisdiction / Municipality

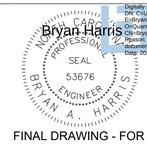
Rolesville
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Phone: 919-554-6517
**CID-25-03 (PSP-24-05)**

Other Consultants

Sheet map:




Seal:




Bryan Harris
Digitally signed by Bryan Harris
DN: CN=Bryan Harris, E=BryanH@QuantechEng.com, O=Quantech Engineering LLP, C=US
Reason: I have reviewed this document
Date: 2025.09.03 16:52:01-04'00'

FINAL DRAWING - FOR REVIEW PURPOSES ONLY

Issued / Print Date: 2025-September-02 (16:42)
File Name: 19 SITE PLAN Disc Golf.dwg

Last Saved by: Tim Newsome
Drawn by: TAN

Project:

# HARRIS CREEK FARMS

CID-25-03

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REVISIONS

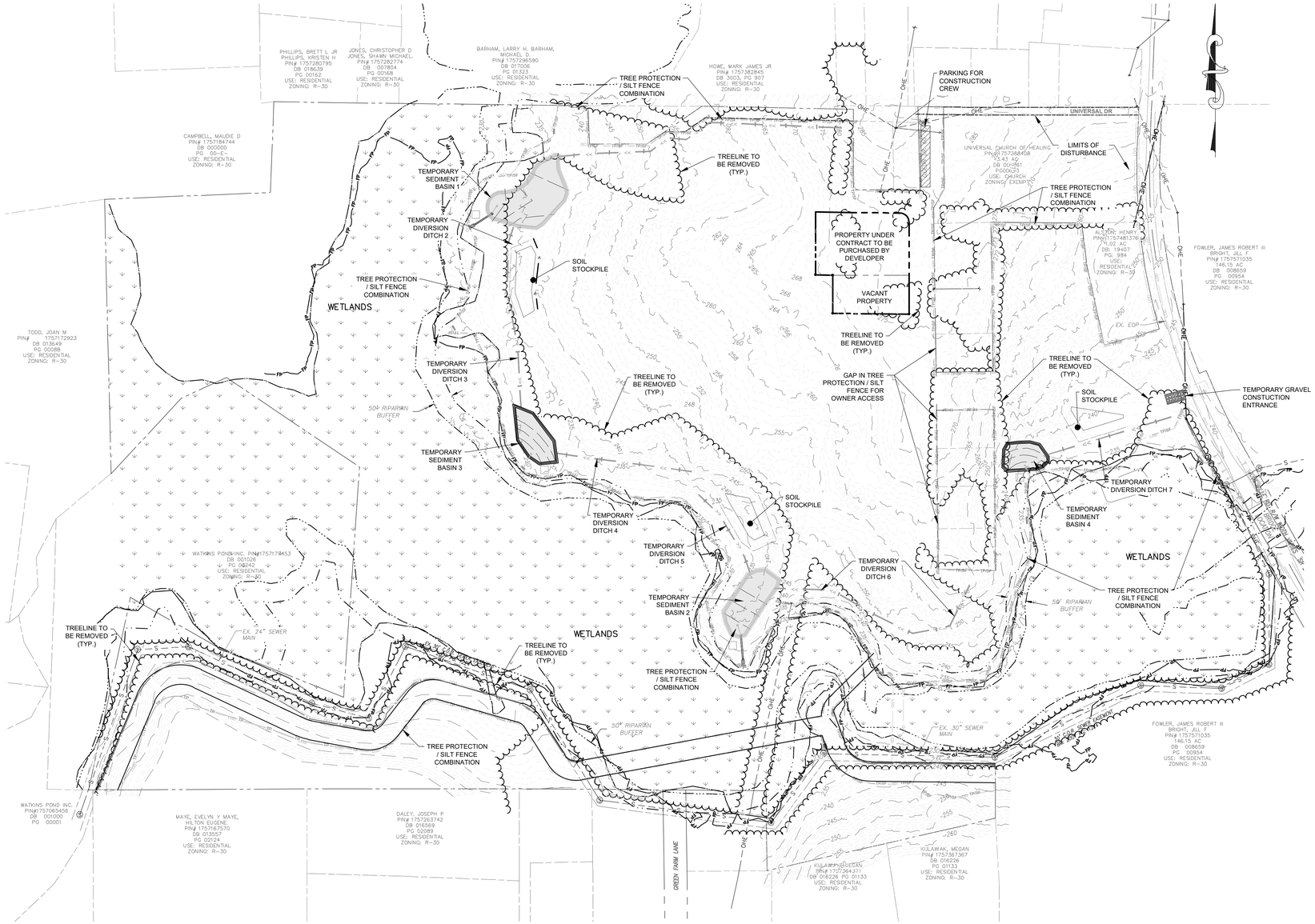
| No. | Date | Description |
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| 1 | 02Sep2025 | Town of Rolesville Planning Dept. comments |

Sheet Title:

## SITE PLAN DISC GOLF

Sheet #:

19




## HARRIS CREEK

SKIMMER BASIN TABLE

| Skimmer Basin # | Width (ft) | Length (ft) | Depth (ft) | Top Elevation | Outlet Elevation | Weir (ft) | Skimmer (in) | Orifice (in) | Dewatering Time (days) |
|---|---|---|---|---|---|---|---|---|---|
| BASIN 1 | 112 | 224 | 3 | 237 | 234 | 55 | 2.5 | 2.5 | 4 |
| BASIN 2 | 90 | 180 | 3 | 237.5 | 234.5 | 55 | 2.5 | 2 | 5 |
| BASIN 3 | 77 | 153 | 2 | 230 | 228 | 55 | 2.5 | 2 | 4 |
| BASIN 4 | 80 | 159 | 2 | 235 | 233 | 55 | 2.5 | 2 | 4 |

## HARRIS CREEK

| Location | MATERIAL | |
|---|---|---|
| | TEMPORARY | PERMANENT |
| TEMPORARY DITCH 1 | NAG SC150BN | NAG SC150BN |
| TEMPORARY DITCH 2 | STRAW AND NETTING | STRAW AND NETTING |
| TEMPORARY DITCH 3 | STRAW AND NETTING | STRAW AND NETTING |
| TEMPORARY DITCH 4 | NAG SC150BN | NAG SC150BN |
| TEMPORARY DITCH 5 | STRAW AND NETTING | STRAW AND NETTING |
| TEMPORARY DITCH 6 | NAG SC150BN | NAG SC150BN |
| TEMPORARY DITCH 7 | STRAW AND NETTING | STRAW AND NETTING |

## WAKE COUNTY EROSION CONTROL SEQUENCE

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DISTURBED AREA = 45.28 ACRES

EROSION CONTROL LEGEND (PHASE 1 & 2)

- LIMITS OF DISTURBANCE
- TREE PROTECTION/SILT FENCE COMBINATION
- TREE PROTECTION
- SILT FENCE
- SILT FENCE OUTLET
- TEMPORARY DIVERSION DITCH
- TEMPORARY CONSTRUCTION ENTRANCE
- TEMPORARY SEDIMENT BASIN
- SKIMMER
- INLET PROTECTION
- HORSE SHOE INLET PROTECTION
- DITCH WATTLE
- CONSTRUCTION PARKING
- EXISTING TREELINE
- PROPOSED TREELNE

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
15000 Weston Parkway
Cary, N.C. 27513
(919) 996-9455

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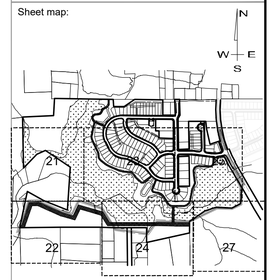
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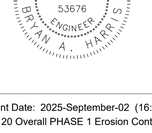
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Other Consultants

Sheet map:




Seal:




Issued / Print Date: 2025-September-02 (16:43)
File Name: 20 Overall PHASE 1 Erosion Control Plan.dwg

Last Saved by: BryanHarris
Drawn by: TAN

Project:

# HARRIS CREEK FARMS

CID-25-03

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REVISIONS

| No. | Date | Description |
|---|---|---|
| 1 | 02Sep2025 | Town of Rolesville Planning Dept. comments |

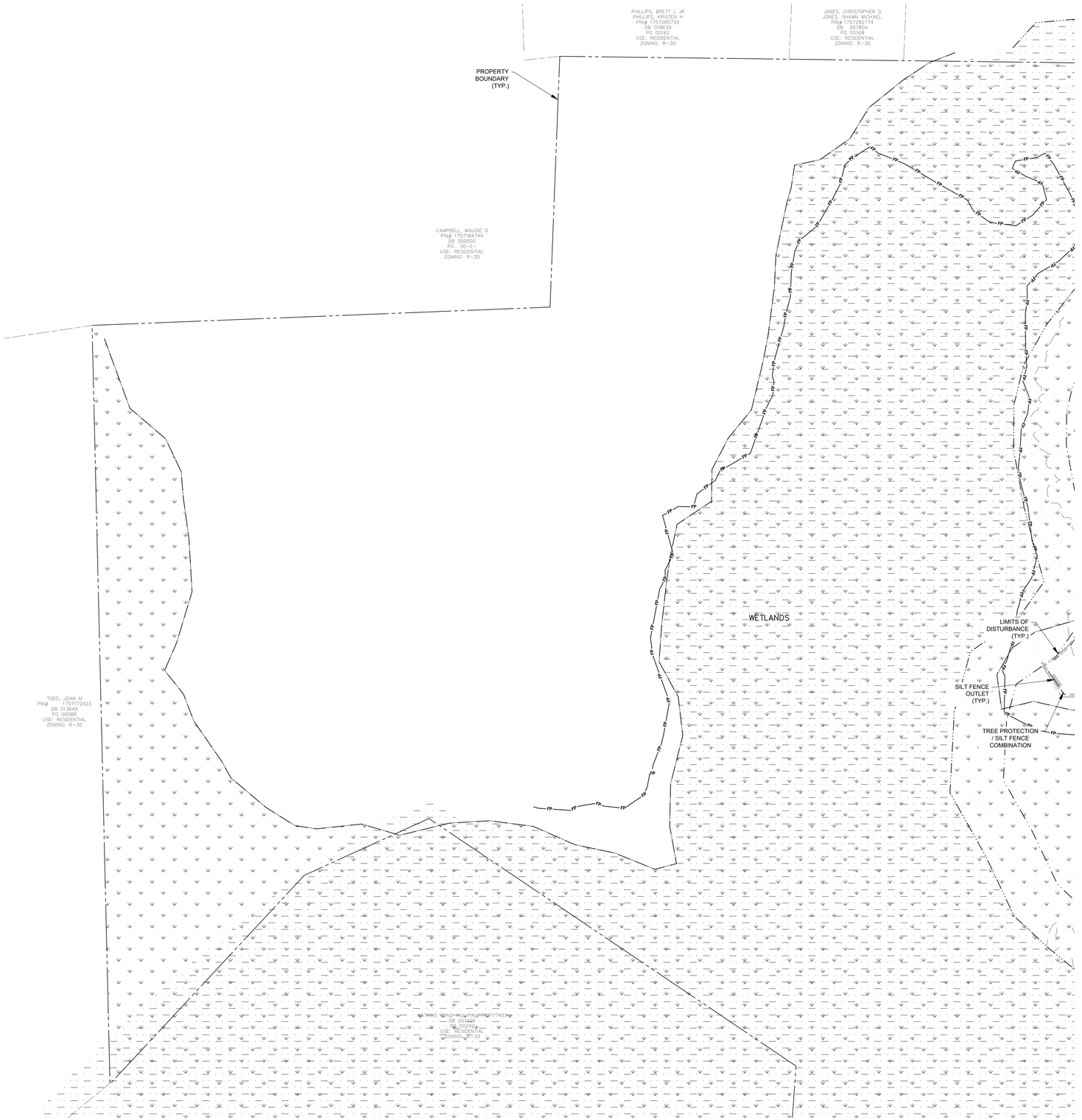
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# OVERALL PHASE 1 EROSION CONTROL PLAN

Sheet #:

20

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EROSION CONTROL LEGEND (PHASE 1 & 2)

| | |
|---|---|
| LIMITS OF DISTURBANCE | LOD |
| TREE PROTECTION/SILT FENCE COMBINATION | TP/SF |
| TREE PROTECTION | TP |
| SILT FENCE | |
| SILT FENCE OUTLET | |
| TEMPORARY DIVERSION DITCH | >> |
| TEMPORARY CONSTRUCTION ENTRANCE | |
| TEMPORARY SEDIMENT BASIN | |
| SKIMMER | |
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| HORSE SHOE INLET PROTECTION | |
| DITCH WATTLE | |
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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

File Location: C:\Users\BryanHarris\Quantech\Quantech Engineering - Documents\Harris Creek Farm - Jonesville\Engineering_DWG\Construction Plans\20 Overall PHASE 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

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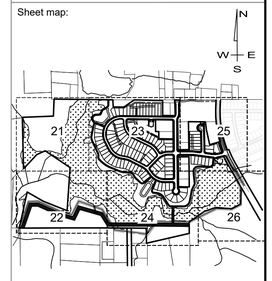
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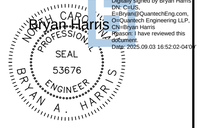
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REVISIONS

| No. | Date | Description |
|---|---|---|
| 1 | 02Sep2025 | Town of Rolesville Planning Dept. comments |

Sheet Title:

EC PLAN STAGE 1
SHEET 1 OF 6

Sheet #:

21

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## NPDES SELF INSPECTION PROGRAM

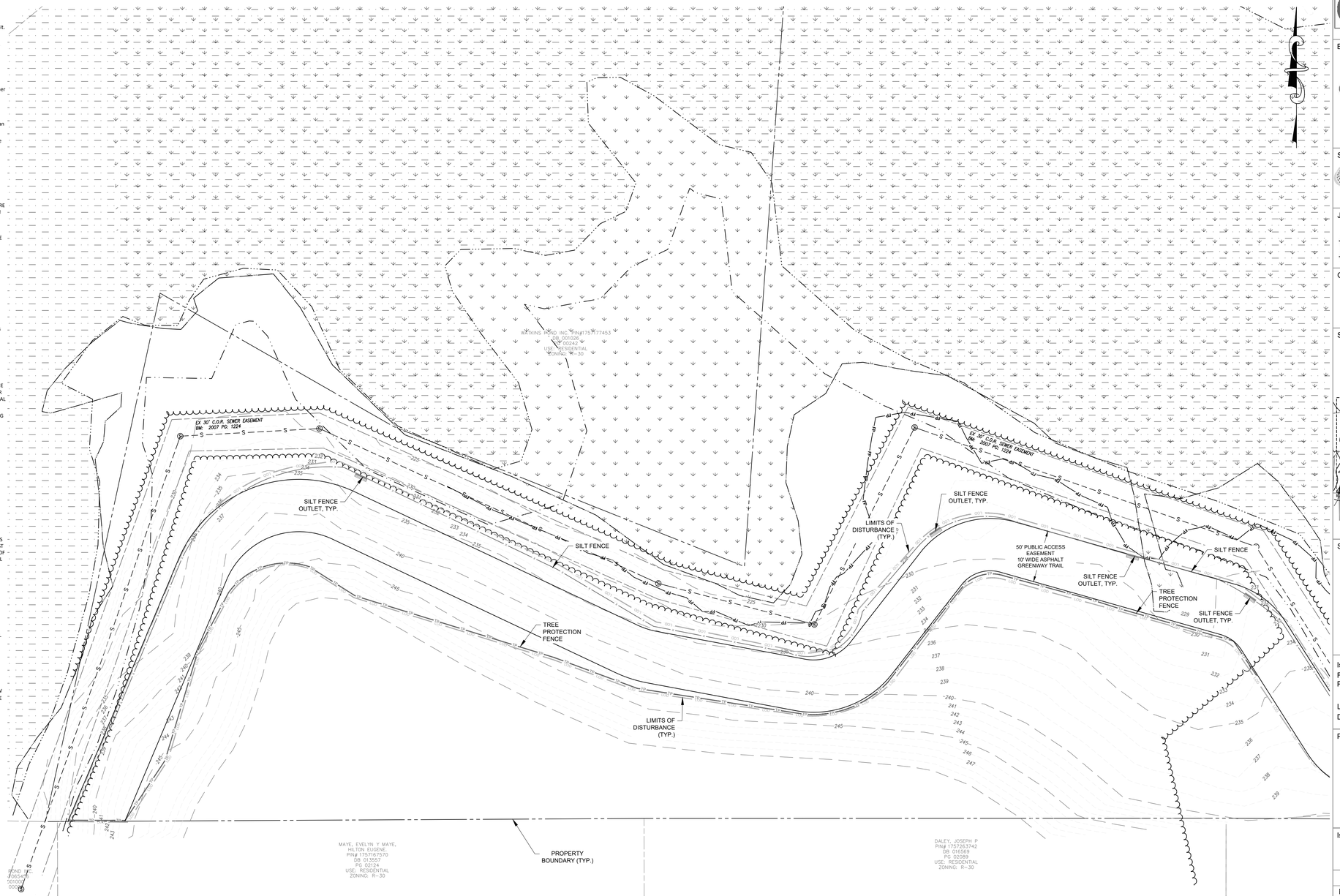
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DISTURBED AREA = 45.28 ACRES

EROSION CONTROL LEGEND (PHASE 1 & 2)

- LIMITS OF DISTURBANCE
- TREE PROTECTION/SILT FENCE COMBINATION
- TREE PROTECTION
- SILT FENCE
- SILT FENCE OUTLET
- TEMPORARY DIVERSION DITCH
- TEMPORARY CONSTRUCTION ENTRANCE
- TEMPORARY SEDIMENT BASIN
- SKIMMER
- INLET PROTECTION
- HORSE SHOE INLET PROTECTION
- DITCH WATTLE
- CONSTRUCTION PARKING
- EXISTING TREELINE
- PROPOSED TREELNE

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\20 Overall PHASE 1 Erosion Control Plan.dwg

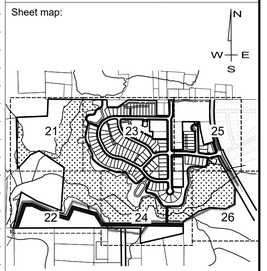
Developer
THE CSC GROUP
CONTRIBUTE TO THE SUCCESS OF LOCAL COMMUNITY
10030 Green Level Church Rd, Suite 802 #149: Cary, NC 27519

Engineer
QUANTECH ENGINEERING
INNOVATIVE SOLUTIONS | ENGINEERING THE FUTURE
Firm # F-1517
15000 Weston Parkway
Cary, N.C. 27513
(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-25-03 (PSP-24-05)

Other Consultants

Sheet map:



Seal:


Digitally signed by Bryan Harris
DN: CN=US, E=Bryan@QuantechEng.com, O=Quantech Engineering LLP, CN=Bryan Harris
I attest I have reviewed this document
Date: 2025.09.03 16:52:03-04'00'

Issued / Print Date: 2025-September-02 (16:44)
File Name: 20 Overall PHASE 1 Erosion Control Plan.dwg

Last Saved by: BryanHarris
Drawn by: TAN

Project:
# HARRIS CREEK FARMS
CID-25-03

Issued for:
PROGRESS DRAWINGS
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REVISIONS

| No. | Date | Description |
|---|---|---|
| 1 | 02Sep2025 | Town of Rolesville Planning Dept. comments |

Sheet Title:
## EC PLAN STAGE 1
## SHEET 2 OF 6

Sheet #:
22




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EROSION CONTROL LEGEND (PHASE 1 & 2)

- LIMITS OF DISTURBANCE
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4. Begin clearing and grubbing. Maintain devices as needed. Rough grade site.
5. Install storm sewer, if shown, and protect inlets with block and gravel inlet controls, sediment traps or other approved measures as shown on the plan. Begin construction, building, etc.
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**HARRIS CREEK**

SKIMMER BASIN TABLE

| Skimmer Basin # | Width (ft) | Length (ft) | Depth (ft) | Top Elevation | Outlet Elevation | Weir (ft) | Skimmer (in) | Orifice (in) | Dewatering Time (days) |
|---|---|---|---|---|---|---|---|---|---|
| BASIN 1 | 112 | 224 | 3 | 237 | 234 | 55 | 2.5 | 2.5 | 4 |
| BASIN 2 | 90 | 180 | 3 | 237.5 | 234.5 | 55 | 2.5 | 2 | 5 |
| BASIN 3 | 77 | 153 | 2 | 230 | 228 | 55 | 2.5 | 2 | 4 |
| BASIN 4 | 80 | 159 | 2 | 235 | 233 | 55 | 2.5 | 2 | 4 |

BASINS 3 & 4 ARE REMOVED BETWEEN STAGE 2 AND 3. SEE SHEET #36 FOR BASIN REMOVAL SEQUENCE

**HARRIS CREEK**

| Location | MATERIAL | |
|---|---|---|
| | TEMPORARY | PERMANENT |
| TEMPORARY DITCH 1 | NAG SC150BN | NAG SC150BN |
| TEMPORARY DITCH 2 | STRAW AND NETTING | STRAW AND NETTING |
| TEMPORARY DITCH 3 | STRAW AND NETTING | STRAW AND NETTING |
| TEMPORARY DITCH 4 | NAG SC150BN | NAG SC150BN |
| TEMPORARY DITCH 5 | STRAW AND NETTING | STRAW AND NETTING |
| TEMPORARY DITCH 6 | NAG SC150BN | NAG SC150BN |
| TEMPORARY DITCH 7 | STRAW AND NETTING | STRAW AND NETTING |

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

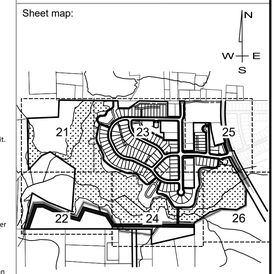
Engineer
QUANTECH ENGINEERING
INNOVATIVE SOLUTIONS | ENGINEERING THE FUTURE
Firm # F-1517
15000 Weston Parkway
Cary, N.C. 27513
(919) 996-9455

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 Community • Capital Connection
Est. 1837
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
**CID-25-03 (PSP-24-05)**

Other Consultants

Sheet map:




Seal:




Issued / Print Date: 2025-September-02 (16:44)
File Name: 20 Overall PHASE 1 Erosion Control Plan.dwg

Last Saved by: BryanHarris
Drawn by: TAN

Project:

# HARRIS CREEK FARMS

CID-25-03

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REVISIONS

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| 1 | 02Sep2025 | Town of Rolesville Planning Dept. comments |

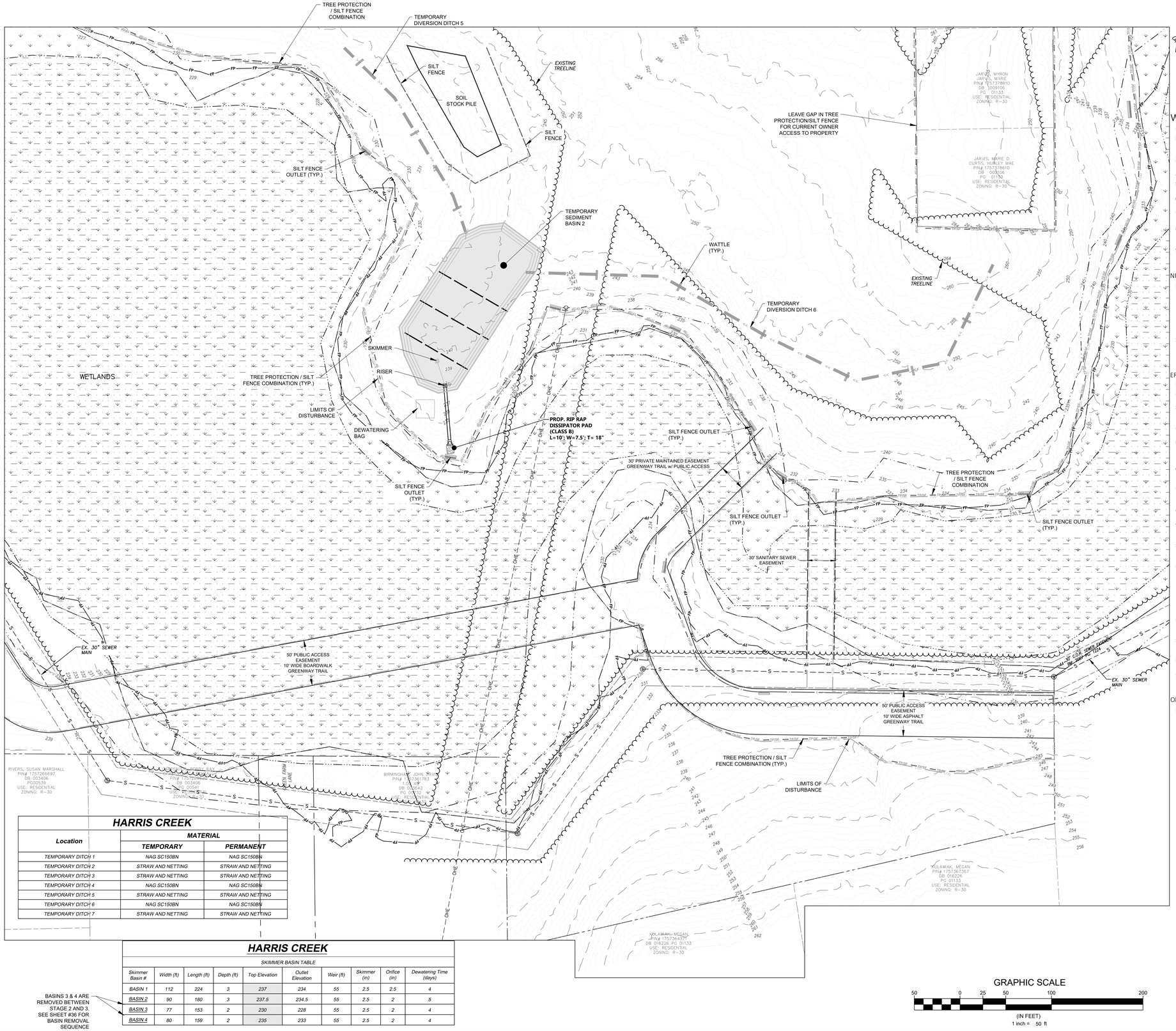
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# EC PLAN STAGE 1 SHEET 3 OF 6

Sheet #:

# 23

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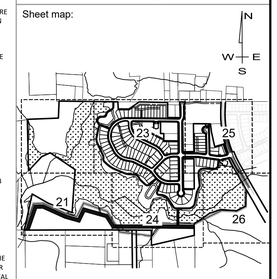
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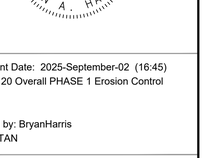
Jurisdiction / Municipality
Rolesville Growing Community • Capital Connection Est. 1837
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
CID-25-03 (PSP-24-05)

Other Consultants


Sheet map:




Seal:




Issued / Print Date: 2025-September-02 (16:45)
File Name: 20 Overall PHASE 1 Erosion Control Plan.dwg

Last Saved by: BryanHarris
Drawn by: TAN

Project:

# HARRIS CREEK FARMS

CID-25-03

Issued for:
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REVISIONS

| No. | Date | Description |
|---|---|---|
| 1 | 02Sep2025 | Town of Rolesville Planning Dept. comments |

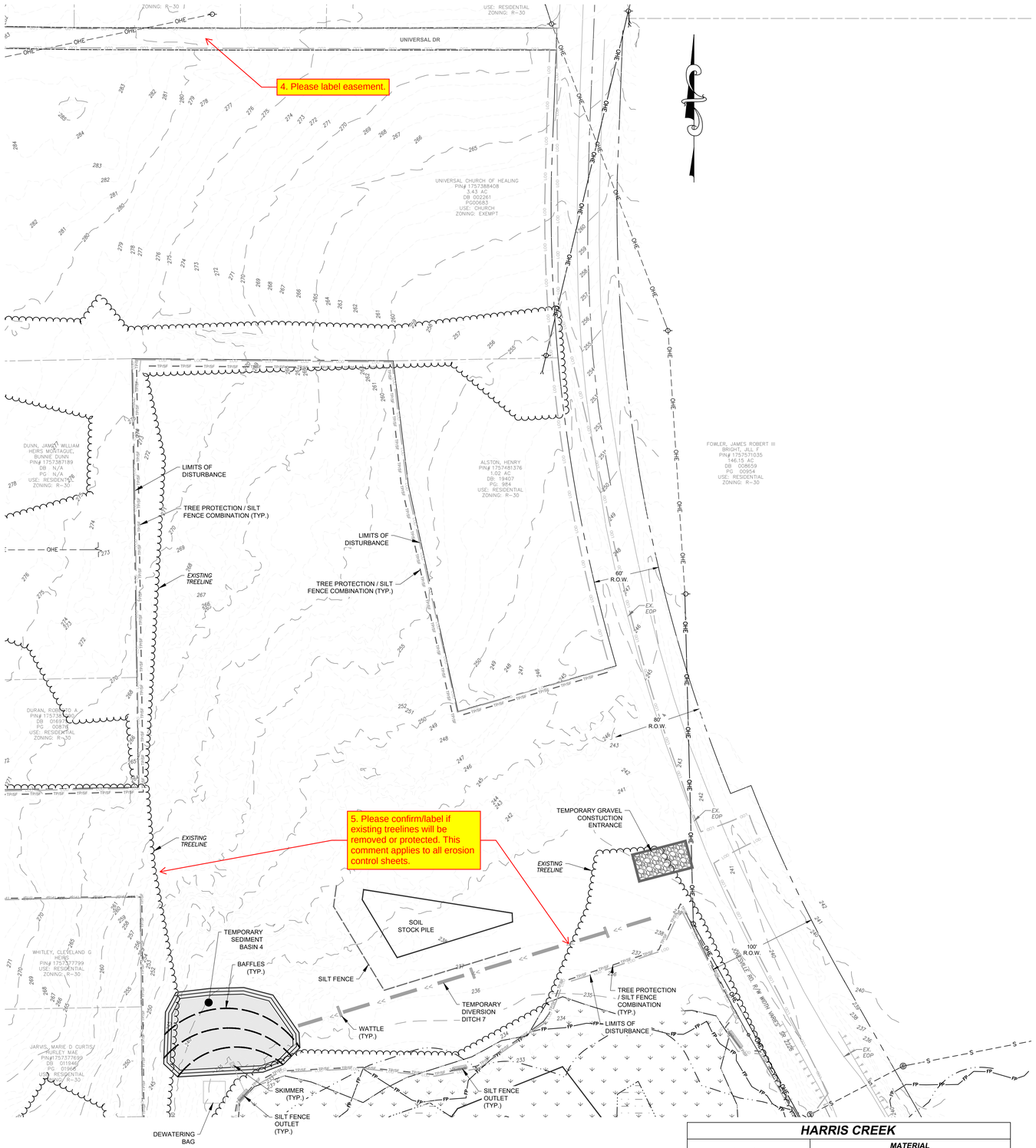
Sheet Title:

# EC PLAN STAGE 1 SHEET 4 OF 6

Sheet #:

# 24

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File Location: C:\Users\BryanHarris\Quantech\Quantech Engineering - Documents\Harris Creek Farm - Jonesville\Engineering_DWG\Construction Plans\20 Overall PHASE 1 Erosion Control Plan.dwg

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- EXISTING TREELINE
- PROPOSED TREELNE

### HARRIS CREEK

SKIMMER BASIN TABLE

| Skimmer Basin # | Width (ft) | Length (ft) | Depth (ft) | Top Elevation | Outlet Elevation | Weir (ft) | Skimmer (in) | Orifice (in) | Dewatering Time (days) |
|---|---|---|---|---|---|---|---|---|---|
| BASIN 1 | 112 | 224 | 3 | 237 | 234 | 55 | 2.5 | 2.5 | 4 |
| BASIN 2 | 90 | 180 | 3 | 237.5 | 234.5 | 55 | 2.5 | 2 | 5 |
| BASIN 3 | 77 | 153 | 2 | 230 | 228 | 55 | 2.5 | 2 | 4 |
| BASIN 4 | 80 | 159 | 2 | 235 | 233 | 55 | 2.5 | 2 | 4 |

BASINS 3 & 4 ARE REMOVED BETWEEN STAGE 2 AND 3. SEE SHEET #36 FOR BASIN REMOVAL SEQUENCE

### HARRIS CREEK

| Location | MATERIAL | |
|---|---|---|
| | TEMPORARY | PERMANENT |
| TEMPORARY DITCH 1 | NAG SC150BN | NAG SC150BN |
| TEMPORARY DITCH 2 | STRAW AND NETTING | STRAW AND NETTING |
| TEMPORARY DITCH 3 | STRAW AND NETTING | STRAW AND NETTING |
| TEMPORARY DITCH 4 | NAG SC150BN | NAG SC150BN |
| TEMPORARY DITCH 5 | STRAW AND NETTING | STRAW AND NETTING |
| TEMPORARY DITCH 6 | NAG SC150BN | NAG SC150BN |
| TEMPORARY DITCH 7 | STRAW AND NETTING | STRAW AND NETTING |

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

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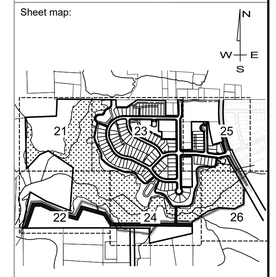
BCSC BATEMAN CIVIL SURVEY COMPANY
Bateman Civil Survey Company
2524 Reliance Avenue
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919-557-1080 ext 109
www.batemancivilsurvey.com

Jurisdiction / Municipality

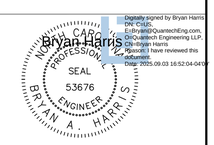
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Sheet map:




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Drawn by: TAN

Project:

# HARRIS CREEK FARMS

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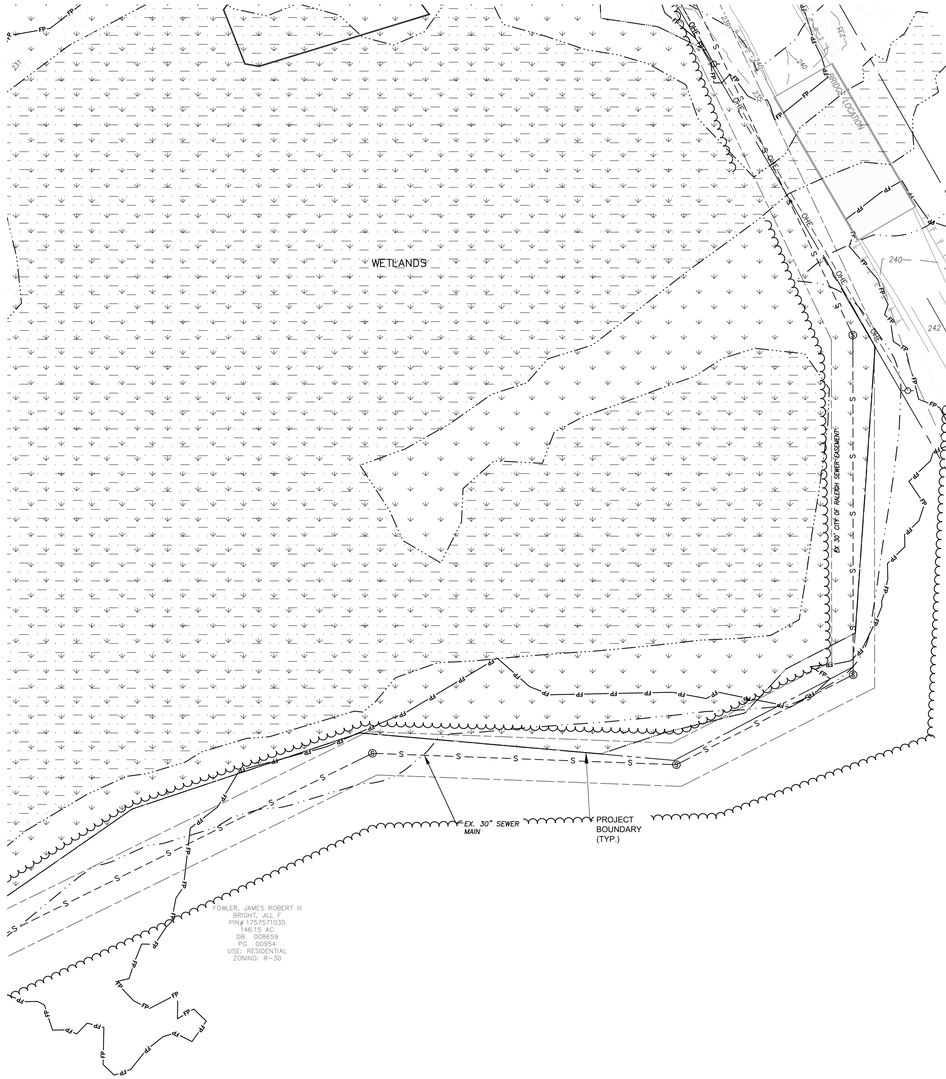
| No. | Date | Description |
|---|---|---|
| 1 | 02Sep2025 | Town of Rolesville Planning Dept. comments |

Sheet Title:

# EC PLAN STAGE 1 SHEET 5 OF 6

Sheet #:

# 25




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(IN FEET)

1 inch = 50 ft

N.C. UNDERGROUND UTILITIES

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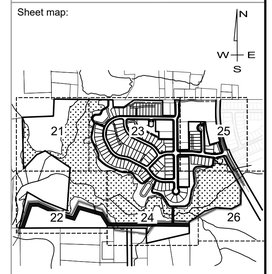
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Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
**CID-25-03 (PSP-24-05)**

Other Consultants

Sheet map:




Seal:




Issued / Print Date: 2025-September-02 (16:46)
File Name: 20 Overall PHASE 1 Erosion Control Plan.dwg

Last Saved by: BryanHarris
Drawn by: TAN

Project:

# HARRIS CREEK FARMS

CID-25-03

Issued for:
PROGRESS DRAWINGS
DO NOT USE FOR CONSTRUCTION

REVISIONS

| No. | Date | Description |
|---|---|---|
| 1 | 02Sep2025 | Town of Rolesville Planning Dept. comments |

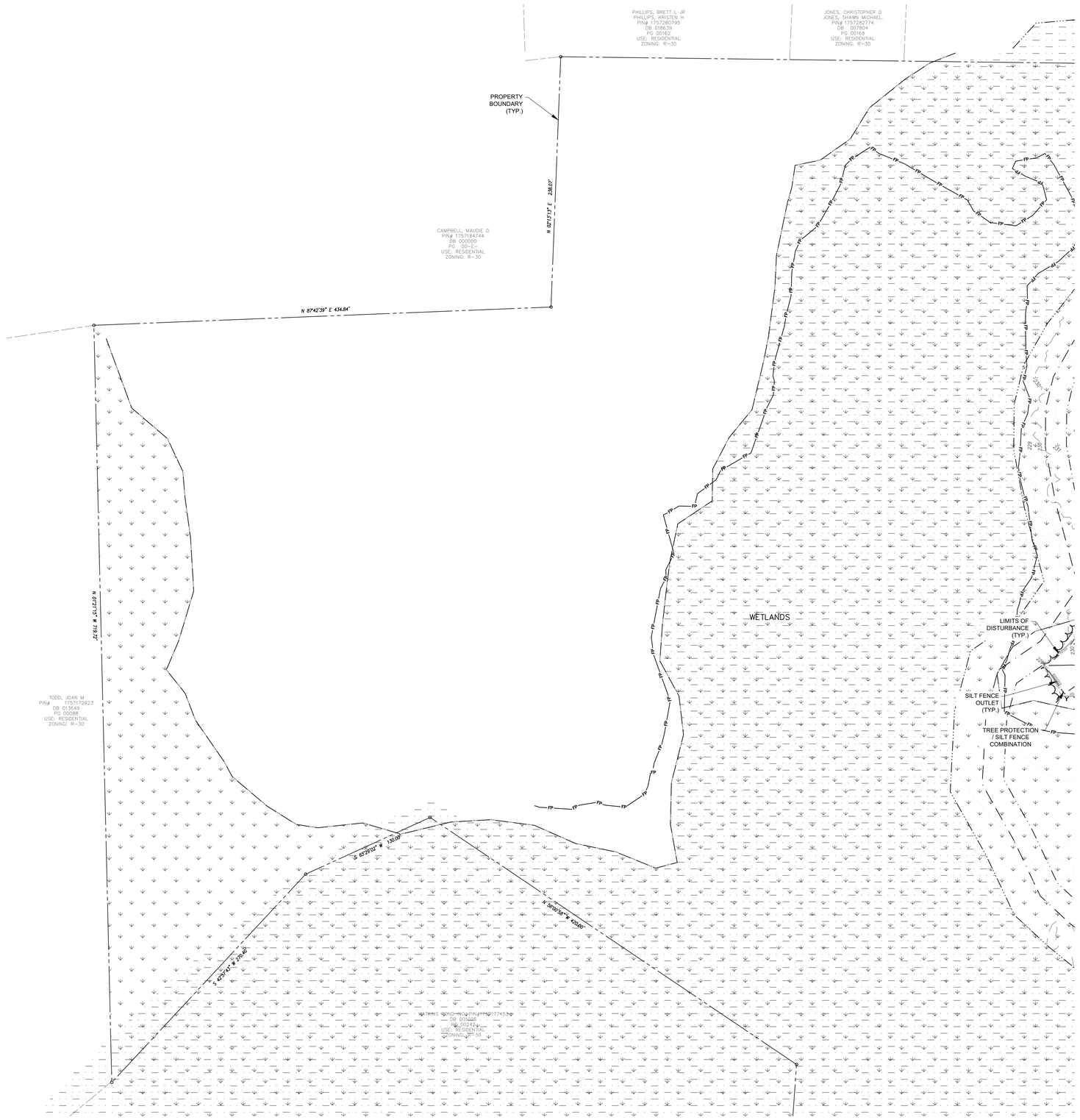
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# EC PLAN STAGE 1 SHEET 6 OF 6

Sheet #:

# 26

File Location: C:\Users\BryanHarris\Quantech\Quantech Engineering - Documents\Harris Creek Farm - Jonesville\Engineering_DWG\Construction Plans\20 Overall PHASE 1 Erosion Control Plan.dwg




## WAKE COUNTY EROSION CONTROL 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 or other measures as shown on the approved plan. Clear only as necessary to install these devices. Seed temporary diversions, berms and basins immediately after construction.
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5. Install storm sewer, if shown, and protect inlets with block and gravel inlet controls, sediment traps or other approved measures as shown on the plan. Begin construction, building, etc.
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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.

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DISTURBED AREA = 45.28 ACRES

EROSION CONTROL LEGEND (PHASE 3)

| | |
|---|---|
| LIMITS OF DISTURBANCE | LOD LOD |
| TREE PROTECTION/SILT FENCE COMBINATION | TPSF TPSF TPSF |
| SILT FENCE | |
| SILT FENCE OUTLET | |
| SKIMMER | |
| INLET PROTECTION | |
| HORSE SHOE INLET PROTECTION | |
| DITCH WATTLE | |
| EXISTING TREELINE | |
| PROPOSED TREELINE | |
| PERMANENT DIVERSION DITCH | >> |

6. Please confirm the intent of removing Phase 2 EC sheets.

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\20 Overall PHASE 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
15000 Weston Parkway
Cary, N.C. 27513
(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

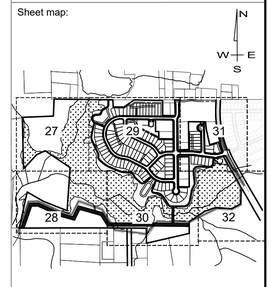
Jurisdiction / Municipality

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

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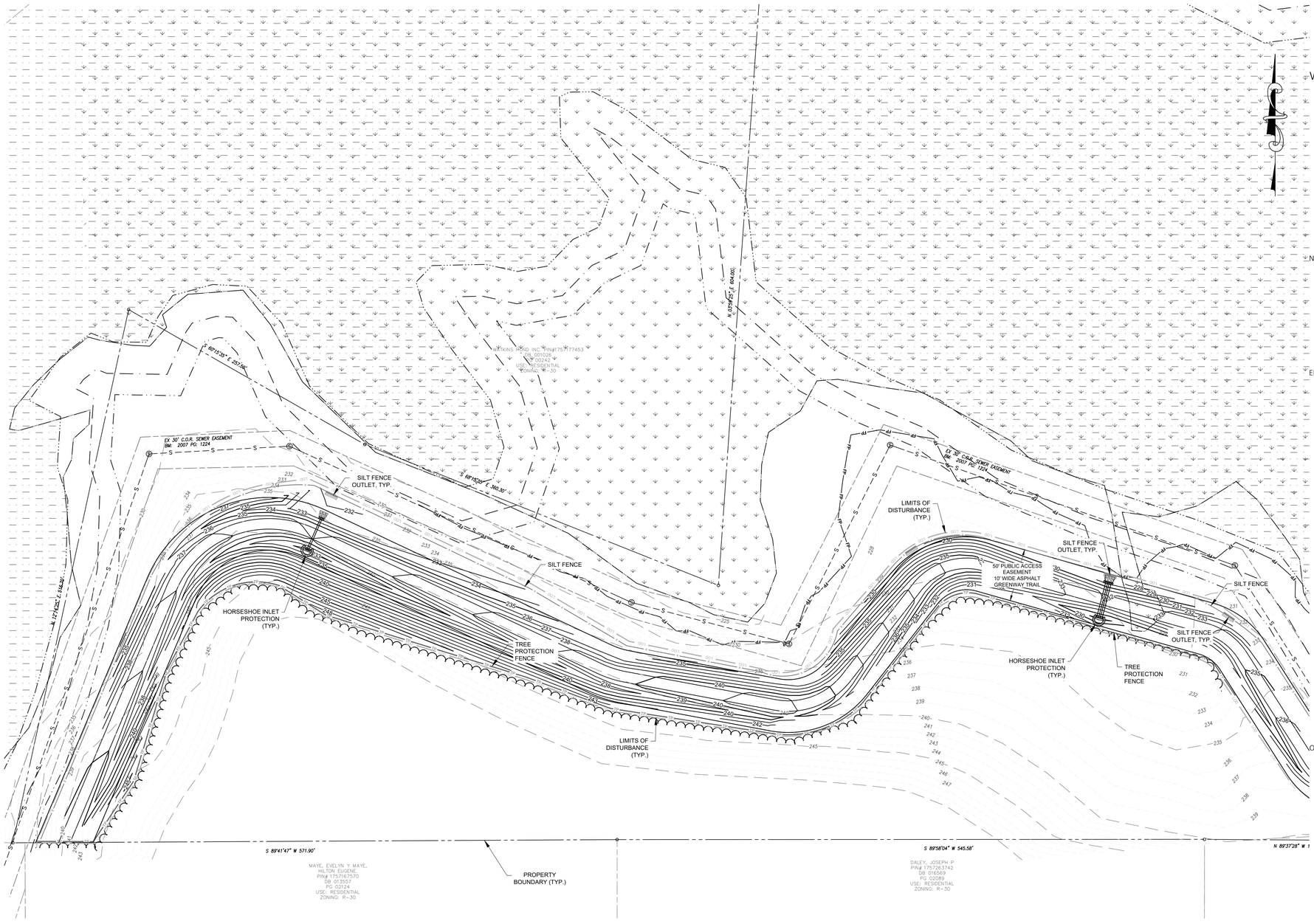
| No. | Date | Description |
|---|---|---|
| 1 | 02Sep2025 | Town of Rolesville Planning Dept. comments |

Sheet Title:

# EC PLAN STAGE 3 SHEET 1 OF 6

Sheet #:

# 27




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| HARRIS CREEK | | |
|---|---|---|
| Location | MATERIAL | |
| | TEMPORARY | PERMANENT |
| PERMANENT DITCH 1 | NAG SC150BN | NAG SC150BN |
| PERMANENT DITCH 2 | STRAW AND NETTING | STRAW AND NETTING |
| PERMANENT DITCH 3 | STRAW AND NETTING | STRAW AND NETTING |
| PERMANENT DITCH 4 | STRAW AND NETTING | GRASS |
| PERMANENT DITCH 5 | STRAW AND NETTING | GRASS |
| PERMANENT DITCH 6 | STRAW AND NETTING | GRASS |
| PERMANENT DITCH 7 | STRAW AND NETTING | STRAW AND NETTING |
| PERMANENT DITCH 8 | STRAW AND NETTING | STRAW AND NETTING |
| PERMANENT DITCH 9 | STRAW AND NETTING | STRAW AND NETTING |
| PERMANENT DITCH 10 | STRAW AND NETTING | NAG SC150BN |
| PERMANENT DITCH 11 | STRAW AND NETTING | STRAW AND NETTING |
| PERMANENT DITCH 12 | STRAW AND NETTING | STRAW AND NETTING |
| PERMANENT DITCH 13 | STRAW AND NETTING | STRAW AND NETTING |
| PERMANENT DITCH 14 | STRAW AND NETTING | STRAW AND NETTING |
| PERMANENT DITCH 15 | STRAW AND NETTING | STRAW AND NETTING |
| PERMANENT DITCH 16 | STRAW AND NETTING | STRAW AND NETTING |
| PERMANENT DITCH 17 | NAG SC150BN | NAG SC150BN |
| PERMANENT DITCH 18 | STRAW AND NETTING | STRAW AND NETTING |

DISTURBED AREA = 45.28 ACRES

EROSION CONTROL LEGEND (PHASE 3)

- LIMITS OF DISTURBANCE — LOD —
- TREE PROTECTION/SILT FENCE COMBINATION — TP/SF —
- SILT FENCE
- SILT FENCE OUTLET
- SKIMMER
- INLET PROTECTION
- HORSE SHOE INLET PROTECTION
- DITCH WATTLE
- EXISTING TREELINE
- PROPOSED TREELNE
- 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
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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 | DESIGNING THE FUTURE
Firm # F-1517
15000 Weston Parkway
Cary, N.C. 27513
(919) 996-9455

Surveyor

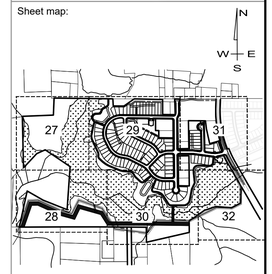
BCSC BATEMAN CIVIL SURVEY COMPANY
Bateman Civil Survey Company
2524 Reliance Avenue
Apex, NC 27539
919-557-1080 ext 109
www.batemancivilsurvey.com

Jurisdiction / Municipality

Rolesville
Town of Rolesville
502 Southtown Cir
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Phone: 919-554-6517
**CID-25-03 (PSP-24-05)**

Other Consultants

Sheet map:




Seal:

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 53676 BRYAN A. HARRIS

Digitally signed by Bryan Harris DN: CN=US, E=BryanH@QuantechEng.com, O=Quantech Engineering LLP, CN=Bryan Harris
Reason: I have reviewed this document
Date: 2025.09.03 16:52:06-04'00'

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EC PLAN STAGE 3
SHEET 2 OF 6

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DISTURBED AREA = 45.28 ACRES

EROSION CONTROL LEGEND (PHASE 3)

- 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 TREELNE
- PERMANENT DIVERSION DITCH

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)

1 inch = 50 ft

### HARRIS CREEK

SKIMMER BASIN TABLE

| Skimmer Basin # | Width (ft) | Length (ft) | Depth (ft) | Top Elevation | Outlet Elevation | Weir (ft) | Skimmer (in) | Orifice (in) | Dewatering Time (days) |
|---|---|---|---|---|---|---|---|---|---|
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### HARRIS CREEK

| Location | MATERIAL | |
|---|---|---|
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| PERMANENT DITCH 1 | NAG SC150BN | NAG SC150BN |
| PERMANENT DITCH 2 | STRAW AND NETTING | STRAW AND NETTING |
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| PERMANENT DITCH 15 | STRAW AND NETTING | STRAW AND NETTING |
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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

File Location: C:\Users\BryanHarris\Quantech Engineering - Documents\Harris Creek Farm - Jonesville\Engineering_DWG\Construction Plans\20 Overall PHASE 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 | DESIGNING THE FUTURE
Firm # F-1517
15000 Weston Parkway
Cary, N.C. 27513
(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

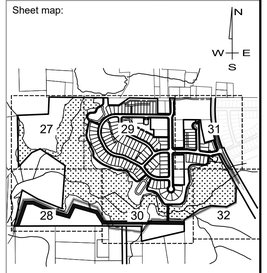

Jurisdiction / Municipality

Rolesville
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517

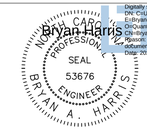
CID-25-03 (PSP-24-05)

Other Consultants

Sheet map:




Seal:




Digitally signed by Bryan Harris
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Reason: I have reviewed this document
Date: 2025.09.03 16:52:06-04'00'

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File Name: 20 Overall PHASE 1 Erosion Control Plan.dwg

Last Saved by: BryanHarris
Drawn by: TAN

Project:

# HARRIS CREEK FARMS

CID-25-03

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REVISIONS

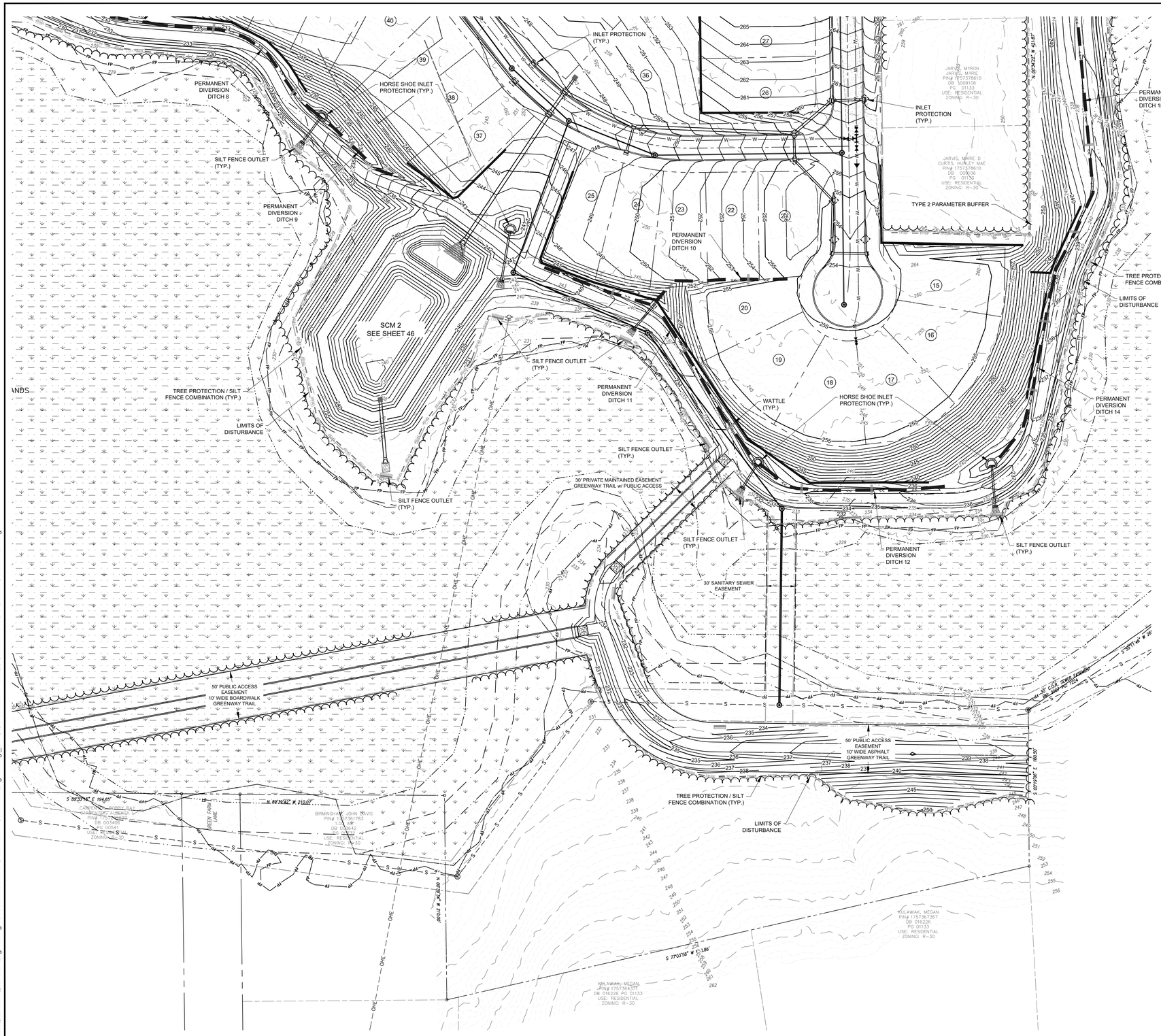
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| 1 | 02Sep2025 | Town of Rolesville Planning Dept. comments |

Sheet Title:

EC PLAN STAGE 3
SHEET 3 OF 6

Sheet #:

29




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EROSION CONTROL LEGEND (PHASE 3)

| | |
|---|---|
| LIMITS OF DISTURBANCE | LOD LOD |
| TREE PROTECTION/SILT FENCE COMBINATION | TPSF TPSF TPSF |
| SILT FENCE | |
| SILT FENCE OUTLET | |
| SKIMMER | |
| INLET PROTECTION | |
| HORSE SHOE INLET PROTECTION | |
| DITCH WATTLE | |
| EXISTING TREELINE | |
| PROPOSED TREELNE | |
| PERMANENT DIVERSION DITCH | >> |

**HARRIS CREEK**

SKIMMER BASIN TABLE

| Skimmer Basin # | Width (ft) | Length (ft) | Depth (ft) | Top Elevation | Outlet Elevation | Weir (ft) | Skimmer (in) | Orifice (in) | Dewatering Time (days) |
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GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)

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N.C. UNDERGROUND UTILITIES

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

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(919) 996-9455

Surveyor

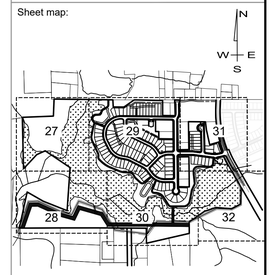
BCSC EATEMAN CIVIL SURVEY COMPANY
Bateman Civil Survey Company
2524 Reliance Avenue
Apex, NC 27539
919-557-1080 ext 109
www.batemancivilsurvey.com

Jurisdiction / Municipality

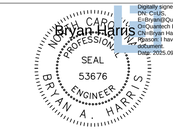
Rolesville
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
**CID-25-03 (PSP-24-05)**

Other Consultants

Sheet map:




Seal:




Bryan Harris
Digitally signed by Bryan Harris
DN: CN=BryanH@QuantechEng.com, O=Quantech Engineering LLP, OU=Bryan Harris
I attest I have reviewed this document
Date: 2025.09.03 16:52:07-04'00'

Issued / Print Date: 2025-September-02 (16:49)
File Name: 20 Overall PHASE 1 Erosion Control Plan.dwg

Last Saved by: BryanHarris
Drawn by: TAN

Project:

# HARRIS CREEK FARMS

CID-25-03

Issued for:

PROGRESS DRAWINGS
DO NOT USE FOR CONSTRUCTION

REVISIONS

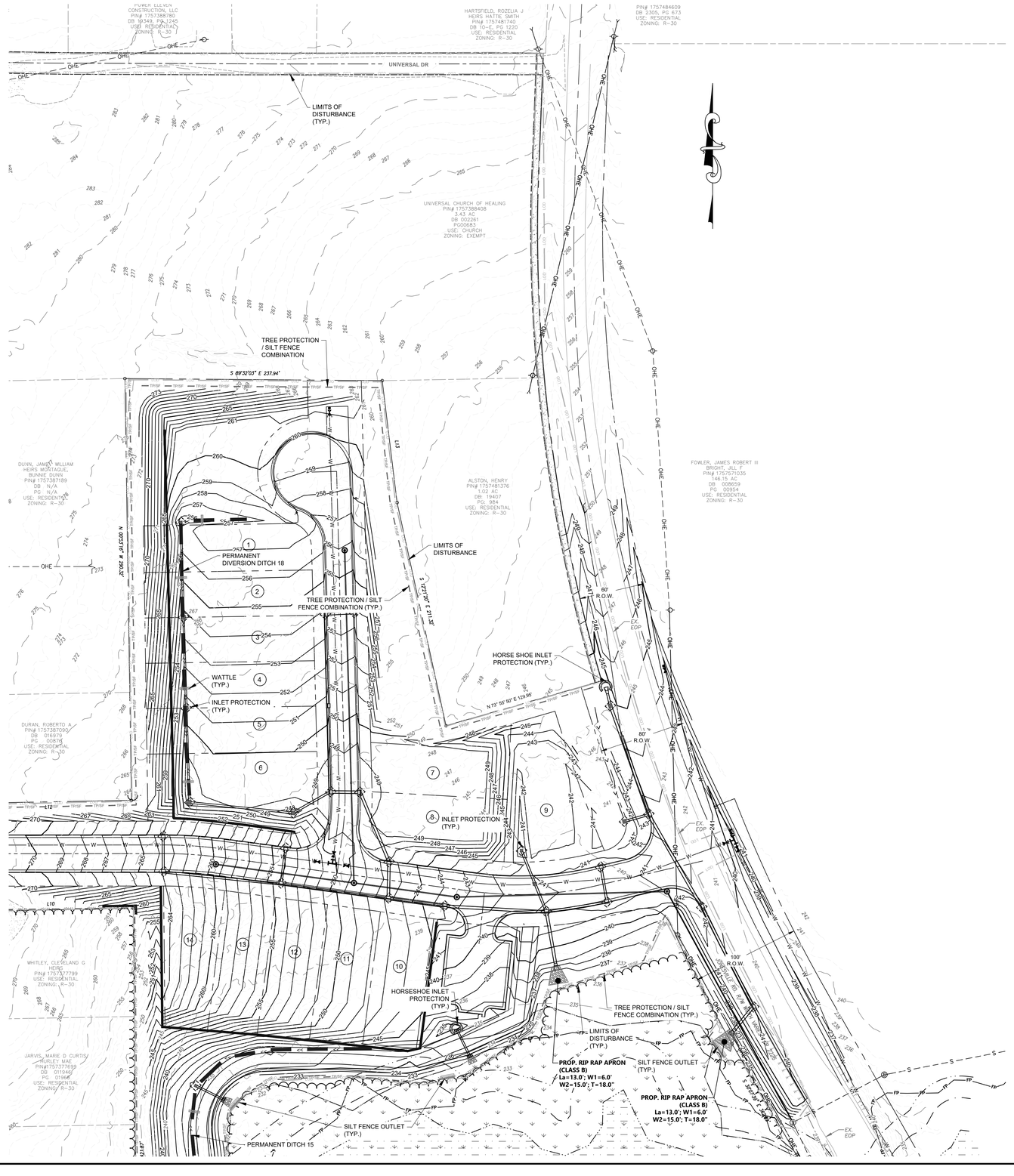
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| 1 | 02Sep2025 | Town of Rolesville Planning Dept. comments |

Sheet Title:

EC PLAN STAGE 3
SHEET 4 OF 6

Sheet #:

30




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| HARRIS CREEK | | |
|---|---|---|
| Location | MATERIAL | |
| | TEMPORARY | PERMANENT |
| PERMANENT DITCH 1 | NAG SC150BN | NAG SC150BN |
| PERMANENT DITCH 2 | STRAW AND NETTING | STRAW AND NETTING |
| PERMANENT DITCH 3 | STRAW AND NETTING | STRAW AND NETTING |
| PERMANENT DITCH 4 | STRAW AND NETTING | GRASS |
| PERMANENT DITCH 5 | STRAW AND NETTING | GRASS |
| PERMANENT DITCH 6 | STRAW AND NETTING | GRASS |
| PERMANENT DITCH 7 | STRAW AND NETTING | STRAW AND NETTING |
| PERMANENT DITCH 8 | STRAW AND NETTING | STRAW AND NETTING |
| PERMANENT DITCH 9 | STRAW AND NETTING | STRAW AND NETTING |
| PERMANENT DITCH 10 | STRAW AND NETTING | NAG SC150BN |
| PERMANENT DITCH 11 | STRAW AND NETTING | STRAW AND NETTING |
| PERMANENT DITCH 12 | STRAW AND NETTING | STRAW AND NETTING |
| PERMANENT DITCH 13 | STRAW AND NETTING | STRAW AND NETTING |
| PERMANENT DITCH 14 | STRAW AND NETTING | STRAW AND NETTING |
| PERMANENT DITCH 15 | STRAW AND NETTING | STRAW AND NETTING |
| PERMANENT DITCH 16 | STRAW AND NETTING | STRAW AND NETTING |
| PERMANENT DITCH 17 | NAG SC150BN | NAG SC150BN |
| PERMANENT DITCH 18 | STRAW AND NETTING | STRAW AND NETTING |

DISTURBED AREA = 45.28 ACRES

EROSION CONTROL LEGEND (PHASE 3)

- 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 TREELNE
- 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
15000 Weston Parkway
Cary, N.C. 27513
(919) 996-9455

Surveyor

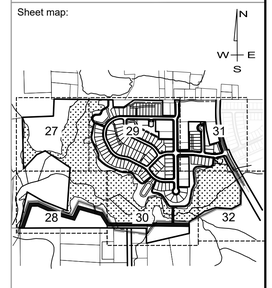
BCSC BATEMAN CIVIL SURVEY COMPANY
Bateman Civil Survey Company
2524 Reliance Avenue
Apex, NC 27539
919-557-1080 ext 109
www.batemancivilsurvey.com

Jurisdiction / Municipality

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

Other Consultants

Sheet map:




Seal:

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 53676 BRYAN A. HARRIS

Bryan Harris
Digitally signed by Bryan Harris
DN: C=US, E=BryanH@QuantechEng.com, O=Quantech Engineering LLP, CN=Bryan Harris
Reason: I have reviewed this document
Date: 2025.09.03 16:52:07-04'00'

Issued / Print Date: 2025-September-02 (16:49)
File Name: 20 Overall PHASE 1 Erosion Control Plan.dwg

Last Saved by: BryanHarris
Drawn by: TAN

Project:

# HARRIS CREEK FARMS

CID-25-03

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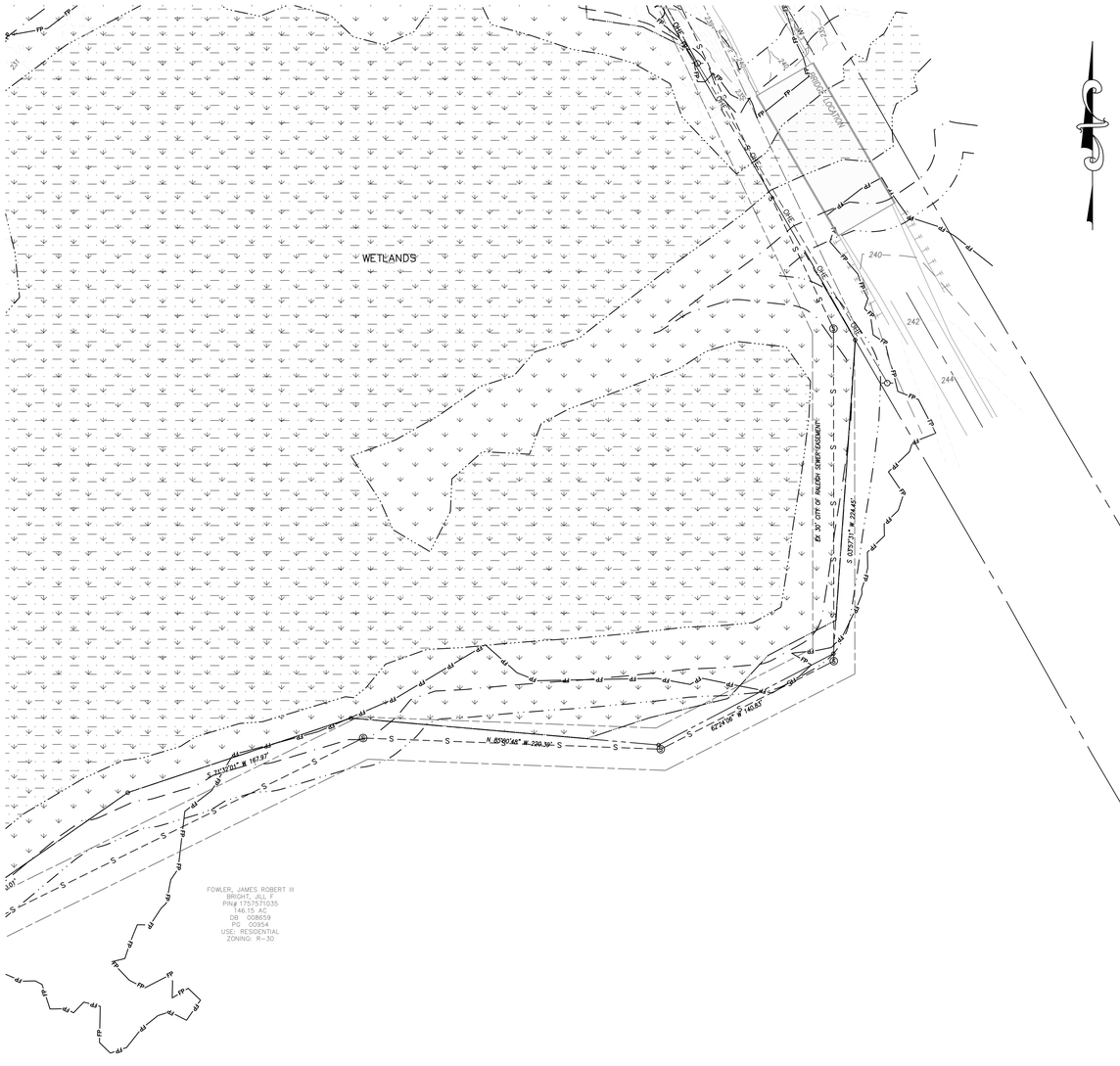
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| 1 | 02Sep2025 | Town of Rolesville Planning Dept. comments |

Sheet Title:

# EC PLAN STAGE 3 SHEET 5 OF 6

Sheet #:

# 31






FOWLER, JAMES ROBERT III BRIGHT, JILL F
PIN# 1757571035
146.15 AC
DB 008659
PG 00954
USE: RESIDENTIAL
ZONING: R-30

## WAKE COUNTY EROSION CONTROL SEQUENCE

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EROSION CONTROL LEGEND (PHASE 3)

| | |
|---|---|
| LIMITS OF DISTURBANCE | LOD LOD |
| TREE PROTECTION/SILT FENCE COMBINATION | TP/SF TP/SF TP/SF |
| SILT FENCE | x x |
| SILT FENCE OUTLET | |
| SKIMMER | |
| INLET PROTECTION | |
| HORSE SHOE INLET PROTECTION | |
| DITCH WATTLE | |
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| PROPOSED TREELNE | |
| 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\20 Overall PHASE 1 Erosion Control Plan.dwg

Developer

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

Engineer

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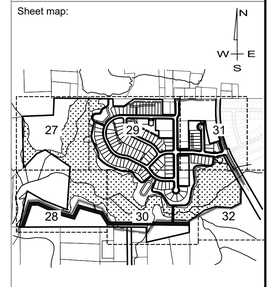
BCSC BATEMAN CIVIL SURVEY COMPANY
Bateman Civil Survey Company
2524 Reliance Avenue
Apex, NC 27539
919-557-1080 ext 109
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Jurisdiction / Municipality

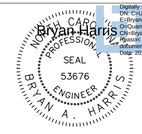
Rolesville
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
**CID-25-03 (PSP-24-05)**

Other Consultants

Sheet map:




Seal:




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Last Saved by: BryanHarris
Drawn by: TAN

Project:

# HARRIS CREEK FARMS

CID-25-03

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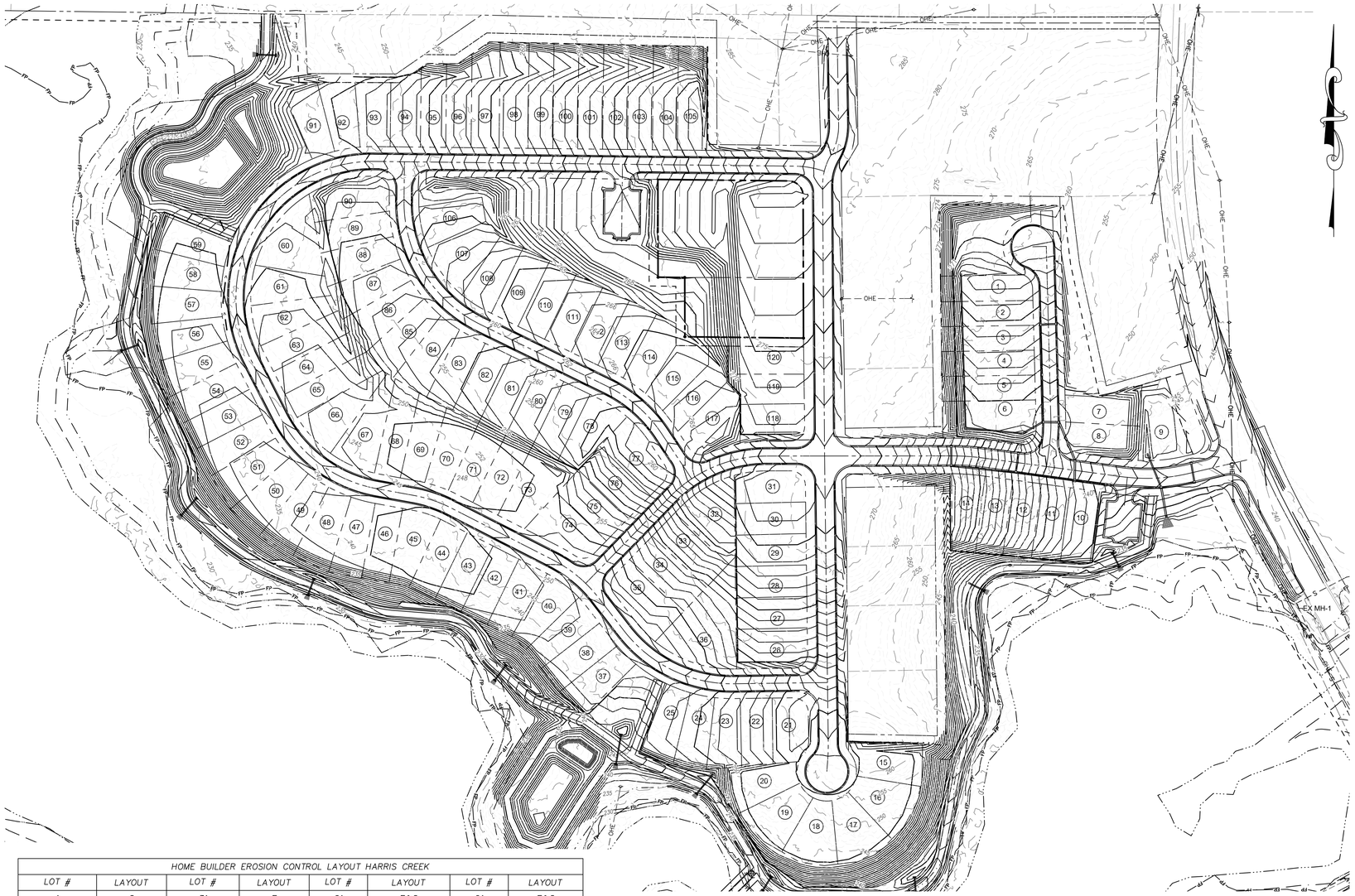
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| 1 | 02Sep2025 | Town of Rolesville Planning Dept. comments |

Sheet Title:

EC PLAN STAGE 3
SHEET 6 OF 6

Sheet #:

32




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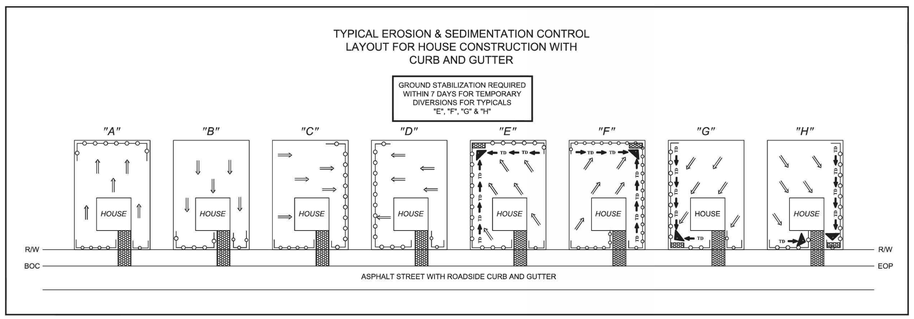
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| HOME BUILDER EROSION CONTROL LAYOUT HARRIS CREEK | | | | | | | |
|---|---|---|---|---|---|---|---|
| LOT # | LAYOUT | LOT # | LAYOUT | LOT # | LAYOUT | LOT # | LAYOUT |
| 1 | G | 31 | E | 61 | E&G | 91 | E&G |
| 2 | G | 32 | E | 62 | E&G | 92 | E&G |
| 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 |

TYPICAL EROSION & SEDIMENTATION CONTROL
LAYOUT FOR HOUSE CONSTRUCTION WITH
CURB AND GUTTER

GROUND STABILIZATION REQUIRED WITHIN 7 DAYS FOR TEMPORARY DIVERSIONS FOR TYPICALS "E", "F", "G" & "H"




DISTURBED AREA = 45.28 ACRES

EROSION CONTROL LEGEND (PHASE 3)

- 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 TREELNE
- PERMANENT DIVERSION DITCH

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

Engineer

QUANTECH ENGINEERING
INNOVATIVE SOLUTIONS | ENGINEERING THE FUTURE
Firm # F-1517
15000 Weston Parkway
Cary, N.C. 27513
(919) 996-9455

Surveyor

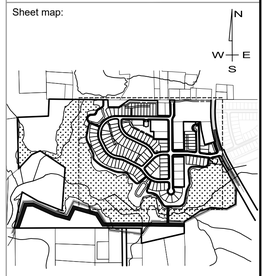
BCSC BATEMAN CIVIL SURVEY COMPANY
Bateman Civil Survey Company
2524 Reliance Avenue
Apex, NC 27539
919-557-1080 ext 109
www.batemancivilsurvey.com

Jurisdiction / Municipality

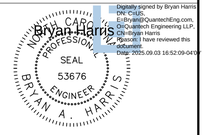
Rolesville
Granville County • Capital Connection
Est. 1837
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
**CID-25-03 (PSP-24-05)**

Other Consultants

Sheet map:




Seal:




Issued / Print Date: 2025-September-02 (16:51)
File Name: 20 Overall PHASE 1 Erosion Control Plan.dwg

Last Saved by: BryanHarris
Drawn by: TAN

Project:

# HARRIS CREEK FARMS

CID-25-03

Issued for:
PROGRESS DRAWINGS
DO NOT USE FOR CONSTRUCTION

REVISIONS

| No. | Date | Description |
|---|---|---|
| 1 | 02Sep2025 | Town of Rolesville Planning Dept. comments |

Sheet Title:

# EC HOMEBUILDER PLAN

Sheet #:

33

File Location: C:\Users\BryanHarris\Quantech\Quantech Engineering - Documents\Harris Creek Farm - Jonesville\Engineering_DWG\Construction Plans\20 Overall PHASE 1 Erosion Control 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.<br>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,<br>2. Date and time of the inspection,<br>3. Name of the person performing the inspection,<br>4. Indication of whether the measures were operating properly,<br>5. Description of maintenance needs for the measure,<br>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,<br>2. Date and time of the inspection,<br>3. Name of the person performing the inspection,<br>4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration,<br>5. Indication of visible sediment leaving the site,<br>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:<br>1. Actions taken to clean up or stabilize the sediment that has left the site limits,<br>2. Description, evidence, and date of corrective actions taken, and<br>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 wetlnad has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made:<br>1. Description, evidence and date of corrective actions taken, and<br>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).<br>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.<br>• ***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.<br>• 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.<br>• ***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.<br>• ***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).<br>• 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**

| | Required Ground Stabilization Timeframes | |
|---|---|---|
| Site Area Description | Stabilize within this many calendar days after ceasing land disturbance | Timeframe variations |
| (a) Perimeter dikes, swales, ditches, and perimeter slopes | 7 | None |
| (b) High Quality Water (HQW) Zones | 7 | None |
| (c) Slopes steeper than 3:1 | 7 | If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed |
| (d) Slopes 3:1 to 4:1 | 14 | -7 days for slopes greater than 50' in length and with slopes steeper than 4:1<br>-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones<br>-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<br>-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<br>• Hydroseeding<br>• Rolled erosion control products with or without temporary grass seed<br>• Appropriately applied straw or other mulch<br>• Plastic sheeting | • Permanent grass seed covered with straw or other mulches and tackifiers<br>• Geotextile fabrics such as permanent soil reinforcement matting<br>• Hydroseeding<br>• Shrubs or other permanent plantings covered with mulch<br>• Uniform and evenly distributed ground cover sufficient to restrain erosion<br>• Structural methods such as concrete, asphalt or retaining walls<br>• 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**

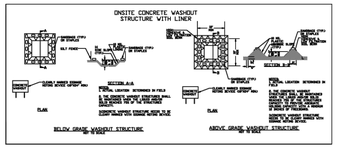
1. Do not dump paint and other liquid waste into storm drains, streams or wetlands.
2. Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
3. Contain liquid wastes in a controlled area.
4. Containment must be labeled, 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:

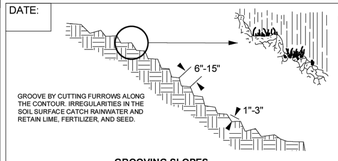
1. Construct and maintain all erosion and sediment control practices and measures in accordance with the approved sedimentation control plan and construction schedule.
2. Remove good topsoil from areas to be graded and filled, and preserve it for use in finishing the grading of all critical areas.
3. 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

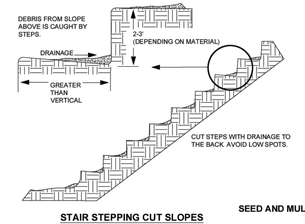
## LAND GRADING

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 cultpacker-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

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
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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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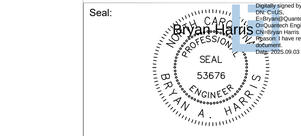
Jurisdiction / Municipality

Rolesville
Genuine Community • Capital Connection
Est. 1837
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
**CID-25-03 (PSP-24-05)**

Other Consultants

Sheet map:

Seal:




Issued / Print Date: 2025-September-02 (16:51)
File Name: 20 Overall PHASE 1 Erosion Control Plan.dwg

Last Saved by: BryanHarris
Drawn by: TAN

Project:

# HARRIS CREEK FARMS

CID-25-03

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REVISIONS

| No. | Date | Description |
|---|---|---|
| 1 | 02Sep2025 | Town of Rolesville Planning Dept. comments |

Sheet Title:

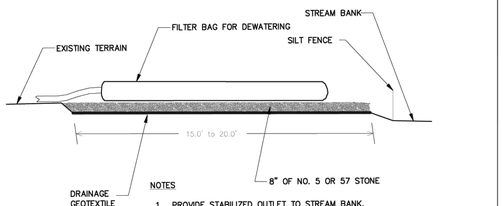
# EROSION CONTROL DETAILS

Sheet #:

34

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\20 Overall PHASE 1 Erosion Control 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.

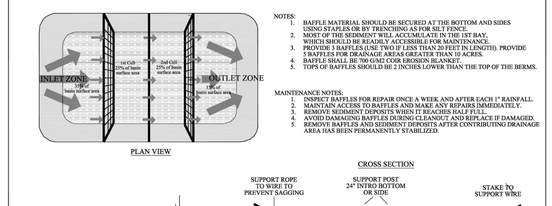
MAINTENANCE NOTES

1. REPLACE AND DISPOSE OF FILTER BAG(S) WHEN IT IS ½ 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
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STANDARD FILTER BAG FOR DEWATERING ACTIVITIES




NOTES:

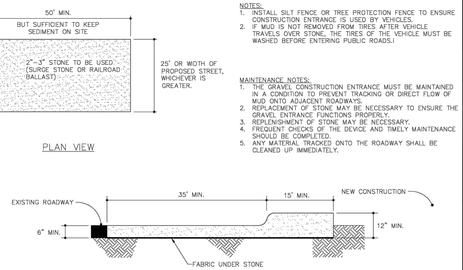
1. BAFFLE MATERIAL SHOULD BE SECURED AT THE BOTTOM AND SIDES USING STAPLES OR BY TRENCHING AS FOR SILT FENCE INSTALLATION.
2. MOST OF THE SEDIMENT WILL ACCUMULATE IN THE 1ST BAY, WHICH SHOULD BE READILY ACCESSIBLE FOR MAINTENANCE.
3. PROVIDE 3 BAFFLES (USE TWO IF LESS THAN 20 FEET IN LENGTH). PROVIDE 5 BAFFLES FOR DRAINAGE AREAS GREATER THAN 10 ACRES.
4. BAFFLE SHALL BE 700 G/M2 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.

WAKE COUNTY NORTH CAROLINA
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STANDARD BAFFLES DETAIL




NOTES:

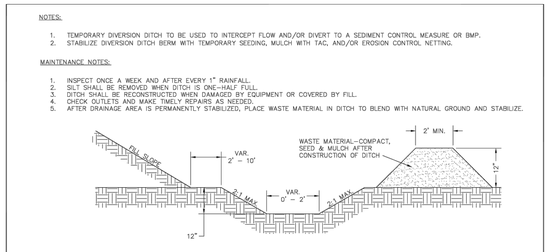
1. INSTALL SILT FENCE OR TREE PROTECTION FENCE TO ENSURE CONSTRUCTION ENTRANCE IS USED BY VEHICLES.
2. IF MUD IS NOT REMOVED FROM TIRES AFTER VEHICLE TRAVELS OVER STONE, THE TIRES OF THE VEHICLE MUST BE WASHED BEFORE ENTERING PUBLIC ROADS.

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.

WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

STANDARD CONSTRUCTION ENTRANCE




NOTES:

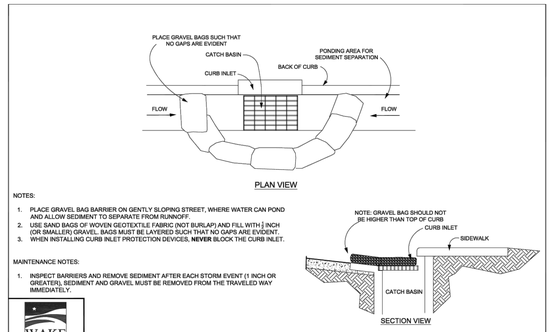
1. TEMPORARY DIVERSION DITCH TO BE USED TO INTERCEPT FLOW AND/OR DIVERT TO A SEDIMENT CONTROL MEASURE OR BMP.
2. STABILIZE DIVERSION DITCH BERM WITH TEMPORARY SEEDING, MULCH WITH TAC, AND/OR EROSION CONTROL NETTING.

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.

WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

STANDARD TEMPORARY DIVERSION DITCH




NOTES:

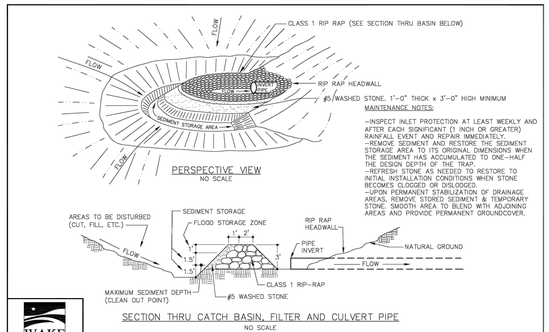
1. PLACE GRAVEL BAG BARRIER ON GENTLY SLOPING STREET, WHERE WATER CAN POND AND ALLOW SEDIMENT TO SEPARATE FROM RUNNOFF.
2. USE SAND BAGS OF WOVEN GEOTEXTILE FABRIC (NOT BURLAP) AND FILL WITH [ INCH (OR SMALLER) GRAVEL. BAGS MUST BE LAYERED SUCH THAT NO GAPS ARE EVIDENT.
3. WHEN INSTALLING CURB INLET 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.

WAKE COUNTY NORTH CAROLINA
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STANDARD GRAVEL BAG CURB INLET PROTECTION

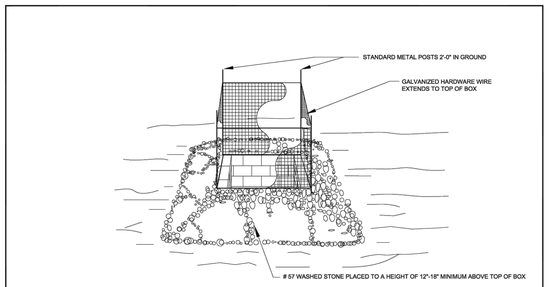



MAINTENANCE NOTES:

–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 PROVIDE PERMANENT GROUNDCOVER.

WAKE COUNTY NORTH CAROLINA
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STANDARD HORSESHOE INLET PROTECTION

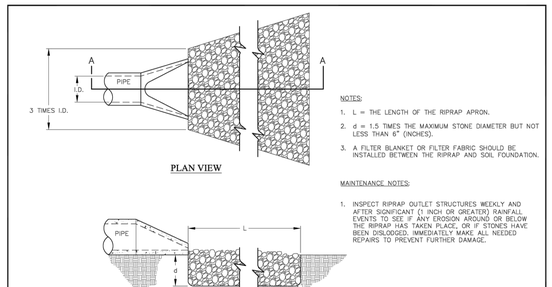



MAINTENANCE NOTES:

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
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STANDARD GRAVEL YARD INLET PROTECTION




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.

WAKE COUNTY NORTH CAROLINA
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STANDARD PIPE OUTLET TO FLAT AREA NO WELL-DEFINED CHANNEL

**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. **Begin clearing and grubbing. Maintain devices as needed. Rough grade site and seed all slopes.**
5. **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.**
6. **Call Wake County Environmental Consultant for an inspection to get approval to remove sediment basins #3 & #4.**
7. **Upon authorization from Wake County, remove sediment basins #3 & #4.**
8. **Complete rest of wall construction and install infrastructures (sewer & water)**
9. **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.**
10. **When construction is complete and all areas are stabilized completely, call Environmental Consultant for an inspection.**
11. **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.**
12. **When SCM's are established and before any wetpond plantings, call engineer to inspect SCM.**
13. **After engineer approves SCM, plant wet pond plants and ensure rest of site is stabilized.**
14. **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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811 3 DAYS BEFORE DIGGING CALL TOLL FREE 811 or (800)632-4949
A ONE CALL SYSTEM FOR COMMUNITY AND JOB SAFETY

Developer

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Rolesville Est. 1837 Genuine Community • Capital Connection
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
**CID-25-03 (PSP-24-05)**

Other Consultants

Sheet map:

Seal:

NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A. HARRIS
Bryan Harris
Digitally signed by Bryan Harris
DN: C=US, E=BryanH@QuantechEng.com, O=Quantech Engineering LLP, CN=Bryan Harris
Reason: I have reviewed this document
Date: 2025.09.03 16:52:10-04'00'

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File Name: 20 Overall PHASE 1 Erosion Control Plan.dwg

Last Saved by: BryanHarris
Drawn by: TAN

Project:

# HARRIS CREEK FARMS

CID-25-03

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Sheet Title:

# EROSION CONTROL DETAILS

Sheet #:

35

File Location: C:\Users\BryanHarris\Quantech Engineering - Documents\Harris Creek Farm - Jonesville\Engineering_DWG\Construction Plans\20 Overall PHASE 1 Erosion Control Plan.dwg

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.

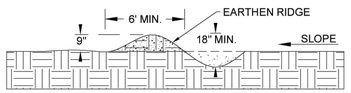
DEQ

## 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.

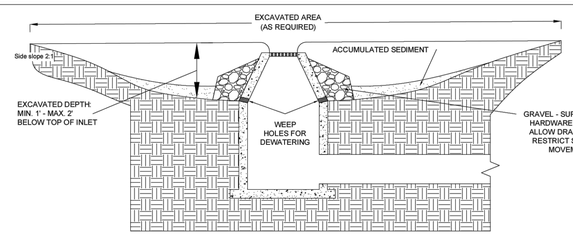
DEQ

## 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

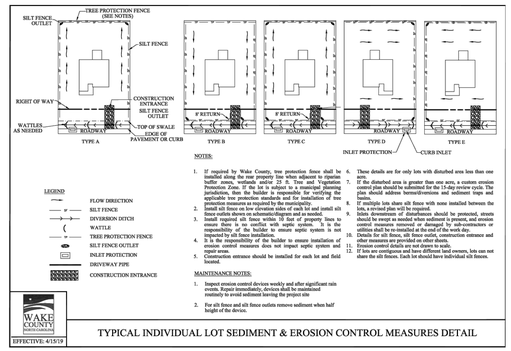
## EXCAVATED DROP INLET PROTECTION (TEMPORARY)

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

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

## 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.**

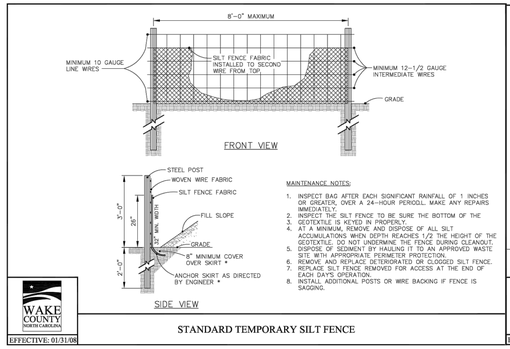



WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 4/15/19

TYPICAL INDIVIDUAL LOT SEDIMENT & EROSION CONTROL MEASURES DETAIL

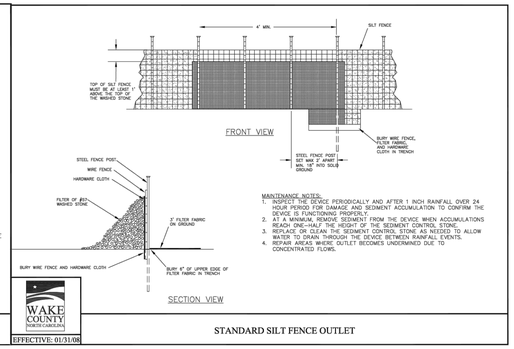
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*Creek Farm - Jonesville\Engineering_DWG\Details\EC\COR - Tree Protection Fence - TPP-01.pdf*



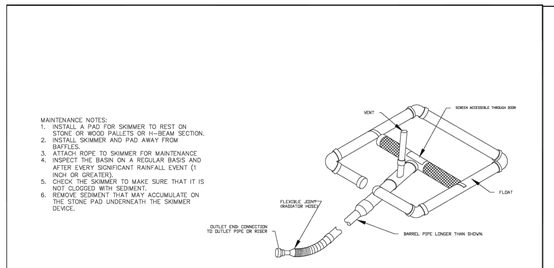

WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

STANDARD TEMPORARY SILT FENCE



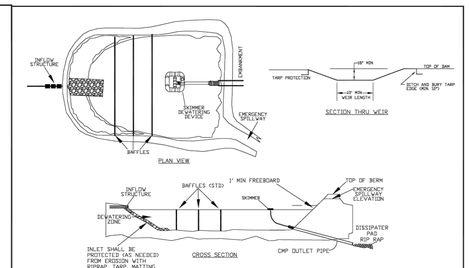

WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

STANDARD SILT FENCE OUTLET



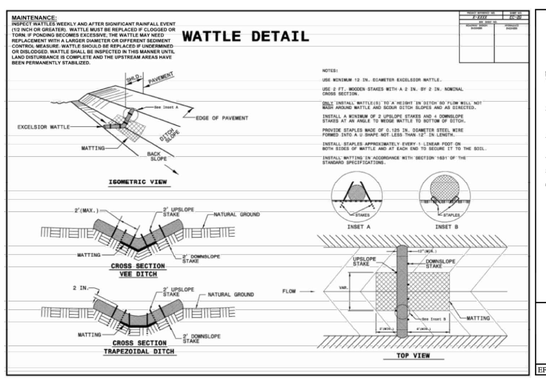

WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

STANDARD SKIMMER DETAIL



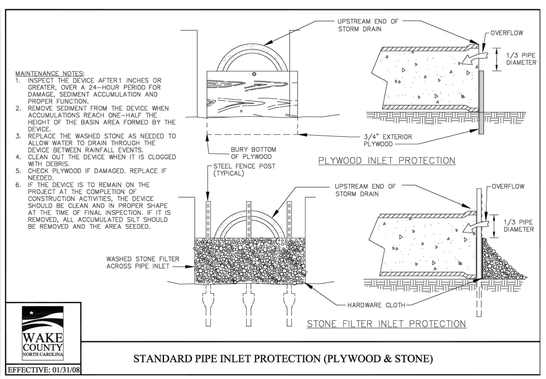

WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

STANDARD SKIMMER BASIN




WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

STANDARD PIPE INLET PROTECTION (PLYWOOD & STONE)





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(919) 996-9455

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

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Growing Community • Capital Connection
Est. 1837
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
CID-25-03 (PSP-24-05)

Other Consultants


Sheet map:

Seal:

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 53676 BRYAN A. HARRIS

Bryan Harris
Digitally signed by Bryan Harris
DN: CN=Bryan Harris, O=QuantechEng.com, OU=Quantech Engineering LLP, E=bryan@quantechEng.com, C=US
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Date: 2025.09.03 16:52:10-04'00'

Issued / Print Date: 2025-September-02 (16:51)
File Name: 20 Overall PHASE 1 Erosion Control Plan.dwg

Last Saved by: BryanHarris
Drawn by: TAN

Project:

# HARRIS CREEK FARMS

CID-25-03

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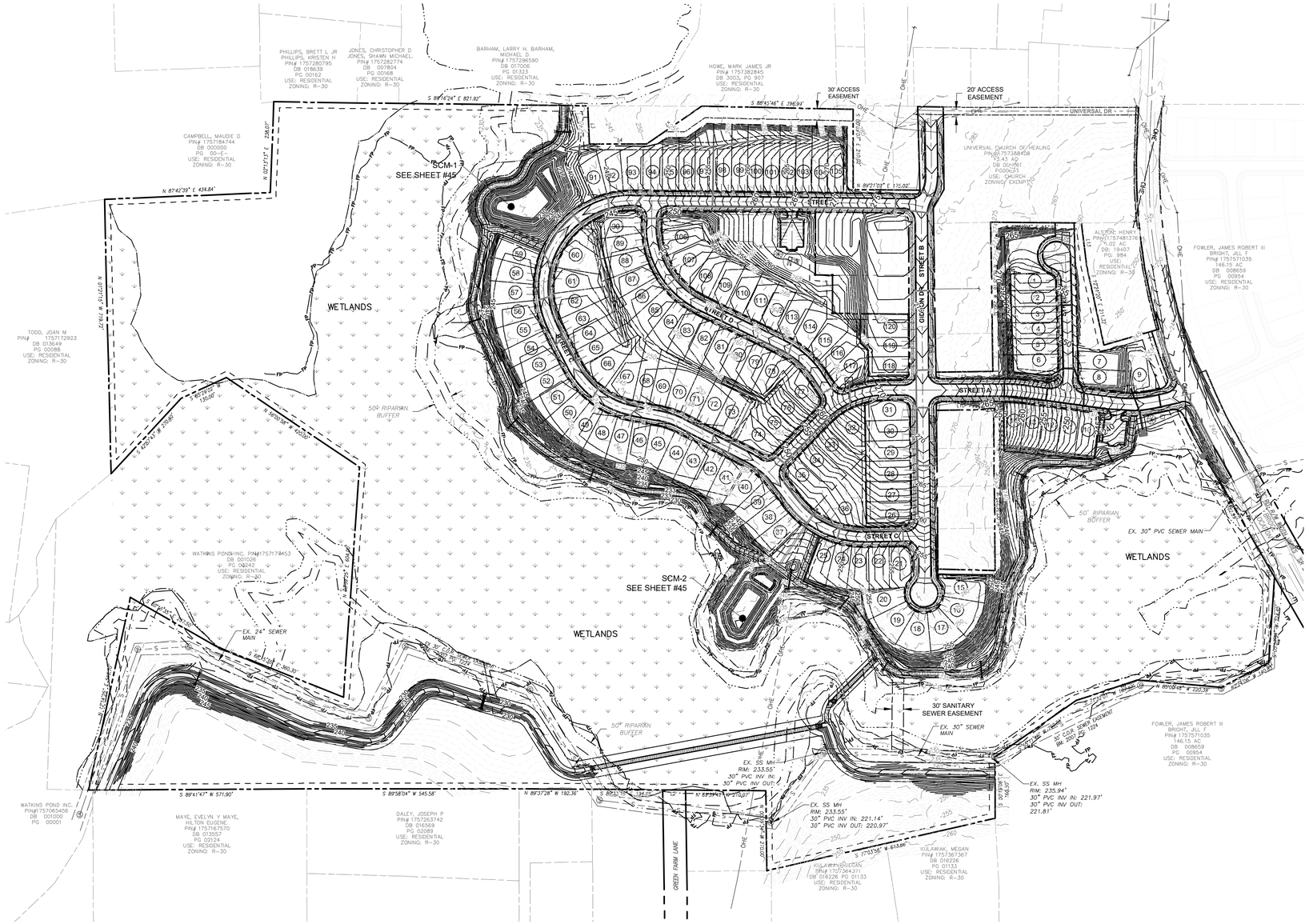
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# EROSION CONTROL DETAILS

Sheet #:

36

File Location: C:\Users\BryanHarris\Quantech\Quantech Engineering - Documents\Harris Creek Farm - Jonesville\Engineering_DWG\Construction Plans\20 Overall PHASE 1 Erosion Control Plan.dwg




## GRADING PLAN LEGEND

| | |
|---|---|
| EXISTING MAJOR CONTOUR | |
| EXISTING MINOR CONTOUR | |
| PROPOSED MINOR CONTOUR | |
| PROPOSED MAJOR CONTOUR | |
| PROPOSED BOUNDARY | |
| PROPOSED R.O.W. | |
| EXISTING SEWER LINE | S |
| EXISTING SEWER MANHOLE | Ⓢ |
| PROPOSED SEWER LINE | |
| PROPOSED SEWER MANHOLE | |
| EXISTING WATER LINE | W |
| PROPOSED WATERLINE | W |
| 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

## STORM PIPE NETWORK NOTES:

1. SEE SHEET #44 "STORM PIPE NETWORK TABLES" FOR PIPE AND STRUCTURE DATA.
2. SEE GREENWAY PLAN & PROFILE SHEET #S 67 - 73 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.

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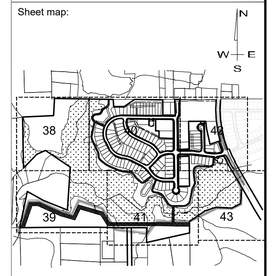
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Other Consultants


Sheet map:




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Bryan Harris
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 53676 BRYAN A. HARRIS
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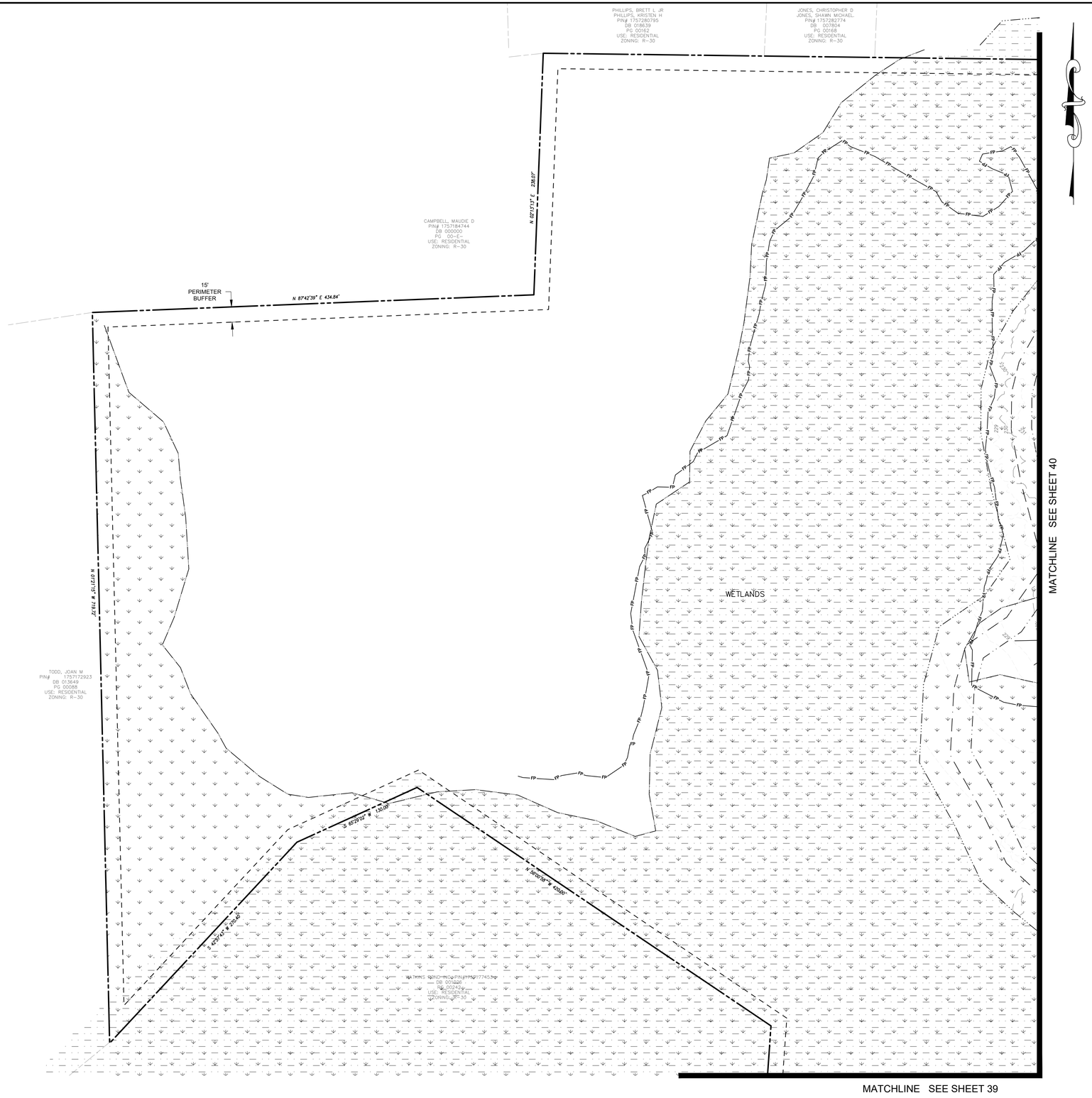
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# OVERALL GRADING & DRAINAGE PLAN

Sheet #:

37

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GRADING PLAN LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR 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

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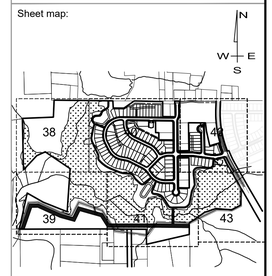
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Phone: 919-554-6517

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Sheet map:




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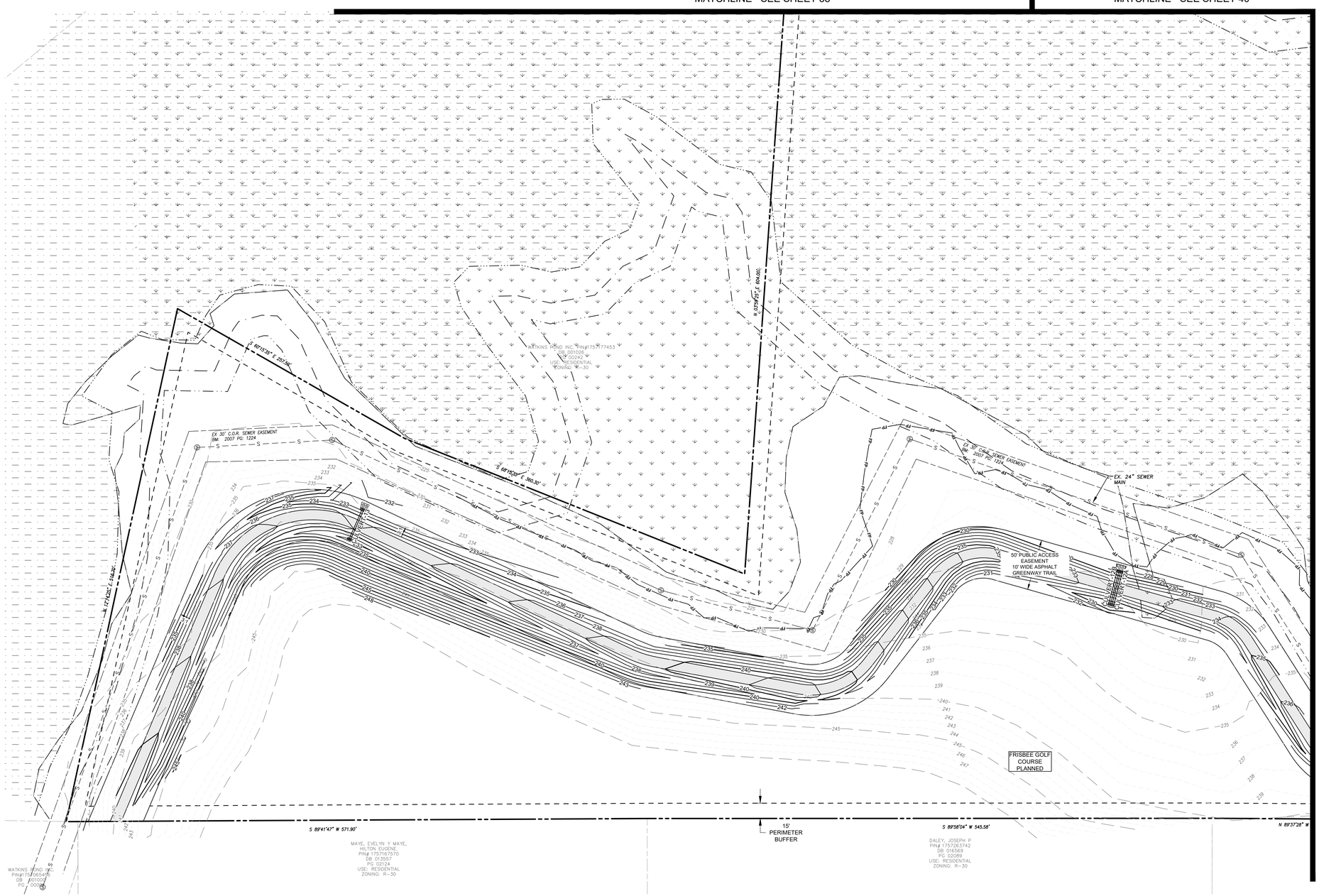
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Sheet Title:

# GRADING & DRAINAGE PLAN SHEET 1 OF 6

Sheet #:

38




## GRADING PLAN LEGEND

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

## STORM PIPE NETWORK NOTES:

1. SEE SHEET #44 "STORM PIPE NETWORK TABLES" FOR PIPE AND STRUCTURE DATA.
2. SEE GREENWAY PLAN & PROFILE SHEET #S 67 - 73 FOR STORM CULVERT PIPE DATA, DETAILS, AND DISSIPATOR PADS.

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft

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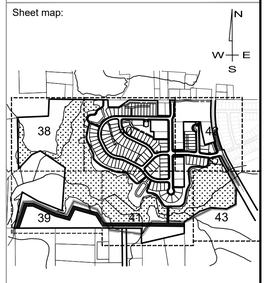
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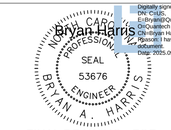
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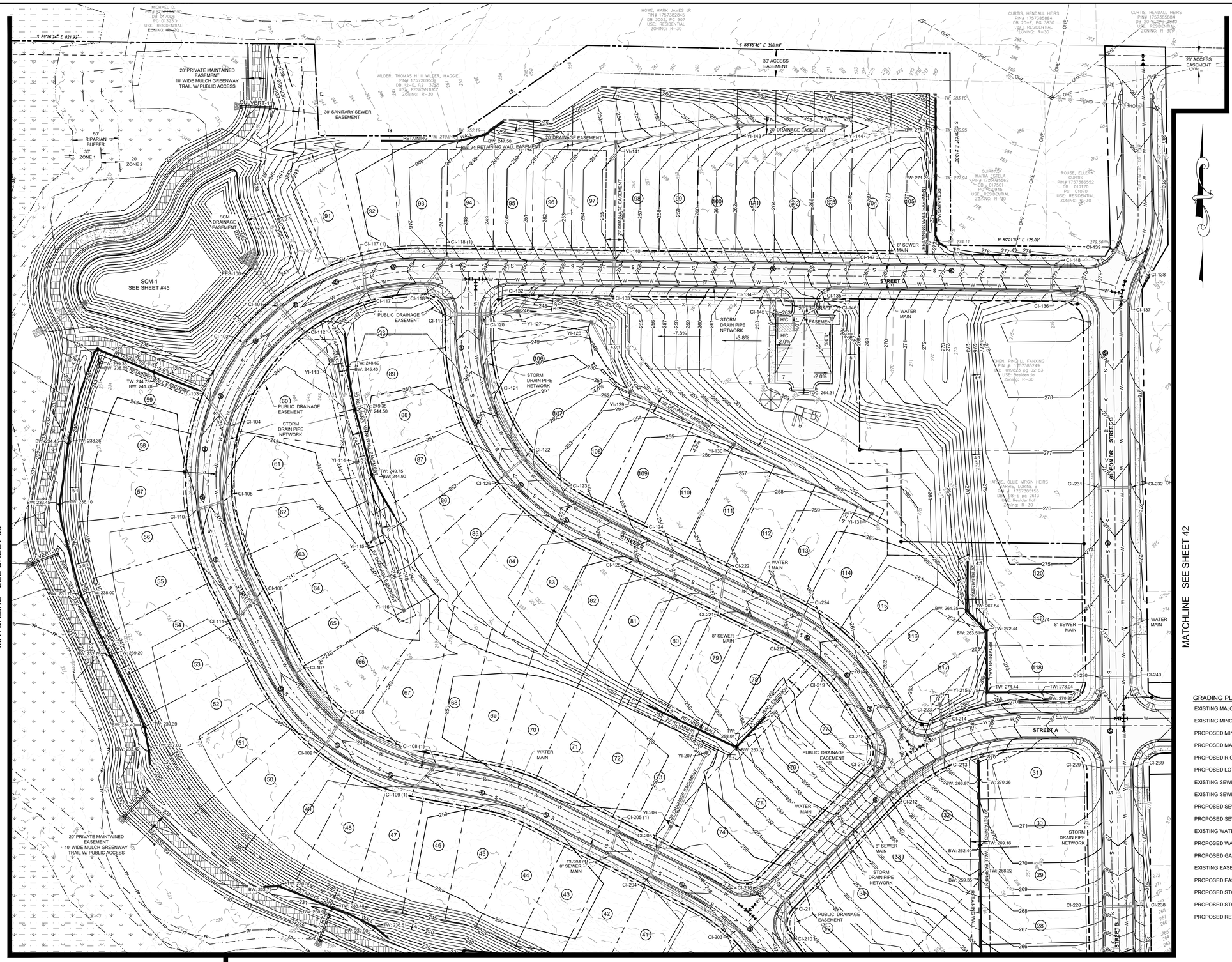
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Sheet Title:

# GRADING & DRAINAGE PLAN SHEET 2 OF 6

Sheet #:

# 39




## STORM PIPE NETWORK NOTES:

1. SEE SHEET #44 "STORM PIPE NETWORK TABLES" FOR PIPE AND STRUCTURE DATA.
2. SEE GREENWAY PLAN & PROFILE SHEET #S 67 - 73 FOR STORM CULVERT PIPE DATA, DETAILS, AND DISSIPATOR PADS.

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(IN FEET)

1 inch = 50 ft

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- EXISTING MINOR CONTOUR
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N.C. UNDERGROUND UTILITIES

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A ONE CALL SYSTEM FOR COMMUNITY AND JOB SAFETY

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Engineer

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Cary, N.C. 27513
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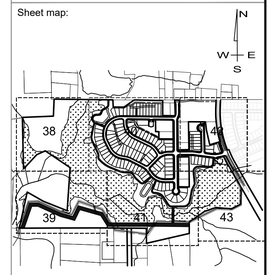
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919-557-1080 ext 109
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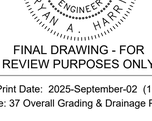
Rolesville
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
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**CID-25-03 (PSP-24-05)**

Other Consultants

Sheet map:




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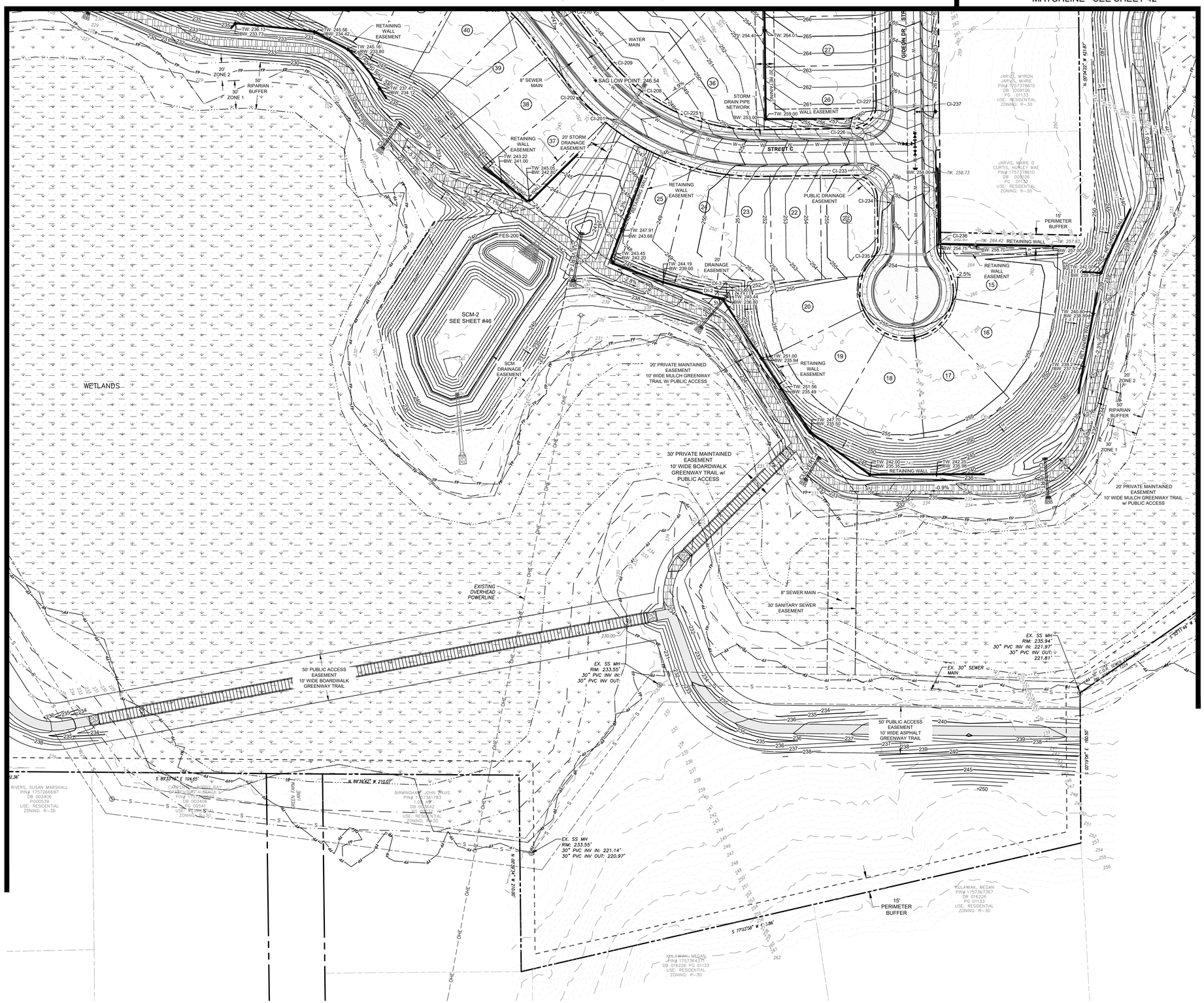
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Sheet Title:

## GRADING & DRAINAGE PLAN SHEET 3 OF 6

Sheet #:

40




## STORM PIPE NETWORK NOTES:

1. SEE SHEET #44 "STORM PIPE NETWORK TABLES" FOR PIPE AND STRUCTURE DATA.
2. SEE GREENWAY PLAN & PROFILE SHEET #S 67 - 73 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

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A ONE CALL SYSTEM FOR COMMUNITY AND JOB SAFETY

GRADING PLAN LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR 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

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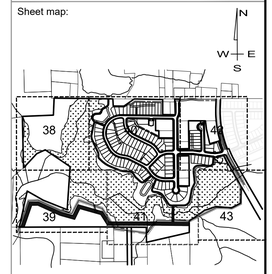
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Jurisdiction / Municipality

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**CID-25-03 (PSP-24-05)**

Other Consultants

Sheet map:




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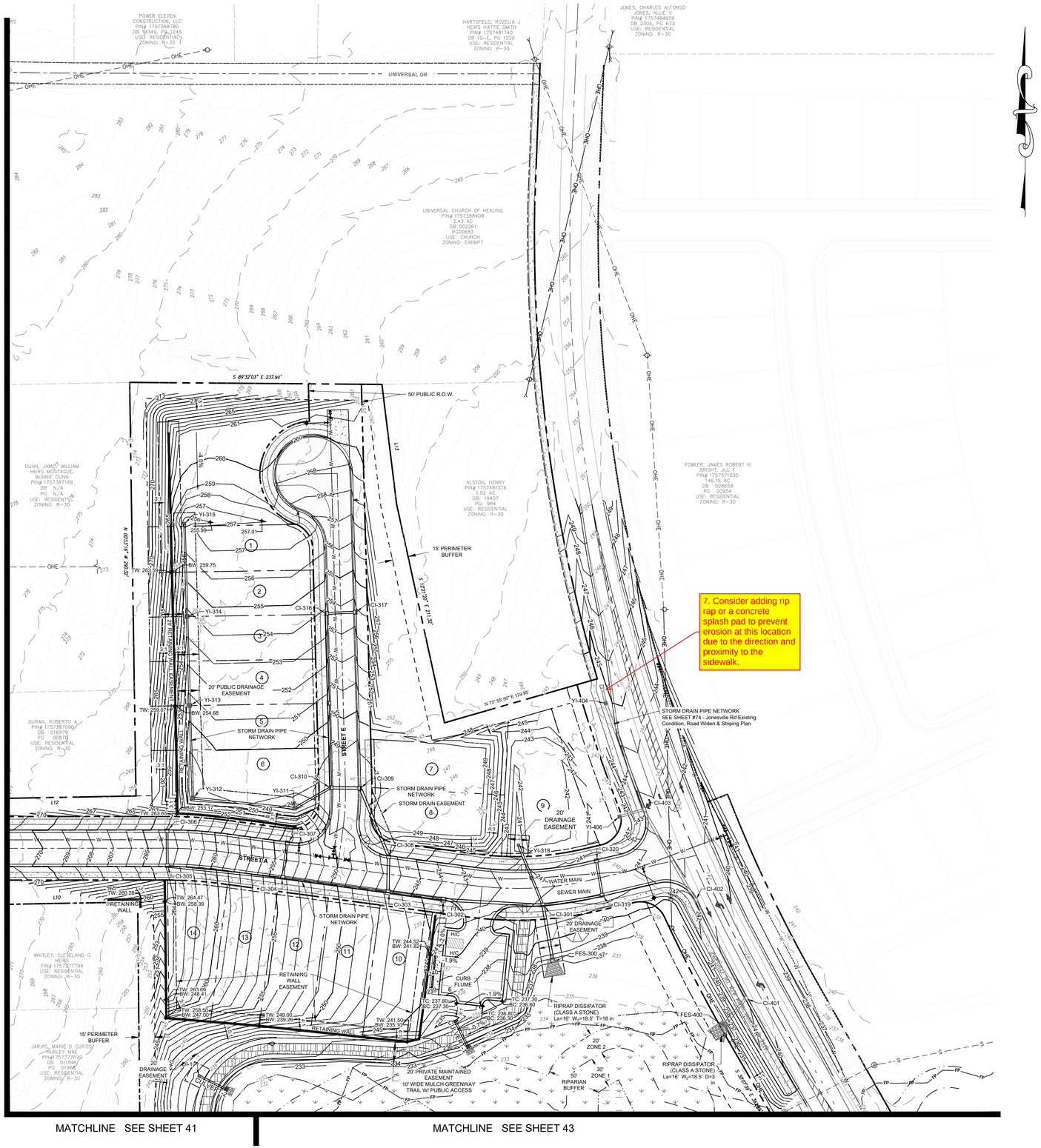
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# GRADING & DRAINAGE PLAN SHEET 4 OF 6

Sheet #:

41

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## STORM PIPE NETWORK NOTES:

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2. SEE GREENWAY PLAN & PROFILE SHEET #S 67 - 73 FOR STORM CULVERT PIPE DATA, DETAILS, AND DISSIPATOR PADS.

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft

GRADING PLAN LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED R.O.W.
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- PROPOSED SEWER LINE
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- PROPOSED WATERLINE
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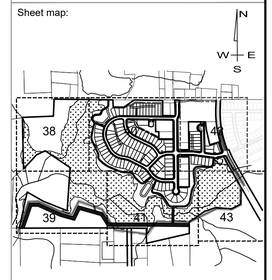
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Bryan Harris
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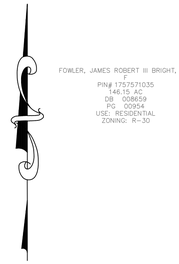
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GRADING & DRAINAGE PLAN SHEET 5 OF 6

Sheet #:

42




## GRADING PLAN LEGEND

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

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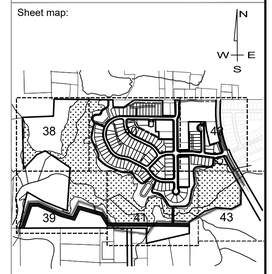
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# GRADING & DRAINAGE PLAN SHEET 6 OF 6

Sheet #:

43

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# STORM PIPE NETWORK (SCM-1)

| PIPE TABLE | | | |
|---|---|---|---|
| PIPE NAME | Start Structure | Length-Size-Material-Slope | End Structure |
| SW Pipe-108 (1) | | 119 LF of 18" RCP @ 0.67% | 108 (1) |
| SW Pipe-101 | 100 | 54 LF of 36" RCP @ 5.89% | 101 |
| SW Pipe-112 | 101 | 29 LF of 30" RCP @ 1.24% | 112 |
| SW Pipe-102 | 101 | 57 LF of 30" RCP @ 1.23% | 102 |
| SW Pipe-103 | 102 | 74 LF of 24" RCP @ 1.22% | 103 |
| SW Pipe-104 | 104 | 34 LF of 24" RCP @ 1.47% | 103 |
| SW Pipe-105 | 104 | 83 LF of 18" RCP @ 1.45% | 105 |
| SW Pipe-110 | 105 | 29 LF of 18" RCP @ 3.85% | 110 |
| SW Pipe-106 | 105 | 112 LF of 18" RCP @ 1.08% | 106 |
| SW Pipe-111 | 106 | 31 LF of 18" RCP @ 2.99% | 111 |
| SW Pipe-107 | 106 | 93 LF of 18" RCP @ 1.08% | 107 |
| SW Pipe-108 | 107 | 73 LF of 18" RCP @ 1.10% | 108 |
| SW Pipe-109 (1) | 108 (1) | 34 LF of 18" RCP @ 1.80% | 109 (1) |
| SW Pipe-109 | 108 | 29 LF of 18" RCP @ 2.12% | 109 |
| SW Pipe-113 | 112 | 54 LF of 18" RCP @ 1.03% | 113 |
| HDPE Pipe114 | 113 | 115 LF of 16" RCP @ 1.00% | 114 |
| HDPE Pipe115 | 114 | 86 LF of 16" RCP @ 1.05% | 115 |
| HDPE Pipe116 | 115 | 86 LF of 14" RCP @ 1.05% | 116 |
| SW Pipe-117 (1) | 117 (1) | 29 LF of 24" RCP @ 1.05% | 117 |
| SW Pipe-118 | 117 | 68 LF of 24" RCP @ 1.04% | 118 |
| SW Pipe-117 | 117 | 84 LF of 24" RCP @ 1.02% | 112 |
| SW Pipe-118 (1) | 118 | 36 LF of 24" RCP @ 1.12% | 118 (1) |
| SW Pipe-119 | 118 | 46 LF of 24" RCP @ 1.08% | 119 |
| SW Pipe-120 | 119 | 29 LF of 24" RCP @ 1.07% | 120 |
| SW Pipe-127 | 120 | 41 LF of 24" RCP @ 1.11% | 127 |
| SW Pipe-121 | 120 | 89 LF of 18" RCP @ 2.70% | 121 |
| SW Pipe-122 | 121 | 79 LF of 18" RCP @ 1.92% | 122 |
| SW Pipe-126 | 122 | 29 LF of 18" RCP @ 2.44% | 126 |
| SW Pipe-123 | 122 | 56 LF of 18" RCP @ 1.61% | 123 |
| SW Pipe-124 | 123 | 96 LF of 18" RCP @ 2.61% | 124 |
| SW Pipe-125 | 124 | 30 LF of 18" RCP @ 4.79% | 125 |
| HDPE Pipe128 | 127 | 82 LF of 18" RCP @ 1.97% | 128 |
| SW Pipe-132 | 127 | 35 LF of 24" RCP @ 1.01% | 132 |
| HDPE Pipe129 | 128 | 88 LF of 18" RCP @ 2.64% | 129 |
| HDPE Pipe130 | 129 | 127 LF of 16" RCP @ 3.07% | 130 |
| HDPE Pipe131 | 130 | 169 LF of 16" RCP @ 2.31% | 131 |
| SW Pipe-133 | 132 | 85 LF of 24" RCP @ 1.07% | 133 |
| SW Pipe-134 | 133 | 166 LF of 24" RCP @ 5.62% | 134 |
| SW Pipe-140 | 133 | 29 LF of 24" RCP @ 1.07% | 140 |
| SW Pipe-145 | 134 | 34 LF of 18" RCP @ 1.50% | 145 |
| SW Pipe-135 | 134 | 91 LF of 18" RCP @ 7.33% | 135 |
| SW Pipe-136 | 135 | 224 LF of 18" RCP @ 4.43% | 136 |
| SW Pipe-147 | 135 | 29 LF of 18" RCP @ 1.07% | 147 |
| SW Pipe-148 | 136 | 29 LF of 18" RCP @ 1.40% | 148 |
| SW Pipe-137 | 136 | 87 LF of 18" RCP @ 2.66% | 137 |
| SW Pipe-138 | 137 | 43 LF of 18" RCP @ 1.41% | 138 |
| SW Pipe-139 | 138 | 35 LF of 18" RCP @ 1.46% | 139 |
| SW Pipe-141 | 140 | 131 LF of 24" RCP @ 2.15% | 141 |
| HDPE Pipe142 | 141 | 80 LF of 14" RCP @ 1.25% | 142 |
| HDPE Pipe143 | 141 | 135 LF of 16" RCP @ 3.35% | 143 |
| HDPE Pipe144 | 143 | 116 LF of 16" RCP @ 4.74% | 144 |
| SW Pipe-146 | 145 | 59 LF of 18" RCP @ 1.20% | 146 |

| STRUCTURE TABLE | | | | |
|---|---|---|---|---|
| STRUCTURE # | TYPE | RIM ELEV | INV IN | INV OUT |
| 100 | FES | INV : 236.47 | 233.05' From Strc #: 101 | |
| 101 | CI | RIM: 242.81 | 236.30' From Strc #: 102<br>237.65' From Strc #: 112 | 236.20' |
| 102 | CI | RIM: 243.19 | 237.20' From Strc #: 103 | 237.00' |
| 103 | CI | RIM: 243.88 | 238.20' From Strc #: 104 | 238.10' |
| 104 | CI | RIM: 243.79 | 238.80' From Strc #: 105 | 238.70' |
| 105 | CI | RIM: 244.96 | 240.10' From Strc #: 106<br>240.10' From Strc #: 110 | 240.00' |
| 106 | CI | RIM: 246.12 | 241.40' From Strc #: 107<br>241.40' From Strc #: 111 | 241.30' |
| 107 | CI | RIM: 247.07 | 242.50' From Strc #: 108 | 242.40' |
| 108 (1) | CI | RIM: 246.94 | 243.40' From Strc #: 109 (1) | 243.30' |
| 108 | CI | RIM: 247.58 | 243.40' From Strc #: 109 | 243.30' |
| 109 (1) | CI | RIM: 247.61 | | 244.00' |
| 109 | CI | RIM: 247.61 | | 244.00' |
| 110 | CI | RIM: 245.02 | | 241.20' |
| 111 | CI | RIM: 245.96 | | 242.30' |
| 112 | CI | RIM: 242.95 | 238.10' From Strc #: 117<br>238.10' From Strc #: 113 | 238.00' |
| 113 | YI | RIM: 242.05 | 238.75' From Strc #: 114 | 238.65' |
| 114 | YI | RIM: 243.02 | 240.00' From Strc #: 115 | 239.90' |
| 115 | YI | RIM: 244.12 | 241.00' From Strc #: 116 | 240.90' |
| 116 | YI | RIM: 246.25 | | 241.90' |
| 117 (1) | CI | RIM: 243.78 | | 239.40' |
| 117 | CI | RIM: 243.91 | 239.35' From Strc #: 118<br>239.10' From Strc #: 117 (1) | 238.95' |
| 118 | CI | RIM: 245.46 | 240.02' From Strc #: 119<br>240.20' From Strc #: 118 (1) | 240.05' |
| 118 (1) | CI | RIM: 246.19 | | 240.60' |
| 119 | CI | RIM: 247.71 | 240.60' From Strc #: 120 | 240.50' |
| 120 | CI | RIM: 247.71 | 241.00' From Strc #: 127<br>241.00' From Strc #: 121 | 240.90' |
| 121 | CI | RIM: 249.66 | 243.50' From Strc #: 122 | 243.40' |
| 122 | CI | RIM: 251.49 | 245.10' From Strc #: 123<br>246.80' From Strc #: 126 | 245.00' |
| 123 | CI | RIM: 252.79 | 247.00' From Strc #: 124 | 246.00' |
| 124 | CI | RIM: 254.69 | 249.60' From Strc #: 125 | 249.50' |
| 125 | CI | RIM: 254.86 | | 251.00' |
| 126 | CI | RIM: 251.25 | | 247.50' |
| 127 | YI | RIM: 245.60 | 241.55' From Strc #: 132<br>242.00' From Strc #: 128 | 241.45' |
| 128 | YI | RIM: 248.03 | 243.70' From Strc #: 129 | 243.60' |
| 129 | YI | RIM: 250.41 | 246.10' From Strc #: 130 | 246.00' |
| 130 | YI | RIM: 254.36 | 250.10' From Strc #: 131 | 250.00' |
| 131 | YI | RIM: 258.04 | | 254.00' |
| 132 | CI | RIM: 250.68 | 242.00' From Strc #: 133 | 241.90' |
| 133 | CI | RIM: 254.50 | 243.00' From Strc #: 140<br>245.70' From Strc #: 134 | 242.90' |
| 134 | CI | RIM: 262.40 | 255.50' From Strc #: 135<br>257.20' From Strc #: 145 | 255.00' |
| 135 | CI | RIM: 266.78 | 262.50' From Strc #: 147<br>262.20' From Strc #: 136 | 262.10' |
| 136 | CI | RIM: 277.16 | 272.20' From Strc #: 137<br>272.70' From Strc #: 148 | 272.10' |
| 137 | CI | RIM: 279.34 | 274.60' From Strc #: 138 | 274.50' |
| 138 | CI | RIM: 280.15 | 275.30' From Strc #: 139 | 275.20' |
| 139 | CI | RIM: 280.15 | | 275.80' |
| 140 | CI | RIM: 254.55 | 243.50' From Strc #: 141 | 243.30' |
| 141 | YI | RIM: 253.51 | 250.00' From Strc #: 143<br>246.50' From Strc #: 142 | 246.30' |
| 142 | YI | RIM: 249.75 | | 247.50' |
| 143 | YI | RIM: 258.50 | 255.00' From Strc #: 144 | 254.50' |
| 144 | YI | RIM: 263.54 | | 260.50' |
| 145 | CI | RIM: 262.88 | 257.80' From Strc #: 146 | 257.70' |
| 146 | CI | RIM: 262.96 | | 258.50' |
| 147 | CI | RIM: 266.42 | | 262.80' |
| 148 | CI | RIM: 277.17 | | 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 @ 1.23% | 202 |
| SW Pipe-208 | 201 | 29 LF of 30" RCP @ 1.07% | 208 |
| 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-204 (1) | 204 | 50 LF of 18" RCP @ 1.02% | 204 (1) |
| SW Pipe-205 (1) | 204 (1) | 29 LF of 18" RCP @ 1.04% | 205 (1) |
| SW Pipe-205 | 204 | 29 LF of 18" RCP @ 1.04% | 205 |
| SW Pipe-206 | 205 | 31 LF of 18" RCP @ 1.16% | 206 |
| SW Pipe-207 | 206 | 91 LF of 18" RCP @ 1.05% | 207 |
| SW Pipe-208 (1) | 208 | 18 LF of 18" RCP @ 1.11% | 208 (1) |
| Concrete Pipe209 | 208 | 44 LF of 24" RCP @ 1.16% | 209 |
| SW Pipe-225 | 208 | 80 LF of 30" RCP @ 2.77% | 225 |
| Concrete Pipe210 | 209 | 74 LF of 24" RCP @ 1.09% | 210 |
| SW Pipe-211 | 210 | 48 LF of 24" RCP @ 1.05% | 211 |
| SW Pipe-212 | 211 (1) | 73 LF of 24" RCP @ 2.64% | 212 |
| SW Pipe-216 | 211 | 29 LF of 24" RCP @ 1.07% | 216 |
| SW Pipe-211 (1) | 211 | 90 LF of 24" RCP @ 2.78% | 211 (1) |
| SW Pipe-217 | 212 | 29 LF of 18" RCP @ 1.05% | 217 |
| SW Pipe-213 | 212 | 72 LF of 18" RCP @ 1.96% | 213 |
| SW Pipe-214 | 213 | 31 LF of 18" RCP @ 0.98% | 214 |
| SW Pipe-215 | 214 | 29 LF of 15" RCP @ 1.05% | 215 |
| SW Pipe-216 (1) | 216 | 32 LF of 18" RCP @ 1.28% | 216 (1) |
| SW Pipe-218 | 217 | 45 LF of 18" RCP @ 1.12% | 218 |
| SW Pipe-223 | 218 | 29 LF of 18" RCP @ 1.06% | 223 |
| SW Pipe-219 | 218 | 76 LF of 18" RCP @ 1.06% | 219 |
| SW Pipe-220 | 219 | 61 LF of 18" RCP @ 1.16% | 220 |
| SW Pipe-224 | 220 | 29 LF of 18" RCP @ 1.04% | 224 |
| SW Pipe-221 | 220 | 92 LF of 18" RCP @ 1.04% | 221 |
| SW Pipe-222 | 221 | 30 LF of 18" RCP @ 1.19% | 222 |
| SW Pipe-225 (2) | 225 | 29 LF of 18" RCP @ 1.07% | 225 (1) |
| SW Pipe-226 | 225 | 165 LF of 30" RCP @ 2.61% | 226 |
| SW Pipe-233 | 226 | 29 LF of 18" RCP @ 1.43% | 233 |
| SW Pipe-227 | 226 | 52 LF of 24" RCP @ 7.22% | 227 |
| SW Pipe-237 | 227 | 35 LF of 18" RCP @ 1.76% | 237 |
| SW Pipe-228 | 227 | 138 LF of 24" RCP @ 3.49% | 228 |
| SW Pipe-229 | 228 | 153 LF of 24" RCP @ 1.12% | 229 |
| SW Pipe-238 | 228 | 35 LF of 18" RCP @ 1.17% | 238 |
| SW Pipe-239 | 229 | 35 LF of 15" RCP @ 1.17% | 239 |
| SW Pipe-230 | 229 | 99 LF of 18" RCP @ 1.11% | 230 |
| SW Pipe-240 | 230 | 35 LF of 18" RCP @ 1.17% | 240 |
| SW Pipe-231 | 230 | 208 LF of 18" RCP @ 1.54% | 231 |
| SW Pipe-232 | 231 | 35 LF of 18" RCP @ 1.18% | 232 |
| SW Pipe-234 | 233 | 57 LF of 18" RCP @ 1.24% | 234 |
| SW Pipe-235 | 234 | 55 LF of 18" RCP @ 1.00% | 235 |
| SW Pipe-236 | 235 | 37 LF of 15" RCP @ 1.00% | 236 |

| 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 | 240.50' From Strc #: 202<br>240.60' From Strc #: 208 | 240.40' |
| 202 | CI | RIM: 246.66 | 241.20' From Strc #: 203 | 241.10' |
| 203 | CI | RIM: 247.67 | 242.70' From Strc #: 204 | 242.60' |
| 204 | CI | RIM: 248.82 | 244.00' From Strc #: 205<br>244.00' From Strc #: 204 (1) | 243.90' |
| 204 (1) | CI | RIM: 249.31 | 244.70' From Strc #: 205 (1) | 244.50' |
| 205 | CI | RIM: 248.88 | 244.40' From Strc #: 206 | 244.30' |
| 205 (1) | CI | RIM: 249.37 | | 245.00' |
| 206 | YI | RIM: 249.49 | 244.85' From Strc #: 207 | 244.75' |
| 207 | YI | RIM: 248.77 | | 245.80' |
| 208 | CI | RIM: 246.96 | 243.00' From Strc #: 208 (1)<br>241.10' From Strc #: 209 | 240.90' |
| 208 (1) | CI | RIM: 24303.72 | | 243.20' |
| 209 | CI | RIM: 246.70 | 241.70' From Strc #: 210 | 241.60' |
| 210 | CI | RIM: 247.22 | 242.60' From Strc #: 211 | 242.50' |
| 211 | CI | RIM: 248.98 | 244.70' From Strc #: 211 (1)<br>243.20' From Strc #: 216 | 243.10' |
| 211 (1) | CI | RIM: 254.00 | 247.29' From Strc #: 212 | 247.19' |
| 212 | CI | RIM: 260.15 | 256.50' From Strc #: 213<br>249.40' From Strc #: 217 | 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: 249.02 | 243.60' From Strc #: 216 (1) | 243.50' |
| 216 (1) | CI | RIM: 247.90 | | 244.00' |
| 217 | CI | RIM: 260.20 | 249.80' From Strc #: 218 | 249.70' |
| 218 | CI | RIM: 262.54 | 258.70' From Strc #: 223<br>250.40' From Strc #: 219 | 250.30' |
| 219 | CI | RIM: 261.12 | 251.30' From Strc #: 220 | 251.20' |
| 220 | CI | RIM: 259.61 | 252.10' From Strc #: 221<br>255.20' From Strc #: 224 | 252.00' |
| 221 | CI | RIM: 257.90 | 253.15' From Strc #: 222 | 253.05' |
| 222 | CI | RIM: 257.71 | | 253.50' |
| 223 | CI | RIM: 262.82 | | 259.00' |
| 224 | CI | RIM: 259.48 | | 255.50' |
| 225 | CI | RIM: 248.63 | 243.60' From Strc #: 226<br>243.60' From Strc #: 225 (2) | |
| 225 (1) | CI | RIM: 248.63 | | 243.90' |
| 226 | CI | RIM: 255.76 | 251.20' From Strc #: 227<br>248.00' From Strc #: 233 | 247.90' |
| 227 | CI | RIM: 260.61 | 256.00' From Strc #: 228<br>256.00' From Strc #: 237 | 254.90' |
| 228 | CI | RIM: 267.80 | 263.40' From Strc #: 238<br>261.50' From Strc #: 229 | 260.80' |
| 229 | CI | RIM: 271.38 | 267.20' From Strc #: 239<br>263.50' From Strc #: 230 | 263.20' |
| 230 | CI | RIM: 272.53 | 268.10' From Strc #: 240<br>268.10' From Strc #: 231 | 264.60' |
| 231 | CI | RIM: 276.05 | 271.40' From Strc #: 232 | 271.30' |
| 232 | CI | RIM: 276.04 | | 271.80' |
| 233 | CI | RIM: 255.76 | 248.50' From Strc #: 234 | 248.40' |
| 234 | CI | RIM: 255.00 | 249.30' From Strc #: 235 | 249.20' |
| 235 | CI | RIM: 254.01 | 249.94' From Strc #: 236 | 249.84' |
| 236 | CI | RIM: 254.01 | | 250.31' |
| 237 | CI | RIM: 260.61 | | 256.60' |
| 238 | CI | RIM: 267.82 | | 263.80' |
| 239 | CI | RIM: 271.38 | | 267.60' |
| 240 | CI | RIM: 272.53 | | 268.50' |

# STORM PIPE NETWORK (EAST)

| PIPE TABLE | | | |
|---|---|---|---|
| PIPE NAME | Start Structure | Length-Size-Material-Slope | End Structure |
| Concrete Pipe301 | 300 | 55 LF of 24" RCP @ 1.10% | 301 |
| SW Pipe-319 | 301 | 57 LF of 18" RCP @ 1.06% | 319 |
| SW Pipe-318 | 301 | 62 LF of 18" RCP @ 1.30% | 318 |
| 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-308 | 303 | 35 LF of 24" RCP @ 1.75% | 308 |
| SW Pipe-307 | 304 | 35 LF of 18" RCP @ 1.17% | 307 |
| 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-309 | 308 | 70 LF of 24" RCP @ 1.59% | 309 |
| SW Pipe-310 | 309 | 29 LF of 24" RCP @ 1.07% | 310 |
| SW Pipe-310 (2) (1) | 310 | 80 LF of 18" RCP @ 3.13% | 310 (1) |
| SW Pipe-316 | 310 (1) | 85 LF of 18" RCP @ 2.60% | 316 |
| SW Pipe-311 | 310 | 40 LF of 18" RCP @ 1.03% | 311 |
| HDPE Pipe312 | 311 | 97 LF of 18" RCP @ 1.04% | 312 |
| HDPE Pipe313 | 312 | 88 LF of 16" RCP @ 2.40% | 313 |
| HDPE Pipe314 | 313 | 85 LF of 16" RCP @ 3.81% | 314 |
| HDPE Pipe315 | 314 | 88 LF of 16" RCP @ 2.28% | 315 |
| SW Pipe-317 | 316 | 29 LF of 18" RCP @ 2.84% | 317 |
| SW Pipe-320 | 319 | 35 LF of 18" RCP @ 1.02% | 320 |

| STRUCTURE TABLE | | | | |
|---|---|---|---|---|
| STRUCTURE # | TYPE | RIM ELEV | INV IN | INV OUT |
| 300 | FES | INV : 238.53 | 236.20' From Strc #: 301 | |
| 301 | CI | RIM: 241.38 | 236.90' From Strc #: 302<br>236.90' From Strc #: 319<br>237.00' From Strc #: 318 | 236.80' |
| 302 | CI | RIM: 244.06 | 239.00' From Strc #: 303 | 238.90' |
| 303 | CI | RIM: 246.77 | 241.60' From Strc #: 308<br>243.00' From Strc #: 304 | 241.50' |
| 304 | CI | RIM: 254.30 | 249.90' From Strc #: 307<br>250.60' From Strc #: 305 | 249.90' |
| 305 | CI | RIM: 263.94 | 259.50' From Strc #: 306 | 259.00' |
| 306 | CI | RIM: 263.94 | | 259.90' |
| 307 | CI | RIM: 254.30 | | 250.30' |
| 308 | CI | RIM: 246.97 | 242.30' From Strc #: 309 | 242.20' |
| 309 | CI | RIM: 248.53 | 243.50' From Strc #: 310 | 243.40' |
| 310 | CI | RIM: 248.58 | 244.00' From Strc #: 310 (2) (1)<br>243.90' From Strc #: 311 | 243.80' |
| 310 (1) | CI | RIM: 250.58 | 246.70' From Strc #: 316 | 246.50' |
| 311 | YI | RIM: 247.50 | 244.40' From Strc #: 312 | 244.30' |
| 312 | YI | RIM: 248.17 | 245.50' From Strc #: 313 | 245.40' |
| 313 | YI | RIM: 250.45 | 247.70' From Strc #: 314 | 247.60' |
| 314 | YI | RIM: 253.57 | 251.00' From Strc #: 315 | 250.90' |
| 315 | YI | RIM: 255.46 | | 253.00' |
| 316 | CI | RIM: 253.54 | 249.10' From Strc #: 317 | 248.90' |
| 317 | CI | RIM: 253.56 | | 249.90' |
| 318 | YI | RIM: 240.10 | | 237.80' |
| 319 | CI | RIM: 240.82 | 237.60' From Strc #: 320 | 237.50' |
| 320 | CI | RIM: 240.82 | | 237.95' |

# STORM PIPE NETWORK (JONESVILLE RD)

| PIPE TABLE | | | |
|---|---|---|---|
| PIPE NAME | Start Structure | Length-Size-Material-Slope | End Structure |
| SW Pipe-401 | 400 | 34 LF of 24" RCP @ 1.06% | 401 |
| SW Pipe-402 | 401 | 105 LF of 24" RCP @ 1.01% | 402 |
| SW Pipe-403 | 402 | 99 LF of 24" RCP @ 1.02% | 403 |
| SW Pipe-404 | 403 | 107 LF of 24" RCP @ 2.73% | 404 |
| SW Pipe-406 | 403 | 24 LF of 18" RCP @ 1.07% | 406 |
| SW Pipe-405 | 404 | 18 LF of 18" RCP @ 4.09% | 405 |

| STRUCTURE TABLE | | | | |
|---|---|---|---|---|
| STRUCTURE # | TYPE | RIM ELEV | INV IN | INV OUT |
| 400 | FES | INV : 237.13 | 234.80' From Strc #: 401 | |
| 401 | CI | RIM: 241.07 | 235.25' From Strc #: 402 | 235.15' |
| 402 | CI | RIM: 241.84 | 236.40' From Strc #: 403 | 236.30' |
| 403 | CI | RIM: 242.98 | 237.50' From Strc #: 406<br>237.85' From Strc #: 404 | 237.40' |
| 404 | YI | RIM: 244.76 | 242.00' From Strc #: 405 | 240.76' |
| 405 | FES | INV : 244.51 | | 242.72' |
| 406 | YI | RIM: 240.42 | | 237.75' |

# 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 | 54 LF of 15" RCP @ 1.02% |
| 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-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

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\37 Overall Grading & Drainage 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
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Firm # F-1517
15000 Weston Parkway
Cary, N.C. 27513
(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

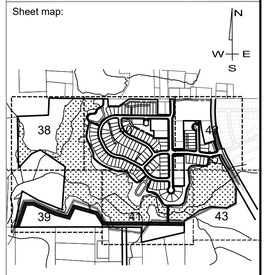
Rolesville Growing Community • Capital Connection Est. 1837

Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517

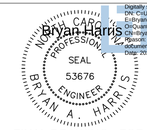
**CID-25-03 (PSP-24-05)**

Other Consultants

Sheet map:




Seal:




Digitally signed by Bryan Harris
DN: CN=Bryan@QuantechEng.com, O=Quantech Engineering LLP, C=US
Reason: I have reviewed this document
Date: 2025.09.03 16:52:14-04'00'

FINAL DRAWING - FOR REVIEW PURPOSES ONLY

Issued / Print Date: 2025-September-02 (16:55)
File Name: 37 Overall Grading & Drainage Plan.dwg

Last Saved by: BryanHarris
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Project:

HARRIS CREEK FARMS

CID-25-03

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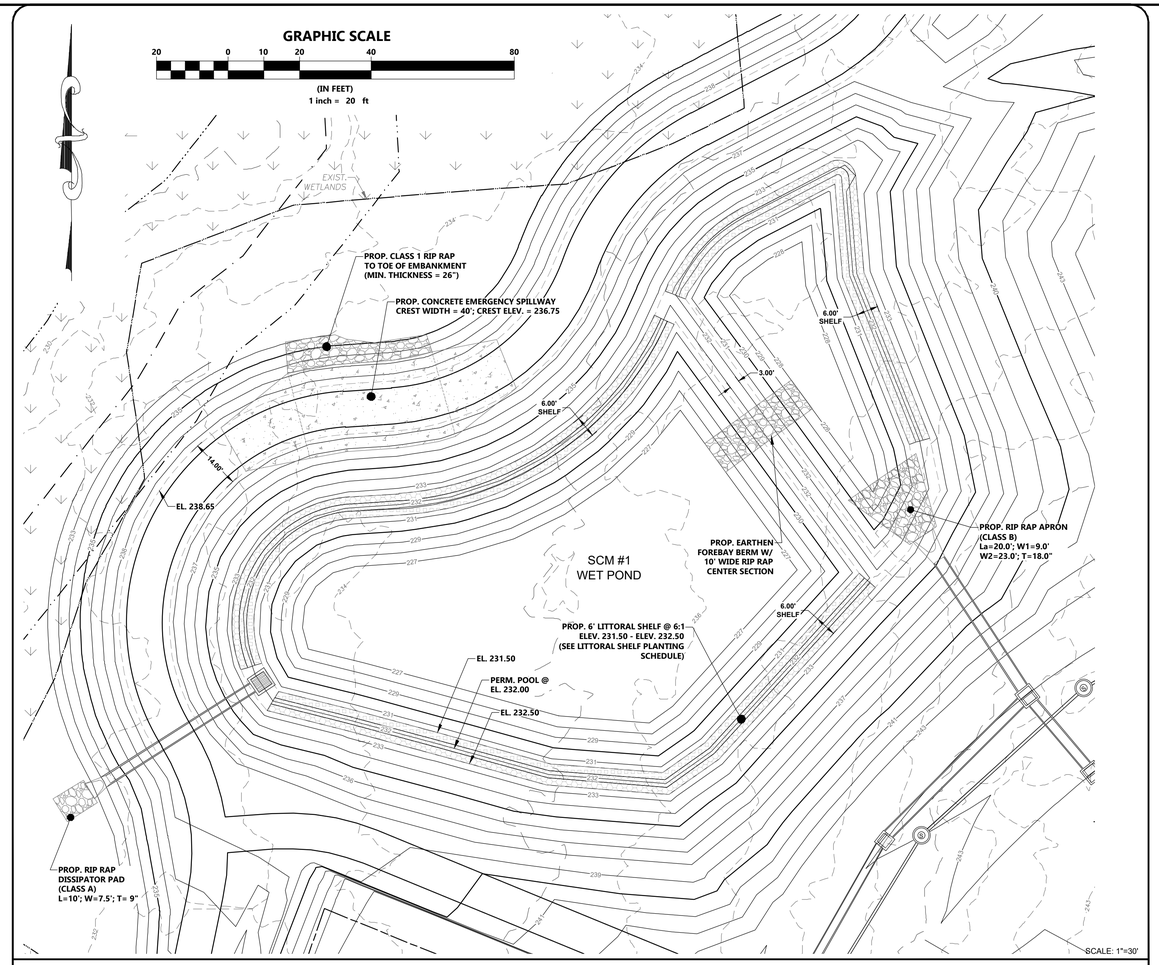
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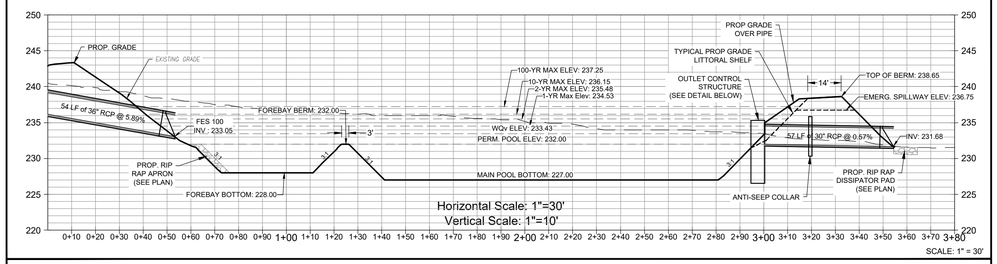
STORM PIPE NETWORK TABLES

Sheet #:

44



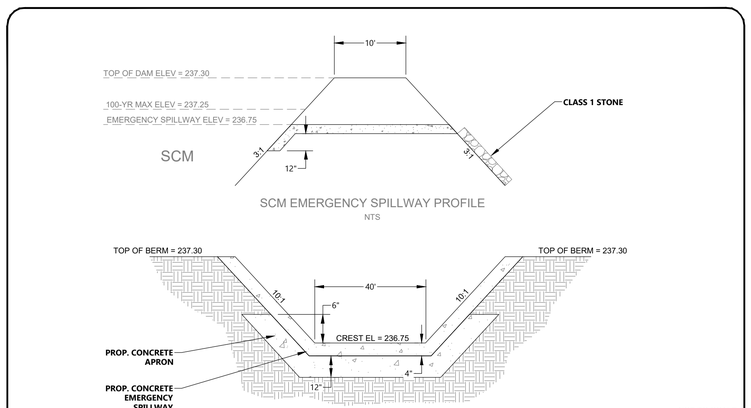

SCM 1 - WET POND PLAN VIEW




SCM 1 - WET POND SECTION

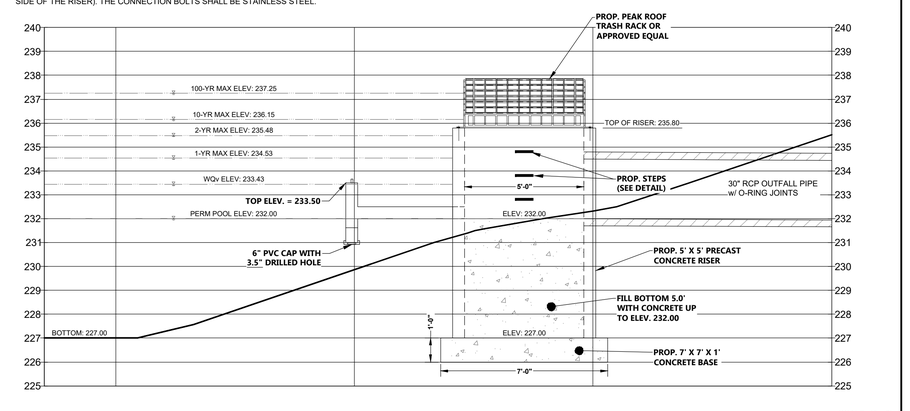
## LITTORAL SHELF PLANTING SCHEDULE

| 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

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.




SCM 1 - OUTLET CONTROL STRUCTURE

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\45 SCM 1 Plan.dwg

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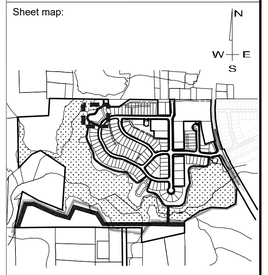
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919-557-1080 ext 109
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Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
CID-25-03 (PSP-24-05)

Other Consultants

Sheet map:




Seal:




FINAL DRAWING - FOR REVIEW PURPOSES ONLY

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Project:

# HARRIS CREEK FARMS

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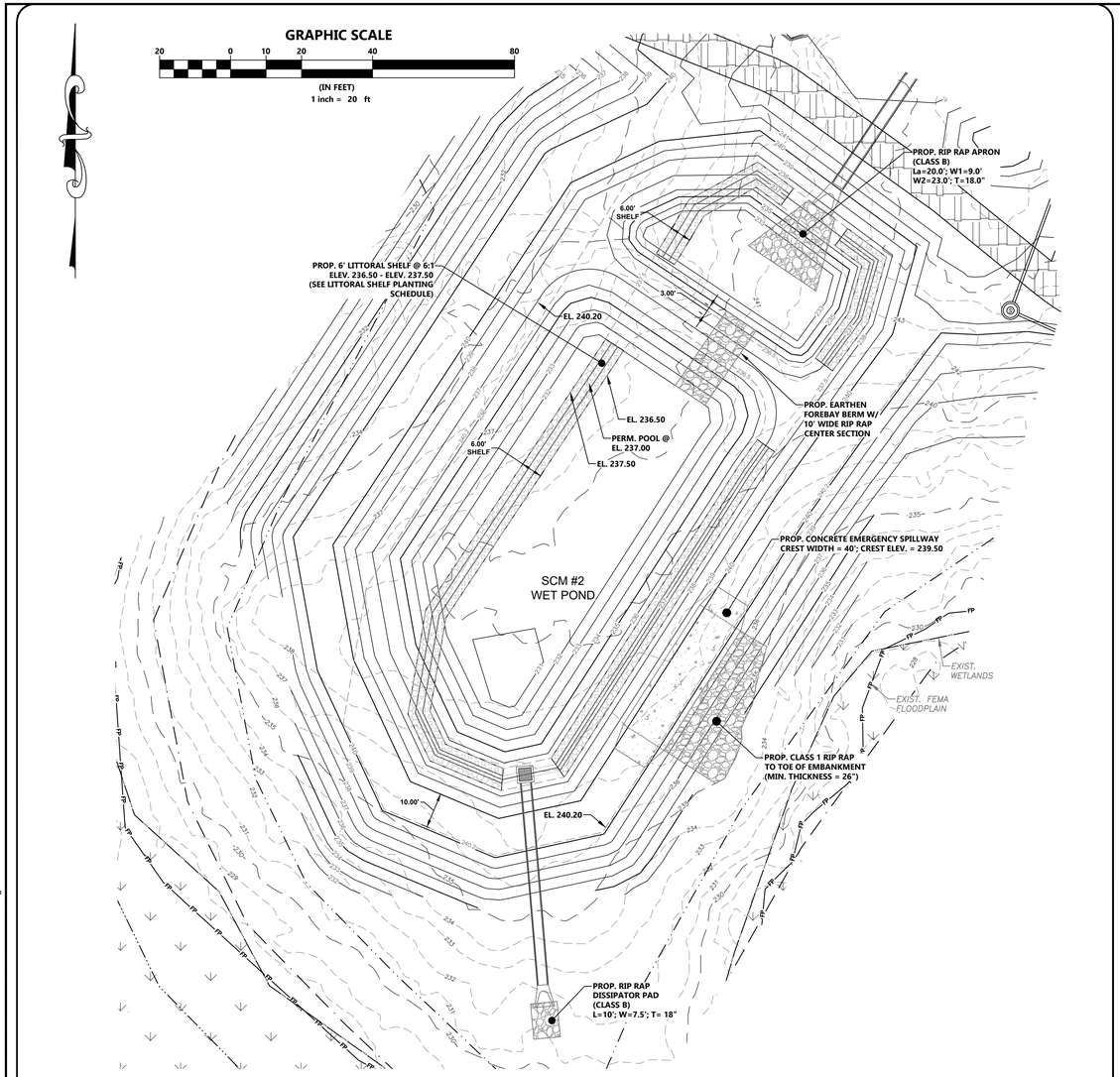
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| 1 | 02Sep2025 | Town of Rolesville Planning Dept. comments |

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## SCM 1 PLAN

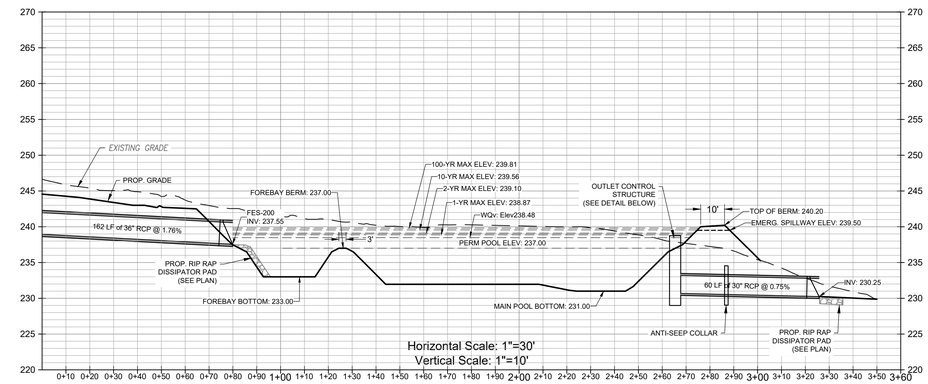
Sheet #:

45




SCALE: 1"=30'

SCM 2 - WET POND PLAN VIEW

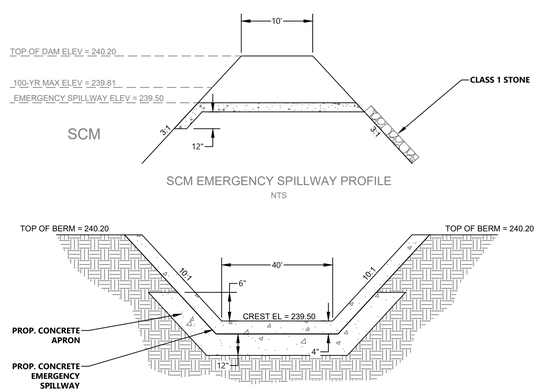



SCALE: 1" = 30'

SCM 2 - WET POND SECTION

## LITTORAL SHELF PLANTING SCHEDULE

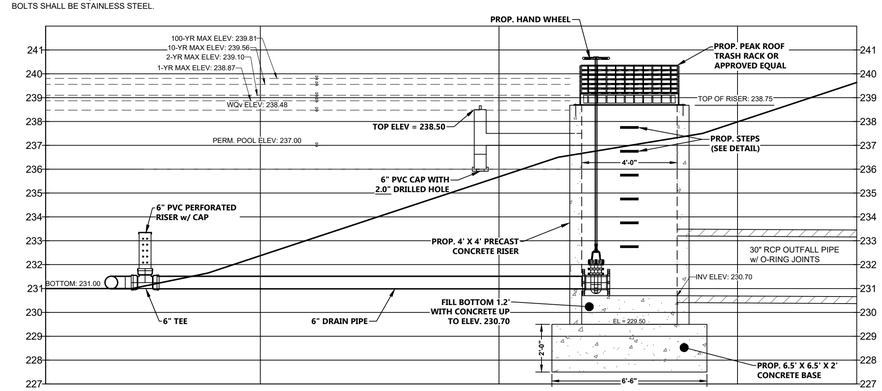
| ELEV. RANGE | SHELF AREA | SYMBOL | BOTANICAL NAME | COMMON NAME | QUANTITY | SPACING |
|---|---|---|---|---|---|---|
| *236.50 - 236.83* | 696 sf | | ASCLEPIAS INCARNATA | SWAMP MILKWEED | 175 | 24"-36" O.C. |
| *236.83 - 237.17* | 723 sf | | CAREX TENERA | QUILL SEDGE | 185 | 24"-36" O.C. |
| *237.17 - 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


**N.C. UNDERGROUND UTILITIES**
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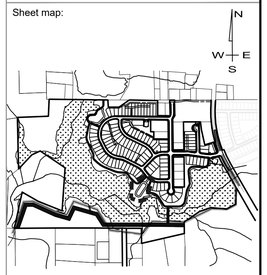
Engineer
QUANTECH ENGINEERING
INNOVATIVE SOLUTIONS | ENGINEERING THE FUTURE
Firm # P-1517
15000 Weston Parkway
Cary, N.C. 27513
(919) 996-9455

Surveyor
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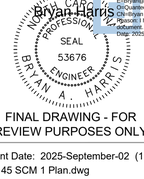
Jurisdiction / Municipality
Rolesville Growing Community • Capital Connection Est. 1837
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
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Other Consultants


Sheet map:




Seal:




Bryan Harris
Digitally signed by Bryan Harris
DN: CN=BryanA@QuantechEng.com, O=Quantech Engineering LLP, C=US
Bryan Harris have reviewed this document
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FINAL DRAWING - FOR REVIEW PURPOSES ONLY

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File Name: 45 SCM 1 Plan.dwg

Last Saved by: BryanHarris
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Project:

# HARRIS CREEK FARMS

CID-25-03

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| 1 | 02Sep2025 | Town of Rolesville Planning Dept. comments |

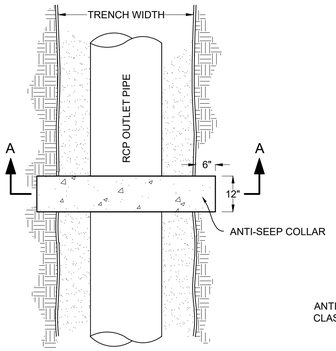
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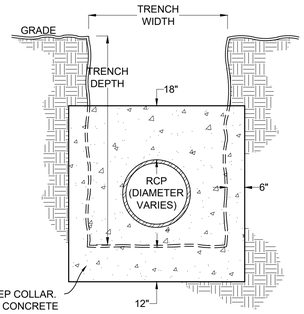
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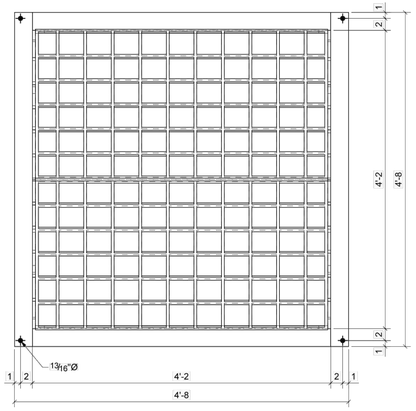

PLAN VIEW

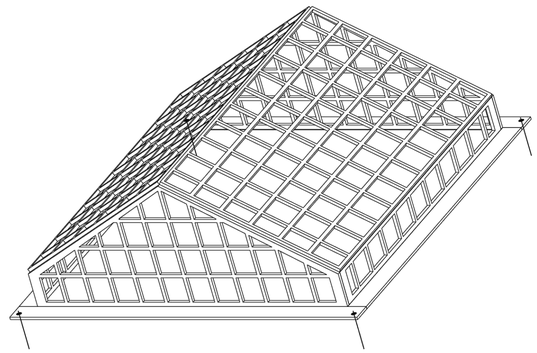


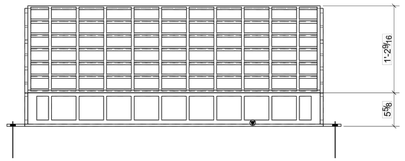

SECTION A-A

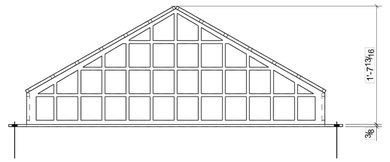
NOT TO SCALE

ANTI-SEEP COLLAR






MADE IN THE U.S.A.

AVAILABLE MATERIALS:
~~MILD STEEL (NO FINISH) - WGT: 243.8 lbs.~~
~~MILD STEEL (GALVANIZED) - WGT: 240.0 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
A DIVISION OF J.R. HOE, INC.
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**

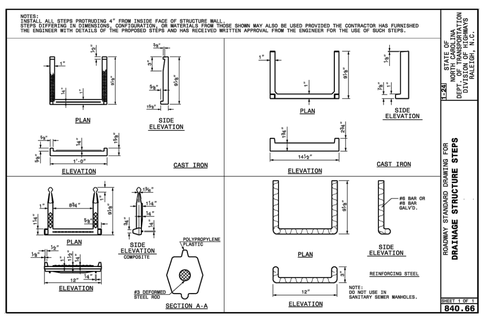
10. ALL RISER STRUCTURES, INCLUDING WEIR WALL TYPE STRUCTURES AND FLASHBOARD RISERS, SHALL BE CONSTRUCTED PRINCIPALLY OF REINFORCED CONCRETE. BRICK/CONCRETE BLOCK AND MORTAR TYPE STRUCTURES WILL NOT BE ACCEPTED. THE USE OF BRICK/CONCRETE BLOCK IN SOME ELEMENTS OF A RISER STRUCTURE MAY BE ACCEPTABLE. 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.





Developer
THE CSC GROUP
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Phone: 919-554-6517
**CID-25-03 (PSP-24-05)**

Other Consultants

Sheet map:

Seal:
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 53676 BRYAN A. HARRIS
Digitally signed by Bryan Harris
DN: CN=BryanA@QuantechEng.com, O=QuanTech Engineering LLP, OU=Bryan Harris
Reason: I have reviewed this document
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Project:

# HARRIS CREEK FARMS

CID-25-03

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| 1 | 02Sep2025 | Town of Rolesville Planning Dept. comments |

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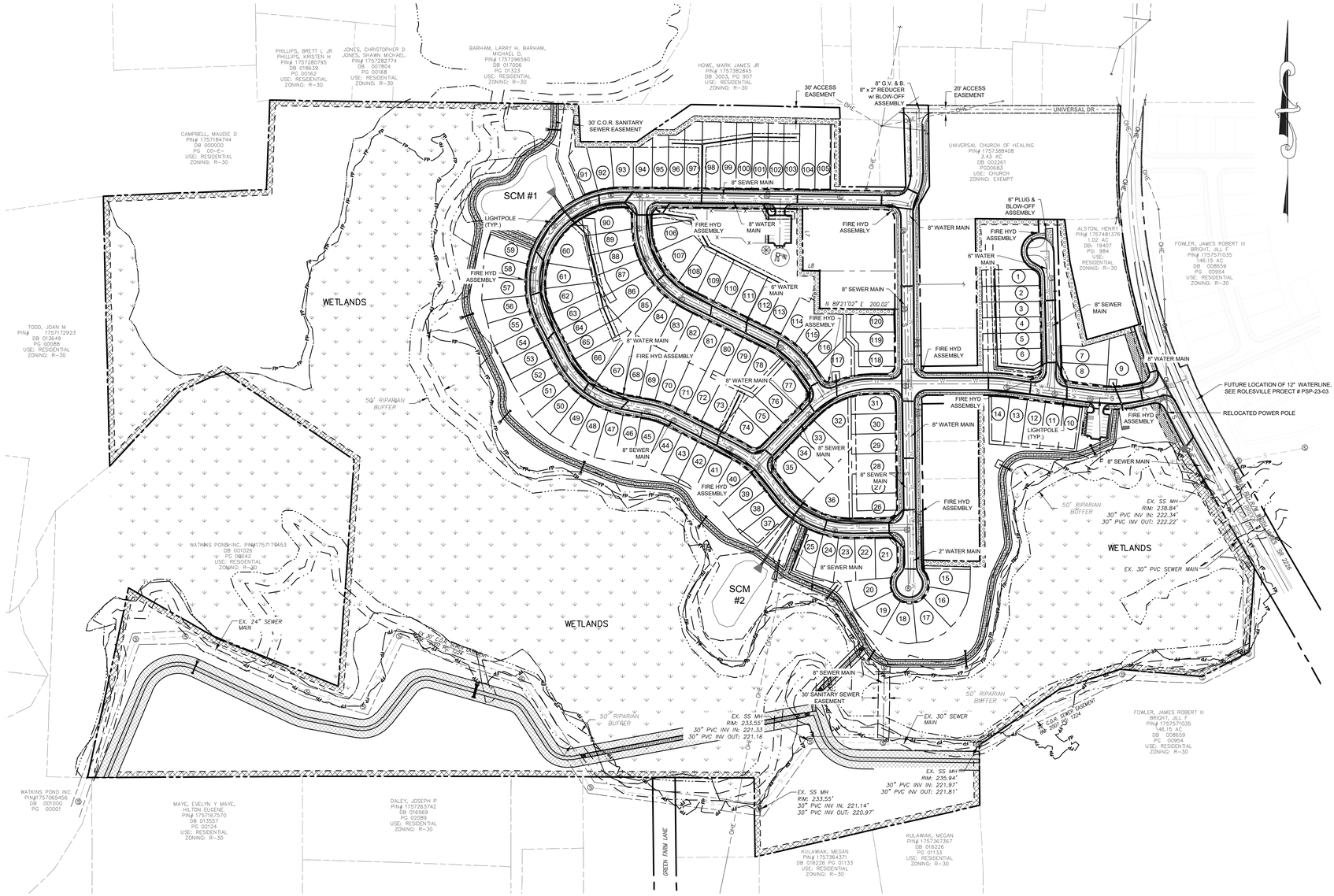
## SCM DETAILS

Sheet #:

47


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 SAFE


File Location: C:\Users\BryanHarris\Quantech\Quantech Engineering - Documents\Harris Creek Farm - Jonesville\Engineering_DWG\Construction Plans\45 SCM 1 Plan.dwg




## 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".

## 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. 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.

**Public**
WATER DISTRIBUTION / EXTENSION SYSTEM
The City of Raleigh consents to the connection and extension of the City's public water system as shown on this plan. The material and Construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.
City of Raleigh
Public Utilities DepartmentPermit # _____

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

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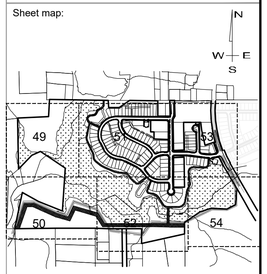
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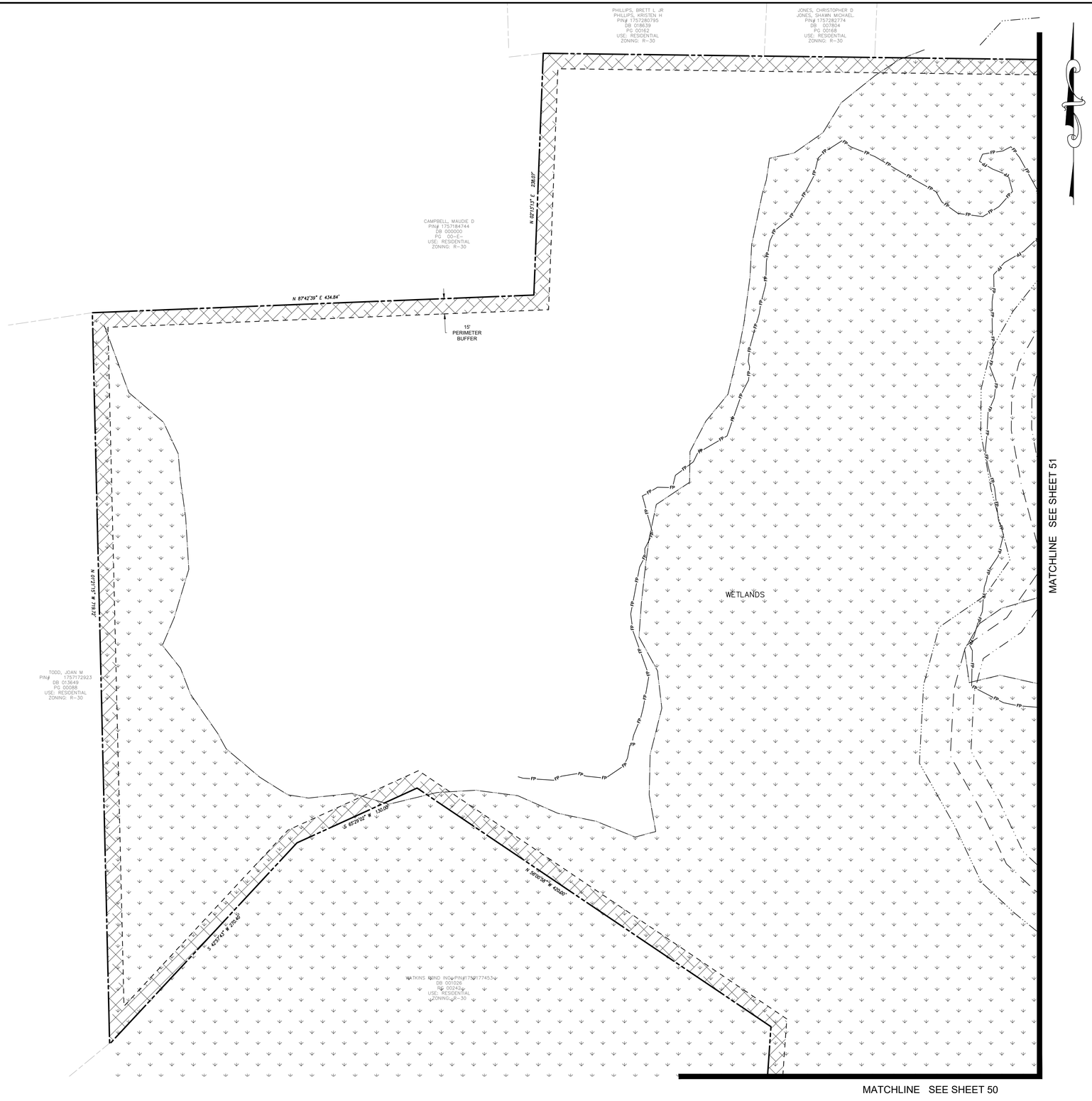
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Sheet Title:
# OVERALL UTILITY PLAN

Sheet #:
48




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City of Raleigh
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**Public**
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City of Raleigh
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50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft

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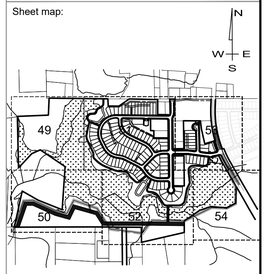
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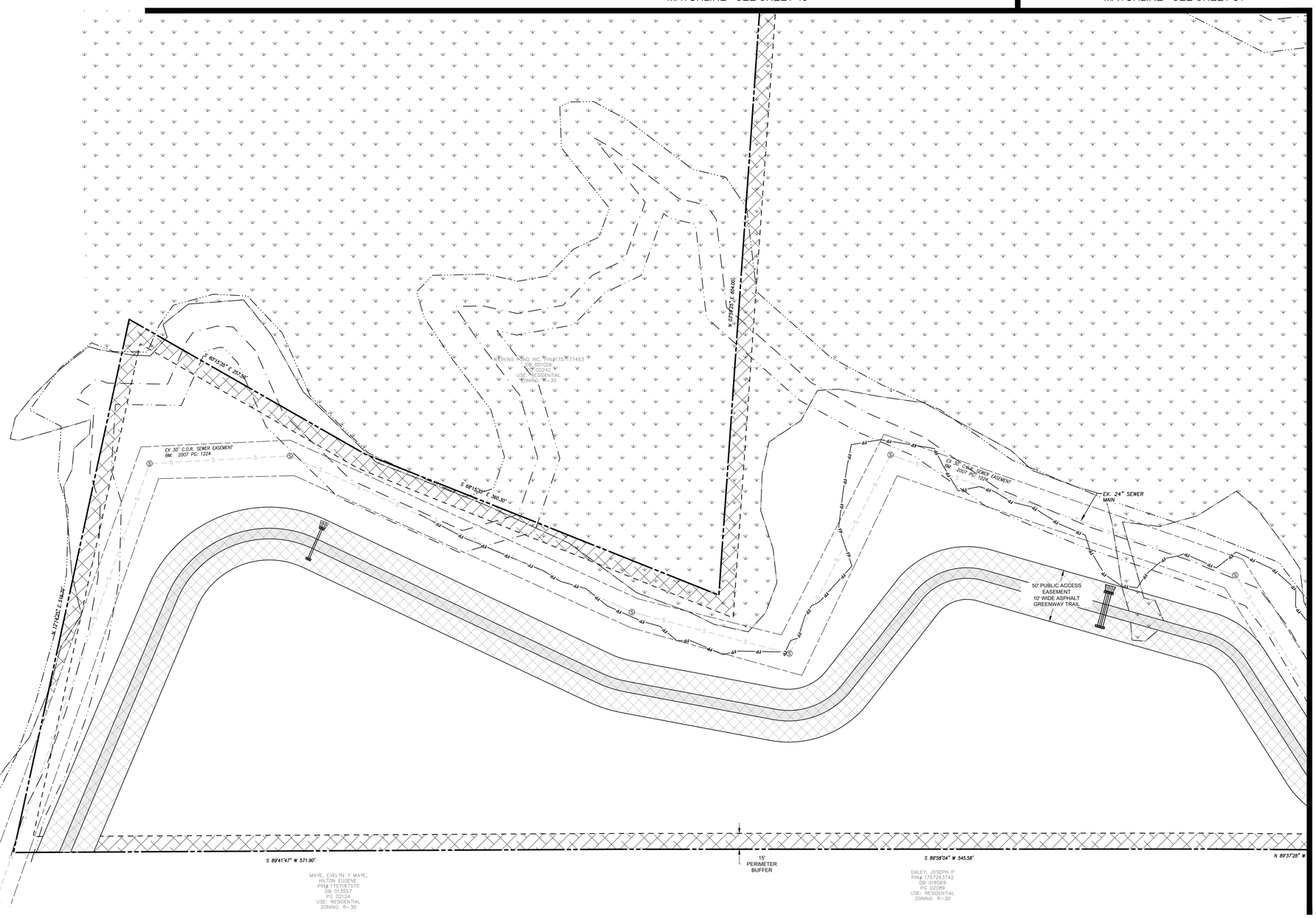
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# UTILITY PLAN SHEET 1 OF 6

Sheet #:

49

File Location: C:\Users\BryanHarris\Quantech\Quantech Engineering - Documents\Harris Creek Farm - Jonesville\Engineering_DWG\Construction Plans\48 Overall Utility Plan.dwg




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 | |

**Public**

WATER DISTRIBUTION / EXTENSION SYSTEM

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City of Raleigh
Public Utilities DepartmentPermit # _____

**Public**

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City of Raleigh
Public Utilities DepartmentPermit # _____

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
15000 Weston Parkway
Cary, N.C. 27513
(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

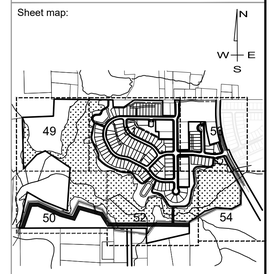
Rolesville
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Est. 1837

Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517

**CID-25-03 (PSP-24-05)**

Other Consultants

Sheet map:




Seal:

NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A. HARRIS

Bryan Harris
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# HARRIS CREEK FARMS

CID-25-03

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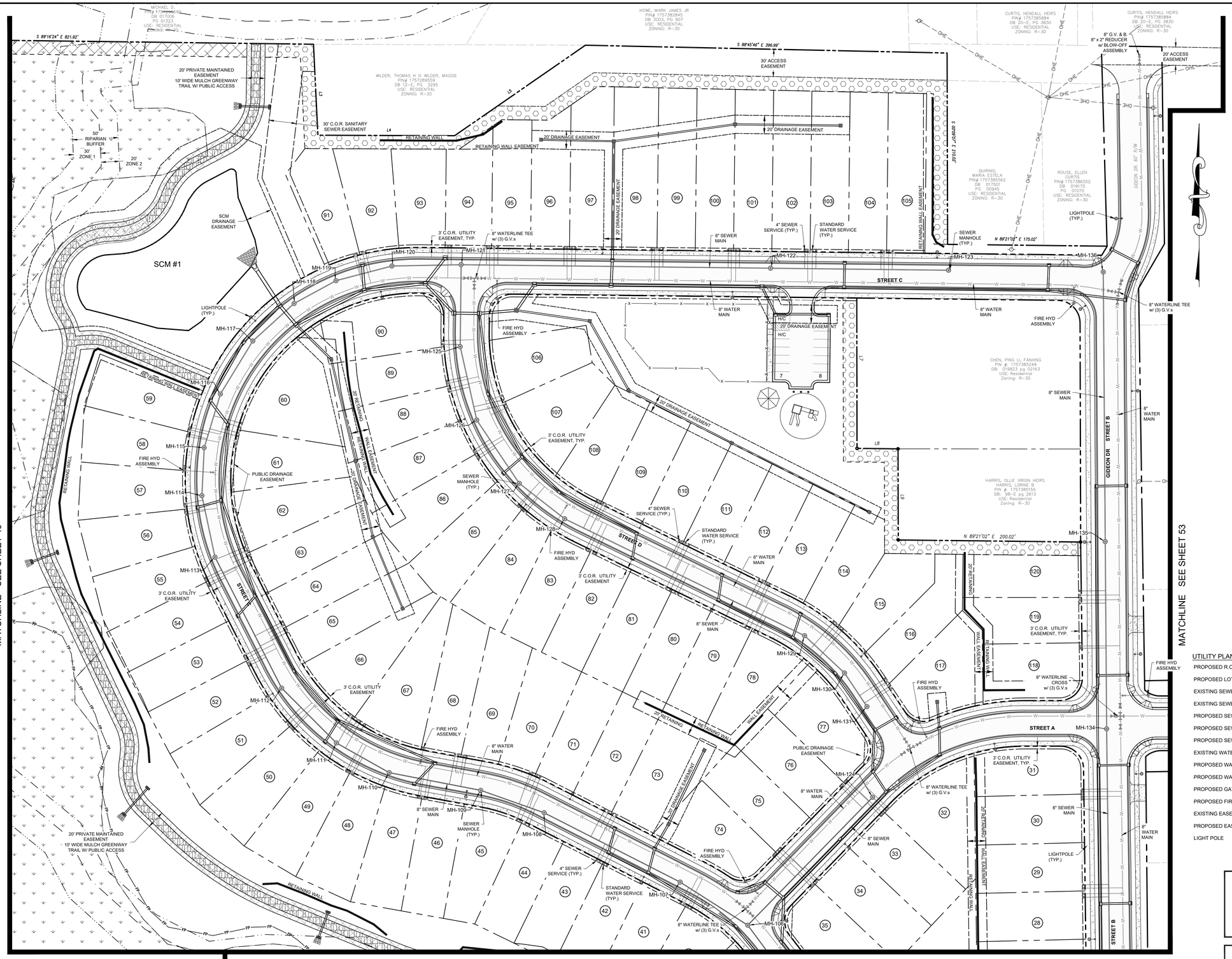
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## UTILITY PLAN SHEET 2 OF 6

Sheet #:

50

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9. REPEAT Please show driveway locations for individual lots to check for conflicts. This applies to all utility sheets.

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

**Public**
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City of Raleigh
Public Utilities DepartmentPermit # _____

**Public**
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City of Raleigh
Public Utilities DepartmentPermit # _____

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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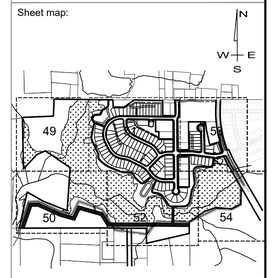
Engineer
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15000 Weston Parkway
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(919) 996-9455

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-25-03 (PSP-24-05)

Other Consultants


Sheet map:




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Reason: I have reviewed this document
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# HARRIS CREEK FARMS

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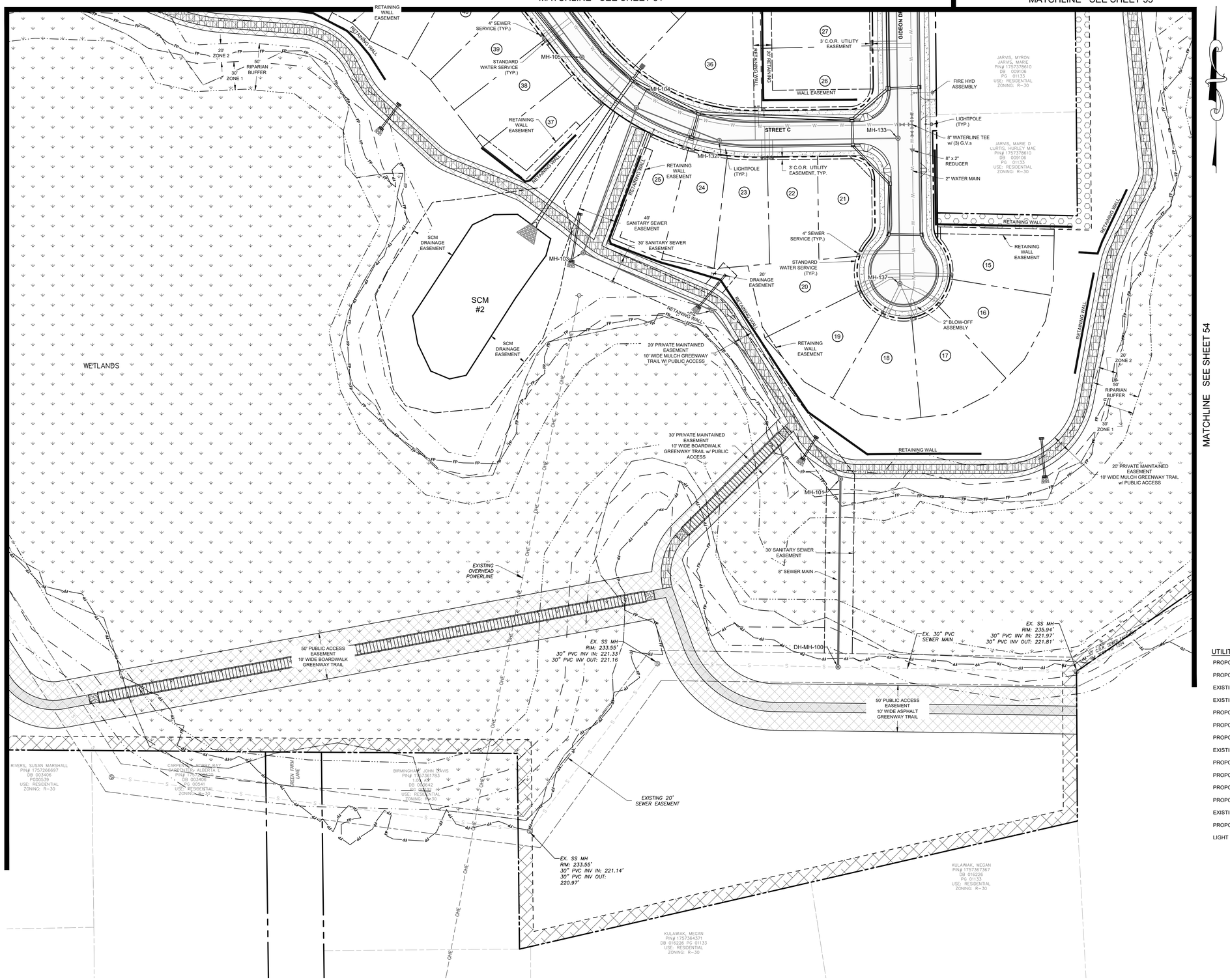
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## UTILITY PLAN SHEET 3 OF 6

Sheet #:

51

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## 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
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- PROPOSED EASEMENT
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City of Raleigh
Public Utilities DepartmentPermit # _____

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City of Raleigh
Public Utilities DepartmentPermit # _____

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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Surveyor

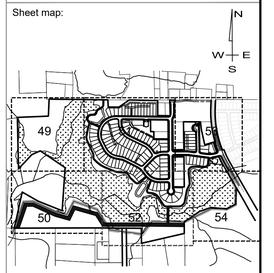
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Jurisdiction / Municipality

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Town of Rolesville
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Other Consultants

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# HARRIS CREEK FARMS

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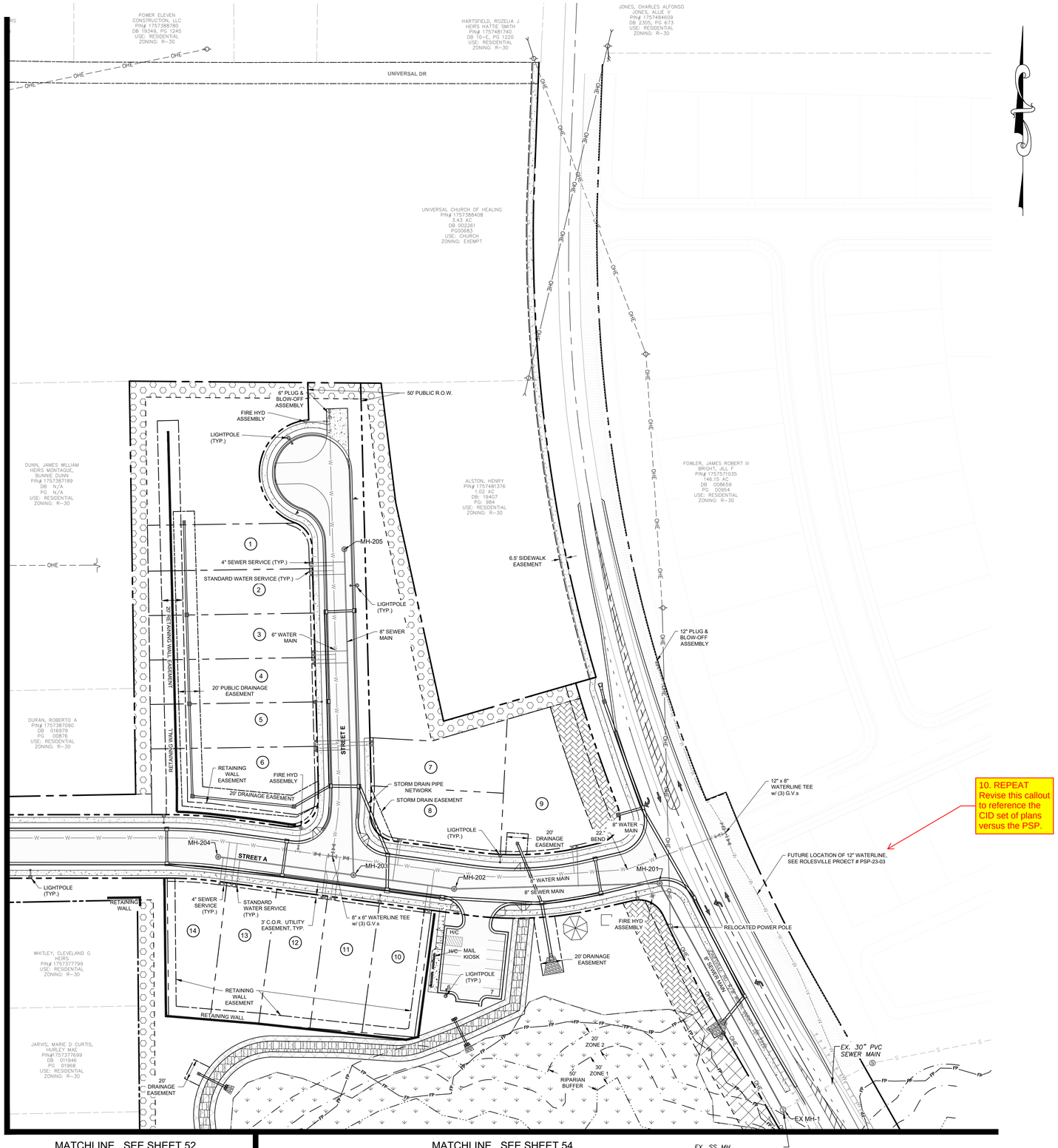
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|---|---|---|
| 1 | 02Sep2025 | Town of Rolesville Planning Dept. comments |

Sheet Title:

## UTILITY PLAN SHEET 4 OF 6

Sheet #:

52




UTILITY PLAN LEGEND

| | |
|---|---|
| PROPOSED R.O.W. | |
| PROPOSED LOT LINE | |
| EXISTING SEWER LINE | S |
| EXISTING SEWER MANHOLE | Ⓢ |
| PROPOSED SEWER LINE | S |
| PROPOSED SEWER MANHOLE | Ⓢ |
| 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

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(IN FEET)

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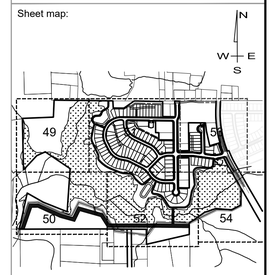
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Sheet Title:

UTILITY PLAN
SHEET 5 OF 6

Sheet #:

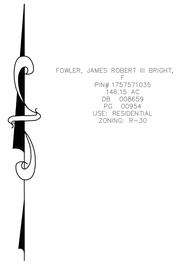
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MATCHLINE SEE SHEET 53

MATCHLINE SEE SHEET 52




UTILITY PLAN LEGEND

- PROPOSED R.O.W.
- PROPOSED LOT LINE
- EXISTING SEWER LINE
- EXISTING SEWER MANHOLE
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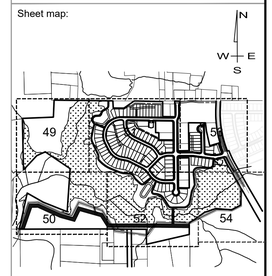
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Sheet map:




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Sheet Title:

UTILITY PLAN
SHEET 6 OF 6

Sheet #:

54

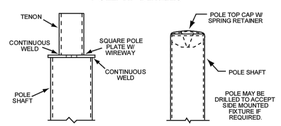
File Location: C:\Users\BryanHarris\Quantech\Quantech Engineering - Documents\Harris Creek Farm - Jonesville\Engineering_DWG\Construction Plans\48 Overall Utility Plan.dwg

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

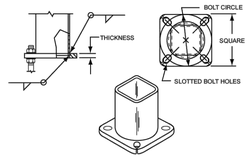
## FEATURES AND SPECIFICATIONS

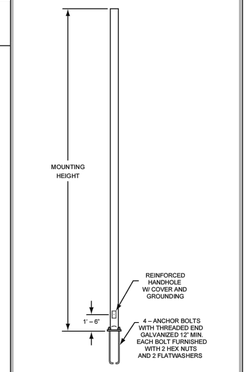
## AREA LIGHTING
POLES
SQUARE STRAIGHT STEEL POLES

### POLE TIP DETAILS




### POLE BASE DETAILS




## ORDERING INFORMATION

| Nominal Mounting Height (ft) | Catalog Number | Shaft | | | Pole Base | | | Maximum Loading | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Base O.D. (in) | Wall Thk. (ga) | Gross Weight (lbs) | Bolt Circle Range* | Plate Width (in) | Plate Thk. (in) | 90MPH EPA (ft²) | 100MPH EPA (ft²) | 110MPH EPA (ft²) | 120MPH EPA (ft²) |
| 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.


**ATLAS LIGHTING PRODUCTS, INC.**
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 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Base O.D. (in) | Wall Thk. (ga) | Gross Weight (lbs) | Bolt Circle Range* | Plate Width (in) | Plate Thk. (in) | 90MPH EPA (ft²) | 100MPH EPA (ft²) | 110MPH EPA (ft²) | 120MPH EPA (ft²) |
| 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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L

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

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

### 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)

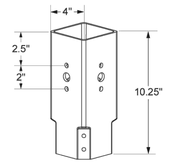
**Overall Depth:**
4" (10.16 cm)



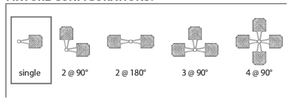
### ORDERING INFORMATION:

| 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.


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## Eagle Series
2nd Generation LED Site Lighter

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

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
*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

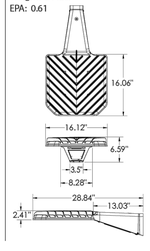
**Reduced Glare:**
Positioning of the LED modules within the housing result in light directed to desired locations and reduces offensive light.

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

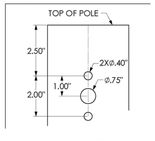
**Warranty:** Five-year limited warranty

### 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.**

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


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*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.

## 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 Delivered Lumens | 3000K CCT Efficacy (LPW) | 4000K CCT Delivered Lumens | 4000K CCT Efficacy (LPW) | 4500K CCT Delivered Lumens | 4500K CCT Efficacy (LPW) | 5000K CCT Delivered Lumens | 5000K CCT Efficacy (LPW) | Wattage |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | |


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

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File Location: C:\Users\BryanHarris\Quantech\Quantech Engineering - Documents\Harris Creek Farm - Jonesville\Engineering_DWG\Construction Plans\48 Overall Utility Plan.dwg

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INNOVATIVE SOLUTIONS | ENGINEERING THE FUTURE
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15000 Weston Parkway
Cary, N.C. 27513
(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-25-03** (PSP-24-05)

Other Consultants

Sheet map:

Seal:
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 53676 BRYAN A. HARRIS
Bryan Harris
Digitally signed by Bryan Harris
DN: CN=Bryan Harris, E=BryanH@QuantechEng.com, O=Quantech Engineering LLP, C=US
Reason: I have reviewed this document
Date: 2025.09.03 16:52:19-04'00'

FINAL DRAWING - FOR REVIEW PURPOSES ONLY

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File Name: 48 Overall Utility Plan.dwg

Last Saved by: BryanHarris
Drawn by: TAN

Project:
# HARRIS CREEK FARMS
CID-25-03

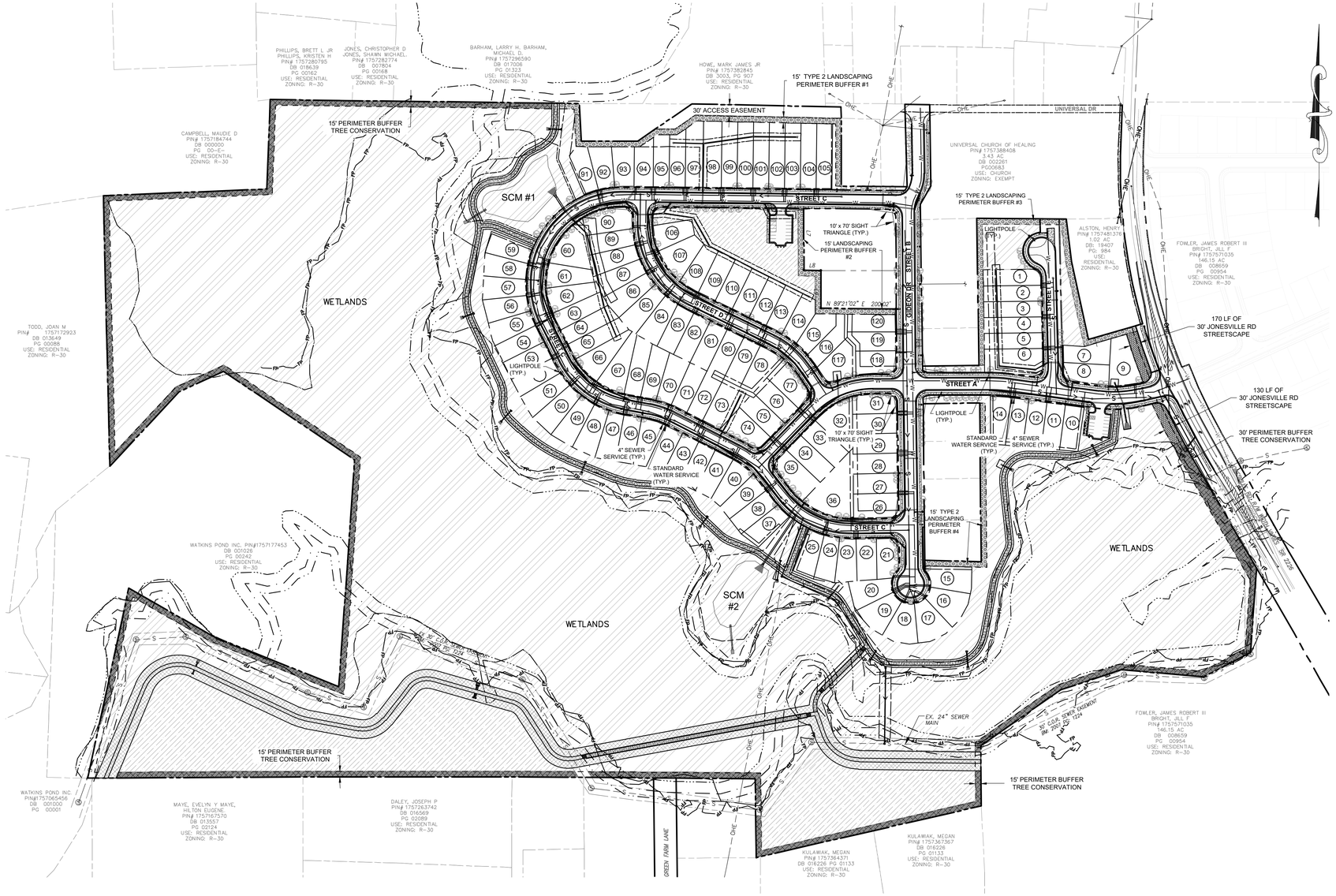
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REVISIONS

| No. | Date | Description |
|---|---|---|
| 1 | 02Sep2025 | Town of Rolesville Planning Dept. comments |

Sheet Title:
# UTILITY DETAILS

Sheet #:
55




## 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.

## 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

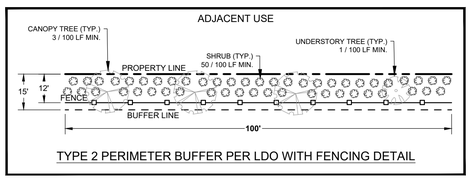
## PLANTING CALCULATIONS

| | |
|---|---|
| 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<br>1,170 LF / 100 = 11.7 x (1) = 12 UNDERSTORY TREES<br>1,170 LF / 100 = 11.7 x (50) = 585 SHRUBS |
| #2 | 560 LF / 100 = 5.6 x (3) = 17 CANOPY TREES<br>560 LF / 100 = 5.6 x (1) = 6 UNDERSTORY TREES<br>560 LF / 100 = 5.6 x (50) = 280 SHRUBS |
| #3 | 1,220 LF / 100 = 12.2 x (3) = 37 CANOPY TREES<br>1,220 LF / 100 = 12.2 x (1) = 13 UNDERSTORY TREES<br>1,220 LF / 100 = 12.2 x (50) = 610 SHRUBS |
| #4 | 830 LF / 100 = 8.3 x (3) = 25 CANOPY TREES<br>830 LF / 100 = 8.3 x (1) = 9 UNDERSTORY TREES<br>830 LF / 100 = 8.3 x (50) = 415 SHRUBS |
| PERIMETER BUFFER TOTALS (REQUIRED) | 115 CANOPY TREES<br>40 UNDERSTORY TREES<br>1,890 SHRUBS |
| PERIMETER BUFFER TOTALS (PROPOSED) | 115 CANOPY TREES<br>40 UNDERSTORY TREES<br>1,890 SHRUBS |
| INTERNAL ROAD STREETSCAPE (REQUIRED / STREET) | |
| * STREET A | 1,125 LF / 60 = 18.75 x (1) = 19<br>19 / SIDE = 38 CANOPY TREES<br>(OR 76 UNDERSTORY TREES) |
| STREET B | 1,245 LF / 60 = 20.75 x (1) = 21<br>21 / SIDE = 42 CANOPY TREES<br>(OR 84 UNDERSTORY TREES) |
| STREET C | 2,360 LF / 60 = 39.33 x (1) = 40<br>40 / SIDE = 80 CANOPY TREES<br>(OR 160 UNDERSTORY TREES) |
| STREET D | 705 LF / 60 = 11.75 x (1) = 12<br>12 / SIDE = 24 CANOPY TREES<br>(OR 48 UNDERSTORY TREES) |
| STREET E | 370 LF / 60 = 6.17 x (1) = 7<br>7 / SIDE = 14 CANOPY TREES<br>(OR 28 UNDERSTORY TREES) |
| INTERNAL ROAD TOTALS (REQUIRED) | 198 TREES |
| INTERNAL ROAD TOTALS (PROPOSED) | 198 TREES |

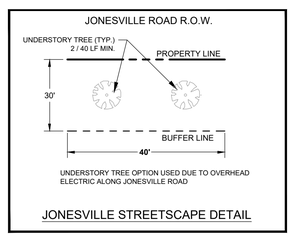
* STREET "A" FROM JONESVILLE ROAD TO THE INTERSECTION OF STREET "B" (GIDEON DR.) IS A COLLECTOR ROAD AND WILL HAVE A 15' WIDE STREETSCAPE. THE REMAINDER OF STREET "A" AND ALL OTHER INTERNAL ROADS ARE LOCAL ROADS AND WILL HAVE A 10' WIDE STREETSCAPE.

## TREE / SHRUB LIST

| Common Name | Scientific Name | Type | Height | Width | Light | Comments |
|---|---|---|---|---|---|---|
| Trident Maple | Acer buergerianum | Decid - Canopy | 30' - 40' | 25' - 35' | full-sun / part-sun / Shade | Green, turns red in Fall / Heat-tolerant / pH 5.6 - 6.5 |
| Yellow Buckeye | Aesculus flava | Decid - Canopy | 45' | 50' | full-sun / part-sun / Shade | Green, turns yellow in Fall / Heat-tolerant / pH 5.6 - 6.5 |
| Yellowwood | Cladrastis kentukea | Decid - Canopy | 35' | 40' | part-sun | white flowers, fragrant, pendulous, blooms in late spring or early summer and often blooms only every 2-3 years |
| 'Jane' Saucer Magnolia | Magnolia 'Jane' | Decid - Understory | 8' - 15' | 15' | full-sun / part-sun / Shade | Flowers purple |
| Devilwood | Osmanthus americanus | Decid - Understory | 12' - 20' | 8' - 12' | full-sun / part-sun / Shade | |
| Persian Parrotia | Parrotia persica | Decid - Understory | 30' | 30' | full-sun / part-sun / Shade | Flowers Orange |
| Arizona Cypress | Cupressus arizonica | Evergreen | 30' - 40' | 15' - 20' | full-sun | Will thin with competition; subject to canker and not long-lived; can become more open with age |
| 'James Swan' Holly | Ilex 'James Swan' | Evergreen | 20' - 30' | 10' - 18' | full-sun / part-sun / Shade | A dense form with large, dark green, evergreen leaves |
| Hearts-aBurstin | Euonymus americanus | Shrub | 4' - 6' | 3' - 4' | full-sun / part-sun / Shade | green w/ red flowering; Prefers well-drained soils; very pH- and soil-adaptable |
| Leaf Butterfly Bush | Buddleia alternifolia | Shrub | 10' - 20' | 10' - 20' | full-sun | green w/ purple flowering; preferring loose, loamy soil; |
| Clethra, Pepperbush | Clethra alnifolia | Shrub | 4' - 8' | 4' - 6' | full-sun / part-sun / Shade | green w/ white flowering; very adaptable; salt tolerant; easy to grow; forms suckering colonies |
| | | | | | | |
| | Shade trees shall be a minimum of 3" caliper and 10' tall at time of planting | | | | | |
| | Understory trees shall be a minimum of 1.5" caliper for single stem and 6' tall for both single and multi-stemmed trees at time of planting | | | | | |
| | Evergreen shall be a minimum of 1.5" caliper for single stem and 6' tall for both single and multi-stemmed trees at time of planting | | | | | |
| | Shrubs shall be a minimum of 18" tall at time of planting | | | | | |




TYPE 2 PERIMETER BUFFER PER LDO WITH FENCING DETAIL




JONESVILLE STREETSCAPE DETAIL

## PERIMETER BUFFER DETAILS

NTS

## LANDSCAPING PLAN LEGEND

EXISTING BOUNDARY
PROPOSED R.O.W.
PERIMETER BUFFER LINE
PERIMETER BUFFER TREE CONSERVATION
PERIMETER BUFFER LANDSCAPING PER LDO
CANOPY TREE
UNDERSTORY TREE
SHRUB
LIGHT POLE
PASSIVE OPEN SPACE
ACTIVE OPEN SPACE

GRAPHIC SCALE

150 0 75 150 300 600

(IN FEET)
1 inch = 150 ft

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Surveyor
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Bateman Civil Survey Company
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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-25-03 (PSP-24-05)

Other Consultants

Sheet map:

56. REPEAT Landscape plans must be signed/sealed by a Landscape Architect.

Seal:
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 53676 BRYAN A. HARRIS
Bryan Harris
Digitally signed by Bryan Harris
DN: CN=US, E=BryanH@QuantechEng.com, O=Quantech Engineering LLP, CN=Bryan Harris
I have reviewed this document
Date: 2025.09.03 16:52:20-04'00'

FINAL DRAWING - FOR REVIEW PURPOSES ONLY

Issued / Print Date: 2025-September-02 (16:59)
File Name: 56 Overall Landscaping Plan.dwg

Last Saved by: BryanHarris
Drawn by: TAN

Project:
HARRIS CREEK FARMS
CID-25-03

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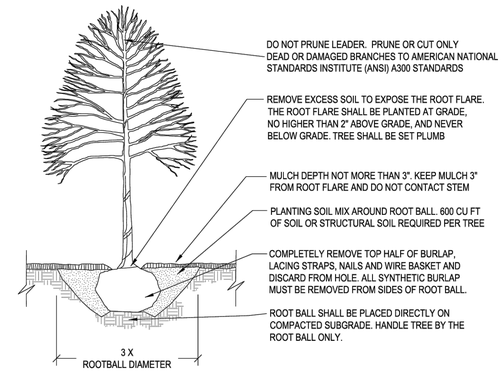
REVISIONS

| No. | Date | Description |
|---|---|---|
| 1 | 02Sep2025 | Town of Rolesville Planning Dept. comments |

Sheet Title:
OVERALL LANDSCAPING PLAN

Sheet #:
56

File Location: C:\Users\BryanHarris\Quantech\Quantech Engineering - Documents\Harris Creek Farm - Jonesville\Engineering_DWG\Construction Plans\56 Overall Landscaping Plan.dwg




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.

**CITY OF RALEIGH**
**STANDARD DETAIL**

| REVISIONS | DATE: 8/2020 | NOT TO SCALE |
|---|---|---|
| 10/2019 | | TREE PLANTING DETAIL |
| | | |
| | | |
| | | |
| | | **TPP-03** |

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
15000 Weston Parkway
Cary, N.C. 27513
(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-25-03** **(PSP-24-05)**

Other Consultants

Sheet map:

Seal:
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 53676 BRYAN A. HARRIS
Bryan Harris
Digitally signed by Bryan Harris
DN: CN=Bryan Harris, E=BryanH@QuantechEng.com, O=QuanTech Engineering LLP, OU=Bryan Harris
I have reviewed this document
Date: 2025.09.03 16:52:20-04'00'

FINAL DRAWING - FOR REVIEW PURPOSES ONLY

Issued / Print Date: 2025-September-02 (16:59)
File Name: 56 Overall Landscaping Plan.dwg

Last Saved by: BryanHarris
Drawn by: TAN

Project:

# HARRIS CREEK FARMS

CID-25-03

Issued for:
PROGRESS DRAWINGS
DO NOT USE FOR CONSTRUCTION

REVISIONS

| No. | Date | Description |
|---|---|---|
| 1 | 02Sep2025 | Town of Rolesville Planning Dept. comments |

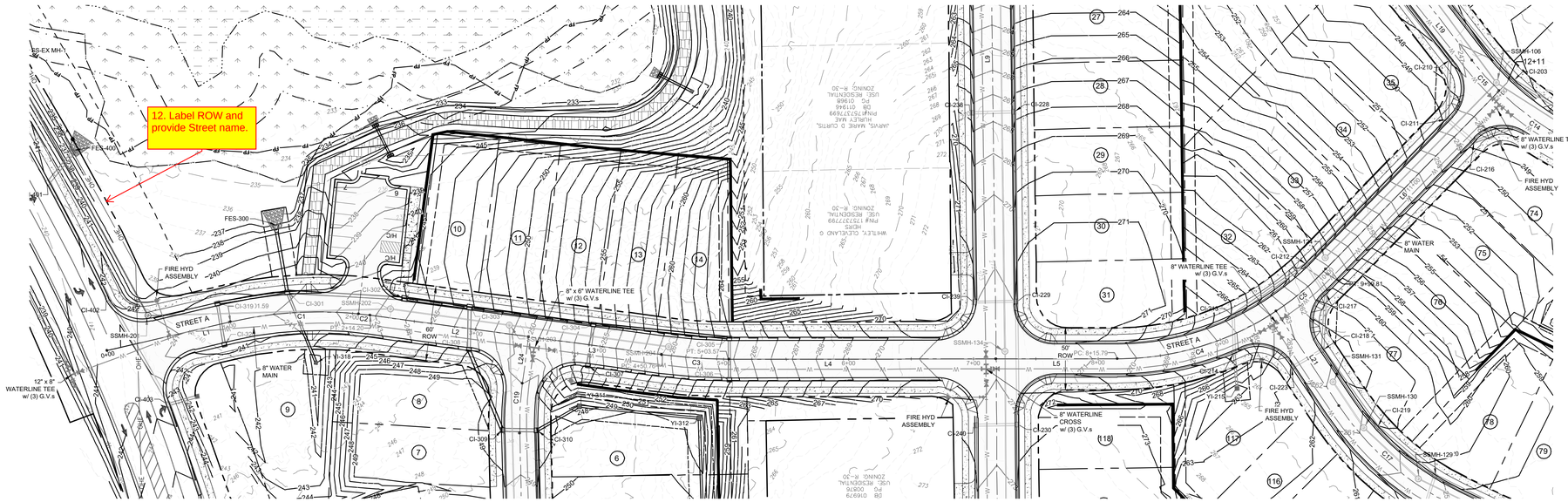
Sheet Title:

## LANDSCAPING DETAILS

Sheet #:

57

File Location: C:\Users\BryanHarris\Quantech\Quantech Engineering - Documents\Harris Creek Farm - Jonesville\Engineering_DWG\Construction Plans\56 Overall Landscaping Plan.dwg




## STREET "A" PLAN VIEW

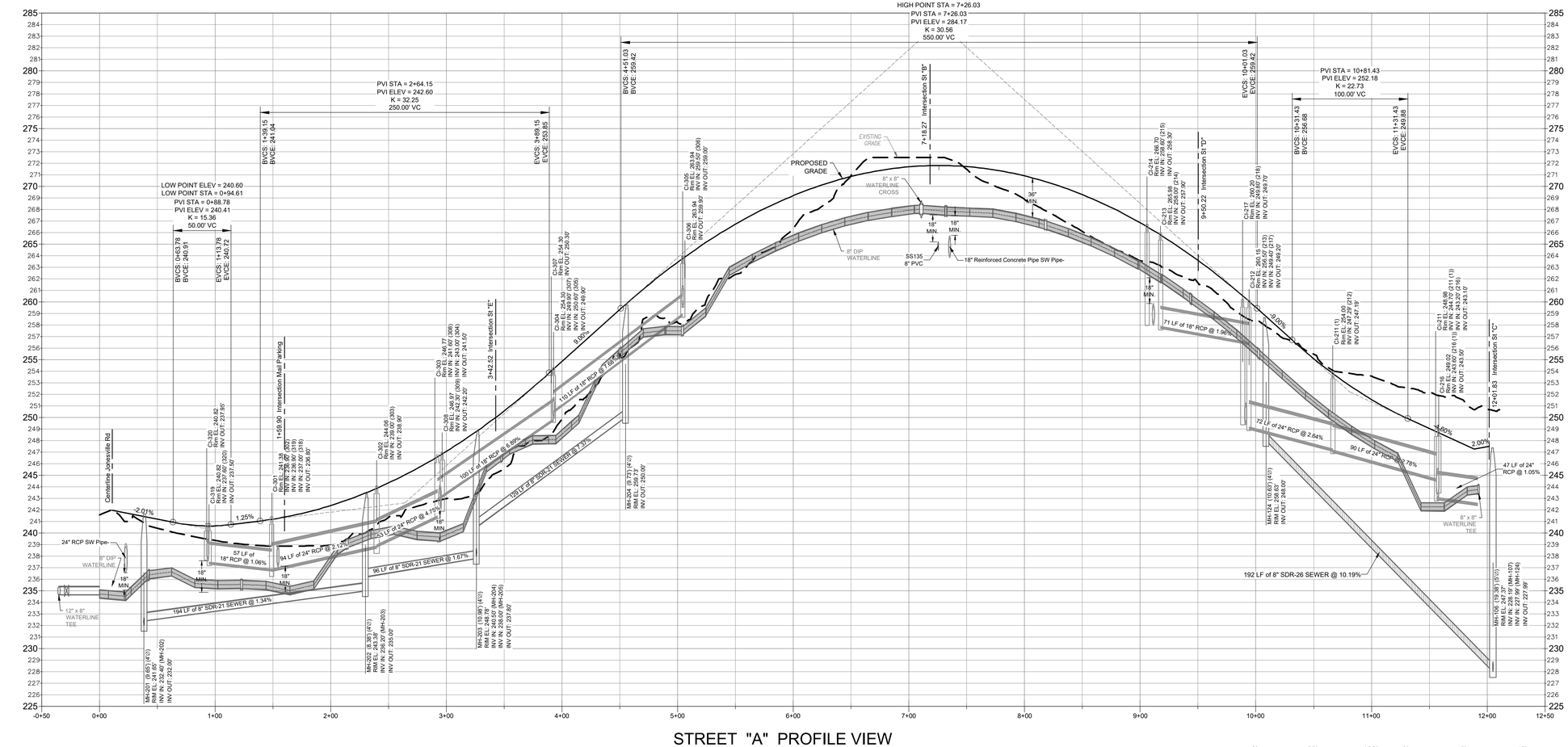
STA: STA: 0+00 - 7+00: 60' R.O.W. STA: 7+00 - 12+00: 50' R.O.W.

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)

1 inch = 50 ft




## STREET "A" PROFILE VIEW

HORZ 1" = 50'

VERT 1" = 5'

NOTES:

1. SEE SHEET 15 - SITE PLAN Data & Details FOR STREET CENTERLINE LINE AND CURVE DATA.

**Public**

WATER DISTRIBUTION / EXTENSION SYSTEM

The City of Raleigh consents to the connection and extension of the City's public water system as shown on this plan. The material and Construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.

City of Raleigh
Public Utilities DepartmentPermit # _____

**Public**

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City of Raleigh
Public Utilities DepartmentPermit # _____

N.C. UNDERGROUND UTILITIES

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A ONE CALL SYSTEM FOR COMMUNITY AND JOB SAFETY

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Engineer

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(919) 996-9455

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Issued / Print Date: 2025-September-02 (17:00)
File Name: 58 Street A Plan & Profile.dwg

Last Saved by: BryanHarris
Drawn by: TAN

Project:

# HARRIS CREEK FARMS

CID-25-03

Issued for:

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DO NOT USE FOR CONSTRUCTION

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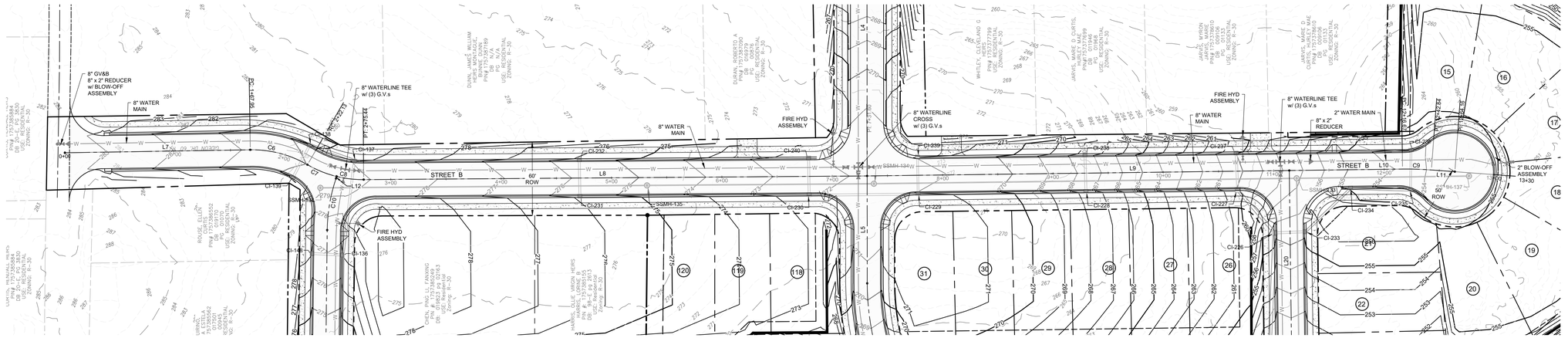
Sheet Title:

# STREET A PLAN & PROFILE

Sheet #:

# 58

File Location: C:\Users\BryanHarris\Quantech\Quantech Engineering - Documents\Harris Creek Farm - Jonesville\Engineering_DWG\Construction Plans\58 Street A Plan & Profile.dwg




## STREET "B" PLAN VIEW

60' R.O.W., 50' CUL De Sac R.O.W.

NOTES:

1. SEE SHEET 15 - SITE PLAN Data & Details FOR STREET CENTERLINE LINE AND CURVE DATA.

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft

**Public**
WATER DISTRIBUTION / EXTENSION SYSTEM

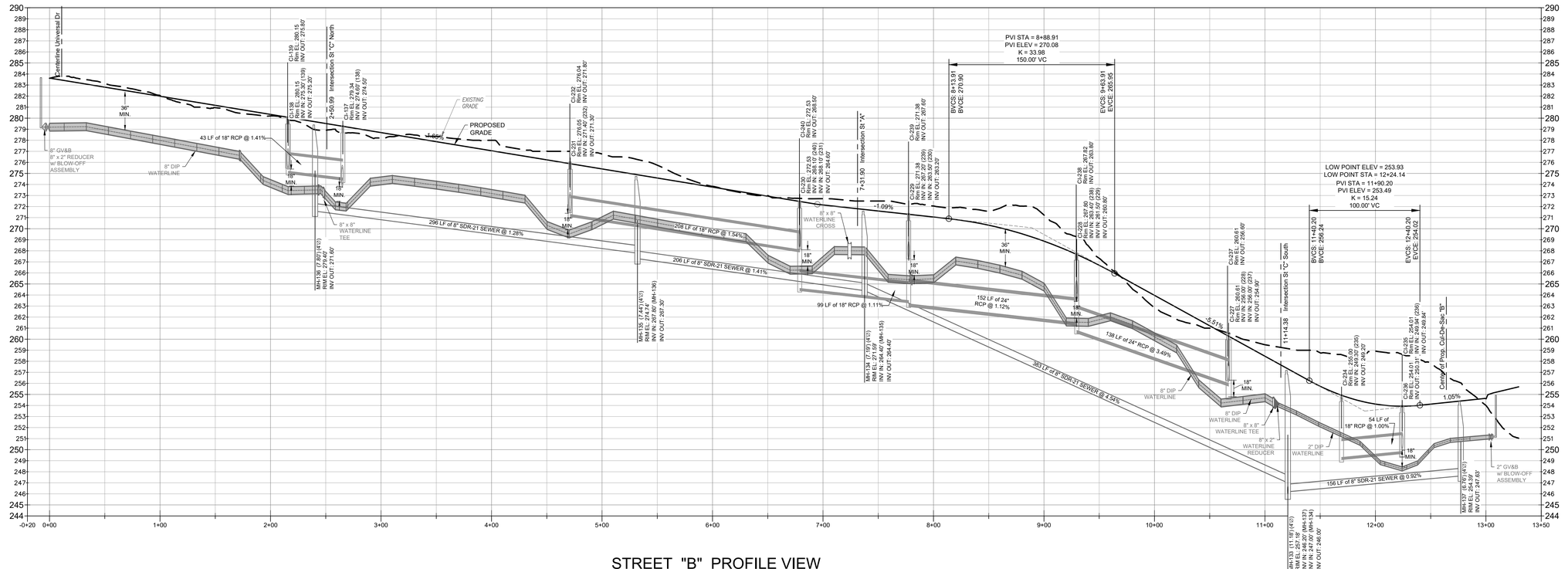
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City of Raleigh
Public Utilities DepartmentPermit # _____

**Public**
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City of Raleigh
Public Utilities DepartmentPermit # _____




## STREET "B" PROFILE VIEW

0' 50' 100'
HORZ 1" = 50'

0' 5' 10'
VERT 1" = 5'

N.C. UNDERGROUND UTILITIES
811 3 DAYS BEFORE DIGGING CALL TOLL FREE 811 or (800)632-4949
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Issued / Print Date: 2025-September-02 (17:00)
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Project:

# HARRIS CREEK FARMS

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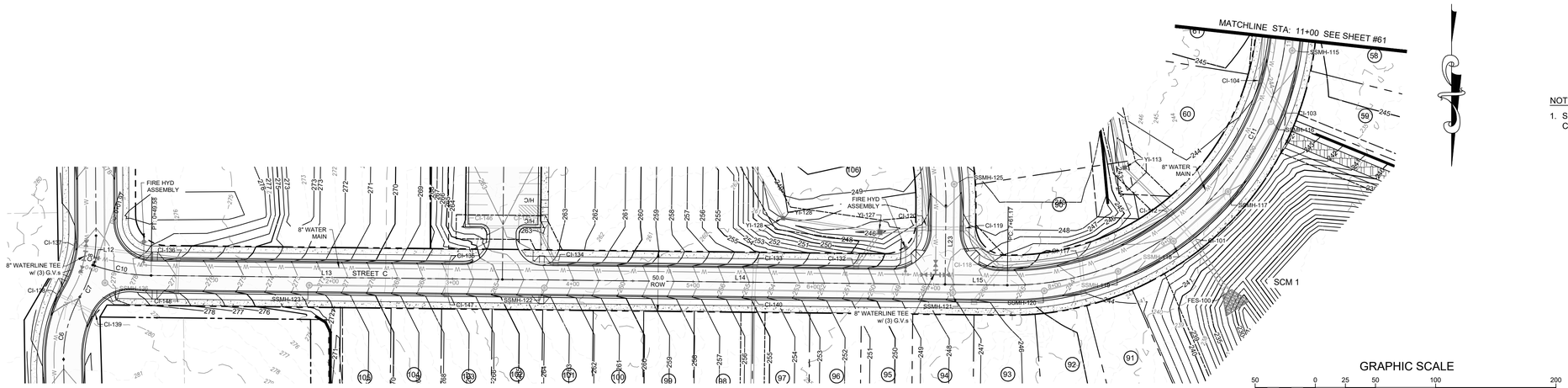
Sheet Title:

## STREET B PLAN & PROFILE

Sheet #:

59

File Location: C:\Users\BryanHarris\Quantech\Quantech Engineering - Documents\Harris Creek Farm - Jonesville\Engineering_DWG\Construction Plans\58 Street A Plan & Profile.dwg




STREET "C" PLAN VIEW STA: 0+00 - 11+00

50' R.O.W.

GRAPHIC SCALE

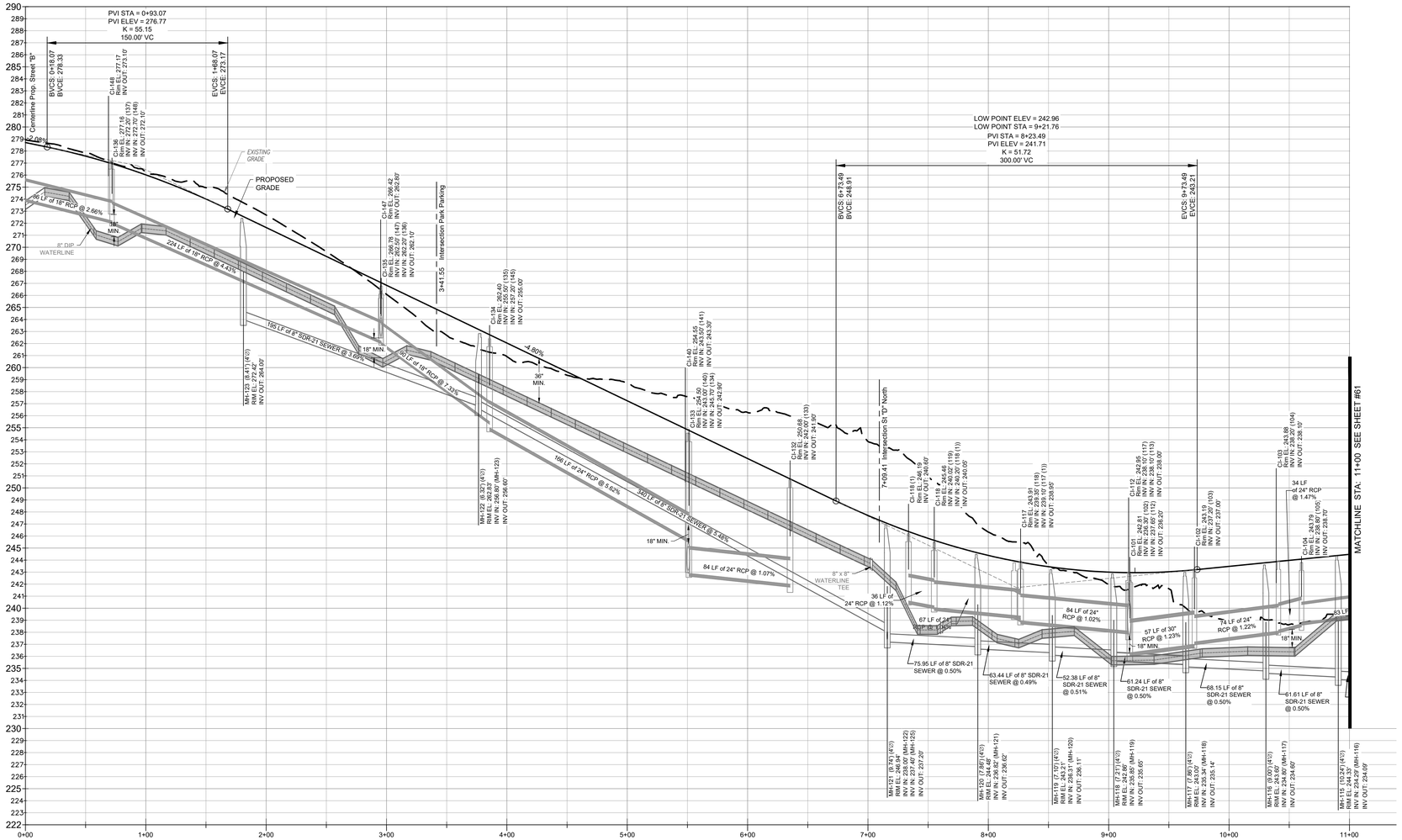
50 0 25 50 100 200

(IN FEET)

1 inch = 50 ft

NOTES:

1. SEE SHEET 15 - SITE PLAN Data & Details FOR STREET CENTERLINE LINE AND CURVE DATA.




STREET "C" PROFILE VIEW STA: 0+00 - 11+00

0' 50' 100'

HORZ 1" = 50'

0' 5' 10'

VERT 1" = 5'

**Public**

WATER DISTRIBUTION / EXTENSION SYSTEM

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City of Raleigh
Public Utilities DepartmentPermit # _____

**Public**

SEWER COLLECTION / EXTENSION SYSTEM

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City of Raleigh
Public Utilities DepartmentPermit # _____

N.C. UNDERGROUND UTILITIES

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Project:

# HARRIS CREEK FARMS

CID-25-03

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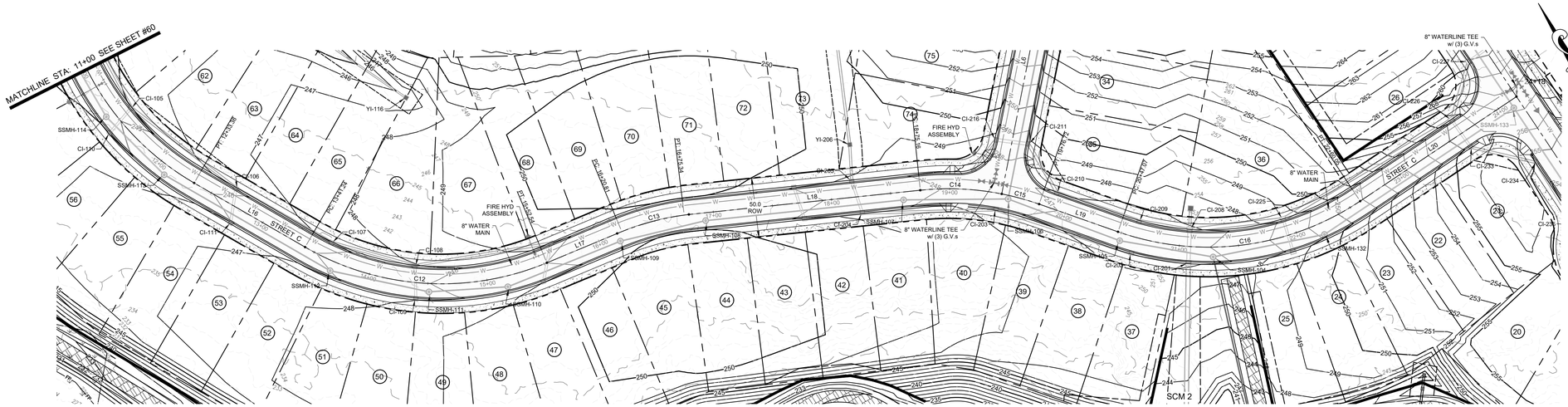
| No. | Date | Description |
|---|---|---|
| 1 | 02Sep2025 | Town of Rolesville Planning Dept. comments |

Sheet Title:

STREET C PLAN & PROFILE 0+00 - 11+00

Sheet #:

60




## STREET "C" PLAN VIEW STA: 11+00 - 24+50

60' R.O.W.

NOTES:

1. SEE SHEET 15 - SITE PLAN Data & Details FOR STREET CENTERLINE LINE AND CURVE DATA.

**Public**

WATER DISTRIBUTION / EXTENSION SYSTEM

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City of Raleigh
Public Utilities DepartmentPermit # _____

**Public**

SEWER COLLECTION / EXTENSION SYSTEM

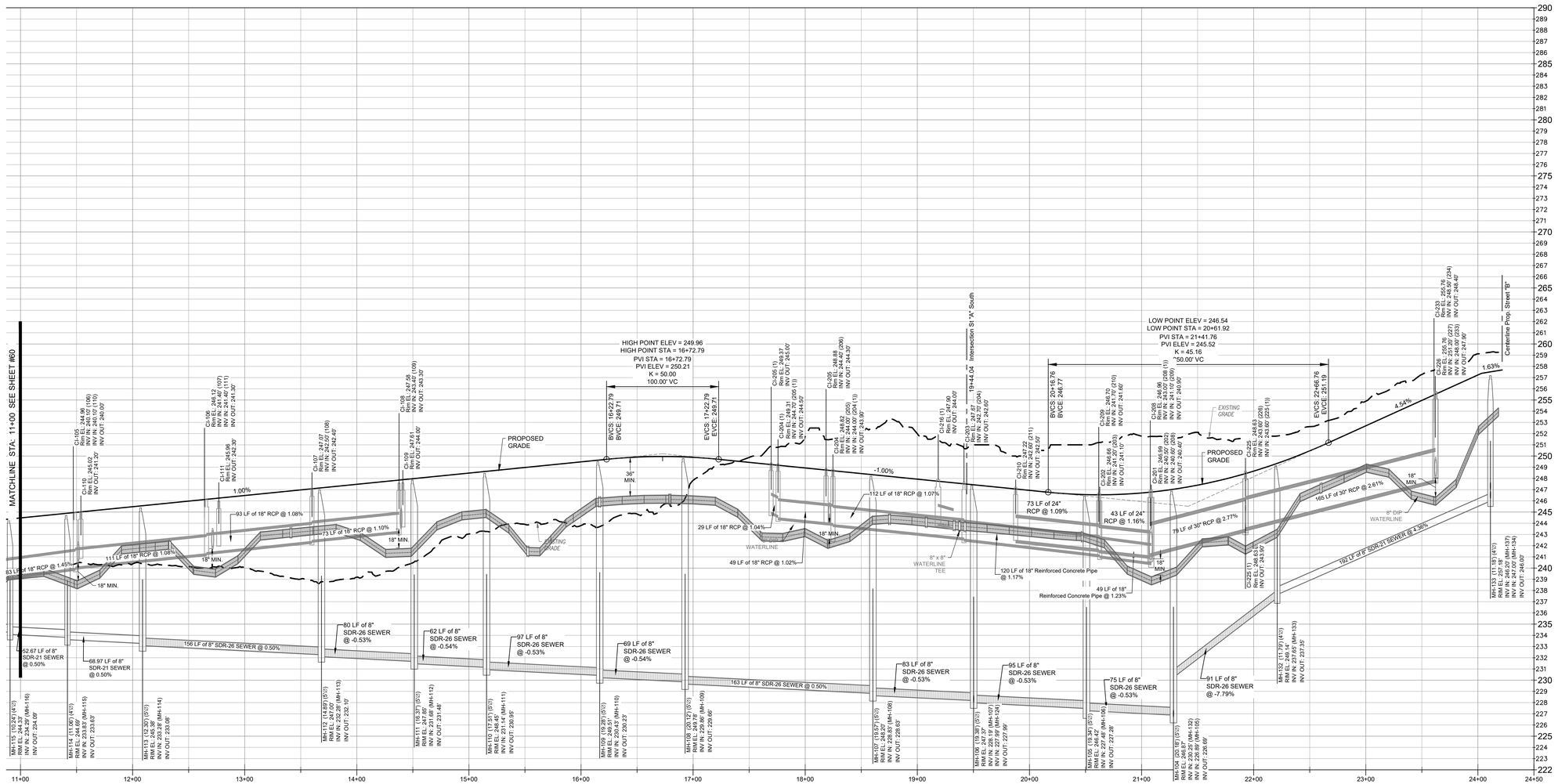
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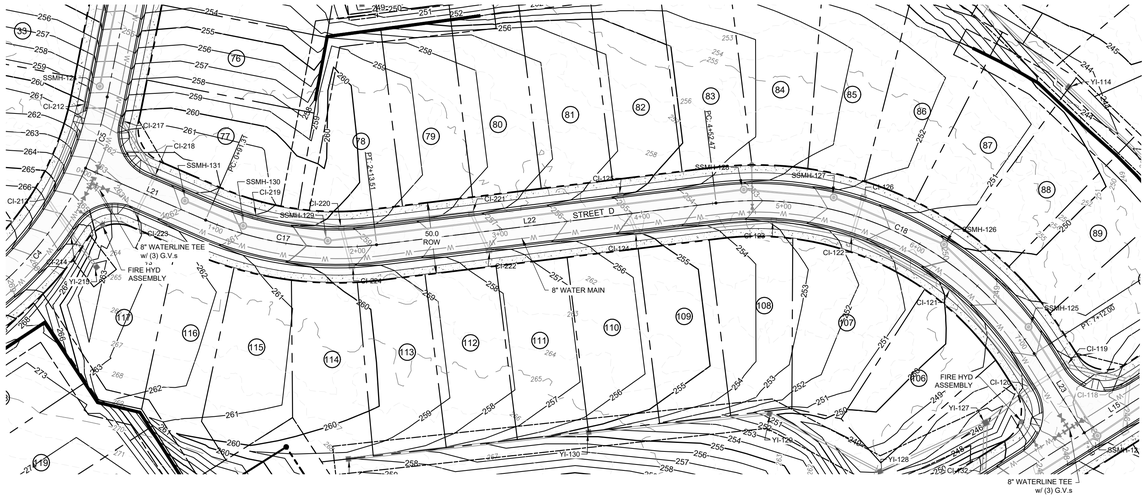
City of Raleigh
Public Utilities DepartmentPermit # _____

GRAPHIC SCALE

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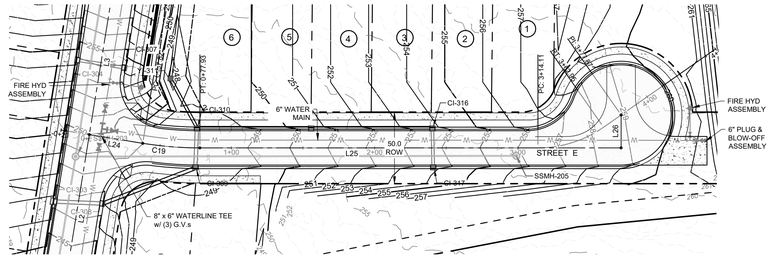
(IN FEET)
1 inch = 50 ft


MATCHLINE STA: 11+00 SEE SHEET #60
HIGH POINT ELEV = 249.96
HIGH POINT STA = 16+72.79
PVI STA = 16+72.79
PVI ELEV = 250.21
K = 50.00
100.00' VC
LOW POINT ELEV = 246.54
LOW POINT STA = 20+61.92
PVI STA = 21+41.76
PVI ELEV = 245.52
K = 45.16
50.00' VC
BVCS: 16+22.79
BVCE: 249.71
EVCS: 17+22.79
EVCE: 249.71
BVCS: 20+16.76
BVCE: 246.77
EVCS: 22+66.76
EVCE: 245.19
PROPOSED GRADE
EXISTING GRADE
Centerline Prop. Street "B"
-1.00%
1.00%
4.54%
1.63%
2.61%
2.77%
4.30%
36" MIN.
18" MIN.
15" MIN
8" DIP WATERLINE
8" x 8" WATERLINE TEE
93 LF of 18" RCP @ 1.08%
73 LF of 18" RCP @ 1.10%
111 LF of 18" RCP @ 1.08%
83 LF of 18" RCP @ 1.45%
29 LF of 18" RCP @ 1.04%
49 LF of 18" RCP @ 1.02%
112 LF of 18" RCP @ 1.07%
120 LF of 18" Reinforced Concrete Pipe @ 1.17%
73 LF of 24" RCP @ 1.09%
43 LF of 24" RCP @ 1.16%
49 LF of 18" Reinforced Concrete Pipe @ 1.23%
79 LF of 30" RCP @ 2.77%
165 LF of 30" RCP @ 2.61%
182 LF of 8" SDR-21 SEWER @ 4.30%
52.67 LF of 8" SDR-21 SEWER @ 0.50%
68.97 LF of 8" SDR-21 SEWER @ 0.50%
156 LF of 8" SDR-26 SEWER @ 0.50%
80 LF of 8" SDR-26 SEWER @ -0.53%
62 LF of 8" SDR-26 SEWER @ -0.54%
97 LF of 8" SDR-26 SEWER @ -0.53%
69 LF of 8" SDR-26 SEWER @ -0.54%
163 LF of 8" SDR-26 SEWER @ 0.50%
83 LF of 8" SDR-26 SEWER @ -0.53%
95 LF of 8" SDR-26 SEWER @ -0.53%
75 LF of 8" SDR-26 SEWER @ -0.53%
91 LF of 8" SDR-26 SEWER @ -7.79%
MH-115 (10.24') (4'O) RIM EL: 244.27 INV IN: 234.29' (MH-116) INV OUT: 234.09'
MH-114 (11.06') (4'O) RIM EL: 244.89' INV IN: 233.83' (MH-115) INV OUT: 233.63'
MH-113 (12.30') (5'O) RIM EL: 246.38' INV IN: 233.28' (MH-114) INV OUT: 233.08'
MH-112 (14.89') (5'O) RIM EL: 247.00' INV IN: 232.58' (MH-113) INV OUT: 232.10'
MH-111 (16.37') (5'O) RIM EL: 247.53' INV IN: 231.68' (MH-112) INV OUT: 231.48'
MH-110 (17.57') (5'O) RIM EL: 248.45' INV IN: 231.14' (MH-111) INV OUT: 230.66'
MH-109 (19.28') (5'O) RIM EL: 249.76' INV IN: 230.43' (MH-110) INV OUT: 230.23'
MH-108 (20.12') (5'O) RIM EL: 249.76' INV IN: 229.86' (MH-109) INV OUT: 229.66'
MH-107 (19.37') (5'O) RIM EL: 248.57' INV IN: 228.83' (MH-108) INV OUT: 228.63'
MH-106 (19.39') (5'O) RIM EL: 248.59' INV IN: 228.19' (MH-107) INV IN: 227.99' (MH-24) INV OUT: 227.99'
MH-105 (19.34') (5'O) RIM EL: 248.42' INV IN: 227.48' (MH-106) INV OUT: 227.28'
MH-104 (20.18') (5'O) RIM EL: 249.57' INV IN: 226.89' (MH-105) INV OUT: 226.69'
MH-103 (11.79') (4'O) RIM EL: 249.14' INV IN: 237.65' (MH-133) INV OUT: 237.35'
MH-133 (11.19') (4'O) RIM EL: 248.39' INV IN: 246.03' (MH-137) INV OUT: 245.73'
MH-137 (11.19') (4'O) RIM EL: 248.39' INV IN: 246.03' (MH-134) INV OUT: 245.60'
MH-132 (11.99') (4'O) RIM EL: 248.63' INV IN: 243.80' (229) INV OUT: 243.50'
CI-236 (1) Rim EL: 248.63 INV IN: 243.80' (229) INV OUT: 243.50'
CI-235 Rim EL: 255.76 INV IN: 251.20' (227) INV OUT: 247.90'
CI-234 Rim EL: 255.76 INV IN: 248.50' (234) INV OUT: 248.46'
CI-233 Rim EL: 255.76 INV IN: 248.50' (234) INV OUT: 247.90'
CI-232 Rim EL: 255.76 INV IN: 248.50' (234) INV OUT: 247.90'
CI-231 Rim EL: 255.76 INV IN: 248.50' (234) INV OUT: 248.46'
CI-230 Rim EL: 255.76 INV IN: 248.50' (234) INV OUT: 247.90'
CI-229 Rim EL: 255.76 INV IN: 248.50' (234) INV OUT: 247.90'
CI-228 Rim EL: 255.76 INV IN: 251.20' (227) INV OUT: 247.90'
CI-227 Rim EL: 255.76 INV IN: 251.20' (227) INV OUT: 247.90'
CI-226 Rim EL: 255.76 INV IN: 248.50' (234) INV OUT: 248.46'
CI-225 Rim EL: 255.76 INV IN: 248.50' (234) INV OUT: 247.90'
CI-224 Rim EL: 255.76 INV IN: 248.50' (234) INV OUT: 248.46'
CI-223 Rim EL: 255.76 INV IN: 248.50' (234) INV OUT: 247.90'
CI-222 Rim EL: 255.76 INV IN: 248.50' (234) INV OUT: 247.90'
CI-221 Rim EL: 255.76 INV IN: 248.50' (234) INV OUT: 248.46'
CI-220 Rim EL: 255.76 INV IN: 248.50' (234) INV OUT: 247.90'
CI-219 Rim EL: 255.76 INV IN: 248.50' (234) INV OUT: 247.90'
CI-218 Rim EL: 255.76 INV IN: 248.50' (234) INV OUT: 248.46'
CI-217 Rim EL: 255.76 INV IN: 248.50' (234) INV OUT: 247.90'
CI-216 Rim EL: 247.90 INV OUT: 244.00'
CI-215 Rim EL: 247.90 INV OUT: 244.00'
CI-214 Rim EL: 247.90 INV OUT: 244.00'
CI-213 Rim EL: 247.90 INV OUT: 244.00'
CI-212 Rim EL: 247.90 INV OUT: 244.00'
CI-211 Rim EL: 247.90 INV OUT: 244.00'
CI-210 Rim EL: 247.90 INV OUT: 244.00'
CI-209 Rim EL: 247.70 INV IN: 242.70' (204) INV OUT: 241.60'
CI-208 Rim EL: 246.96 INV IN: 243.00' (208) INV OUT: 242.90'
CI-207 Rim EL: 247.22 INV IN: 242.66' (211) INV OUT: 242.56'
CI-206 Rim EL: 247.70 INV IN: 242.70' (210) INV OUT: 241.60'
CI-205 Rim EL: 248.48 INV IN: 244.82' (206) INV OUT: 244.30'
CI-204 (1) Rim EL: 249.37 INV IN: 244.70' (200) INV OUT: 244.50'
CI-204 Rim EL: 248.83 INV IN: 244.00' (203) INV OUT: 243.80'
CI-203 Rim EL: 247.67 INV IN: 242.70' (204) INV OUT: 242.60'
CI-202 Rim EL: 245.66 INV IN: 241.16' (201) INV OUT: 241.10'
CI-201 Rim EL: 246.89 INV IN: 240.50' (202) INV IN: 240.60' (208) INV OUT: 240.40'
CI-200 Rim EL: 247.22 INV IN: 242.66' (211) INV OUT: 242.56'
CI-111 Rim EL: 245.96 INV IN: 241.46' (107) INV IN: 241.56' (111) INV OUT: 241.30'
CI-110 Rim EL: 245.02 INV IN: 240.10' (105) INV OUT: 241.20'
CI-109 Rim EL: 247.61 INV IN: 243.91' (108) INV OUT: 244.00'
CI-108 Rim EL: 247.58 INV IN: 243.91' (109) INV OUT: 243.30'
CI-107 Rim EL: 247.07 INV IN: 242.57' (108) INV OUT: 242.40'
CI-106 Rim EL: 246.12 INV IN: 241.40' (107) INV IN: 241.50' (111) INV OUT: 241.30'
CI-105 Rim EL: 244.06 INV IN: 240.10' (105) INV IN: 240.20' (110) INV OUT: 240.00'
SSMH-114
SSMH-115
SSMH-116
SSMH-117
SSMH-118
SSMH-119
SSMH-120
SSMH-121
SSMH-122
SSMH-123
SSMH-124
SSMH-125
SSMH-126
SSMH-127
SSMH-128
SSMH-129
SSMH-130
SSMH-131
SSMH-132
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SSMH-134
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SSMH-143
SSMH-144
SSMH-145
SSMH-146
SSMH-147
SSMH-148
SSMH-149
SSMH-150
SSMH-151
SSMH-152
SSMH-153




## STREET "D" PLAN VIEW

50' R.O.W.




## STREET "E" PLAN VIEW

50' R.O.W.

NOTES:

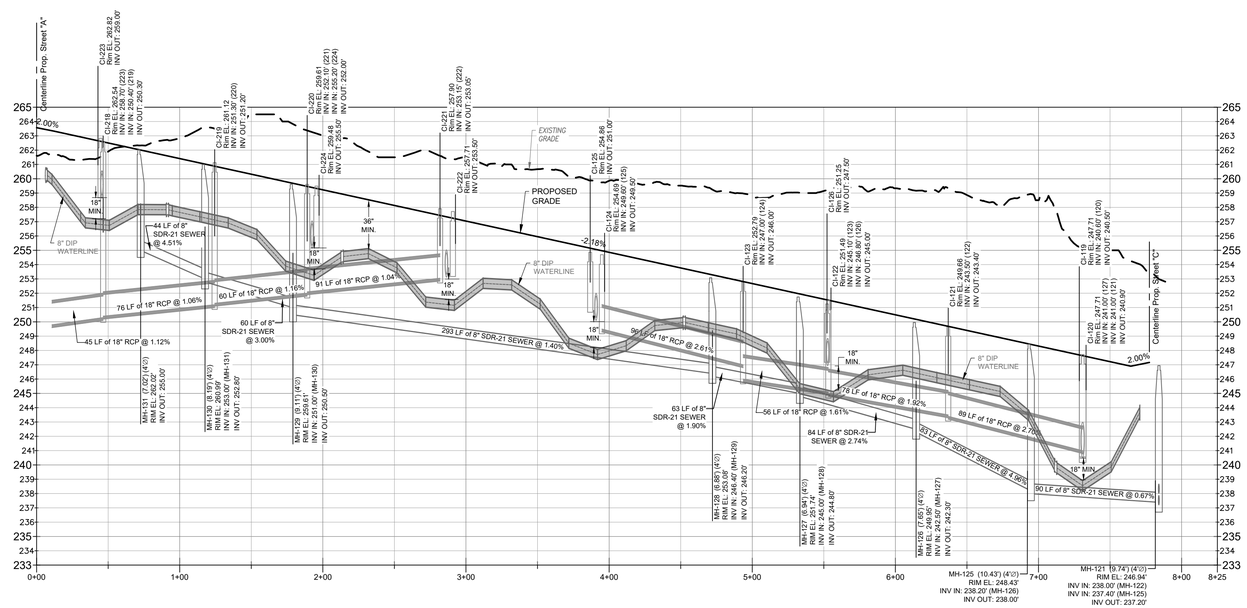
1. SEE SHEET 15 - SITE PLAN Data & Details FOR STREET CENTERLINE LINE AND CURVE DATA.

GRAPHIC SCALE

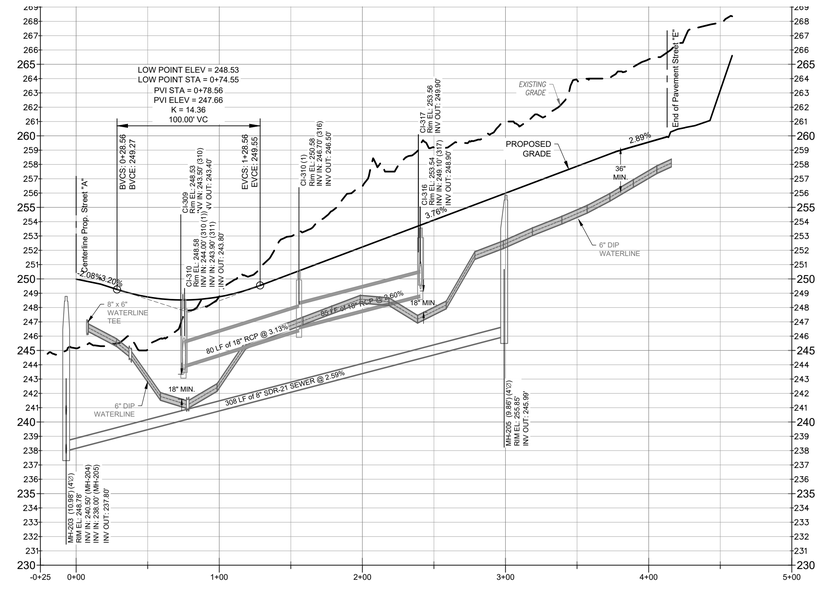
50 0 25 50 100 200

(IN FEET)

1 inch = 50 ft




## STREET "D" PROFILE VIEW




## STREET "E" PROFILE VIEW

0' 50' 100'

HORZ 1" = 50'

0' 5' 10'

VERT 1" = 5'

**Public**

WATER DISTRIBUTION / EXTENSION SYSTEM

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Public Utilities DepartmentPermit # _____

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A ONE CALL SYSTEM FOR COMMUNITY AND JOB SAFETY

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**CID-25-03 (PSP-24-05)**

Other Consultants

Sheet map:

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 53676 BRYAN A. HARRIS

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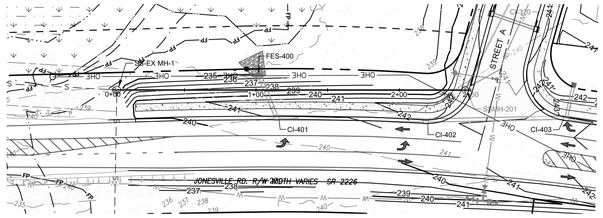
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|---|---|---|
| 1 | 02Sep2025 | Town of Rolesville Planning Dept. comments |

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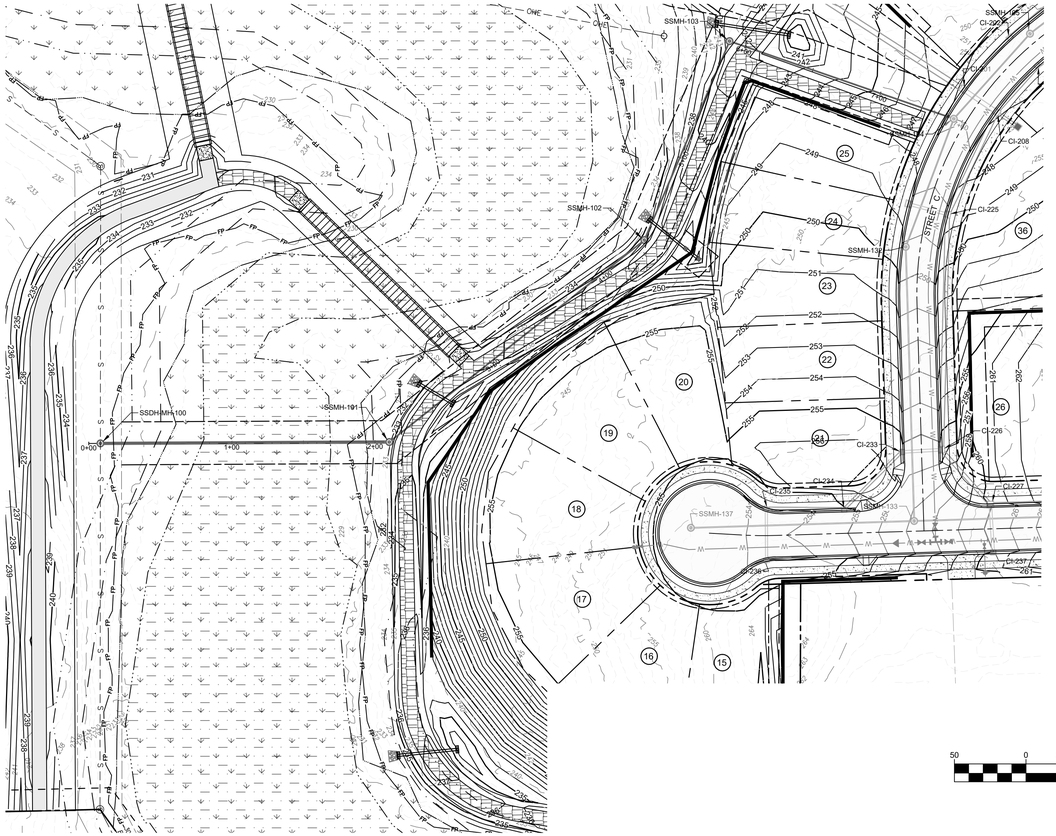
# STREET D AND E PLAN & PROFILES

Sheet #:

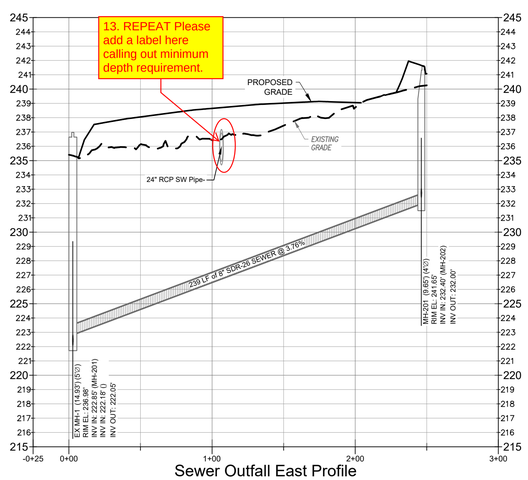
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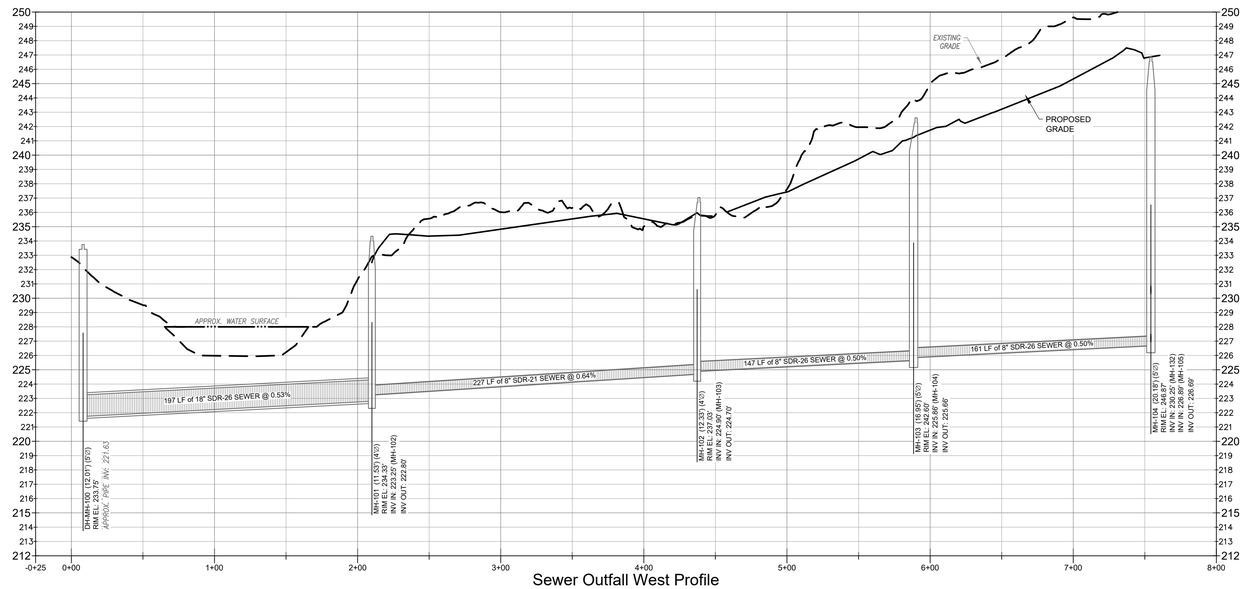

Sewer Outfall East Plan




Sewer Outfall West Plan




Sewer Outfall East Profile




Sewer Outfall West Profile

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(IN FEET)
1 inch = 50 ft

0' 50' 100'
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0' 5' 10'
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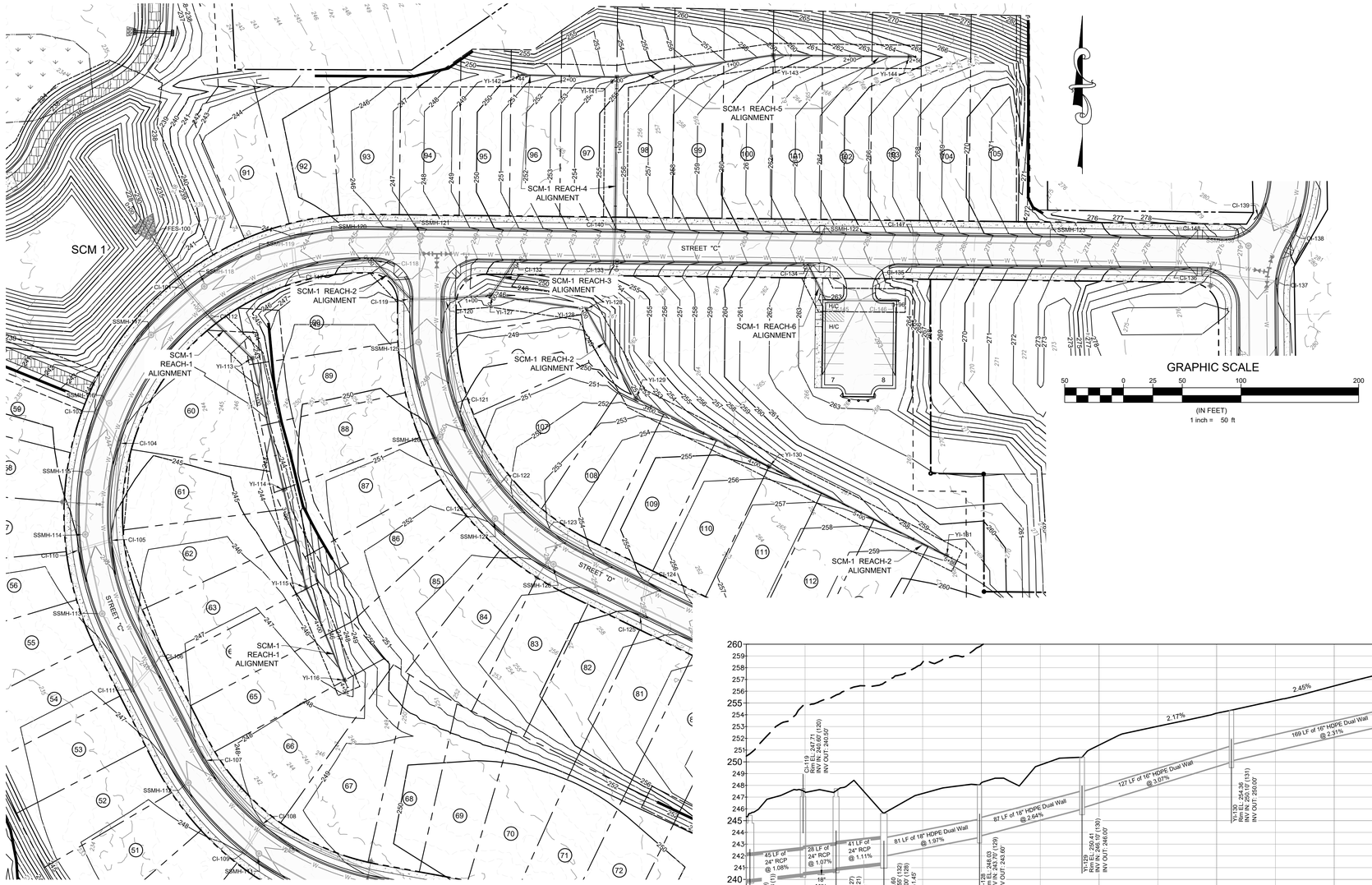
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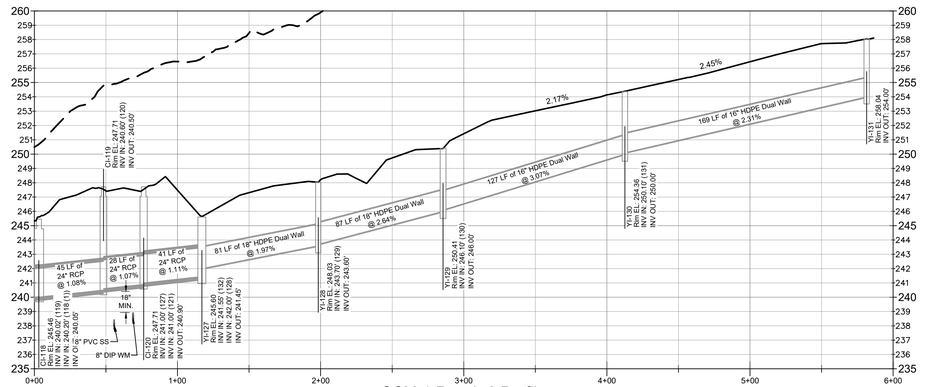
# SEWER OUTFALL PLAN & PROFILES

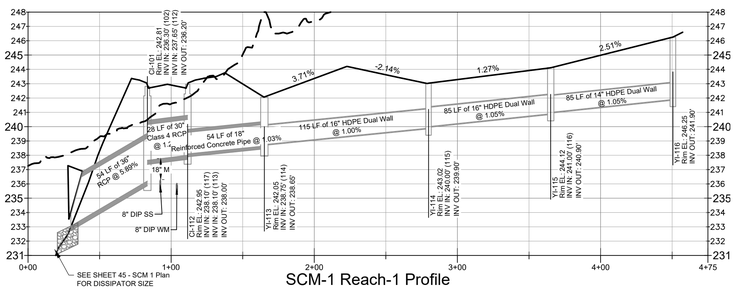
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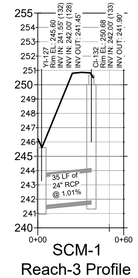
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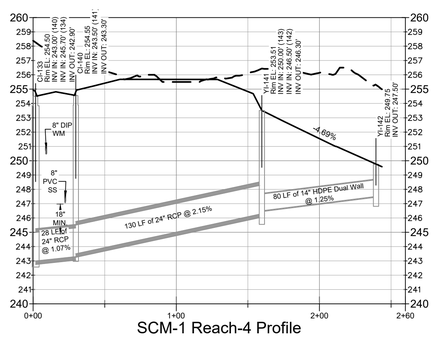
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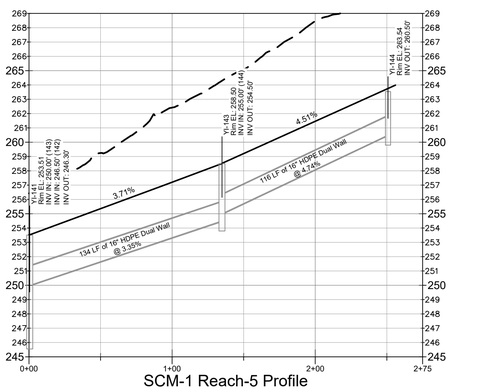


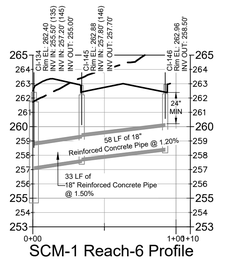




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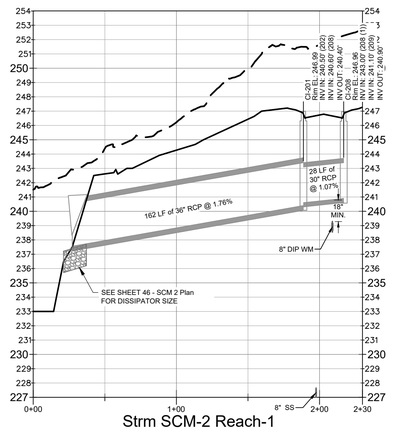
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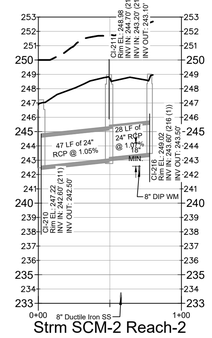
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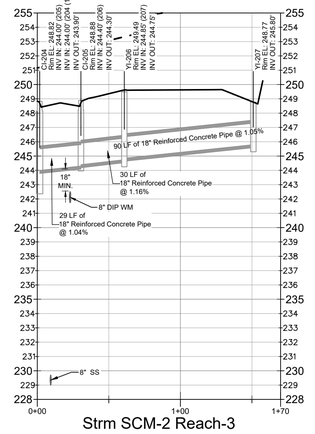
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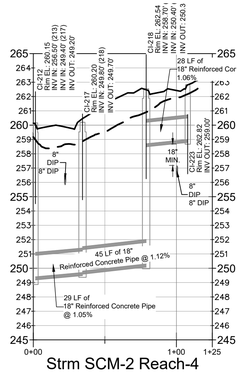
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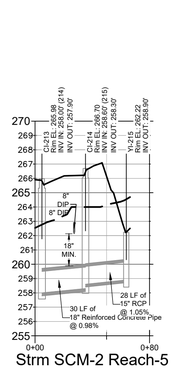


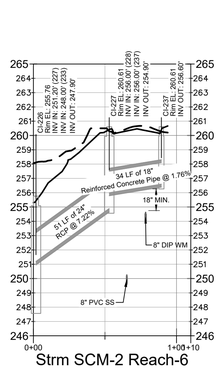



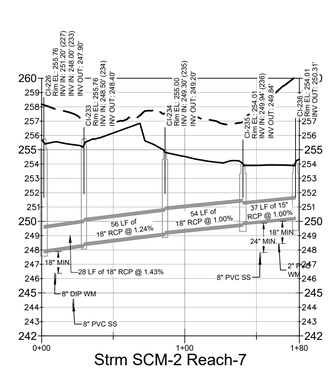




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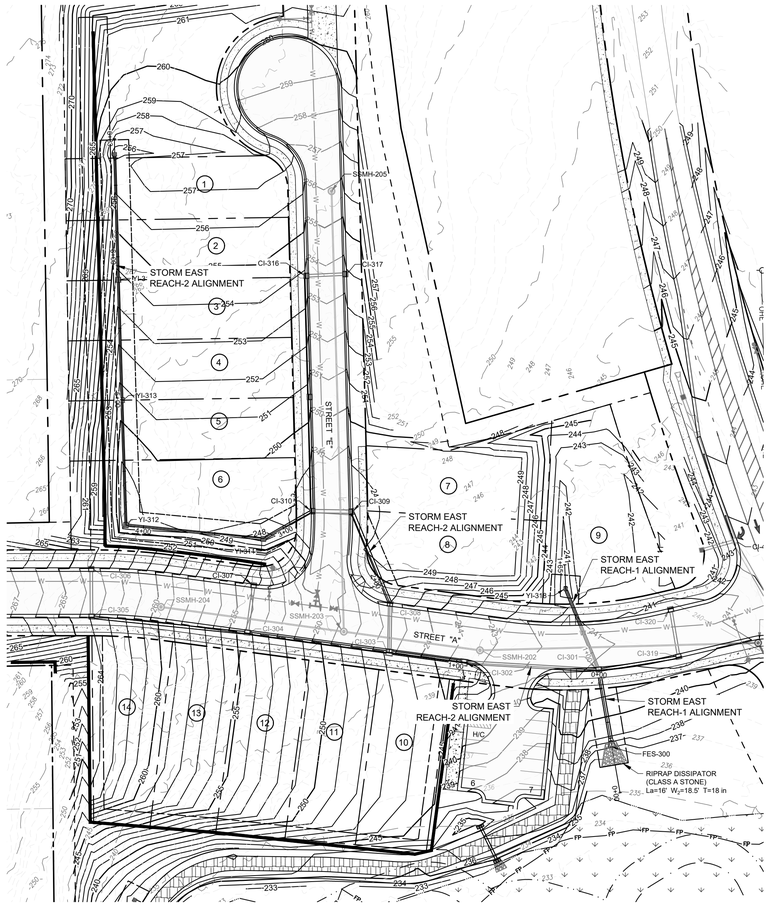
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# SCM 2 STORM ALIGNMENTS & PROFILES

Sheet #:

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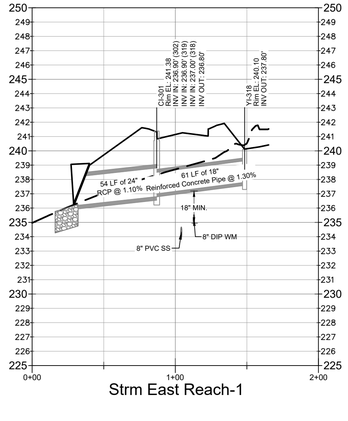
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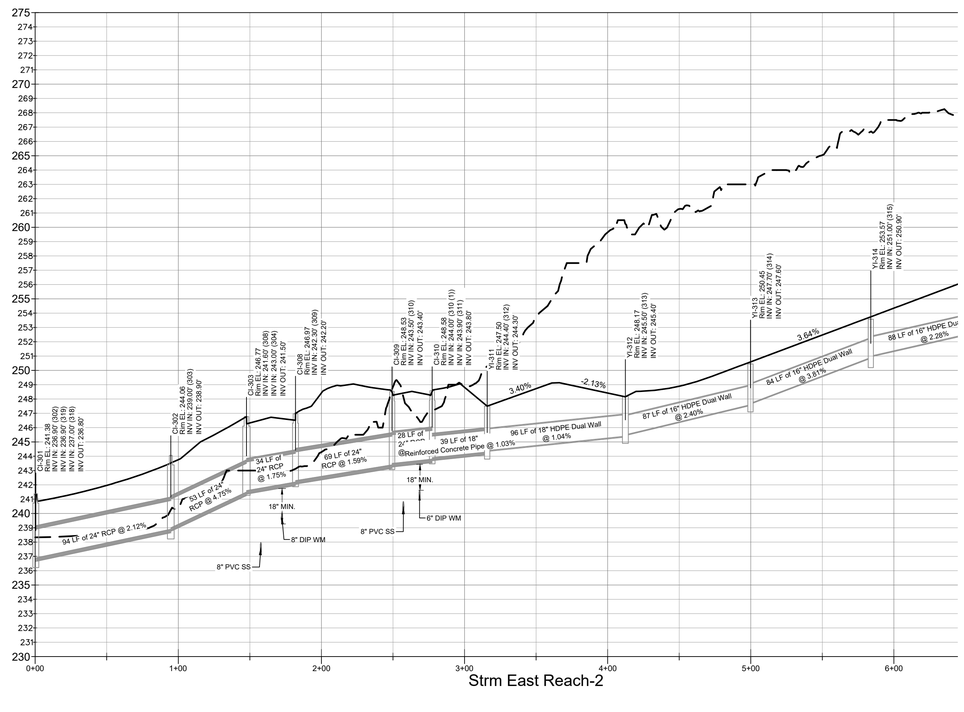



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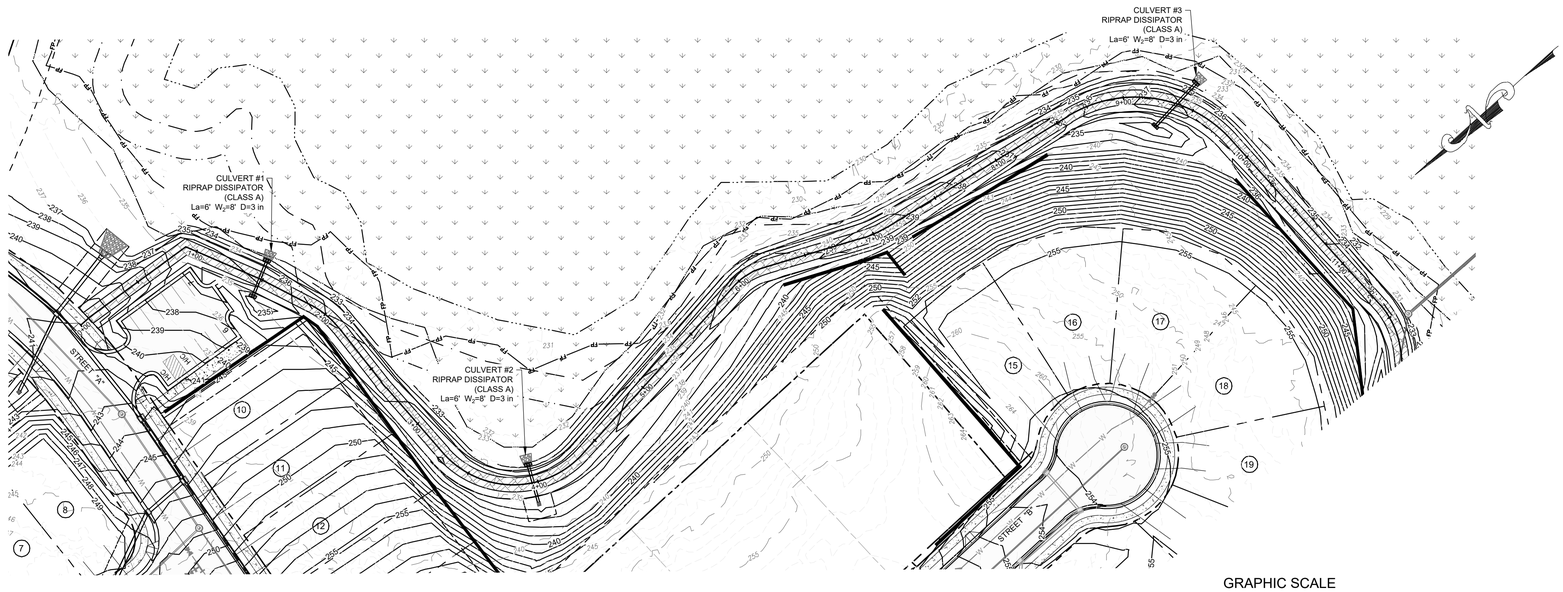
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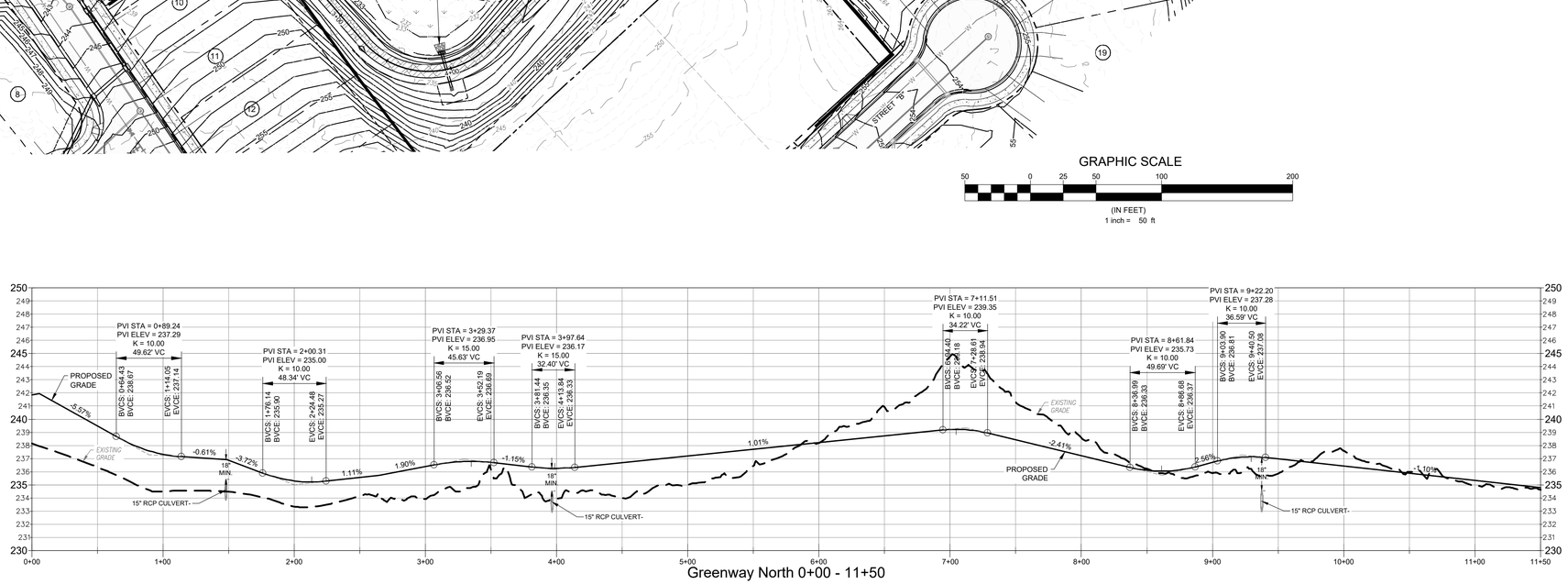
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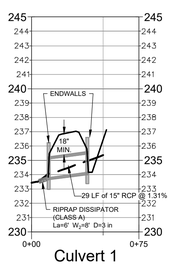
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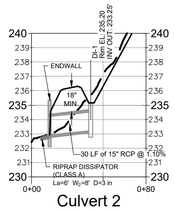
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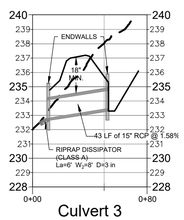
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Bateman Civil Survey Company
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919-557-1080 ext 109
www.batemancivilsurvey.com

Jurisdiction / Municipality

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Genuine Community • Capital Connection
Est. 1837
Town of Rolesville
502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517
**CID-25-03 (PSP-24-05)**

Other Consultants

Sheet map:

Seal:

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 53676 BRYAN A. HARRIS
Bryan Harris
Digitally signed by Bryan Harris
DN: C=US, E=BryanH@QuantechEng.com, O=Quantech Engineering LLP, CN=Bryan Harris
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Date: 2025.09.03 16:52:26-04'00'

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# HARRIS CREEK FARMS

CID-25-03

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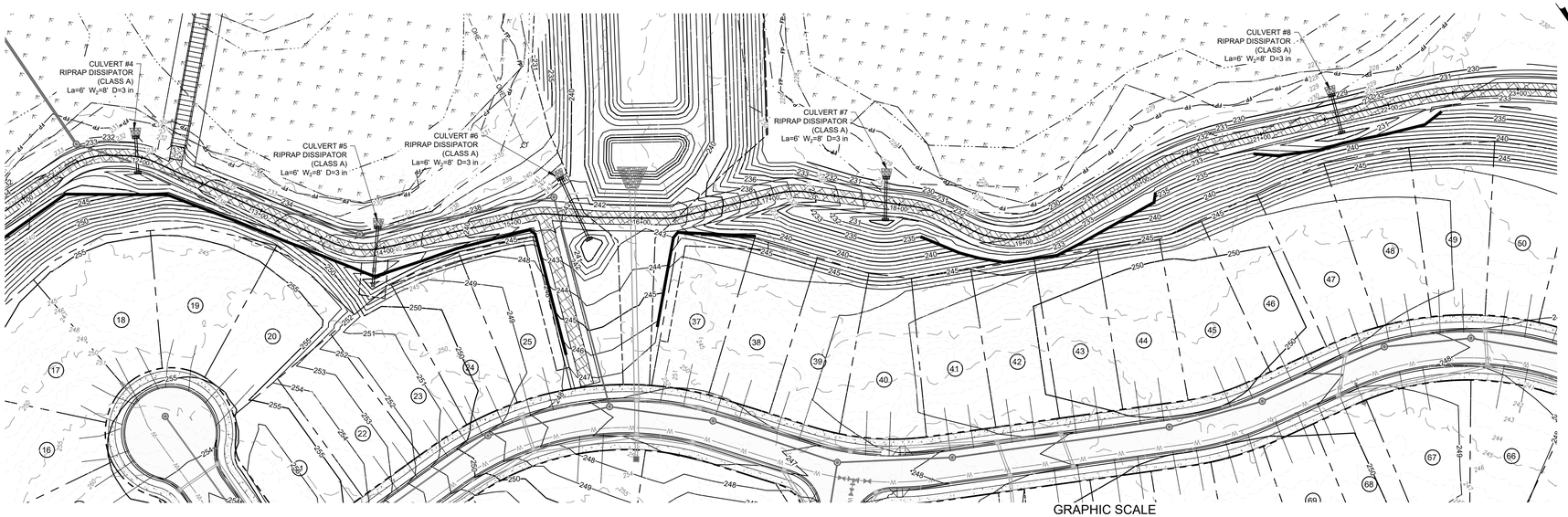
Sheet Title:

GREENWAY NORTH
PLAN & PROFILE
0+00 - 11+50

Sheet #:

67

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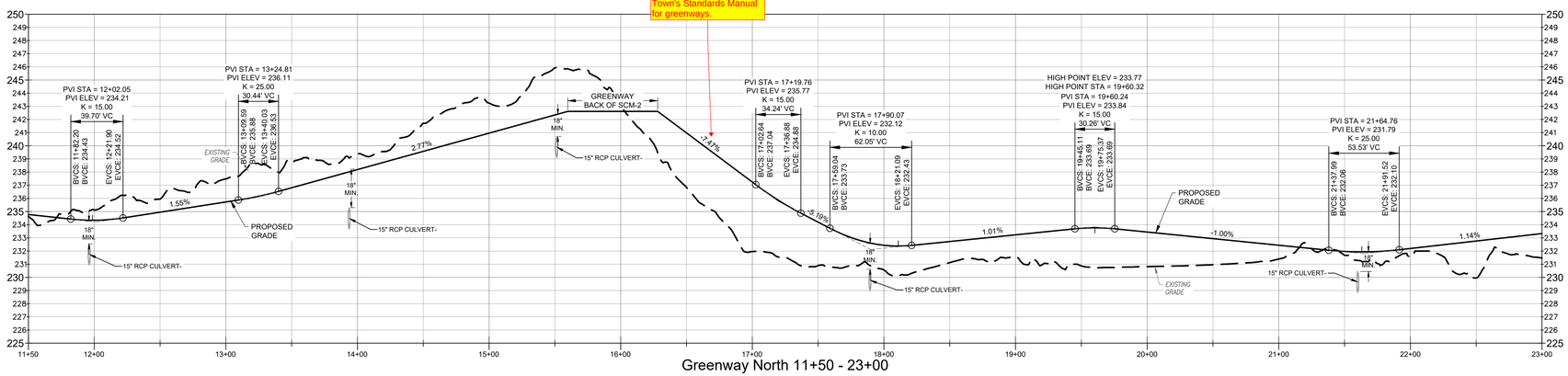



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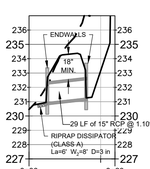
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(IN FEET)
1 inch = 50 ft

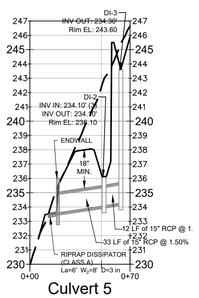
14. Please review grades for ADA compliance per the Town's Standards Manual for greenways.



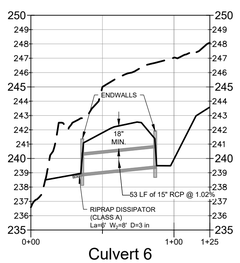

Greenway North 11+50 - 23+00



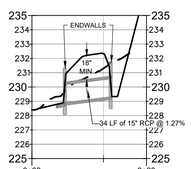

Culvert 4



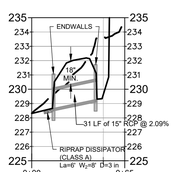

Culvert 5




Culvert 6




Culvert 7




Culvert 8

0' 50' 100'
HORZ 1" = 50'

0' 5' 10'
VERT 1" = 5'

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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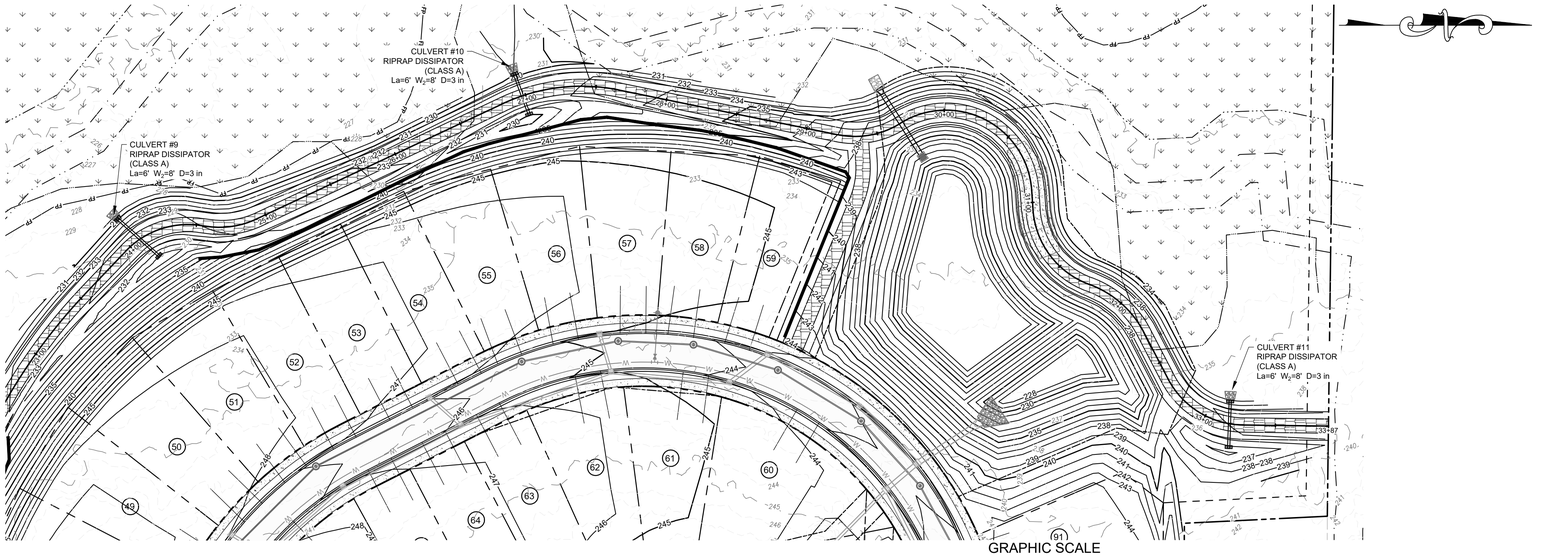
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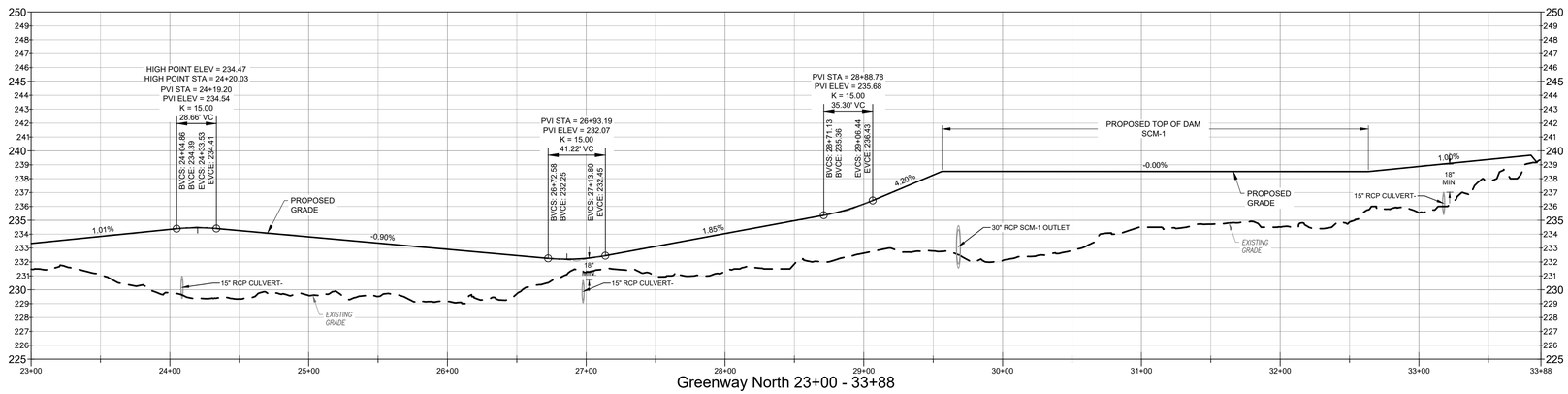
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GREENWAY NORTH
PLAN & PROFILE
11+50 - 23+00

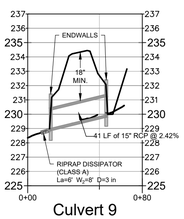
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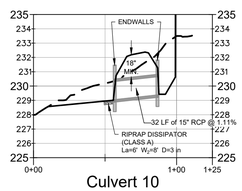


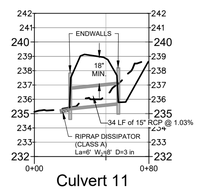

Greenway North 23+00 - 33+88




Culvert 9




Culvert 10




Culvert 11

0' 50' 100'
HORZ 1" = 50'

0' 5' 10'
VERT 1" = 5'

N.C. UNDERGROUND UTILITIES
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CID-25-03

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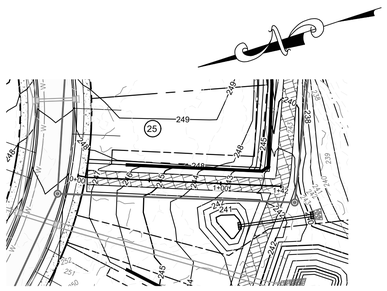
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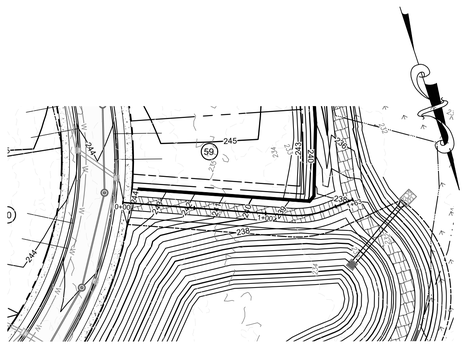
GREENWAY NORTH
PLAN & PROFILE
23+00 - 33+88

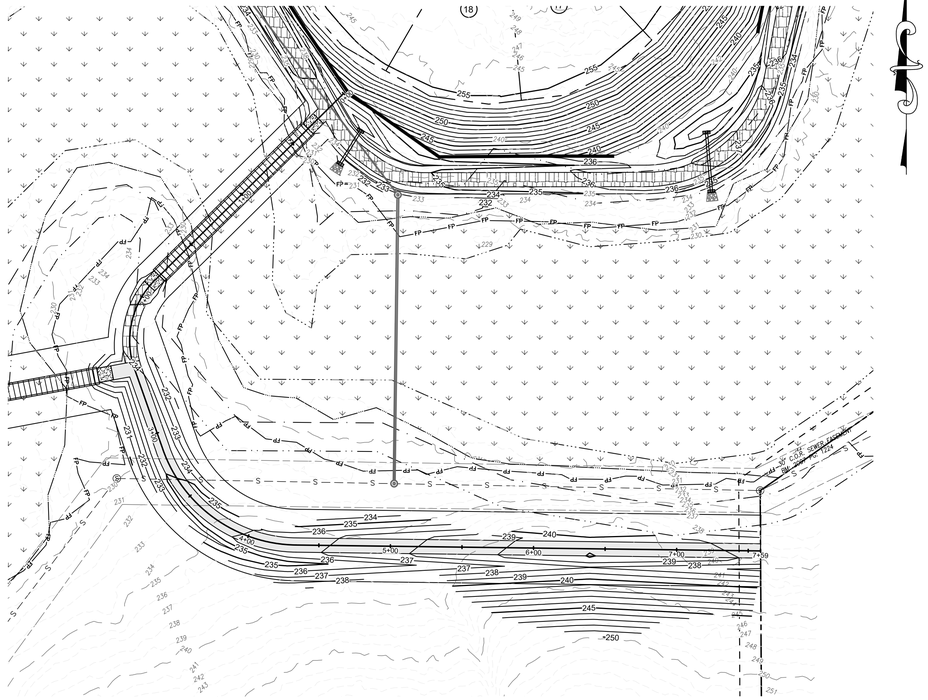
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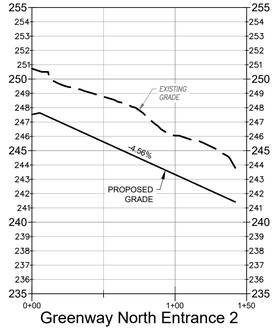




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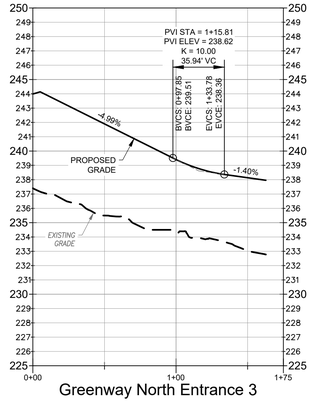
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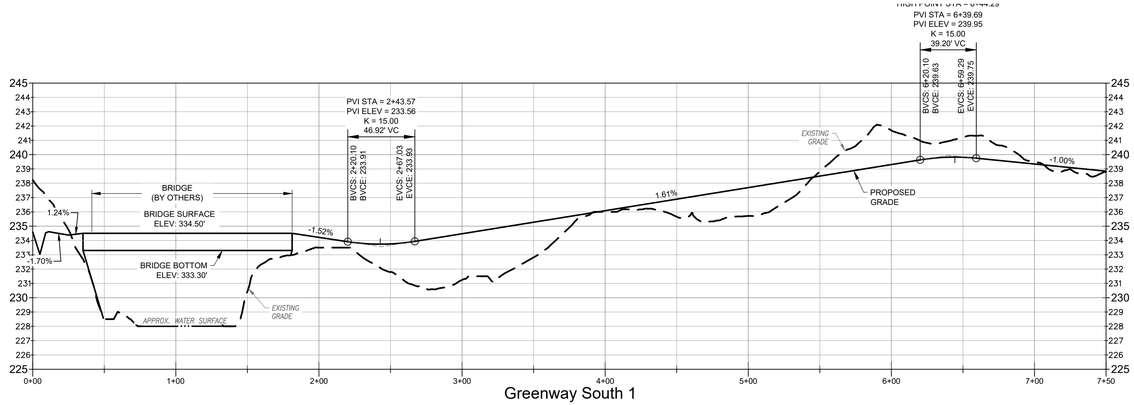
1 inch = 50 ft




Greenway North Entrance 2




Greenway North Entrance 3




Greenway South 1

0' 50' 100'

HORZ 1" = 50'

0' 5' 10'

VERT 1" = 5'

N.C. UNDERGROUND UTILITIES

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

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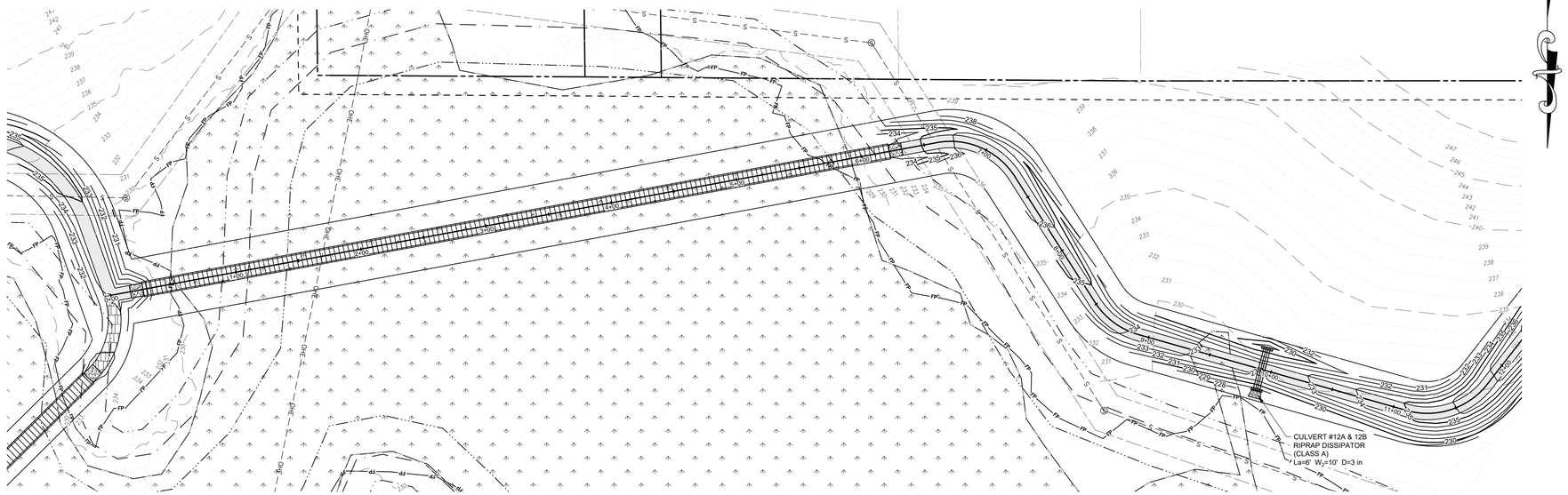
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| 1 | 02Sep2025 | Town of Rolesville Planning Dept. comments |

Sheet Title:

## GREENWAY NORTH ENTRANCES AND SOUTH-1

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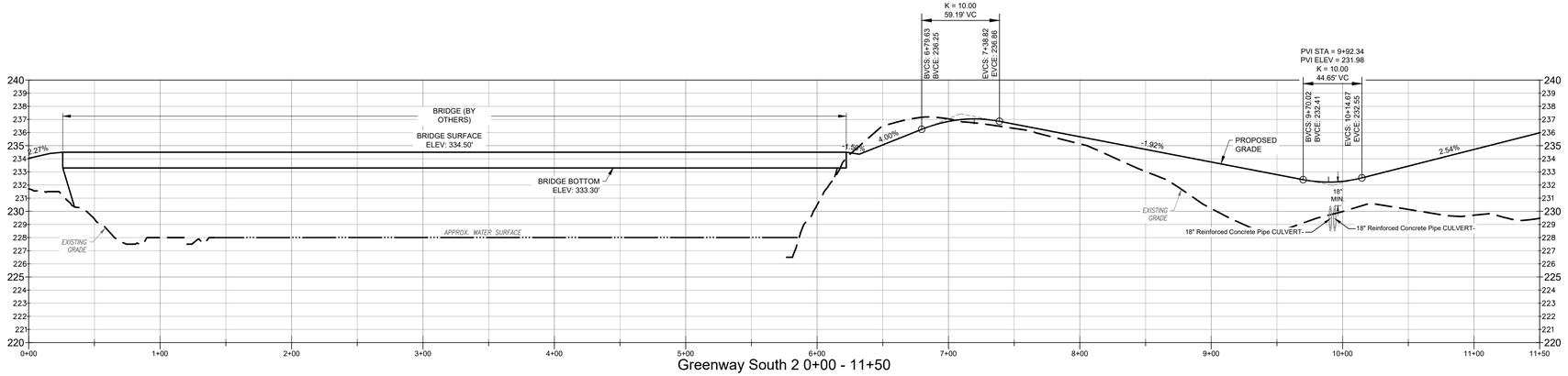
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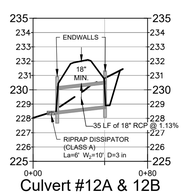

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft




Greenway South 2 0+00 - 11+50




Culvert #12A & 12B

0' 50' 100'
HORZ 1" = 50'

0' 5' 10'
VERT 1" = 5'

N.C. UNDERGROUND UTILITIES
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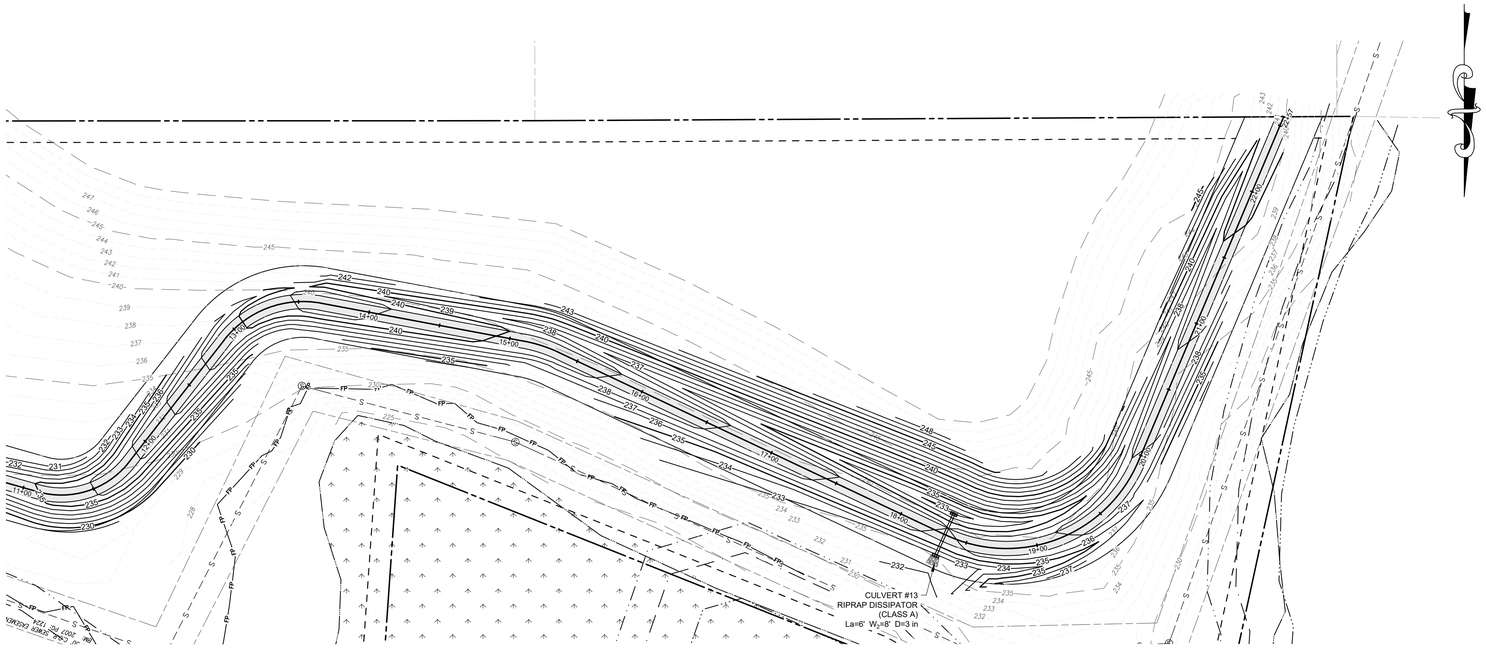
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GREENWAY SOUTH-2
0+00 - 11+50

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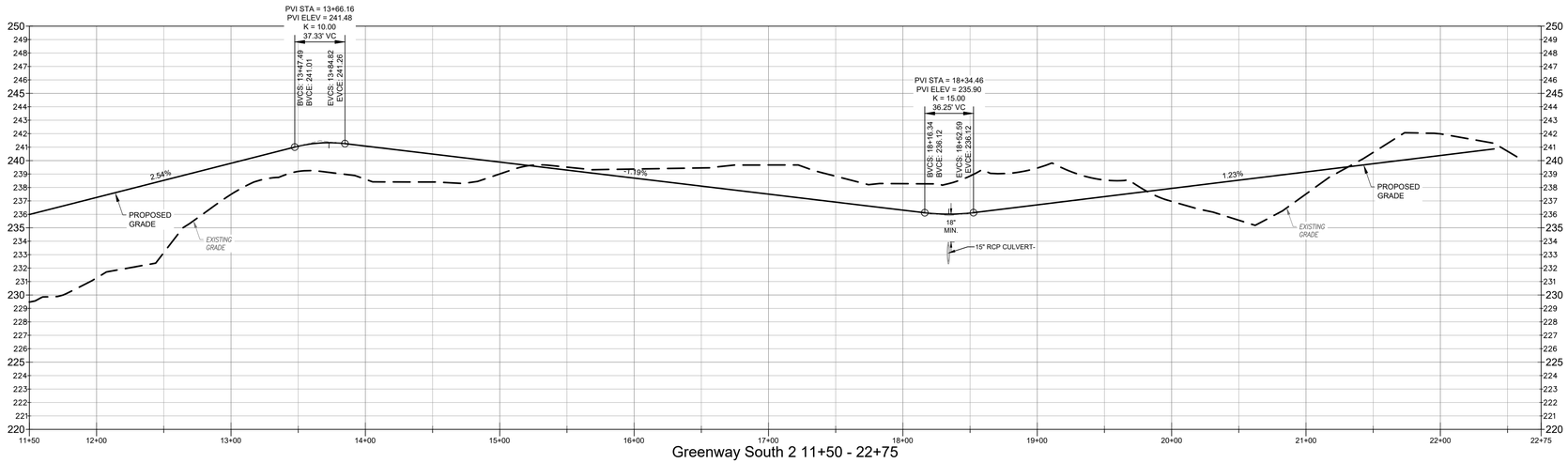
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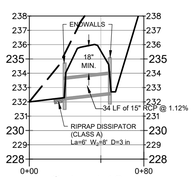

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft




Greenway South 2 11+50 - 22+75




Culvert 13

HORZ 1" = 50'

VERT 1" = 5'

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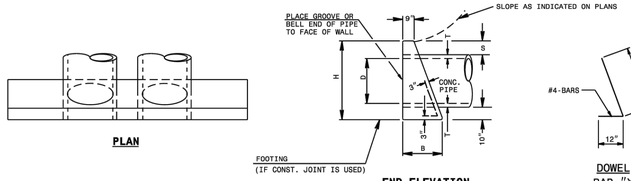
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GREENWAY SOUTH-2
11+50 - 22+57

Sheet #:

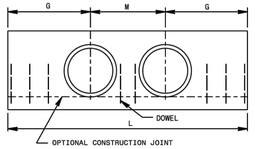
72




PLAN

END ELEVATION

DOWEL
BAR-"X"




ELEVATION

| DOWELS IN ENDWALL WITH REINFORCED CONCRETE PIPE | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LOC. | PIPE | SINGLE PIPE | | | | | | | | | DOUBLE PIPE | | | | | | | | | |
| | DIA. | 15" | 18" | 24" | 30" | 36" | 42" | | 48" | | 15" | 18" | 24" | 30" | 36" | 42" | | 48" | | |
| | BARS | "X" | "X" | "X" | "X" | "X" | "X" | Y* | "X" | Y* | "X" | "X" | "X" | "X" | "X" | "X" | Y* | "X" | Y* | |
| G | QTY. | 2 | 2 | 3 | 3 | 4 | 4 | | 5 | | 2 | 2 | 3 | 3 | 4 | 4 | | 5 | | |
| M | QTY. | - | - | - | - | - | - | 2 | - | 2 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | |
| G | QTY. | 2 | 2 | 3 | 3 | 4 | 4 | | 5 | | 2 | 2 | 3 | 3 | 4 | 4 | | 5 | | |
| TOTAL LBS. | | 9 | 9 | 14 | 14 | 19 | 55 | | 65 | | 12 | 12 | 19 | 19 | 23 | 77 | | 92 | | |

| DIMENSIONS AND CONCRETE QUANTITIES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| USING CONCRETE PIPE | | | | | | | | | |
| | COMMON DIMENSIONS | | | | | SINGLE PIPE | | DOUBLE PIPE | |
| D | H | B | G | T | S | L | YD³ | M | L | YD³ |
| 15" | 3'-3" | 1'-8" | 2'-9" | 2¼" | 9½" | 5'-6" | 0.7 | 2'-2" | 7'-8" | 1.0 |
| 18" | 3'-7" | 1'-10" | 3'-2" | 2½" | 10" | 6'-4" | 1.0 | 2'-7" | 8'-11" | 1.3 |
| 24" | 4'-2" | 2'-1" | 4'-0" | 3" | 10" | 8'-0" | 1.5 | 3'-5" | 11'-5" | 2.0 |
| 30" | 5'-0" | 2'-6" | 4'-7" | 4¼" | 11½" | 9'-2" | 2.3 | 4'-3" | 13'-5" | 3.1 |
| 36" | 5'-8" | 2'-8" | 5'-6" | 4¾" | 11½" | 11'-0" | 3.4 | 5'-0" | 16'-0" | 4.5 |
| 42" | 6'-2" | 3'-1" | 6'-4" | 5¼" | 11½" | 12'-8" | 4.5 | 5'-10" | 18'-6" | 6.0 |
| 48" | 6'-9" | 3'-5" | 7'-2" | 5¾" | 11½" | 14'-4" | 6.0 | 6'-8" | 21'-0" | 8.0 |

*SEE SHEET 3

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

ROADWAY STANDARD DRAWING FOR
**CONCRETE ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS**
15" THRU 48" PIPE - 90° SKEW

SHEET 1 OF 3
**838.01**

GENERAL NOTES:

CHAMFER ALL CORNERS 1" OR HAVE A RADIUS OF 1".

PLACE 2 #6 "Y" BARS IN THE TOP OF ALL ENDWALL FOR PIPE CULVERTS 42" AND OVER WITH A MINIMUM OF 3" COVER AND A LENGTH OF 6" LESS THAN ENDWALL LENGTH.

CONSTRUCT BOTTOM SLAB WITH FORMS.

DO NOT INTERPRET WALL THICKNESS (T) SHOWN FOR THE THICKNESS ACCEPTABLE, BUT IS USED IN COMPUTING ENDWALL QUANTITIES.

WHEN THE CONTRACTOR ELECTS TO USE A CONSTRUCTION JOINT AT THE BOTTOM OF THE PIPE, PLACE BAR "X" DOWELS IN THE BASE AS SHOWN ON PLANS. SPACE BARS APPROXIMATELY ON 12" CENTERS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

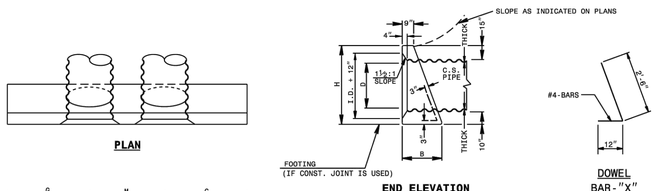
WHEN THE CONTRACTOR ELECTS TO USE A CONSTRUCTION JOINT AT THE BOTTOM OF THE PIPE AND POUR THE BASE SEPARATELY LEAVE THE POUR ROUGH.

USE CLASS "B" CONCRETE.

STATE OF NORTH CAROLINA
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1-24

ROADWAY STANDARD DRAWING FOR
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15" THRU 48" PIPE - 90° SKEW

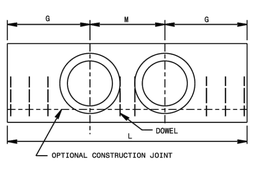
SHEET 3 OF 3
**838.01**




PLAN

END ELEVATION

DOWEL
BAR-"X"




ELEVATION

| DOWELS IN ENDWALL WITH C. S. PIPE | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LOC. | PIPE | SINGLE PIPE | | | | | | | | | DOUBLE PIPE | | | | | | | | | |
| | DIA. | 15" | 18" | 24" | 30" | 36" | 42" | | 48" | | 15" | 18" | 24" | 30" | 36" | 42" | | 48" | | |
| | BARS | "X" | "X" | "X" | "X" | "X" | "X" | Y* | "X" | Y* | "X" | "X" | "X" | "X" | "X" | "X" | Y* | "X" | Y* | |
| G | QTY. | 2 | 2 | 3 | 3 | 4 | 4 | | 5 | | 2 | 2 | 3 | 3 | 4 | 4 | | 5 | | |
| M | QTY. | - | - | - | - | - | - | 2 | - | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | |
| G | QTY. | 2 | 2 | 3 | 3 | 4 | 4 | | 5 | | 2 | 2 | 3 | 3 | 4 | 4 | | 5 | | |
| TOTAL LBS. | | 9 | 9 | 14 | 14 | 19 | 53 | | 62 | | 12 | 12 | 16 | 19 | 23 | 73 | | 85 | | |

| DIMENSIONS AND CONCRETE QUANTITIES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| USING CORRUGATED STEEL PIPE | | | | | | | | | |
| | COMMON | | | SINGLE PIPE | | DOUBLE PIPE | | | |
| D | H | B | G | L | YD³ | M | L | YD³ | |
| 15" | 3'-4" | 1'-8" | 2'-6" | 5'-0" | 0.7 | 1'-11" | 6'-11" | 1.0 | |
| 18" | 3'-7" | 1'-10" | 2'-11" | 5'-10" | 1.0 | 2'-3" | 8'-1" | 1.2 | |
| 24" | 4'-1" | 2'-1" | 3'-8" | 7'-4" | 1.4 | 3'-0" | 10'-4" | 1.9 | |
| 30" | 4'-7" | 2'-4" | 4'-5" | 8'-10" | 2.0 | 3'-9" | 12'-7" | 2.7 | |
| 36" | 5'-1" | 2'-7" | 5'-2" | 10'-4" | 2.8 | 4'-6" | 14'-10" | 3.8 | |
| 42" | 5'-7" | 2'-10" | 5'-11" | 11'-10" | 3.8 | 5'-3" | 17'-1" | 5.0 | |
| 48" | 6'-1" | 3'-1" | 6'-8" | 13'-4" | 4.9 | 6'-0" | 19'-4" | 7.5 | |

*SEE SHEET 3

STATE OF NORTH CAROLINA
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1-24

ROADWAY STANDARD DRAWING FOR
**CONCRETE ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS**
15" THRU 48" PIPE - 90° SKEW

SHEET 2 OF 3
**838.01**

Developer
THE CSC GROUP
CONTRIBUTE TO THE SUCCESS OF LOCAL COMMUNITY
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QUANTECH ENGINEERING
INNOVATIVE SOLUTIONS | ENGINEERING THE FUTURE
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Cary, N.C. 27513
(919) 996-9455

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502 Southtown Cir
Rolesville, NC 27571
Phone: 919-554-6517

**CID-25-03** **(PSP-24-05)**

Other Consultants

Sheet map:

Seal:

NORTH CAROLINA PROFESSIONAL SEAL 53676 ENGINEER BRYAN A. HARRIS
Bryan Harris

Digitally signed by Bryan Harris
DN: CN=Bryan Harris, E=Bryan@QuantechEng.com, O=Quantech Engineering LLP, C=US
Reason: I have reviewed this document
Date: 2025.09.03 16:52:29-04'00'

FINAL DRAWING - FOR REVIEW PURPOSES ONLY

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File Name: 67 Greenway North Plan & Profile 0+00 - 11+50.dwg

Last Saved by: BryanHarris
Drawn by: TAN

Project:

# HARRIS CREEK FARMS

CID-25-03

Issued for:
PROGRESS DRAWINGS
DO NOT USE FOR CONSTRUCTION

REVISIONS

| No. | Date | Description |
|---|---|---|
| 1 | 02Sep2025 | Town of Rolesville Planning Dept. comments |

Sheet Title:

## GREENWAY CULVERT DETAILS

Sheet #:

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A ONE CALL SYSTEM FOR COMMUNITY AND JOB SAFETY

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