

ALLEN PARK SUBDIVISION

SITE DATA

PROJECT: ALLEN PARK SUBDIVISION - PHASE II & III

ENGINEER: TIMMONS GROUP
5410 TRINITY ROAD, SUITE 102
RALEIGH, NC 27607
PHONE: 919-866-4509
FAX: 919-859-5663
MIKE ZACCARDO, PE
EMAIL: MIKE.ZACCARDO@TIMMONS.COM

DEVELOPER: NATELLI COMMUNITIES
1903 N. HARRISON AVE
CARY, NC 27513
PHONE: 919-868-3102
BRIAN MASSENGILL
EMAIL: BRIAN@NATELLI.COM

PROPERTY LOCATION: 2300 OLD MILBURNIE ROAD
WAKE COUNTY, NORTH CAROLINA

PINS: 1745-43-7184, 1745-54-5662, 1745-34-9869,
PORTIONS OF 1745-54-6015

EXISTING ZONING: GR-8 PUD (APPROVED ON 4/21/21)

TOWNSHIP: ST. MATTHEW'S

PROPOSED USE: SINGLE FAMILY RESIDENTIAL

TOTAL PROPOSED UNITS: 209 TOTAL
113 SINGLE FAMILY PH 2 100 SINGLE FAMILY PH 3
91 TOWNHOMES PH 2 0 TOWNHOMES PH 3

SETBACKS: FRONT LOAD DETACHED REAR LOAD DETACHED
FRONT: 10' REAR: 10'
DRIVEWAY LENGTH: 20' REAR: 20'
REAR: 20' DRIVEWAY LENGTH: 20'
SIDE: 5' SIDE: 3'
CORNER: 10' CORNER: 10'

REAR LOAD TOWNHOME
FRONT: 10'
DRIVEWAY LENGTH: 20'
REAR: 20'
BUILDING SEPARATION: 10'
CORNER: 10'

DENSITY: OVERALL SITE PROPOSED DENSITY = 4.17 DU/A

CONNECTIVITY INDEX: OVERALL SITE NODES = 50
OVERALL SITE LINKS = 73
73 / 50 = 1.46

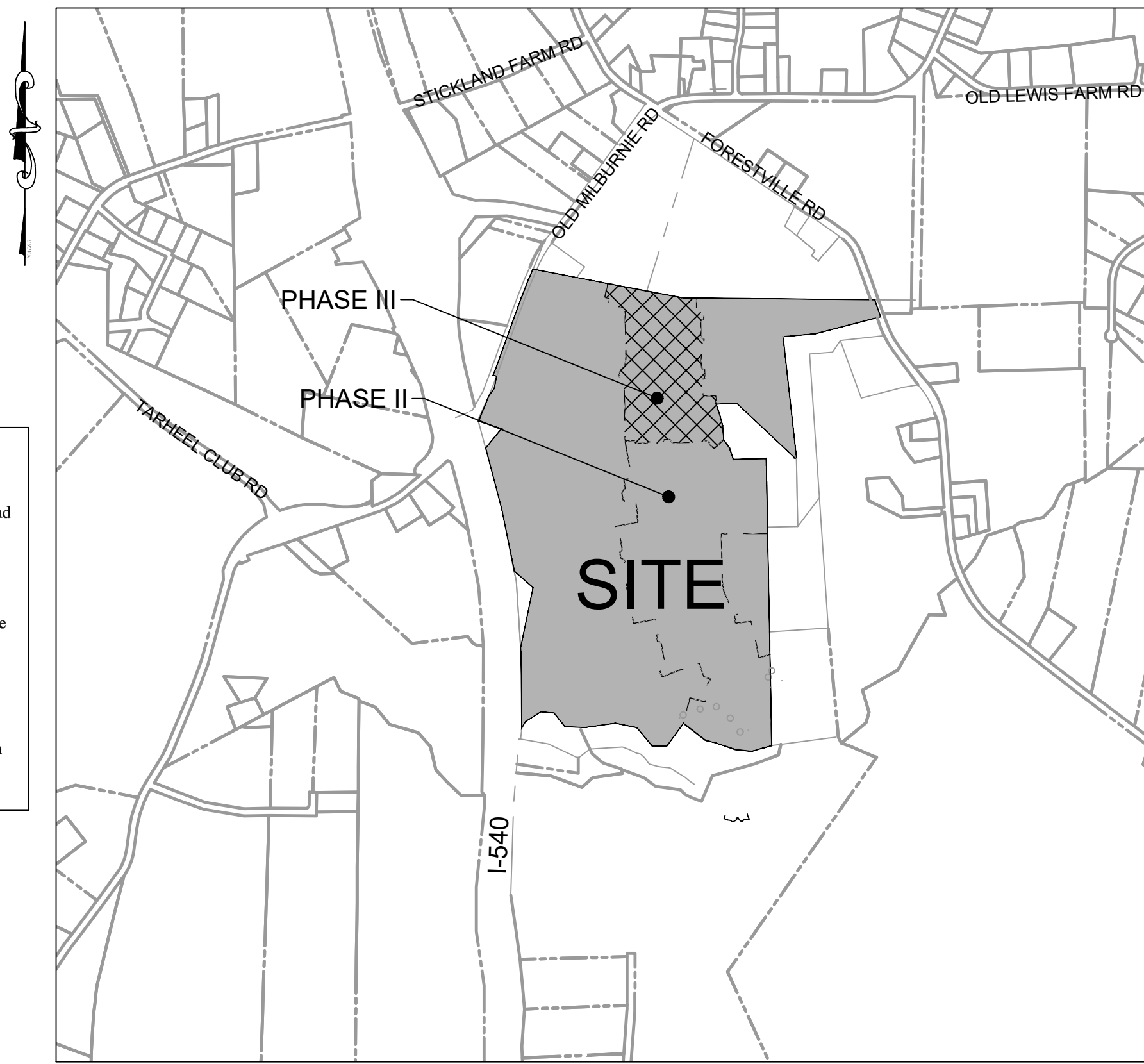
OPEN SPACE: OPEN SPACE AREA PROVIDED: 5.56 AC
ACTIVE OPEN SPACE AREA PROVIDED: 0 AC

TREE COVER AREA: DEVELOPMENT PERIMETER = 15,165 LF
TREE COVER AREA = 15,165 LF * 20 LF = 303,280 SF
NEUSE RIVER BUFFER AREA = 465,991 SF
SHOD OVERLAY AREA = 137,319 SF
TREE COVERAGE PROVIDED = 603,310 SF

CONSTRUCTION DOCUMENTS - PHASE II

TOWN OF KNIGHTDALE, WAKE COUNTY, NORTH CAROLINA

ZMA-5-20
ORDINANCE# 21-04-21-003



EROSION AND SEDIMENT CONTROL
Approved Plan
DATE : _____
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: _____ DATE: _____
DEVELOPMENT SERVICES ENGINEER

THESE PLANS ARE APPROVED BY THE TOWN OF KNIGHTDALE AND SERVE AS CONSTRUCTION PLANS FOR THIS PROJECT.

BY: _____ DATE: _____
ADMINISTRATOR

OWNER OF RECORD

ALLEN PARK LLC
MICHAEL J NATELLI
506 MAIN ST STE 300
GAITHERSBURG MD 20878-5768

**CONSTRUCTION DRAWING APPROVAL
REQUIRED FOR DEVELOPMENT**

SURVEY NOTE

BOUNDARY TAKEN FROM SURVEY BY KCI ASSOCIATES, DATED JANUARY 16, 2020, CERTIFIED BY JAMES M. GELLENTHIN, PLS

a. 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. Town of Knightdale Approved Standards shall mean all development documents necessary for approval for the Property including, but not limited to, any special use permit, subdivision plan, site plan, subdivision plat(s), phasing schedule, Development Agreement, Utility Allocation Agreement, Annexation Agreement, the Town of Knightdale Standard Specification and Details Manual and applicable provisions of the North Carolina State Building Code.

b. 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.

I, _____, PE, certify that the Standard Specifications of the Town of Knightdale have been thoroughly checked and found to be applicable to this project. All exceptions to the applicable Town standards have been previously approved by the Town of Knightdale and said exceptions are shown on Sheet(s) _____ of these drawings.

Scale By: _____, PE
Date: _____

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 Works Department at (919) 996-2409, and 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.

PUBLIC INFRASTRUCTURE QUANTITIES TABLE - PHASE II

Sewer		PHASE 2	
Manholes	41 EA	Private Streets	2,573 LF
8" Public Sanitary Sewer	7,873 LF	Public Streets	8,651 LF
Sewer Services	235 EA	Public 5' Sidewalk	17,686 LF
		30" Curb & Gutter	19,238 LF
Water		Site Data	
12" Public Water main	1,545 LF	Number of Lots	209
8" Public Water main	7,232 LF	GPD Usage Water	100,320
6" Public Water main	290 LF	GPD Usage Sewer	54,375
Water Stubs	237 EA	Calculation for GPD Water (per Unit)	480
Fire Hydrant Assemblies	23 EA	Calculation for GPD Sewer (per BR)	75
12" Gate Valves	14 EA		
8" Gate Valves	39 EA		
6" Gate Valves	1 EA		
12" X 12" Tees	1 EA		
12" X 8" Tees	4 EA		
12" X 6" Tees	1 EA		
8" X 8" Tees	8 EA		
8" X 6" Tees	0 EA		
12" X 12" Cross	1 EA		
8" X 8" Cross	2 EA		
12" Blow Off Assemblies	1 EA		
8" Blow Off Assemblies	8 EA		
6" Blow Off Assemblies	0 EA		
8" Water Reducers	3 EA		
6" Water Reducers	0 EA		

PIPE SPECIFICATIONS

WATER:
A) 12", 8", AND 6" CLASS 350 DUCTILE IRON PIPE
SANITARY SEWER:
B) 8" SDR 35 PVC FOR PIPES SHALLOWER THAN 12',
8" SDR 26 PVC FOR PIPES BETWEEN 12' AND 20' DEEP,
8" CLASS 250 DUCTILE IRON PIPE FOR PIPES DEEPER THAN 20'

Natelli Communities

THOUGHTFUL PLANNING
TIMELESS DESIGN
ATTENTION TO DETAIL

Sheet Number	Sheet Title
C0.0	COVER
C0.1	PROJECT NOTES
C1.0	OVERALL EXISTING CONDITIONS
C1.1	EXISTING CONDITIONS - SHEET 1 OF 3
C1.2	EXISTING CONDITIONS - SHEET 2 OF 3
C1.3	EXISTING CONDITIONS - SHEET 3 OF 3
C1.4	OVERALL ENVIRONMENTAL SURVEY
C1.5	ENVIRONMENTAL SURVEY - SHEET 1 OF 3
C1.6	ENVIRONMENTAL SURVEY - SHEET 2 OF 3
C1.7	ENVIRONMENTAL SURVEY - SHEET 3 OF 3
C2.0	OVERALL SITE PLAN
C2.1	SITE PLAN - SHEET 1 OF 3
C2.2	SITE PLAN - SHEET 2 OF 3
C2.3	SITE PLAN - SHEET 3 OF 3
C2.4	SIGNAGE AND MARKING PLAN - SHEET 1 OF 3
C2.5	SIGNAGE AND MARKING PLAN - SHEET 2 OF 3
C2.6	SIGNAGE AND MARKING PLAN - SHEET 3 OF 3
C3.0	OVERALL UTILITY PLAN
C3.1	UTILITY PLAN - SHEET 1 OF 3
C3.2	UTILITY PLAN - SHEET 2 OF 3
C3.3	UTILITY PLAN - SHEET 3 OF 3
C3.4	SANITARY SEWER SCHEDULE
C4.0	OVERALL GRADING AND DRAINAGE PLAN
C4.1	GRADING AND DRAINAGE PLAN - SHEET 1 OF 3
C4.2	GRADING AND DRAINAGE PLAN - SHEET 2 OF 3
C4.3	GRADING AND DRAINAGE PLAN - SHEET 3 OF 3
C4.4	STORM SEWER SCHEDULE
C4.5	STORM SEWER SCHEDULE
C5.1	NICHOLS RIDGE DRIVE PLAN & PROFILE
C5.2	LAMPLIGHTER DRIVE PLAN & PROFILE
C5.3	NICHOLS VIEW COURT PLAN & PROFILE
C5.4	EDGE PARK DRIVE PLAN & PROFILE - SHEET 1 OF 2
C5.5	EDGE PARK DRIVE PLAN & PROFILE - SHEET 2 OF 2
C5.7	SILVER LAUREL LANE PLAN & PROFILE
C5.8	CHERRY VALE LANE PLAN & PROFILE
C5.9	GLEN HOLLOW DRIVE PLAN & PROFILE - SHEET 1 OF 4
C5.10	GLEN HOLLOW DRIVE PLAN & PROFILE - SHEET 2 OF 4
C5.11	GLEN HOLLOW DRIVE PLAN & PROFILE - SHEET 3 OF 4
C5.12	GLEN HOLLOW DRIVE PLAN & PROFILE - SHEET 4 OF 4
C5.12	ESWORTHY COURT PLAN & PROFILE
C5.13	CENTRAL PARK DRIVE PLAN & PROFILE
C5.14	FLINT HILL LANE PLAN & PROFILE
C5.15	HEATHER HALL LANE PLAN & PROFILE
C5.16	PLEASANT GATE LANE PLAN & PROFILE
C5.17	POTTING SHED LANE PLAN & PROFILE
C5.18	CHARTWELL LANE PLAN & PROFILE
C5.19	FLOWER GATE PLAN & PROFILE
C5.20	ALLEY A PLAN & PROFILE
C5.21	ALLEY J PLAN & PROFILE
C5.22	ALLEY K PLAN & PROFILE
C5.23	ALLEY M PLAN & PROFILE
C5.24	ALLEY N PLAN & PROFILE
C5.25	STORM OUTFALL PROFILES
C5.26	STORM OUTFALL PROFILES
C5.27	SEWER OUTFALL 1 PLAN & PROFILE
C5.28	SEWER OUTFALL 2 PLAN & PROFILE
C6.1	SCM PLAN & PROFILE
C6.2	SCM PLANTING PLAN & DETAILS
C6.3	SCM NOTES & DETAILS
C7.0	OVERALL LANDSCAPING PLAN
C7.1	LANDSCAPING PLAN - SHEET 1 OF 3
C7.2	LANDSCAPING PLAN - SHEET 2 OF 3
C7.3	LANDSCAPING PLAN - SHEET 3 OF 3
C7.4	LANDSCAPING NOTES AND DETAILS
C8.0	OVERALL LIGHTING PLAN
C8.1	LIGHTING PLAN - SHEET 1 OF 3
C8.2	LIGHTING PLAN - SHEET 2 OF 3
C8.3	LIGHTING PLAN - SHEET 3 OF 3
C9.1	SITE DETAILS - SHEET 1 OF 3
C9.2	SITE DETAILS - SHEET 2 OF 3
C9.3	SITE DETAILS - SHEET 3 OF 3
C9.4	WATER & SEWER DETAILS - SHEET 1 OF 2
C9.5	WATER & SEWER DETAILS - SHEET 2 OF 2
C9.6	STORM DETAILS

Sheet Number	Sheet Title
EC0.0	COVER
EC1.0	OVERALL EXISTING CONDITIONS
EC2.0	OVERALL EROSION CONTROL PLAN - STAGE 1
EC2.01	CONSTRUCTION SEQUENCE AND NOTES
EC2.1	STAGE 1 EROSION CONTROL PLAN (SHEET 1 OF 3)
EC2.2	STAGE 1 EROSION CONTROL PLAN (SHEET 2 OF 3)
EC2.3	STAGE 1 EROSION CONTROL PLAN (SHEET 3 OF 3)
EC2.4	STAGE 1 DRAINAGE MAP
EC3.0	OVERALL EROSION CONTROL PLAN - STAGE 2
EC3.1	STAGE 2 EROSION CONTROL PLAN (SHEET 1 OF 3)
EC3.2	STAGE 2 EROSION CONTROL PLAN (SHEET 2 OF 3)
EC3.3	STAGE 2 EROSION CONTROL PLAN (SHEET 3 OF 3)
EC3.4	STAGE 2 DRAINAGE AREA
EC4.0	OVERALL EROSION CONTROL PLAN - STAGE 3
EC4.1	STAGE 3 EROSION CONTROL PLAN (SHEET 1 OF 3)
EC4.2	STAGE 3 EROSION CONTROL PLAN (SHEET 2 OF 3)
EC4.3	STAGE 3 EROSION CONTROL PLAN (SHEET 3 OF 3)
EC4.4	STAGE 3 DRAINAGE AREA
EC5.0	NOTES & DETAILS (SHEET 1 OF 4)
EC5.1	NOTES & DETAILS (SHEET 2 OF 4)
EC5.2	NOTES & DETAILS (SHEET 3 OF 4)
EC5.3	NOTES & DETAILS (SHEET 4 OF 4)

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 _____

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 Utilities Handbook, City of Raleigh Public Utilities Department.

S-5081

Minor comments to address, can be addressed on signature set. Permit numbers are provided to the left, please place them everywhere a permit block is. The invoice will be sent via email and must be paid in full prior to my signature.

W-3949

The City of Raleigh consents to the connection to its public sewer extension of the private sewer collection system as shown on this 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 # _____



FOR REVIEW ONLY

THIS DRAWING PREPARED AT THE
RALEIGH OFFICE
5410 Trinity Road, Suite 102, Raleigh, NC 27607
TEL 919-866-4509 FAX 919-859-5663 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

DATE: 01/26/2024
DRAWN BY: 331
DESIGNED BY: 331
CHECKED BY: A. STOKES
SCALE: N/A

TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652
ALLEN PARK SUBDIVISION - PHASE II
KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA
COVER

JOB NO. 44529
SHEET NO. C0.0

FOR REVIEW ONLY: NOT FOR CONSTRUCTION

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GENERAL NOTES

- BOUNDARY SURVEY TAKEN FROM KCI ASSOCIATES, DATED JANUARY 16, 2020, CERTIFIED BY JAMES. M GELLENTHIN, PLS. TOPOGRAPHY IS FROM SURVEY BY TAYLOR LAND ON 11/1/2021.
- THE CONTRACTOR SHALL CONTACT NC ONE CALL CENTER PRIOR TO ANY DIGGING.
- ALL PUBLIC WATER IMPROVEMENTS SHALL CONFORM TO ALL WAKE COUNTY PUBLIC UTILITIES DEPT. AND NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, DEPARTMENT OF ENVIRONMENTAL HEALTH PUBLIC WATER SUPPLY STANDARDS AND SPECIFICATIONS. ALL SANITARY SEWER IMPROVEMENTS SHALL CONFORM TO ALL WAKE COUNTY PUBLIC UTILITIES DEPT. AND NCDENR DWQ STANDARDS AND SPECIFICATIONS.
- THE CONTRACTOR SHALL CHECK PLANS AND FIELD CONDITIONS FOR CONFLICTS AND DISCREPANCIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY CONFLICT BEFORE PERFORMING WORK IN THE AFFECTED AREA.
- THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO EXISTING FACILITIES, ABOVE OR BELOW GROUND THAT MAY OCCUR AS A RESULT OF THE WORK PERFORMED BY THE CONTRACTOR.
- IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO COMPLY WITH AND ENFORCE ALL APPLICABLE SAFETY REGULATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXCAVATIONS AGAINST COLLAPSE AND SHALL PROVIDE BRACING, SHEETING OR SHORING AS NECESSARY. TRENCHES SHALL BE KEPT DRY WHILE PIPES ARE BEING PLACED, DEWATERING SHALL BE USED AS REQUIRED, AND PERMITTED THROUGH LOCAL GOVERNMENTAL AGENCIES AND WATER MANAGEMENT DISTRICT PER CURRENT REGULATIONS AT THE SOLE COST OF THE CONTRACTOR.
- WORK BEING PERFORMED UNDER THIS CONTRACT SHALL INTERFACE SMOOTHLY WITH OTHER WORK BEING PERFORMED IN THE AREA BY OTHER CONTRACTORS AND UTILITY COMPANIES. IT WILL BE NECESSARY FOR THE CONTRACTOR TO COORDINATE AND SCHEDULE HIS ACTIVITIES, WHERE NECESSARY, WITH OTHER CONTRACTORS AND UTILITY COMPANIES.

ZONING CONDITIONS

- TOWNHOMES SHALL BE TWO-STORY HOMES WITH A MINIMUM WIDTH OF 22' WIDE AND HAVE A MINIMUM HEATED AREA OF 1,500 SQUARE FEET.
- NEO TRADITIONAL SINGLE FAMILY DETACHED HOMES SHALL BE REAR LOADED TWO-STORY HOMES BUILT ON LOTS LESS THAN 60 FEET WIDE WITH A MINIMUM HEATED AREA OF 1,500 SQUARE FEET.
- SINGLE FAMILY RANCH DETACHED HOMES SHALL BE BUILT ON LOTS TYPICALLY 60 FEET WIDE, BUT UP TO 20 HOMES MAY BE BUILT ON LOTS THAT ARE AT LEAST 55 FEET WIDE, WITH A MINIMUM HEATED AREA OF 1,480 SQUARE FEET, AND NO MORE THAN 25% OF THE RANCH HOMES MAY BE LESS THAN 1,500 SQUARE FEET.
- TRADITIONAL SINGLE FAMILY DETACHED HOMES SHALL BE TWO-STORY HOMES BUILT ON LOTS AT LEAST 60 FEET WIDE WITH A MINIMUM HEATED AREA OF 2,100 SQUARE FEET. NO MORE THAN 10% OF THE TRADITIONAL SINGLE FAMILY DETACHED HOMES MAY BE HOMES LESS THAN 35' WIDE.
- ALL HOMES WILL EITHER CONSIST OF A SINGLE MATERIAL OF BRICK OR STONE OR WILL HAVE A COMBINATION OF 2 OR MORE OF THE FOLLOWING MATERIALS ON THE FRONT FACADE (NOT INCLUDING FOUNDATIONS): STONE, BRICK, LAP SIDING, FIBER CEMENT SIDING, SHAKES, OR BOARD AND BATTEN SIDING, WITH SIDE AND REAR FACADES OF FIBER CEMENT SIDING. WHEN 2 MATERIALS ARE USED, THE MATERIALS SHALL BE DIFFERENT BUT COMPLIMENTARY COLORS. VINYL MAY ONLY BE USED OF SOFFITS, FASCIA, AND CORNER BOUNDS.
- ALL SINGLE FAMILY DETACHED HOMES WILL HAVE FRONT PORCHES WITH A MINIMUM DEPTH OF 5 FEET. TOWNHOMES WILL HAVE FRONT PORCHES WITH A MINIMUM DEPTH OF 3 FEET.
- ALL TRADITIONAL SINGLE FAMILY DETACHED HOMES WILL HAVE A REAR PATIO OR DECKS A MINIMUM OF 10' X 10'. ALL SINGLE FAMILY RANCHED DETACHED HOMES WILL HAVE A MINIMUM 6' X 10' COVERED PATIO.
- MAIN ROOF PITCHES (EXCLUDING PORCHES) FRONTING THE STREET WILL BE AT LEAST 7-12, WITH THE EXCEPTION OF RANCH HOMES IN WHICH 6:12 SHALL BE ALLOWED.
- FOR EVERY 30 FEET (OR FRACTION) OF CONTINUOUS SIDE ELEVATION (CALCULATED ON A PER FLOOR BASIS), THERE SHALL BE ONE WINDOW OR DOOR ADDED TO THE SIDE ELEVATIONS. ANY SIDING BREAK ON THE SIDE OF THE HOME, SUCH AS A FIREPLACE, SIDE PORCH, OR WALL OFFSETS MAY BE USED AS AN ALTERNATE TO WINDOWS.
- THERE SHALL BE A MINIMUM 12 INCH OVERHANG ON EVERY GABLE END FOR EVERY HOME.
- GARAGES ON ALL NEO TRADITIONAL SINGLE FAMILY DETACHED HOMES AND TOWNHOMES SHALL BE ALLEY FED.
- ALL FRONT LOADED GARAGE DOORS SHALL HAVE GLASS WINDOWS AND CARRIAGE STYLE HARDWARE.
- ALL SINGLE FAMILY DETACHED HOMES SHALL BE RAISED FROM THE FINISHED GRADE A MINIMUM OF 18" AND SHALL 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.
- ALL SINGLE FAMILY ATTACHED HOMES SHALL BE RAISED FROM THE FINISHED GRADE A MINIMUM OF 18" AND SHALL 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.
- ANY SINGLE FAMILY HOMES WITH A CRAWL SPACE SHALL BE WRAPPED IN BRICK, OR STONE ON ALL SIDES.
- ALL HOMES SHALL HAVE FRONT DOOR GLASS INSERTS.
- GARAGES FOR LOTS THAT ARE TYPICALLY AT LEAST 60 FEET WIDE, THOUGH SOME MAY BE 55 FEET WIDE, WILL NOT PROTRUDE MORE THAN SIX (6) FEET FROM THE FRONT PORCH OR STOOP AND ALL GARAGE DOORS SHALL HAVE WINDOW INSERTS AND HARDWARE.
- GARAGE DOORS FOR THE FRONT LOAD SINGLE FAMILY DETACHED HOMES SHALL BE DOUBLE GARAGE DOORS. THE WIDTH OF THE FRONT FACADE OF THE GARAGE SHALL NOT EXCEED 60% OF THE CORRESPONDING FRONT FACADE'S TOTAL WIDTH. A DECORATIVE TRELLIS ABOVE THE GARAGE DOOR WILL BE INCLUDED ON ALL SINGLE FAMILY RANCH HOMES.

UDO EXCEPTIONS

TRANSPORTATION NETWORK
 AN EXCEPTION TO NOT CONSTRUCT THE FUTURE FORESTVILLE ROAD COLLECTOR IS REQUESTED. THE COLLECTOR CROSSES THIS DEVELOPMENT FOR ONLY A SMALL PORTION OF THE FUTURE ROAD.

AN EXCEPTION TO ALLOW A 32' PUBLIC RIGHT OF WAY STREET SECTION, A MODIFIED ONE WAY LOCAL STREET, TO SERVE HOMES FRONTING ON OPEN SPACE AREAS IS REQUESTED.

AN EXCEPTION TO ALLOW AN 84' PUBLIC RIGHT OF WAY STREET SECTION, A MODIFIED URBAN AVENUE SECTION FROM THE STANDARDS IN THE UDO, WITH A SMALLER MEDIAN TO PROVIDE AN ENHANCED ACCESS TO THE SECONDARY AMENITY AREA.

SECTION 6.2 OF THE KNIGHTDALE UNIFIED DEVELOPMENT ORDINANCE STATES THAT LOTS LESS THAN 60' ARE EXEMPT FROM THE RESIDENTIAL CLEARING AND GRADING REQUIREMENTS OF THAT SECTION. THE PROPOSED DEVELOPMENT WILL HAVE A MAXIMUM LOT WIDTH OF 55'. LIMITED EXEMPTIONS TO THE CLEARING AND GRADING REQUIREMENTS PRESENTED IN SECTION 6.2 OF THE UDO ARE REQUESTED FOR PROPOSED LOTS THAT ARE 60' WIDE OR WIDER.

SECTION 2.7 OF THE KNIGHTDALE UNIFIED DEVELOPMENT ORDINANCE REQUIRES THAT ANY LOT LESS THAN 80' IN WIDTH BE ACCESSED VIA AN ALLEY OR REAR LANE ACCESS. ADDITIONALLY, THE UDO REQUIRES THAT SIDE SETBACKS BE A MINIMUM OF 20% OF THE LOT WIDTH (TO A MINIMUM OF 6 FEET), AND DRIVEWAY LENGTH BE A MINIMUM OF 35'. IT IS PROPOSED THAT THE MINIMUM LOT WIDTH STANDARD BE REDUCED TO 55', SIDE SETBACKS BE REDUCED TO A MINIMUM OF 3 FEET, AND DRIVEWAY LENGTHS BE REDUCED TO A MINIMUM OF 20 FEET IN ORDER TO BE ADEQUATELY DEVELOPED WITHIN THE SITE'S CONSTRAINTS.

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: _____
 DEVELOPMENT SERVICES ENGINEER

THESE PLANS ARE APPROVED BY THE TOWN OF KNIGHTDALE AND SERVE AS CONSTRUCTION PLANS FOR THIS PROJECT.

BY: _____ DATE: _____
 ADMINISTRATOR

FOR REVIEW ONLY

THIS DRAWING PREPARED AT THE
RALEIGH OFFICE
 5410 Trinity Road, Suite 102 | Raleigh, NC 27607
 TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

DATE	REVISION DESCRIPTION
01/26/2024 <td></td>	

DATE

01/26/2024

DRAWN BY

331

DESIGNED BY

331

CHECKED BY

A. STONE

SCALE

N/A

TIMMONS GROUP
 NORTH CAROLINA LICENSE NO. C-1652

ALLEN PARK SUBDIVISION - PHASE II
 KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA

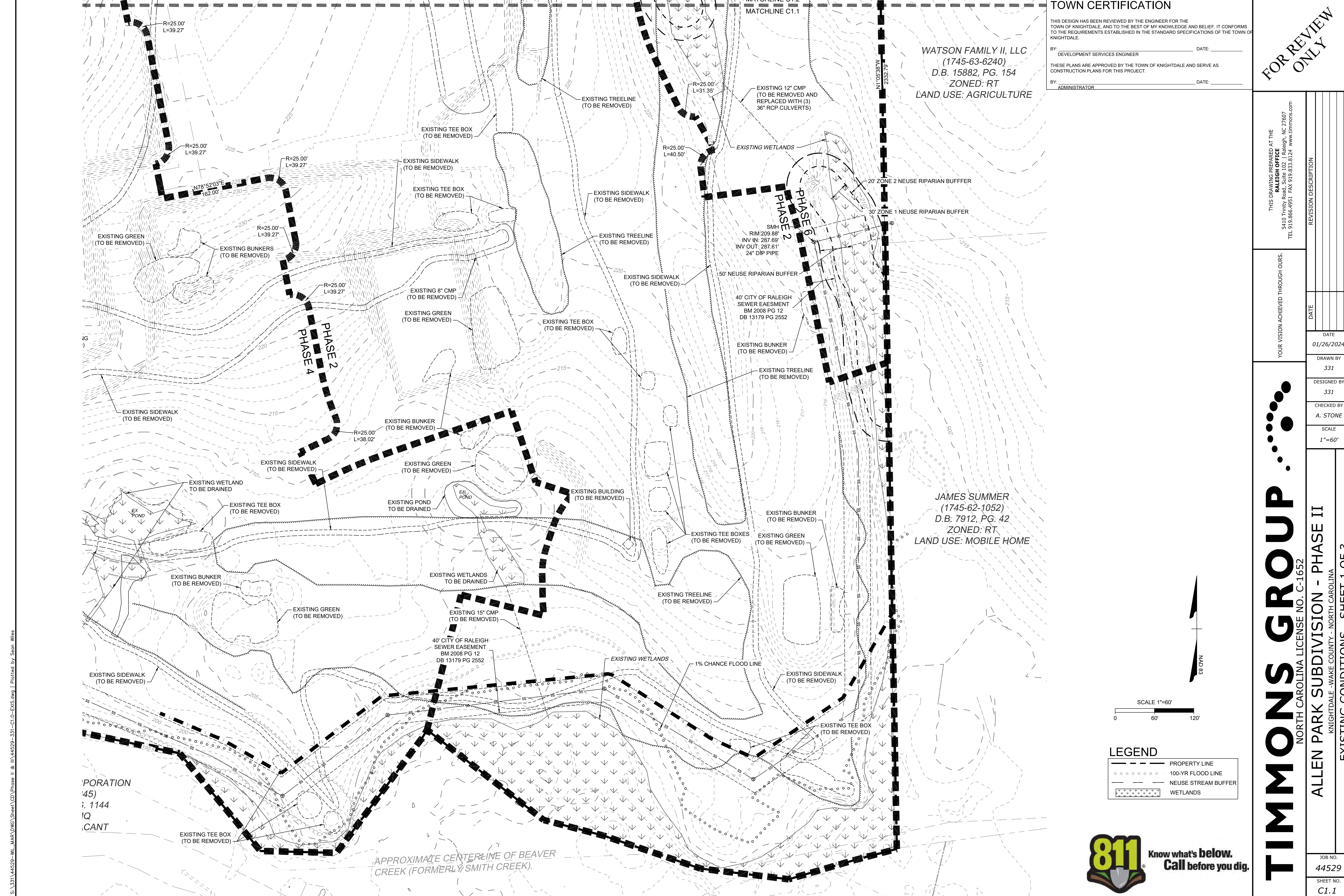
PROJECT NOTES

JOB NO.
44529

SHEET NO.
C0.1

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BY: _____ DATE: _____
DEVELOPMENT SERVICES ENGINEER

THESE PLANS ARE APPROVED BY THE TOWN OF KNIGHTDALE AND SERVE AS CONSTRUCTION PLANS FOR THIS PROJECT.

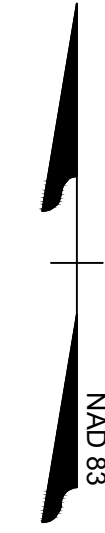
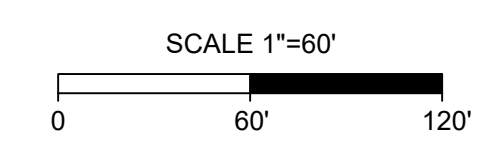
BY: _____ DATE: _____
ADMINISTRATOR

WATSON FAMILY II, LLC
(1745-63-6240)
D.B. 15882, PG. 154
ZONED: RT
LAND USE: AGRICULTURE

JAMES SUMMER
(1745-62-1052)
D.B. 7912, PG. 42
ZONED: RT
LAND USE: MOBILE HOME

LEGEND

	PROPERTY LINE
	100-YR FLOOD LINE
	NEUSE STREAM BUFFER
	WETLANDS



FOR REVIEW ONLY

THIS DRAWING PREPARED AT THE
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TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

DATE	REVISION DESCRIPTION
01/26/2024	

DRAWN BY	331
DESIGNED BY	331
CHECKED BY	A. STONE
SCALE	1"=60'

TIMMONS GROUP

NORTH CAROLINA LICENSE NO. C-1652

ALLEN PARK SUBDIVISION - PHASE II
KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA

EXISTING CONDITIONS - SHEET 1 OF 3

JOB NO.	44529
SHEET NO.	C1.1

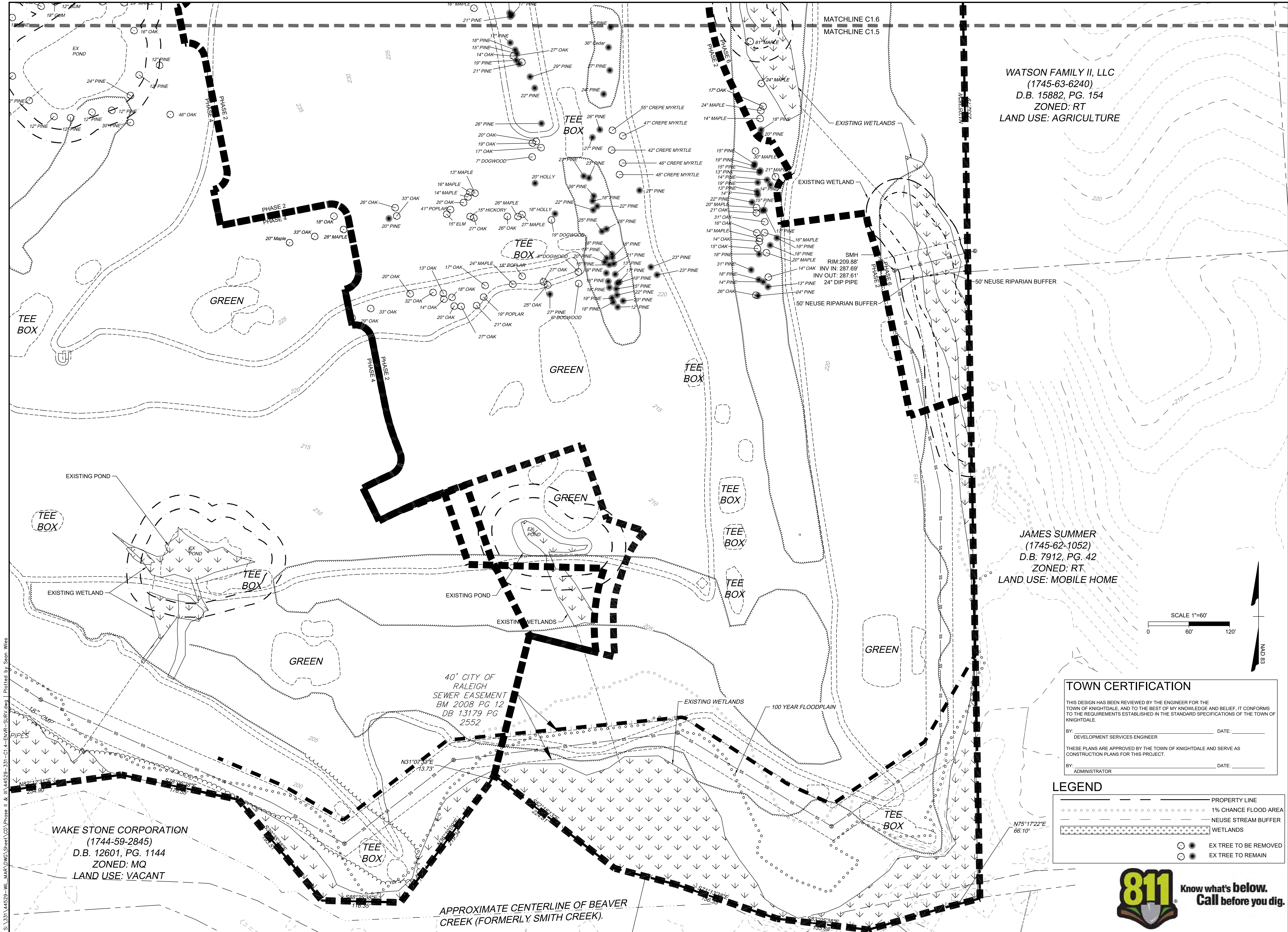
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S:\331\44529-WL-MAR\DWG\Sheet\CD\Phase II & III\44529-331-C1.0-EXIS.dwg | Plotted by Sean Miles

PORTION
(45)
1144
IQ
CANT

APPROXIMATE CENTERLINE OF BEAVER CREEK (FORMERLY SMITH CREEK).



WATSON FAMILY II, LLC
 (1745-63-6240)
 D.B. 15882, PG. 154
 ZONED: RT
 LAND USE: AGRICULTURE

JAMES SUMMER
 (1745-62-1052)
 D.B. 7912, PG. 42
 ZONED: RT
 LAND USE: MOBILE HOME

WAKE STONE CORPORATION
 (1744-59-2845)
 D.B. 12601, PG. 1144
 ZONED: MQ
 LAND USE: VACANT

40' CITY OF RALEIGH
 SEWER EASEMENT
 BM 2008 PG 12
 DB 13179 PG 2552

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.

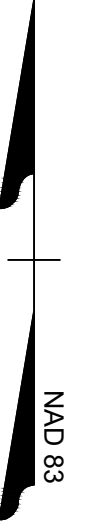
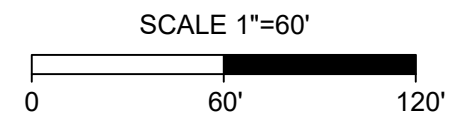
BY: _____ DATE: _____
 DEVELOPMENT SERVICES ENGINEER

THESE PLANS ARE APPROVED BY THE TOWN OF KNIGHTDALE AND SERVE AS CONSTRUCTION PLANS FOR THIS PROJECT.

BY: _____ DATE: _____
 ADMINISTRATOR

LEGEND

	PROPERTY LINE
	1% CHANCE FLOOD AREA
	NEUSE STREAM BUFFER
	WETLANDS
	EX TREE TO BE REMOVED
	EX TREE TO REMAIN



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YOUR VISION ACHIEVED THROUGH OURS.

REVISION DESCRIPTION

DATE	DESCRIPTION
01/26/2024	

TIMMONS GROUP

NORTH CAROLINA LICENSE NO. C-1652

ALLEN PARK SUBDIVISION - PHASE II
 KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA

ENVIRONMENTAL SURVEY - SHEET 1 OF 3

JOB NO. 44529
 SHEET NO. C1.5

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WATSON FAMILY II, LLC
 (1745-45-7848)
 D.B. 17200, PG. 1303
 ZONED: RAL (R-4)
 LAND USE: AGRICULTURE

WATSON FAMILY II, LLC
 (1745-55-6670)
 D.B. 17050, PG. 2171
 ZONED: RALEIGH (R-4)
 LAND USE: VACANT
 LAND USE: AGRICULTURE

WILL BE APPROVED UNDER
 SEPARATE PERMIT AS
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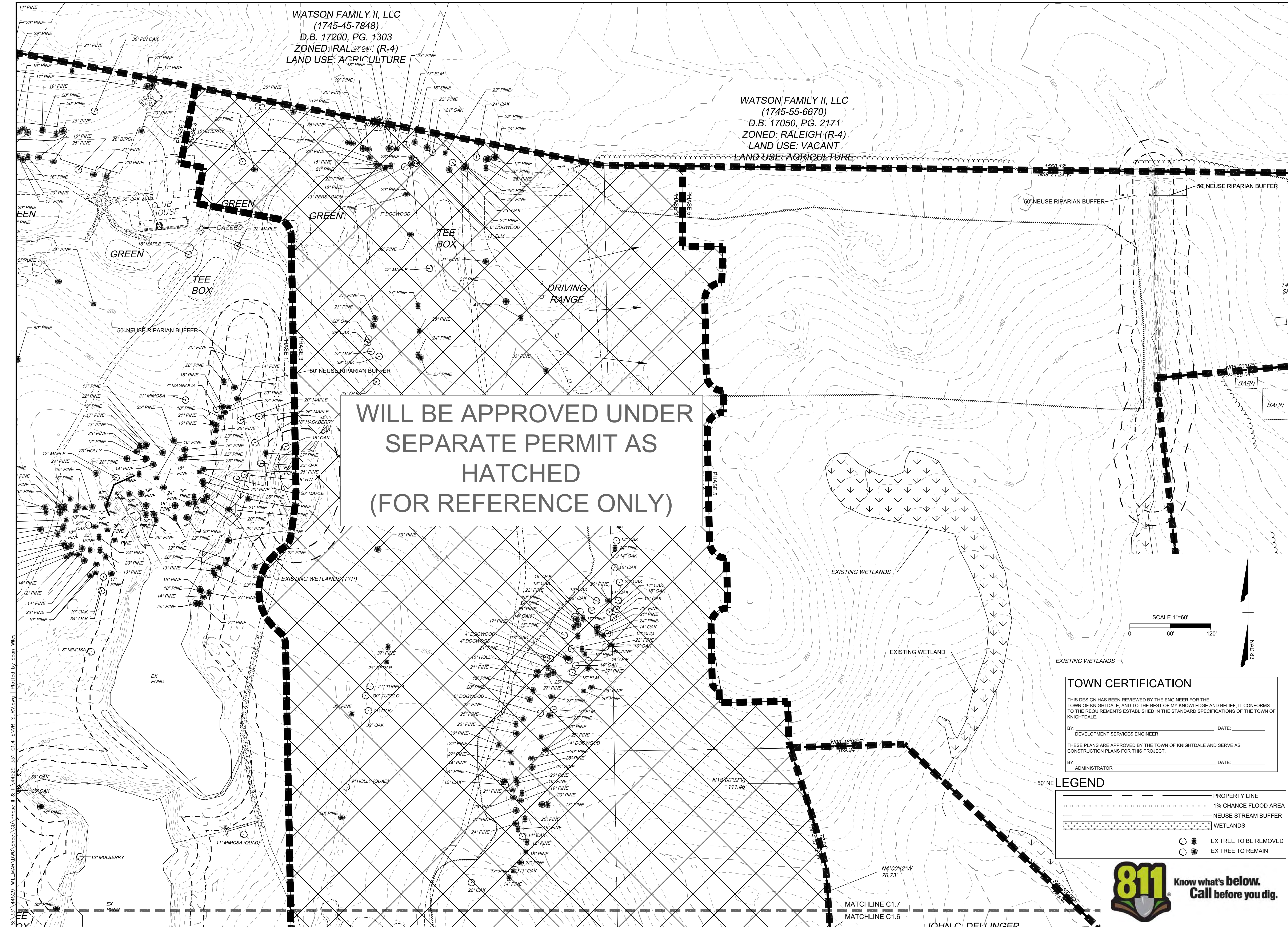
DATE
 01/26/2024
 DRAWN BY
 331
 DESIGNED BY
 331
 CHECKED BY
 A. STONE
 SCALE
 1"=60'

TIMMONS GROUP
 NORTH CAROLINA LICENSE NO. C-1652

ALLEN PARK SUBDIVISION - PHASE II
 KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA
 ENVIRONMENTAL SURVEY - SHEET 3 OF 3

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 DEVELOPMENT SERVICES ENGINEER

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BY: _____ DATE: _____
 ADMINISTRATOR

LEGEND

- PROPERTY LINE
- 1% CHANCE FLOOD AREA
- - - - - NEUSE STREAM BUFFER
- WETLANDS
- EX TREE TO BE REMOVED
- EX TREE TO REMAIN



S:\331-44529-WL-MAR-DWG-Street-CD-Phase II & III-44529-331-C1.4-ENVR-SURV.dwg | Plotted by Sean Wiles

EASEMENT LEGEND

- PRIVATE EASEMENTS:**
 PAME PRIVATE ACCESS & MAINTENANCE EASEMENT
 PGSE PRIVATE GREENWAY SYSTEM EASEMENT
 PSDE PRIVATE STORMWATER DRAINAGE EASEMENT
 PSSE PRIVATE SANITARY SEWER EASEMENT
 SCME SCM ACCESS & MAINTENANCE EASEMENT
- PUBLIC EASEMENTS:**
 CORSSE CITY OF RALEIGH PUBLIC SANITARY SEWER EASEMENT
 CORWLE CITY OF RALEIGH PUBLIC WATERLINE EASEMENT
 TOKDE TOWN OF KNIGHTDALE PUBLIC DRAINAGE EASEMENT
 TOKGE TOWN OF KNIGHTDALE PUBLIC GREENWAY EASEMENT

EASEMENT LEGEND

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 PAME PRIVATE ACCESS & MAINTENANCE EASEMENT
 PGSE PRIVATE GREENWAY SYSTEM EASEMENT
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 TOKDE TOWN OF KNIGHTDALE PUBLIC DRAINAGE EASEMENT
 TOKGE TOWN OF KNIGHTDALE PUBLIC GREENWAY EASEMENT

LEGEND

- PROPERTY LINE
 --- PROPOSED RIGHT OF WAY
 --- PROPOSED LOT LINE
 --- ACTIVE OPEN SPACE
 --- PASSIVE OPEN SPACE
 --- COMMON AREA

TOWN CERTIFICATION

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 ADMINISTRATOR

COMMON AREA TABLE

COMMON AREA 6	264,024 SF	6.06 AC
TOTAL	264,024 SF	6.06 AC

ACTIVE OPEN SPACE TABLE

ACTIVE OPEN SPACE 6	8,400 SF	0.19 AC
ACTIVE OPEN SPACE 7	34,570 SF	0.79 AC
ACTIVE OPEN SPACE 8	110,968 SF	2.55 AC
TOTAL	153,938 SF	3.53 AC

PASSIVE OPEN SPACE TABLE

PASSIVE OPEN SPACE 3	113,244 SF	2.60 AC
PASSIVE OPEN SPACE 5	468,010 SF	10.74 AC
TOTAL	581,254 SF	13.34 AC

ALLEY	OWNERSHIP	LENGTH (LF)
ALLEY A	PRIVATE	1,119
ALLEY F	PRIVATE	37
ALLEY J	PRIVATE	663
ALLEY K	PRIVATE	507
ALLEY M	PRIVATE	775
ALLEY N	PRIVATE	411

STREET NAME	STREET TYPE	OWNERSHIP	LENGTH (LF)
NICHOLS RIDGE DRIVE	74' ROW	PUBLIC	610
CENTRAL PARK DRIVE	74' ROW	PUBLIC	117
LAMPLIGHTER DRIVE	74' ROW	PUBLIC	751
NICHOLS VIEW COURT	54' ROW	PUBLIC	785
EDGEPAK DRIVE	74' ROW	PUBLIC	880
SILVER LAUREL DRIVE	54' ROW	PUBLIC	1,088
CHERRY VALE LANE	54' ROW	PUBLIC	1,073
GLEN HOLLOW DRIVE	54' ROW	PUBLIC	2,896
ESWORTHY COURT	54' ROW	PUBLIC	250
CENTRAL PARK DRIVE	54' ROW	PUBLIC	637
FLINT HILL LANE	54' ROW	PUBLIC	614
HEATHER HALL LANE	54' ROW	PUBLIC	801
PLEASANT GATE	54' ROW	PUBLIC	755
PLOTTING SHED LANE	54' ROW	PUBLIC	839
CHARTWELL LANE	54' ROW	PUBLIC	453
HOLLY LEAF LANE	54' ROW	PUBLIC	52
EDGEPAK DRIVE	54' ROW	PUBLIC	570
HAULUP WAY	32' ROW	PUBLIC	52
FLOWER GATE	54' ROW	PUBLIC	367

GENERAL SITE NOTES

- ALL CONSTRUCTION SHALL CONFORM TO TOWN OF KNIGHTDALE AND CITY OF RALEIGH STANDARDS AND SPECIFICATIONS.
- ROADS AND DRIVEWAYS SHALL COMPLY WITH NCDOT AND TOWN OF KNIGHTDALE STANDARDS.
- WHERE DRAINAGE STRUCTURES ARE SHOWN WITHIN A LABELED STREET OR ALLEY, THE RIGHT OF WAY MAY ACT AS THE DRAINAGE EASEMENT.
- SIGN PERMITS SHALL BE REQUIRED FOR ANY ENTRANCE SIGNAGE. PERMITS SHALL BE REQUIRED PRIOR TO FABRICATION OR INSTALLATION OF SIGNS. SIGNAGE SHALL BE RESTRICTED TO AN ON-SITE LOCATION.
- THE WATER AND SEWER SYSTEMS SHALL COMPLY WITH CITY OF RALEIGH STANDARDS. ALL DESIGN AND CONSTRUCTION METHODS SHALL COMPLY WITH WAKE COUNTY'S SEDIMENTATION AND EROSION CONTROL REGULATIONS. AN EROSION CONTROL PLAN SHALL BE APPROVED BY WAKE COUNTY PRIOR TO ANY GRADING.
- CONSTRUCTION DRAWINGS SHALL BE SUBMITTED AND APPROVED BY THE TOWN OF KNIGHTDALE AND CITY OF RALEIGH PRIOR TO CONSTRUCTION.
- ALL STREETS WITHIN THE SUBDIVISION WILL HAVE A POSTED SPEED LIMIT OF 25 MPH. RESTRICTIVE COVENANTS SHALL BE APPROVED AND RECORDED PRIOR TO RECORDING OF FINAL PLAT.
- STORMWATER CONTROL MEASURES SHALL BE CONTAINED IN AND ACCESSED VIA OPEN SPACE MAINTAINED AND OWNED BY THE HOMEOWNER'S ASSOCIATION. A MAINTENANCE PLAN MUST BE DEVELOPED TO ADDRESS THE STORMWATER CONTROL MEASURES.
- PRIVATE STORM DRAINAGE EASEMENTS SHALL BE MAINTAINED BY THE HOA.
- SUBDIVISION LOTS MUST BE LOTS OF RECORD PRIOR TO RECEIVING A BUILDING PERMIT.
- PER UDO CH 17.3.G.2, ALL UTILITIES SHALL BE PLACED UNDERGROUND - INCLUDING EXISTING POLES ON OLD MILBURNIE RD & FORESTVILLE RD.

USPS NOTE

CLUSTER MAILBOXES TO BE LOCATED WITHIN NEIGHBORHOOD OPEN SPACE 3. KIOSK LOCATION SHALL BE APPROVED BY USPS PRIOR TO SUBDIVISION APPROVAL. IF TEMPORARY LOCATIONS ARE REQUIRED, APPROVAL OF LOCATIONS SHALL BE RECEIVED FROM USPS. MAIL KIOSK WILL HAVE ADA COMPLIANT RAMPS AND PARKING SPACES.

SITE DATA

DEVELOPER:
 BRIAN MASSENGILL
 NATELLI COMMUNITIES
 1903 N. HARRISON AVE
 CARY, NC 27513
 BRIAN@NATELLI.COM
 PHONE: 919-868-3102

ENGINEER:
 TIMMONS GROUP
 MIKE ZACCARDO, PE
 5410 TRINITY ROAD, STE. 102
 RALEIGH, NC 27607
 PHONE: 919-532-3281

OWNER OF RECORD:
 WILMAR II LLC, MARTIN ALLEN FAMILY LLC
 2300 OLD MILBURNIE RD
 KNIGHTDALE, NC 27604

EVERETT NICHOLS JR
 6208 BATTLEFORD DR
 RALEIGH, NC 27612

JOHN CHARLES DELLINGER
 6030 FORESTVILLE RD
 RALEIGH, NC 27604

PIN #S = 1745-43-7184, 1745-34-9869,
 1745-54-5662, PORTION OF 1745-54-6015
 DB = 18861 PG = 2614; DB = 18861 PG = 2614
 DB = 18820 PG = 214; PORTION OF DB = 14929 PG = 2331

FIRM MAP# = 3720174500K EFFECTIVE 07/19/2022

TOTAL EXISTING TRACT = 72.83 ACRES
 EXISTING ZONING = RT
 PROPOSED ZONING = GR8 PUD

PROPOSED NUMBER OF LOTS = 209
 98 60' SF
 20 26' SF
 91 22' TH

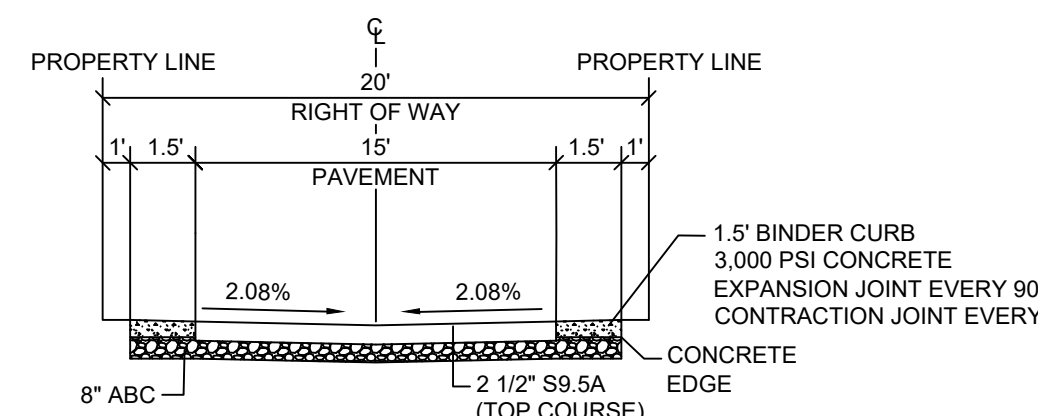
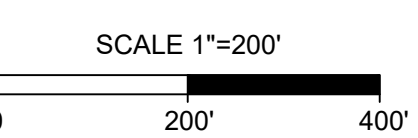
PROPOSED DENSITY = 4.17 DU/A

MINIMUM PROVIDED LOT WIDTH = 22'
 MINIMUM LOT SIZE PROVIDED = 2,089 SQ.FT.
 AVERAGE LOT SIZE PROVIDED = 5,164 SQ.FT.

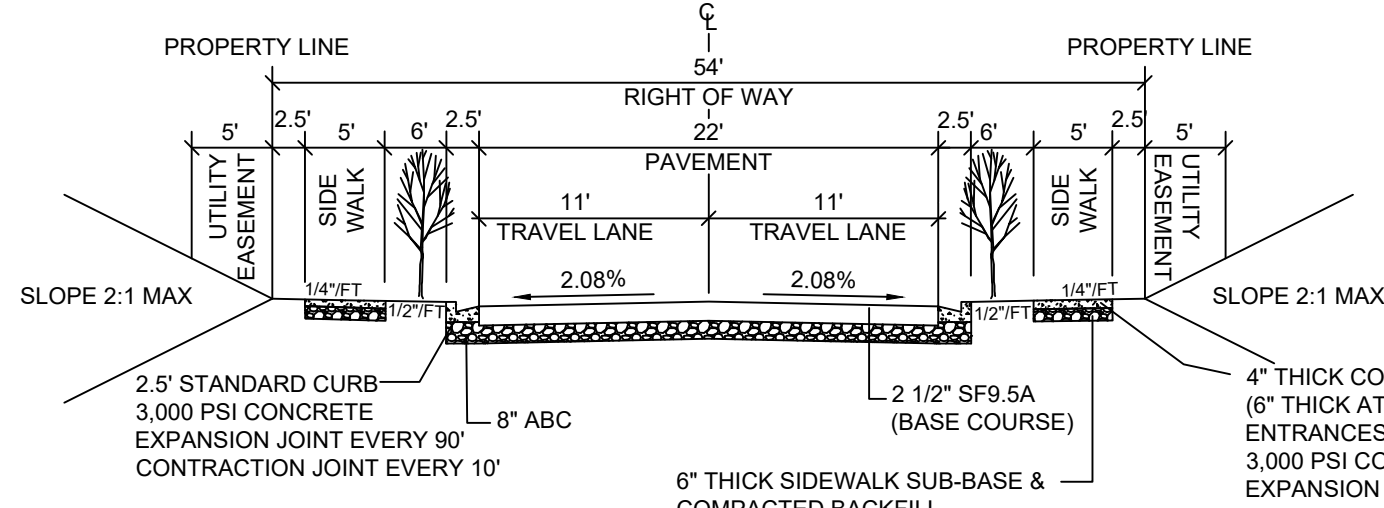
OPEN SPACE REQUIRED: 23.9 ACRES
 ACTIVE OPEN SPACE REQUIRED: 11.5 ACRES
 TOTAL LENGTH OF PUBLIC ROADS = 27,258 LF
 TOTAL LENGTH OF PRIVATE ROADS = 9,749 LF

SETBACKS:
 FRONT LOAD DETACHED: FRONT: 10', DRIVEWAY LENGTH: 20', REAR: 20', SIDE: 5', CORNER: 10'
 REAR LOAD DETACHED: REAR: 10', DRIVEWAY LENGTH: 20', SIDE: 3', CORNER: 10'
 REAR LOAD TOWNHOME: FRONT: 10', DRIVEWAY LENGTH: 20', REAR: 20', BUILDING SEPARATION: 10', CORNER: 10'

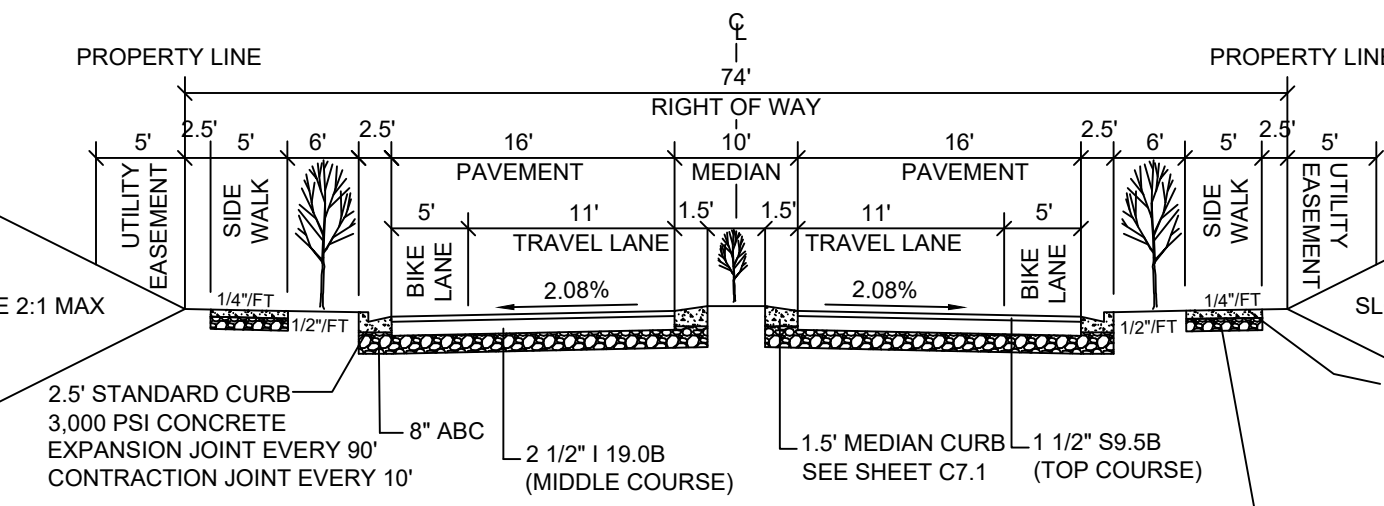
A HOMEOWNER'S ASSOCIATION (HOA) WILL OWN AND MAINTAIN ALL OPEN SPACE PARCELS AND WILL BE RESPONSIBLE FOR MAINTAINING ALL LANDSCAPING REQUIRED BY TOWN OF KNIGHTDALE UNIFIED DEVELOPMENT ORDINANCE (UDO).



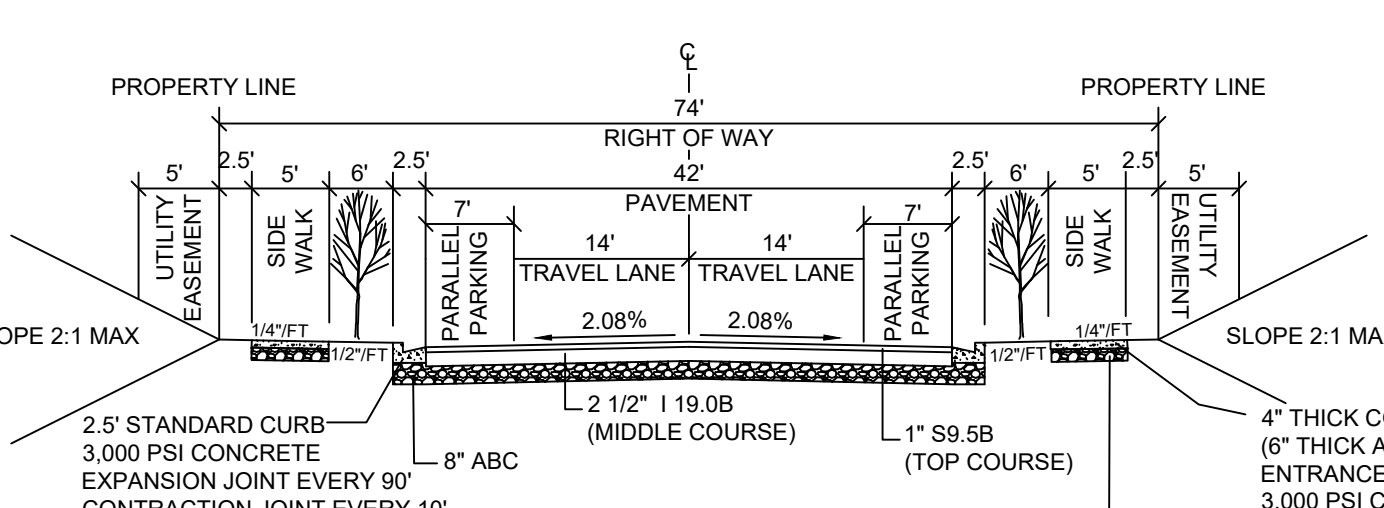
TYPICAL CROSS SECTION - REAR ALLEY
 NOT TO SCALE



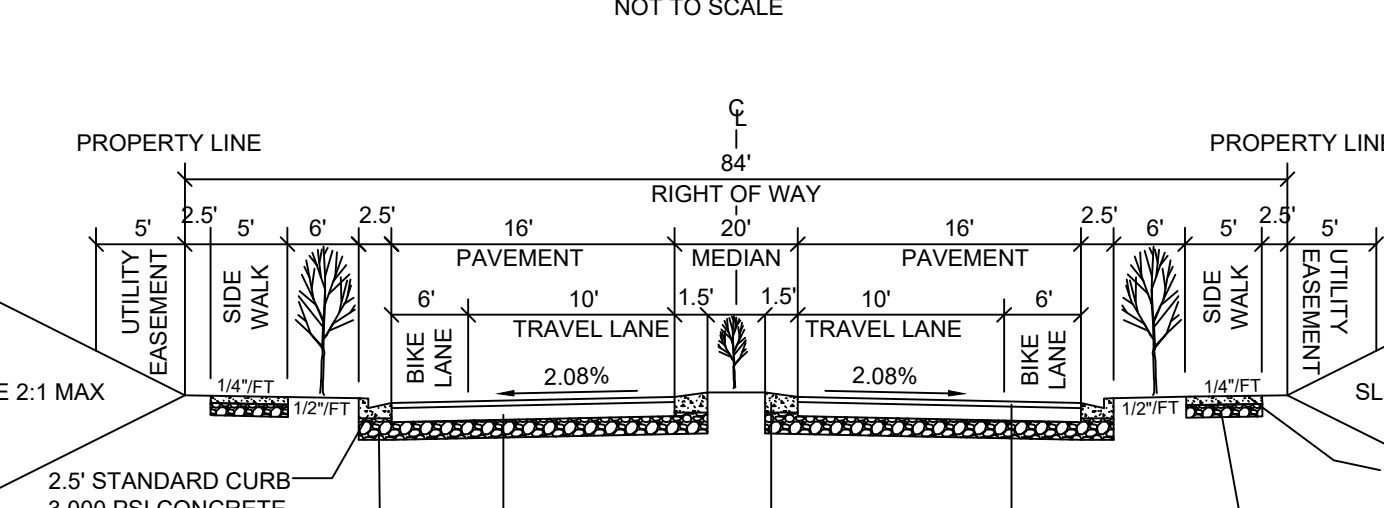
TYPICAL CROSS SECTION - 54' ROW
 NOT TO SCALE



TYPICAL CROSS SECTION - 74' ROW
 NOT TO SCALE



TYPICAL CROSS SECTION - 74' ROW W/ PARALLEL PARKING
 NOT TO SCALE



TYPICAL CROSS SECTION - 84' ROW
 NOT TO SCALE



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DATE: 01/26/2024
 DRAWN BY: 331
 DESIGNED BY: 331
 CHECKED BY: A. STONE
 SCALE: 1"=200'

TIMMONS GROUP

NORTH CAROLINA LICENSE NO. C-1652

ALLEN PARK SUBDIVISION - PHASE II
 KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA

OVERALL SITE PLAN

JOB NO. 44529
 SHEET NO. C2.0

FOR REVIEW ONLY: NOT FOR CONSTRUCTION



LEGEND

	PROPERTY LINE
	PROPOSED RIGHT OF WAY
	PROPOSED LOT LINE
	BUILDING SETBACK
	QUARRY OVERLAY
	ACTIVE OPEN SPACE
	PASSIVE OPEN SPACE
	COMMON AREA

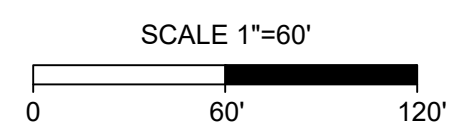
TOWN CERTIFICATION

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BY: _____ DATE: _____
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BY: _____ DATE: _____
 ADMINISTRATOR



EASEMENT LEGEND

PRIVATE EASEMENTS:	PRIVATE ACCESS & MAINTENANCE EASEMENT
PGSE	PRIVATE GREENWAY SYSTEM EASEMENT
PSDE	PRIVATE STORMWATER DRAINAGE EASEMENT
PSSE	PRIVATE SANITARY SEWER EASEMENT
SCME	SCM ACCESS & MAINTENANCE EASEMENT
PUBLIC EASEMENTS:	CITY OF RALEIGH PUBLIC SANITARY SEWER EASEMENT
CORSSE	CITY OF RALEIGH PUBLIC WATERLINE EASEMENT
CORWLE	TOWN OF KNIGHTDALE PUBLIC DRAINAGE EASEMENT
TOKDE	TOWN OF KNIGHTDALE PUBLIC DRAINAGE EASEMENT
TOKGE	TOWN OF KNIGHTDALE PUBLIC GREENWAY EASEMENT

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01/26/2024
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331
DESIGNED BY
331
CHECKED BY
A. STONE
SCALE
1"=60'

TIMMONS GROUP

ALLEN PARK SUBDIVISION - PHASE II
 NORTH CAROLINA LICENSE NO. C-1652
 KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA

SITE PLAN - SHEET 1 OF 3

JOB NO.	44529
SHEET NO.	C2.1

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REVISION DESCRIPTION

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REVISION DESCRIPTION

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DESIGNED BY

CHECKED BY

SCALE

REVISION DESCRIPTION



LEGEND

	PROPERTY LINE
	PROPOSED RIGHT OF WAY
	PROPOSED LOT LINE
	BUILDING SETBACK
	ACTIVE OPEN SPACE
	PASSIVE OPEN SPACE
	COMMON AREA

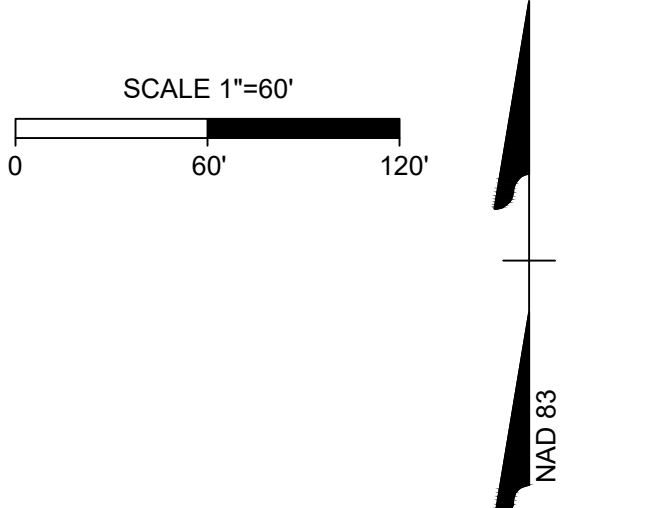
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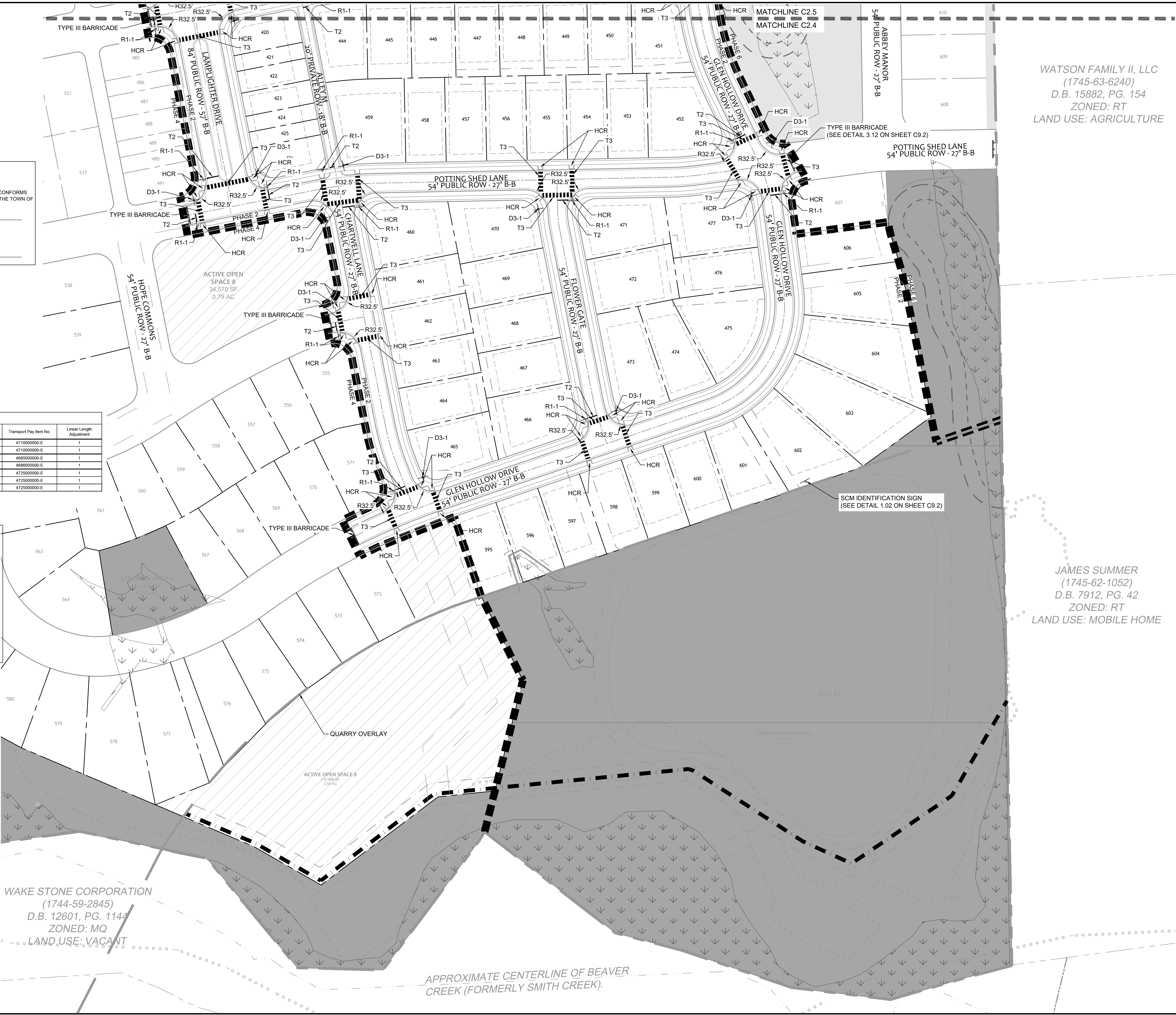


Pavement Marking Symbols - English

Symbol	Description	Material	Transport Pay Item No.	Linear Length Adjustment
T2	WHITE STOPBAR (24" 120 MIL)	Thermo	4710000000-E	1
T3	WHITE CROSSWALK LINE (24" 120 MIL)	Thermo	4710000000-E	1
TA	WHITE EDGE LINE (4" 90 MIL)	Thermo	4685000000-E	1
TE	WHITE SOLID LANE LINE (4" 120 MIL)	Thermo	4686000000-E	1
UA	LEFT TURN ARROW (80 MIL)	Thermo	4725000000-E	1
UB	RIGHT TURN ARROW (80 MIL)	Thermo	4725000000-E	1
UF	COMBO. LEFT/RIGHT ARROW (80 MIL)	Thermo	4725000000-E	1

SIGN LEGEND

- ALL SITE SIGNAGE SHALL BE IN ACCORDANCE WITH THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND NCDOT STANDARDS.
 - ALL SIGNS SHALL BE MOUNTED WITH 7-FT. MIN. VERTICAL CLEARANCE TO THE BOTTOM OF THE SIGN ON 3-LB. GALV. STEEL U-CHANNEL POST SET IN 3-FT DEEP X 12-IN DIA. CONCRETE FOOTING.
 - ALL SIGNAGE SHALL BE FIELD STAKED AND THE LOCATIONS APPROVED BY THE TOWN OF KNIGHTDALE AND/OR NCDOT PRIOR TO SIGN INSTALLATION.
 - CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL AS REQUIRED BY THE TOWN OF KNIGHTDALE THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND ALL NCDOT STANDARDS AND SPECIFICATIONS.
 - THE TOWN OF KNIGHTDALE REQUIRES ALL REGULATORY PAVEMENT MARKINGS TO BE HI-VIS THERMOPLASTIC, EXCEPT FOR PARKING SPACE STRIPING WHICH MAY BE WHITE PAINT.
 - SEE STANDARD DETAIL 3.16 FOR PROPER PLACEMENT OF STREET SIGN ON SHEET C7.1
- | SIGN | MUTCD STD. | SIZE |
|--------------|------------|-------------|
| STOP | R1-1 | 30"x30" |
| ROAD CLOSED | R11-2 | 48"x30" |
| STREET NAME | D3-1 | VARIES"x12" |
| SPEED LIMIT | R2-1 | 24"x30" |
| DO NOT ENTER | R5-1 | 30"x30" |
| ONE WAY | R6-1R | 36"x12" |



WAKE STONE CORPORATION
(1744-59-2845)
D.B. 12601, PG. 1144
ZONED: MQ
LAND USE: VACANT

APPROXIMATE CENTERLINE OF BEAVER CREEK (FORMERLY SMITH CREEK).

WATSON FAMILY II, LLC
(1745-63-6240)
D.B. 15882, PG. 154
ZONED: RT
LAND USE: AGRICULTURE

JAMES SUMMER
(1745-62-1052)
D.B. 7912, PG. 42
ZONED: RT
LAND USE: MOBILE HOME

FOR REVIEW ONLY

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RALEIGH OFFICE
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL 919.866.9511 FAX 919.833.8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

REVISION DESCRIPTION	DATE
	01/26/2024

DATE
01/26/2024
DRAWN BY
331
DESIGNED BY
331
CHECKED BY
A. STONE
SCALE
1"=60'

TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652

ALLEN PARK SUBDIVISION - PHASE II
KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA
SIGNAGE AND MARKING PLAN - SHEET 1 OF 3

JOB NO. 44529
SHEET NO. C2.4

FOR REVIEW ONLY: NOT FOR CONSTRUCTION

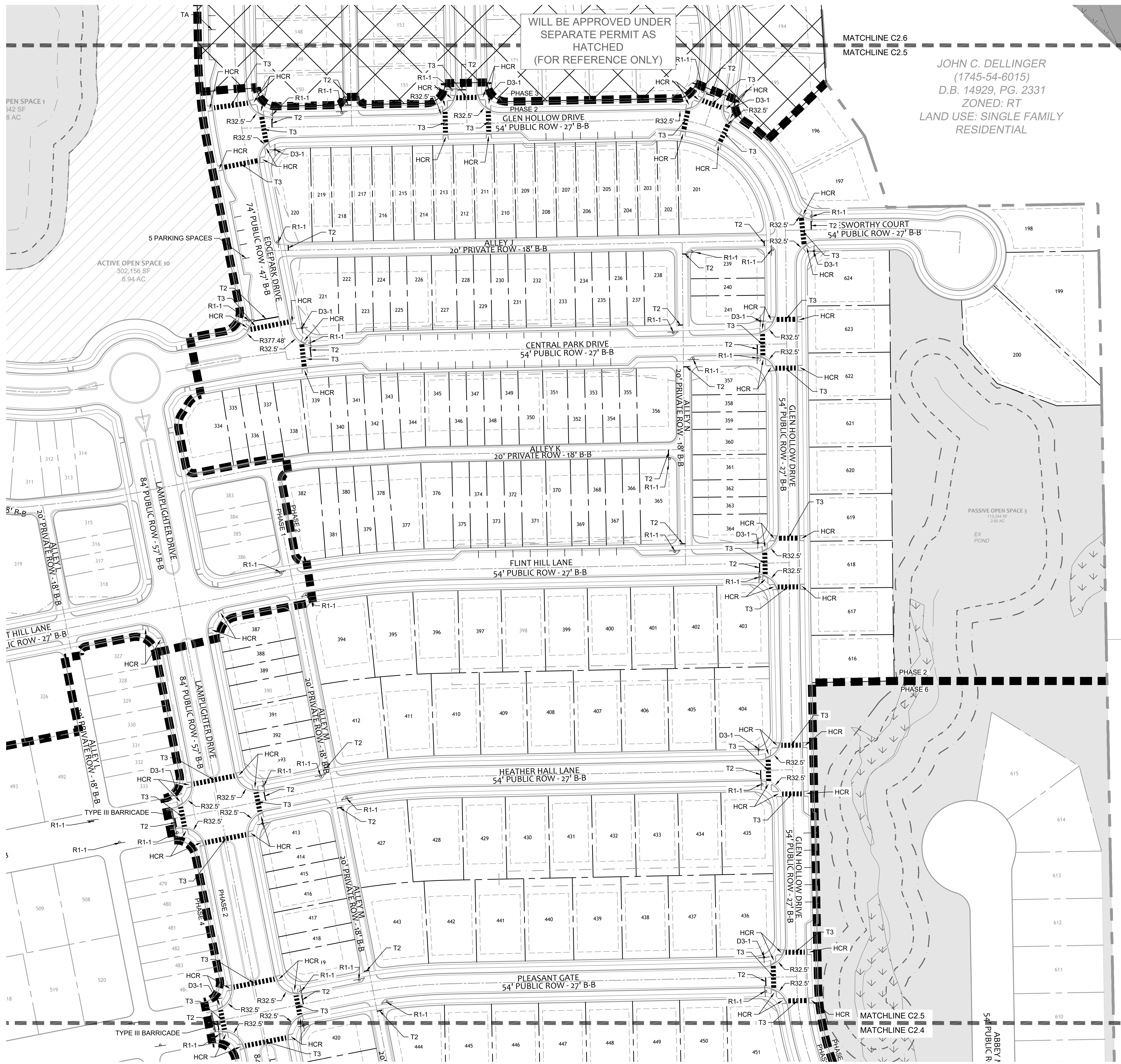
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S:\331\44529-WL-MAR\DWG\Sheet\CD\Phase II & III\44529-331-C2.4-SIGN.dwg | Plotted by Sen Wires

SIGN LEGEND

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

SIGN	MUTCD STD.	SIZE
STOP	R1-1	30"x30"
ROAD CLOSED	R1-2	48"x30"
STREET NAME	D3-1	VARIES x12"
SPEED LIMIT	R2-1	24"x30"
DO NOT ENTER	R5-1	30"x30"
ONE WAY	R6-1R	36"x12"
- ALL SIGNS SHALL BE MOUNTED WITH 7-FT. MIN. VERTICAL CLEARANCE TO THE BOTTOM OF THE SIGN ON 3-LB. GALV. STEEL U-CHEMEL POST SET IN 3-FT DEEP X 12-IN DIA. CONCRETE FOOTING.
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- SEE STANDARD DETAIL 3.16 FOR PROPER PLACEMENT OF STREET SIGN ON SHEET C7.1



JOHN C. DELLINGER
(1745-54-6015)
D.B. 14929, PG. 2331
ZONED: RT
LAND USE: SINGLE FAMILY
RESIDENTIAL

FOR REVIEW ONLY

Pavement Marking Symbols - English

Symbol	Description	Material	Transport Pay Item No.	Linear Length Adjustment
T2	WHITE STOPBAR (24" x 120 MIL)	Thermo	471000000-E	1
T3	WHITE CROSSWALK LINE (24" x 120 MIL)	Thermo	471000000-E	1
TA	WHITE EDGELINE (4" x 90 MIL)	Thermo	468500000-E	1
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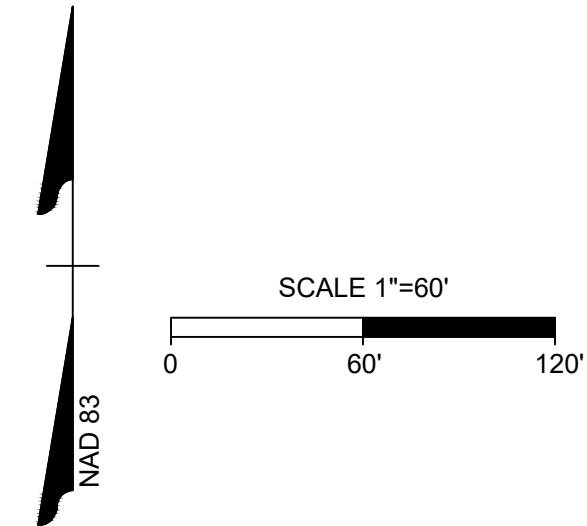
TOWN CERTIFICATION

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: _____
DEVELOPMENT SERVICES ENGINEER

THESE PLANS ARE APPROVED BY THE TOWN OF KNIGHTDALE AND SERVE AS CONSTRUCTION PLANS FOR THIS PROJECT.

BY: _____ DATE: _____
ADMINISTRATOR



LEGEND

- PROPERTY LINE
- PROPOSED RIGHT OF WAY
- PROPOSED LOT LINE
- BUILDING SETBACK
- ACTIVE OPEN SPACE
- PASSIVE OPEN SPACE
- COMMON AREA



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DATE	REVISION DESCRIPTION
01/26/2024 <td></td>	

DRAWN BY: 331
DESIGNED BY: 331
CHECKED BY: A. STONE
SCALE: 1"=60'

DATE: 01/26/2024
DRAWN BY: 331
DESIGNED BY: 331
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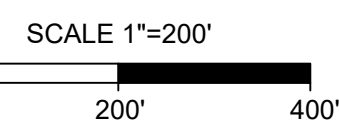
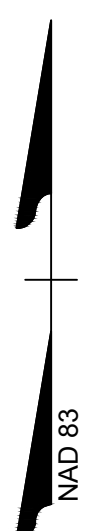
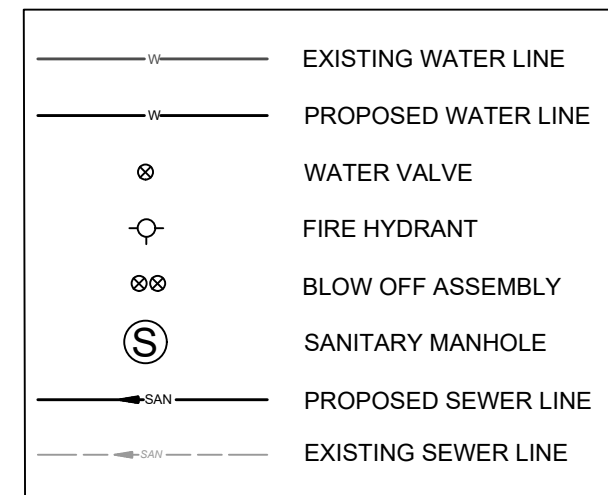
TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652

ALLEN PARK SUBDIVISION - PHASE II
KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA

SIGNAGE AND MARKING PLAN - SHEET 2 OF 3

JOB NO. 44529
SHEET NO. C2.5

UTILITY LEGEND



TOWN CERTIFICATION

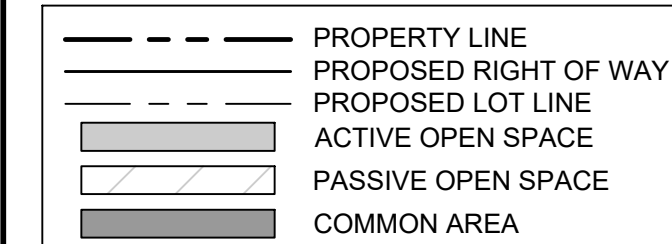
THIS DESIGN HAS BEEN REVIEWED BY THE ENGINEER FOR THE TOWN OF KNIGHTDALE, AND TO THE BEST OF MY KNOWLEDGE AND BELIEF, IT CONFORMS TO THE REQUIREMENTS ESTABLISHED IN THE STANDARD SPECIFICATIONS OF THE TOWN OF KNIGHTDALE.

BY: _____ DATE: _____
DEVELOPMENT SERVICES ENGINEER

THESE PLANS ARE APPROVED BY THE TOWN OF KNIGHTDALE AND SERVE AS CONSTRUCTION PLANS FOR THIS PROJECT.

BY: _____ DATE: _____
ADMINISTRATOR

LEGEND



EASEMENT LEGEND

- PRIVATE EASEMENTS:**
 PAME PRIVATE ACCESS & MAINTENANCE EASEMENT
 PGSE PRIVATE GREENWAY SYSTEM EASEMENT
 PSDE PRIVATE STORMWATER DRAINAGE EASEMENT
 PSSE PRIVATE SANITARY SEWER EASEMENT
 SCME SCM ACCESS & MAINTENANCE EASEMENT
- PUBLIC EASEMENTS:**
 CORSSE CITY OF RALEIGH PUBLIC SANITARY SEWER EASEMENT
 CORWLE CITY OF RALEIGH PUBLIC WATERLINE EASEMENT
 TOKDE TOWN OF KNIGHTDALE PUBLIC DRAINAGE EASEMENT
 TOKGE TOWN OF KNIGHTDALE PUBLIC GREENWAY EASEMENT

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.

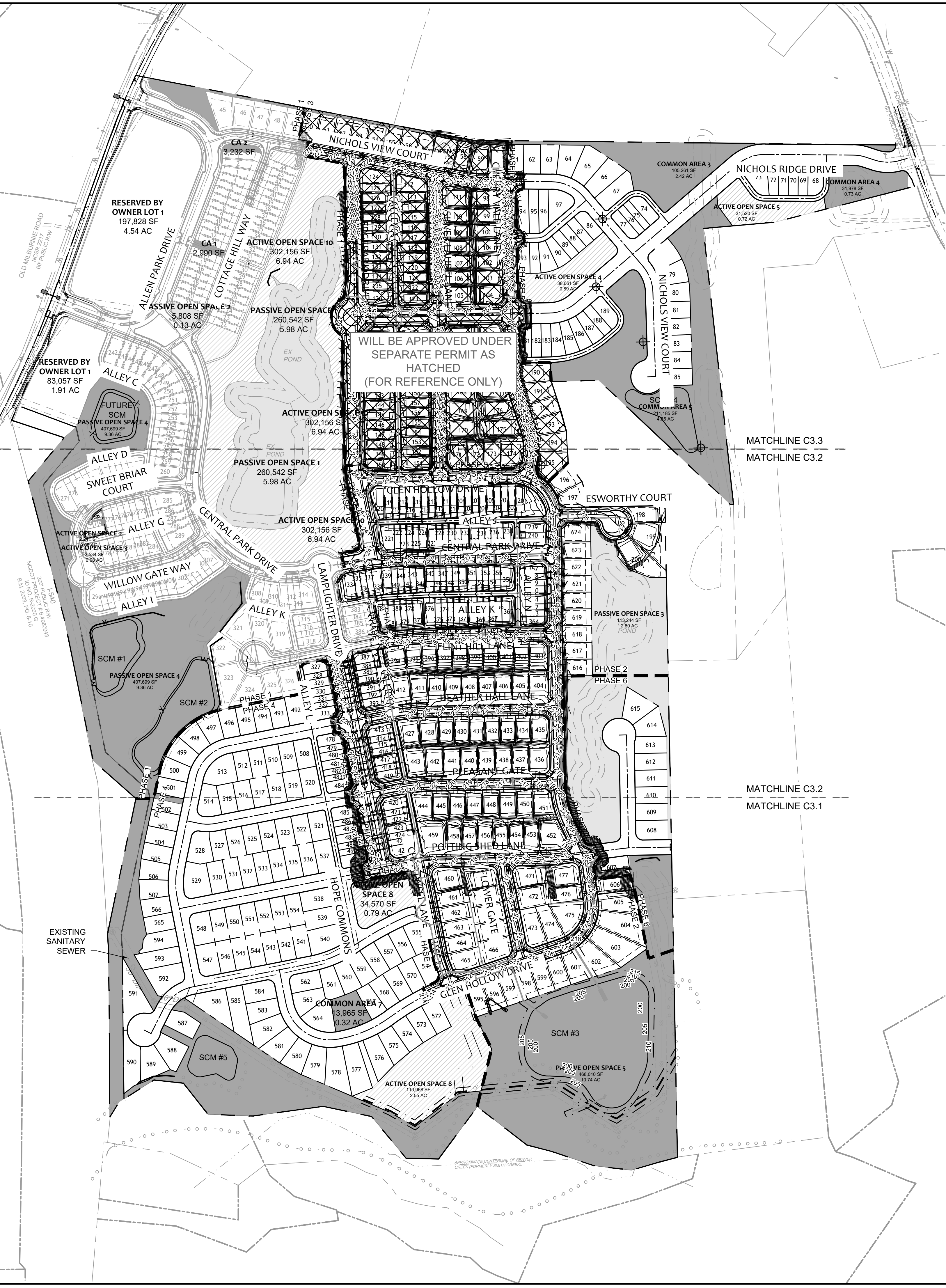
City of Raleigh Development Approval _____
 Raleigh Water Review Officer _____

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 # _____

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 # _____

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 # _____



UTILITY NOTES

- ALL UTILITY DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES (CORPDU) STANDARDS AND SPECIFICATIONS. UTILITY DESIGN SHALL ALSO MEET FIRE FLOW REQUIREMENTS OF NCFD.
- UTILITY SIZES AND LOCATIONS ARE SHOWN FOR ILLUSTRATIVE PURPOSES ONLY AND ARE SUBJECT TO CHANGE BASED ON FINAL DESIGN AND CONSTRUCTION DRAWING APPROVAL. THIS SHALL INCLUDE BUT NOT BE LIMITED TO FIRE HYDRANT LOCATIONS.
- ANY EXISTING WATER AND SEWER LINES TO BE USED AS PART OF THE FINAL DESIGN OF THE PROJECT, SHALL BE LOCATED BY SURVEY, TESTED BY A LICENSED CONTRACTOR AND APPROVED BY THE CITY OF RALEIGH INSPECTOR PRIOR TO SUBMITTAL OF CONSTRUCTION DRAWINGS.
- AS PART OF CONSTRUCTION DRAWING SUBMITTAL, FIRE FLOW CALCULATIONS SHALL BE PROVIDED SHOWING COMPLIANCE WITH NCFD. PROJECT MAY BE DEVELOPED IN PHASES AND ALL PHASES SHALL BE REQUIRED TO MEET THE MINIMUM REQUIRED FIRE FLOWS PER OCCUPANCY PROPOSED IN EACH PHASE.
- AN APPROVED WATER SUPPLY FOR FIRE SUPPRESSION (TEMPORARY OR PERMANENT) SHALL BE PROVIDED AS SOON AS COMBUSTIBLE MATERIALS ARRIVE ON SITE.
- UTILITY CONSTRUCTION APPROVAL IS REQUIRED FOR THIS PROJECT, PLANS TO BE PREPARED BY NC PROFESSIONAL ENGINEER.
- RIGHT OF WAY AND/OR EASEMENT DEDICATION PLAT IS REQUIRED FOR THIS PROJECT (PRIOR TO CITY ACCEPTANCE OF UTILITIES).
- ALL NECESSARY WETLAND, RIPARIAN BUFFER AND FLOODPLAIN PERMITS FROM USACE, NCDWQ & FEMA SHALL BE OBTAINED PRIOR TO CONSTRUCTION.
- PROJECT SHALL EXTEND PUBLIC WATER MAINS ALONG ALL INTERIOR AND ADJUTING RIGHT OF WAYS OF DEVELOPMENT.
- FIRE HYDRANT ASSEMBLIES SHALL BE INSTALLED AT EVERY INTERSECTION AND AT 500' (RESIDENTIAL) MAX INTERVALS ALONG SITE FRONTAGE.
- ALL MAINS UP TO 12 INCHES IN SIZE SHALL BE DESIGNED WITH A BLOW-OFF ASSEMBLY THE SAME SIZE AS THE DIAMETER OF THE PIPE.
- ALL WATER MAINS SHALL BE PRESSURE CLASS OR THICKNESS CLASS DUCTILE IRON PIPE DESIGNED IN ACCORDANCE WITH AWWA STANDARD C-150.
- PROJECT SHALL EXTEND PUBLIC GRAVITY SEWER TO PERIPHERY OF DEVELOPMENT BASED ON NATURAL TOPOGRAPHY.
- ALL CITY OF RALEIGH SANITARY SEWER EASEMENTS SHALL BE A MINIMUM OF 30 FEET.
- THE SANITARY SEWER DESIGN SHALL BE EVALUATED DURING THE CONSTRUCTION DRAWING REVIEW TO ENSURE ADJACENT PROPERTIES HAVE ACCESS TO SANITARY SEWER WHERE FEASIBLE AND IN COMPLIANCE WITH THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT STANDARDS AND SPECIFICATIONS.
- ALL OFF-SITE EASEMENTS SHALL BE ACQUIRED BY THE DEVELOPER. THESE OFF-SITE EASEMENTS SHALL BE RECORDED BY MAP AND BY DEED OF EASEMENT PRIOR TO CONSTRUCTION APPROVAL. THE EASEMENTS SHALL BE DEDICATED TO THE CITY OF RALEIGH AND ENTITLED "CITY OF RALEIGH SANITARY SEWER EASEMENT".
- MAINTAIN APPROPRIATE COVER AND SEPARATION ON UTILITIES AND LABEL IN PROFILES; ANY UTILITY CROSSINGS ARE SUBJECT TO MINIMUM REQUIREMENTS.
- CONSTRUCTION APPROVAL WILL BE REQUIRED FOR ANY EXTENSIONS OF PUBLIC WATER OR SEWER MAINS.
- PLAT RECORDATION REQUIRED AFTER CONSTRUCTION APPROVAL PRIOR TO BUILDING PERMIT.
- DOT ENCROACHMENT AGREEMENT REQUIRED.
- PRIVATE WATER SERVICES SIZED 3" - 2" SHOULD BE TYPE "K" SOFT COPPER AND IN ACCORDANCE WITH PU HANDBOOK, APP. B, STANDARD WATER DETAIL W-23 AND W-25. IF WATER METERS CANNOT BE LOCATED WITHIN THE RIGHT-OF-WAY THEY MUST BE WITHIN RECORDED "CITY OF RALEIGH WATER MAIN EASEMENTS."

CORPUD STANDARD UTILITY NOTES:

- STANDARD UTILITY NOTES (AS APPLICABLE):
- 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 ENCASUREMENT 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 18" MIN. VERTICAL SEPARATION AT ALL SANITARY SEWER & RCP STORM DRAIN CROSSINGS. WHERE ADEQUATE SEPARATION CANNOT BE ACHIEVED, SPECIFY DIP MATERIALS & A CONCRETE CRADLE HAVING 6" MIN. CLEARANCE (PER CORPUD DETAILS W-41 & S-49).
 - ALL OTHER UNDERGROUND UTILITIES SHALL CROSS WATER & SEWER FACILITIES WITH 18" MIN. VERTICAL SEPARATION REQUIRED.
 - ANY NECESSARY FIELD REVISIONS ARE SUBJECT TO REVIEW & APPROVAL OF AN AMENDED PLAN &/OR PROFILE BY THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT PRIOR TO CONSTRUCTION
 - DEVELOPER SHALL PROVIDE 30 DAYS ADVANCE WRITTEN NOTICE TO OWNER FOR ANY WORK REQUIRED WITHIN AN EXISTING CITY OF RALEIGH UTILITY EASEMENT TRAVERSING PRIVATE PROPERTY
 - CONTRACTOR SHALL MAINTAIN CONTINUOUS WATER & SEWER SERVICE TO EXISTING RESIDENCES & BUSINESSES THROUGHOUT CONSTRUCTION OF PROJECT. ANY NECESSARY SERVICE INTERRUPTIONS SHALL BE PRECEDED BY A 24 HOUR ADVANCE NOTICE TO THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT
 - 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 APPLICANTS 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 NCDWQ, USACE &/OR FEMA FOR ANY RIPARIAN BUFFER, WETLAND &/OR FLOODPLAIN IMPACTS (RESPECTIVELY) PRIOR TO CONSTRUCTION
 - NCDOT / RAILROAD ENCROACHMENT AGREEMENTS ARE REQUIRED FOR ANY UTILITY WORK (INCLUDING MAIN EXTENSIONS & SERVICE TAPS) WITHIN STATE OR RAILROAD ROW PRIOR TO CONSTRUCTION
 - GREASE INTERCEPTOR / OIL WATER SEPARATOR SIZING CALCULATIONS & INSTALLATION SPECIFICATIONS SHALL BE APPROVED BY THE RW FOG PROGRAM COORDINATOR PRIOR TO ISSUANCE OF A UC / BLDG PERMIT. CONTACT (919) 996-4516 OR FOG@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. A CERTIFICATE OF COMPLIANCE SHALL ALSO BE OBTAINED FROM THE RW CROSS-CONNECTION COORDINATOR FOR EACH DEVICE PRIOR TO ISSUANCE OF A UC / BLDG PERMIT. CONTACT (919) 996-5923 OR CROSS.CONNECTION@RALEIGHNC.GOV FOR MORE INFORMATION
 - NOTICE FOR PROJECTS WITH REPLACED OR OVERSIZED MAINS: IF THE CITY'S REIMBURSEMENT FOR AN OVERSIZED MAIN OR URBAN MAIN REPLACEMENT PROJECT IS \$250,000 OR GREATER - THE PROJECT MUST BE PUBLICLY BID

UTILITY CONSTRUCTION APPROVAL IS REQUIRED FOR PROJECT DEVELOPMENT.

ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL TOWN OF KNIGHTDALE, CITY OF RALEIGH AND NCDOT STANDARDS, SPECIFICATIONS, AND DETAILS.

FOR REVIEW ONLY

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YOUR VISION ACHIEVED THROUGH OURS.

REVISION DESCRIPTION	DATE
	01/26/2024

DATE	01/26/2024
DRAWN BY	331
DESIGNED BY	331
CHECKED BY	A. STONE
SCALE	1"=200'

TIMMONS GROUP

NORTH CAROLINA LICENSE NO. C-1652

ALLEN PARK SUBDIVISION - PHASE II
 KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA

OVERALL UTILITY PLAN

JOB NO. 44529
 SHEET NO. C3.0

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FOR REVIEW ONLY: NOT FOR CONSTRUCTION



SCALE 1"=60'
0 60' 120'

UTILITY LEGEND

- EXISTING WATER LINE
- PROPOSED WATER LINE
- ⊙ WATER VALVE
- ⊙ FIRE HYDRANT
- ⊙ BLOW OFF ASSEMBLY
- ⊙ SANITARY MANHOLE
- PROPOSED SEWER LINE
- EXISTING SEWER LINE

LEGEND

- PROPERTY LINE
- PROPOSED RIGHT OF WAY
- PROPOSED LOT LINE
- ACTIVE OPEN SPACE
- PASSIVE OPEN SPACE
- COMMON AREA

UTILITY CONSTRUCTION APPROVAL IS REQUIRED FOR PROJECT DEVELOPMENT.

ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL TOWN OF KNIGHTDALE, CITY OF RALEIGH AND NCDOT STANDARDS, SPECIFICATIONS, AND DETAILS.

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

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City of Raleigh Development Approval _____
Raleigh Water Review Officer

Water and Sewer Permits (If applicable)

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TOWN CERTIFICATION

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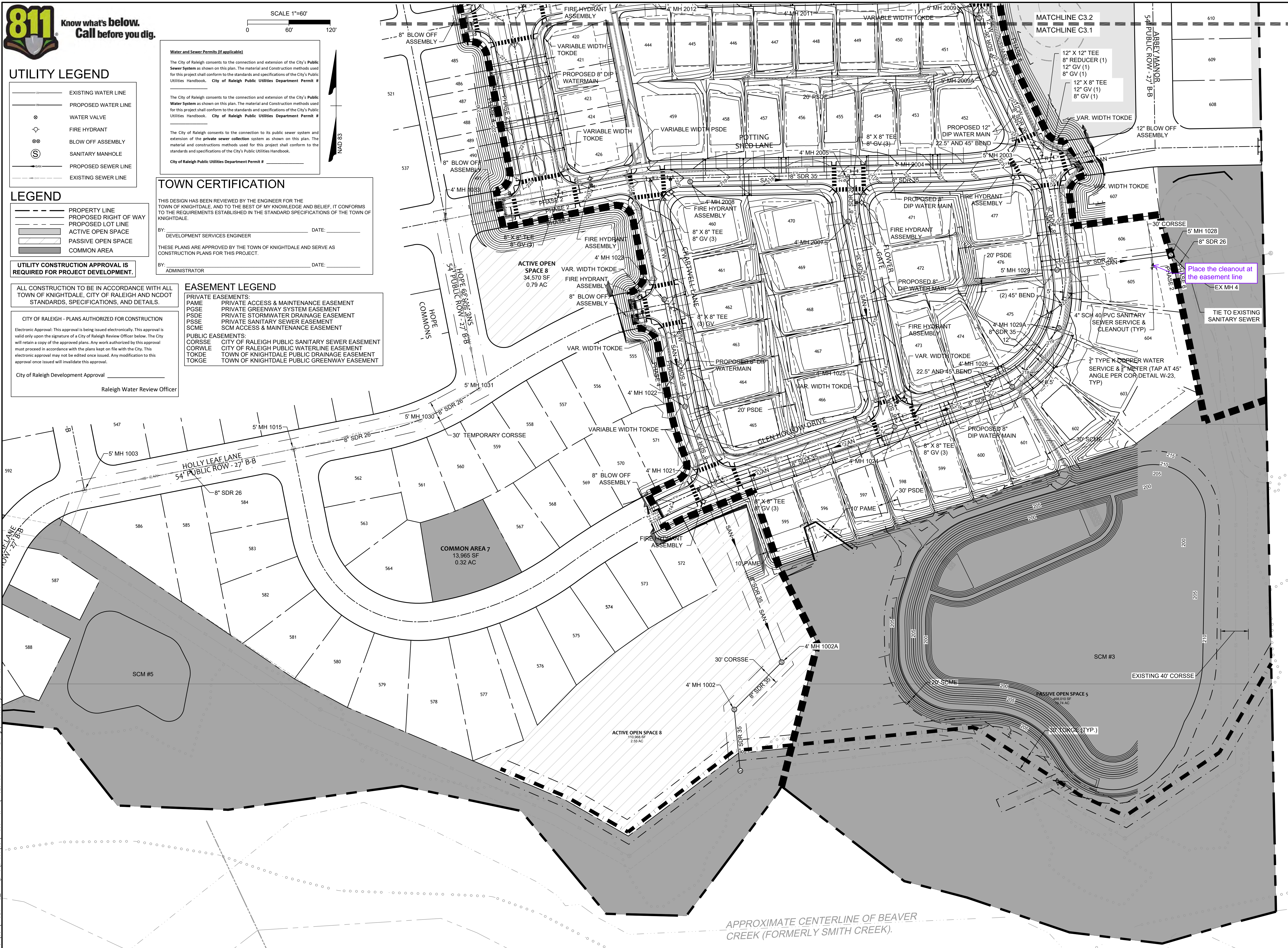
BY: _____ DATE: _____
DEVELOPMENT SERVICES ENGINEER

THESE PLANS ARE APPROVED BY THE TOWN OF KNIGHTDALE AND SERVE AS CONSTRUCTION PLANS FOR THIS PROJECT.

BY: _____ DATE: _____
ADMINISTRATOR

EASEMENT LEGEND

- PRIVATE EASEMENTS:**
- PAME PRIVATE ACCESS & MAINTENANCE EASEMENT
 - PGSE PRIVATE GREENWAY SYSTEM EASEMENT
 - PSSE PRIVATE STORMWATER DRAINAGE EASEMENT
 - SCSE PRIVATE SANITARY SEWER EASEMENT
 - SCME SCM ACCESS & MAINTENANCE EASEMENT
- PUBLIC EASEMENTS:**
- CORSSE CITY OF RALEIGH PUBLIC SANITARY SEWER EASEMENT
 - CORWLE CITY OF RALEIGH PUBLIC WATERLINE EASEMENT
 - TOKGE TOWN OF KNIGHTDALE PUBLIC DRAINAGE EASEMENT
 - TOKDE TOWN OF KNIGHTDALE PUBLIC GREENWAY EASEMENT



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TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

DATE 01/26/2024
DRAWN BY 331
DESIGNED BY 331
CHECKED BY A. STONE
SCALE 1"=60'

TIMMONS GROUP

NORTH CAROLINA LICENSE NO. C-1652

ALLEN PARK SUBDIVISION - PHASE II
KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA

UTILITY PLAN - SHEET 1 OF 3

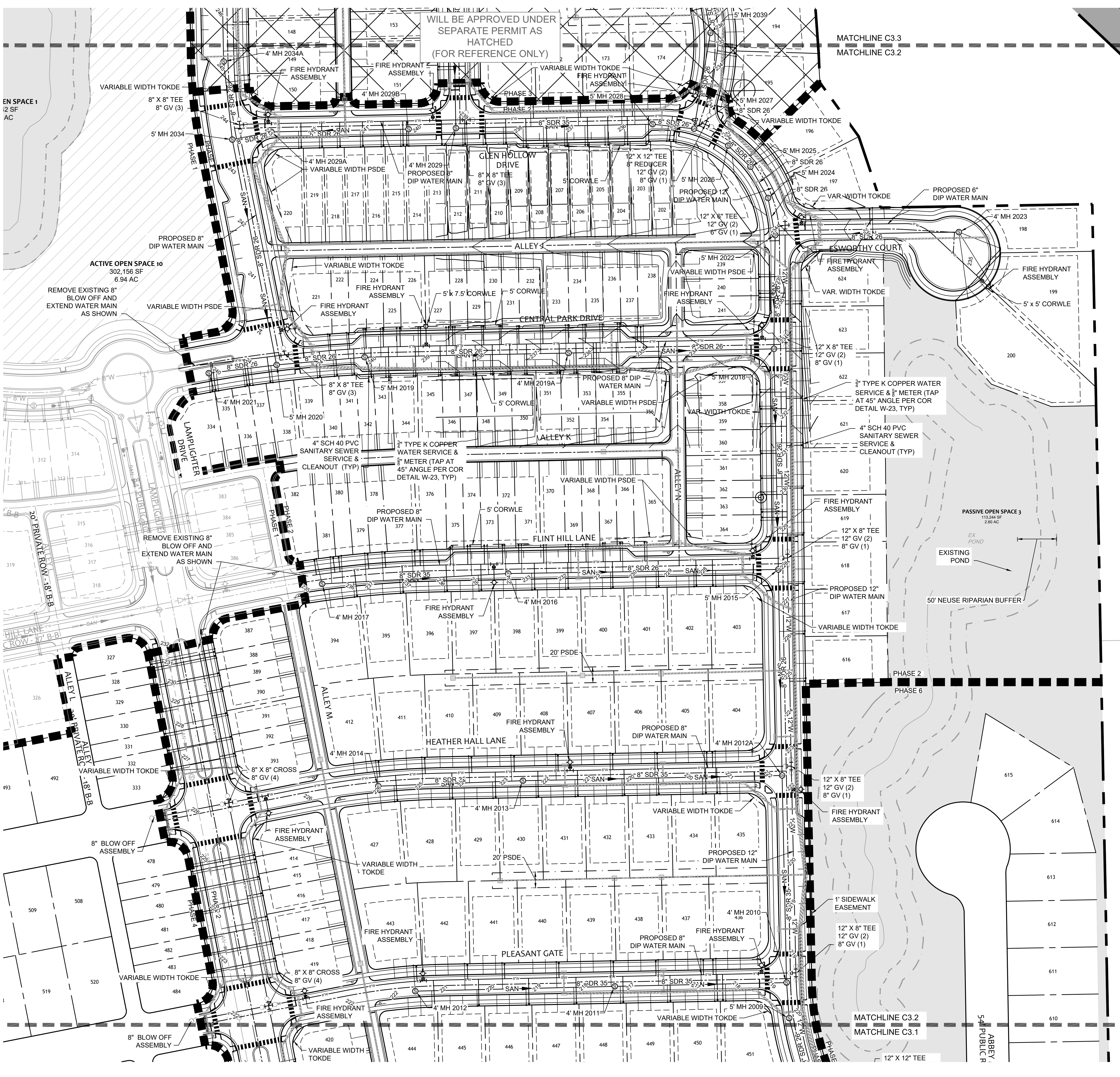
JOB NO. 44529
SHEET NO. C3.1

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S:\331\44529-WL-MAR\DWG\Sheet\CD\Phase II & III\44529-331-C3.0-UTIL.dwg | Plotted by Sean Wires

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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 # _____

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CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

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City of Raleigh Development Approval _____
 Raleigh Water Review Officer _____

EASEMENT LEGEND

PRV EASEMENT:	PRV ACCESS & MAINTENANCE EASEMENT
PGSE	PRV GREENWAY SYSTEM EASEMENT
PSDE	PRV STORMWATER DRAINAGE EASEMENT
PSSE	PRV SANITARY SEWER EASEMENT
SCME	SCM ACCESS & MAINTENANCE EASEMENT
PUBLIC EASEMENT:	
CORSSE	CITY OF RALEIGH PUBLIC SANITARY SEWER EASEMENT
CORWLE	CITY OF RALEIGH PUBLIC WATERLINE EASEMENT
TOKDE	TOWN OF KNIGHTDALE PUBLIC DRAINAGE EASEMENT
TOKGE	TOWN OF KNIGHTDALE PUBLIC GREENWAY EASEMENT

LEGEND

---	PROPERTY LINE
---	PROPOSED RIGHT OF WAY
---	PROPOSED LOT LINE
---	ACTIVE OPEN SPACE
---	PASSIVE OPEN SPACE
---	COMMON AREA

UTILITY CONSTRUCTION APPROVAL IS REQUIRED FOR PROJECT DEVELOPMENT.

ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL TOWN OF KNIGHTDALE, CITY OF RALEIGH AND NCDOT STANDARDS, SPECIFICATIONS, AND DETAILS.

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.

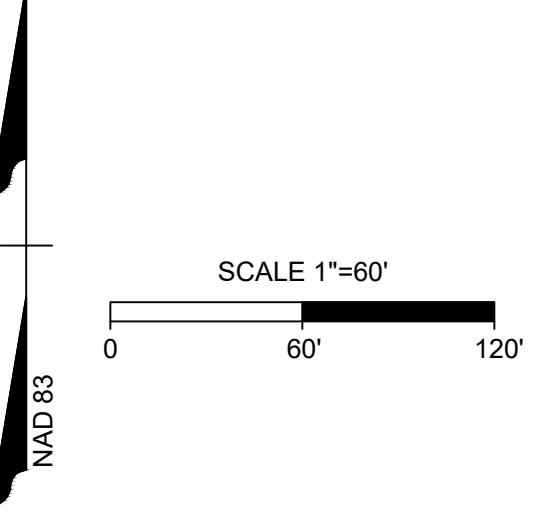
BY: _____ DATE: _____
 DEVELOPMENT SERVICES ENGINEER

THESE PLANS ARE APPROVED BY THE TOWN OF KNIGHTDALE AND SERVE AS CONSTRUCTION PLANS FOR THIS PROJECT.

BY: _____ DATE: _____
 ADMINISTRATOR

UTILITY LEGEND

---	EXISTING WATER LINE
---	PROPOSED WATER LINE
○	WATER VALVE
○	FIRE HYDRANT
○	BLOW OFF ASSEMBLY
○	SANITARY MANHOLE
---	PROPOSED SEWER LINE
---	EXISTING SEWER LINE



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REVISION DESCRIPTION	DATE
YOUR VISION ACHIEVED THROUGH OURS.	01/26/2024
DRAWN BY	331
DESIGNED BY	331
CHECKED BY	A. STONE
SCALE	1"=60'

TIMMONS GROUP

ALLEN PARK SUBDIVISION - PHASE II
 NORTH CAROLINA LICENSE NO. C-1652
 KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA

UTILITY PLAN - SHEET 2 OF 3

JOB NO.	44529
SHEET NO.	C3.2

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01/26/2024

DRAWN BY
331

DESIGNED BY
331

CHECKED BY
A. STONE

SCALE
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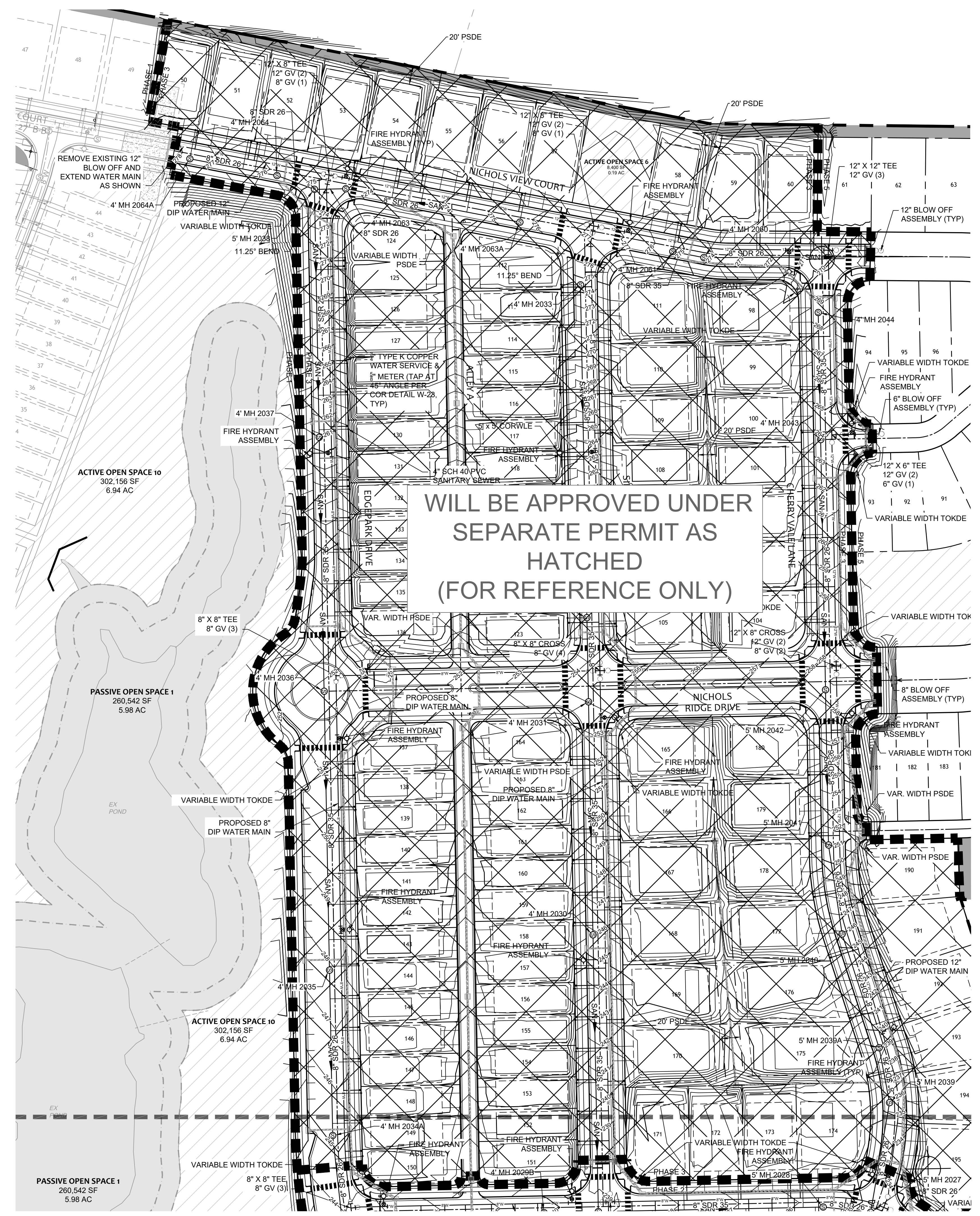
REVISION DESCRIPTION

JOB NO.
44529

SHEET NO.
C3.3

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TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652
ALLEN PARK SUBDIVISION - PHASE II
KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA
UTILITY PLAN - SHEET 3 OF 3



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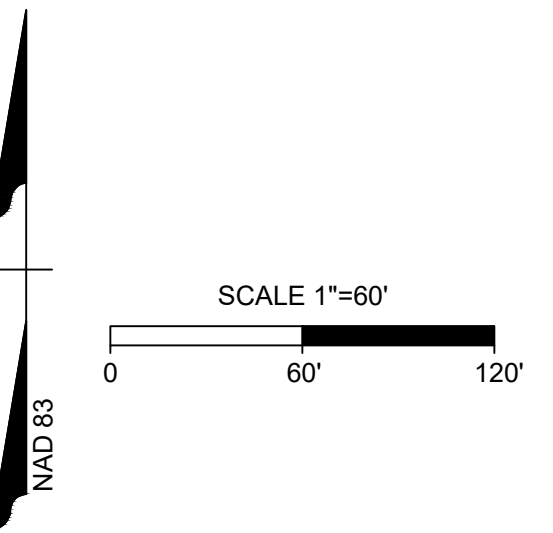
EASEMENT LEGEND
PRIVATE EASEMENTS:
PAME PRIVATE ACCESS & MAINTENANCE EASEMENT
PGSE PRIVATE GREENWAY SYSTEM EASEMENT
PSDE PRIVATE STORMWATER DRAINAGE EASEMENT
PSSE PRIVATE SANITARY SEWER EASEMENT
SCME SCM ACCESS & MAINTENANCE EASEMENT
PUBLIC EASEMENTS:
CORSSSE CITY OF RALEIGH PUBLIC SANITARY SEWER EASEMENT
CORWLE CITY OF RALEIGH PUBLIC WATERLINE EASEMENT
TOKDDE TOWN OF KNIGHTDALE PUBLIC DRAINAGE EASEMENT
TOKGGE TOWN OF KNIGHTDALE PUBLIC GREENWAY EASEMENT

LEGEND
--- PROPERTY LINE
--- PROPOSED RIGHT OF WAY
--- PROPOSED LOT LINE
--- ACTIVE OPEN SPACE
--- PASSIVE OPEN SPACE
--- COMMON AREA

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ADMINISTRATOR

UTILITY LEGEND
--- EXISTING WATER LINE
--- PROPOSED WATER LINE
○ WATER VALVE
○ FIRE HYDRANT
○ BLOW OFF ASSEMBLY
○ SANITARY MANHOLE
--- PROPOSED SEWER LINE
--- EXISTING SEWER LINE



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 A. STONE

SCALE
 1"=60'

TIMMONS GROUP
 NORTH CAROLINA LICENSE NO. C-1652

ALLEN PARK SUBDIVISION - PHASE II
 KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA

SANITARY SEWER SCHEDULE

JOB NO.
 44529

SHEET NO.
 C3.4

FOR REVIEW ONLY: NOT FOR CONSTRUCTION

SANITARY SEWER SCHEDULE						
STRUCTURE UP	HEIGHT	TOP	INV IN	INV OUT	OUTLET PIPE	STRUCTURE DOWN
4' MH 1002	5.05'	203.02	198.17' (8" SDR 35) 4' MH 1002A	197.97' (8" SDR 35)	89' @ 0.81%	EX MH
4' MH 1002A	7.09'	206.00	199.11' (8" SDR 35) 4' MH 1021	198.91' (8" SDR 35)	97' @ 0.76%	4' MH 1002
4' MH 1021	11.40'	213.02	201.82' (8" SDR 35) 4' MH 1024 201.82' (8" SDR 35) 4' MH 1022	201.62' (8" SDR 35)	271' @ 0.93%	4' MH 1002A
4' MH 1022	10.71'	213.71	203.20' (8" SDR 35) 4' MH 1023	203.00' (8" SDR 35)	126' @ 0.94%	4' MH 1021
4' MH 1023	9.15'	217.05		207.90' (8" SDR 35)	158' @ 2.97%	4' MH 1022
4' MH 1024	11.05'	214.35	203.50' (8" SDR 35) 4' MH 1028 203.50' (8" SDR 35) 4' MH 1025	203.30' (8" SDR 35)	278' @ 0.53%	4' MH 1021
4' MH 1025	9.87'	213.77	204.10' (8" SDR 35) 4' MH 2007	203.90' (8" SDR 35)	66' @ 0.61%	4' MH 1024
4' MH 1026	11.92'	217.40	205.70' (8" SDR 35) 4' MH 1029A	205.50' (8" SDR 35)	180' @ 1.11%	4' MH 1024
4' MH 1029A	12.27'	219.35		207.10' (8" SDR 35)	109' @ 1.28%	4' MH 1026
4' MH 2004	8.89'	220.97		212.10' (8" SDR 35)	135' @ 1.92%	4' MH 2005
4' MH 2005	8.82'	218.12	209.50' (8" SDR 35) 4' MH 2008 209.50' (8" SDR 35) 4' MH 2004	209.30' (8" SDR 26)	62' @ 1.92%	4' MH 2007
4' MH 2007	9.14'	217.04	208.10' (8" SDR 26) 4' MH 2005	207.90' (8" SDR 35)	240' @ 1.58%	4' MH 1025
4' MH 2008	9.08'	219.76		210.70' (8" SDR 35)	228' @ 0.53%	4' MH 2005
4' MH 2010	11.49'	219.49	208.20' (8" SDR 35) 4' MH 2011 208.20' (8" SDR 35) 4' MH 2012A	208.00' (8" SDR 35)	45' @ 1.09%	5' MH 2009
4' MH 2011	7.92'	217.32	209.60' (8" SDR 35) 4' MH 2012	209.40' (8" SDR 35)	219' @ 0.55%	4' MH 2010
4' MH 2012	7.12'	221.58		214.48' (8" SDR 35)	254' @ 1.92%	4' MH 2011
4' MH 2012A	11.31'	222.29	211.20' (8" SDR 26) 5' MH 2015 211.20' (8" SDR 35) 4' MH 2013	211.00' (8" SDR 35)	264' @ 1.06%	4' MH 2010
4' MH 2013	8.37'	222.55	214.40' (8" SDR 35) 4' MH 2014	214.20' (8" SDR 35)	330' @ 0.91%	4' MH 2012A
4' MH 2014	6.87'	226.05		219.20' (8" SDR 35)	184' @ 2.80%	4' MH 2013
4' MH 2016	11.72'	233.70	222.20' (8" SDR 35) 4' MH 2017	222.00' (8" SDR 26)	344' @ 2.06%	5' MH 2015
4' MH 2017	10.79'	235.47		224.70' (8" SDR 35)	237' @ 1.05%	4' MH 2016
4' MH 2019A	11.98'	236.38	224.60' (8" SDR 26) 5' MH 2019	224.40' (8" SDR 26)	262' @ 1.95%	5' MH 2018
4' MH 2021	6.55'	239.75		233.20' (8" SDR 26)	87' @ 2.91%	5' MH 2020

SANITARY SEWER SCHEDULE						
STRUCTURE UP	HEIGHT	TOP	INV IN	INV OUT	OUTLET PIPE	STRUCTURE DOWN
4' MH 2023	13.47'	235.00		221.55' (8" SDR 26)	234' @ 0.53%	5' MH 2022
4' MH 2029	12.07'	239.25	227.40' (8" SDR 35) 4' MH 2030	227.20' (8" SDR 35)	250' @ 1.72%	5' MH 2028
4' MH 2029A	11.88'	242.85	231.20' (8" SDR 26) 4' MH 2029B	231.00' (8" SDR 26)	51' @ 1.67%	5' MH 2034
4' MH 2029B	6.83'	240.15		233.33' (8" SDR 26)	175' @ 1.22%	4' MH 2029A
5' MH 1028	13.99'	212.29	200.80' (8" SDR 26) 5' MH 1029	198.30' (8" SDR 26)	37' @ 4.56%	EX MH 4
5' MH 1029	17.01'	220.79	204.20' (8" SDR 26) 5' MH 2003	203.80' (8" SDR 26)	166' @ 1.60%	5' MH 1028
5' MH 2003	18.17'	223.17	205.20' (8" SDR 26) 5' MH 2009A 205.20' (8" Ductile Iron) 5' MH 2000	205.00' (8" SDR 26)	146' @ 0.55%	5' MH 1029
5' MH 2009	12.82'	220.12	207.50' (8" SDR 35) 4' MH 2010	207.30' (8" SDR 26)	83' @ 0.52%	5' MH 2009A
5' MH 2009A	14.62'	221.29	206.87' (8" SDR 26) 5' MH 2009	206.67' (8" SDR 26)	156' @ 0.95%	5' MH 2003
5' MH 2015	13.14'	227.82	214.90' (8" SDR 26) 4' MH 2016	214.70' (8" SDR 26)	262' @ 1.33%	4' MH 2012A
5' MH 2018	14.60'	233.71	219.31' (8" SDR 26) 5' MH 2022 219.31' (8" SDR 26) 4' MH 2019A	219.11' (8" SDR 26)	281' @ 1.50%	5' MH 2015
5' MH 2019	12.85'	240.23	227.60' (8" SDR 26) 5' MH 2020	227.40' (8" SDR 26)	260' @ 1.08%	4' MH 2019A
5' MH 2020	13.24'	241.39	230.67' (8" SDR 26) 4' MH 2021 228.37' (8" SDR 26) 5' MH 2034	228.17' (8" SDR 26)	112' @ 0.51%	5' MH 2019
5' MH 2022	14.03'	234.11	220.30' (8" SDR 26) 5' MH 2024 220.30' (8" SDR 26) 4' MH 2023	220.10' (8" SDR 26)	145' @ 0.55%	5' MH 2018
5' MH 2024	12.60'	233.40	221.00' (8" SDR 26) 5' MH 2025	220.80' (8" SDR 26)	48' @ 1.04%	5' MH 2022
5' MH 2025	12.13'	233.90	221.45' (8" SDR 26) 5' MH 2026	221.25' (8" SDR 26)	46' @ 0.54%	5' MH 2024
5' MH 2026	12.25'	233.90	221.85' (8" SDR 26) 5' MH 2027	221.65' (8" SDR 26)	36' @ 0.52%	5' MH 2025
5' MH 2027	12.58'	234.66	222.30' (8" SDR 26) 5' MH 2039 222.30' (8" SDR 26) 5' MH 2028	222.10' (8" SDR 26)	49' @ 0.51%	5' MH 2026
5' MH 2028	12.79'	235.49	222.90' (8" SDR 35) 4' MH 2029	222.70' (8" SDR 26)	53' @ 0.75%	5' MH 2027
5' MH 2034	13.78'	243.71	232.45' (8" SDR 26) 4' MH 2034A 230.15' (8" SDR 26) 4' MH 2029A	229.95' (8" SDR 26)	292' @ 0.54%	5' MH 2020
EX MH	5.83'	203.08		197.25' (8" SDR 35) 4' MH 1002		
EX MH 4	24.27'	209.88	196.60' (8" SDR 26) 5' MH 1028	187.61' (24" Ductile Iron)	0' @ 0.00%	

SANITARY SEWER SCHEDULE						
STRUCTURE UP	HEIGHT	TOP	INV IN	INV OUT	OUTLET PIPE	STRUCTURE DOWN
4' MH 2030	10.64'	245.82	235.40' (8" SDR 35) 4' MH 2031	235.20' (8" SDR 35)	308' @ 2.53%	4' MH 2029
4' MH 2031	10.84'	254.02	243.40' (8" SDR 35) 4' MH 2032	243.20' (8" SDR 35)	259' @ 3.10%	4' MH 2030
4' MH 2032	9.72'	253.60	244.10' (8" SDR 35) 4' MH 2033	243.90' (8" SDR 35)	259' @ 3.10%	4' MH 2031
4' MH 2033	10.14'	274.48		268.20' (8" SDR 26)	268' @ 0.73%	4' MH 2032
4' MH 2034A	11.37'	245.16	234.00' (8" SDR 26) 4' MH 2034	233.80' (8" SDR 26)	268' @ 0.73%	4' MH 2033
4' MH 2035	11.77'	247.85	236.30' (8" SDR 26) 4' MH 2036	236.10' (8" SDR 26)	268' @ 0.73%	4' MH 2034A
4' MH 2036	10.93'	245.25		239.90' (8" SDR 26)	173' @ 0.52%	5' MH 2042
4' MH 2037	12.05'	274.69	262.86' (8" SDR 26) 4' MH 2064 262.86' (8" SDR 26) 4' MH 2063	262.66' (8" SDR 26)	276' @ 4.03%	4' MH 2037
5' MH 2039	12.65'	235.63	223.20' (8" SDR 26) 5' MH 2039A	223.00' (8" SDR 26)	124' @ 0.57%	5' MH 2027
5' MH 2039A	12.13'	238.93	227.00' (8" SDR 26) 5' MH 2040	226.80' (8" SDR 26)	62' @ 5.79%	5' MH 2039
5' MH 2040	7.78'	245.84	238.28' (8" SDR 26) 5' MH 2041	238.08' (8" SDR 26)	133' @ 8.32%	5' MH 2039A
5' MH 2041	12.19'	250.97	239.00' (8" SDR 26) 5' MH 2042	238.80' (8" SDR 26)	100' @ 0.52%	5' MH 2040
5' MH 2042	18.44'	258.32	240.10' (8" SDR 26) 5' MH 2045 242.40' (8" SDR 26) 4' MH 2043	239.90' (8" SDR 26)	173' @ 0.52%	5' MH 2041

WILL BE APPROVED UNDER SEPARATE PERMIT (FOR REFERENCE ONLY)

Water and Sewer Permits (if applicable)

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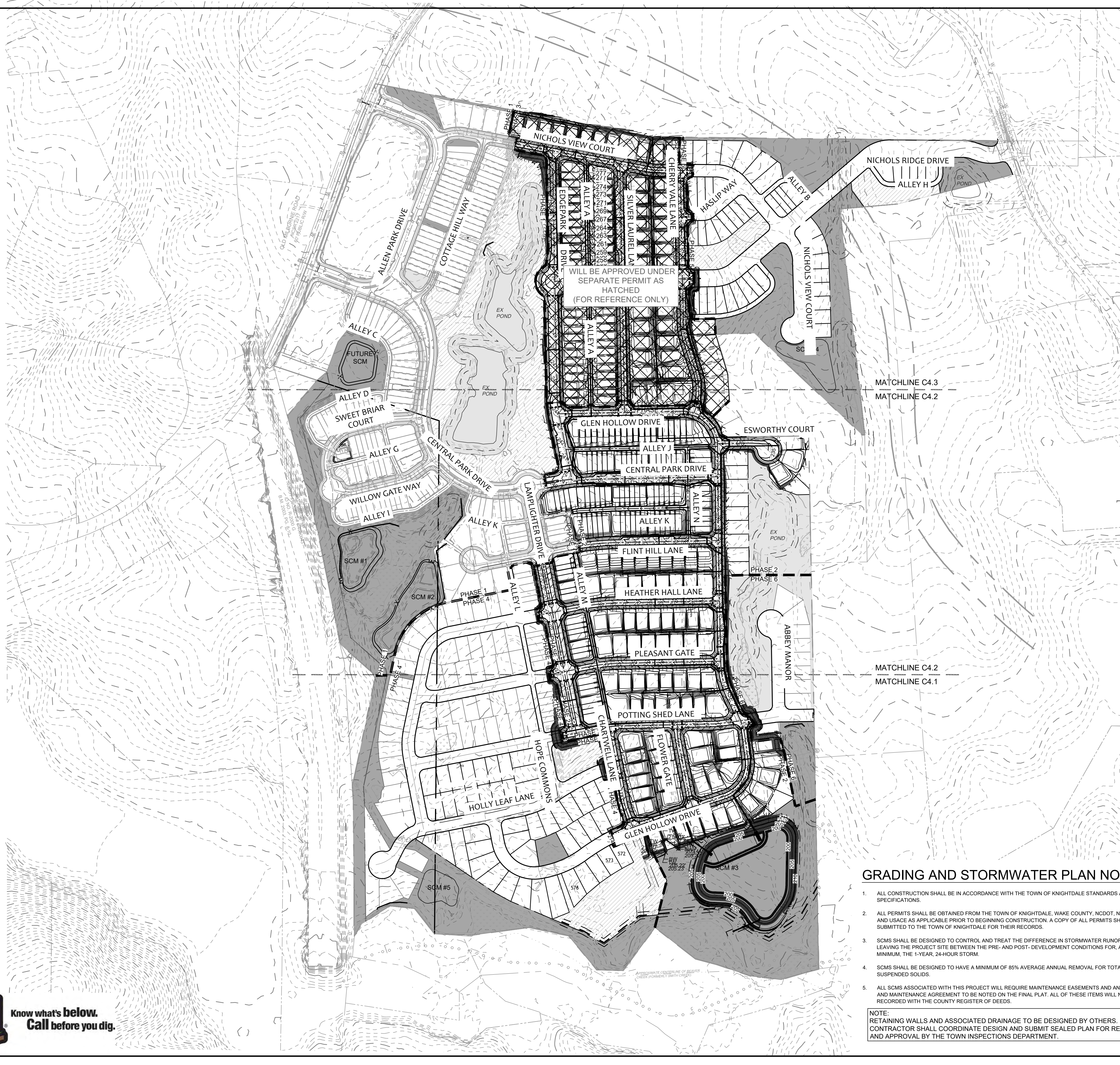
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BY: _____ DATE: _____
 ADMINISTRATOR



S:\331\44529-WL-MAR\DWG\Sheet\CD\Phase II & III\44529-331-C3.0-UTIL.dwg | Plotted by Sean Wires



EASEMENT LEGEND

PRIVATE EASEMENTS (4 CHARACTER)	
PAME	PRIVATE ACCESS & MAINTENANCE EASEMENT
PGSE	PRIVATE GREENWAY SYSTEM EASEMENT
PSSE	PRIVATE STORMWATER DRAINAGE EASEMENT
PSSE	PRIVATE SANITARY SEWER EASEMENT
SCME	SCM ACCESS & MAINTENANCE EASEMENT
PUBLIC EASEMENTS (5 CHARACTER)	
CORSE	CITY OF RALEIGH PUBLIC SANITARY SEWER EASEMENT
CORWLE	CITY OF RALEIGH PUBLIC WATERLINE EASEMENT
TOKGE	TOWN OF KNIGHTDALE PUBLIC DRAINAGE EASEMENT
TOKGE	TOWN OF KNIGHTDALE PUBLIC GREENWAY EASEMENT

- NOTES**
1. THE STORM DRAINAGE LAYOUT IS CONCEPTUAL AND SUBJECT TO CHANGE. APPROVAL BY TOWN STAFF IS REQUIRED.
 2. THE STORM DRAINAGE SYSTEM SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH TOWN OF KNIGHTDALE UDO AND ENGINEERING STANDARDS & SPECIFICATIONS.
 3. THE STORMWATER PLAN SHALL PROVIDE FOR ADEQUATE NITROGEN REDUCTION AND ATTENUATION OF STORMWATER RUNOFF.
 4. FENCING AND LANDSCAPING FOR ALL PROPOSED STORMWATER CONTROL MEASURES SHALL MEET TOWN OF KNIGHTDALE REQUIREMENTS FOR EACH TYPE OF MEASURE PROPOSED.
 5. STORMWATER CONTROL MEASURES SHALL BE LOCATED IN OPEN SPACE AREAS DEDICATED TO AND MAINTAINED BY THE HOMEOWNER'S ASSOCIATION (HOA).
 6. A MAINTENANCE PLAN ALONG WITH A MEMORANDUM OF AGREEMENT MUST BE DEVELOPED FOR ALL STORMWATER CONTROL MEASURES (SCMS) INSTALLED TO ACHIEVE NITROGEN LOADING AND/OR FLOW ATTENUATING REQUIREMENTS AS PART OF THIS PROJECT. THIS MAINTENANCE PLAN IS REQUIRED TO BE RECORDED AT THE WAKE COUNTY REGISTER OF DEEDS PRIOR TO PLAT RECORDATION. PROOF OF SAID RECORDING WILL BE REQUIRED AT THE TIME OF PLAT RECORDATION.
 7. MAINTENANCE AND ACCESS EASEMENTS ARE REQUIRED FOR ALL SCMS.
 8. AT THE CONCLUSION OF THE PROJECT ALL SCMS INSTALLED ON-SITE MUST BE CERTIFIED BY A DESIGN PROFESSIONAL AND THE TOWN OF KNIGHTDALE ENGINEERING DEPT. MUST RECEIVE ALL AS-BUILT DRAWINGS PRIOR TO RECEIVING THE CERTIFICATE OF OCCUPANCY.

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: _____
DEVELOPMENT SERVICES ENGINEER

THESE PLANS ARE APPROVED BY THE TOWN OF KNIGHTDALE AND SERVE AS CONSTRUCTION PLANS FOR THIS PROJECT.

BY: _____ DATE: _____
ADMINISTRATOR

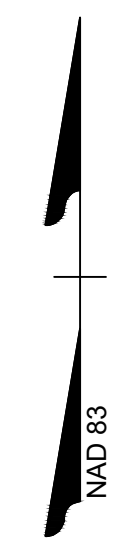
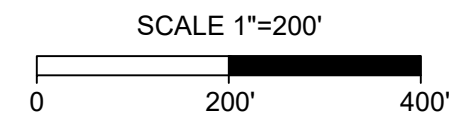
GRADING AND STORMWATER PLAN NOTES:

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE TOWN OF KNIGHTDALE STANDARDS AND SPECIFICATIONS.
 2. ALL PERMITS SHALL BE OBTAINED FROM THE TOWN OF KNIGHTDALE, WAKE COUNTY, NCDOT, NCDEQ-DWR, AND USACE AS APPLICABLE PRIOR TO BEGINNING CONSTRUCTION. A COPY OF ALL PERMITS SHALL BE SUBMITTED TO THE TOWN OF KNIGHTDALE FOR THEIR RECORDS.
 3. SCMS SHALL BE DESIGNED TO CONTROL AND TREAT THE DIFFERENCE IN STORMWATER RUNOFF VOLUME LEAVING THE PROJECT SITE BETWEEN THE PRE- AND POST- DEVELOPMENT CONDITIONS FOR, AT A MINIMUM, THE 1-YEAR, 24-HOUR STORM.
 4. SCMS SHALL BE DESIGNED TO HAVE A MINIMUM OF 85% AVERAGE ANNUAL REMOVAL FOR TOTAL SUSPENDED SOLIDS.
 5. ALL SCMS ASSOCIATED WITH THIS PROJECT WILL REQUIRE MAINTENANCE EASEMENTS AND AN OPERATION AND MAINTENANCE AGREEMENT TO BE NOTED ON THE FINAL PLAT. ALL OF THESE ITEMS WILL NEED TO BE RECORDED WITH THE COUNTY REGISTER OF DEEDS.
- NOTE:**
RETAINING WALLS AND ASSOCIATED DRAINAGE TO BE DESIGNED BY OTHERS. CONTRACTOR SHALL COORDINATE DESIGN AND SUBMIT SEALED PLAN FOR REVIEW AND APPROVAL BY THE TOWN INSPECTIONS DEPARTMENT.

LEGEND

	PROPOSED CONTOUR
	EXISTING CONTOUR
	FENCE
	PROPOSED DRAIN EASEMENT
	PROPOSED PERIMETER BUFFER
	100-YR FLOODPLAIN
	WETLANDS
	PROPERTY LINE
	ACTIVE OPEN SPACE
	PASSIVE OPEN SPACE
	COMMON AREA

ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL TOWN OF KNIGHTDALE AND NCDOT STANDARDS, SPECIFICATIONS, AND DETAILS.



FOR REVIEW ONLY

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5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

DATE: 01/26/2024
DRAWN BY: 331
DESIGNED BY: 331
CHECKED BY: A. STONE
SCALE: 1"=200'

TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652

ALLEN PARK SUBDIVISION - PHASE II
KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA
OVERALL GRADING AND DRAINAGE PLAN

JOB NO. 44529
SHEET NO. C4.0

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WILL BE APPROVED UNDER SEPARATE PERMIT AS HATCHED (FOR REFERENCE ONLY)

MATCHLINE C4.3
MATCHLINE C4.2

MATCHLINE C4.2
MATCHLINE C4.1

EASEMENT LEGEND

PRIVATE EASEMENTS:	
PAME	PRIVATE ACCESS & MAINTENANCE EASEMENT
PGSE	PRIVATE GREENWAY SYSTEM EASEMENT
PSSE	PRIVATE STORMWATER DRAINAGE EASEMENT
PSSE	PRIVATE SANITARY SEWER EASEMENT
SCME	SCM ACCESS & MAINTENANCE EASEMENT
PUBLIC EASEMENTS:	
CORSSE	CITY OF RALEIGH PUBLIC SANITARY SEWER EASEMENT
CORWLE	CITY OF RALEIGH PUBLIC WATERLINE EASEMENT
TOKDE	TOWN OF KNIGHTDALE PUBLIC DRAINAGE EASEMENT
TOKGE	TOWN OF KNIGHTDALE PUBLIC GREENWAY EASEMENT

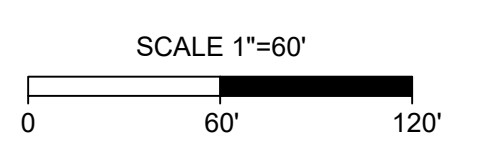
TOWN CERTIFICATION

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: _____
DEVELOPMENT SERVICES ENGINEER

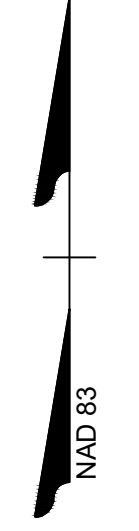
THESE PLANS ARE APPROVED BY THE TOWN OF KNIGHTDALE AND SERVE AS CONSTRUCTION PLANS FOR THIS PROJECT.

BY: _____ DATE: _____
ADMINISTRATOR



LEGEND

	PROPOSED CONTOUR
	EXISTING CONTOUR
	FENCE
	PROPOSED DRAIN EASEMENT
	PROPOSED PERIMETER BUFFER
	100-YR FLOODPLAIN
	WETLANDS
	PROPERTY LINE
	ACTIVE OPEN SPACE
	PASSIVE OPEN SPACE
	COMMON AREA



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DATE
01/26/2024

DRAWN BY
331

DESIGNED BY
331

CHECKED BY
A. STONE

SCALE
1"=60'

TIMMONS GROUP

NORTH CAROLINA LICENSE NO. C-1652

ALLEN PARK SUBDIVISION - PHASE II
KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA

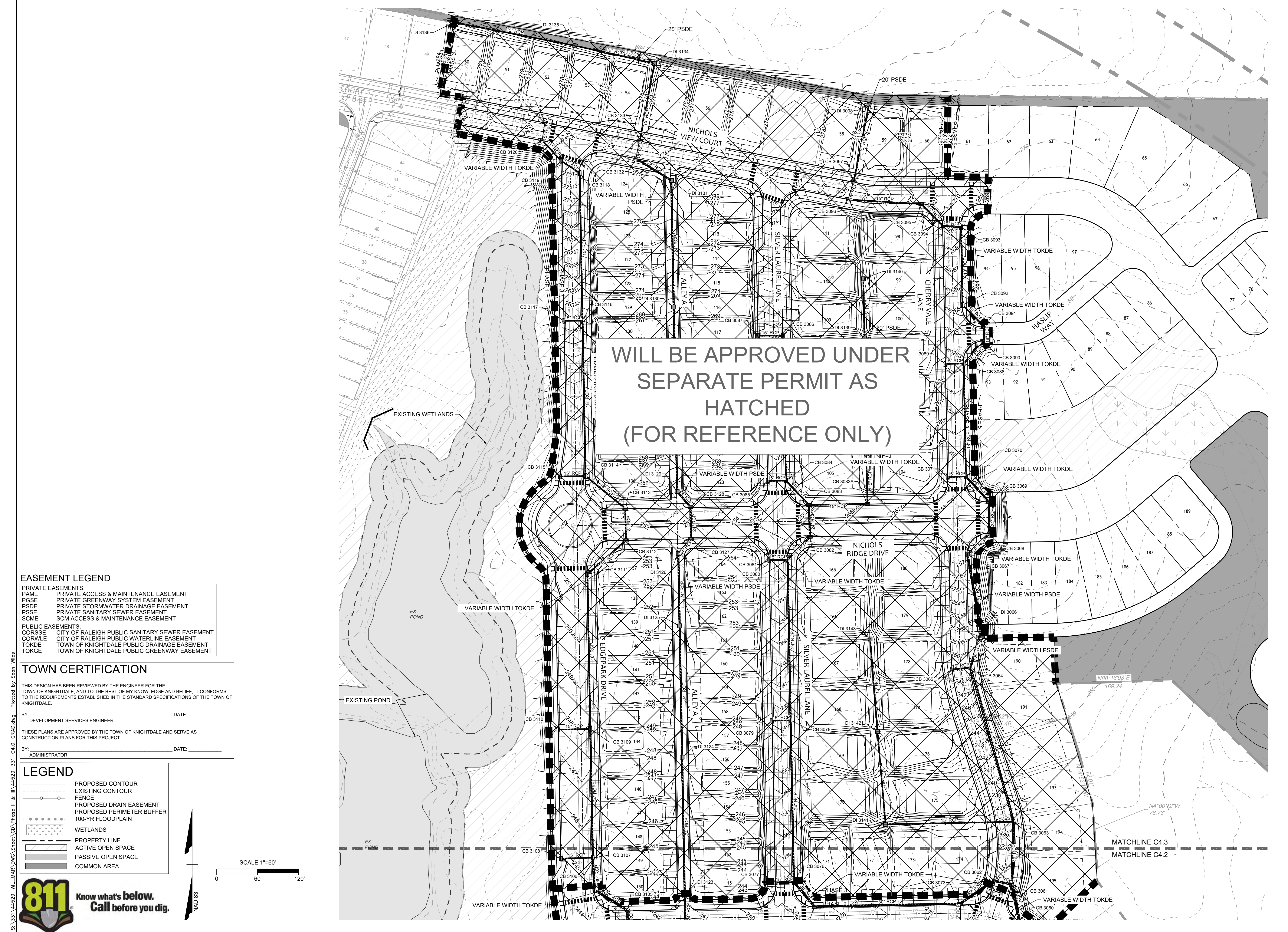
GRADING AND DRAINAGE PLAN - SHEET 2 OF 3

JOB NO.
44529

SHEET NO.
C4.2

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EASEMENT LEGEND

- PRIVATE EASEMENTS:**
 PAME PRIVATE ACCESS & MAINTENANCE EASEMENT
 PGSE PRIVATE GREENWAY SYSTEM EASEMENT
 PSDE PRIVATE STORMWATER DRAINAGE EASEMENT
 PSSE PRIVATE SANITARY SEWER EASEMENT
 SCME SCM ACCESS & MAINTENANCE EASEMENT
- PUBLIC EASEMENTS:**
 CORSSE CITY OF RALEIGH PUBLIC SANITARY SEWER EASEMENT
 CORWLE CITY OF RALEIGH PUBLIC WATERLINE EASEMENT
 TOKDE TOWN OF KNIIGHTDALE PUBLIC DRAINAGE EASEMENT
 TOKGE TOWN OF KNIIGHTDALE PUBLIC GREENWAY EASEMENT

TOWN CERTIFICATION

THIS DESIGN HAS BEEN REVIEWED BY THE ENGINEER FOR THE TOWN OF KNIIGHTDALE, AND TO THE BEST OF MY KNOWLEDGE AND BELIEF, IT CONFORMS TO THE REQUIREMENTS ESTABLISHED IN THE STANDARD SPECIFICATIONS OF THE TOWN OF KNIIGHTDALE.

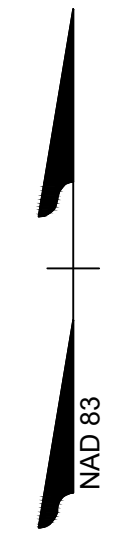
BY: _____ DATE: _____
 DEVELOPMENT SERVICES ENGINEER

THESE PLANS ARE APPROVED BY THE TOWN OF KNIIGHTDALE AND SERVE AS CONSTRUCTION PLANS FOR THIS PROJECT.

BY: _____ DATE: _____
 ADMINISTRATOR

LEGEND

- PROPOSED CONTOUR
- - - EXISTING CONTOUR
- FENCE
- - - PROPOSED DRAIN EASEMENT
- - - PROPOSED PERIMETER BUFFER
- - - 100-YR FLOODPLAIN
- WETLANDS
- PROPERTY LINE
- ACTIVE OPEN SPACE
- PASSIVE OPEN SPACE
- COMMON AREA



WILL BE APPROVED UNDER SEPARATE PERMIT AS HATCHED (FOR REFERENCE ONLY)

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YOUR VISION ACHIEVED THROUGH OURS.

DATE: 01/26/2024
 DRAWN BY: 331
 DESIGNED BY: 331
 CHECKED BY: A. STONE
 SCALE: 1"=60'

TIMMONS GROUP
 NORTH CAROLINA LICENSE NO. C-1652

ALLEN PARK SUBDIVISION - PHASE II
 KNIIGHTDALE - WAKE COUNTY - NORTH CAROLINA
GRADING AND DRAINAGE PLAN - SHEET 3 OF 3

JOB NO. 44529
 SHEET NO. C4.3

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STORM DRAINAGE TABLE (STRM 3000)						
STRUCTURE UP	HEIGHT	TOP	INV IN	INV OUT	OUTLET PIPE	STRUCTURE DOWN
CB 3001	12.77'	217.87	205.10' (54" RCP) CB 3003	205.10' (54" RCP)	186' @ 2.48%	FES 3000
CB 3003	13.90'	219.46	205.75' (54" RCP) CB 3005	205.75' (54" RCP)	99' @ 0.66%	CB 3001
CB 3004	11.96'	220.88	209.02' (15" RCP) DI 3153	208.92' (15" RCP)	27' @ 0.48%	CB 3005
CB 3005	15.02'	220.88	206.32' (54" RCP) CB 3007 208.79' (15" RCP) CB 3004	206.32' (54" RCP)	88' @ 0.65%	CB 3003
CB 3007	15.92'	222.98	207.06' (54" RCP) CB 3008	207.06' (54" RCP)	123' @ 0.60%	CB 3005
CB 3008	15.56'	223.09	207.53' (54" RCP) CB 3009	207.53' (54" RCP)	47' @ 1.00%	CB 3007
CB 3009	15.52'	223.35	207.83' (54" RCP) CB 3010 210.33' (24" RCP) CB 3157	207.83' (54" RCP)	32' @ 0.93%	CB 3008
CB 3010	15.64'	223.34	208.17' (54" RCP) CB 3011	208.17' (54" RCP)	40' @ 0.84%	CB 3009
CB 3011	13.05'	221.49	208.90' (54" RCP) CB 3013 210.67' (18" RCP) CB 3012	208.90' (54" RCP)	121' @ 0.60%	CB 3010
CB 3012	10.69'	221.49	210.91' (18" RCP) DI 3150	210.80' (18" RCP)	27' @ 0.48%	CB 3011
CB 3013	11.41'	220.32	209.38' (54" RCP) CB 3019 211.01' (24" RCP) CB 3014	209.38' (54" RCP)	79' @ 0.61%	CB 3011
CB 3014	9.18'	220.32	211.14' (24" RCP) CB 3014A	211.14' (24" RCP)	27' @ 0.49%	CB 3013
CB 3014A	7.45'	218.82	211.42' (24" RCP) CB 3015	211.37' (24" RCP)	45' @ 0.51%	CB 3014
CB 3015	4.98'	217.00	212.21' (24" RCP) CB 3017 213.15' (15" RCP) CB 3016	212.02' (24" RCP)	117' @ 0.51%	CB 3014A
CB 3016	3.63'	216.98		213.35' (15" RCP)	28' @ 0.71%	CB 3015
CB 3017	5.86'	218.72	213.59' (15" RCP) CB 3018	212.86' (24" RCP)	127' @ 0.51%	CB 3015
CB 3018	5.12'	218.72		213.79' (15" RCP)	27' @ 0.74%	CB 3017
CB 3019	9.56'	219.09	210.00' (54" RCP) CB 3020 212.00' (15" RCP) CB 3019A	210.00' (54" RCP)	104' @ 0.60%	CB 3013
CB 3019A	6.94'	219.09		212.15' (15" RCP)	27' @ 0.56%	CB 3019
CB 3020	10.05'	220.11	210.43' (54" RCP) CB 3021 211.64' (18" RCP) DI 3147	210.43' (54" RCP)	69' @ 0.62%	CB 3019
CB 3021	11.23'	221.70	211.94' (42" RCP) CB 3027 213.44' (24" RCP) CB 3022	210.94' (54" RCP)	84' @ 0.60%	CB 3020
CB 3022	7.80'	221.70	213.90' (24" RCP) CB 3022A	213.90' (24" RCP)	27' @ 1.70%	CB 3021

STORM DRAINAGE TABLE (STRM 3000)						
STRUCTURE UP	HEIGHT	TOP	INV IN	INV OUT	OUTLET PIPE	STRUCTURE DOWN
CB 3105	8.74'	242.95	234.40' (30" RCP) CB 3106	234.40' (30" RCP)	27' @ 0.56%	CB 3104
CB 3122	6.97'	241.67	235.20' (24" RCP) DI 3123	234.70' (30" RCP)	85' @ 0.53%	CB 3104
DI 3034	7.39'	229.39	222.75' (15" RCP) DI 3035 222.00' (24" RCP) CB 3037	222.00' (24" RCP)	82' @ 3.35%	CB 3033
DI 3035	5.26'	232.26	227.00' (15" RCP) DI 3036	227.00' (15" RCP)	118' @ 3.60%	DI 3034
DI 3036	5.06'	233.96		228.90' (15" RCP)	95' @ 2.00%	DI 3035
DI 3045	9.18'	234.49	225.31' (36" RCP) CB 3047 226.81' (18" RCP) DI 3046	225.31' (36" RCP)	91' @ 1.00%	CB 3043
DI 3046	7.76'	234.92		227.16' (18" RCP)	69' @ 0.51%	DI 3045
DI 3054	6.90'	234.86	228.00' (18" RCP) DI 3055	227.96' (18" RCP)	61' @ 2.07%	CB 3053
DI 3055	6.91'	237.14		230.23' (18" RCP)	197' @ 1.13%	DI 3054
DI 3102	9.19'	241.84	232.90' (36" RCP) CB 3103	232.90' (36" RCP)	69' @ 1.31%	CB 3099
DI 3144	3.69'	220.12	216.87' (15" RCP) DI 3145	216.62' (18" RCP)	171' @ 0.50%	CB 3029
DI 3145	3.52'	222.12	218.88' (15" RCP) DI 3146	218.78' (15" RCP)	100' @ 1.91%	DI 3144
DI 3146	3.37'	225.37		222.18' (15" RCP)	165' @ 2.00%	DI 3145
DI 3147	3.14'	215.47	212.87' (15" RCP) DI 3148	212.52' (18" RCP)	184' @ 0.48%	CB 3020
DI 3148	3.69'	216.67	213.27' (15" RCP) DI 3149	213.17' (15" RCP)	60' @ 0.50%	DI 3147
DI 3149	3.44'	219.58		216.33' (15" RCP)	145' @ 2.10%	DI 3148
DI 3150	4.14'	215.34	211.49' (15" RCP) DI 3151	211.39' (18" RCP)	97' @ 0.49%	CB 3012
DI 3151	3.35'	215.44	212.19' (15" RCP) DI 3152	212.09' (15" RCP)	120' @ 0.50%	DI 3150
DI 3152	3.60'	216.28		212.87' (15" RCP)	136' @ 0.50%	DI 3151
DI 3153	3.54'	213.01	209.76' (15" RCP) DI 3154	209.66' (15" RCP)	129' @ 0.50%	CB 3004
DI 3154	3.51'	215.37		212.05' (15" RCP)	76' @ 3.01%	DI 3153
FES 3000	???'	205.46	200.50' (54" RCP) CB 3001			

STORM DRAINAGE TABLE (STRM 3000)						
STRUCTURE UP	HEIGHT	TOP	INV IN	INV OUT	OUTLET PIPE	STRUCTURE DOWN
CB 3022A	7.45'	221.63	214.90' (24" RCP) CB 3023	214.18' (24" RCP)	54' @ 0.52%	CB 3022
CB 3023	4.53'	220.03	216.00' (18" RCP) CB 3025 216.25' (15" RCP) CB 3024	215.50' (24" RCP)	102' @ 0.59%	CB 3022A
CB 3024	3.63'	220.03		216.40' (15" RCP)	27' @ 0.56%	CB 3023
CB 3025	5.14'	221.84	216.95' (15" RCP) CB 3026	216.70' (18" RCP)	125' @ 0.56%	CB 3023
CB 3026	4.93'	221.84		217.10' (15" RCP)	27' @ 0.56%	CB 3025
CB 3027	10.67'	223.65	213.35' (42" RCP) CB 3029 215.60' (15" RCP) CB 3028	213.35' (42" RCP)	92' @ 1.53%	CB 3021
CB 3028	7.75'	223.65		215.90' (15" RCP)	27' @ 1.11%	CB 3027
CB 3029	10.39'	225.42	215.36' (42" RCP) CB 3030 215.77' (18" RCP) DI 3144	215.36' (42" RCP)	84' @ 2.39%	CB 3027
CB 3030	10.30'	227.03	217.10' (42" RCP) CB 3039 218.10' (30" RCP) CB 3031	217.10' (42" RCP)	76' @ 2.29%	CB 3029
CB 3031	8.99'	227.29	218.30' (30" RCP) CB 3032	218.30' (30" RCP)	30' @ 0.67%	CB 3030
CB 3032	8.90'	227.50	218.60' (30" RCP) CB 3033	218.60' (30" RCP)	50' @ 0.60%	CB 3031
CB 3033	8.75'	227.50	219.25' (24" RCP) DI 3034	218.75' (30" RCP)	27' @ 0.56%	CB 3032
CB 3037	9.47'	232.17	222.70' (15" RCP) CB 3038	222.70' (24" RCP)	129' @ 0.54%	DI 3034
CB 3038	9.07'	231.97		222.90' (15" RCP)	37' @ 0.54%	CB 3037
CB 3039	10.94'	229.26	218.70' (42" RCP) CB 3041 220.95' (15" RCP) CB 3040	218.70' (42" RCP)	106' @ 1.51%	CB 3030
CB 3040	7.25'	229.25		222.00' (15" RCP)	27' @ 3.89%	CB 3039
CB 3041	11.63'	233.32	223.50' (42" RCP) CB 3042 222.10' (42" RCP) CB 3053	222.10' (42" RCP)	193' @ 1.76%	CB 3039
CB 3042	9.69'	233.33	223.64' (42" RCP) CB 3043	223.64' (42" RCP)	27' @ 0.51%	CB 3041
CB 3043	9.69'	233.53	224.40' (36" RCP) DI 3045 225.90' (18" RCP) CB 3044	223.84' (42" RCP)	39' @ 0.51%	CB 3042
CB 3044	9.36'	233.53		226.17' (18" RCP)	27' @ 1.00%	CB 3043
CB 3047	9.24'	236.08	226.84' (36" RCP) CB 3049 228.30' (18" RCP) CB 3048	226.84' (36" RCP)	84' @ 1.82%	DI 3045
CB 3048	7.58'	236.08		228.50' (18" RCP)	47' @ 0.43%	CB 3047

STORM DRAINAGE TABLE (STRM 3000)						
STRUCTURE UP	HEIGHT	TOP	INV IN	INV OUT	OUTLET PIPE	STRUCTURE DOWN
CB 3063	11.48'	237.03	226.05' (30" RCP) CB 3064 227.30' (15" RCP) DI 3141	225.55' (36" RCP)	92' @ 0.71%	CB 3061
CB 3064	8.52'	249.27	240.75' (30" RCP) DI 3066 242.00' (15" RCP) CB 3065	240.75' (30" RCP)	235' @ 6.25%	CB 3063
CB 3065	9.07'	249.27		242.20' (15" RCP)	27' @ 0.74%	CB 3064
CB 3067	9.56'	257.71	248.15' (30" RCP) CB 3068	248.15' (30" RCP)	115' @ 4.40%	DI 3066
CB 3068	10.98'	259.38	248.90' (24" RCP) CB 3069	248.90' (30" RCP)	115' @ 4.40%	DI 3066
CB 3069	10.19'	259.39	249.20' (24" RCP) CB 3070	249.20' (24" RCP)	47' @ 0.64%	CB 3068
CB 3070	8.18'	254.45	240.13' (18" RCP) CB 3071 250.40' (15" RCP) CB 3072	249.65' (24" RCP)	30' @ 0.91%	CB 3069
CB 3071	7.22'	257.82		250.60' (15" RCP)	27' @ 0.74%	CB 3070
CB 3076	8.57'	239.72	230.65' (24" RCP) CB 3078 231.40' (15" RCP) CB 3077	230.75' (30" RCP)	47' @ 0.53%	CB 3075
CB 3077	6.85'	238.45		231.60' (15" RCP)	27' @ 0.74%	CB 3076
CB 3078	8.20'	247.85	217.45' (24" RCP) CB 3080 238.20' (15" RCP) CB 3079	237.45' (24" RCP)	237' @ 2.86%	CB 3076
CB 3079	7.15'	245.65		238.50' (15" RCP)	27' @ 1.11%	CB 3078
CB 3080	8.67'	253.17	244.50' (24" RCP) CB 3082 246.85' (15" RCP) CB 3081	244.50' (24" RCP)	236' @ 2.99%	CB 3078
CB 3081	6.02'	253.17		247.15' (15" RCP)	27' @ 1.11%	CB 3080
CB 3082	10.30'	255.30	245.00' (24" RCP) CB 3083	245.00' (24" RCP)	47' @ 1.07%	CB 3080
CB 3083	9.79'	255.29	246.25' (15" RCP) CB 3083A 246.00' (18" RCP) CB 3084	245.50' (24" RCP)	47' @ 1.06%	CB 3082
CB 3083A	9.25'	256.60	247.53' (15" RCP) DI 3137	247.53' (15" RCP)	86' @ 1.49%	CB 3083
CB 3084	7.05'	253.80	247.00' (15" RCP) CB 3086 247.00' (15" RCP) CB 3085	246.75' (18" RCP)	49' @ 1.53%	CB 3083
CB 3085	8.49'	253.79		247.30' (15" RCP)	27' @ 1.11%	CB 3084
CB 3086	6.84'	264.39	257.55' (15" RCP) CB 3087	257.55' (15" RCP)	213' @ 4.95%	CB 3084
CB 3087	6.75'	264.60		257.85' (15" RCP)	37' @ 0.81%	CB 3086
CB 3088	7.79'	262.69	254.95' (18" RCP) CB 3090 255.20' (15" RCP) CB 3089	254.90' (18" RCP)	166' @ 2.86%	CB 3070
CB 3089	7.27'	262.67		255.40' (15" RCP)	27' @ 0.74%	CB 3088
CB 3090	7.61'	263.41	255.80' (18" RCP) CB 3091	255.80' (18" RCP)	44' @ 1.91%	CB 3088

VELOCITY DISSIPATION PAD (VDP) DESIGN											
OUTLET NAME	PIPE DIA. (in)	PIPE SLOPE (ft/ft)	Q10 (cfs)	V10 (fps)	ZONE	PAD DIMENSIONS			STONE SIZING		
						LENGTH (ft)	WIDTH (ft)	DEPTH (in)	D50 (in)	Dmax (in)	CLASS (NCDOT)
FES 3000	54	0.0234	72.97	15.29	5	45	14	36	14	23	2
FES 3500	42	0.0054	28.67	7.15	2	21	11	18	8	12	B
RISER 3	30	0.0055	30.5	7.08	2	15	8	18	8	12	B

STORM DRAINAGE TABLE (STRM 3000)						
STRUCTURE UP	HEIGHT	TOP	INV IN	INV OUT	OUTLET PIPE	STRUCTURE DOWN
CB 3049	9.78'	238.91	229.13' (36" RCP) CB 3051 230.88' (15" RCP) CB 3050	229.13' (36" RCP)	192' @ 1.19%	CB 3047
CB 3050	7.88'	238.90		231.02' (15" RCP)	47' @ 0.30%	CB 3049
CB 3051	10.12'	241.52	231.40' (36" RCP) CB 3052	231.40' (36" RCP)	189' @ 1.20%	CB 3049
CB 3052	9.90'	241.50	231.60' (36" RCP) CB 3059	231.60' (36" RCP)	27' @ 0.74%	CB 3051
CB 3053	12.30'	235.10	222.80' (42" RCP) CB 3056 226.70' (18" RCP) DI 3054	222.80' (42" RCP)	134' @ 0.52%	CB 3041
CB 3056	10.56'	233.66	223.10' (42" RCP) CB 3056A 225.10' (18" RCP) CB 3057	223.10' (42" RCP)	53' @ 0.57%	CB 3053
CB 3056A	10.79'	233.66	223.25' (42" RCP) CB 3058	223.25' (42" RCP)	27' @ 0.56%	CB 3056
CB 3057	5.40'	234.70		229.30' (18" RCP)	214' @ 1.97%	CB 3056
CB 3058	10.32'	233.82	223.52' (42" RCP) CB 3059A	223.50' (42" RCP)	50' @ 0.50%	CB 3056A
CB 3059	7.08'	233.58		226.50' (15" RCP)	27' @ 0.74%	CB 3059A
CB 3059A	9.87'	233.58	223.71' (42" RCP) CB 3060 226.30' (15" RCP) CB 3059	223.71' (42" RCP)	38' @ 0.50%	CB 3058
CB 3060	10.26'	234.36	224.10' (42" RCP) CB 3061	224.10' (42" RCP)	78' @ 0.50%	CB 3059A
CB 3061	9.68'	234.08	224.90' (36" RCP) CB 3063 225.40' (30" RCP) CB 3062	224.40' (42" RCP)	55' @ 0.55%	CB 3060
CB 3062	8.76'	234.07	225.60' (30" RCP) CB 3073	225.60' (30" RCP)	27' @ 0.74%	CB 3061
CB 3073	8.57'	235.62	227.05' (30" RCP) CB 3075 2			

STORM DRAINAGE TABLE (STRM 3000)						
STRUCTURE UP	HEIGHT	TOP	INV IN	INV OUT	OUTLET PIPE	STRUCTURE DOWN
CB 3128	9.35'	252.65	243.30' (24" RCP) DI 3129	243.30' (24" RCP)	47' @ 0.85%	CB 3127
CB 3132	8.03'	273.93	266.40' (18" RCP) CB 3133	265.90' (24" RCP)	60' @ 0.50%	DI 3131
CB 3133	7.59'	273.94	266.75' (15" RCP) DI 3134	266.54' (18" RCP)	27' @ 0.52%	CB 3132
DI 3066	9.84'	252.65	243.00' (30" RCP) CB 3067	243.00' (30" RCP)	55' @ 4.09%	CB 3064
DI 3098	3.31'	273.22	266.97' (15" RCP)	266.97' (15" RCP)	115' @ 1.78%	CB 3097
DI 3123	6.64'	242.09	235.45' (24" RCP) DI 3124	235.45' (24" RCP)	47' @ 0.54%	CB 3122
DI 3124	7.47'	246.22	238.76' (24" RCP) DI 3125	238.76' (24" RCP)	264' @ 0.62%	DI 3123
DI 3125	7.95'	250.13	242.18' (24" RCP) DI 3126	242.18' (24" RCP)	193' @ 1.78%	DI 3124
DI 3126	9.68'	251.33	242.71' (24" RCP) CB 3127	242.71' (24" RCP)	106' @ 0.50%	DI 3125
DI 3129	8.46'	253.16	244.70' (24" RCP) DI 3130	244.70' (24" RCP)	30' @ 4.65%	CB 3128
DI 3130	8.31'	257.31	259.00' (24" RCP) DI 3131	259.00' (24" RCP)	271' @ 5.29%	DI 3129
DI 3131	9.25'	274.85	265.90' (24" RCP) CB 3132	265.60' (24" RCP)	186' @ 3.55%	DI 3130
DI 3134	3.65'	271.23	268.90' (15" RCP) DI 3135	268.80' (15" RCP)	115' @ 1.78%	CB 3133
DI 3135	1.44'	273.25	269.60' (15" RCP) DI 3136	269.50' (15" RCP)	119' @ 0.50%	DI 3134
DI 3136	4.92'	279.92		275.00' (15" RCP)	180' @ 3.00%	DI 3135
DI 3137	4.88'	252.69	248.00' (15" RCP) DI 3138	248.00' (15" RCP)	73' @ 0.64%	CB 3083A
DI 3138	3.73'	256.04	252.50' (15" RCP) DI 3139	252.50' (15" RCP)	60' @ 7.47%	DI 3137
DI 3139	4.70'	262.46	257.95' (15" RCP) DI 3140	257.95' (15" RCP)	110' @ 4.95%	DI 3138
DI 3140	3.14'	265.63		262.68' (15" RCP)	87' @ 5.45%	DI 3139
DI 3141	3.96'	233.81	230.03' (15" RCP) DI 3142	230.03' (15" RCP)	188' @ 1.45%	CB 3063
DI 3142	4.47'	242.98	238.70' (15" RCP) DI 3143	238.70' (15" RCP)	137' @ 6.34%	DI 3141
DI 3143	4.32'	247.86		243.73' (15" RCP)	136' @ 3.69%	DI 3142

STORM DRAINAGE TABLE (STRM 3500)								
STRUCTURE UP	HEIGHT	TOP	INV IN	INV OUT	OUTLET PIPE	STRUCTURE DOWN		
CB 3502	9.29'	213.89	204.60' (36" RCP) CB 3503	204.60' (36" RCP)	128' @ 1.32%	DI 3501		
CB 3503	6.74'	212.04	205.80' (30" RCP) CB 3504	205.30' (36" RCP)	134' @ 0.52%	CB 3502		
CB 3504	6.04'	212.04	206.00' (30" RCP) CB 3512	206.00' (30" RCP)	27' @ 0.74%	CB 3503		
CB 3505	5.45'	212.25	206.80' (24" RCP) CB 3506	206.80' (15" RCP) DI 3510	38' @ 0.79%	CB 3504		
CB 3506	6.69'	213.98	207.79' (18" RCP) CB 3507	207.29' (24" RCP)	101' @ 0.48%	CB 3505		
CB 3507	5.98'	214.08	208.35' (15" RCP) CB 3508	208.10' (18" RCP)	46' @ 0.68%	CB 3506		
CB 3508	4.99'	213.54	208.55' (15" RCP) CB 3509	208.55' (15" RCP)	27' @ 0.75%	CB 3507		
CB 3509	6.56'	215.49		208.93' (15" RCP)	46' @ 0.83%	CB 3508		
CB 3512	6.23'	212.63	206.40' (30" RCP) CB 3513	206.40' (30" RCP)	87' @ 0.46%	CB 3504		
CB 3513	6.05'	212.65	206.60' (30" RCP) CB 3515	206.60' (30" RCP)	27' @ 0.74%	CB 3512		
CB 3514	5.16'	213.91		208.75' (15" RCP)	44' @ 2.06%	CB 3513		
CB 3515	7.14'	214.24	207.10' (30" RCP) CB 3516	207.10' (30" RCP)	92' @ 0.54%	CB 3513		
CB 3516	8.25'	216.20	207.95' (30" RCP) CB 3518	209.20' (15" RCP) CB 3517	207.95' (30" RCP)	92' @ 0.92%	CB 3515	
CB 3517	6.98'	216.20		209.40' (15" RCP)	27' @ 0.74%	CB 3516		
CB 3518	8.73'	216.84	208.30' (30" RCP) CB 3519	208.30' (30" RCP)	53' @ 0.66%	CB 3516		
CB 3519	8.05'	216.55	208.50' (30" RCP) CB 3520	208.50' (30" RCP)	27' @ 0.74%	CB 3518		
CB 3520	9.46'	218.17	208.71' (30" RCP) CB 3521	208.71' (30" RCP)	49' @ 0.43%	CB 3519		
CB 3521	10.73'	219.83	209.10' (30" RCP) CB 3523	212.50' (15" RCP) CB 3522	209.10' (30" RCP)	78' @ 0.50%	CB 3520	
CB 3522	9.12'	219.82		212.70' (15" RCP)	27' @ 0.74%	CB 3521		
CB 3523	11.95'	221.45	213.00' (24" RCP) DI 3526	210.00' (24" RCP) CB 3531	210.50' (18" RCP) CB 3524	209.50' (30" RCP)	75' @ 0.54%	CB 3521

STORM DRAINAGE TABLE (STRM 3500)						
STRUCTURE UP	HEIGHT	TOP	INV IN	INV OUT	OUTLET PIPE	STRUCTURE DOWN
CB 3549	5.49'	222.40	217.10' (15" RCP) CB 3550	217.10' (15" RCP)	117' @ 0.50%	CB 3531
CB 3550	5.29'	222.40		217.30' (15" RCP)	27' @ 0.74%	CB 3549
DI 3501	6.94'	209.05	202.90' (36" RCP) CB 3502	202.90' (36" RCP)	82' @ 2.31%	FES 3500
DI 3510	3.06'	209.80	206.93' (15" RCP) DI 3511	206.93' (15" RCP)	26' @ 0.50%	CB 3505
DI 3511	3.06'	214.17		211.30' (15" RCP)	218' @ 2.00%	DI 3510
DI 3526	8.23'	221.40	213.17' (24" RCP) DI 3527	213.17' (24" RCP)	35' @ 0.49%	CB 3523
DI 3527	8.51'	222.33	213.82' (18" RCP) DI 3528	213.82' (24" RCP)	130' @ 0.50%	DI 3526
DI 3528	8.46'	223.00	214.54' (18" RCP) DI 3529	214.54' (18" RCP)	145' @ 0.50%	DI 3527
DI 3529	7.66'	227.43	220.52' (18" RCP) DI 3530	219.77' (18" RCP)	265' @ 1.98%	DI 3528
DI 3530	6.90'	231.86		224.96' (18" RCP)	117' @ 3.81%	DI 3529
FES 3500	???'	204.88	201.00' (36" RCP) DI 3501			

STORM DRAINAGE TABLE (STRM 3500)						
STRUCTURE UP	HEIGHT	TOP	INV IN	INV OUT	OUTLET PIPE	STRUCTURE DOWN
CB 3524	5.44'	217.81	212.80' (15" RCP) CB 3525	212.55' (18" RCP)	264' @ 0.78%	CB 3523
CB 3525	4.81'	217.81		213.00' (15" RCP)	27' @ 0.74%	CB 3524
CB 3531	11.99'	222.39	210.40' (24" RCP) CB 3532	210.40' (24" RCP)	63' @ 0.64%	CB 3523
CB 3532	11.10'	221.77	210.70' (24" RCP) CB 3533	210.67' (24" RCP)	45' @ 0.61%	CB 3531
CB 3533	9.52'	220.72	211.20' (24" RCP) CB 3535	211.20' (24" RCP)	99' @ 0.51%	CB 3532
CB 3534	5.32'	220.72		215.60' (15" RCP)	57' @ 6.40%	CB 3533
CB 3535	7.82'	221.52	213.70' (24" RCP) CB 3536	213.70' (24" RCP)	83' @ 3.02%	CB 3533
CB 3536	7.58'	221.58	214.00' (24" RCP) CB 3537	214.00' (24" RCP)	46' @ 0.65%	CB 3535
CB 3537	7.38'	221.58	214.20' (24" RCP) CB 3538	214.20' (24" RCP)	27' @ 0.74%	CB 3536
CB 3538	7.40'	222.92	216.00' (18" RCP) CB 3542	215.52' (24" RCP)	47' @ 2.82%	CB 3537
CB 3539	4.56'	222.92	218.55' (15" RCP) CB 3540	218.55' (15" RCP)	57' @ 0.53%	CB 3538
CB 3540	3.12'	221.79	218.85' (15" RCP) CB 3541	218.85' (15" RCP)	45' @ 0.66%	CB 3539
CB 3541	3.12'	221.93		218.99' (15" RCP)	27' @ 0.52%	CB 3540
CB 3542	7.24'	225.49	218.25' (18" RCP) CB 3543	218.25' (18" RCP)	170' @ 1.33%	CB 3538
CB 3543	7.07'	225.57	218.75' (15" RCP) CB 3544	218.50' (18" RCP)	47' @ 0.54%	CB 3542
CB 3544	6.62'	225.57	218.95' (15" RCP) CB 3545	218.95' (15" RCP)	27' @ 0.74%	CB 3543
CB 3545	7.25'	227.00	219.75' (15" RCP) CB 3546	219.75' (15" RCP)	51' @ 1.57%	CB 3544
CB 3546	7.08'	227.00	220.10' (15" RCP) CB 3547	220.10' (15" RCP)	57' @ 0.61%	CB 3545
CB 3547	5.42'	225.59	220.35' (15" RCP) CB 3548	220.35' (15" RCP)	49' @ 0.51%	CB 3546
CB 3548	5.27'	225.59		220.50' (15" RCP)	27' @ 0.56%	CB 3547

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: _____
DEVELOPMENT SERVICES ENGINEER

THESE PLANS ARE APPROVED BY THE TOWN OF KNIGHTDALE AND SERVE AS CONSTRUCTION PLANS FOR THIS PROJECT.

BY: _____ DATE: _____
ADMINISTRATOR



FOR REVIEW ONLY

THIS DRAWING PREPARED AT THE RALEIGH OFFICE
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

DATE: 01/26/2024
DRAWN BY: 331
DESIGNED BY: 331
CHECKED BY: A. STONE
SCALE: N/A

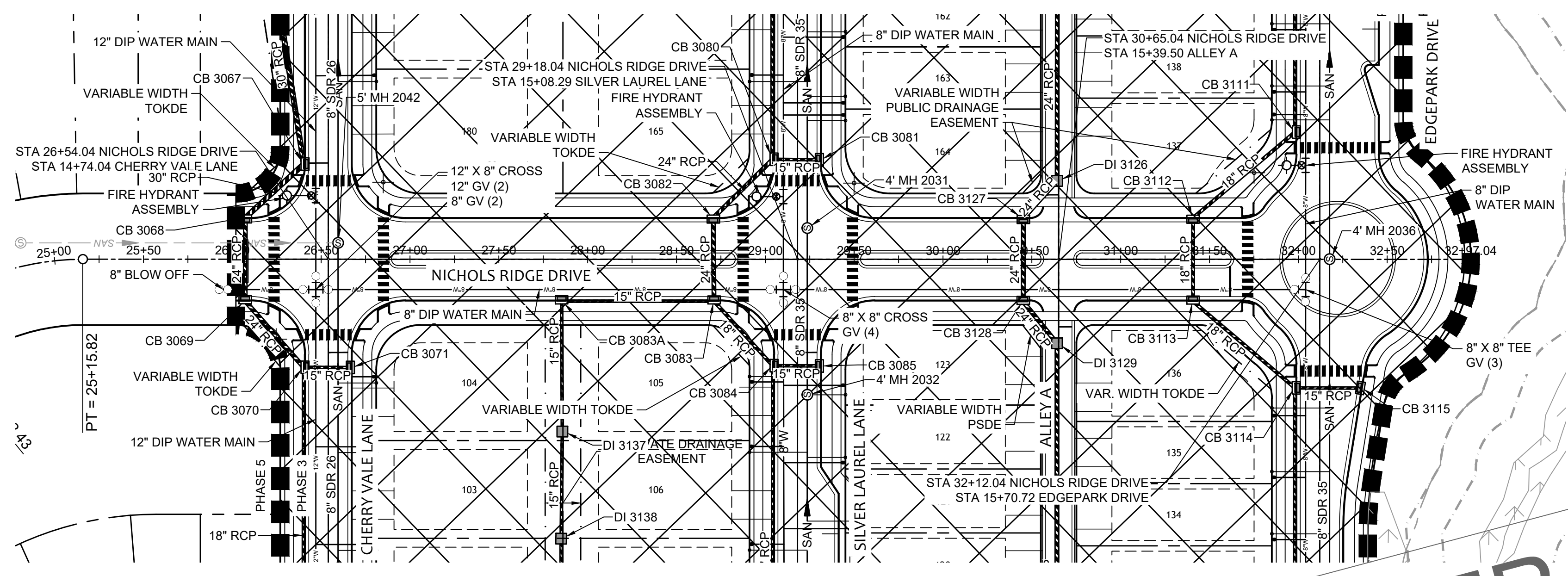
TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652

ALLEN PARK SUBDIVISION - PHASE II
KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA
STORM SEWER SCHEDULE

JOB NO. 44529
SHEET NO. C4.5

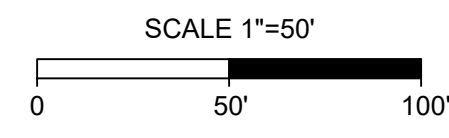
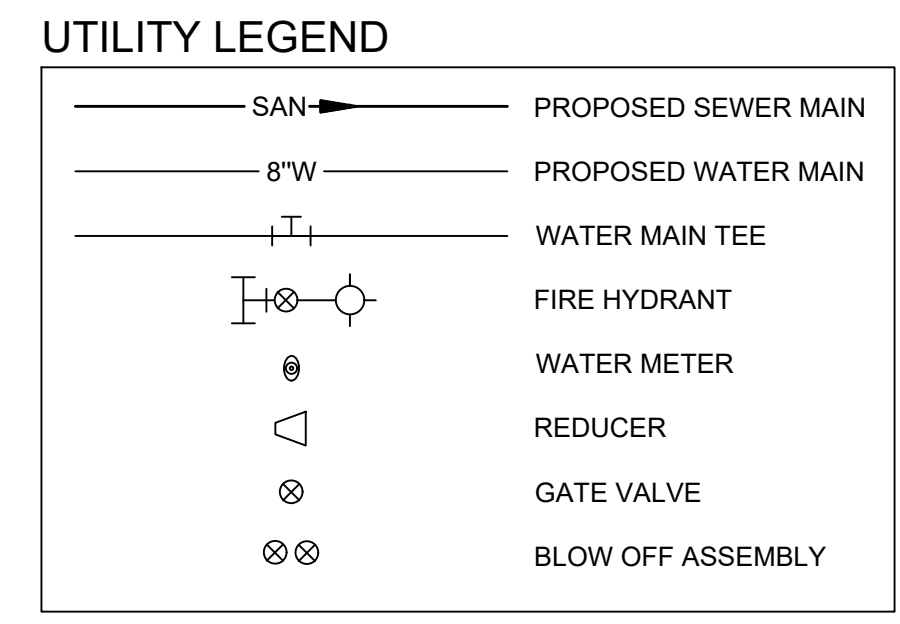
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EASEMENT LEGEND table with categories: PRIVATE EASEMENTS (4 CHARACTER) and PUBLIC EASEMENTS (5 CHARACTER).

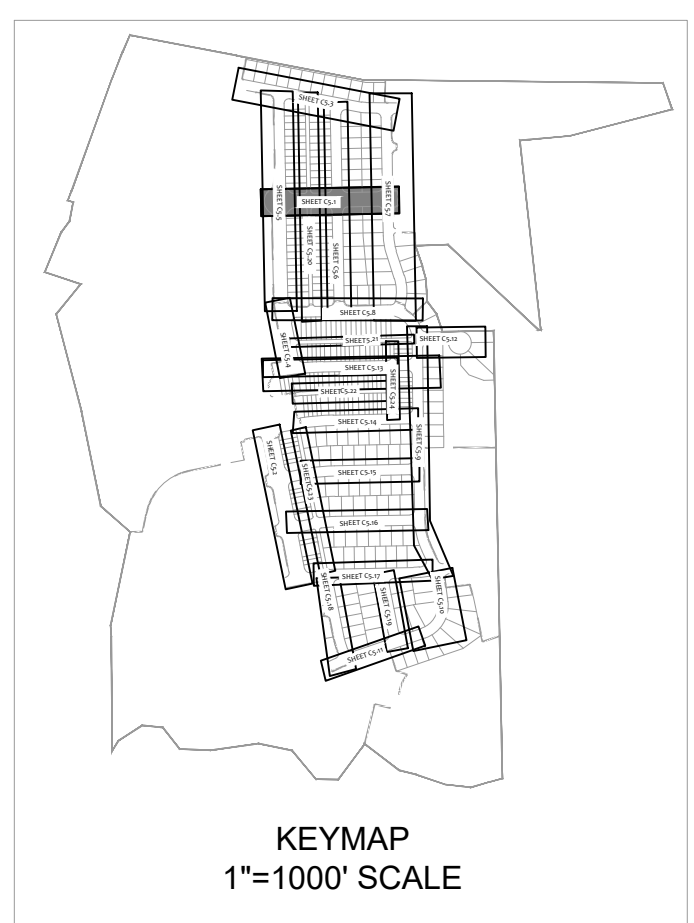
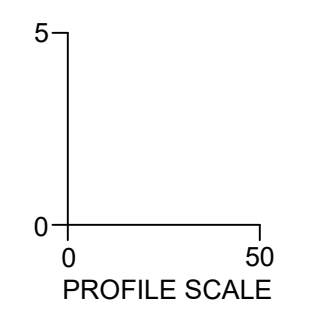
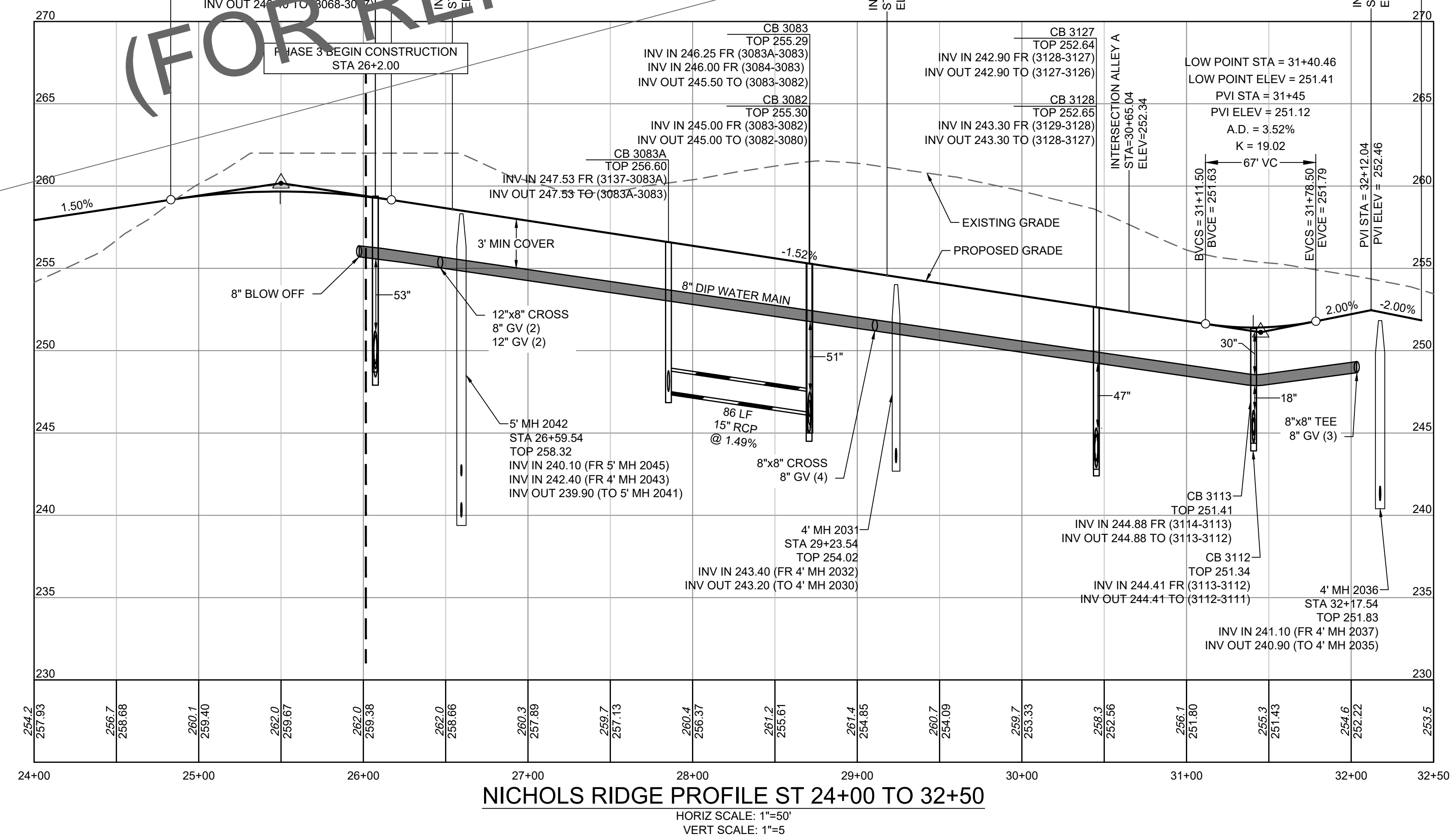
TOWN CERTIFICATION text block containing approval statements and signature lines for the Development Services Engineer and Administrator.



- UTILITY NOTES: 1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF RALEIGH STANDARDS AND SPECIFICATIONS. 2. MINIMUM UTILITY HORIZONTAL SEPARATION DISTANCES: WATER AND SANITARY SEWER MAINS - 10 FT. WATER AND STORM SEWER MAINS - 5 FT. SANITARY SEWER AND STORM SEWER MAINS - 5 FT. GRAVITY SANITARY SEWER AND FORCE MAINS - 5 FT. 3. MINIMUM UTILITY VERTICAL SEPARATION DISTANCES: WATER AND SANITARY SEWER MAINS - 18 IN. WATER AND STORM SEWER MAINS - 18 IN. SANITARY SEWER AND STORM SEWER MAINS - 24 IN.

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

WILL BE APPROVED UNDER SEPARATE PERMIT (FOR REFERENCE ONLY)



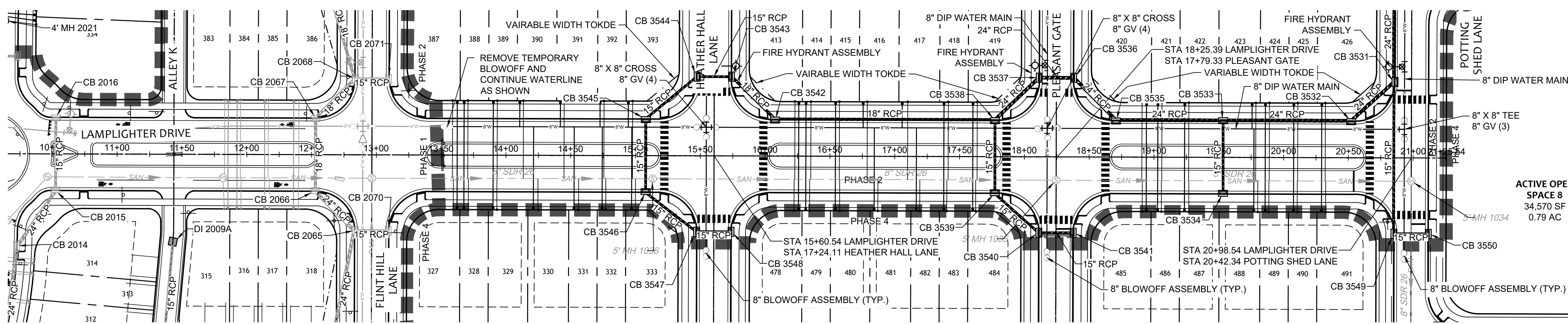
THIS DRAWING PREPARED AT THE RALEIGH OFFICE 5410 Trinity Road, Suite 102, Raleigh, NC 27607 TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS. REVISION DESCRIPTION DATE

DRAWN BY 331 DESIGNED BY 331 CHECKED BY A. STONE SCALE H: 1\"/>

TIMMONS GROUP logo and project information: ALLEN PARK SUBDIVISION - PHASE II, KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA, NICHOLS RIDGE DRIVE PLAN & PROFILE, NORTH CAROLINA LICENSE NO. C-1652, JOB NO. 44529, SHEET NO. C5.1

FOR REVIEW ONLY: NOT FOR CONSTRUCTION



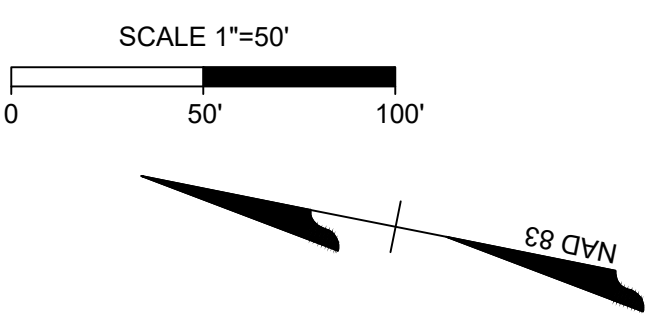
Water and Sewer Permits (if applicable)

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 #

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 #

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 #



UTILITY LEGEND

	PROPOSED SEWER MAIN
	PROPOSED WATER MAIN
	WATER MAIN TEE
	FIRE HYDRANT
	WATER METER
	REDUCER
	GATE VALVE
	BLOW OFF ASSEMBLY

EASEMENT LEGEND

PRIVATE EASEMENTS (4 CHARACTER)

- PAME PRIVATE ACCESS & MAINTENANCE EASEMENT
- PGSE PRIVATE GREENWAY SYSTEM EASEMENT
- PSDE PRIVATE STORMWATER DRAINAGE EASEMENT
- PSSE PRIVATE SANITARY SEWER EASEMENT
- SCME SCM ACCESS & MAINTENANCE EASEMENT

PUBLIC EASEMENTS (5 CHARACTER)

- CORSE CITY OF RALEIGH PUBLIC SANITARY SEWER EASEMENT
- CORWLE CITY OF RALEIGH PUBLIC WATERLINE EASEMENT
- TOKDE TOWN OF KNIGHTDALE PUBLIC DRAINAGE EASEMENT
- TOKGE TOWN OF KNIGHTDALE PUBLIC GREENWAY EASEMENT



- UTILITY NOTES:**
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH WAKE COUNTY STANDARDS AND SPECIFICATIONS.
 - MINIMUM UTILITY HORIZONTAL SEPARATION DISTANCES:
WATER AND SANITARY SEWER MAINS - 10 FT.
WATER AND STORM SEWER MAINS - 5 FT.
SANITARY SEWER AND STORM SEWER MAINS - 5 FT.
GRAVITY SANITARY SEWER AND FORCE MAINS - 5 FT.
 - MINIMUM UTILITY VERTICAL SEPARATION DISTANCES:
WATER AND SANITARY SEWER MAINS - 18 IN.
WATER AND STORM SEWER MAINS - 18 IN.
SANITARY SEWER AND STORM SEWER MAINS - 24 IN.

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: _____
DEVELOPMENT SERVICES ENGINEER

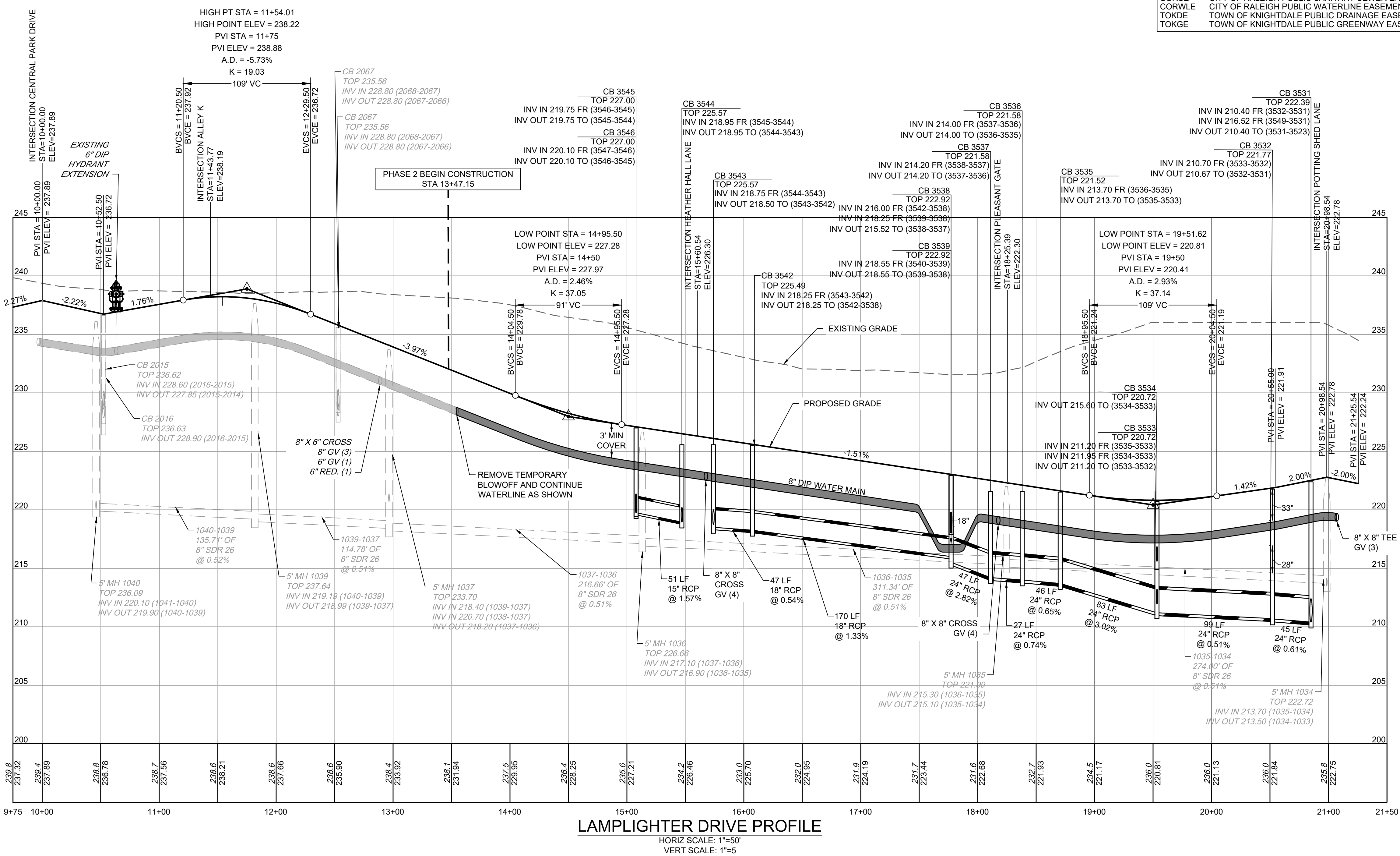
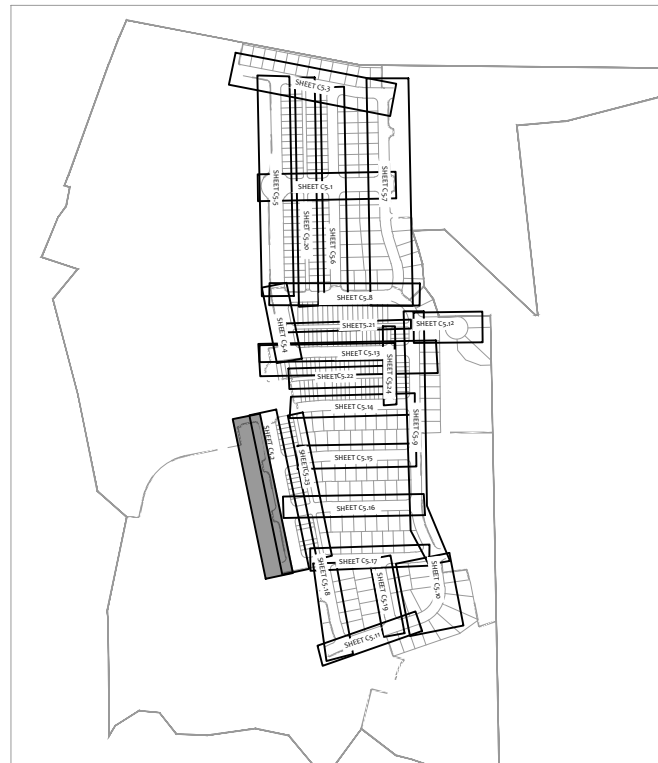
THESE PLANS ARE APPROVED BY THE TOWN OF KNIGHTDALE AND SERVE AS CONSTRUCTION PLANS FOR THIS PROJECT.

BY: _____ DATE: _____
ADMINISTRATOR

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 _____



FOR REVIEW ONLY

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5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL 919-866-9511 FAX 919-833-8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

REVISION DESCRIPTION	DATE
	01/26/2024

DRAWN BY: 331
DESIGNED BY: 331
CHECKED BY: A. STONEY
SCALE: H: 1" = 50'
V: 1" = 5'

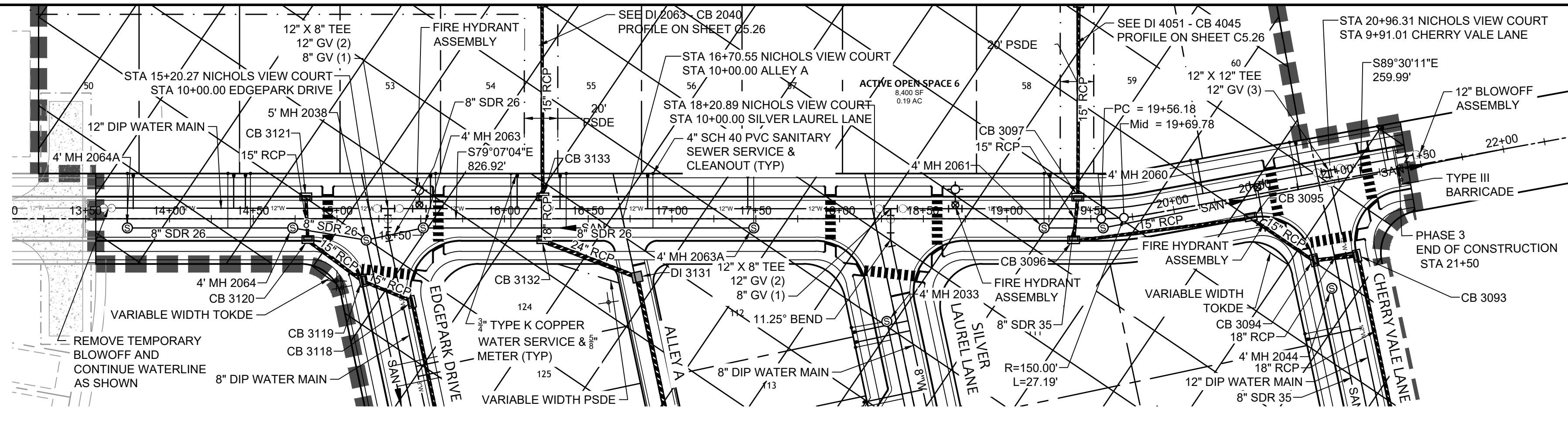
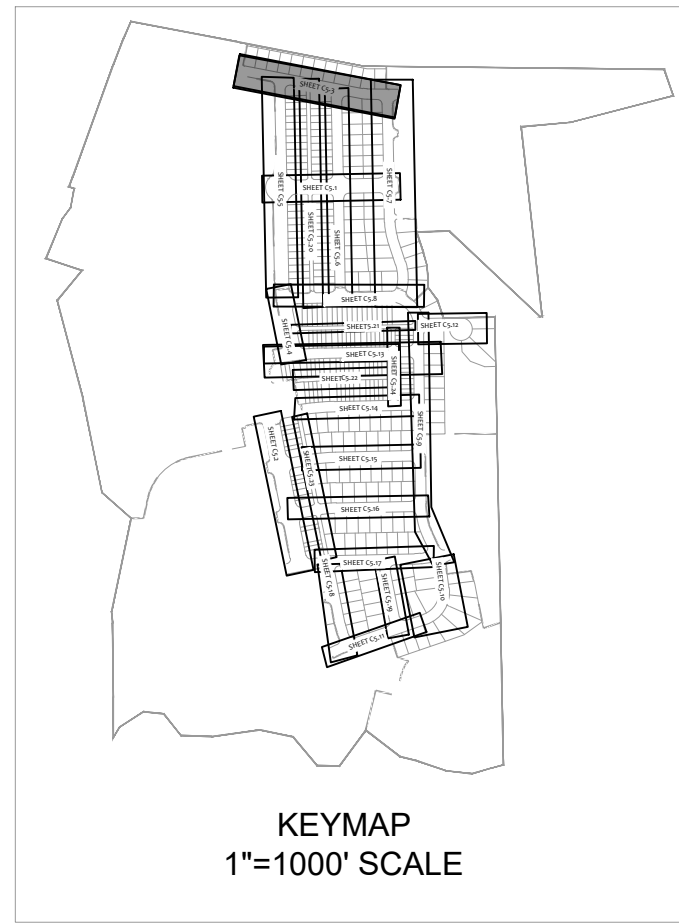
TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652

ALLEN PARK SUBDIVISION - PHASE II
KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA

LAMPLIGHTER DRIVE PLAN & PROFILE

JOB NO. 44529
SHEET NO. C5.2

FOR REVIEW ONLY: NOT FOR CONSTRUCTION



Water and Sewer Permits (if applicable)

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TOWN CERTIFICATION

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BY: _____ DATE: _____
DEVELOPMENT SERVICES ENGINEER

THESE PLANS ARE APPROVED BY THE TOWN OF KNIGHTDALE AND SERVE AS CONSTRUCTION PLANS FOR THIS PROJECT.

BY: _____ DATE: _____
ADMINISTRATOR

EASEMENT LEGEND

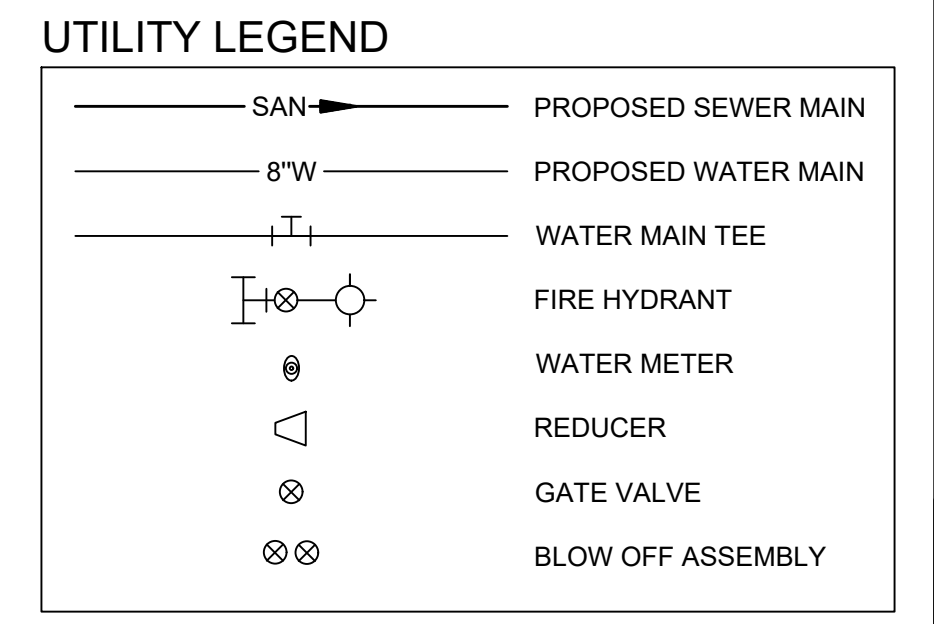
PRIVATE EASEMENTS (4 CHARACTER)	
PAME	PRIVATE ACCESS & MAINTENANCE EASEMENT
PGSE	PRIVATE GREENWAY SYSTEM EASEMENT
PSDE	PRIVATE STORMWATER DRAINAGE EASEMENT
PSSE	PRIVATE SANITARY SEWER EASEMENT
SCME	SCM ACCESS & MAINTENANCE EASEMENT
PUBLIC EASEMENTS (5 CHARACTER)	
CORSE	CITY OF RALEIGH PUBLIC SANITARY SEWER EASEMENT
CORWLE	CITY OF RALEIGH PUBLIC WATERLINE EASEMENT
TOKDE	TOWN OF KNIGHTDALE PUBLIC DRAINAGE EASEMENT
TOKGE	TOWN OF KNIGHTDALE PUBLIC GREENWAY EASEMENT

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

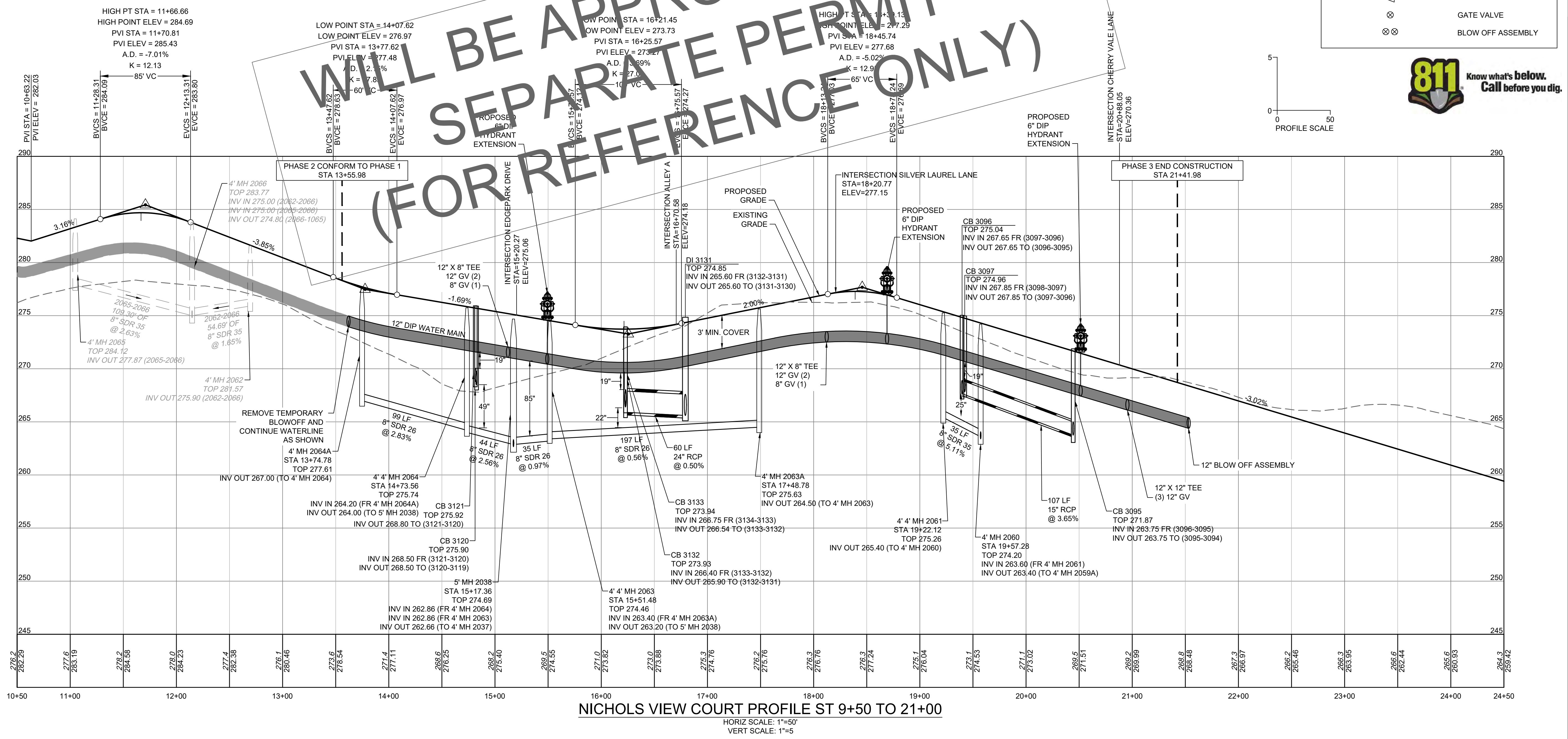
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City of Raleigh Development Approval _____
Raleigh Water Review Officer _____

- UTILITY NOTES:**
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF RALEIGH STANDARDS AND SPECIFICATIONS.
 - MINIMUM UTILITY HORIZONTAL SEPARATION DISTANCES:
WATER AND SANITARY SEWER MAINS - 10 FT.
WATER AND STORM SEWER MAINS - 5 FT.
SANITARY SEWER AND STORM SEWER MAINS - 5 FT.
GRAVITY SANITARY SEWER AND FORCE MAINS - 5 FT.
 - MINIMUM UTILITY VERTICAL SEPARATION DISTANCES:
WATER AND SANITARY SEWER MAINS - 18 IN.
WATER AND STORM SEWER MAINS - 18 IN.
SANITARY SEWER AND STORM SEWER MAINS - 24 IN.
 - CLASS 1 STRUCTURAL MATERIAL REQUIRED FROM EXISTING GROUND TO SPRING LINE OF PROPOSED PIPE IN FILL CONDITIONS (TYP).



WILL BE APPROVED UNDER SEPARATE PERMIT (FOR REFERENCE ONLY)



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REVISION DESCRIPTION	DATE

DATE: 01/26/2024
DRAWN BY: 331
DESIGNED BY: 331
CHECKED BY: A. STONE
SCALE: H: 1" = 50'
V: 1" = 5'

TIMMONS GROUP

NORTH CAROLINA LICENSE NO. C-1652

ALLEN PARK SUBDIVISION - PHASE II
KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA

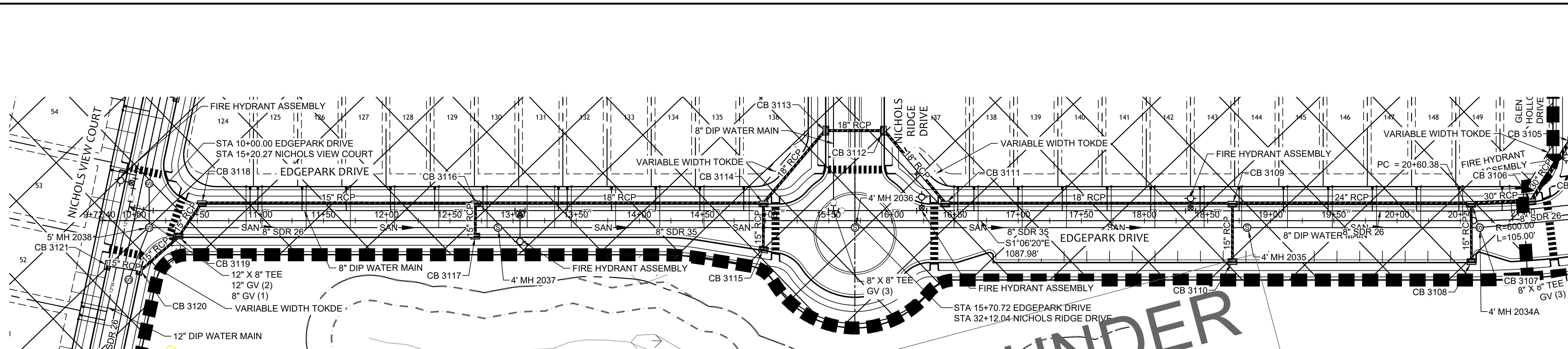
NICHOLS VIEW COURT PLAN & PROFILE

JOB NO. 44529
SHEET NO. C5.3

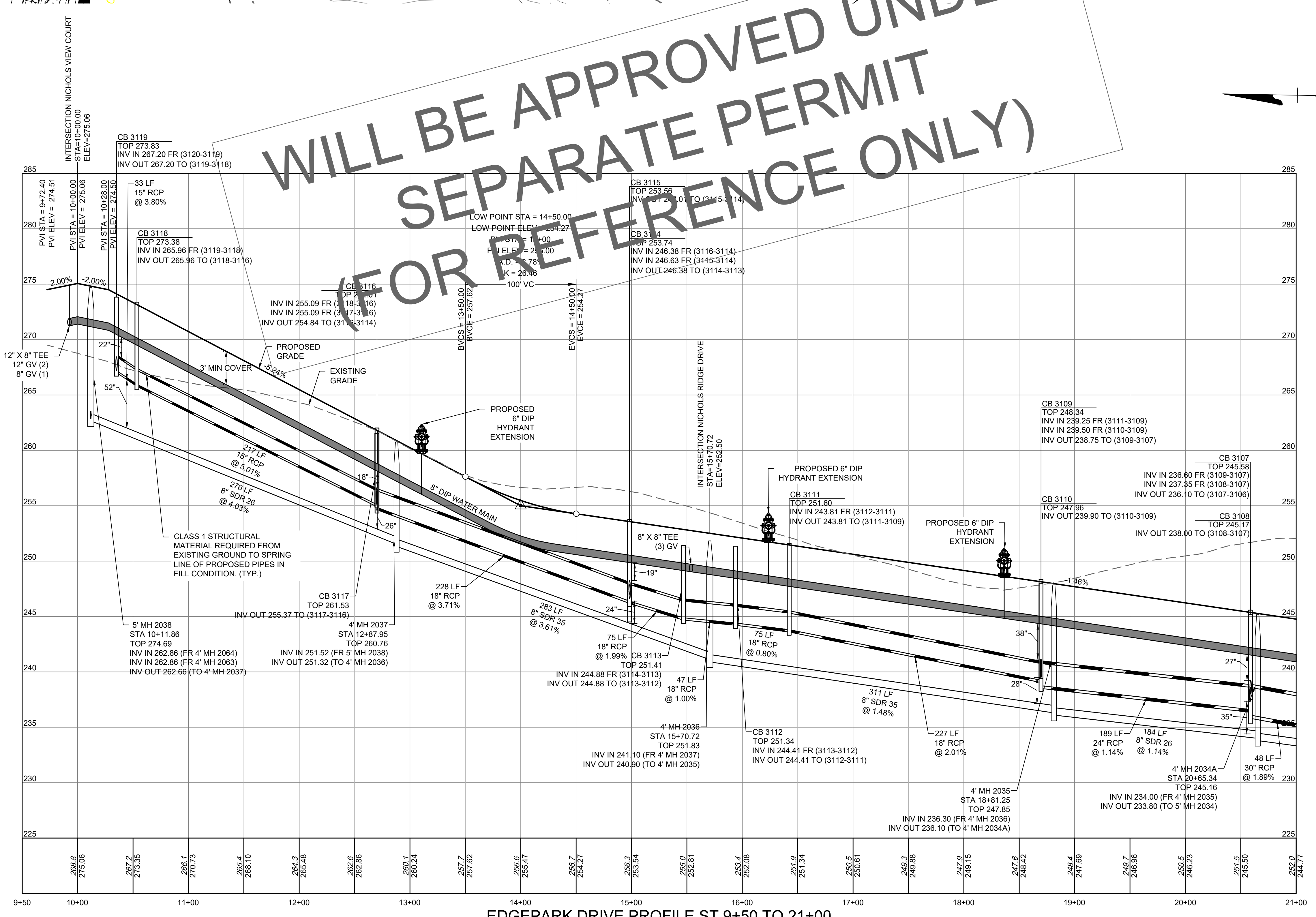
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(FOR REFERENCE ONLY)



EDGE PARK DRIVE PROFILE ST 9+50 TO 21+00
HORIZ SCALE: 1"=50'
VERT SCALE: 1"=5'

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 #

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City of Raleigh Public Utilities Department Permit #

TOWN CERTIFICATION

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BY: _____ DATE: _____
DEVELOPMENT SERVICES ENGINEER

THESE PLANS ARE APPROVED BY THE TOWN OF KNIGHTDALE AND SERVE AS CONSTRUCTION PLANS FOR THIS PROJECT.

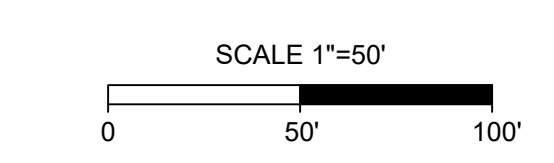
BY: _____ DATE: _____
ADMINISTRATOR

UTILITY LEGEND

	PROPOSED SEWER MAIN
	PROPOSED WATER MAIN
	WATER MAIN TEE
	FIRE HYDRANT
	WATER METER
	REDUCER
	GATE VALVE
	BLOW OFF ASSEMBLY

EASEMENT LEGEND

PRIVATE EASEMENTS (4 CHARACTER)	
PAME	PRIVATE ACCESS & MAINTENANCE EASEMENT
PGSE	PRIVATE GREENWAY SYSTEM EASEMENT
PSDE	PRIVATE STORMWATER DRAINAGE EASEMENT
PSSE	PRIVATE SANITARY SEWER EASEMENT
SOME	SOM ACCESS & MAINTENANCE EASEMENT
PUBLIC EASEMENTS (5 CHARACTER)	
CORSE	CITY OF RALEIGH PUBLIC SANITARY SEWER EASEMENT
CORWLE	CITY OF RALEIGH PUBLIC WATERLINE EASEMENT
TOKDE	TOWN OF KNIGHTDALE PUBLIC DRAINAGE EASEMENT
TOKGE	TOWN OF KNIGHTDALE PUBLIC GREENWAY EASEMENT

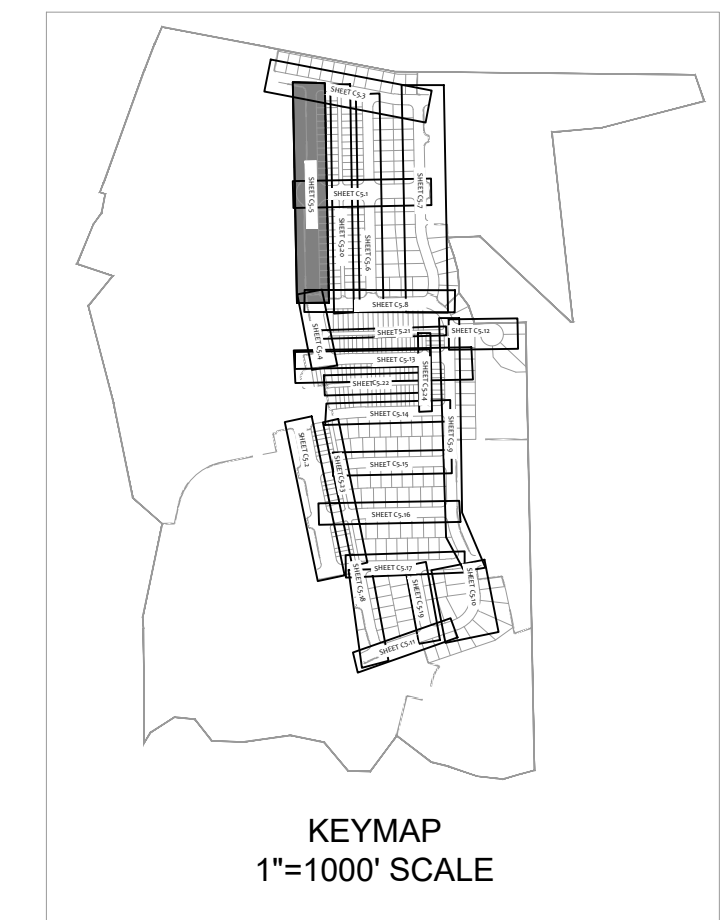
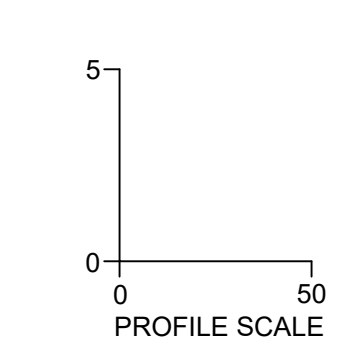


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CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

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City of Raleigh Development Approval _____
Raleigh Water Review Officer



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REVISION DESCRIPTION	DATE
	01/26/2024

DRAWN BY	331
DESIGNED BY	331
CHECKED BY	A. STONE
SCALE	H: 1" = 50' V: 1" = 5'

TIMMONS GROUP

NORTH CAROLINA LICENSE NO. C-1652

ALLEN PARK SUBDIVISION - PHASE II
KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA

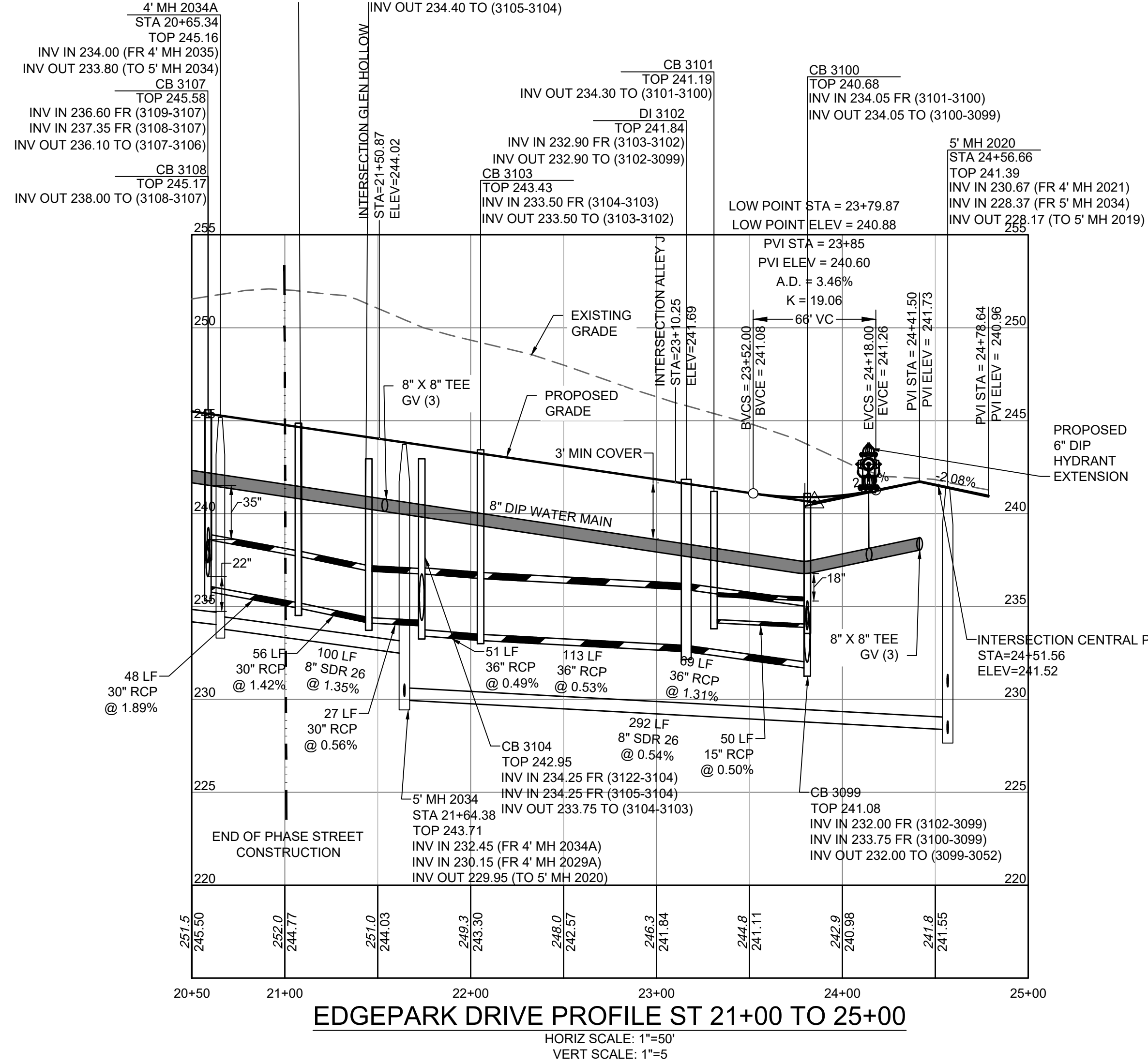
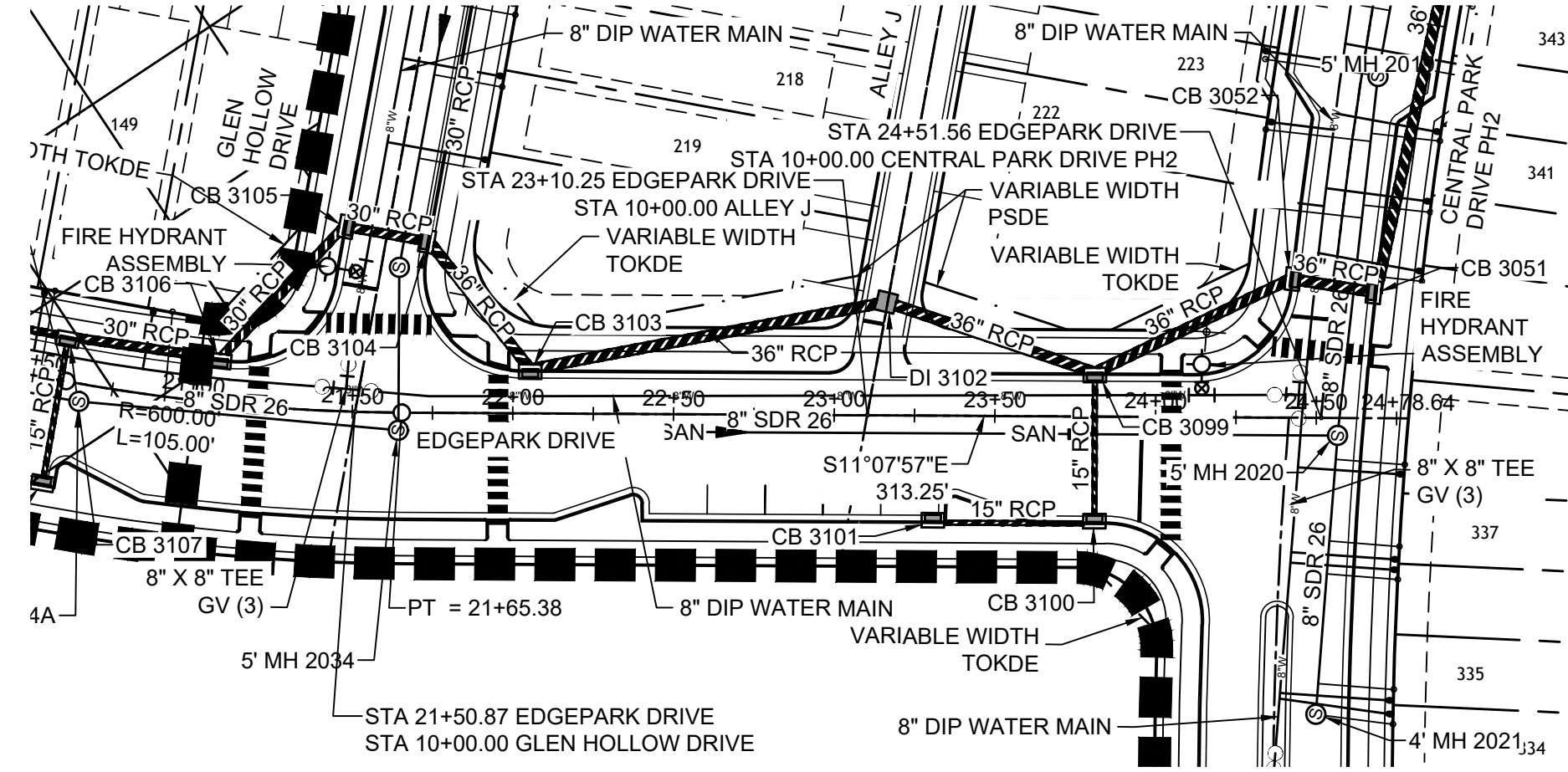
EDGE PARK DRIVE PLAN & PROFILE - SHEET 1 OF 2

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JOB NO.	44529
SHEET NO.	C5.4

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EASEMENT LEGEND

- PRIVATE EASEMENTS (4 CHARACTER)**
 PAME PRIVATE ACCESS & MAINTENANCE EASEMENT
 PGSE PRIVATE GREENWAY SYSTEM EASEMENT
 PSDE PRIVATE STORMWATER DRAINAGE EASEMENT
 PSSE PRIVATE SANITARY SEWER EASEMENT
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 CORWLE CITY OF RALEIGH PUBLIC WATERLINE EASEMENT
 TOKDE TOWN OF KNIGHTDALE PUBLIC DRAINAGE EASEMENT
 TOKGE TOWN OF KNIGHTDALE PUBLIC GREENWAY EASEMENT

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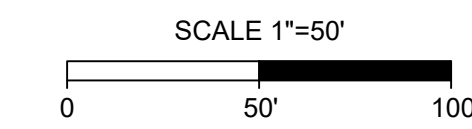
BY: _____ DATE: _____
 DEVELOPMENT SERVICES ENGINEER

THESE PLANS ARE APPROVED BY THE TOWN OF KNIGHTDALE AND SERVE AS CONSTRUCTION PLANS FOR THIS PROJECT.

BY: _____ DATE: _____
 ADMINISTRATOR

UTILITY LEGEND

- PROPOSED SEWER MAIN
- PROPOSED WATER MAIN
- WATER MAIN TEE
- FIRE HYDRANT
- WATER METER
- REDUCER
- GATE VALVE
- BLOW OFF ASSEMBLY



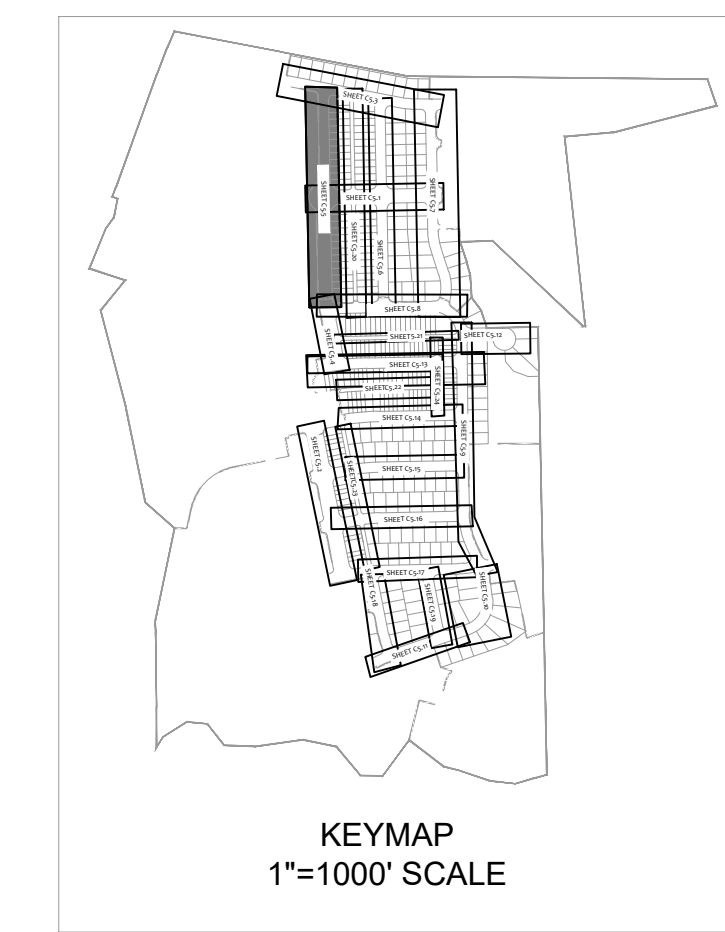
UTILITY NOTES:

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CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

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City of Raleigh Development Approval _____
 Raleigh Water Review Officer



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REVISION DESCRIPTION	DATE
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DRAWN BY	331
DESIGNED BY	331
CHECKED BY	A. STONE
SCALE	H: 1" = 50' V: 1" = 5'

TIMMONS GROUP
 NORTH CAROLINA LICENSE NO. C-1652

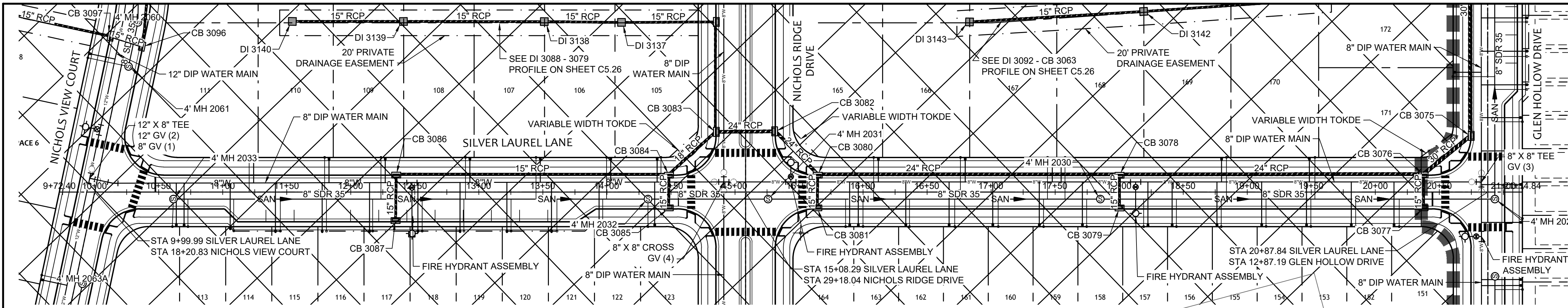
ALLEN PARK SUBDIVISION - PHASE II
 KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA

EDGE PARK DRIVE PLAN & PROFILE - SHEET 2 OF 2

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JOB NO.	44529
SHEET NO.	C5.5

FOR REVIEW ONLY: NOT FOR CONSTRUCTION



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City of Raleigh Public Utilities Department Permit #

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BY: _____ DATE: _____
DEVELOPMENT SERVICES ENGINEER

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BY: _____ DATE: _____
ADMINISTRATOR

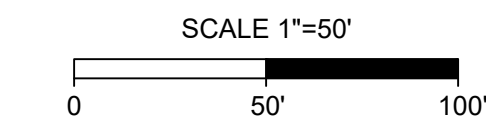
EASEMENT LEGEND

PRIVATE EASEMENTS (4 CHARACTER)
 PAME PRIVATE ACCESS & MAINTENANCE EASEMENT
 PGSE PRIVATE GREENWAY SYSTEM EASEMENT
 PSDE PRIVATE STORMWATER DRAINAGE EASEMENT
 PSSE PRIVATE SANITARY SEWER EASEMENT
 SCME SCM ACCESS & MAINTENANCE EASEMENT

PUBLIC EASEMENTS (5 CHARACTER)
 CORSE CITY OF RALEIGH PUBLIC SANITARY SEWER EASEMENT
 COWLE CITY OF RALEIGH PUBLIC WATERLINE EASEMENT
 TOKDE TOWN OF KNIGHTDALE PUBLIC DRAINAGE EASEMENT
 TOKGE TOWN OF KNIGHTDALE PUBLIC GREENWAY EASEMENT

UTILITY LEGEND

SAN PROPOSED SEWER MAIN
 8"W PROPOSED WATER MAIN
 WATER MAIN TEE
 FIRE HYDRANT
 WATER METER
 REDUCER
 GATE VALVE
 BLOW OFF ASSEMBLY



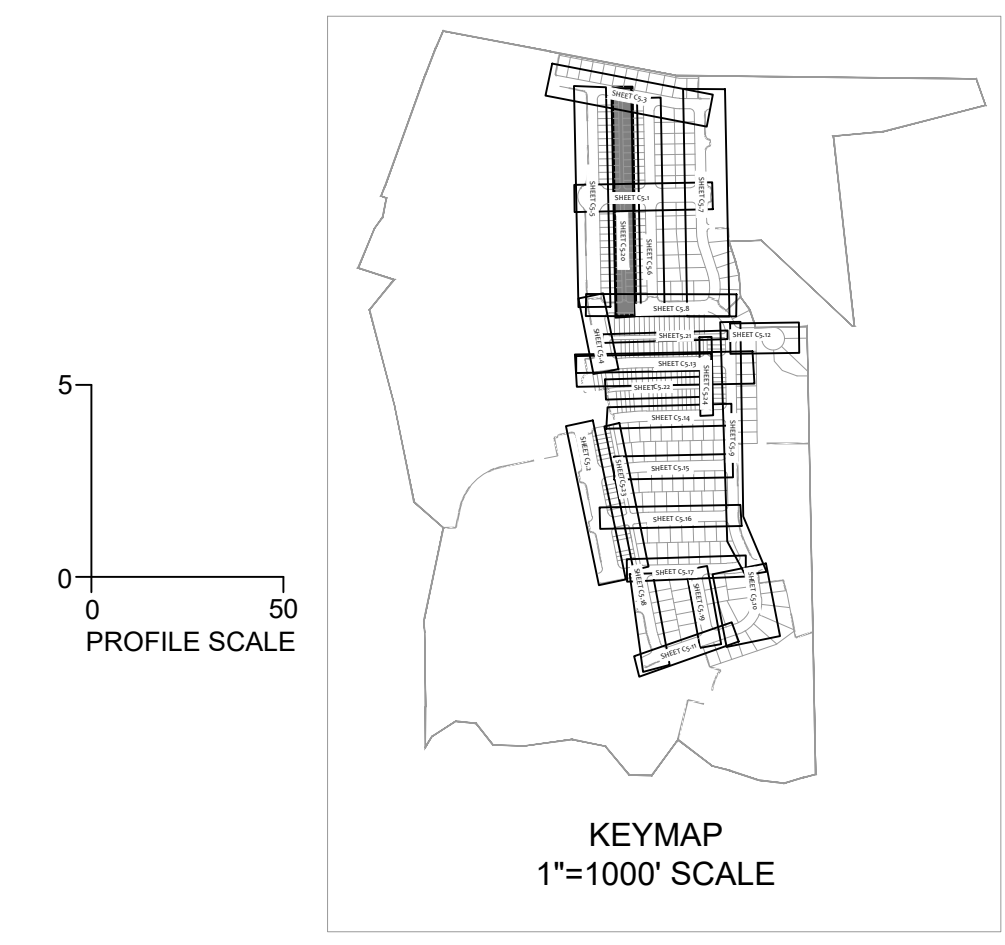
UTILITY NOTES:

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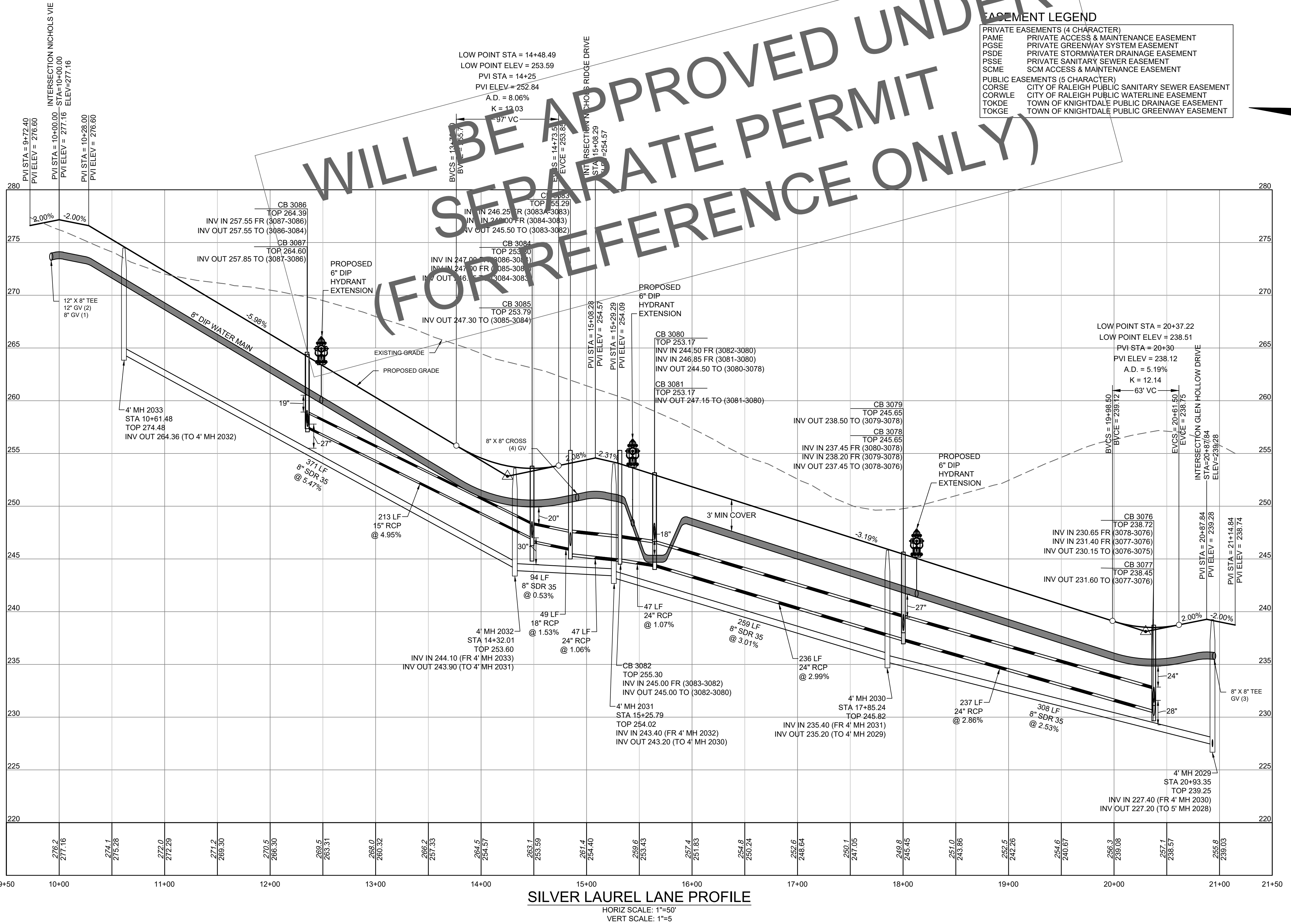
CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

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City of Raleigh Development Approval _____
 Raleigh Water Review Officer



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REVISION DESCRIPTION

DATE	DESCRIPTION
01/26/2024 <td></td>	

DRAWN BY: 331
 DESIGNED BY: 331
 CHECKED BY: A. STONE
 SCALE: H: 1" = 50'
 V: 1" = 5'

TIMMONS GROUP
 NORTH CAROLINA LICENSE NO. C-1652

ALLEN PARK SUBDIVISION - PHASE II
 KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA

SILVER LAUREL LANE PLAN & PROFILE

Job No. 44529
 Sheet No. C5.6

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DATE 01/26/2024 DRAWN BY 331 DESIGNED BY 331 CHECKED BY A. STONE SCALE H: 1" = 50' V: 1" = 5'

TIMMONS GROUP NORTH CAROLINA LICENSE NO. C-1652 ALLEN PARK SUBDIVISION - PHASE II KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA GLEN HOLLOW DRIVE PLAN & PROFILE - SHEET 1 OF 4

JOB NO. 44529 SHEET NO. C5.8

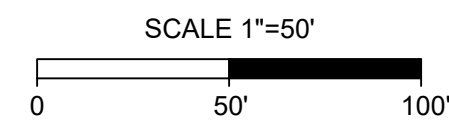
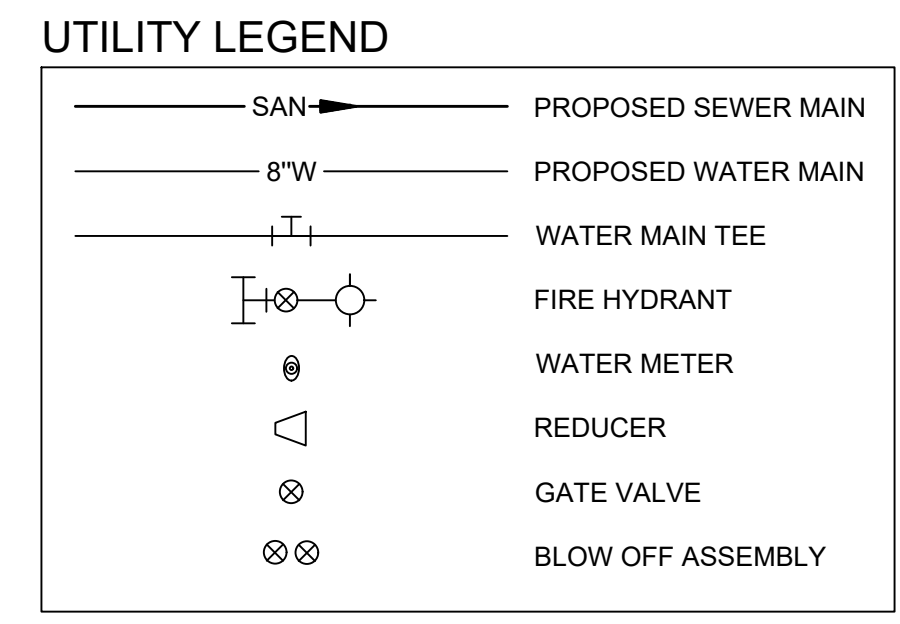
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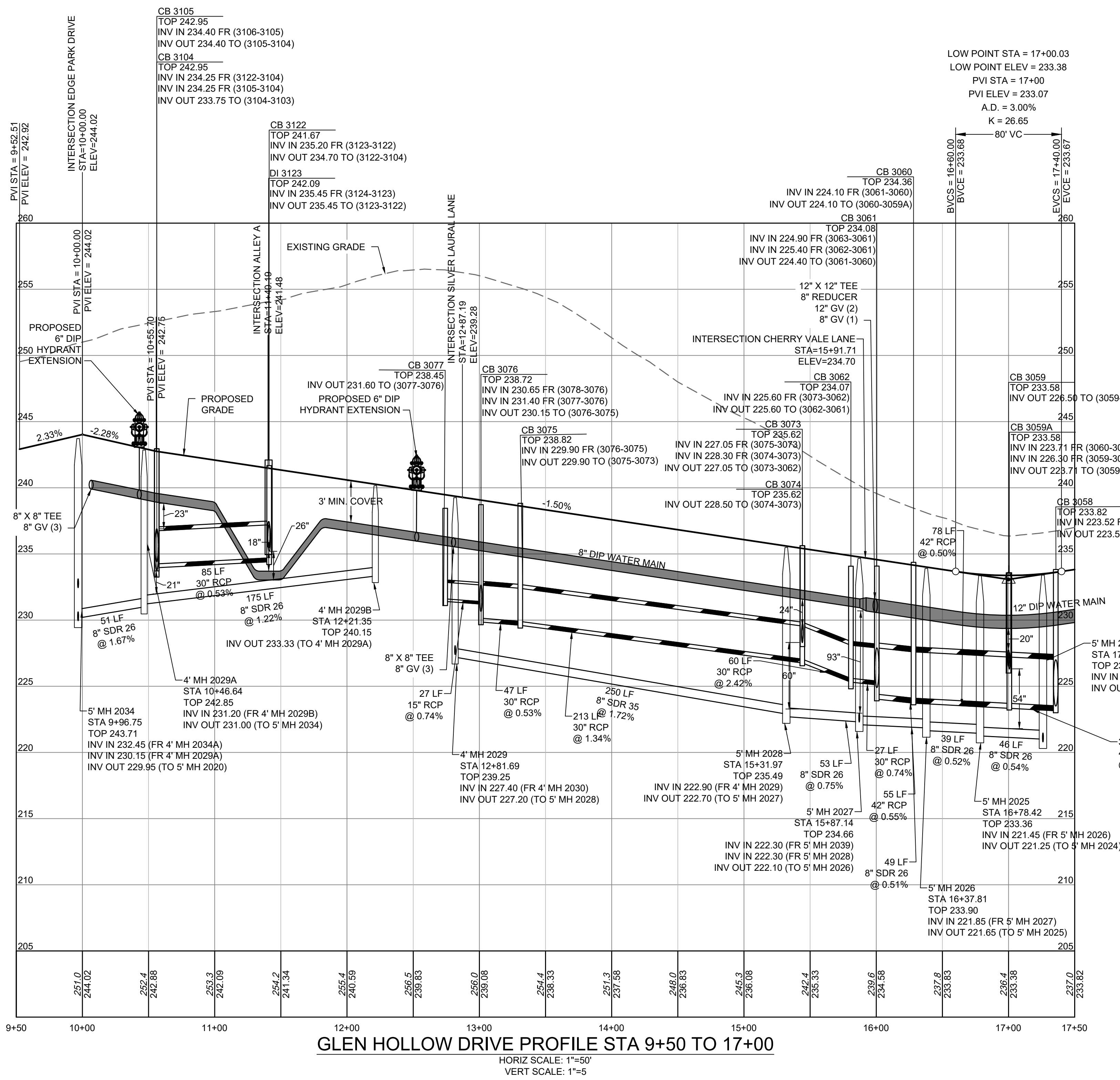
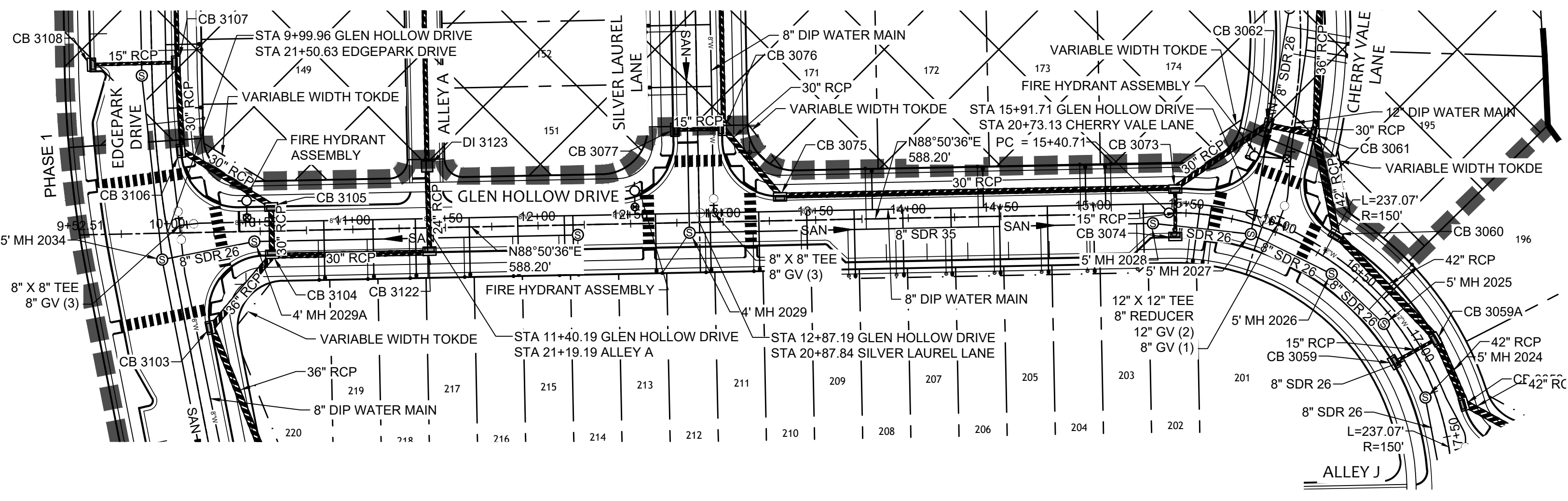
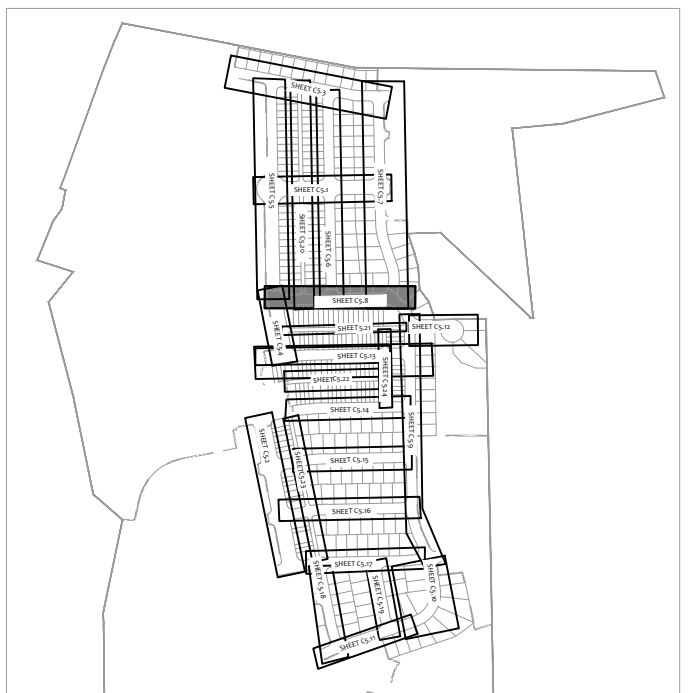
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TOWN CERTIFICATION THIS DESIGN HAS BEEN REVIEWED BY THE ENGINEER FOR THE TOWN OF KNIGHTDALE, AND TO THE BEST OF MY KNOWLEDGE AND BELIEF, IT CONFORMS TO THE REQUIREMENTS ESTABLISHED IN THE STANDARD SPECIFICATIONS OF THE TOWN OF KNIGHTDALE. BY: DEVELOPMENT SERVICES ENGINEER DATE: THESE PLANS ARE APPROVED BY THE TOWN OF KNIGHTDALE AND SERVE AS CONSTRUCTION PLANS FOR THIS PROJECT. BY: ADMINISTRATOR DATE:



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

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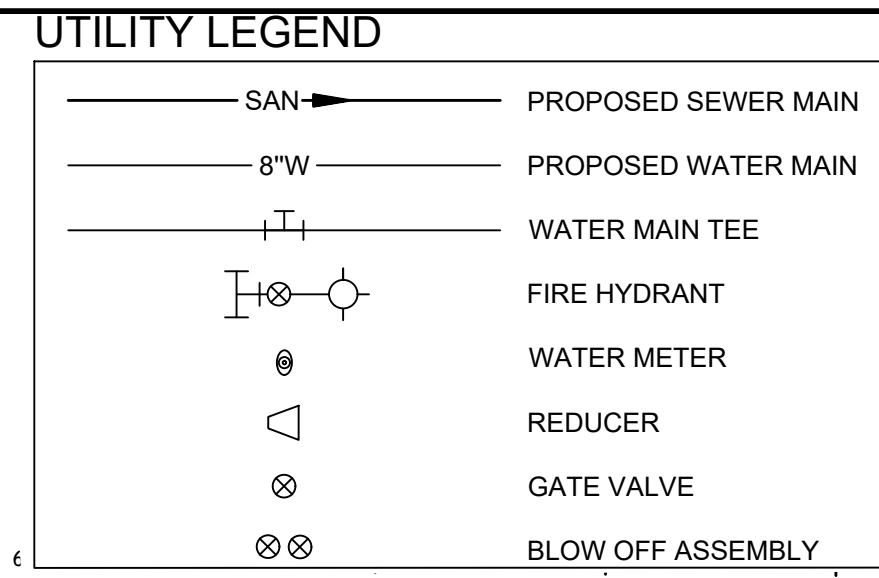
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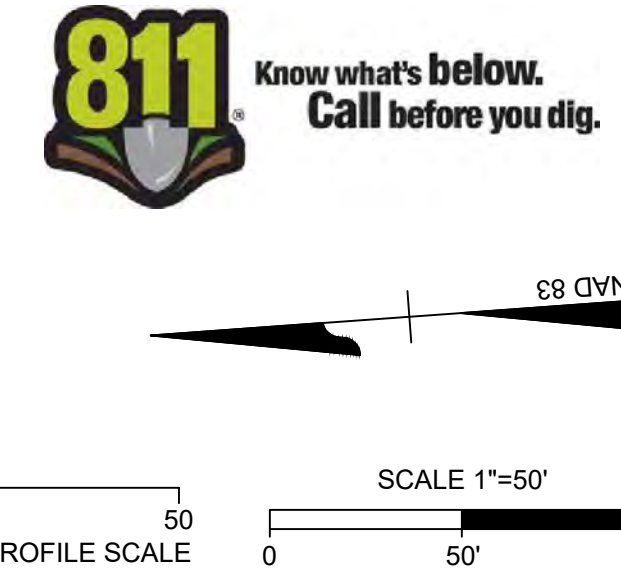
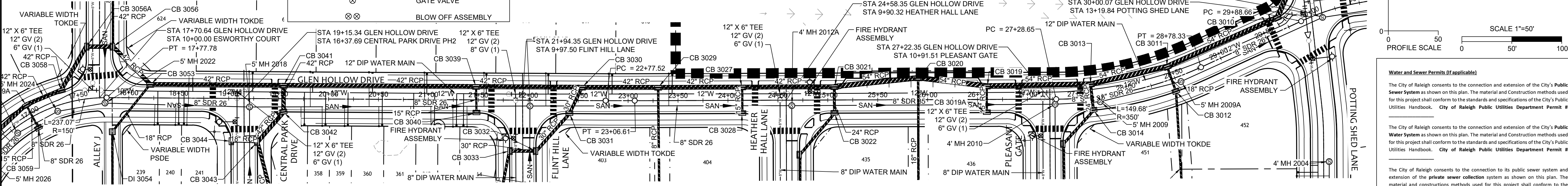
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PGSE PRIVATE GREENWAY SYSTEM EASEMENT
PSDE PRIVATE STORMWATER DRAINAGE EASEMENT
PSSE PRIVATE SANITARY SEWER EASEMENT
SCME SCM ACCESS & MAINTENANCE EASEMENT

PUBLIC EASEMENTS (5 CHARACTER)
CORSE CITY OF RALEIGH PUBLIC SANITARY SEWER EASEMENT
CORWLE CITY OF RALEIGH PUBLIC WATERLINE EASEMENT
TOKDE TOWN OF KNIGHTDALE PUBLIC DRAINAGE EASEMENT
TOKGE TOWN OF KNIGHTDALE PUBLIC GREENWAY EASEMENT



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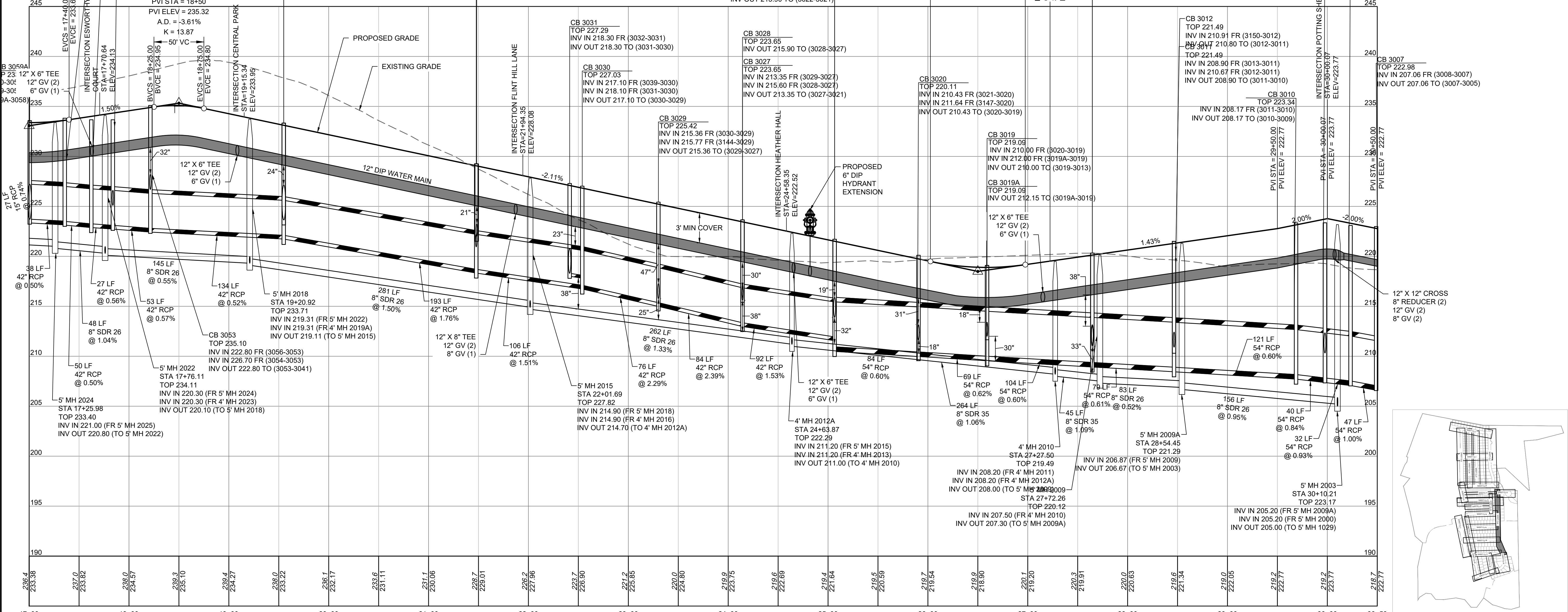
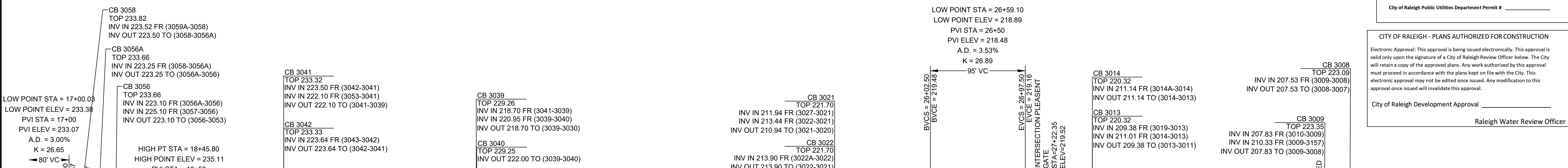
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City of Raleigh Public Utilities Department Permit # _____

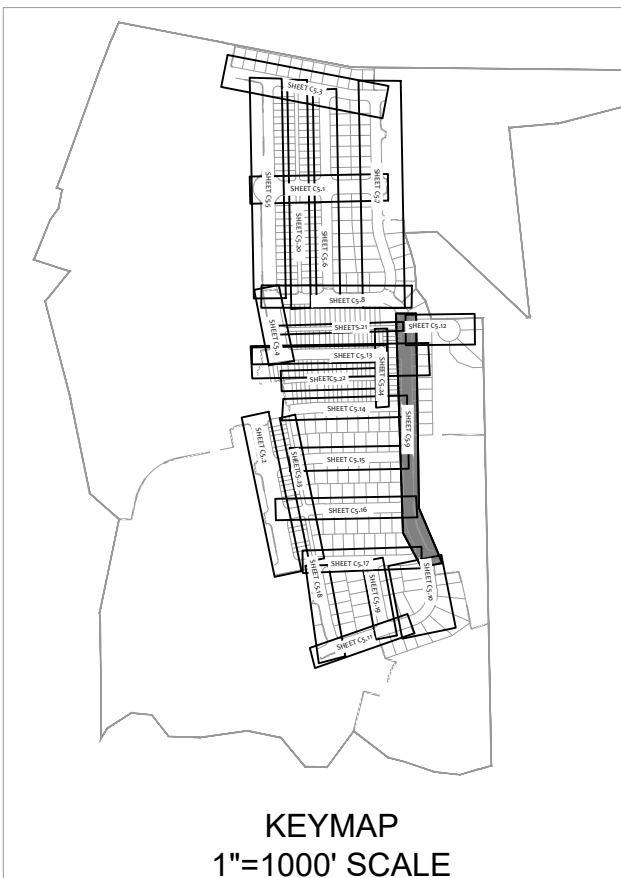
CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

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City of Raleigh Development Approval _____
Raleigh Water Review Officer _____



GLEN HOLLOW DRIVE PROFILE STA 17+00 TO 30+50
HORIZ SCALE: 1"=50'
VERT SCALE: 1"=5'



TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652

ALLEN PARK SUBDIVISION - PHASE II
KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA

GLEN HOLLOW DRIVE PLAN & PROFILE - SHEET 2 OF 4

FOR REVIEW ONLY

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DATE	REVISION DESCRIPTION
01/26/2024 <td></td>	

DATE: 01/26/2024
DRAWN BY: 331
DESIGNED BY: 331
CHECKED BY: A. STONE
SCALE: H: 1" = 50'
V: 1" = 5'

JOB NO. 44529
SHEET NO. C5.9

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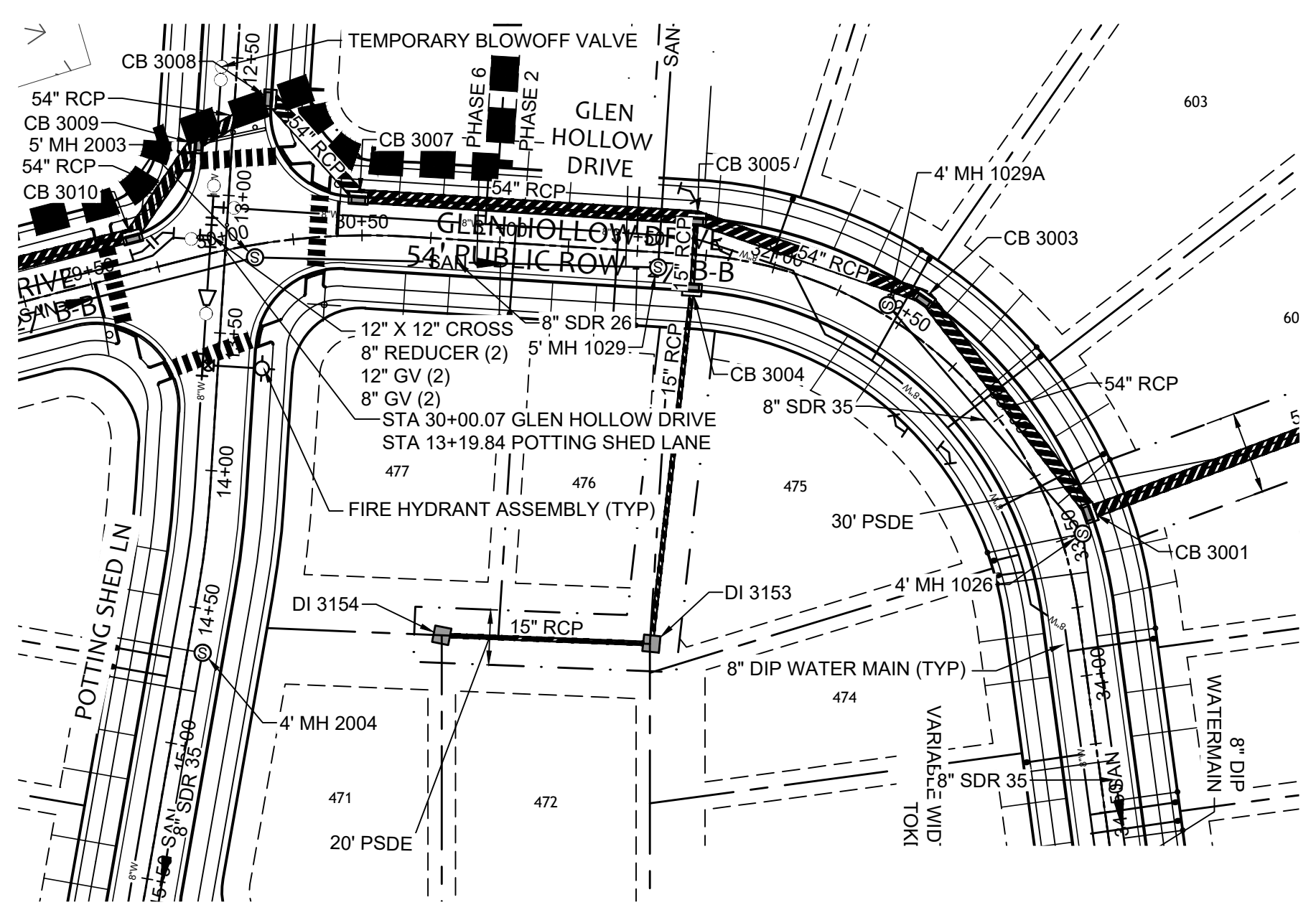
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 WATER AND STORM SEWER MAINS - 18 IN.
 SANITARY SEWER AND STORM SEWER MAINS - 24 IN.

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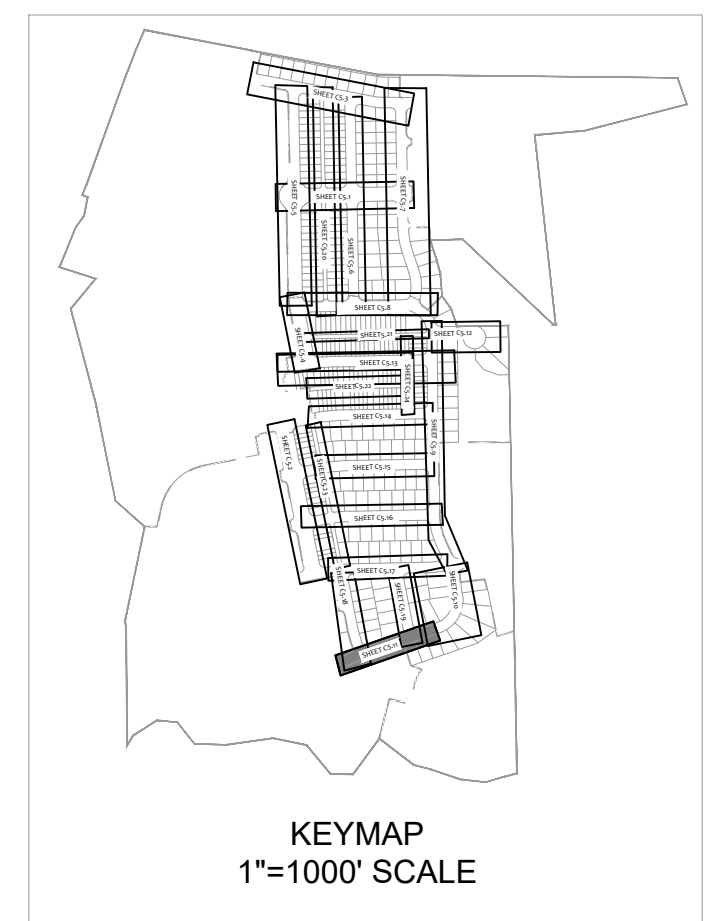
DATE
 01/26/2024

DRAWN BY
 331

DESIGNED BY
 331

CHECKED BY
 A. STONE

SCALE
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EASEMENT LEGEND

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TOWN CERTIFICATION

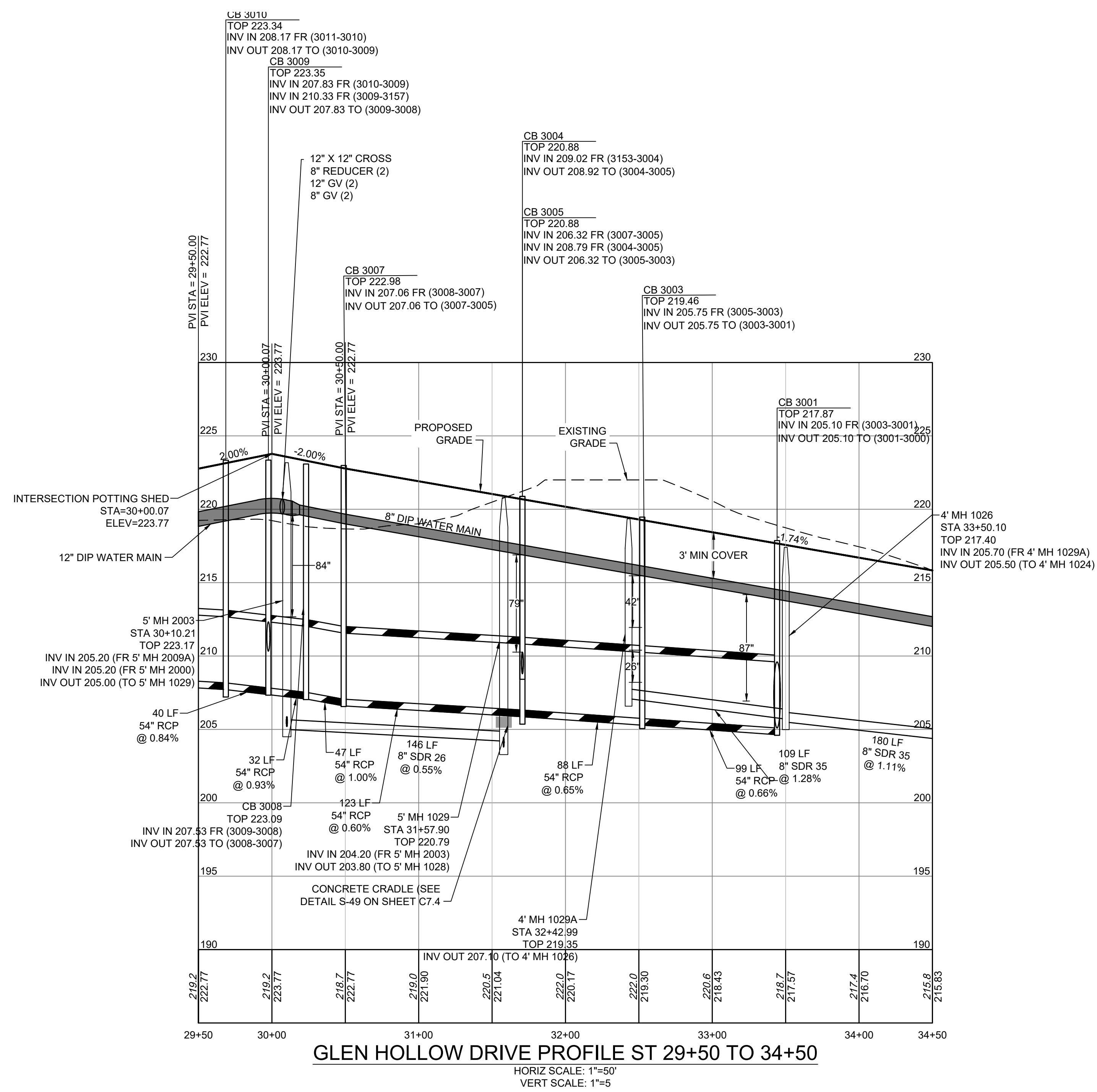
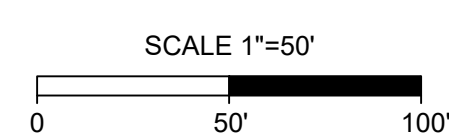
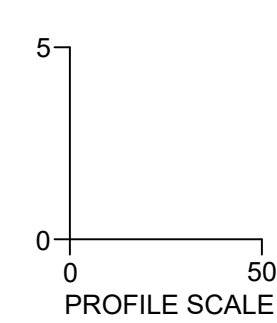
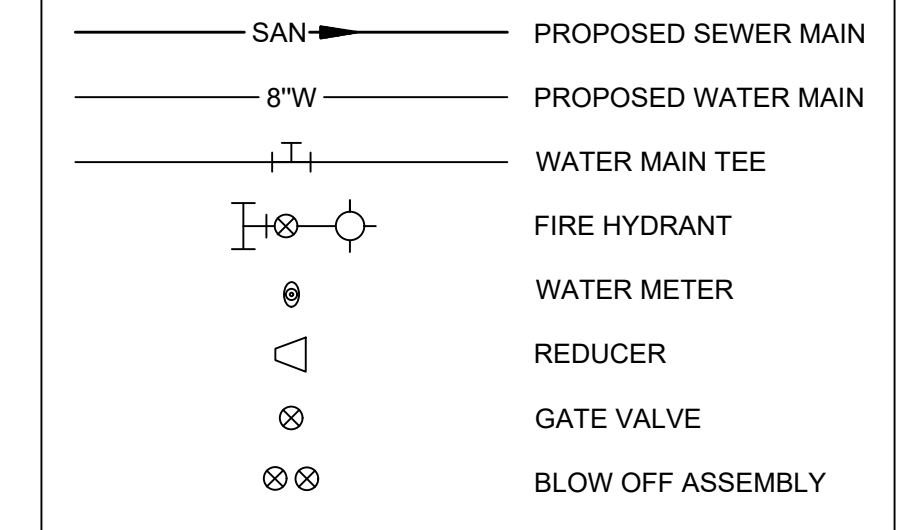
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BY: _____ DATE: _____
 DEVELOPMENT SERVICES ENGINEER

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BY: _____ DATE: _____
 ADMINISTRATOR

UTILITY LEGEND



S:\331\44529-WL-MAR\DWG\Sheet\CD\Phase II & III\44529-331-CX.O-PROF-ROAD-V.dwg | Plotted by Sean Wiles

TIMMONS GROUP
 NORTH CAROLINA LICENSE NO. C-1652

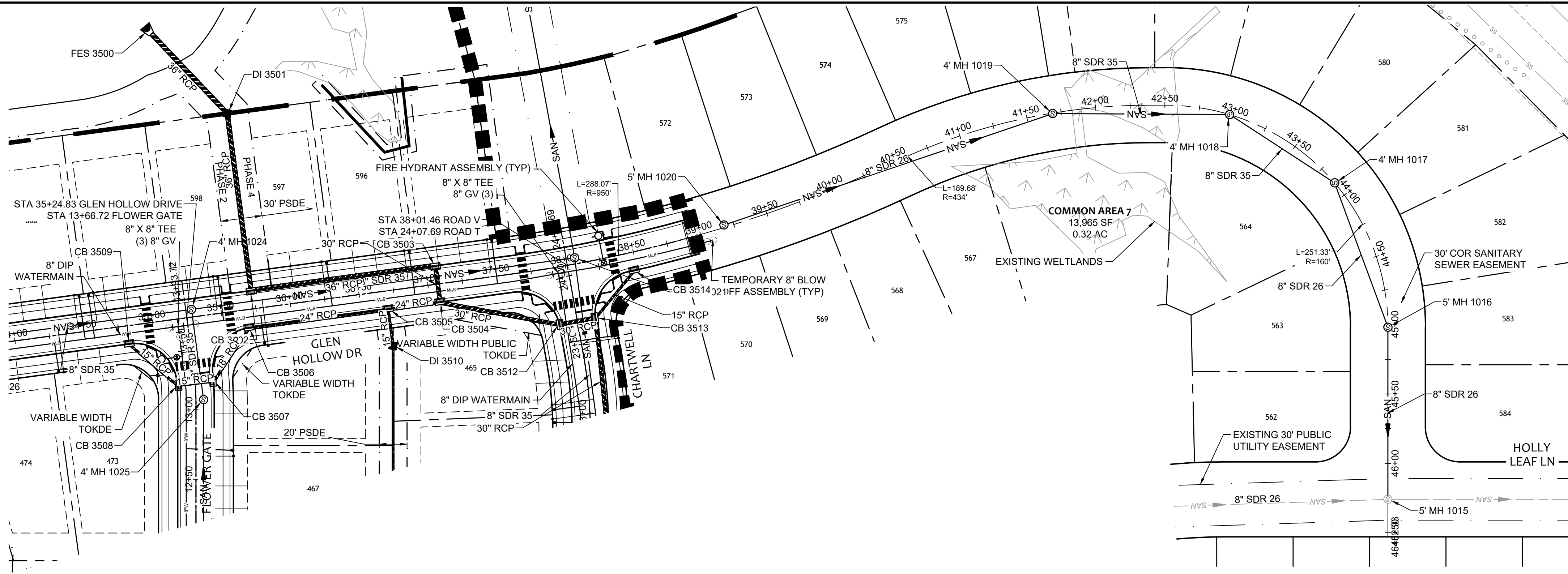
ALLEN PARK SUBDIVISION - PHASE II
 KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA

GLEN HOLLOW DRIVE PLAN & PROFILE - SHEET 3 OF 4

JOB NO.
44529

SHEET NO.
C5.10

FOR REVIEW ONLY: NOT FOR CONSTRUCTION



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 WATER AND SANITARY SEWER MAINS - 18 IN.
 WATER AND STORM SEWER MAINS - 18 IN.
 SANITARY SEWER AND STORM SEWER MAINS - 24 IN.
- CLASS 1 STRUCTURAL MATERIAL REQUIRED FROM EXISTING GROUND TO SPRING LINE OF PROPOSED PIPE IN FILL CONDITIONS (TYP).

Water and Sewer Permits (if applicable)

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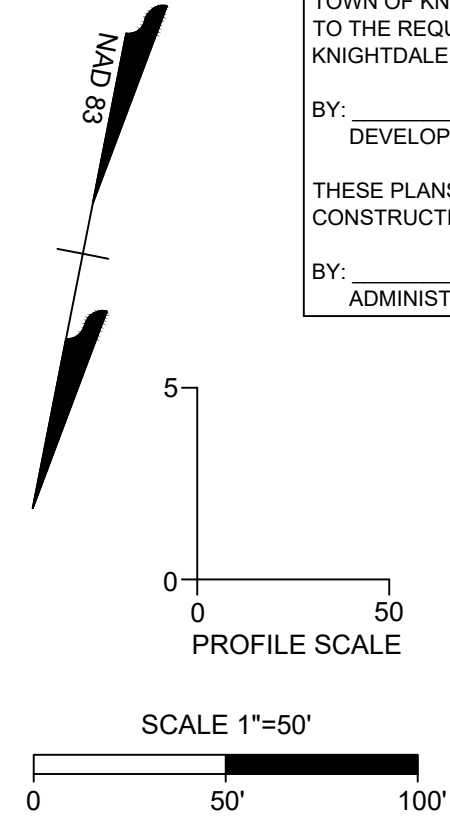
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TOWN CERTIFICATION

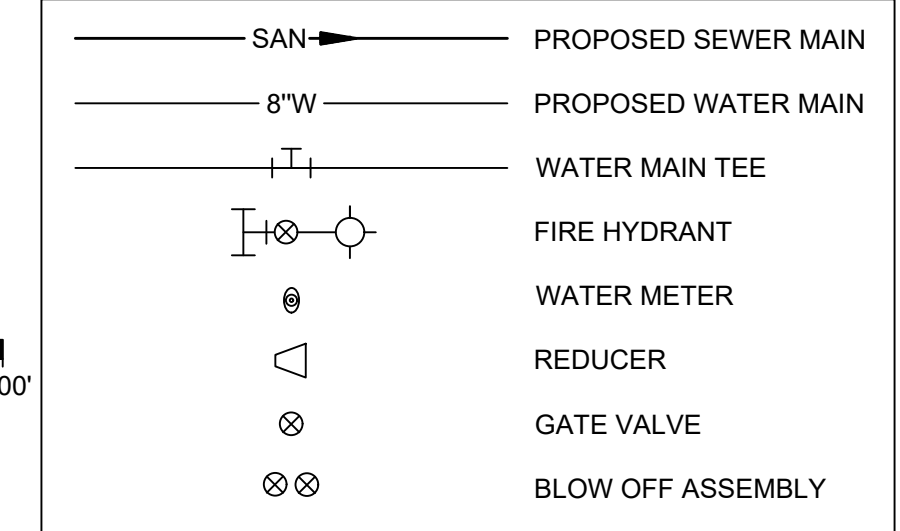
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BY: _____ DATE: _____
 DEVELOPMENT SERVICES ENGINEER

BY: _____ DATE: _____
 ADMINISTRATOR

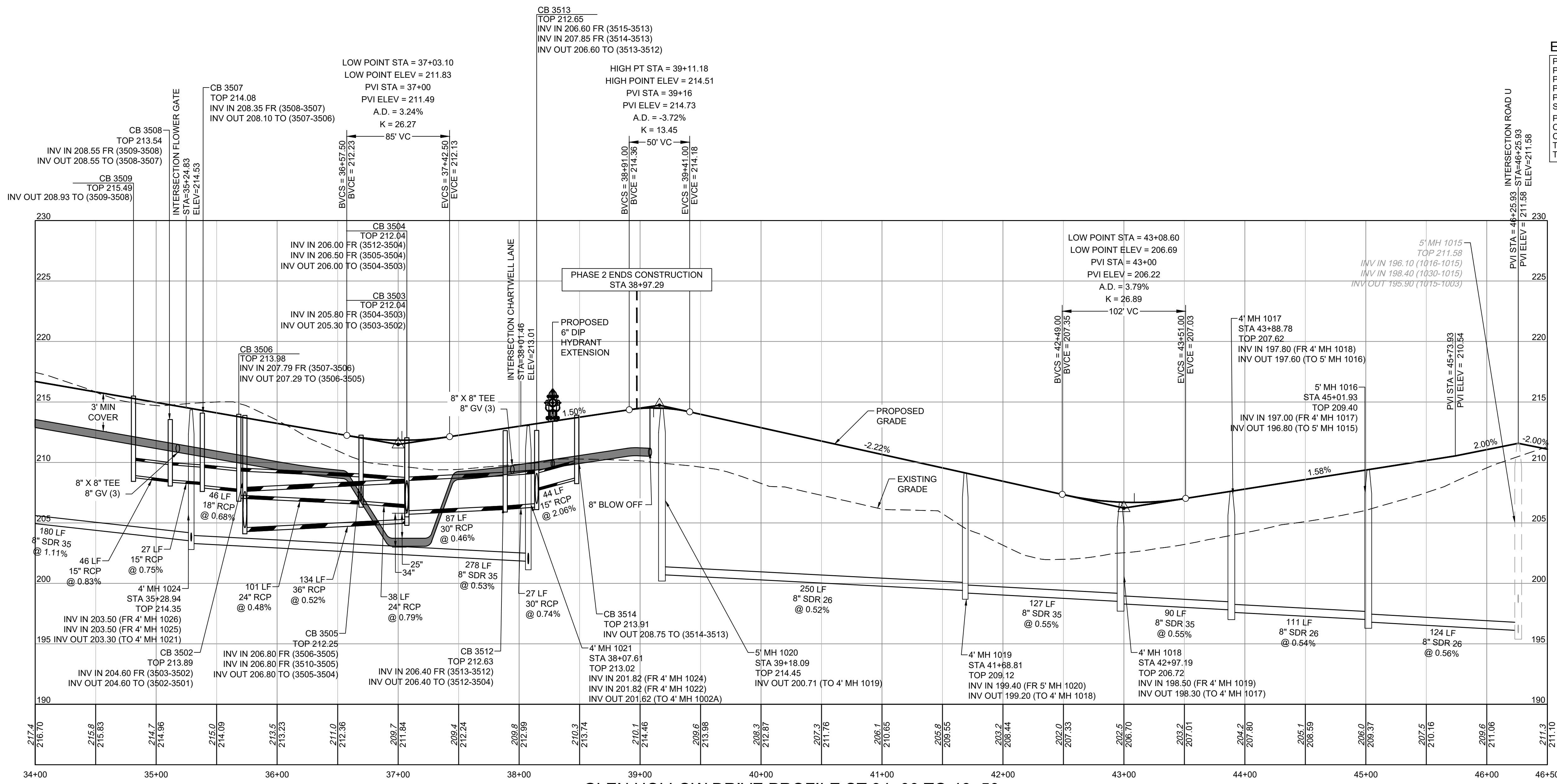


UTILITY LEGEND



EASEMENT LEGEND

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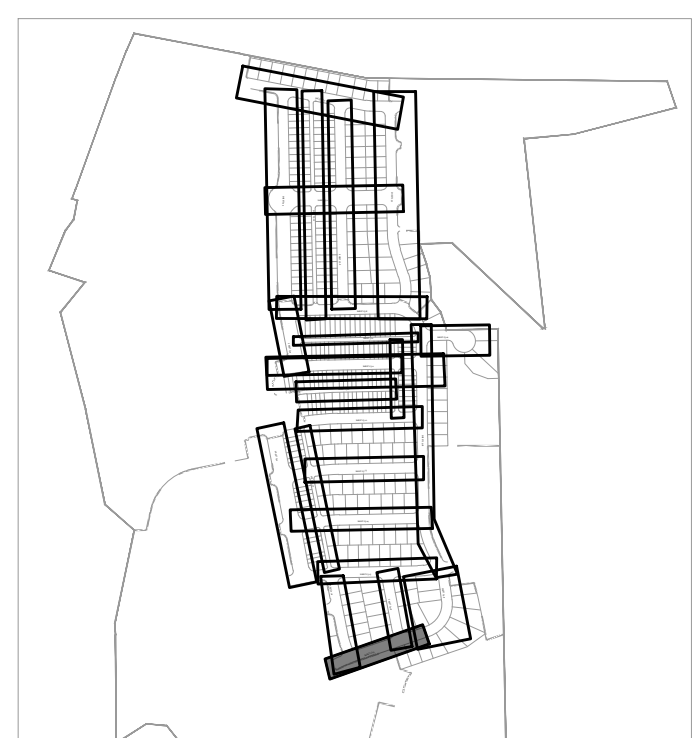


CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

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City of Raleigh Development Approval _____

Raleigh Water Review Officer _____



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TIMMONS GROUP
 NORTH CAROLINA LICENSE NO. C-1652

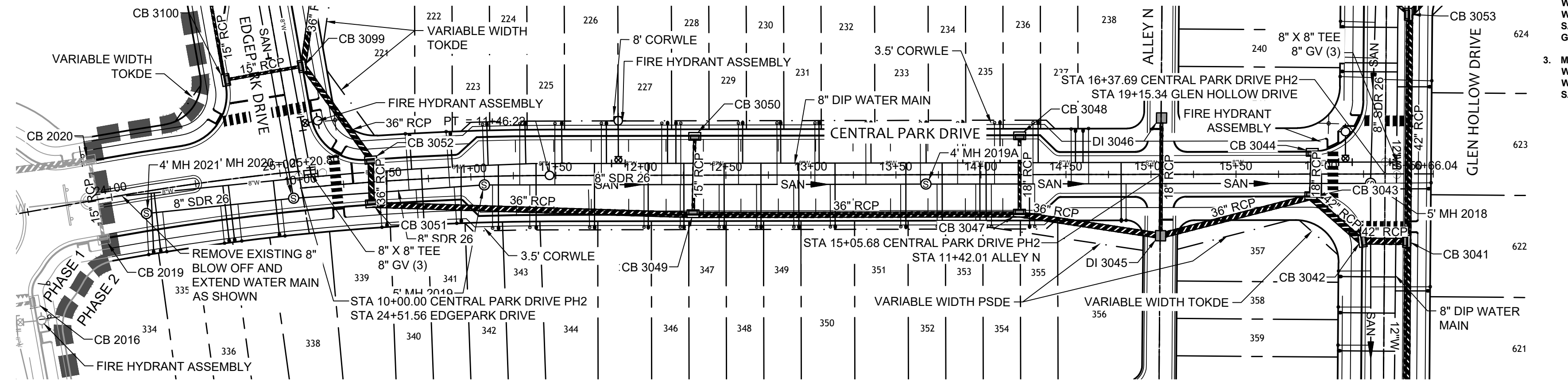
ALLEN PARK SUBDIVISION - PHASE II
 KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA

GLEN HOLLOW DRIVE PLAN & PROFILE - SHEET 4 OF 4

JOB NO. 44529
 SHEET NO. C5.11

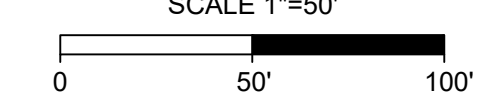
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City of Raleigh Public Utilities Department Permit # _____

TOWN CERTIFICATION

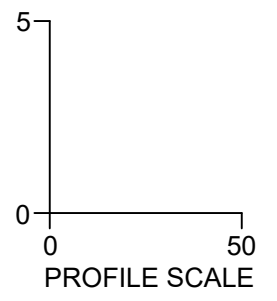
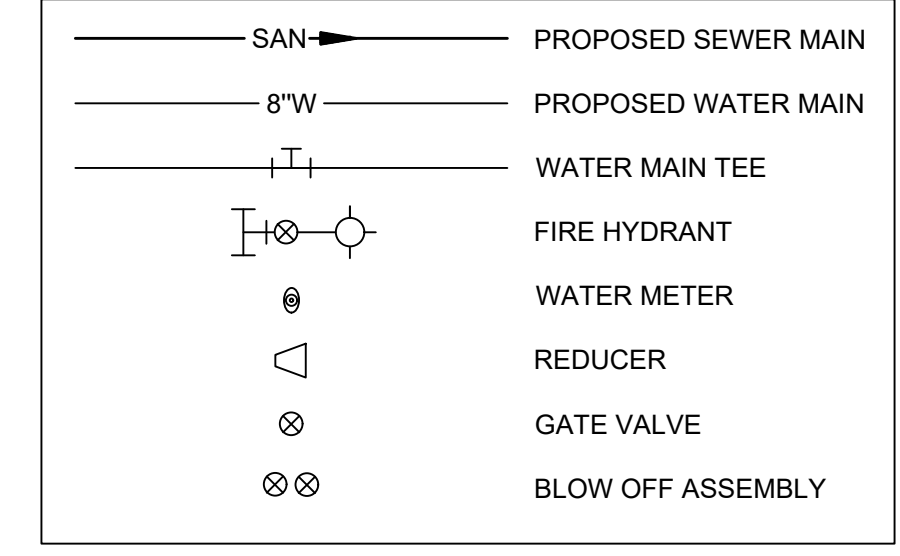
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 ADMINISTRATOR

UTILITY LEGEND



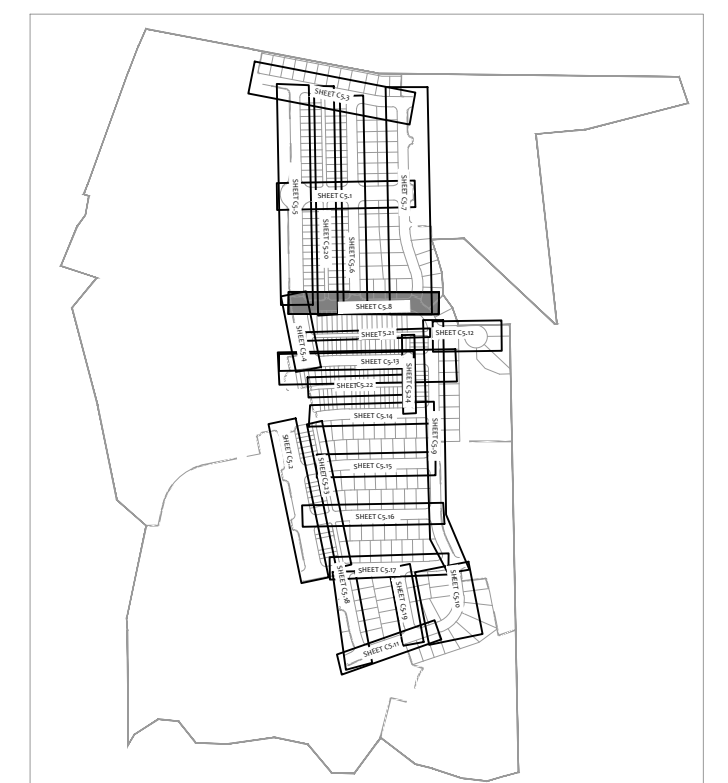
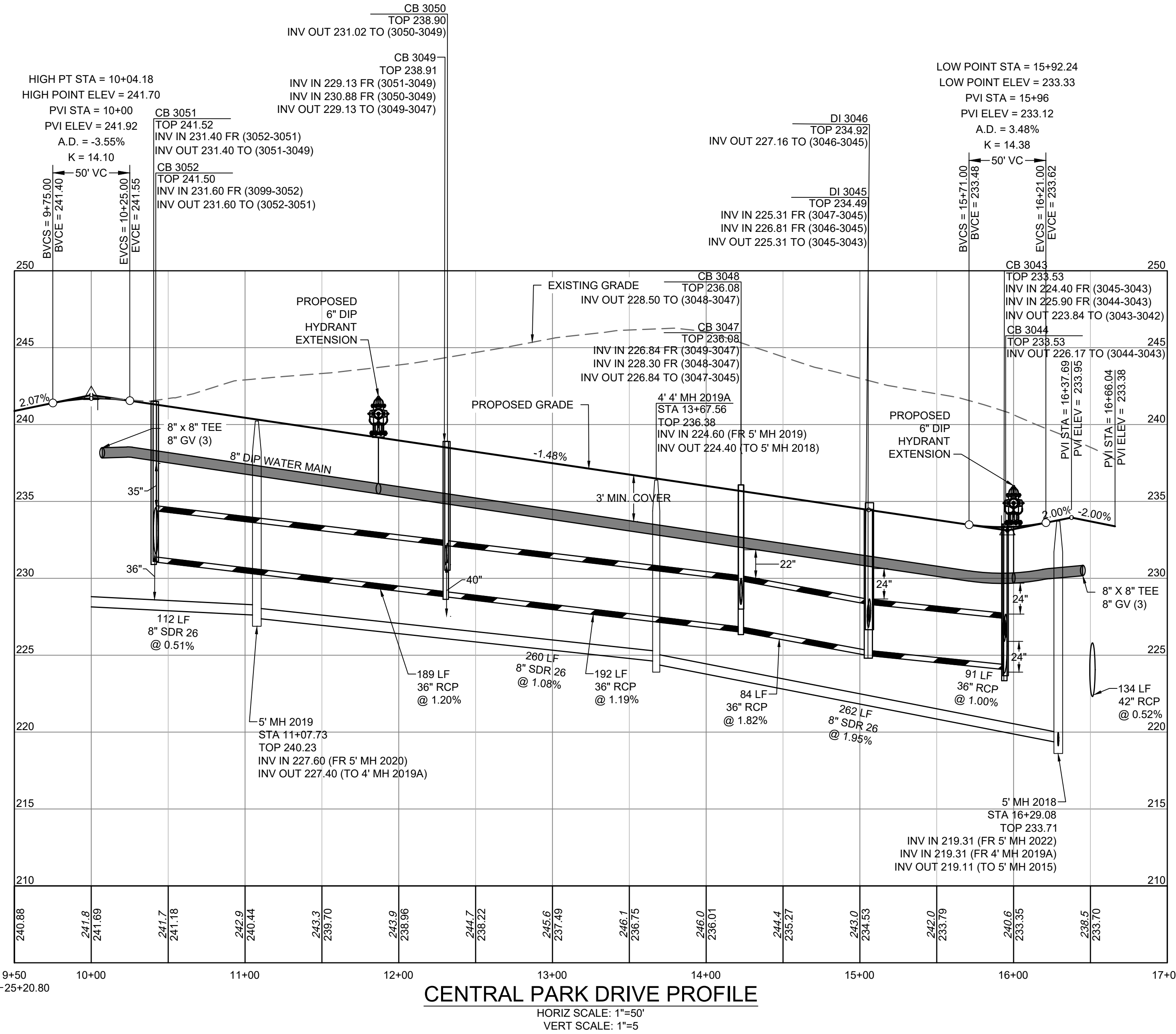
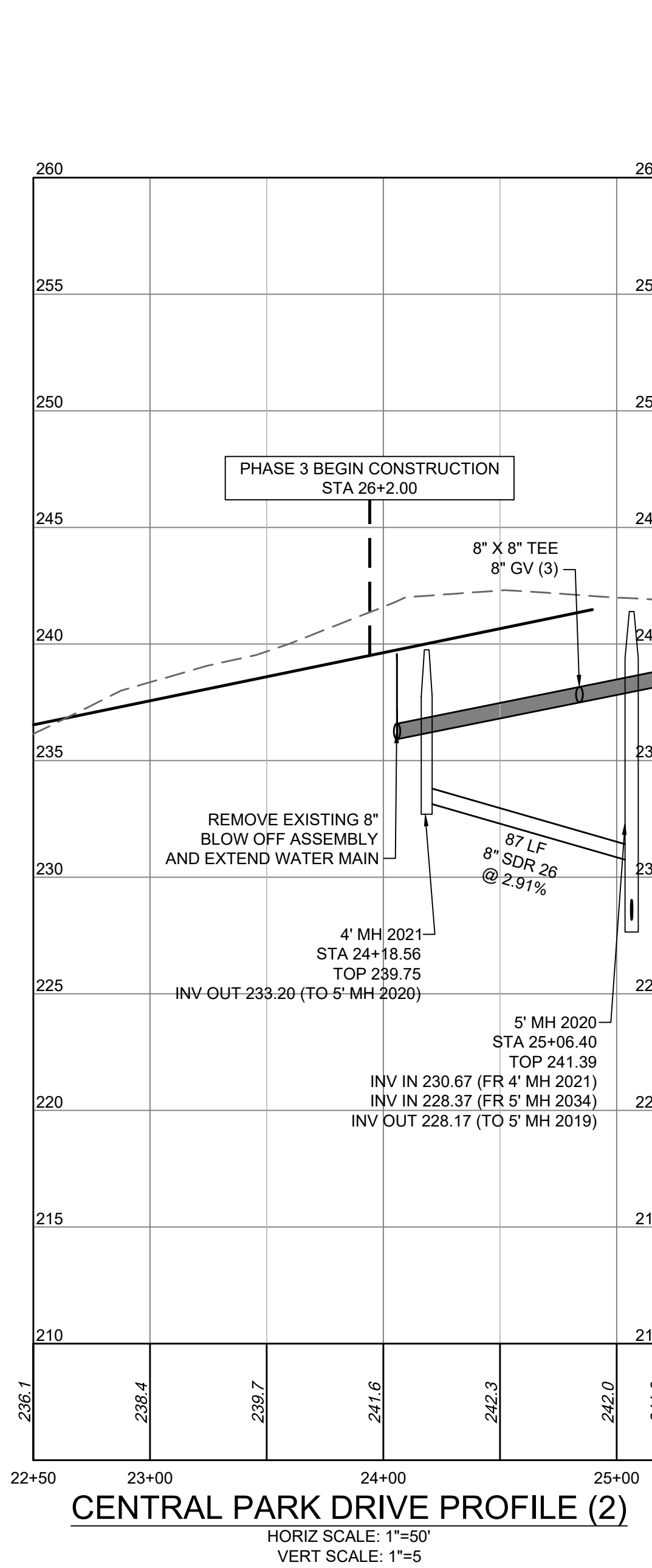
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DATE: 01/26/2024
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TIMMONS GROUP
 NORTH CAROLINA LICENSE NO. C-1652

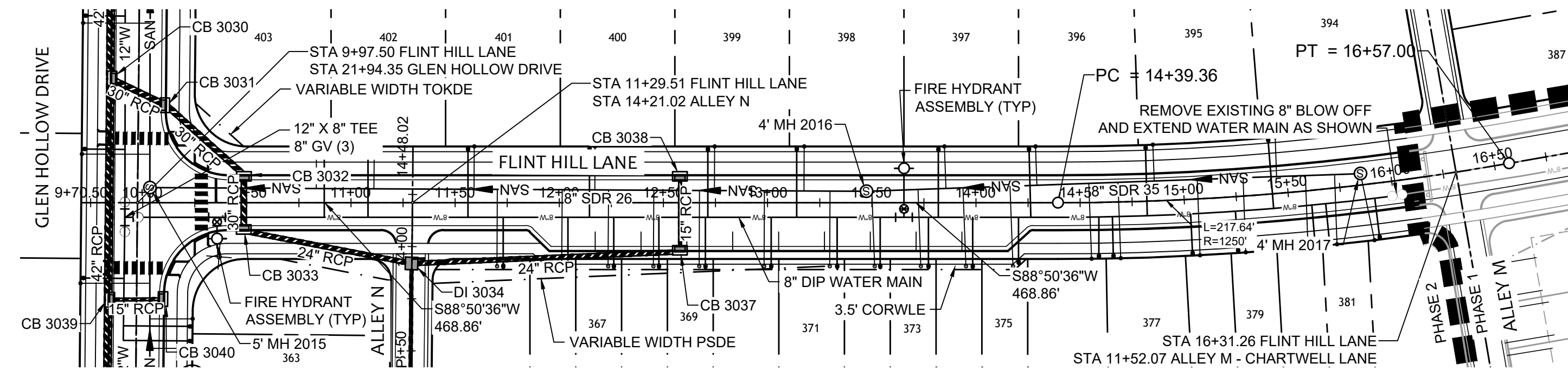
ALLEN PARK SUBDIVISION - PHASE II
 KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA
CENTRAL PARK DRIVE PLAN & PROFILE

JOB NO. 44529
 SHEET NO. C5.13

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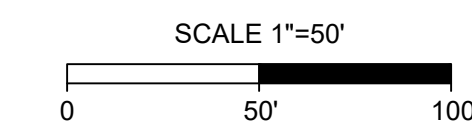
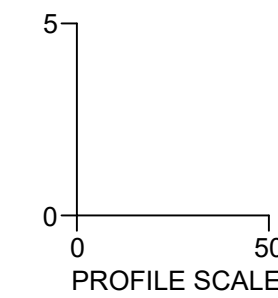
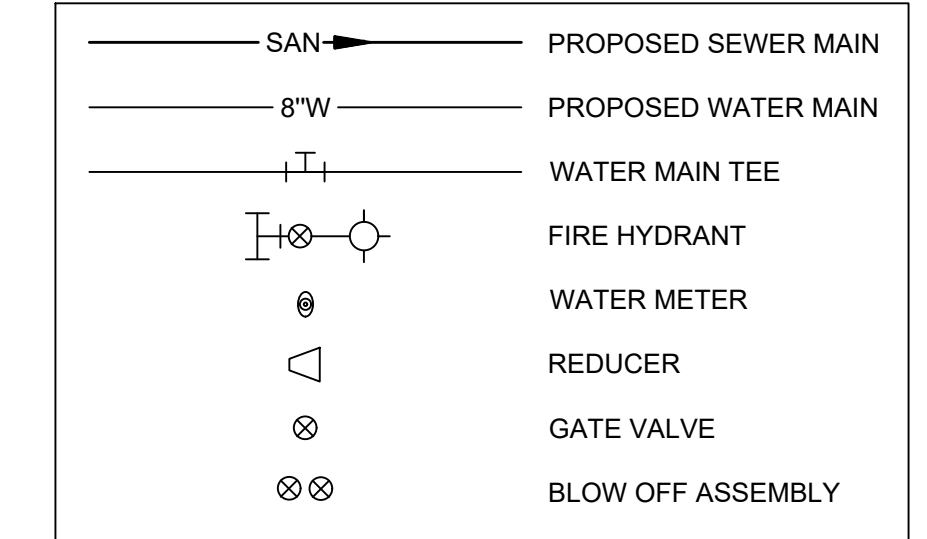
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BY: _____ DATE: _____
 DEVELOPMENT SERVICES ENGINEER

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 ADMINISTRATOR

UTILITY LEGEND



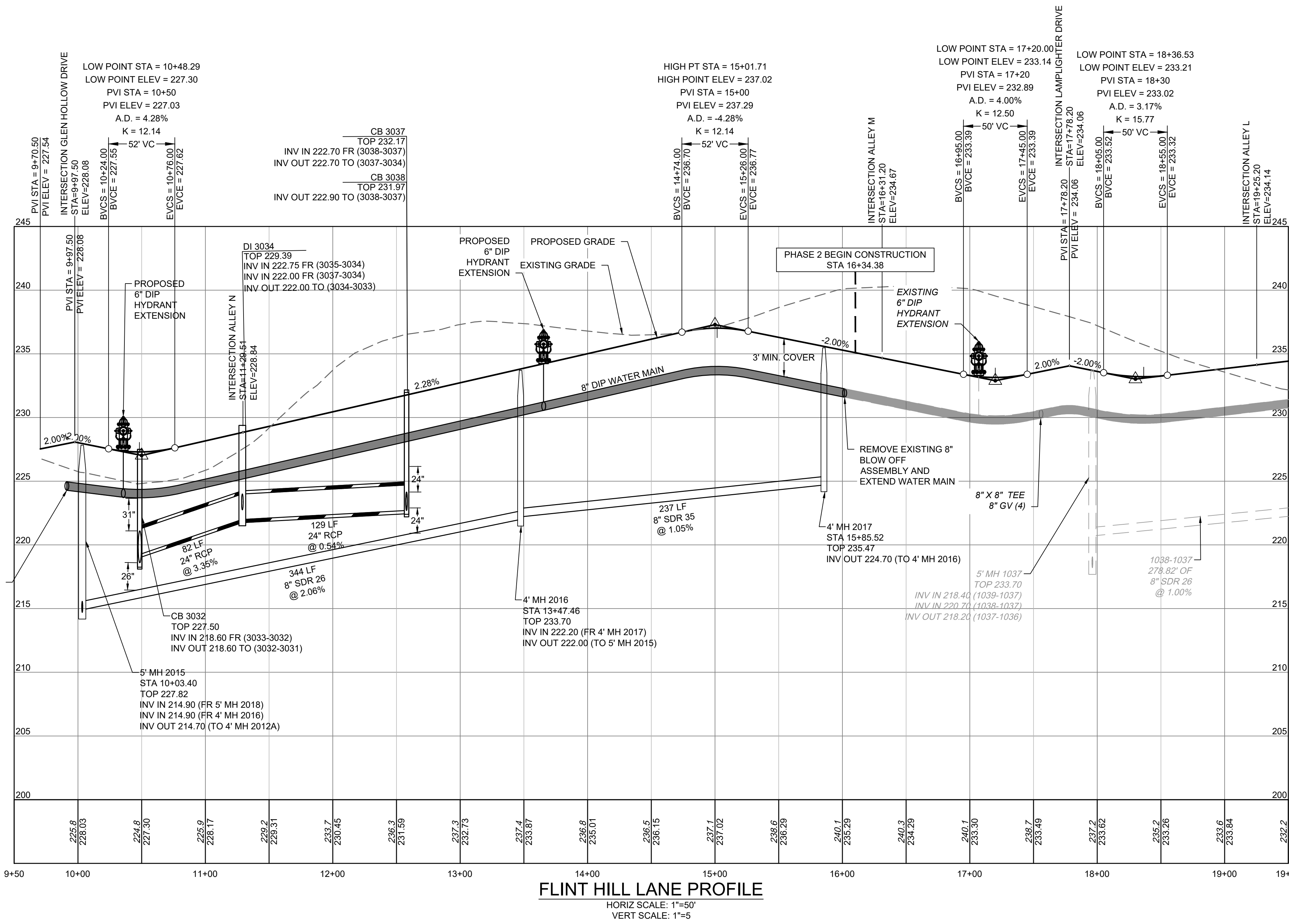
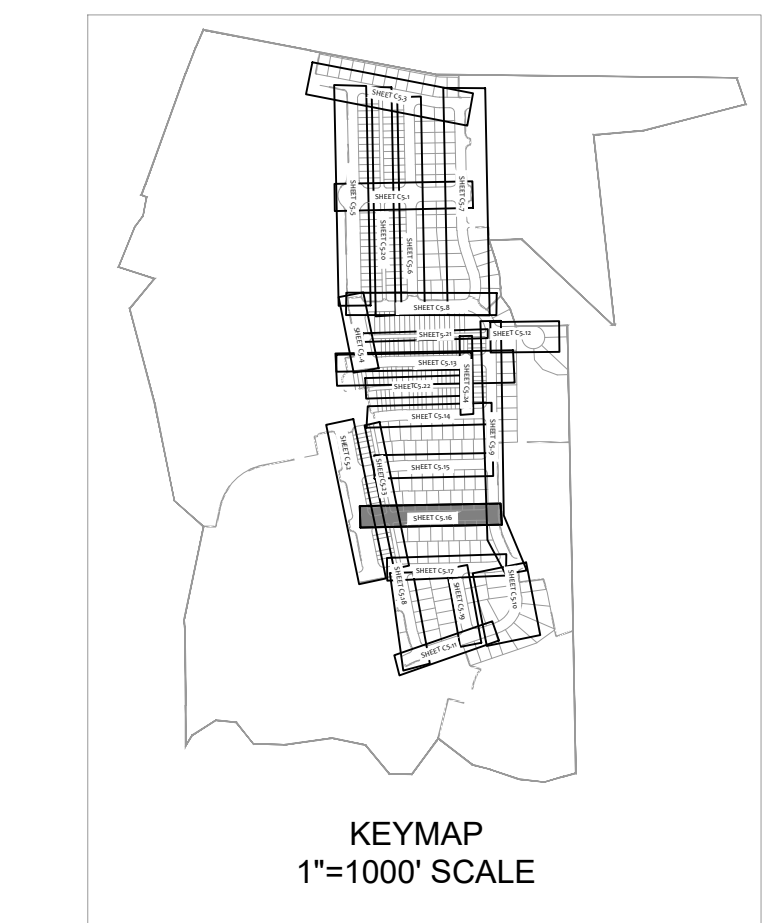
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REVISION DESCRIPTION	DATE
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DRAWN BY: 331
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TIMMONS GROUP
 NORTH CAROLINA LICENSE NO. C-1652

ALLEN PARK SUBDIVISION - PHASE II
 KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA

FLINT HILL LANE PLAN & PROFILE

JOB NO. 44529
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GRAVITY SANITARY SEWER AND FORCE MAINS - 5 FT.
3. MINIMUM UTILITY VERTICAL SEPARATION DISTANCES:
WATER AND SANITARY SEWER MAINS - 18 IN.
WATER AND STORM SEWER MAINS - 18 IN.
SANITARY SEWER AND STORM SEWER MAINS - 24 IN.

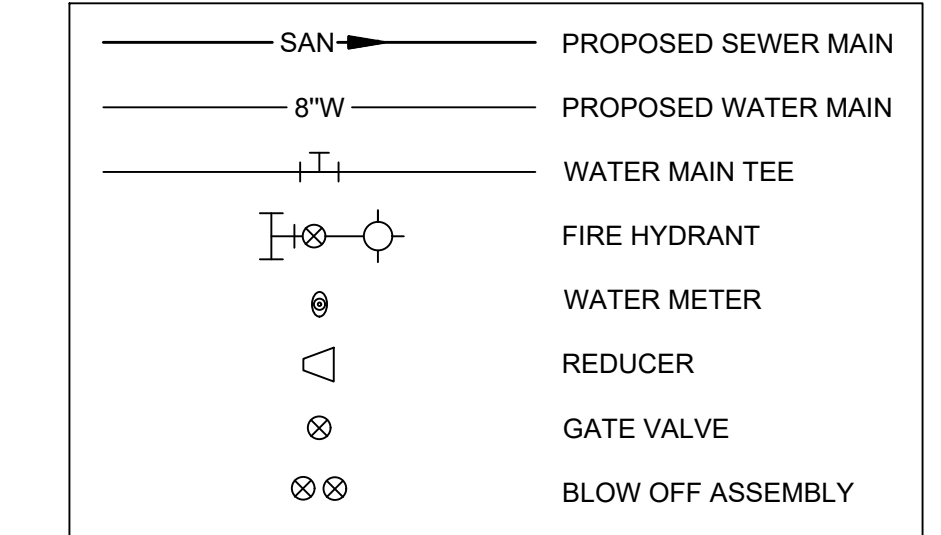
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TOWN CERTIFICATION

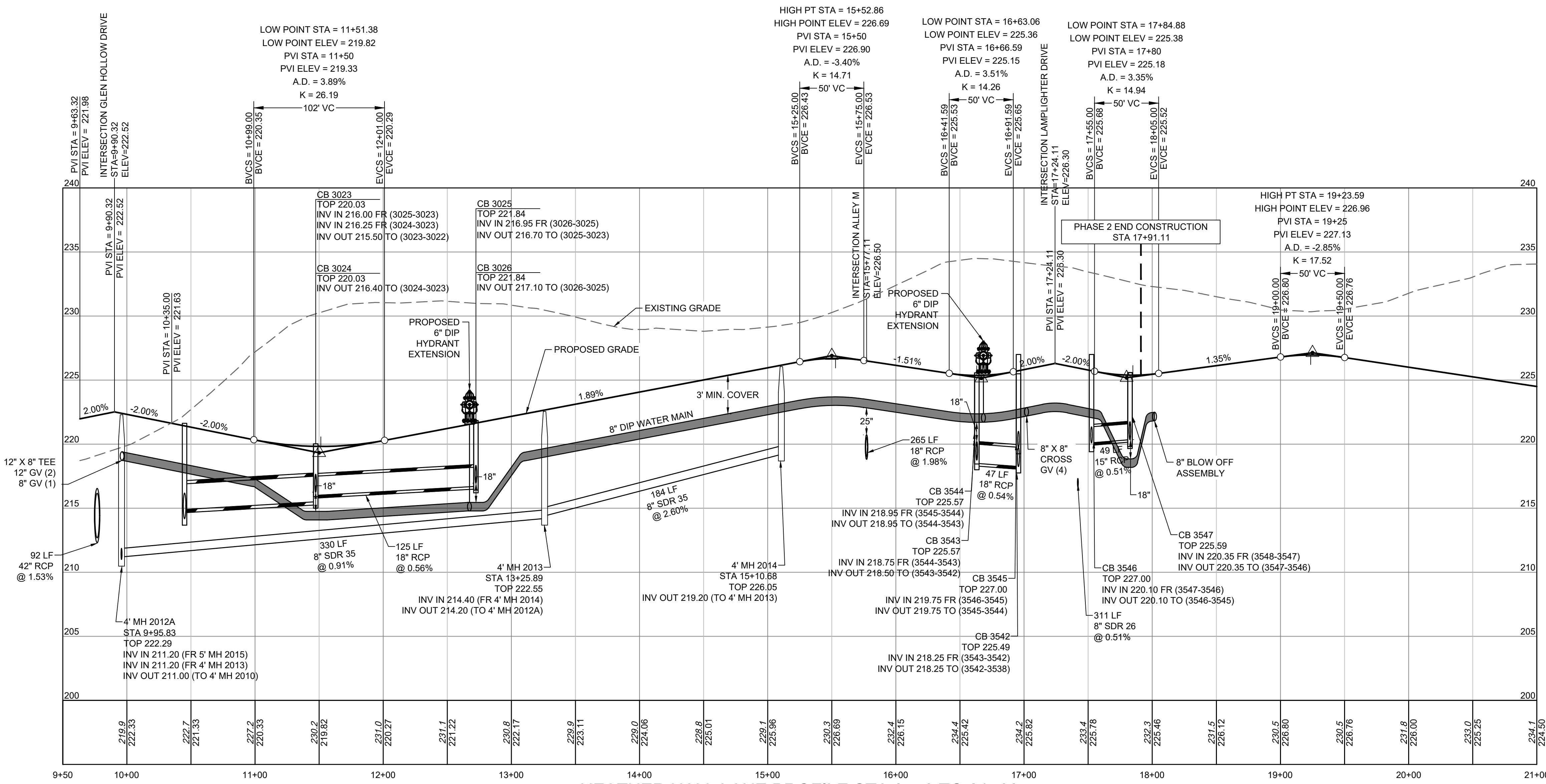
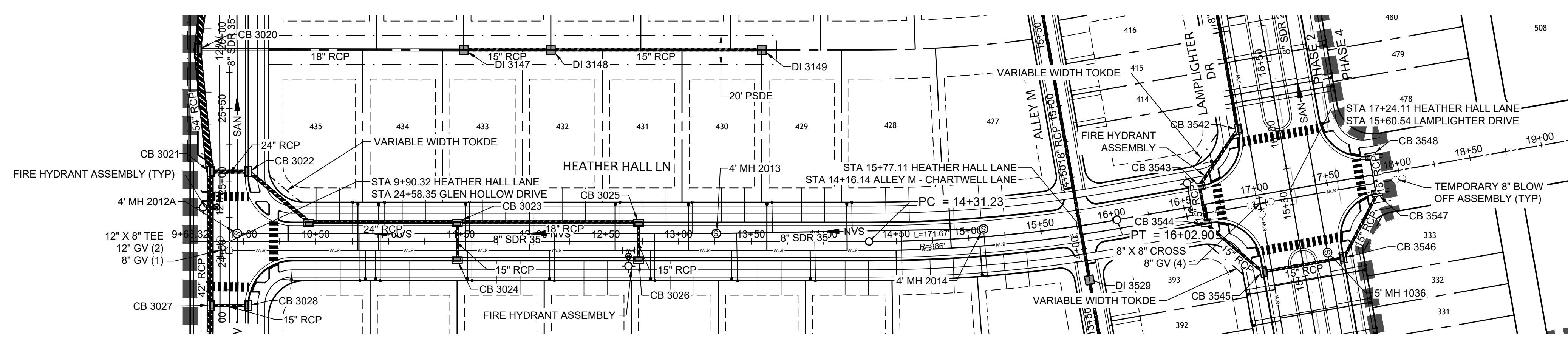
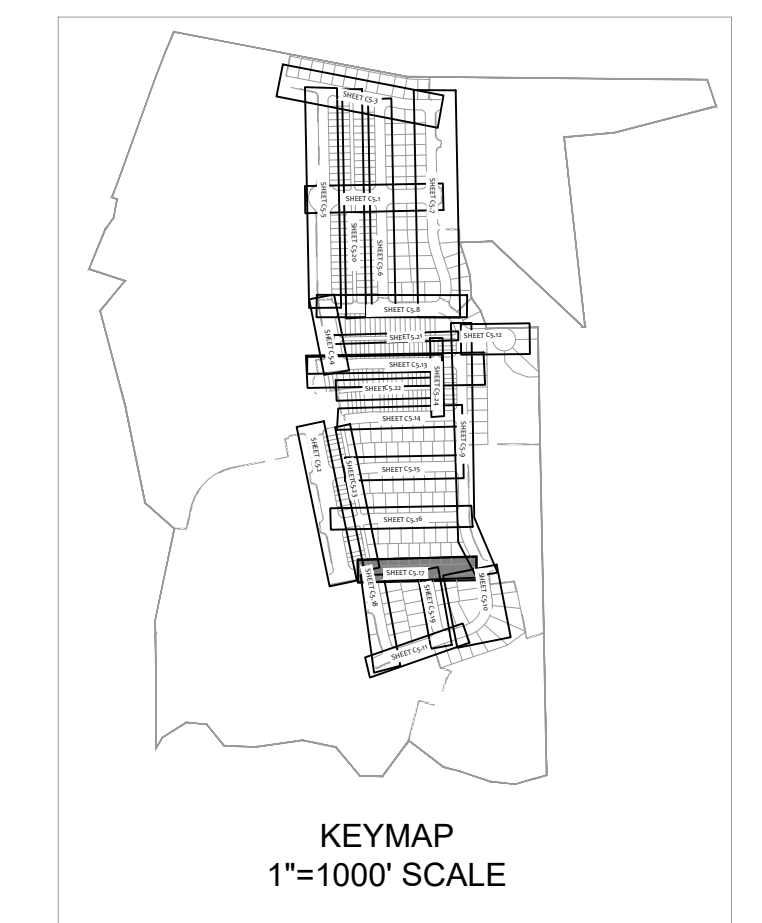
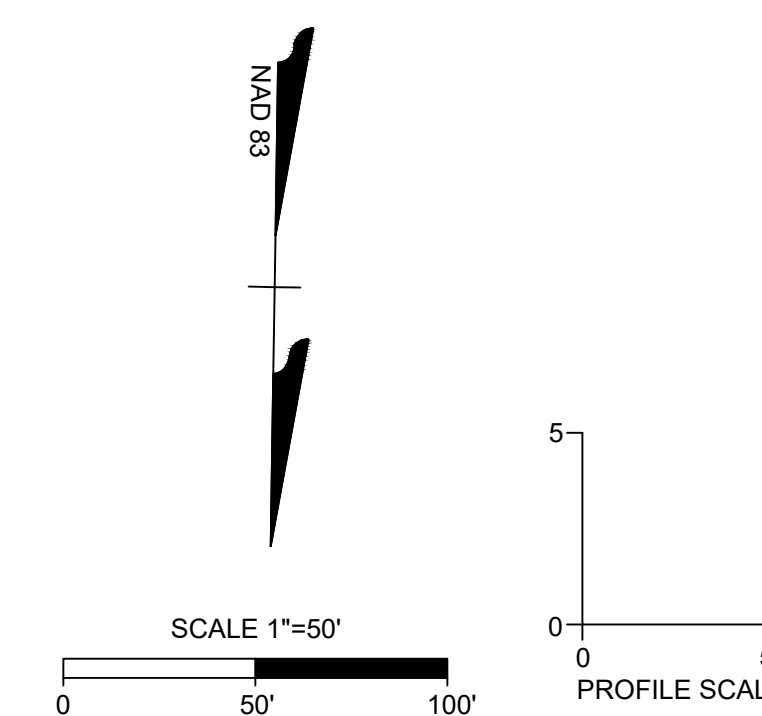
THIS DESIGN HAS BEEN REVIEWED BY THE ENGINEER FOR THE TOWN OF KNIGHTDALE AND TO THE BEST OF MY KNOWLEDGE AND BELIEF, IT CONFORMS TO THE REQUIREMENTS ESTABLISHED IN THE STANDARD SPECIFICATIONS OF THE TOWN OF KNIGHTDALE.
BY: DEVELOPMENT SERVICES ENGINEER DATE:
ADMINISTRATOR DATE:

UTILITY LEGEND



CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

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City of Raleigh Development Approval
Raleigh Water Review Officer



HEATHER HALL LANE PROFILE STA 8+50 TO 21+00
HORIZ SCALE: 1"=50'
VERT SCALE: 1"=5'

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REVISION DESCRIPTION
DATE
01/26/2024

DRAWN BY 331
DESIGNED BY 331
CHECKED BY A. STONEY

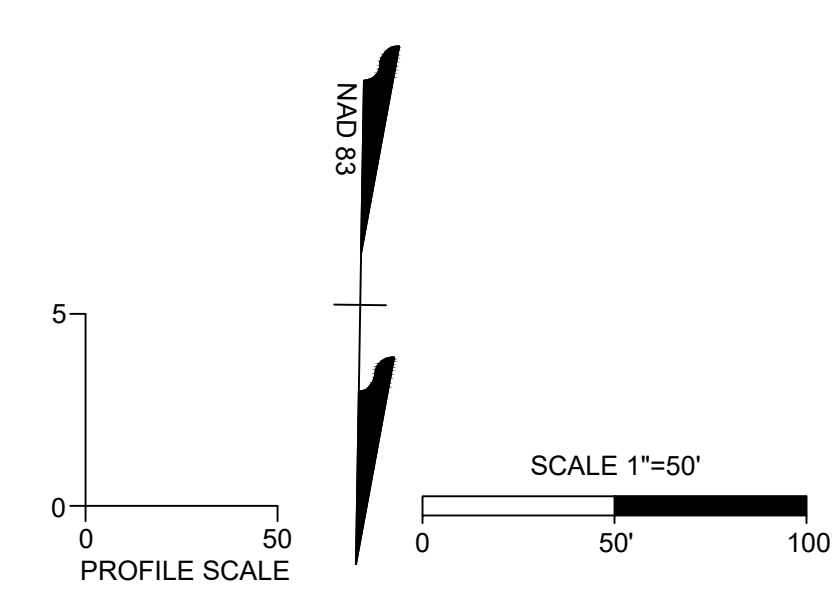
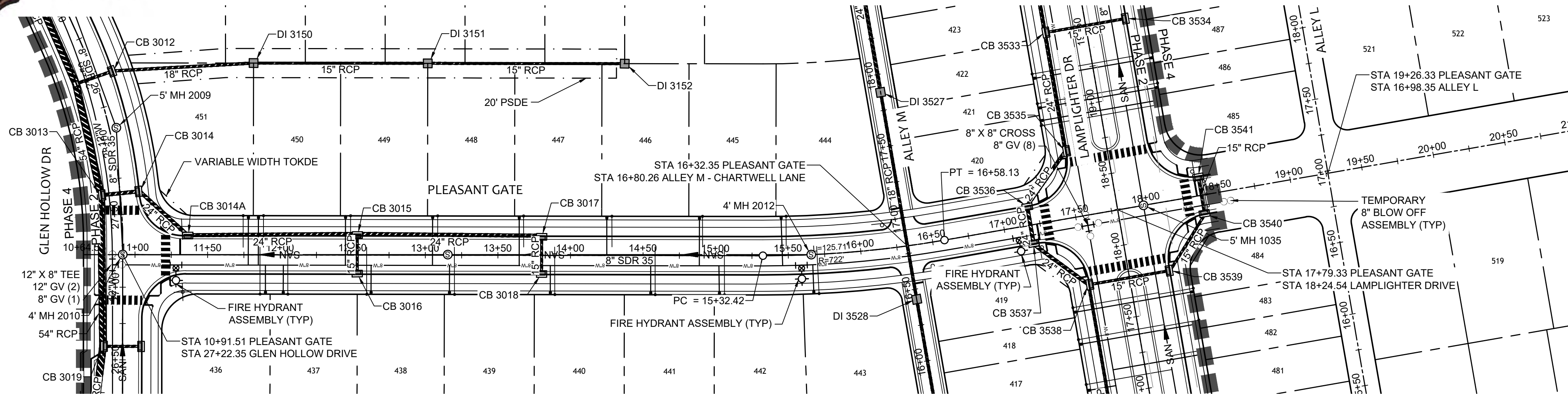
SCALE
H: 1" = 50'
V: 1" = 5'

TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652
ALLEN PARK SUBDIVISION - PHASE II
KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA
HEATHER HALL LANE PLAN & PROFILE

JOB NO. 44529
SHEET NO. C5.15

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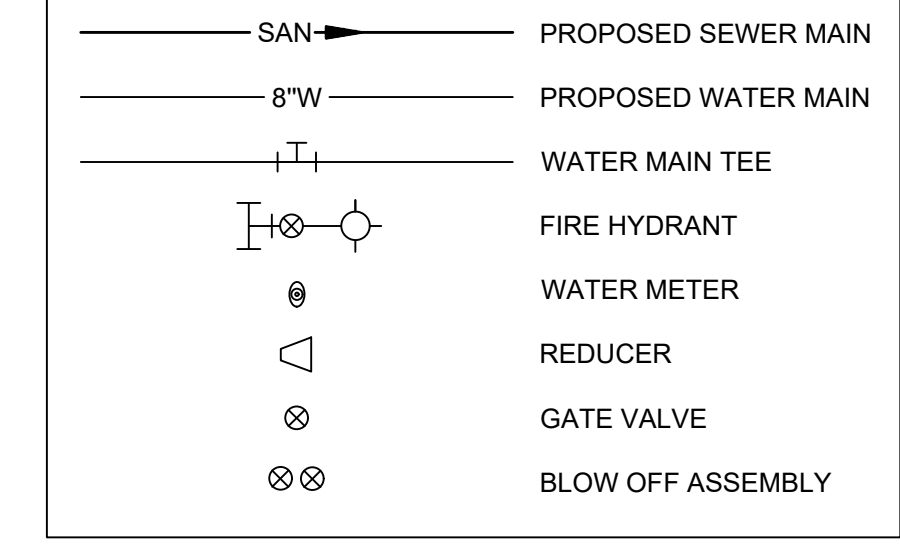
City of Raleigh Development Approval _____

Raleigh Water Review Officer _____

UTILITY NOTES:

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UTILITY LEGEND



TOWN CERTIFICATION

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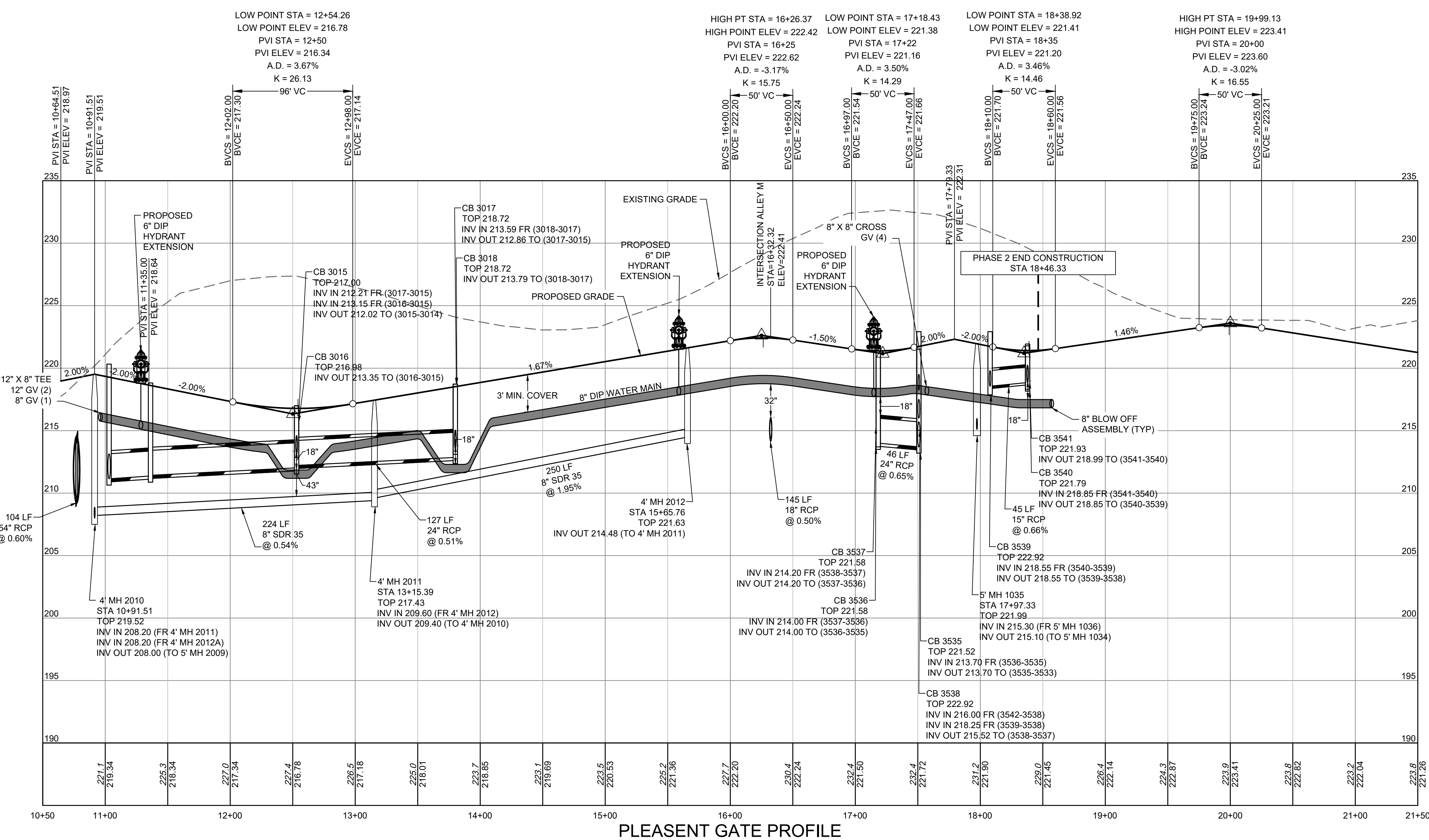
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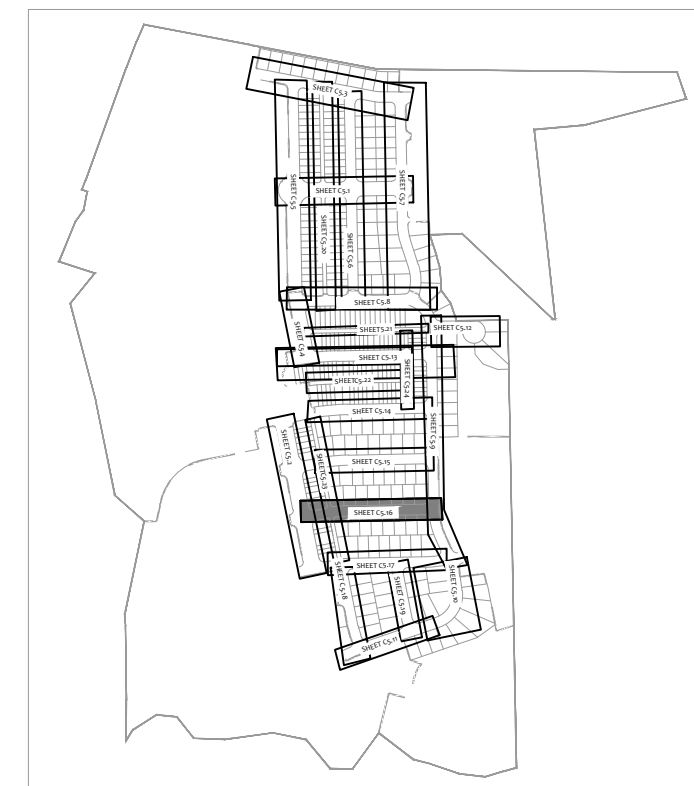
BY: _____ DATE: _____
ADMINISTRATOR

EASEMENT LEGEND

- PRIVATE EASEMENTS (4 CHARACTER)**
- PAME PRIVATE ACCESS & MAINTENANCE EASEMENT
 - PGSE PRIVATE GREENWAY SYSTEM EASEMENT
 - PSDE PRIVATE STORMWATER DRAINAGE EASEMENT
 - PSSE PRIVATE SANITARY SEWER EASEMENT
 - SCME SCM ACCESS & MAINTENANCE EASEMENT
- PUBLIC EASEMENTS (5 CHARACTER)**
- CORSE CITY OF RALEIGH PUBLIC SANITARY SEWER EASEMENT
 - CORWLE CITY OF RALEIGH PUBLIC WATERLINE EASEMENT
 - TOKDE TOWN OF KNIGHTDALE PUBLIC DRAINAGE EASEMENT
 - TOKGE TOWN OF KNIGHTDALE PUBLIC GREENWAY EASEMENT



PLEASANT GATE PROFILE
HORIZ SCALE: 1"=50'
VERT SCALE: 1"=5'



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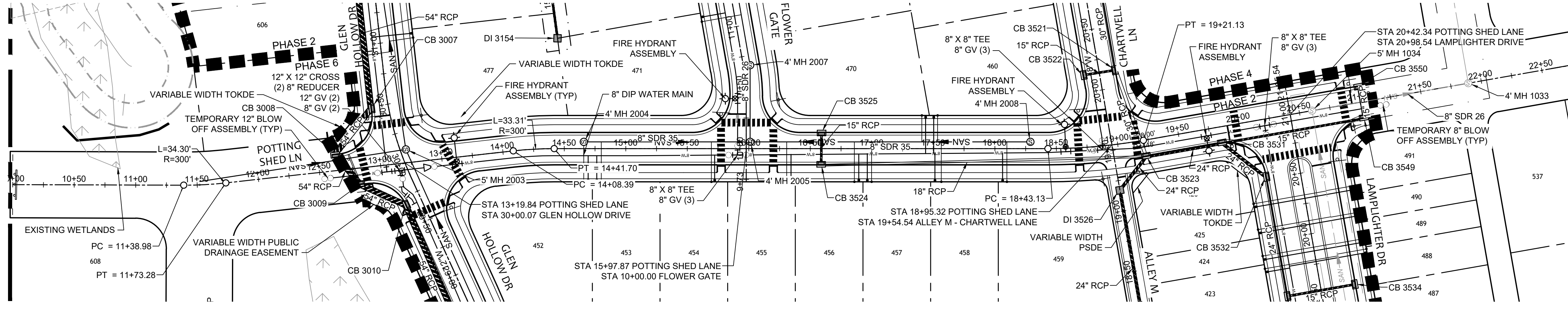
DATE: 01/26/2024
DRAWN BY: 331
DESIGNED BY: 331
CHECKED BY: A. STONEY
SCALE: H: 1" = 50'
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TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652

ALLEN PARK SUBDIVISION - PHASE II
KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA
PLEASANT GATE PLAN & PROFILE

JOB NO. 44529
SHEET NO. C5.16

FOR REVIEW ONLY: NOT FOR CONSTRUCTION



Water and Sewer Permits (If applicable)

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TOWN CERTIFICATION

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BY: _____ DATE: _____
DEVELOPMENT SERVICES ENGINEER

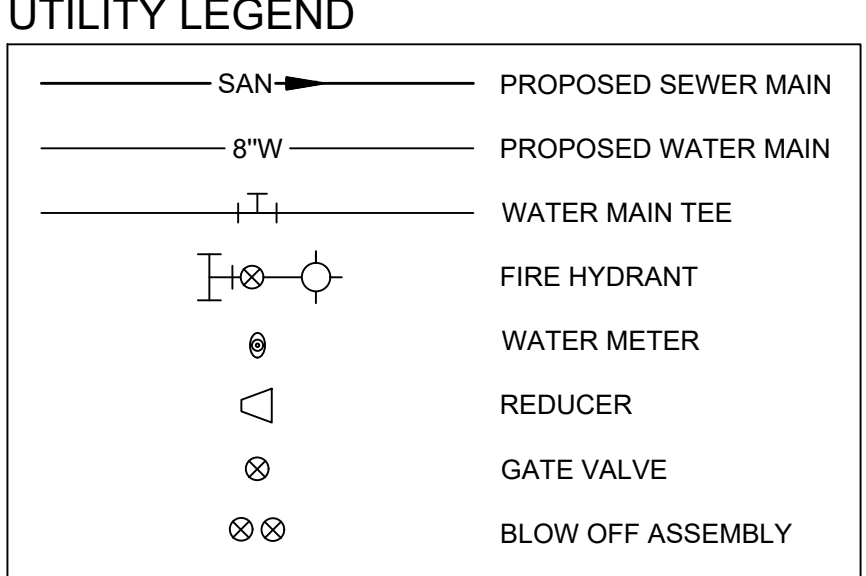
THESE PLANS ARE APPROVED BY THE TOWN OF KNIGHTDALE AND SERVE AS CONSTRUCTION PLANS FOR THIS PROJECT.

BY: _____ DATE: _____
ADMINISTRATOR

EASEMENT LEGEND

PRIVATE EASEMENTS (4 CHARACTER)
 PAME PRIVATE ACCESS & MAINTENANCE EASEMENT
 PGSE PRIVATE GREENWAY SYSTEM EASEMENT
 PSDE PRIVATE STORMWATER DRAINAGE EASEMENT
 PSSE PRIVATE SANITARY SEWER EASEMENT
 SCME SCM ACCESS & MAINTENANCE EASEMENT

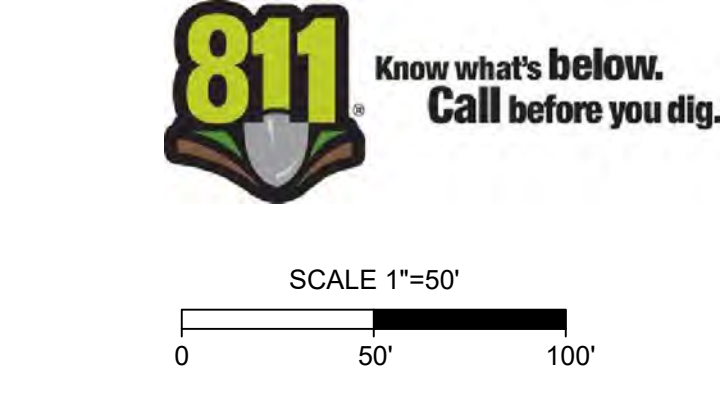
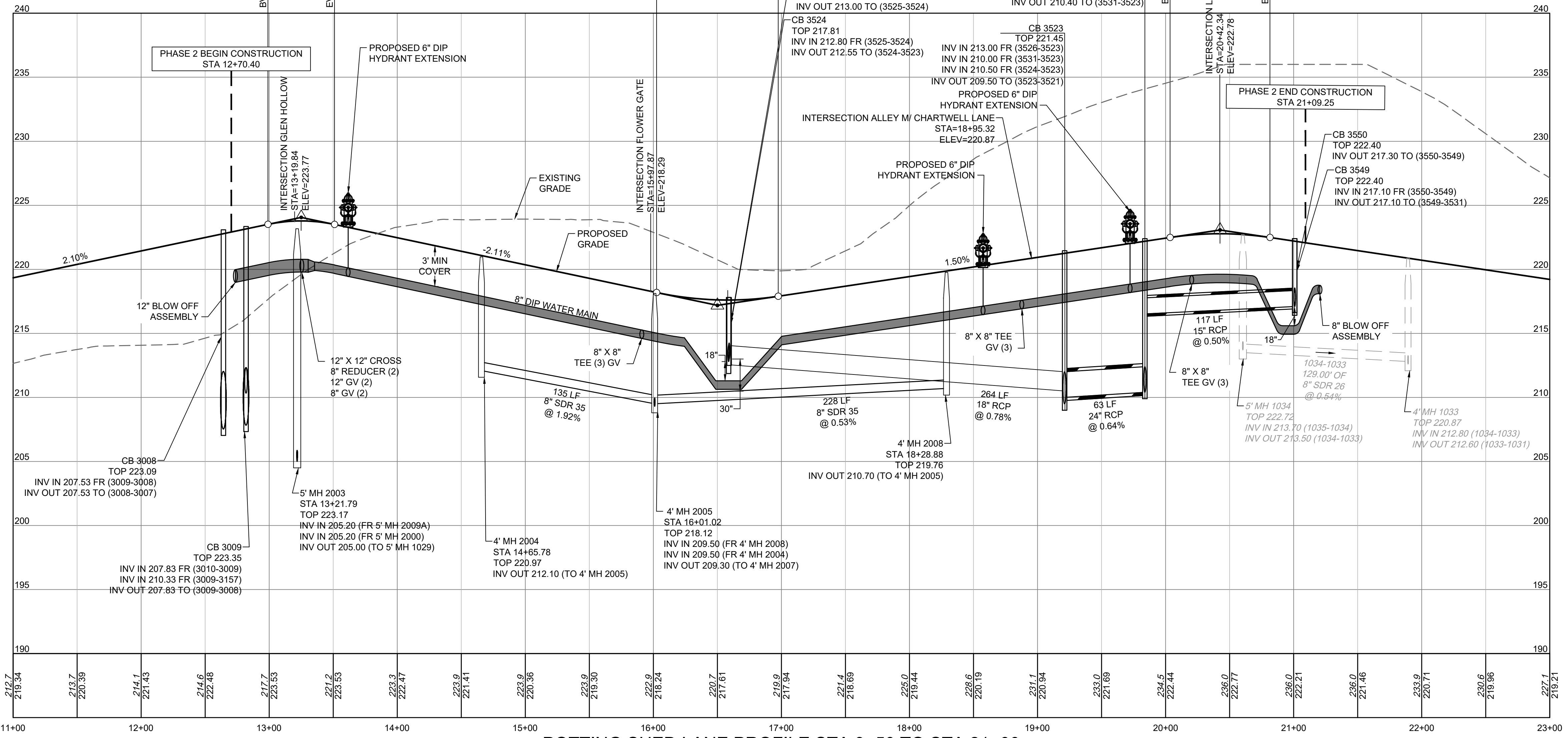
PUBLIC EASEMENTS (5 CHARACTER)
 CORSE CITY OF RALEIGH PUBLIC SANITARY SEWER EASEMENT
 CORWLE CITY OF RALEIGH PUBLIC WATERLINE EASEMENT
 TOKDE TOWN OF KNIGHTDALE PUBLIC DRAINAGE EASEMENT
 TOKGE TOWN OF KNIGHTDALE PUBLIC GREENWAY EASEMENT



HIGH PT STA = 13+24.89
HIGH POINT ELEV = 223.78
PVI STA = 13+25
PVI ELEV = 224.05
A.D. = -4.21%
K = 12.36
52' VC

LOW POINT STA = 16+58.06
LOW POINT ELEV = 217.60
PVI STA = 16+50
PVI ELEV = 217.19
A.D. = 3.81%
K = 26.29
95' VC

HIGH PT STA = 20+42.51
HIGH POINT ELEV = 222.78
PVI STA = 20+42.51
PVI ELEV = 223.07
A.D. = -3.00%
K = 26.00
78' VC

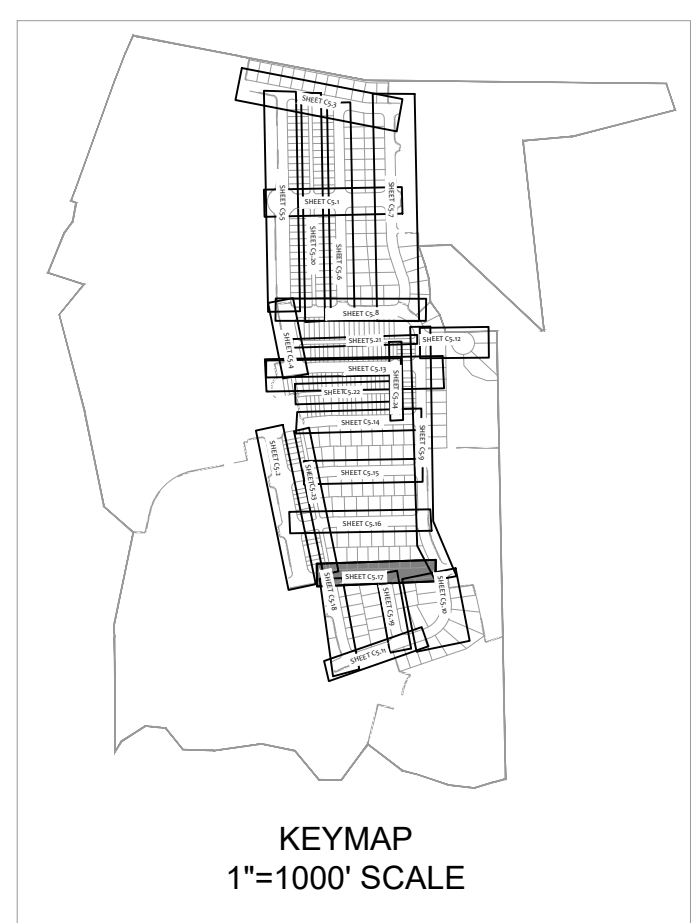


- UTILITY NOTES:**
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CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

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City of Raleigh Development Approval _____
Raleigh Water Review Officer



FOR REVIEW ONLY

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 5410 Trinity Road, Suite 102, Raleigh, NC 27607
 TEL 919-866-4951 FAX 919-833-8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

REVISION DESCRIPTION	DATE
	01/26/2024

DRAWN BY: 331
 DESIGNED BY: 331
 CHECKED BY: A. STONE
 SCALE: H: 1" = 50', V: 1" = 5'

TIMMONS GROUP
 NORTH CAROLINA LICENSE NO. C-1652

ALLEN PARK SUBDIVISION - PHASE II
 KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA

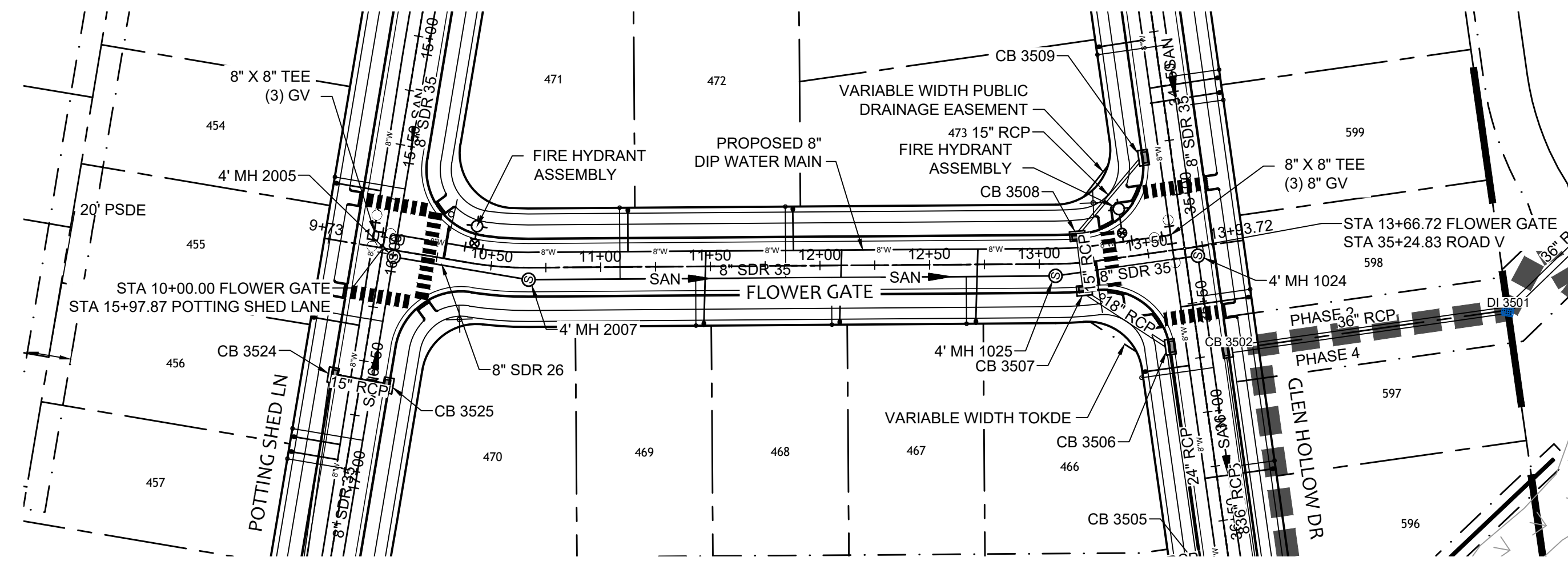
POTTING SHED LANE PLAN & PROFILE

JOB NO. 44529
 SHEET NO. C5.17

FOR REVIEW ONLY: NOT FOR CONSTRUCTION

S:\331\44529-WL-MAR\DWG\Sheet\CD\Phase II & III\44529-331-CX.O-PROF-ROAD-0.dwg | Plotted by Stan Wiles

S:\331\44529-WL-MAR\DWG\Sheet\CD\Phase II & III\44529-331-CX.O-PROF-ROAD-Y.dwg | Plotted by Sean Wiles



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DEVELOPMENT SERVICES ENGINEER

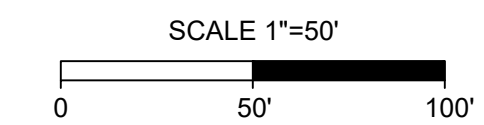
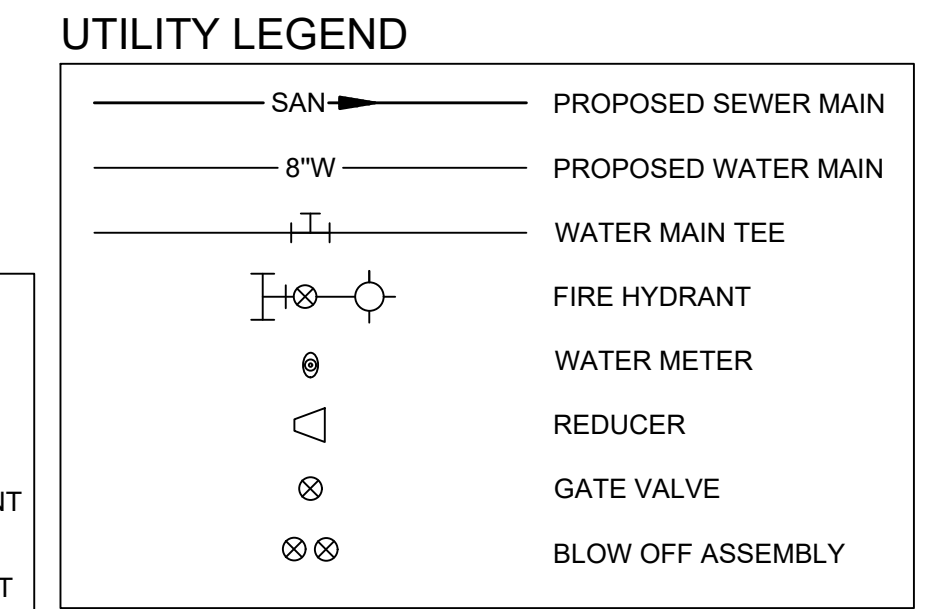
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BY: _____ DATE: _____
ADMINISTRATOR

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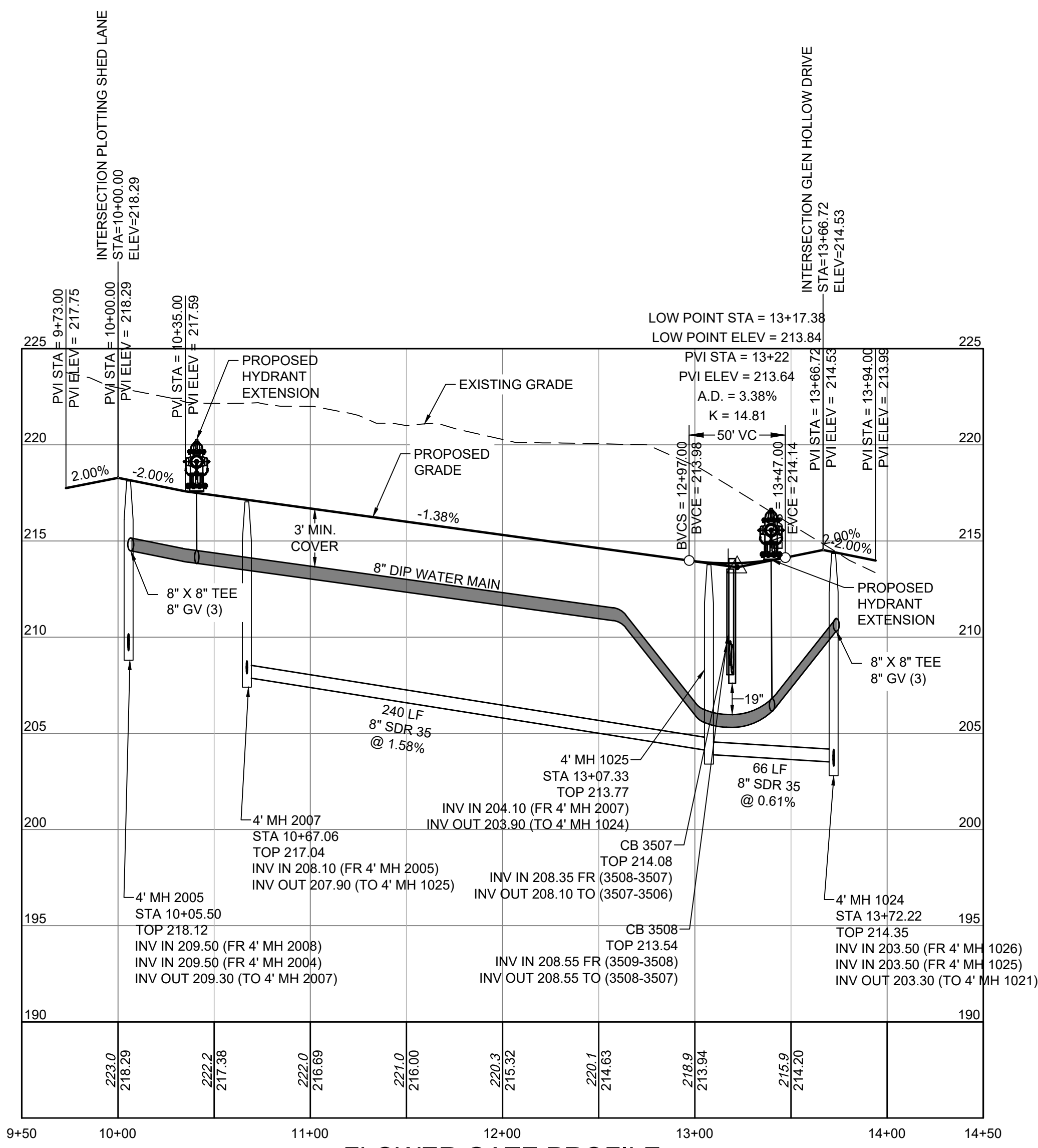
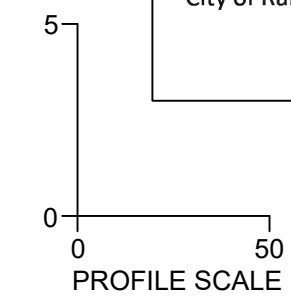
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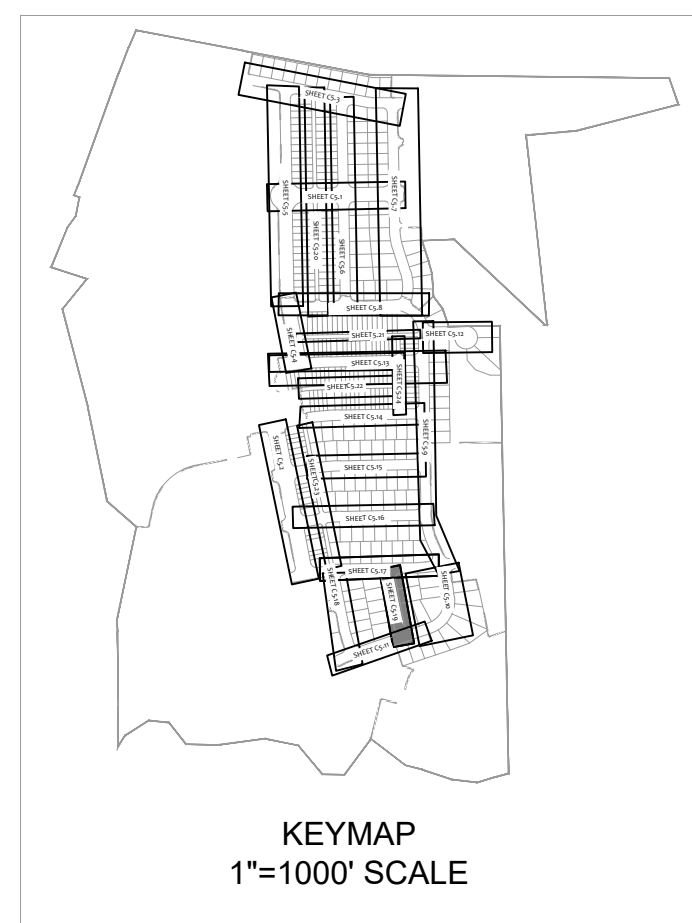
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City of Raleigh Development Approval _____
 Raleigh Water Review Officer



FLOWER GATE PROFILE
 HORIZ SCALE: 1"=50'
 VERT SCALE: 1"=5'



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DATE	REVISION DESCRIPTION
01/26/2024 <td></td>	

331
 A. STONE

SCALE
 H: 1" = 50'
 V: 1" = 5'

TIMMONS GROUP
 NORTH CAROLINA LICENSE NO. C-1652
ALLEN PARK SUBDIVISION - PHASE II
 KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA
FLOWER GATE PLAN & PROFILE

JOB NO.
44529
 SHEET NO.
C5.19

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CORWLE	CITY OF RALEIGH PUBLIC WATERLINE EASEMENT
TOKDE	TOWN OF KNIGHTDALE PUBLIC DRAINAGE EASEMENT
TOKGE	TOWN OF KNIGHTDALE PUBLIC GREENWAY EASEMENT

UTILITY LEGEND

	PROPOSED SEWER MAIN
	PROPOSED WATER MAIN
	WATER MAIN TEE
	FIRE HYDRANT
	WATER METER
	REDUCER
	GATE VALVE
	BLOW OFF ASSEMBLY

TOWN CERTIFICATION

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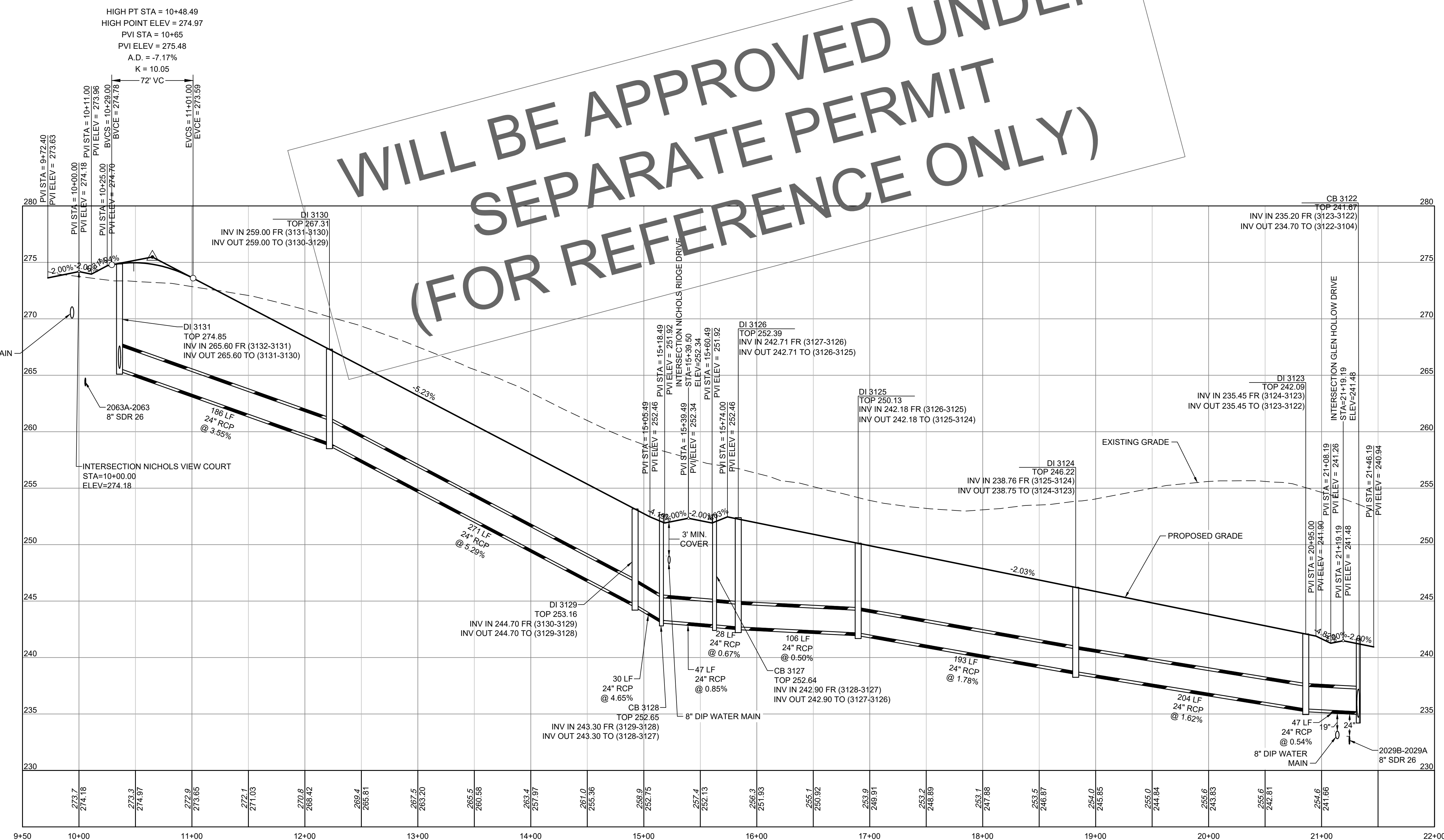
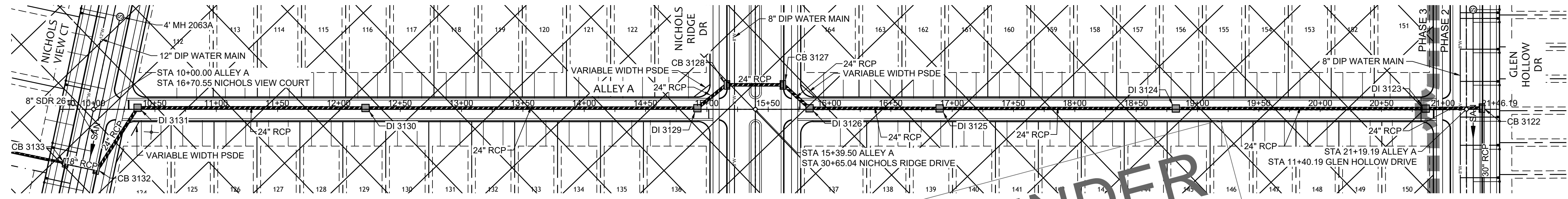
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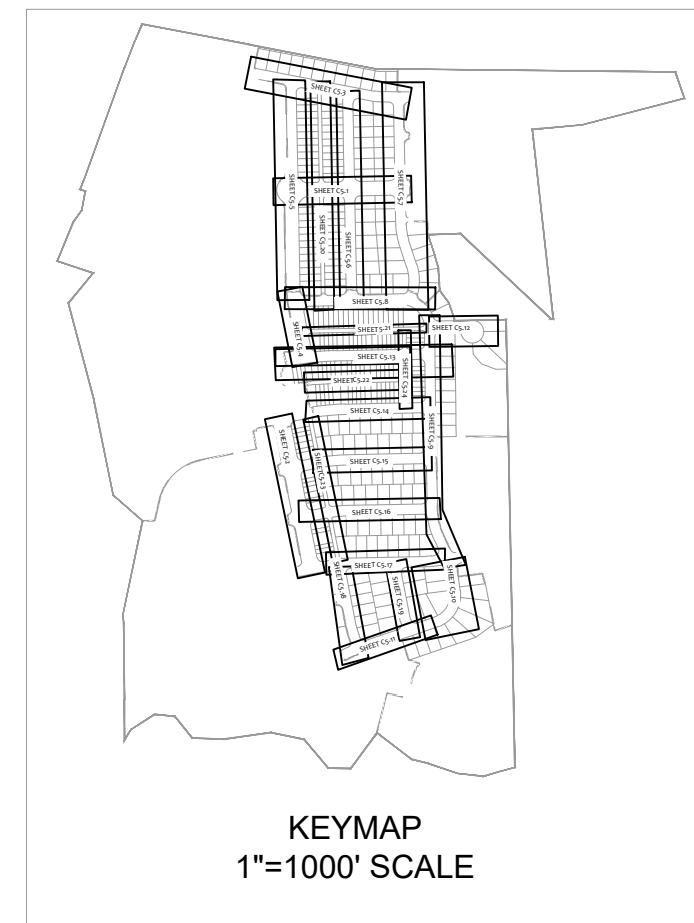
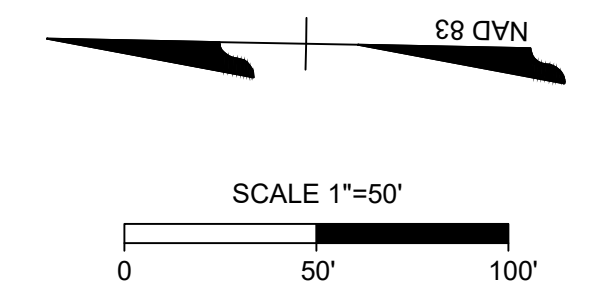
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WILL BE APPROVED UNDER SEPARATE PERMIT (FOR REFERENCE ONLY)



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TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

REVISION DESCRIPTION	DATE
YOUR VISION ACHIEVED THROUGH OURS.	01/26/2024
DRAWN BY	331
DESIGNED BY	331
CHECKED BY	A. STONE
SCALE	H: 1" = 50' V: 1" = 5'

TIMMONS GROUP

NORTH CAROLINA LICENSE NO. C-1652

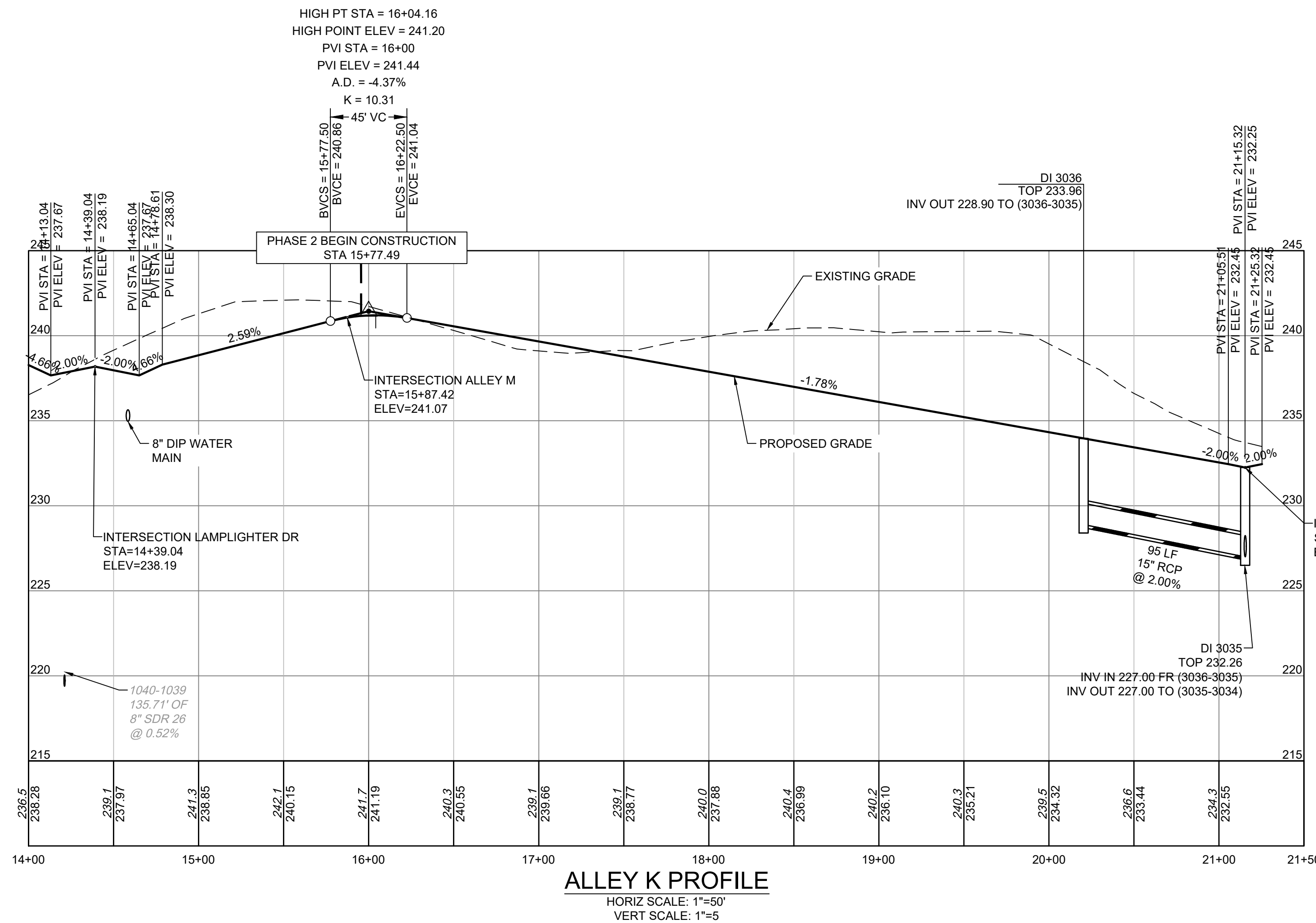
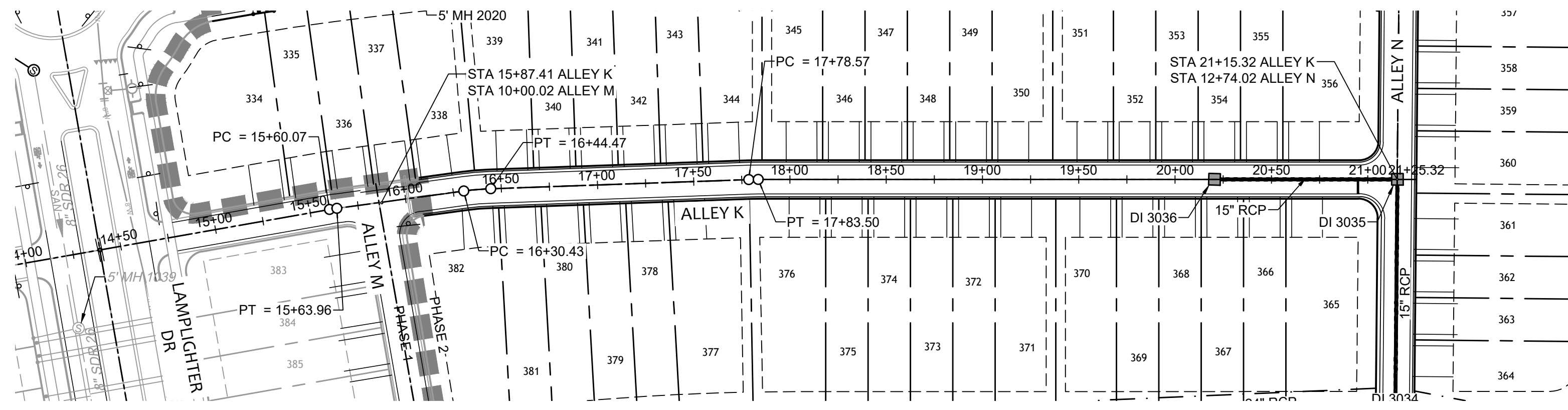
ALLEN PARK SUBDIVISION - PHASE II
KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA

ALLEY A PLAN & PROFILE

JOB NO.	44529
SHEET NO.	C5.20

FOR REVIEW ONLY: NOT FOR CONSTRUCTION

S:\331\44529-WL-MAR\DWG\Sheet\CD\Phase II & III\44529-331-CX.O-PROF-ALLEY K.dwg | Plotted by Sean Wiles



ALLEY K PROFILE
 HORIZ SCALE: 1"=50'
 VERT SCALE: 1"=5'

Water and Sewer Permits (if applicable)

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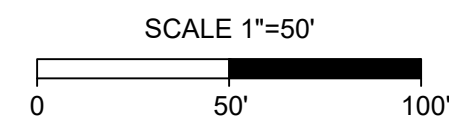
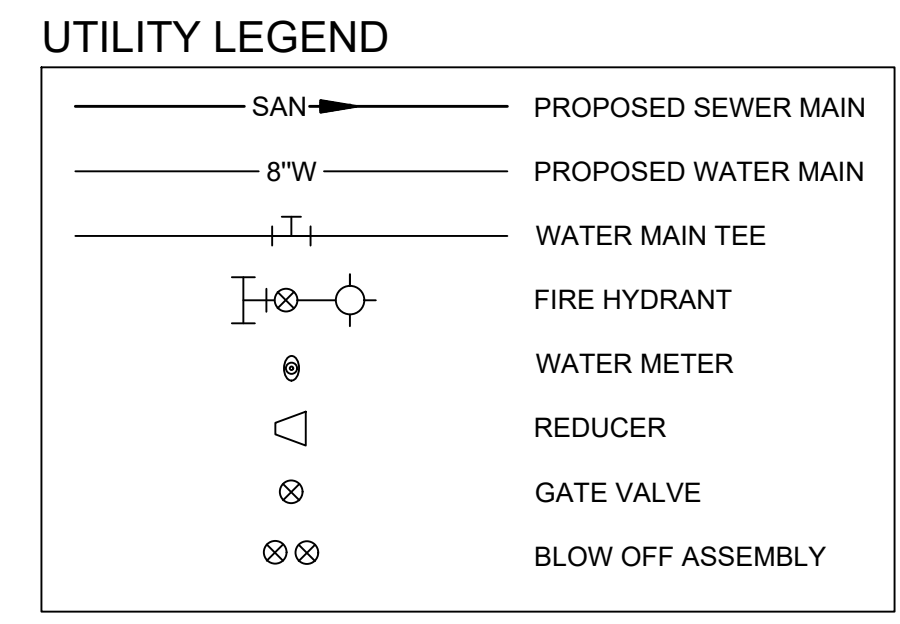
TOWN CERTIFICATION

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BY: _____ DATE: _____
 DEVELOPMENT SERVICES ENGINEER

THESE PLANS ARE APPROVED BY THE TOWN OF KNIGHTDALE AND SERVE AS CONSTRUCTION PLANS FOR THIS PROJECT.

BY: _____ DATE: _____
 ADMINISTRATOR

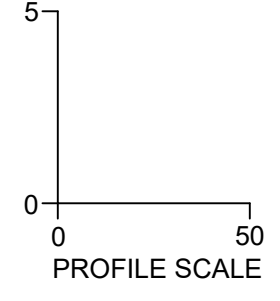
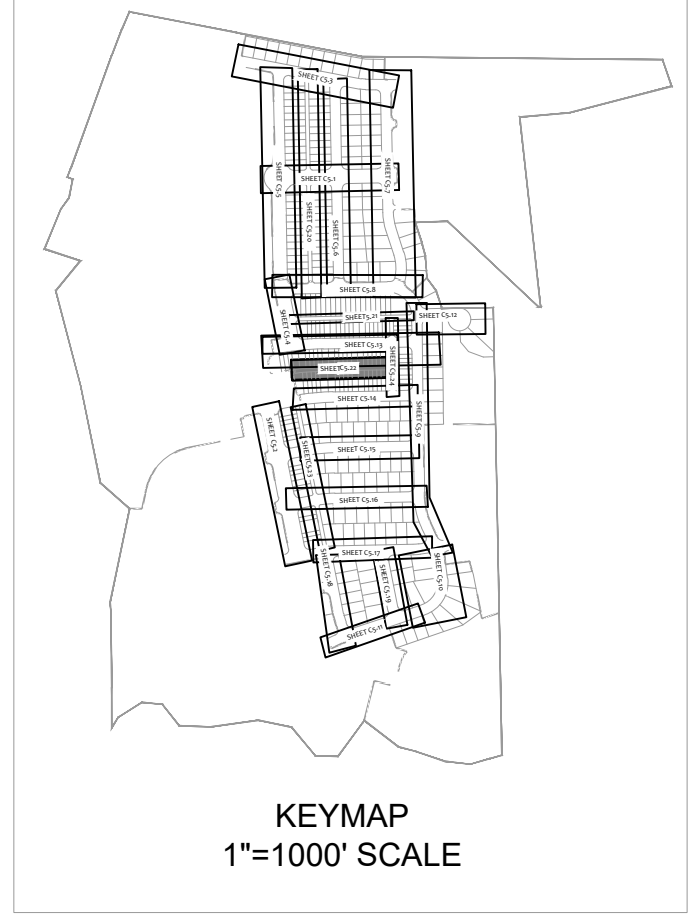


- UTILITY NOTES:**
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF RALEIGH STANDARDS AND SPECIFICATIONS.
 - MINIMUM UTILITY HORIZONTAL SEPARATION DISTANCES:
 WATER AND SANITARY SEWER MAINS - 10 FT.
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 SANITARY SEWER AND STORM SEWER MAINS - 5 FT.
 GRAVITY SANITARY SEWER AND FORCE MAINS - 5 FT.
 - MINIMUM UTILITY VERTICAL SEPARATION DISTANCES:
 WATER AND SANITARY SEWER MAINS - 18 IN.
 WATER AND STORM SEWER MAINS - 18 IN.
 SANITARY SEWER AND STORM SEWER MAINS - 24 IN.
 - CLASS 1 STRUCTURAL MATERIAL REQUIRED FROM EXISTING GROUND TO SPRING LINE OF PROPOSED PIPE IN FILL CONDITIONS (TYP).

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



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REVISION DESCRIPTION

DATE	DESCRIPTION
01/26/2024 <td></td>	

DRAWN BY: 331
 DESIGNED BY: 331
 CHECKED BY: A. STONE
 SCALE: H: 1" = 50', V: 1" = 5'

TIMMONS GROUP
 NORTH CAROLINA LICENSE NO. C-1652

ALLEN PARK SUBDIVISION - PHASE II
 KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA

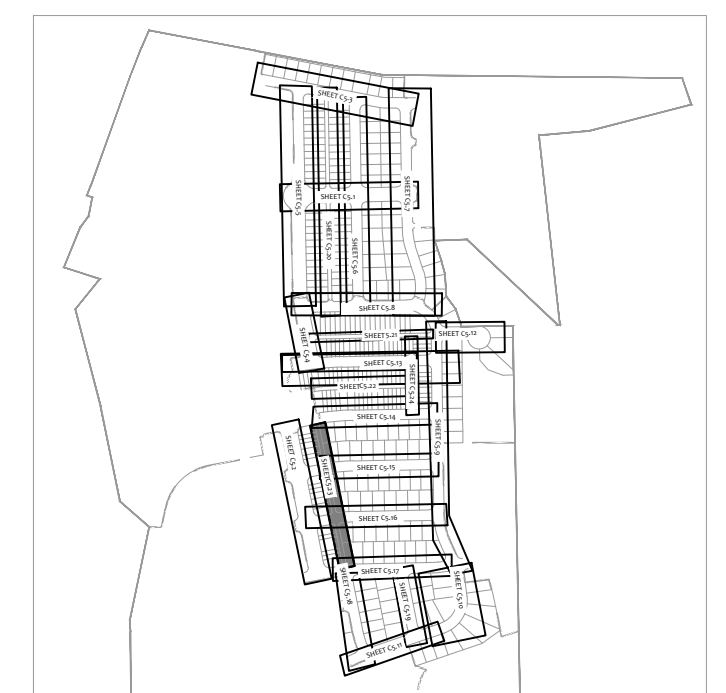
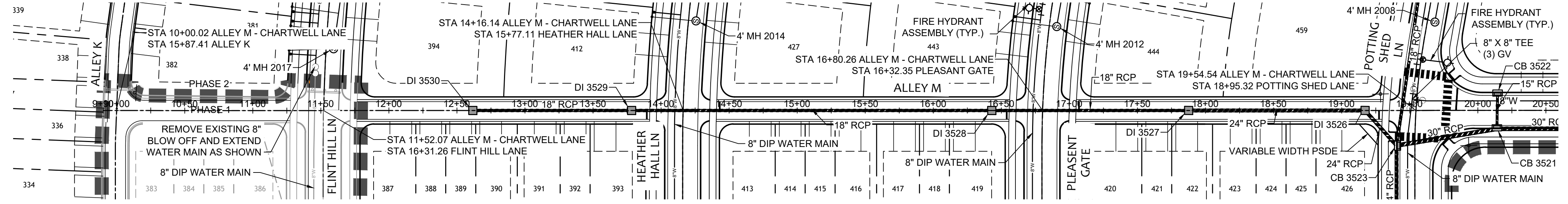
ALLEY K PLAN & PROFILE

JOB NO. 44529
 SHEET NO. C5.22

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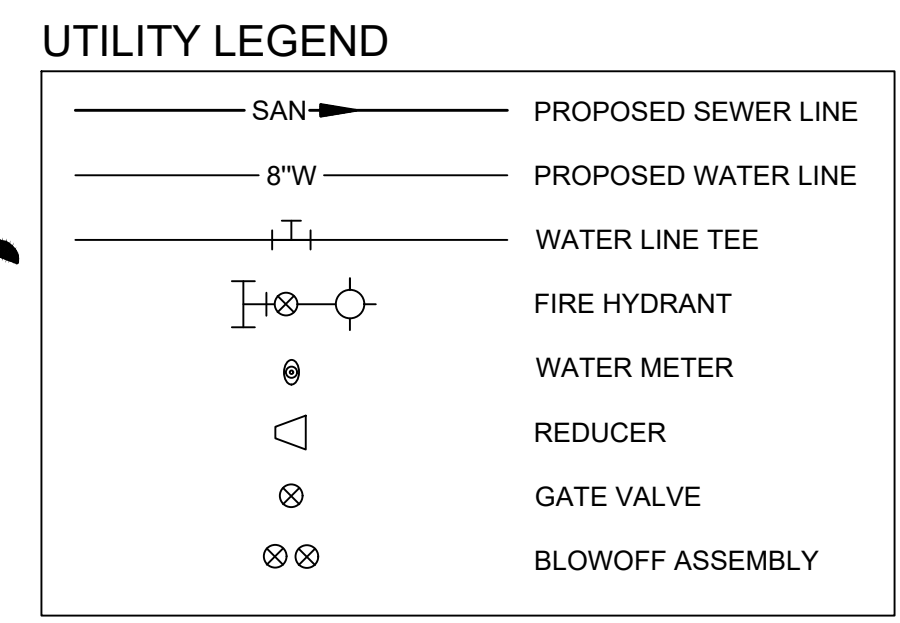
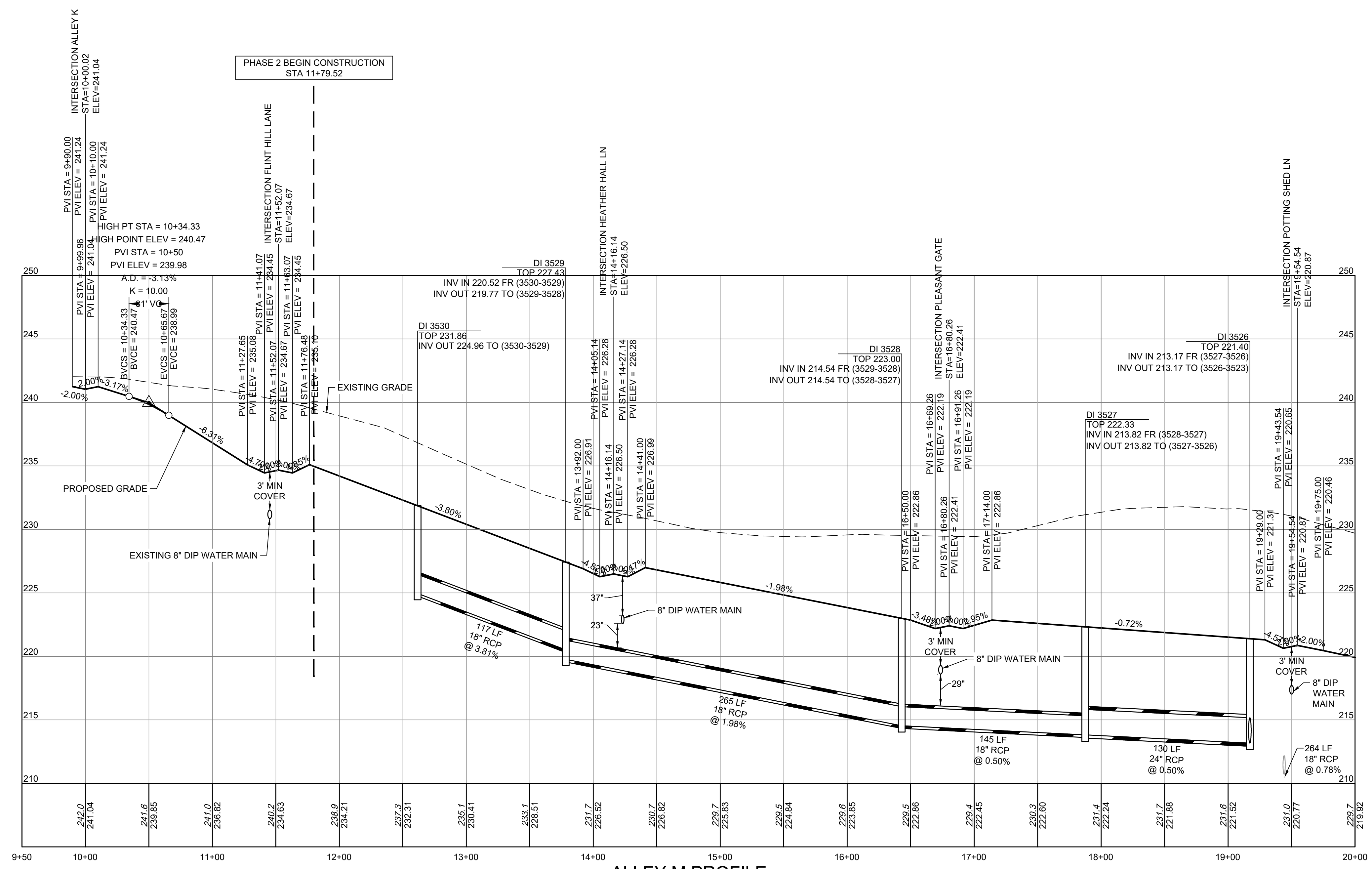


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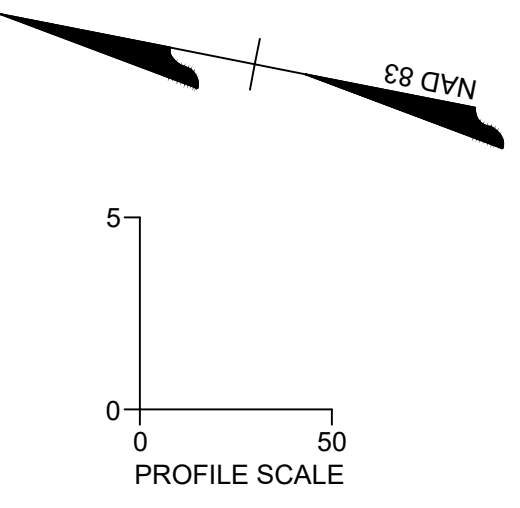
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 BY: _____ DATE: _____
 DEVELOPMENT SERVICES ENGINEER
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 BY: _____ DATE: _____
 ADMINISTRATOR



- EASEMENT LEGEND**
- PRIVATE EASEMENTS (4 CHARACTER)
 PAME PRIVATE ACCESS & MAINTENANCE EASEMENT
 PGSE PRIVATE GREENWAY SYSTEM EASEMENT
 PSDE PRIVATE STORMWATER DRAINAGE EASEMENT
 PSSS PRIVATE SANITARY SEWER EASEMENT
 SCME SCM ACCESS & MAINTENANCE EASEMENT
- PUBLIC EASEMENTS (5 CHARACTER)
 CORSE CITY OF RALEIGH PUBLIC SANITARY SEWER EASEMENT
 CORWLE CITY OF RALEIGH PUBLIC WATERLINE EASEMENT
 TOKDE TOWN OF KNIGHTDALE PUBLIC DRAINAGE EASEMENT
 TOKGE TOWN OF KNIGHTDALE PUBLIC GREENWAY EASEMENT



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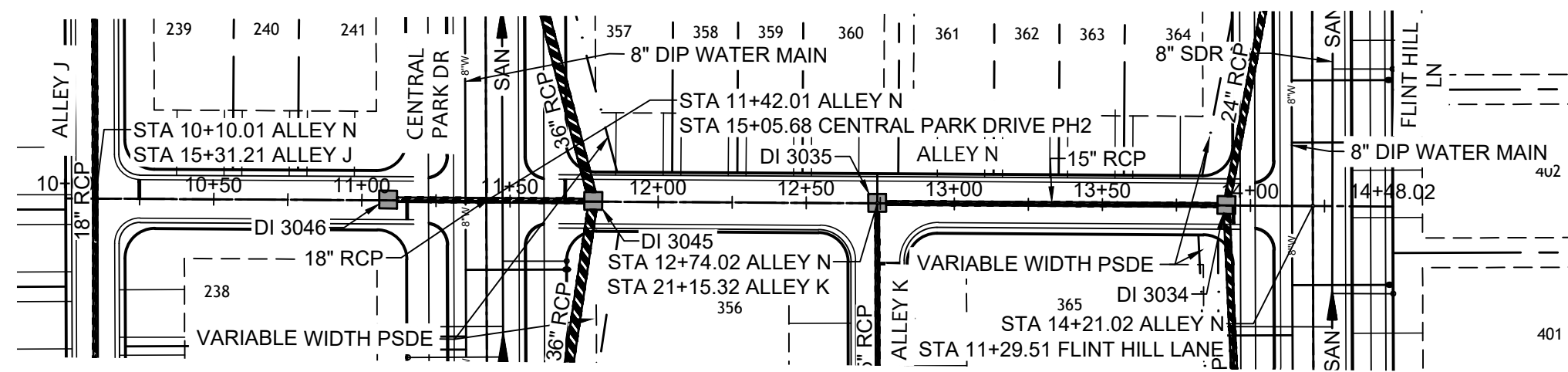
YOUR VISION ACHIEVED THROUGH OURS.

DATE	01/26/2024
DRAWN BY	331
DESIGNED BY	331
CHECKED BY	A. STONE
SCALE	H: 1" = 50' V: 1" = 5'

TIMMONS GROUP
 NORTH CAROLINA LICENSE NO. C-1652
ALLEN PARK SUBDIVISION - PHASE II
 KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA
ALLEY M PLAN & PROFILE

JOB NO. 44529
 SHEET NO. C5.23

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EASEMENT LEGEND

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 PGSE PRIVATE GREENWAY SYSTEM EASEMENT
 PSDE PRIVATE STORMWATER DRAINAGE EASEMENT
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TOWN CERTIFICATION

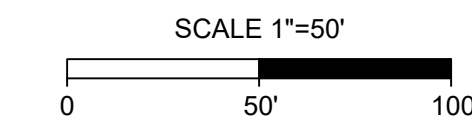
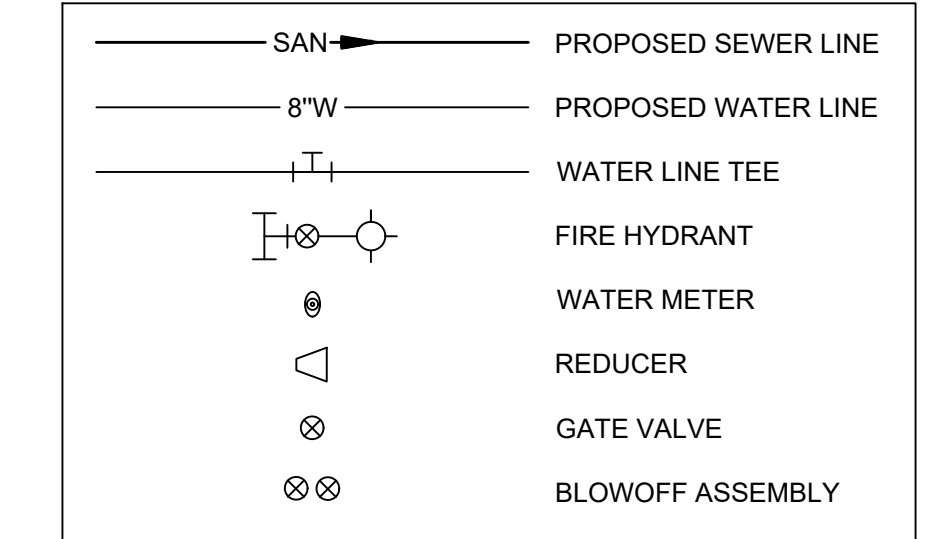
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BY: _____ DATE: _____
 DEVELOPMENT SERVICES ENGINEER

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BY: _____ DATE: _____
 ADMINISTRATOR

UTILITY LEGEND



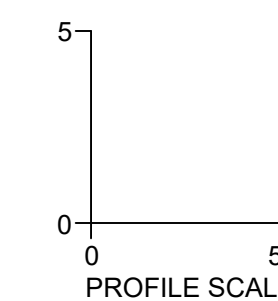
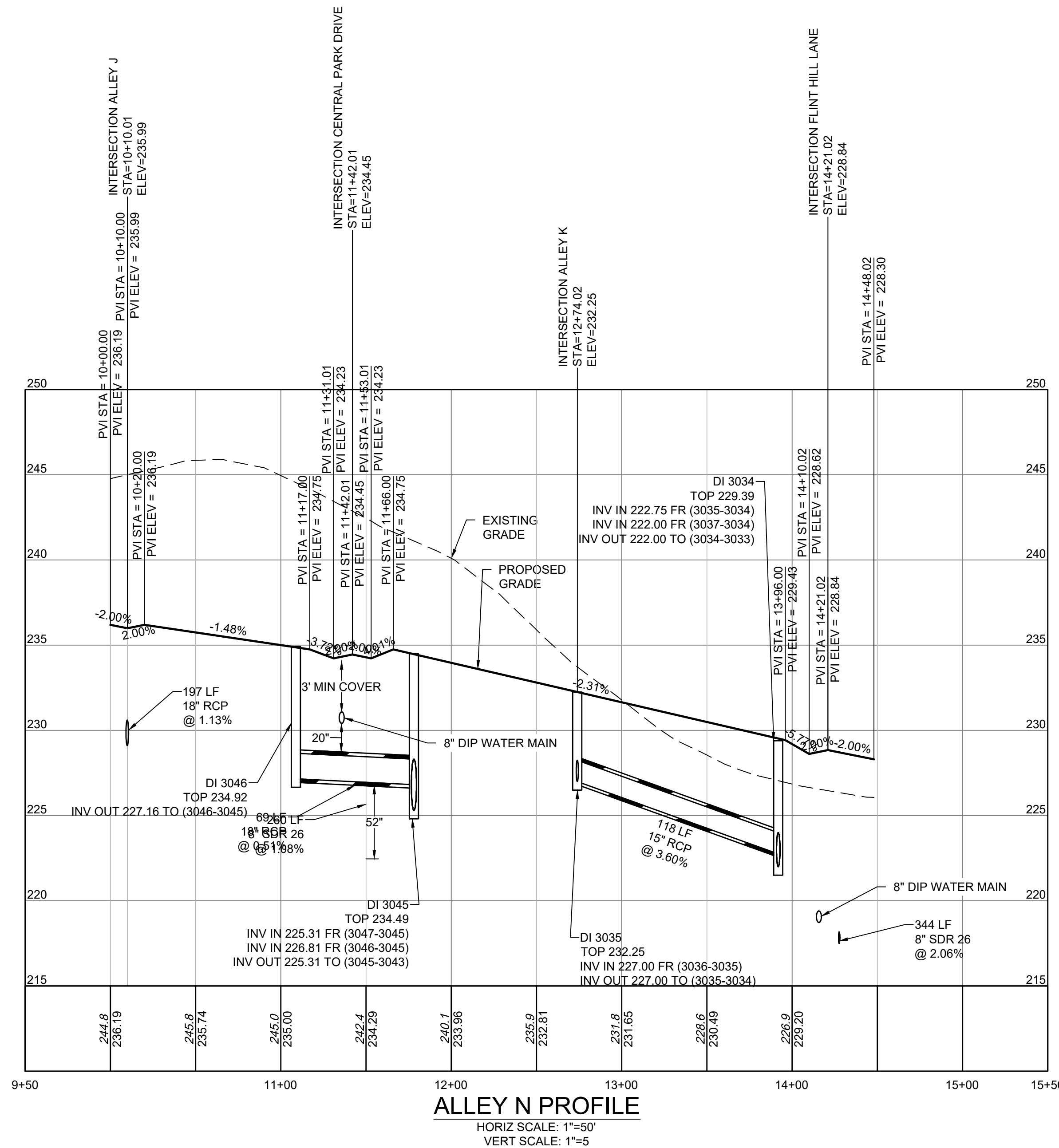
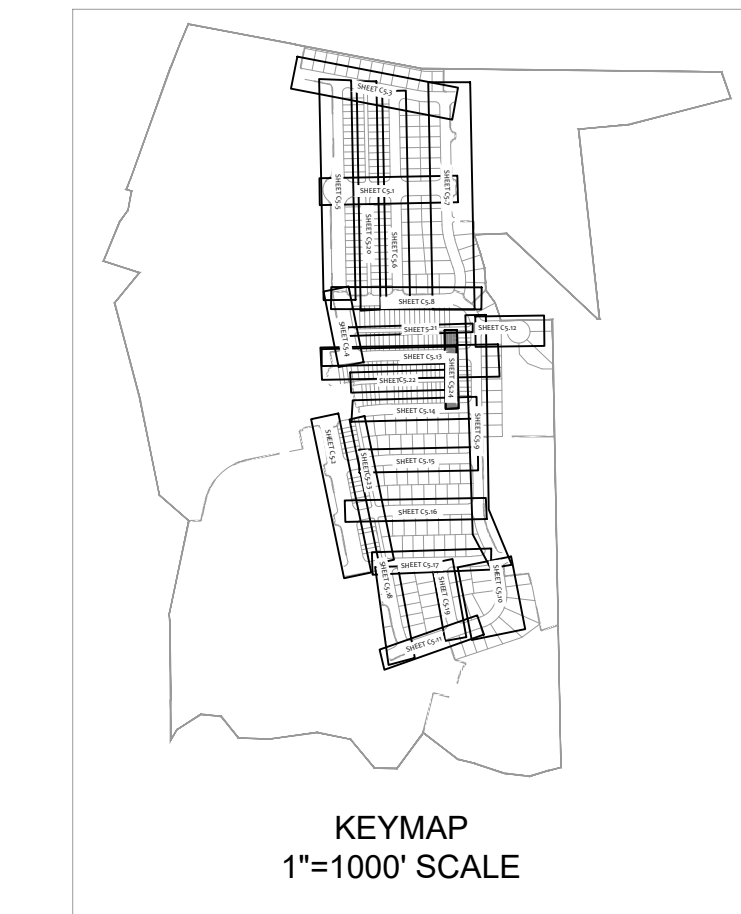
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City of Raleigh Development Approval _____
 Raleigh Water Review Officer



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REVISION DESCRIPTION	DATE

DATE	01/26/2024
DRAWN BY	331
DESIGNED BY	331
CHECKED BY	A. STONE
SCALE	H: 1" = 50' V: 1" = 5'

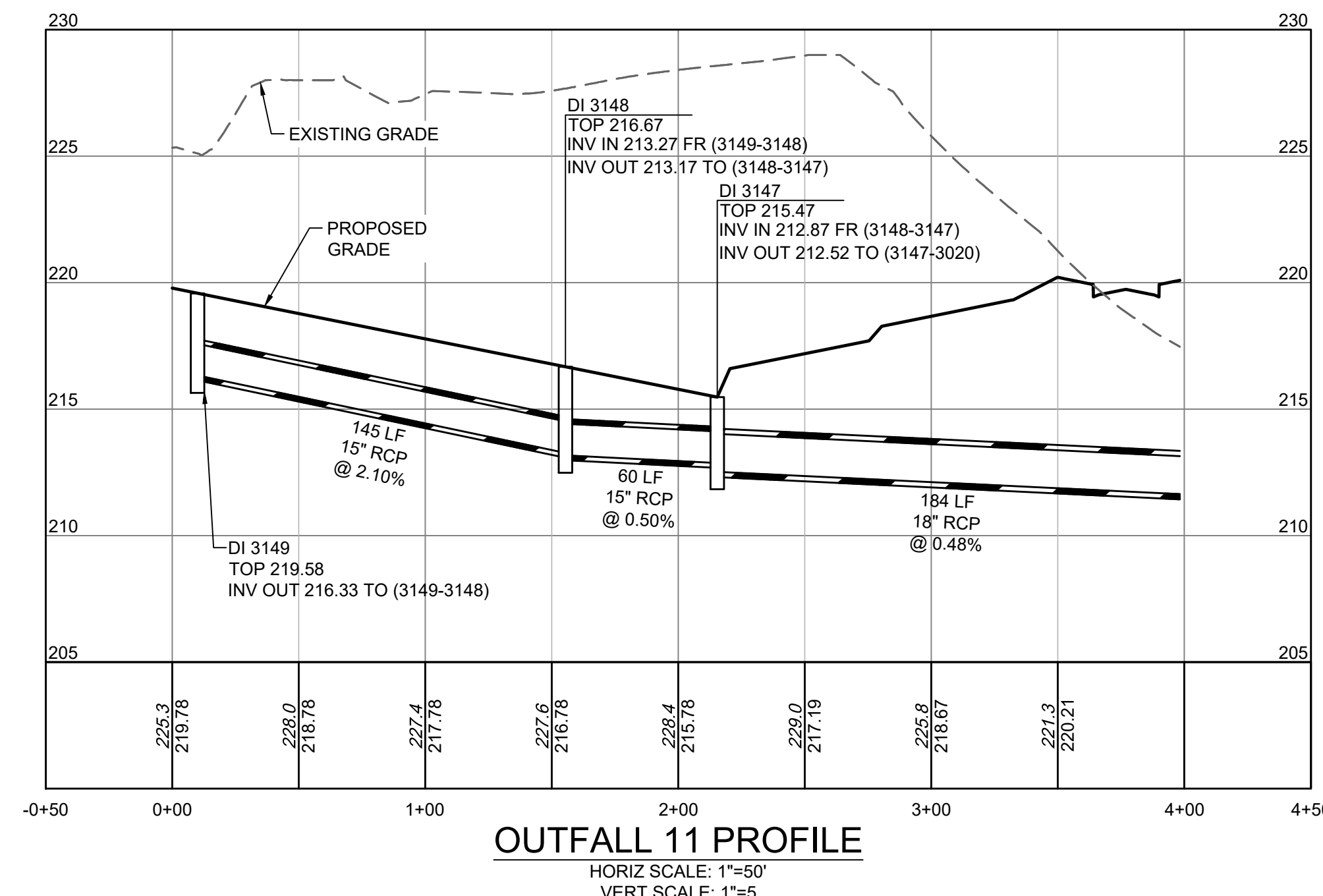
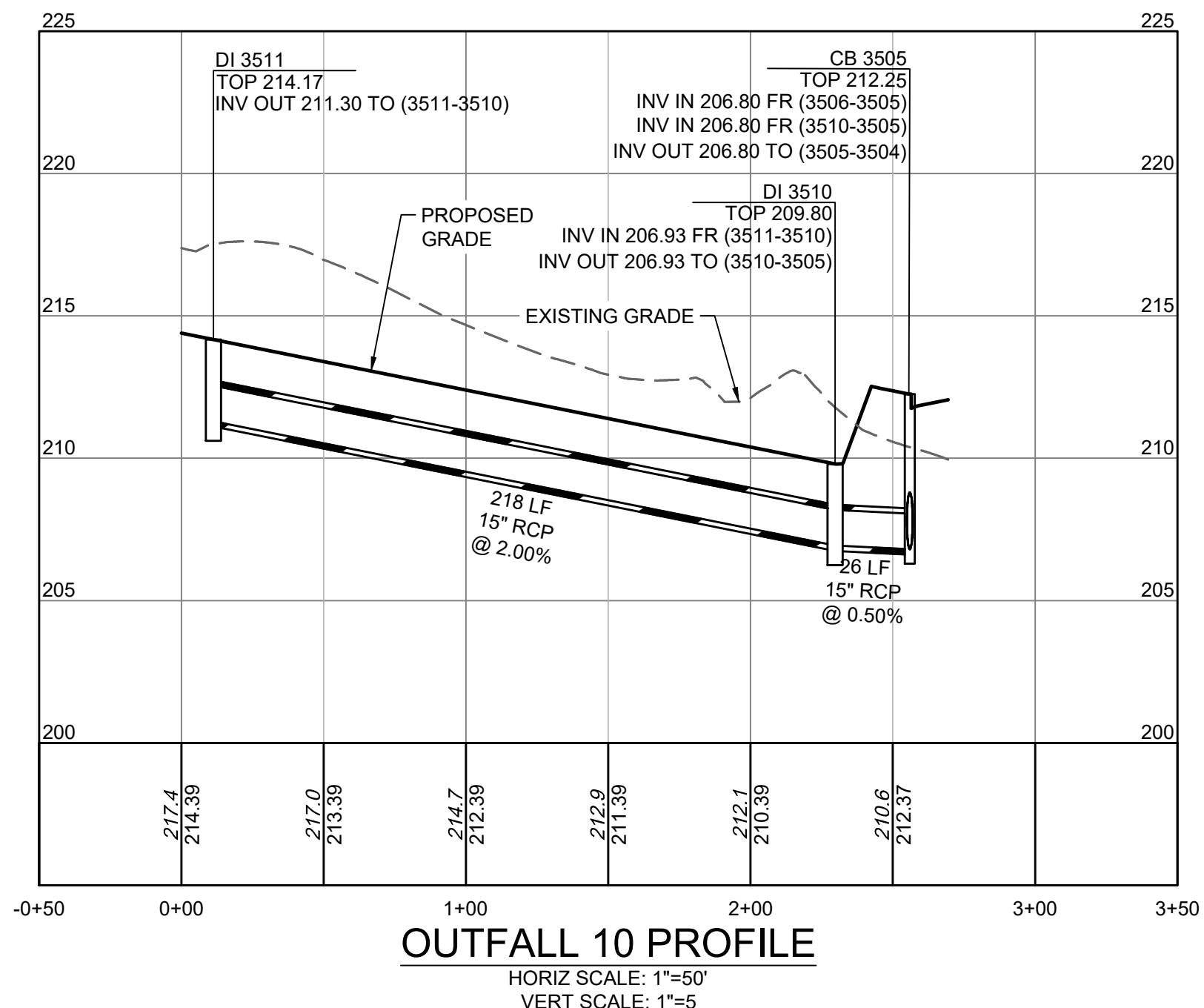
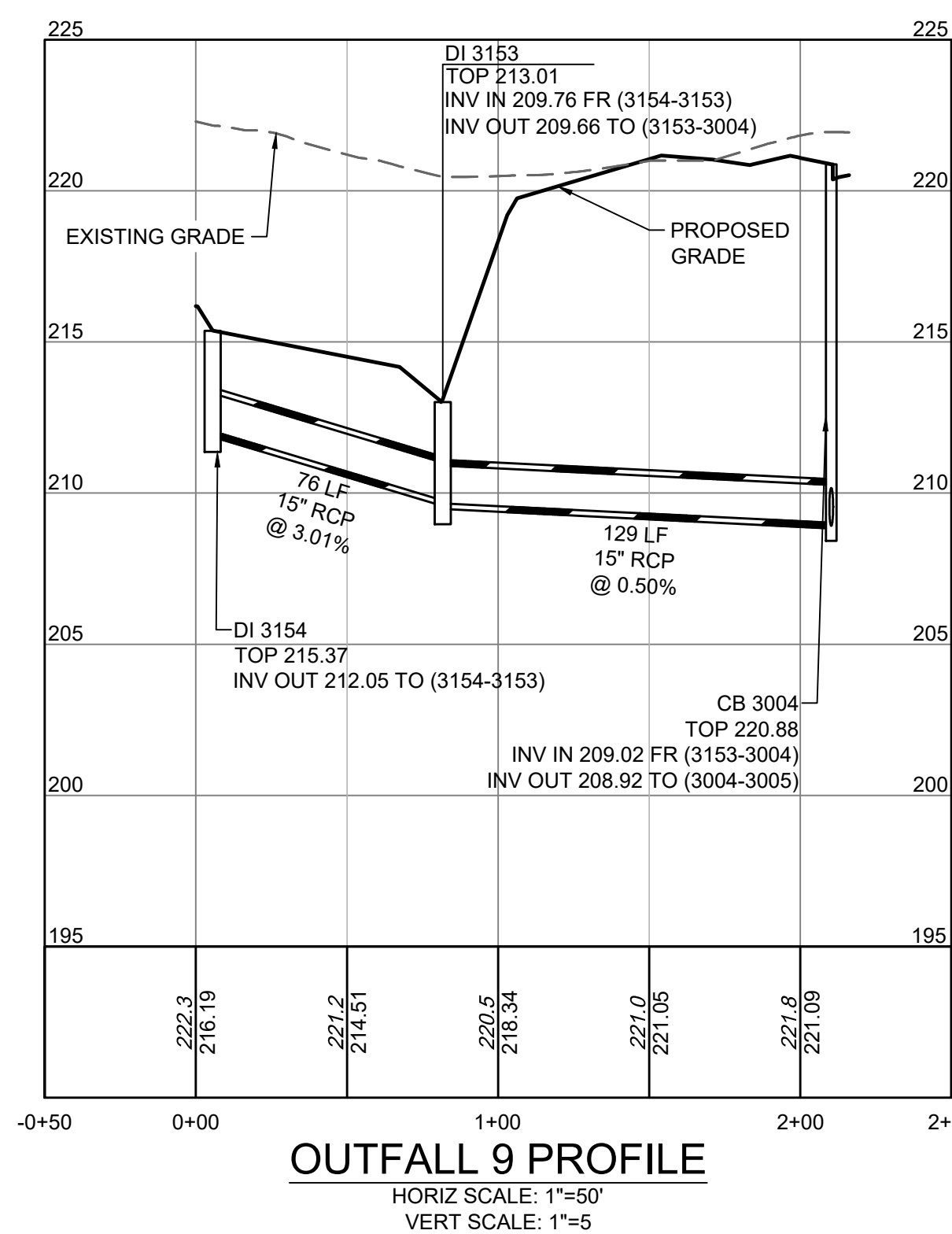
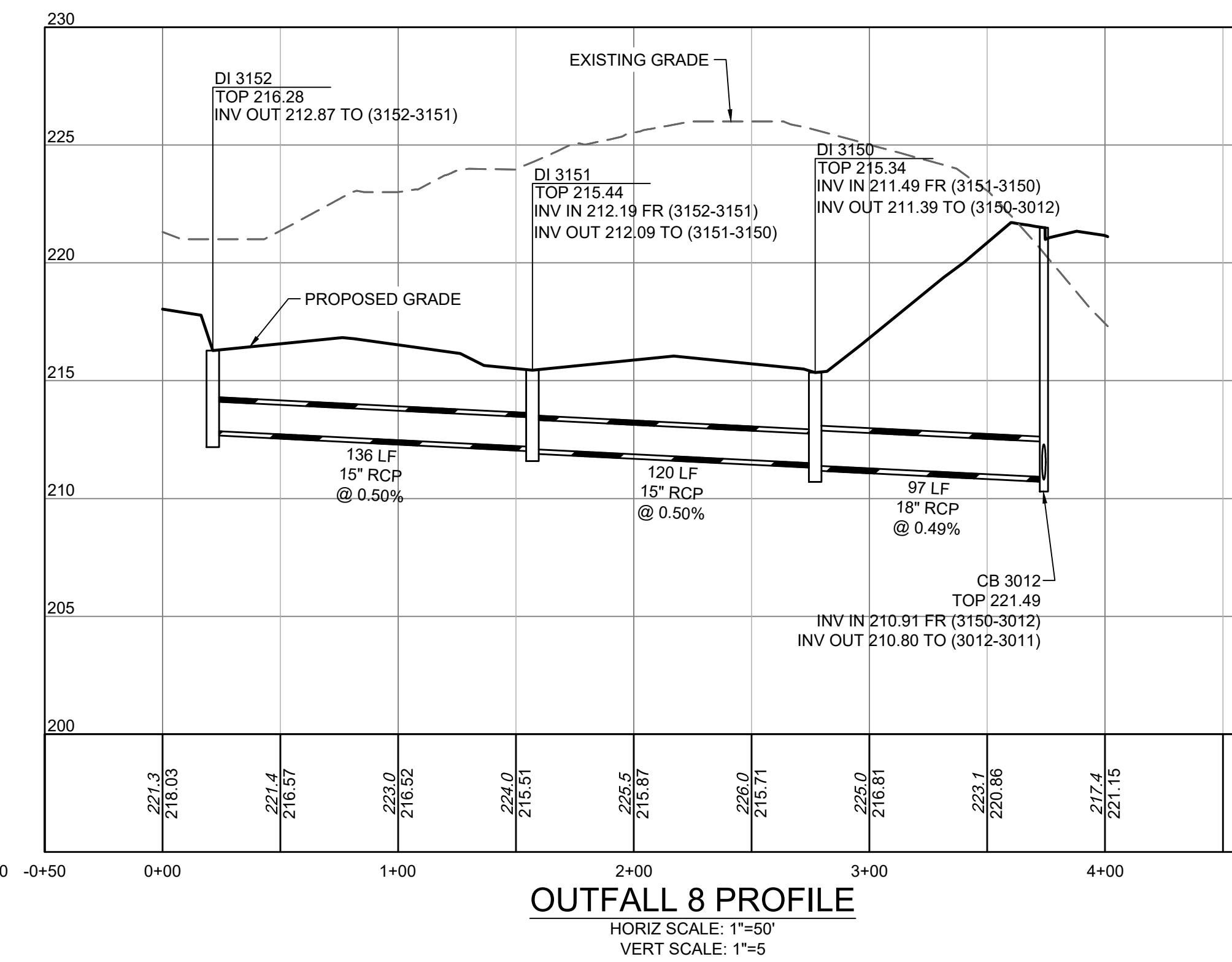
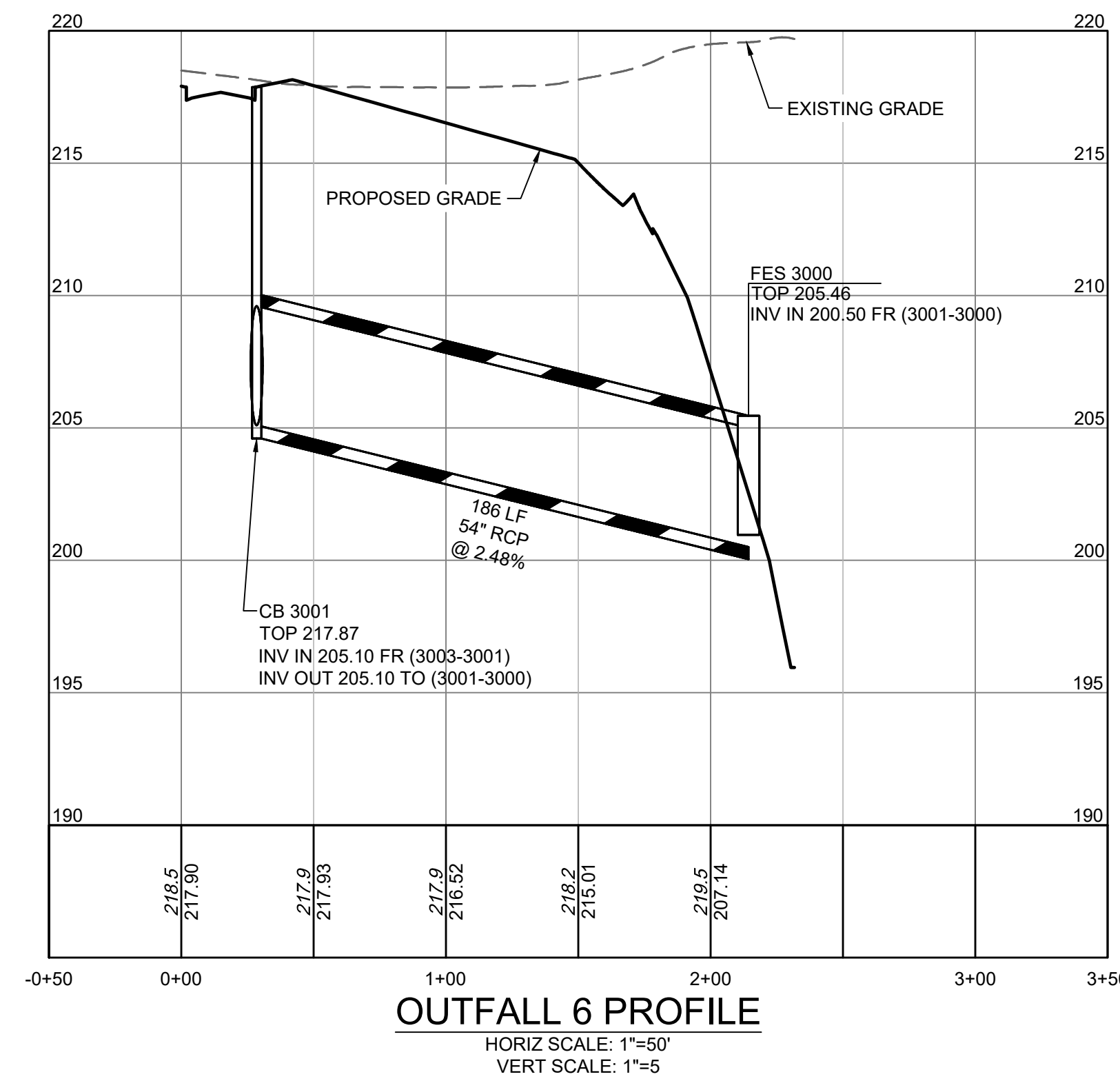
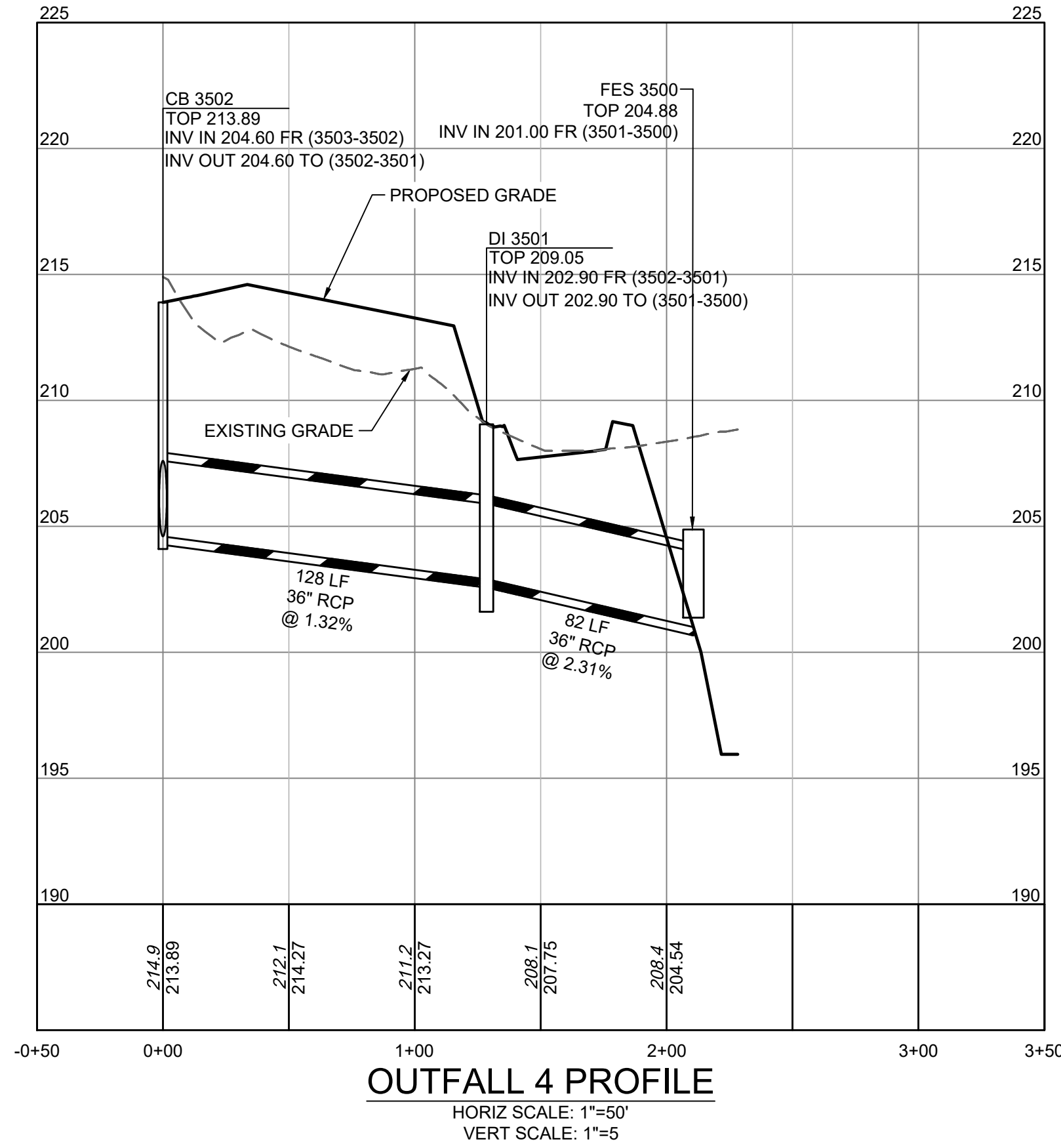
TIMMONS GROUP
 NORTH CAROLINA LICENSE NO. C-1652

ALLEN PARK SUBDIVISION - PHASE II
 KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA
ALLEY N PLAN & PROFILE

JOB NO. 44529
 SHEET NO. C5.24

FOR REVIEW ONLY: NOT FOR CONSTRUCTION

FOR REVIEW ONLY



TOWN CERTIFICATION

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BY: _____ DATE: _____
 DEVELOPMENT SERVICES ENGINEER

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BY: _____ DATE: _____
 ADMINISTRATOR



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DATE: 01/26/2024
 DRAWN BY: 331
 DESIGNED BY: 331
 CHECKED BY: A. STONE
 SCALE: H: 1"=50', V: 1"=5'

TIMMONS GROUP
 NORTH CAROLINA LICENSE NO. C-1652

ALLEN PARK SUBDIVISION - PHASE II
 KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA

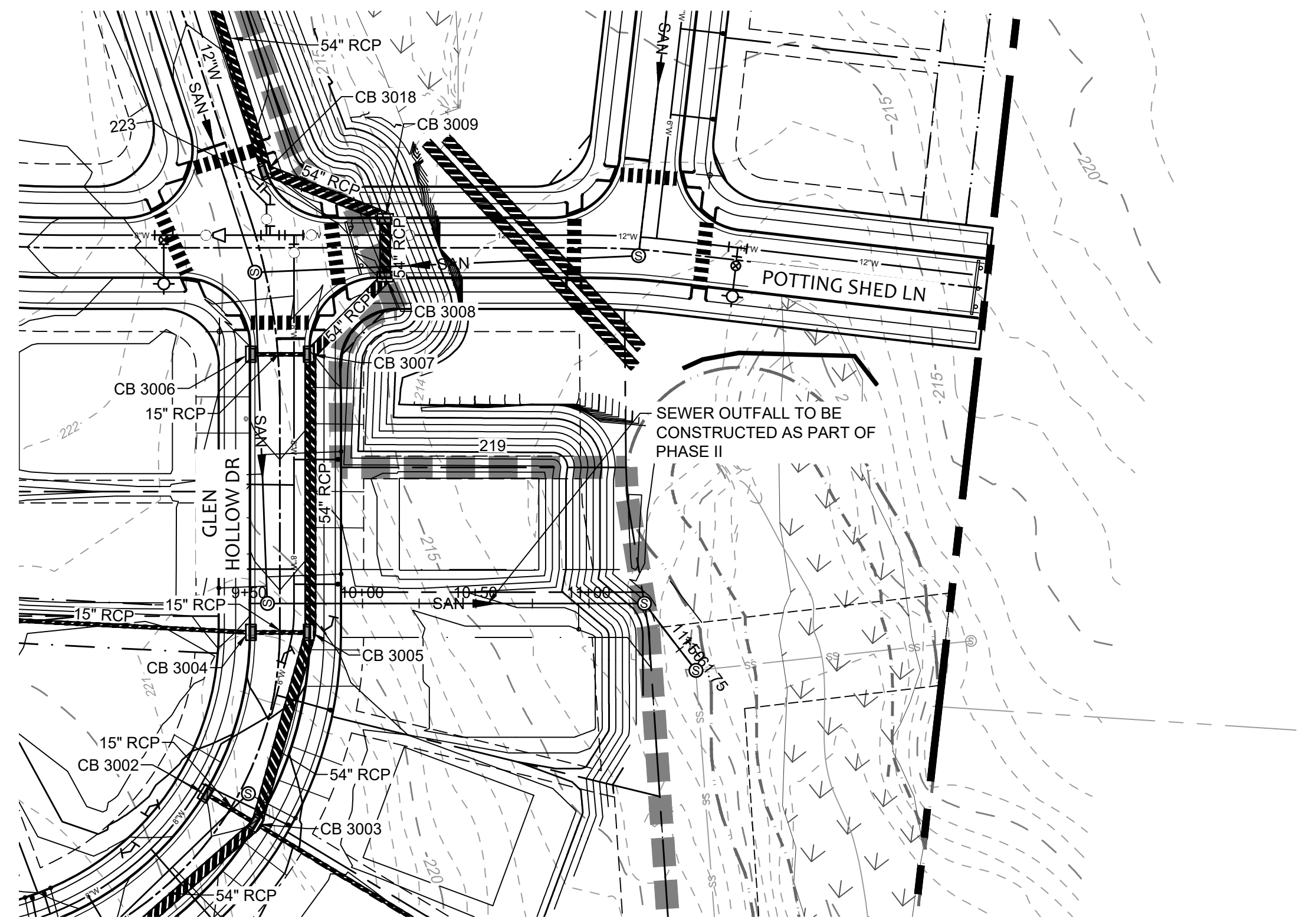
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STORM OUTFALL PROFILES

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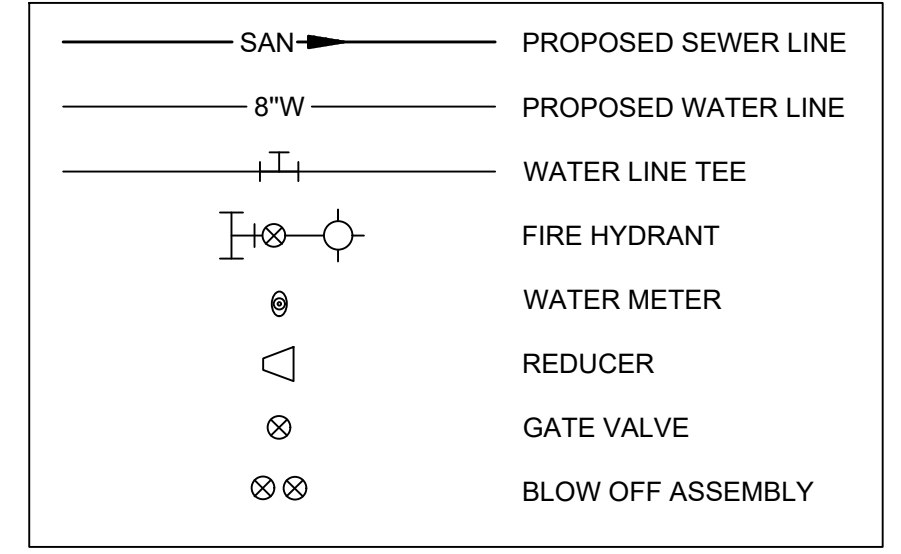
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UTILITY NOTES:

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UTILITY LEGEND



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City of Raleigh Development Approval _____
 Raleigh Water Review Officer

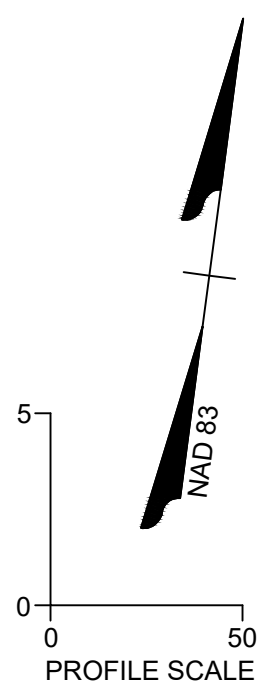
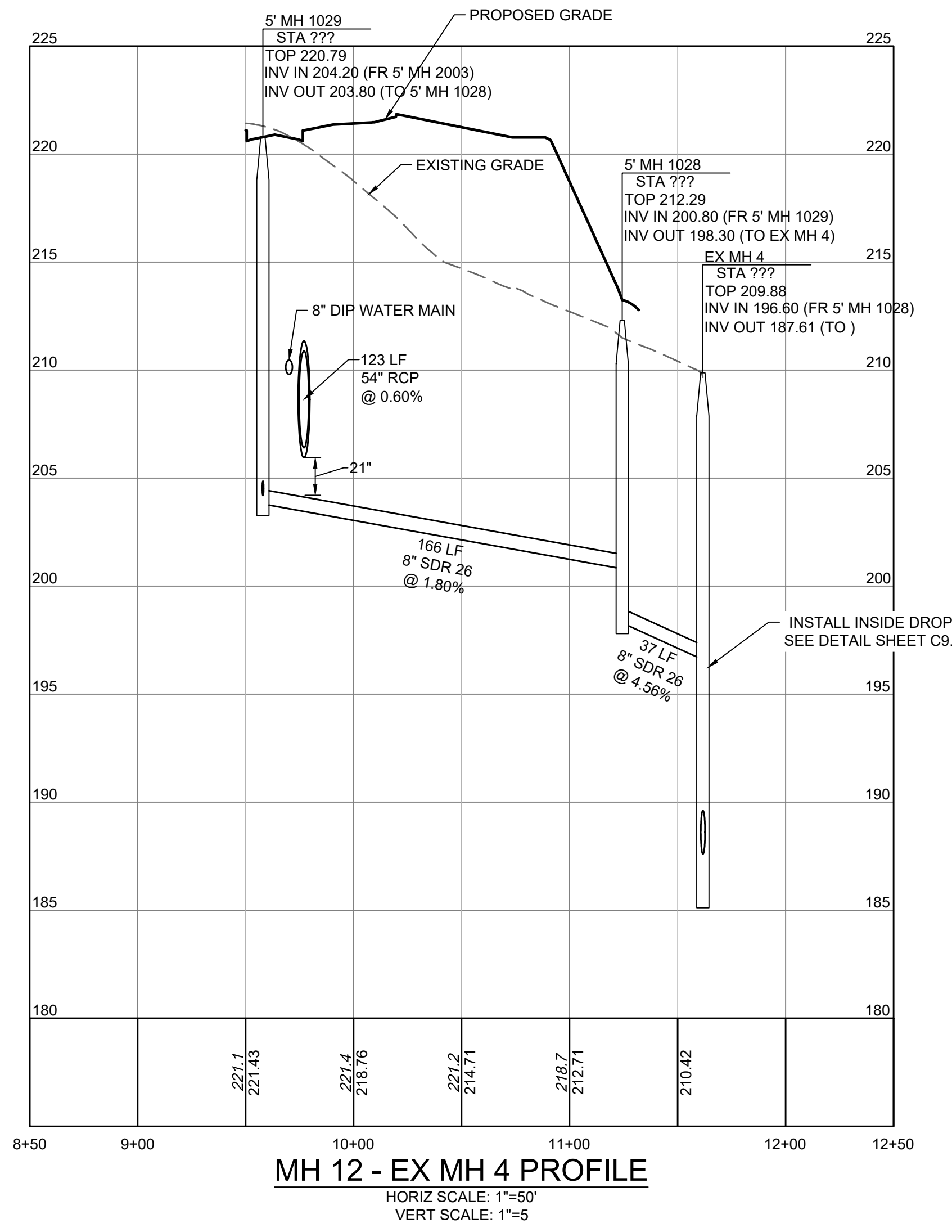
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BY: _____ DATE: _____
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BY: _____ DATE: _____
 ADMINISTRATOR



SCALE 1"=50'



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REVISION DESCRIPTION

DATE	DESCRIPTION
01/26/2024	

DRAWN BY
331

DESIGNED BY
331

CHECKED BY
A. STONE

SCALE
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 V: 1"=5'

TIMMONS GROUP
 NORTH CAROLINA LICENSE NO. C-1652

ALLEN PARK SUBDIVISION - PHASE II
 KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA

SEWER OUTFALL 1 PLAN & PROFILE

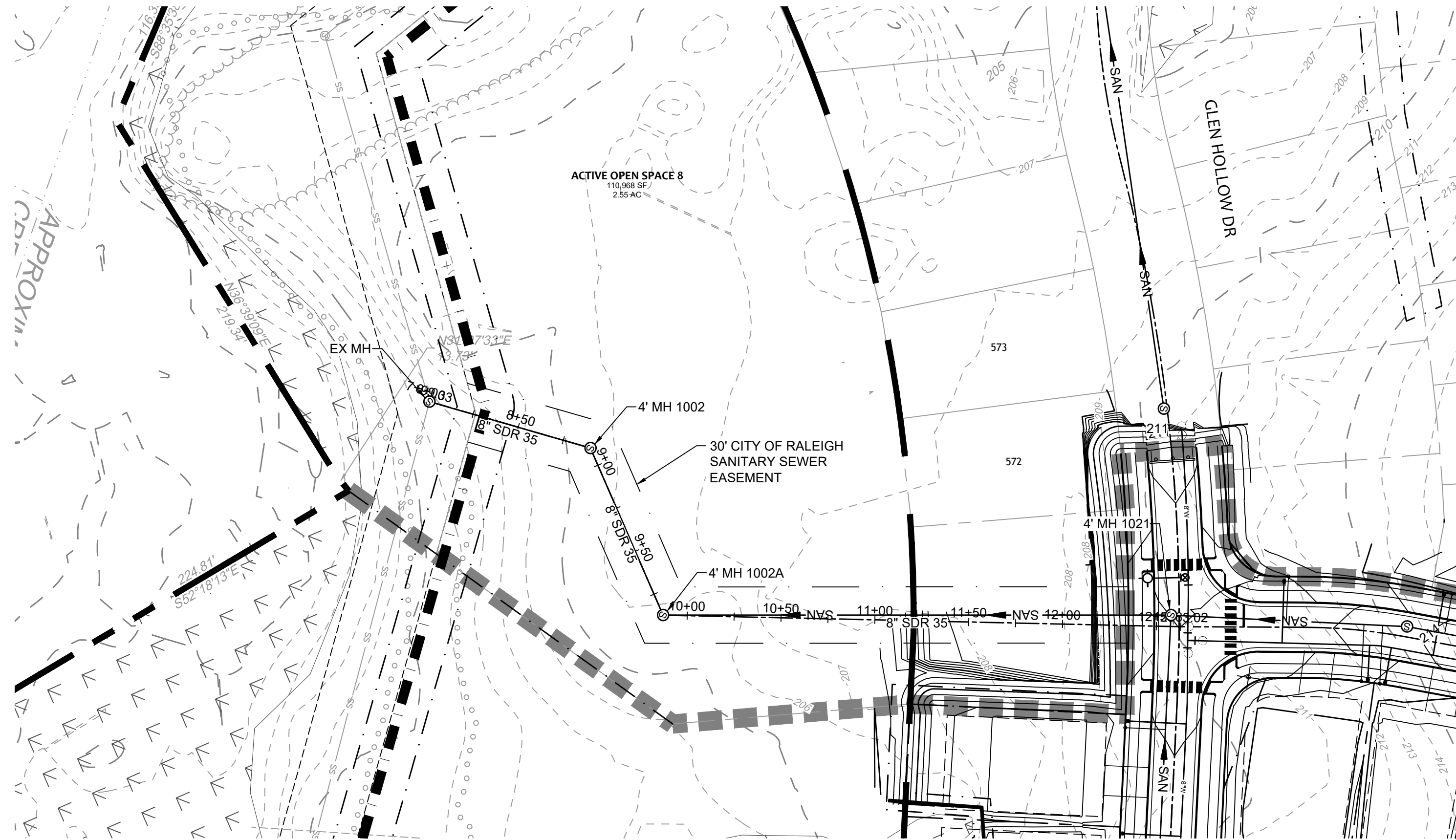
JOB NO.
44529

SHEET NO.
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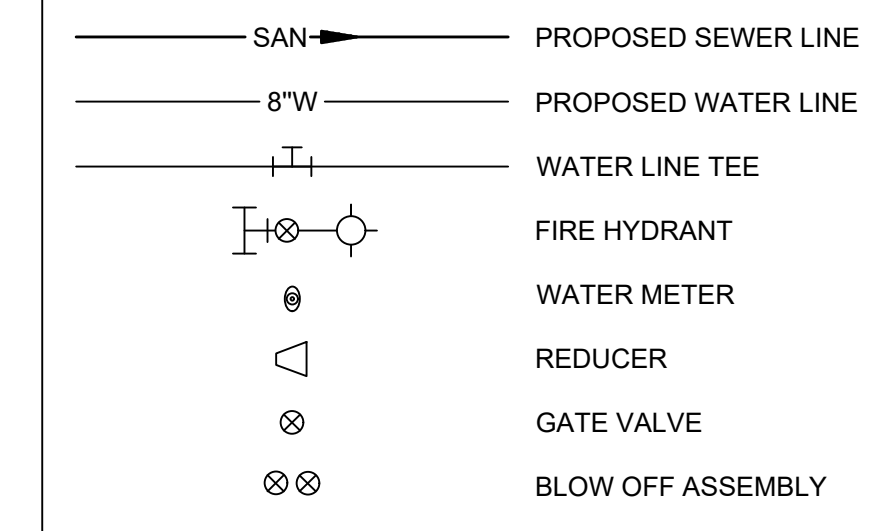
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Raleigh Water Review Officer

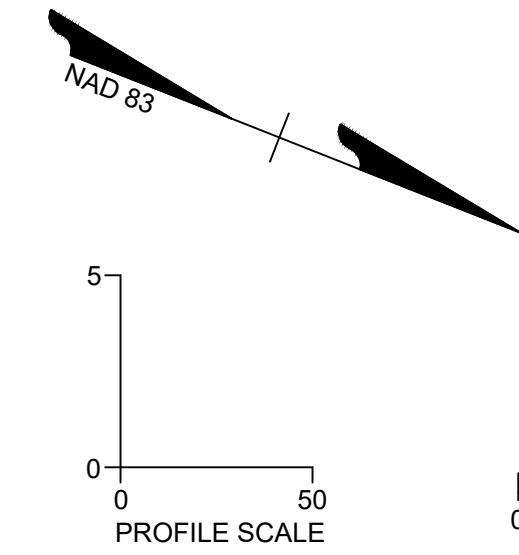
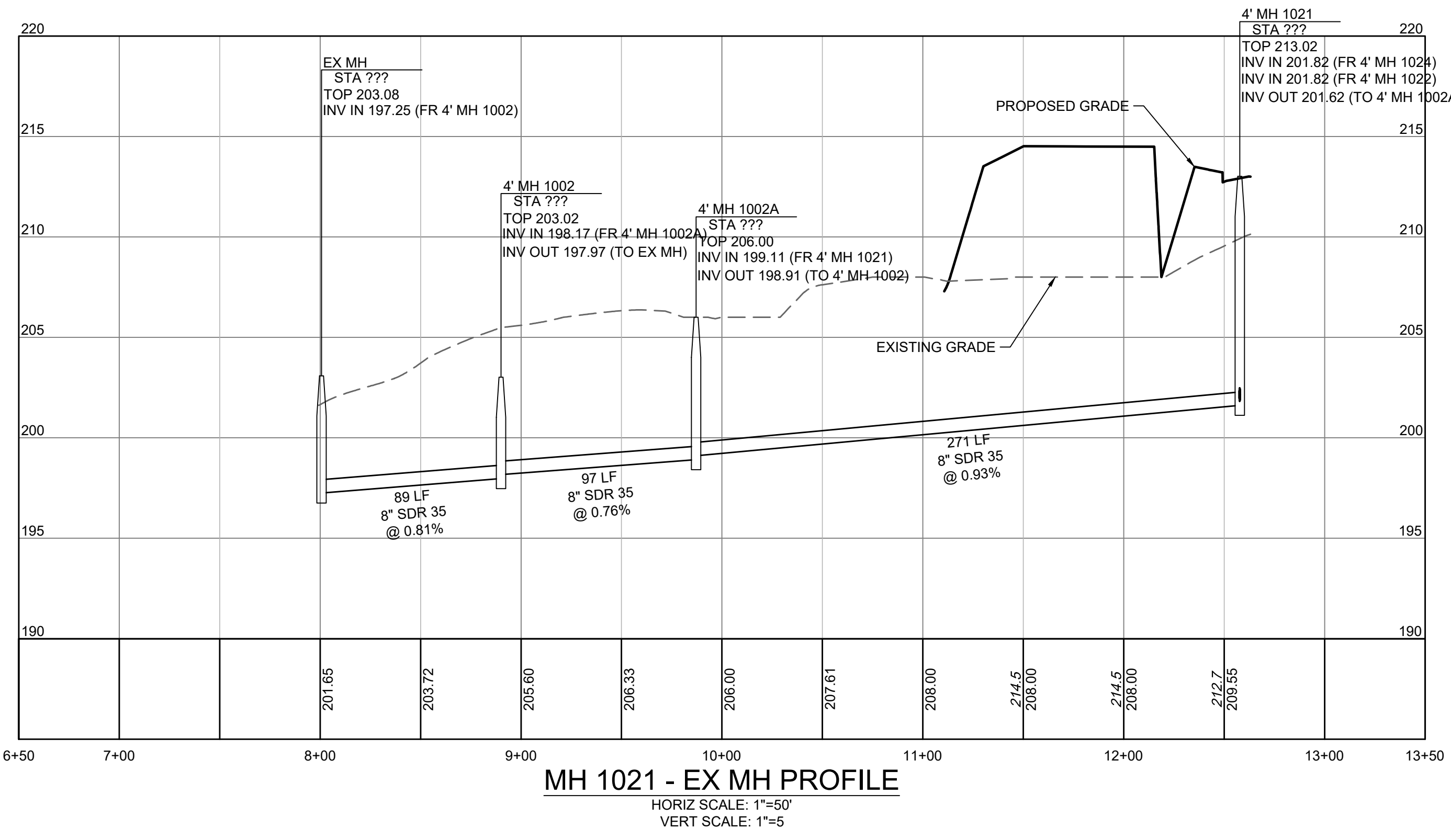
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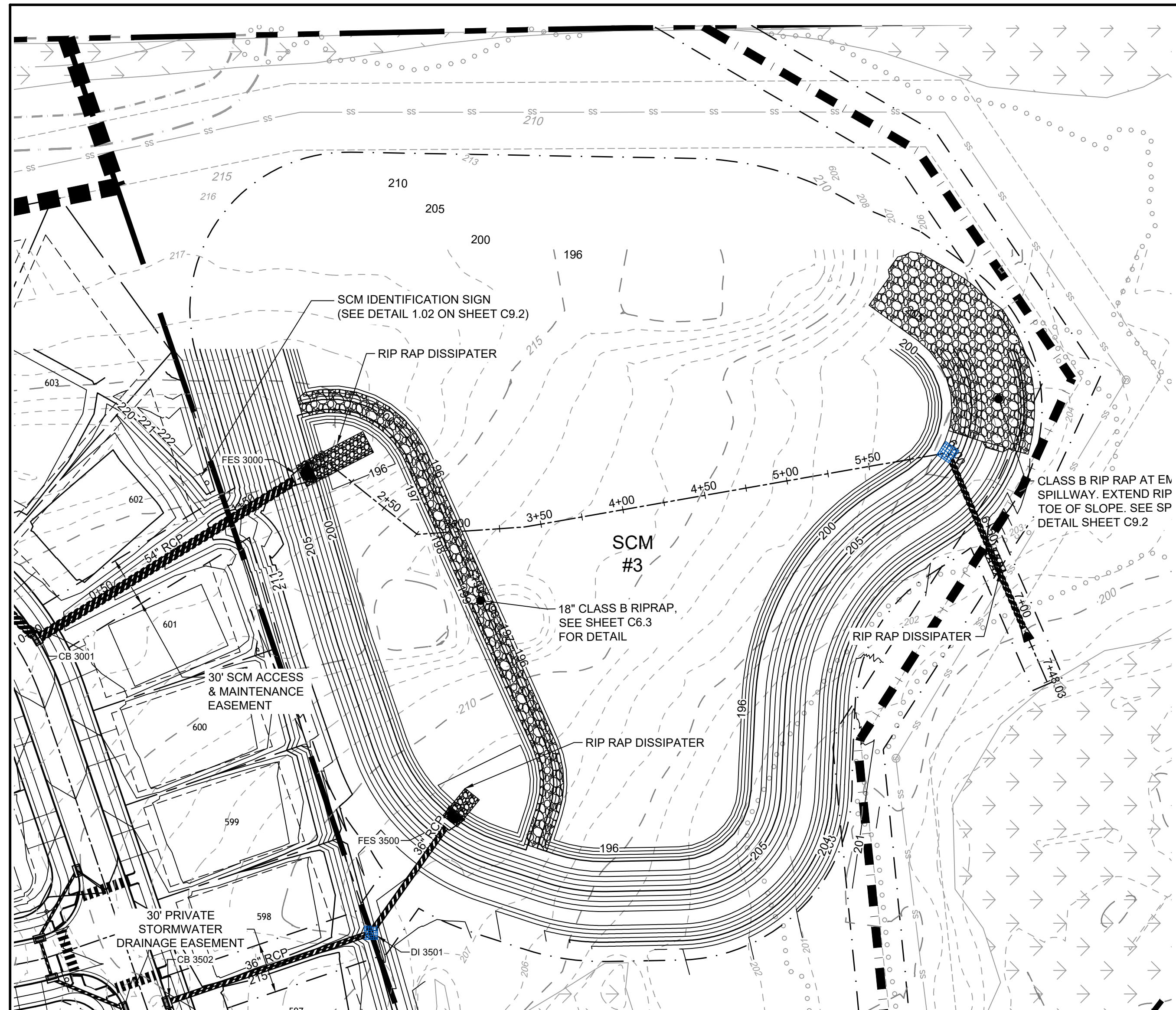
ALLEN PARK SUBDIVISION - PHASE II
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SEWER OUTFALL 2 PLAN & PROFILE

JOB NO. 44529
 SHEET NO. C5.28

FOR REVIEW ONLY: NOT FOR CONSTRUCTION

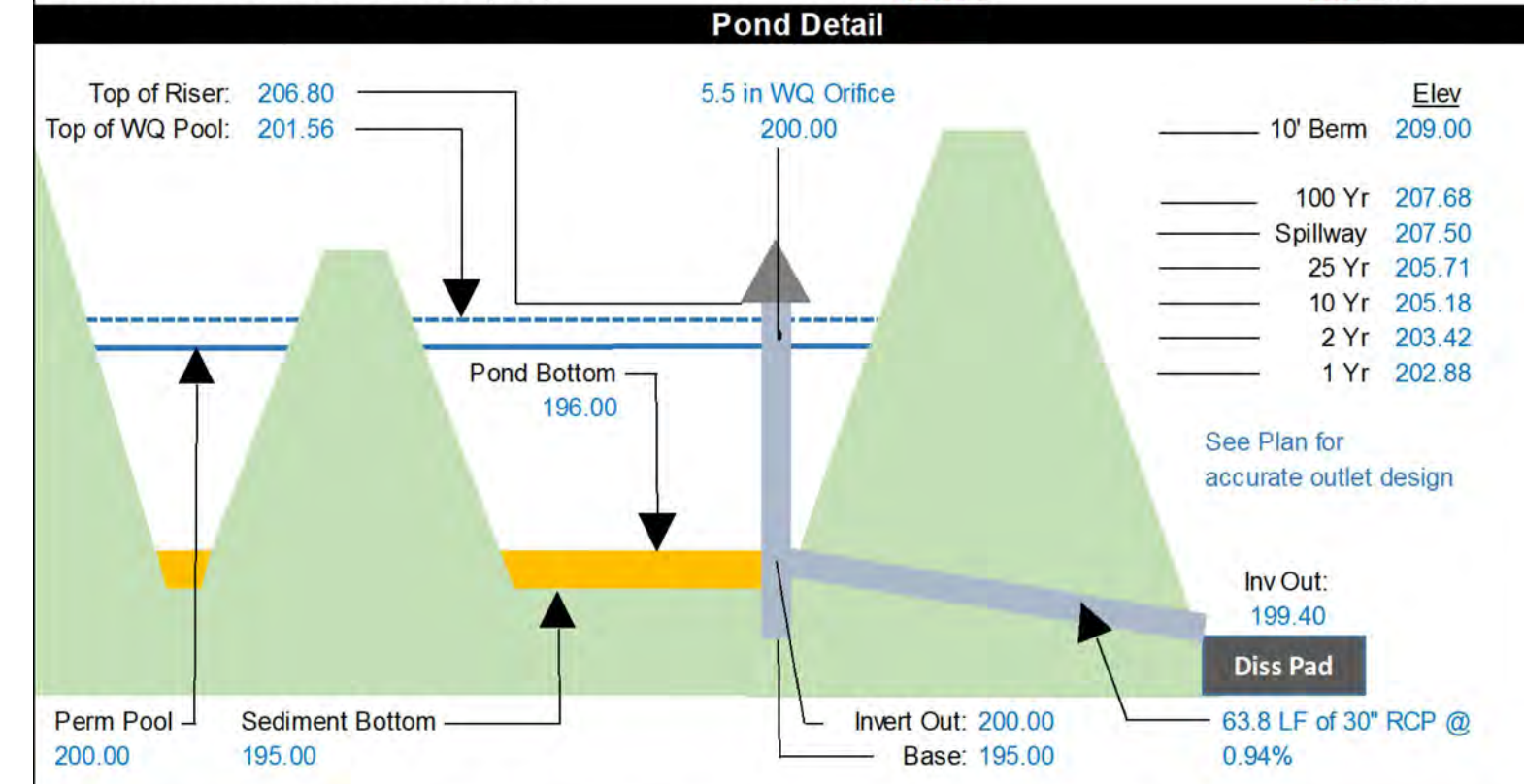




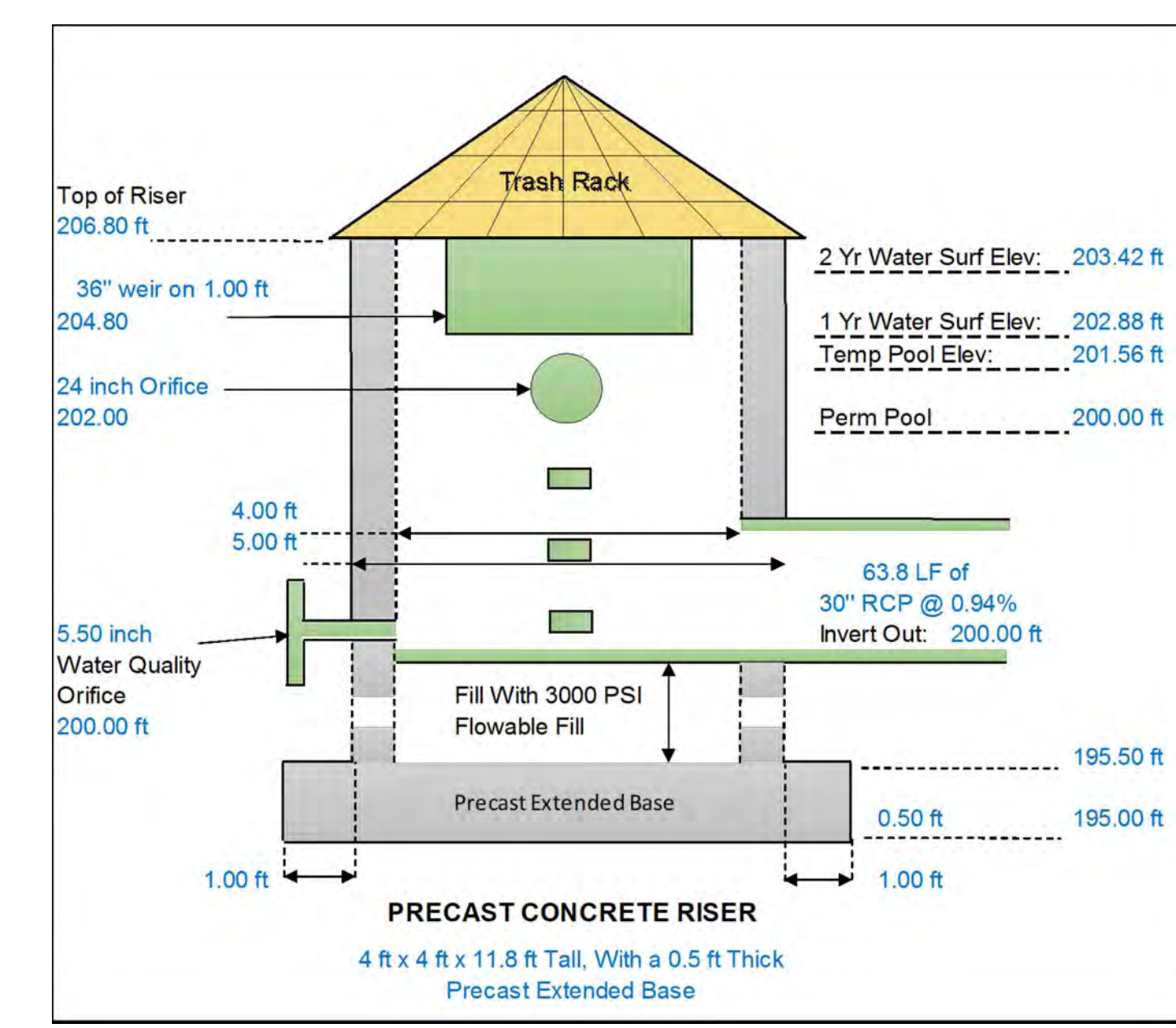
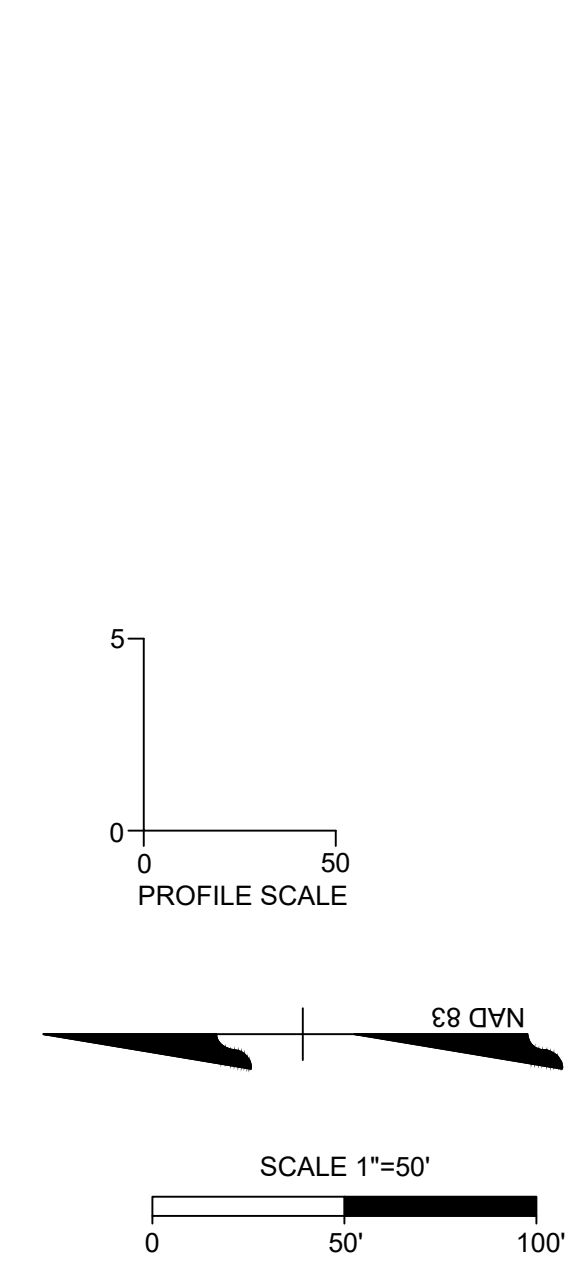
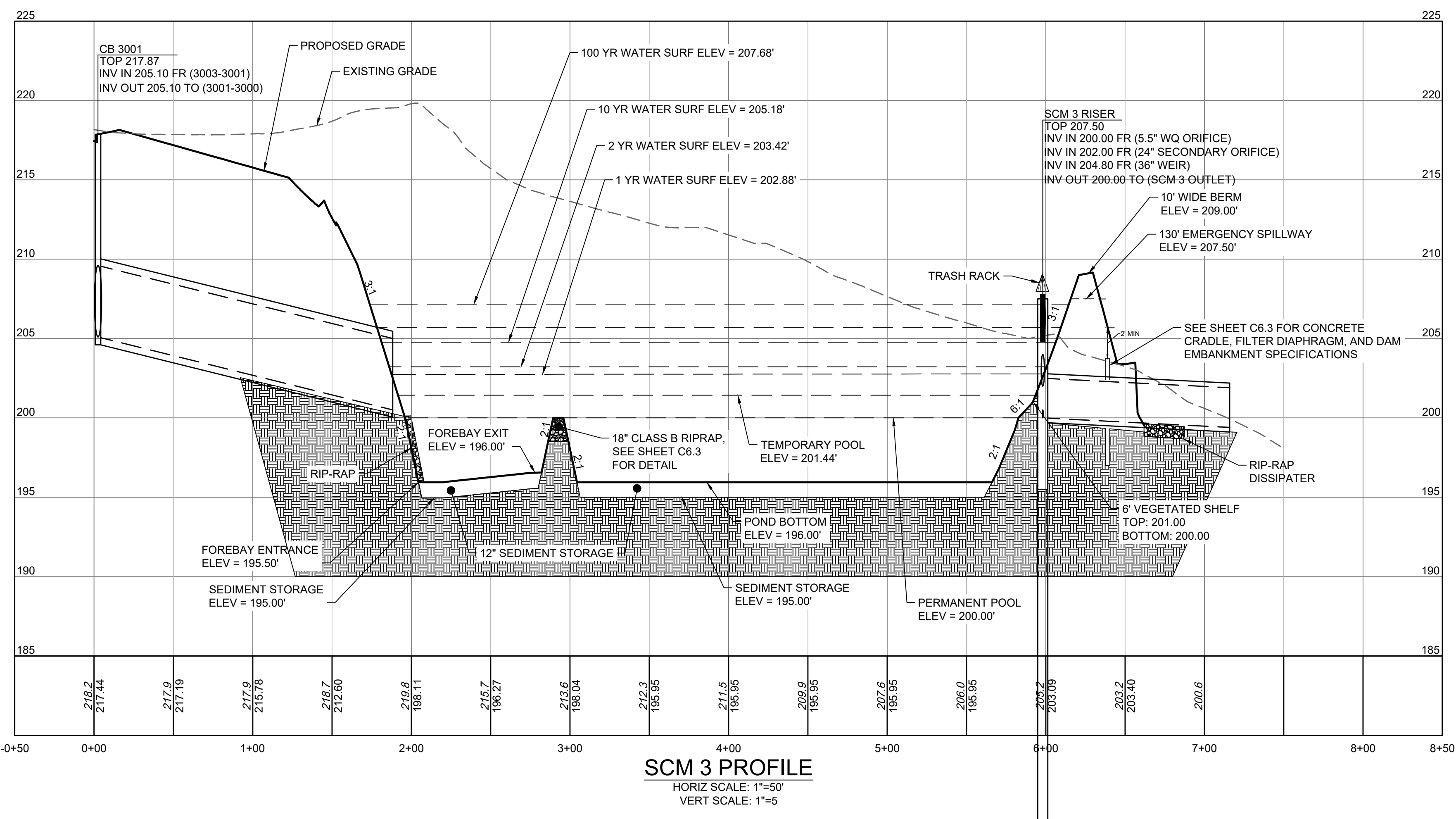
BASIN CONVERSION SEQUENCE:

- SCHEDULE A SITE MEETING WITH THE TOWN OF KNIGHTDALE EROSION CONTROL INSPECTOR TO DETERMINE IF A BASIN CAN BE REMOVED. INSTALL SILT FENCING OR OTHER TEMPORARY EROSION CONTROL MEASURES AS NEEDED PRIOR TO REMOVAL OF THE BASIN.
- CONTACT NCDEQ - RALEIGH REGIONAL OFFICE (919) 791-4200 TO DETERMINE THE DIVISION OF ENERGY, MINERAL AND LAND RESOURCES CONTACT PERSON TO RECEIVE DEWATERING NOTIFICATIONS. AT LEAST 10 DAYS PRIOR TO BEGINNING DEWATERING ACTIVITY, SEND EMAIL TO NCDEQ-DEMLR CONTACT PERSON AND COPY ENVIRONMENTAL CONSULTANT THAT MET YOU ONSITE. THE EMAIL SHOULD INCLUDE E&S JURISDICTION, TOWN OF KNIGHTDALE, TOK PROJECT, NAME, NUMBER, AND LOCATION (CITY/TOWN), ENVIRONMENTAL CONSULTANT NAME, AND ADDRESS THE FOLLOWING: A) REASON FOR CONVERSION, B) BASIN #, C) DEWATERING METHOD, AND D) ALL OTHER NECESSARY INFO FROM PART II, SECTION G, ITEM 4 OF THE NCG01. (KEEP EMAIL FOR YOUR NPDES MONITORING DOCUMENTATION).
- AFTER RECEIVING POSITIVE CONFIRMATION FROM NCDEQ-DEMLR THAT YOU MAY REMOVE THE BASIN OR ON DAY 11, WHICHEVER IS SOONER, REMOVE BASIN(S) AND ASSOCIATED TEMPORARY DIVERSION DITCHES. IF PIPES NEED TO BE EXTENDED, PERFORM THIS OPERATION AT THIS TIME. FINE GRADE AREA IN PREPARATION FOR SEEDING.
- PERFORM SEEDBED PREPARATION, SEED, MULCH AND ANCHOR ANY RESULTING BARE AREAS IMMEDIATELY USING NON-CLUMPING TURF GRASS (CINTEPEDE/HYBRID BERMUDA).
- INSTALL VELOCITY DISSIPATORS AND/OR LEVEL SPREADERS AS REQUIRED ON THE EROSION CONTROL PLAN.
- WHEN SITE IS FULL STABILIZED, CALL EROSION CONTROL INSPECTOR FOR APPROVAL OF REMOVING REMAINING TEMPORARY EROSION CONTROL MEASURES AND ADVICE ON WHEN SITE CAN BE ISSUED A CERTIFICATE OF COMPLETION. NOTE: A MEETING SHOULD ALSO BE SCHEDULED WITH THE EROSION CONTROL INSPECTOR AND STORMWATER TECHNICIAN TO DETERMINE WITHIN A BASIN MAY BE CONVERTED FOR STORMWATER USE.

Pond / Riser Data & Elevations		
Pond Type	Wet Pond	
TSS Removal	85%	
Top of Pond / Berm	209.00' r	
Secondary Spillway Width	130.00' r	
Bottom of Secondary Spillway	207.50' r	
Top of Riser	206.80' r (at least 1' Above TPE)	
Riser Type / Size	4x4 r	
Top of Water Quality / Temp Pool Elev	201.56' r (1" Runoff)	
Top of Veg. Shelf	201.00' r	
Permanent Pool Elevation (Normal Pool)	200.00' r	
Water Quality Orifice Elevation and Size	200.00' r	
Secondary Orifice Elevation & Size (Rise & Span)	24.00 inch	24.00 inch
	* Rise	* Span
Weir Elevation, Size, and # of Sides	204.80' r	36.00 inch 1 side(s)
Bottom of Veg. Shelf	200.00' r	* Width *# of Sides
Top of Sediment Storage / Pond Bottom	195.00' r	
Bottom of Sediment Storage	195.00' r (Min 1 ft)	
Invert Out of Riser	200.00' r	
Outlet Pipe Size	30.00 in	Diameter RCP
Outlet Pipe Length & Slope	63.80 r	0.94 %
Downstream Outlet Elevation	199.40' r	
1 Yr Water Surface Elev / Peak Flow (CFS)	202.88' r 5.40 CFS	
2 Yr Water Surface Elev / Peak Flow (CFS)	203.42' r 10.88 CFS	
10 Yr Water Surface Elev / Peak Flow (CFS)	205.18' r 25.89 CFS	
100 Yr Water Surface Elev / Peak Flow (CFS)	207.68' r 65.97 CFS	



Anti-Bouyancy Calculations for the Riser Structure		
Riser Dimensions	Weight of Structure	Displaced Volume
Outside Width 5.00 ft	Walls = 15,930 LBS	V = LxWx(H)T = C.F.
Inside Width 4.00 ft	Base = 3,675 LBS	
Outside Length 5.00 ft	FILL = 10,800 lbs	Displaced Water =
Inside Length 4.00 ft		C.F. * 62.4 PCF = LBS
Height 11.80 ft	Outlet Pipe = 368 LBS	
Base Thick' (ft) 0.50 ft	WQ Orifice = 12 LBS	Add 15% Factor of Safety
Wall Thick' (ft) 0.50 ft		
Ext Base (ft) 1.00 ft	Weir #1 = 300 LBS	V = 295 C.F.
Areas removed from Riser	Weir #2 = 450 LBS	Disp. Water = 18,408 LBS
Outlet Pipe 4.91 ft	Weir #3 = 0 LBS	15% F.S. = 2,761 LBS
WQ Orifice 0.16 ft	Weir #4 = 0 LBS	
Orifice #1 4.00 ft	Other #1 = 0 LBS	Safety Factor 1.38
Orifice #2 6.00 ft		
Orifice #3 0.00 ft	Weight = 29,275 LBS	Weight = 21,169 LBS
Orifice #4 0.00 ft		
Other 0.00 ft	Precast Concrete Riser Structure to be 4 ft x 4 ft x 11.8 ft Tall, With a 0.5 ft Thick Precast Extended Base	



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: _____
DEVELOPMENT SERVICES ENGINEER

THESE PLANS ARE APPROVED BY THE TOWN OF KNIGHTDALE AND SERVE AS CONSTRUCTION PLANS FOR THIS PROJECT.

BY: _____ DATE: _____
ADMINISTRATOR

AS-BUILT SURVEY REQUIREMENTS

NOTE: CONTRACTOR SHALL PROVIDE AS-BUILT TOPOGRAPHIC SURVEY PERFORMED BY A PROFESSIONAL LAND SURVEYOR CERTIFYING STORMWATER POND AREA DIMENSIONS, ELEVATIONS, OUTLET STRUCTURE INVERTS, ORIFICE DIAMETER, PIPE SIZES AND CLEANOUT LOCATIONS. TOPOGRAPHY SHALL EXTEND 20 FEET OUTSIDE LIMITS OF POND.



THIS DRAWING PREPARED AT THE
RALEIGH OFFICE
5410 Trinity Road, Suite 102, Raleigh, NC 27607
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

DATE: 01/22/2024
DRAWN BY: 331

DESIGNED BY: 331
CHECKED BY: A. STONE
SCALE: H: 1" = 50'
V: 1" = 5'

TIMMONS GROUP

NORTH CAROLINA LICENSE NO. C-1652

ALLEN PARK SUBDIVISION - PHASE 1
KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA

SCM 3 PLAN & PROFILE

JOB NO. 44529
SHEET NO. C6.1

RELEASED FOR CONSTRUCTION

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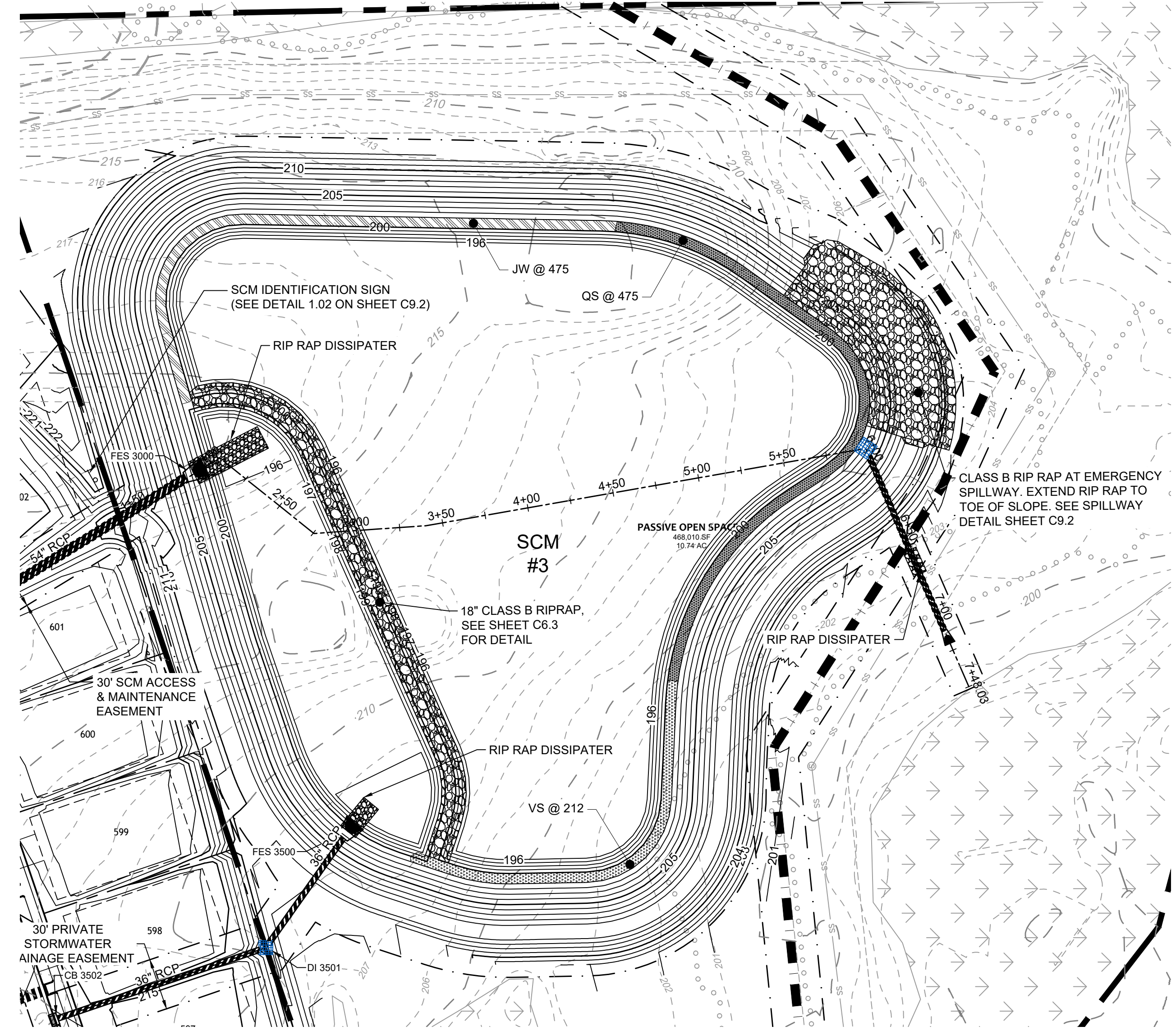
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TIMMONS GROUP
 NORTH CAROLINA LICENSE NO. C-1652

ALLEN PARK SUBDIVISION - PHASE 1
 KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA
 SCM PLANTING PLAN & DETAILS

JOB NO.
44529
 SHEET NO.
C6.2

RELEASED FOR CONSTRUCTION



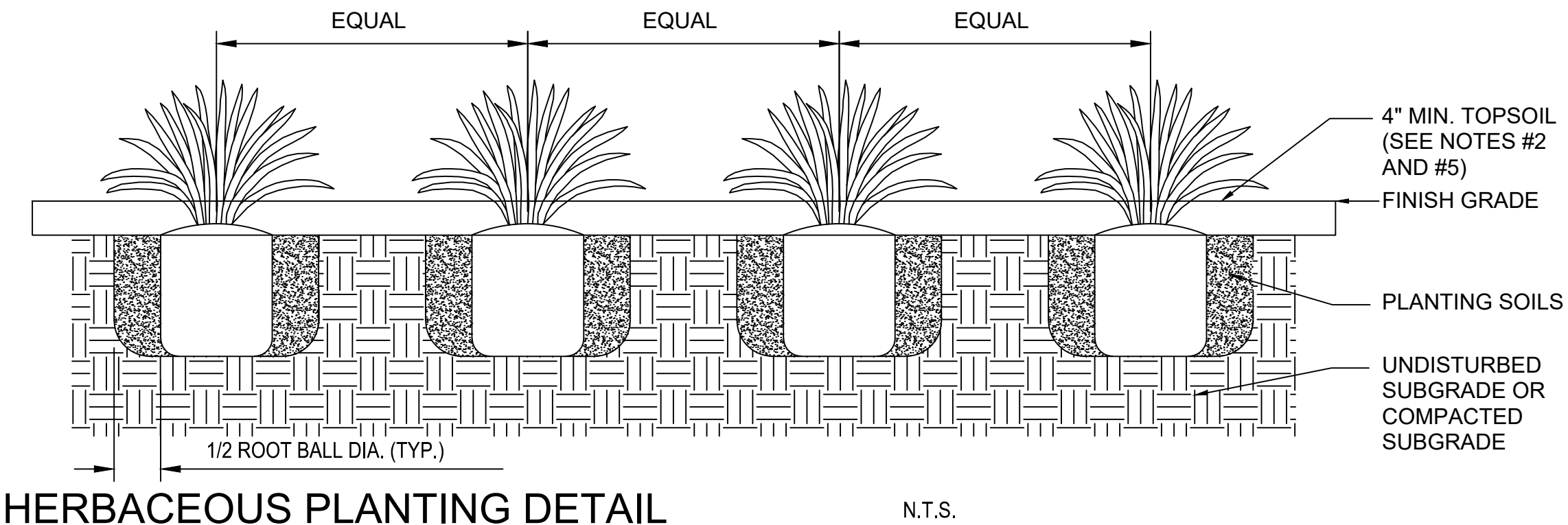
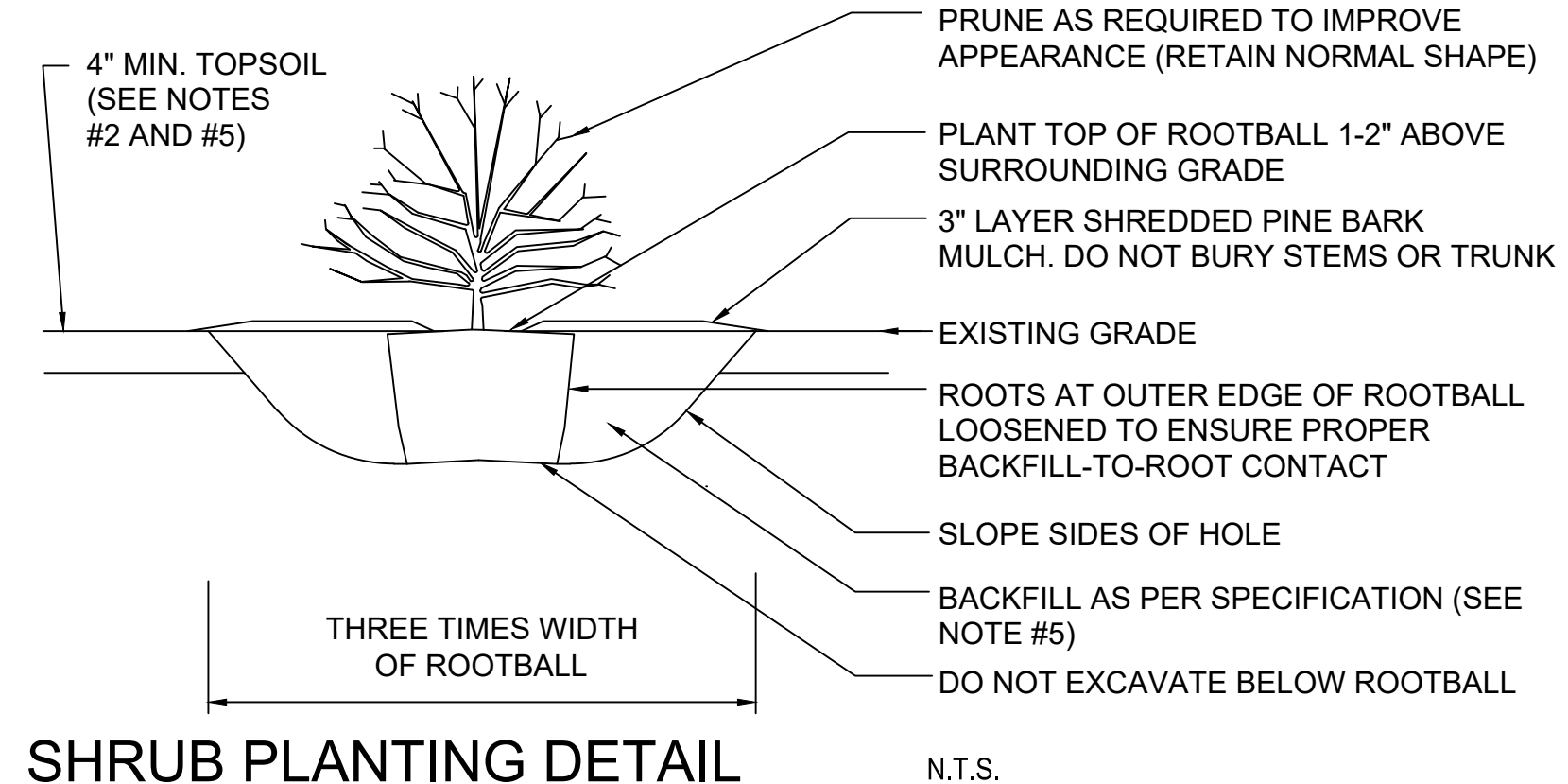
Planting Summary Requirements						
Dam / Berm			Non-Clumping Turf Grass			
6' Shelf Length	950	Area of Shelf =	5700 SF	(50 Plants per 200 SF of Area)		
Quantity	Type	Root	Common Name	Scientific Name	Planting Size	Notes
475	Herbaceous	Container	Quill Sedge	Cerex Tenera	4" Pot	24"-36" OC
475	Herbaceous	Container	Henry Garnet	Itea Virginica	4" Pot	24"-36" OC
475	Herbaceous	Container	Joe Pye Weed	Eupat. fistulosus	4" Pot	24"-36" OC

PLANTING NOTES:

- THE DAM STRUCTURE, INCLUDING FRONT AND BACK EMBANKMENT SLOPES, OF THE POND SHALL BE VEGETATED WITH NON-CLUMPING TURF GRASS OR SOD. TREES AND WOODY SHRUBS SHALL NOT BE ALLOWED. 90% GERMINATION ON ALL PORTIONS OF THE DEVICE WILL BE REQUIRED PRIOR TO FINAL CERTIFICATION
- THE VEGETATED SHELF SHALL BE PLANTED WITH A MINIMUM OF THREE DIVERSE SPECIES OF HERBACEOUS, NATIVE VEGETATION AT A MINIMUM DENSITY OF 50 PLANTS PER 200 SQUARE FEET OF SHELF AREA.
- CONTRACTOR TO WORK WITH SOILS SCIENTIST TO ENSURE SOILS ARE ADEQUATE TO SUPPORT ESTABLISHMENT AND GROWTH OF THE WETLAND PLANTINGS. CONTRACTOR TO AMEND SOILS AND INSTALL SOILS IN PLANT, SHRUB, AND TREE AREAS PER DETAILS, SOIL SPECIFICATIONS, NCDENR SPECIFICATION, AND SOIL SCIENTIST RECOMMENDATIONS. VEGETATION SHALL BE PLANTED DURING THE APPROPRIATE TIME OF YEAR TO ENSURE PROPER ESTABLISHMENT.
- ALL DISTURBED AREAS AROUND THE OUTSIDE OF THE WET POND SHALL BE SEEDED WITH A LAWN AREA SEED MIX (PER SEEDING SPECIFICATIONS) NATIVE GRASSES, LEGUMES, CLOVERS AND WILDFLOWERS.
- IF THE WETPOND WAS USED DURING CONSTRUCTION AS A SEDIMENT BASIN OR TRAP, THE BASIN MUST BE CLEANED OUT, GRADED, APPROPRIATE AREAS COVERED WITH 4" OF TOPSOIL AS SPECIFIED IN NOTE #2 ABOVE, AND VEGETATED WITHIN 14 DAYS OF THE COMPLETION OF THE CONSTRUCTION. SEE TOWN OF KNIGHTDALE SCM BASIN REMOVAL SEQUENCE FOR MORE INFORMATION.
- CONTRACTOR SHALL WATER ALL VEGETATION AND GRASS ON A WEEKLY BASIS AS NEEDED TO ENSURE GRASS AND PLANT SURVIVAL UNTIL AFTER THE SCM IS CERTIFIED AND ACCEPTED BY THE MUNICIPALITY.

INSTALLATION AND MAINTENANCE OF LANDSCAPING:

- ALL LANDSCAPING SHALL BE OF NURSERY-STOCK QUALITY AND SHALL BE INSTALLED IN A SOUND, WORKMANLIKE MANNER AND ACCORDING TO ACCEPTED GOOD PLANTING PROCEDURES. ALL LANDSCAPING SHALL BE ADAPTABLE TO CLIMATIC CONDITIONS OF THE AREA, AND CONSIDERATION SHALL BE GIVEN TO NOT PLANTING LARGE TREES NEAR UTILITIES. ALL LANDSCAPING SHALL BE MAINTAINED IN GOOD CONDITION.
- ALL PLANTS SHALL MEET OR EXCEED THE MINIMUM STANDARDS SET BY THE U.S.D.A. STANDARD FOR NURSERY STOCK SPONSORED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC.
- ALL LANDSCAPING SHALL AT ALL TIMES SHALL PRESENT A HEALTHY, NEAT, CLEAN, ORDERLY, DISEASE-FREE AND PEST-FREE APPEARANCE.
- ALL LANDSCAPING SOIL AND FILL SHALL BE FREE FROM WEEDS, REFUSE, AND DEBRIS AT ALL TIMES.
- ANY DEAD PLANT MATERIAL OR MATERIAL THAT FAILS TO SHOW HEALTHY GROWTH MUST BE REMOVED WITHIN 30 DAYS.
- REPLACEMENT OF REMOVED PLANT MATERIAL MUST TAKE PLACE WITHIN 90 DAYS OF REMOVAL OR NOTIFICATION BY THE CITY, WHICHEVER OCCURS FIRST.
- ANY REPLACEMENT PLANT MATERIAL MUST MEET THE SIZE AND OTHER CHARACTERISTICS OF NEWLY PLANTED MATERIAL.
- MAINTENANCE OF THE LANDSCAPING IS THE RESPONSIBILITY OF THE OWNER.



PLANTING PLAN LEGEND

- QUAIL SEDGE (CEREZ TENERA)
- VIRGINIA SWEETSPIRE (ITEA VIRGINICA)
- JOE PYE WEED (EUPAT FISTULOSUS)

AS-BUILT SURVEY REQUIREMENTS

NOTE: CONTRACTOR SHALL PROVIDE AS-BUILT TOPOGRAPHIC SURVEY PERFORMED BY A PROFESSIONAL LAND SURVEYOR CERTIFYING STORMWATER POND AREA DIMENSIONS, ELEVATIONS, OUTLET STRUCTURE INVERTS, ORIFICE DIAMETER, PIPE SIZES AND CLEANOUT LOCATIONS. TOPOGRAPHY SHALL EXTEND 20 FEET OUTSIDE LIMITS OF POND.

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.

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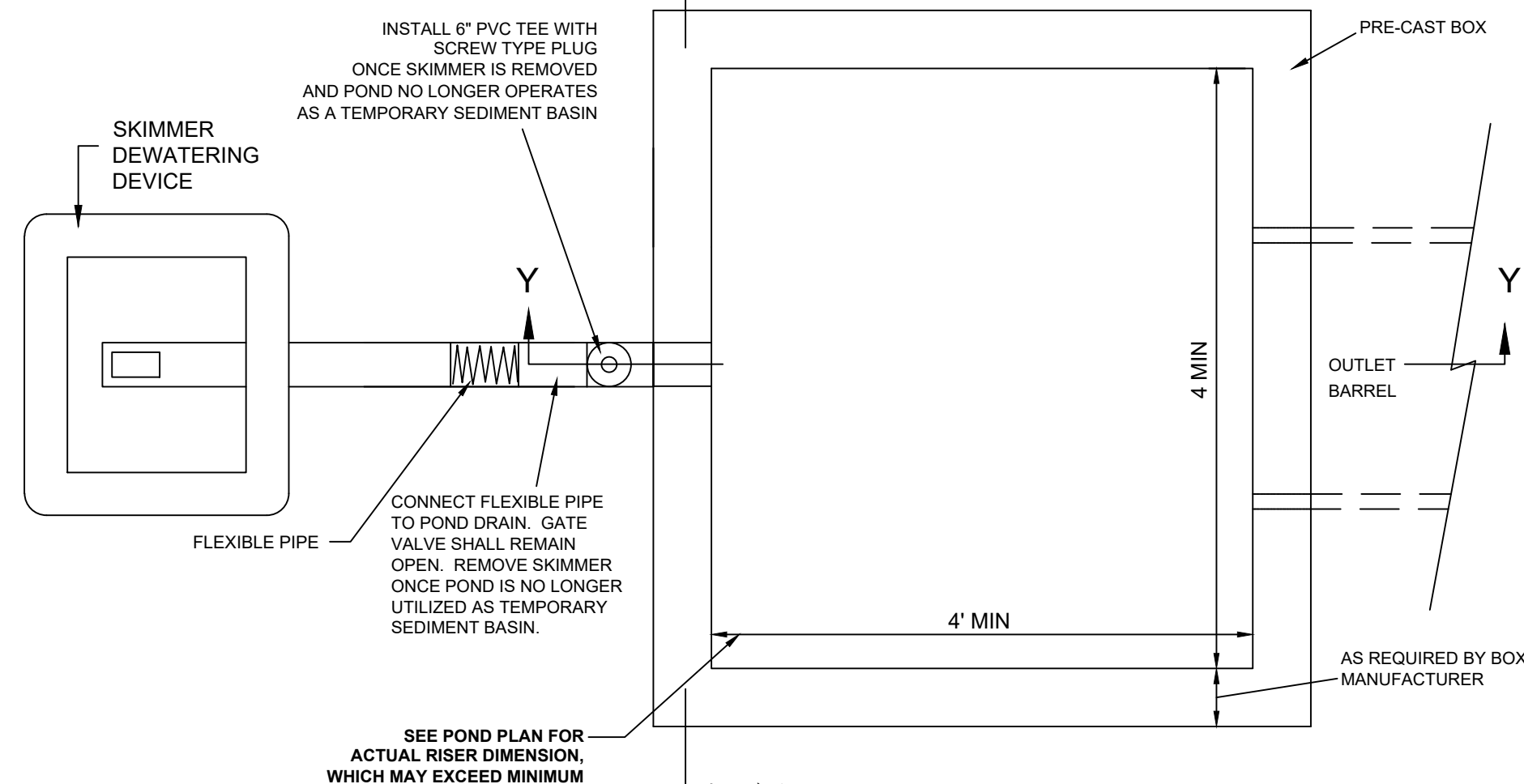


S:\331\44529-WL-MAR-DWG Sheet(CD)Phase II & III\44529-331-C6.1-SCM1.dwg | Plotted by Stan Wiles

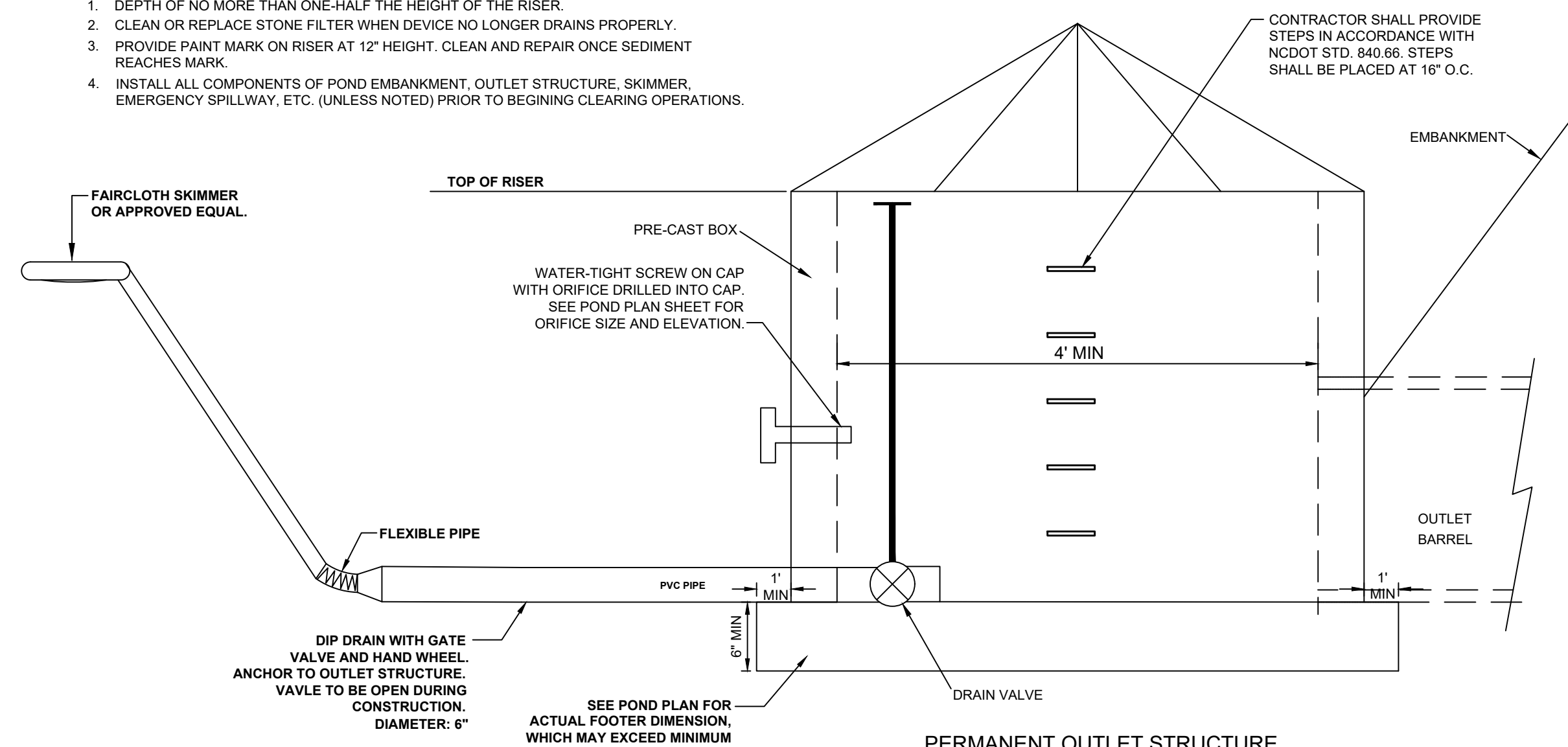
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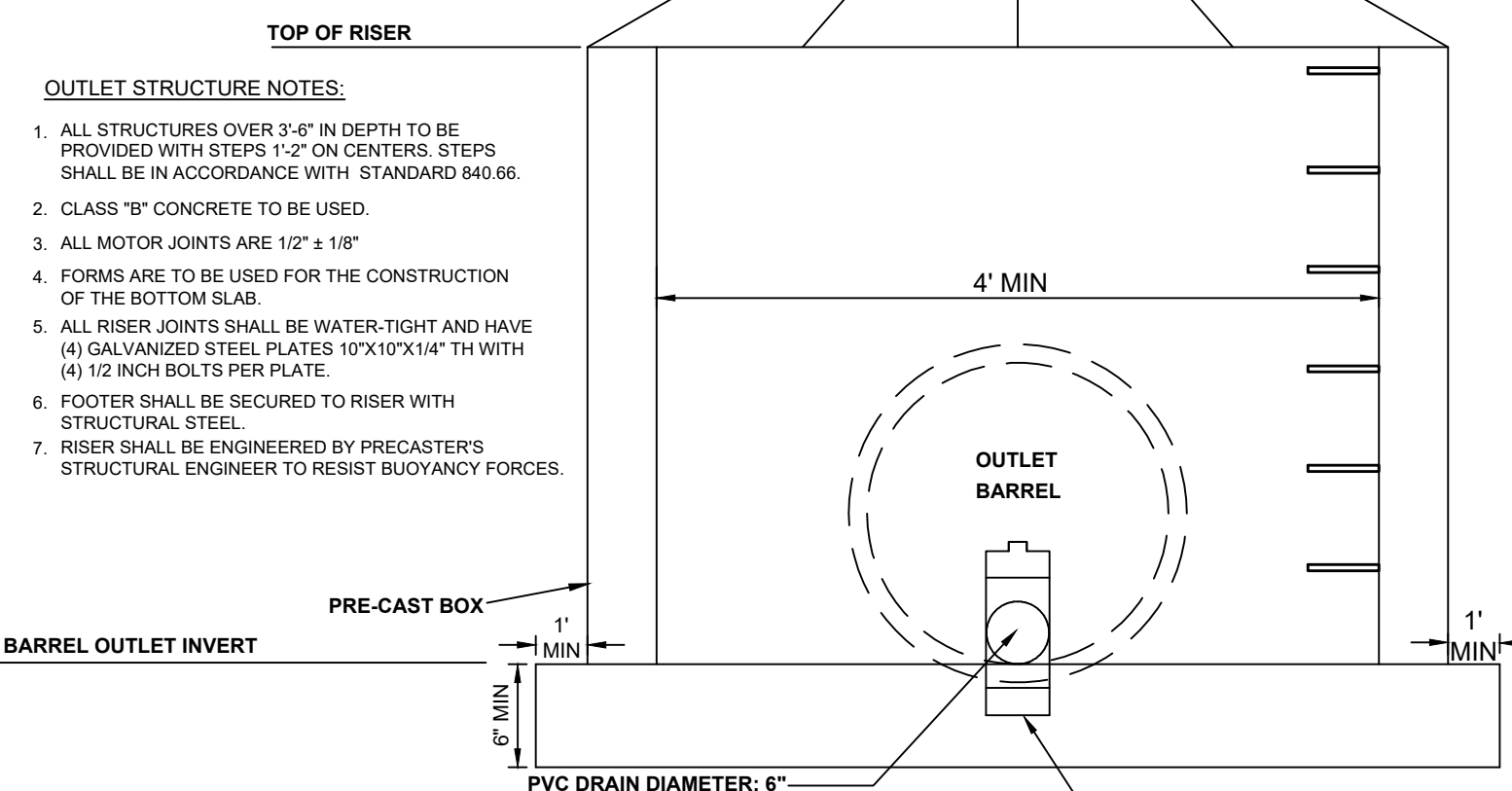
1. DEPTH OF NO MORE THAN ONE-HALF THE HEIGHT OF THE RISER.
2. CLEAN OR REPLACE STONE FILTER WHEN DEVICE NO LONGER DRAINS PROPERLY.
3. PROVIDE PAINT MARK ON RISER AT 12" HEIGHT. CLEAN AND REPAIR ONCE SEDIMENT REACHES MARK.
4. INSTALL ALL COMPONENTS OF POND EMBANKMENT, OUTLET STRUCTURE, SKIMMER, EMERGENCY SPILLWAY, ETC. (UNLESS NOTED) PRIOR TO BEGINNING CLEARING OPERATIONS.



PLAN VIEW
NOT TO SCALE



PERMANENT OUTLET STRUCTURE
SECTION Y-Y
NOT TO SCALE



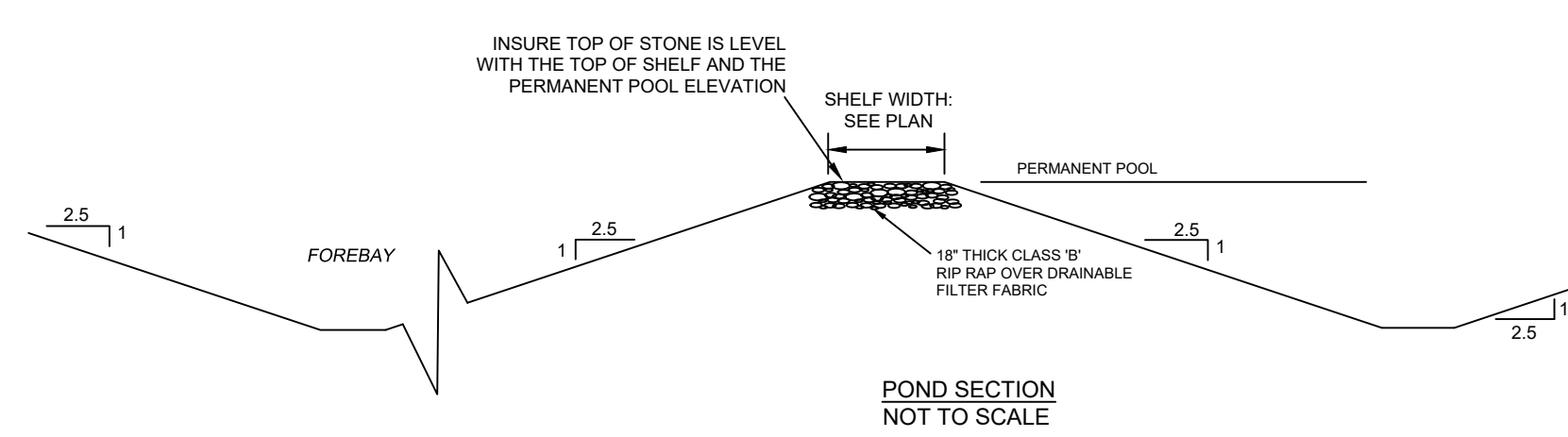
SECTION X-X
OUTLET STRUCTURE
NOT TO SCALE

DURING EROSION CONTROL STAGES, ALL RISER ORIFICES SHALL BE TEMPORARILY PLUGGED, EXCEPT FOR THE TEMPORARY SKIMMER.

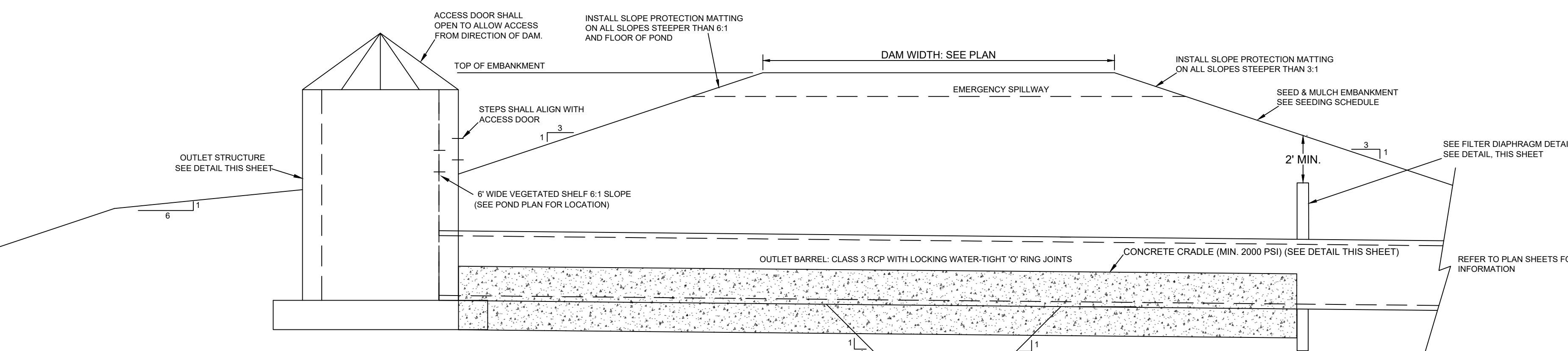
AT TIME OF SKIMMER REMOVAL, THE DRAIN VALVE SHALL BE CLOSED AND ALL RISER ORIFICES SHALL BE UNPLUGGED.

OUTLET STRUCTURE NOTES:

1. ALL STRUCTURES OVER 3'-0" IN DEPTH TO BE PROVIDED WITH STEPS 1'-2" ON CENTERS. STEPS SHALL BE IN ACCORDANCE WITH STANDARD 840.66.
2. CLASS "B" CONCRETE TO BE USED.
3. ALL MOTOR JOINTS ARE 1/2" ± 1/8"
4. FORMS ARE TO BE USED FOR THE CONSTRUCTION OF THE BOTTOM SLAB.
5. ALL RISER JOINTS SHALL BE WATER-TIGHT AND HAVE (4) GALVANIZED STEEL PLATES 10"X10"X1/4" TH WITH (4) 1/2 INCH BOLTS PER PLATE.
6. FOOTER SHALL BE SECURED TO RISER WITH STRUCTURAL STEEL.
7. RISER SHALL BE ENGINEERED BY PRECASTER'S STRUCTURAL ENGINEER TO RESIST BUOYANCY FORCES.



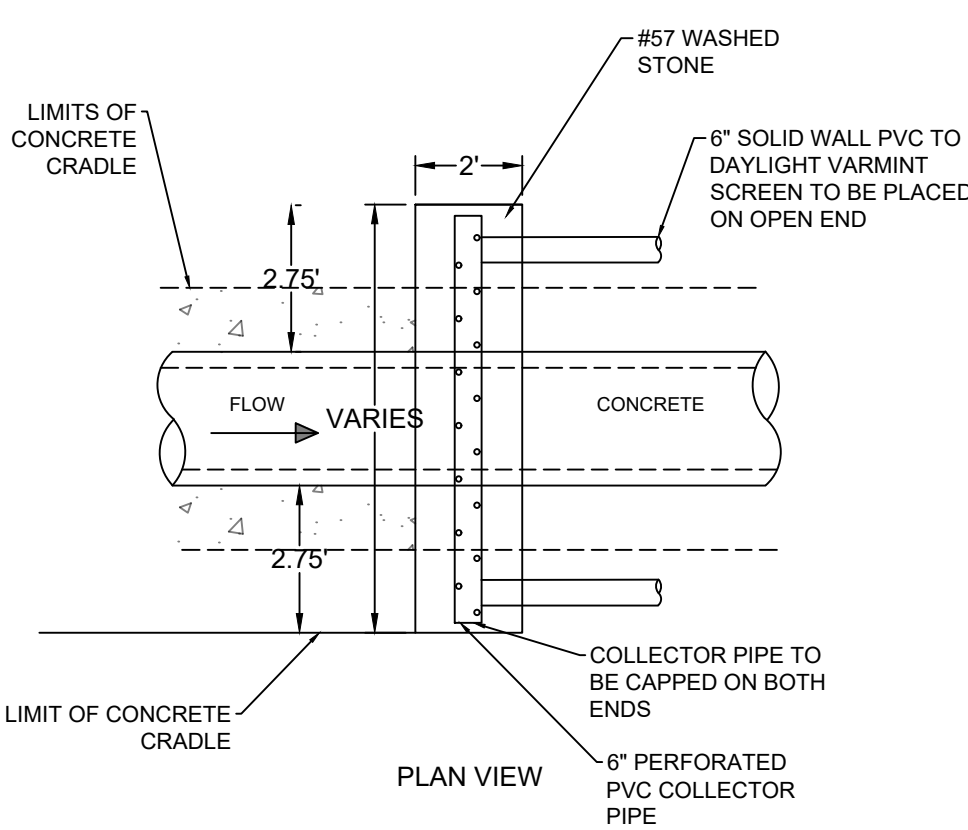
POND SECTION
NOT TO SCALE



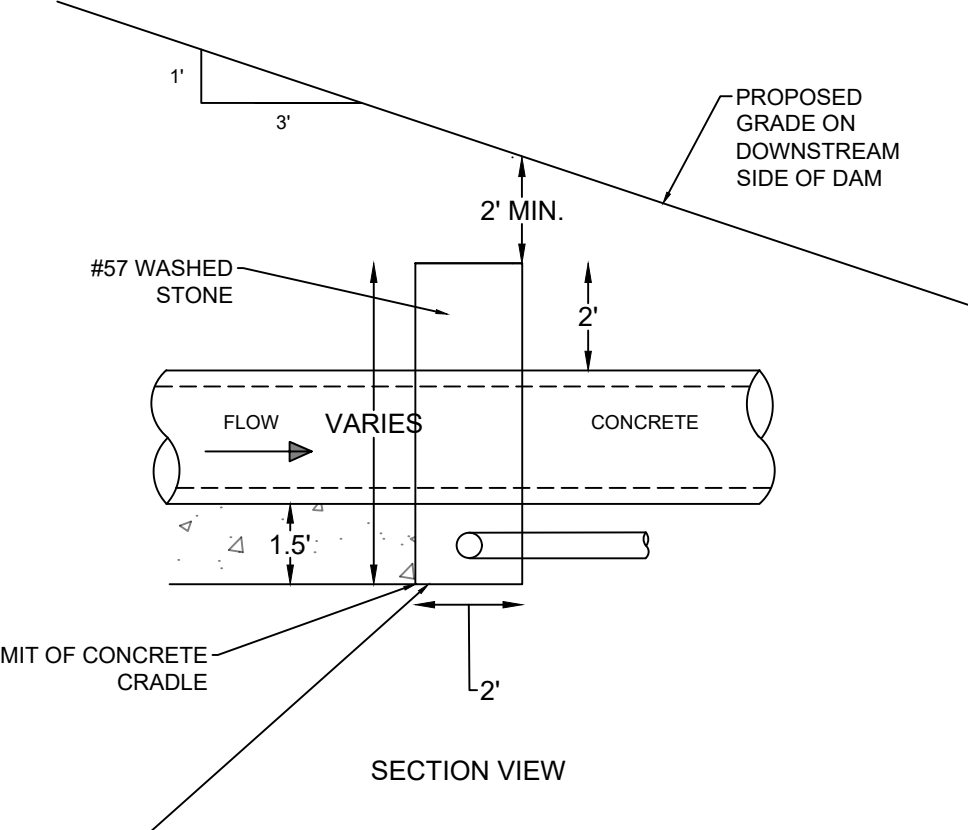
STORMWATER WET POND DETAIL
NOT TO SCALE

- NOTES:**
1. EMBANKMENT SHALL BE CONSTRUCTED OF CLEAN STRUCTURAL SOIL FREE OF ROOTS, VEGETATION, ROCKS & OTHER OBJECTIONABLE MATERIAL. SCARIFY SURFACES BEFORE PLACING FILL. PLACE FILL IN 6-8 INCH LOOSE LIFTS. COMPACT TO AT LEAST 95% OF THE STANDARD PROCTOR DENSITY.
 2. CONTRACTOR TO SUPPLY SHOP DRAWINGS OF RISER STRUCTURES PRIOR TO FABRICATION.
 3. ALL RISERS SHALL BE PRECAST CONCRETE SOLID 6" WALL STRUCTURES.
 4. 4-6 INCH LAYER OF AMENDED SOIL IS RECOMMENDED IN ANY AREA WHERE PLANTINGS ARE REQUIRED (SEE NCDNR BMP DESIGN MANUAL).

GEOTECHNICAL CERTIFICATION NOTE:
ASBULT CERTIFICATION OF THE EMBANKMENT COMPACTION, CONCRETE CRADLE, FILTER DIAPHRAGM, CUT OFF TRENCH, ETC. WILL BE REQUIRED PRIOR TO CERTIFICATE OF OCCUPANCY.



PLAN VIEW



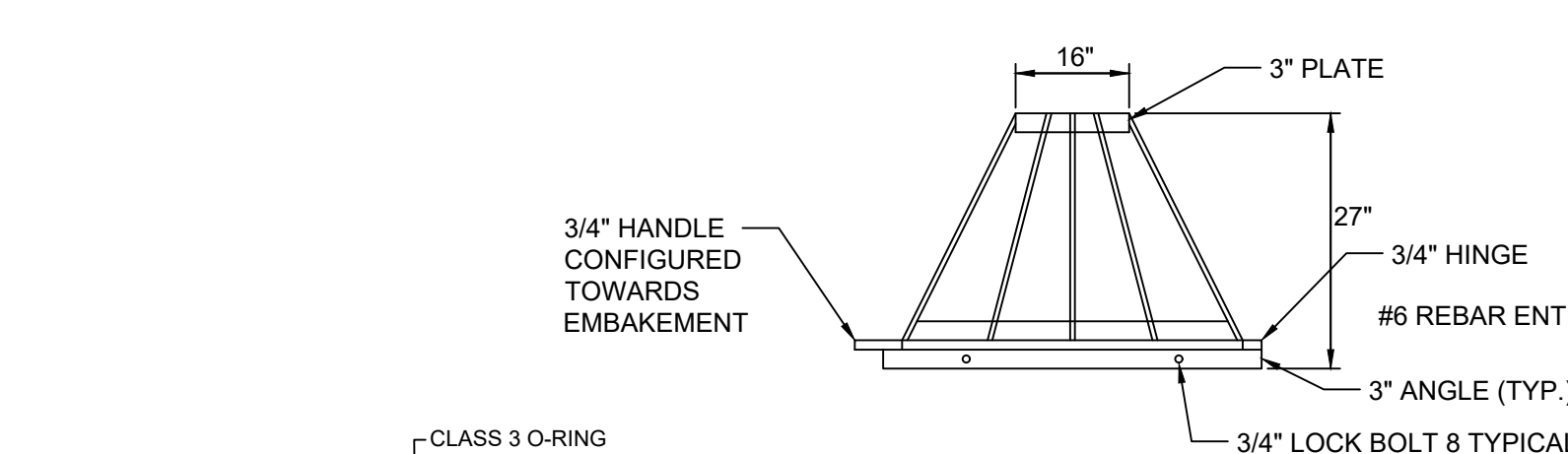
SECTION VIEW

NOTES:
MINIMUM DENSITY SHALL NOT BE LESS THAN 95% OF MAXIMUM DRY DENSITY WITH MOISTURE CONTENT WITHIN ± 2% OF THE OPTIMUM EACH LIFT OF FILL SHALL BE COMPACTED AS NECESSARY TO OBTAIN THAT DENSITY. ALL COMPACTION IS DETERMINED PER AASHTO METHOD T-99 (STANDARD PROCTOR). DAM EMBANKMENT IS TO BE SEEDDED IMMEDIATELY AFTER DAM CONSTRUCTION IS COMPLETE.

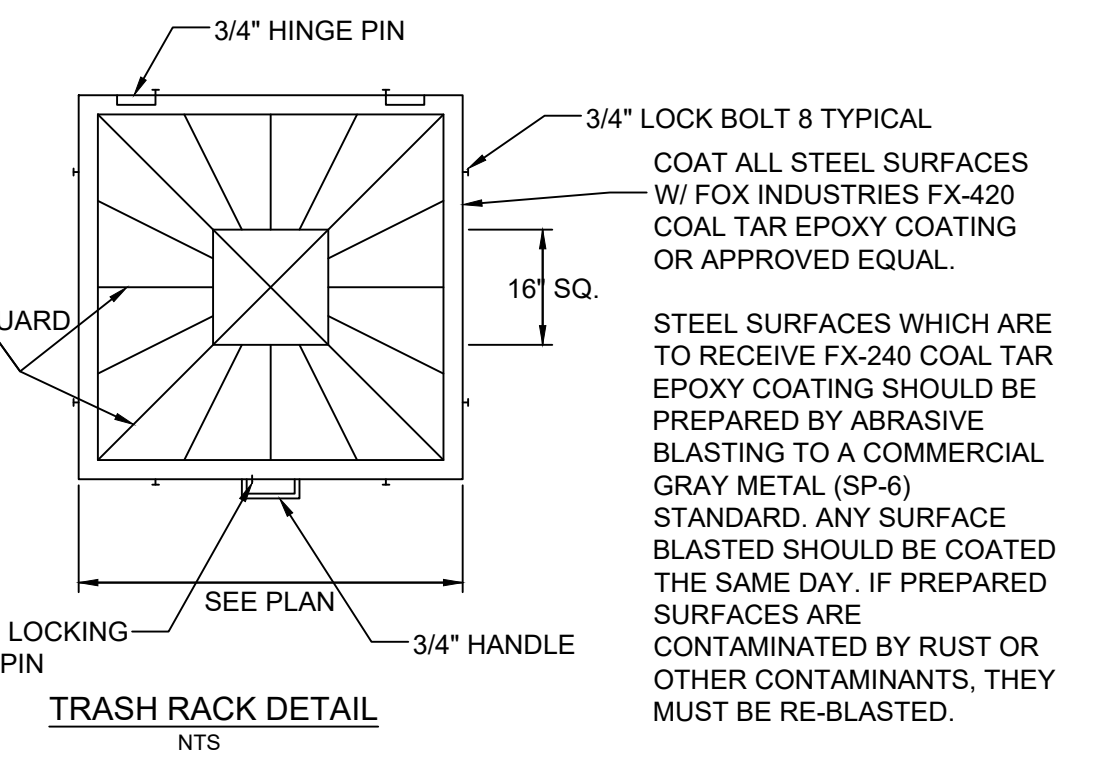
STORMWATER MANAGEMENT STRUCTURE IS TO BE UTILIZED AS A TEMPORARY EROSION CONTROL DEVICE INITIALLY. ONCE CONSTRUCTION IS COMPLETED AND UPSTREAM SURFACES HAVE BEEN PERMANENTLY STABILIZED, CONTRACTOR IS TO REMOVE ALL SEDIMENT FROM BASIN AND CONVERT TO PERMANENT WATER QUALITY STRUCTURE. THIS INCLUDES INSTALLING THE PROPOSED PLANTINGS ALONG THE LITTORAL SHELF.

DAM EMBANKMENT CONSTRUCTION NOTES:

1. CONSTRUCTION OF THIS DAM SHALL BE DONE UNDER THE OBSERVATION OF A QUALIFIED GEOTECHNICAL ENGINEER, WHO IS A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF NORTH CAROLINA. CONTROLLED FILL, AS SPECIFIED BY THE GEOTECHNICAL ENGINEER. IN THE DAM EMBANKMENT SHALL BE PLACED IN 6-INCH LOOSE LAYERS (3-INCH LOOSE LAYERS WITHIN 3-FEET OF EITHER SIDE OF THE PRINCIPAL SPILLWAY PIPE TO A DEPTH OF 2-FEET OVER THE PIPE) 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.
2. ALL VISIBLE ORGANIC DEBRIS SUCH AS ROOTS AND LIMBS SHALL BE REMOVED FROM THE FILL MATERIAL PRIOR TO COMPACTION TO THE REQUIRED DENSITY. SOILS WITH ORGANIC MATTER CONTENT EXCEEDING 5% BY WEIGHT SHALL NOT BE USED. STONES GREATER THAN 3-INCH (IN ANY DIRECTION) SHALL BE REMOVED FROM THE FILL PRIOR TO COMPACTION.
3. FILL MATERIAL PLACED AT DENSITIES LOWER THAN SPECIFIED MINIMUM DENSITIES OR AT MOISTURE CONTENTS OUTSIDE THE SPECIFIED RANGES OR OTHERWISE NOT CONFORMING TO SPECIFIED REQUIREMENTS SHALL BE REMOVED AND REPLACED WITH ACCEPTABLE MATERIALS.
4. ANY FILL LAYER THAT IS SMOOTH DRUM ROLLED TO REDUCE MOISTURE PENETRATION DURING A STORM EVENT SHALL BE PROPERLY SCARIFIED PRIOR TO THE PLACEMENT OF THE NEXT SOIL LIFT.
5. SURFACE WATER AND STREAM FLOW SHALL BE CONTINUOUSLY CONTROLLED THROUGHOUT CONSTRUCTION AND THE PLACEMENT OF CONTROLLED FILL.
6. FOUNDATION AREAS MAY REQUIRE UNDERCUTTING OF COMPRESSIBLE AND/OR UNSUITABLE SOILS IN ADDITION TO THAT INDICATED ON THE PLANS. ALL SUCH UNDERCUTTING SHALL BE PERFORMED AT THE DISCRETION OF THE GEOTECHNICAL ENGINEER AND SHALL BE MONITORED AND DOCUMENTED. IN NO CASE SHALL THERE BE AN ATTEMPT TO STABILIZE ANY PORTIONS OF THE FOUNDATION SOILS WITH CRUSHED STONE.
7. TREATMENT OF SEEPAGE AREAS, SUBGRADE PREPARATION, FOUNDATION DEWATERING AND ROCK FOUNDATION PREPARATION (I.E., TREATMENT WITH SLUSH GROUTING, DENTAL CONCRETE, ETC.) MAY BE REQUIRED AT THE DISCRETION OF THE GEOTECHNICAL ENGINEER. ALL SUCH ACTIVITIES SHALL BE CLOSELY MONITORED AND DOCUMENTED BY THE GEOTECHNICAL ENGINEER.
8. FILL ADJACENT TO THE RISER AND PRINCIPAL SPILLWAY PIPE SHALL BE PLACED SO THAT LIFTS ARE AT THE SAME LEVEL ON BOTH SIDES OF THE STRUCTURES.
9. EARTHWORK COMPACTION WITHIN 3-FEET OF ANY STRUCTURES SHALL BE ACCOMPLISHED BY MEANS OF HAND TAMPERS, MANUALLY DIRECTED POWER TAMPERS OR PLATE COMPACTORS OR MINIATURE SELF-PROPELLED ROLLERS.
10. COMPACTION BY MEANS OF DROP WEIGHTS FROM A CRANE OR HOIST SHALL NOT BE PERMITTED.
11. HEAVY EQUIPMENT SHALL NOT BE ALLOWED TO PASS OVER CAST-IN-PLACE STRUCTURES (INCLUDING THE CRADLE) UNTIL ADEQUATE CURING TIME HAS ELAPSED.
12. TO RE-ESTABLISH VEGETATION AFTER CONSTRUCTION, A 2- TO 3-INCH LAYER OF TOPSOIL SHALL BE PLACED ON THE DISTURBED EMBANKMENT SURFACE AND THE AREA SEEDED AND MULCHED OR HYDROSEEDED.
13. THE EMBANKMENT MATERIAL SHALL BE COMPRISED OF CLAYEY SAND OR SANDY CLAY WITH A MINIMUM OF 30% PASSING THE #200 SIEVE, A LIQUID LIMIT OF AT LEAST 25 AND A PLASTICITY INDEX OF AT LEAST 10%, AND LESS THAN 5% ORGANICS. THIS MATERIAL SHALL ALSO HAVE A UNIFIED SOIL CLASSIFICATION OF SC OR CL.



CONCRETE CRADLE DETAIL
NOT TO SCALE



TRASH RACK DETAIL
NTS

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: _____
DEVELOPMENT SERVICES ENGINEER

THESE PLANS ARE APPROVED BY THE TOWN OF KNIGHTDALE AND SERVE AS CONSTRUCTION PLANS FOR THIS PROJECT.

BY: _____ DATE: _____
ADMINISTRATOR



THIS DRAWING PREPARED AT THE
RALEIGH OFFICE
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DESIGNED BY: 331
CHECKED BY: A. STONE
SCALE: H: 1" = 50'
V: 1" = 5'

TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652
ALLEN PARK SUBDIVISION - PHASE 1
KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA
SCM NOTES & DETAILS

JOB NO. 44529
SHEET NO. C6.3

RELEASED FOR CONSTRUCTION

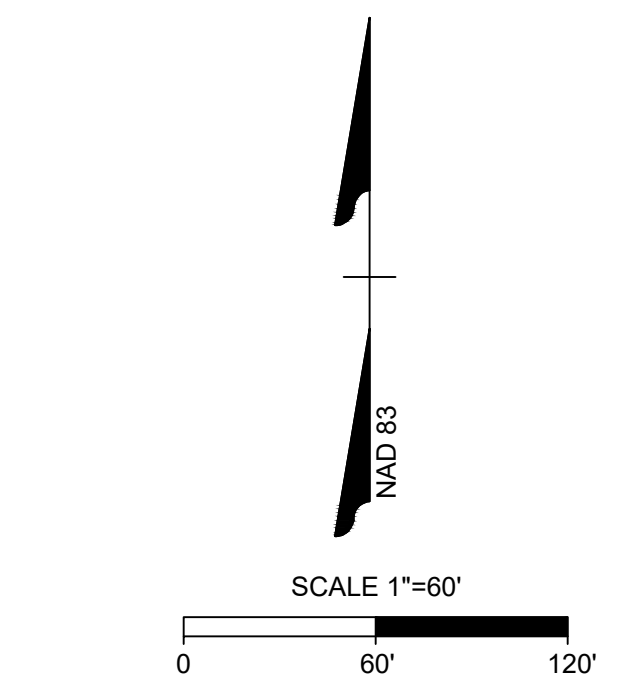
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TREES - PHASE TWO REPLACEMENT TREES - CANOPY										
SYM	CODE	QUANT	SCIENTIFIC NAME	COMMON NAME		CAL	CONT	HT	SP	NOTES
	AS	29	ACER SACCHARUM	SUGAR MAPLE	D	2"	B&B	10'12"	6'-8'	FULL
	BN	36	BETULA NIGRA	RIVER BRCH	D	1.5"/STEM	B&B	8-10'	5'-7'	FULL
	CD	34	CEDRUS DEODORA	DEODORA CEDER	E	2"	B&B	10'12"	6'-8'	FULL
	IO	18	ILEX OPACA	AMERICAN HOLLY	E	2"	B&B	10'12"	6'-8'	FULL
	IXN	23	ILEX X NELLIE STEVENS	NELLIE STEVENS HOLLY	E	2"	B&B	10'12"	6'-8'	FULL
	MG	10	MAGNOLIA GRANDIFLORA	SOUTHERN MAGNOLIA	E	2"	B&B	10'12"	6'-8'	FULL
	PT	6	PINUS TAEDA	LOBLOLLY PINE	E	2"	B&B	10'12"	6'-8'	FULL
	QP	24	QUERCUS PHELLOS	WILLOW OAK	D	2"	B&B	10'12"	6'-8'	FULL
		180	TOTAL							

SHURBS - PHASE TWO - NOT INCLUDED IN TREE REPLACEMENT COUNT										
SYM	CODE	QUANT	SCIENTIFIC NAME	COMMON NAME		CAL	CONT	HT	SP	NOTES
	RU	187	RAPHIOLEPSIS UMBELLATA	ELEANOR TABOR HAWTHORNE	E		CONT	18"-24"	18"-24"	FULL

STREET TREES - PHASE TWO - NOT INCLUE IN THE TREE REPLACEMENT										
SYM	CODE	QUANT	SCIENTIFIC NAME	COMMON NAME		CAL	CONT	HT	SP	NOTES
	AR	47	ACER RUBUM	RED MAPLE	D	2"	B&B	10'12"	6'-8'	FULL
	AS	48	ACER SACCHARUM	SUGAR MAPLE	D	2"	B&B	10'12"	6'-8'	FULL
	BN	39	BETULA NIGRA	RIVER BRCH	D	1.5"/STEM	B&B	8-10'	5'-7'	FULL
	IXN	13	ILEX X NELLIE STEVENS	NELLIE STEVENS HOLLY	E	2"	B&B	10'12"	6'-8'	FULL
	PC	86	PISTACIA CHINENSIS	CHINESE PISTACHIO	D	2"	B&B	10'12"	6'-8'	FULL
	QP	26	QUERCUS PHELLOS	WILLOW OAK	D	2"	B&B	10'12"	6'-8'	FULL
	UP	60	ULMUS PARVIFOLIA	CHINESE ELM	D	2"	B&B	10'12"	6'-8'	FULL
	ZS	36	ZELCOVA SERRATA	JAPANESE ZELCOVA	D	2"	B&B	10'12"	6'-8'	FULL
		308	TOTAL							



LEGEND	
	PROPERTY LINE
	ACTIVE OPEN SPACE
	PASSIVE OPEN SPACE
	COMMON AREA

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: _____
DEVELOPMENT SERVICES ENGINEER

THESE PLANS ARE APPROVED BY THE TOWN OF KNIGHTDALE AND SERVE AS CONSTRUCTION PLANS FOR THIS PROJECT.

BY: _____ DATE: _____
ADMINISTRATOR



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DATE
01/26/2024

DRAWN BY
331

DESIGNED BY
331

CHECKED BY
A. STONE

SCALE
1"=60'

TIMMONS GROUP

NORTH CAROLINA LICENSE NO. C-1652

ALLEN PARK SUBDIVISION - PHASE II
KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA

LANDSCAPING PLAN - SHEET 1 OF 3

JOB NO.
44529

SHEET NO.
C7.1

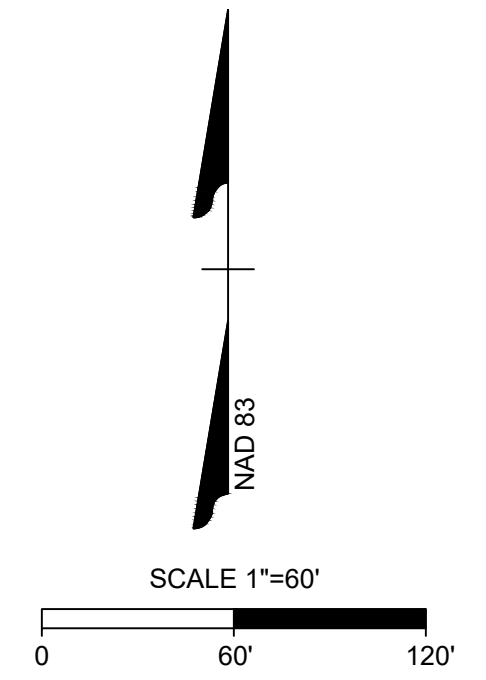
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S:\331\44529-WL-MAR-DWG Sheet\CD-Phase II & III\44529-331-CD-PLNT.dwg | Plotted by Sean Wires

S:\331\44529-WL-MAR\DWG\Sheet\CD\Phase II & III\44529-331-C9.0-PLNT.dwg | Plotted by Sean Wiles



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SEE SHEET C9.1 FOR TREE SCHEDULE FOR PHASE 2
SEE SHEET C9.3 FOR TREE SCHEDULE FOR PHASE 3

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BY: _____ DATE: _____
ADMINISTRATOR

LEGEND

	PROPERTY LINE
	ACTIVE OPEN SPACE
	PASSIVE OPEN SPACE
	COMMON AREA



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REVISION DESCRIPTION	DATE

DATE	01/26/2024
DRAWN BY	331
DESIGNED BY	331
CHECKED BY	A. STONE
SCALE	1"=60'

TIMMONS GROUP

NORTH CAROLINA LICENSE NO. C-1652

ALLEN PARK SUBDIVISION - PHASE II
KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA

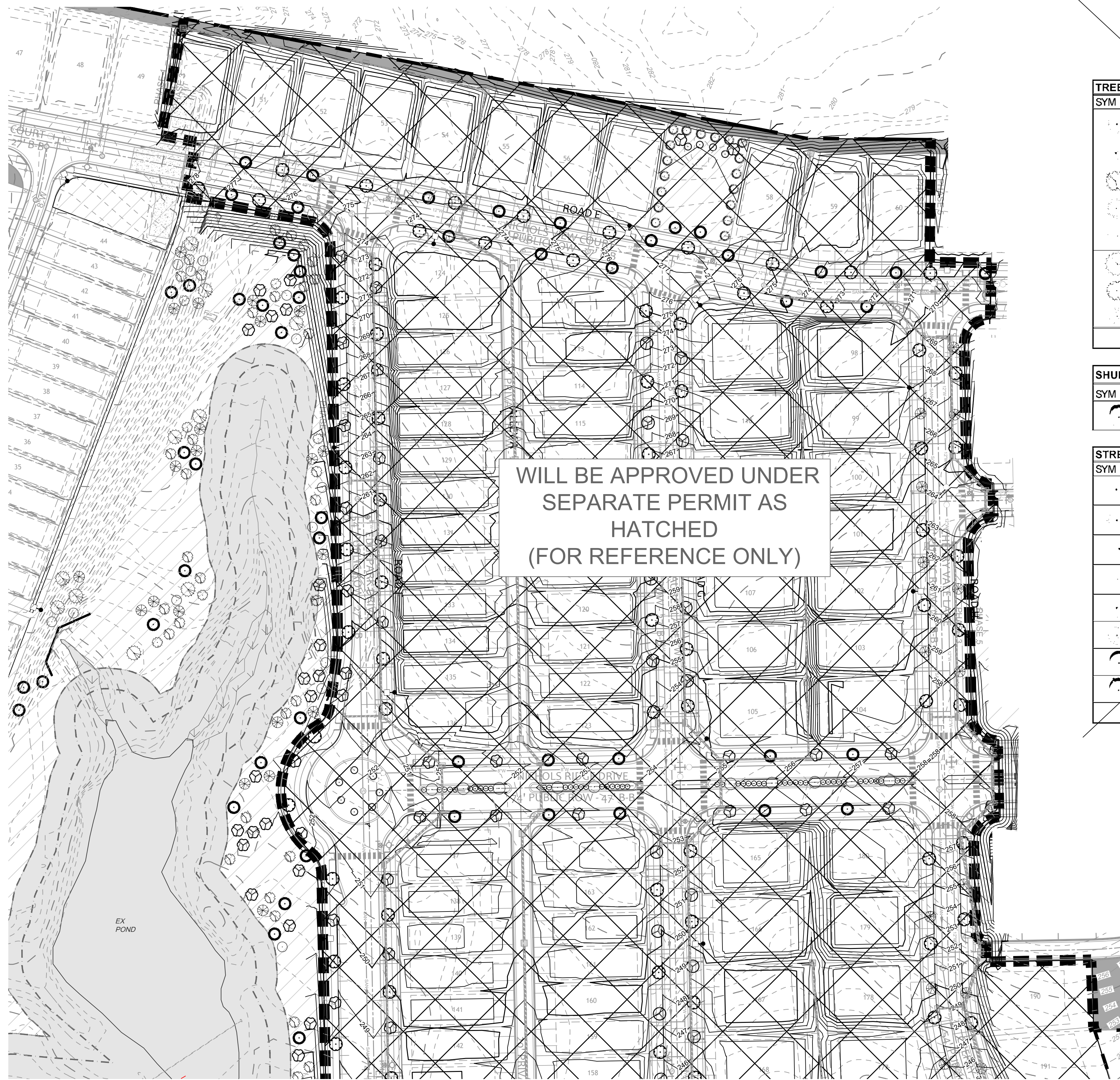
LANDSCAPING PLAN - SHEET 2 OF 3

JOB NO.	44529
SHEET NO.	C7.2

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ALLEN PARK CANOPY REPLACEMENT REQUIRED 179 TREES 85 DECIDUOUS - 94 EVERGREEN

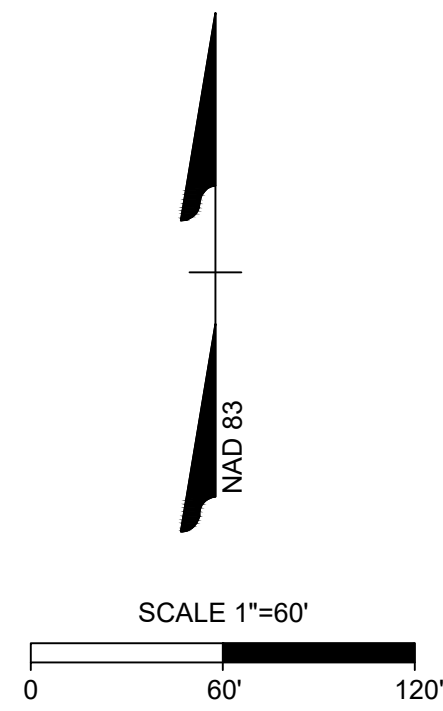
DUE TO LIMITED SPACE IN PHASE TWO, PLANTS WERE PLACED IN PHASE ONE OPENSACE EAST OF PHASE THREE AND IN THE PASSIVE OPEN SPACE EAST OF PHASE THREE

TREES - PHASE TWO REPLACEMENT TREES - CANOPY										
SYM	CODE	QUANT	SCIENTIFIC NAME	COMMON NAME		CAL	CONT	HT	SP	NOTES
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	BN	36	BETULA NIGRA	RIVER BRCH	D	1.5"/STEM	B&B	8-10'	5'-7'	FULL
	CD	34	CEDRUS DEODORA	DEODORA CEDER	E	2"	B&B	10'12"	6'-8'	FULL
	IO	18	ILEX OPACA	AMERICAN HOLLY	E	2"	B&B	10'12"	6'-8'	FULL
	KN	23	ILEX X NELLE STEVENS	NELLIE STEVENS HOLLY	E	2"	B&B	10'12"	6'-8'	FULL
	MG	10	MAGNOLIA GRANDIFLORA	SOUTHERN MAGNOLIA	E	2"	B&B	10'12"	6'-8'	FULL
	PT	6	PINUS TAEDA	LOBLOLLY PINE	E	2"	B&B	10'12"	6'-8'	FULL
	QP	24	QUERCUS PHELLOS	WILLOW OAK	D	2"	B&B	10'12"	6'-8'	FULL
		180	TOTAL							

SHURBS - PHASE TWO - NOT INCLUDED IN TREE REPLACEMENT COUNT										
SYM	CODE	QUANT	SCIENTIFIC NAME	COMMON NAME		CAL	CONT	HT	SP	NOTES
	RU	187	RAPHIOLEPSIS UMBELLATA	ELEANOR TABOR HAWTHORNE	E		CONT	18"-24"	18"-24"	FULL

STREET TREES - PHASE TWO - NOT INCLUDE IN THE TREE REPLACEMENT										
SYM	CODE	QUANT	SCIENTIFIC NAME	COMMON NAME		CAL	CONT	HT	SP	NOTES
	AR	47	ACER RUBUM	RED MAPLE	D	2"	B&B	10'12"	6'-8'	FULL
	AS	49	ACER SACCHARUM	SUGAR MAPLE	D	2"	B&B	10'12"	6'-8'	FULL
	BN	39	BETULA NIGRA	RIVER BRCH	D	1.5"/STEM	B&B	8-10'	5'-7'	FULL
	KN	13	ILEX X NELLE STEVENS	NELLIE STEVENS HOLLY	E	2"	B&B	10'12"	6'-8'	FULL
	PC	87	PISTACIA CHINENSIS	CHINESE PISTACHIO	D	2"	B&B	10'12"	6'-8'	FULL
	QP	28	QUERCUS PHELLOS	WILLOW OAK	D	2"	B&B	10'12"	6'-8'	FULL
	UP	60	ULMUS PARVIFOLIA	CHINESE ELM	D	2"	B&B	10'12"	6'-8'	FULL
	ZS	37	ZELCOVA SERRATA	JAPANESE ZELCOVA	D	2"	B&B	10'12"	6'-8'	FULL
		313	TOTAL							

WILL BE APPROVED UNDER SEPARATE PERMIT AS HATCHED (FOR REFERENCE ONLY)



TOWN CERTIFICATION

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BY: _____ DATE: _____
DEVELOPMENT SERVICES ENGINEER

THESE PLANS ARE APPROVED BY THE TOWN OF KNIGHTDALE AND SERVE AS CONSTRUCTION PLANS FOR THIS PROJECT.

BY: _____ DATE: _____
ADMINISTRATOR

LEGEND

	PROPERTY LINE
	ACTIVE OPEN SPACE
	PASSIVE OPEN SPACE
	COMMON AREA



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DESIGNED BY
331

CHECKED BY
A. STONE

SCALE
1"=60'

TIMMONS GROUP

NORTH CAROLINA LICENSE NO. C-1652

ALLEN PARK SUBDIVISION - PHASE II
KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA

LANDSCAPING PLAN - SHEET 3 OF 3

JOB NO.
44529

SHEET NO.
C7.3

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Outdoor Lighting
Roadway LED

Light source: LED (white)
 Wattage: 50, 70, 110, 150, 220, 280
 Light pattern: BSNM Type III (road)
 ICMA cutoff classification: Full cutoff
 Color temperature: 4,000K
 Warm up and restrike time: Instant on (no warm up or restrike time)

Light distribution pattern

Poles available:	Mounting height	Color
Aluminum	15', 20', 25', 30', 35'	Bronze Black Gray Green
Wood	25', 30', 35'	Standard

Features	Benefits
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 metered 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

For additional information, visit duke-energy.com/outdoor-lighting or call us toll free: 800.544.6882 (Toll and 917) 800.521.2232 (TX)

Outdoor Lighting
Roadway LED

The Roadway LED is a green solution and great fit for streets, roads, long, narrow 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 low to 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 70 110 150 220 280 watts
Mounting heights	15', 20', 25', 30', 35'
Colors	Bronze Black Gray Green
Poles	Style A, C Wood

For additional information, visit duke-energy.com/outdoor-lighting or call us toll free: 800.544.6882 (Toll and 917) 800.521.2232 (TX)

LIGHTING PLAN NOTES:

- POLES SHALL BE FIBERGLASS.
- AVERAGE MAXIMUM SPACING IS 250 FEET.
- POLES SHALL BE PLACED ON ALTERNATE SIDES OF THE STREET.
- BUG RATING: ALL STREETLIGHTS SHALL BE FULLY SHIELDED (NO LIGHT AT OR ABOVE HORIZONTAL) AND SHALL NOT EXCEED THE FOLLOWING BUG RATINGS ESTABLISHED FOR EACH TYPE OF STREET:
 - I. LOCAL STREETS - B1, U1, G2
 - II. COLLECTOR STREETS IN RESIDENTIAL AREAS - B2, U2, G3
 - III. COLLECTOR STREETS IN OTHER AREAS - B3, U3, G3
 - IV. ARTERIAL STREETS - B3, U3, G4

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 _____

LIGHTING LEGEND

- LED STREET LIGHTS (7,000 LUMENS LED 75 ROADWAY LIGHT) FIBERGLASS POLE - HEIGHT 30'

- PROPERTY LINE
- PROPOSED RIGHT OF WAY
- PROPOSED LOT LINE
- ACTIVE OPEN SPACE
- PASSIVE OPEN SPACE
- COMMON AREA

TOWN CERTIFICATION

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BY: _____ DATE: _____
 DEVELOPMENT SERVICES ENGINEER

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BY: _____ DATE: _____
 ADMINISTRATOR



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 DESIGNED BY: 331
 CHECKED BY: A. STONE
 SCALE: 1"=200'

TIMMONS GROUP

NORTH CAROLINA LICENSE NO. C-1652

ALLEN PARK SUBDIVISION - PHASE II
 KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA

OVERALL LIGHTING PLAN

JOB NO. 44529
 SHEET NO. C8.0

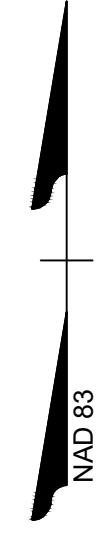
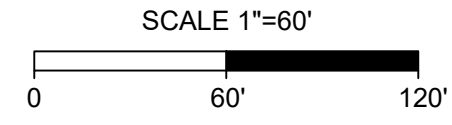
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LEGEND

	PROPERTY LINE
	ACTIVE OPEN SPACE
	PASSIVE OPEN SPACE
	COMMON AREA



TOWN CERTIFICATION

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DEVELOPMENT SERVICES ENGINEER

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BY: _____ DATE: _____
ADMINISTRATOR

LIGHTING LEGEND

- LED STREET LIGHTS
(7,000 LUMENS LED 75 ROADWAY LIGHT)
FIBERGLASS POLE - HEIGHT 30'



S:\331\44529-WL-MAR\DWG\Sheet\CD\Phase II & III\44529-331-C8.0-LUMN.dwg | Plotted by Sean Wiles

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SCALE
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TIMMONS GROUP

NORTH CAROLINA LICENSE NO. C-1652

ALLEN PARK SUBDIVISION - PHASE II
KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA
LIGHTING PLAN - SHEET 1 OF 3

JOB NO.	44529
SHEET NO.	C8.1

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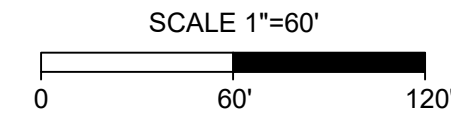
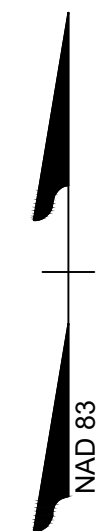
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LEGEND

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LIGHTING LEGEND

	LED STREET LIGHTS (7,000 LUMENS LED 75 ROADWAY LIGHT)
	FIBERGLASS POLE - HEIGHT 30'



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LIGHTING PLAN - SHEET 2 OF 3

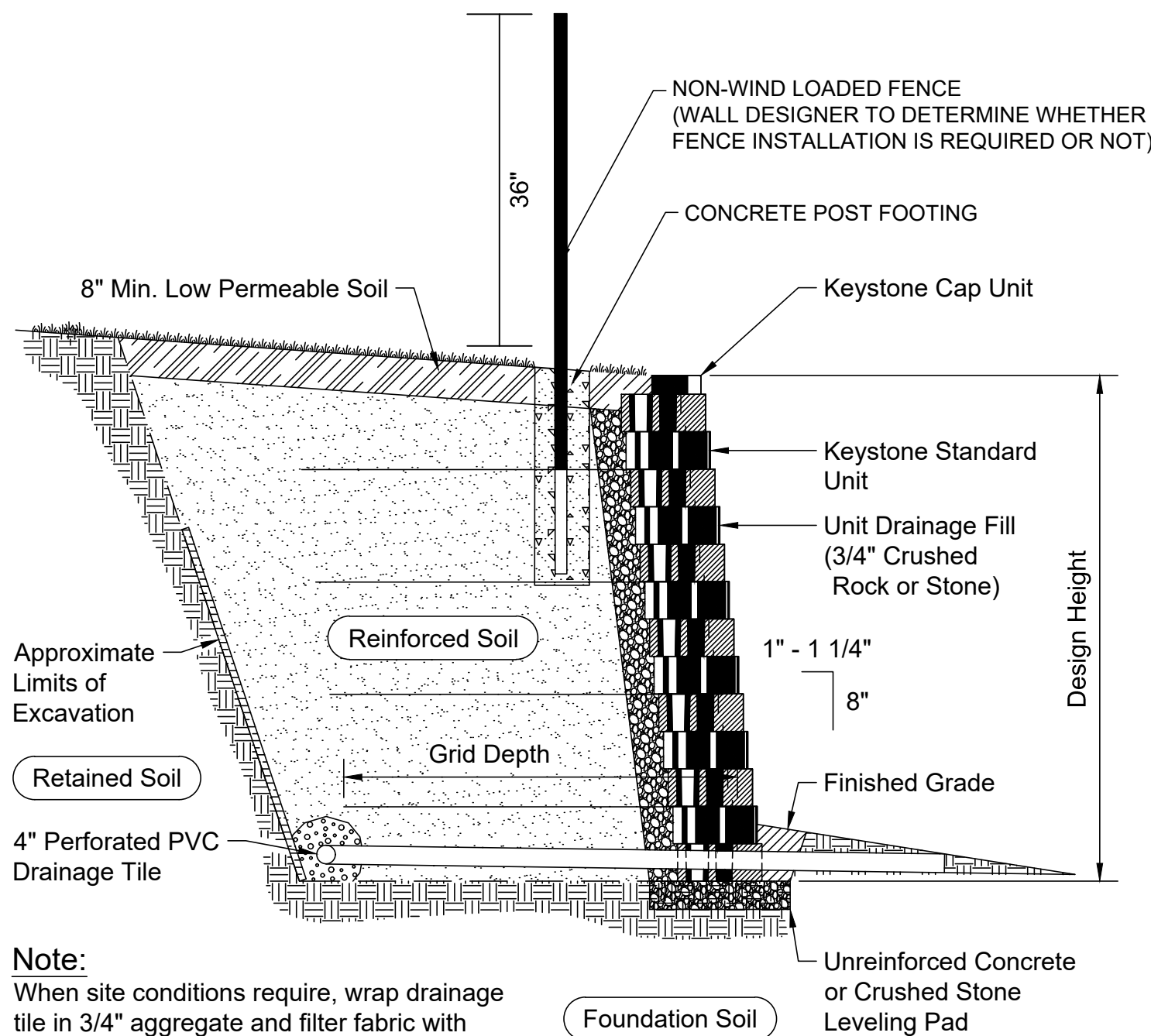
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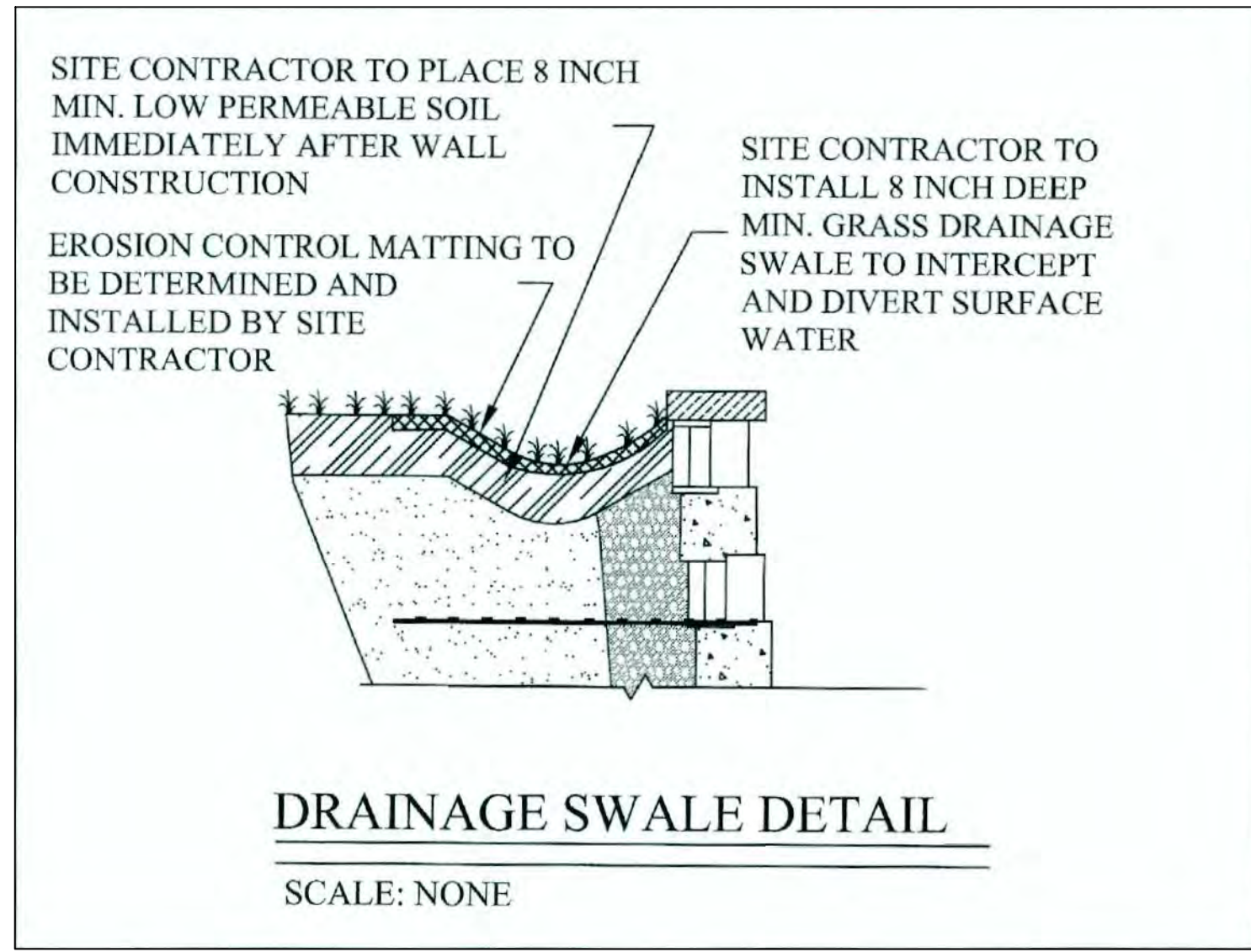
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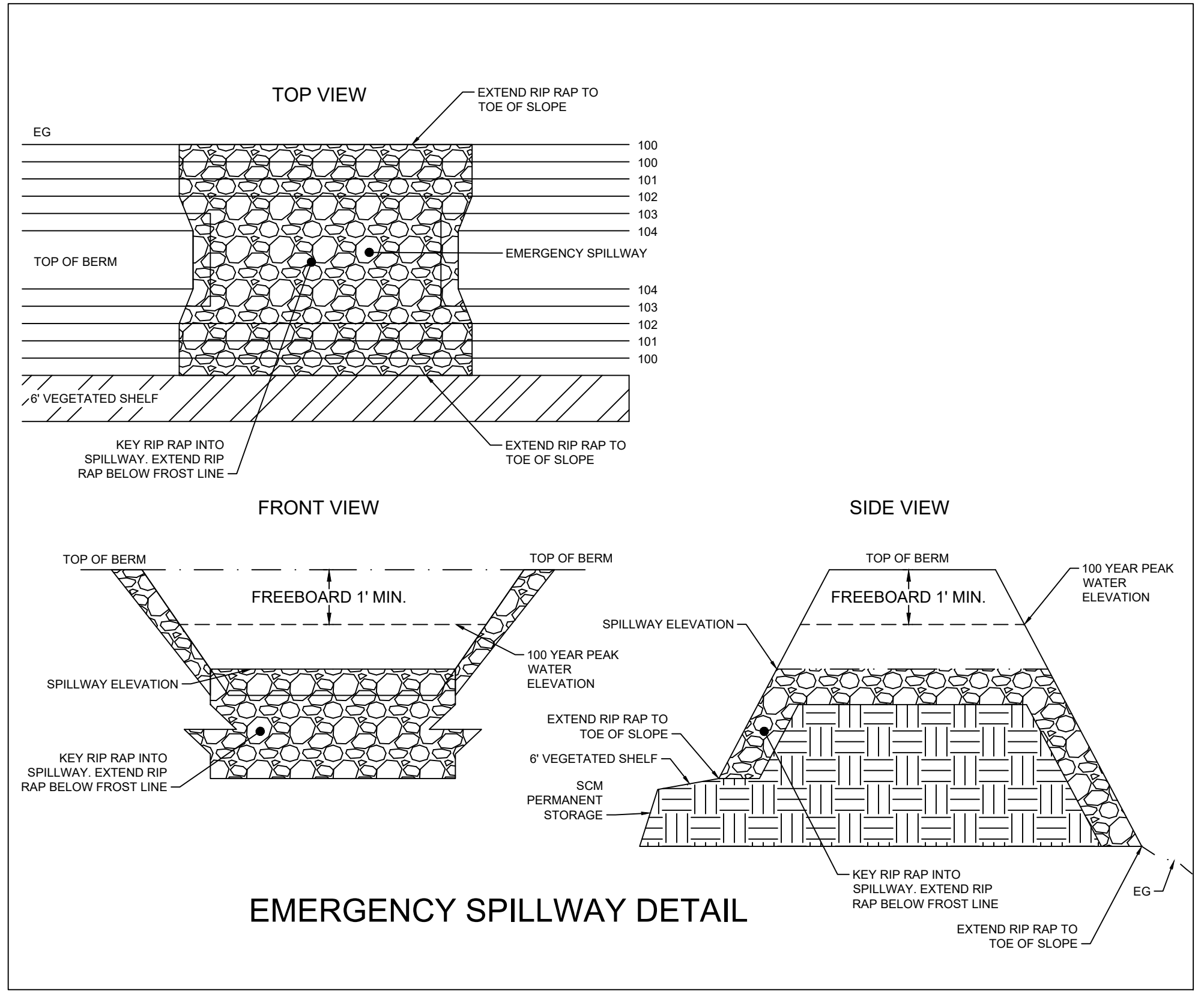


Note:
When site conditions require, wrap drainage tile in 3/4" aggregate and filter fabric with drainage composite or aggregate back drain system, as directed by geotechnical engineer.

**Typical Reinforced Wall Section
(Designed By Others)**



DRAINAGE SWALE DETAIL
SCALE: NONE



EMERGENCY SPILLWAY DETAIL

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

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 # _____
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 # _____
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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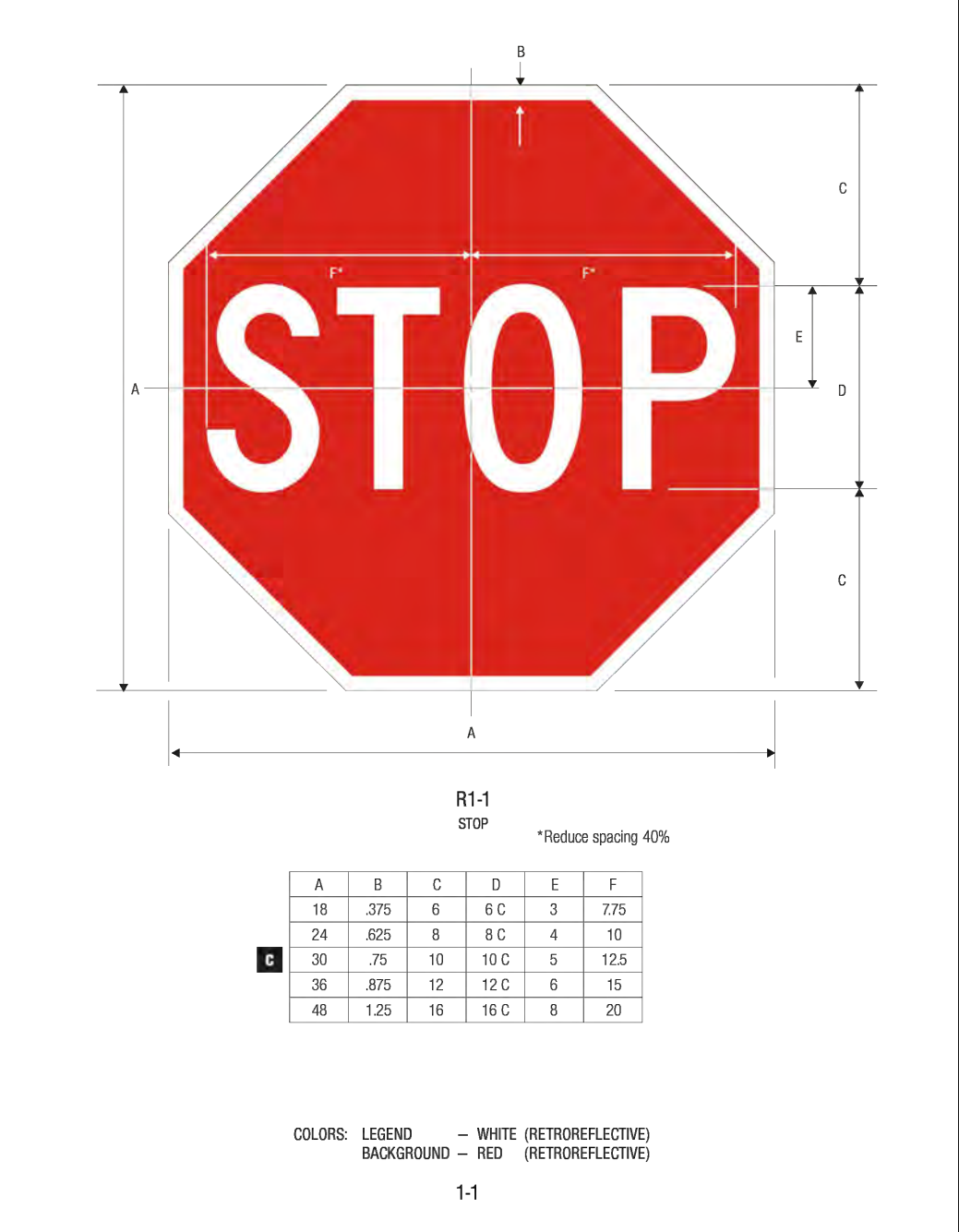
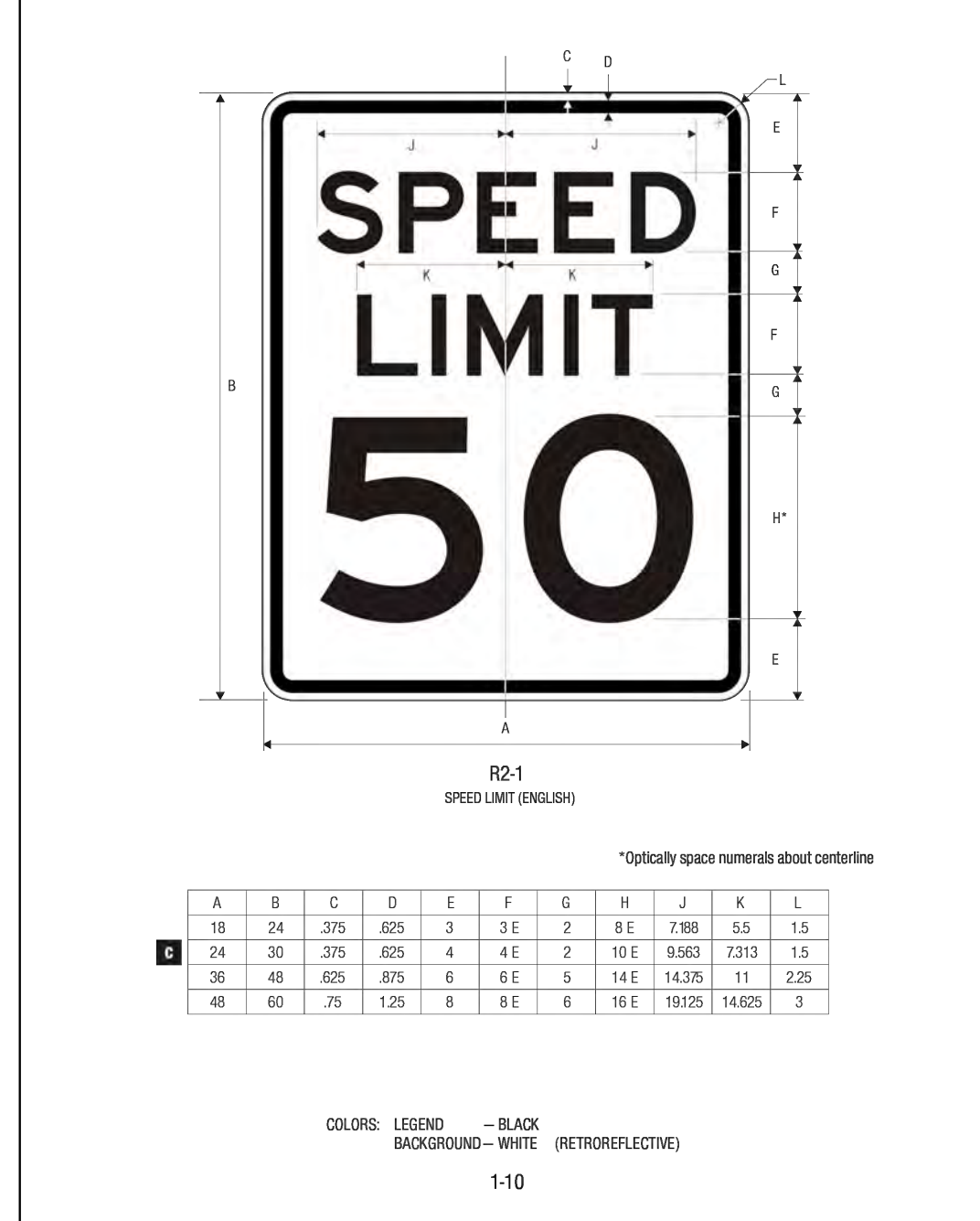
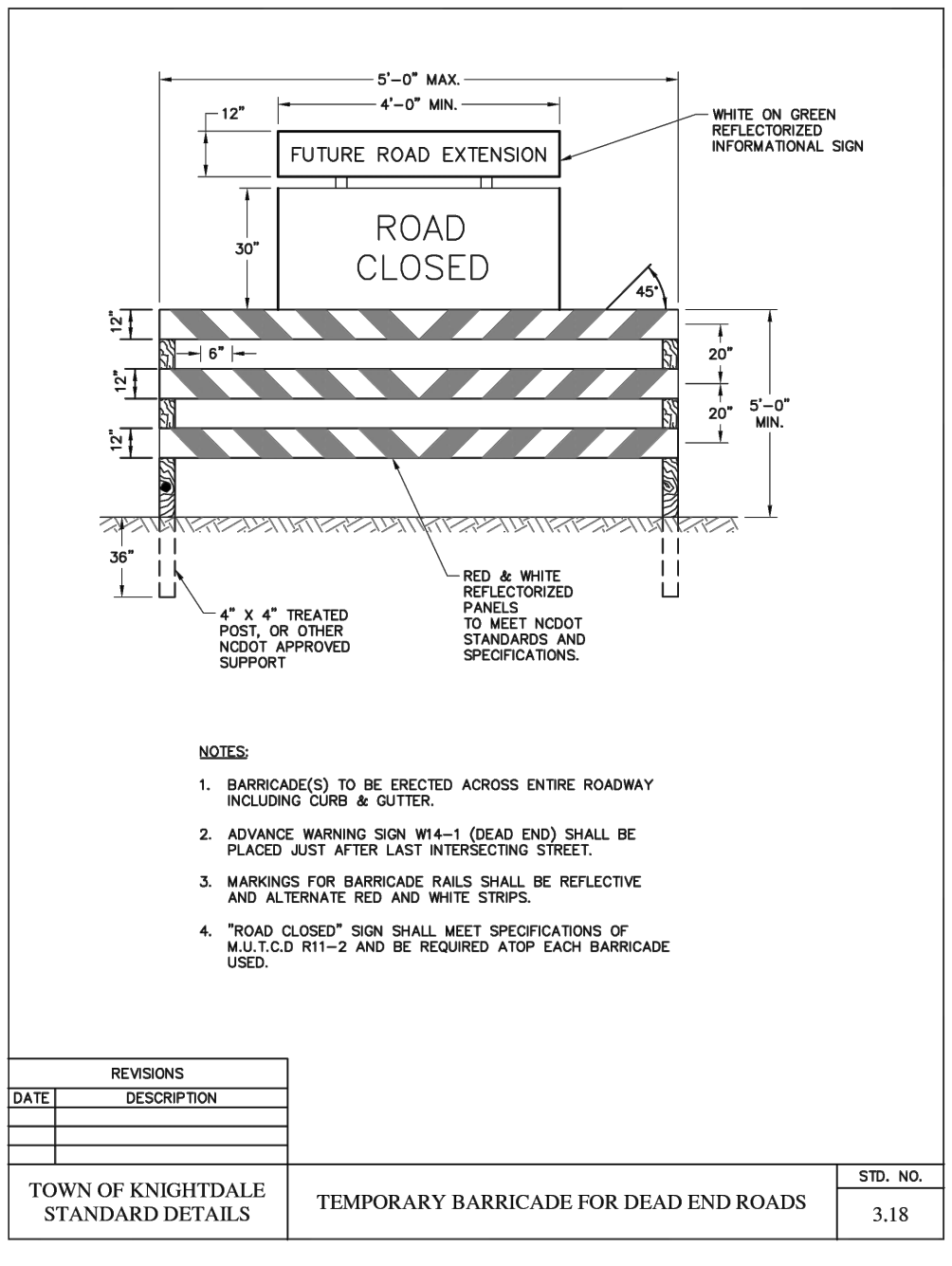
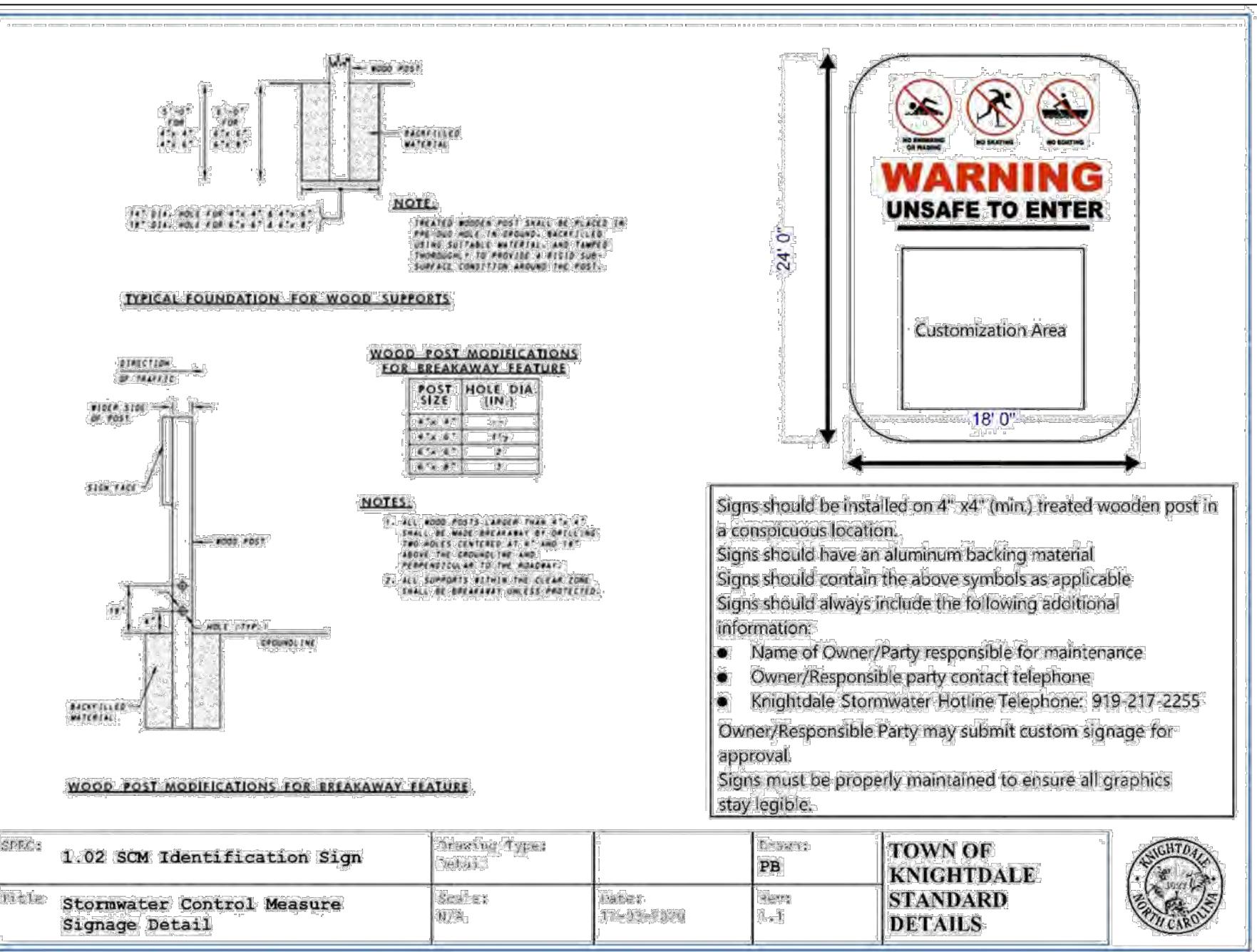
YOUR VISION ACHIEVED THROUGH OURS.
DATE
01/26/2024
DRAWN BY
331
DESIGNED BY
331
CHECKED BY
A. STONE
SCALE
N/A

TIMMONS GROUP

ALLEN PARK SUBDIVISION - PHASE II
NORTH CAROLINA LICENSE NO. C-1652
KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA
SITE DETAILS - SHEET 2 OF 3

REVISION DESCRIPTION
JOB NO.
44529
SHEET NO.
C9.2

FOR REVIEW ONLY: NOT FOR CONSTRUCTION



STANDARD UTILITY NOTES (AS APPLICABLE):

- 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 ENCASUREMENT 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 3/4" 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 TIMOTHY.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

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 _____

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: _____
DEVELOPMENT SERVICES ENGINEER

THESE PLANS ARE APPROVED BY THE TOWN OF KNIGHTDALE AND SERVE AS CONSTRUCTION PLANS FOR THIS PROJECT.

BY: _____ DATE: _____
ADMINISTRATOR

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 # XXXX

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 # XXXX

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City of Raleigh Public Utilities Department Permit # _____

FOR REVIEW ONLY

THIS DRAWING PREPARED AT THE RALEIGH OFFICE
5410 Trinity Road, Suite 102, Raleigh, NC 27607
TEL 919-866-9511 FAX 919-933-8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

REVISION DESCRIPTION

DATE	REVISION DESCRIPTION
01/26/2024	

JOB NO. 44529

SHEET NO. C9.4

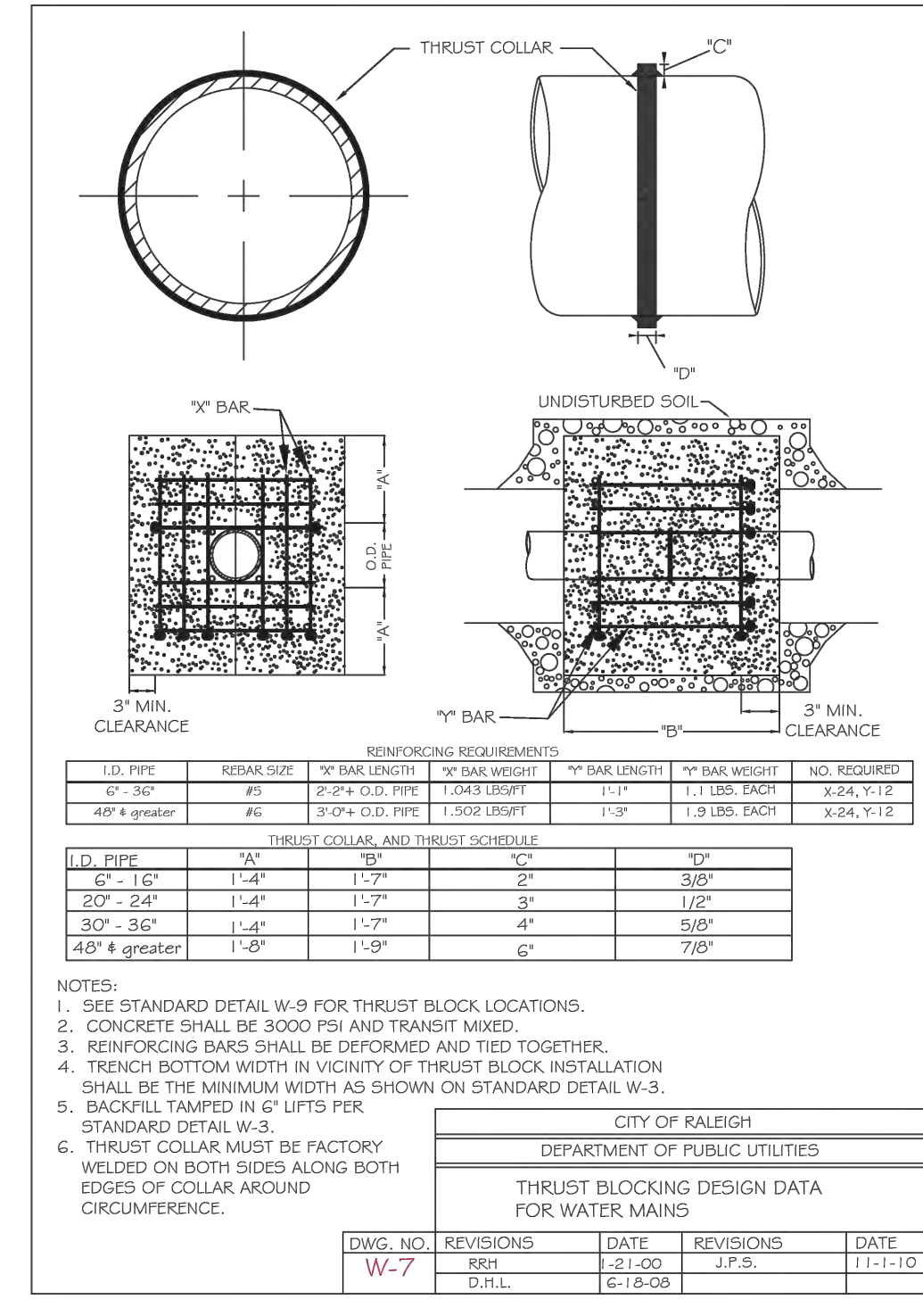
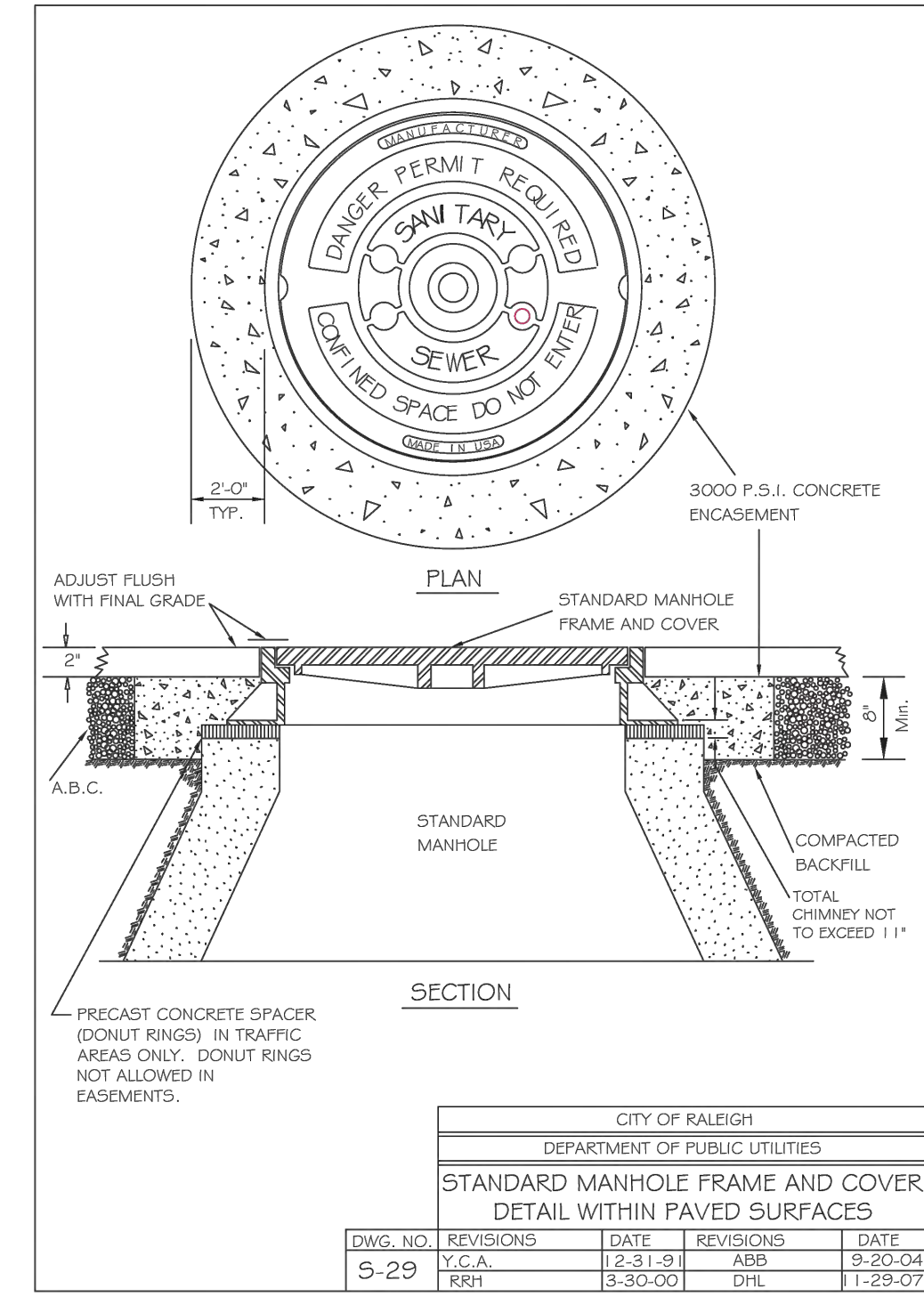
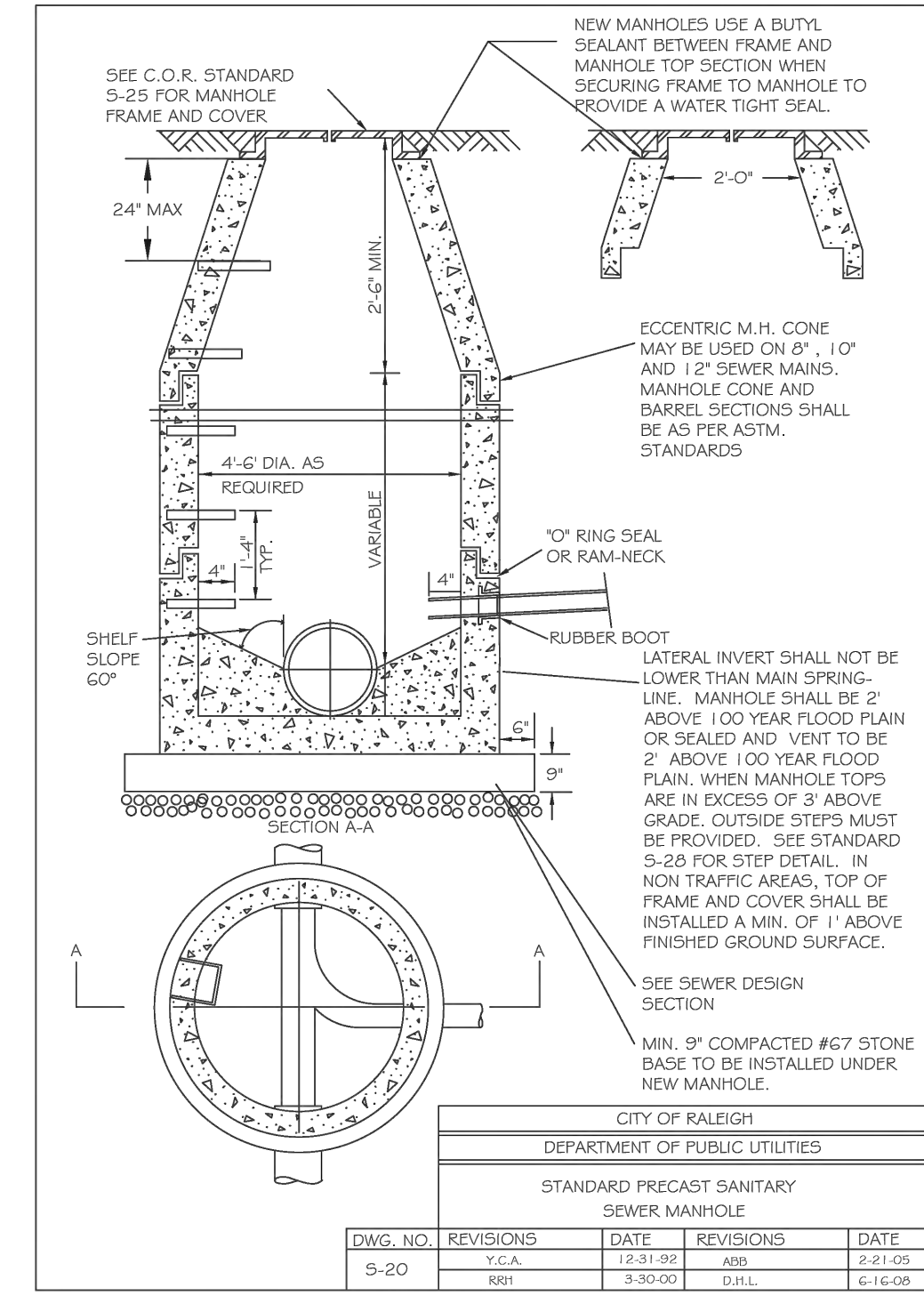
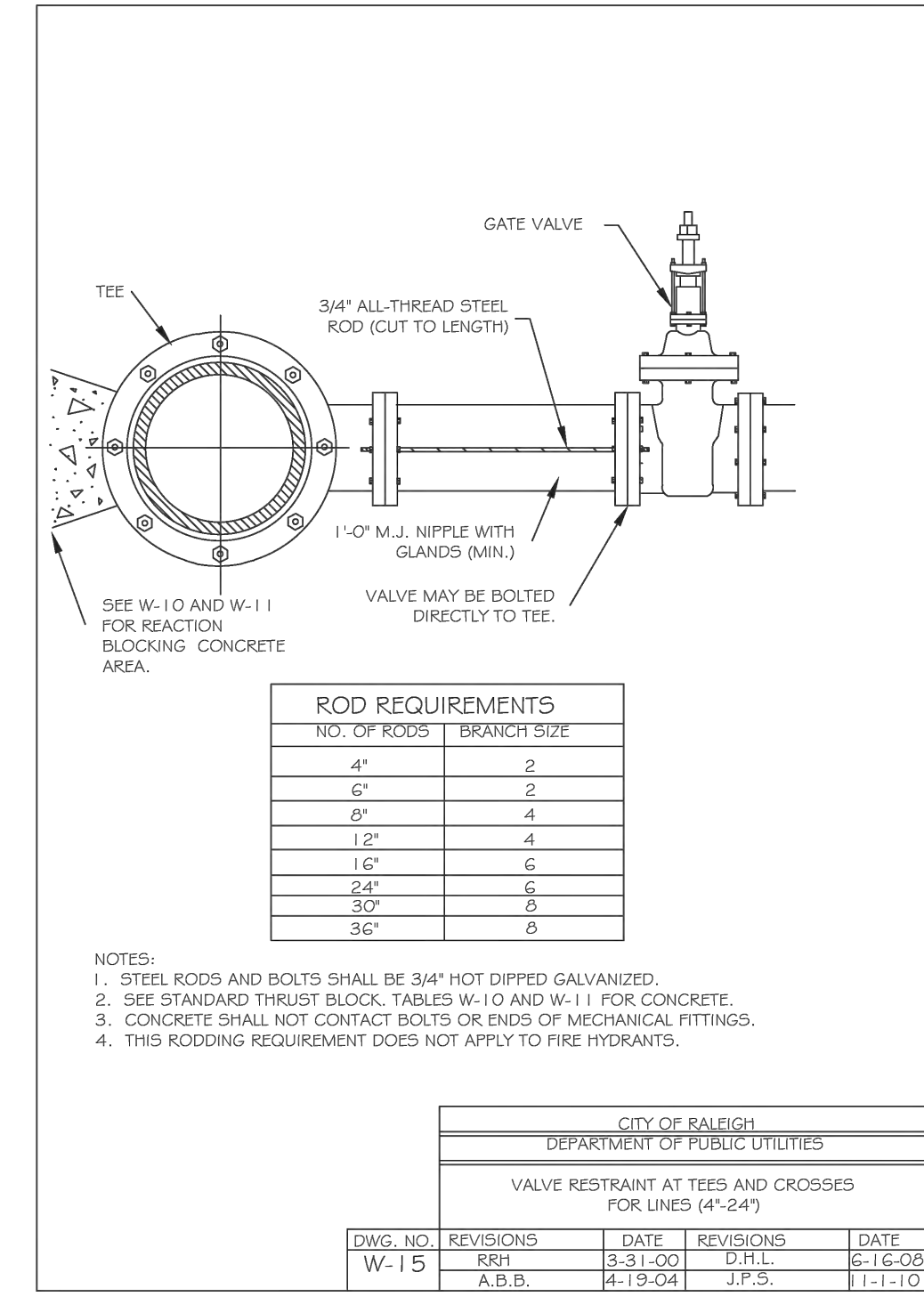
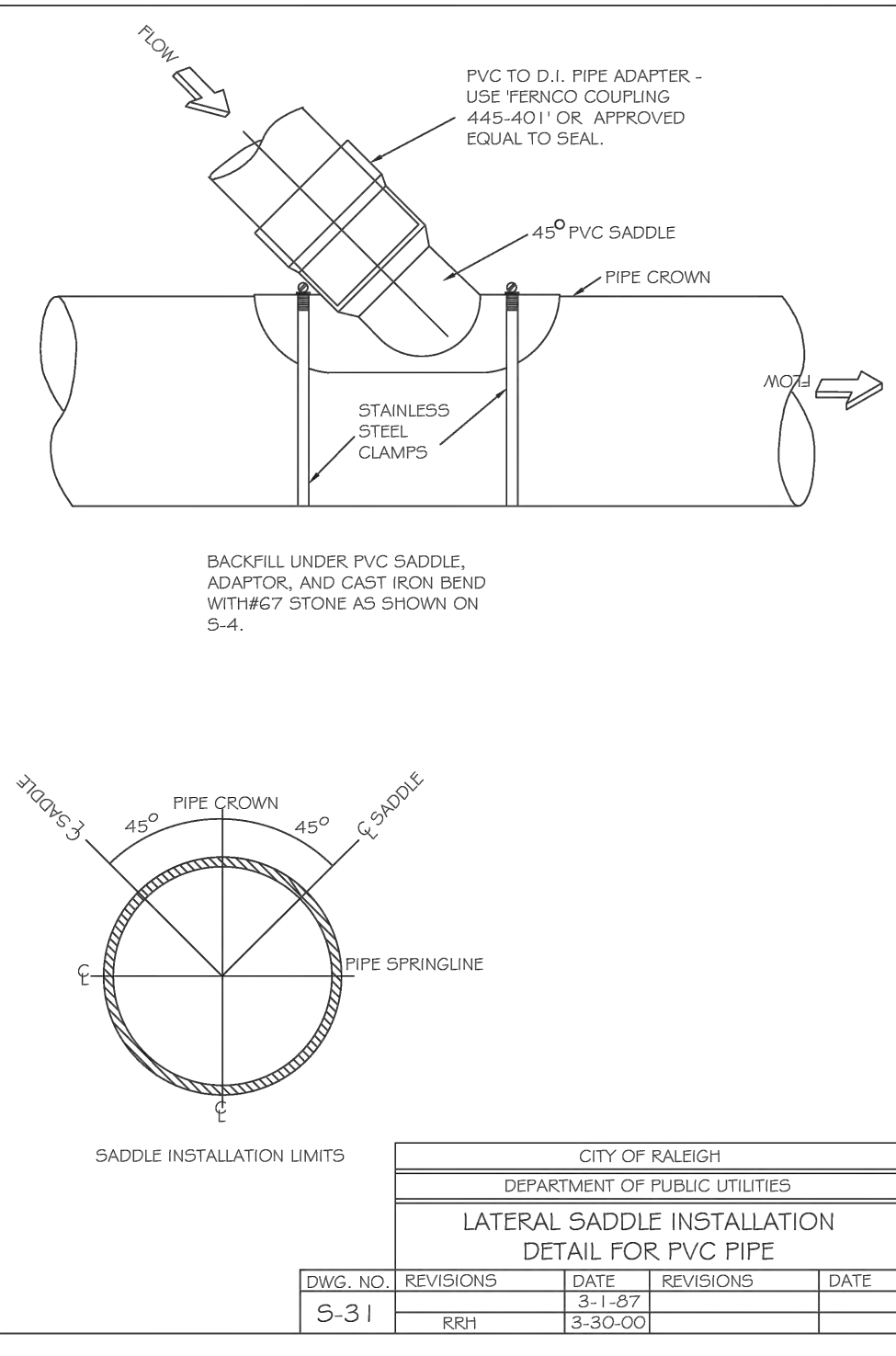
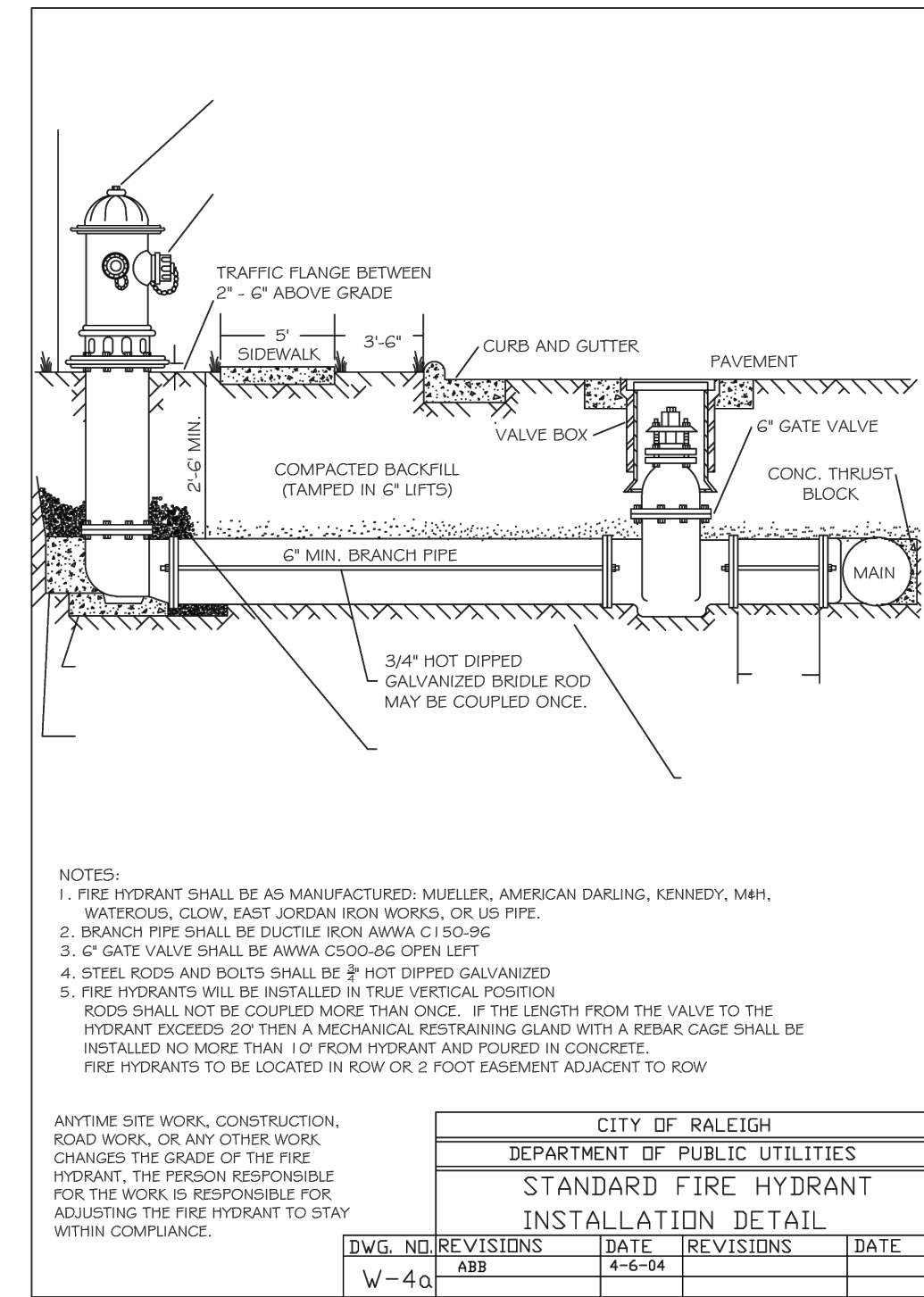
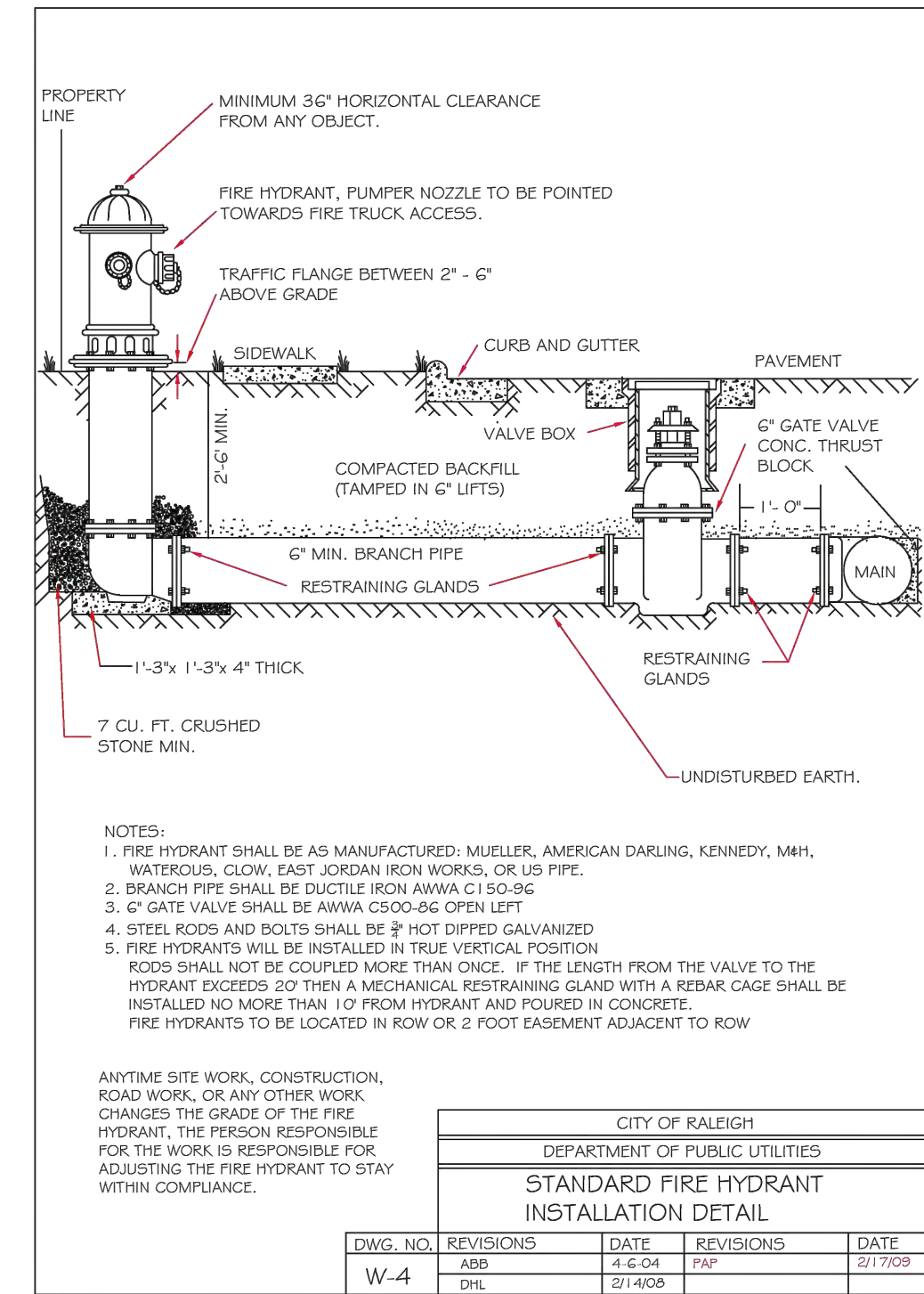
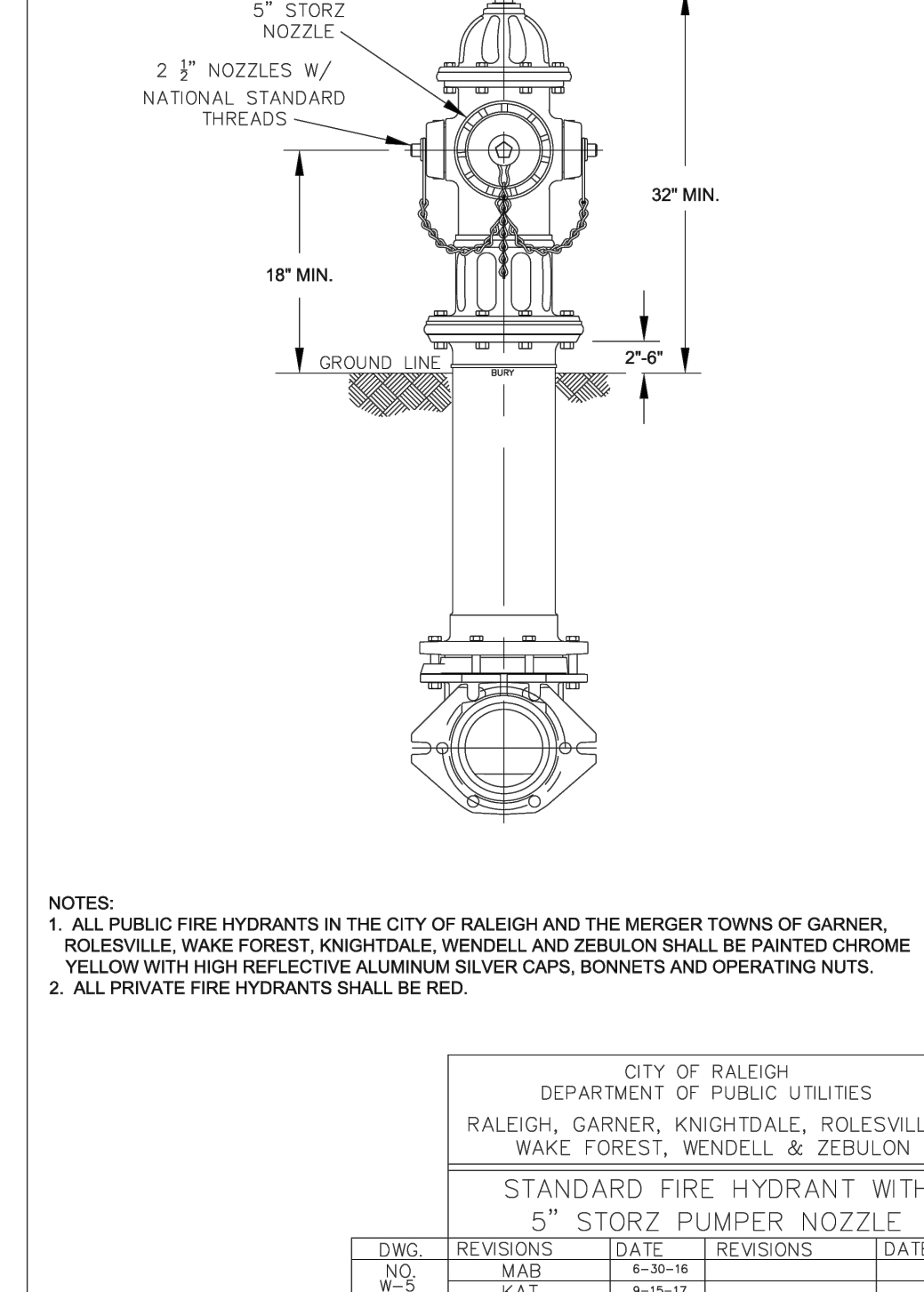
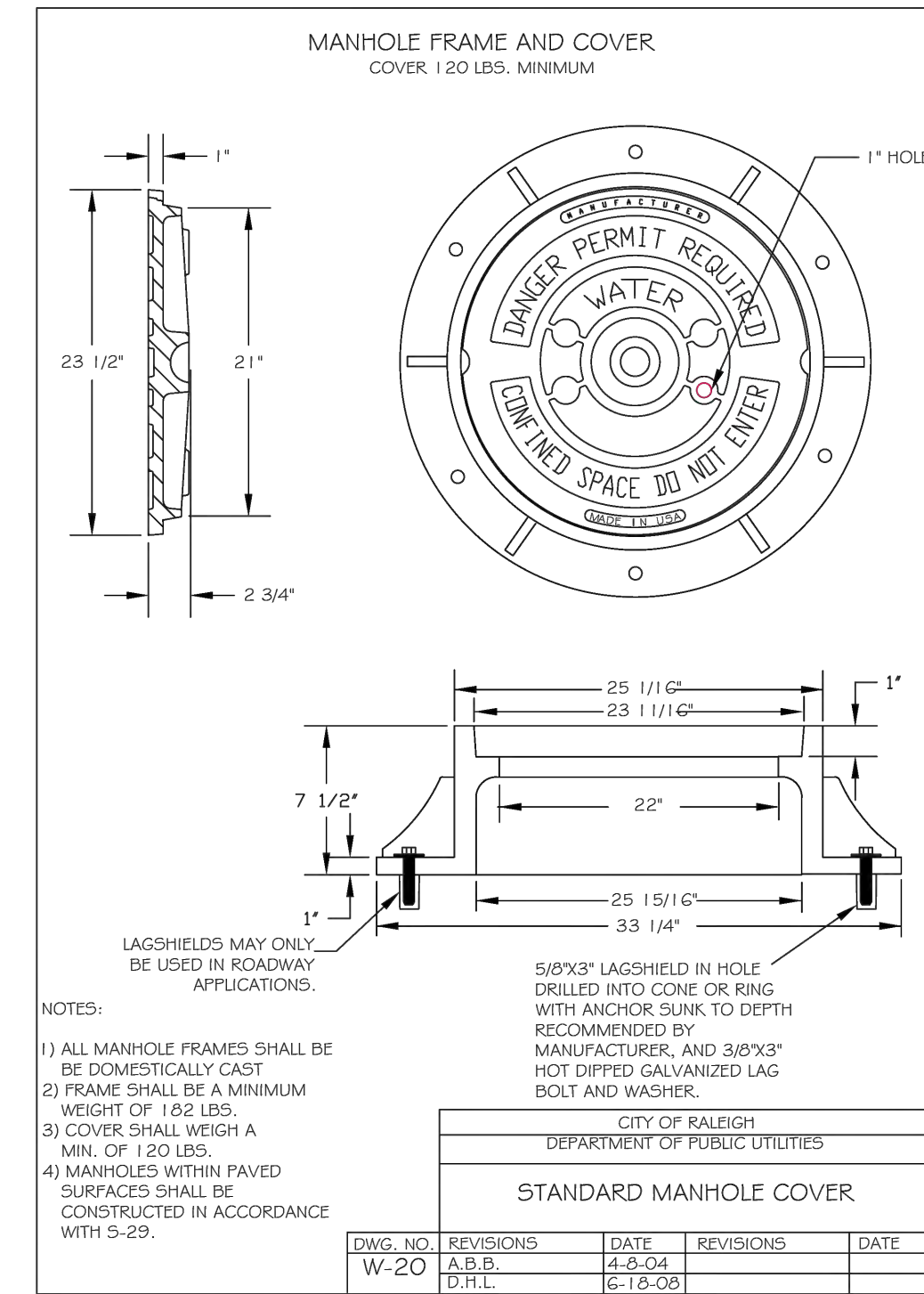
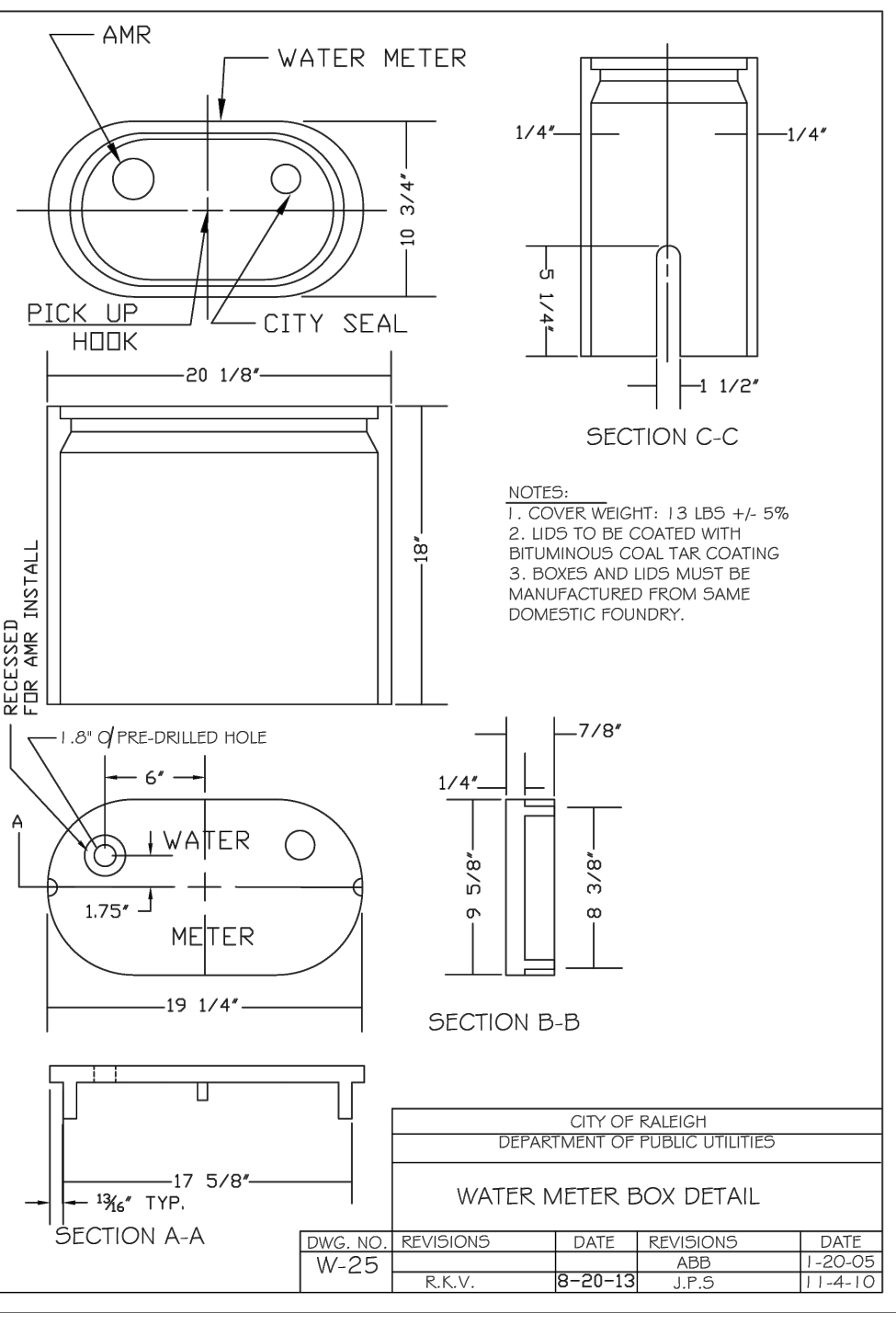
NORTH CAROLINA LICENSE NO. C-1652

TIMMONS GROUP

ALLEN PARK SUBDIVISION - PHASE II
KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA

WATER & SEWER DETAILS - SHEET 1 OF 2

FOR REVIEW ONLY: NOT FOR CONSTRUCTION



S:\331\44529-WL-MAR\DWG Sheet\CD\Phase II & III\44529-331-C7.0-NDT.dwg Plotted by Sean Wiles

TOWN OF KNIGHTDALE STANDARD DETAILS

TRENCH FOR STORM DRAIN PIPES

STB. NO. 5.02

1 of 2

NOTES:

- A MINIMUM OF 24" FROM OUTSIDE DIAMETER OF PIPE TO SIDE OF TRENCH MUST BE ALLOWED FOR COMPACTION OF FILL MATERIAL. BACKFILLING OF TRENCHES SHALL BE ACCOMPLISHED IMMEDIATELY AFTER THE PIPE IS LAID. THE FILL AROUND THE PIPE SHALL BE PLACED IN LAYERS NOT TO EXCEED 6" UNDER NO CIRCUMSTANCES SHALL WATER BE PERMITTED TO BE UNSATURATED TRENCHES AFTER THE PIPE HAS BEEN PLACED. COMPACTION REQUIREMENTS SHALL BE ATTAINED BY THE USE OF MECHANICAL TAMPS ONLY. EACH AND EVERY LAYER OF BACKFILL SHALL BE PLACED LOOSE AND THOROUGHLY COMPACTED INTO PLACE.
- ALL BACKFILL MATERIAL SHALL HAVE AN IN PLACE COMPACTED DENSITY OF AT LEAST 95% OF THE STANDARD PROCTOR MAXIMUM DENSITY.
- THE FINAL 24" OF BACKFILL MATERIAL SHALL BE COMPACTED TO 100% OF THE STANDARD PROCTOR MAXIMUM DENSITY.
- ALL TRENCHING OPERATIONS SHALL MEET OSHA STANDARDS.
- BACKFILL MATERIAL BENEATH ROADWAY SHALL BE SELECT BACKFILL MATERIAL.

REVISIONS

DATE	DESCRIPTION

TOWN OF KNIGHTDALE STANDARD DETAILS

STANDARD DROP INLET WITH GRATE AND FRAME

STB. NO. 5.04

1 of 2

REVISIONS

DATE	DESCRIPTION

TOWN OF KNIGHTDALE STANDARD DETAILS

STANDARD CURB INLET

STB. NO. 5.05

1 of 2

REVISIONS

DATE	DESCRIPTION

TOWN OF KNIGHTDALE STANDARD DETAILS

STANDARD CURB INLET

STB. NO. 5.05

2 of 2

REVISIONS

DATE	DESCRIPTION

TOWN OF KNIGHTDALE STANDARD DETAILS

DIMENSIONS FOR HEADWALL WITH WINGWALLS

STB. NO. 5.09

2 of 2

NOTES:

- INDICATIONS FOR REINBAR SHALL LIST:
 - ALSO INDICATE BE AS SHOWN FOR SINGLE PIPE
 - INDICATE THE MINIMUM DISTANCE BETWEEN PIPES IN A SINGLE PIPE HEADWALL IS 2'-0"

DIMENSIONS FOR SINGLE PIPE HEADWALLS		DIMENSIONS FOR DOUBLE PIPE HEADWALLS	
PIPE VARS	CONC.	PIPE VARS	CONC.
12"	12"	12"	12"
15"	15"	15"	15"
18"	18"	18"	18"
21"	21"	21"	21"
24"	24"	24"	24"
27"	27"	27"	27"
30"	30"	30"	30"
33"	33"	33"	33"
36"	36"	36"	36"
39"	39"	39"	39"
42"	42"	42"	42"
45"	45"	45"	45"
48"	48"	48"	48"
51"	51"	51"	51"
54"	54"	54"	54"
57"	57"	57"	57"
60"	60"	60"	60"
63"	63"	63"	63"
66"	66"	66"	66"
69"	69"	69"	69"
72"	72"	72"	72"
75"	75"	75"	75"
78"	78"	78"	78"
81"	81"	81"	81"
84"	84"	84"	84"
87"	87"	87"	87"
90"	90"	90"	90"
93"	93"	93"	93"
96"	96"	96"	96"
99"	99"	99"	99"
102"	102"	102"	102"
105"	105"	105"	105"
108"	108"	108"	108"
111"	111"	111"	111"
114"	114"	114"	114"
117"	117"	117"	117"
120"	120"	120"	120"

REVISIONS

DATE	DESCRIPTION

TOWN OF KNIGHTDALE STANDARD DETAILS

STANDARD REINFORCED CONCRETE HEADWALL WITH WINGWALLS

STB. NO. 5.06

2 of 2

REVISIONS

DATE	DESCRIPTION

TOWN OF KNIGHTDALE STANDARD DETAILS

ROADWAY STANDARD DRAWING FOR PARALLEL PIPE END SECTION PRECAST CONCRETE SECTION FOR 15" TO 24" PIPE

STB. NO. 310.02

1 of 2

REVISIONS

DATE	DESCRIPTION

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

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BY: _____ DATE: _____

DEVELOPMENT SERVICES ENGINEER

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BY: _____ DATE: _____

ADMINISTRATOR

TOWN CERTIFICATION

THIS DRAWING PREPARED AT THE RALEIGH OFFICE

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TEL 919.866.4951 FAX 919.853.8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

DATE 01/26/2024

DRAWN BY 331

DESIGNED BY 331

CHECKED BY A. STONE

SCALE N/A

TIMMONS GROUP

NORTH CAROLINA LICENSE NO. C-1652

ALLEN PARK SUBDIVISION - PHASE II

KNIGHTDALE - WAKE COUNTY - NORTH CAROLINA

STORM DETAILS

FOR REVIEW ONLY

REVISION DESCRIPTION

DATE	DESCRIPTION

JOB NO. 44529

SHEET NO. C9.6

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