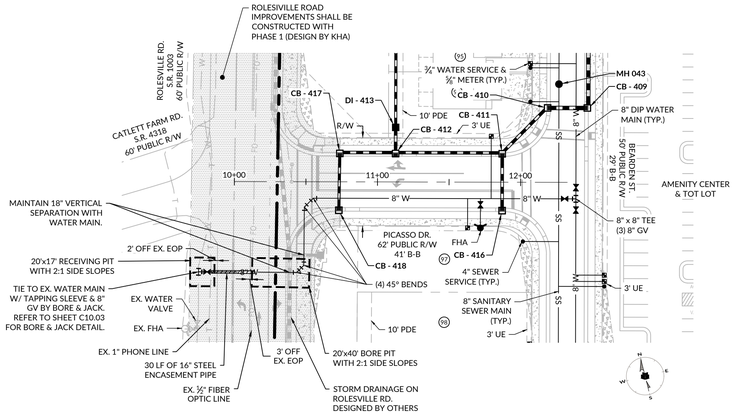
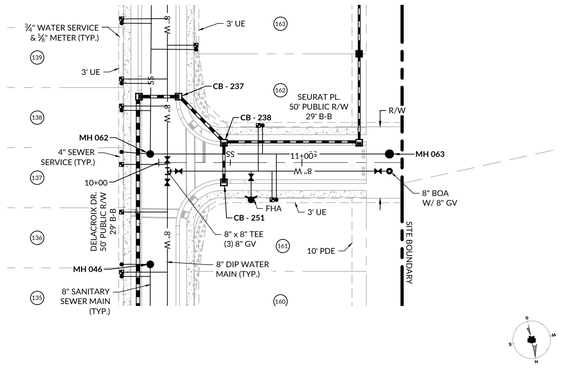




ATTENTION CONTRACTORS

THE CONTRACTOR RESPONSIBLE FOR THE EXTENSION OF WATER, SEWER, AND/OR REUSE, AS APPROVED IN THESE PLANS, IS RESPONSIBLE FOR CONTACTING THE INFRASTRUCTURE INSPECTIONS DIVISION AND SCHEDULE A PRE-CONSTRUCTION MEETING ON THE DEVELOPMENT PORTAL PRIOR TO BEGINNING ANY CONSTRUCTION.
RALEIGH WATER MUST BE CONTACTED AT (919) 996-4540 AT LEAST TWENTY-FOUR HOURS PRIOR TO BEGINNING ANY WORK ACTIVITY AROUND CRITICAL WATER AND SEWER INFRASTRUCTURE.

FAILURE TO NOTIFY CITY DEPARTMENTS IN ADVANCE OF BEGINNING CONSTRUCTION, WILL RESULT IN THE ISSUANCE OF MONETARY FINES, AND REQUIRE REINSTALLATION OF ANY WATER OR SEWER FACILITIES NOT INSPECTED AS A RESULT OF THIS NOTIFICATION FAILURE.

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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.

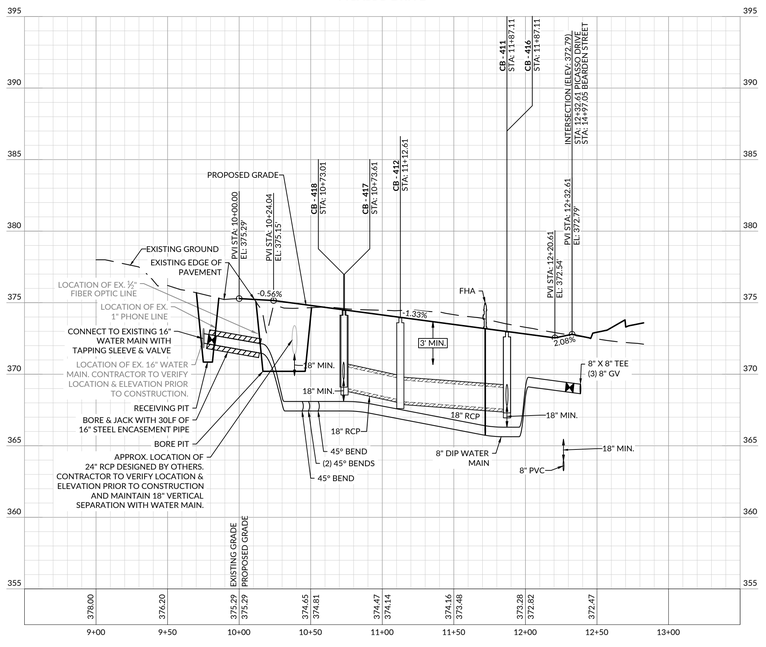
CITY OF RALEIGH
PUBLIC UTILITIES DEPARTMENT PERMIT # W-4192

PUBLIC
SEWER COLLECTION / EXTENSION SYSTEM

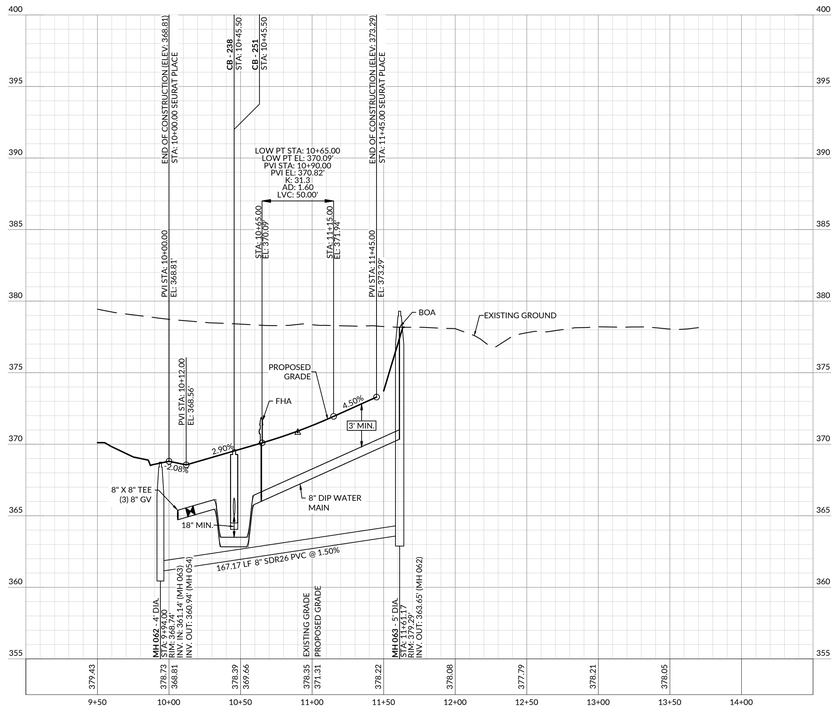
THE CITY OF RALEIGH CONSENTS TO THE CONNECTION AND EXTENSION OF THE CITY'S PUBLIC SEWER SYSTEM AS SHOWN ON THIS PLAN. THE MATERIAL AND CONSTRUCTION METHODS USED FOR THIS PROJECT SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE CITY'S PUBLIC UTILITIES HANDBOOK.

CITY OF RALEIGH
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PICASSO DRIVE



SEURAT PLACE



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NORTH CAROLINA PROFESSIONAL SEAL 058751 ENGINEER TERRENCE COOK

0 25 50
SCALE: 1 inch = 50 ft. H
1 inch = 5 ft. V

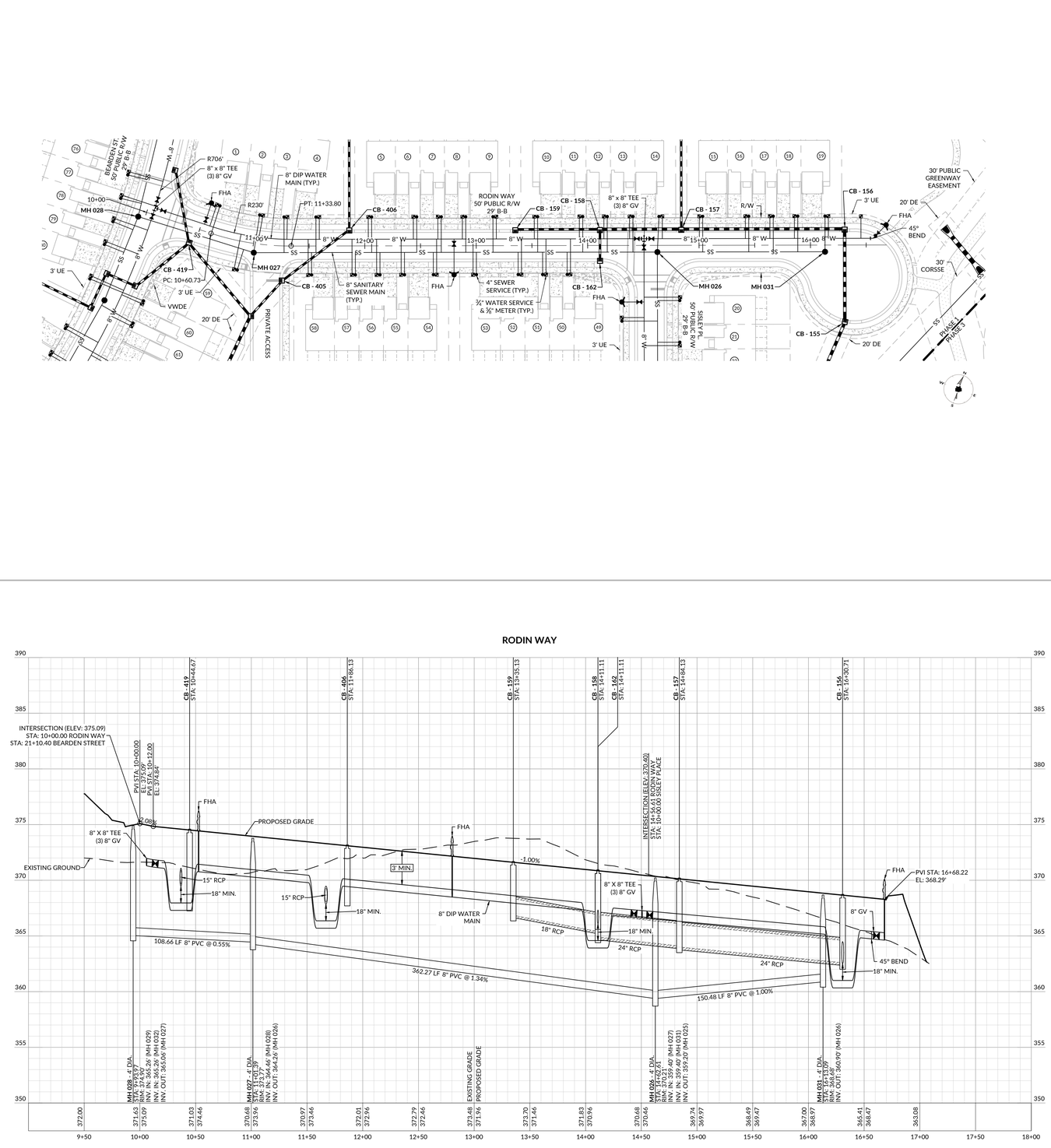
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REVISED PER WAKE CO. COMMENTS
4 - 05/01/2025
REVISED PER REVIEW COMMENTS
-

WR JOB NUMBER 23-0045
DRN: WR DGN: WR CKD: WR

PICASSO DRIVE & SEURAT PLACE PLAN & PROFILE

C8.01

J:\23\0045_pulte_windsor east\design\CAD\drawing sets\construction\C8.01 & 02 PICASSO DRIVE &SEURAT PLACE & ROGEN WAY PLAN & PROFILE.dwg Tuesday, April 29, 2025 2:24:39 PM - TCOOK



ATTENTION CONTRACTORS

THE CONTRACTOR RESPONSIBLE FOR THE EXTENSION OF WATER, SEWER, AND/OR REUSE, AS APPROVED IN THESE PLANS, IS RESPONSIBLE FOR CONTACTING THE INFRASTRUCTURE INSPECTIONS DIVISION AND SCHEDULE A PRE-CONSTRUCTION MEETING ON THE DEVELOPMENT PORTAL PRIOR TO BEGINNING ANY CONSTRUCTION.
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PUBLIC
WATER DISTRIBUTION / EXTENSION SYSTEM

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CITY OF RALEIGH
PUBLIC UTILITIES DEPARTMENT PERMIT # W-4192

PUBLIC
SEWER COLLECTION / EXTENSION SYSTEM

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NORTH CAROLINA
PROFESSIONAL
SEAL
058751
ENGINEER
TERRENCE COOK

SCALE: 1 inch = 50 ft. H
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INITIAL PLAN DATE: 11/01/2024
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REVISED PER REVIEW COMMENTS
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REVISED PER WAKE CO. COMMENTS
4 - 05/01/2025
REVISED PER REVIEW COMMENTS
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WR JOB NUMBER 23-0045
DRN: WR DGN: WR CKD: WR

RODIN WAY
PLAN & PROFILE

C8.02

j:\2\0045_public_workflow_assemblage\CAD\drawing sets\construction\C8.01-8.02 PICARDO DRIVE ELOPAT PLACE & RODIN WAY PLAN & PROFILE.dwg Monday, April 28, 2025 4:39:59 PM - TCOOK

PUBLIC
SEWER COLLECTION / EXTENSION SYSTEM

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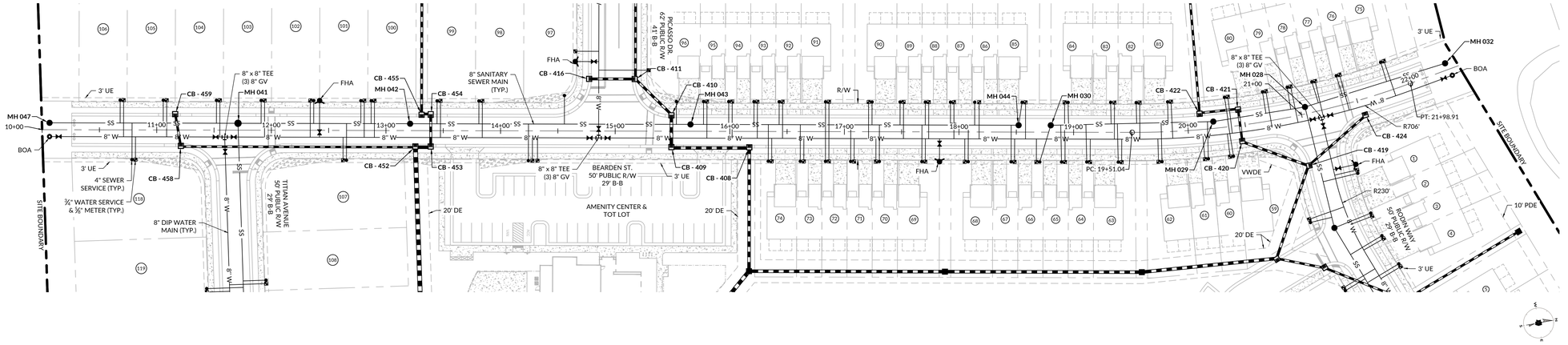
CITY OF RALEIGH
PUBLIC UTILITIES DEPARTMENT PERMIT # W-4192

ATTENTION CONTRACTORS

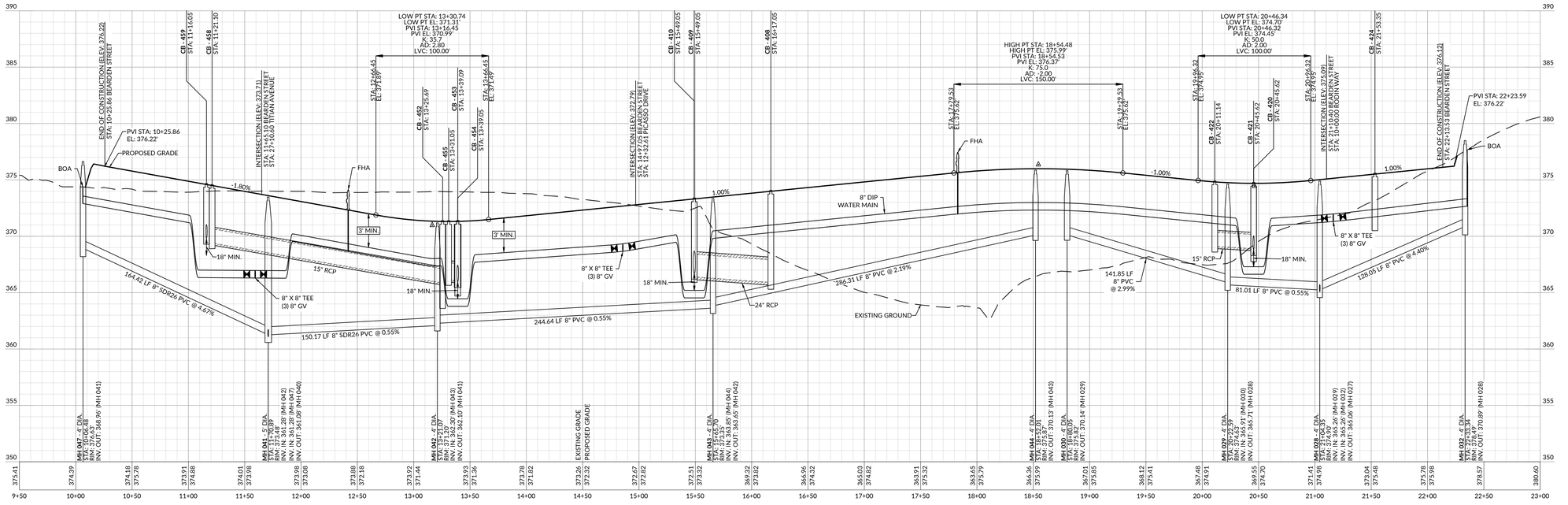
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BEARDEN STREET



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CONSTRUCTION INFRASTRUCTURE DRAWINGS

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NORTH CAROLINA PROFESSIONAL SEAL 058751 ENGINEER TERRENCE COOK

SCALE: 1 inch = 50 ft. H
1 inch = 5 ft. V

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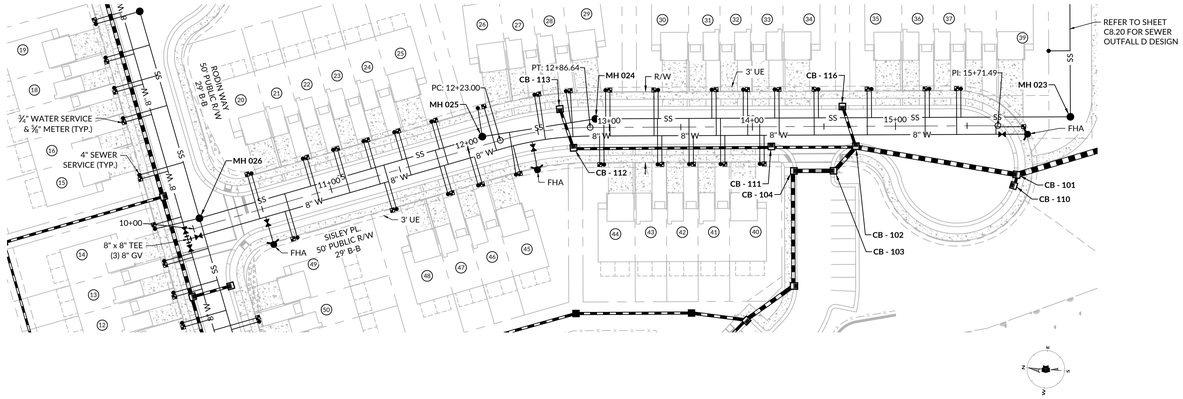
WR JOB NUMBER 23-0045
DRN: WR DGN: WR CKD: WR

BEARDEN STREET PLAN & PROFILE

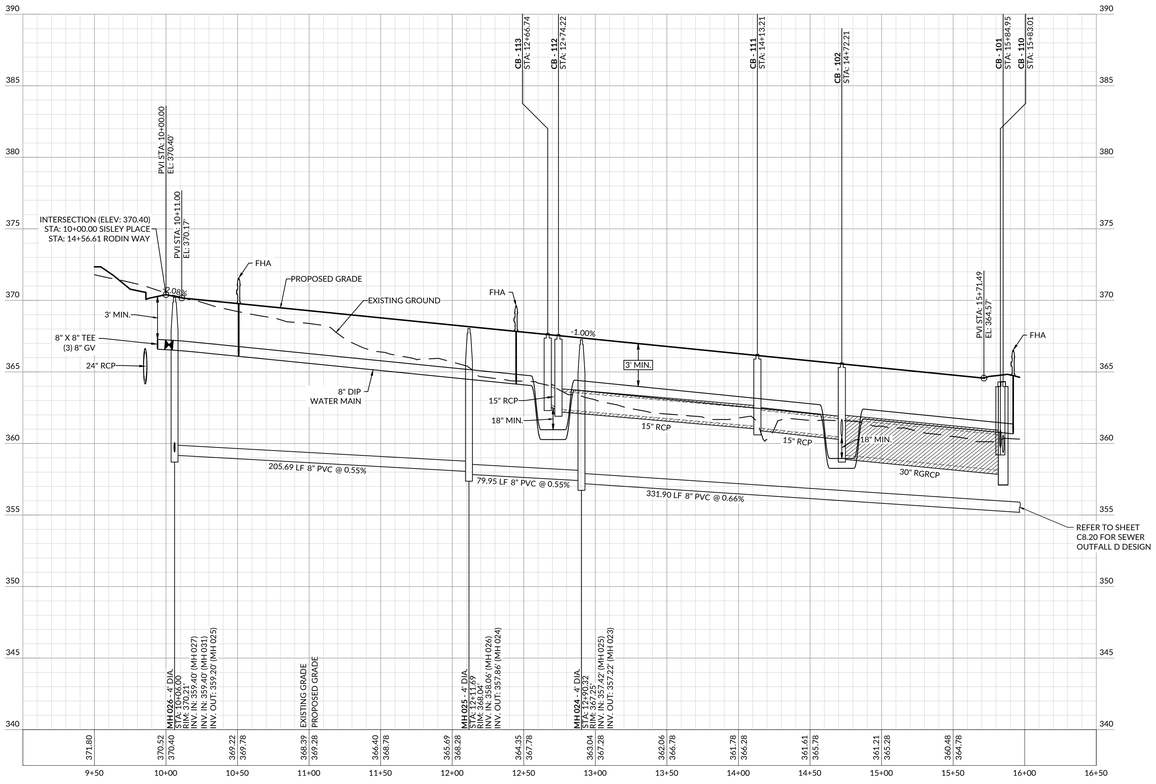
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SISLEY PLACE



ATTENTION CONTRACTORS

THE CONTRACTOR RESPONSIBLE FOR THE EXTENSION OF WATER, SEWER, AND/OR REUSE, AS APPROVED IN THESE PLANS, IS RESPONSIBLE FOR CONTACTING THE INFRASTRUCTURE INSPECTIONS DIVISION AND SCHEDULE A PRE-CONSTRUCTION MEETING ON THE DEVELOPMENT PORTAL PRIOR TO BEGINNING ANY CONSTRUCTION.
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PUBLIC
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CITY OF RALEIGH
PUBLIC UTILITIES DEPARTMENT PERMIT # W-4192

PUBLIC
SEWER COLLECTION / EXTENSION SYSTEM

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CITY OF RALEIGH
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NORTH CAROLINA PROFESSIONAL SEAL 058751 ENGINEER TERRENCE COOK

SCALE: 1 inch = 50 ft. H
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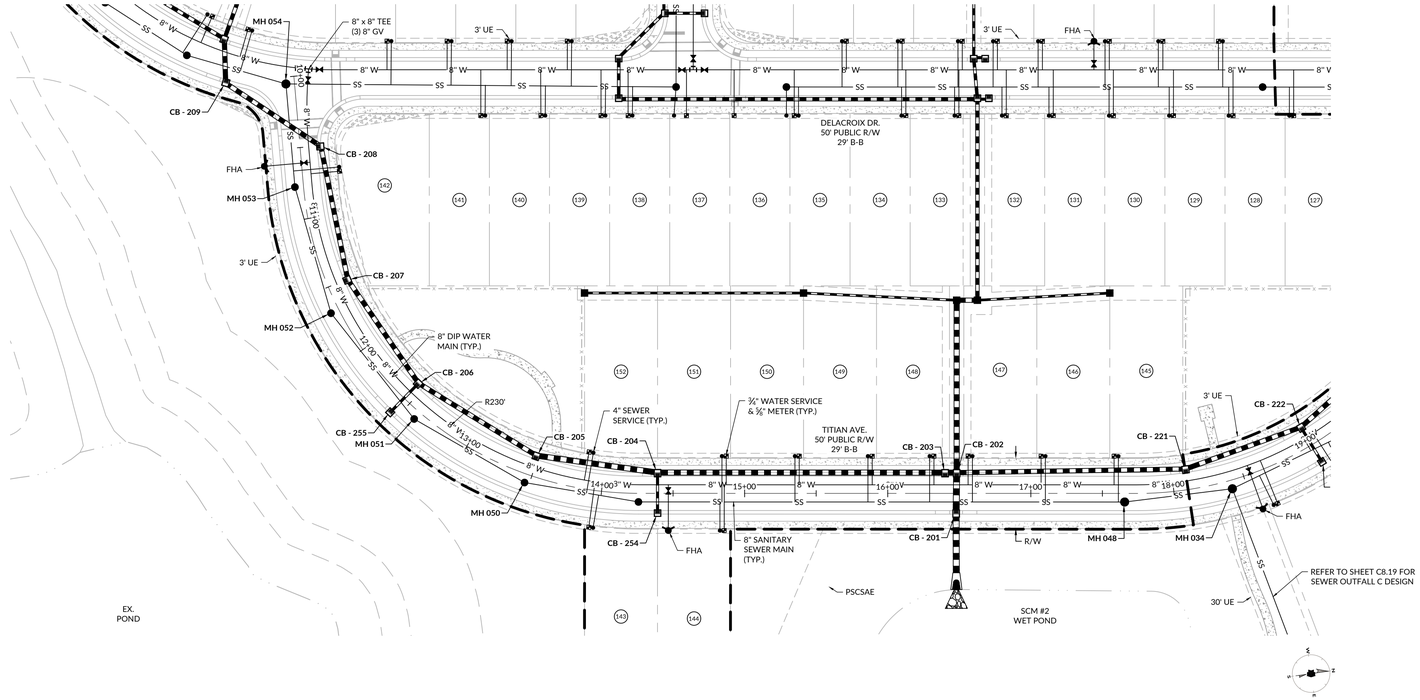
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REVISED PER REVIEW COMMENTS
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WR JOB NUMBER		23-0045
DRN: WR	DGN: WR	CKD: WR

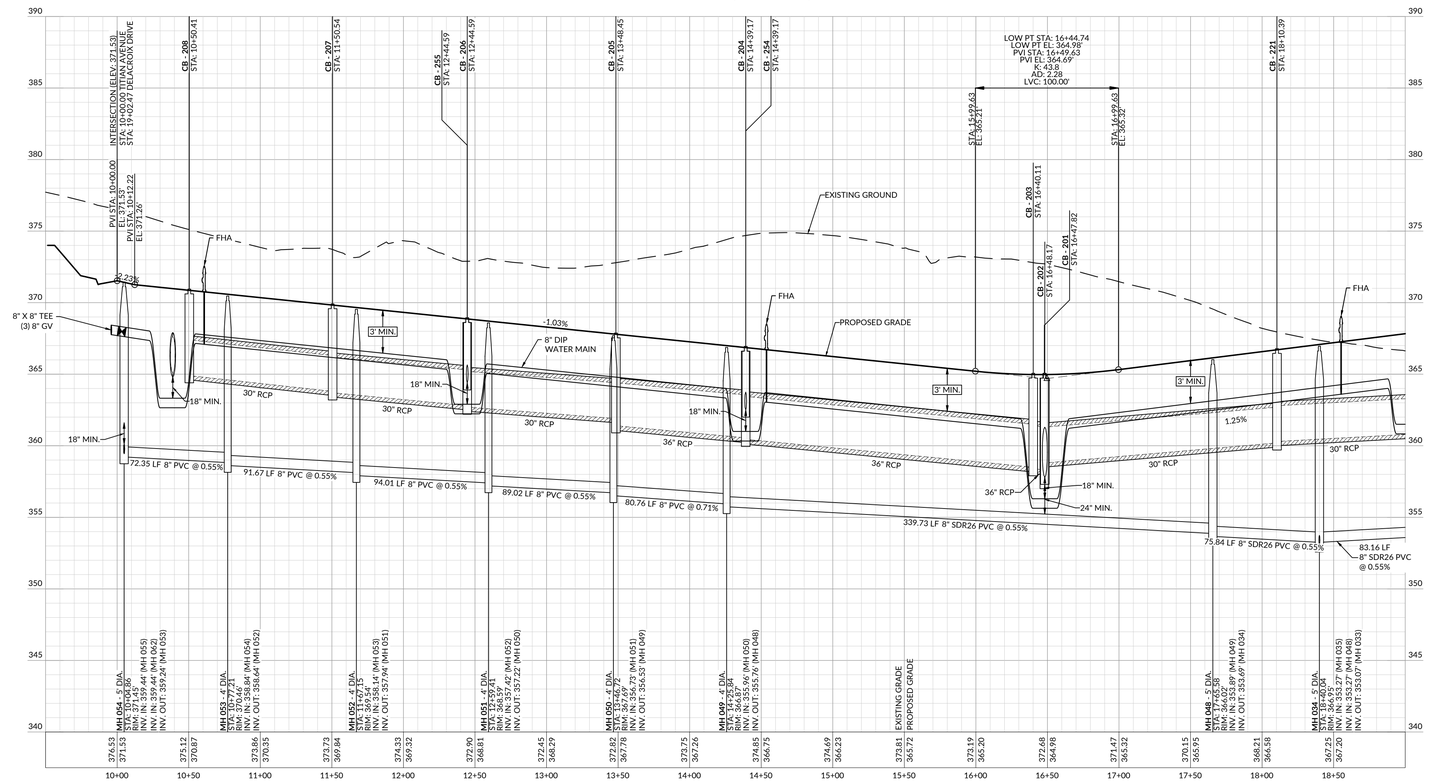
SISLEY PLACE PLAN & PROFILE

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TITIAN AVENUE (9+50 - 19+00)



ATTENTION CONTRACTORS

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PUBLIC
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PUBLIC
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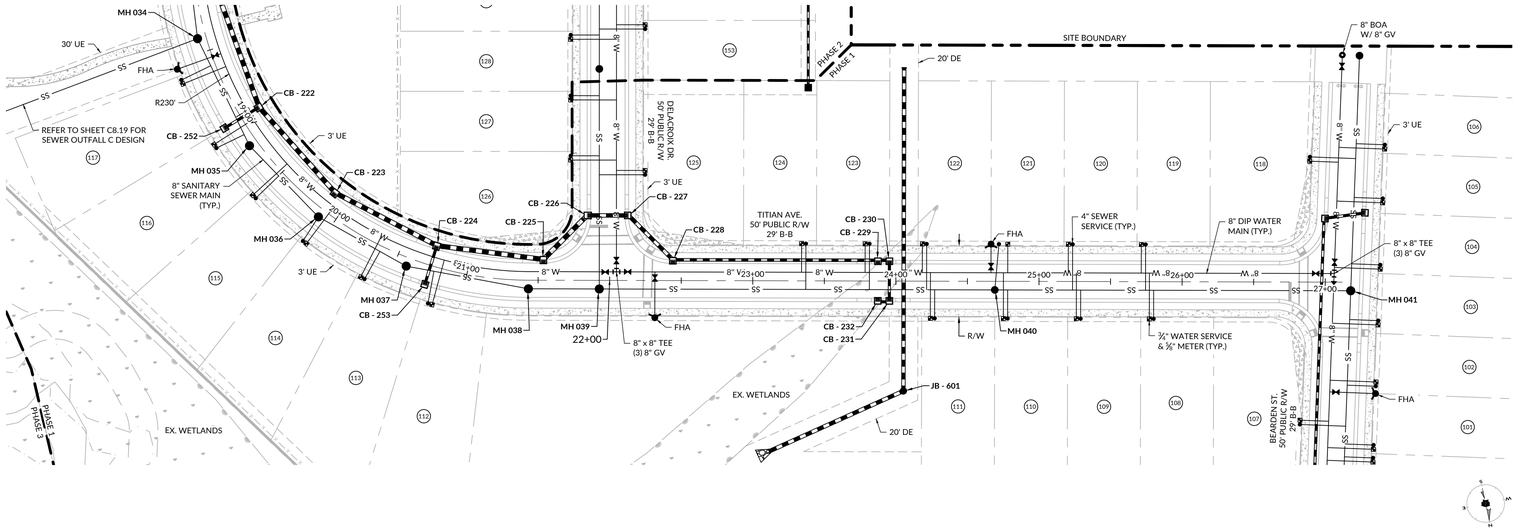
WR JOB NUMBER 23-0045
DRN: WR DGN: WR CKD: WR

TITIAN AVENUE
PLAN & PROFILE
(9+50 - 19+00)

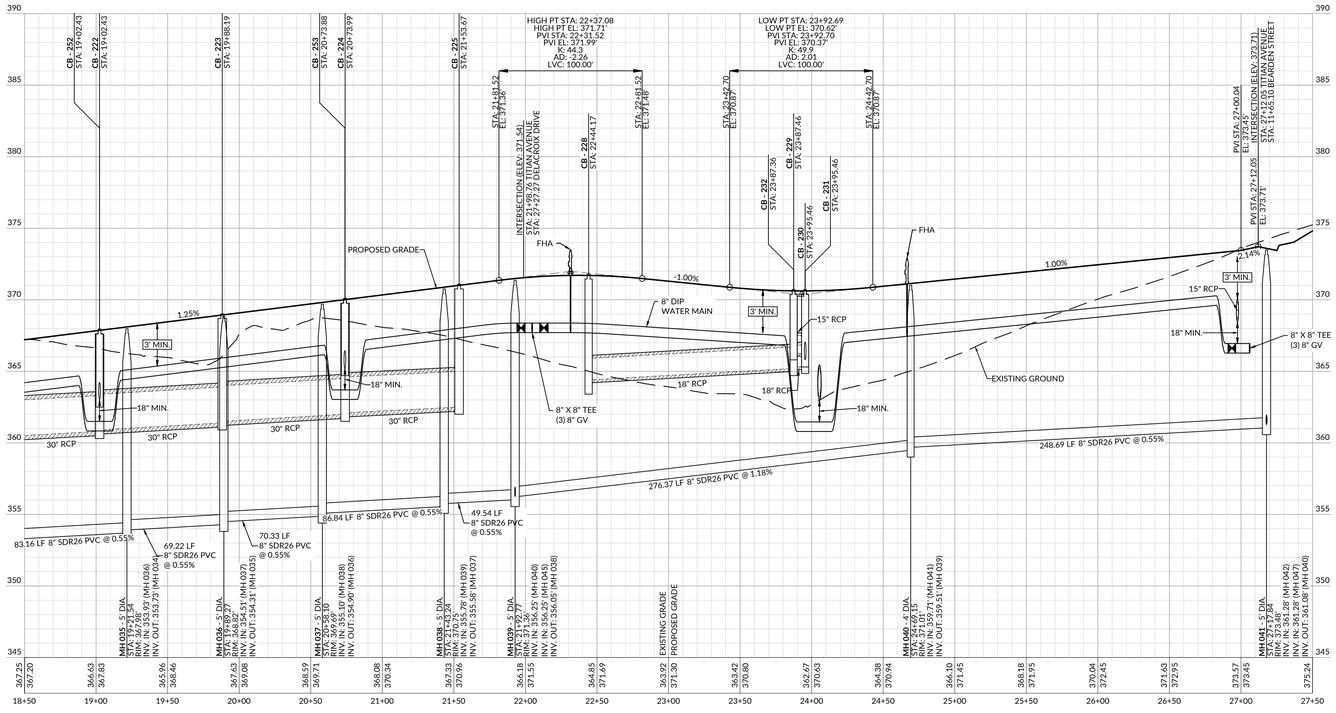
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TITIAN AVENUE (18+50 - 27+50)



ATTENTION CONTRACTORS

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PUBLIC
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CITY OF RALEIGH
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PUBLIC
SEWER COLLECTION / EXTENSION SYSTEM

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NORTH CAROLINA PROFESSIONAL SEAL 058751 ENGINEER TERRENCE COOK

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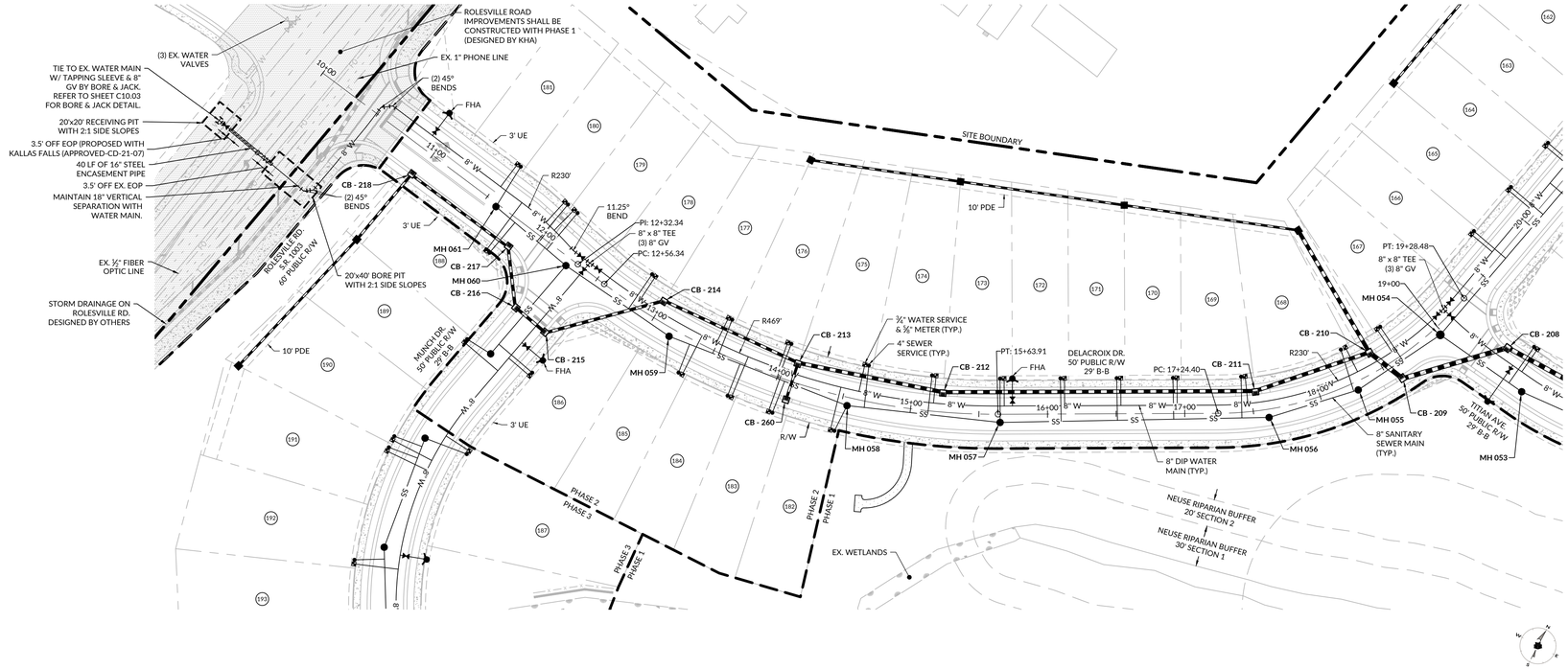
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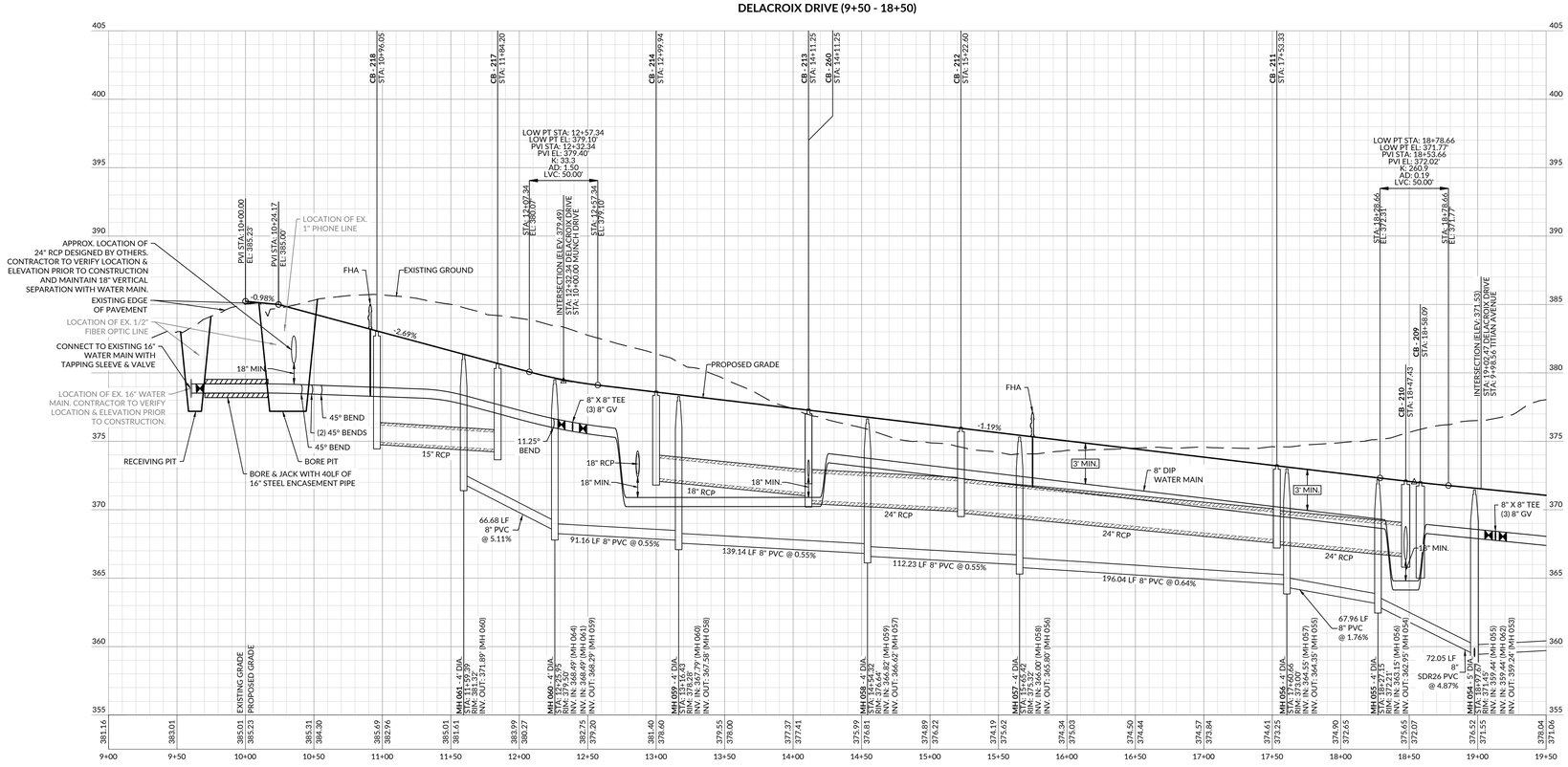
TITIAN AVENUE PLAN & PROFILE (18+50 - 27+50)

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DELACROIX DRIVE (9+50 - 18+50)



ATTENTION CONTRACTORS

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CITY OF RALEIGH
PUBLIC UTILITIES DEPARTMENT PERMIT # W-4192

PUBLIC
SEWER COLLECTION / EXTENSION SYSTEM

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NORTH CAROLINA PROFESSIONAL SEAL 058751 ENGINEER TERRENCE COOK

SCALE: 1 inch = 50 ft. H
1 inch = 5 ft. V

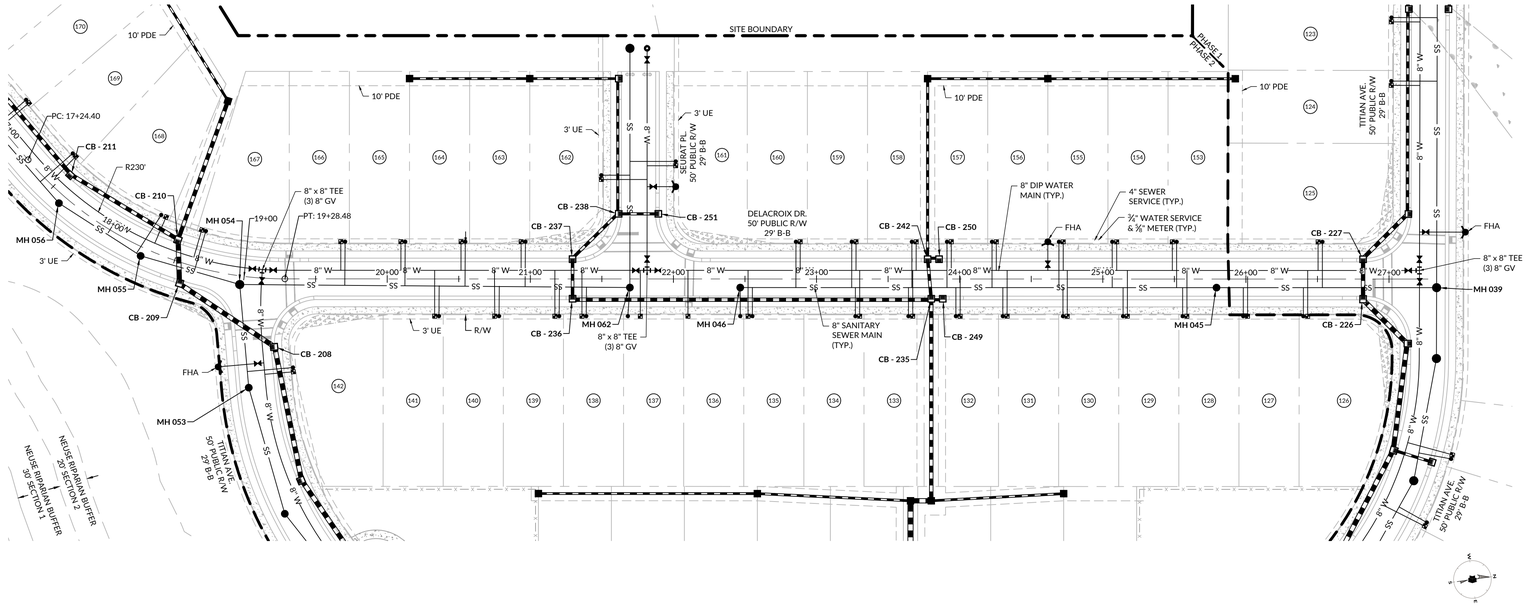
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REVISED PER REVIEW COMMENTS
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WR JOB NUMBER 23-0045
DRN: WR DGN: WR CKD: WR

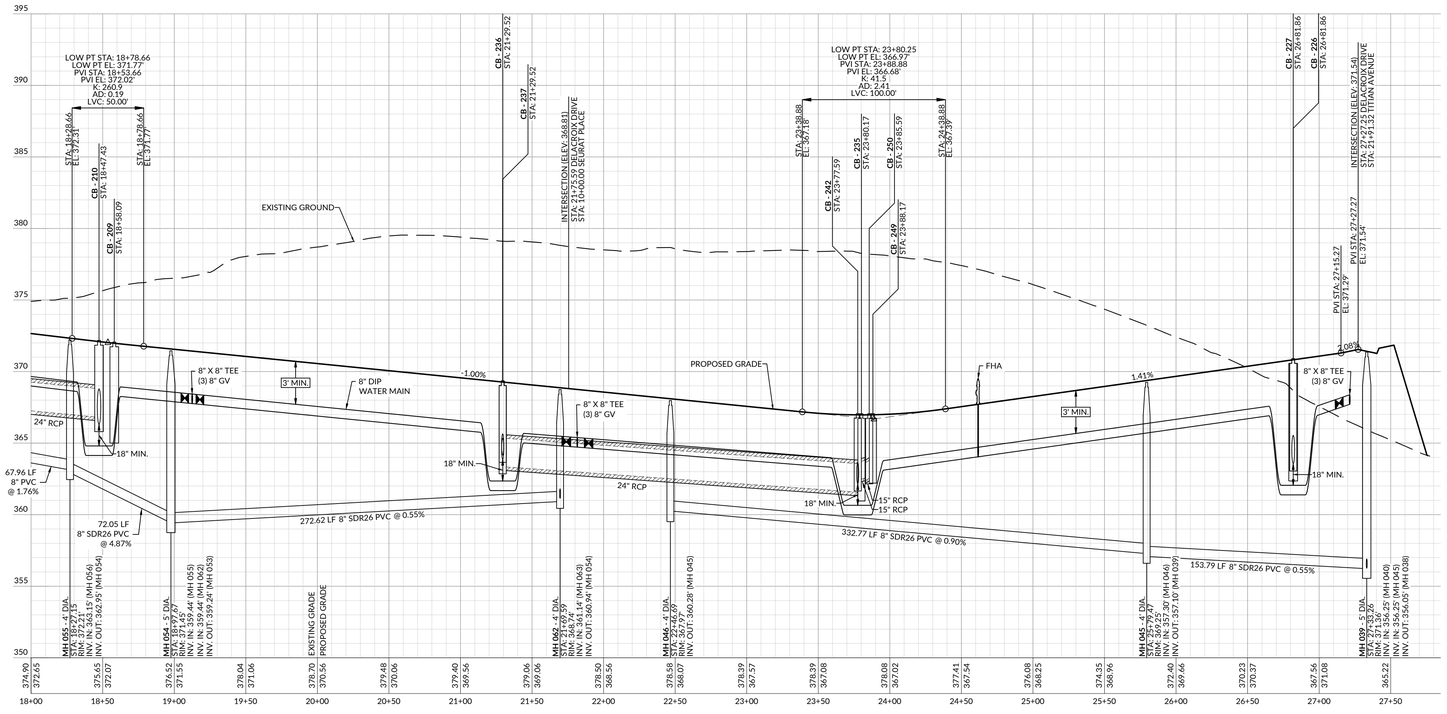
DELACROIX DRIVE PLAN & PROFILE (9+00 - 18+50)

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CITY OF RALEIGH
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PUBLIC
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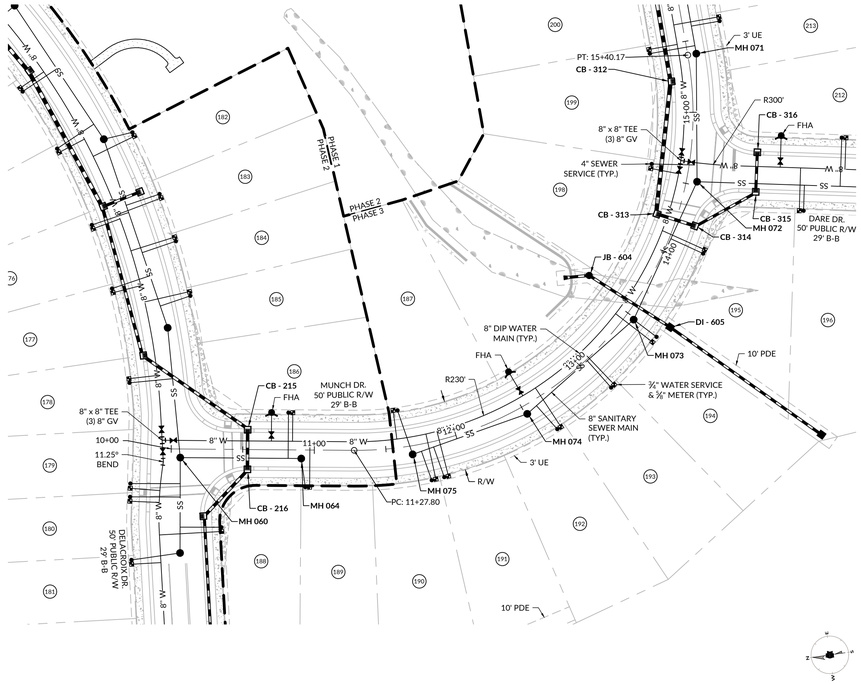
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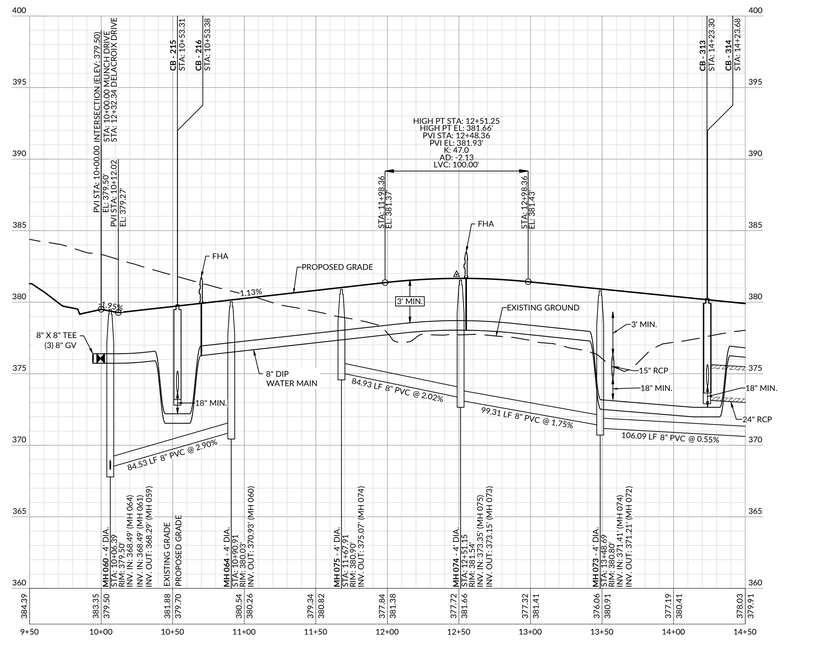
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DELACROIX DRIVE PLAN & PROFILE (18+50 - 27+50)

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MUNCH DRIVE
PLAN & PROFILE
(9+50 - 14+50)

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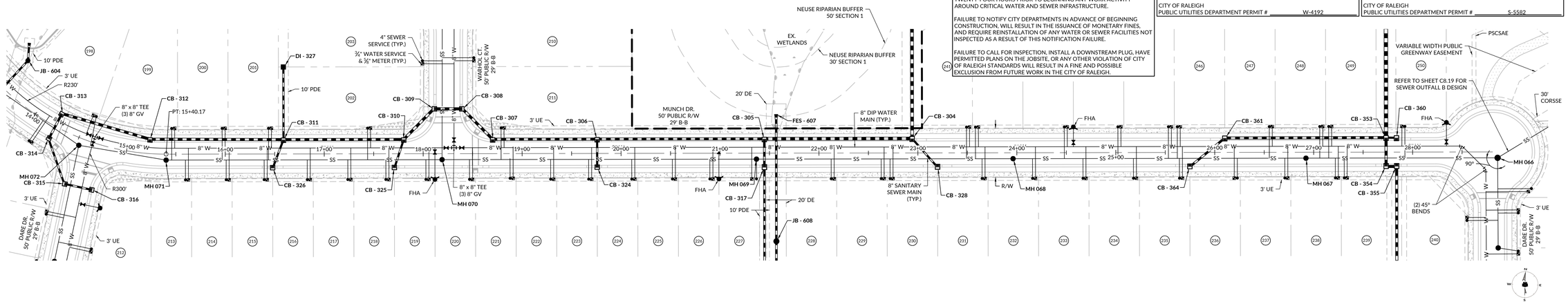
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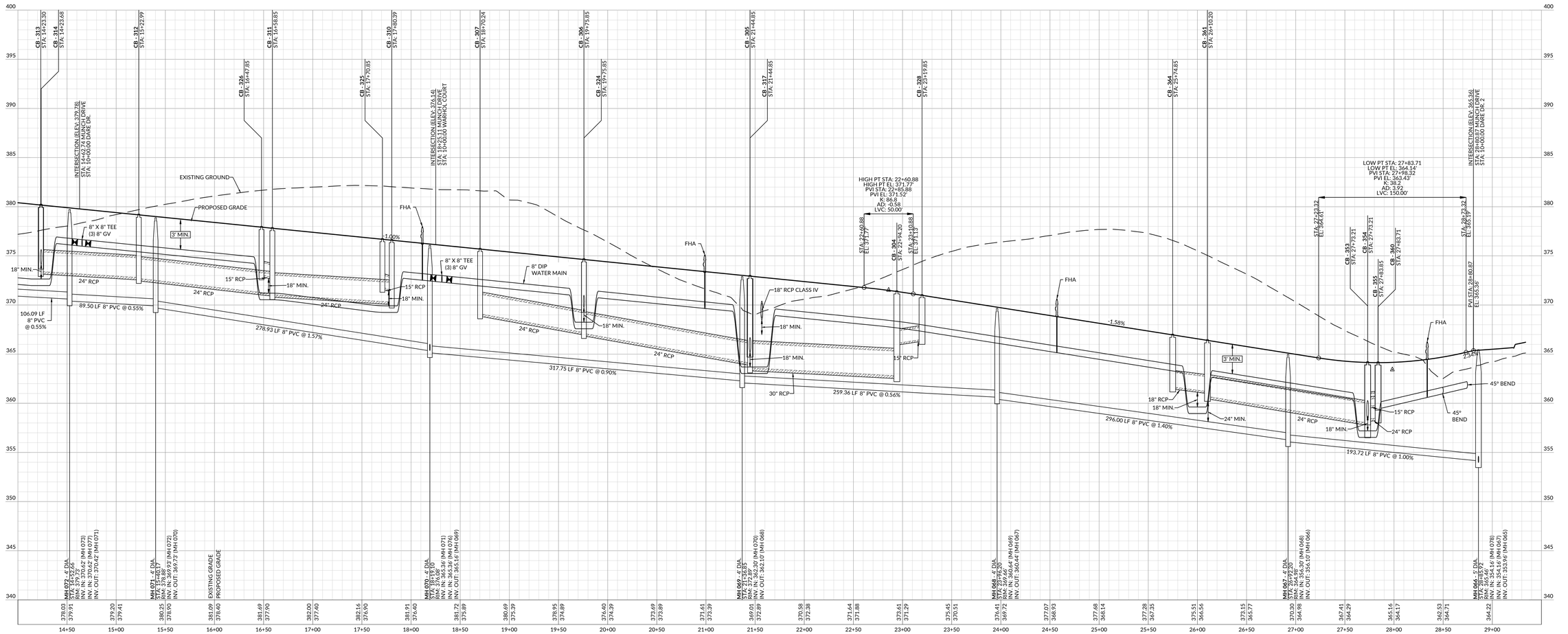
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MUNCH DRIVE (14+00-29+00)



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MUNCH DRIVE PLAN & PROFILE (14+50 - 29+50)

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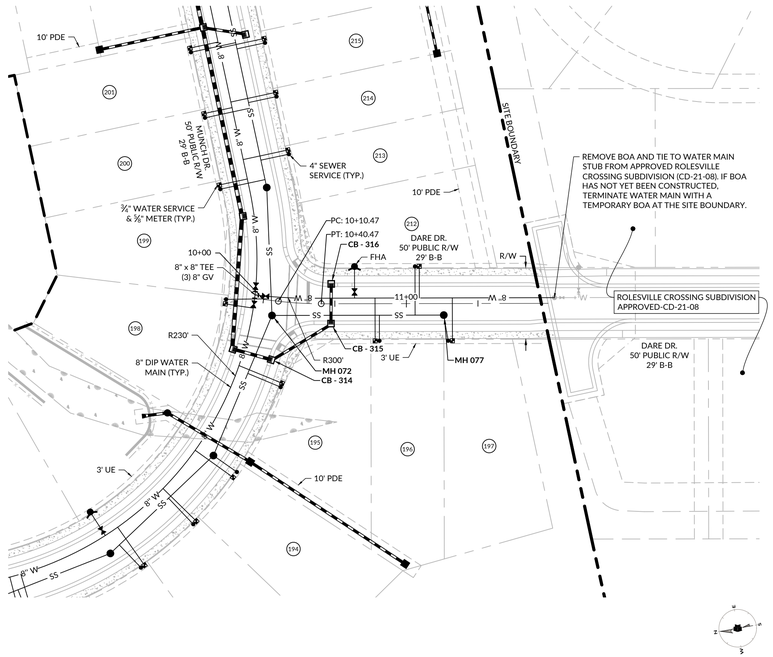
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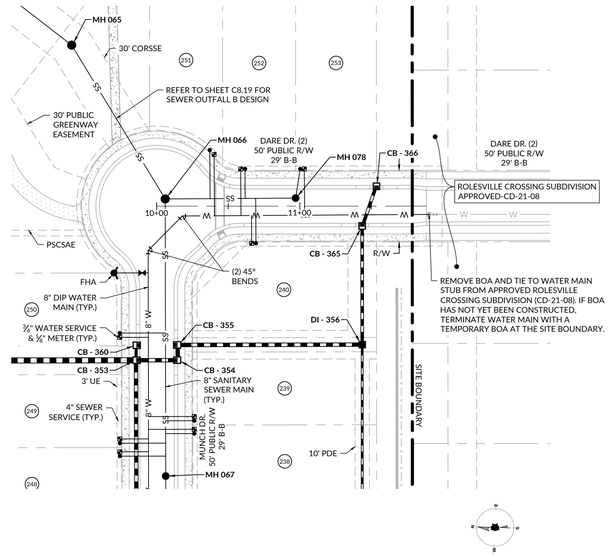
ATTENTION CONTRACTORS

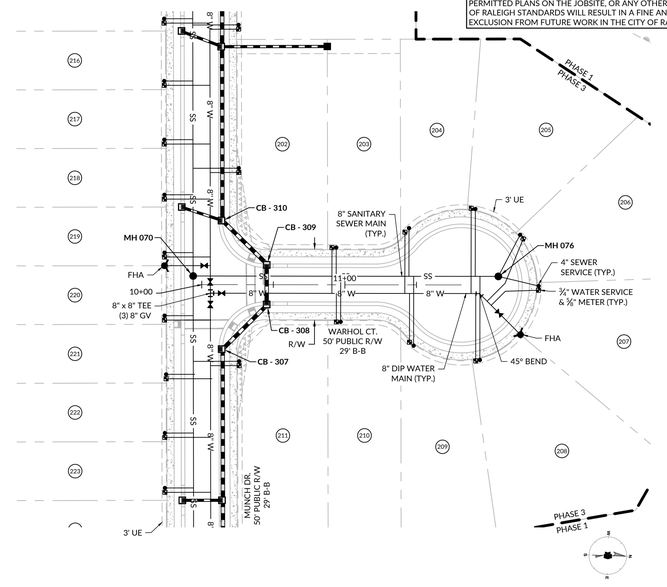
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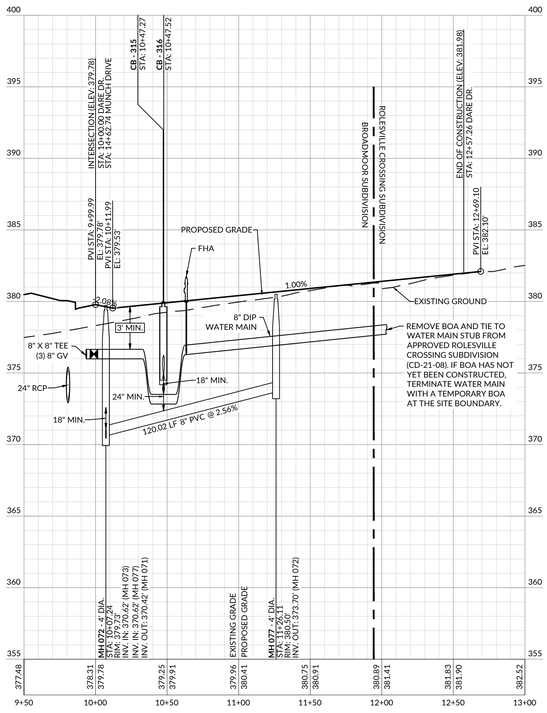
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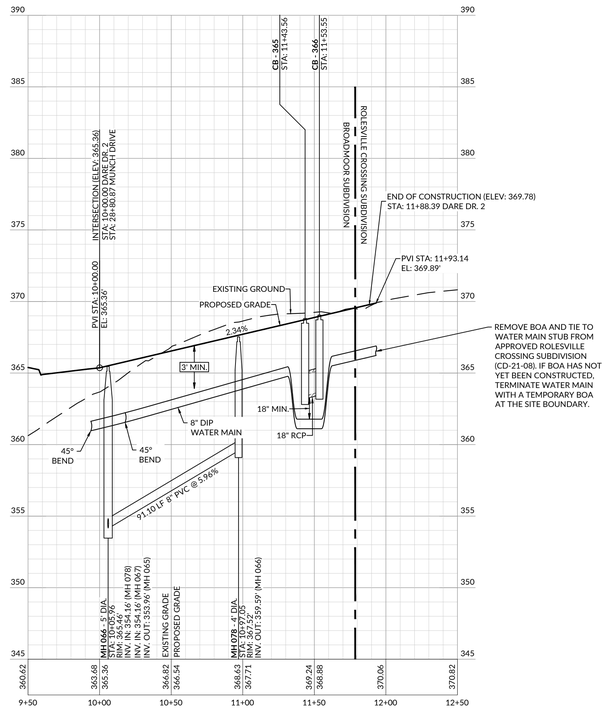




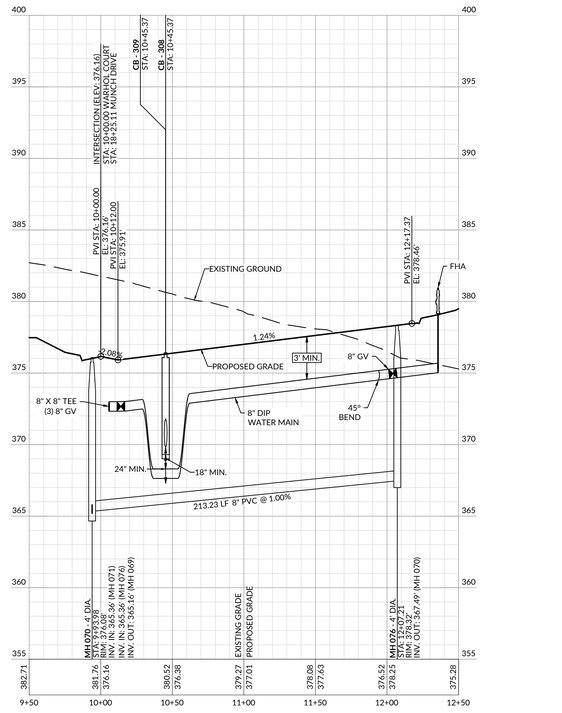
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DARE DR. (2)



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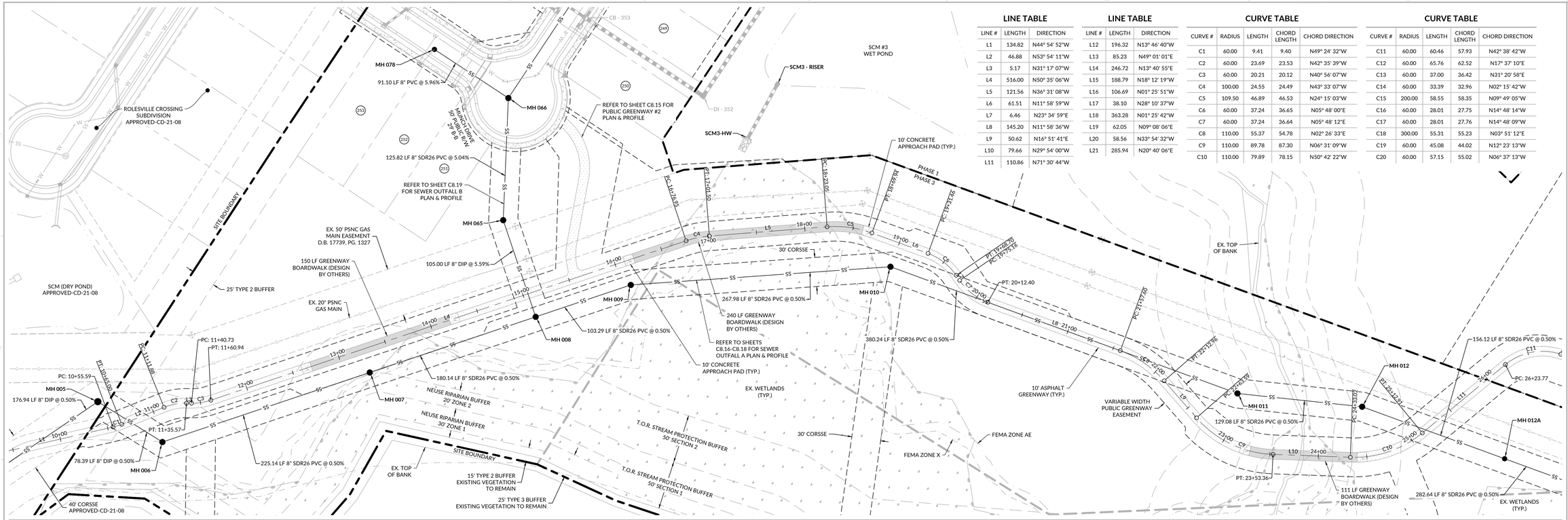
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DARE DRIVE & WARHOL COURT PLAN & PROFILE

C8.11

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LINE TABLE

LINE #	LENGTH	DIRECTION
L1	134.82	N44° 54' 52"W
L2	46.88	N53° 54' 11"W
L3	5.17	N31° 17' 07"W
L4	516.00	N50° 35' 06"W
L5	121.56	N36° 31' 08"W
L6	61.51	N11° 58' 59"W
L7	6.46	N23° 34' 59"E
L8	145.20	N11° 58' 36"W
L9	50.62	N16° 51' 41"E
L10	79.66	N29° 54' 00"W
L11	110.86	N71° 30' 44"W

LINE TABLE

LINE #	LENGTH	DIRECTION
L12	196.32	N13° 46' 40"W
L13	85.23	N49° 01' 01"E
L14	246.72	N13° 40' 55"E
L15	188.79	N18° 12' 19"W
L16	106.69	N01° 25' 51"W
L17	38.10	N28° 10' 37"W
L18	363.28	N01° 25' 42"W
L19	62.05	N09° 08' 06"E
L20	58.56	N33° 54' 32"W
L21	285.94	N20° 40' 06"E

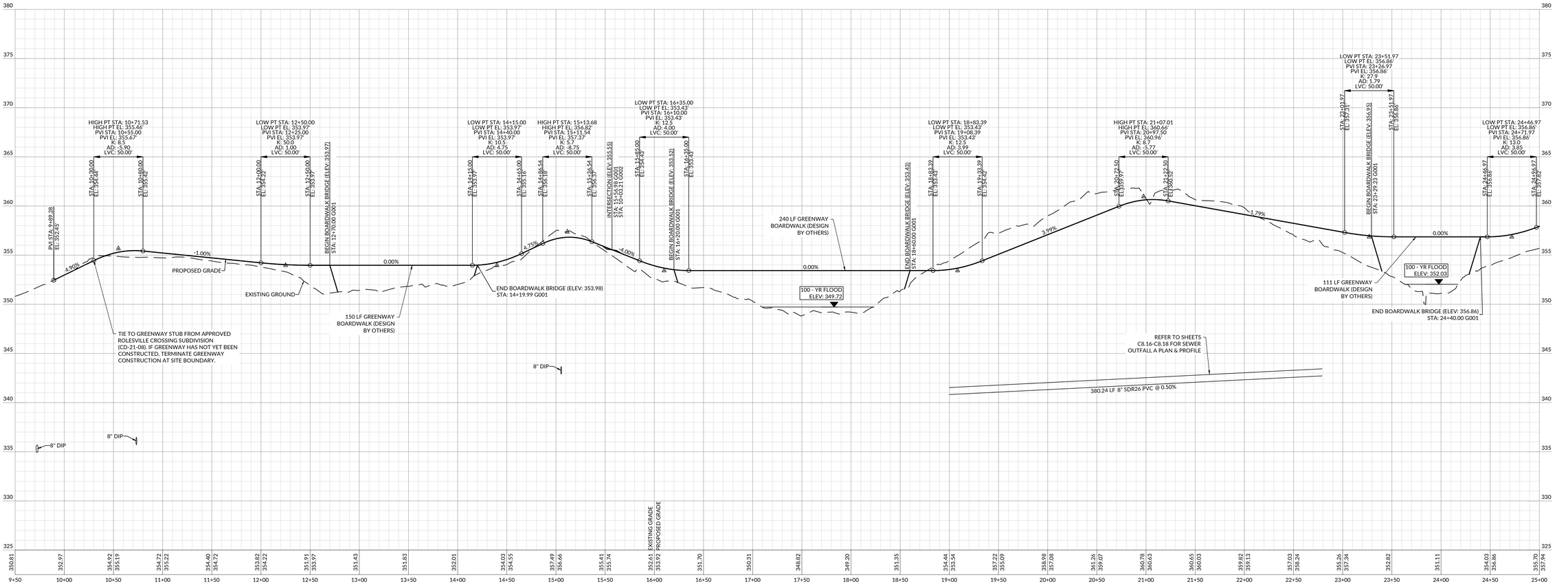
CURVE TABLE

CURVE #	RADIUS	LENGTH	CHORD LENGTH	CHORD DIRECTION
C1	60.00	9.41	9.40	N49° 24' 32"W
C2	60.00	23.69	23.53	N42° 35' 39"W
C3	60.00	20.21	20.12	N40° 56' 07"W
C4	100.00	24.55	24.49	N43° 33' 07"W
C5	109.50	46.89	46.53	N24° 15' 03"W
C6	60.00	37.24	36.65	N05° 48' 00"E
C7	60.00	37.24	36.64	N05° 48' 12"E
C8	110.00	55.37	54.78	N02° 26' 33"E
C9	110.00	89.78	87.30	N06° 31' 09"W
C10	110.00	79.89	78.15	N50° 42' 22"W

CURVE TABLE

CURVE #	RADIUS	LENGTH	CHORD LENGTH	CHORD DIRECTION
C11	60.00	60.46	57.93	N42° 38' 42"W
C12	60.00	65.76	62.52	N17° 37' 10"E
C13	60.00	37.00	36.42	N31° 20' 58"E
C14	60.00	33.39	32.96	N02° 15' 42"W
C15	200.00	58.55	58.35	N09° 49' 05"W
C16	60.00	28.01	27.75	N14° 48' 14"W
C17	60.00	28.01	27.76	N14° 48' 09"W
C18	300.00	55.31	55.23	N03° 51' 12"E
C19	60.00	45.08	44.02	N12° 23' 13"W
C20	60.00	57.15	55.02	N06° 37' 13"W

GREENWAY 1 (10+00 - 25+00)



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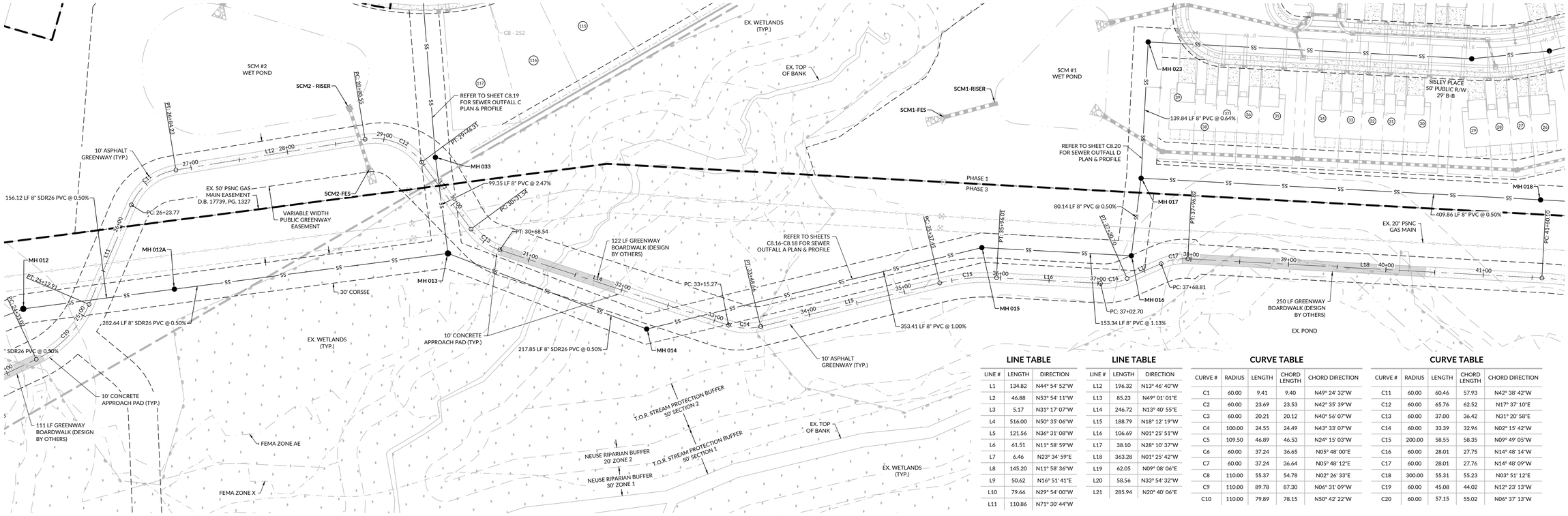
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1 - 01/02/2025
REVISED PER REVIEW COMMENTS
2 - 03/03/2025
REVISED PER REVIEW COMMENTS
3 - 03/28/2025
REVISED PER WAKE CO. COMMENTS
4 - 05/01/2025
REVISED PER REVIEW COMMENTS
-

WR JOB NUMBER 23-0045
DRN: WR DGN: WR CKD: WR

GREENWAY 1 PLAN & PROFILE (10+00 - 25+00)

C8.12

J:\23\0045-pulte_woodlief pasmidge\CAD\drawing set\construction\C8.12-8.14 GREENWAY 1 PLAN & PROFILE.dwg, Monday, April 28, 2025 4:49:30 PM, JKEITH



LINE TABLE

LINE #	LENGTH	DIRECTION
L1	134.82	N44° 54' 52"W
L2	46.88	N53° 54' 11"W
L3	5.17	N31° 17' 07"W
L4	516.00	N50° 35' 06"W
L5	121.56	N36° 31' 08"W
L6	61.51	N11° 58' 59"W
L7	6.46	N23° 34' 59"E
L8	145.20	N11° 58' 36"W
L9	50.62	N16° 51' 41"E
L10	79.66	N29° 54' 00"W
L11	110.86	N71° 30' 44"W

LINE TABLE

LINE #	LENGTH	DIRECTION
L12	196.32	N13° 46' 40"W
L13	85.23	N49° 01' 01"E
L14	246.72	N13° 40' 55"E
L15	188.79	N18° 12' 19"W
L16	106.69	N01° 25' 51"W
L17	38.10	N28° 10' 37"W
L18	363.28	N01° 25' 42"W
L19	62.05	N09° 08' 06"E
L20	58.56	N33° 54' 32"W
L21	285.94	N20° 40' 06"E

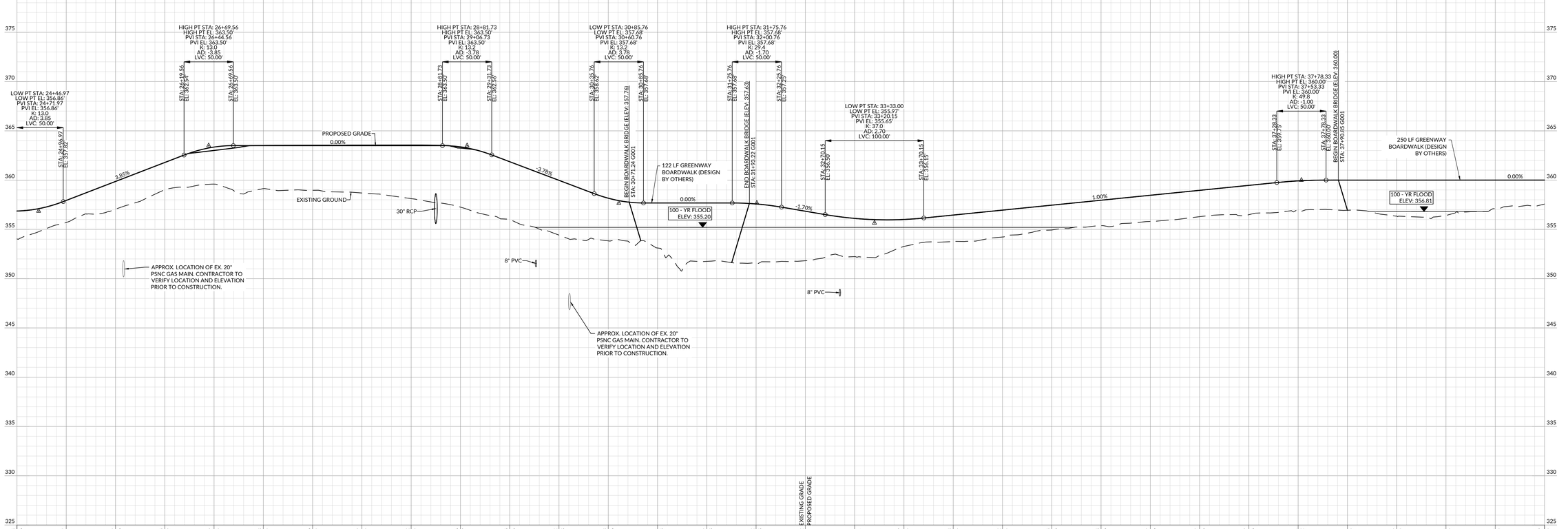
CURVE TABLE

CURVE #	RADIUS	LENGTH	CHORD LENGTH	CHORD DIRECTION
C1	60.00	9.41	9.40	N49° 24' 32"W
C2	60.00	23.69	23.53	N42° 35' 39"W
C3	60.00	20.21	20.12	N40° 56' 07"W
C4	100.00	24.55	24.49	N43° 33' 07"W
C5	109.50	46.89	46.53	N24° 15' 03"W
C6	60.00	37.24	36.65	N05° 48' 00"E
C7	60.00	37.24	36.64	N05° 48' 12"E
C8	110.00	55.37	54.78	N02° 26' 33"E
C9	110.00	89.78	87.30	N06° 31' 09"W
C10	110.00	79.89	78.15	N50° 42' 22"W

CURVE TABLE

CURVE #	RADIUS	LENGTH	CHORD LENGTH	CHORD DIRECTION
C11	60.00	60.46	57.93	N42° 38' 42"W
C12	60.00	65.76	62.52	N17° 37' 10"E
C13	60.00	37.00	36.42	N31° 20' 58"E
C14	60.00	33.39	32.96	N02° 15' 42"W
C15	200.00	58.55	58.35	N09° 49' 05"W
C16	60.00	28.01	27.75	N14° 48' 14"W
C17	60.00	28.01	27.76	N14° 48' 09"W
C18	300.00	55.31	55.23	N03° 51' 12"E
C19	60.00	45.08	44.02	N12° 23' 13"W
C20	60.00	57.15	55.02	N06° 37' 13"W

GREENWAY 1 (24+50 - 40+00)



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NORTH CAROLINA PROFESSIONAL SEAL 058751 ENGINEER TERRENCE COOK

SCALE: 1 inch = 50 ft. H
1 inch = 5 ft. V

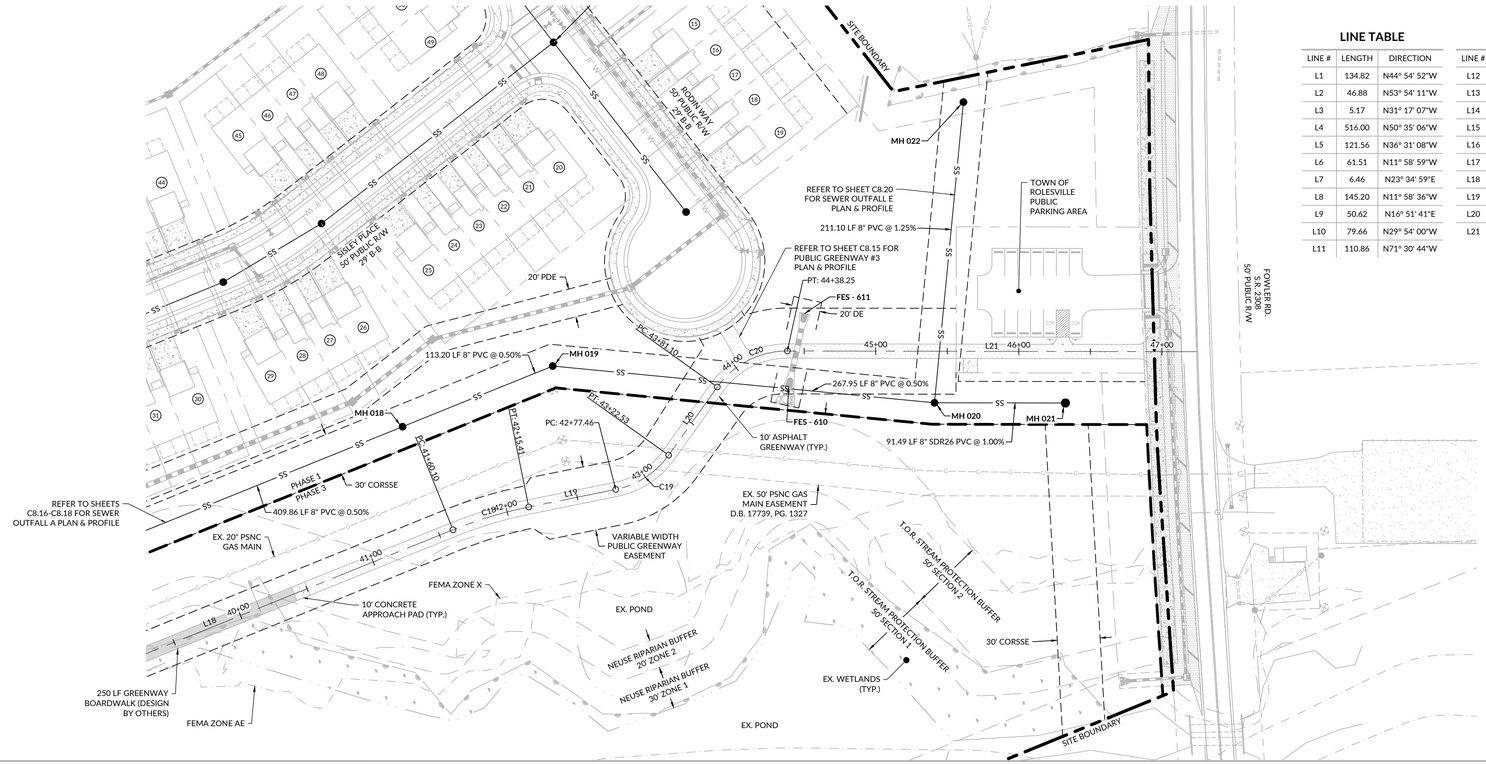
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REVISED PER REVIEW COMMENTS
-

WR JOB NUMBER 23-0045
DRN: WR DGN: WR CKD: WR

GREENWAY 1 PLAN & PROFILE (24+50 - 40+00)

C8.13

J:\23\0045-joelle_woolfolk assemblage\CAD\drawing set\construction\C8.12-8.14 GREENWAY 1 PLAN & PROFILE.dwg Monday, April 28, 2025 4:49:28 PM - JKEITH



LINE TABLE

LINE #	LENGTH	DIRECTION
L1	134.82	N44° 54' 52"W
L2	46.88	N53° 54' 11"W
L3	5.17	N31° 17' 07"W
L4	516.00	N50° 35' 06"W
L5	121.56	N36° 31' 08"W
L6	61.51	N11° 58' 59"W
L7	6.46	N23° 34' 59"E
L8	145.20	N11° 58' 36"W
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LINE TABLE

LINE #	LENGTH	DIRECTION
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L19	62.05	N09° 08' 06"E
L20	58.56	N33° 54' 32"W
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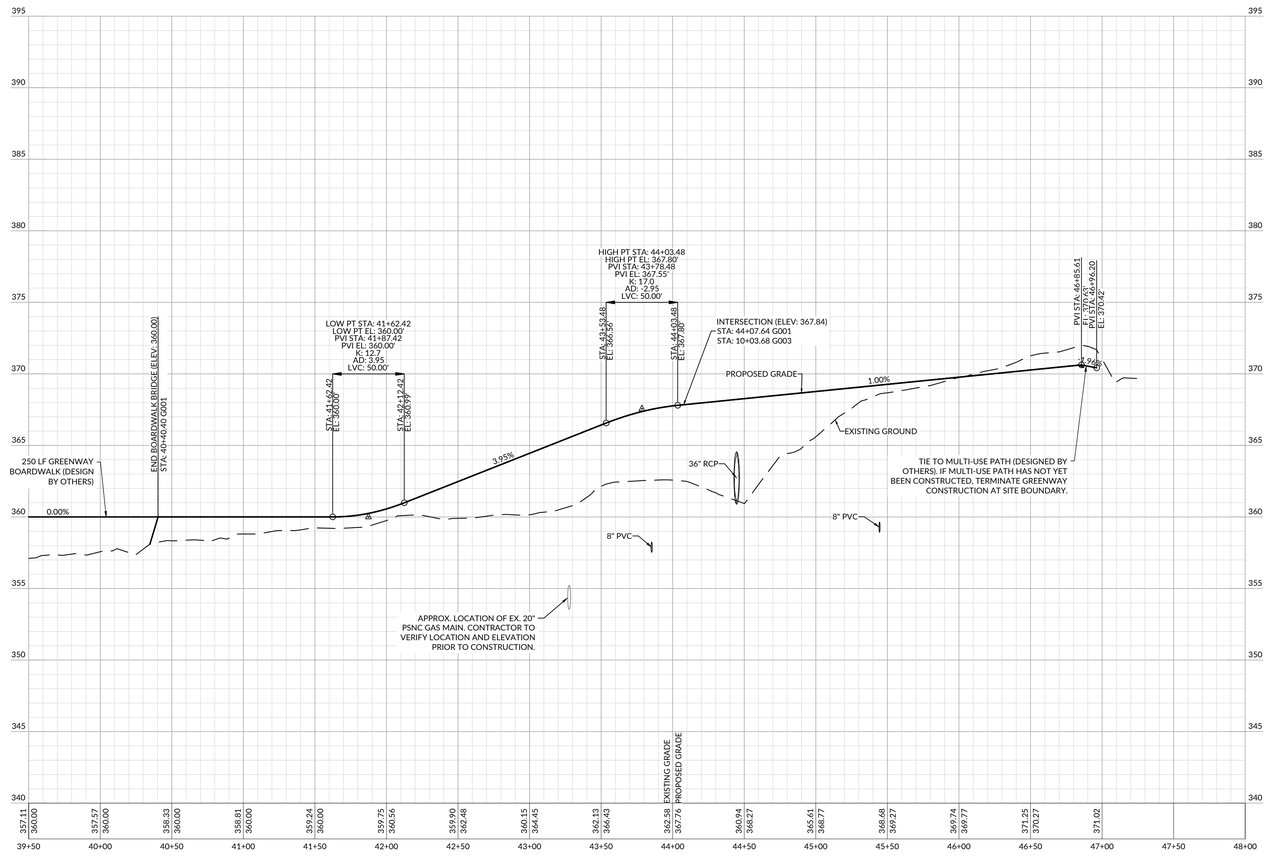
CURVE TABLE

CURVE #	RADIUS	LENGTH	CHORD LENGTH	CHORD DIRECTION
C1	60.00	9.41	9.40	N49° 24' 32"W
C2	60.00	23.69	23.53	N42° 35' 39"W
C3	60.00	20.21	20.12	N40° 56' 07"W
C4	100.00	24.55	24.49	N43° 33' 07"W
C5	109.50	46.89	46.53	N24° 15' 03"W
C6	60.00	37.24	36.65	N05° 48' 00"E
C7	60.00	37.24	36.64	N05° 48' 12"E
C8	110.00	55.37	54.78	N02° 26' 33"E
C9	110.00	89.78	87.30	N06° 31' 09"W
C10	110.00	79.89	78.15	N50° 42' 22"W

CURVE TABLE

CURVE #	RADIUS	LENGTH	CHORD LENGTH	CHORD DIRECTION
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C12	60.00	65.76	62.52	N17° 37' 10"E
C13	60.00	37.00	36.42	N31° 20' 58"E
C14	60.00	33.39	32.96	N02° 15' 42"W
C15	200.00	58.55	58.35	N09° 49' 05"W
C16	60.00	28.01	27.75	N14° 48' 14"W
C17	60.00	28.01	27.76	N14° 48' 09"W
C18	300.00	55.31	55.23	N03° 51' 12"E
C19	60.00	45.08	44.02	N12° 23' 13"W
C20	60.00	57.15	55.02	N06° 37' 13"W

GREENWAY 1 (39+50 - 48+00)



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SCALE: 1 inch = 50 ft. H
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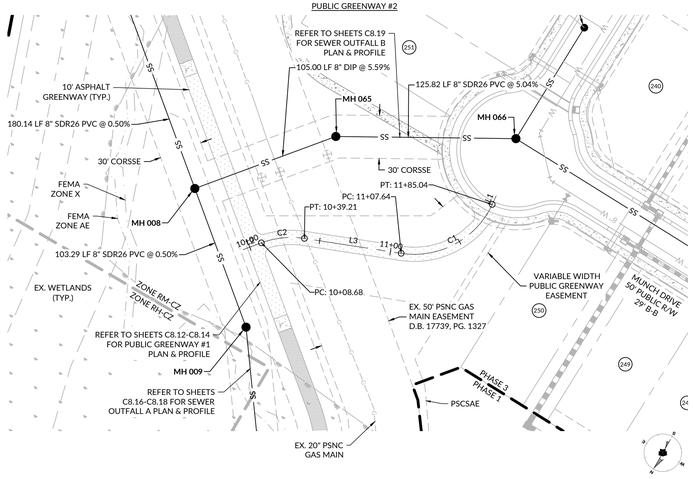
WR JOB NUMBER 23-0045
DRN: WR DGN: WR CKD: WR

GREENWAY 1 PLAN & PROFILE (39+50 - 48+00)

C8.14

EST. 1983

j:\23\0045-pulte_woodlief pasmidge\CAD\planning set\construction\C8.12-8.14 GREENWAY 1 PLAN & PROFILE.dwg - Monday, April 28, 2025 4:49:51 PM - JKEITH

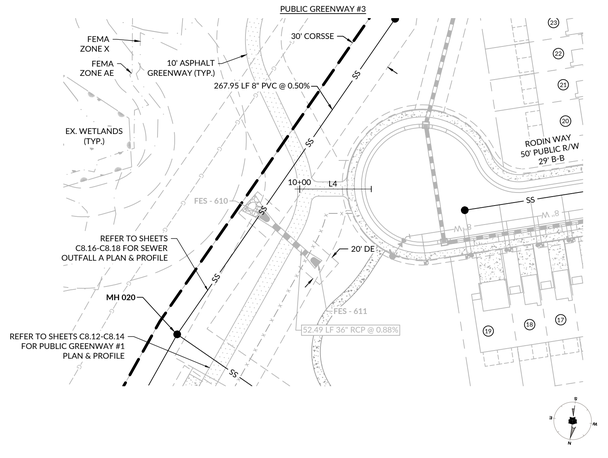


LINE TABLE

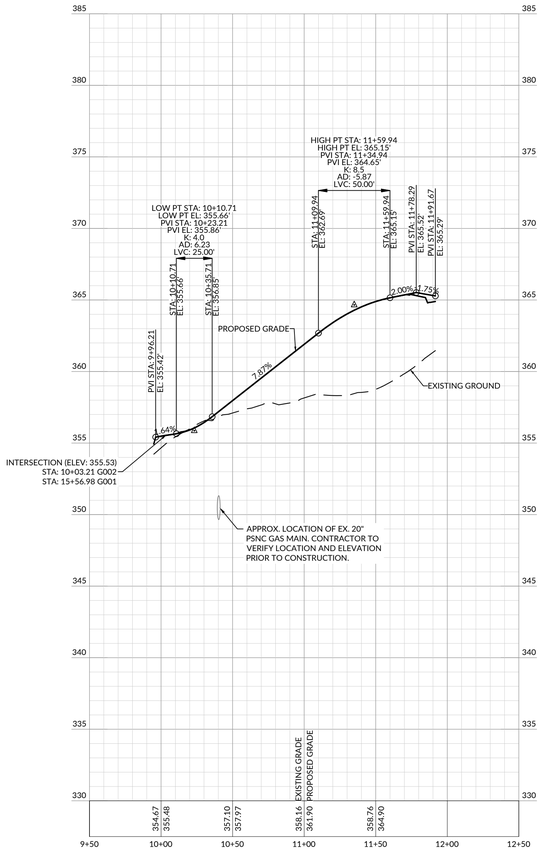
LINE #	LENGTH	DIRECTION
L1	6.63	S05° 29' 44"E
L2	13.76	S39° 15' 36"W
L3	68.43	S68° 24' 54"W
L4	53.58	S81° 26' 19"W

CURVE TABLE

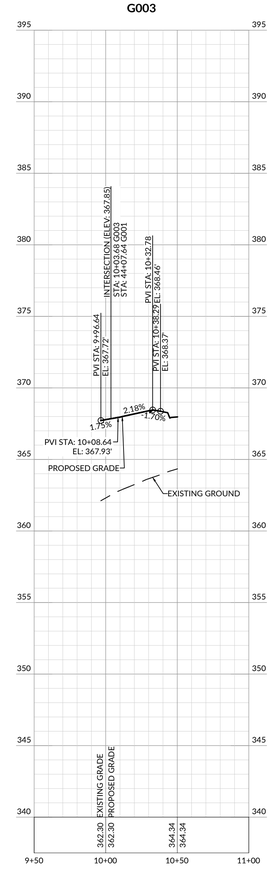
CURVE #	RADIUS	LENGTH	CHORD LENGTH	CHORD DIRECTION
C1	60.00	77.40	72.14	S31° 27' 35"W
C2	60.00	30.53	30.20	S53° 50' 15"W



G002



G003



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NORTH CAROLINA PROFESSIONAL SEAL 058751 ENGINEER TERRENCE COOK

0 25 50
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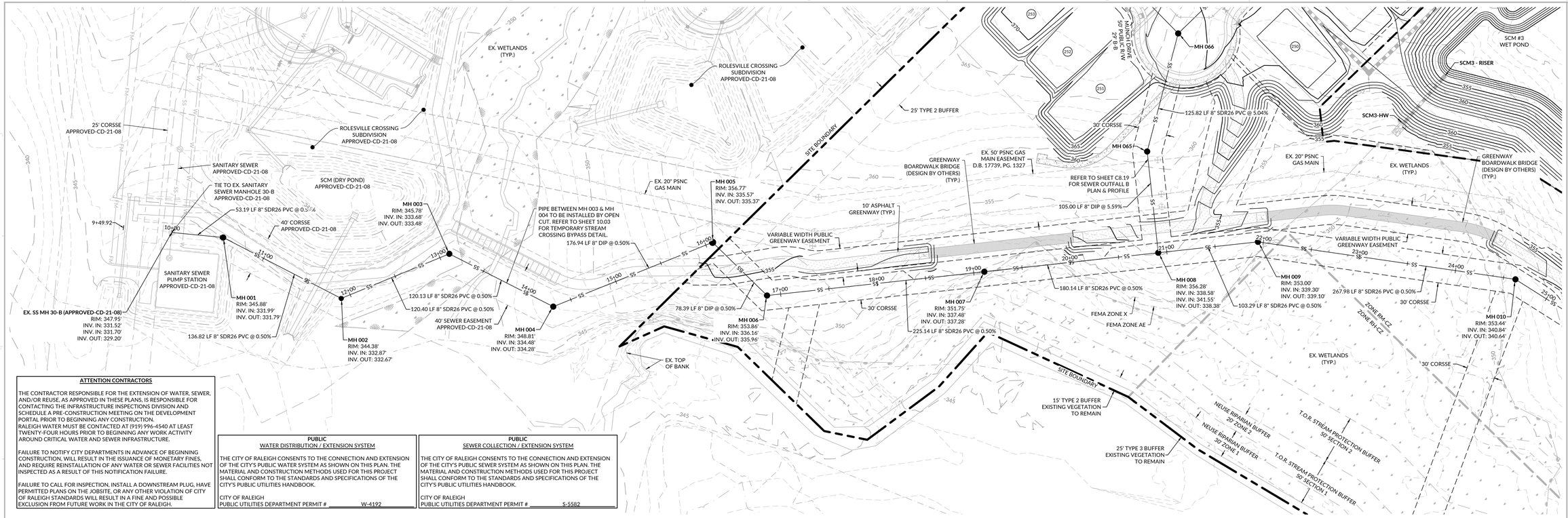
WR JOB NUMBER 23-0045
DRN: WR DGN: WR CKD: WR

GREENWAYS 2 & 3 PLAN & PROFILE

C8.15

EST. 1983

J:\23\0045-pulte_woodlot assemblage\CAD\Drawing set\construction\C8.15 GREENWAYS 2 & 3 PLAN & PROFILE.dwg Monday, April 28, 2025 4:51:13 PM - TCOOK



ATTENTION CONTRACTORS

THE CONTRACTOR RESPONSIBLE FOR THE EXTENSION OF WATER, SEWER, AND/OR REUSE, AS APPROVED IN THESE PLANS, IS RESPONSIBLE FOR CONTACTING THE INFRASTRUCTURE INSPECTIONS DIVISION AND SCHEDULE A PRE-CONSTRUCTION MEETING ON THE DEVELOPMENT PORTAL PRIOR TO BEGINNING ANY CONSTRUCTION.
RALEIGH WATER MUST BE CONTACTED AT (919) 996-4540 AT LEAST TWENTY-FOUR HOURS PRIOR TO BEGINNING ANY WORK ACTIVITY AROUND CRITICAL WATER AND SEWER INFRASTRUCTURE.

FAILURE TO NOTIFY CITY DEPARTMENTS IN ADVANCE OF BEGINNING CONSTRUCTION, WILL RESULT IN THE ISSUANCE OF MONETARY FINES, AND REQUIRE REINSTALLATION OF ANY WATER OR SEWER FACILITIES NOT INSPECTED AS A RESULT OF THIS NOTIFICATION FAILURE.

FAILURE TO CALL FOR INSPECTION, INSTALL A DOWNSTREAM PLUG, HAVE PERMITTED PLANS ON THE JOBSITE, OR ANY OTHER VIOLATION OF CITY OF RALEIGH STANDARDS WILL RESULT IN A FINE AND POSSIBLE EXCLUSION FROM FUTURE WORK IN THE CITY OF RALEIGH.

PUBLIC
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.

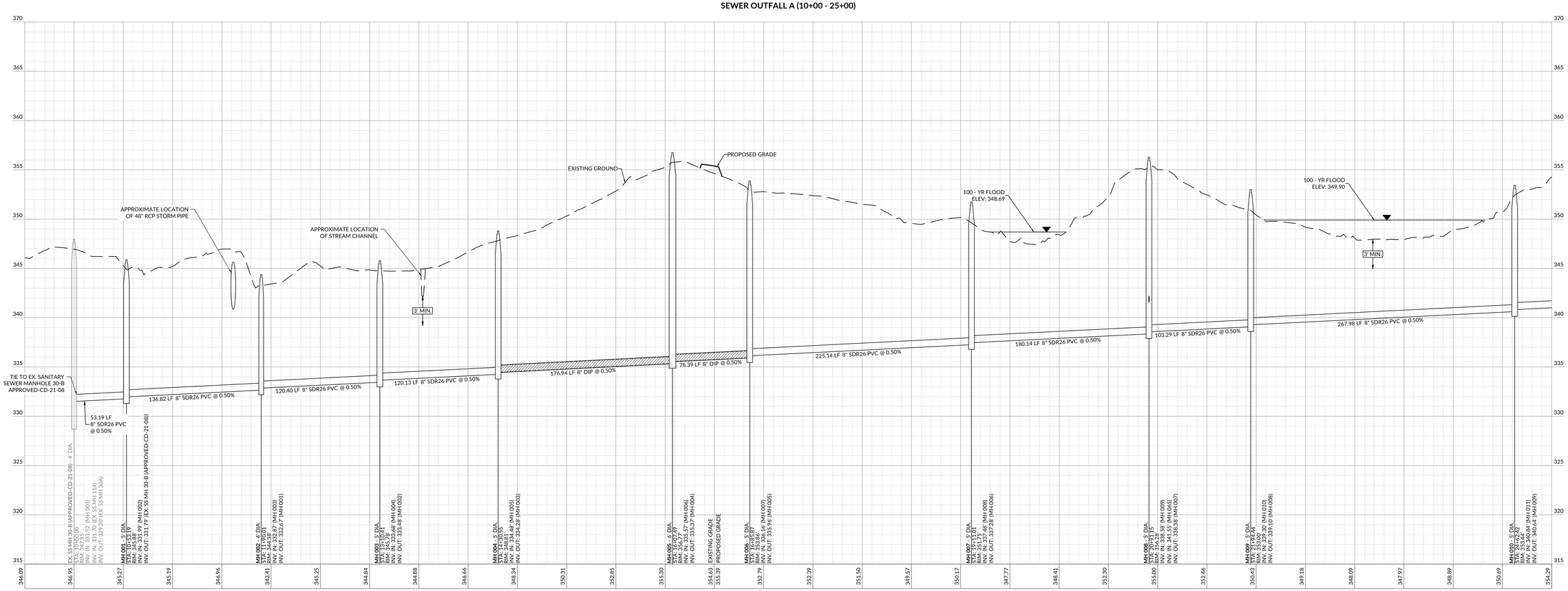
CITY OF RALEIGH
PUBLIC UTILITIES DEPARTMENT PERMIT # W-4192

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 # S-5582

SEWER OUTFALL A (10+00 - 25+00)



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NORTH CAROLINA PROFESSIONAL SEAL 058751 ENGINEER TERRENCE COOK

SCALE: 1 inch = 50 ft. H
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REVISED PER REVIEW COMMENTS
-

WR JOB NUMBER 23-0045
DRN: WR DGN: WR CKD: WR

SEWER OUTFALL A (10+00 - 25+00) PLAN & PROFILE

C8.16

J:\23\0045-pulte_woodlief stanhilliger\CAD\drawing set\construction\C8.16 & 8.18 SEWER OUTFALL A PLAN & PROFILE.dwg, Monday, April 28, 2025 4:53:43 PM, TCOOK

SCM #3
WET POND

EX. TOP
OF BANK

EX. 50' PSNC GAS
MAIN EASEMENT
D.B. 17739, PG. 1327

PIPE BETWEEN MH 011 & MH
012 TO BE INSTALLED BY OPEN
CUT. REFER TO SHEET 10.03
FOR TEMPORARY STREAM
CROSSING BYPASS DETAIL.

156.12 LF 8" SDR26 PVC @ 0.50%

MH 012
RIM: 357.07'
INV. IN: 343.79'
INV. OUT: 343.59'

EX. 20" PSNC
GAS MAIN

129.08 LF 8" SDR26 PVC @ 0.50%

MH 011
RIM: 356.20'
INV. IN: 342.94'
INV. OUT: 342.74'

MH 010
RIM: 353.44'
INV. IN: 340.84'
INV. OUT: 340.64'

DR26 PVC @ 0.50%

380.24 LF 8" SDR26 PVC @ 0.50%

VARIABLE WIDTH PUBLIC
GREENWAY EASEMENT

30' CORSSE

EX. WETLANDS
(TYP.)

GREENWAY BOARDWALK
BRIDGE (DESIGN BY
OTHERS) (TYP.)

ZONE RM-CZ
ZONE RH-CZ

FEMA ZONE X

FEMA ZONE AE

NEUSE RIPARIAN BUFFER
20' ZONE 2

NEUSE RIPARIAN BUFFER
30' ZONE 1

T.O.R. STREAM PROTECTION BUFFER
50' SECTION 2

T.O.R. STREAM PROTECTION BUFFER
50' SECTION 1

SCM #2
WET POND

SCM2 - RISER

SCM2-FES

10' ASPHALT
GREENWAY (TYP.)

308.71' CORSSE

MH 012A
RIM: 355.17'
INV. IN: 344.77'
INV. OUT: 344.57'

282.64 LF 8" SDR26 PVC @ 0.50%

EX. WETLANDS
(TYP.)

MH 013
RIM: 358.00'
INV. IN: 346.38'
INV. IN: 349.49'
INV. OUT: 346.18'

99.35 LF 8" PVC @ 2.47%

MH 033

REFER TO SHEET C8.19
FOR SEWER OUTFALL
C PLAN & PROFILE

EX. TOP
OF BANK

EX. WETLANDS
(TYP.)

EX. TOP
OF BANK

GREENWAY BOARDWALK
BRIDGE (DESIGN BY
OTHERS) (TYP.)

217.85 LF 8" SDR26 PVC @ 0.50%

MH 014
RIM: 358.00'
INV. IN: 347.67'
INV. OUT: 347.47'

SCM1-RISER

SCM1-FES

SCM #1
WET POND

EX. 20" PSNC
GAS MAIN

353.41 LF 8" PVC @ 1.00%

MH 015
RIM: 358.00'
INV. IN: 351.42'
INV. OUT: 351.22'

PUBLIC
WATER DISTRIBUTION / EXTENSION SYSTEM

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CITY OF RALEIGH
PUBLIC UTILITIES DEPARTMENT PERMIT # W-4192

PUBLIC
SEWER COLLECTION / EXTENSION SYSTEM

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CITY OF RALEIGH
PUBLIC UTILITIES DEPARTMENT PERMIT # S-5582

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SEWER OUTFALL A (24+50 - 40+00)

PIPE BETWEEN MH 011 & MH
012 TO BE INSTALLED BY OPEN
CUT. REFER TO SHEET 10.03
FOR TEMPORARY STREAM
CROSSING BYPASS DETAIL.

PROPOSED GRADE

EXISTING GROUND

100 - YR FLOOD
ELEV: 354.85

INSIDE DROP MH
(DROP FROM MH 033)

3' MIN.

3' MIN.

380.24 LF 8" SDR26 PVC @ 0.50%

129.08 LF 8" SDR26 PVC @ 0.50%

156.12 LF 8" SDR26 PVC @ 0.50%

282.64 LF 8" SDR26 PVC @ 0.50%

217.85 LF 8" SDR26 PVC @ 0.50%

353.41 LF 8" PVC @ 1.00%

MH 010 - 5' DIA.
STA: 25+00.00
RIM: 353.44
INV. IN: 340.84' (MH 011)
INV. OUT: 340.64' (MH 009)

EXISTING GRADE
PROPOSED GRADE

MH 011 - 5' DIA.
STA: 28+28.26
RIM: 356.20
INV. IN: 342.94' (MH 012)
INV. OUT: 342.74' (MH 010)

MH 012 - 5' DIA.
STA: 30+00.00
RIM: 357.07
INV. IN: 343.79' (MH 012A)
INV. OUT: 343.59' (MH 011)

MH 012A - 4' DIA.
STA: 31+08.71
RIM: 355.17
INV. IN: 344.77' (MH 013)
INV. OUT: 344.57' (MH 012)

MH 013 - 5' DIA.
STA: 34+00.00
RIM: 358.00
INV. IN: 346.38' (MH 014)
INV. IN: 349.49' (MH 033)
INV. OUT: 346.18' (MH 012A)

MH 014 - 4' DIA.
STA: 36+67.67
RIM: 358.00
INV. IN: 351.84' (MH 015)
INV. OUT: 351.64' (MH 013)

MH 015 - 4' DIA.
STA: 39+19.77
RIM: 358.00
INV. IN: 351.42' (MH 016)
INV. OUT: 351.22' (MH 014)

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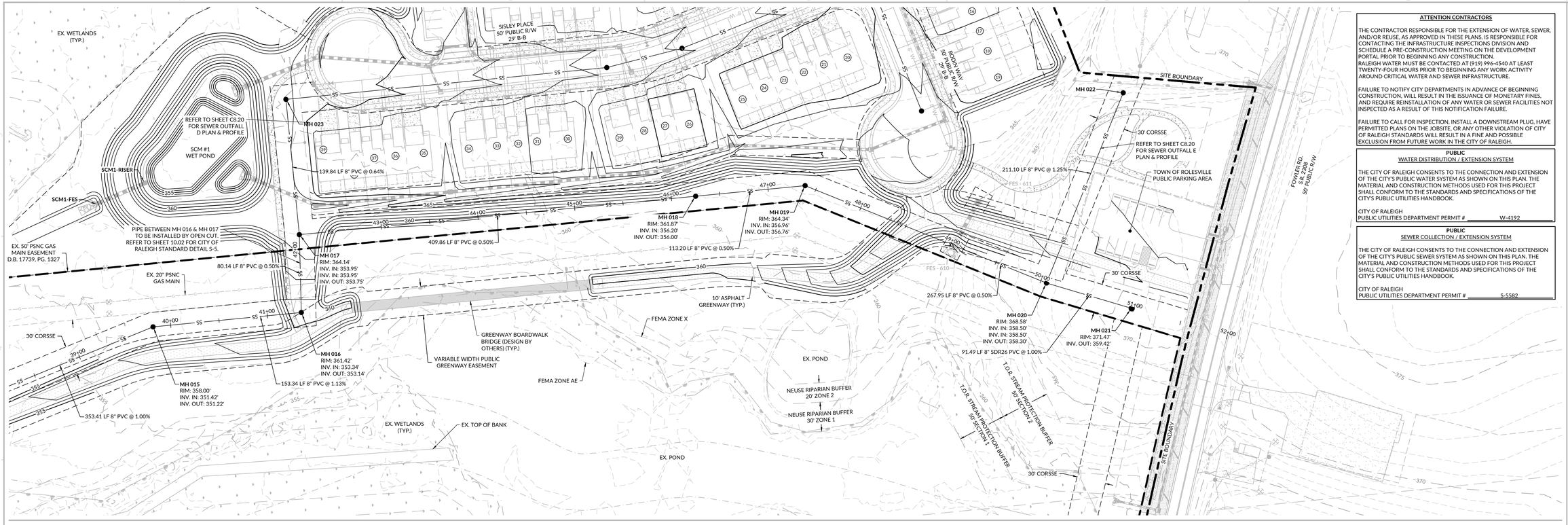
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WR JOB NUMBER 23-0045
DRN: WR DGN: WR CKD: WR

SEWER OUTFALL A (24+50 - 40+00) PLAN & PROFILE

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ATTENTION CONTRACTORS

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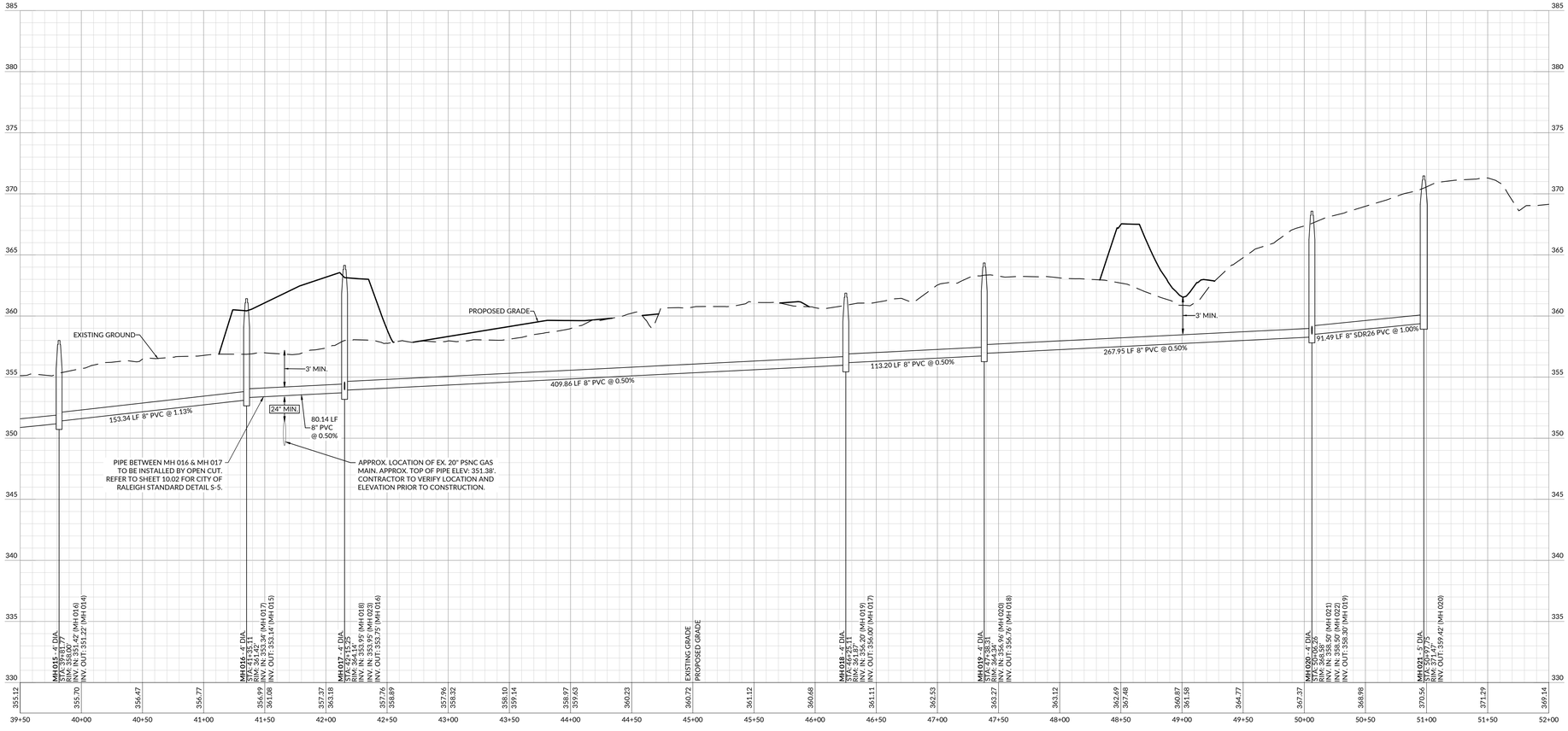
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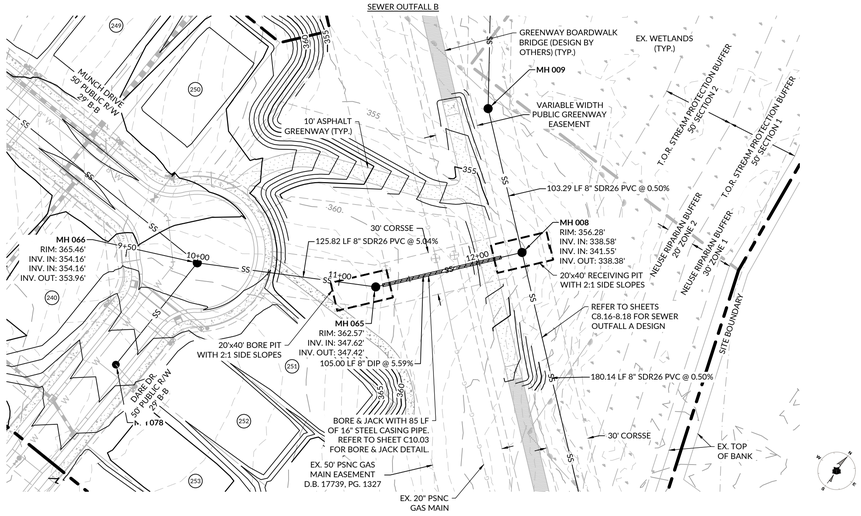
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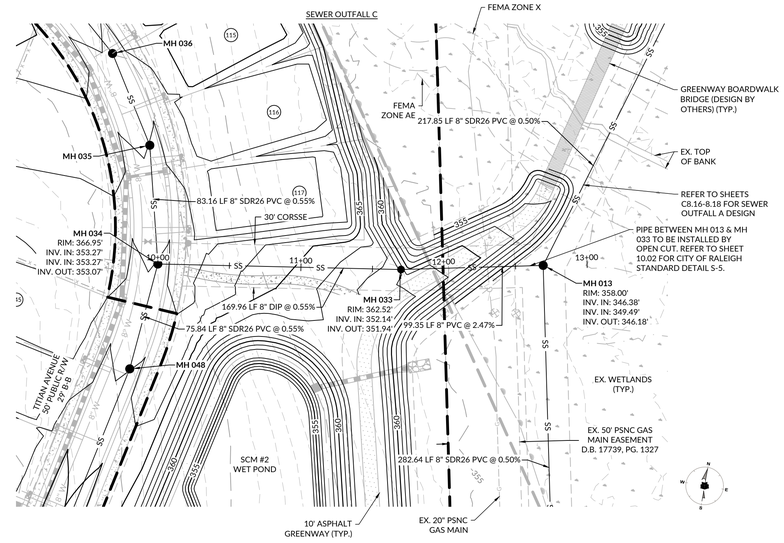
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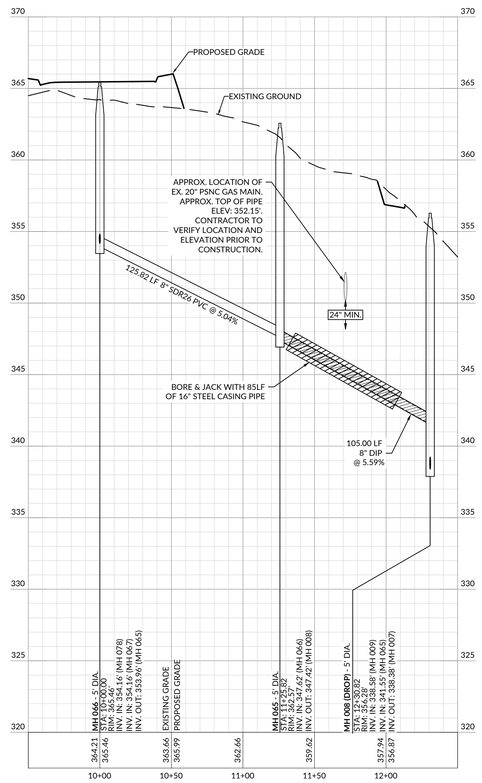
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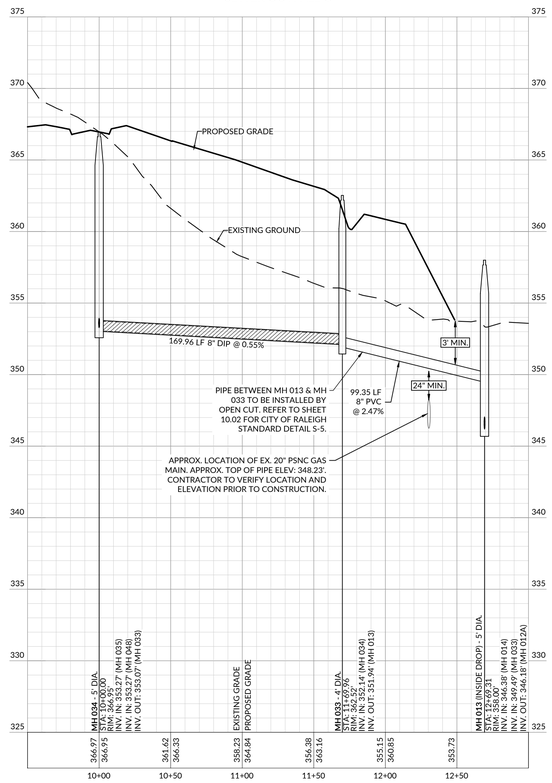
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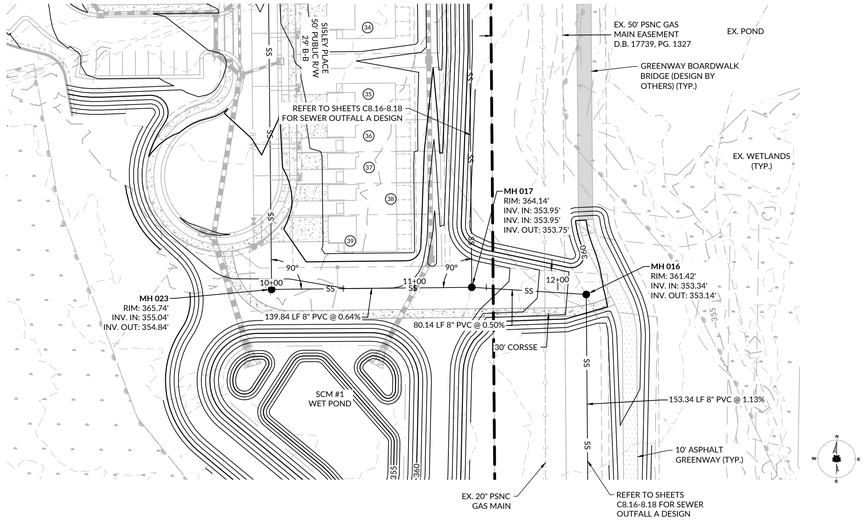
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SEWER OUTFALLS B & C PLAN & PROFILE

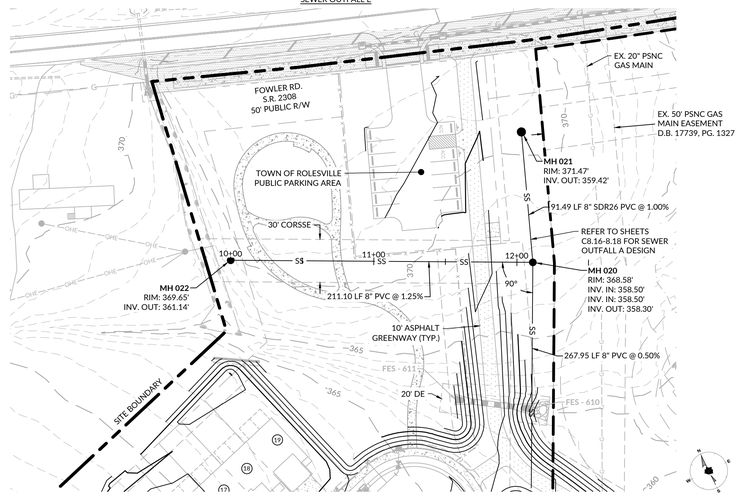
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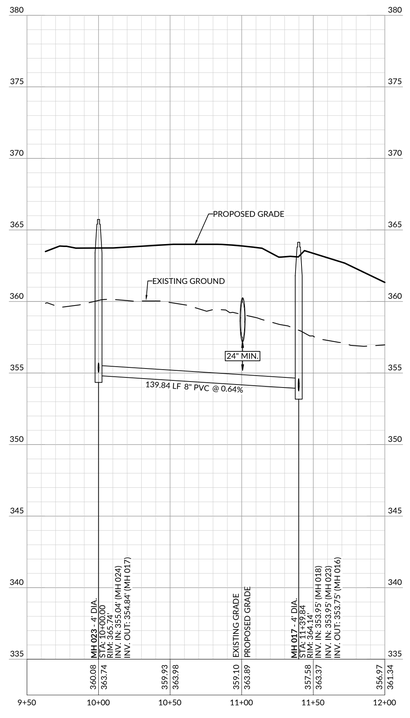
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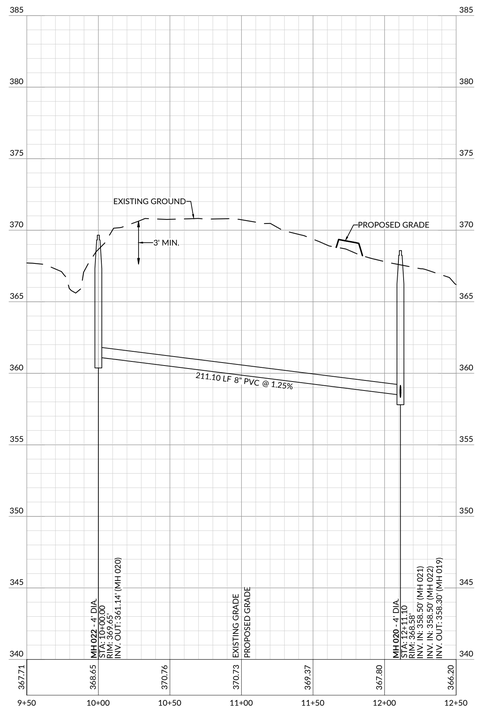
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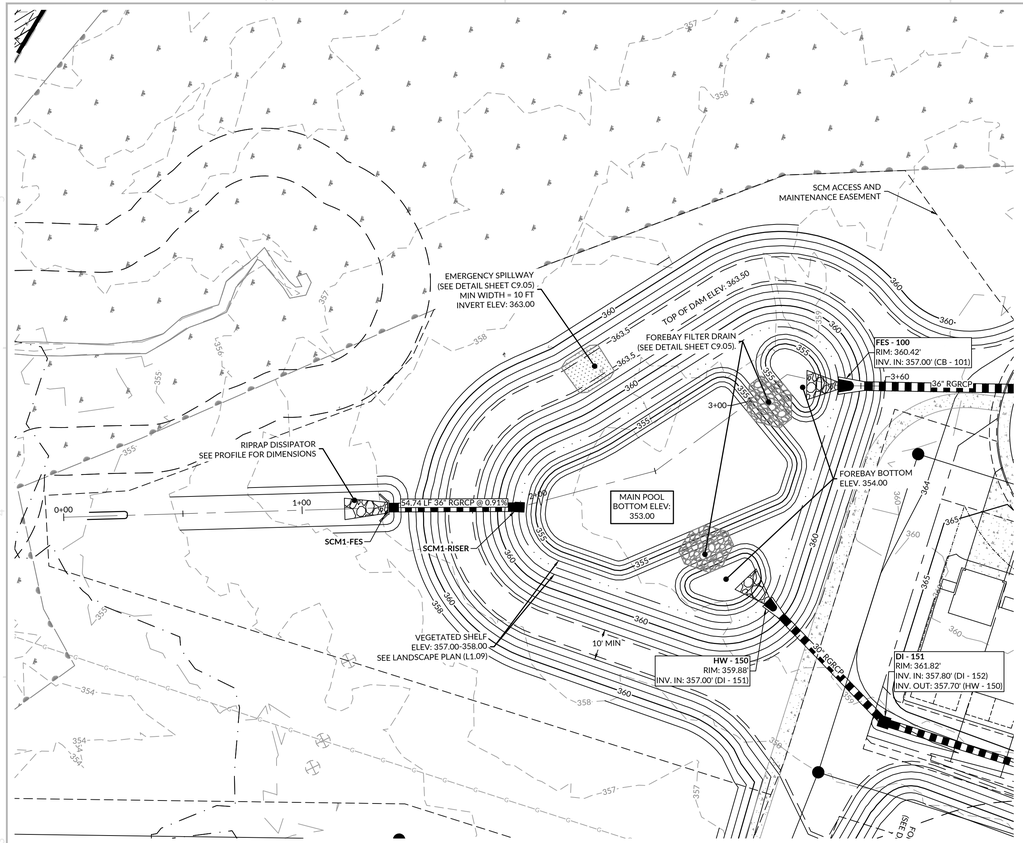
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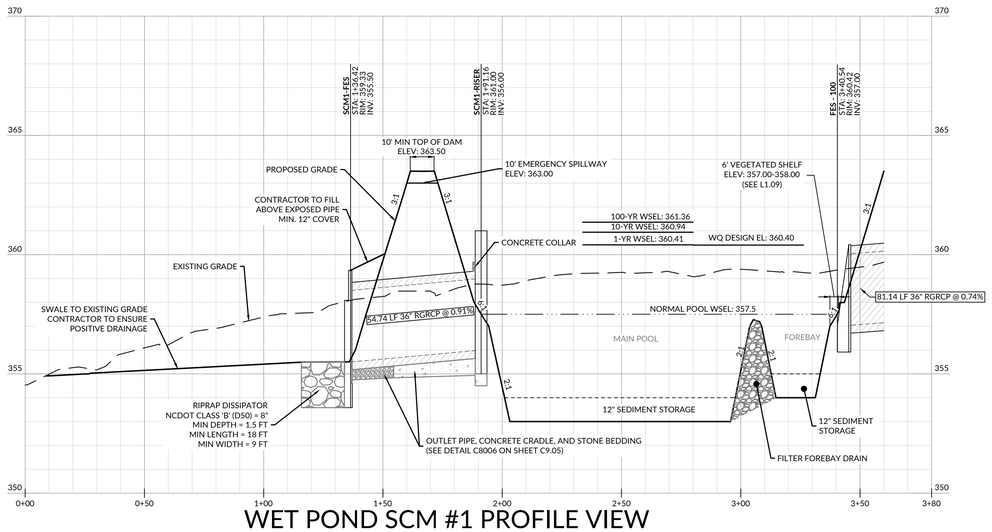
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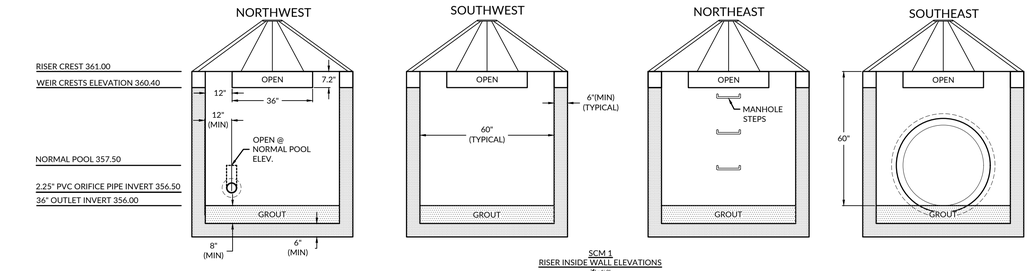
WET POND SCM #1 PLAN VIEW

SCALE: 1" = 30'

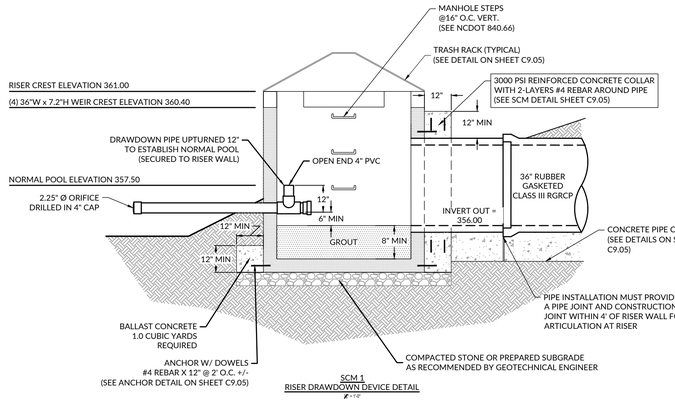


WET POND SCM #1 PROFILE VIEW

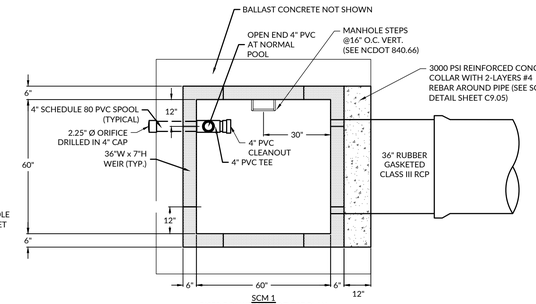
SCALE: 1" = 30' HORIZONTAL, 1" = 3' VERTICAL



SCM 1
RISER INSIDE WALL ELEVATIONS



SCM 1
RISER DRAWDOWN DEVICE DETAIL



SCM 1
RISER DRAWDOWN DEVICE PLAN

NOTE:
RISER AND BALLAST CONCRETE HAVE BEEN SIZED BASED ON BUOYANCY CALCULATIONS. ADJUSTMENTS TO CONCRETE DIMENSIONS ARE NOT PERMITTED WITHOUT PRIOR WRITTEN APPROVAL. ANY DIMENSIONAL CHANGES TO BALLAST CONCRETE BASE AND RISER MUST BE REQUESTED IN WRITING AND MUST BE ACCOMPANIED BY BUOYANCY CALCULATIONS SIGNED AND SEALED BY A NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER.

WET POND STORMWATER CONTROL MEASURE (SCM) GENERAL NOTES:

1. PRIOR TO OR DURING CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES IN THE PLANS OR SPECIFICATIONS.
2. ALL CONSTRUCTION AND MINIMUM DESIGN CRITERIA SHALL BE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL STANDARDS AND SPECIFICATIONS, HEREBY INCORPORATED BY REFERENCE.
3. UPON COMPLETION OF CONSTRUCTION, CERTIFICATION OF THE SCM BY THE GEOTECHNICAL ENGINEER WILL BE REQUIRED PRIOR TO FINAL SCM ACCEPTANCE.
4. THE GEOTECHNICAL ENGINEER SHALL EVALUATE SOILS FOR SUITABILITY OF DAM CONSTRUCTION AND SLOPE STABILITY.
5. PRIOR TO PLACEMENT OF EMBANKMENT FILL, THE GEOTECHNICAL ENGINEER SHALL SUPERVISE THE FOUNDATION PREPARATION AND APPROVE THE DEPTH AND EXTENT OF THE CUTOFF TRENCH, A MINIMUM OF 1 FOOT SHALL BE EXCAVATED.
6. THE DAM AND FOREBAY BERMS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS UNLESS SUPERCEDED BY THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.
   - BORROW MATERIALS FOR USE AS EMBANKMENT FILL SHALL BE FREE OF ORGANICS, ROOTS AND OTHER WOODY VEGETATION OR ORGANIC DEBRIS.
   - FILL MATERIALS SHALL CONSIST OF SOILS WHICH CLASSIFY AS SC, SM, CL, CL-CH AND ML IN ACCORDANCE WITH THE UNIFIED CLASSIFICATION SYSTEM OR AS APPROVED BY THE GEOTECHNICAL ENGINEER.
   - FILL MATERIALS SHALL HAVE A MAXIMUM PARTICLE SIZE OF 3 INCHES IN MEAN DIAMETER.
   - FILL SHALL BE PLACED IN 8 INCH (MAXIMUM) LOOSE LIFTS FOR MATERIAL COMPACTED BY HEAVY COMPACTION EQUIPMENT AND IN 4 INCH (MAXIMUM) LOOSE LIFTS FOR MATERIAL COMPACTED BY HAND OPERATED TAMPERS UNDER THE SUPERVISION OF THE GEOTECHNICAL ENGINEER OR THEIR REPRESENTATIVE. FILL SHALL BE BROUGHT UP BY BENCHING INTO THE EXISTING SLOPE. A MAXIMUM HEIGHT OF 2 FEET SHALL BE USED FOR EACH BENCH LIFT TAKING CARE TO REMOVE ROOT STRUCTURES AS THE FILL PROCEEDS. THE SURFACE OF EACH LIFT SHALL BE SCARIFIED PRIOR TO PLACEMENT OF THE NEXT LIFT IN ORDER TO EFFECTIVELY TIE THE FILL LIFTS TOGETHER.
   - ALL COMPACTION SHALL BE TESTED BY THE NUCLEAR METHOD (ASTM D-6938) OR SAND CONE METHOD (ASTM D-1556) AT A RATE OF AT LEAST ONE TEST PER 5,000 SF PER ONE FOOT OF COMPACTED FILL THICKNESS IN GENERAL AREA FILLS AND ONE TEST PER 50 LINEAL FEET PER LIFT ALONG THE BARREL.
   - THE MINIMUM COMPACTION SHALL BE A MINIMUM OF 95% OF THE MAXIMUM STANDARD PROCTOR DENSITY (ASTM D-698) AT MOISTURE CONTENTS VARYING FROM 2 PERCENT BELOW TO 3 PERCENT ABOVE OPTIMUM MOISTURE CONTENT DETERMINED BY STANDARD PROCTOR TEST.
7. SUBGRADE FOR THE RISER STRUCTURE AND OUTLET PIPE SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT.IF THE GEOTECHNICAL ENGINEER REQUIRES ADDITIONAL SUBGRADE PREPARATION, THE ADDITIONAL COST SHALL BE APPROVED BY THE ENGINEER PRIOR TO PLACEMENT.
8. THE OUTLET PIPE SHALL BE BEDDED IN CONCRETE FOR 2/3 OF THE PIPE LENGTH, BEGINNING AT THE RISER, AND IN #78 STONE FOR 1/3 OF PIPE LENGTH TO THE OUTLET. SEE DETAILS ON SHEET C9.05.
9. EMBANKMENT AND SIDE SLOPES OF THE BASIN SHALL BE STABILIZED PER SEEDING SCHEDULE ON EROSION CONTROL DETAILS SHEET OR SODDED. SEE LANDSCAPE PLAN ON SHEETS FOR FURTHER PLANTING DETAILS.
10. IF, DURING CONSTRUCTION, THE SCM IS TO BE USED AS AN EROSION CONTROL MEASURE, THE FOREBAY BERM(S) SHALL NOT BE INSTALLED DURING THE INITIAL CONSTRUCTION OR WHILE THE SCM IS USED AS AN EROSION CONTROL MEASURE.
11. UNLESS OTHERWISE NOTED, ALL PERMANENT STRUCTURES (e.g. RISER/BARREL, WEIR WALLS, ETC.) ARE TO BE INSTALLED WITH THE INITIAL DAM CONSTRUCTION.
12. FOR SITE BUILT FEATURES (e.g. WEIR WALLS, DROP STRUCTURES, BRIDGES, ETC.), THE CONTRACTOR SHALL PROVIDE STRUCTURAL DRAWINGS TO BE SIGNED AND SEALED BY A NC PROFESSIONAL ENGINEER AND TO THE DESIGN ENGINEER FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
13. PRIOR TO FINAL GRADING OF THE SCM, THE CONTRACTOR SHALL PROVIDE SUFFICIENT AS-BUILT SURVEY INFORMATION TO CONFIRM THAT THE FINISHED SCM WILL MEET THE SPECIFIC DIMENSIONAL REQUIREMENTS APPLICABLE TO THE SCM. THOSE REQUIREMENTS INCLUDE:
   - POND BOTTOM ELEVATION = 353.00 FT
   - DRAWDOWN OVERFLOW ELEVATION (NORMAL POOL) = 357.50 FT
   - MINIMUM SURFACE AREA AT NORMAL POOL ELEVATION = 10,410 SF
   - MINIMUM VOLUME REQUIRED FOR WATER QUALITY = 15,262 CF
   - PROVIDED VOLUME FOR WATER QUALITY = 37,342 CF
   - WEIR CREST ELEVATION = 360.40 FT
   - RISER CREST ELEVATION= 361.00 FT
   - LOW POINT TOP OF EMBANKMENT (AUXILIARY SPILLWAY) = 363.00 FT
   - AVERAGE TOP OF EMBANKMENT = 363.50 FT
15. ELEVATIONS SHALL BE WITHIN 0.1 FEET OF THE ABOVE ELEVATIONS FOR EARTHWORK, AND 0.05 FEET FOR OUTLET STRUCTURE. ALL SURFACE AREAS ARE THE MINIMUM AREAS. REQUEST FOR A REDUCTIONS IN THE MINIMUM VALUES WILL BE CONSIDERED ON A CASE BY CASE BASIS.
16. ONCE THE PROJECT SITE HAS BEEN STABILIZED, CONTRACTOR SHALL OBTAIN APPROVAL BY EROSION CONTROL INSPECTOR IN ORDER TO REMOVE TEMPORARY EROSION CONTROL DEVICES.
   - ONCE ALL SEDIMENT AND EROSION CONTROL DEVICES HAVE BEEN REMOVED, THE SCM SHALL BE CONVERTED TO A PERMANENT SCM.
   - ALL SEDIMENT SHALL BE REMOVED AND DISPOSED OF PROPERLY.
   - FOREBAY AND VEGETATED SHELF SHALL BE CONSTRUCTED AS SHOWN ON THE PLAN.
   - VEGETATED SHELF SHALL BE PLANTED PER PLANT SCHEDULE ON LANDSCAPE PLAN (SEE L1.09).
17. FINAL CERTIFICATION OF THE SCM BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE IN WHICH THE PROJECT IS LOCATED IS REQUIRED.

CLAY LINER SPECIFICATIONS:
THE CONTRACTOR SHALL INSTALL A CLAY LINER TO MAINTAIN A PERMANENT POOL AT THE DESIGN ELEVATION. IF THE SITE GEOTECHNICAL ENGINEER DETERMINES THAT THE EXISTING SITE CONDITIONS (SOIL PROPERTIES, EXISTING WATER TABLE, ETC.) INDICATE THAT NORMAL POOL CAN BE MAINTAINED WITHOUT A CLAY LINER, THE GEOTECHNICAL ENGINEER WILL PROVIDE NOTICE IN WRITING TO THE PROJECT ENGINEER THAT THE CLAY LINER IS NOT REQUIRED. IF THE CLAY LINER IS NOT INSTALLED, THE OWNER SHALL RECEIVE A CREDIT FOR THE DELETION OF THE LINER.

AT A MINIMUM, THE CLAY LINER MATERIAL FOR THE WET POND SHALL MEET THE FOLLOWING SPECIFICATIONS:

- UNIFIED SOIL CLASSIFICATION SYSTEM DESIGNATION OF CL, CH, ML, OR SC
- MINIMUM OF 40% PASSING #200 SIEVE
- MINIMUM PLASTICITY INDEX OF 12
- MAXIMUM PERMEABILITY OF 1 X 10^{-5} cm/sec
- A MINIMUM OF 2 TESTS OF EACH ABOVE PARAMETER SHALL BE PROVIDED FROM AN APPROVED LABORATORY ON THE LINER MATERIAL AND PRESENTED TO THE ENGINEER FOR APPROVAL PRIOR TO PLACEMENT OF THE MATERIAL.
- COMPACTION TO A MINIMUM OF 95% OF THE MAXIMUM STANDARD PROCTOR DENSITY (ASTM D-698), AND WITHIN 3% OF THE OPTIMUM MOISTURE CONTENT (MINIMUM OF 1 COMPACTION DENSITY TEST PER 2500 SQUARE FEET).
- AN IN-PLACE MAXIMUM INFILTRATION RATE OF 0.01 INCHES PER HOUR.
- RECOMMENDATIONS OF THE SITE GEOTECHNICAL ENGINEER MAY SUPERCEDE THE ABOVE SPECIFICATIONS.

THE CLAY LINER SHALL BE PLACED UNDER THE BOTTOM OF THE SCM PERMANENT POOL TO A MINIMUM THICKNESS OF 8 INCHES. A MINIMUM OF 4 INCHES OF TOPSOIL SHALL BE PLACED ABOVE THE CLAY LINER TO THE FINISHED GRADE AS SHOWN ON THE DRAWINGS AND/OR DETAILS. CARE SHALL BE TAKEN WHEN PLACING THE TOPSOIL SO AS NOT TO DAMAGE THE CLAY LINER. A CLAY/SOIL, NO ORGANICS, MIXTURE MAY BE USED IF THE ABOVE SPECIFICATIONS ARE SATISFIED AND WITH WRITTEN APPROVAL BY THE GEOTECHNICAL ENGINEER.

PRECAST CONCRETE MATERIALS NOTES:

1. ALL PRECAST CONCRETE STRUCTURES SHALL CONFORM TO ASTM C913 (RECTANGULAR) OR C478 (ROUND).
2. ALL REINFORCED CONCRETE PIPE SHALL CONFORM TO ASTM C76, CLASS III (UNLESS OTHERWISE NOTED).
   2.1. O-RING JOINTS (RGRCP) SHALL CONFORM TO ASTM C443 & ASTM C361.
   2.2. NON O-RING JOINTS (RCP) SHALL CONFORM TO ASTM C990

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PULTEGROUP

CONSTRUCTION INFRASTRUCTURE DRAWINGS
BROADMOOR
CID-24-06
ROLESVILLE ROAD | ROLESVILLE, NC 27587 | WAKE COUNTY

NORTH CAROLINA PROFESSIONAL SEAL 049066 ENGINEER BRANDON J. MILLER

SCALE: 1 inch = 30 ft. H
1 inch = 3 ft. V

INITIAL PLAN DATE: 11/01/2024
REVISIONS:
1 - 01/02/2025
REVISED PER REVIEW COMMENTS
2 - 03/03/2025
REVISED PER REVIEW COMMENTS
3 - 03/28/2025
REVISED PER WAKE CO. COMMENTS
4 - 05/01/2025
REVISED PER REVIEW COMMENTS
-

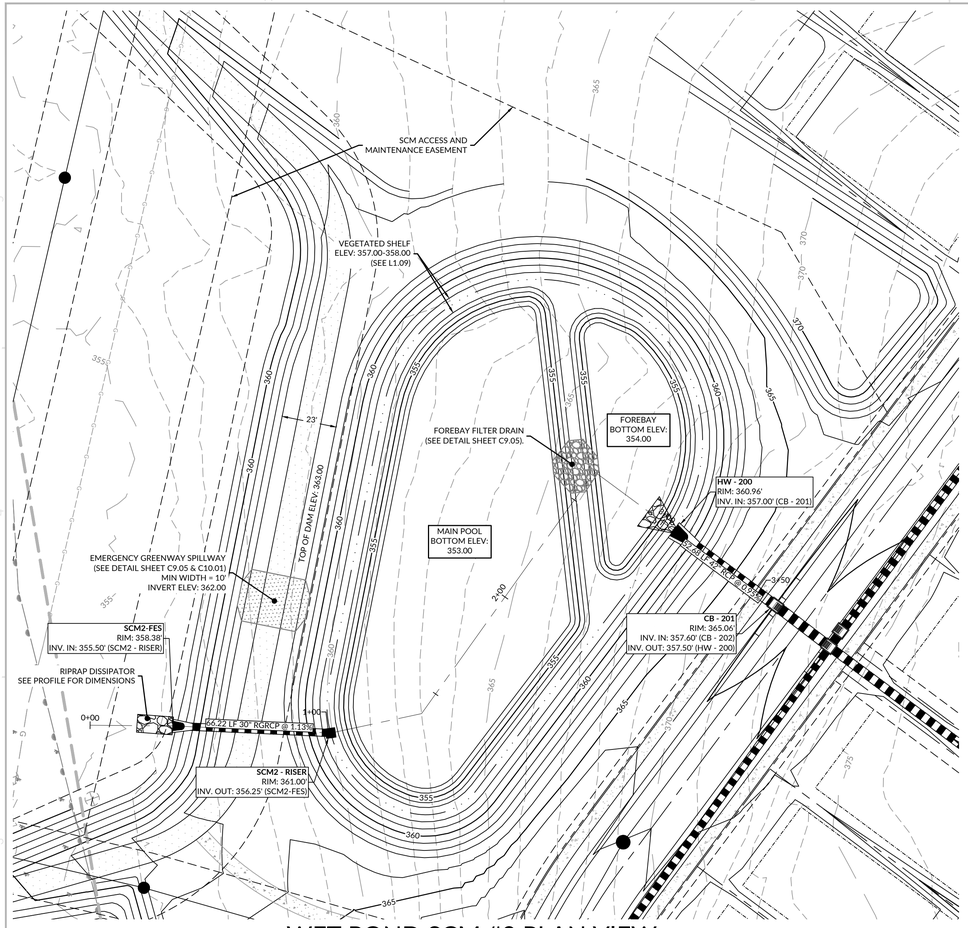
WR JOB NUMBER 23-0045
DRN: WR DGN: WR CKD: WR

SCM 1 PLAN & PROFILE

C9.01

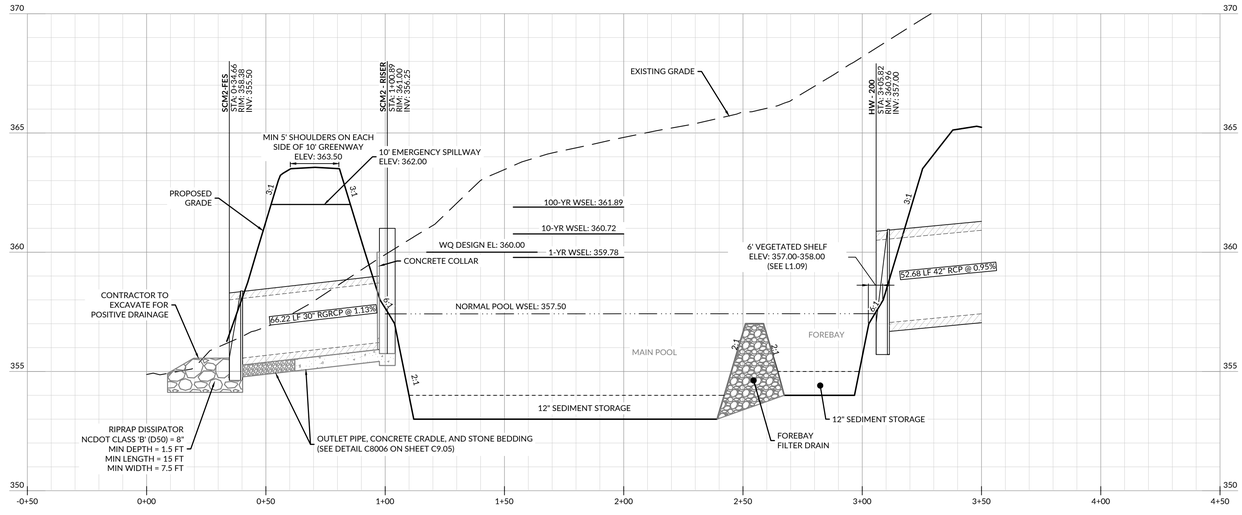
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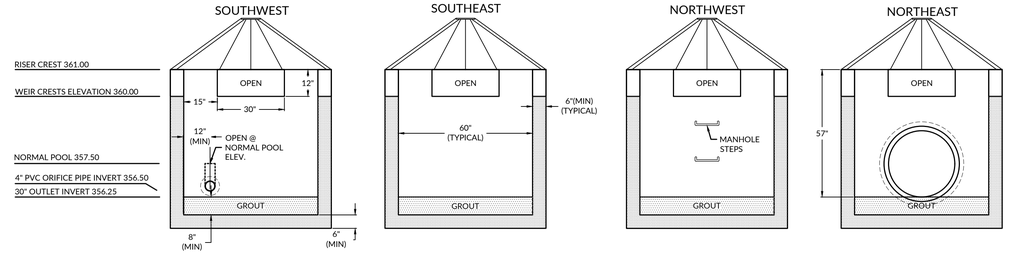
WET POND SCM #2 PLAN VIEW

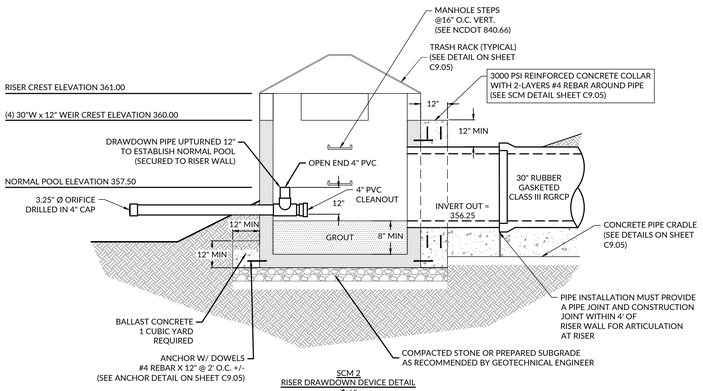
SCALE: 1" = 30'



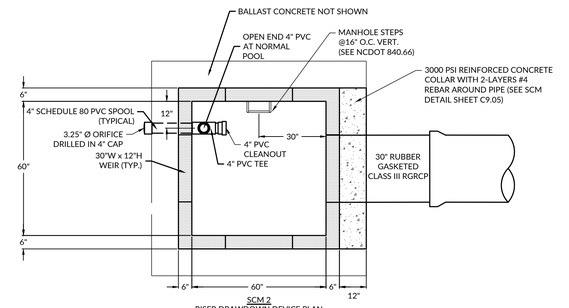
WET POND SCM #2 PROFILE VIEW

SCALE: 1" = 30' HORIZONTAL, 1" = 3' VERTICAL





SCM 2
RISER DRAWDOWN DEVICE DETAIL
3" = 1'-0"



SCM 2
RISER DRAWDOWN DEVICE PLAN
3" = 1'-0"

NOTE:
RISER AND BALLAST CONCRETE HAVE BEEN SIZED BASED ON BUOYANCY CALCULATIONS. ADJUSTMENTS TO CONCRETE DIMENSIONS ARE NOT PERMITTED WITHOUT PRIOR WRITTEN APPROVAL. ANY DIMENSIONAL CHANGES TO BALLAST CONCRETE BASE AND RISER MUST BE REQUESTED IN WRITING AND MUST BE ACCOMPANIED BY BUOYANCY CALCULATIONS SIGNED AND SEALED BY A NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER.

WET POND STORMWATER CONTROL MEASURE (SCM) GENERAL NOTES:

1. PRIOR TO OR DURING CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES IN THE PLANS OR SPECIFICATIONS.
2. ALL CONSTRUCTION AND MINIMUM DESIGN CRITERIA SHALL BE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL STANDARDS AND SPECIFICATIONS, HEREBY INCORPORATED BY REFERENCE.
3. UPON COMPLETION OF CONSTRUCTION, CERTIFICATION OF THE SCM BY THE GEOTECHNICAL ENGINEER WILL BE REQUIRED PRIOR TO FINAL SCM ACCEPTANCE.
4. THE GEOTECHNICAL ENGINEER SHALL EVALUATE SOILS FOR SUITABILITY OF DAM CONSTRUCTION AND SLOPE STABILITY.
5. PRIOR TO PLACEMENT OF EMBANKMENT FILL, THE GEOTECHNICAL ENGINEER SHALL SUPERVISE THE FOUNDATION PREPARATION AND APPROVE THE DEPTH AND EXTENT OF THE CUTOFF TRENCH, A MINIMUM OF 1 FOOT SHALL BE EXCAVATED.
6. THE DAM AND FOREBAY BERMS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS UNLESS SUPERCEDED BY THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.
   - BORROW MATERIALS FOR USE AS EMBANKMENT FILL SHALL BE FREE OF ORGANICS, ROOTS AND OTHER WOODY VEGETATION OR ORGANIC DEBRIS.
   - FILL MATERIALS SHALL CONSIST OF SOILS WHICH CLASSIFY AS SC, SM, CL, CL-CH AND ML IN ACCORDANCE WITH THE UNIFIED CLASSIFICATION SYSTEM OR AS APPROVED BY THE GEOTECHNICAL ENGINEER.
   - FILL MATERIALS SHALL HAVE A MAXIMUM PARTICLE SIZE OF 3 INCHES IN MEAN DIAMETER.
   - FILL SHALL BE PLACED IN 8 INCH (MAXIMUM) LOOSE LIFTS FOR MATERIAL COMPACTED BY HEAVY COMPACTION EQUIPMENT AND IN 4 INCH (MAXIMUM) LOOSE LIFTS FOR MATERIAL COMPACTED BY HAND OPERATED TAMPERS UNDER THE SUPERVISION OF THE GEOTECHNICAL ENGINEER OR THEIR REPRESENTATIVE. FILL SHALL BE BROUGHT UP BY BENCHING INTO THE EXISTING SLOPE. A MAXIMUM HEIGHT OF 2 FEET SHALL BE USED FOR EACH BENCH LIFT TAKING CARE TO REMOVE ROOT STRUCTURES AS THE FILL PROCEEDS. THE SURFACE OF EACH LIFT SHALL BE SCARIFIED PRIOR TO PLACEMENT OF THE NEXT LIFT IN ORDER TO EFFECTIVELY TIE THE FILL LIFTS TOGETHER.
   - ALL COMPACTION SHALL BE TESTED BY THE NUCLEAR METHOD (ASTM D-6938) OR SAND CONE METHOD (ASTM D-1556) AT A RATE OF AT LEAST ONE TEST PER 5,000 SF PER ONE FOOT OF COMPACTED FILL THICKNESS IN GENERAL AREA FILLS AND ONE TEST PER 50 LINEAL FEET PER LIFT ALONG THE BARREL.
   - THE MINIMUM COMPACTION SHALL BE A MINIMUM OF 95% OF THE MAXIMUM STANDARD PROCTOR DENSITY (ASTM D-698) AT MOISTURE CONTENTS VARYING FROM 2 PERCENT BELOW TO 3 PERCENT ABOVE OPTIMUM MOISTURE CONTENT DETERMINED BY STANDARD PROCTOR TEST.
7. SUBGRADE FOR THE RISER STRUCTURE AND OUTLET PIPE SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT.IF THE GEOTECHNICAL ENGINEER REQUIRES ADDITIONAL SUBGRADE PREPARATION, THE ADDITIONAL COST SHALL BE APPROVED BY THE ENGINEER PRIOR TO PLACEMENT.
8. THE OUTLET PIPE SHALL BE BEDDED IN CONCRETE FOR 2/3 OF THE PIPE LENGTH, BEGINNING AT THE RISER, AND IN #78 STONE FOR 1/3 OF PIPE LENGTH TO THE OUTLET. SEE DETAILS ON SHEET C9.05.
9. EMBANKMENT AND SIDE SLOPES OF THE BASIN SHALL BE STABILIZED PER SEEDING SCHEDULE ON EROSION CONTROL DETAILS SHEET OR SODDED. SEE LANDSCAPE PLAN (L1.09) FOR FURTHER PLANTING DETAILS.
10. IF, DURING CONSTRUCTION, THE SCM IS TO BE USED AS AN EROSION CONTROL MEASURE, THE FOREBAY BERM(S) SHALL NOT BE INSTALLED DURING THE INITIAL CONSTRUCTION OR WHILE THE SCM IS USED AS AN EROSION CONTROL MEASURE.
11. UNLESS OTHERWISE NOTED, ALL PERMANENT STRUCTURES (e.g. RISER/BARREL, WEIR WALLS, ETC.) ARE TO BE INSTALLED WITH THE INITIAL DAM CONSTRUCTION.
12. FOR SITE BUILT FEATURES (e.g. WEIR WALLS, DROP STRUCTURES, BRIDGES, ETC.), THE CONTRACTOR SHALL PROVIDE STRUCTURAL DRAWINGS TO BE SIGNED AND SEALED BY A NC PROFESSIONAL ENGINEER AND TO THE DESIGN ENGINEER FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
13. PRIOR TO FINAL GRADING OF THE SCM, THE CONTRACTOR SHALL PROVIDE SUFFICIENT AS-BUILT SURVEY INFORMATION TO CONFIRM THAT THE FINISHED SCM WILL MEET THE SPECIFIC DIMENSIONAL REQUIREMENTS APPLICABLE TO THE SCM. THOSE REQUIREMENTS INCLUDE:
   - POND BOTTOM ELEVATION = 353.00 FT
   - DRAWDOWN OVERFLOW ELEVATION (NORMAL POOL) = 357.50 FT
   - MINIMUM SURFACE AREA AT NORMAL POOL ELEVATION = 23,322 SF
   - MINIMUM VOLUME REQUIRED FOR WATER QUALITY = 29,797 CF
   - PROVIDED VOLUME FOR WATER QUALITY = 66,090 CF
   - WEIR CREST ELEVATION= 360.00 FT
   - RISER CREST ELEVATION= 361.00 FT
   - LOW POINT TOP OF EMBANKMENT (AUXILIARY SPILLWAY) = 362.00 FT
   - AVERAGE TOP OF EMBANKMENT = 363.50 FT
15. ELEVATIONS SHALL BE WITHIN 0.1 FEET OF THE ABOVE ELEVATIONS FOR EARTHWORK, AND 0.05 FEET FOR OUTLET STRUCTURE. ALL SURFACE AREAS ARE THE MINIMUM AREAS. REQUEST FOR A REDUCTIONS IN THE MINIMUM VALUES WILL BE CONSIDERED ON A CASE BY CASE BASIS.
16. ONCE THE PROJECT SITE HAS BEEN STABILIZED, CONTRACTOR SHALL OBTAIN APPROVAL BY EROSION CONTROL INSPECTOR IN ORDER TO REMOVE TEMPORARY EROSION CONTROL DEVICES.
   - ONCE ALL SEDIMENT AND EROSION CONTROL DEVICES HAVE BEEN REMOVED, THE SCM SHALL BE CONVERTED TO A PERMANENT SCM.
   - ALL SEDIMENT SHALL BE REMOVED AND DISPOSED OF PROPERLY.
   - FOREBAY AND VEGETATED SHELF SHALL BE CONSTRUCTED AS SHOWN ON THE PLAN.
   - VEGETATED SHELF SHALL BE PLANTED PER PLANT SCHEDULE ON LANDSCAPE PLAN (SEE L1.09).
17. FINAL CERTIFICATION OF THE SCM BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE IN WHICH THE PROJECT IS LOCATED IS REQUIRED.

CLAY LINER SPECIFICATIONS:

THE CONTRACTOR SHALL INSTALL A CLAY LINER TO MAINTAIN A PERMANENT POOL AT THE DESIGN ELEVATION. IF THE SITE GEOTECHNICAL ENGINEER DETERMINES THAT THE EXISTING SITE CONDITIONS (SOIL PROPERTIES, EXISTING WATER TABLE, ETC.) INDICATE THAT NORMAL POOL CAN BE MAINTAINED WITHOUT A CLAY LINER, THE GEOTECHNICAL ENGINEER WILL PROVIDE NOTICE IN WRITING TO THE PROJECT ENGINEER THAT THE CLAY LINER IS NOT REQUIRED. IF THE CLAY LINER IS NOT INSTALLED, THE OWNER SHALL RECEIVE A CREDIT FOR THE DELETION OF THE LINER.

AT A MINIMUM, THE CLAY LINER MATERIAL FOR THE WET POND SHALL MEET THE FOLLOWING SPECIFICATIONS:

- UNIFIED SOIL CLASSIFICATION SYSTEM DESIGNATION OF CL, CH, ML, OR SC
- MINIMUM OF 40% PASSING #200 SIEVE
- MINIMUM PLASTICITY INDEX OF 12
- MAXIMUM PERMEABILITY OF 1 X 10^{-5} cm/sec
- A MINIMUM OF 2 TESTS OF EACH ABOVE PARAMETER SHALL BE PROVIDED FROM AN APPROVED LABORATORY ON THE LINER MATERIAL AND PRESENTED TO THE ENGINEER FOR APPROVAL PRIOR TO PLACEMENT OF THE MATERIAL.
- COMPACTION TO A MINIMUM OF 95% OF THE MAXIMUM STANDARD PROCTOR DENSITY (ASTM D-698), AND WITHIN 3% OF THE OPTIMUM MOISTURE CONTENT (MINIMUM OF 1 COMPACTION DENSITY TEST PER 2500 SQUARE FEET).
- AN IN-PLACE MAXIMUM INFILTRATION RATE OF 0.01 INCHES PER HOUR.
- RECOMMENDATIONS OF THE SITE GEOTECHNICAL ENGINEER MAY SUPERCEDE THE ABOVE SPECIFICATIONS.

THE CLAY LINER SHALL BE PLACED UNDER THE BOTTOM OF THE SCM PERMANENT POOL TO A MINIMUM THICKNESS OF 8 INCHES. A MINIMUM OF 4 INCHES OF TOPSOIL SHALL BE PLACED ABOVE THE CLAY LINER TO THE FINISHED GRADE AS SHOWN ON THE DRAWINGS AND/OR DETAILS. CARE SHALL BE TAKEN WHEN PLACING THE TOPSOIL SO AS NOT TO DAMAGE THE CLAY LINER. A CLAY/SOIL, NO ORGANICS, MIXTURE MAY BE USED IF THE ABOVE SPECIFICATIONS ARE SATISFIED AND WITH WRITTEN APPROVAL BY THE GEOTECHNICAL ENGINEER.

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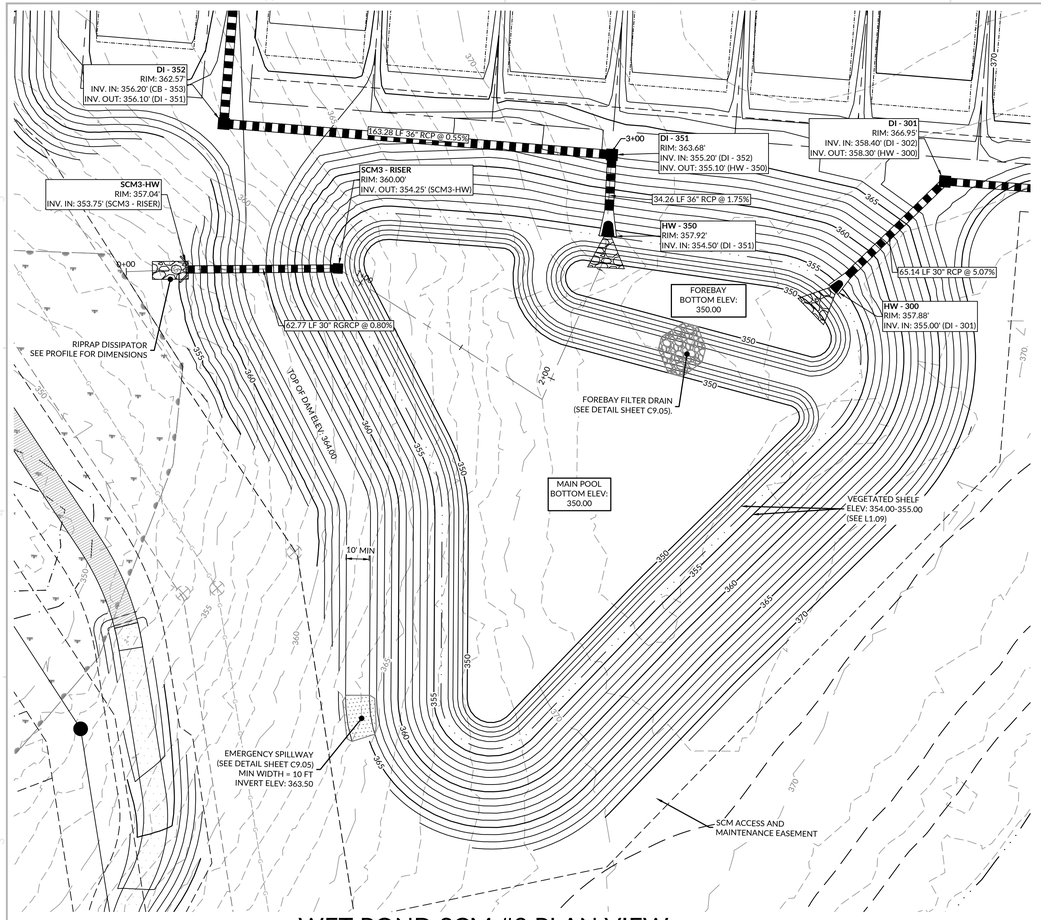
WR JOB NUMBER 23-0045
DRN: WR DGN: WR CKD: WR

SCM 2 PLAN & PROFILE

C9.02

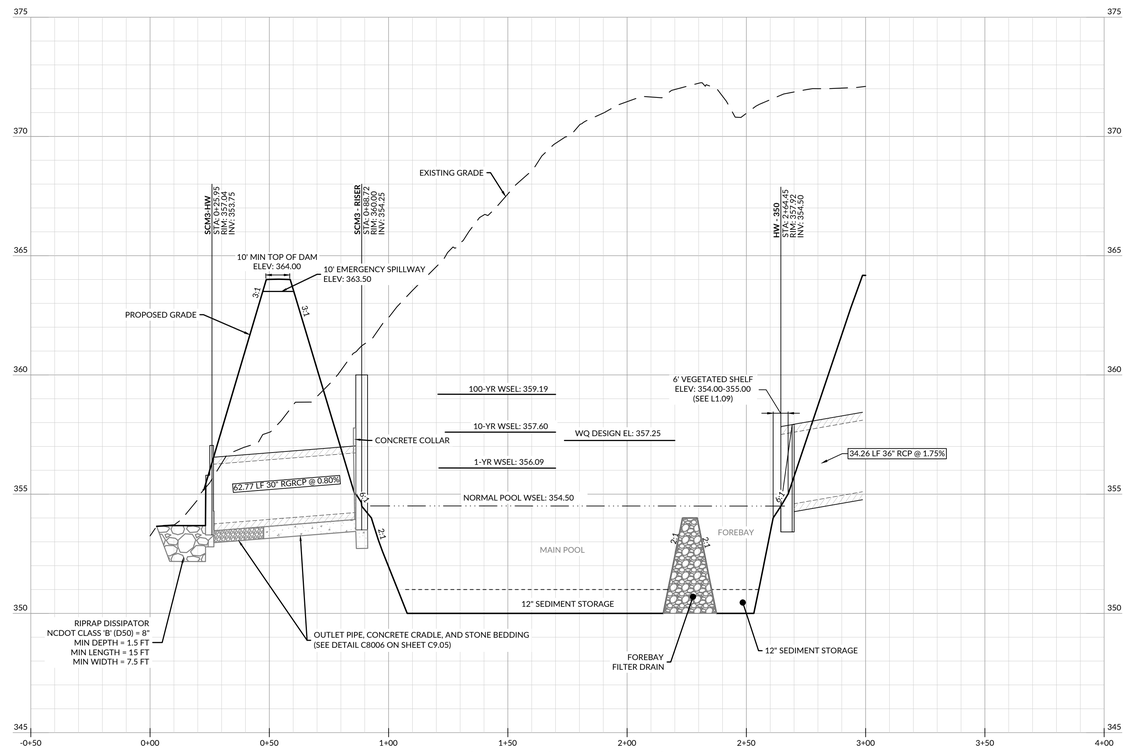
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WET POND SCM #3 PLAN VIEW

SCALE: 1" = 30'



WET POND SCM #3 PROFILE VIEW

SCALE: 1" = 30' HORIZONTAL, 1" = 3' VERTICAL

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   - MINIMUM SURFACE AREA AT NORMAL POOL ELEVATION = 28,902 SF
   - MINIMUM VOLUME REQUIRED FOR WATER QUALITY = 23,403 CF
   - PROVIDED VOLUME FOR WATER QUALITY = 91,063 CF
   - RECTANGULAR ORIFICE ELEVATION= 357.25 FT
   - RISER CREST ELEVATION= 360.00 FT
   - LOW POINT TOP OF EMBANKMENT (AUXILIARY SPILLWAY) = 363.50 FT
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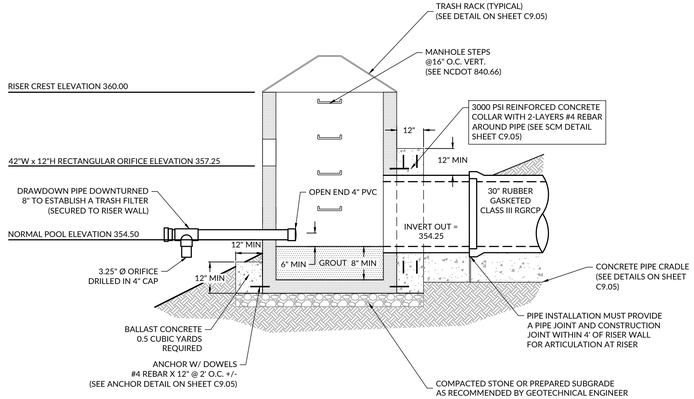
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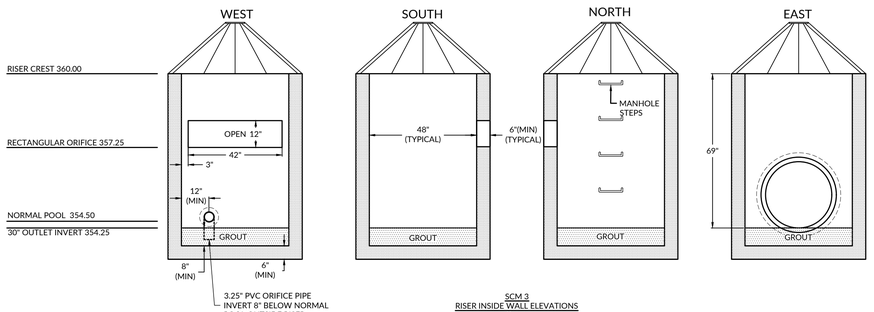
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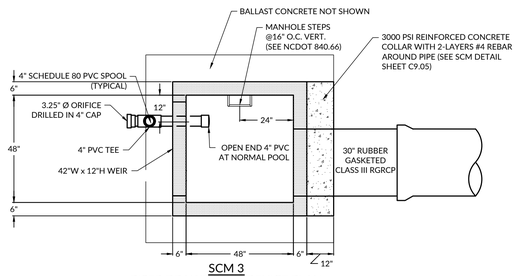


SCM 3
RISER DRAWDOWN DEVICE DETAIL
✗ = 1'-0"

NOTE:
RISER AND BALLAST CONCRETE HAVE BEEN SIZED BASED ON BUOYANCY CALCULATIONS. ADJUSTMENTS TO CONCRETE DIMENSIONS ARE NOT PERMITTED WITHOUT PRIOR WRITTEN APPROVAL. ANY DIMENSIONAL CHANGES TO BALLAST CONCRETE BASE AND RISER MUST BE REQUESTED IN WRITING AND MUST BE ACCOMPANIED BY BUOYANCY CALCULATIONS SIGNED AND SEALED BY A NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER.



SCM 3
RISER INSIDE WALL ELEVATIONS
✗ = 1'-0"



SCM 3
RISER DRAWDOWN DEVICE PLAN
✗ = 1'-0"

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CONSTRUCTION INFRASTRUCTURE DRAWINGS
BROADMOOR
CID-24-06
ROLESVILLE ROAD | ROLESVILLE, NC 27587 | WAKE COUNTY

NORTH CAROLINA PROFESSIONAL SEAL 049066 ENGINEER BRANDON J. MILLER

SCALE: 1 inch = 30 ft. H
1 inch = 3 ft. V

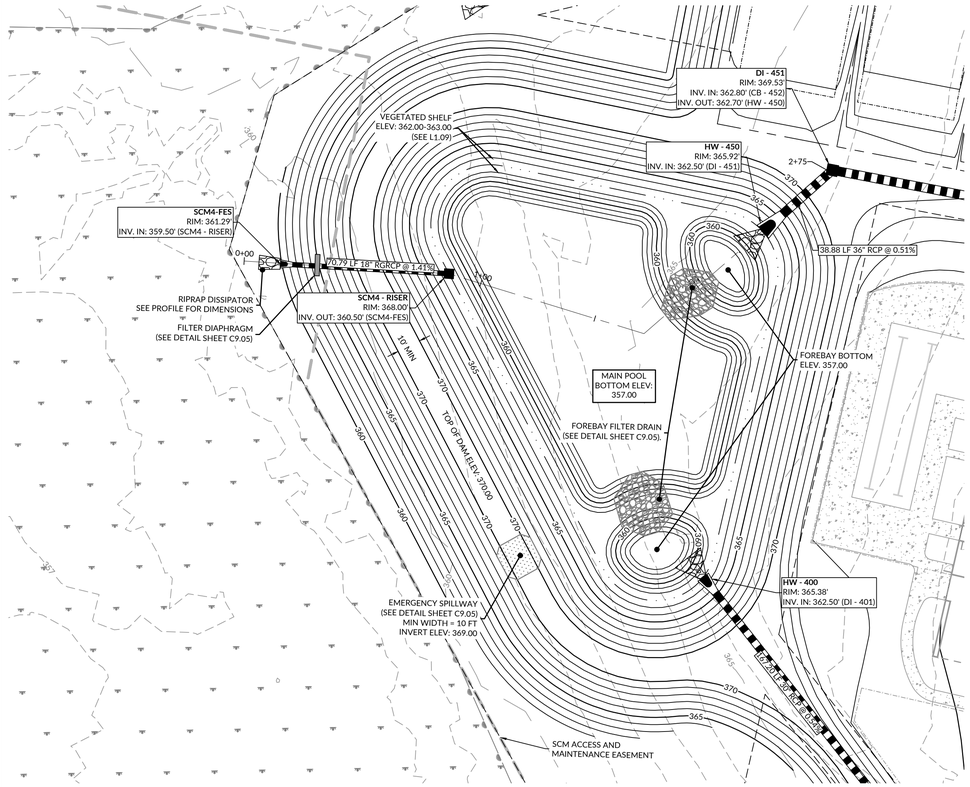
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REVISED PER REVIEW COMMENTS
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3 - 03/28/2025
REVISED PER WAKE CO. COMMENTS
4 - 05/01/2025
REVISED PER REVIEW COMMENTS
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WR JOB NUMBER 23-0045
DRN: WR DGN: WR CKD: WR

SCM 3 PLAN & PROFILE

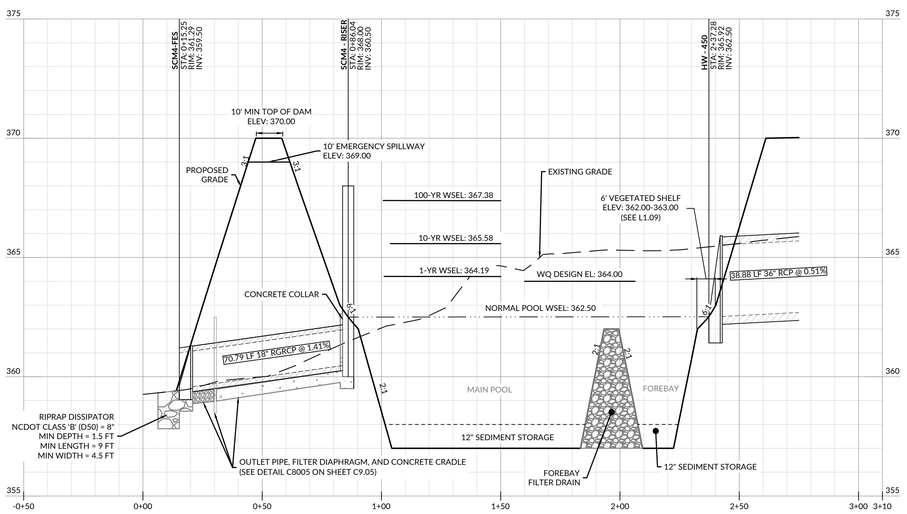
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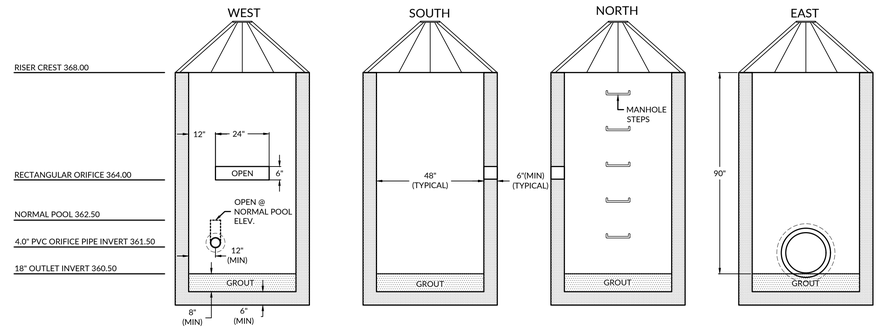
WET POND SCM #4 PLAN VIEW

SCALE: 1" = 30'

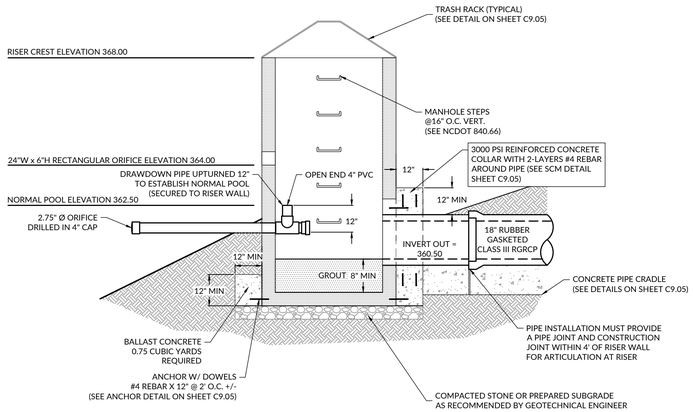


WET POND SCM #4 PROFILE VIEW

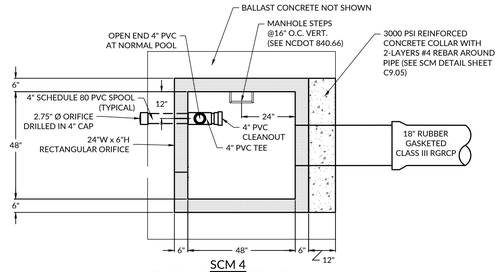
SCALE: 1" = 30' HORIZONTAL, 1" = 3' VERTICAL



SCM 4
RISER INSIDE WALL ELEVATIONS
1/4" = 1'-0"



SCM 4
RISER DRAWDOWN DEVICE DETAIL
1/4" = 1'-0"



SCM 4
RISER DRAWDOWN DEVICE PLAN
1/4" = 1'-0"

NOTE:
RISER AND BALLAST CONCRETE HAVE BEEN SIZED BASED ON BUOYANCY CALCULATIONS. ADJUSTMENTS TO CONCRETE DIMENSIONS ARE NOT PERMITTED WITHOUT PRIOR WRITTEN APPROVAL. ANY DIMENSIONAL CHANGES TO BALLAST CONCRETE BASE AND RISER MUST BE REQUESTED IN WRITING AND MUST BE ACCOMPANIED BY BUOYANCY CALCULATIONS SIGNED AND SEALED BY A NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER.

WET POND STORMWATER CONTROL MEASURE (SCM) GENERAL NOTES:

1. PRIOR TO OR DURING CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES IN THE PLANS OR SPECIFICATIONS.
2. ALL CONSTRUCTION AND MINIMUM DESIGN CRITERIA SHALL BE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL STANDARDS AND SPECIFICATIONS, HEREBY INCORPORATED BY REFERENCE.
3. UPON COMPLETION OF CONSTRUCTION, CERTIFICATION OF THE SCM BY THE GEOTECHNICAL ENGINEER WILL BE REQUIRED PRIOR TO FINAL SCM ACCEPTANCE.
4. THE GEOTECHNICAL ENGINEER SHALL EVALUATE SOILS FOR SUITABILITY OF DAM CONSTRUCTION AND SLOPE STABILITY.
5. PRIOR TO PLACEMENT OF EMBANKMENT FILL, THE GEOTECHNICAL ENGINEER SHALL SUPERVISE THE FOUNDATION PREPARATION AND APPROVE THE DEPTH AND EXTENT OF THE CUTOFF TRENCH, A MINIMUM OF 1 FOOT SHALL BE EXCAVATED.
6. THE DAM AND FOREBAY BERMS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS UNLESS SUPERCEDED BY THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.
   - BORROW MATERIALS FOR USE AS EMBANKMENT FILL SHALL BE FREE OF ORGANICS, ROOTS AND OTHER WOODY VEGETATION OR ORGANIC DEBRIS.
   - FILL MATERIALS SHALL CONSIST OF SOILS WHICH CLASSIFY AS SC, SM, CL, CL-CH AND ML IN ACCORDANCE WITH THE UNIFIED CLASSIFICATION SYSTEM OR AS APPROVED BY THE GEOTECHNICAL ENGINEER.
   - FILL MATERIALS SHALL HAVE A MAXIMUM PARTICLE SIZE OF 3 INCHES IN MEAN DIAMETER.
   - FILL SHALL BE PLACED IN 8 INCH (MAXIMUM) LOOSE LIFTS FOR MATERIAL COMPACTED BY HEAVY COMPACTION EQUIPMENT AND IN 4 INCH (MAXIMUM) LOOSE LIFTS FOR MATERIAL COMPACTED BY HAND OPERATED TAMPERS UNDER THE SUPERVISION OF THE GEOTECHNICAL ENGINEER OR THEIR REPRESENTATIVE. FILL SHALL BE BROUGHT UP BY BENCHING INTO THE EXISTING SLOPE. A MAXIMUM HEIGHT OF 2 FEET SHALL BE USED FOR EACH BENCH LIFT TAKING CARE TO REMOVE ROOT STRUCTURES AS THE FILL PROCEEDS. THE SURFACE OF EACH LIFT SHALL BE SCARIFIED PRIOR TO PLACEMENT OF THE NEXT LIFT IN ORDER TO EFFECTIVELY TIE THE FILL LIFTS TOGETHER.
   - ALL COMPACTION SHALL BE TESTED BY THE NUCLEAR METHOD (ASTM D-6938) OR SAND CONE METHOD (ASTM D-1556) AT A RATE OF AT LEAST ONE TEST PER 5,000 SF PER ONE FOOT OF COMPACTED FILL THICKNESS IN GENERAL AREA FILLS AND ONE TEST PER 50 LINEAL FEET PER LIFT ALONG THE BARREL.
   - THE MINIMUM COMPACTION SHALL BE A MINIMUM OF 95% OF THE MAXIMUM STANDARD PROCTOR DENSITY (ASTM D-698) AT MOISTURE CONTENTS VARYING FROM 2 PERCENT BELOW TO 3 PERCENT ABOVE OPTIMUM MOISTURE CONTENT DETERMINED BY STANDARD PROCTOR TEST.
7. SUBGRADE FOR THE RISER STRUCTURE AND OUTLET PIPE SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT.IF THE GEOTECHNICAL ENGINEER REQUIRES ADDITIONAL SUBGRADE PREPARATION, THE ADDITIONAL COST SHALL BE APPROVED BY THE ENGINEER PRIOR TO PLACEMENT.
8. THE OUTLET PIPE SHALL BE BEDDED IN CONCRETE FOR 2/3 OF THE PIPE LENGTH, BEGINNING AT THE RISER, AND IN #78 STONE FOR 1/3 OF PIPE LENGTH TO THE OUTLET. SEE DETAILS ON SHEET C9.05.
9. EMBANKMENT AND SIDE SLOPES OF THE BASIN SHALL BE STABILIZED PER SEEDING SCHEDULE ON EROSION CONTROL DETAILS SHEET OR SODDED. SEE LANDSCAPE PLAN (L1.09) FOR FURTHER PLANTING DETAILS.
10. IF, DURING CONSTRUCTION, THE SCM IS TO BE USED AS AN EROSION CONTROL MEASURE, THE FOREBAY BERM(S) SHALL NOT BE INSTALLED DURING THE INITIAL CONSTRUCTION OR WHILE THE SCM IS USED AS AN EROSION CONTROL MEASURE.
11. UNLESS OTHERWISE NOTED, ALL PERMANENT STRUCTURES (e.g. RISER/BARREL, WEIR WALLS, ETC.) ARE TO BE INSTALLED WITH THE INITIAL DAM CONSTRUCTION.
12. FOR SITE BUILT FEATURES (e.g. WEIR WALLS, DROP STRUCTURES, BRIDGES, ETC.), THE CONTRACTOR SHALL PROVIDE STRUCTURAL DRAWINGS TO BE SIGNED AND SEALED BY A NC PROFESSIONAL ENGINEER AND TO THE DESIGN ENGINEER FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
13. PRIOR TO FINAL GRADING OF THE SCM, THE CONTRACTOR SHALL PROVIDE SUFFICIENT AS-BUILT SURVEY INFORMATION TO CONFIRM THAT THE FINISHED SCM WILL MEET THE SPECIFIC DIMENSIONAL REQUIREMENTS APPLICABLE TO THE SCM. THOSE REQUIREMENTS INCLUDE:
   - POND BOTTOM ELEVATION = 357.00 FT
   - DRAWDOWN OVERFLOW ELEVATION (NORMAL POOL) = 362.50 FT
   - MINIMUM SURFACE AREA AT NORMAL POOL ELEVATION = 16,709 SF
   - MINIMUM VOLUME REQUIRED FOR WATER QUALITY = 18,763 CF
   - PROVIDED VOLUME FOR WATER QUALITY = 27,851 CF
   - RECTANGULAR ORIFICE ELEVATION= 364.00 FT
   - RISER CREST ELEVATION= 368.00 FT
   - LOW POINT TOP OF EMBANKMENT (AUXILIARY SPILLWAY) = 369.00 FT
   - AVERAGE TOP OF EMBANKMENT = 370.00 FT
15. ELEVATIONS SHALL BE WITHIN 0.1 FEET OF THE ABOVE ELEVATIONS FOR EARTHWORK, AND 0.05 FEET FOR OUTLET STRUCTURE. ALL SURFACE AREAS ARE THE MINIMUM AREAS. REQUEST FOR A REDUCTIONS IN THE MINIMUM VALUES WILL BE CONSIDERED ON A CASE BY CASE BASIS.
16. ONCE THE PROJECT SITE HAS BEEN STABILIZED, CONTRACTOR SHALL OBTAIN APPROVAL BY EROSION CONTROL INSPECTOR IN ORDER TO REMOVE TEMPORARY EROSION CONTROL DEVICES.
   - ONCE ALL SEDIMENT AND EROSION CONTROL DEVICES HAVE BEEN REMOVED, THE SCM SHALL BE CONVERTED TO A PERMANENT SCM.
   - ALL SEDIMENT SHALL BE REMOVED AND DISPOSED OF PROPERLY.
   - FOREBAY AND VEGETATED SHELF SHALL BE CONSTRUCTED AS SHOWN ON THE PLAN.
   - VEGETATED SHELF SHALL BE PLANTED PER PLANT SCHEDULE ON LANDSCAPE PLAN (SEE L1.09).
17. FINAL CERTIFICATION OF THE SCM BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE IN WHICH THE PROJECT IS LOCATED IS REQUIRED.

CLAY LINER SPECIFICATIONS:

THE CONTRACTOR SHALL INSTALL A CLAY LINER TO MAINTAIN A PERMANENT POOL AT THE DESIGN ELEVATION. IF THE SITE GEOTECHNICAL ENGINEER DETERMINES THAT THE EXISTING SITE CONDITIONS (SOIL PROPERTIES, EXISTING WATER TABLE, ETC.) INDICATE THAT NORMAL POOL CAN BE MAINTAINED WITHOUT A CLAY LINER, THE GEOTECHNICAL ENGINEER WILL PROVIDE NOTICE IN WRITING TO THE PROJECT ENGINEER THAT THE CLAY LINER IS NOT REQUIRED. IF THE CLAY LINER IS NOT INSTALLED, THE OWNER SHALL RECEIVE A CREDIT FOR THE DELETION OF THE LINER.

AT A MINIMUM, THE CLAY LINER MATERIAL FOR THE WET POND SHALL MEET THE FOLLOWING SPECIFICATIONS:

- UNIFIED SOIL CLASSIFICATION SYSTEM DESIGNATION OF CL, CH, ML, OR SC
- MINIMUM OF 40% PASSING #200 SIEVE
- MINIMUM PLASTICITY INDEX OF 12
- MAXIMUM PERMEABILITY OF 1 X 10^{-5} cm/sec
- A MINIMUM OF 2 TESTS OF EACH ABOVE PARAMETER SHALL BE PROVIDED FROM AN APPROVED LABORATORY ON THE LINER MATERIAL AND PRESENTED TO THE ENGINEER FOR APPROVAL PRIOR TO PLACEMENT OF THE MATERIAL.
- COMPACTION TO A MINIMUM OF 95% OF THE MAXIMUM STANDARD PROCTOR DENSITY (ASTM D-698), AND WITHIN 3% OF THE OPTIMUM MOISTURE CONTENT (MINIMUM OF 1 COMPACTION DENSITY TEST PER 2500 SQUARE FEET).
- AN IN-PLACE MAXIMUM INFILTRATION RATE OF 0.01 INCHES PER HOUR.
- RECOMMENDATIONS OF THE SITE GEOTECHNICAL ENGINEER MAY SUPERCEDE THE ABOVE SPECIFICATIONS.

THE CLAY LINER SHALL BE PLACED UNDER THE BOTTOM OF THE SCM PERMANENT POOL TO A MINIMUM THICKNESS OF 8 INCHES. A MINIMUM OF 4 INCHES OF TOPSOIL SHALL BE PLACED ABOVE THE CLAY LINER TO THE FINISHED GRADE AS SHOWN ON THE DRAWINGS AND/OR DETAILS. CARE SHALL BE TAKEN WHEN PLACING THE TOPSOIL SO AS NOT TO DAMAGE THE CLAY LINER. A CLAY/SOIL NO ORGANICS, MIXTURE MAY BE USED IF THE ABOVE SPECIFICATIONS ARE SATISFIED AND WITH WRITTEN APPROVAL BY THE GEOTECHNICAL ENGINEER.

PRECAST CONCRETE MATERIALS NOTES:

1. ALL PRECAST CONCRETE STRUCTURES SHALL CONFORM TO ASTM C913 (RECTANGULAR) OR C478 (ROUND).
2. ALL REINFORCED CONCRETE PIPE SHALL CONFORM TO ASTM C76, CLASS III (UNLESS OTHERWISE NOTED),
   - 2.1. O-RING JOINTS (RGRCP) SHALL CONFORM TO ASTM C443 & ASTM C361.
   - 2.2. NON O-RING JOINTS (RCP) SHALL CONFORM TO ASTM C990

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NORTH CAROLINA PROFESSIONAL SEAL 049066 ENGINEER BRANDON J. MILLER

SCALE: 1 inch = 30 ft. H
1 inch = 3 ft. V

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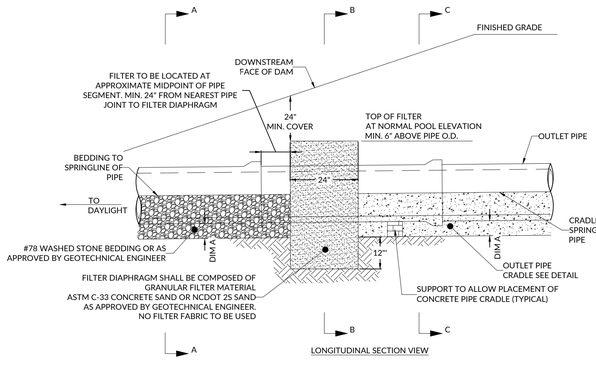
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DRN: WR	DGN: WR	CKD: WR

SCM 4 PLAN & PROFILE

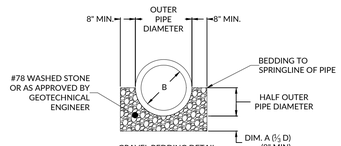
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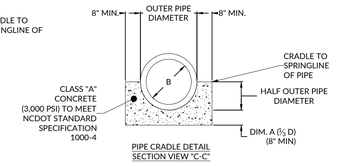
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LONGITUDINAL SECTION VIEW

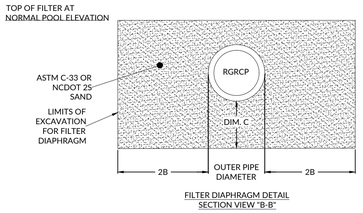


GRAVEL BEDDING DETAIL
SECTION "A-A"



PIPE CRADLE DETAIL
SECTION VIEW "C-C"

NOTE:
IF PIPE IS INSTALLED IN EXCAVATED TRENCH, THEN SIDE WALLS MAY CONFORM TO TRENCH (TRENCH MAY BE USED AS CRADLE FORM)



FILTER DIAPHRAGM DETAIL
SECTION VIEW "B-B"

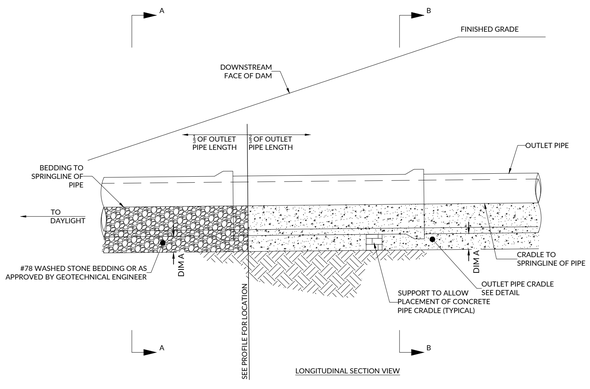
NOMINAL PIPE SIZE (D)	DIM A" (½ D)	DIM B (PIPE ID)	DIM C (DIM A + 12")	SCM #
18	8	18	20	4
24	8	24	20	
30	10	30	22	
36	12	36	24	
42	14	42	26	
48	16	48	28	

ALL DIMENSIONS IN INCHES
DIM A = 8" MINIMUM
18" MINIMUM PIPE DIAMETER

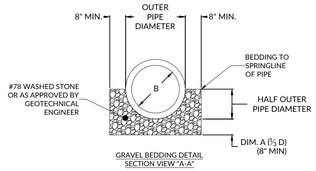
OUTLET PIPE, FILTER DIAPHRAGM, AND CONCRETE CRADLE

Scale:NTS

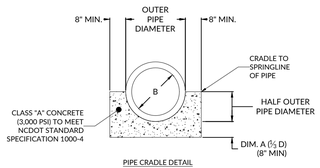
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LONGITUDINAL SECTION VIEW



GRAVEL BEDDING DETAIL
SECTION VIEW "A-A"



PIPE CRADLE DETAIL
SECTION VIEW "B-B"

NOTE:
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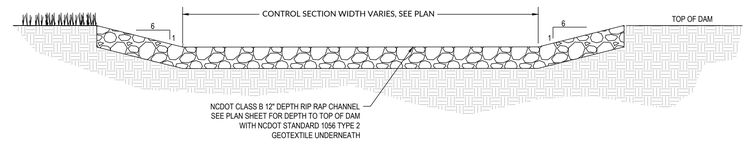
NOMINAL PIPE SIZE	DIM A" (½ D)	DIM B (PIPE ID)	DIM C (DIM A + 12")	SCM #
18	8	18	20	
24	8	24	20	
30	10	30	22	2, 3
36	12	36	24	1
42	14	42	26	
48	16	48	28	

ALL DIMENSIONS IN INCHES
DIM A = 8" MINIMUM
18" MINIMUM PIPE DIAMETER

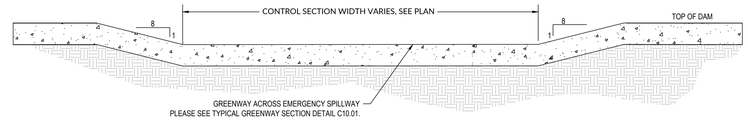
OUTLET PIPE, CONCRETE CRADLE, AND STONE BEDDING

Scale:NTS

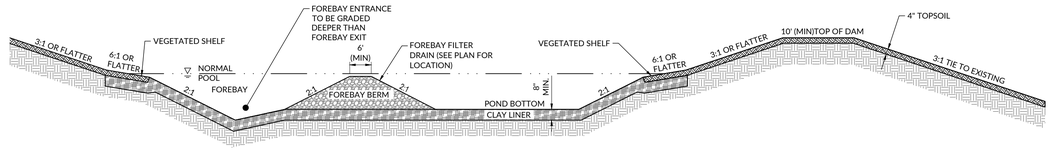
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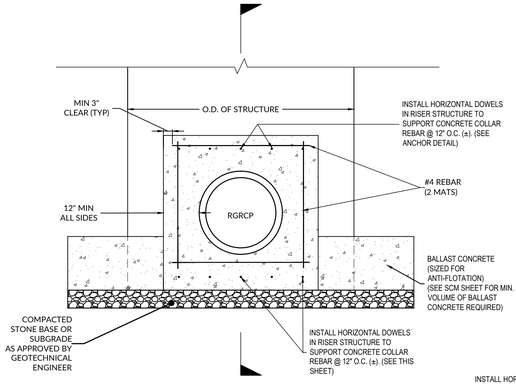
EMERGENCY SPILLWAY DETAIL



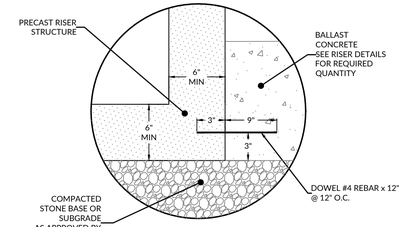
EMERGENCY GREENWAY SPILLWAY DETAIL



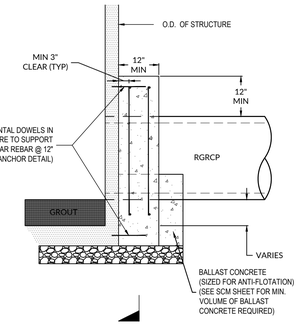
WET POND GRADING DETAIL
NOT TO SCALE



CROSS-SECTION VIEW

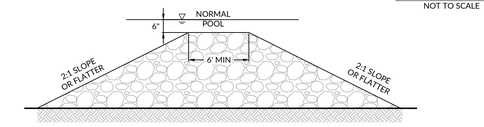


ANCHOR DETAIL (TYPICAL)
NOT TO SCALE

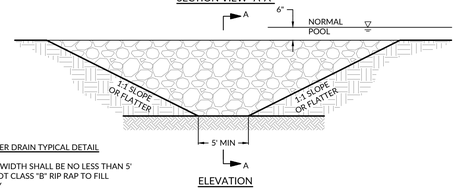


LONGITUDINAL SECTION VIEW

CONCRETE PIPE COLLAR AT STRUCTURE DETAIL
NOT TO SCALE



SECTION VIEW "A-A"



ELEVATION

FOREBAY FILTER DRAIN TYPICAL DETAIL

- BOTTOM WIDTH SHALL BE NO LESS THAN 5'
- USE NCDOT CLASS "B" RIP RAP TO FILL SPILLWAY
- SLOPES FROM SPILLWAY BOTTOM TO TOP OF BERM SHOULD BE NO STEEPER THAN 2:1

FOREBAY FILTER DRAIN DETAIL
NOT TO SCALE

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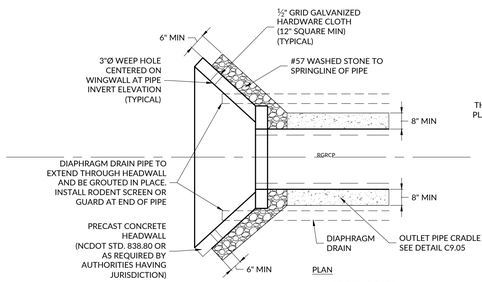
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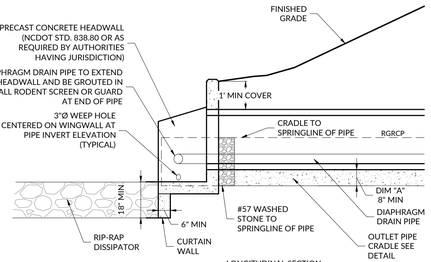
SCM DETAILS

C9.05

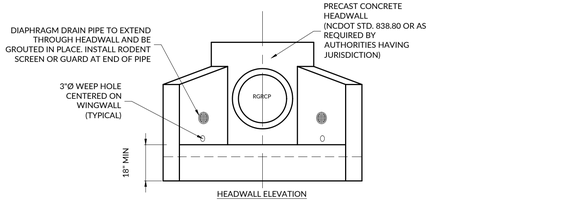
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PLAN



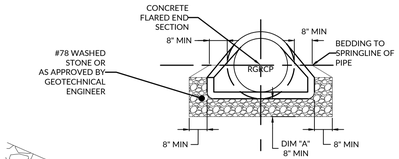
LONGITUDINAL SECTION



HEADWALL ELEVATION

NOMINAL PIPE SIZE	DIM A* (1/3 D)	DIM B (1/2 D + t)	DIM C (D + 2t)	DIM D (PIPE ID)	DIM E (DIM A + 12")	DIM t (WALL)	SCM #
18	8	11.5	23	18	20	2.5	
24	8	15.0	30	24	20	3.0	
30	10	18.5	37	30	22	3.5	3
36	12	22.0	44	36	24	4.0	1
42	14	25.5	51	42	26	4.5	
48	16	29.0	58	48	28	5.0	

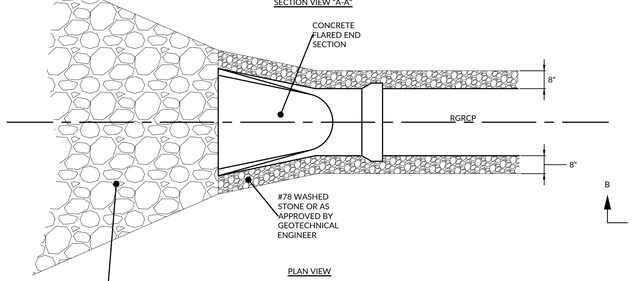
ALL DIMENSIONS IN INCHES
*DIM A - 8" MINIMUM
18" MINIMUM PIPE DIAMETER



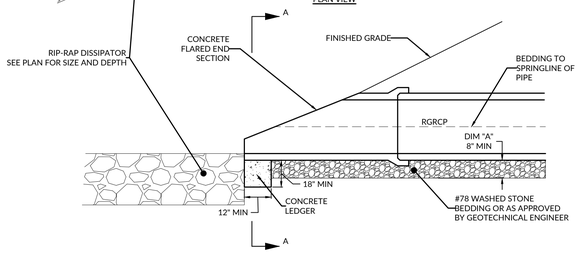
SECTION VIEW "A-A"

NOMINAL PIPE SIZE	DIM A* (¼ D)	DIM B (PIPE ID)	DIM C (DIM A + 12")	SCM #
18	8	18	20	4
24	8	24	20	
30	10	30	22	2
36	12	36	24	
42	14	42	26	
48	16	48	28	

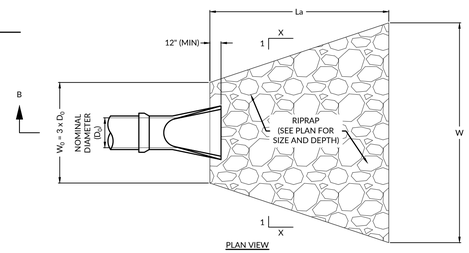
ALL DIMENSIONS IN INCHES
DIM A = 8" MINIMUM
18" MINIMUM PIPE DIAMETER



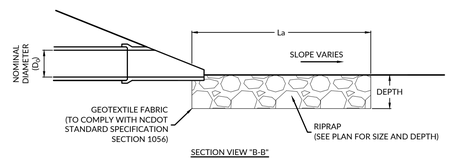
PLAN VIEW



LONGITUDINAL SECTION VIEW



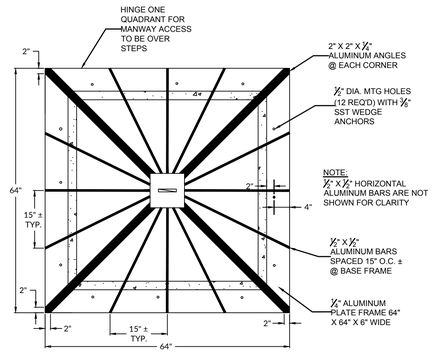
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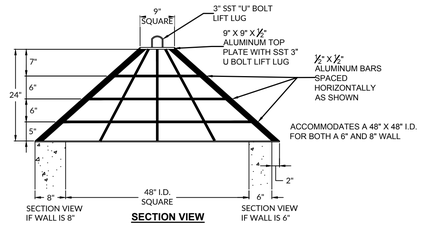
SECTION VIEW "B-B"

OUTLET DETAIL (FLARED END SECTION) & RIPRAP VELOCITY DISSIPATOR (ADAPTED FROM HEC-14 & NYSDOT)

NOT TO SCALE



PLAN VIEW



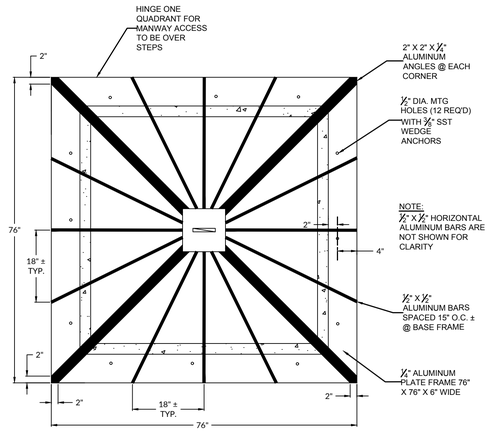
SECTION VIEW

NOTES

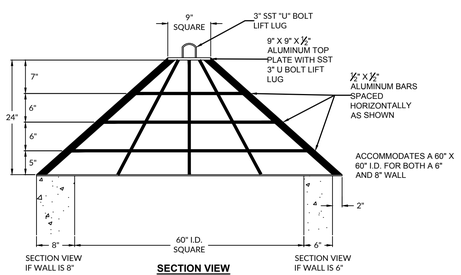
1. TRASH RACK DETAIL BASED ON POMONA PIPE PRODUCTS "STANDARD ALUMINUM BAR & ANGLE PEAKED ROOF TRASH RACK WITH ONE QUADRANT HINGED FOR MANWAY ACCESS TO FIT 48"x48" I.D. CONCRETE RISER WITH 6" OR 8" THICK WALLS".
2. TRASH RACK TO BE POWDER-COATED BLACK.
3. REQUIRES SS HARDWARE TO ATTACH TO RISER.

4' TRASH RACK

NOT TO SCALE



PLAN VIEW



SECTION VIEW

NOTES

1. TRASH RACK DETAIL BASED ON POMONA PIPE PRODUCTS "STANDARD ALUMINUM BAR & ANGLE PEAKED ROOF TRASH RACK WITH ONE QUADRANT HINGED FOR MANWAY ACCESS TO FIT 60"x60" I.D. CONCRETE RISER WITH 6" OR 8" THICK WALLS".
2. TRASH RACK TO BE POWDER-COATED BLACK.
3. REQUIRES SS HARDWARE TO ATTACH TO RISER.

5' TRASH RACK

NOT TO SCALE

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CONSTRUCTION INFRASTRUCTURE DRAWINGS

BROADMOOR
CID-24-06

ROLESVILLE ROAD | ROLESVILLE, NC 27587 | WAKE COUNTY

NORTH CAROLINA PROFESSIONAL SEAL 049066 ENGINEER BRANDON J. MILLER

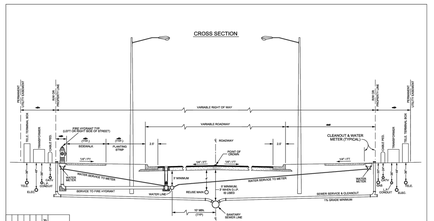
INITIAL PLAN DATE: 11/01/2024
REVISIONS:
1 - 01/02/2025
REVISED PER REVIEW COMMENTS
2 - 03/03/2025
REVISED PER REVIEW COMMENTS
3 - 03/28/2025
REVISED PER WAKE CO. COMMENTS
4 - 05/01/2025
REVISED PER REVIEW COMMENTS
-

WR JOB NUMBER 23-0045
DRN: WR DGN: WR CKD: WR

SCM DETAILS

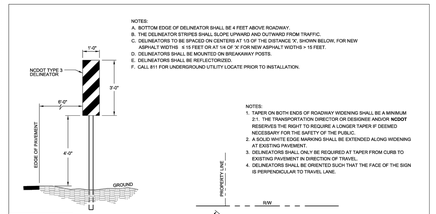
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CITY OF RALEIGH STANDARD DETAIL
STANDARD DETAILS FOR PUBLIC STREET CONSTRUCTION
T-10.26

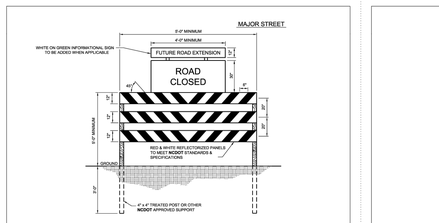
NOTES:
1. WATER AND/OR SANITARY SEWER LINES SHALL BE A MINIMUM OF TWO FEET FROM THE EDGE OF THE CURB AND GUTTER
2. ENCROACHMENT ONTO CITY MAINTAINED RIGHT OF WAY SHALL FOLLOW CONDITIONS OF THE APPLICABLE ENCROACHMENT AGREEMENT OR FRANCHISE AGREEMENT.
3. FOR HYDRANT LOCATION SEE PUBLIC UTILITIES STANDARD DETAIL W-4.
4. PUE TO BE EXPANDED ON A CASE BY CASE BASIS AS NEEDED TO ACCOMMODATE PRIVATE UTILITIES APPURTENANT FACILITIES AND EQUIPMENT.



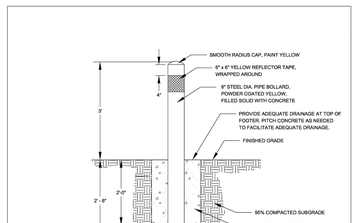
NOTES:
A. BOTTOM EDGE OF DELINEATOR SHALL BE 4 FEET ABOVE ROADWAY.
B. THE DELINEATOR STRIPES SHALL SLOPE UPWARD AND OUTWARD FROM TRAFFIC.
C. DELINEATORS TO BE SPACED ON CENTERS AT 1/3 OF THE DISTANCE 'K', SHOWN BELOW, FOR NEW ASPHALT WIDTHS: K 15 FEET OR AT 1/4 OF 'K' FOR NEW ASPHALT WIDTHS > 15 FEET.
D. DELINEATORS SHALL BE MOUNTED ON BREAKAWAY POSTS.
E. DELINEATORS SHALL BE REFLECTORIZED.
F. CALL 811 FOR UNDERGROUND UTILITY LOCATE PRIOR TO INSTALLATION.

NOTES:
1. TAPER ON BOTH ENDS OF ROADWAY WIDENING SHALL BE A MINIMUM 2:1. THE TRANSPORTATION DIRECTOR OR DESIGNEE AND/OR NCDOT RESERVES THE RIGHT TO REQUIRE A LONGER TAPER IF DEEMED NECESSARY FOR THE SAFETY OF THE PUBLIC.
2. A SOLID WHITE EDGE MARKING SHALL BE EXTENDED ALONG WIDENING AT EXISTING PAVEMENT.
3. DELINEATORS SHALL ONLY BE REQUIRED AT TAPER FROM CURB TO EXISTING PAVEMENT IN DIRECTION OF TRAVEL.
4. DELINEATORS SHALL BE ORIENTED SUCH THAT THE FACE OF THE SIGN IS PERPENDICULAR TO TRAVEL LANE.

CITY OF RALEIGH STANDARD DETAIL
STANDARD DETAILS FOR PUBLIC STREET CONSTRUCTION
T-10.27



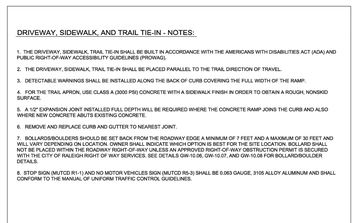
CITY OF RALEIGH STANDARD DETAIL
STANDARD DETAIL FOR ENDING CURB AND GUTTER
T-10.25



NOTES:
1. 10' MAXIMUM BETWEEN DUMMY JOINTS. 15' MAXIMUM BETWEEN DUMMY JOINTS ON MACHINE POURS.
2. 1/2" EXPANSION JOINT EVERY 50'.
3. 3000 PSI CONCRETE MINIMUM, 4" SLUMP MAXIMUM.
4. LIQUID MEMBRANE CURING COMPOUND SHALL MEET THE REQUIREMENTS OF SECTION 1026.3 OF NCDOT STANDARDS & SPECIFICATIONS FOR ROADS AND STRUCTURES.
5. ALL CONSTRUCTION JOINTS SHALL BE FILLED WITH JOINT FILLER AND SEALER IN ACCORDANCE WITH NCDOT ROADWAY STANDARD DETAIL 846.01. THE JOINT MATERIAL SHALL CONFORM TO SECTION 1028.2 OF NCDOT STANDARD & SPECIFICATIONS FOR ROADS AND STRUCTURES.
6. REFER TO NCDOT DETAIL 846.01 FOR CURB AND GUTTER SUPERELEVATION RATES.

SHEET 1 OF 2

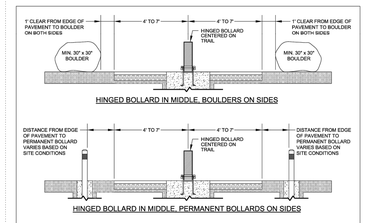
CITY OF RALEIGH STANDARD DETAIL
CURB AND GUTTER
T-10.26.1



NOTES:
1. TRAIL STRIPING MATERIAL SHALL BE STANDARD ROAD PAINT UNLESS OTHERWISE NOTED. UTILIZE NON-SLIP/NON-SKID STRIPING MATERIALS TO AVOID HAZARDS WHEN TRAILS ARE WET.
2. WHERE TRAIL STRIPING IS REQUIRED PER THE CITY OF RALEIGH, 4" WIDTH DASHED YELLOW CENTERLINE STRIPE IS TYPICALLY USED. 4" WIDTH SOLID YELLOW CENTERLINES ARE RECOMMENDED ON TIGHT OR BLIND CORNERS, ON TRAIL SWITCHBACKS, AND ON THE APPROACHES TO ROADWAY CROSSINGS. 4" WIDTH SOLID WHITE EDGE LINES OFFSET 4" FROM EDGE OF TRAIL SHALL ONLY BE USED WHEN ADJACENT TO A SHOULDER OR PAVED AREA WIDER THAN THE TRAIL. SOLID EDGE LINES ARE NOT LIMITED TO WHEN A TRAIL IS ADJACENT TO A SHALL OR STEEP SLOPE. ADDITIONAL TRAIL WIDTH IS TYPICALLY REQUIRED WHEN THESE HAZARDOUS CONDITIONS ARE PRESENT.
3. STRIPING AN ENVELOPE AROUND THE BOLLARD POST WITH 4" SOLID YELLOW IS RECOMMENDED. SEE GW-10.06, GW-10.07, AND GW-10.08 FOR BOLLARD DETAILS.

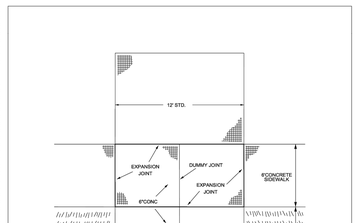
SHEET 1 OF 2

CITY OF RALEIGH STANDARD DETAIL
TRAIL PAVEMENT MARKINGS
GW-10.05



SHEET 1 OF 2

CITY OF RALEIGH STANDARD DETAIL
DRIVEWAY, SIDEWALK, AND TRAIL TIE-IN
GW-10.04.1



NOTES:
1. A HINGED BOLLARD IS TYPICALLY USED IN THE CENTER OF TRAILS TO PREVENT UNAUTHORIZED MOTOR VEHICLE ENTRY. HINGED BOLLARDS MAY BE USED IN COMBINATION WITH PERMANENT BOLLARDS AND BOULDERS. SEE DETAIL GW-10.08 FOR TYPICAL PERMANENT BOLLARD PLACEMENT. HINGED BOLLARDS SHALL NOT BE UTILIZED AT ALL MAJOR ACCESS POINTS AND TRAIL HEADS. "NO MOTOR VEHICLES" SIGNAGE (MUTCD R5-3) MAY BE USED TO REINFORCE ACCESS RULES.
2. BOLLARDS SHOULD BE SET BACK FROM THE ROADWAY EDGE A MINIMUM OF 7 FEET AND A MAXIMUM OF 30 FEET AND WILL VARY DEPENDING ON LOCATION. OWNER SHALL INDICATE WHICH OPTION IS BEST FOR THE SITE LOCATION. BOLLARD SHALL NOT BE PLACED WITHIN THE ROADWAY RIGHT-OF-WAY UNLESS AN APPROVED RIGHT-OF-WAY OBSTRUCTION PERMIT IS SECURED WITH THE CITY OF RALEIGH RIGHT OF WAY SERVICES.
3. STRIPING AN ENVELOPE AROUND THE POST IS RECOMMENDED IF THE BOLLARD IS LOCATED WITHIN THE PAVED LIMITS OF THE TRAIL (SEE DETAIL GW-10.05).
4. SEE MIDDLE BOLLARD WITH TRAIL SIDE BOLLARDS DETAIL, GW-10.08, FOR TYPICAL BOLLARD PLACEMENT.

CITY OF RALEIGH STANDARD DETAIL
HINGED BOLLARD
GW-10.07

NOTES:
1. BARRICADE(S) TO BE ERECTED ACROSS ENTIRE ROADWAY INCLUDING CURB & GUTTER.
2. ADVANCE WARNING SIGN W14-1 (DEAD END) SHALL BE PLACED JUST AFTER LAST INTERSECTING STREET.
3. MARKINGS FOR BARRICADE RAILS SHALL BE REFLECTIVE AND ALTERNATE RED & WHITE STRIPES.
4. "ROAD CLOSED" SIGN SHALL MEET SPECIFICATIONS OF M.U.T.C.D. R11-2 AND BE REQUIRED ATOP EACH BARRICADE USED.
5. CALL 811 FOR UNDERGROUND UTILITY LOCATE PRIOR TO INSTALLATION.

CITY OF RALEIGH STANDARD DETAIL
TEMPORARY BARRICADE FOR DEAD END ROADS
T-10.28

NOTES:
1. A PERMANENT BOLLARD IS TYPICALLY USED ON THE OUTSIDE OF TRAILS TO PREVENT UNAUTHORIZED MOTOR VEHICLE ENTRY. PERMANENT BOLLARDS MAY BE USED IN COMBINATION WITH HINGED BOLLARDS AND BOULDERS. PERMANENT BOLLARD CAN BE USED IN THE CENTER OF THE TRAIL IN LIEU OF A HINGED BOLLARD WHEN REQUESTED BY THE OWNER. SEE DETAIL GW-10.08 FOR THE VARIOUS BOLLARD COMBINATIONS. PERMANENT BOLLARDS SHOULD BE UTILIZED AT ALL MAJOR ACCESS POINTS AND TRAIL HEADS. "NO MOTOR VEHICLES" SIGNAGE (MUTCD R5-3) MAY BE USED TO REINFORCE ACCESS RULES.
2. BOLLARDS SHOULD BE SET BACK FROM THE ROADWAY EDGE A MINIMUM OF 7 FEET AND A MAXIMUM OF 30 FEET AND WILL VARY DEPENDING ON LOCATION. OWNER SHALL INDICATE WHICH OPTION IS BEST FOR THE SITE LOCATION. BOLLARD SHALL NOT BE PLACED WITHIN THE ROADWAY RIGHT-OF-WAY UNLESS AN APPROVED RIGHT-OF-WAY OBSTRUCTION PERMIT IS SECURED WITH THE CITY OF RALEIGH RIGHT OF WAY SERVICES.
3. STRIPING AN ENVELOPE AROUND THE POST IS RECOMMENDED IF THE BOLLARD IS LOCATED WITHIN THE PAVED LIMITS OF THE TRAIL (SEE DETAIL GW-10.05).
4. SEE MIDDLE BOLLARD WITH TRAIL SIDE BOLLARDS DETAIL, GW-10.08, FOR TYPICAL BOLLARD PLACEMENT.

CITY OF RALEIGH STANDARD DETAIL
PERMANENT BOLLARD
GW-10.06

DRIVEWAY, SIDEWALK, AND TRAIL TIE-IN - NOTES:

1. THE DRIVEWAY, SIDEWALK, TRAIL TIE-IN SHALL BE BUILT IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND PUBLIC RIGHT-OF-WAY ACCESSIBILITY GUIDELINES (PROWAG).
2. THE DRIVEWAY, SIDEWALK, TRAIL TIE-IN SHALL BE PLACED PARALLEL TO THE TRAIL DIRECTION OF TRAVEL.
3. DETECTABLE WARNINGS SHALL BE INSTALLED ALONG THE BACK OF CURB COVERING THE FULL WIDTH OF THE RAMP.
4. FOR THE TRAIL APRON, USE CLASS A (3000 PSI) CONCRETE WITH A SIDEWALK FINISH IN ORDER TO OBTAIN A ROUGH, NONSKID SURFACE.
5. A 1/2" EXPANSION JOINT INSTALLED FULL DEPTH WILL BE REQUIRED WHERE THE CONCRETE RAMP JOINS THE CURB AND ALSO WHERE NEW CONCRETE ABUTS EXISTING CONCRETE.
6. REMOVE AND REPLACE CURB AND GUTTER TO NEAREST JOINT.
7. BOLLARDS/BOULDERS SHOULD BE SET BACK FROM THE ROADWAY EDGE A MINIMUM OF 7 FEET AND A MAXIMUM OF 30 FEET AND WILL VARY DEPENDING ON LOCATION. OWNER SHALL INDICATE WHICH OPTION IS BEST FOR THE SITE LOCATION. BOLLARD SHALL NOT BE PLACED WITHIN THE ROADWAY RIGHT-OF-WAY UNLESS AN APPROVED RIGHT-OF-WAY OBSTRUCTION PERMIT IS SECURED WITH THE CITY OF RALEIGH RIGHT OF WAY SERVICES. SEE DETAILS GW-10.06, GW-10.07, AND GW-10.08 FOR BOLLARD/BOULDER DETAILS.
8. STOP SIGN (MUTCD R1-1) AND NO MOTOR VEHICLES SIGN (MUTCD R5-3) SHALL BE 0.063 GAUGE, 3105 ALLOY ALUMINUM AND SHALL CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL GUIDELINES.

1. 8.33% (12:1) MAX RAMP SLOPE (DRAIN TO ROADWAY).
2. CROSS SLOPE: MAXIMUM 2.00%
3. RAMP REQUIRES A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN CURB.

SHEET 2 OF 2

CITY OF RALEIGH STANDARD DETAIL
DRIVEWAY, SIDEWALK, AND TRAIL TIE-IN
GW-10.04.2

NOTES:
1. OWNER SHALL INDICATE WHICH OF THE THREE BOLLARD/BOULDER PLACEMENT OPTIONS IS BEST FOR THE SITE LOCATION.
2. BOLLARDS/BOULDERS ARE EFFECTIVE IN PREVENTING UNAUTHORIZED MOTOR VEHICLE ENTRY. HINGED BOLLARDS MAY BE USED IN COMBINATION WITH PERMANENT BOLLARDS AND BOULDERS. PERMANENT BOLLARDS SHALL BE UTILIZED AT ALL MAJOR ACCESS POINTS AND TRAIL HEADS. "NO MOTOR VEHICLES" SIGNAGE (MUTCD R5-3) MAY BE USED TO REINFORCE ACCESS RULES.
3. BOLLARDS SHOULD BE SET BACK FROM THE ROADWAY EDGE A MINIMUM OF 7 FEET AND A MAXIMUM OF 30 FEET AND WILL VARY DEPENDING ON LOCATION. OWNER SHALL INDICATE WHICH OPTION IS BEST FOR THE SITE LOCATION. BOLLARD SHALL NOT BE PLACED WITHIN THE ROADWAY RIGHT-OF-WAY UNLESS AN APPROVED RIGHT-OF-WAY OBSTRUCTION PERMIT IS SECURED WITH THE CITY OF RALEIGH RIGHT OF WAY SERVICES.
4. STRIPING AN ENVELOPE AROUND THE POST IS RECOMMENDED IF THE BOLLARD IS LOCATED WITHIN THE PAVED LIMITS OF THE TRAIL (SEE DETAIL GW-10.05).

CITY OF RALEIGH STANDARD DETAIL
MIDDLE BOLLARD WITH TRAIL SIDE BOLLARDS
GW-10.08

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

CITY OF RALEIGH STANDARD DETAIL
DRIVEWAY FOR VALLEY TYPE CURB & GUTTER
T-10.02

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR CURB RAMP PARALLEL RAMP

C.26 | SHEET 8 OF 13 | 848.06

NOTES:
1. CONSTRUCT THE RAMP SURFACE TO BE STABLE, FIRM, AND SLIP RESISTANT. CONSTRUCT THE CURB RAMP TYPE AS SHOWN IN THE PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER.
2. LOCATE CURB RAMPS AND PLACE PEDESTRIAN CROSSWALK MARKINGS AS SHOWN IN THE PAVEMENT MARKING PLANS. WHEN FIELD ADJUSTMENTS REQUIRE MOVING CURB RAMPS OR MARKINGS AS SHOWN, CONTACT THE SIGNING AND DELINEATION UNIT OR LOCATE AS DIRECTED BY THE ENGINEER.
3. COORDINATE THE CURB RAMP AND THE PEDESTRIAN CROSSWALK MARKINGS SO A 4'x4' CLEAR SPACE AT THE BASE OF THE CURB RAMP WILL FALL WITHIN THE PEDESTRIAN CROSSWALK LINES.
4. SET BACK DISTANCE FROM INSIDE CROSSWALK MARKING TO NEAREST EDGE OF TRAVEL LANE IS 4' MINIMUM.
5. REFER TO THE PAVEMENT MARKING PLANS FOR STOP BAR LOCATIONS AT SIGNALIZED INTERSECTIONS. IF A PAVEMENT MARKING PLAN IS NOT PROVIDED, CONTACT THE SIGNAL DESIGN SECTION FOR THE STOP BAR LOCATIONS OR LOCATE AS DIRECTED BY THE ENGINEER.
6. TERMINATE PARKING A MINIMUM OF 20' FROM THE BACK OF PEDESTRIAN CROSSWALK.
7. CONSTRUCT CURB RAMPS A MINIMUM OF 4' WIDE.
8. CONSTRUCT THE RUNNING SLOPE OF THE RAMP 8.33% MAXIMUM.
9. ALLOWABLE CROSS SLOPE ON SIDEWALKS AND CURB RAMPS WILL BE 2% MAXIMUM.
10. CONSTRUCT THE SIDE FLARE SLOPE A MAXIMUM OF 10% MEASURED ALONG THE CURB LINE.
11. CONSTRUCT THE COUNTER SLOPE OF THE GUTTER OR STREET AT THE BASE OF THE CURB RAMP A MAXIMUM OF 5% AND MAINTAIN A SMOOTH TRANSITION.
12. CONSTRUCT CLEAR SPACES FOR SIDEWALK A MINIMUM OF 4'x4' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION. CONSTRUCT CLEAR SPACES FOR MEDIAN ISLANDS A MINIMUM OF 5'x5' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION. IF CONSTRAINED ON TWO OR MORE SIDES, THE CLEAR SPACE SHALL BE 4' MINIMUM X 5' MINIMUM, WITH 5' PROVIDED IN THE DIRECTION OF THE PEDESTRIAN STREET CROSSING.
13. TO USE A MEDIAN ISLAND AS A PEDESTRIAN REFUGE AREA, MEDIAN ISLANDS WILL BE A MINIMUM OF 6' WIDE. CONSTRUCT MEDIAN ISLANDS TO PROVIDE PASSAGE OVER OR THROUGH THE ISLAND.
14. SMALL CHANNELIZATION ISLANDS THAT CAN NOT PROVIDE A 5'X5' CLEAR SPACE AT THE TOP OF RAMPS, WILL BE CUT THROUGH LEVEL WITH THE SURFACE STREET.
15. CURB RAMPS WITH RETURNED CURBS MAY BE USED ONLY WHERE PEDESTRIANS WOULD NOT NORMALLY WALK ACROSS THE RAMP, WHERE THE ADJACENT SURFACE IS PLANTING OR OTHER NON-WALKING SURFACE, OR THE SIDE APPROACH IS SUBSTANTIALLY OBSTRUCTED.
16. PLACE A ½" EXPANSION JOINT WHERE THE CONCRETE CURB RAMP JOINS THE CURB AS SHOWN IN ROADWAY STANDARD DRAWING 848.01.
17. PLACE ALL PEDESTRIAN PUSH BUTTON ACTUATORS AND CROSSING SIGNALS AS SHOWN IN THE PLANS OR AS SHOWN IN THE MUTCD.
18. DETECTABLE WARNING SURFACES WILL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
19. DETECTABLE WARNING SURFACES WILL CONTRAST VISIBLY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR CURB RAMP NOTES

C.26 | SHEET 13 OF 13 | 848.06

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CARY, NC 27518

CONSTRUCTION INFRASTRUCTURE DRAWINGS
BROADMOOR
CID-24-06
ROLESVILLE ROAD | ROLESVILLE, NC 27587 | WAKE COUNTY

NORTH CAROLINA PROFESSIONAL SEAL 058751 ENGINEER TERRENCE COOK

INITIAL PLAN DATE: 11/01/2024
REVISIONS:
1 - 01/02/2025
REVISED PER REVIEW COMMENTS
2 - 03/03/2025
REVISED PER REVIEW COMMENTS
3 - 03/28/2025
REVISED PER WAKE CO. COMMENTS
4 - 05/01/2025
REVISED PER REVIEW COMMENTS
-

WR JOB NUMBER 23-0045
DRN: WR DGN: WR CKD: WR

SITE DETAILS

C10.00

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CONTINUOUS LINES

EDGE LINE — YELLOW OR WHITE — 4"/6"

LANE LINE — WHITE — 4"/6"

CENTER LINE — YELLOW — 4"/6"

GORE LINE — WHITE — 8"/12"

DIAGONAL LINE — YELLOW OR WHITE — 12" 45 MPH OR HIGHER; 8" LESS THAN 45 MPH

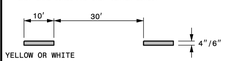
CROSSWALK LINE — WHITE — 8" TRANSVERSE; 24" LONGITUDINAL

RxR LINE — WHITE — 16"

STOP OR TRANSVERSE BAR — WHITE — 24"

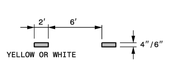
10'-30'/SP SKIP LINE

UNLESS OTHERWISED SHOWN, USE 10'-30'/SP SKIPS FOR SKIP LANE LINES AND SKIP CENTER LINES.



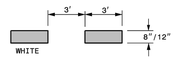
2'-6'/SP MINI-SKIP LINE

UNLESS OTHERWISED SHOWN, USE 2'-6'/SP MINI-SKIPS FOR LANE LINE EXTENSIONS THROUGH INTERSECTIONS, EDGE LINE EXTENSIONS THROUGH INTERSECTIONS AND MINI-SKIPS USED FOR BICYCLE LANE LINES.



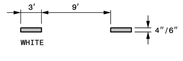
3'-3'/SP MINI-SKIP LINE

UNLESS OTHERWISED SHOWN, USE 3'-3'/SP MINI-SKIPS FOR THE WHITE EDGE LINE EXTENSIONS AT ROUNDABOUTS.



3'-9'/SP MINI-SKIP LINE

UNLESS OTHERWISED SHOWN, USE 3'-9'/SP MINI-SKIPS FOR WINI-SKIP LANE LINES AND LINE EXTENSIONS THROUGH TAPERS.



GENERAL NOTES:

1- USE 6" LANE, EDGE, AND CENTER LINES ON ALL FULL CONTROL OF ACCESS FACILITIES AND OTHER ROUTES AS DIRECTED BY THE ENGINEER.

2- LANE LINES INDICATED AS "WIDE" ON THE ROADWAY STANDARD DRAWINGS SHALL BE AT LEAST TWICE THE WIDTH OF THE NORMAL LINE.

3- GORE LINES SHALL BE TWICE THE WIDTH OF THE NORMAL LINE.

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

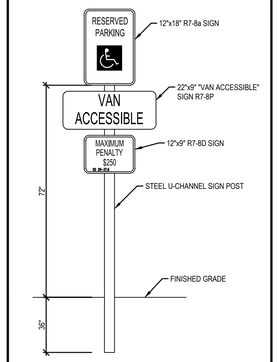
1.18

ROADWAY STANDARD DRAWING FOR
PAVEMENT MARKINGS
LINE TYPES AND OFFSETS

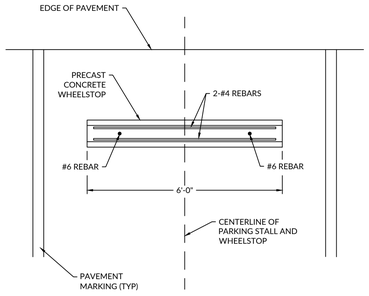
SHEET 1 OF 2

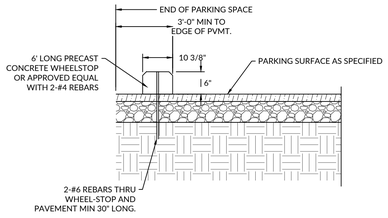
1205.01

NOTE:
1. R7-8D SIGNS ARE TO ACCOMPANY ALL R7-8a PARKING SIGNS
2. ALL SIGNS TO MEET CURRENT MUTCD STANDARDS FOR SIZE AND MATERIAL.



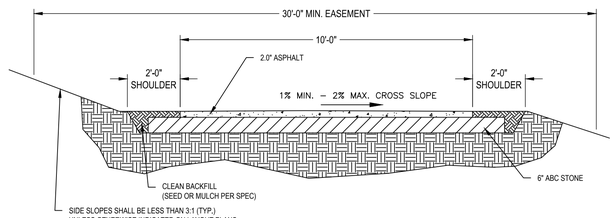
ADA "VAN ACCESSIBLE" SIGN ELEVATION
N.T.S.





WHEELSTOP — STREET

Scale:NTS — C3051

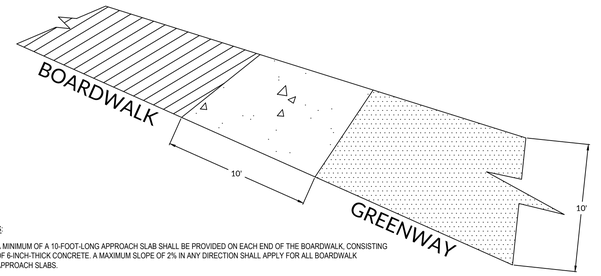


NOTES:

1. GREENWAYS SHALL MINIMIZE THE REMOVAL OF SIGNIFICANT TREES.
2. CROSS SLOPE DIRECTION VARIES. SEE GRADING PLANS FOR DIRECTION OF SLOPE.
3. CONTRACTOR IS RESPONSIBLE FOR RE-ESTABLISHING ALL SLOPES DISTURBED BY CONSTRUCTION.
4. IF NATURAL DRAINAGE CROSSES TRAIL IN AN EROSIVE MANNER, ADDITIONAL MEASURES SHALL BE REQUIRED TO PASS WATER ACROSS GREENWAY.
5. VERTICAL CLEARANCE OF 8' FROM GREENWAY SURFACE TO LOWEST VEGETATION SHALL BE REQUIRED. SELECT REMOVAL OF VEGETATION THAT POSES MAINTENANCE ISSUES MAY BE REQUIRED.
6. GEOTEXTILE STABILIZATION FABRIC SHALL BE PLACED UNDER THE COMPACTED AGGREGATE BASE COURSE (ABC) THE ENTIRE LENGTH/WIDTH OF THE GREENWAY.

TYPICAL GREENWAY SECTION

DRAWING NOT TO SCALE



NOTES:

1. A MINIMUM OF A 10-FOOT-LONG APPROACH SLAB SHALL BE PROVIDED ON EACH END OF THE BOARDWALK, CONSISTING OF 6-INCH-THICK CONCRETE. A MAXIMUM SLOPE OF 2% IN ANY DIRECTION SHALL APPLY FOR ALL BOARDWALK APPROACH SLABS.
2. THE BOARDWALK SHALL BE A MINIMUM OF 10' WIDE OR MATCH THE ADJACENT GREENWAY WIDTH IF GREATER.
3. BOARDWALKS SHALL BE CONSTRUCTED WITH CONCRETE OR PRESSURE TREATED WOOD.
4. BOARDWALK CONSTRUCTION PLANS AND SPECIFICATIONS SHALL BE PREPARED AND SEALED BY A NORTH CAROLINA LICENSED ENGINEER AND SUBMITTED TO THE TOWN FOR APPROVAL PRIOR TO CONSTRUCTION. THE SEALING ENGINEER SHALL OBSERVE THE CONSTRUCTION AND, UPON PROJECT COMPLETION, SHALL PROVIDE A SEALED LETTER TO THE TOWN CERTIFYING THAT THE BOARDWALK WAS CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS.

GREENWAY BOARDWALK DETAIL

DRAWING NOT TO SCALE

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CID-24-06
ROLESVILLE ROAD | ROLESVILLE, NC 27587 | WAKE COUNTY

NORTH CAROLINA PROFESSIONAL SEAL 058751 ENGINEER TERRENCE COOK

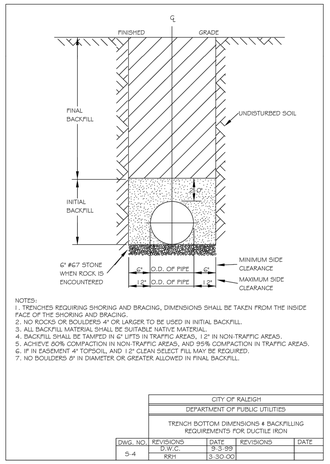
INITIAL PLAN DATE: 11/01/2024
REVISIONS:
1 - 01/02/2025
REVISED PER REVIEW COMMENTS
2 - 03/03/2025
REVISED PER REVIEW COMMENTS
3 - 03/28/2025
REVISED PER WAKE CO. COMMENTS
4 - 05/01/2025
REVISED PER REVIEW COMMENTS
-

WR JOB NUMBER 23-0045
DRN: WR DGN: WR CKD: WR

SITE DETAILS

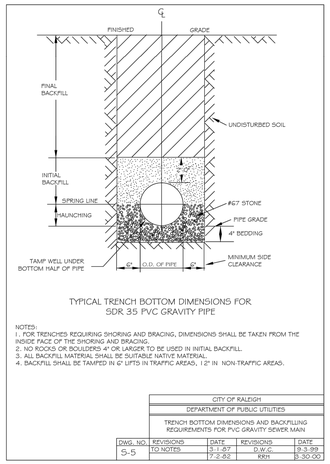
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NOTES:
1. TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.
2. NO ROCKS OR BOULDERS 4" OR LARGER TO BE USED IN INITIAL BACKFILL.
3. ALL BACKFILL MATERIAL SHALL BE SUITABLE NATIVE MATERIAL.
4. BACKFILL SHALL BE TAMPED IN 6" LIFTS IN TRAFFIC AREAS, 12" IN NON-TRAFFIC AREAS.
5. ACHIEVE 90% COMPACTION IN NON-TRAFFIC AREAS, AND 95% COMPACTION IN TRAFFIC AREAS.
6. 8" IN EASEMENT 4" TOPSOIL, AND 12" CLEAN SELECT FILL MAY BE REQUIRED.
7. NO BOULDERS 8" IN DIAMETER OR GREATER ALLOWED IN FINAL BACKFILL.

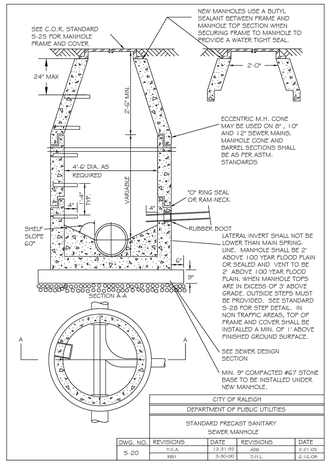
CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
TRENCH BOTTOM DIMENSIONS & BACKFILLING REQUIREMENTS FOR DUCTILE IRON				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-4	D.W.C. RKH	9-3-99 3-30-00		



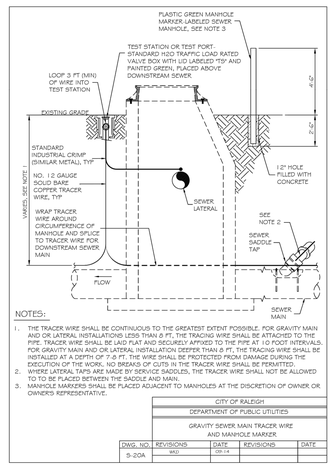
TYPICAL TRENCH BOTTOM DIMENSIONS FOR SDR 35 PVC GRAVITY PIPE

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				
DEPARTMENT OF PUBLIC UTILITIES				
TRENCH BOTTOM DIMENSIONS AND BACKFILLING REQUIREMENTS FOR PVC GRAVITY SEWER MAIN				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-5	TO NOTES	5-1-07 7-2-07	D.W.C. RKH	9-3-99 3-30-00

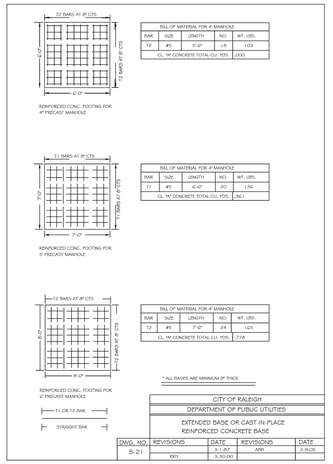


CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
STANDARD PRECAST SANITARY SEWER MANHOLE				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-20	Y.C.A. RKH	12-31-91 3-30-00	ABB D.H.L.	2-01-05 6-18-08



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 OR 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 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				
DEPARTMENT OF PUBLIC UTILITIES				
GRAVITY SEWER MAIN TRACER WIRE AND MANHOLE MARKER				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-20A	WKD	09-14		



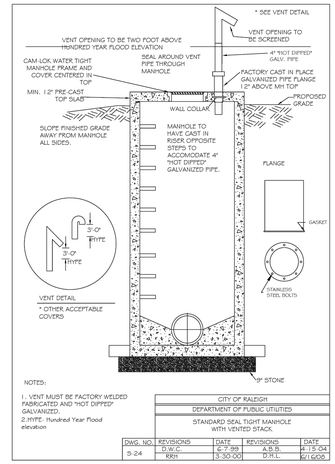
BILL OF MATERIAL FOR 4' MANHOLE					
BAR	SIZE	LENGTH	NO.	WT. LBS.	
T1	#5	6'-0"	20	190	
T2	#5	6'-0"	19	103	
CL. "A" CONCRETE TOTAL CU. YDS.				2000	

BILL OF MATERIAL FOR 4' MANHOLE					
BAR	SIZE	LENGTH	NO.	WT. LBS.	
T1	#5	6'-0"	20	190	
T2	#5	7'-0"	24	165	
CL. "A" CONCRETE TOTAL CU. YDS.				2611	

BILL OF MATERIAL FOR 4' MANHOLE					
BAR	SIZE	LENGTH	NO.	WT. LBS.	
T2	#5	7'-0"	24	165	
CL. "A" CONCRETE TOTAL CU. YDS.				2726	

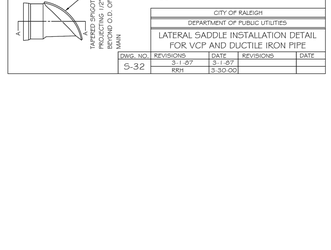
* ALL BASES ARE MINIMUM 9" THICK.

CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
EXTENDED BASE OR CAST-IN-PLACE REINFORCED CONCRETE BASE				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-21	RKH	3-30-00	ABB	2-8-05



NOTES:
1. VENT MUST BE FACTORY WELDED FABRICATED AND "HOT DIPPED" GALVANIZED.
2. HYPE- Hundred Year Flood elevation

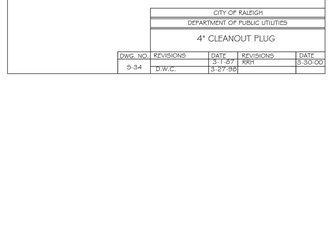
CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
STANDARD SEAL TIGHT MANHOLE WITH VENTED STACK				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-24	D.W.C. RKH	9-3-99 3-30-00	A.B.S. D.H.L.	4-15-04 6/1 6/06



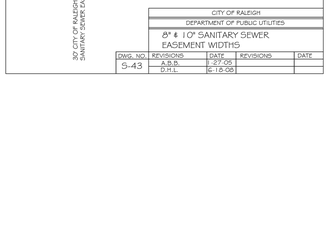
NOTES:
1) ALL MANHOLE FRAMES SHALL BE DOMESTICALLY CAST.
2) FRAME SHALL BE A MINIMUM WEIGHT OF 1,150 LBS. WITHIN PUBLIC ROW AND 1,100 LBS. WITHIN EASEMENTS.
3) COVER SHALL WEIGH A MIN. OF 1,200 LBS.
4) ALL MANHOLE FRAMES OUTSIDE OF PAVED SURFACES SHALL BE BOLTED TO THE CONE SECTION OR RING WITH A MINIMUM OF 4 BOLTS PER FRAME.

5/8"X3" LAGSHIELD IN HOLE DRILLED INTO CONE OR RING WITH ANCHOR SUNK TO DESIGN DEPTH, AND 3/8"X3" HOT DIPPED GALVANIZED LAG BOLT AND WASHER.

CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
STANDARD MANHOLE COVER				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-25	3-1-07 RRH	3-1-07 3-30-00	A.B.B. D.H.L.	2-9-05 6-18-08



CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
STANDARD SLIP RESISTANT MANHOLE STEP DETAIL				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-26	RRH	3-30-00		



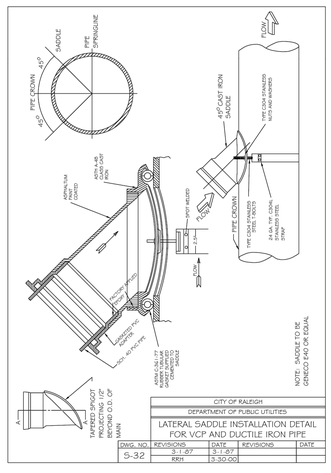
CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
STANDARD MANHOLE FRAME AND COVER DETAIL WITHIN PAVED SURFACES				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-29	Y.C.A. RKH	12-31-91 3-30-00	ABB D.H.L.	9-20-04 1-29-07

CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
TYPICAL SANITARY SEWER LATERAL CONNECTION				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-30	Y.C.A. RKH	6-92 3-30-00	A.B.B. D.H.L.	4-8-04 6-18-08

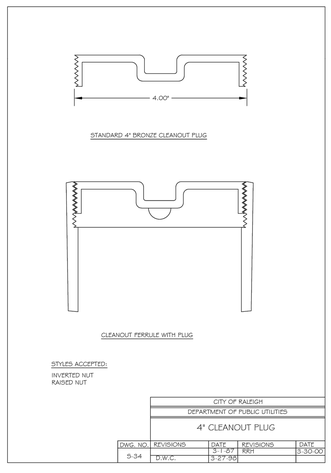
NOTES:
1. THE TRACER WIRE SHALL BE CONTINUOUS TO THE GREATEST EXTENT POSSIBLE. FOR GRAVITY MAIN AND OR LATERAL INSTALLATIONS LESS THAN 8 FT, THE TRACING WIRE SHALL BE BONDED TOGETHER WITH AN APPROVED INDUSTRIAL CRIMP CONNECTOR TO FORM AN UNBROKEN CIRCUIT ALONG THE ENTIRE LENGTH OF THE INSTALLATION. THE TRACER WIRE SHALL BE INSTALLED AT THE CLEANOUT AT THE RIGHT OF WAY AND OR EASEMENT SHALL SERVE AS THE TEST STATION. THE WIRE SHALL BE LAID FLAT AND SECURELY AFFIXED TO THE PIPE AT 10 FOOT INTERVALS AND WRAPPED AROUND THE STACK TWICE AT A DEPTH OF APPROXIMATELY 12".
2. 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 OR CUTS IN THE TRACER WIRE SHALL BE PERMITTED.
3. SPLICED CONNECTIONS SHALL BE ALLOWED BETWEEN THE MAIN LINE TRACER WIRE AND THE LATERAL TRACER WIRE. SPLICES SHALL BE MADE WITH AN APPROVED CRIMP CONNECTOR. DO NOT TAUCHTAIL PRIOR TO INSPECTION.
4. WHERE LATERAL TAPS ARE MADE BY SERVICE SADDLES, THE TRACER WIRE SHALL NOT BE ALLOWED TO BE PLACED BETWEEN THE SADDLE AND MAIN.
5. MANHOLE MARKERS SHALL BE PLACED ADJACENT TO MANHOLES AT THE DISCRETION OF OWNER OR OWNER'S REPRESENTATIVE.

CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
TYPICAL SANITARY SEWER LATERAL TRACER WIRE				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-30A	WKD	9-14		

CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
LATERAL SADDLE INSTALLATION DETAIL FOR PVC PIPE				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-31	RRH	5-1-07 3-30-00		

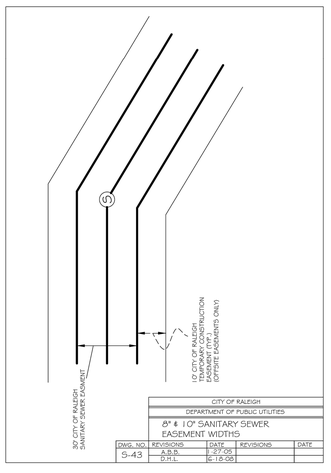


CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
LATERAL SADDLE INSTALLATION DETAIL FOR VCP AND DUCTILE IRON PIPE				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-32	3-1-07 RRH	3-1-07 3-30-00		



STYLES ACCEPTED:
INVERTED NUT
RAISED NUT

CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
4" CLEANOUT PLUG				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-34	D.W.C.	3-1-07 3-27-95	RRH	3-30-00

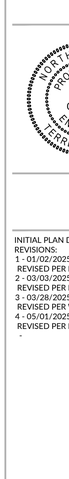


CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
8" & 10" SANITARY SEWER EASEMENT WIDTHS				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-43	A.B.B. D.H.L.	9-27-05 6-18-08		

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CONSTRUCTION INFRASTRUCTURE DRAWINGS
BROADMOOR
CID-24-06
ROLESVILLE ROAD | ROLESVILLE, NC 27587 | WAKE COUNTY



INITIAL PLAN DATE: 11/01/2024
REVISIONS:
1 - 01/02/2025
REVISED PER REVIEW COMMENTS
2 - 03/03/2025
REVISED PER REVIEW COMMENTS
3 - 03/28/2025
REVISED PER WAKE CO. COMMENTS
4 - 05/01/2025
REVISED PER REVIEW COMMENTS
-

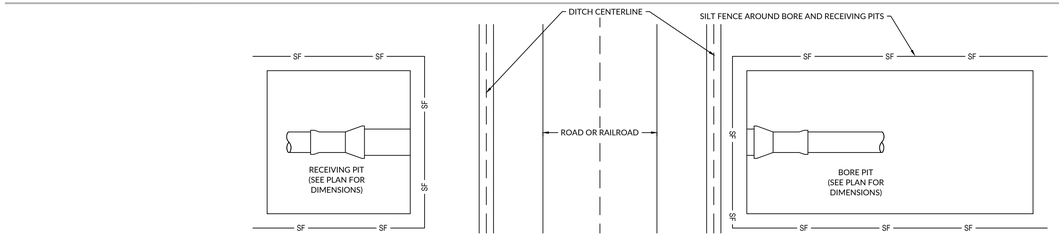
WR JOB NUMBER	23-0045
DRN: WR DGN: WR	CKD: WR

SEWER DETAILS

C10.02

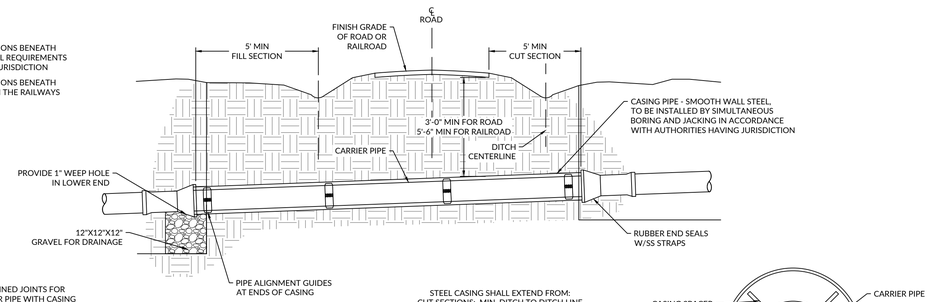
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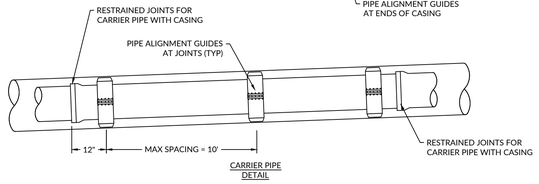
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NOTES:

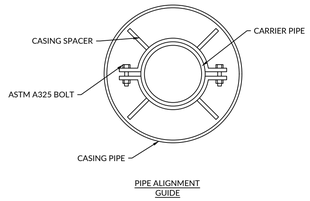
1. ALL BORE AND JACK INSTALLATIONS BENEATH ROADS SHALL COMPLY WITH ALL REQUIREMENTS OF THE AUTHORITIES HAVING JURISDICTION
2. ALL BORE AND JACK INSTALLATIONS BENEATH RAILROAD SHALL COMPLY WITH THE RAILWAYS POLICIES AND PROCEDURES.





CARRIER PIPE
DETAIL

STEEL CASING SHALL EXTEND FROM:
CUT SECTIONS: MIN. DITCH TO DITCH LINE
FILL SECTIONS: 5 FT BEYOND TOE OF SLOPE
CURB SECTIONS: 3 FT BEYOND CURB



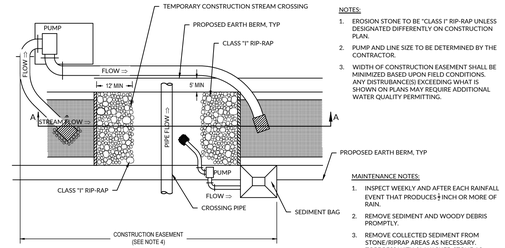
PIPE ALIGNMENT
GUIDE

BORE AND JACK

Scale:NTS

UTILITY TRENCHES

C5051



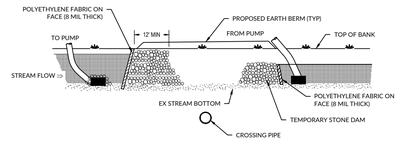
NOTES:

1. EROSION STONE TO BE "CLASS I" RIP-RAP UNLESS DESIGNATED DIFFERENTLY ON CONSTRUCTION PLAN.
2. PUMP AND LINE SIZE TO BE DETERMINED BY THE CONTRACTOR.
3. WIDTH OF CONSTRUCTION EASEMENT SHALL BE MINIMIZED BASED UPON FIELD CONDITIONS. ANY DISTRUBANCE(S) EXCEEDING WHAT IS SHOWN ON PLANS MAY REQUIRE ADDITIONAL WATER QUALITY PERMITTING.

MAINTENANCE NOTES:

1. INSPECT WEEKLY AND AFTER EACH RAINFALL EVENT THAT PRODUCES ½ INCH OR MORE OF RAIN.
2. REMOVE SEDIMENT AND WOODY DEBRIS PROMPTLY.
3. REMOVE COLLECTED SEDIMENT FROM STONE/RIPRAP AREAS AS NECESSARY. TOPDRESS WITH 2", WASHED STONE AS NECESSARY.

PLAN



SECTION A-A

CONSTRUCTION SEQUENCE

1. INSTALL PUMPS UPSTREAM OF TEMPORARY STREAM CROSSING AND PUMP TO AREA DOWNSTREAM OF CONSTRUCTION AREA. BEGIN PUMPING AND CONTINUE PUMPING WHILE WORKING WITHIN THE STREAM.
2. INSTALL UPSTREAM DAM AND DOWNSTREAM DAM WITH POLYETHYLENE FACING.
3. INSTALL EARTH BERMS ALONG TOP OF BANK ON EACH SIDE OF STREAM IN THE CONSTRUCTION AREA.
4. INSTALL SEDIMENT FILTER BAG AT TOP OF BANK. DEWATER CONSTRUCTION AREA BETWEEN STONE DAM USING THE FILTER BAG.
5. INSTALL THE NEW PIPELINE.
6. UPON CONSTRUCTION COMPLETION, REMOVE TEMPORARY DAMS, POLYETHYLENE, AND TEMPORARY CMP, DEPRESS TEMPORARY DAM BOTTOMS INTO STREAM BED UNTIL TOP OF RIP RAP IS LEVEL WITH STREAM BOTTOM.
7. REMOVE TEMPORARY EARTH BERM AND SEDIMENT BAGS AND STABILIZE AREAS AS INDICATED ON DRAWINGS.

TEMPORARY STREAM CROSSING BYPASS

Scale:NTS

RESIDENTIAL

C5070

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CONSTRUCTION INFRASTRUCTURE DRAWINGS
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CID-24-06
ROLESVILLE ROAD | ROLESVILLE, NC 27587 | WAKE COUNTY

NORTH CAROLINA PROFESSIONAL SEAL 058751 ENGINEER TERRENCE COOK

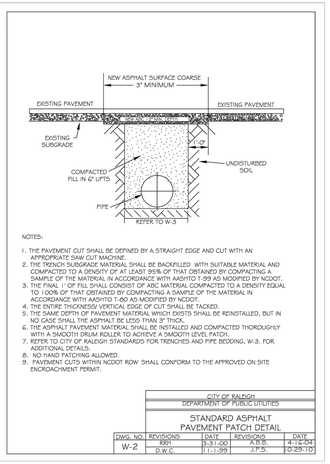
INITIAL PLAN DATE: 11/01/2024
REVISIONS:
1 - 01/02/2025
REVISED PER REVIEW COMMENTS
2 - 03/03/2025
REVISED PER REVIEW COMMENTS
3 - 03/28/2025
REVISED PER WAKE CO. COMMENTS
4 - 05/01/2025
REVISED PER REVIEW COMMENTS
-

WR JOB NUMBER 23-0045
DRN: WR DGN: WR CKD: WR

SEWER DETAILS

C10.03

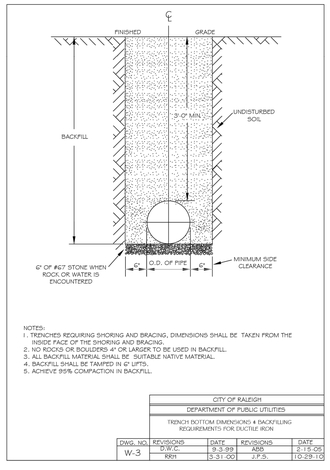
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NOTES:

1. THE PAVEMENT CUT SHALL BE DEFINED BY A STRAIGHT EDGE AND CUT WITH AN APPROPRIATE SAW CUT 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'-0" 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-180 AS MODIFIED BY NCDOT.
4. THE ENTIRE THICKNESS VERTICAL EDGE OF 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 WITH A SMOOTH DRUM ROLLER TO ACHIEVE A SMOOTH LEVEL PATCH.
7. REFER TO CITY OF RALEIGH STANDARDS FOR TRENCHES AND PIPE BEDDING, W-3, FOR ADDITIONAL DETAILS.
8. NO HAND PATCHING ALLOWED.
9. PAVEMENT CUTS WITHIN NCDOT ROW SHALL CONFORM TO THE APPROVED ON SITE ENCROACHMENT PERMIT.

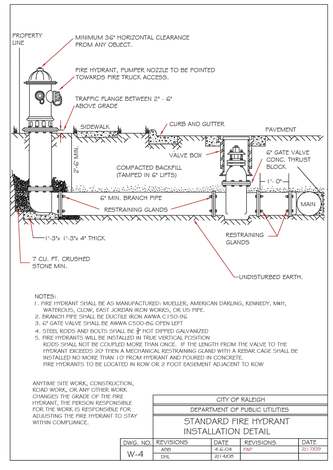
CITY OF RALEIGH			
DEPARTMENT OF PUBLIC UTILITIES			
STANDARD ASPHALT PAVEMENT PATCH DETAIL			
DWG. NO.	REVISIONS	DATE	REVISIONS
W-2	KRH	3-31-00	A.B.B.
	D.W.C.	1-1-97	KRH
		9-7-99	D.H.L.
			J.F.S.
			4-16-04
			10-29-10



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			
DEPARTMENT OF PUBLIC UTILITIES			
TRENCH BOTTOM DIMENSIONS & BACKFILLING REQUIREMENTS FOR DUCTILE IRON			
DWG. NO.	REVISIONS	DATE	REVISIONS
W-3	D.W.C.	9-3-99	ABS
	KRH	3-31-00	J.F.S.
			10-29-10

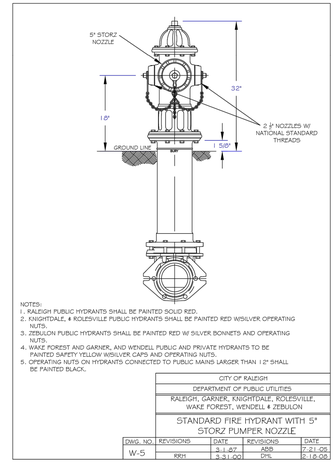


NOTES:

1. FIRE HYDRANT SHALL BE AS MANUFACTURED: MUELLER, AMERICAN DARLING, KENNEDY, MH, WATEROUS, CLOW, EAST JORDAN IRON WORKS, OR US PIPE.
2. BRANCH PIPE SHALL BE DUCTILE IRON AWWA C150-96
3. 6" GATE VALVE SHALL BE AWWA C500-96 OPEN LEFT
4. STEEL RODS AND BOLTS SHALL BE 2" HOT DIPPED GALVANIZED.
5. FIRE HYDRANTS WILL BE INSTALLED IN TRUE VERTICAL POSITION
   RODS SHALL NOT BE COUPLED MORE THAN ONCE. IF THE LENGTH FROM THE VALVE TO THE HYDRANT EXCEEDS 20' THEN A MECHANICAL RESTRAINING GLAND WITH A KEBINI CAGE SHALL BE INSTALLED NO MORE THAN 10' FROM HYDRANT AND POURED IN CONCRETE.
   FIRE HYDRANTS TO BE LOCATED IN ROW OR 2' FOOT EASEMENT ADJACENT TO ROW

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.

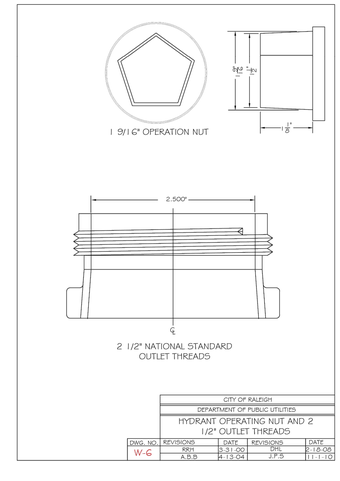
CITY OF RALEIGH			
DEPARTMENT OF PUBLIC UTILITIES			
STANDARD FIRE HYDRANT INSTALLATION DETAIL			
DWG. NO.	REVISIONS	DATE	REVISIONS
W-4	ABS	4-6-04	FSF
	DHL	2016	
			2019



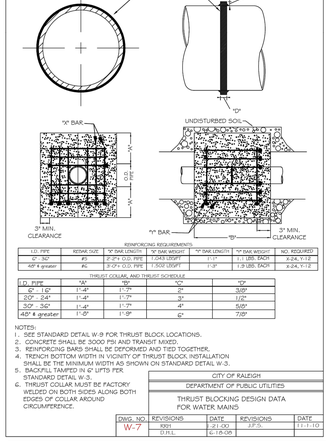
NOTES:

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

CITY OF RALEIGH			
DEPARTMENT OF PUBLIC UTILITIES			
RALEIGH, GARNER, KNIGHTDALE, ROLESVILLE, WAKE FOREST, WENDELL & ZEBULON			
STANDARD FIRE HYDRANT WITH 5" STORZ PUMPER NOZZLE			
DWG. NO.	REVISIONS	DATE	REVISIONS
W-5		3-1-87	ABS
	KRH	3-31-00	DHL
			2-16-05



CITY OF RALEIGH			
DEPARTMENT OF PUBLIC UTILITIES			
HYDRANT OPERATING NUT AND 2 1/2" OUTLET THREADS			
DWG. NO.	REVISIONS	DATE	REVISIONS
W-6	A.B.B.	3-31-00	DHL
		4-13-04	J.F.S.
			11-1-10



REINFORCING REQUIREMENTS					
I.D. PIPE	RETAINER RODS	"A" DIM. LENGTH	"B" DIM. WIDTH	"Y" DIM. LENGTH	"Y" DIM. WEIGHT	NO. REQUIRED
6" - 30"	#5	#5	2'-0" O.D. PIPE	1'-0"	1.5 LBS. EACH	x-24, Y-12
42" & greater	#6	#6	3'-0" + O.D. PIPE	1'-0"	1.5 LBS. EACH	x-24, Y-12

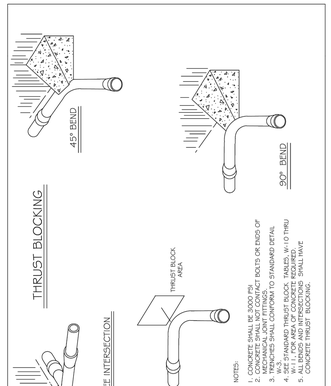
THRUST COLLAR AND THRUST SCHEDULE			
I.D. PIPE	"A"	"B"	"C"
6" - 12"	1'-4"	1'-7"	5"
20" - 24"	1'-4"	1'-7"	5"
30" - 36"	1'-4"	1'-7"	4"
42" & greater	1'-5"	1'-9"	4"

5/8"
1"
1 1/4"
1 1/2"
2"

NOTES:

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

CITY OF RALEIGH			
DEPARTMENT OF PUBLIC UTILITIES			
THRUST BLOCKING DESIGN DATA FOR WATER MAINS			
DWG. NO.	REVISIONS	DATE	REVISIONS
W-7	KRH	3-1-00	J.F.S.
	D.R.L.	6-18-08	



NOTES:

1. CONCRETE SHALL BE 3000 PSI.
2. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT FITTINGS.
3. TRENCHES SHALL CONFORM TO STANDARD DETAIL W-3.
4. SEE STANDARD THRUST BLOCK TABLES, W-10 THRU W-11 FOR AREA OF CONCRETE REQUIRED.
5. ALL BENDS AND INTERSECTIONS SHALL HAVE CONCRETE THRUST BLOCKING.

CITY OF RALEIGH			
DEPARTMENT OF PUBLIC UTILITIES			
STANDARD THRUST BLOCKING VIEWS			
DWG. NO.	REVISIONS	DATE	REVISIONS
W-9	D.W.C.	1-1-97	KRH
		9-7-99	D.H.L.
			3-31-00
			C-15-05

REACTION BEARING AREAS FOR HORIZONTAL WATER PIPE BENDS

BASED ON TEST PRESSURE OF 200 P.S.I.

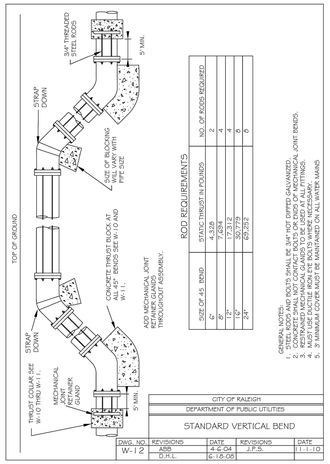
ALL AREAS GIVEN IN SQUARE FEET.

SIZE AND DEGREE OF BEND	STATIC THRUST IN POUNDS	TYPE 2 CONVENTIONAL CLAY AND SOFT LOAMY	SAND, CLEAN, DRY OR SATURATED	LOOSE COARSE SAND OR GRAVEL	AVERAGE SOFT CLAY, SATURATED SAND	AVERAGE COMPACT FIRM SAND, DRY CLAY	SAND, CLEAN, DRY OR SATURATED	SOFT CLAY, DRIFT, GRAVEL, LOOSE ROCK	ROCK, EXCELLENT BEARING
6"									
11 1/4°	1,105	1	1	1	1	1	1	2	1
22 1/2°	2,207	1	2	2	1	1	1	3	1
45°	4,328	2	3	3	1	1	2	5	1
90°	7,986	2	4	5	1	1	2	8	1
PLUG	5,655	2	3	4	1	1	2	6	1
8"									
11 1/4°	1,970	1	1	2	1	1	1	2	1
22 1/2°	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 1/4°	4,433	2	3	3	1	1	2	5	1
22 1/2°	8,826	3	5	6	2	2	3	9	1
45°	17,312	5	9	11	3	3	5	18	2
90°	31,953	8	16	19	4	4	8	32	4
PLUG	22,619	6	12	14	3	3	6	23	3
16"									
11 1/4°	7,881	2	4	5	1	1	2	8	1
22 1/2°	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

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.

USE 6" - 90 BEND VALUE FOR HYDRANTS FOR ADDITIONAL SAFETY FACTOR.

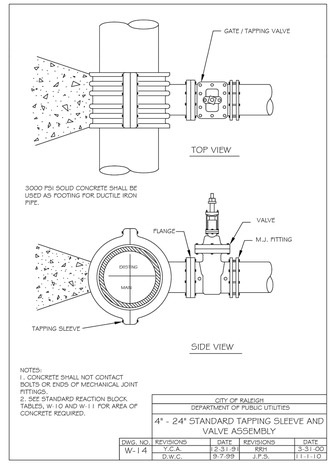
CITY OF RALEIGH			
DEPARTMENT OF PUBLIC UTILITIES			
THRUST BLOCKING DESIGN QUANTITY TABLE			
DWG. NO.	REVISIONS	DATE	REVISIONS
W-10	D.W.C.	6-23-99	



GENERAL NOTES:

1. STEEL RODS AND BOLTS SHALL BE 3/4" HOT DIPPED GALVANIZED.
2. SEE STANDARD THRUST BLOCK, TABLES W-10 AND W-11 FOR AREA OF CONCRETE REQUIRED.
3. RESTRAINED MECHANICAL GLANDS TO BE USED AT ALL FITTINGS.
4. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT FITTINGS.
5. 3' MINIMUM COVER MUST BE MAINTAINED ON ALL WATER MAINS

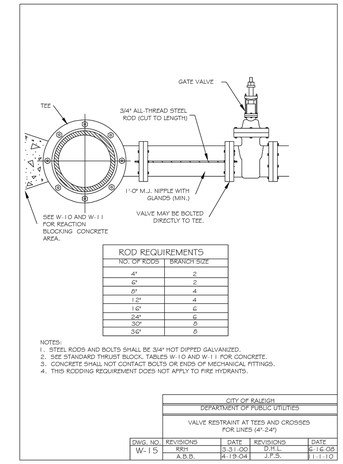
CITY OF RALEIGH			
DEPARTMENT OF PUBLIC UTILITIES			
STANDARD VERTICAL BEND			
DWG. NO.	REVISIONS	DATE	REVISIONS
W-12	ABS	4-6-04	J.F.S.
	D.H.L.	C-15-05	



NOTES:

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

CITY OF RALEIGH			
DEPARTMENT OF PUBLIC UTILITIES			
4" - 24" STANDARD TAPPING SLEEVE AND VALVE ASSEMBLY			
DWG. NO.	REVISIONS	DATE	REVISIONS
W-14	Y.C.A.	2-21-91	KRH
	D.W.C.	9-7-99	J.F.S.
			3-31-00
			11-1-10

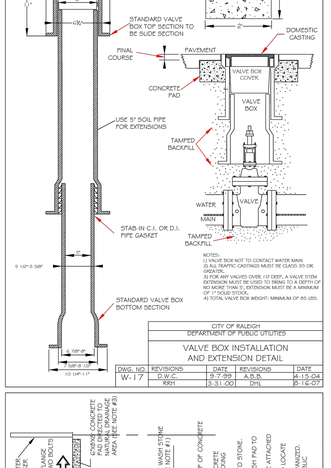


ROD REQUIREMENTS	
NO. OF RODS	BRANCH SIZE
4"	2
6"	2
8"	4
12"	4
16"	6
24"	6
30"	8
36"	8

NOTES:

1. STEEL RODS AND BOLTS SHALL BE 3/4" HOT DIPPED GALVANIZED.
2. SEE STANDARD THRUST BLOCK, TABLES W-10 AND W-11 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			
DEPARTMENT OF PUBLIC UTILITIES			
VALVE RESTRAINT AT TEES AND CROSSES FOR LINES (4"-24")			
DWG. NO.	REVISIONS	DATE	REVISIONS
W-15	ABS	4-6-04	KRH
	A.B.B.	4-19-04	J.F.S.
			11-1-10



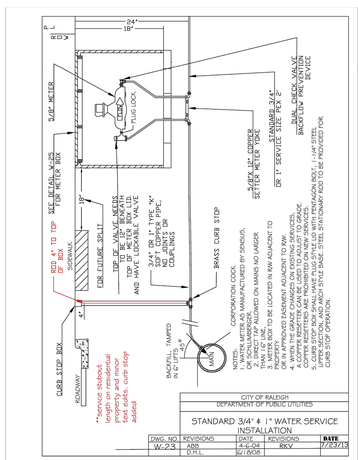
CITY OF RALEIGH			
DEPARTMENT OF PUBLIC UTILITIES			
VALVE BOX INSTALLATION AND EXTENSION DETAIL			
DWG. NO.	REVISIONS	DATE	REVISIONS
W-17	D.W.C.	9-7-99	A.B.B.
	KRH	3-31-00	DHL
			6-16-09

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

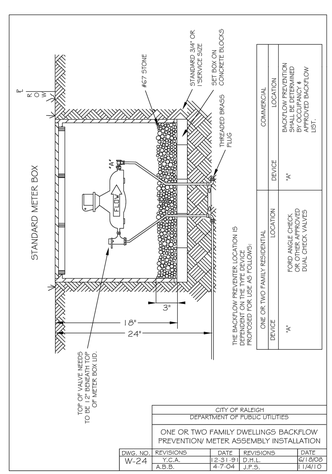
CITY OF RALEIGH			
DEPARTMENT OF PUBLIC UTILITIES			
5 1/4" VALVE BOX DROP LID WITH 4" SKIRT			
DWG. NO.	REVISIONS	DATE	REVISIONS
W-18			

MAIN SIZE	END PIPE SIZE
12" & GREATER	APPROVED BY PUBLIC UTILITIES DEPT.
6" - 12"	

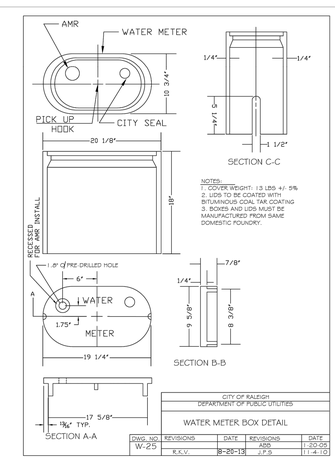
CITY OF RALEIGH			
DEPARTMENT OF PUBLIC UTILITIES			
TEMPORARY WATER MAIN BLOW OFF ASSEMBLY			
DWG. NO.	REVISIONS	DATE	REVISIONS
W-21	D.W.C.	12-28-99	A.B.B.
	KRH	3-31-00	DHL
			6-16-09



CITY OF RALEIGH			
DEPARTMENT OF PUBLIC UTILITIES			
STANDARD 3/4" & 1" WATER SERVICE INSTALLATION			
DWG. NO.	REVISIONS	DATE	REVISIONS
W-23	ABS	4-6-04	RKV
	D.H.L.	5/2005	
			DATE 7/23/13



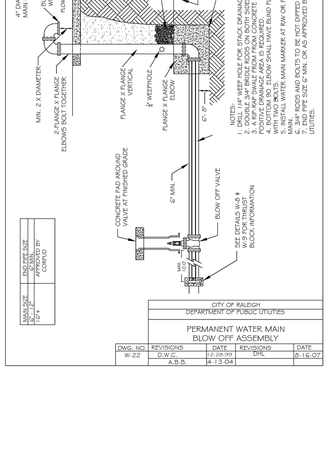
CITY OF RALEIGH			
DEPARTMENT OF PUBLIC UTILITIES			
ONE OR TWO FAMILY DWELLINGS BACKFLOW PREVENTION METER ASSEMBLY INSTALLATION			
DWG. NO.	REVISIONS	DATE	REVISIONS
W-24	Y.C.A.	2-21-91	D.H.L.
	A.B.B.	4-7-04	J.F.S.
			6/2008
			1/2010



NOTES:

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

CITY OF RALEIGH			
DEPARTMENT OF PUBLIC UTILITIES			
WATER METER BOX DETAIL			
DWG. NO.	REVISIONS	DATE	REVISIONS
W-25	K.K.V.	8-25-13	ABS
			1-20-05
			J.F.S.
			11-4-10



NOTES:

1. TRENCH BOTTOM TO BE DRILL 1/4" WEEP HOLE FOR STACK DRAINAGE INTO STONE.
2. CONCRETE BLOCKING SHALL BE PLACED AGAINST UNDISTURBED EARTH.
3. A 10' RIP-RAP SWALE FROM CONCRETE SPLASH PAD TO DITCH SHALL BE PROVIDED FOR ALL BLOW OFF ASSEMBLIES.
4. BOTTOM OF BLOW OFF VALVE BLIND FLANGE ATTACHED TO BOTTOM SHALL BE 6" MIN. OFF THE GROUND.
5. INSTALL WATER MAIN MARKER AT R/W OR PL TO LOCATE BLOW OFF ASSEMBLY.
6. ALL RODS AND BOLTS TO BE HOT DIPPED GALVANIZED.
7. 3" PIPE SIZE 6" MIN. OR AS APPROVED BY PUBLIC UTILITIES DEPT.

CITY OF RALEIGH			
DEPARTMENT OF PUBLIC UTILITIES			
PERMANENT WATER MAIN BLOW OFF ASSEMBLY			
DWG. NO.	REVISIONS	DATE	REVISIONS
W-22	D.W.C.	12-28-99	DHL
	A.B.B.	4-13-04	
			6-16-09

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License #: F-1479 | t: 919.238.0330 | www.withersravenel.com

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1225 CRESCENT GREEN DRIVE, SUITE 250
CARY, NC 27518

CONSTRUCTION INFRASTRUCTURE DRAWINGS
BROADMOOR
CID-24-06
ROLESVILLE ROAD | ROLESVILLE, NC 27587 | WAKE COUNTY

NORTH CAROLINA PROFESSIONAL SEAL 058751 ENGINEER TERRENCE COOK

INITIAL PLAN DATE: 11/01/2024
REVISIONS:
1 - 01/02/2025
REVISED PER REVIEW COMMENTS
2 - 03/03/2025
REVISED PER REVIEW COMMENTS
3 - 03/28/2025
REVISED PER WAKE CO. COMMENTS
4 - 05/01/2025
REVISED PER REVIEW COMMENTS
-

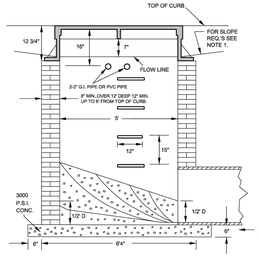
WR JOB NUMBER 23-0045
DRN: WR DGN: WR CKD: WR

WATER DETAILS

C10.04

811 1983

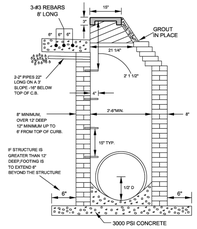
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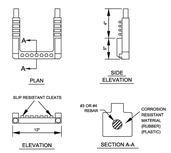


NOTES:

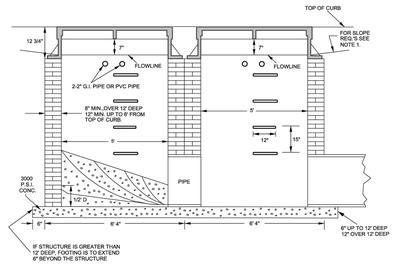
1. THE SLOPE OF THE GUTTER TO THE CATCH BASIN ON THE UPHILL SIDE SHALL BEGIN 10' FROM THE CATCH BASIN. THE SLOPE OF THE GUTTER TO THE CATCH BASIN ON THE DOWNHILL SIDE, SHALL BEGIN 10' FROM THE CATCH BASIN.
2. STEPS SHALL BE INSTALLED IN ALL CATCH BASINS OVER 3' IN DEPTH. DEPTH SHALL BE MEASURED FROM THE TOP OF CURB TO THE INVERT OF THE CATCH BASIN.
3. SOLID CONCRETE BRICKS MAY BE USED IN 4X4X8 OR 4X8X16 SIZES.
4. NCDOT APPROVED PRECAST CONCRETE BOXES ACCEPTABLE USING STANDARD 5' CASTINGS.
5. DOMESTIC CASTING REQUIRED WITHIN STREET RIGHT OF WAY.
6. 1" MAXIMUM EXTENSION OF PIPE INTO THE STORM BOX.

STANDARD C.B. STEP





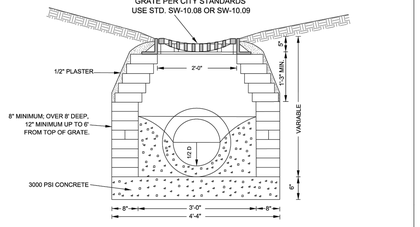
CITY OF RALEIGH STANDARD DETAIL		
REVISIONS	DATE: 8/2020	NOT TO SCALE
	5' OM CATCH BASIN	
	SW-10.01	

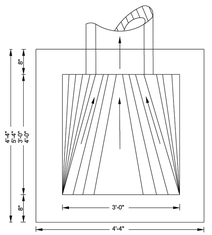


NOTES:

1. THE SLOPE OF THE GUTTER TO THE CATCH BASIN ON THE UPHILL SIDE SHALL BEGIN 10' FROM THE CATCH BASIN. THE SLOPE OF THE GUTTER TO THE CATCH BASIN ON THE DOWNHILL SIDE , SHALL BEGIN 10' FROM THE CATCH BASIN.
2. STEPS SHALL BE INSTALLED IN ALL CATCH BASINS OVER 3' IN DEPTH. DEPTH SHALL BE MEASURED FROM THE TOP OF CURB TO THE INVERT OF THE CATCH BASIN.
3. SOLID CONCRETE BRICKS MAY BE USED IN 4" X 4" X 16" OR 4" X 8" X 16" SIZES.
4. NCDOT APPROVED PRECAST CONCRETE BOXES ACCEPTABLE, USING STANDARD 5' CASTINGS.
5. DOMESTIC CASTING REQUIRED WITHIN STREET RIGHT OF WAY.

CITY OF RALEIGH STANDARD DETAIL		
REVISIONS	DATE: 8/2020	NOT TO SCALE
	DOUBLE WIDTH CATCH BASIN	
	SW-10.02	

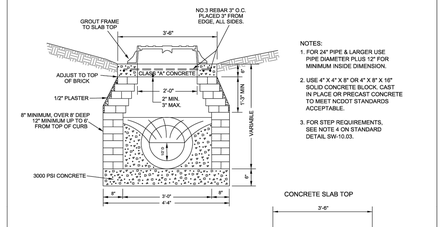




NOTES:

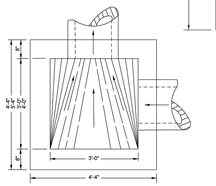
1. FOR 24" RCP & LARGER USE PIPE DIAMETER PLUS 12" FOR MINIMUM INSIDE DIMENSION.
2. 24" X 24" CASTING WITH 12", 15" & 18" PIPE, 24" X 36" CASTING USED WITH 24" PIPE OR LARGER, 9" PLACED WITHIN PUBLIC R/W CASTING MUST BE TRAFFIC BEARING TYPE PER NCDOT STANDARDS.
3. USE 4" X 4" X 8" OR 4" X 8" X 16" SOLID CONCRETE BLOCK, CAST IN PLACE OR PRECAST CONCRETE TO MEET N.C.D.O.T. STANDARDS ACCEPTABLE.
4. STEPS SHALL BE INSTALLED IN ALL DROP INLETS OVER 3' IN DEPTH. DEPTH SHALL BE MEASURED FROM THE TOP OF GRATE TO THE INVERT OF THE DROP INLET.

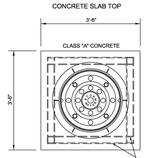
CITY OF RALEIGH STANDARD DETAIL		
REVISIONS	DATE: 8/2020	NOT TO SCALE
	STANDARD DROP INLET	
	SW-10.03	



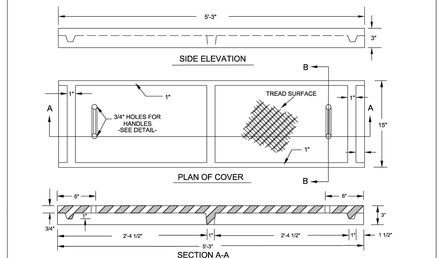
NOTES:

1. FOR 24" PIPE & LARGER USE PIPE DIAMETER PLUS 12" FOR MINIMUM INSIDE DIMENSION.
2. USE 4" X 4" X 8" OR 4" X 8" X 16" SOLID CONCRETE BLOCK, CAST IN PLACE OR PRECAST CONCRETE TO MEET NCDOT STANDARDS ACCEPTABLE.
3. FOR STEP REQUIREMENTS, SEE NOTE 4 ON STANDARD DETAIL SW-10.03.



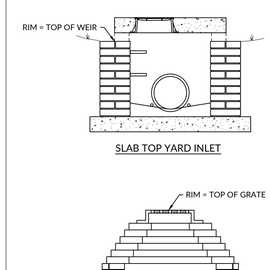


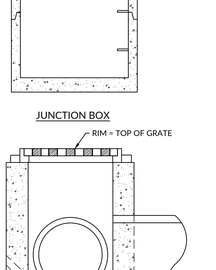
CITY OF RALEIGH STANDARD DETAIL		
REVISIONS	DATE: 8/2020	NOT TO SCALE
	STANDARD JUNCTION BOX	
	SW-10.04	

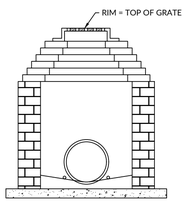


SHEET 1 OF 2

CITY OF RALEIGH STANDARD DETAIL		
REVISIONS	DATE: 8/2020	NOT TO SCALE
	CATCH BASIN CASTINGS	
	SW-10.06.1	





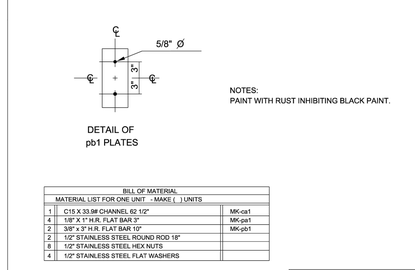


NOTES:

1. THIS DETAIL IS PROVIDED TO CLARIFY RIM ELEVATIONS ONLY.
2. REFER TO OTHER DETAILS AS APPROPRIATE FOR DETAILED REQUIREMENTS.

STRUCTURE RIM ELEVATIONS — STORM DRAINAGE COLLECTION SYSTEMS

Scale:NTS — C8013

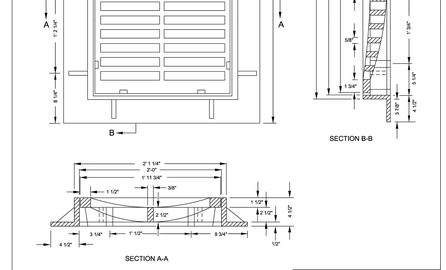


DETAIL OF pb1 PLATES

NOTES:
PAINT WITH RUST INHIBITING BLACK PAINT.

BILL OF MATERIAL MATERIAL LIST FOR ONE UNIT - MAKE ( ) UNITS			
1	C15 X 33.9# CHANNEL 62 1/2"	MK-ca1	
4	1/8" X 1" H.R. FLAT BAR 3"	MK-pa1	
2	3/8" x 3" H.R. FLAT BAR 10"	MK-pb1	
2	1/2" STAINLESS STEEL ROUND ROD 18"		
8	1/2" STAINLESS STEEL HEX NUTS		
4	1/2" STAINLESS STEEL FLAT WASHERS		

CITY OF RALEIGH STANDARD DETAIL		
REVISIONS	DATE: 8/2020	NOT TO SCALE
	CATCH BASIN STEEL TOP	
	SW-10.07	



STANDARD 24" X 36" DROP INLET CASTING

CITY OF RALEIGH STANDARD DETAIL		
REVISIONS	DATE: 8/2020	NOT TO SCALE
	STANDARD DROP INLET CASTING	
	SW-10.09	

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CONSTRUCTION INFRASTRUCTURE DRAWINGS
BROADMOOR
CID-24-06
ROLESVILLE ROAD | ROLESVILLE, NC 27587 | WAKE COUNTY

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 058751 TERRENCE COOK

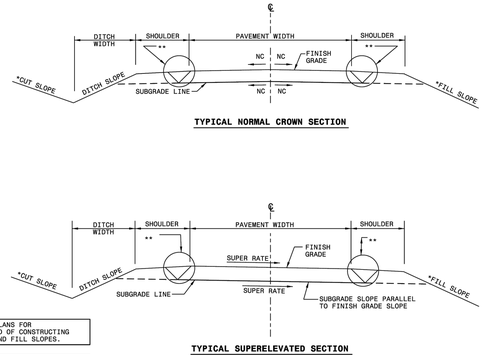
INITIAL PLAN DATE: 11/01/2024
REVISIONS:
1 - 01/02/2025
REVISED PER REVIEW COMMENTS
2 - 03/03/2025
REVISED PER REVIEW COMMENTS
3 - 03/28/2025
REVISED PER WAKE CO. COMMENTS
4 - 05/01/2025
REVISED PER REVIEW COMMENTS
-

WR JOB NUMBER 23-0045
DRN: WR DGN: WR CKD: WR

STORM DRAINAGE DETAILS

C10.05

J:\23\0045-pulte_woodlief assemblage\CAD\drawing sets\construction\C10.00-10.XX SITE DETAILS.dwg - Tuesday, April 29, 2025 7:55:16 AM - TCOOK



TYPICAL NORMAL CROWN SECTION

TYPICAL SUPERELEVATED SECTION

*SEE PLANS FOR METHOD OF CONSTRUCTING CUT AND FILL SLOPES.

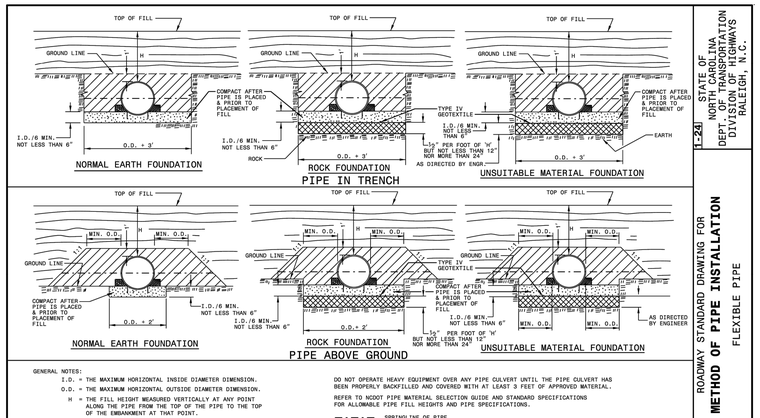
** TRENCH OR GRADED SECTION. SEE PLANS.

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-23

ROADWAY STANDARD DRAWING FOR
GUIDE FOR GRADING SUBGRADE
SECONDARY AND LOCAL

SHEET 1 OF 1
225.02



GENERAL NOTES:

I.D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.
O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.
H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP OF THE EMBANKMENT AT THAT POINT.

APPROVED SUITABLE LOCAL MATERIAL.

TAKE CARE TO FULLY COMPACT HAUNCH ZONE OF PIPE BACKFILL.

LOOSELY PLACED SELECT MATERIAL CLASS III OR CLASS II, TYPE 1 FOR PIPE BEDDING. LEAVE SECTION DIRECTLY BENEATH PIPE UNCOMPACTED AS PIPE SEATING AND BACKFILL WILL ACCOMPLISH COMPACTION.

DO NOT OPERATE HEAVY EQUIPMENT OVER ANY PIPE CULVERT UNTIL THE PIPE CULVERT HAS BEEN PROPERLY BACKFILLED AND COVERED WITH AT LEAST 3 FEET OF APPROVED MATERIAL.

REFER TO NCDOT PIPE MATERIAL SELECTION GUIDE AND STANDARD SPECIFICATIONS FOR ALLOWABLE PIPE FILL HEIGHTS AND PIPE SPECIFICATIONS.

SPRINGLINE OF PIPE

SELECT BACKFILL MATERIAL CLASS III OR CLASS II, TYPE 1 ABOVE AND BELOW SPRINGLINE.

UNDISTURBED EARTH MATERIAL

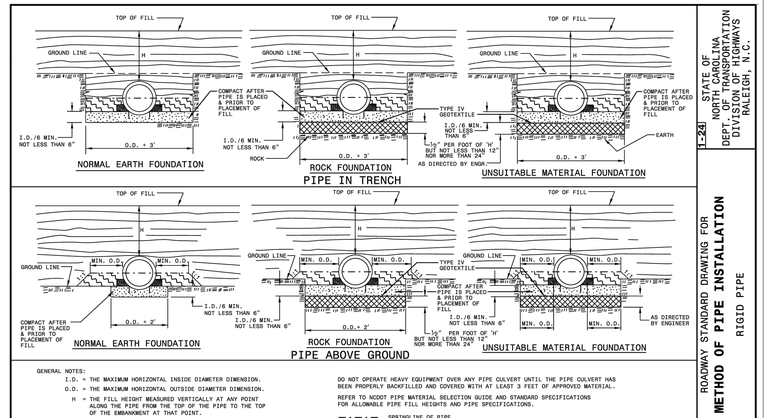
SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE WITH TYPE IV GEOTEXTILE AS DIRECTED BY THE ENGINEER.

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-24

ROADWAY STANDARD DRAWING FOR
METHOD OF PIPE INSTALLATION
FLEXIBLE PIPE

SHEET 1 OF 2
300.01



GENERAL NOTES:

I.D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.
O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.
H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP OF THE EMBANKMENT AT THAT POINT.

APPROVED SUITABLE LOCAL MATERIAL.

TAKE CARE TO FULLY COMPACT HAUNCH ZONE OF PIPE BACKFILL.

LOOSELY PLACED SELECT MATERIAL CLASS III OR CLASS II, TYPE 1 FOR PIPE BEDDING. LEAVE SECTION DIRECTLY BENEATH PIPE UNCOMPACTED AS PIPE SEATING AND BACKFILL WILL ACCOMPLISH COMPACTION.

DO NOT OPERATE HEAVY EQUIPMENT OVER ANY PIPE CULVERT UNTIL THE PIPE CULVERT HAS BEEN PROPERLY BACKFILLED AND COVERED WITH AT LEAST 3 FEET OF APPROVED MATERIAL.

REFER TO NCDOT PIPE MATERIAL SELECTION GUIDE AND STANDARD SPECIFICATIONS FOR ALLOWABLE PIPE FILL HEIGHTS AND PIPE SPECIFICATIONS.

SPRINGLINE OF PIPE

SELECT BACKFILL MATERIAL CLASS III OR CLASS II, BELOW SPRINGLINE.

UNDISTURBED EARTH MATERIAL

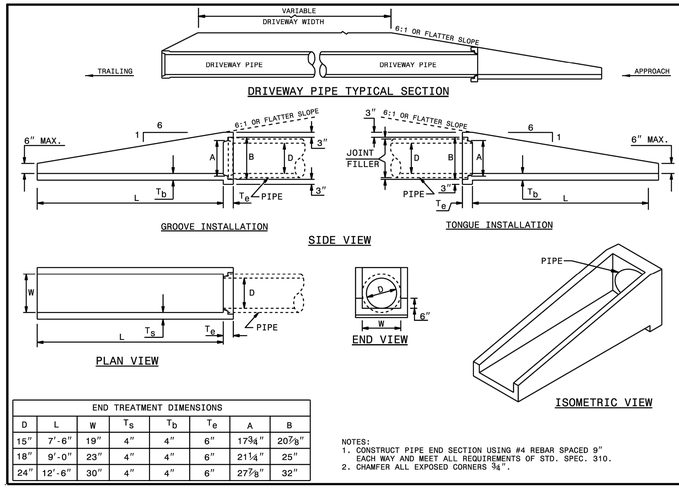
SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE WITH TYPE IV GEOTEXTILE AS DIRECTED BY THE ENGINEER.

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-24

ROADWAY STANDARD DRAWING FOR
METHOD OF PIPE INSTALLATION
RIGID PIPE

SHEET 2 OF 2
300.01



DRIVEWAY PIPE TYPICAL SECTION

GROOVE INSTALLATION

TONGUE INSTALLATION

SIDE VIEW

PLAN VIEW

END VIEW

ISOMETRIC VIEW

END TREATMENT DIMENSIONS							
D	L	W	T_s	T_b	T_e	A	B
15"	7'-6"	19"	4"	4"	6"	17¾"	20⅞"
18"	9'-0"	23"	4"	4"	6"	21¼"	25"
24"	12'-6"	30"	4"	4"	6"	27⅞"	32"

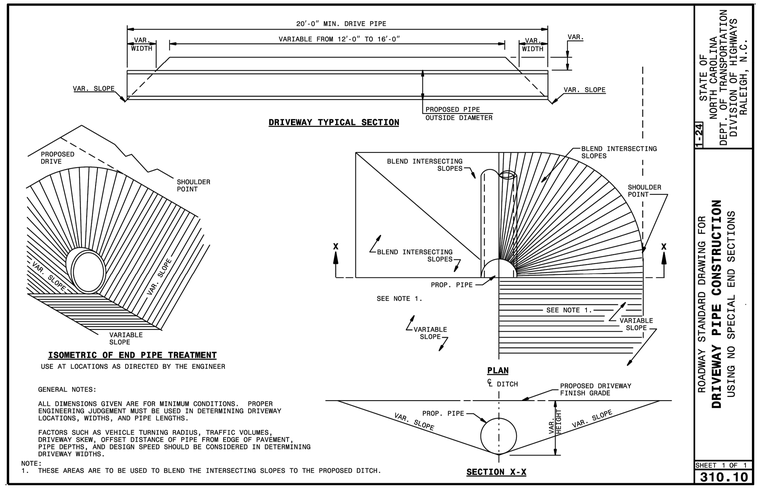
NOTES:
1. CONSTRUCT PIPE END SECTION USING #4 REBAR SPACED 9" EACH WAY AND MEET ALL REQUIREMENTS OF STD. SPEC. 310.
2. CHAMFER ALL EXPOSED CORNERS ¾".

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-23

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

SHEET 1 OF 1
310.02



DRIVEWAY TYPICAL SECTION

ISOMETRIC OF END PIPE TREATMENT

USE AT LOCATIONS AS DIRECTED BY THE ENGINEER

GENERAL NOTES:

ALL DIMENSIONS GIVEN ARE FOR MINIMUM CONDITIONS. PROPER ENGINEERING JUDGEMENT MUST BE USED IN DETERMINING DRIVEWAY LOCATIONS, WIDTHS, AND PIPE LENGTHS.

FACTORS SUCH AS VEHICLE TURNING RADIUS, TRAFFIC VOLUMES, DRIVEWAY SKEW, OFFSET DISTANCE OF PIPE FROM EDGE OF PAVEMENT, PIPE DEPTHS, AND DESIGN SPEED SHOULD BE CONSIDERED IN DETERMINING DRIVEWAY WIDTHS.

NOTE:
1. THESE AREAS ARE TO BE USED TO BLEND THE INTERSECTING SLOPES TO THE PROPOSED DITCH.

PLAN

SECTION X-X

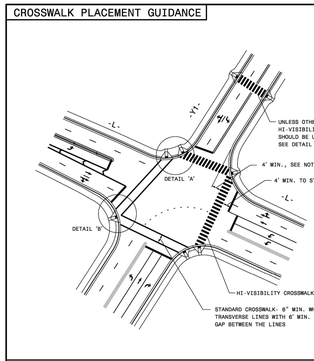
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

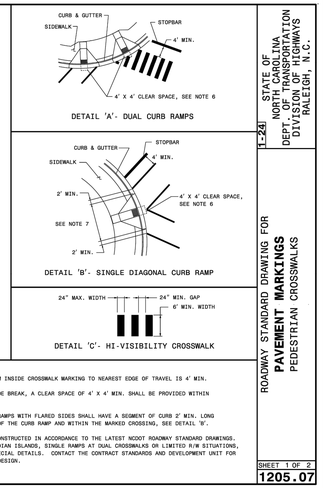
1-24

ROADWAY STANDARD DRAWING FOR
DRIVEWAY PIPE CONSTRUCTION
USING NO SPECIAL END SECTIONS

SHEET 1 OF 1
310.10

CROSSWALK PLACEMENT GUIDANCE





GENERAL NOTES:

1- USE THE DETAILS ABOVE AND THE FOLLOWING NOTES FOR GUIDANCE IN PLACING CROSSWALK MARKINGS. REFER TO NCDOT ROADWAY STANDARD DRAWINGS, MUTCD AND ADA STANDARDS FOR ADDITIONAL GUIDANCE.

2- THE LOCATION AND TYPE OF CROSSWALK MARKINGS SHOWN ON THE ABOVE DETAILS ARE FOR REFERENCE ONLY. LOCATE CROSSWALK MARKINGS AS SHOWN ON THE PROJECT DETAIL SHEETS OR AS DIRECTED BY THE ENGINEER. THE CROSSWALK MARKING TYPE, STANDARD OR HI-VISIBILITY, SHALL BE INSTALLED AS SPECIFIED ON THE PROJECT DETAIL SHEETS OR AS DIRECTED BY THE ENGINEER.

3- THE STANDARD CROSSWALK IS TWO WHITE 8" MIN. TRANSVERSE LINES WITH A 6' MIN. GAP BETWEEN THE LINES. THE HI-VISIBILITY CROSSWALK IS WHITE 24" MAX. WIDE LONGITUDINAL LINES WITH 24" MIN. GAPS BETWEEN LINES, SEE DETAIL 'C'. HI-VISIBILITY CROSSWALKS SHOULD BE A MINIMUM OF 6' WIDE. CURB RAMPS SHALL BE WHOLLY CONTAINED WITHIN THE MARKINGS, EXCLUDING ANY FLARES.

4- STOP BARS SHOULD BE PLACED A 4' MIN. IN ADVANCE OF NEAREST CROSSWALK LINE.

5- SET BACK DISTANCE FROM INSIDE CROSSWALK MARKING TO NEAREST EDGE OF TRAVEL IS 4' MIN.

6- BEYOND THE BOTTOM GRADE BREAK, A CLEAR SPACE OF 4' X 4' MIN. SHALL BE PROVIDED WITHIN THE MARKINGS.

7- SINGLE DIAGONAL CURB RAMPS WITH FLARED SIDES SHALL HAVE A SEGMENT OF CURB 2' MIN. LONG LOCATED ON EACH SIDE OF THE CURB RAMP AND WITHIN THE MARKED CROSSING, SEE DETAIL 'B'.

8- CURB RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE TO THE LATEST NCDOT ROADWAY STANDARD DRAWINGS. CURB RAMPS THROUGH MEDIAN ISLANDS, SINGLE RAMPS AT DUAL CROSSWALKS OR LIMITED R/W SITUATIONS, WILL BE HANDLED BY SPECIAL DETAILS. CONTACT THE CONTRACT STANDARDS AND DEVELOPMENT UNIT FOR DETAILS OR A SPECIAL DESIGN.

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1-24

ROADWAY STANDARD DRAWING FOR
PAVEMENT MARKINGS
PEDESTRIAN CROSSWALKS

SHEET 1 OF 2
1205.07

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PULTEGROUP
1225 CRESCENT GREEN DRIVE, SUITE 250
CARY, NC 27518

CONSTRUCTION INFRASTRUCTURE DRAWINGS
BROADMOOR
CID-24-06
ROLESVILLE ROAD | ROLESVILLE, NC 27587 | WAKE COUNTY

NORTH CAROLINA PROFESSIONAL SEAL 058751 ENGINEER TERRENCE COOK

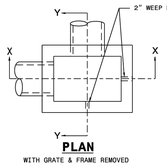
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REVISIONS:
1 - 01/02/2025
REVISED PER REVIEW COMMENTS
2 - 03/03/2025
REVISED PER REVIEW COMMENTS
3 - 03/28/2025
REVISED PER WAKE CO. COMMENTS
4 - 05/01/2025
REVISED PER REVIEW COMMENTS
-

WR JOB NUMBER 23-0045
DRN: WR DGN: WR CKD: WR

NCDOT DETAILS

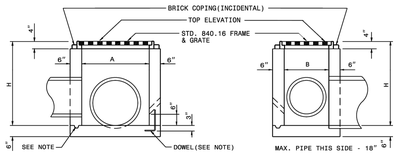
C10.06

J:\2310045-parks_woodlief_assemblage\CAD\drawing sets\construction\C10.00 10.XX SITE DETAILS.dwg, Tuesday, April 29, 2025 7:54:25 AM, TCOOK



PLAN

WITH GRATE & FRAME REMOVED



SECTION X-X

SECTION Y-Y



DOWEL

GENERAL NOTES:

USE CLASS "B" CONCRETE THROUGHOUT.

PROVIDE ALL DROP INLETS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.

OPTIONAL CONSTRUCTION - MONOLITHIC POUR 2" KEYWAY OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.

USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.

IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.

MAX.DEPTH OF THIS STRUCTURE FROM TOP OF BOTTOM SLAB TO TOP ELEVATION IS 12'-0". STD. DWG. 840.45 OR 840.46 CONTROLS MAXIMUM DEPTH IF PRECAST BOX IS USED.

CONSTRUCT WITH PIPE CROWNS MATCHING.

SEE STANDARD DRAWING 840.25 FOR ATTACHMENT OF FRAMES AND GRATES NOT SHOWN.

INSTALL 2" WEEPHOLES AS DIRECTED BY THE ENGINEER.

INSTALL STONE DRAINS, OF A MINIMUM OF 1 CUBIC FOOT OF NO. 78M STONE IN A POROUS FABRIC BAG OR WRAP, AT EACH WEEP HOLE OR AS DIRECTED BY THE ENGINEER.

CHAMFER ALL EXPOSED CORNERS 1".

DRAWING NOT TO SCALE.

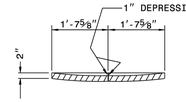
DIMENSIONS AND QUANTITIES FOR DROP INLET(BASED ON MIN. HEIGHT, H)								
DIMENSIONS OF BOX & PIPE				CUBIC YARDS CONC. IN BOX			DEDUCTIONS FOR ONE PIPE	
PIPE	SPAN	WIDTH	MIN. HEIGHT	BOTTOM SLAB	WALL PER FT. HT.	(TOTAL CONCRETE FOR BOTTOM SLAB & WALLS PER FT. HT.)	C.Y.	R.C.
D	A	B	H					
12"	3'-0"	2'-0"	2'-0"	0.222	0.222	0.592	0.015	0.026
15"	/	/	2'-3"	/	/	0.648	0.023	0.036
18"	/	/	2'-6"	/	/	0.703	0.033	0.049
24"	/	/	3'-0"	/	/	0.814	0.059	0.085
30"	3'-0"	2'-0"	3'-6"	0.222	0.222	0.925	0.092	0.127

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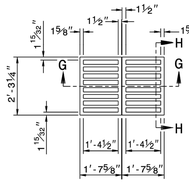
1-24

ROADWAY STANDARD DRAWING FOR
CONCRETE DROP INLET
12" THRU 30" PIPE

SHEET 1 OF 1
840.14

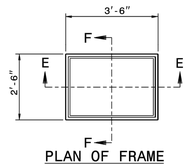


SECTION G-G



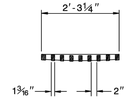
PLAN OF GRATING

CAST IRON

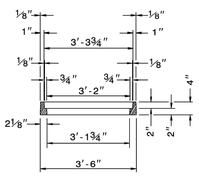


PLAN OF FRAME

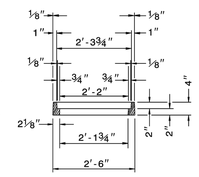
CAST IRON



SECTION H-H



SECTION E-E



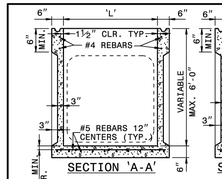
SECTION F-F

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DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

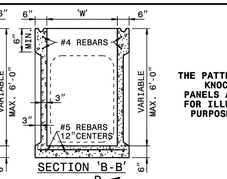
1-24

ROADWAY STANDARD DRAWING FOR
DROP INLET FRAME AND GRATES
FOR USE WITH STD. DWG.S 840.14 AND 840.15

SHEET 1 OF 1
840.16

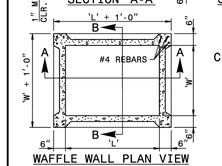


SECTION 'A-A'

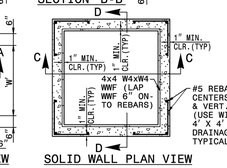


SECTION 'B-B'

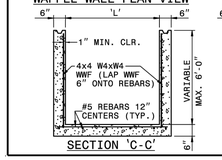
THE PATTERN OF THE KNOCK-OUT PANELS ARE SHOWN FOR ILLUSTRATIVE PURPOSES ONLY.



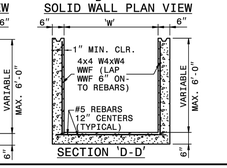
WAFFLE WALL PLAN VIEW



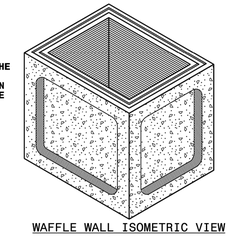
SOLID WALL PLAN VIEW



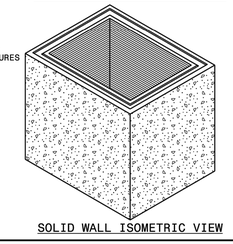
SECTION 'C-C'



SECTION 'D-D'



WAFFLE WALL ISOMETRIC VIEW



SOLID WALL ISOMETRIC VIEW

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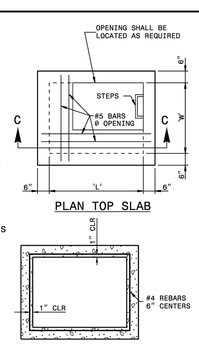
1-24

ROADWAY STANDARD DRAWING FOR
PRECAST DRAINAGE STRUCTURE
(SOLID AND WAFFLE WALL)

SHEET 1 OF 2
840.45

GENERAL NOTES:

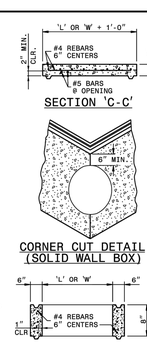
* THIS PRECAST BOX MAY BE USED FOR THE FOLLOWING STANDARDS: 840.01, 840.02, 840.04, 840.05, 840.13, 840.14, 840.15, 840.17, 840.18, 840.19, 840.26, 840.27, 840.28, 840.31, 840.32 AND 840.41.
* INSTALL PRECAST DRAINAGE STRUCTURES AND PAY FOR IN ACCORDANCE WITH SPECIFICATION SECTION 840.
* DO NOT PLACE PRECAST DRAINAGE STRUCTURES UNDER TRAFFIC OR WHERE TRAFFIC WILL BE DETOURED.
* USE 4000 PSI CONCRETE.
* PROVIDE ALL REINFORCING STEEL WHICH MEETS ASTM A615 FOR GRADE 60 AND WELDED WIRE FABRIC CONFORMING TO ASTM A1064.
* LIMIT MAXIMUM DEPTH TO TOP OF BOTTOM SLAB FOR WAFFLE WALL STRUCTURE TO 10'-0"; LIMIT SOLID WALL STRUCTURE TO 15'-0".
* PLACE LIFT HOLES OR PINS IN ACCORDANCE WITH OSHA STANDARD 1926.704.
* CUT OR FORM OPENINGS FOR PIPE TO PROVIDE REQUIRED SIZE AND LOCATION. ORIENT WAFFLE WALL STRUCTURES SO THAT PIPES ENTER THROUGH THE KNOCKOUT/WAFFLE PANELS ONLY. PIPES MAY ENTER THROUGH THE CORNERS OF SOLID WALL BOXES IF A MINIMUM OF 6" OF WALL IS PROVIDED ABOVE THE HOLE.
* ALL ELEMENTS PRECAST TO MEET ASTM C913.
* FRAME AND GRATE HEIGHT MAY BE ADJUSTED WITH CONCRETE OR BRICK IN ACCORDANCE WITH STANDARD 840.25.
* PROVIDE PRECAST STRUCTURES OVER 3'-6" IN DEPTH WITH STEPS AS DIRECTED BY THE ENGINEER.
* WELDED WIRE FABRIC MAY BE SUBSTITUTED FOR REBAR AS LONG AS THE SAME AREA OF STEEL IS PROVIDED.
* SEAL JOINTS WITH A FLEXIBLE BUTYL RUBBER BASE CONFORMING TO FEDERAL SPECIFICATION SS-S-21A, AASHTO M-198, TYPE B - BUTYL RUBBER.
* LIMIT MAXIMUM STRUCTURE SIZE TO INSIDE CLEAR DIMENSIONS OF 5'-0" X 5'-0".
* THE OUTSIDE PIPE DIAMETER PLUS 2" OR THE OPENING REQUIRED FOR FRAME AND GRATE IS THE MINIMUM STRUCTURE SIZE WHICHEVER IS GREATER.
* USE MANHOLE FRAME AND COVER AS INDICATED ON THE PLANS. REINFORCE OPENING AS SHOWN ON THIS SHEET.



PLAN TOP SLAB

PRECAST RISER PLAN

SECTION VIEW



SECTION 'C-C'

CORNER CUT DETAIL (SOLID WALL BOX)

PRECAST RISER DETAIL

SECTION VIEW

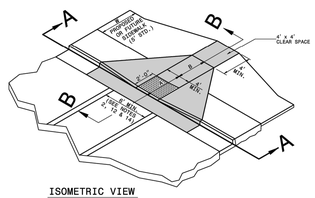
OPTIONAL JOINT DETAILS

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1-24

ROADWAY STANDARD DRAWING FOR
PRECAST DRAINAGE STRUCTURE
(GENERAL NOTES AND DETAILS)

SHEET 2 OF 2
840.45



ISOMETRIC VIEW

NOTES:

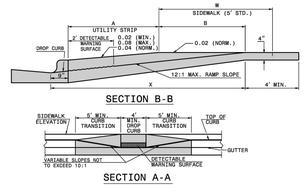
DETECTABLE WARNING SURFACE SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.

DETECTABLE WARNING SURFACE SHALL CONTRAST VISIBLY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.

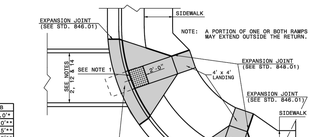
DETECTABLE WARNING SURFACE

W	A	W+A÷9"	X	B
5'	10.0"	6.8"	5.8"	6.0"*
6'	0.0"	6.8"	6.8"	6.0"**
7'	0.0"	7.8"	7.3"	6.5"**
8'	0.0"	8.8"	7.3"	6.5"**
5'	2.0"	7.8"	7.8"	5.0"
5'	2.0"	8.3"	8.1	4.8"
5'	3.0"	8.8"	8.3"	4.4"
5'	3.0"	9.3"	8.4	4.1"
5'	4.0"	9.8"	8.6"	3.8"
5'	4.0"	10.3"	8.7"	3.4"
5'	5.0"	10.8"	8.9"	3.1"

B = X-(A÷9")
B = DISTANCE FROM FRONT EDGE OF SIDEWALK TO BACK POINT OF 12:1 (8.33%) SLOPE.
* BACK OF SIDEWALK DROP REQUIRED FOR ALL SIDEWALK SLOPES.
** BACK OF SIDEWALK DROP REQUIRED FOR SIDEWALK SLOPES 0.04.



SECTION B-B



SECTION A-A

PLAN VIEW

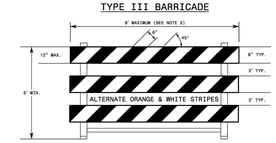
DUAL RAMPS
ANY RADII
(4' MIN. FLOOR WIDTH)

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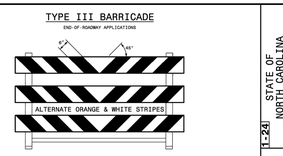
1-24

ROADWAY STANDARD DRAWING FOR
CURB RAMP
PROPOSED CURB AND GUTTER

SHEET 1 OF 13
848.06



TYPE III BARRICADE



TYPE III BARRICADE

GENERAL NOTES

1- HORIZONTAL RAILS FOR BARRICADES MAY BE CONSTRUCTED OF APPROVED COMPOSITE, HOLLOW/ CORRUGATED EXTRUDED RIGID POLYOLEFIN, HIGH DENSITY POLYETHYLENE, OR OTHER NCDOT APPROVED MATERIAL.

2- BARRICADE SHALL BE LIMITED TO A MAXIMUM LENGTH OF 8 FT UNLESS NCDOT APPROVED.

3- ONLY NCDOT APPROVED COMPOSITE AND ROLL-UP SIGNS MAY BE MOUNTED ON THE BARRICADE RAILS. MOUNT SIGNS TO BARRICADE RAILS TO ENSURE SIGN WILL NOT BECOME DETACHED UNDER NORMAL WIND AND TRAFFIC CONDITIONS.

4- SIGNS SHALL BE MOUNTED A MINIMUM OF 1 FOOT FROM THE GROUND TO THE BOTTOM OF THE SIGN UNLESS SIGN R11-3 IS REQUIRED BY THE PLANS OR DIRECTED BY THE ENGINEER.

5- ASSEMBLY OF THE GENERIC BARRICADES MUST BE SELF CERTIFIED BY THE ASSEMBLER.

6- BARRICADES USED TO CLOSE A ROADWAY SHALL EXTEND ACROSS THE ENTIRE ROADWAY. WHERE LOCAL TRAFFIC MUST BE MAINTAINED, THEY MAY BE PLACED IN A STAGGERED PATTERN.

7- STRIPES ON WORK ZONE BARRICADE RAILS SHALL BE ALTERNATE ORANGE AND WHITE RETROREFLECTIVE STRIPES, SLOPED DOWNWARD TOWARDS THE SIDE WHICH TRAFFIC IS TO PASS OR TURN IN DETOURING. WHERE NO TURNS ARE INTENDED, THE STRIPES SHOULD SLOPE DOWNWARD TOWARD THE CENTER OF THE BARRICADE OR BARRICADES.

8- USE RED AND WHITE STRIPES FOR PERMANENT BARRICADES.

9- ALL BARRICADES MUST BE LISTED ON THE DEPARTMENT'S APPROVED PRODUCTS LIST.

10- PLACE SANDBAGS OR OTHER APPROVED BALLASTING METHODS ON THE FEET OF THE FRAME. DO NOT PLACE SANDBAGS ON TOP OF A STRIPED RAIL OR STABILIZER BAR. DO NOT BALLAST BARRICADES BY HEAVY OBJECTS SUCH AS ROCKS, CHUNKS OF CONCRETE OR OTHER ITEMS THAT WOULD CAUSE DAMAGE IF THE BARRICADE IS STRUCK BY A VEHICLE.

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ROADWAY STANDARD DRAWING FOR
BARRICADES
TYPE III

SHEET 1 OF 1
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1225 CRESCENT GREEN DRIVE, SUITE 250
CARY, NC 27518

CONSTRUCTION INFRASTRUCTURE DRAWINGS

BROADMOOR

CID-24-06

ROLESVILLE ROAD | ROLESVILLE, NC 27587 | WAKE COUNTY

NORTH CAROLINA PROFESSIONAL SEAL 058751 ENGINEER TERRENCE COOK

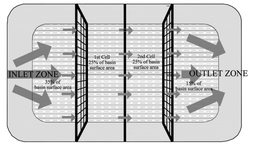
INITIAL PLAN DATE: 11/01/2024
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1 - 01/02/2025
REVISED PER REVIEW COMMENTS
2 - 03/03/2025
REVISED PER REVIEW COMMENTS
3 - 03/28/2025
REVISED PER WAKE CO. COMMENTS
4 - 05/01/2025
REVISED PER REVIEW COMMENTS
-

WR JOB NUMBER 23-0045
DRN: WR DGN: WR CKD: WR

NCDOT DETAILS

C10.07

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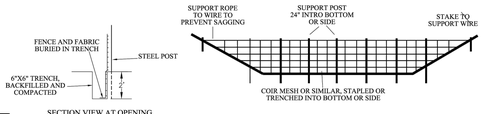


PLAN VIEW

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

MAINTENANCE NOTES:
1. INSPECT BAFFLES FOR REPAIR ONCE A WEEK AND AFTER EACH 1" RAINFALL.
2. MAINTAIN ACCESS TO BAFFLES AND MAKE ANY REPAIRS IMMEDIATELY.
3. REMOVE SEDIMENT DEPOSITS WHEN IT REACHES HALF FULL.
4. AVOID DAMAGING BAFFLES DURING CLEANOUT AND REPLACE IF DAMAGED.
5. REMOVE BAFFLES AND SEDIMENT DEPOSITS AFTER CONTRIBUTING DRAINAGE AREA HAS BEEN PERMANENTLY STABILIZED.

CROSS SECTION

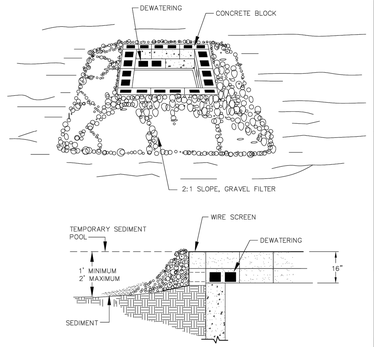


SECTION VIEW AT OPENING

WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

STANDARD BAFFLES DETAIL



CONSTRUCTION SPECIFICATIONS

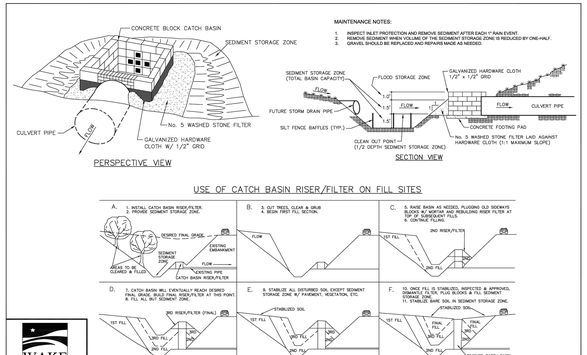
1. LAY ONE BLOCK ON EACH SIDE OF THE STRUCTURE ON ITS SIDE IN THE BOTTOM ROW TO ALLOW POOL DRAINAGE. THE FOUNDATION SHOULD BE EXCAVATED AT LEAST 2 INCHES BELOW THE CREST OF THE STORM DRAIN. PLACE THE BOTTOM ROW OF BLOCKS AGAINST THE EDGE OF THE STORM DRAIN FOR LATERAL SUPPORT AND TO AVOID WASHOUTS WHEN OVERFLOW OCCURS. IF NEEDED, GIVE LATERAL SUPPORT TO SUBSEQUENT ROWS BY PLACING 2x4 WOOD STUDS THROUGH BLOCK OPENINGS.
2. CAREFULLY FIT HARDWARE CLOTH OR COMPARABLE WIRE MESH WITH 1/2 INCH OPENINGS OVER ALL BLOCK OPENINGS TO HOLD GRAVEL IN PLACE.
3. USE CLEAN GRAVEL, 3/4 TO 1/2 INCH IN DIAMETER, PLACED 2 INCHES BELOW THE TOP OF THE BLOCK ON A 2:1 SLOPE OR FLATTER AND SMOOTH IT TO AN EVEN GRADE. DOT #57 WASHED STONE IS RECOMMENDED.

MAINTENANCE NOTES:
1. INSPECT INLET PROTECTION AND REMOVE SEDIMENT AFTER EACH 1" RAIN EVENT.
2. REMOVE SEDIMENT WHEN VOLUME OF THE BASIN IS REDUCED BY ONE-HALF.
3. GRAVEL SHOULD BE REPLACED AND REPAIRS MADE AS NEEDED.

WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

STANDARD BLOCK & GRAVEL DROP INLET PROTECTION

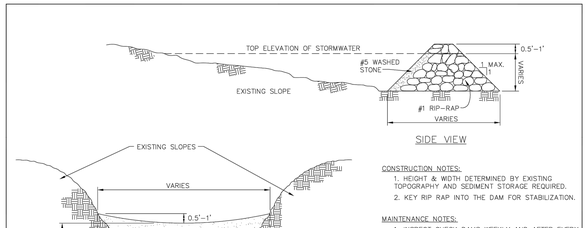


USE OF CATCH BASIN RISER/FILTER ON FILL SITES

WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

STANDARD CATCH BASIN RISER/FILTER



CONSTRUCTION NOTES:
1. HEIGHT & WIDTH DETERMINED BY EXISTING TOPOGRAPHY AND SEDIMENT STORAGE REQUIRED.
2. KEY RIP RAP INTO THE DAM FOR STABILIZATION.

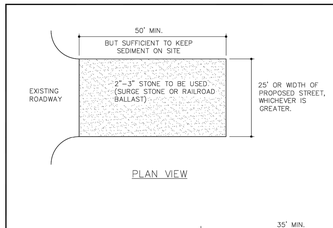
MAINTENANCE NOTES:
1. INSPECT CHECK DAMS WEEKLY AND AFTER EVERY RAINFALL EVENT OF 1" OR MORE.
2. REMOVE SEDIMENT AND DEBRIS AS NEEDED.
3. MAINTAIN FLOW THROUGH THE CHECK DAM.

NOTE: REMOVE SEDIMENT ACCUMULATION FROM BEHIND CHECK DAMS TO PREVENT DAMAGE TO CHANNEL VEGETATION. FLOW SHOULD BE MAINTAINED THROUGH THE DAM.

WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

STANDARD CHECK DAM



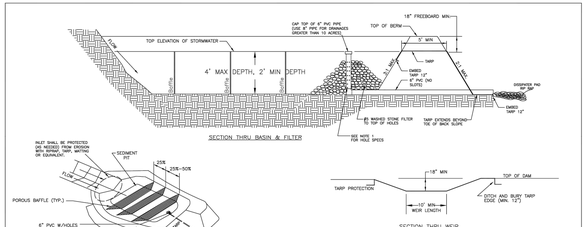
NOTES:
1. INSTALL SILT FENCE OR TREE PROTECTION FENCE TO ENSURE CONSTRUCTION ENTRANCE IS USED BY VEHICLES.
2. IF MUD IS NOT REMOVED FROM TIRES AFTER VEHICLE TRAVELS OVER STONE, THE TIRES OF THE VEHICLE MUST BE WASHED BEFORE ENTERING PUBLIC ROADS.

MAINTENANCE NOTES:
1. THE GRAVEL CONSTRUCTION ENTRANCE MUST BE MAINTAINED IN A CONDITION TO PREVENT TRACKING OR DIRECT FLOW OF MUD ONTO ADJACENT ROADWAYS.
2. REPLACEMENT OF STONE MAY BE NECESSARY TO ENSURE THE GRAVEL ENTRANCE FUNCTIONS PROPERLY.
3. REPLENISHMENT OF STONE MAY BE NECESSARY.
4. FREQUENT CHECKS OF THE DEVICE AND TIMELY MAINTENANCE SHOULD BE COMPLETED.
5. ANY MATERIAL TRACKED ONTO THE ROADWAY SHALL BE CLEANED UP IMMEDIATELY.

WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

STANDARD CONSTRUCTION ENTRANCE



GENERAL NOTES
1. DRAW DOWN RISER & BARREL SHALL BE 6" SCH. 40 PVC WITH 1/2" DIAMETER HOLES AND 3.0"C. HOLES. SEE NOTE 1 FOR NUMBER AND SPACING OF HOLES.
2. THE TARP USED TO PROTECT THE WOR SHALL BE THE NEENAH TARP SAFETY OR EQUIVALENT. INSTALL ACCORDING TO AVAILABLE SUPPLY. IF MULTIPLE TARPS ARE TO BE USED, THEN TARPS SHALL BE OVERLAPPED AT LEAST 2' AND SECURED TO PREVENT FLOW FROM GETTING DOWNSTREAM TARP. THE TARP SHALL BE 50 MIL. HEAVY DUTY SILVER TARPAULINS OR EQUIVALENT FOR U.V. RESISTANCE.

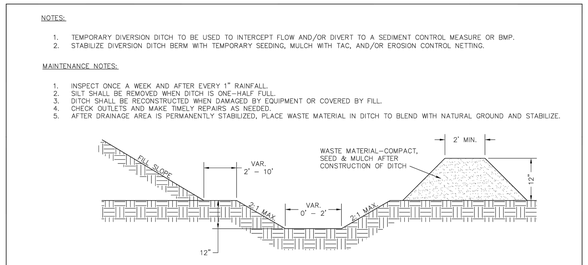
MAINTENANCE NOTES
1. INSPECT WEEKLY AND AFTER EVERY 1" OR MORE RAINFALL.
2. REMOVE SEDIMENT AND PROPERLY DISPOSED OF WHEN BASIN IS HALF FULL.
3. IF TARP IS DAMAGED, THE TARP SHOULD BE REPLACED AS NEEDED TO ENSURE DEWATERING.
4. CHECK THE STRUCTURE FOR DAMAGE FROM EROSION.
5. ANY RIP RAP DISPLACED FROM DISSIPATER PAD MUST BE REPLACED IMMEDIATELY.

NOTE 1
HOLE SPECS:
DEWATERING HOLES WILL BE INSTALLED IN SETS OF HORIZONTAL RINGS. THE FIRST SET OF HOLES WILL BE SET 6 INCHES FROM THE BOTTOM OF THE RISER. THE NUMBER OF HOLES PER RING WILL BE EQUAL TO THE DRAINAGE AREA. THE HOLES WILL BE 3/4 INCH IN DIAMETER AND WILL BE SPACED EQUALLY AROUND THE RISER. THE NUMBER OF HOLES PER RING WILL EQUAL TO THE DRAINAGE AREA.
EXAMPLE
A BASIN DRAINING 2.0 ACRES SHOULD HAVE 2 HOLES PER RING EVERY 3 INCHES ON THE RISER PIPE. THE FIRST RING (2 HOLES) WILL BE SET 6 INCHES FROM THE BOTTOM OF THE RISER.
NOTE: ROUND DRAINAGE AREA TO THE NEAREST WHOLE NUMBER TO DETERMINE NUMBER OF HOLES.

WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

STANDARD CUSTOM BASIN



MAINTENANCE NOTES:
-INSPECT INLET PROTECTION AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1 INCH OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY.
-REMOVE SEDIMENT AND RESTORE THE SEDIMENT STORAGE AREA TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-HALF THE DESIGN DEPTH OF THE TRAP.
-REFRESH STONE AS NEEDED TO RESTORE TO INITIAL INSTALLATION CONDITIONS WHEN STONE BECOMES CLOGGED OR DISLODGED.
-UPON PERMANENT STABILIZATION OF DRAINAGE AREAS, REMOVE STORED SEDIMENT & TEMPORARY STONE. SMOOTH AREA TO BLEND WITH ADJOINING AREAS AND PROVIDE PERMANENT GROUNDCOVER.

WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

STANDARD HORSESHOE INLET PROTECTION

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

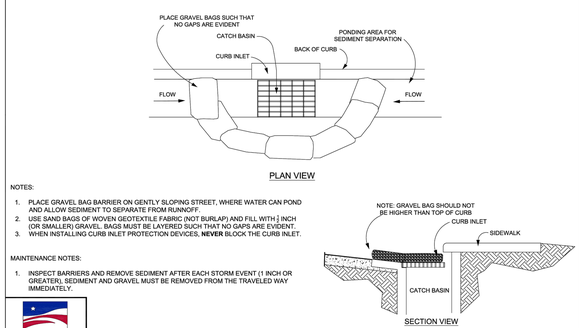
MAINTENANCE NOTES:
1. INSPECT ONCE A WEEK AND AFTER EVERY 1" RAINFALL.
2. SILT SHALL BE REMOVED WHEN DITCH IS ONE-HALF FULL.
3. DITCH SHALL BE RECONSTRUCTED WHEN DAMAGED BY EQUIPMENT OR COVERED BY FILL.
4. CHECK OUTLETS AND MAKE TIMELY REPAIRS AS NEEDED.
5. AFTER DRAINAGE AREA IS PERMANENTLY STABILIZED, PLACE WASTE MATERIAL IN DITCH TO BLEND WITH NATURAL GROUND AND STABILIZE.

CROSS SECTIONAL VIEW

WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

STANDARD TEMPORARY DIVERSION DITCH



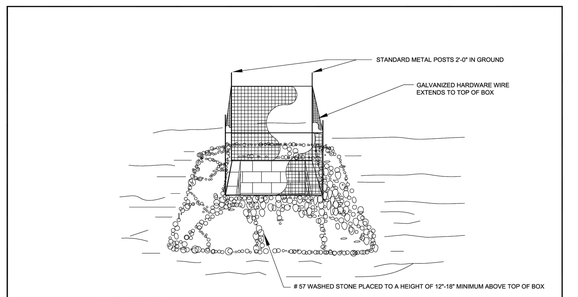
NOTES:
1. PLACE GRAVEL BAG BARRIER ON GENTLY SLOPING STREET, WHERE WATER CAN POND AND ALLOW SEDIMENT TO SEPARATE FROM RUNNOFF.
2. USE SAND BAGS OF WOVEN GEOTEXTILE FABRIC (NOT BURLAP) AND FILL WITH ¾ INCH (OR SMALLER) GRAVEL. BAGS MUST BE LAYERED SUCH THAT NO GAPS ARE EVIDENT.
3. WHEN INSTALLING CURB INLET PROTECTION DEVICES, **NEVER** BLOCK THE CURB INLET.

MAINTENANCE NOTES:
1. INSPECT BARRIERS AND REMOVE SEDIMENT AFTER EACH STORM EVENT (1 INCH OR GREATER). SEDIMENT AND GRAVEL MUST BE REMOVED FROM THE TRAVELED WAY IMMEDIATELY.

WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

STANDARD GRAVEL BAG CURB INLET PROTECTION

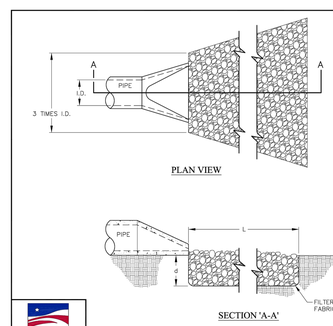


MAINTENANCE NOTES:
1. REMOVE SEDIMENT WHEN HALF HEIGHT OF STONE AND CLEAR HARDWARE OF DEBRIS TO PROVIDE ADEQUATE FLOW FOR SUBSEQUENT RAINS, TAKING CARE NOT TO DAMAGE OR UNDERCUT HARDWARE DURING SEDIMENT REMOVAL.
2. REPLACE STONE AS NEEDED.

WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

STANDARD GRAVEL YARD INLET PROTECTION



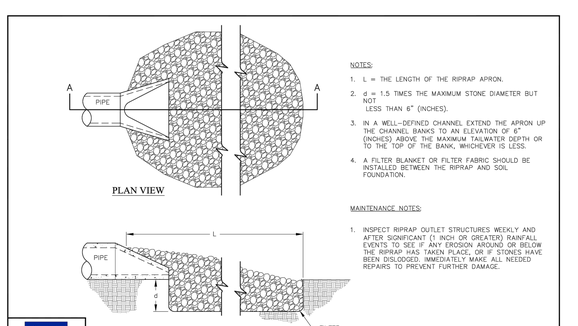
NOTES:
1. L = THE LENGTH OF THE RIPRAP APRON.
2. d = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6" (INCHES).
3. A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIPRAP AND SOIL FOUNDATION.

MAINTENANCE NOTES:
1. INSPECT RIPRAP OUTLET STRUCTURES WEEKLY AND AFTER SIGNIFICANT (1 INCH OR GREATER) RAINFALL EVENTS TO SEE IF ANY EROSION AROUND OR BELOW THE RIPRAP HAS TAKEN PLACE, OR IF STONES HAVE BEEN DISLODGED. IMMEDIATELY MAKE ALL NEEDED REPAIRS TO PREVENT FURTHER DAMAGE.

WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

STANDARD PIPE OUTLET TO FLAT AREA NO WELL-DEFINED CHANNEL



NOTES:
1. L = THE LENGTH OF THE RIPRAP APRON.
2. d = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6" (INCHES).
3. IN A WELL-DEFINED CHANNEL EXTEND THE APRON UP THE CHANNEL BANKS TO AN ELEVATION OF 6" (INCHES) ABOVE THE MAXIMUM TAILWATER DEPTH OR TO THE TOP OF THE BANK, WHICHEVER IS LESS.
4. A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIPRAP AND SOIL FOUNDATION.

MAINTENANCE NOTES:
1. INSPECT RIPRAP OUTLET STRUCTURES WEEKLY AND AFTER SIGNIFICANT (1 INCH OR GREATER) RAINFALL EVENTS TO SEE IF ANY EROSION AROUND OR BELOW THE RIPRAP HAS TAKEN PLACE, OR IF STONES HAVE BEEN DISLODGED. IMMEDIATELY MAKE ALL NEEDED REPAIRS TO PREVENT FURTHER DAMAGE.

WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

STANDARD PIPE OUTLET TO WELL-DEFINED CHANNEL

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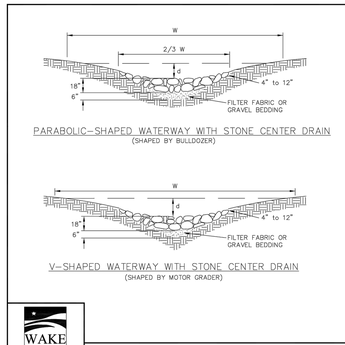
WR JOB NUMBER 23-0045
DRN: WR DGN: WR CKD: WR

EROSION CONTROL DETAILS

C10.08

EROSION AND SEDIMENT CONTROL
APPROVED PLAN
DATE_____
PERMIT NO. S-_____
Wake County Environmental Services
Sedimentation & Erosion Control
919-856-7400
ENVIRONMENTAL CONSULTANT SIGNATURE

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NOTES:

-TO BE USED WHERE EXCESSIVE STORMWATER VELOCITIES PROHIBIT VEGETATIVE LININGS.

-SIZE OF STONE MUST BE DETERMINED BY APPROPRIATE DESIGN PROCEDURE.

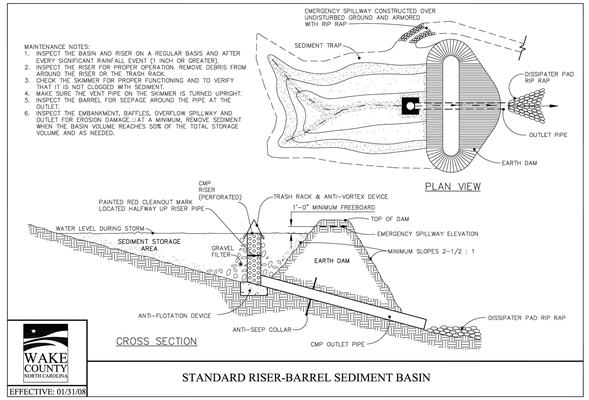
-DIMENSIONS FOR d & W VARIES ACCORDING TO DESIGN.



MAINTENANCE NOTES:
-INSPECT RIPRAP DITCH WEEKLY AND AFTER SIGNIFICANT RAIN EVENTS TO SEE IF ANY EROSION AROUND OR BELOW THE RIP RAP HAS TAKEN PLACE. IMMEDIATELY MAKE ALL NEEDED REPAIRS TO PREVENT FURTHER DAMAGE.
-IF EROSION IS EVIDENT PAST END OF RIPRAP DITCH DUE TO RUNOFF DISCHARGING FROM DITCH, INCREASE DIMENSIONS OF RIPRAP PAD PROVIDED SPACE IS AVAILABLE WITHIN THE APPROVED LIMITS OF DISTURBANCE.
-MAINTAIN ALL VEGETATION ADJACENT TO CHANNEL IN A HEALTHY, VIGOROUS CONDITION TO PROTECT DITCH FROM EROSION AND SCOUR DURING OUT-OF-BANK FLOW.

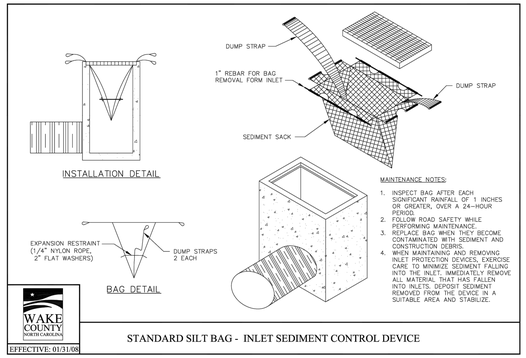
WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

STANDARD RIP-RAP LINED CHANNELS



WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

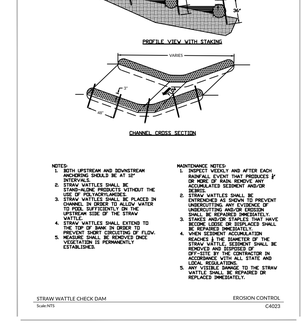
STANDARD RISER-BARREL SEDIMENT BASIN



MAINTENANCE NOTES:
1. INSPECT BAG AFTER EACH SIGNIFICANT RAINFALL OF 1 INCHES OR GREATER, OVER A 24-HOUR PERIOD.
2. FOLLOW ROAD SAFETY WHILE PERFORMING MAINTENANCE.
3. REPLACE BAG WHEN THEY BECOME CONTAMINATED WITH SEDIMENT AND CONSTRUCTION DEBRIS.
4. WHEN MAINTAINING AND REMOVING INLET PROTECTION DEVICES, EXERCISE CARE TO MINIMIZE SEDIMENT FALLING INTO THE INLET. IMMEDIATELY REMOVE ALL MATERIAL THAT HAS FALLEN INTO INLETS. DEPOSIT SEDIMENT REMOVED FROM THE DEVICE IN A SUITABLE AREA AND STABILIZE.

WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

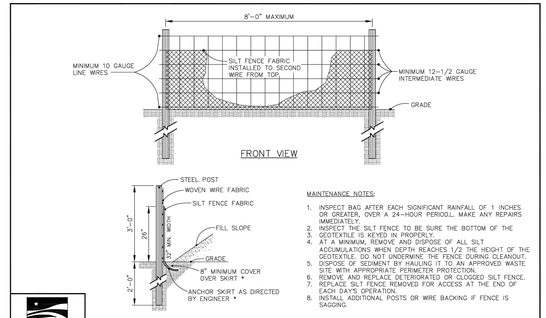
STANDARD SILT BAG - INLET SEDIMENT CONTROL DEVICE



NOTES:
1. WITH UPSTREAM AND DOWNSTREAM ANCHORING, SHOULD BE AT 10' INTERVALS.
2. STRAW WATTLES SHALL BE STAKED ALONE PRODUCTS WITHOUT THE USE OF STRAW WATTLES.
3. STRAW WATTLES SHALL BE PLACED IN CHANNEL IN ORDER TO ALLOW WATER TO POND AND PREVENT FLOW FROM UPSTREAM SIDE OF THE STRAW WATTLE.
4. STRAW WATTLES SHALL EXTEND TO THE TOP OF BANK IN ORDER TO PREVENT SHORT CIRCUITING OF FLOW.
5. STRAW WATTLES SHALL REMAIN ONCE VEGETATION IS PERMANENTLY ESTABLISHED.

MAINTENANCE NOTES:
1. INSPECT WEEKLY AND AFTER EACH RAINFALL EVENT THAT PRODUCES 0.5" OR MORE RAINFALL OR ANY ACCUMULATED SEDIMENT AND/OR DEBRIS.
2. STRAW WATTLES SHALL BE OVERREACHES AS SHOWN TO PREVENT UNDERCUTTING ANY EVIDENCE OF UNDERCUTTING OR EROSION SHALL BE REPAIRED IMMEDIATELY.
3. STAKES AND/OR STAPLES THAT HAVE WORKED LOOSE SHALL BE REPLACED IMMEDIATELY.
4. WHEN SEDIMENT ACCUMULATION REACHES ONE-HALF THE HEIGHT OF THE STRAW WATTLE, IT SHALL BE REMOVED AND DISPOSED OF OFF-SITE BY THE CONTRACTOR IN ACCORDANCE WITH ALL STATE AND LOCAL REGULATIONS.
5. ANY VISIBLE DAMAGE TO THE STRAW WATTLE SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

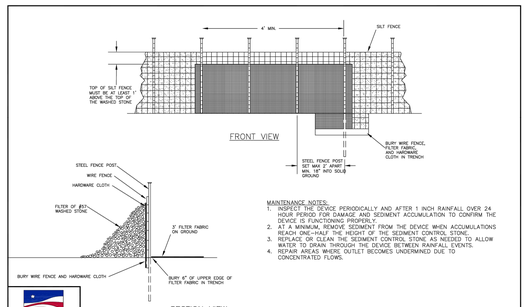
STRAW WATTLE CHECK DAM — EROSION CONTROL
Scale:NTS — C4023



MAINTENANCE NOTES:
1. INSPECT BAG AFTER EACH SIGNIFICANT RAINFALL OF 1 INCHES OR GREATER, OVER A 24-HOUR PERIOD.; MAKE ANY REPAIRS IMMEDIATELY.
2. INSPECT THE SILT FENCE TO BE SURE THE BOTTOM OF THE GEOTEXTILE IS KEYED IN PROPERLY.
3. GEOTEXTILE IS KEYED IN PROPERLY.
4. AT A MINIMUM, REMOVE AND DISPOSE OF ALL SILT ACCUMULATIONS WHEN DEPTH REACHES 1/2 THE HEIGHT OF THE GEOTEXTILE. DO NOT UNDERMINE THE FENCE DURING CLEANOUT.
5. DISPOSE OF SEDIMENT BY HAULING IT TO AN APPROVED WASTE SITE WITH APPROPRIATE PERIMETER PROTECTION.
6. REMOVE AND REPLACE DETERIORATED OR CLOGGED SILT FENCE.
7. REPLACE SILT FENCE REMOVED FOR ACCESS AT THE END OF EACH DAYS OPERATION.
8. INSTALL ADDITIONAL POSTS OR WIRE BACKING IF FENCE IS SAGGING.

WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

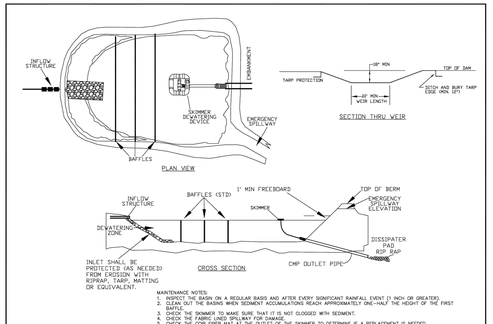
STANDARD TEMPORARY SILT FENCE



MAINTENANCE NOTES:
1. INSPECT THE DEVICE PERIODICALLY AND AFTER 1 INCH RAINFALL OVER 24 HOUR PERIOD FOR DAMAGE AND SEDIMENT ACCUMULATION TO CONFIRM THE DEVICE IS FUNCTIONING PROPERLY.
2. AT A MINIMUM, REMOVE SEDIMENT FROM THE DEVICE WHEN ACCUMULATIONS REACH ONE-HALF THE HEIGHT OF THE SEDIMENT CONTROL STONE.
3. REPLACE OR CLEAN THE SEDIMENT CONTROL STONE AS NEEDED TO ALLOW WATER TO PASS THROUGH THE DEVICE BETWEEN RAINFALL EVENTS.
4. REPAIR AREAS WHERE OUTLET BECOMES UNDERMINED DUE TO CONCENTRATED FLOWS.

WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

STANDARD SILT FENCE OUTLET

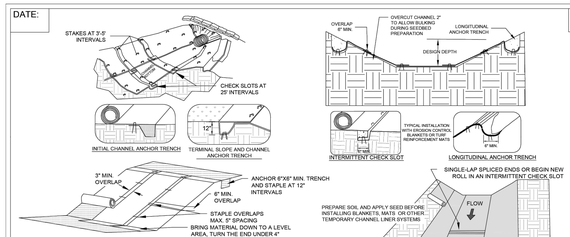


MAINTENANCE NOTES:
1. INSPECT THE BASIN ON A REGULAR BASIS AND AFTER EVERY SIGNIFICANT RAINFALL EVENT (1 INCH OR GREATER).
2. DO NOT FILL THE BASINS WHEN SEDIMENT ACCUMULATIONS REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE FIRST BAFFLE.
3. CHECK THE SKIMMER TO MAKE SURE THAT IT IS NOT CLOGGED WITH SEDIMENT.
4. MAKE SURE THE VENT PIPE ON THE SKIMMER IS TURNED UPRIGHT.
5. CHECK THE COIR FIBER MAT AT THE OUTLET OF THE SKIMMER TO DETERMINE IF A REPLACEMENT IS NEEDED.
6. DURING WINTER, SUPPORT THE SKIMMER AT AN ANGLE SUCH THAT WATER DOES NOT STAND INSIDE THE BARREL. THIS WILL PREVENT ICE FORMATION FROM CLOGGING OR PLUGGING THE SKIMMER.
7. REPAIR TORN OR DISLOCATED MATTING ON THE SIDE SLOPE AREAS THAT HAVE ERODED OR HAVE BECOME DAMAGED BY EQUIPMENT FROM SILT CLEANOUT.
8. REMOVE SEDIMENT THAT MAY ACCUMULATE ON THE STONE PAD UNDERNEATH THE SKIMMER DEVICE.
9. INSPECT THE BAFFLES AFTER EACH RAIN EVENT FOR EROSION DAMAGE AND SEDIMENT ACCUMULATIONS.

WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

STANDARD SKIMMER BASIN

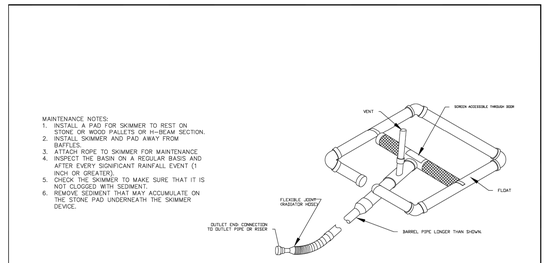
DATE: PAGE:



NOTES:
1. Lime, fertilize and seed before installation. Planting of shrubs, trees, etc. should occur after installation.
2. Slope surface shall be smooth before placement for proper soil contact.
3. Design velocities exceeding 2 feet/second require temporary blankets, mats or similar liners to protect seed and soil until vegetation becomes established.
4. Terminal anchor trenches are required at RECP ends and intermittent check slots must be constructed across channels at 25 foot intervals.
5. Terminal anchor trenches should be a minimum of 12 inches in depth and 6 inches in width. Intermittent check slots should be 6 inches deep and 6 inches wide.
6. For installation on a slope, place RECP 2-3 feet over the top of the slope and into an excavated end trench measuring approximately 12 inches deep by 6 inches wide. Pin the RECP at 1 foot intervals along the bottom of the trench, backfill and compact. Unroll the RECP down the slope maintaining direct contact between the soil and RECP. Secure using staples or pins in a 3 foot center-to-center pattern.
7. 11 gauge, at least 6 inch by 1 inch staples or 12 inch minimum length wooden stakes are recommended for anchoring.
8. Grass-lined channels with design velocities exceeding 6 feet/second should include turf reinforcement mats
9. Check slots to be constructed per manufacturers specifications.
10. Staking or stapling layout per manufacturers specification.
11. If there is a berm at the top of slope, anchor up-slope of the berm.
12. Do not stretch blankets/matting tight, allow the rolls to conform to any irregularities.
13. For slopes less than 3H:1V, rolls may be placed in horizontal strips.

MAINTENANCE:
1. Inspect Rolled Erosion Control Products at least weekly and after each rainfall of 1.0 inch or greater; repair immediately.
2. Good contact with the ground must be maintained, and erosion must not occur beneath the RECP.
3. Any areas of the RECP that are damaged or not in close contact with the ground shall be repaired and stapled.
4. If erosion occurs due to poorly controlled drainage, the problem shall be fixed and the eroded area protected.
5. Monitor and repair the RECP as necessary until ground cover is established.

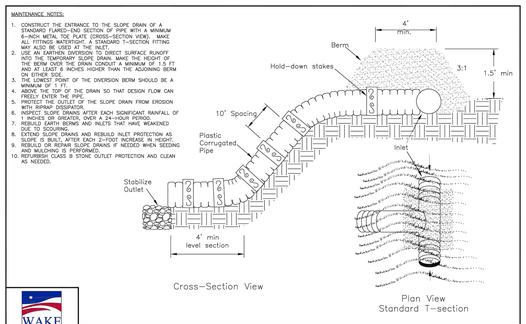
DEQ — ROLLED EROSION CONTROL PRODUCTS — Effective Date: 8/1/2023 In accordance with the 2013 Design Manual Updates



MAINTENANCE NOTES:
1. INSTALL A PAD FOR SKIMMER TO REST ON SUCH AS WOOD PALLETS OR H-BEAM SECTION.
2. INSTALL SKIMMER AND PAD AWAY FROM BAFFLES.
3. ATTACH ROPE TO SKIMMER FOR MAINTENANCE.
4. INSPECT THE BASIN ON A REGULAR BASIS AND AFTER EVERY SIGNIFICANT RAINFALL EVENT (1 INCH OR GREATER).
5. CHECK THE SKIMMER TO MAKE SURE THAT IT IS NOT CLOGGED WITH SEDIMENT.
6. REMOVE SEDIMENT THAT MAY ACCUMULATE ON THE STONE PAD UNDERNEATH THE SKIMMER DEVICE.

WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

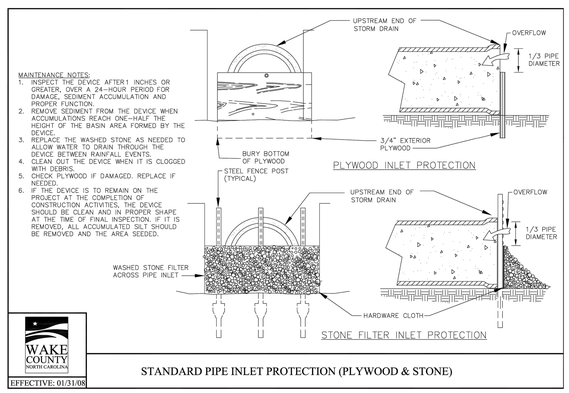
STANDARD SKIMMER DETAIL



MAINTENANCE NOTES:
1. CONSTRUCT THE ENTRANCE TO THE SLOPE DRAIN OF A STANDARD FLARED-END SECTION OF PIPE WITH A MINIMUM 6-INCH METAL TOE PLATE (CROSS-SECTION VIEW). MAKE CERTAIN THAT A WATERTIGHT CONNECTING T-SECTION FITTING MAY ALSO BE USED AT THE INLET.
2. USE AN EARTHEN DIVERSION TO DIRECT SURFACE RUNOFF INTO THE TEMPORARY SLOPE DRAIN. MAKE THE HEIGHT OF THE BERM OVER THE DRAIN CONDUIT A MINIMUM OF 1.5 FT (18 INCHES) OR 6 INCHES HIGHER THAN THE ADJOINING BERM ON EITHER SIDE.
3. THE LOWEST POINT OF THE DIVERSION BERM SHOULD BE A MINIMUM OF 1.5 FT (18 INCHES) HIGHER THAN THE TOP OF THE DRAIN SO THAT DESIGN FLOW CAN ENTER THE PIPE.
4. PROTECT THE OUTLET OF THE SLOPE DRAIN FROM EROSION WITH RIPRAP DISSIPATOR.
5. INSPECT THE DIVERSION AFTER EACH SIGNIFICANT RAINFALL OF 1 INCHES OR GREATER, OVER A 24-HOUR PERIOD.
6. REBUILD EARTH BERMS AND INLETS THAT HAVE WEAKENED DUE TO SCOURING.
7. EXTEND SLOPE DRAINS AND REBUILD INLET PROTECTION AS THE FILL GROWS IN HEIGHT. THIS MAY REQUIRE DAILY WORK.
8. REBUILD OR REPAIR SLOPE DRAINS IF NEEDED WHEN SEEDING AND MULCHING IS PERFORMED.
9. REFURBISH CLASS B STONE OUTLET PROTECTION AND CLEAN AS NEEDED.

WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

STANDARD TEMPORARY SLOPE DRAIN



MAINTENANCE NOTES:
1. INSPECT THE DEVICE AFTER1 INCHES OR GREATER, OVER A 24-HOUR PERIOD FOR DAMAGE, SEDIMENT ACCUMULATION AND PROPER FUNCTION.
2. REMOVE SEDIMENT FROM THE DEVICE WHEN ACCUMULATIONS REACH ONE-HALF THE HEIGHT OF THE BASIN AREA FORMED BY THE DEVICE.
3. REPLACE THE WASHED STONE AS NEEDED TO ALLOW WATER TO DRAIN THROUGH THE DEVICE BETWEEN RAINFALL EVENTS.
4. CLEAN OUT THE DEVICE WHEN IT IS CLOGGED WITH DEBRIS.
5. CHECK PLYWOOD IF DAMAGED. REPLACE IF NEEDED.
6. IF THE DEVICE IS TO REMAIN ON THE PROJECT AT THE COMPLETION OF CONSTRUCTION ACTIVITIES, THE DEVICE SHOULD BE CLEAN AND IN PROPER SHAPE AT THE TIME OF FINAL INSPECTION. IF IT IS REMOVED, ALL ACCUMULATED SILT SHOULD BE REMOVED AND THE AREA SEEDED.

WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

STANDARD PIPE INLET PROTECTION (PLYWOOD & STONE)

PERMANENT SEEDING - SHOULDERS, SIDE DITCHES, SLOPES (MAX. 3:1)

DATE			TYPE	PLANTING RATE
AUG. 15	-	NOV. 1	TALL FESCUE	200 LBS./ACRE
NOV. 1	-	MAR.1	TALL FESCUE AND ABRUZZI RYE *(NURSE CROP)	200 LBS./ACRE 25 LBS./ACRE
MAR. 1	-	APR. 15	TALL FESCUE	200 LBS./ACRE
APR. 15	-	JUN. 30	HULLED COMMON BERMUDAGRASS	15 LBS./ACRE

PERMANENT SEEDING - SLOPES (3:1 TO 2:1)

AUG. 15-NOV.1	TALL FESCUE AND SERICEA LESPEDEZA (UNHULLED, UNSCARIFIED)	200 LBS/ACRE 60 TO 70 LBS/ACRE
NOV. 1-MAR.1	TALL FESCUE AND SERICEA LESPEDEZA (UNHULLED, UNSCARIFIED) AND ABRUZZI RYE	200 LBS/ACRE 60 TO 70 LBS/ACRE 25 LBS/ACRE
MAR. 1-JUNE 1	TALL FESCUE AND SERICEA LESPEDEZA (SCARIFIED)	200 LBS/ACRE 40 TO 50 LBS/ACRE
MAR. 15-JUNE 30	WEEPING LOVEGRASS AND SORICEA LESPEDEZA (SCARIFIED)	10 LBS/ACRE 40 TO 50 LBS/ACRE
MAR. 15-JUNE 30	HULLED COMMON BERMUDAGRASS AND SERICEA LESPEDEZA (SCARIFIED)	15 LBS/ACRE 40 TO 50 LBS/ACRE

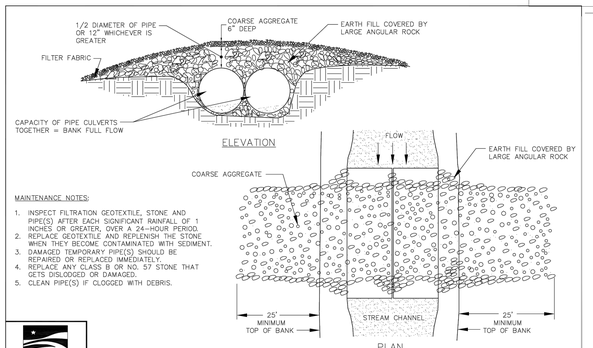
TEMPORARY SEEDING

JUNE 1-SEPT. 1	TALL FESCUE AND BROWN TOP MILLET *(NURSE CROP) OR SORGHUM-SUDAN HYBRIDS *(NURSE CROP)	200 LBS/ACRE 35 LBS/ACRE 30 LBS/ACRE

CONSULT CONSERVATION ENGINEER OR SOIL CONSERVATION SERVICE FOR ADDITIONAL INFORMATION CONCERNING OTHER ALTERNATIVES FOR VEGETATION OF DENUDED AREAS. THE ABOVE VEGETATION RATES ARE THOSE WHICH DO WELL UNDER LOCAL CONDITIONS; OTHER SEEDING RATE COMBINATIONS ARE POSSIBLE.

*NURSE CROP/TEMPORARY - RESEED ACCORDING TO OPTIMUM SEASON FOR DESIRED PERMANENT VEGETATION. DO NOT ALLOW TEMPORARY COVER TO GROW OVER 12" IN HEIGHT BEFORE MOWING, OTHERWISE FESCUE MAY BE SHADED OUT.

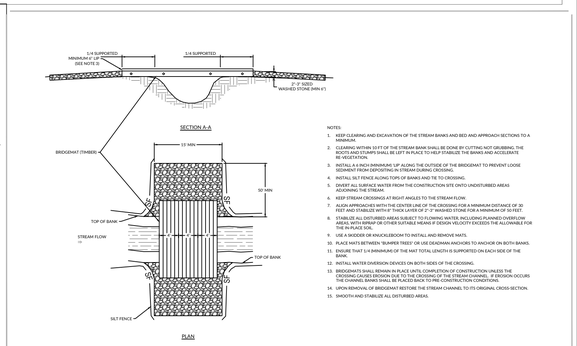
MULCH WITH WHEAT STRAW AT 2,000 LBS/AC.



MAINTENANCE NOTES:
1. INSPECT FILTRATION GEOTEXTILE, STONE AND PIPE(S) AFTER EACH SIGNIFICANT RAINFALL OF 1 INCHES OR GREATER, OVER A 24-HOUR PERIOD.
2. REPLACE GEOTEXTILE AND REPLENISH THE STONE WHEN THEY BECOME CONTAMINATED WITH SEDIMENT.
3. DAMAGED TEMPORARY PIPE(S) SHOULD BE REPAIRED OR REPLACED IMMEDIATELY.
4. REPLACE ANY CLASS B OR NO. 57 STONE THAT GETS DISLODGED OR DAMAGED.
5. CLEAN PIPE(S) IF CLOGGED WITH DEBRIS.

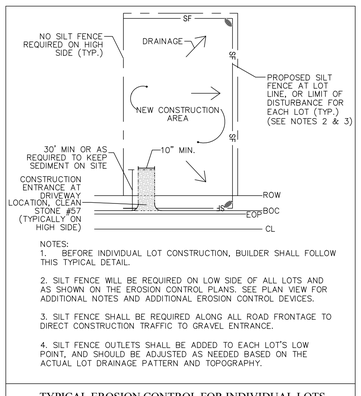
WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

STANDARD TEMPORARY STREAM CROSSING



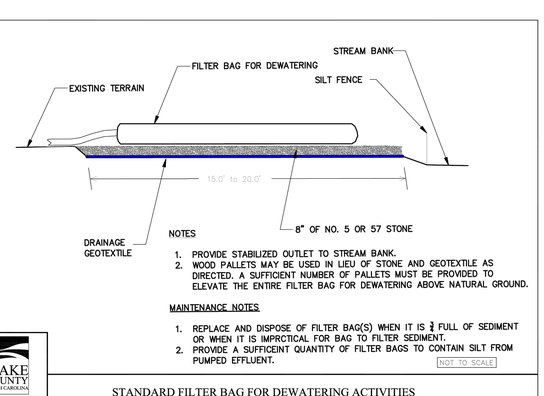
NOTES:
1. KEEP CLEARING AND EXCAVATION OF THE STREAM BANKS AND BED AND APPROACH SECTIONS TO A MINIMUM.
2. CLEARING WITHIN 15 FT OF THE STREAM BANK SHALL BE DONE BY CUTTING NOT GRUBBING. THE ROOTS AND STUMPS SHALL BE LEFT IN PLACE TO HELP STABILIZE THE BANKS AND ACCELERATE REVEGETATION.
3. INSTALL A 6 INCH MINIMUM LIP ALONG THE OUTSIDE OF THE BRIDGEMAT TO PREVENT LOOSE SEDIMENT FROM DEPOSITING IN STREAM DURING CROSSING.
4. INSTALL SILT FENCE ALONG TOPS OF BANKS AND TIE TO CROSSING.
5. DIVERT ALL SURFACE WATER FROM THE CONSTRUCTION SITE ONTO UNDISTURBED AREAS ADJOINING THE STREAM.
6. KEEP STREAM CROSSINGS AT RIGHT ANGLES TO THE STREAM FLOW.
7. ALIGN APPROACHES WITH THE CENTER LINE OF THE CROSSING FOR A MINIMUM DISTANCE OF 30 FEET AND STABILIZE WITH 6" THICK LAYER OF 2"-3" WASHED STONE FOR A MINIMUM OF 50 FEET.
8. STABILIZE ALL DISTURBED AREAS SUBJECT TO FLOWING WATER, INCLUDING PLANNED OVERFLOW AREAS, WITH RIPRAP OR OTHER SUITABLE MEANS IF DESIGN VELOCITY EXCEEDS THE ALLOWABLE FOR BARE SOIL.
9. USE A HOOKER OR KNUCKLEBOOM TO INSTALL AND REMOVE MATS.
10. PLACE MATS BETWEEN "BUMPER TREES" OR USE DEADMAN ANCHORS TO ANCHOR ON BOTH BANKS.
11. ENSURE THAT 1/4 (MINIMUM) OF THE MAT TOTAL LENGTH IS SUPPORTED ON EACH SIDE OF THE CROSSING.
12. INSTALL WATER DIVERSION DEVICES ON BOTH SIDES OF THE CROSSING.
13. BRIDGEMATS SHALL REMAIN IN PLACE UNTIL COMPLETION OF CONSTRUCTION UNLESS THE CROSSING CAUSES EROSION DUE TO THE CROSSING OF THE STREAM CHANNEL. IF EROSION OCCURS THE CHANNEL BANKS SHALL BE PLACED BACK TO PRE CONSTRUCTION CONDITIONS.
14. UPON REMOVAL OF BRIDGEMAT RESTORE THE STREAM CHANNEL TO ITS ORIGINAL CROSS-SECTION.
15. SMOOTH AND STABILIZE ALL DISTURBED AREAS.

TEMPORARY STREAM CROSSING BY BRIDGEMATS — EROSION CONTROL
Scale:NTS — C4072



NOTES:
1. BEFORE INDIVIDUAL LOT CONSTRUCTION, BUILDER SHALL FOLLOW THIS TYPICAL DETAIL.
2. SILT FENCE WILL BE REQUIRED ON LOW SIDE OF ALL LOTS AND AS SHOWN ON THE EROSION CONTROL PLANS. SEE PLAN VIEW FOR ADDITIONAL NOTES AND ADDITIONAL EROSION CONTROL DEVICES.
3. SILT FENCE SHALL BE REQUIRED ALONG ALL ROAD FRONTAGE TO DIRECT CONSTRUCTION TRAFFIC TO GRAVEL ENTRANCE.
4. SILT FENCE OUTLETS SHALL BE ADDED TO EACH LOT'S LOW POINT, AND SHOULD BE ADJUSTED AS NEEDED BASED ON THE ACTUAL LOT DRAINAGE PATTERN AND TOPOGRAPHY.

TYPICAL EROSION CONTROL FOR INDIVIDUAL LOTS



NOTES
1. PROVIDE STABILIZED OUTLET TO STREAM BANK.
2. WOOD PALLETS MAY BE USED IN LIEU OF STONE AND GEOTEXTILE AS DIRECTED. A SUFFICIENT NUMBER OF PALLETS MUST BE PROVIDED TO ELEVATE THE ENTIRE FILTER BAG FOR DEWATERING ABOVE NATURAL GROUND.

MAINTENANCE NOTES

1. REPLACE AND DISPOSE OF FILTER BAG(S) WHEN IT IS ½ FULL OF SEDIMENT OR WHEN IT IS IMPRCTICAL FOR BAG TO FILTER SEDIMENT.
2. PROVIDE A SUFFICIENT QUANTITY OF FILTER BAGS TO CONTAIN SILT FROM PUMPED EFFLUENT.

NOT TO SCALE

WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

STANDARD FILTER BAG FOR DEWATERING ACTIVITIES

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PULTEGROUP
1225 CRESCENT GREEN DRIVE, SUITE 250
CARY, NC 27518

CONSTRUCTION INFRASTRUCTURE DRAWINGS
BROADMOOR
CID-24-06
ROLESVILLE ROAD | ROLESVILLE, NC 27587 | WAKE COUNTY

NORTH CAROLINA PROFESSIONAL SEAL 058751 ENGINEER TERRENCE COOK

INITIAL PLAN DATE: 11/01/2024
REVISIONS:
1 - 01/02/2025
REVISED PER REVIEW COMMENTS
2 - 03/03/2025
REVISED PER REVIEW COMMENTS
3 - 03/28/2025
REVISED PER WAKE CO. COMMENTS
4 - 05/01/2025
REVISED PER REVIEW COMMENTS
-

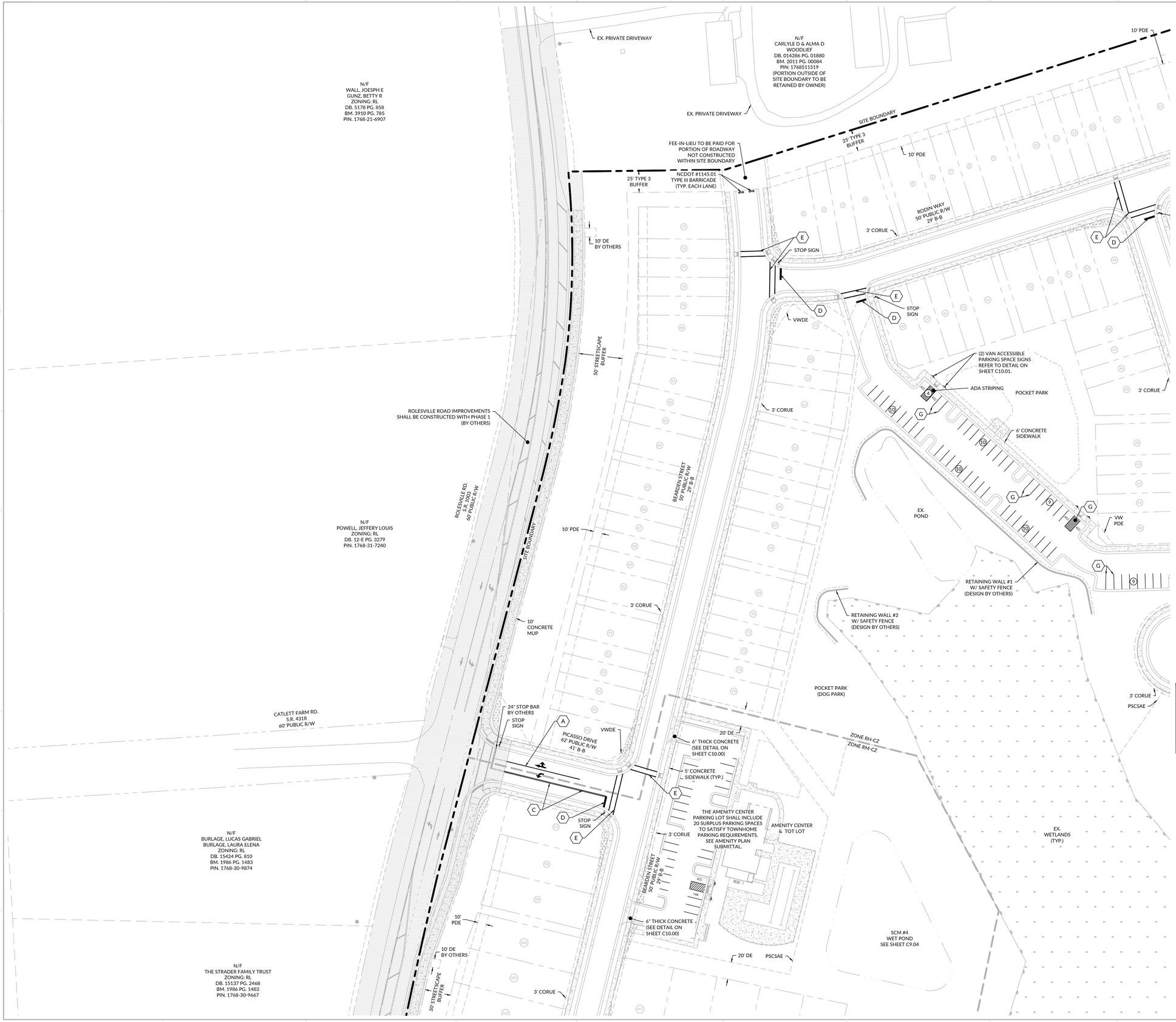
WR JOB NUMBER 23-0045
DRN: WR DGN: WR CKD: WR

EROSION CONTROL DETAILS

C10.09

EST 1993

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PAVEMENT MARKING LEGEND

- PAVEMENT MARKING SYMBOLS
- (A) 4" WHITE LANE LINE
- (C) 4" WIDE DOUBLE YELLOW SOLID LINE
- (D) 24" WHITE STOP BAR (MIN 4' BEHIND CROSSWALK)
- (E) 8" WHITE TRANSVERSE LINES
- (G) 4" WHITE PARKING SPACE LINE

STRIPING NOTES:

1. ALL MARKINGS AND SIGNAGE SHALL BE CONSTRUCTED IN ACCORDANCE WITH MUTCD STANDARDS, INCLUDING COLOR, LETTER HEIGHT, AND LETTER CASE OF THE STREET NAME SIGNS.
2. ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC.
3. ANY EXISTING PAVEMENT STRIPING THAT IS IN CONFLICT WITH THE PROPOSED STRIPING SHOWN ON THIS PLAN SHALL BE REMOVED.

KEY MAP

NOT TO SCALE



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BROADMOOR
CID-24-06

ROLESVILLE ROAD | ROLESVILLE, NC 27587 | WAKE COUNTY

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 058751 TERRENCE COOK

SCALE: 1 inch = 50 ft.

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REVISED PER WAKE CO. COMMENTS
4 - 05/01/2025
REVISED PER REVIEW COMMENTS
-

WR JOB NUMBER 23-0045
DRN: WR DGN: WR CKD: WR

SIGNAGE & PAVEMENT MARKINGS PLAN

C11.01

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N/F
THE STRADER FAMILY TRUST
ZONING: RL
DB. 15137 PG. 2468
BM. 1986 PG. 1483
PIN. 1768-30-9667

N/F
CICERO, KRISTAN
CICERO, JOSEPH
ZONING: R-30
DB. 19017 PG. 1461
BM. 2007 PG. 1478
PIN. 1768-30-8414

N/F
STALLINGS, HARREL F
STALLINGS, GAYLE W
ZONING: R-30
DB. 12830 PG. 114
BM. 2007 PG. 1478
PIN. 1768-30-6321

N/F
DR HORTON INC
(EX. CEMETARY)
ZONING: R&PUD-CZ
DB. 19008 PG. 1446
PIN. 1767-39-9921

N/F
DR HORTON INC
ZONING: R&PUD-CZ
DB. 19008 PG. 1446
BM. 2022 PG. 442
PIN. 1767-29-3887

KALAS FALLS SUBDIVISION
APPROVED-CD-21-07

N/F
JANICE GAYLE W & HARRELL STALLINGS
ZONING: R-30 (WAKE COUNTY)
DB. 014286 PG. 01890
BM. 2011 PG. 00084
PIN: 1768409261
(PORTION OUTSIDE OF SITE BOUNDARY
TO BE RETAINED BY OWNER)

N/F
DONNIE L & PATSY WOODLIEF
ZONING: R-30 (WAKE COUNTY)
DB. 014286 PG. 01896
BM. 2011 PG. 00084
PIN: 1767590716
(PORTION OUTSIDE OF SITE BOUNDARY
TO BE RETAINED BY OWNER)

SHEET C10.00)

SCM #4
WET POND
SEE SHEET C9.04

10' DE
BY OTHERS

30' STREETSCAPE
BUFFER

3' CORUE

20' DE

PSCSAE

BEARDEN STREET
50' PUBLIC R/W
29' B-B

STOP SIGN

SITE BOUNDARY

ZONE RH-CZ
ZONE RM-CZ

EX.
WETLANDS
(TYP.)

RETAINING
WALL #3 W/
SAFETY FENCE
(DESIGN BY
OTHERS)

PWMAE

5' CONCRETE
SIDEWALK (TYP.)

TITIAN AVENUE
50' PUBLIC R/W
29' B-B

VWDE

STOP SIGN

NCDOT #1145.01
TYPE III BARRICADE
(TYP. EACH LANE)

FEE-IN-LIEU TO BE PAID FOR
PORTION OF ROADWAY
NOT CONSTRUCTED
WITHIN SITE BOUNDARY

25' TYPE 2
BUFFER

PHASE 1
PHASE 2

10' PDE

POCKET PARK

ROLESVILLE RD.
S.R. 1003
60' PUBLIC R/W

10' DE
BY OTHERS

10'
CONCRETE
MUP

ROLESVILLE ROAD
IMPROVEMENTS SHALL BE
CONSTRUCTED WITH PHASE 1
(BY OTHERS)

DEACTOR DRIVE
50' PUBLIC R/W
29' B-B

SEURAT PLACE
50' PUBLIC R/W
29' B-B

PAVEMENT MARKING LEGEND

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KEY MAP
NOT TO SCALE



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0 25 50
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REVISED PER WAKE CO. COMMENTS
4 - 05/01/2025
REVISED PER REVIEW COMMENTS
-

WR JOB NUMBER 23-0045
DRN: WR DGN: WR CKD: WR

SIGNAGE & PAVEMENT MARKINGS PLAN

C11.02

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KALAS FALLS SUBDIVISION
APPROVED-CD-21-07

N/F
DR HORTON INC
ZONING: R&PUD-CZ
DB. 19008 PG. 1446
BM. 2022 PG. 442
PIN. 1767-29-3887

FALLS BLUFF DR.
APPROVED-CD-21-07
60' PUBLIC R/W

ROLESVILLE ROAD
IMPROVEMENTS SHALL BE
CONSTRUCTED WITH PHASE 1
(BY OTHERS)

KALAS FALLS SUBDIVISION
APPROVED-CD-21-07

N/F
WILDER, CHRISTIAN C
WILDER, CINDY E
ZONING:
DB. 10927 PG. 1494
BM. 2019 PG. 1188
PIN. 1767-39-2260

ROLESVILLE RD.
SR. 1003
60' PUBLIC R/W

SITE BOUNDARY

N/F
MALDONADO, RAUL
ZONING: R-30
DB. 17784 PG. 1955
BM. 2023 PG. 1097
PIN. 1767-38-7947

10'
CONCRETE MUP
BY OTHERS

30' STREETSCAPE
BUFFER

PHASE 1
PHASE 2

30' STREETSCAPE
BUFFER

24" STOP BAR
BY OTHERS

STOP
SIGN

PHASE 1
PHASE 3

10' PDE

MUNCH DRIVE
50' PUBLIC R/W
29' B-B

VWDE

VWDE

STOP SIGN

PHASE 2
PHASE 3

RETAINING WALL #4
W/ SAFETY FENCE
(DESIGN BY OTHERS)

EX. WETLANDS (TYP.)

RETAINING WALL #5
W/ SAFETY FENCE
(DESIGN BY OTHERS)

3' CORUE

10' PDE

10' PDE

VWDE

STOP SIGN

DARE DR.
50' PUBLIC R/W
29' B-B

10' PDE

SITE BOUNDARY

N/F
CLARK, CHARLES T CLARK, PATRICIA H
ZONING: R-30
DB. 4572 PG. 246
BM. 4572 PG. 246
PIN. 1767-38-9615

DARE DR.
APPROVED-CD-21-08
50' PUBLIC R/W

TEMPORARY
CONSTRUCTION
EASEMENT

ROLESVILLE CROSSING SUBDIVISION
APPROVED-CD-21-08

SITE BOUNDARY

25' TYPE 2
BUFFER

10' PDE

DELACROIX DRIVE
50' PUBLIC R/W
29' B-B

STOP SIGN

10' PDE
3' CORUE

VWDE

TITIAN AVENUE
50' PUBLIC R/W
29' B-B

3' CORUE

T.O.R. STREAM PROTECTION BUFFER
50' SECTION 2

NEUSE RIPARIAN BUFFER
20' SECTION 2

T.O.R. STREAM PROTECTION BUFFER
50' SECTION 1

NEUSE RIPARIAN BUFFER
30' SECTION 1

EX. TOP
OF BANK

NEUSE RIPARIAN BUFFER
30' SECTION 1

T.O.R. STREAM PROTECTION BUFFER
50' SECTION 1

NEUSE RIPARIAN BUFFER
20' SECTION 2

POCKET PARK

EX. WETLANDS (TYP.)

RETAINING WALL #6
W/ SAFETY FENCE
(DESIGN BY OTHERS)

T.O.R. STREAM PROTECTION BUFFER
50' SECTION 2

T.O.R. STREAM PROTECTION BUFFER
50' SECTION 1

EX.
POND

PHASE 1
PHASE 3

3' CORUE

NEUSE RIPARIAN BUFFER
30' SECTION 1

NEUSE RIPARIAN BUFFER
20' SECTION 2

EX.
WETLANDS
(TYP.)

MARIOL COURT
50' PUBLIC R/W
29' B-B

10' PDE

STOP SIGN

VWDE

VWDE

5' CONCRETE
SIDEWALK (TYP.)

MUNCH DRIVE
50' PUBLIC R/W
29' B-B

20' DE

10' PDE

VWDE

STOP SIGN

DARE DR.
50' PUBLIC R/W
29' B-B

3' CORUE

10' PDE

20' DE

25' TYPE 2 BUFFER

RETAINING WALL #7
W/ SAFETY FENCE
(DESIGN BY OTHERS)

PAVEMENT MARKING LEGEND

	PAVEMENT MARKING SYMBOLS
A	4" WHITE LANE LINE
C	4" WIDE DOUBLE YELLOW SOLID LINE
D	24" WHITE STOP BAR (MIN 4' BEHIND CROSSWALK)
E	8" WHITE TRANSVERSE LINES
G	4" WHITE PARKING SPACE LINE

STRIPING NOTES:

1. ALL MARKINGS AND SIGNAGE SHALL BE CONSTRUCTED IN ACCORDANCE WITH MUTCD STANDARDS, INCLUDING COLOR, LETTER HEIGHT, AND LETTER CASE OF THE STREET NAME SIGNS.
2. ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC.
3. ANY EXISTING PAVEMENT STRIPING THAT IS IN CONFLICT WITH THE PROPOSED STRIPING SHOWN ON THIS PLAN SHALL BE REMOVED.

KEY MAP
NOT TO SCALE



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1225 CRESCENT GREEN DRIVE.
SUITE 250
CARY, NC 27518

CONSTRUCTION INFRASTRUCTURE DRAWINGS
BROADMOOR
CID-24-06
ROLESVILLE ROAD | ROLESVILLE, NC

NORTH CAROLINA
PROFESSIONAL
SEAL
058751
ENGINEER
TERRENCE COOK

SCALE: 1 inch = 50 ft.

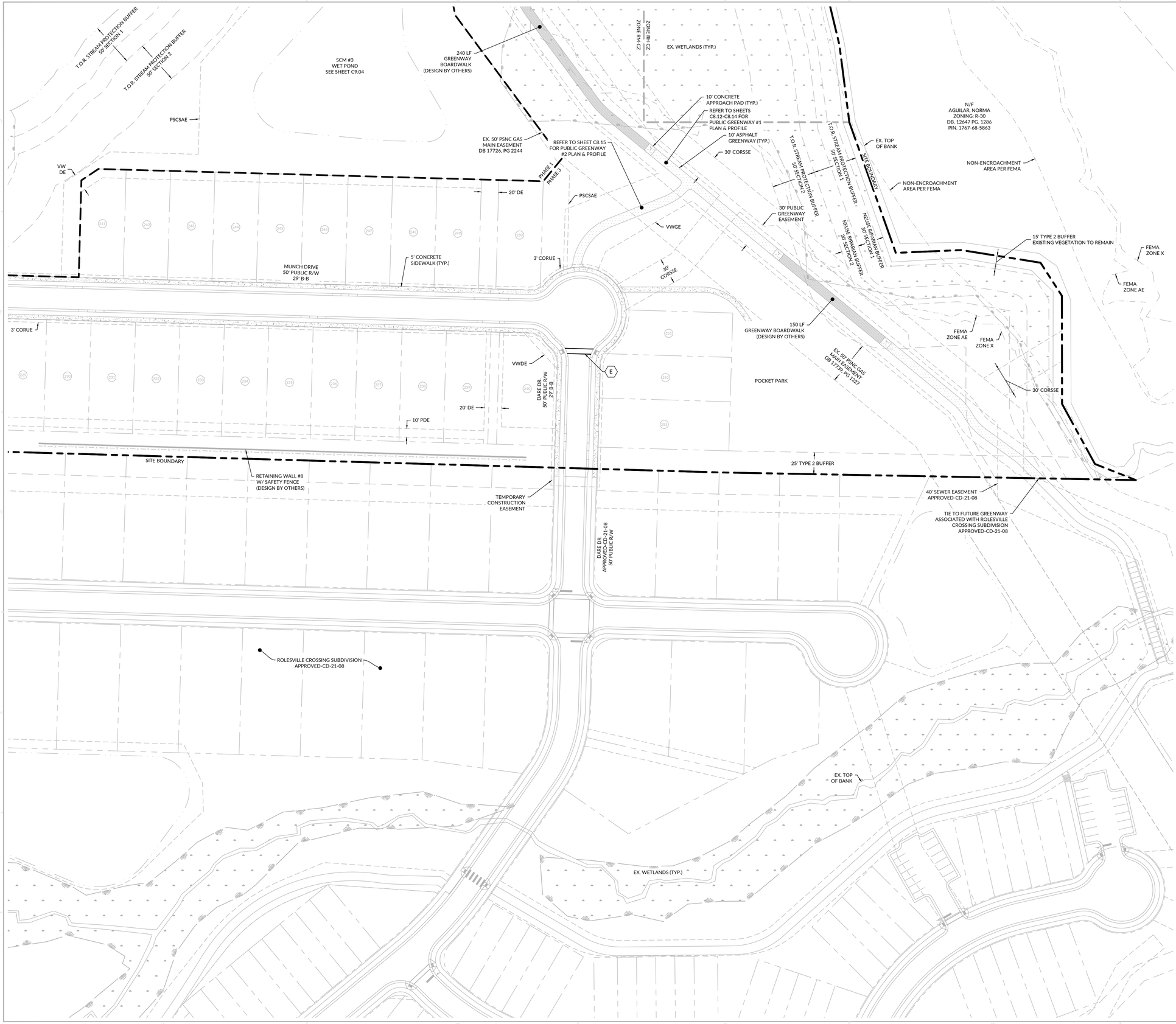
INITIAL PLAN DATE: 11/01/2024
REVISIONS:
1 - 01/02/2025
REVISED PER REVIEW COMMENTS
2 - 03/03/2025
REVISED PER REVIEW COMMENTS
3 - 03/28/2025
REVISED PER WAKE CO. COMMENTS
4 - 05/01/2025
REVISED PER REVIEW COMMENTS
-

WR JOB NUMBER 23-0045
DRN: WR DGN: WR CKD: WR

SIGNAGE & PAVEMENT MARKINGS PLAN

C11.03

J:\23\0045-pults_woodlief assemblage\CAD\drawing set\construction\C11.01-11.07 SIGNAGE & PAVEMENT MARKINGS PLAN.dwg - Tuesday, April 29, 2025 7:56:36 AM - JKEITH



PAVEMENT MARKING LEGEND

- PAVEMENT MARKING SYMBOLS
- (A) 4" WHITE LANE LINE
- (C) 4" WIDE DOUBLE YELLOW SOLID LINE
- (D) 24" WHITE STOP BAR (MIN 4' BEHIND CROSSWALK)
- (E) 8" WHITE TRANSVERSE LINES
- (G) 4" WHITE PARKING SPACE LINE

STRIPING NOTES:

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KEY MAP

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CONSTRUCTION INFRASTRUCTURE DRAWINGS

BROADMOOR
CID-24-06

ROLESVILLE ROAD | ROLESVILLE, NC 27587 | WAKE COUNTY

NORTH CAROLINA PROFESSIONAL SEAL 058751 ENGINEER TERRENCE COOK

SCALE: 1 inch = 50 ft.

INITIAL PLAN DATE: 11/01/2024
REVISIONS:
1 - 01/02/2025
REVISED PER REVIEW COMMENTS
2 - 03/03/2025
REVISED PER REVIEW COMMENTS
3 - 03/28/2025
REVISED PER WAKE CO. COMMENTS
4 - 05/01/2025
REVISED PER REVIEW COMMENTS
-

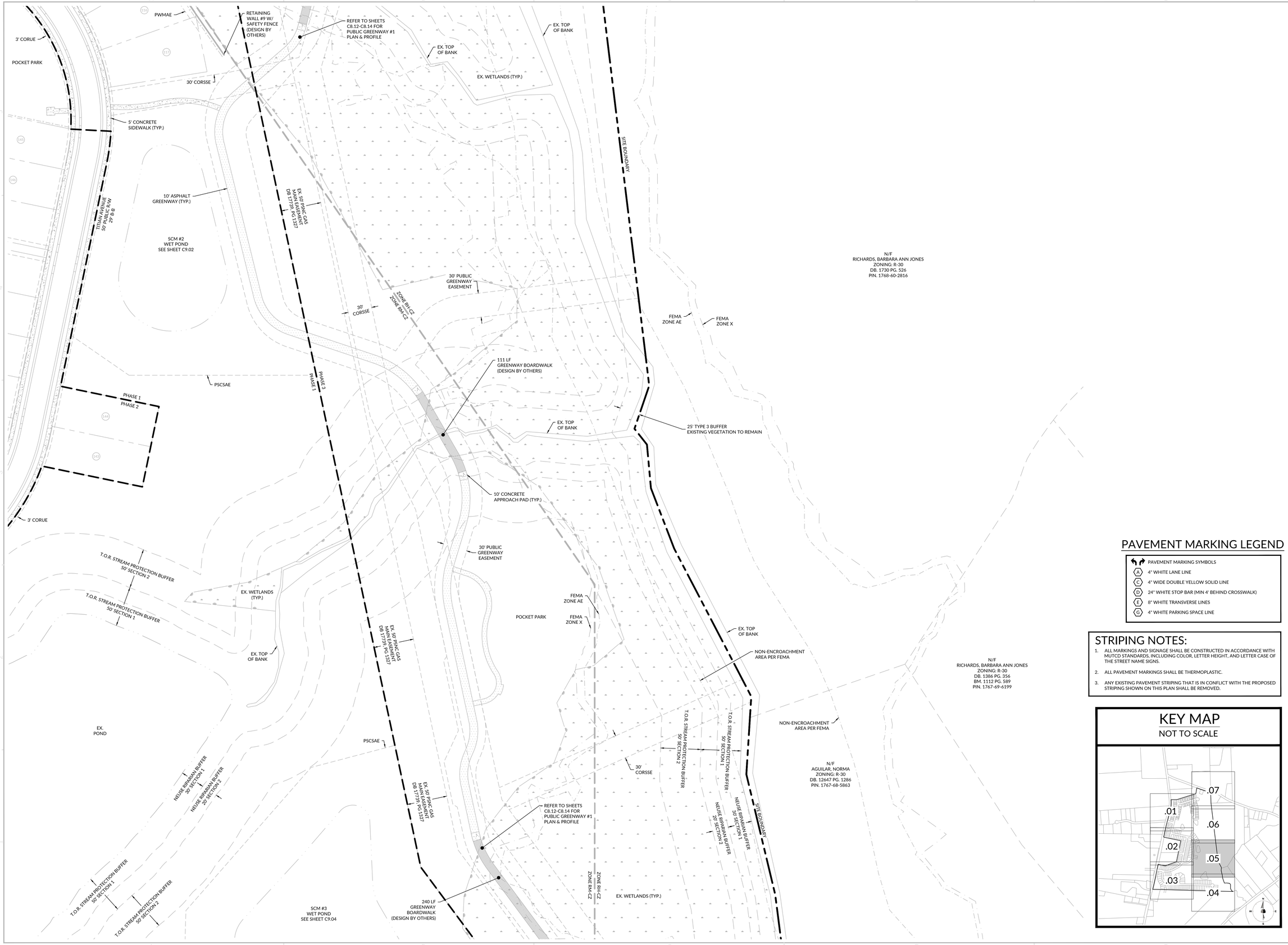
WR JOB NUMBER 23-0045
DRN: WR DGN: WR CKD: WR

SIGNAGE & PAVEMENT MARKINGS PLAN

C11.04

EST. 1993

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PAVEMENT MARKING LEGEND

- PAVEMENT MARKING SYMBOLS
- (A) 4" WHITE LANE LINE
- (C) 4" WIDE DOUBLE YELLOW SOLID LINE
- (D) 24" WHITE STOP BAR (MIN 4' BEHIND CROSSWALK)
- (E) 8" WHITE TRANSVERSE LINES
- (G) 4" WHITE PARKING SPACE LINE

STRIPING NOTES:

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KEY MAP

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ROLESVILLE ROAD | ROLESVILLE, NC 27587 | WAKE COUNTY

NORTH CAROLINA PROFESSIONAL SEAL 058751 ENGINEER TERRENCE COOK

SCALE: 1 inch = 50 ft.

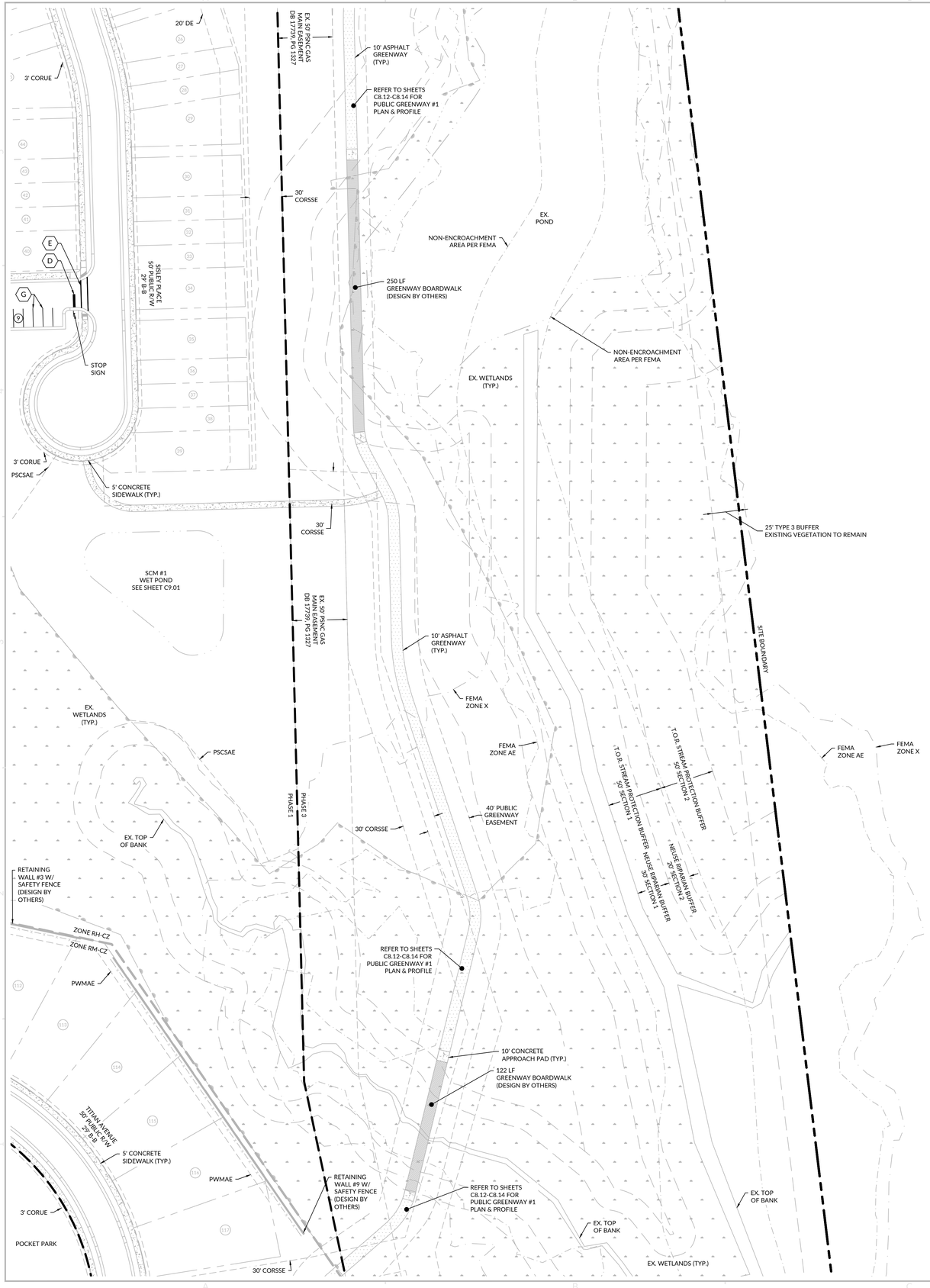
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REVISED PER REVIEW COMMENTS
3 - 03/28/2025
REVISED PER WAKE CO. COMMENTS
4 - 05/01/2025
REVISED PER REVIEW COMMENTS
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WR JOB NUMBER 23-0045
DRN: WR DGN: WR CKD: WR

SIGNAGE & PAVEMENT MARKINGS PLAN

C11.05

J:\23\0045-public_excellent assemblage\CAD\planning set\construction\C11.05 | 11.07 SIGNAGE & PAVEMENT MARKINGS PLAN.dwg, Tuesday, April 29, 2025 7:54:52 AM, JKEITH



PAVEMENT MARKING LEGEND

- PAVEMENT MARKING SYMBOLS
- (A) 4" WHITE LANE LINE
- (C) 4" WIDE DOUBLE YELLOW SOLID LINE
- (D) 24" WHITE STOP BAR (MIN 4' BEHIND CROSSWALK)
- (E) 8" WHITE TRANSVERSE LINES
- (G) 4" WHITE PARKING SPACE LINE

STRIPING NOTES:

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KEY MAP

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CID-24-06
ROLESVILLE ROAD | ROLESVILLE, NC 27587 | WAKE COUNTY

NORTH CAROLINA PROFESSIONAL SEAL 058751 ENGINEER TERRENCE COOK

SCALE: 1 inch = 50 ft.

INITIAL PLAN DATE: 11/01/2024
REVISIONS:
1 - 01/02/2025
REVISED PER REVIEW COMMENTS
2 - 03/03/2025
REVISED PER REVIEW COMMENTS
3 - 03/28/2025
REVISED PER WAKE CO. COMMENTS
4 - 05/01/2025
REVISED PER REVIEW COMMENTS
-

WR JOB NUMBER 23-0045
DRN: WR DGN: WR CKD: WR

SIGNAGE & PAVEMENT MARKINGS PLAN

C11.06

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N/F
ROGERS, WILLIAM L
ZONING: R-30
DB. 003626 PG. 00569
DB. 1985 PG. 1807
DB. 1768-42-7499

N/F
WOODLIEF, CARLYLE D
WOODLIEF, ALMA D
ZONING: R-30 (WAKE COUNTY)
ZONING: R-30
DB. 14286 PG. 1880
BM. 2011 PG. 84
PIN. 1768-51-1519

N/F
WATKINS, CHARLES ZACHARY
ZONING: R-30
DB. 17332 PG. 2109
BM. 1979 PG. 324
PIN. 1768-52-9682

APPROX. LOCATION OF EX. V.W. GAS MAIN EASEMENT DB 17871, PG 2108

FOWLER RD.
S.R. 2308
60' PUBLIC R/W

FOWLER ROAD IMPROVEMENTS SHALL BE CONSTRUCTED WITH PHASE 1 (BY OTHERS)

10' DE BY OTHERS

10' CONCRETE MULTI-USE PATH

30' STREETSCAPE BUFFER

EX. WETLANDS (TYP.)

ADA STRIPING

(2) VAN ACCESSIBLE PARKING SPACE SIGNS REFER TO DETAIL ON SHEET C10.01.

FEE-IN-LIEU TO BE PAID FOR PORTION OF MULTI-USE PATH NOT CONSTRUCTED DURING ROADWAY IMPROVEMENTS BY OTHERS

N/F
CARLYLE D & ALMA D WOODLIEF
DB. 014286 PG. 01880
BM. 2011 PG. 00084
PIN: 1768511519
(PORTION OUTSIDE OF SITE BOUNDARY TO BE RETAINED BY OWNER)

POLLINATION GARDEN
0.50 AC MINIMUM

SITE BOUNDARY

RETAINING WALL #10 W/ SAFETY FENCE (DESIGN BY OTHERS)

30' CORSSE

PHASE 1
PHASE 3

(2) 6" DIA BOLLARDS & (1) 3' x 6" BOLLARD

10'x10' OUTDOOR MUSEUM STATION

10' PDE

25' TYPE 3 BUFFER

POLLINATION GARDEN
0.50 AC MINIMUM

10' ASPHALT GREENWAY (TYP.)

REFER TO SHEETS C8.12-C8.14 FOR PUBLIC GREENWAY #1 PLAN & PROFILE

60' PUBLIC GREENWAY EASEMENT

5' CONCRETE SIDEWALK (TYP.)

ROBIN WAY
50' PUBLIC R/W
29' B-B

20' DE

EX. 50' PSNC GAS MAINLINE EASEMENT DB 17725, PG 1327

T.O.R. STREAM PROTECTION BUFFER 50' SECTION 2

NEUSE RIPARIAN BUFFER 20' SECTION 2

NEUSE RIPARIAN BUFFER 30' SECTION 1

T.O.R. STREAM PROTECTION BUFFER 50' SECTION 1

10' DE BY OTHERS

EX. TOP OF BANK

FEMA ZONE AE

FEMA ZONE X

NON-ENCROACHMENT AREA PER FEMA

N/F
ALFORD, SAMUEL JASON
ZONING: R-30
DB. 19530 PG. 2760
PIN. 1768-51-8609

25' TYPE 3 BUFFER EXISTING VEGETATION TO REMAIN

EX. WETLANDS (TYP.)

REFER TO SHEET C8.15 FOR PUBLIC GREENWAY #3 PLAN & PROFILE

NON-ENCROACHMENT AREA PER FEMA

EX. POND

SITE BOUNDARY

STOP SIGN

3' CORUE

VWGE

SISLEY PLACE
50' PUBLIC R/W
29' B-B

EX. POND

FEMA ZONE X

FEMA ZONE AE

N/F
RICHARDS, BARBARA ANN JONES
ZONING: R-30
DB. 1730 PG. 526
PIN. 1768-60-2816

PAVEMENT MARKING LEGEND

- PAVEMENT MARKING SYMBOLS
- (A) 4" WHITE LANE LINE
- (C) 4" WIDE DOUBLE YELLOW SOLID LINE
- (D) 24" WHITE STOP BAR (MIN 4' BEHIND CROSSWALK)
- (E) 8" WHITE TRANSVERSE LINES
- (G) 4" WHITE PARKING SPACE LINE

STRIPING NOTES:

1. ALL MARKINGS AND SIGNAGE SHALL BE CONSTRUCTED IN ACCORDANCE WITH MUTCD STANDARDS, INCLUDING COLOR, LETTER HEIGHT, AND LETTER CASE OF THE STREET NAME SIGNS.
2. ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC.
3. ANY EXISTING PAVEMENT STRIPING THAT IS IN CONFLICT WITH THE PROPOSED STRIPING SHOWN ON THIS PLAN SHALL BE REMOVED.

KEY MAP
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CONSTRUCTION INFRASTRUCTURE DRAWINGS
BROADMOOR
CID-24-06
ROLESVILLE ROAD | ROLESVILLE, NC 27587 | WAKE COUNTY

NORTH CAROLINA PROFESSIONAL SEAL 058751 ENGINEER TERRENCE COOK

SCALE: 1 inch = 50 ft.

INITIAL PLAN DATE: 11/01/2024
REVISIONS:
1 - 01/02/2025
REVISED PER REVIEW COMMENTS
2 - 03/03/2025
REVISED PER REVIEW COMMENTS
3 - 03/28/2025
REVISED PER WAKE CO. COMMENTS
4 - 05/01/2025
REVISED PER REVIEW COMMENTS
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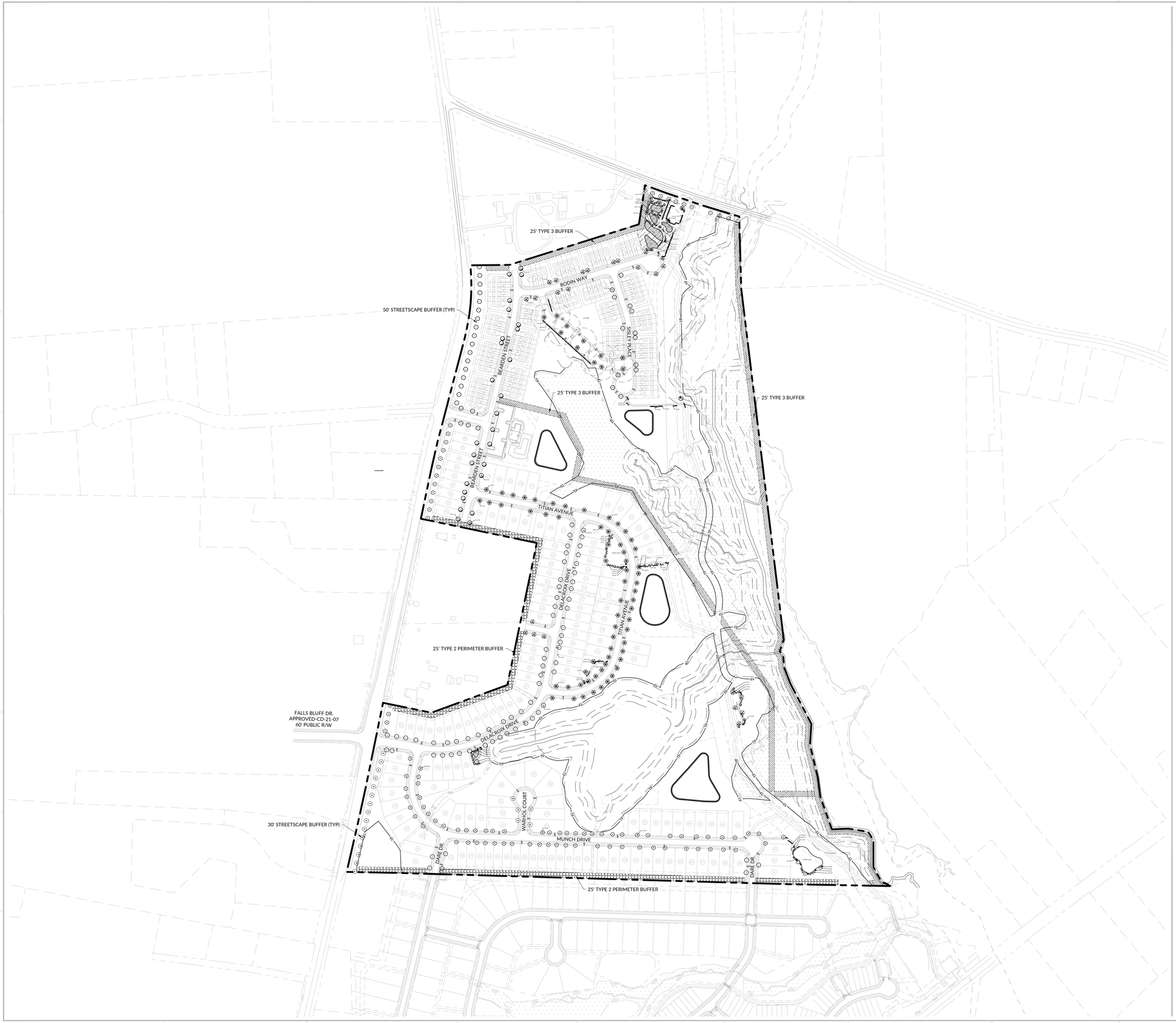
WR JOB NUMBER 23-0045
DRN: WR DGN: WR CKD: WR

SIGNAGE & PAVEMENT MARKINGS PLAN

C11.07

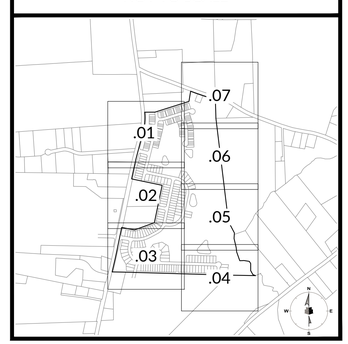
EST 1983

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KEY MAP

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CONSTRUCTION INFRASTRUCTURE DRAWINGS FOR

BROADMOOR
CID-24-06

ROLESVILLE ROAD | ROLESVILLE, NC 27587 | WAKE COUNTY

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 2077 DANIEL B. WHITLEY

0 100 200
SCALE: 1 inch = 200 ft.

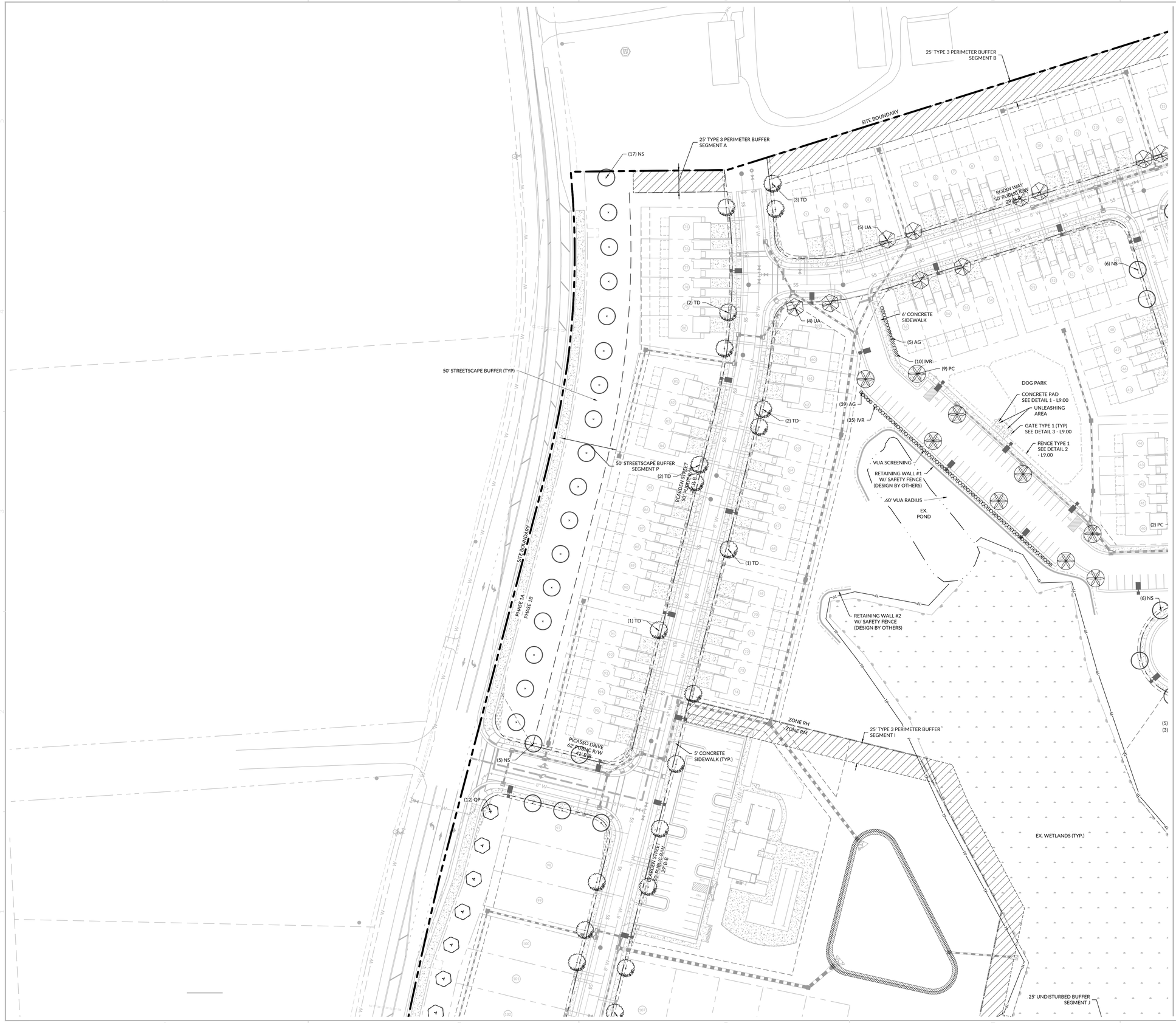
INITIAL PLAN DATE: 11/01/2024
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REVISED PER REVIEW COMMENTS
3 - 03/28/2025
REVISED PER WAKE CO. COMMENTS
4 - 05/01/2025
REVISED PER REVIEW COMMENTS
-

WR JOB NUMBER	23-0045
DRN: WR	DGN: WR CKD: WR

OVERALL LANDSCAPE PLAN

L1.00

J:\23\0045-pulte_woodlief assemblage\CAD\drawing set\construction\L1.00 OVERALL LANDSCAPE & LIGHTING PLAN.dwg, Tuesday, April 29, 2025 7:57:59 AM, AMANSELL



PLANT LEGEND

SYMBOL	CODE	BOTANICAL NAME
TREES		
	AR	Acer rubrum
	CC	Cercis canadensis
	CV	Chionanthus virginicus
	NS	Nyssa sylvatica
	PC	Pistacia chinensis
	PO	Platanus occidentalis
	QP	Quercus phellos
	TD	Taxodium distichum
	UA	Ulmus americana
SHRUBS		
	AG	Abelia x grandiflora
	HQ	Hydrangea quercifolia
	IC	Ilex cornuta 'Needlepoint'
	IG	Ilex glabra 'Shamrock'
	IVO	Ilex vomitoria
	IVR	Itea virginica
GROUND COVERS		
	POLL	Pollinator Mix

KEY MAP

NOT TO SCALE



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CONSTRUCTION INFRASTRUCTURE DRAWINGS
BROADMOOR
CID-24-06
ROLESVILLE ROAD | ROLESVILLE, NC 27587 | WAKE COUNTY

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 2077 DANIEL B. WHITLEY

0 25 50
SCALE: 1 inch = 50 ft.

INITIAL PLAN DATE: 11/01/2024
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4 - 05/01/2025
REVISED PER REVIEW COMMENTS
-

WR JOB NUMBER		23-0045
DRN: WR	DGN: WR	CKD: WR

LANDSCAPE PLAN

L1.01

EST. 1993

J:\23\0045\traffic_workflow\ roadway\ CAD\ planning set\ construction\ L1.01 LOT LANDSCAPE & LIGHTING PLAN.dwg - Tuesday, April 29, 2025 7:59:13 AM - MMANDELL



PLANT LEGEND

SYMBOL	CODE	BOTANICAL NAME
TREES		
	AR	Acer rubrum
	CC	Cercis canadensis
	CV	Chionanthus virginicus
	NS	Nyssa sylvatica
	PC	Pistacia chinensis
	PO	Platanus occidentalis
	QP	Quercus phellos
	TD	Taxodium distichum
	UA	Ulmus americana
SHRUBS		
	AG	Abelia x grandiflora
	HQ	Hydrangea quercifolia
	IC	Ilex cornuta 'Needlepoint'
	IG	Ilex glabra 'Shamrock'
	IVO	Ilex vomitoria
	IVR	Itea virginica
GROUND COVERS		
	POLL	Pollinator Mix

KEY MAP

NOT TO SCALE



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CONSTRUCTION INFRASTRUCTURE DRAWINGS

BROADMOOR
CID-24-06

ROLESVILLE ROAD | ROLESVILLE, NC 27587 | WAKE COUNTY

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 2077 DANIEL B. WHITLEY

SCALE: 1 inch = 50 ft.

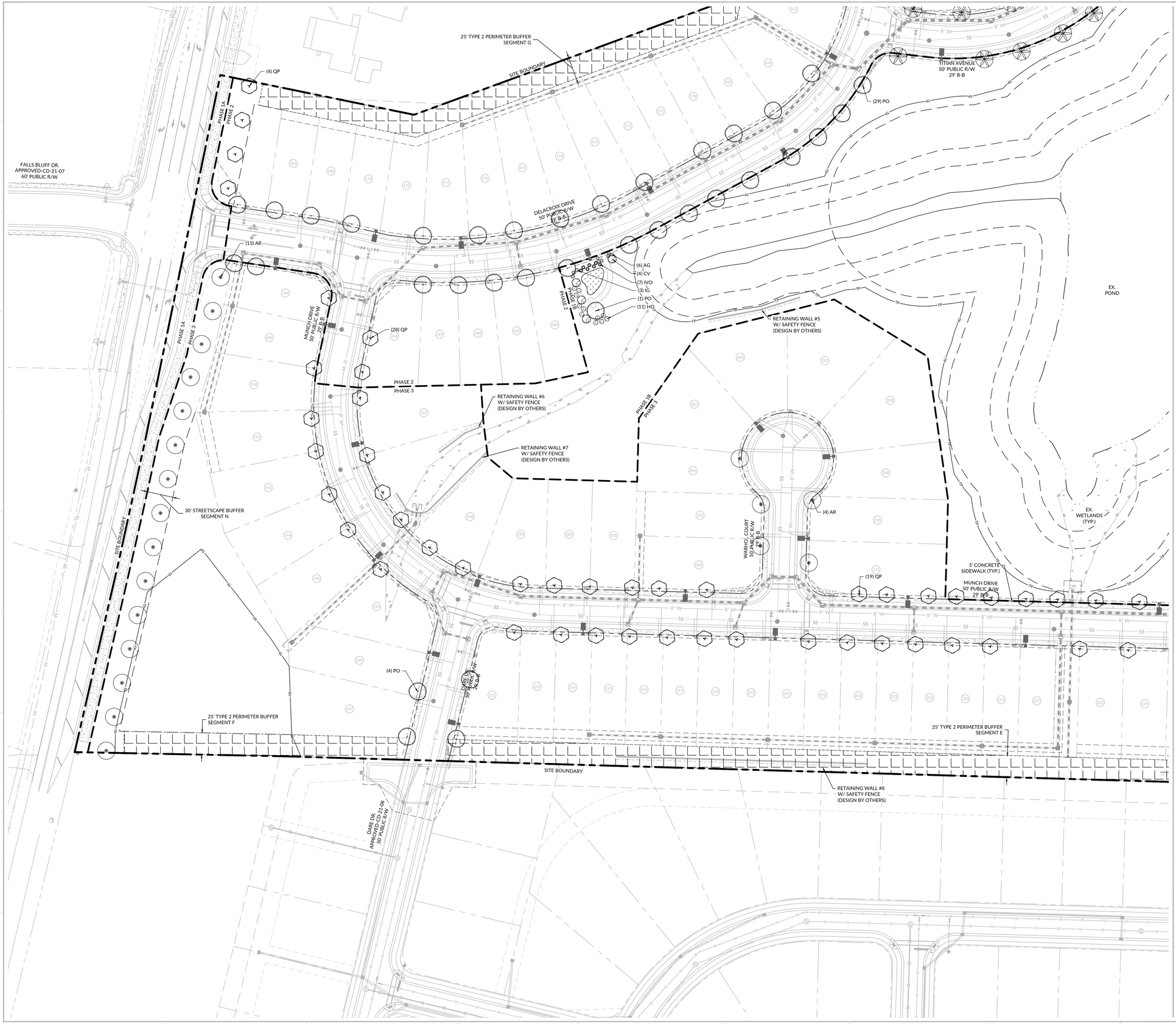
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REVISED PER WAKE CO. COMMENTS
4 - 05/01/2025
REVISED PER REVIEW COMMENTS
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WR JOB NUMBER 23-0045
DRN: WR DGN: WR CKD: WR

LANDSCAPE PLAN

L1.02

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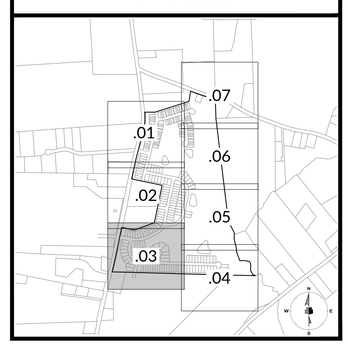


PLANT LEGEND

SYMBOL	CODE	BOTANICAL NAME
TREES		
	AR	Acer rubrum
	CC	Cercis canadensis
	CV	Chionanthus virginicus
	NS	Nyssa sylvatica
	PC	Pistacia chinensis
	PO	Platanus occidentalis
	QP	Quercus phellos
	TD	Taxodium distichum
	UA	Ulmus americana
SHRUBS		
	AG	Abelia x grandiflora
	HQ	Hydrangea quercifolia
	IC	Ilex cornuta 'Needlepoint'
	IG	Ilex glabra 'Shamrock'
	IVO	Ilex vomitoria
	IVR	Itea virginica
GROUND COVERS		
	POLL	Pollinator Mix

KEY MAP

NOT TO SCALE



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CONSTRUCTION INFRASTRUCTURE DRAWINGS

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CID-24-06

ROLESVILLE ROAD | ROLESVILLE, NC 27587 | WAKE COUNTY

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 2077 DANIEL B. WHITLEY

0 25 50
SCALE: 1 inch = 50 ft.

INITIAL PLAN DATE: 11/01/2024
REVISIONS:
1 - 01/02/2025
REVISED PER REVIEW COMMENTS
2 - 03/03/2025
REVISED PER REVIEW COMMENTS
3 - 03/28/2025
REVISED PER WAKE CO. COMMENTS
4 - 05/01/2025
REVISED PER REVIEW COMMENTS
-

WR JOB NUMBER 23-0045
DRN: WR DGN: WR CKD: WR

LANDSCAPE PLAN

L1.03

EST 1983

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PLANT LEGEND

SYMBOL	CODE	BOTANICAL NAME
TREES		
	AR	Acer rubrum
	CC	Cercis canadensis
	CV	Chionanthus virginicus
	NS	Nyssa sylvatica
	PC	Pistacia chinensis
	PO	Platanus occidentalis
	QP	Quercus phellos
	TD	Taxodium distichum
	UA	Ulmus americana
SHRUBS		
	AG	Abelia x grandiflora
	HQ	Hydrangea quercifolia
	IC	Ilex cornuta 'Needlepoint'
	IG	Ilex glabra 'Shamrock'
	IVO	Ilex vomitoria
	IVR	Itea virginica
GROUND COVERS		
	POLL	Pollinator Mix

KEY MAP

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NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 2077 DANIEL B. WHATLEY

SCALE: 1 inch = 50 ft.

INITIAL PLAN DATE: 11/01/2024
REVISIONS:
1 - 01/02/2025
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2 - 03/03/2025
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LANDSCAPE PLAN

L1.04

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PLANT LEGEND

SYMBOL	CODE	BOTANICAL NAME
TREES		
	AR	Acer rubrum
	CC	Cercis canadensis
	CV	Chionanthus virginicus
	NS	Nyssa sylvatica
	PC	Pistacia chinensis
	PO	Platanus occidentalis
	QP	Quercus phellos
	TD	Taxodium distichum
	UA	Ulmus americana
SHRUBS		
	AG	Abelia x grandiflora
	HQ	Hydrangea quercifolia
	IC	Ilex cornuta 'Needlepoint'
	IG	Ilex glabra 'Shamrock'
	IVO	Ilex vomitoria
	IVR	Itea virginica
GROUND COVERS		
	POLL	Pollinator Mix

KEY MAP
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NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 2077 DANIEL B. WHATLEY

SCALE: 1 inch = 50 ft.

INITIAL PLAN DATE: 11/01/2024
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3 - 03/28/2025
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REVISED PER REVIEW COMMENTS
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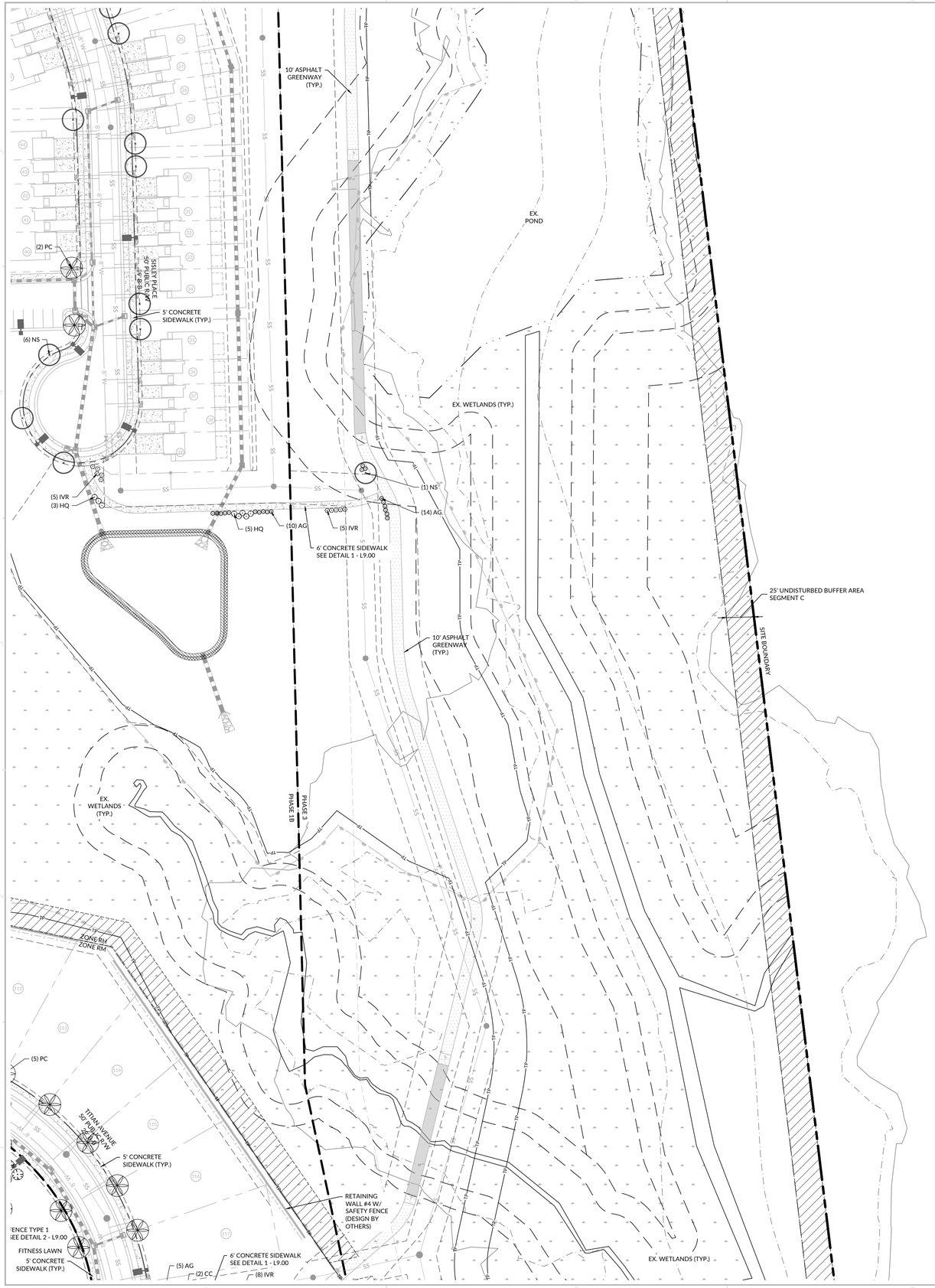
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LANDSCAPE PLAN

L1.05

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PLANT LEGEND

SYMBOL	CODE	BOTANICAL NAME
TREES		
	AR	Acer rubrum
	CC	Cercis canadensis
	CV	Chionanthus virginicus
	NS	Nyssa sylvatica
	PC	Pistacia chinensis
	PO	Platanus occidentalis
	QP	Quercus phellos
	TD	Taxodium distichum
	UA	Ulmus americana
SHRUBS		
	AG	Abelia x grandiflora
	HQ	Hydrangea quercifolia
	IC	Ilex cornuta 'Needlepoint'
	IG	Ilex glabra 'Shamrock'
	IVO	Ilex vomitoria
	IVR	Itea virginica
GROUND COVERS		
	POLL	Pollinator Mix

KEY MAP

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SCALE: 1 inch = 50 ft.

INITIAL PLAN DATE: 11/01/2024
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REVISED PER REVIEW COMMENTS
2 - 03/03/2025
REVISED PER REVIEW COMMENTS
3 - 03/28/2025
REVISED PER WAKE CO. COMMENTS
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REVISED PER REVIEW COMMENTS
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WR JOB NUMBER		23-0045
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LANDSCAPE PLAN

L1.06

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PLANT LEGEND

SYMBOL	CODE	BOTANICAL NAME
TREES		
	AR	Acer rubrum
	CC	Cercis canadensis
	CV	Chionanthus virginicus
	NS	Nyssa sylvatica
	PC	Pistacia chinensis
	PO	Platanus occidentalis
	QP	Quercus phellos
	TD	Taxodium distichum
	UA	Ulmus americana
SHRUBS		
	AG	Abelia x grandiflora
	HQ	Hydrangea quercifolia
	IC	Ilex cornuta 'Needlepoint'
	IG	Ilex glabra 'Shamrock'
	IVO	Ilex vomitoria
	IVR	Itea virginica
GROUND COVERS		
	POLL	Pollinator Mix

KEY MAP

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NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 2077 DANIEL B. WHITLEY

SCALE: 1 inch = 50 ft.

INITIAL PLAN DATE: 11/01/2024
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LANDSCAPE PLAN

L1.07

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LANDSCAPE CALCULATIONS:

PERIMETER BUFFERS

BUFFER TYPE 2 - 25' WIDE
REQUIREMENTS: 3 CANOPY TREES PER 100 LF
1 UNDERSTORY TREE PER 100 LF
50 SHRUBS PER LLF
6' FENCE OR 10 ADDITIONAL SHRUBS PER UDO TABLE 6.2.2.1

BUFFER TYPE 3 - 25' WIDE
REQUIREMENTS: 4 CANOPY TREES PER 100 LF
2 UNDERSTORY TREE PER 100 LF
60 SHRUBS PER 100 LF
6' HT WALL OR 10 ADDITIONAL SHRUBS PER UDO TABLE 6.2.2.1

SEGMENT 'A' 105 LF
REQUIRED: 25' WIDE TYPE 3
4 CANOPY TREES
2 UNDERSTORY TREES
60 SHRUBS
6' HT WALL
PROVIDED: 4 CANOPY TREES
2 UNDERSTORY TREES
60 SHRUBS
6' HT WALL

SEGMENT 'B' 735 LF
REQUIRED: 25' WIDE TYPE 3
4 CANOPY TREES PER 100 LF
2 UNDERSTORY TREE PER 100 LF
60 SHRUBS PER 100 LF
6' HT WALL
PROVIDED: 28 CANOPY TREES PER 100 LF
14 UNDERSTORY TREE PER 100 LF
420 SHRUBS PER 100 LF
6' HT WALL

SEGMENT 'C' 3316 LF
REQUIRED: 25' WIDE TYPE 3
4 CANOPY TREES PER 100 LF
2 UNDERSTORY TREE PER 100 LF
60 SHRUBS PER 100 LF
6' HT WALL
PROVIDED: EXISTING VEGETATION TO REMAIN; TO BE SUPPLEMENTED AS NECESSARY TO ACHIEVE BUFFER STANDARDS

SEGMENT 'D' 378 LF
REQUIRED: 25' WIDE TYPE 2
3 CANOPY TREES PER 100 LF
1 UNDERSTORY TREE PER 100 LF
50 SHRUBS PER 100 LF
6' FENCE
PROVIDED: 12 CANOPY TREES PER 100 LF
4 UNDERSTORY TREE PER 100 LF
200 SHRUBS PER 100 LF
6' FENCE

SEGMENT 'E' 1405 LF
REQUIRED: 25' WIDE TYPE 2
3 CANOPY TREES PER 100 LF
1 UNDERSTORY TREE PER 100 LF
50 SHRUBS PER 100 LF
6' WALL
PROVIDED: 42 CANOPY TREES PER 100 LF
14 UNDERSTORY TREE PER 100 LF
700 SHRUBS PER 100 LF
6' WALL

SEGMENT 'F' 314 LF
REQUIRED: 25' WIDE TYPE 3
3 CANOPY TREES PER 100 LF
1 UNDERSTORY TREE PER 100 LF
50 SHRUBS PER 100 LF
6' FENCE
PROVIDED: 9 CANOPY TREES PER 100 LF
3 UNDERSTORY TREE PER 100 LF
150 SHRUBS PER 100 LF
6' FENCE

SEGMENT 'G' 824 LF
REQUIRED: 25' WIDE TYPE 2
3 CANOPY TREES PER 100 LF
1 UNDERSTORY TREE PER 100 LF
50 SHRUBS PER 100 LF
6' FENCE
PROVIDED: 24 CANOPY TREES PER 100 LF
8 UNDERSTORY TREE PER 100 LF

SEGMENT 'H' 881 LF
REQUIRED: 25' WIDE TYPE 2
3 CANOPY TREES
1 UNDERSTORY TREES
50 SHRUBS
6' FENCE
PROVIDED: 27 CANOPY TREES
9 UNDERSTORY TREES
450 SHRUBS
6' FENCE

SEGMENT 'I' 290 LF
REQUIRED: 25' WIDE TYPE 3
4 CANOPY TREES
2 UNDERSTORY TREES
60 SHRUBS
6' HT WALL
PROVIDED: 12 CANOPY TREES
6 UNDERSTORY TREES
120 SHRUBS
6' HT WALL

SEGMENT 'J' 952 LF
REQUIRED: 25' WIDE TYPE 3
4 CANOPY TREES
2 UNDERSTORY TREES
60 SHRUBS
6' HT WALL
PROVIDED: EXISTING VEGETATION TO REMAIN; TO BE SUPPLEMENTED AS NECESSARY TO ACHIEVE BUFFER STANDARDS

SEGMENT 'K' 293 LF
REQUIRED: 25' WIDE TYPE 3
4 CANOPY TREES
2 UNDERSTORY TREES
60 SHRUBS
6' HT WALL
PROVIDED: EXISTING VEGETATION TO REMAIN; TO BE SUPPLEMENTED AS NECESSARY TO ACHIEVE BUFFER STANDARDS

SEGMENT 'L' 864 LF
REQUIRED: 25' WIDE TYPE 3
4 CANOPY TREES
2 UNDERSTORY TREES
60 SHRUBS
6' HT WALL
PROVIDED: EXISTING VEGETATION TO REMAIN; TO BE SUPPLEMENTED AS NECESSARY TO ACHIEVE BUFFER STANDARDS

SEGMENT 'M' 182 LF
REQUIRED: 25' WIDE TYPE 3
4 CANOPY TREES
2 UNDERSTORY TREES
60 SHRUBS
6' HT WALL
PROVIDED: EXISTING VEGETATION TO REMAIN; TO BE SUPPLEMENTED AS NECESSARY TO ACHIEVE BUFFER STANDARDS

SEGMENT 'N' 562 LF
REQUIRED: 30' WIDE STREETSCAPE BUFFER
14 TREES (1 TREE PER 40)
PROVIDED: 15 TREES

SEGMENT 'O' 456 LF
REQUIRED: 30' WIDE STREETSCAPE BUFFER
12 TREES (1 TREE PER 40)
PROVIDED: 12 TREES

SEGMENT 'P' 663 LF
REQUIRED: 50' WIDE STREETSCAPE BUFFER
17 TREES (1 TREE PER 40)
PROVIDED: 17 TREES

SEGMENT 'Q' 455 LF
REQUIRED: 30' WIDE STREETSCAPE BUFFER
11 TREES (1 TREE PER 40)
PROVIDED: 11 TREES

BUFFER PLANT SYMBOL KEY:

CANOPY TREES:

QPH - QUERCUS PHELLOS

ABU - ACER BUERGERIANUM

UNDERSTORY TREES:

MVI - MAGNOLIA VIRGININA

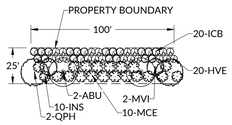
SHRUBS

ICB - ILEX CORNUTA 'BURFORDII NANA'

HVE - HAMAMELIS VERNALIS

INS - ILEX x 'NELLIE R. STEVENS'

MCE - MYCERA CERIFERA



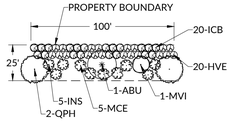
25' PERIMETER BUFFER TYPE 3 - TYPICAL 100' SECTION

THIS DETAIL IS TO BE USED IF SUPPLEMENTAL PLANTING IS REQUIRED IN BUFFER

PLANTING REQUIREMENTS:
4 CANOPY TREES PER 100 LF
2 UNDERSTORY TREE PER 100 LF
60 SHRUBS PER 100 LF
6' HT WALL OR 10 ADDITIONAL SHRUBS PER 100 LF PER UDO TABLE 6.2.2.1

*NO SINGLE SPECIES SHALL COMPRISE MORE THAN 50% OF PLANT TYPE IN BUFFERS

NOTE: REFER TO TYPICAL BUFFER DETAIL WHERE SUPPLEMENTAL PLANTING IS REQUIRED IN LIEU OF EXISTING VEGETATION. AREAS OF MATURE EXISTING VEGETATION ARE TO REMAIN IN ORDER TO MEET THE BUFFER REQUIREMENTS. DURING CONSTRUCTION, A SITE INSPECTION BY THE LDA WILL DETERMINE IF THE EXISTING VEGETATION MEETS THE REQUIRED MINIMUM LANDSCAPING.



25' PERIMETER BUFFER TYPE 2 - TYPICAL 100' SECTION

THIS DETAIL IS TO BE USED IF SUPPLEMENTAL PLANTING IS REQUIRED IN BUFFER

PLANTING REQUIREMENTS:
3 CANOPY TREES PER 100 LF
1 UNDERSTORY TREE PER 100 LF
50 SHRUBS PER 100 LF
6' FENCE OR 10 ADDITIONAL SHRUBS PER 100 LF PER UDO TABLE 6.2.2.1

*NO SINGLE SPECIES SHALL COMPRISE MORE THAN 50% OF PLANT TYPE IN BUFFERS

NOTE: TYPICAL BUFFER DETAIL IS INTENDED FOR WHERE SUPPLEMENTAL PLANTING IS REQUIRED IN LIEU OF EXISTING VEGETATION. IN AREAS OF EXISTING MATURE VEGETATION THAT EXISTING PLANT MATERIAL SHALL BE USED TO FULLY MEET THE BUFFER REQUIREMENTS.

LANDSCAPE CALCULATIONS:

STREET TREES

REQUIREMENTS: SHADE TREES 40' OC OR UNDERSTORY TREES 20' OC

DARE DR 252 LF
REQUIRED: 6.3 SHADE TREES
PROVIDED: 7 SHADE TREES

DELACROIX DR : 1672 LF
REQUIRED: 41.8 SHADE TREES
PROVIDED: 42 SHADE TREES

TITIAN AVE: 1675 LF
REQUIRED: 41.8 SHADE TREES
PROVIDED: 42 SHADE TREES

MUNCH DR: 1826 LF
REQUIRED: 45.7 SHADE TREES
PROVIDED: 46 SHADE TREES

WARHOL CT: 140 LF
REQUIRED: 3.5 SHADE TREES
PROVIDED: 4 SHADE TREES

SEURAT PL: 178 LF
REQUIRED: 4.45 SHADE TREES
PROVIDED: 5 SHADE TREES

PICASSO DR: 178 LF
REQUIRED: 4.45 SHADE TREES
PROVIDED: 5 SHADE TREES

BEARDEN ST: 1188 LF
REQUIRED: 29.7 SHADE TREES
PROVIDED: 30 SHADE TREES

RODIN WAY: 640 LF
REQUIRED: 16 SHADE TREES
PROVIDED: 16 SHADE TREES

SISLEY PL: 543 LF
REQUIRED: 13.6 SHADE TREES
PROVIDED: 14 SHADE TREES

PLANT SCHEDULE

SYMBOL	CODE	BOTANICAL / COMMON NAME	SIZE	CONTAINER		QTY
TREES						
	AR	Acer rubrum / Red Maple	3"CAL., 12' HT MIN	B&B		20
	CC	Cercis canadensis / Eastern Redbud Multi-trunk	6` Ht.	B&B		23
	CV	Chionanthus virginicus / White Fringetree	6` Ht.	B&B		17
	NS	Nyssa sylvatica / Tupelo	3"CAL., 12' HT MIN	B&B		36
	PC	Pistacia chinensis / Chinese Pistache	3"CAL., 12' HT MIN	B&B		78
	PO	Platanus occidentalis / American Sycamore	3"CAL., 12' HT MIN	B&B		69
	QP	Quercus phellos / Willow Oak	3"CAL., 12' HT MIN	B&B		98
	TD	Taxodium distichum / Bald Cypress	3"CAL., 12' HT MIN	B&B		29
	UA	Ulmus americana / American Elm	3"CAL., 12' HT MIN	B&B		30
SHRUBS						
	AG	Abelia x grandiflora / Glossy Abelia	24" HT. MIN.	CONT.		174
	HQ	Hydrangea quercifolia / Oakleaf Hydrangea	7 gal.	CONT.		133
	IC	Ilex cornuta 'Needlepoint' / Needlepoint Chinese Holly	24" HT. MIN.	CONT.		98
	IG	Ilex glabra 'Shamrock' / Shamrock Inkberry Holly	24" HT. MIN.	CONT.		95
	IVO	Ilex vomitoria / Yaupon Holly	24" HT. MIN.	CONT.		89
	IVR	Itea virginica / Virginia Sweetspire	24" HT. MIN.	CONT.		124
SYMBOL	CODE	BOTANICAL / COMMON NAME	SIZE	CONTAINER	SPACING	QTY
GROUND COVERS						
	POLL	Pollinator Mix / Coreopsis, Echinacea, Rudbeckia	4" POT MIN.		24" o.c.	2,418

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NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 2077 DANIEL B. WHATLEY

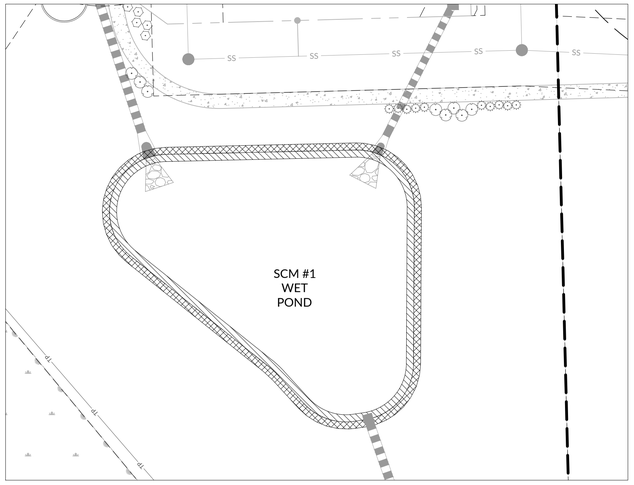
INITIAL PLAN DATE: 11/01/2024
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1 - 01/02/2025
REVISED PER REVIEW COMMENTS
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REVISED PER REVIEW COMMENTS
3 - 03/28/2025
REVISED PER WAKE CO. COMMENTS
4 - 05/01/2025
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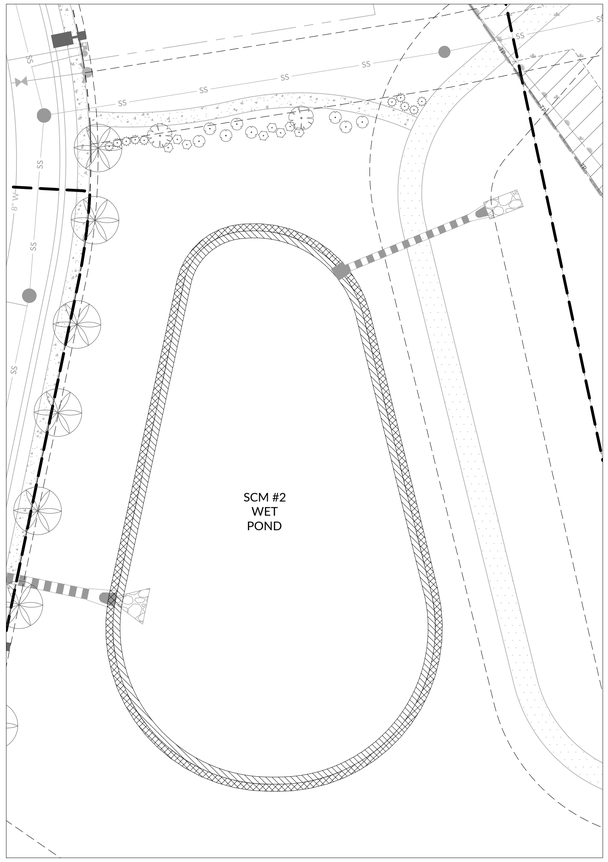
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DRN: WR DGN: WR CKD: WR

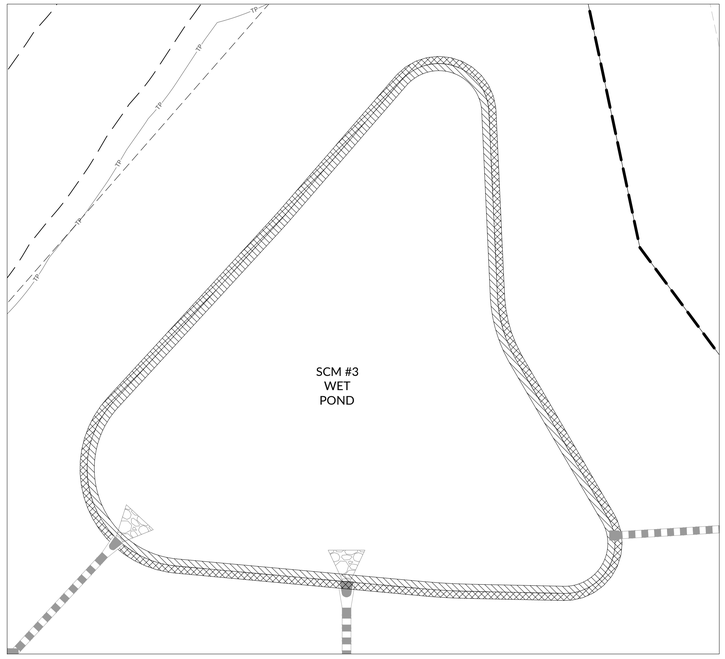
LANDSCAPE DETAILS

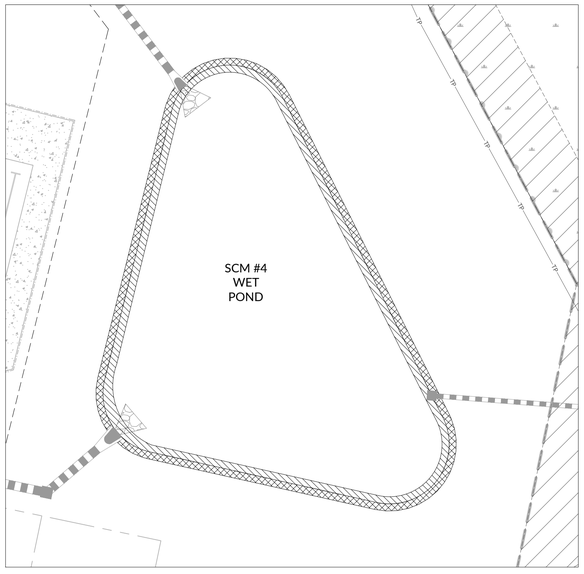
L1.08

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LEGEND:

- SHALLOW LAND VEGETATIVE SHELF
- SHALLOW WATER VEGETATIVE SHELF

SCM LANDSCAPE NOTES:

1. ON THE DAM AND DAM EMBANKMENT SLOPES, TURF GRASS PROVIDES STABILITY AND ENHANCES ACCESS TO THE FACILITY FOR MAINTENANCE. DEQ RECOMMENDS PERENNIAL GRASSES SUCH AS HYBRID BERMUDA OR CENTIPEDE IN THE COASTAL PLAIN AND PIEDMONT, AND COOL SEASON TURF GRASS SUCH AS FESCUE AND BLUEGRASS IN THE MOUNTAINS. WEEPING LOVE GRASS IS NOT ALLOWED BECAUSE IT DOES NOT PROVIDE LONG TERM SLOPE STABILIZATION.
2. THE DAM STRUCTURE, INCLUDING FRONT AND BACK EMBANKMENT SLOPES, OF THE POND SHALL BE VEGETATED WITH NON-CLUMPING TURF GRASS; TREES AND SHRUBS SHALL NOT BE ALLOWED.
3. THE VEGETATED SHELF SHALL BE PLANTED WITH A MINIMUM OF THREE (3) DIVERSE SPECIES OF HERBACEOUS, NATIVE VEGETATION AT A MINIMUM DENSITY OF 50 PLANTS PER 200 SQUARE FEET OF SHELF AREA.

SCM PLANT SCHEDULE						
WET POND - SCM #1						
KEY	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**ROOT**	**SIZE**	**NOTES**
SHALLOW LAND =	**1216**	**SF W/ 50 HERB. PLANTS/200 SF =**	**304**			
AAM	76	Acorus americanus	Sweetflag	CONT.	2.25" PLUG (32'S)	MIN. 24" O.C. 25% SHARED COVERAGE
AIN	76	Asclepias incarnata	Butterfly Milkweed	CONT.	2.25" PLUG (32'S)	MIN. 24" O.C. 25% SHARED COVERAGE
JNE	76	Juncus effusus	Soft Rush	CONT.	2.25" PLUG (32'S)	MIN. 24" O.C. 25% SHARED COVERAGE
EDU	76	Eupatorium dubius	Dwarf Joe Pye Weed	CONT.	2.25" PLUG (32'S)	MIN. 24" O.C. 25% SHARED COVERAGE
SHALLOW WATER	**1170**	**SF W/ 50 HERB. PLANTS/200 SF =**	**296**			
SGL	74	Sagittaria latifolia	Broadleaf Arrowhead	CONT.	2.25" PLUG (32'S)	MIN. 24" O.C. 25% SHARED COVERAGE
PNC	74	Pontedaria cordata	Pickerelweed	CONT.	2.25" PLUG (32'S)	MIN. 24" O.C. 25% SHARED COVERAGE
SAC	74	Saururus cernuus	Lizard's Tail	CONT.	2.25" PLUG (32'S)	MIN. 24" O.C. 25% SHARED COVERAGE
JNB	74	Juncus effusus 'Blue Arrow'	Soft Rush	CONT.	2.25" PLUG (32'S)	MIN. 24" O.C. 25% SHARED COVERAGE
Note: 'Shared coverage' means that the species will be evenly interspersed on their designated shelf across a single 24" OC square grid.						
WET POND - SCM #2						
KEY	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**ROOT**	**SIZE**	**NOTES**
SHALLOW LAND =	**1790**	**SF W/ 50 HERB. PLANTS/200 SF =**	**448**			
AAM	112	Acorus americanus	Sweetflag	CONT.	2.25" PLUG (32'S)	MIN. 24" O.C. 25% SHARED COVERAGE
AIN	112	Asclepias incarnata	Butterfly Milkweed	CONT.	2.25" PLUG (32'S)	MIN. 24" O.C. 25% SHARED COVERAGE
JNE	112	Juncus effusus	Soft Rush	CONT.	2.25" PLUG (32'S)	MIN. 24" O.C. 25% SHARED COVERAGE
EDU	112	Eupatorium dubius	Dwarf Joe Pye Weed	CONT.	2.25" PLUG (32'S)	MIN. 24" O.C. 25% SHARED COVERAGE
SHALLOW WATER	**1756**	**SF W/ 50 HERB. PLANTS/200 SF =**	**440**			
SGL	110	Sagittaria latifolia	Broadleaf Arrowhead	CONT.	2.25" PLUG (32'S)	MIN. 24" O.C. 25% SHARED COVERAGE
PNC	110	Pontedaria cordata	Pickerelweed	CONT.	2.25" PLUG (32'S)	MIN. 24" O.C. 25% SHARED COVERAGE
SAC	110	Saururus cernuus	Lizard's Tail	CONT.	2.25" PLUG (32'S)	MIN. 24" O.C. 25% SHARED COVERAGE
JNB	110	Juncus effusus 'Blue Arrow'	Soft Rush	CONT.	2.25" PLUG (32'S)	MIN. 24" O.C. 25% SHARED COVERAGE
Note: 'Shared coverage' means that the species will be evenly interspersed on their designated shelf across a single 24" OC square grid.						
WET POND - SCM #3						
KEY	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**ROOT**	**SIZE**	**NOTES**
SHALLOW LAND =	**2155**	**SF W/ 50 HERB. PLANTS/200 SF =**	**540**			
AAM	135	Acorus americanus	Sweetflag	CONT.	2.25" PLUG (32'S)	MIN. 24" O.C. 25% SHARED COVERAGE
AIN	135	Asclepias incarnata	Butterfly Milkweed	CONT.	2.25" PLUG (32'S)	MIN. 24" O.C. 25% SHARED COVERAGE
JNE	135	Juncus effusus	Soft Rush	CONT.	2.25" PLUG (32'S)	MIN. 24" O.C. 25% SHARED COVERAGE
EDU	135	Eupatorium dubius	Dwarf Joe Pye Weed	CONT.	2.25" PLUG (32'S)	MIN. 24" O.C. 25% SHARED COVERAGE
SHALLOW WATER	**2108**	**SF W/ 50 HERB. PLANTS/200 SF =**	**528**			
SGL	132	Sagittaria latifolia	Broadleaf Arrowhead	CONT.	2.25" PLUG (32'S)	MIN. 24" O.C. 25% SHARED COVERAGE
PNC	132	Pontedaria cordata	Pickerelweed	CONT.	2.25" PLUG (32'S)	MIN. 24" O.C. 25% SHARED COVERAGE
SAC	132	Saururus cernuus	Lizard's Tail	CONT.	2.25" PLUG (32'S)	MIN. 24" O.C. 25% SHARED COVERAGE
JNB	132	Juncus effusus 'Blue Arrow'	Soft Rush	CONT.	2.25" PLUG (32'S)	MIN. 24" O.C. 25% SHARED COVERAGE
Note: 'Shared coverage' means that the species will be evenly interspersed on their designated shelf across a single 24" OC square grid.						
WET POND - SCM #4						
KEY	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**ROOT**	**SIZE**	**NOTES**
SHALLOW LAND =	**1578**	**SF W/ 50 HERB. PLANTS/200 SF =**	**396**			
AAM	99	Acorus americanus	Sweetflag	CONT.	2.25" PLUG (32'S)	MIN. 24" O.C. 25% SHARED COVERAGE
AIN	99	Asclepias incarnata	Butterfly Milkweed	CONT.	2.25" PLUG (32'S)	MIN. 24" O.C. 25% SHARED COVERAGE
JNE	99	Juncus effusus	Soft Rush	CONT.	2.25" PLUG (32'S)	MIN. 24" O.C. 25% SHARED COVERAGE
EDU	99	Eupatorium dubius	Dwarf Joe Pye Weed	CONT.	2.25" PLUG (32'S)	MIN. 24" O.C. 25% SHARED COVERAGE
SHALLOW WATER	**1599**	**SF W/ 50 HERB. PLANTS/200 SF =**	**400**			
SGL	100	Sagittaria latifolia	Broadleaf Arrowhead	CONT.	2.25" PLUG (32'S)	MIN. 24" O.C. 25% SHARED COVERAGE
PNC	100	Pontedaria cordata	Pickerelweed	CONT.	2.25" PLUG (32'S)	MIN. 24" O.C. 25% SHARED COVERAGE
SAC	100	Saururus cernuus	Lizard's Tail	CONT.	2.25" PLUG (32'S)	MIN. 24" O.C. 25% SHARED COVERAGE
JNB	100	Juncus effusus 'Blue Arrow'	Soft Rush	CONT.	2.25" PLUG (32'S)	MIN. 24" O.C. 25% SHARED COVERAGE
Note: 'Shared coverage' means that the species will be evenly interspersed on their designated shelf across a single 24" OC square grid.						

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NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 2077 DANIEL B. WHITLEY

0 15 30
SCALE: 1 inch = 30 ft.

INITIAL PLAN DATE: 11/01/2024
REVISIONS:
1 - 01/02/2025
REVISED PER REVIEW COMMENTS
2 - 03/03/2025
REVISED PER REVIEW COMMENTS
3 - 03/28/2025
REVISED PER WAKE CO. COMMENTS
4 - 05/01/2025
REVISED PER REVIEW COMMENTS
-

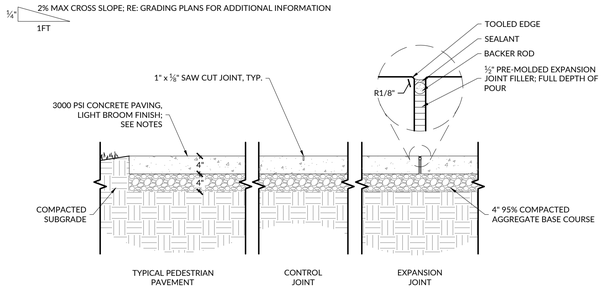
WR JOB NUMBER 23-0045
DRN: WR DGN: WR CKD: WR

SCM PLANTING PLAN

L1.09

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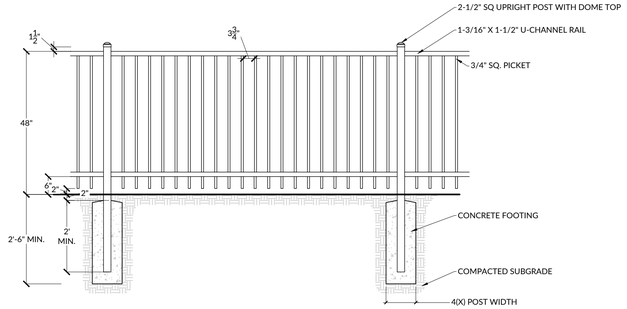


NOTES:

1. PROVIDE EXPANSION JOINT WHERE WALKS ARE POURED AGAINST VERTICAL SURFACES AND/OR DIFFERENT PAVING MATERIALS & AS SPECIFIED ON PLANS OR 25'-0" MAX O.C.
2. PROVIDE CONTRACTION JOINT AT 5' INTERVALS UNLESS OTHERWISE SPECIFIED (SEE PLAN).
3. CONTRACTOR TO PROVIDE MOCK-UP OF CONCRETE FINISH, COLOR, AND SCORING FOR OWNERS APPROVAL MOCK-UP CAN BE USED AS PART OF FINAL PROJECT.

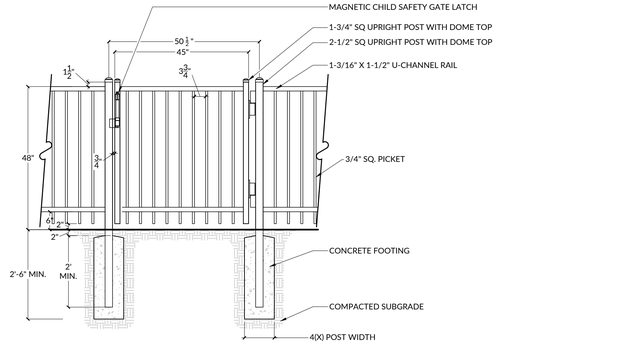
1 CONCRETE PAVING — SECTION
SCALE: 3/4" = 1'-0"

NOTES
1. COLOR: BLACK
2. DETAIL SPECIFICS MAY DEVIATE BASED ON FENCE PRODUCT SELECTED BY CONTRACTOR. THIS DETAIL PROVIDES DESIGN INTENT ONLY.
3. FENCE HEIGHT AND COLOR SHALL REMAIN AS SPECIFIED



2 FENCE TYPE 1 — SECTION
SCALE: 1/2" = 1'-0"

NOTES
1. COLOR: BLACK
2. DETAIL SPECIFICS MAY DEVIATE BASED ON GATE PRODUCT SELECTED BY CONTRACTOR. THIS DETAIL PROVIDES DESIGN INTENT ONLY.
3. GATE HEIGHT AND COLOR SHALL REMAIN AS SPECIFIED



3 GATE TYPE 1 — SECTION
SCALE: 1/2" = 1'-0"

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NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 2077 DANIEL B. WHITLEY

INITIAL PLAN DATE: 11/01/2024
REVISIONS:
1 - 01/02/2025
REVISED PER REVIEW COMMENTS
2 - 03/03/2025
REVISED PER REVIEW COMMENTS
3 - 03/28/2025
REVISED PER WAKE CO. COMMENTS
4 - 05/01/2025
REVISED PER REVIEW COMMENTS
-

WR JOB NUMBER		23-0045
DRN: WR	DGN: WR	CKD: WR

AMENITY DETAILS

L9.00

EST 1983

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LUMINAIRE SCHEDULE								
CALLOUT	SYMBOL	LAMP	DESCRIPTION	BALLAST	MOUNTING	MODEL	VOLTS	QUANTITY
RDWY	■■	(1) 75W LED Array, LED	ATB0 SERIES 73W LED 1050MA TYPE 2 4000K CCT	ELECTRONIC	30' POLE	American Electric Lighting, ATB0 ROADWAY LED	120V 1P 2W	79

PHASE	# OF POLES	POLE #
PHASE 1	38 POLES	(1-38)
PHASE 2	21 POLES	(39-59)
PHASE 3	20 POLES	(60-79)
TOTAL	79 POLES	

Roadway Lighting	
AVERAGE FOOT-CANDLES	0.61
MAXIMUM FOOT-CANDLES	1.4
MINIMUM FOOT-CANDLES	0.2
MINIMUM TO MAXIMUM FC RATIO	0.11
MAXIMUM TO MINIMUM FC RATIO	8.88
AVERAGE TO MINIMUM FC RATIO	3.95



DUKE ENERGY. PROGRESS

Outdoor Lighting

Roadway LED

Light source: LED (white)
Lumens: 4,807 – 25,050 (fixture dependent)

Wattage	Light Pattern	IESNA Backlight-Uplight – Glare (BUG) Rating
LED 50	IESNA Type III (medium oval)	B1-U0-G1
LED 75	IESNA Type II (long oval)	B1-U0-G2
LED 105	IESNA Type II (long oval)	B2-U0-G2
LED 150	IESNA Type III (medium oval)	B2-U0-G2
LED 215	IESNA Type III (medium oval)	B3-U0-G3
LED 280	IESNA Type III (medium oval)	B3-U0-G4



light distribution patterns

Color temperature: 4,000K
Warm-up and restrike time: Instant on (no warm-up or restrike time)

Poles available:

Name	Mounting height	Color
Fiberglass	25', 30', 35'	Gray
Fiberglass	25', 30', 35'	Black (additional cost)
Wood	25', 30', 35'	Standard
Metal (special conditions)*	25', 30', 35'	Gray

Features	Benefits
Little or no installation cost	Frees up capital for other projects
Design services by lighting professionals included	Meets industry standards and lighting ordinances
Maintenance included	Eliminates high and unexpected repair bills
Electricity included	Less expensive than metered service
Warranty included	Worry-free
One low monthly cost on your electric bill	Convenience and savings for you
Turnkey operation	Provides hassle-free installation and service
Backed by over 40 years of experience	A name you can trust today ... and tomorrow

*2' raised foundation available when required.

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DUKE ENERGY. PROGRESS

Outdoor Lighting

Roadway LED



The Roadway LED is a green solution and great fit for streets, roads, long, narrow areas and parking lots. This energy-efficient luminaire delivers the light where it is needed while increasing visibility and reducing spill light to adjoining properties. Choose low to medium light output on wood or fiberglass poles (or mount on an existing pole). Available with one to four fixtures per pole, depending on the fixture/pole combination selected.

LED (Light Emitting Diode)	50 | 75 | 105 | 150 | 215 | 280 watts
Mounting heights	25' | 30' | 35'
Color	Gray | Black
Poles	Fiberglass Metal (special conditions) Wood

For additional information, visit us at duke-energy.com/OutdoorLighting or call us toll free at 866.769.6417.

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NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 2077 DANIEL B. WHITLEY

0 100 200
SCALE: 1 inch = 200 ft.

INITIAL PLAN DATE: 11/01/2024
REVISIONS:
1 - 01/02/2025
REVISED PER REVIEW COMMENTS
2 - 03/03/2025
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REVISED PER WAKE CO. COMMENTS
4 - 05/01/2025
REVISED PER REVIEW COMMENTS
-

WR JOB NUMBER	23-0045
DRN: WR	DGN: WR CKD: WR

LIGHTING EXHIBIT

SL1.00

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