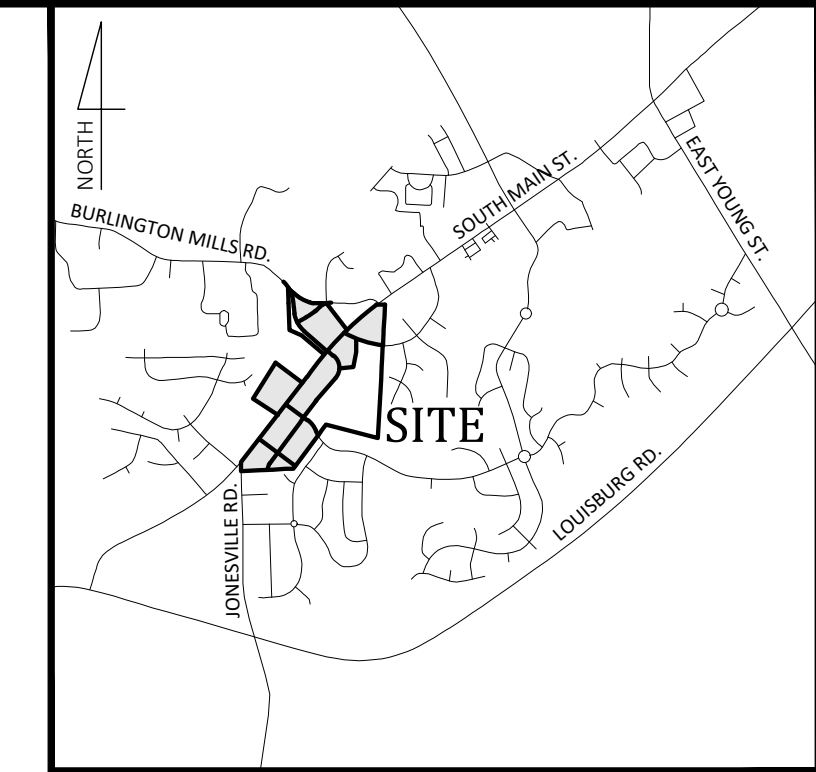


EROSION CONTROL / MASS GRADING / SANITARY SEWER RELOCATION FOR WALLBROOK

CD 22-02
REVISION - V1



Vicinity Map
NOT TO SCALE

Main St. / US 401 Business, Town of Rolesville, Wake County, North Carolina

Project No.: CD 22-02

- Final Drawing -
Issued for Permit
Review Purposes Only

#	DATE	DESCRIPTION
1	15-JUN-22	REVISED PER TOR & WAKE COUNTY COMMENTS
2	22-JUL-22	REVISED PER TOR & WAKE COUNTY COMMENTS
3	1-FEB-23	REVISED PER OWNER COMMENTS



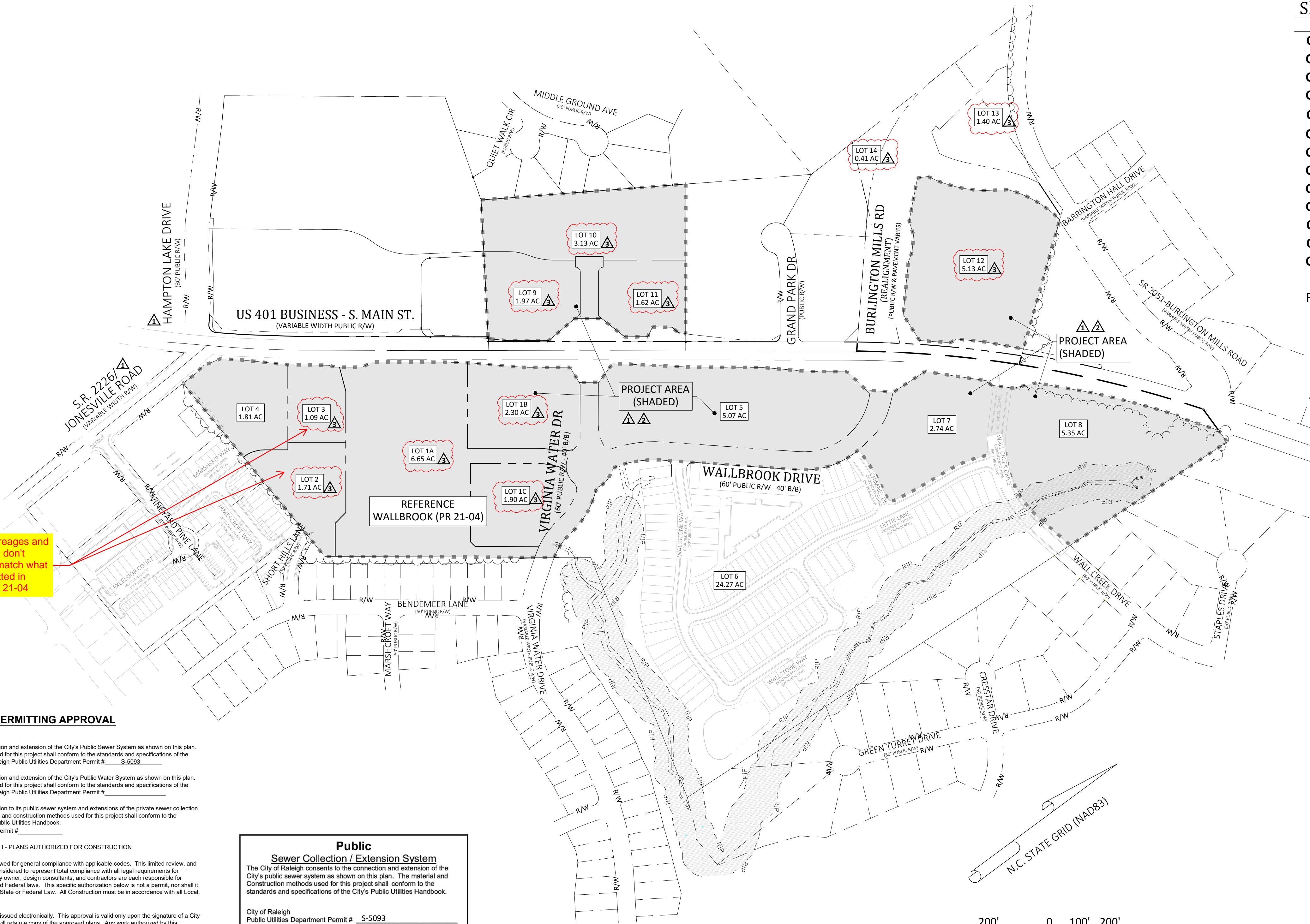
Sheet Index

#	Title
C0.1	Cover
C0.2	Legend & Notes
C0.3	Tree Preservation Plan
C1.0	Demo / Clearing Plan
C1.1	Erosion Control / Mass Grading Plan - Shopping Center (Lots 1 - 4)
C1.2	Erosion Control / Mass Grading Plan - Wallbrook Drive & Lot 5
C1.3	Erosion Control / Mass Grading Plan - Paris Tract (Lots 9, 10, & 11)
C1.4	Erosion Control / Mass Grading Plan - MBW Tract (Lots 12, 13, & 14)
C1.5	Erosion Control / Mass Grading Plan - Lots 7 & 8
C2.0	Sanitary Sewer Relocation - Plan/Profile
C2.1	Sanitary Sewer Details
C3.1	Details - Erosion Control
C3.2	Details - Erosion Control
REF	Survey - Johnson, Mirmiran & Thompson (4 Sheets)

#3 - These appear to have been left out of this submittal

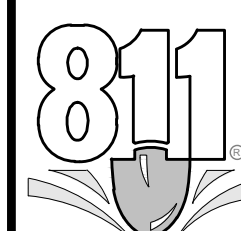
#1 - Lot acreages and boundaries don't appear to match what was submitted in revised PR 21-04

#2 - Is this value correct? It doesn't appear to match the tree preservation area shown on C0.3



Site Data

PIN NUMBERS:	1758-45-8905, 1758-56-8976, 1758-46-7822, 1758-58-2090, 1758-48-9229
REAL ESTATE ID:	76667, 76635, 224130, 224145, 92211
CURRENT ZONING:	GC-CZ
ACREAGE IN TOTAL TRACT:	57.35 ACRES
ACREAGE IN PUBLIC R/W:	2.83 ACRES
TOTAL ACREAGE DISTURBED:	41.85 ACRES
WATERSHED:	Lower Neuse
RIVER BASIN:	Neuse
CURRENT USE:	VACANT / WOODED
PROPOSED USE(S):	NON-RESIDENTIAL/COMMERCIAL/RETAIL
LOTS IN DEVELOPMENT:	LOTS 1, 2, 3, 4, 5, 7, 8, A, B, C, D
TREE PRESERVATION AREA:	2.54 ACRES



KNOW WHAT'S BELOW
CALL BEFORE YOU DIG!
1-800-4-A-ROOTS
WWW.811.ORG

SITE PERMITTING APPROVAL

Water and Sewer Permits (if applicable)
The City of Raleigh consents to the connection and extension of the City's Public Sewer System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # S-5093

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

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

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

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.

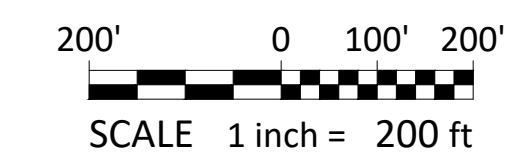
City of Raleigh
Public Utilities Department Permit # S-5093
Authorization to Construct
Date

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

City of Raleigh Development Approval
City of Raleigh Review Officer

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-5093
Authorization to Construct
Date



APPROVED FOR COMPLIANCE

Case # _____ Project _____ Date _____

By: _____

These plans have been approved for compliance with the Town Code of Ordinance, LDO, and Standard Specifications and Construction Details, subject to statements & conditions hereby incorporated by reference.

EROSION AND SEDIMENT CONTROL

APPROVED PLAN

DATE _____

PERMIT NO. S- _____

Wake County Environmental Services
Sedimentation & Erosion Control
919-856-7400

ENVIRONMENTAL CONSULTANT SIGNATURE _____

Project Manager: BCF
Drawn By: DLC
Checked By: STA
Project Number: 21089
Drawing Number: D-1219-EC

C0.1

Date: April 1, 2022

NC License: P-1199
ARK CONSULTING GROUP PLLC
ENGINEERS & PLANNERS

2755-B Charles Blvd
Raleigh, NC 27658
(919) 558-0888
www.arkconsultinggroup.com

Professional Engineer Seal: NORTH CAROLINA PROFESSIONAL ENGINEER, STATE OF NORTH CAROLINA, No. 21172, Exp. 12/31/2023

COVER

WALLBROOK

MASS GRADING / EROSION CONTROL /

SANITARY SEWER RELOCATION

Town of Rolesville Project No. CD 22-02
Rolesville, Wake County, North Carolina

S:\MKT\PROGRAMS\PROJECTS\CD 22-02\CD 22-02 - WALLBROOK - MASS GRADING.ERC 01.dwg, User: bcf, Date: 4/1/2022, 8:42:02 PM

LEGEND

TREE PRESERVATION AREA

- SURVEY WILL BE COMPLETED FOR TREES 6" DBH MIN. NOTING SIZE, SPECIES AND LOCATION
- SURVEY TO BE INCLUDED WITH SUBSEQUENT CONSTRUCTION DRAWING SUBMITTALS
- PRESERVATION AREA TO BE RECORDED AS PERMANENT EASEMENT ON FINAL PLAT

TREE PRESERVATION AREA AS BUFFER

- GENERAL HEALTH OF BUFFER TO BE ASSESSED BY ARBORIST WITH REPORT AND PHOTOS PROVIDED AT CONSTRUCTION DRAWING SUBMITTAL

TREE REPLACEMENT CALCULATION AREA (BUFFER AREAS TO BE CLEARED)

- REPLACEMENT RATIO = 1:1

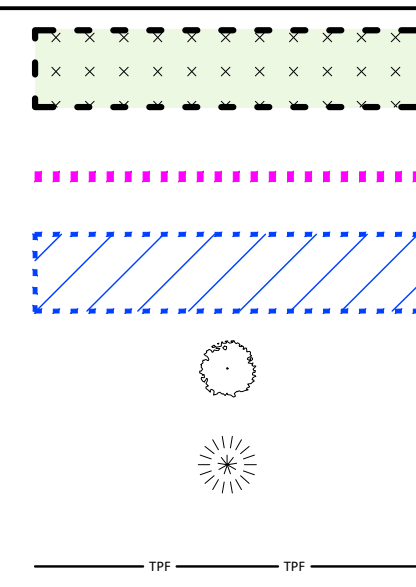
DECIDUOUS TREE

- TO QUALIFY FOR REPLACEMENT, TREE MUST BE HEALTHY AND MEASURE AT LEAST 18" DIAMETER AT BREAST HEIGHT (DBH)
- REPLACEMENT = 2" MIN. CALIPER

EVERGREEN TREE

- TO QUALIFY FOR REPLACEMENT, TREE MUST BE HEALTHY AND MEASURE AT LEAST 20" DBH
- REPLACEMENT = 8" MIN. HEIGHT

TREE PROTECTION FENCE



OVERALL TREE PRESERVATION AREA

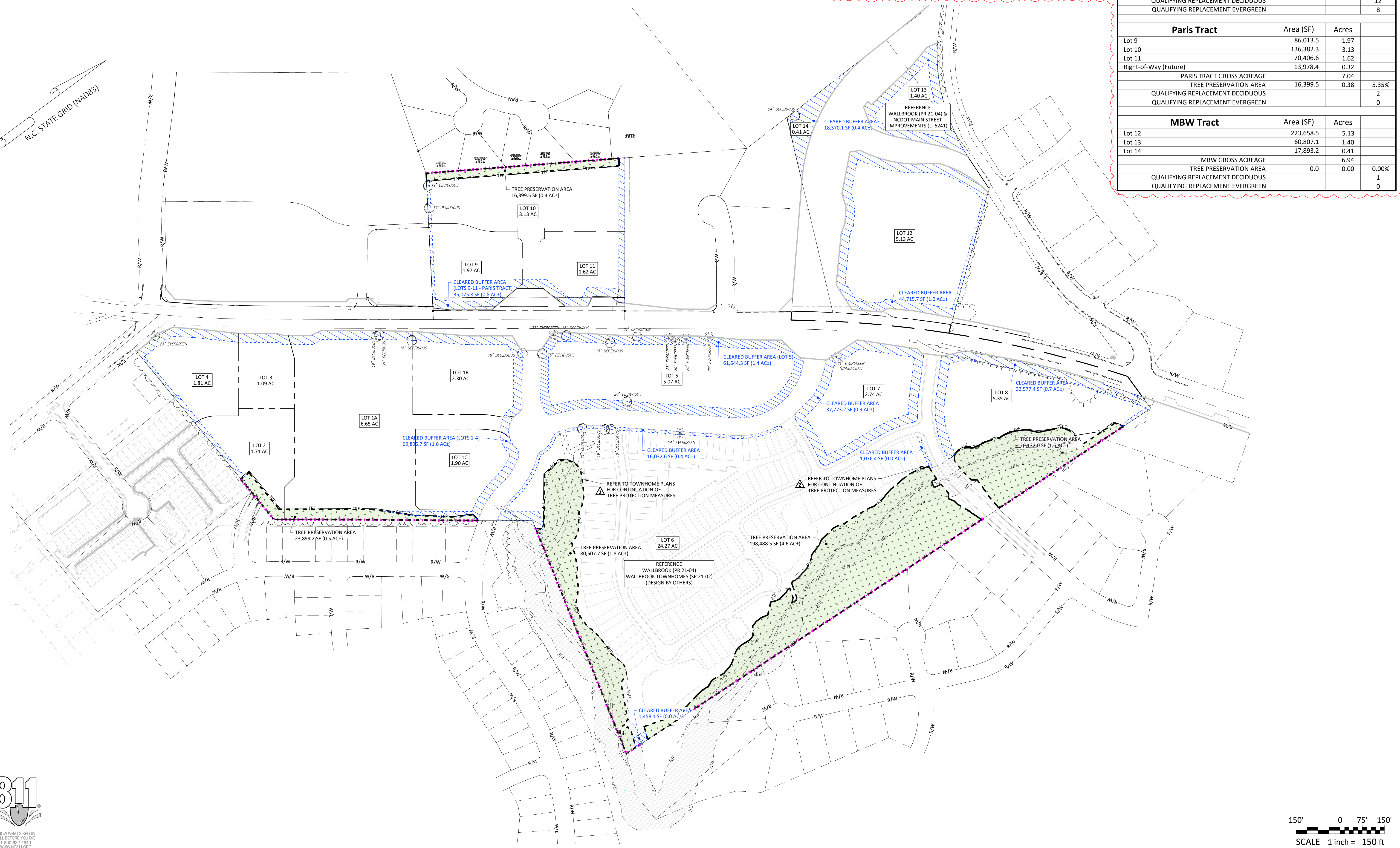
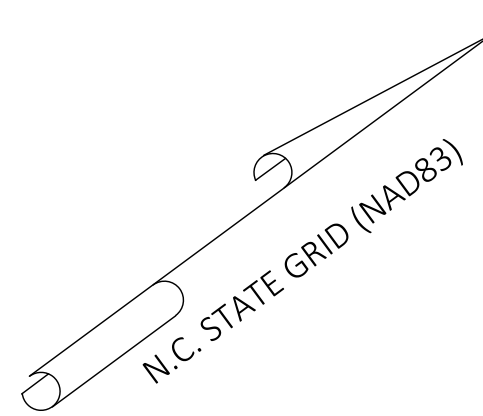
Wallbrook + Paris + MBW	Area (SF)	Acres
GROSS ACREAGE		69.37
TREE PRESERVATION AREA REQUIRED	6.94	10.00%
TREE PRESERVATION AREA PROVIDED	389,426.9	8.94
QUALIFYING REPLACEMENT DECIDUOUS		15
QUALIFYING REPLACEMENT EVERGREEN		8

TREE PRESERVATION AREA

Wallbrook	Area (SF)	Acres
Lot 1A (Publix)	289,488.0	6.65
Lot 1B	100,018.8	2.30
Lot 1C	82,590.5	1.90
Lot 2	74,702.8	1.71
Lot 3	47,515.5	1.09
Lot 4	78,725.4	1.81
Lot 5 (Boat Tract)	220,767.8	5.07
Lot 6 (Townhomes)	876,206.2	20.11
Lot 7	119,306.6	2.74
Lot 8	232,868.9	5.35
Right-of-Way (Future)	290,799.5	6.68
WALLBROOK GROSS ACREAGE	55.39	
TREE PRESERVATION AREA	373,027.4	8.56
QUALIFYING REPLACEMENT DECIDUOUS		12
QUALIFYING REPLACEMENT EVERGREEN		8

Paris Tract	Area (SF)	Acres
Lot 9	86,013.5	1.97
Lot 10	136,382.3	3.13
Lot 11	70,406.6	1.62
Right-of-Way (Future)	13,978.4	0.32
PARIS TRACT GROSS ACREAGE	70.4	
TREE PRESERVATION AREA	16,399.5	0.38
QUALIFYING REPLACEMENT DECIDUOUS		2
QUALIFYING REPLACEMENT EVERGREEN		0

MBW Tract	Area (SF)	Acres
Lot 12	223,658.5	5.13
Lot 13	60,807.1	1.40
Lot 14	17,893.2	0.41
MBW GROSS ACREAGE	6.94	
TREE PRESERVATION AREA	0.0	0.00
QUALIFYING REPLACEMENT DECIDUOUS		1
QUALIFYING REPLACEMENT EVERGREEN		0



- Final Drawing -
Issued for Permit
Review Purposes Only

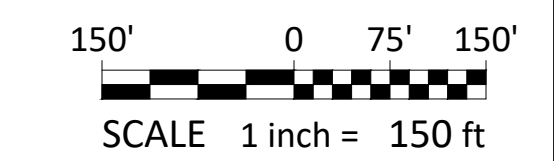
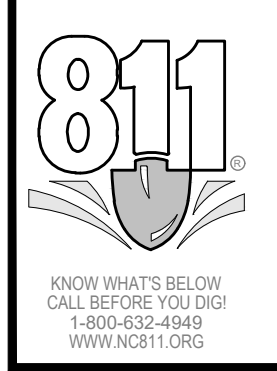
CROSLAND SOUTHEAST

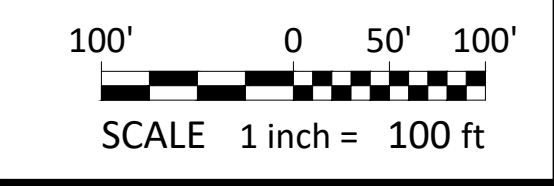
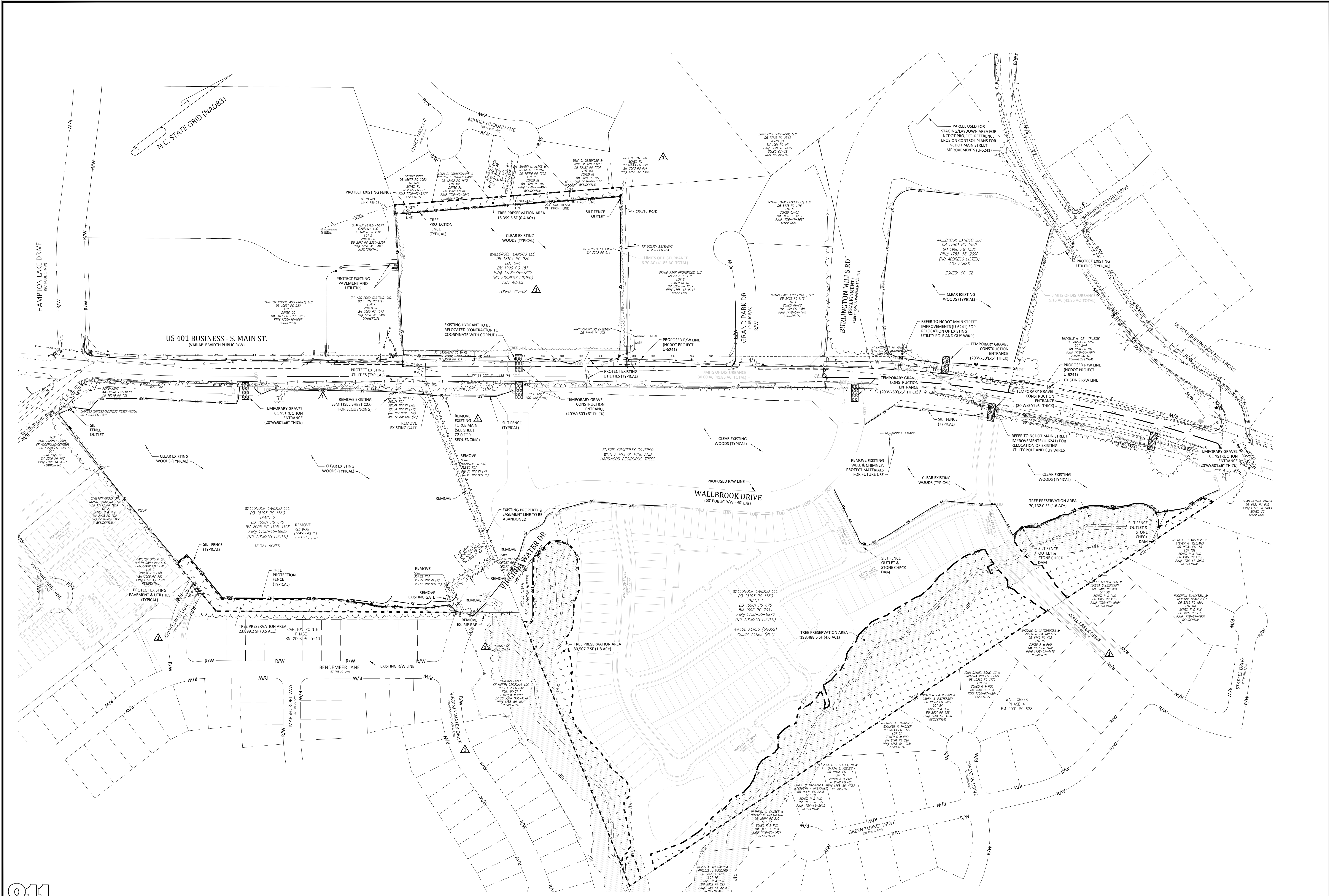
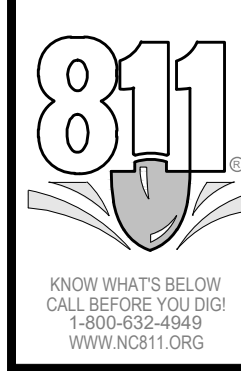
TREE PRESERVATION PLAN
WALLBROOK
MASS GRADING / EROSION CONTROL /
SANITARY SEWER RELOCATION
 Town of Rolesville Project No. CD 22-02
 Rolesville, Wake County, North Carolina

ARK CONSULTING GROUP PLLC
 ENGINEERS & PLANNERS
 2755-B Charles Blvd
 (751) 558-0888
 www.arkconsultinggroup.com

Project Manager: BCF
 Drawn By: DLC
 Checked By: STA
 Project Number: 21089
 Drawing Number: D-1219-EC

C0.3
 Date: April 1, 2022





- Final Drawing -
Issued for Permit
Review Purposes Only

NO.	DATE	DESCRIPTION
1	11-15-2023	REVISED PER OWNER COMMENTS
2	12-21-2023	REVISED PER TOR & WAKE COUNTY COMMENTS
3	1-15-2024	REVISED PER TOR & WAKE COUNTY COMMENTS



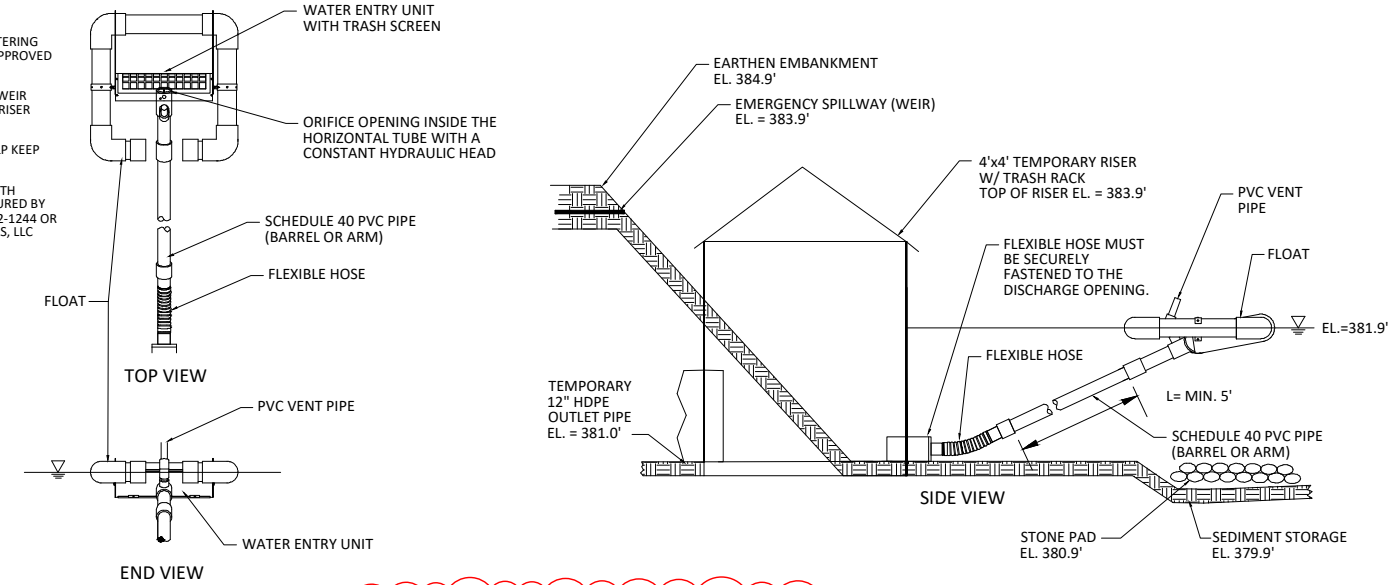
DEMO / CLEARING PLAN
WALLBROOK
MASS GRADING / EROSION CONTROL /
SANITARY SEWER RELOCATION
Town of Rolesville Project No. CD 22-02
Rolesville, Wake County, North Carolina

NC License: P-1109
ARK CONSULTING GROUP PLLC
ENGINEERS & PLANNERS
2755-B Charles Blvd.
C# 27858
(252) 558-0888
www.arkconsultinggroup.com

Project Manager:	BCF
Drawn By:	DLC
Checked By:	STA
Project Number:	21089
Drawing Number:	D-1219-EC

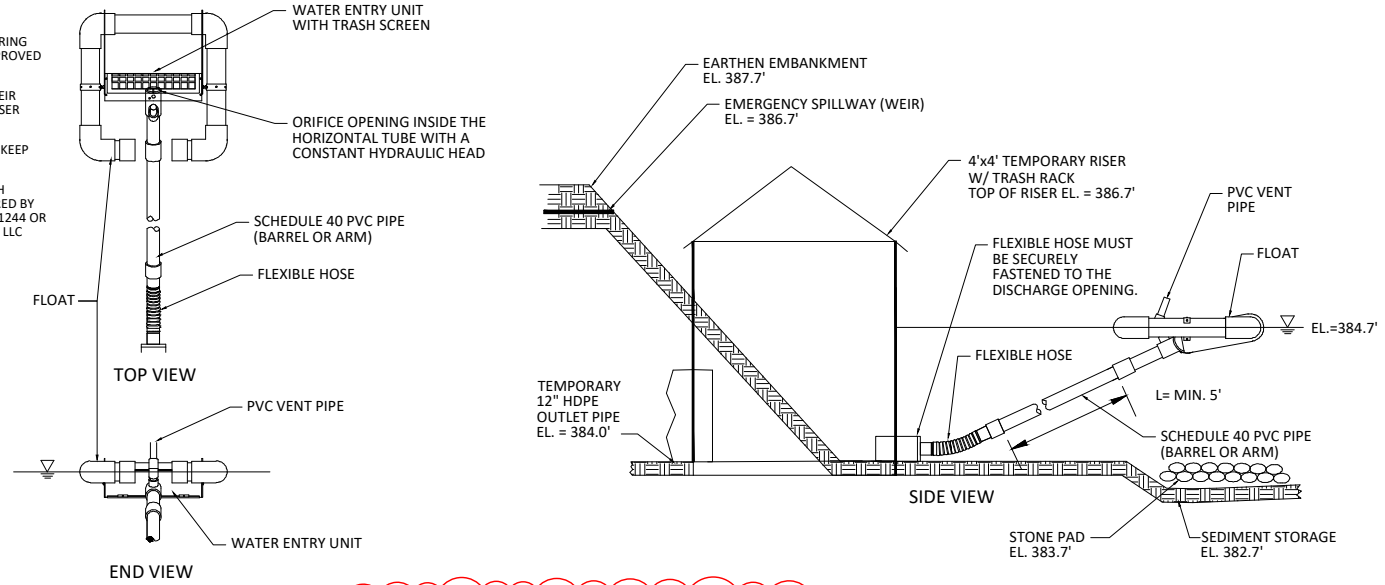
C1.0
Date: April 1, 2022

- NOTES:
- SKIMMER IS TO BE A SURFACE DEWATERING DEVICE SUCH AS SWP SKIMMER OR APPROVED.
 - SKIMMER SHOULD RISE TO LEVEL OF WEIR HEIGHT IN TEMPORARY BASIN OR TO RISER HEIGHT IF ATTACHED TO SKIMMER TO HELP KEEP SKIMMER CLEAN.
 - HOSE ATTACHED TO SKIMMER TO HELP KEEP SKIMMER CLEAN.
 - SKIMMER SHALL BE 1.5" SKIMMER WITH 0.075" HOLES OR 2.0" SKIMMER MANUFACTURED BY W. HANCOCK CO. INC. OR 1.5" SKIMMER WITH 0.075" HOLES MANUFACTURED BY ILL. CO. DISTRIBUTION.



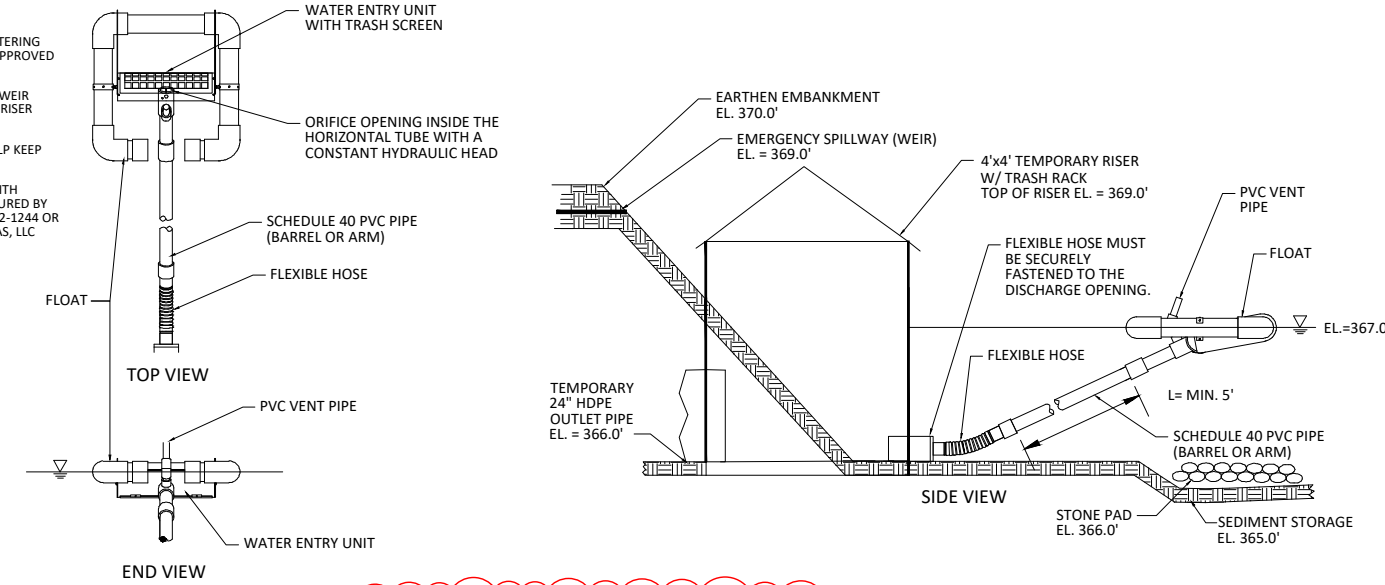
SKIMMER DISCHARGE SYSTEM WITH OUTLET STRUCTURE FOR SSB-1

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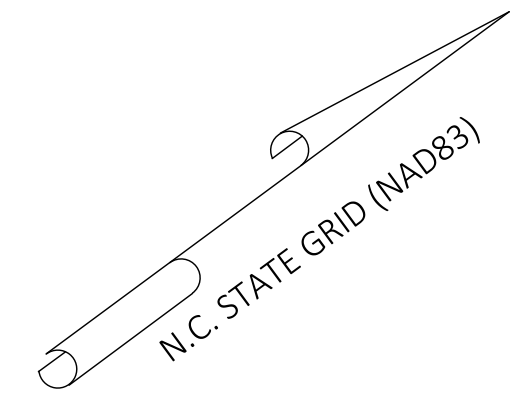


SKIMMER DISCHARGE SYSTEM WITH OUTLET STRUCTURE FOR SSB-2

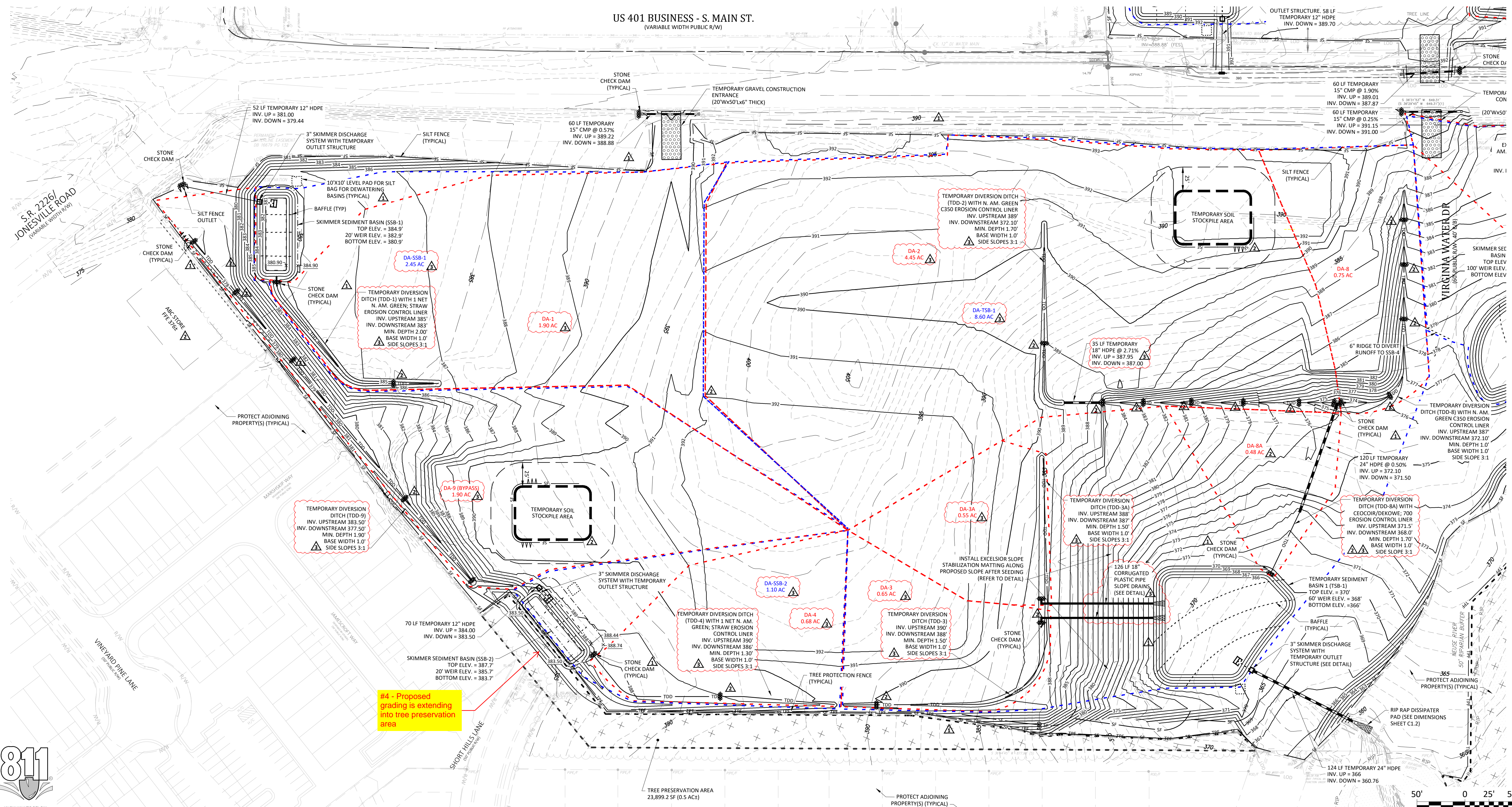
- NOTES:
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 - SKIMMER SHOULD RISE TO LEVEL OF WEIR HEIGHT IN TEMPORARY BASIN OR TO RISER HEIGHT IF ATTACHED TO SKIMMER TO HELP KEEP SKIMMER CLEAN.
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SKIMMER DISCHARGE SYSTEM WITH OUTLET STRUCTURE FOR TSB-1



US 401 BUSINESS - S. MAIN ST.
(VARIABLE WIDTH PUBLIC R/W)



#4 - Proposed grading is extending into tree preservation area



MASS GRADING PLAN - SHOPPING CENTER (LOTS 1-4)

WALLBROOK
MASS GRADING / EROSION CONTROL /
SANITARY SEWER RELOCATION
Town of Rolesville Project No. CD 22-02
Rolesville, Wake County, North Carolina

ARK CONSULTING GROUP PLLC
ENGINEERS & PLANNERS
2755-B CHURCH ROAD
RTP, NC 27668
(252) 558-0888
www.arkconsultinggroup.com

Professional Engineer Seal for North Carolina, License No. 12127, dated 2/1/2023.

Project Manager:	BCF
Drawn By:	DLC
Checked By:	STA
Project Number:	21089
Drawing Number:	D-1219-EC

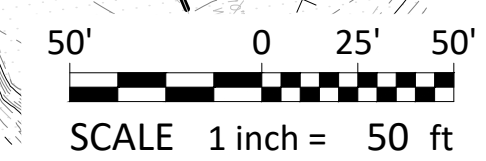
C1.1
Date: April 1, 2022

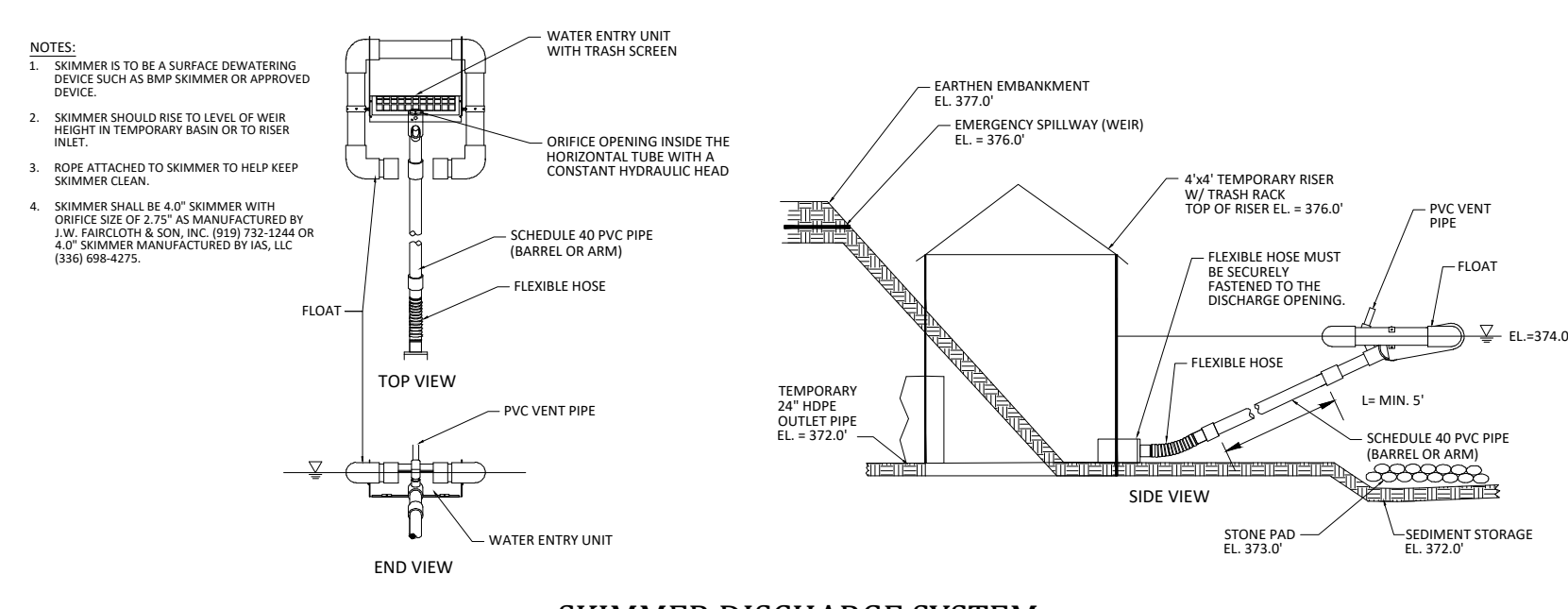
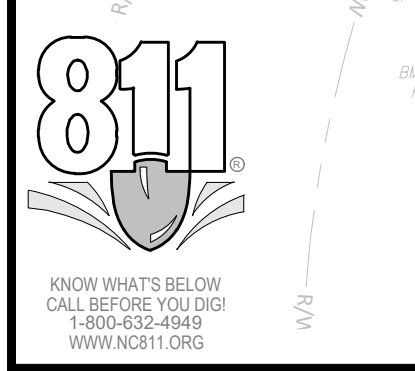
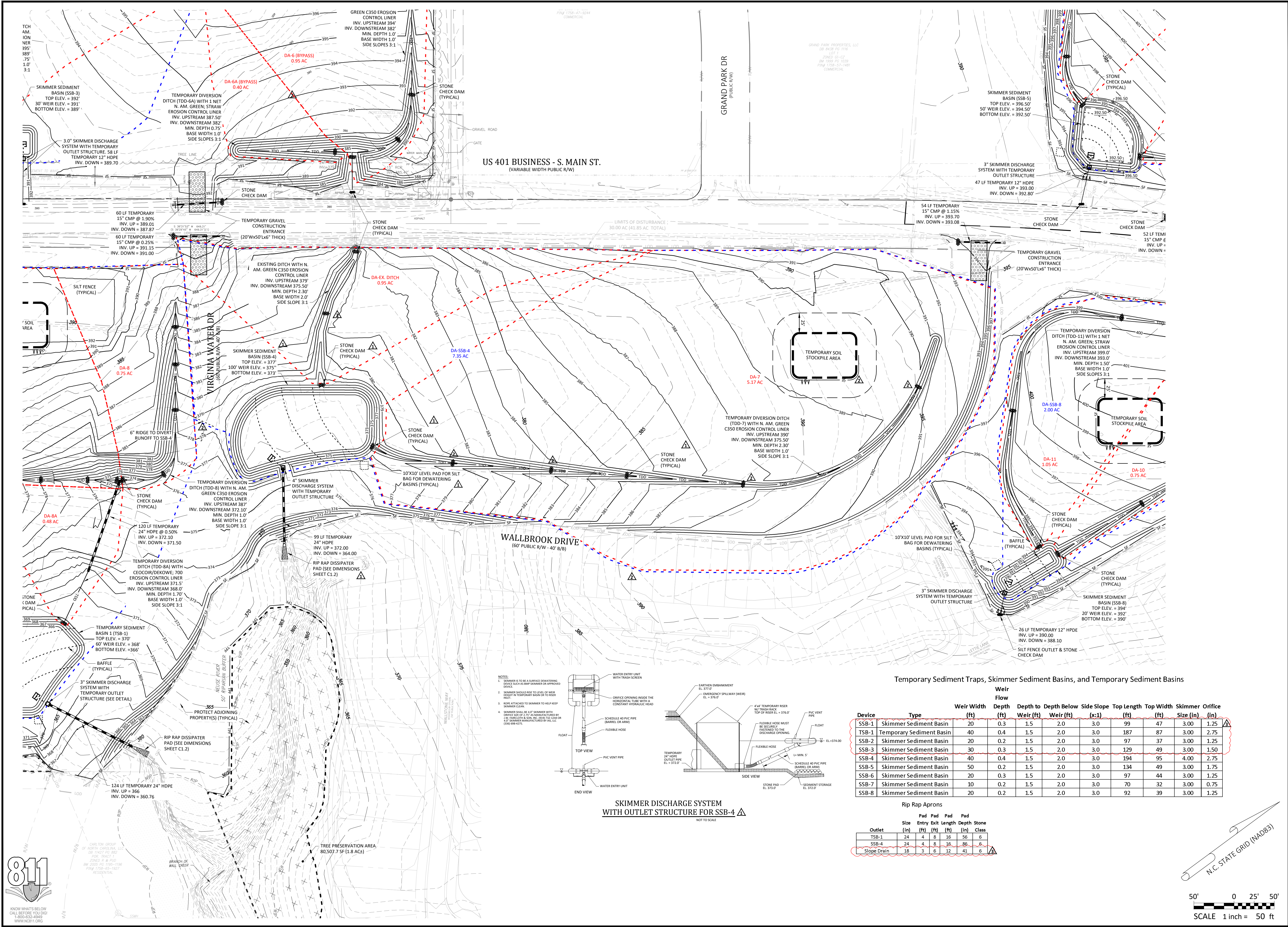
- Final Drawing -
Issued for Permit
Review Purposes Only

REVISIONS:

#	DATE	DESCRIPTION
1	1-FEB-23	REVISED PER OWNER COMMENTS
2	22-JUL-23	REVISED PER TOR & WAKE COUNTY COMMENTS
3	15-JUN-23	REVISED PER TOR & WAKE COUNTY COMMENTS

CROSLAND SOUTHEAST



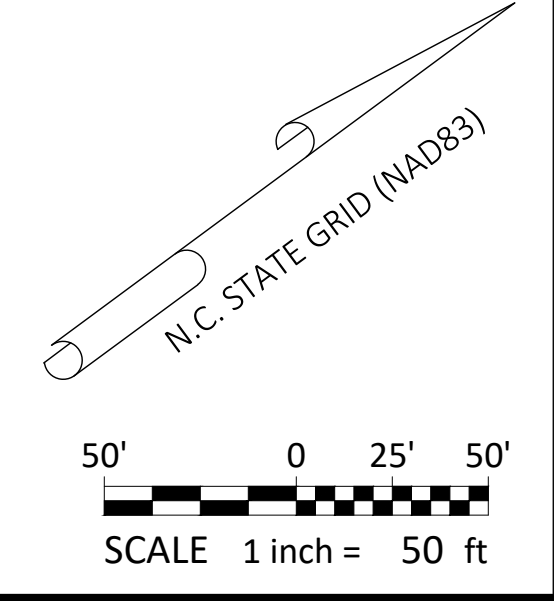


Temporary Sediment Traps, Skimmer Sediment Basins, and Temporary Sediment Basins

Device	Type	Weir Width (ft)	Weir Depth (ft)	Depth Below Weir (ft)		Side Slope (x:1)	Top Length (ft)	Top Width (ft)	Skimmer Orifice	
				Depth (ft)	Depth (ft)				Size (in)	Size (in)
SSB-1	Skimmer Sediment Basin	20	0.3	1.5	2.0	3.0	99	47	3.00	1.25
TSB-1	Temporary Sediment Basin	40	0.4	1.5	2.0	3.0	187	87	3.00	2.75
SSB-2	Skimmer Sediment Basin	20	0.2	1.5	2.0	3.0	97	37	3.00	1.25
SSB-3	Skimmer Sediment Basin	30	0.3	1.5	2.0	3.0	129	49	3.00	1.50
SSB-4	Skimmer Sediment Basin	40	0.4	1.5	2.0	3.0	194	95	4.00	2.75
SSB-5	Skimmer Sediment Basin	50	0.2	1.5	2.0	3.0	134	49	3.00	1.75
SSB-6	Skimmer Sediment Basin	20	0.3	1.5	2.0	3.0	97	44	3.00	1.25
SSB-7	Skimmer Sediment Basin	10	0.2	1.5	2.0	3.0	70	32	3.00	0.75
SSB-8	Skimmer Sediment Basin	20	0.2	1.5	2.0	3.0	92	39	3.00	1.25

Rip Rap Aprons

Outlet	Pad Size (ft)				Pad Depth (ft)	Stone Class
	Entry	Exit	Length	Width		
TSB-1	24	4	8	16	56	6
SSB-4	24	4	8	16	86	6
Slope Drain	18	3	6	12	41	6



- Final Drawing -
 Issued for Permit
 Review Purposes Only

CROSLAND SOUTHEAST

MASS GRADING - WALLBROOK DRIVE / LOT 5
WALLBROOK
 MASS GRADING / EROSION CONTROL /
 SANITARY SEWER RELOCATION
 Town of Roanoke Project No. CD 22-02
 Roanoke, Wake County, North Carolina

ARK CONSULTING GROUP PLLC
 ENGINEERS & PLANNERS
 2755-B Chapel Hill Rd.
 Cary, NC 27513
 (919) 275-8888
 www.arkconsultinggroup.com

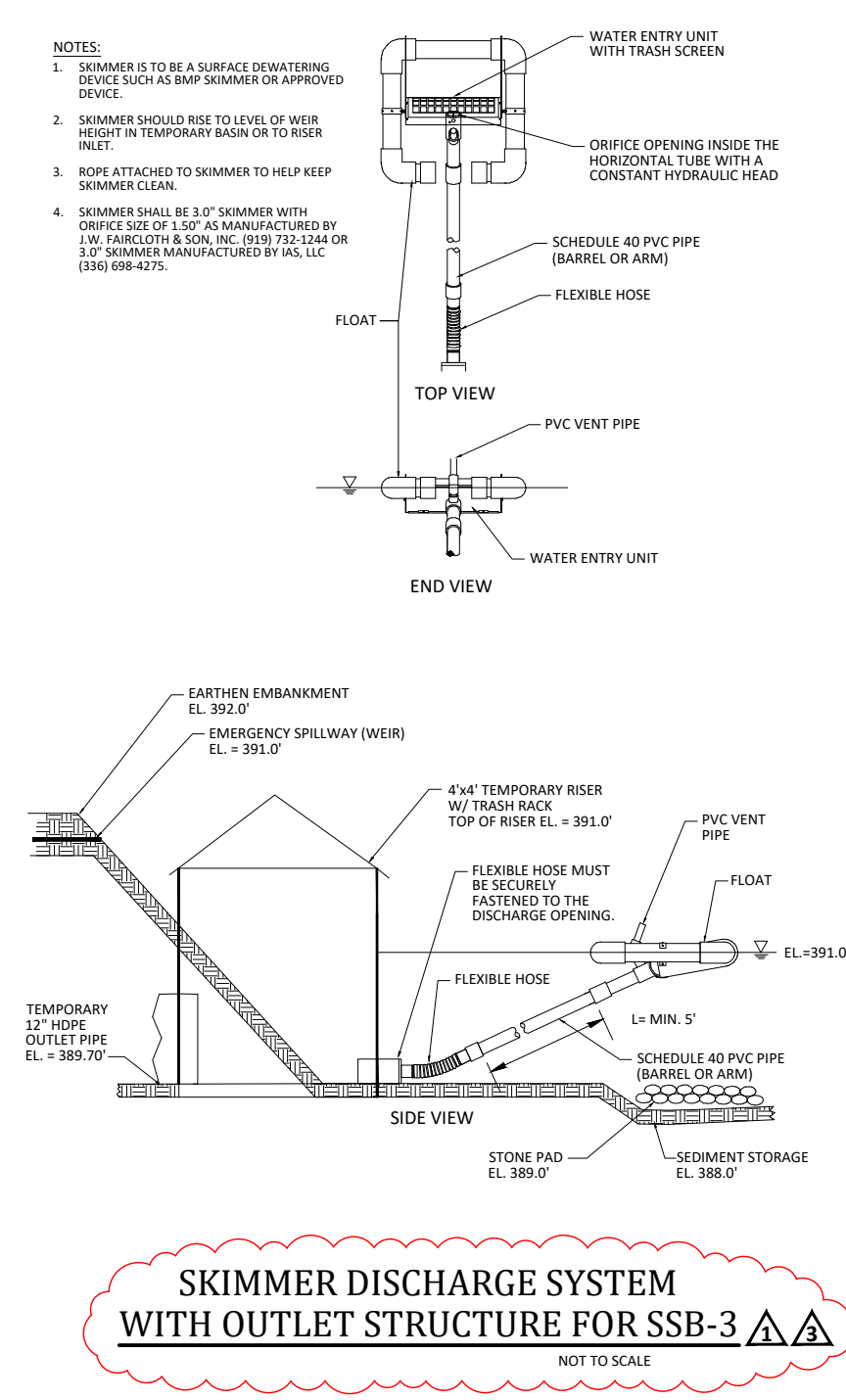
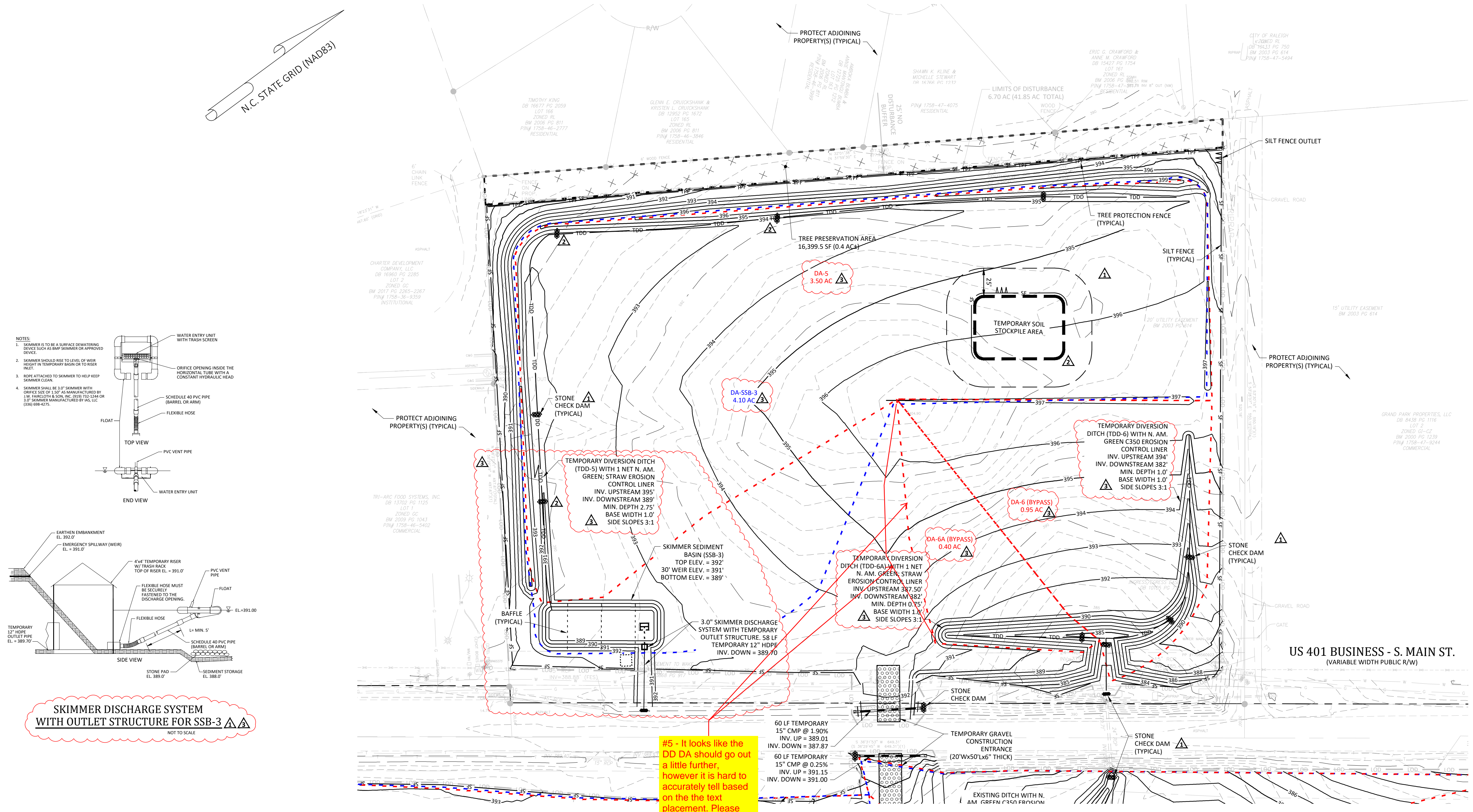
REVISIONS:

#	DATE	DESCRIPTION
1	11-15-JUN-23	REVISED PER TOWN & WAKE COUNTY COMMENTS
2	12-21-JUL-23	REVISED PER TOWN & WAKE COUNTY COMMENTS
3	1-FEB-24	REVISED PER OWNER COMMENTS

Project Manager: BCF
 Drawn By: DLC
 Checked By: STA
 Project Number: 21089
 Drawing Number: D-1219-EC

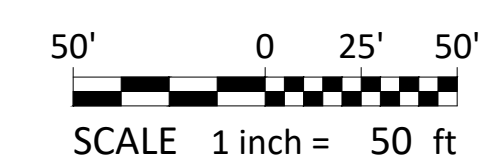
C1.2
 Date: April 1, 2022

Device ID	Device Type	Add'l Flow (cfs)**	Disturbed Area (AC)	Tc (min)	Intensity (in/hr)*	C	Qreq (cfs)	Up Invert	Down Invert	Length (ft)	Base Width (ft)	Left Slope (x:1)	Right Slope (x:1)	Flow Depth (ft)	Manning's n	Slope (ft/ft)	Wetted Area (sf)	Wetted Perimeter (ft)	Hydraulic Radius (ft)	Velocity (ft/s)	Qa (cfs)	Qa-Qreq?	(lbs/ft ²)	Liner Type	Allowable Shear Stress, τ (lbs/ft ²)
TDD-1	Temporary Diversion	0	1.90	5	7.18	0.5	6.82	385	383	225	1	3	3	2.02	0.020	0.00889	14.28	8.23	1.73	0.48	6.82	Yes	1.12102182	N. Am. Green; Straw; 1 nets	1.55
TDD-2	Temporary Diversion	0	4.45	5	7.18	0.5	15.98	389	372	480	1	3	3	1.68	0.020	0.03542	10.20	7.88	1.29	1.57	15.98	Yes	3.722902183	North Am. Green C350; Bare soil	3
TDD-3	Temporary Diversion	0	0.65	5	7.18	0.5	2.33	390	387	330	1	3	3	1.39	0.020	0.00909	7.17	7.61	1.04	0.33	2.33	Yes	0.787559626		
TDD-3A	Temporary Diversion	0	0.55	5	7.18	0.5	1.97	388	387	152	1	3	3	1.46	0.020	0.00658	7.90	7.68	1.03	0.25	1.97	Yes	0.601397066		
TDD-4	Temporary Diversion	0	0.68	5	7.18	0.5	2.44	390	386	260	1	3	3	1.18	0.020	0.01538	5.33	7.44	0.72	0.46	2.44	Yes	1.129058959	N. Am. Green; Straw; 1 nets	1.55
TDD-5	Temporary Diversion	0	3.50	5	7.18	0.5	12.57	395	389	915	1	3	3	2.77	0.020	0.06556	25.80	9.17	2.81	0.49	12.57	Yes	1.133788189	N. Am. Green; Straw; 1 nets	1.55
TDD-6	Temporary Diversion	0	0.95	5	7.18	0.5	3.41	394	382	270	1	3	3	0.91	0.020	0.04444	3.41	7.27	0.47	1.00	3.41	Yes	2.531233515	North Am. Green C350; Bare soil	3
TDD-6A	Temporary Diversion	0	0.40	5	7.18	0.5	1.44	387.5	382	140	1	3	3	0.70	0.020	0.03929	2.17	7.16	0.30	0.66	1.44	Yes	1.71749551	N. Am. Green; Straw; 1 nets	1.55
TDD-7	Temporary Diversion	0	5.17	5	7.18	0.5	18.56	389	375.5	790	1	3	3	2.28	0.020	0.10709	17.84	8.53	2.09	1.04	18.56	Yes	2.428362949	North Am. Green C350; Bare soil	3
Ex. Ditch	Temporary Diversion	22.5	0.95	5	7.18	0.5	0.194	379	375.5	180	2	3	3	2.34	0.020	0.01944	21.15	9.61	2.20	1.23	25.91	Yes	2.842311197	North Am. Green C350; Bare soil	3
TDD-8	Temporary Diversion	0.0	0.75	5	7.18	0.5	2.69	387	372	280	1	3	3	0.79	0.020	0.05357	2.64	7.20	0.37	1.02	2.69	Yes	2.625893726	North Am. Green C350; Bare soil	3
TDD-8A	Temporary Diversion	18.7	0.48	5	7.18	0.5	20.39	371.5	368	72	1	3	3	1.64	0.020	0.04861	9.74	7.84	1.24	2.09	20.39	Yes	4.984271435	Geocor/Dekow; 700	4.46
TDD-9	Temporary Diversion	0.0	1.90	5	7.18	0.5	6.82	383.5	377.5	510	1	3	3	1.84	0.020	0.01176	11.95	8.03	1.49	0.57	6.82	Yes	1.347752524	N. Am. Green; Straw; 1 nets	1.55
TDD-10	Temporary Diversion	0.0	0.75	5	7.18	0.5	2.69	399	393	320	1	3	3	1.14	0.020	0.01875	5.01	7.42	0.68	0.54	2.69	Yes	1.329241862	N. Am. Green; Straw; 1 nets	1.55
TDD-11	Temporary Diversion	0.0	1.05	5	7.18	0.5	3.77	399	393	475	1	3	3	1.46	0.020	0.01263	7.87	7.67	1.03	0.48	3.77	Yes	1.152416199	N. Am. Green; Straw; 1 nets	1.55
TDD-12	Temporary Diversion	0.0	0.60	5	7.18	0.5	2.15	398	389	200	1	3	3	0.77	0.020	0.04500	2.56	7.20	0.36	0.84	2.15	Yes	2.167621783	North Am. Green C350; Bare soil	3
TDD-13	Temporary Diversion	0.0	1.50	5	7.18	0.5	5.39	394	389	300	1	3	3	1.50	0.020	0.01667	8.27	7.71	1.07	0.65	5.39	Yes	1.56258756	N. Am. Green; Straw; 1 nets	1.55
TDD-14	Temporary Diversion	0.0	0.65	5	7.18	0.5	2.33	393	392	70	1	3	3	1.19	0.020	0.01429	5.42	7.45	0.73	0.43	2.33	Yes	1.058984487	N. Am. Green; Straw; 1 nets	1.55
TDD-15	Temporary Diversion	0.0	1.40	5	7.18	0.5	5.03	409	394	505	1	3	3	1.20	0.020	0.02970	5.54	7.46	0.74	0.91	5.03	Yes	2.228858608	North Am. Green C350; Bare soil	3
TDD-16	Temporary Diversion	0.0	2.00	5	7.18	0.5	7.18	408	394	600	1	3	3	1.48	0.020	0.02333	8.03	7.69	1.04	0.89	7.18	Yes	2.151294143	North Am. Green C350; Bare soil	3



SKIMMER DISCHARGE SYSTEM WITH OUTLET STRUCTURE FOR SSB-3

#5 - It looks like the DD DA should go out a little further, however it is hard to accurately tell based on the text placement. Please adjust DA if needed, and adjust text to make drainage pattern more clear.



- Final Drawing -
Issued for Permit
Review Purposes Only

CROSLAND SOUTHEAST

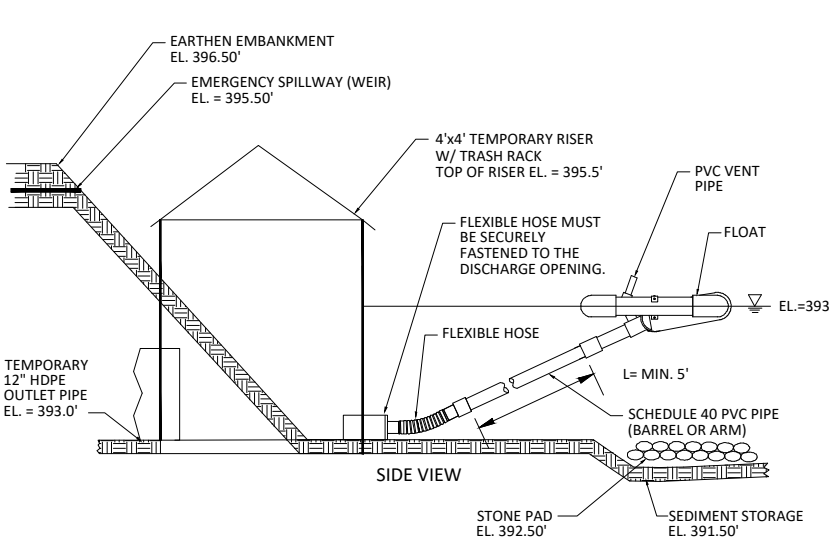
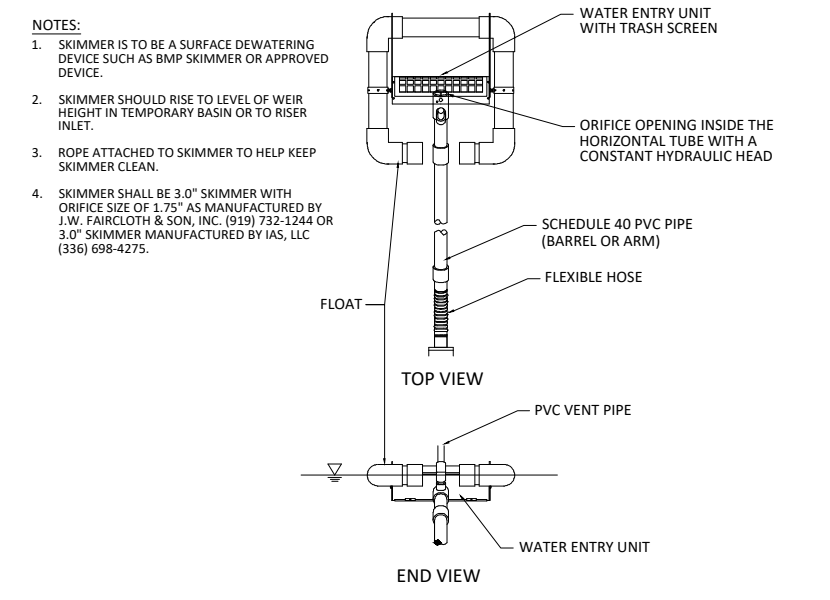
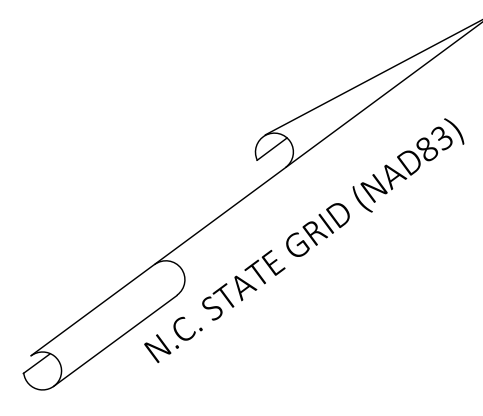
MASS GRADING - PARIS TRACT (LOTS 9, 10, & 11)
WALLBROOK
MASS GRADING / EROSION CONTROL /
SANITARY SEWER RELOCATION
 Town of Rolesville Project No. CD 22-02
 Rolesville, Wake County, North Carolina

ARK CONSULTING GROUP PLLC
 ENGINEERS & PLANNERS
 2755-B Charles Blvd.
 Cary, NC 27588
 (919) 558-0888
 www.arkconsultinggroup.com

Project Manager: BCF
 Drawn By: DLC
 Checked By: STA
 Project Number: 21089
 Drawing Number: D-1219-EC

C1.3
 Date: April 1, 2022





SKIMMER DISCHARGE SYSTEM WITH OUTLET STRUCTURE FOR SSB-5
NOT TO SCALE

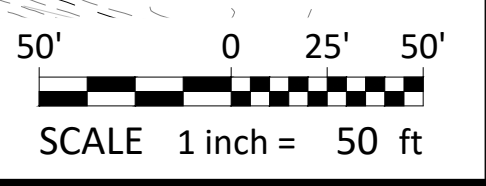
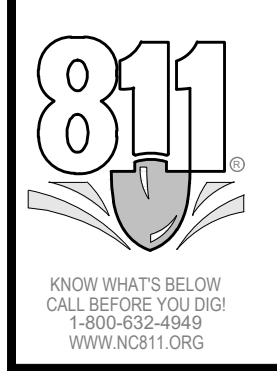
- NOTES:
1. SKIMMER IS TO BE A SURFACE DOWNSWEEP DEVICE SUCH AS RAY SKIMMER OR APPROVED DEVICE.
 2. SKIMMER SHOULD RISE TO LEVEL OF WEIR HEIGHT IN TEMPORARY BASIN OR TO RISER LEVEL.
 3. HOSE ATTACHED TO SKIMMER TO HELP KEEP SKIMMER CLEAN.
 4. SKIMMER SHALL BE 2" SKIMMER WITH ORIFICE SET ON 1/2" MANUFACTURED BY J.W. FANLOTTO & SON, INC. (201) 712-1244 OR 2" SKIMMER MANUFACTURED BY HILLIC (336) 698-4275.



BROTHER'S FORTH-CO, LLC
60' 1705' PG. 244
TRACT #1
RM 1705 PG. 97
PIM 1705-48-6150
TOWNED 60'-0"
NON-RESIDENTIAL

GRAND PARK PROPERTIES, LLC
60' 843' PG. 114
LOT 4
ZONED 61-C2
RM 2000 PG. 1219
PIM 1705-41-2601
COMMERCIAL

GRAND PARK PROPERTIES, LLC
60' 843' PG. 116
LOT 4
ZONED 61-C2
RM 1999 PG. 1039
PIM 1705-37-1491
COMMERCIAL



- Final Drawing -
Issued for Permit
Review Purposes Only

NO.	DATE	DESCRIPTION
1	1-FEB-23	REVISED PER OWNER COMMENTS
2	12-JUL-23	REVISED PER TOR & WAKE COUNTY COMMENTS
3	15-JUN-23	REVISED PER TOR & WAKE COUNTY COMMENTS



MASS GRADING - MBW TRACT (LOTS 12, 13, & 14)
WALLBROOK
 MASS GRADING / EROSION CONTROL /
 SANITARY SEWER RELOCATION
 Town of Rolesville Project No. CD 22-02
 Rolesville, Wake County, North Carolina

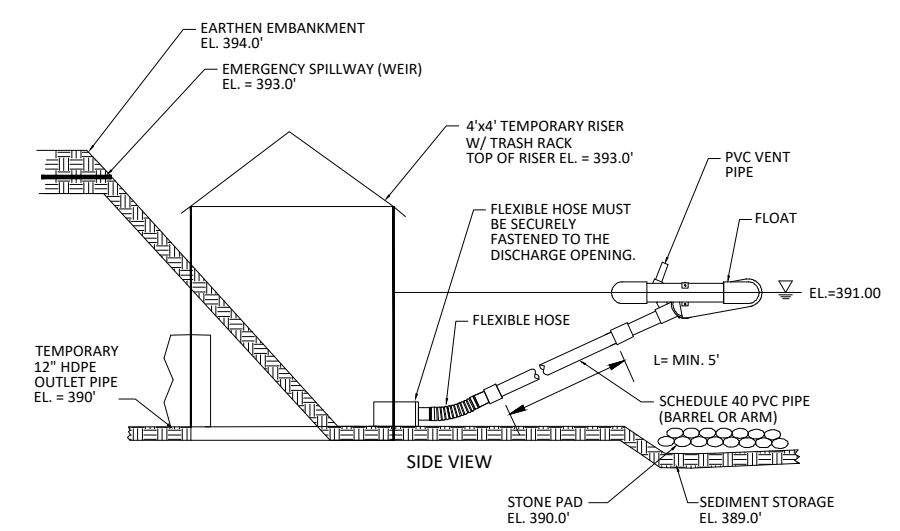
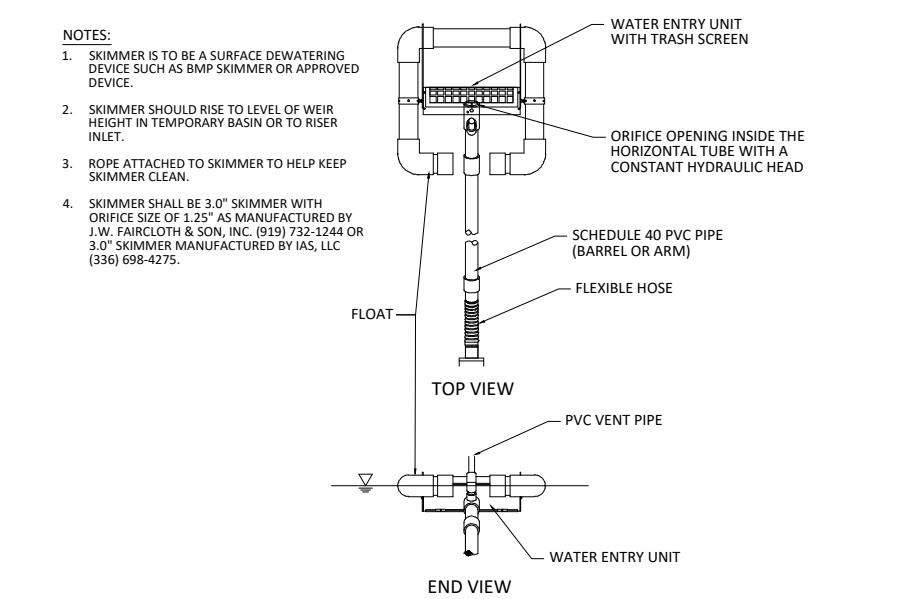
NC License: P-1129
ARK CONSULTING GROUP PLLC
 ENGINEERS & PLANNERS
 2755 B Church's Blvd
 Cary, NC 27588
 (919) 558-0888
 www.arkconsultinggroup.com

2/1/2023

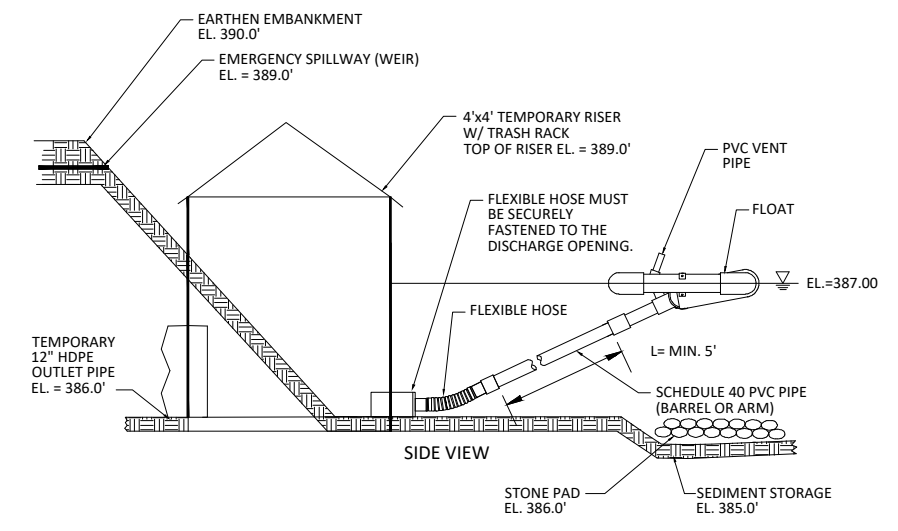
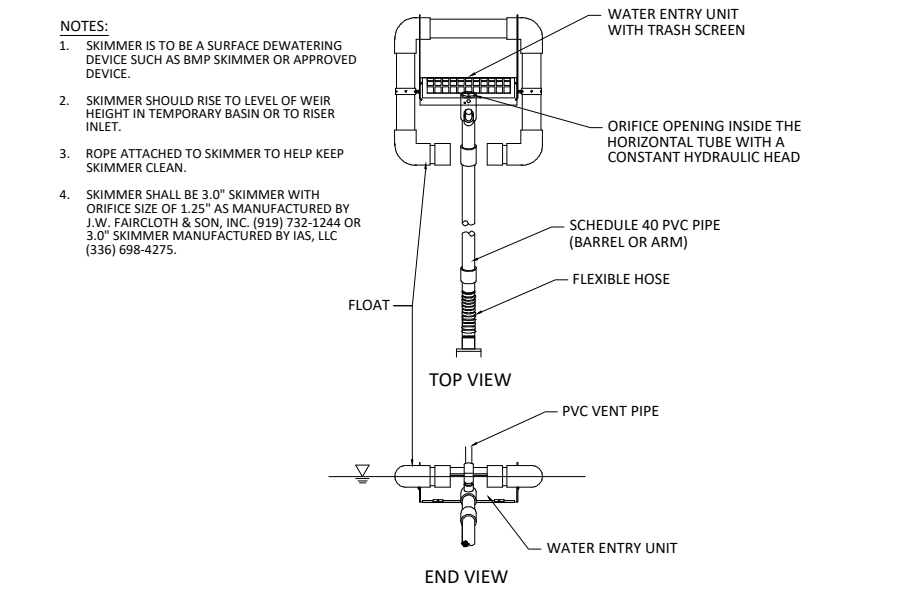
Project Manager: BCF
 Drawn By: DLC
 Checked By: STA
 Project Number: 21089
 Drawing Number: D-1219-EC

C1.4

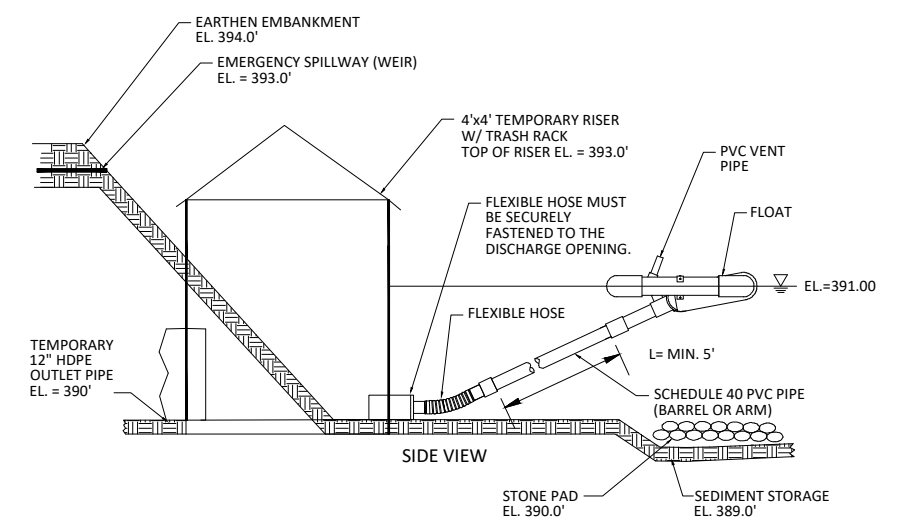
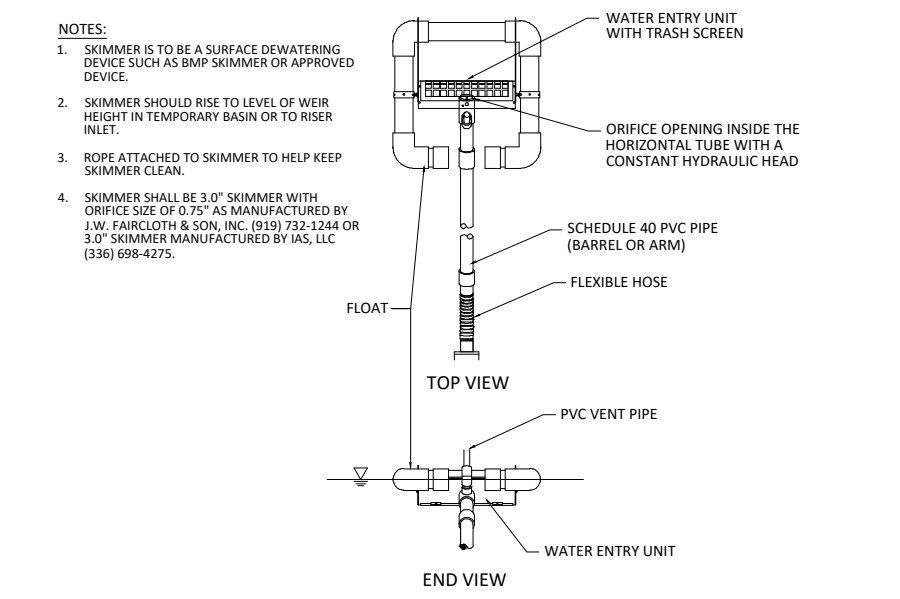
Date: April 1, 2022



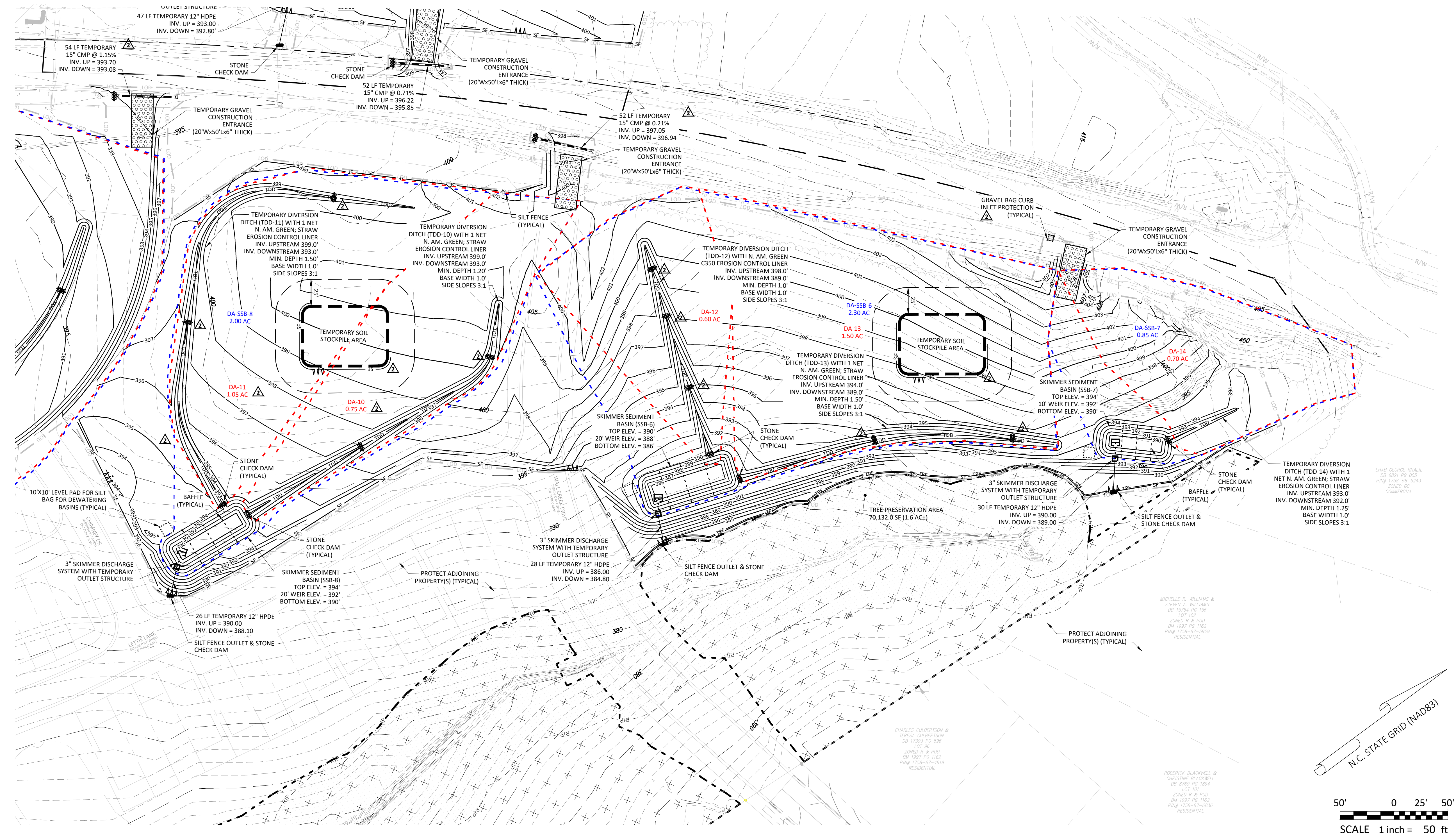
SKIMMER DISCHARGE SYSTEM WITH OUTLET STRUCTURE FOR SSB-8
NOT TO SCALE



SKIMMER DISCHARGE SYSTEM WITH OUTLET STRUCTURE FOR SSB-6
NOT TO SCALE



SKIMMER DISCHARGE SYSTEM WITH OUTLET STRUCTURE FOR SSB-7
NOT TO SCALE



- Final Drawing -
Issued for Permit
Review Purposes Only

REVISIONS:

#	DATE	DESCRIPTION
1	1-FEB-23	REVISED PER OWNER COMMENTS
2	12-JUL-23	REVISED PER TOR & WAKE COUNTY COMMENTS
3	15-JUN-23	REVISED PER TOR & WAKE COUNTY COMMENTS

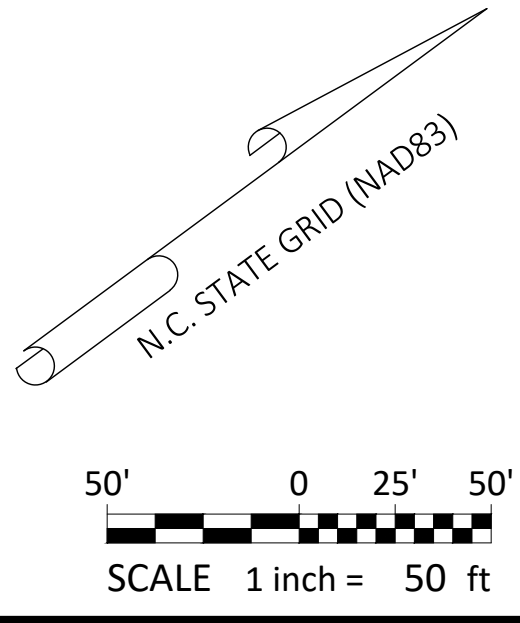


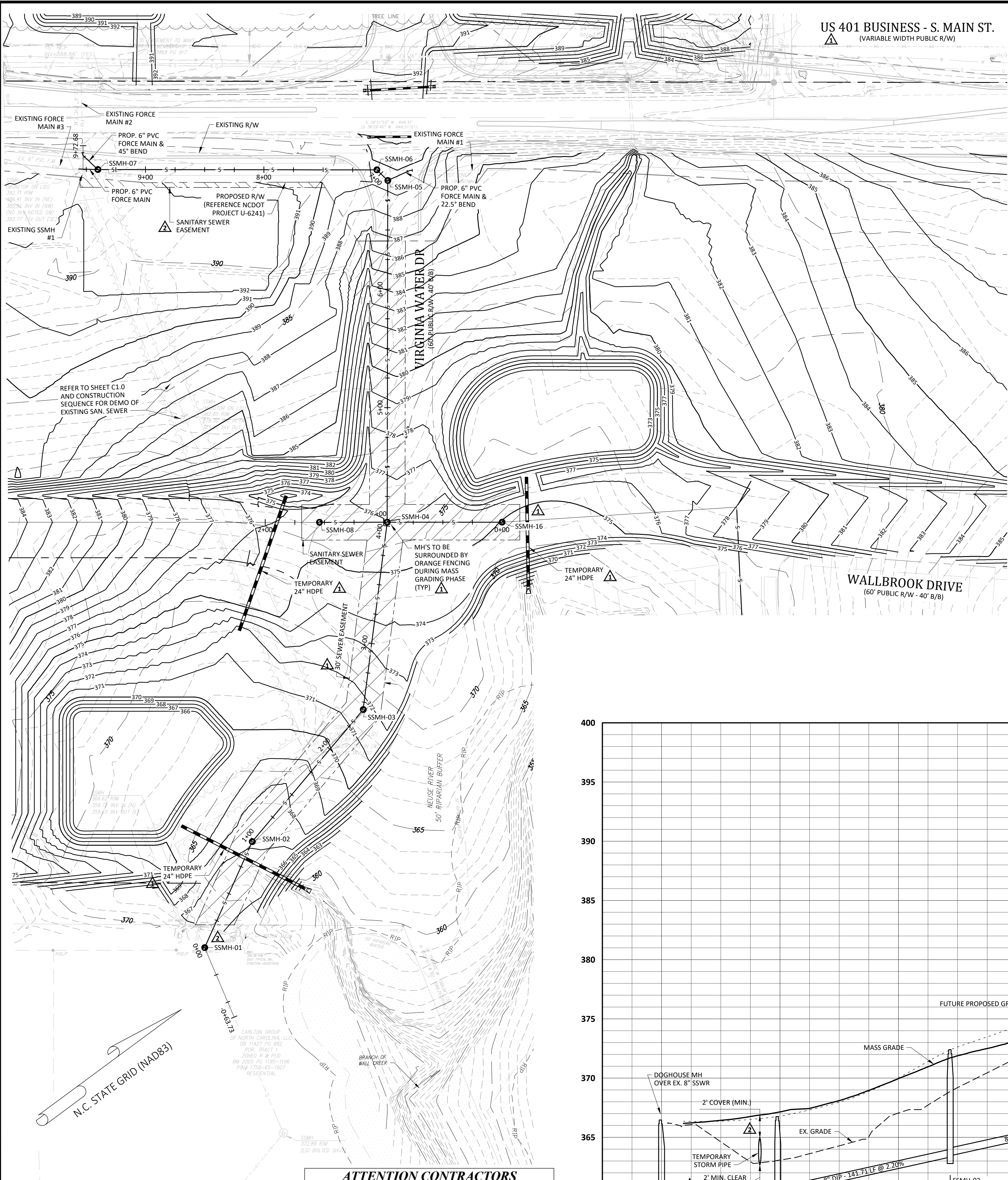
MASS GRADING - LOTS 7 & 8
WALLBROOK
MASS GRADING / EROSION CONTROL /
SANITARY SEWER RELOCATION
Town of Rolesville Project No. CD 22-02
Rolesville, Wake County, North Carolina

NC License: P-1109
ARK CONSULTING GROUP PLLC
ENGINEERS & PLANNERS
2755-B Charles Blvd.
Raleigh, NC 27658
(919) 858-0888
www.arkconsultinggroup.com

Project Manager:	BCF
Drawn By:	DLC
Checked By:	STA
Project Number:	21089
Drawing Number:	D-1219-EC

C1.5
Date: April 1, 2022





US 401 BUSINESS - S. MAIN ST.
(VARIABLE WIDTH PUBLIC R/W)

WALLBROOK DRIVE
(60' PUBLIC R/W - 40' B/B)

VIRGINIA WATER DR
(60' PUBLIC R/W - 40' B/B)

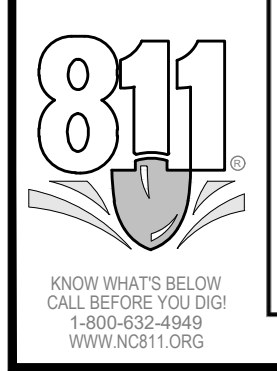
ATTENTION CONTRACTORS
The Construction Contractor responsible for the extension of water, sewer, and/or reuse, as approved in these plans, is responsible for contacting the Public Utilities Department at (919) 996-4540 at least twenty four hours prior to beginning any of their construction.

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

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

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-5093
Authorization to Construct _____
Date _____

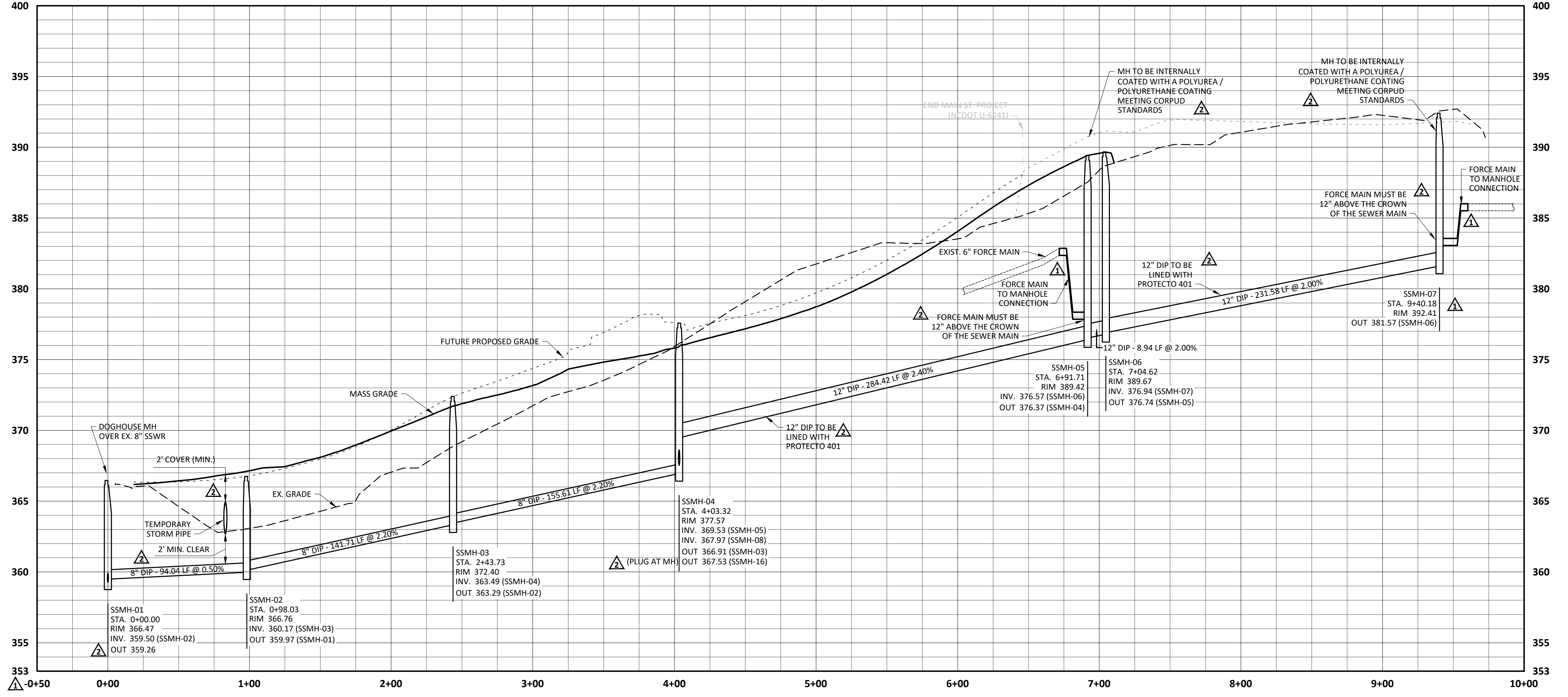
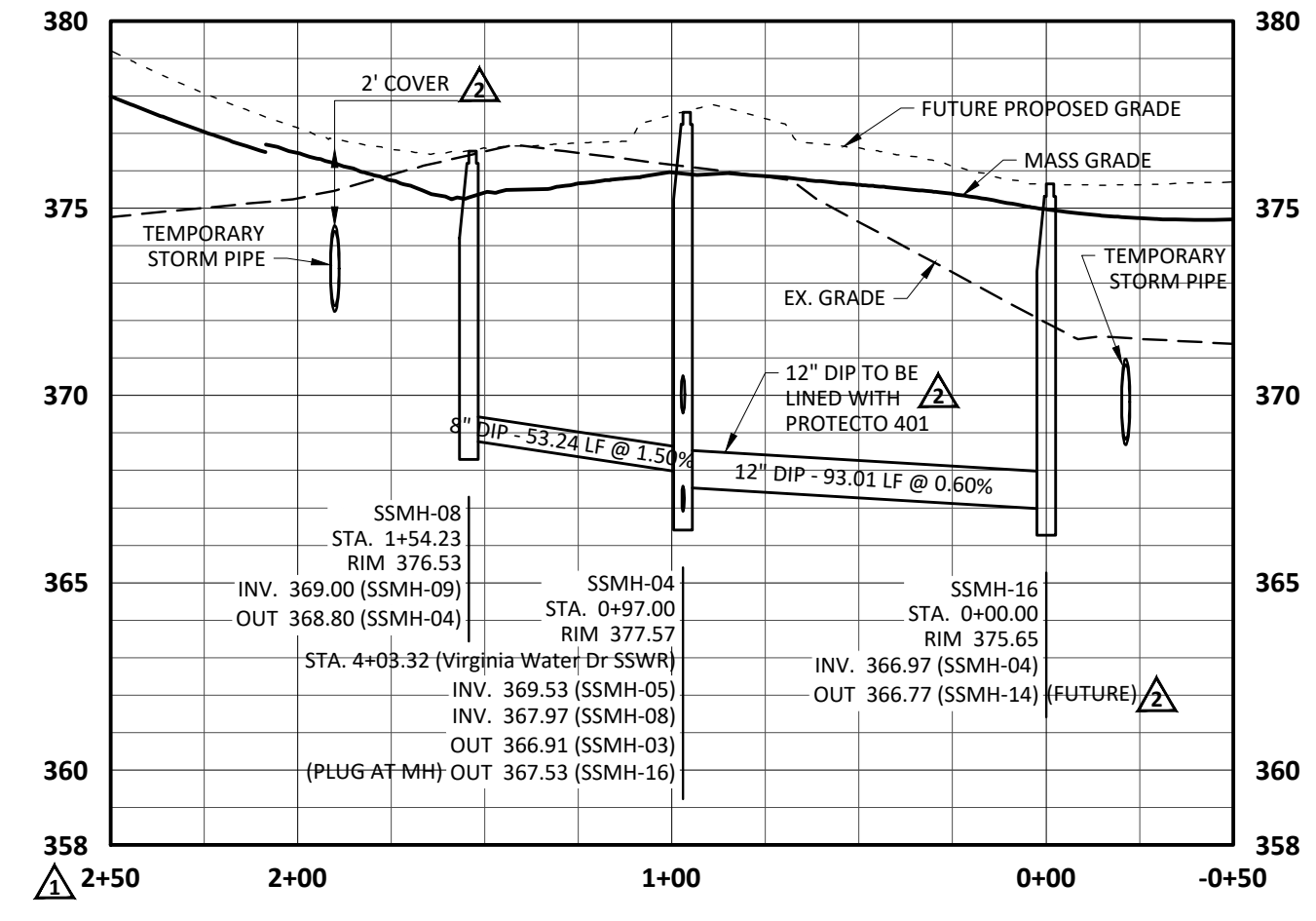


General Notes:

- CONTRACTOR SHALL CONTACT NORTH CAROLINA ONE-CALL CENTER, INC. (NC ONE-CALL) AT 811 TO HAVE ALL UNDERGROUND UTILITIES LOCATED AT LEAST 72 HOURS PRIOR TO EXCAVATING OR TRENCHING.
- ALL REQUIRED IMPROVEMENTS SHALL CONFORM TO THE CITY OF RALEIGH PUBLIC UTILITIES HANDBOOK, EFFECTIVE JANUARY 21, 2014.
- CONTRACTOR SHALL NOTIFY THE TOWN OF ROLESVILLE AND THE NC DEPARTMENT OF TRANSPORTATION, 72 HOURS PRIOR TO CLOSURE OF ROADWAY AND CUTTING PAVEMENT IN ROADWAY RIGHT-OF-WAY.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO ENGINEER FOR MATERIALS TO BE USED IN THE CONSTRUCTION OF UTILITY IMPROVEMENTS. SHOP DRAWINGS SHALL BE REVIEWED AND APPROVED BY THE ENGINEER PRIOR TO ORDERING MATERIALS.
- LOCATION OF ALL EXISTING AND PROPOSED UTILITIES ARE APPROXIMATE AND MUST BE CONFIRMED INDEPENDENTLY WITH UTILITY OWNERS PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION OR EXCAVATION. UTILITY SERVICE CONNECTION POINTS SHALL BE CONFIRMED INDEPENDENTLY BY THE CONTRACTOR IN THE FIELD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. DISCREPANCIES SHALL BE REPORTED IMMEDIATELY IN WRITING TO ENGINEER. CONSTRUCTION SHALL COMMENCE BEGINNING AT THE LOWEST INVERT (POINT OF CONNECTION) AND PROGRESS UPSTREAM. PROPOSED INTERFACE POINTS (CROSSINGS) WITH EXISTING UNDERGROUND UTILITIES SHALL BE FIELD VERIFIED BY TEST PIT PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- ALL UTILITIES AND SERVICES INCLUDING BUT NOT LIMITED TO GAS, WATER, ELECTRIC, SANITARY AND STORM SEWER, TELEPHONE, CABLE, FIBER OPTIC CABLE WITHIN THE LIMITS OF DISTURBANCE SHALL BE VERTICALLY AND HORIZONTALLY LOCATED. THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY NOTIFICATION SYSTEM TO LOCATE ALL THE UNDERGROUND UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRS OF DAMAGE TO ANY EXISTING UTILITIES DURING CONSTRUCTION AT NO COST TO THE OWNER.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THE PROJECT WORK SCOPE PRIOR TO THE INITIATION OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DOCUMENTS RELATIVE TO THE SPECIFICATIONS OR THE RELATIVE CODES, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER OF RECORD IN WRITING PRIOR TO COMMENCING CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE PROJECT ENGINEER SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF WORK AS DEFINED BY THE DRAWINGS AND IN FULL COMPLIANCE WITH LOCAL AND STATE REGULATIONS AND CODES.
- THE CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH CITY OF RALEIGH REQUIREMENTS AND IS RESPONSIBLE FOR ALL COORDINATION REGARDING UTILITY INSTALLATION AS IDENTIFIED OR REQUIRED FOR THE PROJECT.
- NO SEWER SERVICE SHALL BE PROVIDED WITHIN THIS PROJECT UNTIL ALL MAINS HAVE BEEN INSTALLED AND ACCEPTED FOR MAINTENANCE BY THE CITY OF RALEIGH.

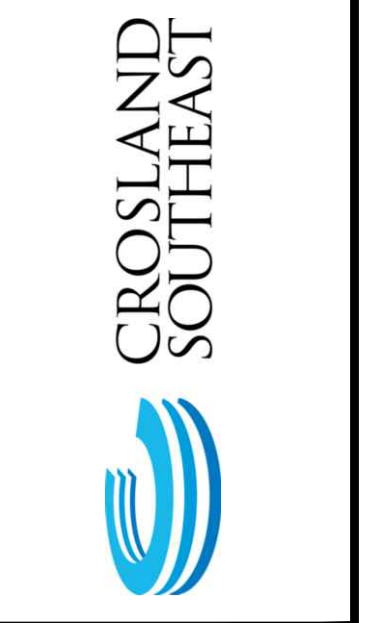
Sanitary Sewer Construction Sequence:

- CONTRACTOR SHALL VERIFY EXISTING INVERT ELEVATIONS PRIOR TO BEGINNING CONSTRUCTION. NOTIFY DESIGN ENGINEER OF ANY DISCREPANCIES PRIOR TO BEGINNING SANITARY SEWER INSTALLATION.
- INSTALL DOGHOUSE SSMH-1, LEAVING THE EXISTING SANITARY SEWER MAIN IN SERVICE. EXISTING MAIN SHALL NOT BE CUT UNTIL ACCEPTANCE OF NEW MAIN IN ITS ENTIRETY.
- INSTALL NEW SANITARY SEWER MAIN FROM SSMH-1 UP TO SSMH-5. PERFORM SATISFACTORY VACUUM AND AIR TESTING OF NEW SANITARY SYSTEM BETWEEN SSMH-1 AND SSMH-5.
- INSTALL PIPE STUB WITH CAP OUT OF SSMH-4 TOWARDS SSMH-8 AND SSMH-13. INSTALLATION OF MAIN TOWARDS SSMH-8 AND SSMH-13 SHALL NOT OCCUR UNTIL AFTER THE COMPLETION OF THE TIE-IN OF EXISTING FORCE MAIN #3 TO SSMH-7.
- UPON COMPLETION OF SATISFACTORY VACUUM AND AIR TESTING OF NEW SANITARY SEWER BETWEEN SSMH-1 AND SSMH-5, COORDINATE WITH THE CITY OF RALEIGH TO CUT EXISTING MAIN THROUGH SSMH-5 TO FACILITATE FLOW FROM NEW SANITARY SEWER SYSTEM THROUGH SSMH-5.
- COORDINATE WITH THE CITY OF RALEIGH TO ABANDON THE EXISTING FORCE MAIN #1 CONNECTION TO THE EXISTING SSMH-1 AND PERFORM THE TIE-IN OF THE EXISTING FORCE MAIN #1 TO SSMH-5. TIE-IN SHALL BE PERFORMED DURING A LOW-FLOW PERIOD.
- UPON COMPLETION OF THE TIE-IN OF EXISTING FORCE MAIN #1 TO SSMH-5, REMOVE THE REMAINDER OF EXISTING FORCE MAIN #1 AND INSTALL NEW SANITARY SEWER FROM SSMH-5 UP TO SSMH-7. PERFORM SATISFACTORY VACUUM AND AIR TESTING OF NEW SANITARY SYSTEM BETWEEN SSMH-5 AND SSMH-7.
- UPON COMPLETION OF SATISFACTORY VACUUM AND AIR TESTING OF NEW SANITARY SEWER BETWEEN SSMH-5 AND SSMH-7, COORDINATE WITH THE CITY OF RALEIGH TO CONNECT THE EXISTING FORCE MAIN #2 TO SSMH-7. TIE-IN SHALL BE PERFORMED DURING A LOW-FLOW PERIOD.
- UPON COMPLETION OF THE TIE-IN OF EXISTING FORCE MAIN #2 TO SSMH-7, COORDINATE WITH THE CITY OF RALEIGH FOR THE REMOVAL OF THE EXISTING SSMH-1 AND PERFORM THE TIE-IN OF THE EXISTING FORCE MAIN #3 TO SSMH-7.
- UPON COMPLETION OF THE TIE-IN OF THE EXISTING FORCE MAIN #3 TO SSMH-7, REMOVAL OF THE REMAINDER OF THE EXISTING GRAVITY SANITARY SEWER BETWEEN EXISTING SSMH-1 AND PROPOSED SSMH-5 MAY BE PERFORMED.



50' 0 25' 50'
SCALE 1 inch = 50 ft
VERT. 1 inch = 5 ft

- Final Drawing -
Issued for Permit
Review Purposes Only



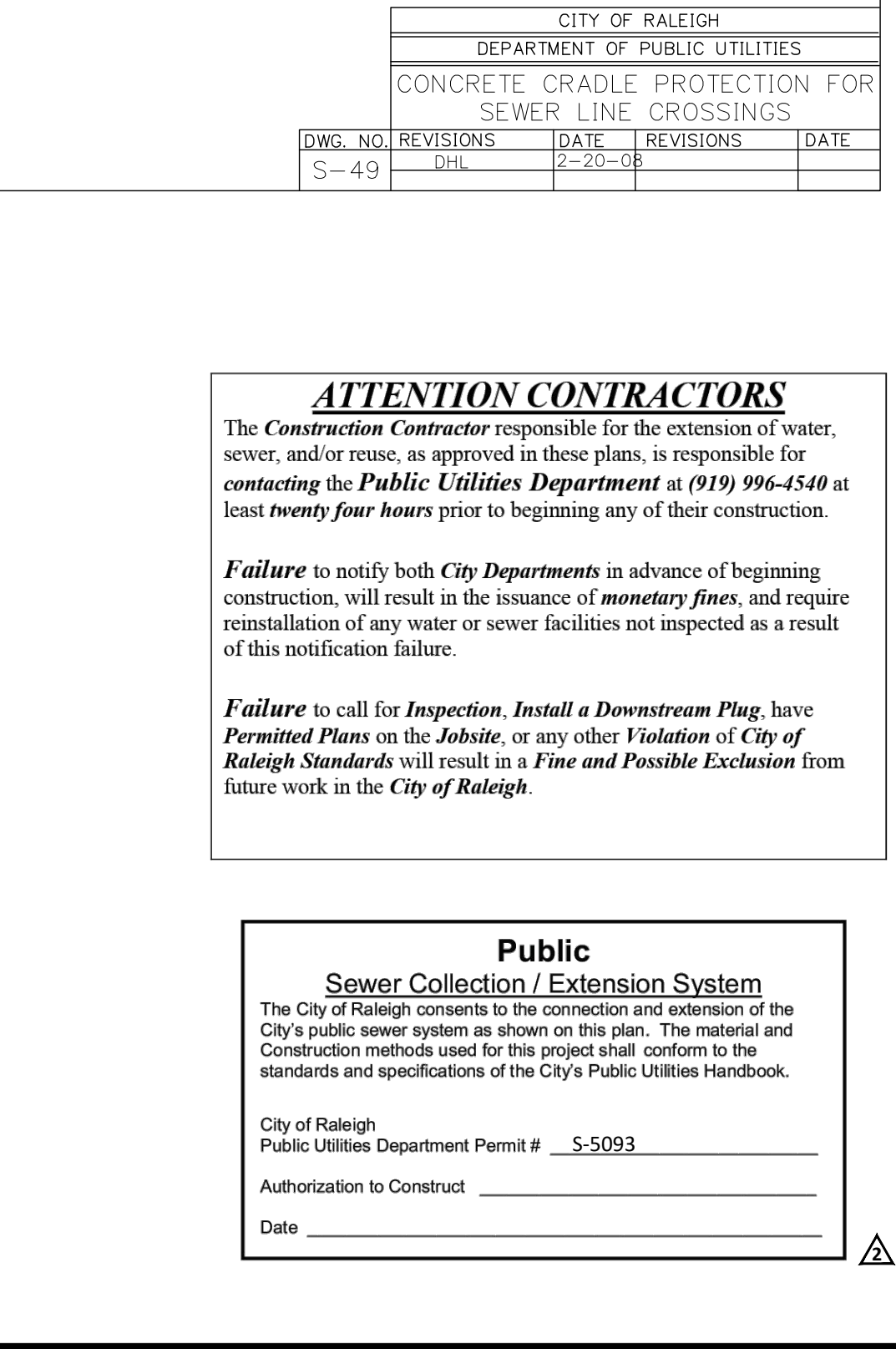
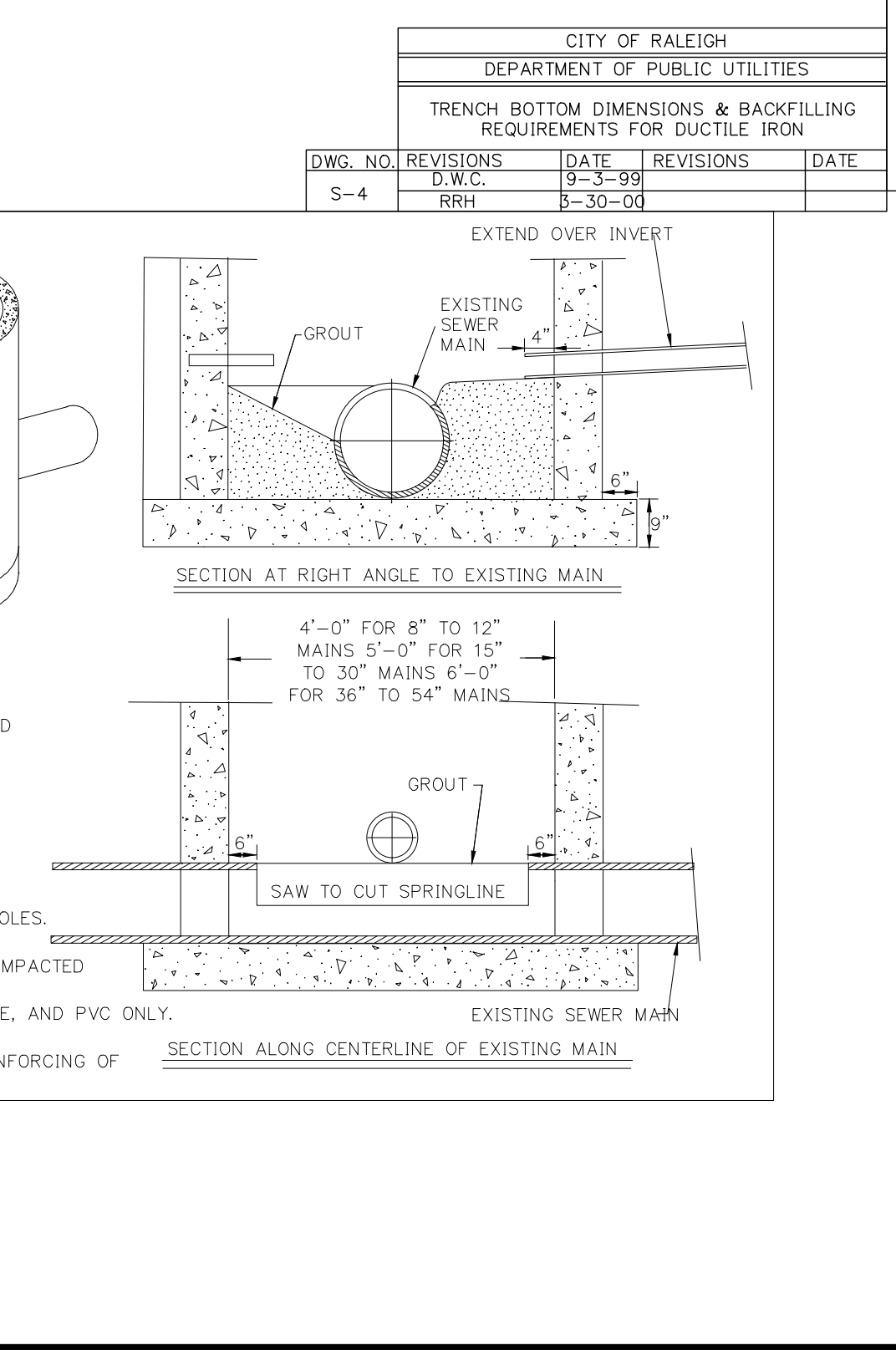
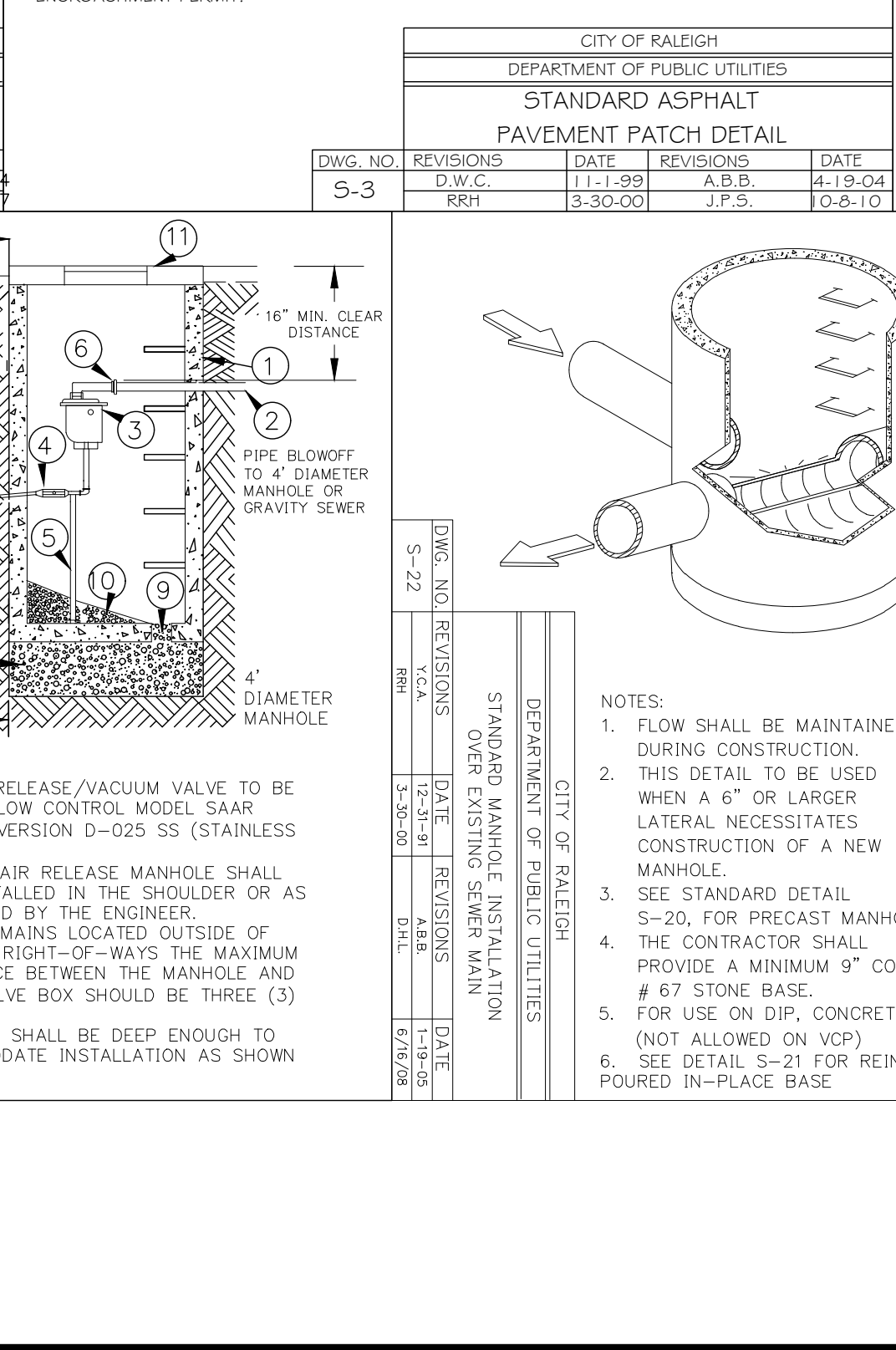
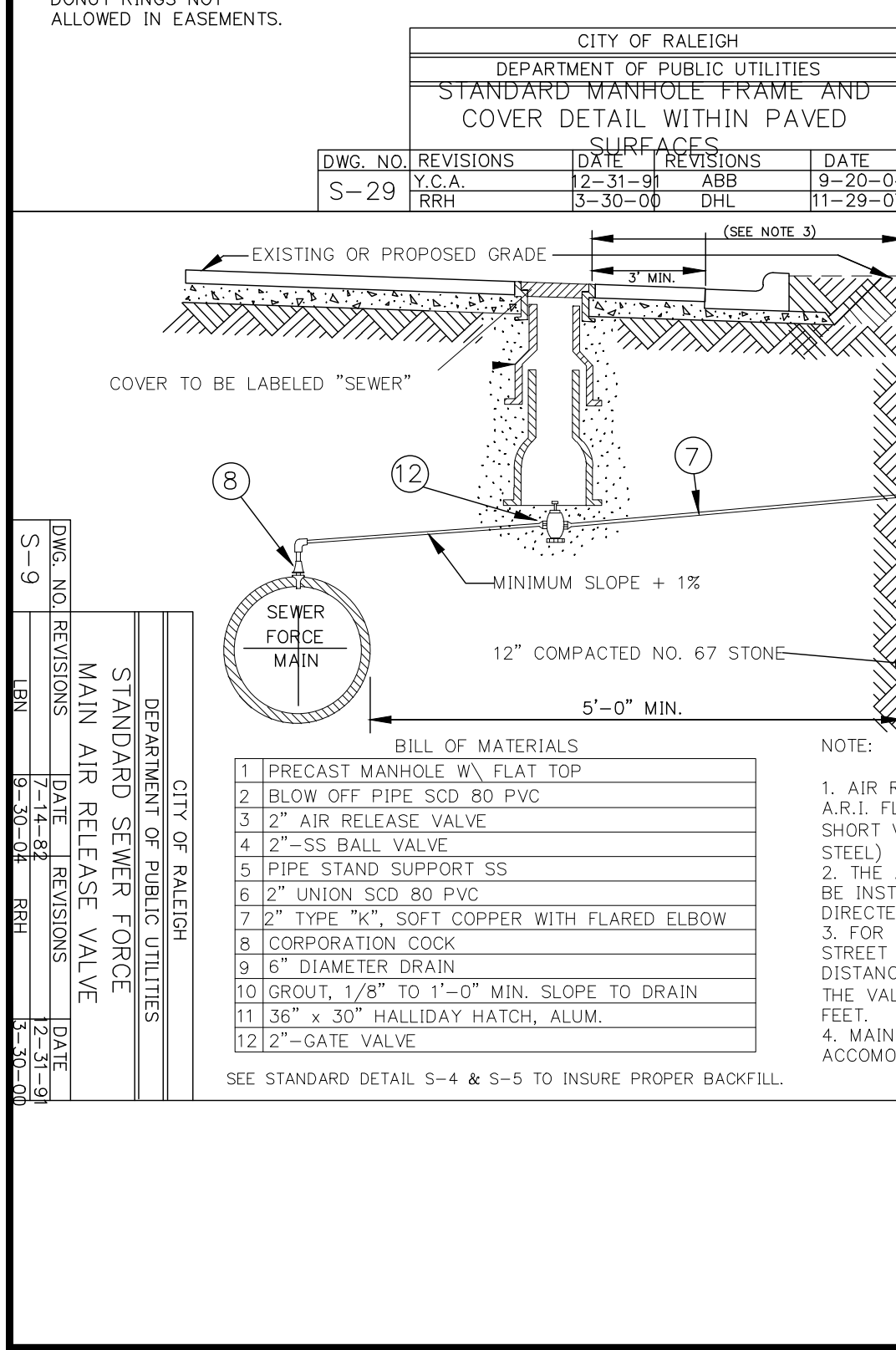
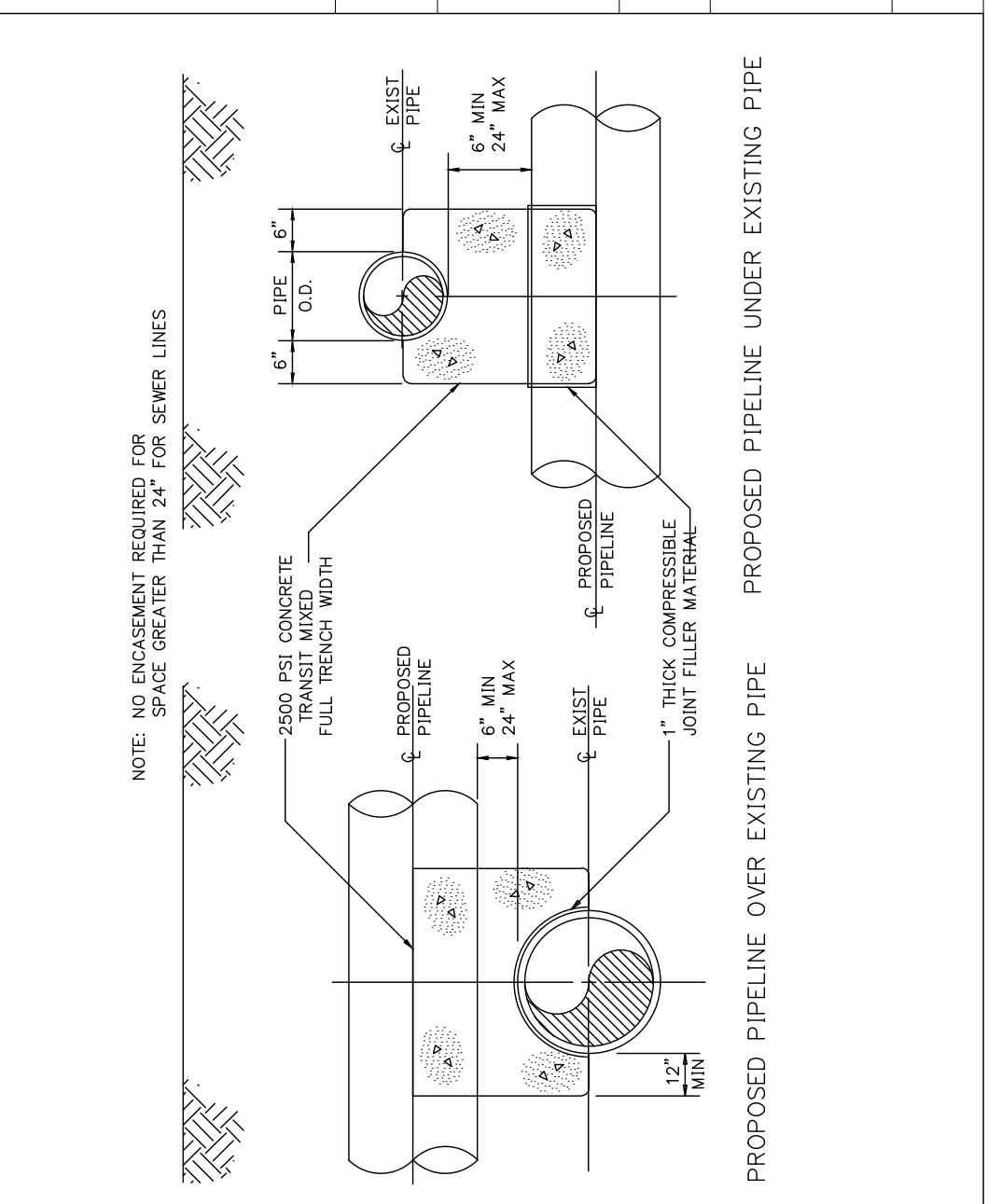
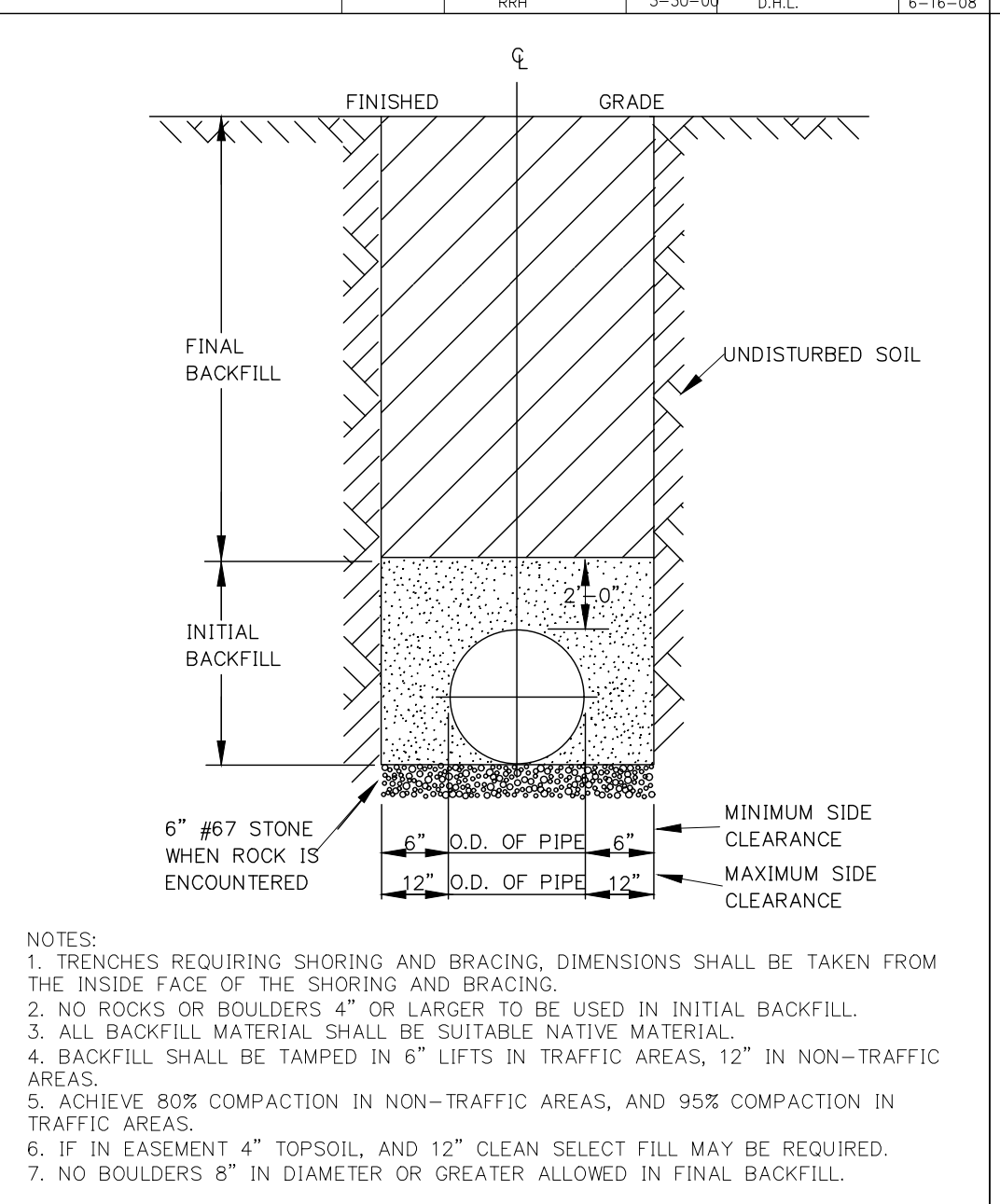
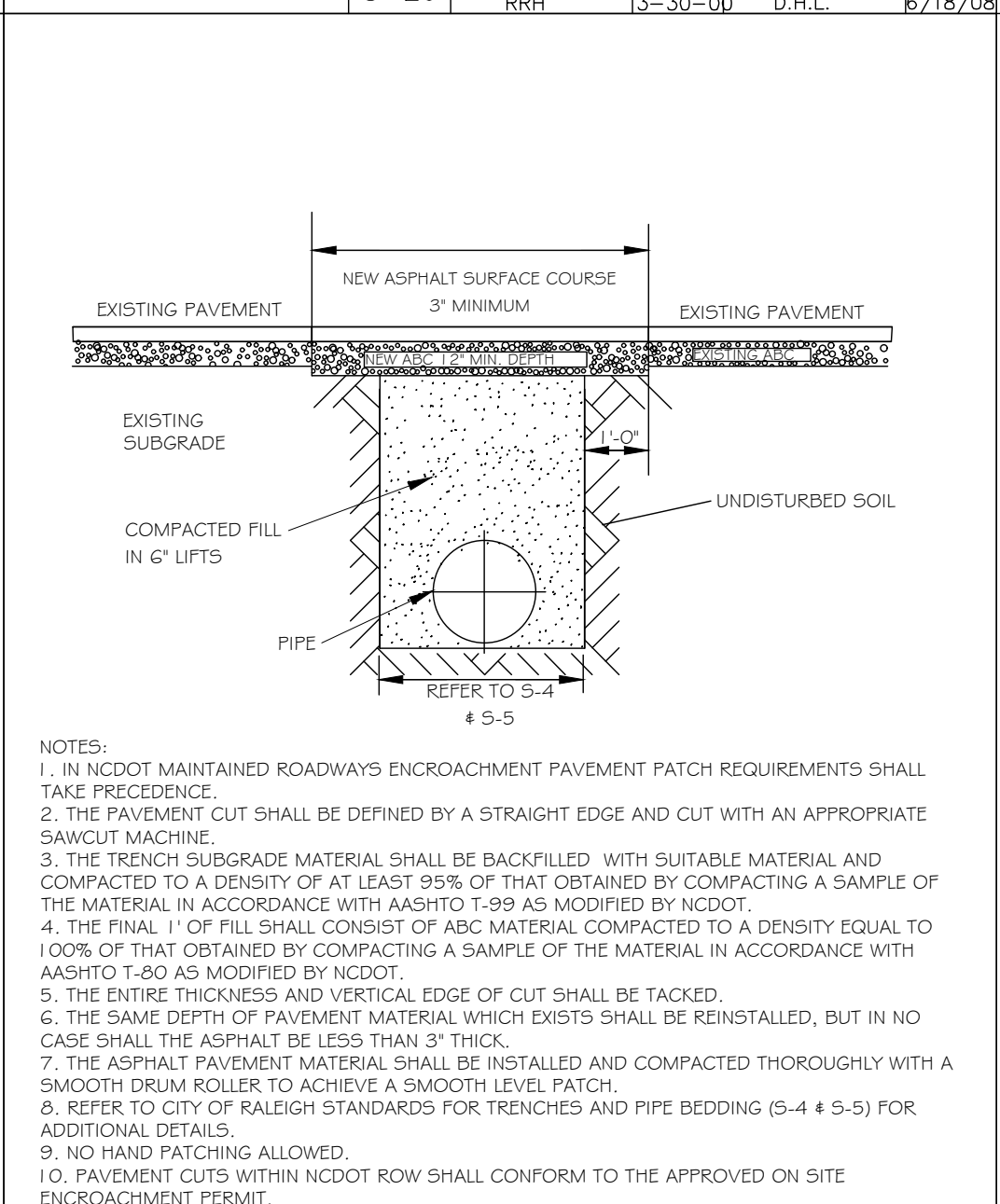
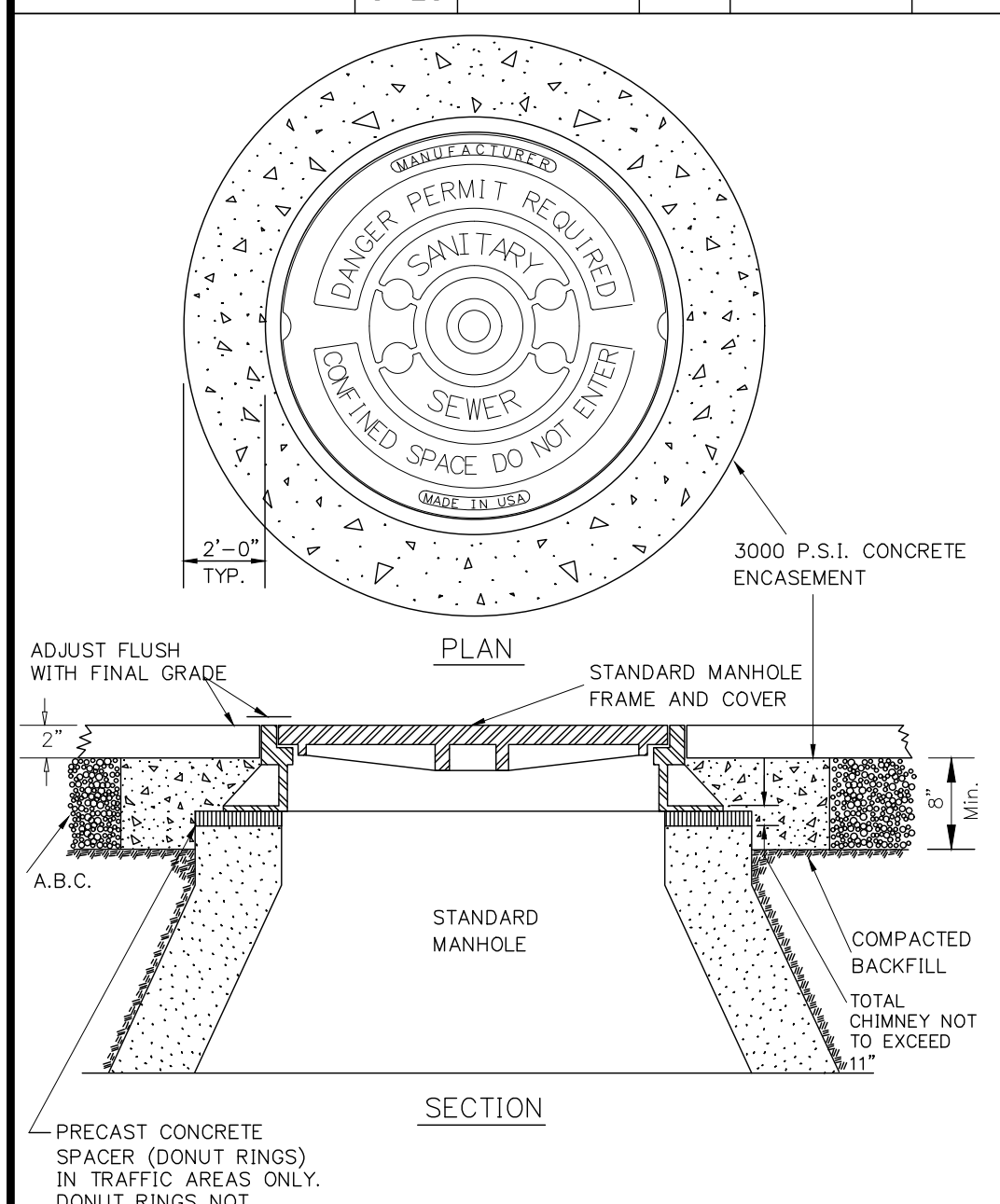
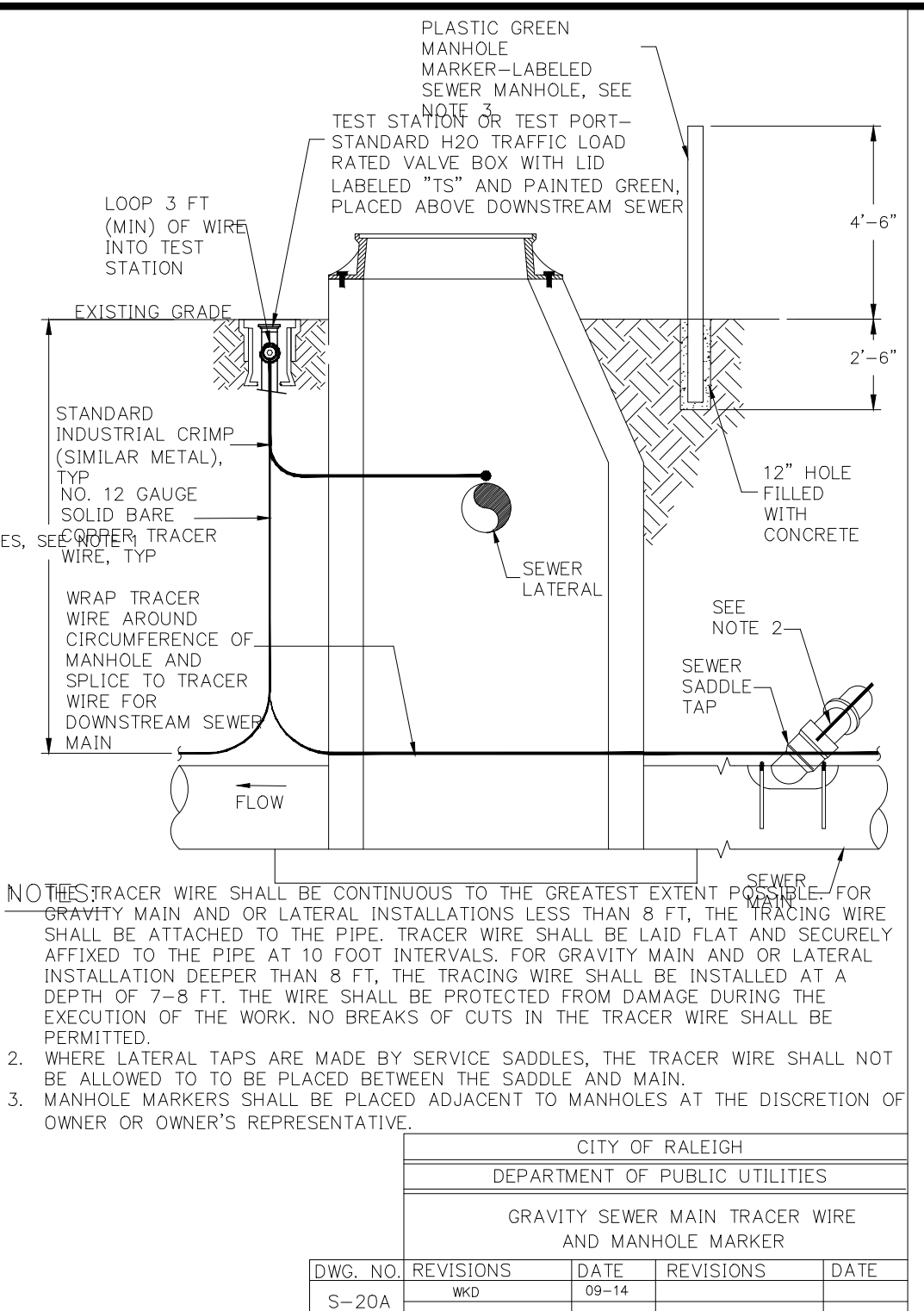
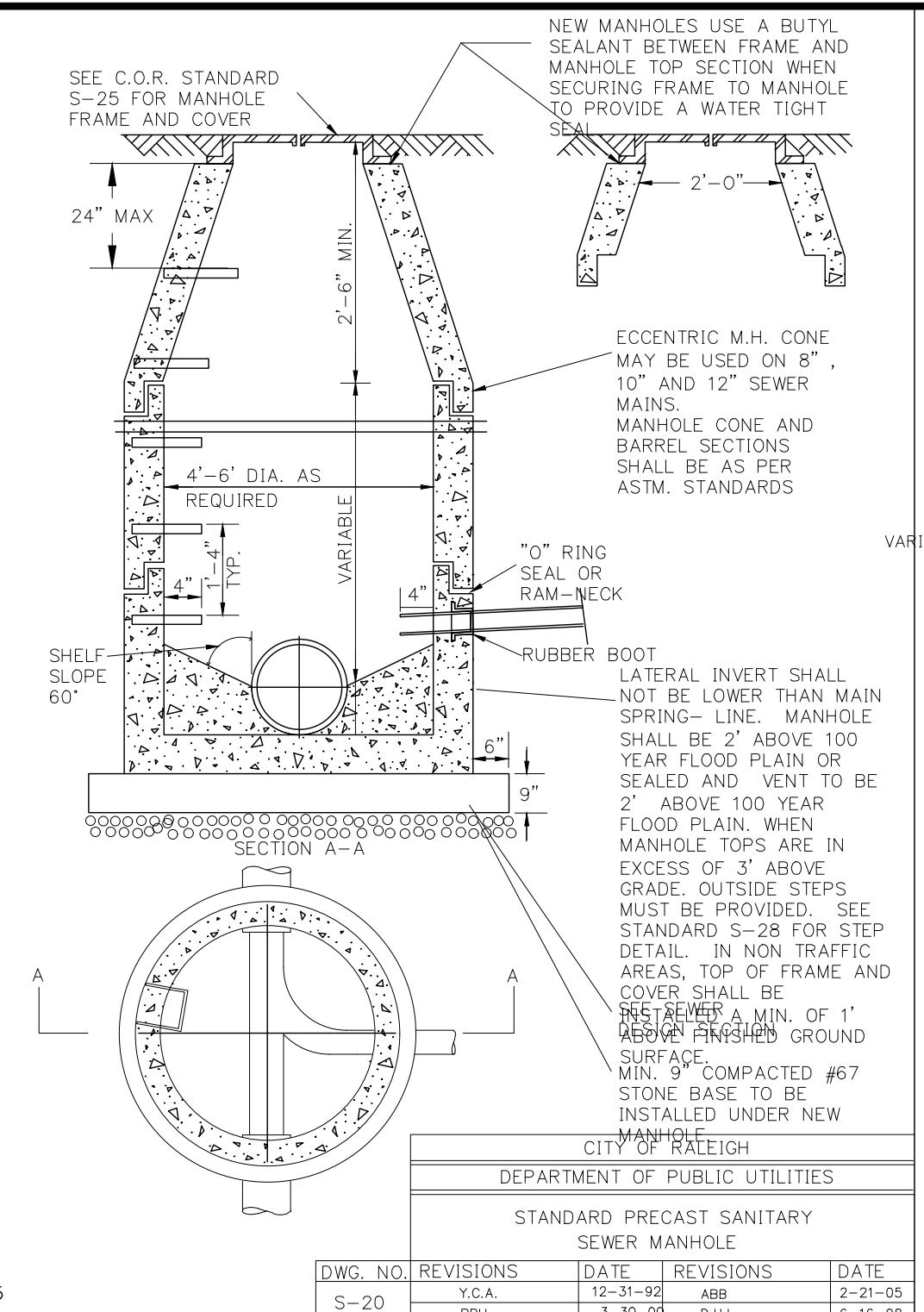
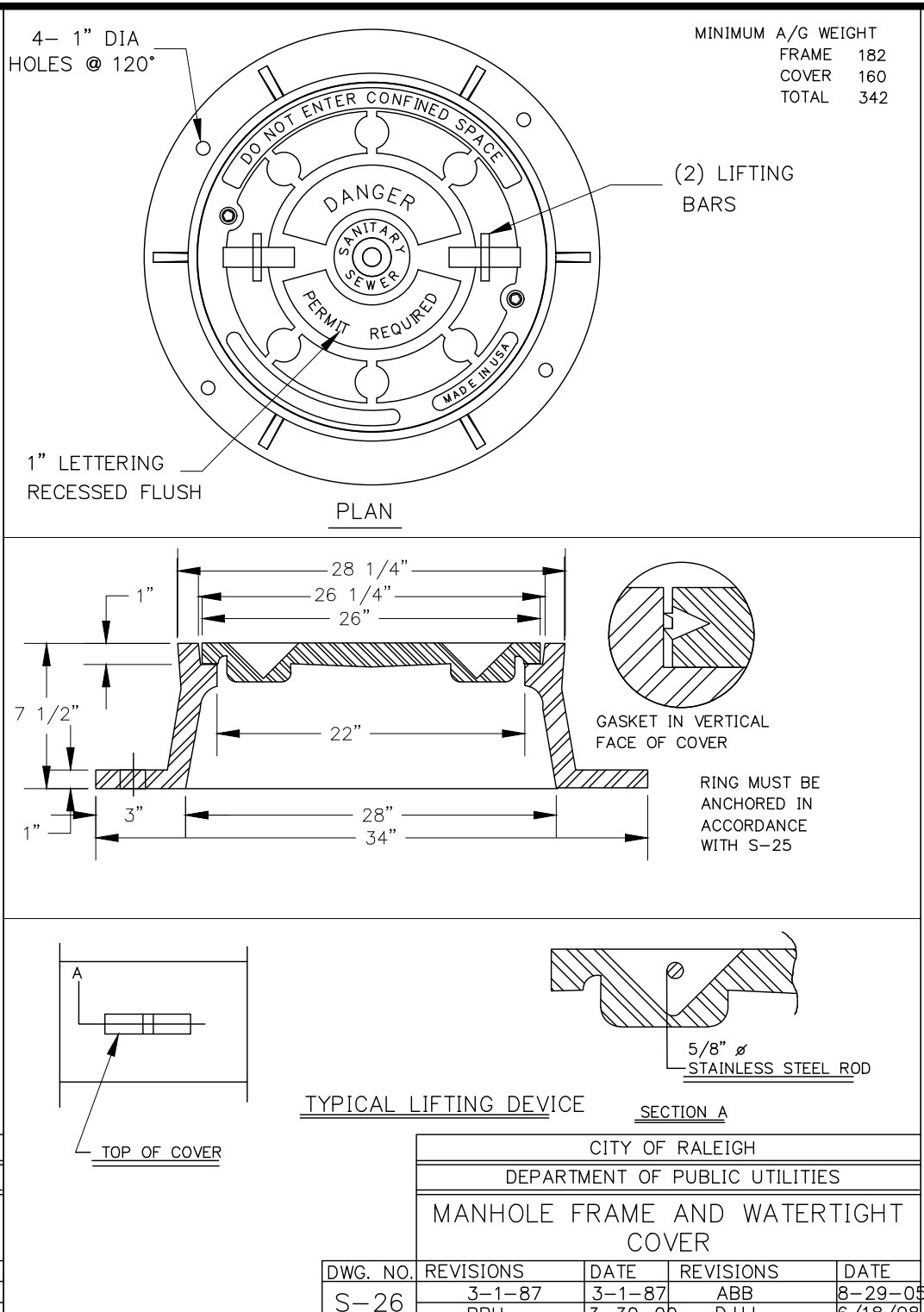
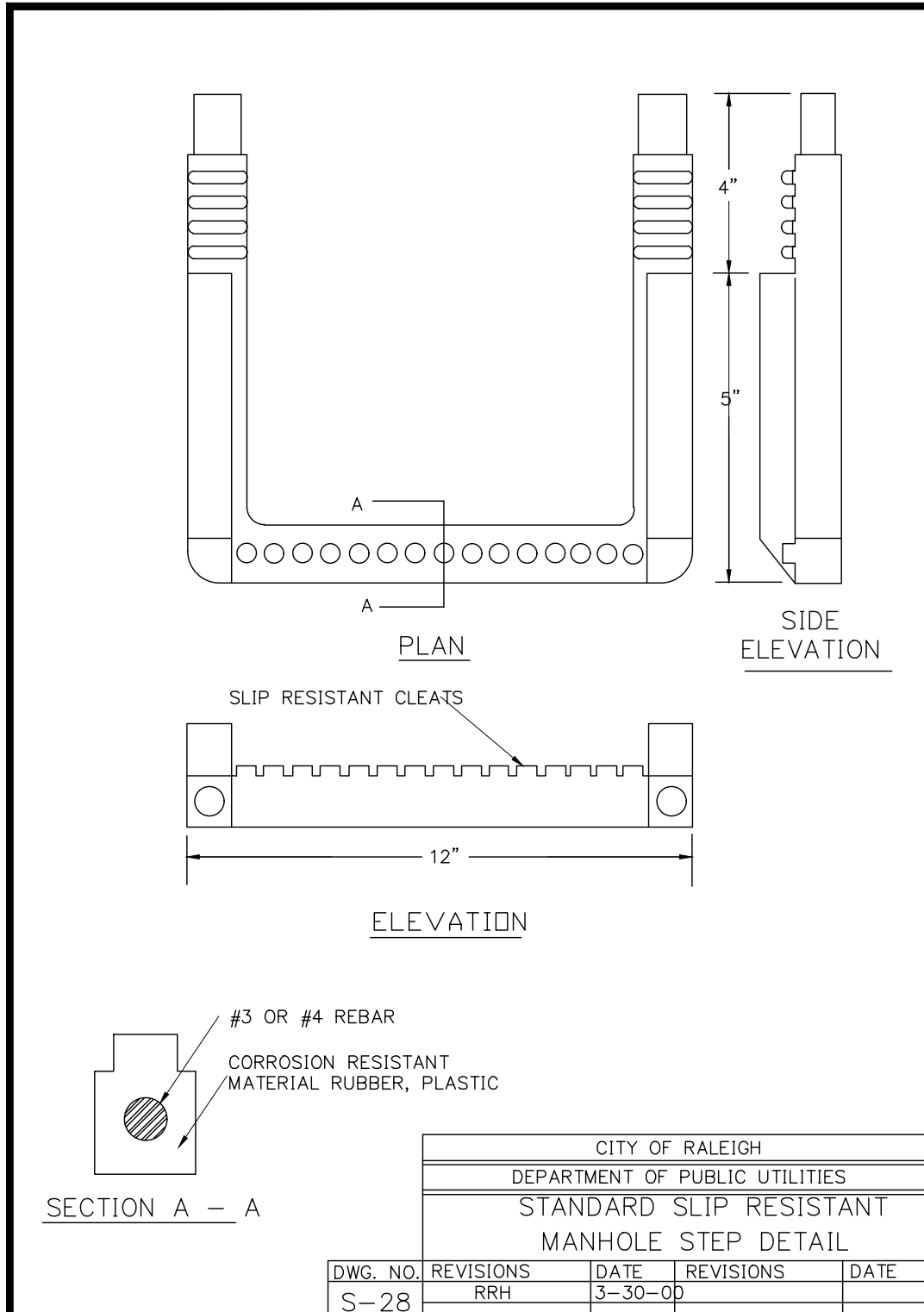
PLAN/PROFILE - SANITARY SEWER RELOCATION
WALLBROOK
MASS GRADING / EROSION CONTROL /
SANITARY SEWER RELOCATION
Town of Rolesville Project No. CD 22-02
Rolesville, Wake County, North Carolina

NC License: P-1199
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2755-B Charles Blvd
Raleigh, NC 27608
(757) 558-0888
www.arkconsultinggroup.com

2/1/2023

Project Manager: BCF
Drawn By: DLC
Checked By: STA
Project Number: 21089
Drawing Number: D-1219-EC

C2.0
Date: April 1, 2022



△ SITE PERMITTING APPROVAL

Water and Sewer Permits (if applicable)
 The City of Raleigh consents to the connection and extension of the City's Public Sewer System as shown on this plan. The material and Construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # S-5093.

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

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

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

Plans for the proposed use have been reviewed for general compliance with applicable codes. This limited review, and authorization for construction is not to be considered to represent total compliance with all legal requirements for development and construction. The property owner, design consultants, and contractors are each responsible for compliance with all applicable City, State and Federal laws. This specific authorization below is not a permit, nor shall it be construed to permit any violation of City, State or Federal Law. All Construction must be in accordance with all Local, State, and Federal Rules and Regulations.

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

City of Raleigh Development Approval _____
 City of Raleigh Review Officer _____

CORPUD Standard Utility Notes: △

- ALL MATERIALS & CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH CITY OF RALEIGH DESIGN STANDARDS, DETAILS & SPECIFICATIONS (REFERENCE: CORPUD HANDBOOK)
- UTILITY SEPARATION REQUIREMENTS:
 - A DISTANCE OF 100' SHALL BE MAINTAINED BETWEEN SANITARY SEWER & ANY PRIVATE OR PUBLIC WATER SUPPLY SOURCE SUCH AS AN IMPOUNDED RESERVOIR USED AS A SOURCE OF DRINKING WATER. IF ADEQUATE LATER SEPARATION CANNOT BE ACHIEVED, FERROUS SANITARY SEWER PIPE SHALL BE SPECIFIED & INSTALLED TO WATERLINE SPECIFICATIONS. HOWEVER, THE MINIMUM SEPARATION SHALL NOT BE LESS THAN 25' FROM A PRIVATE WELL OR 50' FROM A PUBLIC WELL.
 - WHEN INSTALLING WATER &/OR SEWER MAINS, THE HORIZONTAL SEPARATION BETWEEN UTILITIES SHALL BE 10'. IF THIS SEPARATION CANNOT BE MAINTAINED DUE TO EXISTING CONDITIONS, THE VARIATION ALLOWED IS THE WATER MAIN IN A SEPARATE TRENCH WITH THE ELEVATION OF THE WATER MAIN AT LEAST 18" ABOVE THE TOP OF THE SEWER & MUST BE APPROVED BY THE PUBLIC UTILITIES DIRECTOR.
 - WHERE IT IS IMPOSSIBLE TO OBTAIN PROPER SEPARATION, OR ANYTIME A SANITARY SEWER PASSES OVER A WATER MAIN, DIP MATERIALS OR STEEL ENCASEMENT EXTENDED 10" ON EACH SIDE OF CROSSING MUST BE SPECIFIED & INSTALLED TO WATERLINE SPECIFICATIONS.
 - 5.0' MINIMUM HORIZONTAL SEPARATION IS REQUIRED BETWEEN ALL SANITARY SEWER & STORM SEWER FACILITIES, UNLESS DIP MATERIALS IS SPECIFIED FOR SANITARY SEWER.
 - MAINTAIN 18" MIN. VERTICAL SEPARATION AT ALL WATER MAIN & RCP STORM DRAIN CROSSINGS; MAINTAIN 24" MIN. VERTICAL SEPARATION AT ALL SANITARY SEWER & RCP STORM DRAIN CROSSINGS. WHERE ADEQUATE SEPARATIONS CANNOT BE ACHIEVED, SPECIFY DIP MATERIALS & A CONCRETE CRADLE HAVING 6" MIN. CLEARANCE (PER CORPUD DETAILS W-41 & S-49).
 - ALL OTHER UNDERGROUND UTILITIES SHALL CROSS WATER & SEWER FACILITIES WITH 18" MIN. VERTICAL SEPARATION REQUIRED.
- ANY NECESSARY FIELD REVISIONS ARE SUBJECT TO REVIEW & APPROVAL OF AN AMENDED PLAN &/OR PROFILE BY CORPUD PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN CONTINUOUS WATER & SEWER SERVICE TO EXISTING RESIDENCES & BUSINESSES THROUGHOUT CONSTRUCTION OF PROJECT. ANY NECESSARY SERVICE INTERRUPTIONS SHALL BE PRECEDED BY A 24 HOUR ADVANCE NOTICE TO CORPUD.
- 3.0' MINIMUM COVER IS REQUIRED ON ALL WATER MAINS & SEWER FORCE MAINS. 4.0' MINIMUM COVER IS REQUIRED ON ALL REUSE MAINS.
- IT IS THE DEVELOPER'S RESPONSIBILITY TO ABANDON OR REMOVE EXISTING WATER & SEWER SERVICES NOT BEING USED IN REDEVELOPMENT OF A SITE UNLESS OTHERWISE DIRECTED BY CORPUD. THIS INCLUDES ABANDONING TAP AT MAIN & REMOVAL OF SERVICE FROM ROW OR EASEMENT PER CORPUD HANDBOOK PROCEDURE.
- INSTALL PVC WATER SERVICES WITH METERS LOCATED AT ROW OR WITHIN A 2' X 2' WATERLINE EASEMENT IMMEDIATELY ADJACENT.
- INSTALL PVC SEWER SERVICES @ 1.0% MINIMUM GRADE WITH CLEANOUTS LOCATED AT ROW OR EASEMENT LINE & SPACED EVERY 75 LINEAR FEET MAXIMUM.
- PRESSURE REDUCING VALVES ARE REQUIRED ON ALL WATER SERVICES EXCEEDING 80 PSI; BACKWATER VALVES ARE REQUIRED ON ALL SANITARY SEWER SERVICES HAVING BUILDING DRAINS LOWER THAN 1.0' ABOVE THE NEXT UPSTREAM MANHOLE.
- ALL ENVIRONMENTAL PERMITS APPLICABLE TO THE PROJECT MUST BE OBTAINED FROM NCDWQ, USACE &/OR FEMA FOR ANY RIPARIAN BUFFER, WETLAND &/OR FLOODPLAIN IMPACTS PRIOR TO CONSTRUCTION.
- NCDOT / RAILROAD ENCROACHMENT AGREEMENTS ARE REQUIRED FOR ANY UTILITY WORK (INCLUDING MAIN EXTENSIONS & SERVICE TAPS) WITHIN STATE OR RAILROAD ROW PRIOR TO CONSTRUCTION.
- GREASE INTERCEPTOR / OIL WATER SEPARATOR SIZING CALCULATIONS & INSTALLATION SPECIFICATIONS SHALL BE APPROVED BY THE CORPUD FOG PROGRAM COORDINATOR PRIOR TO ISSUANCE OF A BUILDING PERMIT. CONTACT TIM BEASLEY AT (919) 996-2334 OR TIMOTHY.BEASLEY@RALEIGHNC.GOV FOR MORE INFORMATION.
- CROSS-CONNECTION CONTROL PROTECTION DEVICES ARE REQUIRED BASED ON DEGREE OF HEALTH HAZARD INVOLVED AS LISTED IN APPENDIX-B OF THE RULES GOVERNING PUBLIC WATER SYSTEMS IN NC. THESE GUIDELINES ARE THE MINIMUM REQUIREMENTS. THE DEVICES SHALL MEET AMERICAN SOCIETY SANITARY ENGINEERING (ASSE) STANDARDS OR BE ON THE UNIVERSITY OF SOUTHERN CALIFORNIA APPROVAL LIST. THE DEVICES SHALL BE INSTALLED AND TESTED (BOTH INITIAL AND PERIODIC TESTING THEREAFTER) IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS OR THE LOCAL CROSS-CONNECTION CONTROL PROGRAM, WHICHEVER IS MORE STRINGENT. CONTACT JOANIE HARTLEY AT (919) 996-5923 OR JOANIE.HARTLEY@RALEIGHNC.GOV FOR MORE INFORMATION.

ATTENTION CONTRACTORS

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

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

Failure to call for **Inspection**, **Install a Downstream Plug**, have **Permitted Plans on the Jobite**, 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 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-5093

Authorization to Construct _____
 Date _____

- Final Drawing -
 Issued for Permit
 Review Purposes Only

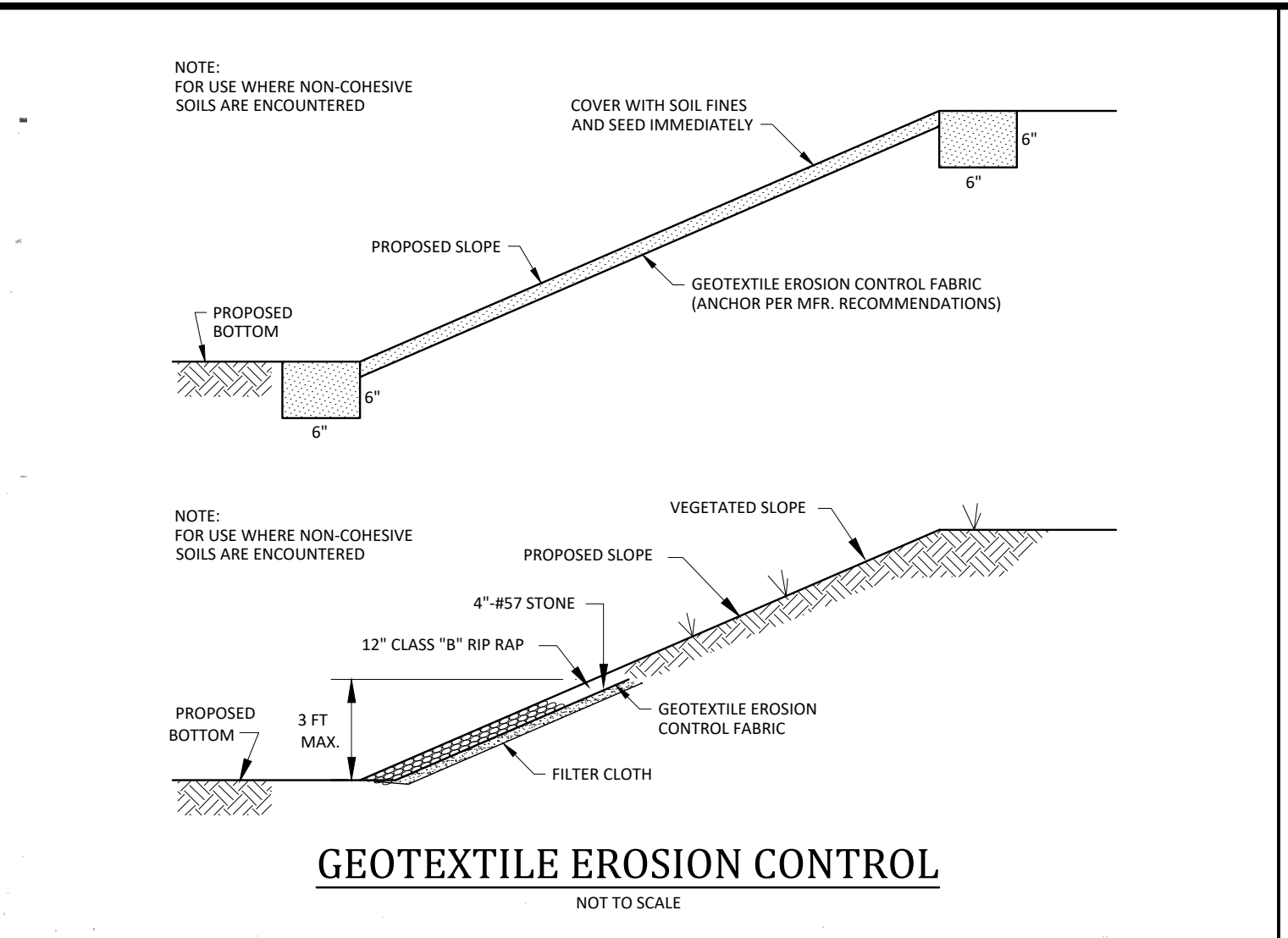
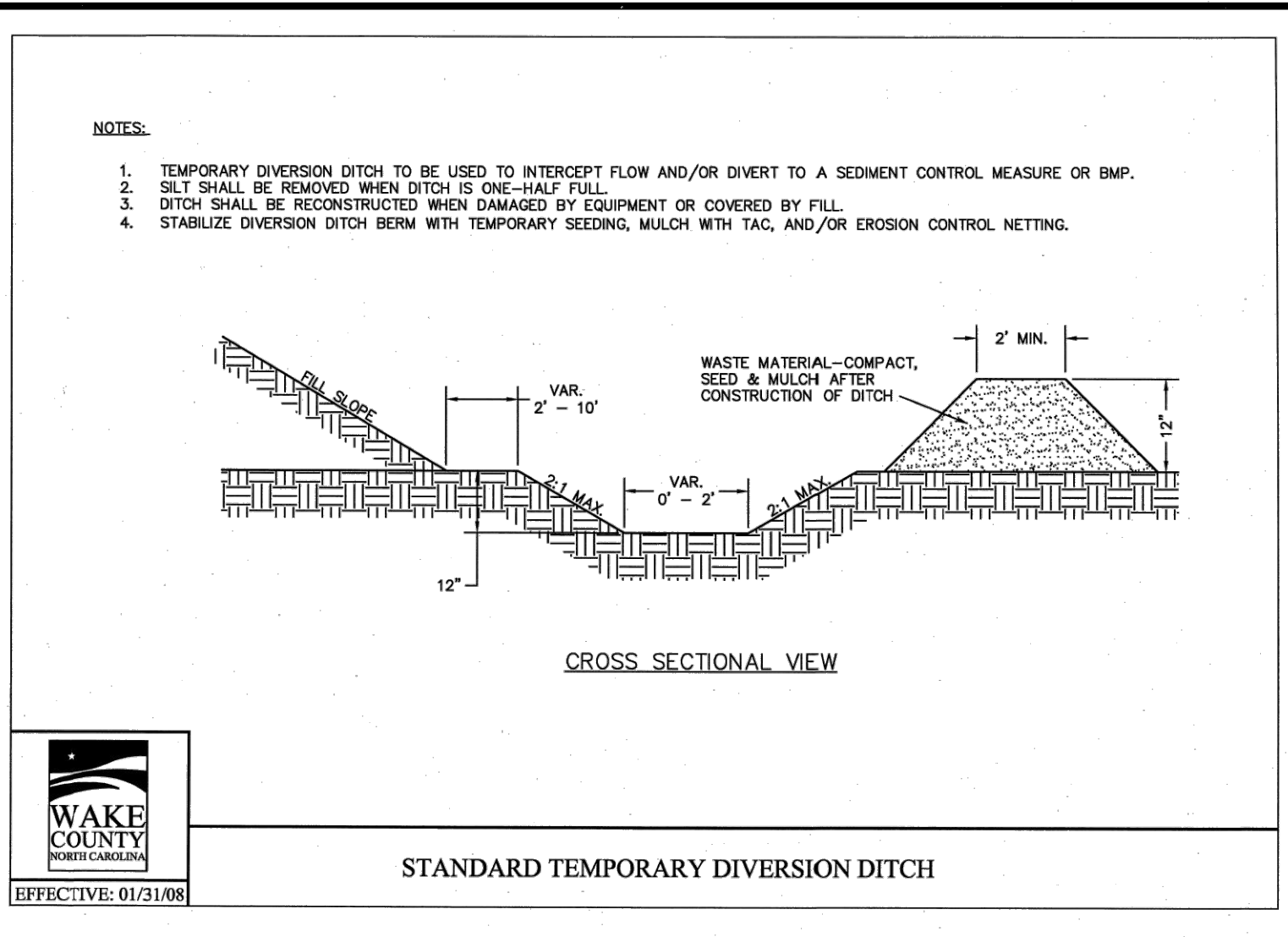
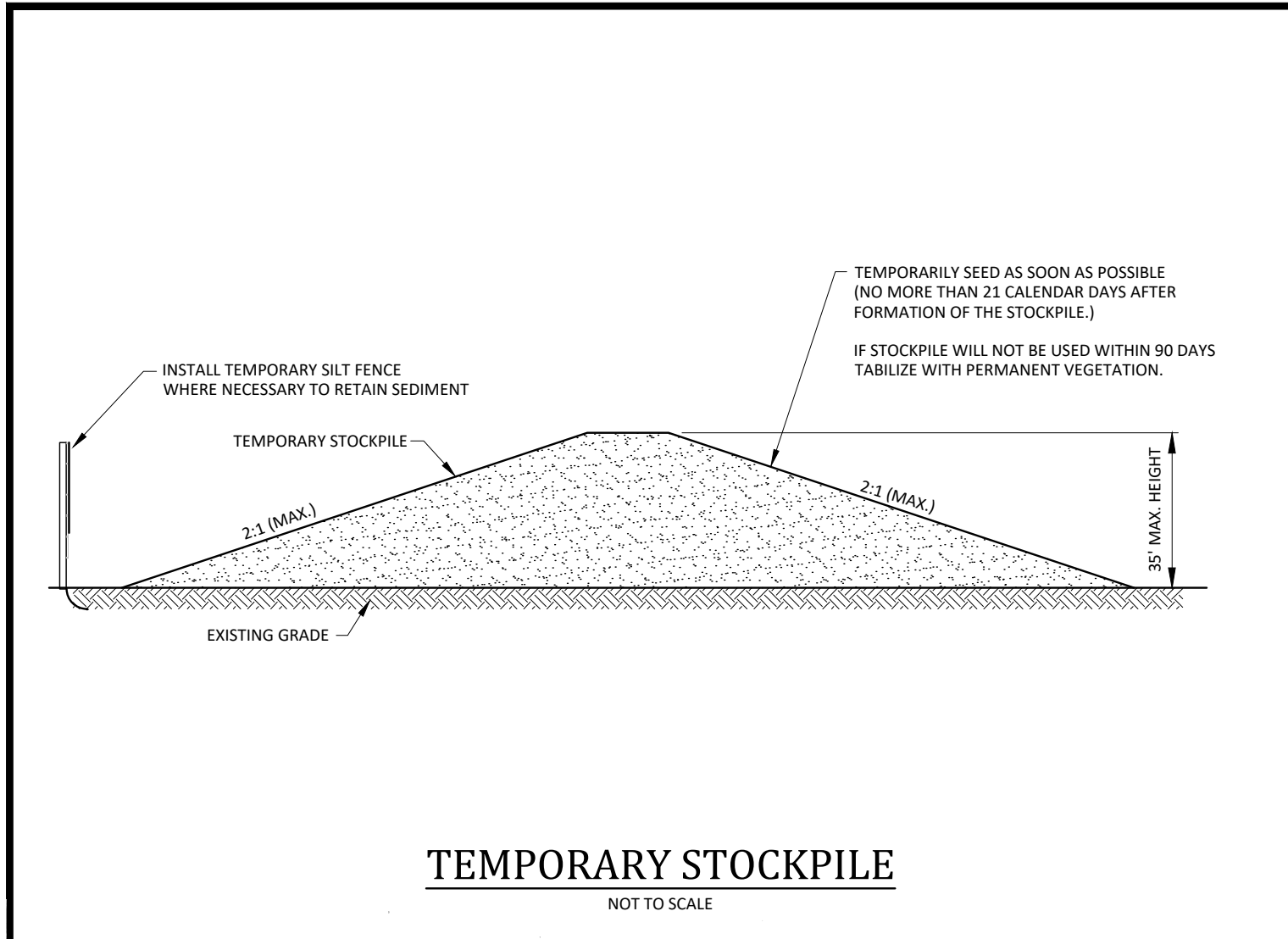
CROSLAND SOUTHEAST

SANITARY SEWER RELOCATION - DETAILS
WALLBROOK
MASS GRADING / EROSION CONTROL /
SANITARY SEWER RELOCATION
 Town of Rolesville Project No. CD 22-02
 Rolesville, Wake County, North Carolina

Project Manager: BCF
 Drawn By: DCL
 Checked By: STA
 Project Number: 1089
 Drawing Number: D-1219-EC

C2.1

Date: April 1, 2022



WAKE COUNTY Environmental Services

Effective September 1, 2008

Soil stockpiles shall be located on the approved plan and shall adhere to the following requirements:

Design Criteria

- A 25-foot temporary maintenance and access easement shall be shown around all proposed stockpiles (erosion control measures surrounding the stockpile shall be shown at the outer limit of this easement).
- Stockpile footprints shall be setback a minimum of 25' from adjacent property lines.
- A site shall be provided on the approved plan that stockpile height shall not exceed 35 feet.
- Stockpile slopes shall be 2:1 or flatter.
- Approved BMPs shall be shown on a plan to control any potential sediment loss from a stockpile.
- Stockpiling materials adjacent to a ditch, drainage way, watercourse, wetland, stream buffer, or other body of water shall be avoided unless an alternative location is demonstrated to be unavailable.
- Any concentrated flow likely to affect the stockpile shall be diverted to an approved BMP.
- Off-site spoil or borrow areas must be in compliance with Wake County UDO and State Regulations. All spoil areas over an acre are required to have an approved sediment control plan. Developer/Contractor shall notify Wake County of any off-site disposal of soil, prior to disposal. Fill of FEMA Floodways and Non-encroachment Areas are prohibited except as otherwise provided by subsection 14-19-2 of the Wake County Unified Development Ordinance (certifications and permits required).

Maintenance Requirements to be Noted on the Plan

- Seeding or covering stockpiles with tarps or mulch is required and will reduce erosion problems. Tarps should be keyed in at the top of the slope to keep water from running underneath the plastic.
- If a stockpile is to remain for future use after the project is complete (builders, etc.), the financial responsible party must notify Wake County of a new responsible party for that stockpile.
- The approved plan shall provide for the use of staged seeding and mulching on a continual basis while the stockpile is in use.
- Establish and maintain a vegetative buffer at the toe of the slope (where practical).

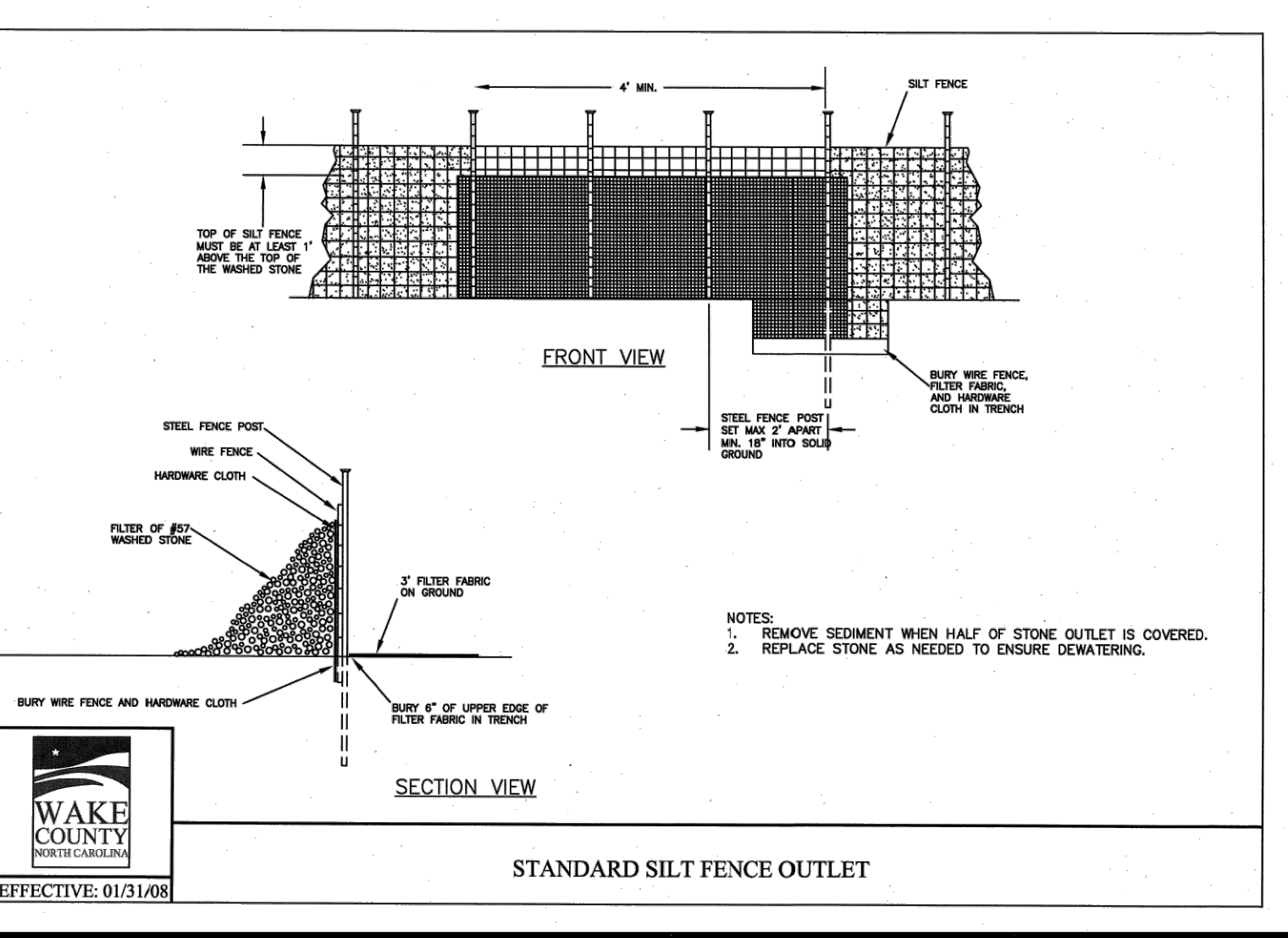
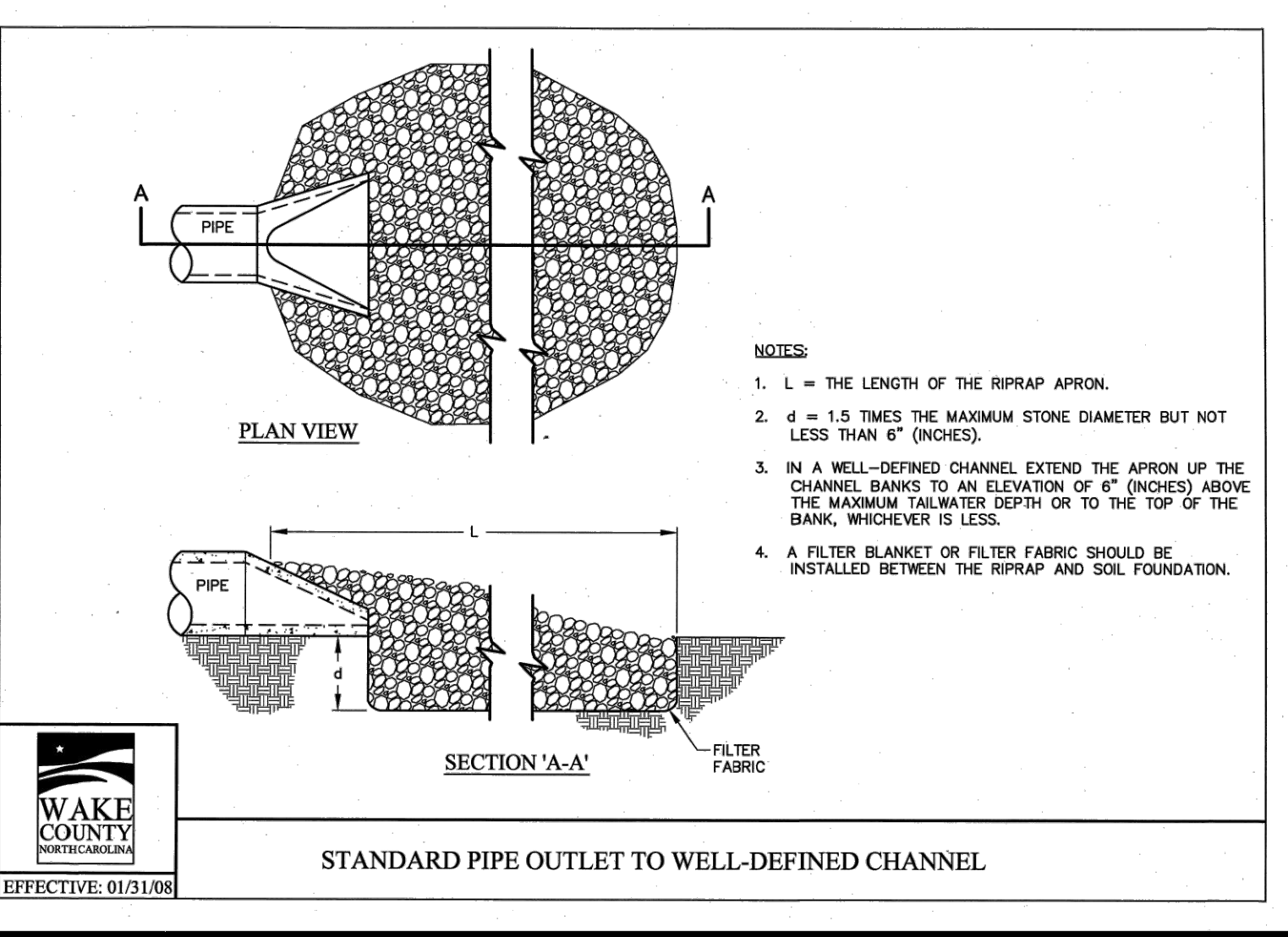
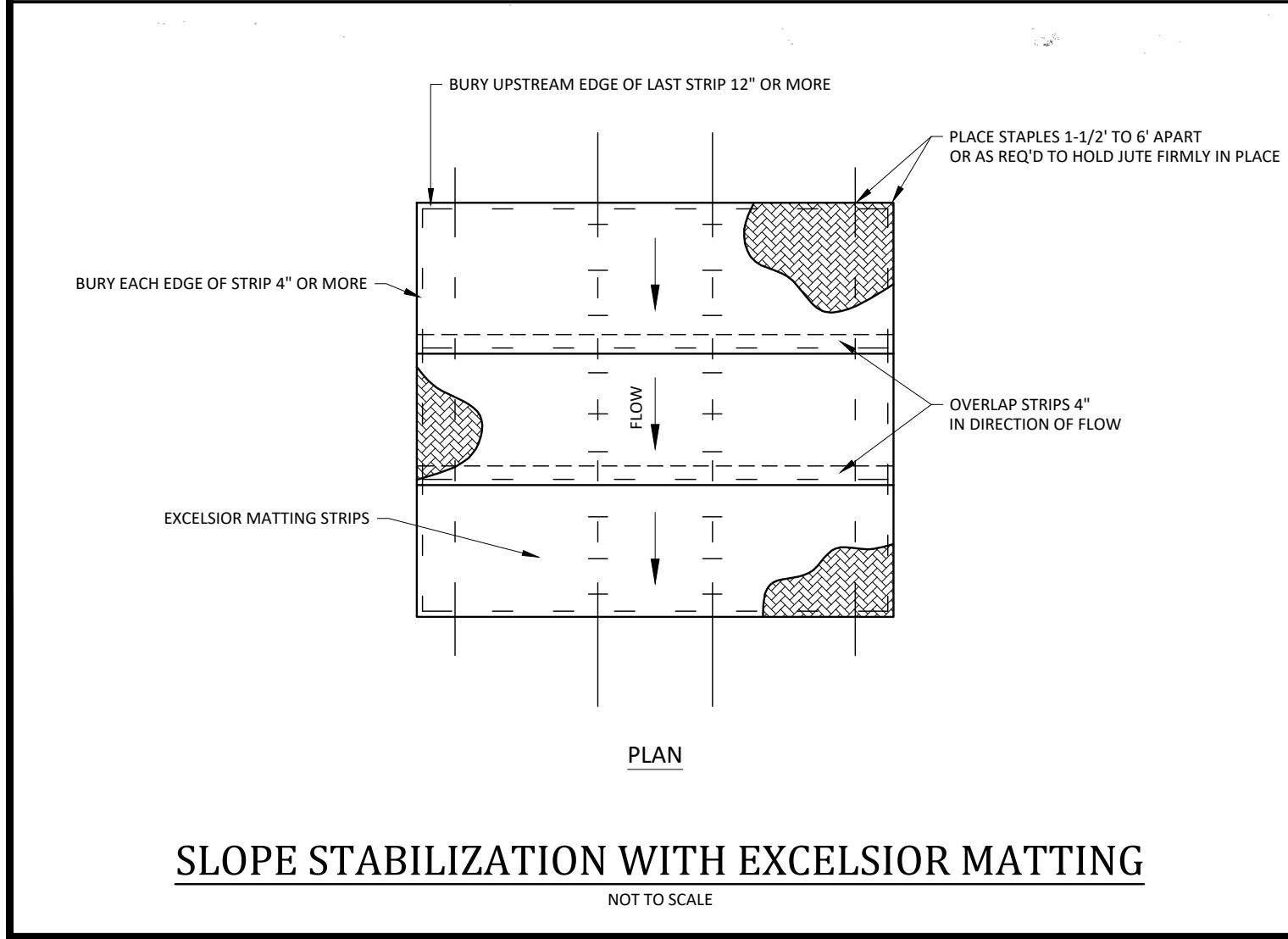
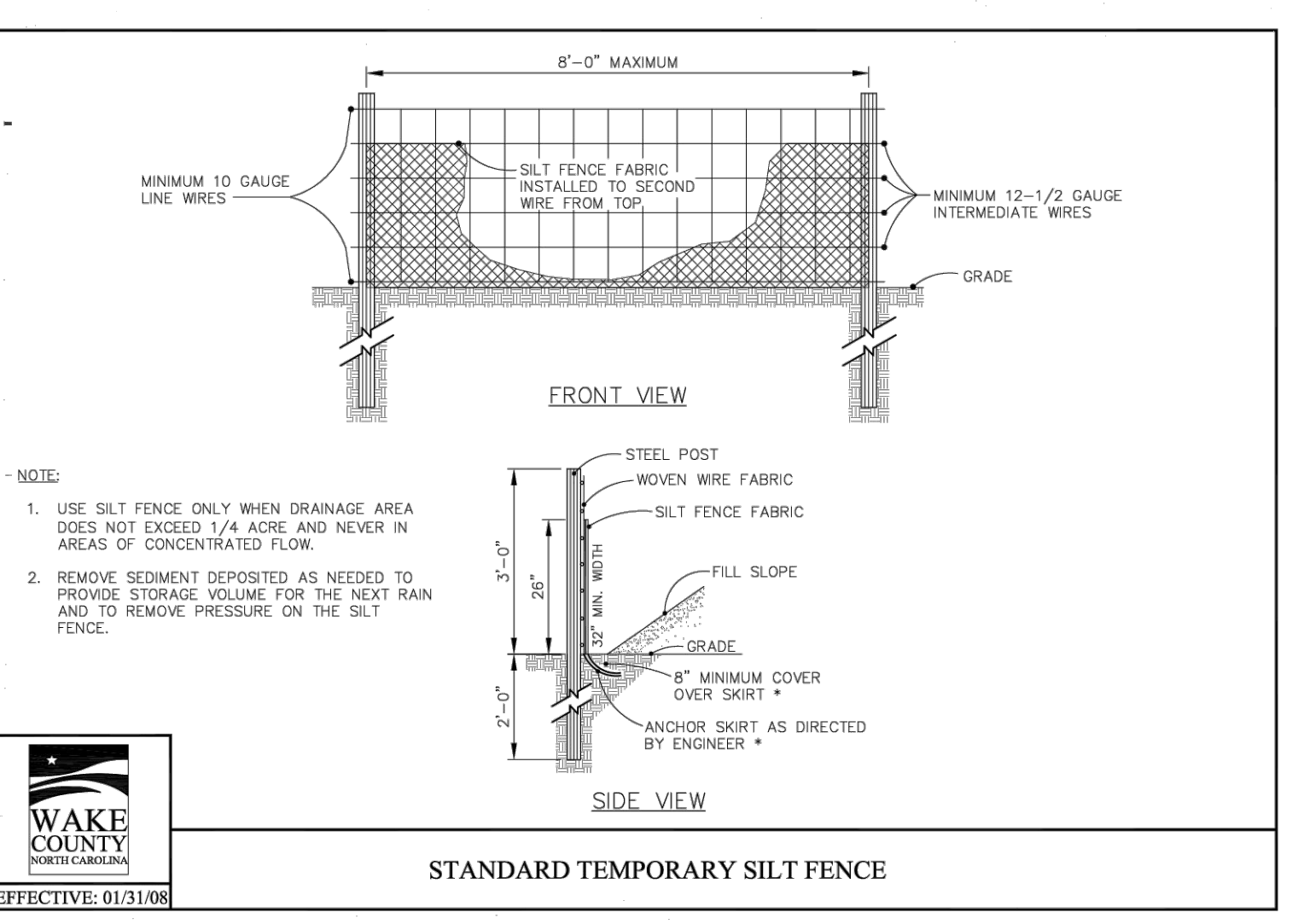
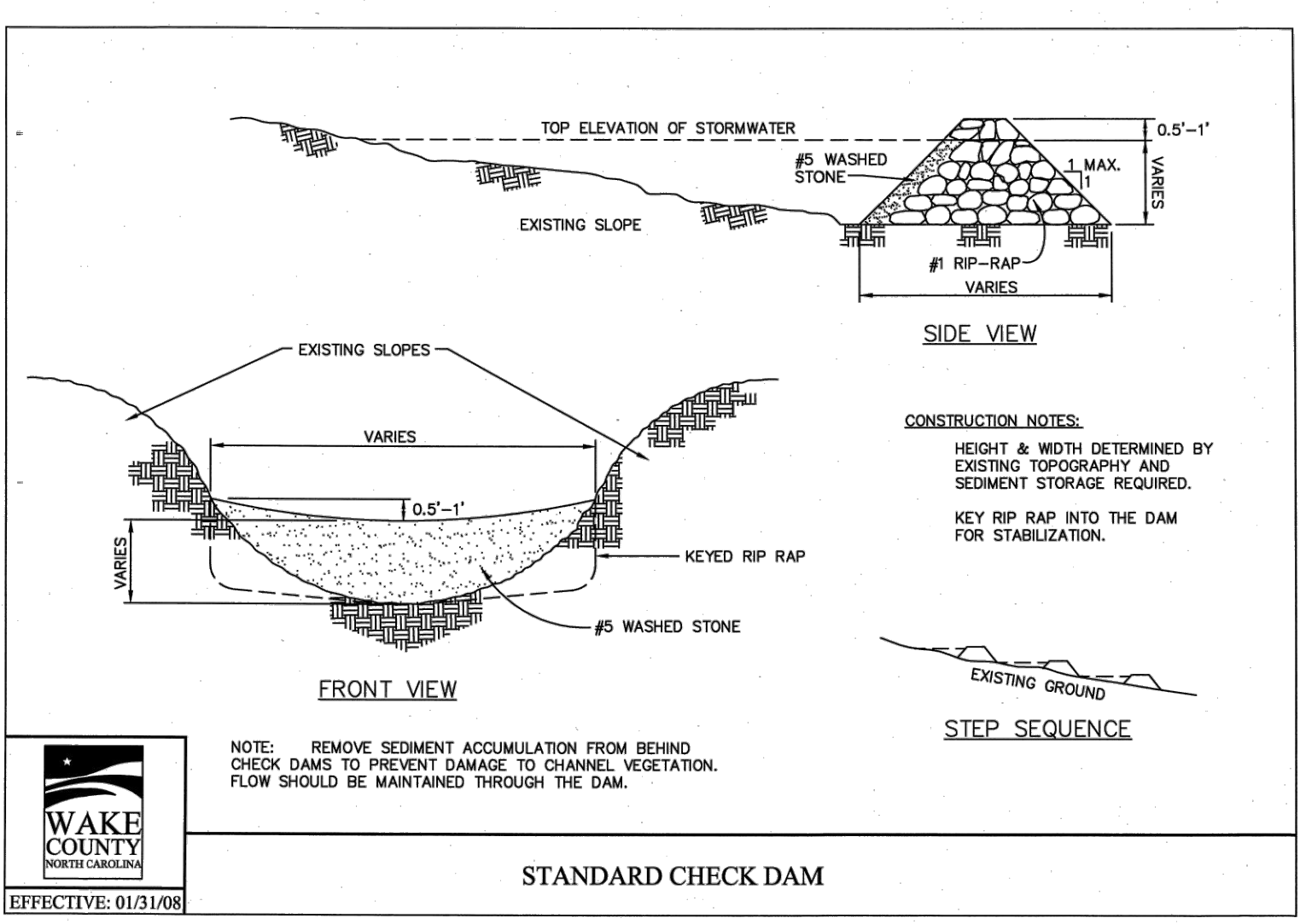
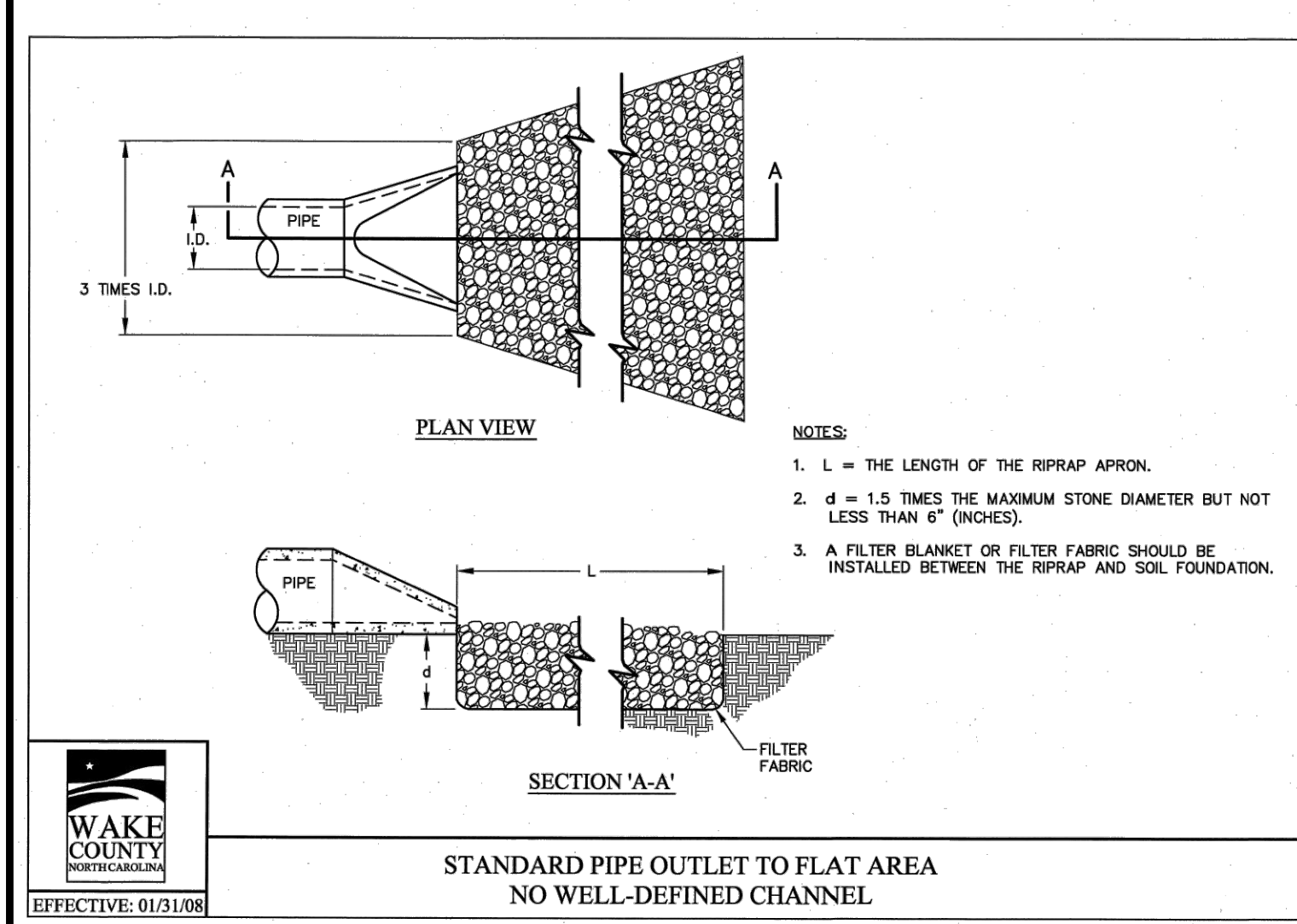
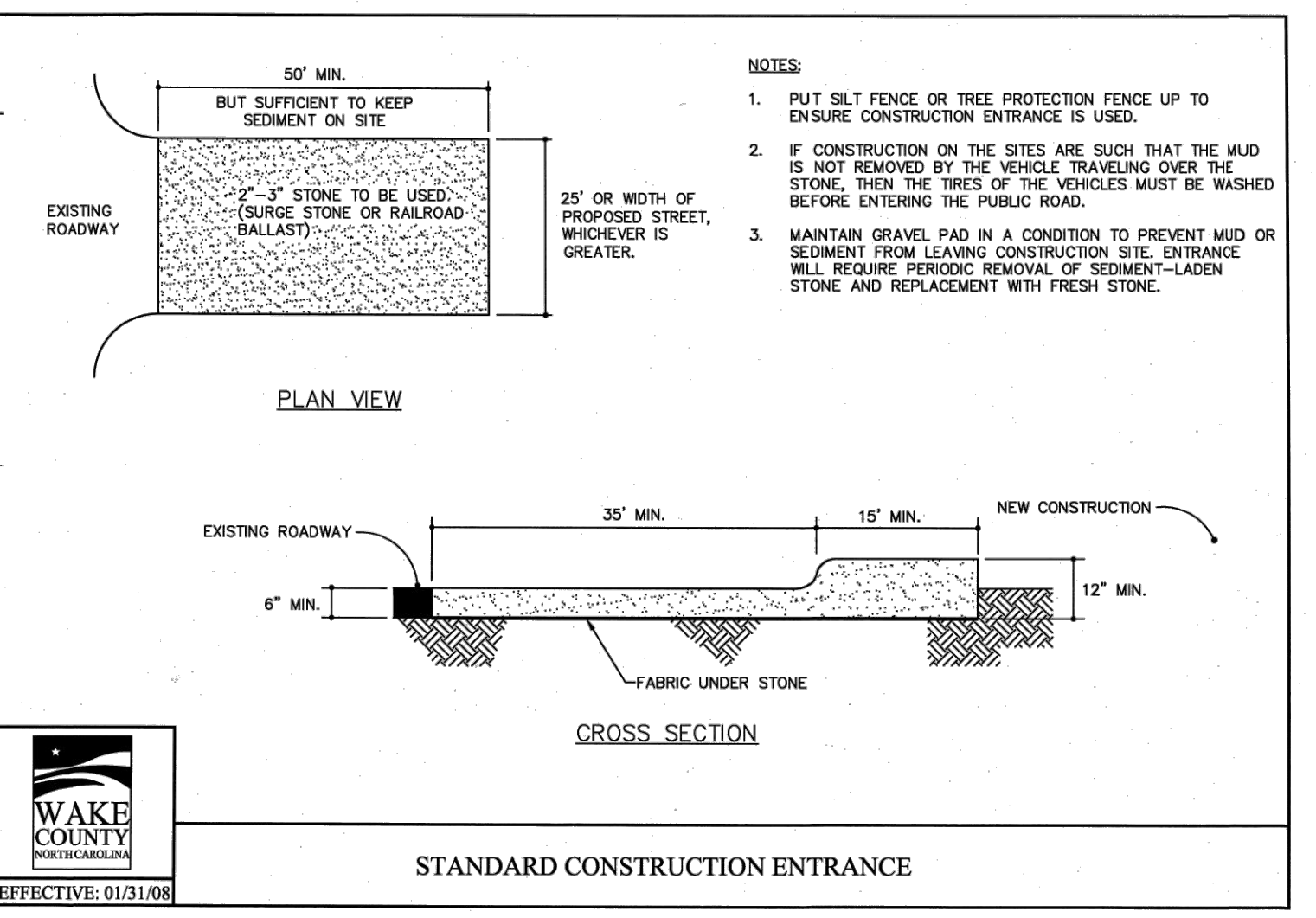
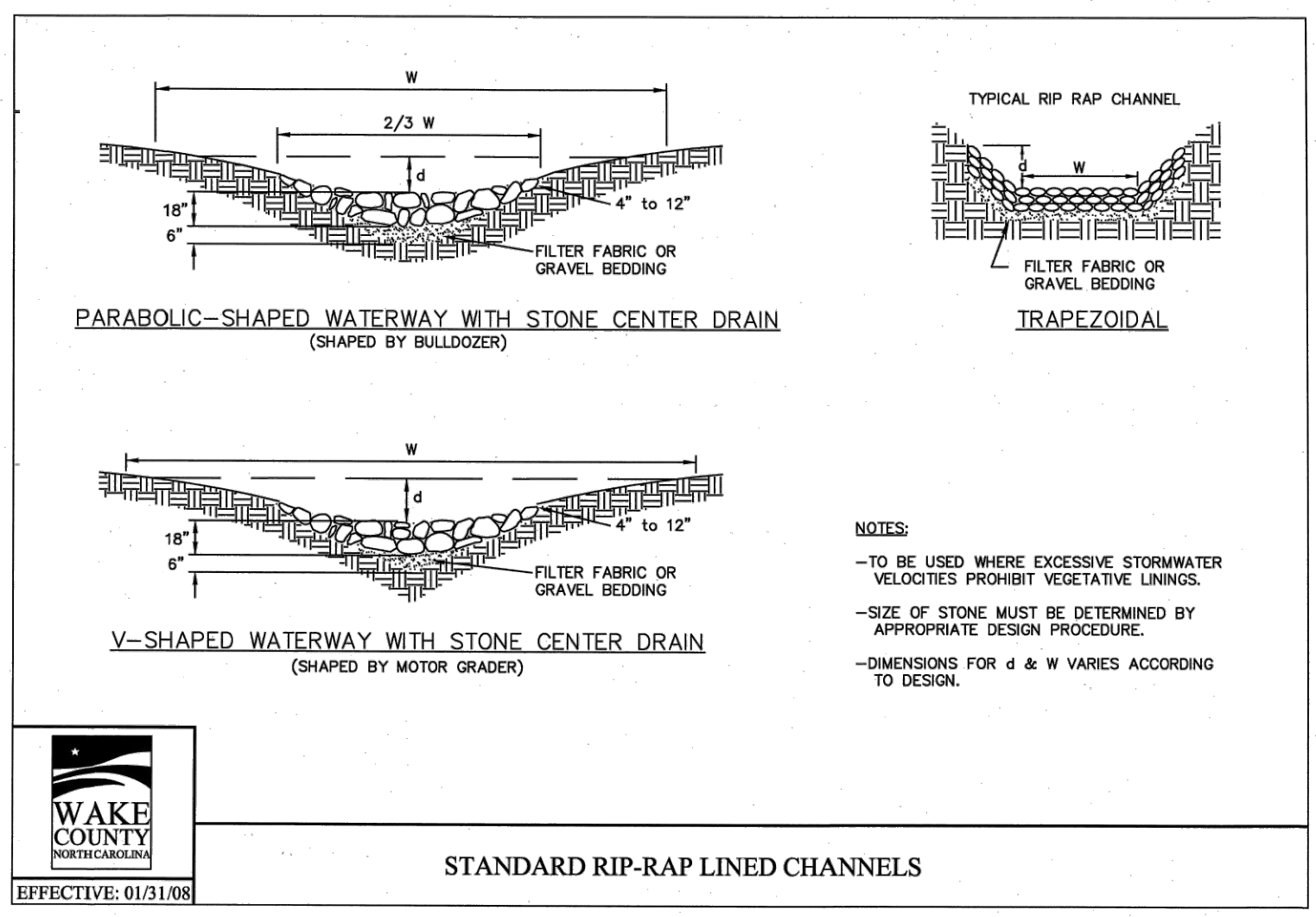
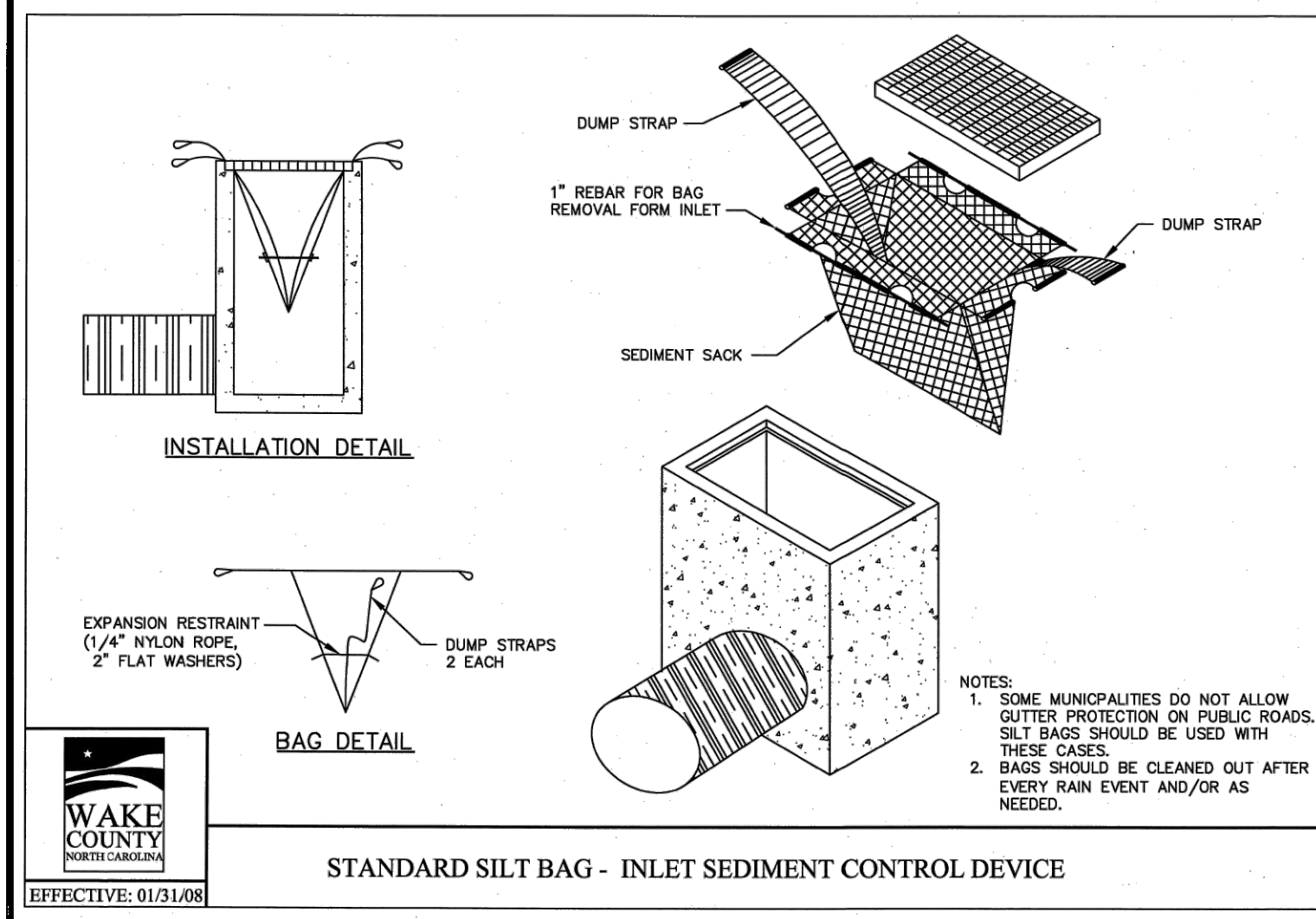
Seeding Specifications

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

Soil Type	Seeding Rate	Seeding Method
Class I (Sandy)	125 lbs/acre	Hybrid
Class II (Sandy)	125 lbs/acre	Hybrid
Class III (Sandy)	125 lbs/acre	Hybrid
Class IV (Sandy)	125 lbs/acre	Hybrid
Class V (Sandy)	125 lbs/acre	Hybrid
Class VI (Sandy)	125 lbs/acre	Hybrid
Class VII (Sandy)	125 lbs/acre	Hybrid
Class VIII (Sandy)	125 lbs/acre	Hybrid
Class IX (Sandy)	125 lbs/acre	Hybrid
Class X (Sandy)	125 lbs/acre	Hybrid
Class XI (Sandy)	125 lbs/acre	Hybrid
Class XII (Sandy)	125 lbs/acre	Hybrid
Class XIII (Sandy)	125 lbs/acre	Hybrid
Class XIV (Sandy)	125 lbs/acre	Hybrid
Class XV (Sandy)	125 lbs/acre	Hybrid
Class XVI (Sandy)	125 lbs/acre	Hybrid
Class XVII (Sandy)	125 lbs/acre	Hybrid
Class XVIII (Sandy)	125 lbs/acre	Hybrid
Class XIX (Sandy)	125 lbs/acre	Hybrid
Class XX (Sandy)	125 lbs/acre	Hybrid
Class XXI (Sandy)	125 lbs/acre	Hybrid
Class XXII (Sandy)	125 lbs/acre	Hybrid
Class XXIII (Sandy)	125 lbs/acre	Hybrid
Class XXIV (Sandy)	125 lbs/acre	Hybrid
Class XXV (Sandy)	125 lbs/acre	Hybrid
Class XXVI (Sandy)	125 lbs/acre	Hybrid
Class XXVII (Sandy)	125 lbs/acre	Hybrid
Class XXVIII (Sandy)	125 lbs/acre	Hybrid
Class XXIX (Sandy)	125 lbs/acre	Hybrid
Class XXX (Sandy)	125 lbs/acre	Hybrid

REVISIONS:

CROSLAND SOUTHEAST



EROSION CONTROL DETAILS

WALLBROOK MASS GRADING / EROSION CONTROL / SANITARY SEWER RELOCATION

Town of Rolesville Project No. CD 22-02
Rolesville, Wake County, North Carolina

Seeding Schedule

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

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

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

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

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

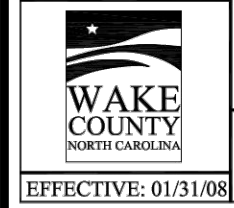
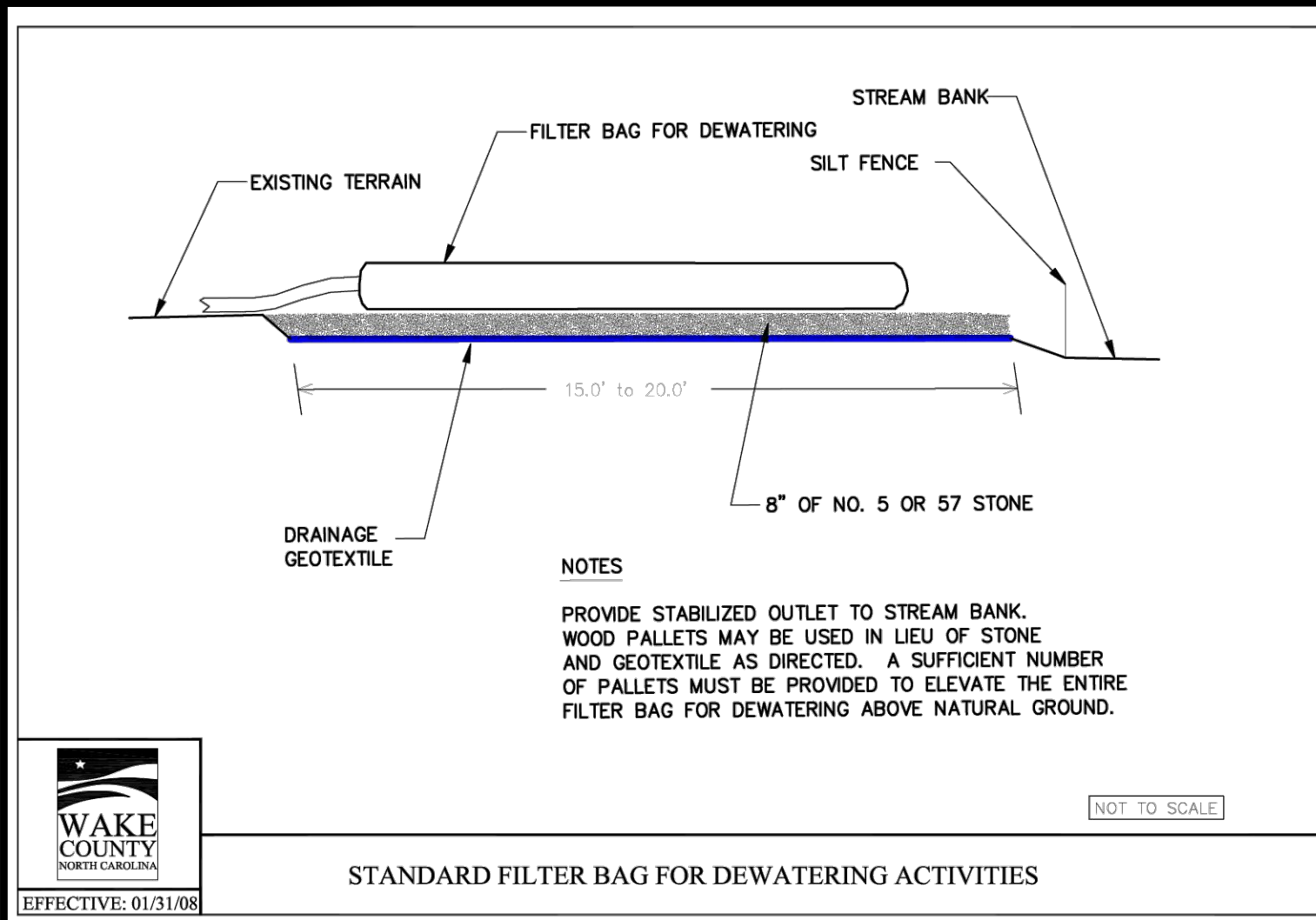
*** TEMPORARY: Reseed according to optimum season for desired permanent vegetation. Do not allow temporary cover to grow more than 12" in height before mowing; otherwise, fescue may be shaded out.

Ark Consulting Group PLLC
2755-B Chatham Blvd.
Raleigh, NC 27658
(919) 878-0888
www.arkconsultinggroup.com

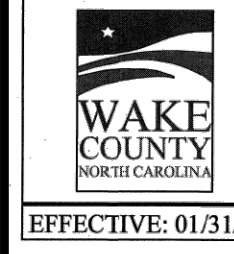
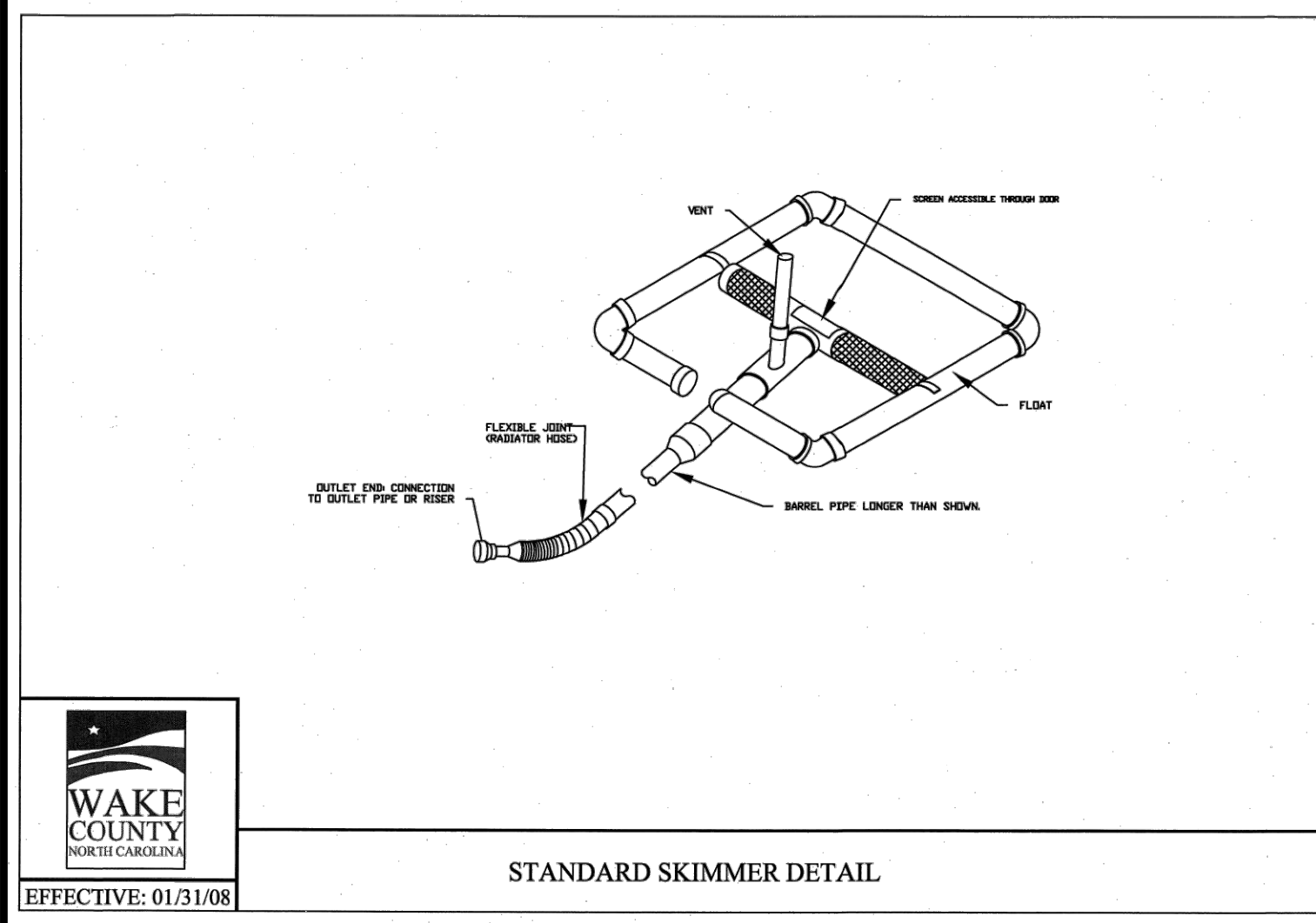
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Drawn By: DLC
Checked By: STA
Project Number: 21089
Drawing Number: D-1219-EC

C3.1

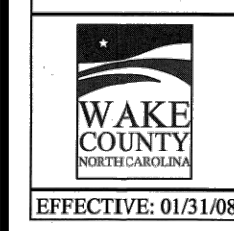
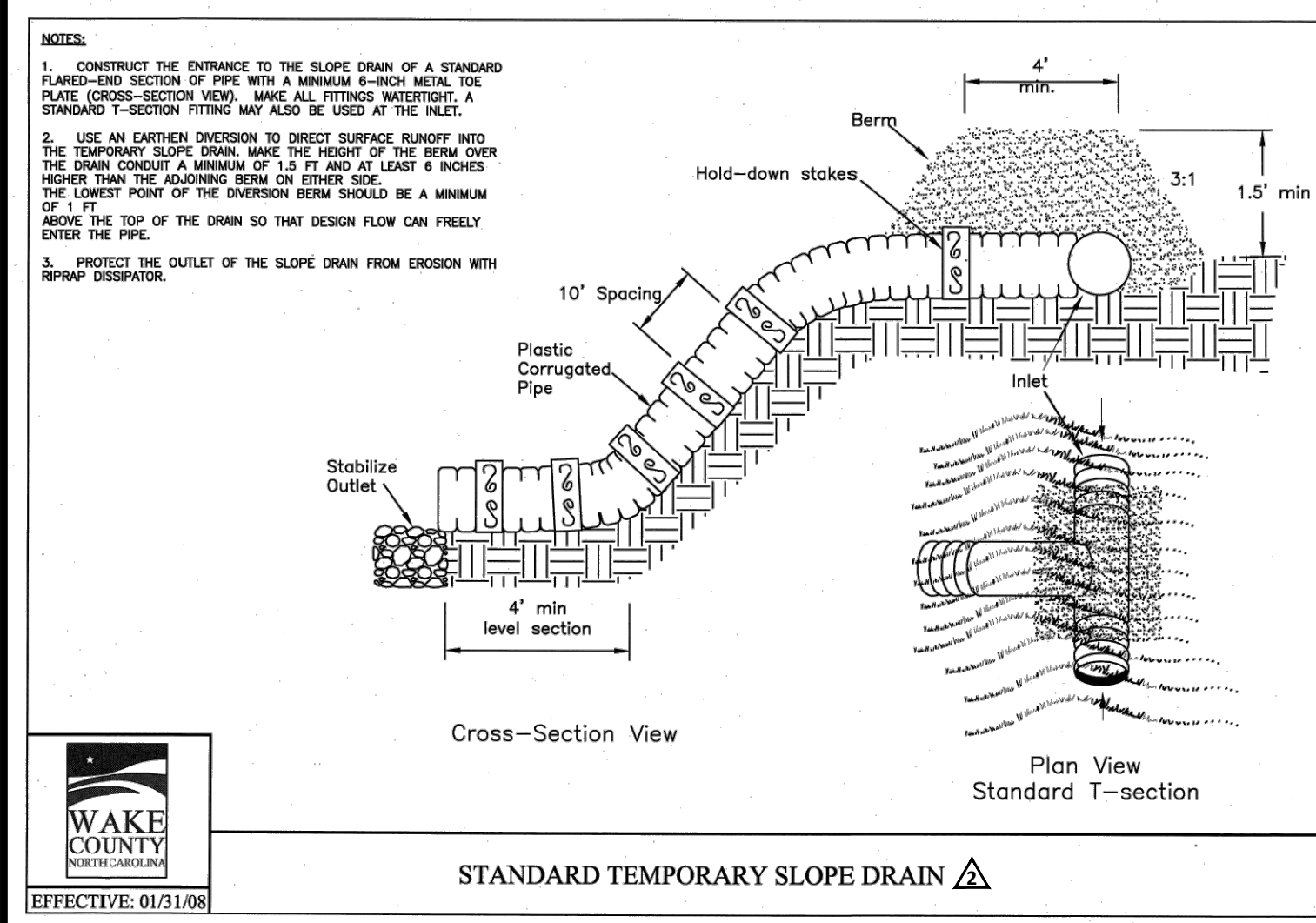
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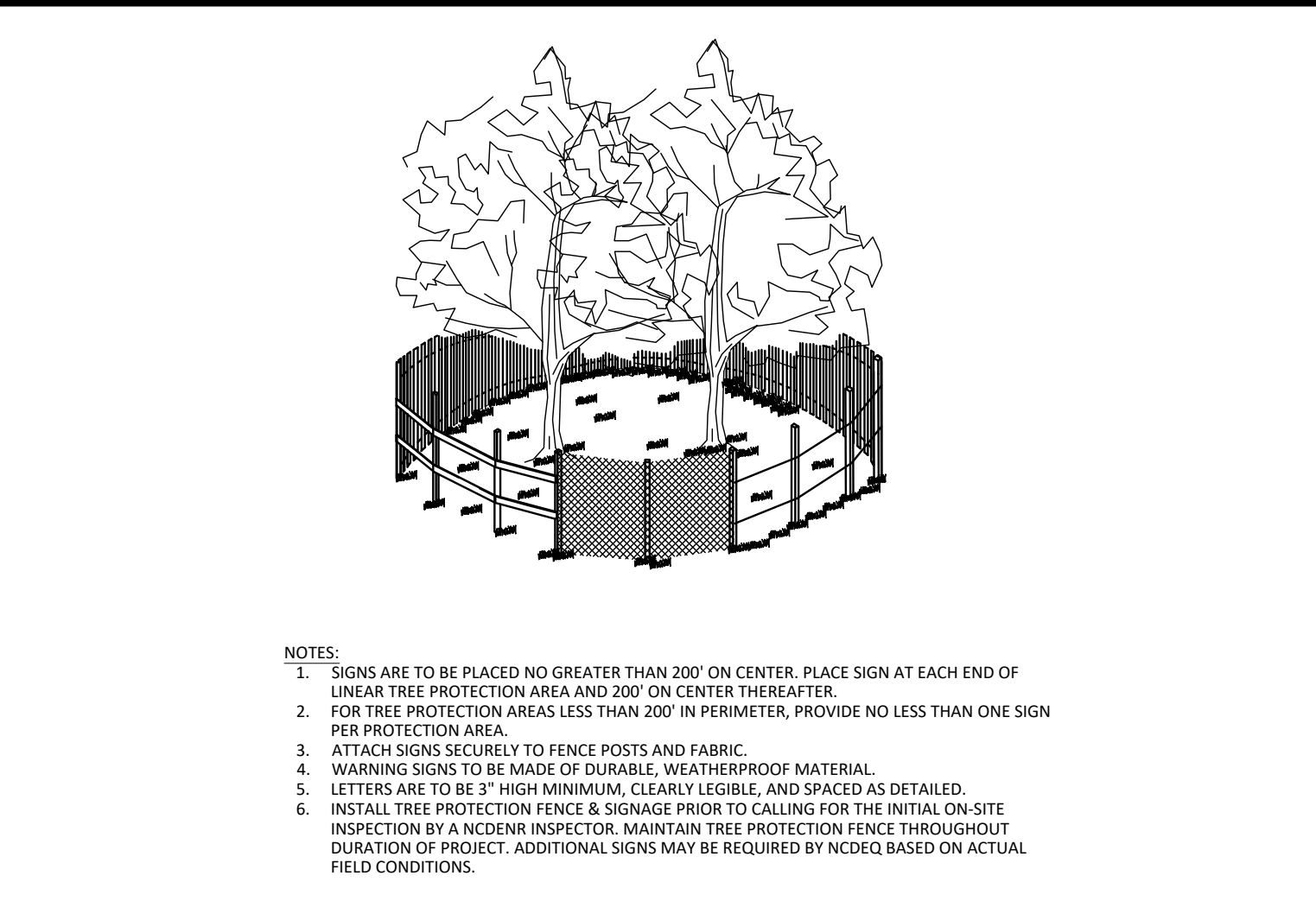
STANDARD FILTER BAG FOR DEWATERING ACTIVITIES



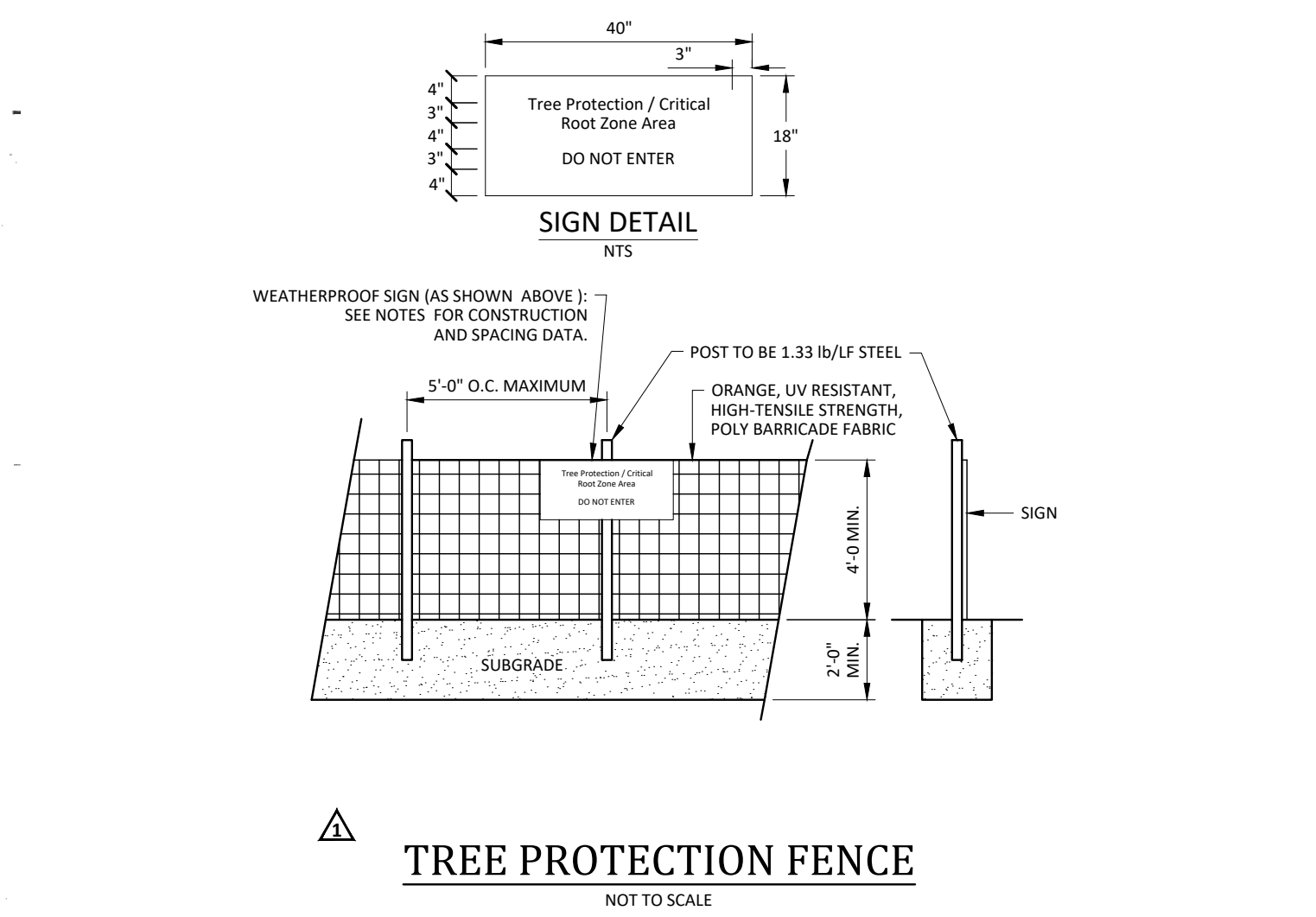
STANDARD SKIMMER DETAIL



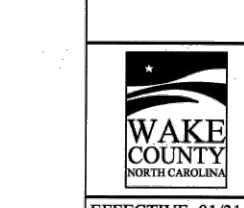
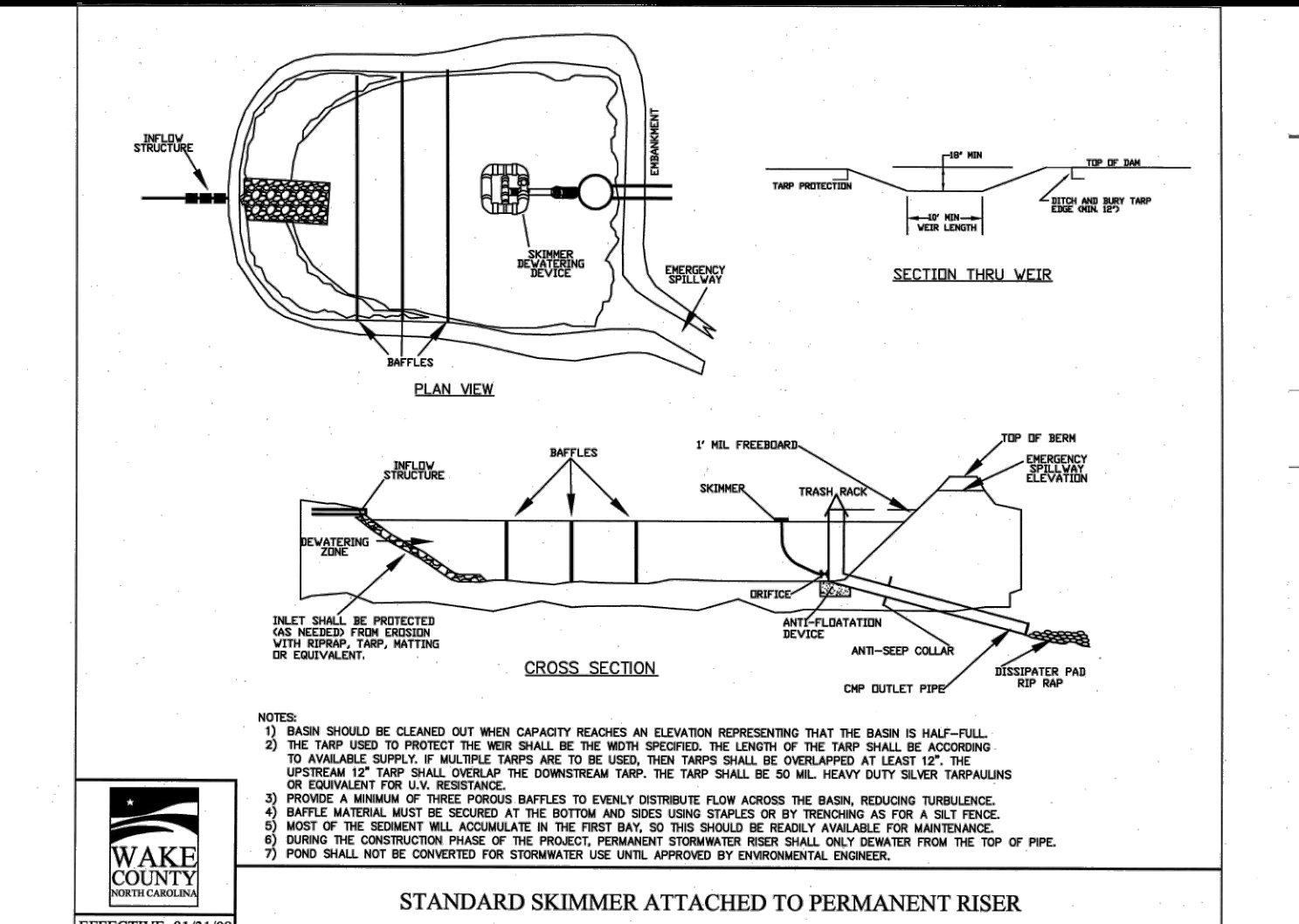
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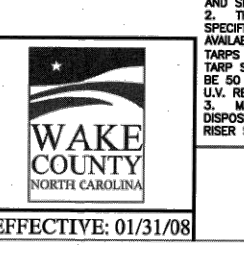
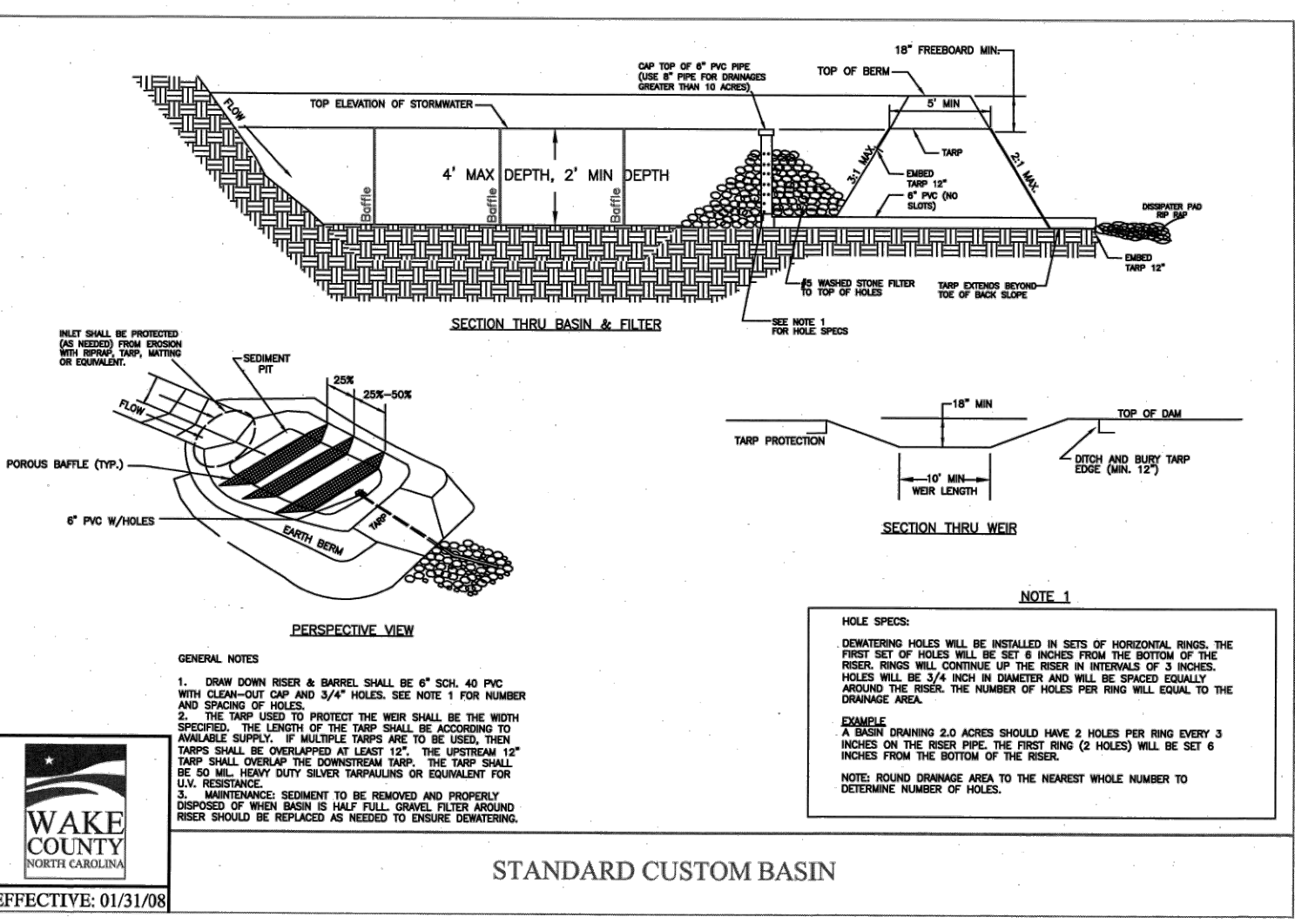
STANDARD TREE PROTECTION FENCE



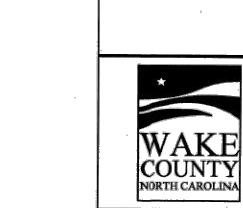
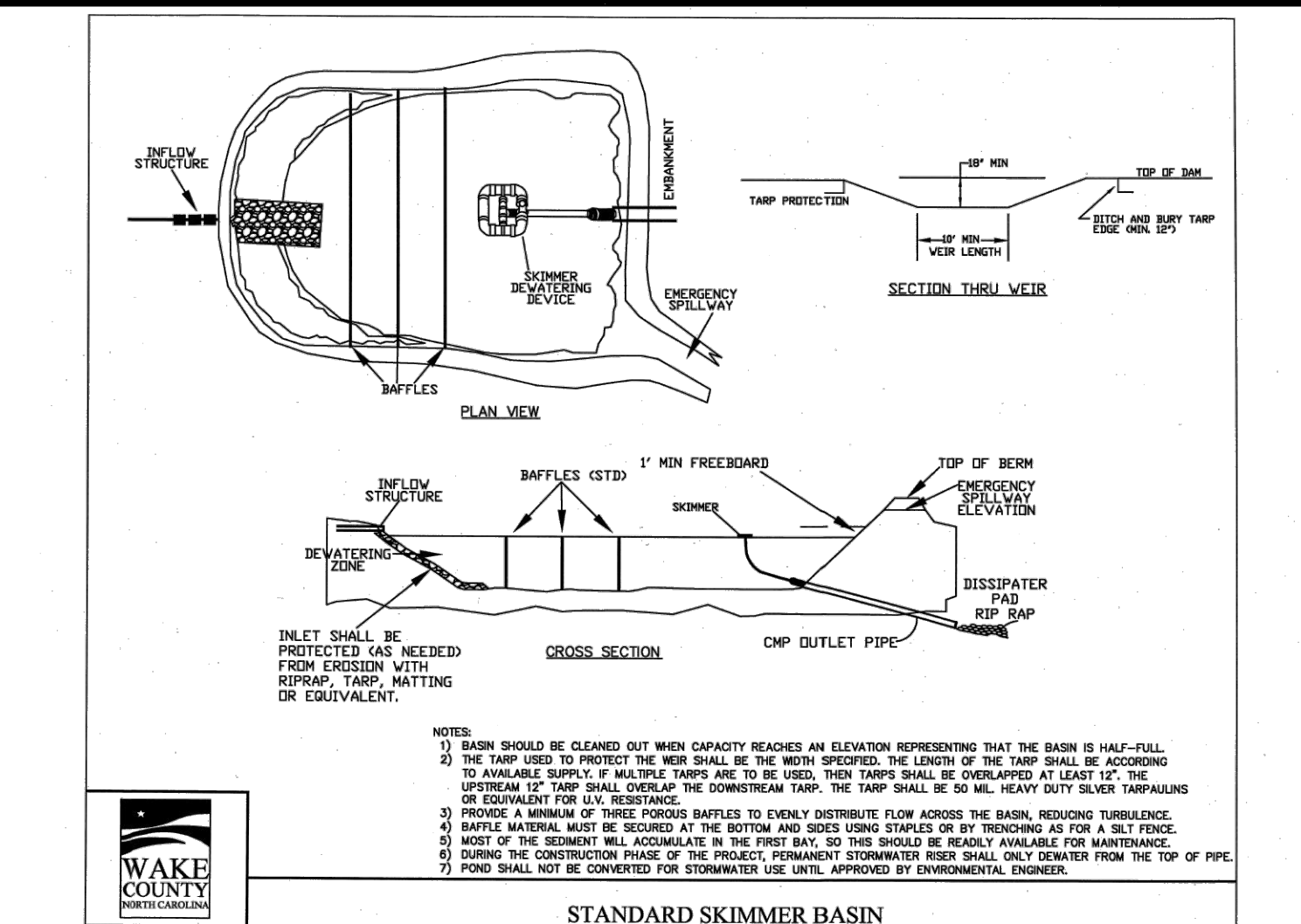
STANDARD TREE PROTECTION FENCE



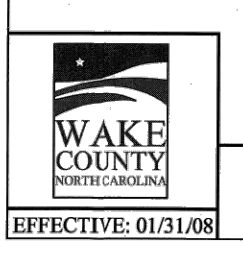
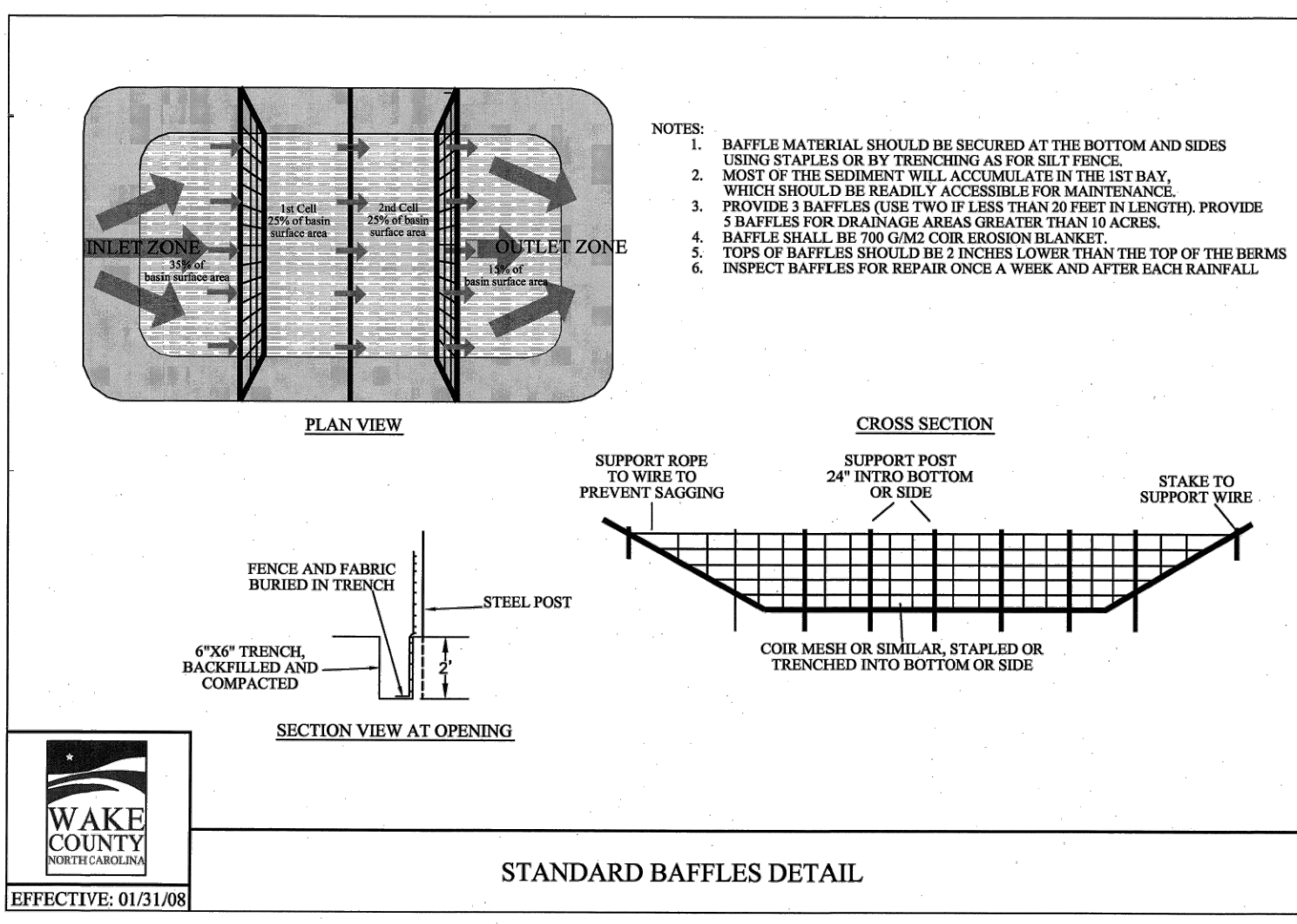
STANDARD CUSTOM BASIN



STANDARD CUSTOM BASIN



STANDARD SKIMMER BASIN



STANDARD BAFFLES DETAIL

- Final Drawing -
Issued for Permit
Review Purposes Only

NO.	DATE	DESCRIPTION
1	11-15-2022	REVISED PER OWNER COMMENTS
2	12-22-2022	REVISED PER TOR & WAKE COUNTY COMMENTS
3	1-15-2023	REVISED PER TOR & WAKE COUNTY COMMENTS



EROSION CONTROL DETAILS
WALLBROOK
MASS GRADING / EROSION CONTROL /
SANITARY SEWER RELOCATION
 Town of Rolesville Project No. CD 22-02
 Rolesville, Wake County, North Carolina

NC License: P-1109
ARK CONSULTING GROUP PLLC
 ENGINEERS & PLANNERS
 2755-B Charles Blvd.
 Cary, NC 27588
 (919) 558-0888
 www.arkconsultinggroup.com

Project Manager:	BCF
Drawn By:	DLC
Checked By:	STA
Project Number:	21089
Drawing Number:	D-1219-EC

C3.2

Date: April 1, 2022