

SYMBOLS AND ABBREVIATIONS

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT TOWN OF KNIGHTDALE STANDARDS AND SPECIFICATIONS

Table of symbols and abbreviations for construction elements like aggregate base course, aluminum, steel, etc.

ATTENTION CONTRACTORS

The Construction Contractor responsible for the extension of water, sewer, and/or reuse, as approved in these plans, is responsible for contacting the Public Utilities Department at (919) 996-4540 at least twenty four hours prior to beginning any of their construction.

Failure to notify both City Departments in advance of beginning construction, will result in the issuance of monetary fines, and require reinstallation of any water or sewer facilities not inspected as a result of this notification failure.

Failure to call for Inspection, Install a Downstream Plug, have Permitted Plans on the Jobsite, or any other Violation of City of Raleigh Standards will result in a Fine and Possible Exclusion from future work in the City of Raleigh.

NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF KNIGHTDALE AND NCDOT

EROSION AND SEDIMENT CONTROL

Approved Plan form with fields for DATE, Permit No., SEC., Town of Knightdale, Sedimentation & Erosion Control, and phone number (919)-217-2250.

WATER ALLOCATION POLICY BONUS POINT CHART

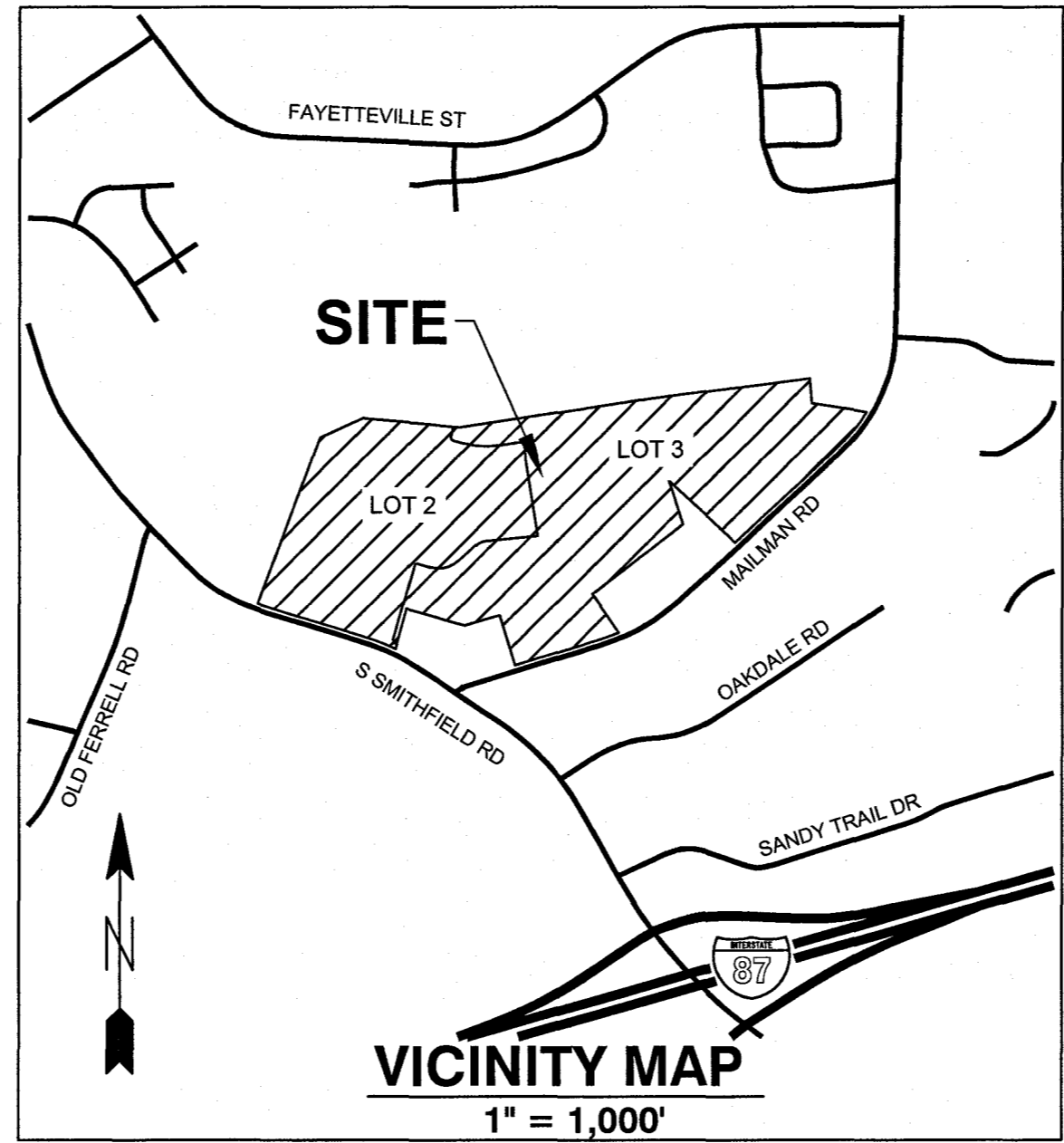
Table listing bonus points for various features like Base Points, Open Space, Stormwater Wet Pond, etc.

QUANTITY SUMMARY

Summary table of quantities for PUBLIC WATER, SANITARY SEWER, STORM DRAINAGE, PUBLIC STREET, PUBLIC SIDEWALK, PUBLIC CURB AND GUTTER, and SILT FENCE.

VILLAGE GATE

S. SMITHFIELD ROAD TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA CONSTRUCTION DRAWINGS TOWN OF KNIGHTDALE PUD CASE NO. ZMA-1-21



SITE DATA

Table containing project name, address, zoning, use, site area, net site area, number of lots, site density, open space, and total open space provided.

SHEET INDEX

Table listing sheet numbers and titles for various plans including Zoning Conditions, Demolition, Site Plans, Grading, and Erosion Control.

Lot and Building Dimensional Requirements

Table detailing dimensional requirements for building types, lot width, setbacks, and driveway dimensions.

APARTMENT SITE DATA

Table showing apartment site data including building type, units, retail space, and parking requirements.

CONSTRUCTION NOTES

- List of construction notes detailing standards, site preparation, drainage, erosion control, and construction methods.

OWNER:

VILLAGE GATE APARTMENTS, LLC 8480 HONEYCUTT RD. STE 200 RALEIGH, NC 27615

DEVELOPER:

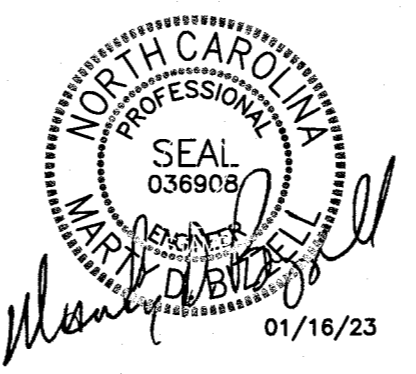
KDM DEVELOPMENT CORPORATION 1080 PITTFORD VICTOR RD PITTSFORD, NC 14534

WAKE KNIGHTDALE RENTAL PROPERTIES, LLC 440 W MARKET ST GREENSBORO, NC 27401

CONTACT: KENYON BURNHAM PHONE: (585) 465-0099 EMAIL: kburnha@u.rochester.edu

ENGINEER:

BASS, NIXON & KENNEDY, INC. CONSULTING ENGINEERS 6310 CHAPEL HILL ROAD, SUITE 250 RALEIGH, NORTH CAROLINA 27607



TELEPHONE: (919) 851-4422 FAX: (919) 851-8968 CERTIFICATION NUMBERS: NCBELS (C-0110) NCBOLA (C-0267)

CONTACT: MARTY D. BIZZELL, PE, CPESC EMAIL: Marty.Bizzell@BNKinc.com

SITE PERMITTING APPROVAL

Site Permitting Approval form with fields for Water and Sewer Permits, City of Raleigh Development Approval, and signatures.

Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: [Signature] Date: 2-1-2023 Town Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project. By: [Signature] Date: 2-2-2023 Administrator

Town Approved Standards Shall Control. In the event of a conflict or inconsistency between these construction drawings and the Town of Knightdale's Approved Standards for this project, the Approved Standards shall control.

Professional Design Engineer Certification. These improvements shall be constructed in accordance with the following drawings and with the Standard Specifications of the Town of Knightdale.



TOWN OF KNIGHTDALE

950 Steeple Square Court
Knightdale, NC 27545
KnightdaleNC.gov

ORDINANCE #21-04-21-004
AN ORDINANCE TO AMEND THE UNIFIED DEVELOPMENT ORDINANCE
OF THE TOWN OF KNIGHTDALE
WHICH INCLUDES THE ZONING DISTRICT MAP

ZMA-1-21 Smithfield Mixed Use Planned Unit Development

WHEREAS, the Town of Knightdale has received a petition to amend the zoning of the property from Rural Transition (RT) to Neighborhood Mixed Use Planned Unit Development (NMXPUD); and

WHEREAS, the Town Council finds the proposed Zoning Map Amendment is consistent with the KnightdaleNext 2035 Comprehensive Plan as it addresses several of the guiding principles such as creating a compact development while promoting a specific community design, expanding home choices, and enhancing the economic vitality of Knightdale. Further, it is consistent with the General Growth Framework Map by providing a "Neighborhood Node" for local retail options, and the Growth & Conservation Map's designation as a "Mixed Density Neighborhood" Place Type. Additionally, the proposal is consistent with the Gateway Entrances Map, Street Network Map, Trails & Greenway Map, and the Mixed Density Residential Focus Study Area.

WHEREAS, the request is also reasonable and in the public interest as it aids in developing a vibrant, sustainable, and safe community design in which people desire to live, work and visit;

NOW, THEREFORE, BE IT ORDAINED by the Town Council of the Town of Knightdale, North Carolina:

SECTION 1: That the Unified Development Ordinance of the Town of Knightdale Code, which includes the Zoning District Map, be amended to rezone approximately 76 ± acres located in the Town of Knightdale's Extra Territorial Jurisdiction, at Smithfield Road and Mailman Road and identified as Wake County PINs 1753-67-3147, 1753-77-8199, and 1753-87-9748 from Rural Transition (RT) to Neighborhood Mixed Use Planned Unit Development (NMXPUD) as indicated.

SECTION 2: That the additional conditions contained within the application identified as ZMA-7-20 and PUD document (Exhibit B), and listed below apply as additional zoning conditions to the parcels of land identified as PIN 1743-82-2816:

- 1. Single-family dwelling units on lots less than 80 feet in width will be accessed via a driveway that connects to the fronting public right-of-way.
- 2. Allowance of mass grading on additional front-loaded single-family lots accounting for approximately 11.61 acres of land, or 15%.
- 3. A modified Type A 10-foot buffer along the eastern portion of development adjacent to the Glenmere subdivision and other residential land uses.
- 4. Single Family Architectural Standards: In addition to the elevations, the applicant agrees to the Single-Family Dwelling Architectural Standards found in UDO Ch. 5.7 and the additional conditions listed below:
 - a. Single-family 2-story homes built on lots at least 60-feet wide will have a minimum of 2,000 square feet and 1-story homes on such lots will be a minimum of 1,600 square feet. Lots that are at least 60-feet wide will have front-loaded two car garages.

- b. Single-family homes built on lots less than 60-feet wide will have a minimum of 1,600 square feet and have front-loaded two car garages.
- c. All single-family homes shall be raised from the finished grade a minimum of 18" and shall have stem wall or raised slab foundations that shall have the choice to be covered on all sides with a combination of brick or stone. Areas under porches may be enclosed with lattice.
- d. All single-family homes with a crawl space will shall utilize the same foundation treatments of stem wall or slab foundation homes.
- e. All single-family homes will have a combination of two or more of the following materials on the front facade (not counting the foundation): stone, brick, lap siding, fiber cement siding, shake or board and batten. All siding will be fiber cement. Vinyl may only be used for soffits, fascia, and corner boards.
- f. All single-family homes will have a front porch with a minimum depth of five (5) feet. Front porch posts will be at least 6"x6". Front porches may extend into the front setback a maximum of 10'.
- g. Main roof pitches (excluding porches) for 2-story homes shall be at least 7:12.
- h. There shall be a 12" overhang on every gable roof end.
- i. Main roof pitches for 1-story and 1.5-story homes will be at least 6:12.
- j. Garages for lots that are at least 60-feet wide will not protrude more than six (6) feet from the front porch or stoop and all garage doors shall offer window inserts.
- k. There shall be at least one window or door on every side elevation. Any siding break on the side of the home such as a fireplace, porch, wall offset can be used as an alternative to a window or door.
- l. Garages will not exceed 50% of the front facade width or will be split into two bays.
- 5. Townhome Architectural Standards: In addition to the elevations, the applicant agrees to the Townhome Dwelling Architectural Standards found in UDO Ch. 5.8 and the additional conditions listed below:
 - a. All townhouse units will have alley-loaded garage.
 - b. All townhouse units shall be raised from the finished grade a minimum of 18" and have stem wall or raised slab foundations that shall be covered on all sides with brick or stone. Areas under porches may be enclosed with lattice.
 - c. All townhouse units will have a combination of two or more of the following materials on the front facade (not counting the foundation): stone, brick, lap siding, fiber cement siding, shake or board and batten. All siding will be fiber cement. Vinyl may be used for soffits, fascias, and corner boards.
 - d. Usable front porches shall be at least forty (40) square feet in size, and shall either be recessed into the building envelop, or extend up to ten (10) feet into the front setback. If porches extend into the front setback, porches shall extend no less than 30% of the length of the primary facade.
 - e. To enhance aesthetic appeal, and avoid continuous "mass" roofs, every townhome unit shall be articulated at least 1' from the adjoining unit. Articulation can be achieved through either horizontal or vertical plane adjustments. No two adjacent units shall utilize the same elevation.

- f. There shall be a 12" overhang on every gable roof end.
- g. Townhouse building walls shall be wood clapboard, cement fiber board or shingle, wood board and batten, brick, or stone.
- h. Main roofs on townhouse buildings shall have a pitch between 6:12 and 12:12.
- i. A Minimum of four (4) windows shall be used on all exterior-unit townhomes' side elevations. With a minimum of one window on each floor.
- j. Three Story townhomes rear elevation shall have a balcony extending the full width of the unit.
- k. No two townhome units in a building shall have the same exterior paint color scheme.
- 6. Apartment Building Architectural Standards: In addition to the elevations, the applicant agrees to the Apartment Building Architectural Standards found in UDO Ch. 5.9 and the additional conditions listed below:
 - a. All apartment buildings shall be four (4) stories.
 - b. All apartment buildings shall have an elevator for vertical circulation.
 - c. All apartment buildings shall have low-pitch roofs with parapets.
 - d. Roof-mounted equipment shall be screened by the building parapets.
 - e. The finished floor of all ground floor residential units shall be set above finished grade.
 - f. Architectural features of the apartment buildings are as follows:
 - 1. Exterior materials shall consist of manufactured stone masonry veneer, fiber cement lap siding, and board and batten siding. Fascias, window trim, and corner boards shall also consist of fiber cement.
 - 2. Non-masonry exterior claddings shall change in materiality and/or color at projections or step-backs. Cladding materials and colors shall return to the perpendicular façade.
 - 3. Rooflines shall offset in correspondence to the massing of the building and utilize decorative cornices with varied profiles to provide interest.
 - 4. Architectural features such as balconies and bays shall be utilized to articulate the building facades.
 - 5. Vinyl windows with transparent glazing shall be used at all residential areas.
- 7. Mixed Use Building Architectural Standards: In addition to the elevations, the applicant agrees to the Mixed Use Building Architectural Standards found in UDO Ch. 5.10 and the additional conditions listed below:
 - a. All mixed-use buildings shall be three (3) stories.
 - b. All mixed-use buildings shall have an elevator for vertical circulation.
 - c. All mixed-use buildings shall have low-pitch roofs with parapets.
 - d. Roof-mounted equipment shall be screened by the building parapets.
 - e. The finished floor of all ground floor residential units shall be set above finished grade.
 - f. Architectural features of the mixed-use buildings are as follows:

- 1. Exterior materials shall consist of manufactured stone masonry veneer, EIFS, fiber cement lap siding, and board and batten siding. Fascias, window trim, and corner boards shall also consist of fiber cement.
- 2. Non-masonry exterior claddings shall change in materiality and/or color at projections or step-backs. Cladding materials and colors shall return to the perpendicular façade.
- 3. Rooflines shall offset in correspondence to the massing of the building and utilize decorative cornices with varied profiles to provide interest.
- 4. Architectural features such as balconies and canopies shall be utilized to articulate the building facades.
- 5. Vinyl windows with transparent glazing in a variety of sizes shall be used at all residential areas. Individual windows shall have vertical proportions.
- 6. Transparent storefront glazing shall be utilized at ground floor commercial spaces, except where opaque glazing is required for interior service/mechanical areas.
- 8. The submitted site plan (Exhibit A), and Planned Unit Development document with elevations (Exhibit B) will serve as the site-specific development plan. However, the applicant must submit Construction Drawings to the Town for approval that are in conformance with the approved conditions of the NMXPUD zoning district, master plan comments, Unified Development Ordinance, and comments from the February 11, 2021 DRC meeting.

SECTION 3. That all laws and clauses of law in conflict herewith are hereby repealed to the extent of said conflict.

SECTION 4. That if this ordinance or application thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions of this ordinance which can be given separate effect and to the end the provisions of this ordinance are declared to be severable.

SECTION 5. That this ordinance has been adopted following a duly advertised public hearing of the Town Council and following review and recommendation by the Land Use Review Board.

SECTION 6. That this ordinance shall be enforced as provided in G.S. 160A-175 or as provided for in the Knightdale Town Code

SECTION 7. That this ordinance shall become effective upon its adoption by Town Council.

Adopted this 21st day of April, 2021

Jessica Day, Mayor

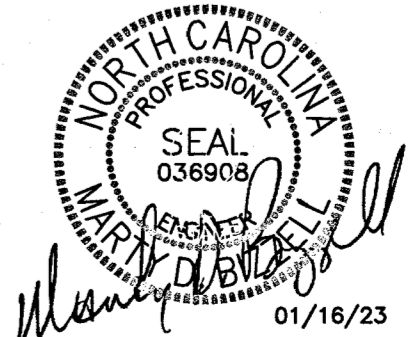
ATTEST:

Heather M. Smith, Town Clerk

APPROVED AS TO FORM:

Roger Knight, Town Attorney

a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
By: Date: 2-1-2023
Town Engineer
These plans are approved by the Town of Knightdale and serve as construction plans for this project.
By: Date: 2-2-2023
Administrator



NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF KNIGHTDALE AND NCDOT



BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
6810 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
TELEPHONE: (919)515-1122 OR (800)354-1879 FAX: (919)515-8868
CERTIFICATION NUMBERS: NOBELS (C-0110); NCBOLA (C-0267)

NO.	DATE	DESCRIPTION	BY
6	01-16-23	T&K COMMENTS SIGNATURE SET	RAB
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
3	06-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB

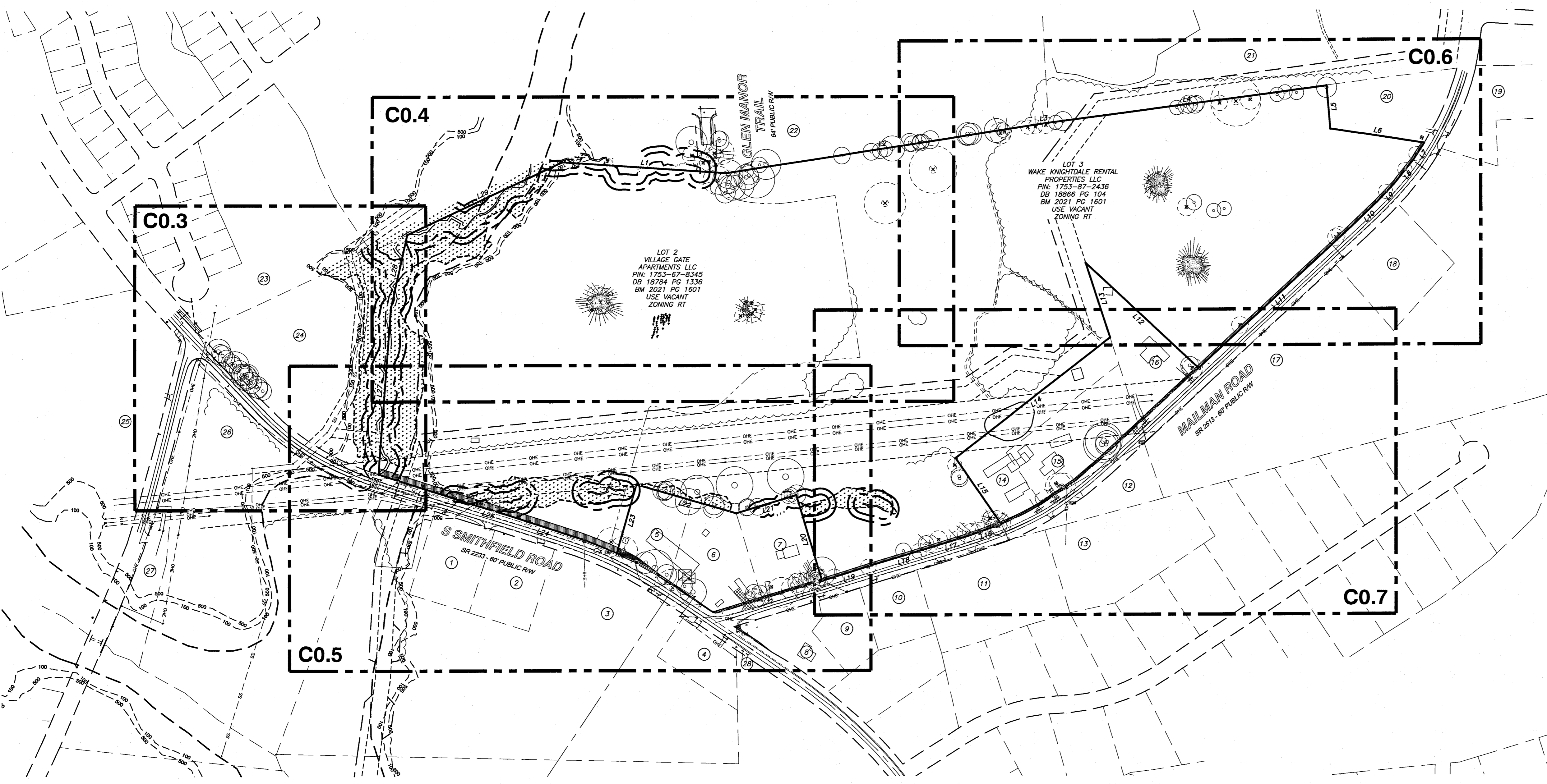
JOB NO.	DATE	DRAWN BY	CHK BY: MDR
03-20097	09-07-2021	RAB	

ZONING CONDITIONS

SCALE: N.T.S.

VILLAGE GATE
S. SMITHFIELD ROAD
TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET
CO.1



- | | | | |
|----|---|----|--|
| 1 | HOLMQUIST, DONNIE E
HOLMQUIST, ELAINE D
DB 2974 PG 589
USE SINGLE FAMILY
ZONING RT | 16 | OLIVER, R LINWOOD
OLIVER, MARY K
PIN 1753-87-6285
DB 9511 PG 733
USE SINGLE FAMILY
ZONING RT |
| 2 | HOLMQUIST, ANNETTE I
PIN 1753-66-5562
DB 18191 PG 653
USE SINGLE FAMILY
ZONING RT | 17 | POPE, RICHARD NELSON
PIN 1753-97-3294
DB 13170 PG 157
USE AGRICULTURE
ZONING RT |
| 3 | HOLMQUIST, DONNIE
HOLMQUIST, ANNETTE
PIN 1753-66-5159
DB 1823 PG 625
USE AGRICULTURE
ZONING RT | 18 | POPE, RICHARD NELSON
PIN 1753-97-5529
DB 13170 PG 157
USE SINGLE FAMILY
ZONING RT |
| 4 | JONES, BARBARA W
PIN 1753-76-2216
DB 3632 PG 591
USE SINGLE FAMILY
ZONING RT | 19 | ASKINS, AARON D
ASKINS, SHAWNTAL
PIN 1753-98-8150
DB 16466 PG 1663
USE SINGLE FAMILY
ZONING GRB |
| 5 | WALL, FREDDY V
PIN 1753-76-0837
DB 3447 PG 188
USE PREFAB
ZONING HB | 20 | PLEDGER, DREW TRENT
OWEN, VIRGINIA DEE
PIN 1753-98-5009
DB 16040 PG 185
USE SINGLE FAMILY
ZONING RT |
| 6 | WALL, FREDDY V
PIN 1753-76-2537
DB 4447 PG 188
USE OFC GROSS
ZONING HB | 21 | POPE, ROBERT
HOLMQUIST, DONNIE ERIC
PIN 1753-98-0579
DB 17-E PG 2129
USE SINGLE FAMILY
ZONING RT |
| 7 | WALL, FREDDY
WALL, DIANE
PIN 1753-76-4632
USE SINGLE FAMILY
ZONING UR-12 | 22 | GLENMERE LLC
PIN 1753-76-0603
DB 15931 PG 2174
USE VACANT
ZONING GRB |
| 8 | CALDWELL, JAMES L
CLADWELL, BRENDA S
PIN 1763-76-5265
DB 3446 PG 284
USE SINGLE FAMILY
ZONING RT | 23 | GLENMERE EAST HOMEOWNERS
ASSOCIATION, INC.
PIN 1753-57-7756
DB 17981 PG 230
USE HOA
ZONING UR-12 |
| 9 | CALDWELL, JAMES L
CLADWELL, BRENDA S
PIN 1753-76-6385
DB 5236 PG 803
USE MANUFACTURED HOME
ZONING RT | 24 | LOT 1
SMITHFIELD PUD LLC
PIN 1753-57-9238
DB 18705 PG 1151
BM 2021 PG 1601
USE VACANT
ZONING RT |
| 10 | MILLER, MICHAEL CAMERON III
PIN 1753-76-8452
DB 16167 PG 1332
USE MOBILE HOME
ZONING RT | 25 | POPE, RICHARD N
PIN 1753-37-8034
DB 1495 PG 1495
USE SINGLE FAMILY
ZONING RT |
| 11 | JARREL, ERVIN B
JARREL, GLORIA P
PIN 1753-86-2427
DB 2159 PG 8
USE SINGLE FAMILY
ZONING GR1 | 26 | G&F PROPERTIES LLC
PIN 1753-56-6587
DB 8139 PG 672
BM 2021 PG 288
USE AGRICULTURE
ZONING RT |
| 12 | POPE, ROBERT L
PIN 1753-86-9891
DB 4894 PG 131
USE MANUFACTURED HOME
ZONING GR3 | 27 | DUKE ENERGY PROGRESS
PIN 1753-86-5439
DB 15289 PG 2437
USE STATE ASSESSED
ZONING RT |
| 13 | POPE, ROBERT L
PIN 1753-86-6509
DB 2218 PG 49
USE VACANT
ZONING GR3 | 28 | CRAN WEST RENTALS LLC
PIN 1753-65-9289
DB 14885 PG 1746
USE SINGLE FAMILY
ZONING HB |
| 14 | COLE, HEATHER LEE
PIN 1753-86-1961
DB 17626 PG 2508
USE SINGLE FAMILY
ZONING RT | | |
| 15 | MILLER, MICHAEL CAMERON II
PIN 1753-86-4948
DB 17626 PG 2378
USE SINGLE FAMILY
ZONING RT | | |

BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
 6310 CHAPEL HILL ROAD, SUITE 200, RALEIGH, NC 27607
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 CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

NO.	DATE	DESCRIPTION	BY
1	01-16-23	TK COMMENTS SIGNATURE SET	RAB
2	01-16-23	TOWN OF KNIGHTDALE COMMENTS	RAB
3	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
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5	06-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB
6	02-28-22	TOWN OF KNIGHTDALE COMMENTS	RAB
7	02-28-22	TOWN OF KNIGHTDALE COMMENTS	RAB
8	01-16-23	REVISIONS	BY

03-20097 09-07-2021 RAB
 JOB NO. DATE DRAWN BY
OVERALL EXISTING CONDITIONS PLAN
 SCALE: 1" = 200'
 CHK BY: MDB

VILLAGE GATE
S. SMITHFIELD ROAD
 TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA
 SHEET C0.2

WETLANDS EXIST ON-SITE
FLOODPLAINS EXIST ON-SITE
NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF KNIGHTDALE AND NCDOT

- BNK EX TREE TYPE ABBREVIATIONS
- APPLE - AP
 - ASH - AS
 - BEECH - BE
 - BLACK WALNUT - BW
 - BRADFORD PEAR - BP
 - BURFORD HOLLY - BH
 - CATALPA - CP
 - CEDAR - CR
 - COTTONWOOD - CW
 - CRABAPPLE - CA
 - CYPRESS - CY
 - DOGWOOD - DW
 - ELM - EL
 - GUM - GM
 - HICKBERRY - HB
 - HICKORY - HK
 - HOLLY - HY
 - IRONWOOD - IW
 - LOCUST - LC
 - MAGNOLIA - MG
 - MAPLE - MP
 - MIMOSA - MM
 - PEAR - PR
 - PECAN - PC
 - PERSIMMON - PS
 - REDTIP - RT
 - PINE - PN
 - POPLAR - PP
 - REDBUD - RB
 - RED OAK - RO
 - SOURWOOD - SW
 - SWEETBAY - SB
 - SYCAMORE - SY
 - WAX MYRTLE - WM
 - WHITE OAK - WO
 - WILD CHERRY - WC
 - WILLOW - WW
 - ZELKOVA - ZA

Existing Boundary Curve Table

Curve #	Length	Radius
C1	124.94'	1579.86'

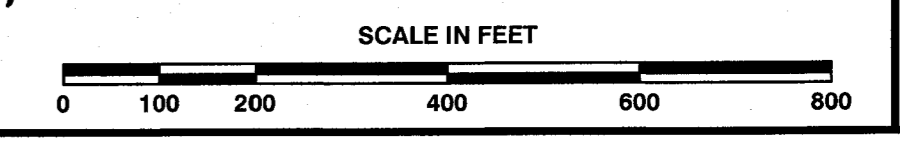
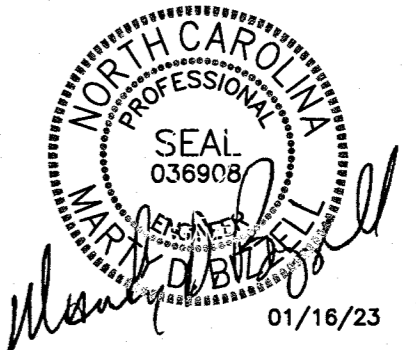
Existing Boundary Line Table

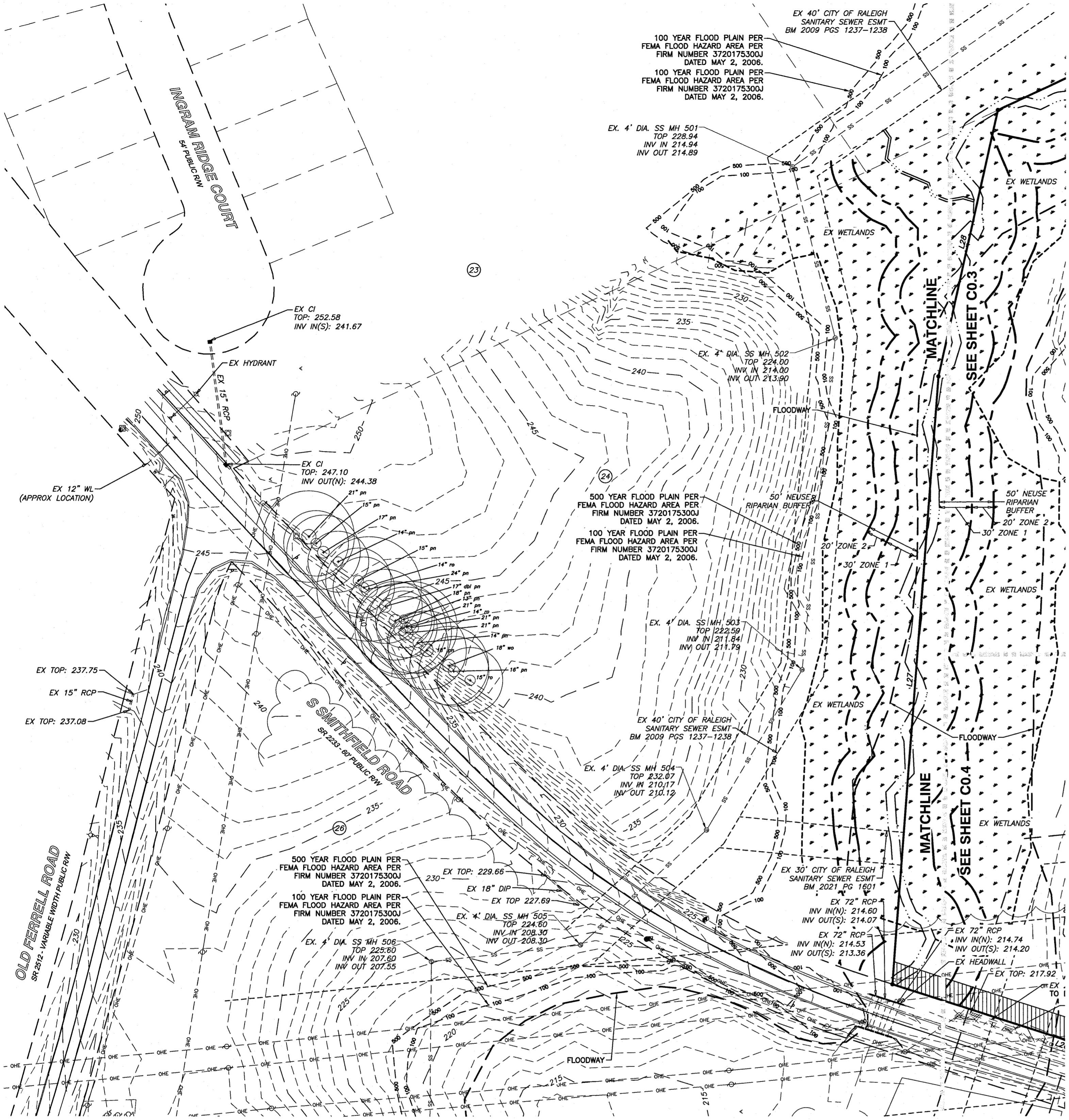
Line #	Length	Direction
L1	550.00'	S86°10'15.63"E
L2	1086.94'	N81°12'41.51"E
L3	27.05'	N81°24'43.03"E
L4	939.68'	N82°35'55.18"E
L5	144.85'	S4°53'06.06"E
L6	318.68'	S81°24'26.59"E
L7	67.89'	S33°10'02.16"W
L8	101.42'	S38°35'46.40"W
L9	84.94'	S43°38'34.40"W
L10	103.80'	S46°05'57.40"W
L11	711.49'	S47°12'52.68"W
L12	518.34'	N46°54'30.98"W
L13	263.52'	S18°02'53.28"E
L14	655.33'	S52°15'06.13"W
L15	270.04'	S34°33'35.54"E

Existing Boundary Line Table

Line #	Length	Direction
L16	119.61'	S70°52'17.39"W
L17	126.32'	S72°56'38.69"W
L18	205.69'	S73°17'44.56"W
L19	178.61'	S72°39'48.14"W
L20	300.03'	N16°44'36.89"W
L21	209.91'	S73°12'47.50"W
L22	347.94'	N73°53'04.44"W
L23	240.42'	S18°04'44.37"W
L24	265.11'	N72°00'17.44"W
L25	120.66'	N73°00'24.59"W
L26	331.33'	N72°09'21.78"W
L27	558.48'	N4°18'09.85"E
L28	249.80'	N12°34'20.50"E
L29	574.30'	N64°58'19.18"E

a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
 By: S. ALDI Date: 2-1-2023
 Town Engineer
 These plans are approved by the Town of Knightdale and serve as construction plans for this project.
 By: W. L. L. Date: 2-2-2023
 Administrator





R:\2020\20097 - Knightdale Mixed Use\CIVIL\04 Construction\01 - 20097_Ext Conditions CDS.dwg, CO-3 W, 1/16/2023 10:06:52 AM, robert burgoon

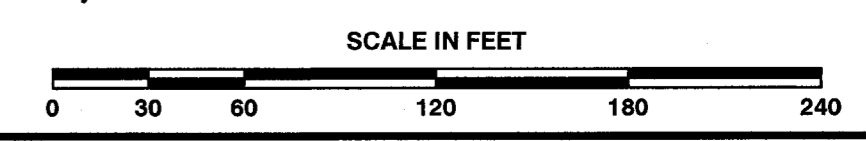
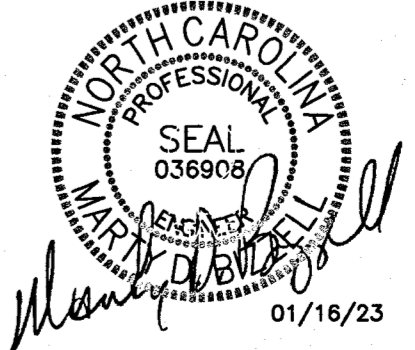
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 - CREPE MYRTLE - CM
 - CYPRESS - CY
 - DOGWOOD - DW
 - ELM - EL
 - GUM - GM
 - HACKBERRY - HB
 - HICKORY - HK
 - HOLLY - HY
 - IRONWOOD - IW
 - LOCUST - LC
 - MAGNOLIA - MG
 - MAPLE - MP
 - MIMOSA - MM
 - PEAR - PR
 - PECAN - PC
 - PERSIMMON - PS
 - REDDIP - RT
 - PINE - PN
 - POPLAR - PP
 - REDBUD - RB
 - RED OAK - RO
 - SOURWOOD - SW
 - SWEETBAY - SB
 - SYCAMORE - SY
 - WAX MYRTLE - WM
 - WHITE OAK - WO
 - WILD CHERRY - WC
 - WILLOW - WW
 - ZELKOVA - ZA

a. **Town Certification.** This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: [Signature] Date: 2-1-2023
Town Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: [Signature] Date: 2-2-2023
Administrator



NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF KNIGHTDALE AND NCDOT



BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
TELEPHONE: (919)851-4422 OR (800)354-1879 FAX: (919)851-8968
CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

NO.	DATE	DESCRIPTION	BY
6	01-16-23	T&E COMMENTS/SIGNATURE SET	RAB
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
3	06-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB

ENLARGED EXISTING CONDITIONS & DEMOLITION PLAN - NORTHWEST

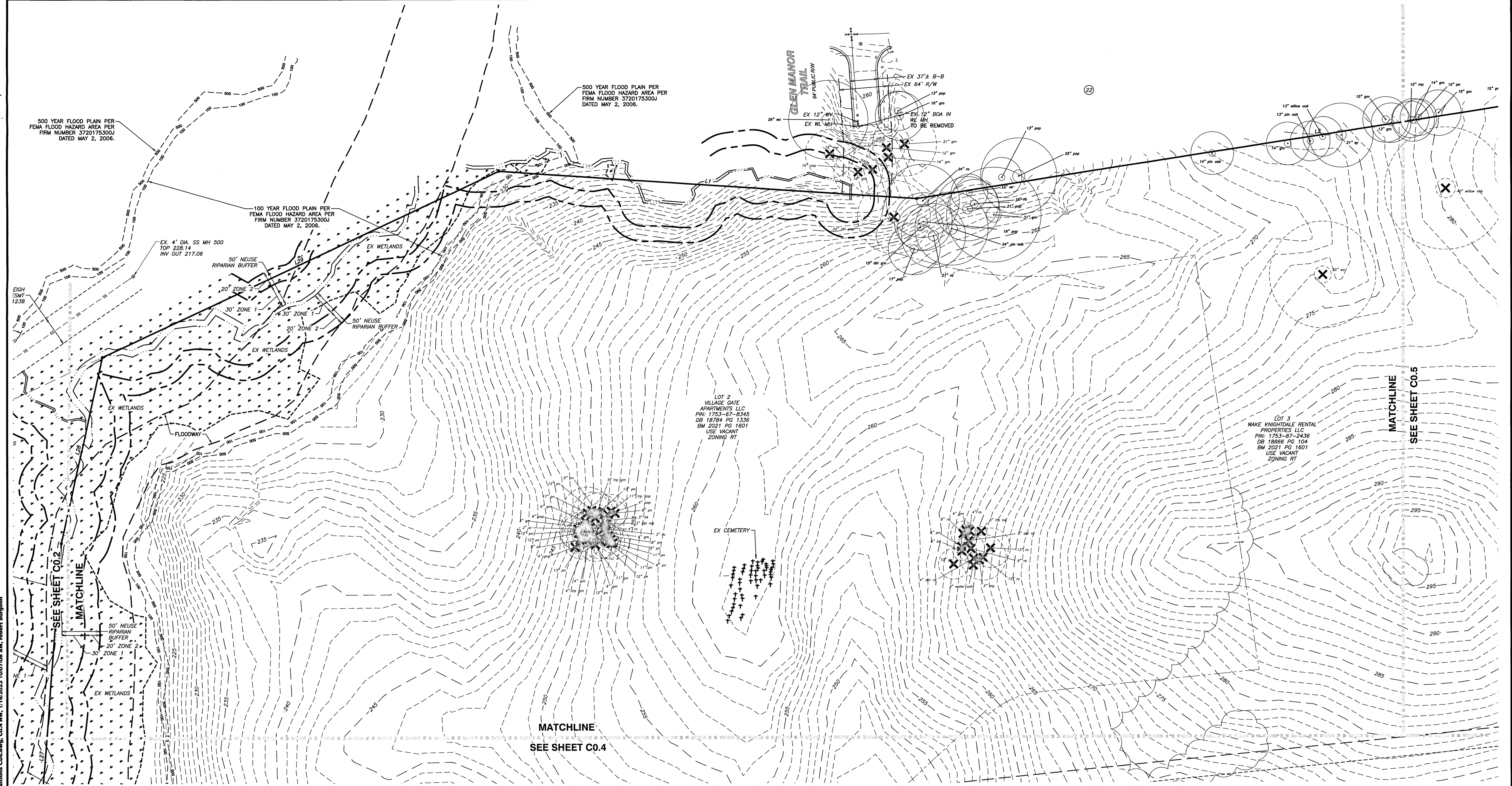
03-20097 09-07-2021 RAB

SCALE: 1" = 60'

VILLAGE GATE
S. SMITHFIELD ROAD
TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

CHK BY: MIB

SHEET C0.3



R:\2020\20097 - Knightdale Mixed Use\CIVIL\04_Construction\01 - 20097_Ext_Conditions CD\dwg_C0.4.dwg, C0.4.dwg, 1/18/2023 10:07:08 AM, robert.burgon

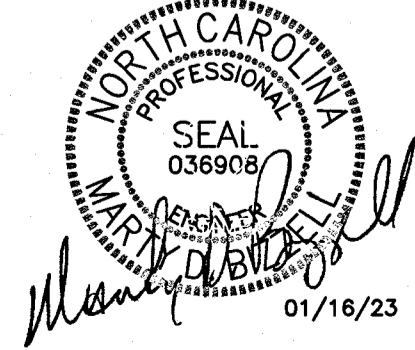
- BNK EX TREE TYPE ABBREVIATIONS**
- APPLE - AP
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 - BEECH - BE
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 - BURFORD PEAR - BP
 - BURFORD HOLLY - BH
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a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

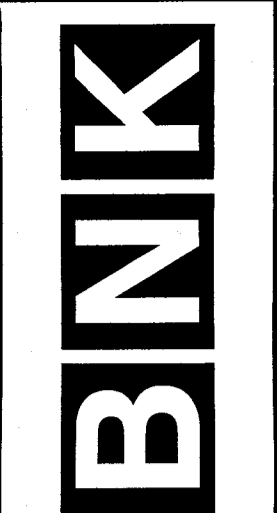
By: SAMM Date: 2-1-2023
Town Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: W.D.W. Date: 2-2-2023
Administrator



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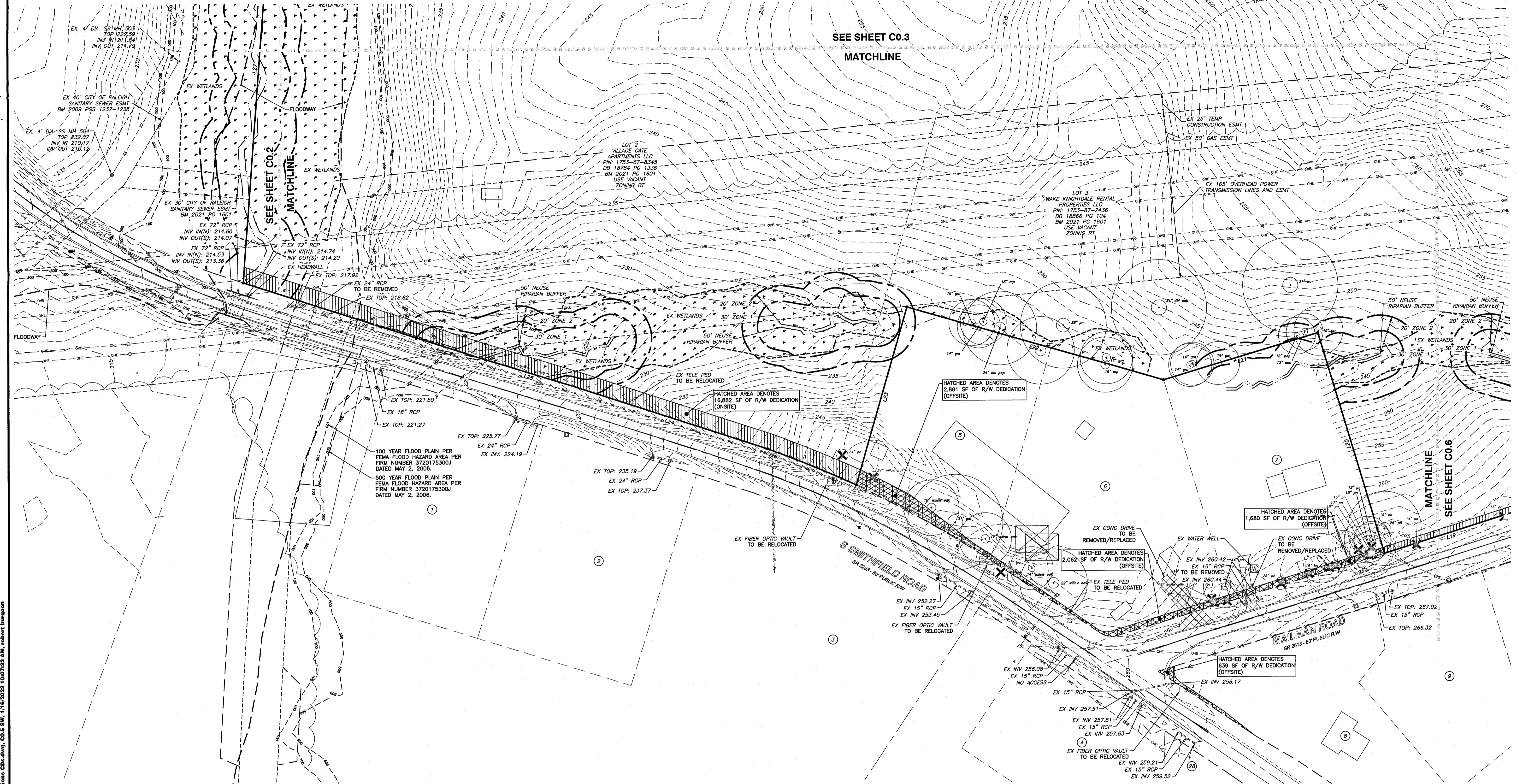


BASS, NIXON & KENNEDY, INC.
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6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
TELEPHONE: (919)851-4422 OR (800)354-1879 FAX: (919)851-9868
CERTIFICATION NUMBERS: NCBELS (C-010); NCBOLA (C-0267)

NO.	DATE	DESCRIPTION	BY
1	01-16-23	TOWN OF KNIGHTDALE COMMENTS	RAB
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB
3	06-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
6	01-16-23	TOWN OF KNIGHTDALE COMMENTS	RAB

VILLAGE GATE
S. SMITHFIELD ROAD
TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET C0.4



R:\2020\20097 - Knightdale Mixed Use\DWG\04 Construction\01 - 20097_En Conditions CD.dwg, C0.5 SW, 1/16/2023 10:07:23 AM, robert burgoon

SEE SHEET C0.3
MATCHLINE

SEE SHEET C0.2
MATCHLINE

MATCHLINE
SEE SHEET C0.6

100 YEAR FLOOD PLAIN PER FEMA FLOOD HAZARD AREA PER FIRM NUMBER 3720175300J DATED MAY 2, 2008.
500 YEAR FLOOD PLAIN PER FEMA FLOOD HAZARD AREA PER FIRM NUMBER 3720175300J DATED MAY 2, 2008.

HATCHED AREA DENOTES 16,882 SF OF R/W DEDICATION (ONSITE)

HATCHED AREA DENOTES 2,891 SF OF R/W DEDICATION (OFFSITE)

HATCHED AREA DENOTES 1,680 SF OF R/W DEDICATION (OFFSITE)

HATCHED AREA DENOTES 2,062 SF OF R/W DEDICATION (OFFSITE)

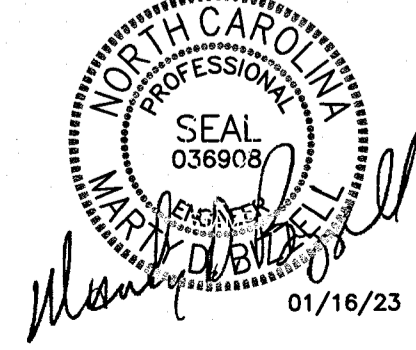
HATCHED AREA DENOTES 839 SF OF R/W DEDICATION (OFFSITE)

BNK EX TREE TYPE ABBREVIATIONS

- APPLE - AP
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- BEECH - BE
- BLACK WALNUT - BW
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By: *[Signature]* Date: 2-1-2023
Town Engineer
These plans are approved by the Town of Knightdale and serve as construction plans for this project.
By: *[Signature]* Date: 2-2-2023
Administrator



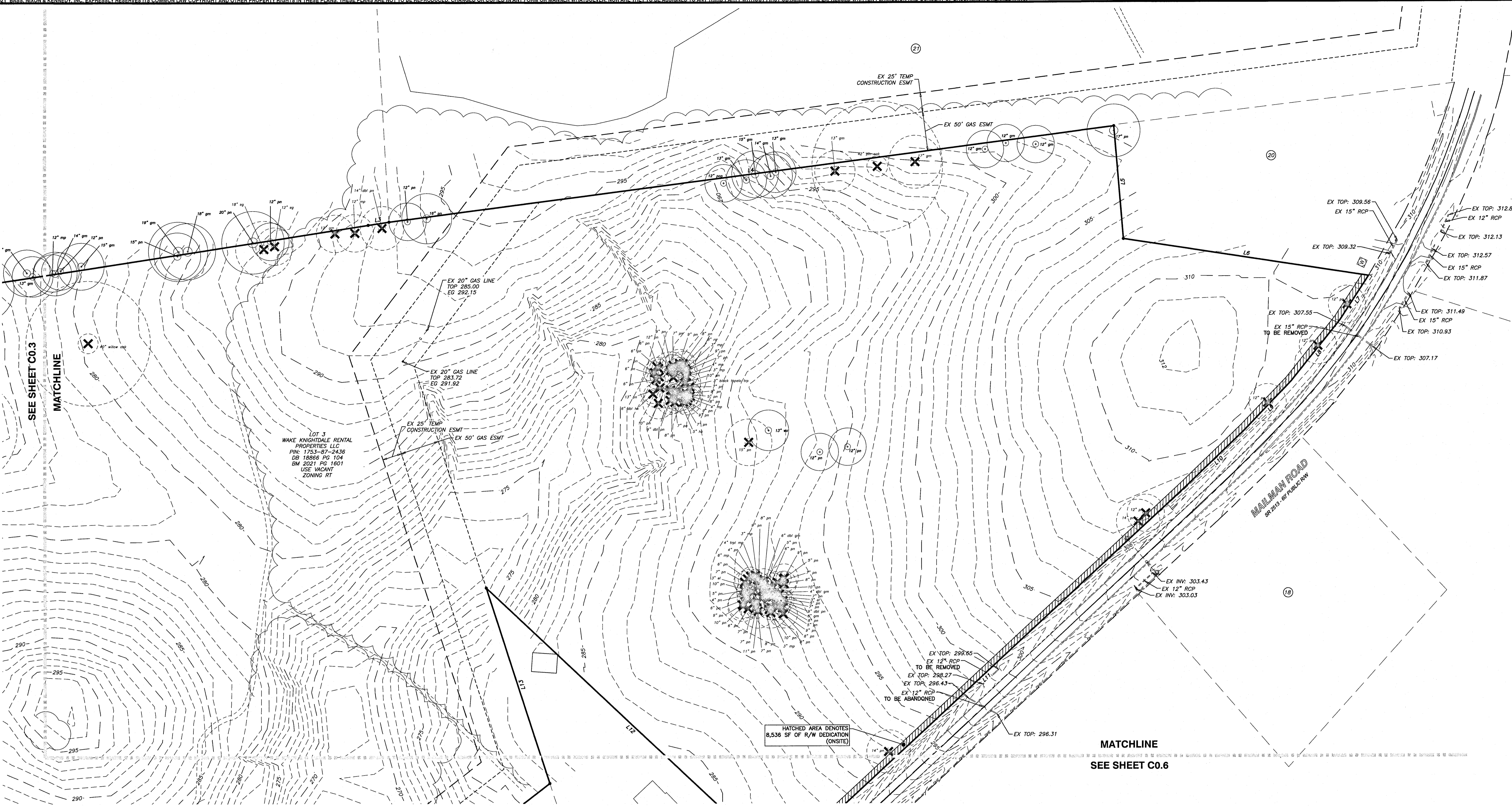
BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
6310 CHAPEL HILL ROAD, SUITE 260, RALEIGH, NC 27607
TELEPHONE: (919) 851-4222 OR (800) 224-1879 FAX: (919) 851-8968
CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0287)

NO.	DATE	DESCRIPTION	BY
6	01-16-23	T&E COMMENTS SIGNATURE SET	RAB
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
3	06-05-22	TOWN OF KNIGHTDALE COMMENTS	RAB
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB
1			

ENLARGED EXISTING CONDITIONS & DEMOLITION PLAN - SOUTHWEST
SCALE: 1" = 60'
CHK BY: MDB

VILLAGE GATE
S. SMITHFIELD ROAD
TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET C0.5



R:\2020\20097 - Knightdale Mixed Use\CIVIL\04 Construction\01 - 20097_En Conditions C&S.dwg, Co.6 NE, 1/16/2023 10:07:34 AM, robert burgoun



BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
 6310 CHARLIE HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919) 851-4422 OR (800) 954-1879 FAX: (919) 851-8668
 CERTIFICATION NUMBERS: NCBELS (C-9110), NCBOLA (C-0267)

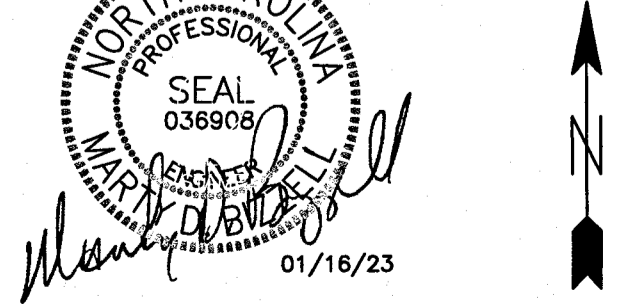
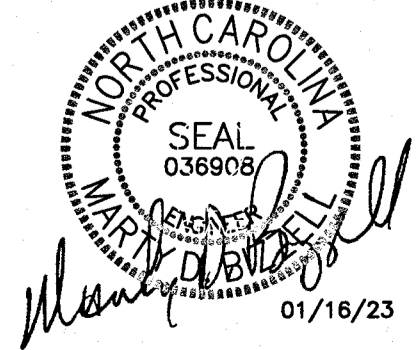
NO.	DATE	DESCRIPTION	BY
1	01-16-23	TKR COMMENTS SIGNATURE SET	RAB
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3	06-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB
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5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
6	01-16-23	TKR COMMENTS SIGNATURE SET	RAB

03-20097
 JOB NO.
 09-07-2021
 DATE
 RAB
 DRAWN BY
**ENLARGED EXISTING
 CONDITIONS & DEMOLITION
 PLAN - NORTHEAST**
 NO. 1
 DATE 01-16-23
 DESCRIPTION
 CHECK BY: MDR
 SCALE: 1" = 60'

VILLAGE GATE
S. SMITHFIELD ROAD
 TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA
 SHEET
C0.6

- BNK EX TREE TYPE ABBREVIATIONS
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 By: C. H. Del Date: 2.1.2023
 Town Engineer
 These plans are approved by the Town of Knightdale and serve as construction plans for this project.
 By: W. W. Date: 2.2.2023
 Administrator

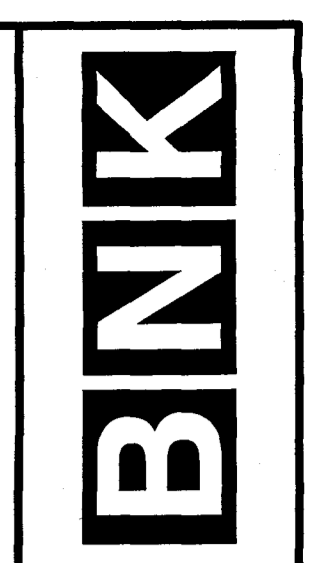


NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF KNIGHTDALE AND NCDOT



SEE SHEET C0.5
MATCHLINE

R:\2020\20097 - Knightdale Mixed Use\CIVIL\04 Construction\01 - 20097_Ext Conditions CDS.dwg, c0.7 SE, 1/16/2023 10:07:51 AM, robert burgoon



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6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
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NO.	DATE	DESCRIPTION	BY
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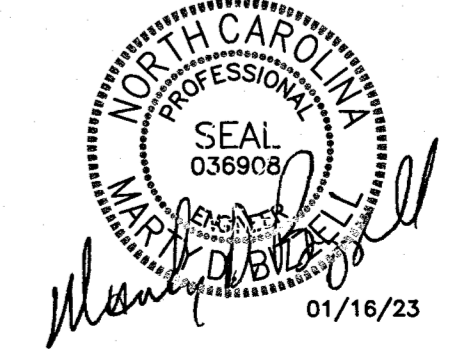
03-20097 09-07-2021
ENLARGED EXISTING
CONDITIONS & DEMOLITION
PLAN - SOUTHEAST
SCALE: 1" = 60'

VILLAGE GATE
S. SMITHFIELD ROAD
TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

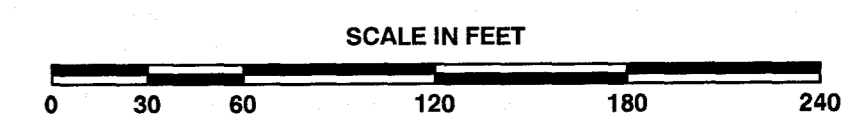
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C0.7

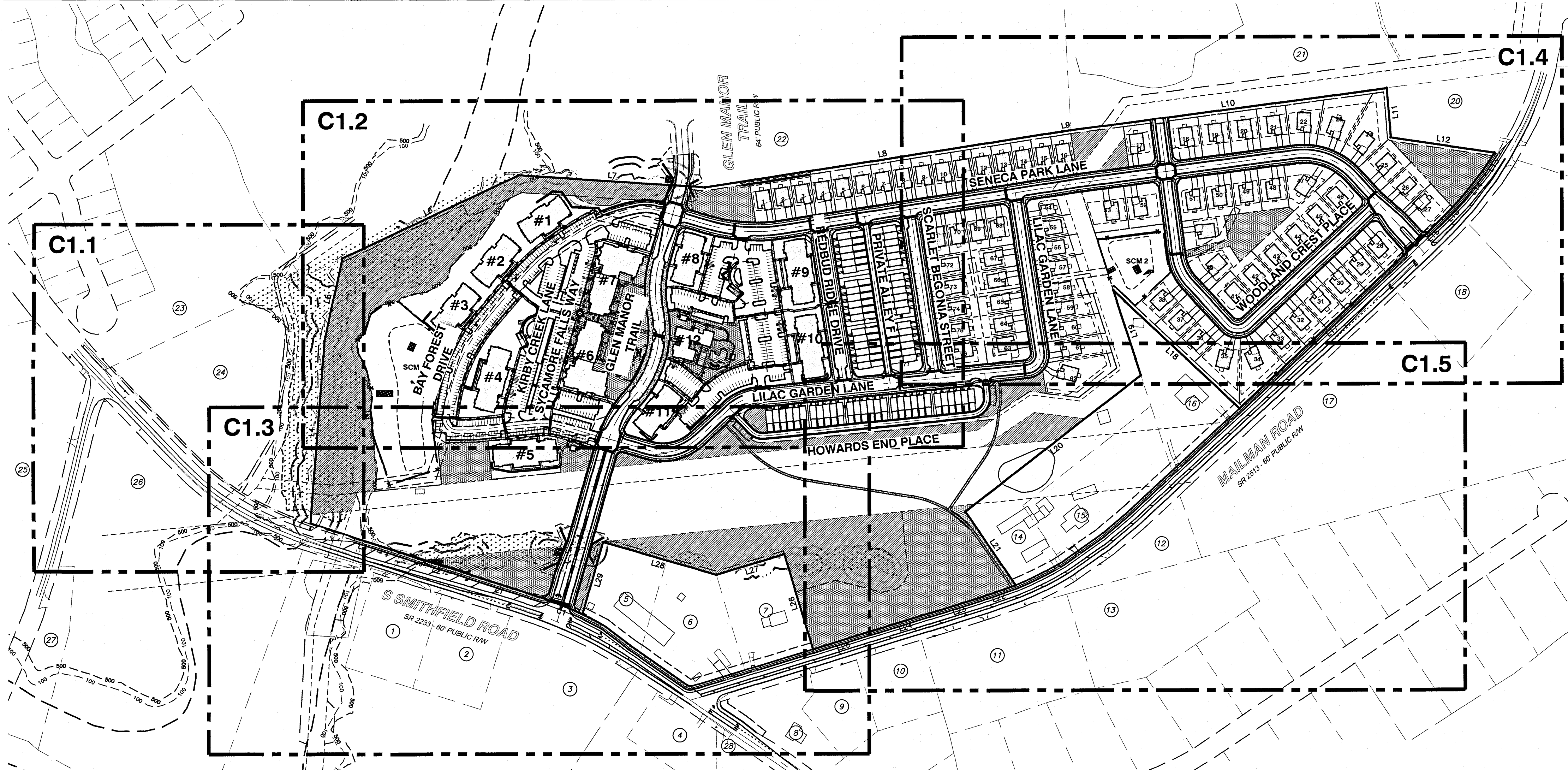
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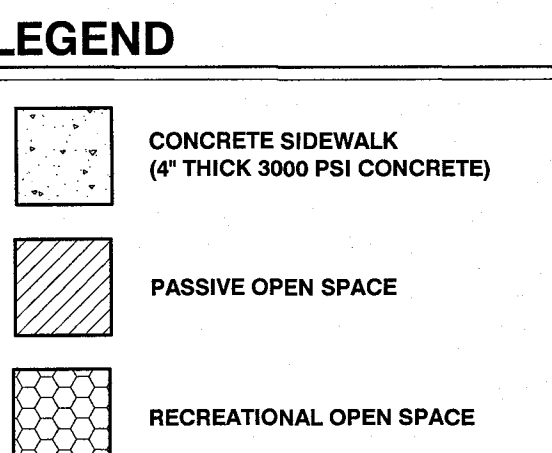
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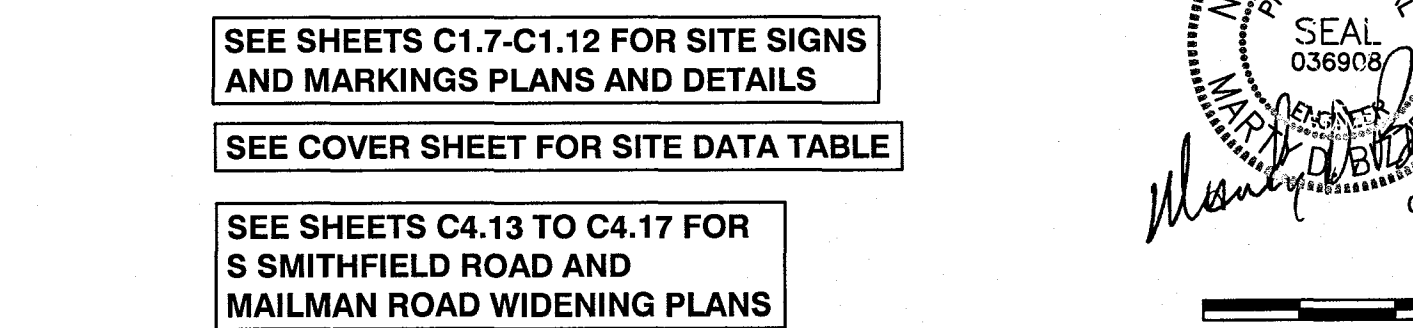
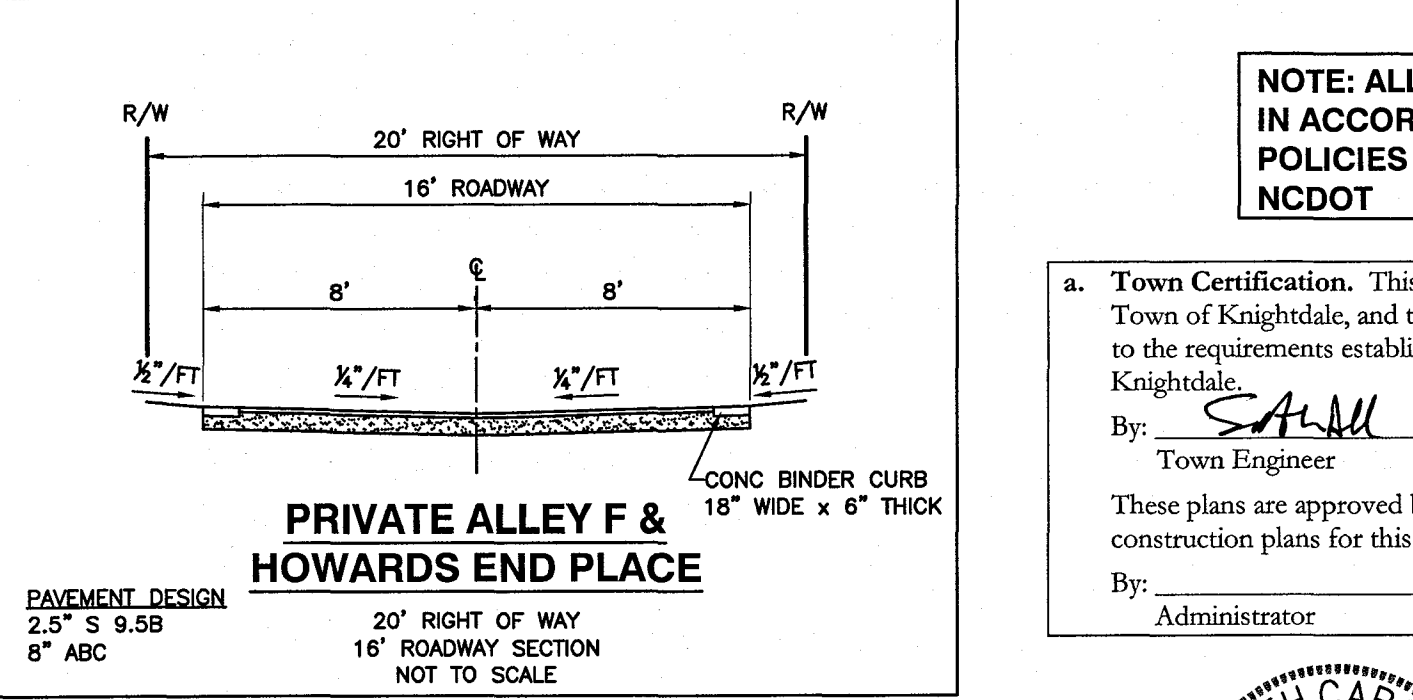
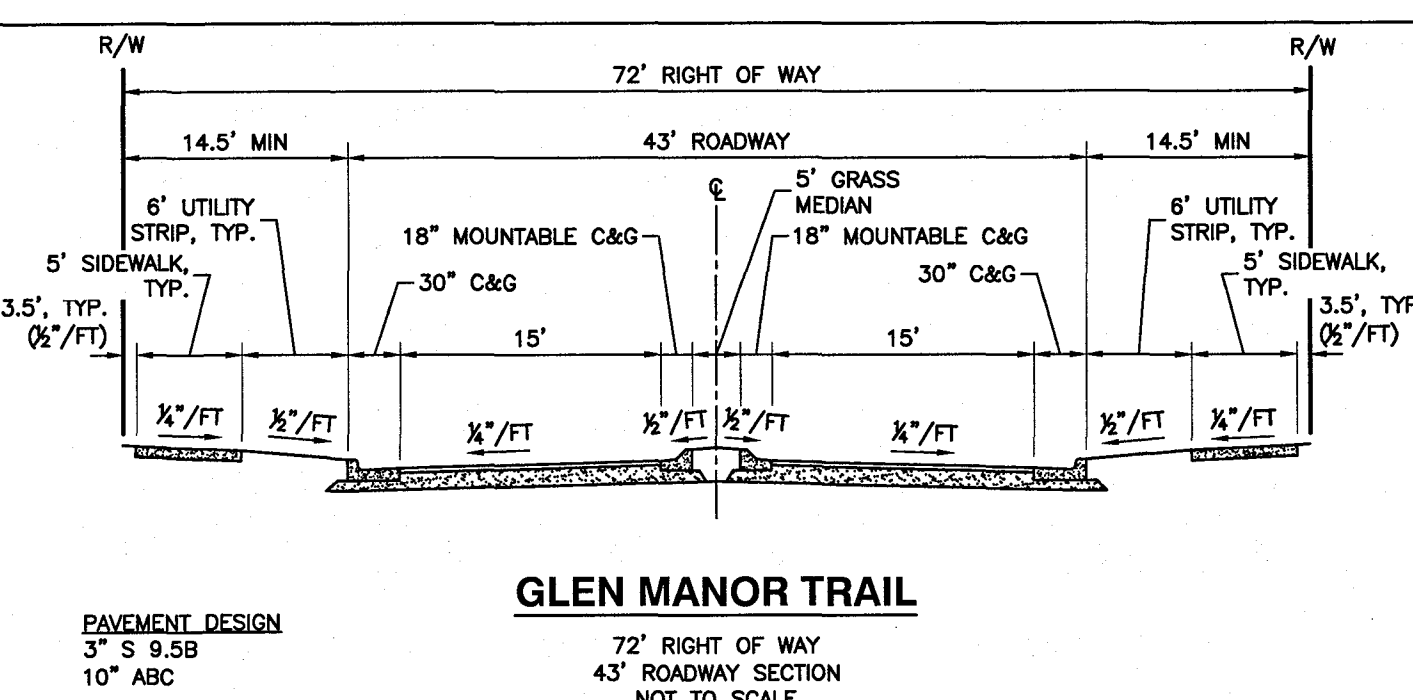
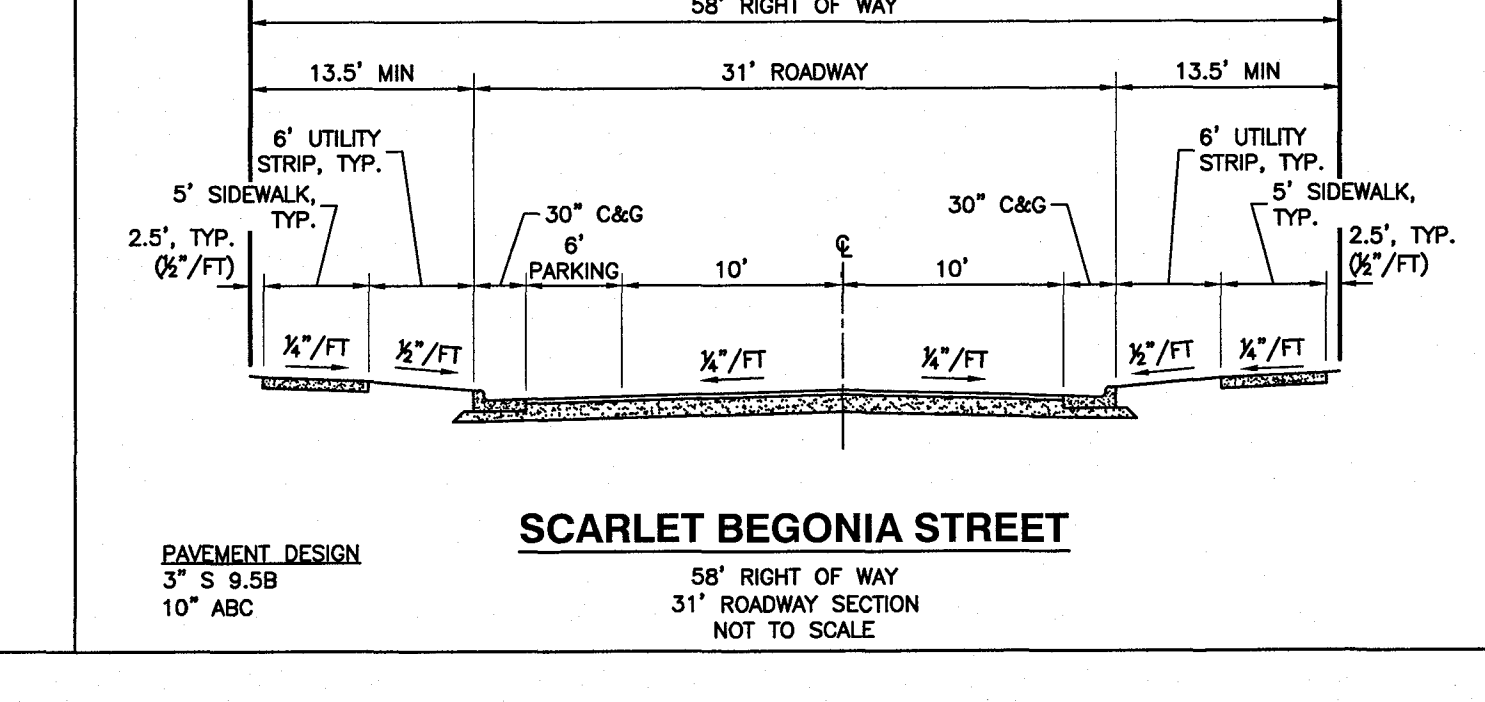
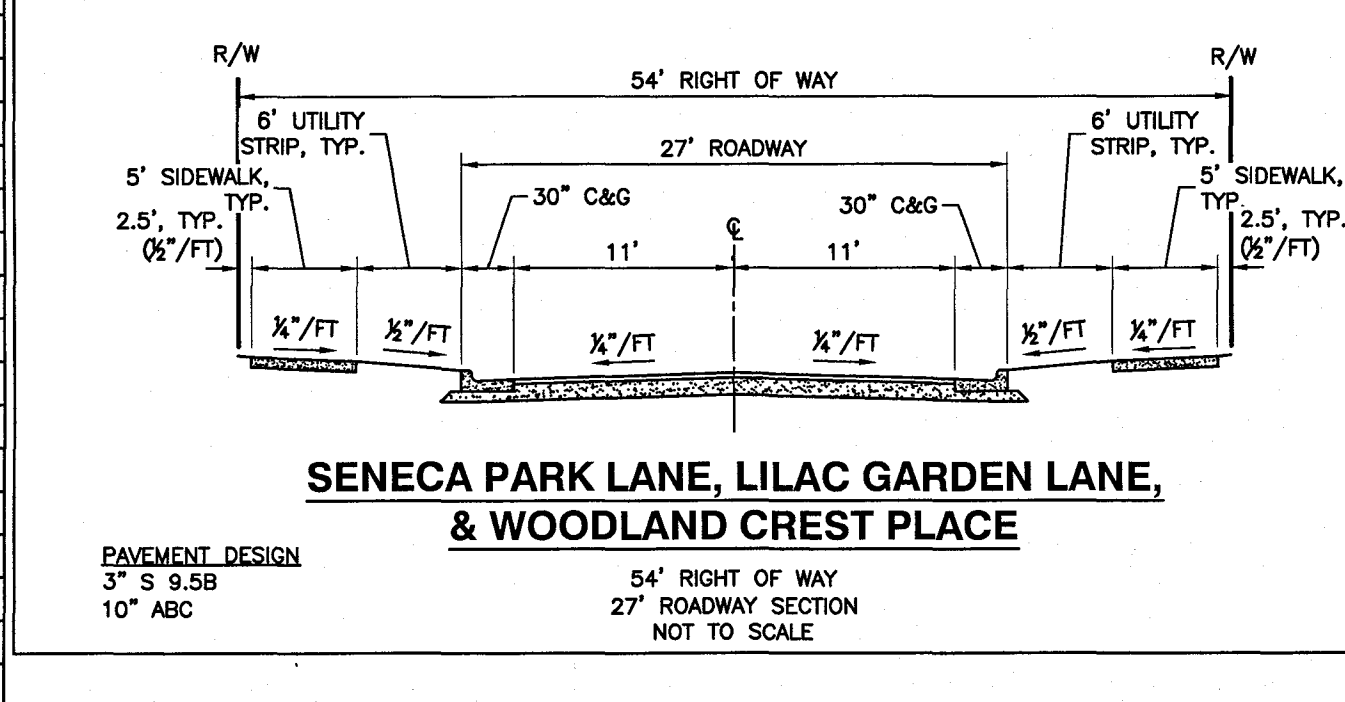
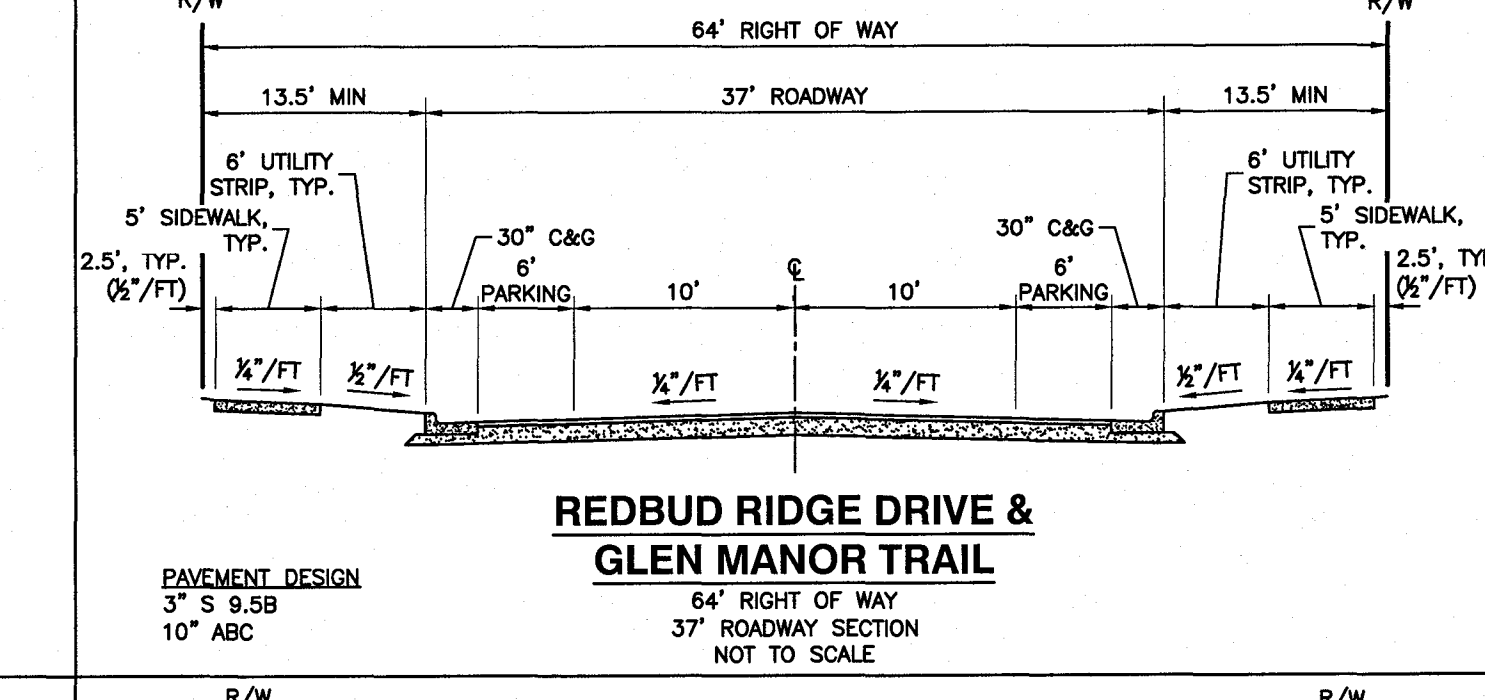
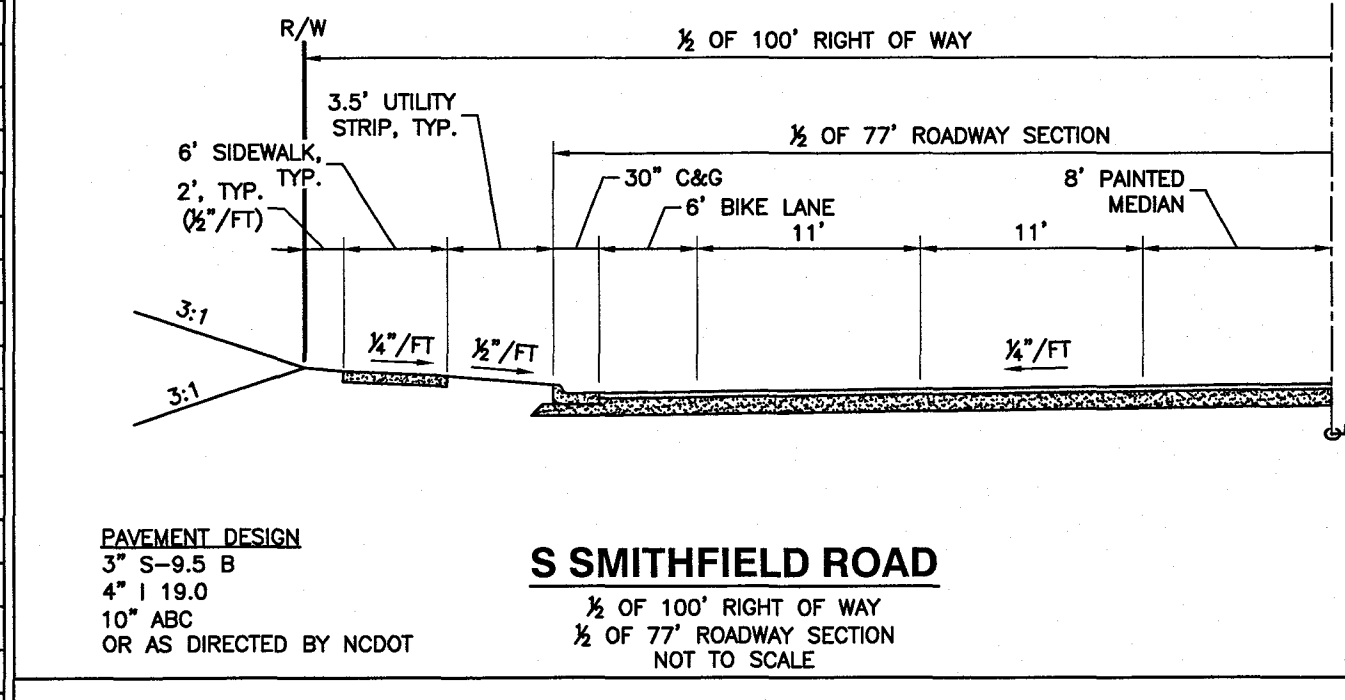
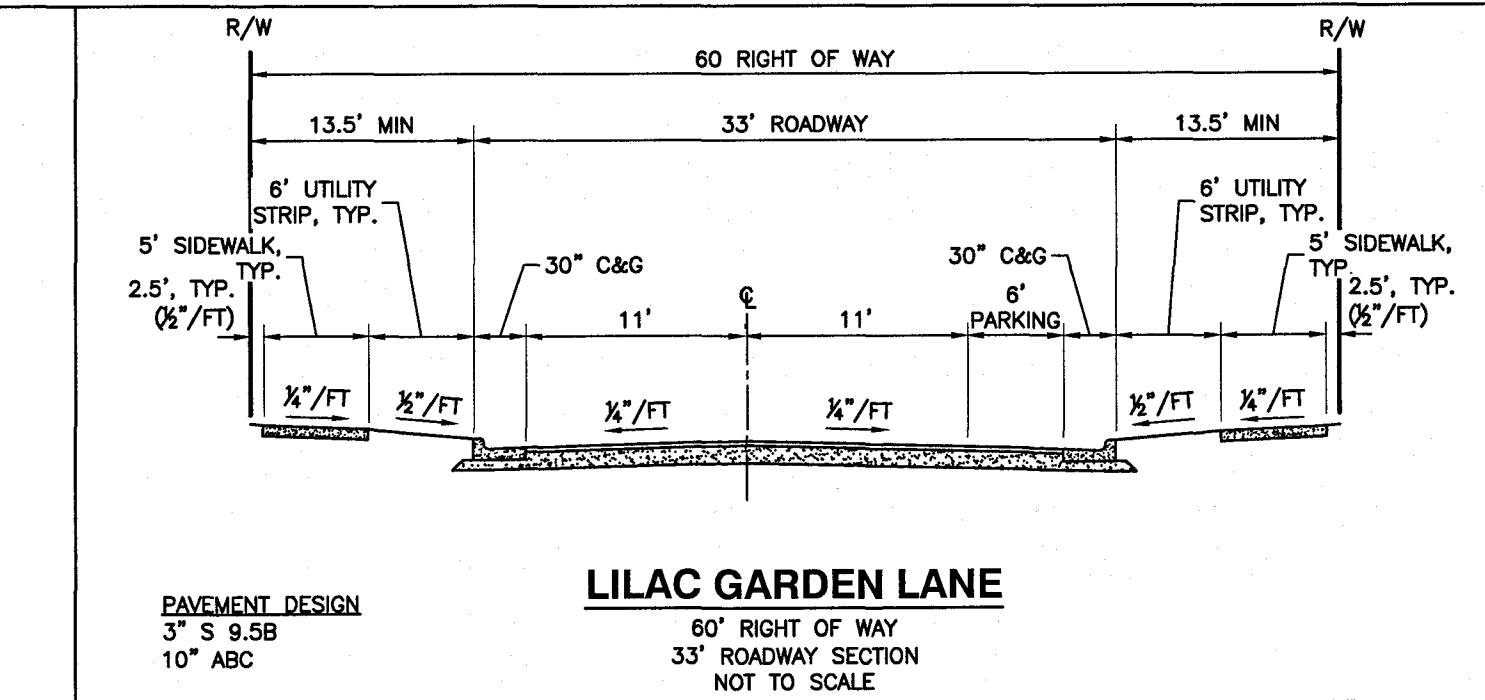
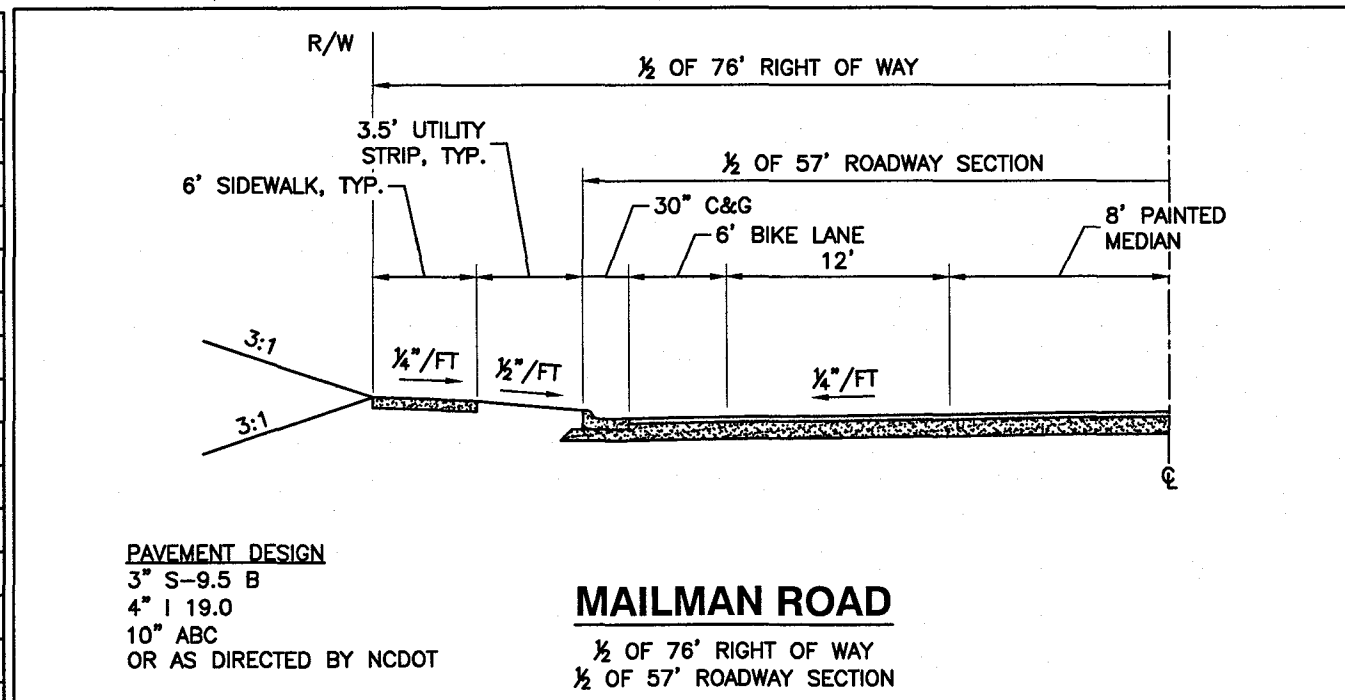
LINE #	LENGTH	DIRECTION
L1	285.64'	N72° 00' 17.44"W
L2	120.68'	N73° 00' 24.59"W
L3	335.99'	N72° 09' 21.78"W
L4	537.91'	N4° 18' 09.85"E
L5	249.80'	N12° 34' 20.50"E
L6	574.30'	N64° 58' 19.18"E
L7	550.00'	S86° 10' 15.63"E
L8	1066.94'	N81° 12' 41.51"E
L9	27.05'	N81° 24' 43.03"E
L10	939.66'	N82° 35' 55.18"E
L11	144.85'	S4° 53' 06.06"E
L12	309.88'	S81° 24' 26.59"E
L13	63.85'	S33° 10' 02.16"W
L14	100.69'	S38° 35' 46.40"W
L15	84.42'	S43° 38' 34.40"W
L16	103.55'	S46° 05' 57.40"W
L17	711.99'	S47° 12' 52.68"W
L18	150.31'	N46° 54' 30.98"W
L19	283.52'	S18° 02' 53.28"E
L20	655.33'	S52° 15' 06.13"W
L21	261.74'	S34° 33' 35.54"E
L22	117.26'	S70° 52' 17.39"W
L23	126.15'	S72° 56' 38.69"W
L24	205.71'	S73° 17' 44.56"W
L25	178.57'	S72° 38' 48.14"W
L26	292.03'	N16° 44' 36.89"W
L27	209.91'	S73° 12' 47.50"W
L28	347.94'	N73° 53' 04.44"W
L29	220.20'	S16° 04' 44.37"W

CURVE #	LENGTH	RADIUS
C1	123.90'	1599.98'



1	HOLMQUIST, DONNIE E HOLMQUIST, ELAINE D PIN 1753-66-3579 DB 2974 PG 589 USE SINGLE FAMILY ZONING RT	16	OLIVER, R LINWOOD OLIVER, MARY K PIN 1753-67-6285 DB 9511 PG 733 USE SINGLE FAMILY ZONING RT
2	HOLMQUIST, ANNETTE I PIN 1753-76-2216 DB 16191 PG 653 USE AGRICULTURE ZONING RT	17	POPE, RICHARD NELSON PIN 1753-97-5529 DB 13170 PG 157 USE SINGLE FAMILY ZONING RT
3	HOLMQUIST, DONNIE E HOLMQUIST, ANNETTE I PIN 1753-66-3159 DB 1623 PG 625 USE AGRICULTURE ZONING RT	18	POPE, RICHARD NELSON PIN 1753-97-5529 DB 13170 PG 157 USE SINGLE FAMILY ZONING RT
4	JONES, BARBARA W PIN 1753-76-2216 DB 3632 PG 651 USE SINGLE FAMILY ZONING RT	19	ASKINS, AARON D ASKINS, SHAWNITA PIN 1753-88-8150 DB 16486 PG 1653 USE SINGLE FAMILY ZONING GRB
5	WALL, FREDDY V PIN 1753-76-2637 DB 3931 PG 492 USE PREFAB ZONING HB	20	PLEDGER, DREW TRENT OWEN, VIRGINIA DEE PIN 1753-88-5009 DB 16040 PG 185 USE SINGLE FAMILY ZONING GRB
6	WALL, FREDDY V PIN 1753-76-2637 DB 3931 PG 492 USE PREFAB ZONING HB	21	POPE, ROBERT HOLMQUIST, DONNIE ERIC PIN 1753-98-0579 DB 17-E PG 2129 USE SINGLE FAMILY ZONING RT
7	WALL, FREDDY V PIN 1753-76-2637 DB 3931 PG 492 USE PREFAB ZONING HB	22	GLENMERE LLC PIN 1753-76-0603 DB 15951 PG 2174 USE VACANT ZONING GRB
8	CALDWELL, JAMES L CLADWELL, BRENDA S PIN 1753-76-5265 DB 3446 PG 284 USE SINGLE FAMILY ZONING RT	23	GLENMERE EAST HOMEOWNERS ASSOCIATION, INC. PIN 1753-57-7756 DB 17981 PG 230 USE HOA ZONING UR-12
9	CALDWELL, JAMES L CLADWELL, BRENDA S PIN 1753-76-5265 DB 3446 PG 284 USE SINGLE FAMILY ZONING RT	24	LOT 1 SMITHFIELD PUD LLC PIN 1753-57-9238 DB 18705 PG 1151 BM 2021 PG 1801 USE VACANT ZONING RT
10	MILLER, MICHAEL CAMERON III PIN 1753-76-8452 DB 16167 PG 1332 USE MOBILE HOME ZONING RT	25	POPE, RICHARD N PIN 1753-97-8034 DB 1495 PG 1405 USE SINGLE FAMILY ZONING RT
11	JARREL, ERVIN B JARREL, GLORIA P PIN 1753-66-2427 DB 2158 PG 8 USE SINGLE FAMILY ZONING GR3	26	G&F PROPERTIES LLC PIN 1753-66-5687 DB 8139 PG 672 BM 2021 PG 288 USE AGRICULTURE ZONING RT
12	POPE, ROBERT L PIN 1753-66-5689 DB 4894 PG 131 USE MANUFACTURED HOME ZONING GR3	27	DUKE ENERGY PROGRESS PIN 1753-66-3439 DB 15289 PG 2437 USE STATE ASSESSED ZONING RT
13	POPE, ROBERT L PIN 1753-66-5689 DB 2218 PG 49 USE VACANT ZONING GR3	28	CRAIG WEST RENTALS LLC PIN 1753-66-1961 DB 14885 PG 1746 USE SINGLE FAMILY ZONING HB
14	COLE, HEATHER LEE PIN 1753-66-1961 DB 17826 PG 2508 USE SINGLE FAMILY ZONING RT		
15	MILLER, MICHAEL CAMERON III PIN 1753-66-4949 DB 17826 PG 2378 USE SINGLE FAMILY ZONING RT		

PARCEL #	AREA (SF)	AREA (AC)
1	7066	0.16
2	7199	0.17
3	7200	0.17
4	7200	0.17
5	7200	0.17
6	7200	0.17
7	7200	0.17
8	7200	0.17
9	7200	0.17
10	7200	0.17
11	7200	0.17
12	7200	0.17
13	7200	0.17
14	7200	0.17
15	7200	0.17
16	7199	0.17
17	9519	0.22
18	10320	0.24
19	10410	0.24
20	10407	0.24
21	10408	0.24
22	11848	0.27
23	16777	0.39
24	16650	0.38
25	11783	0.27
26	10475	0.24
27	10974	0.25
28	10935	0.25
29	10960	0.25
30	10960	0.25
31	10960	0.25
32	10960	0.25
33	10960	0.25
34	17280	0.40
35	15135	0.35
36	9752	0.22
37	10206	0.23
38	10891	0.25
39	9969	0.23
40	11329	0.26
41	10613	0.24
42	10700	0.25
43	10700	0.25
44	10698	0.25
45	10701	0.25
46	10544	0.24
47	12339	0.28



WETLANDS EXIST ON-SITE
FLOODPLAINS EXIST ON-SITE

NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF KNIGHTDALE AND NCDOT

a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: *Samuel* Date: 2-1-2023
Town Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: _____ Date: _____
Administrator

SCALE IN FEET

0 100 200 400 600 800

SEE SHEETS C1.7-C1.12 FOR SITE SIGNS AND MARKINGS PLANS AND DETAILS

SEE COVER SHEET FOR SITE DATA TABLE

SEE SHEETS C4.13 TO C4.17 FOR S SMITHFIELD ROAD AND MAILMAN ROAD WIDENING PLANS

SCALE BY: MDB

BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
6310 CHAPEL HILL ROAD, SUITE 200, RALEIGH, NC 27607
TELEPHONE: (919)515-4422 OR (800)354-1879 FAX: (919)851-8968
CERTIFICATION NUMBERS: NCBELS (C-0110); NCBLA (C-0267)

VILLAGE GATE
S. SMITHFIELD ROAD
TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

OVERALL SITE PLAN

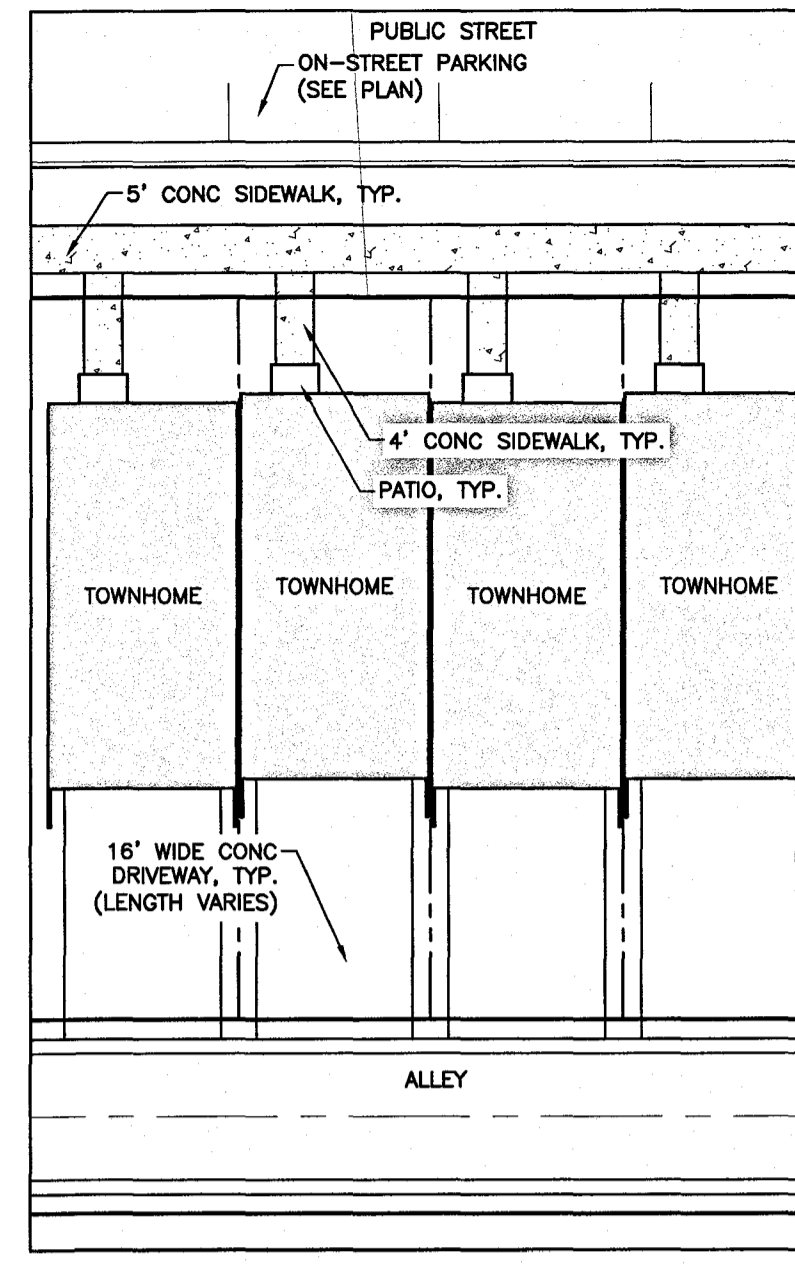
SCALE: 1" = 20'

NO. DATE DESCRIPTION REVISIONS

6	01-16-23	TOK COMMENTS/SIGNATURE SET	RAB	BY
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB	BY
4	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB	BY
3	06-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB	BY
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB	BY
1	03-20-21	DATE	RAB	BY

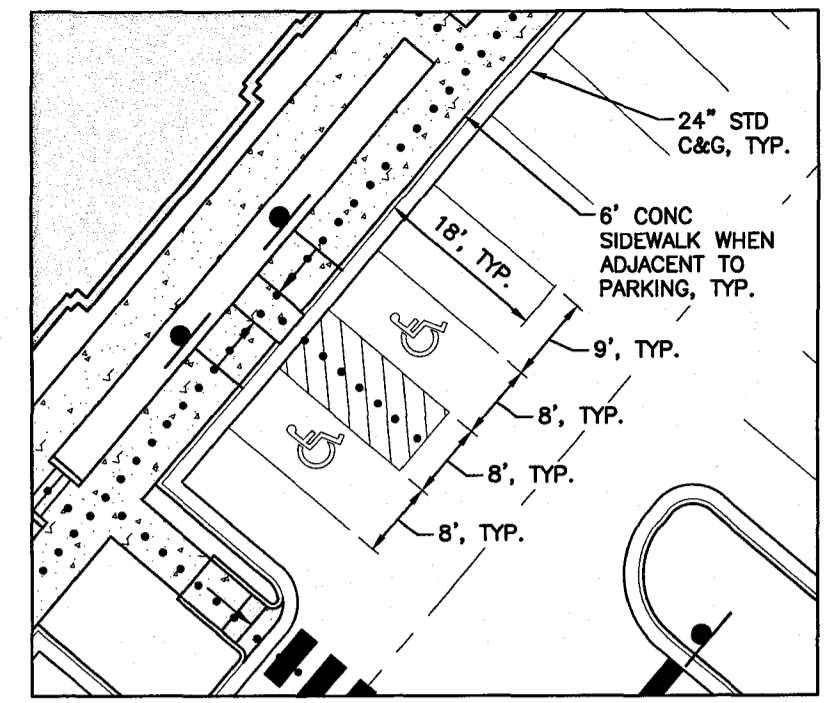


R:\2020\20097 - Knightdale Mixed Use\CIVIL\04 Construction\02 - 20097_Site CDs.dwg, C1.1 W, 1/16/2023 10:12:27 AM, robert burgon



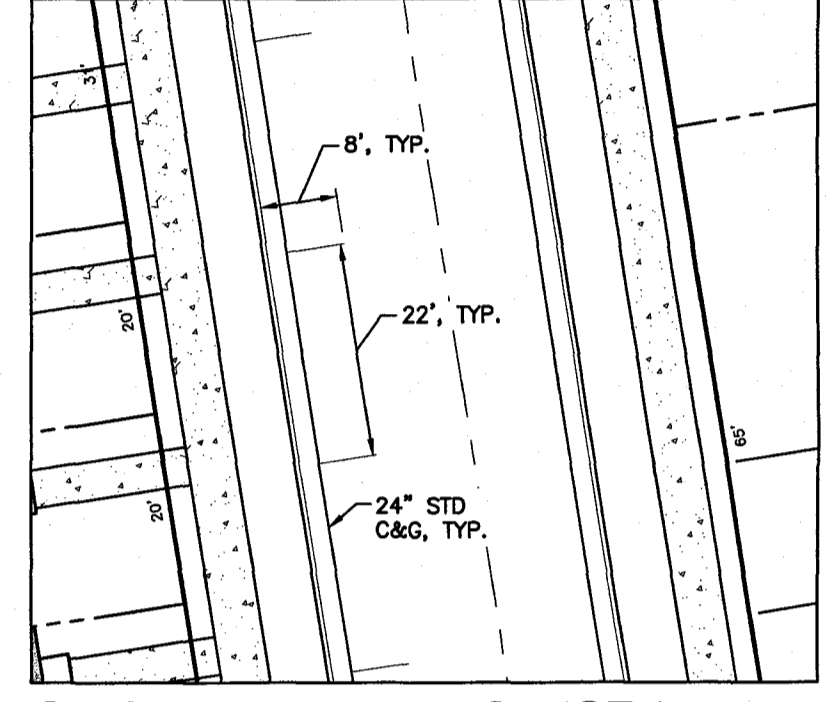
TYPICAL TOWNHOME INSET

SCALE: 1" = 20'



TYPICAL PARKING INSET

SCALE: 1" = 20'



ON-STREET PARKING INSET

SCALE: 1" = 20'

LEGEND

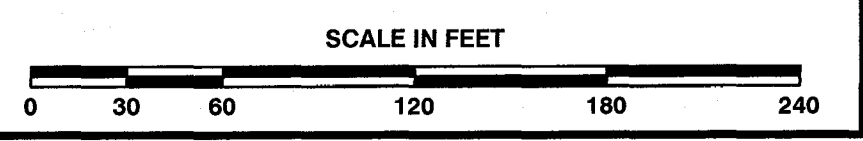
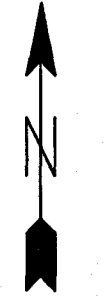
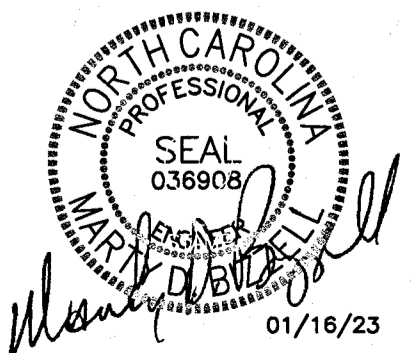
- CONCRETE SIDEWALK
(4" THICK 3000 PSI CONCRETE)
- PASSIVE OPEN SPACE
- RECREATIONAL OPEN SPACE
- HANDICAPPED ACCESSIBLE ROUTE

WETLANDS EXIST ON-SITE

FLOODPLAINS EXIST ON-SITE

NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF KNIGHTDALE AND NCDOT

a. **Town Certification.** This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
 By: S. Allen Date: 2.1.2023
 Town Engineer
 These plans are approved by the Town of Knightdale and serve as construction plans for this project.
 By: W. B. Date: 2.2.2023
 Administrator



SEE SHEETS C1.7-C1.12 FOR SITE SIGNS AND MARKINGS PLANS AND DETAILS

SEE COVER SHEET FOR SITE DATA TABLE

SEE SHEETS C4.13 TO C4.17 FOR S SMITHFIELD ROAD AND MAILMAN ROAD WIDENING PLANS



BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919)851-4422 OR (800)354-1879 FAX: (919)851-8968
 CERTIFICATION NUMBERS: NCBOLA (C-0110); NCBOLA (C-0267)

NO.	DATE	DESCRIPTION	BY
6	01-16-23	TOK COMMENTS/SIGNATURE SET	RAB
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
3	06-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB

03-20097	09-07-2021	RAB	DATE	DRAWN BY	CHK BY: MDB
ENLARGED SITE PLAN				WEST	

SCALE: 1" = 80'

VILLAGE GATE
S. SMITHFIELD ROAD
 TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET C1.1

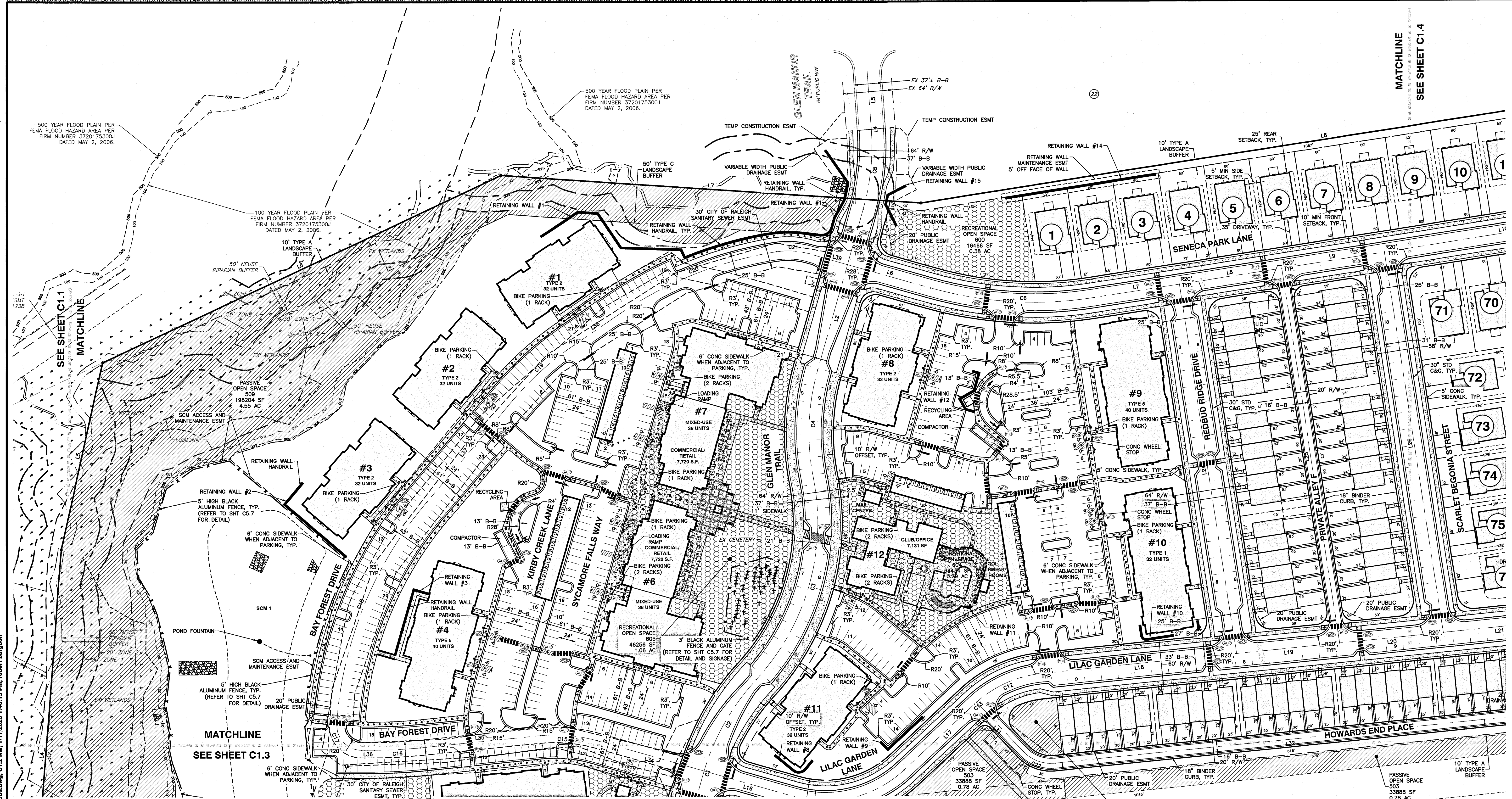


BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919) 851-4422 OR (800) 354-1879 FAX: (919) 851-8868
 CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

NO.	DATE	DESCRIPTION	BY
1	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAE
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAE
3	06-03-22	TOWN OF KNIGHTDALE COMMENTS	RAE
4	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAE
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAE
6	01-16-23	T&K COMMENTS/SIGNATURE SET	RAE

VILLAGE GATE
ENLARGED SITE PLAN
NORTHWEST
 SCALE: 1" = 60'
 CHK BY: MDB

S. SMITHFIELD ROAD
 TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA
SHEET C1.2



SEE SHEET C1.1
 MATCHLINE

MATCHLINE
 SEE SHEET C1.3

MATCHLINE
 SEE SHEET C1.4

R:\2020\20097 - Knightdale Mixed Use\CIVIL\04 Construction\02 - 20097_Site CD.dwg, C1.2 NW, 1/17/2023 1:46:15 PM, robert.burgum

LINE #	LENGTH	DIRECTION
L1	553.83'	S15° 52' 37.93"W
L2	142.42'	S15° 52' 37.93"W
L3	74.89'	S15° 52' 37.93"W
L4	0.74'	S4° 04' 24.87"E
L5	76.48'	S4° 04' 24.87"E
L6	113.05'	S74° 07' 22.07"E
L7	112.90'	N81° 12' 41.51"E
L8	135.17'	N81° 12' 41.51"E
L9	135.73'	N81° 12' 41.51"E
L10	315.27'	N81° 12' 41.51"E
L11	178.65'	N81° 12' 41.51"E
L12	258.11'	N82° 35' 55.18"E
L13	382.74'	N82° 35' 55.18"E
L14	109.89'	S42° 47' 07.32"E
L15	202.00'	S42° 47' 07.32"E
L16	122.45'	N74° 07' 22.07"W
L17	125.43'	S47° 07' 06.36"W
L18	256.32'	S84° 19' 11.58"W
L19	135.36'	S84° 19' 11.58"W
L20	135.93'	S84° 19' 11.58"W

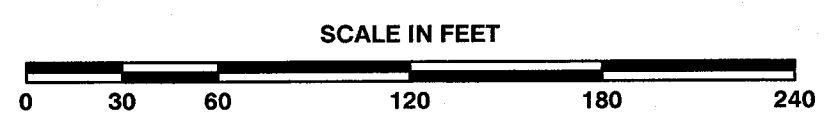
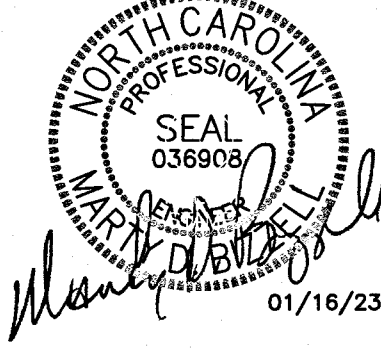
LINE #	LENGTH	DIRECTION
L21	145.09'	S84° 19' 11.58"W
L22	126.83'	S84° 19' 11.58"W
L23	475.37'	S8° 47' 18.49"E
L24	487.38'	N8° 47' 18.49"W
L25	494.69'	N8° 47' 18.49"W
L26	502.07'	N8° 47' 18.49"W
L27	143.70'	N7° 24' 04.82"W
L28	248.10'	N7° 24' 04.82"W
L29	163.94'	N42° 47' 07.32"E
L30	526.10'	S47° 12' 52.68"W
L31	88.84'	N43° 22' 45.21"W
L32	616.48'	S84° 19' 11.58"W
L33	68.00'	S5° 40' 48.42"E
L34	145.17'	N74° 07' 22.07"W
L35	157.47'	S84° 19' 11.58"W
L36	16.98'	N89° 58' 12.05"W
L37	173.36'	N40° 21' 07.38"E
L38	72.74'	N55° 54' 55.82"E
L39	52.30'	S74° 07' 22.07"E

CURVE #	LENGTH	RADIUS
C1	3.87'	300.00'
C2	138.17'	300.00'
C3	284.08'	300.00'
C4	142.04'	300.00'
C5	104.46'	300.00'
C6	215.25'	500.00'
C7	12.10'	500.00'
C8	190.65'	200.00'
C9	65.19'	41.50'
C10	92.64'	150.00'
C11	67.44'	41.50'
C12	93.63'	150.00'
C13	3.76'	150.00'
C14	154.34'	150.00'
C15	75.25'	200.00'
C16	59.80'	600.00'
C17	53.31'	32.50'
C18	317.09'	500.00'
C19	108.65'	400.00'
C20	220.59'	500.00'

CURVE #	LENGTH	RADIUS
C21	43.08'	100.00'
C22	45.64'	50.00'
C23	78.54'	50.00'

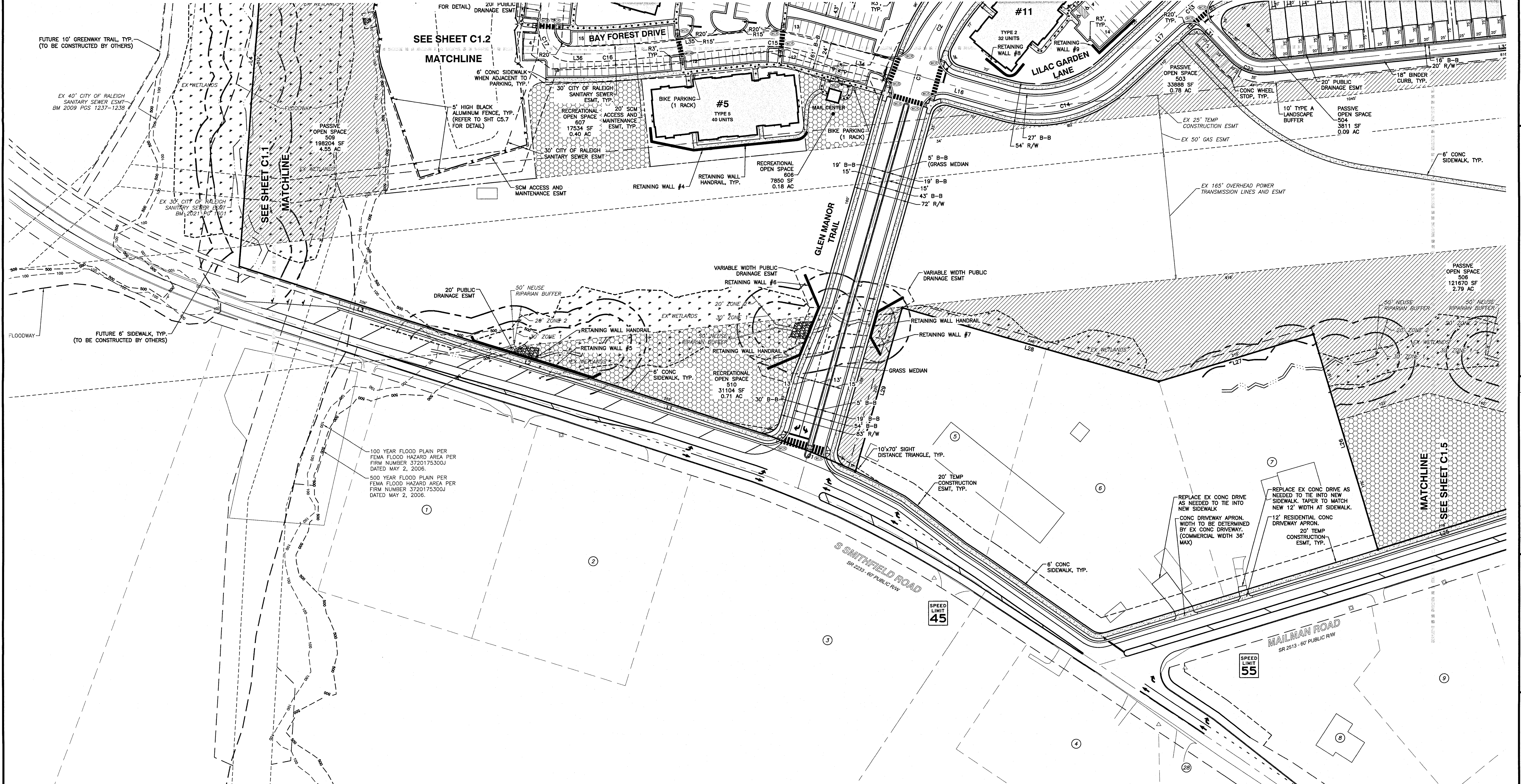
- LEGEND**
- CONCRETE SIDEWALK (4" THICK 3000 PSI CONCRETE)
 - PASSIVE OPEN SPACE
 - RECREATIONAL OPEN SPACE
 - HANDICAPPED ACCESSIBLE ROUTE

1. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
 By: *[Signature]* Date: 2-1-2023
 Town Engineer
 These plans are approved by the Town of Knightdale and serve as construction plans for this project.
 By: *[Signature]* Date: 2-1-2023
 Administrator



SEE SHEETS C1.7-C1.12 FOR SITE SIGNS AND MARKINGS PLANS AND DETAILS
 SEE COVER SHEET FOR SITE DATA TABLE
 SEE SHEETS C4.13 TO C4.17 FOR S SMITHFIELD ROAD AND MAILMAN ROAD WIDENING PLANS

NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF KNIGHTDALE AND NCDOT



ROAD CL LINE TABLE

LINE #	LENGTH	DIRECTION
L1	553.83'	S15° 52' 37.93"W
L2	142.42'	S15° 52' 37.93"W
L3	74.89'	S15° 52' 37.93"W
L4	0.74'	S4° 04' 24.87"E
L5	76.48'	S4° 04' 24.87"E
L6	113.05'	S74° 07' 22.07"E
L7	112.90'	N81° 12' 41.51"E
L8	135.17'	N81° 12' 41.51"E
L9	135.73'	N81° 12' 41.51"E
L10	315.27'	N81° 12' 41.51"E
L11	178.65'	N81° 12' 41.51"E
L12	258.11'	N82° 35' 55.18"E
L13	382.74'	N82° 35' 55.18"E
L14	109.89'	S42° 47' 07.32"E
L15	202.00'	S42° 47' 07.32"E
L16	122.45'	N74° 07' 22.07"W
L17	125.43'	S47° 07' 06.36"W
L18	256.32'	S84° 19' 11.58"W
L19	135.36'	S84° 19' 11.58"W
L20	135.93'	S84° 19' 11.58"W

ROAD CL LINE TABLE

LINE #	LENGTH	DIRECTION
L21	145.09'	S84° 19' 11.58"W
L22	126.83'	S84° 19' 11.58"W
L23	475.37'	S8° 47' 18.49"E
L24	487.38'	N8° 47' 18.49"W
L25	494.69'	N8° 47' 18.49"W
L26	502.07'	N8° 47' 18.49"W
L27	143.70'	N7° 24' 04.82"W
L28	248.10'	N7° 24' 04.82"W
L29	163.94'	N42° 07' 32.32"W
L30	526.10'	S47° 12' 52.68"W
L31	88.84'	N43° 22' 45.21"W
L32	616.48'	S84° 19' 11.58"W
L33	68.00'	S5° 40' 48.42"E
L34	145.17'	N74° 07' 22.07"W
L35	157.47'	S84° 19' 11.58"W
L36	16.98'	N89° 58' 12.05"W
L37	173.36'	N40° 21' 07.38"E
L38	72.74'	N55° 54' 55.82"E
L39	52.30'	S74° 07' 22.07"E

ROAD CL CURVE TABLE

CURVE #	LENGTH	RADIUS
C1	3.87'	300.00'
C2	138.17'	300.00'
C3	284.08'	300.00'
C4	142.04'	300.00'
C5	104.46'	300.00'
C6	215.25'	500.00'
C7	12.10'	500.00'
C8	190.65'	200.00'
C9	65.19'	41.50'
C10	92.64'	150.00'
C11	87.44'	41.50'
C12	93.63'	150.00'
C13	3.76'	150.00'
C14	154.34'	150.50'
C15	75.25'	200.00'
C16	59.80'	600.00'
C17	53.31'	32.50'
C18	317.09'	500.00'
C19	108.65'	400.00'
C20	220.59'	500.00'

ROAD CL CURVE TABLE

CURVE #	LENGTH	RADIUS
C21	43.08'	100.00'
C22	45.64'	50.00'
C23	78.54'	50.00'

LEGEND

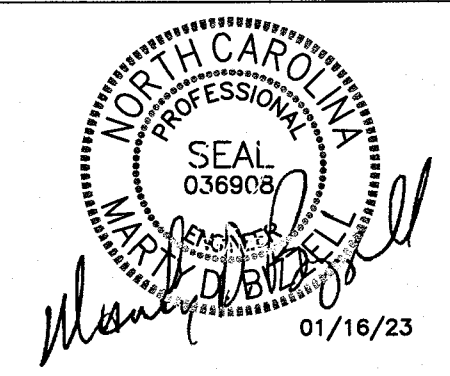
- CONCRETE SIDEWALK (4" THICK 3000 PSI CONCRETE)
- PASSIVE OPEN SPACE
- RECREATIONAL OPEN SPACE
- HANDICAPPED ACCESSIBLE ROUTE

a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: *[Signature]* Date: 2-1-2023
Town Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: *[Signature]* Date: 2/2/23
Administrator



SEE SHEETS C1.7-C1.12 FOR SITE SIGNS AND MARKINGS PLANS AND DETAILS

SEE COVER SHEET FOR SITE DATA TABLE

SEE SHEETS C4.13 TO C4.17 FOR S SMITHFIELD ROAD AND MAILMAN ROAD WIDENING PLANS

WETLANDS EXIST ON-SITE

FLOODPLAINS EXIST ON-SITE

NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF KNIGHTDALE AND NCDOT

BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS

6510 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
TELEPHONE: (919) 851-4422 OR (800) 334-1179 FAX: (919) 851-9988
CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

NO.	DATE	DESCRIPTION	BY
6	01-16-23	TOK COMMENTS/SIGNATURE SET	RAB
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
3	06-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB
1			

REVISIONS

03-20097 09-07-2021 RAB DRAWN BY

05-20097 09-07-2021 RAB DATE

ENLARGED SITE PLAN
SOUTHWEST

CHK BY: MDB
SCALE: 1" = 60'

VILLAGE GATE
S. SMITHFIELD ROAD
TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET **C1.3**

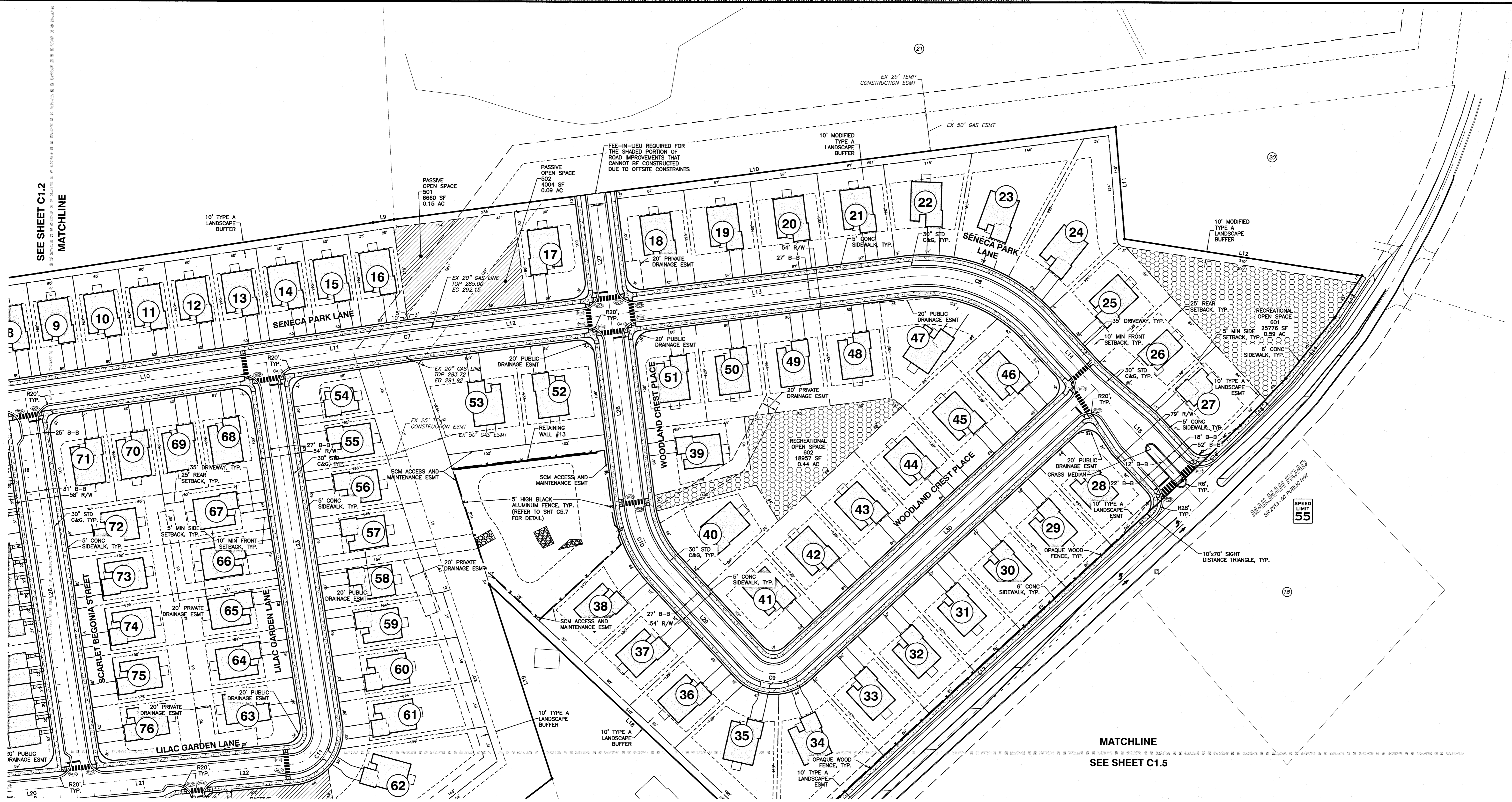


BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919)851-4422 OR (800)354-1973 FAX: (919)851-9988
 CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0287)

NO.	DATE	DESCRIPTION	BY
1	03-20-2021	TOWN OF KNIGHTDALE COMMENTS	RAB
2	06-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB
3	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
6	01-16-23	TOK COMMENTS/SIGNATURE SET	RAB

VILLAGE GATE
S. SMITHFIELD ROAD
 TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET C1.4



SEE SHEET C1.2
MATCHLINE

MATCHLINE
SEE SHEET C1.5

LINE #	LENGTH	DIRECTION
L1	553.83'	S15° 52' 37.93"W
L2	142.42'	S15° 52' 37.93"W
L3	74.89'	S15° 52' 37.93"W
L4	0.74'	S4° 04' 24.87"E
L5	76.48'	S4° 04' 24.87"E
L6	113.05'	S74° 07' 22.07"E
L7	112.90'	N81° 12' 41.51"E
L8	135.17'	N81° 12' 41.51"E
L9	135.73'	N81° 12' 41.51"E
L10	315.27'	N81° 12' 41.51"E
L11	178.65'	N81° 12' 41.51"E
L12	258.11'	N82° 35' 55.18"E
L13	382.74'	N82° 35' 55.18"E
L14	109.89'	S42° 47' 07.32"E
L15	202.00'	S42° 47' 07.32"E
L16	122.45'	N74° 07' 22.07"W
L17	125.43'	S47° 07' 06.36"W
L18	256.32'	S84° 19' 11.58"W
L19	135.36'	S84° 19' 11.58"W
L20	135.93'	S84° 19' 11.58"W

LINE #	LENGTH	DIRECTION
L21	145.09'	S84° 19' 11.58"W
L22	126.83'	S84° 19' 11.58"W
L23	475.37'	S8° 47' 18.49"E
L24	487.38'	N8° 47' 18.49"W
L25	494.69'	N8° 47' 18.49"W
L26	502.07'	N8° 47' 18.49"W
L27	143.70'	N7° 24' 04.82"W
L28	248.10'	N7° 24' 04.82"W
L29	163.94'	N42° 47' 07.32"W
L30	526.10'	S47° 12' 52.68"W
L31	88.84'	N43° 22' 45.21"W
L32	616.48'	S84° 19' 11.58"W
L33	68.00'	S5° 40' 48.42"E
L34	145.17'	N74° 07' 22.07"W
L35	157.47'	S84° 19' 11.58"W
L36	16.98'	N89° 58' 12.05"W
L37	173.36'	N40° 21' 07.38"E
L38	72.74'	N55° 54' 55.82"E
L39	52.30'	S74° 07' 22.07"E

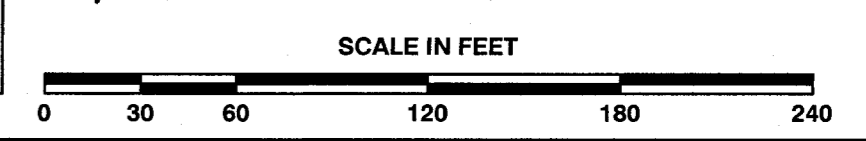
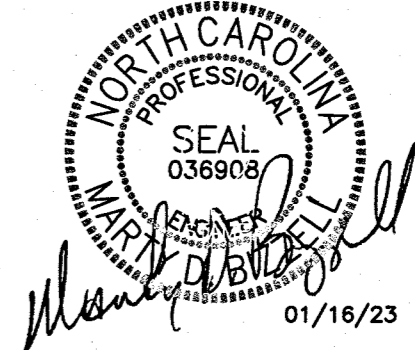
CURVE #	LENGTH	RADIUS
C1	3.87'	300.00'
C2	138.17'	300.00'
C3	284.08'	300.00'
C4	142.04'	300.00'
C5	104.46'	300.00'
C6	215.25'	500.00'
C7	12.10'	500.00'
C8	190.65'	200.00'
C9	65.19'	41.50'
C10	92.64'	150.00'
C11	67.44'	41.50'
C12	93.63'	150.00'
C13	3.76'	150.00'
C14	154.34'	150.50'
C15	75.25'	200.00'
C16	59.80'	600.00'
C17	53.31'	32.50'
C18	317.09'	500.00'
C19	108.65'	400.00'
C20	220.59'	500.00'

CURVE #	LENGTH	RADIUS
C21	43.08'	100.00'
C22	45.64'	50.00'
C23	78.54'	50.00'

LEGEND

- CONCRETE SIDEWALK (4" THICK 3000 PSI CONCRETE)
- PASSIVE OPEN SPACE
- RECREATIONAL OPEN SPACE
- HANDICAPPED ACCESSIBLE ROUTE

a. **Town Certification.** This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
 By: *[Signature]* Date: 2-1-2023
 Town Engineer
 These plans are approved by the Town of Knightdale and serve as construction plans for this project.
 By: *[Signature]* Date: 2-2-2023
 Administrator



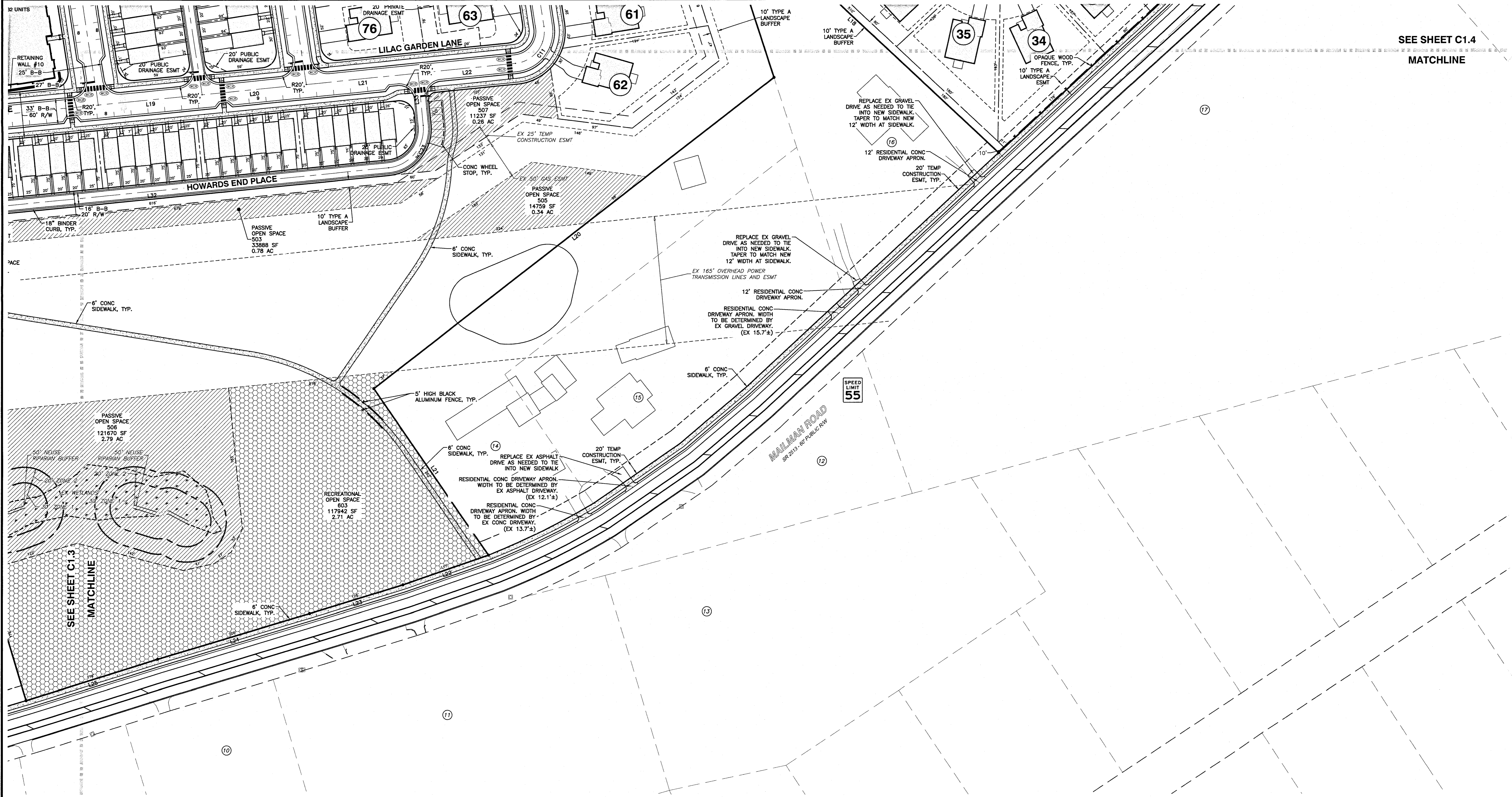
SEE SHEETS C1.7-C1.12 FOR SITE SIGNS AND MARKINGS PLANS AND DETAILS

SEE COVER SHEET FOR SITE DATA TABLE

SEE SHEETS C4.13 TO C4.17 FOR S SMITHFIELD ROAD AND MAILMAN ROAD WIDENING PLANS

WETLANDS EXIST ON-SITE
FLOODPLAINS EXIST ON-SITE

NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF KNIGHTDALE AND NCDOT



SEE SHEET C1.4
MATCHLINE

SEE SHEET C1.3
MATCHLINE

LINE #	LENGTH	DIRECTION
L1	553.83'	S15° 52' 37.93"W
L2	142.42'	S15° 52' 37.93"W
L3	74.89'	S15° 52' 37.93"W
L4	0.74'	S4° 04' 24.87"E
L5	76.48'	S4° 04' 24.87"E
L6	113.05'	S74° 07' 22.07"E
L7	112.90'	N81° 12' 41.51"E
L8	135.17'	N81° 12' 41.51"E
L9	135.73'	N81° 12' 41.51"E
L10	315.27'	N81° 12' 41.51"E
L11	178.65'	N81° 12' 41.51"E
L12	258.11'	N82° 35' 55.18"E
L13	382.74'	N82° 35' 55.18"E
L14	109.89'	S42° 47' 07.32"E
L15	202.00'	S42° 47' 07.32"E
L16	122.45'	N74° 07' 22.07"W
L17	125.43'	S47° 07' 06.36"W
L18	256.32'	S84° 19' 11.58"W
L19	135.36'	S84° 19' 11.58"W
L20	135.93'	S84° 19' 11.58"W

LINE #	LENGTH	DIRECTION
L21	145.09'	S84° 19' 11.58"W
L22	126.83'	S84° 19' 11.58"W
L23	475.37'	S8° 47' 18.49"E
L24	487.38'	N8° 47' 18.49"W
L25	494.69'	N8° 47' 18.49"W
L26	502.07'	N8° 47' 18.49"W
L27	143.70'	N7° 24' 04.82"W
L28	248.10'	N7° 24' 04.82"W
L29	163.94'	N42° 47' 07.32"W
L30	526.10'	S47° 12' 52.68"W
L31	88.84'	N43° 22' 45.21"W
L32	616.48'	S84° 19' 11.58"W
L33	68.00'	S5° 40' 48.42"E
L34	145.17'	N74° 07' 22.07"W
L35	157.47'	S84° 19' 11.58"W
L36	16.98'	N89° 58' 12.05"W
L37	173.36'	N40° 21' 07.38"E
L38	72.74'	N55° 54' 55.82"E
L39	52.30'	S74° 07' 22.07"E

CURVE #	LENGTH	RADIUS
C1	3.87'	300.00'
C2	138.17'	300.00'
C3	284.08'	300.00'
C4	142.04'	300.00'
C5	104.46'	300.00'
C6	215.25'	500.00'
C7	12.10'	500.00'
C8	190.65'	200.00'
C9	65.19'	41.50'
C10	92.64'	150.00'
C11	67.44'	41.50'
C12	93.63'	150.00'
C13	3.76'	150.00'
C14	154.34'	150.00'
C15	75.25'	200.00'
C16	59.80'	600.00'
C17	53.31'	32.50'
C18	317.09'	500.00'
C19	108.65'	400.00'
C20	220.59'	500.00'

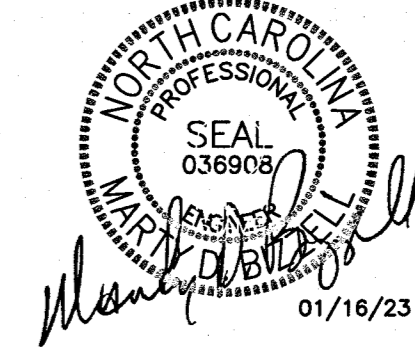
CURVE #	LENGTH	RADIUS
C21	43.08'	100.00'
C22	45.64'	50.00'
C23	78.54'	50.00'

LEGEND

- CONCRETE SIDEWALK (4" THICK 3000 PSI CONCRETE)
- PASSIVE OPEN SPACE
- RECREATIONAL OPEN SPACE

..... HANDICAPPED ACCESSIBLE ROUTE

a. **Town Certification.** This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
By: CALU Date: 2-1-2023
Town Engineer
These plans are approved by the Town of Knightdale and serve as construction plans for this project.
By: W.W. Date: 2-2-2023
Administrator



SCALE IN FEET
0 30 60 120 180 240

SEE SHEETS C1.7-C1.12 FOR SITE SIGNS AND MARKINGS PLANS AND DETAILS

SEE COVER SHEET FOR SITE DATA TABLE

SEE SHEETS C4.13 TO C4.17 FOR S SMITHFIELD ROAD AND MAILMAN ROAD WIDENING PLANS

WETLANDS EXIST ON-SITE
FLOODPLAINS EXIST ON-SITE

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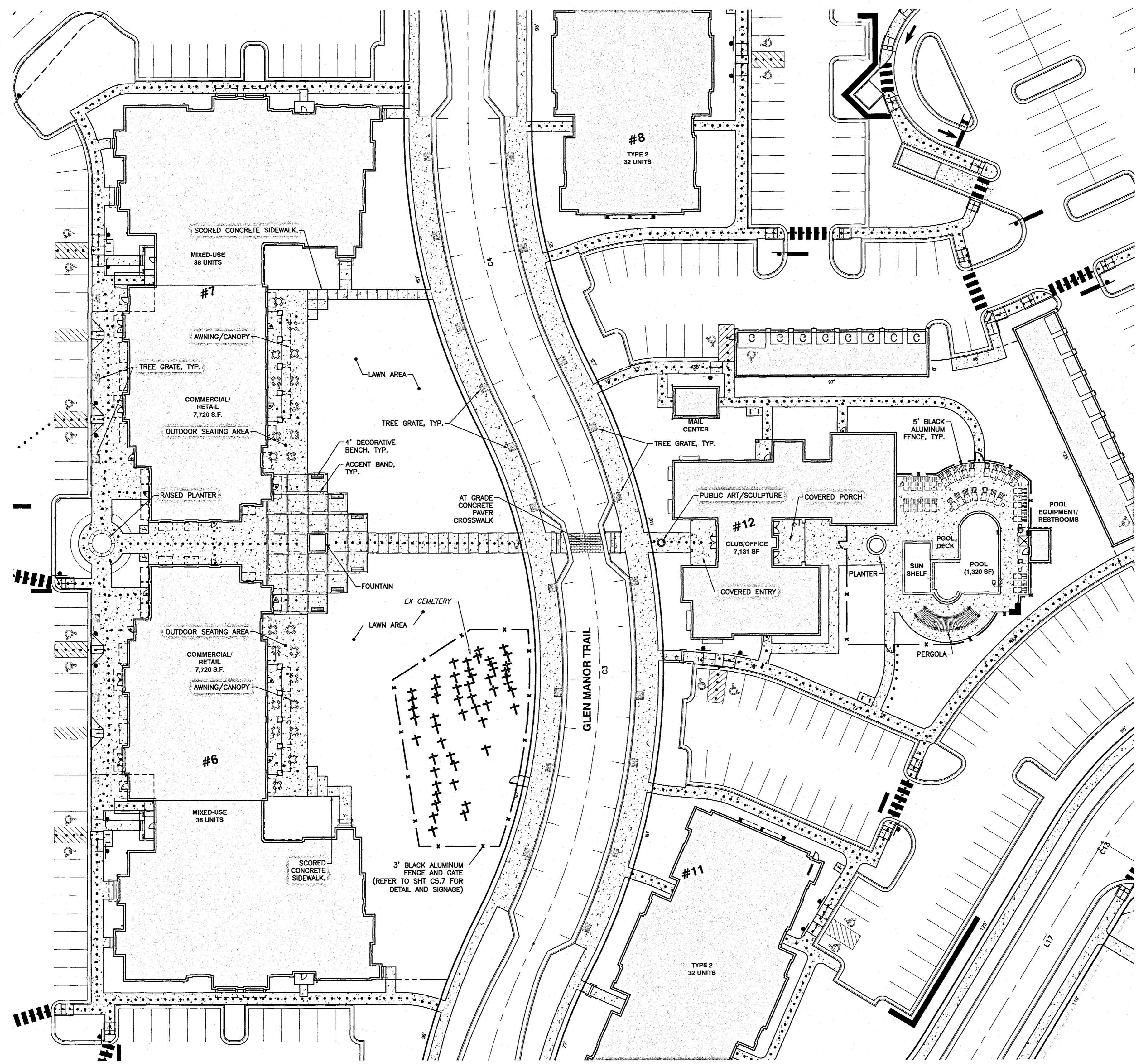
BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
TELEPHONE: (919)851-1022 OR (800)354-1879 FAX: (919)851-9866
CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

NO.	DATE	DESCRIPTION	BY
6	01-16-23	T&E COMMENTS/SIGNATURE SET	RAB
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
3	06-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB

03-20097 08-07-2021 RAB
JOB NO. DATE DRAWN BY
ENLARGED SITE PLAN
SOUTHEAST
SCALE: 1" = 60'
CHK BY: MDB

VILLAGE GATE
S. SMITHFIELD ROAD
TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET
C1.5



LEGEND

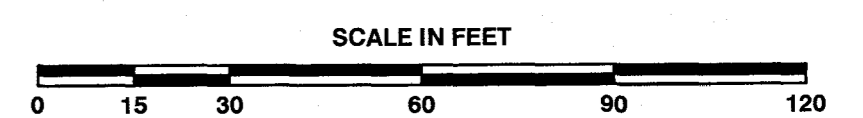
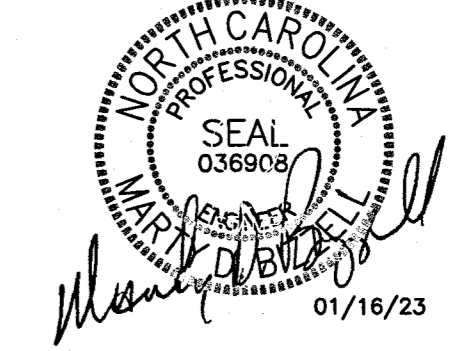
- CONCRETE SIDEWALK (4" THICK 3000 PSI CONCRETE)
- PASSIVE OPEN SPACE
- RECREATIONAL OPEN SPACE
- HANDICAPPED ACCESSIBLE ROUTE

SEE SHEETS C1.7-C1.12 FOR SITE SIGNS AND MARKINGS PLANS AND DETAILS
 SEE COVER SHEET FOR SITE DATA TABLE

WETLANDS EXIST ON-SITE
 FLOODPLAINS EXIST ON-SITE

NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF KNIGHTDALE AND NCDOT

a. **Town Certification.** This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
 By: *[Signature]* Date: 2-1-2023
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 By: *[Signature]* Date: 2-1-2023
 Administrator

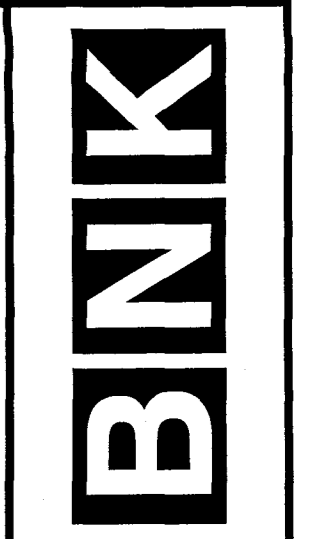


NO.	DATE	DESCRIPTION	BY
1	01-16-23	TOWN OF KNIGHTDALE COMMENTS	RAB
2	02-25-23	TOWN OF KNIGHTDALE COMMENTS	RAB
3	05-03-23	TOWN OF KNIGHTDALE COMMENTS	RAB
4	09-01-23	TOWN OF KNIGHTDALE COMMENTS	RAB
5	11-04-23	TOWN OF KNIGHTDALE COMMENTS	RAB
6	01-16-23	TOWN OF KNIGHTDALE COMMENTS	RAB

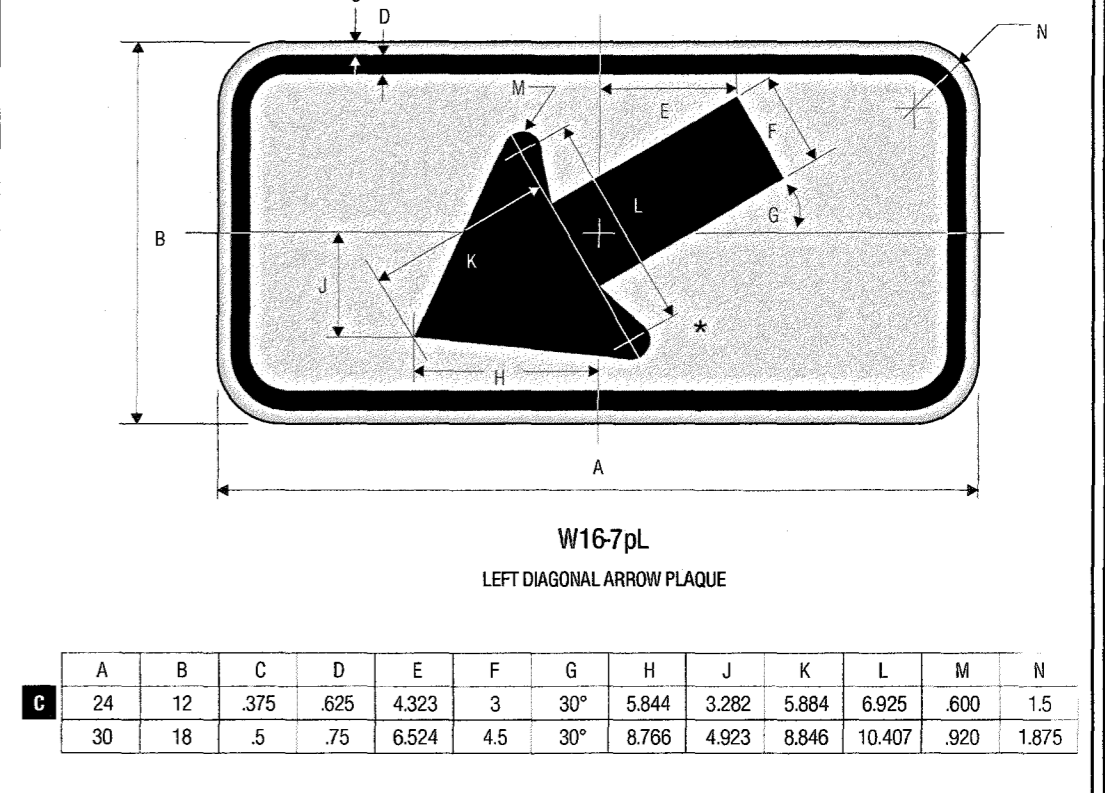
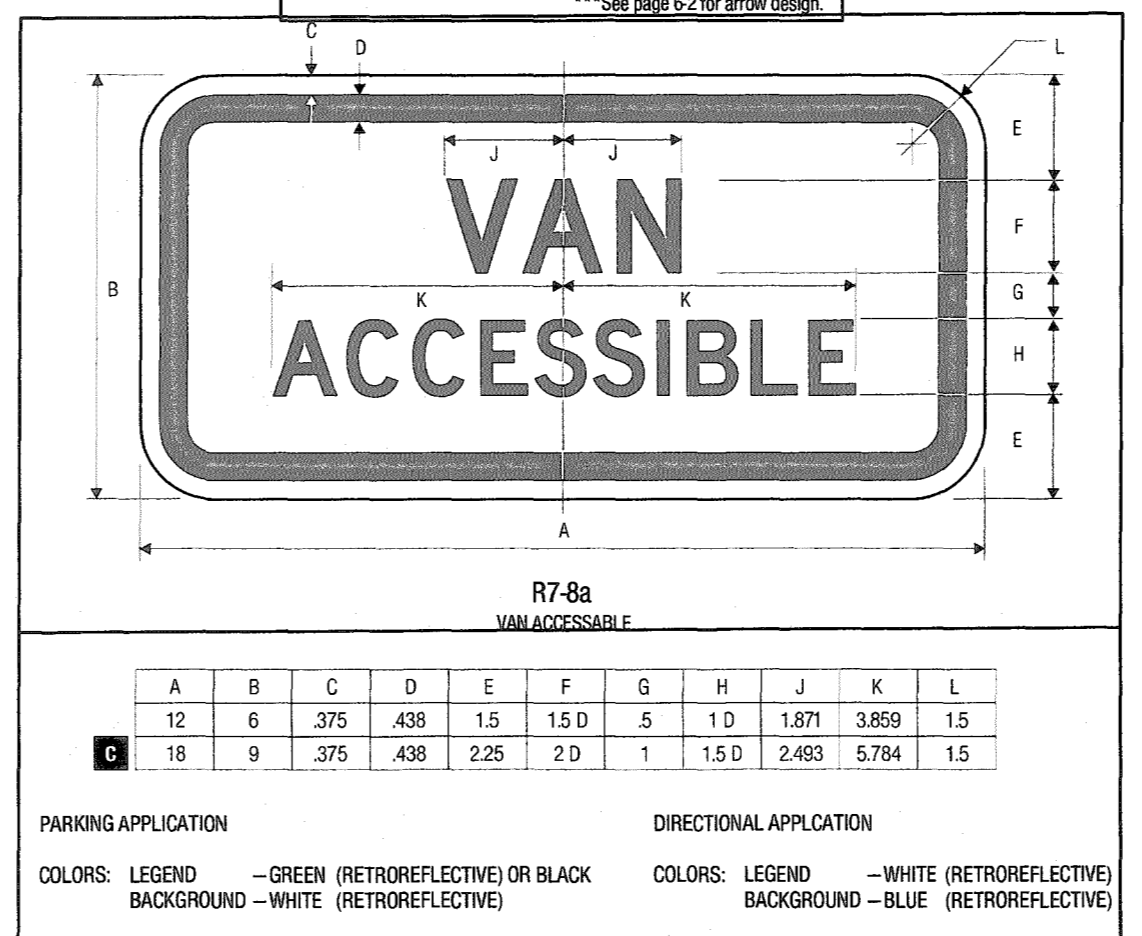
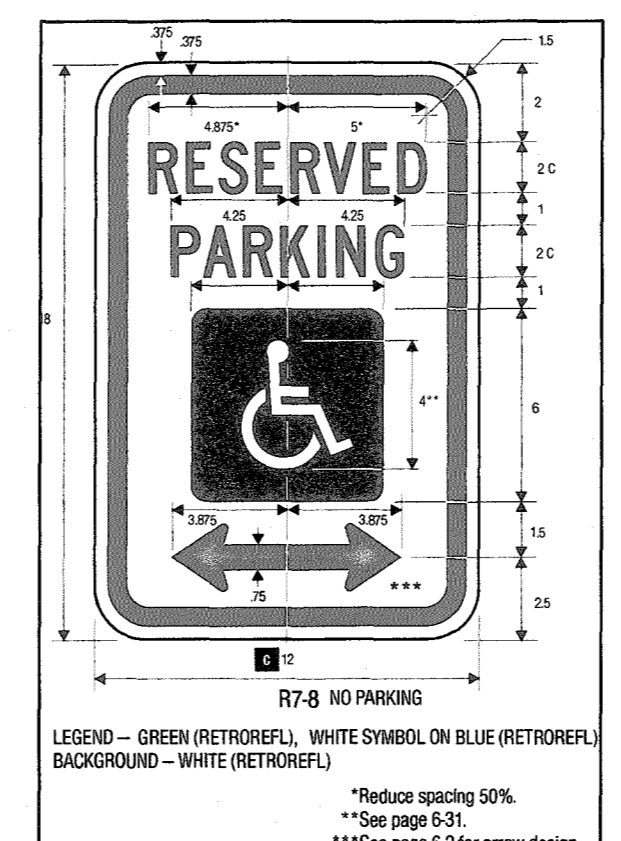
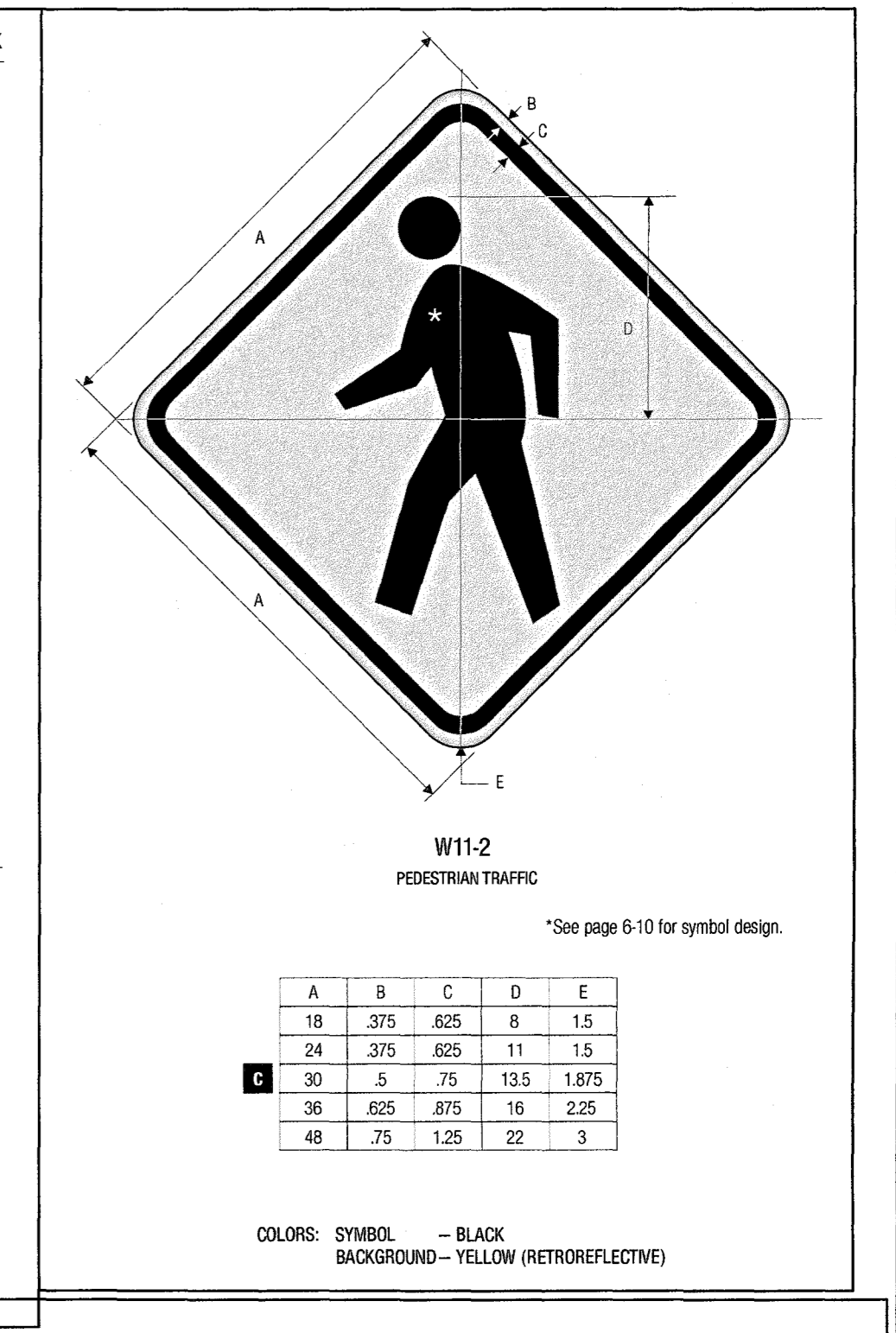
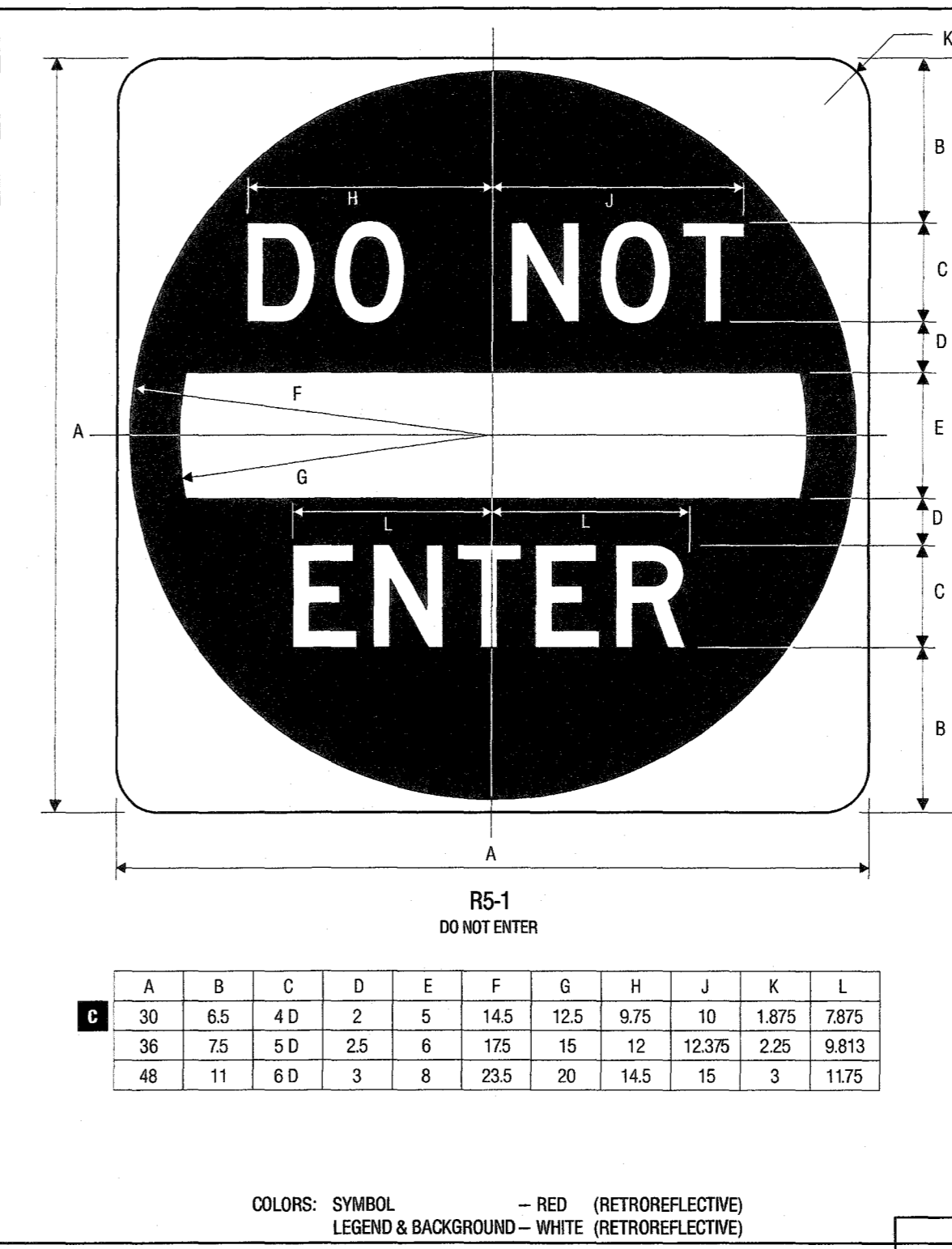
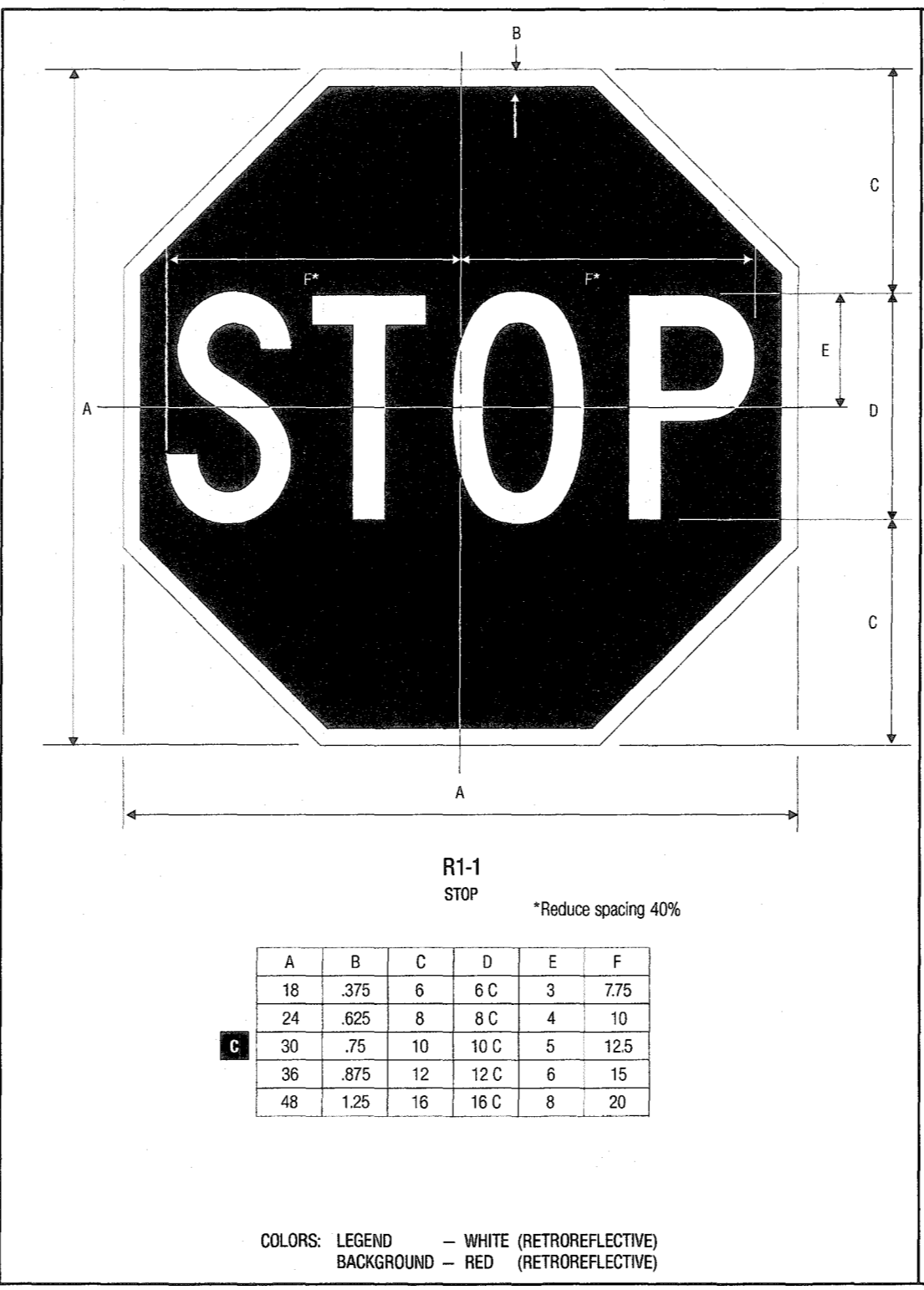
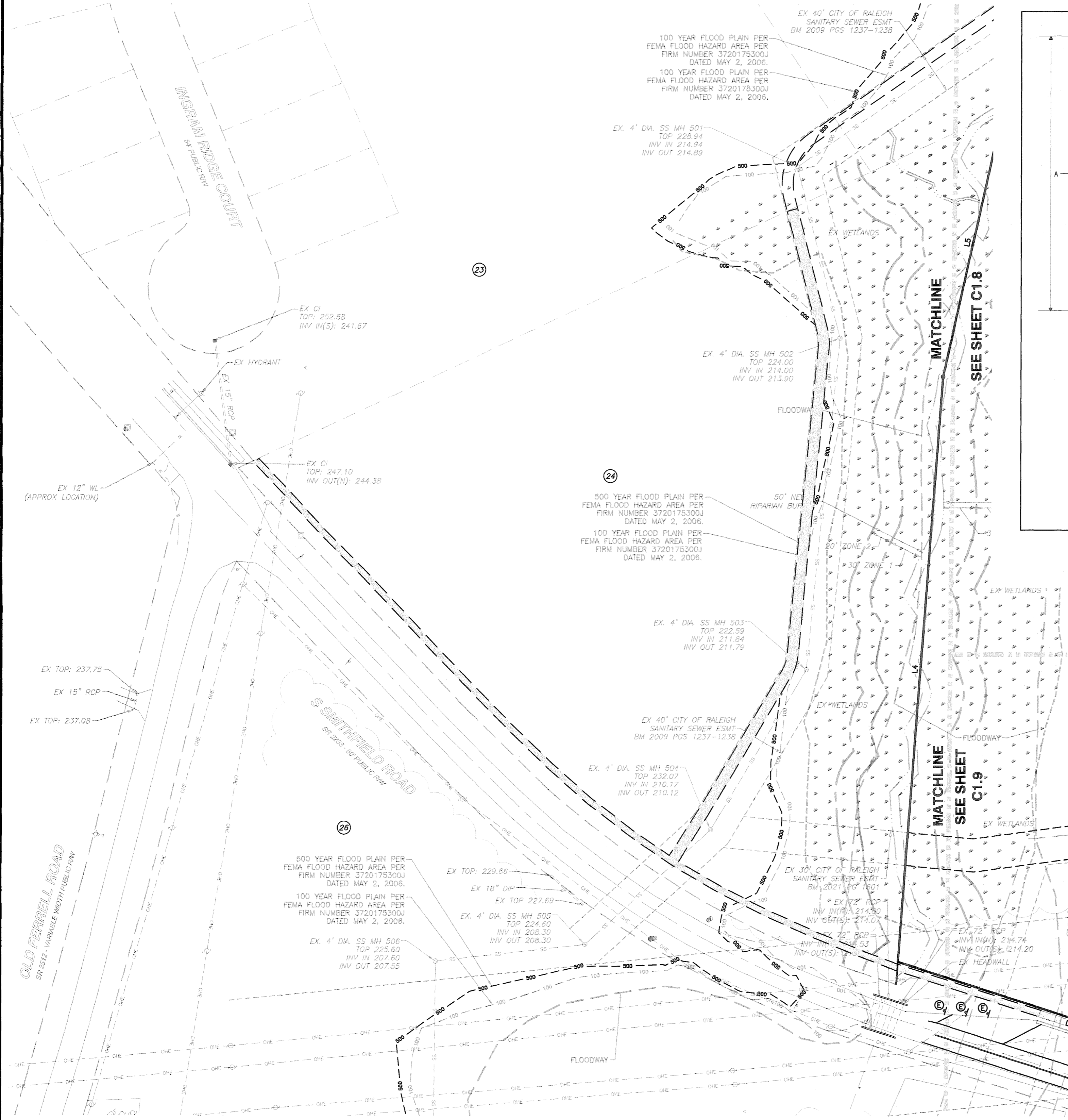
03-20097 09-07-2021
 JOB NO. DATE
 DRAWN BY
 MIXED USE AND AMENITY ENLARGEMENT
 SCALE: 1" = 30'
 CHK BY: MDB

VILLAGE GATE
 S. SMITHFIELD ROAD
 TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET C1.6



BASS, NIXON & KENNEDY, INC.
 CONSULTING ENGINEERS
 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919)851-4422 OR (800)354-1879 FAX: (919)851-8968
 CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)



SEE COVER SHEET FOR SITE DATA TABLE

SEE ROAD WIDENING PLAN SHEETS C4.13 - C4.17 FOR S SMITHFIELD ROAD AND MAILMAN ROAD STRIPING AND SIGNAGE.

TRAFFIC CONTROL NOTES

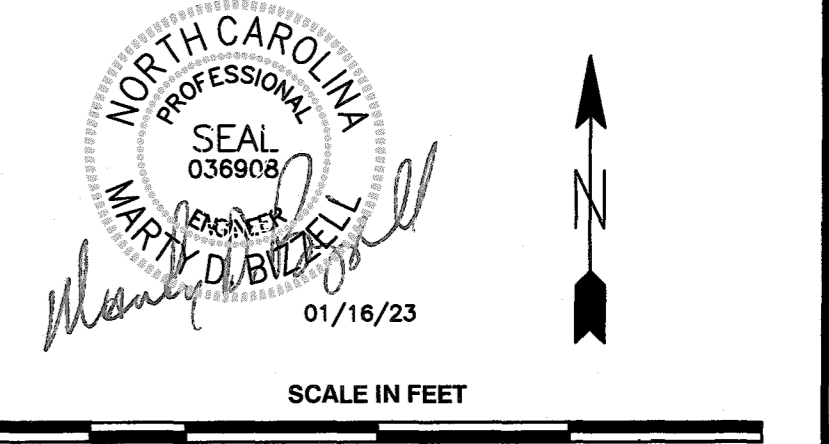
- ALL SITE SIGNAGE SHALL BE ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND NCDOT STANDARDS.

SIGN	MUTCD STD.	SIZE
STOP	R1-1	24"x24"
ACCESSIBLE PARKING	R7-8(A/D)	SEE DETAIL
PARKING RESTRICTION (SHALL READ "MAIL PARKING 15 MINUTE LIMIT")	R7-108	12"x18"
TEMP BARRICADE	SEE DETAIL 3.18 SHEET C5.1	
OBJECT MARKER	OM3	18"x18"
DO NOT ENTER	R5-1	30"x30"
PEDESTRIAN	W11-2	30"x30"
DOWNWARD DIAGONAL ARROW (MOUNT BELOW)	W16-7P	24"x12"
- ALL SIGNS SHALL BE MOUNTED WITH 5-FT MIN. VERTICAL CLEARANCE TO THE BOTTOM OF THE SIGN ON 2LB GALVANIZED STEEL U-CHANNEL POST SET IN 3FT DEEP x 12IN DIA. CONCRETE FOOTING.
- ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MUTCD AND NCDOT STANDARDS AND THE PROJECT SPECIFICATIONS.

MARKING	NCDOT STD.	SIZE	COLOR
PARKING SPACES	4IN		WHITE
DIRECTIONAL ARROWS	1205.08	STD.	WHITE
HIGH-VISIBILITY CROSSWALK	1205.07	STD.	WHITE
STANDARD CROSSWALK	1205.07	STD.	WHITE
STOP BAR	1205.01	STD.	WHITE
EDGE LINES	1205.01	4IN	WHITE
EDGE LINES	1205.01	4IN	YELLOW
DIAGONAL GORE LINE (>45MPH)	1205.09	12IN	WHITE/YELLOW
- ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC TYPE EXCEPT FOR PARKING SPACE WHICH MAY BE THERMOPLASTIC OR ALKYD-RESIN TYPE PAINT.

WETLANDS EXIST ON-SITE
FLOODPLAINS EXIST ON-SITE
NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF KNIGHTDALE AND NCDOT

a. **Town Certification.** This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
By: *[Signature]* Date: *2-1-2023*
Town Engineer
These plans are approved by the Town of Knightdale and serve as construction plans for this project.
By: *[Signature]* Date: *2-2-2023*
Administrator



BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
TELEPHONE: (919)851-4422 OR (800)954-1879 FAX: (919)851-8968
CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

VILLAGE GATE
S. SMITHFIELD ROAD
TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

ENLARGED SIGNAGE AND MARKING PLAN WEST

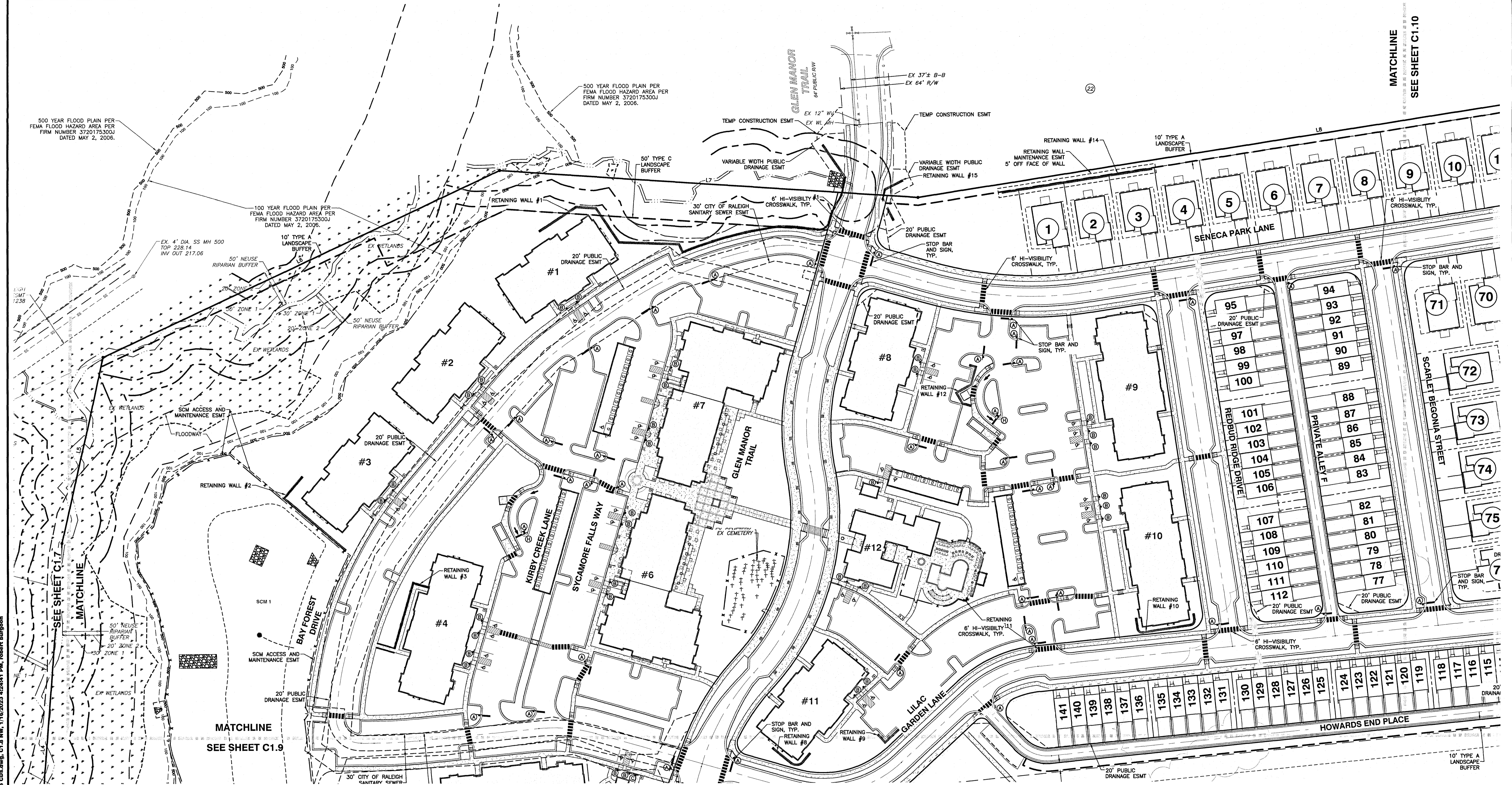
SCALE: 1" = 60'

SHEET C1.7

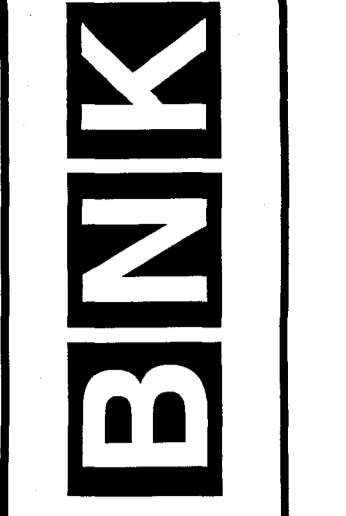
03-20097 09-07-2021 RAB DATE DRAWN BY
11-04-22 TOWN OF KNIGHTDALE COMMENTS RAB
09-01-22 TOWN OF KNIGHTDALE COMMENTS RAB
06-03-22 TOWN OF KNIGHTDALE COMMENTS RAB
02-25-22 TOWN OF KNIGHTDALE COMMENTS RAB

NO.	DATE	DESCRIPTION	BY
1			
2			

CHK BY: MOB



R:\2020\20097 - Knightdale Mixed Use\CIVIL\04 Construction\13 - 20097_Signage CDS.dwg, C:\B.N.W., 1/16/2023 4:26:41 PM, robert.burgess



BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919)851-4422 OR (800)354-1879 FAX: (919)851-8968
 CERTIFICATION NUMBERS: NCBEL (C-0110); NCBOLA (C-0267)

NO.	DATE	DESCRIPTION	BY
1	01-16-23	TOWN OF KNIGHTDALE COMMENTS	RAB
2	02-25-23	TOWN OF KNIGHTDALE COMMENTS	RAB
3	05-03-23	TOWN OF KNIGHTDALE COMMENTS	RAB
4	09-01-23	TOWN OF KNIGHTDALE COMMENTS	RAB
5	11-04-23	TOWN OF KNIGHTDALE COMMENTS	RAB
6	01-16-23	TOWN OF KNIGHTDALE COMMENTS	RAB

ENLARGED SIGNAGE AND MARKING PLAN EAST
 SCALE: 1" = 60'

VILLAGE GATE
S. SMITHFIELD ROAD
 TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET C1.8

SEE COVER SHEET FOR SITE DATA TABLE

SEE ROAD WIDENING PLAN SHEETS C4.13 - C4.17 FOR S SMITHFIELD ROAD AND MAILMAN ROAD STRIPING AND SIGNAGE.

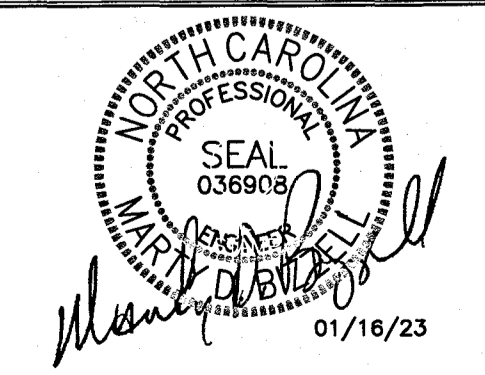
TRAFFIC CONTROL NOTES

- ALL SITE SIGNAGE SHALL BE ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND NCDOT STANDARDS.

SYMBOL	MUTCD STD.	SIZE
STOP	R1-1	24"x24"
ACCESSIBLE PARKING	R7-8(A/D)	SEE DETAIL
PARKING RESTRICTION (SHALL READ "MAIL PARKING 15 MINUTE LIMIT")	R7-10B	12"x18"
TEMP BARRICADE	SEE DETAIL 3.18 SHEET C5.1	
OBJECT MARKER	OM3	18"x18"
DO NOT ENTER	R5-1	30"x30"
PEDESTRIAN	W11-2	30"x30"
DOWNWARD DIAGONAL ARROW (MOUNT BELOW)	W16-7P	24"x12"
- ALL SIGNS SHALL BE MOUNTED WITH 5" MIN. VERTICAL CLEARANCE TO THE BOTTOM OF THE SIGN ON 2 1/2 GALVANIZED STEEL U-CHANNEL POST SET IN 3FT DEEP x 12IN DIA. CONCRETE FOOTING.
- ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MUTCD AND NCDOT STANDARDS AND THE PROJECT SPECIFICATIONS.

MARKING	NCDOT STD.	SIZE	COLOR
PARKING SPACES	---	4IN	WHITE
DIRECTIONAL ARROWS	1205.08	STD.	WHITE
HIGH-VISIBILITY CROSSWALK	1205.07	STD.	WHITE
STANDARD CROSSWALK	1205.07	STD.	WHITE
STOP BAR	1205.01	STD.	WHITE
EDGE LINES	1205.01	4IN	WHITE
EDGE LINES	1205.01	4IN	YELLOW
DIAGONAL GORE LINE (>45MPH)	1205.09	12IN	WHITE/YELLOW
- ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC TYPE EXCEPT FOR PARKING SPACES WHICH MAY BE THERMOPLASTIC OR ALKO-RESIN TYPE PAINT.

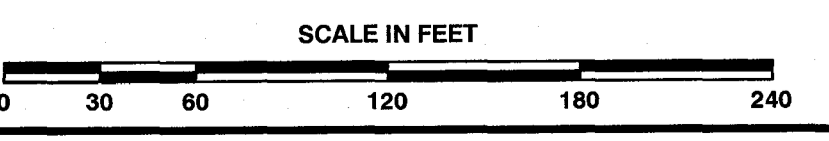
a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
 By: *[Signature]* Date: 2.1.2023
 Town Engineer
 These plans are approved by the Town of Knightdale and serve as construction plans for this project.
 By: *[Signature]* Date: 2.2.2023
 Administrator

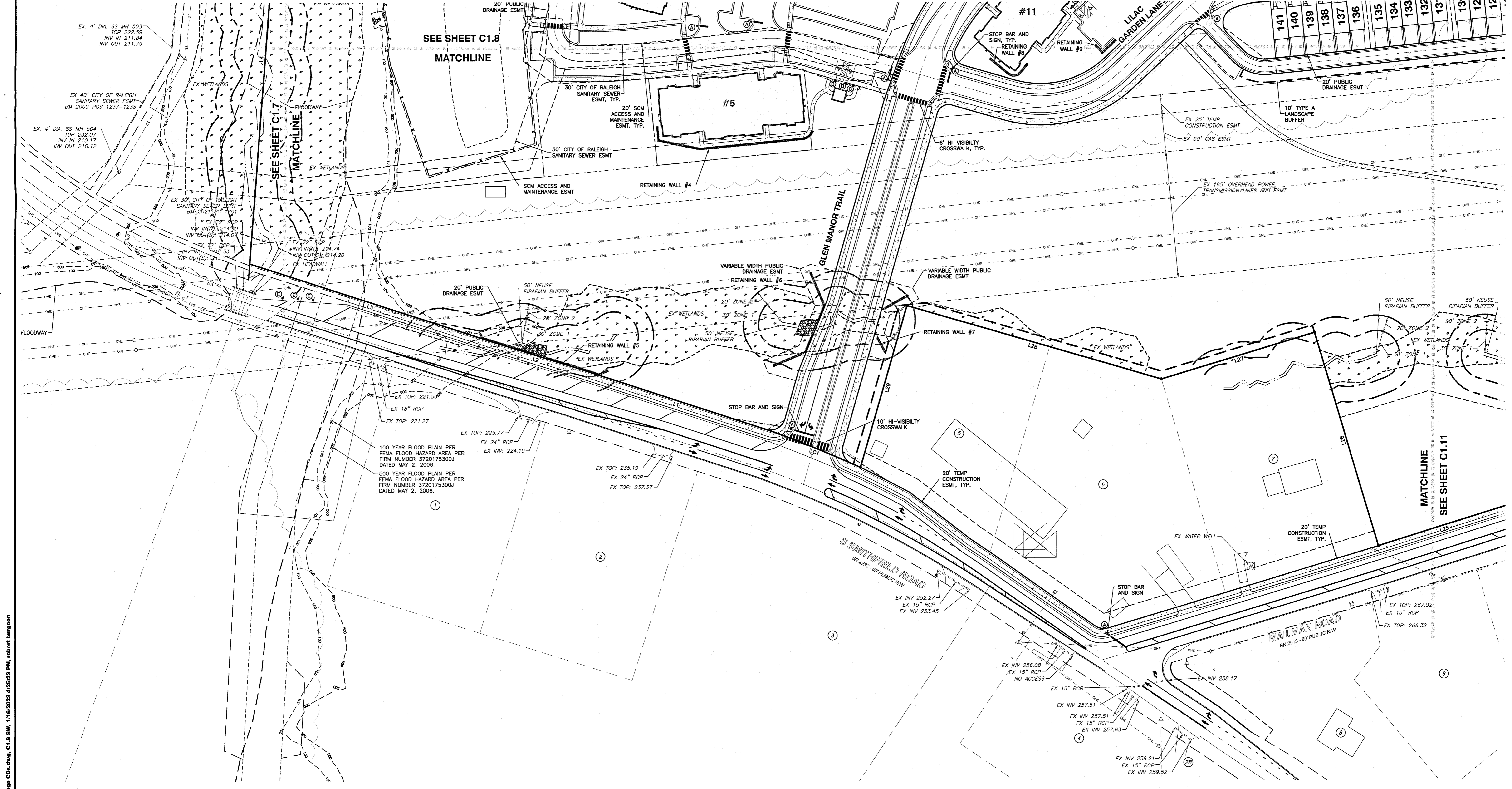


WETLANDS EXIST ON-SITE

FLOODPLAINS EXIST ON-SITE

NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF KNIGHTDALE AND NCDOT





R:\2020\20097 - Knightdale Mixed Use\CIVIL\04 Construction\13 - 20097_Signage CDs.dwg, C1.9 SW, 1/16/2023 4:25:23 PM, robert burgoon



BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919) 551-4422 OR (800) 354-1879 FAX: (919) 551-9886
 CERTIFICATION NUMBERS: NCBELS (C-0116); NCSOLA (C-0267)

NO.	DATE	DESCRIPTION	BY
6	01-16-23	TK COMMENTS SIGNATURE SET	RAB
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
3	06-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB

NO.	DATE	DESCRIPTION	BY
6	03-20-23	TK COMMENTS SIGNATURE SET	RAB
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
3	06-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB

ENLARGED SIGNAGE AND MARKING PLAN AND SOUTHWEST

SCALE: 1" = 60'

VILLAGE GATE
S. SMITHFIELD ROAD
 TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET **C1.9**

SEE COVER SHEET FOR SITE DATA TABLE

SEE ROAD WIDENING PLAN SHEETS C4.13 - C4.17 FOR S SMITHFIELD ROAD AND MAILMAN ROAD STRIPING AND SIGNAGE.

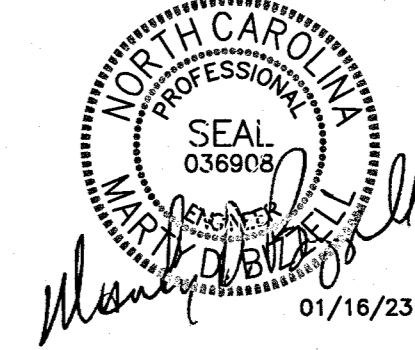
TRAFFIC CONTROL NOTES

- ALL SITE SIGNAGE SHALL BE ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND NCDOT STANDARDS.

NO.	SIGN	MUTCD STD.	SIZE
1	STOP	R1-1	24"x24"
2	ACCESSIBLE PARKING	R7-8(A/D)	SEE DETAIL
3	PARKING RESTRICTION (SHALL READ "MAIL PARKING 15 MINUTE LIMIT")	R7-10B	12"x18"
4	TEMP BARRICADE	SEE DETAIL 3.18 SHEET C5.1	
5	OBJECT MARKER	OM3	18"x18"
6	DO NOT ENTER	R5-1	30"x30"
7	PEDESTRIAN	W11-2	30"x30"
8	DOWNWARD DIAGONAL ARROW (MOUNT BELOW)	W16-7P	24"x12"
- ALL SIGNS SHALL BE MOUNTED WITH 5-FT MIN. VERTICAL CLEARANCE TO THE BOTTOM OF THE SIGN ON 2 1/2 GALVANIZED STEEL U-CHANNEL POST SET IN 3FT DEEP x 12IN DIA. CONCRETE FOOTING.
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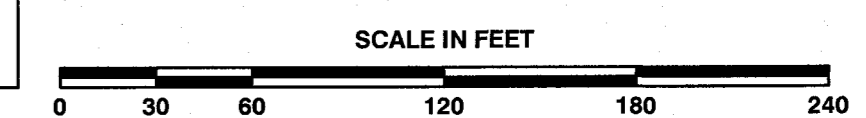
MARKING	NCDOT STD.	SIZE	COLOR
PARKING SPACES	----	4IN	WHITE
DIRECTIONAL ARROWS	1205.08	STD.	WHITE
HIGH-VISIBILITY CROSSWALK	1205.07	STD.	WHITE
STANDARD CROSSWALK	1205.07	STD.	WHITE
STOP BAR	1205.01	STD.	WHITE
EDGE LINES	1205.01	4IN	WHITE
EDGE LINES	1205.01	4IN	YELLOW
DIAGONAL GORE LINE (>45MPH)	1205.09	12IN	WHITE/YELLOW
- ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC TYPE EXCEPT FOR PARKING SPACE WHICH MAY BE THERMOPLASTIC OR ALKYD-RESIN TYPE PAINT.

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 By: *[Signature]* Date: 2-1-2023
 Town Engineer
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 By: *[Signature]* Date: 2-2-2023
 Administrator



WETLANDS EXIST ON-SITE
 FLOODPLAINS EXIST ON-SITE

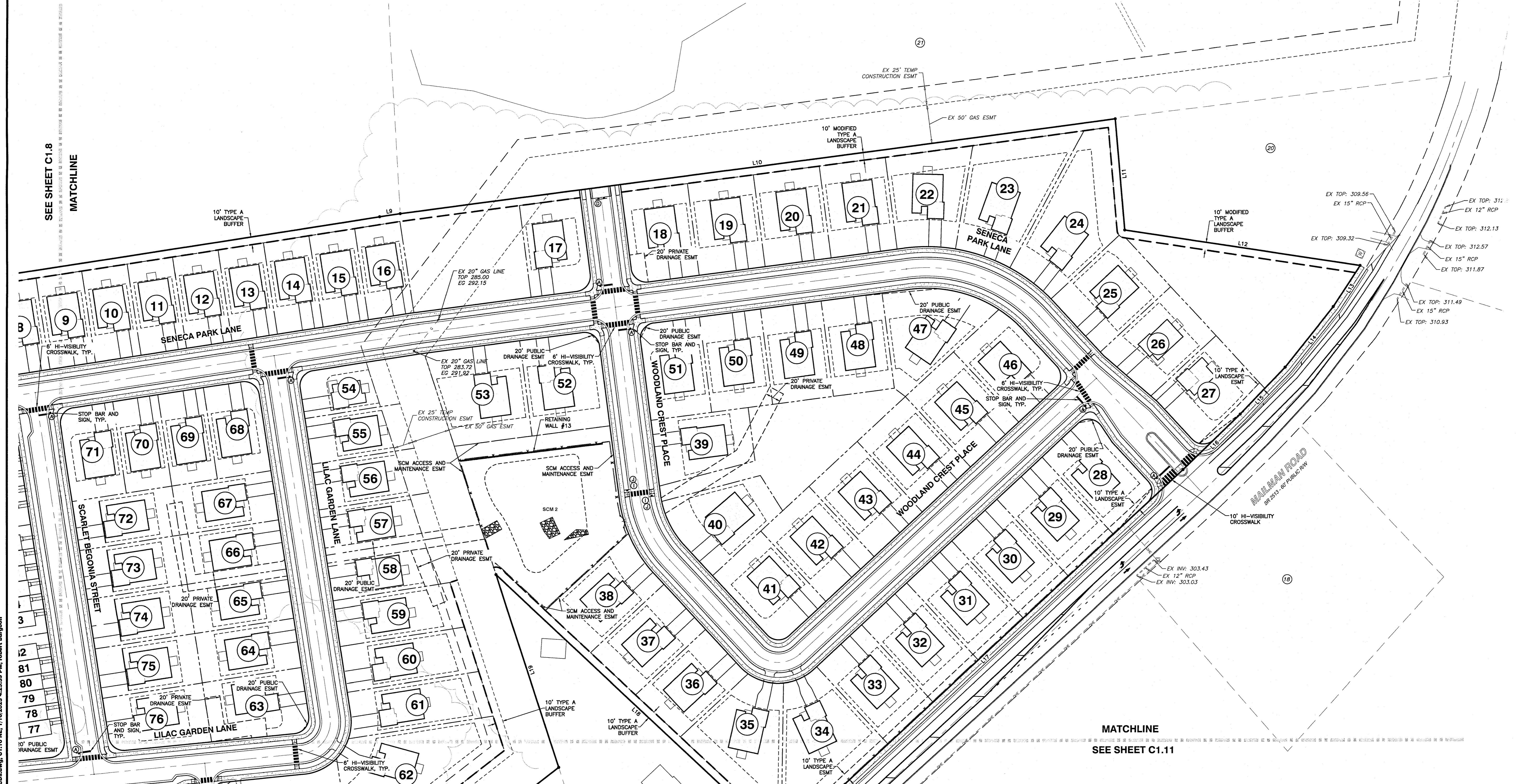
NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF KNIGHTDALE AND NCDOT



NO.	DATE	DESCRIPTION	BY
6	01-16-23	TAK COMMENTS SIGNATURE SET	RAB
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
3	06-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB

RAB	DATE	DESCRIPTION	CHK BY: MDR
03-20097	09-07-2021	ENLARGED SIGNAGE AND MARKING PLAN AND NORTHEAST	

SCALE: 1" = 60'



SEE SHEET C1.8
MATCHLINE

MATCHLINE
SEE SHEET C1.11

SEE COVER SHEET FOR SITE DATA TABLE

SEE ROAD WIDENING PLAN SHEETS
C4.13 - C4.17 FOR S SMITHFIELD ROAD AND
MAILMAN ROAD STRIPING AND SIGNAGE.

TRAFFIC CONTROL NOTES

- ALL SITE SIGNAGE SHALL BE ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND NCDOT STANDARDS.

SIGN	MUTCD STD.	SIZE
Ⓢ STOP	R1-1	24"x24"
ⓐ ACCESSIBLE PARKING	R7-8(A/D)	SEE DETAIL
ⓐ PARKING RESTRICTION	R7-10B	12"x18"
ⓐ TEMP BARRIAGE		SEE DETAIL 3.18 SHEET C5.1
ⓐ OBJECT MARKER	OM3	18"x18"
ⓐ DO NOT ENTER	R5-1	30"x30"
ⓐ PEDESTRIAN	W11-2	30"x30"
ⓐ DOWNWARD DIAGONAL ARROW (MOUNT BELOW)	W16-7P	24"x12"
- ALL SIGNS SHALL BE MOUNTED WITH 5'-FT MIN. VERTICAL CLEARANCE TO THE BOTTOM OF THE SIGN ON 2 1/2" GALVANIZED STEEL U-CHEMEL POST SET IN 3FT DEEP x 12IN DIA. CONCRETE FOOTING.
- ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MUTCD AND NCDOT STANDARDS AND THE PROJECT SPECIFICATIONS.

MARKING	NCDOT STD.	SIZE	COLOR
PARKING SPACES	1205.08	4IN	WHITE
DIRECTIONAL ARROWS	1205.07	STD.	WHITE
HIGH-VISIBILITY CROSSWALK	1205.01	STD.	WHITE
STANDARD CROSSWALK	1205.07	STD.	WHITE
STOP BAR	1205.01	STD.	WHITE
EDGE LINES	1205.01	4IN	WHITE
EDGE LINES	1205.01	4IN	YELLOW
DIAGONAL GORE LINE (>45MPH)	1205.09	12IN	WHITE/YELLOW
- ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC TYPE EXCEPT FOR PARKING SPACE WHICH MAY BE THERMOPLASTIC OR ALKYL-RESIN TYPE PAINT.

WETLANDS EXIST ON-SITE
FLOODPLAINS EXIST ON-SITE

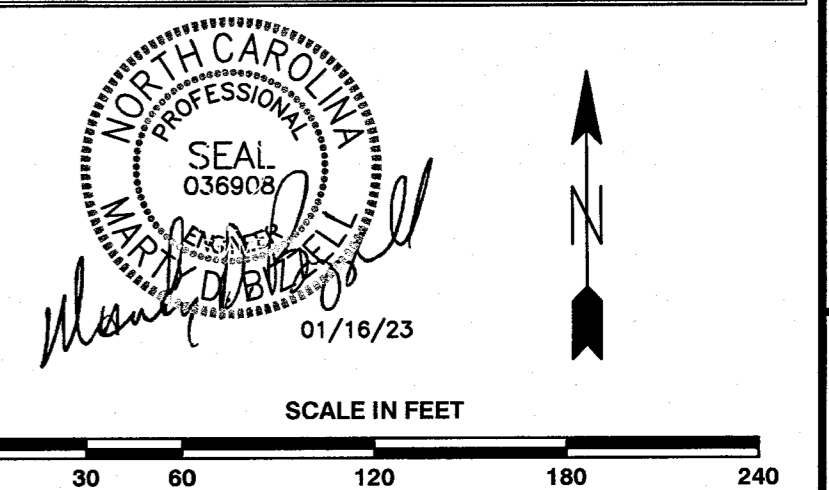
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a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

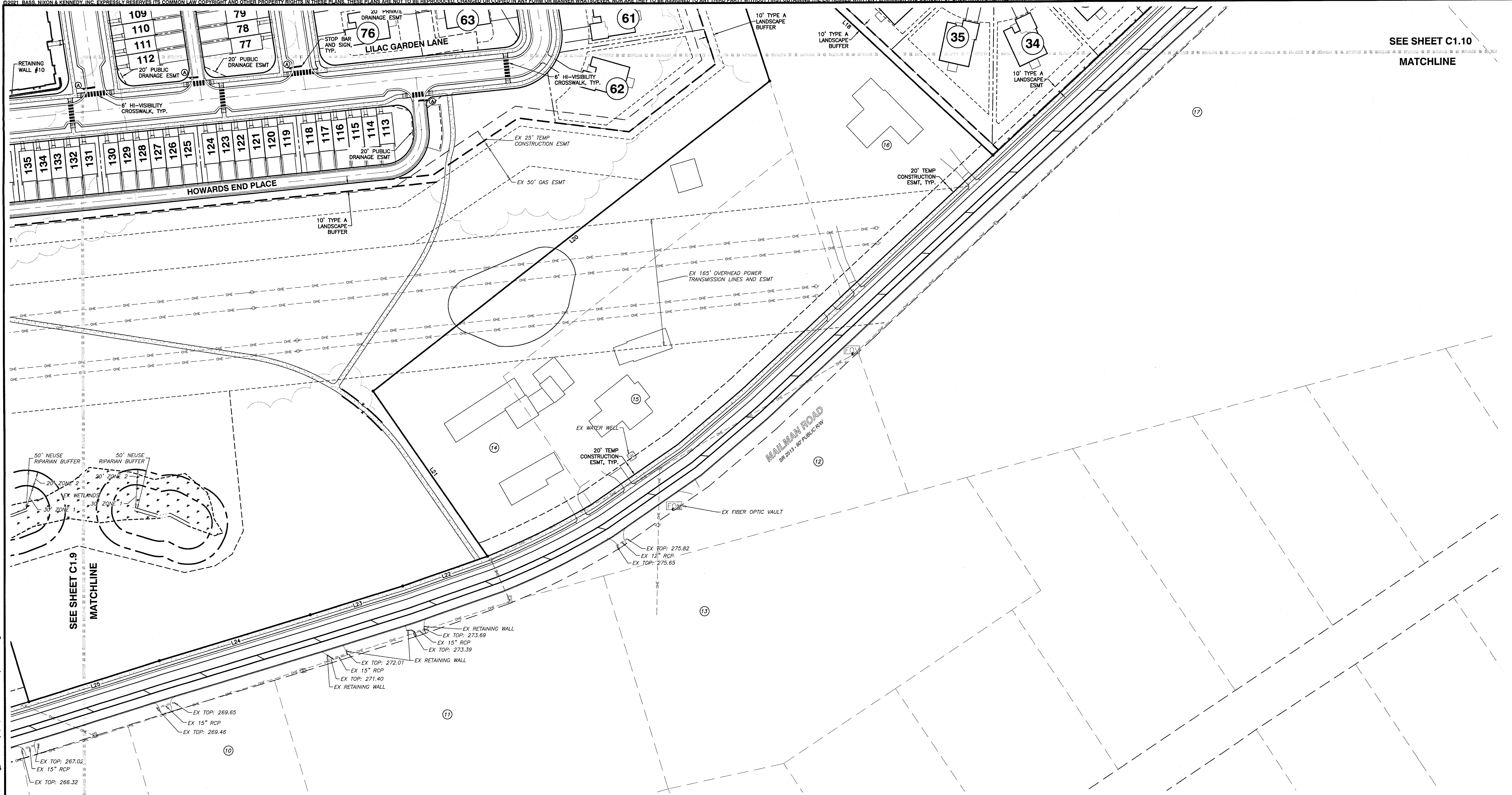
By: *SAMM* Date: 2-1-2023
Town Engineer

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By: *H.S. LO* Date: 2-2-2023
Administrator



SCALE IN FEET
0 30 60 120 180 240



SEE SHEET C1.10
MATCHLINE

SEE SHEET C1.9
MATCHLINE

SEE COVER SHEET FOR SITE DATA TABLE

SEE ROAD WIDENING PLAN SHEETS
C4.13 - C4.17 FOR S SMITHFIELD ROAD AND
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Ⓒ PARKING RESTRICTION (SHALL READ "NO PARKING 15 MINUTE LIMIT")	R7-10B	12"x18"
Ⓓ TEMP BARRICADE	SEE DETAIL 3.18 SHEET C5.1	
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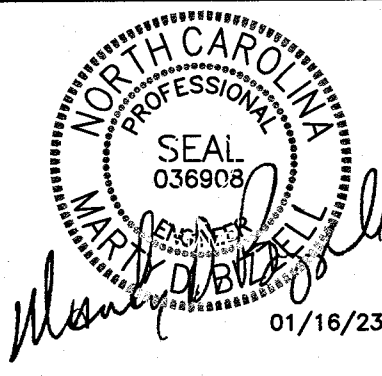
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Town Engineer

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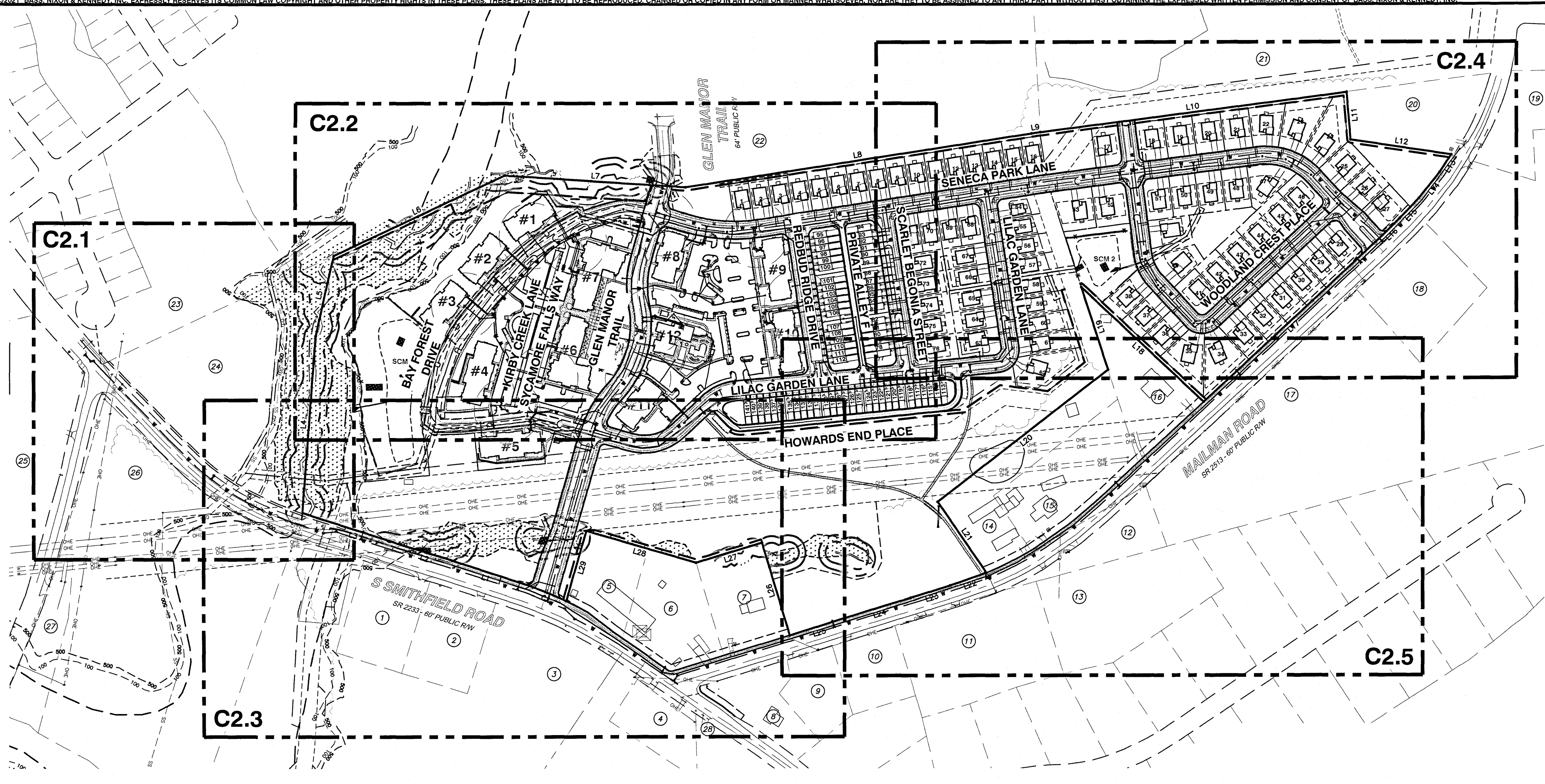
BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
6510 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
TELEPHONE: (919) 881-1822 OR (919) 881-9778 FAX: (919) 881-8988
CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

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03-20097 08-07-2021 RAB DATE DRAWN BY
ENLARGED SIGNAGE AND MARKING PLAN
SOUTHEAST
SCALE: 1" = 60'
CHK BY: MDB

VILLAGE GATE
S. SMITHFIELD ROAD
TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET
C1.11



1	HOLMQUIST, DONNIE E HOLMQUIST, ELAINE D PIN 1753-66-3579 DB 2974 PG 589 USE SINGLE FAMILY ZONING RT	16	OLIVER, R LINWOOD OLIVER, MARY K PIN 1753-67-6285 DB 9511 PG 733 USE SINGLE FAMILY ZONING RT
2	HOLMQUIST, ANNETTE I PIN 1753-66-5562 DB 16191 PG 653 USE SINGLE FAMILY ZONING RT	17	POPE, RICHARD NELSON PIN 1753-67-3294 DB 13170 PG 157 USE AGRICULTURE ZONING RT
3	HOLMQUIST, DONNIE HOLMQUIST, ANNETTE PIN 1753-66-5159 DB 1623 PG 625 USE AGRICULTURE ZONING RT	18	POPE, RICHARD NELSON PIN 1753-67-5529 DB 13170 PG 157 USE SINGLE FAMILY ZONING RT
4	JONES, BARBARA W PIN 1753-76-2216 DB 3632 PG 581 USE SINGLE FAMILY ZONING RT	19	ASKINS, AARON D ASKINS, SHAWNAL PIN 1753-98-8150 DB 16486 PG 1653 USE SINGLE FAMILY ZONING GR8
5	WALL, FREDDY V PIN 1753-76-0637 DB 3931 PG 492 USE SINGLE FAMILY ZONING HB	20	PLEDGER, DREW TRENT OWEN, VIRGINIA DEE PIN 1753-99-5009 DB 16040 PG 185 USE SINGLE FAMILY ZONING GR8
6	WALL, FREDDY V PIN 1753-76-2537 DB 6447 PG 188 USE ORF CROSS ZONING HB	21	POPE, ROBERT HOLMQUIST, DONNIE ERIC PIN 1753-66-5579 DB 17-E PG 2129 USE SINGLE FAMILY ZONING RT
7	WALL, FREDDY WALL, DIANE PIN 1753-76-4632 DB 6447 PG 188 USE SINGLE FAMILY ZONING UR-12	22	GLENMERE LLC PIN 1753-79-0603 DB 15831 PG 2174 USE VACANT ZONING GR8
8	CALDWELL, JAMES L CLADWELL, BRENDA S PIN 1753-76-5265 DB 3446 PG 284 USE SINGLE FAMILY ZONING RT	23	GLENMERE EAST HOMEOWNERS ASSOCIATION, INC. PIN 1753-57-7756 DB 17981 PG 230 USE HOA ZONING UR-12
9	CALDWELL, JAMES L CLADWELL, BRENDA S PIN 1753-76-5365 DB 5236 PG 803 USE MANUFACTURED HOME ZONING RT	24	LOT 1 SMITHFIELD PUD LLC PIN 1753-57-9238 DB 18705 PG 1151 BM 2021 PG 1601 USE VACANT ZONING RT
10	MILLER, MICHAEL CAMERON III PIN 1753-76-3452 DB 16167 PG 1332 USE MOBILE HOME ZONING RT	25	POPE, RICHARD N PIN 1753-37-8034 DB 1495 PG 1495 USE SINGLE FAMILY ZONING RT
11	JARREL, ERVIN B JARREL, GLORIA P PIN 1753-86-2427 DB 2158 PG 8 USE SINGLE FAMILY ZONING GR3	26	G&F PROPERTIES LLC PIN 1753-56-6567 DB 8139 PG 672 BM 2021 PG 288 USE AGRICULTURE ZONING RT
12	POPE, ROBERT L PIN 1753-86-5891 DB 4894 PG 131 USE MANUFACTURED HOME ZONING GR3	27	DUKE ENERGY PROGRESS PIN 1753-56-3439 DB 15289 PG 2437 USE STATE ASSESSED ZONING RT
13	POPE, ROBERT L PIN 1753-86-6509 DB 2218 PG 49 USE VACANT ZONING GR3	28	CRAIG WEST RENTALS LLC PIN 1753-65-9289 DB 14965 PG 1746 USE SINGLE FAMILY ZONING HB
14	COLE, HEATHER LEE PIN 1753-86-1961 DB 17626 PG 2508 USE SINGLE FAMILY ZONING RT		
15	MILLER, MICHAEL CAMERON II PIN 1753-86-4948 DB 17626 PG 2378 USE SINGLE FAMILY ZONING RT		

BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
8310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
TELEPHONE: (919) 851-4422 OR (800) 354-1879 FAX: (919) 851-8968
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5	02-28-23	TOWN OF KNIGHTDALE COMMENTS	RAB

CITY OF RALEIGH UTILITY NOTES

- ALL MATERIALS & CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH CITY OF RALEIGH DESIGN STANDARDS, DETAILS & SPECIFICATIONS (REFERENCE: CORPUD HANDBOOK, CURRENT EDITION)
- 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 WATERLINE 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 WATERLINE 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 24" MIN. VERTICAL SEPARATION AT ALL SANITARY SEWER & RCP STORM DRAIN CROSSINGS. WHERE ADEQUATE SEPARATIONS CANNOT BE ACHIEVED, SPECIFY DIP MATERIALS & A CONCRETE CRADLE HAVING 6" MIN. CLEARANCE (PER CORPUD DETAILS W-41 & S-49)
 - ALL OTHER UNDERGROUND UTILITIES SHALL CROSS WATER & SEWER FACILITIES WITH 18" MIN. VERTICAL SEPARATION REQUIRED
- ANY NECESSARY FIELD REVISIONS ARE SUBJECT TO REVIEW & APPROVAL OF AN AMENDED PLAN &/OR PROFILE BY THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT PRIOR TO CONSTRUCTION
- CONTRACTOR SHALL MAINTAIN CONTINUOUS WATER & SEWER SERVICE TO EXISTING RESIDENCES & BUSINESSES THROUGHOUT CONSTRUCTION OF PROJECT. ANY NECESSARY SERVICE INTERRUPTIONS SHALL BE PRECEDED BY A 24 HOUR ADVANCE NOTICE TO THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT
- 3.0' MINIMUM COVER IS REQUIRED ON ALL WATER MAINS & SEWER FORCEMAINS. 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 1/2" COPPER WATER SERVICES WITH METERS LOCATED AT ROW OR WITHIN A 2'X2' WATERLINE EASEMENT IMMEDIATELY ADJACENT. NOTE: IT IS THE APPLICANT'S RESPONSIBILITY TO PROPERLY SIZE THE WATER SERVICE FOR EACH CONNECTION TO PROVIDE ADEQUATE FLOW & PRESSURE
- INSTALL 4" PVC SEWER SERVICES @ 1.0% MINIMUM GRADE WITH CLEANOUTS LOCATED AT ROW OR EASEMENT LINE & SPACED EVERY 75 LINEAR FEET MAXIMUM
- PRESSURE REDUCING VALVES ARE REQUIRED ON ALL WATER SERVICES EXCEEDING 80 PSI; BACKWATER VALVES ARE REQUIRED ON ALL SANITARY SEWER SERVICES HAVING BUILDING DRAINS LOWER THAN 1.0' ABOVE THE NEXT UPSTREAM MANHOLE
- ALL ENVIRONMENTAL PERMITS APPLICABLE TO THE PROJECT MUST BE OBTAINED FROM NCDOW, 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 CORPUD FOG PROGRAM COORDINATOR PRIOR TO ISSUANCE OF A BUILDING PERMIT. CONTACT TIM BEASLEY AT (919) 996-2334 OR JIMOTHY.BEASLEY@RALEIGHNC.GOV FOR MORE INFORMATION
- CROSS-CONNECTION CONTROL PROTECTION DEVICES ARE REQUIRED BASED ON DEGREE OF HEALTH HAZARD INVOLVED AS LISTED IN APPENDIX-B OF THE RULES GOVERNING PUBLIC WATER SYSTEMS IN NORTH CAROLINA. THESE GUIDELINES ARE THE MINIMUM REQUIREMENTS. THE DEVICES SHALL MEET AMERICAN SOCIETY OF SANITARY ENGINEERING (ASSE) STANDARDS OR BE ON THE UNIVERSITY OF SOUTHERN CALIFORNIA APPROVAL LIST. THE DEVICES SHALL BE INSTALLED AND TESTED (BOTH INITIAL AND PERIODIC TESTING THEREAFTER) IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS OR THE LOCAL CROSS-CONNECTION CONTROL PROGRAM, WHICHEVER IS MORE STRINGENT. CONTACT JOANIE HARTLEY AT (919) 996-5923 OR JOANIE.HARTLEY@RALEIGHNC.GOV FOR MORE INFORMATION

BACKFLOW PREVENTION DEVICES ARE REQUIRED FOR ALL FIRE LINES, ALL IRRIGATION LINES (REGARDLESS OF METER SIZE), AS WELL AS ANY DOMESTIC WATER SERVICES 1" AND LARGER. THE BACKFLOW SHALL BE INSTALLED NO MORE THAN 10' FROM THE METER IN A VISIBLE LOCATION.

ATTENTION CONTRACTORS
The Construction Contractor responsible for the extension of water, sewer, and/or reuse, as approved in these plans, is responsible for contacting the Public Utilities Department at (919) 996-4540 at least twenty four hours prior to beginning any of their construction.

Failure to notify both City Departments in advance of beginning construction, will result in the issuance of monetary fines, and require installation of any water or sewer facilities not inspected as a result of this notification failure.

Failure to call for Inspection, Install a Downstream Plug, have Permitted Plans on the Jobsite, or any other Violation of City of Raleigh Standards will result in a Fine and Possible Exclusion from future work in the City of Raleigh.

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SITE PERMITTING APPROVAL
Water and Sewer Permits (if applicable)

The City of Raleigh consents to the connection and extension of the City's Public Sewer System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook, City of Raleigh Public Utilities Department Permit # - S-4916

The City of Raleigh consents to the connection and extension of the City's Public Water System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook, City of Raleigh Public Utilities Department Permit # - W-3847

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

City of Raleigh Public Utilities Department Permit # - - - - -

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

Electronic Approval: This approval is being issued electronically. This approval is valid only upon the signature of a City of Raleigh Review Officer below. The City will retain a copy of the approved plans. Any work authorized by this approval must proceed in accordance with the plans kept on file with the City. This electronic approval may not be edited once issued. Any modification to this approval once issued will invalidate this approval.

City of Raleigh Development Approval _____ Cydney S. Terry
Raleigh Water Review Officer

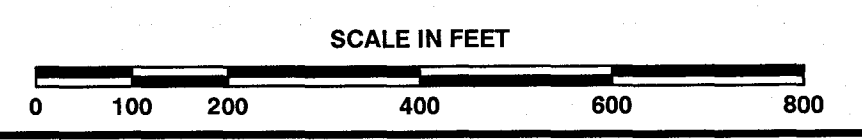
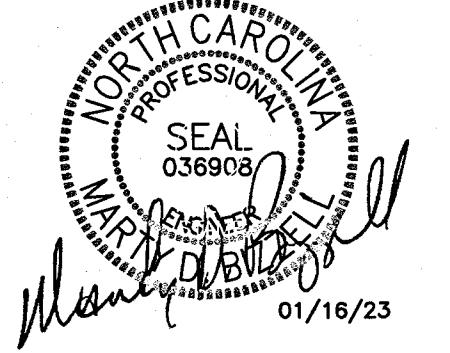
01/16/23

a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: Samu Date: 2-1-2023
Town Engineer

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By: Lo Lo Date: 2-2-2023
Administrator

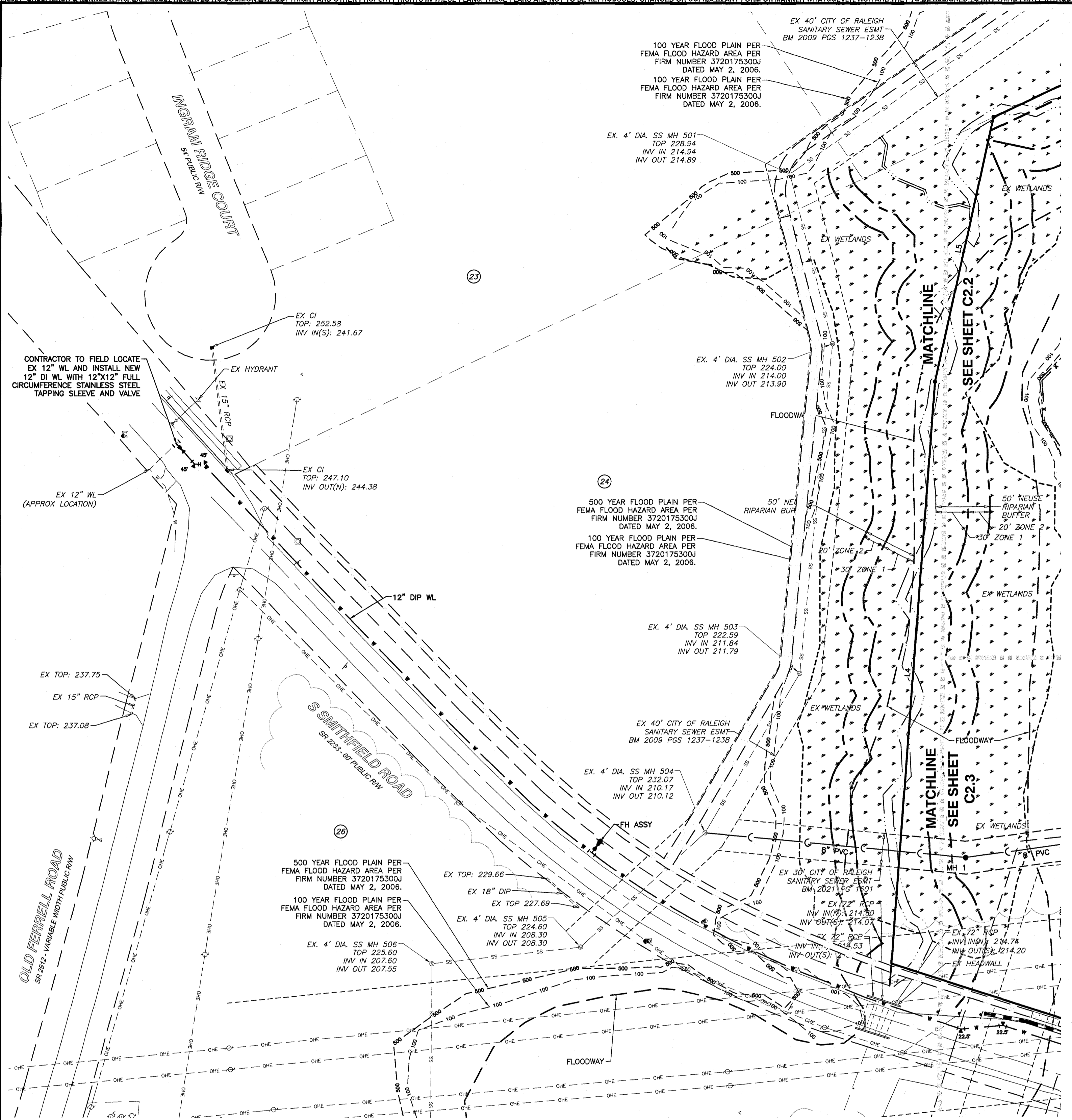


R:\2020\20097 - Knightdale Mixed Use\CIVIL\04 Construction\03 - 20097 - Utility Cbs.dwg, C2.0, 1/16/2023 10:57:33 AM, robert burgoon

VILLAGE GATE
S. SMITHFIELD ROAD
TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

OVERALL UTILITY PLAN
CHK BY: MDB
SCALE: 1" = 200'

SHEET C2.0
TOWN OF KNIGHTDALE PROJECT NO. PUD CASE NO. ZMA-1-21



R:\2020\20097 - Knightdale Mixed Use\DWG\03 - 20097_Utility Cds.dwg, C2.1 W, 1/16/2023 11:02:23 AM, robert burgeon

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SITE PERMITTING APPROVAL

Water and Sewer Permits (if applicable)

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The City of Raleigh consents to the connection and extension of the City's **Public Water System** as shown on this plan. The material and Construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. **City of Raleigh Public Utilities Department Permit # - W-3847**

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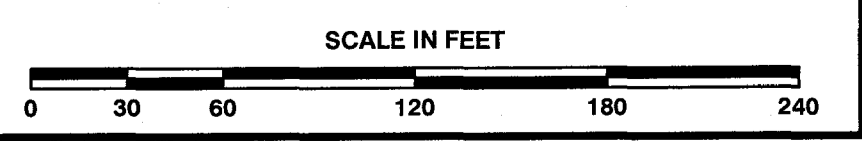
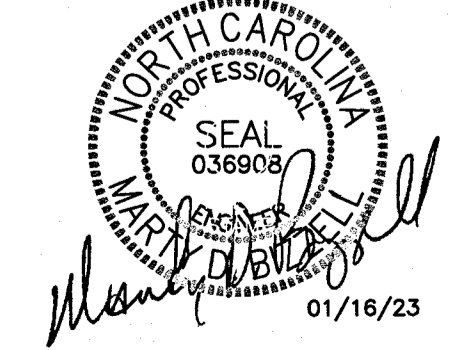
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City of Raleigh Development Approval: Cyndee S. Terry 01/16/23
 Raleigh Water Review Officer

a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
 By: S. Allen Date: 2-1-2023
 Town Engineer
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 By: W. W. Date: 2-2-2023
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3	06-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB

VILLAGE GATE
S. SMITHFIELD ROAD
 TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

ENLARGED UTILITY PLAN WEST

SCALE: 1" = 60'

CHK BY: MDR

SHEET **C2.1**

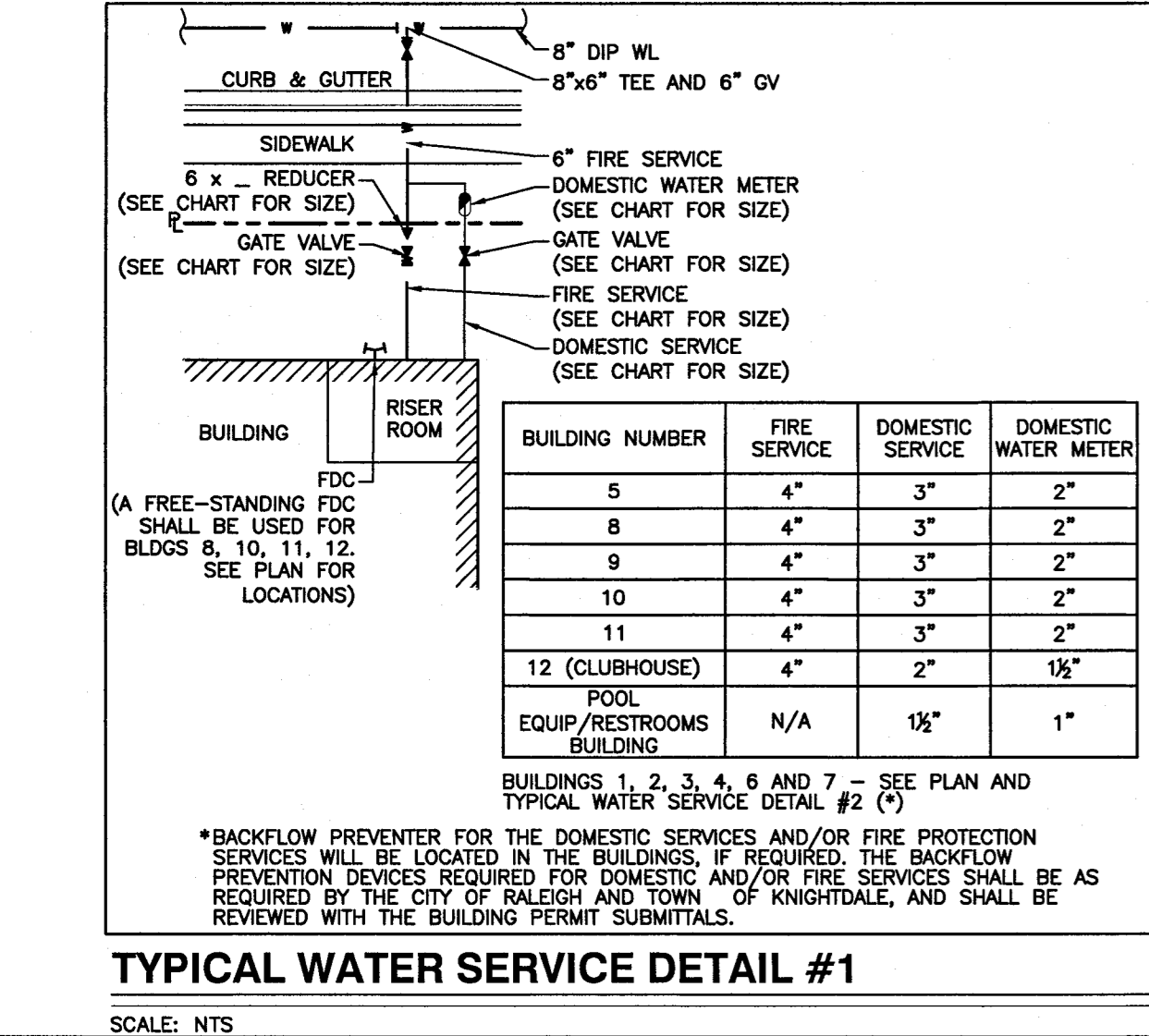
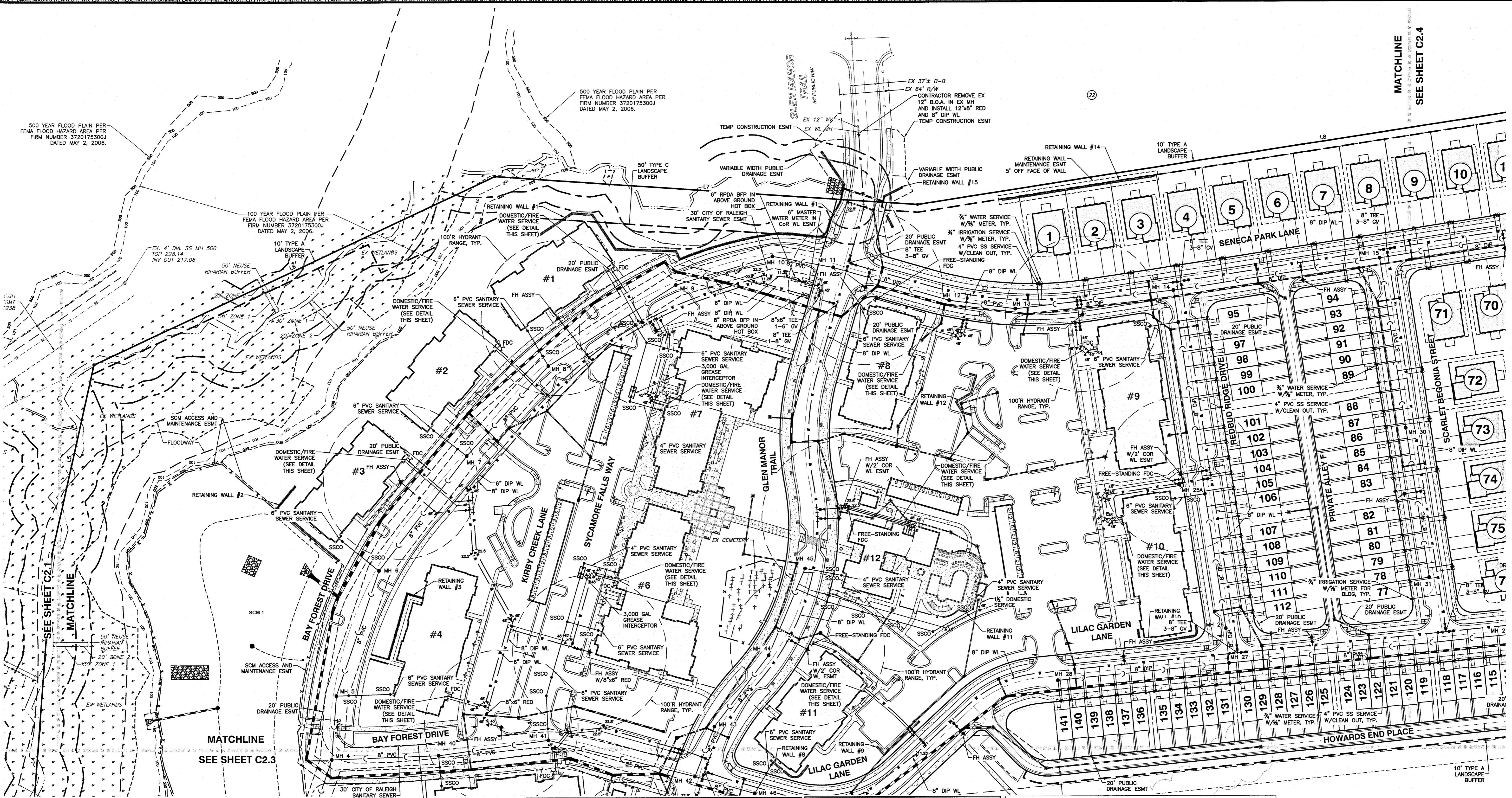


BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919) 551-4422 OR (800) 354-1879 FAX: (919) 551-6868
 CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

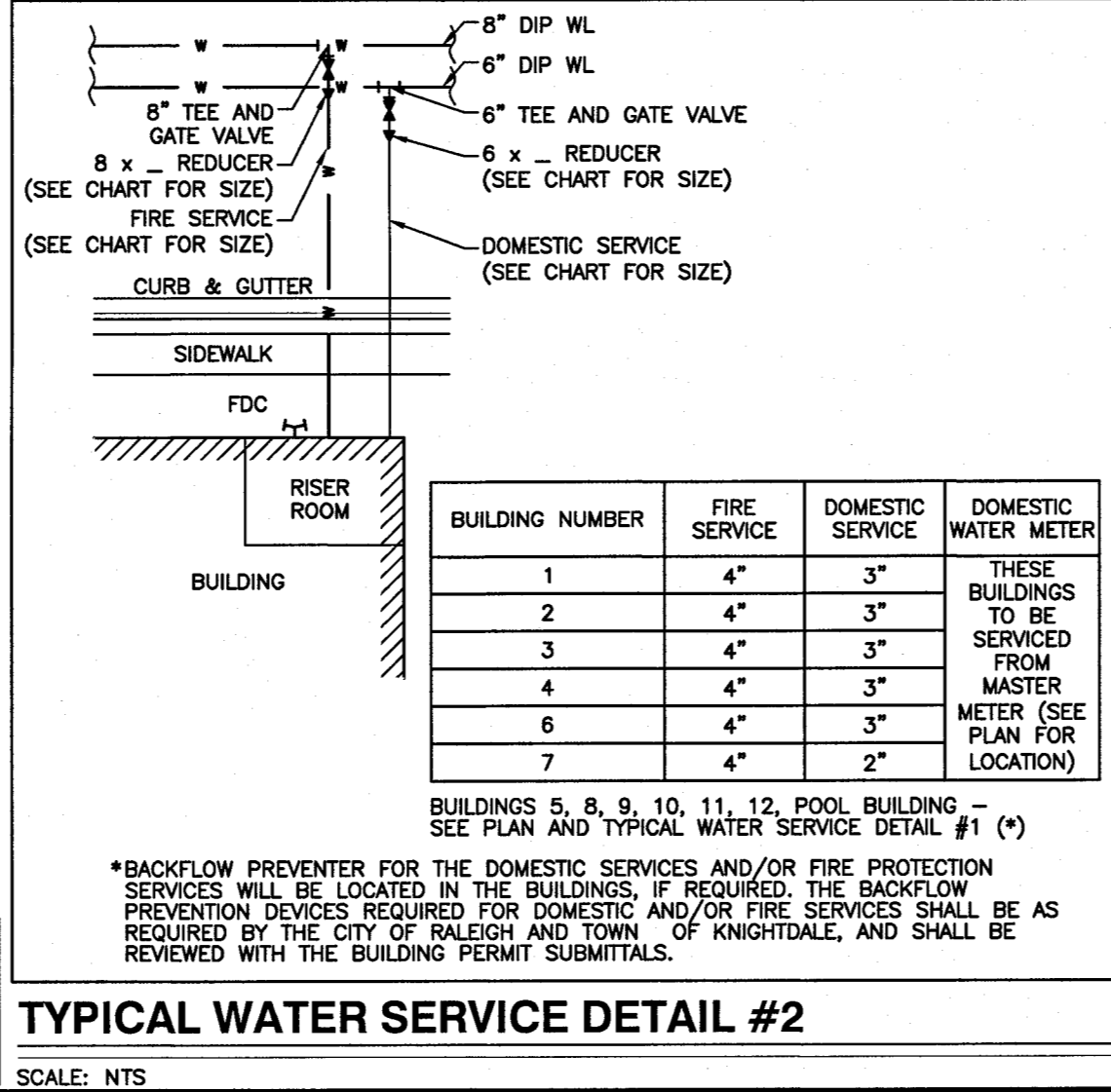
NO.	DATE	DESCRIPTION	BY
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2	03-25-2021	TOWN OF KNIGHTDALE COMMENTS	RAB
3	05-01-2021	TOWN OF KNIGHTDALE COMMENTS	RAB
4	06-03-2021	TOWN OF KNIGHTDALE COMMENTS	RAB
5	09-07-2021	TOWN OF KNIGHTDALE COMMENTS	RAB
6	01-16-2023	TOWN OF KNIGHTDALE COMMENTS	RAB

VILLAGE GATE
 S. SMITHFIELD ROAD
 TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

ENLARGED UTILITY PLAN EAST
 SCALE: 1" = 60'



BACKFLOW PREVENTERS				
BUILDING NUMBER	WATER SERVICE	BACKFLOW TYPE	SIZE	MODEL #
BLDG 1	Domestic Cold Water	ASSE 1013 RPZ	3"	ZURN WILKINS 375-0271 /WATTS 994-029
BLDG 2	Domestic Cold Water	ASSE 1013 RPZ	3"	ZURN WILKINS 375-0271 /WATTS 994-029
BLDG 3	Domestic Cold Water	ASSE 1013 RPZ	3"	ZURN WILKINS 375-0271 /WATTS 994-029
BLDG 4	Domestic Cold Water	ASSE 1013 RPZ	3"	ZURN WILKINS 375-0271 /WATTS 994-029
BLDG 5	Domestic Cold Water	ASSE 1013 RPZ	3"	ZURN WILKINS 375-0271 /WATTS 994-029
BLDG 6	Domestic Cold Water	ASSE 1013 RPZ	4"	ZURN WILKINS 375-0271 /WATTS 994-029
BLDG 7	Domestic Cold Water	ASSE 1013 RPZ	4"	ZURN WILKINS 375-0271 /WATTS 994-029
BLDG 8	Domestic Cold Water	ASSE 1013 RPZ	3"	ZURN WILKINS 375-0271 /WATTS 994-029
BLDG 9	Domestic Cold Water	ASSE 1013 RPZ	3"	ZURN WILKINS 375-0271 /WATTS 994-029
BLDG 10	Domestic Cold Water	ASSE 1013 RPZ	3"	ZURN WILKINS 375-0271 /WATTS 994-029
BLDG 11	Domestic Cold Water	ASSE 1013 RPZ	3"	ZURN WILKINS 375-0271 /WATTS 994-029
BLDG 12	Domestic Cold Water	ASSE 1013 RPZ	2"	ZURN WILKINS 375-X271 /WATTS 1109
BLDG 12A	Domestic Cold Water	ASSE 1013 RPZ	1.5"	ZURN WILKINS 375-X271 /WATTS 1109



ATTENTION CONTRACTORS
 The Construction Contractor responsible for the extension of water, sewer, and/or gas, as approved in these plans, is responsible for contacting the Public Utilities Department at (919) 996-4540 at least twenty four hours prior to beginning any of their construction.

Failure to notify both City Departments in advance of beginning construction, will result in the issuance of monetary fines, and require installation of any water or sewer facilities not inspected as a result of this notification failure.

Failure to call for inspection, install a Downstream Plug, have Permitted Plans on the Jobsite, or any other Violation of City of Raleigh Standards will result in a Fine and Possible Exclusion from future work in the City of Raleigh.

SITE PERMITTING APPROVAL

Water and Sewer Permits (if applicable)
 The City of Raleigh consents to the connection and extension of the City's Public Sewer System as shown on this plan. The material and Construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # - S-4916

The City of Raleigh consents to the connection and extension of the City's Public Water System as shown on this plan. The material and Construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # - W-3847

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

City of Raleigh Public Utilities Department Permit # -

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

Electronic Approval: This approval is being issued electronically. This approval is valid only upon the signature of a City of Raleigh Review Officer below. The City will retain a copy of the approved plans. Any work authorized by this approval must proceed in accordance with the plans kept on file with the City. This electronic approval may not be edited once issued. Any modification to this approval once issued will invalidate this approval.

City of Raleigh Development Approval _____ Cydney S. Terry
 Raleigh Water Review Officer

4. **Town Certification.** This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

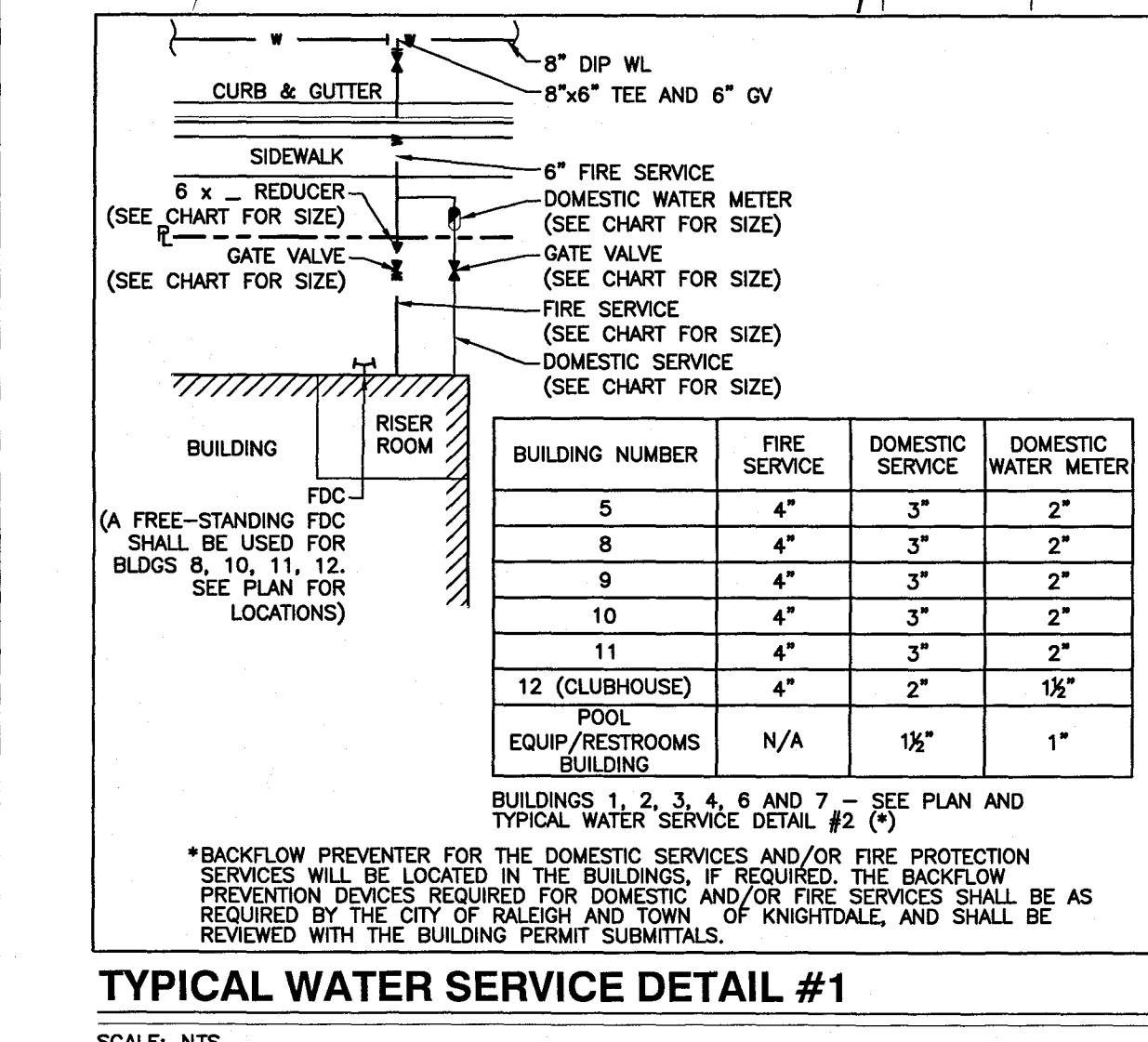
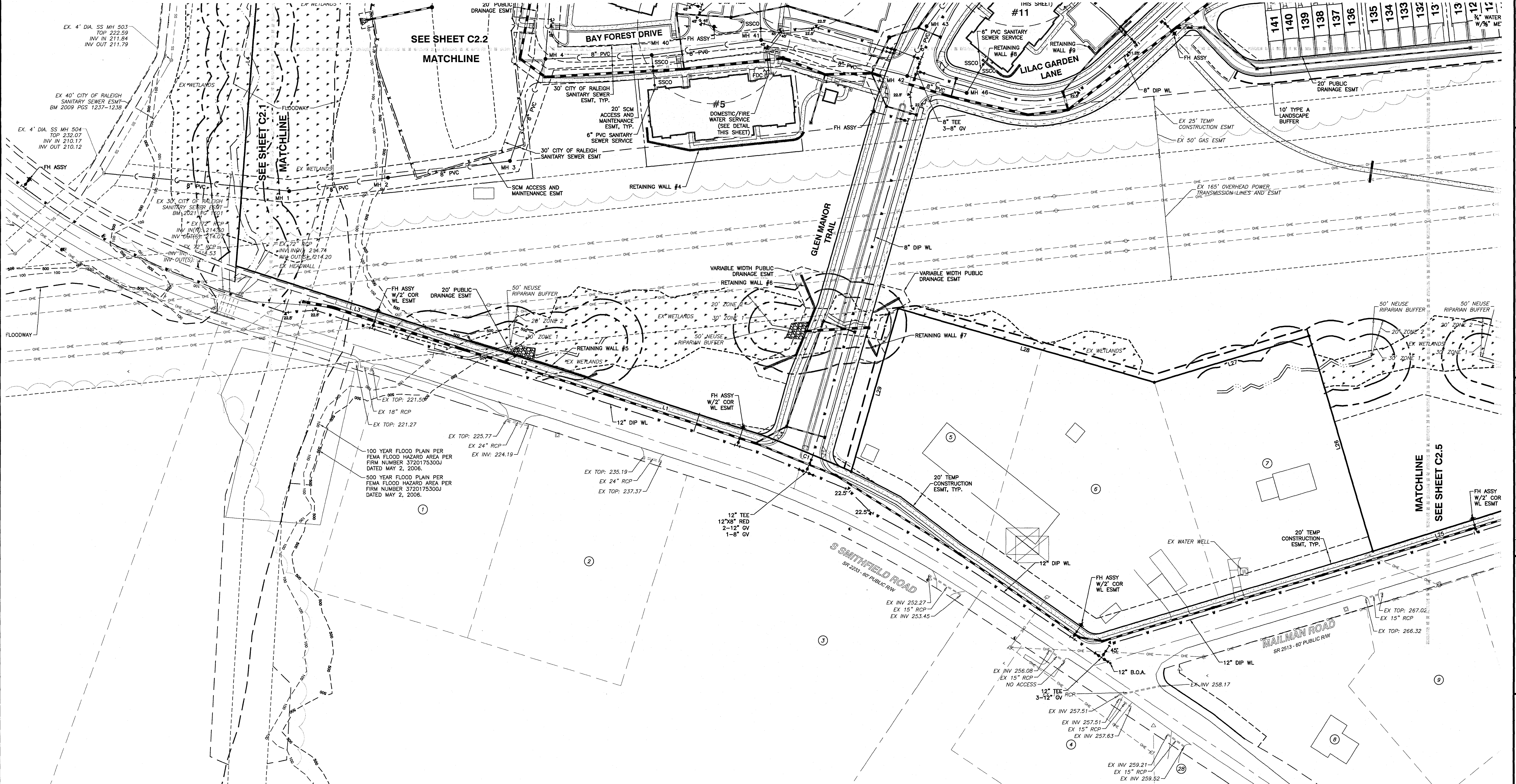
By: *S. Smith* Date: 2-1-2023
 Town Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: *W. L. Smith* Date: 2-1-2023
 Administrator

SEAL
 NORTH CAROLINA PROFESSIONAL ENGINEER
 W. L. SMITH
 036908
 01/16/23

SCALE IN FEET
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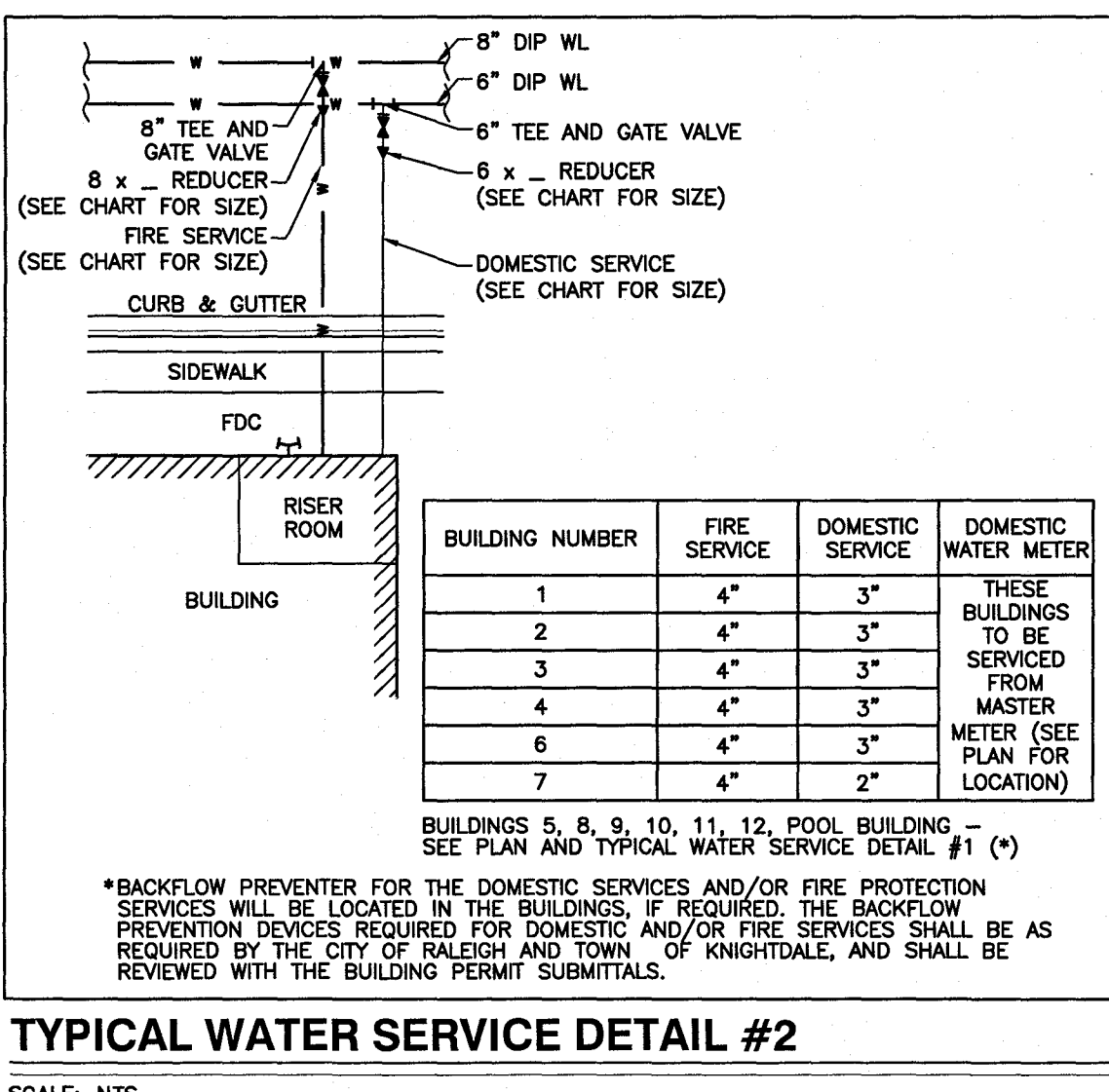


BACKFLOW PREVENTERS

BUILDING NUMBER	WATER SERVICE	BACKFLOW TYPE	SIZE	MFR./MFRQ	MODEL#
BLDG 1	Domestic Cold Water	ASSE 1013 RPP	3"	ZURN WILKINS / WATTS	375-057 / 994-057
BLDG 2	Domestic Cold Water	ASSE 1013 RPP	3"	ZURN WILKINS / WATTS	375-057 / 994-057
BLDG 3	Domestic Cold Water	ASSE 1013 RPP	3"	ZURN WILKINS / WATTS	375-057 / 994-057
BLDG 4	Domestic Cold Water	ASSE 1013 RPP	3"	ZURN WILKINS / WATTS	375-057 / 994-057
BLDG 5	Domestic Cold Water	ASSE 1013 RPP	3"	ZURN WILKINS / WATTS	375-057 / 994-057
BLDG 6	Domestic Cold Water	ASSE 1013 RPP	4"	ZURN WILKINS / WATTS	375-057 / 994-057
BLDG 7	Domestic Cold Water	ASSE 1013 RPP	4"	ZURN WILKINS / WATTS	375-057 / 994-057
BLDG 8	Domestic Cold Water	ASSE 1013 RPP	4"	ZURN WILKINS / WATTS	375-057 / 994-057
BLDG 9	Domestic Cold Water	ASSE 1013 RPP	3"	ZURN WILKINS / WATTS	375-057 / 994-057
BLDG 10	Domestic Cold Water	ASSE 1013 RPP	3"	ZURN WILKINS / WATTS	375-057 / 994-057
BLDG 11	Domestic Cold Water	ASSE 1013 RPP	3"	ZURN WILKINS / WATTS	375-057 / 994-057
BLDG 12	Domestic Cold Water	ASSE 1013 RPP	2"	ZURN WILKINS / WATTS	375-057 / 994-057
BLDG 12-4	Domestic Cold Water	ASSE 1013 RPP	1.5"	ZURN WILKINS / WATTS	375-057 / 994-057

Buildings 1, 2, 3, 4, 6 and 7 - SEE PLAN AND TYPICAL WATER SERVICE DETAIL #2 (*)
 Buildings 5, 8, 9, 10, 11, 12, POOL BUILDING - SEE PLAN AND TYPICAL WATER SERVICE DETAIL #1 (*)

BACKFLOW PREVENTION DEVICES ARE REQUIRED FOR ALL FIRE LINES, ALL IRRIGATION LINES (REGARDLESS OF METER SIZE), AS WELL AS ANY DOMESTIC WATER SERVICES 1" AND LARGER. THE BACKFLOW SHALL BE INSTALLED NO MORE THAN 10' FROM THE METER IN A VISIBLE LOCATION.



BACKFLOW PREVENTER FOR THE DOMESTIC SERVICES AND/OR FIRE PROTECTION SERVICES WILL BE LOCATED IN THE BUILDINGS, IF REQUIRED. THE BACKFLOW PREVENTION DEVICES REQUIRED FOR DOMESTIC AND/OR FIRE SERVICES SHALL BE AS REVIEWED WITH THE BUILDING PERMIT SUBMITTALS.

ATTENTION CONTRACTORS
 The Construction Contractor responsible for the extension of water, sewer, and/or gas, as approved in these plans, is responsible for contacting the Public Utilities Department at (919) 996-4510 at least twenty-four hours prior to beginning any of their construction.
 Failure to notify both City Departments in advance of beginning construction, will result in the issuance of monetary fines, and require reinstallation of any water or sewer facilities not inspected as a result of this notification failure.
 Failure to call for inspection, install a Downstream Plug, have Permitted Plans on the Jobsite, or any other Violation of City of Raleigh Standards will result in a Fine and Possible Exclusion from future work in the City of Raleigh.

WETLANDS EXIST ON-SITE
FLOODPLAINS EXIST ON-SITE

NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF KNIGHTDALE AND NCDOT

SITE PERMITTING APPROVAL

Water and Sewer Permits (if applicable)
 The City of Raleigh consents to the connection and extension of the City's Public Sewer System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook, City of Raleigh Public Utilities Department Permit # S-4916.
 The City of Raleigh consents to the connection and extension of the City's Public Water System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook, City of Raleigh Public Utilities Department Permit # W-5847.
 The City of Raleigh consents to the connection to its public sewer system and extension of the private sewer collection system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.
 City of Raleigh Public Utilities Department Permit # _____

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

Electronic Approval: This approval is being issued electronically. This approval is valid only upon the signature of a City of Raleigh Review Officer below. The City will retain a copy of the approved plans. Any work authorized by this approval must proceed in accordance with the plans kept on file with the City. This electronic approval may not be edited once issued. Any modification to this approval once issued will invalidate this approval.
 City of Raleigh Development Approval: Cydney S. Terry (Digital Signature)
 Raleigh Water Review Officer: _____

a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
 By: [Signature] Date: 2-1-2023
 Town Engineer
 These plans are approved by the Town of Knightdale and serve as construction plans for this project.
 By: [Signature] Date: 2/2/23
 Administrator

NORTH CAROLINA PROFESSIONAL SEAL
 M.P. [Signature]
 01/16/23

BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919)851-4422 OR (800)354-1879 FAX: (919)851-8968
 CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

VILLAGE GATE
S. SMITHFIELD ROAD
 TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

ENLARGED UTILITY PLAN
SOUTHWEST

09-20097 09-07-2021 09-07-2021
 JOB NO. DATE DRAWN BY
 ENLARGED UTILITY PLAN SOUTHWEST
 SCALE: 1" = 60' CHK BY: MDB

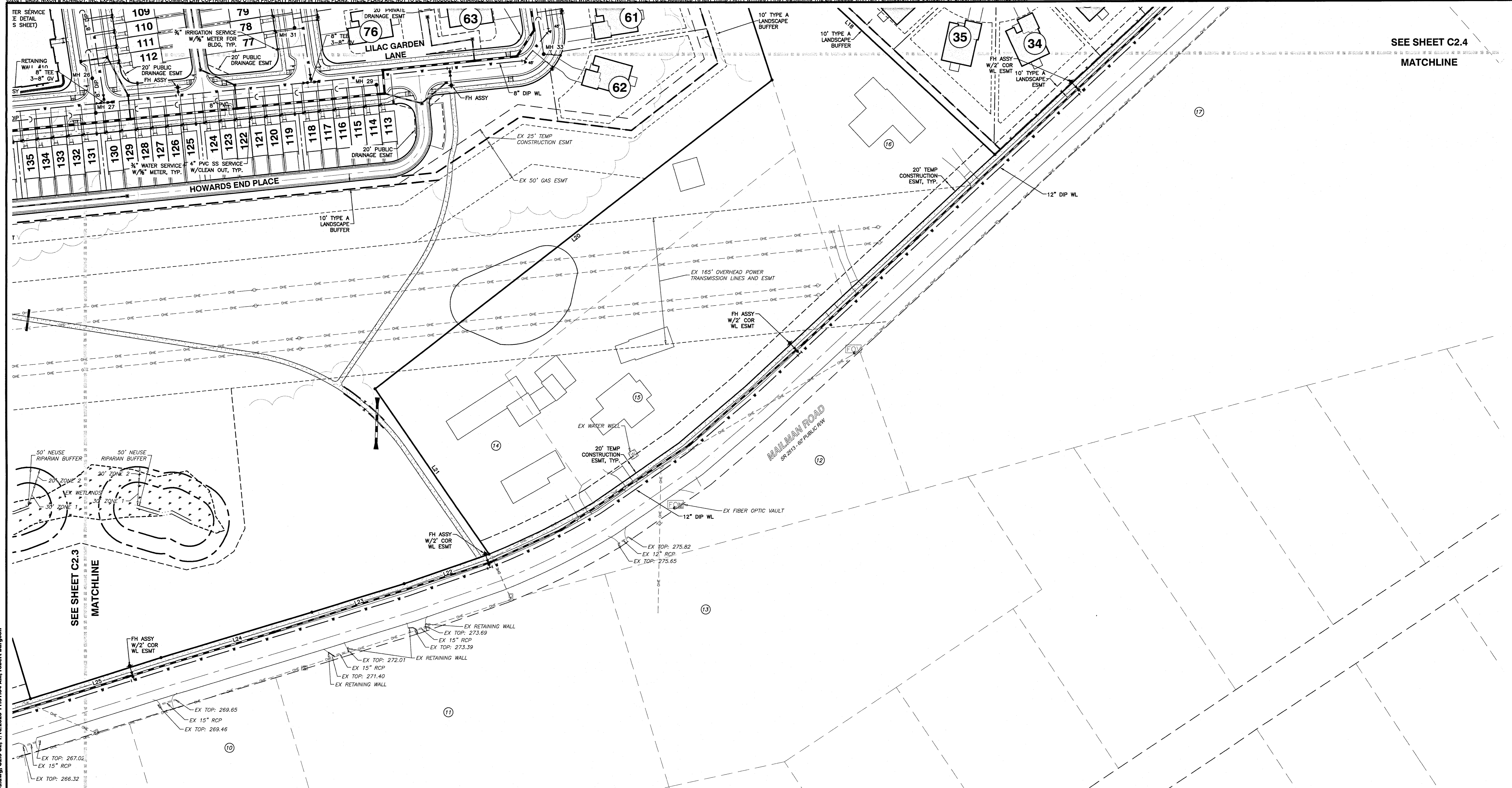
NO.	DATE	DESCRIPTION	BY
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3	06-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
6	01-16-23	TOWN OF KNIGHTDALE COMMENTS	RAB

01-16-23 TOK COMMENTS SIGNATURE SET
 11-04-22 TOWN OF KNIGHTDALE COMMENTS
 09-01-22 TOWN OF KNIGHTDALE COMMENTS
 06-03-22 TOWN OF KNIGHTDALE COMMENTS
 02-23-22 TOWN OF KNIGHTDALE COMMENTS

SCALE IN FEET
 0 30 60 120 180 240

SHEET C2.3

TOWN OF KNIGHTDALE PROJECT NO. PUD CASE NO. ZMA-1-21



SEE SHEET C2.4
MATCHLINE

SEE SHEET C2.3
MATCHLINE

BACKFLOW PREVENTION DEVICES ARE REQUIRED FOR ALL FIRE LINES, ALL IRRIGATION LINES (REGARDLESS OF METER SIZE), AS WELL AS ANY DOMESTIC WATER SERVICES 1" AND LARGER. THE BACKFLOW SHALL BE INSTALLED NO MORE THAN 10' FROM THE METER IN A VISIBLE LOCATION.

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WETLANDS EXIST ON-SITE
FLOODPLAINS EXIST ON-SITE

NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF KNIGHTDALE AND NCDOT

SITE PERMITTING APPROVAL

Water and Sewer Permits (if applicable)

The City of Raleigh consents to the connection and extension of the City's Public Sewer System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # - S-4916

The City of Raleigh consents to the connection and extension of the City's Public Water System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # - W-3847

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City of Raleigh Public Utilities Department Permit # -

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

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Digitally signed by Cydney S. Terry Date: 2023.01.27 11:19:29-0500

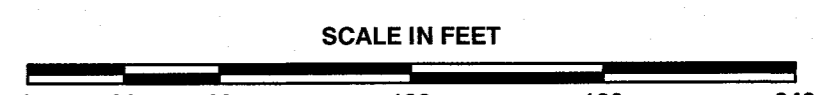
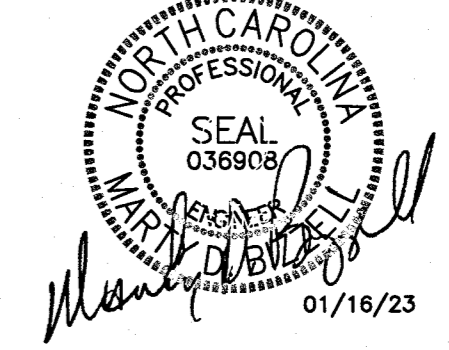
City of Raleigh Development Approval _____
Raleigh Water Review Officer

a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: *[Signature]* Date: 2-1-2023
Town Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: *[Signature]* Date: 2-2-2023
Administrator



BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
TELEPHONE: (919) 951-4422 OR (800) 354-1879 FAX: (919) 951-6868
CERTIFICATION NUMBERS: NOBELS (C-0110); NCBOLA (C-0267)

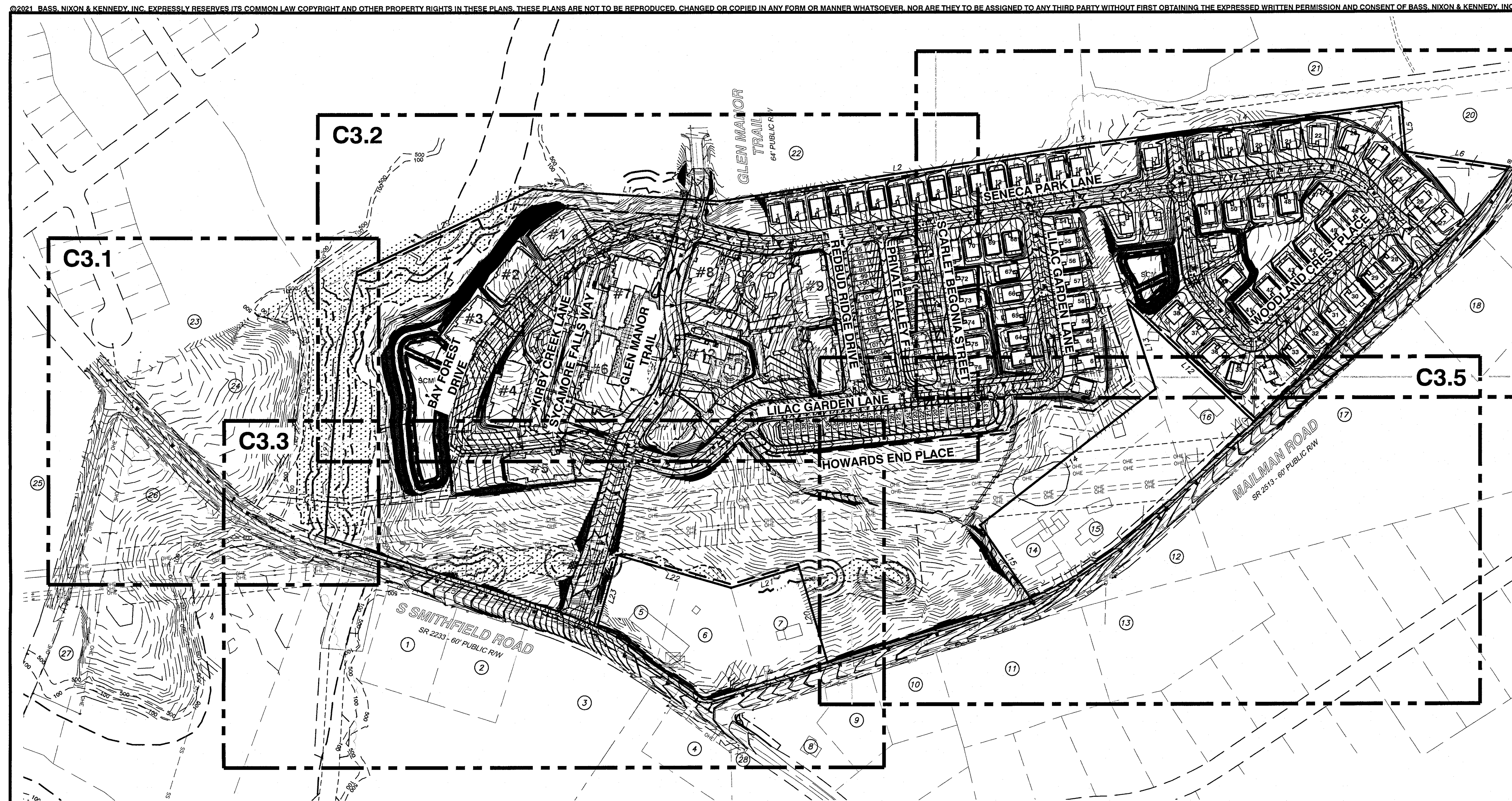
NO.	DATE	DESCRIPTION	BY
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5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
3	06-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB

VILLAGE GATE
S. SMITHFIELD ROAD
TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

ENLARGED UTILITY PLAN
SOUTHEAST

SCALE: 1" = 60'

CHK BY: MDB

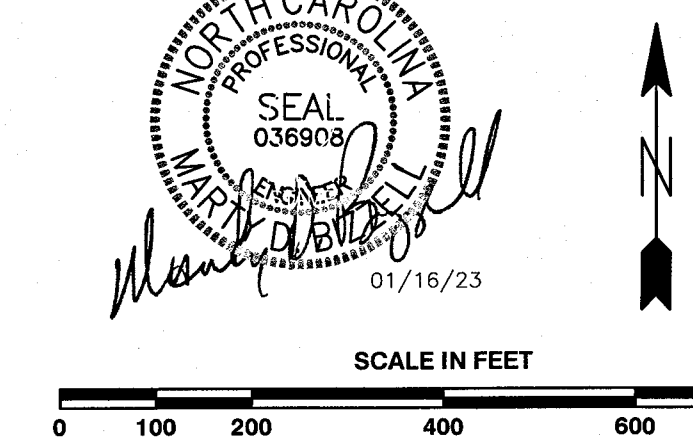
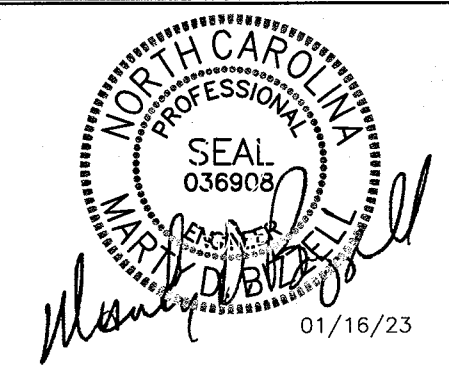


- | | | | |
|----|---|----|---|
| 1 | HOLMQUIST, DONNIE E
PIN 1753-86-3579
DB 2974 PG 369
USE SINGLE FAMILY
ZONING RT | 16 | OLIVER, R LINWOOD
PIN 1753-87-6285
DB 2974 PG 369
USE SINGLE FAMILY
ZONING RT |
| 2 | HOLMQUIST, ANNETTE I
PIN 1753-86-3562
DB 16191 PG 653
USE SINGLE FAMILY
ZONING RT | 17 | POPE, RICHARD NELSON
PIN 1753-97-3294
DB 13170 PG 157
USE AGRICULTURE
ZONING RT |
| 3 | HOLMQUIST, DONNIE
HOLMQUIST, ANNETTE
PIN 1753-86-5159
DB 1623 PG 625
USE AGRICULTURE
ZONING RT | 18 | POPE, RICHARD NELSON
PIN 1753-97-3529
DB 13170 PG 157
USE SINGLE FAMILY
ZONING RT |
| 4 | JONES, BARBARA W
PIN 1753-76-2216
DB 3632 PG 591
USE SINGLE FAMILY
ZONING RT | 19 | ASKINS, AARON D
ASKINS, SHAWNITA
PIN 1753-98-8150
DB 16486 PG 1653
USE SINGLE FAMILY
ZONING GRB |
| 5 | WALL, FREDDY V
PIN 1753-76-0637
DB 3931 PG 492
USE PRETAB
ZONING HB | 20 | PLEDGER, DREW TRENT
OWEN, VIRGINIA DEE
PIN 1753-98-5009
DB 16040 PG 185
USE SINGLE FAMILY
ZONING GRB |
| 6 | WALL, FREDDY V
PIN 1753-76-2537
DB 8447 PG 186
USE OFC GROSS
ZONING HB | 21 | POPE, ROBERT
HOLMQUIST, DONNIE ERIC
PIN 1753-98-0579
DB 17-5 PG 2129
USE SINGLE FAMILY
ZONING RT |
| 7 | WALL, FREDDY
WALL, DIANE
PIN 1753-76-4632
USE SINGLE FAMILY
ZONING UR-12 | 22 | GLENMERE LLC
PIN 1753-76-0603
DB 15931 PG 2174
USE VACANT
ZONING GRB |
| 8 | CALDWELL, JAMES L
CLADWELL, BRENDA S
PIN 1763-76-9265
DB 3446 PG 284
USE SINGLE FAMILY
ZONING RT | 23 | GLENMERE EAST HOMEOWNERS
ASSOCIATION, INC
PIN 1753-57-7756
DB 17981 PG 230
USE HMA
ZONING UR-12 |
| 9 | CALDWELL, JAMES L
CLADWELL, BRENDA S
PIN 1753-76-6385
DB 5236 PG 803
USE MANUFACTURED HOME
ZONING RT | 24 | LOT 1
SMITHFIELD PUD LLC
PIN 1753-57-9238
DB 18705 PG 1151
BM 2021 PG 1601
USE VACANT
ZONING RT |
| 10 | MILLER, MICHAEL CAMERON III
PIN 1753-76-8452
DB 16167 PG 1332
USE MOBILE HOME
ZONING RT | 25 | POPE, RICHARD N
PIN 1753-37-8634
DB 1495 PG 1495
USE SINGLE FAMILY
ZONING RT |
| 11 | JARREL, ERYN B
JARREL, OLORMA P
PIN 1753-86-2427
DB 2158 PG 6
USE SINGLE FAMILY
ZONING GR3 | 26 | G&F PROPERTIES LLC
PIN 1753-56-6597
DB 8139 PG 672
BM 2021 PG 288
USE AGRICULTURE
ZONING RT |
| 12 | POPE, ROBERT L
PIN 1753-86-5891
DB 4894 PG 131
USE MANUFACTURED HOME
ZONING GR3 | 27 | DUKE ENERGY PROGRESS
PIN 1753-56-3439
DB 15289 PG 2437
USE STATE ASSESSED
ZONING RT |
| 13 | POPE, ROBERT L
PIN 1753-86-6509
DB 2218 PG 49
USE VACANT
ZONING GR3 | 28 | CRAG WEST RENTALS LLC
PIN 1753-65-9299
DB 14985 PG 1746
USE SINGLE FAMILY
ZONING HB |
| 14 | COLE, HEATHER LEE
PIN 1753-86-1961
DB 17626 PG 2508
USE SINGLE FAMILY
ZONING RT | | |
| 15 | MILLER, MICHAEL CAMERON II
PIN 1753-86-4948
DB 17626 PG 2378
USE SINGLE FAMILY
ZONING RT | | |

WETLANDS EXIST ON-SITE
FLOODPLAINS EXIST ON-SITE

NOTE: ALL CONSTRUCTION ACTIVITY MUST BE
IN ACCORDANCE WITH THE ACCEPTED
POLICIES OF THE TOWN OF KNIGHTDALE AND
NCDOT

a. Town Certification. This design has been reviewed by the Engineer for the
Town of Knightdale, and to the best of my knowledge and belief, it conforms to
the requirements established in the Standard Specifications of the Town of
Knightdale.
By: [Signature] Date: 2-1-2023
Town Engineer
These plans are approved by the Town of Knightdale and serve as
construction plans for this project.
By: [Signature] Date: 2-2-2023
Administrator



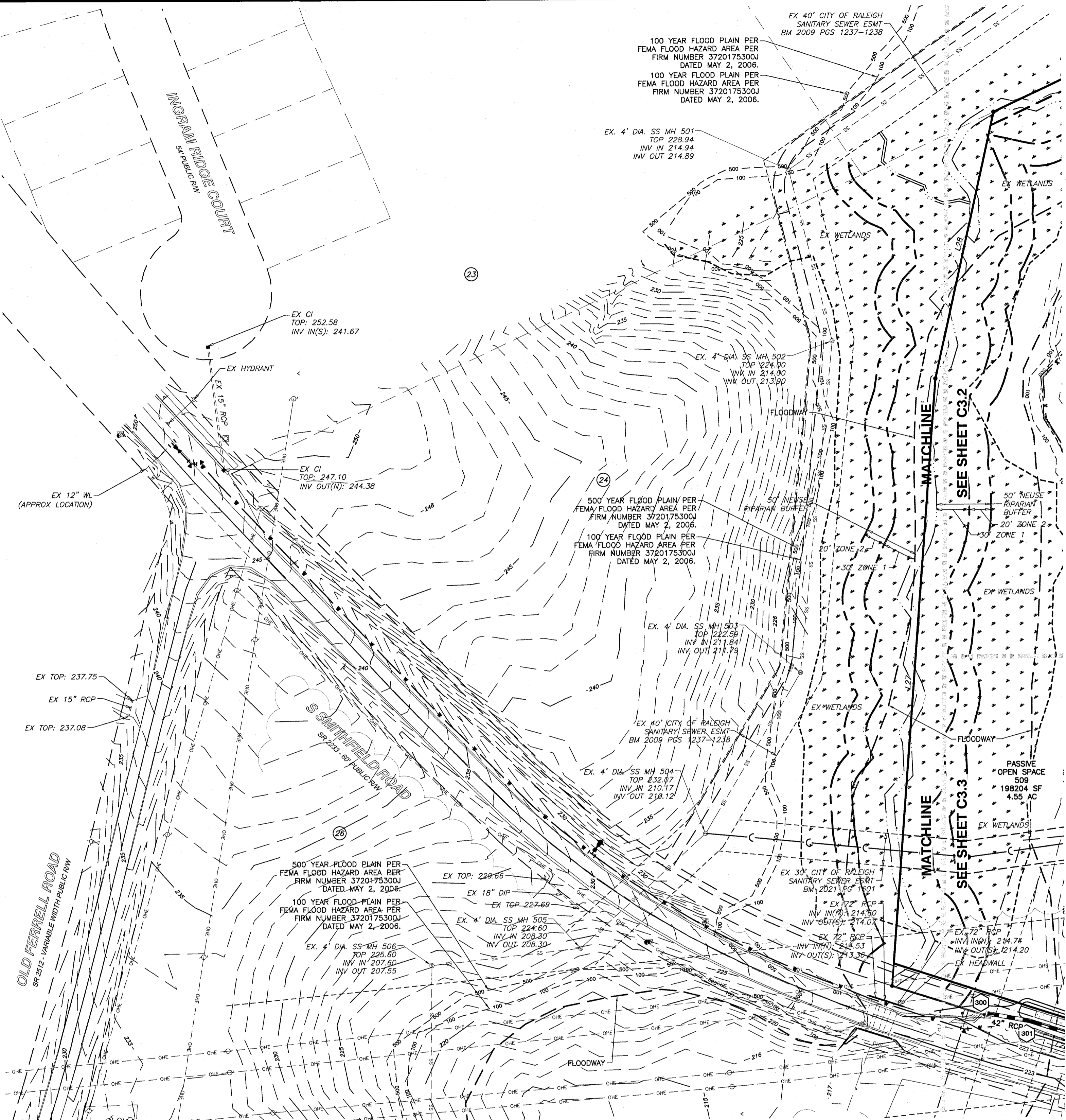
BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
TELEPHONE: (919) 551-4422 OR (919) 551-1879 FAX: (919) 551-8868
CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

NO.	DATE	DESCRIPTION	BY
1	01-16-23	T&K COMMENTS SIGNATURE SET	RAB
2	11-30-22	TOWN OF KNIGHTDALE COMMENTS	RAB
3	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	06-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB
5	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB

03-20-097 09-07-2021 RAB
JOB NO. DATE DRAWN BY
**OVERALL GRADING AND
DRAINAGE PLAN**
SCALE: 1" = 200'
CHK BY: MIB

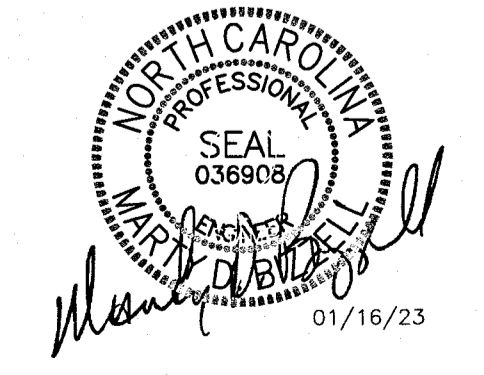
VILLAGE GATE
S. SMITHFIELD ROAD
TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET
C3.0

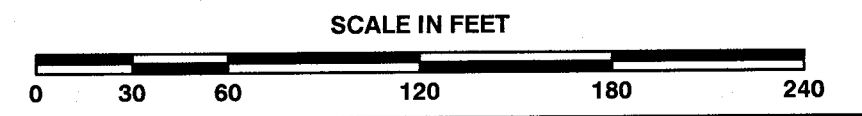


R:\2020\20097 - Knightdale Mixed Use\CIVIL\04 Construction\04 - 20097_Grading CDB.dwg, C3.1 W, 1/16/2023 1:26:47 PM, robert burgoun

a. **Town Certification.** This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
 By: S. Allen Date: 2-1-2023
 Town Engineer
 These plans are approved by the Town of Knightdale and serve as construction plans for this project.
 By: W. Ho Date: 2-2-2023
 Administrator



WETLANDS EXIST ON-SITE
FLOODPLAINS EXIST ON-SITE
 NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF KNIGHTDALE AND NCDOT



BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
 6510 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919)851-4422 OR (800)954-1879 FAX: (919)851-8986
 CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

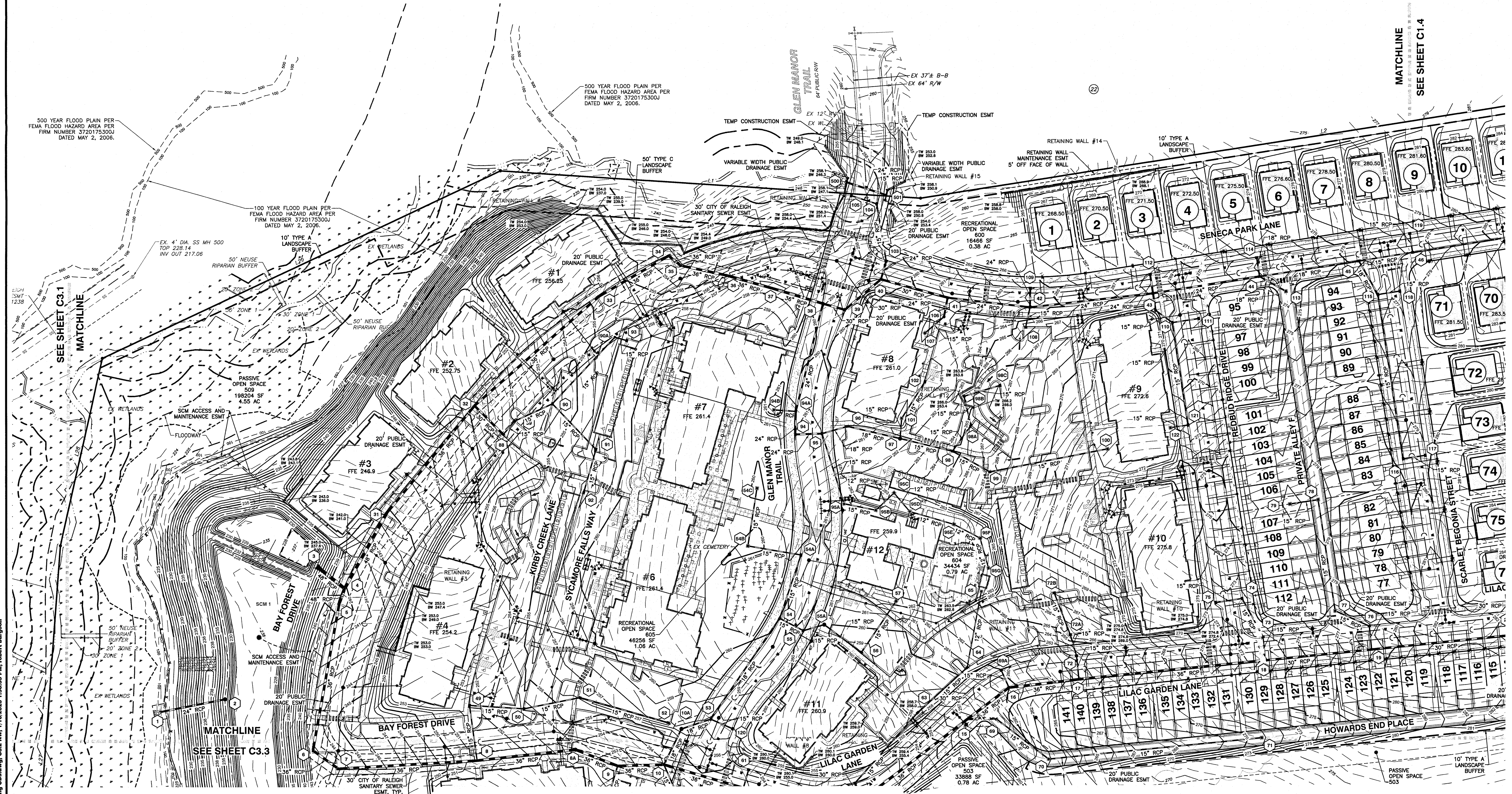
NO.	DATE	DESCRIPTION	BY
6	01-16-23	TOK COMMENTS SIGNATURE SET	RAB
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
3	06-09-22	TOWN OF KNIGHTDALE COMMENTS	RAB
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB

JOB NO.	DATE	DRAWN BY	CHK BY
03-20097	09-07-2021	RAB	MDB

ENLARGED GRADING AND DRAINAGE PLAN WEST
 SCALE: 1" = 60'

VILLAGE GATE
S. SMITHFIELD ROAD
 TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET **C3.1**



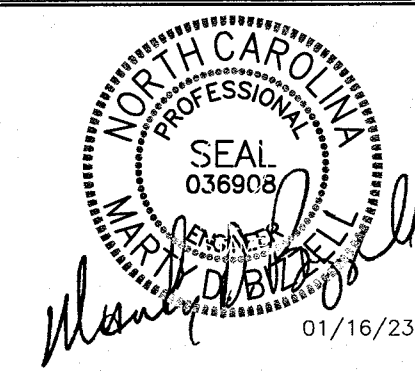
SEE SHEET C3.1
MATCHLINE

MATCHLINE
SEE SHEET C3.3

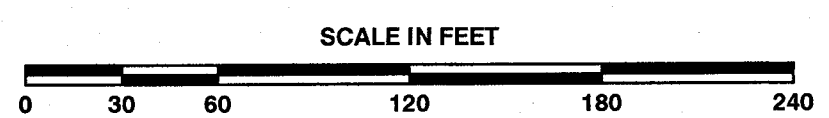
MATCHLINE
SEE SHEET C1.4

TOWNHOUSE FINISH FLOOR ELEVATIONS (FFE)			
LOT #	FINISH FLOOR ELEVATION	LOT #	FINISH FLOOR ELEVATION
77	283.75'	99	275.35'
78	283.75'	100	275.35'
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		135	270.67'
		136	270.07'
		137	270.07'
		138	269.07'
		139	268.07'
		140	267.07'
		141	266.07'

a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
 By: *S. Smith* Date: 2-1-2023
 Town Engineer
 These plans are approved by the Town of Knightdale and serve as construction plans for this project.
 By: *W. W.* Date: 2-2-2023
 Administrator



WETLANDS EXIST ON-SITE
 FLOODPLAINS EXIST ON-SITE
 NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF KNIGHTDALE AND NCDOT



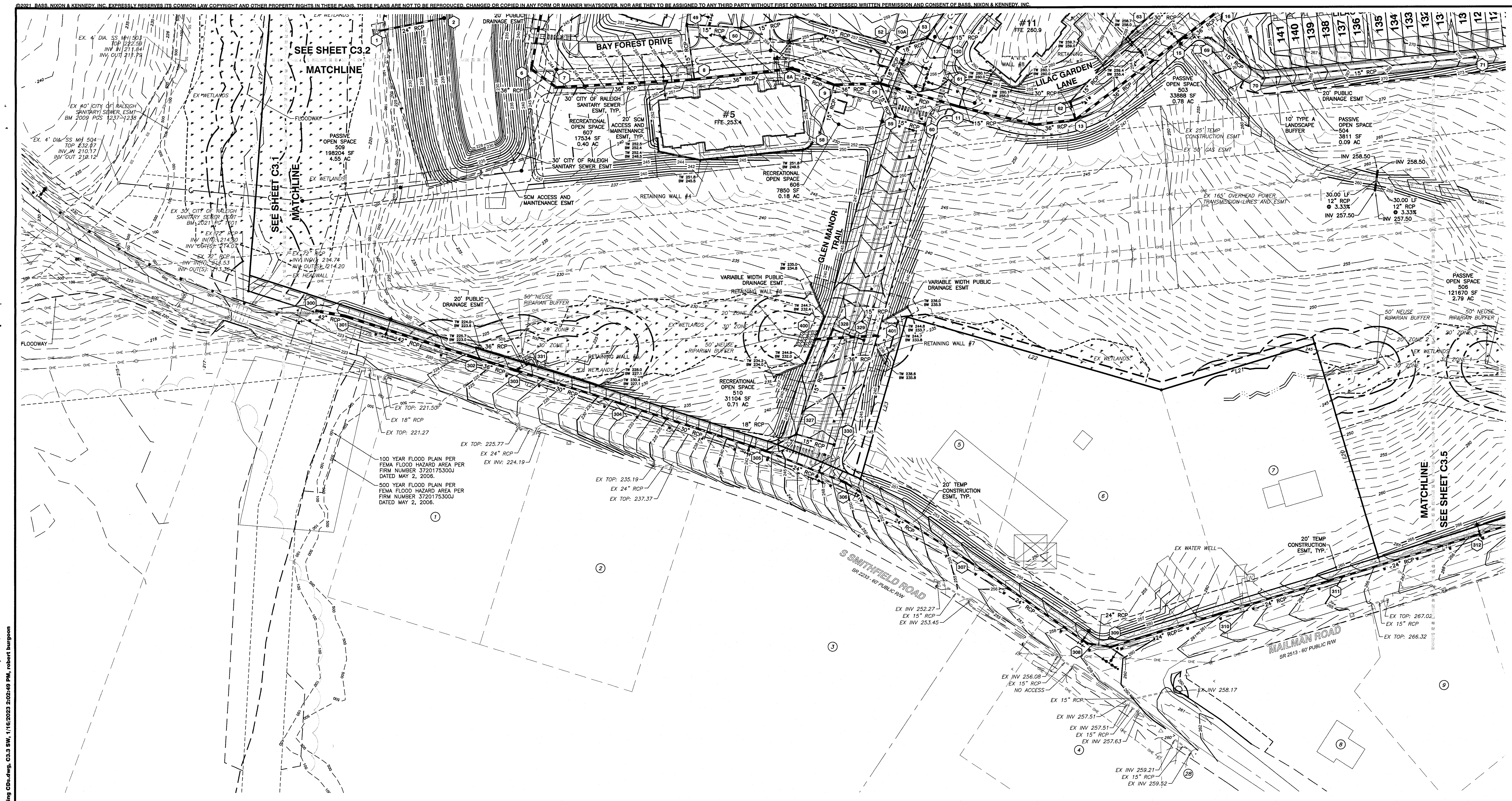
BASS, NIXON & KENNEDY, INC.
 CONSULTING ENGINEERS
 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919)551-1122 OR (800)354-1879 FAX: (919)551-8868
 CERTIFICATION NUMBERS: NOBELS (C-0110); NCBOLA (C-0267)

NO.	DATE	DESCRIPTION	BY
1	03-20-2021	TOWN OF KNIGHTDALE COMMENTS	RAB
2	03-25-2021	TOWN OF KNIGHTDALE COMMENTS	RAB
3	06-03-2021	TOWN OF KNIGHTDALE COMMENTS	RAB
4	09-01-2021	TOWN OF KNIGHTDALE COMMENTS	RAB
5	11-04-2021	TOWN OF KNIGHTDALE COMMENTS	RAB
6	01-16-2023	TOWN OF KNIGHTDALE COMMENTS	RAB

ENLARGED GRADING AND DRAINAGE PLAN EAST
 SCALE: 1" = 60'

VILLAGE GATE
 S. SMITHFIELD ROAD
 TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET C3.2

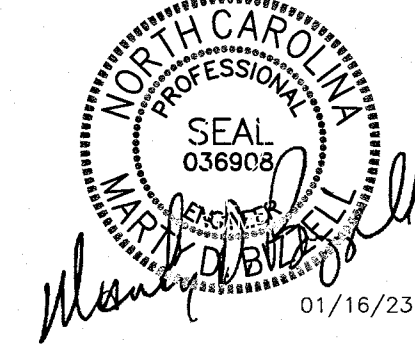


R:\2020\20097 - Knightdale Mixed Use\CIVIL\04 Construction\04 - 20097_Grading CDs.dwg, C3.3 SW, 1/16/2023 2:02:49 PM, robert burgoon

100 YEAR FLOOD PLAIN PER FEMA FLOOD HAZARD AREA PER FIRM NUMBER 3720175300J DATED MAY 2, 2006.
 500 YEAR FLOOD PLAIN PER FEMA FLOOD HAZARD AREA PER FIRM NUMBER 3720175300J DATED MAY 2, 2006.

TOWNHOUSE FINISH FLOOR ELEVATIONS (FFE)			
LOT #	FINISH FLOOR ELEVATION	LOT #	FINISH FLOOR ELEVATION
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a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
 By: SAMU Date: 2-1-2023
 Town Engineer
 These plans are approved by the Town of Knightdale and serve as construction plans for this project.
 By: WOW Date: 2-2-2023
 Administrator



SCALE IN FEET
 0 30 60 120 180 240

WETLANDS EXIST ON-SITE
 FLOODPLAINS EXIST ON-SITE
 NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF KNIGHTDALE AND NCDOT

BASS, NIXON & KENNEDY, INC.
 CONSULTING ENGINEERS
 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919) 551-1422, FAX: (919) 551-9868
 CERTIFICATION NUMBERS: NCBELS (C-016); NCBOLA (C-0267)

NO.	DATE	DESCRIPTION	BY
1	03-20-097	TOWN OF KNIGHTDALE COMMENTS	RAB
2	06-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB
3	06-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
6	01-16-23	TOWN OF KNIGHTDALE COMMENTS	RAB

03-20-097 09-07-2021 09-07-2021
 DATE DATE DATE
 RAB RAB RAB
 DRAWN BY DRAWN BY DRAWN BY
 ENLARGED GRADING AND DRAINAGE PLAN SOUTHWEST
 CHK BY: MDR
 SCALE: 1" = 60'

VILLAGE GATE

S. SMITHFIELD ROAD

TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

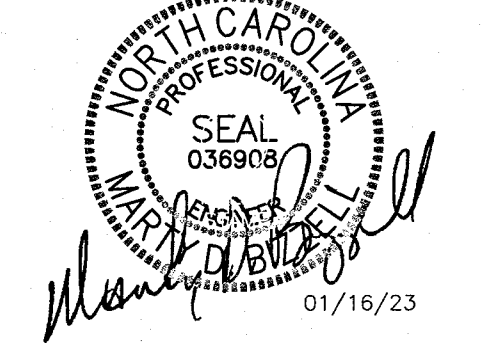
SHEET C3.3

TOWN OF KNIGHTDALE PROJECT NO. PUD CASE NO. ZMA-1-21

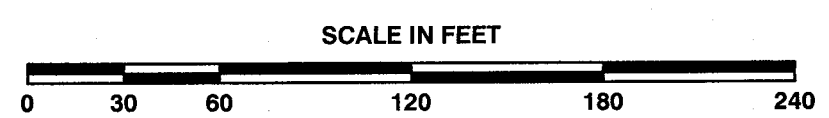


TOWNHOUSE FINISH FLOOR ELEVATIONS (FFE)			
LOT #	FINISH FLOOR ELEVATION	LOT #	FINISH FLOOR ELEVATION
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a. **Town Certification.** This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
 By: S. ALU Date: 2-1-2023
 Town Engineer
 These plans are approved by the Town of Knightdale and serve as construction plans for this project.
 By: W. W. Date: 6-2-2023
 Administrator



WETLANDS EXIST ON-SITE
 FLOODPLAINS EXIST ON-SITE
 NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF KNIGHTDALE AND NCDOT



BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
 6310 CHAPEL HILL ROAD, SUITE 200, RALEIGH, NC 27607
 TELEPHONE: (919)517-4422 OR (800)354-1879 FAX: (919)517-6868
 CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

NO.	DATE	DESCRIPTION	BY
1	01-16-23	T&K COMMENTS SIGNATURE SET	RAB
2	02-25-23	TOWN OF KNIGHTDALE COMMENTS	RAB
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4	09-01-23	TOWN OF KNIGHTDALE COMMENTS	RAB
5	11-04-23	TOWN OF KNIGHTDALE COMMENTS	RAB
6	01-16-23	T&K COMMENTS SIGNATURE SET	RAB

03-20097 09-07-2021 RAB
 DATE DRAWN BY
ENLARGED GRADING AND DRAINAGE PLAN NORTHEAST
 CHK BY: MDB
 SCALE: 1" = 60'

VILLAGE GATE
 S. SMITHFIELD ROAD
 TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET
C3.4

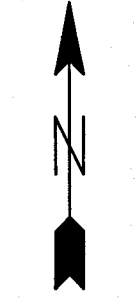
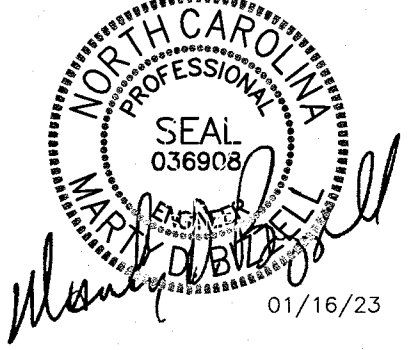


SEE SHEET C3.4
MATCHLINE

SEE SHEET C3.3
MATCHLINE


TOWNHOUSE FINISH FLOOR ELEVATIONS (FFE)			
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By: S. S. S. S. Date: 2-1-2023
Town Engineer
These plans are approved by the Town of Knightdale and serve as construction plans for this project.
By: W. W. W. W. Date: 2-2-2023
Administrator



SCALE IN FEET
0 30 60 120 180 240

WETLANDS EXIST ON-SITE
FLOODPLAINS EXIST ON-SITE
NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF KNIGHTDALE AND NCDOT

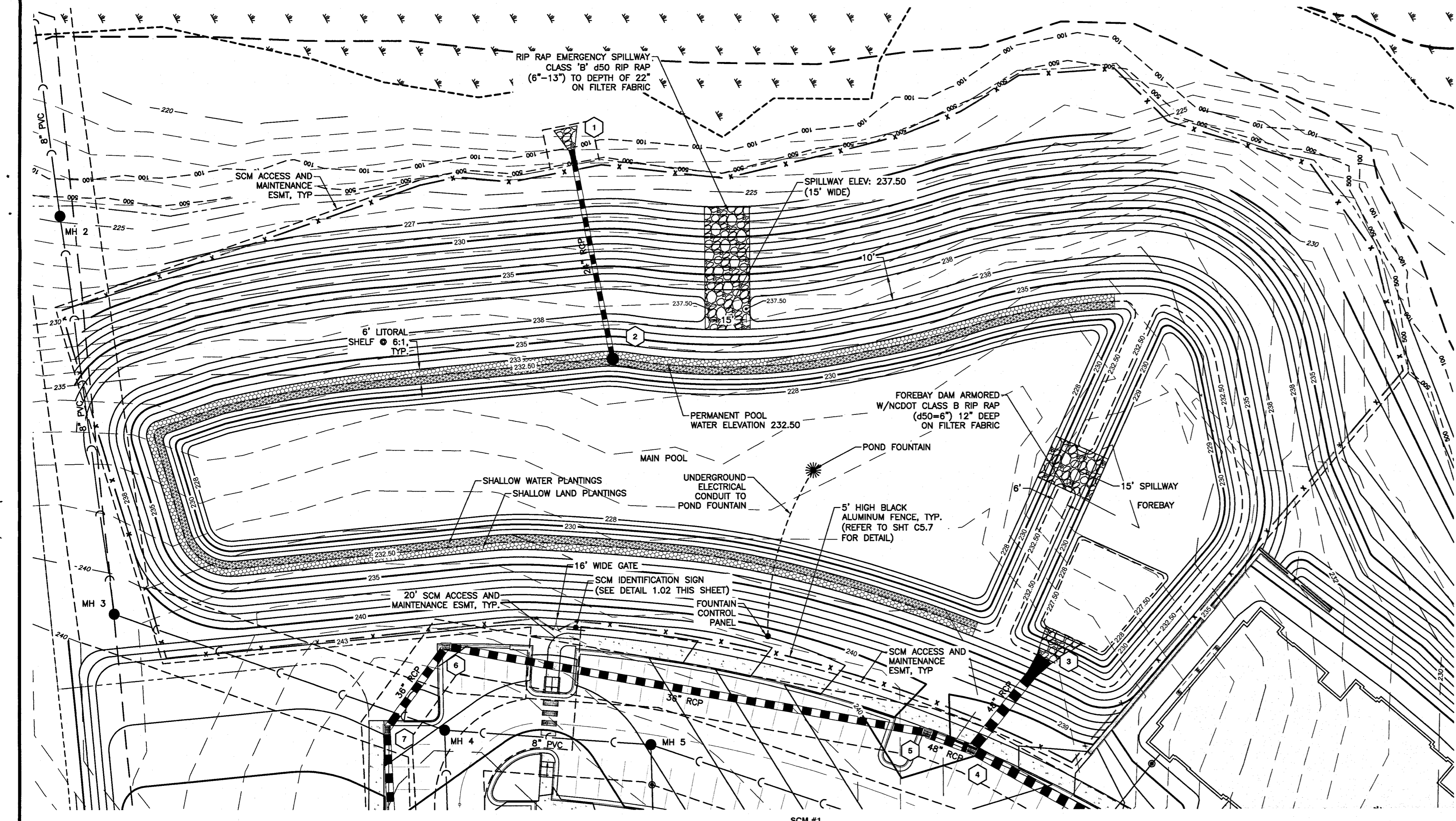


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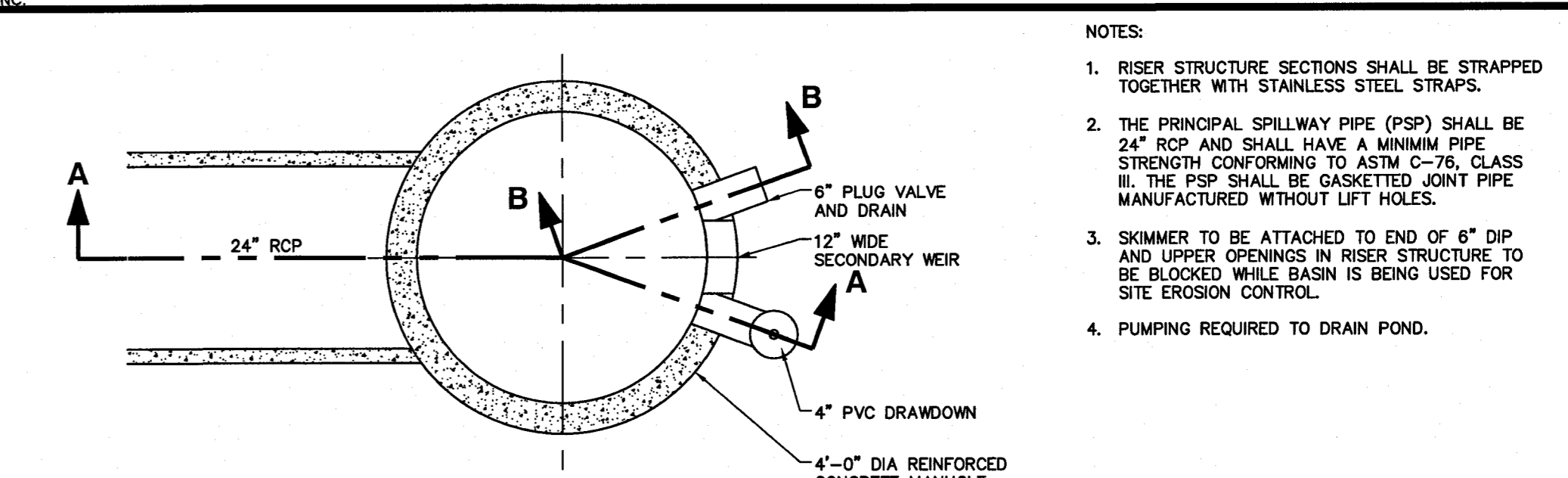
NO.	DATE	DESCRIPTION	BY
1	01-16-23	T&E COMMENTS/SIGNATURE SET	RAB
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3	06-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
6	01-16-23	T&E COMMENTS/SIGNATURE SET	RAB

VILLAGE GATE
S. SMITHFIELD ROAD
TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

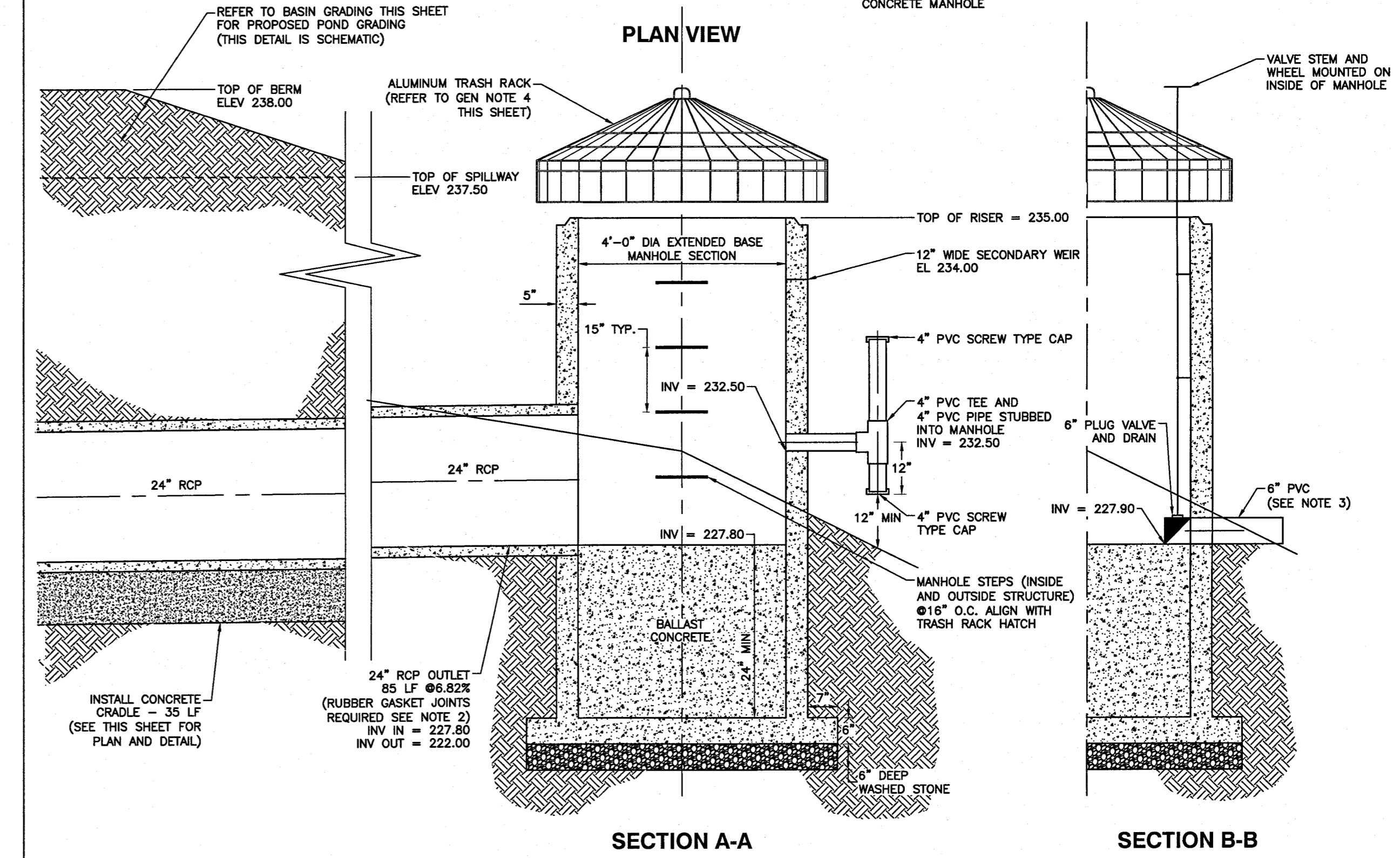
SHEET C3.5



Q100 WL = 234.17
Q100 WL = 233.76
Q100 WL = 233.52
TEMP POOL WL = 234.17
PERM POOL WL = 232.50



- NOTES:
- RISER STRUCTURE SECTIONS SHALL BE STRAPPED TOGETHER WITH STAINLESS STEEL STRAPS.
 - THE PRINCIPAL SPILLWAY PIPE (PSP) SHALL BE 24" RCP AND SHALL HAVE A MINIMUM PIPE STRENGTH CONFORMING TO ASTM C-76, CLASS III. THE PSP SHALL BE GASKETED JOINT PIPE MANUFACTURED WITHOUT LIFT HOLES.
 - SKIMMER TO BE ATTACHED TO END OF 6" DIP AND UPPER OPENINGS IN RISER STRUCTURE TO BE BLOCKED WHILE BASIN IS BEING USED FOR SITE EROSION CONTROL.
 - PUMPING REQUIRED TO DRAIN POND.



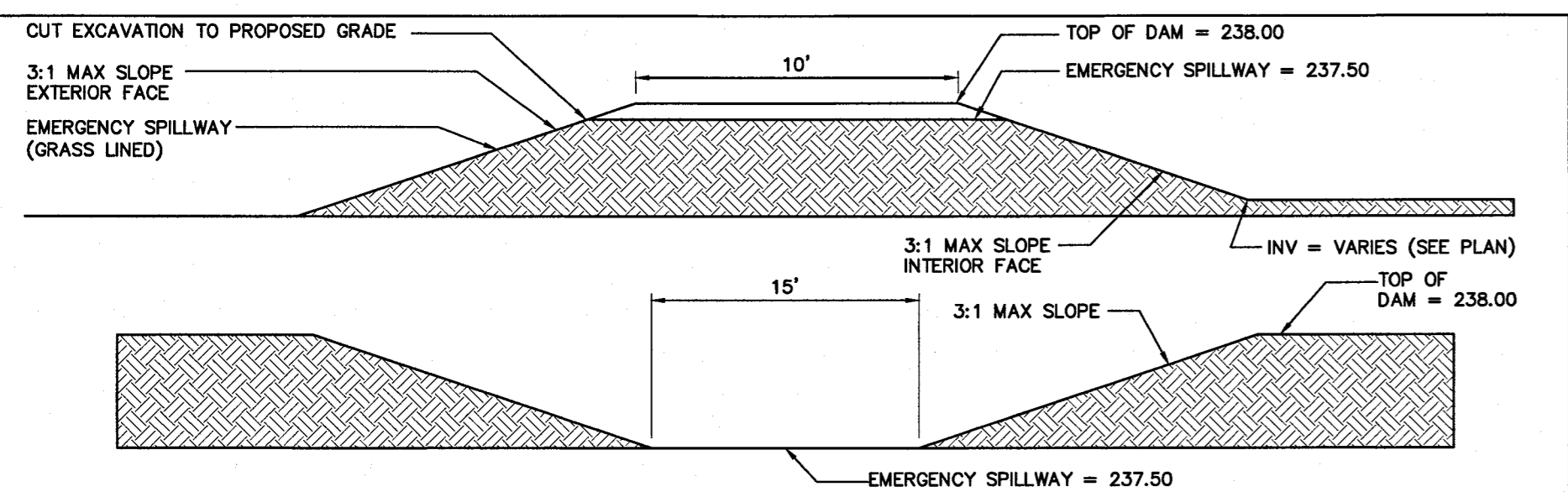
OUTLET STRUCTURE DETAIL

NOT TO SCALE

BMP #1 PLANTING SCHEDULE

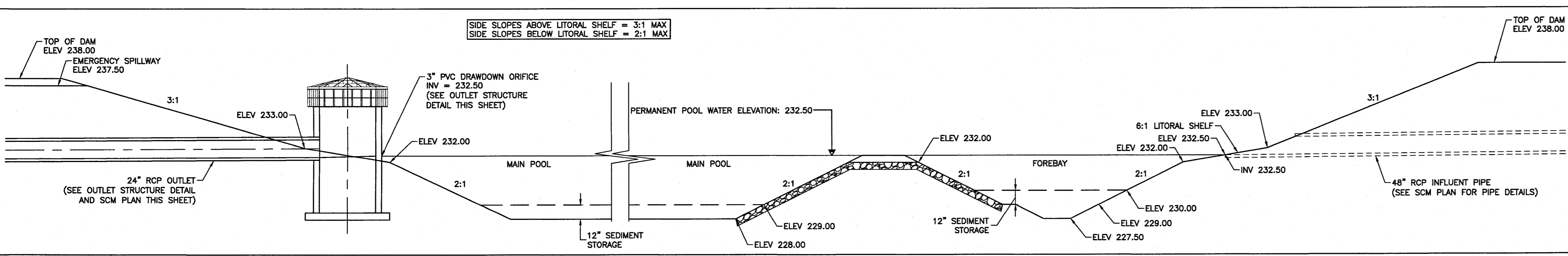
KEY	QUAN.	BOTANICAL NAME	COMMON NAME	CONTAINER	SPACING	NOTE
SHALLOW LAND PLANTINGS						
EF 1287		<i>EUPATORIUM ADLPHIS FISTULOSIS</i>	JOE PYE WEED	4" POT	24" O.C.	FULL BUSHY CONTAINER
HC 287		<i>HIBISCUS COCCINEUS</i>	SCARLET ROSEMALLOW	4" POT	24" O.C.	FULL BUSHY CONTAINER
SHALLOW WATER PLANTINGS						
NL 284		<i>ALPHAR LUTEA</i>	SPATTERDOCK LILY	4" POT	24" O.C.	FULL BUSHY CONTAINER
SA 284		<i>SCRIPUS ACUTUS</i>	HARDSTEM BULLRUSH	4" POT	24" O.C.	FULL BUSHY CONTAINER

POND SLOPES AND EMBANKMENTS SHALL BE PLANTED WITH NON CLUMPING TURF GRASS



EMERGENCY SPILLWAY DETAIL

NOT TO SCALE



SCM 1 CROSS SECTION A-A

SCALE: 1" = 5'

WET DETENTION BASIN CONSTRUCTION SEQUENCE

- UNDER NO CIRCUMSTANCES SHALL THE WET DETENTION BASIN BE FINALIZED AND PLANTED PRIOR TO COMPLETION OF CONSTRUCTION AND STABILIZATION OF ALL AREAS WHICH DRAIN TO IT.
- IF WET DETENTION BASIN IS TO BE USED AS A SEDIMENT BASIN DURING CONSTRUCTION, ROUGH GRADE PER PLANS, FILL PLACEMENT AND OUTLET STRUCTURE CONSTRUCTION SHALL BE IN COMPLIANCE WITH DETAILS AND WET DETENTION BASIN CONSTRUCTION NOTES HEREON. IF THE WET DETENTION BASIN HAS BEEN PREVIOUSLY ROUGH GRADED AND/OR USED AS A SEDIMENT BASIN, REMOVE AND DISPOSE OF SEDIMENT DEPOSITS WITHIN THE BASIN.
- ROUGH GRADE WET DETENTION BASIN AS NECESSARY AFTER SEDIMENT REMOVAL AND TO FINALIZE BASIN GRADES. ALL FILL PLACEMENT SHALL BE IN COMPLIANCE WITH THE SPECIFICATION IN THE CONSTRUCTION NOTES ON THIS SHEET.
- AFTER ROUGH GRADING WET DETENTION BASIN, BEGIN FINE GRADING TO CONSTRUCT FOREBAY BERMS/WALLS AND MAIN POOL AREA. GRADING TOLERANCE FOR THE WET DETENTION BASIN SHALL BE +/- 0.20 FEET FROM GRADES SHOWN ON THIS PLAN.
- IN CONJUNCTION WITH GRADING AND FILL PLACEMENT, CONSTRUCT OUTLET STRUCTURES TO BRING IT INTO COMPLIANCE WITH THESE PLANS. IF OUTLET STRUCTURES WERE CONSTRUCTED WITH ROUGH GRADING WHEN USING THE WET DETENTION BASIN AS SEDIMENT BASIN, SKIP TO NEXT STEP.
- WHEN FINE GRADING AND OUTLET STRUCTURE IS COMPLETE, CALL SURVEYOR AND ENGINEER FOR ASBUILT SURVEY AND EVALUATION.
- IF SURVEYOR AND ENGINEER DETERMINE THAT GRADING IS NOT IN COMPLIANCE WITH THESE DRAWINGS, MAKE CORRECTIONS AS REQUIRED BY THE ENGINEER, AND REPEAT PREVIOUS STEP. OTHERWISE PROCEED TO NEXT STEP.
- UPON NOTIFICATION FROM THE ENGINEER THAT THE WET DETENTION BASIN IS IN COMPLIANCE WITH THESE DRAWINGS, PROVIDE LANDSCAPING IN COMPLIANCE WITH THE PLAN SHOWN ON THIS SHEET AND ANY ADDITIONAL SPECIFICATIONS FROM THE OWNER. IF TIMING IS SUCH THAT PLANTINGS WOULD OCCUR IN SUMMER MONTHS, COORDINATE WITH THE ENGINEER, OWNER, AND THE LOCAL MUNICIPALITY ABOUT DELAYING PLANTINGS UNTIL FALL OR EARLY WINTER FOR MAXIMUM SURVIVABILITY OF PLANTINGS.
- SEED ALL DISTURBED AREAS PER THE SEEDING SCHEDULE SHOWN IN THESE PLANS.
- PRIOR TO FINAL ACCEPTANCE AND CERTIFICATION, ALL AQUATIC VEGETATION SHALL BE INSTALLED, AND 90% GERMINATION OF NON CLUMPING TURF GRASS ACHIEVED ON ALL APPLICABLE SLOPES AND EMBANKMENTS. CALL TOWN OF KNIGHTDALE STORMWATER INSPECTOR FOR APPROVAL OF STABILIZATION.
- CONTRACTOR SHALL WATER NEW PLANT MATERIAL PLANTED IN THE WET DETENTION BASIN DAILY UNTIL COMPLETION OF ALL OTHER SITE RELATED CONSTRUCTION. AFTER THE FULL SCOPE OF THE CONTRACTOR'S WORK IS COMPLETED, IT SHALL BE THE OWNER'S RESPONSIBILITY TO WATER PLANTS DAILY UNTIL PLANTS HAVE BECOME WELL ESTABLISHED AND WATERING IS NO LONGER NECESSARY.

WET DETENTION BASIN CONSTRUCTION NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH TOWN OF KNIGHTDALE AND THE STATE OF NORTH CAROLINA STANDARDS AND SPECIFICATIONS.
- THE CONTRACTOR SHALL WARRANTY ALL PLANTED MATERIALS FOR A PERIOD OF 2 YEARS FROM DATE OF INSTALLATION. AT THE END OF THE FIRST YEAR AND AT THE END OF THE SECOND YEAR, THE CONTRACTOR SHALL REPLACE ALL PLANTS WHICH DO NOT SURVIVE. ANY HEALTHY PLANTS DAMAGED DURING PLANT REPLACEMENT SHALL ALSO BE REPLACED.
- LANDSCAPING PLANTINGS SHOWN HEREON SHALL BE INSTALLED DURING FALL SEASON OR EARLY WINTER IF POSSIBLE FOR MAXIMUM PLANT SURVIVABILITY.
- THE CONTRACTOR OR OWNER SHALL EMPLOY A GEOTECHNICAL ENGINEER TO TEST ALL EMBANKMENTS AND FILL PLACEMENT FOR PROPER COMPACTION. PROPER COMPACTION SHALL BE PER THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS OR THESE PLANS, WHICHEVER IS MORE STRINGENT. EMBANKMENTS FOR BASINS SHALL BE PLACED IN 6 INCH LOOSE LAYERS AND SHALL BE COMPACTED TO A DENSITY OF NO LESS THAN 95% OF THE STANDARD PROCTOR MAXIMUM DENSITY AT A MOISTURE CONTENT OF + OR - TWO PERCENTAGE POINTS OF THE OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM D698. THE CONTRACTOR SHALL TAKE PHOTOGRAPHS OF THE OUTLET STRUCTURE AT ALL PHASES OF INSTALLATION AND SHALL RETAIN WITH GEOTECHNICAL TESTING DATA. THE CONTRACTOR SHALL ALSO RETAIN ALL SHIPPING RECORDS AND SPECIFICATIONS FOR THE OUTLET STRUCTURE MATERIALS AND STRUCTURES. ALL OF THE ABOVE DATA MAY BE REQUIRED AS PART OF THE MUNICIPALITY AS-BUILT PROCESS AND SHALL BE MADE AVAILABLE TO THE ENGINEER UPON REQUEST. THE CONTRACTOR AND OWNER SHALL HAVE DOCUMENTATION OF THESE TESTS AVAILABLE UPON REQUEST.
- TOLERANCES FOR FINAL GRADES SHALL BE WITHIN +/- 0.20 FEET. THE TOWN OF KNIGHTDALE WILL REQUIRE AN ASBUILT SURVEY OF THE CONSTRUCTED WET DETENTION BASIN THEREFORE STRICT ADHERENCE TO THE GRADING ON THIS PLAN AND THE TOLERANCES SPECIFIED HEREON SHALL BE REQUIRED PRIOR TO CERTIFICATION BY THE ENGINEER THAT THE WET DETENTION BASIN HAS BEEN BUILT IN COMPLIANCE WITH THESE DRAWINGS. UPON COMPLETION OF THE FINAL GRADING (PRIOR TO PLACEMENT OF ANY PLANT MATERIAL) THE CONTRACTOR SHALL CONTACT THE SURVEYOR TO SURVEY THE ASBUILT CONSTRUCTED WET DETENTION BASIN. THE CONTRACTOR SHALL NOTIFY THE ENGINEER THAT THE CONSTRUCTED WET DETENTION BASIN HAS BEEN COMPLETED AND THE ENGINEER SHALL EVALUATE THE ASBUILT SURVEY DATA FOR COMPLIANCE WITH THESE DRAWINGS. IF THE WET DETENTION BASIN IS FOUND TO BE OUT OF COMPLIANCE WITH THESE DRAWINGS, THE CONTRACTOR SHALL REGRADE THE WET DETENTION BASIN AS NECESSARY TO BRING THE WET DETENTION BASIN INTO COMPLIANCE WITH THESE DRAWINGS. THE COST OF ANY ADDITIONAL SURVEY OR ENGINEERING EVALUATION REQUIRED RESULTING FROM INCOMPLETE OR INCORRECT GRADING OF THE WET DETENTION BASIN SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

WETLANDS EXIST ON-SITE
FLOODPLAINS EXIST ON-SITE

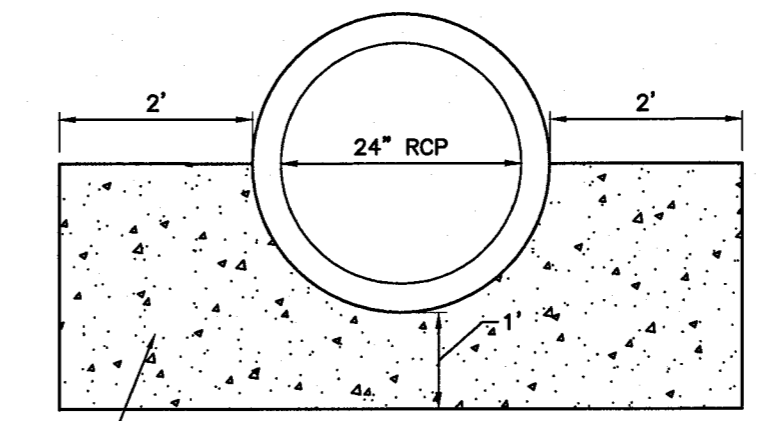
NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF KNIGHTDALE AND NCDOT

a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: *[Signature]* Date: 2-1-2023
Town Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

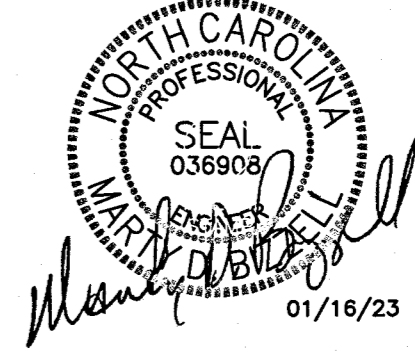
By: *[Signature]* Date: 2-2-2023
Administrator



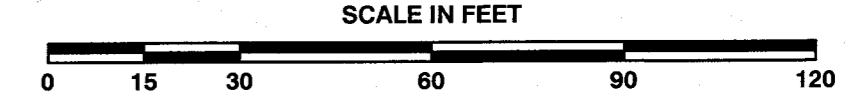
4000 PSI MONOLITHIC CONCRETE CRADLE UNDER FULL LENGTH OF PIPE. CONCRETE SHALL BE 2-2.5" SLUMP. CERTIFICATION THAT CONCRETE MEETS THESE SPECIFICATIONS SHALL BE PROVIDED TO THE OWNER. PLACE UNDER PIPE WITH HAND EQUIPMENT AND VIBRATE INTERNALLY FOR CONSOLIDATION. FINISH SHALL BE "ROUGH". FLOWABLE FILLS, SLURRIES, OR OR GELS ARE NOT PERMITTED.

CONCRETE CRADLE DETAIL

NOT TO SCALE



01/16/23



BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
TELEPHONE: (919) 851-4422 OR (800) 354-1879 FAX: (919) 851-8668
CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0287)

NO.	DATE	DESCRIPTION	BY	REVISIONS
6	01-16-23	T&K COMMENTS/SIGNATURE SET	RAB	
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB	
4	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB	
3	06-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB	
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB	
1		DESCRIPTION	BY	

09-07-2021
03-20-2017
03-20-2017
03-20-2017

SCM 1 ENLARGED
PLAN AND DETAILS

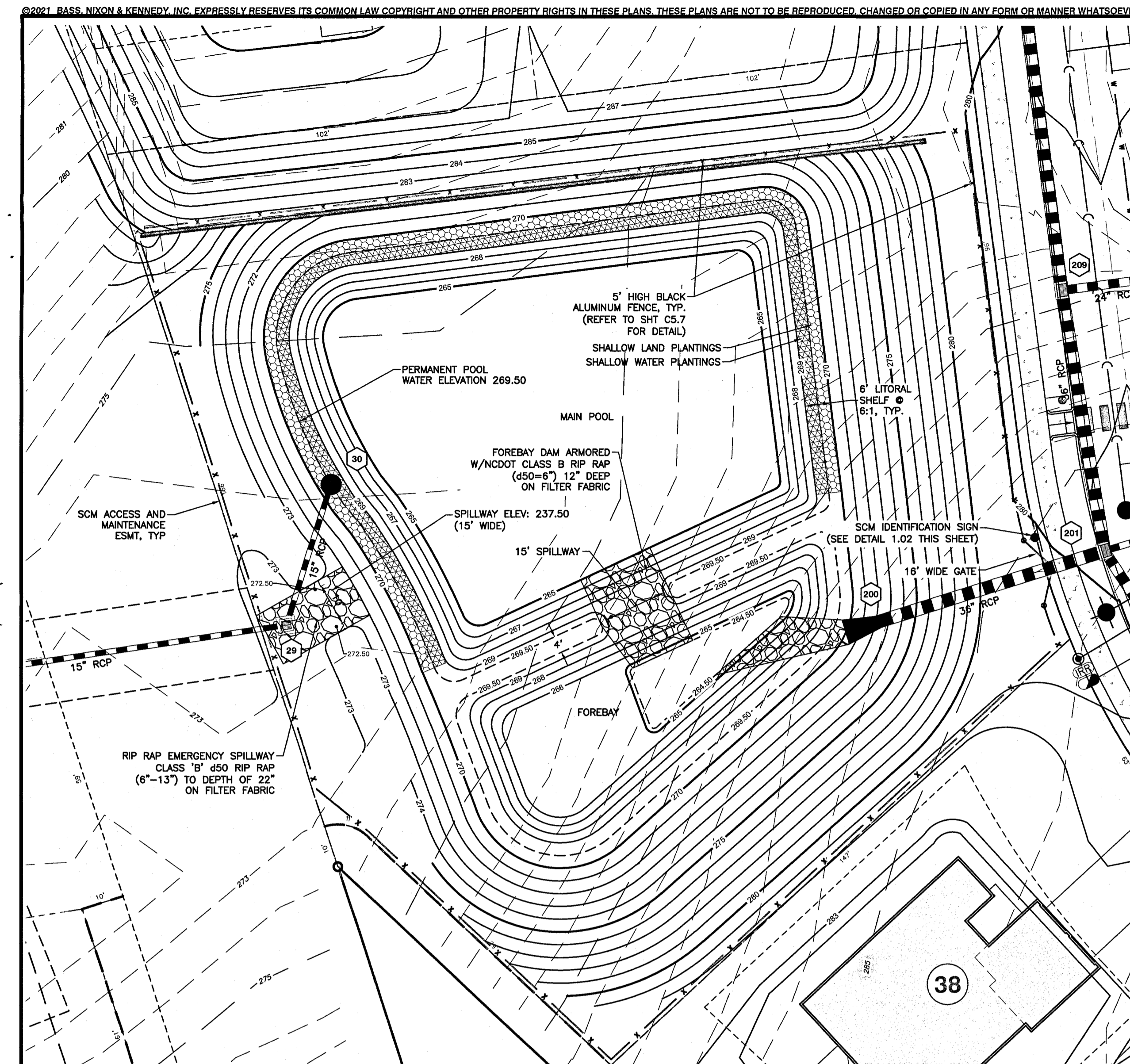
SCALE: 1" = 30'

CHK BY: HDB

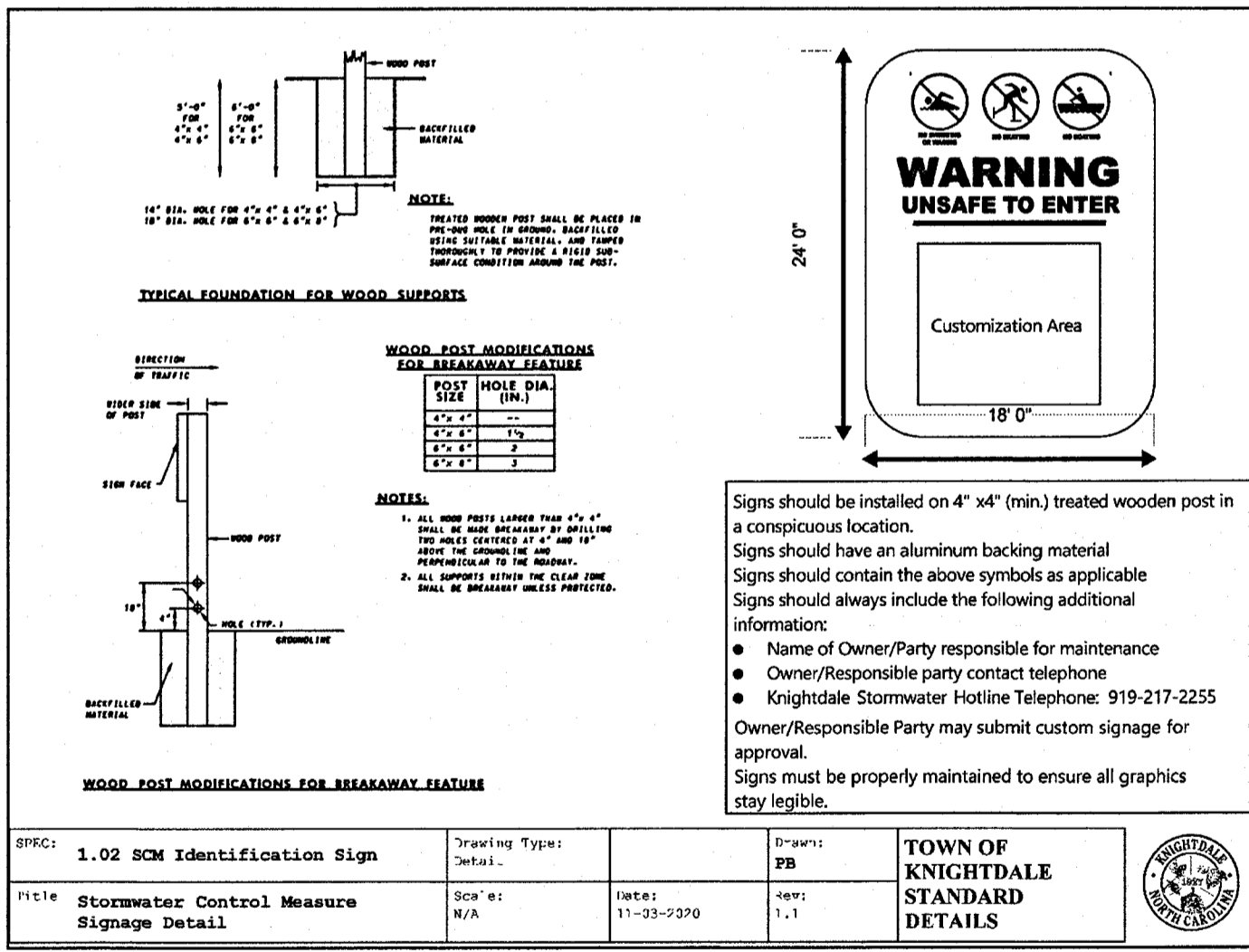
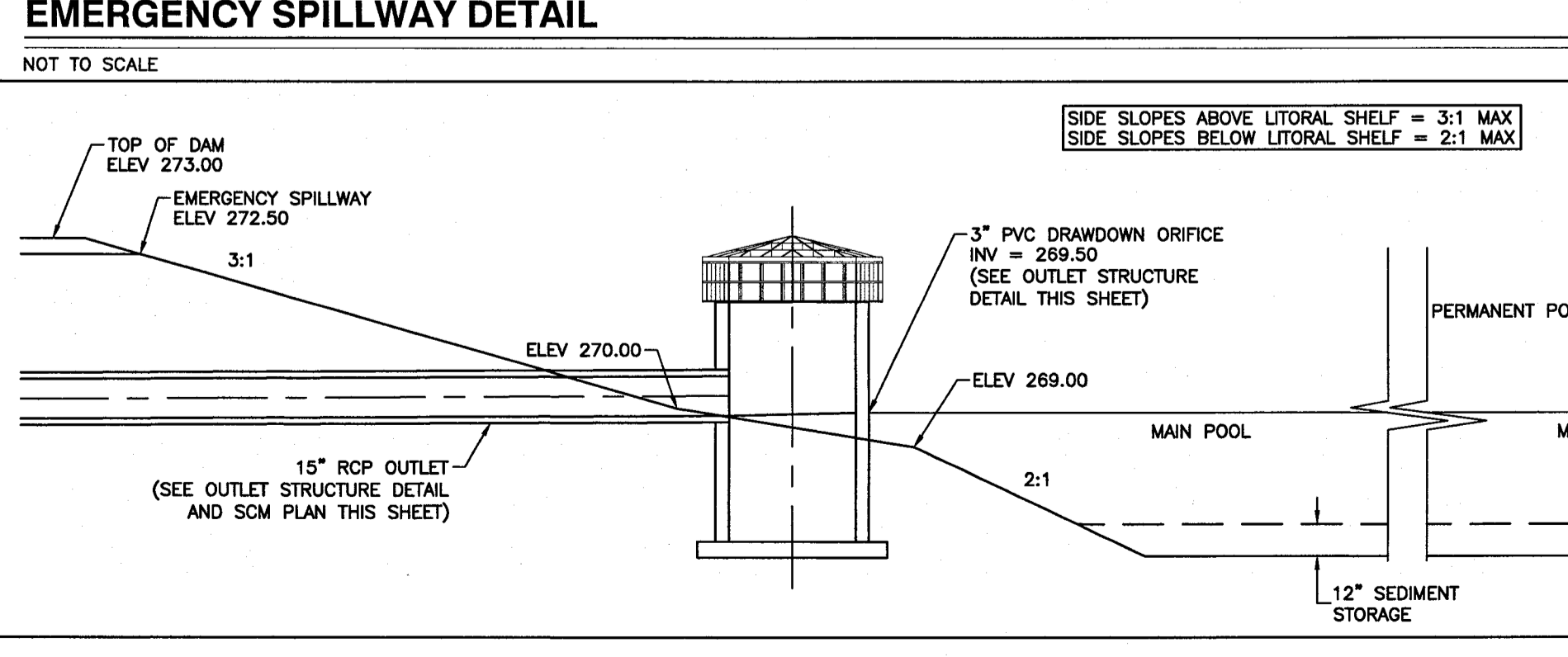
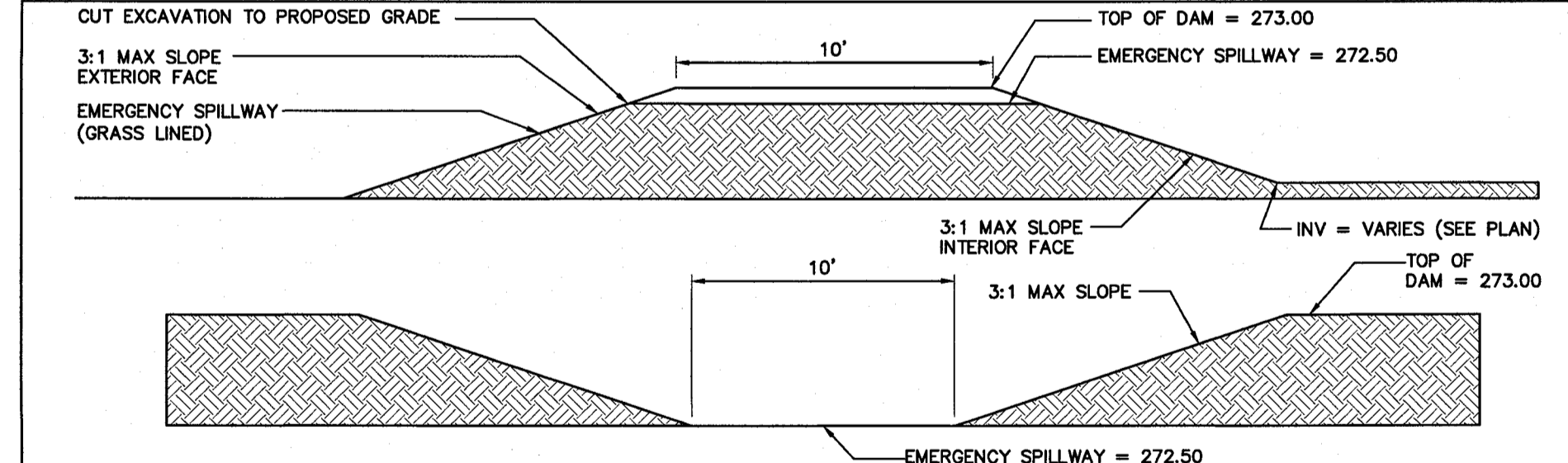
VILLAGE GATE

S. SMITHFIELD ROAD
TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

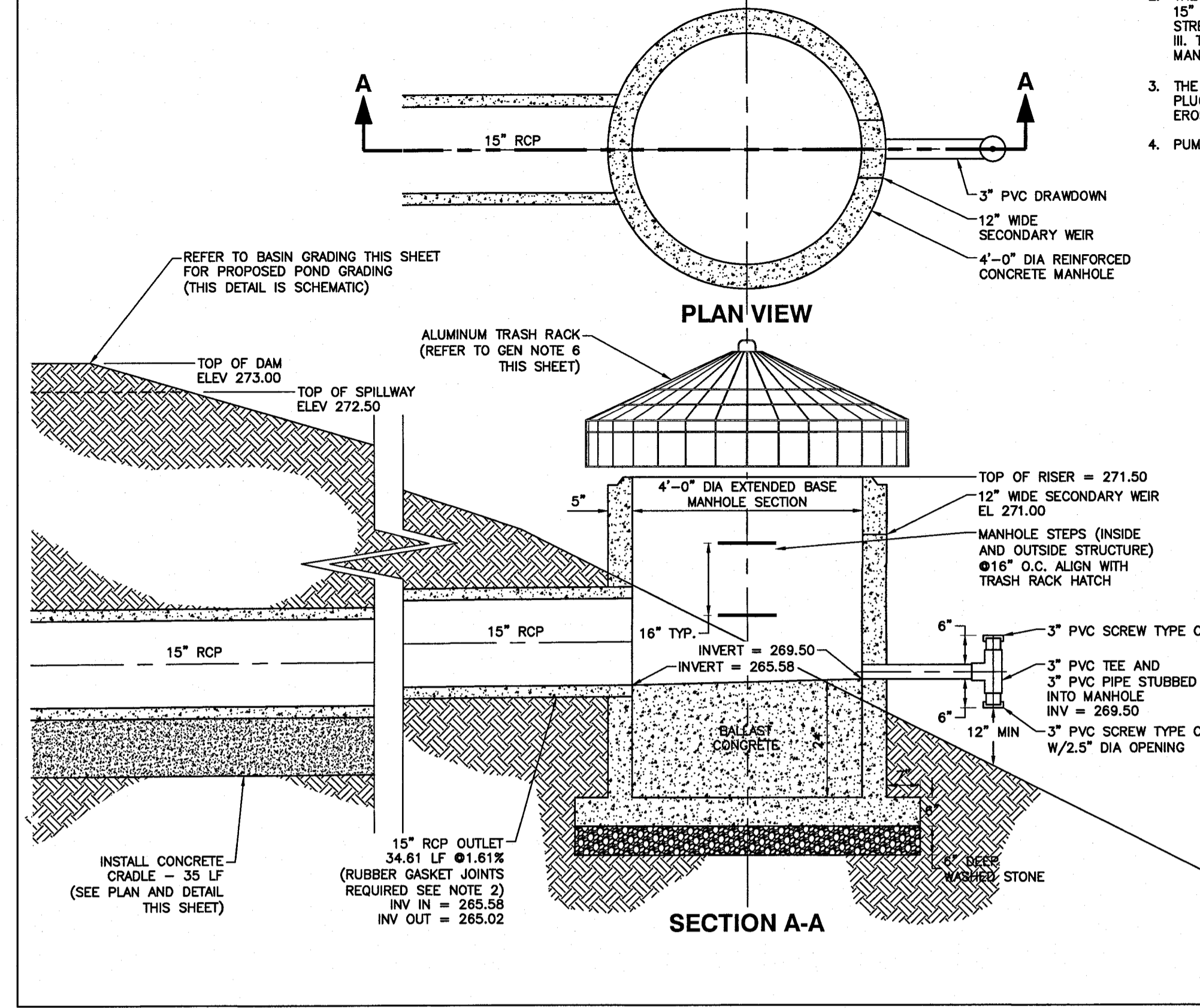
SHEET
C3.6



KEY	QUANT.	BOTANICAL NAME	COMMON NAME	CONTAINER	SPACING	NOTE
SHALLOW LAND PLANTINGS						
EF	110	EUPATORIADALPHIS FISTULOSIS	JOE PYE WEED	4" POT	24" O.C.	FULL BUSHY CONTAINER
HC	110	HIBISCUS COCCINEUS	SCARLET ROSEMALLOW	4" POT	24" O.C.	FULL BUSHY CONTAINER
SHALLOW WATER PLANTINGS						
NL	106	NUPHAR LUTEA	SPATTERDOCK LILY	4" POT	24" O.C.	FULL BUSHY CONTAINER
SA	106	SCIRPUS ACUTUS	HARDSTEM BULLRUSH	4" POT	24" O.C.	FULL BUSHY CONTAINER



Q100 WL = 270.90
 Q10 WL = 270.56
 O WL = 270.19
 TEMP POOL WL = 270.72
 PERM POOL WL = 269.50



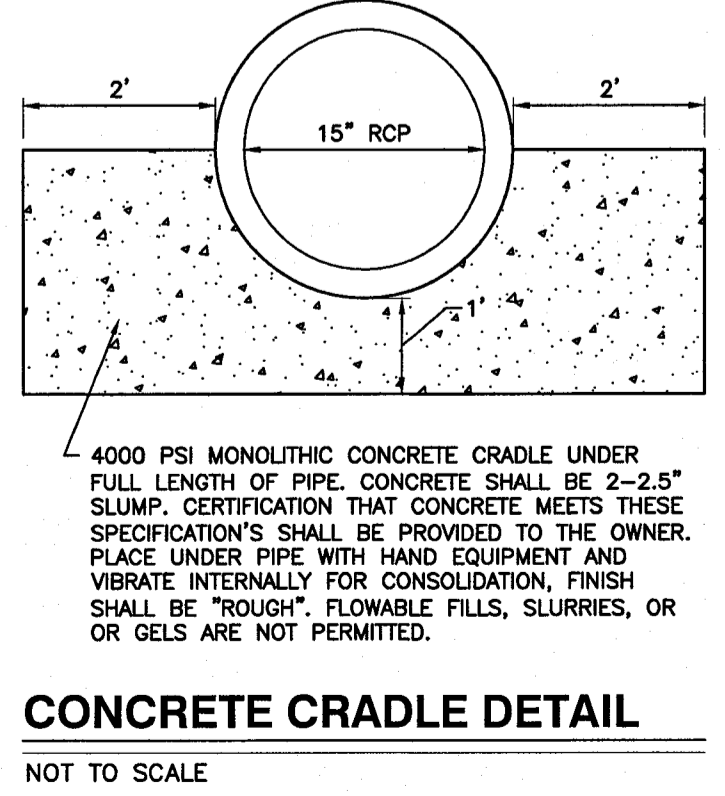
- NOTES:
- RISER STRUCTURE SECTIONS SHALL BE STRAPPED TOGETHER WITH STAINLESS STEEL STRAPS.
 - THE PRINCIPAL SPILLWAY PIPE (PSP) SHALL BE 15" RCP AND SHALL HAVE A MINIMUM PIPE STRENGTH CONFORMING TO ASTM C-76, CLASS III. THE PSP SHALL BE GASKETED JOINT PIPE MANUFACTURED WITHOUT LIFT HOLES.
 - THE END OF THE 3" DRAINPIPE SHALL BE PLUGGED WHILE BASIN IS BEING USED FOR SITE EROSION CONTROL.
 - PUMPING REQUIRED TO DRAIN POND.

WET DETENTION BASIN CONSTRUCTION SEQUENCE

- UNDER NO CIRCUMSTANCES SHALL THE WET DETENTION BASIN BE FINALIZED AND PLANTED PRIOR TO COMPLETION OF CONSTRUCTION AND STABILIZATION OF ALL AREAS WHICH DRAIN TO IT.
- IF WET DETENTION BASIN IS TO BE USED AS A SEDIMENT BASIN DURING CONSTRUCTION, ROUGH GRADE PER PLANS, FILL PLACEMENT AND OUTLET STRUCTURE CONSTRUCTION SHALL BE IN COMPLIANCE WITH DETAILS AND WET DETENTION BASIN CONSTRUCTION NOTES HEREON. IF THE WET DETENTION BASIN HAS BEEN PREVIOUSLY ROUGH GRADED AND/OR USED AS A SEDIMENT BASIN, REMOVE AND DISPOSE OF SEDIMENT DEPOSITS WITHIN THE BASIN AREA.
- ROUGH GRADE WET DETENTION BASIN AS NECESSARY AFTER SEDIMENT REMOVAL AND TO FINALIZE BASIN GRADES. ALL FILL PLACEMENT SHALL BE IN COMPLIANCE WITH THE SPECIFICATION NOTES ON THIS SHEET.
- AFTER ROUGH GRADING WET DETENTION BASIN, BEGIN FINE GRADING TO CONSTRUCT FOREBAY BERMS/WALLS AND MAIN POOL AREA. GRADING TOLERANCE FOR THE WET DETENTION BASIN SHALL BE +/- 0.20 FEET FROM GRADES SHOWN ON THIS PLAN.
- IN CONJUNCTION WITH GRADING AND FILL PLACEMENT, CONSTRUCT OUTLET STRUCTURES TO BRING IT INTO COMPLIANCE WITH THESE PLANS. IF OUTLET STRUCTURES WERE CONSTRUCTED WITH ROUGH GRADING WHEN USING THE WET DETENTION BASIN AS SEDIMENT BASIN, SKIP TO NEXT STEP.
- WHEN FINE GRADING AND OUTLET STRUCTURE IS COMPLETE, CALL SURVEYOR AND ENGINEER FOR ASBUILT SURVEY AND EVALUATION.
- IF SURVEYOR AND ENGINEER DETERMINE THAT GRADING IS NOT IN COMPLIANCE WITH THESE DRAWINGS, MAKE CORRECTIONS AS REQUIRED BY THE ENGINEER, AND REPEAT PREVIOUS STEP. OTHERWISE PROCEED TO NEXT STEP.
- UPON NOTIFICATION FROM THE ENGINEER THAT THE WET DETENTION BASIN IS IN COMPLIANCE WITH THESE DRAWINGS, PROVIDE LANDSCAPING IN COMPLIANCE WITH THE PLAN SHOWN ON THIS SHEET AND ANY ADDITIONAL SPECIFICATIONS FROM THE OWNER. IF TIMING IS SUCH THAT PLANTINGS WOULD OCCUR IN SUMMER MONTHS, COORDINATE WITH THE ENGINEER, OWNER, AND THE LOCAL MUNICIPALITY ABOUT DELAYING PLANTINGS UNTIL FALL OR EARLY WINTER FOR MAXIMUM SURVIVABILITY OF PLANTINGS.
- SEED ALL DISTURBED AREAS PER THE SEEDING SCHEDULE SHOWN IN THESE PLANS.
- PRIOR TO FINAL ACCEPTANCE AND CERTIFICATION, ALL AQUATIC VEGETATION SHALL BE INSTALLED, AND 80% GERMINATION OF NON CLUMPING TURF GRASS ACHIEVED ON ALL APPLICABLE SLOPES AND EMBANKMENTS. CALL TOWN OF KNIGHTDALE STORMWATER INSPECTOR FOR APPROVAL OF STABILIZATION.
- CONTRACTOR SHALL WATER NEW PLANT MATERIAL PLANTED IN THE WET DETENTION BASIN DAILY UNTIL COMPLETION OF ALL OTHER SITE RELATED CONSTRUCTION. AFTER THE FULL SCOPE OF THE CONTRACTOR'S WORK IS COMPLETED, IT SHALL BE THE OWNER'S RESPONSIBILITY TO WATER PLANTS DAILY UNTIL PLANTS HAVE BECOME WELL ESTABLISHED AND WATERING IS NO LONGER NECESSARY.

WET DETENTION BASIN CONSTRUCTION NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH TOWN OF KNIGHTDALE AND THE STATE OF NORTH CAROLINA STANDARDS AND SPECIFICATIONS.
- THE CONTRACTOR SHALL WARRANTY ALL PLANTED MATERIALS FOR A PERIOD OF 2 YEARS FROM DATE OF INSTALLATION. AT THE END OF THE FIRST YEAR AND AT THE END OF THE SECOND YEAR, THE CONTRACTOR SHALL REPLACE ALL PLANTS WHICH DO NOT SURVIVE. ANY HEALTHY PLANTS DAMAGED DURING PLANT REPLACEMENT SHALL ALSO BE REPLACED.
- LANDSCAPING PLANTINGS SHOWN HEREON SHALL BE INSTALLED DURING FALL SEASON OR EARLY WINTER IF POSSIBLE FOR MAXIMUM PLANT SURVIVABILITY.
- THE CONTRACTOR OR OWNER SHALL EMPLOY A GEOTECHNICAL ENGINEER TO TEST ALL EMBANKMENTS AND FILL PLACEMENT FOR PROPER COMPACTION. PROPER COMPACTION SHALL BE PER THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS OR THESE PLANS, WHICHEVER IS MORE STRINGENT. EMBANKMENTS FOR BASINS SHALL BE PLACED IN 8 INCH LOOSE LAYERS AND SHALL BE COMPACTED TO A DENSITY OF NO LESS THAN 95% OF THE STANDARD PROCTOR MAXIMUM DENSITY AT A MOISTURE CONTENT OF +/- TWO PERCENTAGE POINTS OF THE OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM D698. THE CONTRACTOR SHALL TAKE PHOTOGRAPHS OF THE OUTLET STRUCTURE AT ALL PHASES OF INSTALLATION AND SHALL RETAIN WITH GEOTECHNICAL TESTING DATA. CONTRACTOR SHALL ALSO RETAIN ALL SHIPPING RECORDS AND SPECIFICATIONS FOR THE OUTLET STRUCTURE MATERIALS AND STRUCTURES. ALL OF THE ABOVE DATA MAY BE REQUIRED AS PART OF THE MUNICIPALITY AS-BUILT PROCESS AND SHALL BE MADE AVAILABLE TO THE ENGINEER UPON REQUEST. THE CONTRACTOR AND OWNER SHALL HAVE DOCUMENTATION OF THESE TESTS AVAILABLE UPON REQUEST.
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WETLANDS EXIST ON-SITE
FLOODPLAINS EXIST ON-SITE

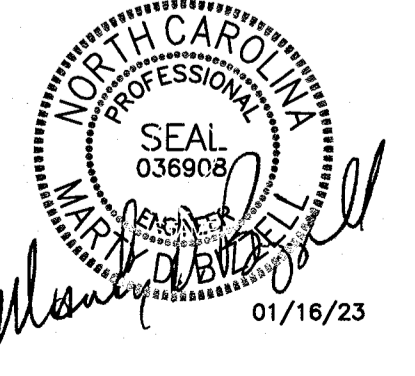
NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF KNIGHTDALE AND NCDOT

a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: *[Signature]* Date: 2-1-2023
 Town Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: *[Signature]* Date: 2-2-2023
 Administrator



BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919)851-4422 OR (800)354-1879 FAX: (919)851-8968
 CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

NO.	DATE	DESCRIPTION	BY
1	03-20-2023	TOWN OF KNIGHTDALE COMMENTS	RAE
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAE
3	06-03-22	TOWN OF KNIGHTDALE COMMENTS	RAE
4	08-01-22	TOWN OF KNIGHTDALE COMMENTS	RAE
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAE
6	01-16-23	TOWN OF KNIGHTDALE COMMENTS	RAE

VILLAGE GATE
 S. SMITHFIELD ROAD
 TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

RELEASER FOR CONSTRUCTION OR BID SOLICITATION

SHEET **C3.7**

R:\2020\20097 - Knightdale Mixed Use\CIVIL\04 Construction\05 - 20097 SCM Details\CDs.dwg, PIPE TABLE, 1/16/2023 2:40:41 PM, robert.burzone

STORMDRAINAGE PIPE TABLE							
U.S. STRUCTURE	D.S. STRUCTURE	U.S. INVERT	D.S. INVERT	LENGTH	DIAMETER	MATERIAL	SLOPE
2	1	227.80	222.00	85.00	24	RCP	6.82%
4	3	232.97	232.50	46.54	48	RCP	1.00%
5	4	233.26	233.07	19.09	48	RCP	1.00%
6	5	236.35	233.36	195.76	36	RCP	1.53%
7	6	236.96	236.55	40.87	36	RCP	1.00%
8	7	238.98	237.16	181.57	36	RCP	1.00%
8A	8	240.47	239.18	129.30	36	RCP	1.00%
9	8A	241.26	240.67	59.08	36	RCP	1.00%
10	9	242.06	241.46	60.39	36	RCP	1.00%
10A	10	249.15	248.63	51.90	18	RCP	1.00%
11	10	243.24	242.16	108.35	36	RCP	1.00%
12	11	244.37	243.34	103.23	36	RCP	1.00%
13	12	245.00	244.47	52.77	36	RCP	1.00%
15	13	248.44	245.10	175.70	36	RCP	1.90%
16	15	249.76	248.64	67.83	36	RCP	1.65%
17	16	250.78	249.86	91.90	36	RCP	1.00%
18	17	253.42	250.98	244.36	36	RCP	1.00%
19	18	254.92	253.52	139.64	30	RCP	1.00%
20	19	256.96	255.02	194.17	30	RCP	1.00%
21	20	257.37	257.06	30.84	30	RCP	1.00%
22	21	258.67	257.47	120.05	30	RCP	1.00%
23	22	259.33	258.77	55.86	30	RCP	1.00%
24	23	259.84	259.43	41.13	30	RCP	1.00%
25	24	260.51	259.94	56.97	30	RCP	1.00%
26	25	262.10	260.61	149.49	24	RCP	1.00%
27	26	262.45	262.20	24.83	24	RCP	1.00%
28	27	263.88	262.55	132.77	18	RCP	1.00%
29	28	264.92	263.98	93.54	15	RCP	1.00%
30	29	265.58	265.02	34.61	15	RCP	1.61%
31	4	236.82	233.53	113.00	48	RCP	3.00%
32	31	243.83	237.92	180.60	36	RCP	3.27%
33	32	246.09	243.93	215.40	36	RCP	1.00%
34	33	247.24	246.19	105.37	36	RCP	1.00%
35	34	247.54	247.34	20.37	36	RCP	1.00%
36	35	248.28	247.64	63.71	36	RCP	1.00%
37	36	248.97	248.38	59.26	36	RCP	1.00%
38	37	249.76	249.07	69.35	36	RCP	1.00%
39	38	250.16	249.86	29.87	30	RCP	1.00%
40	39	250.87	250.26	61.38	30	RCP	1.00%
41	40	255.15	250.97	90.21	30	RCP	4.63%
42	41	258.13	255.65	108.33	24	RCP	2.28%
43	42	262.43	258.23	161.55	24	RCP	2.60%
43A	43	263.18	262.96	22.45	24	RCP	1.00%
44	43	266.43	262.77	140.67	24	RCP	2.60%
45	44	270.21	266.93	131.23	18	RCP	2.50%
46	45	272.26	270.31	71.00	15	RCP	2.75%
47	46	280.27	272.36	316.27	15	RCP	2.50%
48	47	281.05	280.37	24.83	15	RCP	2.74%
49	8	246.38	245.65	72.53	15	RCP	1.00%
50	49	248.26	246.48	71.28	15	RCP	2.50%
51	50	250.36	248.46	74.62	15	RCP	2.55%
52	51	252.26	250.46	120.00	15	RCP	1.50%
53	10A	249.75	249.35	40.19	18	RCP	1.00%
54	53	251.54	249.95	158.95	18	RCP	1.00%
54A	54	252.61	251.74	87.25	15	RCP	1.00%
54B	54A	253.51	252.81	70.40	15	RCP	1.00%
54C	54B	254.47	253.71	76.43	15	RCP	1.00%
55	54	252.09	251.74	34.80	15	RCP	1.00%
55A	55	252.57	252.29	28.40	15	RCP	1.00%
56	55A	253.38	252.77	60.82	15	RCP	1.00%
57	56	255.20	253.58	80.70	15	RCP	2.00%
58	9	248.77	243.40	65.08	15	RCP	8.24%
59	10	247.86	247.39	47.32	15	RCP	1.00%
60	59	248.37	247.96	40.83	15	RCP	1.00%
61	11	249.37	249.12	24.83	15	RCP	1.00%
62	13	245.35	245.10	24.80	30	RCP	1.00%
63	62	251.52	245.55	122.37	15	RCP	4.88%
64	63	255.32	251.72	87.12	15	RCP	4.13%
65	64	256.53	255.52	100.56	12	RCP	1.00%
69	15	252.90	249.18	37.15	30	RCP	10.00%
69A	16	250.21	249.96	24.83	15	RCP	1.00%
70	69	257.18	253.00	86.98	15	RCP	4.81%
71	70	265.66	257.28	279.44	15	RCP	3.00%
72	17	255.74	255.43	30.83	15	RCP	1.01%
72A	72	258.23	255.94	28.77	15	RCP	7.95%

STORMDRAINAGE PIPE TABLE							
U.S. STRUCTURE	D.S. STRUCTURE	U.S. INVERT	D.S. INVERT	LENGTH	DIAMETER	MATERIAL	SLOPE
72B	72A	261.75	258.43	58.51	15	RCP	5.67%
73	18	265.60	265.29	30.83	15	RCP	1.00%
74	73	266.27	265.70	56.89	15	RCP	1.00%
75	74	266.72	266.37	34.83	15	RCP	1.00%
76	19	270.84	270.53	30.83	15	RCP	1.01%
77	76	271.43	270.94	48.68	15	RCP	1.01%
78	77	273.00	271.53	147.38	15	RCP	1.00%
79	78	273.47	273.10	37.08	15	RCP	1.00%
80	20	271.93	271.43	49.72	15	RCP	1.00%
82	80	272.45	272.03	41.70	15	RCP	1.01%
83	22	267.50	267.22	28.24	15	RCP	1.00%
83A	83	268.23	267.60	53.36	12	RCP	1.19%
83B	83A	269.33	268.33	37.61	12	RCP	2.65%
84	25	263.00	262.75	24.83	18	RCP	1.01%
85	26	269.02	268.67	17.40	15	RCP	2.00%
86	85	271.66	269.12	127.22	15	RCP	2.00%
86A	86	272.72	271.76	96.43	12	RCP	1.00%
87	28	265.90	263.98	76.67	15	RCP	2.50%
88	32	244.99	243.93	53.11	30	RCP	2.00%
89	88	246.47	246.24	22.83	15	RCP	1.00%
90	89	247.66	246.57	54.42	15	RCP	2.00%
90A	90	252.25	247.76	118.76	15	RCP	3.78%
91	90	251.05	247.76	82.31	15	RCP	4.00%
92	91	252.25	251.15	58.21	15	RCP	1.89%
93	90A	252.94	252.45	16.20	15	RCP	3.00%
94	94A	253.98	253.68	30.04	24	RCP	1.00%
94A	94	253.58	252.14	144.53	24	RCP	1.00%
94B	94A	253.97	253.68	28.56	15	RCP	1.00%
95	94	254.53	254.18	34.83	24	RCP	1.00%
95A	95	255.84	254.63	95.47	15	RCP	1.27%
95B	95A	256.25	256.04	42.41	15	RCP	0.50%
95C	95B	256.61	256.45	32.63	12	RCP	0.50%
95D	95C	256.97	256.81	32.16	12	RCP	0.50%
95E	95D	257.47	257.17	59.88	12	RCP	0.50%
95F	95E	257.86	257.67	38.98	12	RCP	0.50%
95G	95F	258.26	258.06	40.44	12	RCP	0.50%
96	95	255.15	254.63	34.64	18	RCP	1.50%
97	96	256.41	255.35	70.44	18	RCP	1.50%
98	97	259.08	256.61	70.59	15	RCP	3.50%
98A	98	260.11	259.28	41.28	15	RCP	2.00%
98B	98A	260.70	260.31	38.96	15	RCP	1.00%
98C	98B	261.39	260.90	49.07	15	RCP	1.00%
99	98	261.23	259.28	55.64	15	RCP	3.50%
100	99	264.56	261.43	156.39	15	RCP	2.00%
101	97	256.74	256.61	26.27	15	RCP	0.50%
102	101	257.22	256.94	56.57	15	RCP	0.50%
103	40	251.22	250.97	24.83	24	RCP	1.00%
104	103	252.30	251.32	75.26	15	RCP	1.30%
105	104	252.75	252.40	34.89	15	RCP	1.00%
106	41	256.13	255.88	25.32	24	RCP	1.00%
107	106	256.66	256.33	32.66	15	RCP	1.00%
108	42	258.50	258.23	26.67	15	RCP	1.00%
109	42	258.48	258.23	24.83	24	RCP	1.00%
110	43A	263.55	263.28	26.95	15	RCP	1.00%
111	110	264.00	263.65	34.83	15	RCP	1.00%
112	43	262.78	262.53	24.83	24	RCP	1.00%
113	44	267.32	266.93	39.26	18	RCP	1.00%
114	44	267.18	266.93	24.83	18	RCP	1.00%
115	45	270.81	270.31	50.36	18	RCP	1.00%
116	115	273.92	270.91	216.35	15	RCP	1.39%
117	116	274.60	274.02	28.83	15	RCP	2.00%
118	115	272.06	270.91	28.83	15	RCP	4.00%
119	46	272.61	272.36	24.83	15	RCP	1.00%
120	53	250.26	249.95	31.32	15	RCP	1.00%
121	110	265.00	263.65	134.87	15	RCP	1.00%
122	121	265.43	265.20	23.22	15	RCP	1.00%
201	200	270.10	269.46	63.82	36	RCP	1.00%
202	201	273.05	272.05	100.43	30	RCP	1.00%
203	202	278.62	273.15	156.16	24	RCP	3.50%
204	203	280.87	278.72	53.84	15	RCP	4.00%
205	204	290.39	280.97	250.62	15	RCP	3.78%
206	205	295.72	290.49	174.19	15	RCP	3.00%
207	206	298.13	295.82	92.29	15	RCP	2.50%
208	207	299.12	298.14	39.26	15	RCP	2.50%
209	201	271.02	270.20	61.97	36	RCP	1.32%

STORMDRAINAGE PIPE TABLE							
U.S. STRUCTURE	D.S. STRUCTURE	U.S. INVERT	D.S. INVERT	LENGTH	DIAMETER	MATERIAL	SLOPE
210	209	274.97	271.22	164.36	36	RCP	2.28%
211	210	275.81	275.07	24.83	36	RCP	3.00%
212	211	277.21	275.91	43.50	36	RCP	3.00%
213	212	282.30	277.31	166.42	24	RCP	3.00%
214	213	280.76	282.40	238.87	15	RCP	3.50%
215	214	291.11	290.86	24.84	15	RCP	1.01%
216	201	274.17	272.93	24.85	18	RCP	5.00%
217	216	277.03	274.27	137.87	15	RCP	

STORMDRAINAGE STRUCTURE TABLE. Columns: STRUCTURE NAME, INSERTION RIM ELEVATION (NOT T/C), STRUCTURE TYPE. Rows 1-39.

STORMDRAINAGE STRUCTURE TABLE. Columns: STRUCTURE NAME, INSERTION RIM ELEVATION (NOT T/C), STRUCTURE TYPE. Rows 40-74.

STORMDRAINAGE STRUCTURE TABLE. Columns: STRUCTURE NAME, INSERTION RIM ELEVATION (NOT T/C), STRUCTURE TYPE. Rows 75-99.

STORMDRAINAGE STRUCTURE TABLE. Columns: STRUCTURE NAME, INSERTION RIM ELEVATION (NOT T/C), STRUCTURE TYPE. Rows 100-216.

STORMDRAINAGE STRUCTURE TABLE. Columns: STRUCTURE NAME, INSERTION RIM ELEVATION (NOT T/C), STRUCTURE TYPE. Rows 217-327.

STORMDRAINAGE STRUCTURE TABLE. Columns: STRUCTURE NAME, INSERTION RIM ELEVATION (NOT T/C), STRUCTURE TYPE. Rows 328-330.



BASS, NIXON & KENNEDY, INC. CONSULTING ENGINEERS. 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607. TELEPHONE: (919) 851-4222 OR (800) 954-1879. FAX: (919) 851-8968. CERTIFICATION NUMBERS: NCBSLS (C-0110); NCBSLA (C-0287)

Revision table with columns: NO., DATE, DESCRIPTION, REVISIONS. Rows 1-6.

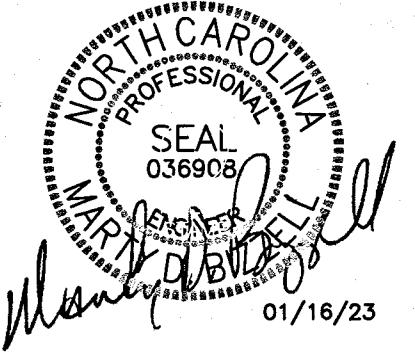
03-20-2007 JOB NO. 08-07-2021 DRAWN BY DATE 09-01-2022 TOWN OF KNIGHTDALE COMMENTS RAB

VILLAGE GATE STORMWATER STRUCTURE TABLE. S. SMITHFIELD ROAD. TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA. SCALE: N.T.S. CHK BY: MDB

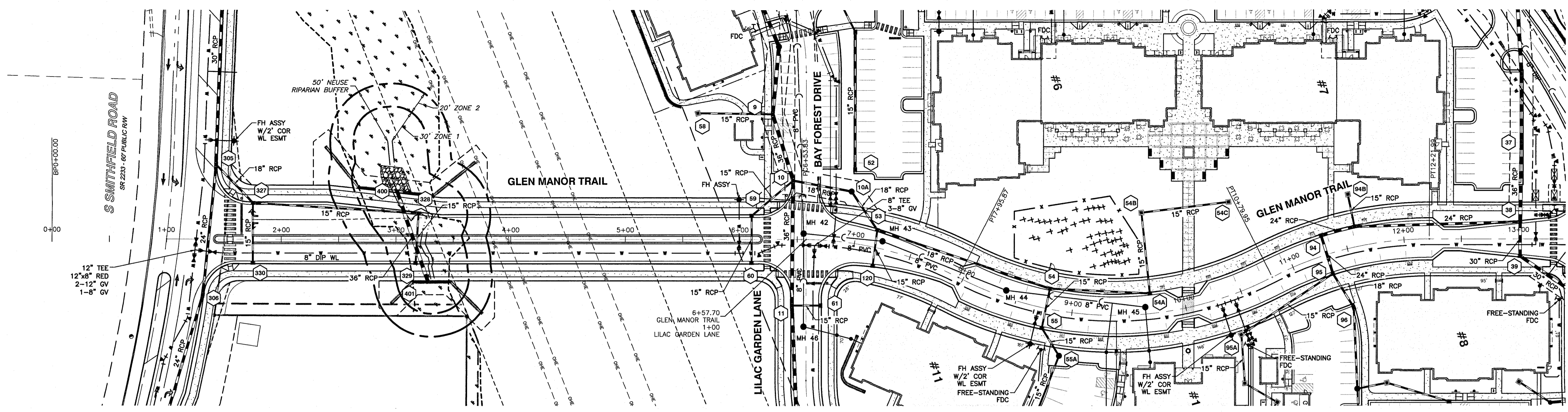
WETLANDS EXIST ON-SITE. FLOODPLAINS EXIST ON-SITE.

NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF KNIGHTDALE AND NCDOT.

Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale. By: [Signature] Date: 2-1-2023. Town Engineer. These plans are approved by the Town of Knightdale and serve as construction plans for this project. By: [Signature] Date: 2-2-2023. Administrator.



R:\2020\2007 - Knightdale Mixed Use\CIVIL\04_Construction\05_2007_SCH_Details\CDR_dwg_STRUCTURE TABLE_11162023.dwg - 2/4/2023 2:40:57 PM - robert burton



NOTE: CLASS 1 STRUCTURAL MATERIAL IS REQUIRED FROM EXISTING GROUND TO SPRING LINE OF PROPOSED PIPES IN FILL CONDITIONS.

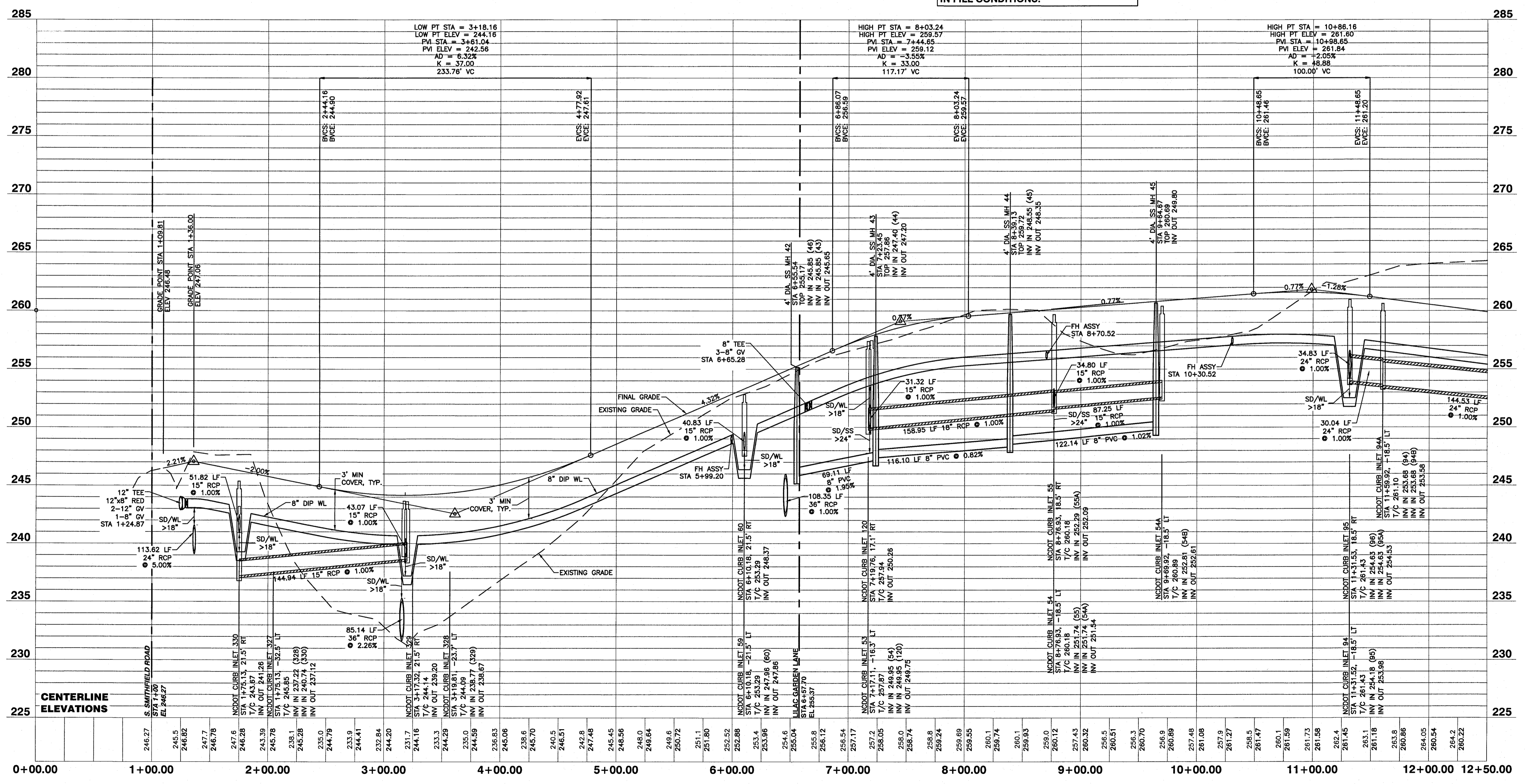
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FLOODPLAINS EXIST ON-SITE

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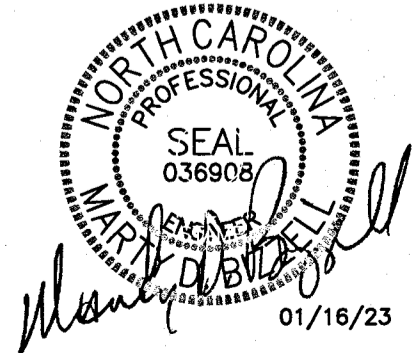
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SITE PERMITTING APPROVAL
Water and Sewer Permits (if applicable)
The City of Raleigh consents to the connection and extension of the City's Public Sewer System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # S-4916
The City of Raleigh consents to the connection and extension of the City's Public Water System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # W-3847
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City of Raleigh Public Utilities Department Permit # _____

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION
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Cydney S. Terry
City of Raleigh Development Approval
Raleigh Water Review Officer

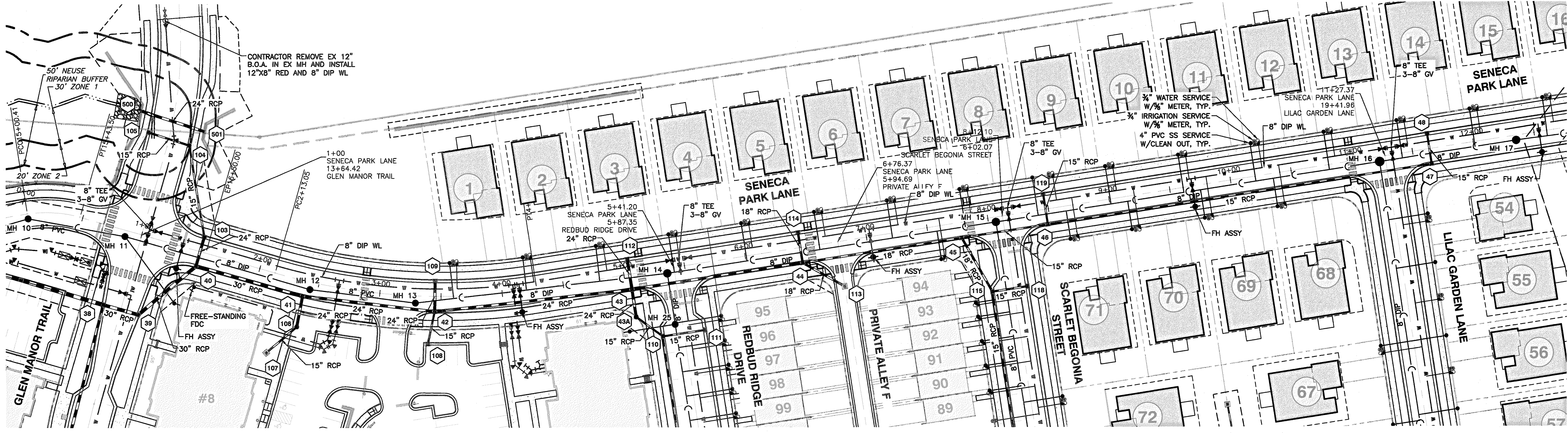
Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
By: *[Signature]* Date: 2-1-2023
Town Engineer
These plans are approved by the Town of Knightdale and serve as construction plans for this project.
By: *[Signature]* Date: 2-2-2023
Administrator



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CONSULTING ENGINEERS
6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
TELEPHONE: (919)851-4422 OR (800)354-1879 FAX: (919)851-8968
CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

RAB	NO.	DATE	BY	DESCRIPTION	REVISIONS
6	01-16-23	09-07-2021	RAB	TOWN OF KNIGHTDALE COMMENTS	BY
5	11-04-22	03-20-2017	RAB	TOWN OF KNIGHTDALE COMMENTS	BY
4	09-01-22	03-20-2017	RAB	TOWN OF KNIGHTDALE COMMENTS	BY
3	06-03-22	03-20-2017	RAB	TOWN OF KNIGHTDALE COMMENTS	BY
2	03-25-22	03-20-2017	RAB	TOWN OF KNIGHTDALE COMMENTS	BY

VILLAGE GATE
S. SMITHFIELD ROAD
TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA
SHEET C4.1



SENECA PARK LANE

NOTE: CLASS 1 STRUCTURAL MATERIAL IS REQUIRED FROM EXISTING GROUND TO SPRING LINE OF PROPOSED PIPES IN FILL CONDITIONS.

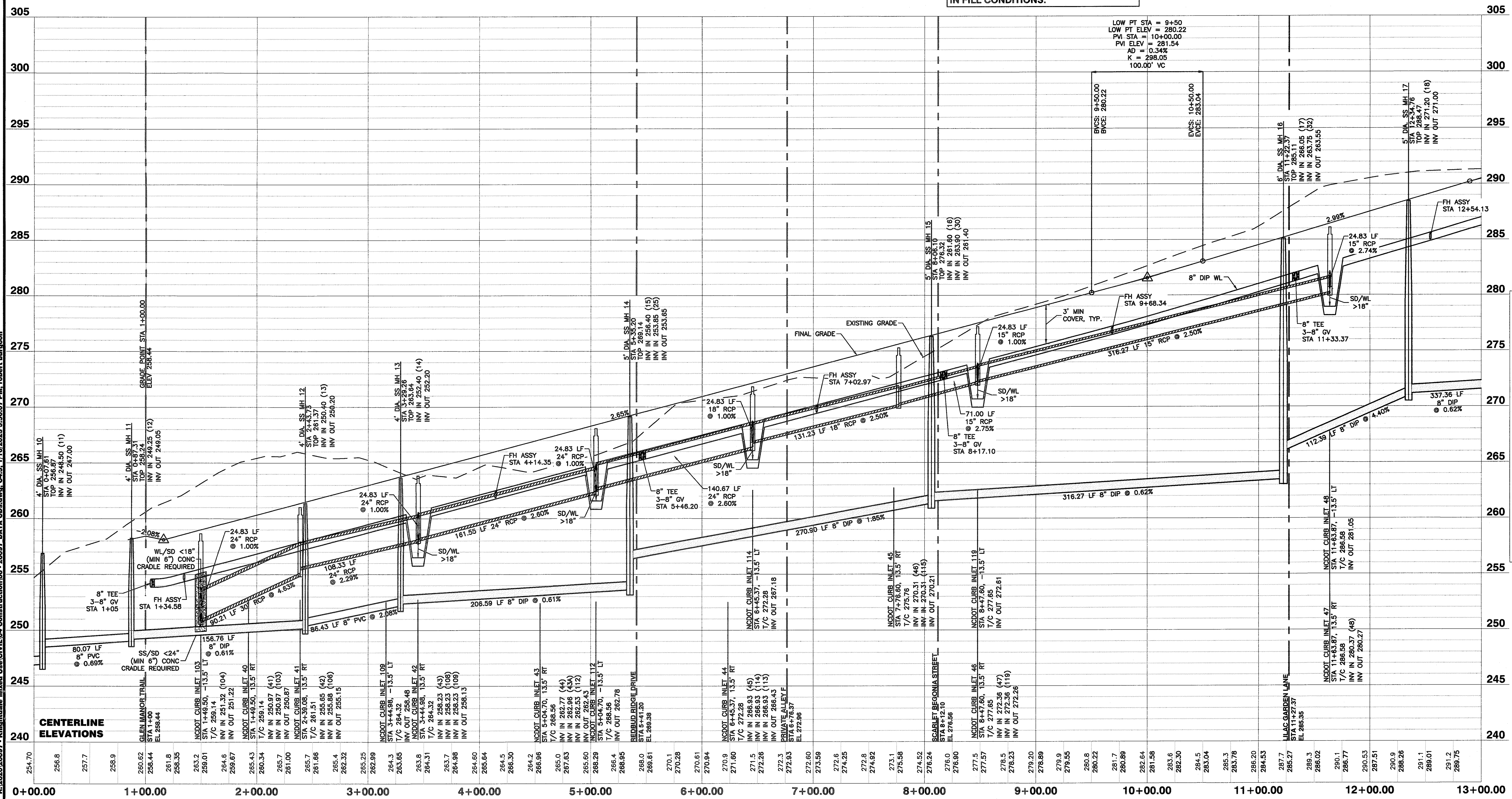
WETLANDS EXIST ON-SITE
FLOODPLAINS EXIST ON-SITE

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City of Raleigh Public Utilities Department Permit # _____

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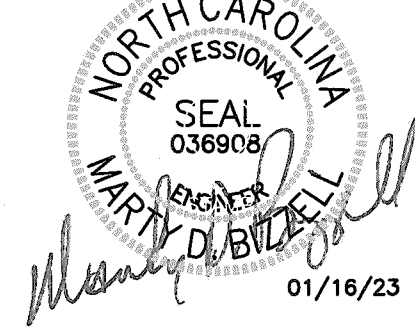
Raleigh Water Review Officer

a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: *[Signature]* Date: 2-1-2023
Town Engineer

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Administrator

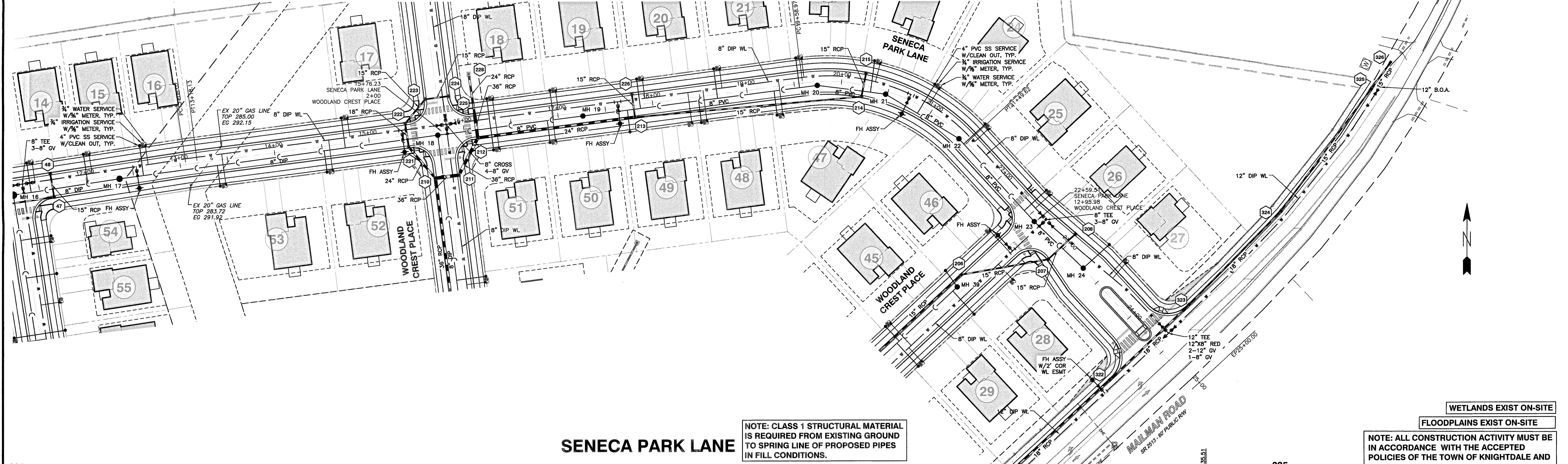


BASS, NIXON & KENNEDY, INC.
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6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
TELEPHONE: (919) 851-4422 OR (800) 354-1879 FAX: (919) 851-8868
CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

NO.	DATE	DESCRIPTION	BY
1	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB
3	05-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
6	01-16-23	TOK COMMENTS/SIGNATURE SET	RAB

VILLAGE GATE
S. SMITHFIELD ROAD
TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET C4.3



SENECA PARK LANE

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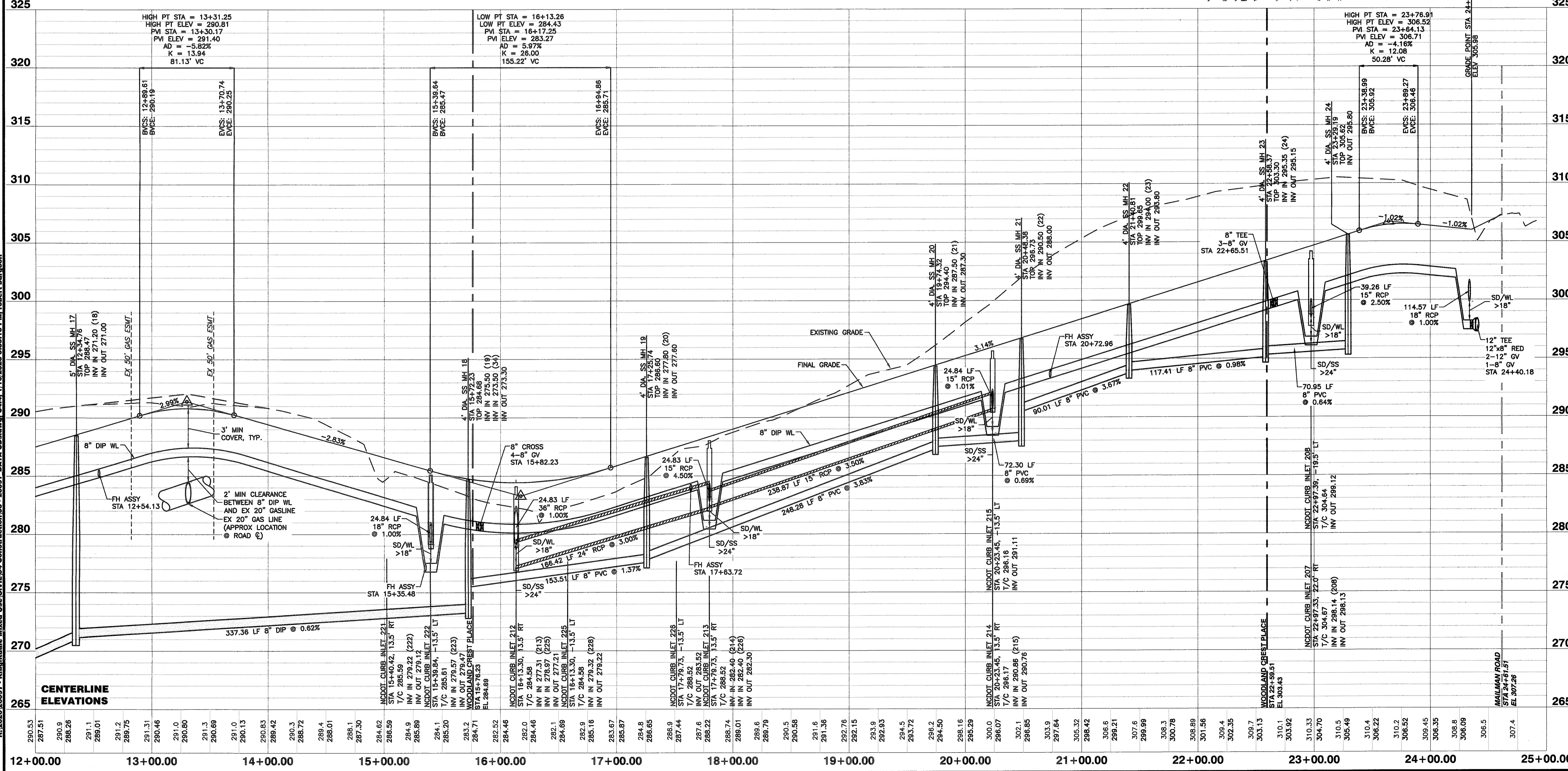
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City of Raleigh Public Utilities Department Permit #

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City of Raleigh Development Approval

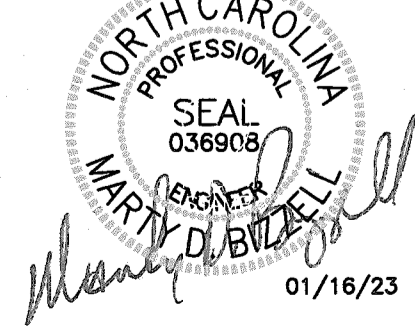
Raleigh Water Review Officer

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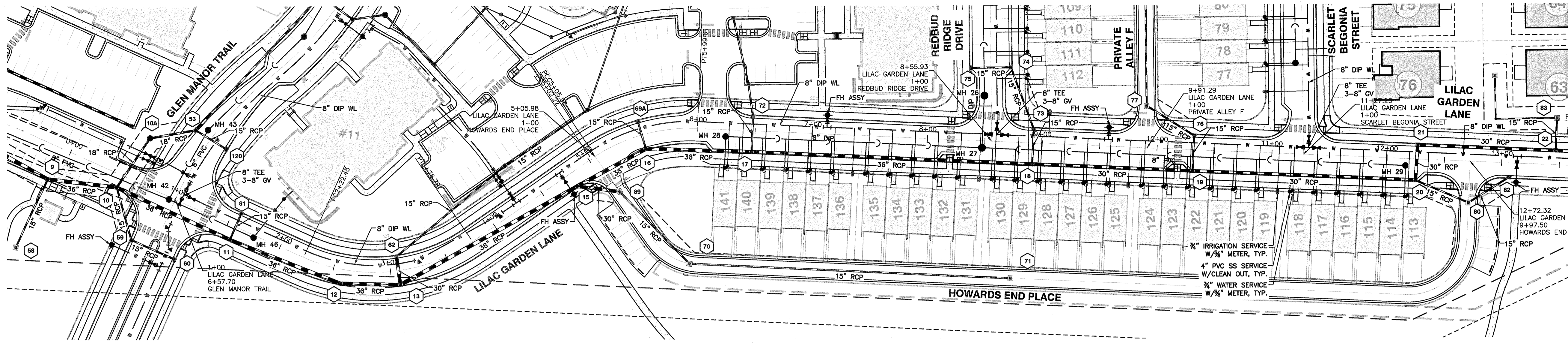


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TELEPHONE: (919) 851-4422 OR (800) 354-1879 FAX: (919) 851-8668
CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0287)

NO.	DATE	DESCRIPTION	BY
1	02-25-22	TOWN OF KNIGHTDALE COMMENTS	BT
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	BT
3	06-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	08-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
6	01-16-23	TOK COMMENTS/SIGNATURE SET	RAB

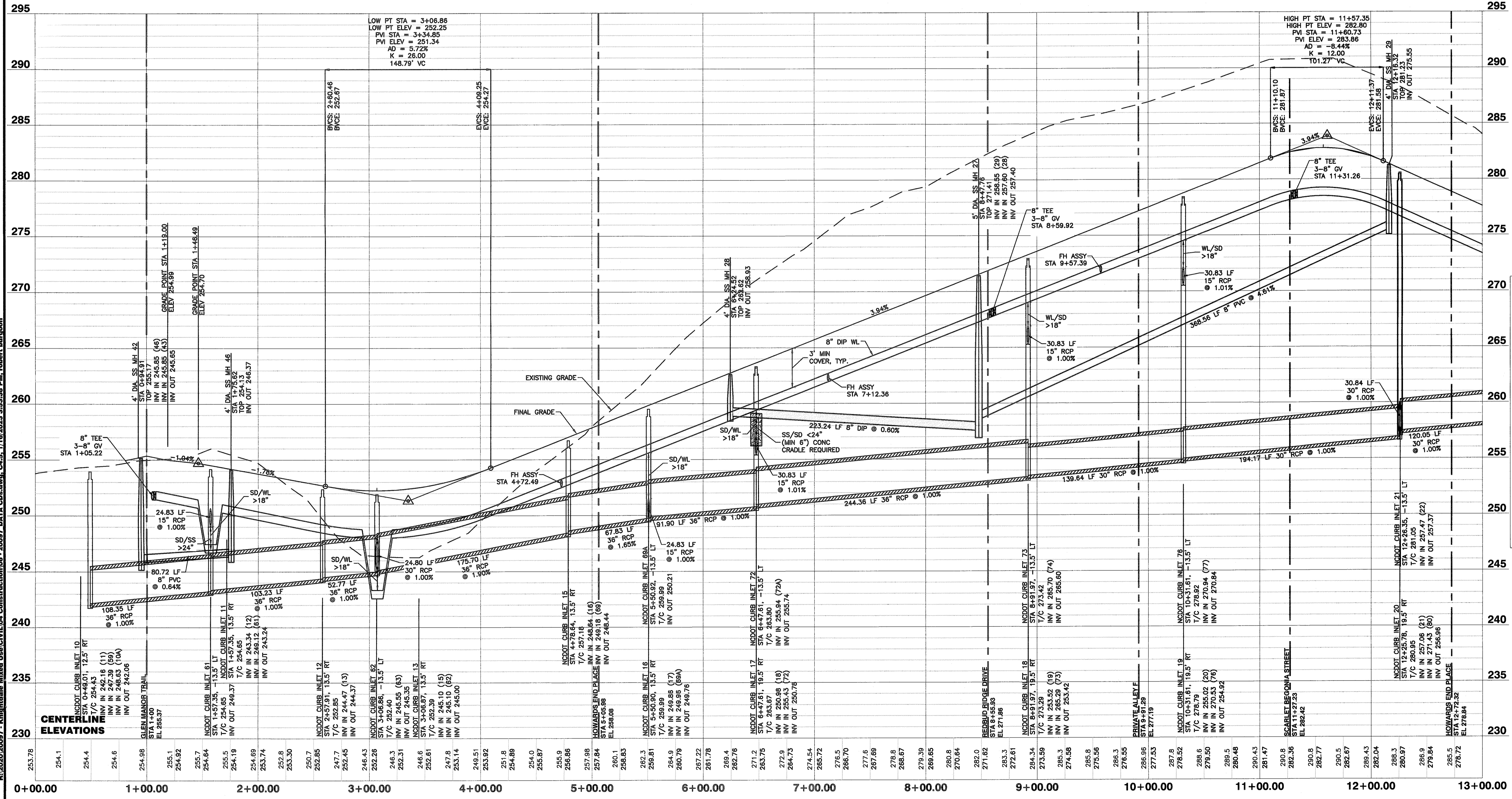
VILLAGE GATE
S. SMITHFIELD ROAD
TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

RELEASING FOR CONSTRUCTION OR BID SOLICITATION



LILAC GARDEN LANE

NOTE: CLASS 1 STRUCTURAL MATERIAL IS REQUIRED FROM EXISTING GROUND TO SPRING LINE OF PROPOSED PIPES IN FILL CONDITIONS.

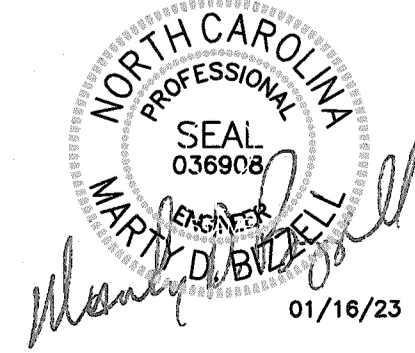


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FLOODPLAINS EXIST ON-SITE
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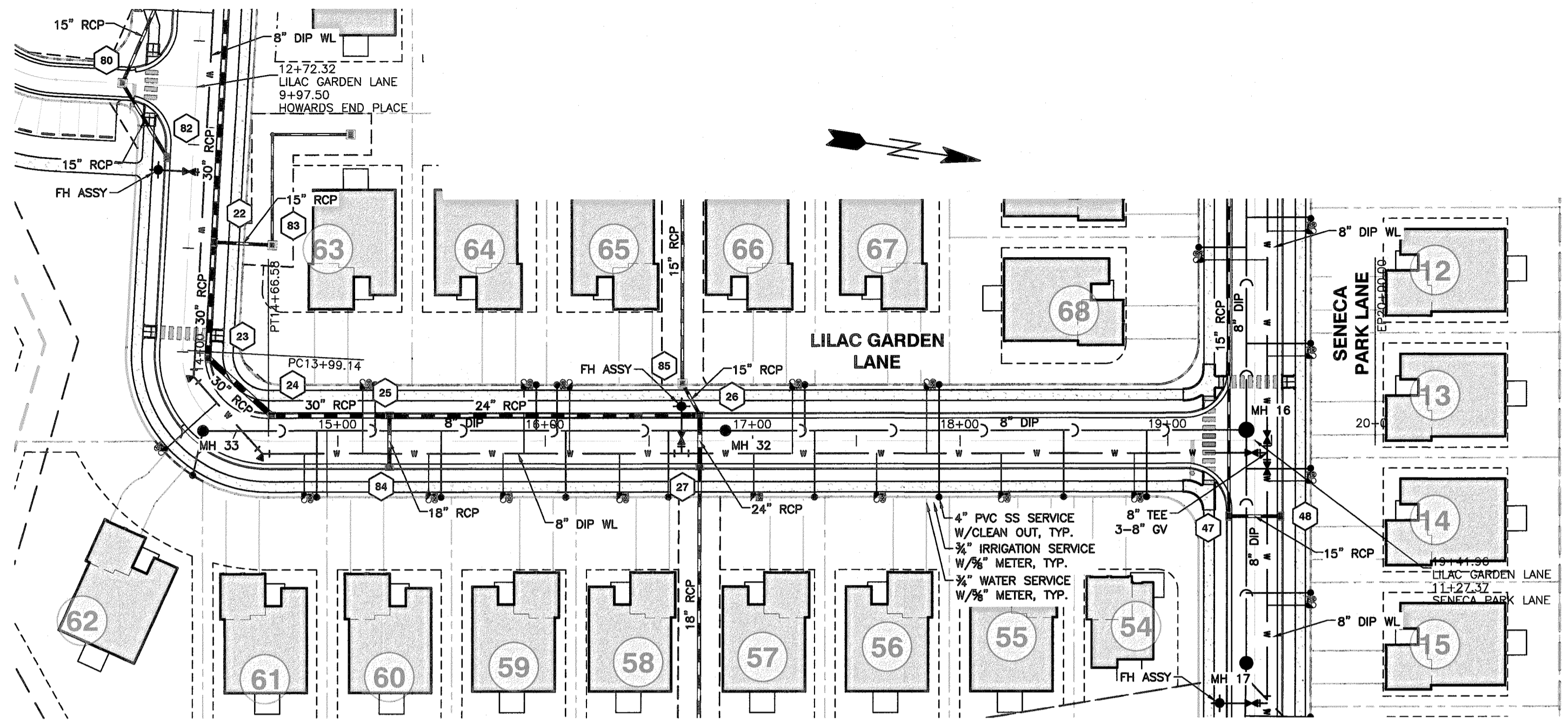
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NO.	DATE	DESCRIPTION	REVISIONS
1	01-16-23	T&E COMMENTS/SIGNATURE SET	RAB
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB
3	06-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	08-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
6	01-16-23	T&E COMMENTS/SIGNATURE SET	RAB

LILAC GARDEN LANE
PLAN AND PROFILE

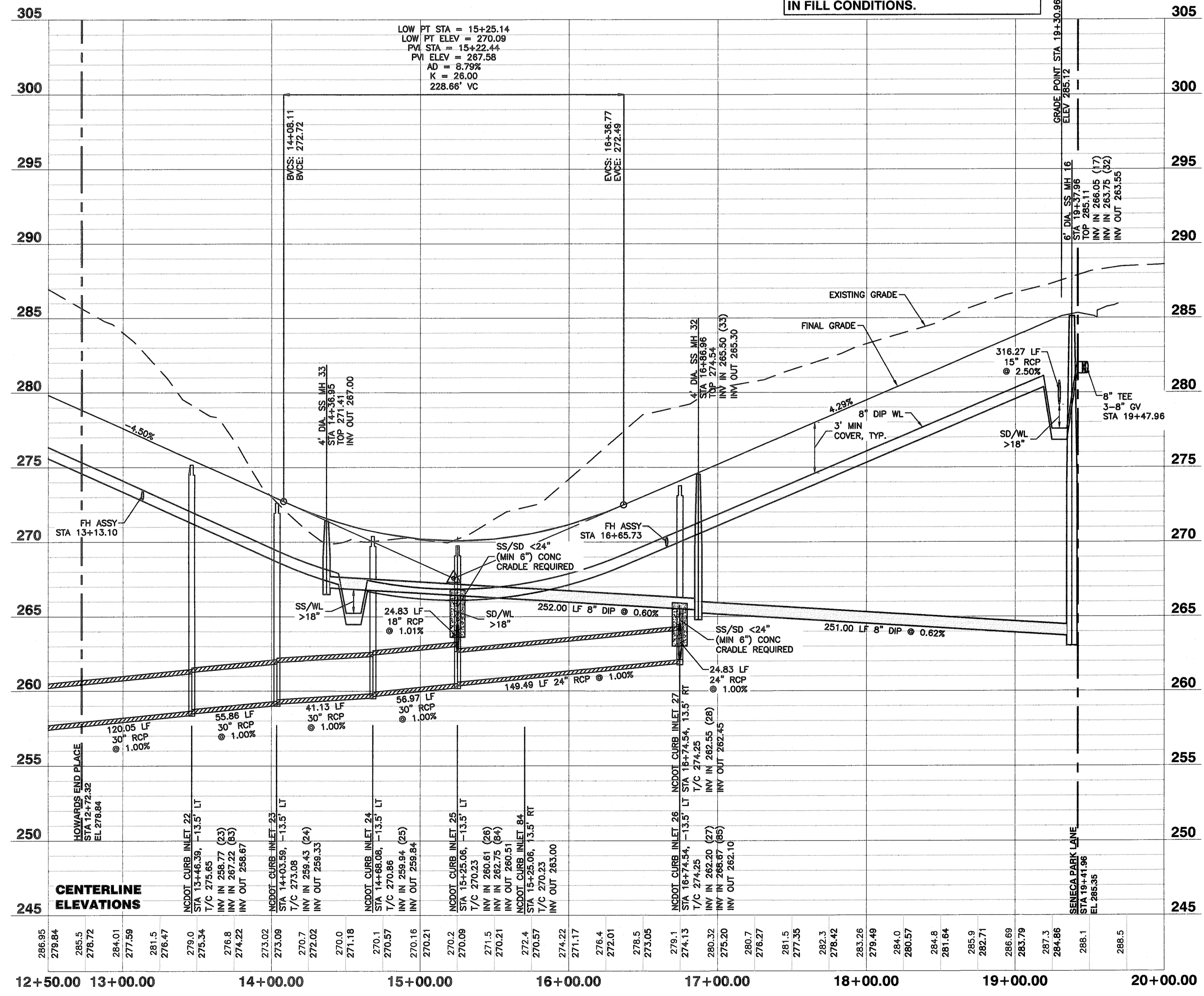
VILLAGE GATE
S. SMITHFIELD ROAD
 TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET
C4.5



LILAC GARDEN LANE

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SITE PERMITTING APPROVAL

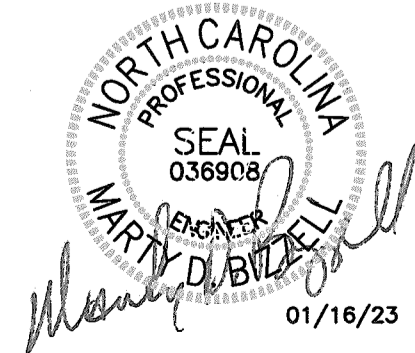
Water and Sewer Permits (if applicable)
The City of Raleigh consents to the connection and extension of the City's Public Sewer System as shown on this plan. The material and Construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # - S-4916
The City of Raleigh consents to the connection and extension of the City's Public Water System as shown on this plan. The material and Construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # - W-3847

The City of Raleigh consents to the connection to its public sewer system and extension of the private sewer collection system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.
City of Raleigh Public Utilities Department Permit # -

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION
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City of Raleigh Development Approval: Cydney S. Terry
Raleigh Water Review Officer

By: *Cydney S. Terry* Date: 2-1-2023
Town Engineer

By: *W. D. B.* Date: 2-2-2023
Administrator



BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
TELEPHONE: (919) 851-4422 OR (800) 354-1879 FAX: (919) 851-8868
CERTIFICATION NUMBERS: NCBELS (C-010); NCBOLA (C-0267)

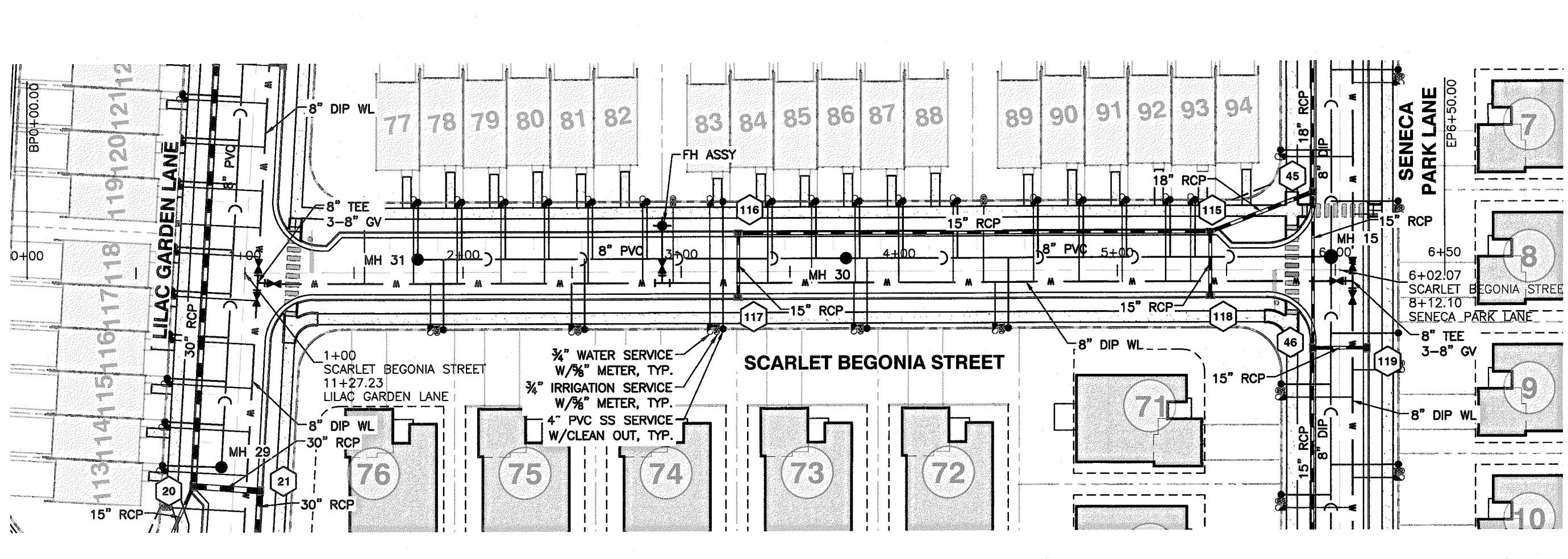
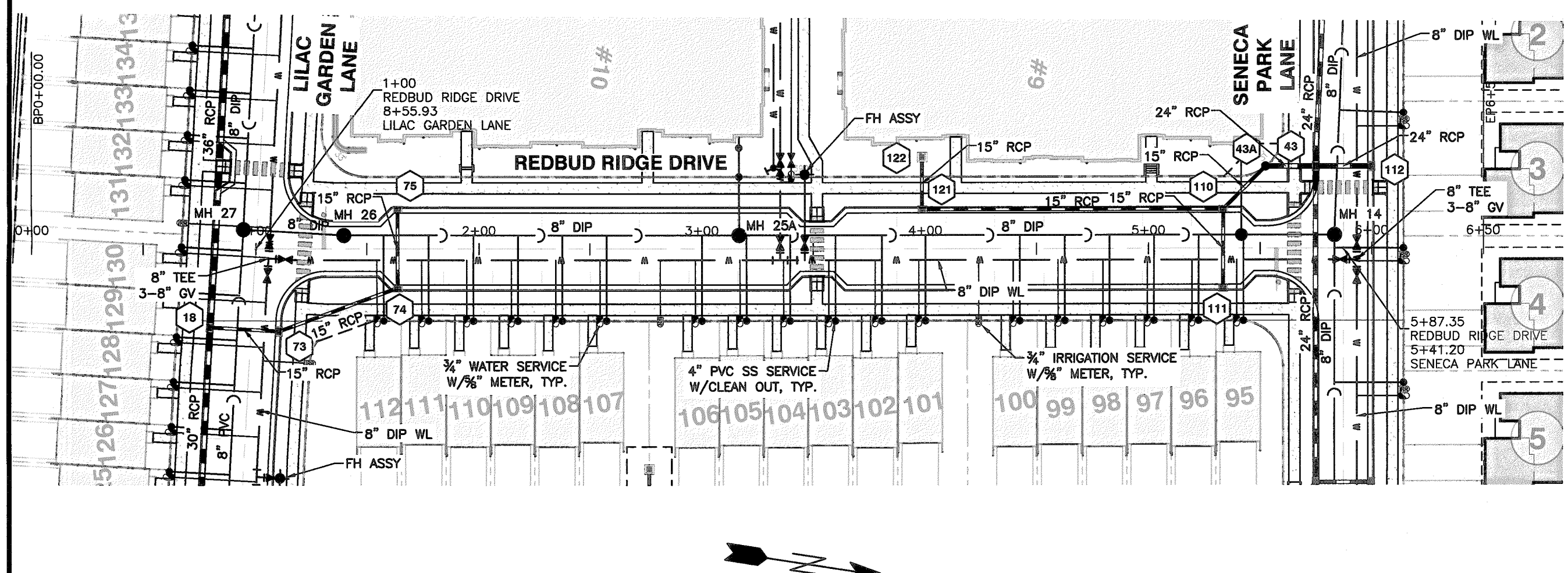
NO.	DATE	DESCRIPTION	BY
1	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB
3	05-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
6	01-16-23	CRK COMMENTS/SIGNATURE SET	RAB

NO.	DATE	DESCRIPTION	BY
1	03-20-09	LILAC GARDEN LANE PLAN AND PROFILE	RAB
2	05-07-2021		RAB
3	03-20-09		RAB
4	05-07-2021		RAB
5	03-20-09		RAB
6	05-07-2021		RAB

SCALE: 1" = 50' H; 1" = 5' V CRK BY: HDB

VILLAGE GATE
S. SMITHFIELD ROAD
TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET C4.6



REDBUD RIDGE DRIVE

SCARLET BEGONIA STREET

NOTE: CLASS 1 STRUCTURAL MATERIAL IS REQUIRED FROM EXISTING GROUND TO SPRING LINE OF PROPOSED PIPES IN FILL CONDITIONS.

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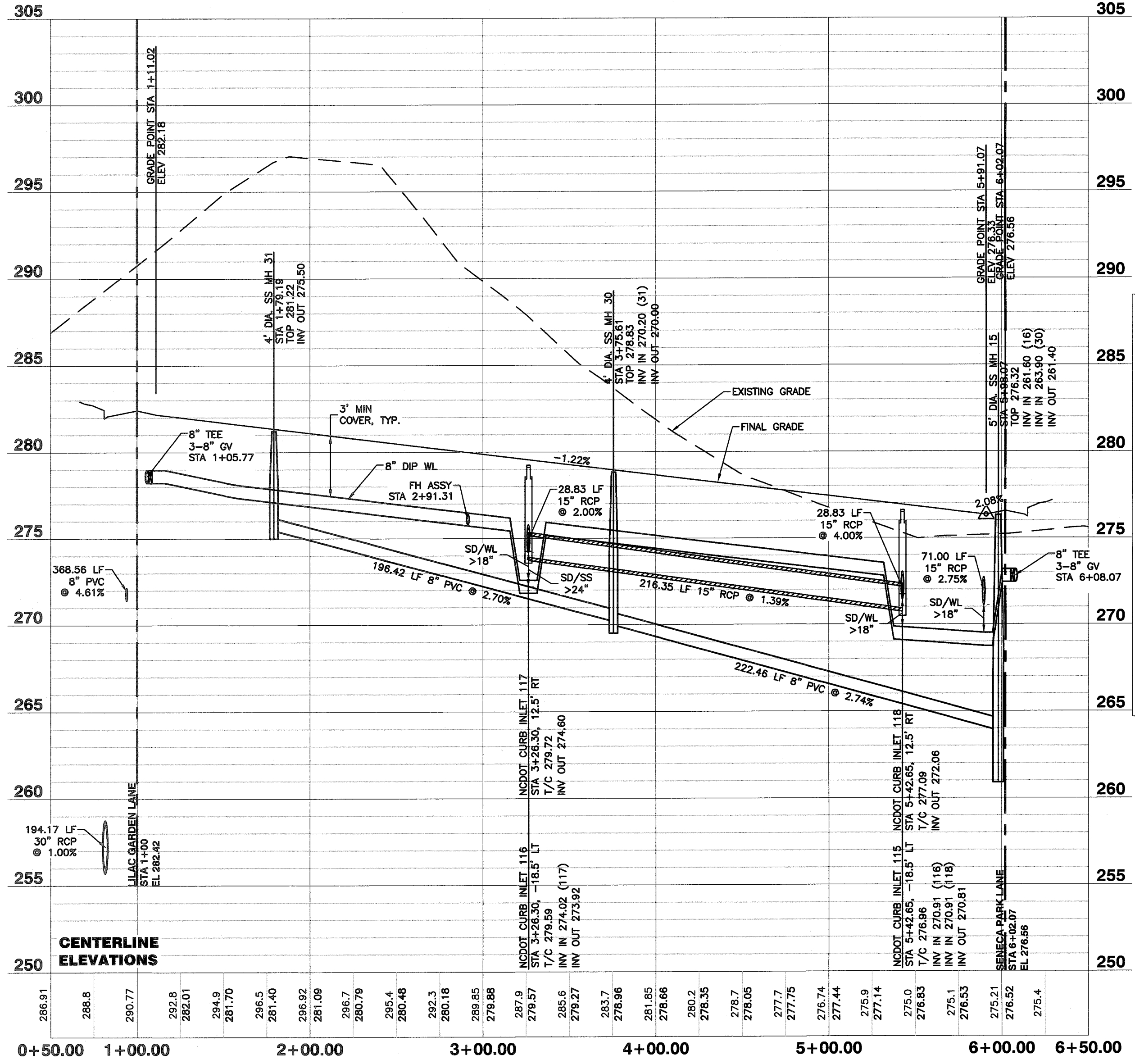
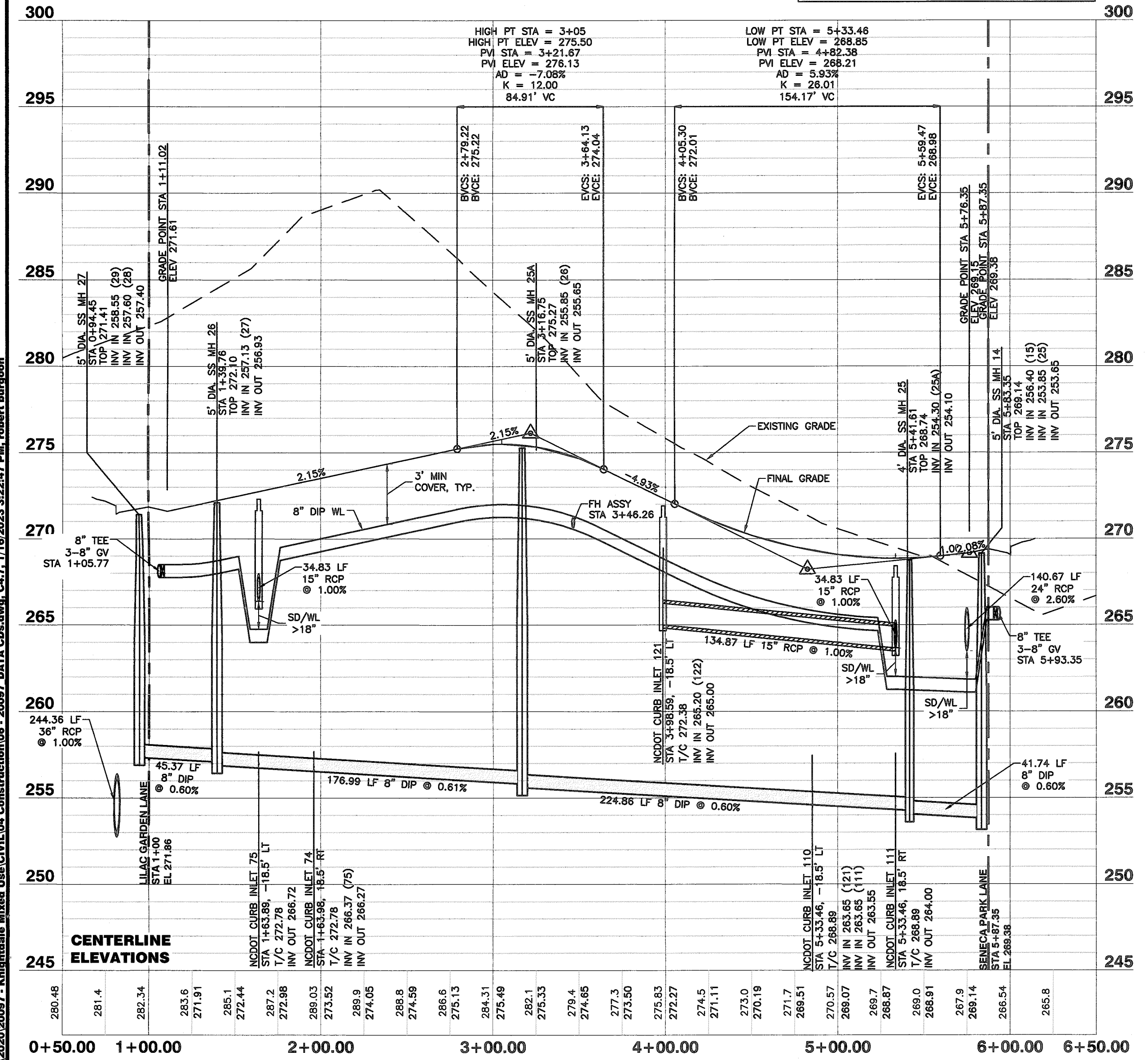
WETLANDS EXIST ON-SITE
FLOODPLAINS EXIST ON-SITE

NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF KNIGHTDALE AND NCDOT

ATTENTION CONTRACTORS
The Construction Contractor responsible for the extension of water, sewer, and/or reuse, as approved in these plans, is responsible for contacting the Public Utilities Department at (919) 996-4540 at least twenty-four hours prior to beginning any of their construction.

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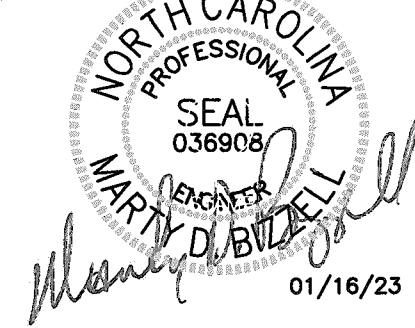
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SITE PERMITTING APPROVAL
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The City of Raleigh consents to the connection and extension of the City's Public Water System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # W-3847
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City of Raleigh Public Utilities Department Permit # _____

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Cydney S. Terry
City of Raleigh Development Approval
Raleigh Water Review Officer

a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
By: *[Signature]* Date: 2-1-2023
Town Engineer
These plans are approved by the Town of Knightdale and serve as construction plans for this project.
By: *[Signature]* Date: 2-2-2023
Administrator



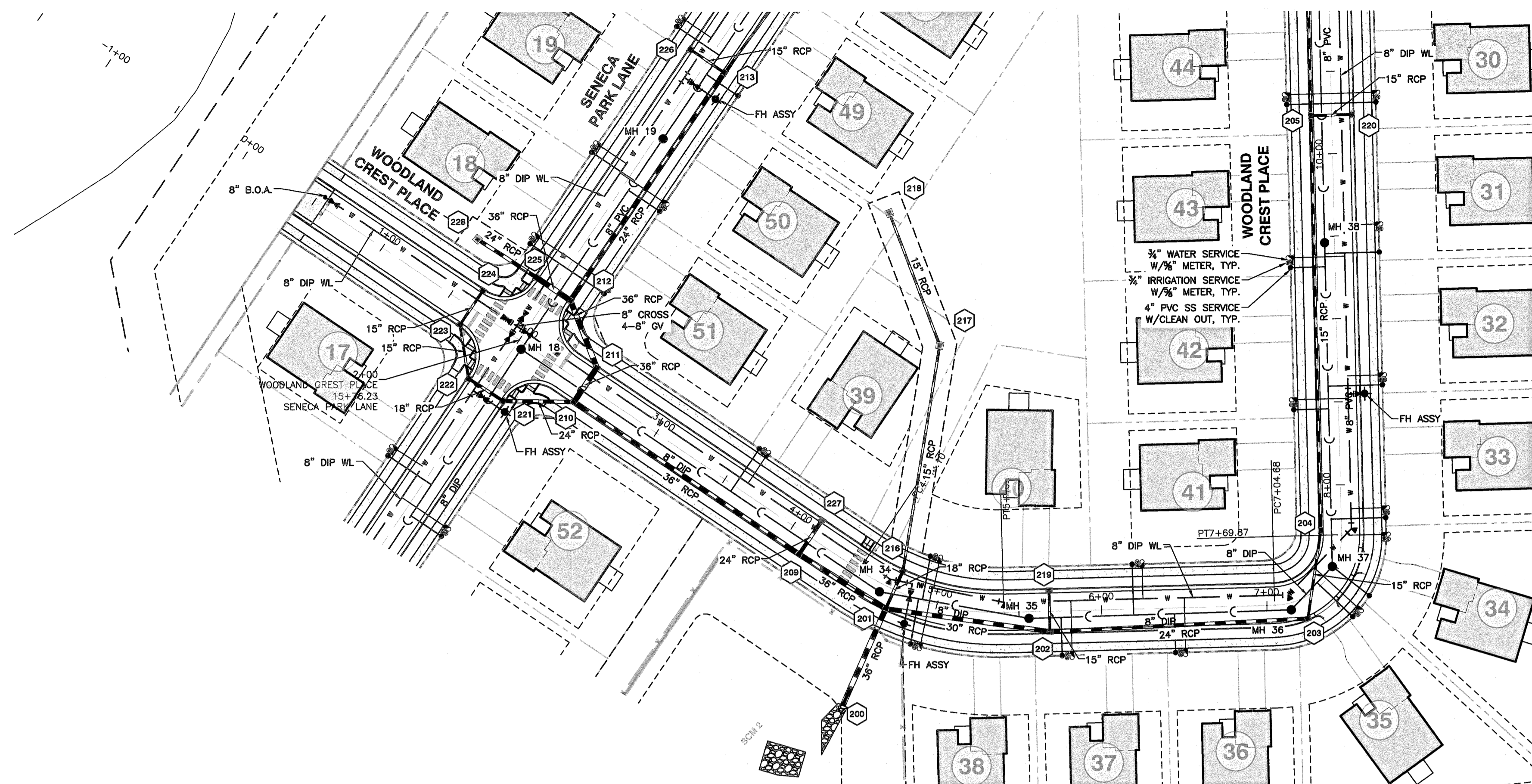
BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
TELEPHONE: (919) 851-4422 OR (800) 354-1879 FAX: (919) 851-8868
CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0287)

NO.	DATE	DESCRIPTION	BY
1	01-16-23	TOWN OF KNIGHTDALE COMMENTS	RAB
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB
3	06-05-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	08-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
6	01-16-23	TOWN OF KNIGHTDALE COMMENTS	RAB

NO.	DATE	DESCRIPTION	BY
1	03-20-09	PLAN AND PROFILE	5 V CHK BY:MDB
2	08-07-2021	REVISIONS	

VILLAGE GATE
S. SMITHFIELD ROAD
TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET C4.7

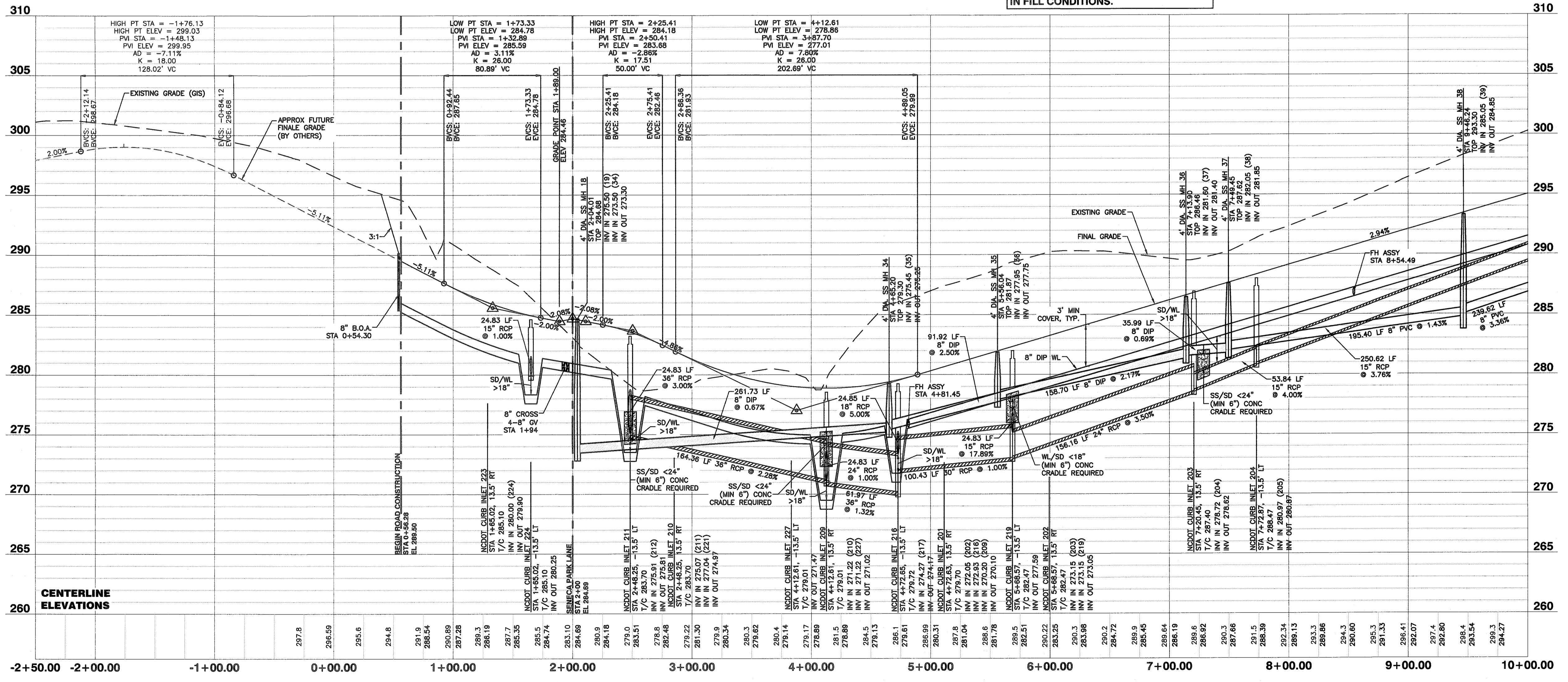


WOODLAND CREST PLACE

NOTE: CLASS 1 STRUCTURAL MATERIAL IS REQUIRED FROM EXISTING GROUND TO SPRING LINE OF PROPOSED PIPES IN FILL CONDITIONS.

WETLANDS EXIST ON-SITE
 FLOODPLAINS EXIST ON-SITE
 NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF KNIGHTDALE AND NCDOT

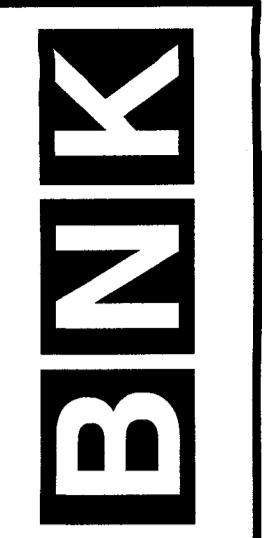
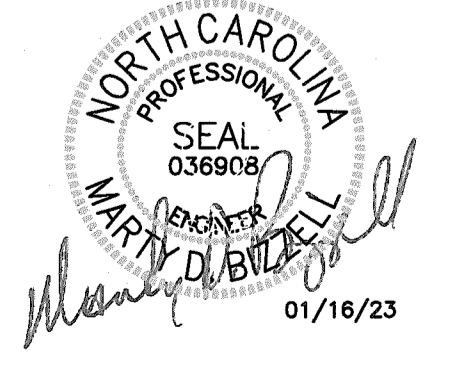
ATTENTION CONTRACTORS
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SITE PERMITTING APPROVAL
 Water and Sewer Permits (if applicable)
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 The City of Raleigh consents to the connection and extension of the City's Public Water System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # - W-3847
 The City of Raleigh consents to the connection to its public sewer system and extension of the private sewer collection system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.
 City of Raleigh Public Utilities Department Permit # -

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 Cyndey S. Terry
 City of Raleigh Development Approval
 Raleigh Water Review Officer

a. **Town Certification.** This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
 By: [Signature] Date: 2-1-2023
 Town Engineer
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 By: [Signature] Date: 2-2-2023
 Administrator

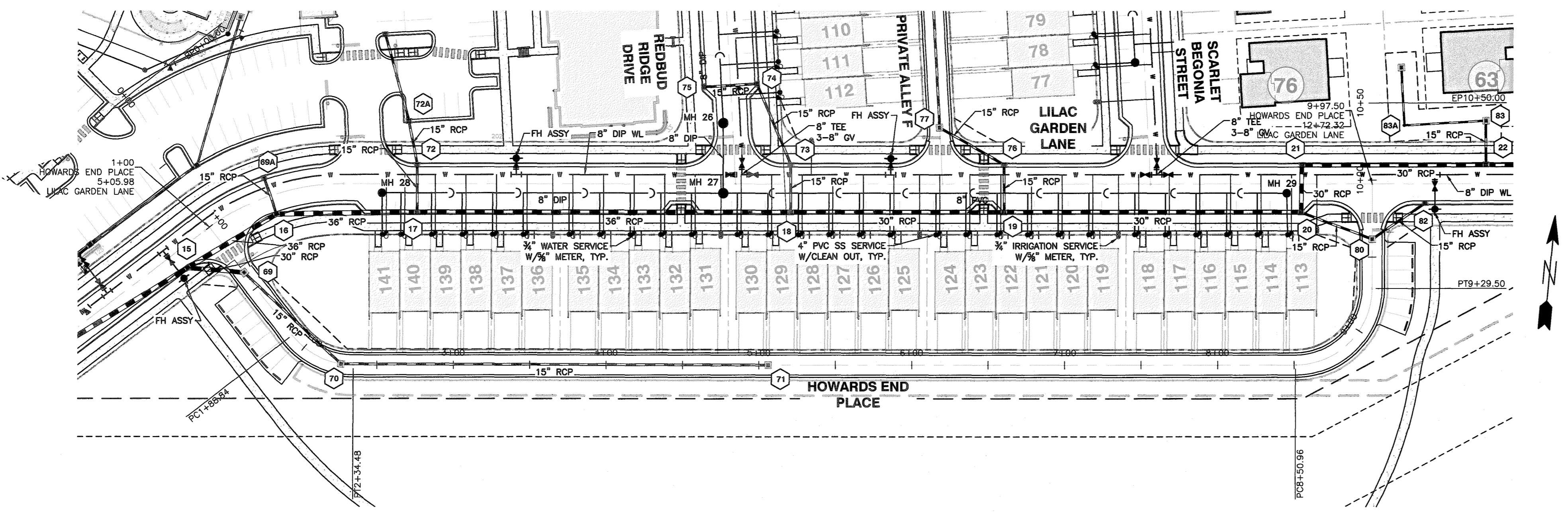


BASS, NIXON & KENNEDY, INC.
 CONSULTING ENGINEERS
 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919) 851-4422 OR (800) 354-1879 FAX: (919) 851-8668
 CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0287)

NO.	DATE	DESCRIPTION	REVISIONS
6	01-16-23	TOK COMMENTS/SIGNATURE SET	RAB
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
3	06-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB
1	02-25-22	NO. DATE DESCRIPTION	BT

WOODLAND CREST PLACE
 PLAN AND PROFILE
 SCALE: 1" = 50' H, 1" = 5' V CHK BY: WDB

SHEET C4.8

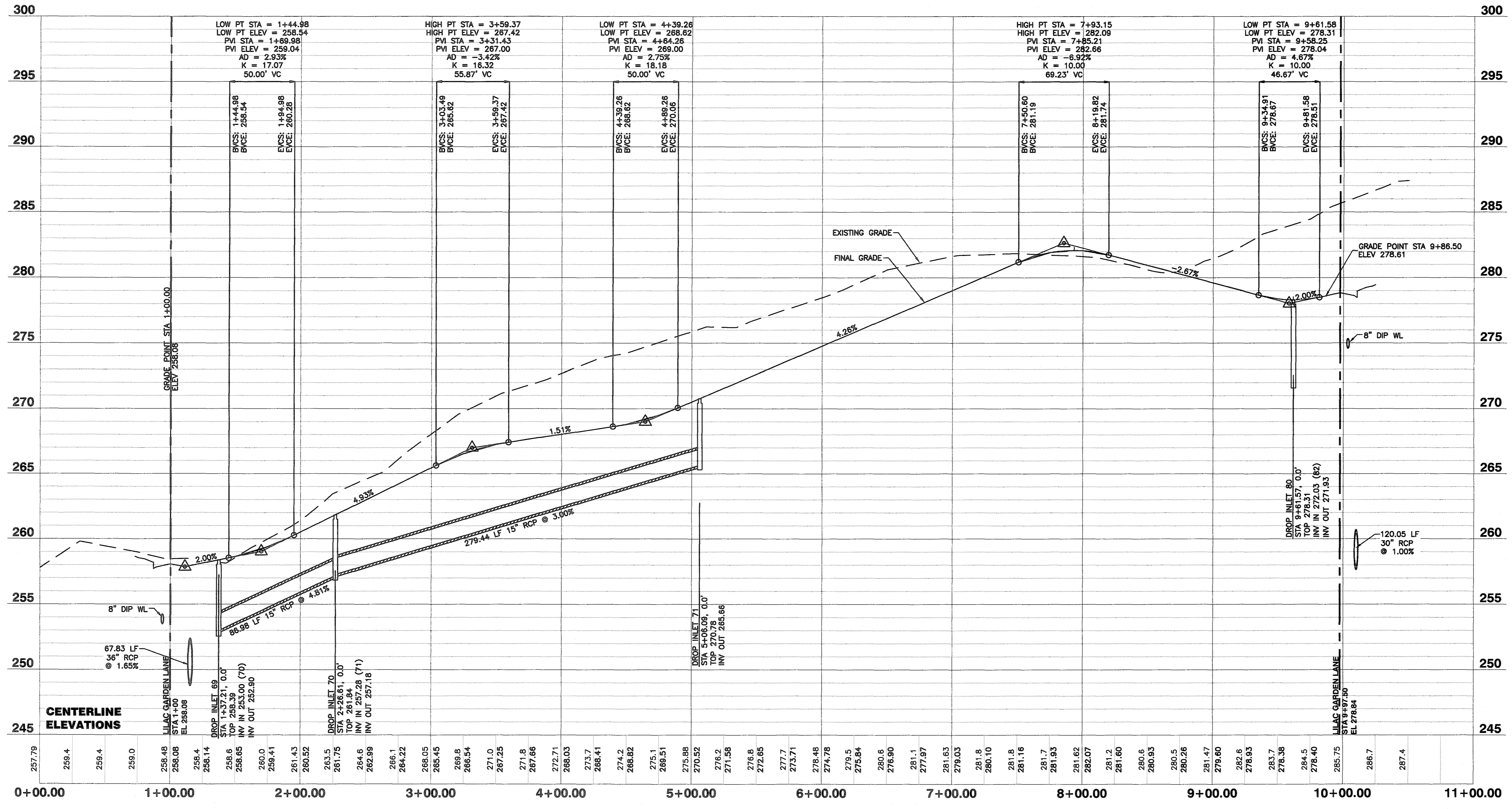


HOWARDS END PLACE

NOTE: CLASS 1 STRUCTURAL MATERIAL IS REQUIRED FOR EXISTING GROUND TO SPRING LINE OF PROPOSED PIPES IN FILL CONDITIONS.

WETLANDS EXIST ON-SITE
FLOODPLAINS EXIST ON-SITE
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City of Raleigh Development Approval: Cyndee S. Terry, Raleigh Water Review Officer

Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
By: *[Signature]* Date: 2-1-2023
Town Engineer
These plans are approved by the Town of Knightdale and serve as construction plans for this project.
By: *[Signature]* Date: 2-2-2023
Administrator

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER
MARTIN D. BILKELL
01/16/23



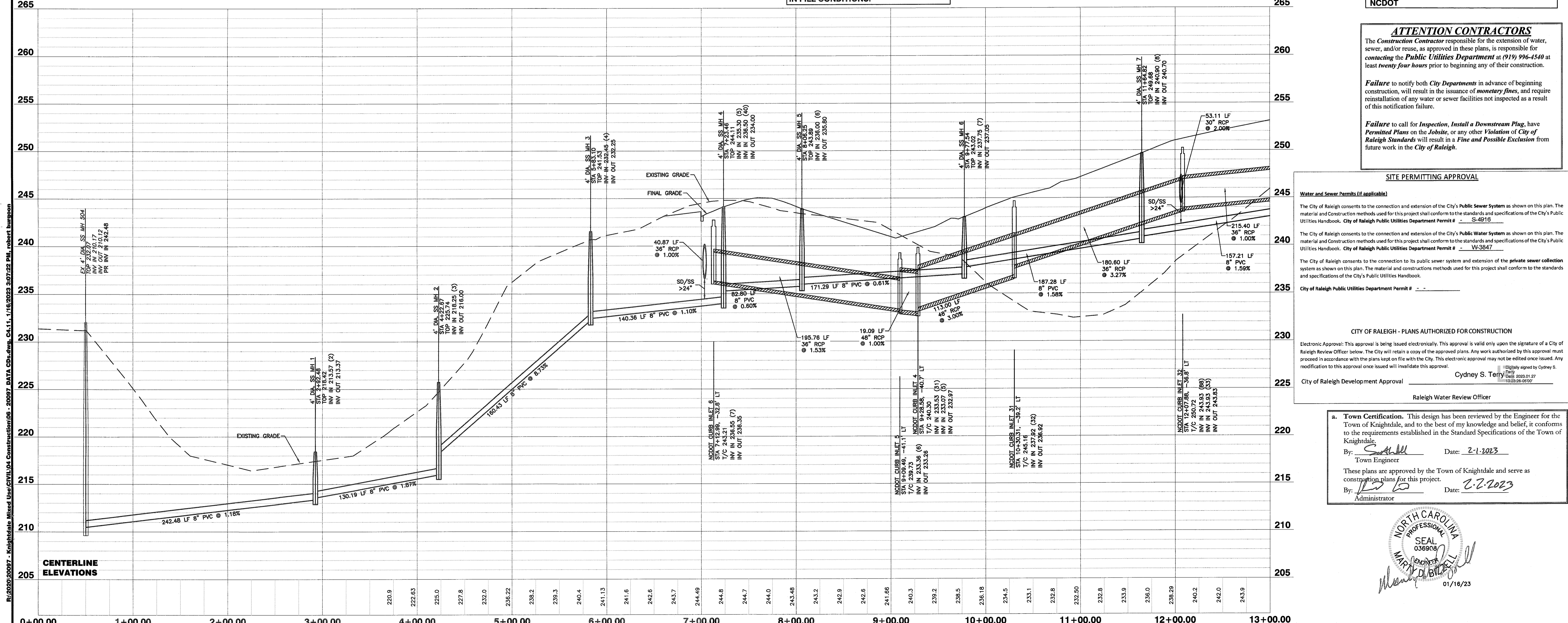
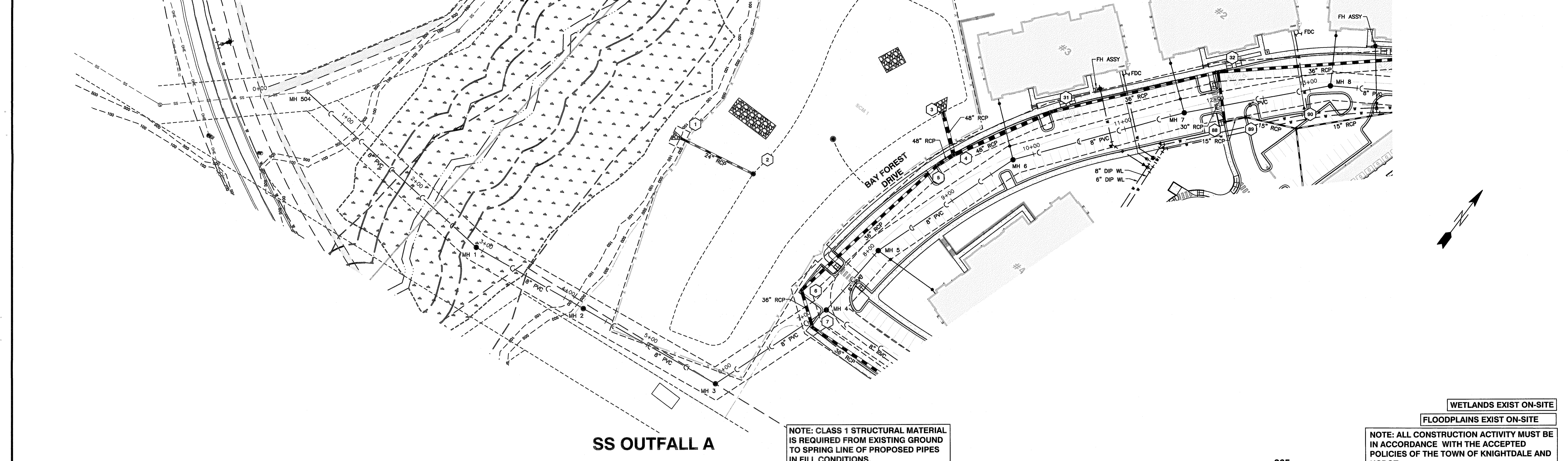
BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
TELEPHONE: (919) 851-4222 OR (800) 554-1879 FAX: (919) 851-9868
CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

NO.	DATE	DESCRIPTION	BY
6	01-16-23	T&K COMMENTS/SIGNATURE SET	RAB
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
3	06-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB

RAB
DRAWN BY
HOWARDS END PLACE
PLAN AND PROFILE
SCALE: 1" = 50' H / 1" = 5' V CHK BY: HDB

VILLAGE GATE
S. SMITHFIELD ROAD
TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET
C4.10

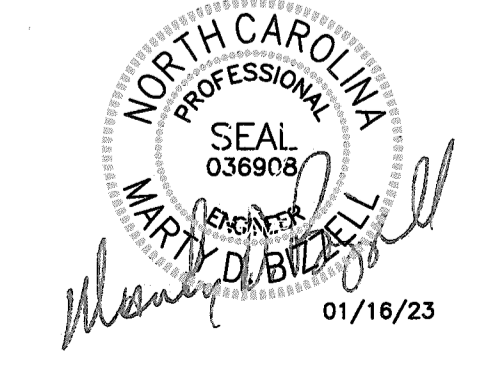


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 City of Raleigh Public Utilities Department Permit # _____
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 Raleigh Water Review Officer

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 By: *[Signature]* Date: 2-7-2023
 Administrator



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 TELEPHONE: (919) 851-4422 OR (800) 354-1879 FAX: (919) 851-8968
 CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0287)

NO.	DATE	DESCRIPTION	BY
1			
2			

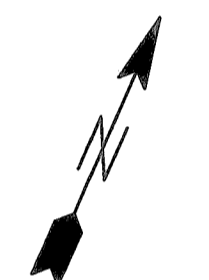
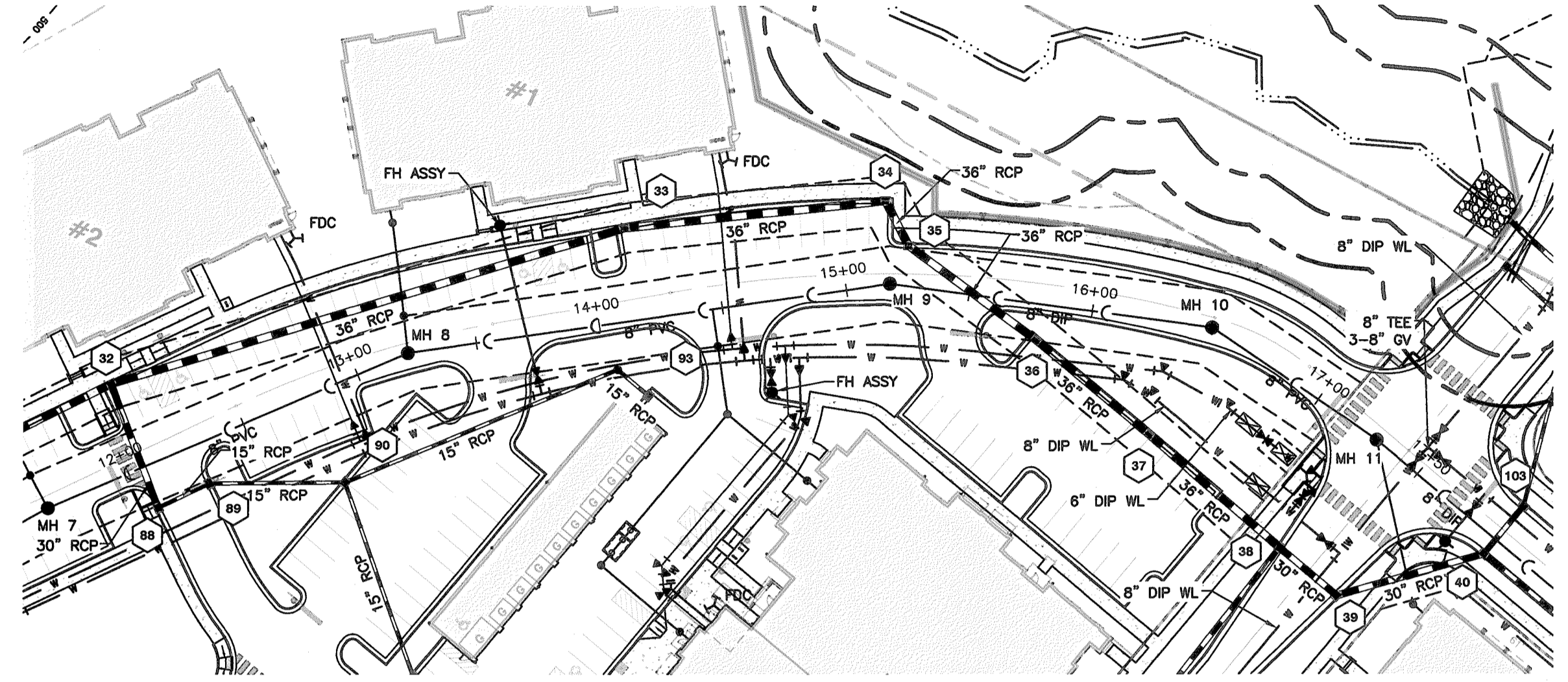
REVISIONS

VILLAGE GATE
S. SMITHFIELD ROAD
 TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SS OUTFALL A
PLAN AND PROFILE
 SCALE: 1" = 50' H, 1" = 5' V CHK BY: MJB

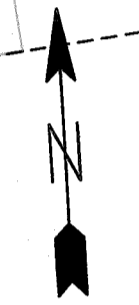
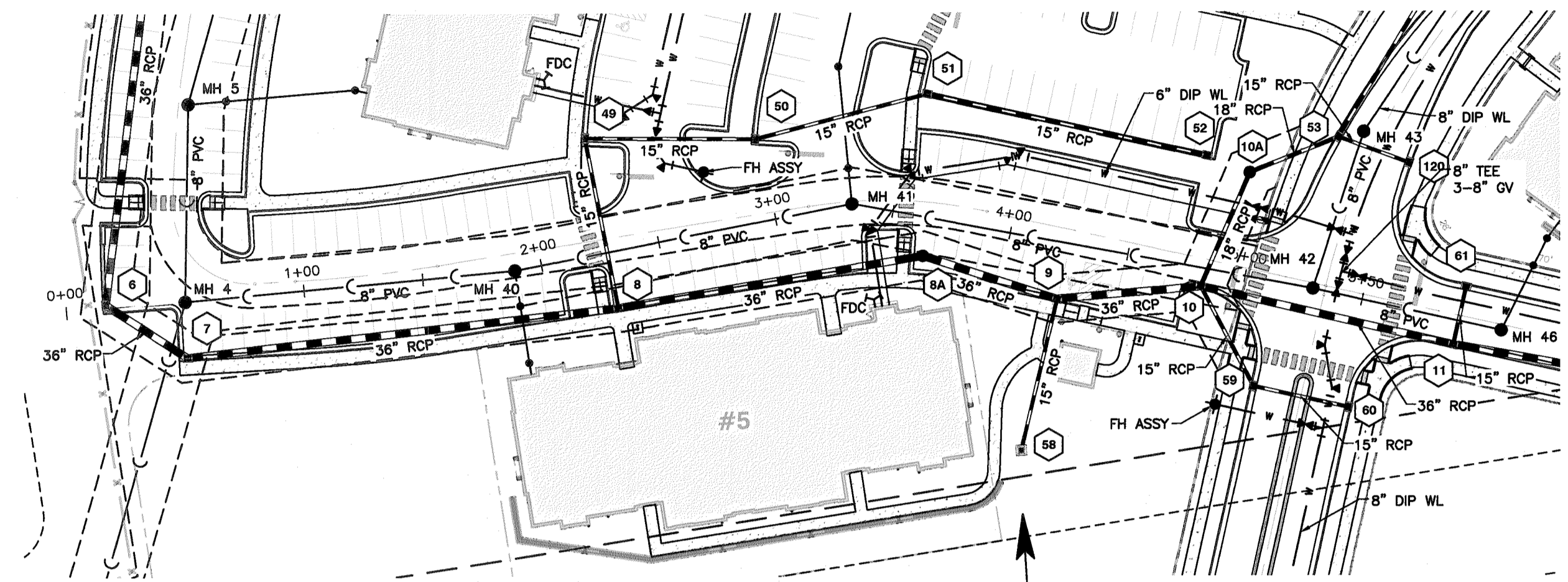
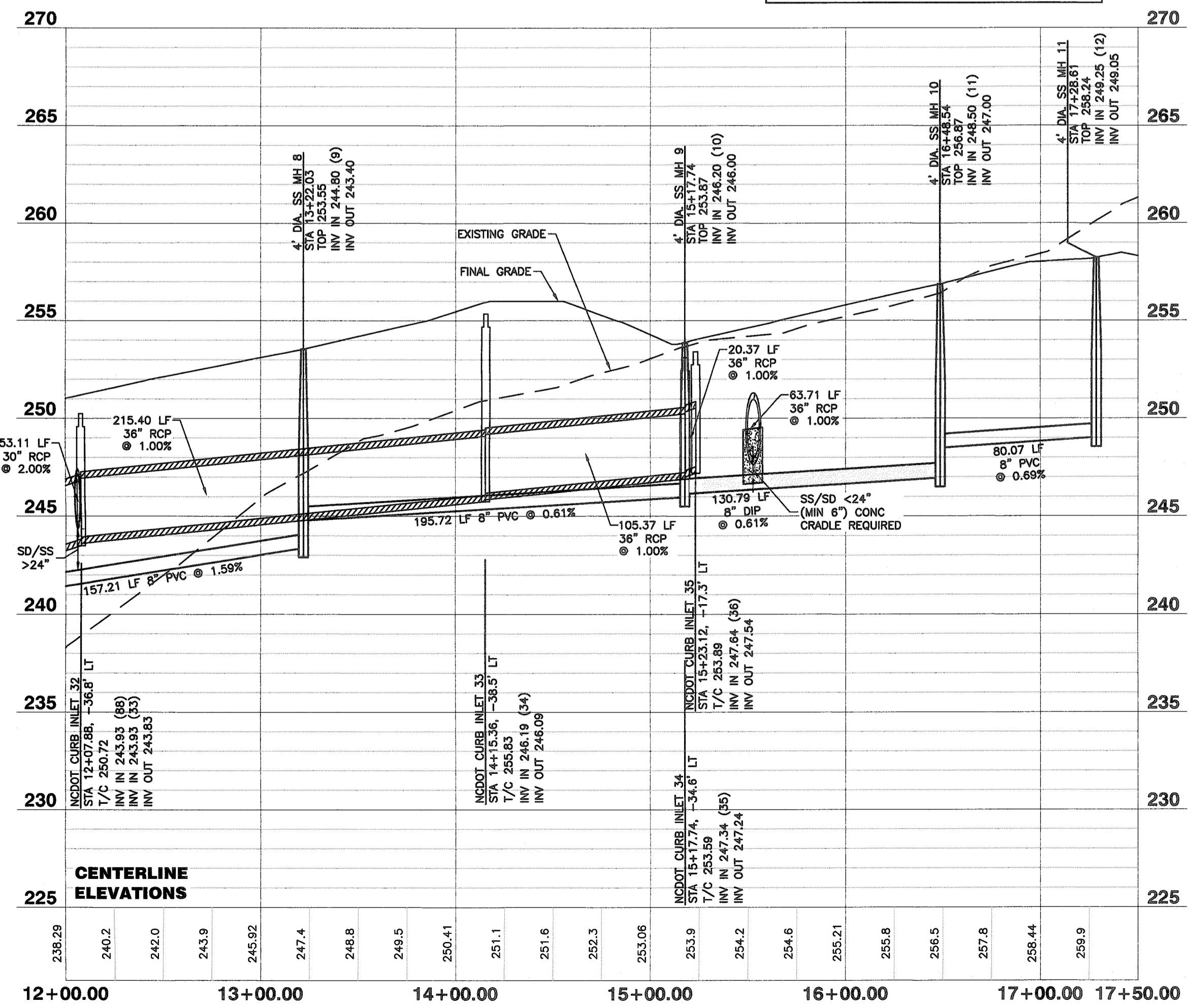
SHEET C4.11

TOWN OF KNIGHTDALE PROJECT NO. PUD CASE NO. ZMA-1-21



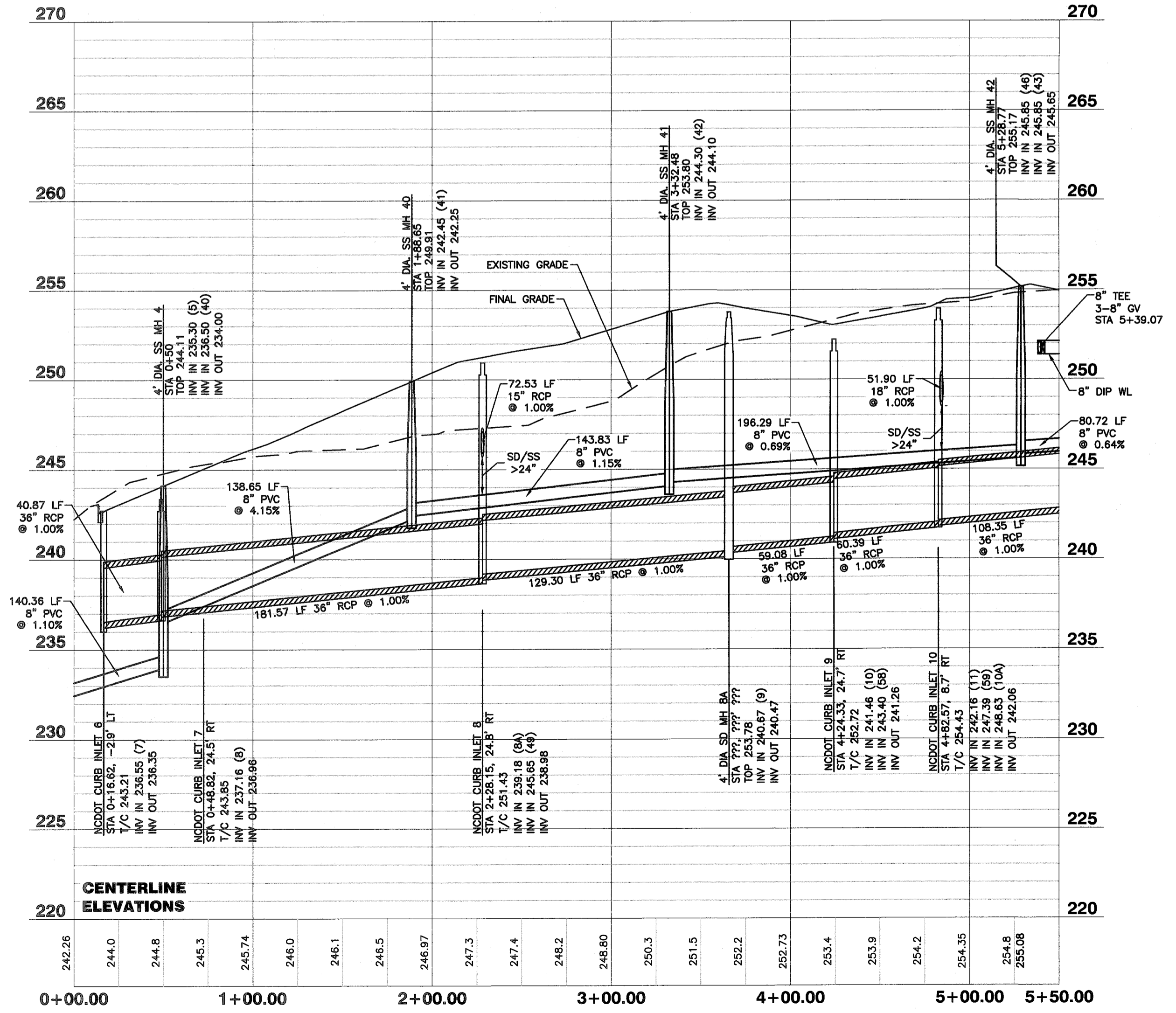
SS OUTFALL A

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SS OUTFALL B

NOTE: CLASS 1 STRUCTURAL MATERIAL IS REQUIRED FROM EXISTING GROUND TO SPRING LINE OF PROPOSED PIPES IN FILL CONDITIONS.



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FLOODPLAINS EXIST ON-SITE

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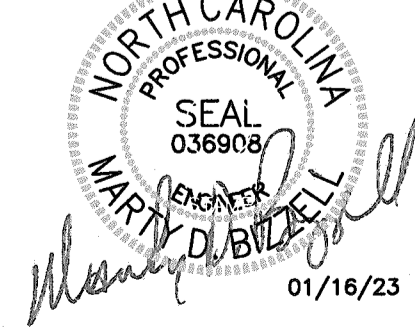
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Raleigh Water Review Officer

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Town Engineer

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By: *[Signature]* Date: 2-7-2023
Administrator

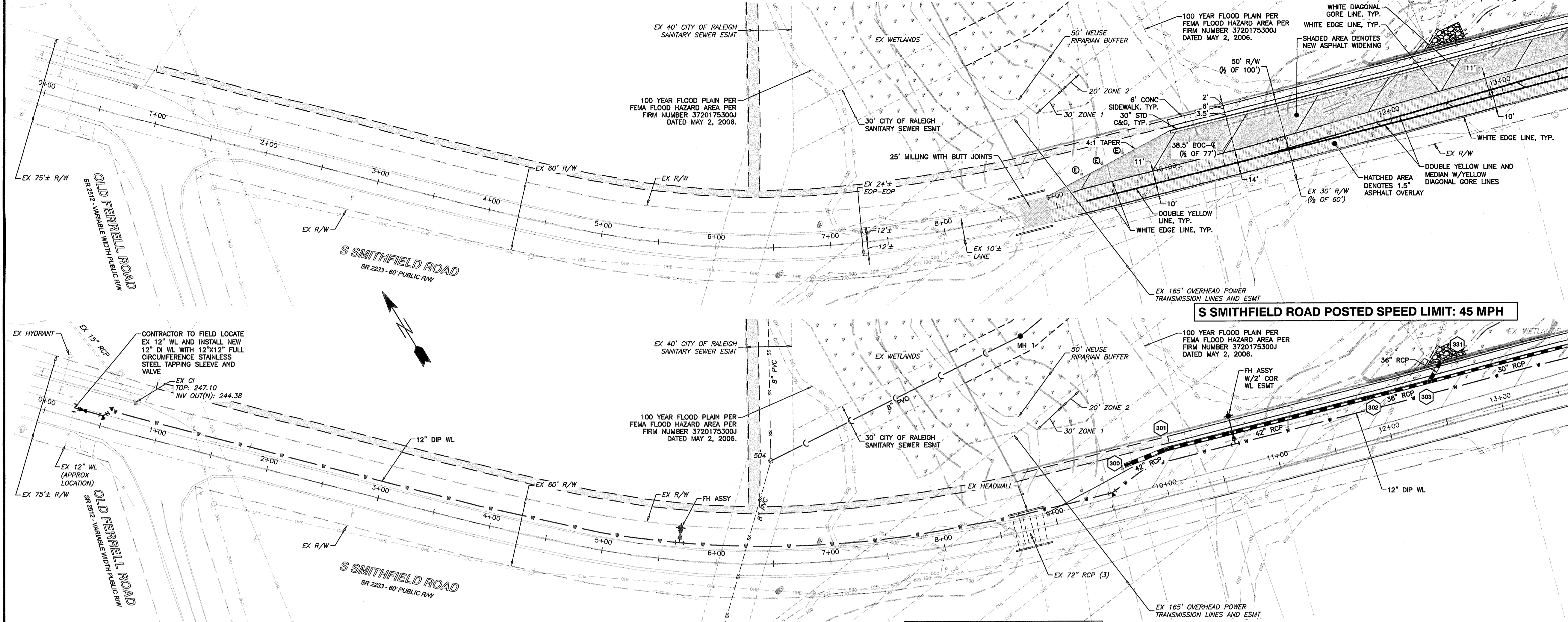


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TELEPHONE: (919) 851-4422 OR (800) 354-1879 FAX: (919) 851-8968
CERTIFICATION NUMBERS: NCBOLA (C-0110); NCBOLA (C-0287)

NO.	DATE	DESCRIPTION	BY
1	03-20-2023	SS OUTFALL A AND SS OUTFALL B PLAN AND PROFILE	SS BY: MIB
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB
3	06-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
6	01-16-23	TRK COMMENTS/SIGNATURE SET	RAB

VILLAGE GATE
S. SMITHFIELD ROAD
TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET C4.12



TRAFFIC CONTROL NOTES

- ALL SITE SIGNAGE SHALL BE ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND NCDOT STANDARDS.

SIGN	MUTCD STD.	SIZE
① STOP	R1-1	24"x24"
② ACCESSIBLE PARKING	R7-8(A/D)	SEE DETAIL
③ PARKING RESTRICTION (SHALL READ "NO PARKING 15 MINUTE LIMIT")	R7-108	12"x18"
④ TEMP BARRICADE	OM3	18"x18"
⑤ OBJECT MARKER	RS-1	30"x30"
⑥ DO NOT ENTER	W11-2	30"x30"
⑦ PEDESTRIAN	W16-7P	24"x12"
⑧ DOWNWARD DIAGONAL ARROW (MOUNT BELOW)		
- ALL SIGNS SHALL BE MOUNTED WITH 5-FT MIN. VERTICAL CLEARANCE TO THE BOTTOM OF THE SIGN ON 2 1/2 GALVANIZED STEEL U-CHEMEL POST SET IN 3FT DEEP x 12IN DIA. CONCRETE FOOTING.
- ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MUTCD AND NCDOT STANDARDS AND THE PROJECT SPECIFICATIONS.

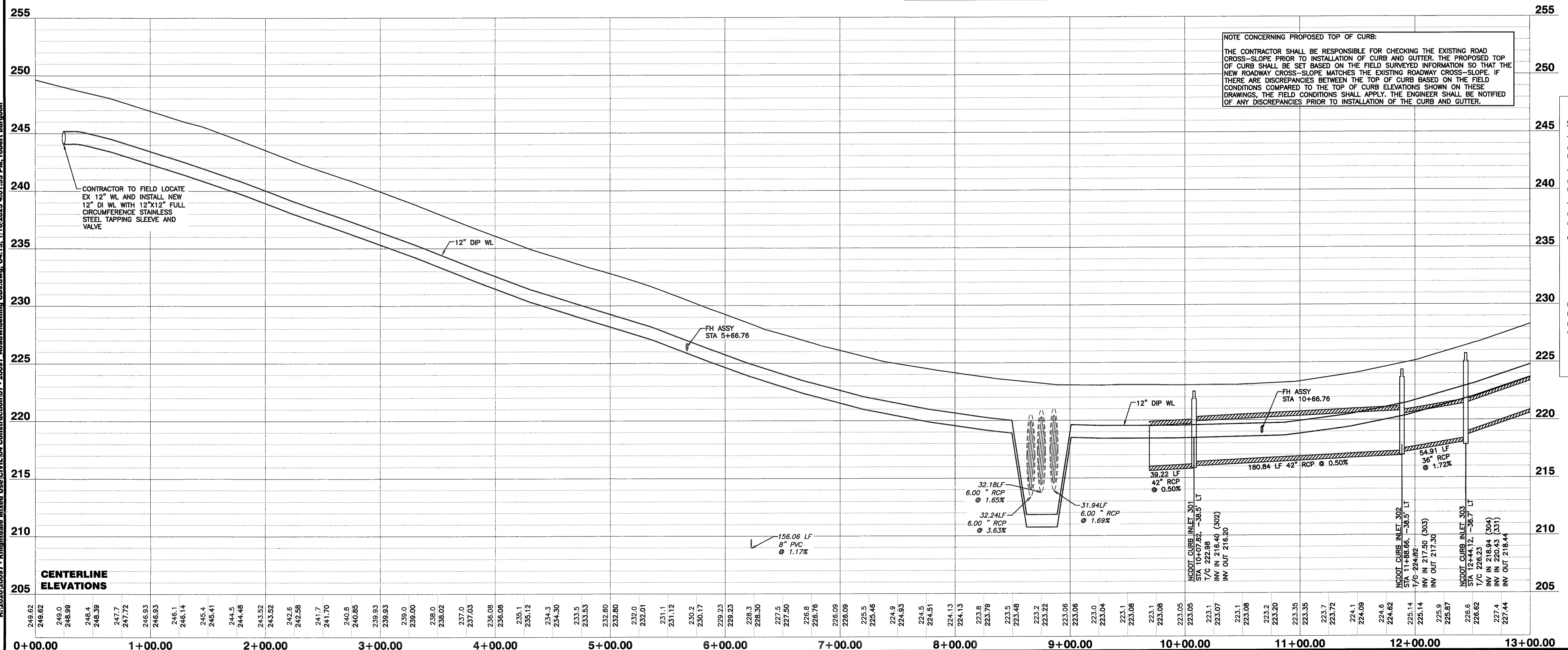
MARKING	NCDOT STD.	SIZE	COLOR
PARKING SPACES	1205.08	4IN	WHITE
DIRECTIONAL ARROWS	1205.07	STD.	WHITE
HIGH-VISIBILITY CROSSWALK	1205.07	STD.	WHITE
STANDARD CROSSWALK	1205.07	STD.	WHITE
STOP BAR	1205.01	STD.	WHITE
EDGE LINE	1205.01	4IN	WHITE
EDGE LINES	1205.01	4IN	WHITE
DIAGONAL GORE LINE (>45MPH)	1205.09	12IN	WHITE/YELLOW
- ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC TYPE EXCEPT FOR PARKING SPACE WHICH MAY BE THERMOPLASTIC OR ALKYD-RESIN TYPE PAINT.

S SMITHFIELD ROAD POSTED SPEED LIMIT: 45 MPH

WETLANDS EXIST ON-SITE
FLOODPLAINS EXIST ON-SITE
NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF KNIGHTDALE AND NCDOT

ATTENTION CONTRACTORS
 The Construction Contractor responsible for the extension of water, sewer, and/or reuse, as approved in these plans, is responsible for contacting the Public Utilities Department at (919) 996-4540 at least twenty four hours prior to beginning any of their construction.
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NOTE: CLASS 1 STRUCTURAL MATERIAL IS REQUIRED FROM EXISTING GROUND TO SPRING LINE OF PROPOSED PIPES IN FILL CONDITIONS.



NOTE CONCERNING PROPOSED TOP OF CURB:
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING THE EXISTING ROAD CROSS-SLOPE PRIOR TO INSTALLATION OF CURB AND GUTTER. THE PROPOSED TOP OF CURB SHALL BE SET BASED ON THE FIELD SURVEYED INFORMATION SO THAT THE NEW ROADWAY CROSS-SLOPE MATCHES THE EXISTING ROADWAY CROSS-SLOPE. IF THERE ARE DISCREPANCIES BETWEEN THE TOP OF CURB BASED ON THE FIELD CONDITIONS COMPARED TO THE TOP OF CURB ELEVATIONS SHOWN ON THESE DRAWINGS, THE FIELD CONDITIONS SHALL APPLY. THE ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES PRIOR TO INSTALLATION OF THE CURB AND GUTTER.

SITE PERMITTING APPROVAL

Water and Sewer Permits (if applicable)

The City of Raleigh consents to the connection and extension of the City's Public Sewer System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # - S-4916

The City of Raleigh consents to the connection and extension of the City's Public Water System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # - W-3847

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

City of Raleigh Public Utilities Department Permit # -

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

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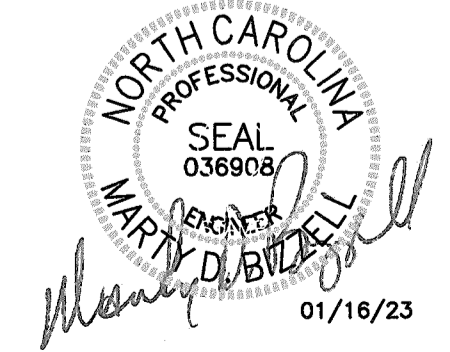
City of Raleigh Development Approval: Cydney S. Terry (Digitally signed by Cydney S. Terry on 2023.07.12 12:25:50 -0500)
 Raleigh Water Review Officer

a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: [Signature] Date: 2-1-2023
 Town Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: [Signature] Date: 2-2-2023
 Administrator

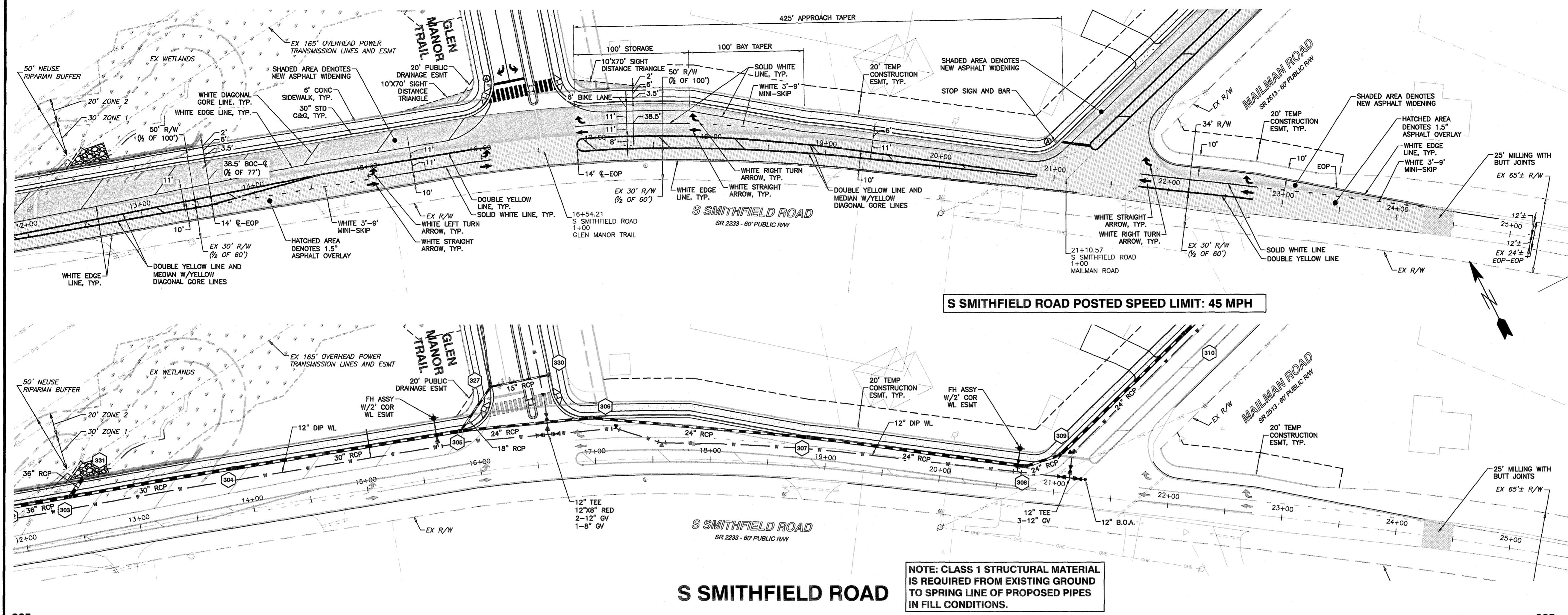


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 6510 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919)851-4422 OR (800)954-1879 FAX: (919)851-8868
 CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

NO.	DATE	DESCRIPTION	BY
1	03-20-2021	TOWN OF KNIGHTDALE COMMENTS	RAB
2	03-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB
3	06-05-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
6	01-16-23	TOWN OF KNIGHTDALE COMMENTS	RAB

VILLAGE GATE
S. SMITHFIELD ROAD
 WIDENING PLAN
 TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET **C4.13**



TRAFFIC CONTROL NOTES

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TEMP BARRICADE	SEE DETAIL	3.18 SHEET C5.1
OBJECT MARKER	OM3	18"x18"
DO NOT ENTER	RS-1	30"x30"
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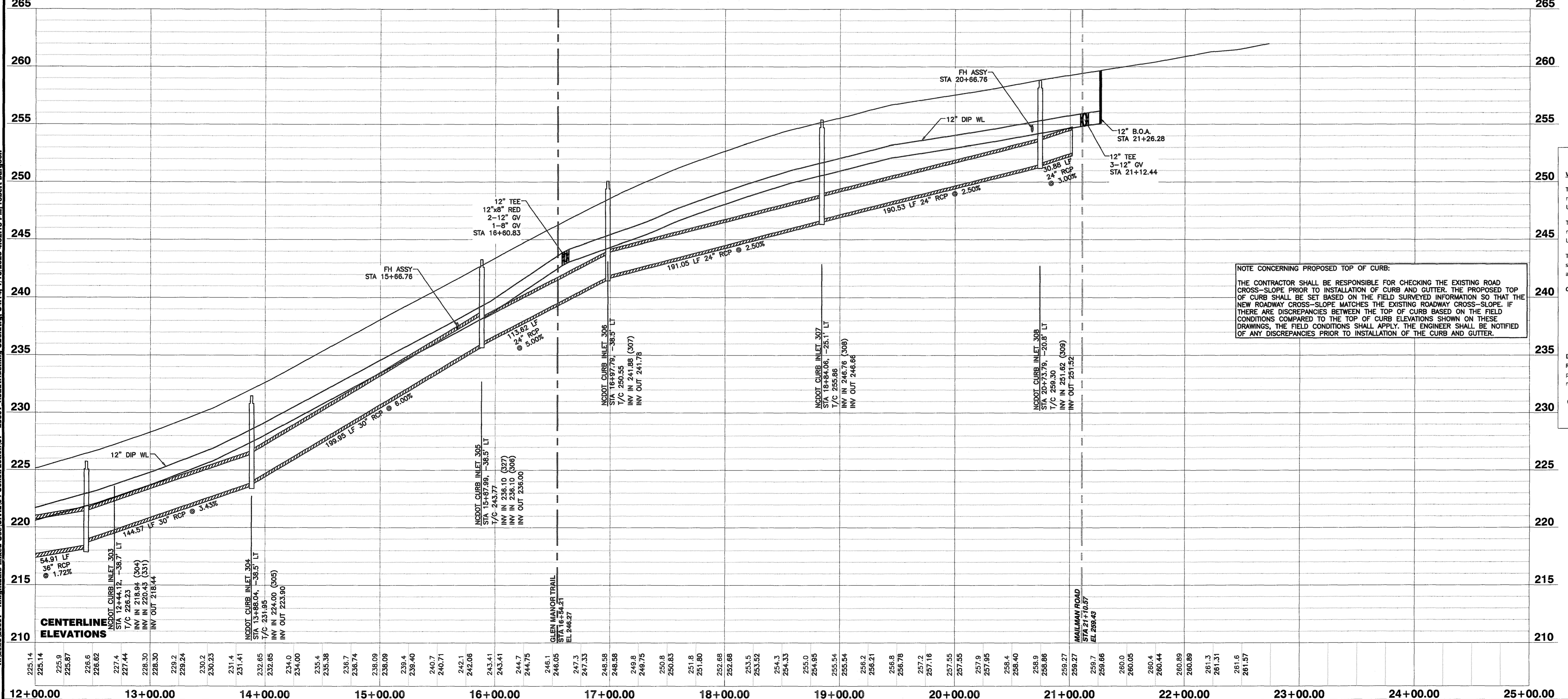
MARKING	NCDOT STD.	SIZE	COLOR
PARKING SPACES	1205.07	4IN	WHITE
DIRECTIONAL ARROWS	1205.08	STD.	WHITE
HIGH-VISIBILITY CROSSWALK	1205.07	STD.	WHITE
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CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

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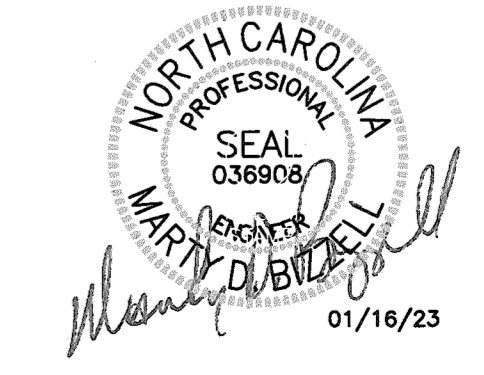
City of Raleigh Development Approval: _____
Cydney S. Terry, Raleigh Water Review Officer

a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: [Signature] Date: 2-1-2023
Town Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: [Signature] Date: 2-2-2023
Administrator



BASS, NIXON & KENNEDY, INC.
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VILLAGE GATE
S. SMITHFIELD ROAD
WIDENING PLAN

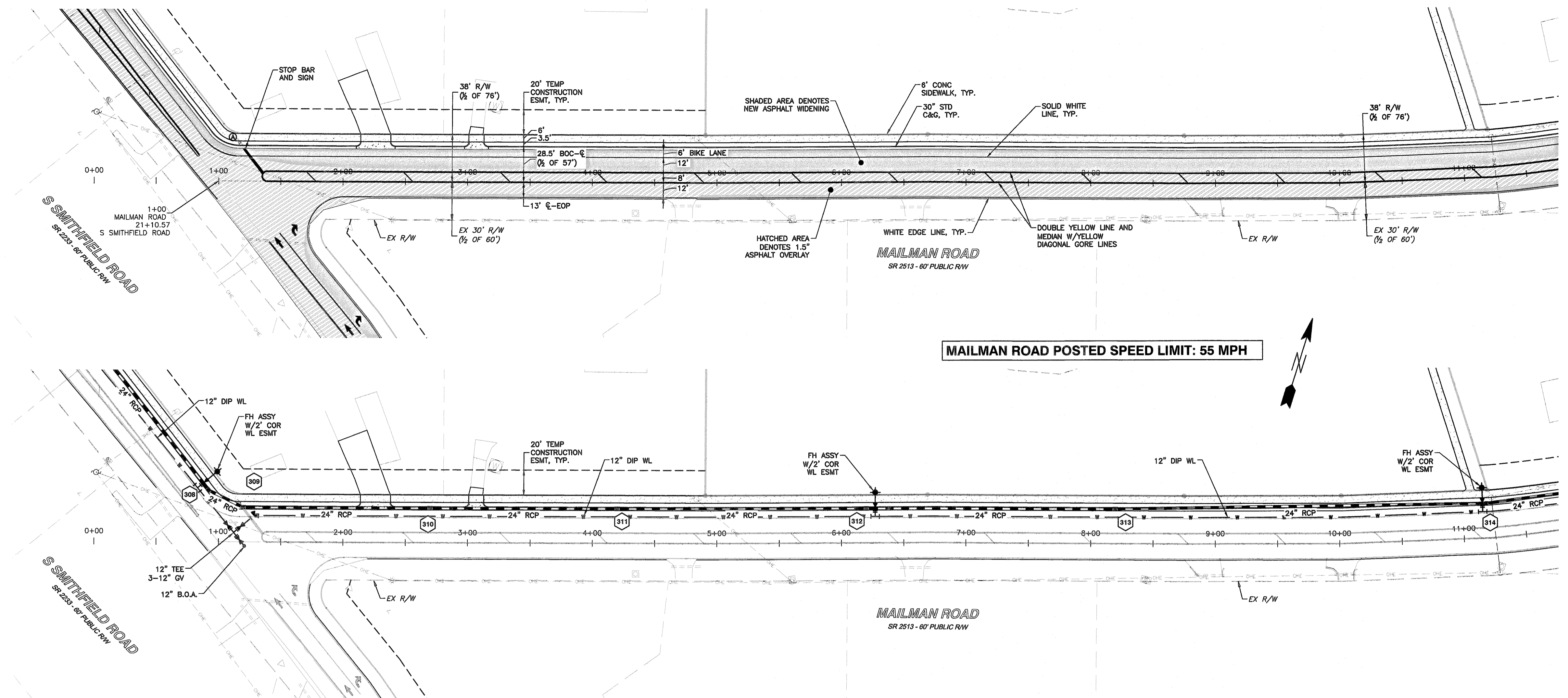
TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET C4.14

TOWN OF KNIGHTDALE PROJECT NO. PUD CASE NO. ZMA-1-21

NO.	DATE	DESCRIPTION	BY
1	03-20-2021	T&E COMMENTS/SIGNATURE SET	RAB
2	03-20-2021	TOWN OF KNIGHTDALE COMMENTS	RAB
3	03-20-2021	TOWN OF KNIGHTDALE COMMENTS	RAB
4	03-20-2021	TOWN OF KNIGHTDALE COMMENTS	RAB
5	03-20-2021	TOWN OF KNIGHTDALE COMMENTS	RAB
6	01-16-23	T&E COMMENTS/SIGNATURE SET	RAB
7	01-16-23	TOWN OF KNIGHTDALE COMMENTS	RAB
8	01-16-23	TOWN OF KNIGHTDALE COMMENTS	RAB
9	01-16-23	TOWN OF KNIGHTDALE COMMENTS	RAB
10	01-16-23	TOWN OF KNIGHTDALE COMMENTS	RAB

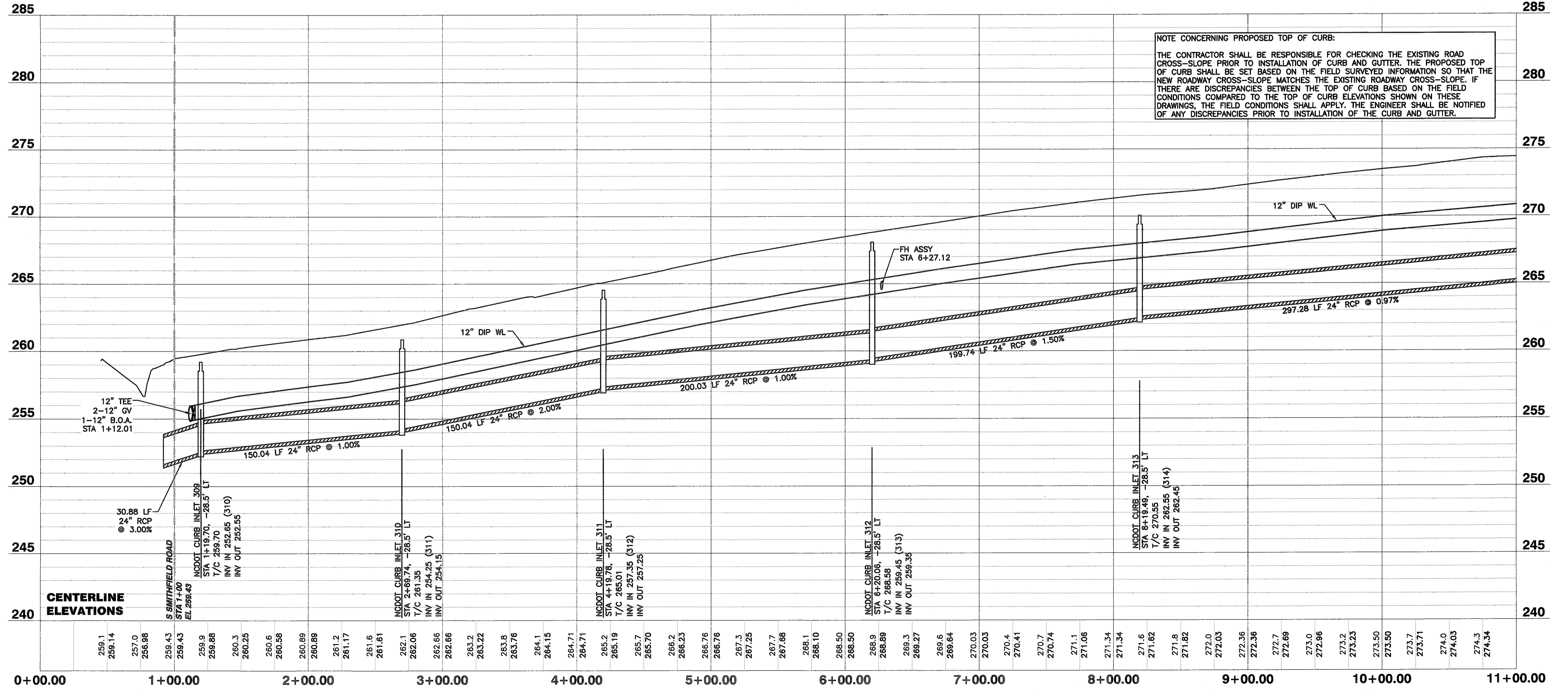
SCALE: 1" = 50' H, 1" = 5' V CHK BY: MDB



MAILMAN ROAD POSTED SPEED LIMIT: 55 MPH

WETLANDS EXIST ON-SITE
FLOODPLAINS EXIST ON-SITE
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TEMP BARRICADE	SEE DETAIL 3.18 SHEET C5.1	
OBJECT MARKER	GMS-1	18"x18"
DO NOT ENTER	RE-1	30"x30"
PEDESTRIAN	W11-2	30"x30"
DOWNWARD DIAGONAL ARROW (MOUNT BELOW)	W16-7P	24"x12"
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MARKING	NCDOT STD.	SIZE	COLOR
PARKING SPACES	1205.08	4IN	WHITE
DIRECTIONAL ARROWS	1205.07	STD.	WHITE
HIGH-VISIBILITY CROSSWALK	1205.07	STD.	WHITE
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SITE PERMITTING APPROVAL

Water and Sewer Permits (if applicable)

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City of Raleigh Public Utilities Department Permit # -

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Cydney S. Terry
City of Raleigh Development Approval

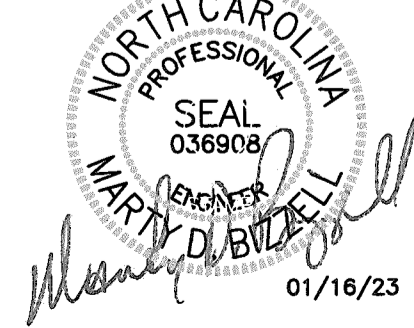
Raleigh Water Review Officer

Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: *[Signature]* Date: 2-1-2023
Town Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: *[Signature]* Date: 2/2/2023
Administrator



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TELEPHONE: (919) 951-4422 OR (800) 354-1879 FAX: (919) 951-8968
CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

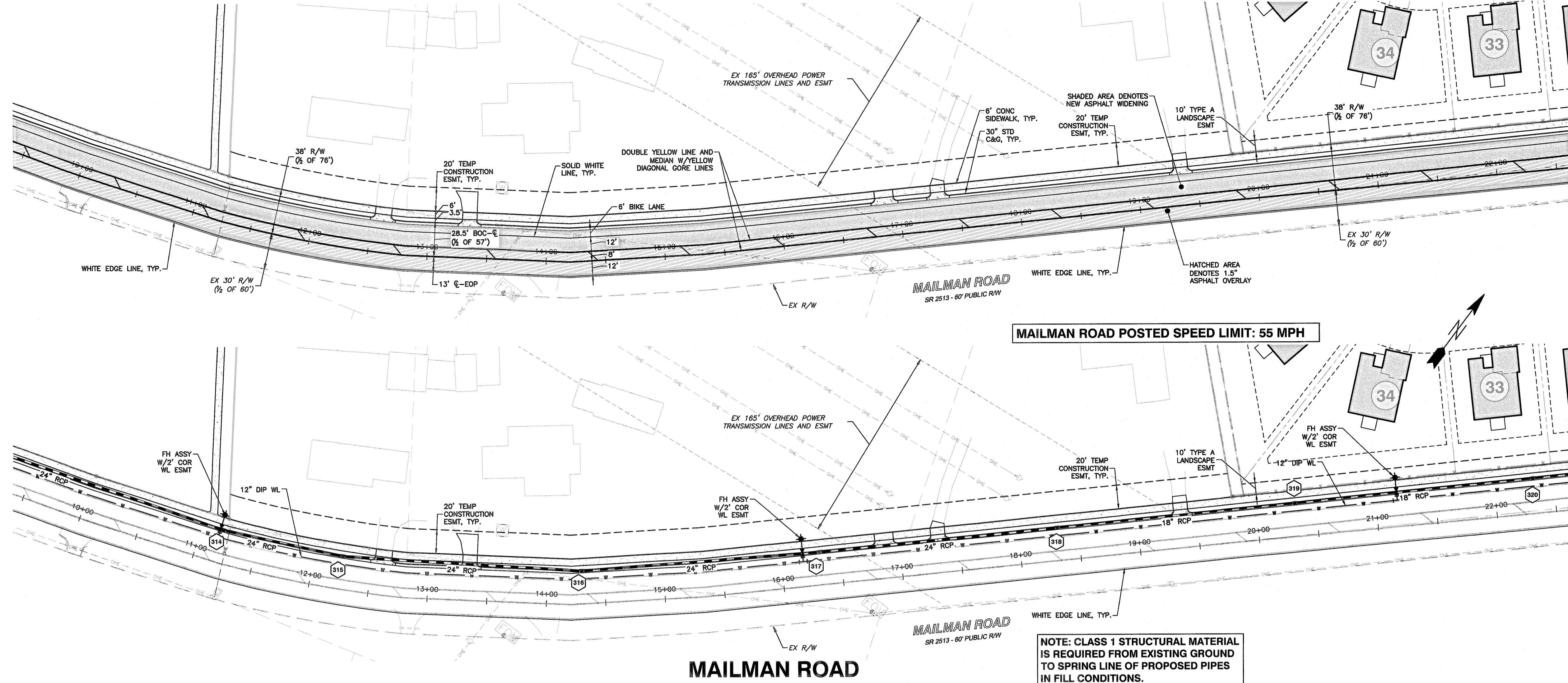
NO.	DATE	DESCRIPTION	BY
1	01-16-23	FOR COMMENTS/SIGNATURE SET	RAB
2	01-16-23	TOWN OF KNIGHTDALE COMMENTS	RAB
3	01-16-23	TOWN OF KNIGHTDALE COMMENTS	RAB
4	01-16-23	TOWN OF KNIGHTDALE COMMENTS	RAB
5	01-16-23	TOWN OF KNIGHTDALE COMMENTS	RAB
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MAILMAN ROAD
WIDENING PLAN

SCALE: 1" = 50' H; 1" = 5' V CHK BY: MIB

VILLAGE GATE
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TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET
C4.15

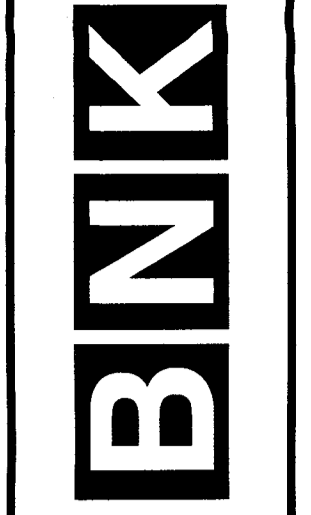


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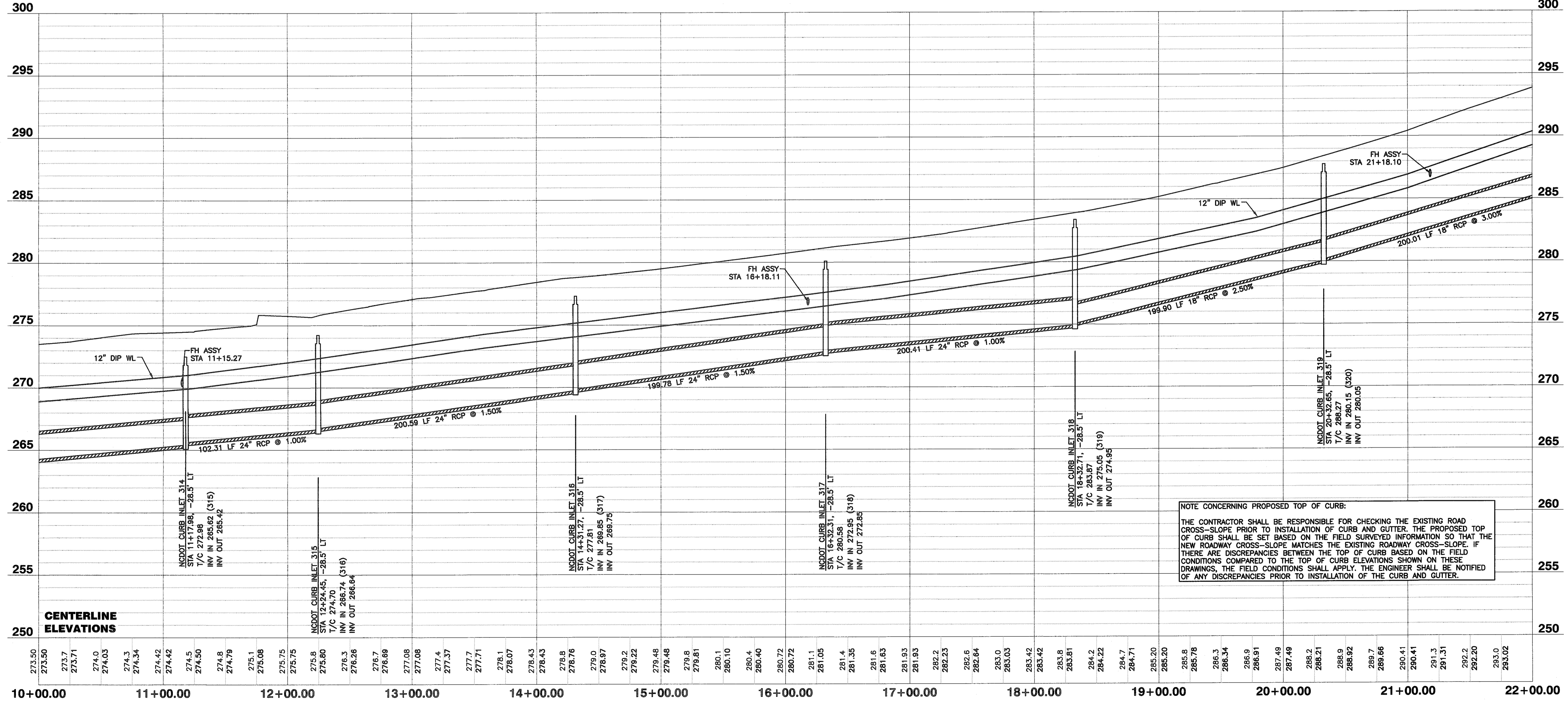
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SITE PERMITTING APPROVAL

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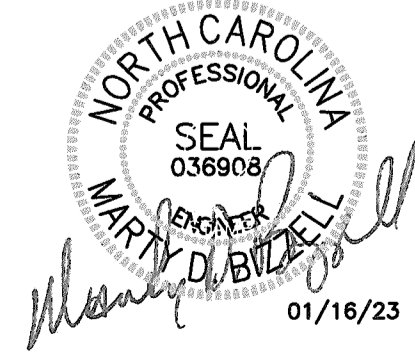
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By: *[Signature]* Date: 2-1-2023
 Town Engineer

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By: *[Signature]* Date: 2-2-2023
 Administrator



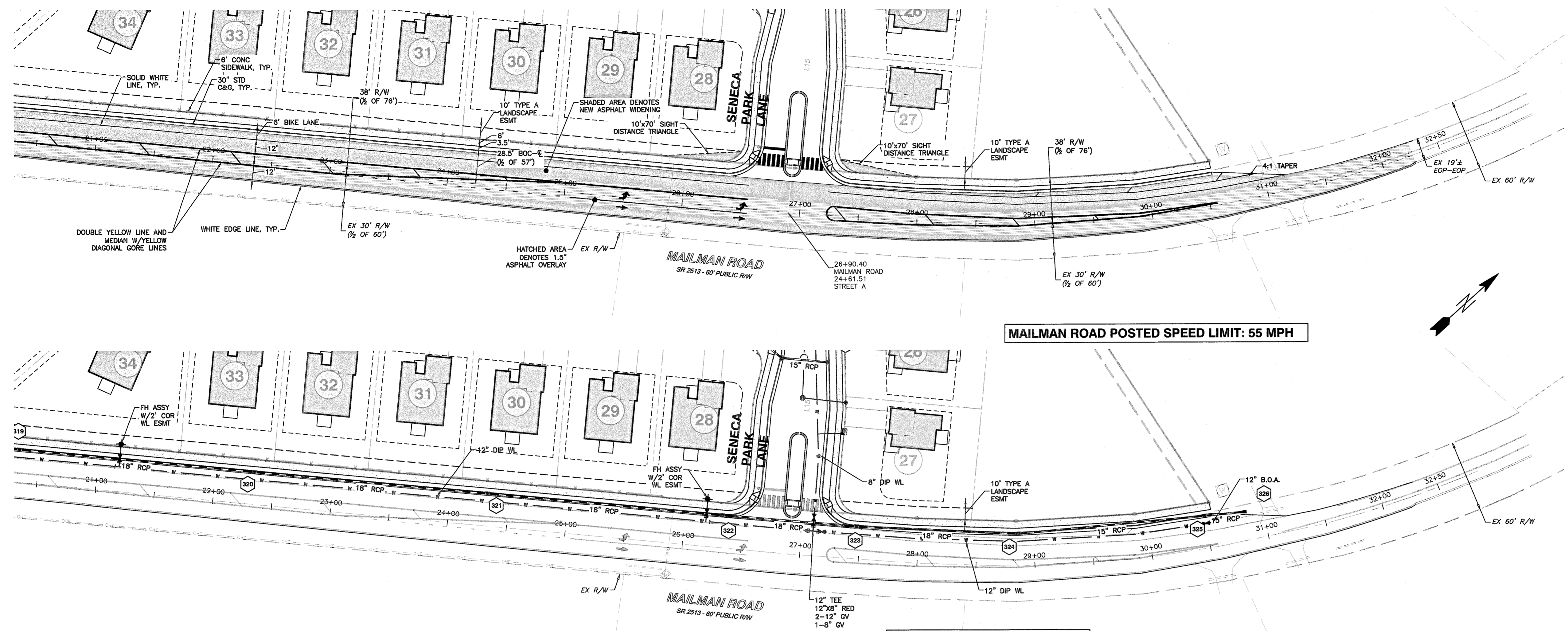
NO.	DATE	DESCRIPTION	BY
1	01-16-23	TOK COMMENTS/SIGNATURE SET	RAB
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB
3	06-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB
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5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
6	01-16-23	TOK COMMENTS/SIGNATURE SET	RAB

MAILMAN ROAD WIDENING PLAN

SCALE: 1" = 50' H, 1" = 5' V CHK BY: HDB

VILLAGE GATE
S. SMITHFIELD ROAD
 TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET C4.16



TRAFFIC CONTROL NOTES

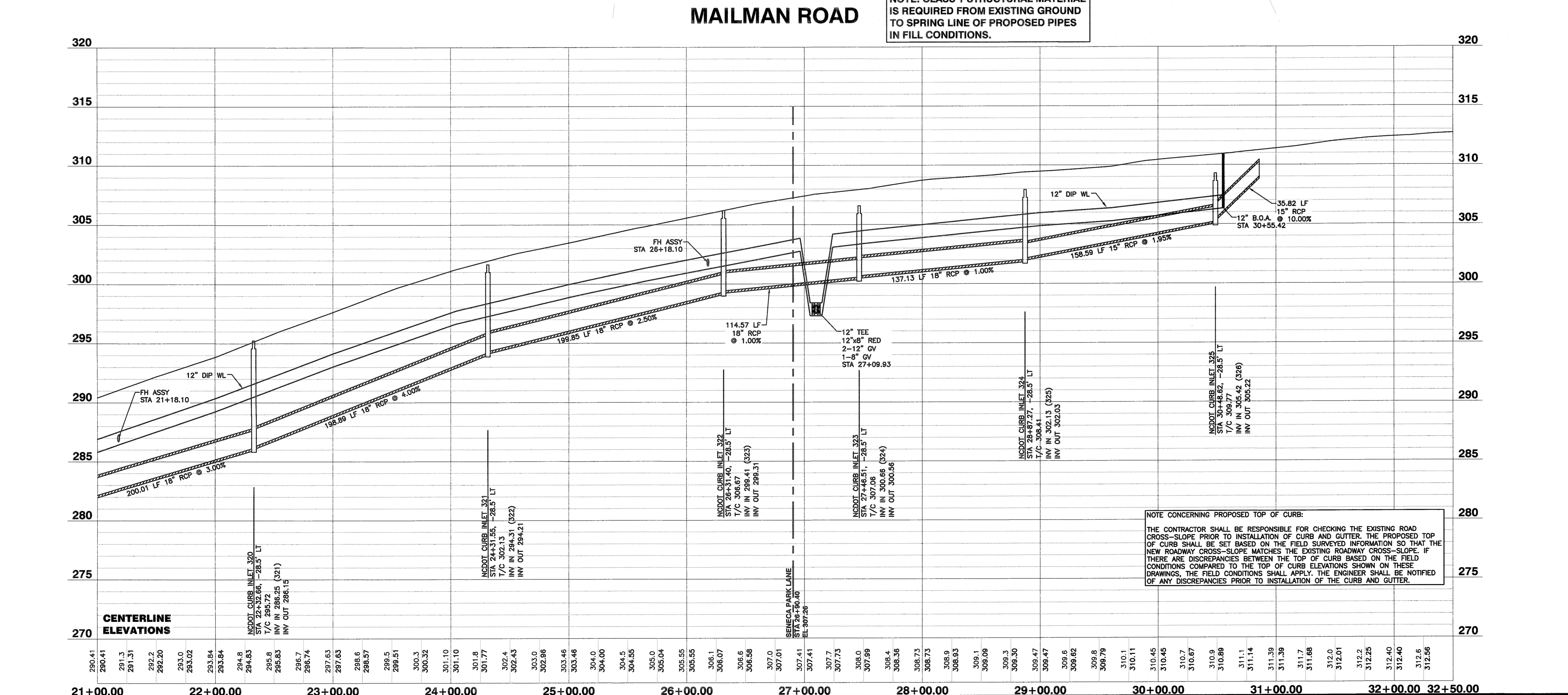
- ALL SITE SIGNAGE SHALL BE ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND NCDOT STANDARDS.

SIGN	MUTCD STD.	SIZE
STOP	R1-1	24"x24"
ACCESSIBLE PARKING	R7-8(A/D)	SEE DETAIL
PARKING RESTRICTION (SHALL READ "MAIL PARKING 15 MINUTE LIMIT")	R7-10B	12"x18"
TEMP BARRICADE	SEE DETAIL 3.18 SHEET C5.1	
OBJECT MARKER	OM3	18"x18"
DO NOT ENTER	RS-1	30"x30"
PEDESTRIAN	W11-2	30"x30"
DOWNWARD DIAGONAL ARROW (MOUNT BELOW)	W16-7P	24"x12"
- ALL SIGNS SHALL BE MOUNTED WITH 5-FT MIN. VERTICAL CLEARANCE TO THE BOTTOM OF THE SIGN ON 2LB GALVANIZED STEEL U-CHEMEL POST SET IN 3FT DEEP x 12IN DIA. CONCRETE FOOTING.
- ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MUTCD AND NCDOT STANDARDS AND THE PROJECT SPECIFICATIONS.

MARKING	NCDOT STD.	SIZE	COLOR
PARKING SPACES	1205.08	4IN	WHITE
DIRECTIONAL ARROWS	1205.07	STD.	WHITE
HIGH-VISIBILITY CROSSWALK	1205.07	STD.	WHITE
STANDARD CROSSWALK	1205.01	STD.	WHITE
STOP BARS	1205.01	STD.	WHITE
EDGE LINES	1205.01	4IN	WHITE
EDGE LINES	1205.01	4IN	YELLOW
DIAGONAL CORE LINE (>45MPH)	1205.08	12IN	WHITE/YELLOW
- ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC TYPE EXCEPT FOR PARKING SPACE WHICH MAY BE THERMOPLASTIC OR ALKYLID-RESIN TYPE PAINT.

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ATTENTION CONTRACTORS
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NOTE CONCERNING PROPOSED TOP OF CURB:
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING THE EXISTING ROAD CROSS-SLOPE PRIOR TO INSTALLATION OF CURB AND GUTTER. THE PROPOSED TOP OF CURB SHALL BE SET BASED ON THE FIELD SURVEYED INFORMATION SO THAT THE NEW ROADWAY CROSS-SLOPE MATCHES THE EXISTING ROADWAY CROSS-SLOPE. IF THERE ARE DISCREPANCIES BETWEEN THE TOP OF CURB BASED ON THE FIELD CONDITIONS COMPARED TO THE TOP OF CURB ELEVATIONS SHOWN ON THESE DRAWINGS, THE FIELD CONDITIONS SHALL APPLY. THE ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES PRIOR TO INSTALLATION OF THE CURB AND GUTTER.

SITE PERMITTING APPROVAL

Water and Sewer Permits (if applicable)

The City of Raleigh consents to the connection and extension of the City's Public Sewer System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # S-4916

The City of Raleigh consents to the connection and extension of the City's Public Water System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # W-3847

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CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

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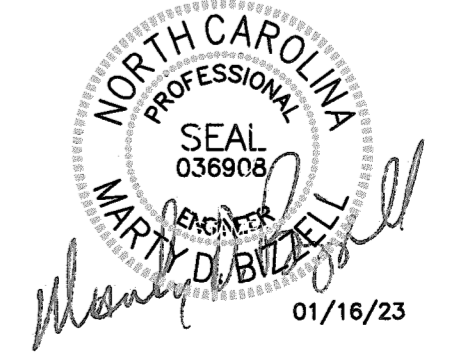
City of Raleigh Development Approval: *Cydney S. Terry* (Digitally signed by Cydney S. Terry) Raleigh Water Review Officer

a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: *[Signature]* Date: 2-1-2023
 Town Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: *[Signature]* Date: 2-1-2023
 Administrator



BASS, NIXON & KENNEDY, INC.
 CONSULTING ENGINEERS
 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919) 851-4422 OR (800) 354-1879 FAX: (919) 851-8868
 CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

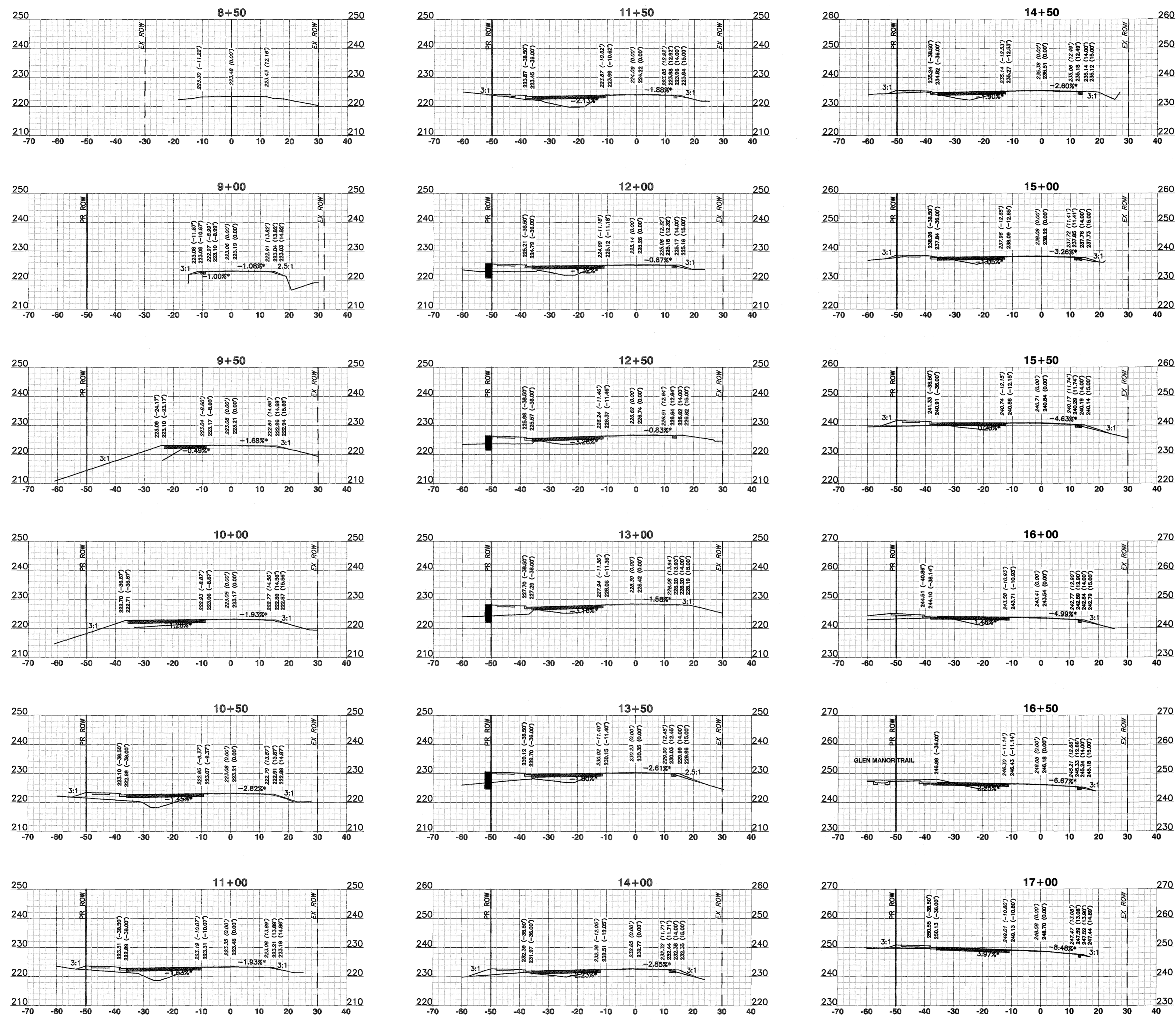
NO.	DATE	DESCRIPTION	BY
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4	08-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
3	06-05-22	TOWN OF KNIGHTDALE COMMENTS	RAB
2	05-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB

RAB	DATE	DESCRIPTION	BY
03-20-097	08-07-2021	MAILMAN ROAD WIDENING PLAN	5' V CHK BY: MDB

SCALE: 1" = 50' H; 1" = 5' V CHK BY: MDB

VILLAGE GATE
 S. SMITHFIELD ROAD
 TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET
C4.17



MATCH EXISTING CROSS SLOPE

WETLANDS EXIST ON-SITE
FLOODPLAINS EXIST ON-SITE
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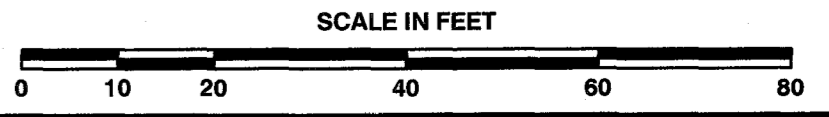
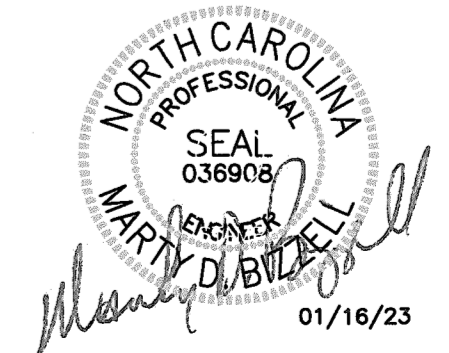
SITE PERMITTING APPROVAL
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City of Raleigh Development Approval _____
Raleigh Water Review Officer

a. **Town Certification.** This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
By: Seth Bell Date: 2-1-2023
Town Engineer
These plans are approved by the Town of Knightdale and serve as construction plans for this project.
By: W. W. Date: 2-2-2023
Administrator



BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
TELEPHONE: (919) 851-4422 OR (800) 354-1879 FAX: (919) 851-9868
CERTIFICATION NUMBERS: NOBELS (C-0110); NCBOLA (C-0267)

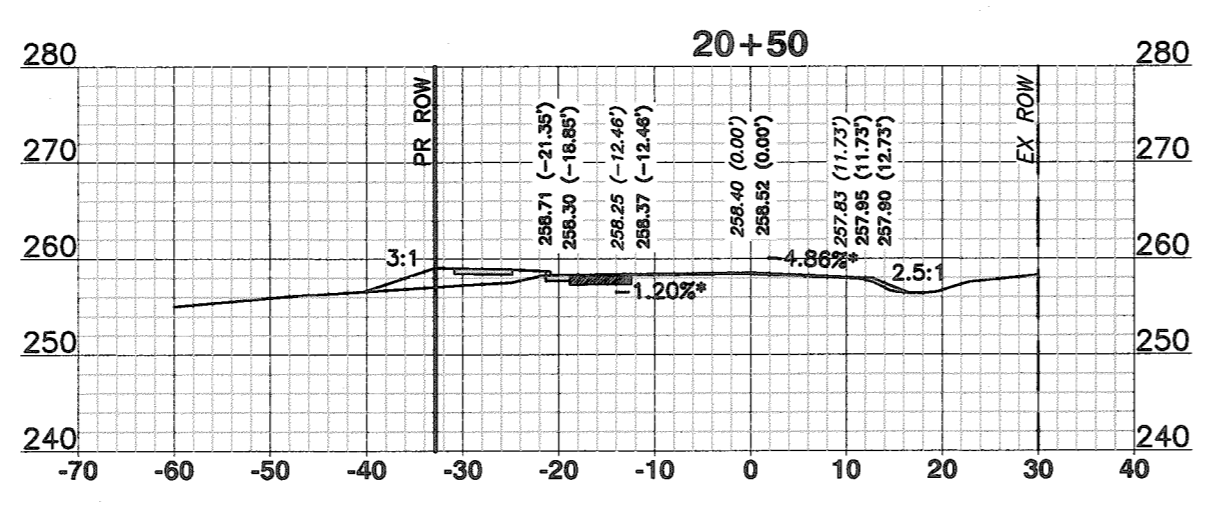
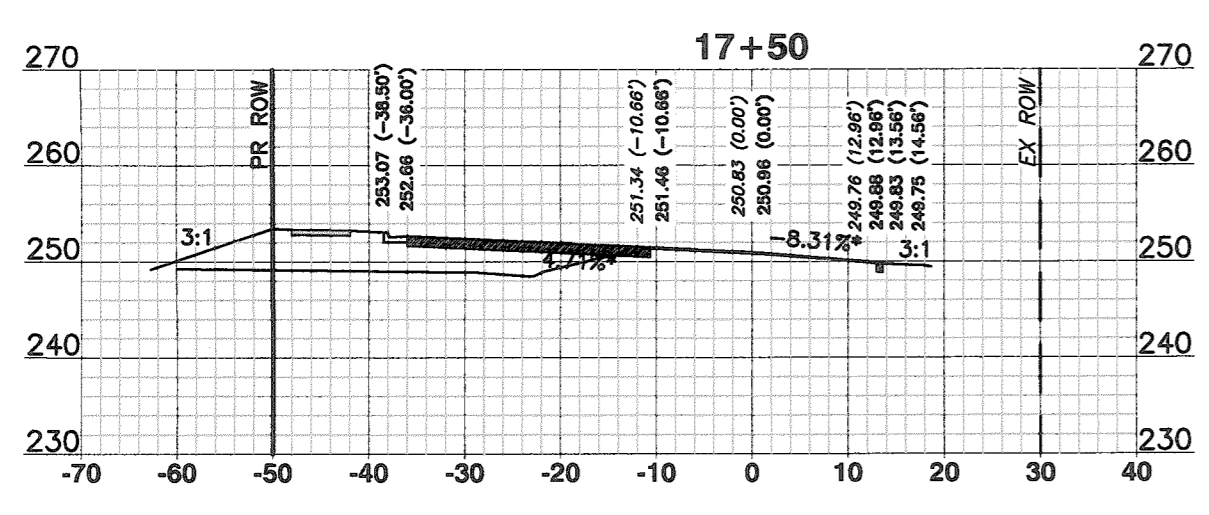
NO.	DATE	DESCRIPTION	BY
1	01-16-23	T&E COMMENTS/SIGNATURE SET	RAB
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB
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5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
6	01-16-23	T&E COMMENTS/SIGNATURE SET	RAB

RAB	DATE	DRAWN BY
03-20097	09-07-2021	SMITHFIELD ROAD CROSS SECTIONS

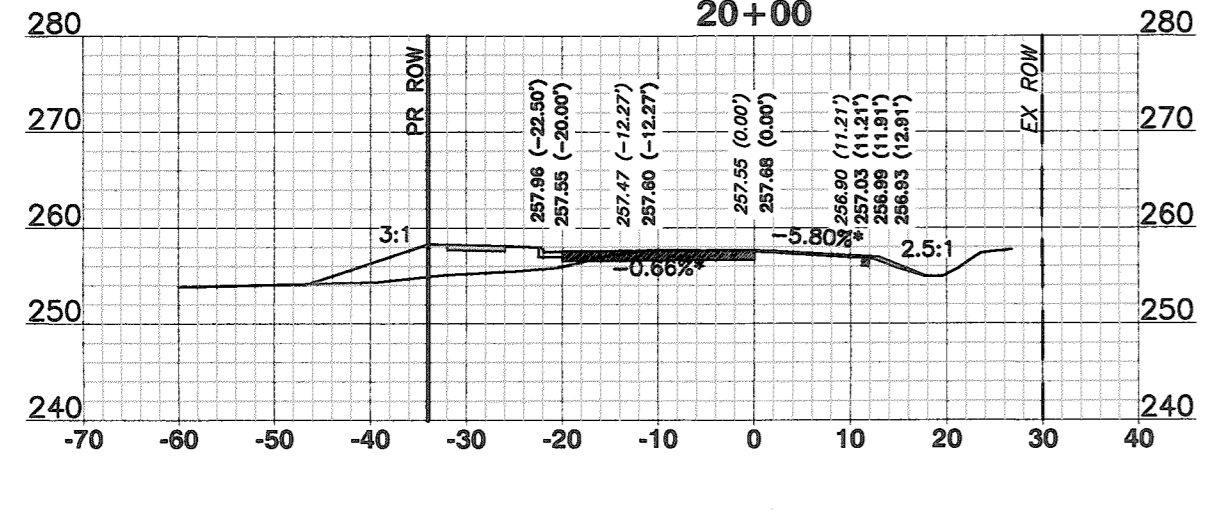
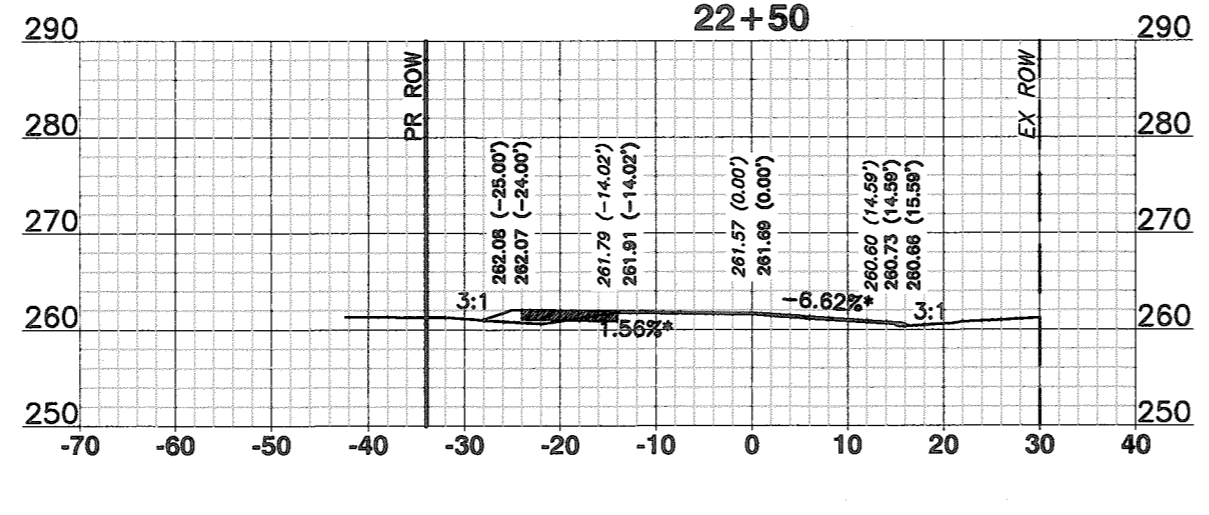
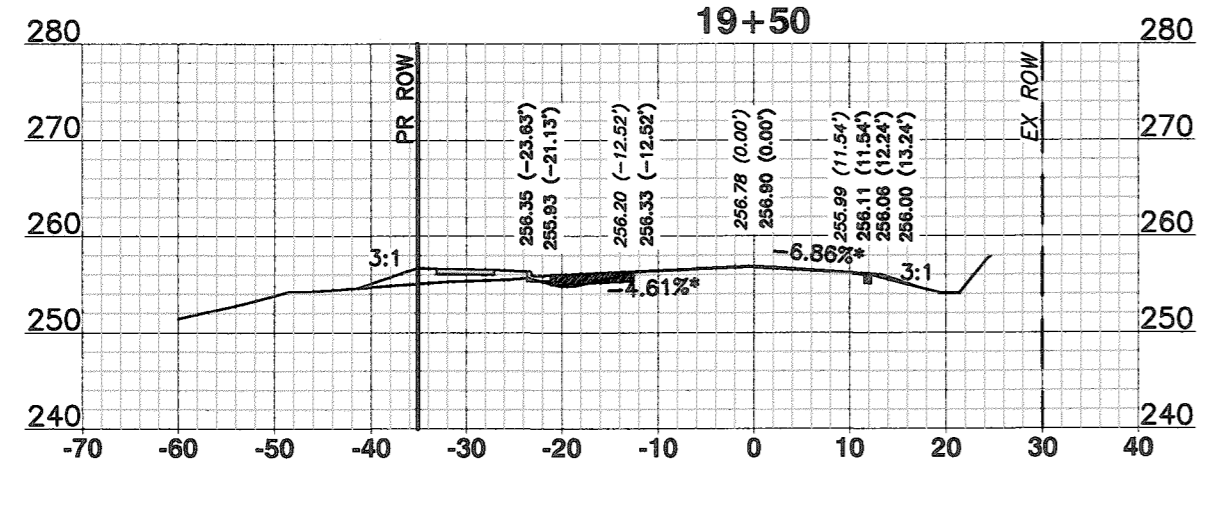
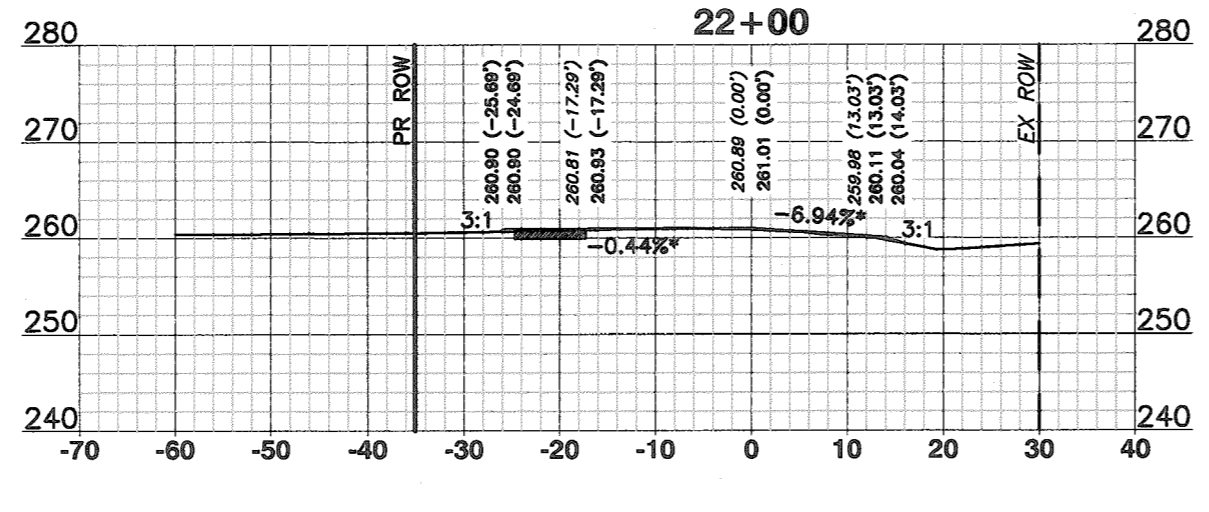
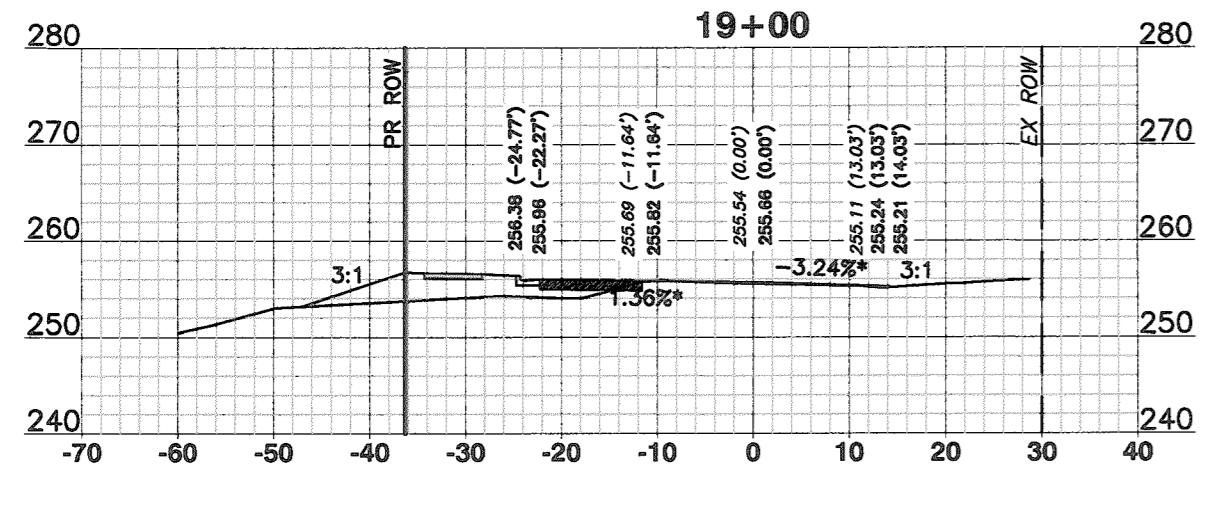
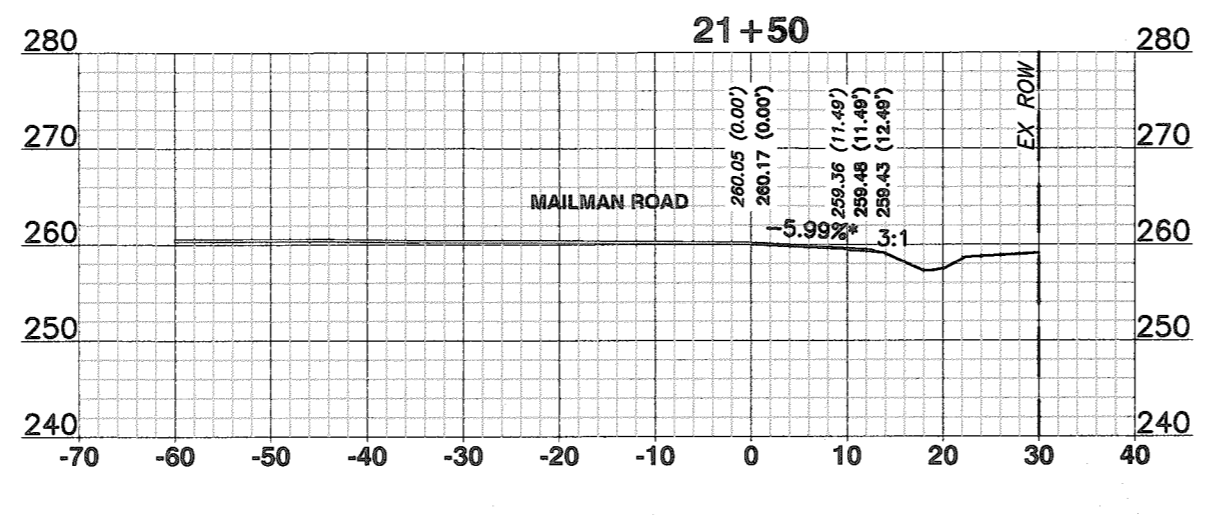
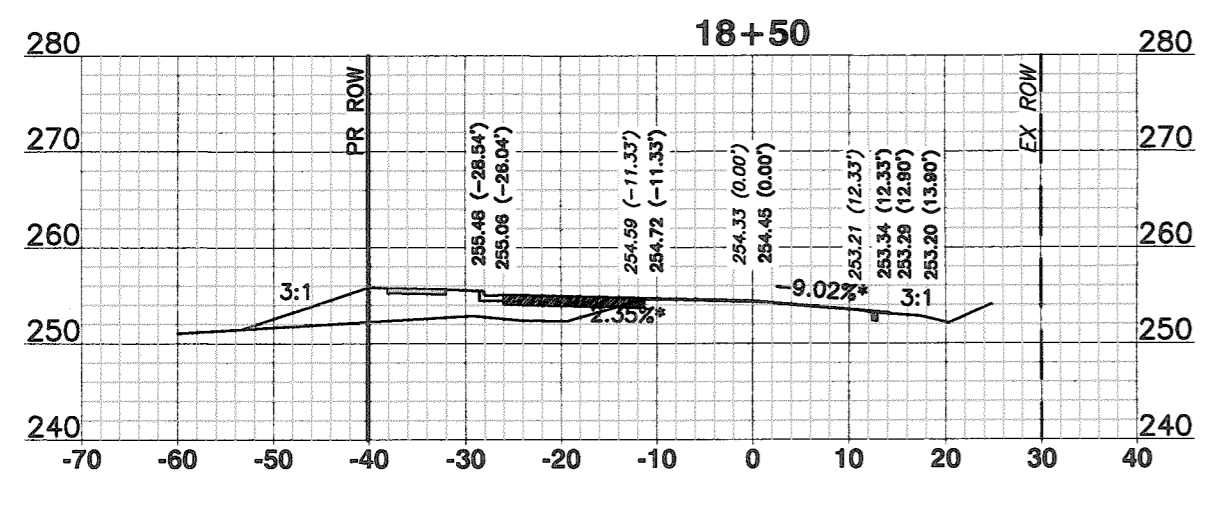
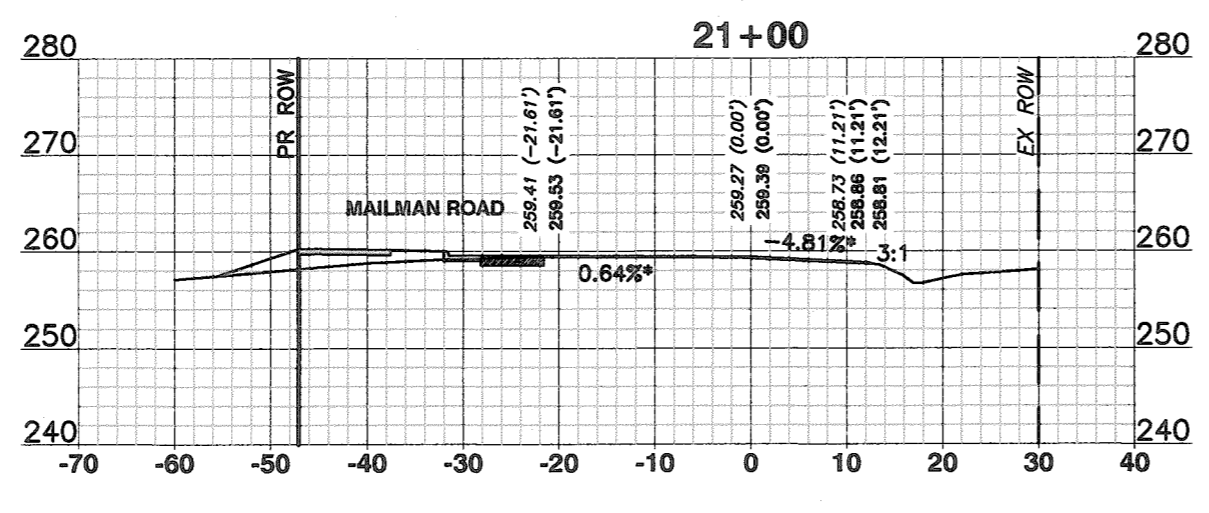
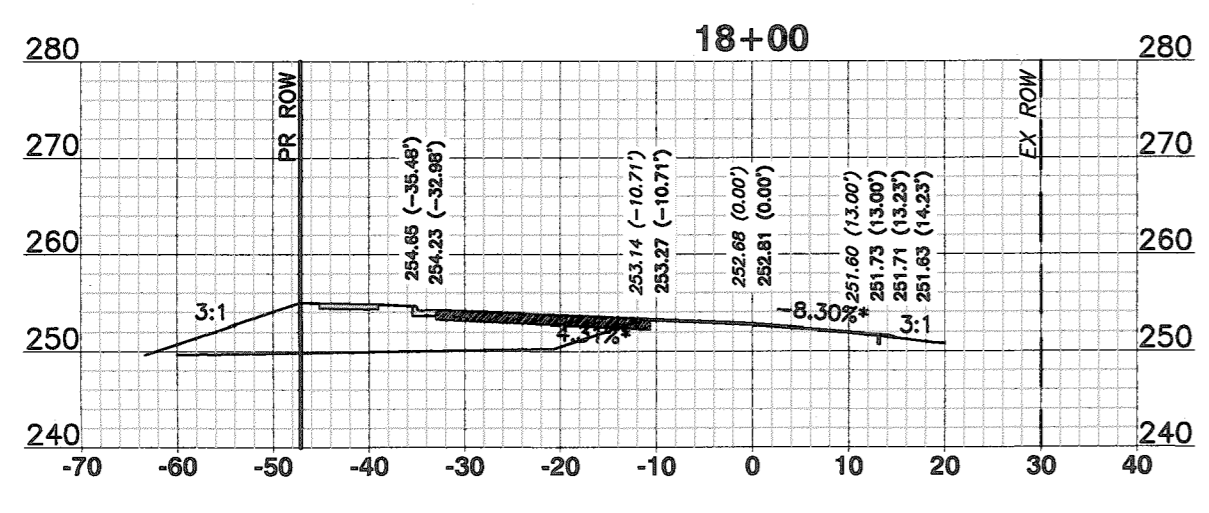
SCALE: 1" = 20'

VILLAGE GATE
S. SMITHFIELD ROAD
TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET C4.18



MATCH EXISTING CROSS SLOPE

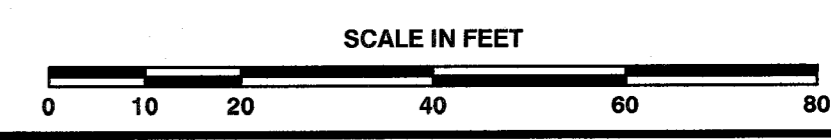
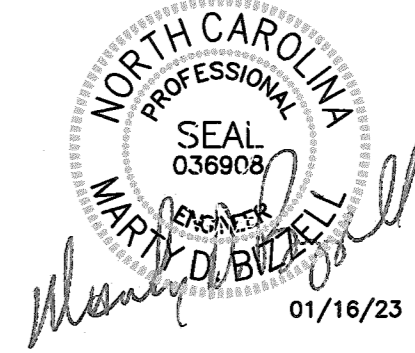


WETLANDS EXIST ON-SITE
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CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0287)

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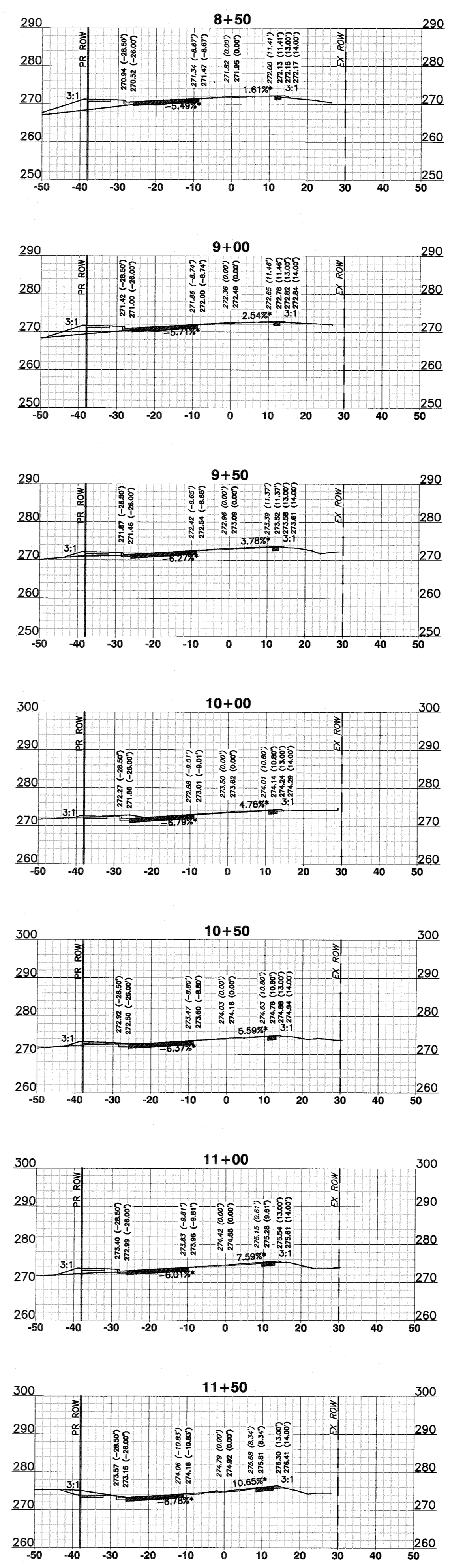
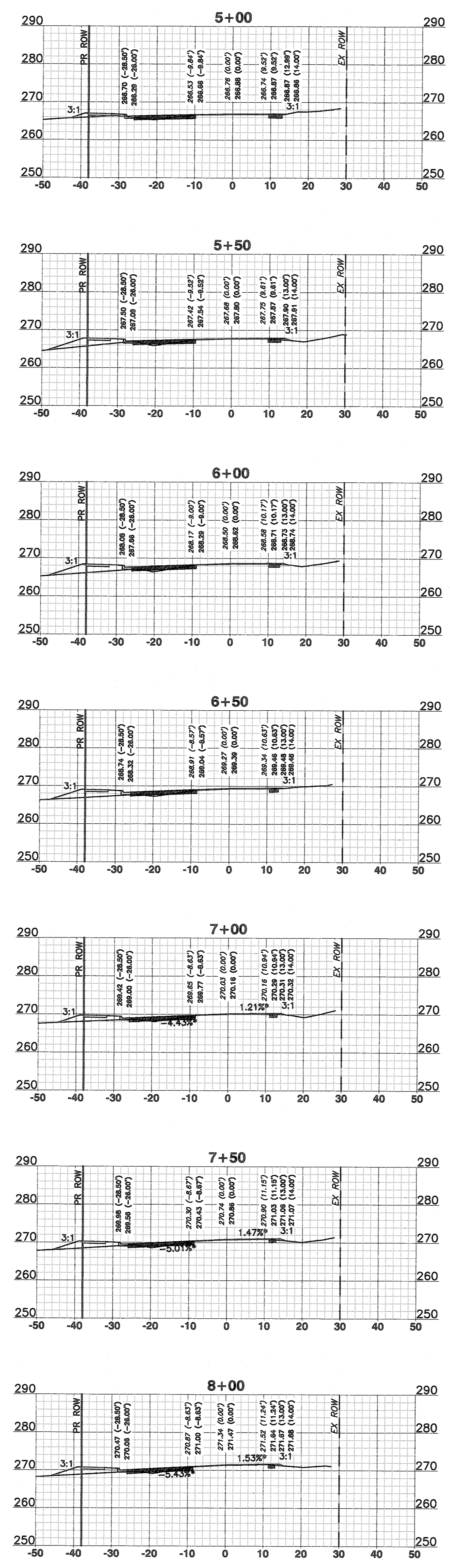
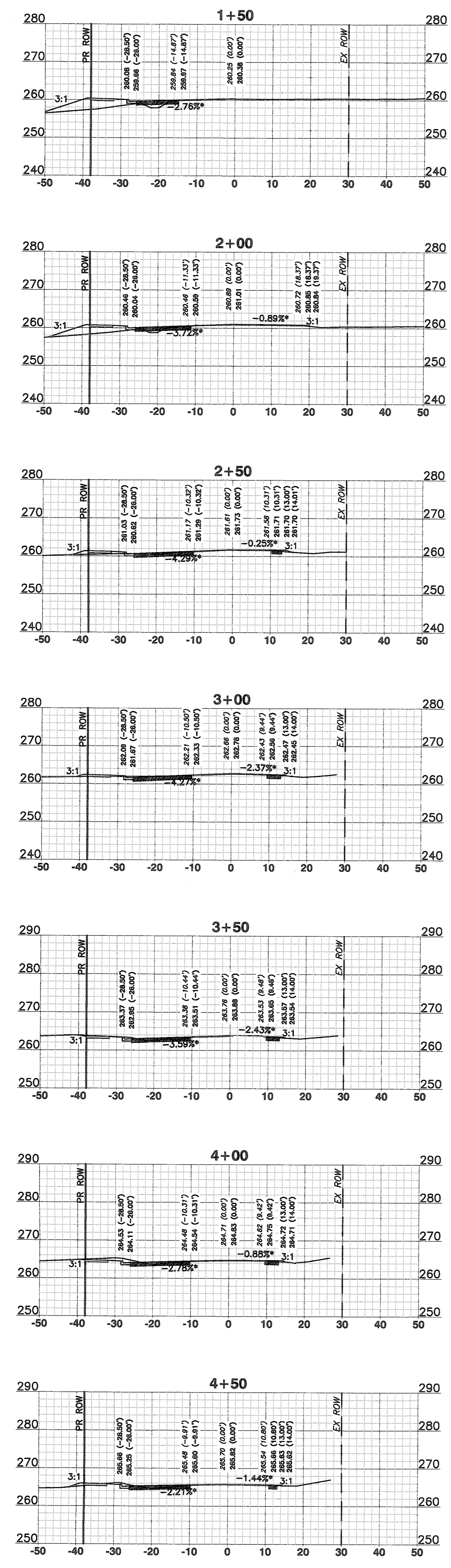
03-20097
JOB NO.
DATE
09-07-2021
DRAWN BY
SMITHFIELD ROAD
CROSS SECTIONS
CHK BY: HDB
SCALE: 1" = 20'

VILLAGE GATE
S. SMITHFIELD ROAD
TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET
C4.19

R:\2020\20097 - Knightdale Mixed Use\CVI\04 Construction\07 - 20097 - Road\Widening C4.20_11192023 4:04:09 PM, robert burton

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• MATCH EXISTING CROSS SLOPE.

WETLANDS EXIST ON-SITE
FLOODPLAINS EXIST ON-SITE

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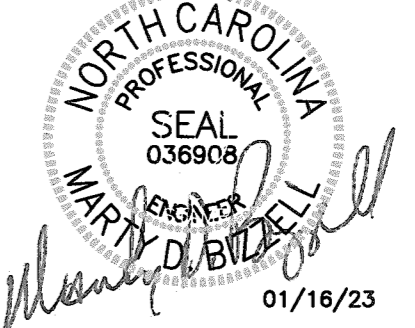
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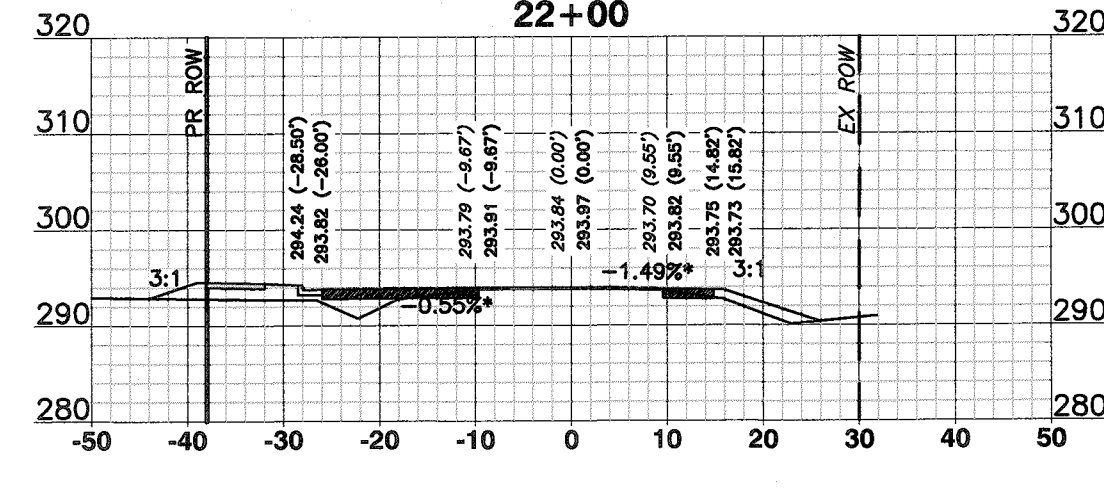
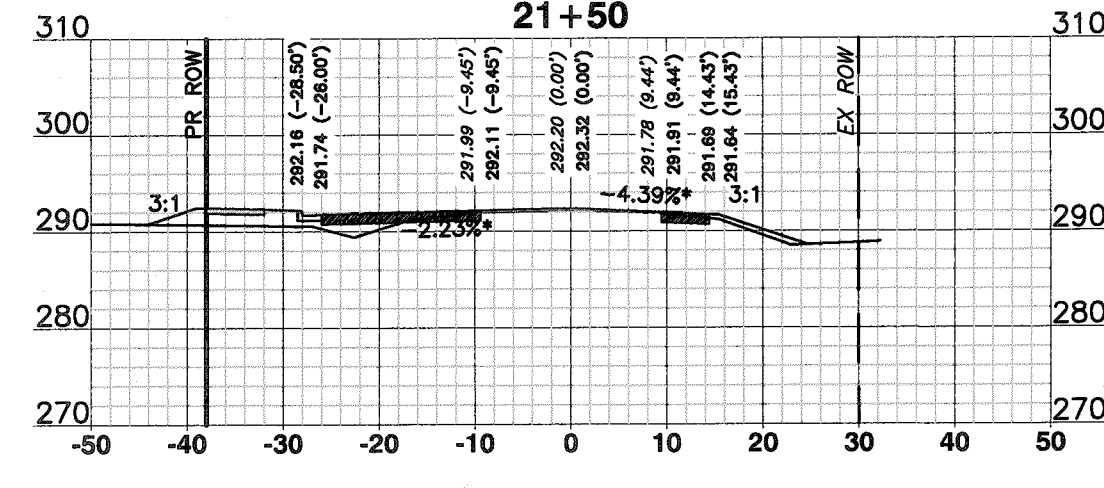
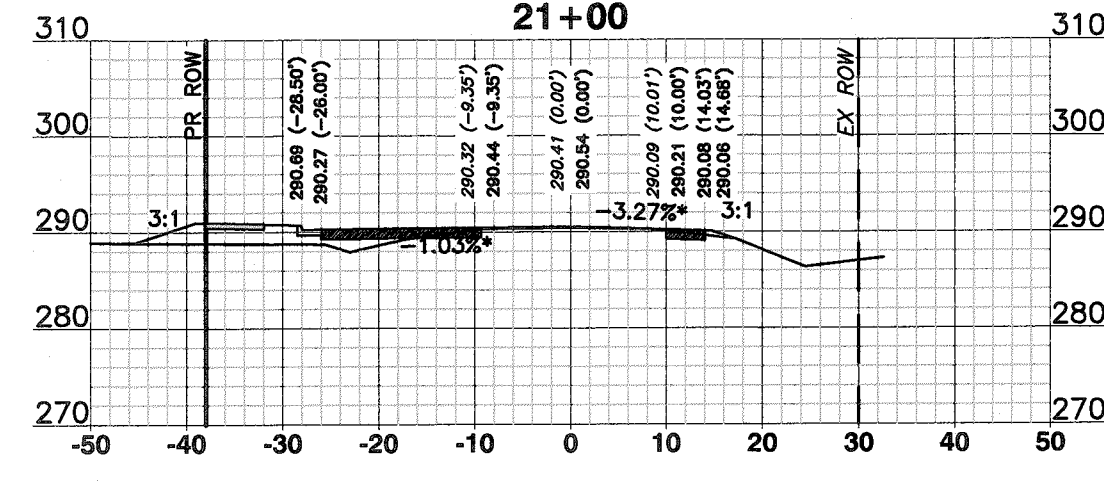
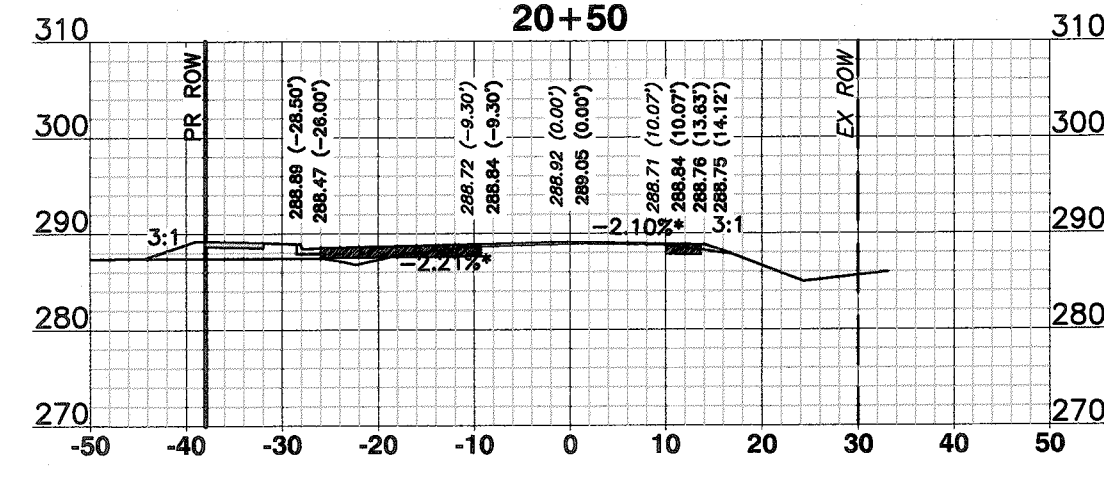
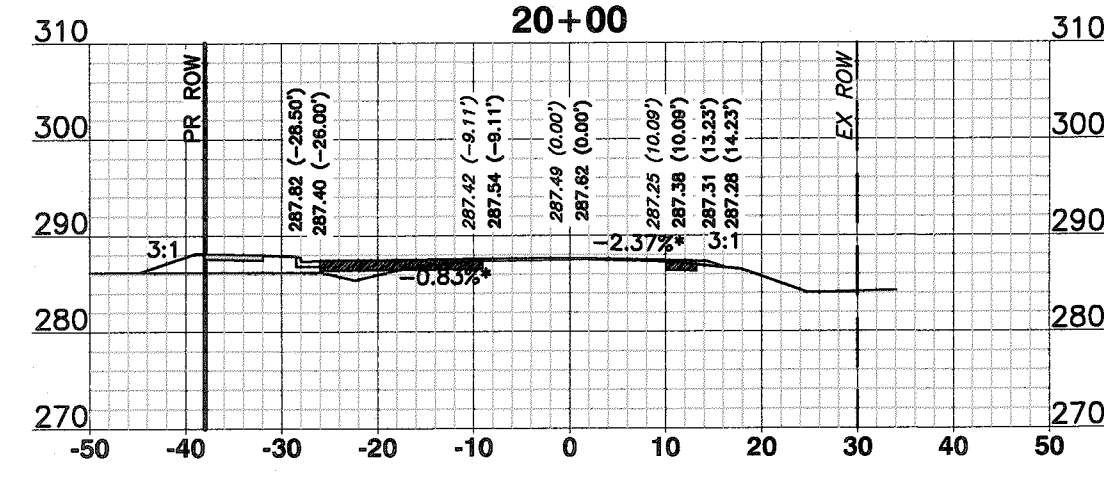
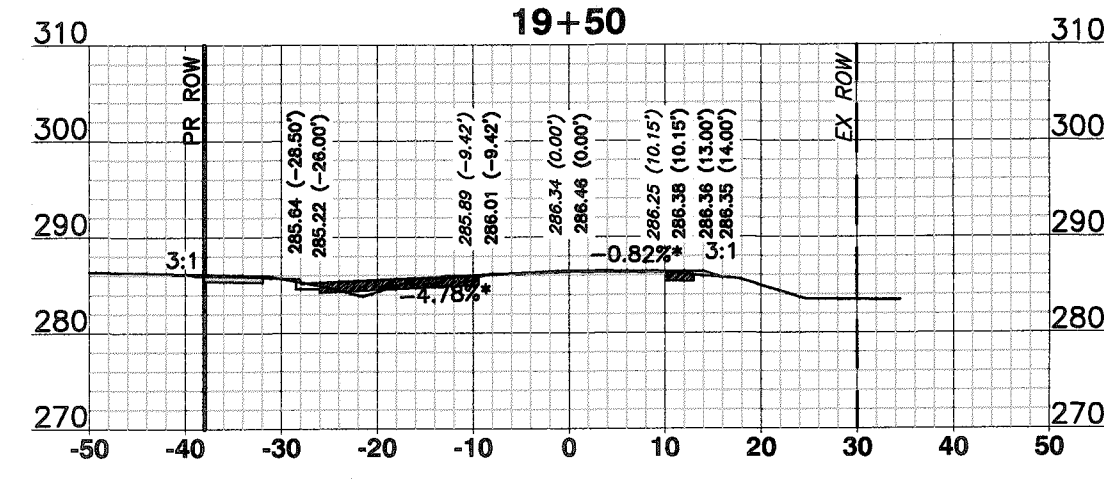
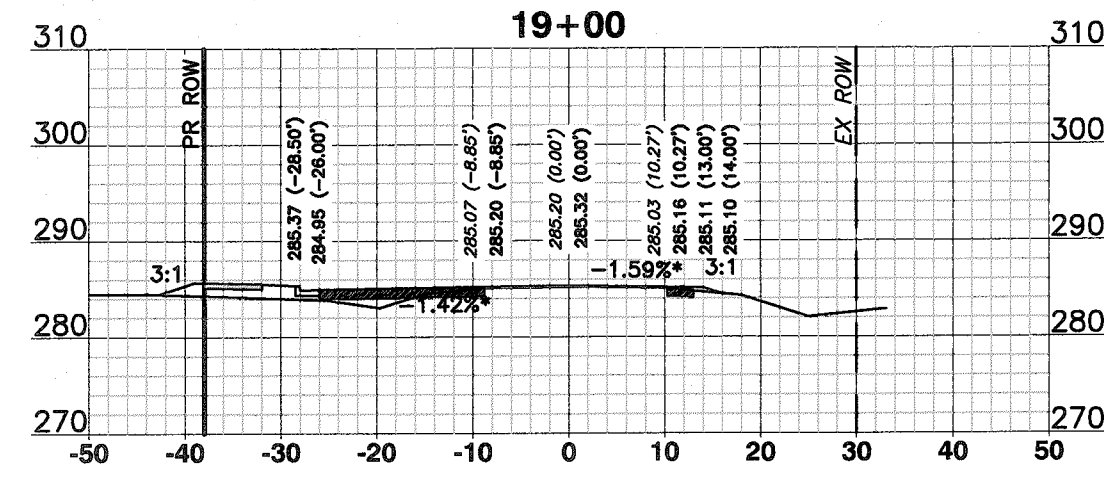
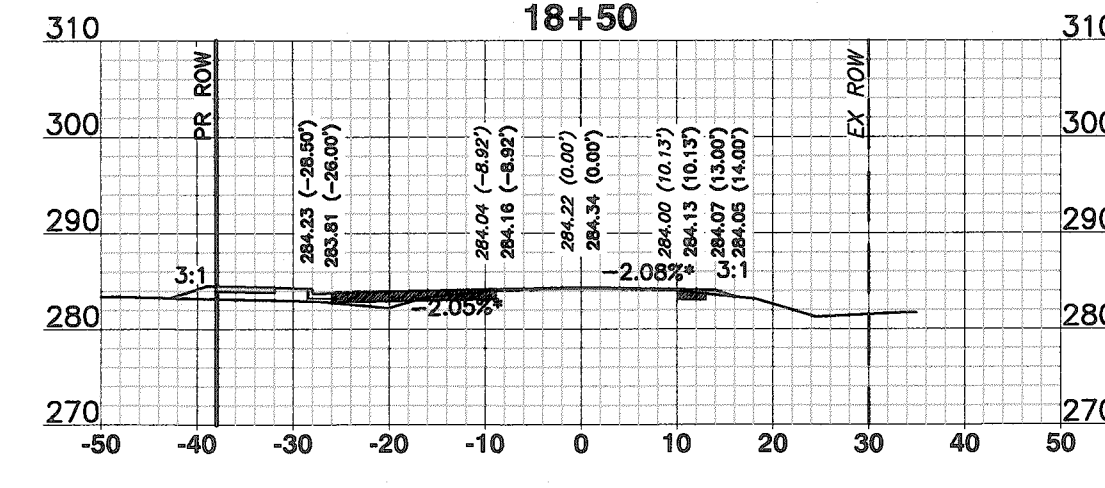
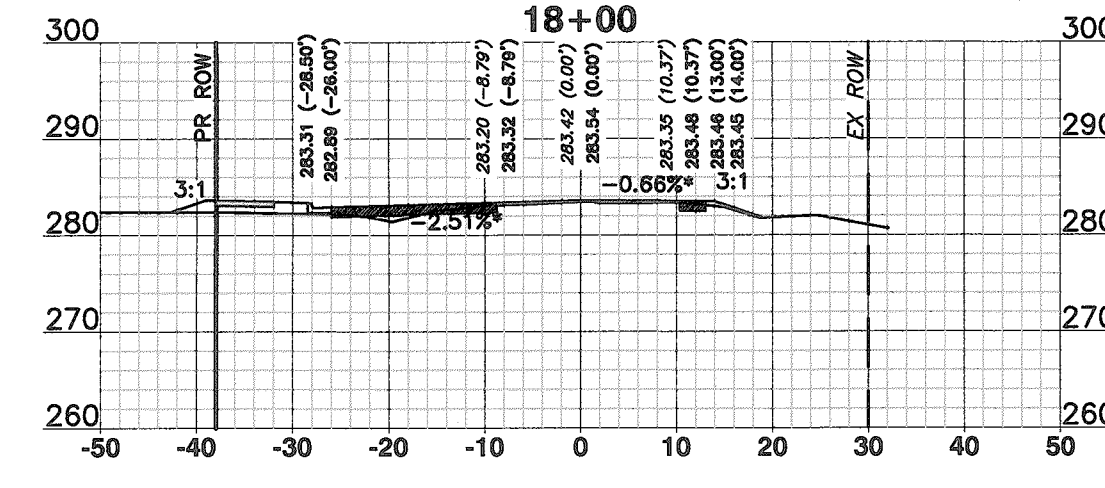
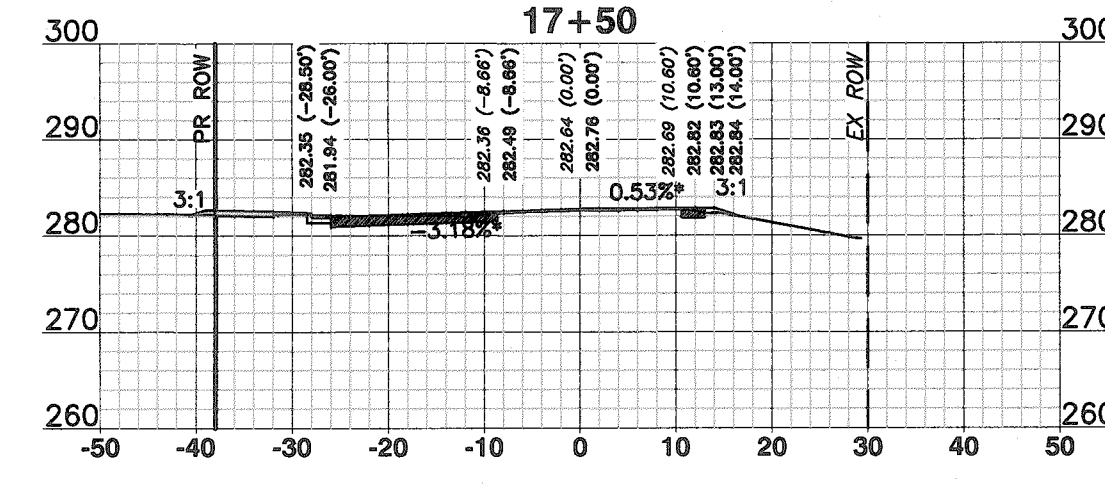
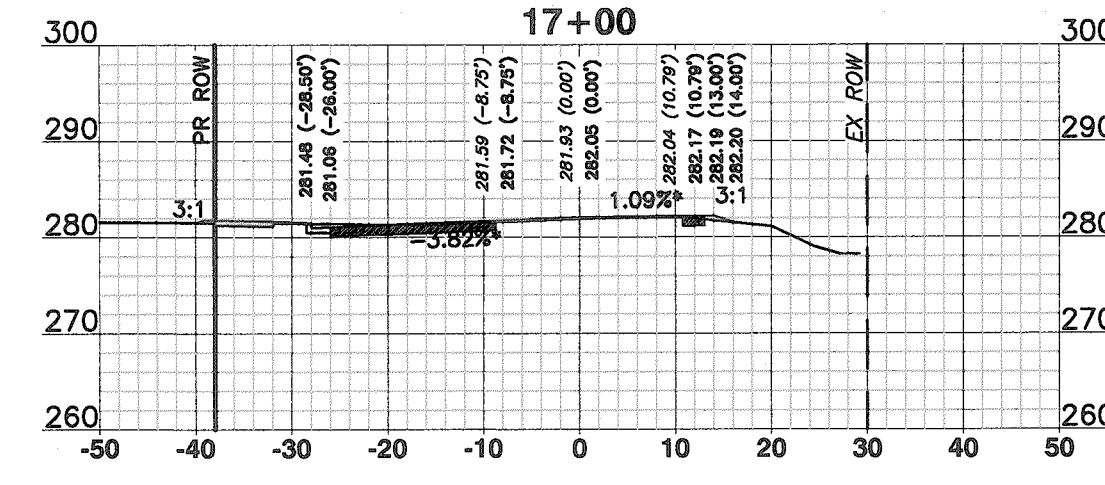
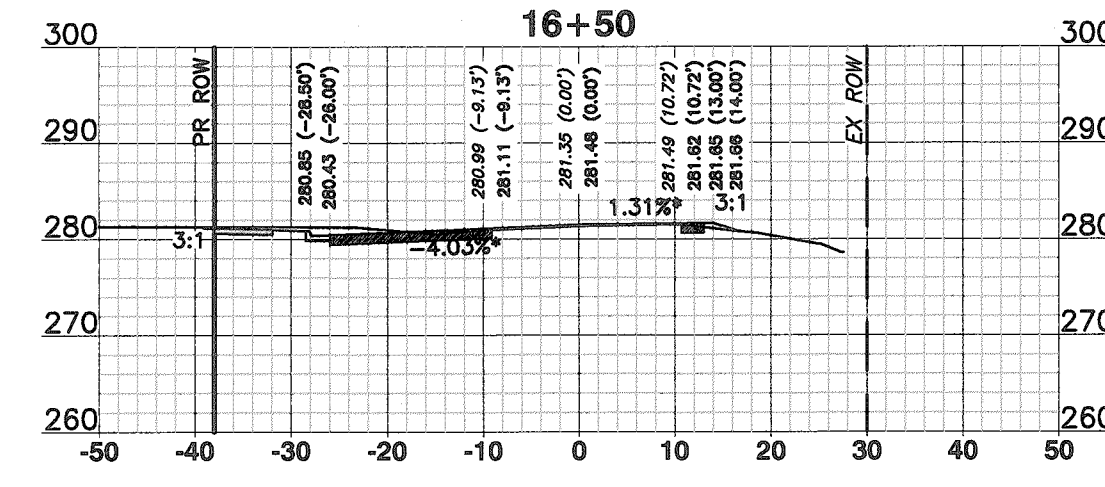
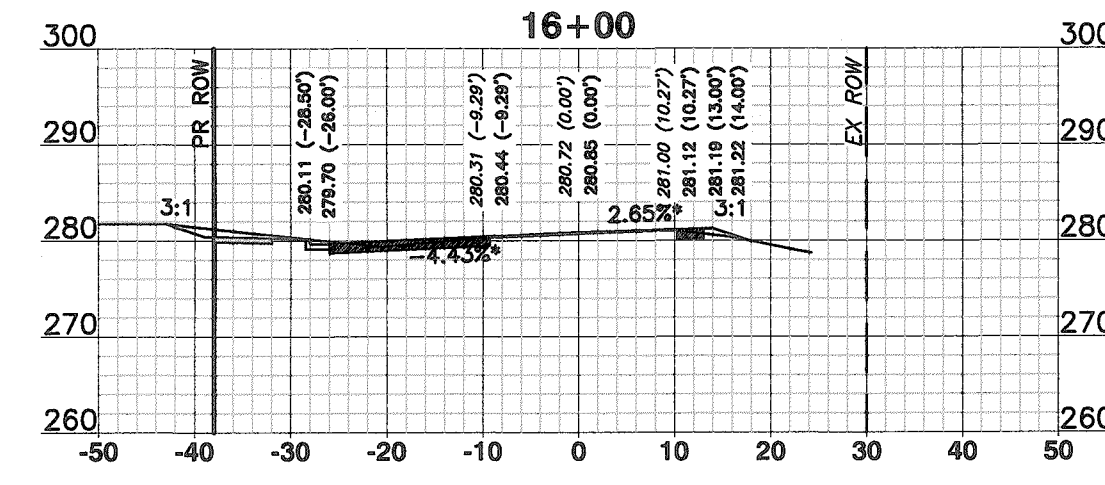
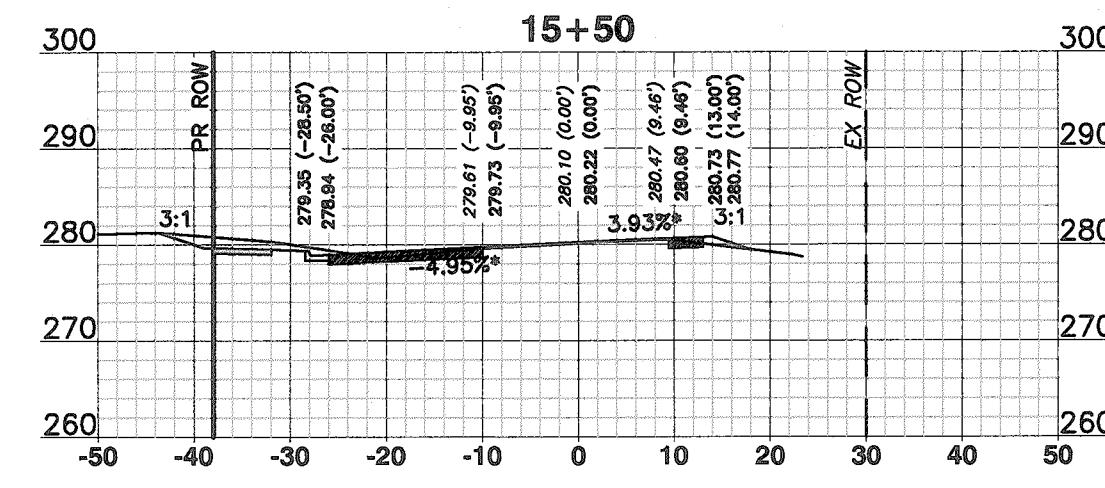
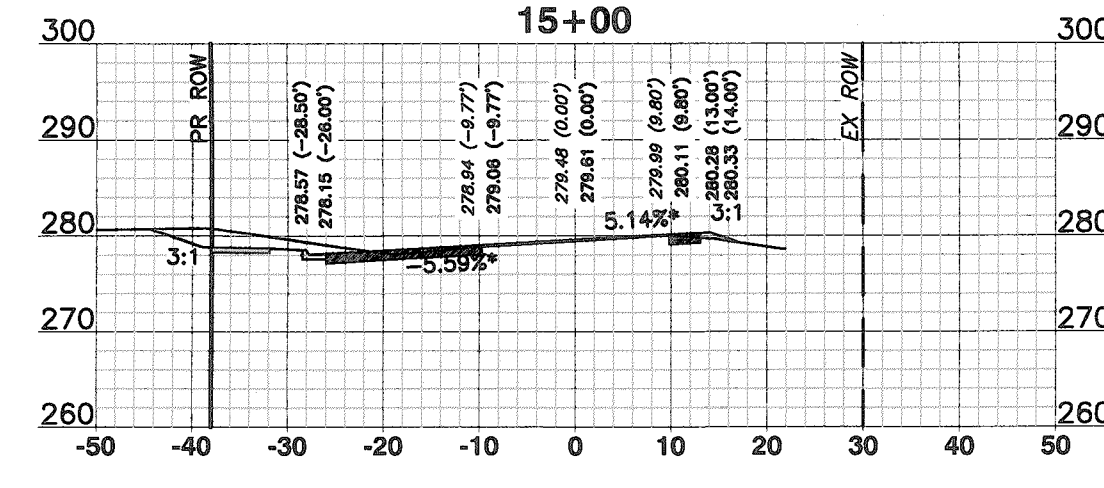
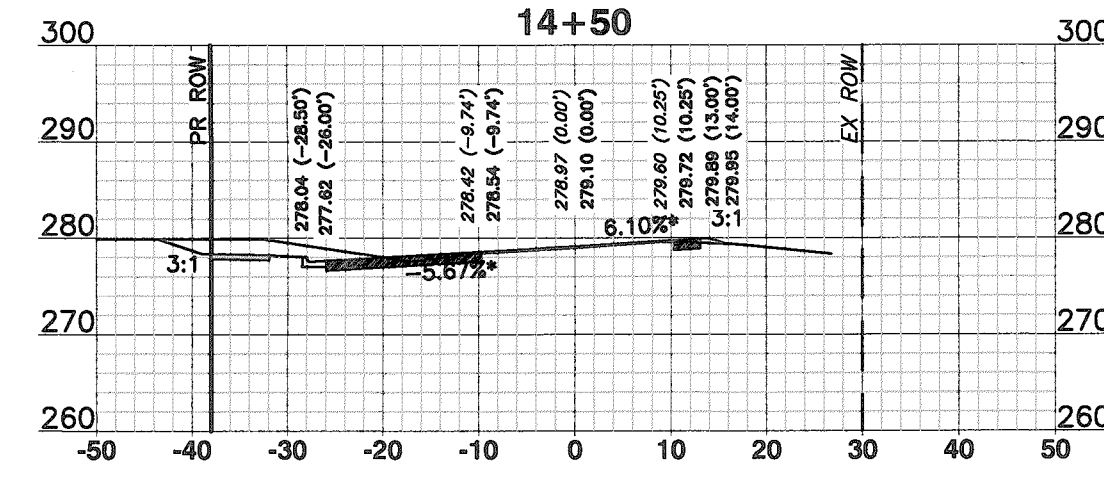
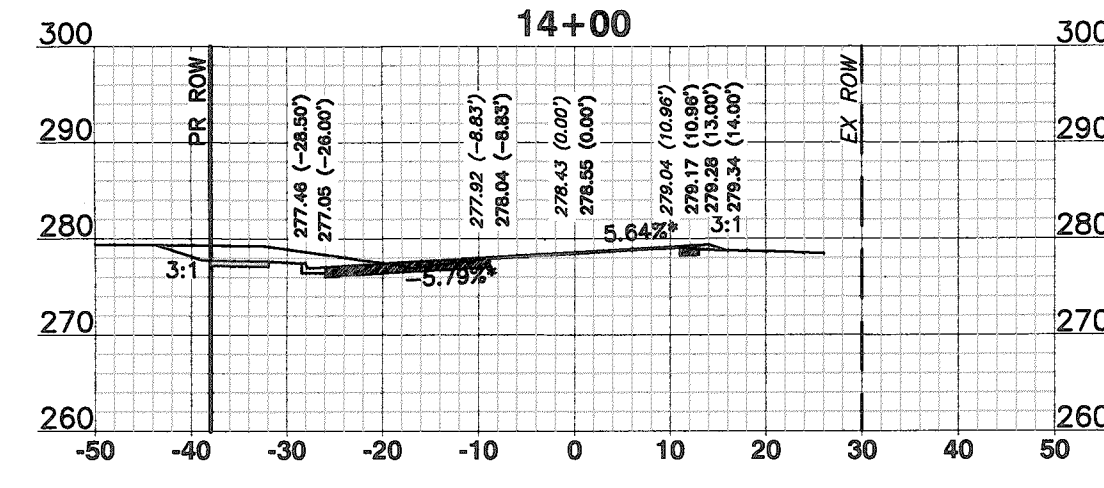
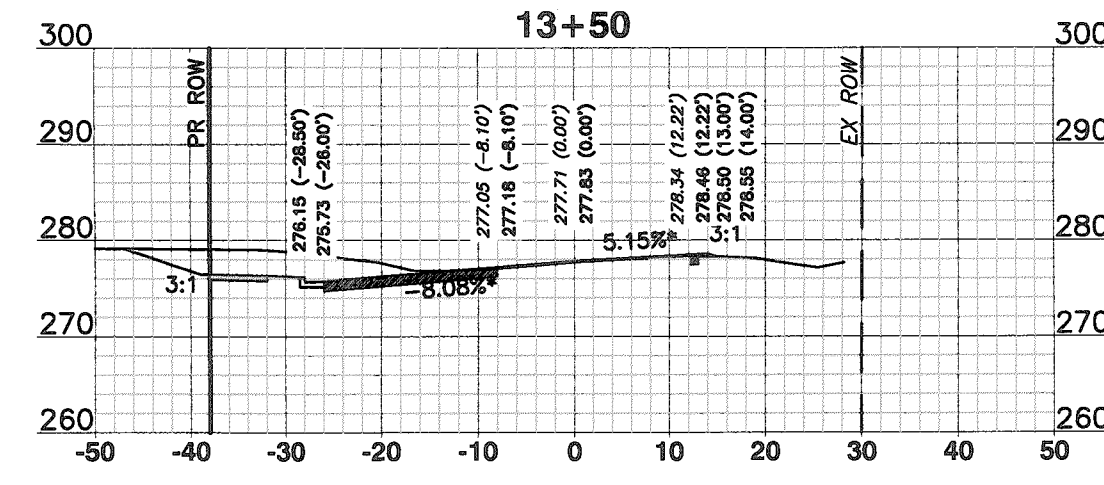
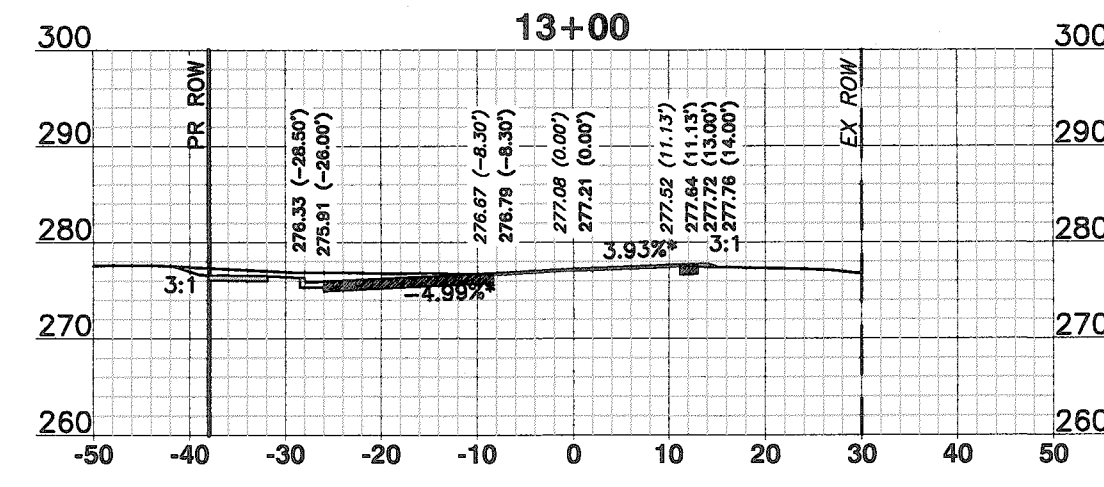
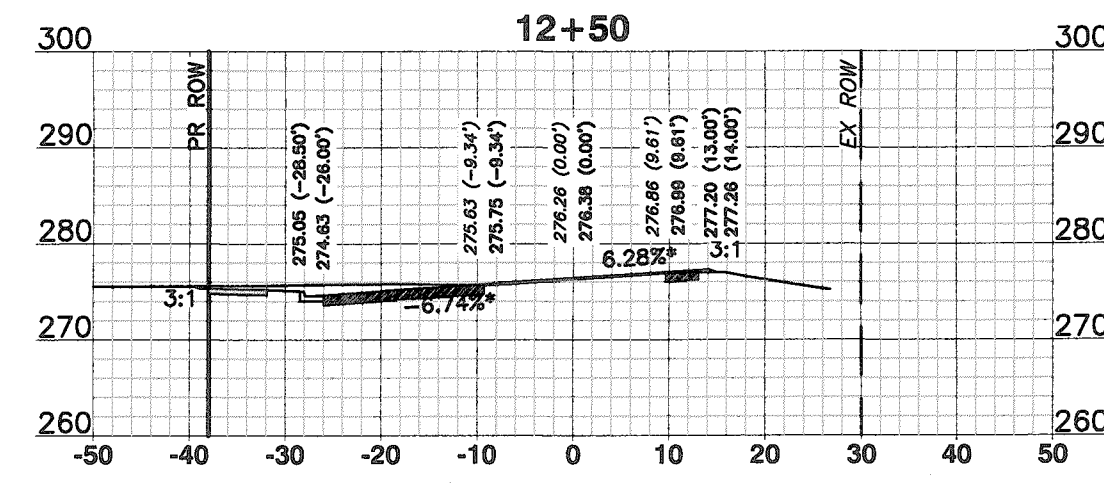
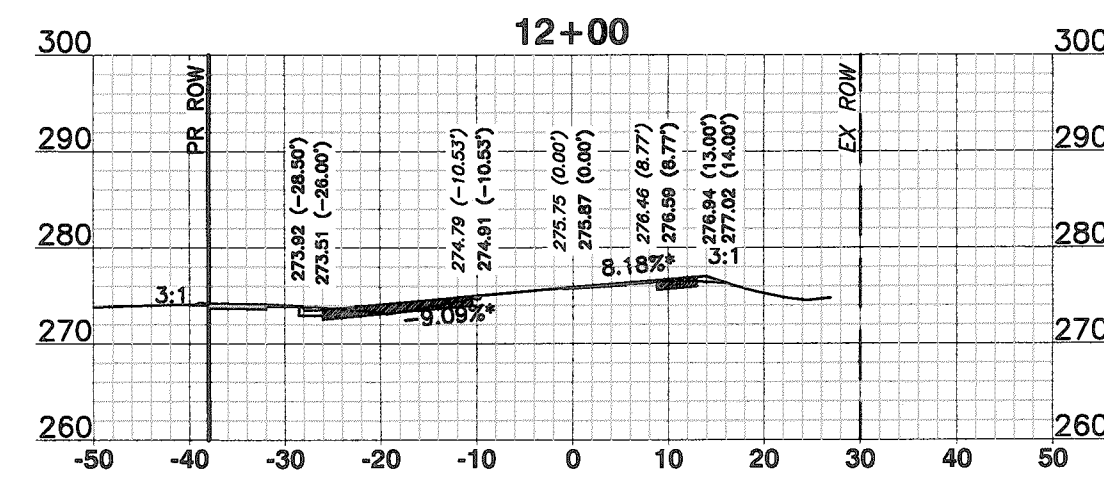
VILLAGE GATE
S. SMITHFIELD ROAD
 TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

CROSS SECTIONS

SCALE: 1" = 20'

SHEET C4.20

RELEASED FOR CONSTRUCTION OR BID SOLICITATION



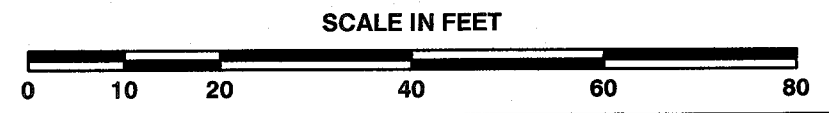
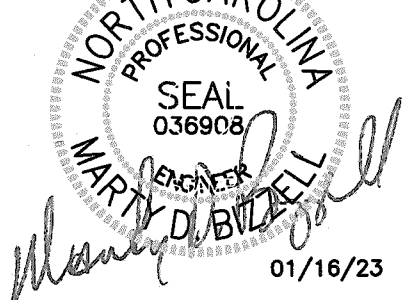
MATCH EXISTING CROSS SLOPE.

WETLANDS EXIST ON-SITE
FLOODPLAINS EXIST ON-SITE
 NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF KNIGHTDALE AND NCDOT

ATTENTION CONTRACTORS
 The Construction Contractor responsible for the extension of water, sewer, and/or reuse, as approved in these plans, is responsible for contacting the Public Utilities Department at (919) 996-4540 at least twenty four hours prior to beginning any of their construction.
 Failure to notify both City Departments in advance of beginning construction, will result in the issuance of monetary fines, and require reinstallation of any water or sewer facilities not inspected as a result of this notification failure.
 Failure to call for Inspection, Install a Downstream Plug, have Permitted Plans on the Jobsite, or any other Violation of City of Raleigh Standards will result in a Fine and Possible Exclusion from future work in the City of Raleigh.

SITE PERMITTING APPROVAL
 Water and Sewer Materials (if applicable)
 The City of Raleigh consents to the connection and extension of the City's Public Sewer System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # S-4910
 The City of Raleigh consents to the connection and extension of the City's Public Water System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # W-3847
 The City of Raleigh consents to the connection to its public sewer system and extension of the private sewer collection system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.
 City of Raleigh Public Utilities Department Permit # - - - - -
 CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION
 Electronic Approval: This approval is being issued electronically. This approval is valid only upon the signature of a City of Raleigh Review Officer below. The City will retain a copy of the approved plans. Any work authorized by this approval must proceed in accordance with the plans kept on file with the City. This electronic approval may not be edited once issued. Any modification to this approval once issued will invalidate this approval.
 City of Raleigh Development Approval _____
 Raleigh Water Review Officer

a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
 By: [Signature] Date: 2-1-2023
 Town Engineer
 These plans are approved by the Town of Knightdale and serve as construction plans for this project.
 By: [Signature] Date: 2-1-2023
 Administrator



BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919) 851-4422 OR (800) 354-1879 FAX: (919) 851-8968
 CERTIFICATION NUMBERS: NCBOLA (C-0110); NCBOLA (C-0267)

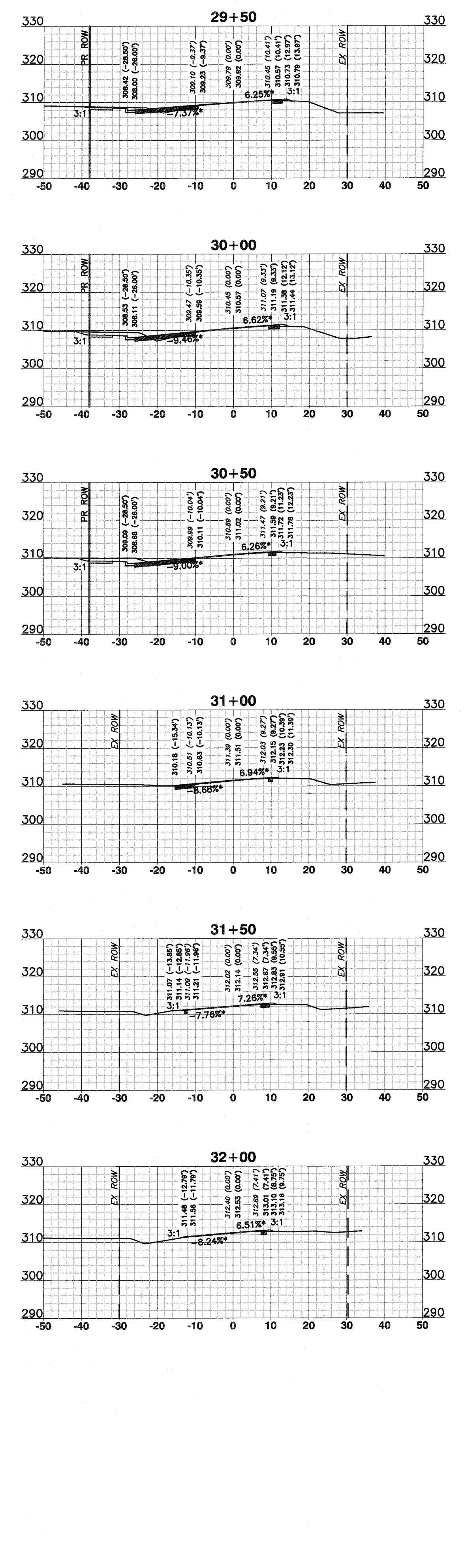
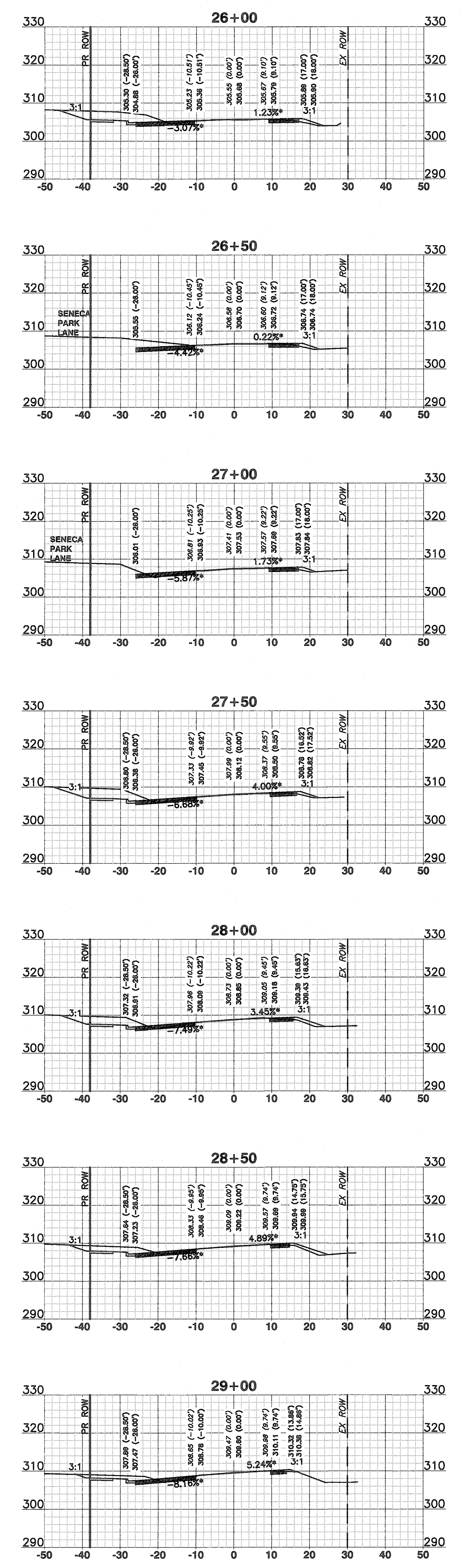
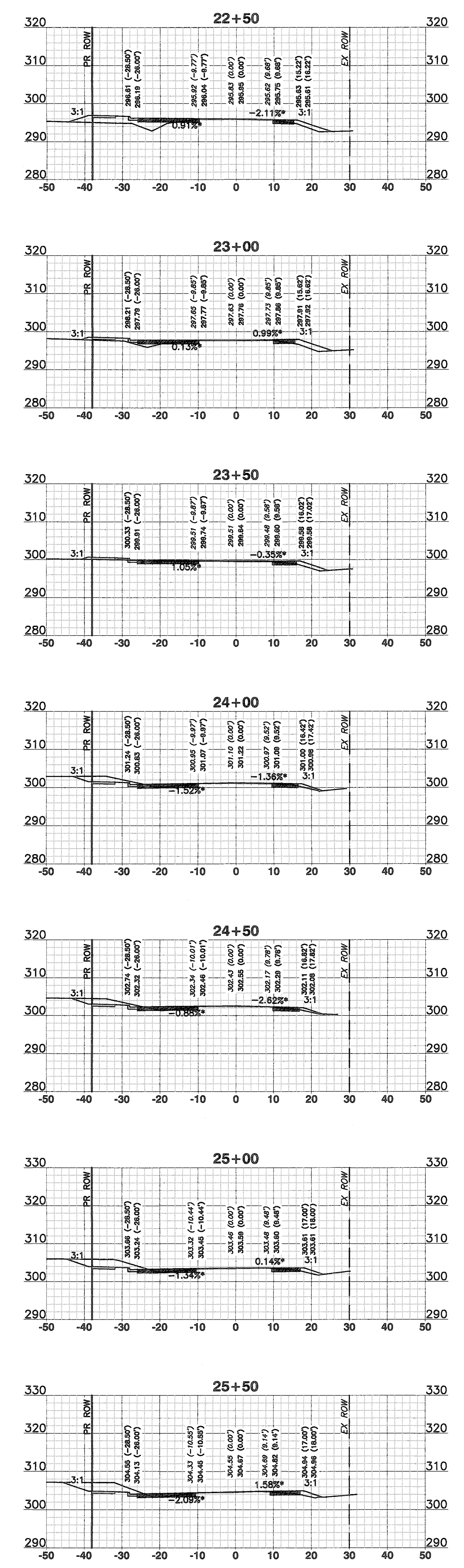
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5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	05-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
3	05-05-22	TOWN OF KNIGHTDALE COMMENTS	RAB
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB

DATE: 03-20-2021
 DRAWN BY: MALLMAN ROAD
 CROSS SECTIONS
 SCALE: 1" = 20'
 CHK BY: MIB

VILLAGE GATE
S. SMITHFIELD ROAD
 TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET
C4.21

R:\2020\20097 - Knightdale Mixed Use\CIVIL\04 Construction\07 - 20097 RoadWidening Cds.dwg, C4.22, 1/16/2023 4:05:22 PM, robert burgone



• MATCH EXISTING CROSS SLOPE.

WETLANDS EXIST ON-SITE
FLOODPLAINS EXIST ON-SITE

NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF KNIGHTDALE AND NCDOT

ATTENTION CONTRACTORS
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Failure to notify both City Departments in advance of beginning construction, will result in the issuance of monetary fines, and require reinstatement of any water or sewer facilities not inspected as a result of this notification failure.

Failure to call for Inspection, Install a Downstream Plug, have Permitted Plans on the Jobsite, or any other Violation of City of Raleigh Standards will result in a Fine and Possible Exclusion from future work in the City of Raleigh.

SITE PERMITTING APPROVAL
Water and Sewer Permits (if applicable)
The City of Raleigh consents to the connection and extension of the City's Public Sewer System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # - S-4916

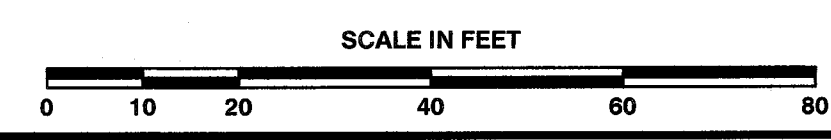
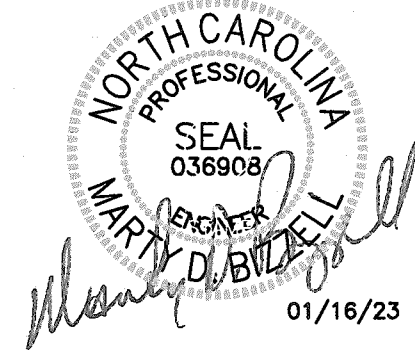
The City of Raleigh consents to the connection and extension of the City's Public Water System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # - VV-3847

The City of Raleigh consents to the connection to its public sewer system and extension of the private sewer collection system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.
City of Raleigh Public Utilities Department Permit # - _____

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION
Electronic Approval: This approval is being issued electronically. This approval is valid only upon the signature of a City of Raleigh Review Officer below. The City will retain a copy of the approved plans. Any work authorized by this approval must proceed in accordance with the plans kept on file with the City. This electronic approval may not be edited once issued. Any modification to this approval once issued will invalidate this approval.
City of Raleigh Development Approval _____
Raleigh Water Review Officer _____

a. **Town Certification.** This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
By: [Signature] Date: 2-1-2023
Town Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.
By: [Signature] Date: 2-2-2023
Administrator



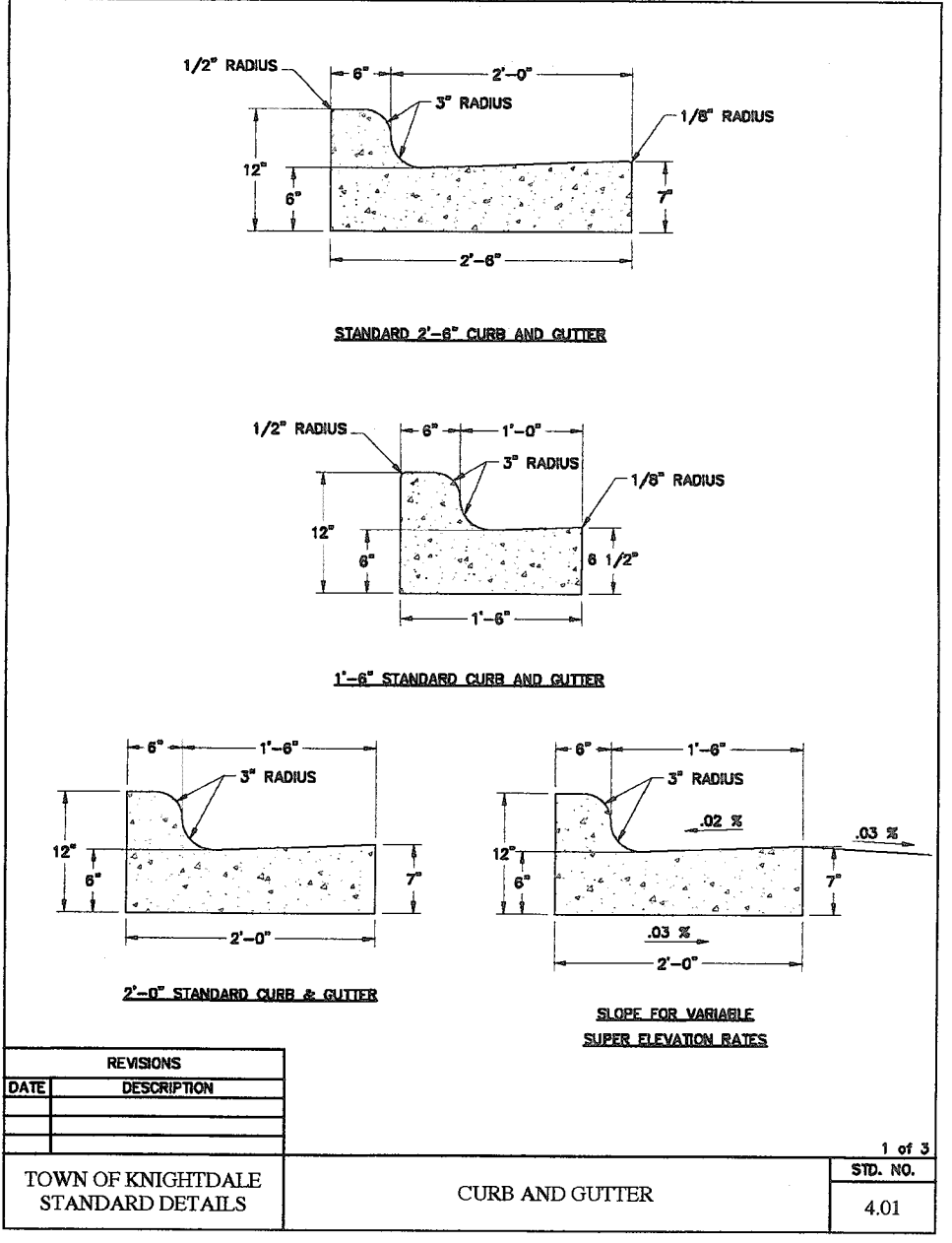
BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
TELEPHONE: (919) 851-4422 OR (800) 354-1879 FAX: (919) 851-8868
CERTIFICATION NUMBERS: NCBOLA (C-0110); NCBOLA (C-0267)

NO.	DATE	DESCRIPTION	BY
1	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB
3	06-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
6	01-16-23	TOWN OF KNIGHTDALE COMMENTS	RAB

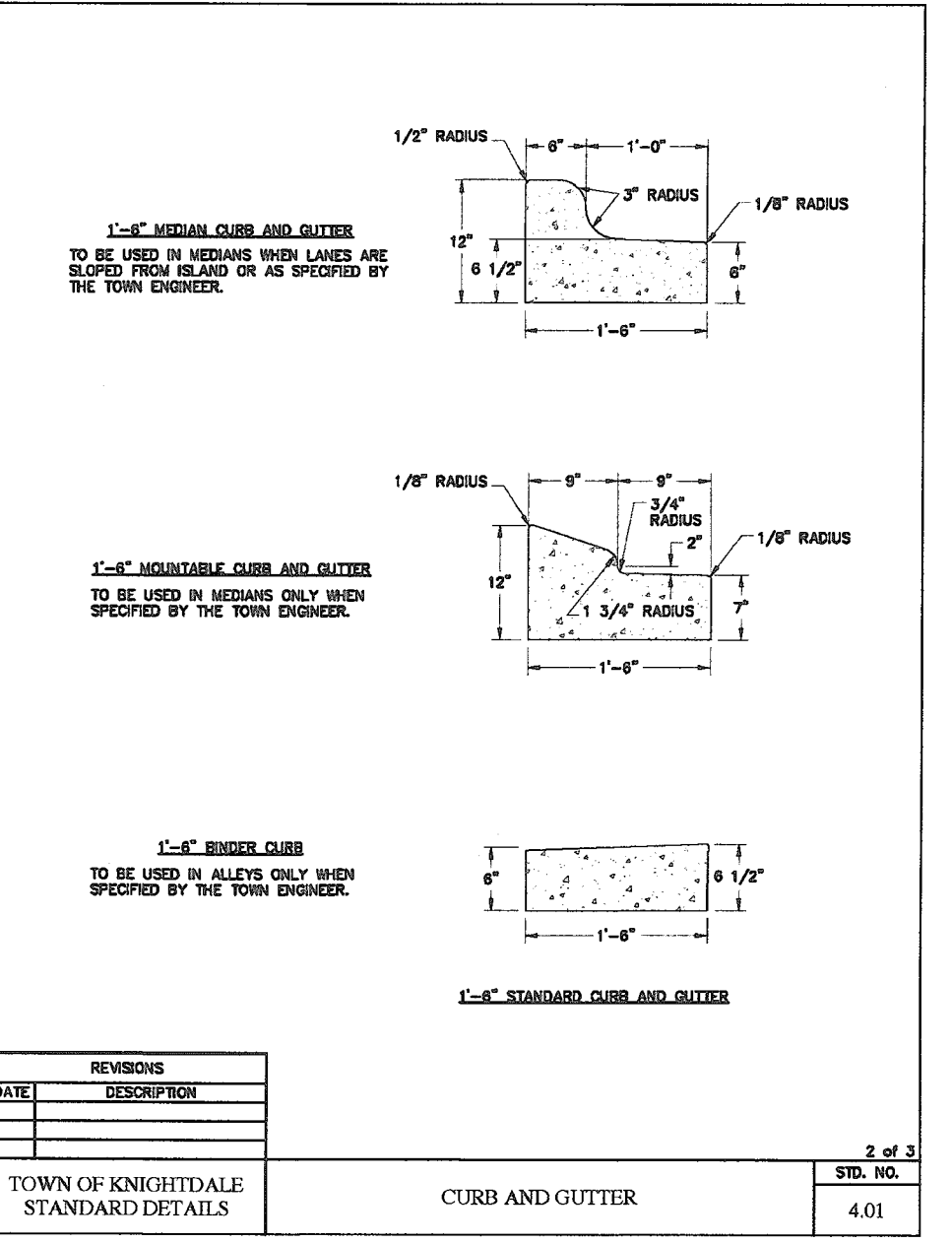
JOB NO. 03-20097
DATE 09-07-2021
DRAWN BY MAILMAN ROAD
CHECK BY: MIB

VILLAGE GATE
S. SMITHFIELD ROAD
TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

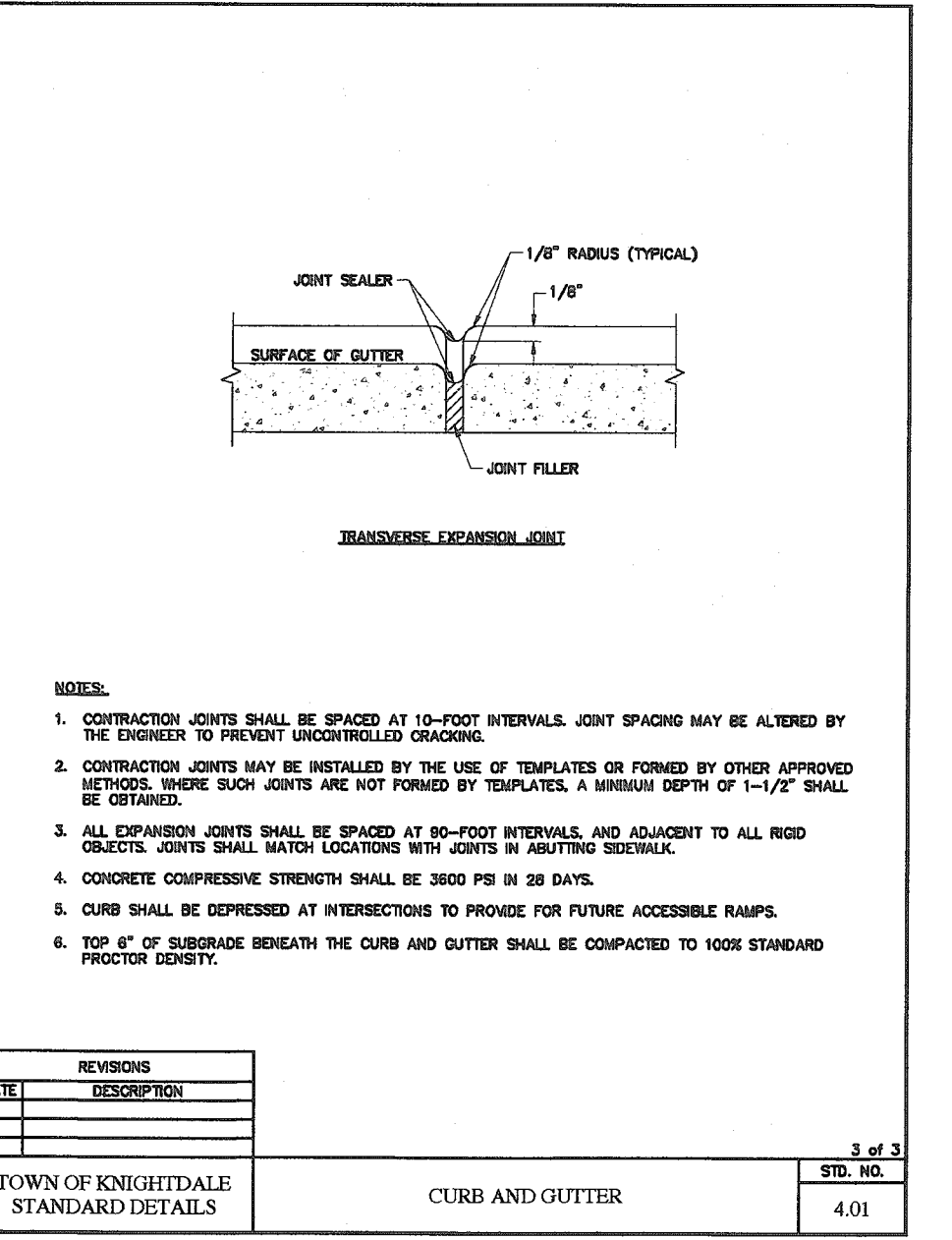
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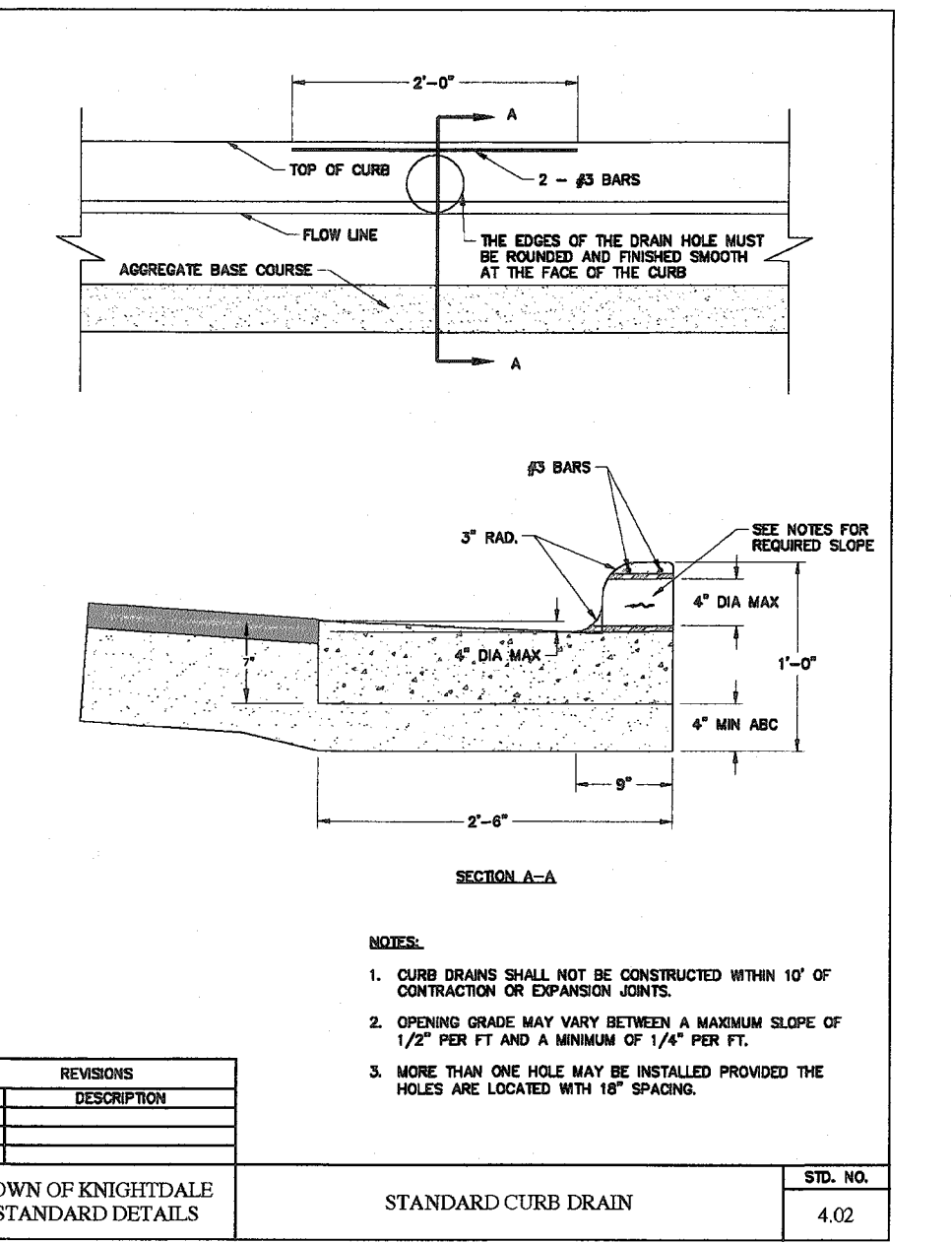
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TOWN OF KNIGHTDALE STANDARD DETAILS		CURB AND GUTTER
		1 of 3
		4.01



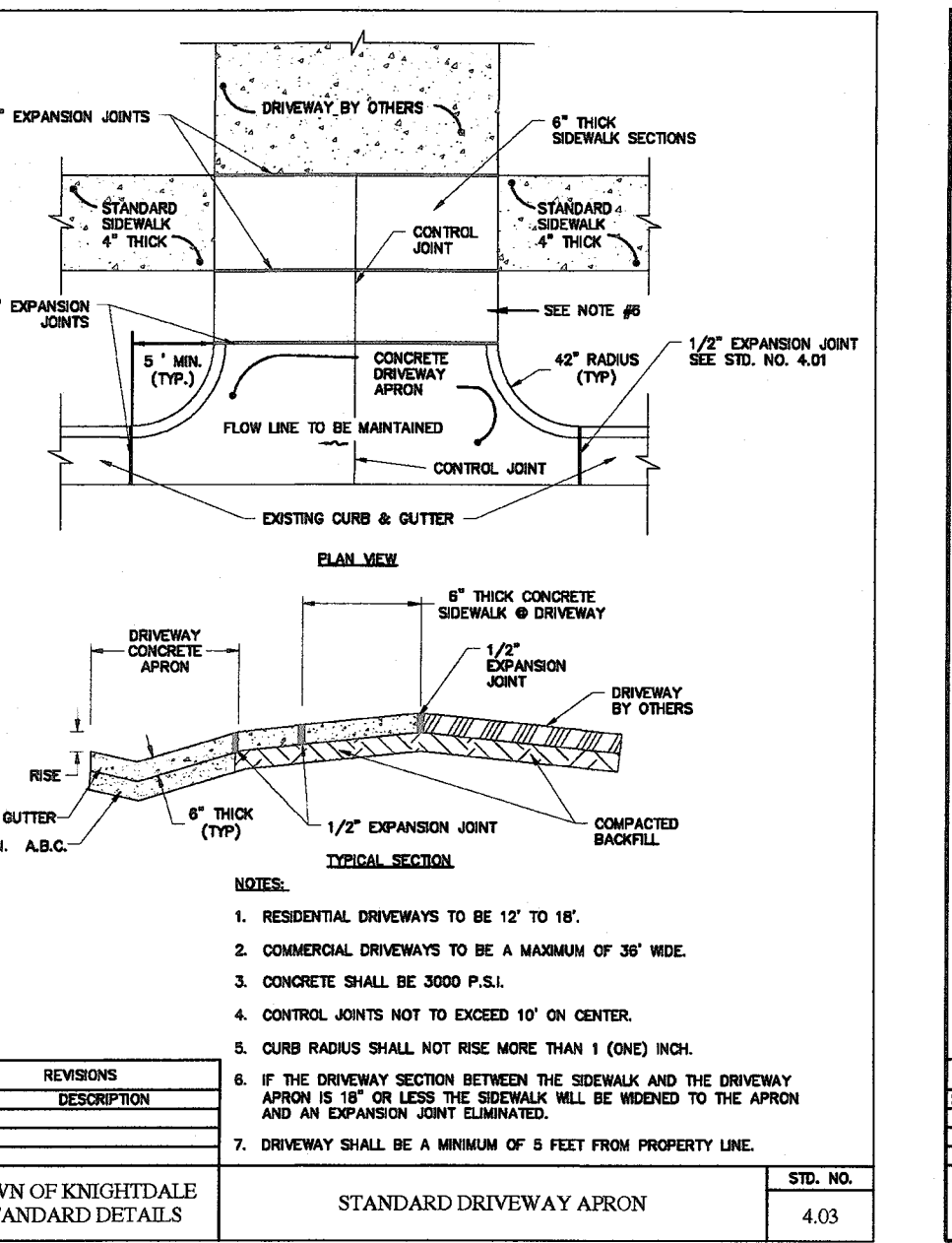
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		4.01



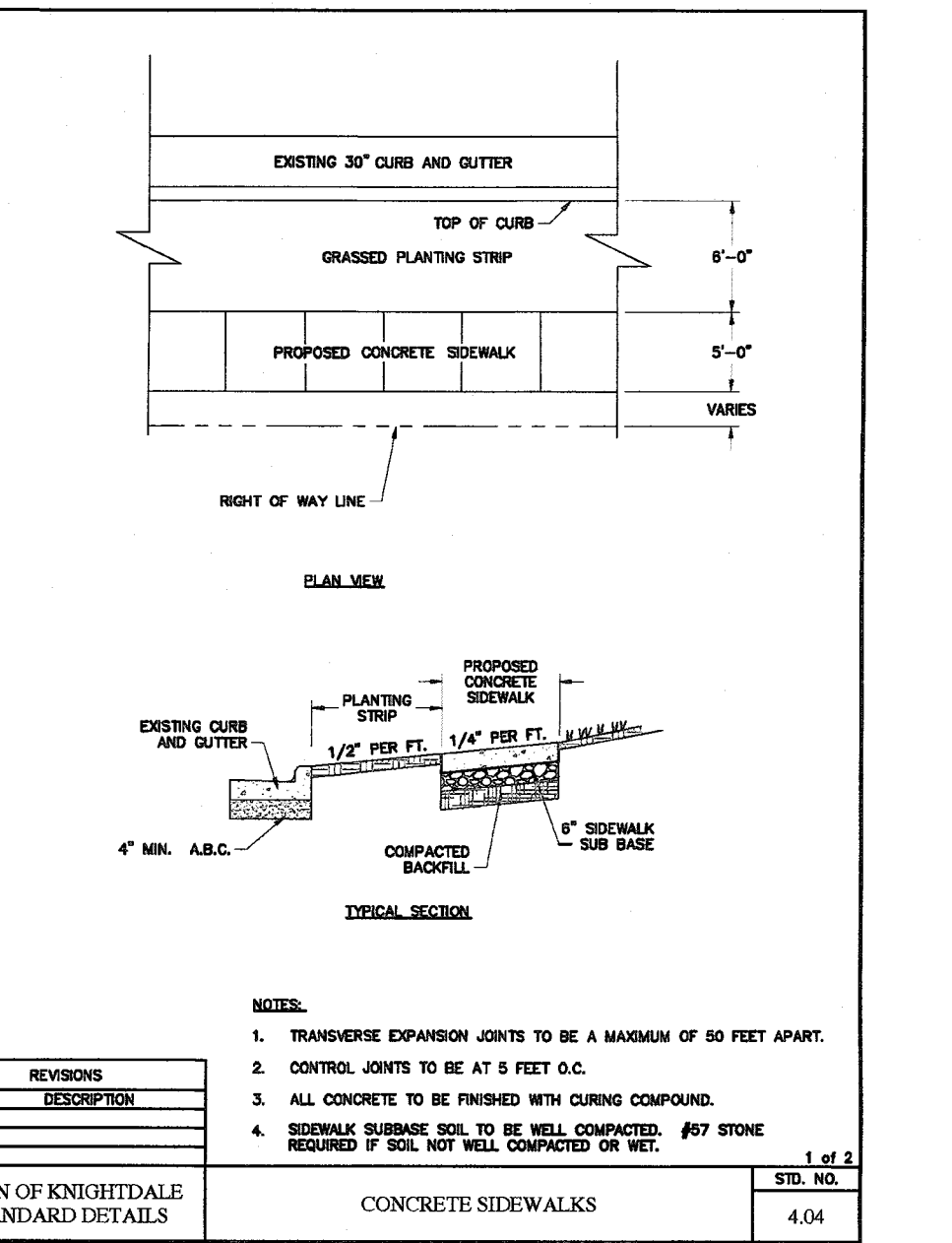
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		4.01



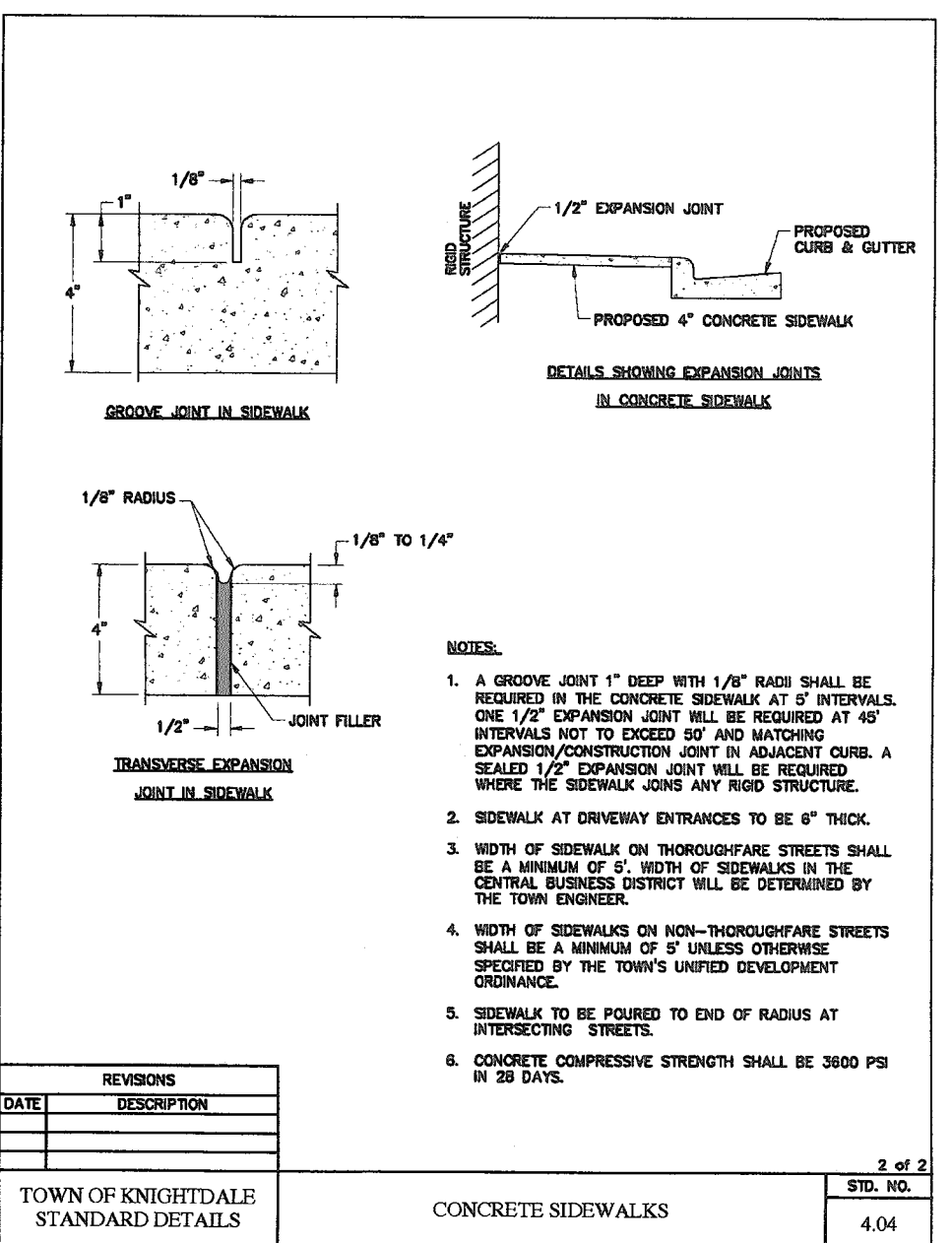
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TOWN OF KNIGHTDALE STANDARD DETAILS		STANDARD CURB DRAIN
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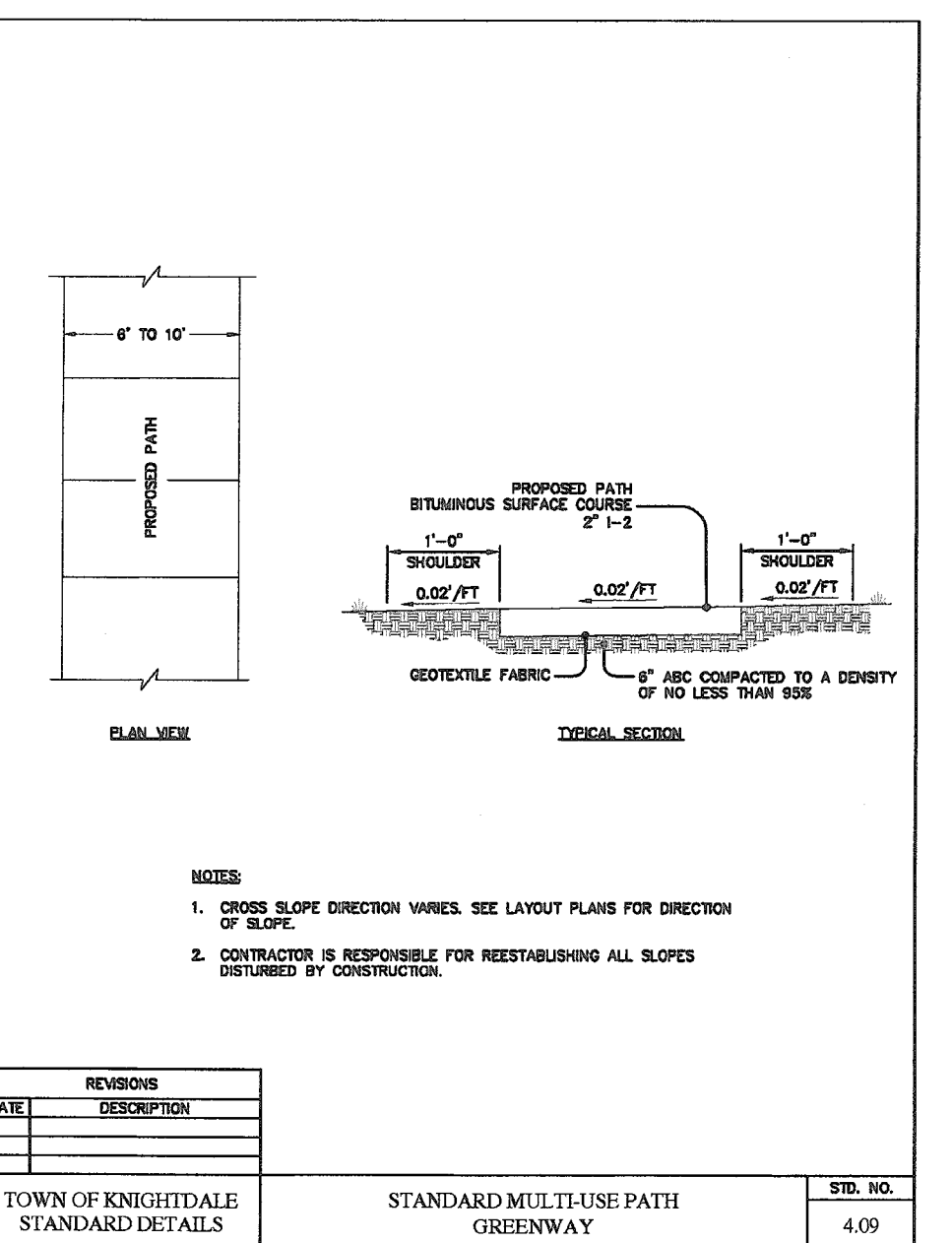
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TOWN OF KNIGHTDALE STANDARD DETAILS		STANDARD DRIVEWAY APRON
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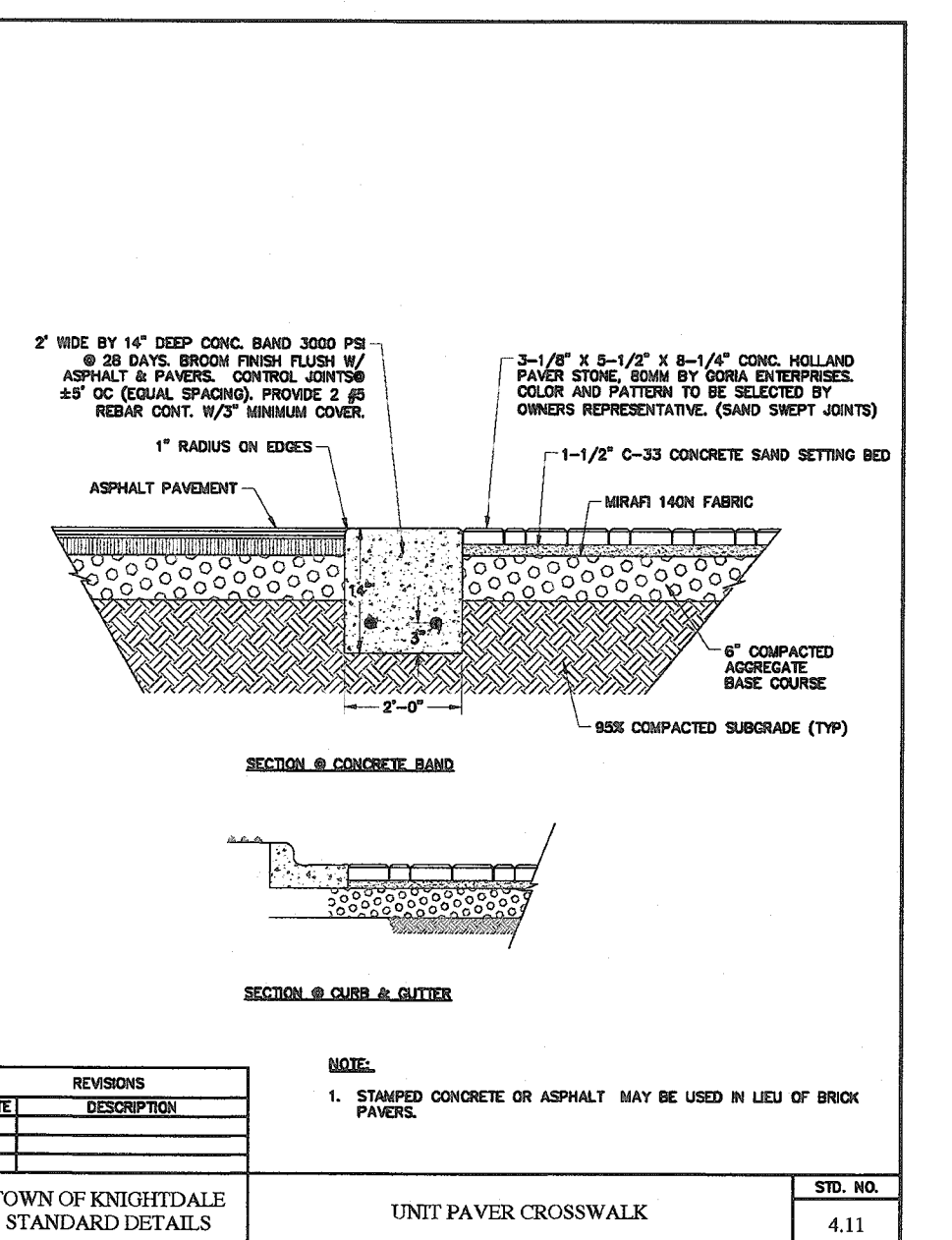
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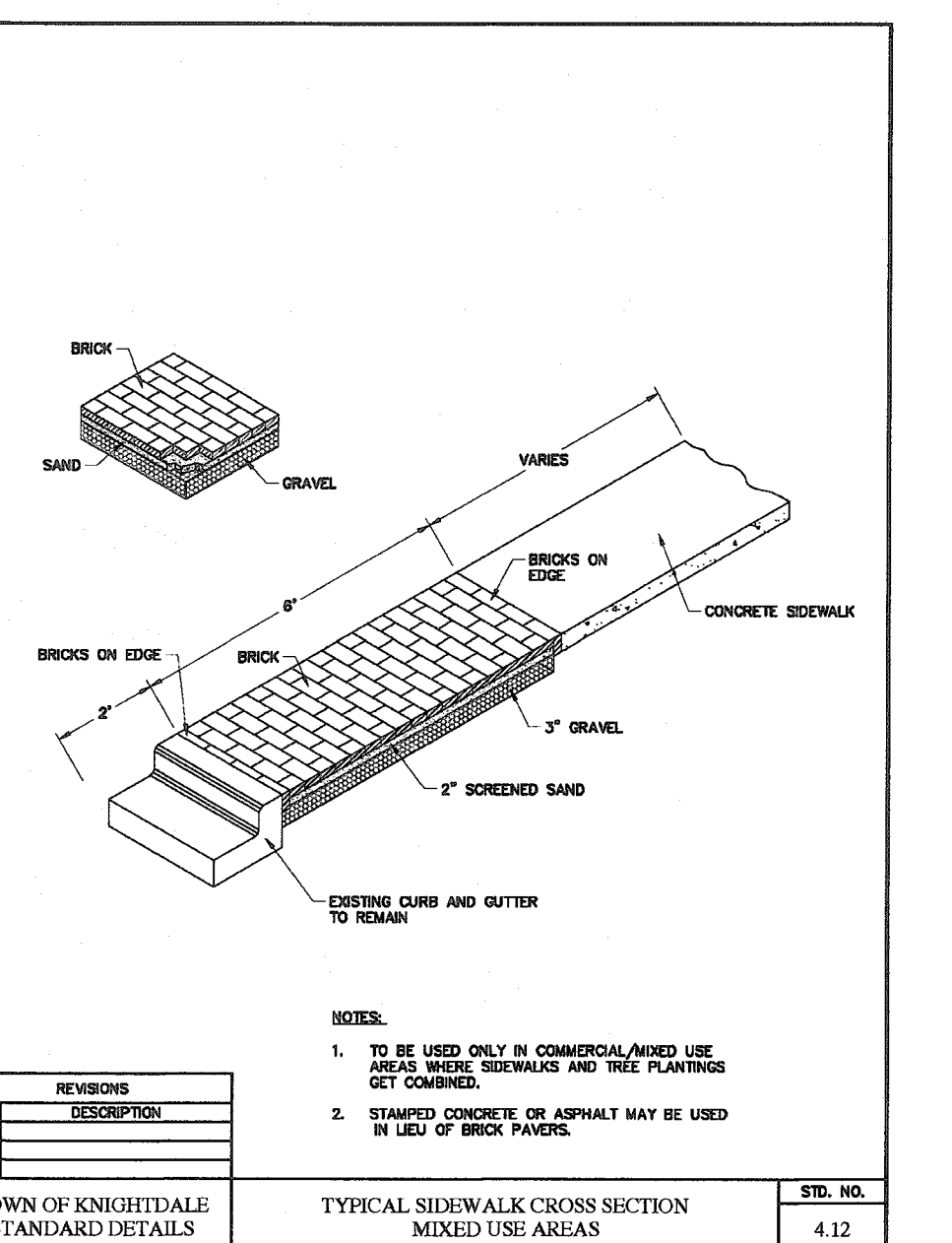
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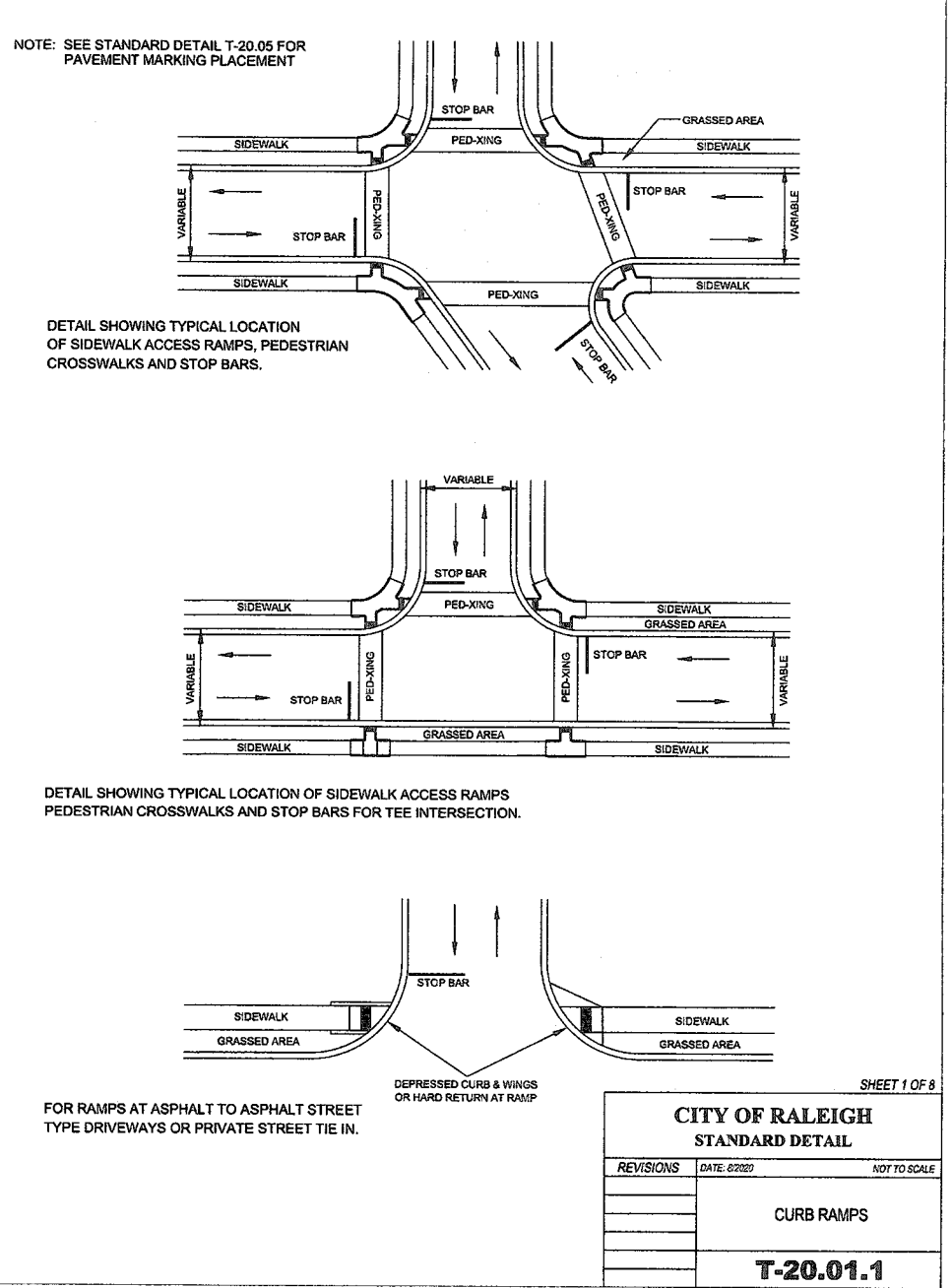
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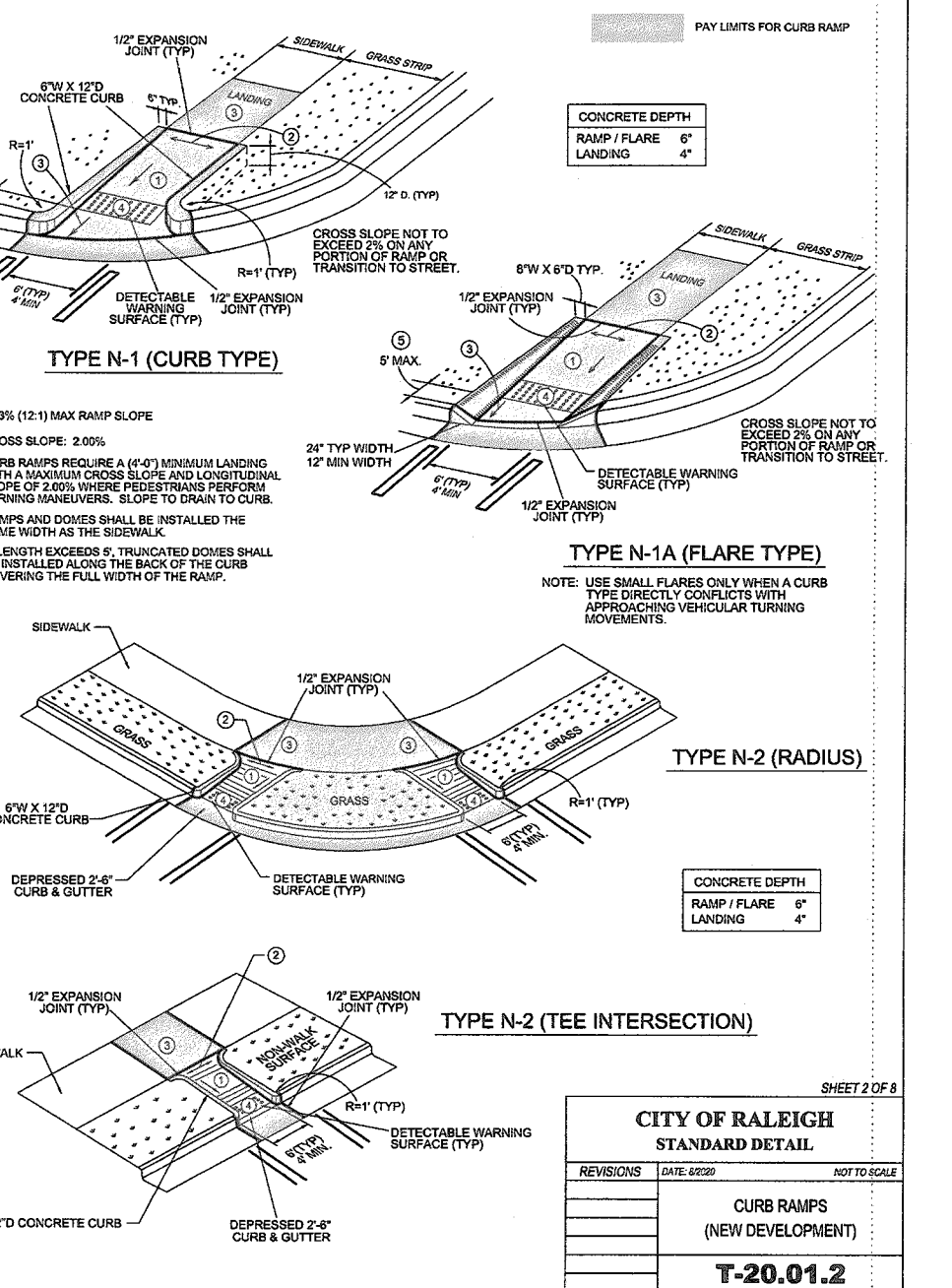
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TOWN OF KNIGHTDALE STANDARD DETAILS		UNIT PAVER CROSSWALK
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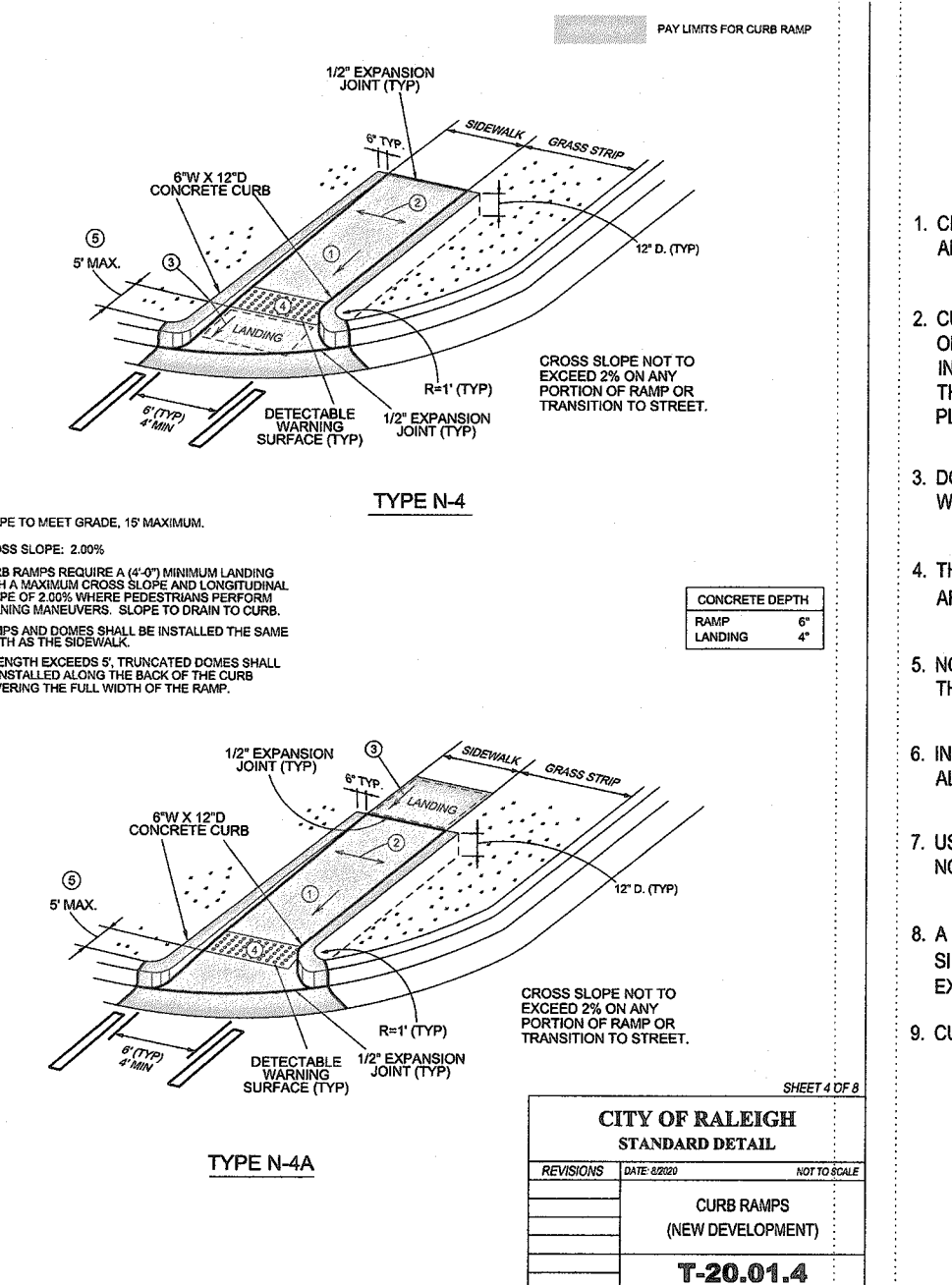
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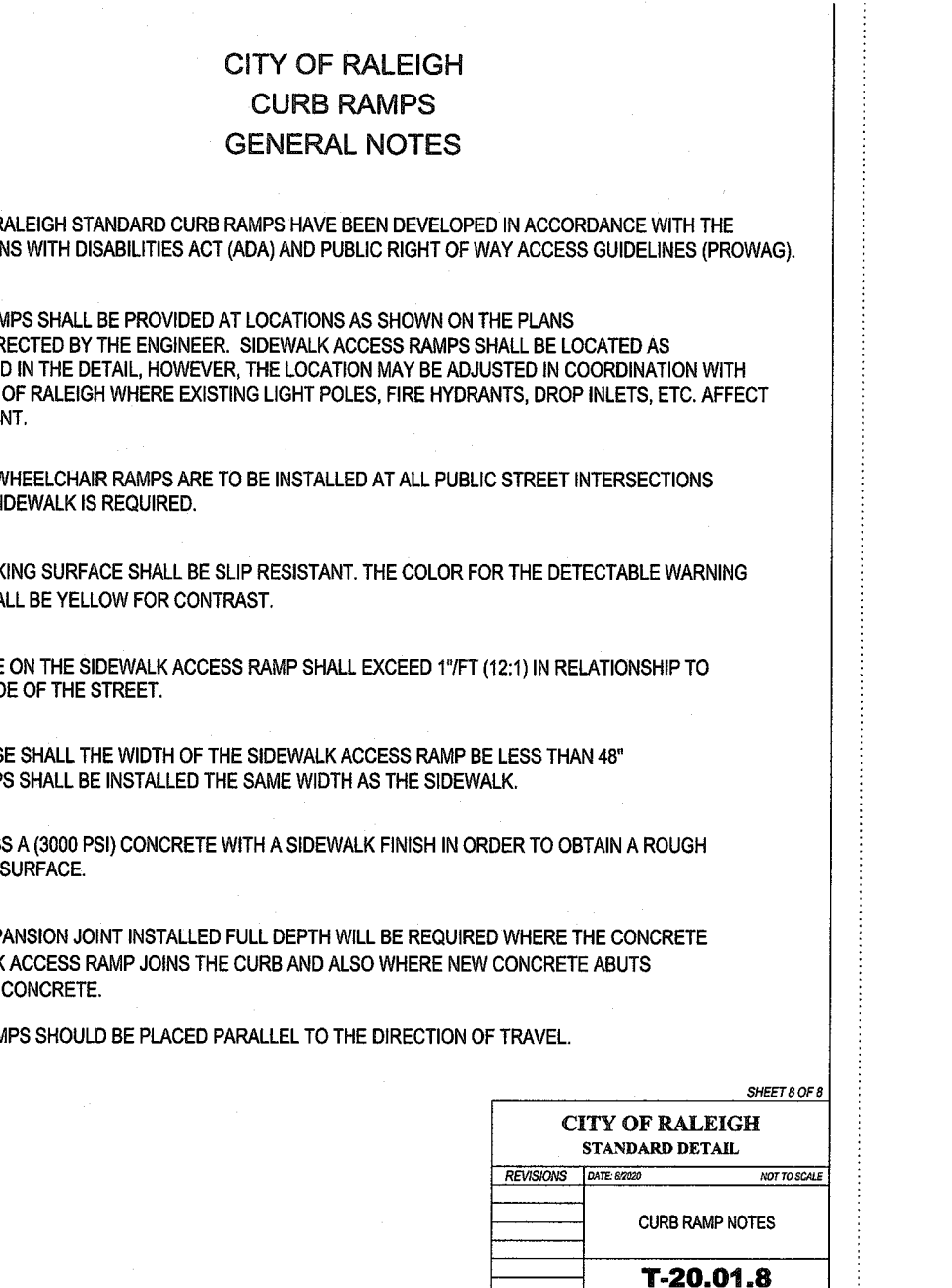
REVISIONS	DATE	DESCRIPTION
CITY OF RALEIGH STANDARD DETAIL		CURB RAMP
		NOT TO SCALE
		T-20.01.1



REVISIONS	DATE	DESCRIPTION
CITY OF RALEIGH STANDARD DETAIL		CURB RAMP (NEW DEVELOPMENT)
		NOT TO SCALE
		T-20.01.2



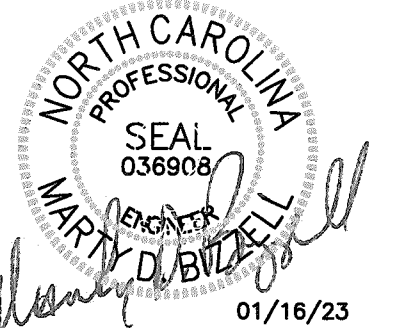
REVISIONS	DATE	DESCRIPTION
CITY OF RALEIGH STANDARD DETAIL		CURB RAMP (NEW DEVELOPMENT)
		NOT TO SCALE
		T-20.01.4



REVISIONS	DATE	DESCRIPTION
CITY OF RALEIGH STANDARD DETAIL		CURB RAMP NOTES
		NOT TO SCALE
		T-20.01.8

CITY OF RALEIGH CURB RAMPS GENERAL NOTES

- CITY OF RALEIGH STANDARD CURB RAMPS HAVE BEEN DEVELOPED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND PUBLIC RIGHT OF WAY ACCESS GUIDELINES (PROWAG).
- CURB RAMPS SHALL BE PROVIDED AT LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. SIDEWALK ACCESS RAMPS SHALL BE LOCATED AS INDICATED IN THE DETAIL, HOWEVER, THE LOCATION MAY BE ADJUSTED IN COORDINATION WITH THE CITY OF RALEIGH WHERE EXISTING LIGHT POLES, FIRE HYDRANTS, DROP INLETS, ETC. AFFECT PLACEMENT.
- DOUBLE WHEELCHAIR RAMPS ARE TO BE INSTALLED AT ALL PUBLIC STREET INTERSECTIONS WHERE SIDEWALK IS REQUIRED.
- THE WALKING SURFACE SHALL BE SLIP RESISTANT. THE COLOR FOR THE DETECTABLE WARNING AREA SHALL BE YELLOW FOR CONTRAST.
- NO SLOPE ON THE SIDEWALK ACCESS RAMP SHALL EXCEED 1/12 (12:1) IN RELATIONSHIP TO THE GRADE OF THE STREET.
- IN NO CASE SHALL THE WIDTH OF THE SIDEWALK ACCESS RAMP BE LESS THAN 48" ALL RAMPS SHALL BE INSTALLED THE SAME WIDTH AS THE SIDEWALK.
- USE CLASS A (3000 PSI) CONCRETE WITH A SIDEWALK FINISH IN ORDER TO OBTAIN A ROUGH NONSKID SURFACE.
- A 1/2" EXPANSION JOINT INSTALLED FULL DEPTH WILL BE REQUIRED WHERE THE CONCRETE SIDEWALK ACCESS RAMP JOINS THE CURB AND ALSO WHERE NEW CONCRETE ABUTS EXISTING CONCRETE.
- CURB RAMPS SHOULD BE PLACED PARALLEL TO THE DIRECTION OF TRAVEL.



a. **Town Certification.** This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
 By: *[Signature]* Date: 2-1-2023
 Town Engineer
 These plans are approved by the Town of Knightdale and serve as construction plans for this project.
 By: *[Signature]* Date: 2-2-2023
 Administrator

BNK

BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS

6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
TELEPHONE: (919) 851-4422 FAX: (919) 851-8968
CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

NO.	DATE	DESCRIPTION	BY
1	01-16-23	TAK COMMENTS/SIGNATURE SET	RAB
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB
3	08-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
6	01-16-23	TAK COMMENTS/SIGNATURE SET	RAB

SCALE: N.T.S.

CHK BY: MDB

DETAILS

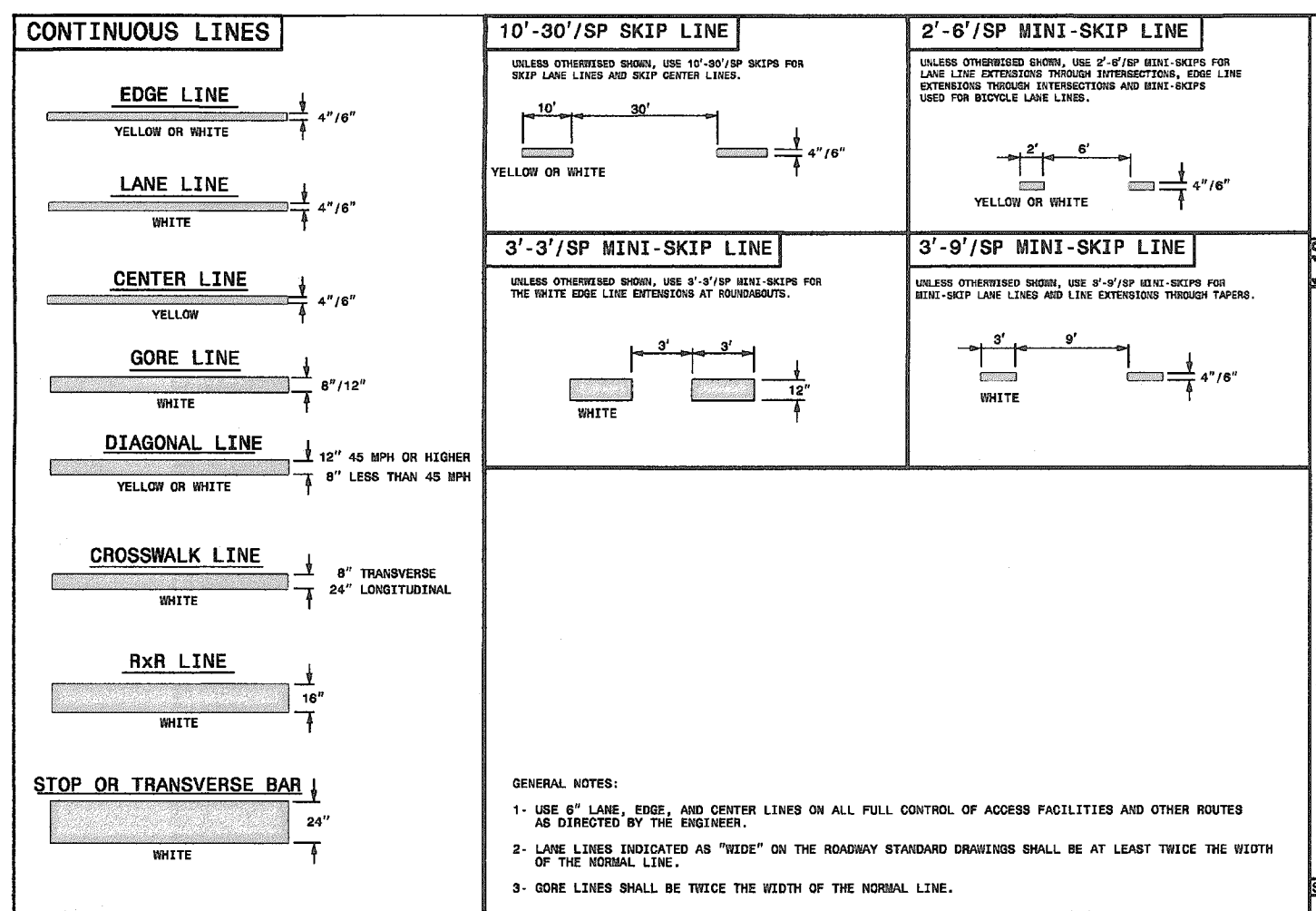
VILLAGE GATE

S. SMITHFIELD ROAD

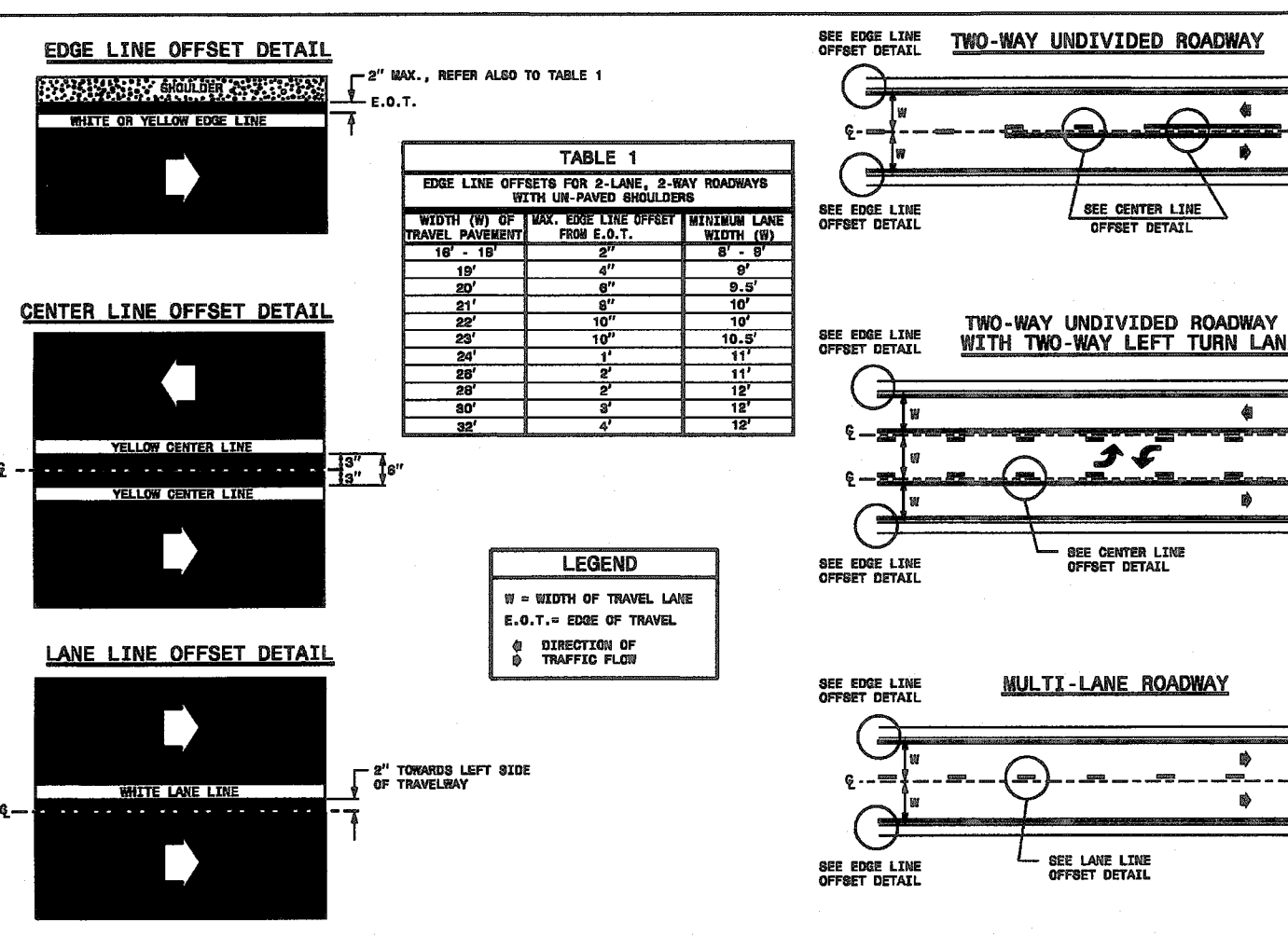
TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET C5.2

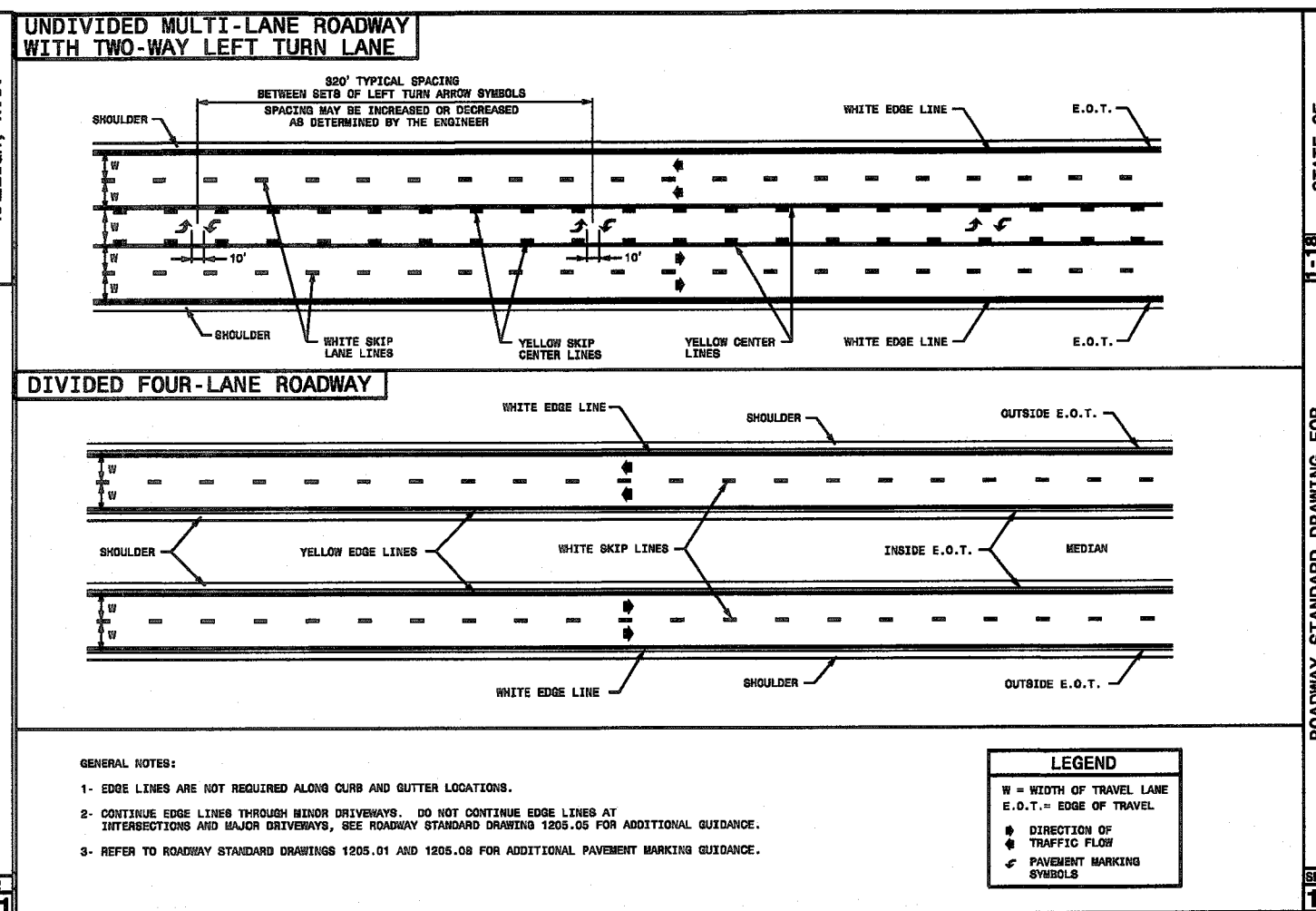
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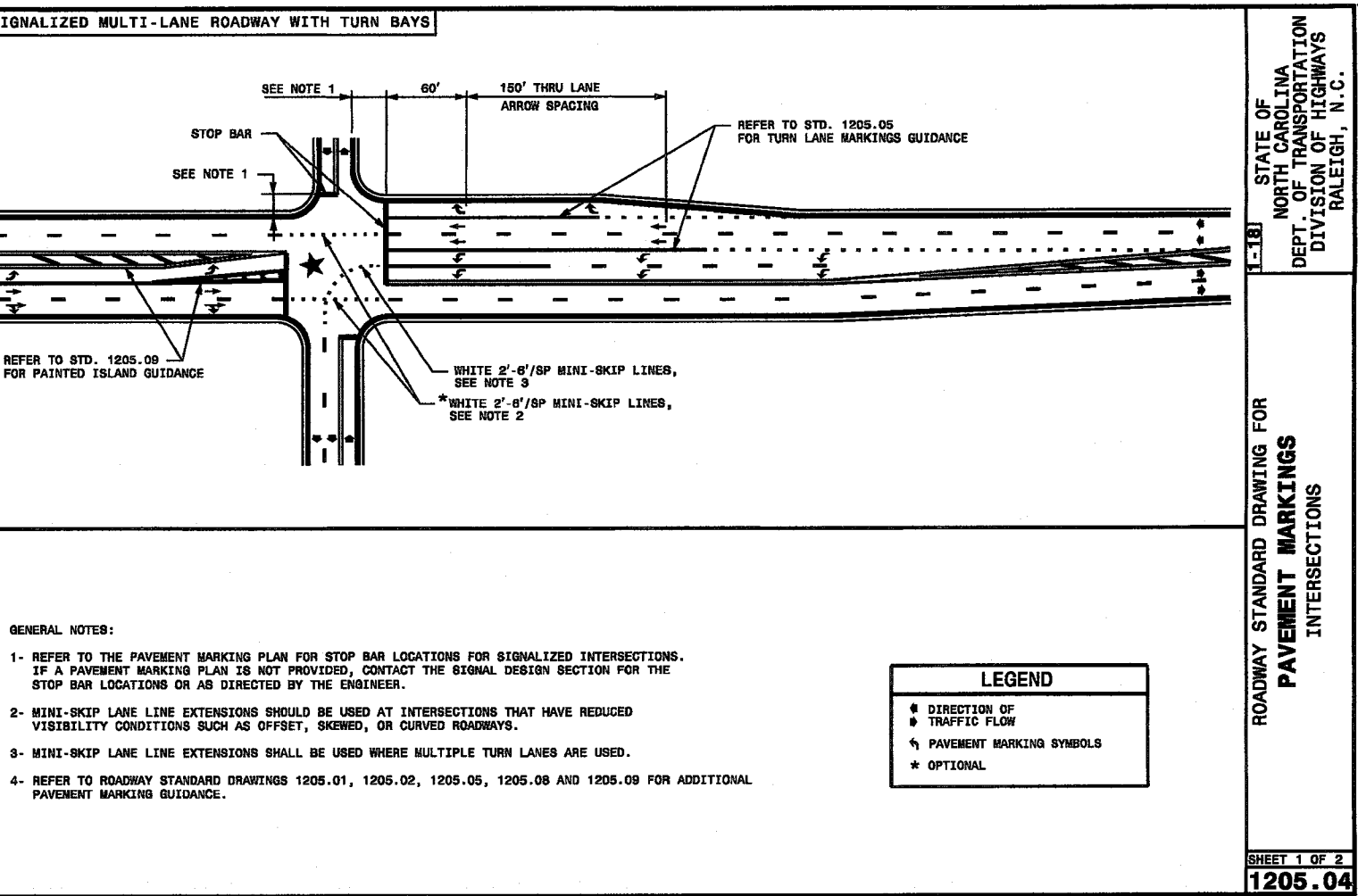
ENGLISH STANDARD DRAWING FOR PAVEMENT MARKINGS LINE TYPES AND OFFSETS



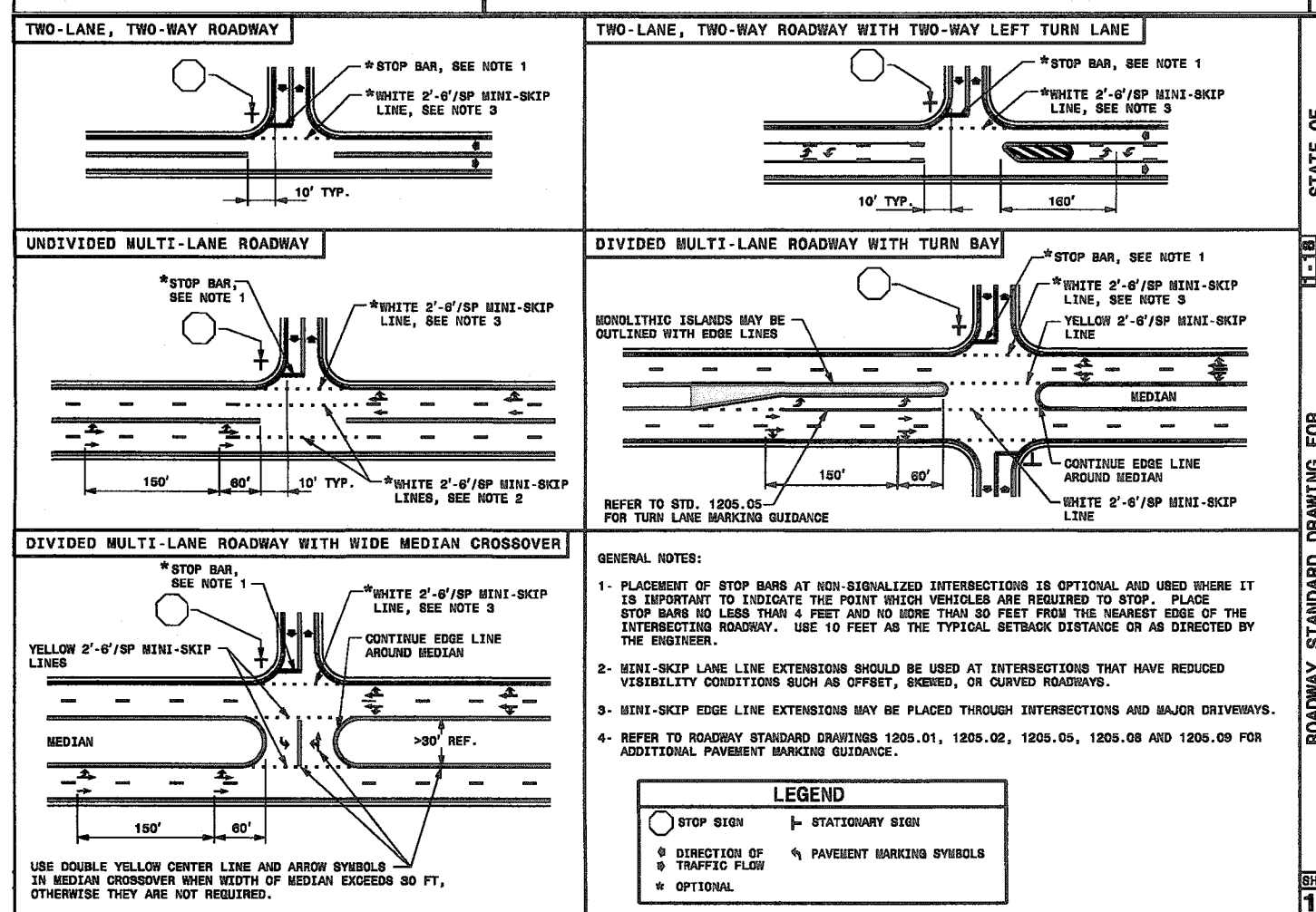
ENGLISH STANDARD DRAWING FOR PAVEMENT MARKINGS LINE TYPES AND OFFSETS



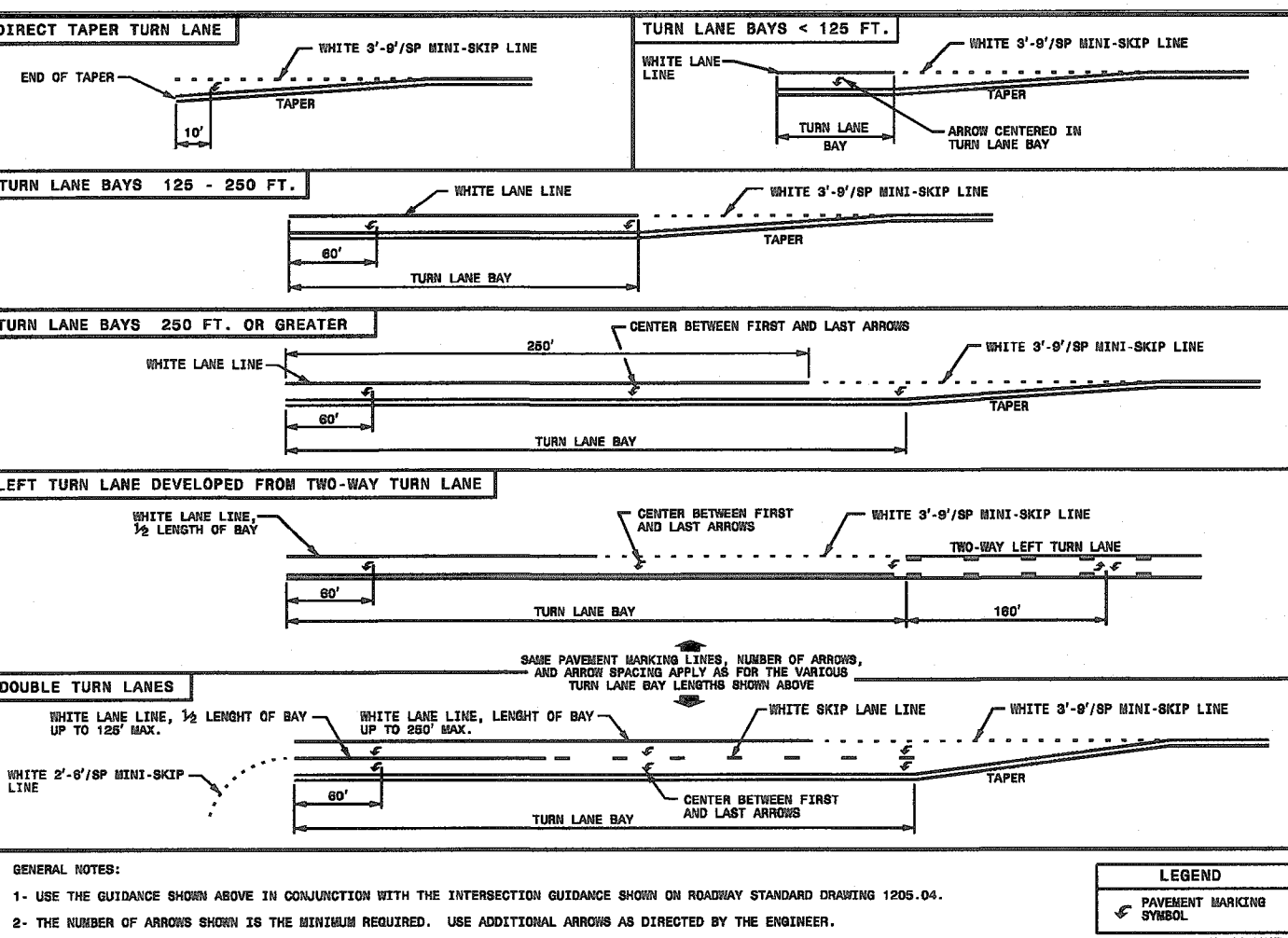
ENGLISH STANDARD DRAWING FOR PAVEMENT MARKINGS LINE TYPES AND OFFSETS



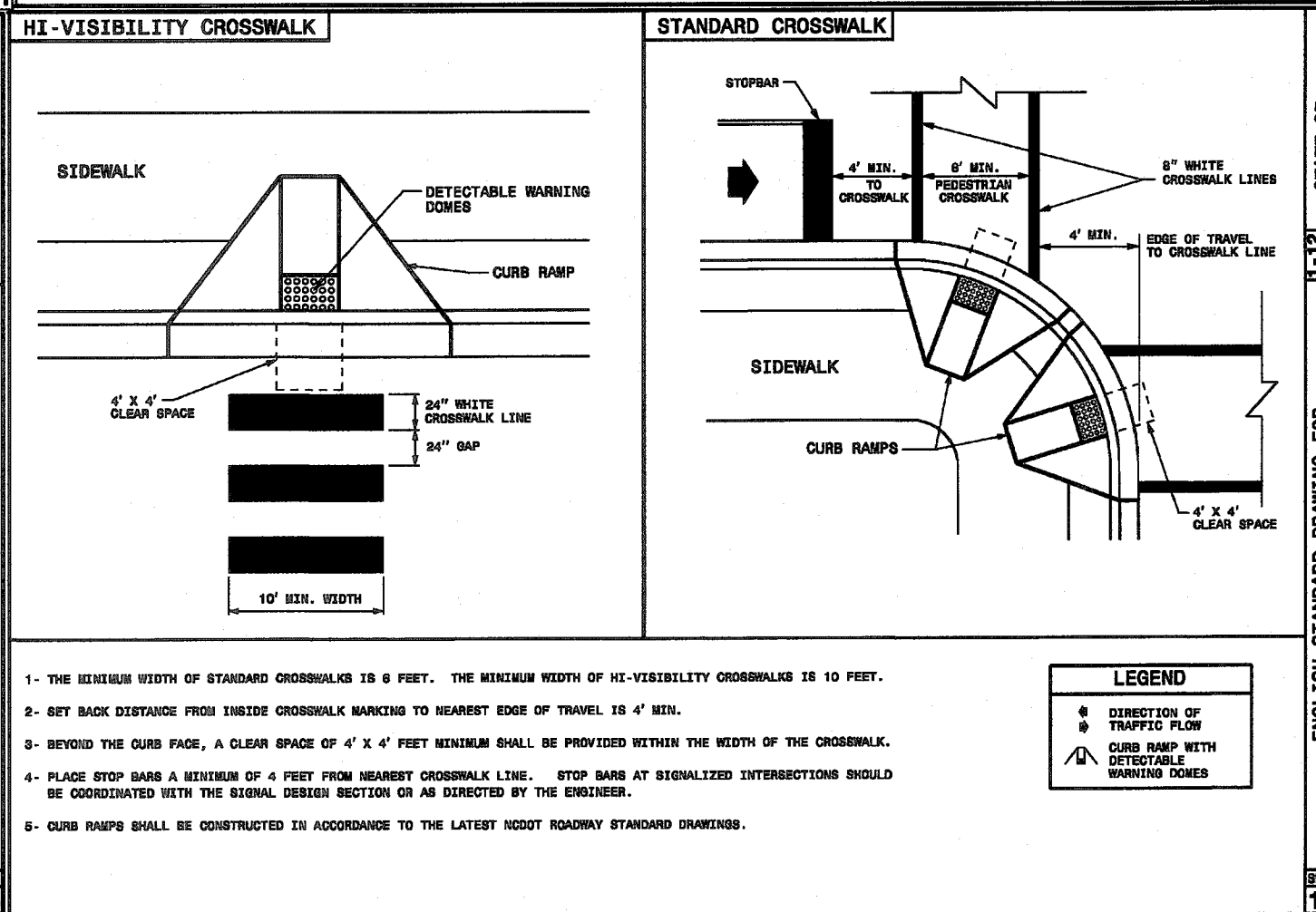
ENGLISH STANDARD DRAWING FOR PAVEMENT MARKINGS LINE TYPES AND OFFSETS



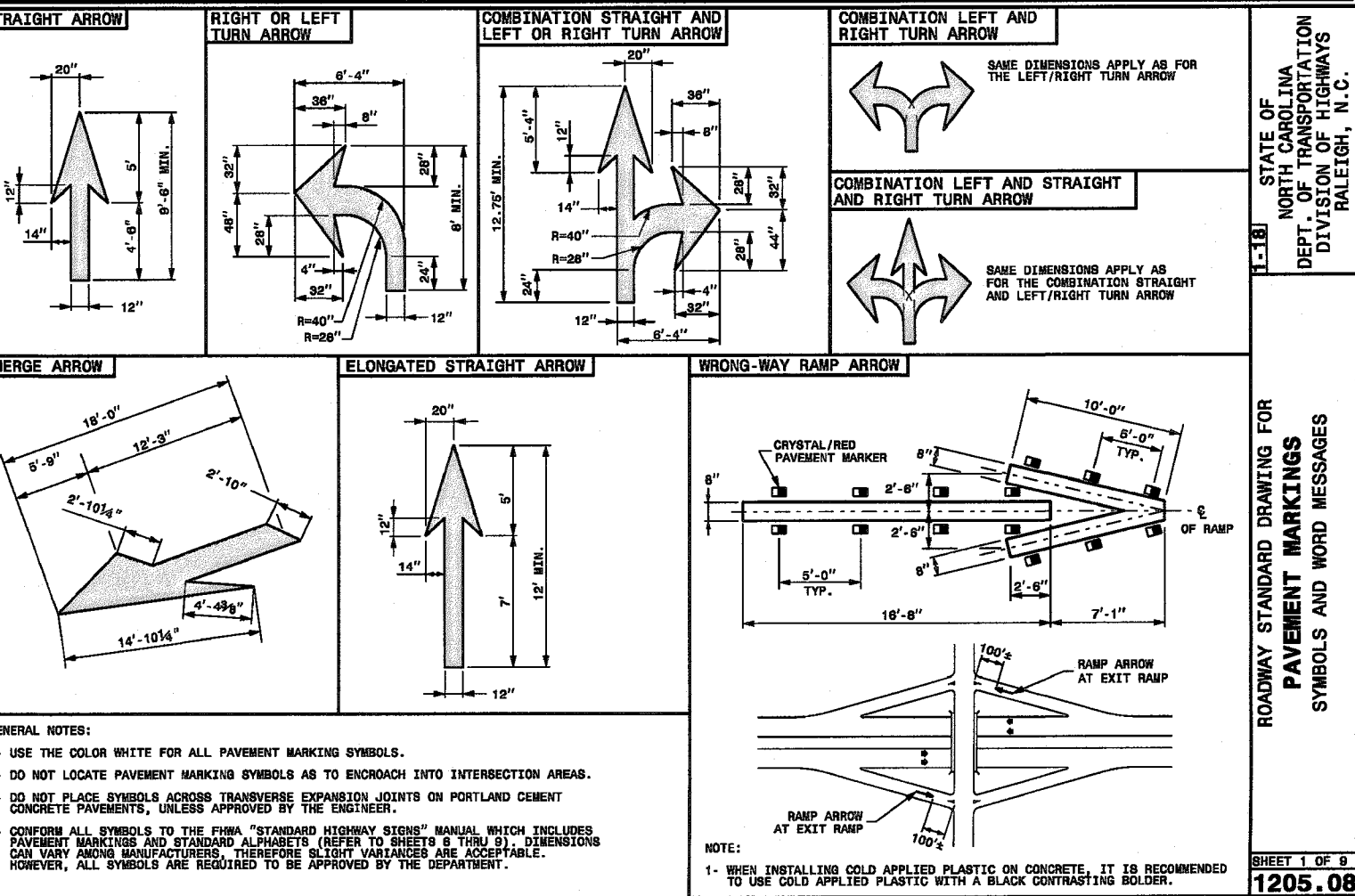
ENGLISH STANDARD DRAWING FOR PAVEMENT MARKINGS INTERSECTIONS



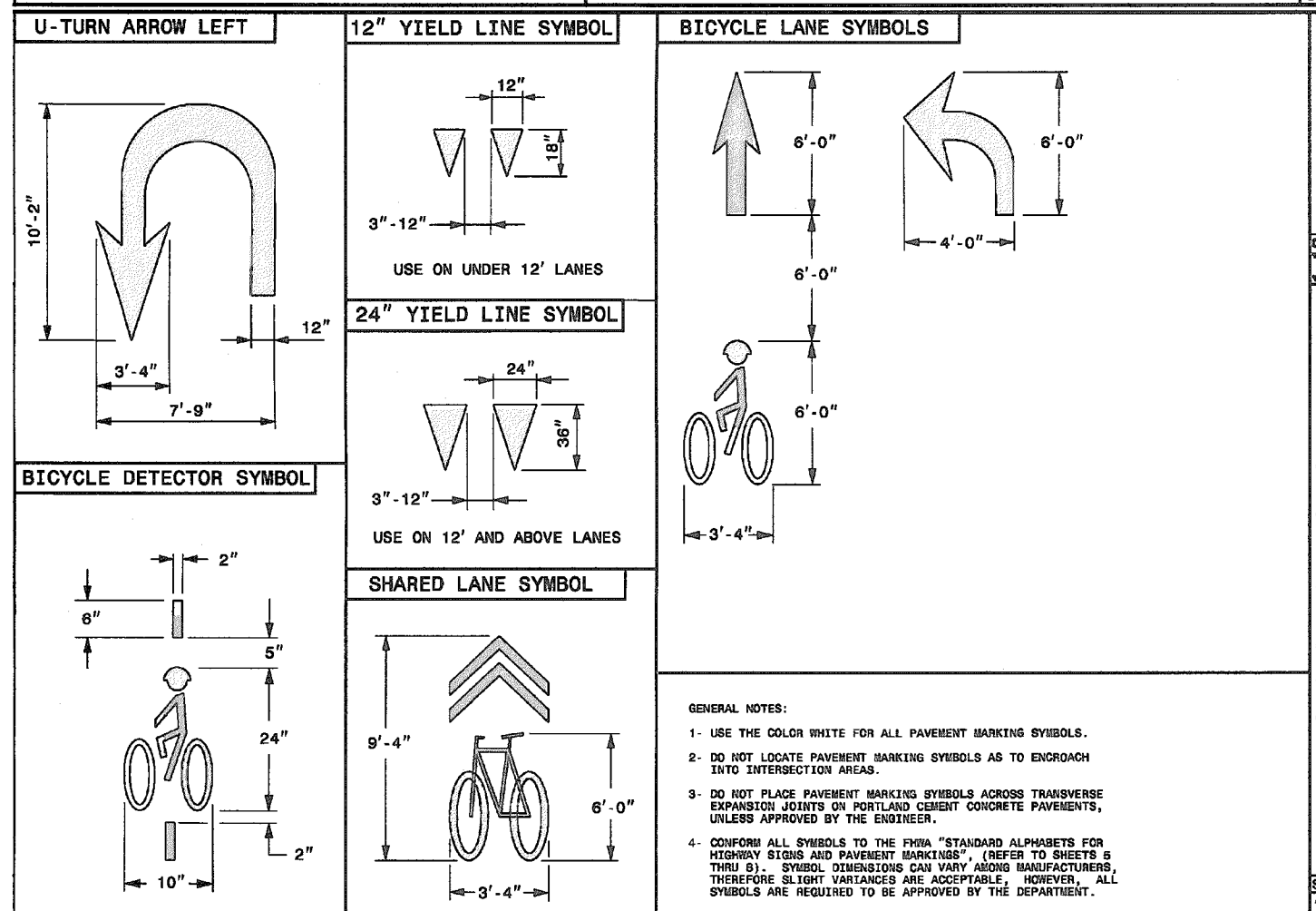
ENGLISH STANDARD DRAWING FOR PAVEMENT MARKINGS TURN LANES



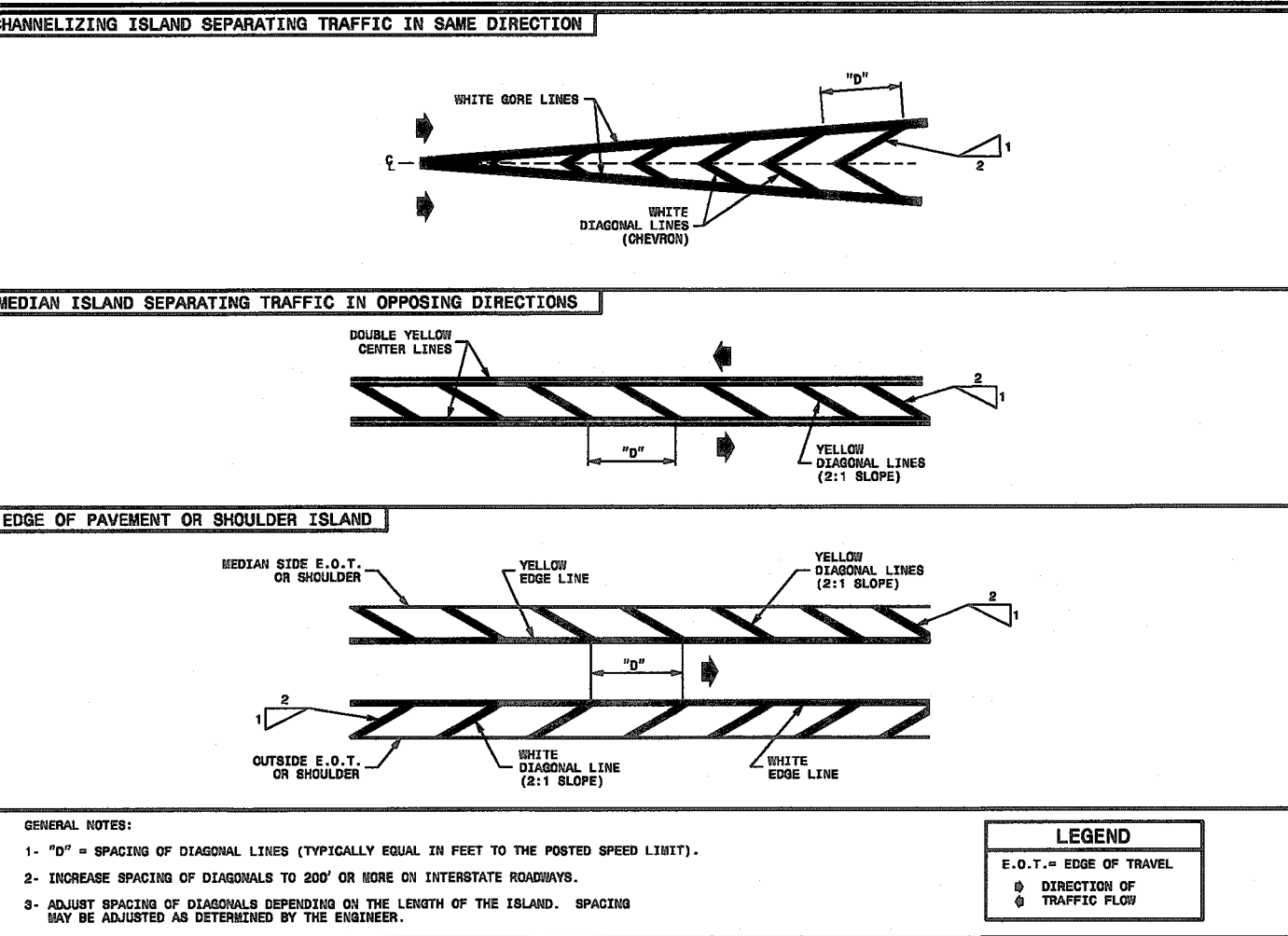
ENGLISH STANDARD DRAWING FOR PAVEMENT MARKINGS PEDESTRIAN CROSSWALKS



ENGLISH STANDARD DRAWING FOR PAVEMENT MARKINGS SYMBOLS AND WORD MESSAGES



ENGLISH STANDARD DRAWING FOR PAVEMENT MARKINGS SYMBOLS AND WORD MESSAGES

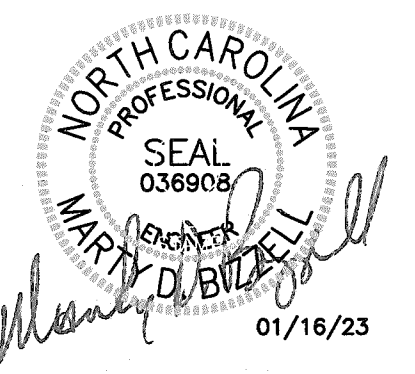


ENGLISH STANDARD DRAWING FOR PAVEMENT MARKINGS PAINTED ISLANDS

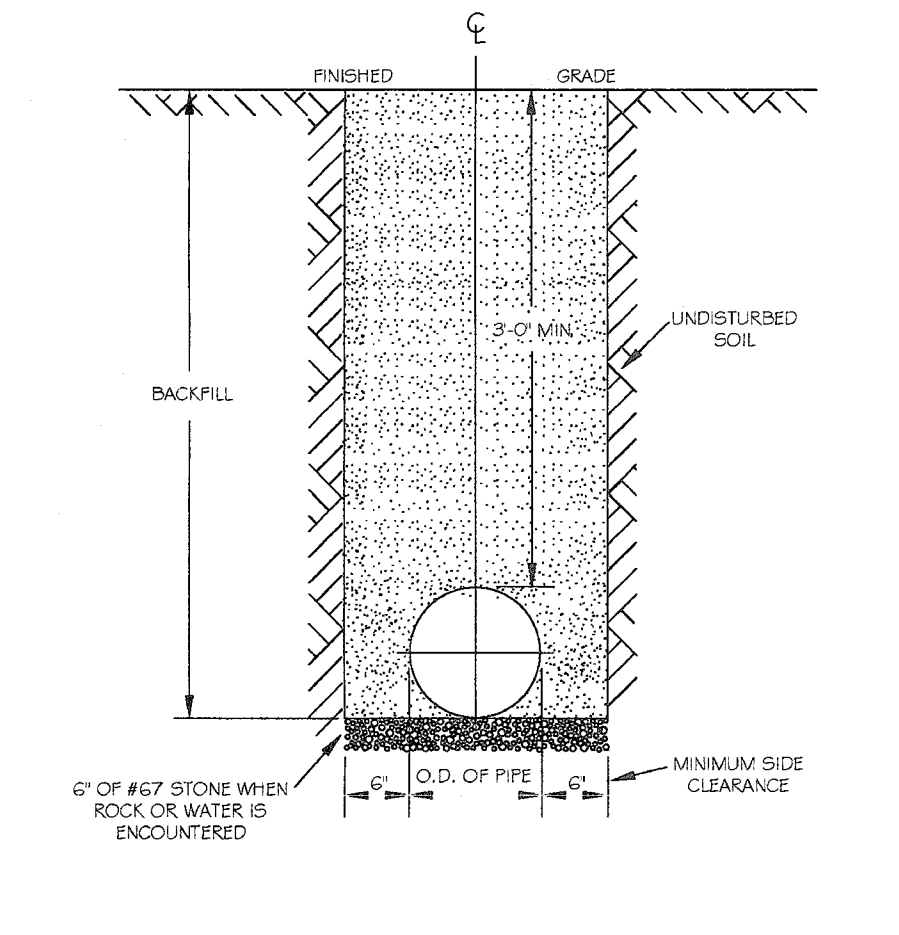
Table with columns: RAB, COMMENTS, SIGNATURE, SET, DATE, TOWN OF KNIGHTDALE COMMENTS, COMMENTS, NO., DATE, DESCRIPTION, REVISIONS.

Table with columns: RAB, COMMENTS, SIGNATURE, SET, DATE, TOWN OF KNIGHTDALE COMMENTS, COMMENTS, NO., DATE, DESCRIPTION, REVISIONS.

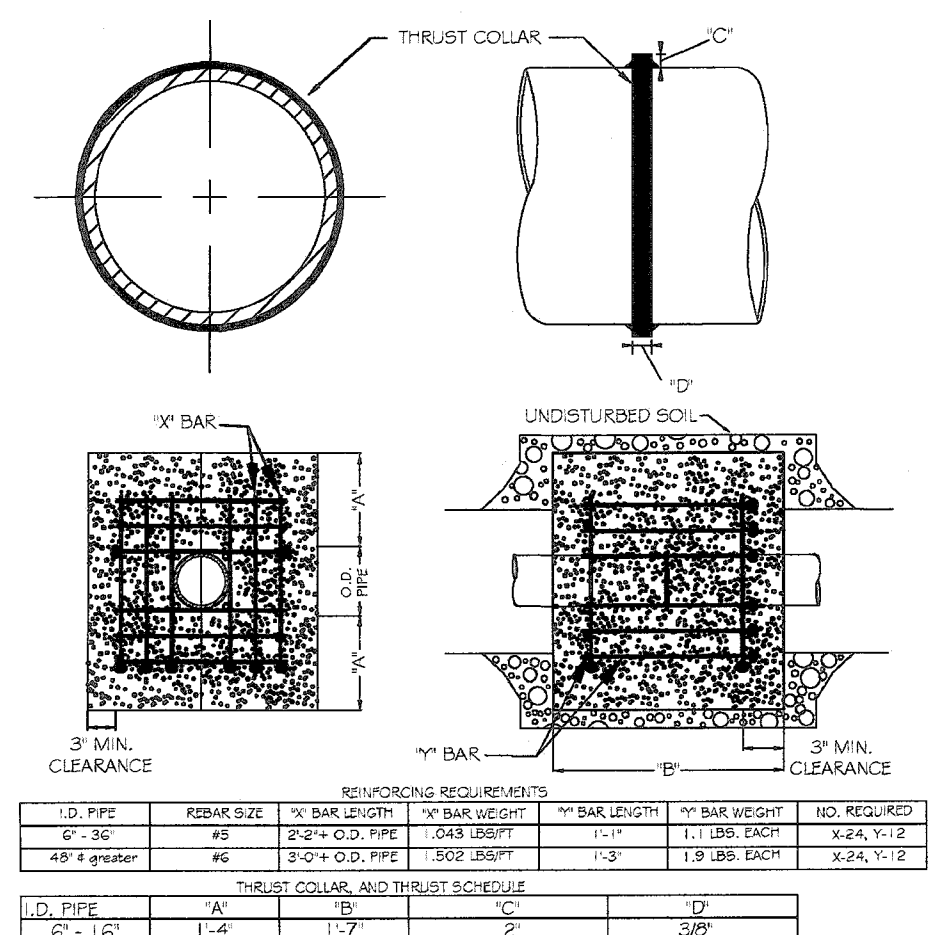
Project information including: SHEET C5.3, VILLAGE GATE, S. SMITHFIELD ROAD, TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA, and Town Certification details.



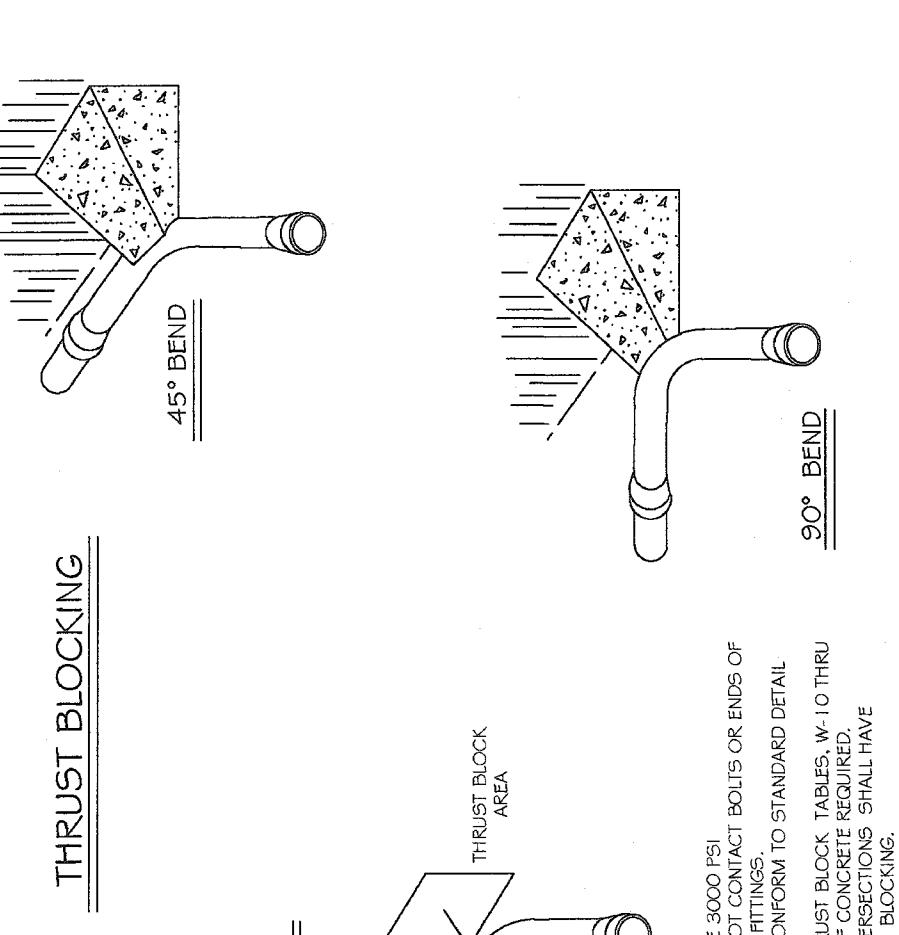
Town Certification text: This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.



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



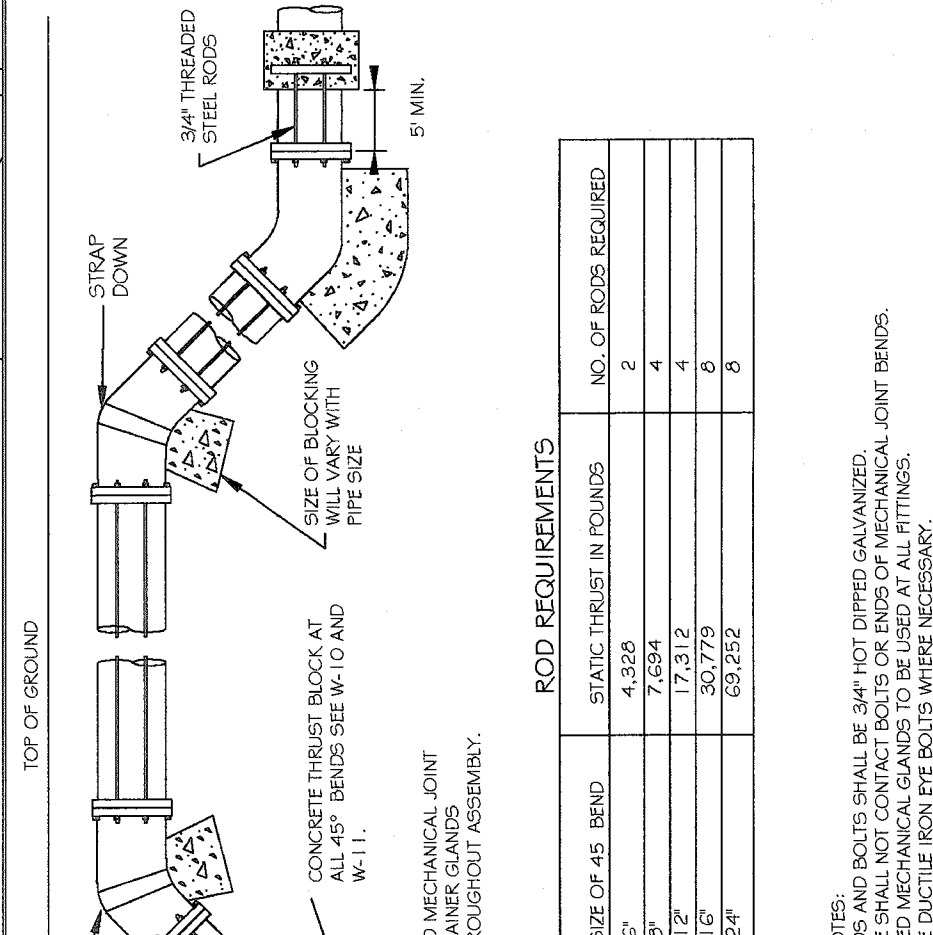
NOTES: 1. SEE STANDARD DETAIL W-9 FOR THRUST BLOCK LOCATIONS. 2. CONCRETE SHALL BE 3000 PSI AND TRANSIT MIXED. 3. REINFORCING BARS SHALL BE EPOXYED AND TIED TOGETHER. 4. TRENCH BOTTOM WIDTH IN VICINITY OF THRUST BLOCK INSTALLATION SHALL BE THE MINIMUM WIDTH AS SHOWN ON STANDARD DETAIL W-3. 5. BACKFILL TAMPAED IN 6" LIFTS PER STANDARD DETAIL W-3. 6. THRUST COLLAR MUST BE FACTORY WELDED ON BOTH SIDES ALONG BOTH EDGES OF COLLAR AROUND CIRCUMFERENCE.



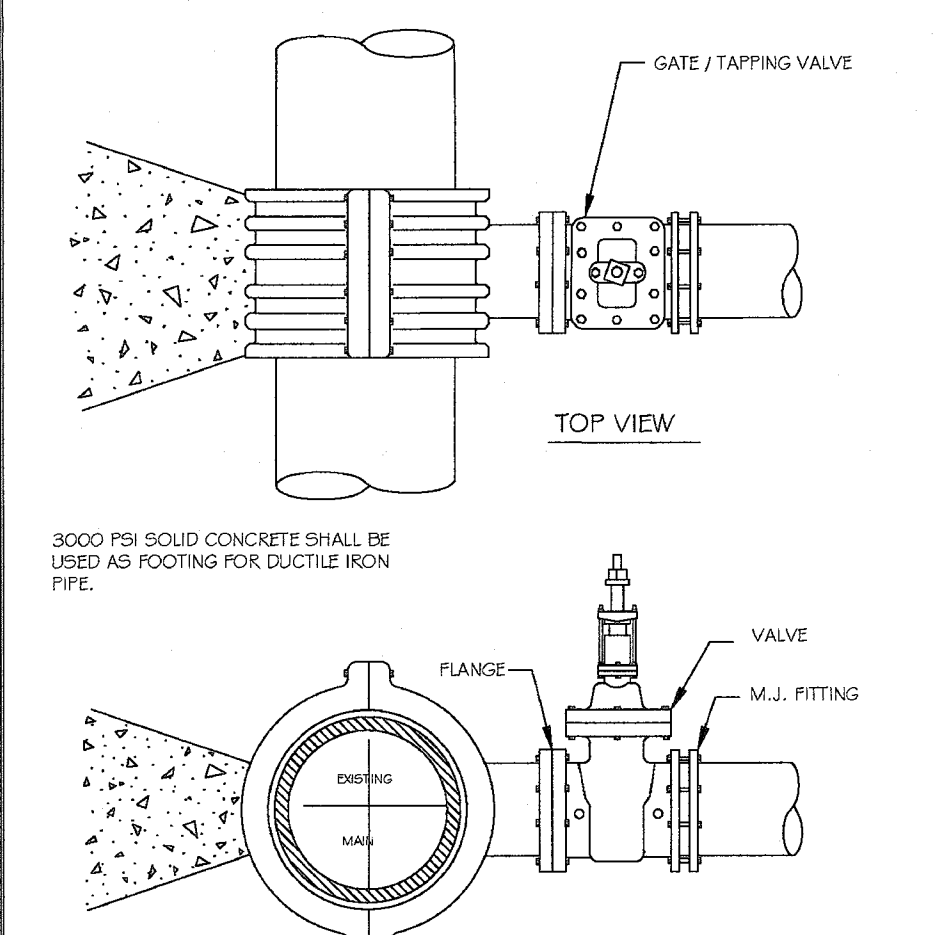
NOTES: 1. CONCRETE SHALL BE 3000 PSI AND TRANSIT MIXED. 2. MECHANICAL JOINT FITTINGS SHALL CONFORM TO STANDARD DETAIL W-3. 3. TRENCHES SHALL CONFORM TO STANDARD DETAIL W-3. 4. SEE STANDARD THRUST BLOCK TABLES, W-10 THRU W-14. 5. ALL BENDS AND INTERSECTIONS SHALL HAVE CONCRETE THRUST BLOCKING.

REACTION BEARING AREAS FOR HORIZONTAL WATER PIPE BENDS. Table with columns for size and degree of bend, and rows for various pipe sizes and materials.

REACTION BEARING AREAS ARE IN SQUARE FEET MEASURED IN A VERTICAL PLANE IN THE THRU SIDE AT AN ANGLE OF 90° TO THE THRUST VECTOR.



NOTES: 1. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT FITTINGS. 2. SEE STANDARD REACTION BLOCK TABLES, W-10 AND W-11 FOR AREA OF CONCRETE REQUIRED. 3. 3000 PSI SOLID CONCRETE SHALL BE USED AS FOOTING FOR DUCTILE IRON PIPE.



NOTES: 1. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT FITTINGS. 2. SEE STANDARD REACTION BLOCK TABLES, W-10 AND W-11 FOR AREA OF CONCRETE REQUIRED.

Revision table for DWG. NO. W-3, showing revisions 1 through 5.

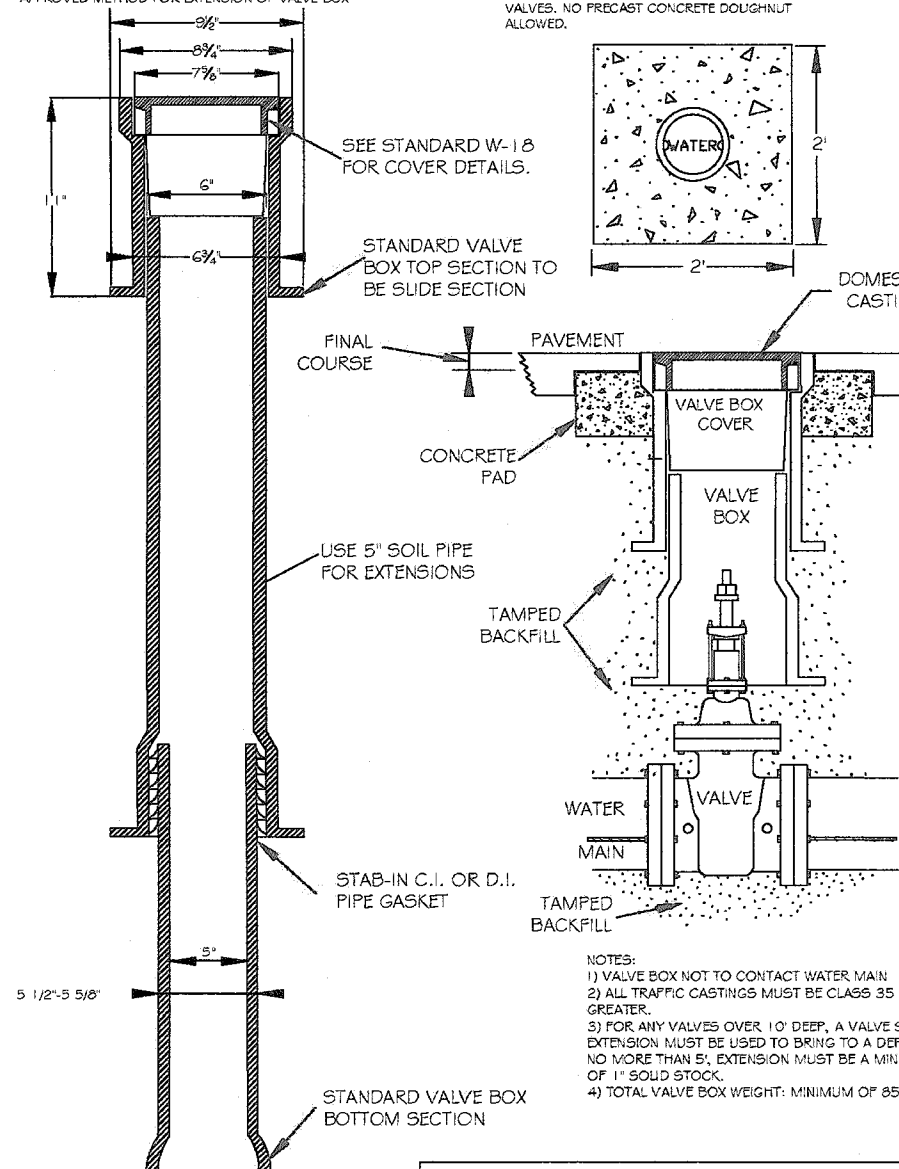
Revision table for DWG. NO. W-7, showing revisions 1 through 5.

Revision table for DWG. NO. W-9, showing revisions 1 through 5.

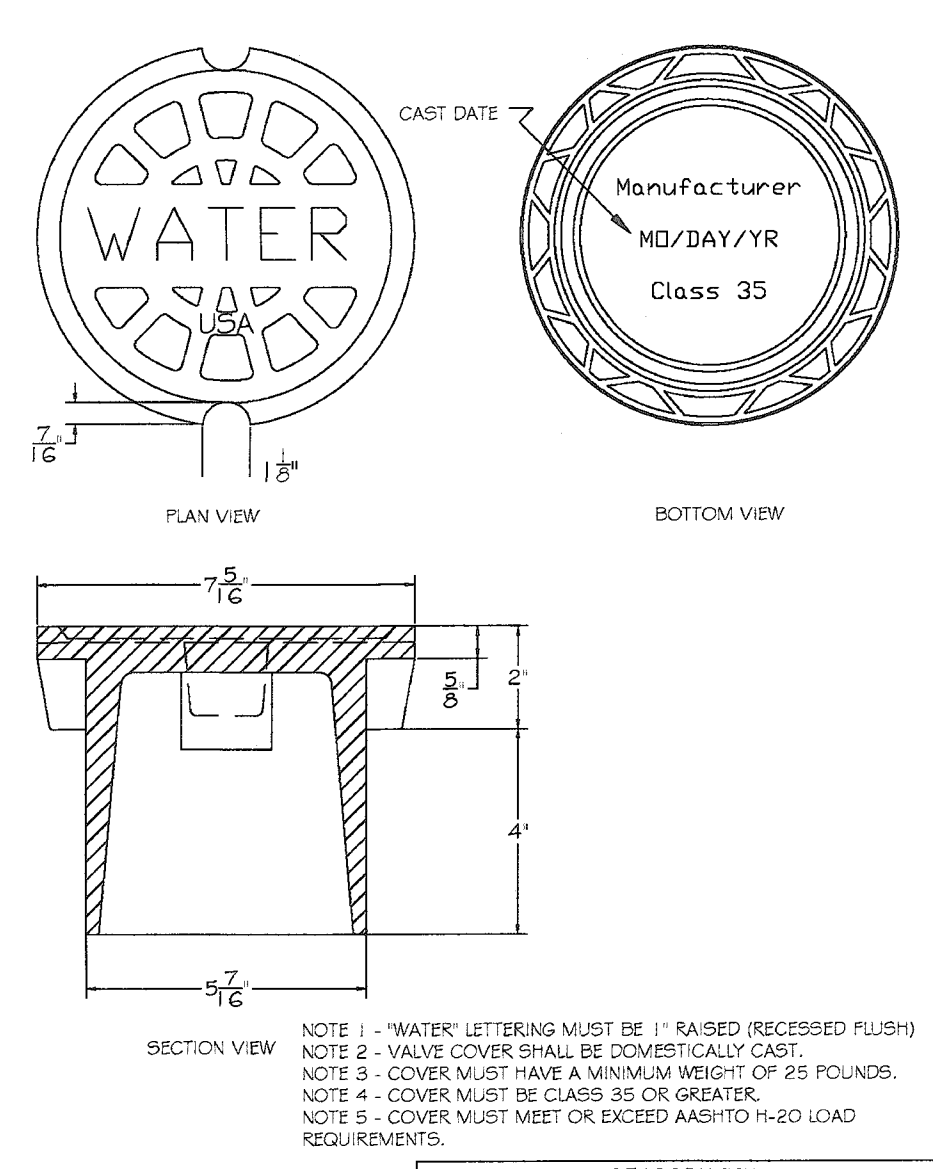
Revision table for DWG. NO. W-10, showing revisions 1 through 5.

Revision table for DWG. NO. W-12, showing revisions 1 through 5.

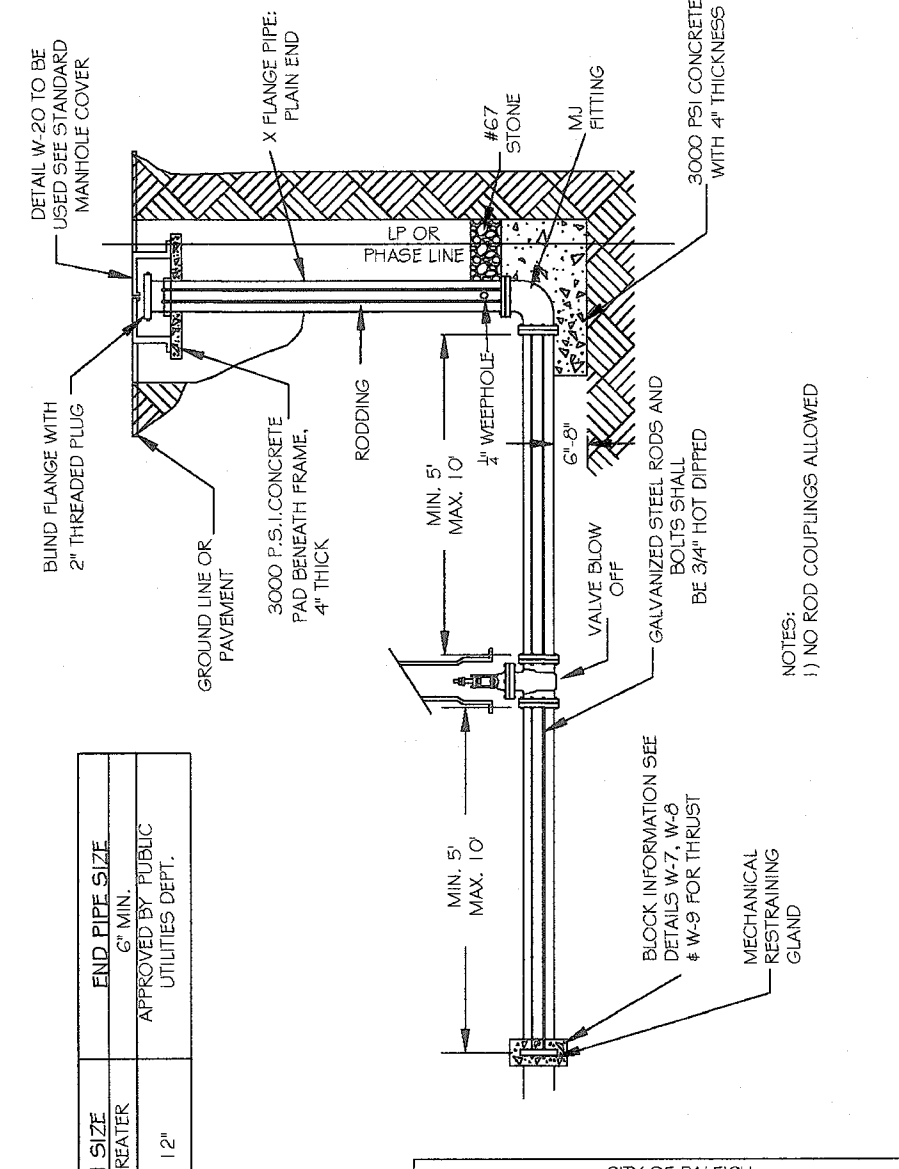
Revision table for DWG. NO. W-14, showing revisions 1 through 5.



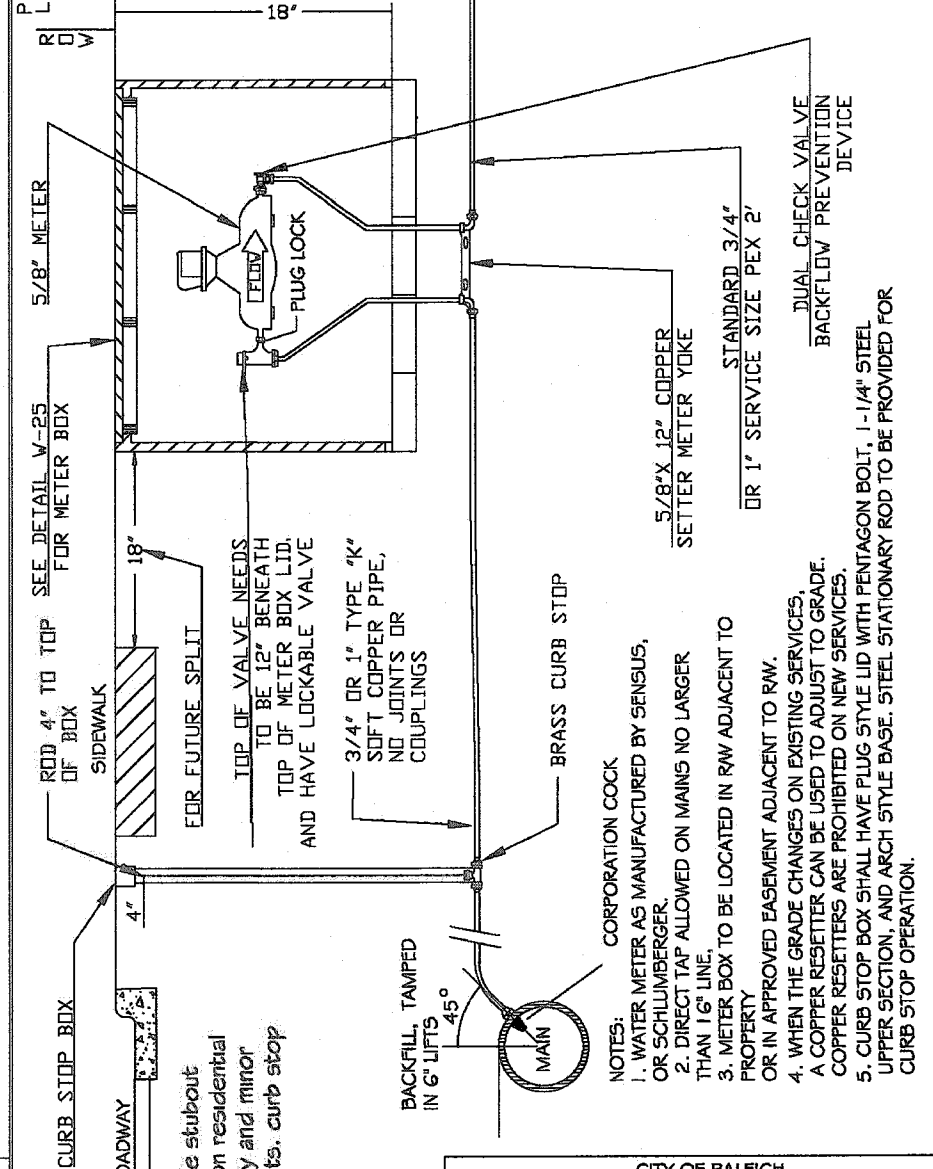
NOTES: 1. VALVE BOX SHALL NOT CONTACT WATER MAIN. 2. TRAFFIC COVERS MUST BE CLASS 35 OR GREATER. 3. STORM SEWER VALVES OVER 10" DIA. VALVE STEM EXTENSION MUST BE USED TO BRING TO A DEPTH OF NO MORE THAN 12" EXTENSION VALVE TO A MINIMUM OF 1" ABOVE BROOK. 4. TOP VALVE BOX WEIGHT: MINIMUM OF 85 LBS.



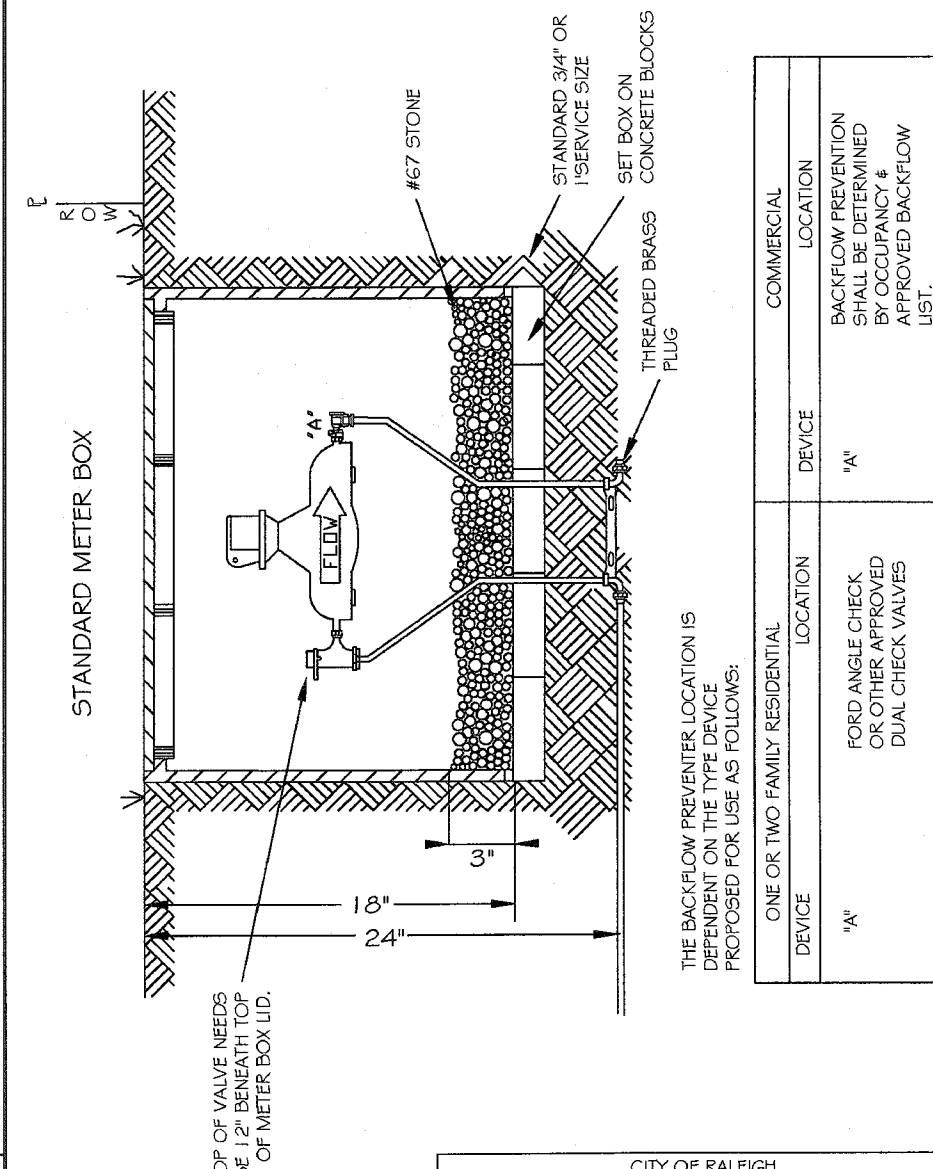
NOTES: 1. "WATER" LETTERING MUST BE 1" RAISED (RECESSED FLUSH) 2. VALVE COVER SHALL BE DOMESTICALLY CAST. 3. COVER MUST HAVE A MINIMUM WEIGHT OF 25 POUNDS. 4. COVER MUST BE CLASS 35 OR GREATER. 5. COVER MUST MEET OR EXCEED AASHTO H-20 LOAD REQUIREMENTS.



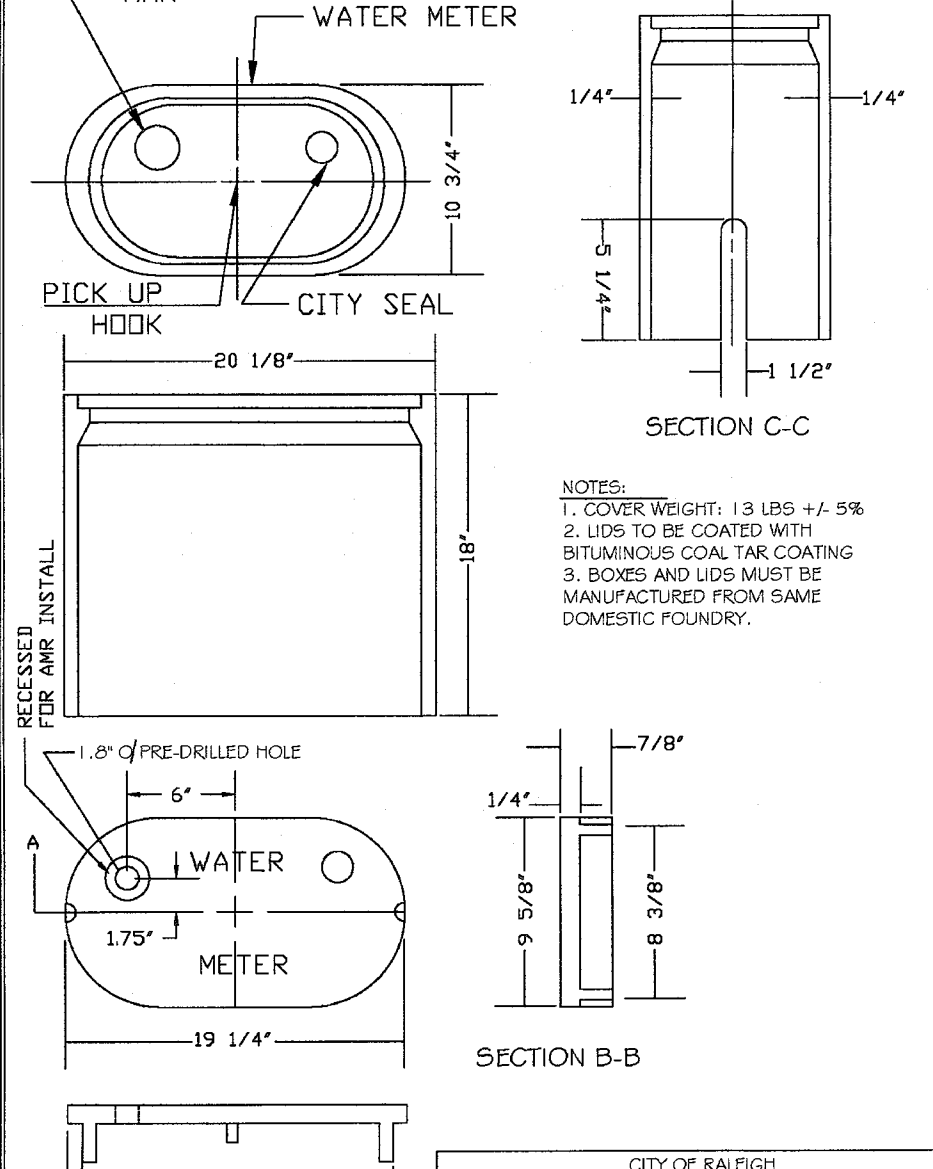
NOTES: 1. NO ROD COUPLINGS ALLOWED. 2. SERVICE SUBSTITUTION LENGTH ON RESIDENTIAL PROPERTY AND MINOR LENGTH ON COMMERCIAL PROPERTY, CURB STOP ADDED.



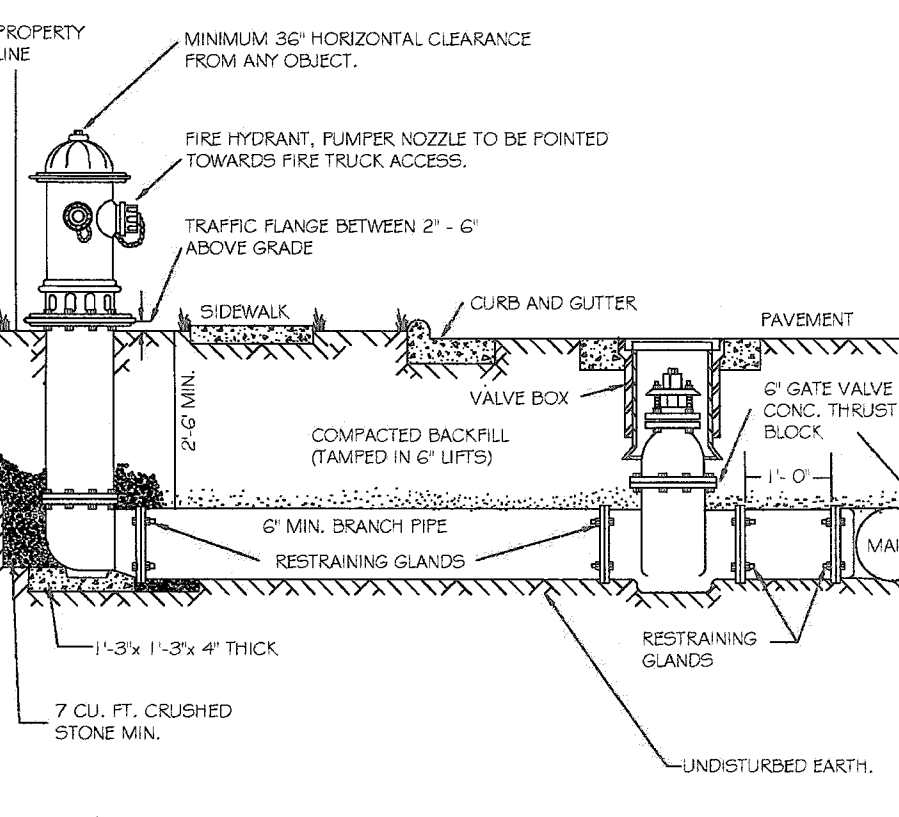
NOTES: 1. CORPORATION COCK SHALL BE MANUFACTURED BY SINGIS, OR EQUIVALENT. 2. DIRECT TAP ALLOWED ON MAIN NO LARGER THAN 12" DIA. 3. METER BOX TO BE LOCATED IN RW ADJACENT TO CURB OR IN APPROVED ADJACENT TO RW. 4. WHEN THE GRADE CHANGES ON EXISTING SERVICES, THE METER BOX SHALL BE ADJUSTED TO NEW SERVICES. 5. CURB STOP BOX SHALL HAVE PLUS SIGN WITH PREVIOUS BOX. 1 1/4" STEEL CURB STOP SHALL BE USED FOR ALL CURB STOP OPERATION.



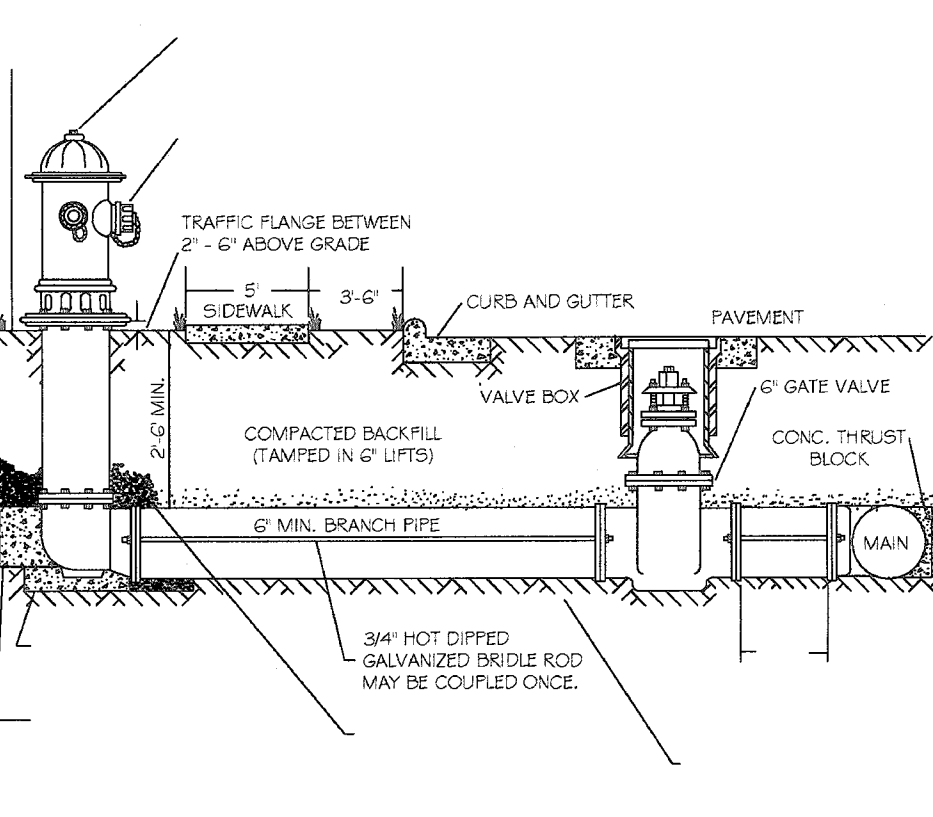
NOTES: 1. COVER WEIGHT: 13 LBS +/- 5%. 2. LIDS TO BE COATED WITH BITUMINOUS COAL TAR COATING. 3. BOXES AND LIDS MUST BE MANUFACTURED FROM SAME DOMESTIC FOUNDRY.



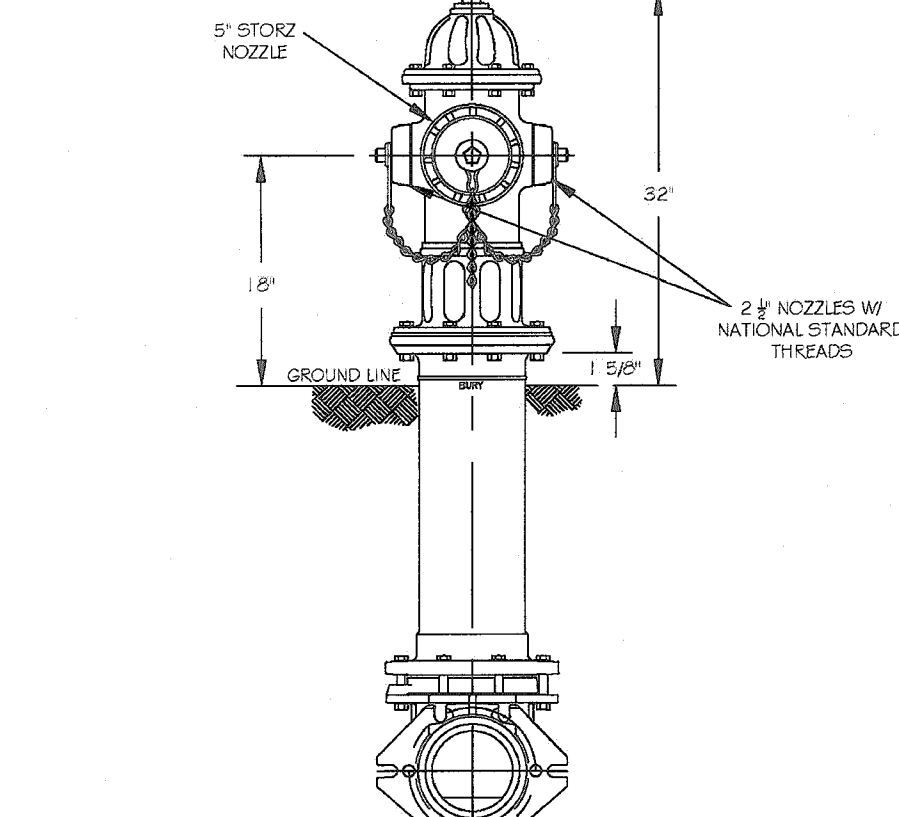
NOTES: 1. COVER WEIGHT: 13 LBS +/- 5%. 2. LIDS TO BE COATED WITH BITUMINOUS COAL TAR COATING. 3. BOXES AND LIDS MUST BE MANUFACTURED FROM SAME DOMESTIC FOUNDRY.



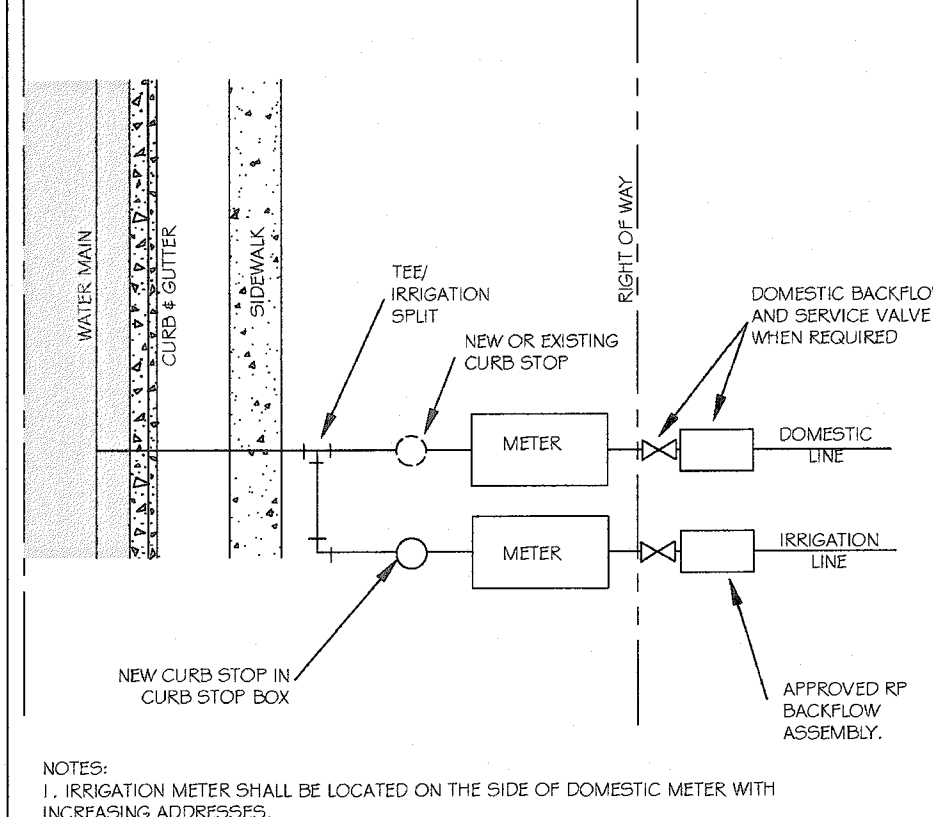
NOTES: 1. FIRE HYDRANT SHALL BE AS MANUFACTURED: MULLER, AMERICAN DARLING, KENNEDY, W.H. WATERBURY, GLOW, EAST OREGON IRON WORKS, OR US PIPE. 2. BRANCH PIPE SHALL BE DUCTILE IRON ANNA CI 50-BG. 3. GATE VALVE SHALL BE ANNA CI OR OPEN LEFT. 4. STEEL RODS AND BOLTS SHALL BE 3/4" HOT DIPPED GALVANIZED. 5. FIRE HYDRANTS WILL BE INSTALLED IN TRUE VERTICAL POSITION. RODS SHALL NOT BE COUPLED MORE THAN ONCE. IF THE LENGTH FROM THE VALVE TO THE HYDRANT EXCEEDS 20' THEN A MECHANICAL RESTRAINING GLAND WITH A REBAR CASE SHALL BE INSTALLED NO MORE THAN 10' FROM HYDRANT AND TYPED IN CONCRETE. FIRE HYDRANTS TO BE LOCATED IN ROW OR 2 FOOT EASEMENT ADJACENT TO ROW.



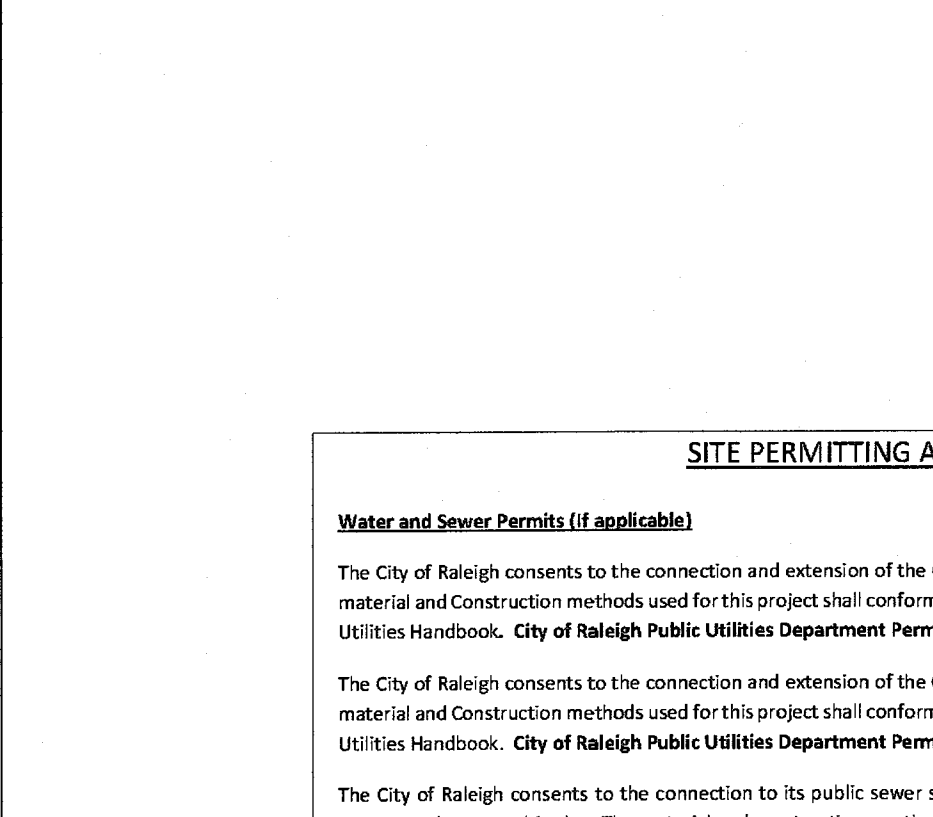
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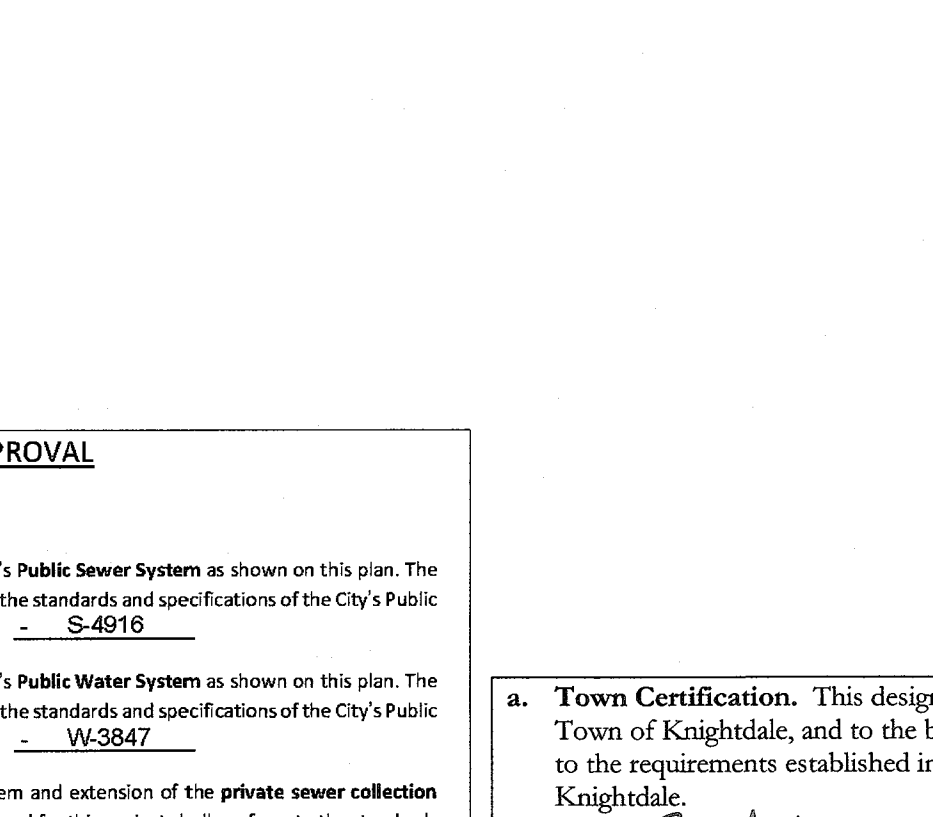
NOTES: 1. RALEIGH PUBLIC HYDRANTS SHALL BE PAINTED SOLID RED. 2. KNIGHTDALE, # ROLESVILLE PUBLIC HYDRANTS SHALL BE PAINTED RED W/SLIVER OPERATING NUTS. 3. ZEBULON PUBLIC HYDRANTS SHALL BE PAINTED RED W/SLIVER BONNETS AND OPERATING NUTS. 4. WAKE FOREST AND GARNER, AND WENDELL PUBLIC AND PRIVATE HYDRANTS TO BE PAINTED SAFETY YELLOW W/SLIVER CAPS AND OPERATING NUTS. 5. OPERATING NUTS ON HYDRANTS CONNECTED TO PUBLIC MAINS LARGER THAN 12" SHALL BE PAINTED BLACK.



NOTES: 1. IRRIGATION METER SHALL BE LOCATED ON THE SIDE OF DOMESTIC METER WITH INCREASING ADDRESSES. 2. THE BACKFLOW SHALL BE INSTALLED NO MORE THAN 10' FROM THE METER IN A VISIBLE LOCATION. 3. BACKFLOW RESISTANCE PIPE SHALL BE OF COPPER OR BRASS. 4. THE RP RELIEF VALVE SHALL BE A MINIMUM OF 1 1/2" ABOVE ANY MATERIAL MULCH INCLUDED OR GRADE. 5. A SERVICE VALVE IS REQUIRED AFTER THE METER BUT BEFORE THE BACKFLOW ASSEMBLY FOR MAINTENANCE AND REPLACEMENT PURPOSES. 6. THE INSTALLATION MUST ALSO MEET ALL CODE REQUIREMENTS PER THE NC PLUMBING CODE.



Water and Sewer Permits (if applicable) The City of Raleigh consents to the connection and extension of the City's Public Sewer System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # - S-4916



The City of Raleigh consents to the connection and extension of the City's Public Water System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # - W-3847

Revision table for DWG. NO. W-4, showing revisions 1 through 5.

Revision table for DWG. NO. W-4a, showing revisions 1 through 5.

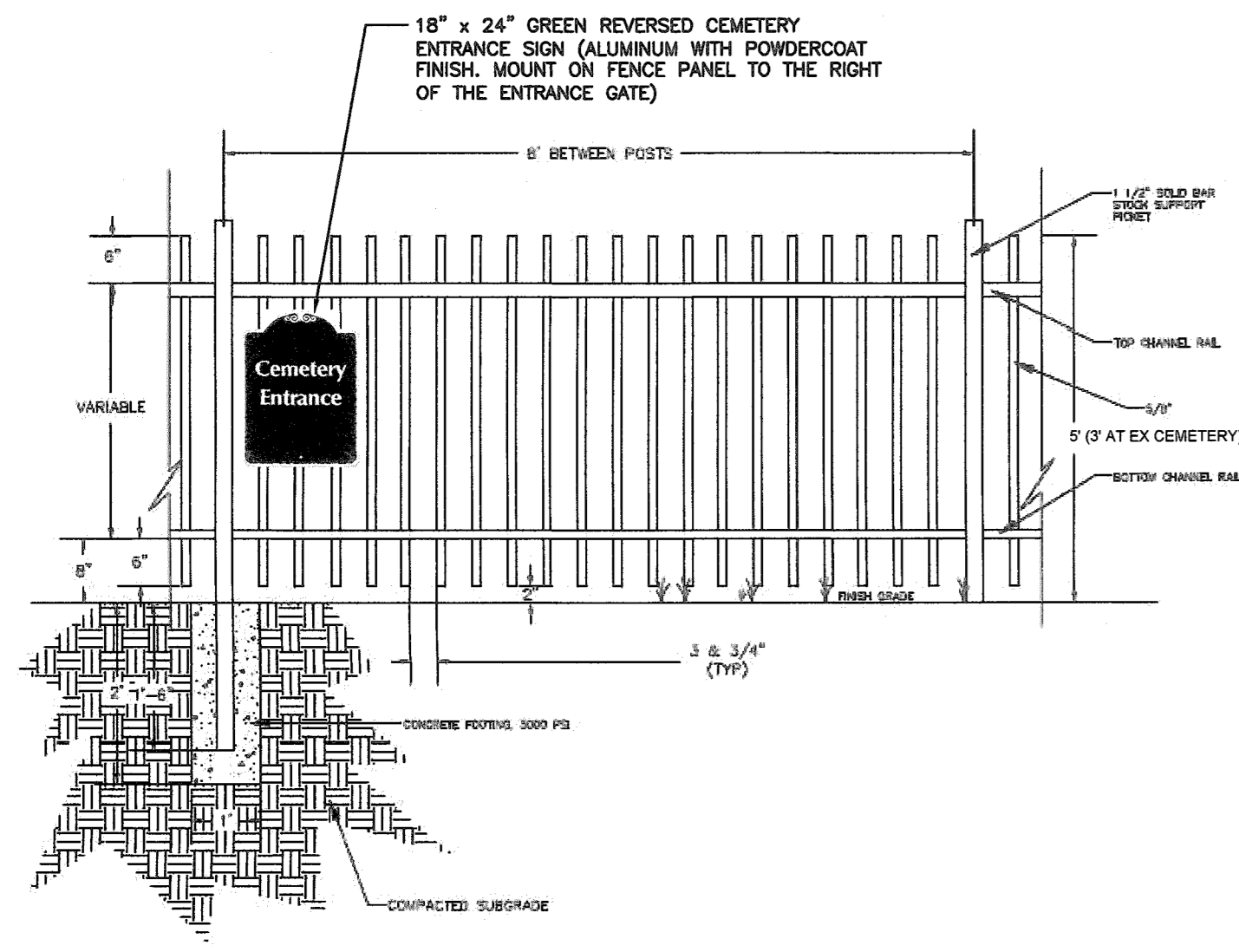
Revision table for DWG. NO. W-5, showing revisions 1 through 5.

Revision table for DWG. NO. W-35, showing revisions 1 through 5.

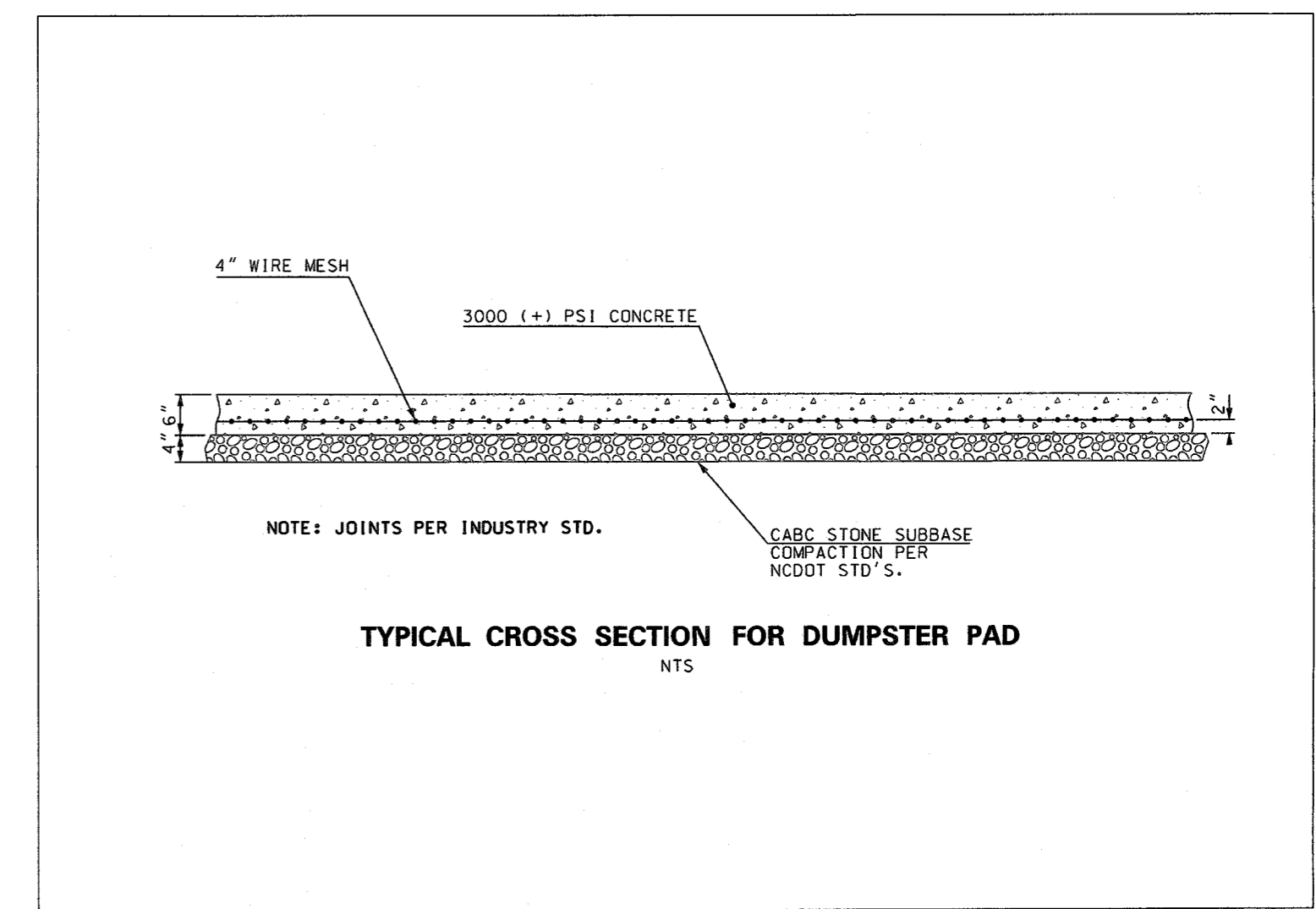
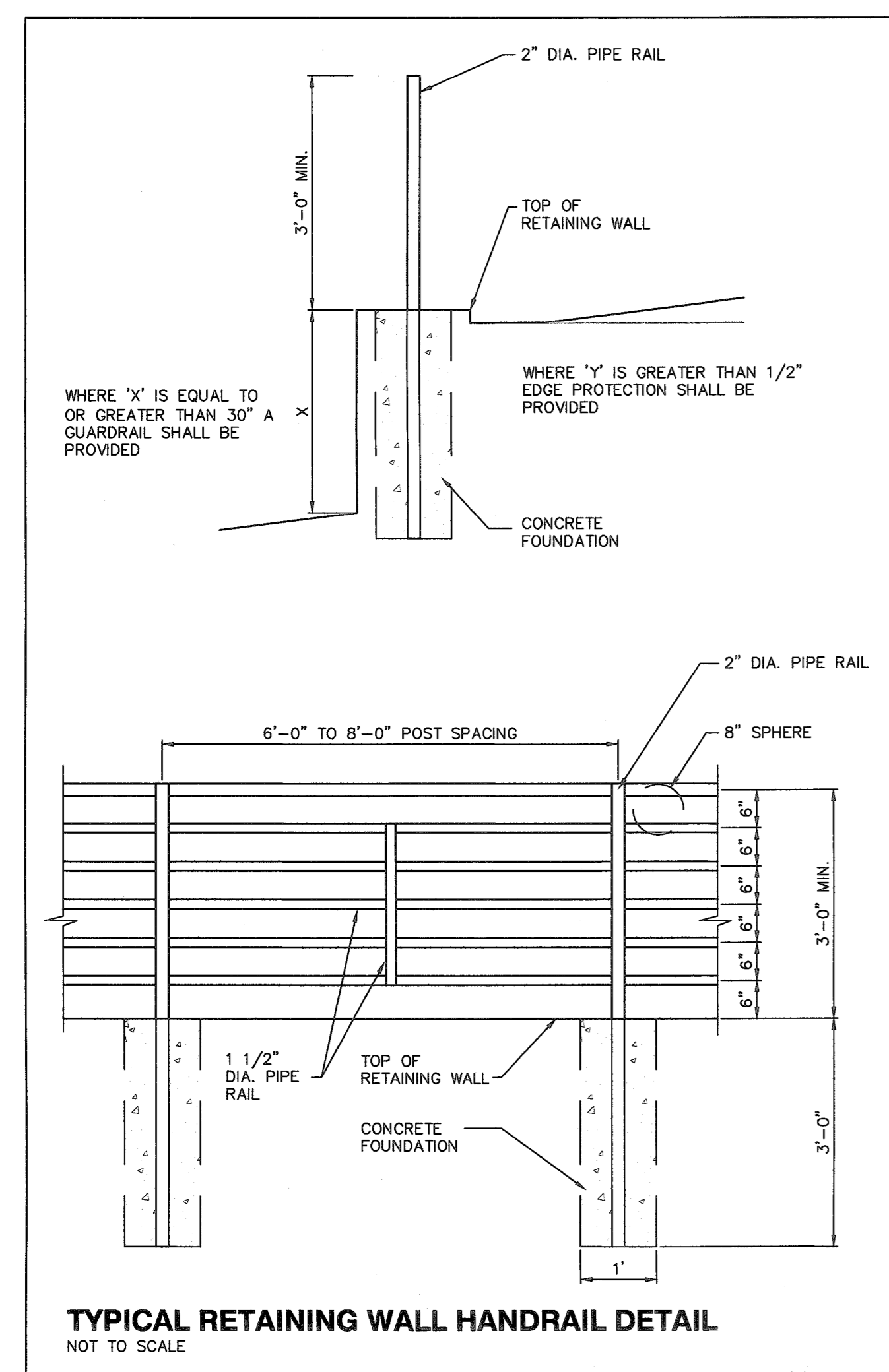
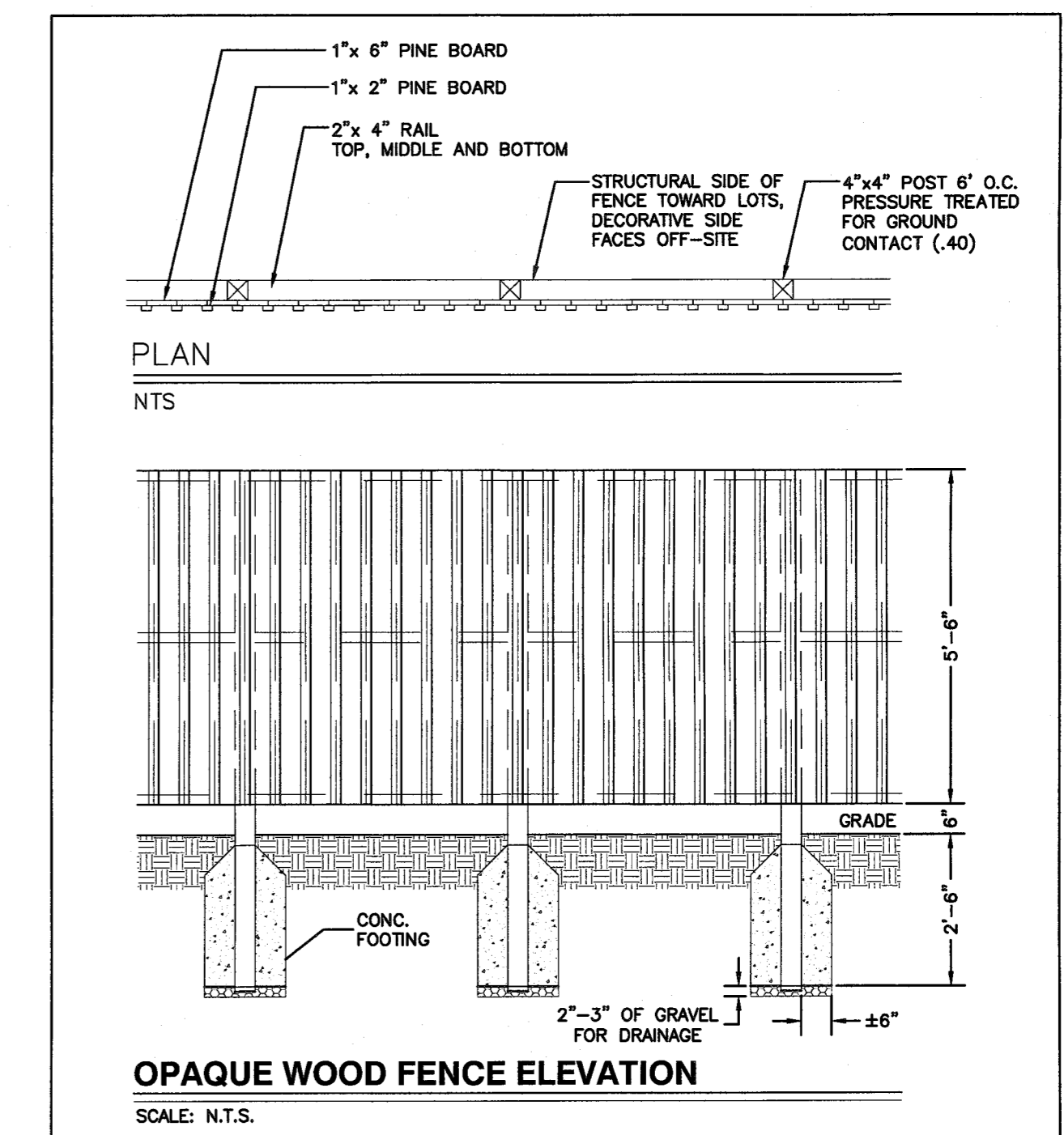
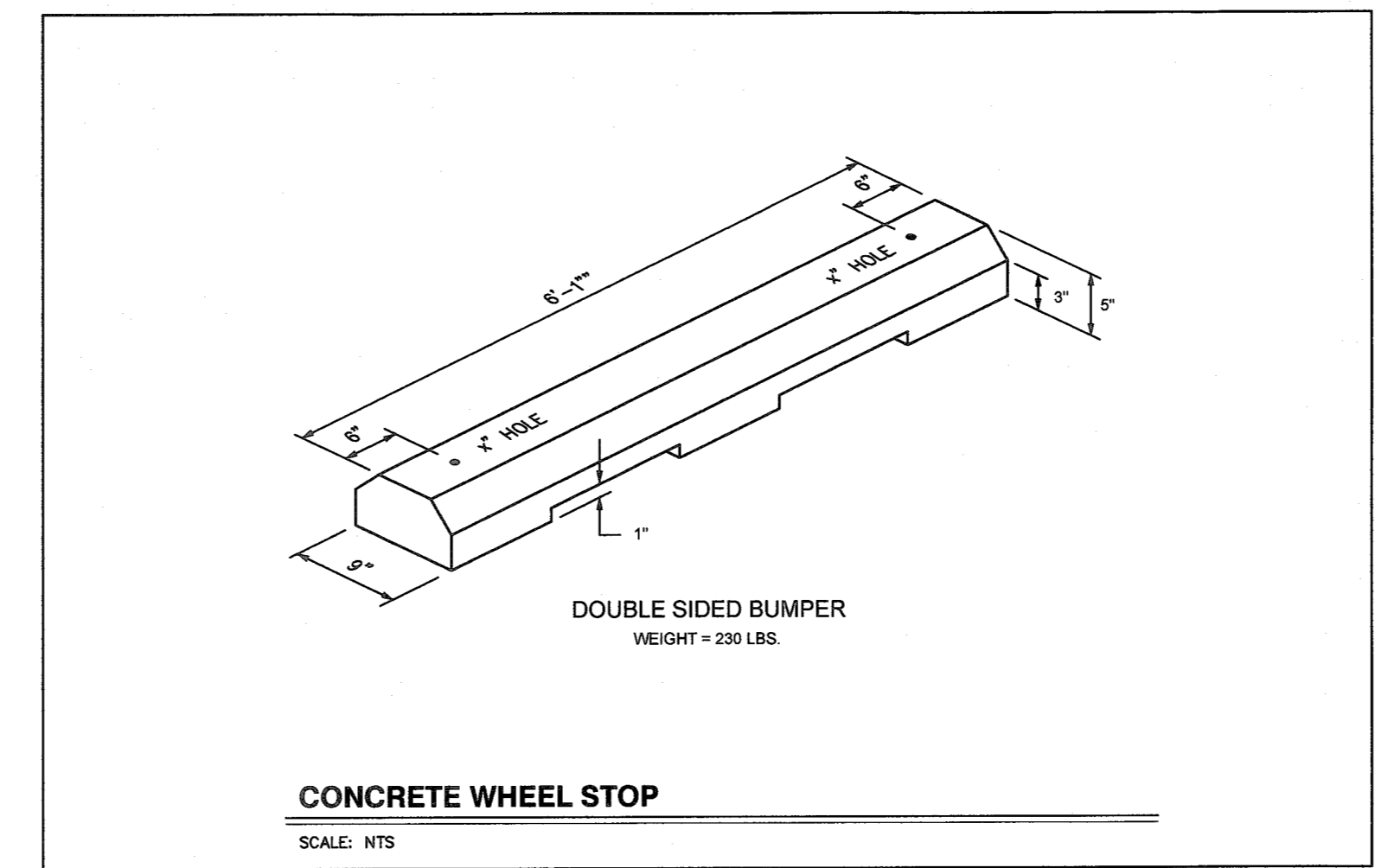
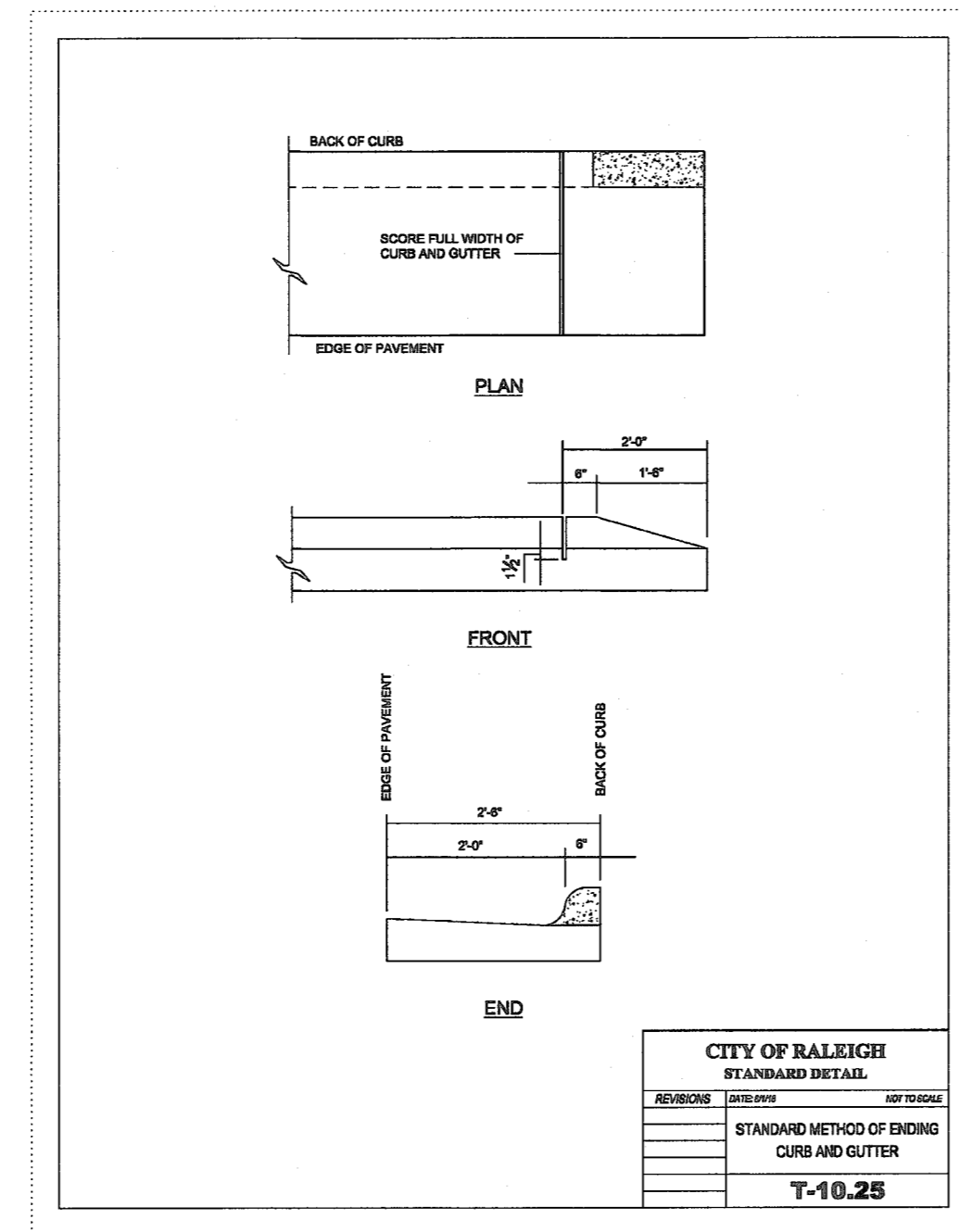
BASS, NIXON & KENNEDY, INC. CONSULTING ENGINEERS 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607

Table with columns for RAB, COMMENTS, SIGNATURE, SET, DATE, and REVISIONS.

VILLAGE GATE S. SMITHFIELD ROAD TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA SHEET C5.4



5' BLACK ALUMINUM FENCE (3' AT EX CEMETERY)
SCALE: N.T.S.

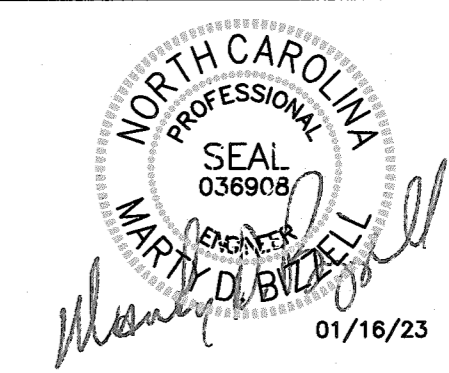


a. **Town Certification.** This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: *[Signature]* Date: 2-1-2023
Town Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: *[Signature]* Date: 2-2-2023
Administrator



NO.	DATE	DESCRIPTION	BY
8	01-16-23	TK COMMENTS SIGNATURE SET	RAB
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
3	06-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB

VILLAGE GATE

S. SMITHFIELD ROAD

TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

DETAILS

SCALE: N.T.S.

CHK BY: MDB

BANK

BASS, NIXON & KENNEDY, INC.

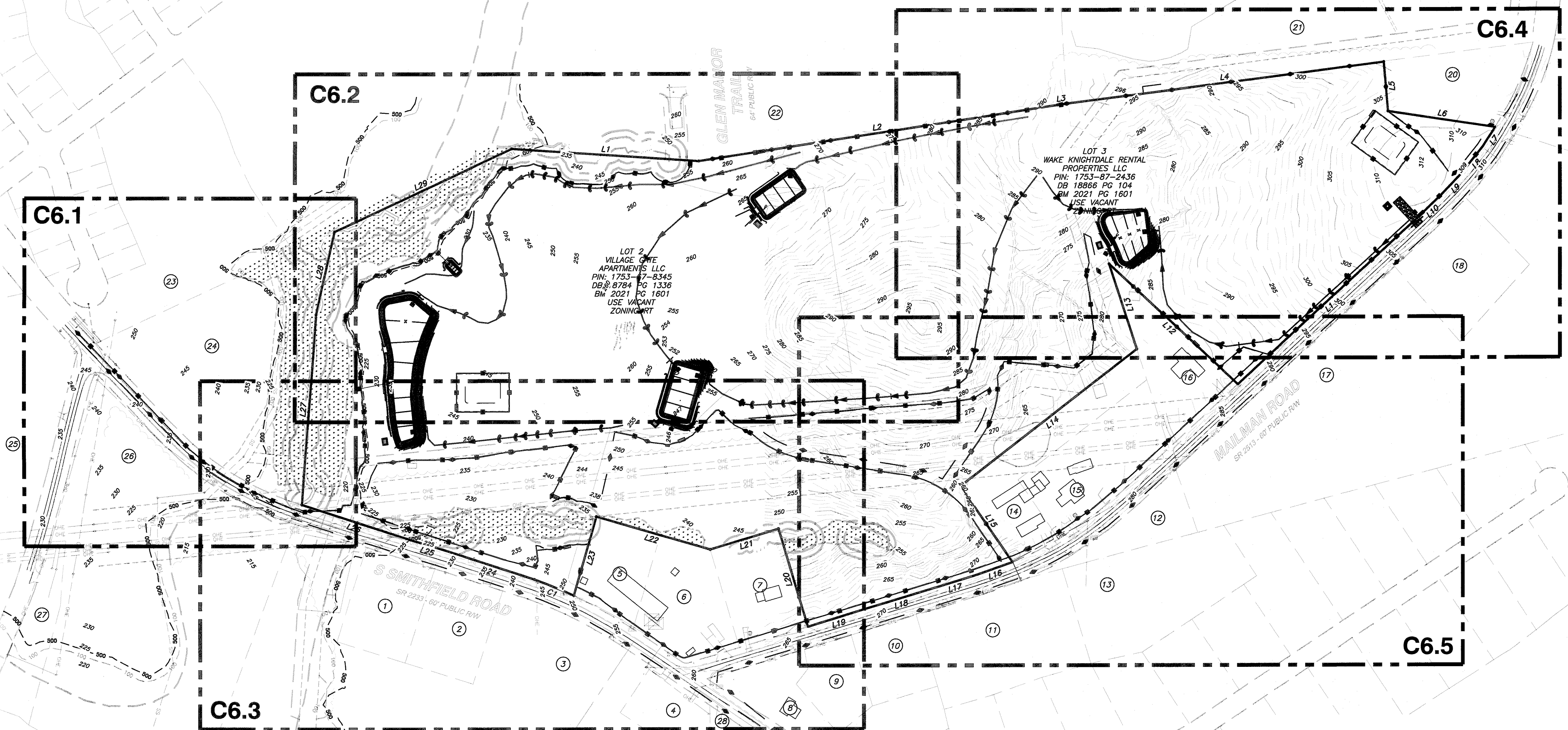
CONSULTING ENGINEERS

6310 CHASE HILL ROAD, SUITE 250, RALEIGH, NC 27607

TELEPHONE: (919) 851-8866 FAX: (919) 851-8868

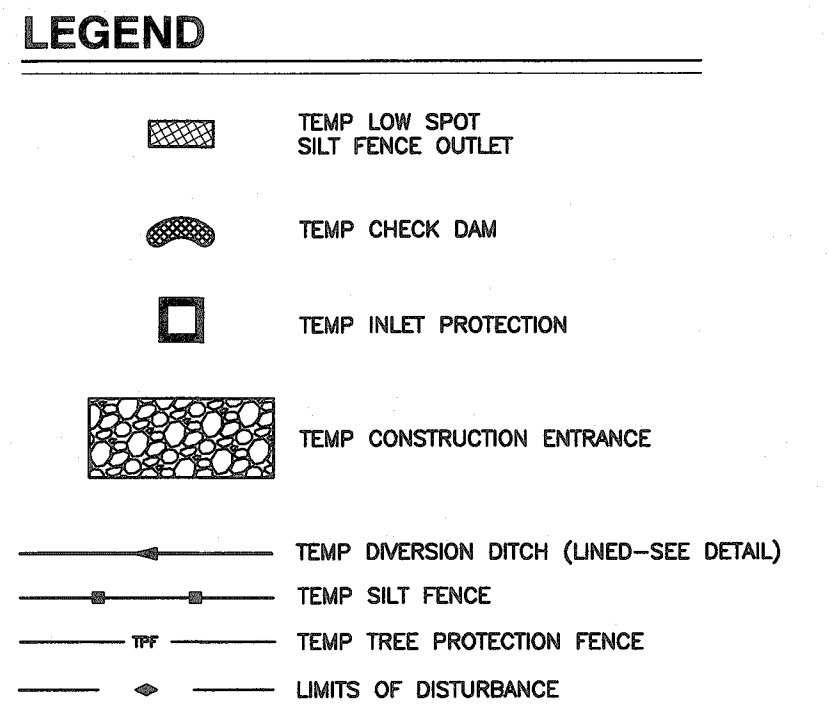
CERTIFICATION NUMBERS: NC0110; NC0101; NC0267

SHEET
C5.7



SEDIMENT BASIN SUMMARY CHART

Sediment Basin Number	1	2	3	4	5
Drainage Area (acres)	12.86	9.38	12.7	7.33	0.72
Chiclets	(0.5)(7.22)(12.86)=45.70	(0.5)(7.22)(9.38)=33.86	(0.5)(7.22)(12.7)=45.85	(0.5)(7.22)(7.33)=26.46	(0.5)(7.22)(0.72)=2.6
Wear Size (ft)	20 x 1.5	20 x 1.5	20 x 1.5	20 x 1.5	20 x 1.5
Surface Area (sq ft)	(435)(45.70)=19,880	(435)(33.86)=14,729	(435)(45.85)=19,945	(435)(26.46)=11,510	(435)(2.6)=1,131
Volume Required (CF)	(1800)(12.86)=22,788	(1800)(9.38)=16,830	(1800)(12.7)=22,860	(1800)(7.33)=13,194	(1800)(0.72)=1,296
Dimensions (ft)	see plans	see plans	see plans	see plans	see plans
Surface Area Provided (sq ft)	41,858	14,850	20,000	11,840	1,128
Volume Provided (CF)	153,485	51,581	70,741	49,405	1,731
Skimmer Size	4"	4"	4"	4"	3"
Orifice Radius	1.0"	1"	1"	.76"	0.25
Orifice Diameter	2.0"	2"	2"	1.5"	0.5
Drawdown Time (days)	4.29	3.17	4.29	4.40	4.49
Number of Baffles	3	3	3	3	3



CONSTRUCTION SEQUENCE - STAGE 1

- ONCE THE EROSION AND SEDIMENT CONTROL PLAN APPROVAL AND NCG01 CERTIFICATE OF COVERAGE ARE OBTAINED, SCHEDULE A PRECONSTRUCTION CONFERENCE WITH THE ENVIRONMENTAL CONSULTANT. OBTAIN A LAND-DISTURBING PERMIT.
- INSTALL GRAVEL CONSTRUCTION PAD, TEMPORARY DIVERSIONS, SILT FENCE, SKIMMER SEDIMENT BASINS AND OTHER MEASURES AS SHOWN ON THE APPROVED PLAN. CLEAR ONLY AS NECESSARY TO INSTALL THESE DEVICES. SEED TEMPORARY DIVERSIONS, BERMS AND BASINS IMMEDIATELY AFTER CONSTRUCTION.
- CALL ENVIRONMENTAL CONSULTANT FOR AN ON-SITE INSPECTION BY THE ENVIRONMENTAL CONSULTANT TO OBTAIN A CERTIFICATE OF COMPLIANCE.
- BEGIN CLEARING AND GRUBBING. MAINTAIN DEVICES AS NEEDED. ROUGH GRADE SITE.
- STABILIZE SITE AS AREAS ARE BROUGHT UP TO FINISH GRADE WITH VEGETATION, PAVING, DITCH LININGS, ETC. SEED AND MULCH DENUDED AREAS PER GROUND STABILIZATION TIME FRAMES.
- STABILIZE SITE AS AREAS ARE BROUGHT UP TO FINISH GRADE WITH VEGETATION, ALLEY PAVING, DITCH LININGS, ETC. SEED AND MULCH DENUDED AREAS PER GROUND STABILIZATION TIME FRAMES.
- CALL ENVIRONMENTAL CONSULTANT FOR AN ON-SITE INSPECTION BY THE ENVIRONMENTAL CONSULTANT PRIOR TO THE REMOVAL OF SKIMMER SEDIMENT BASIN #1.
- CONTINUE TO SOIL EROSION PLAN STAGE 2 ONCE SKIMMER BASIN #1 HAS BEEN REMOVED.

NOTE: WAKE COUNTY MUST GRANT PERMISSION TO CONVERT THE SEDIMENT BASIN OVER TO THE STORMWATER USE PRIOR TO COMPLETING ANY RELATED WORK.

TOTAL DISTURBED AREA = 60.8 AC

REQUIRED WAKE COUNTY BASIN REMOVAL AND/OR CONVERSION SEQUENCE

- SCHEDULE A SITE MEETING WITH THE ENVIRONMENTAL CONSULTANT TO DETERMINE IF A BASIN CAN BE REMOVED OR CONVERTED TO A PERMANENT STORMWATER POND. INSTALL SILT FENCING OR OTHER TEMPORARY EROSION CONTROL MEASURES AS NEEDED PRIOR TO REMOVAL OF THE BASIN.
- UTILIZE OUTLET STRUCTURES THAT WITHDRAW WATER FROM THE SEDIMENT BASIN SURFACE FOR DRAW DOWN OF WATER IN BASIN FOR MAINTENANCE OR CLOSE OUT UNLESS INFEASIBLE. SEE REQUIREMENTS OF NCG01 PERMIT PART II, SECTION G, ITEM (4) ENTITLED "DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT" AND REFER TO WAKE COUNTY "FILTER BAG FOR DETERIORATING ACTIVITIES" CONSTRUCTION DETAIL.
- REMOVE BASIN(S) AND ASSOCIATED TEMPORARY DIVERSION DITCHES. IF CULVERT PIPES NEED TO BE EXTENDED, PERFORM THIS OPERATION AT THIS TIME. FINE GRADE AREA IN PREPARATION FOR SEEDING.
- PERFORM SEEDBED PREPARATION, SEED, MULCH AND ASPHALT TACK ANY RESULTING BARE AREAS IMMEDIATELY.
- INSTALL VELOCITY DISSIPATORS AND/OR LEVEL SPREADERS AS REQUIRED ON THE EROSION CONTROL PLAN.
- WHEN SITE IS FULLY STABILIZED, CALL ENVIRONMENTAL CONSULTANT FOR APPROVAL OF REMOVING REMAINING TEMPORARY EROSION CONTROL MEASURES AND ADVISE ON WHEN SITE CAN BE ISSUED A CERTIFICATE OF COMPLETION. NOTE: A MEETING SHOULD ALSO BE SCHEDULED WITH THE ENVIRONMENTAL CONSULTANT TO DETERMINE WHEN A BASIN MAY BE CONVERTED FOR STORMWATER USE. SOME MUNICIPALITIES MAY ALSO REQUIRE THIS.

STORMWATER RUNOFF DISCHARGE FOR 10-YR STORM AFTER DEVELOPMENT

Structure	d ₅₀ (ft)	Velocity (fps)	Length (ft)	Width (ft)	Depth (ft)	Type	d ₅₀
FES 1	2.00	18.6	12	6	22	Class 'B'	6" - 13"
FES 3	4.00	18.2	24	12	22	Class 'B'	6" - 13"
FES 200	3.00	9.5	18	9	22	Class 'B'	6" - 13"

*Per NYDOT Dissipator Schedule Fig.1
10-YEAR STORM

Skimmer Basin #1	Skimmer Basin #2	Skimmer Basin #3	Skimmer Basin #4	Skimmer Basin #5
Drainage Area (Acres) 12.86 Peak Flow from 10-year Storm (cfs) 45.8 Required Volume (ft³) 22788 Required Surface Area (ft²) 19880 Suggested Width (ft) 99.7 Suggested Length (ft) 199.4 Trial Top Width at Spillway Invert (ft) 126 Trial Top Length at Spillway Invert (ft) 333 Trial Side Slope Ratio Z:1 2 Trial Depth (ft) (2 to 3.5 feet above grade) 4 Bottom Width (ft) 74 Bottom Length (ft) 148 Bottom Area (ft²) 11060 Actual Volume (ft³) 153485 Actual Surface Area (ft²) 41858 Trial Weir Length (ft) 20 Suggested Trial Depth of Flow (ft) 1 Spillway Capacity (cfs) 60.0 Skimmer Size (inches) 4 Head on Skimmer (feet) 0.333 Orifice Size (1/4 inch increments) 2 Dewatering Time (days) 4.29 Required 3 to 5 days for Wake County	Drainage Area (Acres) 9.38 Peak Flow from 10-year Storm (cfs) 33.86 Required Volume (ft³) 16884 Required Surface Area (ft²) 14729 Suggested Width (ft) 68.5 Suggested Length (ft) 171.8 Trial Top Width at Spillway Invert (ft) 93 Trial Top Length at Spillway Invert (ft) 165 Trial Side Slope Ratio Z:1 2 Trial Depth (ft) (2 to 3.5 feet above grade) 4 Bottom Width (ft) 74 Bottom Length (ft) 148 Bottom Area (ft²) 11060 Actual Volume (ft³) 11840 Actual Surface Area (ft²) 14850 Trial Weir Length (ft) 20 Suggested Trial Depth of Flow (ft) 1 Spillway Capacity (cfs) 60.0 Skimmer Size (inches) 4 Head on Skimmer (feet) 0.333 Orifice Size (1/4 inch increments) 2 Dewatering Time (days) 3.17 Required 3 to 5 days for Wake County	Drainage Area (Acres) 12.7 Peak Flow from 10-year Storm (cfs) 45.8 Required Volume (ft³) 19945 Required Surface Area (ft²) 16884 Suggested Width (ft) 85.5 Suggested Length (ft) 199.7 Trial Top Width at Spillway Invert (ft) 100 Trial Top Length at Spillway Invert (ft) 200 Trial Side Slope Ratio Z:1 2 Trial Depth (ft) (2 to 3.5 feet above grade) 4 Bottom Width (ft) 84 Bottom Length (ft) 168 Bottom Area (ft²) 14184 Actual Volume (ft³) 20000 Actual Surface Area (ft²) 20000 Trial Weir Length (ft) 20 Suggested Trial Depth of Flow (ft) 1 Spillway Capacity (cfs) 60.0 Skimmer Size (inches) 4 Head on Skimmer (feet) 0.333 Orifice Size (1/4 inch increments) 2 Dewatering Time (days) 4.29 Required 3 to 5 days for Wake County	Drainage Area (Acres) 7.33 Peak Flow from 10-year Storm (cfs) 26.46 Required Volume (ft³) 13194 Required Surface Area (ft²) 11510 Suggested Width (ft) 75.8 Suggested Length (ft) 151.7 Trial Top Width at Spillway Invert (ft) 110 Trial Top Length at Spillway Invert (ft) 148 Trial Side Slope Ratio Z:1 2 Trial Depth (ft) (2 to 3.5 feet above grade) 4 Bottom Width (ft) 84 Bottom Length (ft) 168 Bottom Area (ft²) 14184 Actual Volume (ft³) 11840 Actual Surface Area (ft²) 11840 Trial Weir Length (ft) 20 Suggested Trial Depth of Flow (ft) 1 Spillway Capacity (cfs) 60.0 Skimmer Size (inches) 4 Head on Skimmer (feet) 0.333 Orifice Size (1/4 inch increments) 2 Dewatering Time (days) 4.40 Required 3 to 5 days for Wake County	Drainage Area (Acres) 0.72 Peak Flow from 10-year Storm (cfs) 2.6 Required Volume (ft³) 1286 Required Surface Area (ft²) 870 Suggested Width (ft) 20.8 Suggested Length (ft) 41.7 Trial Top Width at Spillway Invert (ft) 24 Trial Top Length at Spillway Invert (ft) 47 Trial Side Slope Ratio Z:1 2 Trial Depth (ft) (2 to 3.5 feet above grade) 4 Bottom Width (ft) 16 Bottom Length (ft) 38 Bottom Area (ft²) 604 Actual Volume (ft³) 1731 Actual Surface Area (ft²) 1128 Trial Weir Length (ft) 20 Suggested Trial Depth of Flow (ft) 1 Spillway Capacity (cfs) 60.0 Skimmer Size (inches) 3 Head on Skimmer (feet) 0.25 Orifice Size (1/4 inch increments) 0.5 Dewatering Time (days) 4.49 Required 3 to 5 days for Wake County

Existing Boundary Curve Table

Curve #	Length	Radius
C1	124.94'	1579.95'

Existing Boundary Line Table

Line #	Length	Direction
L1	550.00'	S86°10'15.63"E
L2	1068.94'	N81°12'41.51"E
L3	27.05'	N81°24'43.03"E
L4	939.65'	N82°35'55.18"E
L5	144.85'	S45°33'06.06"E
L6	318.68'	S81°24'26.59"E
L7	87.89'	S31°10'02.10"W
L8	101.42'	S35°35'46.40"W
L9	84.94'	S43°38'34.40"W
L10	103.80'	S46°05'57.40"W
L11	711.49'	S47°12'02.68"W
L12	518.34'	N46°54'30.58"W
L13	263.92'	S18°02'53.28"E
L14	655.33'	S52°15'06.13"W
L15	270.04'	S34°33'36.54"E

Existing Boundary Line Table

Line #	Length	Direction
L16	119.61'	S70°59'17.39"W
L17	126.32'	S72°36'38.65"W
L18	202.69'	S73°17'44.56"W
L19	178.61'	S72°38'48.14"W
L20	300.03'	N16°44'36.89"E
L21	209.91'	S73°12'47.00"W
L22	347.94'	N73°53'04.44"W
L23	240.42'	S16°04'44.37"W
L24	285.11'	N72°00'17.44"W
L25	120.66'	N72°00'24.59"W
L26	331.33'	N42°00'21.79"W
L27	350.48'	N41°09'05.85"E
L28	249.80'	N12°34'20.50"E
L29	574.30'	N84°58'19.19"E

EROSION AND SEDIMENT CONTROL

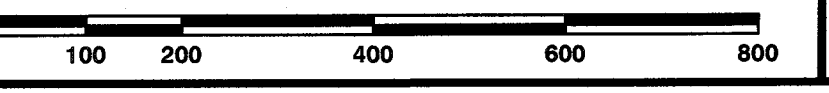
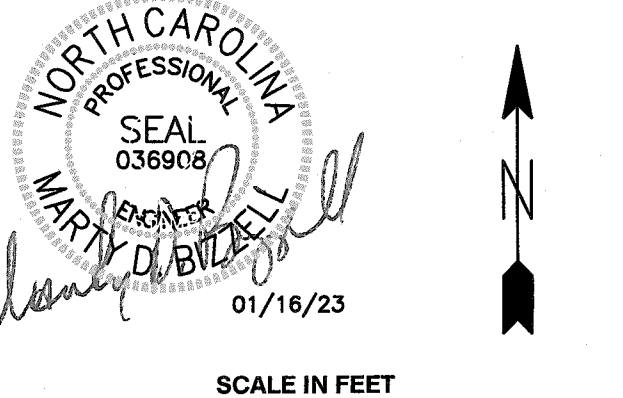
Approved Plan
 DATE: _____
 Permit No. SEC-_____
 Town of Knightdale
 Sedimentation & Erosion Control
 (919)-217-2250

a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: Date: 2-1-2023
 Town Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: Date: 2-1-2023
 Administrator



BASS, NIXON & KENNEDY, INC.
 CONSULTING ENGINEERS
 6810 CHASE HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919)851-4000 FAX: (919)851-6868
 CERTIFICATION NUMBERS: NCBELS (C-0101), NCBOLA (C-0267)

VILLAGE GATE
 S. SMITHFIELD ROAD
 TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

NO.	DATE	DESCRIPTION	BY
1	01-16-23	TRK COMMENTS/SIGNATURE SET	RAB
2	01-16-23	TOWN OF KNIGHTDALE COMMENTS	RAB
3	01-16-23	TOWN OF KNIGHTDALE COMMENTS	RAB
4	01-16-23	TOWN OF KNIGHTDALE COMMENTS	RAB
5	01-16-23	TOWN OF KNIGHTDALE COMMENTS	RAB
6	01-16-23	TOWN OF KNIGHTDALE COMMENTS	RAB

SCALE: 1" = 200'

SHEET C6.0

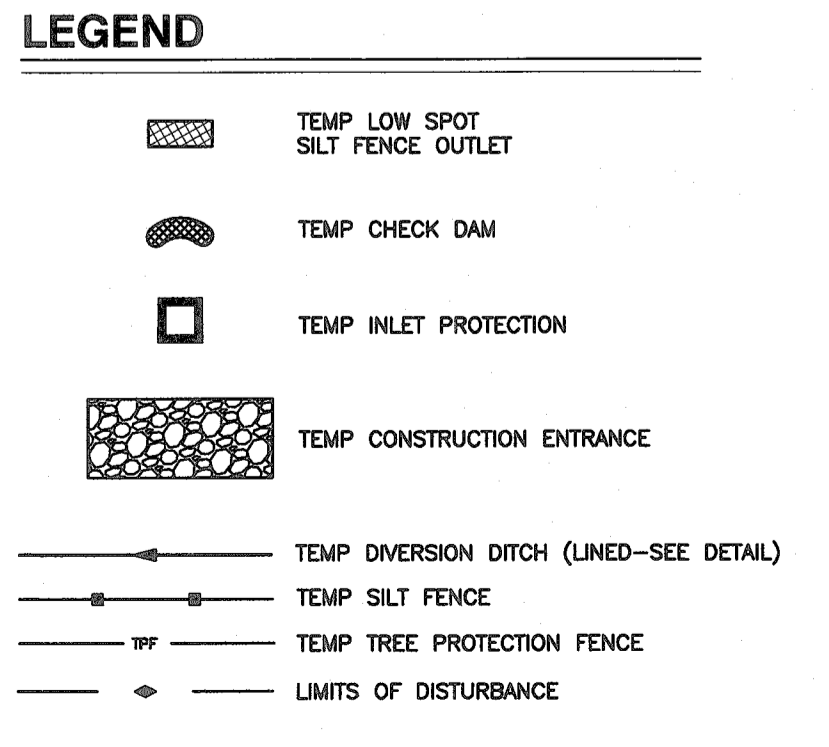
TOWN OF KNIGHTDALE PROJECT NO. PUD CASE NO. ZMA-1-21



Channel Analysis tables for Temp Diversion #1A through #4A. Each table includes parameters like Name, Discharge, Channel Slope, Channel Bottom Width, Left Side Slope, Right Side Slope, Low Flow Liner, Retardance Class, Vegetation Type, Vegetation Density, and Soil Type. It also includes an 'Unreinforced Vegetation' table with columns for Phase, Reach, Discharge, Velocity, Normal Depth, Manning's N, Permissible Shear Stress, Calculated Shear Stress, Safety Factor, Remarks, and Slope Pattern.

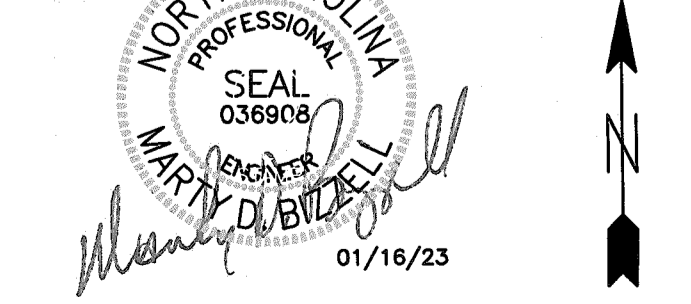
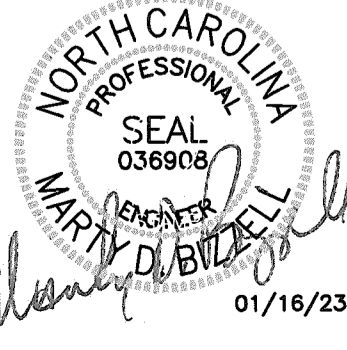
Channel Analysis tables for Temp Diversion #5A through #8. Similar to the previous tables, they list channel parameters and include 'Unreinforced Vegetation' tables. The tables provide detailed data for each diversion structure, including discharge rates and safety factors.

R:\2020\20097 - Knightdale Mixed Use\CIVIL\04 Construction\08 - 20097_Erosion Sig 1 Cb.dwg, C6.1 W, 1/17/2023 9:38:52 AM, robert burgoon



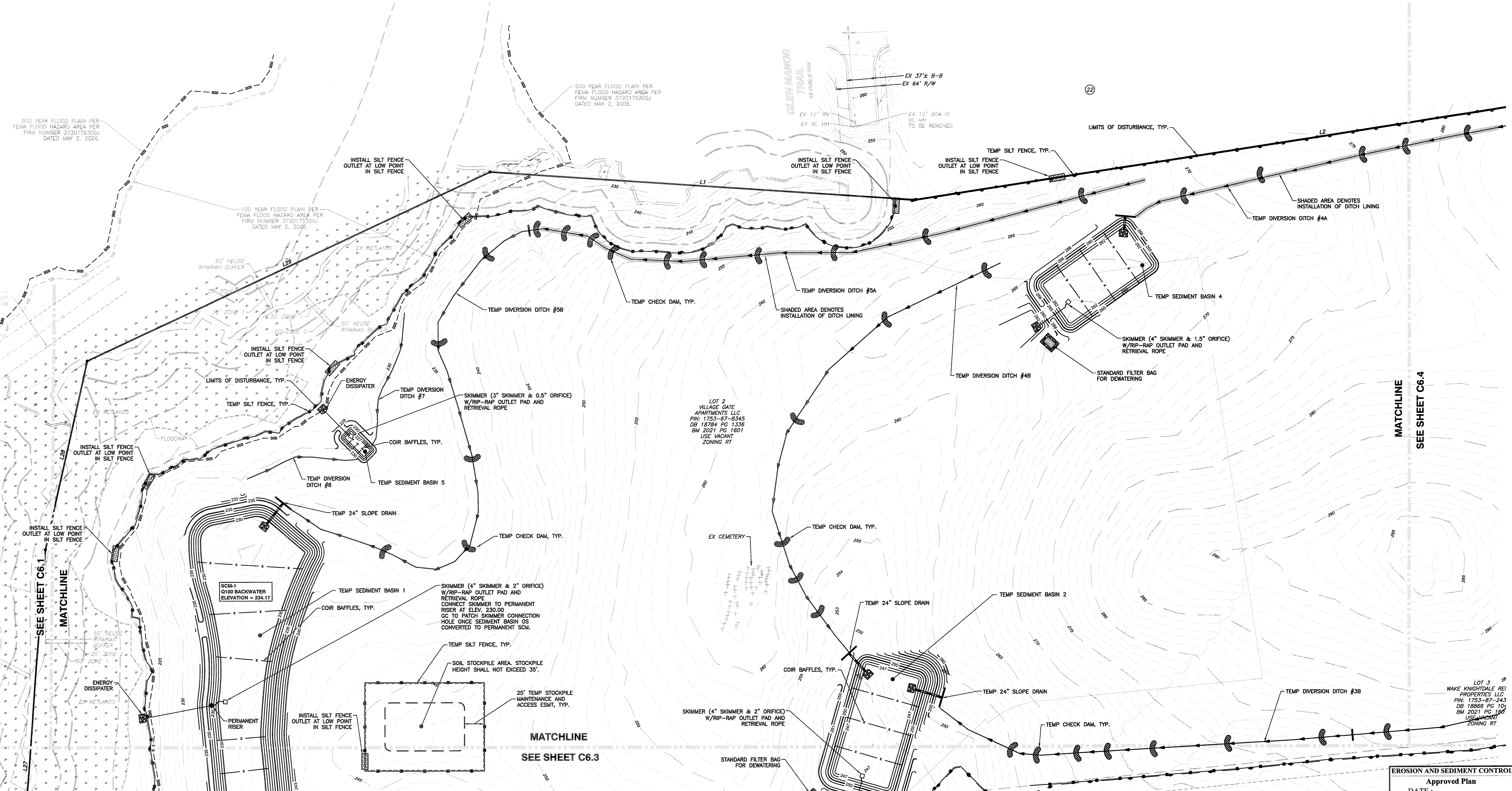
EROSION AND SEDIMENT CONTROL Approved Plan DATE: 2-1-2023 Permit No. SEC- Town of Knightdale Sedimentation & Erosion Control (919)-217-2250

Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief it conforms to the requirements established in the Standard Specifications of the Town of Knightdale. By: [Signature] Date: 2-1-2023 Town Engineer. These plans are approved by the Town of Knightdale and serve as construction plans for this project. By: [Signature] Date: 2-2-2023 Administrator.



WETLANDS EXIST ON-SITE FLOODPLAINS EXIST ON-SITE NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF KNIGHTDALE AND NCDOT

BANK logo, BASS, NIXON & KENNEDY, INC. CONSULTING ENGINEERS, 6310 CHASE HILL ROAD, SUITE 250, RALEIGH, NC 27607. Includes a revision table with columns for NO., DATE, DESCRIPTION, and BY.



R:\2020\20097 - Knightdale Mixed Use\CIVIL\04 Construction\08 - 20097_Erosion S18 1 Cds.dwg, C6.2 NW, 1/17/2023 9:40:03 AM, robert burgson



BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919)551-4422 OR (800)364-1879 FAX: (919)551-6868
 CERTIFICATION NUMBERS: NCBELS (C-010); NCBOLA (C-0267)

NO.	DATE	DESCRIPTION	BY
1	02-25-22	TOWN OF KNIGHTDALE COMMENTS	IRAB
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	IRAB
3	06-03-22	TOWN OF KNIGHTDALE COMMENTS	IRAB
4	09-01-22	TOWN OF KNIGHTDALE COMMENTS	IRAB
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	IRAB
6	01-16-23	TOWN OF KNIGHTDALE COMMENTS	IRAB

03-20097 09-07-2021 09-07-2021
 ENLARGED STAGE 1
 EROSION CONTROL PLAN
 EAST
 SCALE: 1" = 60'

VILLAGE GATE
 S. SMITHFIELD ROAD
 TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

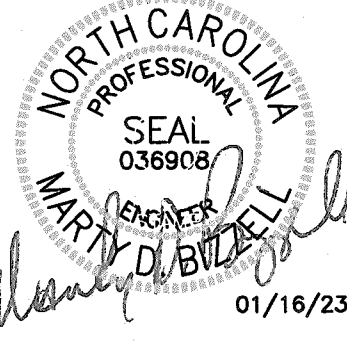
SHEET
C6.2

LEGEND

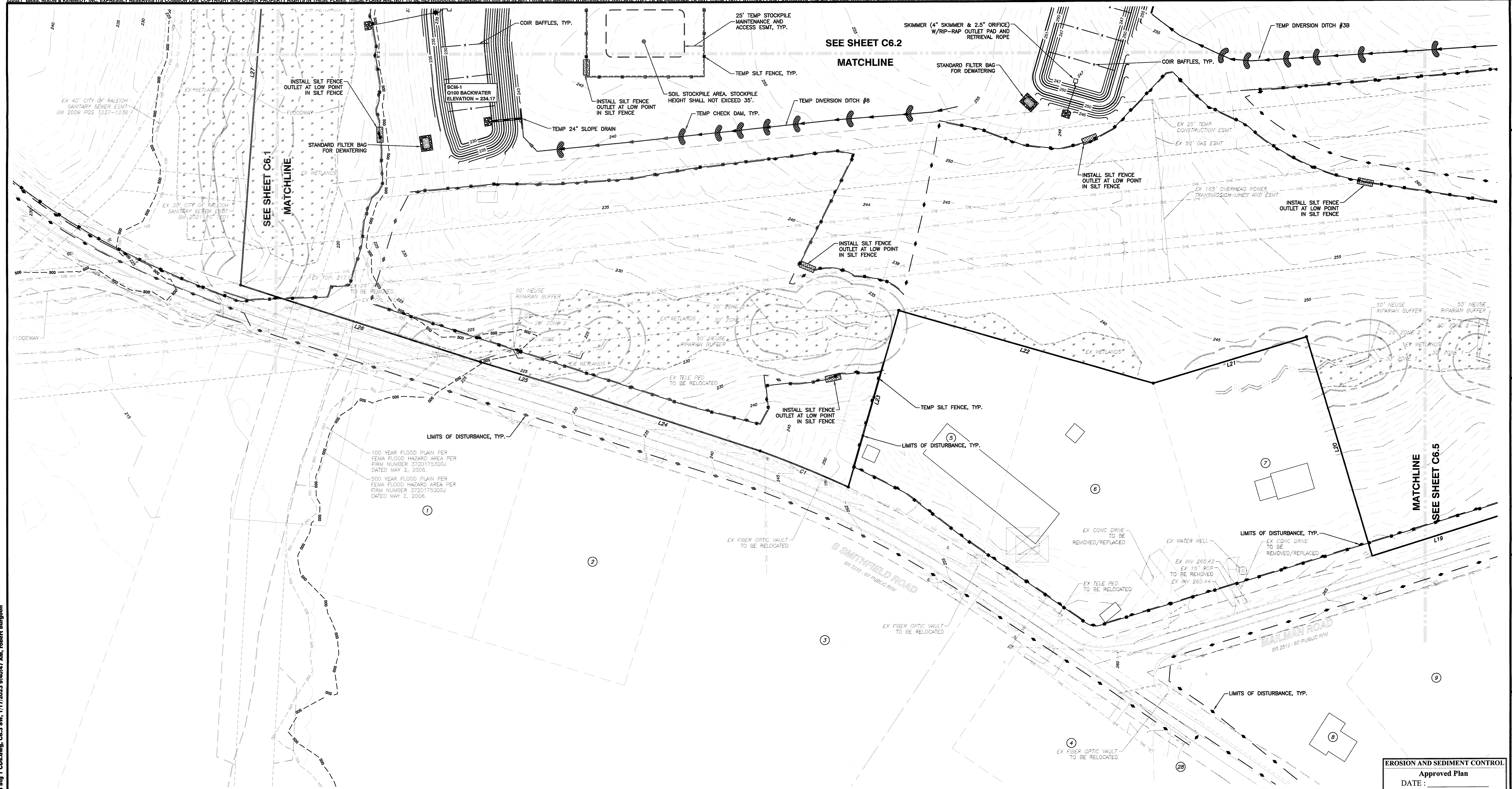
- TEMP LOW SPOT SILT FENCE OUTLET
- TEMP CHECK DAM
- TEMP INLET PROTECTION
- TEMP CONSTRUCTION ENTRANCE
- TEMP DIVERSION DITCH (LINED-SEE DETAIL)
- TEMP SILT FENCE
- TEMP TREE PROTECTION FENCE
- LIMITS OF DISTURBANCE

EROSION AND SEDIMENT CONTROL
 Approved Plan
 DATE: _____
 Permit No. SEC-_____
 Town of Knightdale
 Sedimentation & Erosion Control
 (919)-217-2250

a. **Town Certification.** This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
 By: *[Signature]* Date: 2-1-2023
 Town Engineer
 These plans are approved by the Town of Knightdale and serve as construction plans for this project.
 By: *[Signature]* Date: 2-2-2023
 Administrator



WETLANDS EXIST ON-SITE
FLOODPLAINS EXIST ON-SITE
 NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF KNIGHTDALE AND NCDOT



R:\2020\20097 - Knightdale Mixed Use\CIVIL\04 Construction\08 - 20097_Erosion Sig 1 CDa.dwg, C6.3 SW, 1/17/2023 9:40:47 AM, robert.burgson

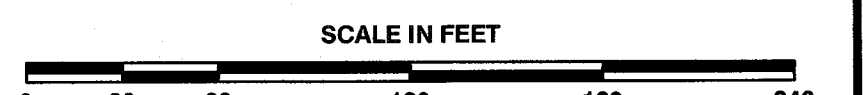
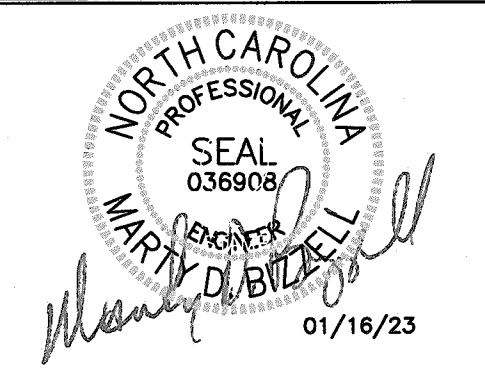
100 YEAR FLOOD PLAIN PER FEMA FLOOD HAZARD AREA PER FIRM NUMBER 3720175300J DATED MAY 2, 2006.
 500 YEAR FLOOD PLAIN PER FEMA FLOOD HAZARD AREA PER FIRM NUMBER 3720175300J DATED MAY 2, 2006.

LEGEND

- TEMP LOW SPOT SILT FENCE OUTLET
- TEMP CHECK DAM
- TEMP INLET PROTECTION
- TEMP CONSTRUCTION ENTRANCE
- TEMP DIVERSION DITCH (LINED-SEE DETAIL)
- TEMP SILT FENCE
- TEMP TREE PROTECTION FENCE
- LIMITS OF DISTURBANCE

EROSION AND SEDIMENT CONTROL
Approved Plan
 DATE : _____
 Permit No. SEC- _____
 Town of Knightdale
 Sedimentation & Erosion Control
 (919)-217-2250

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BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919)551-4222 OR (800)551-0870 FAX: (919)551-9968
 CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

NO.	DATE	DESCRIPTION	BY
1	01-16-23	TK COMMENTS SIGNATURE SET	RAB
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB
3	06-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
6	01-16-23	TK COMMENTS SIGNATURE SET	RAB

ENLARGED STAGE 1
 EROSION CONTROL PLAN
 SOUTHWEST

VILLAGE GATE
S. SMITHFIELD ROAD
 TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET
C6.3

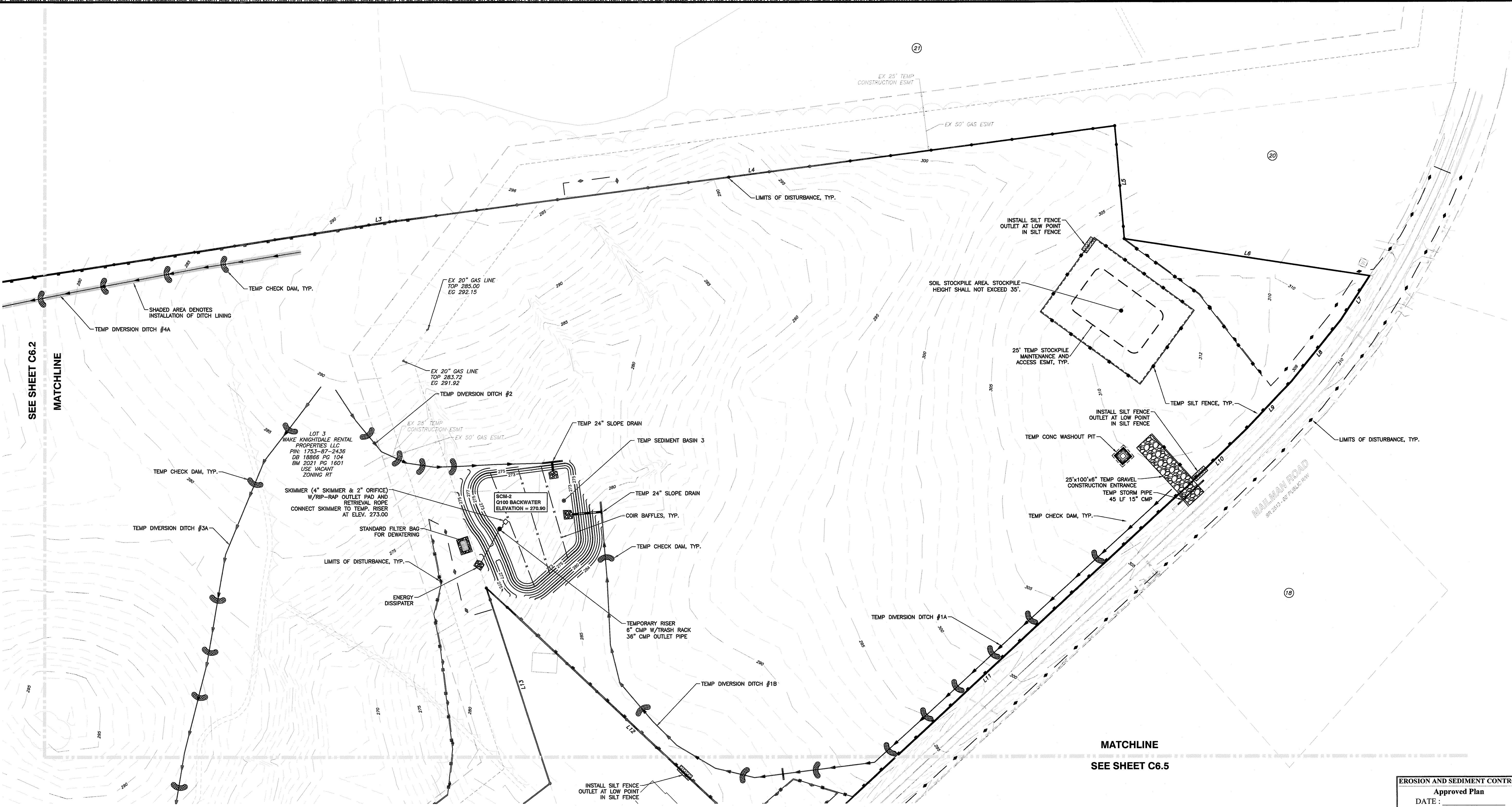


BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919) 851-4422 OR (800) 354-1879 FAX: (919) 851-9868
 CERTIFICATION NUMBERS: (C-0110); (C-0267)

NO.	DATE	DESCRIPTION	BY
1	01-16-23	T&E COMMENTS/SIGNATURE SET	RAB
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB
3	06-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
6	01-16-23	T&E COMMENTS/SIGNATURE SET	RAB

VILLAGE GATE
S. SMITHFIELD ROAD
 TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET C6.4



SEE SHEET C6.2
 MATCHLINE

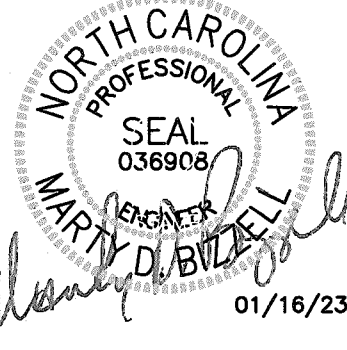
MATCHLINE
 SEE SHEET C6.5

LEGEND

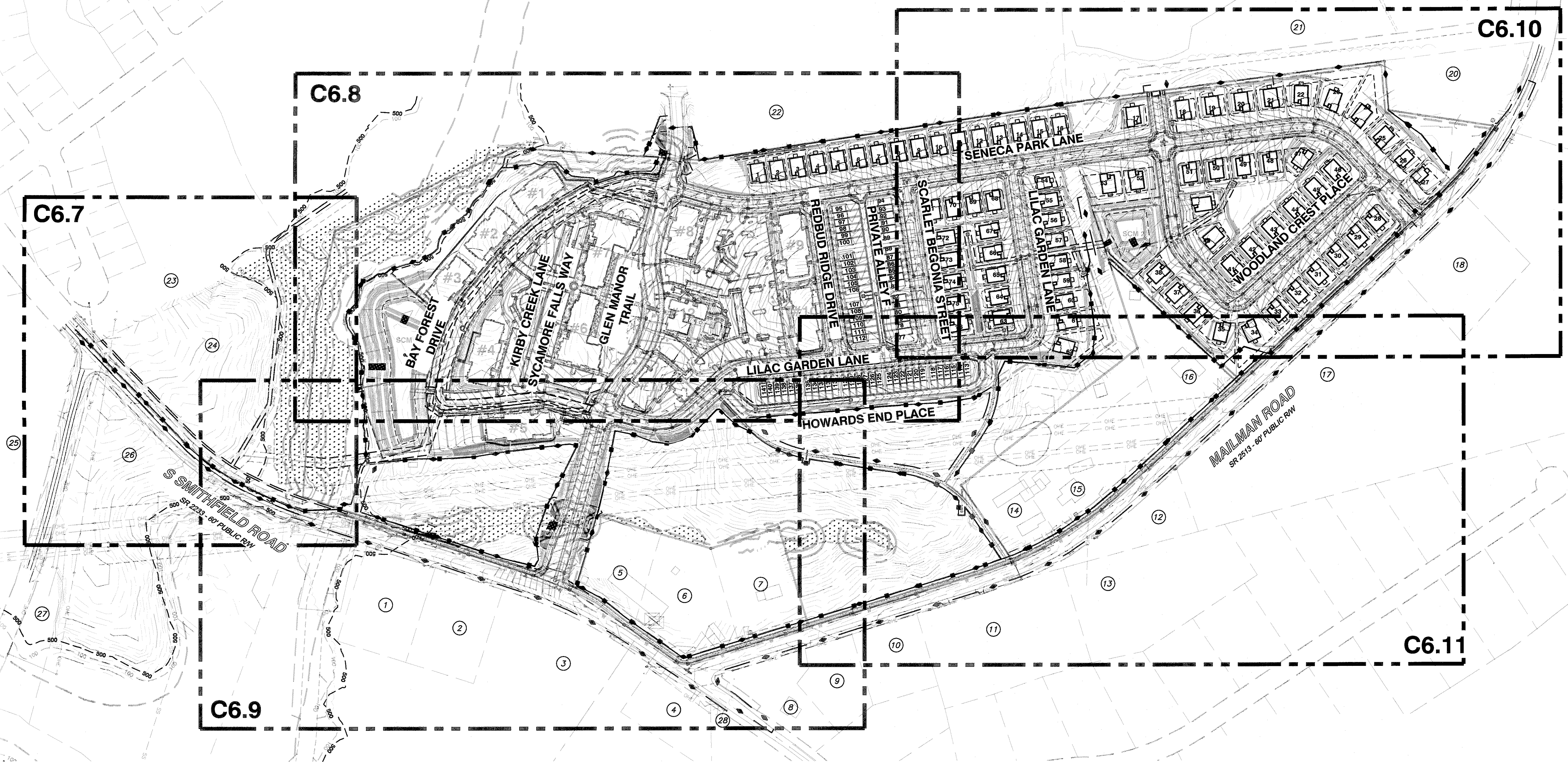
- TEMP LOW SPOT SILT FENCE OUTLET
- TEMP CHECK DAM
- TEMP INLET PROTECTION
- TEMP CONSTRUCTION ENTRANCE
- TEMP DIVERSION DITCH (LINED-SEE DETAIL)
- TEMP SILT FENCE
- TEMP TREE PROTECTION FENCE
- LIMITS OF DISTURBANCE

EROSION AND SEDIMENT CONTROL
Approved Plan
 DATE: _____
 Permit No. SEC-_____
 Town of Knightdale
 Sedimentation & Erosion Control
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 By: Date: 2-1-2023
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LINE #	LENGTH	DIRECTION
L1	265.64'	N72° 00' 17.44"W
L2	120.88'	N73° 00' 24.59"W
L3	335.99'	N72° 09' 21.78"W
L4	537.91'	N4° 18' 09.85"E
L5	249.80'	N12° 34' 20.50"E
L6	574.30'	N64° 58' 19.18"E
L7	550.00'	S86° 10' 15.63"E
L8	1066.94'	N81° 12' 41.51"E
L9	27.05'	N81° 24' 43.03"E
L10	939.66'	N82° 35' 55.18"E
L11	144.85'	S4° 53' 06.06"E
L12	309.88'	S81° 24' 26.59"W
L13	63.85'	S33° 10' 02.16"W
L14	100.69'	S38° 35' 46.40"W
L15	84.42'	S43° 38' 34.40"W
L16	103.55'	S46° 05' 57.40"W
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L19	263.52'	S18° 02' 53.28"E
L20	655.33'	S52° 15' 06.13"W
L21	261.74'	S34° 33' 35.54"E
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L23	126.15'	S72° 56' 38.69"W
L24	205.71'	S73° 17' 44.56"W
L25	178.57'	S72° 38' 48.14"W
L26	292.03'	N16° 44' 36.80"W
L27	209.91'	S73° 12' 47.50"W
L28	347.94'	N73° 53' 04.44"W
L29	220.20'	S16° 04' 44.37"W

CURVE #	LENGTH	RADIUS
C1	123.90'	1599.96'

HOLMQUIST, DONNIE E PIN 1753-66-3579 DB 2914 PG 589 USE SINGLE FAMILY ZONING RT	HOLMQUIST, ANNETTE I PIN 1753-66-5562 DB 16191 PG 653 USE SINGLE FAMILY ZONING RT	HOLMQUIST, DONNIE HOLMQUIST, ANNETTE PIN 1753-66-5159 DB 1623 PG 625 USE AGRICULTURE ZONING RT	OLIVER, R LINWOOD OLIVER, MARY K PIN 1753-67-6285 DB 13170 PG 157 USE SINGLE FAMILY ZONING RT
JONES, BARBARA W PIN 1753-76-2216 DB 3632 PG 591 USE SINGLE FAMILY ZONING RT	WALL, FREDDY Y PIN 1753-76-0637 DB 3931 PG 492 USE PREPAB ZONING RT	WALL, FREDDY Y PIN 1753-76-2537 DB 6447 PG 186 DB 17-E PG 2129 USE SINGLE FAMILY ZONING RT	WALL, FREDDY WALL, DIANE PIN 1753-76-4632 PIN 1753-76-0603 DB 15931 PG 2174 USE VACANT ZONING GRB
CALDWELL, JAMES L CLADWELL, BRENDA S PIN 1753-76-5265 DB 3446 PG 284 USE SINGLE FAMILY ZONING RT	CALDWELL, JAMES L CLADWELL, BRENDA S PIN 1753-76-6385 DB 5236 PG 803 USE MANUFACTURED HOME ZONING RT	MILLER, MICHAEL CAMERON III PIN 1753-76-8455 DB 16167 PG 1332 USE MOBILE HOME ZONING RT	POPE, RICHARD N PIN 1753-67-8034 DB 1495 PG 1495 USE SINGLE FAMILY ZONING RT
JARREL, ERVIN B JARREL, GLOIA P PIN 1753-66-2427 DB 2158 PG 8 USE SINGLE FAMILY ZONING GR3	POPE, ROBERT L PIN 1753-66-5891 DB 4894 PG 131 USE MANUFACTURED HOME ZONING GR3	POPE, ROBERT L PIN 1753-66-6509 DB 2218 PG 49 USE VACANT ZONING GR3	COLE, HEATHER LEE PIN 1753-66-1961 DB 17626 PG 2508 USE SINGLE FAMILY ZONING RT
MILLER, MICHAEL CAMERON II PIN 1753-66-4948 DB 17626 PG 2378 USE SINGLE FAMILY ZONING RT			

CONSTRUCTION SEQUENCE - STAGE 2

- BEGIN CONSTRUCTION OF ALL BUILDINGS.
 - STABILIZE SITE AS NEW DISTURBED AREAS ARE BROUGHT UP TO FINISH GRADE WITH VEGETATION, PAVING, DITCH LININGS, ETC. SEED AND MULCH DENUDED AREAS PER GROUND STABILIZATION TIME FRAMES.
 - WHEN CONSTRUCTION OF PARKING LOTS ARE COMPLETE AND ALL AREAS ARE STABILIZED COMPLETELY, CALL ENVIRONMENTAL CONSULTANT FOR AN INSPECTION.
 - IF THE SITE IS APPROVED, REMOVE TEMPORARY DIVERSIONS, SILT FENCE, SEDIMENT BASINS, ETC., AND SEED OUT OR STABILIZE ANY RESULTING BARE AREAS. ALL REMAINING PERMANENT EROSION CONTROL DEVICES, SUCH AS VELOCITY DISSIPATORS, SHOULD NOW BE INSTALLED.
 - WHEN VEGETATION HAS BECOME ESTABLISHED, CALL FOR A FINAL SITE INSPECTION BY THE ENVIRONMENTAL CONSULTANT. OBTAIN A CERTIFICATE OF COMPLETION.
- NOTE: WAKE COUNTY MUST GRANT PERMISSION TO CONVERT THE SEDIMENT BASIN OVER TO THE STORMWATER USE PRIOR TO COMPLETING ANY RELATED WORK.
- TOTAL DISTURBED AREA = 62.3 AC

REQUIRED WAKE COUNTY BASIN REMOVAL AND/OR CONVERSION SEQUENCE

- SCHEDULE A SITE MEETING WITH THE ENVIRONMENTAL CONSULTANT TO DETERMINE IF A BASIN CAN BE REMOVED OR CONVERTED TO A PERMANENT STORMWATER POND. INSTALL SILT FENCING OR OTHER TEMPORARY EROSION CONTROL MEASURES AS NEEDED PRIOR TO REMOVAL OF THE BASIN.
- UTILIZE OUTLET STRUCTURES THAT WITHDRAW WATER FROM THE SEDIMENT BASIN SURFACE FOR DRAW DOWN OF WATER IN BASIN FOR MAINTENANCE OR CLOSE OUT UNLESS INFEASIBLE. SEE REQUIREMENTS OF NCDOT PERMIT PART II, SECTION C, ITEM (4) ENTITLED "DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT" AND REFER TO WAKE COUNTY "FILTER BAG FOR DEWATERING ACTIVITIES" CONSTRUCTION DETAIL.
- REMOVE BASIN(S) AND ASSOCIATED TEMPORARY DIVERSION DITCHES. IF CULVERT PIPES NEED TO BE EXTENDED, PERFORM THIS OPERATION AT THIS TIME. FINE GRADE AREA IN PREPARATION FOR SEEDING.
- PERFORM SEEDBED PREPARATION, SEED, MULCH AND ASPHALT TACK ANY RESULTING BARE AREAS IMMEDIATELY.
- INSTALL VELOCITY DISSIPATORS AND/OR LEVEL SPREADERS AS REQUIRED ON THE EROSION CONTROL PLAN.
- WHEN SITE IS FULLY STABILIZED, CALL ENVIRONMENTAL CONSULTANT FOR APPROVAL OF REMOVING REMAINING TEMPORARY EROSION CONTROL MEASURES AND ADVISE ON WHEN SITE CAN BE ISSUED A CERTIFICATE OF COMPLETION. NOTE: A MEETING SHOULD ALSO BE SCHEDULED WITH THE ENVIRONMENTAL CONSULTANT TO DETERMINE WHEN A BASIN MAY BE CONVERTED FOR STORMWATER USE. SOME MUNICIPALITIES MAY ALSO REQUIRE THIS.

LEGEND

- TEMP LOW SPOT
- TEMP CHECK DAM
- TEMP INLET PROTECTION
- TEMP CONSTRUCTION ENTRANCE
- TEMP DIVERSION DITCH (LINED-SEE DETAIL)
- TEMP SILT FENCE
- TEMP TREE PROTECTION FENCE
- LIMITS OF DISTURBANCE

WETLANDS EXIST ON-SITE

FLOODPLAINS EXIST ON-SITE

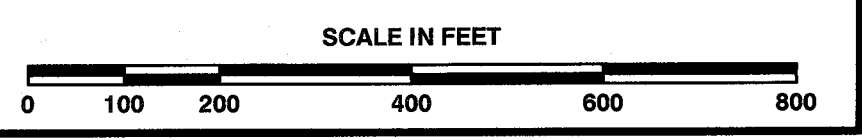
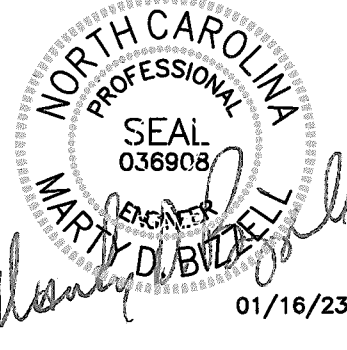
NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF KNIGHTDALE AND NCDOT

EROSION AND SEDIMENT CONTROL

Approved Plan
 DATE : _____
 Permit No. SEC- _____
 Town of Knightdale
 Sedimentation & Erosion Control
 (919)-217-2250

a. **Town Certification.** This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
 By: Date: 2-1-2023
 Town Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.
 By: Date: 2-7-2023
 Administrator



BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919)851-4422 OR (800)354-1879 FAX: (919)851-8868
 CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0287)

NO.	DATE	DESCRIPTION	BY
1	01-16-23	T&E COMMENTS/SIGNATURE SET	RAB
2	01-16-23	TOWN OF KNIGHTDALE COMMENTS	RAB
3	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	06-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB
5	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB
6	01-16-23	REVISIONS	BY

NO.	DATE	DESCRIPTION	BY
1	03-20-97	08-07-2021	RAB
2	03-20-97	08-07-2021	RAB
3	03-20-97	08-07-2021	RAB
4	03-20-97	08-07-2021	RAB
5	03-20-97	08-07-2021	RAB
6	03-20-97	08-07-2021	RAB

OVERALL STAGE 2
EROSION CONTROL PLAN
 CHK BY: MDB









VILLAGE GATE
S. SMITHFIELD ROAD
 TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET C6.6



R:\2020\20097 - Knightdale Mixed Use\CIVIL\04 Construction\09 - 20097_Erosion Silt 2 CD.swg, Ch 7 W, 1/17/2022 9:46:21 AM, robert.burgum

LEGEND

-  TEMP LOW SPOT SILT FENCE OUTLET
-  TEMP CHECK DAM
-  TEMP INLET PROTECTION
-  TEMP CONSTRUCTION ENTRANCE
-  TEMP DIVERSION DITCH (LINED-SEE DETAIL)
-  TEMP SILT FENCE
-  TEMP TREE PROTECTION FENCE
-  LIMITS OF DISTURBANCE

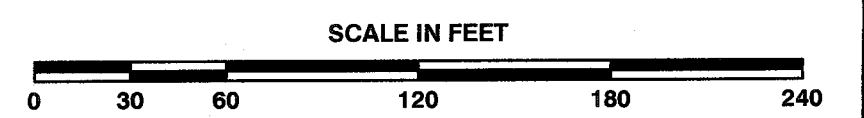
WETLANDS EXIST ON-SITE
FLOODPLAINS EXIST ON-SITE

NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF KNIGHTDALE AND NCDOT

EROSION AND SEDIMENT CONTROL
Approved Plan
DATE: _____
Permit No. SEC- _____
Town of Knightdale
Sedimentation & Erosion Control
(919)-217-2250

a. **Town Certification.** This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
By: SAMM Date: 2-1-2023
Town Engineer
These plans are approved by the Town of Knightdale and serve as construction plans for this project.
By: [Signature] Date: 2-2-2023
Administrator

NORTH CAROLINA
PROFESSIONAL
SEAL
036908
MARTIN D. BLYTHE
01/16/23



NO.	DATE	DESCRIPTION	BY
6	01-16-23	T&E COMMENTS/SIGNATURE SET	RAB
5	11-06-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
3	06-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB

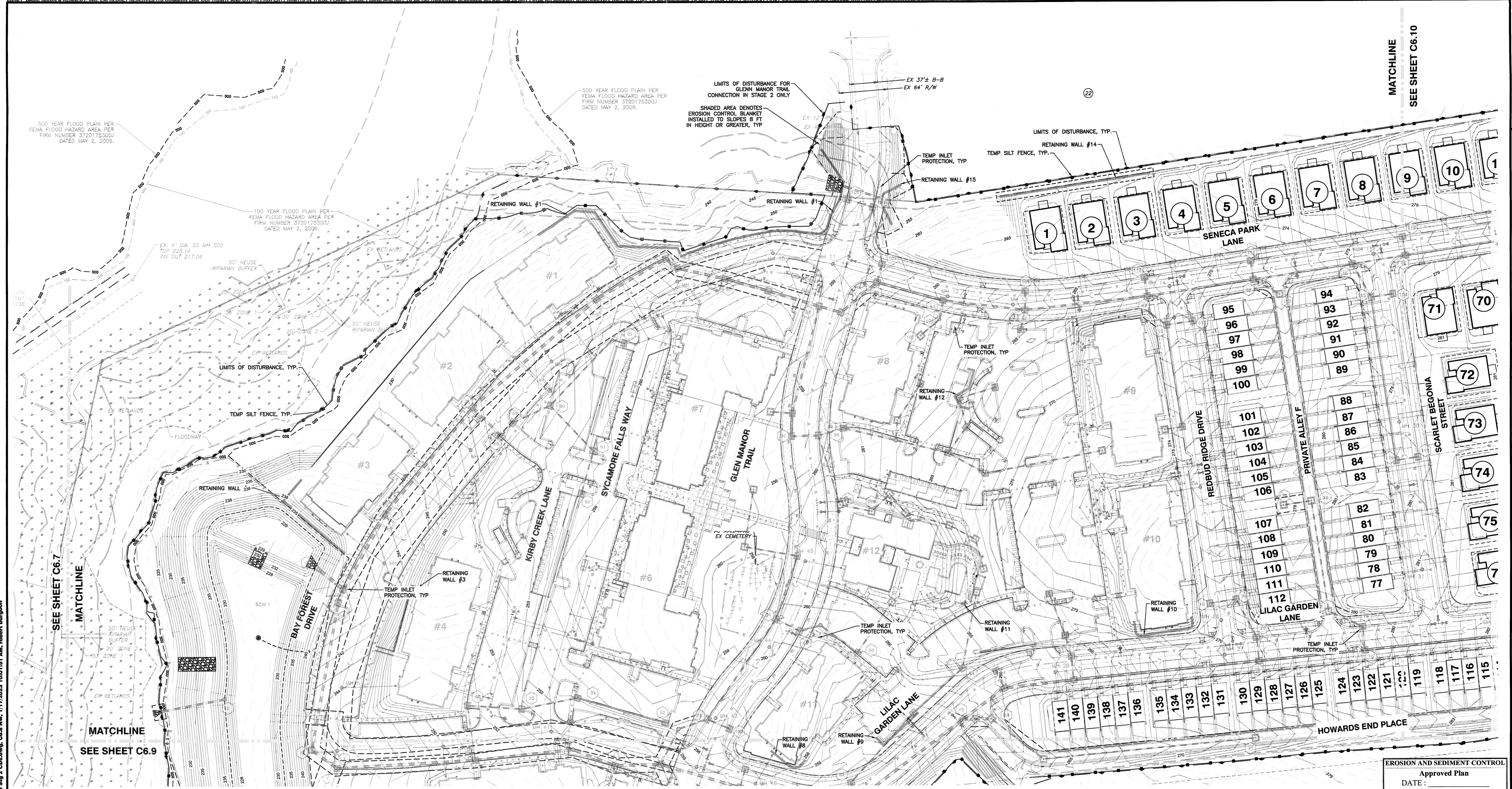
03-20097
JOB NO.
ENLARGED STAGE 1
EROSION CONTROL PLAN
WEST
SCALE: 1" = 60'

03-20097
DATE
08-07-2021
DRAWN BY
ENLARGED STAGE 1
EROSION CONTROL PLAN
WEST
CHK BY: MDB

BANK
BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
TELEPHONE: (919)851-4222 OR (800)354-1879 FAX: (919)851-8968
CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

VILLAGE GATE
S. SMITHFIELD ROAD
TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET
C6.7









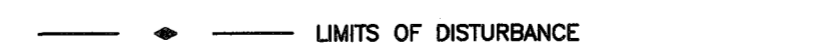

R:\2020\20097 - Knightdale Mixed Use\CIVIL\04 Construction\09 - 20097_Erosion Sig 2 C6a.dwg, C6.8 NW, 1/17/2023 10:01:15 AM, robert.burgoin

SEE SHEET C6.7
MATCHLINE

MATCHLINE
SEE SHEET C6.9

MATCHLINE
SEE SHEET C6.10

LEGEND

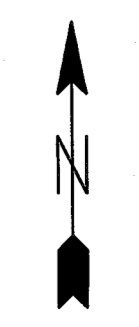
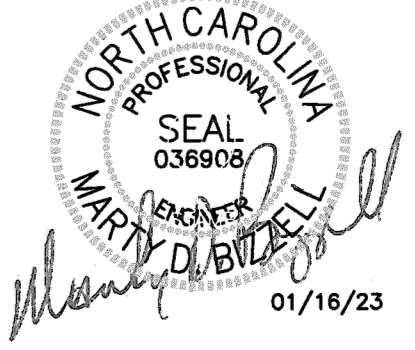
-  TEMP LOW SPOT SILT FENCE OUTLET
-  TEMP CHECK DAM
-  TEMP INLET PROTECTION
-  TEMP CONSTRUCTION ENTRANCE
-  TEMP DIVERSION DITCH (LINED-SEE DETAIL)
-  TEMP SILT FENCE
-  TEMP TREE PROTECTION FENCE
-  LIMITS OF DISTURBANCE

WETLANDS EXIST ON-SITE
FLOODPLAINS EXIST ON-SITE

NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF KNIGHTDALE AND NCDOT

EROSION AND SEDIMENT CONTROL
Approved Plan
DATE: 2-1-2023
Permit No. SEC-
Town of Knightdale
Sedimentation & Erosion Control
(919)-217-2250

a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
By: *[Signature]* Date: 2-1-2023
Town Engineer
These plans are approved by the Town of Knightdale and serve as construction plans for this project.
By: *[Signature]* Date: 2-2-2023
Administrator



SCALE IN FEET
0 30 60 120 180 240



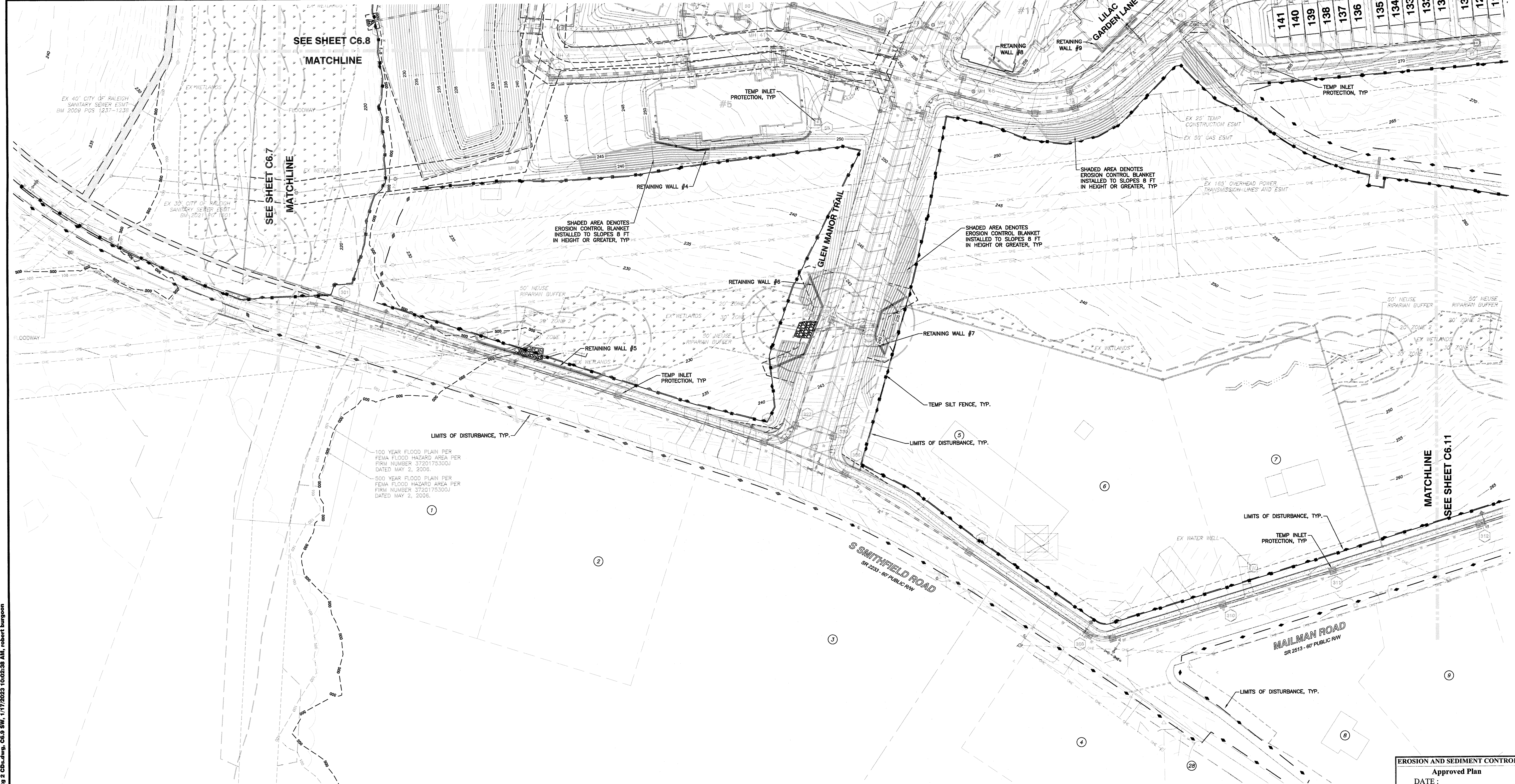
BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
TELEPHONE: (919)851-4422 OR (800)354-1679 FAX: (919)851-8968
CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0287)

NO.	DATE	DESCRIPTION	BY
1	03-20-2021	16K COMMENTS/SIGNATURE SET	RAB
2	05-07-2021	ENLARGED STAGE 2	RAB
3	06-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
6	01-16-23	16K COMMENTS/SIGNATURE SET	RAB

SCALE: 1" = 60'

VILLAGE GATE
S. SMITHFIELD ROAD
TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET
C6.8



R:\2020\20097 - Knightdale Mixed Use\CT\11\04 Construction\09 - 20097_Erosion Stg 2 CD-dwg.cad 01/17/2023 10:02:08 AM, robert tungson



BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
 6510 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919) 851-4422 OR (800) 364-1879 FAX: (919) 851-8668
 CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

NO.	DATE	DESCRIPTION	BY
6	01-16-23	TOK COMMENTS/SIGNATURE SET	RAB
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	08-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
3	06-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB
1			

VILLAGE GATE
S. SMITHFIELD ROAD
 TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

ENLARGED STAGE 2
EROSION CONTROL PLAN
SOUTHWEST

SCALE: 1" = 60'

CHK BY: MDB

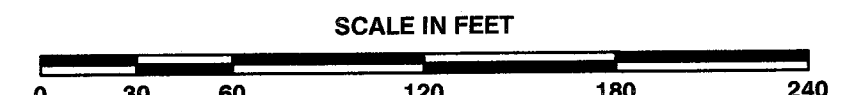
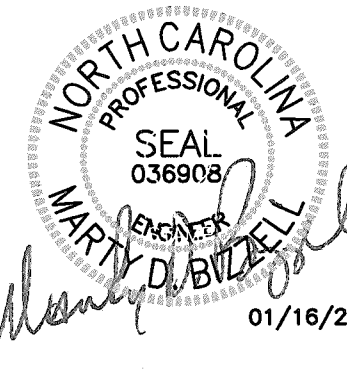
100 YEAR FLOOD PLAIN PER FEMA FLOOD HAZARD AREA PER FIRM NUMBER 3720173300J DATED MAY 2, 2006.
 500 YEAR FLOOD PLAIN PER FEMA FLOOD HAZARD AREA PER FIRM NUMBER 3720173300J DATED MAY 2, 2006.

LEGEND

- TEMP LOW SPOT SILT FENCE OUTLET
- TEMP CHECK DAM
- TEMP INLET PROTECTION
- TEMP CONSTRUCTION ENTRANCE
- TEMP DIVERSION DITCH (LINED-SEE DETAIL)
- TEMP SILT FENCE
- TEMP TREE PROTECTION FENCE
- LIMITS OF DISTURBANCE

EROSION AND SEDIMENT CONTROL
Approved Plan
 DATE: _____
 Permit No. SEC- _____
 Town of Knightdale
 Sedimentation & Erosion Control
 (919)-217-2250

a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
 By: [Signature] Date: 7-1-2023
 Town Engineer
 These plans are approved by the Town of Knightdale and serve as construction plans for this project.
 By: [Signature] Date: 7-1-2023
 Administrator



WETLANDS EXIST ON-SITE
FLOODPLAINS EXIST ON-SITE
NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF KNIGHTDALE AND NCDOT

RELEASED FOR CONSTRUCTION OR BID SOLICITATION



R:\2020\20097 - Knightdale Mixed Use\CIVIL\04 Construction\09 - 20097_Erosion Sig 2 CDAs.dwg, C6.10 NE, 1/17/2023 10:04:04 AM, robert burgoon

SEE SHEET C6.8
MATCHLINE

MATCHLINE
SEE SHEET C6.11

LEGEND

- TEMP LOW SPOT SILT FENCE OUTLET
- TEMP CHECK DAM
- TEMP INLET PROTECTION
- TEMP CONSTRUCTION ENTRANCE
- TEMP DIVERSION DITCH (LINED-SEE DETAIL)
- TEMP SILT FENCE
- TEMP TREE PROTECTION FENCE
- LIMITS OF DISTURBANCE

WETLANDS EXIST ON-SITE
FLOODPLAINS EXIST ON-SITE

NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF KNIGHTDALE AND NCDOT

EROSION AND SEDIMENT CONTROL
Approved Plan
DATE: _____
Permit No. SEC- _____
Town of Knightdale
Sedimentation & Erosion Control
(919)-217-2250

a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
By: S. Miller Date: 2-1-2023
Town Engineer
These plans are approved by the Town of Knightdale and serve as construction plans for this project.
By: W. G. G. Date: 2-2-2023
Administrator

NORTH CAROLINA
PROFESSIONAL SEAL
036904
W. G. G.
01/16/23

SCALE IN FEET
0 30 60 120 180 240

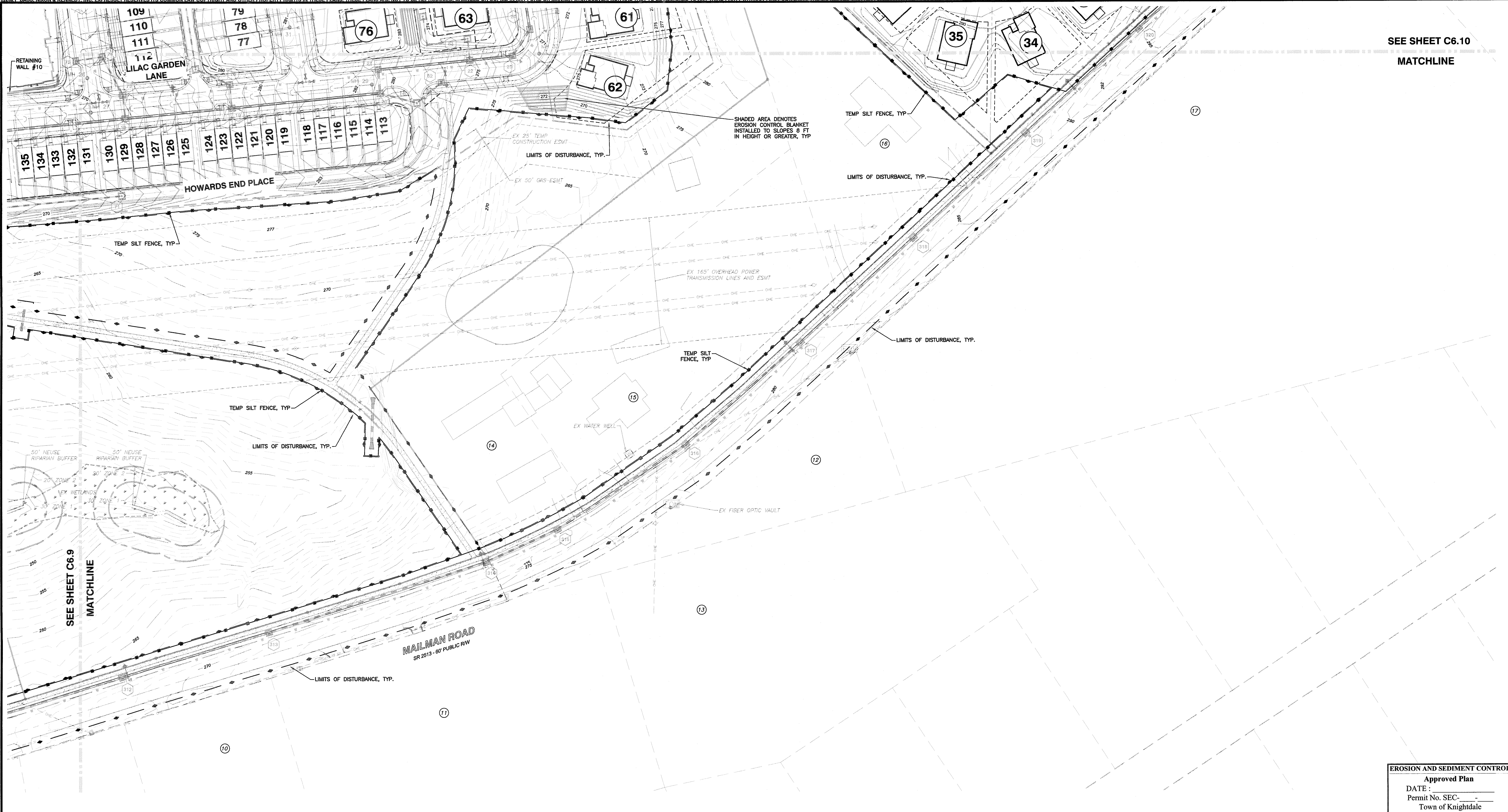


BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
TELEPHONE: (919)551-4422 OR (800)354-1879 FAX: (919)551-9868
CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

NO.	DATE	DESCRIPTION	BY
1	03-20-2023	ISSUED FOR PERMITTING	CHK BY: MDB
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	
3	06-03-22	TOWN OF KNIGHTDALE COMMENTS	
4	09-01-22	TOWN OF KNIGHTDALE COMMENTS	
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	
6	01-16-23	TOWN COMMENTS/SIGNATURE SET	

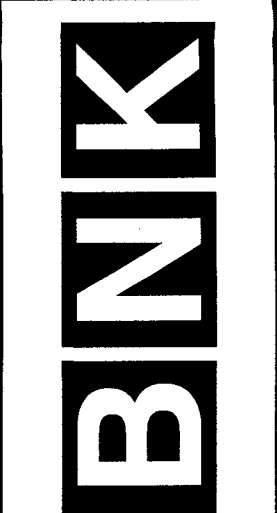
VILLAGE GATE
S. SMITHFIELD ROAD
TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET
C6.10



SEE SHEET C6.10
MATCHLINE

SEE SHEET C6.9
MATCHLINE



BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
TELEPHONE: (919)851-4222 OR (800)354-1879 FAX: (919)851-8968
CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0287)

NO.	DATE	DESCRIPTION	BY
6	01-16-23	TOWN OF KNIGHTDALE COMMENTS	RAB
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
3	06-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB
1			

VILLAGE GATE
S. SMITHFIELD ROAD
TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

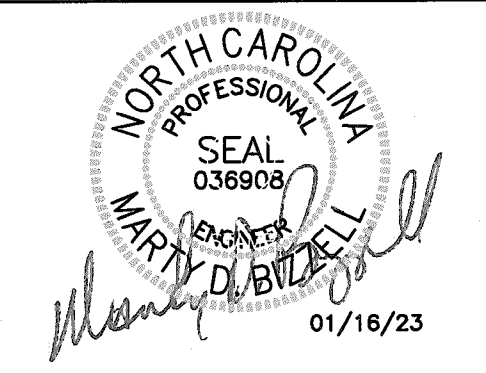
SHEET
C6.11

LEGEND

- TEMP LOW SPOT SILT FENCE OUTLET
- TEMP CHECK DAM
- TEMP INLET PROTECTION
- TEMP CONSTRUCTION ENTRANCE
- TEMP DIVERSION DITCH (LINED-SEE DETAIL)
- TEMP SILT FENCE
- TEMP TREE PROTECTION FENCE
- LIMITS OF DISTURBANCE

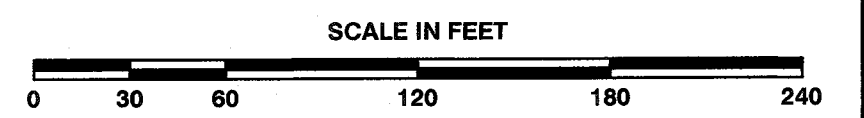
EROSION AND SEDIMENT CONTROL
Approved Plan
DATE : _____
Permit No. SEC. _____
Town of Knightdale
Sedimentation & Erosion Control
(919)-217-2250

a. **Town Certification.** This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
By: S. Smith Date: 2-1-2023
Town Engineer
These plans are approved by the Town of Knightdale and serve as construction plans for this project.
By: W. Smith Date: 2-2-2023
Administrator



WETLANDS EXIST ON-SITE
FLOODPLAINS EXIST ON-SITE

NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF KNIGHTDALE AND NCDOT





BASS, NIXON & KENNEDY, INC. CONSULTING ENGINEERS 6310 CHABEL HILL ROAD, SUITE 250, RALEIGH, NC 27607 TELEPHONE: (919) 515-4422 FAX: (919) 515-8966 CERTIFICATION NUMBERS: NCBELS (C-07101); NCBOLA (C-0267)

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

Table with 3 columns: Site Area Description, Stabilize within this many calendar days after ceasing land disturbance, Timeframe variations. Rows include Perimeter dikes, High Quality Water (HQW) Zones, Slopes steeper than 3:1, Slopes 3:1 to 4:1, and Areas with slopes flatter than 4:1.

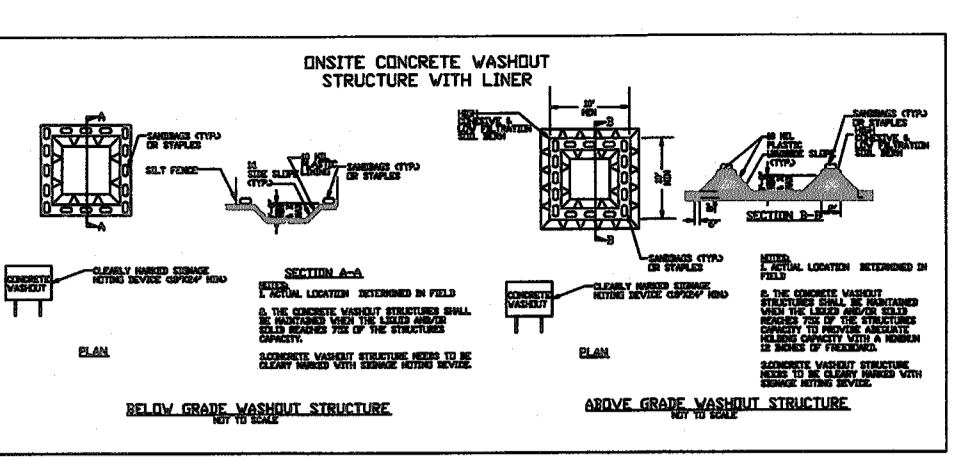
Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity.

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

Table comparing Temporary Stabilization and Permanent Stabilization methods. Temporary methods include grass seed, mulch, and erosion control products. Permanent methods include permanent grass seed, geotextiles, and permanent soil reinforcement.

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS: 1. Select flocculants that are appropriate for the soils being exposed during construction... 2. Apply flocculants at or before the inlets to Erosion and Sediment Control Measures...

EQUIPMENT AND VEHICLE MAINTENANCE: 1. Maintain vehicles and equipment to prevent discharge of fluids. 2. Provide drip pans under any stored equipment. 3. Identify leaks and repair as soon as feasible...



LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE: 1. Never bury or burn waste. Place litter and debris in approved waste containers. 2. Provide a sufficient number and size of waste containers (e.g. dumpster, trash receptacle) on site...

CONCRETE WASHOUTS: 1. Do not discharge concrete or cement slurry from the site. 2. Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility. 3. Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier...

PAINT AND OTHER LIQUID WASTE: 1. Do not dump paint and other liquid waste into storm drains, streams or wetlands. 2. Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.

PORTABLE TOILETS: 1. Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.

HERBICIDES, PESTICIDES AND RODENTICIDES: 1. Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions. 2. Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.

EARTHEN STOCKPILE MANAGEMENT: 1. Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.

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



NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

EFFECTIVE: 04/01/19

PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION: Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day...

Table with 3 columns: Inspect, Frequency (during normal business hours), Inspection records must include. Rows include Rain gauge, E&S Measures, Stormwater discharge outfalls (SDCs), Perimeter of site, Streams or wetlands on-site or off-site, and Ground stabilization measures.

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

PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

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

Table with 2 columns: Item to Document, Documentation Requirements. Rows include E&S Plan Documentation, Phase of grading, Ground cover, Maintenance and repair, and Corrective actions.

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

3. Documentation to be Retained for Three Years: All data used to complete the e-NOI and all inspection records shall be maintained for a period of three years after project completion and made available upon request. (40 CFR 122.41)

PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: REPORTING: 1. Occurrences that Must be Reported: Permitees shall report the following occurrences: (a) Visible sediment deposition in a stream or wetland. (b) Oil spills if: They are 25 gallons or more, They are less than 25 gallons but cannot be cleaned up within 24 hours, They cause sheen on surface waters (regardless of volume), or They are within 100 feet of surface waters (regardless of volume).

(c) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85. (d) Anticipated bypasses and unanticipated bypasses. (e) Noncompliance with the conditions of this permit that may endanger health or the environment.

2. Reporting Timeframes and Other Requirements: After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below.

Table with 2 columns: Occurrence, Reporting Timeframes (After Discovery) and Other Requirements. Rows include Visible sediment deposition, Oil spills and release of hazardous substances, Anticipated bypasses, Unanticipated bypasses, Noncompliance with conditions, and Division staff may waive the requirement for a written report on a case-by-case basis.

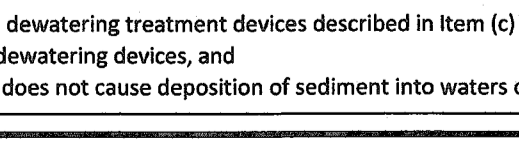
PART II, SECTION G, ITEM (4) DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT

Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structures that withdraw water from the surface when these devices need to be drawn down for maintenance or close out unless it is infeasible. The circumstances in which it is not feasible to withdraw water from the surface shall be rare (for example, times with extended cold weather). Non-surface withdrawals from sediment basins shall be allowed only when all of the following criteria have been met:

- (a) The E&S plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or conditions in which it will occur.
(b) The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item (2)(c) and (d) of this permit.
(c) Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin.
(d) Vegetated, upland areas of the sites or a properly designed stone pad is used to the extent feasible at the outlet of the dewatering treatment devices described in item (c) above.
(e) Velocity dissipation devices such as check dams, sediment traps, and riprap are provided at the discharge points of all dewatering devices, and
(f) Sediment removed from the dewatering treatment devices described in item (c) above is disposed of in a manner that does not cause deposition of sediment into waters of the United States.

PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: REPORTING: 2. Reporting Timeframes and Other Requirements: After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Department's Environmental Emergency Center personnel at (800) 858-0368.

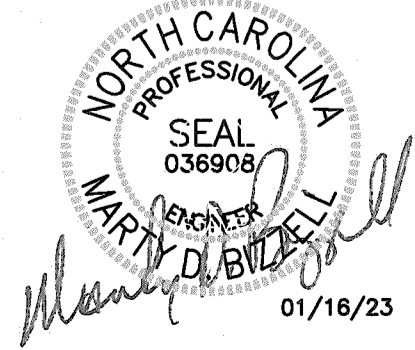


NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

EFFECTIVE: 04/01/19

Table with columns: RAB, COMMENTS/SIGNATURE SET, TOWN OF KNIGHTDALE COMMENTS, DATE, NO., DESCRIPTION, REVISIONS. Includes entries for RAB 01-16-23, RAB 11-04-22, RAB 09-03-22, RAB 06-03-22, RAB 02-25-22.

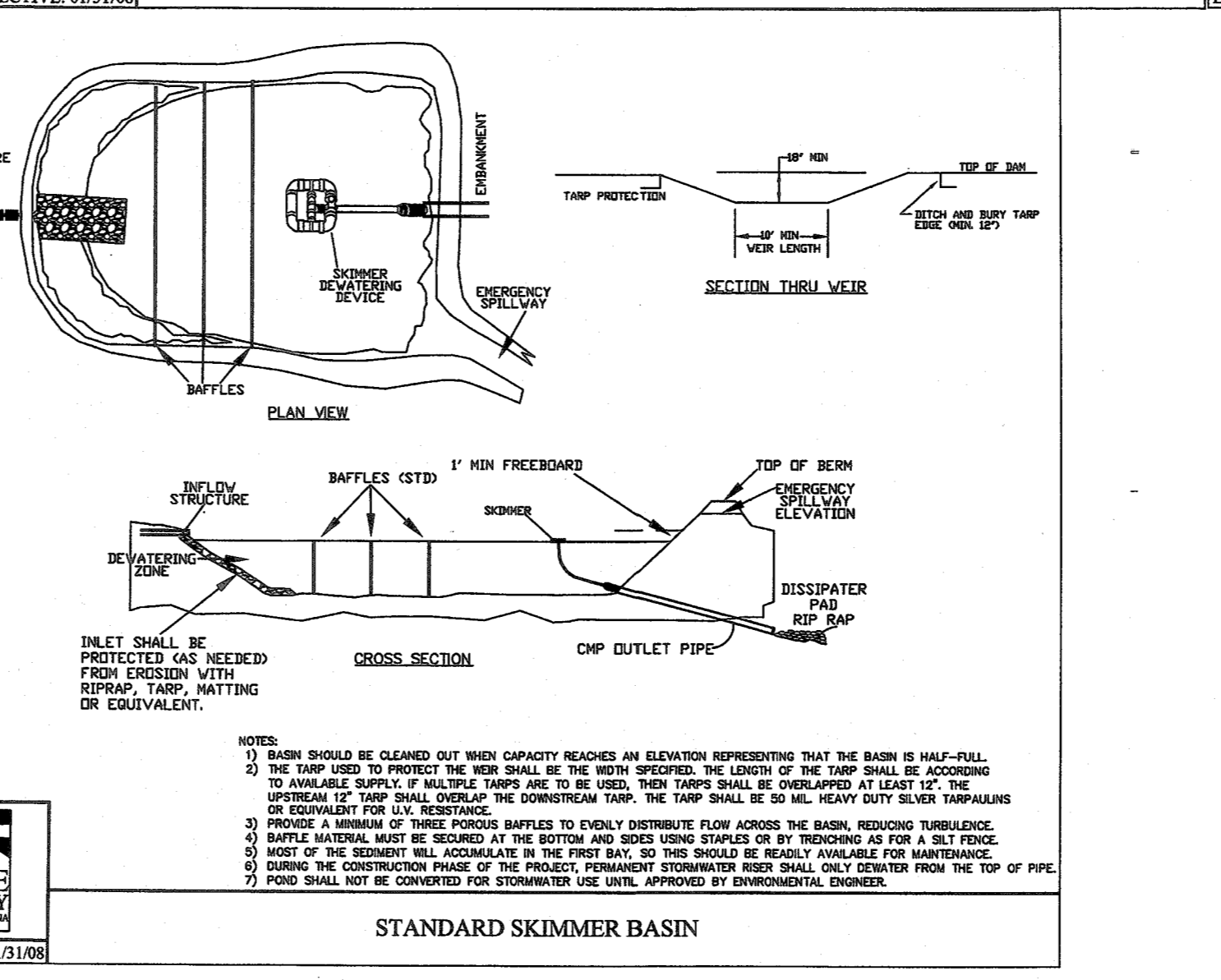
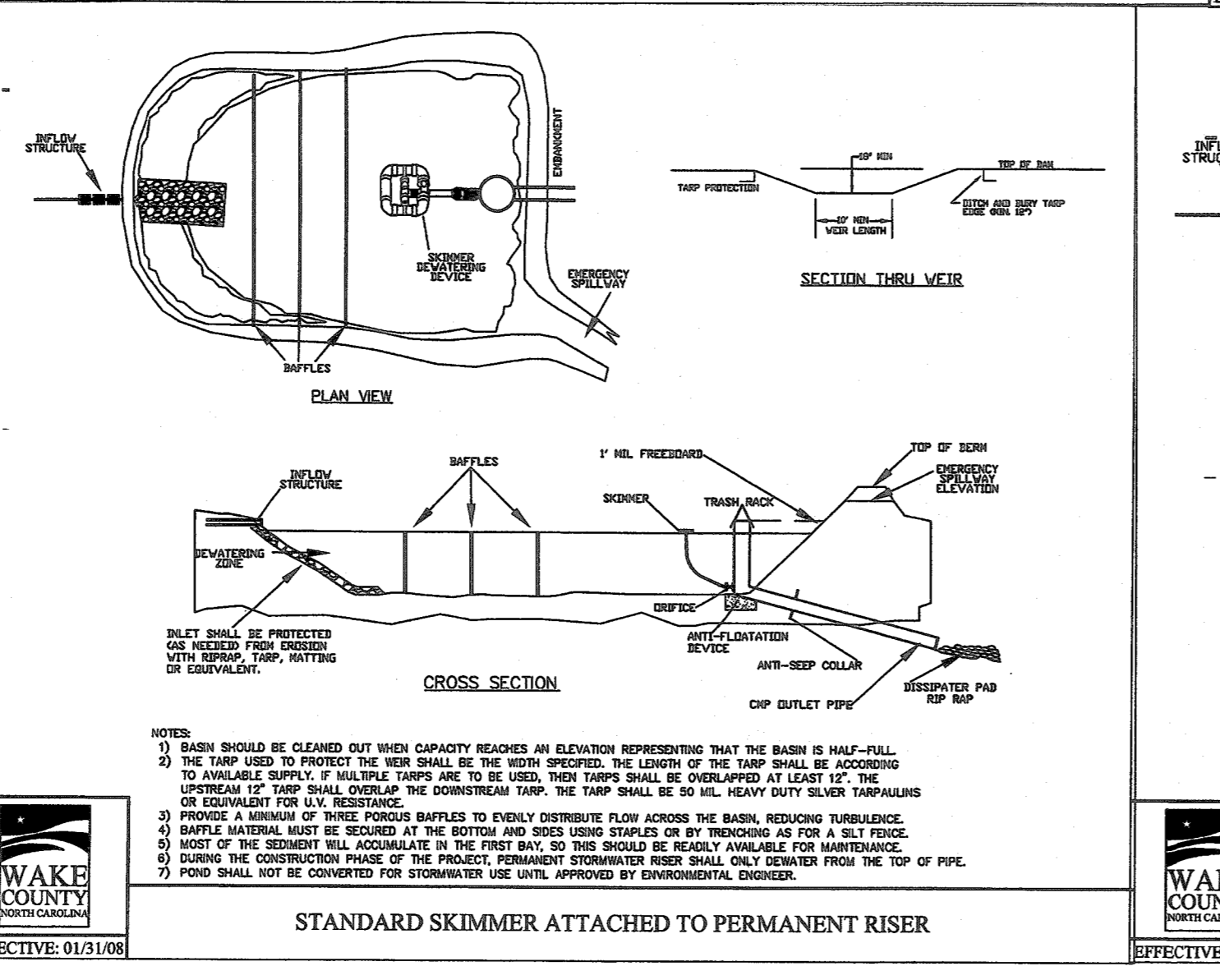
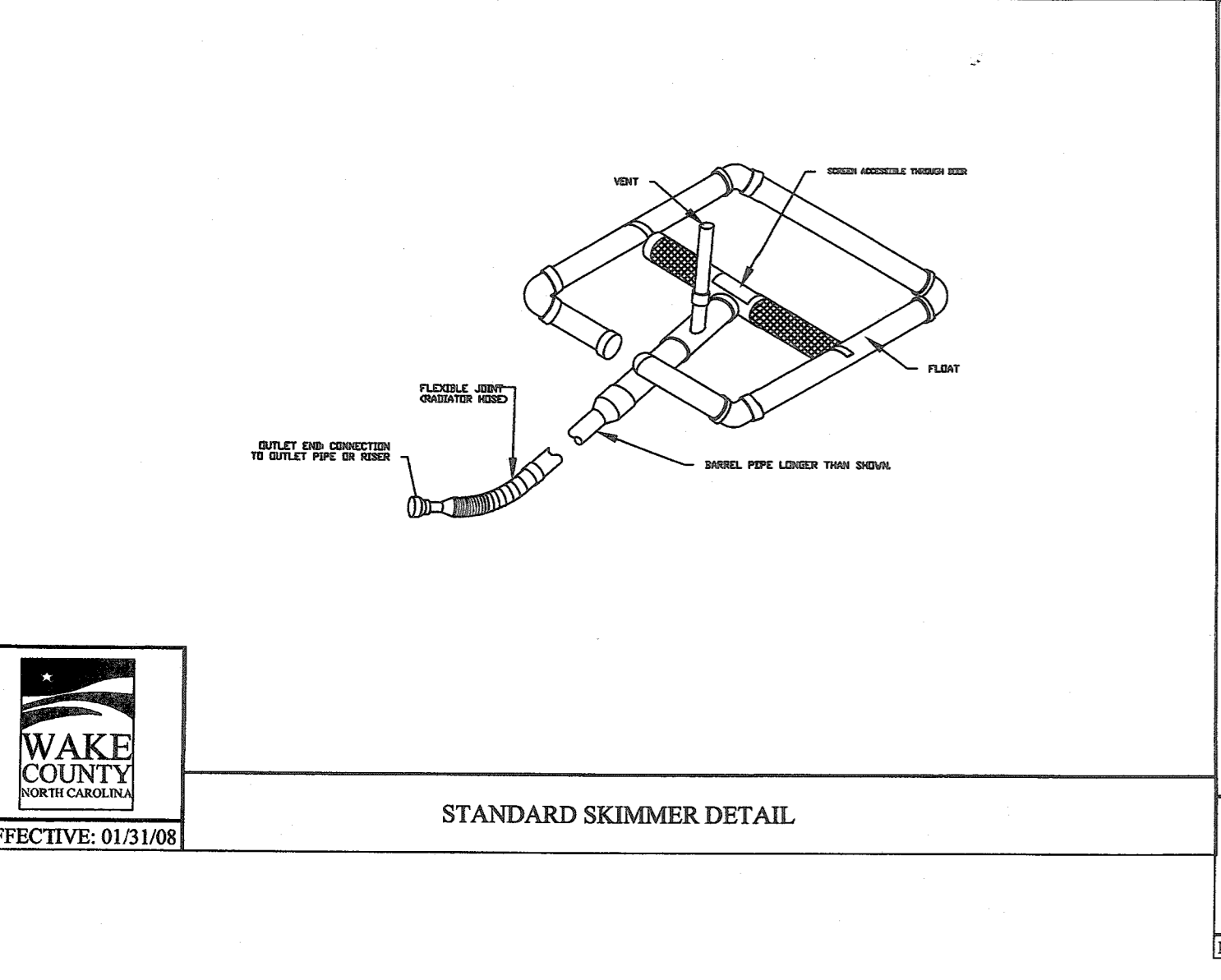
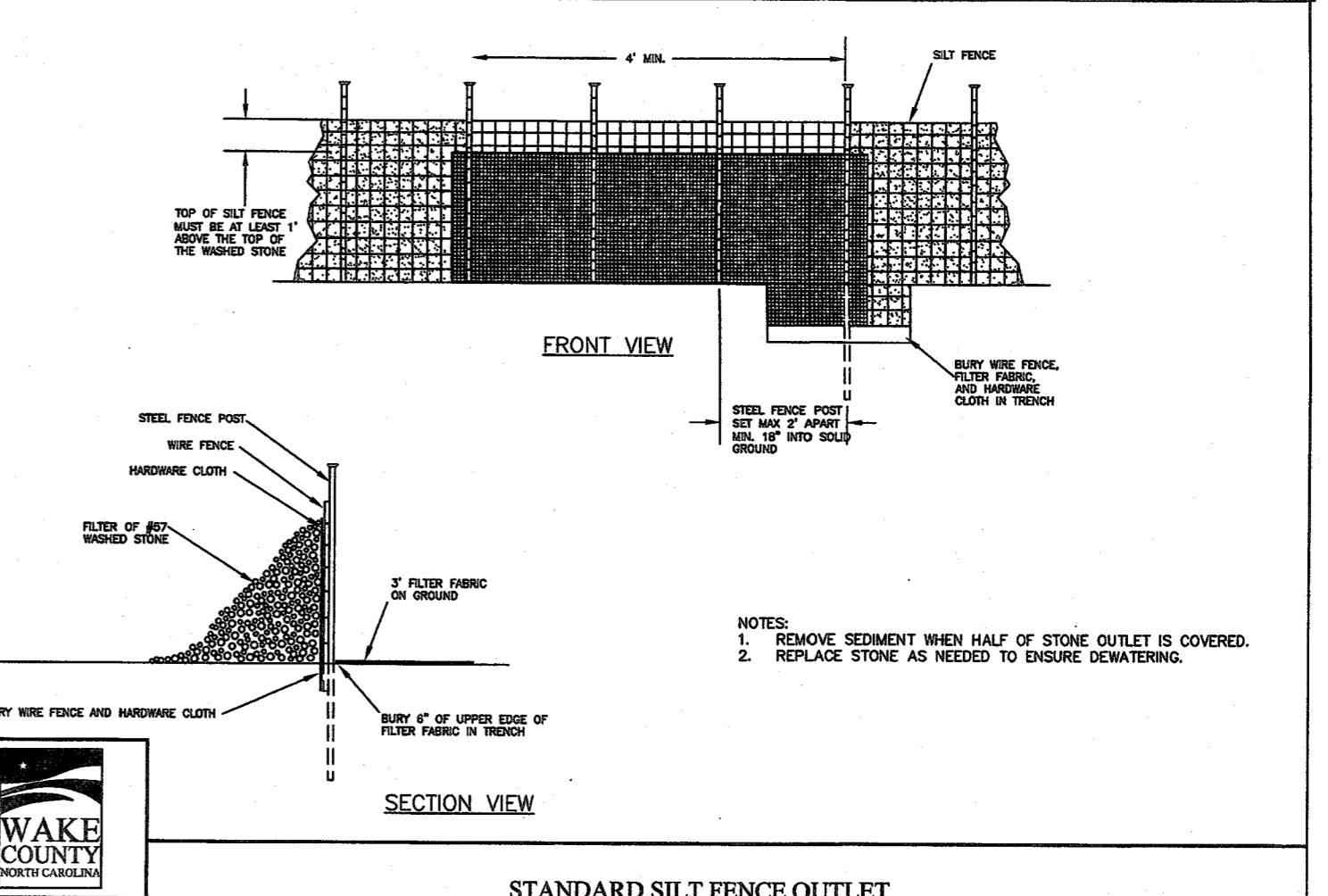
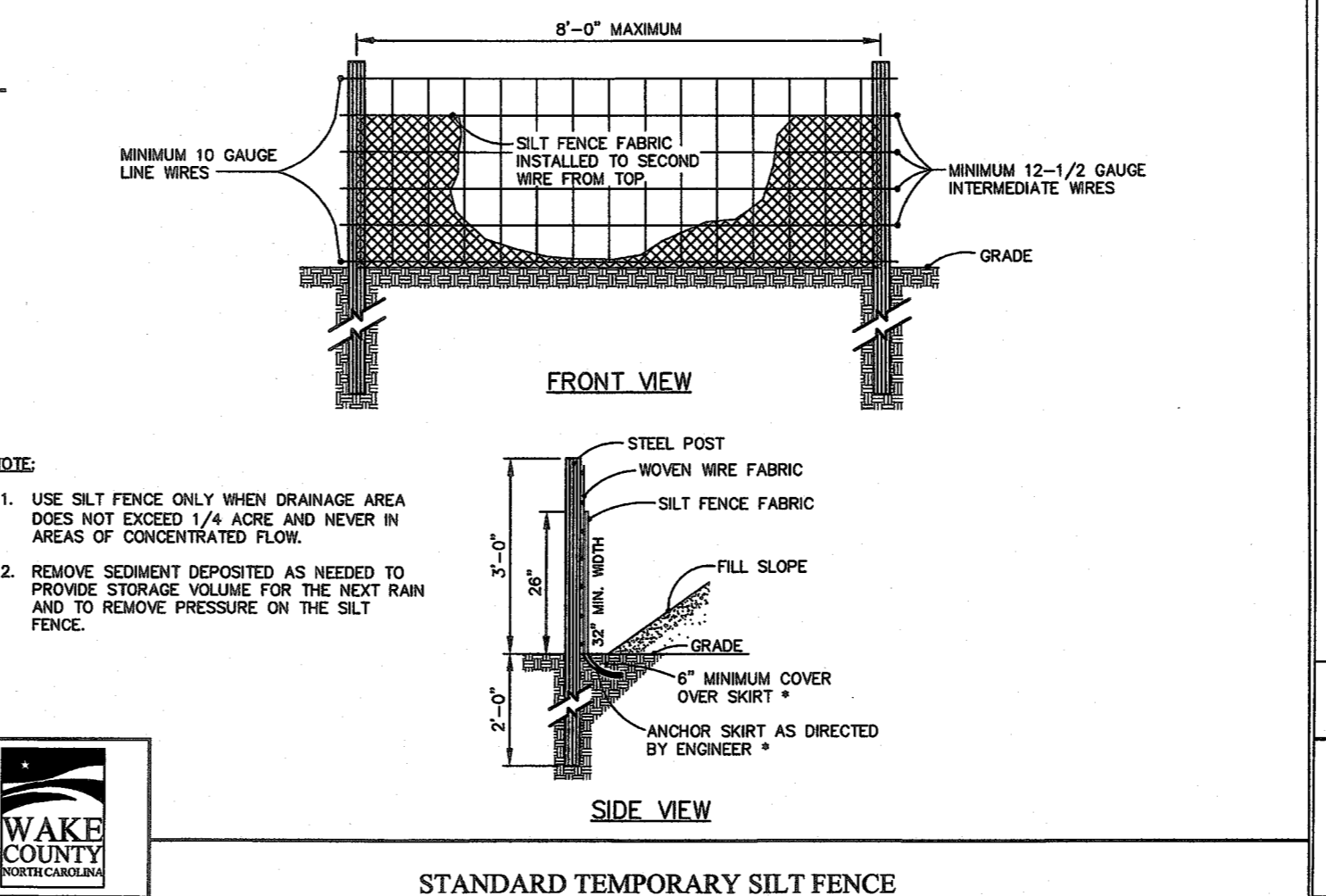
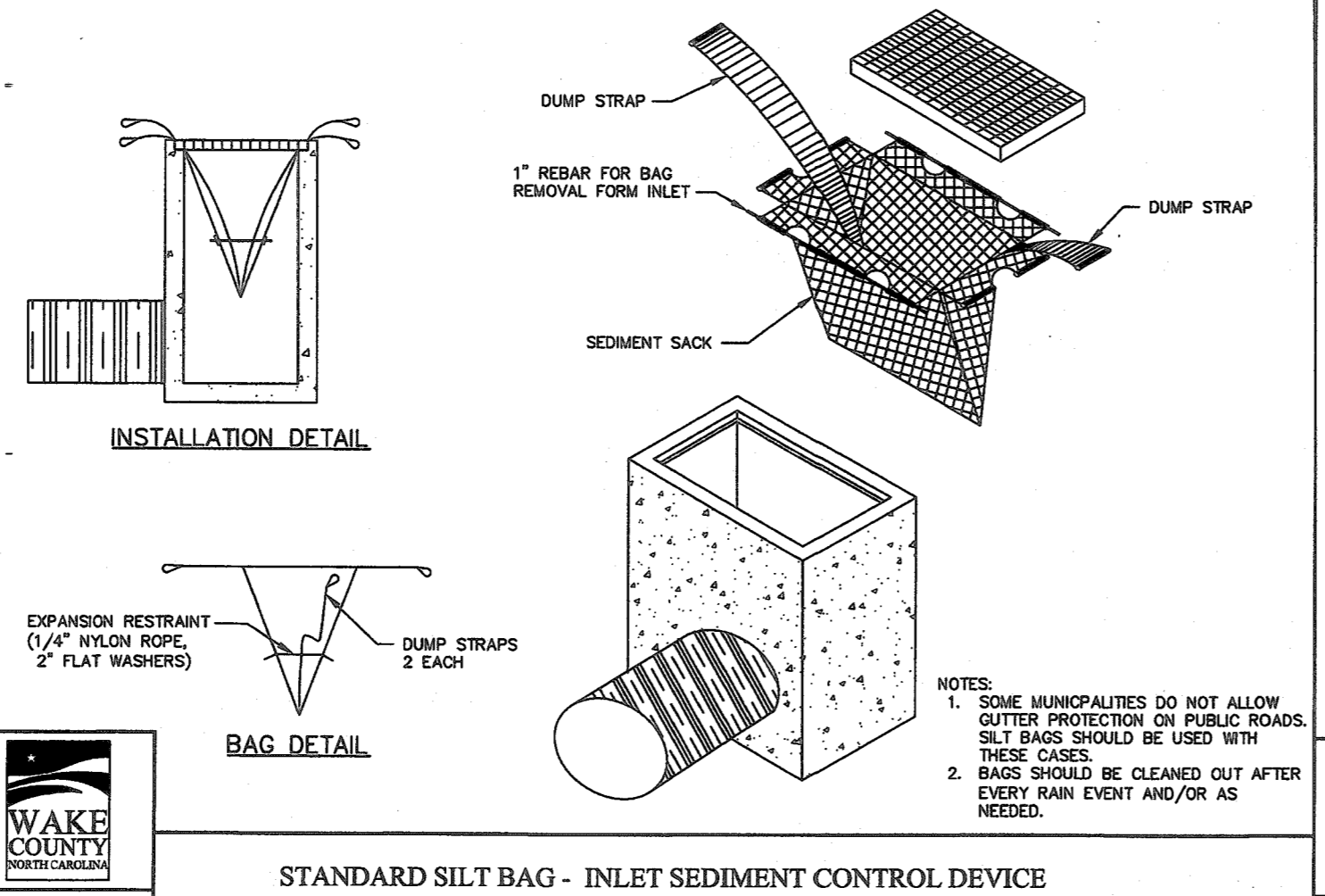
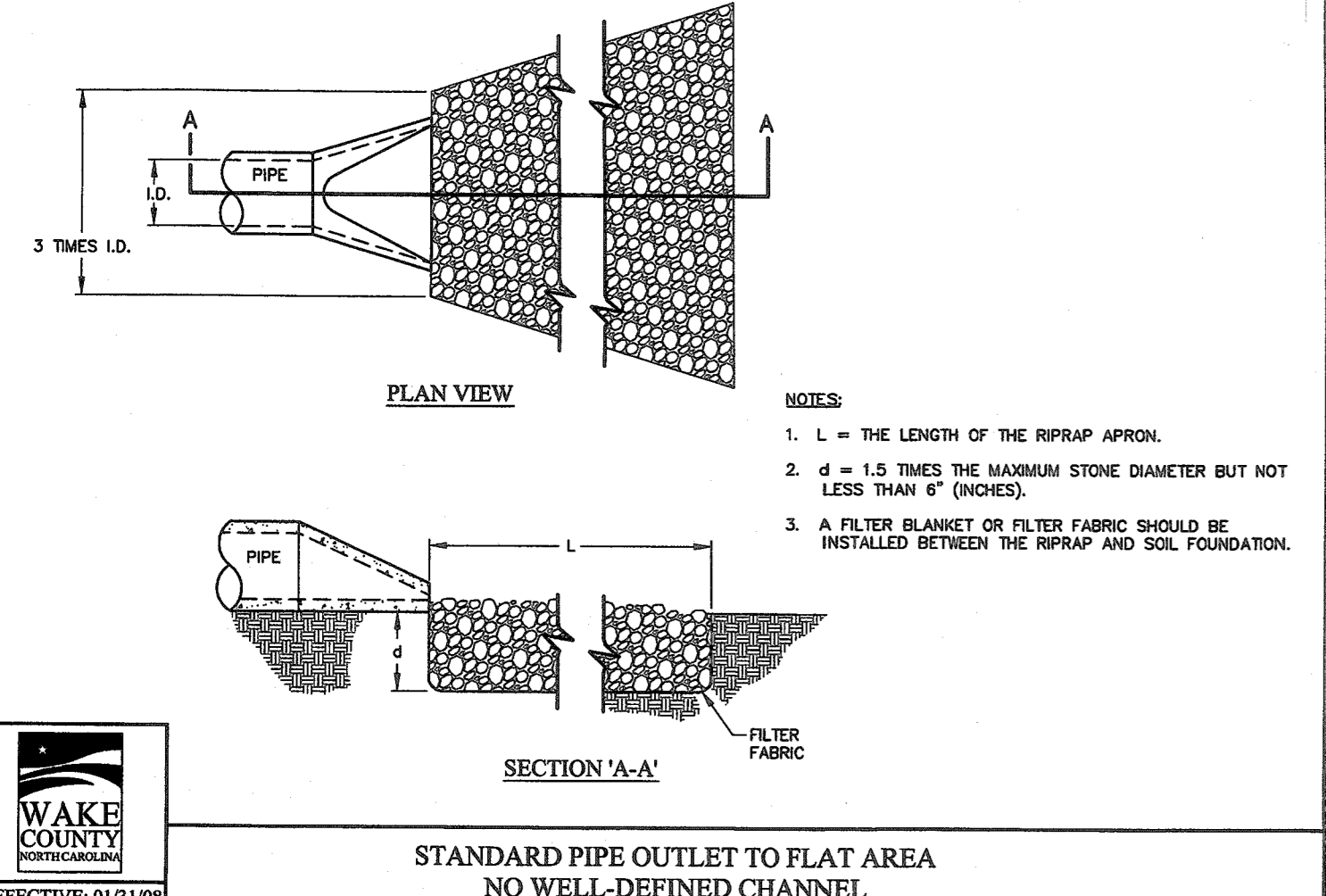
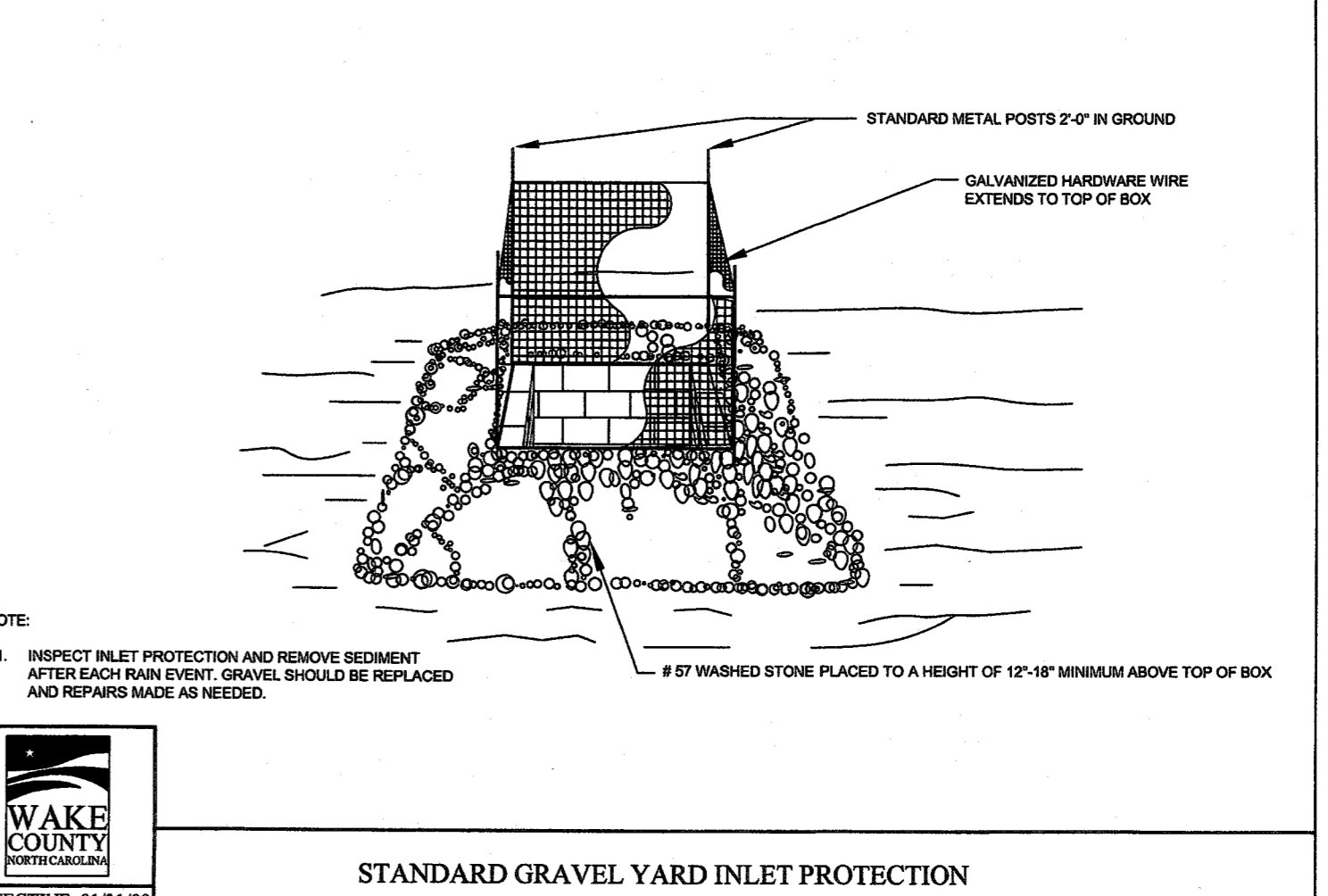
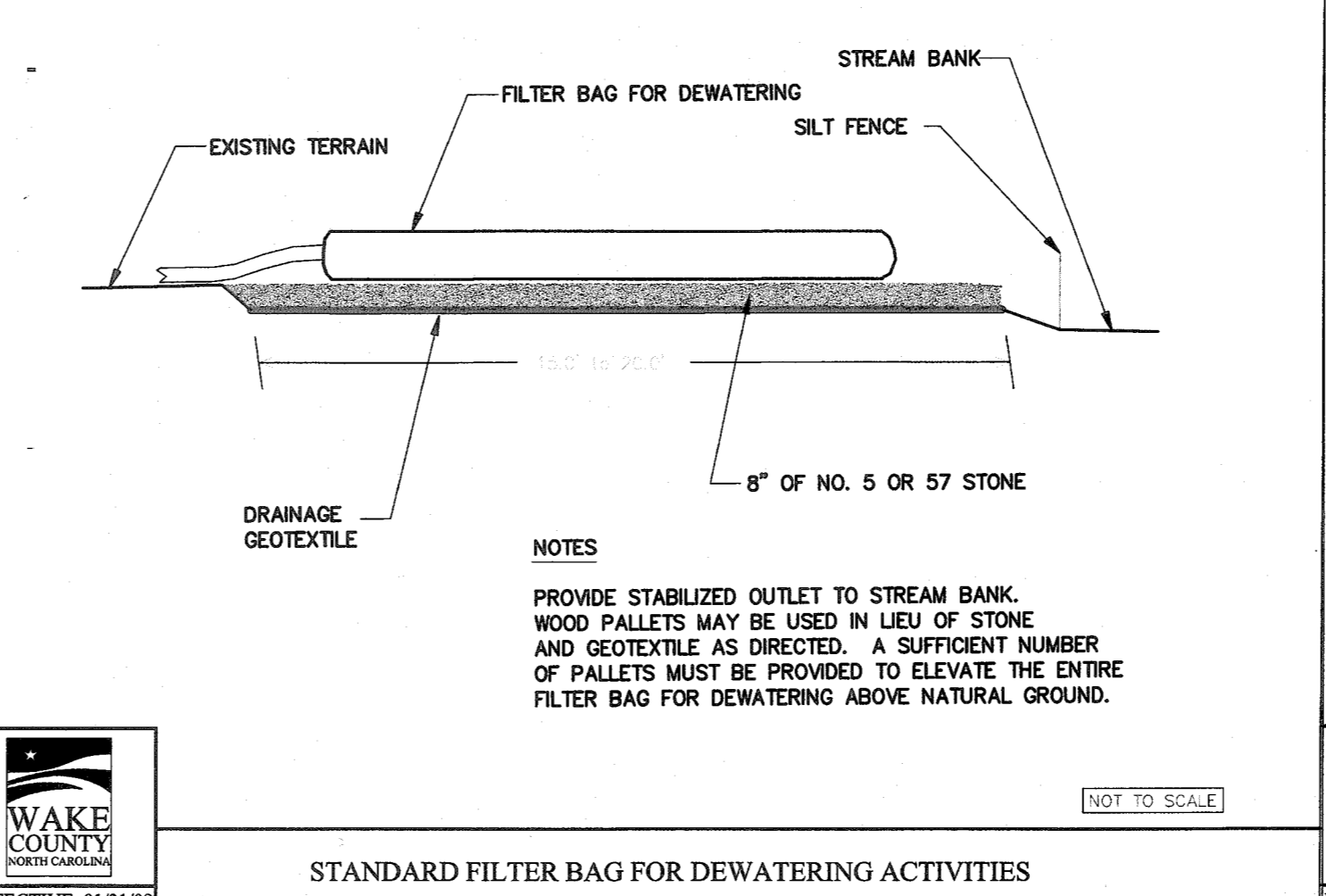
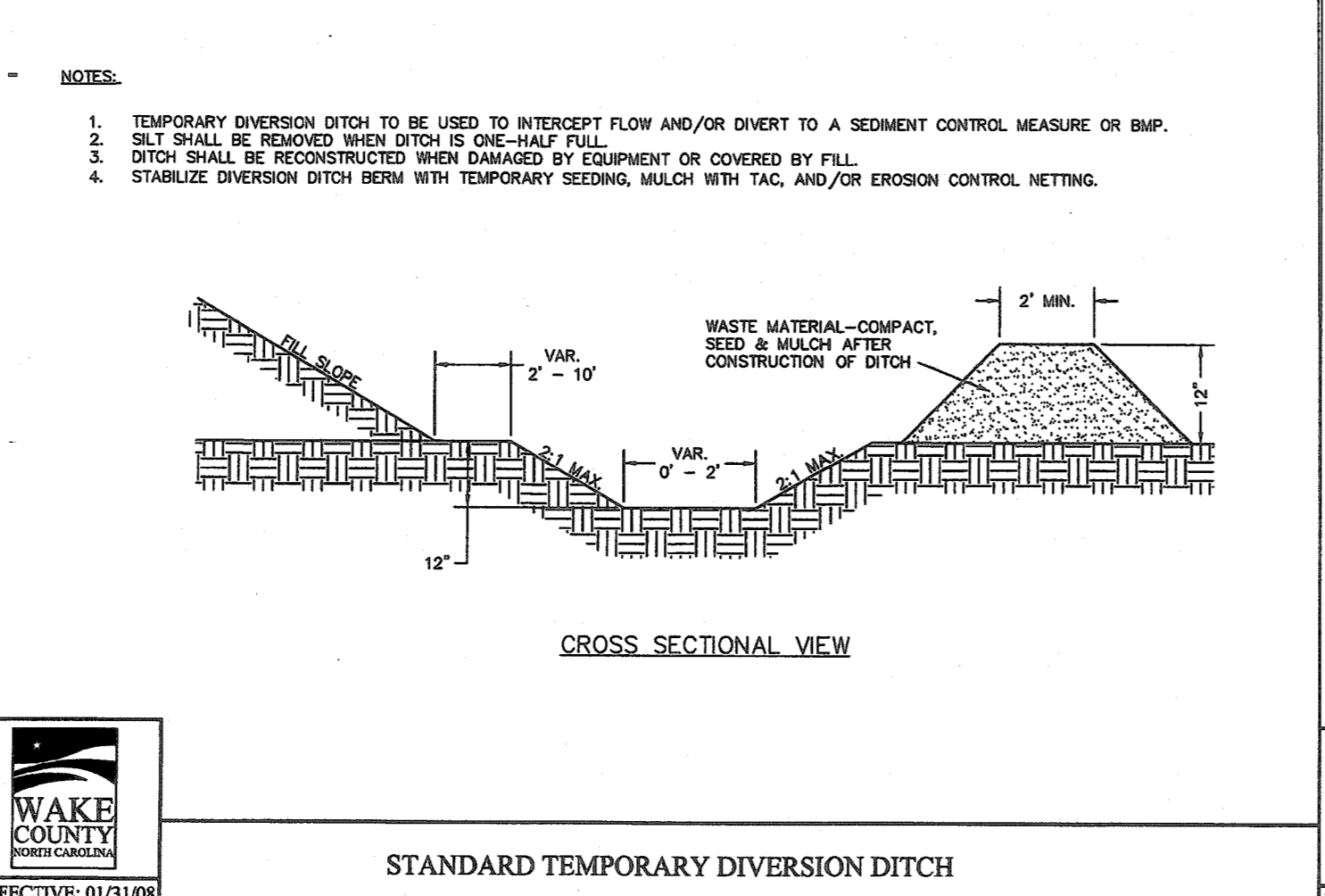
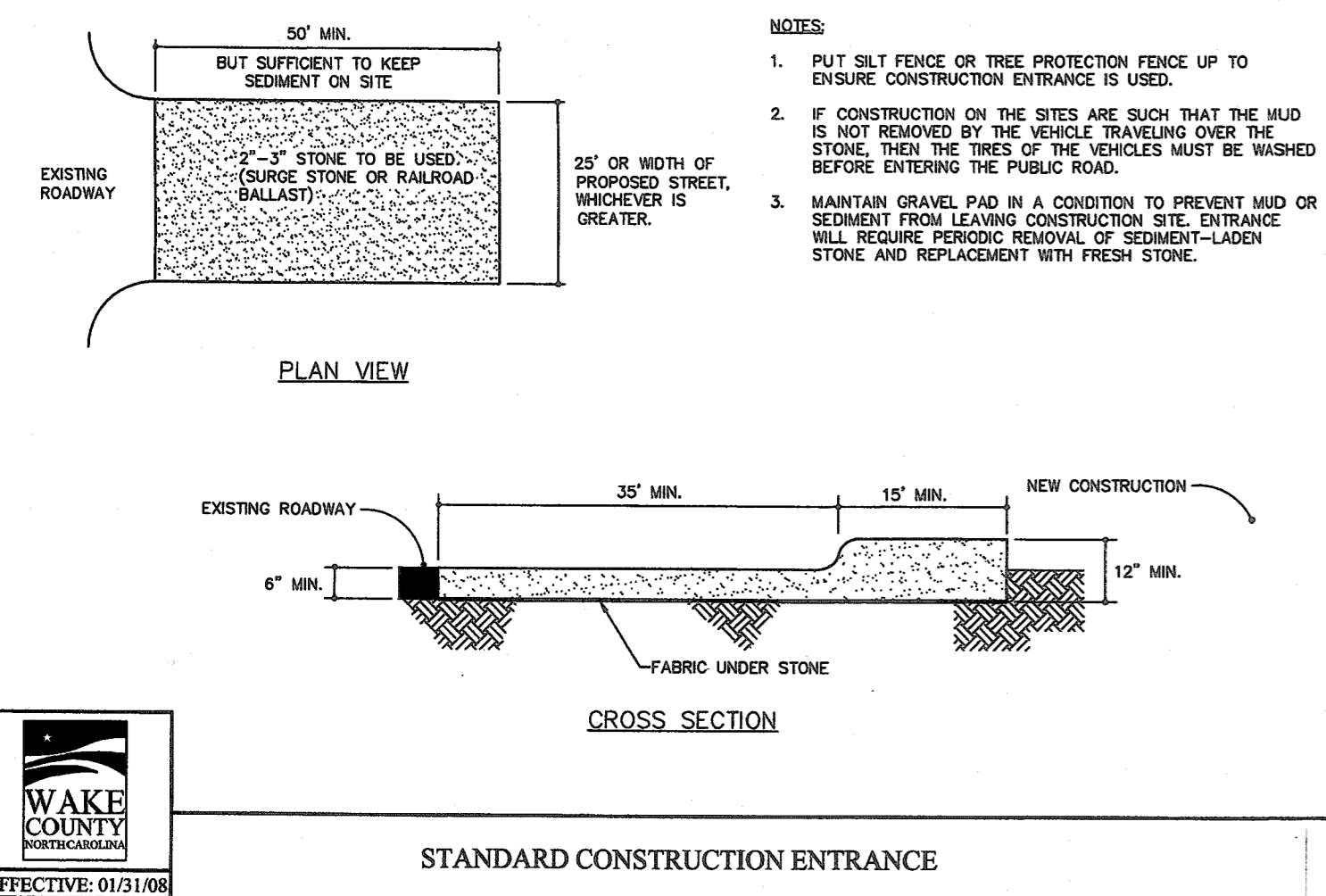
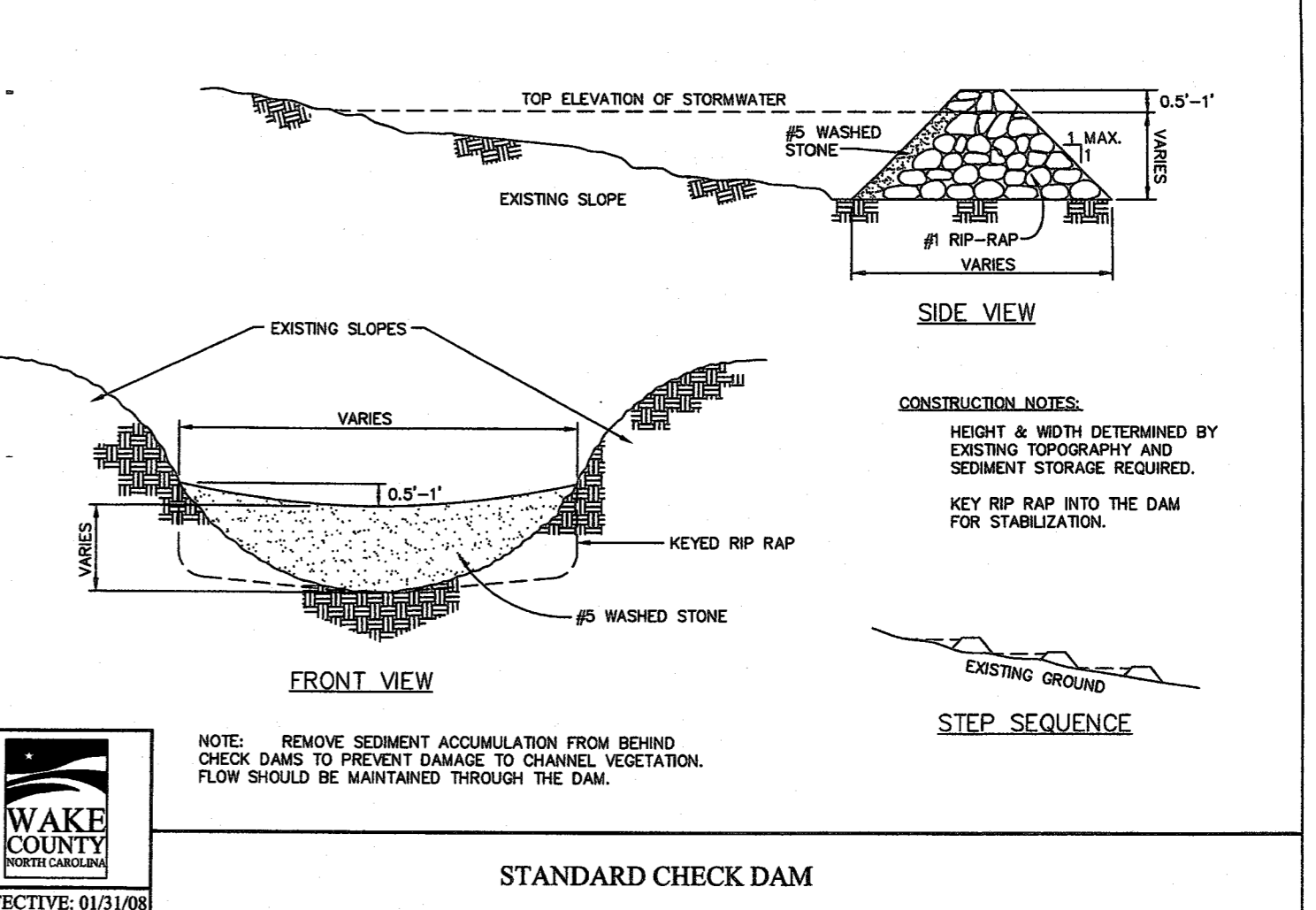
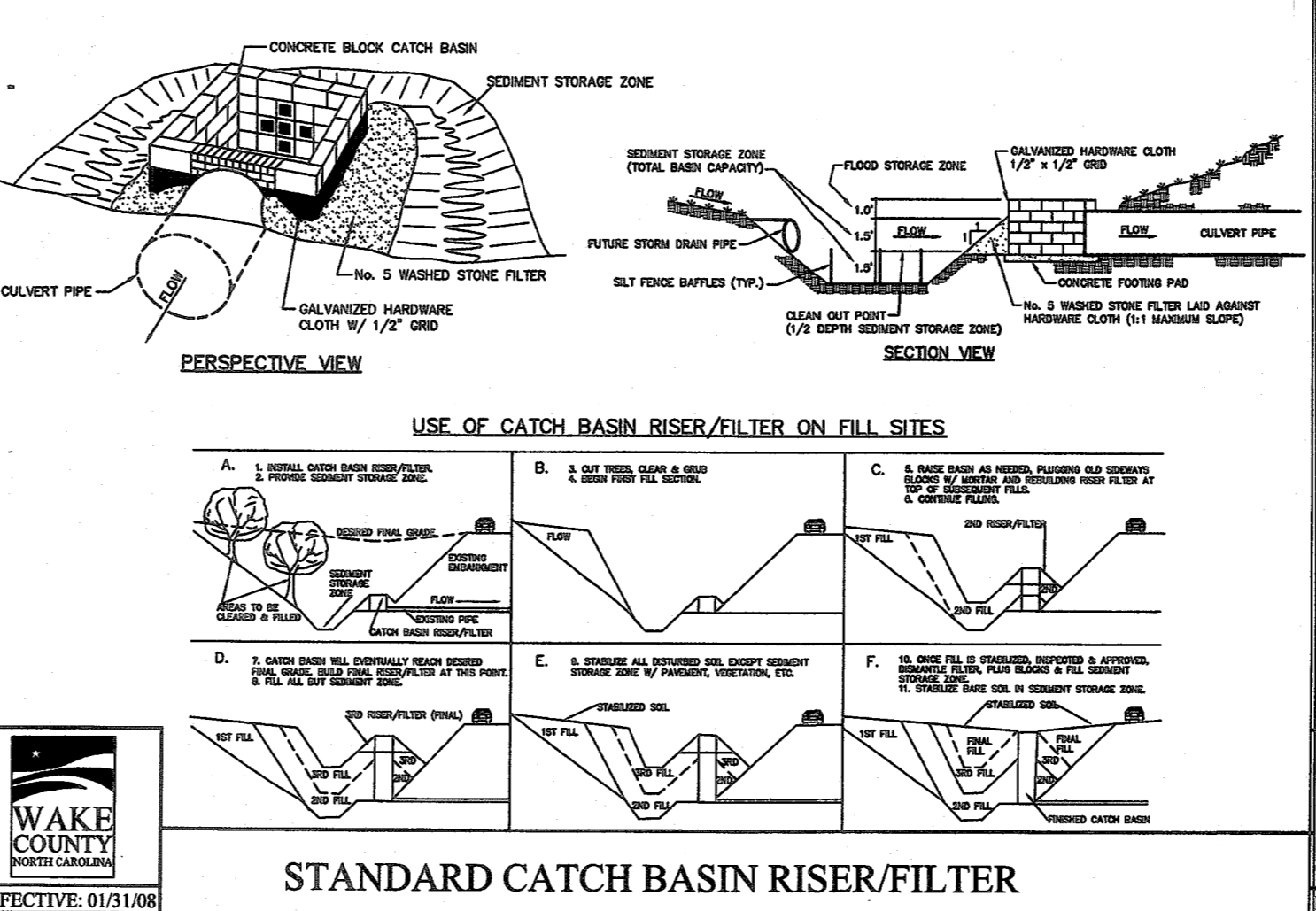
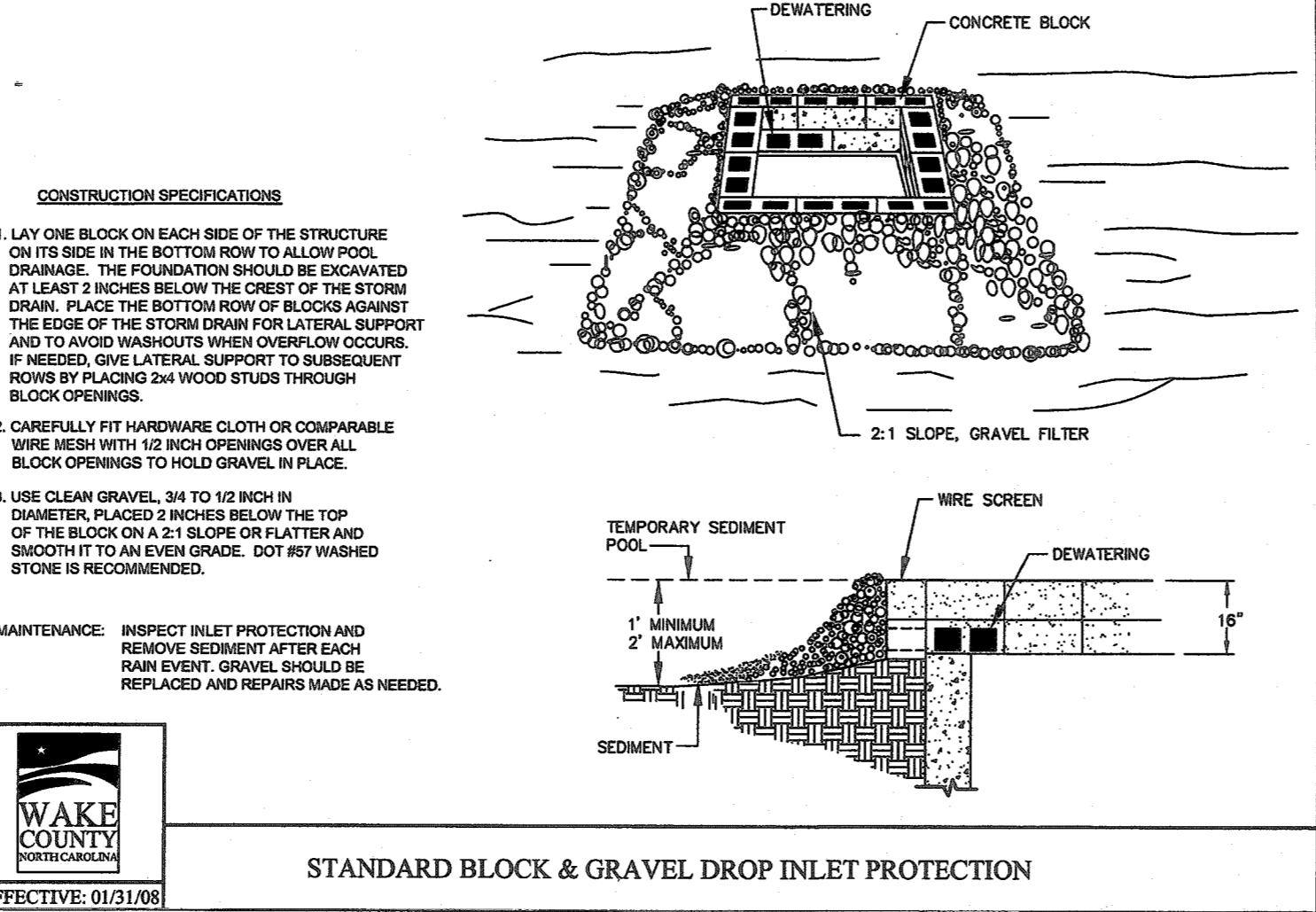
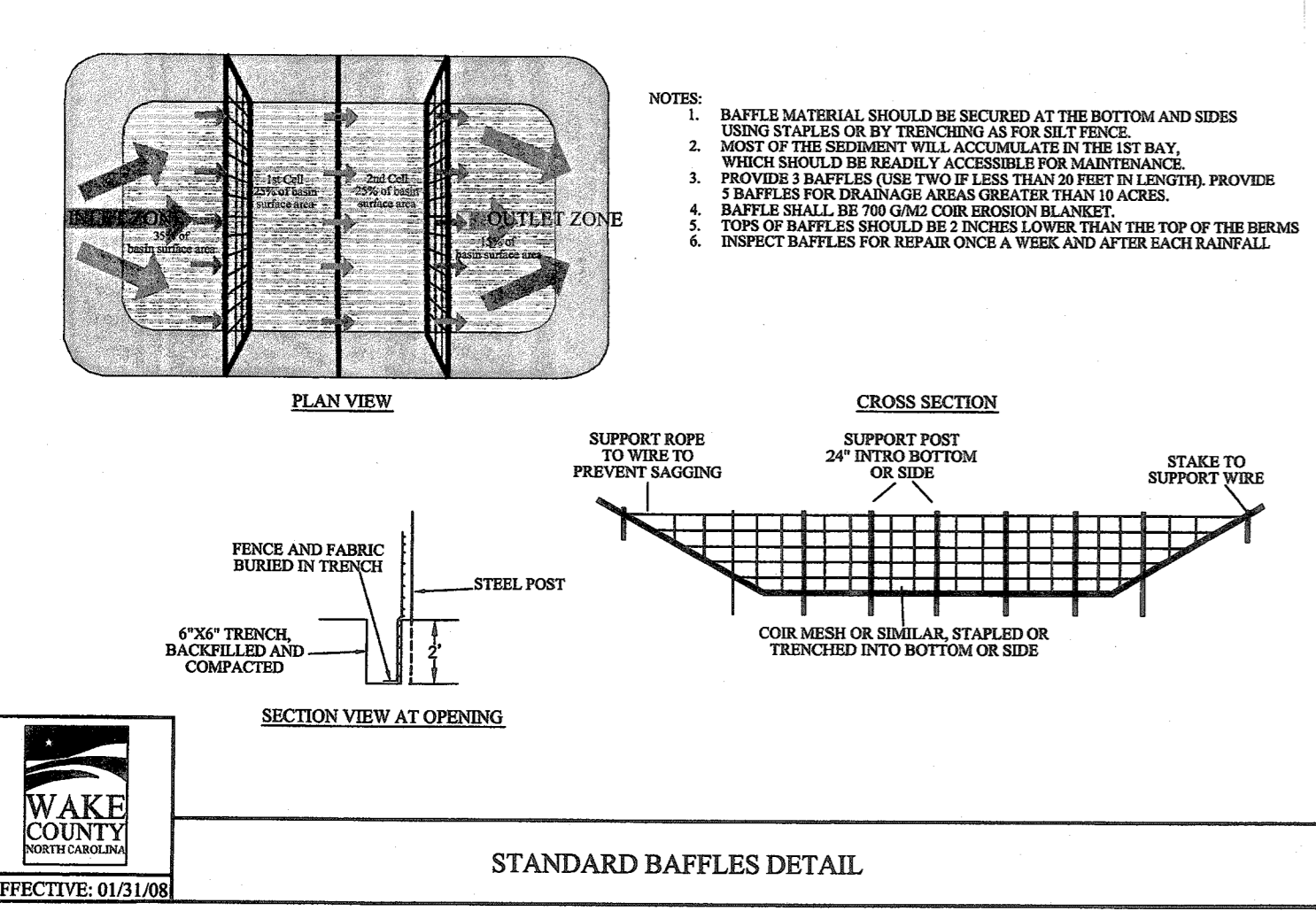
VILLAGE GATE S. SMITHFIELD ROAD TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA SHEET C6.12



EROSION AND SEDIMENT CONTROL Approved Plan form. Includes fields for DATE, Permit No., Town of Knightdale Sedimentation & Erosion Control (919)-217-2250, and signature lines for Town Engineer and Administrator.

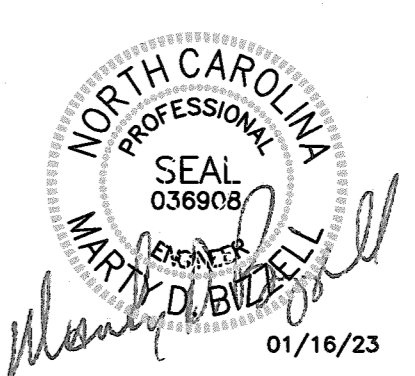
Town Certification: This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale. By: [Signature] Date: 2-1-2023

These plans are approved by the Town of Knightdale and serve as construction plans for this project. By: [Signature] Date: 2-2-2023



EROSION AND SEDIMENT CONTROL
Approved Plan
 DATE: _____
 Permit No. SEC-_____
 Town of Knightdale
 Sedimentation & Erosion Control
 (919)-217-2250

a. **Town Certification.** This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
 By: SAMU Date: 2-1-2023
 Town Engineer
 These plans are approved by the Town of Knightdale and serve as construction plans for this project.
 By: W.D. Date: 2-2-2023
 Administrator



BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919)851-4422 FAX: (919)851-8968
 CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

NO.	DATE	DESCRIPTION	BY
1	03-20-2007	TOWN OF KNIGHTDALE COMMENTS	W.D.
2	09-07-2021	TOWN OF KNIGHTDALE COMMENTS	W.D.
3	09-01-22	TOWN OF KNIGHTDALE COMMENTS	W.D.
4	09-01-22	TOWN OF KNIGHTDALE COMMENTS	W.D.
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	W.D.
6	01-16-23	TOWN OF KNIGHTDALE COMMENTS	W.D.

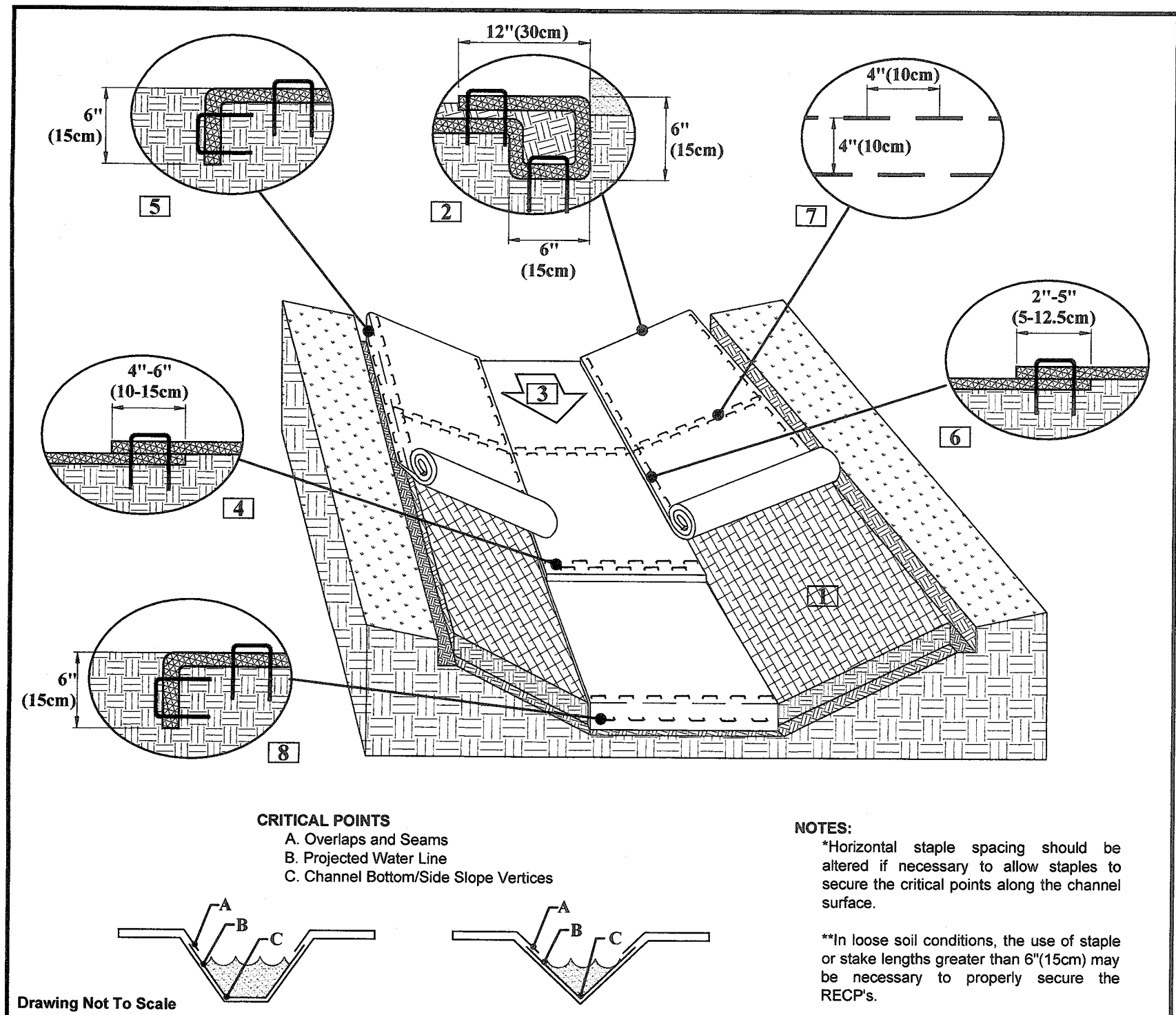
EROSION CONTROL DETAILS

SCALE: N.T.S. CHK BY: MDB

VILLAGE GATE
 TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA
 S. SMITHFIELD ROAD

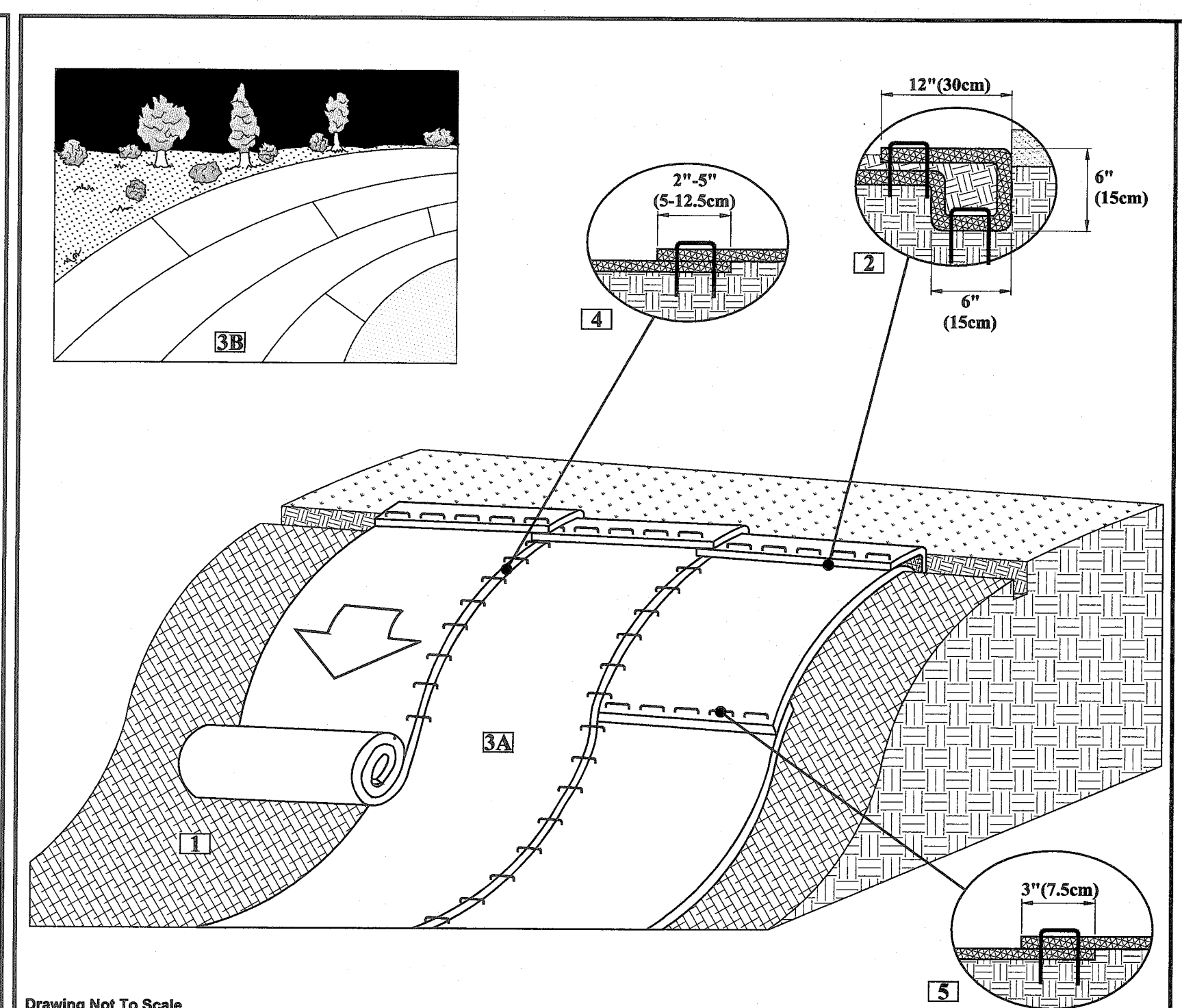
SHEET C6.13

TOWN OF KNIGHTDALE PUD CASE NO. ZMA-1-21



CHANNEL INSTALLATION DETAIL

- Prepare soil before installing rolled erosion control products (RECPs), including any necessary application of lime, fertilizer, and seed.
- Begin at the top of the slope by anchoring the RECPs in a 6\"/>



SLOPE INSTALLATION DETAIL

- Prepare soil before installing rolled erosion control products (RECPs), including any necessary application of lime, fertilizer, and seed.
- Begin at the top of the slope by anchoring the RECPs in a 6\"/>

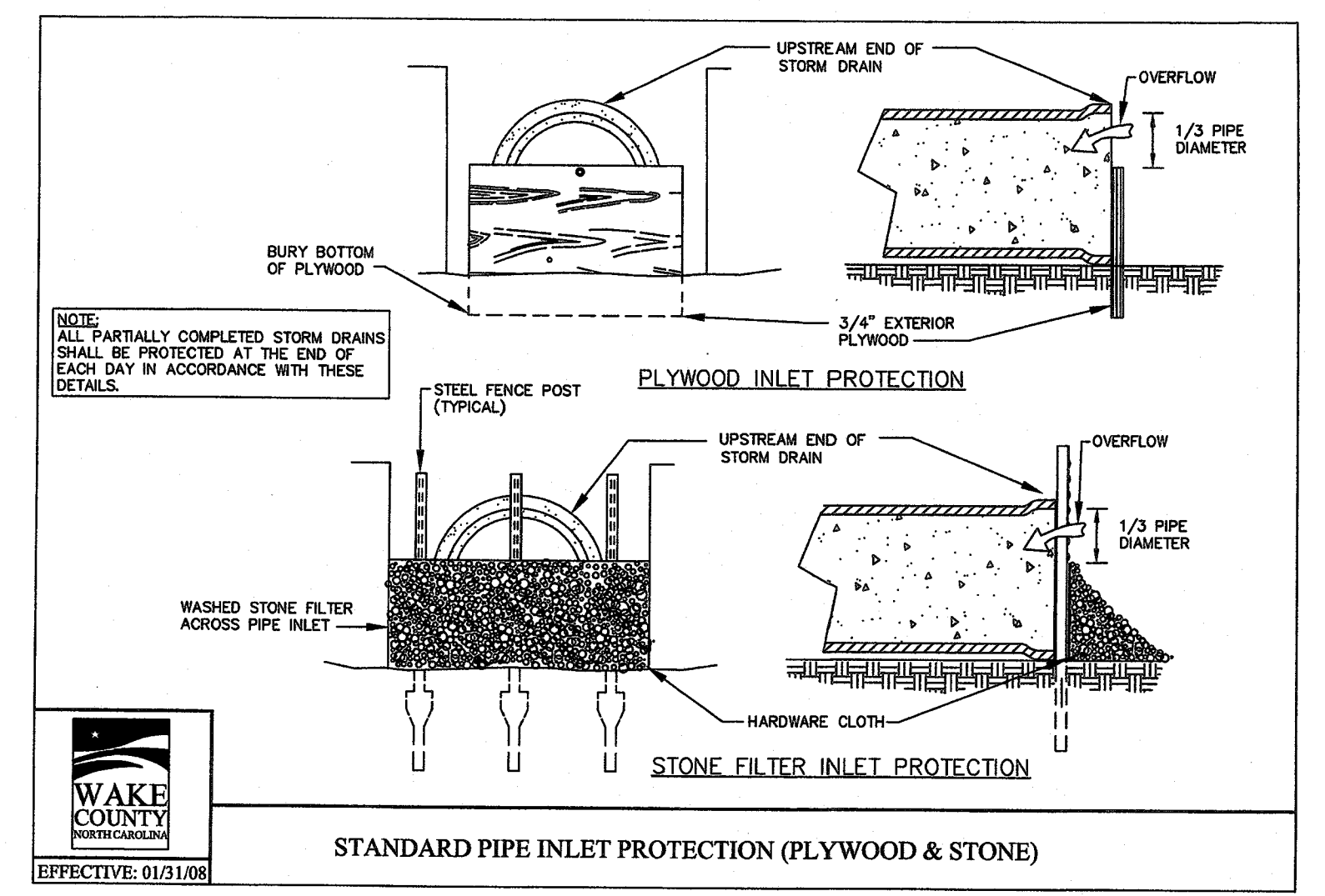
CRITICAL POINTS
 A. Overlaps and Seams
 B. Projected Water Line
 C. Channel Bottom/Side Slope Vertices

NOTES:
 *Horizontal staple spacing should be altered if necessary to allow staples to secure the critical points along the channel surface.
 **In loose soil conditions, the use of staple or stake lengths greater than 6\"/>

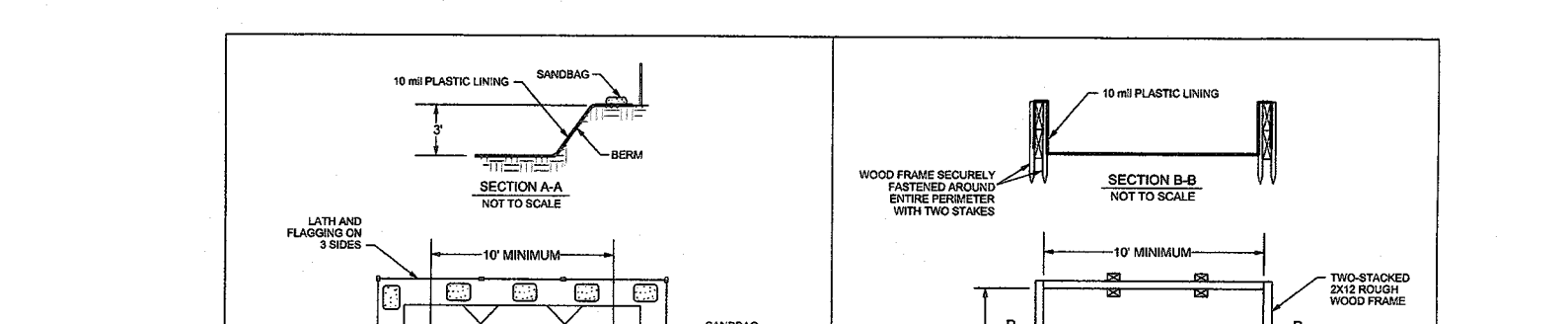
Tensar NORTH AMERICAN GREEN
 5401 St. Wendel - Cynthiana Rd. Poseyville, IN 47633
 PH: 800-722-3040 www.aagreen.com
 Drawn on: 3-16-11

Disclaimer:
 The information presented herein is general design information only. For specific applications, consult an independent professional for further design guidance.

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 Drawn on: 3-16-11



STANDARD PIPE INLET PROTECTION (PLYWOOD & STONE)



CITY OF RALEIGH STANDARD DETAIL CONCRETE WASHOUT SW-20.25

NOTES:
 1. ACTUAL LAYOUT TO BE DETERMINED IN THE FIELD.
 2. A CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 50' OF THE TEMPORARY CONCRETE WASHOUT FACILITY.
 3. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE REMOVED FROM THE SITE OF THE WORK AND RECYCLED OR REUSED.
 4. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE BACKFILLED, REPAIRED, AND STABILIZED TO PREVENT EROSION.
 5. MUST BE LOCATED 40' AWAY FROM WATERWAYS UNLESS THERE IS NO OTHER PRACTICAL ALTERNATIVE.

Seeding Specifications

NPDES Stormwater Discharge Permit for Construction Activities (NCGO1 - 4/1/19)
 NCDEQ/Division of Energy, Mineral and Land Resources

- Inspect all seeded areas and make necessary repairs or reseedings within the planting season, if possible. If stand should be more than 60% damaged, re-establish following the original lime, fertilizer and seeding rates.
- Consult Wake County Soil & Water or NC State Cooperative Extension on maintenance treatment and fertilization after permanent cover is established.

Site Area Description	Required Ground Stabilization Treatments	Construction Restrictions
(1) Perimeter ditches, slopes ditches, perimeter slopes	7	None
(2) High capacity water ditch zones	7	None
(3) Slopes deeper than 4:1	7	If slopes are 12:1 or less in length and are not deeper than 24\"/>
(4) Slopes less than 4:1	54	45 days for Palla Lata Washcoat 90 days for Palla Lata Washcoat 45 days for Palla Lata Washcoat 90 days for Palla Lata Washcoat
(5) Areas with slopes steeper than 4:1	54	45 days for Palla Lata Washcoat 90 days for Palla Lata Washcoat 45 days for Palla Lata Washcoat 90 days for Palla Lata Washcoat

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

- #### Seedbed Preparation:
- Chisel compacted areas and spread topsoil three inches deep over adverse soil conditions, if available.
 - Rip the entire area to six inches deep.
 - Remove all loose rock, roots and other obstructions, leaving surface reasonably smooth and uniform.
 - Apply agricultural lime, fertilizer and superphosphate uniformly and mix with soil (see mixture below).
 - Continue tillage until a well-pulverized, firm, reasonably uniform seedbed is prepared four to six inches deep.
 - Seed on a freshly prepared seedbed and cover seed lightly with seeding equipment or cultipack after seeding.
 - Mulch immediately after seeding and anchor mulch.

Seeding Schedule

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

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

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

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

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

*** TEMPORARY: Reseed according to optimum season for desired permanent vegetation. Do not allow temporary cover to grow more than 12\"/>



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CONSULTING ENGINEERS
 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919) 851-4422 FAX: (919) 851-9868
 CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

NO.	DATE	DESCRIPTION	BY
1	05-20-09	ISSUED FOR PERMITS	MBB
2	06-03-12	TOWN OF KNIGHTDALE COMMENTS	MBB
3	06-03-12	TOWN OF KNIGHTDALE COMMENTS	MBB
4	08-01-22	TOWN OF KNIGHTDALE COMMENTS	MBB
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	MBB
6	01-16-23	TOK COMMENTS/SIGNATURE SET	MBB

EROSION CONTROL DETAILS
 SCALE: N.T.S.
 CHK BY: MBB

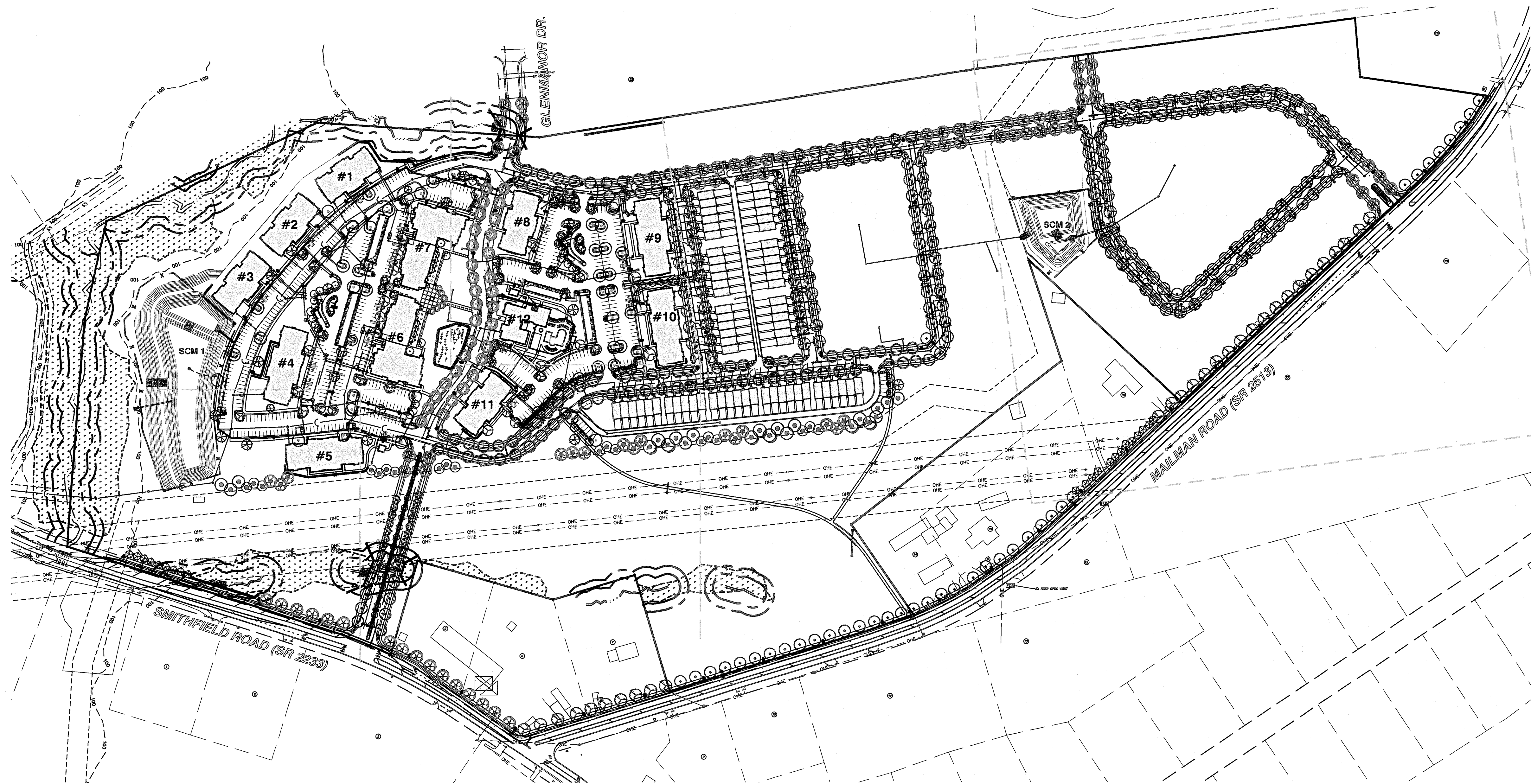
VILLAGE GATE
 S. SMITHFIELD ROAD
 TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

EROSION AND SEDIMENT CONTROL
Approved Plan
 DATE: 2-1-2023
 Permit No. SEC-
 Town of Knightdale
 Sedimentation & Erosion Control
 (919)-217-2250

a. **Town Certification.** This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
 By: *[Signature]* Date: 2-1-2023
 Town Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.
 By: *[Signature]* Date: 2-2-2023
 Administrator

NORTH CAROLINA PROFESSIONAL SEAL 036908
 MARY D. BUTZELL
 01/16/23



LANDSCAPE CALCULATIONS

STREET YARDS:
 GLEN MANOR TRAIL: 2,448 LF
 1 TREE/40 LF = 62 TREES REQUIRED/PROVIDED
 MAILMAN RD: 2,833 LF
 1 TREE/40 LF = 71 TREES REQUIRED/PROVIDED
 SMITHFIELD RD: 832 LF (EXCLUDES 165 LF OF RETAINING WALL AT BUFFER)
 1 TREE/40 = 832/40 = 21 TREES REQUIRED
 16 SHADE TREES AND 10 UNDERSTORY TREES PROVIDED
 ALL NEW STREETS: 1 TREE/40 LINEAR FEET OF RIGHT OF WAY

TREE COVER AREA:
 9,744 FT X 20 FT = 194,880 SF
 194,880 SF / 3,304,897 SF = 5.9% TOTAL TREE COVER AREA

PARKING LOT SCREENING: 771 LF TOTAL TO BE SCREENED
 ALL SIDES OF PARKING LOTS FRONTING STREET RIGHTS-OF-WAY SHALL BE SCREENED WITH A TYPE A BUFFER YARD (SECTION 7.4)(2)).
 REQUIRED PLANTINGS:
 3 CANOPY TREES/100 LF: 771/100 X 3 = 23 TREES REQ'D/PROV.
 2 UNDERSTORY TREES/100 LF: 771/100 X 2 = 15 US TREES REQ'D/PROV.
 20 SHRUBS/100 LF: 771/100 X 20 = 154 SHRUBS REQ'D/PROV.

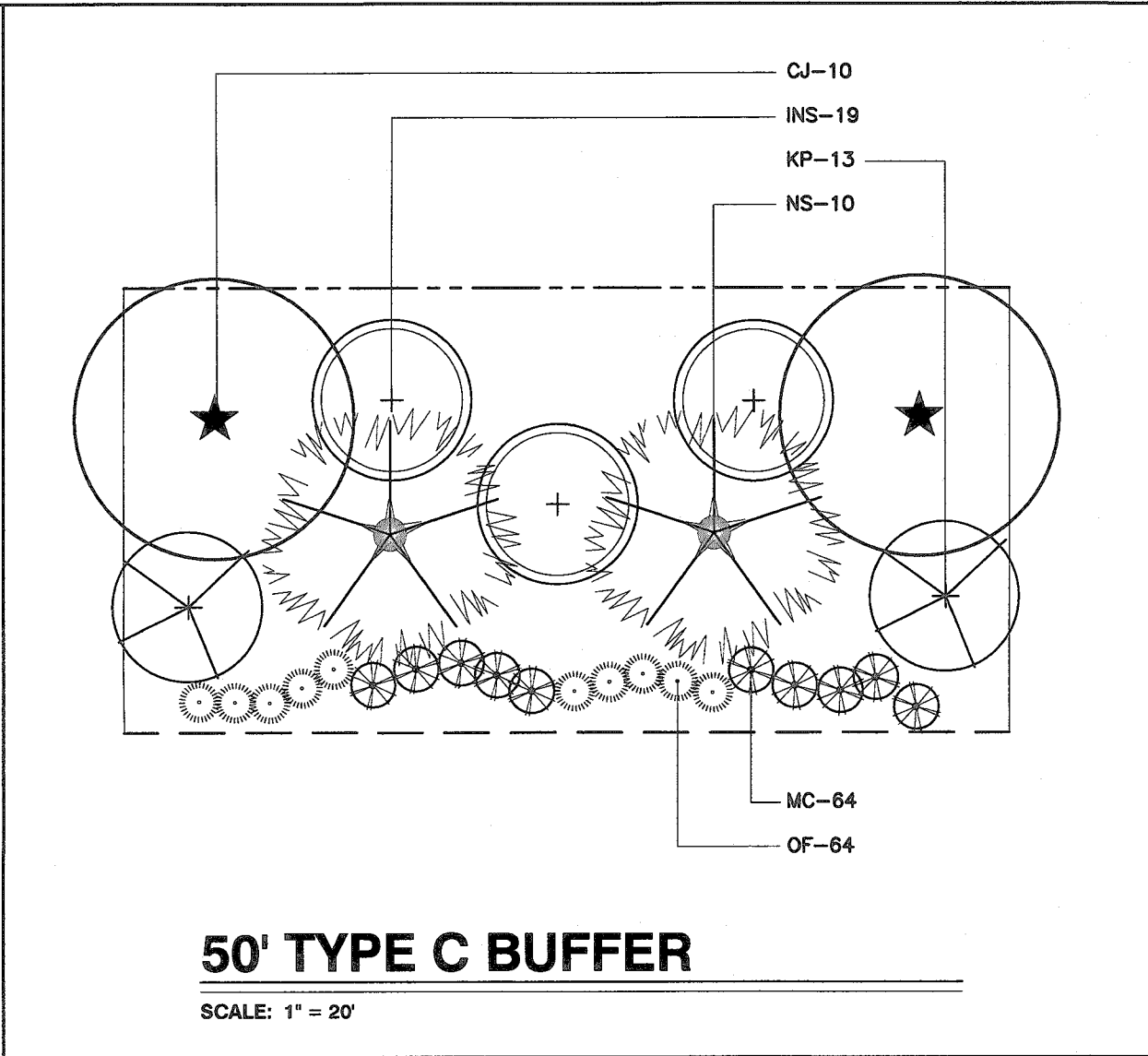
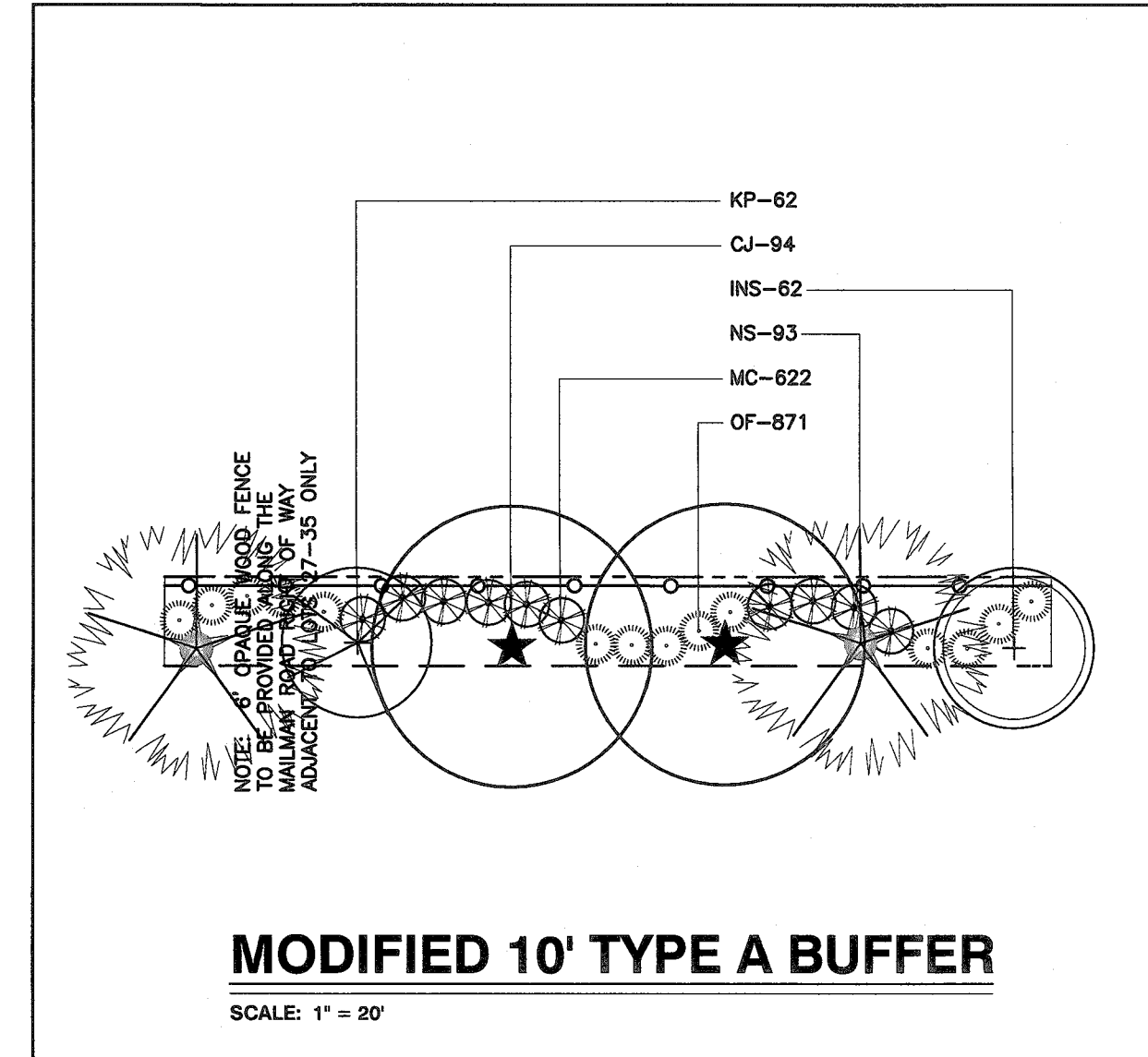
UTILITIES AND DUMPSTER SCREENING: 140 LF TOTAL TO BE SCREENED
 ABOVE GROUND UTILITIES AND ENCLOSED CONTAINMENT AREAS FOR TRASH AND RECYCLABLES SHALL BE SCREENED BY THE ELEMENTS OF A TYPE B BUFFER YARD IN SECTION 7.4(3) THAT PERTAIN TO SEMI-OPAQUE SCREENS UP TO SIX (6) FEET IN HEIGHT OR THE HEIGHT OF THE UTILITY OR ENCLOSURE, WHICHEVER IS LESS.
 REQUIRED PLANTINGS:
 3 CANOPY TREES/100 LF: 140/100 X 3 = 4 TREES REQ'D/PROV.
 5 UNDERSTORY TREES/100 LF: 140/100 X 5 = 7 US TREES REQ'D/PROV.
 20 SHRUBS/100 LF: 140/100 X 20 = 28 SHRUBS REQ'D/PROV.

TREE REPLACEMENT
 TIER 1: NO TREES REMOVED THAT MEET THE CRITERIA FOR TREE REPLACEMENT
 TIER 2: 545' OF TREES GREATER THAN 12" IN DIAMETER REMOVED
 545/12 = 45 NEW TREES REQ'D/PROV.
 TIER 3: 117' OF TREES GREATER THAN 24" IN DIAMETER REMOVED
 117/12 = 10 NEW TREES REQ'D/PROVIDED

REPLACEMENT TREES MUST BE IN ADDITION TO ANY OTHER LANDSCAPING REQUIRED BY THE UDO.

GENERAL NOTES

- A/C UNITS, TRANSFORMERS AND OTHER MECHANICAL OR UTILITY EQUIPMENT, NOT SHOWN ON THE PLAN, SHALL BE SCREENED FROM VIEW EITHER BY ADJUSTING PLANTINGS SHOWN IN CLOSE PROXIMITY TO EQUIPMENT OR BY THE ADDITION OF WAX MYRTLES @ 24" HT, 5" OC (SEE GENERAL NOTES FOR EQUIPMENT ACCESSIBILITY AND PLANTING PROXIMITY, ETC.). DUMPSTER IS SCREENED FROM OFF-SITE VIEWS.
- CONTRACTOR SHALL VERIFY LOCATION OF ALL UTILITIES PRIOR TO PLANTING.
- MULCH SHALL BE 3" DEEP PINE STRAW UNLESS OTHERWISE NOTED.
- VERIFICATION OF TOTAL QUANTITIES AS SHOWN IN THE PLANT LIST AND ON THE PLAN SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR. ANY DISCREPANCIES BETWEEN PLANT LIST AND PLANTING PLAN SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT FOR CLARIFICATION.
- ALL TREES, SHRUBS, GROUNDCOVER, ETC. SHALL CONFORM TO ACCEPTED STANDARDS ESTABLISHED BY THE AMERICAN ASSOCIATION OF NURSERMEN.
- ALL ROOTBALLS REMOVED FROM CONTAINERS SHALL BE SCARIFIED PRIOR TO PLANTING.
- B&B AS LISTED UNDER "ROOT" IN THE PLANT LIST INDICATES BALLED & BURLAPPED.
- ALL PLANTS/PLANTINGS SHALL BE MULCHED IMMEDIATELY AFTER PLANTING AND WATERED.
- ALL PLANTS SHALL BEAR THE SAME RELATIONSHIP TO FINISHED GRADE AS THEY BORE TO PREVIOUS EXISTING GRADE (UNLESS OTHERWISE NOTED).
- ALL TREES AND SHRUBS SHALL REQUIRE MULCH RINGS AT THEIR BASE IF LEFT WITHIN LAWN AREAS.
- MULCH EDGES AND PROPOSED PLANTINGS SHALL NOT DISTURB ANY EXISTING GROUPS OF TREES TO REMAIN. EDGES ARE SHOWN FOR APPROXIMATION ONLY, BUT ARE TO INDICATE SMOOTH, CLEAN CURVES.
- CULVERTS, RIP-RAP STRUCTURES, AND OTHER STORMWATER DEVICES SHALL BE SCREENED WITH EVERGREEN SHRUBS. IF STRUCTURES ARE NOT SHOWN ON THE PLAN, INSTALL WAX MYRTLES @ 24" HT. = 2' OC.
- A 2' BUMPER OVERHANG, FROM THE BACK OF CURB, SHALL BE ALLOTTED FOR MATURE SHRUBS.
- TREE PROTECTION FENCING SHALL BE MAINTAINED UNTIL ALL SITE WORK IS COMPLETED. THE FENCING SHALL BE REMOVED PRIOR TO THE FINAL SITE INSPECTION FOR THE CERTIFICATE OF OCCUPANCY (C.O.). THE SITE SHALL BE STABILIZED AND SEEDED PRIOR TO THE ISSUANCE OF A (C.O.).
- ALL TREES SHALL BE LOCATED A MINIMUM OF 6' FROM SIDEWALKS.



PLANT LIST

KEY	SCIENTIFIC NAME	COMMON NAME	QUAN.	CAL.	HT.	ROOT	REMARKS	TYPE
SHADE TREES								
AB	Acer buergerianum	Trident Maple	32	2"	8'	B&B	street	Deciduous
AN	Acer saccharum	Sugar Maple	79	2"	8'	B&B	street, VUA	Deciduous
BS	Betula nigra 'DuraHeat'	River Birch	9	2"	8'	B&B	replacement	Deciduous
CCA	Carpinus caroliniana	American Hornbeam	6	2"	8'	B&B	VUA	Deciduous
CD	Cedrus deodara	Deodar Cedar	21	2"	8'	B&B	replacement	Evergreen
CI	Cryptomeria japonica	Japanese Cryptomeria	104	2"	8'	B&B	buffer	Evergreen
CO	Celtis occidentalis 'Prairie's Pride'	Hackberry	76	2"	8'	B&B	VUA	Deciduous
LS	Liquidambar styraciflua 'Rotundiloba'	Frutless Sweetgum	65	2"	8'	B&B	VUA	Deciduous
NS	Nyssa sylvatica	Black Gum	103	2"	8'	B&B	buffer	Deciduous
PC	Pistachia chinensis	Chinese Pistachio	88	2"	8'	B&B	Street/Rep.	Deciduous
QA	Quercus acutissima	Sawtooth Oak	100	2"	8'	B&B	Street	Deciduous
UP	Ulmus parvifolia	Lacebark Elm	81	2"	8'	B&B	Street	Deciduous
ZS	Zelkova serrata	Zelkova	59	2"	8'	B&B	Street/VUA	Deciduous
UNDERSTORY TREES								
AP	Acer palmatum	Japanese Maple	3	1.25"	6'	B&B	VUA	Deciduous
CC	Cercis canadensis 'Appalachian Red'	Appalachian Red Redbu	53	1.25"	6'	B&B	VUAstreet	Deciduous
CK	Cornus kousa	Kousa Dogwood	24	1.25"	6'	B&B	VUA/screen	Deciduous
CV	Chionanthus virginicus	Fringetree	6	1.25"	6'	B&B	VUA	Deciduous
INS	Ilex 'Nellie R. Stevens'	Nellie Stevens Holly	81	6"	6'	B&B	buffer	Evergreen
KP	Koeleruteria paniculata	Golden Raintree	75	1.25"	6'	B&B	buffer	Deciduous
LI	Lagerstroemia indica 'Catawba'	Catawba Crape Myrtle	9	1.25"	6'	B&B	VUA/street	Deciduous
MG	Magnolia grandiflora 'Little Gem'	Little Gem Magnolia	14	6"	6'	B&B	buffer	Evergreen
PS	Prunus serrulata 'Snowgoose'	Snowgoose Cherry	6	1.25"	6'	B&B	VUA	Deciduous
SI	Styrax japonicus	Japanese Snowbell	23	1.25"	6'	B&B	Accent	Deciduous
SHRUBS								
AG	Abelia grandiflora 'Edward Goucher'	Edward Goucher Abelia	87	18"	3 GAL.	VUA	Semi-evergreen	
BG	Buxus 'Green Gem'	Green Gem Boxwood	129	18"	3 GAL.	VUA	Evergreen	
CG	Cryptomeria 'Globosa Nana'	Dwarf Cryptomeria	64	18"	3 GAL.	VUA	Evergreen	
CH	Cephalotaxus harringtonia 'Duke Gardens New'	Duke Gardens New	77	18"	3 GAL.	VUA	Evergreen	
CI	Camellia japonica	Japanese Camellia	4	36"	7 GAL.	Accent	Evergreen	
EJ	Euonymus japonicus 'Green Spire'	Green Spire Euonymus	53	18"	3 GAL.	VUA	Evergreen	
GJ	Gardenia jasminoides 'Kieim's Hardy'	Kieim's Hardy Gardenia	58	18"	3 GAL.	Accent	Evergreen	
IC	Ilex crenata 'Sky Pencil'	Sky Pencil Holly	168	24"	3 GAL.	Screen	Evergreen	
LC	Loropetalum chinense 'Daruma'	Dwarf Fringe Flower	30	18"	3 GAL.	VUA	Evergreen	
MC	Myrica cerifera	Wax Myrtle	686	18"	3 GAL.	Buffer	Evergreen	
OF	Ornithanthus fortunei	Fortunes Osmanthis	925	18"	3 GAL.	Buffer	Evergreen	
PT	Pittosporum tobira 'Nana'	Dwarf Pittosporum	3	18"	3 GAL.	VUA	Evergreen	
VD	Viburnum davidii	David Viburnum	73	15"	3 GAL.	Accent	Evergreen	

RESIDENTIAL LANDSCAPING NOTES

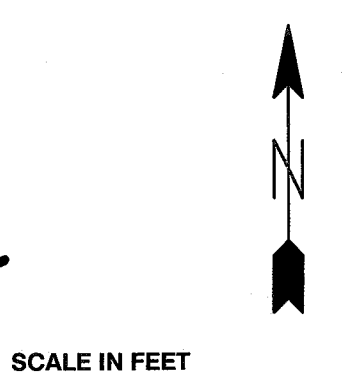
- EACH SINGLE FAMILY LOT SHALL CONTAIN A MINIMUM OF ONE (1) CANOPY TREE FOR EVERY TWO-THOUSAND (2,000) SQUARE FEET OF LOT AREA OR FRACTION THEREOF UP TO TWENTY-THOUSAND (20,000) SQUARE FEET IN LOT AREA. ANY PORTION OF THE RESIDENTIAL LOT OCCUPIED BY A RECORDED UTILITY EASEMENT SHALL NOT BE INCLUDED AS PART OF THE TOTAL LOT AREA. THE LOCATION OF PLANTING TO ACCOUNT FOR PHYSICAL CONDITIONS MAY BE ADJUSTED BY THE LAND USE ADMINISTRATOR.
- THE USE OF EXISTING TREES MEETING THE FOLLOWING STANDARDS TO SATISFY THIS REQUIREMENT IS ENCOURAGED. EXISTING LARGE SHADE TREES MEASURING MORE THAN SIX (6) INCHES IN DBH MAY BE COUNTED TOWARDS FULFILLING THIS REQUIREMENT.
- REQUIRED STREET TREES (SECTION 7.4(1)) MAY NOT BE COUNTED TOWARDS THE FULFILLMENT OF THE RESIDENTIAL LANDSCAPING REQUIREMENT. APART FROM REQUIRED STREET TREES, ALL OTHER TREES REQUIRED UNDER THIS CHAPTER SHALL BE PLANTED WITHIN THE PRIVATE LOT.
- FOUNDATION PLANTINGS CONSISTING OF EVERGREEN SHRUBS SHALL BE INSTALLED ALONG THE ENTIRE FOUNDATION WALL OF THE BUILDING. PLANT INSTALLATION SHALL BE A MINIMUM OF TWO (2) FEET IN HEIGHT PLANTED AT FOUR (4) FOOT INTERVALS.

NO WETLANDS EXIST ON-SITE

NO FLOODPLAINS EXIST ON-SITE

NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF KNIGHTDALE AND NCDOT

a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
 By: *[Signature]* Date: 2-1-2023
 Town Engineer
 These plans are approved by the Town of Knightdale and serve as construction plans for this project.
 By: *[Signature]* Date: 2-2-2023
 Administrator

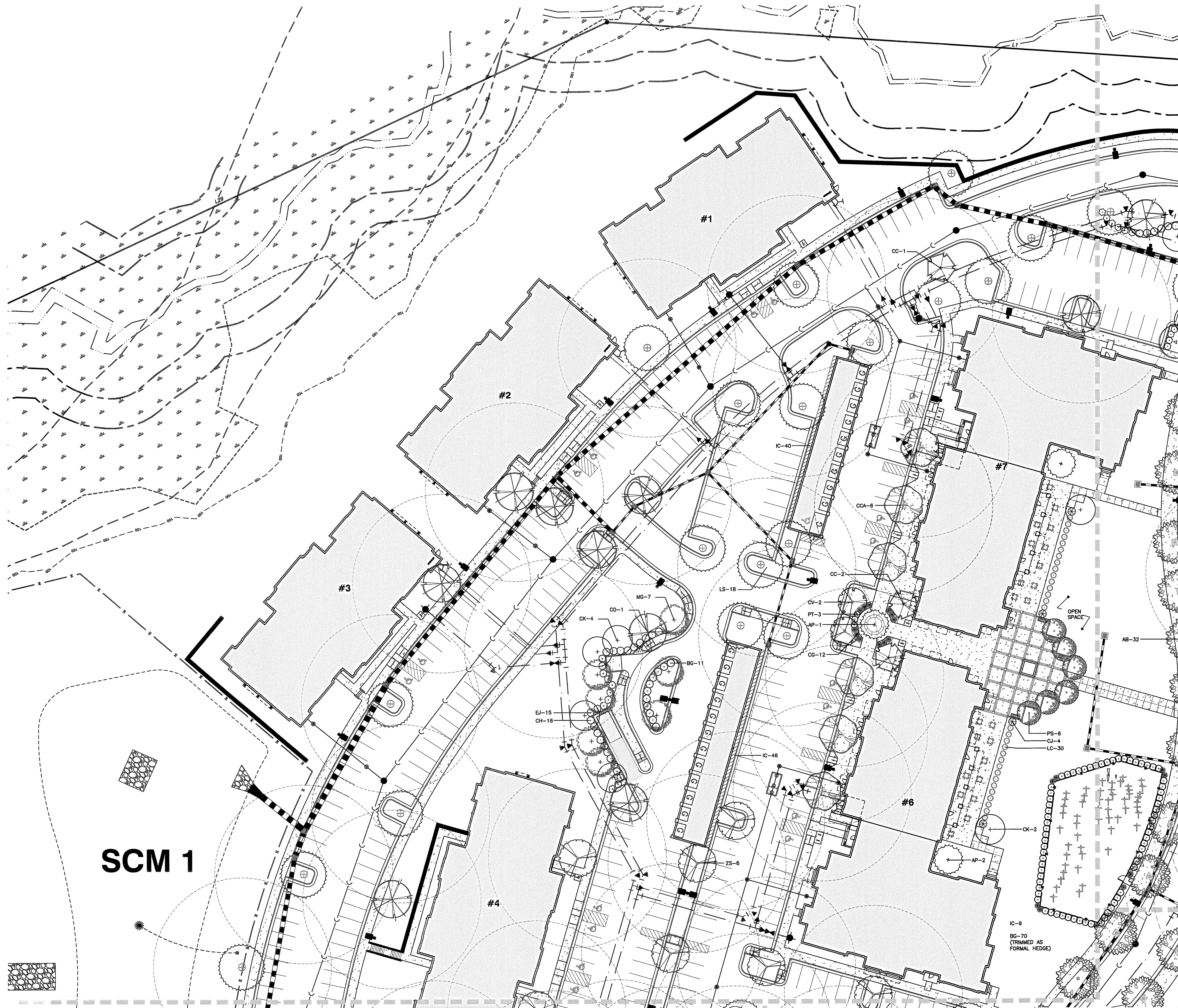


BASS, NIXON & KENNEDY, INC.
 CONSULTING ENGINEERS
 6510 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919)851-4422 OR (800)354-1879 FAX: (919)851-6868
 CERTIFICATION NUMBERS: NCBELS (C-010); NCBOLA (C-0267)

NO.	DATE	DESCRIPTION	BY
1	03-20-2023	T&K COMMENTS/SIGNATURE SET	RAB
2	03-20-2023	TOWN OF KNIGHTDALE COMMENTS	RAB
3	03-20-2023	TOWN OF KNIGHTDALE COMMENTS	RAB
4	03-20-2023	TOWN OF KNIGHTDALE COMMENTS	RAB
5	03-20-2023	TOWN OF KNIGHTDALE COMMENTS	RAB
6	03-20-2023	TOWN OF KNIGHTDALE COMMENTS	RAB

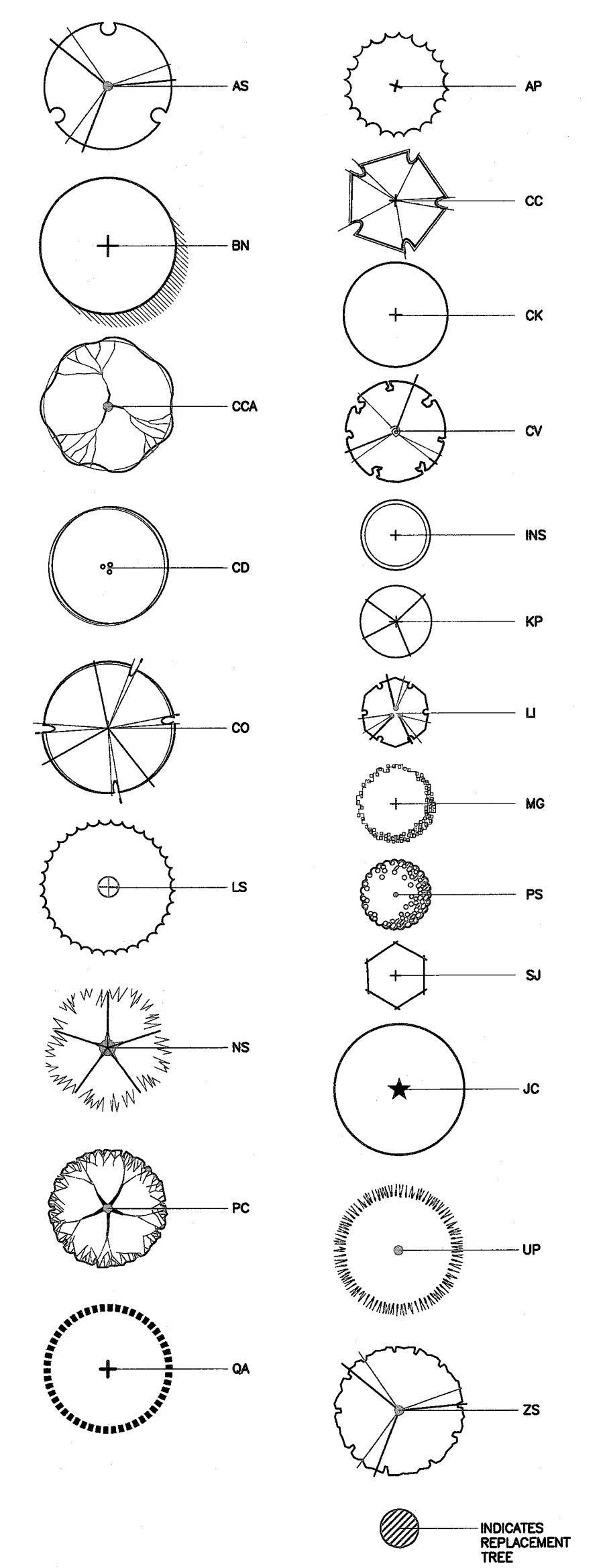
VILLAGE GATE
S. SMITHFIELD ROAD
 TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA
 SHEET L1.0
 SCALE: 1" = 20'

\\CIVIL\B\civil_2020\20097 - Knightdale Mixed Use\CIVIL\04 Construction\12 - 20097_Landscape CDs.dwg, Landscape - 1, 1/17/2023 1:33:59 PM, gerry

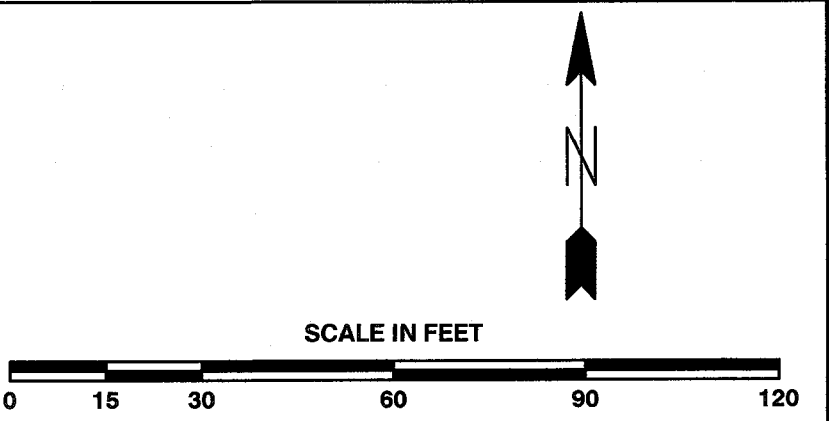
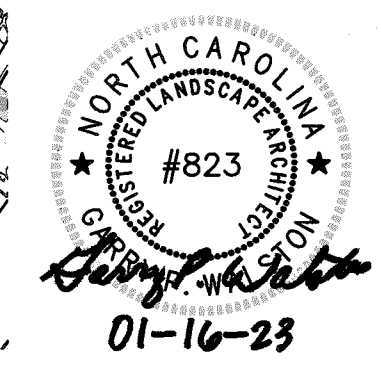



SCM 1

PLANT LEGEND



a. **Town Certification.** This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
 By: S. Smith Date: 2-1-2023
 Town Engineer
 These plans are approved by the Town of Knightdale and serve as construction plans for this project.
 By: [Signature] Date: 2-2-2023
 Administrator





BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919) 851-4422 OR (800) 354-1879 FAX: (919) 851-8968
 CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0287)

NO.	DATE	DESCRIPTION	BY
1	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB
3	06-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
6	01-16-23	TOWN OF KNIGHTDALE COMMENTS	RAB

05-20097 9-10-21 LAK
 JOB NO. DATE DRAWN BY
LANDSCAPE PLAN
SHEET 1

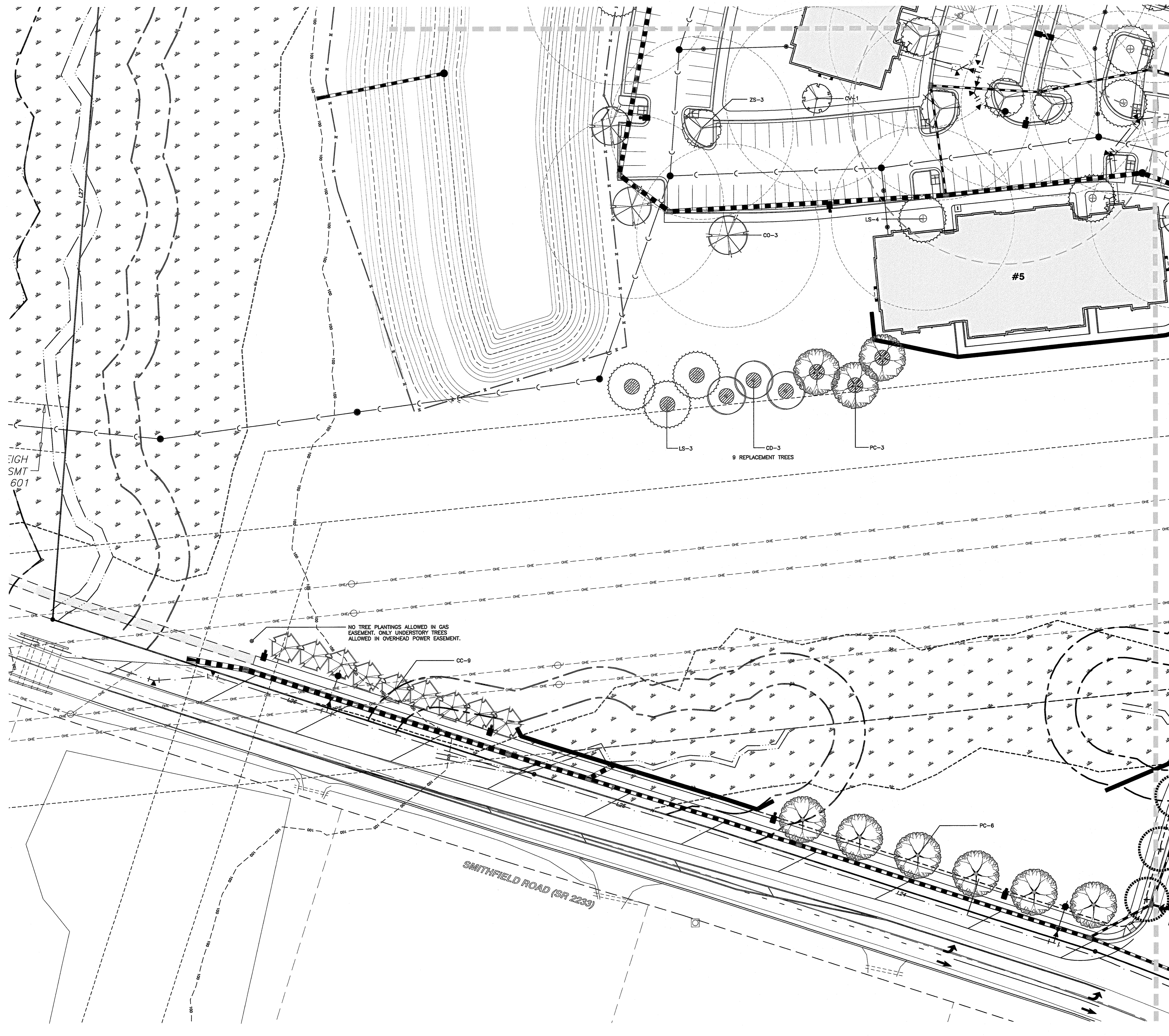
SCALE: 1" = 20'
 CHK BY: MDB

VILLAGE GATE
S. SMITHFIELD ROAD
 TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

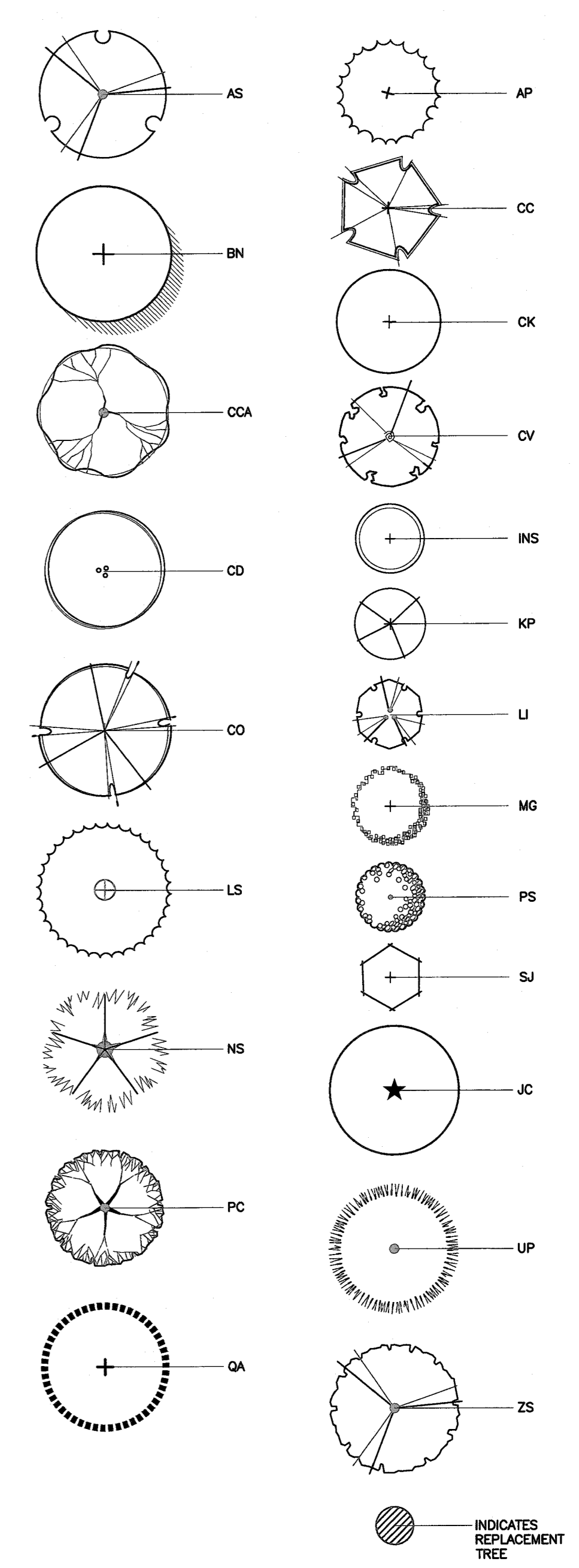
SHEET
L1.1

TOWN OF KNIGHTDALE PROJECT NO. PUD CASE NO. ZMA-1-21

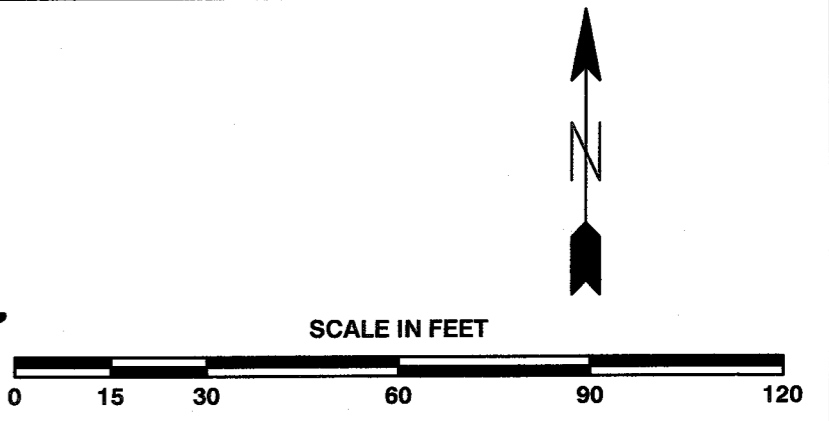
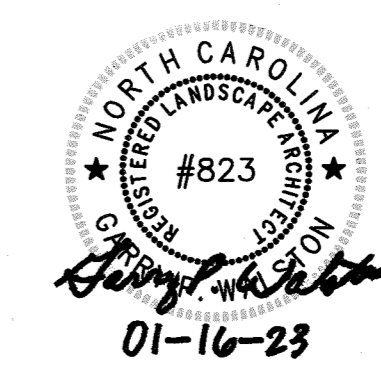
RELEASED FOR CONSTRUCTION OR BID SOLICITATION




PLANT LEGEND



a. **Town Certification.** This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
 By: *S.M. Hill* Date: 2-1-2023
 Town Engineer
 These plans are approved by the Town of Knightdale and serve as construction plans for this project.
 By: *[Signature]* Date: 2-2-2023
 Administrator





BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919)851-4422 OR (800)364-1879 FAX: (919)851-8988
 CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0257)

NO.	DATE	DESCRIPTION	BY
6	01-16-23	TOK COMMENTS/SIGNATURE SET	RAB
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	08-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
3	06-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB

05-20097
 JOB NO.

9-2-21
 DATE

LAK
 DRAWN BY

LANDSCAPE PLAN
SHEET 2

9-2-21
 DATE

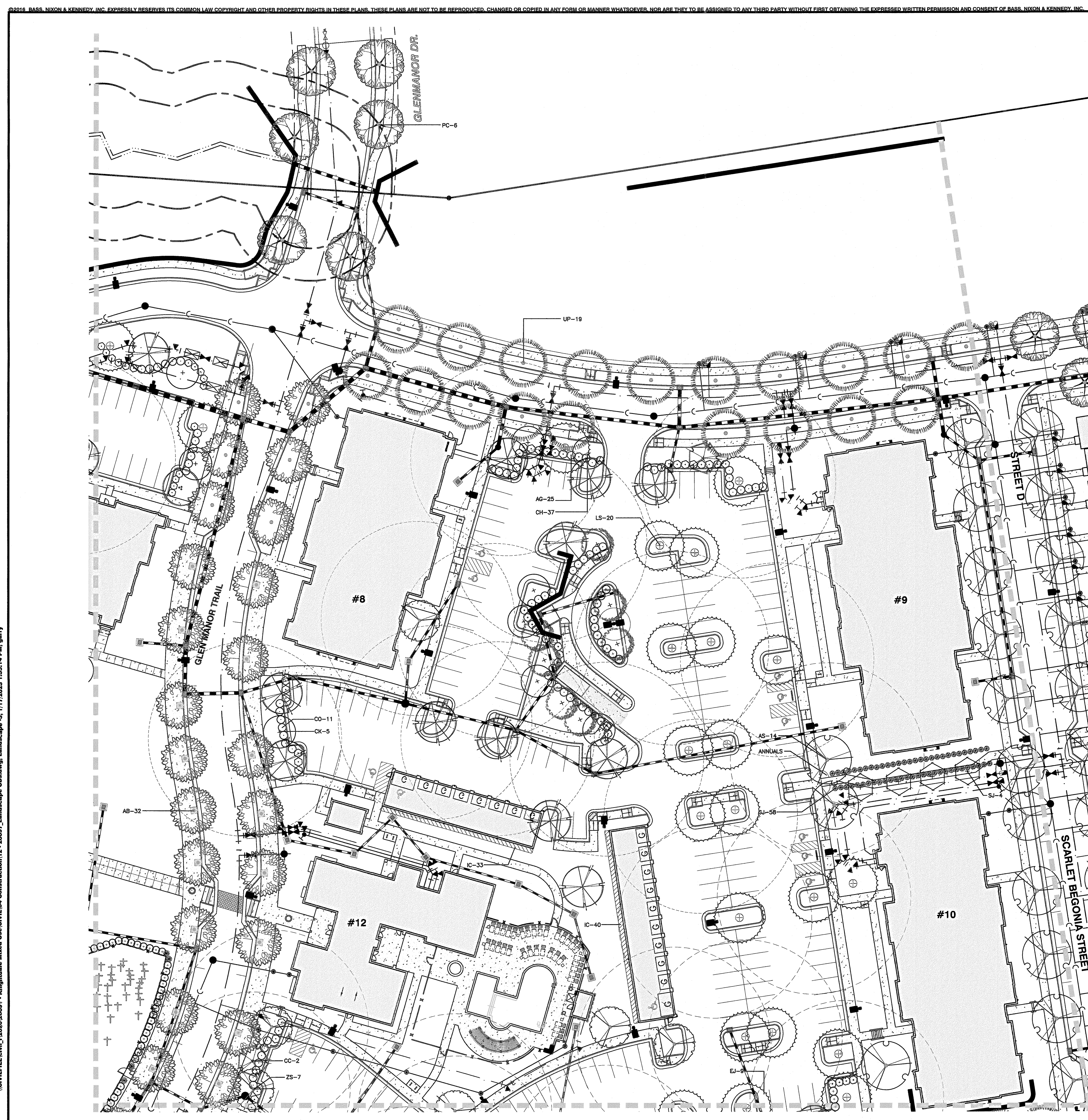
CHK BY: MDB

VILLAGE GATE
S. SMITHFIELD ROAD
 TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

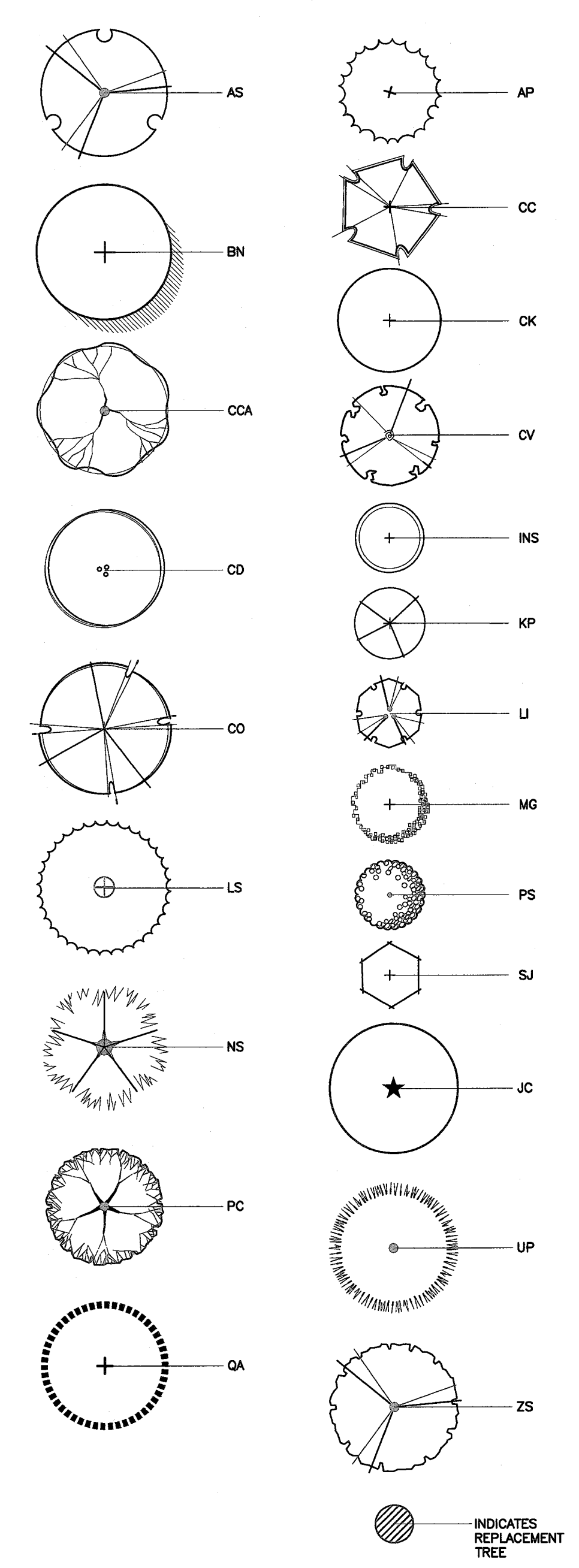
SHEET
L1.2

SCALE: 1"=20'

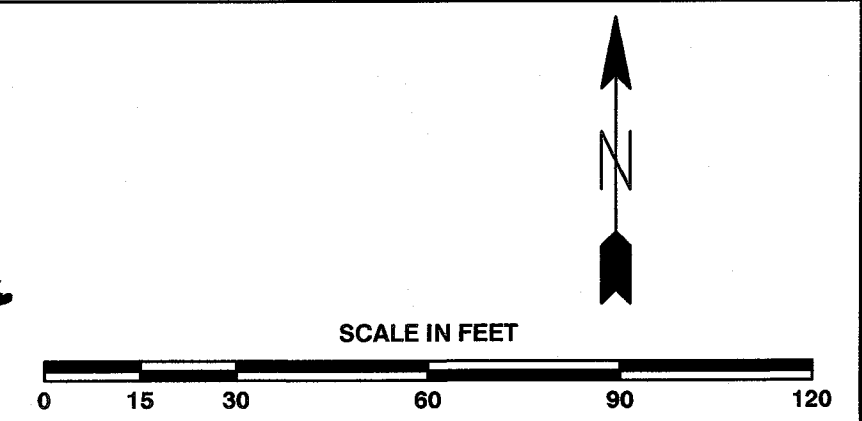
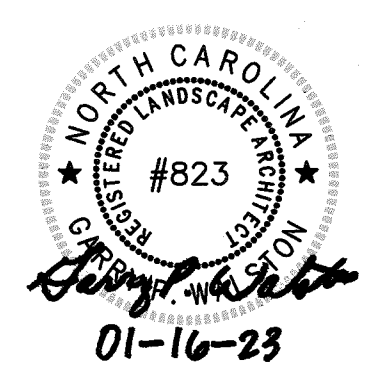
\\CIVIL\B\chill_2020\20097 - Knightdale Mixed Use\CIVIL\04 Construction\12 - 20097_Landscape CDs.dwg, Landscape - 2, 1/17/2023 1:34:41 PM, gerry




PLANT LEGEND



a. **Town Certification.** This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
 By: *[Signature]* Date: 2-1-2023
 Town Engineer
 These plans are approved by the Town of Knightdale and serve as construction plans for this project.
 By: *[Signature]* Date: 2-2-2023
 Administrator





BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919) 851-4422 OR (800) 354-1879 FAX: (919) 851-8968
 CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0287)

NO.	DATE	DESCRIPTION	BY
6	01-16-23	T&C COMMENTS/SIGNATURE SET	RAB
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
3	06-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB

NO.	DATE	DESCRIPTION	BY
1	03-20-07	DATE	DESCRIPTION
2	03-20-07	DATE	DESCRIPTION
3	03-20-07	DATE	DESCRIPTION
4	03-20-07	DATE	DESCRIPTION
5	03-20-07	DATE	DESCRIPTION
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17	03-20-07	DATE	DESCRIPTION
18	03-20-07	DATE	DESCRIPTION
19	03-20-07	DATE	DESCRIPTION
20	03-20-07	DATE	DESCRIPTION

LANDSCAPE PLAN
SHEET 3

SCALE: 1" = 30'

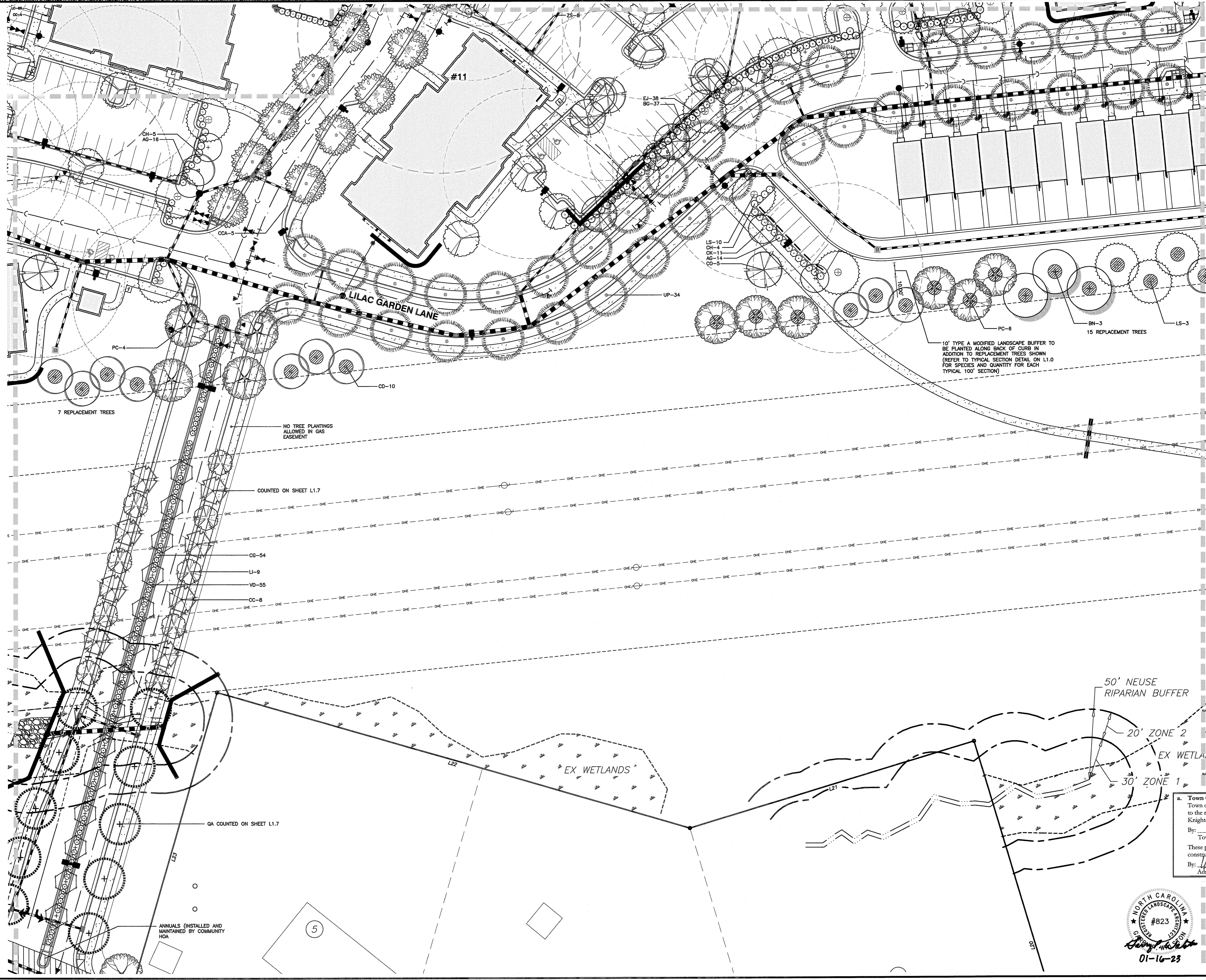
CHK BY: MDB

VILLAGE GATE
S. SMITHFIELD ROAD
 TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

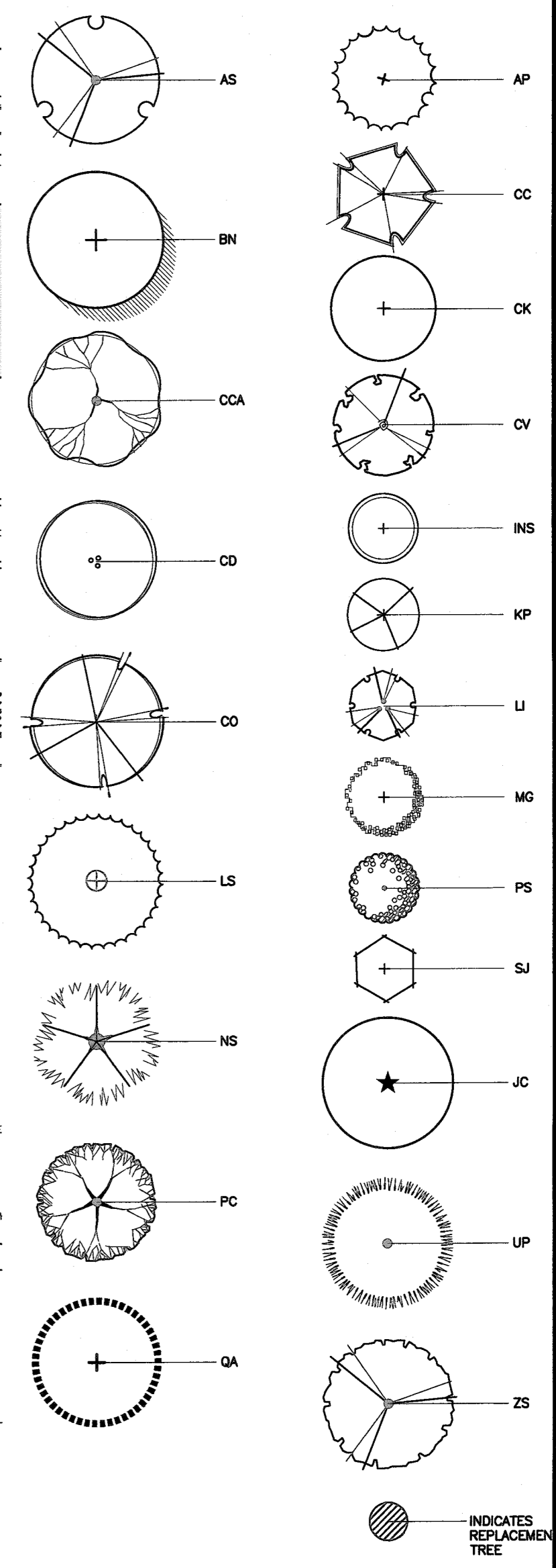
SHEET L1.3

\\CIVIL\FILE\civil_1\2020\20097 - Knightdale Mixed Use\CIVIL\04 Construction\12 - 20097 Landscape CDS.dwg, Landscape - 3, 1/17/2023 1:35:14 PM, gerry

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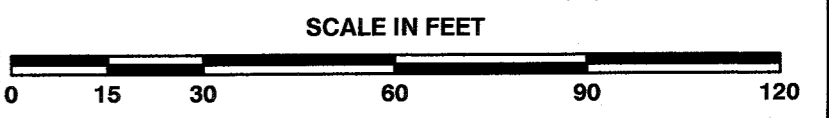
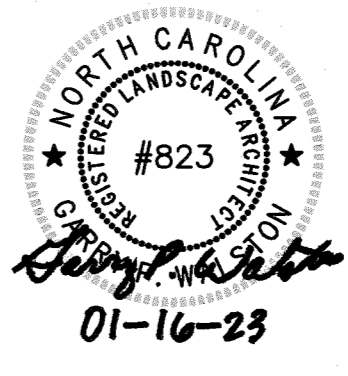
PLANT LEGEND



10' TYPE A MODIFIED LANDSCAPE BUFFER TO BE PLANTED ALONG BACK OF CURB IN ADDITION TO REPLACEMENT TREES SHOWN (REFER TO TYPICAL SECTION DETAIL ON L1.0 FOR SPECIES AND QUANTITY FOR EACH TYPICAL 100' SECTION)

50' NEUSE RIPARIAN BUFFER
20' ZONE 2
30' ZONE 1
EX WETLANDS

a. **Town Certification.** This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
By: CAH Date: 2-7-2023
Town Engineer
These plans are approved by the Town of Knightdale and serve as construction plans for this project.
By: WLB Date: 2-2-2023
Administrator



BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
6510 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
TELEPHONE: (919) 851-4422 OR (800) 354-1879 FAX: (919) 851-8988
CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

NO.	DATE	DESCRIPTION	BY
6	01-16-23	T&C COMMENTS/SIGNATURE SET	RAB
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
3	06-05-22	TOWN OF KNIGHTDALE COMMENTS	RAB
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB
1			

VILLAGE GATE
S. SMITHFIELD ROAD
TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

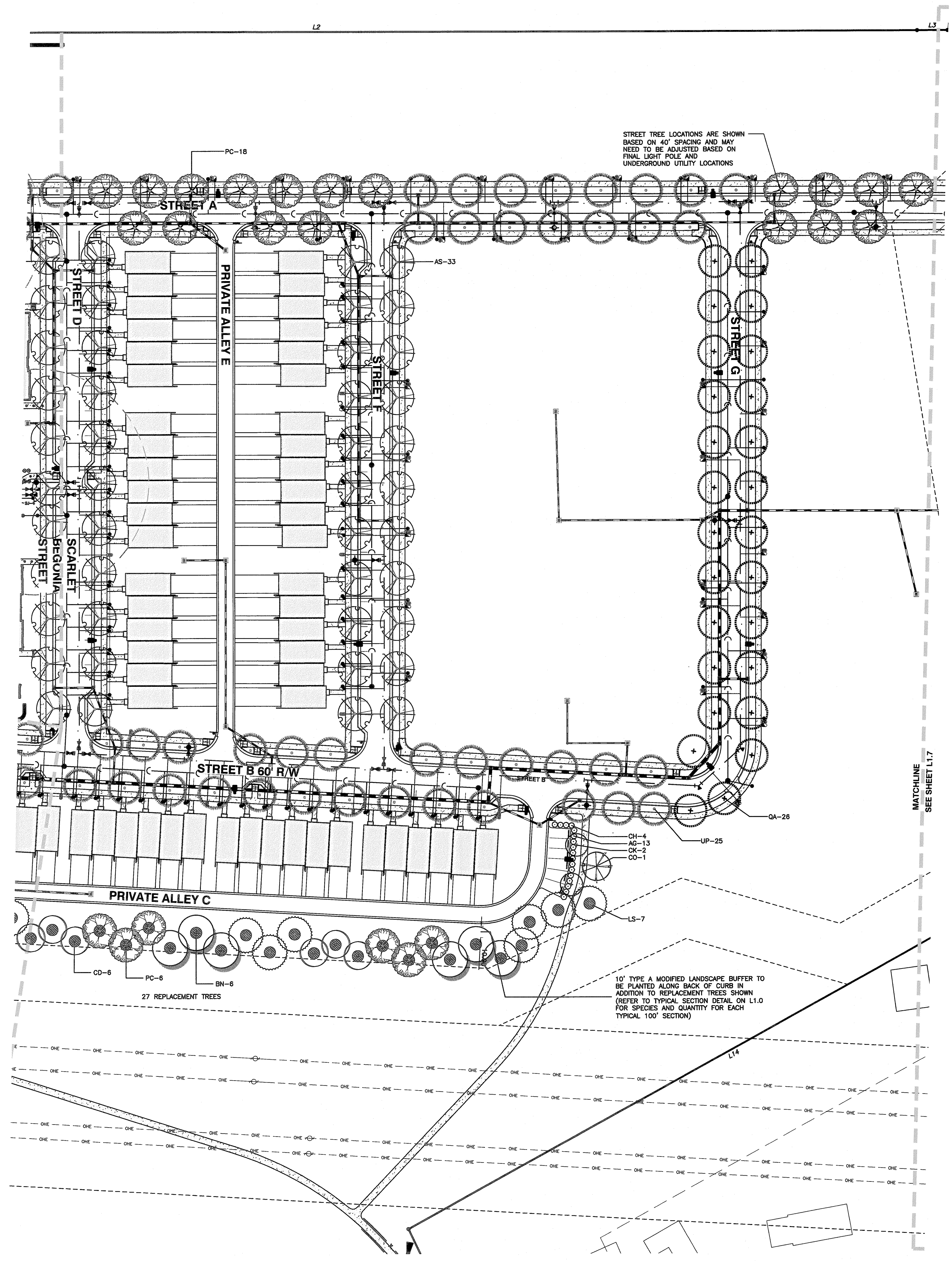
LANDSCAPE PLAN
SHEET 4

SCALE: 1" = 20'

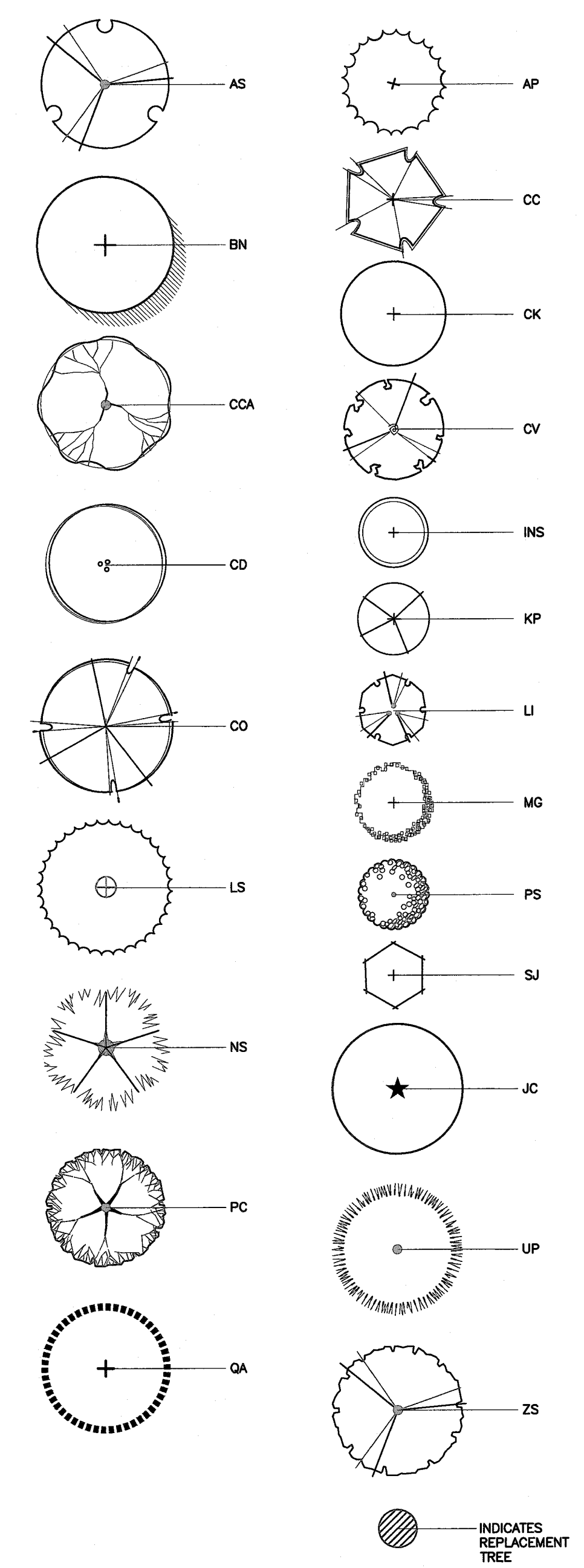
CHK BY: MDB

\\CVLFILES\chil_2020\2023 - Knightdale Mixed Use\CIVIL\04 Construction\12 - 2007_Landscape CBs.dwg, Landscape - 4, 1/17/2023 1:37:13 PM, gerry

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PLANT LEGEND

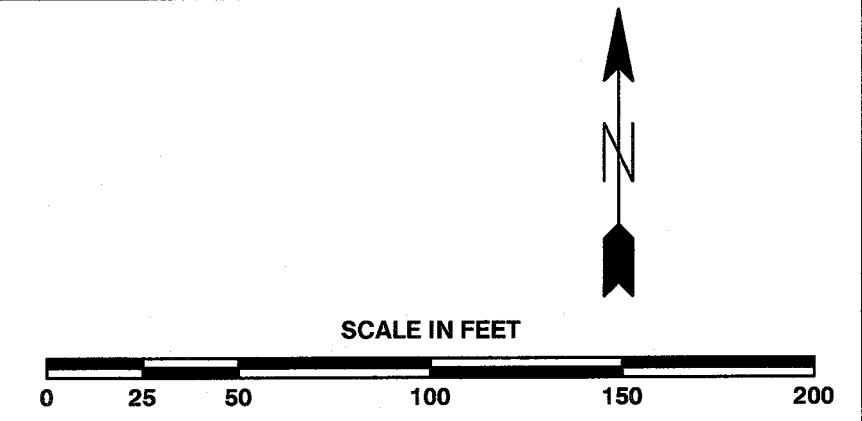


a. **Town Certification.** This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: *[Signature]* Date: 2-1-2023
Town Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: *[Signature]* Date: 2/2/23
Administrator



BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
TELEPHONE: (919)851-4422 OR (800)354-1879 FAX: (919)851-8968
CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0287)

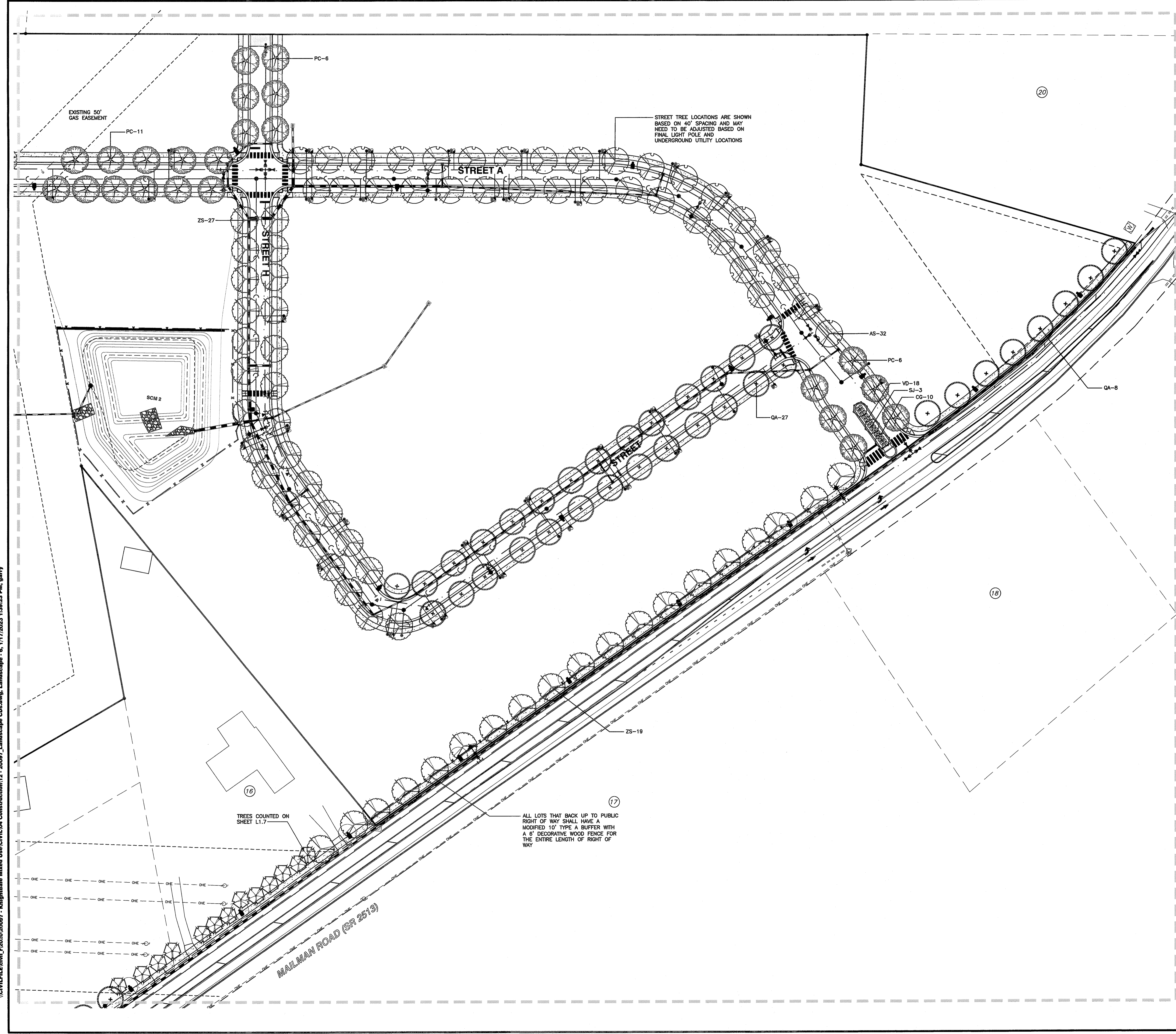
NO.	DATE	DESCRIPTION	BY
6	01-16-23	TOK COMMENTS/SIGNATURE SET	RAB
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
3	06-09-22	TOWN OF KNIGHTDALE COMMENTS	RAB
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB
		REVISIONS	

LANDSCAPE PLAN
SHEET 8

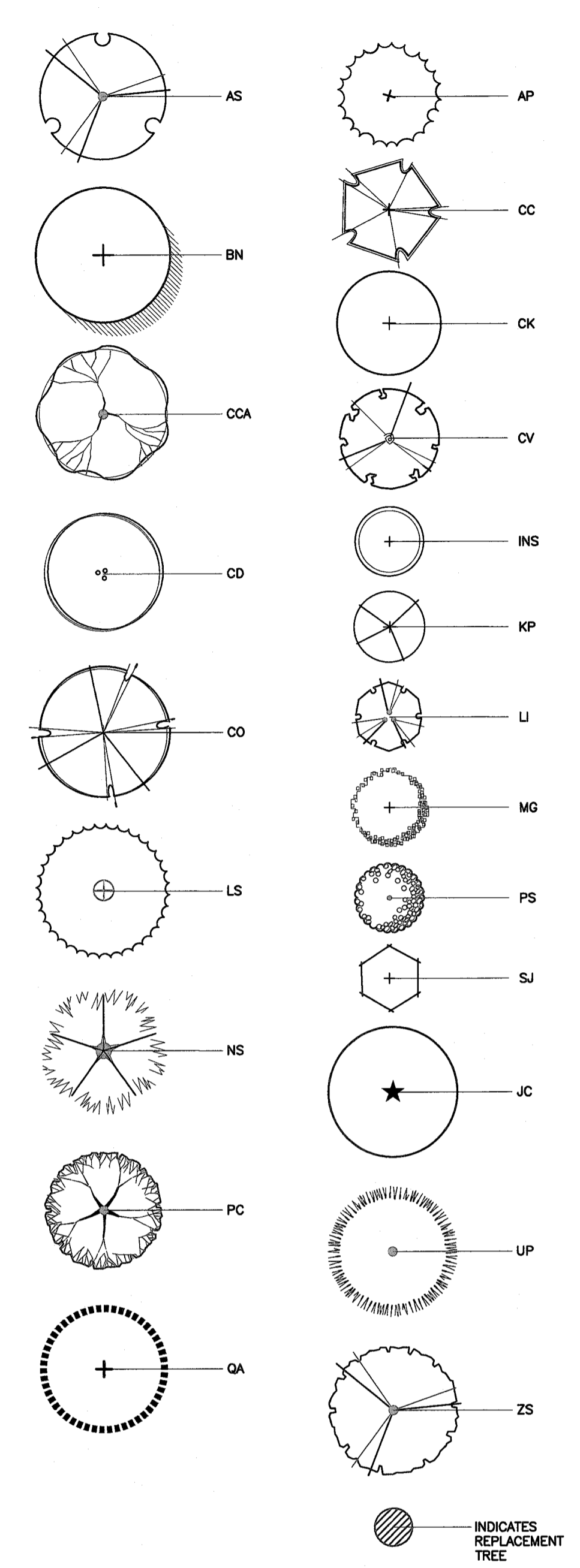
VILLAGE GATE
S. SMITHFIELD ROAD
TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET
L1.5

RELEASED FOR CONSTRUCTION OR BID SOLICITATION



PLANT LEGEND

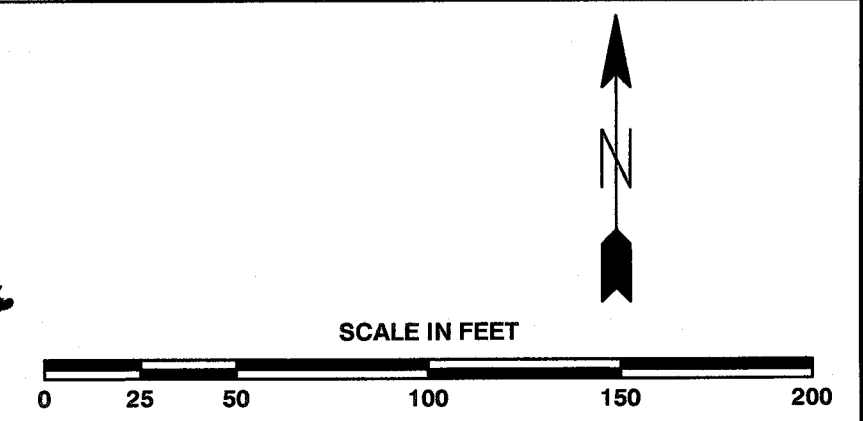
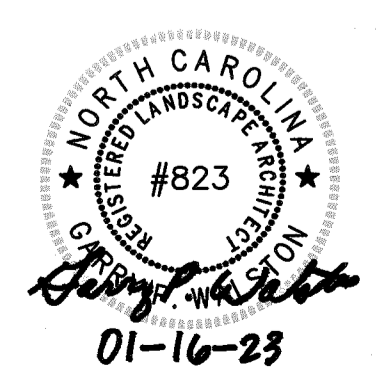


a. **Town Certification.** This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: SAMM Date: 2-1-2023
Town Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: HO W Date: 2-2-2023
Administrator



BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
TELEPHONE: (919)851-4422 OR (800)354-1879 FAX: (919)851-8988
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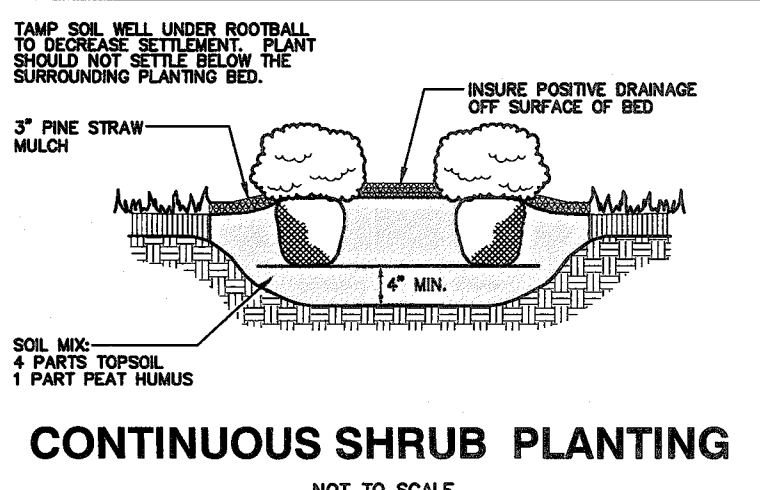
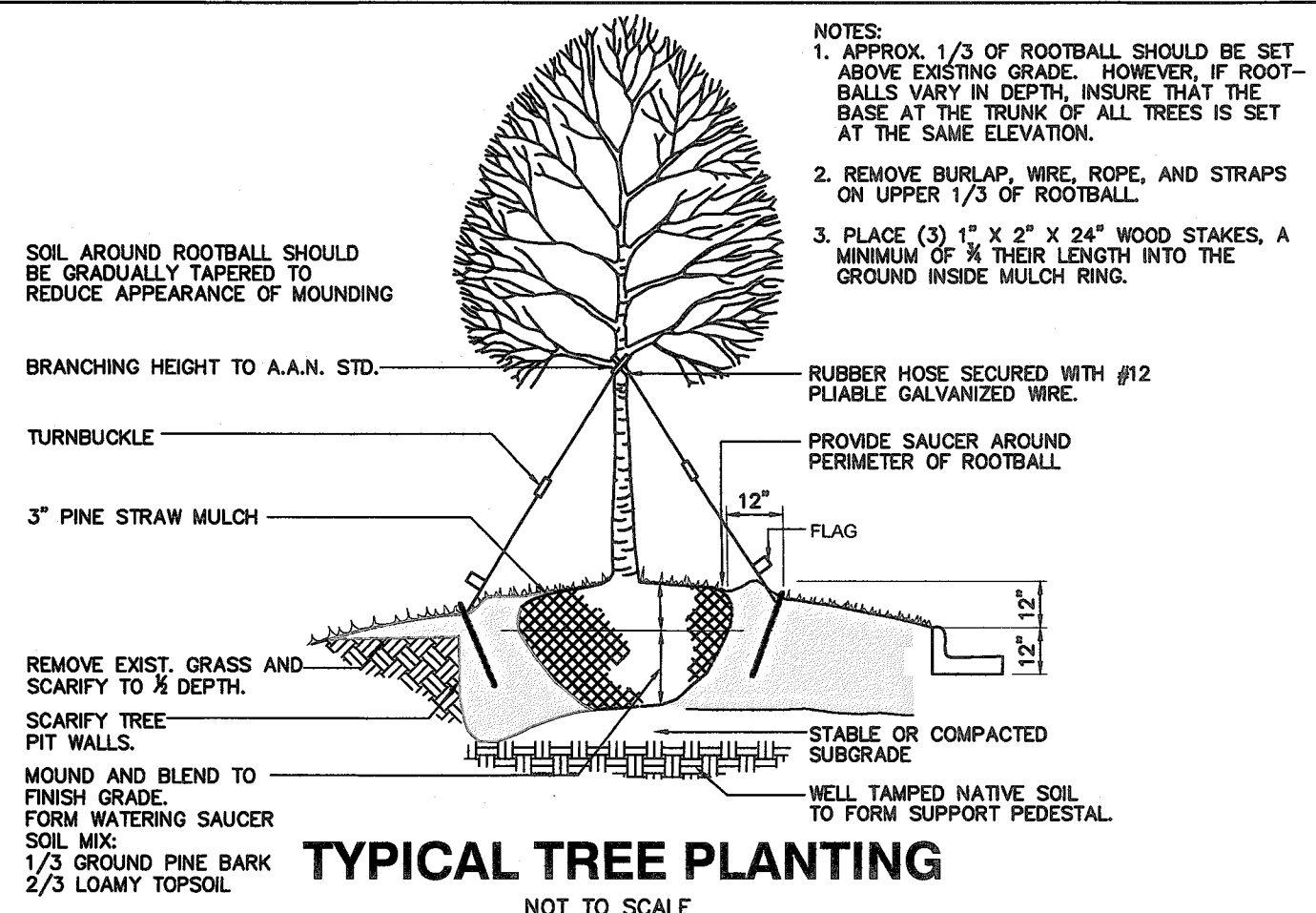
NO.	DATE	DESCRIPTION	BY
6	01-16-23	TOWN COMMENTS/SIGNATURE SET	RAB
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
3	06-05-22	TOWN OF KNIGHTDALE COMMENTS	RAB
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB
		REVISIONS	

05-20087 LAK 9-10-21
JOB NO. DATE DRAWN BY
LANDSCAPE PLAN SHEET 9
SCALE: 1"=40'
CHK BY: MDB

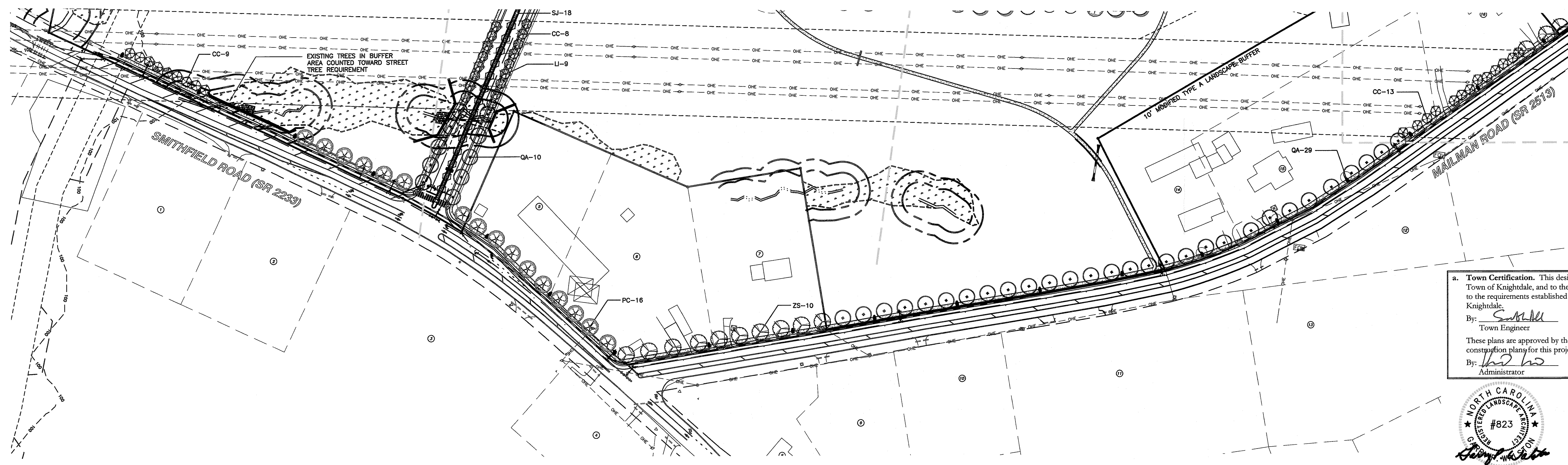
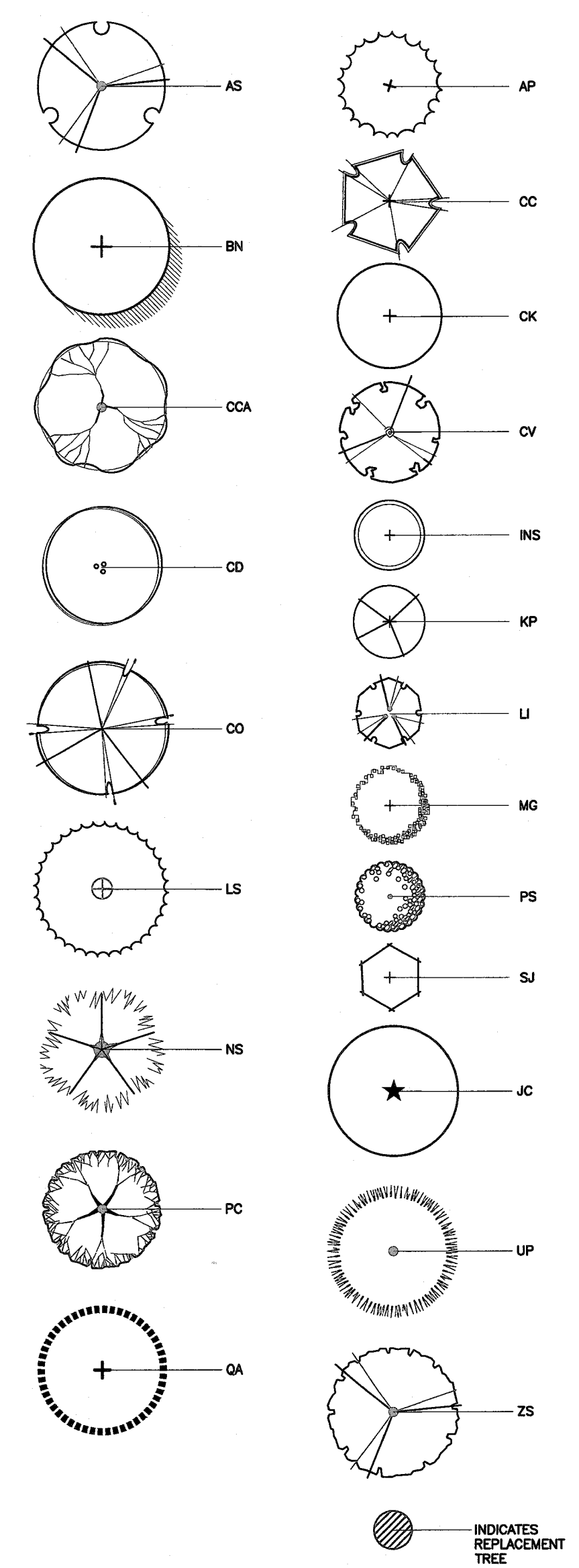
VILLAGE GATE
S. SMITHFIELD ROAD
TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET L1.6

\\CIVIL\B\B\chil_2020\20097 - Knightdale Mixed Use\CIVIL\04 Construction\12 - 20097_Landscape CDs.dwg, Landscape - 6, 1/17/2023 1:39:23 PM, gerry



PLANT LEGEND



a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
 By: *[Signature]* Date: *2-1-2023*
 Town Engineer
 These plans are approved by the Town of Knightdale and serve as construction plans for this project.
 By: *[Signature]* Date: *2-2-2023*
 Administrator

NORTH CAROLINA
 PROFESSIONAL LANDSCAPE ARCHITECT
 #823
[Signature]
 01-16-23
 SCALE IN FEET
 0 50 100 200 300 400

BNK
BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919)851-4422 OR (800)354-1879 FAX: (919)851-9988
 CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

NO.	DATE	DESCRIPTION	BY
6	01-16-23	T&K COMMENTS/SIGNATURE SET	RAB
5	11-04-22	TOWN OF KNIGHTDALE COMMENTS	RAB
4	09-01-22	TOWN OF KNIGHTDALE COMMENTS	RAB
3	06-03-22	TOWN OF KNIGHTDALE COMMENTS	RAB
2	02-25-22	TOWN OF KNIGHTDALE COMMENTS	RAB

VILLAGE GATE
S. SMITHFIELD ROAD
 TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA
 LANDSCAPE PLAN
 SHEET 7
 GPW
 9-10-21
 DATE
 03-20-097
 JOB NO.
 SCALE: 1"=50'
 CHK BY: MDB

I:\CIVIL\FILE\chil_2020\20097 - Knightdale Mixed Use CIVIL\04 Construction\12 - 20097_Landscape CDB.dwg, Landscape - 7, 1/17/2023 1:40:01 PM, garty

NO.	DATE	DESCRIPTION	REVISIONS
1	09-01-22	TOWN OF KNIGHTDALE COMMENTS	
2	01-16-23	TOWN OF KNIGHTDALE COMMENTS	

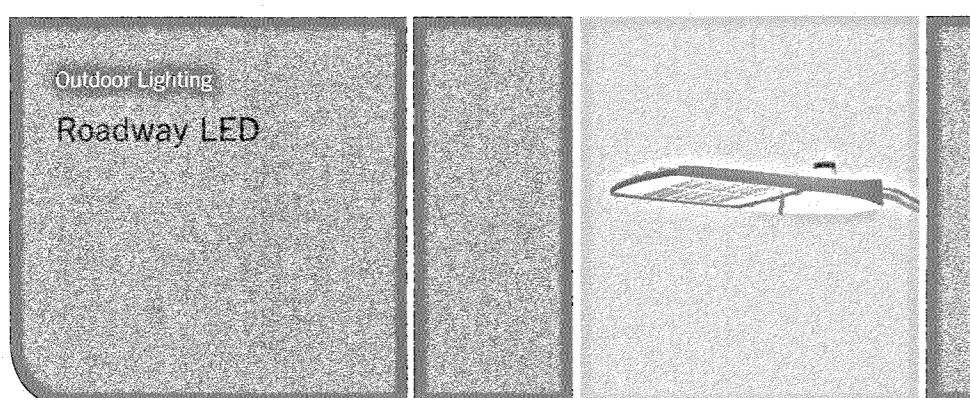
SCALE: As indicated

VILLAGE GATE
S. SMITHFIELD ROAD
 TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET
SL 1.1

TOWN OF KNIGHTDALE PROJECT NO. PUD CASE NO. ZMA-1-21

Outdoor Lighting
Roadway LED



The Roadway LED is a green relation and great fit for streets, walkways, parking areas and parking lots. This energy-efficient luminaire delivers the light where it is needed while increasing visibility and reducing spill light to adjoining properties. Choose from a medium light output on wood or fiberglass poles for mount on an existing pole. Available with one to four fixtures per pole, depending on the fixture/pole combination selected.

LED Light Emitting Diode	50 75 105 150 215 280 watts
Mounting heights	25', 30', 35'
Color	Gray, Black
Poles	Fiberglass Metal (special conditions) Wood

Outdoor Lighting
Roadway LED

Light source: LED (amber)
 Lumens: 4,000 - 25,050 (fixture dependent)

Voltage	Light Pattern	IESNA Backlighting - Glare (BUB) Rating
LED 50	IESNA Type III (medium oval)	B1-UD-01
LED 75	IESNA Type III (long oval)	B1-UD-02
LED 105	IESNA Type III (long oval)	B2-UD-03
LED 150	IESNA Type III (medium oval)	B2-UD-02
LED 215	IESNA Type III (medium oval)	B5-UD-03
LED 280	IESNA Type III (medium oval)	B5-UD-04

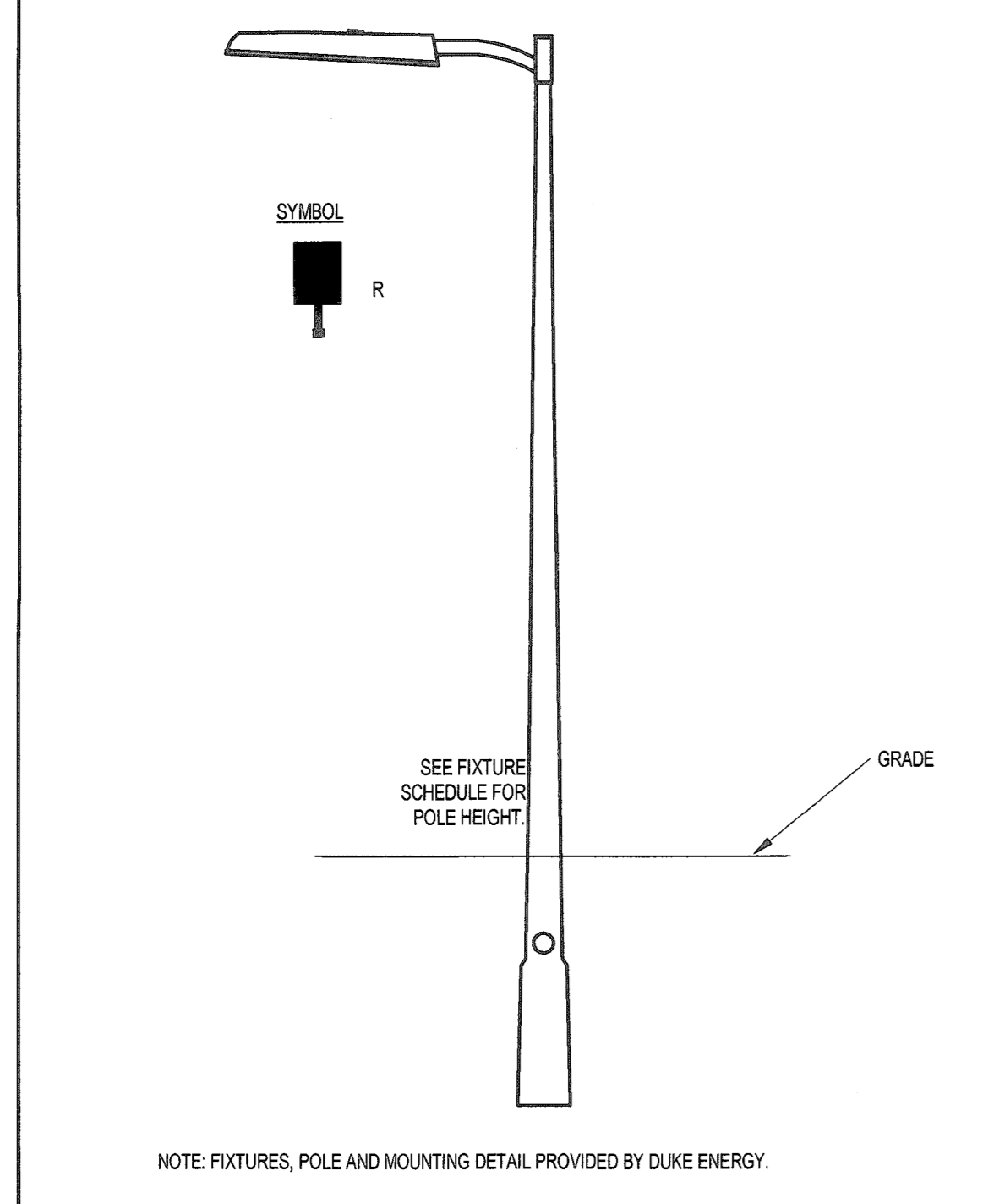
Color temperature: 4,000K
 Warm-up and restrike time: Instant on (no warm-up or restrike time)

Poles available:	Mounting height	Color
Fiberglass	25', 30', 35'	Gray
Fiberglass	25', 30', 35'	Black (additional cost)
Wood	25', 30', 35'	Standard
Metal (special conditions)*	25', 30', 35'	Gray

Features

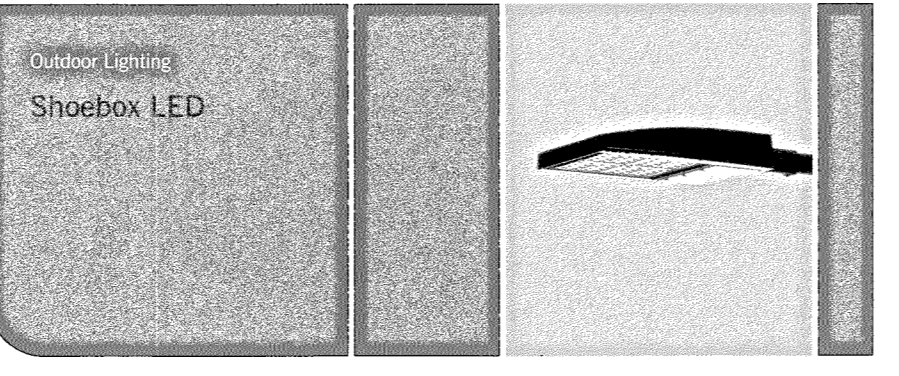
Features	Benefits
Little or no installation cost	Frees up capital for other projects
Design services by lighting professionals included	Meets industry standards and lighting ordinances
Maintenance included	Eliminates high and unexpected repair bills
Electricity included	Less expensive than related service
Warranty included	Worry-free
Cost low monthly cost on your electric bill	Convenience and savings for you
Turnkey operation	Provides hassle-free installation and service
Backed by over 40 years of experience	A name you can trust today... and tomorrow

* rated foundation available when required.



9 FIXTURE "R" DETAIL
 SCALE: NONE

Outdoor Lighting
Shoebox LED



The energy-efficient Shoebox LED combines a decorative, contemporary style with versatility and single lighting effect. It is perfect for streets, parking lots, commercial buildings and residential complexes. The Shoebox LED provides excellent color rendition along with a controlled light pattern that reduces glare and keeps the light directed only where you want it. Available in black, dark bronze, gray or white with one to four fixtures per pole.

LED Light Emitting Diode	150, 220, 420, 530 watts
Mounting heights	25', 30', 35'
Colors	Black Bronze Gray White
Poles	Fiberglass (1 or 2 fixtures per pole) Decorative tapered metal Decorative square metal

Note: 3P pole available in black or bronze only.

Outdoor Lighting
Shoebox LED

Light source: LED (amber)
 Replacement for LED Voltage 100 - 280 watt WFL and metal halide.
 LED Voltage 200 - up to 400 watt metal halide.
 LED Voltage 530 - 1,000 watt metal halide.

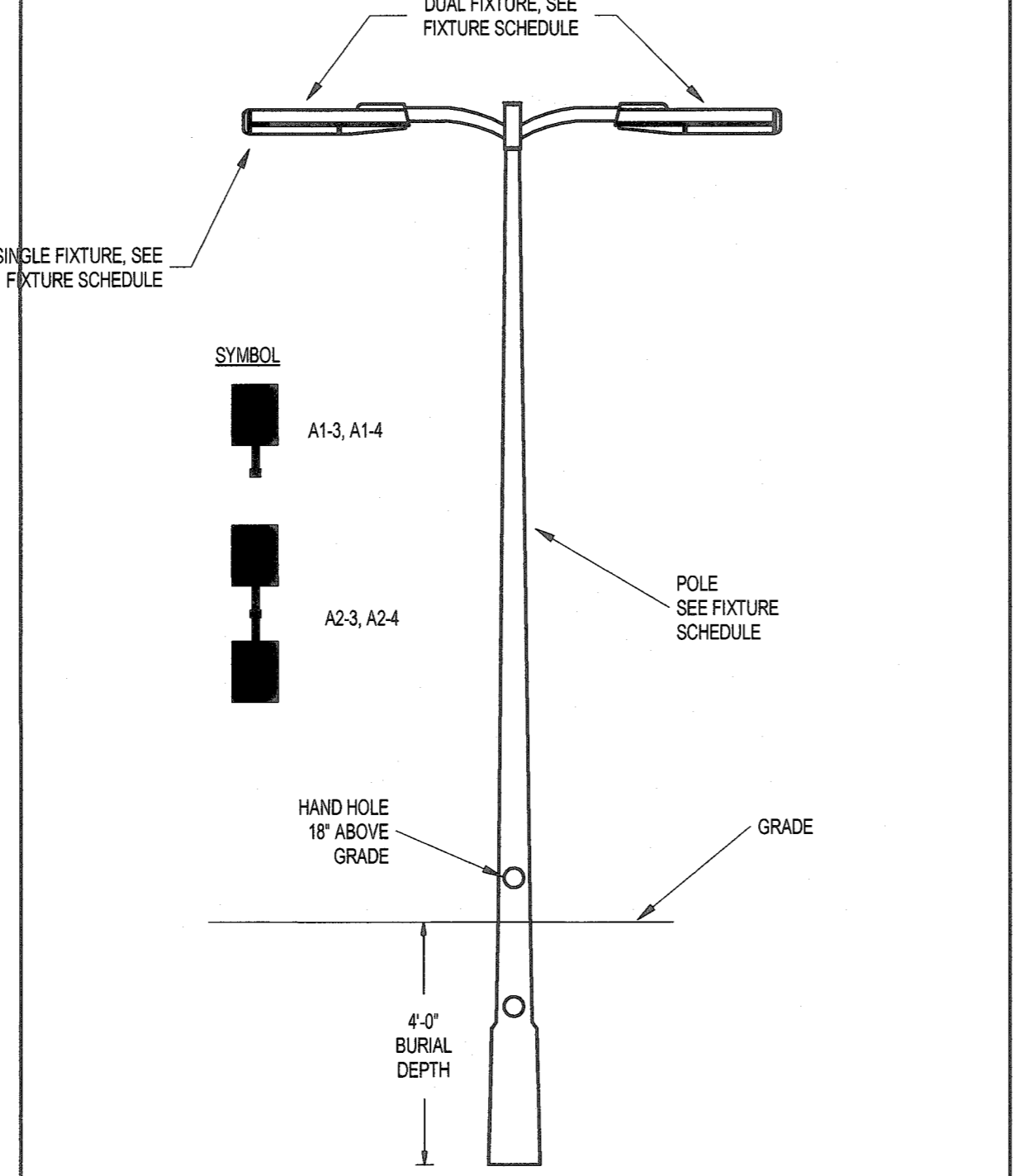
Voltage	BUB Rating	Light Pattern	Lumens	Color Temp.
LED 150	B2-UD-02	IESNA Type III (medium oval)	19,900	4,000K
LED 220	B2-UD-03	IESNA Type III (medium oval)	28,800	4,000K
LED 420	B5-UD-03	IESNA Type III (medium oval)	53,000	4,000K
LED 530	B5-UD-05	IESNA Type III (medium oval)	64,950	4,000K

Poles available:	Mounting height	Color
Round tapered decorative metal*	35'	Black Bronze
Decorative square metal*	25' and 30'	Black Bronze Gray White
Fiberglass	30'	Black (1 or 2 fixtures per pole) Gray (1 or 2 fixtures per pole)

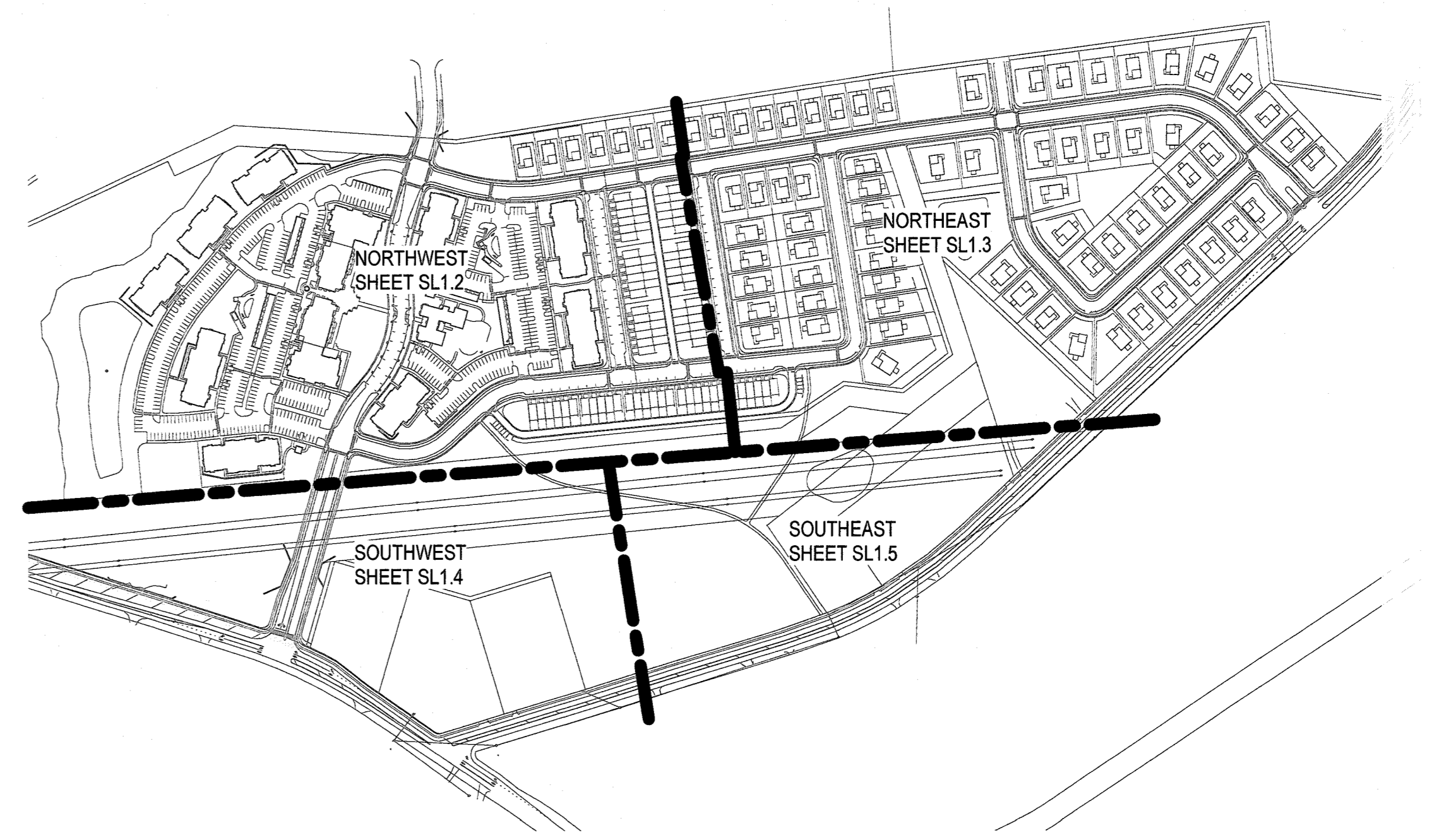
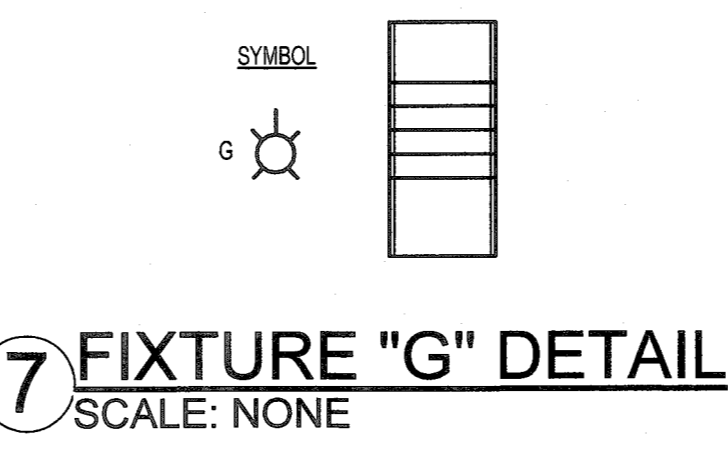
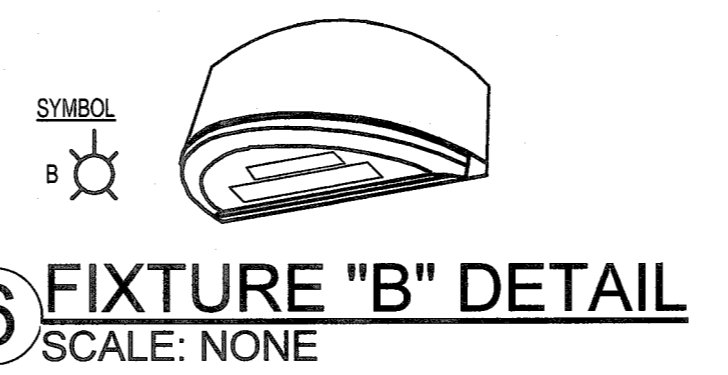
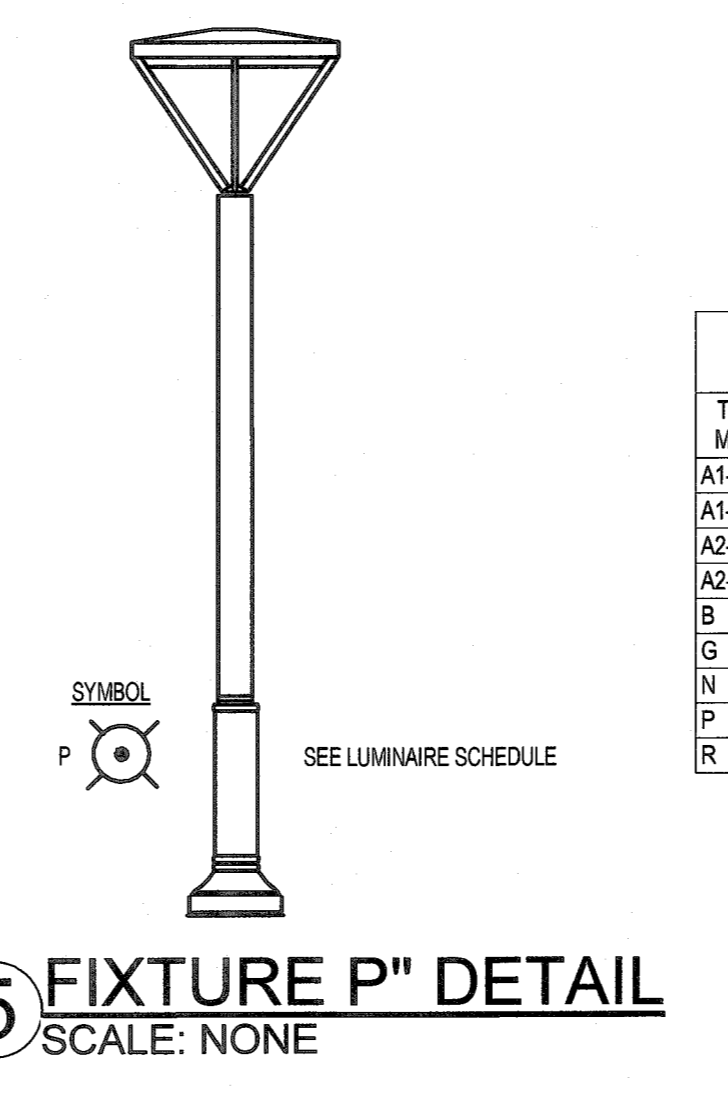
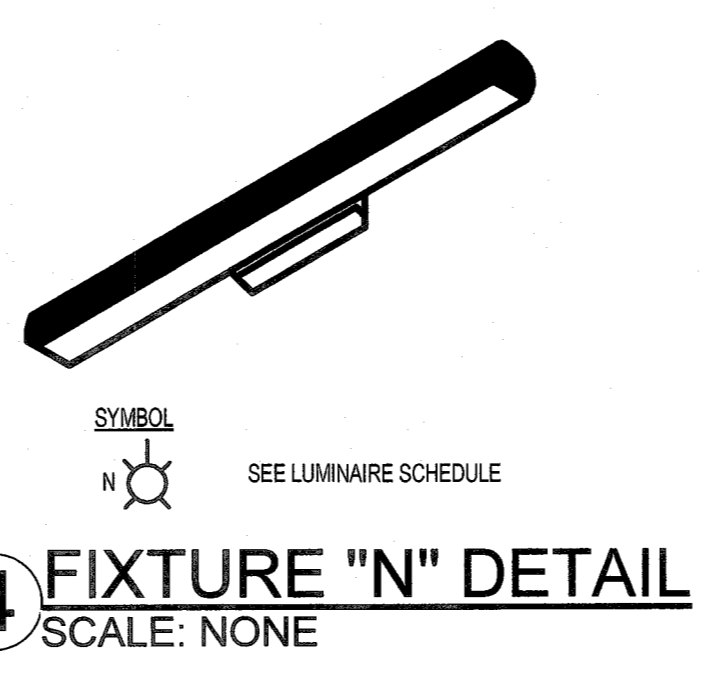
Features

Features	Benefits
Little or no installation cost	Frees up capital for other projects
Design services by lighting professionals included	Meets industry standards and lighting ordinances
Maintenance included	Eliminates high and unexpected repair bills
Electricity included	Less expensive than related service
Warranty included	Worry-free
One low monthly cost on your electric bill	Convenience and savings for you
Turnkey operation	Provides hassle-free installation and service
Backed by over 40 years of experience	A name you can trust today... and tomorrow

* rated foundation available when required.



8 "A1-3, A1-4, A2-3, A2-4" FIXTURE DETAIL
 SCALE: NONE



1 SITE LIGHTING -KEYPLAN
 SCALE: 1" = 300'-0"

LIGHTING FIXTURE SCHEDULE

TYPE MARK	DESCRIPTION	MANUFACTURER	MODEL	WATTAGE
A1-3	DUKE ENERGY SHOEBOX MOUNTED ON 25'-0" FIBERGLASS POLE, W/TYPE 3 DISTRIBUTION	DUKE ENERGY	SHOEBOX LED 150W	150.0 W
A1-4	DUKE ENERGY SHOEBOX MOUNTED ON 25'-0" FIBERGLASS POLE, W/TYPE 4 DISTRIBUTION	DUKE ENERGY	SHOEBOX LED 150W	150.0 W
A2-3	SAME AS "A1-3 WITH DUAL FIXTURE	DUKE ENERGY	SHOEBOX LED 150W	300.0 W
A2-4	SAME AS "A1-4" WITH DUAL FIXTURE	DUKE ENERGY	SHOEBOX LED 150W	300.0 W
B	DECORATIVE WALL ENTRY LIGHT FOR BUILDING	TBA	TBA	2.0 W
G	DECORATIVE WALL ENTRY LIGHT FOR GARAGES	TBA	TBA	20.0 W
N	EMERGENCY/ENTRY LIGHT FOR BUILDING	SIGNTEX	MUE/MAE SERIES XXX BB 20 X W DG SB120 CW1	20.0 W
P	LED POOL DECK FIXTURE ON 8' POLE	CREE	PWY EDG 5M 92 E UL BK 350	40.0 W
R	DUKE ENERGY TOWN OF KNIGHTDALE APPROVED ARTIFIAL FIXTURE, 215 W, MOUNTED AT 30' ON FIBERGLASS POLE	DUKE ENERGY	ROADWAY LED 215W	215.0 W

PARKING AREA STATISTICS

	PARKING WEST	PARKING EAST	GLEN MANOR TRAIL	ALLEY G PARKING A	ALLEY G PARKING B	POOL
AVERAGE	1.9 fc	2.0 fc	2.0 fc	2.2 fc	2.2 fc	2.0 fc
MAXIMUM	5.2 fc	5.4 fc	5.1 fc	3.3 fc	3.5 fc	4.3 fc
MINIMUM	0.5 fc	0.5 fc	0.6 fc	1.7 fc	1.7 fc	0.5 fc
MAX/MIN	10.4:1	10.8:1	8.5:1	1.9:1	2.1:1	8.6:1
AVG/MIN	3.8:1	4.0:1	3.3:1	1.3:1	1.4:1	4.0:1

AREA COVERAGE DESCRIPTION - (CALCULATIONS SHOWN):

- PARKING WEST - ALL PARKING AREAS WEST OF GLEN MANOR TRAIL.
- PARKING EAST - ALL PARKING AREAS EAST OF GLEN MANOR TRAIL.
- GLEN MANOR TRAIL - TRAIL FROM INTERSECTION OF STREET B TO INTERSECTION NORTH PROPERTY LINE.
- ALLEY G PARKING A - PARKING AREA AT WEST END OF ALLEY G.
- ALLEY G PARKING B - PARKING AREA AT EAST END OF ALLEY G.
- POOL - POOL DECK.

NOTE:

- BUILDING LIGHTING SHALL BE PROVIDED TO ILLUMINATE ENTRANCES AND EXITS TO MEET IES STANDARDS AS PART OF THE BUILDING ELECTRICAL DESIGN AND IS NOT INCLUDED IN THE SCOPE OF THIS SITE LIGHTING LAYOUT.
- THE INTENT OF THIS DRAWING IS TO SHOW FOOTCANDLE LEVELS BASED ON FIXTURES SHOWN. ACTUAL LEVELS MAY VARY BASED ON ACTUAL FIXTURE INSTALLATION.
- THIS DRAWING IS INTENDED FOR PRELIMINARY SITE PLAN APPROVAL OF DESIGNED LIGHTING LEVELS AND IS NOT INTENDED TO BE USED FOR CONSTRUCTION.

ELECTRICAL CONNECTION NOTE:

THIS IS A SITE LIGHTING CALCULATION PLAN ONLY AND DOES NOT PROVIDE ELECTRICAL CONNECTIONS FOR FIXTURES SHOWN. SITE DEVELOPERS (OWNERS, BUILDERS AND GENERAL CONTRACTORS) ARE RESPONSIBLE FOR COORDINATING WITH BUILDING ELECTRICAL CONTRACTOR OR POWER COMPANY FOR POWER CONNECTIONS FOR ALL FIXTURES.



SCALE IN FEET
 0 10 20 40 60 80



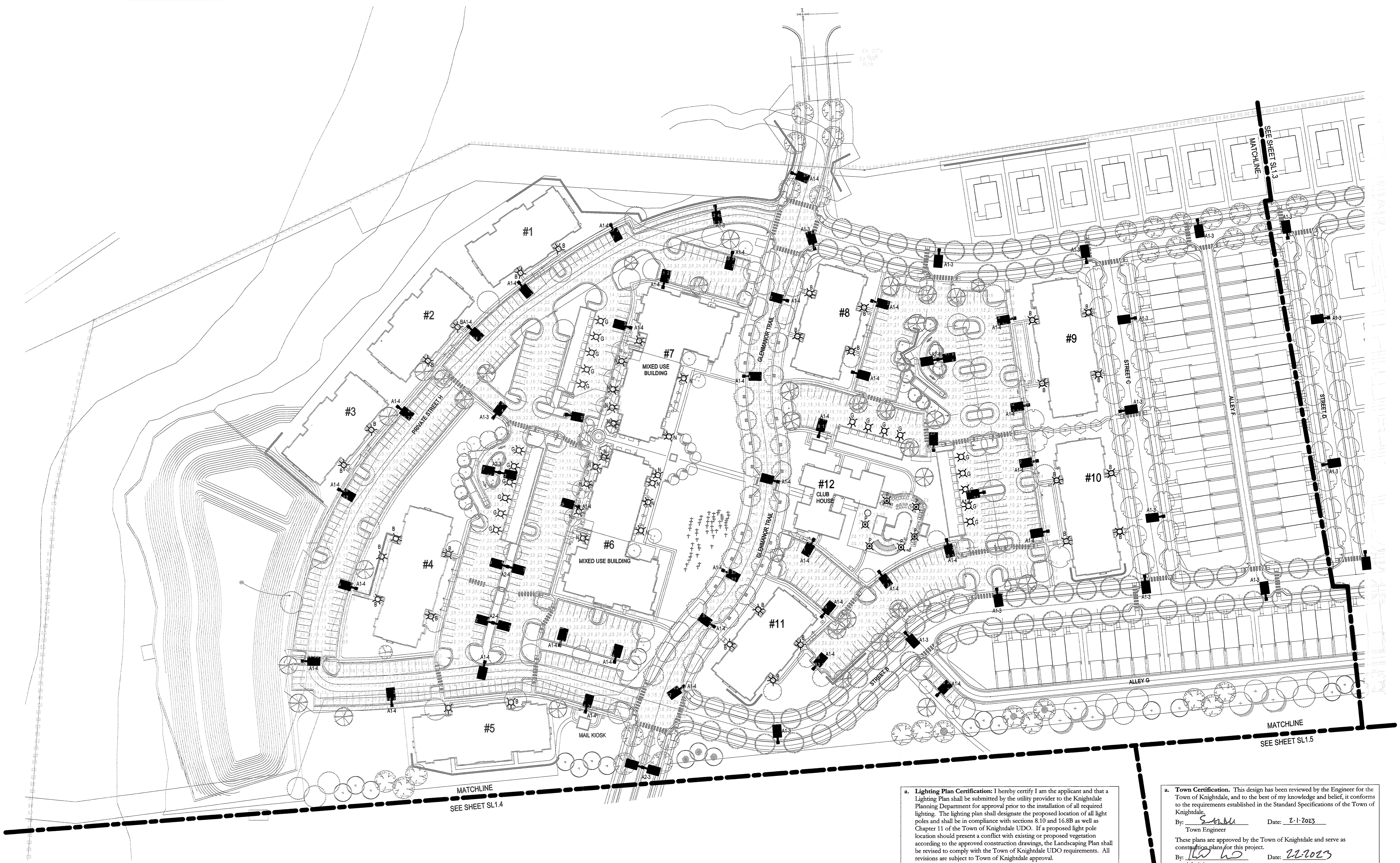
BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919) 851-4422 OR (800) 554-1879 FAX: (919) 851-6968
 CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0287)

NO.	DATE	DESCRIPTION	REVISIONS
2	01-16-23	TO K. COMMENT/SIGNATURE SET	R/JH
1	09-01-22	TOWN OF KNIGHTDALE COMMENTS	R/JH

03-20097 09-07-2021 RJH
 JOB NO. DATE DRAWN BY
ENLARGED LIGHTING
PLAN: NORTHWEST
 SCALE: 1" = 60'-0" CHK BY: MDB

VILLAGE GATE
S. SMITHFIELD ROAD
 TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET
SL1.2



1 SITE PLAN - LIGHTING - NORTHWEST
 SCALE: 1" = 60'-0"

a. **Lighting Plan Certification:** I hereby certify I am the applicant and that a Lighting Plan shall be submitted by the utility provider to the Knightdale Planning Department for approval prior to the installation of all required lighting. The lighting plan shall designate the proposed location of all light poles and shall be in compliance with sections 8.10 and 16.8B as well as Chapter 11 of the Town of Knightdale UDO. If a proposed light pole location should present a conflict with existing or proposed vegetation according to the approved construction drawings, the Landscaping Plan shall be revised to comply with the Town of Knightdale UDO requirements. All revisions are subject to Town of Knightdale approval.

Date _____ Applicant _____
 I (officer authorized to take acknowledgments) do hereby certify that _____ personally appeared before me this day and acknowledged the due execution of this certificate. Witness my hand and (where an official seal is required by law) official seal this ____ day of _____, A.D., ____ (year).

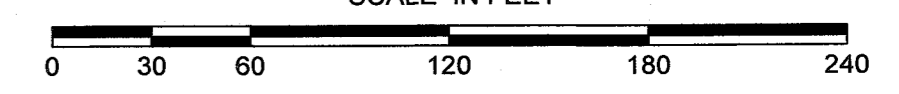
Official Seal _____ Notary _____
 Commission Expires _____

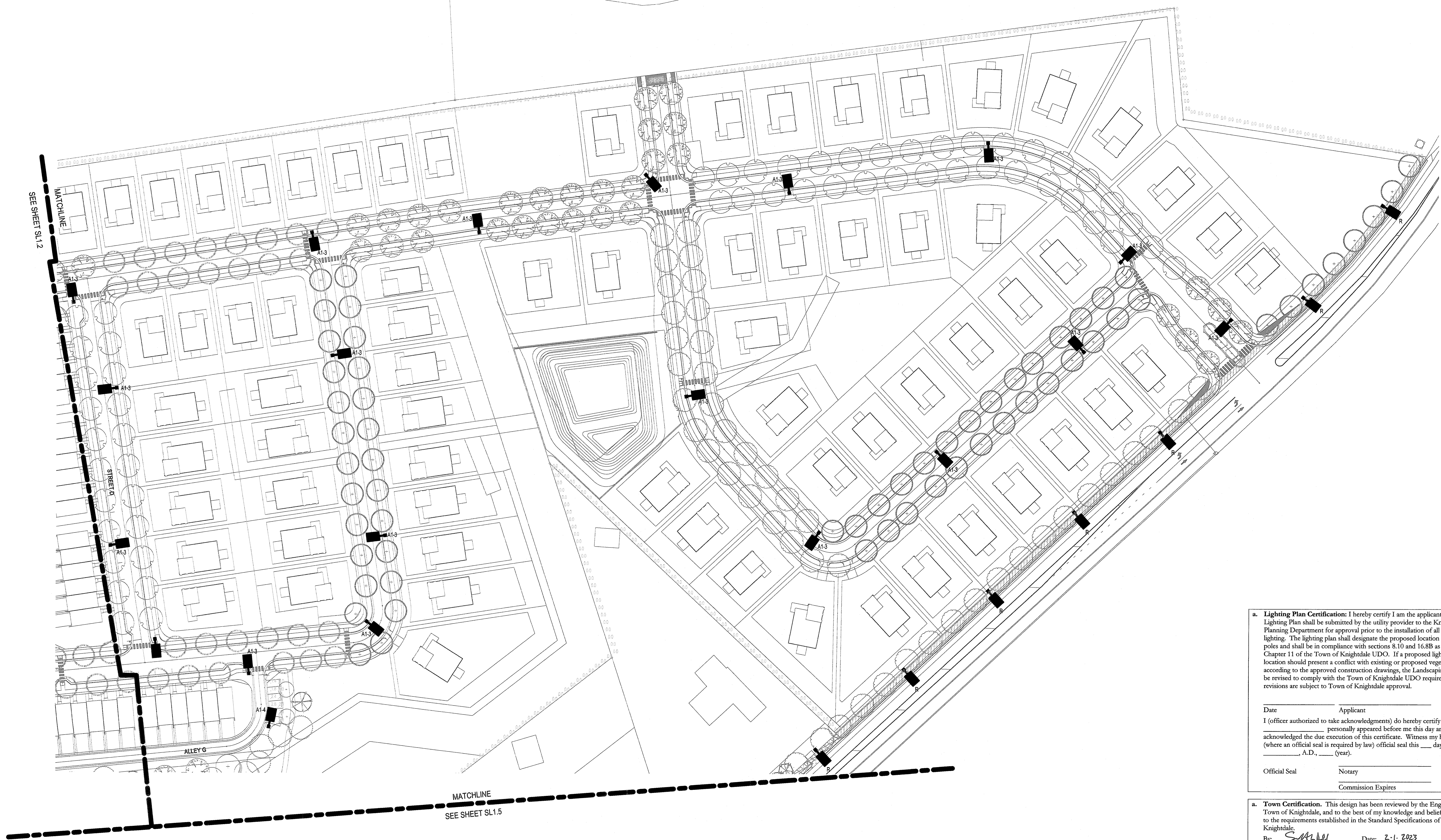
a. **Town Certification.** This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: Sam Date: 2-1-2023
 Town Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: W. W. Date: 2-2-2023
 Administrator





1 SITE PLAN - LIGHTING - NORTH EAST
SCALE: 1" = 60'-0"

a. Lighting Plan Certification: I hereby certify I am the applicant and that a Lighting Plan shall be submitted by the utility provider to the Knightdale Planning Department for approval prior to the installation of all required lighting. The lighting plan shall designate the proposed location of all light poles and shall be in compliance with sections 8.10 and 16.8B as well as Chapter 11 of the Town of Knightdale UDO. If a proposed light pole location should present a conflict with existing or proposed vegetation according to the approved construction drawings, the Landscaping Plan shall be revised to comply with the Town of Knightdale UDO requirements. All revisions are subject to Town of Knightdale approval.

Date _____ Applicant _____
I (officer authorized to take acknowledgments) do hereby certify that _____ personally appeared before me this day and acknowledged the due execution of this certificate. Witness my hand and (where an official seal is required by law) official seal this ____ day of _____, A.D., ____ (year).

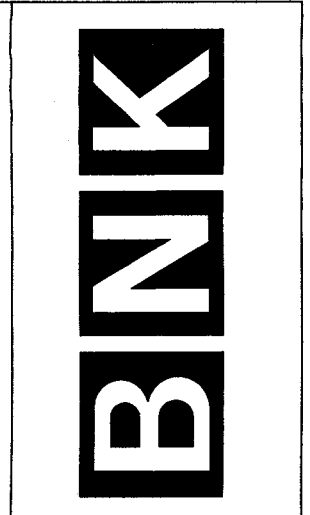
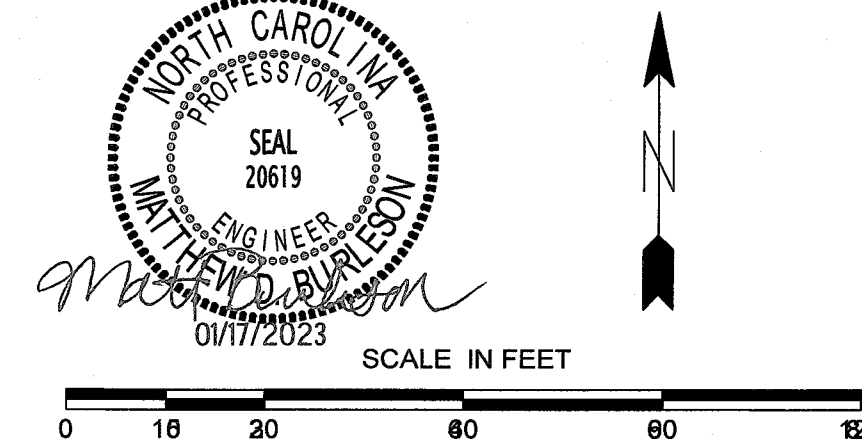
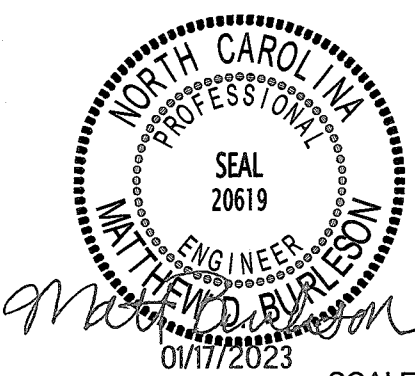
Official Seal _____ Notary _____
Commission Expires _____

a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: Matthew D. Bivar Date: 2-1-2023
Town Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: Matthew D. Bivar Date: 2-2-2023
Administrator



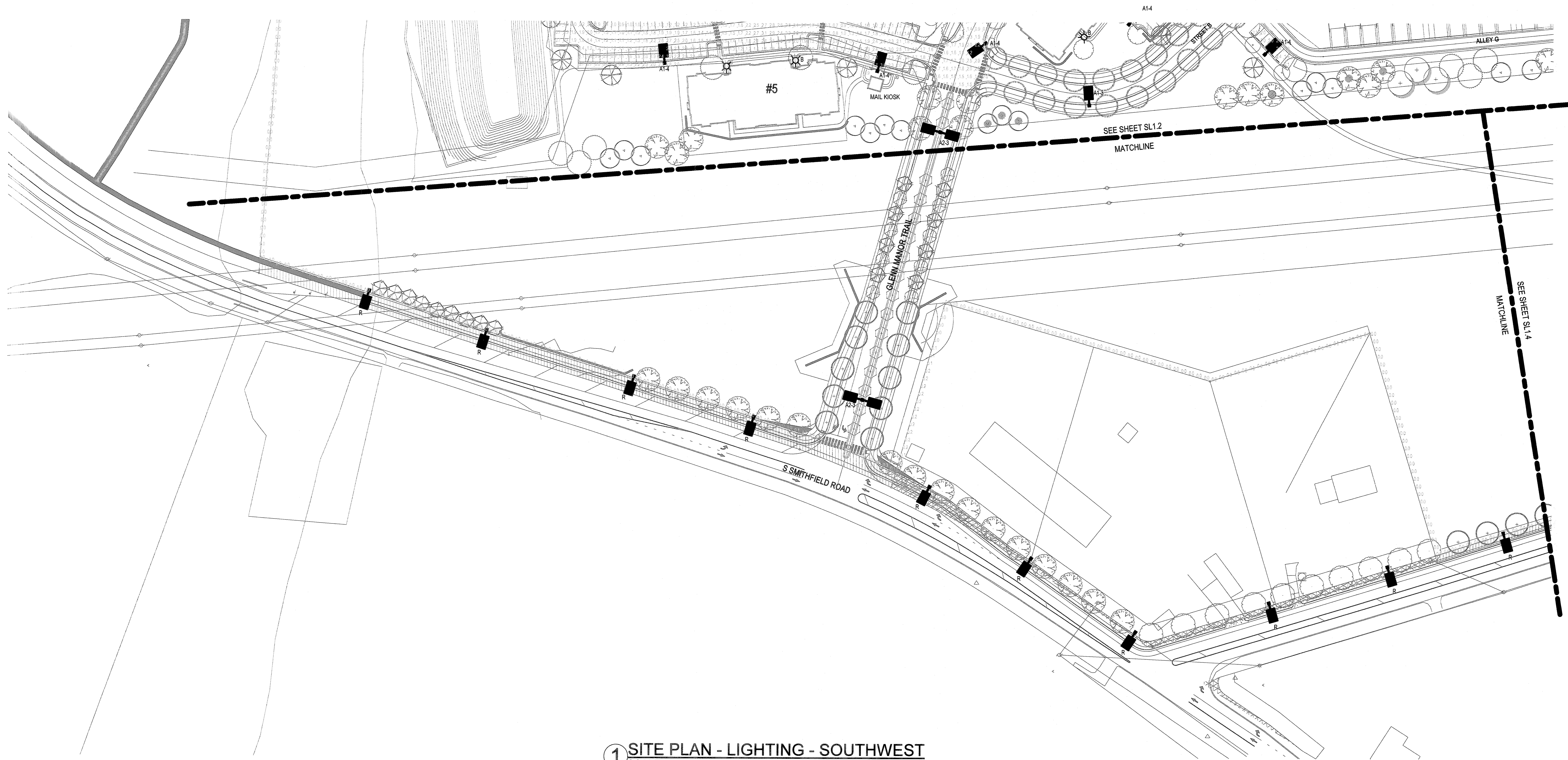
BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
TELEPHONE: (919)851-4422 OR (800)354-1879 FAX: (919)851-8988
CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

NO.	DATE	DESCRIPTION	REVISIONS
1	01-16-23	TOWN OF KNIGHTDALE COMMENTS	RJH
2	01-16-23	TOWN OF KNIGHTDALE COMMENTS SET	RJH

03-20097 08-07-2021 RJH
JOB NO. DATE DRAWN BY
ENLARGED SITE PLAN - NORTH EAST
SCALE: 1" = 60'-0" CHK BY: MDB

VILLAGE GATE
S. SMITHFIELD ROAD
TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET
SL1.3



1 SITE PLAN - LIGHTING - SOUTHWEST
SCALE: 1" = 60'-0"

a. Lighting Plan Certification: I hereby certify I am the applicant and that a Lighting Plan shall be submitted by the utility provider to the Knightdale Planning Department for approval prior to the installation of all required lighting. The lighting plan shall designate the proposed location of all light poles and shall be in compliance with sections 8.10 and 16.8B as well as Chapter 11 of the Town of Knightdale UDO. If a proposed light pole location should present a conflict with existing or proposed vegetation according to the approved construction drawings, the Landscaping Plan shall be revised to comply with the Town of Knightdale UDO requirements. All revisions are subject to Town of Knightdale approval.

Date _____ Applicant _____
I (officer authorized to take acknowledgments) do hereby certify that _____ personally appeared before me this day and acknowledged the due execution of this certificate. Witness my hand and (where an official seal is required by law) official seal this ____ day of _____, A.D., ____ (year).

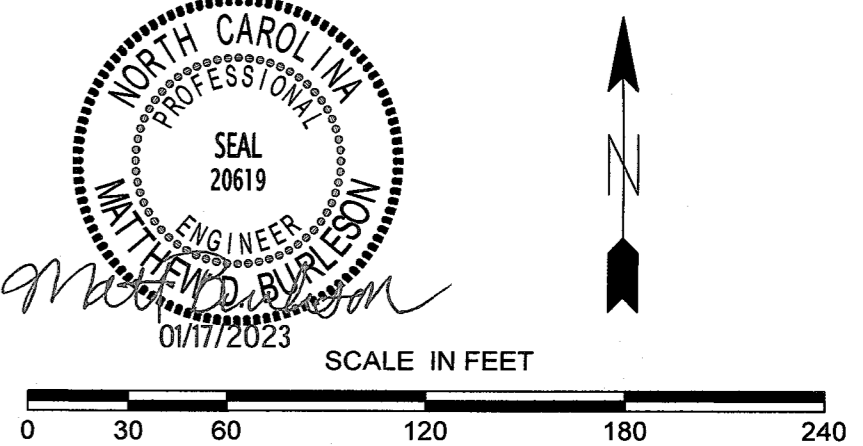
Official Seal _____ Notary _____
Commission Expires _____

a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: Smith Hill Date: 2-1-2023
Town Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: [Signature] Date: 2-2-2023
Administrator



BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
TELEPHONE: (919)851-4422 OR (800)354-1879 FAX: (919)851-8968
CERTIFICATION NUMBERS: NCBELS (C-010); NCBOLA (C-0267)

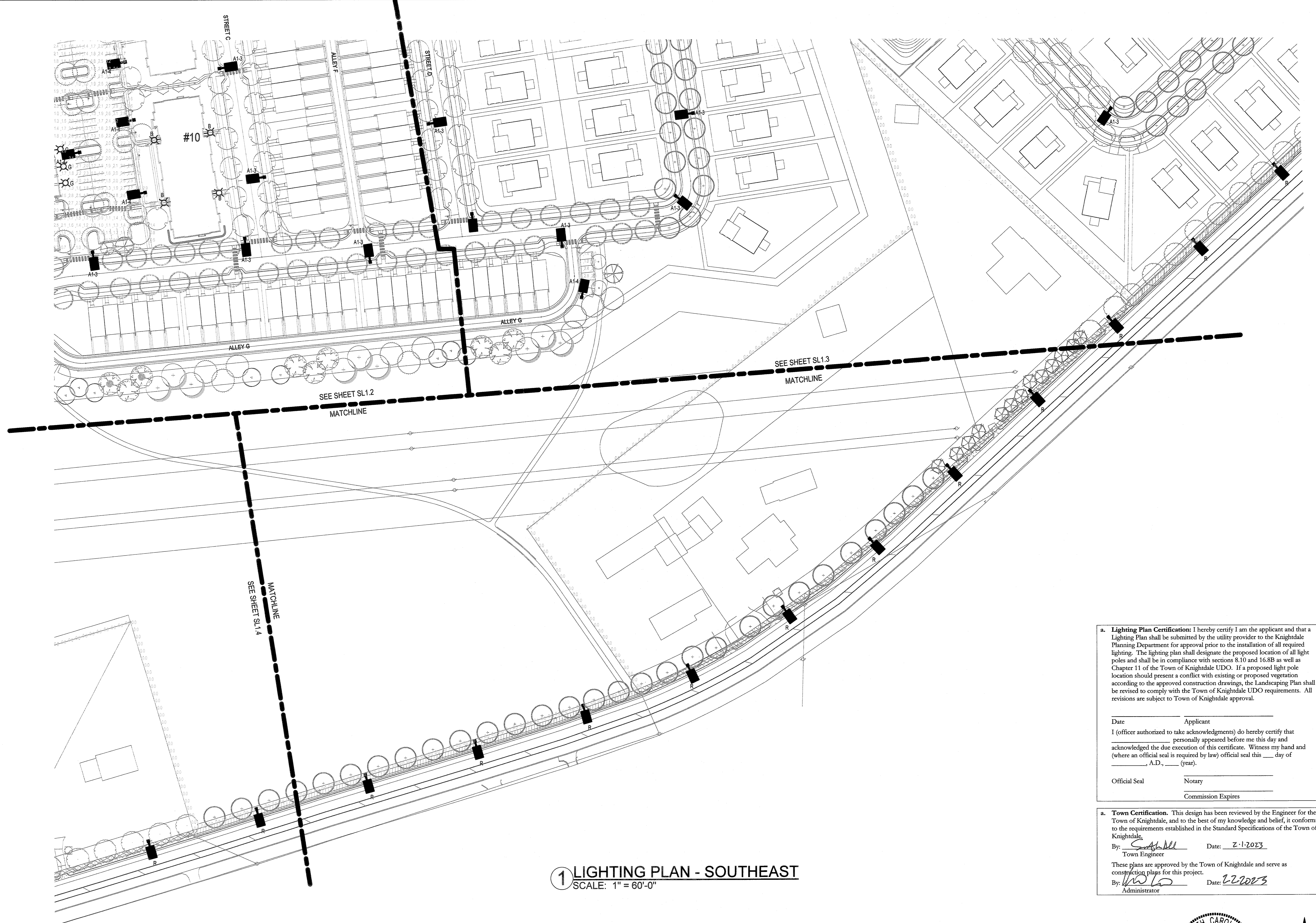
REVISIONS		
NO.	DATE	DESCRIPTION
2	01-16-23	10% COMMENTS/SIGNATURE SET
1	09-07-21	TOWN OF KNIGHTDALE COMMENTS
1		

03-20097 09-07-2021 R/JH
JOB NO. DATE DRAWN BY

ENLARGED LIGHTING
PLAN - SOUTH WEST
SCALE: 1" = 60'-0" CHK BY: MDB

VILLAGE GATE
S. SMITHFIELD ROAD
TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET SL1.4

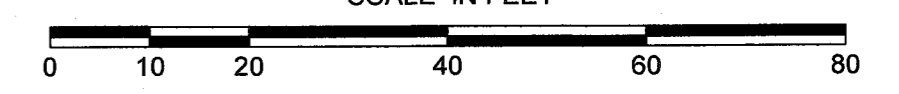



1 LIGHTING PLAN - SOUTHEAST
SCALE: 1" = 60'-0"

a. Lighting Plan Certification: I hereby certify I am the applicant and that a Lighting Plan shall be submitted by the utility provider to the Knightdale Planning Department for approval prior to the installation of all required lighting. The lighting plan shall designate the proposed location of all light poles and shall be in compliance with sections 8.10 and 16.8B as well as Chapter 11 of the Town of Knightdale UDO. If a proposed light pole location should present a conflict with existing or proposed vegetation according to the approved construction drawings, the Landscaping Plan shall be revised to comply with the Town of Knightdale UDO requirements. All revisions are subject to Town of Knightdale approval.

Date _____ Applicant _____
 I (officer authorized to take acknowledgments) do hereby certify that _____ personally appeared before me this day and acknowledged the due execution of this certificate. Witness my hand and (where an official seal is required by law) official seal this ____ day of _____, A.D., ____ (year).
 Official Seal _____ Notary _____
 Commission Expires _____

a. Town Certification. This design has been reviewed by the Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
 By: [Signature] Date: 2-1-2023
 Town Engineer
 These plans are approved by the Town of Knightdale and serve as construction plans for this project.
 By: [Signature] Date: 2-2-2023
 Administrator





BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919)851-4422 OR (800)354-1879 FAX: (919)851-8988
 CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0287)

NO.	DATE	DESCRIPTION	REVISIONS
2	01-16-23	TOWN COMMENTS/SIGNATURE SET	RJH
1	09-07-22	TOWN OF KNIGHTDALE COMMENTS	RJH

05-20097 09-07-2021 RJH
 JOB NO. DATE DRAWN BY

**ENLARGED LIGHTING
 PLAN SOUTHEAST**

SCALE: 1" = 60'-0"
 CHK BY: MDB

VILLAGE GATE
S. SMITHFIELD ROAD
 TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

SHEET
SL1.5