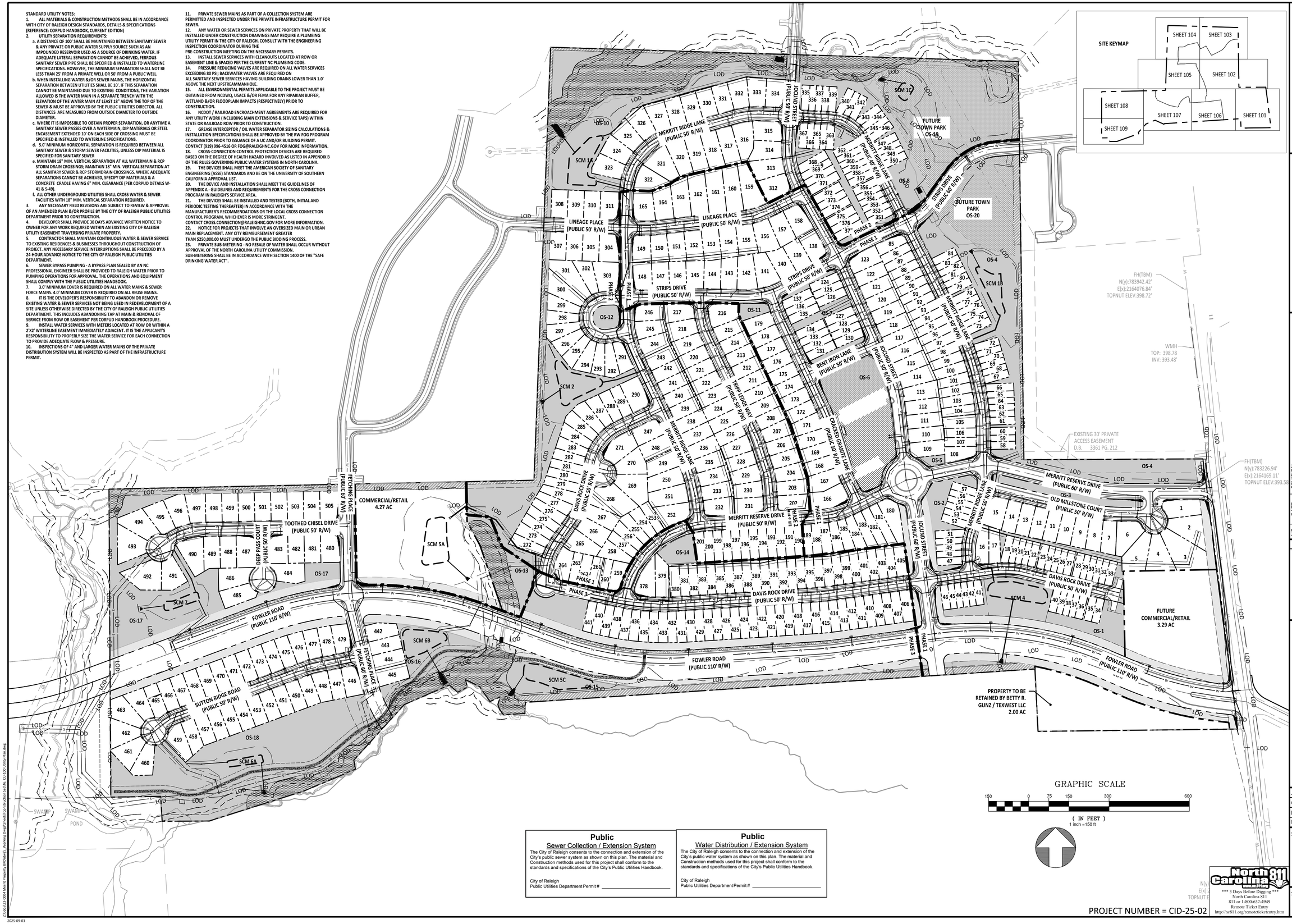
STANDARD UTILITY NOTES:

1. ALL MATERIALS & CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH CITY OF RALEIGH DESIGN STANDARDS, DETAILS & SPECIFICATIONS (REFERENCE: CORPUD HANDBOOK, CURRENT EDITION)
2. UTILITY SEPARATION REQUIREMENTS:
   a. A DISTANCE OF 100' SHALL BE MAINTAINED BETWEEN SANITARY SEWER & ANY PRIVATE OR PUBLIC WATER SUPPLY SOURCE SUCH AS AN IMPOUNDED RESERVOIR USED AS A SOURCE OF DRINKING WATER. IF ADEQUATE LATERAL SEPARATION CANNOT BE ACHIEVED, FERROUS SANITARY SEWER PIPE SHALL BE SPECIFIED & INSTALLED TO WATERLINE SPECIFICATIONS. HOWEVER, THE MINIMUM SEPARATION SHALL NOT BE LESS THAN 25' FROM A PRIVATE WELL OR 50' FROM A PUBLIC WELL.
   b. WHEN INSTALLING WATER &/OR SEWER MAINS, THE HORIZONTAL SEPARATION BETWEEN UTILITIES SHALL BE 10'. IF THIS SEPARATION CANNOT BE MAINTAINED DUE TO EXISTING CONDITIONS, THE VARIATION ALLOWED IS THE WATER MAIN IN A SEPARATE TRENCH WITH THE ELEVATION OF THE WATER MAIN AT LEAST 18" ABOVE THE TOP OF THE SEWER & MUST BE APPROVED BY THE PUBLIC UTILITIES DIRECTOR. ALL DISTANCES ARE MEASURED FROM OUTSIDE DIAMETER TO OUTSIDE DIAMETER.
   c. WHERE IT IS IMPOSSIBLE TO OBTAIN PROPER SEPARATION, OR ANYTIME A SANITARY SEWER PASSES OVER A WATERMAIN, DIP MATERIALS OR STEEL ENCASEMENT EXTENDED 10' ON EACH SIDE OF CROSSING MUST BE SPECIFIED & INSTALLED TO WATERLINE SPECIFICATIONS.
   d. 5.0' MINIMUM HORIZONTAL SEPARATION IS REQUIRED BETWEEN ALL SANITARY SEWER & STORM SEWER FACILITIES, UNLESS DIP MATERIAL IS SPECIFIED FOR SANITARY SEWER
   e. MAINTAIN 18" MIN. VERTICAL SEPARATION AT ALL WATERMAIN & RCP STORM DRAIN CROSSINGS; MAINTAIN 18" MIN. VERTICAL SEPARATION AT ALL SANITARY SEWER & RCP STORMDRAIN CROSSINGS. WHERE ADEQUATE SEPARATIONS CANNOT BE ACHIEVED, SPECIFY DIP MATERIALS & & CONCRETE CRADLE HAVING 6" MIN. CLEARANCE (PER CORPUD DETAILS W-41 & S-49).
   f. ALL OTHER UNDERGROUND UTILITIES SHALL CROSS WATER & SEWER FACILITIES WITH 18" MIN. VERTICAL SEPARATION REQUIRED.
3. ANY NECESSARY FIELD REVISIONS ARE SUBJECT TO REVIEW & APPROVAL OF AN AMENDED PLAN &/OR PROFILE BY THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT PRIOR TO CONSTRUCTION.
4. DEVELOPER SHALL PROVIDE 30 DAYS ADVANCE WRITTEN NOTICE TO OWNER FOR ANY WORK REQUIRED WITHIN AN EXISTING CITY OF RALEIGH UTILITY EASEMENT TRAVERSING PRIVATE PROPERTY.
5. CONTRACTOR SHALL MAINTAIN CONTINUOUS WATER & SEWER SERVICE TO EXISTING RESIDENCES & BUSINESSES THROUGHOUT CONSTRUCTION OF PROJECT. ANY NECESSARY SERVICE INTERRUPTIONS SHALL BE PRECEDED BY A 24-HOUR ADVANCE NOTICE TO THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT.
6. SEWER BYPASS PUMPING - A BYPASS PLAN SEALED BY AN NC PROFESSIONAL ENGINEER SHALL BE PROVIDED TO RALEIGH WATER PRIOR TO PUMPING OPERATIONS FOR APPROVAL. THE OPERATIONS AND EQUIPMENT SHALL COMPLY WITH THE PUBLIC UTILITIES HANDBOOK.
7. 3.0' MINIMUM COVER IS REQUIRED ON ALL WATER MAINS & SEWER FORCE MAINS. 4.0' MINIMUM COVER IS REQUIRED ON ALL REUSE MAINS.
8. IT IS THE DEVELOPER'S RESPONSIBILITY TO ABANDON OR REMOVE EXISTING WATER & SEWER SERVICES NOT BEING USED IN REDEVELOPMENT OF A SITE UNLESS OTHERWISE DIRECTED BY THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT. THIS INCLUDES ABANDONING TAP AT MAIN & REMOVAL OF SERVICE FROM ROW OR EASEMENT PER CORPUD HANDBOOK PROCEDURE.
9. INSTALL WATER SERVICES WITH METERS LOCATED AT ROW OR WITHIN A 2'X2' WATERLINE EASEMENT IMMEDIATELY ADJACENT. IT IS THE APPLICANT'S RESPONSIBILITY TO PROPERLY SIZE THE WATER SERVICE FOR EACH CONNECTION TO PROVIDE ADEQUATE FLOW & PRESSURE.
10. INSPECTIONS OF 4" AND LARGER WATER MAINS OF THE PRIVATE DISTRIBUTION SYSTEM WILL BE INSPECTED AS PART OF THE INFRASTRUCTURE PERMIT.
11. PRIVATE SEWER MAINS AS PART OF A COLLECTION SYSTEM ARE PERMITTED AND INSPECTED UNDER THE PRIVATE INFRASTRUCTURE PERMIT FOR SEWER.
12. ANY WATER OR SEWER SERVICES ON PRIVATE PROPERTY THAT WILL BE INSTALLED UNDER CONSTRUCTION DRAWINGS MAY REQUIRE A PLUMBING UTILITY PERMIT IN THE CITY OF RALEIGH. CONSULT WITH THE ENGINEERING INSPECTION COORDINATOR DURING THE PRE-CONSTRUCTION MEETING ON THE NECESSARY PERMITS.
13. INSTALL SEWER SERVICES WITH CLEANOUTS LOCATED AT ROW OR EASEMENT LINE & SPACED PER THE CURRENT NC PLUMBING CODE.
14. PRESSURE REDUCING VALVES ARE REQUIRED ON ALL WATER SERVICES EXCEEDING 80 PSI; BACKWATER VALVES ARE REQUIRED ON ALL SANITARY SEWER SERVICES HAVING BUILDING DRAINS LOWER THAN 1.0' ABOVE THE NEXT UPSTREAMMANHOLE.
15. ALL ENVIRONMENTAL PERMITS APPLICABLE TO THE PROJECT MUST BE OBTAINED FROM NCDWQ, USACE &/OR FEMA FOR ANY RIPARIAN BUFFER, WETLAND &/OR FLOODPLAIN IMPACTS (RESPECTIVELY) PRIOR TO CONSTRUCTION.
16. NCDOT / RAILROAD ENCROACHMENT AGREEMENTS ARE REQUIRED FOR ANY UTILITY WORK (INCLUDING MAIN EXTENSIONS & SERVICE TAPS) WITHIN STATE OR RAILROAD ROW PRIOR TO CONSTRUCTION.
17. GREASE INTERCEPTOR / OIL WATER SEPARATOR SIZING CALCULATIONS & INSTALLATION SPECIFICATIONS SHALL BE APPROVED BY THE RW FOG PROGRAM COORDINATOR PRIOR TO ISSUANCE OF A UC AND/OR BUILDING PERMIT. CONTACT (919) 996-4516 OR FOG@RALEIGHNC.GOV FOR MORE INFORMATION.
18. CROSS-CONNECTION CONTROL PROTECTION DEVICES ARE REQUIRED BASED ON THE DEGREE OF HEALTH HAZARD INVOLVED AS LISTED IN APPENDIX B OF THE RULES GOVERNING PUBLIC WATER SYSTEMS IN NORTH CAROLINA.
19. THE DEVICES SHALL MEET THE AMERICAN SOCIETY OF SANITARY ENGINEERING (ASSE) STANDARDS AND BE ON THE UNIVERSITY OF SOUTHERN CALIFORNIA APPROVAL LIST.
20. THE DEVICE AND INSTALLATION SHALL MEET THE GUIDELINES OF APPENDIX A - GUIDELINES AND REQUIREMENTS FOR THE CROSS CONNECTION PROGRAM IN RALEIGH'S SERVICE AREA.
21. THE DEVICES SHALL BE INSTALLED AND TESTED (BOTH, INITIAL AND PERIODIC TESTING THEREAFTER) IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS OR THE LOCAL CROSS CONNECTION CONTROL PROGRAM, WHICHEVER IS MORE STRINGENT. CONTACT CROSS.CONNECTION@RALEIGHNC.GOV FOR MORE INFORMATION.
22. NOTICE FOR PROJECTS THAT INVOLVE AN OVERSIZED MAIN OR URBAN MAIN REPLACEMENT. ANY CITY REIMBURSEMENT GREATER THAN $250,000.00 MUST UNDERGO THE PUBLIC BIDDING PROCESS.
23. PRIVATE SUB-METERING - NO RESALE OF WATER SHALL OCCUR WITHOUT APPROVAL OF THE NORTH CAROLINA UTILITY COMMISSION. SUB-METERING SHALL BE IN ACCORDANCE WITH SECTION 1400 OF THE "SAFE DRINKING WATER ACT".



GRAPHIC SCALE

150 0 75 150 300 600

(IN FEET)

1 inch =150 ft

Public Sewer Collection / Extension System	Public Water Distribution / Extension System
The City of Raleigh consents to the connection and extension of the City's public sewer system as shown on this plan. The material and Construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.	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 # _____	City of Raleigh Public Utilities Department Permit # _____

PROJECT NUMBER = CID-25-02

AMERICAN Engineering
American Engineering Associates - Southeast, P.A.
4020 Westchase Boulevard Suite 450
Raleigh, NC 27607
919-469-1101

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036528 JAMES KLEIN
AMERICAN ENGINEERING ASSOCIATES SOUTHEAST C-3881
CERTIFICATE OF AUTHORIZATION

PRELIMINARY
PRELIMINARY
NOT FOR RECORDATION
DO NOT USE FOR CONSTRUCTION
FOR INFORMATION, ONLY

NO.	DATE	REVISION:
1	07-01-25	FIRST REVISION SET
2	08-05-25	SECOND WAKE COUNTY SUBMITTAL

STIPULATION FOR REUSE

THIS DRAWING WAS PREPARED FOR USE ON THE SPECIFIC SITE, NAMED HEREON, CONTEMPORANEOUSLY WITH ITS ISSUE DATE AS LISTED, HEREON. AND IT IS NOT SUITABLE FOR USE ON A DIFFERENT PROJECT SITE OR AT A LATER TIME. USE OF THIS DRAWING FOR REFERENCE OR EXAMPLE ON ANOTHER PROJECT REQUIRES THE SERVICES OF PROPERLY LICENSED ARCHITECTS AND ENGINEERS. REPRODUCTION OF THIS DRAWING FOR REUSE ON ANOTHER PROJECT IS NOT AUTHORIZED AND MAY BE CONTRARY TO THE LAW.

MERRITT RESERVE

UTILITY PLAN OVERALL

ROLESVILLE RD
WAKE COUNTY NC 27312

JOB NUMBER:	23-0004
CHECKED BY:	JK
DRAWN BY:	DH/MA/LL
DATE:	08/04/2025

SHEET TITLE:

UTILITY PLAN OVERALL

SHEET NO.:

CU-100

North Carolina 811
*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

Z:\Jobs\23-0004 Merritt Property (BRX)\dwg_Working Dwgs\Sheets\Construction Set\48. CU-100 Utility Plan.dwg

2025-09-03

SEE SHEET CU-102

SEE SHEET CU-106

VARIABLE WIDTH DRAINAGE EASEMENT

20' PRIVATE DRAINAGE EASEMENT

EXISTING 30' PRIVATE ACCESS EASEMENT
D.B. 3361 PG. 212

EXISTING 50' GAS EASEMENT
D.B. 17016 PG. 398

MERRITT RESERVE DRIVE (PUBLIC 60' R/W)

OLD MILLSTONE COURT (PUBLIC 50' R/W)

MERRITT RIDGE LANE (PUBLIC 50' R/W)

DAVIS ROCK DRIVE (PUBLIC 50' R/W)

FOWLER ROAD (PUBLIC 110' R/W)

20' PUBLIC DRAINAGE EASEMENT

3' COR UTILITY PUBLIC EASEMENT

5' SIDEWALK

8" X 8" TEE
3 - 8" GV

FIRE HYDRANT (TYP.)

FH(TBM)
N(y):783226.94'
E(x):2164169.11'
TOPNUT ELEV:393.58'

CONNECT TO EXISTING 16" WATERLINE

CONNECT TO EXISTING 16" WATERLINE. INSTALL 12" TAPPING SLEEVE AND VALVE. EX. WATERLINE ELEV. TO BE CONFIRMED.

TEMPORARY ACCESS AND CONSTRUCTION EASEMENT

20' PUBLIC DRAINAGE AND SCM ACCESS MAINTENANCE EASEMENT

10' CONCRETE SIDE PATH

50' R/W DEDICATION

PROPERTY TO BE RETAINED BY BETTY R. GUNZ / TEXWEST LLC
2.00 AC

FUTURE COMMERCIAL/RETAIL 3.29 AC

OS-1 OS-3 OS-4

SCM 4

CB 401 CB 402 CB 403 CB 404 CB 405 CB 406 CB 407 CB 407A CB 408 CB 409 CB 410 CB 419 CB 420 CB 421 CB 422 CB 422A CB 422C CB 422D CB 422E CB 423 CB 423A CB 424 CB 425 CB 426 CB 427 CB 428 CB 429 CB 429A CB 569 CB 570 CB 571 CB 572 CB 572A CB-1001 CB-1002 CB-1003 CB-1004 CB-1005 CB-1006 CB-1010 CB-1011

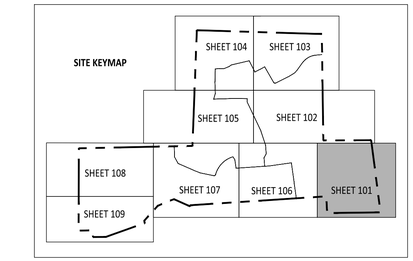
MH 127 MH 128 MH 129 MH 130 MH 131 MH 230 MH 230A MH 231 MH 232 MH 234 MH 235

YI 407B YI 407C YI 407D YI 407E YI 407G YI 422B YI-1007 YI 404A

JB 407F JB-1000

FES 400 FES-OS-4

567B



Public
Sewer Collection / Extension System

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

City of Raleigh
Public Utilities Department Permit # _____

Public
Water Distribution / Extension System

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

City of Raleigh
Public Utilities Department Permit # _____

UTILITY PLAN LEGEND	
WATER VALVE	
SEWER METER	
WATER METER	
FH	
MANHOLE	
WATER LINE	
SCM LOCATIONS	
SEWER LINE	
30' STREETSCAPE BUFFER	
PERIMETER BUFFER	
NEUSE RIVER BUFFER	
10' CURB TRANSITION	

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft

PROJECT NUMBER = CID-25-02

North Carolina 811
*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

AMERICAN Engineering
American Engineering Associates - Southeast, P.A.
4020 Westchase Boulevard, Suite 450
Raleigh, NC 27607
919-469-1101

NORTH CAROLINA ENGINEERING CERTIFICATION AMERICAN ENGINEERING ASSOCIATES SOUTHEAST C-3881 THEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED OR APPROVED BY ME AND THAT I AM DULY LICENSED UNDER THE PROVISIONS OF CHAPTER 89C OF THE NORTH CAROLINA GENERAL STATUTES AS A PROFESSIONAL ENGINEER. SEAL 36528 JAKOB P. KLEIN ENGINEER

PRELIMINARY
NOT FOR RECORDATION, SALE OR CONVEYANCE
DO NOT USE FOR CONSTRUCTION

FOR INFORMATION, ONLY

NO.	DATE	REVISION:
1	07-01-25	FIRST REVISION SET
2	08-05-25	SECOND WAKE COUNTY SUBMITTAL

STIPULATION FOR REUSE

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MERRITT RESERVE
UTILITY PLAN
ROLESVILLE RD
WAKE COUNTY NC 27312

JOB NUMBER:	23-0004
CHECKED BY:	JK
DRAWN BY:	DH/MA/LL
DATE:	08/04/2025

SHEET TITLE:

UTILITY PLAN

SHEET NO.:

CU-101

Z:\Jobs\23-0004 Merritt Property (BRD)\dwg_Working Dwgs\Sheets\Construction Set\47. CU-101 Utility Plan (50 Scale).dwg

2025-09-03

SEE SHEET CU-104

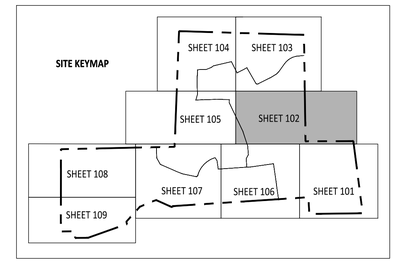
SEE SHEET CU-103

SEE SHEET CU-105

SEE SHEET CU-106

SEE SHEET CU-101

N/F
OPTIMAL DEVELOPMENT, LLC
D.B. 18224 PAGE 1209
B.M. 1985 PAGE 1807
PIN# 1768.03-33-7689
LAND USE: VACANT
ZONING: RL



UTILITY PLAN LEGEND	
WATER VALVE	
SEWER METER	
WATER METER	
FH	
MANHOLE	
WATER LINE	
SCM LOCATIONS	
SEWER LINE	
30' STREETSCAPE BUFFER	
PERIMETER BUFFER	
NEUSE RIVER BUFFER	
10' CURB TRANSITION	

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft

Public
Sewer Collection / Extension System
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City of Raleigh
Public Utilities Department Permit # _____

Public
Water Distribution / Extension System
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City of Raleigh
Public Utilities Department Permit # _____

PROJECT NUMBER = CID-25-02

North Carolina 811 811.com
*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

AMERICAN Engineering
American Engineering Associates - Southeast, P.A.
4020 Westchase Boulevard, Suite 450
Raleigh, NC 27607
919-469-1101

NORTH CAROLINA AMERICAN ENGINEERING ASSOCIATES SOUTHEAST C-3881 CERTIFICATE OF AUTHORIZATION

PRELIMINARY
PRELIMINARY
NOT FOR RECORDATION
DO NOT USE FOR CONSTRUCTION
NORTH CAROLINA 36528 ENGINEER JAKOB P. KLEIN
FOR INFORMATION, ONLY

NO.	DATE	REVISION:
1	07-01-25	FIRST REVISION SET
2	08-05-25	SECOND WAKE COUNTY SUBMITTAL

STIPULATION FOR REUSE

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MERRITT RESERVE
UTILITY PLAN
ROLESVILLE RD
WAKE COUNTY NC 27312

JOB NUMBER:	23-0004
CHECKED BY:	JK
DRAWN BY:	DH/MA/LL
DATE:	08/04/2025

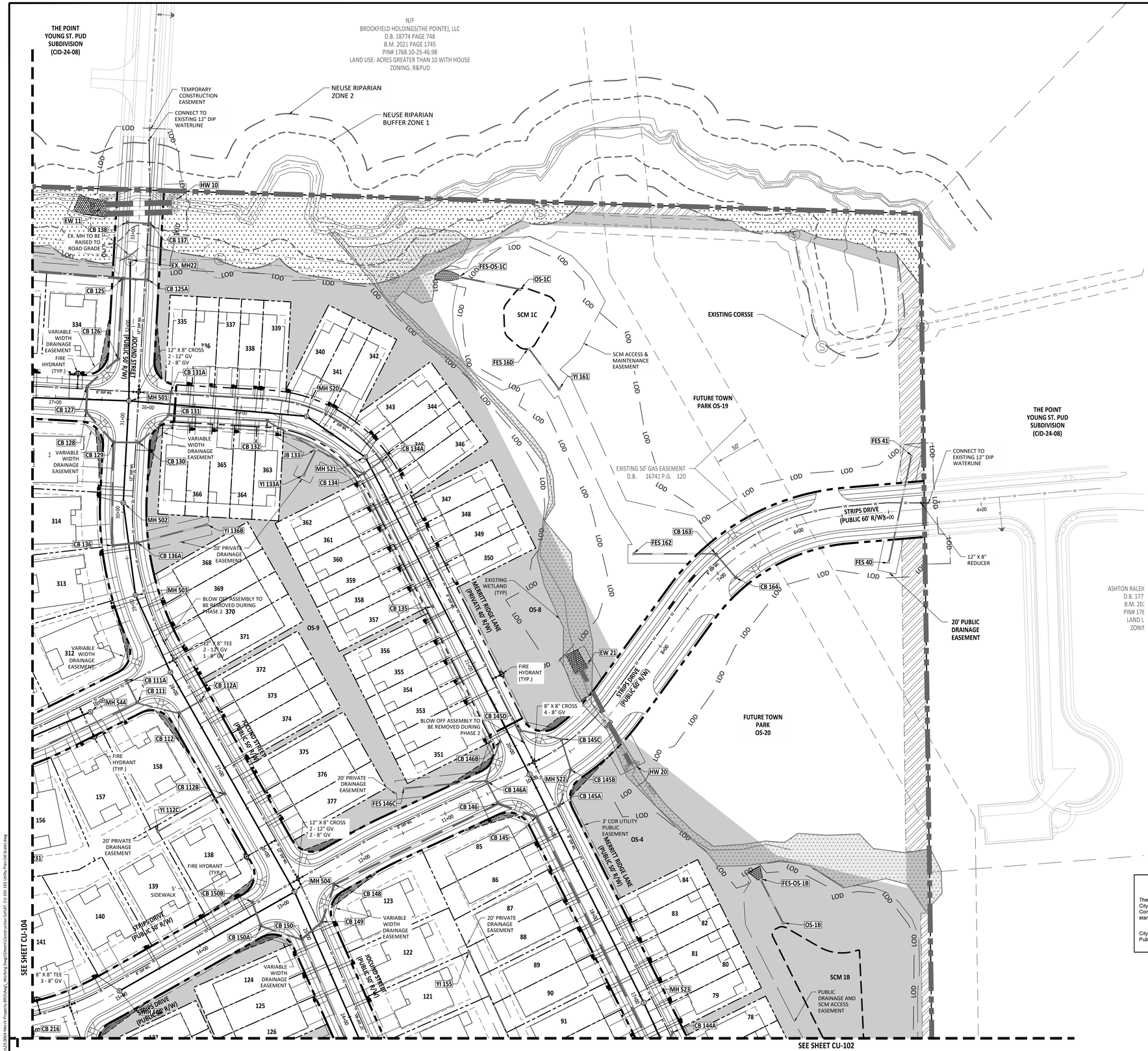
SHEET TITLE:

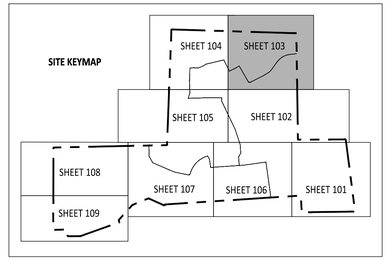
UTILITY PLAN

SHEET NO.:
CU-102

Z:\Jobs\23-0004 Merritt Property BRP\Revit_ Working Dwgs\Sheets\Construction Set\07 CU-101-103 Utility Plan (50 Scale).dwg

2025-09-03





UTILITY PLAN LEGEND	
WATER VALVE	
SEWER METER	
WATER METER	
FH	
MANHOLE	
WATER LINE	
SCM LOCATIONS	
SEWER LINE	
30' STREETSCAPE BUFFER	
PERIMETER BUFFER	
NEUSE RIVER BUFFER	
10' CURB TRANSITION	

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)

1 inch = 50 ft

Public

Sewer Collection / Extension System

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

City of Raleigh
Public Utilities Department Permit # _____

Public

Water Distribution / Extension System

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City of Raleigh
Public Utilities Department Permit # _____

AMERICAN Engineering
American Engineering Associates - Southeast, P.A.
4020 Westchase Boulevard, Suite 450
Raleigh, NC 27607
919-469-1101

NORTH CAROLINA AMERICAN ENGINEERING ASSOCIATES SOUTHEAST C-3881 CERTIFICATE OF AUTHORIZATION

PRELIMINARY

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER 36528 JAKOB P. KLEIN

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

FOR INFORMATION, ONLY

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2	08-05-25	SECOND WAKE COUNTY SUBMITTAL

STIPULATION FOR REUSE

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MERRITT RESERVE

UTILITY PLAN

ROLESVILLE RD
WAKE COUNTY NC 27312

JOB NUMBER:	23-0004
CHECKED BY:	JK
DRAWN BY:	DH/MA/LL
DATE:	08/04/2025

SHEET TITLE:

UTILITY PLAN

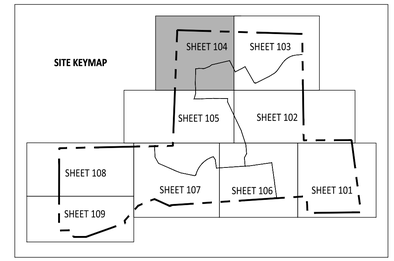
SHEET NO.:

CU-103

North Carolina 811 811.com
*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

Z:\Jobs\23-0004 Merritt Property BRP\Dwg_ Working Dwgs\Sheets\Construction Set\CP- CU-101-103 Utility Plan (50 Scale).dwg

2025-09-03



UTILITY PLAN LEGEND	
WATER VALVE	
SEWER METER	
WATER METER	
FH	
MANHOLE	
WATER LINE	
SCM LOCATIONS	
SEWER LINE	
30' STREETSCAPE BUFFER	
PERIMETER BUFFER	
NEUSE RIVER BUFFER	
10' CURB TRANSITION	

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft

Public
Sewer Collection / Extension System
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City of Raleigh
Public Utilities Department Permit # _____

Public
Water Distribution / Extension System
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City of Raleigh
Public Utilities Department Permit # _____

North Carolina 811 811
*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

PROJECT NUMBER = CID-25-02

AMERICAN Engineering
American Engineering Associates - Southeast, P.A.
4020 Westchase Boulevard, Suite 450
Raleigh, NC 27607
919-469-1101

NORTH CAROLINA AMERICAN ENGINEERING ASSOCIATES SOUTHEAST C-3881 CERTIFICATE OF AUTHORIZATION

PRELIMINARY
NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER 36528 JAKOB P. KLEIN
DO NOT USE FOR CONSTRUCTION
FOR INFORMATION, ONLY

NO.	DATE	REVISION:
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2	08-05-25	SECOND WAKE COUNTY SUBMITTAL

STIPULATION FOR REUSE

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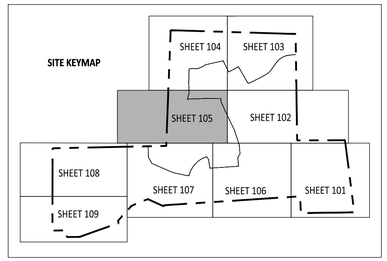
MERRITT RESERVE
UTILITY PLAN
ROLESVILLE RD
WAKE COUNTY NC 27312

JOB NUMBER:	23-0004
CHECKED BY:	JK
DRAWN BY:	DH/MA/LL
DATE:	08/04/2025

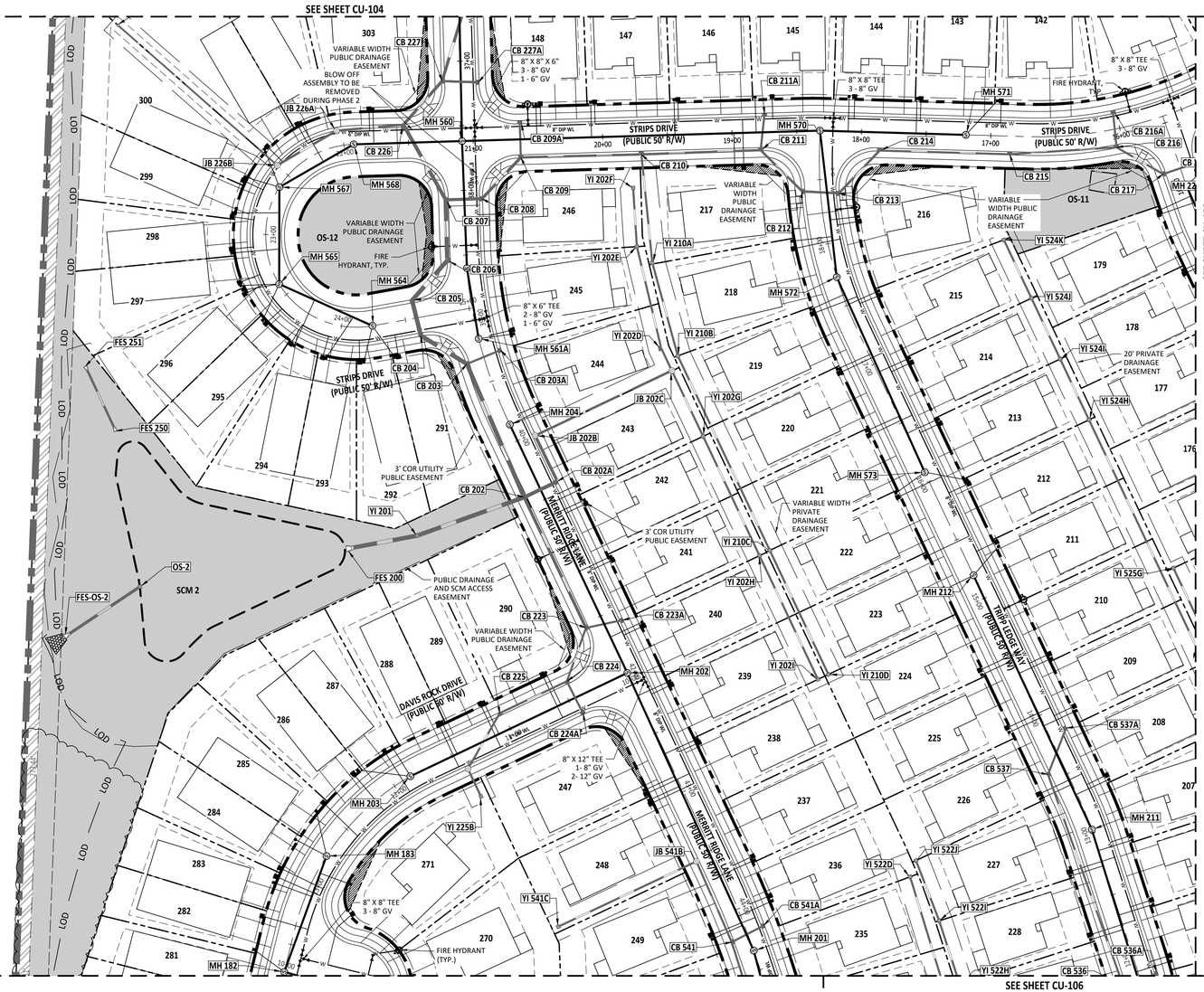
SHEET TITLE:
UTILITY PLAN

SHEET NO.:
CU-104

Z:\Jobs\23-0004 Merritt Property (BSR)\wp\L_Working Dwgs\Sheets\Construction Set\08. CU-104-106 Utility Plan (50 Scale).dwg
2025-09-03



N/F
ASHTON RALEIGH RESIDENTIAL, LLC
D.B. 17720 PAGE 1663
B.M. 2021 PAGE 1746
PIN# 1768.03-13-1851
LAND USE: VACANT
ZONING: R&PUD



UTILITY PLAN LEGEND	
WATER VALVE	
SEWER METER	
WATER METER	
FH	
MANHOLE	
WATER LINE	W W
SCM LOCATIONS	
SEWER LINE	SS SS
30' STREETSCAPE BUFFER	
PERIMETER BUFFER	
NEUSE RIVER BUFFER	
10' CURB TRANSITION	

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft

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

City of Raleigh
Public Utilities Department Permit # _____

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

City of Raleigh
Public Utilities Department Permit # _____

PROJECT NUMBER = CID-25-02

AMERICAN Engineering
American Engineering Associates - Southeast, P.A.
4020 Westchase Boulevard, Suite 450
Raleigh, NC 27607
919-469-1101

NORTH CAROLINA AMERICAN ENGINEERING ASSOCIATES SOUTHEAST C-3881 CERTIFICATE OF AUTHORIZATION

PRELIMINARY
NORTH CAROLINA REGISTERED 36528 ENGINEER JAKOB P. KLEE
DO NOT USE FOR CONSTRUCTION
FOR INFORMATION, ONLY

NO.	DATE	REVISION:
1	07-01-25	FIRST REVISION SET
2	08-05-25	SECOND WAKE COUNTY SUBMITTAL

STIPULATION FOR REUSE

THIS DRAWING WAS PREPARED FOR USE ON THE SPECIFIC SITE, NAMED HEREON, CONTEMPORANEOUSLY WITH ITS ISSUE DATE AS LISTED, HEREON, AND IT IS NOT SUITABLE FOR USE ON A DIFFERENT PROJECT SITE OR AT A LATER TIME. USE OF THIS DRAWING FOR REFERENCE OR EXAMPLE ON ANOTHER PROJECT REQUIRES THE SERVICES OF PROPERLY LICENSED ARCHITECTS AND ENGINEERS. REPRODUCTION OF THIS DRAWING FOR REUSE ON ANOTHER PROJECT IS NOT AUTHORIZED AND MAY BE CONTRARY TO THE LAW.

MERRITT RESERVE
UTILITY PLAN
ROLESVILLE RD
WAKE COUNTY NC 27312

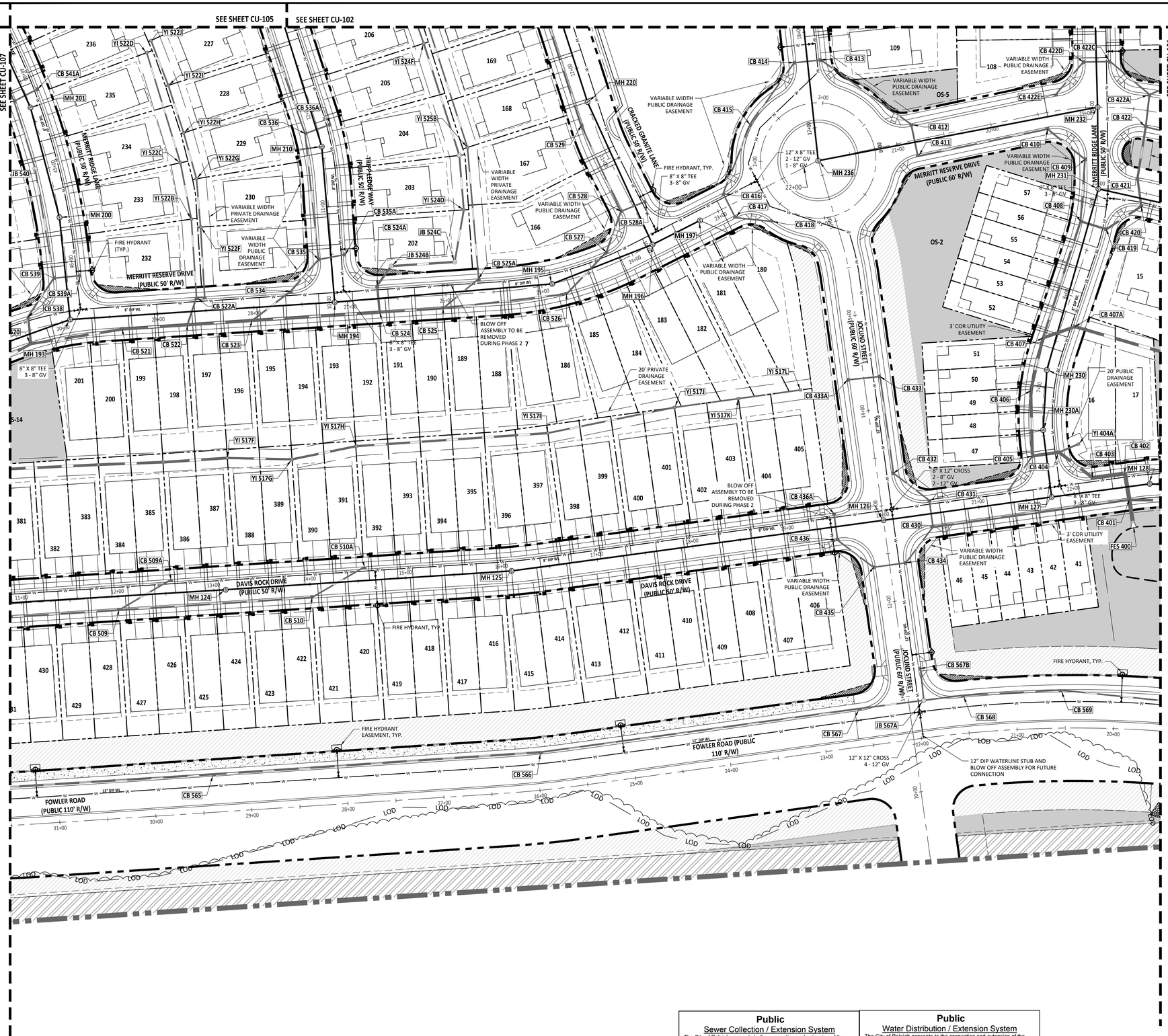
JOB NUMBER:	23-0004
CHECKED BY:	JK
DRAWN BY:	DH/MA/LL
DATE:	08/04/2025

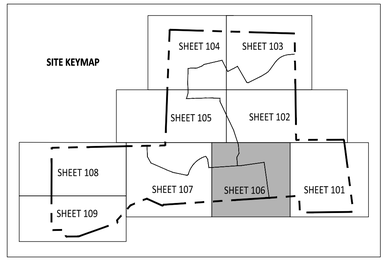
SHEET TITLE:
UTILITY PLAN

SHEET NO.:
CU-105

*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

Z:\Jobs\23-0004 Merrit Property (BRD)\Dwg_Working Dwgs\Sheets\Construction Set\48_CU-104-105 Utility Plan (GS Scale).dwg
2025-09-03





SITE PLAN LEGEND	
WATER VALVE	
SEWER METER	
WATER METER	
FH	
MANHOLE	
WATER LINE	
SCM LOCATIONS	
SEWER LINE	
PASSIVE OPEN SPACE PROVIDED: 28.07 ACRES TOTAL REQUIRED: 10.45 ACRES	
ACTIVE OPEN SPACE PROVIDED: 6.87 ACRES TOTAL REQUIRED: 10.45 ACRES	
30' STREETSCAPE BUFFER	
PERIMETER BUFFER	
NEUSE RIVER BUFFER	

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft

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

City of Raleigh
Public Utilities Department Permit # _____

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

City of Raleigh
Public Utilities Department Permit # _____

PROJECT NUMBER = CID-25-02

AMERICAN Engineering
American Engineering Associates - Southeast, P.A.
4020 Westchase Boulevard, Suite 450
Raleigh, NC 27607
919-469-1101

NORTH CAROLINA AMERICAN ENGINEERING ASSOCIATES SOUTHEAST C-3881 CERTIFICATE OF AUTHORIZATION

PRELIMINARY
NORTH CAROLINA REGISTERED 36528 ENGINEER JAKOB P. KLEE
DO NOT USE FOR CONSTRUCTION
FOR INFORMATION, ONLY

NO.	DATE	REVISION:
1	07-01-25	FIRST REVISION SET
2	08-05-25	SECOND WAKE COUNTY SUBMITTAL

STIPULATION FOR REUSE

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MERRITT RESERVE

UTILITY PLAN

ROLESVILLE RD
WAKE COUNTY NC 27312

JOB NUMBER:	23-0004
CHECKED BY:	JK
DRAWN BY:	DH/MA/LL
DATE:	08/04/2025

SHEET TITLE:

UTILITY PLAN

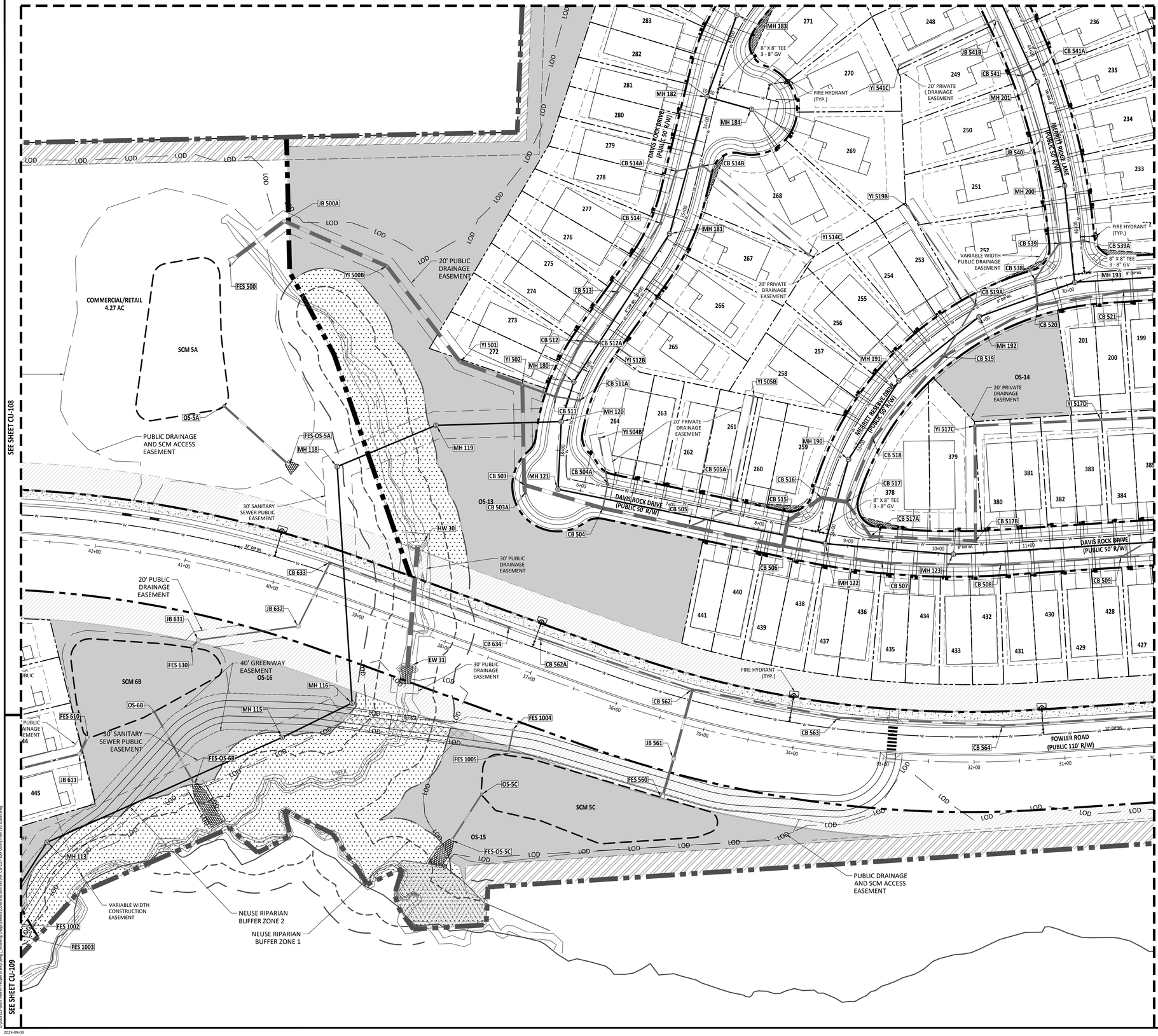
SHEET NO.:

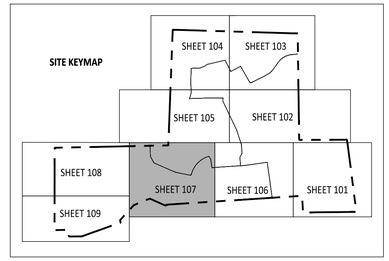
CU-106

*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

Z:\Job\23-0004 Merritt Property BRP\Revit_ Working Dwgs\Sheets\Construction Set\08_CU-104-106 Utility Plan (50 Scale).dwg

2025-09-03





UTILITY PLAN LEGEND	
WATER VALVE	
SEWER METER	
WATER METER	
FH	
MANHOLE	
WATER LINE	
SCM LOCATIONS	
SEWER LINE	
30' STREETSCAPE BUFFER	
PERIMETER BUFFER	
NEUSE RIVER BUFFER	
10' CURB TRANSITION	

Public
Sewer Collection / Extension System

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

City of Raleigh
Public Utilities Department Permit # _____

Public
Water Distribution / Extension System

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

City of Raleigh
Public Utilities Department Permit # _____

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft

PROJECT NUMBER = CID-25-02

AMERICAN Engineering
American Engineering Associates - Southeast, P.A.
4020 Westchase Boulevard, Suite 450
Raleigh, NC 27607
919-469-1101

NORTH CAROLINA
AMERICAN ENGINEERING ASSOCIATES SOUTHEAST
C-3881
CERTIFICATE OF AUTHORIZATION

PRELIMINARY
NOT FOR RECORDATION
DO NOT USE FOR CONSTRUCTION
JAKOB P. KLEIN
36528
ENGINEER

FOR INFORMATION, ONLY

NO.	DATE	REVISION:
1	07-01-25	FIRST REVISION SET
2	08-05-25	SECOND WAKE COUNTY SUBMITTAL

STIPULATION FOR REUSE

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MERRITT RESERVE

UTILITY PLAN

ROLESVILLE RD
WAKE COUNTY NC 27312

JOB NUMBER:	23-0004
CHECKED BY:	JK
DRAWN BY:	DH/MA/LL
DATE:	08/04/2025

SHEET TITLE:

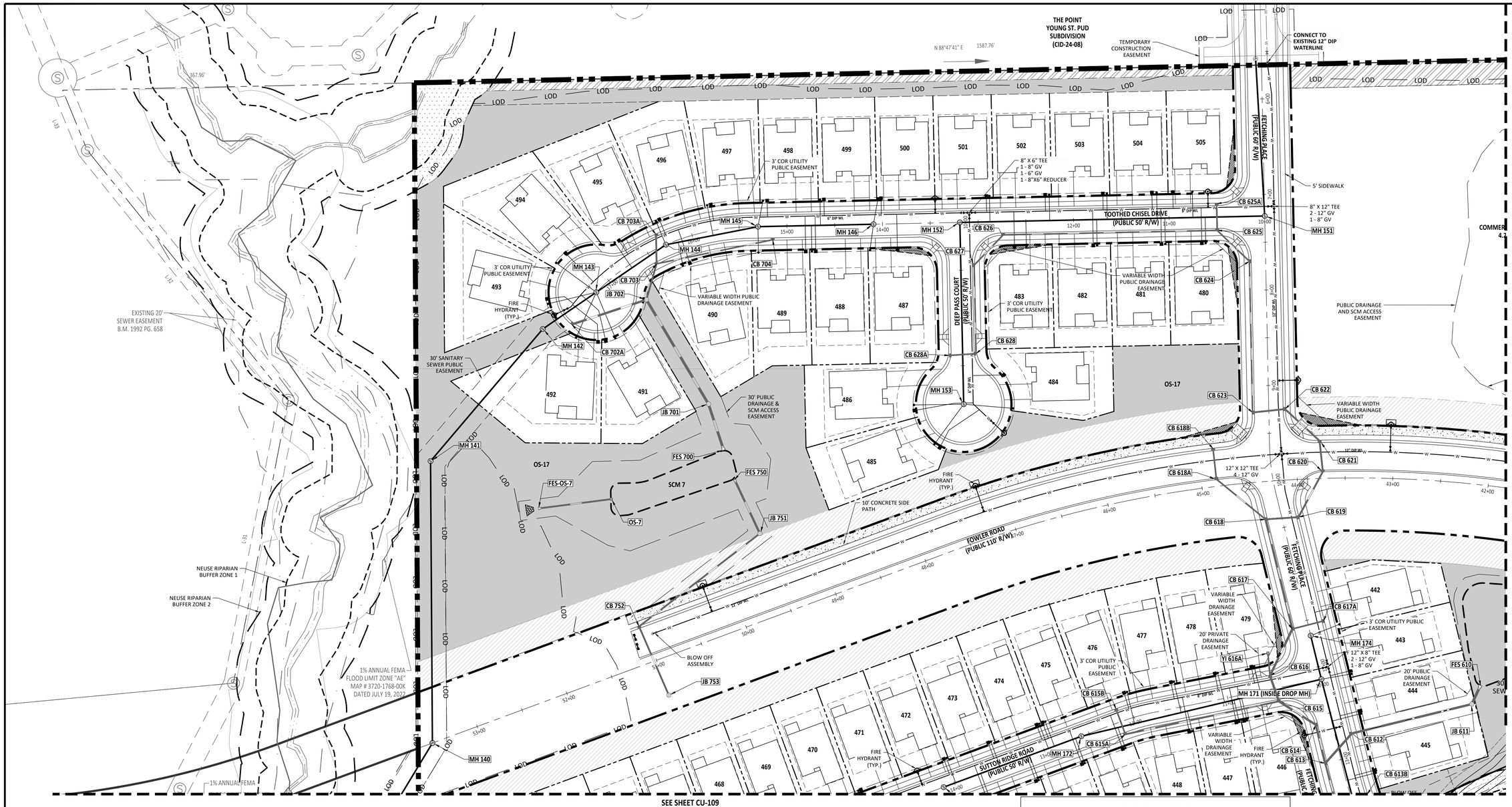
UTILITY PLAN

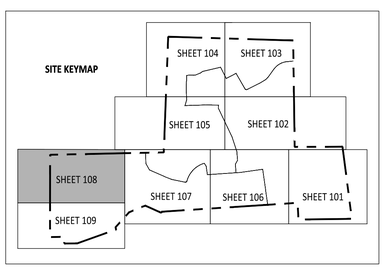
SHEET NO.:

CU-107

North Carolina 811
*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

Z:\Jobs\23-0004 Merritt Property (BRT)\Dwg_Working Dwgs\Sheets\Construction Set\4X8_CU-107-109 Utility Plan (50 Scale).dwg
2025-09-03





GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)

1 inch = 50 ft

UTILITY PLAN LEGEND	
WATER VALVE	
SEWER METER	
WATER METER	
FH	
MANHOLE	
WATER LINE	W W
SCM LOCATIONS	
SEWER LINE	S S
30' STREETSCAPE BUFFER	
PERIMETER BUFFER	
NEUSE RIVER BUFFER	
10' CURB TRANSITION	

Public
Sewer Collection / Extension System

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

City of Raleigh
Public Utilities Department Permit # _____

Public
Water Distribution / Extension System

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

City of Raleigh
Public Utilities Department Permit # _____

PROJECT NUMBER = CID-25-02

North Carolina 811 811 It's the law!
*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

AMERICAN Engineering
American Engineering Associates - Southeast, P.A.
4020 Westchase Boulevard, Suite 450
Raleigh, NC 27607
919-469-1101

NORTH CAROLINA AMERICAN ENGINEERING ASSOCIATES SOUTHEAST C-3881 CERTIFICATE OF AUTHORIZATION

PRELIMINARY
NOT FOR RECORDATION, SALE OR CONVEYANCE
DO NOT USE FOR CONSTRUCTION
JAKOB P. KLEE 36528 ENGINEER
FOR INFORMATION, ONLY

NO.	DATE	REVISION:
1	07-01-25	FIRST REVISION SET
2	08-05-25	SECOND WAKE COUNTY SUBMITTAL

STIPULATION FOR REUSE

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MERRITT RESERVE
UTILITY PLAN
ROLESVILLE RD
WAKE COUNTY NC 27312

JOB NUMBER:	23-0004
CHECKED BY:	JK
DRAWN BY:	DH/MA/LL
DATE:	08/04/2025

SHEET TITLE:
UTILITY PLAN

SHEET NO.:
CU-108

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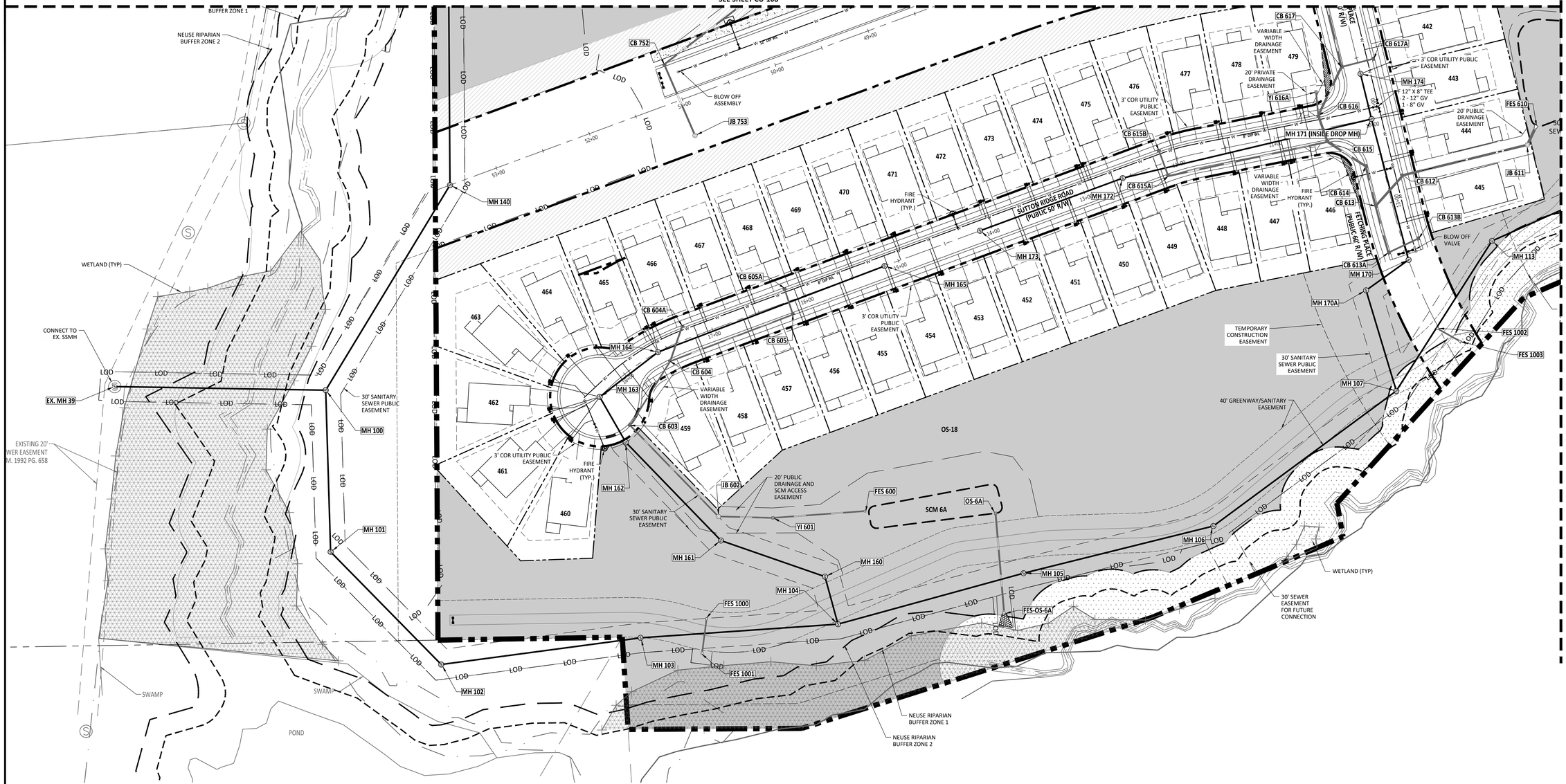
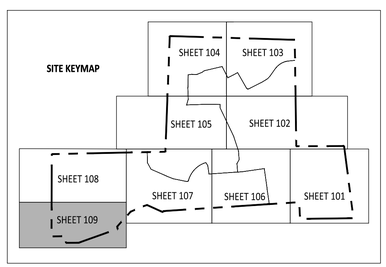
2025-09-03





Public
Sewer Collection / Extension System
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City of Raleigh
Public Utilities Department Permit # _____

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

City of Raleigh
Public Utilities Department Permit # _____

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

UTILITY PLAN LEGEND	
WATER VALVE	
SEWER METER	
WATER METER	
FH	
MANHOLE	
WATER LINE	W W
SCM LOCATIONS	
SEWER LINE	S S
30' STREETSCAPE BUFFER	
PERIMETER BUFFER	
NEUSE RIVER BUFFER	
10' CURB TRANSITION	

PROJECT NUMBER = CID-25-02

North Carolina 811 811
*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

AMERICAN Engineering
American Engineering Associates - Southeast, P.A.
4020 Westchase Boulevard, Suite 450
Raleigh, NC 27607
919-469-1101

NORTH CAROLINA AMERICAN ENGINEERING ASSOCIATES SOUTHEAST C-3881 CERTIFICATE OF AUTHORIZATION

PRELIMINARY
PRELIMINARY
DO NOT USE FOR CONSTRUCTION
NORTH CAROLINA REGISTERED 36528 ENGINEER JAKOB P. KLEES
FOR INFORMATION, ONLY

NO.	DATE	REVISION:
1	07-01-25	FIRST REVISION SET
2	08-05-25	SECOND WAKE COUNTY SUBMITTAL

STIPULATION FOR REUSE

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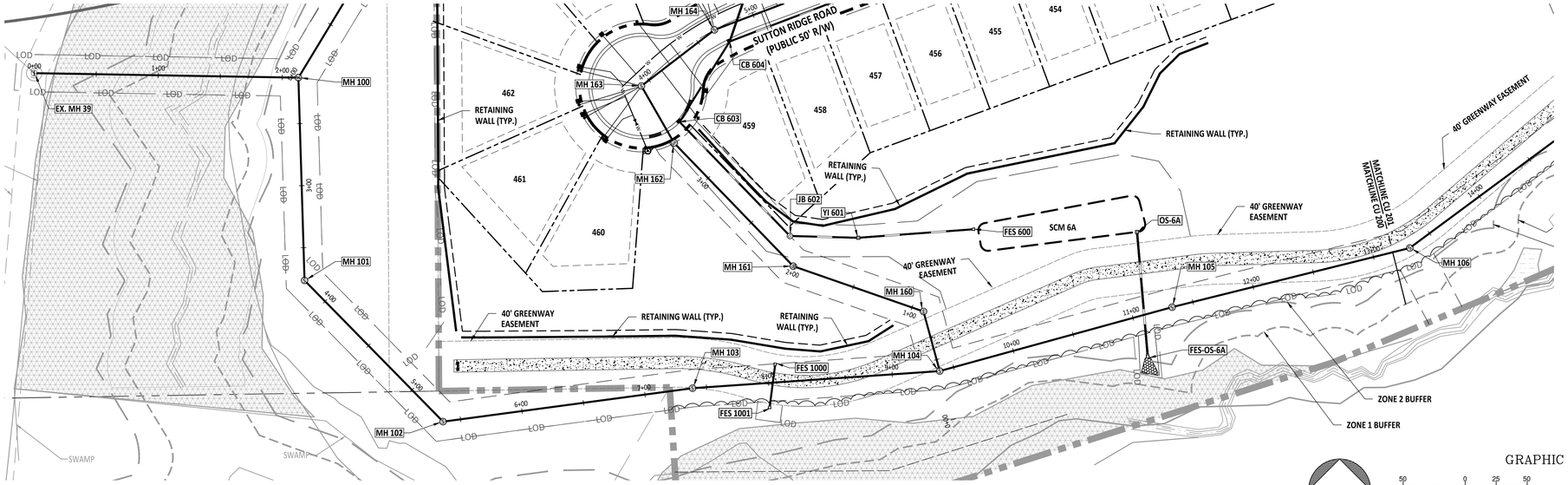
MERRITT RESERVE
UTILITY PLAN
ROLESVILLE RD
WAKE COUNTY NC 27312

JOB NUMBER:	23-0004
CHECKED BY:	JK
DRAWN BY:	DH/MA/LL
DATE:	08/04/2025

SHEET TITLE:
UTILITY PLAN

SHEET NO.:
CU-109

Z:\Jobs\23-0004 Merritt Property (BRP)\wip_ Working Dwgs\Sheets\Construction Set\GR_CU-107-109 Utility Plan (50 Scale).dwg
2025-09-03

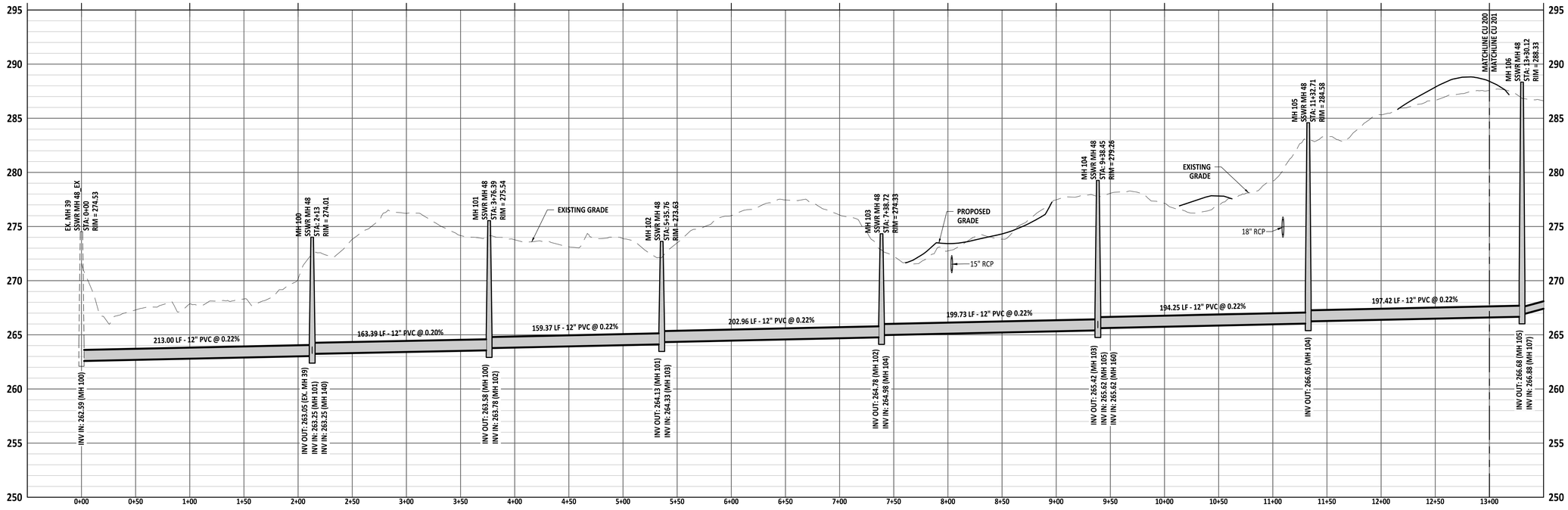


GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft

EX. MH 39 TO MH 106 PLAN
AND PROFILE



Public
Sewer Collection / Extension System
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City of Raleigh
Public Utilities Department Permit # _____

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

City of Raleigh
Public Utilities Department Permit # _____

PROJECT NUMBER = CID-25-02

North Carolina 811
811 or 1-800-632-4949
*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

AMERICAN Engineering
American Engineering Associates - Southeast, P.A.
4020 Westchase Boulevard, Suite 450
Raleigh, NC 27607
919-469-1101

NORTH CAROLINA
AMERICAN ENGINEERING ASSOCIATES SOUTHEAST
C-3881
CERTIFICATE OF AUTHORIZATION

PRELIMINARY
NOT FOR RECORDATION
NOT TO BE USED FOR CONSTRUCTION
NORTH CAROLINA
36528
ENGINEER
JAKOB P. KLEIN
FOR INFORMATION, ONLY

NO.	DATE	REVISION:
1	07-01-25	FIRST REVISION SET
2	08-05-25	SECOND WAKE COUNTY SUBMITTAL

STIPULATION FOR REUSE

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MERRITT RESERVE

SANITARY SEWER PLAN & PROFILE

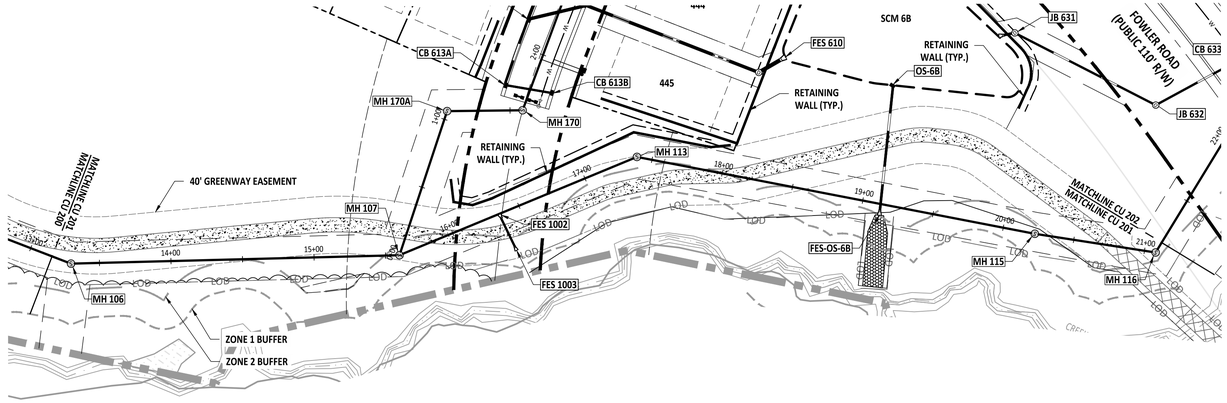
ROLESVILLE RD
WAKE COUNTY NC 27312

JOB NUMBER:	23-0004
CHECKED BY:	JK
DRAWN BY:	DH/MA/LL
DATE:	08/04/2025

SHEET TITLE:
SANITARY SEWER PLAN & PROFILE

SHEET NO.:
CU-200

Z:\Jobs\23-0004 Merritt Property (BRX)\dwg_Working Dwgs\Sheets\Construction Set\CU_200-203 PLAN & PROFILE.dwg
2025-09-03

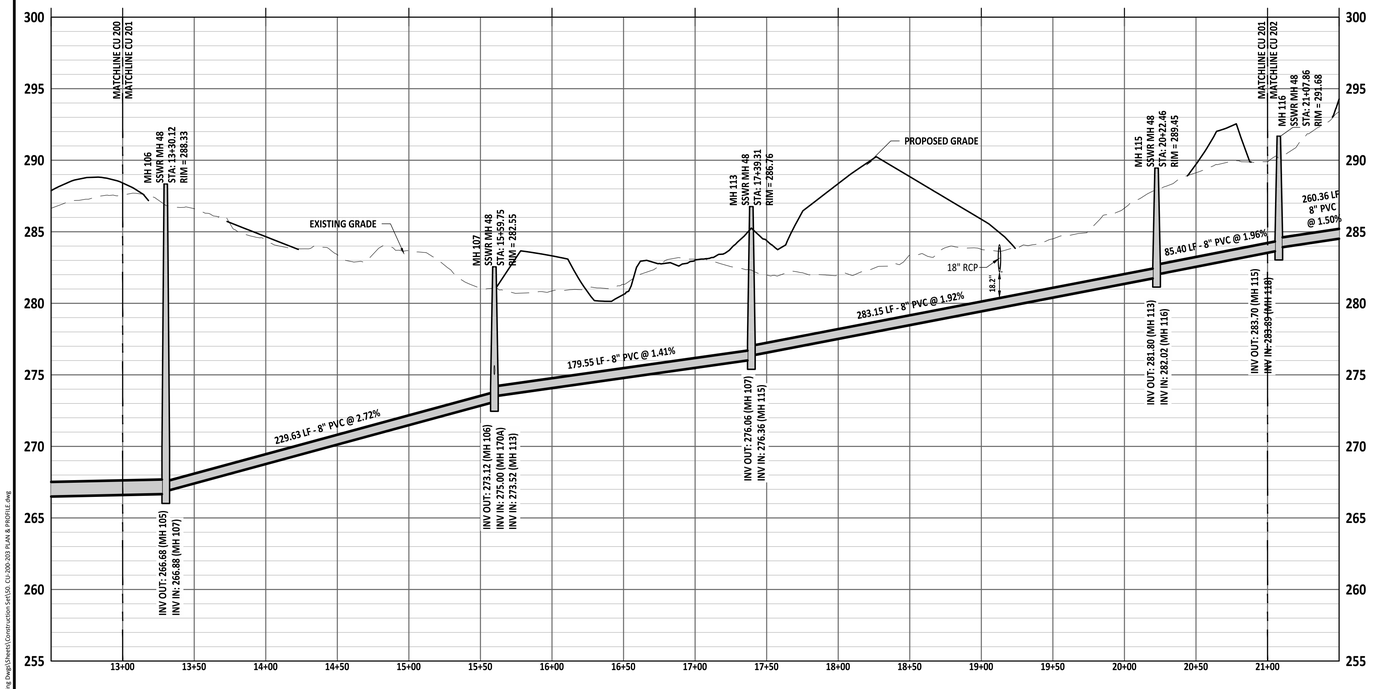


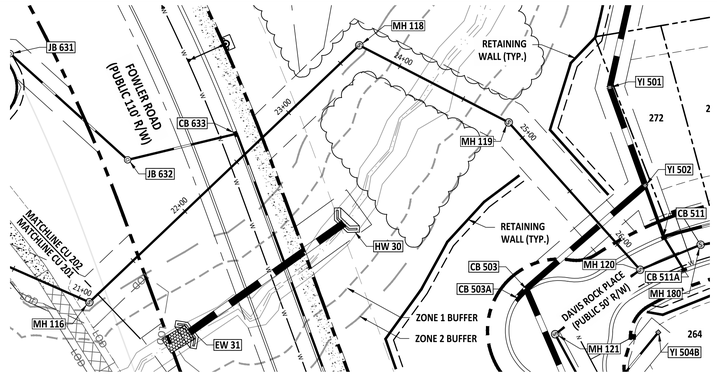
GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft

MH 106 TO MH 116 PLAN AND PROFILE



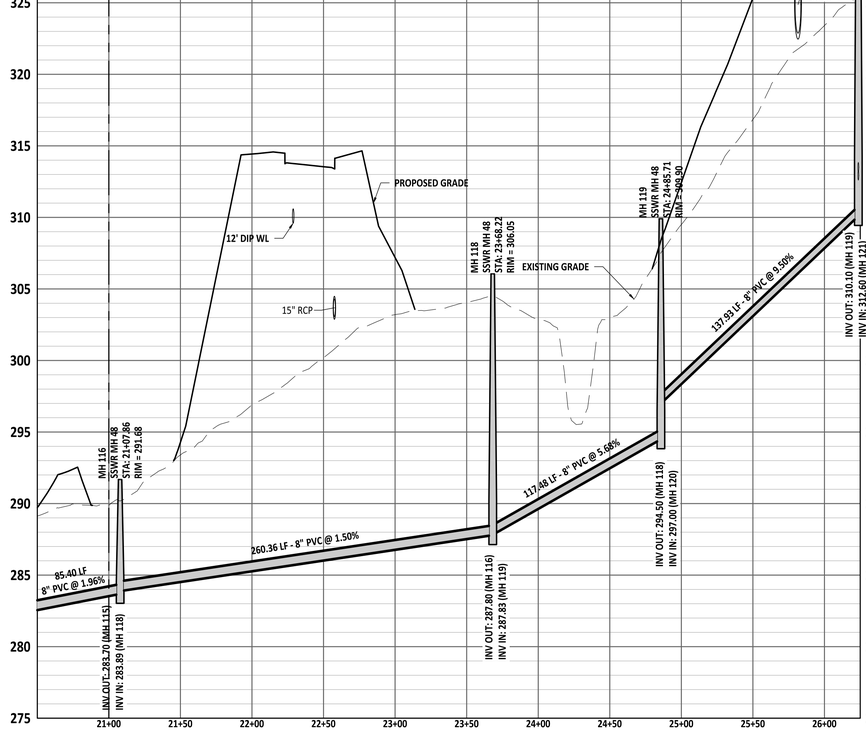


GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft

MH 117 TO MH 120 PLAN AND PROFILE



Public
Sewer Collection / Extension System

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City of Raleigh
Public Utilities Department Permit # _____

Public
Water Distribution / Extension System

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City of Raleigh
Public Utilities Department Permit # _____

PROJECT NUMBER = CID-25-02

AMERICAN Engineering
American Engineering Associates - Southeast, P.A.
4020 Westchase Boulevard, Suite 450
Raleigh, NC 27607
919-469-1101

NORTH CAROLINA AMERICAN ENGINEERING ASSOCIATES SOUTHEAST C-3881 CERTIFICATE OF AUTHORIZATION

PRELIMINARY
PRELIMINARY
NOT APPROVED
DO NOT USE FOR CONSTRUCTION
JAKOB P. KLEIN 36528 ENGINEER

FOR INFORMATION, ONLY

NO.	DATE	REVISION:
1	07-01-25	FIRST REVISION SET
2	08-05-25	SECOND WAKE COUNTY SUBMITTAL

STIPULATION FOR REUSE

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MERRITT RESERVE
SANITARY SEWER PLAN & PROFILE
ROLESVILLE RD
WAKE COUNTY NC 27312

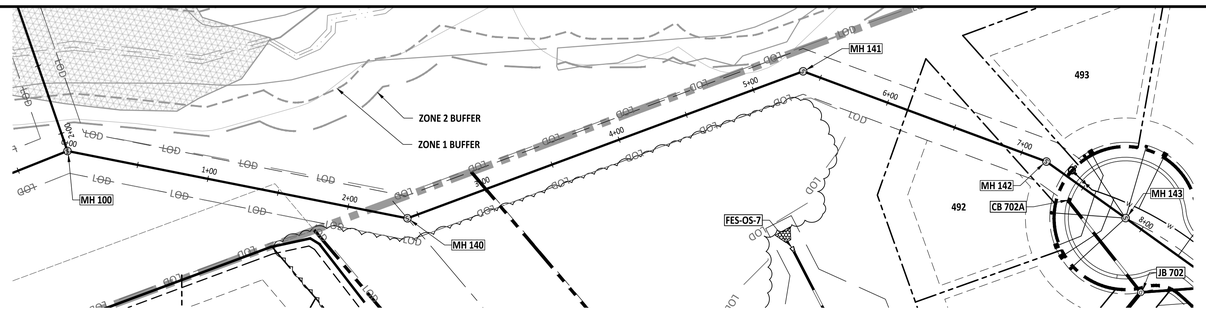
JOB NUMBER:	23-0004
CHECKED BY:	JK
DRAWN BY:	DH/MA/LL
DATE:	08/04/2025

SHEET TITLE:
SANITARY SEWER PLAN & PROFILE

SHEET NO.:
CU-201

North Carolina 811
*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

Z:\Jobs\23-0004 Merritt Property (BSP)\Revit_Working Dwgs\Sheets\Construction Set\SU_CU-200-203 PLAN & PROFILE.dwg
2025-09-03

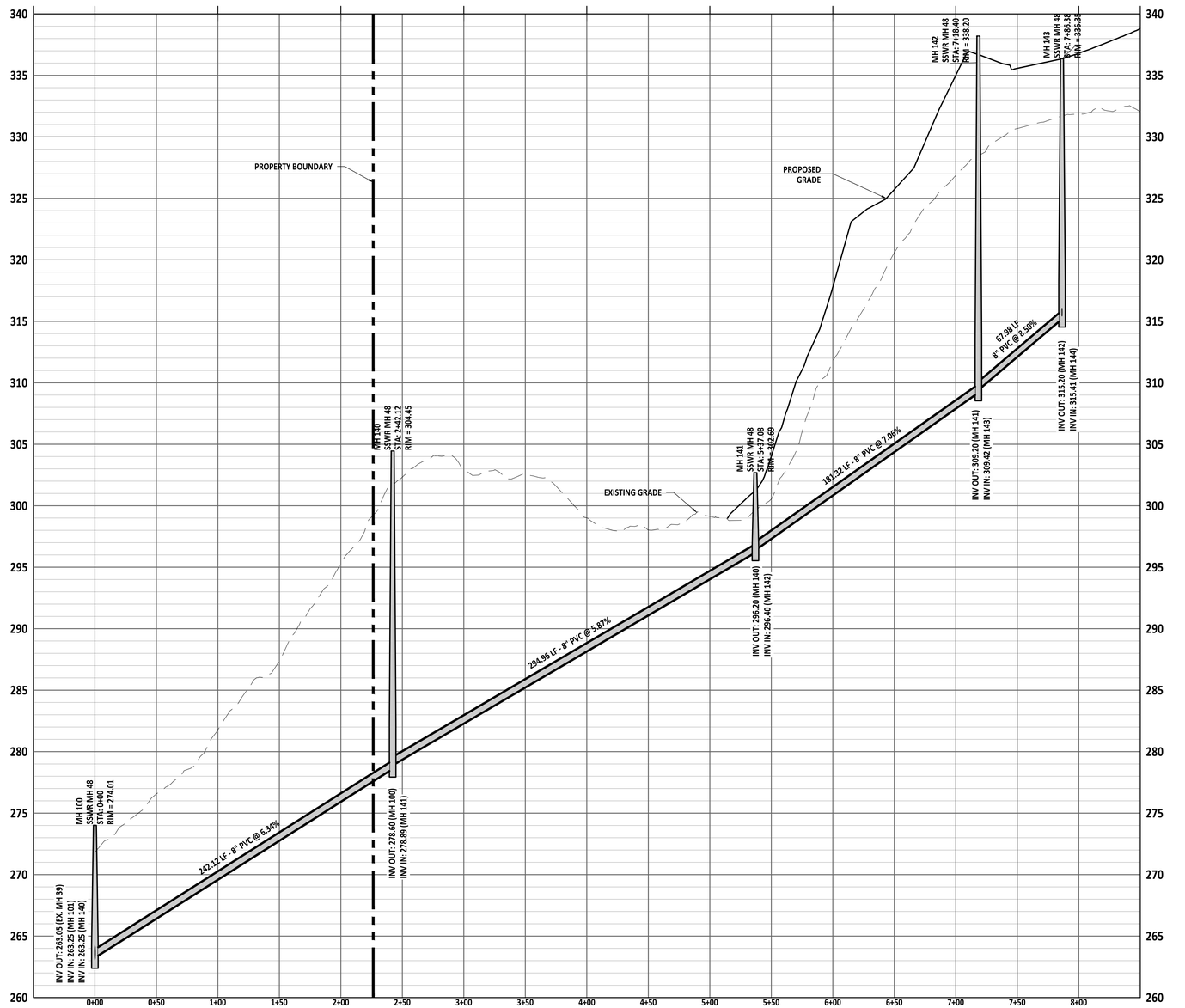


MH 100 TO MH 143 PLAN
AND PROFILE

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft



Public
Sewer Collection / Extension System

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

City of Raleigh
Public Utilities Department Permit # _____

Public
Water Distribution / Extension System

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

City of Raleigh
Public Utilities Department Permit # _____

PROJECT NUMBER = CID-25-02

811 North Carolina
It's the law!
*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

AMERICAN Engineering
American Engineering Associates - Southeast, P.A.
4020 Westchase Boulevard, Suite 450
Raleigh, NC 27607
919-469-1101

NORTH CAROLINA
AMERICAN ENGINEERING ASSOCIATES SOUTHEAST
C-3881
CERTIFICATE OF AUTHORIZATION

PRELIMINARY
NOT FOR CONSTRUCTION
DO NOT USE FOR CONSTRUCTION

NORTH CAROLINA
PROFESSIONAL ENGINEER
36528
JAKOB P. KLEIN

FOR INFORMATION, ONLY

NO.	DATE	REVISION:
1	07-01-25	FIRST REVISION SET
2	08-05-25	SECOND WAKE COUNTY SUBMITTAL

STIPULATION FOR REUSE

THIS DRAWING WAS PREPARED FOR USE ON THE SPECIFIC SITE, NAMED HEREON, CONTEMPORANEOUSLY WITH ITS ISSUE DATE AS LISTED, HEREON. AND IT IS NOT SUITABLE FOR USE ON A DIFFERENT PROJECT SITE OR AT A LATER TIME. USE OF THIS DRAWING FOR REFERENCE OR EXAMPLE ON ANOTHER PROJECT REQUIRES THE SERVICES OF PROPERLY LICENSED ARCHITECTS AND ENGINEERS. REPRODUCTION OF THIS DRAWING FOR REUSE ON ANOTHER PROJECT IS NOT AUTHORIZED AND MAY BE CONTRARY TO THE LAW.

MERRITT RESERVE

SANITARY SEWER PLAN & PROFILE

ROLESVILLE RD
WAKE COUNTY NC 27312

JOB NUMBER:	23-0004
CHECKED BY:	JK
DRAWN BY:	DH/MA/LL
DATE:	08/04/2025

SHEET TITLE:

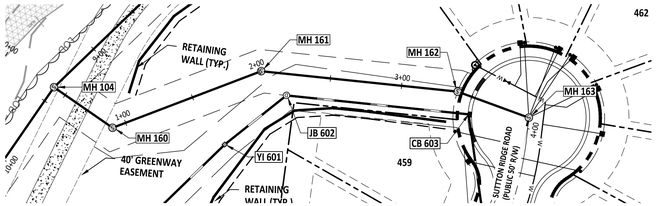
SANITARY SEWER PLAN & PROFILE

SHEET NO.:

CU-202

Z:\Jobs\23-0004 Merritt Property (BRP)\wip_ Working Dwgs\Sheets\Construction Set\CU-202-303 PLAN & PROFILE.dwg

2025-09-03

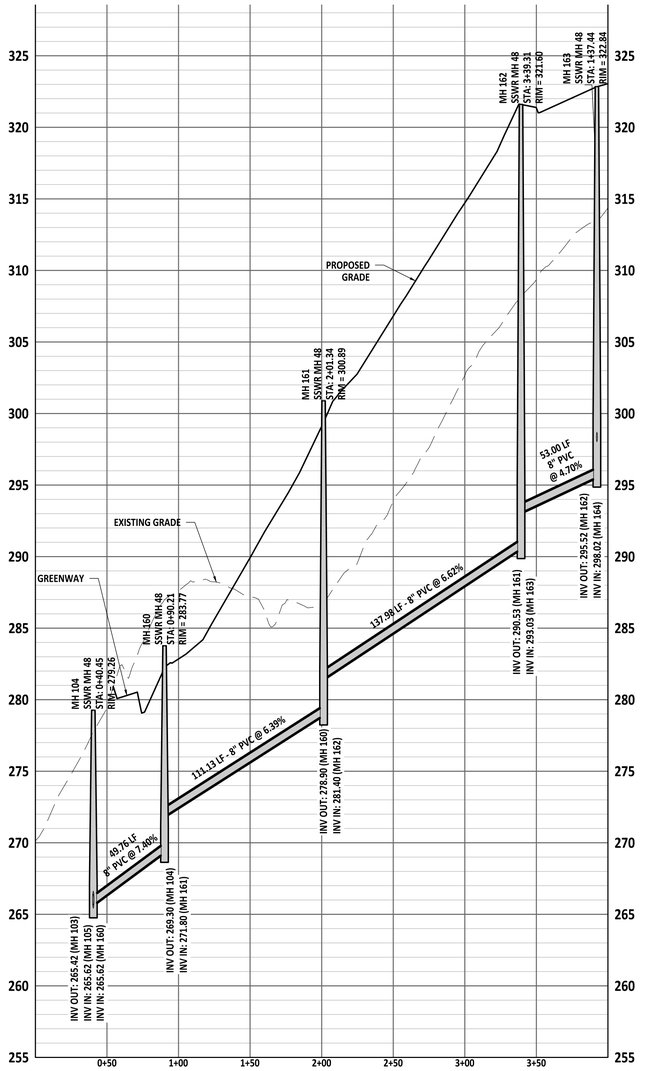


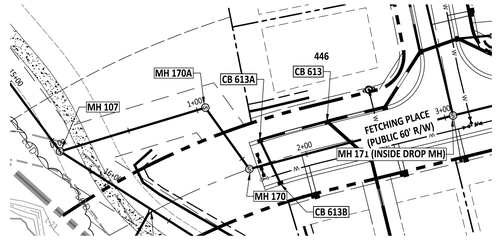
GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft

MH 104 TO MH 163 PLAN AND PROFILE





GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft

MH 107 TO MH 171 PLAN AND PROFILE

Public
Sewer Collection / Extension System

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

City of Raleigh
Public Utilities Department Permit # _____

Public
Water Distribution / Extension System

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

City of Raleigh
Public Utilities Department Permit # _____

PROJECT NUMBER = CID-25-02

North Carolina 811
*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

AMERICAN Engineering
American Engineering Associates - Southeast, P.A.
4020 Westchase Boulevard, Suite 450
Raleigh, NC 27607
919-469-1101

NORTH CAROLINA AMERICAN ENGINEERING ASSOCIATES SOUTHEAST C-3881 CERTIFICATE OF AUTHORIZATION

PRELIMINARY
NOT FOR RECORDATION, SALE OR CONSTRUCTION
NORTH CAROLINA REGISTERED 36528 ENGINEER JAKOB P. KLEIN

FOR INFORMATION, ONLY

NO.	DATE	REVISION:
1	07-01-25	FIRST REVISION SET
2	08-05-25	SECOND WAKE COUNTY SUBMITTAL

STIPULATION FOR REUSE

THIS DRAWING WAS PREPARED FOR USE ON THE SPECIFIC SITE, NAMED HEREON, CONTEMPORANEOUSLY WITH ITS ISSUE DATE AS LISTED, HEREON, AND IT IS NOT SUITABLE FOR USE ON A DIFFERENT PROJECT SITE OR AT A LATER TIME. USE OF THIS DRAWING FOR REFERENCE OR EXAMPLE ON ANOTHER PROJECT REQUIRES THE SERVICES OF PROPERLY LICENSED ARCHITECTS AND ENGINEERS. REPRODUCTION OF THIS DRAWING FOR REUSE ON ANOTHER PROJECT IS NOT AUTHORIZED AND MAY BE CONTRARY TO THE LAW.

MERRITT RESERVE

SANITARY SEWER PLAN & PROFILE

ROLESVILLE RD
WAKE COUNTY NC 27312

JOB NUMBER:	23-0004
CHECKED BY:	JK
DRAWN BY:	DH/MA/LL
DATE:	08/04/2025

SHEET TITLE:
SANITARY SEWER PLAN & PROFILE

SHEET NO.:
CU-203

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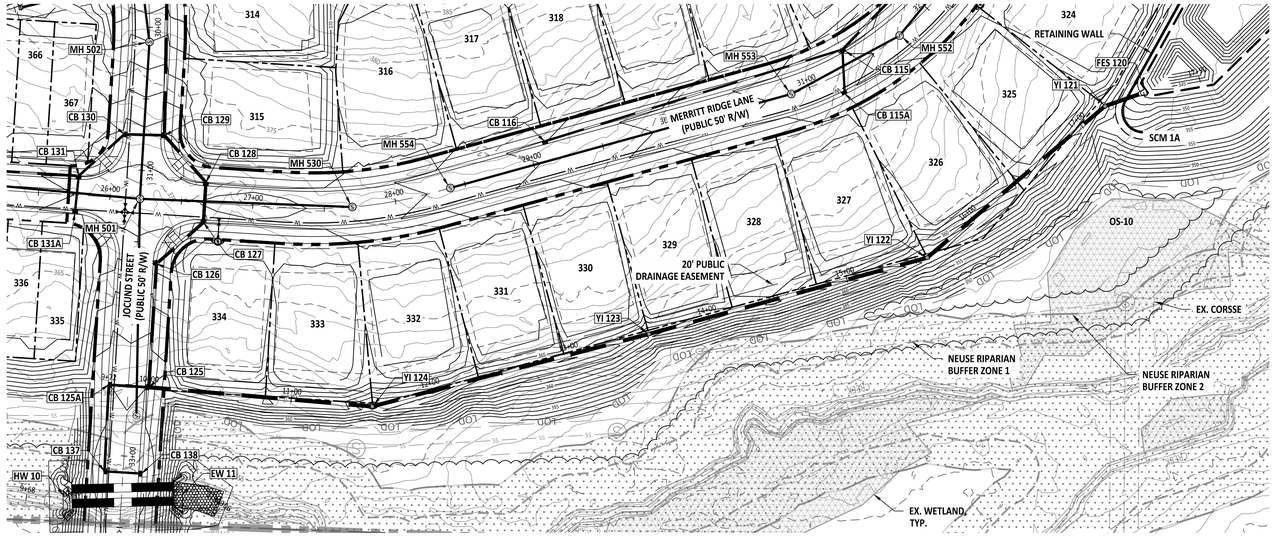
2025-09-03



CB 125A TO FES 120 PLAN VIEW

GRAPHIC SCALE

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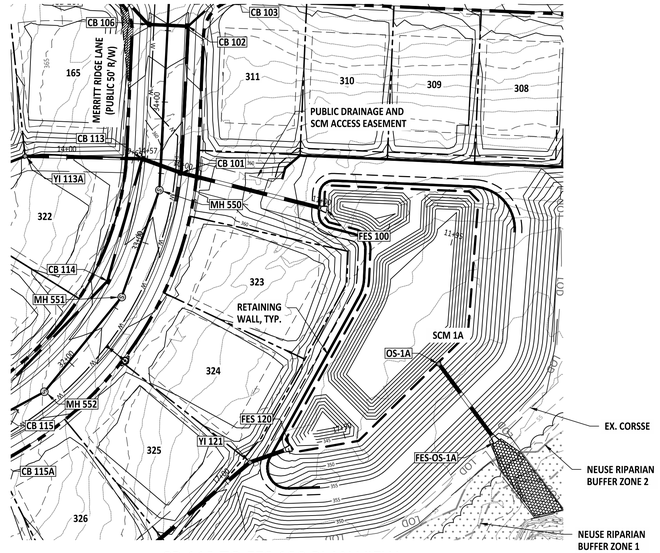
(IN FEET)
1 inch = 50 ft

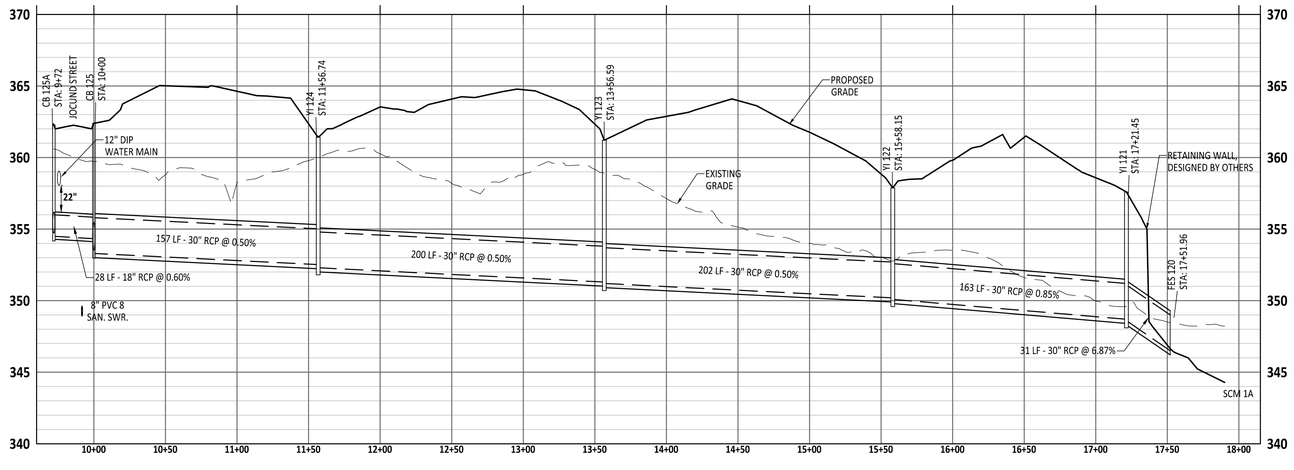


CB 113 TO FES 100 PLAN VIEW

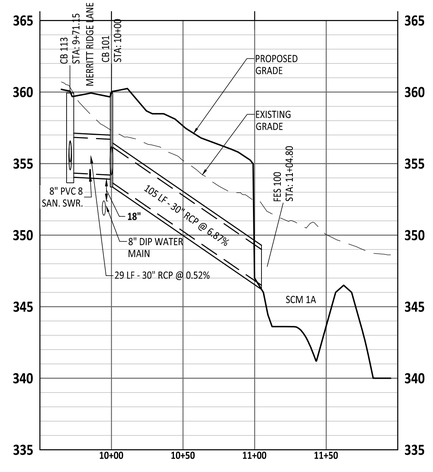
GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft



CB 125A TO FES 120 PROFILE



CB 113 TO FES 100 PROFILE

PROJECT NUMBER = CID-25-02

AMERICAN Engineering
American Engineering Associates - Southeast, P.A.
4020 Westchase Boulevard, Suite 450
Raleigh, NC 27607
919-469-1101

NORTH CAROLINA AMERICAN ENGINEERING ASSOCIATES SOUTHEAST C-3881 CERTIFICATE OF AUTHORIZATION

PRELIMINARY
NOT FOR RECORDATION, CONVEYANCE, SALES OR FINANCING
NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER 36528 JAKOB P. KLEIN
DO NOT USE FOR CONSTRUCTION
FOR INFORMATION, ONLY

NO.	DATE	REVISION:
1	07-01-25	FIRST REVISION SET
2	08-05-25	SECOND WAKE COUNTY SUBMITTAL

STIPULATION FOR REUSE

THIS DRAWING WAS PREPARED FOR USE ON THE SPECIFIC SITE, NAMED HEREON, CONTEMPORANEOUSLY WITH ITS ISSUE DATE AS LISTED, HEREON, AND IT IS NOT SUITABLE FOR USE ON A DIFFERENT PROJECT SITE OR AT A LATER TIME. USE OF THIS DRAWING FOR REFERENCE OR EXAMPLE ON ANOTHER PROJECT REQUIRES THE SERVICES OF PROPERLY LICENSED ARCHITECTS AND ENGINEERS. REPRODUCTION OF THIS DRAWING FOR REUSE ON ANOTHER PROJECT IS NOT AUTHORIZED AND MAY BE CONTRARY TO THE LAW.

MERRITT RESERVE

STORM OUTFALL PLAN & PROFILE

ROLESVILLE RD
WAKE COUNTY NC 27312

JOB NUMBER:	23-0004
CHECKED BY:	JK
DRAWN BY:	DH/MA/LL
DATE:	08/04/2025

SHEET TITLE:

STORM OUTFALL PLAN & PROFILE

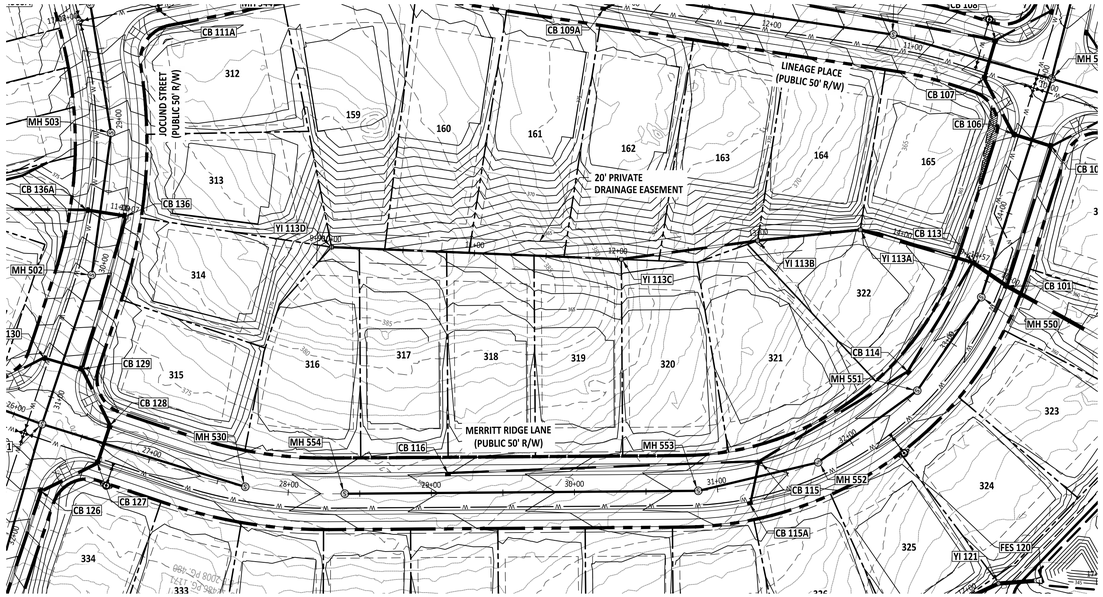
SHEET NO.:

CU-300

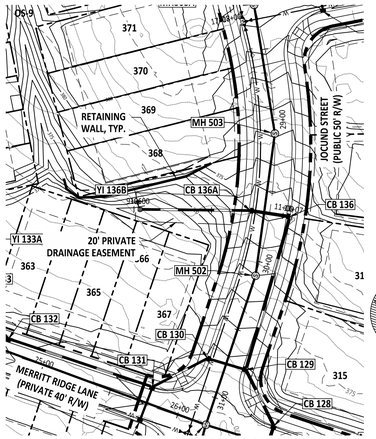
North Carolina 811
*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

Z:\Jobs\23-0004 Merrit Property (BRT)\Dwg_Working Dwgs\Sheets\Construction Set\CSh_CU-300-395 PLAN & PROFILE.dwg

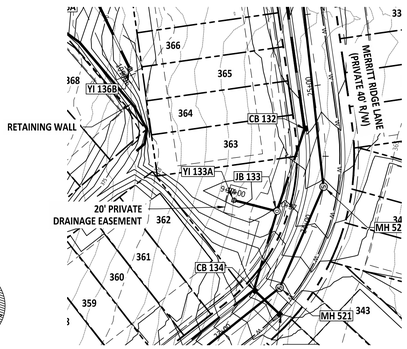
2025-09-03



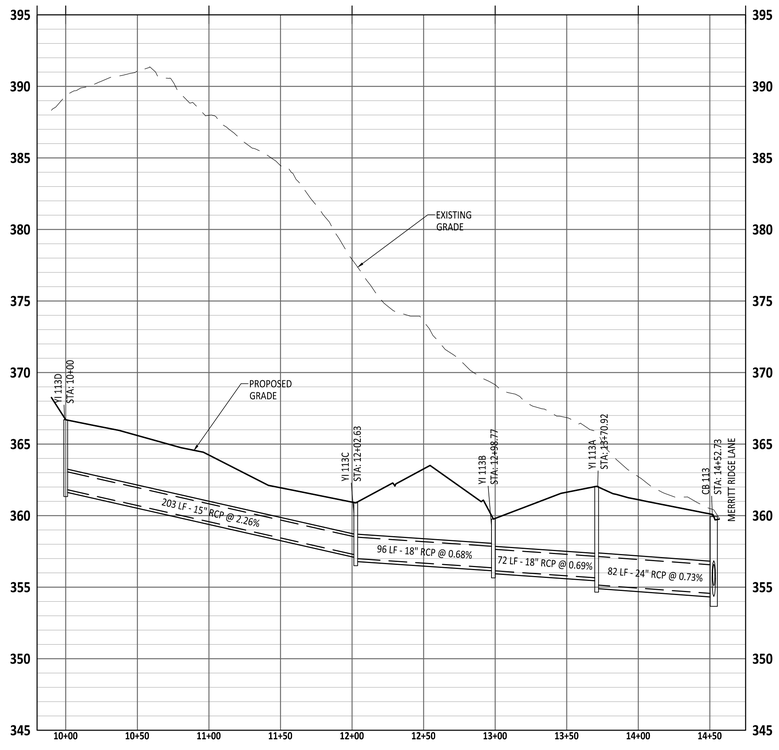
YI 113D TO CB 113 PLAN VIEW



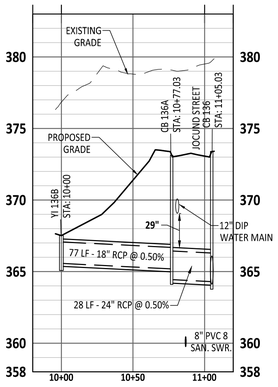
YI 136B TO CB136 PLAN VIEW



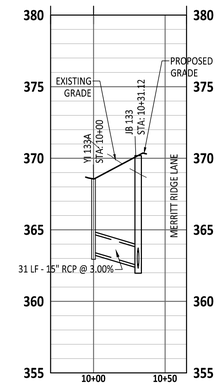
YI 133A TO JB 133 PLAN VIEW



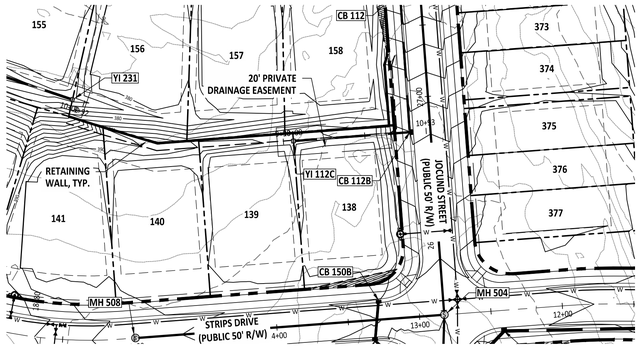
YI 113D TO CB 113 PROFILE



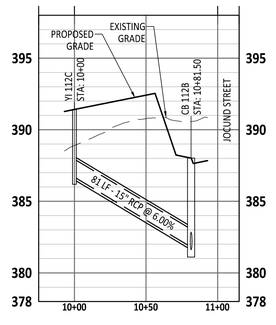
YI 136B TO CB136 PROFILE



YI 133A TO JB 133 PROFILE



YI 112C TO CB 112B PLAN VIEW



YI 112C TO CB 112B PROFILE

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft

PROJECT NUMBER = CID-25-02

AMERICAN Engineering
American Engineering Associates - Southeast, P.A.
4020 Westchase Boulevard, Suite 450
Raleigh, NC 27607
919-469-1101

NORTH CAROLINA AMERICAN ENGINEERING ASSOCIATES SOUTHEAST C-3881 CERTIFICATE OF AUTHORIZATION

PRELIMINARY

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 36528 JAKOB P. KLEIN

DO NOT USE FOR CONSTRUCTION

FOR INFORMATION, ONLY

NO.	DATE	REVISION:
1	07-01-25	FIRST REVISION SET
2	08-05-25	SECOND WAKE COUNTY SUBMITTAL

STIPULATION FOR REUSE

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MERRITT RESERVE

STORM OUTFALL PLAN & PROFILE

ROLESVILLE RD
WAKE COUNTY NC 27312

JOB NUMBER:	23-0004
CHECKED BY:	JK
DRAWN BY:	DH/MA/LL
DATE:	08/04/2025

SHEET TITLE:

STORM OUTFALL PLAN & PROFILE

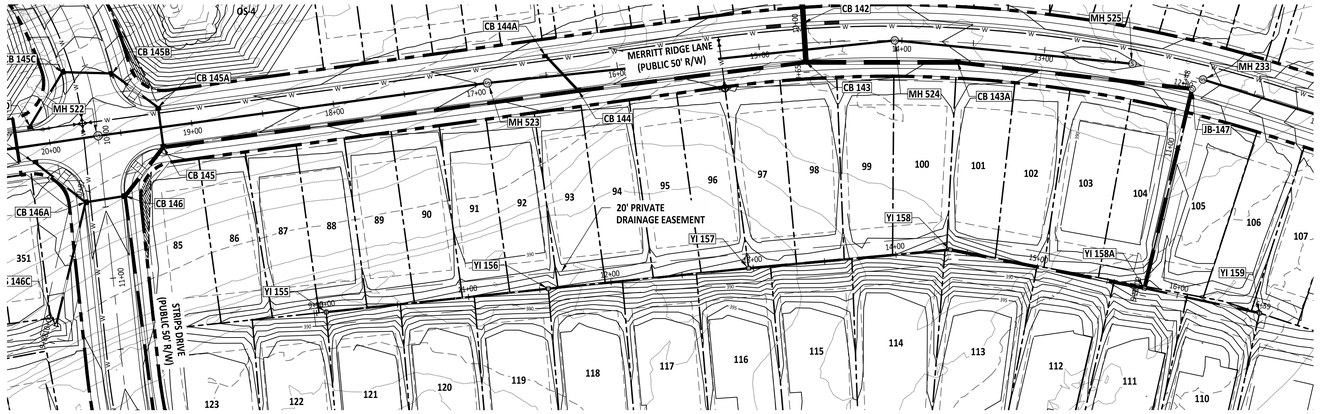
SHEET NO.:

CU-301

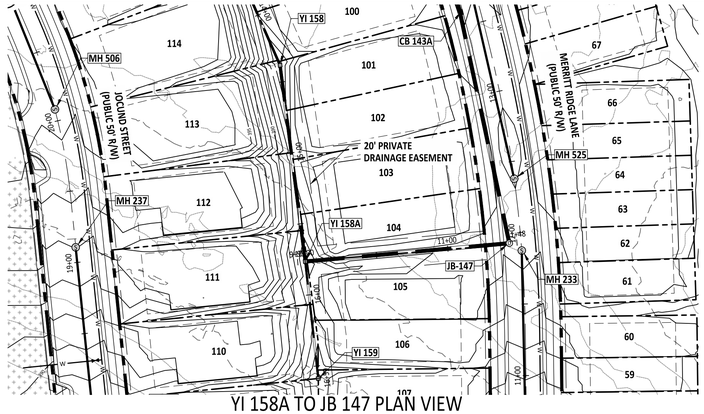
North Carolina 811 811.com
*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

Z:\Jobs\23-0004 Merritt Property (BRP)\Mkt_Working Dwgs\Sheets\Construction Set\Sht_CU- 300-305 PLAN & PROFILE.dwg

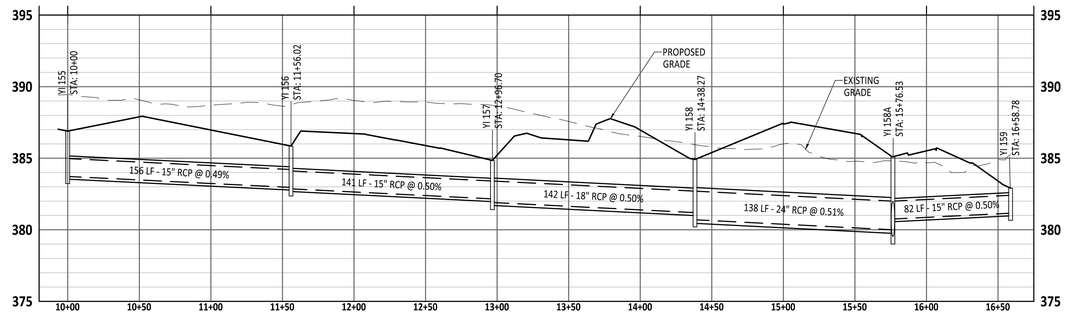
2025-09-03



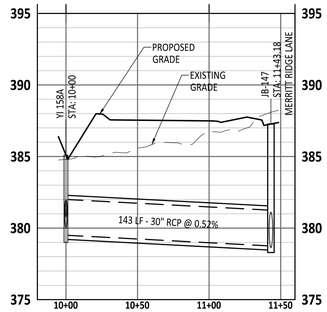
YI 155 TO YI 159 PLAN VIEW



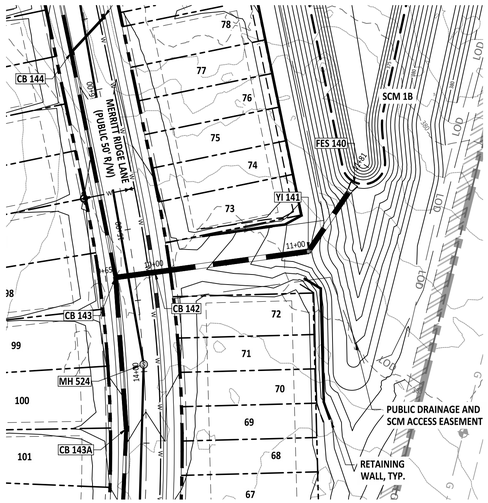
YI 158A TO JB 147 PLAN VIEW



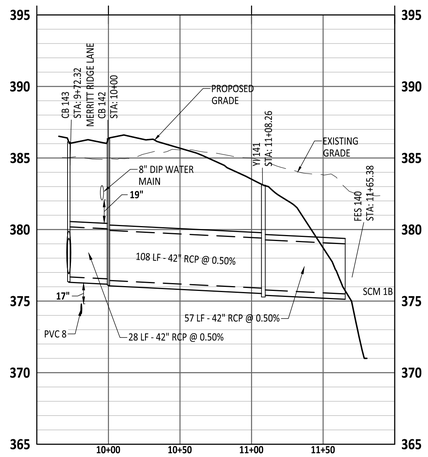
YI 155 TO YI 159 PROFILE



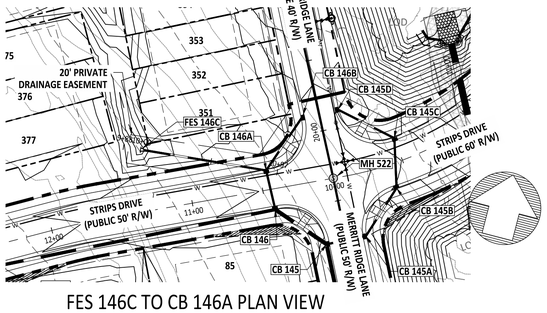
YI 158A TO JB 147 PROFILE



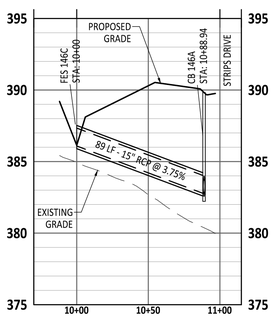
CB 143 TO FES 140 PLAN VIEW



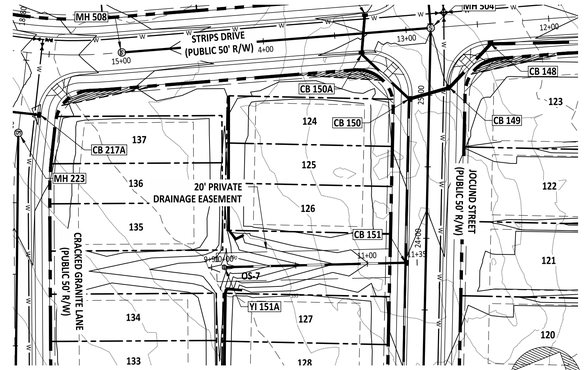
CB 143 TO FES 140 PROFILE



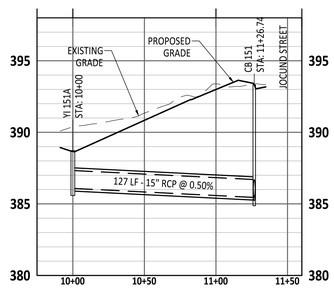
FES 146C TO CB 146A PLAN VIEW



FES 146C TO CB 146A PROFILE



YI 151A TO CB 151 PLAN VIEW



YI 151A TO CB 151 PROFILE

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft

PROJECT NUMBER = CID-25-02

AMERICAN Engineering
American Engineering Associates - Southeast, P.A.
4020 Westchase Boulevard, Suite 450
Raleigh, NC 27607
919-469-1101

NORTH CAROLINA
AMERICAN ENGINEERING ASSOCIATES SOUTHEAST
C-3881
CERTIFICATE OF AUTHORIZATION

PRELIMINARY

PRELIMINARY
NOT FOR CONSTRUCTION
DO NOT USE FOR CONSTRUCTION
NORTH CAROLINA
36528
ENGINEER
JAKOB P. KLEIN

FOR INFORMATION, ONLY

NO.	DATE	REVISION:
1	07-01-25	FIRST REVISION SET
2	08-05-25	SECOND WAKE COUNTY SUBMITTAL

STIPULATION FOR REUSE

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MERRITT RESERVE

STORM OUTFALL PLAN & PROFILE

ROLESVILLE RD
WAKE COUNTY NC 27312

JOB NUMBER:	23-0004
CHECKED BY:	JK
DRAWN BY:	DH/MA/LL
DATE:	08/04/2025

SHEET TITLE:

STORM OUTFALL PLAN & PROFILE

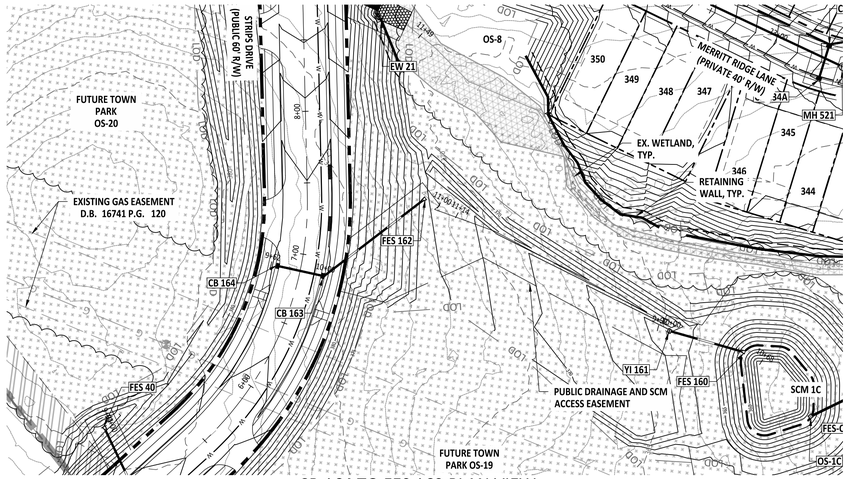
SHEET NO.:

CU-302

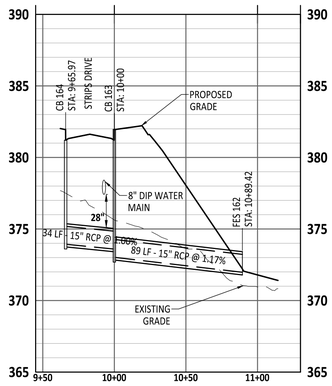
North Carolina 811
811 It's the Law!
*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

Z:\Job\23-0004 Merritt Property @RO\dwg_Working Dwgs\Sheets\Construction Set\SSh_CU-300-305 PLAN & PROFILE.dwg

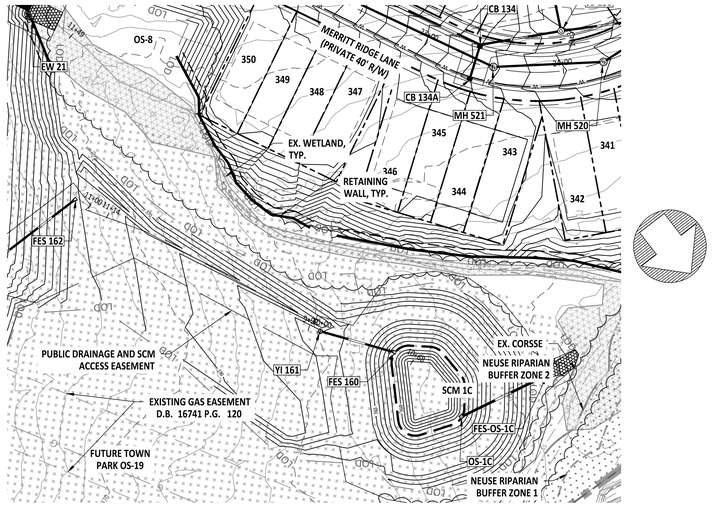
2025-09-03



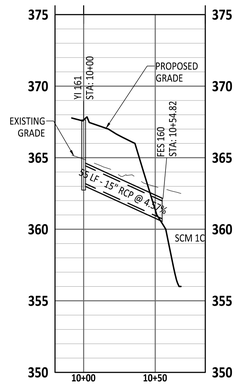
CB 164 TO FES 162 PLAN VIEW



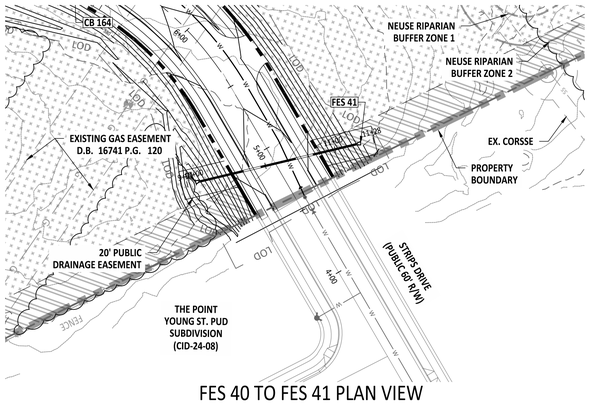
CB 164 TO FES 162 PROFILE



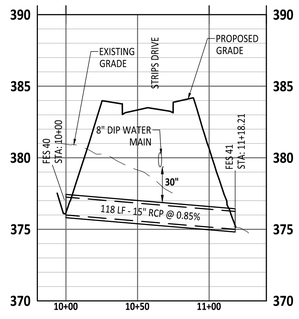
YI 161 TO FES 160 PLAN VIEW



YI 161 TO FES 160 PROFILE



FES 40 TO FES 41 PLAN VIEW



FES 40 TO FES 41 PROFILE

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft

PROJECT NUMBER = CID-25-02

AMERICAN Engineering
American Engineering Associates - Southeast, P.A.
4020 Westchase Boulevard, Suite 450
Raleigh, NC 27607
919-469-1101

NORTH CAROLINA ENGINEERING CERTIFICATE OF AUTHORIZATION
AMERICAN ENGINEERING ASSOCIATES SOUTHEAST
C-3881

PRELIMINARY
NOT FOR CONSTRUCTION

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 36528 JAKOB P. KLEIN

FOR INFORMATION, ONLY

NO.	DATE	REVISION:
1	07-01-25	FIRST REVISION SET
2	08-05-25	SECOND WAKE COUNTY SUBMITTAL

STIPULATION FOR REUSE

THIS DRAWING WAS PREPARED FOR USE ON THE SPECIFIC SITE, NAMED HEREON, CONTEMPORANEOUSLY WITH ITS ISSUE DATE AS LISTED, HEREON, AND IT IS NOT SUITABLE FOR USE ON A DIFFERENT PROJECT SITE OR AT A LATER TIME. USE OF THIS DRAWING FOR REFERENCE OR EXAMPLE ON ANOTHER PROJECT REQUIRES THE SERVICES OF PROPERLY LICENSED ARCHITECTS AND ENGINEERS. REPRODUCTION OF THIS DRAWING FOR REUSE ON ANOTHER PROJECT IS NOT AUTHORIZED AND MAY BE CONTRARY TO THE LAW.

MERRITT RESERVE

STORM OUTFALL PLAN & PROFILE

ROLESVILLE RD
WAKE COUNTY NC 27312

JOB NUMBER:	23-0004
CHECKED BY:	JK
DRAWN BY:	DH/MA/LL
DATE:	08/04/2025

SHEET TITLE:

STORM OUTFALL PLAN & PROFILE

SHEET NO.:

CU-303

North Carolina 811
*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

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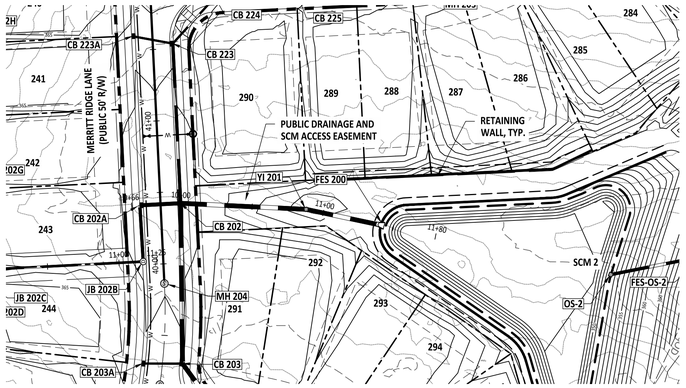
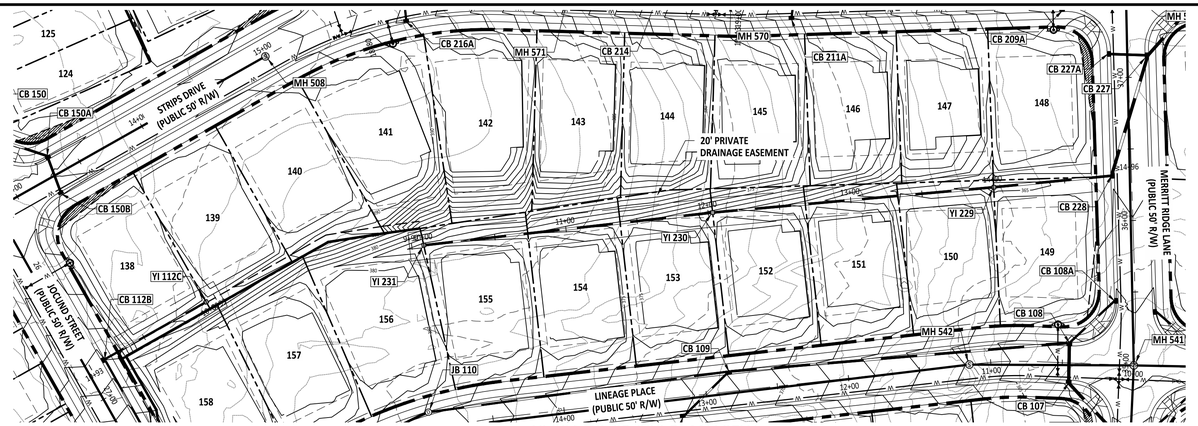
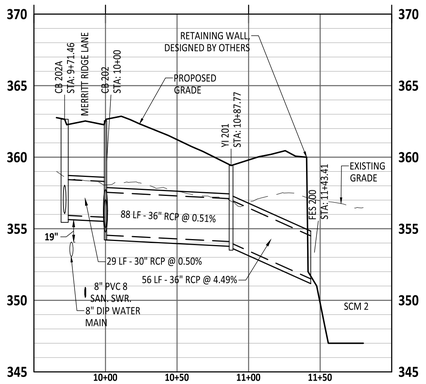
2025-09-03



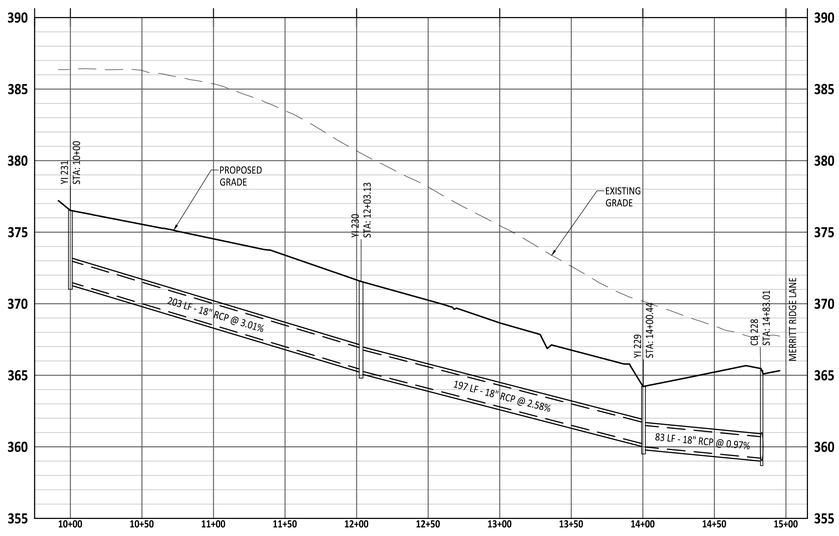
CB 202A TO FES 200 PLAN VIEW



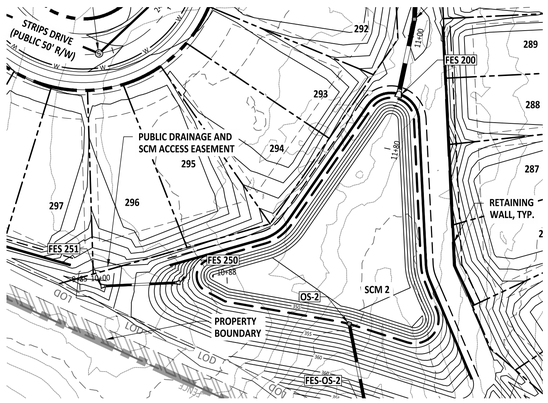
YI 231 TO CB 228 PLAN VIEW



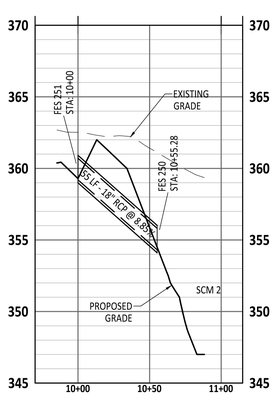
CB 202 TO FES 200 PROFILE



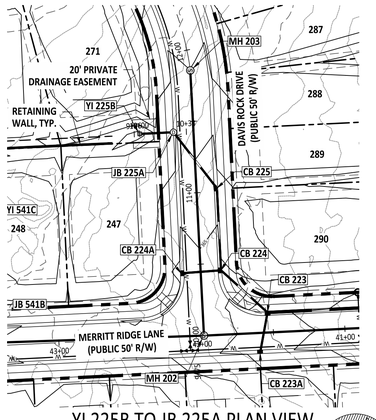
YI 231 TO CB 228 PROFILE



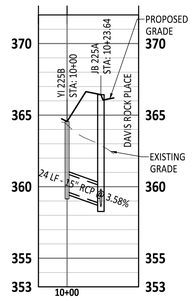
FES 251 TO FES 250 PLAN VIEW



FES 251 TO FES 250 PROFILE



YI 225B TO JB 225A PLAN VIEW



YI 225B TO JB 225A PROFILE

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)

1 inch = 50 ft

PROJECT NUMBER = CID-25-02

AMERICAN Engineering
American Engineering Associates - Southeast, P.A.
4020 Westchase Boulevard, Suite 450
Raleigh, NC 27607
919-469-1101

NORTH CAROLINA AMERICAN ENGINEERING ASSOCIATES SOUTHEAST C-3881 CERTIFICATE OF AUTHORIZATION

PRELIMINARY

PRELIMINARY NOT FOR CONSTRUCTION

NORTH CAROLINA 36528 ENGINEER JAKOB P. KLEIN

DO NOT USE FOR CONSTRUCTION

FOR INFORMATION, ONLY

NO.	DATE	REVISION:
1	07-01-25	FIRST REVISION SET
2	08-05-25	SECOND WAKE COUNTY SUBMITTAL

STIPULATION FOR REUSE

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MERRITT RESERVE

STORM OUTFALL PLAN & PROFILE

ROLESVILLE RD
WAKE COUNTY NC 27312

JOB NUMBER:	23-0004
CHECKED BY:	JK
DRAWN BY:	DH/MA/LL
DATE:	08/04/2025

SHEET TITLE:

STORM OUTFALL PLAN & PROFILE

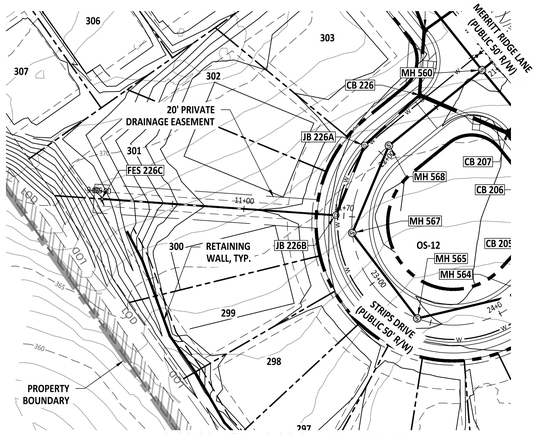
SHEET NO.:

CU-304

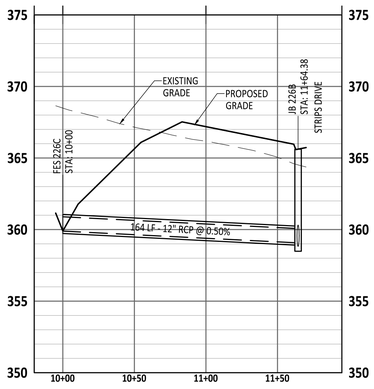
North Carolina 811 Call Before You Dig
*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

Z:\Job\23-0004 Merritt Property 880\Plan\1_Working\Dwgs\Sheets\Construction Set\Sh. CU-300_305 PLAN & PROFILE.dwg

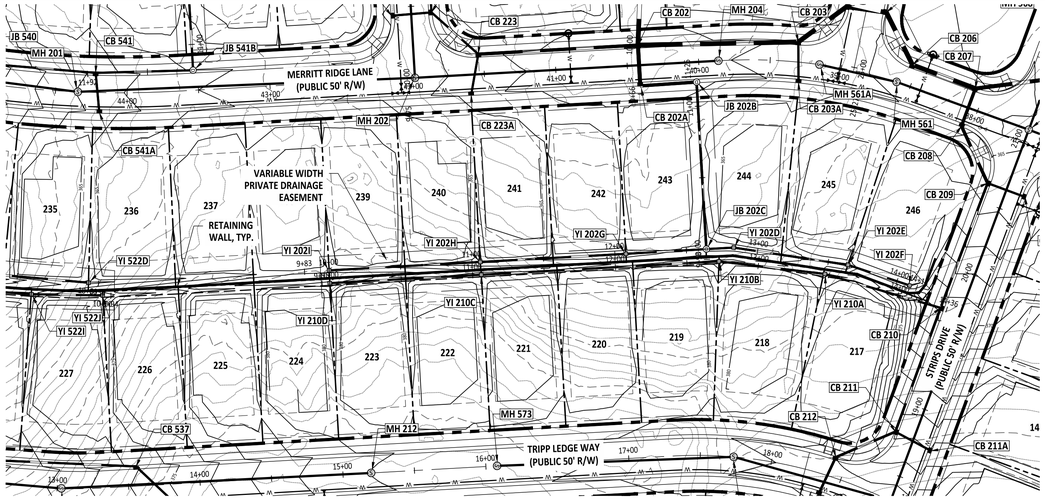
2025-09-03



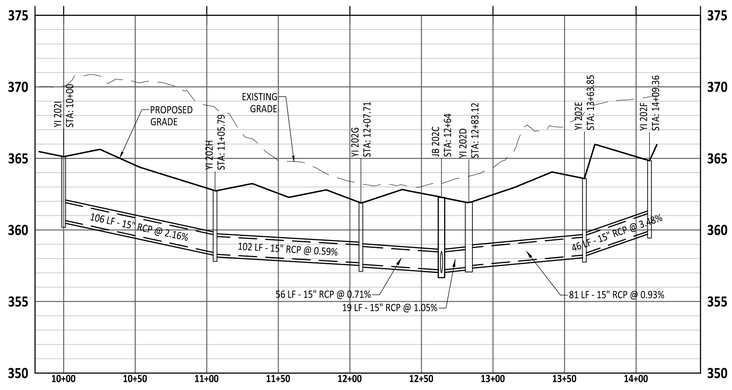
FES 226C TO FES 226B PLAN VIEW



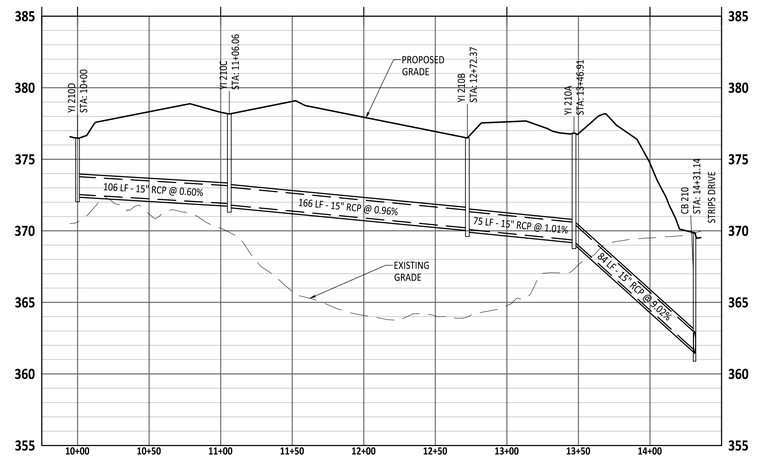
FES 226C TO FES 226B PROFILE



YI 202I TO YI 202F PLAN VIEW
AND YI 210D TO CB 210 PLAN VIEW



YI 202I TO YI 202F PROFILE

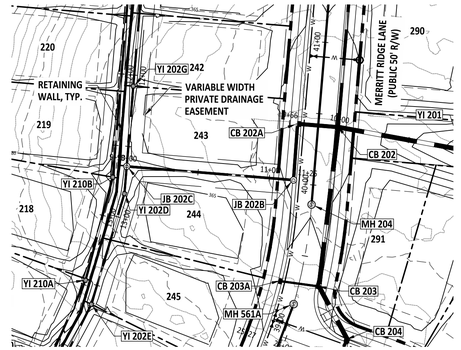


YI 210D TO CB 210 PROFILE

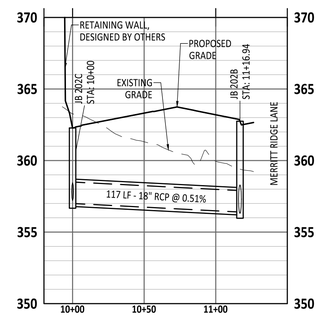
GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft



JB 202C TO JB 202B PLAN VIEW



JB 202C TO JB 202B PROFILE

AMERICAN Engineering
American Engineering Associates - Southeast, P.A.
4020 Westchase Boulevard, Suite 450
Raleigh, NC 27607
919-469-1101

NORTH CAROLINA
AMERICAN ENGINEERING ASSOCIATES SOUTHEAST
C-3881
CERTIFICATE OF AUTHORIZATION

PRELIMINARY
PLAN NOT APPROVED
DO NOT USE FOR CONSTRUCTION
NORTH CAROLINA
36528
ENGINEER
JAKOB P. KLEIN

FOR INFORMATION, ONLY

NO.	DATE	REVISION:
1	07-01-25	FIRST REVISION SET
2	08-05-25	SECOND WAKE COUNTY SUBMITTAL

STIPULATION FOR REUSE

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MERRITT RESERVE

STORM OUTFALL PLAN & PROFILE

ROLESVILLE RD
WAKE COUNTY NC 27312

JOB NUMBER:	23-0004
CHECKED BY:	JK
DRAWN BY:	DH/MA/LL
DATE:	08/04/2025

SHEET TITLE:

STORM OUTFALL PLAN & PROFILE

SHEET NO.:

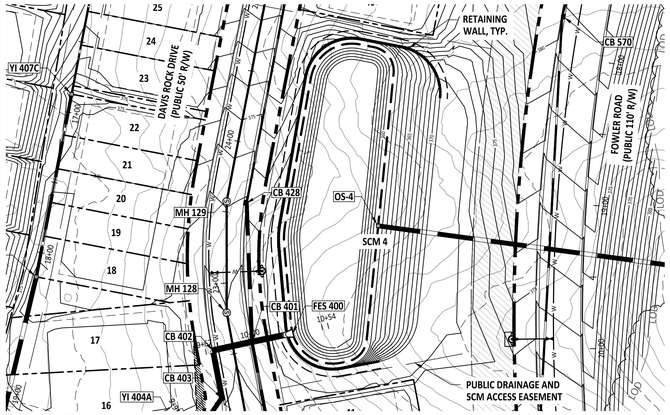
CU-305

PROJECT NUMBER = CID-25-02

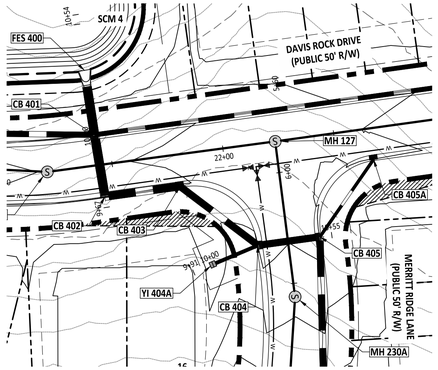
North Carolina 811
*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

Z:\Job\23-0004 Merritt Property BRP\Revit_ Working Dwgs\Sheet\Construction Set\Stb_ CU-300-305 PLAN & PROFILE.dwg

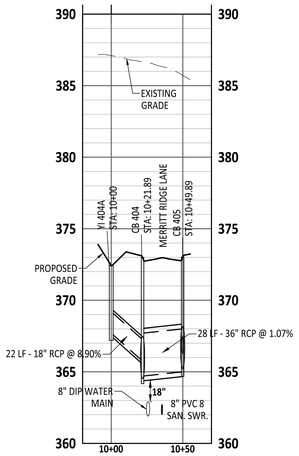
2025-09-03



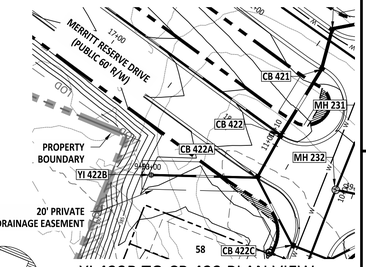
CB 402 TO FES 400 PLAN VIEW



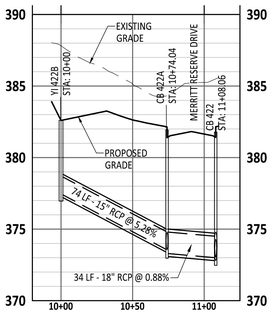
YI 404A TO CB 405 PLAN VIEW



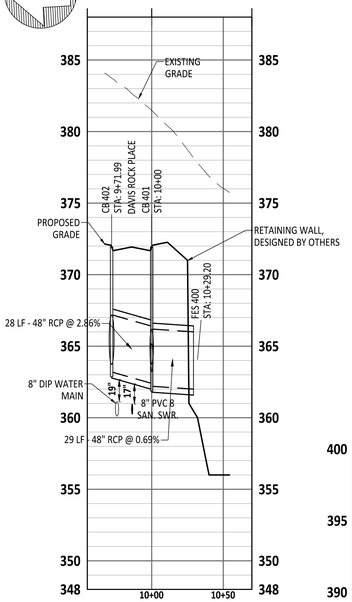
YI 404A TO CB 404 PROFILE



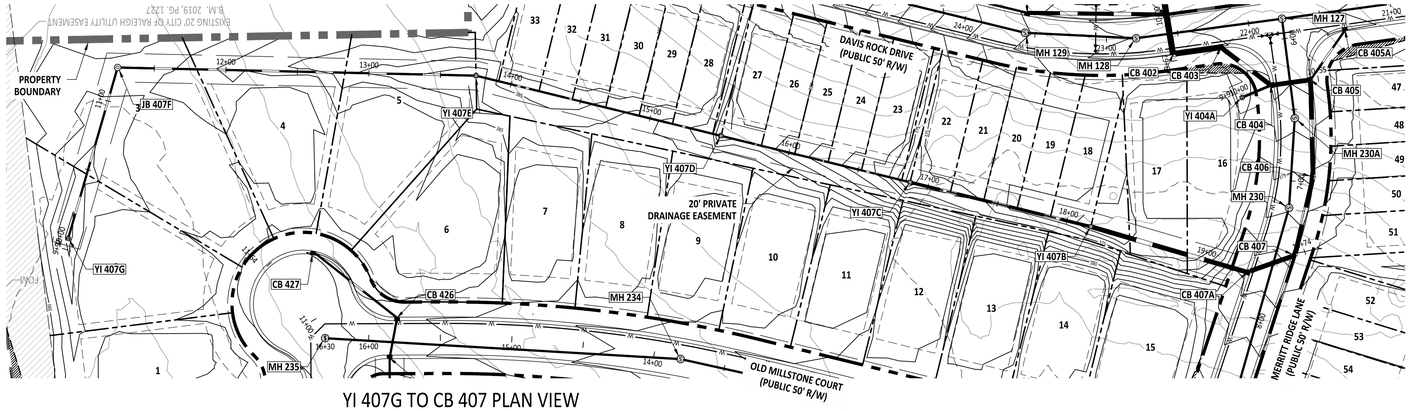
YI 422B TO CB 422 PLAN VIEW



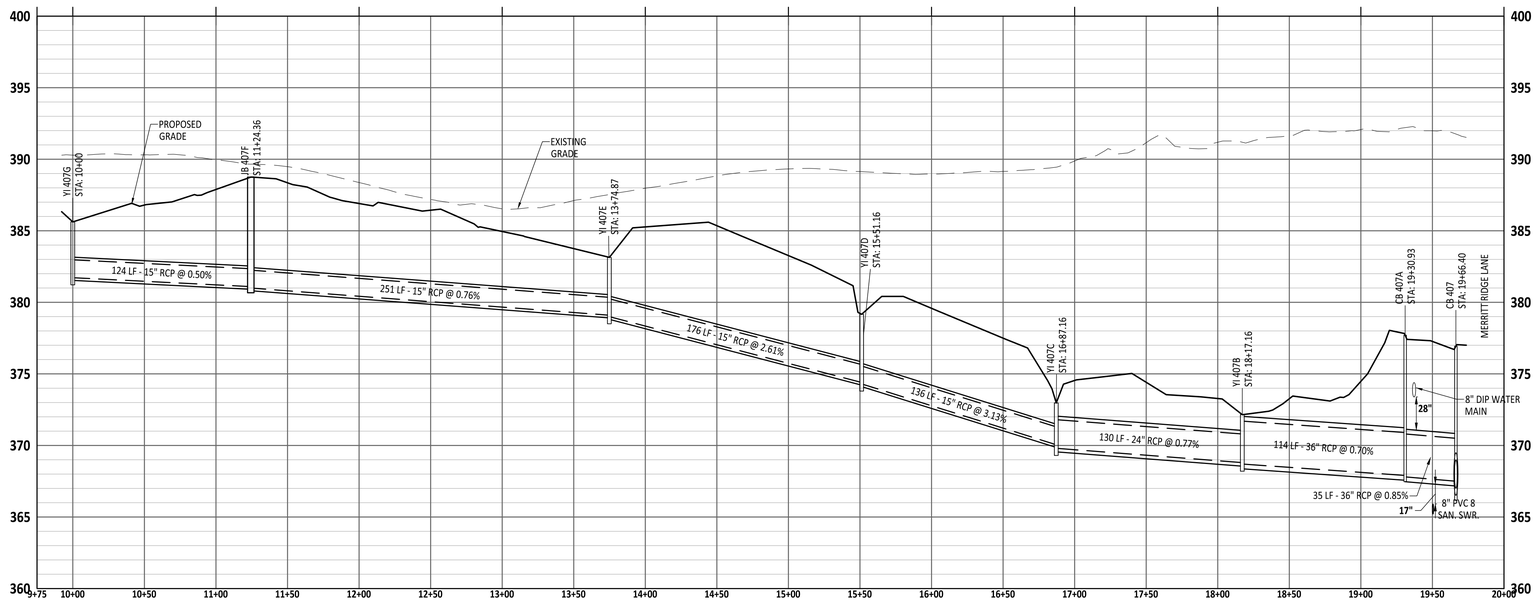
YI 422B TO CB 422 PROFILE



CB 402 TO FES 400 PROFILE



YI 407G TO CB 407 PLAN VIEW



YI 407G TO CB 407 PROFILE

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft

PROJECT NUMBER = CID-25-02

AMERICAN Engineering
American Engineering Associates - Southeast, P.A.
4020 Westchase Boulevard, Suite 450
Raleigh, NC 27607
919-469-1101

NORTH CAROLINA AMERICAN ENGINEERING ASSOCIATES SOUTHEAST C-3881 CERTIFICATE OF AUTHORIZATION

PRELIMINARY

PRELIMINARY
NOT FOR RECORDATION
DO NOT USE FOR CONSTRUCTION
JAKOB P. KLEIN 36528 ENGINEER

FOR INFORMATION, ONLY

NO.	DATE	REVISION:
1	07-01-25	FIRST REVISION SET
2	08-05-25	SECOND WAKE COUNTY SUBMITTAL

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MERRITT RESERVE

STORM OUTFALL PLAN & PROFILE

ROLESVILLE RD
WAKE COUNTY NC 27312

JOB NUMBER:	23-0004
CHECKED BY:	JK
DRAWN BY:	DH/MA/LL
DATE:	08/04/2025

SHEET TITLE:

STORM OUTFALL PLAN & PROFILE

SHEET NO.:

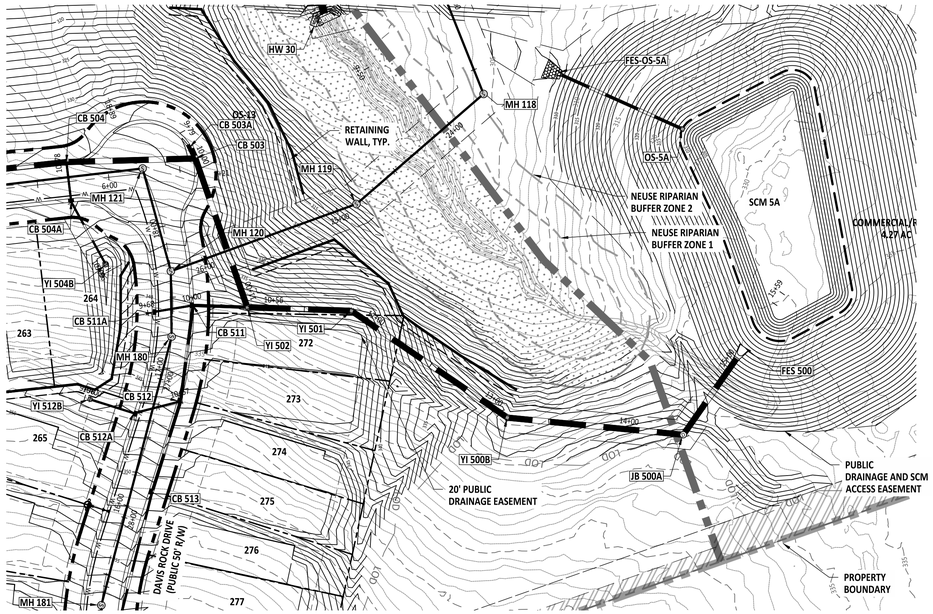
CU-306

North Carolina 811 811 It's the Law

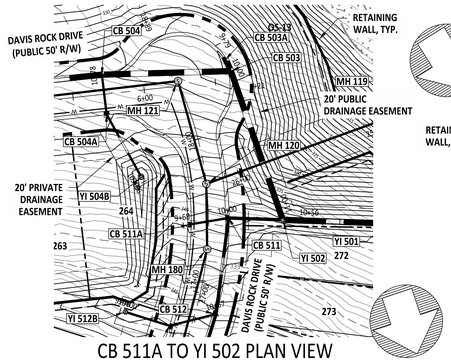
*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

Z:\Jobs\23-0004 Merritt Property (BRO)\dwg_Working Dwgs\Sheets\Construction Set\S08c CU-306-310 PLAN & PROFILE.dwg

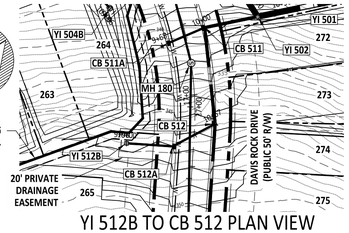
2025-09-03



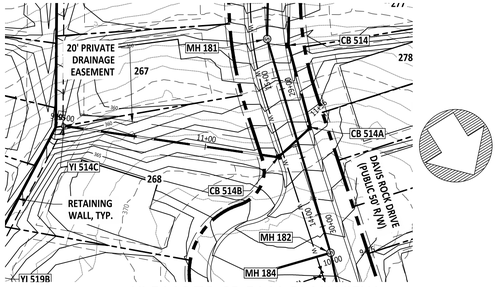
CB 503A TO FES 500 PLAN VIEW



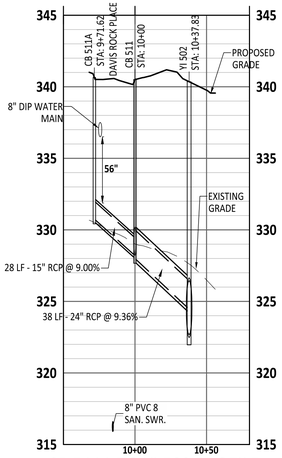
CB 511A TO YI 502 PLAN VIEW



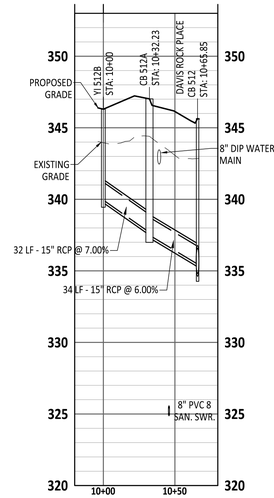
YI 512B TO CB 512 PLAN VIEW



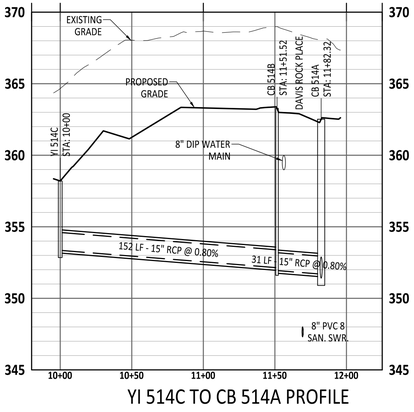
YI 514C TO CB 514A PLAN VIEW



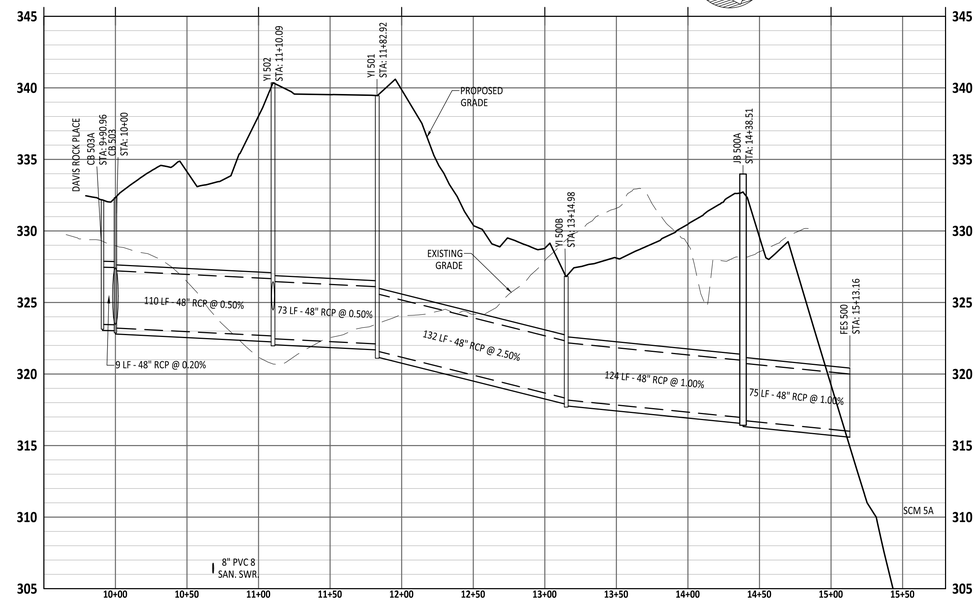
CB 511A TO YI 502 PROFILE



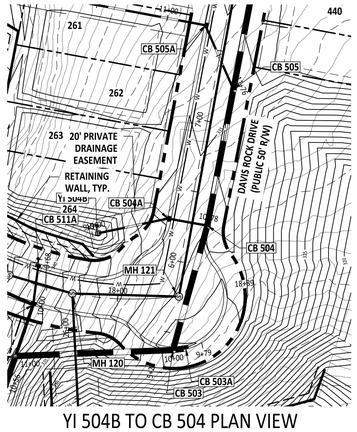
YI 512B TO CB 512 PROFILE



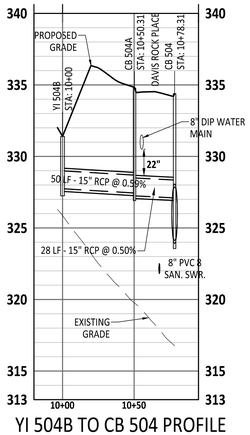
YI 514C TO CB 514A PROFILE



CB 503A TO FES 500 PROFILE



YI 504B TO CB 504 PLAN VIEW



YI 504B TO CB 504 PROFILE

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft

PROJECT NUMBER = CID-25-02

AMERICAN Engineering
American Engineering Associates - Southeast, P.A.
4020 Westchase Boulevard, Suite 450
Raleigh, NC 27607
919-469-1101

NORTH CAROLINA AMERICAN ENGINEERING ASSOCIATES SOUTHEAST, P.A. C-3881 1983

PRELIMINARY
NOT FOR CONSTRUCTION
DO NOT USE FOR CONSTRUCTION
JAKOB P. KLEIN ENGINEER 36528
FOR INFORMATION, ONLY

NO.	DATE	REVISION:
1	07-01-25	FIRST REVISION SET
2	08-05-25	SECOND WAKE COUNTY SUBMITTAL

STIPULATION FOR REUSE

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MERRITT RESERVE
STORM OUTFALL PLAN & PROFILE
ROLESVILLE RD
WAKE COUNTY NC 27312

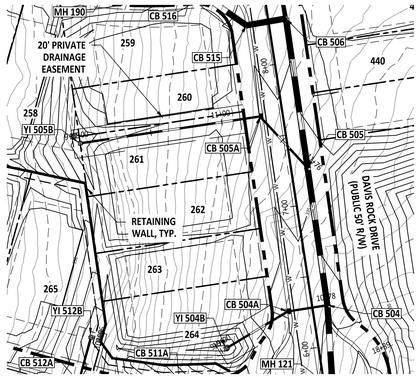
JOB NUMBER:	23-0004
CHECKED BY:	JK
DRAWN BY:	DH/MA/LL
DATE:	08/04/2025

SHEET TITLE:
STORM OUTFALL PLAN & PROFILE

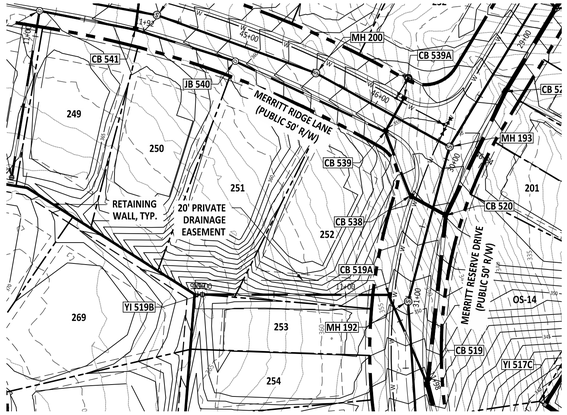
SHEET NO.:
CU-307

North Carolina 811
*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

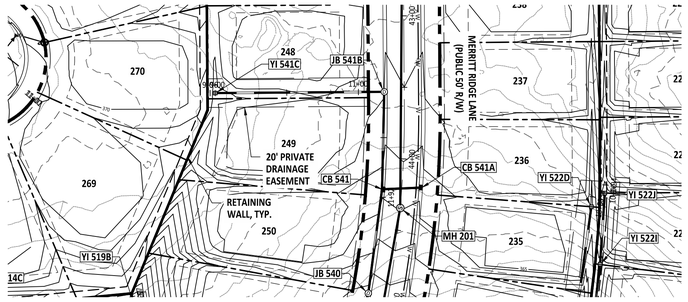
Z:\Job\23-0004 Merritt Property (BRO)\dwg_Working Dwgs\Sheets\Construction Set\508c CU-306-310 PLAN & PROFILE.dwg
2025-09-03



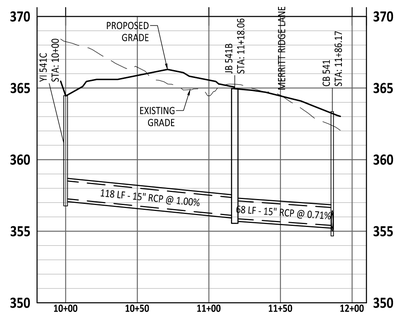
YI 505B TO CB 505 PLAN VIEW



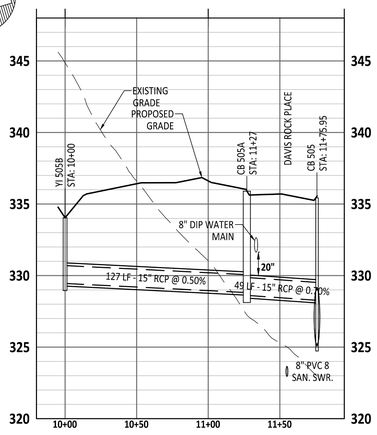
YI 519B TO CB 519 PLAN VIEW



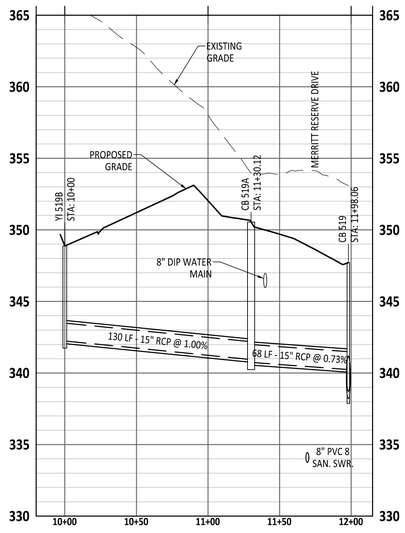
YI 541C TO CB 541 PLAN VIEW



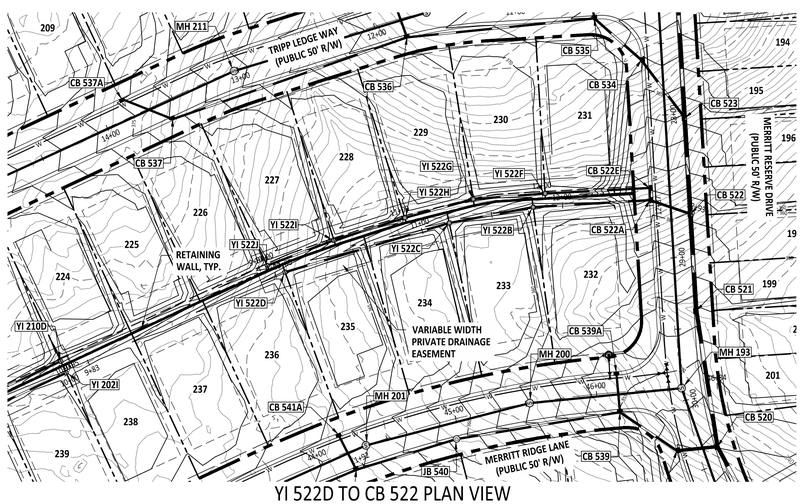
YI 541C TO CB 541 PROFILE



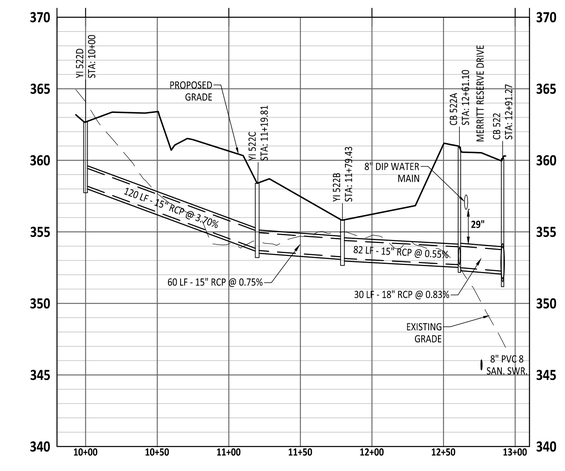
YI 505B TO CB 505 PROFILE



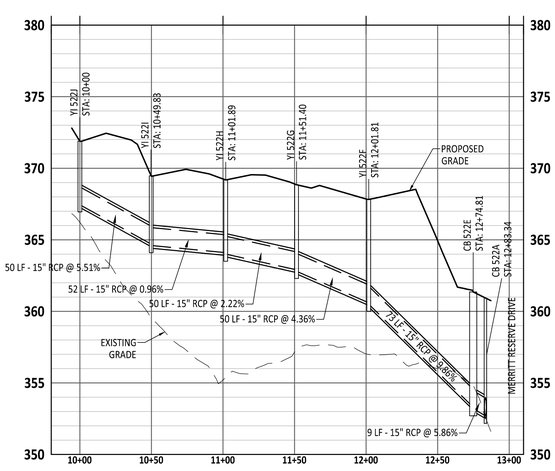
YI 519B TO CB 519 PROFILE



YI 522D TO CB 522 PLAN VIEW
AND YI 522J TO CB 522A PLAN VIEW



YI 522D TO CB 522 PROFILE



YI 522J TO CB 522A PROFILE

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft

PROJECT NUMBER = CID-25-02

AMERICAN Engineering
American Engineering Associates - Southeast, P.A.
4020 Westchase Boulevard, Suite 450
Raleigh, NC 27607
919-469-1101

NORTH CAROLINA AMERICAN ENGINEERING ASSOCIATES SOUTHEAST C-3881 CERTIFICATE OF AUTHORIZATION

PRELIMINARY

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 36528 JAKOB P. KLEIN

DO NOT USE FOR CONSTRUCTION

FOR INFORMATION, ONLY

NO.	DATE	REVISION:
1	07-01-25	FIRST REVISION SET
2	08-05-25	SECOND WAKE COUNTY SUBMITTAL

STIPULATION FOR REUSE

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MERRITT RESERVE

STORM OUTFALL PLAN & PROFILE

ROLESVILLE RD
WAKE COUNTY NC 27312

JOB NUMBER:	23-0004
CHECKED BY:	JK
DRAWN BY:	DH/MA/LL
DATE:	08/04/2025

SHEET TITLE:

STORM OUTFALL PLAN & PROFILE

SHEET NO.:

CU-308

North Carolina 811
*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

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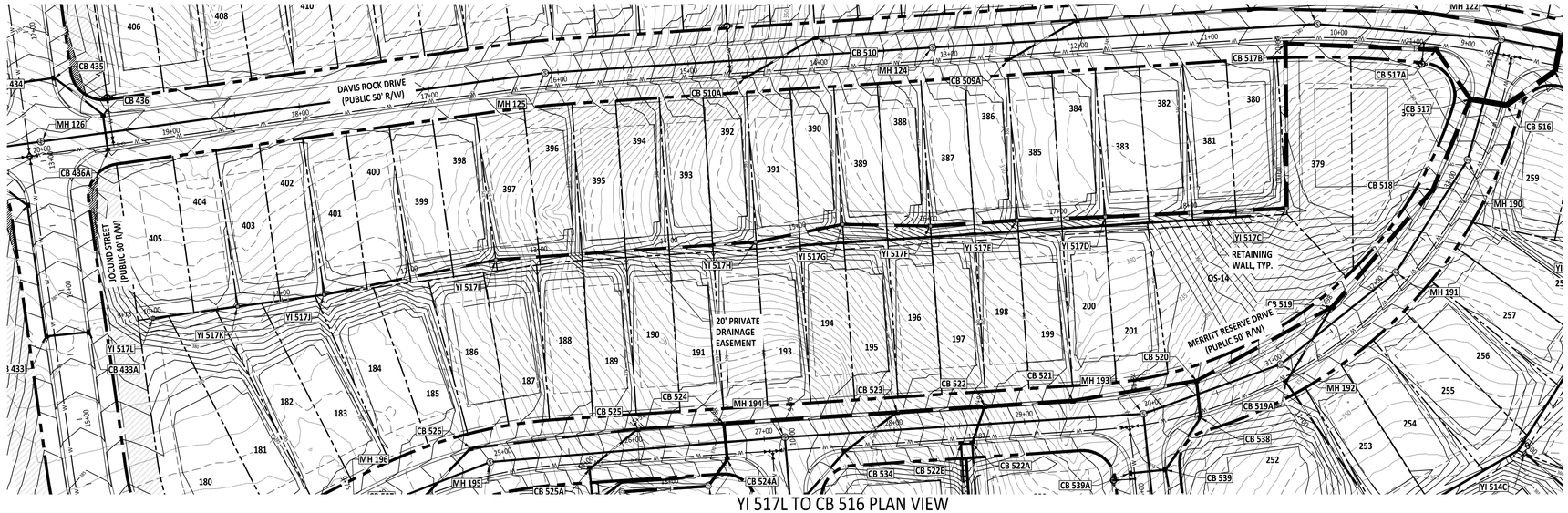
2025-09-03

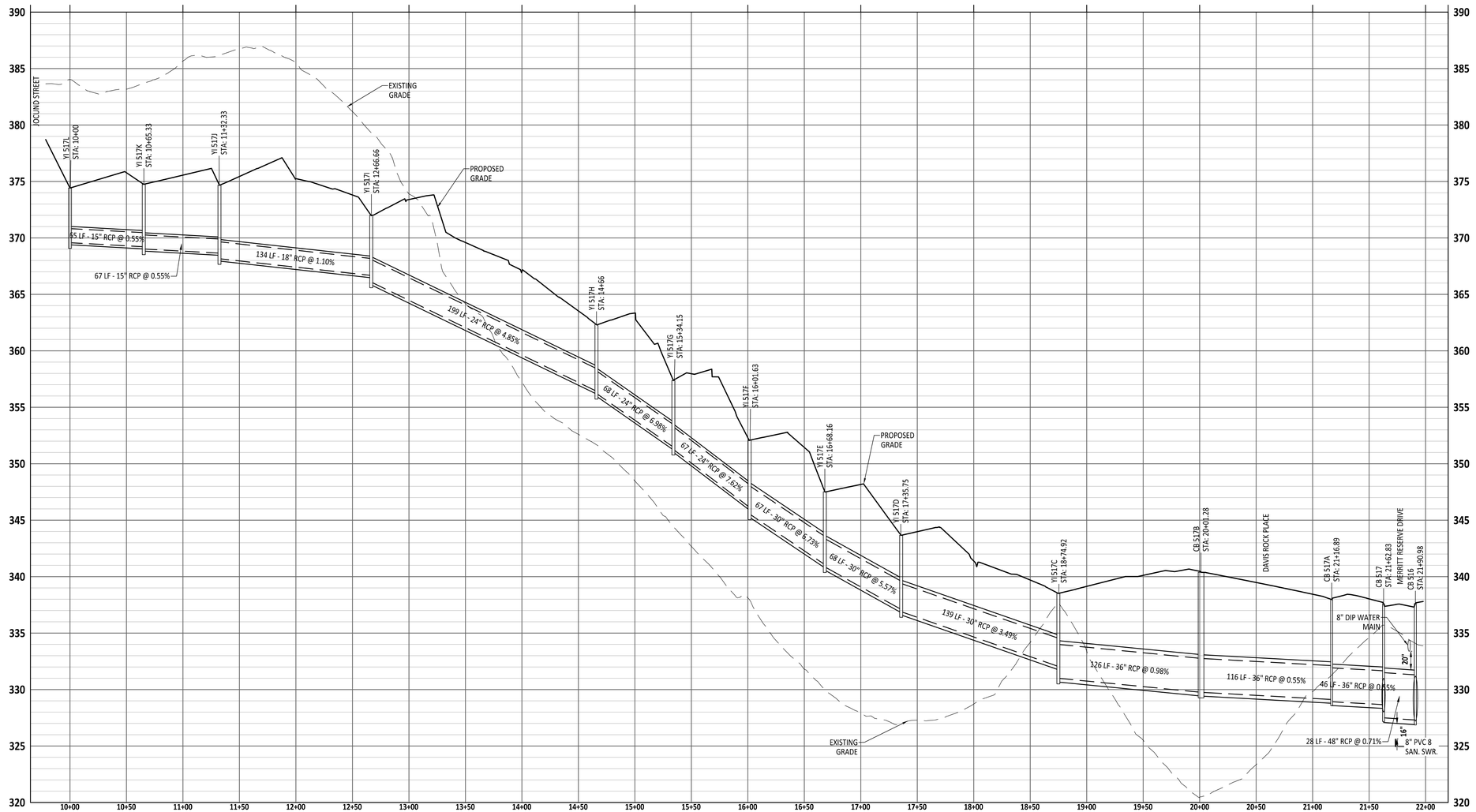


YI 517L TO CB 516 PLAN VIEW

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft



YI 517L TO CB 516 PROFILE

PROJECT NUMBER = CID-25-02

AMERICAN Engineering
American Engineering Associates - Southeast, P.A.
4020 Westchase Boulevard, Suite 450
Raleigh, NC 27607
919-469-1101

NORTH CAROLINA AMERICAN ENGINEERING ASSOCIATES SOUTHEAST C-3881 CERTIFICATE OF AUTHORIZATION

PRELIMINARY

PRELIMINARY NOT FOR RECORDATION, CONVEYANCES OR SALES DO NOT USE FOR CONSTRUCTION
JAKOB P. KLEE 36528 ENGINEER

FOR INFORMATION, ONLY

NO.	DATE	REVISION:
1	07-01-25	FIRST REVISION SET
2	08-05-25	SECOND WAKE COUNTY SUBMITTAL

STIPULATION FOR REUSE

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MERRITT RESERVE

STORM OUTFALL PLAN & PROFILE

ROLESVILLE RD
WAKE COUNTY NC 27312

JOB NUMBER:	23-0004
CHECKED BY:	JK
DRAWN BY:	DH/MA/LL
DATE:	08/04/2025

SHEET TITLE:

STORM OUTFALL PLAN & PROFILE

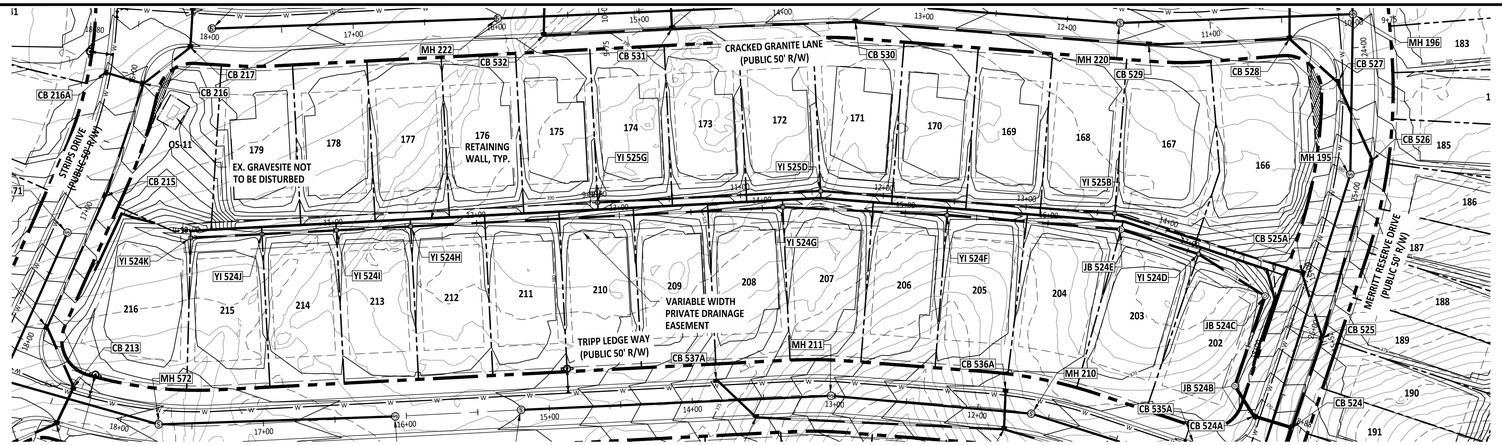
SHEET NO.:

CU-309

North Carolina 811
*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

Z:\Jobs\23-0004 Merrit Property (BRD)\Dwg_Working Dwgs\Sheets\Construction Set\CU06_CU-305_310 PLAN & PROFILE.dwg

2025-09-03

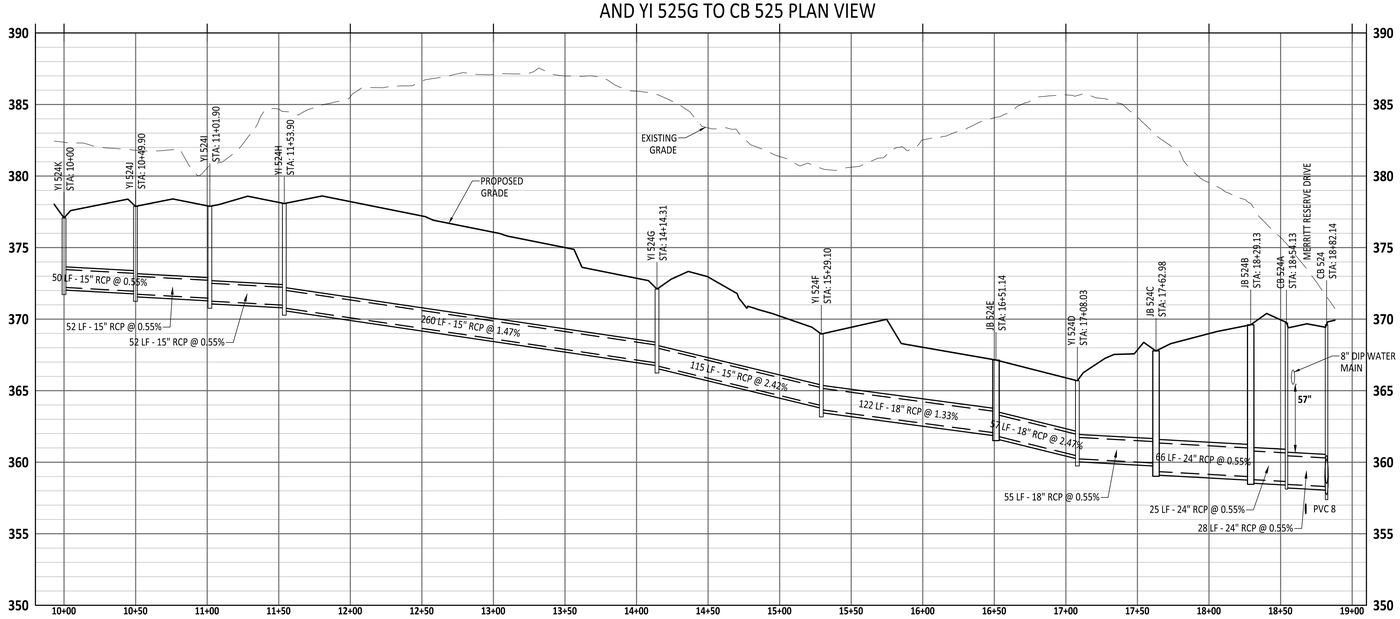


GRAPHIC SCALE

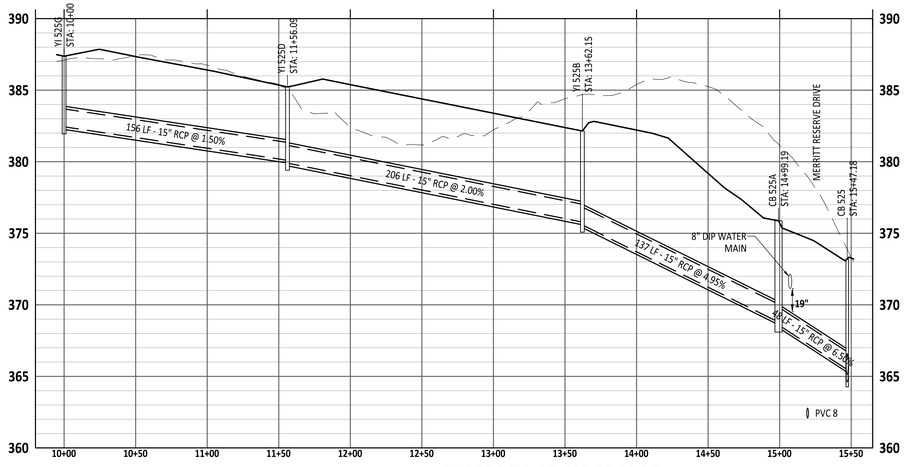
50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft

YI 524K TO CB 524 PLAN VIEW
AND YI 525G TO CB 525 PLAN VIEW



YI 524K TO CB 524 PROFILE



YI 525G TO CB 525 PROFILE

AMERICAN Engineering
American Engineering Associates - Southeast, P.A.
4020 Westchase Boulevard, Suite 450
Raleigh, NC 27607
919-469-1101

NORTH CAROLINA
AMERICAN ENGINEERING ASSOCIATES SOUTHEAST
C-3881
CERTIFICATE OF AUTHORIZATION

PRELIMINARY
NOT FOR CONSTRUCTION
DO NOT USE FOR CONSTRUCTION

NORTH CAROLINA
36528
ENGINEER
JACOB P. KLEIN

FOR INFORMATION, ONLY

NO.	DATE	REVISION:
1	07-01-25	FIRST REVISION SET
2	08-05-25	SECOND WAKE COUNTY SUBMITTAL

STIPULATION FOR REUSE

THIS DRAWING WAS PREPARED FOR USE ON THE SPECIFIC SITE, NAMED HEREON, CONTEMPORANEOUSLY WITH ITS ISSUE DATE AS LISTED, HEREON, AND IT IS NOT SUITABLE FOR USE ON A DIFFERENT PROJECT SITE OR AT A LATER TIME. USE OF THIS DRAWING FOR REFERENCE OR EXAMPLE ON ANOTHER PROJECT REQUIRES THE SERVICES OF PROPERLY LICENSED ARCHITECTS AND ENGINEERS. REPRODUCTION OF THIS DRAWING FOR REUSE ON ANOTHER PROJECT IS NOT AUTHORIZED AND MAY BE CONTRARY TO THE LAW.

MERRITT RESERVE

STORM OUTFALL PLAN & PROFILE

ROLESVILLE RD
WAKE COUNTY NC 27312

JOB NUMBER:	23-0004
CHECKED BY:	JK
DRAWN BY:	DH/MA/LL
DATE:	08/04/2025

SHEET TITLE:

STORM OUTFALL PLAN & PROFILE

SHEET NO.:

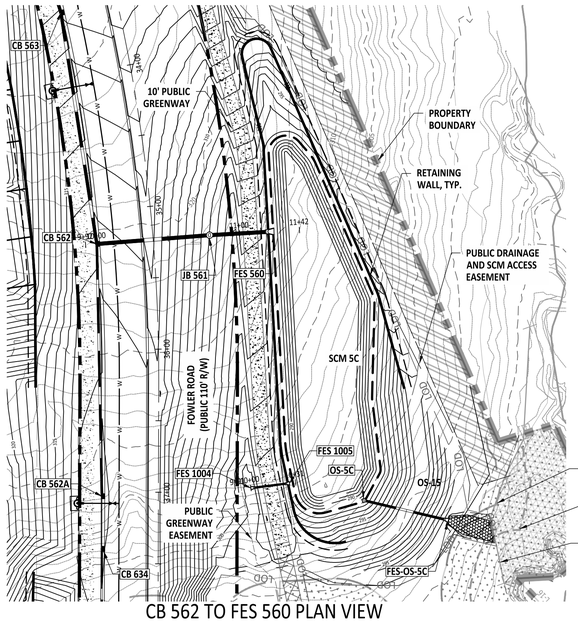
CU-310

PROJECT NUMBER = CID-25-02

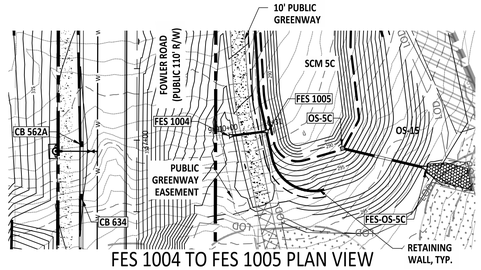
North Carolina 811
*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

Z:\Job\23-0004 Merritt Property BRP\Revit_Working\Dwgs\Sheets\Construction Set\Sh. CU-305-310 PLAN & PROFILE.dwg

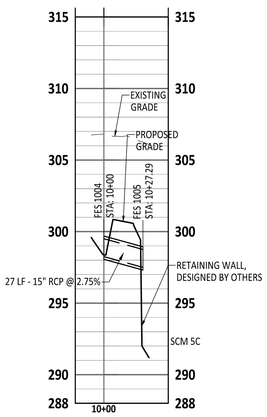
2025-09-03



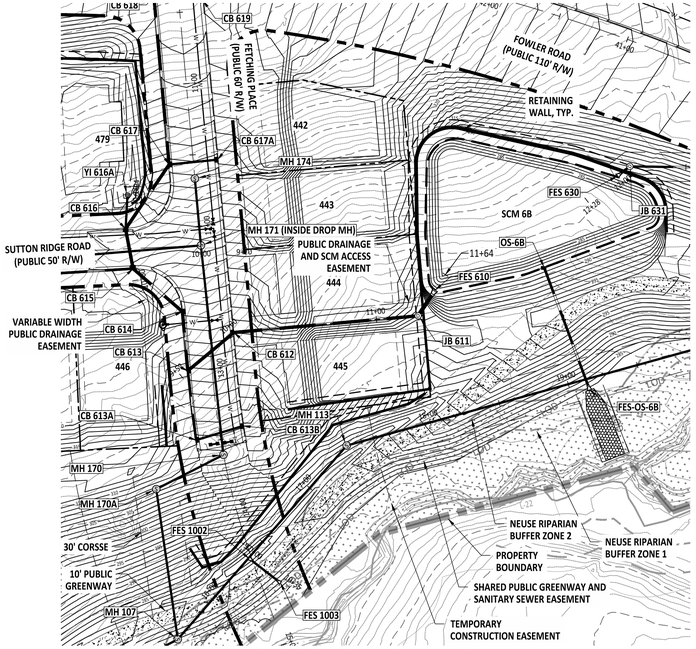
CB 562 TO FES 560 PLAN VIEW



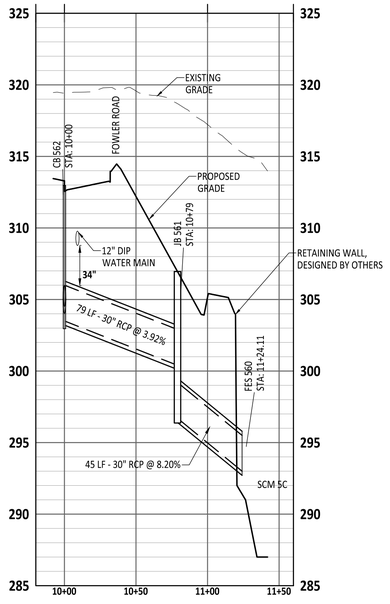
FES 1004 TO FES 1005 PLAN VIEW



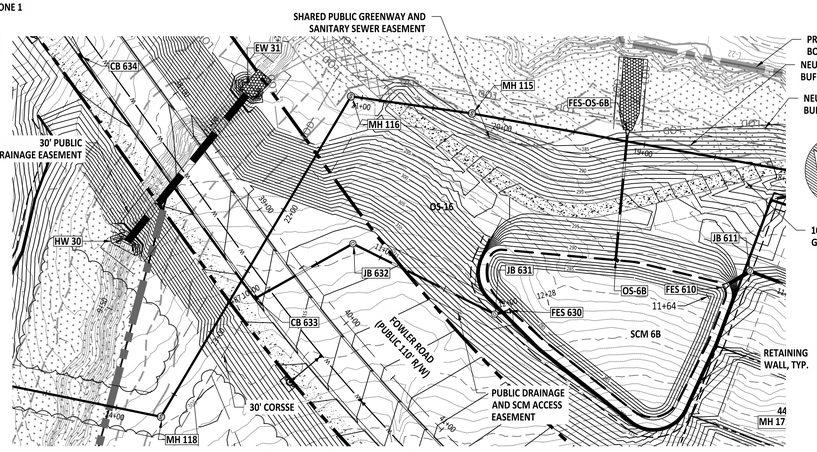
FES 1004 TO FES 1005 PROFILE



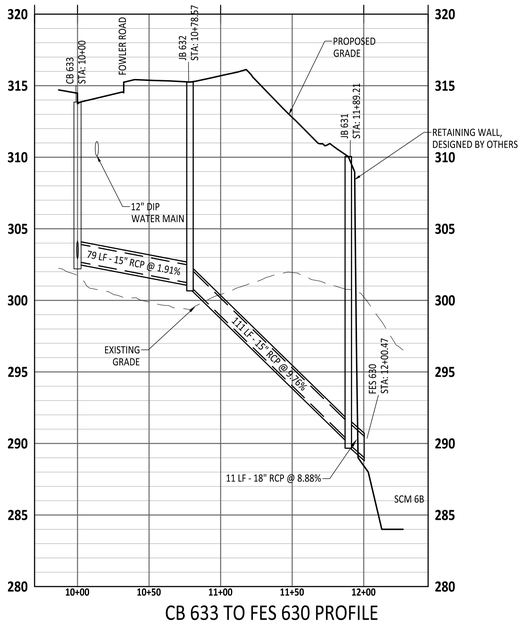
CB 613 TO FES 610 PLAN VIEW



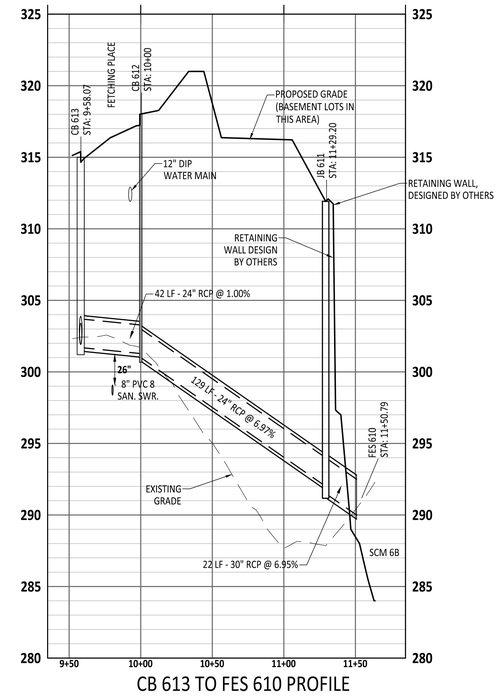
CB 562 TO FES 560 PROFILE



CB 633 TO FES 630 PLAN VIEW



CB 633 TO FES 630 PROFILE



CB 613 TO FES 610 PROFILE

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft

PROJECT NUMBER = CID-25-02

AMERICAN Engineering
American Engineering Associates - Southeast, P.A.
4020 Westchase Boulevard, Suite 450
Raleigh, NC 27607
919-469-1101

NORTH CAROLINA ENGINEERING ASSOCIATES SOUTHEAST C-3881 (1937) BOARD OF AUTHORIZATION

PRELIMINARY

PRELIMINARY
NOT FOR CONSTRUCTION
DO NOT USE FOR CONSTRUCTION
NORTH CAROLINA REGISTERED 36528 ENGINEER JAKOB P. KLEIN

FOR INFORMATION, ONLY

NO.	DATE	REVISION:
1	07-01-25	FIRST REVISION SET
2	08-05-25	SECOND WAKE COUNTY SUBMITTAL

STIPULATION FOR REUSE

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MERRITT RESERVE

STORM OUTFALL PLAN & PROFILE

ROLESVILLE RD
WAKE COUNTY NC 27312

JOB NUMBER:	23-0004
CHECKED BY:	JK
DRAWN BY:	DH/MA/LL
DATE:	08/04/2025

SHEET TITLE:

STORM OUTFALL PLAN & PROFILE

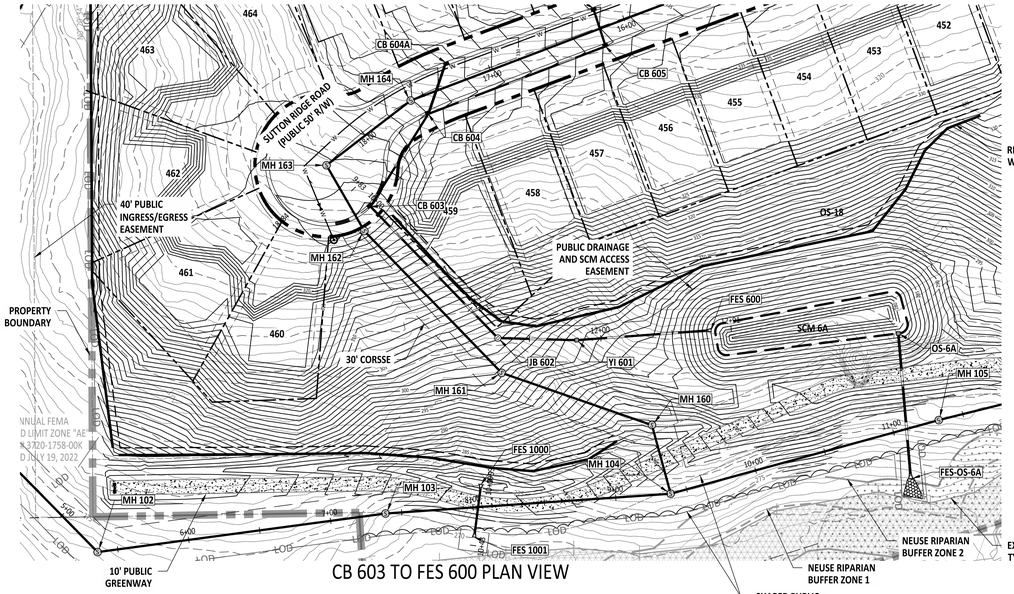
SHEET NO.:

CU-311

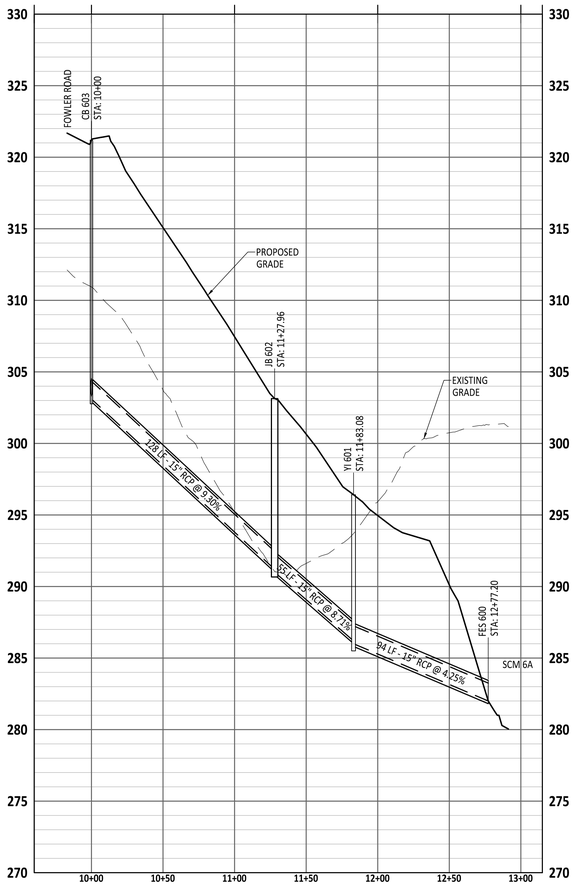
North Carolina 811 811
*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

Z:\Jobs\23-0004 Merrit Property BRP\Dwg_ Working Dwgs\Sheets\Construction Set\SDC_ CU-311-313 PLAN & PROFILE.dwg

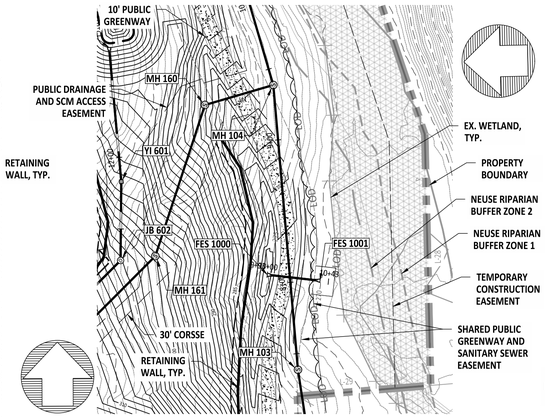
2025-09-03



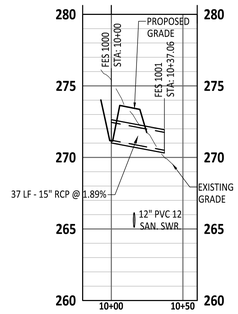
CB 603 TO FES 600 PLAN VIEW



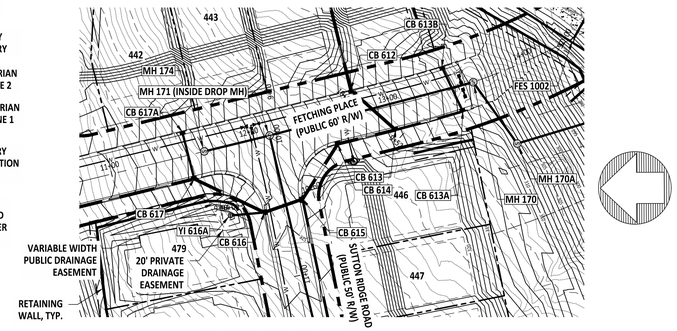
CB 603 TO FES 600 PROFILE



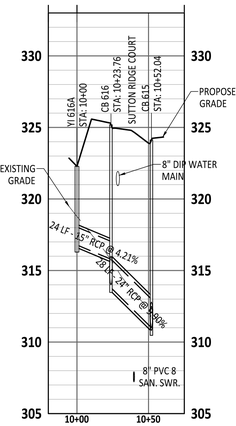
FES 1000 TO FES 1001 PLAN VIEW



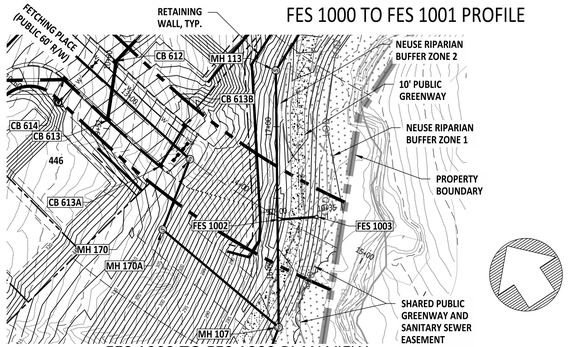
FES 1000 TO FES 1001 PROFILE



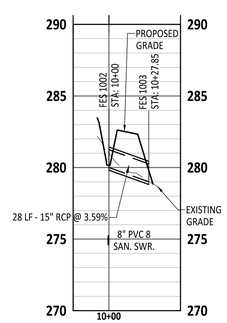
YI 616A TO CB 615 PLAN VIEW



YI 616A TO CB 615 PROFILE



FES 1002 TO FES 1003 PLAN VIEW



FES 1002 TO FES 1003 PROFILE

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)

1 inch = 50 ft

PROJECT NUMBER = CID-25-02

AMERICAN Engineering
American Engineering Associates - Southeast, P.A.
4020 Westchase Boulevard, Suite 450
Raleigh, NC 27607
919-469-1101

NORTH CAROLINA ENGINEERING CORPORATION AMERICAN ENGINEERING ASSOCIATES SOUTHEAST C-3881 CERTIFICATE OF AUTHORIZATION

PRELIMINARY

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 36528 JAKOB P. KLEIN

NOT FOR RECORDATION, SALES, OR CONSTRUCTION

FOR INFORMATION, ONLY

NO.	DATE	REVISION:
1	07-01-25	FIRST REVISION SET
2	08-05-25	SECOND WAKE COUNTY SUBMITTAL

STIPULATION FOR REUSE

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MERRITT RESERVE

STORM OUTFALL PLAN & PROFILE

ROLESVILLE RD
WAKE COUNTY NC 27312

JOB NUMBER:	23-0004
CHECKED BY:	JK
DRAWN BY:	DH/MA/LL
DATE:	08/04/2025

SHEET TITLE:

STORM OUTFALL PLAN & PROFILE

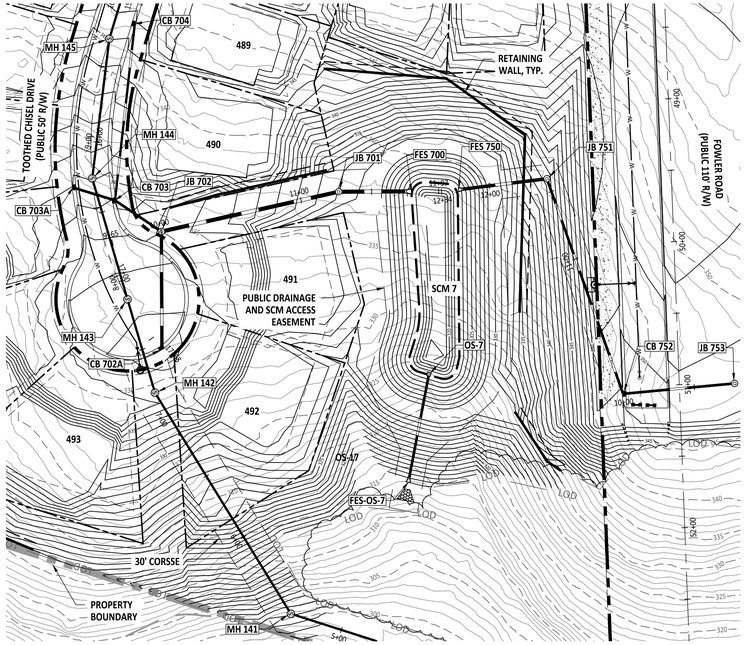
SHEET NO.:

CU-312

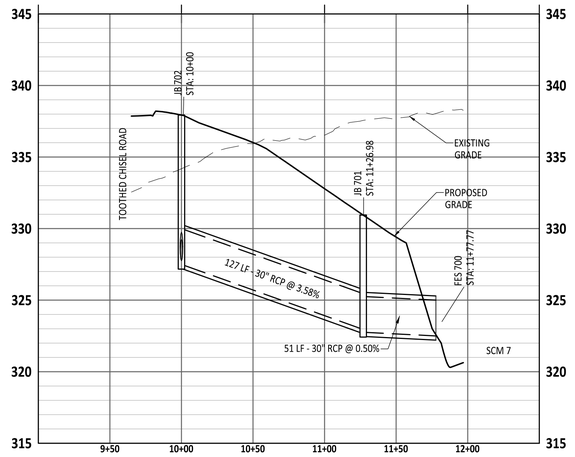
North 811 Carolina
*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

Z:\Job\23-0004 Merritt Property BRD\Dwg_Working Dwgs\Sheet\Construction Set\[CU_311-313 PLAN & PROFILE.dwg

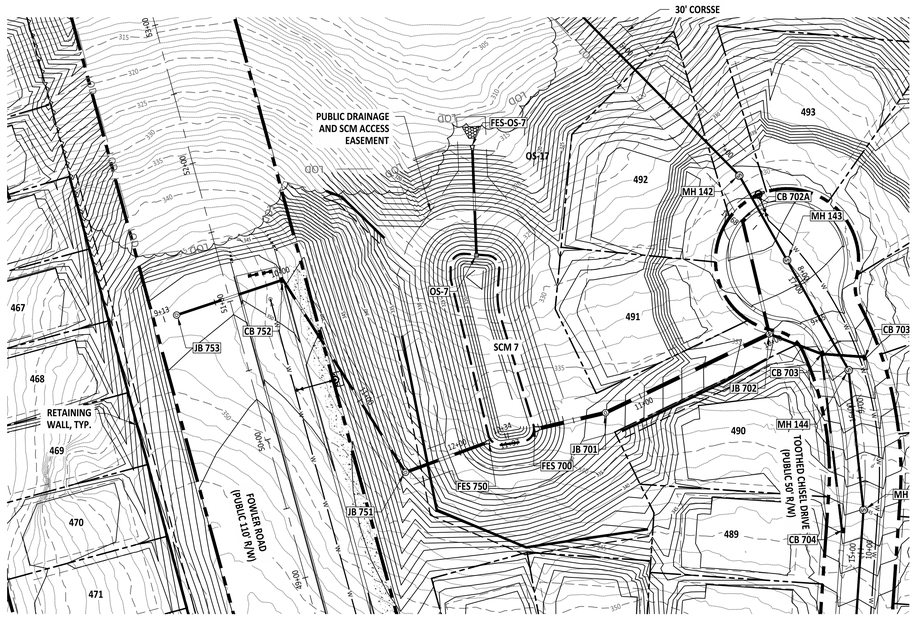
2025-09-03



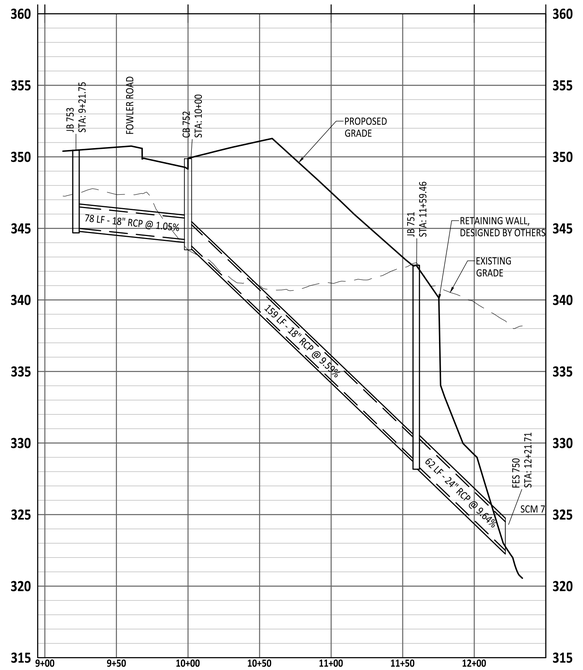
JB 702 TO FES 700 PLAN VIEW



JB 702 TO FES 700 PROFILE



JB 753 TO FES 750 PLAN VIEW



JB 753 TO FES 750 PROFILE

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft

PROJECT NUMBER = CID-25-02

*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

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American Engineering Associates - Southeast, P.A.
4020 Westchase Boulevard, Suite 450
Raleigh, NC 27607
919-469-1101

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DO NOT USE FOR CONSTRUCTION
NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER 36528 JAKOB P. KLEIN

FOR INFORMATION, ONLY

NO.	DATE	REVISION:
1	07-01-25	FIRST REVISION SET
2	08-05-25	SECOND WAKE COUNTY SUBMITTAL

STIPULATION FOR REUSE

THIS DRAWING WAS PREPARED FOR USE ON THE SPECIFIC SITE, NAMED HEREON, CONTEMPORANEOUSLY WITH ITS ISSUE DATE AS LISTED, HEREON, AND IT IS NOT SUITABLE FOR USE ON A DIFFERENT PROJECT SITE OR AT A LATER TIME. USE OF THIS DRAWING FOR REFERENCE OR EXAMPLE ON ANOTHER PROJECT REQUIRES THE SERVICES OF PROPERLY LICENSED ARCHITECTS AND ENGINEERS. REPRODUCTION OF THIS DRAWING FOR REUSE ON ANOTHER PROJECT IS NOT AUTHORIZED AND MAY BE CONTRARY TO THE LAW.

MERRITT RESERVE

STORM OUTFALL PLAN & PROFILE

ROLESVILLE RD
WAKE COUNTY NC 27312

JOB NUMBER:	23-0004
CHECKED BY:	JK
DRAWN BY:	DH/MA/LL
DATE:	08/04/2025

SHEET TITLE:

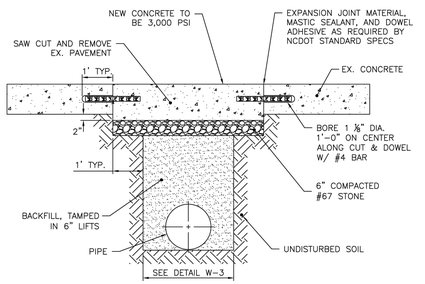
STORM OUTFALL PLAN & PROFILE

SHEET NO.:

CU-313

Z:\Jobs\23-0004 Merrit Property BRO\Dwg_Working Dwgs\Sheets\Construction Set\SSx_CU-311-313 PLAN & PROFILE.dwg

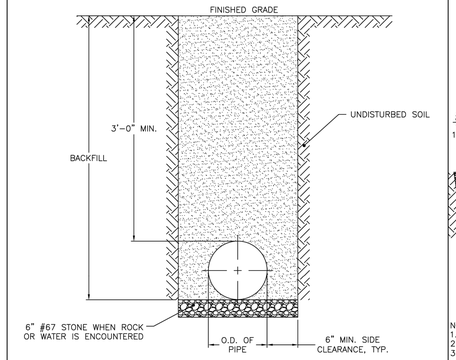
2025-09-03



NOTES:
1. SEE DETAIL W-3 FOR ADDITIONAL TRENCH AND PIPE BEDDING DETAILS.
2. PAVEMENT CUTS WITHIN NCDOT ROW SHALL CONFORM TO THE APPROVED ON SITE ENCROACHMENT PERMIT.
3. THE PAVEMENT CUT SHALL BE DEFINED BY A STRAIGHT EDGE AND CUT WITH AN APPROVED SAW CUT MACHINE.
4. THE TRENCH SUBGRADE MATERIAL SHALL BE BACKFILLED WITH SUITABLE MATERIAL AND COMPACTED TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY AASHTO T 99 AS MODIFIED BY NCDOT.
5. THE FINAL 6" OF FILL SHALL CONSIST OF ABC MATERIAL COMPACTED TO AT LEAST 100% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY AASHTO T 180 AS MODIFIED BY NCDOT.

CITY OF RALEIGH
STANDARD DETAIL

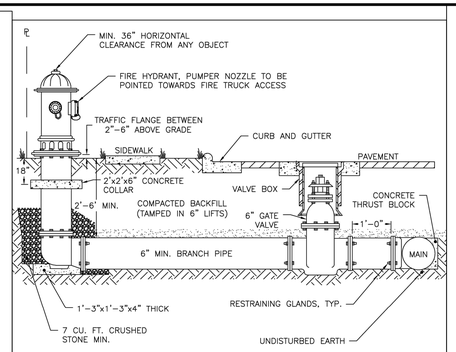
REVISIONS	DATE: 01/18/2025	NOT TO SCALE
	STANDARD CONCRETE PAVEMENT PATCH	
	W-1	



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

CITY OF RALEIGH
STANDARD DETAIL

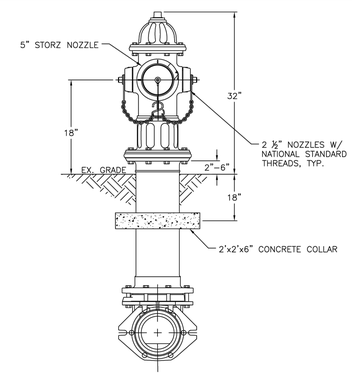
REVISIONS	DATE: 01/18/2025	NOT TO SCALE
	TRENCH BOTTOM DIMENSIONS AND BACKFILLING REQUIREMENTS FOR DUCTILE IRON	
	W-3	



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

CITY OF RALEIGH
STANDARD DETAIL

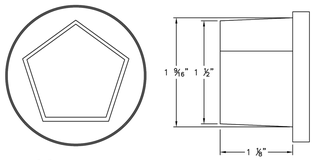
REVISIONS	DATE: 01/18/2025	NOT TO SCALE
	STANDARD FIRE HYDRANT INSTALLATION (RESTRAINT GLANDS)	
	W-4	

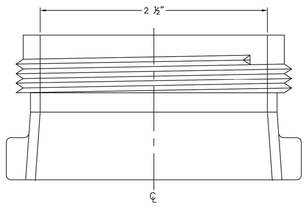


NOTES:
1. ALL PUBLIC FIRE HYDRANTS IN THE CITY OF RALEIGH AND THE MERGER TOWNS OF GARNER, ROLESVILLE, WAKE FOREST, KNIGHTDALE, WENDELL AND ZEBULON SHALL BE PAINTED CHROME YELLOW WITH HIGH REFLECTIVE ALUMINUM SILVER CAPS, BONNETS AND OPERATING NUTS.
2. ALL PRIVATE FIRE HYDRANTS SHALL BE RED.

CITY OF RALEIGH
STANDARD DETAIL

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

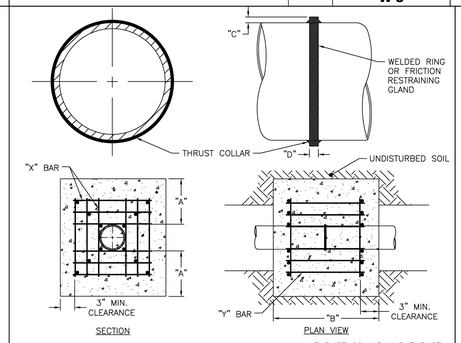




2 ½" NATIONAL STANDARD OUTLET THREADS

CITY OF RALEIGH
STANDARD DETAIL

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



REINFORCING REQUIREMENTS

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

THRUST COLLAR AND THRUST SCHEDULE

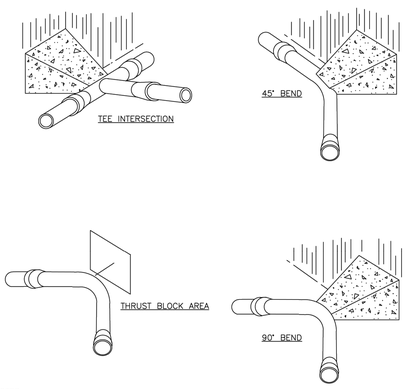
I.D. PIPE	"A"	"B"	"C"	"D"
6"–16"	1'-4"	1'-7"	2"	⅜"
20"–24"	1'-4"	1'-7"	3"	½"
30"–36"	1'-4"	1'-7"	4"	⅝"
≥48"	1'-8"	1'-9"	6"	⅞"

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

CITY OF RALEIGH
STANDARD DETAIL

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

THRUST BLOCKING



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

CITY OF RALEIGH
STANDARD DETAIL

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

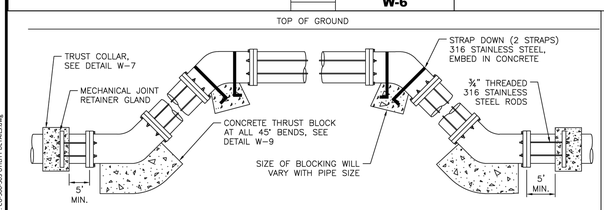
REACTION BEARING AREAS FOR HORIZONTAL WATER PIPE BENDS
BASED ON TEST PRESSURE OF 200 PSI
ALL AREAS GIVEN IN SQUARE FEET

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

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

CITY OF RALEIGH
STANDARD DETAIL

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



ROD REQUIREMENTS

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

STRAP REQUIREMENTS

STRAP WIDTH	STRAP THICKNESS
1"	3/16"
1.5"	3/16"
2"	¼"
2"	½"
4"	½"

RESTRAINT REQUIREMENTS

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

"X" DENOTES REQUIRED RESTRAINT.

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

CITY OF RALEIGH
STANDARD DETAIL

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

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NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER
36528
JAKOB P. KLEE
FOR INFORMATION, ONLY

NO.	DATE	REVISION:
1	07-01-25	FIRST REVISION SET
2	08-05-25	SECOND WAKE COUNTY SUBMITTAL

STIPULATION FOR REUSE

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MERRITT RESERVE
UTILITY DETAILS
ROLESVILLE RD
WAKE COUNTY NC 27312

JOB NUMBER:	23-0004
CHECKED BY:	JK
DRAWN BY:	DH/MA/LL
DATE:	08/04/2025

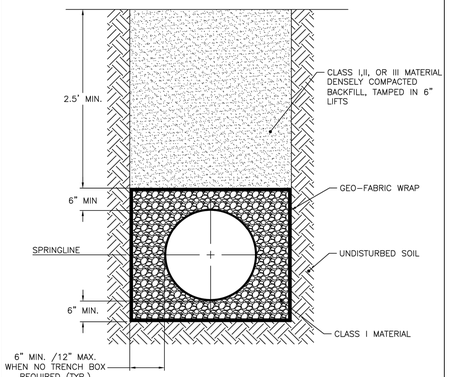
SHEET TITLE:
UTILITY DETAILS

SHEET NO.:
CU-500

PROJECT NUMBER = CID-25-02

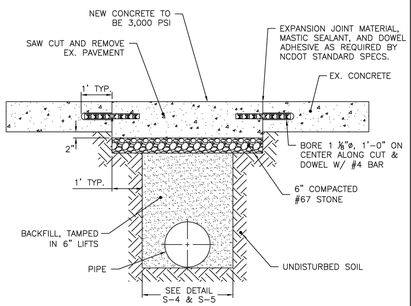
North Carolina 811 811.com
*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

Z:\Jobs\23-0004 Merritt Property BRP\Mapl_Working Dwgs\Sheets\Construction Set\CU-500 UTILITY DETAILS.dwg
2025-09-03



CITY OF RALEIGH
STANDARD DETAIL

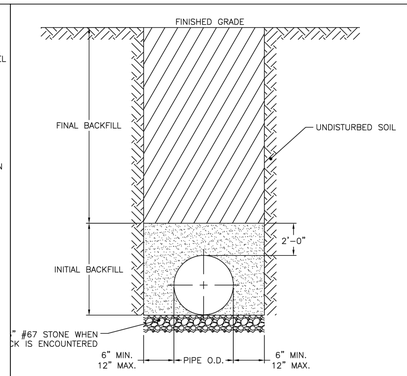
REVISIONS	DATE: 01/18/2025	NOT TO SCALE
	STANDARD BEDDING DETAIL FOR CCFRPM PIPES	
	S-1	



NOTES:
1. SEE DETAIL S-4 & S-5 FOR ADDITIONAL TRENCH AND PIPE BEDDING DETAILS.
2. PAVEMENT CUTS OVER 5'-0" IN WIDTH SHALL BE REINFORCED TO NCDOT OR MERGER COMMUNITY STANDARDS.
3. PAVEMENT CUTS SHALL BE MADE WITH AN APPROPRIATE SAW CUT MACHINE.
4. THE TRENCH SUBGRADE MATERIAL SHALL BE BACKFILLED WITH SUITABLE MATERIAL AND COMPACTED TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY AASHTO T 99 AS MODIFIED BY NCDOT.
5. THE FINAL 6" OF FILL SHALL CONSIST OF ABC MATERIAL COMPACTED TO AT LEAST 100% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY AASHTO T 180 AS MODIFIED BY NCDOT.

CITY OF RALEIGH
STANDARD DETAIL

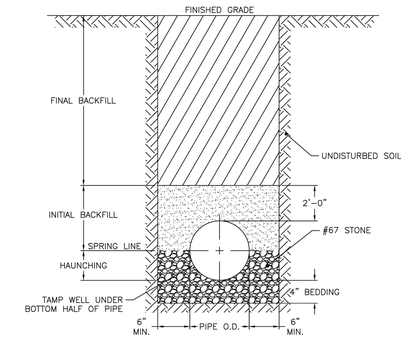
REVISIONS	DATE: 01/18/2025	NOT TO SCALE
	STANDARD CONCRETE PAVEMENT PATCH	
	S-2	



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

CITY OF RALEIGH
STANDARD DETAIL

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

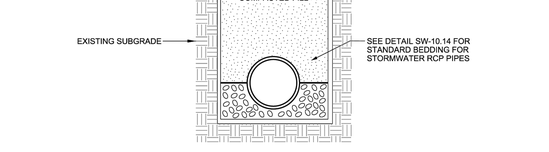


TYPICAL TRENCH BOTTOM DIMENSIONS FOR SDR 35 PVC GRAVITY PIPE

NOTES:
1. FOR TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.
2. NO ROCKS OR BOULDERS, 4" OR LARGER, TO BE USED IN INITIAL BACKFILL.
3. ALL BACKFILL MATERIAL SHALL BE SUITABLE NATIVE MATERIAL.
4. BACKFILL SHALL BE TAMPED IN 6" LIFTS IN TRAFFIC AREAS, 12" IN NON-TRAFFIC AREAS.

CITY OF RALEIGH
STANDARD DETAIL

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

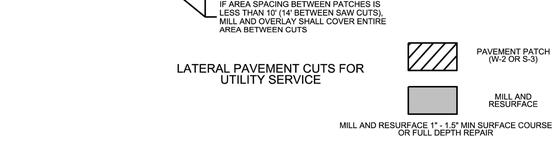


NOTES:
1. THE PAVEMENT EDGE SHALL BE DEFINED BY A STRAIGHT EDGE FORMED BY A MACHINED SAW CUT.
2. THE TRENCH SUBGRADE MATERIAL SHALL BE BACKFILLED WITH SUITABLE MATERIAL AND COMPACTED TO A DENSITY OF AT LEAST 95% OF THAT OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH AASHTO T-99 AS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

SHEET 1 OF 2

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS DATE: 08/2023	DATE: 8/2020	NOT TO SCALE
	ASPHALT PAVEMENT PATCH AND RCP PIPE BACKFILL	
	T-10.05.1	

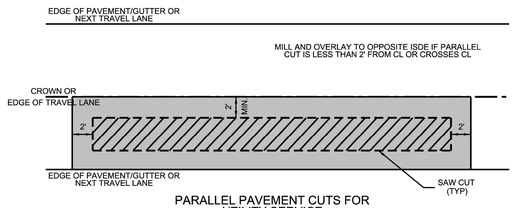


LATERAL PAVEMENT CUTS FOR UTILITY SERVICE

PAVEMENT PATCH (W-2 OR S-3)

MILL AND RESURFACE

MILL AND RESURFACE 1" - 1.5" MIN SURFACE COURSE OR FULL DEPTH REPAIR



PARALLEL PAVEMENT CUTS FOR UTILITY SERVICE

NOTES:
1. THE PAVEMENT EDGES SHALL BE DEFINED BY A STRAIGHT EDGE FORMED BY A MACHINED SAW CUT OR MILLIING MACHINE
2. THE TRENCH SUBGRADE MATERIAL SHALL BE BACKFILLED WITH SUITABLE MATERIAL AND COMPACTED TO A DENSITY OF AT LEAST 95% OF THAT OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY NCDOT
3. THE FINAL 1" OF FILL SHALL CONSIST OF ABC MATERIAL COMPCATED TO A DENSITY EQUAL TO 100% OF THAT OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH AASHTO T-80 AS MODIFIED BY NCDOT
4. THE ENTIRE THICKNESS/VERTICAL EDGE OF THE CUT SHALL BE TACKED
5. THE SAME DEPTH OF PAVEMENT MATERIAL WHICH EXISTS SHALL BE REINSTALLED, BUT IN NO CASE SHALL THE ASPHALT BE LESS THAN 3" THICK
6. THE ASPHALT PAVEMENT MATERIAL SHALL BE INSTALLED, COMPACTED THOROUGHLY AND ROLLED WITH A SMOOTH DRUM ROLLER TO LEVEL PATCH

SHEET 2 OF 2

CITY OF RALEIGH
STANDARD DETAIL

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

AMERICAN Engineering
American Engineering Associates - Southeast, P.A.
4020 Westchase Boulevard, Suite 450
Raleigh, NC 27607
919-469-1101

NORTH CAROLINA CERTIFICATE OF AUTHORIZATION
AMERICAN ENGINEERING ASSOCIATES SOUTHEAST
C-3881

PRELIMINARY
NOT FOR RECORDATION
CONVEYANCE OR SALES
DO NOT USE FOR CONSTRUCTION
NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER
JAKOB P. KLEE
36528

FOR INFORMATION, ONLY

NO.	DATE	REVISION:
1	07-01-25	FIRST REVISION SET
2	08-05-25	SECOND WAKE COUNTY SUBMITTAL

STIPULATION FOR REUSE

THIS DRAWING WAS PREPARED FOR USE ON THE SPECIFIC SITE, NAMED HEREON, CONTEMPORANEOUSLY WITH ITS ISSUE DATE AS LISTED, HEREON. AND IT IS NOT SUITABLE FOR USE ON A DIFFERENT PROJECT SITE OR AT A LATER TIME. USE OF THIS DRAWING FOR REFERENCE OR EXAMPLE ON ANOTHER PROJECT REQUIRES THE SERVICES OF PROPERLY LICENSED ARCHITECTS AND ENGINEERS. REPRODUCTION OF THIS DRAWING FOR REUSE ON ANOTHER PROJECT IS NOT AUTHORIZED AND MAY BE CONTRARY TO THE LAW.

MERRITT RESERVE
UTILITY DETAILS
ROLESVILLE RD
WAKE COUNTY NC 27312

JOB NUMBER:	23-0004
CHECKED BY:	JK
DRAWN BY:	DH/MA/LL
DATE:	08/04/2025

SHEET TITLE:
UTILITY DETAILS

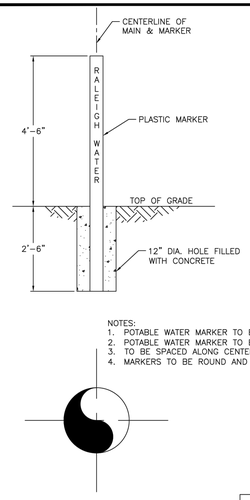
SHEET NO.:
CU-501

PROJECT NUMBER = CID-25-02

North Carolina 811 one call
*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

Z:\Jobs\23-0004 Merritt Property (BSP)\wp\L_Working Dwgs\Sheets\Construction Set\SL - CU-500-503 UTILITY DETAILS.dwg

2025-09-03

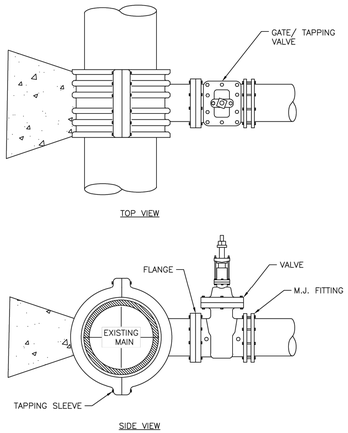


NOTES:
1. POTABLE WATER MARKER TO BE BLUE IN COLOR.
2. POTABLE WATER MARKER TO BE LABELED "RALEIGH WATER"
3. TO BE SPACED ALONG CENTERLINE OF MAIN EVERY 300 FEET.
4. MARKERS TO BE ROUND AND 4" IN DIAMETER.

WATER MAIN

CITY OF RALEIGH
STANDARD DETAIL

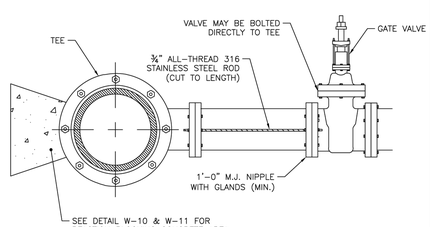
REVISIONS	DATE: 01/18/2025	NOT TO SCALE
	MAIN & VALVE MARKER FOR POTABLE WATER IN EASEMENTS	
	W-13	



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

CITY OF RALEIGH
STANDARD DETAIL

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



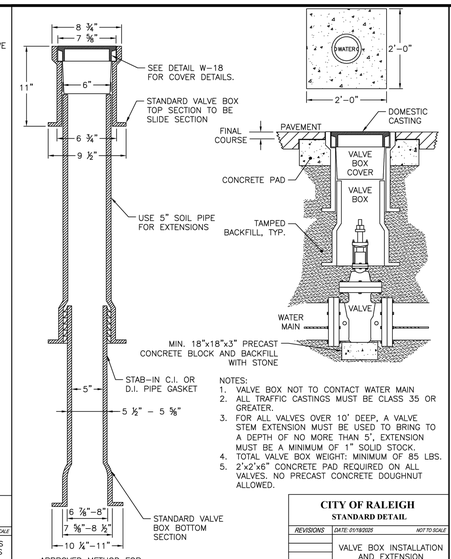
ROD REQUIREMENTS

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

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

CITY OF RALEIGH
STANDARD DETAIL

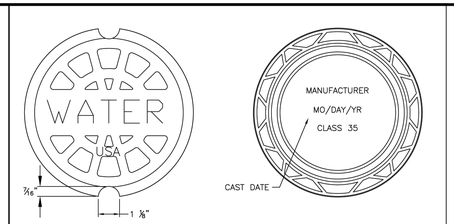
REVISIONS	DATE: 01/18/2025	NOT TO SCALE
	VALVE RESTRAINT AT TEES AND CROSSES FOR LINES (4"-24")	
	W-15	



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

CITY OF RALEIGH
STANDARD DETAIL

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

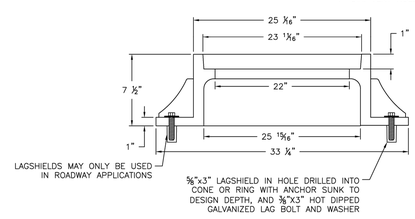


NOTE:
1. "WATER" LETTERING MUST BE 1" RAISED (RECESSED FLUSH).
2. VALVE COVER SHALL BE DOMESTICALLY CAST.
3. COVER MUST HAVE A MINIMUM WEIGHT OF 25 POUNDS.
4. COVER MUST BE CLASS 35 OR GREATER.
5. COVER MUST MEET OR EXCEED AASHTO H-20 LOAD REQUIREMENTS.

CITY OF RALEIGH
STANDARD DETAIL

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

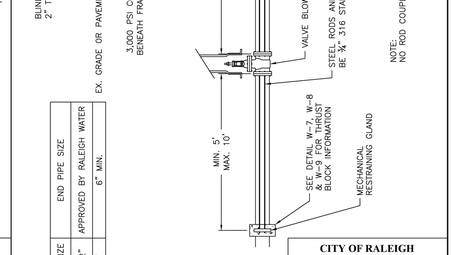
MANHOLE FRAME AND COVER



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

CITY OF RALEIGH
STANDARD DETAIL

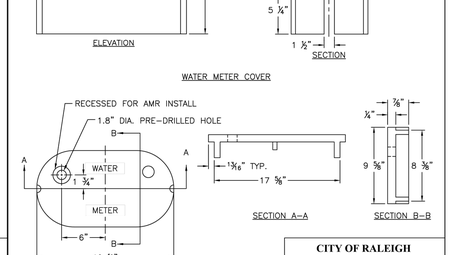
REVISIONS	DATE: 01/18/2025	NOT TO SCALE
	STANDARD MANHOLE COVER	
	W-20	



MAIN SIZE	END PIPE SIZE
6"-12"	APPROVED BY RALEIGH WATER
≥16"	6" MIN.

CITY OF RALEIGH
STANDARD DETAIL

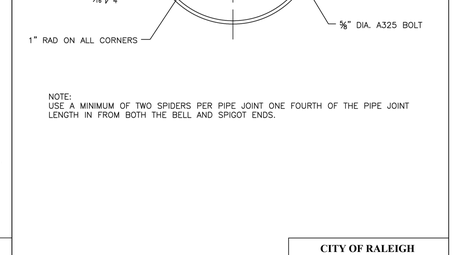
REVISIONS	DATE: 01/18/2025	NOT TO SCALE
	TEMPORARY WATER MAIN BLOW OFF ASSEMBLY	
	W-21	



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

CITY OF RALEIGH
STANDARD DETAIL

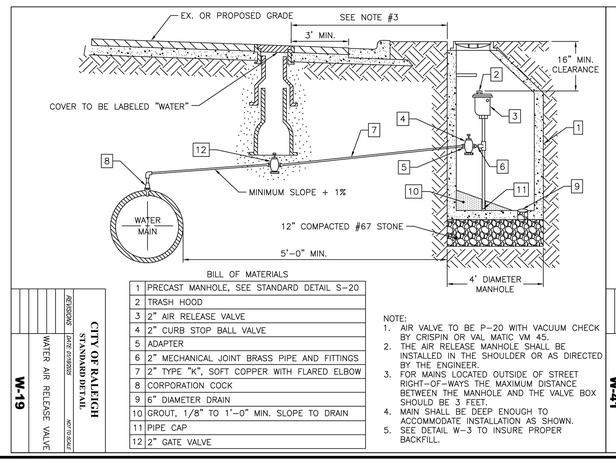
REVISIONS	DATE: 01/18/2025	NOT TO SCALE
	WATER METER BOX	
	W-25	



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

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 01/18/2025	NOT TO SCALE
	PIPE ALIGNMENT GUIDE	
	W-40	



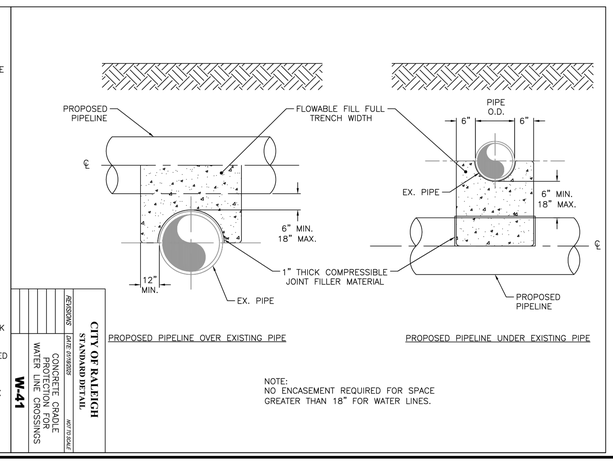
BILL OF MATERIALS

1	PRECAST MANHOLE, SEE STANDARD DETAIL S-20
2	TRASH HOOD
3	2" AIR RELEASE VALVE
4	2" CURB STOP BALL VALVE
5	ADAPTER
6	2" MECHANICAL JOINT BRASS PIPE AND FITTINGS
7	2" TYPE "K", SOFT COPPER WITH FLARED ELBOW
8	CORPORATION COCK
9	6" DIAMETER DRAIN
10	GROUT, 1/8" TO 1'-0" MIN. SLOPE TO DRAIN
11	PIPE CAP
12	2" GATE VALVE

NOTE:
1. AIR VALVE TO BE P-20 WITH VACUUM CHECK BY CRISPIN OR VAL MATIC VM 45.
2. THE AIR RELEASE MANHOLE SHALL BE INSTALLED IN THE SHOULDER OR AS DIRECTED BY THE ENGINEER.
3. FOR MAINS LOCATED OUTSIDE OF STREET RIGHT-OF-WAYS THE MAXIMUM DISTANCE BETWEEN THE MANHOLE AND THE VALVE BOX SHOULD BE 3 FEET.
4. MAIN SHALL BE DEEP ENOUGH TO ACCOMMODATE INSTALLATION AS SHOWN.
5. SEE DETAIL W-3 TO INSURE PROPER BACKFILL.

CITY OF RALEIGH
STANDARD DETAIL

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



NOTE:
NO ENCASEMENT REQUIRED FOR SPACE GREATER THAN 18" FOR WATER LINES.

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 01/18/2025	NOT TO SCALE
	CONCRETE COVER FOR PROTECTION FOR WATER LINE CROSSINGS	
	W-41	

AMERICAN Engineering
American Engineering Associates - Southeast, P.A.
4020 Westchase Boulevard, Suite 450
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919-469-1101

NORTH CAROLINA ENGINEERING ASSOCIATES SOUTHEAST C-3881 CERTIFICATE OF AUTHORIZATION

PRELIMINARY
NOT FOR CONSTRUCTION

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 36528 JAKOB P. KLEE

FOR INFORMATION, ONLY

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MERRITT RESERVE
UTILITY DETAILS
ROLESVILLE RD
WAKE COUNTY NC 27312

JOB NUMBER:	23-0004
CHECKED BY:	JK
DRAWN BY:	DH/MA/LL
DATE:	08/04/2025

SHEET TITLE:
UTILITY DETAILS

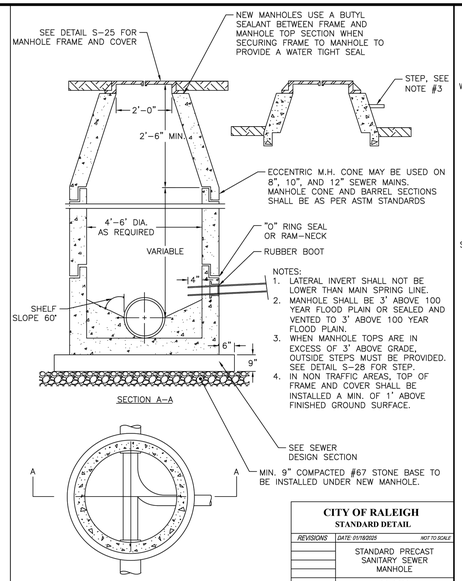
SHEET NO.:
CU-502

PROJECT NUMBER = CID-25-02

North Carolina 811 811 It's the Law!
*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

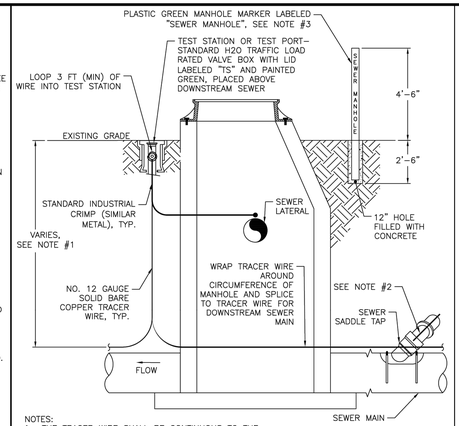
Z:\Jobs\23-0004 Merritt Property (RBD)\dwg_Working Dwgs\Sheets\Construction Set\S1. CU-500-509 UTILITY DETAILS.dwg

2025-09-03



CITY OF RALEIGH
STANDARD DETAIL

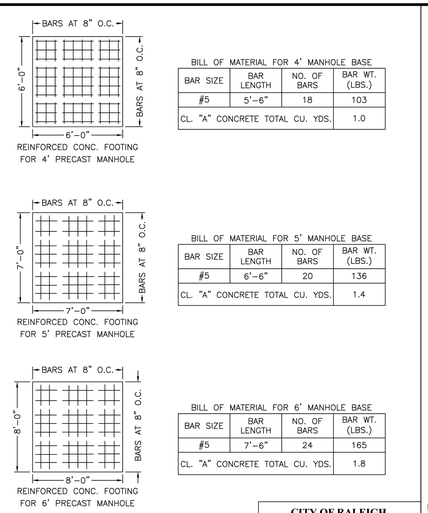
REVISIONS	DATE: 01/18/2025	NOT TO SCALE
	STANDARD PRECAST SANITARY SEWER MANHOLE	
	S-20	



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

CITY OF RALEIGH
STANDARD DETAIL

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



BILL OF MATERIAL FOR 4' MANHOLE BASE

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

BILL OF MATERIAL FOR 5' MANHOLE BASE

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

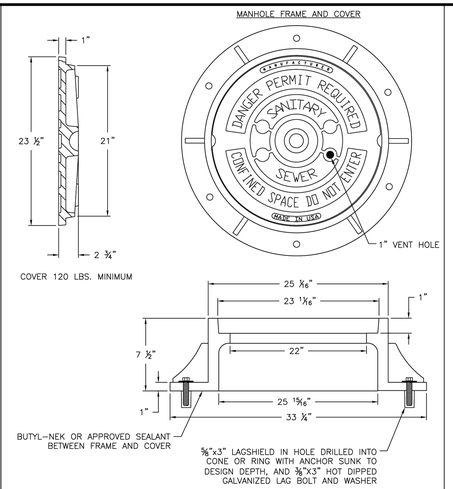
BILL OF MATERIAL FOR 6' MANHOLE BASE

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

* ALL BASES ARE MINIMUM 9" THICK

CITY OF RALEIGH
STANDARD DETAIL

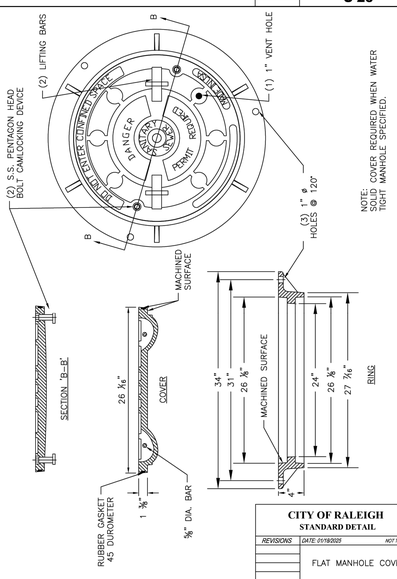
REVISIONS	DATE: 01/18/2025	NOT TO SCALE
	EXTENDED BASE OR CAST-IN-PLACE REINFORCED CONCRETE BASE	
	S-21	



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

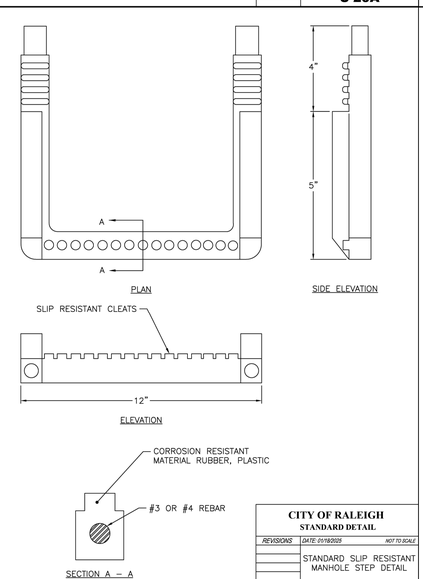
CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 01/18/2025	NOT TO SCALE
	STANDARD MANHOLE COVER	
	S-25	



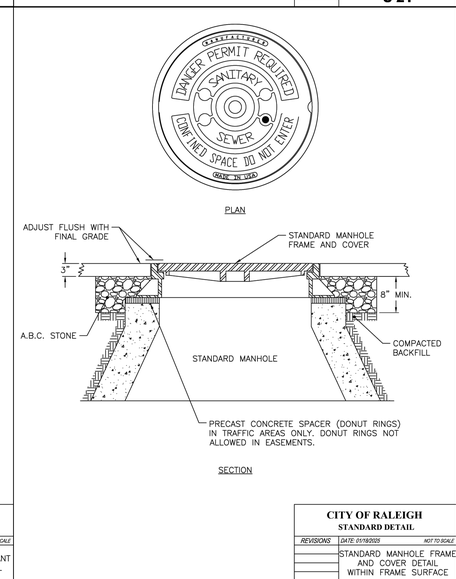
CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 01/18/2025	NOT TO SCALE
	FLAT MANHOLE COVER	
	S-25A	



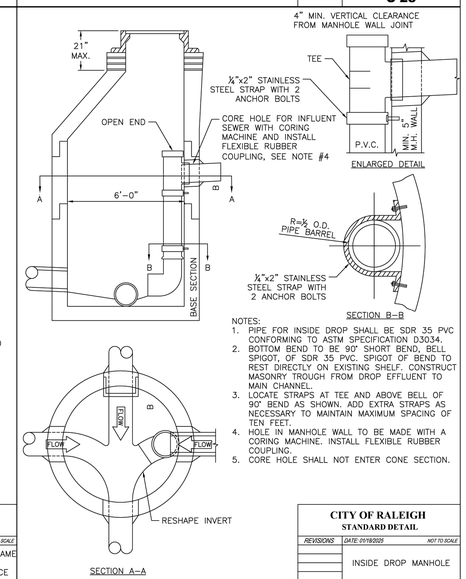
CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 01/18/2025	NOT TO SCALE
	STANDARD SLIP RESISTANT MANHOLE STEP DETAIL	
	S-28	



CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 01/18/2025	NOT TO SCALE
	STANDARD MANHOLE FRAME AND COVER DETAIL WITHIN FRAME SURFACE	
	S-29	



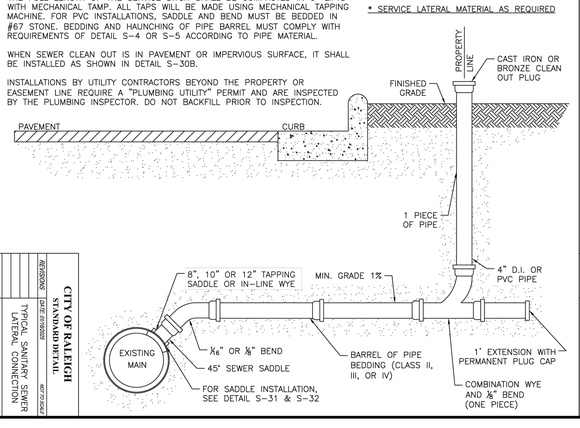
NOTES:
1. PIPE FOR INSIDE DROP SHALL BE SDR 35 PVC CONFORMING TO ASTM SPECIFICATION D3034.
2. BOTTOM BEND TO BE 90° SHORT BEND, BELL SPIGOT, OF SDR 35 PVC. SPIGOT OF BEND TO REST DIRECTLY ON EXISTING SHELF. CONSTRUCT MASONRY TROUGH FROM DROP EFFLUENT TO MAIN CHANNEL.
3. LOCATE STRAPS AT TEE AND ABOVE BELL OF 90° BEND AS SHOWN. ADD EXTRA STRAPS AS NECESSARY TO MAINTAIN MAXIMUM SPACING OF TEN FEET.
4. HOLE IN MANHOLE WALL TO BE MADE WITH A CORING MACHINE. INSTALL FLEXIBLE RUBBER COUPLING.
5. CORE HOLE SHALL NOT ENTER CONE SECTION.

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 01/18/2025	NOT TO SCALE
	INSIDE DROP MANHOLE	
	S-53	

NOTES:
1. THE FULL LENGTH OF THE SERVICE DITCH SHALL BE COMPACTED IN 6" LIFTS WITH MECHANICAL TAMP. ALL TAPS WILL BE MADE USING MECHANICAL TAPPING MACHINE. FOR PVC INSTALLATIONS, SADDLE AND BEND MUST BE BEDDED IN #67 STONE. BEDDING AND HAUNCHING OF PIPE BARREL MUST COMPLY WITH REQUIREMENTS OF DETAIL S-4 OR S-5 ACCORDING TO PIPE MATERIAL.
2. WHEN SEWER CLEAN OUT IS IN PAVEMENT OR IMPERVIOUS SURFACE, IT SHALL BE INSTALLED AS SHOWN IN DETAIL S-30B.
3. INSTALLATIONS BY UTILITY CONTRACTORS BEYOND THE PROPERTY OR EASEMENT LINE REQUIRE A "PLUMBING UTILITY" PERMIT AND ARE INSPECTED BY THE PLUMBING INSPECTOR. DO NOT BACKFILL PRIOR TO INSPECTION.

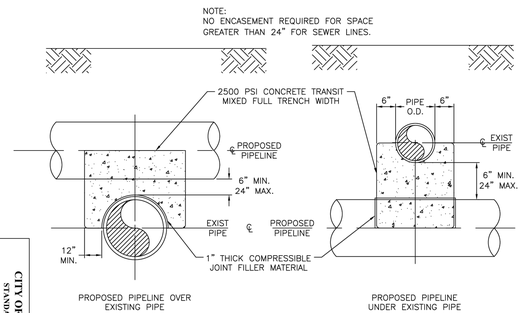
* SERVICE LATERAL MATERIAL AS REQUIRED



CITY OF RALEIGH
STANDARD DETAIL

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

NOTE:
NO ENCASEMENT REQUIRED FOR SPACE GREATER THAN 24" FOR SEWER LINES.



CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 01/18/2025	NOT TO SCALE
	CONCRETE CRADLE PROTECTION FOR SEWER LINE CROSSINGS	
	S-49	

PROJECT NUMBER = CID-25-02

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4020 Westchase Boulevard, Suite 450
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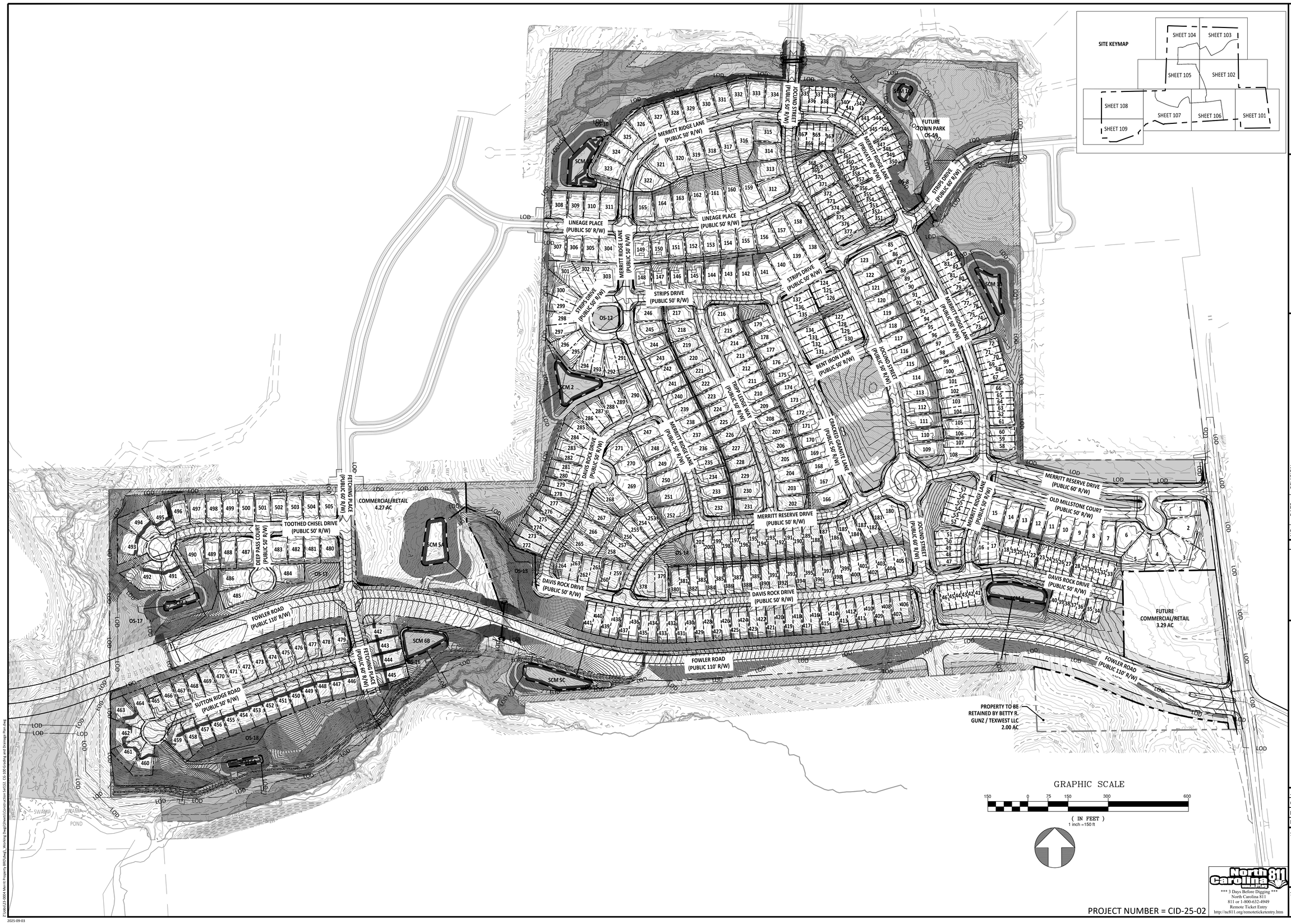
CHECKED BY:	JK
DRAWN BY:	DH/MA/LL
DATE:	08/04/2025

SHEET TITLE:
UTILITY DETAILS

SHEET NO.:
CU-503

North Carolina 811
*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

Z:\Jobs\23-0004 Merritt Property $80\Dwg_Working Dwgs\Sheets\Construction Set\S1\ CU-500-503 UTILITY DETAILS.dwg
2025-09-03



GRAPHIC SCALE

150 0 75 150 300 600

(IN FEET)
1 inch =150 ft

PROJECT NUMBER = CID-25-02

North Carolina 811
*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

AMERICAN Engineering
American Engineering Associates - Southeast, P.A.
4020 Westchase Boulevard, Suite 450
Raleigh, NC 27607
919-469-1101

NORTH CAROLINA AMERICAN ENGINEERING ASSOCIATES SOUTHEAST C-3881 CERTIFICATE OF AUTHORIZATION

PRELIMINARY
PRELIMINARY
DO NOT USE FOR CONSTRUCTION
NORTH CAROLINA REGISTERED 36528 ENGINEER JAKOB P. KLEIN
FOR INFORMATION, ONLY

NO.	DATE	REVISION:
1	07-01-25	FIRST REVISION SET
2	08-05-25	SECOND WAKE COUNTY SUBMITTAL

STIPULATION FOR REUSE

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MERRITT RESERVE

GRADING AND DRAINAGE OVERALL PLAN

ROLESVILLE RD
WAKE COUNTY NC 27312

JOB NUMBER:	23-0004
CHECKED BY:	JK
DRAWN BY:	DH/MA/LL
DATE:	08/04/2025

SHEET TITLE:

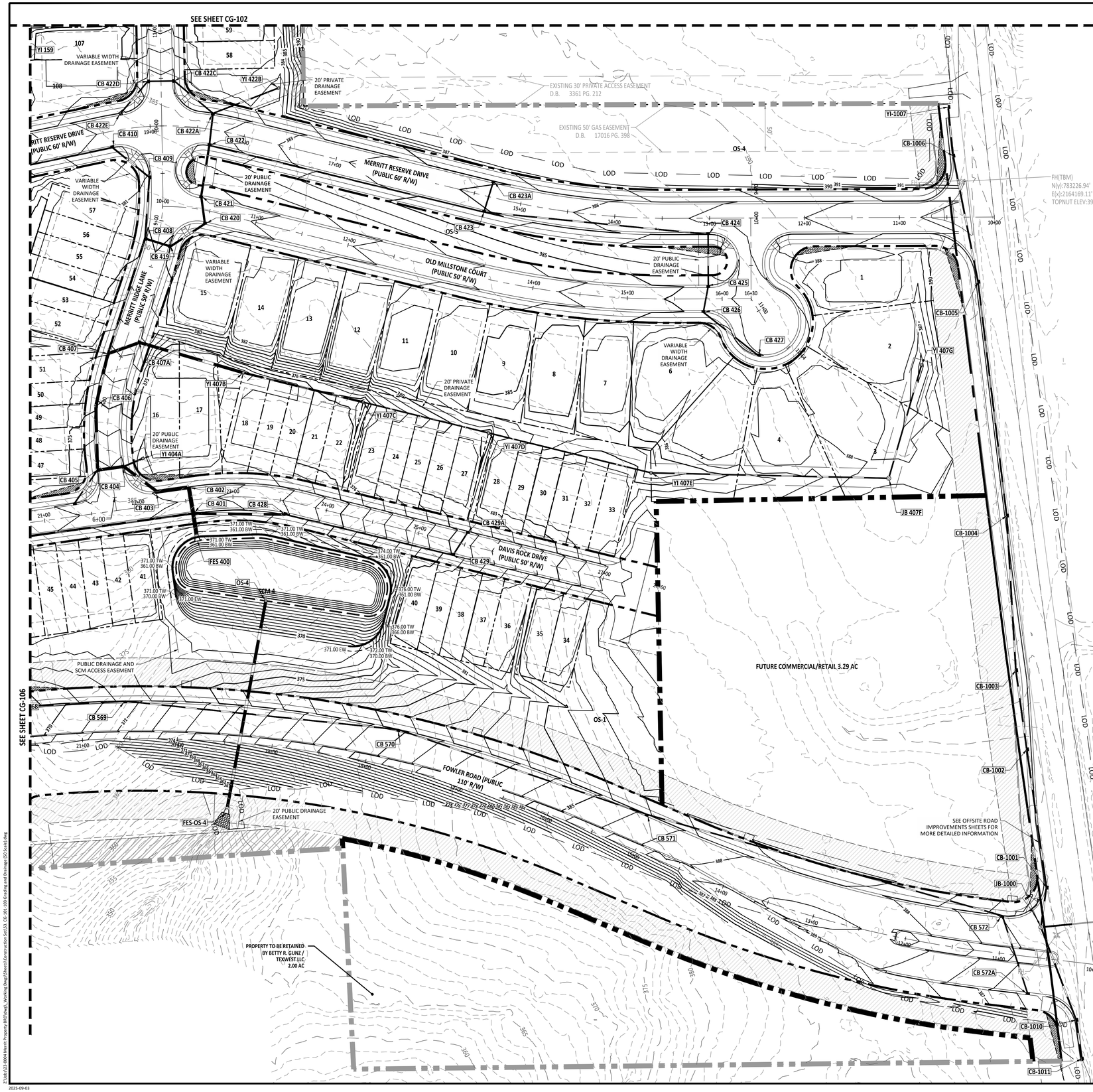
GRADING AND DRAINAGE OVERALL PLAN

SHEET NO.:

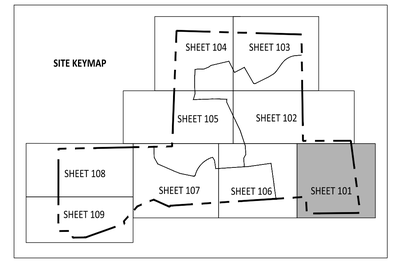
CG-100

Z:\Jobs\23-0004 Merritt Property (BRD)\dwg_Working Dwgs\Sheets\Construction Set\CG-100 Grading and Drainage Plan.dwg

2025-09-03



SITE KEYMAP



GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft

PROJECT NUMBER = CID-25-02

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919-469-1101

NORTH CAROLINA AMERICAN ENGINEERING ASSOCIATES SOUTHEAST C-3881 CERTIFICATE OF AUTHORIZATION

PRELIMINARY

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER 36528 JACOB P. KLEIN

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MERRITT RESERVE

GRADING AND DRAINAGE

ROLESVILLE RD
WAKE COUNTY NC 27312

JOB NUMBER:	23-0004
CHECKED BY:	JK
DRAWN BY:	DH/MA/LL
DATE:	08/04/2025

SHEET TITLE:

GRADING AND DRAINAGE

SHEET NO.:

CG-101

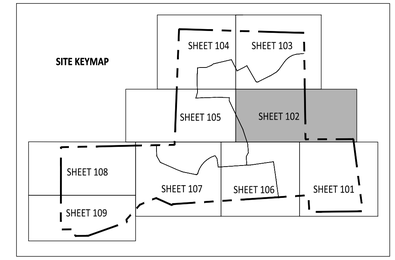
North Carolina 811 811

*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

Z:\Jobs\23-0004 Merritt Property BRP(Raw)_Working Dwgs\Sheets\Construction Set\CG_CG-101_103 Grading and Drainage (SS Scale).dwg

2025-09-03

N/F
OPTIMAL DEVELOPMENT, LLC
D.B. 18224 PAGE 1209
B.M. 1985 PAGE 1807
PIN# 1768.03-33-7689
LAND USE: VACANT
ZONING: RL



GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft

AMERICAN Engineering
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919-469-1101

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JAKOB P. KLEIN 36528 ENGINEER

FOR INFORMATION, ONLY

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MERRITT RESERVE

GRADING AND DRAINAGE

ROLESVILLE RD
WAKE COUNTY NC 27312

JOB NUMBER:	23-0004
CHECKED BY:	JK
DRAWN BY:	DH/MA/LL
DATE:	08/04/2025

SHEET TITLE:

GRADING AND DRAINAGE

SHEET NO.:

CG-102

PROJECT NUMBER = CID-25-02

North Carolina 811 Before You Dig
*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

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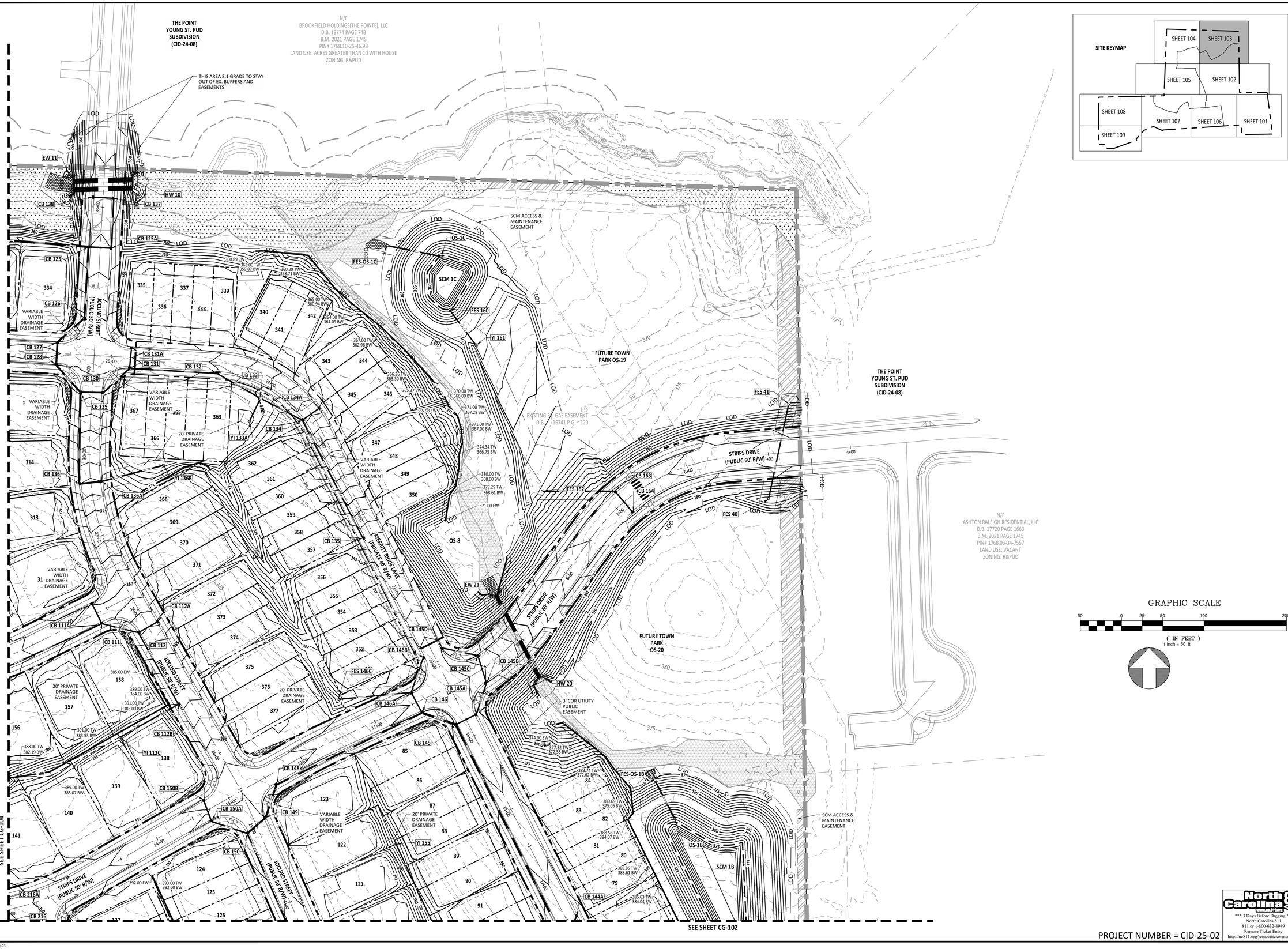
2025-09-03



PROJECT NUMBER = CID-25-02

AMERICAN Engineering
American Engineering Associates - Southeast, P.A.
4020 Westchase Boulevard, Suite 450
Raleigh, NC 27607
919-469-1101

NORTH CAROLINA AMERICAN ENGINEERING ASSOCIATES SOUTHEAST C-3881 CERTIFICATE OF AUTHORIZATION

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MERRITT RESERVE

GRADING AND DRAINAGE

ROLESVILLE RD
WAKE COUNTY NC 27312

JOB NUMBER:	23-0004
CHECKED BY:	JK
DRAWN BY:	DH/MA/LL
DATE:	08/04/2025

SHEET TITLE:

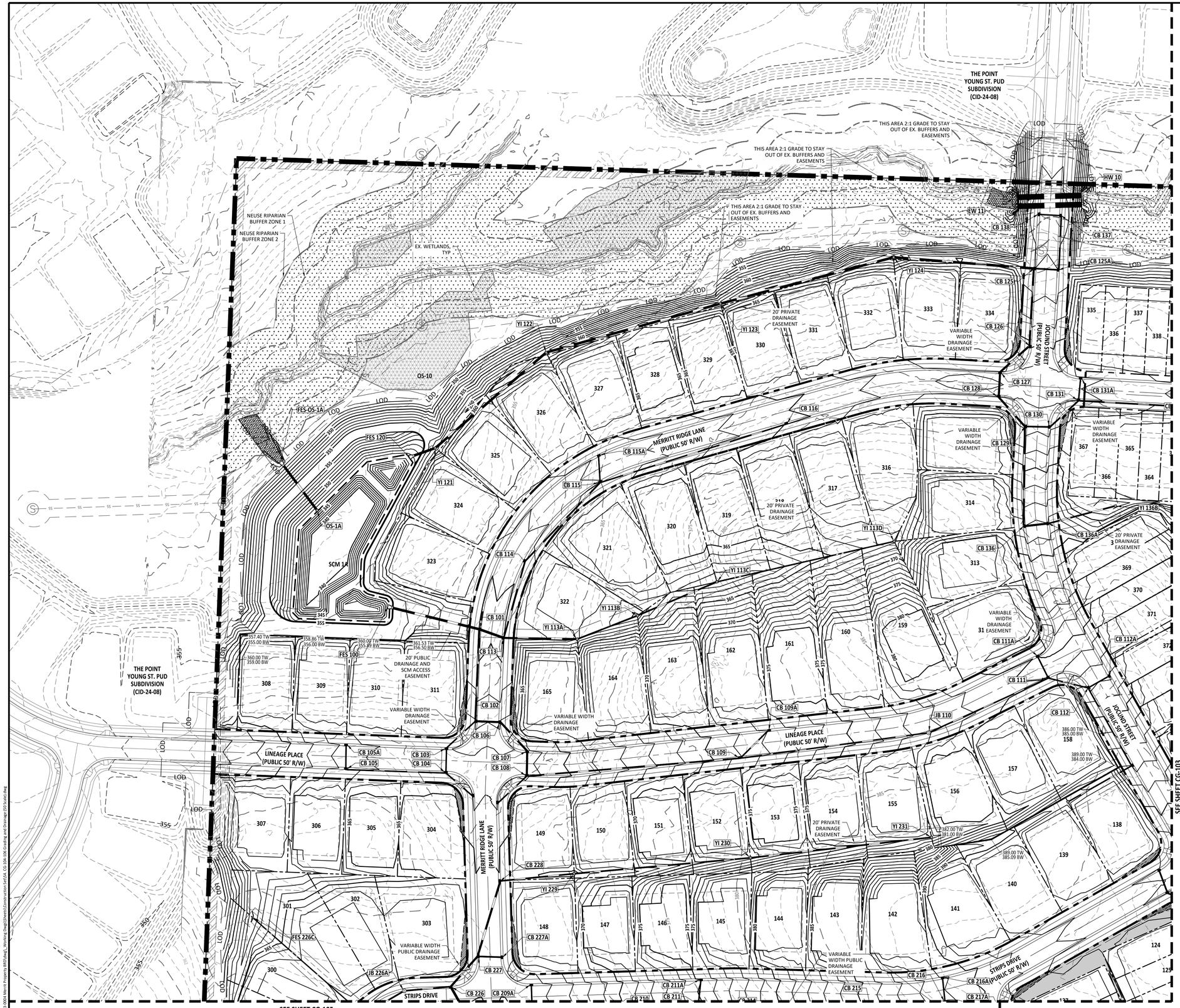
GRADING AND DRAINAGE

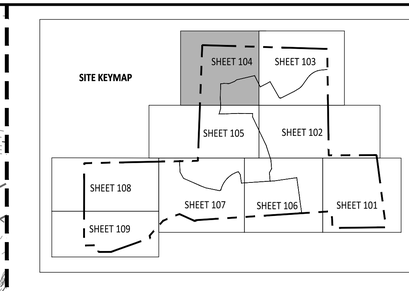
SHEET NO.:

CG-103

North Carolina 811 811 or 1-800-632-4949
*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

Z:\Job\23-0004 Merritt Property (BRD\Dwg_Working Dwgs\Sheets\Construction Set\CG-101-103 Grading and Drainage (GS's).dwg
2025-09-03





GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)

1 inch = 50 ft

PROJECT NUMBER = CID-25-02

AMERICAN Engineering

American Engineering Associates - Southeast, P.A.
4020 Westchase Boulevard, Suite 450
Raleigh, NC 27607
919-469-1101

NORTH CAROLINA ENGINEERING CORPORATION C-3881 CERTIFICATE OF AUTHORIZATION

AMERICAN ENGINEERING ASSOCIATES SOUTHEAST

PRELIMINARY

NOT RELEASED FOR CONSTRUCTION

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 36528 JAKOB P. KLEIN

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1	07-01-25	FIRST REVISION SET
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MERRITT RESERVE

GRADING AND DRAINAGE

ROLESVILLE RD
WAKE COUNTY NC 27312

JOB NUMBER:	23-0004
CHECKED BY:	JK
DRAWN BY:	DH/MA/LL
DATE:	08/04/2025

SHEET TITLE:

GRADING AND DRAINAGE

SHEET NO.:

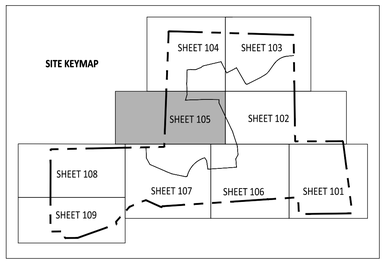
CG-104

North Carolina 811

*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

Z:\Jobs\23-0004 Merritt Property (810\Dwg_Working Dwgs\Sheets\Construction Set\CG-104-106 Grading and Drainage (GS Scale).dwg

2025-09-03



GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)

1 inch = 50 ft

PROJECT NUMBER = CID-25-02

AMERICAN Engineering
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4020 Westchase Boulevard, Suite 450
Raleigh, NC 27607
919-469-1101

NORTH CAROLINA AMERICAN ENGINEERING ASSOCIATES SOUTHEAST C-3881 CERTIFICATE OF AUTHORIZATION

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JAKOB P. KLEE 36528 ENGINEER
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MERRITT RESERVE

GRADING AND DRAINAGE

ROLESVILLE RD
WAKE COUNTY NC 27312

JOB NUMBER:	23-0004
CHECKED BY:	JK
DRAWN BY:	DH/MA/LL
DATE:	08/04/2025

SHEET TITLE:

GRADING AND DRAINAGE

SHEET NO.:

CG-105

North Carolina 811
*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

Z:\Jobs\23-0004 Merrit Property (BRD)\dwg_Working Dwgs\Sheets\Construction Set\CA_CG-104-106 Grading and Drainage (GS Scale).dwg

2025-09-03

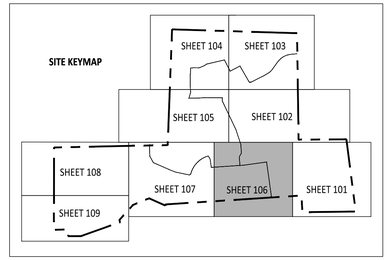
SEE SHEET CG-105

SEE SHEET CG-102

SEE SHEET CG-107

SEE SHEET CG-101

SITE KEYMAP



GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft

PROJECT NUMBER = CID-25-02

AMERICAN Engineering
American Engineering Associates - Southeast, P.A.
4020 Westchase Boulevard, Suite 450
Raleigh, NC 27607
919-469-1101

NORTH CAROLINA BOARD OF EXAMINERS FOR ENGINEERING AND SURVEYING
CERTIFICATE OF AUTHORIZATION
AMERICAN ENGINEERING ASSOCIATES SOUTHEAST
C-3881

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NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER
36528
JAKOB P. KLEIN
FOR INFORMATION, ONLY

NO.	DATE	REVISION:
1	07-01-25	FIRST REVISION SET
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MERRITT RESERVE

GRADING AND DRAINAGE

ROLESVILLE RD
WAKE COUNTY NC 27312

JOB NUMBER:	23-0004
CHECKED BY:	JK
DRAWN BY:	DH/MA/LL
DATE:	08/04/2025

SHEET TITLE:

GRADING AND DRAINAGE

SHEET NO.:

CG-106

North Carolina 811
811 it's the law!
*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

Z:\Job\23-0004 Merritt Property (BRP)\wip_ Working Dwgs\Sheets\Construction Set\04 CG-104-106 Grading and Drainage SSS Scale1.dwg

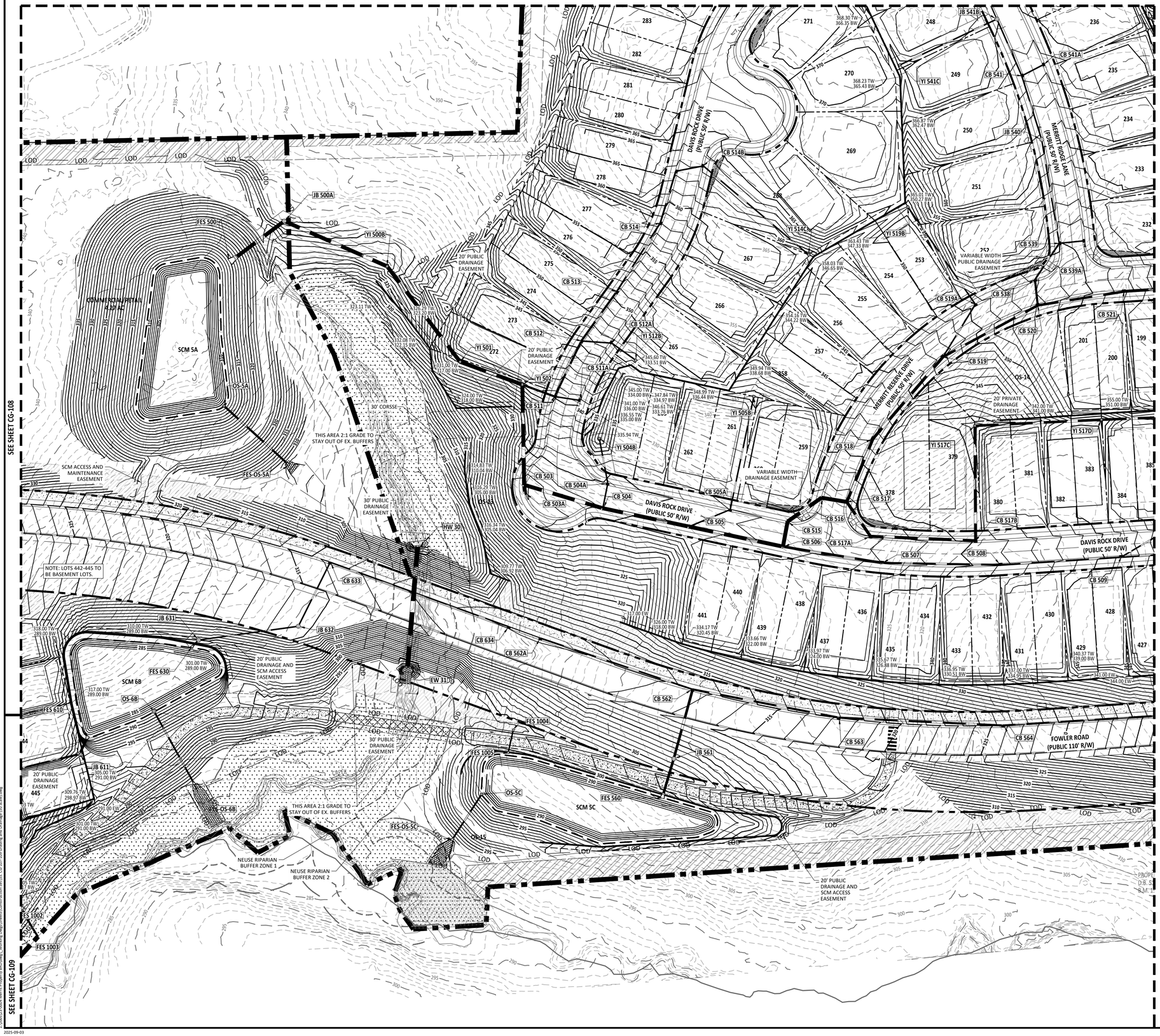
2025-09-03

SEE SHEET CG-105

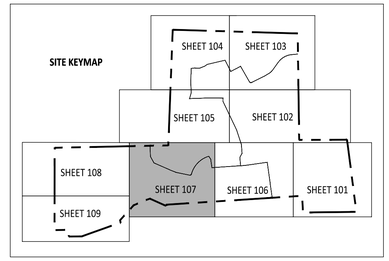
SEE SHEET CG-108

SEE SHEET CG-109

SEE SHEET CG-106



SITE KEYMAP



GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft

PROJECT NUMBER = CID-25-02

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American Engineering Associates - Southeast, P.A.
4020 Westchase Boulevard, Suite 450
Raleigh, NC 27607
919-469-1101

NORTH CAROLINA AMERICAN ENGINEERING ASSOCIATES SOUTHEAST C-3881 CERTIFICATE OF AUTHORIZATION

PRELIMINARY

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER 36528 JAKOB P. KLEIN

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MERRITT RESERVE

GRADING AND DRAINAGE

ROLESVILLE RD
WAKE COUNTY NC 27312

JOB NUMBER:	23-0004
CHECKED BY:	JK
DRAWN BY:	DH/MA/LL
DATE:	08/04/2025

SHEET TITLE:

GRADING AND DRAINAGE

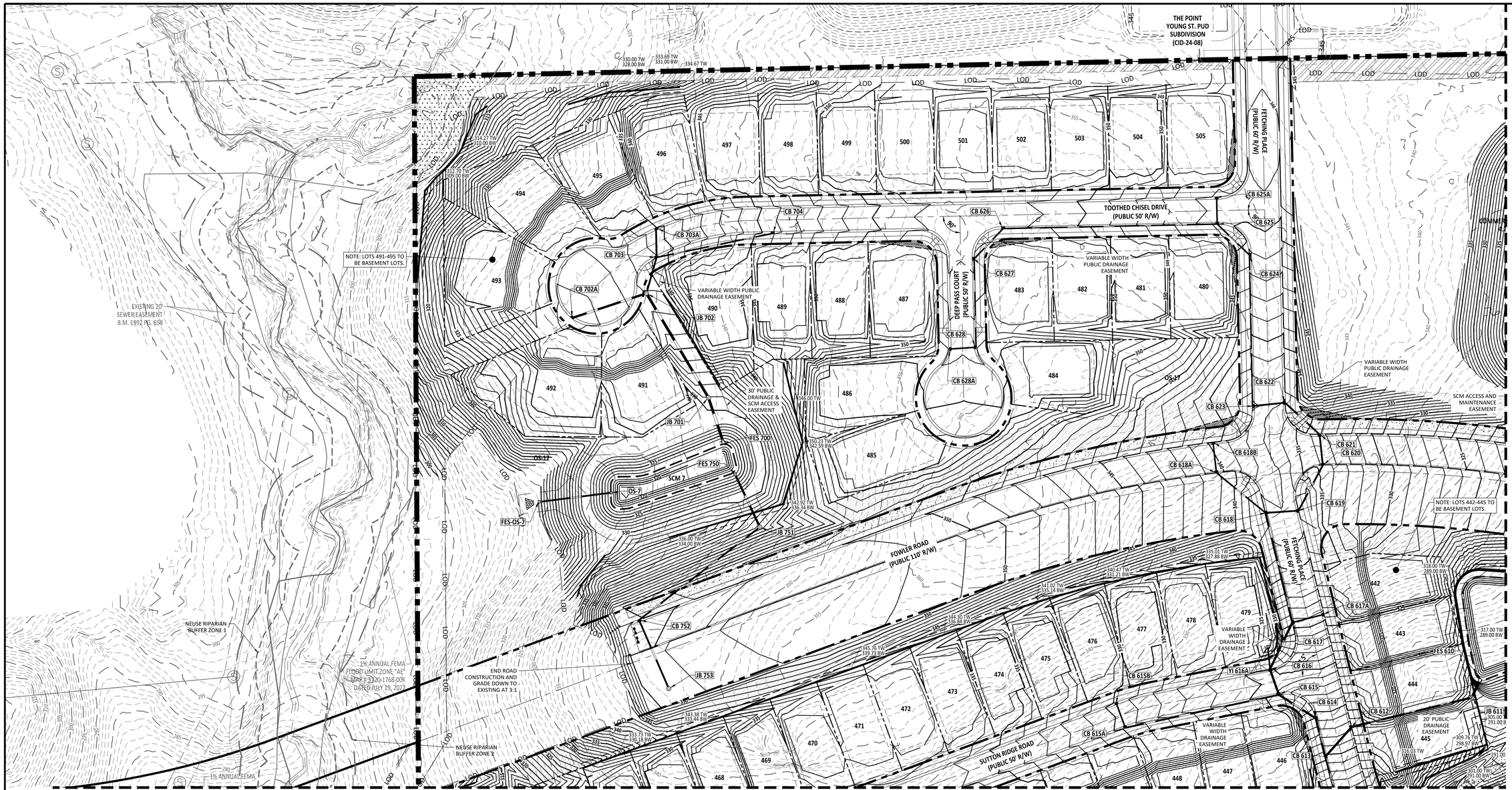
SHEET NO.:

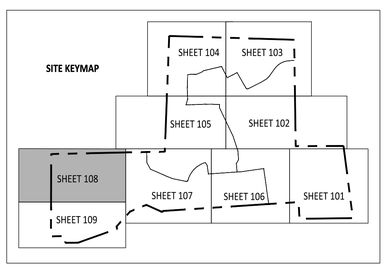
CG-107

North Carolina 811 811
*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

Z:\Jobs\23-0004 Merritt Property (BBP)\Mp\L_Working Dwgs\Sheets\Construction Set\CG_CG-107-109 Grading and Drainage-50 Scale.dwg

2025-09-03





GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft

PROJECT NUMBER = CID-25-02

North Carolina 811 — *** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

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4020 Westchase Boulevard, Suite 450
Raleigh, NC 27607
919-469-1101

NORTH CAROLINA — AMERICAN ENGINEERING ASSOCIATES SOUTHEAST — C-3881 — CERTIFICATE OF AUTHORIZATION

PRELIMINARY

NORTH CAROLINA — REGISTERED — 36528 — ENGINEER — JAXON P. KLEIN

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MERRITT RESERVE

GRADING AND DRAINAGE

ROLESVILLE RD
WAKE COUNTY NC 27312

JOB NUMBER:	23-0004
CHECKED BY:	JK
DRAWN BY:	DH/MA/LL
DATE:	08/04/2025

SHEET TITLE:

GRADING AND DRAINAGE

SHEET NO.:

CG-108

Z:\Jobs\23-0004 Merritt Property (BRD)\dwg_Working Dwgs\Sheets\Construction Set\SS_CG-107-109 Grading and Drainage-SS Set-R.dwg

2025-09-03