

# Master Plan

|              |                |
|--------------|----------------|
| Issued for   | Review         |
| Date Issued  | March 24, 2025 |
| Latest Issue | July 1, 2025   |

## Clifton Road Conservation Subdivision

(ZMA-8-24)

0 Pine Country Ln  
Knightdale, NC

### Owner

David Jonathan Adams  
6000 Mal Weathers Road  
Raleigh, NC 27603-7831

### Developer

DR Horton  
7208 Falls of Neuse Rd Suite 201  
Raleigh, NC 27615

Contact: Reese Bridges  
Telephone: 984.247.9614  
Email: Trbridges@drhorton.com

### Applicant

VHB Engineering NC, P.C.  
940 Main Campus Drive Suite 500  
Raleigh, NC 27606  
Contact: Charles Townsend, PE  
Telephone: 919.741.5567  
Email: ctownsend@vhb.com

### Surveyor

CMP Professional Land Surveyors  
333 White Street  
P.O. Box 1253  
Wake Forest , NC 27588  
Telephone: 919.556.3148

### Consultant

Duncan Land Consultants  
5204 Blakenban Trail  
Fuquay Varina , NC 27526  
Telephone: 919.422.2691  
Email: brian@duncanlc.com



### Sheet Index

| No.   | Drawing Title                     | Latest Issue |
|-------|-----------------------------------|--------------|
| C0.01 | Legend and General Notes          | June 4, 2025 |
| C1.00 | Illustrative Master Plan          | July 1, 2025 |
| C1.01 | Open Space Plan                   | July 1, 2025 |
| C2.00 | Site Plan                         | July 1, 2025 |
| C2.01 | Pavement Marking and Signage Plan | July 1, 2025 |
| C3.00 | Stormwater Management Plan        | July 1, 2025 |
| C4.00 | Utility Plan                      | July 1, 2025 |
| L1.00 | Landscape and Lighting Plan       | July 1, 2025 |
| L2.00 | Landscape and Lighting Details    | June 4, 2025 |

### Reference Drawings

| No.    | Drawing Title         | Latest Issue      |
|--------|-----------------------|-------------------|
| C-FIRE | Apparatus Access Plan | July 1, 2025      |
| 1 of 1 | Topographic Survey    | November 11, 2024 |
| 1 of 1 | Tree Survey           | February 27, 2025 |

### Architectural Design Standards

#### STANDARDS FOR ALL HOMES

- ALL HOMES WILL HAVE A COMBINATION OF TWO OR MORE OF THE FOLLOWING MATERIALS ON THE FRONT FACADE (NOT INCLUDING FOUNDATION) UNLESS THE HOME IS ONLY STONE OR BRICK.
  - STONE
  - BRICK
  - CAP SIDING
  - SHAKES
  - KNOED AND BATTEN
  - WINDOW PEDIMENTS
  - RECESSED WINDOWS
  - SIDE AND/OR FRONT WINDOW BOX BAYS
  - ROOF GABLES
  - ROOF DORMERS
  - ROOFLINE CORNERS
  - METAL ROOFING AS ACCENT
  - COLUMN
  - SHUTTERS
  - FIBER CEMENT SIDING
- THE EXTERIOR SIDING MATERIAL ON THE SIDE AND REAR FACADES WILL BE FIBER CEMENT. WHEN TWO MATERIALS ARE USED, THE MATERIALS SHALL BE DIFFERENT BUT COMPLEMENTARY COLORS.
- VINYL IS PROHIBITED EXCEPT FOR WINDOW TRIM, SOFFITS, FASCIA, AND/OR CORNER BOARDS.
- MAIN ROOF PITCHES (EXCLUDING PORCHES) WILL BE AT LEAST 6:12.
- FOR EVERY 30 FEET OR FRACTION OF CONTINUOUS SIDE ELEVATION (CALCULATED ON A PER FLOOR BASIS), THERE SHALL BE ONE WINDOW OR DOOR ADDED TO THE SIDE ELEVATIONS. ANY SIDING BREAK ON THE SIDE OF THE HOME SHALL AS A FIREPLACE, SIDE PORCH, WALL OFFSETS COULD BE USED AS AN ALTERNATIVE TO WINDOWS.
- EACH FRONT ENTRANCE SHALL CONTAIN A COVERED STOOP OR PORCH.
- FOUNDATION SHALL BE RAISED TO A MINIMUM HEIGHT OF 18 INCHES ABOVE FINISHED YARD GRADE IN THE FRONT AND SHALL CONTAIN A MINIMUM OF 2 STAIR RISERS UP TO THE FRONT PORCH.

FOUNDATIONS WILL BE WRAPPED IN BRICK OR STONE ON ALL SIDES. AREAS UNDER FRONT PORCHES MAY BE ENCLOSED WITH LATTICE OR OTHER DECORATIVE FORM OF SCREENING. TO MATCH ARCHITECTURAL STYLE.

#### STANDARDS FOR SINGLE-FAMILY DETACHED FRONT-LOADED HOMES

- ALL HOMES SHALL HAVE A MINIMUM 100 SQUARE FOOT PATIO, DECK, TERRACE, OR COURTYARD.
- EAVES SHALL PROJECT A MINIMUM OF 8" FROM BUILDING FACADE.
- A MINIMUM OF 33% OF HOMES SHALL INCLUDE STONE OR BRICK AS A FRONT FACADE MATERIAL.
- FRONT-FACING GARAGE DOORS SHALL HAVE ONE OF THE FOLLOWING: WINDOWS, DECORATIVE DETAILS, OR CARRIAGE-STYLE ADORNMENTS.

#### RALEIGH WATER CONDITIONS OF APPROVAL:

- \*ALL WATER, SANITARY SEWER AND REUSE FACILITIES SHALL BE INSTALLED, INSPECTED, TESTED, AND ACCEPTED BY THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT FOR OPERATIONS AND MAINTENANCE PRIOR TO 1ST CO
- \*A PETITION FOR ANNEXATION INTO THE CITY LIMITS SHALL BE SUBMITTED IN ACCORDANCE WITH CITY COUNCIL POLICY FOR EXTENSION OF UTILITY SERVICE TO PROPERTIES CURRENTLY OUTSIDE OF THE CITY LIMITS PRIOR TO PLAT RECORDATION
- \*CONSTRUCTION DRAWINGS MUST BE APPROVED BY THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT FOR ALL PUBLIC WATER, PUBLIC SEWER AND/OR PRIVATE SEWER EXTENSIONS PRIOR TO PLAT RECORDATION.
- \*A PLAT MUST BE RECORDED AT THE WAKE COUNTY REGISTER OF DEEDS OFFICE FOR ALL UTILITY EASEMENT DEDICATIONS PRIOR TO BUILDING PERMIT ISSUANCE+A DOWNSTREAM SEWER CAPACITY STUDY IN COMPLIANCE WITH THE RALEIGH WATER PUBLIC UTILITY DESIGN MANUAL SHALL BE SUBMITTED VIA THE COR PERMIT & DEVELOPMENT PORTAL BY THE PROJECT ENGINEER FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION DRAWING APPROVAL
- \*A WATER MODEL IN COMPLIANCE WITH THE RALEIGH WATER PUBLIC UTILITY DESIGN MANUAL MAY BE REQUIRED TO BE SUBMITTED BY THE PROJECT ENGINEER FOR REVIEW AND APPROVAL PRIOR TO CD APPROVAL
- \*THREE-PARTY DOT ENCROACHMENT AGREEMENT REQUIRED PRIOR TO START OF CONSTRUCTION. SUBMIT TO COR TRANSPORTATION. LINWOOD "LENNY" WALLACE ENGINEER DEVELOPMENT SERVICES, LAND DEVELOPMENT 919-996-2493 LINWOOD.WALLACE@RALEIGHNC.GOV MAILING ADDRESS: ATTN: LINWOOD WALLACE CITY OF RALEIGH 1 EXCHANGE PLAZA, SUITE 500 RALEIGH, NC 27601

### Development Allowances

THE APPROVED SITE DEVELOPMENT ALLOWANCES FROM THE UNDERLYING PROVISIONS OF GRZ ZONING ARE AS FOLLOWS. THE SITE DEVELOPMENT ALLOWANCES ARE COMPATIBLE WITH SURROUNDING DEVELOPMENT. IN FURTHERANCE OF THE STATED OBJECTIVES OF THE UDO, AND NECESSARY FOR PROPER DEVELOPMENT OF THE SITE FOR ENVIRONMENTAL AND OTHER SITE CONSTRAINTS, THE SITE DEVELOPMENT ALLOWANCES ARE PROVIDED IN ORDER TO PROVIDE MORE LANDSCAPE CONSERVATION AND BENEFICIAL COMMON OPEN SPACE FOR AN OVERALL BETTER-INTEGRATED DESIGN.

#### LOT WIDTH / DU - STREET LOADED (UDO TABLE 3.4)

IN ORDER TO CREATE A VARIETY OF HOUSING TYPES AND PRICE POINTS, THE LOT WIDTH FOR SINGLE FAMILY DETACHED FRONT-LOADED HOMES SET OUT IN UDO TABLE 3.4 IS MODIFIED TO REDUCE THE MINIMUM LOT WIDTH FROM 80' TO 50'. THE 50' LOT WIDTH FOR SINGLE FAMILY DETACHED HOMES IS COMPATIBLE WITH SURROUNDING DEVELOPMENT THAT HAVE A SITE DEVELOPMENT ALLOWANCE PERMITTING STREET LOADED SINGLE FAMILY HOME LOT WIDTHS WILL BE LOW THE UDO STANDARD. THE MODIFICATION IS IN FURTHERANCE OF THE UDO'S PURPOSE TO CREATE A CONVENIENT, ATTRACTIVE, AND HARMONIOUS COMMUNITY AND ENSURING AVAILABILITY OF WELL-ENGINEERED, WELL-BUILT, AND HIGH-QUALITY HOUSING. REDUCED LOT SIZE ALLOWS FOR MORE CONSERVATION AREA IN THE DEVELOPMENT. IN FURTHERANCE OF THE UDO'S PURPOSE TO PRESERVE ECOLOGICALLY SENSITIVE AREAS.

#### MINIMUM RESIDENTIAL DRIVEWAY LENGTH (UDO TABLE 3.4)

FOR SINGLE FAMILY DETACHED HOMES, THE MINIMUM RESIDENTIAL DRIVEWAY LENGTH SET OUT IN UDO TABLE 3.4 IS MODIFIED TO REDUCE MINIMUM DRIVEWAY LENGTH FROM 15' TO 20'. THE REDUCTION OF THE MINIMUM RESIDENTIAL DRIVEWAY LENGTH FOR A MINORITY OF HOMES IN THE DEVELOPMENT IS COMPATIBLE WITH SURROUNDING DEVELOPMENT. WHERE THE MINIMUM DRIVEWAY LENGTH IS 20', THE 25' MINIMUM DRIVEWAY LENGTH IS CONSISTENT WITH THE OBJECTIVE OF THE UDO'S MINIMUM DRIVEWAY LENGTH IN THAT IT ENSURES THAT RESIDENTS OF THE SINGLE-FAMILY DETACHED HOMES CAN PARK VEHICLES IN THE DRIVEWAY WITHOUT BLOCKING THE SIDEWALK OR STREET. THERE WILL BE AMPLE ON-STREET GUEST PARKING.

#### YARD SETBACKS FOR HOUSE BUILDING TYPE (UDO 6.5)

FOR THE HOUSE BUILDING TYPE LOCATED ON FRONT-LOADED SINGLE FAMILY LOTS, THE YARD SETBACKS SET OUT IN UDO 6.5 ARE MODIFIED AS FOLLOWS:

#### Yard Setbacks

|                      |     |
|----------------------|-----|
| FRONT MINIMUM:       | 20' |
| FRONT MAXIMUM:       | N/A |
| CORNER SIDE MINIMUM: | N/A |
| SIDE MINIMUM:        | 5'  |
| REAR MINIMUM:        | 15' |

THESE MODIFICATIONS CONSTITUTE AN INCREASE IN THE MINIMUM FRONT YARD SETBACK FROM 10' TO 20'. ELIMINATION OF THE MINIMUM CORNER SIDE YARD SETBACK BECAUSE THERE ARE NO CORNER FRONT-LOADED SINGLE-FAMILY LOTS IN THE DEVELOPMENT. A MODIFICATION OF THE MINIMUM SIDE YARD SETBACK FROM 20% OF THE LOT WIDTH (5' MINIMUM) TO 5', AND A REDUCTION OF THE MINIMUM REAR YARD SETBACK FROM 25' TO 15'.

#### COTTAGE STANDARDS (UDO 6.3(A) AND 6.3)

THE COTTAGE BUILDING TYPE IS A NEW BUILDING TYPE NOT CURRENTLY ADDRESSED IN THE UDO. BUILDINGS IDENTIFIED ON THE MASTER PLAN AS "COTTAGE PRODUCT STYLE A" AND "COTTAGE PRODUCT STYLE B" ARE THE COTTAGE BUILDING TYPE. THE COTTAGE BUILDINGS ARE SINGLE-FAMILY HOMES BUILT ON THEIR OWN LOT OR A SHARED LOT WITH OTHER COTTAGE BUILDINGS. AS A RESULT OF THE CLUSTERING OF COTTAGE BUILDINGS, SUCH COTTAGE BUILDINGS WILL TYPICALLY ONLY HAVE ONE (1) YARD IN THE FRONT. UNITS MAY BE RENTED OR SOLD. CONSISTENT WITH UDO 6.3(A) STANDARDS FOR COTTAGE BUILDINGS ARE BASED ON THE HOME BUILDING TYPE STANDARDS IN UDO 6.5. FOR COTTAGES, THE YARD SETBACKS SET OUT IN UDO 6.5 ARE MODIFIED AS FOLLOWS:

#### Yard Setbacks

|                              |                        |
|------------------------------|------------------------|
| FRONT MINIMUM:               | 10'                    |
| FRONT MAXIMUM:               | N/A                    |
| CORNER SIDE MINIMUM:         | N/A                    |
| SIDE MINIMUM:                | N/A                    |
| REAR MINIMUM:                | N/A                    |
| BUILDING SEPARATION MINIMUM: | 6' FROM OTHER COTTAGES |

THESE MODIFICATIONS CONSTITUTE AN ELIMINATION OF THE MINIMUM CORNER SIDE YARD SETBACK, MINIMUM SIDE YARD SETBACK, AND THE MINIMUM REAR YARD SETBACK BECAUSE COTTAGES WILL BE CLUSTERED. THESE MODIFICATIONS ALSO ADD OF A 6' MINIMUM BUILDING SEPARATION REQUIREMENT FOR COTTAGES TO ENSURE APPROPRIATE SPACING CONSISTENT WITH OTHERWISE APPLICABLE SIDE SETBACK REQUIREMENTS.

COTTAGE BUILDINGS ARE PERMITTED TO HAVE MORE THAN ONE PRINCIPAL BUILDING PER LOT. THE COTTAGE BUILDING TYPE SHALL SATISFY THE DISTRIBUTION OF USE REQUIREMENT OF THE COMPREHENSIVE PLAN.

#### ROADWAY DESIGN-MINIMUM CENTERLINE RADIUS (UDO 10.5.A AND TABLE 10.10(D)(2)(a))

THE RESIDENTIAL CLEARING AND GRADING REQUIREMENTS SET OUT IN UDO 9.3(B) IS MODIFIED TO PERMIT MASS GRADING OF RESIDENTIAL LOTS AND INFRASTRUCTURE IMPROVEMENTS IN A SINGLE PHASE. MASS GRADING IS NECESSARY TO INSTALL UTILITY INFRASTRUCTURE AND ENSURE EFFECTIVE STORMWATER DESIGN. THE REQUESTED MODIFICATION IS CONSISTENT WITH THE UDO 9.3(B)(3), WHICH EXEMPTS RESIDENTIAL SUBDIVISIONS WITH LOTS LESS THAN SIXTY (60) FEET

THESE MODIFICATIONS CONSTITUTE AN INCREASE IN THE MINIMUM FRONT YARD SETBACK FROM 10' TO 20'. ELIMINATION OF THE MINIMUM CORNER SIDE YARD SETBACK BECAUSE THERE ARE NO CORNER FRONT-LOADED SINGLE-FAMILY LOTS IN THE DEVELOPMENT. A MODIFICATION OF THE MINIMUM SIDE YARD SETBACK FROM 20% OF THE LOT WIDTH (5' MINIMUM) TO 5', AND A REDUCTION OF THE MINIMUM REAR YARD SETBACK FROM 25' TO 15'.

### Site Data Table

|                  |  |
|------------------|--|
| PROJECT:         | CLIFTON ROAD CONSERVATION SUBDIVISION                      |
| OWNER:           | DAVID ADAMS<br>6000 MAL WEATHERS ROAD<br>RALEIGH, NC 27603 |
| SITE ADDRESS:    | 0 PINE COUNTRY LANE<br>KNIGHTDALE, NC 27545                |
| PIN:             | 1743-73-8469   |
| WATERSHED:       | NEUSE RIVER  |
| TOWNSHIP:        | ST MATTHEWS  |
| PARCEL AREA:     | 32.05 AC   |
| CURRENT ZONING:  | RR1  |
| PROPOSED ZONING: | GR3 PUD  |

|                         |             |
|-------------------------|-------------|
| CURRENT USE:            | VACANT      |
| PROPOSED USE:           | RESIDENTIAL |
| SINGLE FAMILY SETBACKS: |             |
| FRONT:                  | 20'         |
| SIDE:                   | 5'          |
| REAR:                   | 15'         |
| COTTAGE SETBACKS:       |             |
| FRONT:                  | 10'         |
| BUILDING SEPARATION:    |             |
| MINIMUM:                | 6'          |

#### CONNECTIVITY INDEX (UDO 11.3(E)(7) AND UDO TABLE 11.3(E)(3))

THE MINIMUM CONNECTIVITY INDEX REQUIREMENT SET OUT IN UDO 11.3(E)(7) AND UDO TABLE 11.3(E)(3) IS MODIFIED TO REDUCE THE MINIMUM REQUIRED CONNECTIVITY INDEX SCORE FROM 1.40 TO 1.00, ACHIEVING A HIGHER CONNECTIVITY INDEX SCORE ON THIS SITE WOULD REQUIRE THE CONSTRUCTION OF ROAD CONNECTIONS THROUGH ENVIRONMENTALLY SENSITIVE AREAS OR AS A RESULT OF THE CLUSTERING OF COTTAGE BUILDINGS. THE SCORE ALLOWS DEVELOPMENT ON THE PROPERTY WITH LIMITED DISTURBANCE TO ENVIRONMENTALLY SENSITIVE AREAS.

CONSISTENT WITH THE UDO'S STATED PURPOSE OF PRESERVING ECOLOGICALLY SENSITIVE AREAS, PROVIDING FOR ADEQUATE OPEN SPACE, CREATING ATTRACTIVE AND HARMONIOUS COMMUNITIES, FACILITATING ECONOMIC GROWTH, AND ENSURING THE AVAILABILITY OF WELL-ENGINEERED, WELL-BUILT, AND HIGH-QUALITY HOUSING, THE PROPOSED MODIFICATION WILL ENSURE COMPATIBILITY WITH SURROUNDING AREAS WHILE PROVIDING A PEDESTRIAN CONNECTION TO THE SURROUNDING AREAS.

#### OFF-STREET PARKING REQUIREMENT (UDO 9.3.3)

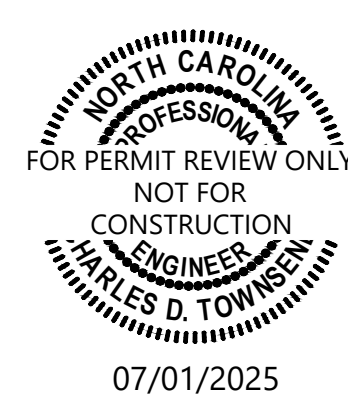
THE COTTAGE DWELLING USE IS NOT CURRENTLY LISTED IN THE TABLE OF PARKING REQUIREMENTS IN UDO 9.3.3. CONSISTENT WITH ZONING CONDITIONS, THE MINIMUM NUMBER OF PARKING SPACES FOR COTTAGE DWELLINGS SHALL BE 1 PER SPACE PER DWELLING UNIT AND THE MAXIMUM NUMBER OF PARKING SPACES FOR COTTAGE DWELLINGS SHALL BE 2.05 SPACES PER DWELLING UNIT.

#### PAYMENT IN LIEU OF CERTAIN CLIFTON ROAD RIGHT-OF-WAY IMPROVEMENTS (UDO 10.3.10.4)

THE REQUIREMENT SET OUT IN UDO 13.10(A) TO BRING THE CLIFTON ROAD RIGHT-OF-WAY ADJACENT TO THE DEVELOPMENT UP TO THE STANDARD OF UDO 10.4 IS MODIFIED SO THAT STREET IMPROVEMENTS (CURB & GUTTER, SIDEWALKS, ETC.) DO NOT HAVE TO BE MADE ON THE PORTIONS OF THE ADJACENT CLIFTON ROAD RIGHT-OF-WAY IMPROVEMENT LOCATED WITHIN OR NORTH OF THE FIFTY (50) FOOT RIPARIAN BUFFER ON EITHER SIDE OF THE EAST-TO-WEST JURISDICTIONAL STREAM THAT RUNS THROUGH THE PROJECT PROPERTY AND BISECTS CLIFTON ROAD NORTH OF THE ROAD LABELED "ROAD A" IN THE MASTER PLAN. FURTHER DEVELOPMENT NORTH OF THE PROJECT IS UNLIKELY AND CREATING POTENTIALLY UNNECESSARY ENVIRONMENTAL IMPACTS TO JURISDICTIONAL WETLANDS AND STREAM DOES NOT ALIGN WITH THE OVERALL THEME OF CONSERVATION. TO THE EXTENT NECESSARY, UDO 10.3 IS MODIFIED TO PROVIDE THAT THE TOWN WILL ACCEPT PAYMENT IN LIEU OF THE ABOVE-LISTED CLIFTON RIGHT-OF-WAY IMPROVEMENTS. THE DEVELOPER SHALL PAY THE PAYMENT IN LIEU OF THE ABOVE-LISTED STREET RIGHT-OF-WAY IMPROVEMENTS IN A SINGLE LUMP SUM PRIOR TO APPROVAL OF THE FINAL PLAT. THE AMOUNT WILL BE ESTIMATED BY A PROFESSIONAL ENGINEER AND REVIEWED BY THE TOWN OF KNIGHTDALE.



Know what's below.  
Call before you dig.



07/01/2025

vhb.com



VHB Engineering NC, P.C.  
940 Main Campus Drive  
Suite 500  
Raleigh, NC 27606  
919.829.0328  
Corp. # C-3705



Legend

| Exist. | Prop. |                                    | Exist. | Prop. |                                |
|--------|-------|------------------------------------|--------|-------|--------------------------------|
|        |       | PROPERTY LINE                      |        |       | CONCRETE                       |
|        |       | PROJECT LIMIT LINE                 |        |       | HEAVY DUTY PAVEMENT            |
|        |       | RIGHT-OF-WAY/PROPERTY LINE         |        |       | BUILDINGS                      |
|        |       | EASEMENT                           |        |       | RIPRAP                         |
|        |       | BUILDING SETBACK                   |        |       | CONSTRUCTION EXIT              |
|        |       | PARKING SETBACK                    |        |       | TOP OF CURB ELEVATION          |
|        |       | BASELINE                           |        |       | BOTTOM OF CURB ELEVATION       |
|        |       | CONSTRUCTION LAYOUT                |        |       | SPOT ELEVATION                 |
|        |       | ZONING LINE                        |        |       | TOP & BOTTOM OF WALL ELEVATION |
|        |       | TOWN LINE                          |        |       | BORING LOCATION                |
|        |       | LIMIT OF DISTURBANCE               |        |       | TEST PIT LOCATION              |
|        |       | WETLAND LINE WITH FLAG             |        |       | MONITORING WELL                |
|        |       | FLOODPLAIN                         |        |       | UNDERDRAIN                     |
|        |       | BORDERING LAND SUBJECT TO FLOODING |        |       | DRAIN                          |
|        |       | WETLAND BUFFER ZONE                |        |       | ROOF DRAIN                     |
|        |       | NO DISTURB ZONE                    |        |       | SEWER                          |
|        |       | 200' RIVERFRONT AREA               |        |       | FORCE MAIN                     |
|        |       | GRAVEL ROAD                        |        |       | OVERHEAD WIRE                  |
|        |       | EDGE OF PAVEMENT                   |        |       | WATER                          |
|        |       | BITUMINOUS BERM                    |        |       | FIRE PROTECTION                |
|        |       | BITUMINOUS CURB                    |        |       | DOMESTIC WATER                 |
|        |       | CONCRETE CURB                      |        |       | GAS                            |
|        |       | CURB AND GUTTER                    |        |       | ELECTRIC                       |
|        |       | EXTRUDED CONCRETE CURB             |        |       | STEAM                          |
|        |       | MONOLITHIC CONCRETE CURB           |        |       | TELEPHONE                      |
|        |       | PRECAST CONC. CURB                 |        |       | FIRE ALARM                     |
|        |       | SLOPED GRAN. EDGING                |        |       | CABLE TV                       |
|        |       | VERT. GRAN. CURB                   |        |       | CATCH BASIN CONCENTRIC         |
|        |       | LIMIT OF CURB TYPE                 |        |       | CATCH BASIN ECCENTRIC          |
|        |       | SAWCUT                             |        |       | DOUBLE CATCH BASIN CONCENTRIC  |
|        |       | BUILDING                           |        |       | DOUBLE CATCH BASIN ECCENTRIC   |
|        |       | BUILDING ENTRANCE                  |        |       | GUTTER INLET                   |
|        |       | LOADING DOCK                       |        |       | DRAIN MANHOLE CONCENTRIC       |
|        |       | BOLLARD                            |        |       | DRAIN MANHOLE ECCENTRIC        |
|        |       | DUMPSTER PAD                       |        |       | TRENCH DRAIN                   |
|        |       | SIGN                               |        |       | PLUG OR CAP                    |
|        |       | DOUBLE SIGN                        |        |       | CLEANOUT                       |
|        |       | STEEL GUARDRAIL                    |        |       | FLARED END SECTION             |
|        |       | WOOD GUARDRAIL                     |        |       | HEADWALL                       |
|        |       | PATH                               |        |       | SEWER MANHOLE CONCENTRIC       |
|        |       | TREE LINE                          |        |       | SEWER MANHOLE ECCENTRIC        |
|        |       | WIRE FENCE                         |        |       | CURB STOP & BOX                |
|        |       | FENCE                              |        |       | WATER VALVE & BOX              |
|        |       | STOCKADE FENCE                     |        |       | TAPPING SLEEVE, VALVE & BOX    |
|        |       | STONE WALL                         |        |       | FIRE DEPARTMENT CONNECTION     |
|        |       | RETAINING WALL                     |        |       | FIRE HYDRANT                   |
|        |       | STREAM / POND / WATER COURSE       |        |       | WATER METER                    |
|        |       | DETENTION BASIN                    |        |       | POST INDICATOR VALVE           |
|        |       | HAY BALES                          |        |       | WATER WELL                     |
|        |       | SILT FENCE                         |        |       | GAS GATE                       |
|        |       | SILT SOCK / STRAW WATTLE           |        |       | GAS METER                      |
|        |       | MINOR CONTOUR                      |        |       | ELECTRIC MANHOLE               |
|        |       | MAJOR CONTOUR                      |        |       | ELECTRIC METER                 |
|        |       | PARKING COUNT                      |        |       | LIGHT POLE                     |
|        |       | COMPACT PARKING STALLS             |        |       | TELEPHONE MANHOLE              |
|        |       | DOUBLE YELLOW LINE                 |        |       | TRANSFORMER PAD                |
|        |       | STOP LINE                          |        |       | UTILITY POLE                   |
|        |       | CROSSWALK                          |        |       | GUY POLE                       |
|        |       | ACCESSIBLE CURB RAMP               |        |       | GUY WIRE & ANCHOR              |
|        |       | ACCESSIBLE PARKING                 |        |       | HAND HOLE                      |
|        |       | VAN-ACCESSIBLE PARKING             |        |       | PULL BOX                       |
|        |       | MATCHLINE                          |        |       |                                |

Abbreviations

| General |                                 |
|---------|---------------------------------|
| ABAN    | ABANDON                         |
| ACR     | ACCESSIBLE CURB RAMP            |
| ADJ     | ADJUST                          |
| APPROX  | APPROXIMATE                     |
| BIT     | BITUMINOUS                      |
| BS      | BOTTOM OF SLOPE                 |
| BWLL    | BROKEN WHITE LANE LINE          |
| CONC    | CONCRETE                        |
| DYCL    | DOUBLE YELLOW CENTER LINE       |
| EL      | ELEVATION                       |
| ELEV    | ELEVATION                       |
| EV      | ELECTRIC VEHICLE CHARGING SPACE |
| EX      | EXISTING                        |
| FDN     | FOUNDATION                      |
| FFE     | FIRST FLOOR ELEVATION           |
| GRAN    | GRANITE                         |
| GTD     | GRADE TO DRAIN                  |
| LA      | LANDSCAPE AREA                  |
| LOD     | LIMIT OF DISTURBANCE            |
| MAX     | MAXIMUM                         |
| MIN     | MINIMUM                         |
| NIC     | NOT IN CONTRACT                 |
| NTS     | NOT TO SCALE                    |
| PERF    | PERFORATED                      |
| PROP    | PROPOSED                        |
| REM     | REMOVE                          |
| RET     | RETAIN                          |
| R&D     | REMOVE AND DISPOSE              |
| R&R     | REMOVE AND RESET                |
| SWEL    | SOLID WHITE EDGE LINE           |
| SWLL    | SOLID WHITE LANE LINE           |
| TS      | TOP OF SLOPE                    |
| TYP     | TYPICAL                         |
| Utility |                                 |
| CB      | CATCH BASIN                     |
| CMP     | CORRUGATED METAL PIPE           |
| CO      | CLEANOUT                        |
| DCB     | DOUBLE CATCH BASIN              |
| DMH     | DRAIN MANHOLE                   |
| CIP     | CAST IRON PIPE                  |
| COND    | CONDUIT                         |
| DIP     | DUCTILE IRON PIPE               |
| FES     | FLARED END SECTION              |
| FM      | FORCE MAIN                      |
| F&G     | FRAME AND GRATE                 |
| GI      | GUTTER INLET                    |
| GT      | GREASE TRAP                     |
| HDPE    | HIGH DENSITY POLYETHYLENE PIPE  |
| HH      | HANDHOLE                        |
| HW      | HEADWALL                        |
| HYD     | HYDRANT                         |
| INV     | INVERT ELEVATION                |
| I=      | INVERT ELEVATION                |
| LP      | LIGHT POLE                      |
| MES     | METAL END SECTION               |
| PIV     | POST INDICATOR VALVE            |
| PWW     | PAVED WATER WAY                 |
| PVC     | POLYVINYLCHLORIDE PIPE          |
| RCP     | REINFORCED CONCRETE PIPE        |
| R=      | RIM ELEVATION                   |
| RIM=    | RIM ELEVATION                   |
| SMH     | SEWER MANHOLE                   |
| TSV     | TAPPING SLEEVE, VALVE AND BOX   |
| UG      | UNDERGROUND                     |
| UP      | UTILITY POLE                    |

Notes

- General**
- THE "NORTH CAROLINA 811 LAW" REQUIRES FOR THE CONTRACTOR TO CALL 811 AT LEAST 3 WORKING DAYS IN ADVANCE OF THE PLANNED WORK TO ALLOW TIME FOR MARKING. THAT THE MARKS BE RESPECTED AND PROTECTED, AND THAT EXCAVATION BE COMPLETED CAREFULLY.
  - CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SECURITY AND JOB SAFETY. CONSTRUCTION ACTIVITIES SHALL BE IN ACCORDANCE WITH OSHA STANDARDS AND LOCAL REQUIREMENTS.
  - ACCESSIBLE ROUTES, PARKING SPACES, RAMPS, SIDEWALKS AND WALKWAYS SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE FEDERAL AMERICANS WITH DISABILITIES ACT AND WITH STATE AND LOCAL LAWS AND REGULATIONS (WHICHEVER ARE MORE STRINGENT).
  - AREAS DISTURBED DURING CONSTRUCTION AND NOT RESTORED WITH IMPERVIOUS SURFACES (BUILDINGS, PAVEMENTS, WALKS, ETC.) SHALL FOLLOW THE NPDES SPECIFICATIONS FOR SITE SPECIFIC SEEDING MIXTURES.
  - WITHIN THE LIMITS OF THE BUILDING FOOTPRINT, THE SITE CONTRACTOR SHALL PERFORM EARTHWORK OPERATIONS REQUIRED UP TO SUBGRADE ELEVATIONS.
  - WORK WITHIN THE LOCAL RIGHTS-OF-WAY SHALL CONFORM TO LOCAL MUNICIPAL STANDARDS. WORK WITHIN STATE RIGHTS-OF-WAY SHALL CONFORM TO THE LATEST EDITION OF THE STATE HIGHWAY DEPARTMENTS STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.
  - UPON AWARD OF CONTRACT, CONTRACTOR SHALL MAKE NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN NECESSARY PERMITS, PAY FEES, AND POST BONDS ASSOCIATED WITH THE WORK INDICATED ON THE DRAWINGS, IN THE SPECIFICATIONS, AND IN THE CONTRACT DOCUMENTS. DO NOT CLOSE OR OBSTRUCT ROADWAYS, SIDEWALKS, AND FIRE HYDRANTS, WITHOUT APPROPRIATE PERMITS.
  - TRAFFIC SIGNAGE AND PAVEMENT MARKINGS SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
  - AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
  - IN THE EVENT THAT SUSPECTED CONTAMINATED SOIL, GROUNDWATER, AND OTHER MEDIA ARE ENCOUNTERED DURING EXCAVATION AND CONSTRUCTION ACTIVITIES BASED ON VISUAL, OLFACTORY, OR OTHER EVIDENCE, THE CONTRACTOR SHALL STOP WORK IN THE VICINITY OF THE SUSPECT MATERIAL TO AVOID FURTHER SPREADING OF THE MATERIAL, AND SHALL NOTIFY THE OWNER IMMEDIATELY SO THAT THE APPROPRIATE TESTING AND SUBSEQUENT ACTION CAN BE TAKEN.
  - CONTRACTOR SHALL PREVENT DUST, SEDIMENT, AND DEBRIS FROM EXITING THE SITE AND SHALL BE RESPONSIBLE FOR CLEANUP, REPAIRS AND CORRECTIVE ACTION IF SUCH OCCURS.
  - DAMAGE RESULTING FROM CONSTRUCTION LOADS SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO OWNER.
  - CONTRACTOR SHALL CONTROL STORMWATER RUNOFF DURING CONSTRUCTION TO PREVENT ADVERSE IMPACTS TO OFF SITE AREAS, AND SHALL BE RESPONSIBLE TO REPAIR RESULTING DAMAGES, IF ANY, AT NO COST TO OWNER.
  - DESIGN OF THE ACCESS IMPROVEMENTS AT THE INTERSECTIONS OF THE SITE WITH BETHLEHEM ROAD AND OLD FAISON ROAD IS BY DRMP AND IS SHOWN HEREON FOR REFERENCE ONLY

Utilities

- THE LOCATIONS, SIZES, AND TYPES OF EXISTING UTILITIES ARE SHOWN AS AN APPROXIMATE REPRESENTATION ONLY. THE OWNER OR IT'S REPRESENTATIVE(S) HAVE NOT INDEPENDENTLY VERIFIED THIS INFORMATION AS SHOWN ON THE PLANS. THE UTILITY INFORMATION SHOWN DOES NOT GUARANTEE THE ACTUAL EXISTENCE, SERVICEABILITY, OR OTHER DATA CONCERNING THE UTILITIES, NOR DOES IT GUARANTEE AGAINST THE POSSIBILITY THAT ADDITIONAL UTILITIES MAY BE PRESENT THAT ARE NOT SHOWN ON THE PLANS. PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL VERIFY AND DETERMINE THE EXACT LOCATIONS, SIZES, AND ELEVATIONS OF THE POINTS OF CONNECTIONS TO EXISTING UTILITIES AND, SHALL CONFIRM THAT THERE ARE NO INTERFERENCES WITH EXISTING UTILITIES AND THE PROPOSED UTILITY ROUTES, INCLUDING ROUTES WITHIN THE PUBLIC RIGHTS OF WAY.
- WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, OR EXISTING CONDITIONS DIFFER FROM THOSE SHOWN SUCH THAT THE WORK CANNOT BE COMPLETED AS INTENDED, THE LOCATION, ELEVATION, AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED IN WRITING TO THE OWNER'S REPRESENTATIVE FOR THE RESOLUTION OF THE CONFLICT AND CONTRACTOR'S FAILURE TO NOTIFY PRIOR TO PERFORMING ADDITIONAL WORK RELEASES OWNER FROM OBLIGATIONS FOR ADDITIONAL PAYMENTS WHICH OTHERWISE MAY BE WARRANTED TO RESOLVE THE CONFLICT.
- SET CATCH BASIN RIMS, AND INVERTS OF SEWERS, DRAINS, AND DITCHES IN ACCORDANCE WITH ELEVATIONS ON THE GRADING AND UTILITY PLANS.
- RIM ELEVATIONS FOR DRAIN AND SEWER MANHOLES, WATER VALVE COVERS, GAS GATES, ELECTRIC AND TELEPHONE PULL BOXES, AND MANHOLES, AND OTHER SUCH ITEMS, ARE APPROXIMATE AND SHALL BE SET/RESET AS FOLLOWS:
  - PAVEMENTS AND CONCRETE SURFACES: FLUSH
  - ALL SURFACES ALONG ACCESSIBLE ROUTES: FLUSH
  - LANDSCAPE, TOPSOIL AND SEED, AND OTHER EARTH SURFACE AREAS: ONE INCH ABOVE SURROUNDING AREA AND TAPER EARTH TO THE RIM ELEVATION.
- THE LOCATION, SIZE, DEPTH, AND SPECIFICATIONS FOR CONSTRUCTION OF PROPOSED PRIVATE UTILITY SERVICES SHALL BE INSTALLED ACCORDING TO THE REQUIREMENTS PROVIDED BY AND APPROVED BY, THE RESPECTIVE UTILITY COMPANY (GAS, TELEPHONE, ELECTRIC, FIRE ALARM, ETC.). FINAL DESIGN LOADS AND LOCATIONS TO BE COORDINATED WITH OWNER AND ARCHITECT.
- CONTRACTOR SHALL MAKE ARRANGEMENTS FOR AND SHALL BE RESPONSIBLE FOR PAYING FEES FOR POLE RELOCATION AND FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE, FIRE ALARM, AND ANY OTHER PRIVATE UTILITIES, WHETHER WORK IS PERFORMED BY CONTRACTOR OR BY THE UTILITIES COMPANY.
- UTILITY PIPE MATERIALS SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED ON THE PLAN:
  - WATER PIPES SHALL BE DUCTILE IRON PIPE (DIP).
  - SANITARY SEWER PIPES SHALL BE DUCTILE IRON PIPE (DIP) OR POLYVINYL CHLORIDE (PVC) SEWER PIPE.
  - STORM DRAINAGE PIPES SHALL BE REINFORCED CONCRETE PIPE (RCP) AND HIGH DENSITY POLYETHYLENE (HDPE), OR APPROVED EQUIVALENT. HDPE PIPE MAY BE USED WHEN COVER FROM SUBGRADE IS A MINIMUM OF TWO NOMINAL PIPE DIAMETERS.
- CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR AND SHALL FURNISH EXCAVATION, INSTALLATION, AND BACKFILL OF ELECTRICAL FURNISHED SITEMARK RELATED ITEMS SUCH AS PULL BOXES, CONDUITS, DUCT BANKS, LIGHT POLE BASES, AND CONCRETE PADS. CONTRACTOR SHALL FURNISH CONCRETE ENCASEMENT OF DUCT BANKS IF REQUIRED BY THE UTILITY COMPANY AND AS INDICATED ON THE DRAWINGS.
- CONTRACTOR SHALL EXCAVATE AND BACKFILL TRENCHES FOR GAS IN ACCORDANCE WITH GAS COMPANY'S REQUIREMENTS.
- ALL DRAINAGE AND SANITARY STRUCTURE INTERIOR DIAMETERS (4" MIN) SHALL BE DETERMINED BY THE MANUFACTURER BASED ON THE PIPE CONFIGURATIONS SHOWN ON THESE PLANS AND LOCAL MUNICIPAL STANDARDS. FOR MANHOLES THAT ARE 20 FEET IN DEPTH AND GREATER, THE MINIMUM DIAMETER SHALL BE 5 FEET.
- LOCATION OF FITTINGS SHOWN HEREON ARE APPROXIMATE ONLY. CONTRACTOR SHALL DETERMINE ALL FITTING REQUIREMENTS AND LOCATIONS FROM ACTUAL FIELD CONDITIONS.
- PIPE LENGTHS SHOWN HEREON ARE FROM CENTERLINE TO CENTERLINE OF STRUCTURE AND ARE APPROXIMATE. CONTRACTOR SHALL DETERMINE ACTUAL PIPE LENGTHS FROM FIELD CONDITIONS.
- INVERTS CONTROL ELEVATIONS AT ALL STRUCTURES, SLOPES AND LENGTHS ARE APPROXIMATE ONLY.
- REFER TO SHEET C4.00 FOR CITY OF RALEIGH UTILITY NOTES.

Layout and Materials

- DIMENSIONS ARE FROM THE FACE OF CURB, FACE OF BUILDING, FACE OF WALL, AND CENTER LINE OF PAVEMENT MARKINGS, UNLESS OTHERWISE NOTED.
- CURB RADII ARE 3 FEET TO FACE OF CURB UNLESS OTHERWISE NOTED.
- CURBING SHALL BE 30" CONCRETE CURB AND GUTTER WITHIN THE SITE UNLESS OTHERWISE INDICATED ON THE PLANS.
- SEE ARCHITECTURAL DRAWINGS FOR EXACT BUILDING DIMENSIONS AND DETAILS CONTIGUOUS TO THE BUILDING, INCLUDING SIDEWALKS, RAMPS, BUILDING ENTRANCES, STAIRWAYS, UTILITY PENETRATIONS, CONCRETE DOOR PADS, COMPACTOR PAD, LOADING DOCKS, BOLLARDS, ETC.
- PROPOSED BOUNDS AND ANY EXISTING PROPERTY LINE MONUMENTATION DISTURBED DURING CONSTRUCTION SHALL BE SET OR RESET BY A PROFESSIONAL LAND SURVEYOR.
- PRIOR TO START OF CONSTRUCTION, CONTRACTOR SHALL VERIFY EXISTING PAVEMENT ELEVATIONS AT INTERFACE WITH PROPOSED PAVEMENTS, AND EXISTING GROUND ELEVATIONS ADJACENT TO DRAINAGE OUTLETS TO ASSURE PROPER TRANSITIONS BETWEEN EXISTING AND PROPOSED FACILITIES.
- SYMBOLS AND LEGENDS OF PROJECT FEATURES ARE GRAPHIC REPRESENTATIONS AND ARE NOT NECESSARILY

SCALED TO THEIR ACTUAL DIMENSIONS OR LOCATIONS ON THE DRAWINGS. THE CONTRACTOR SHALL REFER TO THE DETAIL SHEET DIMENSIONS, MANUFACTURERS' LITERATURE, SHOP DRAWINGS AND FIELD MEASUREMENTS OF SUPPLIED PRODUCTS FOR LAYOUT OF THE PROJECT FEATURES.

CONTRACTOR SHALL NOT RELY SOLELY ON ELECTRONIC VERSIONS OF PLANS, SPECIFICATIONS, AND DATA FILES THAT ARE OBTAINED FROM THE DESIGNERS, BUT SHALL VERIFY LOCATION OF PROJECT FEATURES IN ACCORDANCE WITH THE PAPER COPIES OF THE PLANS AND SPECIFICATIONS THAT ARE SUPPLIED AS PART OF THE CONTRACT DOCUMENTS.

Demolition

- CONTRACTOR SHALL REMOVE AND DISPOSE OF EXISTING MANMADE SURFACE FEATURES WITHIN THE LIMIT OF WORK INCLUDING BUILDINGS, STRUCTURES, PAVEMENTS, SLABS, CURBING, FENCES, UTILITY POLES, SIGNS, ETC. UNLESS INDICATED OTHERWISE ON THE DRAWINGS. REMOVE AND DISPOSE OF EXISTING UTILITIES, FOUNDATIONS AND UNSUITABLE MATERIAL BENEATH AND FOR A DISTANCE OF 10 FEET BEYOND THE PROPOSED BUILDING FOOTPRINT INCLUDING EXTERIOR COLUMNS.
- EXISTING UTILITIES SHALL BE TERMINATED, UNLESS OTHERWISE NOTED, IN CONFORMANCE WITH LOCAL, STATE AND INDIVIDUAL UTILITY COMPANY STANDARD SPECIFICATIONS AND DETAILS. THE CONTRACTOR SHALL COORDINATE UTILITY SERVICE DISCONNECTS WITH THE UTILITY REPRESENTATIVES.
- CONTRACTOR SHALL DISPOSE OF DEMOLITION DEBRIS IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, ORDINANCES AND STATUTES.
- THE DEMOLITION LIMITS DEPICTED IN THE PLANS IS INTENDED TO AID THE CONTRACTOR DURING THE BIDDING AND CONSTRUCTION PROCESS AND IS NOT INTENDED TO DEPICT EACH AND EVERY ELEMENT OF DEMOLITION. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING THE DETAILED SCOPE OF DEMOLITION BEFORE SUBMITTING ITS BID/PROPOSAL TO PERFORM THE WORK AND SHALL MAKE NO CLAIMS AND SEEK NO ADDITIONAL COMPENSATION FOR CHANGED CONDITIONS OR UNFORESEEN OR LATENT SITE CONDITIONS RELATED TO ANY CONDITIONS DISCOVERED DURING EXECUTION OF THE WORK.
- UNLESS OTHERWISE SPECIFICALLY PROVIDED ON THE PLANS OR IN THE SPECIFICATIONS, THE ENGINEER HAS NOT PREPARED DESIGNS FOR AND SHALL HAVE NO RESPONSIBILITY FOR THE PRESENCE, DISCOVERY, REMOVAL, ABATEMENT OR DISPOSAL OF HAZARDOUS MATERIALS, TOXIC WASTES OR POLLUTANTS AT THE PROJECT SITE. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR ANY CLAIMS OF LOSS, DAMAGE, EXPENSE, DELAY, INJURY OR DEATH ARISING FROM THE PRESENCE OF HAZARDOUS MATERIAL AND CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE ENGINEER FROM ANY CLAIMS MADE IN CONNECTION THEREWITH. MOREOVER, THE ENGINEER SHALL HAVE NO ADMINISTRATIVE OBLIGATIONS OF ANY TYPE WITH REGARD TO ANY CONTRACTOR AMENDMENT INVOLVING THE ISSUES OF PRESENCE, DISCOVERY, REMOVAL, ABATEMENT OR DISPOSAL OF ASBESTOS OR OTHER HAZARDOUS MATERIALS.

Erosion Control

- PRIOR TO STARTING ANY OTHER WORK ON THE SITE, THE CONTRACTOR SHALL NOTIFY APPROPRIATE AGENCIES AND SHALL INSTALL EROSION CONTROL MEASURES AS SHOWN ON THE PLANS AND AS IDENTIFIED IN FEDERAL, STATE AND LOCAL APPROVAL DOCUMENTS PERTAINING TO THIS PROJECT.
- CONTRACTOR SHALL INSPECT AND MAINTAIN EROSION CONTROL MEASURES, AND REMOVE SEDIMENT THEREFROM ON A WEEKLY BASIS AND WITHIN TWELVE HOURS AFTER EACH STORM EVENT AND DISPOSE OF SEDIMENTS IN AN UPLAND AREA SUCH THAT THEY DO NOT ENCUMBER OTHER DRAINAGE STRUCTURES AND PROTECTED AREAS.
- CONTRACTOR SHALL BE FULLY RESPONSIBLE TO CONTROL CONSTRUCTION SUCH THAT SEDIMENTATION SHALL NOT AFFECT REGULATORY PROTECTED AREAS, WHETHER SUCH SEDIMENTATION IS CAUSED BY WATER, WIND OR DIRECT DEPOSIT.
- CONTRACTOR SHALL PERFORM CONSTRUCTION SEQUENCING SUCH THAT EARTH MATERIALS ARE EXPOSED FOR A MINIMUM OF TIME BEFORE THEY ARE COVERED, SEEDED OR OTHERWISE STABILIZED TO PREVENT EROSION.
- UPON COMPLETION OF CONSTRUCTION AND ESTABLISHMENT OF PERMANENT GROUND COVER, CONTRACTOR SHALL REMOVE AND DISPOSE OF EROSION CONTROL MEASURES AND CLEAN SEDIMENT AND DEBRIS FROM ENTIRE DRAINAGE AND SEWER SYSTEMS.

Existing Conditions Information

- THIS SURVEY MAP IS INTENDED TO REPRESENT THE EXISTING CONDITIONS/TOPOGRAPHY ON A PORTION OF THE PROPERTY AND ALL ENCUMBRANCES UPON THE PROPERTY MAY NOT BE SHOWN.
- HORIZONTAL DATUM IS NAD 83-2011 AND VERTICAL DATUM IS NAVD88.
- THIS DRAWING DOES NOT CONFORM TO N.C. GS47-30 AND THEREFORE IS NOT FOR RECORDATION.
- SURVEY INFORMATION BASED ON ALTA/NSPS SURVEY COMPLETED ON 11/14/2025 BY CMP PROFESSIONAL LAND SURVEYORS.
- TREES SHOWN HEREON MAY NOT REPRESENT ALL VEGETATION ON THE SUBJECT PROPERTY.
- THE SUBJECT PROPERTY LIES IN ZONES X (AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE AND FUTURE CONDITIONS 1% ANNUAL CHANCE FLOODPLAIN), BASED ON THE FLOOD INSURANCE RATE MAP COMMUNITY MAP NUMBERS 3720174300K AND 3720175300K DATED JULY 19, 2022.

Document Use

- THESE PLANS AND CORRESPONDING CADD DOCUMENTS ARE INSTRUMENTS OF PROFESSIONAL SERVICE, AND SHALL NOT BE USED, IN WHOLE OR IN PART, FOR ANY PURPOSE OTHER THAN FOR WHICH IT WAS CREATED WITHOUT THE EXPRESSED, WRITTEN CONSENT OF VHB. ANY UNAUTHORIZED USE, REUSE, MODIFICATION OR ALTERATION, INCLUDING AUTOMATED CONVERSION OF THIS DOCUMENT SHALL BE AT THE USER'S SOLE RISK WITHOUT LIABILITY OR LEGAL EXPOSURE TO VHB.
- CONTRACTOR SHALL NOT RELY SOLELY ON ELECTRONIC VERSIONS OF PLANS, SPECIFICATIONS, AND DATA FILES THAT ARE OBTAINED FROM THE DESIGNERS, BUT SHALL VERIFY LOCATION OF PROJECT FEATURES IN ACCORDANCE WITH THE PAPER COPIES OF THE PLANS AND SPECIFICATIONS THAT ARE SUPPLIED AS PART OF THE CONTRACT DOCUMENTS.
- SYMBOLS AND LEGENDS OF PROJECT FEATURES ARE GRAPHIC REPRESENTATIONS AND ARE NOT NECESSARILY SCALED TO THEIR ACTUAL DIMENSIONS OR LOCATIONS ON THE DRAWINGS. THE CONTRACTOR SHALL REFER TO THE DETAIL SHEET DIMENSIONS, MANUFACTURERS' LITERATURE, SHOP DRAWINGS AND FIELD MEASUREMENTS OF SUPPLIED PRODUCTS FOR LAYOUT OF THE PROJECT FEATURES.



VHB Engineering NC, P.C.  
940 Main Campus Drive  
Suite 500  
Raleigh, NC 27606  
919.829.0328  
Corp. # C-3705



Clifton Road  
Conservation Subdivision  
0 Pine Country Lane  
Knightdale, NC

| No. | Revision           | Date       | Appr'd. |
|-----|--------------------|------------|---------|
| 1   | TOWN OF KNIGHTDALE | 04/25/2025 | CDT     |
| 2   | TOWN OF KNIGHTDALE | 06/04/2025 | CDT     |
| 3   | TOWN OF KNIGHTDALE | 07/01/2025 | CDT     |

|             |     |            |     |
|-------------|-----|------------|-----|
| Designed by | DDH | Checked by | CDT |
|-------------|-----|------------|-----|

Master Plan  
Review  
March 24, 2025

Legend and General Notes

Know what's below.  
Call before you dig.

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT TOWN OF KNIGHTDALE AND CITY OF RALEIGH STANDARDS AND SPECIFICATIONS AND NCDOT, IF APPLICABLE

811

Know what's below.  
Call before you dig.

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT TOWN OF KNIGHTDALE AND CITY OF RALEIGH STANDARDS AND SPECIFICATIONS AND NCDOT, IF APPLICABLE

811

Know what's below.  
Call before you dig.

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT TOWN OF KNIGHTDALE AND CITY OF RALEIGH STANDARDS AND SPECIFICATIONS AND NCDOT, IF APPLICABLE



PRELIMINARY DEVELOPMENT SUMMARY

PROJECT: CLIFTON RD CONSERVATION SUBDIVISION

OWNER : DAVID ADAMS  
6000 MAL WEATHERS RD  
RALEIGH, NC 27603

DEVELOPER: DR HORTON, INC  
7208 FALLS OF NEUSE RD, STE 201  
RALEIGH, NC 27615

PIN: 1743-73-8469

SITE ADDRESS: 0 PINE COUNTRY LN

WATERSHED: NEUSE RIVER - C\_NSW

TOWNSHIP: ST MATTHEWS  
TRACT AREA: 32.05  
EX ZONING: RR1 (RURAL RESIDENTIAL 1)  
PROPOSED ZONING: GR3 PUD  
EX USE: VACANT  
PROPOSED USE: RESIDENTIAL  
EX STRUCTURES: N/A  
RES UNITS PROPOSED: 95  
TRADITIONAL SINGLE FAMILY DETACHED: 27  
COTTAGES: 68

DENSITY: 95 UNITS/32.05 AC= 2.96 UNITS/AC

RECREATIONAL OPEN SPACE CALCULATIONS

OPEN SPACE REQUIRED: 3.97 AC  
TOTAL BEDS OUTSIDE 1/2 MILE: 333 BEDS (95 UNITS\*3.5 UNITS/BED)  
OPEN SPACE CALC: 333 beds \* 520 SF= 173,160 SF (3.97 AC)  
OPEN SPACE PROVIDED: 4.00± AC MIN.

ACTIVE OPEN SPACE  
ACTIVE OPEN SPACE REQ'D: 1.98 AC (0.5\*3.97 AC)  
ACTIVE OPEN SPACE PROVIDED: 2.00± AC  
PASSIVE OPEN SPACE  
PASSIVE OPEN SPACE REQ'D: 1.98 AC (0.5\*3.97 AC)  
PASSIVE OPEN SPACE PROVIDED: 2.52± AC  
UNDISTURBED OPEN SPACE:  
10± ACRES (REFER TO OPEN SPACE PLAN)  
WETLAND IMPACT: NO IMPACTS PLANNED

PARKING  
TRADITIONAL SF UNITS: (2/UNIT \* 27) = 54 SPACES  
COTTAGE UNITS: (2/UNIT \* 68 UNITS) = 136 SPACES  
TOTAL PROVIDED: 178 SPACES

CONNECTIVITY INDEX: 2 LINKS/ 2 NODES= 1.0 (DEV ALLOWANCE)



DEVELOPMENT SUMMARY

- 50' TRADITIONAL SINGLE FAMILY LOT**  
(ADDITIONAL ANTI-MONOTONY PROVISIONS  
SEE PUD REPORT)
- COTTAGE PRODUCT STYLE A**  
ADDITIONAL ANTI-MONOTONY PROVISIONS  
SEE PUD REPORT
- COTTAGE PRODUCT STYLE B**  
ADDITIONAL ANTI-MONOTONY PROVISIONS  
SEE PUD REPORT
- COTTAGE COURTS, PASSIVE OPEN SPACE**  
ADDITIONAL ANTI-MONOTONY PROVISIONS  
SEE PUD REPORT
- ACTIVE OPEN SPACE**  
(ADDITIONAL ANTI-MONOTONY PROVISIONS  
SEE PUD REPORT)



VHB Engineering NC, P.C.  
940 Main Campus Drive  
Suite 500  
Raleigh, NC 27606  
919.829.0328  
Corp. # C-3705

Site Legend

- WETLANDS
- 50' NEUSE RIVER BUFFER
- PROPERTY LINE
- BUILDING SETBACK
- CONCRETE SIDEWALK
- GREENWAY
- GREENWAY EASEMENT
- LOT LINE

Clifton Road  
Conservation Subdivision  
0 Pine Country Lane  
Knightdale, NC

| No. | Revision           | Date       | Appr'd. |
|-----|--------------------|------------|---------|
| 1   | TOWN OF KNIGHTDALE | 04/25/2025 | CDT     |
| 2   | TOWN OF KNIGHTDALE | 06/04/2025 | CDT     |
| 3   | TOWN OF KNIGHTDALE | 07/01/2025 | CDT     |

Designed by DDH Checked by CDT

Issued for March 24, 2025

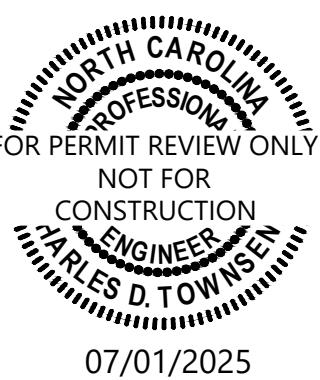
Master Plan  
Review

Illustrative Master Plan



Know what's below.  
Call before you dig.

ALL CONSTRUCTION SHALL BE IN ACCORDANCE  
WITH CURRENT TOWN OF KNIGHTDALE AND CITY  
OF RALEIGH STANDARDS AND SPECIFICATIONS  
AND NCDOT, IF APPLICABLE



C1.00

Sheet 3 of 11

Project Number  
39510.03





VHB Engineering NC, P.C.  
940 Main Campus Drive  
Suite 500  
Raleigh, NC 27606  
919.829.0328  
Corp. # C-3705

PASSIVE OPEN SPACE

Open Space A = 11,200 SF (0.26 AC)  
Open Space B = 5,240 SF (0.12 AC)  
Open Space C = 23,580 SF (0.54 AC)  
Open Space D = 11,000 SF (0.25 AC)  
Open Space E = 19,000 SF (0.44 AC)  
Open Space F = 9,000 SF (0.21 AC)  
Open Space G = 11,895 SF (0.27 AC)  
Open Space H = 13,340 SF (0.30 AC)  
Open Space I = 5,615 SF (0.13 AC)

Total Passive Open Space: 109,870 SF (2.52 AC)

ACTIVE OPEN SPACE

Total Active Open Space: 87,250 SF (2.00 AC)

TOTAL PROGRAMMED OPEN SPACE

197,120 SF (4.52 ACRES)\*

\*REFER TO PUD DOCUMENT FOR ACTIVATION INFORMATION

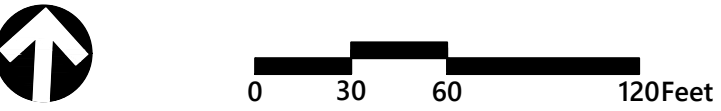
UNDISTURBED OPEN SPACE  
435,600 (10 ACRES)

LEGEND

- Active Open Space
- Passive Open Space
- Undisturbed Open Space

Site Legend

- WETLANDS
- 50' NEUSE RIVER BUFFER
- PROPERTY LINE
- BUILDING SETBACK
- CONCRETE SIDEWALK
- GREENWAY
- GREENWAY EASEMENT
- LOT LINE



Clifton Road Conservation Subdivision  
0 Pine Country Lane  
Knightdale, NC

| No. | Revision           | Date       | Appr'd. |
|-----|--------------------|------------|---------|
| 1   | TOWN OF KNIGHTDALE | 04/25/2025 | CDT     |
| 2   | TOWN OF KNIGHTDALE | 06/04/2025 | CDT     |
| 3   | TOWN OF KNIGHTDALE | 07/01/2025 | CDT     |

Designed by DDH  
Checked by CDT  
Issued for  
Date  
March 24, 2025

Master Plan Review

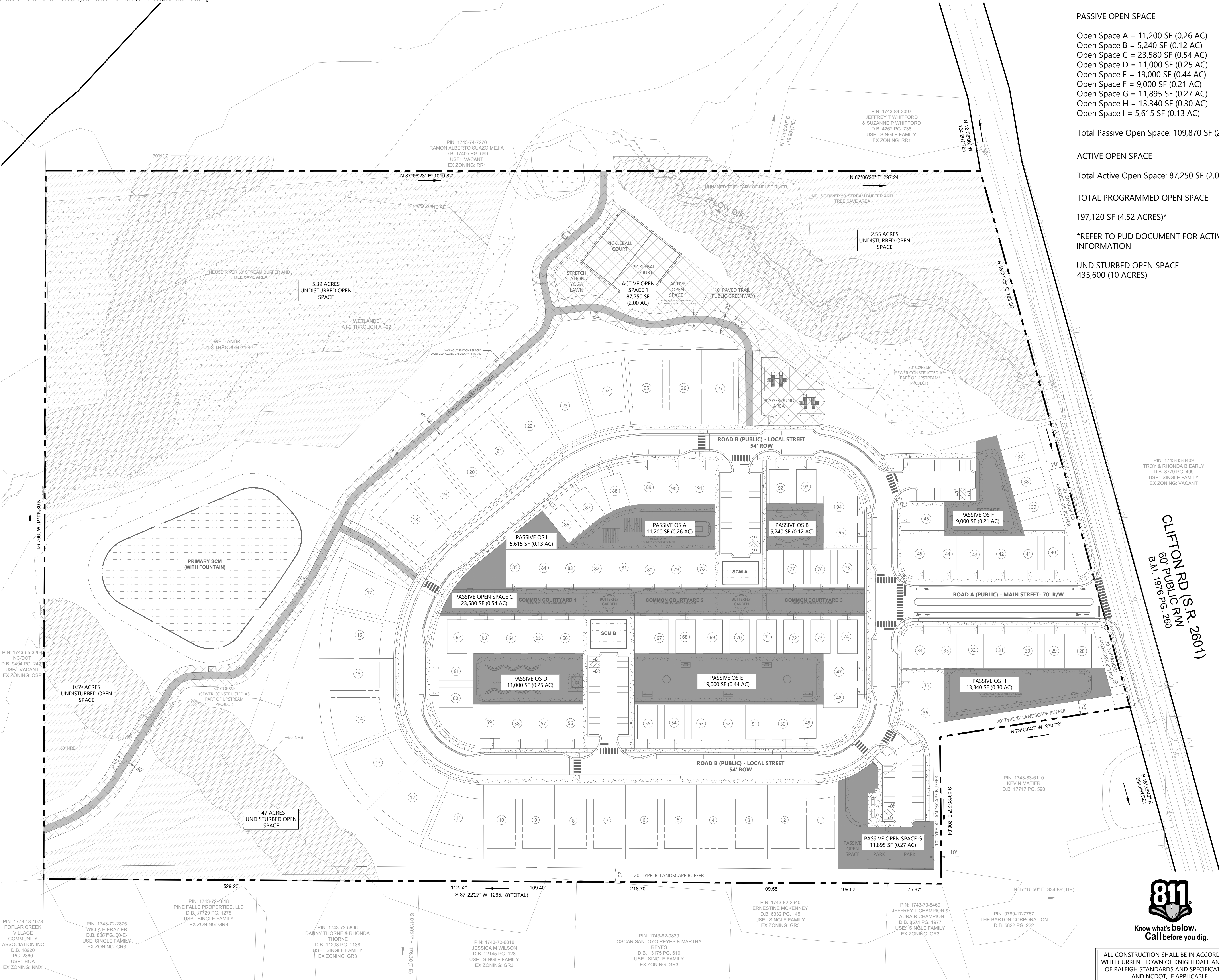
Open Space Plan

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

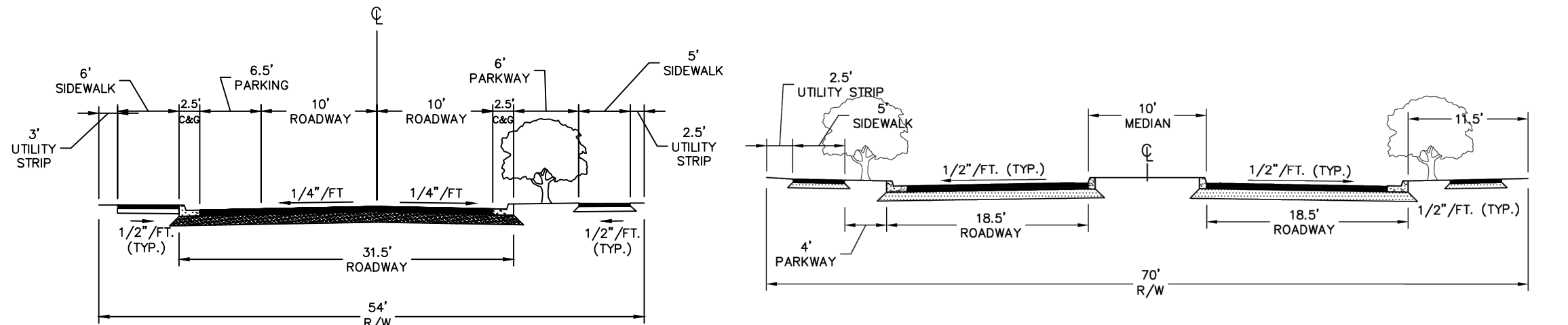
ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT TOWN OF KNIGHTDALE AND CITY OF RALEIGH STANDARDS AND SPECIFICATIONS AND NCDOT, IF APPLICABLE

North Carolina Professional Engineer  
NOT FOR CONSTRUCTION  
WALTER D. TOWNS  
07/01/2025

C1.01  
Sheet 4 of 11  
Project Number 39510.03







**TYPICAL CROSS SECTION - 54' ROW**  
NOT TO SCALE  
Source: TOWN OF KNIGHTDALE  
DET 3.02-2

**TYPICAL CROSS SECTION - 70' ROW**  
NOT TO SCALE  
Source: TOWN OF KNIGHTDALE  
DET 3.02-2

| Site Data Table |  |                         |                    |
|-----------------|--|-------------------------|--------------------|
| PROJECT:        | CLIFTON ROAD CONSERVATION SUBDIVISION                      | CURRENT ZONING:         | RR1 GR3 PUD        |
| OWNER:          | DAVID ADAMS<br>6000 MAL WEATHERS ROAD<br>RALEIGH, NC 27603 | PROPOSED ZONING:        |                    |
| SITE ADDRESS:   | 0 PINE COUNTRY LANE<br>KNIGHTDALE, NC 27545                | CURRENT USE:            | VACANT RESIDENTIAL |
|                 |  | PROPOSED USE:           |                    |
|                 |  | SINGLE FAMILY SETBACKS: |                    |
| PIN:            | 1743-73-8469   | FRONT:                  | 20'                |
| WATERSHED:      | NEUSE RIVER  | SIDE:                   | 5'                 |
| TOWNSHIP:       | ST MATTHEWS  | REAR:                   | 15'                |
| PARCEL AREA:    | 32.05 AC   | COTTAGE SETBACKS:       |                    |
|                 |  | FRONT:                  | 10'                |
|                 |  | BUILDING SEPARATION:    |                    |
|                 |  | MIN:                    | 6'                 |

| STREET TABLE    |                                  |          |             |                          |
|-----------------|----------------------------------|----------|-------------|--------------------------|
| STREET NAME     | TYPE                             | ROW (LF) | LENGTH (LF) | POSTED SPEED LIMIT (MPH) |
| ROAD A (PUBLIC) | LOCAL STREET - ON STREET PARKING | 54       | 305         | 15 MPH                   |
| ROAD B (PUBLIC) | MAIN STREET                      | 70       | 1,960       | 15 MPH                   |
|                 |                                  | TOTAL    | 2,265       | 20 MPH                   |

#### TRANSPORTATION NETWORK

AN EXCEPTION TO SECTION 10.5A OF THE UDO, TO ALLOW A MINIMUM CENTERLINE RADIUS OF 100 FEET FOR ROAD A (PUBLIC) LOCAL STREET - ON STREET PARKING.

USE: SINGLE FAMILY  
EX ZONING: RR1

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

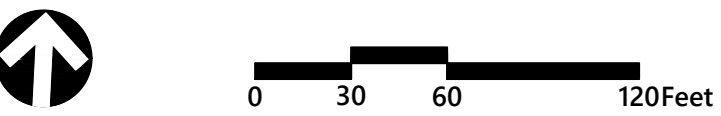
NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

NEUSE RIVER 50' STREAM BUFFER AND TREE SAVE AREA

- Site Notes**
- CONSTRUCTION DRAWINGS SHALL BE SUBMITTED AND APPROVED BY THE TOWN OF KNIGHTDALE PRIOR TO CONSTRUCTION.
  - PERMANENT AND TEMPORARY SINGLE REQUIRES AN APPROVED SIGN PERMIT PRIOR TO INSTALLATION. SIGNAGE IS A SEPARATE SUBMITTAL REVIEW, AND APPROVAL.
  - SUBDIVISION LOTS MUST BE LOT OF RECORD PRIOR TO RECEIVING A BUILDING PERMIT .
  - PRIOR TO OBTAINING BUILDING PERMITS, CONTRACTOR TO SCHEDULE A PRECONSTRUCTION MEETING THROUGH TOWN OF KNIGHTDALE.
  - TOWN OF KNIGHTDALE WILL BE RESPONSIBLE FOR PAYMENT OF THE MONTHLY COSTS FOR PUBLIC STREET LIGHTING AND THE DEVELOPER WILL BE RESPONSIBLE FOR ALL INITIAL FEES CHARGED WITH THE LIGHT INSTALLATION. ALL INSTALLATION FEES ARE REQUIRED TO BE PAID UP FRONT AT THE TIME OF INSTALLATION.
  - PUBLIC STREET LIGHTING WILL BE REQUIRED FOR ALL PUBLIC STREETS.
  - PARALLEL PARKING SPACES ALONG PROPOSED PUBLIC STREET WILL BE PRIVATELY MAINTAINED.
  - ALL RETAINING WALLS AND AREA OUTSIDE OF THE LOTS WILL BE MAINTAINED BY THE COMMUNITY H.O.A.
  - PRIOR TO RELEASE OF THE CERTIFICATE OF OCCUPANCY, THE OWNER/ BUILDER MUST SUPPLY THE TOWN WITH A FINAL LETTER OF CERTIFICATION FROM LIGHTING ENGINEER, LIGHTING MANUFACTURER.
  - TREE PROTECTION FENCE AND SILT FENCE CANNOT SHARE THE SAME POLE.
  - IF THE RETAINING WALL IS GREATER THAN 4' IN HEIGHT, A SEPARATE BUILDING PERMIT WILL BE REQUIRED.
  - IF RETAINING WALL(S) ARE GREATER THAN 3' IN HEIGHT THEY MUST HAVE SAFETY RAIL.
  - MAIL KIOSK PARKING INSIDE PUBLIC RIGHTS OF WAY ARE NOT MAINTAINED BY THE TOWN OF KNIGHTDALE. ANY PARKING SPACES ALONG A PUBLIC STREET SHALL BE SEPARATED BY A 2' WIDE X 8' DEEP CONCRETE BAND TO SEPARATE PUBLIC STREET FROM PRIVATE PARKING MAINTENANCE.
  - CLUSTER MAILBOXES TO BE LOCATED WITHIN NEIGHBORHOOD PHASE 1 OPEN SPACE VILLAGE GREEN. SHELTERED KIOSK LOCATION SHALL BE APPROVED BY USPS PRIOR TO SUBDIVISION APPROVAL. IF TEMPORARY LOCATIONS ARE REQUIRED, APPROVAL LOCATIONS SHALL BE RECEIVED FROM USPS. MAIL KIOSK WILL HAVE ADA COMPLIANT RAMPS AND PARKING SPACES.
  - A HOMEOWNER'S ASSOCIATION (HOA) WILL OWN AND MAINTAIN ALL OPEN SPACE PARCELS, PRIVATE ALLEYS, AND WILL BE RESPONSIBLE FOR MAINTAINING ALL LANDSCAPING REQUIRED BY TOWN OF KNIGHTDALE UNIFIED DEVELOPMENT ORDINANCE (UDO).
  - PER UDO CH 10.5.H.2, ALL UTILITIES SHALL BE PLACED UNDERGROUND.

#### Site Legend

- WETLANDS
- 50' NEUSE RIVER BUFFER
- PROPERTY LINE
- BUILDING SETBACK
- CONCRETE SIDEWALK
- GREENWAY
- GREENWAY EASEMENT
- LOT LINE



## Clifton Road Conservation Subdivision

0 Pine Country Lane  
Knightdale, NC

| No. | Revision           | Date       | Appr'd. |
|-----|--------------------|------------|---------|
| 1   | TOWN OF KNIGHTDALE | 04/25/2025 | CDT     |
| 2   | TOWN OF KNIGHTDALE | 06/04/2025 | CDT     |
| 3   | TOWN OF KNIGHTDALE | 07/01/2025 | CDT     |

Designed by **DDH** Checked by **CDT**

Issued for **Master Plan Review** Date **March 24, 2025**

#### Site Plan

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

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT TOWN OF KNIGHTDALE AND CITY OF RALEIGH STANDARDS AND SPECIFICATIONS AND NCDOT, IF APPLICABLE

**North Carolina Professional Engineer**  
FOR PERMIT REVIEW ONLY  
NOT FOR CONSTRUCTION  
WALTER D. TOWNS  
07/01/2025











**C2.00**  
Sheet 5 of 11  
Project Number 39510.03











VHB Engineering NC, P.C.  
940 Main Campus Drive  
Suite 500  
Raleigh, NC 27606  
919.829.0328  
Corp. # C-3705

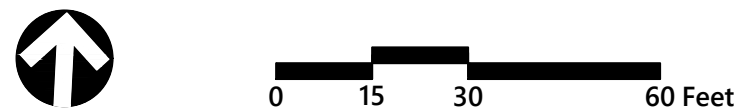




| Sign Summary |               |        |   |
|--------------|---------------|--------|---|
| Number       | Specification |        | Desc.   |
|              | Width         | Height |   |
| R1-1         | 30"           | 30"    |  |
| W11-2        | 30"           | 30"    |  |
| W16-7PL      | 30"           | 18"    |  |
| W7-3A        | 24            | 18"    |  |
| W8-1         | 30"           | 30"    |  |
| W13-1        | 24"           | 24"    |  |
| R7-8         | 12"           | 18"    |  |
| R7-8P        | 12"           | 6"     |  |
| R3-17        | 24"           | 18"    |  |
| R1-4         | 18"           | 6"     |  |

**Site Legend**

|   |                        |
|---|------------------------|
|  | WETLANDS               |
|  | 50' NEUSE RIVER BUFFER |
|  | PROPERTY LINE          |
|  | BUILDING SETBACK       |
|  | CONCRETE SIDEWALK      |
|  | GREENWAY               |
|  | GREENWAY EASEMENT      |
|  | LOT LINE               |



**Clifton Road  
Conservation Subdivision**  
0 Pine Country Lane  
Knightdale, NC

| No. | Revision           | Date       | Appvd. |
|-----|--------------------|------------|--------|
| 1   | TOWN OF KNIGHTDALE | 04/25/2025 | CDT    |
| 2   | TOWN OF KNIGHTDALE | 06/04/2025 | CDT    |
| 3   | TOWN OF KNIGHTDALE | 07/01/2025 | CDT    |

|   |                               |
|---|-------------------------------|
| Designed by<br><b>DDH</b>               | Checked by<br><b>CDT</b>      |
| Issued for<br><b>Master Plan Review</b> | Date<br><b>March 24, 2025</b> |

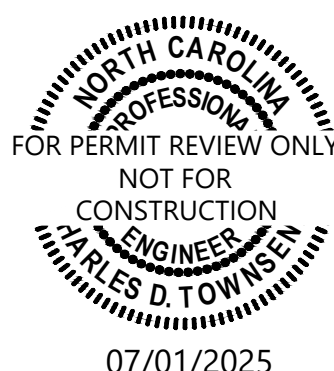
## Pavement Marking and Signage Plan

Drawing Number

# C2.01

6 of 11

Project Number  
**39510.03**



Know what's **below**  
Call before you dig

ALL CONSTRUCTION SHALL BE IN ACCORDANCE  
WITH CURRENT TOWN OF KNIGHTDALE AND CITY  
OF RALEIGH STANDARDS AND SPECIFICATIONS  
AND NCDOT, IF APPLICABLE



VHB Engineering NC, P.C.  
940 Main Campus Drive  
Suite 500  
Raleigh, NC 27606  
919.829.0328  
Corp. # C-3705





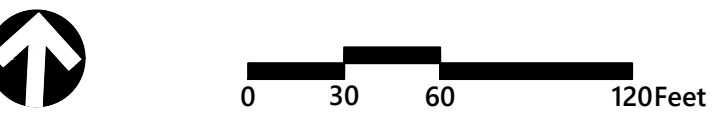
VHB Engineering NC, P.C.  
940 Main Campus Drive  
Suite 500  
Raleigh, NC 27606  
919.829.0328  
Corp. # C-3705

Site Notes

1. SEE SHEET C0.01 FOR FOR GENERAL AND GRADING NOTES.
2. THE STORM DRAINAGE LAYOUT IS CONCEPTUAL AND SUBJECT TO CHANGE. APPROVAL BY TOWN STAFF IS REQUIRED.
3. THE STORM DRAINAGE SYSTEM SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH TOWN OF KNIGHTDALE UDO AND ENGINEERING STANDARDS AND SPECIFICATIONS.
4. THE STORMWATER PLAN SHALL PROVIDE FOR ADEQUATE NITROGEN REDUCTION AND ATTENUATION OF STORMWATER RUNOFF.
5. FENCING AND LANDSCAPING FOR PROPOSED STORMWATER CONTROL MEASURES SHALL MEET TOWN OF KNIGHTDALE REQUIREMENTS FOR EACH TYPE OF MEASURE PROPOSED.
6. STORMWATER CONTROL MEASURES SHALL BE LOCATED IN OPEN SPACE AREAS DEDICATED TO AND MAINTAINED BY THE HOMEOWNER'S ASSOCIATION (HOA).
7. A MAINTENANCE PLAN ALONG WITH MEMORANDUM OF AGREEMENT MUST BE DEVELOPED FOR ALL STORMWATER CONTROL MEASURES (SCMS) INSTALLED TO ACHIEVE NITROGEN LOADING AND/OR FLOW ATTENUATING REQUIREMENTS AS PART OF THIS PROJECT. THIS MAINTENANCE PLAN IS REQUIRED TO BE RECORDED AT THE WAKE COUNTY REGISTER OF DEEDS PRIOR TO PLAT RECORDATION. PROOF OF SAID RECORDING WILL BE REQUIRED AT THE TIME OF PLAT RECORDATION.
8. MAINTENANCE AND ACCESS EASEMENTS ARE REQUIRED FOR ALL SCMS.
9. AT THE CONCLUSION OF THE PROJECT ALL SCMS INSTALLED ON-SITE MUST BE CERTIFIED BY A DESIGN PROFESSIONAL AND THE TOWN OF KNIGHTDALE ENGINEERING DIVISION MUST RECEIVE ALL AS-BUILT DRAWINGS PRIOR TO RECEIVING THE CERTIFICATE OF OCCUPANCY.
10. ALL SLOPES TO BE VEGETATED WITH GRASS SHALL BE A MAXIMUM OF 3:1. ANY SLOPES STEEPER THAN 3:1 SHALL BE STABILIZED WITH MATTING AND A MAINTENANCE FREE VEGETATION.
11. ALL ROOF DRAINS SHALL BE DIRECTED TO THE STORM DRAIN SYSTEM
12. AT THE CONCLUSION OF THE PROJECT ALL SCMS INSTALLED ON-SITE MUST BE CERTIFIED BY A DESIGN PROFESSIONAL AND THE TOWN OF KNIGHTDALE ENGINEERING DIVISION MUST RECEIVE ALL AS-BUILT DRAWINGS PRIOR TO RECEIVING THE PROJECT CLOSEOUT.

Site Legend

- WETLANDS
- 50' NEUSE RIVER BUFFER
- PROPERTY LINE
- BUILDING SETBACK
- CONCRETE SIDEWALK
- GREENWAY
- GREENWAY EASEMENT
- LOT LINE



Clifton Road  
Conservation Subdivision  
0 Pine Country Lane  
Knightdale, NC

| No. | Revision           | Date       | Appr. |
|-----|--------------------|------------|-------|
| 1   | TOWN OF KNIGHTDALE | 04/25/2025 | CDT   |
| 2   | TOWN OF KNIGHTDALE | 06/04/2025 | CDT   |
| 3   | TOWN OF KNIGHTDALE | 07/01/2025 | CDT   |

Designed by **DDH** Checked by **CDT**  
Issued for \_\_\_\_\_ Date \_\_\_\_\_  
March 24, 2025

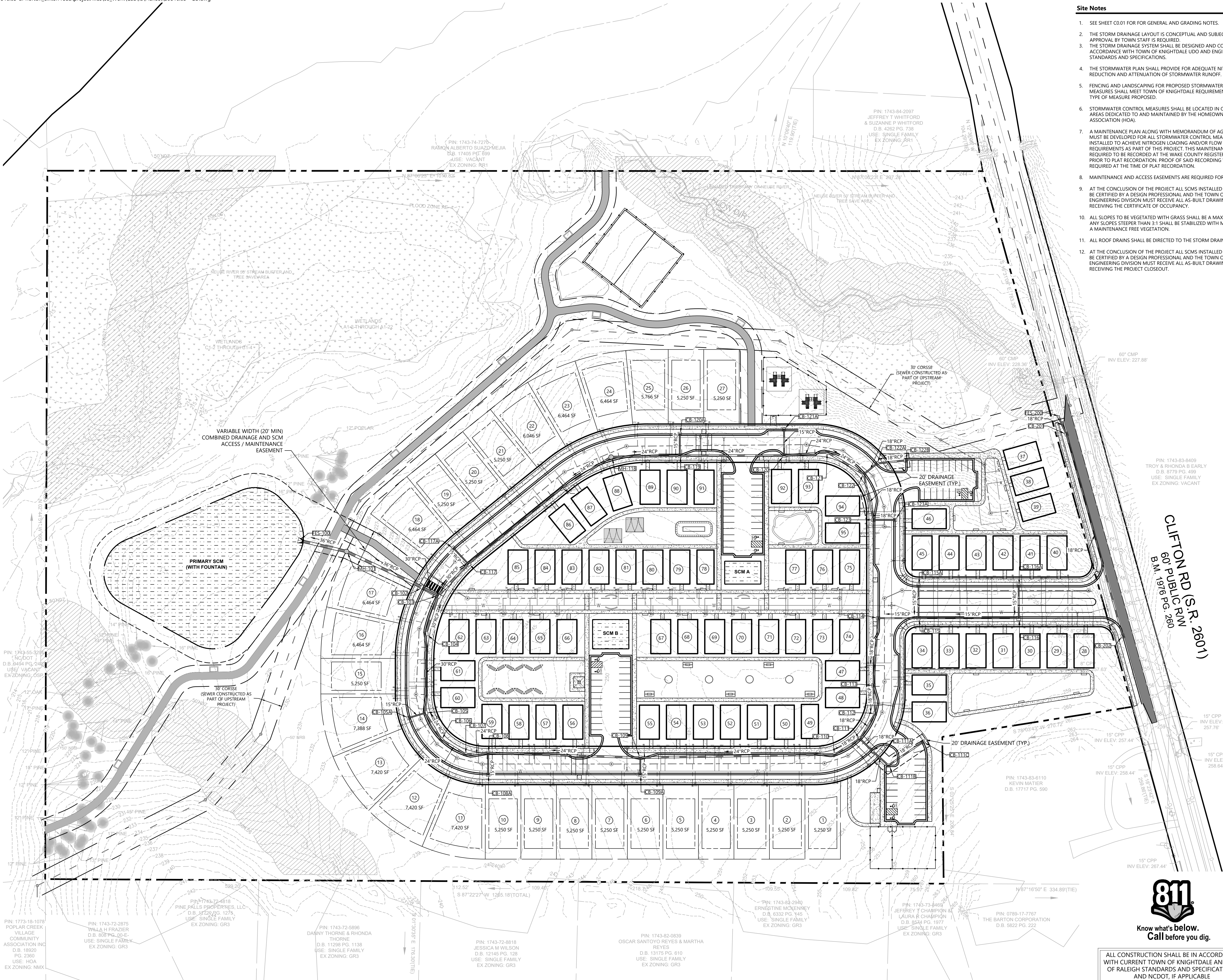
Master Plan  
Review

Stormwater Management  
Plan

Drawing Number  
**C3.00**  
Sheet 7 of 11  
Project Number  
39510.03  
07/01/2025

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

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT TOWN OF KNIGHTDALE AND CITY OF RALEIGH STANDARDS AND SPECIFICATIONS AND NCDOT, IF APPLICABLE





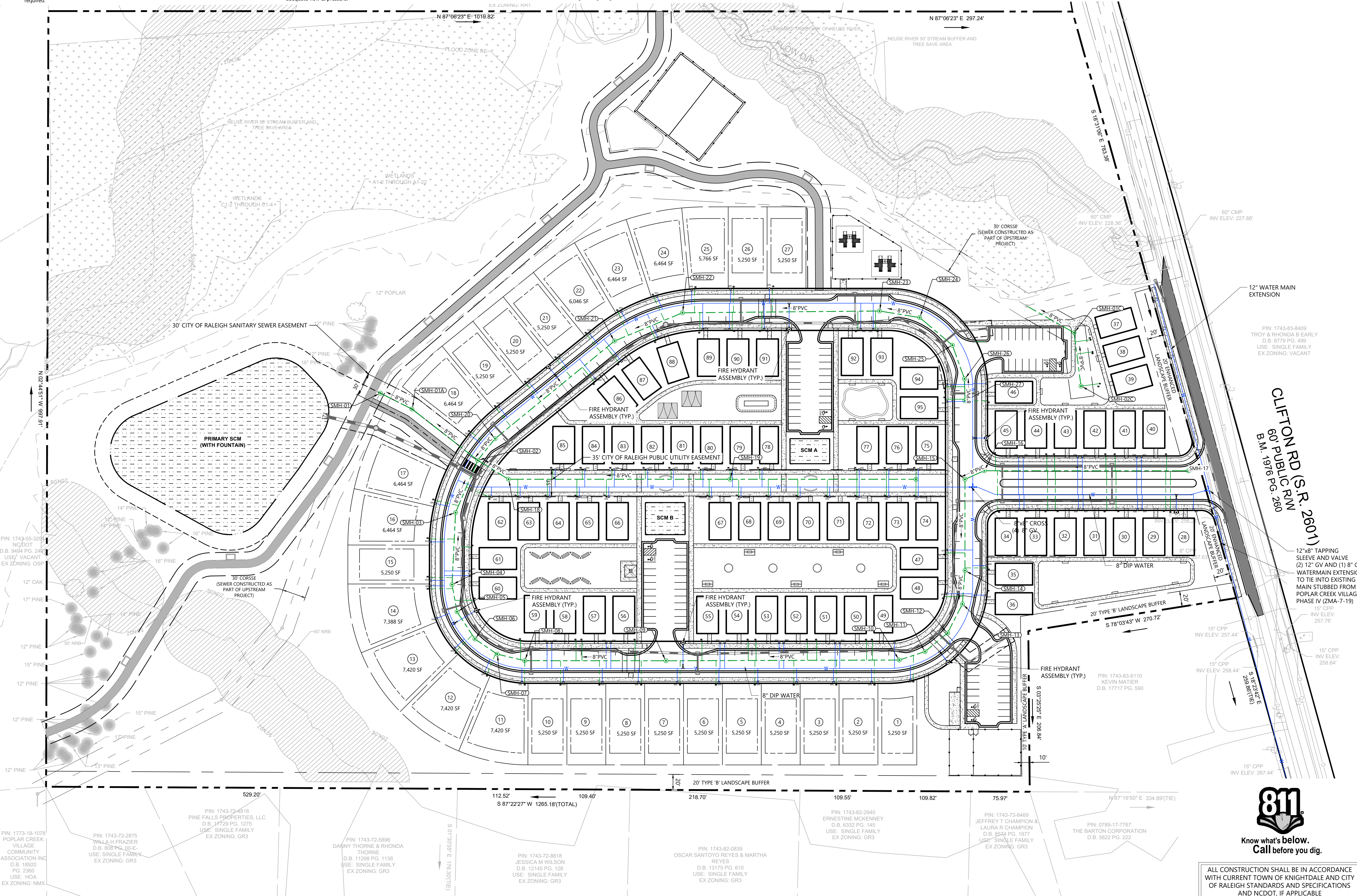
Utility Notes

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 wateline 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 wateline 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 2x2' 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.

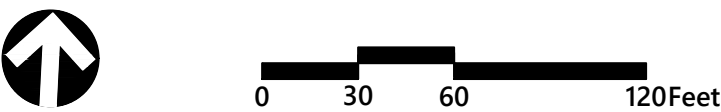
10. Inspections of 4" and larger water mains of the private distribution system will be inspected as part of the infrastructure permit.
11. Private sewer mains as part of a collection system are permitted and inspected under the private Infrastructure permit for sewer.
12. Any water or sewer services 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 upstream manhole.
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".

Water Allocation Compliance

| Major Subdivision                                 |    |
|---|----|
| Major Subdivision (Base Points)                   | 15 |
| Conservation of Natural Habitat (Public Greenway) | 10 |
| Construct a fountain within the SCM               | 4  |
| Outdoor Display of Public Art                     | 4  |
| Pickleball Courts                                 | 5  |
| IPBMA Certified Playground Equipment              | 4  |
| Stormwater- Underground Capture System            | 5  |
| Deck/Patio- More than 1,000 square feet           | 1  |
| Enhanced Roadside Landscaping and Hardscaping     | 2  |
| Total Required                                    | 50 |
| Total Provided                                    | 50 |



| Site Legend |                        |
|-------------|------------------------|
|             | WETLANDS               |
|             | 50' NEUSE RIVER BUFFER |
|             | PROPERTY LINE          |
|             | BUILDING SETBACK       |
|             | CONCRETE SIDEWALK      |
|             | GREENWAY               |
|             | GREENWAY EASEMENT      |
|             | LOT LINE               |



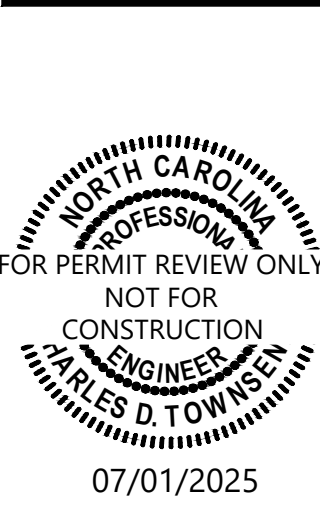
Clifton Road Conservation Subdivision  
0 Pine Country Lane  
Knightdale, NC

| No. | Revision           | Date       | Appr'd. |
|-----|--------------------|------------|---------|
| 1   | TOWN OF KNIGHTDALE | 04/25/2025 | CDT     |
| 2   | TOWN OF KNIGHTDALE | 06/04/2025 | CDT     |
| 3   | TOWN OF KNIGHTDALE | 07/01/2025 | CDT     |

|             |     |            |                |
|-------------|-----|------------|----------------|
| Designed by | DDH | Checked by | CDT            |
| Issued for  |     | Date       | March 24, 2025 |

Master Plan Review

Utility Plan



C4.00

Sheet 8 of 11

Project Number 39510.03

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT TOWN OF KNIGHTDALE AND CITY OF RALEIGH STANDARDS AND SPECIFICATIONS AND NCDOT, IF APPLICABLE





NOTES

1. STREET TREES SHALL BE LOCATED WITHIN THE RIGHT OF WAY.
2. STREET TREES SHALL BE PLANTED BY EACH BUILDER PRIOR TO RECEIVING C.O. FOR HOUSE.
3. ALL LANDSCAPING SHOULD BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE TOWN OF KNIGHTDALE'S UDO.
4. ALL PLANT MATERIALS TO COMPLY WITH AMERICAN STANDARD FOR NURSERY STOCK ANSI Z60.
5. CONTRACTOR ENGAGED IN LANDSCAPE IMPLEMENTATION SHALL BE A LANDSCAPE CONTRACTOR REGISTERED IN THE STATE OF NORTH CAROLINA.
6. SUBSTITUTIONS OF PLANT MATERIALS SPECIFIED CAN ONLY OCCUR WITH PRIOR APPROVAL BY LANDSCAPE ARCHITECT.
7. ALL NEW TREES TO HAVE A 5" DIAMETER SHREDDED HARDWOOD MULCH RING AT 4" DEEP UNLESS OTHERWISE NOTED OR LOCATED IN A PLANT BED PER SITE PLAN.
8. LANDSCAPE CONTRACTOR TO GUARANTEE PLANT MATERIALS FOR A ONE YEAR PERIOD FOLLOWING SUBSTANTIAL COMPLETION.
9. AREAS DAMAGED BY LANDSCAPE CONTRACTOR TO BE REPAIRED TO PRE-CONSTRUCTION CONDITION AT NO ADDITIONAL COST TO THE OWNER.
10. ALL LANDSCAPE ISLANDS SHALL BE GRADED FOR POSITIVE DRAINAGE WITH NO LOW SPOTS ALLOWING WATER TO BE TRAPPED.
11. ALL ABOVE GROUND UTILITIES MUST BE SCREENED.

100' SECTION OF 10' WIDE TYPE A BUFFER YARD

| SYMBOL | CODE | BOTANICAL / COMMON NAME                               | CONT             | MATURE WIDTH / HEIGHT | QTY |
|--------|------|---|------------------|-----------------------|-----|
| TREES  |      |   |                  |                       |     |
|        | CA   | CANOPY - Cornus x Rubra / Aurora Flowering Dogwood    | 2 1/2" Cal. Min. | 20'00'                | 3   |
|        | MG   | UNDERSTORY - Magnolia grandiflora / Southern Magnolia | 2 1/2" Cal. Min. | 10'10'                | 2   |
| SHRUBS |      |   |                  |                       |     |
|        | IV   | Ilex vomitoria / Yaupon Holly                         | 15 Gal. 5' Ht.   | 12'00" / 2'10"        | 6   |
|        | IE   | Ilex x 'Emily Bruner' / Emily Bruner Holly            | 15 Gal. 5' Ht.   | 10'00" / 6'12"        | 7   |
|        | IX   | Ilex x 'Magdalen' / Oakland™ Holly                    | 15 Gal. 5' Ht.   | 10' - 20' / 6'10"     | 7   |

100' SECTION OF 10' WIDE TYPE A BUFFER YARD

100' SECTION OF 20' WIDE TYPE B BUFFER YARD

| SYMBOL | CODE | BOTANICAL / COMMON NAME                               | CONT             | MATURE WIDTH / HEIGHT | QTY |
|--------|------|---|------------------|-----------------------|-----|
| TREES  |      |   |                  |                       |     |
|        | CA   | CANOPY - Cornus x Rubra / Aurora Flowering Dogwood    | 2 1/2" Cal. Min. | 20'00'                | 5   |
|        | MG   | UNDERSTORY - Magnolia grandiflora / Southern Magnolia | 2 1/2" Cal. Min. | 10'10'                | 3   |
| SHRUBS |      |   |                  |                       |     |
|        | IV   | Ilex vomitoria / Yaupon Holly                         | 15 Gal. 5' Ht.   | 12'00" / 2'10"        | 6   |
|        | IE   | Ilex x 'Emily Bruner' / Emily Bruner Holly            | 15 Gal. 5' Ht.   | 10'00" / 6'12"        | 7   |
|        | IX   | Ilex x 'Magdalen' / Oakland™ Holly                    | 15 Gal. 5' Ht.   | 10' - 20' / 6'10"     | 7   |

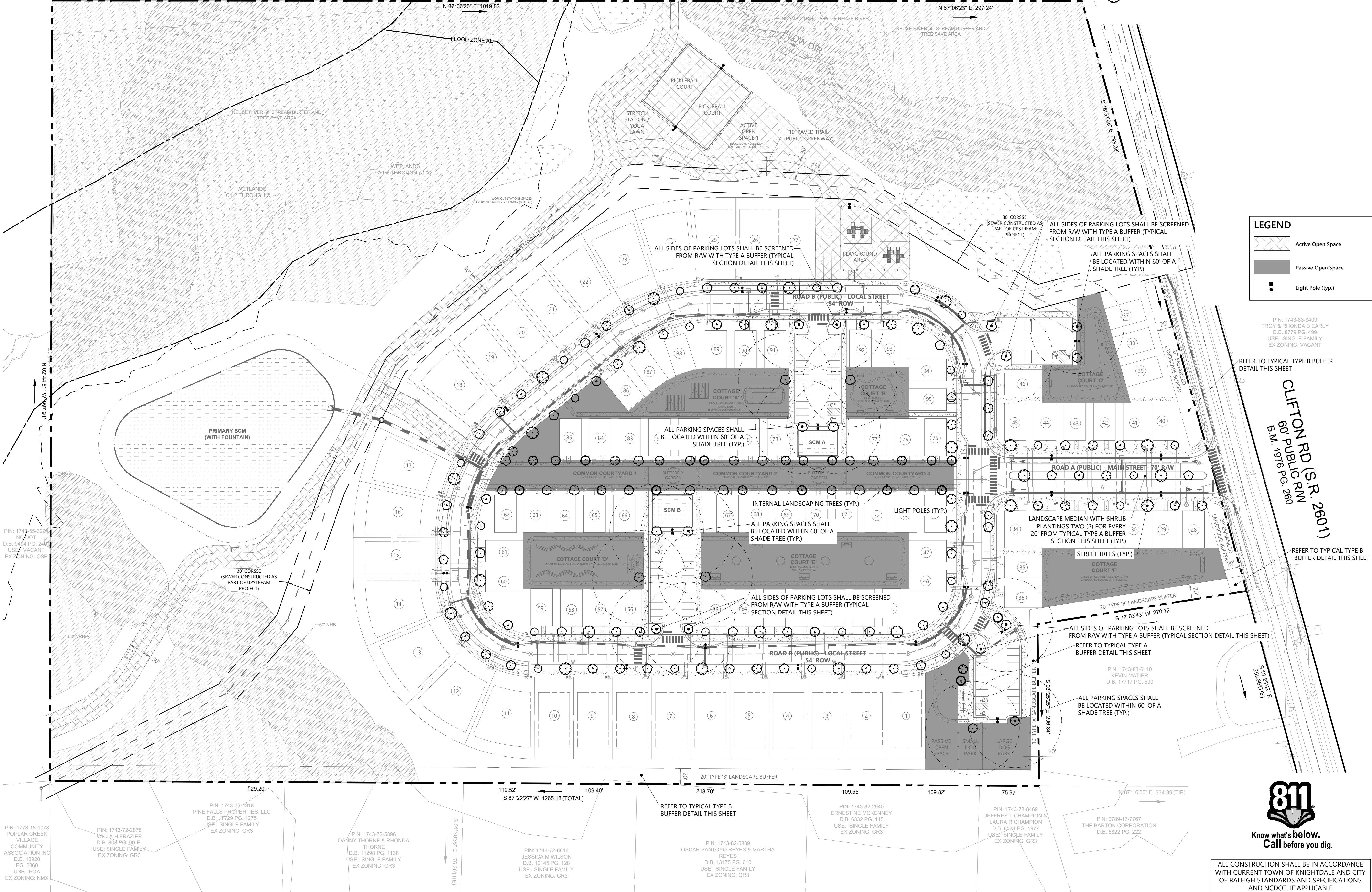
100' SECTION OF 20' WIDE TYPE B BUFFER YARD

TREE CHART

| SYMBOL | CODE | BOTANICAL / COMMON NAME  | ROOT | MIN INSTALLED SIZE     | TYPE        | NOTES                                   |
|--------|------|--|------|------------------------|-------------|---|
|        | AB   | Acer buergerianum / Trident Maple                                      | 8-88 | 2.5" Caliper, 12' Min. | Street Tree | Single Straight Leader - Full and Heavy |
|        | AS   | Acer saccharum / Sugar Maple   | 8-88 | 2.5" Caliper, 12' Min. | Street Tree | Single Straight Leader - Full and Heavy |
|        | AA   | Amelanchier arborea / Downy Serviceberry                               | 8-88 | 2.5" Caliper, 12' Min. | Internal    | Single Straight Leader - Full and Heavy |
|        | AC   | Halesia carolina / Silverbell  | 8-88 | 2.5" Caliper, 12' Min. | Internal    | Single Straight Leader - Full and Heavy |
|        | AJ   | Lagerstroemia indica / Crape Myrtle                                    | 8-88 | 2.5" Caliper, 12' Min. | Street Tree | Single Straight Leader - Full and Heavy |
|        | AL   | Magnolia grandiflora 'Little Gem' / Little Gem Dwarf Southern Magnolia | 8-88 | 2.5" Caliper, 12' Min. | Street Tree | Single Straight Leader - Full and Heavy |
|        | PA   | Prunus angustifolia / Chickadee Plum                                   | 8-88 | 2.5" Caliper, 12' Min. | Internal    | Single Straight Leader - Full and Heavy |
|        | PC   | Prunus caroliniana / Carolina Cherry Laurel                            | 8-88 | 2.5" Caliper, 12' Min. | Internal    | Single Straight Leader - Full and Heavy |
|        | QA   | Quercus laevis / Swamp Oak   | 8-88 | 2.5" Caliper, 12' Min. | Street Tree | Single Straight Leader - Full and Heavy |
|        | SA   | Sassafras albidum / Sassafras  | 8-88 | 2.5" Caliper, 12' Min. | Internal    | Single Straight Leader - Full and Heavy |



VHB Engineering NC, P.C.  
940 Main Campus Drive  
Suite 500  
Raleigh, NC 27606  
919.829.0328  
Corp. # C-3705

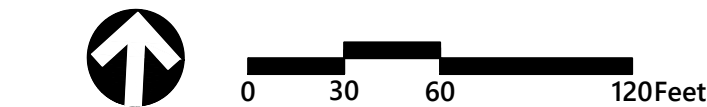


LEGEND

- Active Open Space
- Passive Open Space
- Light Pole (typ.)

Site Legend

- WETLANDS
- 50' NEUSE RIVER BUFFER
- PROPERTY LINE
- BUILDING SETBACK
- CONCRETE SIDEWALK
- GREENWAY
- GREENWAY EASEMENT
- LOT LINE



Clifton Road Conservation Subdivision  
0 Pine Country Lane  
Knightdale, NC

| No. | Revision           | Date       | Appr. |
|-----|--------------------|------------|-------|
| 1   | TOWN OF KNIGHTDALE | 04/25/2025 | CDT   |
| 2   | TOWN OF KNIGHTDALE | 06/04/2025 | CDT   |
| 3   | TOWN OF KNIGHTDALE | 07/01/2025 | CDT   |

Designed by DDH  
Checked by CDT  
March 24, 2025

Master Plan Review

Landscape Plan

Drawing Number

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

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT TOWN OF KNIGHTDALE AND CITY OF RALEIGH STANDARDS AND SPECIFICATIONS AND NCDOT, IF APPLICABLE

07/01/2025

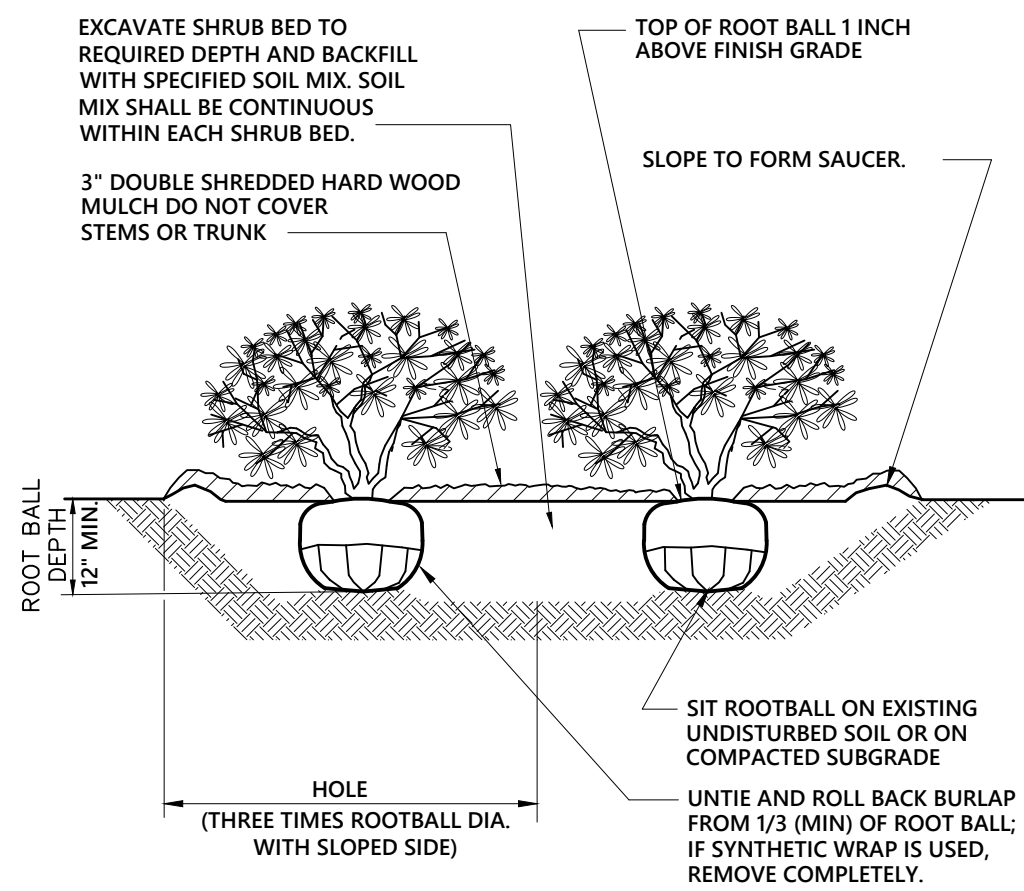
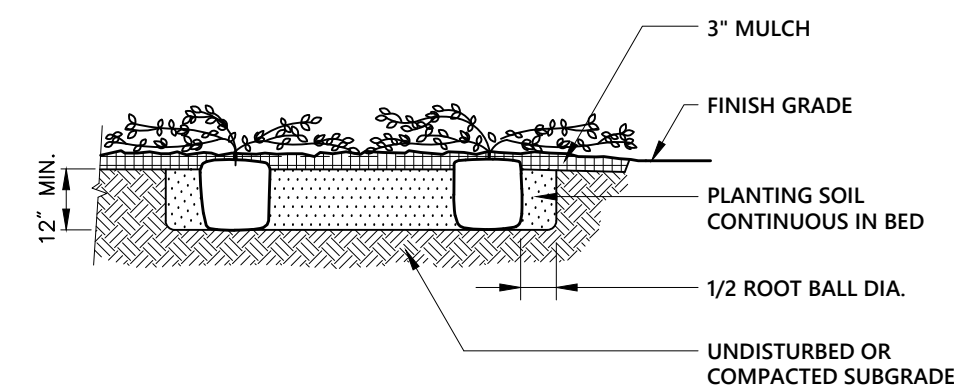
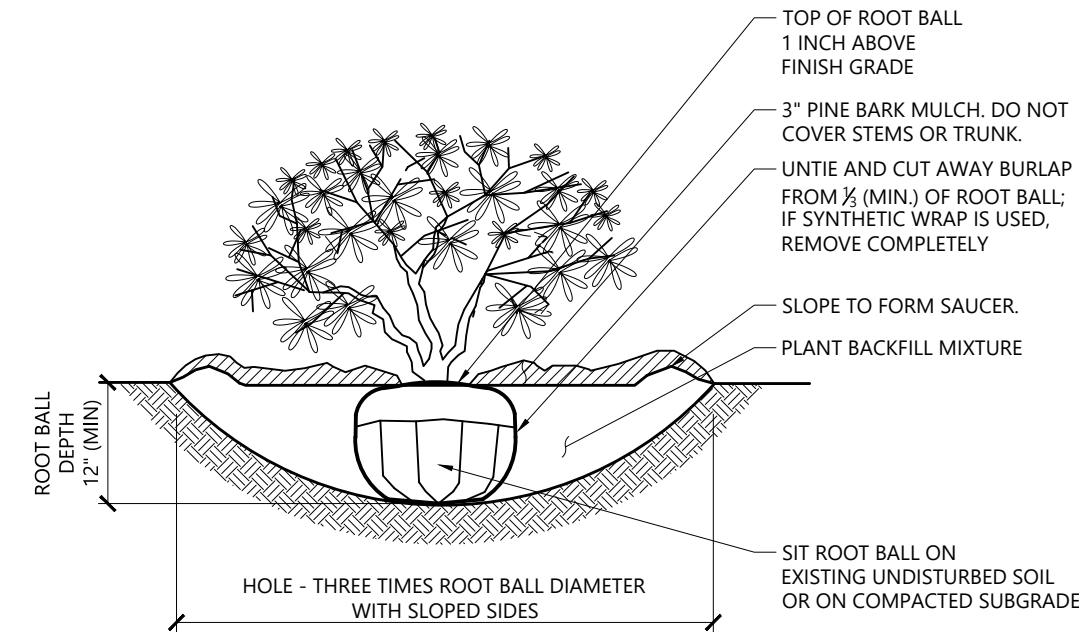
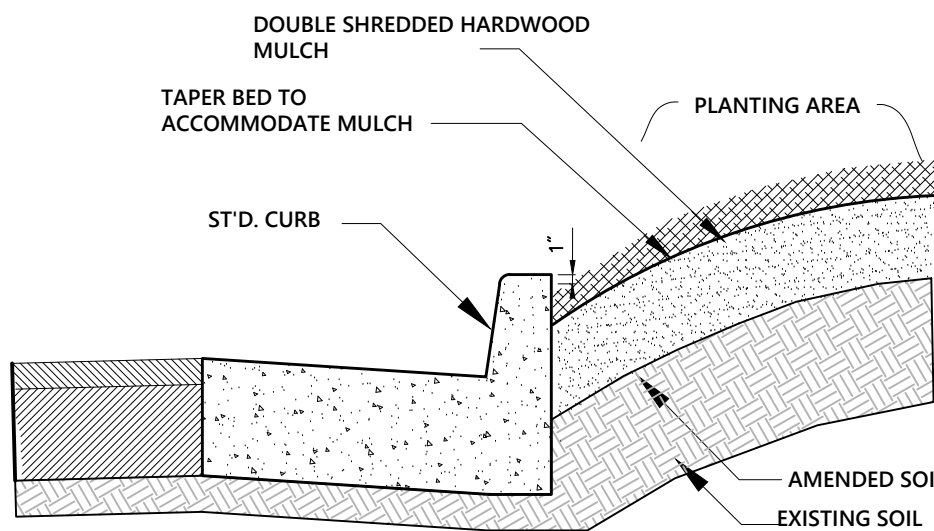
Project Number 39510.03

L1.00

Sheet 9 of 11



A diagram showing three circles arranged in a triangular pattern. The circles are tangent to each other. The horizontal distance between the centers of the top two circles is labeled  $A$ . The vertical distance from the base of the triangle to the top of the circles is labeled  $B$ . The angle between the lines connecting the centers of the circles is  $60^\circ$ . The radius of each circle is labeled  $r$ .



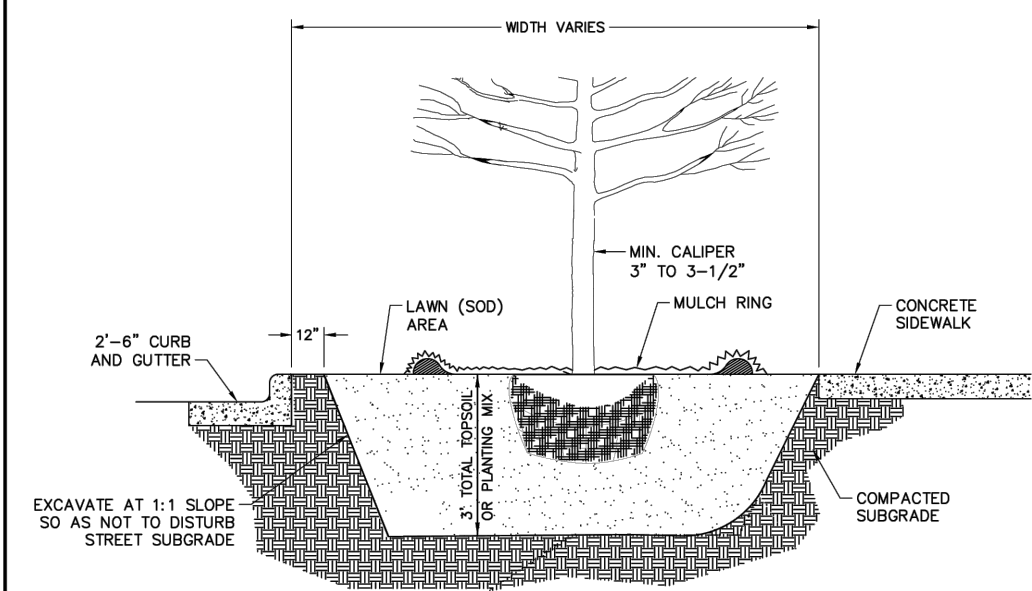
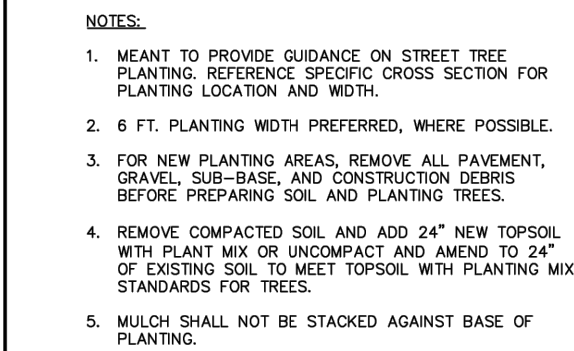
1. LOOSEN ROOTS AT THE OUTER EDGE OF ROOTBALL OF CONTAINER GROWN SHRUBS.

N.T.S. Source: VHP REV

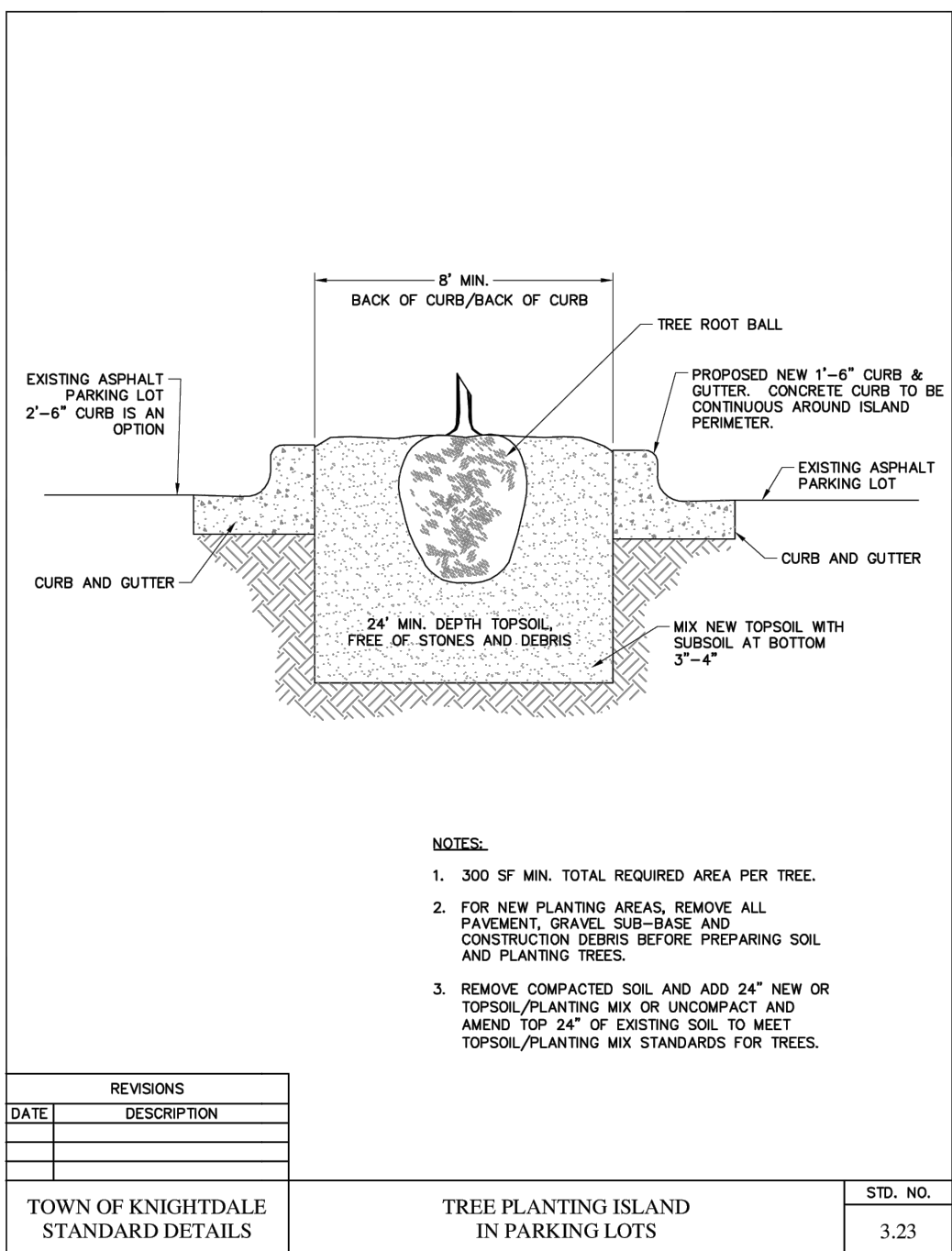
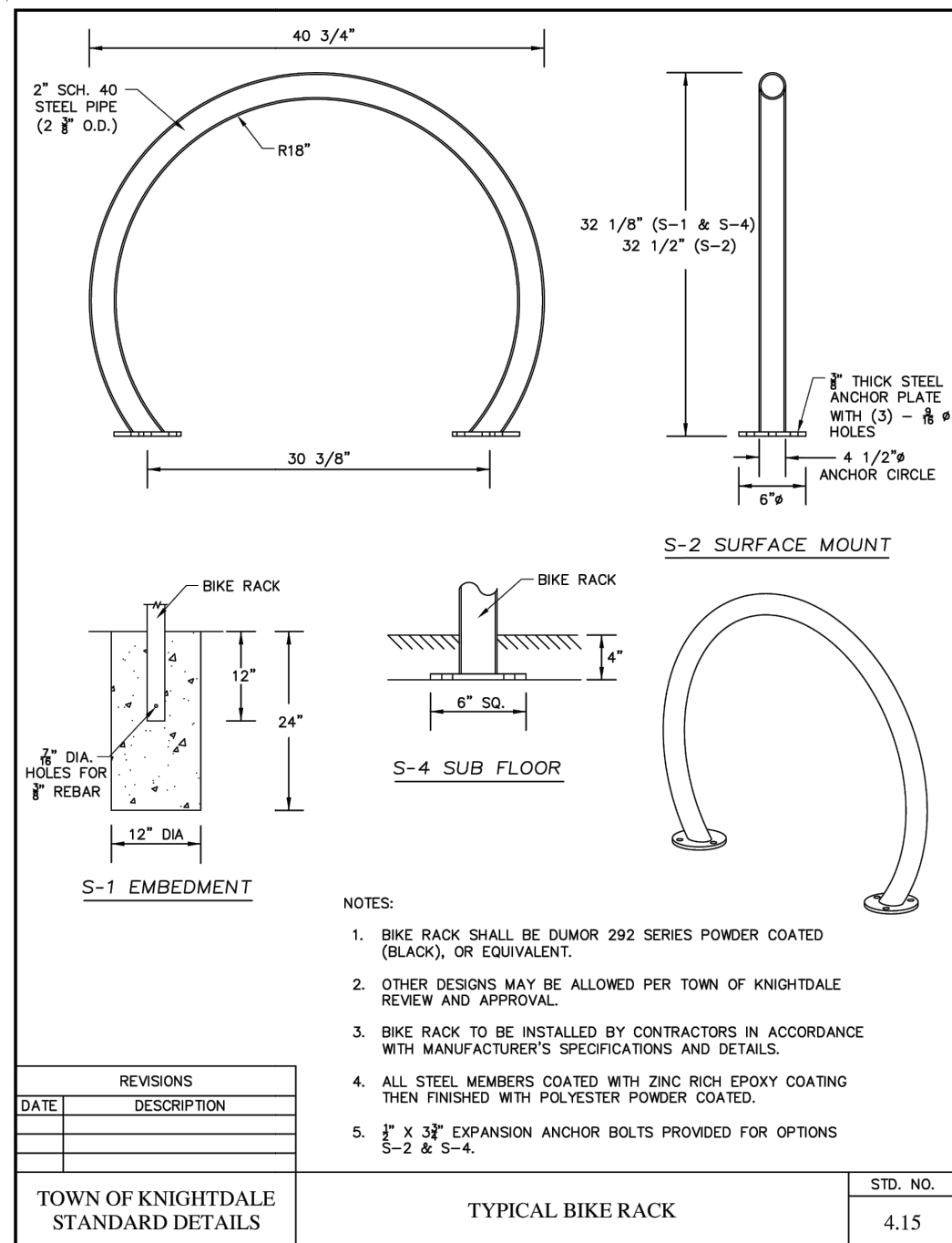
N.T.S. Source: VHB LD 600

N.T.S. Source: VHD LD\_65

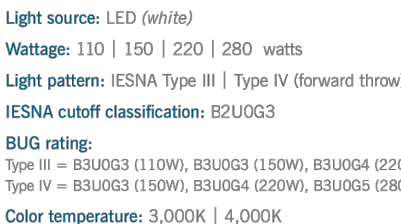
N.T.S. Source: VTP REV LD\_601



|  |  |                      |                  |
|--|--|----------------------|------------------|
| TOWN OF KNIGHTDALE<br>STANDARD DETAILS |  | STREET TREE PLANTING | STD. NO.<br>3.26 |
|--|--|----------------------|------------------|



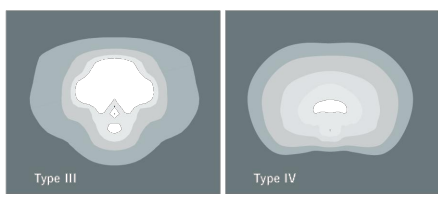
|                                      |   |
|--------------------------------------|---|
| <b>LED</b><br>(Light-emitting diode) | 110   150   220   280 watts                   |
| <b>Mounting height</b>               | 20', 25', 35'                                 |
| <b>Color</b>                         | Black   Gray                                  |
| <b>Pole</b>                          | Fiberglass<br>Metal<br>Wood                   |
| <b>Applications</b>                  | Neighborhoods<br>Roadways<br>Shopping centers |



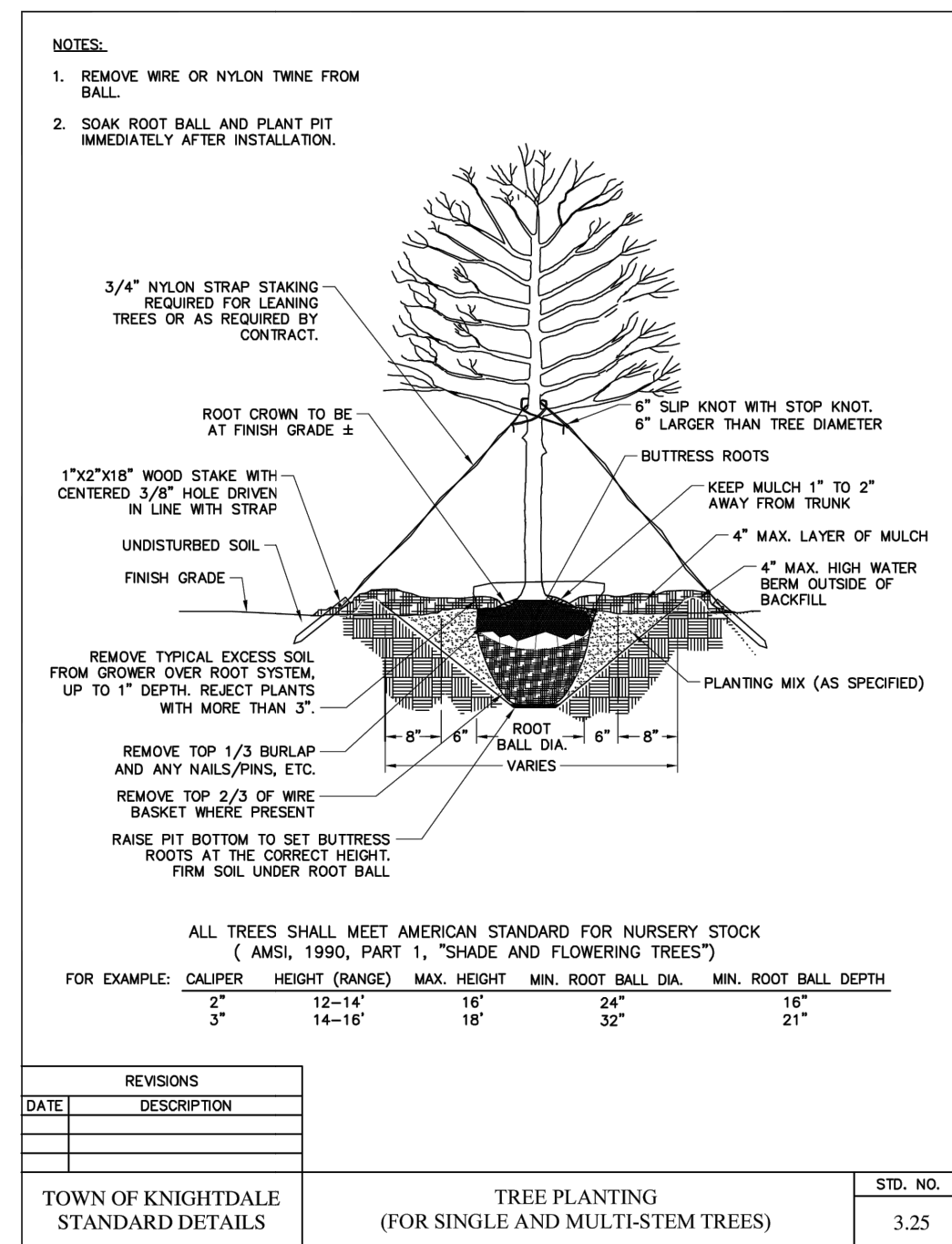
| POLE AVAILABLE             | MOUNTING HEIGHT | COLOR                         |
|----------------------------|-----------------|-------------------------------|
| Fiberglass                 | 25', 30', 35'   | Gray, Black (additional cost) |
| Wood                       | 25', 30', 35'   | Standard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

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

For additional information,  
contact us at [ODLCarolinas@duke-energy.com](mailto:ODLCarolinas@duke-energy.com)



light distribution pattern



ALL CONSTRUCTION SHALL BE IN ACCORDANCE  
WITH CURRENT TOWN OF KNIGHTDALE AND CITY  
OF RALEIGH STANDARDS AND SPECIFICATIONS  
AND NCDOT, IF APPLICABLE



VHB Engineering NC, P.C.  
940 Main Campus Drive  
Suite 500  
Raleigh, NC 27606  
919.829.0328  
Corp. # C-3705

**Clifton Road**  
**Conservation Subdivision**  
0 Pine Country Lane  
Knightdale, NC

| No. | Revision           | Date       | Appvd. |
|-----|--------------------|------------|--------|
| 1   | TOWN OF KNIGHTDALE | 04/25/2025 | CDT    |
| 2   | TOWN OF KNIGHTDALE | 06/04/2025 | CDT    |
| 3   | TOWN OF KNIGHTDALE | 07/01/2025 | CDT    |

|             |            |
|-------------|------------|
| Designed by | Checked by |
| DDH         | CDT        |

Master Plan Review

## Drawing Title

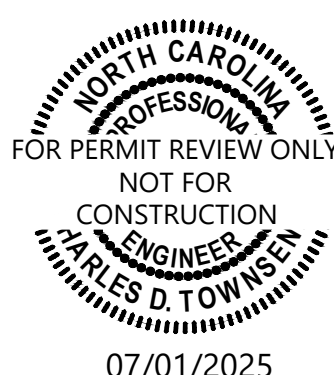
# Landscape and Lighting Details

Drawing Number

**L2.00**

Sheet 10 of 11

Project Number  
**39510.03**



07/01/2025

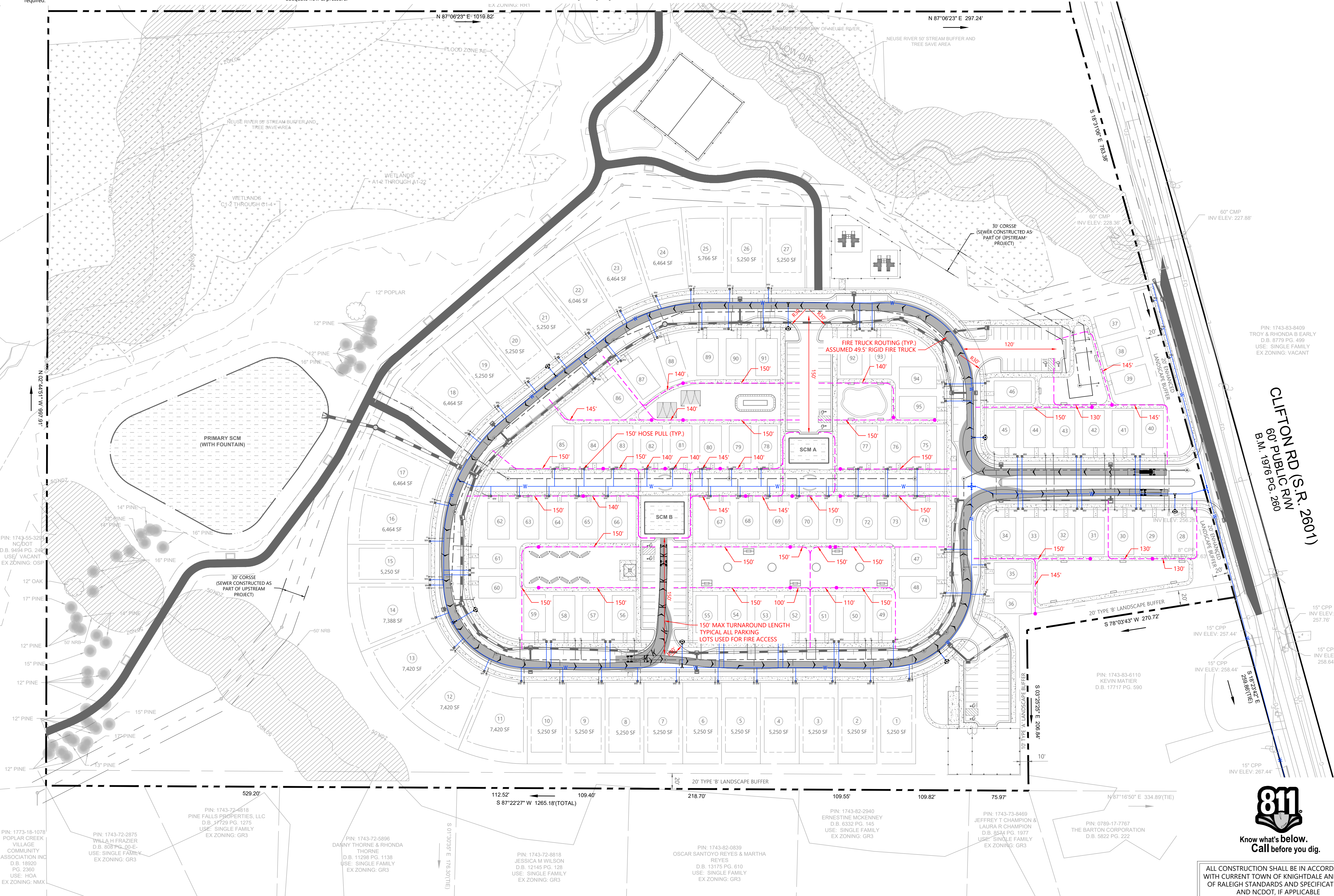


Utility Notes

- All materials & construction methods shall be in accordance with City of Raleigh design standards, details & specifications (reference: CORPUD Handbook, current edition)
- Utility separation requirements:
  - 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 wateline specifications. However, the minimum separation shall not be less than 25' from a private well or 50' from a public well.
  - 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.
  - 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 wateline specifications
  - 5.0' minimum horizontal separation is required between all sanitary sewer & storm sewer facilities, unless DIP material is specified for sanitary sewer
  - Maintain 18" min. vertical separation at all watermain & RCP storm drain crossings; maintain 18" min. vertical separation at all sanitary sewer & RCP storm drain crossings. Where adequate separations cannot be achieved, specify DIP materials & a concrete cradle having 6" min. clearance (per CORPUD details W- 41 & S-49).
  - All other underground utilities shall cross water & sewer facilities with 18" min. vertical separation required.
- Any necessary field revisions are subject to review & approval of an amended plan &/or profile by the City of Raleigh Public Utilities Department prior to construction.
- 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.
- 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.
- 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.
- 3.0' minimum cover is required on all water mains & sewer force mains. 4.0' minimum cover is required on all reuse mains.
- It is the developer's responsibility to abandon or remove existing water & sewer services not being used in redevelopment of a site unless otherwise directed by the City of Raleigh Public Utilities Department. This includes abandoning tap at main & removal of service from ROW or easement per CORPUD Handbook procedure.
- Install water services with meters located at ROW or within a 2x2' 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.

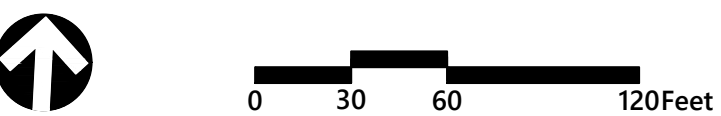
- Inspections of 4" and larger water mains of the private distribution system will be inspected as part of the infrastructure permit.
- Private sewer mains as part of a collection system are permitted and inspected under the private Infrastructure permit for sewer.
- Any water or sewer services on private 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.
- Install sewer services with cleanouts located at ROW or easement line & spaced per the current NC Plumbing code.
- Pressure reducing valves are required on all water services exceeding 80 psi; backwater valves are required on all sanitary sewer services having building drains lower than 1.0' above the next upstream manhole.
- 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.
- NCDOT / Railroad Encroachment Agreements are required for any utility work (including main extensions & service taps) within state or railroad ROW prior to construction.
- 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.

- 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.
- The devices shall meet the American Society of Sanitary Engineering (ASSE) standards and be on the University of Southern California approval list.
- The device and installation shall meet the guidelines of Appendix A – Guidelines and Requirements for the Cross Connection Program in Raleigh's Service Area.
- 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.
- 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.
- 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".



Site Legend

- WETLANDS
- 50' NEUSE RIVER BUFFER
- PROPERTY LINE
- BUILDING SETBACK
- CONCRETE SIDEWALK
- GREENWAY
- GREENWAY EASEMENT
- LOT LINE



Clifton Road Conservation Subdivision  
0 Pine Country Lane  
Knightdale, NC

| No. | Revision           | Date       | Appr'd. |
|-----|--------------------|------------|---------|
| 1   | TOWN OF KNIGHTDALE | 04/25/2025 | CDT     |
| 2   | TOWN OF KNIGHTDALE | 06/04/2025 | CDT     |
| 3   | TOWN OF KNIGHTDALE | 07/01/2025 | CDT     |

Designed by DDH  
Checked by CDT  
Issued for  
Date  
March 24, 2025

Master Plan Review

APPERATUS ACCESS PLAN



C-FIRE

Sheet 11 of 11

Project Number  
39510.03

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT TOWN OF KNIGHTDALE AND CITY OF RALEIGH STANDARDS AND SPECIFICATIONS AND NCDOT, IF APPLICABLE





I, L. JORDAN PARKER, JR. CERTIFY THAT THIS PLAT WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL SURVEY PERFORMED UNDER MY SUPERVISION FROM REFERENCES AS NOTED HERE ON; THAT THE BOUNDARIES NOT SURVEYED ARE CLEARLY INDICATED AS DRAWN FROM INFORMATION SHOWN IN THE REFERENCES; THAT THE RATIO OF PRECISION AS CALCULATED IS GREATER THAN 1:10000; THAT THE GLOBAL POSITIONING SYSTEM (GPS) SURVEY AND THE FOLLOWING INFORMATION WAS USED TO PERFORM THE GPS/GNSS SURVEY;

CLASS OF SURVEY: AA  
POSITIONAL ACCURACY: HORIZONTAL 0.05 US SURVEY FEET  
TYPE OF GPS FIELD PROCEDURE: REAL TIME KINEMATICS NETWORK (VRS)  
DATES OF SURVEY:  
DATUM/EPOCH: NAD 83(2011) 2010.00  
PUBLISHED/FIXED CONTROL USE: RALEIGH DOT CORRS ARP  
LAT: 35°45'49.50795"  
LONG: 78°34'44.39448"

GEIOD MODEL: GEIOD12B  
COMBINED GRID FACTORS: 1.00009392886225  
UNITS: US SURVEY FOOT

THAT THIS PLAT WAS PREPARED IN ACCORDANCE WITH G.S. 47-30 AS AMENDED, WITNESS MY ORIGINAL SIGNATURE, LICENSE NUMBER AND SEAL

THIS IS THE DAY OF NOVEMBER A.D. 2024  
**PRELIMINARY**

FOR REVIEW PURPOSES ONLY

PROFESSIONAL LAND SURVEYOR LICENSE NUMBER

FLOOD HAZARD STATEMENT

THE SUBJECT PROPERTY IS LOCATED IN A SPECIAL FLOOD HAZARD ZONE. IT IS LOCATED IN ZONE "AE" AS DEFINED BY F.I.R.M. COMMUNITY PANEL NUMBER 3720-1743-00K WITH AN EFFECTIVE DATE OF 07/19/2022.

| LINE TABLE |               |          |
|------------|---------------|----------|
| LINE       | BEARING       | DISTANCE |
| L-1        | N 22°31'27" W | 529.63'  |
| L-2        | S 77°54'21" W | 269.92'  |
| L-3        | S 03°24'02" E | 206.37'  |
| L-4        | N 87°09'50" E | 28.92'   |
| L-5        | S 11°42'59" E | 264.78'  |
| L-6        | S 11°42'59" E | 507.09'  |
| L-7        | N 10°09'38" E | 119.75'  |
| L-8        | S 17°46'28" E | 270.76'  |
| L-9        | S 17°46'28" E | 509.58'  |



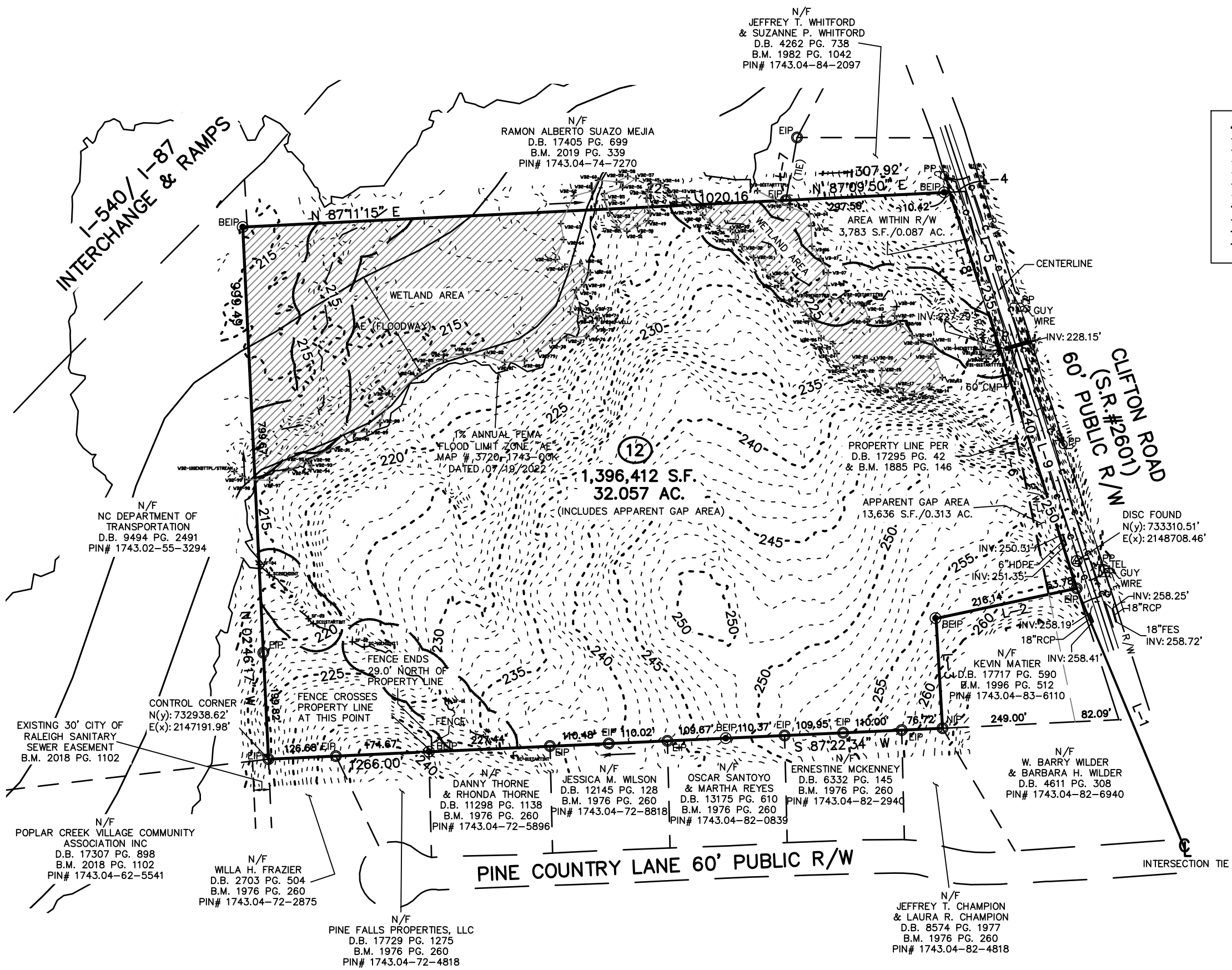
VICINITY MAP  
(NOT TO SCALE)

LEGEND:

EIP - EXISTING IRON PIPE  
EIB - EXISTING IRON BAR  
BEIP - BENT IRON PIPE  
BEIB - BENT IRON BAR  
CM - CONCRETE MONUMENT  
EPK - EXISTING PK NAIL  
SPK - SET PK NAIL  
NIP - NEW IRON PIPE SET  
R/W - RIGHT OF WAY  
CATV - CABLE TV BOX  
EB - ELECTRIC BOX  
TEL - TELEPHONE PEDESTAL  
PP - POWER POLE  
OHL - OVERHEAD LINE  
LP - LIGHT POLE  
WM - WATER METER  
WV - WATER VALVE  
CO - SEWER CLEAN-OUT  
CC - CONCRETE  
CB - CATCH BASIN  
MH - MANHOLE  
FH - FIRE HYDRANT

LINE TYPE LEGEND

|     |                                    |
|-----|------------------------------------|
| --- | PROPERTY LINE - LINE SURVEYED      |
| --- | RIGHT-OF-WAY                       |
| --- | ADJOINING LINE - LINE NOT SURVEYED |
| --- | OVERHEAD LINE                      |
| --- | BUILDING SETBACK                   |
| --- | EASEMENT                           |
| --- | BUFFER                             |
| --- | FLOOD HAZARD SOILS                 |
| --- | ELECTRIC LINE                      |
| --- | GAS LINE                           |
| --- | COMMUNICATION                      |









# CLIFTON ROAD CONSERVATION SUBDIVISION

## PLANNED UNIT DEVELOPMENT

**1st Submittal- 03-24-2025**  
**2nd Submittal- 04-24-2025**  
**3rd Submittal- 06-03-2025**  
**4th Submittal- 07-07-2025**

**CASE: ZMA-8-24**

### **DEVELOPER**

DR Horton Inc  
7208 Falls of Neuse, Ste #201  
Raleigh, NC 27615

### **CIVIL ENGINEER, TRAFFIC ENGINEER AND LANDSCAPE ARCHITECT**

VHB  
940 Main Campus Drive, #500  
Raleigh, NC 27606

### **SURVEYOR**

CMP Professional Land Surveyors  
333 S. White Street  
Wake Forest, NC 27587

### **ENVIRONMENTAL**

Sage Ecological Services

### **CONSULTANT**

Duncan Land Consultants  
5204 Blakenbran Trail  
Fuquay-Varina, NC 27526



## **TABLE OF CONTENTS**

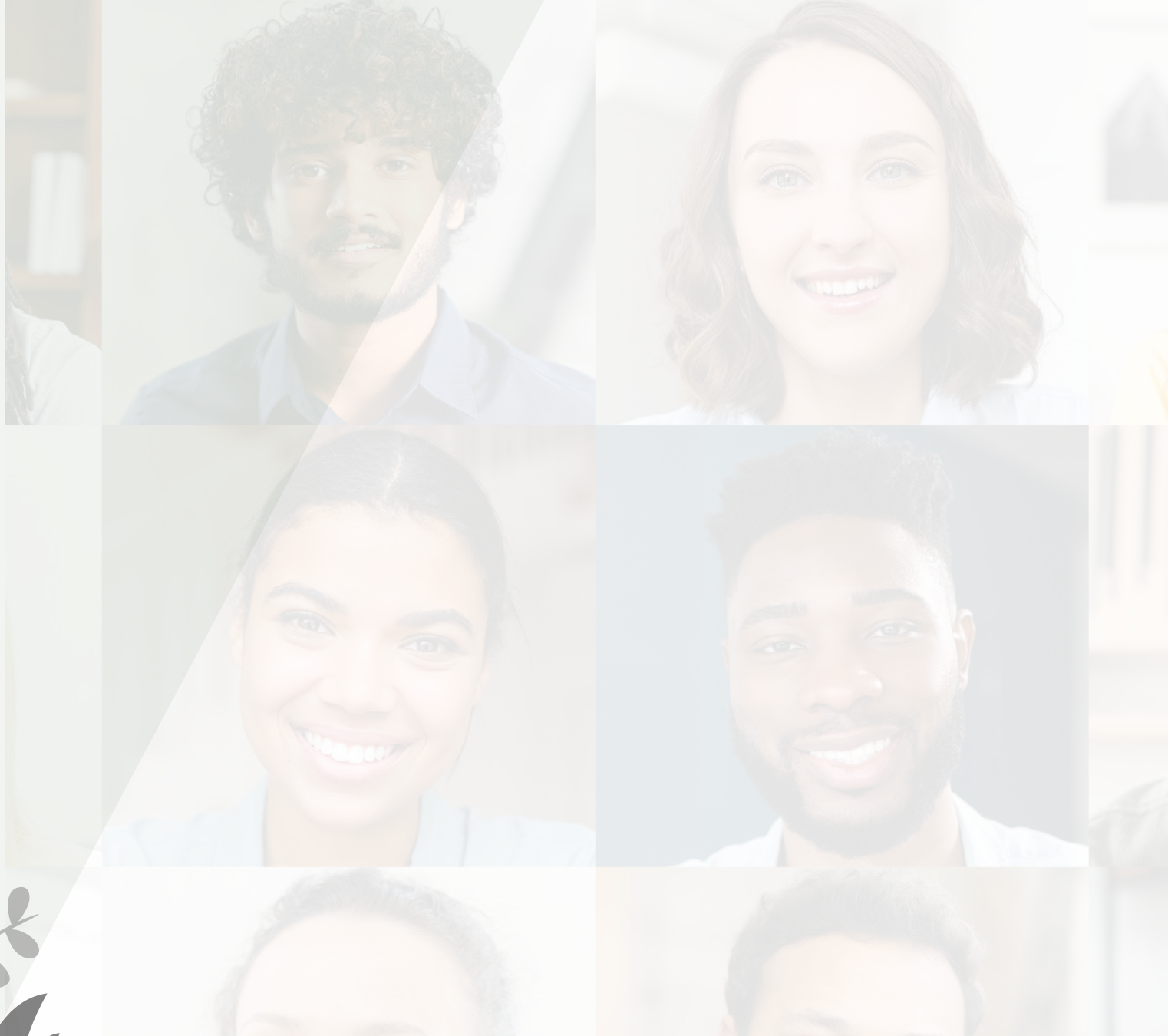
1. Cover
2. Table of Contents
3. Community Vision
4. Demographic Analysis
5. Guiding Principles
6. Community Intent
7. Intentional Growth Area
8. Future Place Type
9. Trails and Greenways
10. Existing Conditions
11. Master Plan
12. Master Plan Concepts
13. Preliminary Utility Overview
14. Preliminary Stormwater Overview
15. Amenities
16. Amenities Continued
17. Cottage Court Activation
18. Sample Architectural Elevations
19. Architectural Design Standards
20. Zoning Conditions
21. Development Allowances



## COMMUNITY VISION

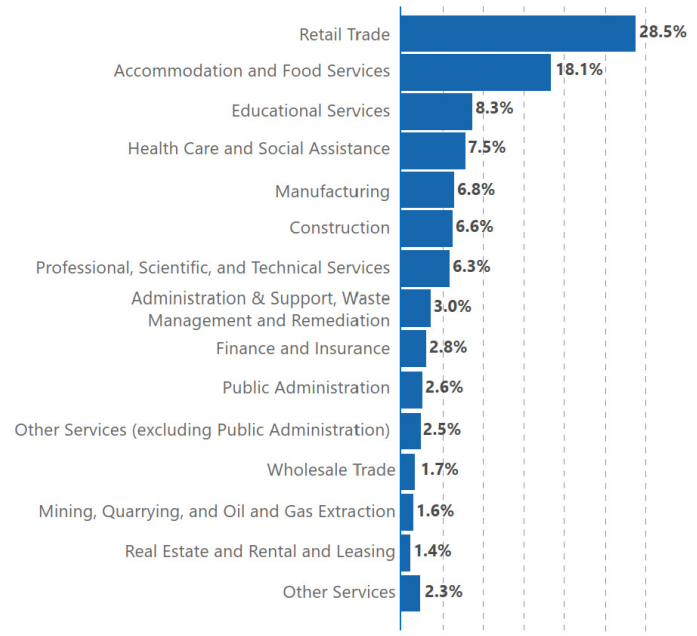
The Clifton Road Conservation Subdivision is envisioned as an inclusive space for community and preservation. Through quality placemaking, a mix of uses and a variety of housing options, will arise a place of creativity and diversity that will reveal a vibrant and active community. The neighborhood will be a community that both embraces and engages nature by providing a network of trails and open space that encourages social interactions and physical activity.

M I S  
V I S I O N





**JOBS BY INDUSTRY IN KNIGHTDALE**



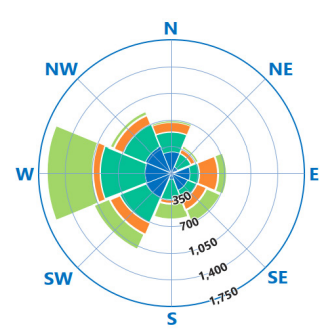
Source: US Census Bureau, ON THE MAP 2021

Recent US Census data suggest the retail/food service and healthcare industries make up a vast majority of the employment sector in the Town of Knightdale. The Clifton Road Conservation PUD aims to meet one of the Town's primary goals by broadening neighborhood and home choice options within the Town's limits. Additionally, the development aims to be more inclusive of a variety of income ranges.

Only 5% of Knightdale employees live within the Town's jurisdictional limits. The Clifton Rd Conservation PUD will broaden opportunities to keep more of the workforce in Town by offering a larger variety of home choices and price points to pick from.

**Town Vision** Knightdale is, and will continue to be, an inclusive and connected urban small town with unique gathering places that foster a sense of community.

**WHERE KNIGHTDALE EMPLOYEES LIVE**



- Less than 10 miles
- 10-24 miles
- 25-49 miles
- 50 or more miles

|                    | Count | Share |
|--------------------|-------|-------|
| Raleigh            | 1,334 | 20%   |
| Knightdale*        | 335   | 5%    |
| Cary               | 210   | 3%    |
| Wake Forest        | 162   | 2%    |
| Durham             | 137   | 2%    |
| Apex               | 106   | 2%    |
| Garner             | 103   | 2%    |
| Clayton            | 95    | 1%    |
| Wendell            | 91    | 1%    |
| Charlotte          | 76    | 1%    |
| Other Wake County  | 1,315 | 20%   |
| Other              | 2,692 | 40%   |
| All Places (Total) | 6,656 | 100%  |



## GUIDING PRINCIPLES

### Town Vision

Knightdale is, and will continue to be, an inclusive and connected urban small town with unique gathering places that foster a sense of community.

### Growth Framework

The proposed Clifton Rd Conservation Subdivision PUD property is located directly south of I-87 near the southern termination of Clifton Rd. The property is directly adjacent to Pine Country Estates and Poplar Creek to the south. The development group is proposing a rezoning from RT to GR3 PUD in an effort to align with several of the desired guiding principles laid out in the KnightdaleNext2035 Comprehensive Plan. The plan aligns with the Town's overall guiding vision of creating an inclusive and connected urban small town with unique gathering places that foster a sense of community.



### Home and Neighborhood Choices

The Clifton Rd Conservation Subdivision PUD aims to create an exceptional quality of life for future residents by providing new affordable and diverse housing options. The cottage product proposed in this development is not currently available within the Town's jurisdiction. Multiple cottage products are proposed with a variety of available architectural treatments for each product. Furthermore, traditional single family homes will be offered along the perimeter of the development to further expand housing choice. Aging grandparents who want to downsize will have the ability to live in the same neighborhood as their children with expanding families.



### Inclusive, Livable Town

The rising cost of living in Knightdale and surrounding communities has made the dream of home ownership less attainable for a vast majority of the population. The Clifton Rd Conservation Subdivision PUD aims to be a welcoming and inclusive neighborhood by offering new products and pricepoints seldom seen within the Town's jurisdiction. Everyone doesn't start from the same place, and intentional and unintentional barriers exist everyone's daily life. The development will work to bridge gaps in home choice and affordability. Numerous voluntary site and architectural conditions offered by the developer will ensure quality is not sacrificed to achieve this goal.



### Environmental Stewardship and Sustainability

The Clifton Rd Conservation PUD will create a vast network of interconnected active and passive open spaces for residents and visitors to enjoy. Greenways will meander along established tree canopies with a focus on permanently preserving environmental features along with vast areas of undisturbed open spaces. Mass grading is primarily proposed in areas that are already cleared.

The overall impervious area will be substantially reduced through the utilization of smaller cottage footprints surrounded by pervious courts and green spaces. The central courtyard will be a grand focal point for the community and highly visible as you enter the neighborhood. The courtyard will be adorned with shade trees, decorative lighting, sitting areas, a pollinator garden and pavilion for residents to enjoy. Smaller regional stormwater control devices will be placed at the ends of the 2 internal parking lots with educational signage for residents.



## COMMUNITY INTENT

Section 2.4.C. of the Town of Knightdale Unified Development Ordinance states that, “the Planned Unit Development Overlay District process encourages creativity and innovation in the design of developments through a master planning process that allows for flexibility from underlying zoning as approved by the Town Council.” These developments bring tangible benefits to the Town, including “exceptional amenities, outstanding environmental, landscape, architectural, or site design, or conservation of special man-made or natural features of the site.” The Clifton Rd Subdivision meets the intent of the Planned Unit Development Overlay District requirements per Town of Knightdale UDO through the following findings:

### » **Comprehensive Plan**

The Clifton Rd Conservation Subdivision conforms to the planning policies of the Town as laid out in the KnightdaleNext2035 Comprehensive Plan. The site is designated as a Secondary Growth Area with a Conservation Neighborhood place type. The planned variety of residential products with reduced impervious footprints and varying densities meet several of the Town's objectives. Furthermore, vast areas of preservation are proposed along with numerous pervious courtyards and densities. The Clifton Rd Conservation PUD is a neighborhood that exemplifies many of the Guiding Principles for growth and development in Knightdale.

### » **Public Welfare and Impact to Surrounding Property**

- The Clifton Rd Subdivision is maintaining riparian buffers and sensitive environmental areas that adorn the site primarily to the north and west. These natural features will not only be preserved, but amenitized through greenways for the permanent enjoyment of residents and visitors alike. The supply of light and air to adjacent properties will not be negatively impacted due to the tree preservation, preserved open space, and buffer plantings around the perimeter of the developed portion of the site. All units will be accessible via a public roadway or fire-rated subsurface for quicker emergency vehicle response times. As a result, there will be no increased danger of fire to current or future residents in the area. The public health, safety, and welfare will be protected through new pedestrian and vehicular connectivity and numerous interconnected paths situated in a manner that aims to keep cyclists and pedestrians separated from the vehicular travel way. A fountain in the primary SCM will help keep the water aerated for safety and attractiveness. Furthermore, new public infrastructure will be extended to and through the project.

### » **Impact on Public Facilities & Resources**

- The Clifton Rd Subdivision will provide adequate public utilities, road access, drainage, and other necessary facilities to properly serve residents of the site along with future residents upstream of the development. Public greenway facilities will be extended through the site with private paved connections to it.

### » **Archaeological, Historical, or Cultural Impact**

- No archaeological, historical or cultural resources will be adversely impacted as a result of the proposed development. The Clifton Rd Subdivision will preserve and enhance large amounts of existing natural resources on site for the benefit of the residents and surrounding community that utilize the public greenway.

### » **Parking & Traffic**

- The Clifton Rd Subdivision is a pedestrian-friendly community. The mix of housing types paired with a highly interconnected pedestrian layout alongside courtyards minimizes conflicts between pedestrians and vehicles. The loop street is designed to be traffic calming through the integration of numerous turns that force drivers to reduce speeds and increase awareness. Proper sight distance is utilized throughout the development to prevent conflicts when performing turning movements. All street radii are adequate for emergency traffic. On-street parking options along the loop provide an additional traffic calming feature while supplying the development with ample visitor and cottage parking in closer to proximity to units.

### » **Buffering**

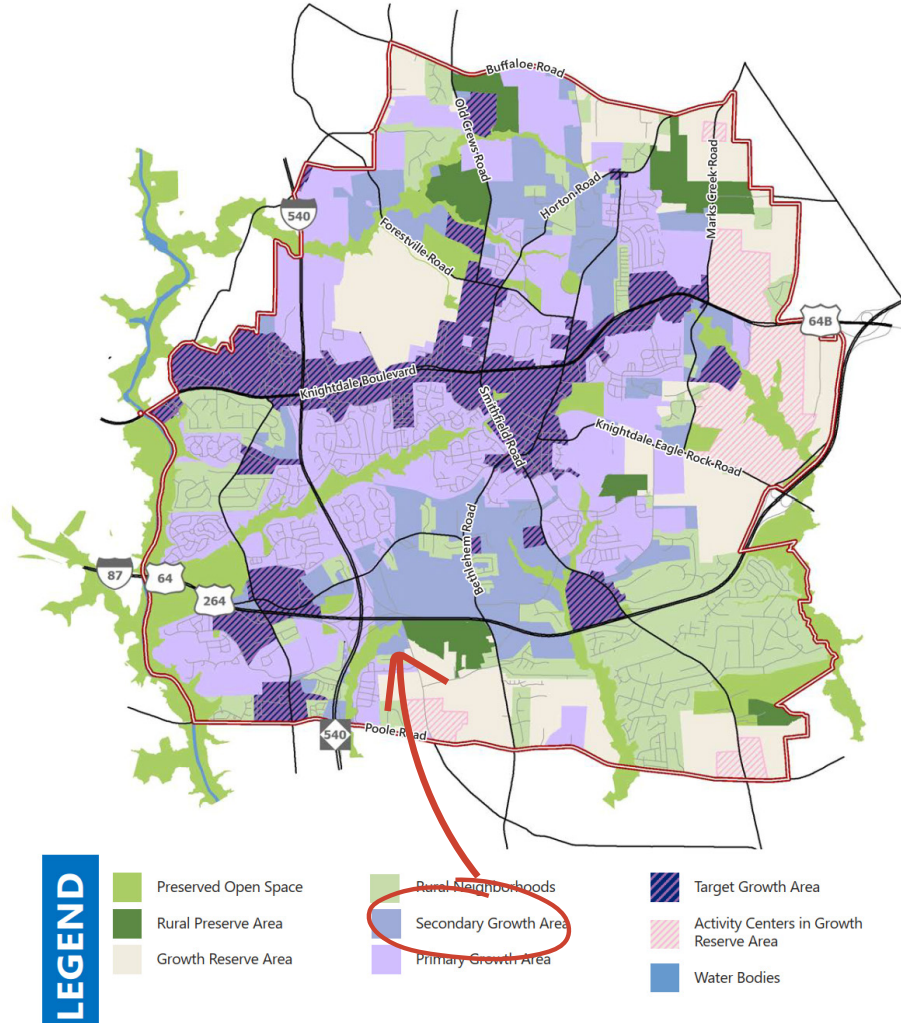
- A 20' Type B Buffer is proposed along the southern perimeter of the development adjacent to Pine Country Estates. The remainder of the site will be naturally buffered through preservation of existing stands of trees and environmental features along the northern and western property lines. Appropriate landscaping will be provided within all off-street parking lots to shield adjacent residents from headlight pollution. .
- A minimum 20' enhanced buffer with dense plantings and a 4' average height berm will be provided along Clifton Road to provide visual privacy for residents and commuters.

### » **Performance**

- D.R. Horton is America's largest homebuilder, and the local team who is proposing this project has a proven track record of building successful residential neighborhoods in surrounding communities, as well as in Knightdale, most recently with the Haywood Glen and Lyndon Oaks communities. The D.R. Horton team is excited to bring a new neighborhood to the Town that reflects the Town's plans and aligns with the Town's and D.R. Horton's shared vision for great neighborhoods.



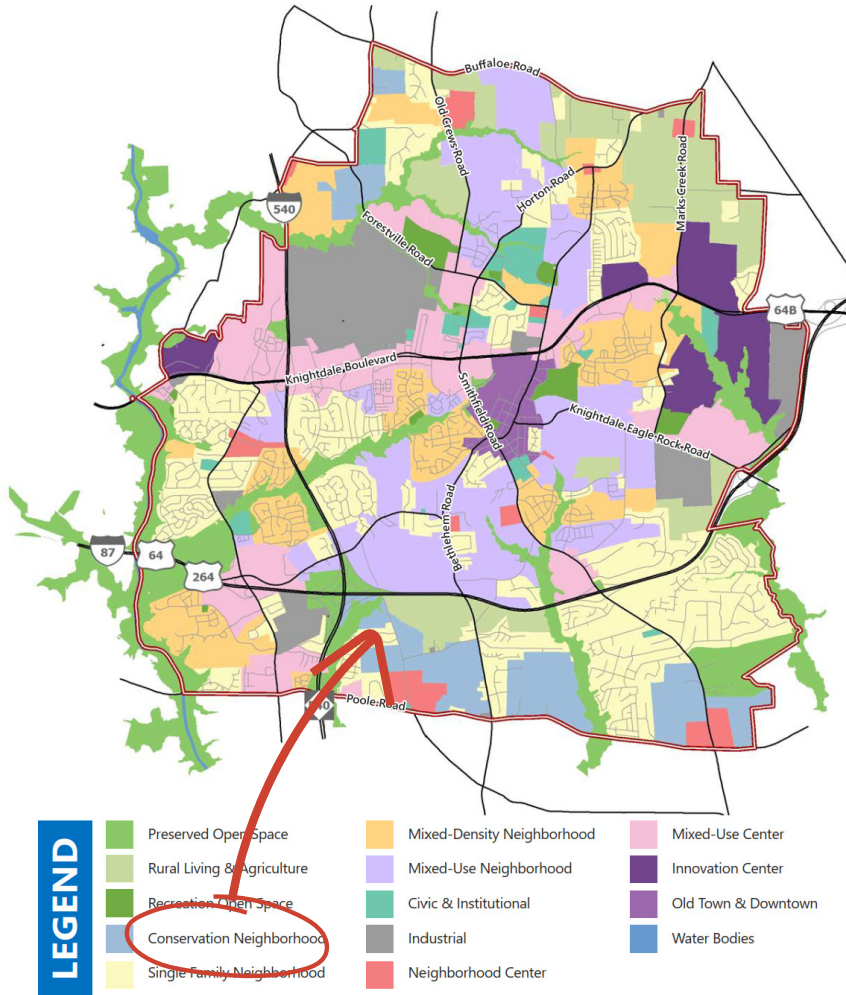
## INTENTIONAL GROWTH AREAS



The Clifton Rd Conservation PUD is located in a Secondary Growth Area within the newly adopted Intentional Growth Areas Map. The project presents an opportunity to be forward-thinking about the creation of areas for permanent conservation by preserving large areas of open space and exploring new approaches to housing to reduce impervious area. The project will provide a diverse mix of unit choices while keeping the overall density under 3 units per acre.

This project will expand the Town's infrastructure by filling in missing segments of public greenways, public water and sanitary sewer systems, a primary goal of secondary growth areas.





## Conservation Neighborhood

The Clifton Road Conservation PUD is designated as a Conservation Neighborhood place type on the Town's Future Place Type Map. The neighborhood aims to meet the intent of a conservation neighborhood while simultaneously meeting other town goals as outlined in this document. The development will protect vast stands of trees and environmental features by clustering development together with varying product offerings paired with smaller impervious footprints. Large and meaningful continuous areas of open space are provided.



### Sustainability

- Developed areas will take advantage of tree cover, both existing and proposed to promote natural cooling.
- Single family residences will provide pre-configured internal infrastructure to promote solar panel installation.
- Electric vehicle charging stations will be provided throughout the neighborhood.



### Open Spaces and Natural Areas

- Permanent open space is substantial in size, interconnected and functional in nature to residents and visitors.
- Natural resources will remain more informal and accessible via greenways.
- A large focal courtyard and pollinator garden is provided.



### Building Types and Massing

- Density is clustered in areas current or recently cleared areas to promote additional conservation.



### Transportation

- Streets are designed with curb and gutter drainage.
- Residential and open space areas are highly walkable and bikable throughout developed areas.
- Internal parking lots will provide green stormwater infrastructure. .



## TRAILS AND GREENWAYS

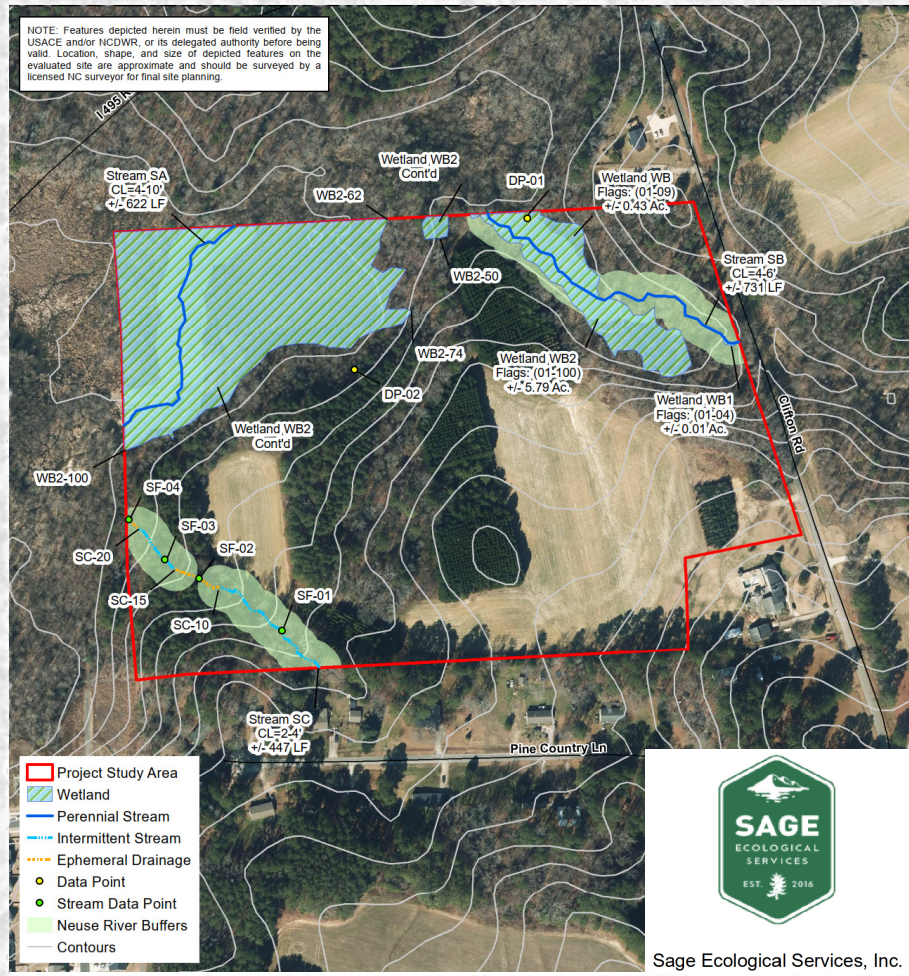


The Clifton Road conservation subdivision will provide a network of public greenways and private trails throughout the community. Public and private greenways will be paved and a minimum of 10' in width. Environmental features will be avoided as much as possible during construction for permanent preservation.

The proposed public greenway will bridge a ~1,600 LF gap of proposed infrastructure in accordance with the adopted Town of Knightdale Sidepaths and Greenways Plan. Signage will be provided where the 2 private greenways intersect the public greenway. At least 2 benches will be provided along the public portion of the trail. All designs will meet applicable Town of Knightdale Standards and Specifications.







### Current Use

The project site is currently vacant. A portion of the property is cleared and occasionally leased for agriculture.

### Topography

The property has very mild to moderate slopes generally flowing from the southeastern boundary to the north and southwest.

### Vegetation and Environmental Features

The project site presently consists of vacant farmland, wooded areas and environmentally sensitive features such as streams and wetlands primarily along the northern and western project boundaries. The neighborhood aims to permanently preserve as much of the aforementioned areas as possible.



# MASTER PLAN

**PRELIMINARY DEVELOPMENT SUMMARY**

PROJECT: CLIFTON RD CONSERVATION SUBDIVISION

OWNER: DAVID ADAMS  
6000 MAL WEATHERS RD  
RALEIGH, NC 27603

DEVELOPER: DR HORTON, INC  
7208 FALLS OF NEUSE RD, STE 201  
RALEIGH, NC 27615

PIN: 1743-73-8469

SITE ADDRESS: 0 PINE COUNTRY LN

WATERSHED: NEUSE RIVER - C.NSW

TOWNSHIP: ST MATTHEWS  
TRACT AREA: 32.05  
EX ZONING: RR1 (RURAL RESIDENTIAL 1)  
PROPOSED ZONING: GR3 PUD  
EX USE: VACANT  
PROPOSED USE: RESIDENTIAL  
EX STRUCTURES: N/A  
RES UNITS PROPOSED: 95  
TRADITIONAL SINGLE FAMILY DETACHED: 27  
COTTAGES: 68

DENSITY: 95 UNITS/32.05 AC = 2.96 UNITS/AC

**RECREATIONAL OPEN SPACE CALCULATIONS**

OPEN SPACE REQUIRED: 3.97 AC  
TOTAL BEDS OUTSIDE 1/2 MILE: 333 BEDS (95 UNITS \* 3.5 UNITS/BED)  
OPEN SPACE CALC: 333 beds \* 520 SF = 173,160 SF (3.97 AC)  
OPEN SPACE PROVIDED: 4.88+ AC MIN.

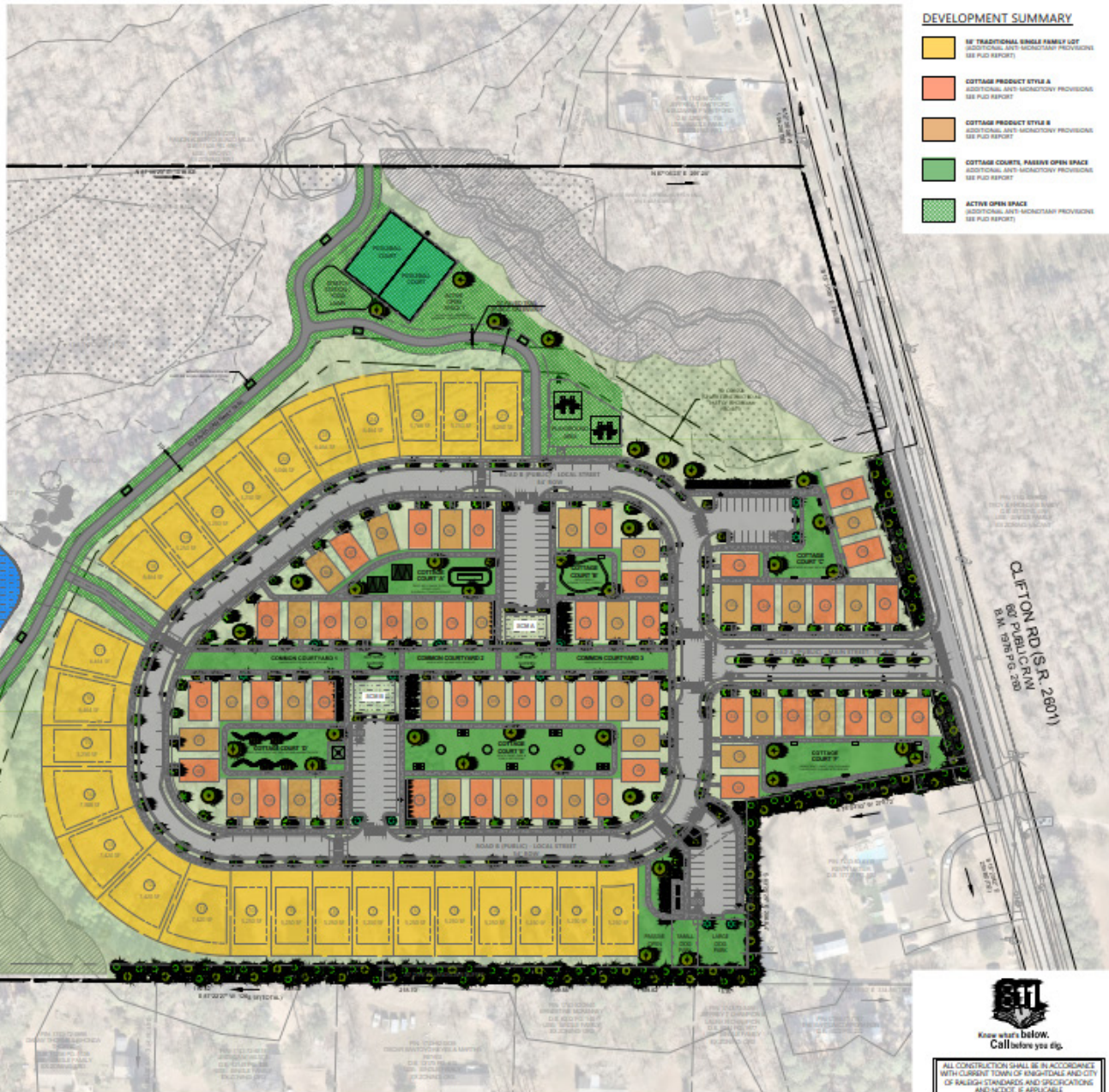
**ACTIVE OPEN SPACE**

ACTIVE OPEN SPACE REQ'D: 1.98 AC (0.5 \* 3.97 AC)  
ACTIVE OPEN SPACE PROVIDED: 2.80+ AC  
PASSIVE OPEN SPACE  
PASSIVE OPEN SPACE REQ'D: 1.98 AC (0.5 \* 3.97 AC)  
PASSIVE OPEN SPACE PROVIDED: 2.52+ AC  
UNDISTURBED OPEN SPACE  
10+ ACRES (REFER TO OPEN SPACE PLAN)  
WETLAND IMPACT: NO IMPACTS PLANNED

**PARKING**

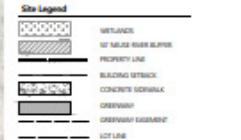
TRADITIONAL SF UNITS (2/UNIT \* 27) = 54 SPACES  
COTTAGE UNITS (2/UNIT \* 48 UNITS) = 96 SPACES  
TOTAL PROVIDED: 150 SPACES

CONNECTIVITY INDEX: 2 LINES/2 NODES = 1.0 (DEV ALLOWANCE)



## DEVELOPMENT SUMMARY

- 10' TRADITIONAL SINGLE FAMILY LOT  
(ADDITIONAL AVS VARIATION PROVISIONS  
SEE PUD REPORT)
- COTTAGE PRODUCT STYLE A  
(ADDITIONAL AVS VARIATION PROVISIONS  
SEE PUD REPORT)
- COTTAGE PRODUCT STYLE B  
(ADDITIONAL AVS VARIATION PROVISIONS  
SEE PUD REPORT)
- COTTAGE COURTS, PASSIVES OPEN SPACE  
(ADDITIONAL AVS VARIATION PROVISIONS  
SEE PUD REPORT)
- ACTIVE OPEN SPACE  
(ADDITIONAL AVS VARIATION PROVISIONS  
SEE PUD REPORT)



**Clifton Road Conservation Subdivision**  
0 Pine Country Lane  
Knightdale, NC

|              |      |      |
|--------------|------|------|
| Project      | 2023 | 2023 |
| Design       | 2023 | 2023 |
| Construction | 2023 | 2023 |
| Operation    | 2023 | 2023 |

|     |     |
|-----|-----|
| DDH | CDT |
| DDH | CDT |

Master Plan Review  
March 24, 2025

**Illustrative Master Plan**

**C1.00**  
3 of 11  
29510.03





**Know what's below. Call before you dig.**  
ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT TOWN OF KNIGHTDALE AND CITY OF RALEIGH TOWNSHIPS AND SPECIFICATIONS AND NECDOT 5 APPLICABLE

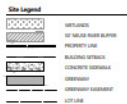






## DEVELOPMENT SUMMARY

|   |   |
|---|---|
|  | <b>16' TRADITIONAL SINGLE FAMILY LOT</b><br>ADDITIONAL, ANTI-MONOPOLY PROVISIONS<br>SEE PUD REPORT  |
|  | <b>COTTAGE PRODUCT STYLE A</b><br>ADDITIONAL, ANTI-MONOPOLY PROVISIONS<br>SEE PUD REPORT            |
|  | <b>COTTAGE PRODUCT STYLE B</b><br>ADDITIONAL, ANTI-MONOPOLY PROVISIONS<br>SEE PUD REPORT            |
|  | <b>COTTAGE COURTS, PASSIVE OPEN SPACE</b><br>ADDITIONAL, ANTI-MONOPOLY PROVISIONS<br>SEE PUD REPORT |
|  | <b>ACTIVE OPEN SPACE</b><br>ADDITIONAL, ANTI-MONOPOLY PROVISIONS<br>SEE PUD REPORT                  |

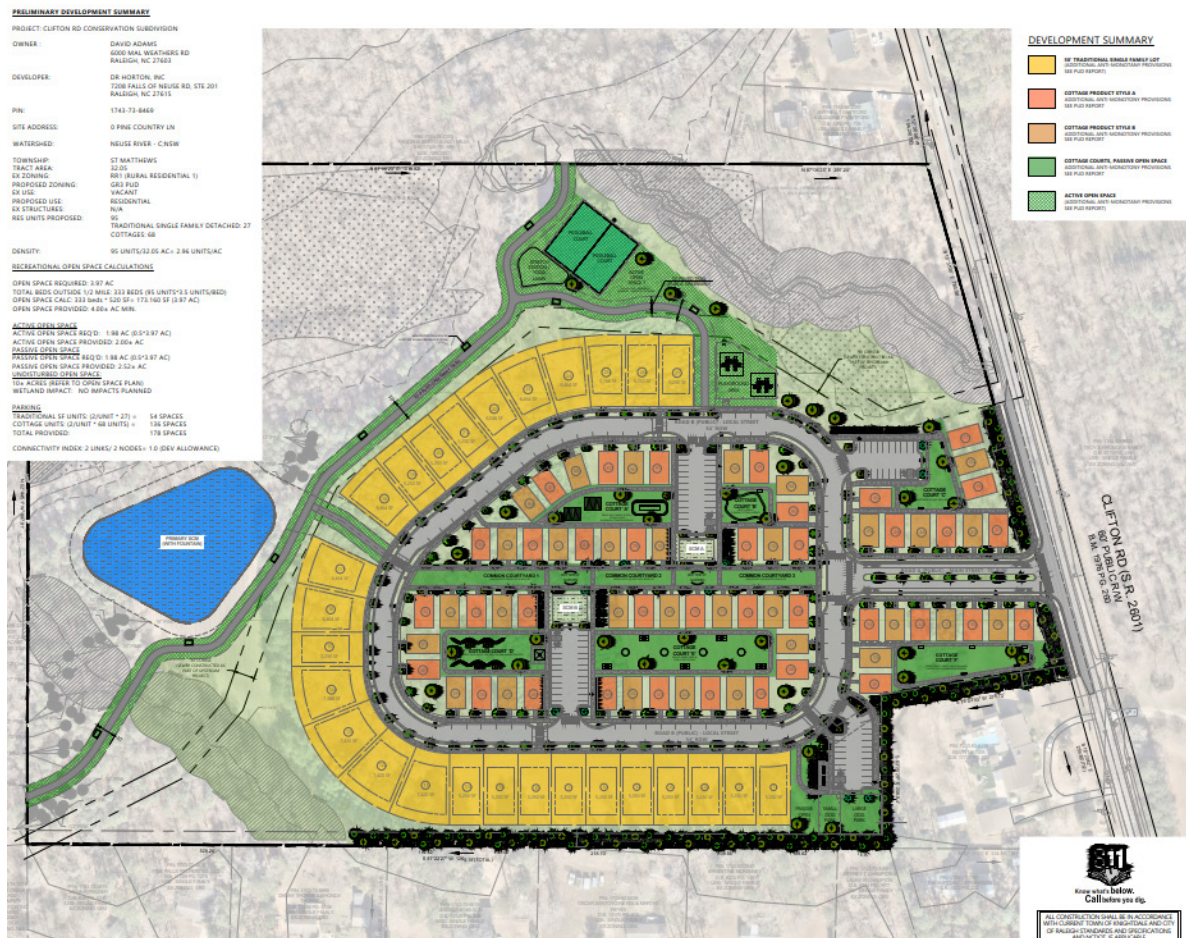


Use distribution shall meet the intent of the Town of Knightdale's UDO.

The entrance to the Clifton Rd Conservation PUD shall greet residents with an attractive landscaped median-divided collector roadway. Ingress traffic will have a stunning view of the central tree-lined green courtyard upon entering which will act as a central focal point for the community. A local road with on-street parking will loop the outer perimeter of the neighborhood thus creating no cul-de-sacs. Maneuverable turns are proposed throughout the loop for traffic calming.

Clifton Rd subdivision is proposing a vast network of interconnected courtyards along with active and passive open spaces. 5' concrete sidewalks are proposed on both sides of all streets, along courtyards and throughout open space areas. Approximately 1,600 LF of 10' wide paved public and private greenway trails are proposed.

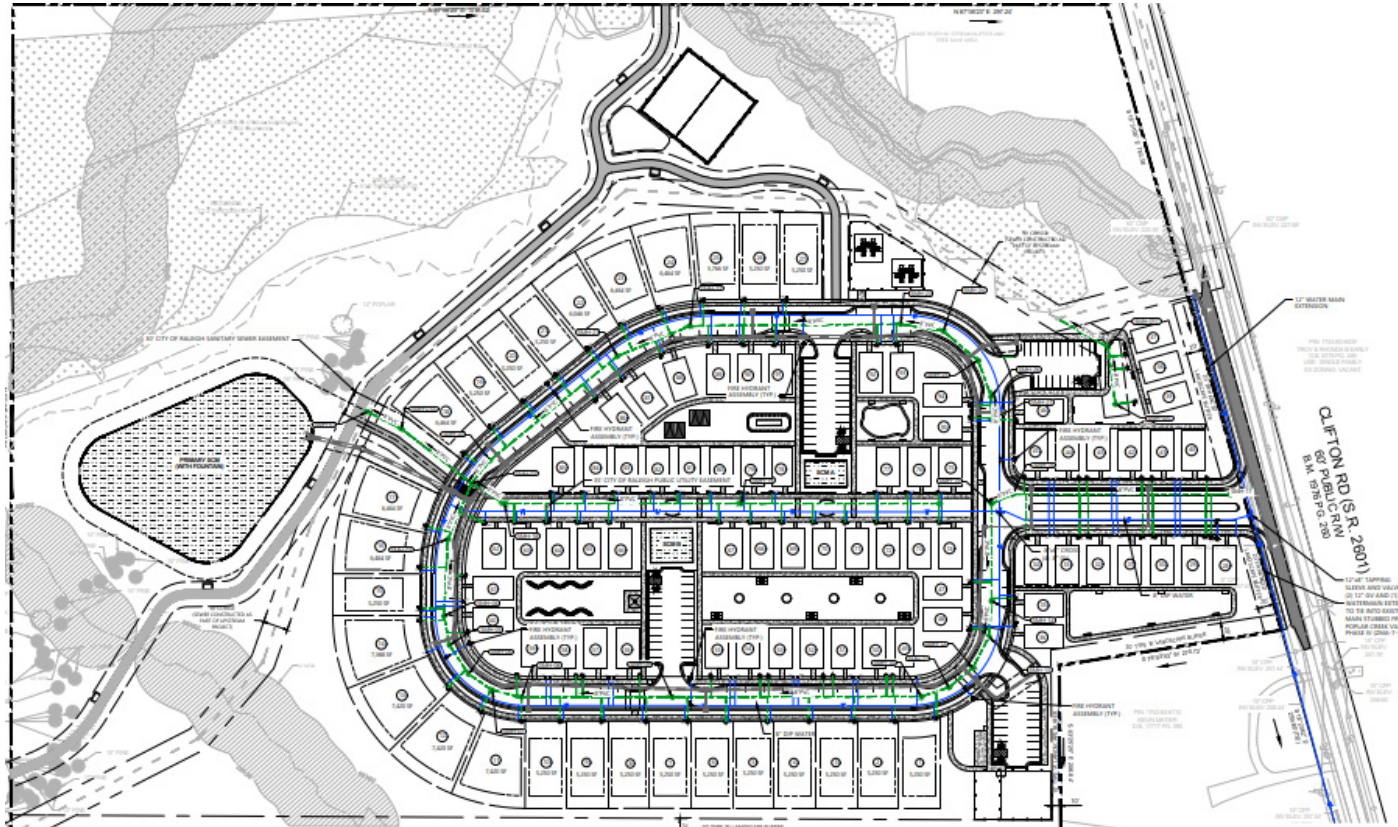
Designated refuse collection areas will be provided in the Cottage sections with appropriate signage, etc.





## PRELIMINARY UTILITY OVERVIEW

### UTILITY PLAN



### Public Water

A 12" public waterline will be extended along Clifton Rd from the south and along a majority of the frontage. Once entering the project, public water will be extended in all public streets as well as the central courtyard to serve all units. Fire hydrants will be installed throughout the development. A water system analysis will be performed to demonstrate all fireflow requirements are met throughout the development.

### Public Sewer

All units will be served with public sanitary sewer via a previously acquired CORSSE from the homeowner to the south. Sanitary sewer stubs will be provided for future development as directed by Raleigh Water. All public sewer will be designed and installed to meet Raleigh Water's standards and specifications.

### Water Allocation Policy

Water allocation points will be met for the major subdivision through the utilization of site programming with points as described in the Town's Water Allocation policy. A minimum of 50 points will be achieved.

### Major Subdivision

|   |           |
|---|-----------|
| Major Subdivision (Base Points)                   | 15        |
| Conservation of Natural Habitat (Public Greenway) | 10        |
| Construct a fountain within the SCM               | 4         |
| Outdoor Display of Public Art                     | 4         |
| Pickleball Courts                                 | 5         |
| IPEMA Certified Playground Equipment              | 4         |
| Stormwater- Underground Capture System            | 5         |
| Deck/Patio- More than 1,000 square feet           | 1         |
| Enhanced Roadside Landscaping and Hardscaping     | 2         |
| <b>Total Required</b>                             | <b>50</b> |
| <b>Total Provided</b>                             | <b>50</b> |





A large, active fountain in a park setting, surrounded by lush green trees and a building in the background. The fountain is the central focus, with water spraying upwards. In the foreground, there are purple flowers and green foliage. The background features a large building and more trees under a blue sky.

### Fountain Example

### Alternative Stormwater Device Concept

### Bioretention Example



## AMENITIES

(Conceptual images)



### Playground

IPEMA certified playground equipment will be provided in an active open space area for families.



### Public Greenway & Fitness Trail

The project will construct ~1,300 linear feet of public greenway along mostly undeveloped areas.



### Covered Mail Kiosk

The mail kiosk will be covered for rainy days.



### Bicycle Racks

Bicycle racks will be provided at various points of interest.



### Central Courtyard

The tree-lined central courtyard will be a vibrant focal point for community with full visibility as you enter the neighborhood. The courtyard will be adorned with amenities such as benches, seating areas and decorative lighting. It will double as a large open space green which can be used for a variety of activities. Additionally, the courtyard will have a fire-rated substructure for emergency service access to the front of cottages.



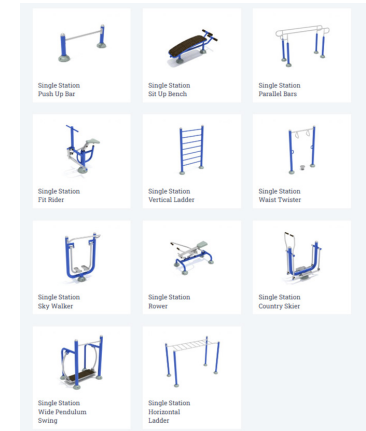
### Pickleball Courts

Two pickleball courts will be situated away from mass clearing areas to allow for private active recreation.



### Dog Park

The dog park will provide a place for large and small pets to run and play. This will be located in an area with distance from residential units with paired with partial shade.



### Workout Stations

Workout stations will be provided in an active open space area adjacent to the playground. The placement will give parents the opportunity to be active alongside their children.

Note: Similar or like products will be provided at time of construction and meet all Town passive and active open space requirements



## AMENITIES CONTINUED

(Conceptual images)



### **Pollinator Garden**

A proposed pollinator garden situated adjacent to main courtyard will create a habitat for pollinators in the community.



### **EV Charging Stations**

Standalone EV charging stations are proposed in every parking lot throughout the community.



### **Masonry Sitting Walls**

Half moon masonry sitting walls are proposed north and south of the pollinator garden for observation and additional seating adjacent to the central courtyard.



### **Benches**

Numerous benches are proposed throughout the community and along the public greenway.



### **Covered Pavilion**

A covered pavilion is proposed adjacent to the central courtyard to provide shade and a place of gathering.



### **Cottage Courtyards**

Six Cottage Courtyards are proposed throughout the community to provide additional local areas for resident gatherings and play. The shared green spaces replace the traditional backyard for cottages and promote a more intimate sense of community.

Note: Similar or like products will be provided at time of construction and meet all Town passive and active open space requirements



# COTTAGE COURT ACTIVATION

(Conceptual images)

## SITE PROGRAMMING



Hammock Park



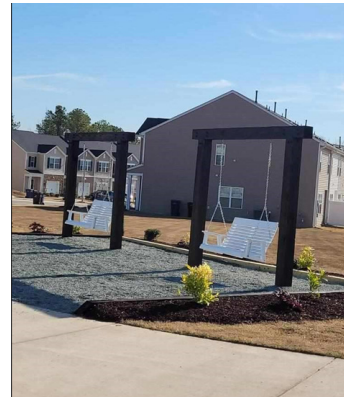
Yoga Lawn



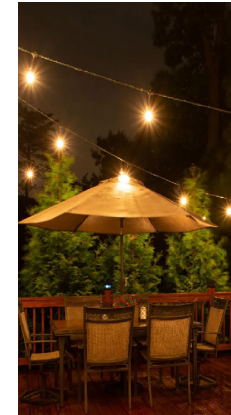
Multi-Use Play Lawn  
(with benches)



Sunken Conversation Pit



Bench Swing Park & Public Art  
Display



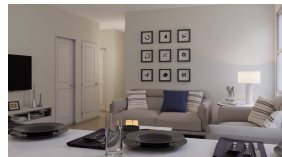
Raised deck with Sting Lights

Note: Similar or like products will be provided at time of construction and meet all Town passive and active open space requirements



# SAMPLE ARCHITECTURAL ELEVATIONS

ARCHITECTURAL DESIGN STANDARDS



**SAMPLE COTTAGE PRODUCT**  
2 BEDROOMS, 2 BATHS, 1,045 SQUARE FEET



**SAMPLE COTTAGE PRODUCT**  
3 BEDROOMS, 2 BATHS, 1,245 SQUARE FEET



**SAMPLE SINGLE FAMILY PRODUCT**



# ARCHITECTURAL DESIGN STANDARDS

## **STANDARDS FOR ALL HOMES**

1. ALL HOMES WILL HAVE A COMBINATION OF TWO OR MORE OF THE FOLLOWING MATERIALS ON THE FRONT FACADE (NOT INCLUDING FOUNDATION) UNLESS THE HOME IS ONLY STONE OR BRICK:

- A. STONE
- B. BRICK
- C. LAP SIDING
- D. SHAKES
- E. BOARD AND BATTEN
- F. WINDOW PEDIMENTS
- G. RECESSED WINDOWS
- H. SIDE AND/OR FRONT WINDOW BOX BAYS
- I. ROOF GABLES
- J. ROOF DORMERS
- K. ROOFLINE CORNICES
- L. METAL ROOFING AS ACCENT
- M. COLUMN
- N. SHUTTERS
- O. FIBER CEMENT SIDING

2. THE EXTERIOR SIDING MATERIAL ON THE SIDE AND REAR FACADES WILL BE FIBER CEMENT. WHEN TWO MATERIALS ARE USED, THE MATERIALS SHALL BE DIFFERENT BUT COMPLIMENTARY COLORS.

3. VINYL IS PROHIBITED EXCEPT FOR WINDOW TRIM, SOFFITS, FASCIA, AND/OR CORNER BOARDS.

4. MAIN ROOF PITCHES (EXCLUDING PORCHES) WILL BE AT LEAST 6:12.

5. FOR EVERY 30 FEET (OR FRACTION) OF CONTINUOUS SIDE ELEVATION (CALCULATED ON A PER FLOOR BASIS), THERE SHALL BE ONE WINDOW OR DOOR ADDED TO THE SIDE ELEVATIONS. ANY SIDING BREAK ON THE SIDE OF THE HOME SUCH AS A FIREPLACE, SIDE PORCH, WALL OFFSETS COULD BE USED AS AN ALTERNATIVE TO WINDOWS.

6. EACH FRONT ENTRANCE SHALL CONTAIN A COVERED STOOP OR PORCH.

7. FOUNDATION SHALL BE RAISED TO A MINIMUM HEIGHT OF 18 INCHES ABOVE FINISHED YARD GRADE IN THE FRONT AND SHALL CONTAIN A MINIMUM OF 2 STAIR RISERS UP TO THE FRONT PORCH.

FOUNDATIONS WILL BE WRAPPED IN BRICK OR STONE ON ALL SIDES. AREAS UNDER FRONT PORCHES MAY BE ENCLOSED WITH LATTICE OR OTHER DECORATIVE FORM OF SCREENING TO MATCH ARCHITECTURAL STYLE.

## **STANDARDS FOR SINGLE-FAMILY DETACHED FRONT-LOADED HOMES**

8. ALL HOMES SHALL HAVE A MINIMUM 100 SQUARE FOOT PATIO, DECK, TERRACE, OR COURTYARD.

9. EAVES SHALL PROJECT A MINIMUM OF 8" FROM BUILDING FACADE.

10. A MINIMUM OF 33% OF HOMES SHALL INCLUDE STONE OR BRICK AS A FRONT FAÇADE MATERIAL.

11. FRONT-FACING GARAGE DOORS SHALL HAVE ONE OF THE FOLLOWING: WINDOWS, DECORATIVE DETAILS, OR CARRIAGE-STYLE ADORNMENTS.



## ZONING CONDITIONS

### OFFSITE GREENWAY IMPROVEMENT

1. The Property owner shall construct at its own cost a 10' paved greenway trail on the property currently owned by the North Carolina Department of Transportation at 4917 Old Faison Road (PIN 1743553294) (the "DOT Property") connecting the greenway on the subject Property to the existing greenway located at 0 Stony Falls Way (PIN 1743625541) if the following preconditions are satisfied:
  - a. The Town obtains all necessary right-of-way and easement rights, including temporary construction easements, necessary to construct a 10' wide paved greenway trail connection on the DOT Property; and
  - b. The Town provides the Property owner a survey and metes and bounds description of the right-of-way and easement areas obtained for the inclusion in the Property owner's Construction Plans for the Property ("Owner's Construction Plans") within (i) one hundred twenty (120) days of the date of approval of this rezoning (Case ZMA-8-24), or (ii) thirty days (30) of the first submission of Construction Drawings/Preliminary Plat for the development set out in the Master Plan, whichever is later.

The Property owner shall be responsible for all costs necessary to construct said greenway on the DOT Property, except that the Property owner shall not be responsible for the following costs: (x) costs of constructing greenway improvements that are not shown in the approved Construction Drawings/Preliminary Plat for the development set out in the Master Plan, and (y) costs of correcting any defects in the greenway that are the result of defective or incomplete information provided by the Town.

### MASTER PLAN

2. Consistent with UDO 12.2(G)(3), the Property shall be developed in substantial accordance with the associated Master Plan (ZMA-8-24).
3. The Land Use Administrator may review and approve Site Development Allowances pursuant to 12.2(G)(3)(f)(ii) and 12.2(G)(3)(f)(ii)(b). Site Development Allowances shall not result in a net increase to the number of homes, but may increase the number of lots on which the Cottage Buildings are located. Site Development Allowances include, but are not limited to:
  - a. The project will integrate 2 green stormwater infrastructure devices (SCM A and SCM B) consistent with the Planned Development District Plan..
  - b. The Master Plan provides for 2 offstreet spaces per Cottage Unit. The location and relative size of parking areas may be modified to ensure an arrangement that is safe and convenient and, insofar as feasible, does not detract from the design of proposed buildings and structures. The number of offstreet parking spaces for Cottage Units may be modified no more than 2.5%.
  - c. Specific open space locations may be modified so long as the Land Use Administrator determines such modifications are consistent with applicable UDO standards, do not alter the basic development concept and are consistent the spirit and intent of the adopted Master Plan.





# DEVELOPMENT ALLOWANCES

THE APPROVED SITE DEVELOPMENT ALLOWANCES FROM THE UNDERLYING PROVISIONS OF GR3 ZONING ARE AS FOLLOWS. THE SITE DEVELOPMENT ALLOWANCES ARE COMPATIBLE WITH SURROUNDING DEVELOPMENT, IN FURTHERANCE OF THE STATED OBJECTIVES OF THE UDO, AND NECESSARY FOR PROPER DEVELOPMENT OF THE SITE DUE PRIMARILY TO ENVIRONMENTAL AND OTHER SITE CONSTRAINTS. THE SITE DEVELOPMENT ALLOWANCES ARE PROVIDED IN ORDER TO PROVIDE MORE LANDSCAPE CONSERVATION AND BENEFICIAL COMMON OPEN SPACE FOR AN OVERALL BETTER-INTEGRATED DESIGN.

**LOT WIDTH / DU – STREET LOADED (UDO TABLE 3.4)**

IN ORDER TO CREATE A VARIETY OF HOUSING TYPES AND PRICE POINTS, THE LOT WIDTH FOR SINGLE FAMILY DETACHED FRONT-LOADED HOMES SET OUT IN UDO TABLE 3.4 IS MODIFIED TO REDUCE THE MINIMUM LOT WIDTH FROM 80’ TO 50’. THE 50’ LOT WIDTH FOR SINGLE FAMILY DETACHED HOMES IS COMPATIBLE WITH SURROUNDING DEVELOPMENT THAT HAVE A SITE DEVELOPMENT ALLOWANCE PERMITTING STREET LOADED SINGLE FAMILY HOME LOT WIDTHS WELL BELOW THE UDO STANDARD. THE MODIFICATION IS IN FURTHERANCE OF THE UDO’S PURPOSE TO CREATE A CONVENIENT, ATTRACTIVE, AND HARMONIOUS COMMUNITY AND ENSURING AVAILABILITY OF WELL-ENGINEERED, WELL-BUILT, AND HIGH-QUALITY HOUSING. REDUCED LOT SIZE ALLOWS FOR MORE CONSERVATION AREA IN THE DEVELOPMENT, IN FURTHERANCE OF THE UDO’S PURPOSE TO PRESERVE ECOLOGICALLY SENSITIVE AREAS.

**MINIMUM RESIDENTIAL DRIVEWAY LENGTH (UDO TABLE 3.4)**

FOR SINGLE FAMILY DETACHED HOMES, THE MINIMUM RESIDENTIAL DRIVEWAY LENGTH SET OUT IN UDO TABLE 3.4 IS MODIFIED TO REDUCE MINIMUM DRIVEWAY LENGTH FROM 35’ TO 25’. THE REDUCTION OF THE MINIMUM RESIDENTIAL DRIVEWAY LENGTH FOR A MINORITY OF HOMES IN THE DEVELOPMENT IS COMPATIBLE WITH SURROUNDING DEVELOPMENT, WHERE THE MINIMUM DRIVEWAY LENGTH IS 20’. THE 25’ MINIMUM DRIVEWAY LENGTH IS CONSISTENT WITH THE OBJECTIVE OF THE UDO’S MINIMUM DRIVEWAY LENGTH IN THAT IT ENSURES THAT RESIDENTS OF THE SINGLE-FAMILY DETACHED HOMES CAN PARK VEHICLES IN THE DRIVEWAY WITHOUT BLOCKING THE SIDEWALK OR STREET. THERE WILL BE AMPLE ON-STREET GUEST PARKING.

**YARD SETBACKS FOR HOUSE BUILDING TYPE (UDO 6.5)**

FOR THE HOUSE BUILDING TYPE LOCATED ON FRONT-LOADED SINGLE FAMILY LOTS, THE YARD SETBACKS SET OUT IN UDO 6.5 ARE MODIFIED AS FOLLOWS:

***Yard Setbacks***

|                      |     |
|----------------------|-----|
| FRONT MINIMUM:       | 20’ |
| FRONT MAXIMUM:       | N/A |
| CORNER SIDE MINIMUM: | N/A |
| SIDE MINIMUM:        | 5’  |
| REAR MINIMUM:        | 15’ |

THESE MODIFICATIONS CONSTITUTE AN INCREASE IN THE MINIMUM FRONT YARD SETBACK FROM 10’ TO 20’. ELIMINATION OF THE MINIMUM CORNER SIDE YARD SETBACK BECAUSE THERE ARE NO CORNER FRONT-LOADED SINGLE FAMILY LOTS IN THE DEVELOPMENT, A MODIFICATION OF THE MINIMUM SIDE YARD SETBACK FROM 20% OF THE LOT WIDTH (3’ MINIMUM) TO 5’, AND A REDUCTION OF THE MINIMUM REAR YARD SETBACK FROM 25’ TO 15’.

**COTTAGE STANDARDS (UDO 6.3(A) AND 6.5)**

THE COTTAGE BUILDING TYPE IS A NEW BUILDING TYPE NOT CURRENTLY ADDRESSED IN THE UDO. BUILDINGS IDENTIFIED ON THE MASTER PLAN AS “COTTAGE PRODUCT STYLE A” AND “COTTAGE PRODUCT STYLE B” ARE THE COTTAGE BUILDING TYPE. THE COTTAGE BUILDINGS ARE SINGLE FAMILY HOMES BUILT ON THEIR OWN LOT OR A SHARED LOT WITH OTHER COTTAGE BUILDINGS. AS A RESULT OF THE CLUSTERING OF COTTAGE BUILDINGS, SUCH COTTAGE BUILDINGS WILL TYPICALLY ONLY HAVE ONE (1) YARD IN THE FRONT. UNITS MAY BE RENTED OR SOLD. CONSISTENT WITH UDO 6.3(A), STANDARDS FOR COTTAGE BUILDINGS ARE BASED ON THE HOME BUILDING TYPE STANDARDS IN UDO 6.5. FOR COTTAGES, THE YARD SETBACKS SET OUT IN UDO 6.5 ARE MODIFIED AS FOLLOWS:

***Yard Setbacks***

|  |                        |
|--|------------------------|
| FRONT MINIMUM  | 10’                    |
| FRONT MAXIMUM  | N/A                    |
| CORNER SIDE MINIMUM  | N/A                    |
| SIDE MINIMUM   | N/A                    |
| REAR MINIMUM   | N/A                    |
| BUILDING SEPARATION MINIMUM  | 6’ FROM OTHER COTTAGES |
| THESE MODIFICATIONS CONSTITUTE AN ELIMINATION OF THE MINIMUM CORNER SIDE YARD SETBACK, MINIMUM SIDE YARD SETBACK, AND THE MINIMUM REAR YARD SETBACK BECAUSE COTTAGES WILL BE CLUSTERED. THESE MODIFICATIONS ALSO ADD OF A 6’ MINIMUM BUILDING SEPARATION REQUIREMENT FOR COTTAGES TO ENSURE APPROPRIATE SPACING CONSISTENT WITH OTHERWISE APPLICABLE SIDE SETBACK REQUIREMENTS. COTTAGE BUILDINGS ARE PERMITTED TO HAVE MORE THAN ONE PRINCIPAL BUILDING PER LOT. THE COTTAGE BUILDING TYP SHALL SATISFY THE DISTRIBUTION OF USES REQUIREMENT OF THE COMPREHENSIVE PLAN. |                        |

**ROADWAY DESIGN — MINIMUM CENTERLINE RADIUS (UDO 10.5.A AND TABLE 10.1(D)(2)(a))**

THE MINIMUM CENTERLINE RADIUS FOR THE “STREET” STREET TYPE SET OUT IN UDO TABLE 10.1(D)(2)(a), WHICH IS CONTAINED IN UDO 10.5(A), IS REDUCED FROM 150’ TO 100’. AS DEMONSTRATED IN THE MASTER PLAN, THE ROADWAY DESIGN, AS MODIFIED, PROVIDES ADEQUATE EMERGENCY VEHICLE ACCESS AND MANEUVERABILITY IS NOT COMPROMISED.

**RESIDENTIAL CLEARING & GRADING (UDO 9.3(B))**

THE RESIDENTIAL CLEARING AND GRADING REQUIREMENTS SET OUT IN UDO 9.3(B) IS MODIFIED TO PERMIT MASS GRADING OF RESIDENTIAL LOTS AND INFRASTRUCTURE IMPROVEMENTS IN A SINGLE PHASE. MASS GRADING IS NECESSARY TO INSTALL UTILITY INFRASTRUCTURE AND ENSURE EFFECTIVE STORMWATER DESIGN. THE REQUESTED MODIFICATION IS CONSISTENT WITH THE UDO 9.3(B)(3), WHICH EXEMPTS RESIDENTIAL SUBDIVISIONS WITH LOTS LESS THAN SIXTY (60) FEET FROM THE CLEARING AND GRADING LIMITATION SET OUT IN UDO 9.3(B). THIS MODIFICATION IS IN FURTHERANCE OF THE UDO’S PURPOSE OF ENSURING AVAILABILITY OF WELL-ENGINEERED, WELL-BUILT, AND HIGH-QUALITY HOUSING

**CONNECTIVITY INDEX (UDO 11.3(E)(7) AND UDO TABLE 11.3(E)(3))**

THE MINIMUM CONNECTIVITY INDEX REQUIREMENT SET OUT IN UDO 11.3(E)(7) AND UDO TABLE 11.3(E)(3) IS MODIFIED TO REDUCE THE MINIMUM REQUIRED CONNECTIVITY INDEX SCORE FROM 1.40 TO 1.00. ACHIEVING A HIGHER CONNECTIVITY INDEX SCORE ON THIS SITE WOULD REQUIRE THE CONSTRUCTION OF ROAD CONNECTIONS THROUGH ENVIRONMENTALLY SENSITIVE AREAS OR EXISTING HOMES. THE MODIFIED INDEX CONNECTIVITY SCORE ALLOWS DEVELOPMENT ON THE PROPERTY WITH LIMITED DISTURBANCE TO ENVIRONMENTALLY SENSITIVE AREAS, CONSISTENT WITH THE UDO’S STATED PURPOSE OF PRESERVING ECOLOGICALLY SENSITIVE AREAS; PROVIDING FOR ADEQUATE OPEN SPACE; CREATING ATTRACTIVE AND HARMONIOUS COMMUNITIES; FACILITATING ECONOMIC GROWTH; AND ENSURING THE AVAILABILITY OF WELL-ENGINEERED, WELL-BUILT, AND HIGH-QUALITY HOUSING. THE PROPOSED MODIFICATION WILL ENSURE COMPATIBILITY WITH SURROUNDING AREAS WHILE PROVIDING A PEDESTRIAN CONNECTION TO THE SURROUNDING AREAS.

**OFF-STREET PARKING REQUIREMENT (UDO 9.3.5)**

THE COTTAGE DWELLING USE IS NOT CURRENTLY LISTED IN THE TABLE OF PARKING REQUIREMENTS IN UDO 9.3.5. CONSISTENT WITH ZONING CONDITIONS, THE MINIMUM NUMBER OF PARKING SPACES FOR COTTAGE DWELLINGS SHALL BE 1.95 SPACES PER DWELLING UNIT AND THE MAXIMUM NUMBER OF PARKING SPACES FOR COTTAGE DWELLINGS SHALL BE 2.05 SPACES PER DWELLING UNIT.

**PAYMENT IN LIEU OF CERTAIN CLIFTON ROAD RIGHT-OF-WAY IMPROVEMENTS (UDO 10.3, 10.4, 13.10(A))**

THE REQUIREMENT SET OUT IN UDO 13.10(A) TO BRING THE CLIFTON ROAD RIGHT-OF-WAY ADJACENT TO THE DEVELOPMENT UP TO THE STANDARDS OF UDO 10.4 IS MODIFIED SO THAT STREET IMPROVEMENTS (CURB & GUTTER, SIDEWALK ETC.) DO NOT HAVE TO BE MADE ON THE PORTIONS OF THE ADJACENT CLIFTON ROAD RIGHT-OF-WAY IMPROVEMENT LOCATED WITHIN OR NORTH OF THE FIFTY (50) FOOT RIPARIAN BUFFER ON EITHER SIDE OF THE EAST-TO-WEST JURISDICTIONAL STREAM THAT RUNS THROUGH THE PROJECT PROPERTY AND BISECTS CLIFTON ROAD NORTH OF THE ROAD LABELED “ROAD A” IN THE MASTER PLAN. FURTHER DEVELOPMENT NORTH OF THE PROJECT IS UNLIKELY, AND CREATING POTENTIALLY UNNECESSARY ENVIRONMENTAL IMPACTS TO JURISDICTIONAL WETLANDS AND STREAMS DOES NOT ALIGN WITH THE OVERALL THEME OF CONSERVATION. TO THE EXTENT NECESSARY, UDO 10.3 IS MODIFIED TO PROVIDE THAT THE TOWN WILL ACCEPT A PAYMENT IN LIEU OF THE ABOVE-LISTED CLIFTON RIGHT-OF-WAY IMPROVEMENTS. THE DEVELOPER SHALL PAY THE PAYMENT IN LIEU OF THE ABOVE-LISTED STREET RIGHT-OF-WAY IMPROVEMENTS IN A SINGLE LUMP SUM PRIOR TO APPROVAL OF THE FINAL PLAT. THE AMOUNT WILL BE ESTIMATED BY A PROFESSIONAL ENGINEER AND REVIEWED BY THE TOWN OF KNIGHTDALE.





## Memorandum

To: Reese Bridges, PE, AICP  
D.R. HORTON  
7208 Falls of Neuse Road., Suite 201  
Raleigh, NC 27615

Date: February 25, 2025  
Project #: 39510.03

From: Andrew Topp, PE, PTOE  
Senior Project Manager, VHB

Re: Clifton Road Residential Trip Generation -  
Clifton Road Residential; Knightdale, NC

This memorandum provides an assessment of trip generation (site-generated traffic volumes) projected by a proposed 95-lot single-family home development, located along the west side of Clifton Road (SR 2601), north of Pine Country Lane in Knightdale, NC.

### Project Background

The Clifton Road Residential development is proposed to be located northwest of the Clifton Road (SR 2601) and Pine Country Lane intersection. The Site Plan is included in the Appendix to this memo. The Clifton Road Residential development is planned to contain 95 single-family home lots and is expected to have a single full access driveway onto Clifton Road.

### Trip Generation

The trip generation for the proposed site was prepared using the *Institute of Traffic Engineers (ITE) Trip Generation Manual, 11<sup>th</sup> Edition*. The land use code (LUC) for Single-Family Detached Housing (LUC 210) was utilized to determine the future site trips generated by the development. The trip generation for the site is shown in Table 1.

**Table 1: Traffic Generation – Clifton Road Residential Development in Knightdale, NC**

| Land Use Code <sup>1</sup> | Land Use                       | Unit  | ADT | AM Peak Hour |      |       | PM Peak Hour |      |       |
|----------------------------|--------------------------------|-------|-----|--------------|------|-------|--------------|------|-------|
|                            |                                |       |     | Enter        | Exit | Total | Enter        | Exit | Total |
| 210                        | Single-Family Detached Housing | 95 du | 963 | 18           | 53   | 71    | 60           | 35   | 95    |

Notes:

1. Land Use Code and trip generation rates are determined based on *ITE Trip Generation, 11<sup>th</sup> Edition*
2. Total site trips are determined based on the suggested method in the NCDOT Rate vs Equation Spreadsheet

As shown in Table 1, the Clifton Road Residential development is expected to generate 71 trips during the AM peak hour, 95 peak hour trips during the PM peak hour, and a total of 963 daily trips. None of these values exceed the minimum required for a TIA for either the Knightdale UDO (150 peak hour trips), Wake County UDO (100 peak hour trips or 1,000 daily trips), or NCDOT TIA Checklist (3,000 daily trips).

### Trip Distribution

Clifton Road terminates just north of the site, and as a result, entering traffic was distributed under the following assumptions:

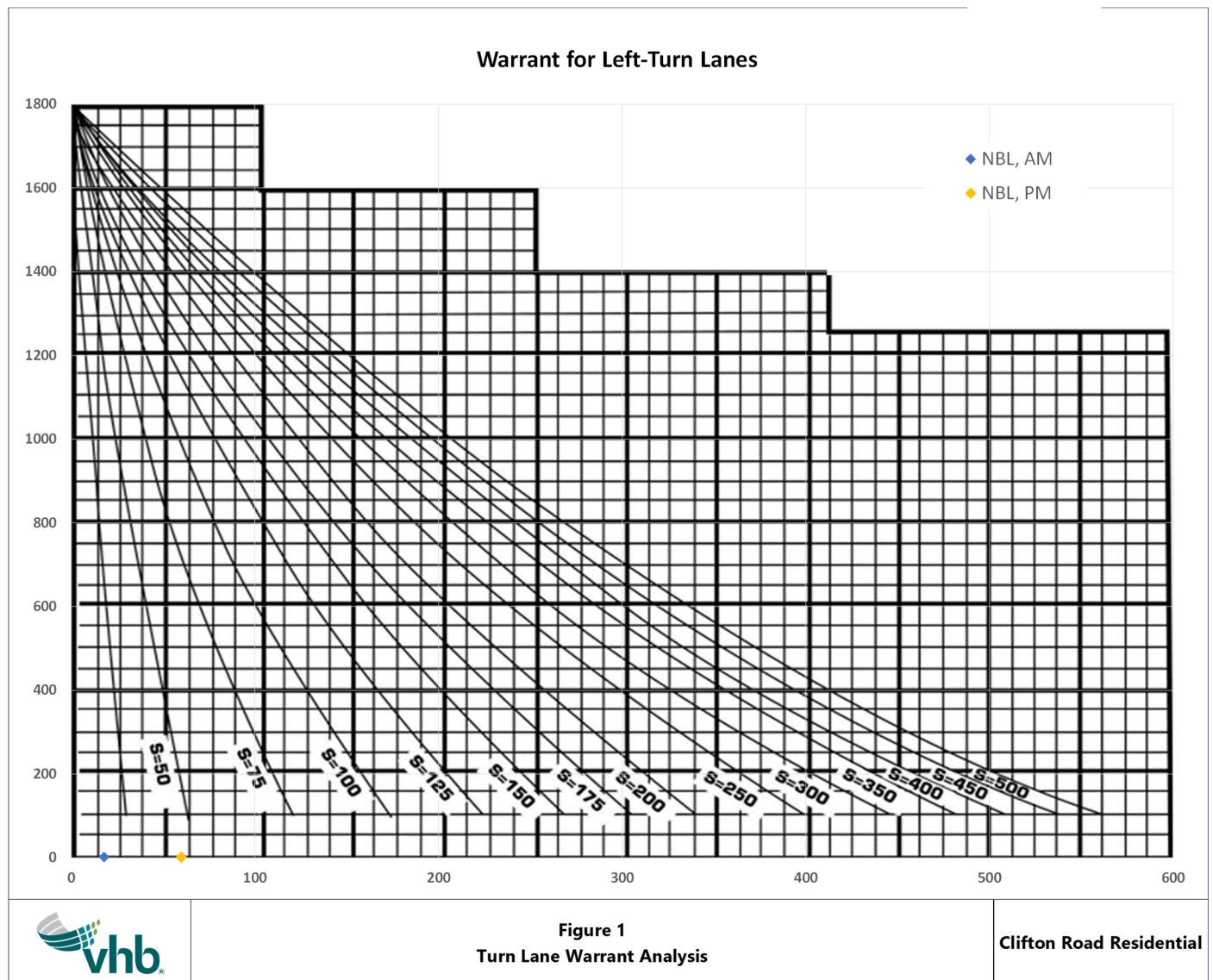
- 100% from the south on Clifton Road



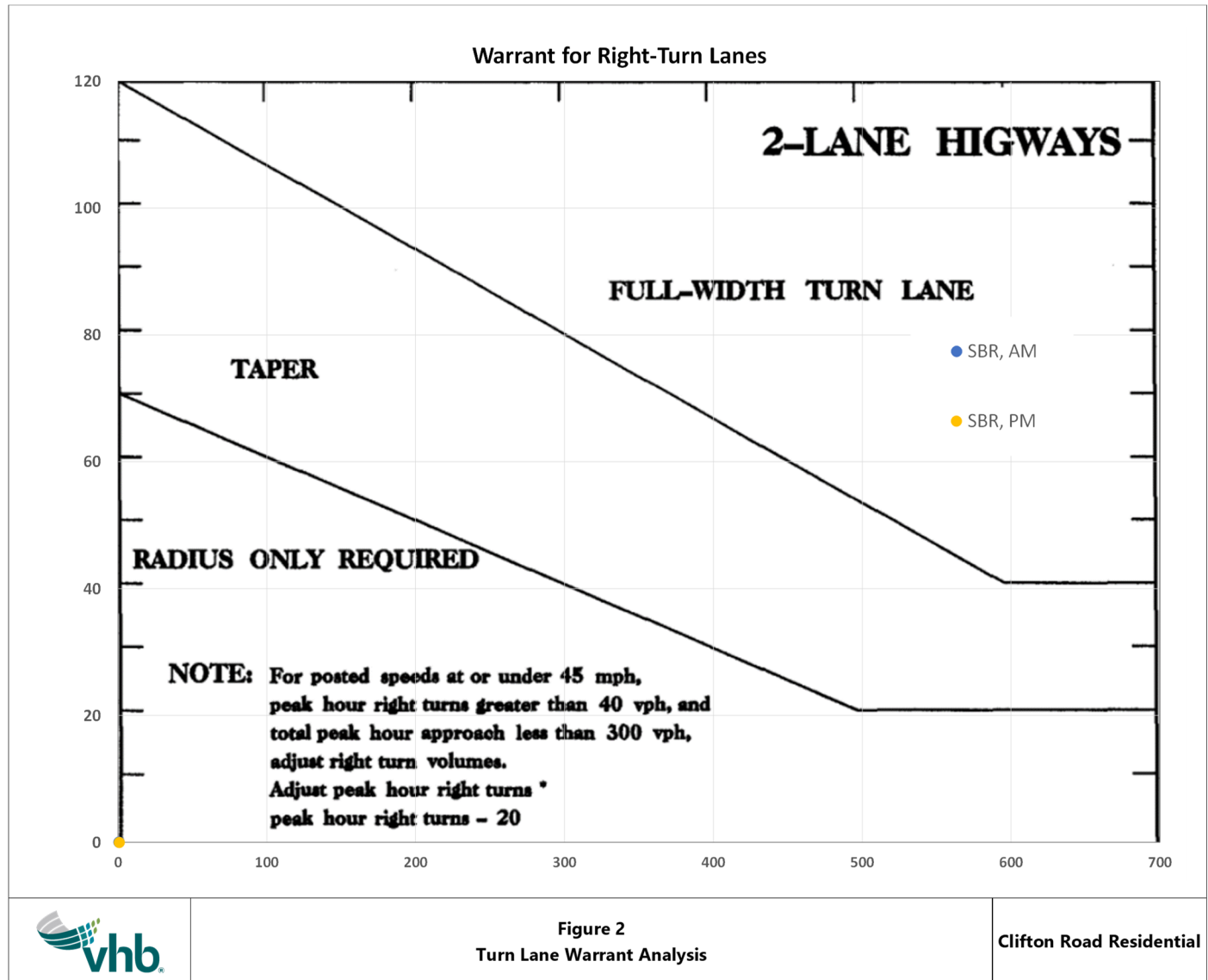
## Turn Lane Warrant Analysis

There are only two residences located between the site and the terminus of Clifton Road. As a result, the trips from north of the development were generated for the two houses by using the *ITE Trip Generation Manual, 11<sup>th</sup> Edition* (LUC 210) and directing those trips past the site.

Figures 1 and 2 show the resulting turn lane warrant analysis. Note that this development does not meet the minimum threshold for a turn lane or taper.







## Conclusions

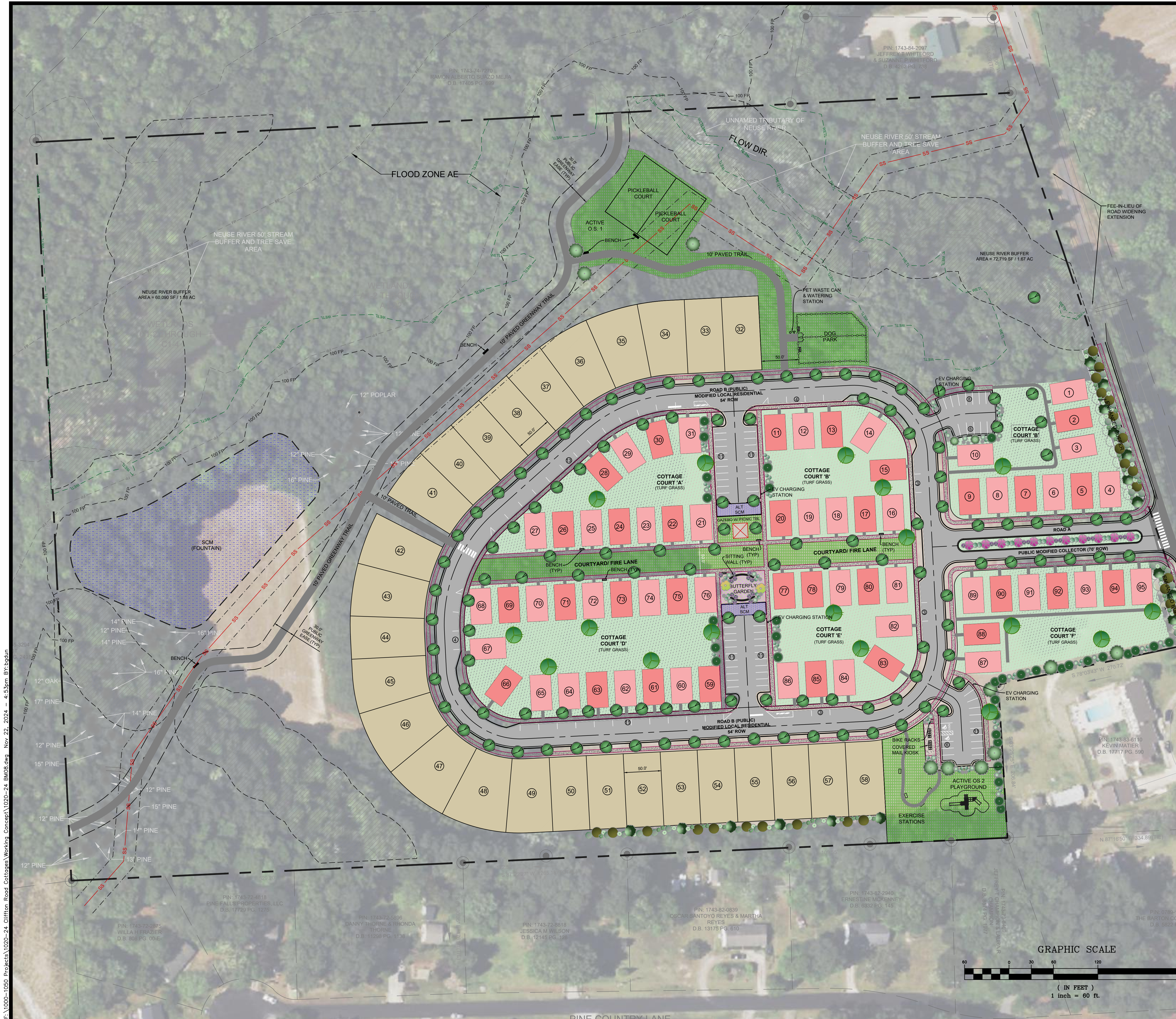
As indicated in the Trip Generation Table, the proposed development does not meet the minimum threshold for conducting a TIA based on requirements from the Town of Knightdale, Wake County, and NCDOT. The left-turns into the site will essentially operate free flowing due to the lack of opposing traffic volume and therefore no turn lanes are required. Similarly, exiting traffic will have steady gaps to turn right out of the site. This development accesses a low volume road and is projected to have a minimal impact on the traffic operations along the roadways within the study area. Therefore, no TIA is recommended for this development.



## Appendices



F:\1000-1050 Projects\1020-24 Clifton Road Cottages\Working Concept\1020-24 BM08.dwg Nov 22, 2024 - 4:53pm Bjt:bdm



PRELIMINARY DEVELOPMENT SUMMARY

PROJECT:

OWNER OF RECORD:

PROJECT DESIGNER:

PIN NO.:

TOWNSHIP:

EXISTING NUMBER OF PARCELS:

TOTAL EXISTING TRACT AREA:

EXISTING ZONING:

PROPOSED ZONING:

EXISTING USE:

PROPOSED USE:

EXISTING STRUCTURES:

RESIDENTIAL UNITS PROPOSED:

DENSITY CALCULATIONS:

OPEN SPACE REQUIRED:

RECREATIONAL OPEN SPACE CALCULATIONS:

ACTIVE OPEN SPACE REQUIRED:

PASSIVE OPEN SPACE REQUIRED:

TOTAL OPEN SPACE PROVIDED:

PASSIVE:

UNDISTURBED OPEN SPACE:

WETLAND IMPACT:

PARKING PROVIDED:

CLIFTON ROAD CONSERVATION SUBDIVISION

DR HORTON, INC

DUNCAN LAND CONSULTANTS

1743-73-8469

ST. MATTHEW'S

1

32.05 AC

RR1

G33 PUD

VACANT

SINGLE FAMILY RESIDENTIAL

N/A

95

32.05 AC

3.97 AC

333 BEDS (105 UNITS\*3.3 UNITS/BED)

1.98 AC (0.5\*3.97 AC)

1.96 AC (0.5\*3.97 AC)

18.44 AC

5.44 AC

-11.0 AC

N/A

116 SPACES

LEGEND

COTTAGE PRODUCT A

COTTAGE PRODUCT B

50' FRONT LOAD SINGLE FAMILY

COTTAGE COURT OPEN SPACE

ACTIVE OPEN SPACE

ADDITIONAL ANTI-MONOTONY PROVISIONS

ADDITIONAL ANTI-MONOTONY PROVISIONS

ADDITIONAL ANTI-MONOTONY PROVISIONS

SEE PUD REPORT FOR DETAILS

SEE PUD REPORT FOR DETAILS

CLIFTON RD (S.R. 2601)

60' PUBLIC R/W

100' SECTION OF 20' WIDE TYPE B BUFFER YARD

PER 100' SECTION:

KNIGHTDALE TYPE B BUFFER PER 100' SECTION:

THIS DRAWING IS THE PROPERTY OF:

Duncan Land Consultants

THIS DOCUMENT IS NOT TO BE REPRODUCED OR COPIED IN WHOLE OR IN PART WITHOUT PERMISSION FROM DUNCAN LAND CONSULTANTS.

DATE:

REVISION:

NO.:

1:

PRELIMINARY

DUNCAN LAND CONSULTANTS

CLIFTON ROAD CONSERVATION SUBDIVISION

TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

PRELIMINARY

SITE SKETCH

DRAWING SHEET

SK-3.0

PROJECT NUMBER

1020-24



OFFICES  
Wells Fargo Capitol Center  
150 Fayetteville Street, Suite 2300  
Raleigh, North Carolina 27601

TOBY R. COLEMAN  
DIRECT DIAL: (919) 821-6778  
E-Mail: tcoleman@smithlaw.com

February 27, 2025

MAILING ADDRESS  
P.O. Box 2611  
Raleigh, North Carolina  
27602-2611  
TELEPHONE: (919) 821-1220  
FACSIMILE: (919) 821-6800

Re: Notice of neighborhood meeting regarding rezoning of land located at 0 Pine Country Ln. having Wake County Parcel Identification Number 1743738469 (the "Property")

Dear Knightdale Area Property Owner:

You are invited to a neighborhood meeting on February 27, 2025 to learn more about the proposed rezoning of the Property. D.R. Horton is seeking the rezoning to facilitate the construction of new homes in a conservation subdivision that will leave a significant portion of the site undisturbed. Details on the neighborhood meeting are provided below.

**Meeting Date:** Thursday, February 27, 2025

**Meeting Time:** 6 p.m.

**Meeting Location:** Hampton Inn & Suites, 405 Hinton Oaks Blvd., Knightdale, NC 27545

**Application Type:** Planned Unit Development

**Approving Authority:** Town Council Legislative Approval

**Address:** 0 Pine Country Ln.

**PIN:** 1743-73-8469

**Description of Proposal:** The rezoning seeks to rezone the Property from Rural Residential (RR1) zoning district to General Residential Low Density, Planned Unit Development (GR3 PUD) zoning. The rezoning will permit the construction of a +/- 95-home residential subdivision called Clifton Road Conservation Subdivision.

A neighborhood meeting is required by the Town of Knightdale Unified Development Ordinance and all property owners within 200 feet of the Property must receive notification of the meeting. The meeting will be an opportunity for residents and property owners to learn more about the project and provide feedback.

Enclosed is a map showing the location being considered for this proposal. Additional materials may be available at the neighborhood meeting.

Please see the 2025 Town Council/Land Use Review Board Meeting & Submittal Schedule for future public meeting dates. That Schedule is available at:

<https://www.knightdalenc.gov/sites/default/files/uploads/page-menu-files/submittal-and-meeting-schedule-2025.pdf>

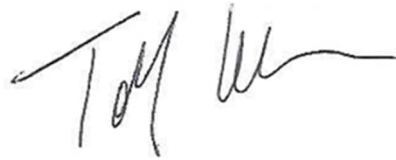


February 17, 2025

Page 2

If you have any questions, comments, or concerns about the proposal prior to the meeting, you may contact me, Toby Coleman, at (919) 821-6778 or [tcoleman@smithlaw.com](mailto:tcoleman@smithlaw.com). Questions, comments, and concerns communicated to me prior to the meeting, as well as questions, comments and concerns communicated during the meeting, will be recorded as part of the neighborhood meeting summary, which is submitted to Town of Knightdale staff and elected officials. You may also contact the Town of Knightdale Development Services Department at 919-217-2243.

Sincerely,

A handwritten signature in black ink, appearing to read 'Toby R. Coleman', with a stylized, flowing script.

Toby R. Coleman

enclosures

cc: Town of Knightdale Development Services Department





### Project Contact Information

Project Name: Clifton Road Conservation Subdivision Proposed Zoning: GR3 PUD

Location: 0 Pine Country Ln.

Property PIN(s): 1743738469 Acreage/Square Feet: 32.05 acres

Property Owner: David Jonathan Adams

Address: 6000 Mal Weathers Rd.

City: Raleigh State: NC Zip: 27603-7831

Phone: \_\_\_\_\_ Email: \_\_\_\_\_

Developer: DR Horton, Inc.

Address: 7208 Falls of Neuse Rd., Suite 201

City: Raleigh State: NC Zip: 27615

Phone: \_\_\_\_\_ Email: \_\_\_\_\_

Engineer: Duncan Land Consultants (Project Designer)

Address: 5204 Blakebran Trail

City: Fuquay-Varina State: NC Zip: 27526

Phone: \_\_\_\_\_ Email: \_\_\_\_\_

Builder (if known): \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ Email: \_\_\_\_\_



**Proposed Rezoning—0 Pine Country Ln.  
Neighborhood Meeting Agenda  
February 27, 2025, 6 p.m.**

**MEETING AGENDA**

1. Meeting Welcome and Introductions of Speakers.
2. Project Presentation
3. Question and Answer

**EXPLANATION OF PROCESS FOR WHICH MEETING IS BEING HELD AND  
EXPLANATION OF NEXT STEPS**

Why is this Meeting Being Held? D.R. Horton is holding this neighborhood meeting to discuss its proposed rezoning of the property located at 0 Pine Country Ln. D.R. Horton proposes rezoning the property from its current Rural Residential zoning to General Residential Low Density, Planned Unit Development.

Pursuant to §§ 12.2(C)(3) and 12.2(F)(3)(b) of the Knightdale Unified Development Ordinance (“UDO”), this neighborhood meeting must occur before D.R. Horton can submit its rezoning application to the Town for consideration by Town staff and the Town’s appointed and elected officials.

What Happens in the Rezoning Process After the Neighborhood Meeting? The neighborhood meeting is just the first of multiple opportunities that members of the public have to share their comments and questions regarding the proposed rezoning with D.R. Horton, Town staff, and Town officials.

D.R. Horton is required by the UDO to provide the Town with a written summary of the questions and comments received at the Neighborhood Meeting. D.R. Horton may make revisions to its proposal based on comments received at the Neighborhood Meeting.

Once D.R. Horton submits its rezoning application, Town planning staff will review the application and associated documents to determine whether it complies with the Town’s land use plans and policies. Town Council will then hold a joint public hearing on the rezoning application. The application will then be reviewed by the Town’s Land Use Review Board for review and a recommendation. Once the Land Use Review Board makes a recommendation, the rezoning application will be sent back to the Town Council for further review. Town Council will make the decision on whether or not to approve the rezoning application.



## **OVERVIEW OF DEVELOPMENT PROPOSAL**

Proposed Rezoning of 0 Pine Country Ln.  
Clifton Road Conservation Subdivision

D.R. Horton proposes to build a +/- 95-home subdivision that can provide high-quality residences and amenities amidst the trees and nature that make this corner of Knightdale exceptional. The proposed development is a “conservation” subdivision because it will preserve the most environmentally sensitive parts of the property, with a little over a third of the property remaining undisturbed woodlands and open space.

The proposed Clifton Road Conservation Subdivision will have a mix of traditional single-family homes and smaller homes or cottages arranged around almost 5.5 acres of landscaped greenspace. The neighborhood will be designed to connect residents to nature, including greenway trails and a butterfly garden.

## **KNIGHTDALE’S MAILED NOTICE REQUIREMENTS FOR NEIGHBORHOOD MEETINGS**

Knightdale’s Neighborhood Meeting Guidelines are attached hereto. The Town’s Neighborhood Meeting Guidelines specifically require rezoning applicants to include a copy of the Neighborhood Meeting Guideline’s “Mailed Notice Requirements” with this neighborhood meeting notice. Those requirements are as follows:

### **Mailed Notice Requirements:**

- The applicant shall send written notices of the meeting via first-class mail at least 10 days prior to the meeting to property owners within 200 feet of the proposed project via a list supplied by town staff.
- The applicant will be required to include in the attached mailed notice (applicant letterhead), vicinity map which contains the existing zoning, & map of the proposed development & zoning.
- The attached “Project Contact Information” sheet (on applicant letterhead).
- An agenda for the meeting shall be included with the mailed notice, including an explanation of the process for which the meeting is being held, an explanation of next steps (possible revisions to the plan based on comments received, Town Council Joint Public Hearing, Land Use Review Board meeting, Town Council decision), and an overview of development proposal.
- Include these guidelines with the mailed notices to property owners.



# NEIGHBORHOOD MEETING SIGN-IN SHEET

This document is a public record under the North Carolina Public Records Act and may be published on the Town's website or disclosed to third parties.

Meeting Address: \_\_\_\_\_

Date of meeting: \_\_\_\_\_ Time of meeting: \_\_\_\_\_

Property Owner(s) name(s): \_\_\_\_\_

Applicant(s): \_\_\_\_\_

Please print your name below, state your address and/or affiliation with a neighborhood group, and provide your phone number and email address. Providing your name below does not represent support or opposition to the project; it is for documentation purposes only. For virtual meetings, applicants must include all known participants and request the information below.

|     | NAME/ORGANIZATION | ADDRESS | PHONE # | EMAIL | SEND PLANS<br>& UPDATES |
|-----|-------------------|---------|---------|-------|-------------------------|
| 1.  |                   |         |         |       |                         |
| 2.  |                   |         |         |       |                         |
| 3.  |                   |         |         |       |                         |
| 4.  |                   |         |         |       |                         |
| 5.  |                   |         |         |       |                         |
| 6.  |                   |         |         |       |                         |
| 7.  |                   |         |         |       |                         |
| 8.  |                   |         |         |       |                         |
| 9.  |                   |         |         |       |                         |
| 10. |                   |         |         |       |                         |
| 11. |                   |         |         |       |                         |
| 12. |                   |         |         |       |                         |
| 13. |                   |         |         |       |                         |
| 14. |                   |         |         |       |                         |



# SUMMARY OF DISCUSSION FROM THE NEIGHBORHOOD MEETING

Property Owner(s) name(s): \_\_\_\_\_

Applicant(s): \_\_\_\_\_

Contact information (email/phone): \_\_\_\_\_

Meeting Address: \_\_\_\_\_

Date of meeting: \_\_\_\_\_ Time of meeting: \_\_\_\_\_

Question/Concern #1:

\_\_\_\_\_

\_\_\_\_\_

Applicant's Response:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Question/Concern #2:

\_\_\_\_\_

\_\_\_\_\_

Applicant's Response:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Question/Concern #3:

\_\_\_\_\_

\_\_\_\_\_

Applicant's Response:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Question/Concern #4:

\_\_\_\_\_

\_\_\_\_\_

Applicant's Response:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_