Z:\27015.0700\DOCS\ENGINEERING\DRAINAGE\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015.0007 - CS.DWG - Jan 9, 2024 - 9:06 AM

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS FOR PROJECT CONNECT AT THE BLYTHEWOOD BUSINESS PARK

RICHLAND COUNTY
Economic Development

PREPARED FOR:

RICHLAND COUNTY ECONOMIC DEVELOPMENT

1201 MAIN STREET, SUITE 1110
COLUMBIA, SC 29201
6/30/2023

TMS# 15100-01-01, 15100-01-04, 15100-01-06, 15100-01-07, 15100-02-01, 15100-03-01, 15100-03-04, 15100-03-05, & 15100-03-06

J-27015.0007

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C4.4	STORM DRAINAGE PROFILES
C4.5	STORM DRAINAGE PROFILES
C4.6	STORM DRAINAGE PROFILES
C4.7	STORM DRAINAGE PROFILES
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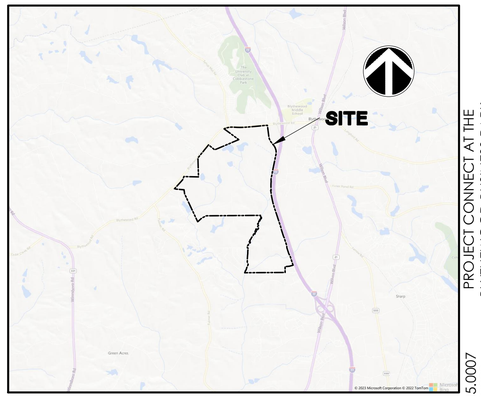


VICINITY MAP
SCALE: 1" = 6000'

PROJECT CONNECT AT THE BLYTHEWOOD BUSINESS PARK

J-27015.0007
11/10/2023

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER
No. 26573
12/12/2023
HAROLD B. ANDERSON

SOUTH CAROLINA
THOMAS & HUTTON ENGINEERING CO.
No. C00285
CERTIFICATE OF AUTHORIZATION

PREPARED BY:

THOMAS & HUTTON

REVISION HISTORY

REV. NO.	REVISION	BY	DATE
2	REVISED PER SCDHEC COMMENTS	DJS	12/28/23
1	REVISED PER SCDHEC COMMENTS	DJS	12/15/23

SUBMITTAL HISTORY

SUBMITTED TO	DATE

811 Know what's below. Call before you dig.

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201
p.803.451.6789
www.thomasandhutton.com

Z:\27015\27015.0007\ENGINEERING\DRAINAGE\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015.0007-DRAIN - Jan 9, 2024 - 9:58 AM

ABBREVIATIONS

DBL	DOUBLE		FM	FORCE MAIN (SANITARY SEWER)		PC	POINT OF CURVE		TC	TOP OF CURB
BOT	BOTTOM		FP	FINISH PAD		PH	POST HYDRANT		TH	THROAT ELEVATION
CB	CATCH BASIN		FR	FRAME		PT	POINT OF TANGENT		TG	TOP OF GUTTER
CI	CURB INLET		GI	GRATE INLET		PVC	POLYVINYL CHLORIDE		TP	TOP OF PAVEMENT
CO	CLEAN OUT		GV	GATE VALVE		RCP	REINFORCED CONCRETE PIPE		TW	TOP OF WALK
CPP	CORRUGATED PLASTIC PIPE		HDPE	HIGH DENSITY POLYETHYLENE		RC	ROLL CURB INLET		TYP	TYPICAL
DBL	DOUBLE		HI	HOODED INLET		RCP	REINFORCED CONCRETE PIPE		VI	VALLEY INLET
DI	DITCH INLET		INV	INVERT ELEVATION		RI	ROOF INLET		W	WATER
DIP	DUCTILE IRON PIPE		JB	JUNCTION BOX		RJP	RESTRAINED JOINT PIPE		W/	WITH
EL	ELEVATION		LF	LINEAR FEET		R/W	RIGHT-OF-WAY		WV	WATER VALVE
ES	END SECTION		MAX	MAXIMUM		SD	STORM DRAINAGE		YI	YARD INLET
FES	FLARED END SECTION		MIN	MINIMUM		SDMH	STORM DRAINAGE MANHOLE		YI	YARD INLET
FG	FINISH GRADE		MH	MANHOLE		SF	SQUARE FEET			
FH	FIRE HYDRANT		OC	ON CENTER		SS	SANITARY SEWER			

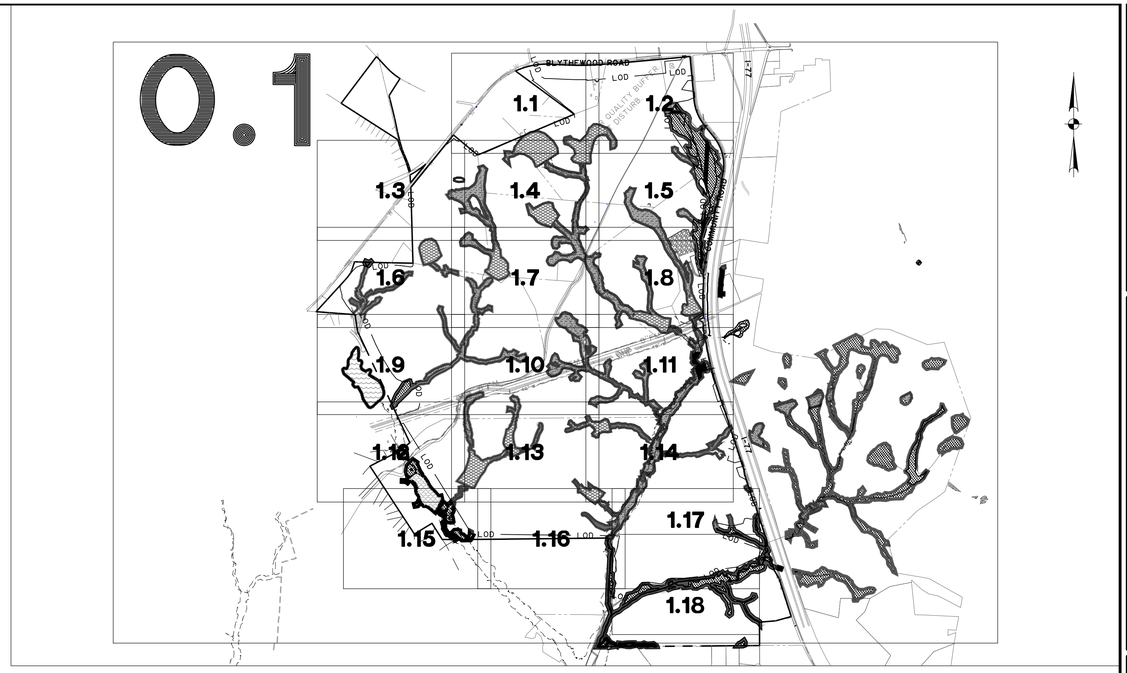
DRAINAGE LEGEND

DESCRIPTION	EXISTING	PROPOSED
PIPE		
DITCH		
CONTROL STRUCTURE (CS)		
JUNCTION BOX (JB)		
MANHOLE (SDMH)		
FLARED END SECTION (FES)		

OTHER UTILITIES LEGEND

DESCRIPTION	EXISTING
NATURAL GAS	UGG
TELEPHONE	OHT
UNDERGROUND TELEPHONE	UTL
ELECTRICITY	OHP
UNDERGROUND ELECTRICITY	UGP
GRAVITY SEWER	SS
WATER	48"W / 24"W
FORCE MAIN	8"FM

HATCHING LEGEND	
	JURISDICTIONAL WETLANDS
	WETLAND PERMANENT FILL IMPACT
	WETLAND BUFFER
	WETLAND PERMANENT CLEARING IMPACT
	NON-WETLAND WATERS (PONDS) PERMANENT FILL IMPACT
	WETLAND TEMPORARY EXCAVATION/PERMANENT CLEARING IMPACT (UNDERGROUND UTILITY IMPACT)
	JURISDICTIONAL NON-WETLAND WATERS (NWW) (PONDS)
	DEMOLITION HATCH



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SCALE: 1" = 1500'

GENERAL NOTES

1. THE CONTRACTOR SHALL NOTIFY THE OWNER AND THE ENGINEER 48 HOURS IN ADVANCE OF ALL REQUIRED TESTS AND INSPECTIONS.
2. THE CONTRACTOR WILL NOTIFY THE ENGINEER IF UNSUITABLE MATERIAL IS DISCOVERED PRIOR TO BEGINNING ANY REMOVAL OPERATION.
3. SURVEYING AND BOUNDARY INFORMATION BY THOMAS & HUTTON.
4. ALL ELEVATIONS SHOWN ARE BASED ON NAVD88.
5. TOPOGRAPHIC DATA SHOWN IS A COMBINATION OF COUNTY LIDAR DATA AND FIELD SURVEY BY EDISTO ENGINEERS & SURVEYORS, INC.
6. WETLAND DELINEATION AND USACE JURISDICTIONAL DETERMINATION COMPLETED BY S&ME ON MAY 2, 2023.
7. CONTRACTOR IS TO VERIFY ACCURACY OF ANY TEMPORARY BENCHMARKS SHOWN PRIOR TO UTILIZING THEM FOR CONSTRUCTION.
8. THE EXISTING UNDERGROUND UTILITIES SHOWN HEREON ARE BASED UPON AVAILABLE INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL UTILITIES OTHER THAN THOSE SHOWN ARE ENCOUNTERED DURING CONSTRUCTION , THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY AND TAKE STEPS TO PROTECT THE LINE(S) AND ENSURE CONTINUED SERVICE. DAMAGE CAUSED TO EXISTING UTILITIES BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR. ADDITIONALLY, THE CONTRACTOR SHALL CONFIRM THE CONNECTION POINTS OF NEW UTILITIES TO EXISTING UTILITIES PRIOR TO BEGINNING NEW CONSTRUCTION.
9. IF WORK IS SUSPENDED OR DELAYED FOR 14 DAYS, THE CONTRACTOR SHALL TEMPORARILY STABILIZE THE DISTURBED AREA AT NO ADDITIONAL COST TO THE OWNER.
10. THE CONTRACTOR SHALL INSTALL ANY BARRICADES PRIOR TO BEGINNING CONSTRUCTION.
11. THE CONTRACTOR SHALL INSTALL ALL EROSION CONTROL AND PREVENTION STRUCTURES SHOWN ON THE PLANS. BOTH MUST BE APPROVED BY SCDHEC & RICHLAND COUNTY PRIOR TO BEGINNING ANY LAND DISTURBING ACTIVITIES.
12. CONTRACTOR WILL BE REQUIRED TO ADJUST MANHOLE FRAMES TO MATCH FINAL GRADE AT NO ADDITIONAL COST.
13. THE FOLLOWING NOTES ARE SPECIFIED BY THE SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL AND ARE TO BE EXECUTED BY THE CONTRACTOR:
    a. ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.
    b. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED, UNLESS ACTIVITY IN THAT PORTION OF THE SITE WILL RESUME WITHIN 14 DAYS.
15. ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE CONSTRUCTED SIMULTANEOUSLY WITH THE DISTURBANCE OF THE LAND AND SHALL REMAIN FUNCTIONAL UNTIL THE CONTRIBUTING DISTURBED AREAS ARE STABILIZED. SILT BARRIERS WILL BE INSTALLED AS NECESSARY TO PREVENT EXCESSIVE SEDIMENTATION OF DOWNSTREAM AREAS. DEVICES SHALL BE IN ACCORDANCE WITH THE MANUAL OF "BEST MANAGEMENT PRACTICES FOR DEVELOPING AREAS" BY SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL.
16. CONTRACTOR SHALL GRADE AREAS TO DRAIN FOR POSITIVE FLOW PRIOR TO FINAL APPROVAL.
17. ALL AREAS DISTURBED WILL BE GRASSED IMMEDIATELY AFTER THE INSTALLATION. GRASSING SHALL BE IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS.
18. ALL DRAINAGE WILL BE MADE FUNCTIONAL DAILY AS WORK PROGRESSES.
19. EACH EXISTING ROAD WILL BE CLEANED UP AND RESTORED DAILY.
20. ALL STORM DRAIN PIPE INVERTS IN AND OUT ARE AS NOTED ON THE PLAN SHEETS AND/OR PROFILES.
21. THE DESIGN OF THE EARTHWORK MATERIALS, PROCEDURES AND METHODS SPECIFIED ARE BASED ON THE CRITERIA AND RECOMMENDATIONS ESTABLISHED IN THE GEOTECHNICAL INVESTIGATION REPORT PREPARED BY S&ME, INC., DATED 03/31/2023 AND SUBSEQUENT ADDENDUMS.

PREPARED FOR:

RICHLAND COUNTY ECONOMIC DEVELOPMENT
1201 MAIN STREET SUITE 1110
COLUMBIA, SC 29201
(803) 576-1368

GENERAL INFORMATION

COUNTY: RICHLAND
TOWN: BLYTHEWOOD
ZONING: LI-2, RU (RUAL), TC (TOWN CENTER)

OWNER:
RICHLAND COUNTY ECONOMIC DEVELOPMENT
2O1 MAIN ST #1110
COLUMBIA, SC 2921
803-576-2043

ENGINEER:
THOMAS & HUTTON
1501 MAIN STREET, SUITE 760
COLUMBIA, SC 29201
803.451.6789

SURVEYOR:
AMERICAN ENGINEERING CONSULTANTS, INC.
1300 12TH ST,
CAYCE, SC 29033
803-791-1400

EDISTO ENGINEERING & SURVERYORS, INC.
650 BROUGHTON ST
ORANGEBURG, SC 29115
803-536-1104

POWER:
FAIRFIELD ELECTRIC COOPERATIVE, INC.
701 BLYTHEWOOD RD
BLYTHEWOOD, SC 29016
800-628-0336

SANTEE COOPER
121 GREYSTONE BLVD
COLUMBIA, SC 29210
803-748-7729

WATER/SEWER:
CITY OF COLUMBIA, SC
3000 HARDEN ST,
COLUMBIA, SC 29203
803-545-3300

PALMETTO UTILITIES
1713 WOODCREEK FAMRS RD,
COLUMBIA, SC 29405
803-699-2422

POWER/GAS:
DOMINION ENERGY INC.
220 OPERATION WAY
CAYCE, SC 29033
800-251-7234

SOUTH CAROLINA NOLTE ASSOCIATES THOMAS & HUTTON ENGINEERING CO. No. COO2285 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 28573 MARCUS B. SIMPSON 12-19-24

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 400
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

GENERAL NOTES AND INDEX

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	AS SHOWN

G0.1

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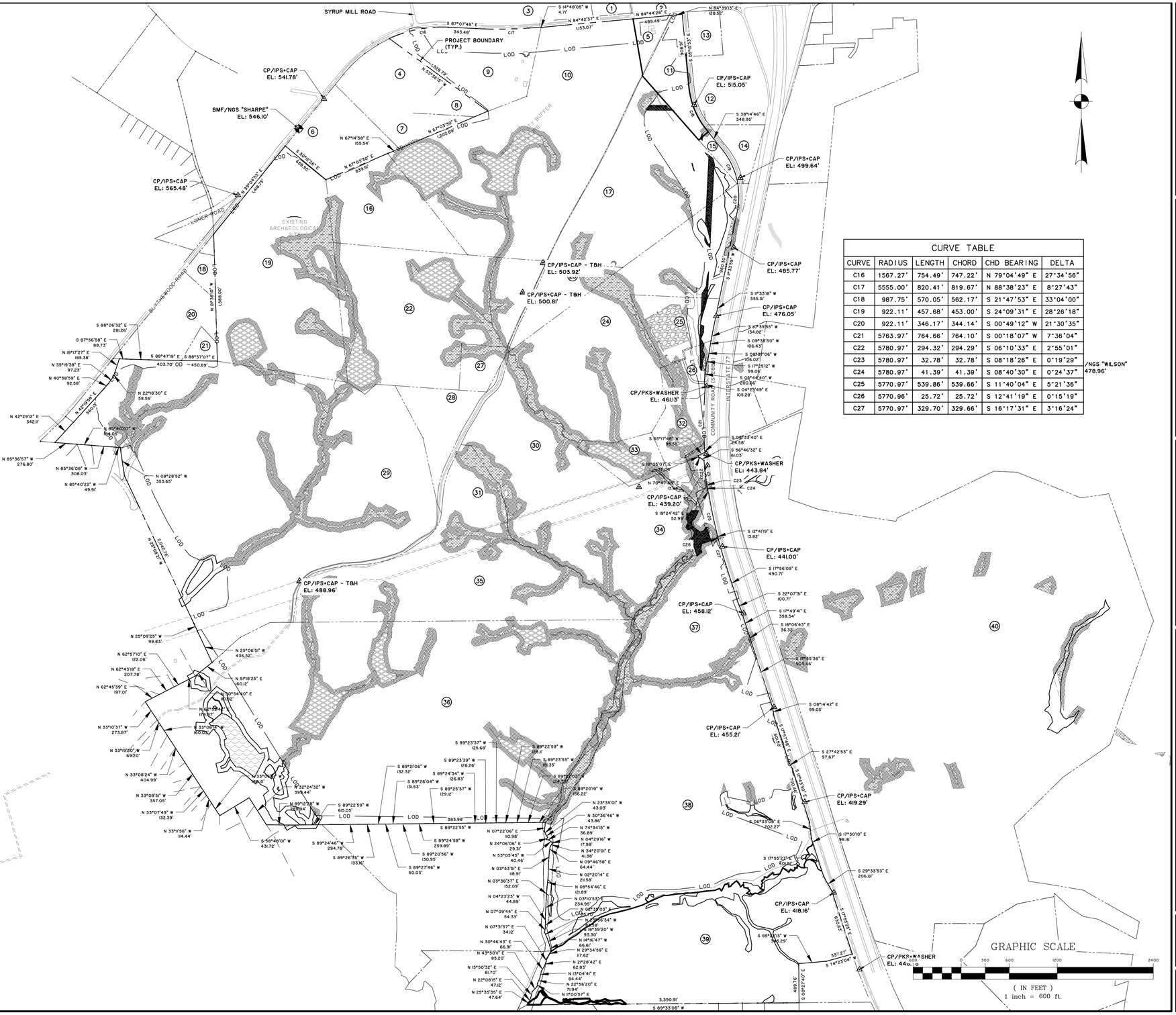
PROPERTY MAP

MAP NUMBER	TMS	PROPERTY OWNER
1	15200-01-95	N/F TRUSTEES OF AND FOR LEVEL BAPTIST CHURCH
2	15200-01-06	N/F TRUSTEES OF AND FOR LEVEL BAPTIST CHURCH
3	15200-01-28	N/F CANDLE LAKES ACADEMY LLF
4	15100-01-03	N/F SARA COOPER PALMER
5	15100-02-01	N/F RICHLAND COUNTY ECONOMIC DEVELOPMENT
6	12600-03-01	N/F FAIRFIELD ELECTRIC
7	15100-01-01	N/F THOMAS EDWARD COOPER
8	15100-01-08	N/F ROBERT WILLIAM COOPER
9	15100-01-04	N/F RICHLAND COUNTY ECONOMIC DEVELOPMENT
10	15100-01-06	N/F RICHLAND COUNTY ECONOMIC DEVELOPMENT
11	15100-03-05	N/F RICHLAND COUNTY ECONOMIC DEVELOPMENT
12	15100-04-02	N/F AMERCO REAL ESTATE COMPANY
13	15100-04-01	N/F SHARPE PROPERTIES, LLC
14	15100-04-03	N/F PS SOUTHEAST TWO LLC
15	15100-03-06	N/F RICHLAND COUNTY ECONOMIC DEVELOPMENT
16	12600-03-20	N/F RICHLAND COUNTY ECONOMIC DEVELOPMENT
17	15100-03-04	N/F RICHLAND COUNTY ECONOMIC DEVELOPMENT
18	12600-03-08	N/F WILLIAM W. SHIVES
19	12600-03-23	N/F RICHLAND COUNTY ECONOMIC DEVELOPMENT
20	12600-03-10	N/F WILLIAM W. SHIVES
21	12600-03-09	N/F WILLIAM W. SHIVES
22	15100-01-07	N/F RICHLAND COUNTY ECONOMIC DEVELOPMENT
23	15100-03-01	N/F RICHLAND COUNTY ECONOMIC DEVELOPMENT
24	15016-01-01	N/F RICHLAND COUNTY ECONOMIC DEVELOPMENT
25	15100-03-07	N/F FAIRFIELD ELECTRIC COOPERATIVE
26	15100-03-08	N/F FAIRFIELD ELECTRIC COOPERATIVE
27	15100-03-01	N/F RICHLAND COUNTY ECONOMIC DEVELOPMENT
28	15101-01-01	N/F RICHLAND COUNTY ECONOMIC DEVELOPMENT
29	12500-02-06	N/F RICHLAND COUNTY ECONOMIC DEVELOPMENT
30	15008-01-01	N/F RICHLAND COUNTY ECONOMIC DEVELOPMENT
31	15004-01-01	N/F RICHLAND COUNTY ECONOMIC DEVELOPMENT
32	15100-03-03	N/F RICHLAND COUNTY ECONOMIC DEVELOPMENT
33	15100-03-02	N/F RICHLAND COUNTY ECONOMIC DEVELOPMENT
34	15008-01-01	N/F RICHLAND COUNTY ECONOMIC DEVELOPMENT
35	15004-01-01	N/F RICHLAND COUNTY ECONOMIC DEVELOPMENT
36	12500-03-01	N/F RICHLAND COUNTY ECONOMIC DEVELOPMENT
37	15007-01-01	N/F RICHLAND COUNTY ECONOMIC DEVELOPMENT
38	15006-01-01	N/F RICHLAND COUNTY ECONOMIC DEVELOPMENT
39	15005-01-01	N/F RICHLAND COUNTY ECONOMIC DEVELOPMENT
40	15000-02-27	N/F RICHLAND COUNTY ECONOMIC DEVELOPMENT



CURVE TABLE

CURVE	RADIUS	LENGTH	CHORD	CHD BEARING	DELTA
C16	1567.27'	754.49'	747.22'	N 79°04'49" E	27°34'56"
C17	5555.00'	820.41'	819.67'	N 88°38'23" E	8°27'43"
C18	987.75'	570.05'	562.17'	S 21°47'53" E	33°04'00"
C19	922.11'	457.68'	453.00'	S 24°09'31" E	28°26'18"
C20	922.11'	346.17'	344.14'	S 00°49'12" W	21°30'35"
C21	5763.97'	764.66'	764.10'	S 00°18'07" W	7°36'04"
C22	5780.97'	294.32'	294.29'	S 06°10'33" E	2°55'01"
C23	5780.97'	32.78'	32.78'	S 08°18'26" E	0°19'29"
C24	5780.97'	41.39'	41.39'	S 08°40'30" E	0°24'37"
C25	5770.97'	539.86'	539.66'	S 11°40'04" E	5°21'36"
C26	5770.96'	25.72'	25.72'	S 12°41'19" E	0°15'19"
C27	5770.97'	329.70'	329.66'	S 16°17'31" E	3°16'24"

SOUTH CAROLINA PROFESSIONAL ENGINEER
NOLAN KENDRICK SMITH
THOMAS & HUTTON ENGINEERING CO.
No. C00285
CERTIFICATE OF AUTHORIZATION
SOUTH CAROLINA PROFESSIONAL ENGINEER
No. 28573
NOLAN KENDRICK SMITH
12-19-2023
REGISTERED PROFESSIONAL ENGINEER

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1020 Euclid Avenue
Charlotte, NC 28203 980.201.5505
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
TOWN OF BLYTHEWOOD, RICHLAND COUNTY, SC
PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EXISTING CONDITIONS PROPERTY MAP

JOB NO:	J-2015.0007
DATE:	11/10/2023
DRAWN:	NSS
DESIGNED:	NSS
REVIEWED:	JKS
APPROVED:	CGW
SCALE:	1" = 600'

EX0.1

E:\2700\27015.0007\CONSTRUCTION\DRAWINGS\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015.0007X-EX1.0.DWG - Jan 9, 2024 - 9:07 AM

EXISTING PROPERTY LINE (TYP.)
PROJECT BOUNDARY (TYP.)
BLYTHEWOOD ROAD (S-59)
LONER ROAD
COMMUNITY ROAD (S-2885)
INTERSTATE 77
EXIT 27
LOCKLIER ROAD
EXISTING POND (TYP.)
50' WETLAND BUFFER (TYP.)
EXISTING WETLANDS EDGE (TYP.)
EXISTING WETLANDS (TYP.)
EXISTING ARCHAEOLOGICAL SITE
24" CMP
IE = 480.82
IE = 480.52
EXISTING SOUTHWEST WATER COMPANY 500 GPM PUMP STATION
EXISTING SSMH
EXISTING 48" CITY OF COLUMBIA WATER MAIN
20' CITY OF COLUMBIA WATER LINE EASEMENT
200' SCPSA POWER LINE R/W
EXISTING CITY OF COLUMBIA 24" WATER MAIN
EXISTING 8" FORCEMAIN
EXISTING OVERHEAD POWERLINE (TYP.)
LOD
LIMIT OF DISTURBANCE
N/F TRUSTEES OF AND FOR SANDY LEVEL BAPTIST CHURCH TMS NO. 15200-01-05
N/F TRUSTEES OF AND FOR SANDY LEVEL BAPTIST CHURCH TMS NO. 15200-01-06
N/F CANDLE LAKES ACADEMY LLC TMS NO. 15200-01-26
N/F SARA COOPER PALMER TMS NO. 15100-01-03
N/F ROBERT WILLIAM COOPER TMS NO. 15100-01-02
N/F THOMAS EDWARD COOPER TMS NO. 15100-01-01
N/F FAIRFIELD ELECTRIC TMS NO. 12600-03-01
N/F SHARPE PROPERTIES, LLC TMS NO. 15100-04-01
ZONING: TC (TOWN CENTER DISTRICT)
TOWN OF BLYTHEWOOD
N/F AMERCO REAL ESTATE COMPANY TMS NO. 15100-04-02
N/F WILLIAM W. SHIVES TMS NO. 12600-03-04
N/F WILLIAM W. SHIVES TMS NO. 12600-03-05
8"FM
4" USG

EX1.1 EX1.2 EX1.3 EX1.4 EX1.5 EX1.6 EX1.7 EX1.8 EX1.9 EX1.10 EX1.11 EX1.12 EX1.13 EX1.14 EX1.15 EX1.16 EX1.17

GRAPHIC SCALE
600 0 300 600 1200 2400
(IN FEET)
1 inch = 600 ft.

SOUTH CAROLINA — NOLTE ASSOCIATES — THOMAS & HUTTON ENGINEERING CO. — No. C00285 — CERTIFICATE OF AUTHORITY

SOUTH CAROLINA — PROFESSIONAL ENGINEER — No. 28573 — 12/19/2023 — MARCUS B. SHEALY

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

OVERALL EXISTING CONDITIONS PLAN

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 600'

EX1.0

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

NOTES

1. TAX MAP NO.: R12600-03-20, R15100-01-04, R15100-01-06, R15100-01-07, R15100-02-01, R15100-03-05, R15100-03-06, R15100-03-01, R15100-03-04, & R15106-01-01.
2. ACCORDING TO FIRM PANEL 45079C0128L, 45079C0110L, 45079C0120L, AND 45079C0136L; ALL OF WHICH WERE LAST REVISED DECEMBER 21, 2017, PORTIONS OF THIS PROPERTY LIE WITHIN SPECIAL FLOOD HAZARD ZONE A AND AE.
3. BOUNDARY SURVEY COMPLETED BY AMERICAN ENGINEERING CONSULTANTS, INC.
4. TOPOGRAPHIC SURVEY COMPLETED BY EDISTO ENGINEERS & SURVEYORS, INC.
5. WETLAND DELINEATION AND USACE JURISDICTIONAL DETERMINATION COMPLETED BY S&ME.
6. COORDINATES AND DIRECTIONS SHOWN ON THIS SURVEY ARE BASED ON SOUTH CAROLINA STATE PLANE COORDINATE SYSTEM (NAD83). DISTANCES SHOWN ARE GROUND DISTANCES, NOT GRID DISTANCES.
7. A TITLE SEARCH WAS NOT PERFORMED BY THOMAS & HUTTON ENGINEERING CO. AT THE TIME OF THIS SURVEY.
8. THE PROPERTY PLATTED HEREON IS SUBJECT TO ALL EASEMENTS AND RESTRICTIONS OF RECORD.
9. THE POSITION OF UNDERGROUND UTILITIES SHOWN ON THIS DRAWING IS BASED UPON THE LOCATION OF SURFACE APPURTENANCES AND/OR SURFACE MARKINGS AND SHOULD BE CONSIDERED APPROXIMATE.

HATCHING LEGEND	
	JURISDICTIONAL WETLANDS
	WETLAND PERMANENT FILL IMPACT
	WETLAND BUFFER
	WETLAND PERMANENT CLEARING IMPACT
	NON-WETLAND WATERS (PONDS) PERMANENT FILL IMPACT
	WETLAND TEMPORARY EXCAVATION/PERMANENT CLEARING IMPACT (UNDERGROUND UTILITY IMPACT)
	JURISDICTIONAL NON-WETLAND WATERS (NWW) (PONDS)
	DEMOLITION HATCH

ADJACENT PROPERTY
TMS NO. 15200-01-28

BLYTHEWOOD ROAD (S-59)
RIGHT OF WAY VARIES

EXISTING BLYTHEWOOD ROAD CENTERLINE (TYP.)

EXISTING EDGE OF PAVEMENT (TYP.)

300' BUFFER

PROJECT BOUNDARY (TYP.)

50' LAND-USE BUFFER

N/F SARA COOPER PALMER
TMS NO. 15100-01-03

MATCH LINE - SEE SHEET NO. EX1.2

CP/IPS+CAP
EL: 541.78'
N: 865,002.42
E: 1,999,273.45

N/F ROBERT WILLIAM COOPER
TMS NO. 15100-01-08

IPF
1" SQUARE

N/F THOMAS EDWARD COOPER
TMS NO. 15100-01-01

N/F FAIRFIELD ELECTRIC
TMS NO. 12600-03-01

BMF/NGS "SHARPE"
EL: 546.10'
N: 864,629.84
E: 1,998,958.00

FLOOD ZONE AE PER F.I.R.M.
MAP NO. 45079C, PANEL 0110L
(1% ANNUAL CHANCE FLOOD HAZARD)

50' WETLAND BUFFER (TYP.)

EXISTING WETLANDS EDGE (TYP.)

EXISTING WETLAND (TYP.)

IPF
1/2"
ROD

IPF
#4
REB

EXISTING POND

EXISTING POND

MATCH LINE - SEE SHEET NO. EX1.4

SOUTH CAROLINA
PROFESSIONAL ENGINEER
THOMAS HUTTON ENGINEERING CO.
No. C00285
CERTIFICATE OF AUTHORITY

SOUTH CAROLINA
PROFESSIONAL ENGINEER
No. 28573
MARCUS B. SIMPSON
12-19-2023

NO.	REVISIONS	BY	DATE
2	REVISED PER SCDHEC COMMENTS	DJS	12/28/23
1	REVISED PER SCDHEC COMMENTS	DJS	12/15/23

THOMAS & HUTTON
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Columbia, SC 29201 • 803.451.6789
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RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

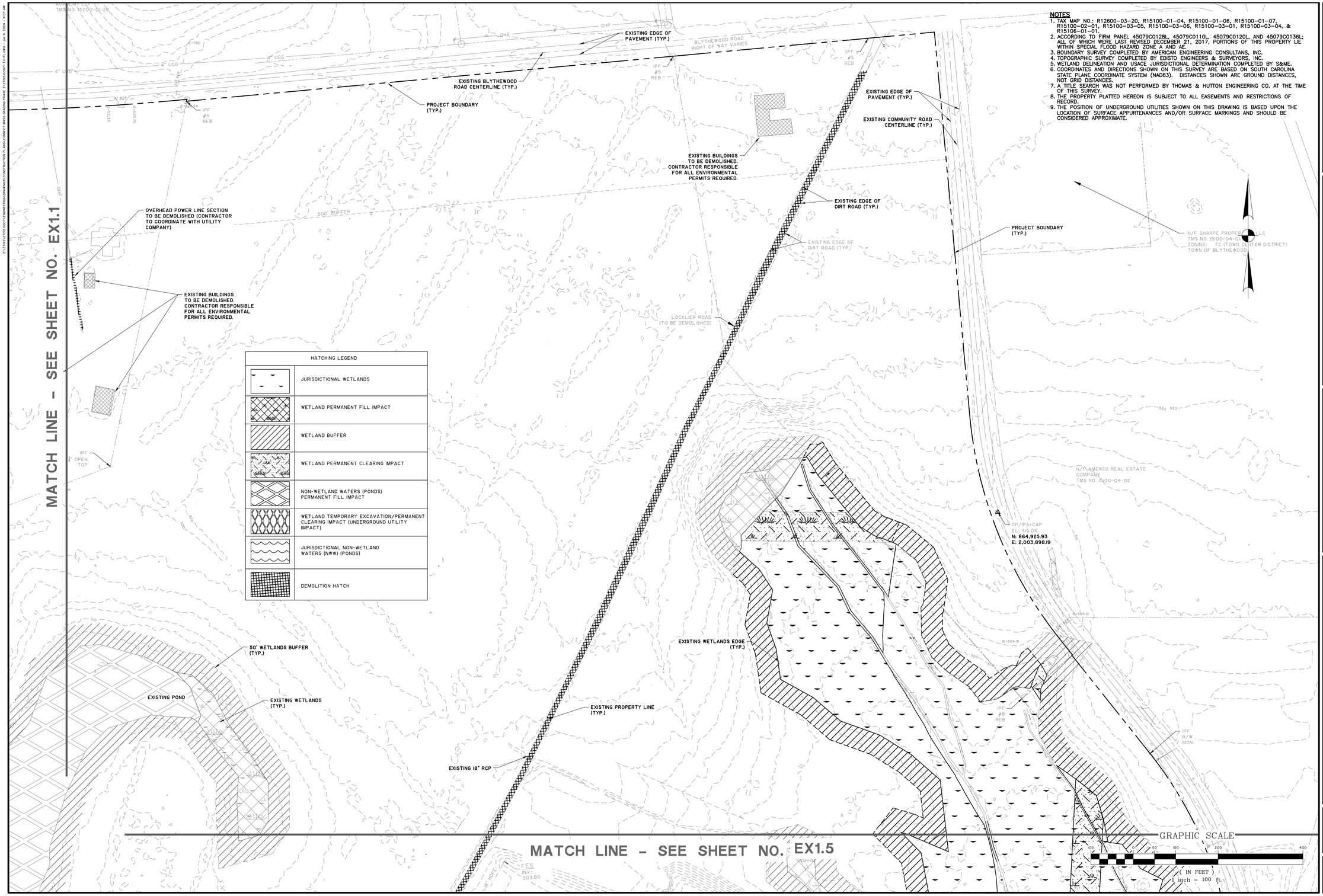
PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EXISTING CONDITIONS & DEMOLITION PLAN

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EX1.1

Z:\27015.0007\ENGINEERING\SAMPLES\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015.0007-EX-PC.DWG - Jan 9, 2024 - 9:57 AM



SOUTH CAROLINA NOV. 2023 PROFESSIONAL ENGINEER THOMAS & HUTTON ENGINEERING CO. No. C00285 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 28573 CHRISTOPHER L. WILLIAMS 12-11-2023

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EXISTING CONDITIONS & DEMOLITION PLAN

JOB NO:	J-27015 0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

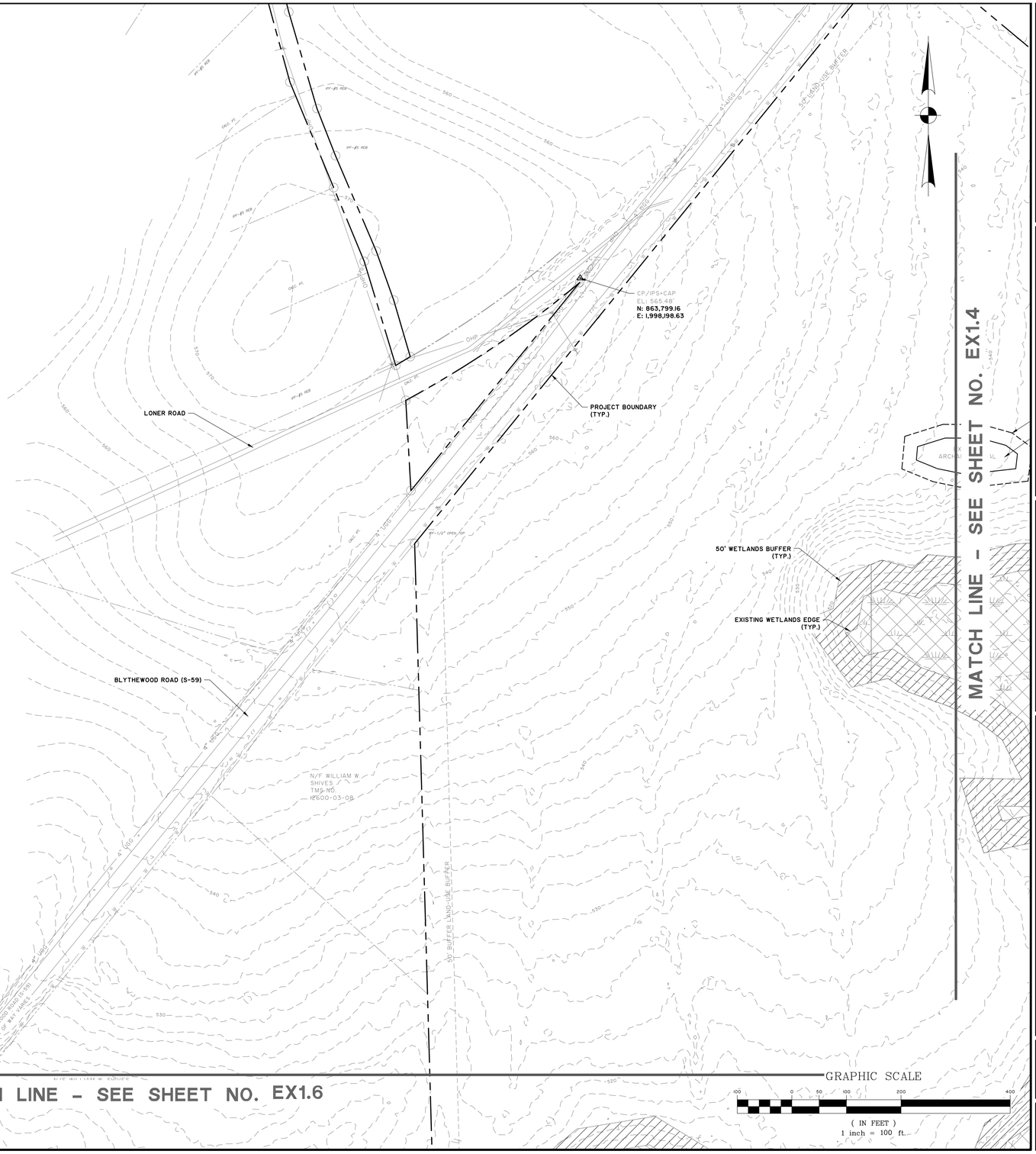
EX1.2

Z:\27015.0007\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONNECT BASS GRADING PHASE 2\27015.0007-EX1.3.DWG - Oct 9, 2024 - 9:07 AM

NOTES

1. TAX MAP NO.: R12600-03-20, R15100-01-04, R15100-01-06, R15100-01-07, R15100-02-01, R15100-03-05, R15100-03-06, R15100-03-01, R15100-03-04, & R15106-01-01.
2. ACCORDING TO FIRM PANEL 45079C0128L, 45079C0110L, 45079C0120L, AND 45079C0136L; ALL OF WHICH WERE LAST REVISED DECEMBER 21, 2017, PORTIONS OF THIS PROPERTY LIE WITHIN SPECIAL FLOOD HAZARD ZONE A AND AE.
3. BOUNDARY SURVEY COMPLETED BY AMERICAN ENGINEERING CONSULTANS, INC.
4. TOPOGRAPHIC SURVEY COMPLETED BY EDISTO ENGINEERS & SURVEYORS, INC.
5. WETLAND DELINEATION AND USACE JURISDICTIONAL DETERMINATION COMPLETED BY S&ME.
6. COORDINATES AND DIRECTIONS SHOWN ON THIS SURVEY ARE BASED ON SOUTH CAROLINA STATE PLANE COORDINATE SYSTEM (NAD83). DISTANCES SHOWN ARE GROUND DISTANCES, NOT GRID DISTANCES.
7. A TITLE SEARCH WAS NOT PERFORMED BY THOMAS & HUTTON ENGINEERING CO. AT THE TIME OF THIS SURVEY.
8. THE PROPERTY PLATTED HEREON IS SUBJECT TO ALL EASEMENTS AND RESTRICTIONS OF RECORD.
9. THE POSITION OF UNDERGROUND UTILITIES SHOWN ON THIS DRAWING IS BASED UPON THE LOCATION OF SURFACE APPURTENANCES AND/OR SURFACE MARKINGS AND SHOULD BE CONSIDERED APPROXIMATE.

HATCHING LEGEND	
	JURISDICTIONAL WETLANDS
	WETLAND PERMANENT FILL IMPACT
	WETLAND BUFFER
	WETLAND PERMANENT CLEARING IMPACT
	NON-WETLAND WATERS (PONDS) PERMANENT FILL IMPACT
	WETLAND TEMPORARY EXCAVATION/PERMANENT CLEARING IMPACT (UNDERGROUND UTILITY IMPACT)
	JURISDICTIONAL NON-WETLAND WATERS (NWW) (PONDS)
	DEMOLITION HATCH



SOUTH CAROLINA NOLAN K. HUTTON 29578 REGISTERED PROFESSIONAL ENGINEER — THOMAS & HUTTON ENGINEERING CO. No. C00285 — CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA MARCUS B. SHIVER 28573 REGISTERED PROFESSIONAL ENGINEER — 12-11-2024

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
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RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EXISTING CONDITIONS & DEMOLITION PLAN

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EX1.3

Z:\27015.0007\ENGINEERING\GRADING\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015-0007-EX-PLN01.dwg Jan 9, 2024 - 9:58 AM

MATCH LINE - SEE SHEET NO. EX1.1

NOTES

1. TAX MAP NO.: R12600-03-20, R15100-01-04, R15100-01-06, R15100-01-07, R15100-02-01, R15100-03-05, R15100-03-06, R15100-03-01, R15100-03-04, & R15106-01-01.
2. ACCORDING TO FIRM PANEL 45079C0128L, 45079C0110L, 45079C0120L, AND 45079C0136L; ALL OF WHICH WERE LAST REVISED DECEMBER 21, 2017, PORTIONS OF THIS PROPERTY LIE WITHIN SPECIAL FLOOD HAZARD ZONE A AND AE.
3. BOUNDARY SURVEY COMPLETED BY AMERICAN ENGINEERING CONSULTANS, INC.
4. TOPOGRAPHIC SURVEY COMPLETED BY EDISTO ENGINEERS & SURVEYORS, INC.
5. WETLAND DELINEATION AND USACE JURISDICTIONAL DETERMINATION COMPLETED BY S&ME.
6. COORDINATES AND DIRECTIONS SHOWN ON THIS SURVEY ARE BASED ON SOUTH CAROLINA STATE PLANE COORDINATE SYSTEM (NAD83). DISTANCES SHOWN ARE GROUND DISTANCES, NOT GRID DISTANCES.
7. A TITLE SEARCH WAS NOT PERFORMED BY THOMAS & HUTTON ENGINEERING CO. AT THE TIME OF THIS SURVEY.
8. THE PROPERTY PLATTED HEREON IS SUBJECT TO ALL EASEMENTS AND RESTRICTIONS OF RECORD.
9. THE POSITION OF UNDERGROUND UTILITIES SHOWN ON THIS DRAWING IS BASED UPON THE LOCATION OF SURFACE APPURTENANCES AND/OR SURFACE MARKINGS AND SHOULD BE CONSIDERED APPROXIMATE.

EXISTING POND

EXISTING POND

50' LANDUSE BUFFER

FLOOD ZONE AE PER F.I.R.M. MAP NO. 45079C, PANEL 0110L (1% ANNUAL CHANCE FLOOD HAZARD)

FLOOD ZONE AE PER F.I.R.M. MAP NO. 45079C, PANEL 0110L (1% ANNUAL CHANCE FLOOD HAZARD)

EXISTING WETLANDS EDGE (TYP.)

25' ARCHEOLOGICAL SITE BUFFER

EXISTING ARCHEOLOGICAL SITE

EXISTING ARCHEOLOGICAL SITE (TO BE REMOVED UNDER APPROVAL BY STATE HISTORICAL PRESERVATION OFFICE) (SITE NOT TO BE DISTURBED UNTIL EXCAVATION IS COMPLETED)

EXISTING WETLANDS (TYP.)

50' WETLANDS BUFFER (TYP.)

MATCH LINE - SEE SHEET NO. EX1.3

HATCHING LEGEND	
	JURISDICTIONAL WETLANDS
	WETLAND PERMANENT FILL IMPACT
	WETLAND BUFFER
	WETLAND PERMANENT CLEARING IMPACT
	NON-WETLAND WATERS (PONDS) PERMANENT FILL IMPACT
	WETLAND TEMPORARY EXCAVATION/PERMANENT CLEARING IMPACT (UNDERGROUND UTILITY IMPACT)
	JURISDICTIONAL NON-WETLAND WATERS (NNW) (PONDS)
	DEMOLITION HATCH

EXISTING DITCH (TYP.)

EXISTING POND

IPF 1" OPEN TOP

24" CMP

IE = 480.82

IE = 480.52

FLOOD ZONE AE PER F.I.R.M. MAP NO. 45079C, PANEL 0110L (1% ANNUAL CHANCE FLOOD HAZARD)

CP/IPS
EL. 500
N: 862,5
E: 2,00

MATCH LINE - SEE SHEET NO. EX1.5

MATCH LINE - SEE SHEET NO. EX1.7

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA NOVEMBER 2023 THOMAS & HUTTON ENGINEERING CO. No. COD285 CERTIFICATE OF AUTHORITY

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 28573 MARCUS B. SCHWARTZ 12-19-2023

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EXISTING CONDITIONS & DEMOLITION PLAN

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EX1.4

NOTES

1. TAX MAP NO.: R12600-03-20, R15100-01-04, R15100-01-06, R15100-01-07, R15100-02-01, R15100-03-05, R15100-03-06, R15100-03-01, R15100-03-04, & R15106-01-01;
2. ACCORDING TO FIRM PANEL 45079C0128L, 45079C0110L, 45079C0120L, AND 45079C0136L; ALL OF WHICH WERE LAST REVISED DECEMBER 21, 2017, PORTIONS OF THIS PROPERTY LIE WITHIN SPECIAL FLOOD HAZARD ZONE A AND AE.
3. BOUNDARY SURVEY COMPLETED BY AMERICAN ENGINEERING CONSULTANS, INC.
4. TOPOGRAPHIC SURVEY COMPLETED BY EDISTO ENGINEERS & SURVEYORS, INC.
5. WETLAND DELINEATION AND USACE JURISDICTIONAL DETERMINATION COMPLETED BY S&ME.
6. COORDINATES AND DIRECTIONS SHOWN ON THIS SURVEY ARE BASED ON SOUTH CAROLINA STATE PLANE COORDINATE SYSTEM (NAD83). DISTANCES SHOWN ARE GROUND DISTANCES, NOT GRID DISTANCES.
7. A TITLE SEARCH WAS NOT PERFORMED BY THOMAS & HUTTON ENGINEERING CO. AT THE TIME OF THIS SURVEY.
8. THE PROPERTY PLATTED HEREON IS SUBJECT TO ALL EASEMENTS AND RESTRICTIONS OF RECORD.
9. THE POSITION OF UNDERGROUND UTILITIES SHOWN ON THIS DRAWING IS BASED UPON THE LOCATION OF SURFACE APPURTENANCES AND/OR SURFACE MARKINGS AND SHOULD BE CONSIDERED APPROXIMATE.

HATCHING LEGEND	
	JURISDICTIONAL WETLANDS
	WETLAND PERMANENT FILL IMPACT
	WETLAND BUFFER
	WETLAND PERMANENT CLEARING IMPACT
	NON-WETLAND WATERS (PONDS) PERMANENT FILL IMPACT
	WETLAND TEMPORARY EXCAVATION/PERMANENT CLEARING IMPACT (UNDERGROUND UTILITY IMPACT)
	JURISDICTIONAL NON-WETLAND WATERS (NWW) (PONDS)
	DEMOLITION HATCH

LOCKLIER ROAD (TO BE DEMOLISHED)

LOCKLIER ROAD (LOCAL)

EXISTING EDGE OF DIRT ROAD (TYP.)

EXISTING WETLANDS EDGE (TYP.)

50' WETLANDS BUFFER (TYP.)

EXISTING WETLANDS (TYP.)

FES INV.: 503.80

FES INV.: 504.49

FES INV.: 501.47

FES INV.: 501.05

FES INV.: 501.24

FES INV.: 500.00

18" HDPE

IPF #5 REB ?

IPF #5 REB

CP/IPS+CAP - T&H
EL: 503.92'
N: 862,956.18
E: 2,002,008.48

CP/IPS+CAP - T&H
EL: 500.8[illegible]
N: 862,586.90
E: 2,001,994.20

CS #D2
FR: 493.49
INV. OUT: 488.55 (S)
INV.: 488.00

EXISTING DETENTION POND
BOTTOM OF POND: 466.55'
EMBEDDED SPILLWAY: 494.55'
TOP OF EMBANKMENT: 499.22'

CS #E2
FR: 489.17
INV. OUT: 484.22 (SW)
INV.: 483.00

CP/IPS+CAP
EL: 476.05'
N: 862,289.57
E: 2,004,171.52

CP/IPS+CAP
EL: 482.71'
N: 863,146.16
E: 2,004,392.45

CP/IPS+CAP
EL: 493.04'
N: 864,015.43
E: 2,004,475.56

IPF R/W MON

PROJECT BOUNDARY (TYP.)

EXISTING EDGE OF PAVEMENT (TYP.)

EXISTING COMMUNITY ROAD CENTERLINE (TYP.)

INTERSTATE 77

MATCH LINE - SEE SHEET NO. EX1.4

MATCH LINE - SEE SHEET NO. EX1.8

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA NOV. 17, 2023 THOMAS & HUTTON ENGINEERING CO. No. C00285 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 28573 CHRISTOPHER GREGORY WILLIAMS MARCH 12, 2024

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 740
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EXISTING CONDITIONS & DEMOLITION PLAN

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EX1.5

Z:\27015.0007\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015.0007-EX1.5.DWG - Jan 15, 2024 - 9:58 AM

MATCH LINE - SEE SHEET NO. EX1.3

NOTES

1. TAX MAP NO.: R12600-03-20, R15100-01-04, R15100-01-06, R15100-01-07, R15100-02-01, R15100-03-05, R15100-03-06, R15100-03-01, R15100-03-04, & R15106-01-01.
2. ACCORDING TO FIRM PANEL 45079C0128L, 45079C0110L, 45079C0120L, AND 45079C0136L; ALL OF WHICH WERE LAST REVISED DECEMBER 21, 2017, PORTIONS OF THIS PROPERTY LIE WITHIN SPECIAL FLOOD HAZARD ZONE A AND AE.
3. BOUNDARY SURVEY COMPLETED BY AMERICAN ENGINEERING CONSULTANS, INC.
4. TOPOGRAPHIC SURVEY COMPLETED BY EDISTO ENGINEERS & SURVEYORS, INC.
5. WETLAND DELINEATION AND USACE JURISDICTIONAL DETERMINATION COMPLETED BY S&ME.
6. COORDINATES AND DIRECTIONS SHOWN ON THIS SURVEY ARE BASED ON SOUTH CAROLINA STATE PLANE COORDINATE SYSTEM (NAD83). DISTANCES SHOWN ARE GROUND DISTANCES, NOT GRID DISTANCES.
7. A TITLE SEARCH WAS NOT PERFORMED BY THOMAS & HUTTON ENGINEERING CO. AT THE TIME OF THIS SURVEY.
8. THE PROPERTY PLATTED HEREON IS SUBJECT TO ALL EASEMENTS AND RESTRICTIONS OF RECORD.
9. THE POSITION OF UNDERGROUND UTILITIES SHOWN ON THIS DRAWING IS BASED UPON THE LOCATION OF SURFACE APPURTENANCES AND/OR SURFACE MARKINGS AND SHOULD BE CONSIDERED APPROXIMATE.

HATCHING LEGEND	
	JURISDICTIONAL WETLANDS
	WETLAND PERMANENT FILL IMPACT
	WETLAND BUFFER
	WETLAND PERMANENT CLEARING IMPACT
	NON-WETLAND WATERS (PONDS) PERMANENT FILL IMPACT
	WETLAND TEMPORARY EXCAVATION/PERMANENT CLEARING IMPACT (UNDERGROUND UTILITY IMPACT)
	JURISDICTIONAL NON-WETLAND WATERS (NWW) (PONDS)
	DEMOLITION HATCH

N/F WILLIAM W. SHIVES TMS NO. I2600-03-10

N/F WILLIAM W. SHIVES TMS NO. I2600-03-09

EXISTING POND (TYP.)

EXISTING POND

PROJECT BOUNDARY (TYP.)

IPF 1" PINCH TOP

IPF #5 REB

IPF 1" OPEN TOP

50' LAND-USE BUFFER

EXISTING WETLANDS EDGE (TYP.)

50' WETLANDS BUFFER (TYP.)

EXISTING WETLANDS (TYP.)

50' WETLAND BUFFER

BLYTHEWOOD ROAD (S-59) (VARIABLE WIDTH RIGHT OF WAY)

MATCH LINE - SEE SHEET NO. EX1.7

MATCH LINE - SEE SHEET NO. EX1.9

GRAPHIC SCALE

100 50 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA NOLTE ASSOCIATES THOMAS & HUTTON ENGINEERING CO. No. C00285 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 28573 CHRISTOPHER G. WILLIAMSON REGISTERED 12-19-2023

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EXISTING CONDITIONS & DEMOLITION PLAN

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EX1.6

Z:\27015.0007\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015.0007-EX1.6.DWG - Jan 9, 2024 - 9:58 AM

J:\27015.0007\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONNECT BASIS GRADING PHASE 2\27015.0007-EX1.DWG - Jan 9, 2024 - 9:58 AM

MATCH LINE - SEE SHEET NO. EX1.4

MATCH LINE - SEE SHEET NO. EX1.6

MATCH LINE - SEE SHEET NO. EX1.8

MATCH LINE - SEE SHEET NO. EX1.10

50' WETLANDS BUFFER (TYP.)

EXISTING WETLANDS (TYP.)

EXISTING POND

EXISTING WETLANDS EDGE (TYP.)

EXISTING EDGE OF DIRT ROAD (TYP.)

FLOOD ZONE AE PER F.I.R.M. MAP NO. 45079C, PANEL 0110L (1% ANNUAL CHANCE FLOOD HAZARD)

IPF 2" PINCH TOP

IPF #5 REB

IPF OPEN TOP

LOCKLIER ROAD (TO BE DEMOLISHED)

HATCHING LEGEND	
	JURISDICTIONAL WETLANDS
	WETLAND PERMANENT FILL IMPACT
	WETLAND BUFFER
	WETLAND PERMANENT CLEARING IMPACT
	NON-WETLAND WATERS (PONDS) PERMANENT FILL IMPACT
	WETLAND TEMPORARY EXCAVATION/PERMANENT CLEARING IMPACT (UNDERGROUND UTILITY IMPACT)
	JURISDICTIONAL NON-WETLAND WATERS (NWW) (PONDS)
	DEMOLITION HATCH

NOTES

1. TAX MAP NO.: R12600-03-20, R15100-01-04, R15100-01-06, R15100-01-07, R15100-02-01, R15100-03-05, R15100-03-06, R15100-03-01, R15100-03-04, & R15106-01-01.
2. ACCORDING TO FIRM PANEL 45079C0128L, 45079C0110L, 45079C0120L, AND 45079C0136L; ALL OF WHICH WERE LAST REVISED DECEMBER 21, 2017, PORTIONS OF THIS PROPERTY LIE WITHIN SPECIAL FLOOD HAZARD ZONE A AND AE.
3. BOUNDARY SURVEY COMPLETED BY AMERICAN ENGINEERING CONSULTANS, INC.
4. TOPOGRAPHIC SURVEY COMPLETED BY EDISTO ENGINEERS & SURVEYORS, INC.
5. WETLAND DELINEATION AND USACE JURISDICTIONAL DETERMINATION COMPLETED BY S&ME.
6. COORDINATES AND DIRECTIONS SHOWN ON THIS SURVEY ARE BASED ON SOUTH CAROLINA STATE PLANE COORDINATE SYSTEM (NAD83). DISTANCES SHOWN ARE GROUND DISTANCES, NOT GRID DISTANCES.
7. A TITLE SEARCH WAS NOT PERFORMED BY THOMAS & HUTTON ENGINEERING CO. AT THE TIME OF THIS SURVEY.
8. THE PROPERTY PLATTED HEREON IS SUBJECT TO ALL EASEMENTS AND RESTRICTIONS OF RECORD.
9. THE POSITION OF UNDERGROUND UTILITIES SHOWN ON THIS DRAWING IS BASED UPON THE LOCATION OF SURFACE APPURTENANCES AND/OR SURFACE MARKINGS AND SHOULD BE CONSIDERED APPROXIMATE.

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)

1 inch = 100 ft.

SOUTH CAROLINA NOV. 17, 2023 CERTIFICATE OF AUTHORIZATION THOMAS & HUTTON ENGINEERING CO. No. C00285

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 28573 MARCUS G. WILSON 12-19-23

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 740
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EXISTING CONDITIONS & DEMOLITION PLAN

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EX1.7

MATCH LINE - SEE SHEET NO. EX1.5

MATCH LINE - SEE SHEET NO. EX1.7

MATCH LINE - SEE SHEET NO. EX1.11

NOTES

1. TAX MAP NO.: R12600-03-20, R15100-01-04, R15100-01-06, R15100-01-07, R15100-02-01, R15100-03-05, R15100-03-06, R15100-03-01, R15100-03-04, & R15106-01-01.
2. ACCORDING TO FIRM PANEL 45079C0128L, 45079C0110L, 45079C0120L, AND 45079C0136L; ALL OF WHICH WERE LAST REVISED DECEMBER 21, 2017, PORTIONS OF THIS PROPERTY LIE WITHIN SPECIAL FLOOD HAZARD ZONE A AND AE.
3. BOUNDARY SURVEY COMPLETED BY AMERICAN ENGINEERING CONSULTANS, INC.
4. TOPOGRAPHIC SURVEY COMPLETED BY EDISTO ENGINEERS & SURVEYORS, INC.
5. WETLAND DELINEATION AND USACE JURISDICTIONAL DETERMINATION COMPLETED BY S&ME.
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7. A TITLE SEARCH WAS NOT PERFORMED BY THOMAS & HUTTON ENGINEERING CO. AT THE TIME OF THIS SURVEY.
8. THE PROPERTY PLATTED HEREON IS SUBJECT TO ALL EASEMENTS AND RESTRICTIONS OF RECORD.
9. THE POSITION OF UNDERGROUND UTILITIES SHOWN ON THIS DRAWING IS BASED UPON THE LOCATION OF SURFACE APPURTENANCES AND/OR SURFACE MARKINGS AND SHOULD BE CONSIDERED APPROXIMATE.

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

HATCHING LEGEND	
	JURISDICTIONAL WETLANDS
	WETLAND PERMANENT FILL IMPACT
	WETLAND BUFFER
	WETLAND PERMANENT CLEARING IMPACT
	NON-WETLAND WATERS (PONDS) PERMANENT FILL IMPACT
	WETLAND TEMPORARY EXCAVATION/PERMANENT CLEARING IMPACT (UNDERGROUND UTILITY IMPACT)
	JURISDICTIONAL NON-WETLAND WATERS (NWW) (PONDS)
	DEMOLITION HATCH

50' WETLANDS BUFFER (TYP.)

EXISTING WETLANDS EDGE (TYP.)

EXISTING WETLANDS (TYP.)

EXISTING FAIRFIELD ELECTRIC COOPERATIVE SUBSTATION (TO BE DEMOLISHED BY OTHERS)

PROJECT BOUNDARY (TYP.)

EXISTING EDGE OF PAVEMENT (TYP.)

EXISTING COMMUNITY ROAD CENTERLINE (TYP.)

CP/IPS+CAP
EL: 473.94'
N: 862,289.57
E: 2,004,171.52

CP/PKS+WASHER
EL: 461.13'
N: 861,413.19
E: 2,004,053.24

EXISTING WETLANDS EDGE (TYP.)

FLOOD ZONE AE PER F.I.R.M. MAP NO. 45079C, PANEL 0110L (1% ANNUAL CHANCE FLOOD HAZARD)

50' OVERHEAD POWERLINE EASEMENT

EXISTING OVERHEAD POWERLINES (TYP.)

EXISTING SSMH
INVERT IN = 438.00 (8" FM)
INVERT OUT = 438.00 (12" GRAVITY)

CP/PKS+WASHER
EL: 463.94'
N: 860,565.87
E: 2,004,104.06

EXISTING SSMH

EXISTING POND

EXISTING DRIVEWAY

EXISTING DRAINAGE PIPE

EXISTING 8" CITY OF COLUMBIA FORCE MAIN

EXISTING 8" SOU WATER COMPANY

INTERSTATE 77

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 28573 — 2/19/2024 — MARCUS B. SCHWEERS

SOUTH CAROLINA NO. C00285 THOMAS & HUTTON ENGINEERING CO. CERTIFICATE OF AUTHORITY

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.4789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EXISTING CONDITIONS & DEMOLITION PLAN

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EX1.8

J:\27015.0007\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONNECT BASIS GRADING PHASE 2\27015.0007-EX PLANS - Jan 9, 2024 - 9:58 AM

MATCH LINE - SEE SHEET NO. EX1.6

BUMBLEBEE CT
(50' R/W)

PROJECT BOUNDARY
(TYP.)

50' BUFFER / 100' WETLAND BUFFER

50' WETLAND BUFFER

WETLANDS (TYP.)

EXISTING WETLANDS EDGE
(TYP.)

50' WETLANDS BUFFER
(TYP.)

EXISTING WETLANDS
(TYP.)

FLOOD ZONE A PER F.I.R.M.
MAP NO. 45079C, PANEL 0110L
(1% ANNUAL CHANCE FLOOD HAZARD)

EXISTING OVERHEAD POWER
TO BE RELOCATED
(EXISTING POLES TO BE
DEMOLISHED BY SITE
CONTRACTOR UPON COMPLETION
OF RELOCATION.
LINE RELOCATION TO BE DONE
BY OTHERS)

50' OVERHEAD POWERLINE EASEMENT
(TYP.)

MATCH LINE - SEE SHEET NO. EX1.10

MATCH LINE - SEE SHEET NO. EX1.12

HATCHING LEGEND	
	JURISDICTIONAL WETLANDS
	WETLAND PERMANENT FILL IMPACT
	WETLAND BUFFER
	WETLAND PERMANENT CLEARING IMPACT
	NON-WETLAND WATERS (PONDS) PERMANENT FILL IMPACT
	WETLAND TEMPORARY EXCAVATION/PERMANENT CLEARING IMPACT (UNDERGROUND UTILITY IMPACT)
	JURISDICTIONAL NON-WETLAND WATERS (NWW) (PONDS)
	DEMOLITION HATCH

NOTES

1. TAX MAP NO.: R12600-03-20, R15100-01-04, R15100-01-06, R15100-01-07, R15100-02-01, R15100-03-05, R15100-03-06, R15100-03-01, R15100-03-04, & R15106-01-01.
2. ACCORDING TO FIRM PANEL 45079C0128L, 45079C0110L, 45079C0120L, AND 45079C0136L; ALL OF WHICH WERE LAST REVISED DECEMBER 21, 2017, PORTIONS OF THIS PROPERTY LIE WITHIN SPECIAL FLOOD HAZARD ZONE A AND AE.
3. BOUNDARY SURVEY COMPLETED BY AMERICAN ENGINEERING CONSULTANS, INC.
4. TOPOGRAPHIC SURVEY COMPLETED BY EDISTO ENGINEERS & SURVEYORS, INC.
5. WETLAND DELINEATION AND USACE JURISDICTIONAL DETERMINATION COMPLETED BY S&ME.
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7. A TITLE SEARCH WAS NOT PERFORMED BY THOMAS & HUTTON ENGINEERING CO. AT THE TIME OF THIS SURVEY.
8. THE PROPERTY PLATTED HEREON IS SUBJECT TO ALL EASEMENTS AND RESTRICTIONS OF RECORD.
9. THE POSITION OF UNDERGROUND UTILITIES SHOWN ON THIS DRAWING IS BASED UPON THE LOCATION OF SURFACE APPURTENANCES AND/OR SURFACE MARKINGS AND SHOULD BE CONSIDERED APPROXIMATE.

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA
NOLTE ASSOCIATES
THOMAS & HUTTON ENGINEERING CO.
No. COA0285
CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA
PROFESSIONAL ENGINEER
No. 28573
MARCUS B. SIMPSON
11-21-23

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 740
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EXISTING CONDITIONS & DEMOLITION PLAN

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EX1.9

Z:\27015.0007\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONNECT BASIS GRADING PHASE 2\27015.0007-EX1.DWG - Jan 9, 2024 - 9:58 AM

MATCH LINE - SEE SHEET NO. EX1.7

MATCH LINE - SEE SHEET NO. EX1.9

MATCH LINE - SEE SHEET NO. EX1.11

HATCHING LEGEND	
	JURISDICTIONAL WETLANDS
	WETLAND PERMANENT FILL IMPACT
	WETLAND BUFFER
	WETLAND PERMANENT CLEARING IMPACT
	NON-WETLAND WATERS (PONDS) PERMANENT FILL IMPACT
	WETLAND TEMPORARY EXCAVATION/PERMANENT CLEARING IMPACT (UNDERGROUND UTILITY IMPACT)
	JURISDICTIONAL NON-WETLAND WATERS (NWW) (PONDS)
	DEMOLITION HATCH

50' WETLANDS BUFFER (TYP.)

EXISTING WETLANDS EDGE (TYP.)

EXISTING WETLANDS (TYP.)

EXISTING WETLANDS EDGE (TYP.)

EXISTING 8" FORCEMAIN (TYP.)

EXISTING 8" CITY OF COLUMBIA FORCE MAIN TO BE RELOCATED (EXISTING LINE AND STRUCTURES TO BE DEMOLISHED BY SITE CONTRACTOR UPON COMPLETION OF RELOCATION. LINE RELOCATION BY OTHERS.)

LOCKLIER ROAD (TO BE DEMOLISHED)

15' SEWER LINE EASEMENT

EXISTING SSMH

EXISTING OVERHEAD POWER TO BE RELOCATED (EXISTING POLES TO BE DEMOLISHED BY SITE CONTRACTOR UPON COMPLETION OF RELOCATION. LINE RELOCATION TO BE DONE BY OTHERS)

EXISTING 48" CITY OF COLUMBIA WATER MAIN TO BE RELOCATED (EXISTING LINE AND STRUCTURES TO BE DEMOLISHED BY SITE CONTRACTOR UPON COMPLETION OF RELOCATION. LINE RELOCATION BY OTHERS.)

CP (CONTROL POINT)
N: 856,382.29
E: 1,998,966.96

20' CITY OF COLUMBIA WATER LINE EASEMENT

MATCH LINE - SEE SHEET NO. EX1.13

NOTES

1. TAX MAP NO.: R12600-03-20, R15100-01-04, R15100-01-06, R15100-01-07, R15100-02-01, R15100-03-05, R15100-03-06, R15100-03-01, R15100-03-04, & R15106-01-01.
2. ACCORDING TO FIRM PANEL 45079C0128L, 45079C0110L, 45079C0120L, AND 45079C0136L; ALL OF WHICH WERE LAST REVISED DECEMBER 21, 2017, PORTIONS OF THIS PROPERTY LIE WITHIN SPECIAL FLOOD HAZARD ZONE A AND AE.
3. BOUNDARY SURVEY COMPLETED BY AMERICAN ENGINEERING CONSULTANS, INC.
4. TOPOGRAPHIC SURVEY COMPLETED BY EDISTO ENGINEERS & SURVEYORS, INC.
5. WETLAND DELINEATION AND USACE JURISDICTIONAL DETERMINATION COMPLETED BY S&ME.
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GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA NO. C00285 THOMAS & HUTTON ENGINEERING CO. CERTIFICATE OF AUTHORITY

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 28573 MARCUS B. SHEALY

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
####
PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EXISTING CONDITIONS & DEMOLITION PLAN

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EX1.10

MATCH LINE - SEE SHEET NO. EX1.8

MATCH LINE - SEE SHEET NO. EX1.10

MATCH LINE - SEE SHEET NO. EX1.14

NOTES

1. TAX MAP NO.: R12600-03-20, R15100-01-04, R15100-01-06, R15100-01-07, R15100-02-01, R15100-03-05, R15100-03-06, R15100-03-01, R15100-03-04, & R15106-01-01.
2. ACCORDING TO FIRM PANEL 45079C0128L, 45079C0110L, 45079C0120L, AND 45079C0136L; ALL OF WHICH WERE LAST REVISED DECEMBER 21, 2017, PORTIONS OF THIS PROPERTY LIE WITHIN SPECIAL FLOOD HAZARD ZONE A AND AE.
3. BOUNDARY SURVEY COMPLETED BY AMERICAN ENGINEERING CONSULTANTS, INC.
4. TOPOGRAPHIC SURVEY COMPLETED BY EDISTO ENGINEERS & SURVEYORS, INC.
5. WETLAND DELINEATION AND USACE JURISDICTIONAL DETERMINATION COMPLETED BY S&ME.
6. COORDINATES AND DIRECTIONS SHOWN ON THIS SURVEY ARE BASED ON SOUTH CAROLINA STATE PLANE COORDINATE SYSTEM (NAD83). DISTANCES SHOWN ARE GROUND DISTANCES, NOT GRID DISTANCES.
7. A TITLE SEARCH WAS NOT PERFORMED BY THOMAS & HUTTON ENGINEERING CO. AT THE TIME OF THIS SURVEY.
8. THE PROPERTY PLATTED HEREON IS SUBJECT TO ALL EASEMENTS AND RESTRICTIONS OF RECORD.
9. THE POSITION OF UNDERGROUND UTILITIES SHOWN ON THIS DRAWING IS BASED UPON THE LOCATION OF SURFACE APPURTENANCES AND/OR SURFACE MARKINGS AND SHOULD BE CONSIDERED APPROXIMATE.

EXISTING POND

EXISTING 8" CITY OF COLUMBIA FORCE MAIN TO BE RELOCATED (EXISTING LINE AND STRUCTURES TO BE DEMOLISHED BY SITE CONTRACTOR UPON COMPLETION OF RELOCATION. LINE RELOCATION BY OTHERS.)

EXISTING 8" FORCEMAIN

EXISTING SSMH

15' SEWER LINE EASEMENT

EXISTING 48" CITY OF COLUMBIA WATER MAIN TO BE RELOCATED (EXISTING LINE AND STRUCTURES TO BE DEMOLISHED BY SITE CONTRACTOR UPON COMPLETION OF RELOCATION. LINE RELOCATION BY OTHERS.)

200' SCPSA POWER LINE R/W

EXISTING WETLANDS (TYP.)

EXISTING WETLANDS EDGE (TYP.)

50' WETLANDS BUFFER (TYP.)

EXISTING OVERHEAD POWER TO BE RELOCATED (EXISTING POLES TO BE DEMOLISHED BY SITE CONTRACTOR UPON COMPLETION OF RELOCATION. LINE RELOCATION TO BE DONE BY OTHERS)

EXISTING SSMH
INVERT IN = 438.00 (8" FM)
INVERT OUT = 438.00 (12" GRAVITY)

CP/PKS+WASHER
EL: 463.65'
N: 860,565.87
E: 2,004,104.06

EXISTING DRIVEWAY

EXISTING DRAINAGE PIPE

CP/IPS+CAP
EL: 439.20'
N: 860,424.04
E: 2,004,063.03

EXISTING 24" CITY OF COLUMBIA WATER MAIN

PROJECT BOUNDARY (TYP.)

EXISTING EDGE OF PAVEMENT (TYP.)

EXISTING COMMUNITY ROAD CENTERLINE (TYP.)

FLOODWAY (TYP.)

FLOOD ZONE AE PER F.I.R.M. MAP NO. 45079C, PANEL 0110L (1% ANNUAL CHANCE FLOOD HAZARD)

INTERSTATE 77

CP/IPS+CAP
EL: 439.20'
N: 859,409.89
E: 2,004,249.04

HATCHING LEGEND	
	JURISDICTIONAL WETLANDS
	WETLAND PERMANENT FILL IMPACT
	WETLAND BUFFER
	WETLAND PERMANENT CLEARING IMPACT
	NON-WETLAND WATERS (PONDS) PERMANENT FILL IMPACT
	WETLAND TEMPORARY EXCAVATION/PERMANENT CLEARING IMPACT (UNDERGROUND UTILITY IMPACT)
	JURISDICTIONAL NON-WETLAND WATERS (NWW) (PONDS)
	DEMOLITION HATCH

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA PROFESSIONAL ENGINEER — No. 22285 — THOMAS & HUTTON ENGINEERING CO. — No. COA0285 — CERTIFICATE OF AUTHORIZATION — NOV. 17, 2023

SOUTH CAROLINA PROFESSIONAL ENGINEER — No. 28573 — CERTIFICATE OF AUTHORIZATION — MARCH 15, 2024

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EXISTING CONDITIONS & DEMOLITION PLAN

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EX1.11

Z:\27015.0007\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONNECT MAIS GRADING PHASE 2\27015.0007-EX1.DWG - Jan 15, 2024 - 9:59 AM

Z:\27015.0007\ENGINEERING\GRADING\CONSTRUCTION PLANS\CONNECT BASIS GRADING PHASE 2\27015.0007-EX1.DWG - Jan 9, 2024 - 9:59 AM

MATCH LINE - SEE SHEET NO. EX1.9

MATCH LINE - SEE SHEET NO. EX1.13

FLOOD ZONE A PER F.I.R.M.
MAP NO. 45079C, PANEL 0128L
(1% ANNUAL CHANCE FLOOD HAZARD)

EXISTING OVERHEAD POWERLINES (TYP.)

200' SCPSA POWER LINE R/W

EXISTING OVERHEAD POWER TO BE RELOCATED (EXISTING POLES TO BE DEMOLISHED BY SITE CONTRACTOR UPON COMPLETION OF RELOCATION. LINE RELOCATION TO BE DONE BY OTHERS)

50' LAND USE BUFFER

EXISTING 8" CITY OF COLUMBIA FORCE MAIN TO BE RELOCATED (EXISTING LINE AND STRUCTURES TO BE DEMOLISHED BY SITE CONTRACTOR UPON COMPLETION OF RELOCATION. LINE RELOCATION BY OTHERS.)

EXISTING PUMP STATION (PALMETTO UTILITIES)

50' WETLANDS BUFFER (TYP.)

EXISTING WETLANDS EDGE (TYP.)

EXISTING WETLANDS (TYP.)

EXISTING 48" CITY OF COLUMBIA WATER MAIN TO BE RELOCATED (EXISTING LINE AND STRUCTURES TO BE DEMOLISHED BY SITE CONTRACTOR UPON COMPLETION OF RELOCATION. LINE RELOCATION BY OTHERS.)

EXISTING 3" FORCE MAIN (PALMETTO UTILITIES)

PROJECT BOUNDARY (TYP.)

FLOOD ZONE AE
(1% ANNUAL CHANCE FLOOD HAZARD)
PER FEMA FIRM PANEL:
45079C0110L

EXISTING 48" WATER MAIN (CITY OF COLUMBIA)

HATCHING LEGEND	
	JURISDICTIONAL WETLANDS
	WETLAND PERMANENT FILL IMPACT
	WETLAND BUFFER
	WETLAND PERMANENT CLEARING IMPACT
	NON-WETLAND WATERS (PONDS) PERMANENT FILL IMPACT
	WETLAND TEMPORARY EXCAVATION/PERMANENT CLEARING IMPACT (UNDERGROUND UTILITY IMPACT)
	JURISDICTIONAL NON-WETLAND WATERS (NWW) (PONDS)
	DEMOLITION HATCH

NOTES

1. TAX MAP NO.: R12600-03-20, R15100-01-04, R15100-01-06, R15100-01-07, R15100-02-01, R15100-03-05, R15100-03-06, R15100-03-01, R15100-03-04, & R15106-01-01.
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4. TOPOGRAPHIC SURVEY COMPLETED BY EDISTO ENGINEERS & SURVEYORS, INC.
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6. COORDINATES AND DIRECTIONS SHOWN ON THIS SURVEY ARE BASED ON SOUTH CAROLINA STATE PLANE COORDINATE SYSTEM (NAD83). DISTANCES SHOWN ARE GROUND DISTANCES, NOT GRID DISTANCES.
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9. THE POSITION OF UNDERGROUND UTILITIES SHOWN ON THIS DRAWING IS BASED UPON THE LOCATION OF SURFACE APPURTENANCES AND/OR SURFACE MARKINGS AND SHOULD BE CONSIDERED APPROXIMATE.

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA PROFESSIONAL ENGINEER — No. 28573 — MARCUS B. SIMPSON — 12-19-2023

SOUTH CAROLINA — THOMAS & HUTTON ENGINEERING CO. — No. C00285 — CERTIFICATE OF AUTHORITY — 10/1/2023

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EXISTING CONDITIONS & DEMOLITION PLAN

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EX1.12

MATCH LINE - SEE SHEET NO. EX1.10

MATCH LINE - SEE SHEET NO. EX1.12

MATCH LINE - SEE SHEET NO. EX1.14

MATCH LINE - SEE SHEET NO. EX1.15

NOTES

1. TAX MAP NO.: R12600-03-20, R15100-01-04, R15100-01-06, R15100-01-07, R15100-02-01, R15100-03-05, R15100-03-06, R15100-03-01, R15100-03-04, & R15106-01-01.
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3. BOUNDARY SURVEY COMPLETED BY AMERICAN ENGINEERING CONSULTANS, INC.
4. TOPOGRAPHIC SURVEY COMPLETED BY EDISTO ENGINEERS & SURVEYORS, INC.
5. WETLAND DELINEATION AND USACE JURISDICTIONAL DETERMINATION COMPLETED BY S&ME.
6. COORDINATES AND DIRECTIONS SHOWN ON THIS SURVEY ARE BASED ON SOUTH CAROLINA STATE PLANE COORDINATE SYSTEM (NAD83). DISTANCES SHOWN ARE GROUND DISTANCES, NOT GRID DISTANCES.
7. A TITLE SEARCH WAS NOT PERFORMED BY THOMAS & HUTTON ENGINEERING CO. AT THE TIME OF THIS SURVEY.
8. THE PROPERTY PLATTED HEREON IS SUBJECT TO ALL EASEMENTS AND RESTRICTIONS OF RECORD.
9. THE POSITION OF UNDERGROUND UTILITIES SHOWN ON THIS DRAWING IS BASED UPON THE LOCATION OF SURFACE APPURTENANCES AND/OR SURFACE MARKINGS AND SHOULD BE CONSIDERED APPROXIMATE.

EXISTING WETLANDS (TYP.)

EXISTING WETLANDS EDGE (TYP.)

50' WETLANDS BUFFER (TYP.)

HATCHING LEGEND	
	JURISDICTIONAL WETLANDS
	WETLAND PERMANENT FILL IMPACT
	WETLAND BUFFER
	WETLAND PERMANENT CLEARING IMPACT
	NON-WETLAND WATERS (PONDS) PERMANENT FILL IMPACT
	WETLAND TEMPORARY EXCAVATION/PERMANENT CLEARING IMPACT (UNDERGROUND UTILITY IMPACT)
	JURISDICTIONAL NON-WETLAND WATERS (NWW) (PONDS)
	DEMOLITION HATCH

GRAPHIC SCALE

-100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA NOLTE/ZIEGLER
THOMAS & HUTTON ENGINEERING CO. No. COA2285
CERTIFICATE OF AUTHORITY

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 28573 CHRISTOPHER M. MARCHEWKA
12/19/2023

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EXISTING CONDITIONS & DEMOLITION PLAN

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EX1.13

Z:\27015.0007\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONNECT BASIS GRADING PHASE 2\27015.0007-EX1.DWG - Jan 11, 2024 - 9:53 AM

MATCH LINE - SEE SHEET NO. EX1.11

MATCH LINE - SEE SHEET NO. EX1.13

MATCH LINE - SEE SHEET NO. EX1.15

FLOOD ZONE AE PER F.I.R.M. MAP NO. 45079C, PANEL 0101. (1% ANNUAL CHANCE FLOOD HAZARD)

FLOODWAY (TYP.)

EXISTING WETLANDS (TYP.)

EXISTING WETLAND EDGE (TYP.)

50' WETLAND BUFFER (TYP.)

EXISTING WETLANDS EDGE (TYP.)

PROJECT BOUNDARY (TYP.)

CP/IPS+CAP
EL: 458.12'
N: 858,575.79
E: 2,004,515.38

EXISTING EDGE OF PAVEMENT (TYP.)

EXISTING COMMUNITY ROAD CENTERLINE (TYP.)

INTERSTATE 77

HATCHING LEGEND	
	JURISDICTIONAL WETLANDS
	WETLAND PERMANENT FILL IMPACT
	WETLAND BUFFER
	WETLAND PERMANENT CLEARING IMPACT
	NON-WETLAND WATERS (PONDS) PERMANENT FILL IMPACT
	WETLAND TEMPORARY EXCAVATION/PERMANENT CLEARING IMPACT (UNDERGROUND UTILITY IMPACT)
	JURISDICTIONAL NON-WETLAND WATERS (NWW) (PONDS)
	DEMOLITION HATCH

NOTES
1. TAX MAP NO.: R12600-03-20, R15100-01-04, R15100-01-06, R15100-01-07, R15100-02-01, R15100-03-05, R15100-03-06, R15100-03-01, R15100-03-04, & R15106-01-01.
2. ACCORDING TO FIRM PANEL 45079C0128L, 45079C0110L, 45079C0120L, AND 45079C0136L; ALL OF WHICH WERE LAST REVISED DECEMBER 21, 2017, PORTIONS OF THIS PROPERTY LIE WITHIN SPECIAL FLOOD HAZARD ZONE A AND AE.
3. BOUNDARY SURVEY COMPLETED BY AMERICAN ENGINEERING CONSULTANTS, INC.
4. TOPOGRAPHIC SURVEY COMPLETED BY EDISTO ENGINEERS & SURVEYORS, INC.
5. WETLAND DELINEATION AND USACE JURISDICTIONAL DETERMINATION COMPLETED BY S&ME.
6. COORDINATES AND DIRECTIONS SHOWN ON THIS SURVEY ARE BASED ON SOUTH CAROLINA STATE PLANE COORDINATE SYSTEM (NAD83). DISTANCES SHOWN ARE GROUND DISTANCES, NOT GRID DISTANCES.
7. A TITLE SEARCH WAS NOT PERFORMED BY THOMAS & HUTTON ENGINEERING CO. AT THE TIME OF THIS SURVEY.
8. THE PROPERTY PLATTED HEREON IS SUBJECT TO ALL EASEMENTS AND RESTRICTIONS OF RECORD.
9. THE POSITION OF UNDERGROUND UTILITIES SHOWN ON THIS DRAWING IS BASED UPON THE LOCATION OF SURFACE APPURTENANCES AND/OR SURFACE MARKINGS AND SHOULD BE CONSIDERED APPROXIMATE.

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA NOTICE OF CERTIFICATE OF AUTHORIZATION — THOMAS & HUTTON ENGINEERING CO. — No. C00285

SOUTH CAROLINA PROFESSIONAL ENGINEER — No. 28573 — 12-11-24 — MARCUS B. SIMPSON

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EXISTING CONDITIONS & DEMOLITION PLAN

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EX1.14

Z:\27015.0007\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015.0007-EX1.DWG - Jan 9, 2024 - 9:59 AM

MATCH LINE - SEE SHEET NO. EX1.12

EXISTING POND (TYP.)

EXISTING WETLANDS (TYP.)

50' WETLANDS BUFFER (TYP.)

FLOOD ZONE AE PER F.I.R.M. MAP NO. 45079C, PANEL 0110L (1% ANNUAL CHANCE FLOOD HAZARD)

MATCH LINE - SEE SHEET NO. EX1.16

HATCHING LEGEND	
	JURISDICTIONAL WETLANDS
	WETLAND PERMANENT FILL IMPACT
	WETLAND BUFFER
	WETLAND PERMANENT CLEARING IMPACT
	NON-WETLAND WATERS (PONDS) PERMANENT FILL IMPACT
	WETLAND TEMPORARY EXCAVATION/PERMANENT CLEARING IMPACT (UNDERGROUND UTILITY IMPACT)
	JURISDICTIONAL NON-WETLAND WATERS (NWW) (PONDS)
	DEMOLITION HATCH

NOTES

1. TAX MAP NO.: R12600-03-20, R15100-01-04, R15100-01-06, R15100-01-07, R15100-02-01, R15100-03-05, R15100-03-06, R15100-03-01, R15100-03-04, & R15106-01-01.
2. ACCORDING TO FIRM PANEL 45079C0128L, 45079C0110L, 45079C0120L, AND 45079C0136L; ALL OF WHICH WERE LAST REVISED DECEMBER 21, 2017, PORTIONS OF THIS PROPERTY LIE WITHIN SPECIAL FLOOD HAZARD ZONE A AND AE.
3. BOUNDARY SURVEY COMPLETED BY AMERICAN ENGINEERING CONSULTANTS, INC.
4. TOPOGRAPHIC SURVEY COMPLETED BY EDISTO ENGINEERS & SURVEYORS, INC.
5. WETLAND DELINEATION AND USACE JURISDICTIONAL DETERMINATION COMPLETED BY S&ME.
6. COORDINATES AND DIRECTIONS SHOWN ON THIS SURVEY ARE BASED ON SOUTH CAROLINA STATE PLANE COORDINATE SYSTEM (NAD83). DISTANCES SHOWN ARE GROUND DISTANCES, NOT GRID DISTANCES.
7. A TITLE SEARCH WAS NOT PERFORMED BY THOMAS & HUTTON ENGINEERING CO. AT THE TIME OF THIS SURVEY.
8. THE PROPERTY PLATTED HEREON IS SUBJECT TO ALL EASEMENTS AND RESTRICTIONS OF RECORD.
9. THE POSITION OF UNDERGROUND UTILITIES SHOWN ON THIS DRAWING IS BASED UPON THE LOCATION OF SURFACE APPURTENANCES AND/OR SURFACE MARKINGS AND SHOULD BE CONSIDERED APPROXIMATE.

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA — NOLTE/ZIMMERMAN — THOMAS & HUTTON ENGINEERING CO. — No. C00285 — CERTIFICATE OF AUTHORITY

SOUTH CAROLINA — PROFESSIONAL ENGINEER — No. 28573 — 12/17/2024 — CHRISTOPHER G. WILLIAMS — REGISTERED

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EXISTING CONDITIONS & DEMOLITION PLAN

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EX1.15

Z:\27015.2\DOCS\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015.002P-EX1.DWG - Jan 9, 2024 - 9:59 AM

MATCH LINE - SEE SHEET NO. EX1.13

MATCH LINE - SEE SHEET NO. EX1.15

PROJECT BOUNDARY (TYP.)

FLOODWAY (TYP.)

FLOOD ZONE AE PER F.I.R.M. MAP NO. 45079C, PANEL 0110L (1% ANNUAL CHANCE FLOOD HAZARD)

50' WETLAND BUFFER (TYP.)

EXISTING WETLANDS EDGE (TYP.)

EXISTING WETLANDS (TYP.)

HATCHING LEGEND	
	JURISDICTIONAL WETLANDS
	WETLAND PERMANENT FILL IMPACT
	WETLAND BUFFER
	WETLAND PERMANENT CLEARING IMPACT
	NON-WETLAND WATERS (PONDS) PERMANENT FILL IMPACT
	WETLAND TEMPORARY EXCAVATION/PERMANENT CLEARING IMPACT (UNDERGROUND UTILITY IMPACT)
	JURISDICTIONAL NON-WETLAND WATERS (NWW) (PONDS)
	DEMOLITION HATCH

GRAPHIC SCALE
100 0 100 200 400
(IN FEET)
1 inch = 100 ft.

NOTES
1. TAX MAP NO.: R12600-03-20, R15100-01-04, R15100-01-06, R15100-01-07, R15100-02-01, R15100-03-05, R15100-03-06, R15100-03-01, R15100-03-04, & R15106-01-01.
2. ACCORDING TO FIRM PANEL 45079C0128L, 45079C0110L, 45079C0120L, AND 45079C0136L; ALL OF WHICH WERE LAST REVISED DECEMBER 21, 2017, PORTIONS OF THIS PROPERTY LIE WITHIN SPECIAL FLOOD HAZARD ZONE A AND AE.
3. BOUNDARY SURVEY COMPLETED BY AMERICAN ENGINEERING CONSULTANTS, INC.
4. TOPOGRAPHIC SURVEY COMPLETED BY EDISTO ENGINEERS & SURVEYORS, INC.
5. WETLAND DELINEATION AND USACE JURISDICTIONAL DETERMINATION COMPLETED BY S&ME.
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9. THE POSITION OF UNDERGROUND UTILITIES SHOWN ON THIS DRAWING IS BASED UPON THE LOCATION OF SURFACE APPURTENANCES AND/OR SURFACE MARKINGS AND SHOULD BE CONSIDERED APPROXIMATE.

SOUTH CAROLINA NOV. 17, 2006 THOMAS & HUTTON ENGINEERING CO. No. C00285 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 28573 MARCUS B. SIMPSON 1-12-24

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 740
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EXISTING CONDITIONS & DEMOLITION PLAN

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EX1.16

Z:\27015.0007\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015.0007-EX-PLN01.dwg - Jan 9, 2024 - 9:59 AM

MATCH LINE - SEE SHEET NO. EX1.14

MATCH LINE - SEE SHEET NO. EX1.16

FLOODWAY (TYP.)

FLOOD ZONE AE PER F.I.R.M.
MAP NO. 45079C, PANEL 0136L
(1% ANNUAL CHANCE FLOOD HAZARD)

PROJECT BOUNDARY (TYP.)

EXISTING EDGE OF PAVEMENT (TYP.)

EXISTING COMMUNITY ROAD CENTERLINE (TYP.)

50' WETLANDS BUFFER (TYP.)

EXISTING WETLANDS (TYP.)

EXISTING WETLANDS EDGE (TYP.)

HATCHING LEGEND	
	JURISDICTIONAL WETLANDS
WC WC WC WC	WETLAND PERMANENT FILL IMPACT
	WETLAND BUFFER
WC WC WC WC	WETLAND PERMANENT CLEARING IMPACT
	NON-WETLAND WATERS (PONDS) PERMANENT FILL IMPACT
	WETLAND TEMPORARY EXCAVATION/PERMANENT CLEARING IMPACT (UNDERGROUND UTILITY IMPACT)
	JURISDICTIONAL NON-WETLAND WATERS (NWW) (PONDS)
	DEMOLITION HATCH

NOTES

1. TAX MAP NO.: R12600-03-20, R15100-01-04, R15100-01-06, R15100-01-07, R15100-02-01, R15100-03-05, R15100-03-06, R15100-03-01, R15100-03-04, & R15106-01-01.
2. ACCORDING TO FIRM PANEL 45079C0128L, 45079C0110L, 45079C0120L, AND 45079C0136L; ALL OF WHICH WERE LAST REVISED DECEMBER 21, 2017, PORTIONS OF THIS PROPERTY LIE WITHIN SPECIAL FLOOD HAZARD ZONE A AND AE.
3. BOUNDARY SURVEY COMPLETED BY AMERICAN ENGINEERING CONSULTANTS, INC.
4. TOPOGRAPHIC SURVEY COMPLETED BY EDISTO ENGINEERS & SURVEYORS, INC.
5. WETLAND DELINEATION AND USACE JURISDICTIONAL DETERMINATION COMPLETED BY S&ME.
6. COORDINATES AND DIRECTIONS SHOWN ON THIS SURVEY ARE BASED ON SOUTH CAROLINA STATE PLANE COORDINATE SYSTEM (NAD83). DISTANCES SHOWN ARE GROUND DISTANCES, NOT GRID DISTANCES.
7. A TITLE SEARCH WAS NOT PERFORMED BY THOMAS & HUTTON ENGINEERING CO. AT THE TIME OF THIS SURVEY.
8. THE PROPERTY PLATTED HEREON IS SUBJECT TO ALL EASEMENTS AND RESTRICTIONS OF RECORD.
9. THE POSITION OF UNDERGROUND UTILITIES SHOWN ON THIS DRAWING IS BASED UPON THE LOCATION OF SURFACE APPURTENANCES AND/OR SURFACE MARKINGS AND SHOULD BE CONSIDERED APPROXIMATE.

GRAPHIC SCALE
200 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA
NOLTE
THOMAS & HUTTON ENGINEERING CO.
No. C00285
CERTIFICATE OF AUTHORITY

SOUTH CAROLINA
PROFESSIONAL ENGINEER
No. 28573
MARCUS B. SIMPSON
1/9/2024

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 400
Columbia, SC 29201 • 803.451.4789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

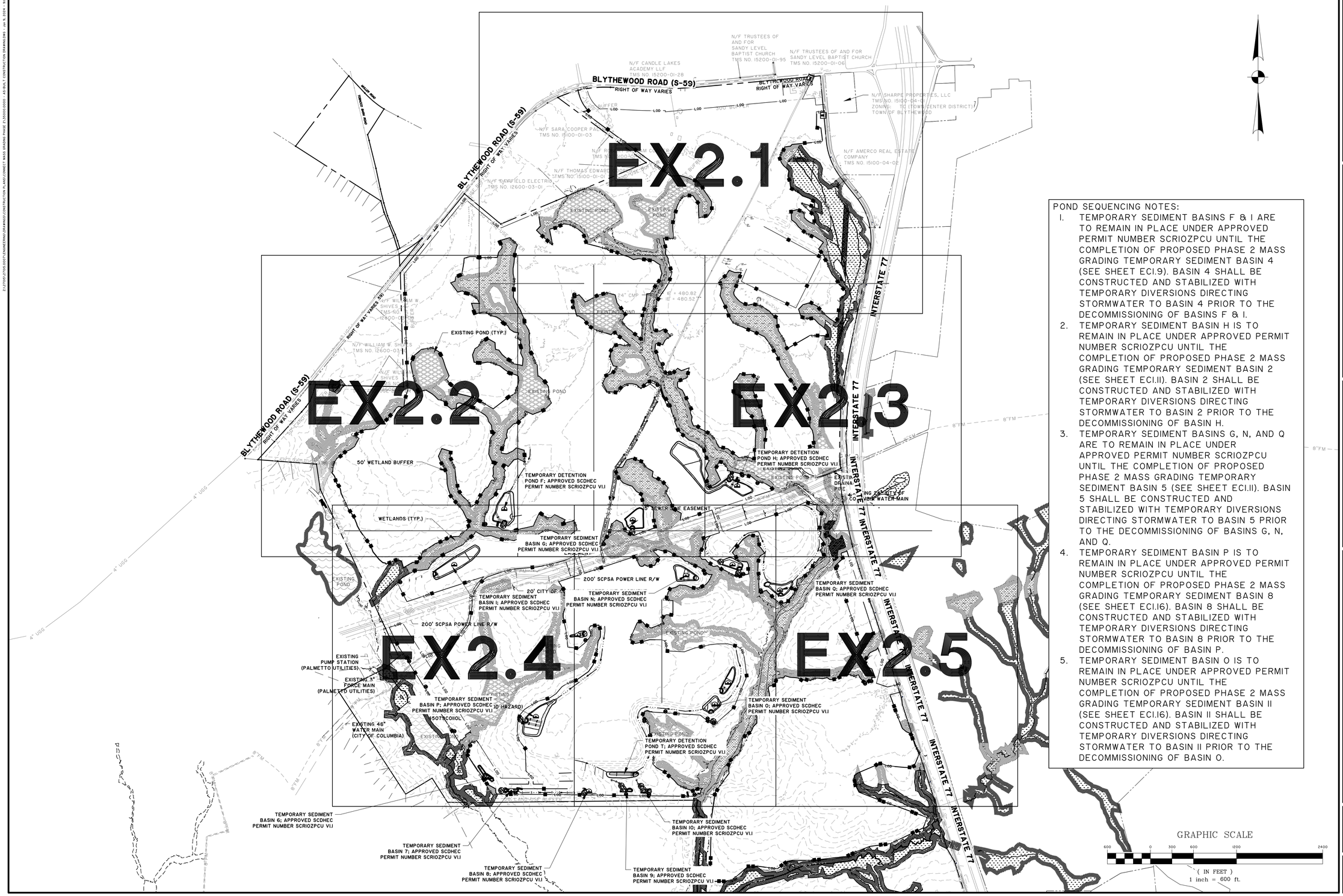
PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EXISTING CONDITIONS & DEMOLITION PLAN

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EX1.17

Z:\27015\27015.0007\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONSTRUCT MASS GRADING PHASE 2\27015X0007.DWG - Jan 9, 2024 - 9:01 AM



POND SEQUENCING NOTES:

1. TEMPORARY SEDIMENT BASINS F & I ARE TO REMAIN IN PLACE UNDER APPROVED PERMIT NUMBER SCRIOZPCU UNTIL THE COMPLETION OF PROPOSED PHASE 2 MASS GRADING TEMPORARY SEDIMENT BASIN 4 (SEE SHEET ECI.I9). BASIN 4 SHALL BE CONSTRUCTED AND STABILIZED WITH TEMPORARY DIVERSIONS DIRECTING STORMWATER TO BASIN 4 PRIOR TO THE DECOMMISSIONING OF BASINS F & I.
2. TEMPORARY SEDIMENT BASIN H IS TO REMAIN IN PLACE UNDER APPROVED PERMIT NUMBER SCRIOZPCU UNTIL THE COMPLETION OF PROPOSED PHASE 2 MASS GRADING TEMPORARY SEDIMENT BASIN 2 (SEE SHEET ECI.II). BASIN 2 SHALL BE CONSTRUCTED AND STABILIZED WITH TEMPORARY DIVERSIONS DIRECTING STORMWATER TO BASIN 2 PRIOR TO THE DECOMMISSIONING OF BASIN H.
3. TEMPORARY SEDIMENT BASINS G, N, AND Q ARE TO REMAIN IN PLACE UNDER APPROVED PERMIT NUMBER SCRIOZPCU UNTIL THE COMPLETION OF PROPOSED PHASE 2 MASS GRADING TEMPORARY SEDIMENT BASIN 5 (SEE SHEET ECI.II). BASIN 5 SHALL BE CONSTRUCTED AND STABILIZED WITH TEMPORARY DIVERSIONS DIRECTING STORMWATER TO BASIN 5 PRIOR TO THE DECOMMISSIONING OF BASINS G, N, AND Q.
4. TEMPORARY SEDIMENT BASIN P IS TO REMAIN IN PLACE UNDER APPROVED PERMIT NUMBER SCRIOZPCU UNTIL THE COMPLETION OF PROPOSED PHASE 2 MASS GRADING TEMPORARY SEDIMENT BASIN 8 (SEE SHEET ECI.I6). BASIN 8 SHALL BE CONSTRUCTED AND STABILIZED WITH TEMPORARY DIVERSIONS DIRECTING STORMWATER TO BASIN 8 PRIOR TO THE DECOMMISSIONING OF BASIN P.
5. TEMPORARY SEDIMENT BASIN O IS TO REMAIN IN PLACE UNDER APPROVED PERMIT NUMBER SCRIOZPCU UNTIL THE COMPLETION OF PROPOSED PHASE 2 MASS GRADING TEMPORARY SEDIMENT BASIN II (SEE SHEET ECI.I6). BASIN II SHALL BE CONSTRUCTED AND STABILIZED WITH TEMPORARY DIVERSIONS DIRECTING STORMWATER TO BASIN II PRIOR TO THE DECOMMISSIONING OF BASIN O.

SOUTH CAROLINA PROFESSIONAL ENGINEER — No. 28573 — MARCUS B. SHEALY — 2/9/2024

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 400
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

OVERALL EXISTING SEDIMENT BASIN DECOMMISSIONING PLAN

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 600'

EX2.0

POND SEQUENCING NOTES:

1. TEMPORARY SEDIMENT BASINS F & I ARE TO REMAIN IN PLACE UNDER APPROVED PERMIT NUMBER SCRIOZPCU UNTIL THE COMPLETION OF PROPOSED PHASE 2 MASS GRADING TEMPORARY SEDIMENT BASIN 4 (SEE SHEET ECI.9). BASIN 4 SHALL BE CONSTRUCTED AND STABILIZED WITH TEMPORARY DIVERSIONS DIRECTING STORMWATER TO BASIN 4 PRIOR TO THE DECOMMISSIONING OF BASINS F & I.
2. TEMPORARY SEDIMENT BASIN H IS TO REMAIN IN PLACE UNDER APPROVED PERMIT NUMBER SCRIOZPCU UNTIL THE COMPLETION OF PROPOSED PHASE 2 MASS GRADING TEMPORARY SEDIMENT BASIN 2 (SEE SHEET ECI.II). BASIN 2 SHALL BE CONSTRUCTED AND STABILIZED WITH TEMPORARY DIVERSIONS DIRECTING STORMWATER TO BASIN 2 PRIOR TO THE DECOMMISSIONING OF BASIN H.
3. TEMPORARY SEDIMENT BASINS G, N, AND Q ARE TO REMAIN IN PLACE UNDER APPROVED PERMIT NUMBER SCRIOZPCU UNTIL THE COMPLETION OF PROPOSED PHASE 2 MASS GRADING TEMPORARY SEDIMENT BASIN 5 (SEE SHEET ECI.II). BASIN 5 SHALL BE CONSTRUCTED AND STABILIZED WITH TEMPORARY DIVERSIONS DIRECTING STORMWATER TO BASIN 5 PRIOR TO THE DECOMMISSIONING OF BASINS G, N, AND Q.
4. TEMPORARY SEDIMENT BASIN P IS TO REMAIN IN PLACE UNDER APPROVED PERMIT NUMBER SCRIOZPCU UNTIL THE COMPLETION OF PROPOSED PHASE 2 MASS GRADING TEMPORARY SEDIMENT BASIN 8 (SEE SHEET ECI.I6). BASIN 8 SHALL BE CONSTRUCTED AND STABILIZED WITH TEMPORARY DIVERSIONS DIRECTING STORMWATER TO BASIN 8 PRIOR TO THE DECOMMISSIONING OF BASIN P.
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N/F TRUSTEES OF AND FOR SANDY LEVEL BAPTIST CHURCH TMS NO. 15200-01-95

N/F TRUSTEES OF AND FOR SANDY LEVEL BAPTIST CHURCH TMS NO. 15200-01-06

N/F CANDLE LAKES ACADEMY LLF TMS NO. 15200-01-28

BLYTHEWOOD ROAD (S-59) RIGHT OF WAY VARIES

BLYTHEWOOD ROAD RIGHT OF WAY VARIES

CONSTRUCTION ENTRANCES

LOCKLIER ROAD

N/F SARA COOPER PALMER TMS NO. 15100-01-03

N/F ROBERT WILLIAM COOPER TMS NO. 15100-01-08

N/F THOMAS EDWARD COOPER TMS 15100-01-01

N/F AMERCO REAL ESTATE COMPANY TMS NO. 15100-04-02

N/F FAIRFIELD ELECTRIC TMS NO. 15100-03-01

CP/IPS+CAP
EL: 541.78'
N: 865,002.42
E: 1,999,273.45

BMF/NGS "SHARPE"
EL: 546.10'
N: 864,629.84
E: 1,998,958.00

CP/IPS+CAP
EL: 515.05'
N: 864,925.93
E: 2,003,898.19

DESIGN SILT FENCE ALIGNMENT

50' LAND USE BUFFER

EXISTING POND

CP/IPS+CAP
EL: 499.64'
N: 864,018.43
E: 2,004,475.58

LAYDOWN YARD

LOCKLIER ROAD

CP/IPS+CAP - T&H
EL: 501.24'
N: 862,956.18
E: 2,002,008.48

CP/IPS+CAP
EL: 485.77'
N: 863,146.16

24" CMP

MATCH LINE - SEE SHEET NO. EX2.2

MATCH LINE - SEE SHEET NO. EX2.3

GRAPHIC SCALE
(IN FEET)
1 inch = 200 ft.

SOUTH CAROLINA NOLAN KEITH THOMAS 28573 REGISTERED PROFESSIONAL ENGINEER — CERTIFICATE OF AUTHORIZATION THOMAS & HUTTON ENGINEERING CO. No. C00285

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 400
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EXISTING SEDIMENT BASIN DECOMMISSIONING PLAN

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 200'

EX2.1

POND SEQUENCING NOTES:

1. TEMPORARY SEDIMENT BASINS F & I ARE TO REMAIN IN PLACE UNDER APPROVED PERMIT NUMBER SCRIOZPCU UNTIL THE COMPLETION OF PROPOSED PHASE 2 MASS GRADING TEMPORARY SEDIMENT BASIN 4 (SEE SHEET ECI.9). BASIN 4 SHALL BE CONSTRUCTED AND STABILIZED WITH TEMPORARY DIVERSIONS DIRECTING STORMWATER TO BASIN 4 PRIOR TO THE DECOMMISSIONING OF BASINS F & I.
2. TEMPORARY SEDIMENT BASIN H IS TO REMAIN IN PLACE UNDER APPROVED PERMIT NUMBER SCRIOZPCU UNTIL THE COMPLETION OF PROPOSED PHASE 2 MASS GRADING TEMPORARY SEDIMENT BASIN 2 (SEE SHEET ECI.II). BASIN 2 SHALL BE CONSTRUCTED AND STABILIZED WITH TEMPORARY DIVERSIONS DIRECTING STORMWATER TO BASIN 2 PRIOR TO THE DECOMMISSIONING OF BASIN H.
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MATCH LINE - SEE SHEET NO. EX2.1

MATCH LINE - SEE SHEET NO. EX2.3

MATCH LINE - SEE SHEET NO. EX2.4

LOCKLIER ROAD

BLYTHEWOOD ROAD (S-59)
RIGHT OF WAY VARIES

N/F WILLIAM W. SHIVES
TMS NO. 12600-03-09

50' LAND-USE BUFFER

50' WETLAND BUFFER

EXISTING POND (TYP.)

EXISTING POND

24" CMP

CP/IPS
EL: 50
N: 862,
E: 2,0

CP/IPS-CAP - T&H
EL: 500.81'
N: 862,586.90
E: 2,001,754.20

DRAINAGE DITCH (TYP.)

RIP-RAP PROTECTION BERM AT SILT FENCE

ROCK OUTLET (TYP.)

CONSTRUCTION HAUL ROAD

SEDIMENT DIKE (TYP.)

15' SEWER LINE EASEMENT

TEMPORARY SEDIMENT BASIN G; APPROVED SCDHEC PERMIT NUMBER SCRIOZPCU

ROCK CHECK DAM (TYP.)

RIP-RAP OUTFALL PROTECTION (TYP.)

TEMPORARY SEDIMENT BASIN F; APPROVED SCDHEC PERMIT NUMBER SCRIOZPCU

FOREBAY BERM (TYP.)

WETLANDS (TYP.)

EMERGENCY SPILLWAY (TYP.)

POROUS BAFFLES (TYP.)

GRAPHIC SCALE

200 0 100 200 400 800

(IN FEET)
1 inch = 200 ft.

SOUTH CAROLINA
PROFESSIONAL ENGINEER
No. C00285
THOMAS & HUTTON ENGINEERING CO.
CERTIFICATE OF AUTHORITY

SOUTH CAROLINA
PROFESSIONAL ENGINEER
No. 28573
CHRISTOPHER L. KOSS
REGISTERED
12-19-2023
MARCH 31, 2024

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 400
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EXISTING SEDIMENT BASIN DECOMMISSIONING PLAN

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 200'

EX2.2

Z:\27015.0007\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONSEC MASS GRADING PHASE 2\SSD0305.DWG - 12-19-2023 - 9:01 AM

MATCH LINE – SEE SHEET NO. EX2.1

MATCH LINE – SEE SHEET NO. EX2.2

MATCH LINE – SEE SHEET NO. EX2.5

LAYDOWN YARD

LOCKLIER ROAD

INTERSTATE 77

EXISTING POND

CP/IPS+CAP - T&H
EL: 500.12'
N: 862,956.18
E: 2,002,008.48

CP/IPS+CAP - T&H
EL: 500.81'
N: 862,586.90
E: 2,001,754.20

CP/IPS+CAP
EL: 485.77'
N: 863,146.16
E: 2,004,392.45

CP/PKS+WASHER
EL: 461.13'
N: 861,413.19
E: 2,004,053.24

CP/RW MON "LTSW#33"
EL: 463.27'
N: 860,153.63
E: 2,003,288.67

24" CMP

DRAINAGE DITCH (TYP.)

RIP-RAP PROTECTION BERM AT SILT FENCE

ROCK OUTLET (TYP.)

CONSTRUCTION HAUL ROAD

FOREBAY BERM (TYP.)

POROUS BAFFLES (TYP.)

EMERGENCY SPILLWAY (TYP.)

RIP-RAP OUTFALL PROTECTION (TYP.)

SEDIMENT DIKE (TYP.)

TEMPORARY SEDIMENT BASIN H; APPROVED SCDHEC PERMIT NUMBER SCRIOZCPU

TEMPORARY SEDIMENT BASIN G; APPROVED SCDHEC PERMIT NUMBER SCRIOZCPU

EXISTING 8" FORCEMAIN

EXISTING SSMH

15' SEWER LINE EASEMENT

EXISTING 48" CITY OF COLUMBIA WATER MAIN

20' CITY OF COLUMBIA WATER LINE EASEMENT

200' SCPSA POWER LINE

ROCK CHECK DAM (TYP.)

EXISTING DRAINAGE PIPE

EXISTING 24" CITY OF COLUMBIA WATER MAIN

EXISTING SOUTHWEST 500 GPM PUMP STATION

CP/IPS+CAP

GRAPHIC SCALE
200 0 100 200 400 800
(IN FEET)
1 inch = 200 ft.

POND SEQUENCING NOTES:

1. TEMPORARY SEDIMENT BASINS F & I ARE TO REMAIN IN PLACE UNDER APPROVED PERMIT NUMBER SCRIOZPCU UNTIL THE COMPLETION OF PROPOSED PHASE 2 MASS GRADING TEMPORARY SEDIMENT BASIN 4 (SEE SHEET ECI.I9). BASIN 4 SHALL BE CONSTRUCTED AND STABILIZED WITH TEMPORARY DIVERSIONS DIRECTING STORMWATER TO BASIN 4 PRIOR TO THE DECOMMISSIONING OF BASINS F & I.
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SOUTH CAROLINA NOLTE/ZIMMERMAN THOMAS & HUTTON ENGINEERING CO. No. C00285 CERTIFICATE OF AUTHORITY

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 28573 REGISTERED MARCUS L. SCHMIDT 12/19/2023

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 400
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

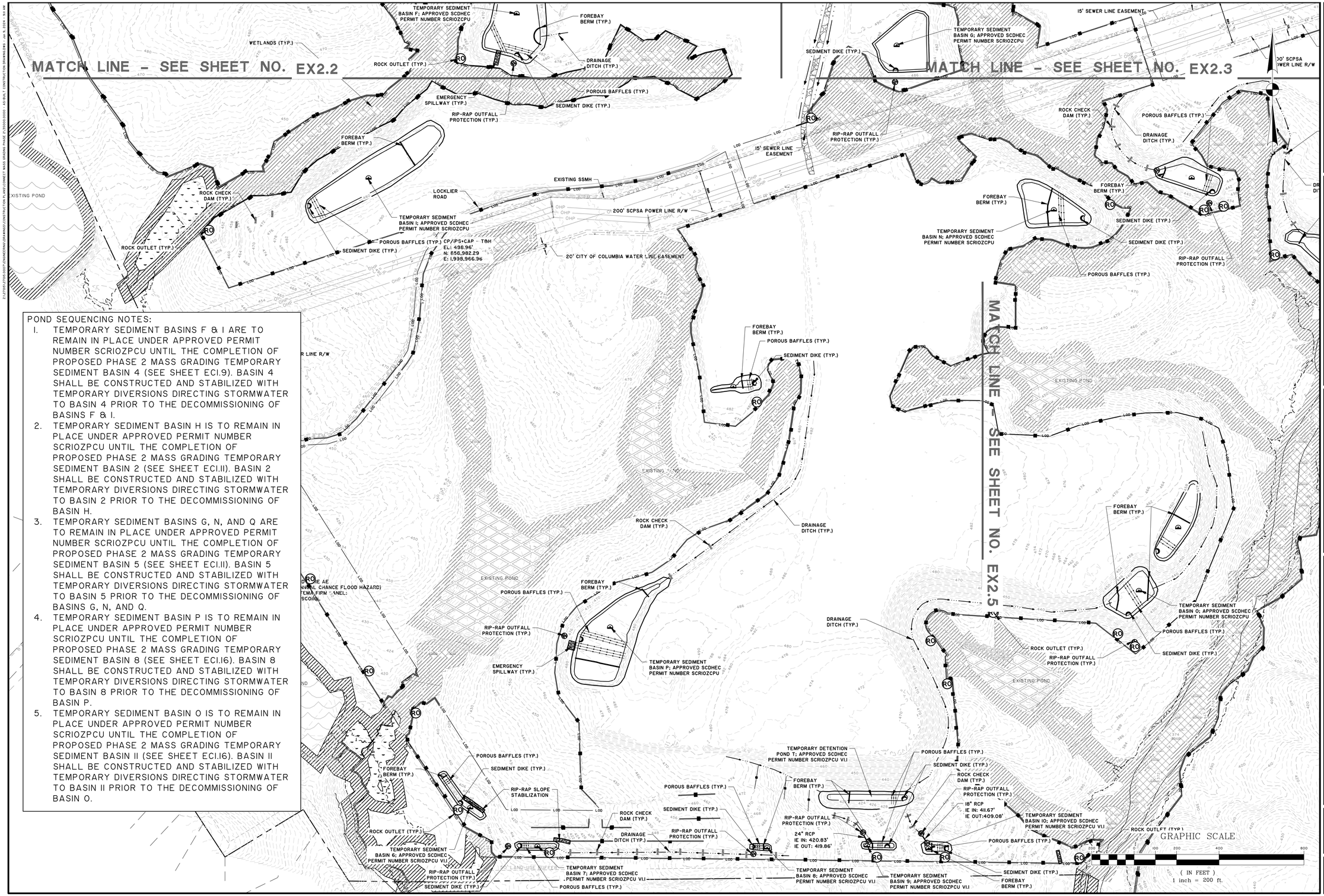
RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EXISTING SEDIMENT BASIN DECOMMISSIONING PLAN

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 200'

EX2.3



POND SEQUENCING NOTES:

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Z:\27015\FOR CONSTRUCTION\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015SSD0 - 24 SHLT CONSTRUCTION DRAWINGS - Jun 6, 2024 - 9:31 AM

SOUTH CAROLINA PROFESSIONAL ENGINEER — No. 030285 — THOMAS E. HUTTON ENGINEERING CO. — CERTIFICATE OF AUTHORITY

SOUTH CAROLINA PROFESSIONAL ENGINEER — No. 28573 — MARCUS B. SIMPSON — 12-11-24

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 400
Columbia, SC 29201 • 803.451.4789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EXISTING SEDIMENT BASIN DECOMMISSIONING PLAN

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 200'

EX2.4

MATCH LINE – SEE SHEET NO. EX2.3

SEE SHEET NO. EX2.4

MATCH LINE – SEE SHEET NO. EX2.4

15' SEWER LINE EASEMENT

TEMPORARY SEDIMENT BASIN G; APPROVED SCDHEC PERMIT NUMBER SCRIOZPCU

SEDIMENT DIKE (TYP.)

RIP-RAP OUTFALL PROTECTION (TYP.)

N: 860,153.63
E: 2,003,288.67

EXISTING 48" CITY OF COLUMBIA WATER MAIN

20' CITY OF COLUMBIA WATER LINE EASEMENT

200' SCPSA POWERLINE R/W

ROCK CHECK DAM (TYP.)

POROUS BAFFLES (TYP.)

DRAINAGE DITCH (TYP.)

FOREBAY BERM (TYP.)

TEMPORARY SEDIMENT BASIN N; APPROVED SCDHEC PERMIT NUMBER SCRIOZCPU

EXISTING POND

TERSTATE 77

CP/IPS+CAP
EL: 441.00'
N: 859,409.89
E: 2,004,249.04

CP/IPS+CAP
EL: 458.12'
N: 855,575.79
E: 2,004,515.38

CP/IPS+CAP
EL: 419.29'
N: 856,218.49
E: 2,005,277.96

EMERGENCY SPILLWAY (TYP.)

ROCK OUTLET (TYP.)

TEMPORARY DETENTION POND T; APPROVED SCDHEC PERMIT NUMBER SCRIOZPCU VI.I

18" RCP
IE IN: 411.67'
IE OUT:409.08'

24" RCP
IE IN: 420.83'
IE OUT: 419.86'

TEMPORARY SEDIMENT BASIN 10; APPROVED SCDHEC PERMIT NUMBER SCRIOZPCU VI.I

TEMPORARY SEDIMENT BASIN 8; APPROVED SCDHEC PERMIT NUMBER SCRIOZPCU VI.I

TEMPORARY SEDIMENT BASIN 9; APPROVED SCDHEC PERMIT NUMBER SCRIOZPCU VI.I

TEMPORARY SEDIMENT BASIN O; APPROVED SCDHEC PERMIT NUMBER SCRIOZPCU

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GRAPHIC SCALE
1 IN FEET
1 inch = 200 ft.

SOUTH CAROLINA NOLTE/ZIMMERMAN THOMAS & HUTTON ENGINEERING CO. No. C00285 CERTIFICATE OF AUTHORITY

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 28573 MARCUS B. SHEALY

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 400
Columbia, SC 29201 • 803.451.4789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

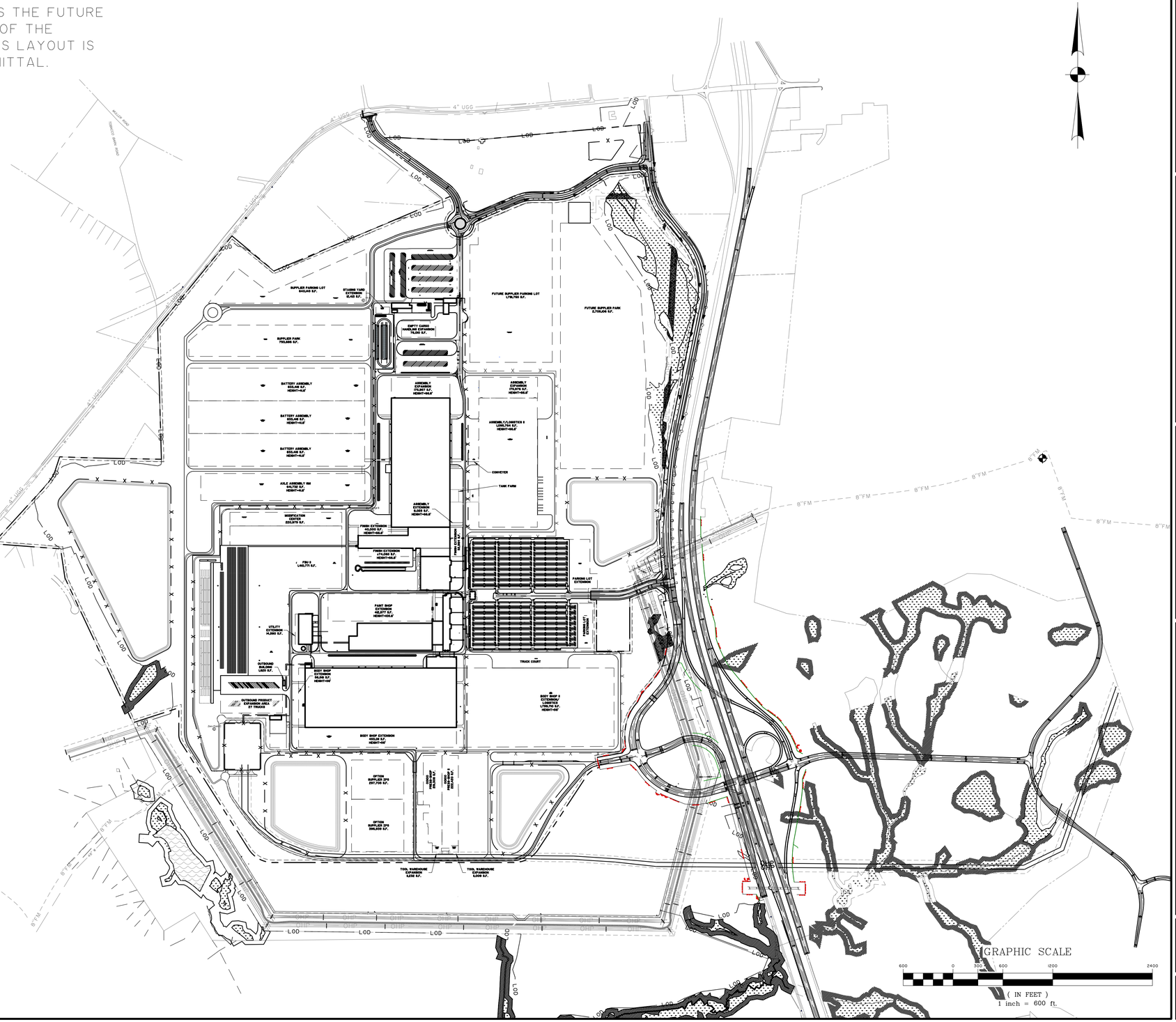
PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EXISTING SEDIMENT BASIN DECOMMISSIONING PLAN

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 200'

EX2.5

NOTE: THE SHOWN LAYOUT ILLUSTRATES THE FUTURE SITE BUILD OUT AS A REPRESENTATIVE OF THE ANTICIPATED FULL BUILD CONDITION. THIS LAYOUT IS NOT INCLUDED AS A PART OF THIS SUBMITTAL.



SOUTH CAROLINA
THOMAS & HUTTON ENGINEERING CO.
No. C00285
CERTIFICATE OF AUTHORITY
NOLAN C. HUTTON
SOUTH CAROLINA
PROFESSIONAL ENGINEER
No. 28573
MARCH 5, 2024
MARCUS B. SCHWARTZ

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 740
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

FUTURE BUILD OUT SITE PLAN

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 600'

C1.0

Z:\27015.0007\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015.0007-FUTURE.dwg - Jan 16, 2024 - 9:32 AM

Z:\2015\2015-0007\ENGINEERING DRAWINGS\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\2015-0007 EC - 01.DWG - Jan 16, 2024 - 9:42 AM

STORMWATER POLLUTION PREVENTION PLAN

I. SITE DESCRIPTION

A. PROJECT DESCRIPTION

A.1.	PROJECT AREA	1629.4 ACRES
A.2.	AREA DISTURBED	1350.0 ACRES
A.3.	PERCENT IMPERVIOUS AREA BEFORE CONSTRUCTION	0 %
A.4.	RUNOFF COEFFICIENT BEFORE CONSTRUCTION	SEE STORMWATER REPORT
A.5.	PERCENT IMPERVIOUS AREA AFTER CONSTRUCTION	0 %
A.6.	RUNOFF COEFFICIENT AFTER CONSTRUCTION	SEE STORMWATER REPORT

B. DESCRIPTION OF CONSTRUCTION ACTIVITY

WORK CONSISTS OF CLEARING AND GRUBBING, MASS GRADING, INSTALLATION OF TEMPORARY STORMWATER MANAGEMENT STRUCTURES AND ASSOCIATED STORM DRAINAGE PIPING

C. RUNOFF DATA

C.1.	SOIL CLASSIFICATIONS:	(HSG) A, B, C, A/D, C/D, B/D
C.2.	LAND USE(S):	WOODS, GRASS, WETLANDS

D. RECEIVING WATERS

D.1.	CLOSEST RECEIVING WATERS:	UNNAMED TRIBUTARY
D.2.	ULTIMATE RECEIVING WATERS:	BEASLEY CREEK

E. FLOOD

E.1.	FEMA FLOOD ZONE(S):	ZONE X (AREA OF MINIMAL FLOOD HAZARD), FLOOD ZONE A (1% ANNUAL CHANCE FLOOD HAZARD)
E.2.	FEMA FLOOD INSURANCE MAP(S):	45079C0129L, 45079C0110L, 45079C0120L, 45079C0136L

II. CONTROL MEASURES

1. EROSION and SEDIMENT CONTROLS

PRIOR TO START OF CONSTRUCTION, ALL EXTERIOR SILT FENCE WILL BE INSTALLED AS SHOWN ON THE PLANS.

1.1. CLEARING

1.1.1. AS CLEARING IS COMPLETED, ADDITIONAL SILT FENCE WILL BE INSTALLED WHERE NECESSARY, SUCH AS POINTS WHERE FLOWS BECOME CHANNELIZED, AND OTHER POINTS WHERE EXCESSIVE RUNOFF VELOCITIES MAY OCCUR.

1.1.2. INSTALL CONSTRUCTION ENTRANCES / EXITS BEFORE BEGINNING CLEARING

1.1.3. CONSTRUCTION DELAYS IN ANY ONE AREA GREATER THAN 14 DAYS PRIOR TO START OF ROUGH GRADING WILL MANDATE STABILIZATION PROCEDURES. ACCEPTABLE METHODS OF STABILIZATION INCLUDE MULCHING AND TEMPORARY SEEDING.

1.1.4. MAINTAIN EXISTING VEGETATION WHENEVER POSSIBLE AND MINIMIZE THE AREA OF DISTURBANCE. RETAIN AND PROTECT TREES TO ENHANCE FUTURE LANDSCAPING EFFORTS AND REDUCE RAINDROP IMPACT.

1.1.5. INSTALL ALL SEDIMENT CONTROL PRACTICES PRIOR TO ANY UP-SLOPE SOIL DISTURBING ACTIVITIES.

1.1.6. PHASE CONSTRUCTION ACTIVITIES TO MINIMIZE THE AREAS DISTURBED AT ONE TIME. THIS WILL ALSO ALLOW COMPLETED AREAS TO BE STABILIZED AND RE-VEGETATED BEFORE DISTURBING ADJACENT SITES. THE NEED FOR TEMPORARY EROSION CONTROL MEASURES MAY BE AVOIDED BY COMPLETING A PHASE AND INSTALLING PERMANENT EROSION CONTROL MEASURES WHEN THE FINAL GRADE IS ATTAINED.

1.1.7. MAINTAIN AND PROTECT ALL NATURAL WATERWAYS. RETAIN AT LEAST A 35-FOOT UNDISTURBED BUFFER OF NATURAL VEGETATION ALONG ALL WATERWAYS TO FILTER OUT SEDIMENT AND OTHER POLLUTANTS. MAINTAIN A 45-FOOT UNDISTURBED BUFFER AROUND SENSITIVE WATERS.

1.1.8. INSTALL SILT FENCE (OR BIO ROLLS/ROCK SOCK PRODUCTS) ON THE DOWN-SLOPE PERIMETER OF ALL DISTURBED AREAS PRIOR TO ANY SOIL DISTURBING ACTIVITIES (INCLUDING CLEARING AND GRUBBING). SILT FENCE CAN TREAT A MAXIMUM OF 100 SQUARE FEET PER LINEAL FOOT OF FENCE. INSTALL SILT FENCE IN SHORTER REACHES ON THE CONTOUR WITH EACH END TURNED UP-SLOPE . SWALES AND SHORELAND AREAS SHOULD ALSO BE PROTECTED WITH SILT FENCE, BIO ROLLS, OR ROCK SOCKS.

1.1.9. IN AREAS OF CONCENTRATED FLOW INSTALL CHECKS, ROCK CHECK DAMS, TRIANGULAR DIKES, BIO ROLL BLANKETS, OR ROCK SOCKS TO SLOW RUNOFF AND TRAP SEDIMENT.

1.1.10. USE TEMPORARY SLOPE DRAINS OR ROCK CHUTES TO MOVE WATER DOWN STEEP SLOPES.

1.1.11. CONSTRUCT SEDIMENT BASINS FOR DRAINAGE AREAS GREATER THAN 10 ACRES

1.2. ROUGH GRADING

1.2.1. ALL EXISTING CONTROLS WILL BE MAINTAINED DURING ROUGH GRADING, DELAYS OF GREATER THAN 14 DAYS PRIOR TO START OF NEXT ACTIVITY WILL MANDATE STABILIZATION PROCEDURES. ACCEPTABLE METHODS OF STABILIZATION INCLUDE MULCHING AND TEMPORARY SEEDING.

1.2.2. ALL AREAS NOT SUBJECT TO FURTHER CONSTRUCTION (DRAINAGE, SANITARY SEWER, ROADS, WATER DISTRIBUTION SYSTEMS, OR STORM WATER FACILITIES) SHALL BE GRASSED WITH A PERMANENT COVER.

1.2.3. COVER ANY STOCK PILED TOPSOIL WITH PLASTIC (OR OTHER IMPERVIOUS COVERING) OR USE A TEMPORARY SEED MIX. USE STOCKPILED TOPSOIL AS EARTHEN BERMS TO SERVE AS TEMPORARY SEDIMENT BASINS.

1.3. DRAINAGE

1.3.1. ALL EXISTING CONTROLS WILL BE MAINTAINED DURING DRAINAGE INSTALLATION.

1.3.2. CONSTRUCTION DRAINAGE WILL BE ROUTED THROUGH LAKES, WHICH WILL ACT AS SEDIMENT BASINS OR OTHER ACCEPTABLE SEDIMENT BASINS/TRAPS.

1.3.3. STORM DRAIN INLET PROTECTION AS SHOWN ON DETAIL SHEET SHALL BE INSTALLED ON ALL CURB INLETS, STORM DRAIN MANHOLES, JUNCTION BOXES, AND GRATE INLETS.

1.3.4. DELAYS OF GREATER THAN 14 DAYS PRIOR TO START OF THE NEXT CONSTRUCTION SEQUENCE WILL MANDATE STABILIZATION PROCEDURES. ACCEPTABLE METHODS OF STABILIZATION INCLUDE MULCHING AND TEMPORARY SEEDING.

1.3.5. ALL STORM LINES NOT IN STREETS OR OTHER PAVED AREAS ARE TO BE MULCHED AND SEEDED WITHIN 5 DAYS AFTER BACKFILL.

1.4. WASTE DISTRIBUTION SYSTEM INSTALLATION

1.4.1. ALL EXISTING CONTROLS WILL BE MAINTAINED DURING INSTALLATION OF THE WATER DISTRIBUTION SYSTEM.

1.4.2. DELAYS OF GREATER THAN 14 DAYS PRIOR TO START OF NEXT ACTIVITY WILL MANDATE STABILIZATION PROCEDURES. ACCEPTABLE METHODS OF STABILIZATION INCLUDE MULCHING AND TEMPORARY SEEDING.

1.5. WASTEWATER COLLECTION SYSTEM INSTALLATION

1.5.1. ALL EXISTING CONTROLS WILL BE MAINTAINED DURING INSTALLATION OF THE WASTEWATER SYSTEM.

1.5.2. DELAYS OF GREATER THAN 14 DAYS PRIOR TO START OF NEXT ACTIVITY WILL MANDATE STABILIZATION PROCEDURES. ACCEPTABLE METHODS OF STABILIZATION INCLUDE MULCHING AND TEMPORARY SEEDING.

1.6. CONSTRUCTION OF ROADS

1.6.1. ALL EXISTING CONTROLS WILL BE MAINTAINED DURING ROAD CONSTRUCTION.

1.6.2. DELAYS OF GREATER THAN 14 DAYS PRIOR TO START OF NEXT ACTIVITY WILL MANDATE STABILIZATION PROCEDURES. ACCEPTABLE METHODS OF STABILIZATION INCLUDE MULCHING AND TEMPORARY SEEDING.

1.7. GRASSING

1.7.1. ALL EXISTING CONTROLS WILL BE MAINTAINED UNTIL GRASSING IS ESTABLISHED

1.7.2. ANY AREAS THAT ERODE OR WHERE GRASS DOES NOT ESTABLISH ITSELF SHALL BE RE-GRADED AND RE-GRASSED.

2. STORM WATER MANAGEMENT

RUNOFF FROM THIS PROJECT WILL DISCHARGE INTO A STORM WATER MANAGEMENT SYSTEM. TREATMENT WILL OCCUR IN STORM WATER DETENTION PONDS.

3. OTHER CONTROLS

3.1. WASTE DISPOSAL

3.1.1. NO SOLID MATERIALS, INCLUDING BUILDING MATERIALS, SHALL BE DISCHARGED TO ANY RECEIVING WATERS.

3.1.2. OFFSITE VEHICLE TRACKING OF SEDIMENTS AND THE GENERATION OF DUST SHALL BE MINIMIZED.

3.1.3. THIS PLAN SHALL COMPLY WITH STATE AND/OR LOCAL WASTE DISPOSAL, SANITARY SEWER OR SEPTIC SYSTEM REGULATIONS.

3.1.4. DUST CONTROL ON DISTURBED AREAS - CONTROLLING SURFACE AND AIR MOVEMENT OF DUST ON CONSTRUCTION SITE AND HAUL ROUTES. THE PURPOSE OF THE MEASURE IS TO REDUCE THE PRESENCE OF AIRBORNE SUBSTANCES, WHICH MAY BE HARMFUL OR INJURIOUS TO HUMAN HEALTH, WELFARE OR SAFETY, OR TO ANIMALS OR PLANT LIFE.

III. MAINTENANCE

1. MAINTENANCE PROGRAM

1.1. THE SITE SUPERINTENDENT, OR HIS/HER REPRESENTATIVE, SHALL MAKE VISUAL INSPECTIONS OF ALL MECHANICAL CONTROLS AND NEWLY STABILIZED AREAS (I.E. SEEDED AND MULCHED AND/OR SODDED AREAS) ON A DAILY BASIS; ESPECIALLY AFTER HEAVY RAINFALL EVENT TO INSURE THAT ALL CONTROLS ARE MAINTAINED AND PROPERLY FUNCTIONING. ANY DAMAGED CONTROLS SHALL BE REPAIRED PRIOR TO THE END OF THE WORK DAY INCLUDING RE-SEEDING AND MULCHING OR RE-SODDING IF NECESSARY.

1.2. EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE. ALL DRAINAGE SWALES, POCKETS, DEPRESSION, LOW LINES, AND OUTLET DITCHES SHALL DRAIN EFFECTIVELY AT ALL TIMES. SETTLEMENT OR WASHING THAT MAY OCCUR SHALL BE REPAIRED BY THE CONTRACTOR. SEDIMENT WILL BE REMOVED FROM BEHIND THE SEDIMENT FENCE WHEN IT REACHES 1/3 THE HEIGHT OF THE FENCE. THE SEDIMENT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN AN EFFECTIVE BARRIER. MAINTAIN THE CONSTRUCTION EXIT IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE SITE. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED, OR TACKED ONTO PUBLIC ROADWAYS. RESEED AND MULCH AREA WHERE SEEDING EMERGENCE IS POOR, OR WHERE EROSION OCCURS. PROTECT FROM TRAFFIC AS MUCH AS POSSIBLE. INSPECT ALL MULCHES PERIODICALLY, AND AFTER RAINSTORMS TO CHECK FOR EROSION, DISLOCATION OR FAILURE. IF WASHOUT OCCURS, REPAIR THE SLOPE GRADE, RESEED AND REINSTALL MULCH. FOLLOW THE CONSTRUCTION SEQUENCE THROUGHOUT THE PROJECT DEVELOPMENT. WHEN CHANGES IN CONSTRUCTION ACTIVITIES ARE NEEDED, AMEND THE SEQUENCE SCHEDULE IN ADVANCE TO MAINTAIN MANAGEMENT CONTROL. IF MAJOR CHANGES ARE NECESSARY, SEND A COPY OF THE MODIFIED SCHEDULE TO THE ENGINEER, SEDIMENT AND EROSION CONTROL MEASURES WILL REMAIN IN PLACE AND BE MAINTAINED UNTIL THE DISTURBED AREAS ARE STABILIZED.

2. SILT FENCE

SILT FENCES WILL BE MONITORED DURING CONSTRUCTION. ANY SILT FENCE WHICH IS NOT FUNCTIONING PROPERLY WILL BE PROMPTLY REPAIRED. CLEAN OUT THE SILT FENCE WHEN IT REACHES 1/3 THE HEIGHT OF THE FENCE OR REPLACE WITH FUNCTIONAL SILT FENCE WITHIN 24 HOURS. USE OF HOSES AND WATER TO FLUSH THE SEDIMENT INTO THE STORM INLETS IS UNACCEPTABLE.

3. SEDIMENTATION BASINS

SEDIMENTATION BASINS WHICH ARE AT 50% USED CAPACITY OR APPROACHING SUCH CAPACITY SHALL BE RE-EXCAVATED TO ORIGINAL DIMENSIONS AND THE SILT PROPERLY DISPOSED OF.

4. SEDIMENT LOGS/ROLLS

SEDIMENT LOGS/ROLLS OR OTHER CONTROL MEASURES WHICH BEGIN TO DISINTEGRATE OR FUNCTION INEFFECTIVELY SHALL BE PROMPTLY REPLACED.

5. VEGETATION COVER

ANY VEGETATION COVER SERVING TO STABILIZE DISTURBED SOILS WHICH IS ITSELF DISTURBED SHALL IMMEDIATELY BE REPLACED.

6. CONSTRUCTION ENTRANCE

MAINTAIN ROCK CONSTRUCTION ENTRANCE AND CLEAN ADJACENT ROADS OF ANY MUD TRACKED ONTO THEM.

IV. INSPECTIONS

1. QUALIFIED PERSONNEL WILL INSPECT DISTURBED AREAS OF THE CONSTRUCTION SITE, AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION THAT HAVE NOT BEEN FINALLY STABILIZED, STRUCTURAL CONTROL MEASURES, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE AT LEAST ONCE EVERY SEVEN CALENDAR DAYS. WHERE SITES HAVE BEEN FINALLY STABILIZED SUCH INSPECTIONS SHALL BE CONDUCTED AT LEAST ONCE EVERY MONTH DURING THE WARRANTY PERIOD.

2. DISTURBED AREAS AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION SHALL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM. EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLAN SHALL BE OBSERVED TO ENSURE THAT THEY ARE OPERATING CORRECTLY. WHERE DISCHARGE LOCATIONS OR POINTS ARE ACCESSIBLE, THEY SHALL BE INSPECTED TO ASCERTAIN WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATERS. LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFFSITE SEDIMENT TRACKING.

3. A WRITTEN REPORT SUMMARIZING THE SCOPE OF THE INSPECTION, NAME(S) AND QUALIFICATIONS OF PERSONNEL MAKING THE INSPECTION, THE DATE(S) OF THE INSPECTION, WEATHER INFORMATION FOR THE PERIOD SINCE THE LAST INSPECTION (OR SINCE COMMENCEMENT OF CONSTRUCTION ACTIVITY) INCLUDING A BEST ESTIMATE OF THE BEGINNING OF EACH STORM EVENT, DURATION OF EACH STORM EVENT, APPROXIMATE AMOUNT OF RAINFALL FOR EACH STORM EVENT (IN INCHES) AND WHETHER ANY DISCHARGES OCCURRED, LOCATION(S) OF DISCHARGES OF SEDIMENT OR OTHER POLLUTANTS FROM THE SITE, LOCATION(S) OF BMP'S THAT NEED MAINTENANCE, LOCATION(S) OF BMP'S THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION, LOCATION(S) WHERE ADDITIONAL BMP'S ARE NEEDED THAT DID NOT EXIST AT THE TIME OF INSPECTION AND ANY CORRECTIVE ACTION REQUIRED INCLUDING ANY CHANGES TO SWPPP NECESSARY AND IMPLEMENTATION DATES.

4. THE REPORT SHALL BE MAINTAINED AT LEAST THREE YEARS FROM THE DATE THE SITE IS FINALLY STABILIZED. THE REPORT MUST BE SIGNED AND SHALL CONTAIN A CERTIFICATION THAT THE FACILITY IS IN COMPLIANCE WITH THE STORM WATER POLLUTION PREVENTION PLAN AND THE NPDES PERMIT REFERENCED ABOVE. THE CONTRACTOR SHALL MAINTAIN THIS REPORT. THE REPORT SHALL BE SUBMITTED TO THE ENGINEER AND OWNER.

V. LONG TERM MAINTENANCE OF DRAINAGE AND STORM WATER MANAGEMENT SYSTEM

THE STORM WATER DRAINAGE SYSTEM WILL BE OWNED AND MAINTAINED BY RICHLAND COUNTY AFTER CONSTRUCTION IS COMPLETE.

VI. SC DHEC STANDARD NOTES

1. IF NECESSARY, SLOPES WHICH EXCEED EIGHT (8) VERTICAL FEET SHOULD BE STABILIZED WITH SYNTHETIC OR VEGETATIVE MATS, IN ADDITION TO GRASSING / HYDROSEEDING. IT MAY BE NECESSARY TO INSTALL TEMPORARY SLOPE DRAINS DURING CONSTRUCTION. TEMPORARY BERMS MAY BE NEEDED UNTIL THE SLOPE IS BROUGHT TO GRADE.

2. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN FOURTEEN (14) DAYS AFTER WORK HAS CEASED, EXCEPT AS STATED BELOW:

2.1. WHERE STABILIZATION BY THE 14TH DAY IS PRECLUDED BY SNOW COVER OR FROZEN GROUND CONDITIONS STABILIZATION MEASURES MUST BE INITIATED AS SOON AS PRACTICABLE.

2.2. WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH-DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 14 DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE.

3. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED ONCE EVERY CALENDAR WEEK. IF PERIODIC INSPECTION OR OTHER INFORMATION INDICATES THAT A BMP HAS BEEN USED INAPPROPRIATELY, OR INCORRECTLY, THE PERMITTEE MUST ADDRESS THE NECESSARY REPLACEMENT OR MODIFICATION REQUIRED TO CORRECT THE BMP WITHIN 48 HOURS OF IDENTIFICATION.

4. PROVIDE SILT FENCE AND/OR OTHER CONTROL DEVICES, AS MAY BE REQUIRED, TO CONTROL SOIL EROSION DURING UTILITY CONSTRUCTION. ALL DISTURBED AREAS SHALL BE CLEANED, GRADED AND STABILIZED WITH GRASSING IMMEDIATELY AFTER THE UTILITY INSTALLATION. FILL, COVER, AND TEMPORARY SEEDING AT THE END OF EACH DAY ARE RECOMMENDED. IF WATER IS ENCOUNTERED WHILE TRENCHING, THE WATER SHOULD BE FILTERED TO REMOVE ANY SEDIMENTS BEFORE BEING PUMPED INTO ANY WATERS OF THE STATE.

5. ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFFSITE SEDIMENTATION. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.

6. THE CONTRACTOR MUST TAKE NECESSARY ACTION TO MINIMIZE THE TRACKING OF MUD ONTO THE PAVED ROADWAY FROM CONSTRUCTION AREAS AND THE GENERATION OF DUST. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT AS MAY BE REQUIRED.

7. RESIDENTIAL SUBDIVISIONS REQUIRE EROSION CONTROL FEATURES FOR INFRASTRUCTURE AS WELL AS FOR INDIVIDUAL LOT CONSTRUCTION. INDIVIDUAL PROPERTY OWNERS SHALL FOLLOW THESE PLANS DURING CONSTRUCTION OR OBTAIN APPROVAL OF AN INDIVIDUAL PLAN IN ACCORDANCE WITH S.C. REG. 72-300 AND SCR100000.

8. TEMPORARY DIVERSION BERMS AND/OR DITCHES WILL BE PROVIDED AS NEEDED DURING CONSTRUCTION TO PROTECT WORK AREAS FROM UPSLOPE RUNOFF AND/OR TO DIVERT SEDIMENT LADEN WATER TO APPROPRIATE TRAPS OR STABLE OUTLETS.

9. ALL WATERS OF THE STATE (WOS), INCLUDING WETLANDS, ARE TO BE FLAGGED OR OTHERWISE CLEARLY MARKED IN THE FIELD. A DOUBLE ROW OF SILT FENCE IS TO BE INSTALLED IN ALL AREAS WHERE A 50-FOOT BUFFER CAN NOT BE MAINTAINED BETWEEN THE DISTURBED AREA AND ALL WOS. A 10-FOOT BUFFER SHOULD BE MAINTAINED BETWEEN THE LAST ROW OF SILT FENCE AND ALL WOS

10. LITTER, CONSTRUCTION DEBRIS, OILS, FUELS, AND BUILDING PRODUCTS WITH SIGNIFICANT POTENTIAL FOR IMPACT (SUCH AS STOCKPILES OF FRESHLY TREATED LUMBER) AND CONSTRUCTION CHEMICALS THAT COULD BE EXPOSED TO STORM WATER MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE IN STORM WATER DISCHARGES.

11. A COPY OF THE SWPPP, INSPECTION RECORDS AND RAINFALL DATA MUST BE RETAINED AT THE CONSTRUCTION SITE OR A NEARBY LOCATION EASILY ACCESSIBLE DURING NORMAL BUSINESS HOURS, FROM THE DATE OF COMMENCEMENT OF CONSTRUCTION ACTIVITIES TO THE DATE THAT FINAL STABILIZATION IS REACHED.

12. INITIATE STABILIZATION MEASURES ON ANY EXPOSED STEEP SLOPE (3H:1V OR GREATER) WHERE LAND DISTURBING ACTIVITIES HAVE PERMANENTLY OR TEMPORARILY CEASED, AND WILL NOT RESUME FOR A PERIOD OF 7 CALENDAR DAYS.

13. MINIMIZE SOIL COMPACTION IN AREAS NOT UNDER PAVEMENTS AND /OR STRUCTURES AND, UNLESS INFEASIBLE, PRESERVE TOPSOIL.

14. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM EQUIPMENT AND VEHICLE WASHING, WHEEL WASH WATER AND OTHER WASH WATERS. WASH WATERS MUST BE TREATED IN A SEDIMENT BASIN OR ALTERNATIVE CONTROL THAT PROVIDES EQUAL OR BETTER TREATMENT PRIOR TO DISCHARGE.

15. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM DEWATERING OF TRENCHES AND EXCAVATED AREAS. THESE DISCHARGES ARE TO BE ROUTED THROUGH APPROPRIATE BMPS (SEDIMENT BASIN, FILTER BAG, ETC.).

16. THE FOLLOWING DISCHARGES ARE PROHIBITED:

16.1. WASTEWATER FROM WASHOUT OF CONCRETE, UNLESS MANAGED BY AN APPROPRIATE CONTROL;

16.2. WASTEWATER FROM WASHOUT AND CLEANOUT OF OF STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS AND OTHER CONSTRUCTION MATERIALS;

16.3. FUELS, OILS OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE; AND

16.4. SOAPS OR SOLVENTS USED IN VEHICLE AND EQUIPMENT WASHING.

17. AFTER CONSTRUCTION ACTIVITIES BEGIN, INSPECTIONS MUST BE CONDUCTED AT A MINIMUM OF AT LEAST ONCE EVERY CALENDAR WEEK AND MUST BE CONDUCTED UNTIL FINAL STABILIZATION IS REACHED ON ALL AREAS OF THE CONSTRUCTION SITE.

18. IF EXISTING BMPS NEED TO BE MODIFIED OR IF ADDITIONAL BMPS ARE NECESSARY TO COMPLY WITH THE REQUIREMENTS OF PERMIT SCR100000 AND/OR SC'S WATER QUALITY STANDARDS, IMPLEMENTATION MUST BE COMPLETED BEFORE THE NEXT STORM EVENT WHENEVER PRACTICABLE. IF IMPLEMENTATION BEFORE THE NEXT STORM EVENT IS IMPRACTICABLE, THE SITUATION MUST BE DOCUMENTED IN THE SWPPP AND ALTERNATIVE BMPS MUST BE IMPLEMENTED AS SOON AS REASONABLY POSSIBLE.

19. A PRE-CONSTRUCTION CONFERENCE MUST BE HELD FOR EACH CONSTRUCTION SITE WITH AN APPROVED ON-SITE SWPPP PRIOR TO THE IMPLEMENTATION OF CONSTRUCTION ACTIVITIES. FOR NON-LINEAR PROJECTS THAT DISTURB 10 ACRES OR MORE, THIS CONFERENCE MUST BE HELD ON-SITE UNLESS THE DEPARTMENT HAS APPROVED OTHERWISE.

VII. EROSION, SEDIMENTATION & POLLUTION CONTROL NOTES

1. THE IMPLEMENTATION OF THESE EROSION SEDIMENT CONTROL (ESC) PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED AND VEGETATION/LANDSCAPING IS ESTABLISHED.

2. THE ESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO INSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DO NOT ENTER THE DRAINAGE SYSTEM, ROADWAYS, OR VIOLATE APPLICABLE WATER STANDARDS.

3. THE ESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO ENSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DO NOT LEAVE THE SITE.

4. THE ESC FACILITIES SHALL BE INSPECTED DAILY BY THE CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING.

5. THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN THE 24 HOURS FOLLOWING A MAJOR STORM EVENT.

6. AT NO TIME SHALL MORE THAN ONE FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING AND PRIOR TO FINAL INSPECTION. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT LADEN WATER INTO THE DOWNSTREAM SYSTEM.

7. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES MAY BE REQUIRED TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.

8. BEFORE COMMENCING ANY LAND DISTURBING ACTIVITY, THE EXISTING STORM WATER INLET(S) THAT RECEIVING RUNOFF FROM THE PROPOSED WORK AREA SHALL BE PROTECTED. THE TEMPORARY INLET PROTECTION MUST REMAIN IN PLACE UNTIL THE CONSTRUCTION ACTIVITY IS COMPLETED, THE STREET HAS BEEN SWEPT AND ANY EXPOSED SOILS ARE STABILIZED. THE CONTRACTOR IS ALSO RESPONSIBLE FOR REMOVING ANY TEMPORARY INLET PROTECTION INSTALLED, AFTER ALL DISTURBED AREAS ARE STABILIZED. TEMPORARY PROTECTION OF THE INLETS MAY BE ACCOMPLISHED BY ONE OR MORE OF THE FOLLOWING:

8.1. USE OF GRAVEL BAGS TO FILTER THE SEDIMENT FROM ANY RUNOFF. TO MAKE A GRAVEL BAG, USE A BAG MADE OF GEOTEXTILE FABRIC (NOT BURLAP) AND FILL WITH EITHER 3/4 INCH ROCK OR 1/4 INCH PEA GRAVEL.

8.2. USE OF SEDIMENT LOGS TO FILTER THE SEDIMENT FROM ANY RUNOFF (AVAILABLE THROUGH LOCAL EROSION CONTROL SUPPLIERS).

8.3. USE OF ABOVE OR UNDER-GRATE FILTER BAGS OR DEVICES TO FILTER THE SEDIMENT FROM ANY RUNOFF (AVAILABLE THROUGH EROSION CONTROL SUPPLIERS).

9. WATER MAY NOT BE DISCHARGED IN A MANNER THAT CAUSES EROSION, SEDIMENTATION, OR FLOODING ON THE SITE, ON DOWNSTREAM PROPERTIES, IN THE RECEIVING CHANNELS, OR IN ANY STORM WATER INLET. WHEN SITE DEWATERING, WATER PUMPED FROM THE SITE, INCLUDING TRENCHES, SHALL BE TREATED BY ONE OF THE FOLLOWING:

9.1. TEMPORARY SEDIMENTATION BASINS

9.2. SEDIMENT FILTERING BAGS

10. THE CONTRACTOR SHALL VERIFY THE SIZE AND LOCATION OF ALL EXISTING UTILITIES. EXISTING UTILITIES ARE ALL UTILITIES THAT EXIST ON THE PROJECT IN AN ORIGINAL, RELOCATED OR NEWLY INSTALLED POSITION. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR THE COST OF REPAIRS TO DAMAGED UNDERGROUND OR OVERHEAD FACILITIES, EVEN IF THE UTILITY IS NOT SHOWN ON THE SITE DEVELOPMENT PLANS. THE CONTRACTOR SHALL CONTACT THE LOCAL UTILITIES PROTECTION CENTER TO COORDINATE THE MARKING OF EXISTING UTILITY LINES A MINIMUM OF 96 HOURS PRIOR TO COMMENCEMENT OF ANY WORK.

11. THE CONTRACTOR SHALL FLUSH ALL INLETS AND PIPE AT THE COMPLETION OF CONSTRUCTION TO REMOVE SILT AND DEBRIS. THE CLEANING AND FLUSHING OF INLETS AND PIPE (EXISTING AND PROPOSED) SHALL BE CONSIDERED PART OF THE COST FOR THE PROJECT.

12. EGRESS FROM THE SITE SHALL BE CONTROLLED SUCH THAT VEHICLES LEAVING THE SITE MUST TRAVERSE CONSTRUCTION EXITS TO REMOVE MUD FROM TIRES.

13. SCHEDULE CONSTRUCTION ACTIVITIES TO MINIMIZE THE EXPOSED AREA AND DURATION OF EXPOSURE. IN SCHEDULING, TAKE INTO ACCOUNT THE SEASON AND THE WEATHER FORECAST.

14. EROSION CONTROL MEASURES ARE THE MINIMUM REQUIRED. THE CONTRACTOR SHALL PROVIDE ADDITIONAL CONTROL MEASURES AS DICTATED BY ACTUAL FIELD CONDITIONS AT THE TIME OF CONSTRUCTION IN ORDER TO PREVENT EROSION AND CONTROL SEDIMENT. EROSION AND SEDIMENT CONTROL MEASURES WILL REMAIN IN PLACE AND BE MAINTAINED UNTIL THE ENTIRE PROJECT IS TERMINATED OR SUSPENDED FOR AND INDEFINITE LENGTH OF TIME, ALL DISTURBED AREAS SHALL BE PLANTED WITH PERMANENT VEGETATION.

15. THE DATA, TOGETHER WITH ALL OTHER INFORMATION SHOWN ON THESE PLANS, OR IN ANY WAY INDICATED THEREBY, WHETHER BY DRAWINGS OR NOTES, OR IN ANY OTHER MANNER, IS BASED UPON FIELD INVESTIGATIONS AND IS BELIEVED TO BE INDICATIVE OF ACTUAL CONDITIONS. HOWEVER, THE SAME IS SHOWN AS INFORMATION ONLY, IS NOT GUARANTEED AND DOES NOT BIND THOMAS & HUTTON, OR THE OWNER IN ANY WAY.

16. CONTRACTOR SHALL MAINTAIN SITE ON A DAILY BASIS TO PROVIDE FOR POSITIVE DRAINAGE. CONTRACTOR, AT HIS COST, SHALL GRADE SITE AND PROVIDE NECESSARY TEMPORARY DRAINAGE SWALES TO INSURE STORM WATER DOES NOT POND ON SITE.

17. SITE DRAINAGE SHALL BE ESTABLISHED TO PREVENT ANY PONDED WATER CONDITIONS WITHIN THE CONSTRUCTION AREA AND TO FACILITATE STORM WATER DISCHARGE.

18. THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO, OR CONCURRENT WITH, LAND DISTURBING ACTIVITIES.

19. LIME RATES AND ANALYSI

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STORMWATER POLLUTION PREVENTION PLAN

TEMPORARY SEEDING - UPSTATE

SPECIES	LBS/AC
BROWNTOP MILLET (ALONE)	40
BROWNTOP MILLET (MIX)	10
RYE, GRAIN (ALONE)	56
RYE, GRAIN (MIX)	10
RYEGRASS (ALONE)	50
RYEGRASS (MIX)	8
FOR STEEP SLOPES/CUT SLOPES	
WEEPING LOVEGRASS (ALONE)	40
WEEPING LOVEGRASS (ALONE)	40

PERMANENT SEEDING - UPSTATE

SPECIES	LBS/AC
BAHIAGRASS (ALONE)	40
BAHIAGRASS (MIX)	30
BERMUDA GRASS (HULLED) (ALONE)	8-12
BERMUDA GRASS (HULLED) (MIX)	4-6
FESCUE, TALL (KY31) (ALONE)	40
FESCUE, TALL (KY31) (MIX)	20
SERICEA LESPEDEZA (SCARIFIED) ALONE OR MIX (INOCULATE WITH EL INOCULANT)	40
LADINO CLOVER (MIX ONLY) INOCULATE WITH AB INOCULANT	2
FOR STEEP SLOPES/CUT SLOPES	
WEEPING LOVEGRASS (ALONE)	4
WEEPING LOVEGRASS (MIX)	2
CROWNVETCH (MIX) (INOCULATE WITH TYPE M INOCULANT)	8-10

NATIVE SPECIES FOR NON-CRITICAL LEVEL AREAS ONLY

SPECIES	LBS/AC
LATE PURPLE ASTER (MIX)	3
INDIAN GRASS (MIX)	8, PLS*
LITTLE BLUESTEM (MIX)	8, PLS*

* PLS - PURE LIVE SEED

EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
SILT FENCE	
CLEARING LIMITS	CL
DIVERSION DIKE	DD
DIVERSION BERM	DB
TEMPORARY DIVERSION	TD
PERMANENT DIVERSION	PD
SUBSURFACE DRAIN	SSD
VEGETATED CHANNEL	
RIP RAP LINED CHANNEL	
ECB OR TRM LINED CHANNEL	
PAVED CHANNEL	PC
TREE PROTECTION	
SURFACE ROUGHENING	OR LG
TOP SOILING	
TEMPORARY SEEDING	TS
PERMANENT SEEDING	PS
MULCHING	M

EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
EROSION CONTROL BLANKET OR TURF REINFORCEMENT MAT	
FLEXIBLE GROWTH MATRIX	FGM
BONDED FIBER MATRIX	BFM
SODDING	SO
SLOPED SODDING	
STAKED SOD	
STAKED SOD AROUND INLET	OR
RIPRAP	
OUTLET PROTECTION - RIP RAP	
OUTLET PROTECTION - ECB OR TRM	
DUST CONTROL	DC
POLYACRYLAMIDE (PAM)	PAM
SEDIMENT BASIN	
SEDIMENT BASIN WITH SKIMMER	
SEDIMENT TRAP	
ROCK SEDIMENT DIKE	
SEDIMENT TUBE	

EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
ROCK CHECK DAM	OR
POROUS BAFFLES	
STABILIZED CONSTRUCTION ENTRANCE	
CONCRETE WASHOUT	
STORM DRAIN INLET PROTECTION - TYPE A FILTER FABRIC	A
STORM DRAIN INLET PROTECTION - TYPE A SEDIMENT TUBE	A
STORM DRAIN INLET PROTECTION - TYPE B HARDWARE FABRIC AND STONE	B
STORM DRAIN INLET PROTECTION - TYPE C BLOCK AND GRAVEL	C
STORM DRAIN INLET PROTECTION - TYPE D RIGID INLET FILTER	D
STORM DRAIN INLET PROTECTION - TYPE E SURFACE COURSE CURB INLET FILTER	E
STORM DRAIN INLET PROTECTION - TYPE F INLET TUBE	F
STORM DRAIN INLET PROTECTION - TYPE G IMPERVIOUS AREA	G
STORM DRAIN INLET PROTECTION - CATCH BASIN INSERT	I
PIPE SLOPE DRAINS	
TEMPORARY STREAM CROSSING	
LEVEL SPREADER	

WETLANDS HATCHING LEGEND	
	JURISDICTIONAL WETLANDS
WC WC WC WC WC	WETLAND PERMANENT FILL IMPACT
	WETLAND BUFFER
WC WC WC WC WC	WETLAND PERMANENT CLEARING IMPACT
	NON-WETLAND WATERS (PONDS) PERMANENT FILL IMPACT
	WETLAND TEMPORARY EXCAVATION/PERMANENT CLEARING IMPACT (UNDERGROUND UTILITY IMPACT)
	JURISDICTIONAL NON-WETLAND WATERS (NWW) (PONDS)

LIST OF ACRONYMS FOR SEDIMENT AND EROSION CONTROL

AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
AMD	ACRYLAMIDE POLYMER
BFM	BONDED FIBER MATRIX
BMP(S)	BEST MANAGEMENT PRACTICE(S)
CFS	CUBIC FEET PER SECOND
CMP	CORRUGATED METAL PIPE
DHEC	DEPARTMENT OF HEATH AND ENVIRONMENTAL CONTROL
ECB	EROSION CONTROL BLANKET
EPA	UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
EPSC	EROSION PREVENTION AND SEDIMENTATION CONTROL
FDA	UNITED STATES FOOD AND DRUG ADMINISTRATION
FGM	FLEXIBLE GROWTH MATRIX
HDPE	HIGH DENSITY POLYETHYLENE
MS4	MUNICIPAL SEPARATE STORM SEWER SYSTEM
MSDS	MATERIAL SAFETY DATA SHEETS
NPDES	NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
PAM	POLYACRYLAMIDE OR POLYMER
RCP	REINFORCED CONCRETE PIPE
SCS	SOIL CONSERVATION SERVICE
SWPPP	STORMWATER POLLUTION PREVENTION PROGRAM
TRM	TURF REINFORCEMENT MAT
VFS	VEGETATED FILTER STRIP

ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

LIMITS OF DITURBANCE — LOD — LOD

CONSTRUCTION SEQUENCE
INITIAL PHASE

1	RECEIVE NPDES COVERAGE FROM SCDHEC AND USACE WETLAND PERMIT.
2	FLAG THE WORK LIMITS AND MARK BUFFER AREAS FOR PROTECTION. WATER QUALITY BUFFERS WILL BE CLEARLY MARKED IN THE FIELD. ALL MARKINGS MUST BE MAINTAINED UNTIL COMPLETION OF CONSTRUCTION ACTIVITIES.
3	PRE-CONSTRUCTION MEETING WITH SCDHEC.
4	NOTIFY DHEC EQC REGIONAL OFFICE PRIOR TO BEGINNING LAND-DISTURBING ACTIVITIES.
5	INSTALLATION OF CONSTRUCTION ENTRANCES.
6	CLEARING & GRUBBING ONLY AS NECESSARY FOR INSTALLATION OF PERIMETER CONTROLS.
7	INSTALLATION OF PERIMETER CONTROLS (E.G., SILT FENCE).
8	CLEARING & GRUBBING ONLY IN AREAS OF POND.
9	INSTALLATION OF POND & INSTALLATION OF DIVERSIONS TO THAT STRUCTURE (AREAS DRAINING TO THIS STRUCTURE CANNOT BE DISTURBED UNTIL THE DIVERSIONS TO THE STRUCTURES ARE COMPLETELY INSTALLED). PROPOSED TEMPORARY SEDIMENT BASINS SHOWN IN THE INITIAL PHASE MUST BE STABILIZED PRIOR TO DECOMMISSIONING OF EXISTING SEDIMENT BASINS THAT ARE UPSTREAM. SEE EXISTING BASIN DECOMMISSIONING PLANSHEETS EX2.0-EX2.5 FOR REFERENCE.

CONSTRUCTION SEQUENCE
INITIAL PHASE

10	CLEARING & GRUBBING OF SITE (SEDIMENT & EROSION CONTROL MEASURES FOR THESE AREAS MUST ALREADY BE INSTALLED).
11	ROUGH GRADING.
12	INSTALLATION OF STORM DRAIN SYSTEM & PLACEMENT OF INLET PROTECTION AS EACH INLET IS INSTALLED.
13	BUILDING PAD CONSTRUCTION.

CONSTRUCTION SEQUENCE
STABILIZATION PHASE

14	PERMANENT/FINAL STABILIZATION.
15	CLEAN-OUT OF DETENTION BASIN THAT WAS USED AS A SEDIMENT CONTROL STRUCTURE & RE-GRADING OF DETENTION POND BOTTOM; IF NECESSARY, MODIFICATION OF SEDIMENT BASIN RISER TO CONVERT TO DETENTION BASIN OUTLET STRUCTURE.
16	PERFORM AS-BUILT SURVEY OF DETENTION STRUCTURE & SUBMIT TO SCDHEC FOR ACCEPTANCE.
17	SUBMIT NOTICE OF TERMINATION (NOT) AND CERTIFIED POND AS-BUILTS TO DHEC UPON A MINIMUM OF 70% UNIFORM SITE DENSITY PERMANENT SITE STABILIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER — No. 28573 — CERTIFICATE OF AUTHORIZATION — THOMAS & HUTTON ENGINEERING CO. — No. C00285 — 1/9/2024

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 740
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL CHARTS

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	N/A

EC0.2

Z:\2705\27015.0007\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015.0007 - EXEC-PLANS - Jun 9, 2024 - 9:32 AM

CONSTRUCTION SEQUENCE	
INITIAL PHASE	
1	RECEIVE NPDES COVERAGE FROM SCDHEC AND USACE WETLAND PERMIT.
2	FLAG THE WORK LIMITS AND MARK BUFFER AREAS FOR PROTECTION. WATER QUALITY BUFFERS WILL BE CLEARLY MARKED IN THE FIELD. ALL MARKINGS MUST BE MAINTAINED UNTIL COMPLETION OF CONSTRUCTION ACTIVITIES.
3	PRE-CONSTRUCTION MEETING WITH SCDHEC.
4	NOTIFY DHEC EQC REGIONAL OFFICE PRIOR TO BEGINNING LAND-DISTURBING ACTIVITIES.
5	INSTALLATION OF CONSTRUCTION ENTRANCES.
6	CLEARING & GRUBBING ONLY AS NECESSARY FOR INSTALLATION OF PERIMETER CONTROLS.
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LIMITS OF DITURBANCE

NATIVE SEEDING MIX

EC1.1 EC1.2 EC1.3 EC1.4 EC1.5 EC1.6 EC1.7 EC1.8 EC1.9 EC1.10 EC1.11 EC1.12 EC1.13 EC1.14 EC1.15 EC1.16 EC1.17 EC1.18

BLYTHWOOD ROAD (S-59)
PROJECT BOUNDARY (TYP.)
LOCKLIER ROAD (LOCAL)
LONER ROAD
COMMUNITY ROAD (S-2885)
INTERSTATE 77
24" CMP IE = 460.82 IE = 460.52
DRY TEMPORARY SEDIMENT BASIN 1
DRY TEMPORARY SEDIMENT BASIN 2
DRY TEMPORARY SEDIMENT BASIN 3
DRY TEMPORARY SEDIMENT BASIN 4
DRY TEMPORARY SEDIMENT BASIN 5
DRY TEMPORARY SEDIMENT BASIN 6
DRY TEMPORARY SEDIMENT BASIN 7
DRY TEMPORARY SEDIMENT BASIN 8
DRY TEMPORARY SEDIMENT BASIN 9
DRY TEMPORARY SEDIMENT BASIN 10
DRY TEMPORARY SEDIMENT BASIN 11
DRY TEMPORARY SEDIMENT BASIN 12
CONNECT PHASE I MG MODIFICATION DRY TEMPORARY SEDIMENT BASIN 6
CONNECT PHASE I MG MODIFICATION DRY TEMPORARY SEDIMENT BASIN 7
CONNECT PHASE I MG MODIFICATION DRY TEMPORARY SEDIMENT BASIN 8
CONNECT PHASE I MG MODIFICATION DRY TEMPORARY SEDIMENT BASIN 9
CONNECT PHASE I MG MODIFICATION DRY TEMPORARY SEDIMENT BASIN 10
4" UGG
8"FM

ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

GRAPHIC SCALE
600 0 300 600 1200 2400
(IN FEET)
1 inch = 600 ft.

SOUTH CAROLINA PROFESSIONAL ENGINEER — No. 28573 — MARCUS G. SHEALY — 12/11/2024

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 740
Columbia, SC 29201 • 803.451.6789
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RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC
PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS
OVERALL EROSION CONTROL PLAN - INITIAL PHASE

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 600'

EC1.0

CONSTRUCTION SEQUENCE	
INITIAL PHASE	
1	RECEIVE NPDES COVERAGE FROM SCDHEC AND USACE WETLAND PERMIT.
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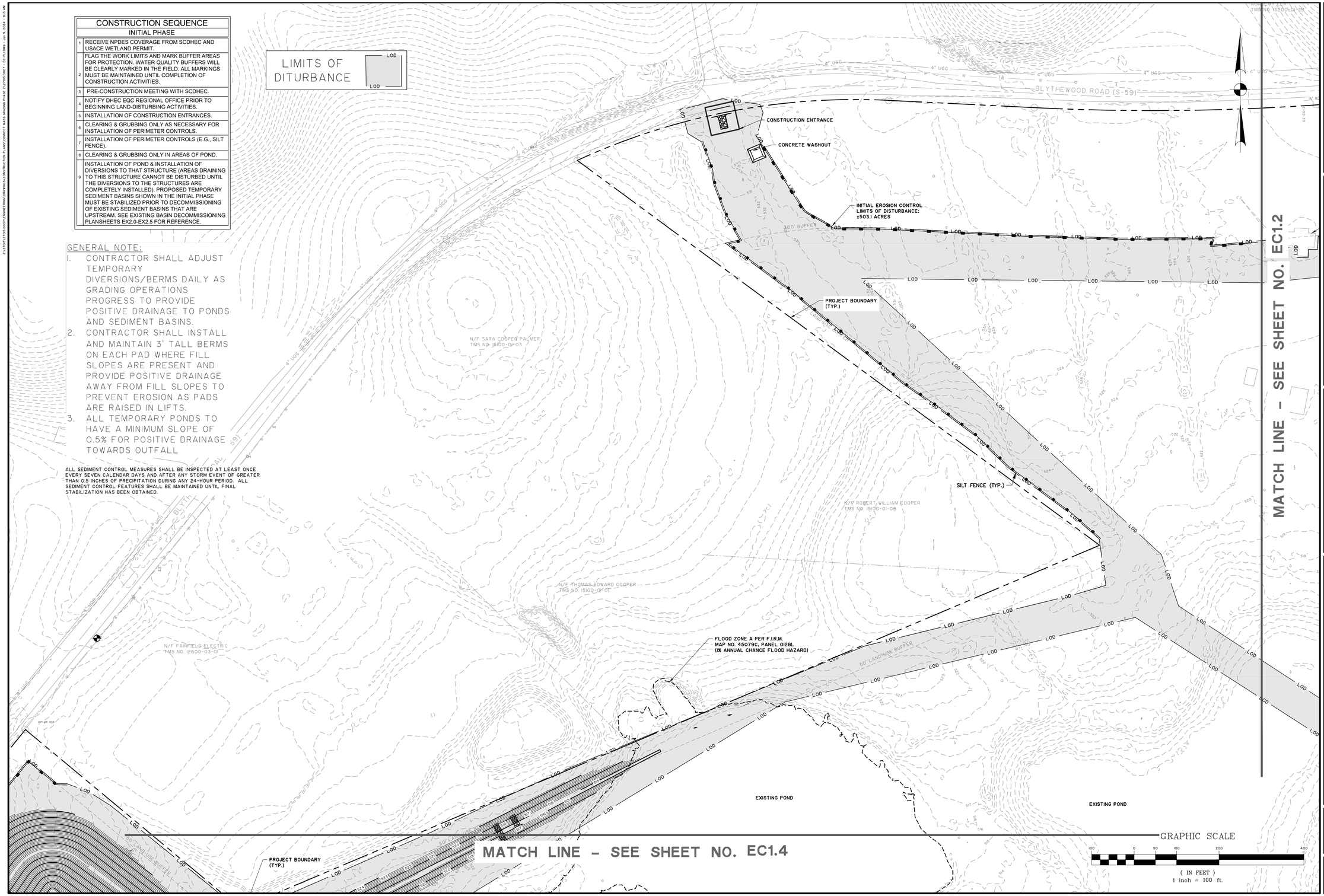
LIMITS OF DITURBANCE — LOD

GENERAL NOTE:

1. CONTRACTOR SHALL ADJUST TEMPORARY DIVERSIONS/BERMS DAILY AS GRADING OPERATIONS PROGRESS TO PROVIDE POSITIVE DRAINAGE TO PONDS AND SEDIMENT BASINS.
2. CONTRACTOR SHALL INSTALL AND MAINTAIN 3' TALL BERMS ON EACH PAD WHERE FILL SLOPES ARE PRESENT AND PROVIDE POSITIVE DRAINAGE AWAY FROM FILL SLOPES TO PREVENT EROSION AS PADS ARE RAISED IN LIFTS.
3. ALL TEMPORARY PONDS TO HAVE A MINIMUM SLOPE OF 0.5% FOR POSITIVE DRAINAGE TOWARDS OUTFALL

ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.



SOUTH CAROLINA PROFESSIONAL ENGINEER — THOMAS HUTTON ENGINEERING CO. No. COD285 — CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER — No. 28573 — 12-11-24 — MARCUS B. SIMPSON

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 740
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

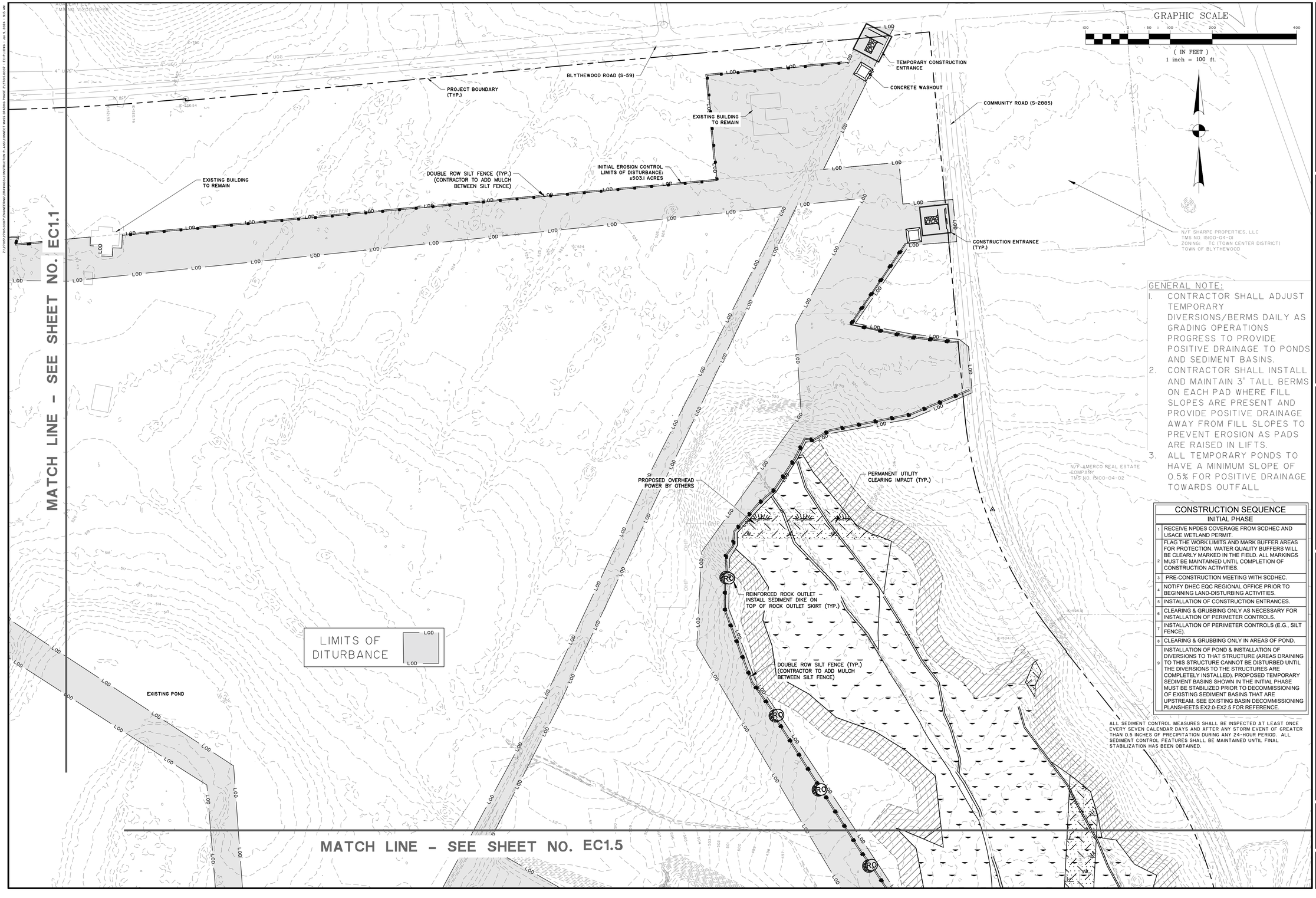
PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - INITIAL PHASE

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC1.1

Z:\27015\27015.0007\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONSTRUCTION PLANS\CONSTRUCTION PLANS.DWG, EC-1.DWG, Jan 16, 2024 - 9:53 AM



GENERAL NOTE:

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CONSTRUCTION SEQUENCE	
INITIAL PHASE	
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SOUTH CAROLINA NO. 17261 THOMAS & HUTTON ENGINEERING CO. No. COA0285 CERTIFICATE OF AUTHORITY

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 28573 MARCUS B. SIMPSON 12-11-2023

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN – INITIAL PHASE

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC1.2

Z:\27015\27015-0007\ENGINEERING\GRADING\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015-0007 - EC-PLANS - Jan 16, 2024 - 9:24 AM

GENERAL NOTE:

1. CONTRACTOR SHALL ADJUST TEMPORARY DIVERSIONS/BERMS DAILY AS GRADING OPERATIONS PROGRESS TO PROVIDE POSITIVE DRAINAGE TO PONDS AND SEDIMENT BASINS.
2. CONTRACTOR SHALL INSTALL AND MAINTAIN 3' TALL BERMS ON EACH PAD WHERE FILL SLOPES ARE PRESENT AND PROVIDE POSITIVE DRAINAGE AWAY FROM FILL SLOPES TO PREVENT EROSION AS PADS ARE RAISED IN LIFTS.
3. ALL TEMPORARY PONDS TO HAVE A MINIMUM SLOPE OF 0.5% FOR POSITIVE DRAINAGE TOWARDS OUTFALL

CONSTRUCTION SEQUENCE	
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LIMITS OF DITURBANCE — LOD

PROJECT BOUNDARY (TYP.)

TEMPORARY SEEDING

INSTALL EROSION CONTROL MATTING ON ALL DITCHES AND SLOPES 3:1 AND GREATER (TYP.)

INITIAL EROSION CONTROL LIMITS OF DISTURBANCE: ±503.1 ACRES

DOUBLE ROW SILT FENCE (TYP.) (CONTRACTOR TO ADD MULCH BETWEEN SILT FENCE)

N/F WILLIAM W. SHIVES / TMS NO. 19500-03-08

50' BUFFER (UNDISTURBED)

MATCH LINE - SEE SHEET NO. EC1.4

MATCH LINE - SEE SHEET NO. EC1.6

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)

1 inch = 100 ft.

SOUTH CAROLINA — NOLTE ASSOCIATES, INC. — THOMAS & HUTTON ENGINEERING CO. — No. C00285 — CERTIFICATE OF AUTHORITY

SOUTH CAROLINA — PROFESSIONAL ENGINEER — No. 28573 — CHRISTOPHER G. WASHINGTON — 12/19/2023 — MARCH 31, 2025

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

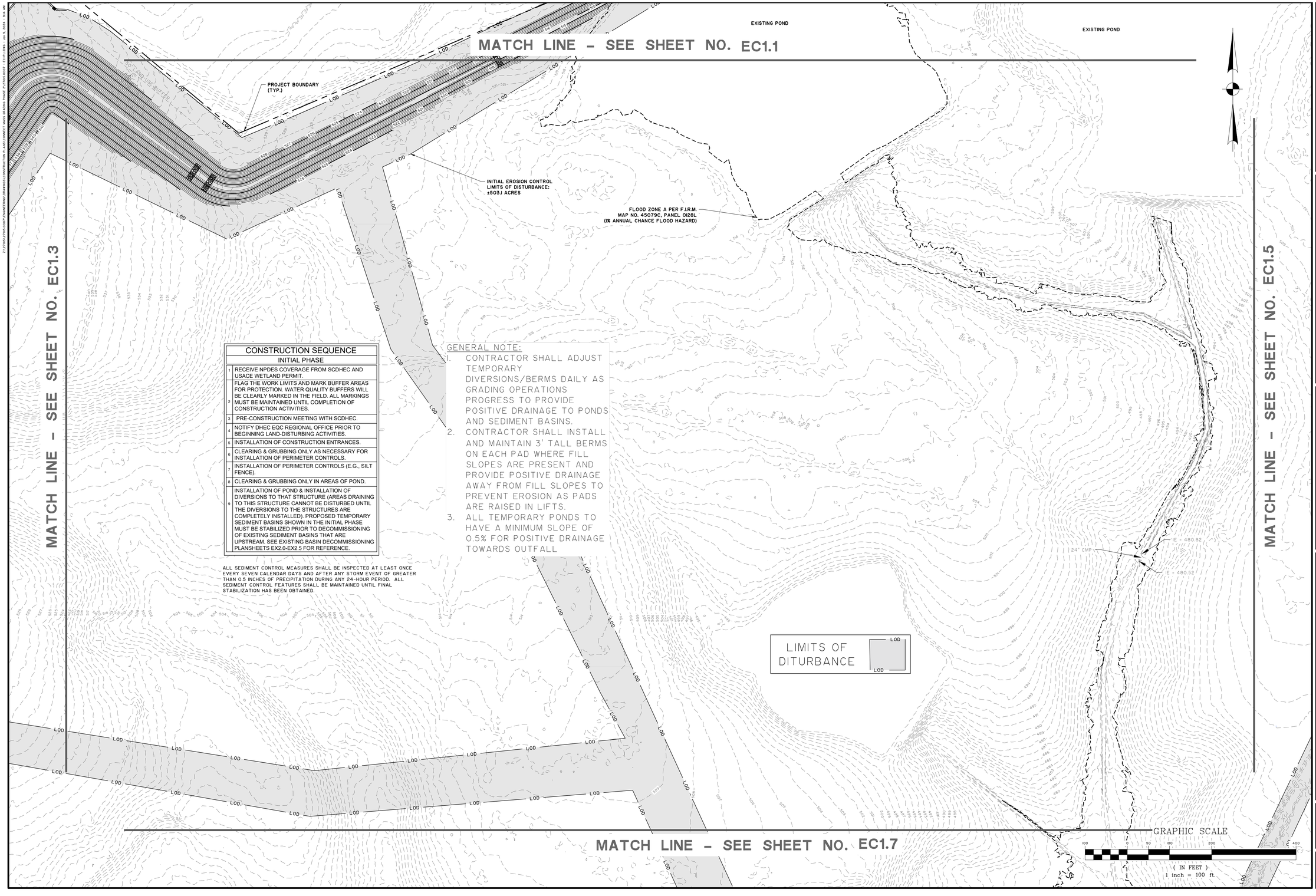
RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - INITIAL PHASE

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC1.3



CONSTRUCTION SEQUENCE	
INITIAL PHASE	
1	RECEIVE NPDES COVERAGE FROM SCDHEC AND USACE WETLAND PERMIT.
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GENERAL NOTE:

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3. ALL TEMPORARY PONDS TO HAVE A MINIMUM SLOPE OF 0.5% FOR POSITIVE DRAINAGE TOWARDS OUTFALL

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA
PROFESSIONAL ENGINEER
No. 28573
MARCUS B. HUTTON
12-19-2023

SOUTH CAROLINA
NOLTHOMAS
THOMAS & HUTTON ENGINEERING CO.
No. COA2285
CERTIFICATE OF AUTHORITY

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - INITIAL PHASE

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC1.4

MATCH LINE - SEE SHEET NO. EC1.2

MATCH LINE - SEE SHEET NO. EC1.4

MATCH LINE - SEE SHEET NO. EC1.8

GENERAL NOTE:

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3. ALL TEMPORARY PONDS TO HAVE A MINIMUM SLOPE OF 0.5% FOR POSITIVE DRAINAGE TOWARDS OUTFALL

INITIAL EROSION CONTROL LIMITS OF DISTURBANCE: ±503.1 ACRES

TEMPORARY ROCK CHECK DAM (TYP.) (SEE SHEET EC4.3)

ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

DOUBLE ROW SILT FENCE (TYP.) (CONTRACTOR TO ADD MULCH BETWEEN SILT FENCE)

PERMANENT UTILITY CLEARING IMPACT (TYP.)

GRAPHIC SCALE
0 50 100 200 400
(IN FEET)
1 inch = 100 ft. (TYP.)

PROPOSED OVERHEAD POWER BY OTHERS

LIMITS OF DITURBANCE

EXISTING CLEANOUT STAKE

EXISTING FOREBAY BERM

EXISTING POROUS BAFFLES

EXISTING 8" SKIMMER

EXISTING DETENTION POND
BOTTOM OF POND: 488.55'
EMERGENCY SPILLWAY: 494.55'
TOP OF EMBANKMENT: 494.55'
10-YR: 491.5'

EXISTING DETENTION POND
BOTTOM OF POND: 484.22'
EMERGENCY SPILLWAY: 489.22'
TOP OF EMBANKMENT: 490.22'
10-YR: 478.33'

EXISTING SEDIMENT BASIN WITH SKIMMER

REINFORCED ROCK OUTLET - INSTALL SEDIMENT DIKE ON TOP OF ROCK OUTLET SKIRT

EXISTING 12 SY OF RIP RAP (SEE DETAILS SHEET) (TYP.)

EXISTING SILT FENCE TO REMAIN UNDER SCDHEC PERMIT SCR10ZCPU

REINFORCED ROCK OUTLET - INSTALL SEDIMENT DIKE ON TOP OF ROCK OUTLET SKIRT (TYP.)

CONSTRUCTION SEQUENCE

INITIAL PHASE

1	RECEIVE NPDES COVERAGE FROM SCDHEC AND USACE WETLAND PERMIT.
2	FLAG THE WORK LIMITS AND MARK BUFFER AREAS FOR PROTECTION. WATER QUALITY BUFFERS WILL BE CLEARLY MARKED IN THE FIELD. ALL MARKINGS MUST BE MAINTAINED UNTIL COMPLETION OF CONSTRUCTION ACTIVITIES.
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SOUTH CAROLINA PROFESSIONAL ENGINEER No. 28573 MARCUS B. WILSON REGISTERED

SOUTH CAROLINA NOLTE/ROSS THOMAS & HUTTON ENGINEERING CO. No. C00285 CERTIFICATE OF AUTHORITY

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.4789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - INITIAL PHASE

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC1.5

Z:\27015\27015.0007\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015.0007 - EC1.DWG - Jan 16, 2024 - 9:24 AM

Z:\27015\27015.0007\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONSECT MASS GRADING PHASE 2\27015.0007 - EC1.CLK#5 - Jan 19, 2024 - 9:41 AM

MATCH LINE - SEE SHEET NO. EC1.3

CONSTRUCTION SEQUENCE	
INITIAL PHASE	
1	RECEIVE NPDES COVERAGE FROM SCDHEC AND USACE WETLAND PERMIT.
2	FLAG THE WORK LIMITS AND MARK BUFFER AREAS FOR PROTECTION. WATER QUALITY BUFFERS WILL BE CLEARLY MARKED IN THE FIELD. ALL MARKINGS MUST BE MAINTAINED UNTIL COMPLETION OF CONSTRUCTION ACTIVITIES.
3	PRE-CONSTRUCTION MEETING WITH SCDHEC.
4	NOTIFY DHEC EQC REGIONAL OFFICE PRIOR TO BEGINNING LAND-DISTURBING ACTIVITIES.
5	INSTALLATION OF CONSTRUCTION ENTRANCES.
6	CLEARING & GRUBBING ONLY AS NECESSARY FOR INSTALLATION OF PERIMETER CONTROLS.
7	INSTALLATION OF PERIMETER CONTROLS (E.G., SILT FENCE).
8	CLEARING & GRUBBING ONLY IN AREAS OF POND.
9	INSTALLATION OF POND & INSTALLATION OF DIVERSIONS TO THAT STRUCTURE (AREAS DRAINING TO THIS STRUCTURE CANNOT BE DISTURBED UNTIL THE DIVERSIONS TO THE STRUCTURES ARE COMPLETELY INSTALLED). PROPOSED TEMPORARY SEDIMENT BASINS SHOWN IN THE INITIAL PHASE MUST BE STABILIZED PRIOR TO DECOMMISSIONING OF EXISTING SEDIMENT BASINS THAT ARE UPSTREAM. SEE EXISTING BASIN DECOMMISSIONING PLANSHEETS EX2.0-EX2.5 FOR REFERENCE.

GENERAL NOTE:

1. CONTRACTOR SHALL ADJUST TEMPORARY DIVERSIONS/BERMS DAILY AS GRADING OPERATIONS PROGRESS TO PROVIDE POSITIVE DRAINAGE TO PONDS AND SEDIMENT BASINS.
2. CONTRACTOR SHALL INSTALL AND MAINTAIN 3' TALL BERMS ON EACH PAD WHERE FILL SLOPES ARE PRESENT AND PROVIDE POSITIVE DRAINAGE AWAY FROM FILL SLOPES TO PREVENT EROSION AS PADS ARE RAISED IN LIFTS.
3. ALL TEMPORARY PONDS TO HAVE A MINIMUM SLOPE OF 0.5% FOR POSITIVE DRAINAGE TOWARDS OUTFALL

LIMITS OF DITURBANCE — LOD

ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

PROJECT BOUNDARY (TYP.)

DOUBLE ROW SILT FENCE (TYP.) (CONTRACTOR TO ADD MULCH BETWEEN SILT FENCE)

TEMPORARY SEEDING

INSTALL EROSION CONTROL MATTING ON ALL DITCHES AND SLOPES 3:1 AND GREATER (TYP.)

EXISTING POND (TO BE DRAINED)

INITIAL EROSION CONTROL LIMITS OF DISTURBANCE: ±503.1 ACRES

INSTALL TURBIDITY CURTAIN (SEE SHEET EC4.4)(TYP.)

N/F WILLIAM W. SHIVES TMS NO. 12600-03-09

N/F WILLIAM W. SHIVES TMS NO. 12600-03-10

BLYTHEWOOD ROAD (S-59)

50' LAND-USE BUFFER

POND NOTE: POND DAMS REGULATED BY SCDHEC SHALL NOT BE CONSTRUCTED UNTIL RECEIPT OF APPROVED PERMIT.

WET TEMPORARY SEDIMENT BASIN 3

MATCH LINE - SEE SHEET NO. EC1.9

MATCH LINE - SEE SHEET NO. EC1.7

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA PROFESSIONAL ENGINEER — THOMAS & HUTTON ENGINEERING CO. No. C00285 — CERTIFICATE OF AUTHORIZATION — 11/21/2023

SOUTH CAROLINA PROFESSIONAL ENGINEER — No. 28573 — 11/21/2023 — MARCUS B. SIMPSON

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - INITIAL PHASE

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SCALE:	1" = 100'

EC1.6

Z:\27015.0007\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015.0007 - EC-FLOWS - Jan 16, 2024 - 9:31 AM

MATCH LINE - SEE SHEET NO. EC1.4

MATCH LINE - SEE SHEET NO. EC1.6

MATCH LINE - SEE SHEET NO. EC1.8

MATCH LINE - SEE SHEET NO. EC1.10

EXISTING POND

FLOOD ZONE A PER F.I.R.M.
MAP NO. 45079C, PANEL 0128L
(1% ANNUAL CHANCE FLOOD HAZARD)

INITIAL EROSION CONTROL
LIMITS OF DISTURBANCE:
±503.1 ACRES

LIMITS OF DITURBANCE — LOD

CONSTRUCTION SEQUENCE	
INITIAL PHASE	
1	RECEIVE NPDES COVERAGE FROM SCDHEC AND USACE WETLAND PERMIT.
2	FLAG THE WORK LIMITS AND MARK BUFFER AREAS FOR PROTECTION. WATER QUALITY BUFFERS WILL BE CLEARLY MARKED IN THE FIELD. ALL MARKINGS MUST BE MAINTAINED UNTIL COMPLETION OF CONSTRUCTION ACTIVITIES.
3	PRE-CONSTRUCTION MEETING WITH SCDHEC.
4	NOTIFY DHEC EQC REGIONAL OFFICE PRIOR TO BEGINNING LAND-DISTURBING ACTIVITIES.
5	INSTALLATION OF CONSTRUCTION ENTRANCES.
6	CLEARING & GRUBBING ONLY AS NECESSARY FOR INSTALLATION OF PERIMETER CONTROLS.
7	INSTALLATION OF PERIMETER CONTROLS (E.G., SILT FENCE).
8	CLEARING & GRUBBING ONLY IN AREAS OF POND.
9	INSTALLATION OF POND & INSTALLATION OF DIVERSIONS TO THAT STRUCTURE (AREAS DRAINING TO THIS STRUCTURE CANNOT BE DISTURBED UNTIL THE DIVERSIONS TO THE STRUCTURES ARE COMPLETELY INSTALLED). PROPOSED TEMPORARY SEDIMENT BASINS SHOWN IN THE INITIAL PHASE MUST BE STABILIZED PRIOR TO DECOMMISSIONING OF EXISTING SEDIMENT BASINS THAT ARE UPSTREAM. SEE EXISTING BASIN DECOMMISSIONING PLANSHEETS EX2.0-EX2.5 FOR REFERENCE.

GENERAL NOTE:

1. CONTRACTOR SHALL ADJUST TEMPORARY DIVERSIONS/BERMS DAILY AS GRADING OPERATIONS PROGRESS TO PROVIDE POSITIVE DRAINAGE TO PONDS AND SEDIMENT BASINS.
2. CONTRACTOR SHALL INSTALL AND MAINTAIN 3' TALL BERMS ON EACH PAD WHERE FILL SLOPES ARE PRESENT AND PROVIDE POSITIVE DRAINAGE AWAY FROM FILL SLOPES TO PREVENT EROSION AS PADS ARE RAISED IN LIFTS.
3. ALL TEMPORARY PONDS TO HAVE A MINIMUM SLOPE OF 0.5% FOR POSITIVE DRAINAGE TOWARDS OUTFALL

ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

GRAPHIC SCALE

-100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA — NOLTE ASSOCIATES — THOMAS & HUTTON ENGINEERING CO. — No. C00285 — CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA — PROFESSIONAL ENGINEER — No. 28573 — MARCUS B. SIMPSON — REGISTERED PROFESSIONAL ENGINEER

NO.	REVISIONS	BY	DATE

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RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - INITIAL PHASE

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC1.7

MATCH LINE - SEE SHEET NO. EC1.5

MATCH LINE - SEE SHEET NO. EC1.7

MATCH LINE - SEE SHEET NO. EC1.11

GENERAL NOTE:

1. CONTRACTOR SHALL ADJUST TEMPORARY DIVERSIONS/BERMS DAILY AS GRADING OPERATIONS PROGRESS TO PROVIDE POSITIVE DRAINAGE TO PONDS AND SEDIMENT BASINS.
2. CONTRACTOR SHALL INSTALL AND MAINTAIN 3' TALL BERMS ON EACH PAD WHERE FILL SLOPES ARE PRESENT AND PROVIDE POSITIVE DRAINAGE AWAY FROM FILL SLOPES TO PREVENT EROSION AS PADS ARE RAISED IN LIFTS.
3. ALL TEMPORARY PONDS TO HAVE A MINIMUM SLOPE OF 0.5% FOR POSITIVE DRAINAGE TOWARDS OUTFALL

CONSTRUCTION SEQUENCE	
INITIAL PHASE	
1	RECEIVE NPDES COVERAGE FROM SCDHEC AND USACE WETLAND PERMIT.
2	FLAG THE WORK LIMITS AND MARK BUFFER AREAS FOR PROTECTION. WATER QUALITY BUFFERS WILL BE CLEARLY MARKED IN THE FIELD. ALL MARKINGS MUST BE MAINTAINED UNTIL COMPLETION OF CONSTRUCTION ACTIVITIES.
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6	CLEARING & GRUBBING ONLY AS NECESSARY FOR INSTALLATION OF PERIMETER CONTROLS.
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LIMITS OF DITURBANCE — LOD

TEMPORARY DIVERSION DITCH (TYP.)

INITIAL EROSION CONTROL LIMITS OF DISTURBANCE: ±507.1 ACRES

TEMPORARY ROCK CHECK DAM (TYP.) (SEE SHEET EC4.3)

INITIAL EROSION CONTROL LIMITS OF DISTURBANCE: ±503.1 ACRES

FLOOD ZONE A PER F.I.R.M. MAP NO. 45079C, PANEL 0128L (1% ANNUAL CHANCE FLOOD HAZARD)

F.I.R.M. 0128L ZARD)

TEMPORARY SEEDING

DRY TEMPORARY SEDIMENT BASIN 2

CLEAN OUT STAKE

INSTALL RIP-RAP BLANKET WHERE TEMPORARY DIVERSIONS ENTER POND (TYP.)

INSTALL 200' EMERGENCY SPILLWAY AT ELEVATION 451.00'

PERMANENT UTILITY CLEARING IMPACT (TYP.)

COMMUNITY ROAD (S-2885)

PROJECT BOUNDARY (TYP.)

REINFORCED ROCK OUTLET - INSTALL SEDIMENT DIKE ON TOP OF ROCK OUTLET SKIRT

DOUBLE ROW SILT FENCE (TYP.) (CONTRACTOR TO ADD MULCH BETWEEN SILT FENCE)

FOREBAY BERM

CLEAN OUT STAKE

INSTALL ROCK SEDIMENT DIKE (SEE SHEET EC4.2)(TYP.)

DRY TEMPORARY SEDIMENT BASIN 1

INSTALL POROUS BAFFLES (SEE SHEET EC4.4)(TYP.)

INSTALL (1) 8" SKIMMERS (SEE SHEET EC4.2)

PIPE END INV.: 448.00

TEMPORARY SEEDING

INSTALL 50' EMERGENCY SPILLWAY AT ELEVATION 456.00'

140 LF 6" PVC - SDR 26 @ 10.03%

PIPE END INV.: 434.00

RIP-RAP OUTFALL TREATMENT APRON LENGTH: 6' MINIMUM APRON WIDTH: 7' MINIMUM d50 PARTICLE SIZE: 0.5' MINIMUM

ALL ROCK SEDIMENT DIKE : SHEET EC4.2)(TYP.)

INSTALL (1) 8" SKIMMER (SEE SHEET EC4.2)

REINFORCED ROCK OUTLET - INSTALL SEDIMENT DIKE ON TOP OF ROCK OUTLET SKIRT

INTERSTATE 77

GRAPHIC SCALE

(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA — NOLTE ASSOCIATES — THOMAS & HUTTON ENGINEERING CO. — No. C00285 — CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA — PROFESSIONAL ENGINEER — No. 28573 — 12-14-23 — REGISTERED — MARCH 31, 2025

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 740
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - INITIAL PHASE

JOB NO:	J-27015.0007
DATE:	11/10/2023
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DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC1.8

Z:\27015\27015-0007\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CORRECT MASS GRADING PHASE 2\27015-0007 - EC-PLT.DWG - Jan 9, 2024 - 10:07 AM

MATCH LINE - SEE SHEET NO. EC1.6

WET TEMPORARY SEDIMENT BASIN 3

DOUBLE ROW SILT FENCE (TYP.)
(CONTRACTOR TO ADD MULCH BETWEEN SILT FENCE)

POND NOTE: POND DAMS REGULATED BY SCDHEC SHALL NOT BE CONSTRUCTED UNTIL RECEIPT OF APPROVED PERMIT.

BUMBLEBEE CT (50' R/W)

PROJECT BOUNDARY (TYP.)

TEMPORARY SEEDING

TEMPORARY SEEDING

INITIAL EROSION CONTROL LIMITS OF DISTURBANCE: ±503.1 ACRES

INSTALL 20'x20' RIP-RAP BLANKET AT ENTRY POINT OF POND

TEMPORARY ROCK CHECK DAM (TYP.)

TEMPORARY DIVERSION DITCH (TYP.)

INSTALL TURBIDITY CURTAIN (SEE SHEET EC4.4)(TYP.)

INSTALL ROCK SEDIMENT DIKE (SEE SHEET EC4.2)(TYP.)

INSTALL ROCK SEDIMENT DIKE (SEE SHEET EC4.2)(TYP.)

FOREBAY BERM

66 LF 36" RCP @ 3.25%

RIP-RAP OUTFALL TREATMENT TO BE INSTALLED PER PIPE
APRON LENGTH: 6' MINIMUM
APRON WIDTH: 7' MINIMUM
d50 PARTICLE SIZE: 0.5' MINIMUM

DRY TEMPORARY SEDIMENT BASIN 4

CLEAN OUT STAKE

INSTALL (4) 8' SKIMMERS (SEE SHEET EC4.2)
(ANY TEMPORARY HOLES CORED IN STRUCTURE FOR THE INSTALLATION OF SKIMMERS TO BE SEALED AND GROUTED PER SPECIFICATIONS UPON SITE STABILIZATION)

200' EMERGENCY SPILLWAY AT ELEVATION 446.20'

PIPE END INV.: 434.43

PIPE END INV.: 437.17

PIPE END INV.: 437.04

CS #L-041ODS
FR: 443.12
INV. OUT: 439.20 (SE)

INSTALL POROUS BAFFLES (SEE SHEET EC4.4)(TYP.)

INSTALL RIP-RAP BLANKET WHERE TEMPORARY DIVERSIONS ENTER POND (TYP.)

REINFORCED ROCK OUTLET - INSTALL SEDIMENT DIKE ON TOP OF ROCK OUTLET SKIRT

REINFORCED ROCK OUTLET - INSTALL SEDIMENT DIKE ON TOP OF ROCK OUTLET SKIRT

INSTALL (3) 8' SKIMMER (SEE SHEET EC4.2)

INSTALL 150' EMERGENCY SPILLWAY AT ELEVATION 454.00'

3 x 138 LF 6" PVC - SDR 26 @ 1.98%

RIP-RAP OUTFALL TREATMENT TO BE INSTALLED PER PIPE
APRON LENGTH: 6' MINIMUM
APRON WIDTH: 7' MINIMUM
d50 PARTICLE SIZE: 0.5' MINIMUM

EXISTING WETLANDS (TYP.)

FLOOD ZONE AE PER F.I.R.M. MAP NO. 45079C, PANEL 0110L (1% ANNUAL CHANCE FLOOD HAZARD)

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GENERAL NOTE:

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2. CONTRACTOR SHALL INSTALL AND MAINTAIN 3' TALL BERMS ON EACH PAD WHERE FILL SLOPES ARE PRESENT AND PROVIDE POSITIVE DRAINAGE AWAY FROM FILL SLOPES TO PREVENT EROSION AS PADS ARE RAISED IN LIFTS.
3. ALL TEMPORARY PONDS TO HAVE A MINIMUM SLOPE OF 0.5% FOR POSITIVE DRAINAGE TOWARDS OUTFALL

CONSTRUCTION SEQUENCE	
INITIAL PHASE	
1	RECEIVE NPDES COVERAGE FROM SCDHEC AND USACE WETLAND PERMIT.
2	FLAG THE WORK LIMITS AND MARK BUFFER AREAS FOR PROTECTION. WATER QUALITY BUFFERS WILL BE CLEARLY MARKED IN THE FIELD. ALL MARKINGS MUST BE MAINTAINED UNTIL COMPLETION OF CONSTRUCTION ACTIVITIES.
3	PRE-CONSTRUCTION MEETING WITH SCDHEC.
4	NOTIFY DHEC EQC REGIONAL OFFICE PRIOR TO BEGINNING LAND-DISTURBING ACTIVITIES.
5	INSTALLATION OF CONSTRUCTION ENTRANCES.
6	CLEARING & GRUBBING ONLY AS NECESSARY FOR INSTALLATION OF PERIMETER CONTROLS.
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OUTLET PROTECTION DESIGN CRITERIA (St)

OUTLET OPENING :	36"
FLOW RATE (CFS):	27.56 CFS
VELOCITY (FPS):	3.90 FPS
TAILWATER CONDITION: (MIN. or MAX.)	MIN
d_{50} RIPRAP SIZE:	8"
d_{100} RIPRAP SIZE:	1'
MIN. RIPRAP THICKNESS(D):	1.40'
La:	27'
Wup:	9'
Wdown:	30'

LIMITS OF DITURBANCE — LOD

MATCH LINE - SEE SHEET NO. EC1.10

MATCH LINE - SEE SHEET NO. EC1.12

GRAPHIC SCALE
(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA — THOMAS & HUTTON ENGINEERING No. C00285 — CERTIFICATE OF AUTHORIZATION — HOLLY HOOVER

SOUTH CAROLINA — PROFESSIONAL ENGINEER — No. 28573 — LICENSED — MARCUS B. SIMPSON — 12/19/2023

NO.	REVISIONS	BY	DATE

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RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC
PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - INITIAL PHASE

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REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC1.9

MATCH LINE - SEE SHEET NO. EC1.7

MATCH LINE - SEE SHEET NO. EC1.9

MATCH LINE - SEE SHEET NO. EC1.11

MATCH LINE - SEE SHEET NO. EC1.13

GENERAL NOTE:

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CONSTRUCTION SEQUENCE	
INITIAL PHASE	
1	RECEIVE NPDES COVERAGE FROM SCDHEC AND USACE WETLAND PERMIT.
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ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

INSTALL 20'x20' RIP-RAP BLANKET AT ENTRY POINT OF POND

INSTALL 20'x20' RIP-RAP BLANKET AT ENTRY POINT OF POND

TEMPORARY ROCK CHECK DAM 3 (TYP.) (SEE SHEET EC4.3)

LIMITS OF DITURBANCE

INITIAL EROSION CONTROL LIMITS OF DISTURBANCE: ±503.1 ACRES

TEMPORARY DIVERSION DITCH

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)

1 inch = 100 ft.

SOUTH CAROLINA PROFESSIONAL ENGINEER — THOMAS HUTTON ENGINEERING CO. No. C00285 — CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER — No. 28573 — 12-1-2023 — MARCUS B. SCHWARTZ

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
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RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - INITIAL PHASE

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EC1.10

Z:\27015\27015.0007\ENGINEERING\GRADING\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015.0007_EC-FLIMS.dwg, 11/9/2023 9:16 AM

MATCH LINE - SEE SHEET NO. EC1.10

MATCH LINE - SEE SHEET NO. EC1.8

MATCH LINE - SEE SHEET NO. EC1.14

TEMPORARY SEEDING

DRY TEMPORARY SEDIMENT BASIN 2

CLEAN OUT STAKE

INSTALL 200' EMERGENCY SPILLWAY AT ELEVATION 451.00'

INSTALL POROUS BAFFLES (SEE SHEET EC4.4)(TYP.)

INSTALL ROCK SEDIMENT DIKE (SEE SHEET EC4.2)(TYP.)

INSTALL (1) 8" SKIMMER (SEE SHEET EC4.2)

140 LF 6" PVC - SDR 26 @ 10.03%

REINFORCED ROCK OUTLET – INSTALL SEDIMENT DIKE ON TOP OF ROCK OUTLET SKIRT

RIP-RAP OUTFALL TREATMENT

PIPE END INV.: 452.00

98 LF 6" PVC - SDR 26 @ 23.83%

RIP-RAP OUTFALL TREATMENT
APRON LENGTH: 6' MINIMUM
APRON WIDTH: 7' MINIMUM
d50 PARTICLE SIZE: 0.5' MINIMUM

PIPE END INV.: 428.64

OUTLET PROTECTION DESIGN CRITERIA (St)

OUTLET OPENING :	24"
FLOW RATE (CFS):	13.88 CFS
VELOCITY (FPS):	4.42 FPS
TAILWATER CONDITION: (MIN. or MAX.)	MIN
d_{50} RIPRAP SIZE:	6"
d_{max} RIPRAP SIZE:	9"
MIN. RIPRAP THICKNESS(D):	1.00'
La:	14'
Wup:	6'
Wdown:	16'

ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

CONSTRUCTION SEQUENCE

INITIAL PHASE

1	RECEIVE NPDES COVERAGE FROM SCDHEC AND USACE WETLAND PERMIT.
2	FLAG THE WORK LIMITS AND MARK BUFFER AREAS FOR PROTECTION. WATER QUALITY BUFFERS WILL BE CLEARLY MARKED IN THE FIELD. ALL MARKINGS MUST BE MAINTAINED UNTIL COMPLETION OF CONSTRUCTION ACTIVITIES.
3	PRE-CONSTRUCTION MEETING WITH SCDHEC.
4	NOTIFY DHEC EQC REGIONAL OFFICE PRIOR TO BEGINNING LAND-DISTURBING ACTIVITIES.
5	INSTALLATION OF CONSTRUCTION ENTRANCES.
6	CLEARING & GRUBBING ONLY AS NECESSARY FOR INSTALLATION OF PERIMETER CONTROLS.
7	INSTALLATION OF PERIMETER CONTROLS (E.G., SILT FENCE).
8	CLEARING & GRUBBING ONLY IN AREAS OF POND.
9	INSTALLATION OF POND & INSTALLATION OF DIVERSIONS TO THAT STRUCTURE (AREAS DRAINING TO THIS STRUCTURE CANNOT BE DISTURBED UNTIL THE DIVERSIONS TO THE STRUCTURES ARE COMPLETELY INSTALLED). PROPOSED TEMPORARY SEDIMENT BASINS SHOWN IN THE INITIAL PHASE MUST BE STABILIZED PRIOR TO DECOMMISSIONING OF EXISTING SEDIMENT BASINS THAT ARE UPSTREAM. SEE EXISTING BASIN DECOMMISSIONING PLANSHEETS EX2.0-EX2.5 FOR REFERENCE.

LIMITS OF DITURBANCE

GENERAL NOTE:

1. CONTRACTOR SHALL ADJUST TEMPORARY DIVERSIONS/BERMS DAILY AS GRADING OPERATIONS PROGRESS TO PROVIDE POSITIVE DRAINAGE TO PONDS AND SEDIMENT BASINS.
2. CONTRACTOR SHALL INSTALL AND MAINTAIN 3' TALL BERMS ON EACH PAD WHERE FILL SLOPES ARE PRESENT AND PROVIDE POSITIVE DRAINAGE AWAY FROM FILL SLOPES TO PREVENT EROSION AS PADS ARE RAISED IN LIFTS.
3. ALL TEMPORARY PONDS TO HAVE A MINIMUM SLOPE OF 0.5% FOR POSITIVE DRAINAGE TOWARDS OUTFALL

INITIAL EROSION CONTROL LIMITS OF DISTURBANCE: ±503.1 ACRES

INSTALL RIP-RAP BLANKET WHERE TEMPORARY DIVERSIONS ENTER POND (TYP.)

TEMPORARY DIVERSION DITCH (TYP.)

FOREBAY BERM

DRY TEMPORARY SEDIMENT BASIN 5

INSTALL ROCK SEDIMENT DIKE (SEE SHEET EC4.2)(TYP.)

INSTALL (2) 8" SKIMMER W/ 7" ORIFICE (SEE SHEET EC4.2)

INSTALL POROUS BAFFLES (SEE SHEET EC4.4)(TYP.)

CLEAN OUT STAKE

INSTALL 150' EMERGENCY SPILLWAY AT ELEVATION 424.00'

OUTLET PROTECTION DESIGN CRITERIA (St)

OUTLET OPENING :	36"
FLOW RATE (CFS):	4.67 CFS
VELOCITY (FPS):	0.66 FPS
TAILWATER CONDITION: (MIN. or MAX.)	MIN
d_{50} RIPRAP SIZE:	8"
d_{max} RIPRAP SIZE:	1'
MIN. RIPRAP THICKNESS(D):	1.40'
La:	20'
Wup:	9'
Wdown:	23'

RIP-RAP OUTFALL TREATMENT TO BE INSTALLED PER PIPE
APRON LENGTH: 6' MINIMUM
APRON WIDTH: 7' MINIMUM
d50 PARTICLE SIZE: 0.5' MINIMUM

PIPE END INV.: 417.73

PIPE END INV.: 406.33

2 x 94 LF 6" PVC - SDR 26 @ 12.09%

TEMPORARY ROCK CHECK DAM (TYP.) (SEE SHEET EC4.3)

FLOOD ZONE AE PER F.I.R.M. MAP NO. 45079C, PANEL 0128L (1% ANNUAL CHANCE FLOOD HAZARD)

FLOODWAY

FLOOD ZONE A PER F.I.R.M. MAP NO. 45079C, PANEL 0128L (1% ANNUAL CHANCE FLOOD HAZARD)

DOUBLE ROW SILT FENCE (TYP.) (CONTRACTOR TO ADD MULCH BETWEEN SILT FENCE)

PROJECT BOUNDARY (TYP.)

COMMUNITY ROAD (S-2885)

EXISTING WETLANDS (TYP.)

REINFORCED ROCK OUTLET – INSTALL SEDIMENT DIKE ON TOP OF ROCK OUTLET SKIRT

DOUBLE ROW SILT FENCE (TYP.) (CONTRACTOR TO ADD MULCH BETWEEN SILT FENCE)

PROPOSED OVERHEAD POWER BY OTHERS

INTERSTATE 77

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA NOLAN KIRKLAND THOMAS & HUTTON ENGINEERING CO. No. C00285 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 28573 MARCUS B. WILSON

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - INITIAL PHASE

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC1.11

Z:\27015.0007\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONSECT MASS GRADING PHASE 2\27015.0007_EC-PLANS - Jan 16, 2024 - 9:37 AM

MATCH LINE - SEE SHEET NO. EC1.9

ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

CONSTRUCTION SEQUENCE	
INITIAL PHASE	
1	RECEIVE NPDES COVERAGE FROM SCDHEC AND USACE WETLAND PERMIT.
2	FLAG THE WORK LIMITS AND MARK BUFFER AREAS FOR PROTECTION. WATER QUALITY BUFFERS WILL BE CLEARLY MARKED IN THE FIELD. ALL MARKINGS MUST BE MAINTAINED UNTIL COMPLETION OF CONSTRUCTION ACTIVITIES.
3	PRE-CONSTRUCTION MEETING WITH SCDHEC.
4	NOTIFY DHEC EQC REGIONAL OFFICE PRIOR TO BEGINNING LAND-DISTURBING ACTIVITIES.
5	INSTALLATION OF CONSTRUCTION ENTRANCES.
6	CLEARING & GRUBBING ONLY AS NECESSARY FOR INSTALLATION OF PERIMETER CONTROLS.
7	INSTALLATION OF PERIMETER CONTROLS (E.G., SILT FENCE).
8	CLEARING & GRUBBING ONLY IN AREAS OF POND.
9	INSTALLATION OF POND & INSTALLATION OF DIVERSIONS TO THAT STRUCTURE (AREAS DRAINING TO THIS STRUCTURE CANNOT BE DISTURBED UNTIL THE DIVERSIONS TO THE STRUCTURES ARE COMPLETELY INSTALLED). PROPOSED TEMPORARY SEDIMENT BASINS SHOWN IN THE INITIAL PHASE MUST BE STABILIZED PRIOR TO DECOMMISSIONING OF EXISTING SEDIMENT BASINS THAT ARE UPSTREAM. SEE EXISTING BASIN DECOMMISSIONING PLANSHEETS EX2.0-EX2.5 FOR REFERENCE.

GENERAL NOTE:

1. CONTRACTOR SHALL ADJUST TEMPORARY DIVERSIONS/BERMS DAILY AS GRADING OPERATIONS PROGRESS TO PROVIDE POSITIVE DRAINAGE TO PONDS AND SEDIMENT BASINS.
2. CONTRACTOR SHALL INSTALL AND MAINTAIN 3' TALL BERMS ON EACH PAD WHERE FILL SLOPES ARE PRESENT AND PROVIDE POSITIVE DRAINAGE AWAY FROM FILL SLOPES TO PREVENT EROSION AS PADS ARE RAISED IN LIFTS.
3. ALL TEMPORARY PONDS TO HAVE A MINIMUM SLOPE OF 0.5% FOR POSITIVE DRAINAGE TOWARDS OUTFALL

FLOOD ZONE AE PER F.I.R.M. MAP NO. 45079C, PANEL 0110L (1% ANNUAL CHANCE FLOOD HAZARD)

DOUBLE ROW SILT FENCE (TYP.) (CONTRACTOR TO ADD MULCH BETWEEN SILT FENCE)

EXISTING WETLANDS (TYP.)

PROJECT BOUNDARY (TYP.)

REINFORCED ROCK OUTLET – INSTALL SEDIMENT DIKE ON TOP OF ROCK OUTLET SKIRT

PROPOSED OVERHEAD POWER BY OTHERS

NATIVE SEEDING MIX (TYP.) (NON-CRITICAL AREA) (SEE SHEET EC0.2 FOR DETAILS)

INITIAL EROSION CONTROL LIMITS OF DISTURBANCE: ±503.1 ACRES

NATIVE SEEDING MIX

LIMITS OF DITURBANCE

TEMPORARY DIVERSION DITCH (TYP.)

TEMPORARY ROCK CHECK DAM (TYP.) (SEE SHEET EC4.3)

INITIAL EROSION CONTROL LIMITS OF DISTURBANCE: ±503.1 ACRES

FOREBAY BERM

CLEAN OUT STAKE

INSTALL POROUS BAFFLES (SEE SHEET EC4.4)(TYP.)

TEMPORARY SEEDING

2 x 125 LF 6" PVC - SDR @ 3.99%

PIPE END INV.: 410.00

PIPE END INV.: 415.00

INSTALL (2) 8" SKIMMER (SEE SHEET EC4.2)

RIP-RAP OUTFALL TREATMENT TO BE INSTALLED PER PIPE
APRON LENGTH: 6' MINIMUM
APRON WIDTH: 7' MINIMUM
d50 PARTICLE SIZE: 0.5' MINIMUM

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

MATCH LINE - SEE SHEET NO. EC1.15

MATCH LINE - SEE SHEET NO. EC1.13

SOUTH CAROLINA PROFESSIONAL ENGINEER — THOMAS HUTTON ENGINEERING CO. — No. C00285 — CERTIFICATE OF AUTHORITY

SOUTH CAROLINA PROFESSIONAL ENGINEER — No. 28573 — MARCUS B. SCOTT — 12-19-2023

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.4789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC
PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS
EROSION CONTROL PLAN - INITIAL PHASE

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC1.12

Z:\27015\27015-0007\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015-0007 - EC-PLANS - Jan 16, 2024 - 9:37 AM

MATCH LINE - SEE SHEET NO. EC1.10

MATCH LINE - SEE SHEET NO. EC1.12

MATCH LINE - SEE SHEET NO. EC1.14

MATCH LINE - SEE SHEET NO. EC1.16

ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

GENERAL NOTE:

1. CONTRACTOR SHALL ADJUST TEMPORARY DIVERSIONS/BERMS DAILY AS GRADING OPERATIONS PROGRESS TO PROVIDE POSITIVE DRAINAGE TO PONDS AND SEDIMENT BASINS.
2. CONTRACTOR SHALL INSTALL AND MAINTAIN 3' TALL BERMS ON EACH PAD WHERE FILL SLOPES ARE PRESENT AND PROVIDE POSITIVE DRAINAGE AWAY FROM FILL SLOPES TO PREVENT EROSION AS PADS ARE RAISED IN LIFTS.
3. ALL TEMPORARY PONDS TO HAVE A MINIMUM SLOPE OF 0.5% FOR POSITIVE DRAINAGE TOWARDS OUTFALL

CONSTRUCTION SEQUENCE	
INITIAL PHASE	
1	RECEIVE NPDES COVERAGE FROM SCDHEC AND USACE WETLAND PERMIT.
2	FLAG THE WORK LIMITS AND MARK BUFFER AREAS FOR PROTECTION. WATER QUALITY BUFFERS WILL BE CLEARLY MARKED IN THE FIELD. ALL MARKINGS MUST BE MAINTAINED UNTIL COMPLETION OF CONSTRUCTION ACTIVITIES.
3	PRE-CONSTRUCTION MEETING WITH SCDHEC.
4	NOTIFY DHEC EQC REGIONAL OFFICE PRIOR TO BEGINNING LAND-DISTURBING ACTIVITIES.
5	INSTALLATION OF CONSTRUCTION ENTRANCES.
6	CLEARING & GRUBBING ONLY AS NECESSARY FOR INSTALLATION OF PERIMETER CONTROLS.
7	INSTALLATION OF PERIMETER CONTROLS (E.G., SILT FENCE).
8	CLEARING & GRUBBING ONLY IN AREAS OF POND.
9	INSTALLATION OF POND & INSTALLATION OF DIVERSIONS TO THAT STRUCTURE (AREAS DRAINING TO THIS STRUCTURE CANNOT BE DISTURBED UNTIL THE DIVERSIONS TO THE STRUCTURES ARE COMPLETELY INSTALLED). PROPOSED TEMPORARY SEDIMENT BASINS SHOWN IN THE INITIAL PHASE MUST BE STABILIZED PRIOR TO DECOMMISSIONING OF EXISTING SEDIMENT BASINS THAT ARE UPSTREAM. SEE EXISTING BASIN DECOMMISSIONING PLANSHEETS EX2.0-EX2.5 FOR REFERENCE.

LIMITS OF DITURBANCE — LOD

TEMPORARY DIVERSION DITCH

TEMPORARY DIVERSION DITCH (TYP.)

INITIAL EROSION CONTROL LIMITS OF DISTURBANCE: ±503.1 ACRES

TEMPORARY ROCK CHECK DAM (TYP.) (SEE SHEET EC4.3)

FOREBAY BERM

CLEAN OUT STAKE

2 x 125 LF 6" PVC - SDR 26 @ 3.99%

GRAPHIC SCALE
(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA PROFESSIONAL ENGINEER — No. 28573 — MARCUS C. WILSON — NOT FOR CONSTRUCTION — CERTIFICATE OF AUTHORIZATION — THOMAS & HUTTON ENGINEERING CO. — No. COA0285

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 740
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - INITIAL PHASE

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC1.13

MATCH LINE - SEE SHEET NO. EC1.13

MATCH LINE - SEE SHEET NO. EC1.11

MATCH LINE - SEE SHEET NO. EC1.17

PIPE END
INV.: 417.73

PIPE END
INV.: 406.33

RIP-RAP OUTFALL TREATMENT TO BE INSTALLED PER PIPE
APRON LENGTH: 6' MINIMUM
APRON WIDTH: 7' MINIMUM

2 x 94 LF 6" PVC - SDR 26
@ 12.09%

OUTLET PROTECTION DESIGN CRITERIA (St)

OUTLET OPENING :	24"
FLOW RATE (CFS):	8.32 CFS
VELOCITY (FPS):	2.65 FPS
TAILWATER CONDITION: (MIN. or MAX.)	MIN
d_{50} RIPRAP SIZE:	6"
d_{max} RIPRAP SIZE:	9"
MIN. RIPRAP THICKNESS(D):	1.00'
La:	14'
Wup:	6'
Wdown:	16'

TEMPORARY ROCK CHECK DAM (TYP.) (SEE SHEET EC4.3)

TEMPORARY SEEDING

DRY TEMPORARY SEDIMENT BASIN 6

CLEAN OUT STAKE

PIPE END
INV.: 408.30

111 LF 6" PVC - SDR 26
@ 10.49%

FLOOD ZONE AE PER F.I.R.M.
MAP NO. 45079C, PANEL 0128L
(1% ANNUAL CHANCE FLOOD HAZARD)

INITIAL EROSION CONTROL LIMITS OF DISTURBANCE: ±503.1 ACRES

FOREBAY BERM

INSTALL POROUS BAFFLES (SEE SHEET EC4.4)(TYP.)

INSTALL ROCK SEDIMENT DIKE (SEE SHEET EC4.2)(TYP.)

INSTALL (1) 8" SKIMMER (SEE SHEET EC4.2)

INSTALL 25' EMERGENCY SPILLWAY AT ELEVATION 415.00'

RIP-RAP OUTFALL TREATMENT
APRON LENGTH: 6' MINIMUM
APRON WIDTH: 7' MINIMUM
d50 PARTICLE SIZE: 0.5' MINIMUM

PIPE END
INV.: 396.61

DOUBLE ROW SILT FENCE (TYP.) (CONTRACTOR TO ADD MULCH BETWEEN SILT FENCE)

TEMPORARY ROCK CHECK DAM (TYP.) (SEE SHEET EC4.3)

TEMPORARY DIVERSION DITCH (TYP.)

OUTLET PROTECTION DESIGN CRITERIA (St)

OUTLET OPENING :	24"
FLOW RATE (CFS):	13.08 CFS
VELOCITY (FPS):	4.16 FPS
TAILWATER CONDITION: (MIN. or MAX.)	MIN
d_{50} RIPRAP SIZE:	6"
d_{max} RIPRAP SIZE:	9"
MIN. RIPRAP THICKNESS(D):	1.00'
La:	14'
Wup:	6'
Wdown:	16'

FLOOD ZONE AE PER F.I.R.M.
MAP NO. 45079C, PANEL 0128L
(1% ANNUAL CHANCE FLOOD HAZARD)

RIP-RAP OUTFALL TREATMENT
APRON LENGTH: 6' MINIMUM
APRON WIDTH: 7' MINIMUM
d50 PARTICLE SIZE: 0.5' MINIMUM

INSTALL (1) 8" SKIMMER (SEE SHEET EC4.2)

INSTALL ROCK SEDIMENT DIKE (SEE SHEET EC4.2)(TYP.)

INSTALL 50' EMERGENCY SPILLWAY AT ELEVATION 434.00'

INSTALL POROUS BAFFLES (SEE SHEET EC4.4)(TYP.)

INSTALL RIP-RAP BLANKET WHERE TEMPORARY DIVERSIONS ENTER POND (TYP.)

FLOODWAY

TEMPORARY ROCK CHECK DAM (TYP.) (SEE SHEET EC4.3)

PIPE END
INV.: 417.73

111 LF 6" PVC - SDR 26
@ 10.24%

CLEAN OUT STAKE

PIPE END
INV.: 406.33

DRY TEMPORARY SEDIMENT BASIN 7

FOREBAY BERM

TEMPORARY SEEDING

FLOODWAY

GENERAL NOTE:

1. CONTRACTOR SHALL ADJUST TEMPORARY DIVERSIONS/BERMS DAILY AS GRADING OPERATIONS PROGRESS TO PROVIDE POSITIVE DRAINAGE TO PONDS AND SEDIMENT BASINS.
2. CONTRACTOR SHALL INSTALL AND MAINTAIN 3' TALL BERMS ON EACH PAD WHERE FILL SLOPES ARE PRESENT AND PROVIDE POSITIVE DRAINAGE AWAY FROM FILL SLOPES TO PREVENT EROSION AS PADS ARE RAISED IN LIFTS.
3. ALL TEMPORARY PONDS TO HAVE A MINIMUM SLOPE OF 0.5% FOR POSITIVE DRAINAGE TOWARDS OUTFALL

PROPOSED OVERHEAD POWER BY OTHERS

DOUBLE ROW SILT FENCE (TYP.) (CONTRACTOR TO ADD MULCH BETWEEN SILT FENCE)

PROJECT BOUNDARY (TYP.)

EXISTING DOUBLE ROW SILT FENCE TO REMAIN UNDER SCDHEC PERMIT SCR10ZCPU

LIMITS OF DISTURBANCE — LOD

EXISTING WETLANDS EDGE (TYP.)

CONSTRUCTION ENTRANCE

TEMPORARY ROCK CHECK DAM (TYP.) (SEE SHEET EC4.3)

CONCRETE WASHOUT

INSTALL RIP-RAP BLANKET WHERE TEMPORARY DIVERSIONS ENTER POND (TYP.)

CONSTRUCTION SEQUENCE

INITIAL PHASE

1	RECEIVE NPDES COVERAGE FROM SCDHEC AND USACE WETLAND PERMIT.
2	FLAG THE WORK LIMITS AND MARK BUFFER AREAS FOR PROTECTION. WATER QUALITY BUFFERS WILL BE CLEARLY MARKED IN THE FIELD. ALL MARKINGS MUST BE MAINTAINED UNTIL COMPLETION OF CONSTRUCTION ACTIVITIES.
3	PRE-CONSTRUCTION MEETING WITH SCDHEC.
4	NOTIFY DHEC EQC REGIONAL OFFICE PRIOR TO BEGINNING LAND-DISTURBING ACTIVITIES.
5	INSTALLATION OF CONSTRUCTION ENTRANCES.
6	CLEARING & GRUBBING ONLY AS NECESSARY FOR INSTALLATION OF PERIMETER CONTROLS.
7	INSTALLATION OF PERIMETER CONTROLS (E.G., SILT FENCE)
8	CLEARING & GRUBBING ONLY IN AREAS OF POND.
9	INSTALLATION OF POND & INSTALLATION OF DIVERSIONS TO THAT STRUCTURE (AREAS DRAINING TO THIS STRUCTURE CANNOT BE DISTURBED UNTIL THE DIVERSIONS TO THE STRUCTURES ARE COMPLETELY INSTALLED). PROPOSED TEMPORARY SEDIMENT BASINS SHOWN IN THE INITIAL PHASE MUST BE STABILIZED PRIOR TO DECOMMISSIONING OF EXISTING SEDIMENT BASINS THAT ARE UPSTREAM. SEE EXISTING BASIN DECOMMISSIONING PLANSHEETS EX2.0-EX2.5 FOR REFERENCE.

ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA PROFESSIONAL ENGINEER — THOMAS HUTTON ENGINEERING CO. No. C00285 CERTIFICATE OF AUTHORITY

SOUTH CAROLINA PROFESSIONAL ENGINEER — No. 28573 — 12-19-23 — REGISTERED PROFESSIONAL ENGINEER — MARCH 31, 2024

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC
PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS
EROSION CONTROL PLAN - INITIAL PHASE

JOB NO:	J-27015.0007
DATE:	II/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC1.14

Z:\27015\27015.0007\ENGINEERING\GRADING\CONSTRUCTION PLANS\CONNECT BASE GRADING PHASE 2\27015.0007 - EC-PLANS - cam, 11/28/2023 9:31 AM

MATCH LINE - SEE SHEET NO. EC1.12

INSTALL POROUS BAFFLES (SEE SHEET EC4.4)(TYP.)

TEMPORARY SEEDING

PIPE END INV.: 410.00

2 x 125 LF 6" PVC - SDR 26 @ 3.99%

PIPE END INV.: 415.00

RIP-RAP OUTFALL TREATMENT TO BE INSTALLED PER PIPE
APRON LENGTH: 6' MINIMUM
APRON WIDTH: 7' MINIMUM
d50 PARTICLE SIZE: 0.5' MINIMUM

INSTALL (2) 8" SKIMMER (SEE SHEET EC4.2)

INSTALL 50' EMERGENCY SPILLWAY AT ELEVATION 421.00'

INSTALL ROCK SEDIMENT DIKE (SEE SHEET EC4.2)(TYP.)

OUTLET PROTECTION DESIGN CRITERIA (St)

OUTLET OPENING :	24"
FLOW RATE (CFS):	9.41 CFS
VELOCITY (FPS):	3.00 FPS
TAILWATER CONDITION: (MIN. or MAX.)	MIN
d_{50} RIPRAP SIZE:	6"
d_{max} RIPRAP SIZE:	9"
MIN. RIPRAP THICKNESS(D):	1.00'
La:	14'
Wup:	6'
Wdown:	16'

REINFORCED ROCK OUTLET
INSTALL SEDIMENT DIKE ON TOP OF ROCK OUTLET SKIRT

INITIAL EROSION CONTROL LIMITS OF DISTURBANCE: ±503.1 ACRES

INSTALL POROUS BAFFLES (SEE SHEET EC4.4)(TYP.)

FOREBAY BERM

DRY TEMPORARY SEDIMENT BASIN 08

CLEAN OUT STAKE

CONNECT PHASE I MG MODIFICATION DRY TEMPORARY SEDIMENT BASIN 6

CONNECT PHASE I MG MODIFICATION DRY TEMPORARY SEDIMENT BASIN 7

CLEAN OUT STAKE (TYP.)

FOREBAY BERM

INSTALL POROUS BAFFLES (SEE SHEET EC4.4)(TYP.)

INSTALL ROCK SEDIMENT DIKE (SEE SHEET EC4.2)(TYP.)

INSTALL 4" SKIMMER (SEE SHEET EC4.1)

PROJECT BOUNDARY (TYP.)

PIPE END INV.: 397.00

PIPE END INV.: 395.81

NATIVE SEEDING MIX (TYP.) (NON-CRITICAL AREA) (SEE SHEET EC0.2 FOR DETAILS)

37 LF 6" PVC - SDR 26 @ 3.21%

PROPOSED OVERHEAD POWER BY OTHERS

PIPE END INV.: 403.00

38 LF 6" PVC - SDR 26 @ 1.44%

PIPE END INV.: 402.46

FLOOD ZONE AE PER F.I.R.M. MAP NO. 45079C, PANEL 0120L (1% ANNUAL CHANCE FLOOD HAZARD)

50' WAREHOUSE BUFFER

ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

INSTALL ROCK SEDIMENT DIKE (SEE SHEET EC4.2)(TYP.)

INSTALL POROUS BAFFLES (SEE SHEET EC4.4)(TYP.)

FOREBAY BERM

CLEAN OUT STAKE (TYP.)

GENERAL NOTE:

1. CONTRACTOR SHALL ADJUST TEMPORARY DIVERSIONS/BERMS DAILY AS GRADING OPERATIONS PROGRESS TO PROVIDE POSITIVE DRAINAGE TO PONDS AND SEDIMENT BASINS.
2. CONTRACTOR SHALL INSTALL AND MAINTAIN 3' TALL BERMS ON EACH PAD WHERE FILL SLOPES ARE PRESENT AND PROVIDE POSITIVE DRAINAGE AWAY FROM FILL SLOPES TO PREVENT EROSION AS PADS ARE RAISED IN LIFTS.
3. ALL TEMPORARY PONDS TO HAVE A MINIMUM SLOPE OF 0.5% FOR POSITIVE DRAINAGE TOWARDS OUTFALL

INSTALL (3) 8" SKIMMER (SEE SHEET EC4.2)

BAF .4)(T

CONSTRUCTION SEQUENCE

	INITIAL PHASE
1	RECEIVE NPDES COVERAGE FROM SCDHEC AND USACE WETLAND PERMIT.
2	FLAG THE WORK LIMITS AND MARK BUFFER AREAS FOR PROTECTION. WATER QUALITY BUFFERS WILL BE CLEARLY MARKED IN THE FIELD. ALL MARKINGS MUST BE MAINTAINED UNTIL COMPLETION OF CONSTRUCTION ACTIVITIES.
3	PRE-CONSTRUCTION MEETING WITH SCDHEC.
4	NOTIFY DHEC EQC REGIONAL OFFICE PRIOR TO BEGINNING LAND-DISTURBING ACTIVITIES.
5	INSTALLATION OF CONSTRUCTION ENTRANCES.
6	CLEARING & GRUBBING ONLY AS NECESSARY FOR INSTALLATION OF PERIMETER CONTROLS.
7	INSTALLATION OF PERIMETER CONTROLS (E.G., SILT FENCE).
8	CLEARING & GRUBBING ONLY IN AREAS OF POND.
9	INSTALLATION OF POND & INSTALLATION OF DIVERSIONS TO THAT STRUCTURE (AREAS DRAINING TO THIS STRUCTURE CANNOT BE DISTURBED UNTIL THE DIVERSIONS TO THE STRUCTURES ARE COMPLETELY INSTALLED). PROPOSED TEMPORARY SEDIMENT BASINS SHOWN IN THE INITIAL PHASE MUST BE STABILIZED PRIOR TO DECOMMISSIONING OF EXISTING SEDIMENT BASINS THAT ARE UPSTREAM. SEE EXISTING BASIN DECOMMISSIONING PLANSHEETS EX2.0-EX2.5 FOR REFERENCE.

LIMITS OF DITURBANCE — LOD

NATIVE SEEDING MIX

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

MATCH LINE - SEE SHEET NO. EC1.16

SOUTH CAROLINA — NOLTE/ZIMMERMAN — THOMAS & HUTTON ENGINEERING CO. — No. C00285 — CERTIFICATE OF AUTHORITY

SOUTH CAROLINA — PROFESSIONAL ENGINEER — No. 28573 — 12-14-2023 — MARCUS B. SHEALY

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - INITIAL PHASE

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC1.15

Z:\27015\27015.0007\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015.0007 - EC-PLANS - Jan 16, 2024 - 9:38 AM

MATCH LINE - SEE SHEET NO. EC1.13

MATCH LINE - SEE SHEET NO. EC1.15

MATCH LINE - SEE SHEET NO. EC1.17

PVC - SDR 26

DRY TEMPORARY SEDIMENT BASIN 09

MODIFICATION
IMENT BASIN 7

FICATION
BASIN 6

TAILS)

INSTALL RIP-RAP BLANKET WHERE TEMPORARY DIVERSIONS ENTER POND (TYP.)

TEMPORARY ROCK CHECK DAM (TYP.) (SEE SHEET EC4.3)

INSTALL POROUS BAFFLES (SEE SHEET EC4.4)(TYP.)

INSTALL ROCK SEDIMENT DIKE (SEE SHEET EC4.2)(TYP.)

INSTALL 2" SKIMMER (SEE SHEET EC4.1)

NATIVE SEEDING MIX (TYP.) (NON-CRITICAL AREA) (SEE SHEET EC0.2 FOR DETAILS)

42 LF 6" PVC - SDR 26
@ 2.39%

PIPE END
INV.: 456.00

PIPE END
INV.: 457.00

DOUBLE ROW SILT FENCE (TYP.) (CONTRACTOR TO ADD MULCH BETWEEN SILT FENCE)

PROJECT BOUNDARY (TYP.)

INITIAL EROSION CONTROL LIMITS OF DISTURBANCE: ±503.1 ACRES

CLEAN OUT STAKE (TYP.)

TEMPORARY DIVERSION DITCH (TYP.)

FOREBAY BERM

TEMPORARY SEEDING

INSTALL 50' EMERGENCY SPILLWAY AT ELEVATION 424.00'

DRY TEMPORARY SEDIMENT BASIN 12

PIPE END
INV.: 420.80

44 LF 24" RCP
@ 3.03%

PIPE END
INV.: 409.80

33 LF 6" PVC - SDR 26
@ 2.50%

PIPE END
INV.: 419.47

CONNECT PHASE I MG MODIFICATION DRY TEMPORARY SEDIMENT BASIN 9

PROPOSED OVERHEAD POWER BY OTHERS

PIPE END
INV.: 417.60

PIPE END
INV.: 416.77

CONNECT PHASE I MG MODIFICATION DRY TEMPORARY SEDIMENT BASIN 8

CLEAN OUT STAKE (TYP.)

FOREBAY BERM

INSTALL POROUS BAFFLES (SEE SHEET EC4.4)(TYP.)

INSTALL ROCK SEDIMENT DIKE (SEE SHEET EC4.2)(TYP.)

INSTALL 4" SKIMMER (SEE SHEET EC4.1)

CONNECT PHASE I MG MODIFICATION DRY TEMPORARY SEDIMENT BASIN 10

INSTALL RIP-RAP BLANKET WHERE TEMPORARY DIVERSIONS ENTER POND (TYP.)

INSTALL (1) 6" SKIMMER W/ 5" ORIFICE (SEE SHEET EC4.2)(TYP.)

CS #5
FR: 418.60
INV. OUT: 418.00 (E)

CLEAN OUT STAKE

8I LF 6" PVC - SDR 26
@ 1.81%

RIP-RAP OUTFALL TREATMENT
APRON LENGTH: 6' MINIMUM
APRON WIDTH: 7' MINIMUM
d50 PARTICLE SIZE: 0.5' MINIMUM

PIPE END
INV.: 416.54

INSTALL POROUS BAFFLES (SEE SHEET EC4.4)(TYP.)

62 LF 18" RCP
@ 3.48%

PIPE END
INV.: 407.64

INSTALL 2" SKIMMER (SEE SHEET EC4.1)

PIPE END
INV.: 404.92

32 LF 6" PVC - SDR 26
@ 4.80%

PIPE END
INV.: 403.40

REINFORCED ROCK OUTLET – INSTALL SEDIMENT DIKE ON TOP OF ROCK OUTLET SKIRT

FLOOD ZONE AE PER F.I.R.M. MAP NO. 45079C, PANEL 0136L (1% ANNUAL CHANCE FLOOD HAZARD)

INSTALL ROCK SEDIMENT DIKE (SEE SHEET EC4.2)(TYP.)

INSTALL POROUS BAFFLES (SEE SHEET EC4.4)(TYP.)

FOREBAY BERM

CLEAN OUT STAKE (TYP.)

TEMPORARY SEEDING

DRY TEMPORARY SEDIMENT BASIN 11

PIPE END
INV.: 384.50

CLEAN OUT STAKE

FOREBAY BERM

INSTALL (1) 8" SKIMMER (SEE SHEET EC4.2)

INSTALL ROCK SEDIMENT DIKE (SEE SHEET EC4.2)(TYP.)

94 LF 8" PVC - SDR 26
@ 5.00%

PIPE END
INV.: 379.81

INSTALL POROUS BAFFLES (SEE SHEET EC4.4)(TYP.)

RIP-RAP OUTFALL TREATMENT
APRON LENGTH: 6' MINIMUM
APRON WIDTH: 7' MINIMUM
d50 PARTICLE SIZE: 0.5' MINIMUM

INSTALL 50' EMERGENCY SPILLWAY AT ELEVATION 393.50'

PIPE END
INV.: 369.00

OUTLET PROTECTION DESIGN CRITERIA (St)

OUTLET OPENING :	24'
FLOW RATE (CFS):	0.29 CFS
VELOCITY (FPS):	0.09 FPS
TAILWATER CONDITION: (MIN. or MAX.)	MIN
d_n RIPRAP SIZE:	6"
d_{max} RIPRAP SIZE:	9"
MIN. RIPRAP THICKNESS(D):	1.00'
La:	14'
Wup:	6'
Wdown:	16'

OUTLET PROTECTION DESIGN CRITERIA (St)

OUTLET OPENING :	24"
FLOW RATE (CFS):	10.33 CFS
VELOCITY (FPS):	3.29 FPS
TAILWATER CONDITION: (MIN. or MAX.)	MIN
d_n RIPRAP SIZE:	6"
d_{max} RIPRAP SIZE:	9"
MIN. RIPRAP THICKNESS(D):	1.00'
La:	14'
Wup:	6'
Wdown:	16'

CONSTRUCTION SEQUENCE

INITIAL PHASE

1	RECEIVE NPDES COVERAGE FROM SCDHEC AND USACE WETLAND PERMIT.
2	FLAG THE WORK LIMITS AND MARK BUFFER AREAS FOR PROTECTION. WATER QUALITY BUFFERS WILL BE CLEARLY MARKED IN THE FIELD. ALL MARKINGS MUST BE MAINTAINED UNTIL COMPLETION OF CONSTRUCTION ACTIVITIES.
3	PRE-CONSTRUCTION MEETING WITH SCDHEC.
4	NOTIFY DHEC EQC REGIONAL OFFICE PRIOR TO BEGINNING LAND-DISTURBING ACTIVITIES.
5	INSTALLATION OF CONSTRUCTION ENTRANCES.
6	CLEARING & GRUBBING ONLY AS NECESSARY FOR INSTALLATION OF PERIMETER CONTROLS.
7	INSTALLATION OF PERIMETER CONTROLS (E.G., SILT FENCE).
8	CLEARING & GRUBBING ONLY IN AREAS OF POND.
9	INSTALLATION OF POND & INSTALLATION OF DIVERSIONS TO THAT STRUCTURE (AREAS DRAINING TO THIS STRUCTURE CANNOT BE DISTURBED UNTIL THE DIVERSIONS TO THE STRUCTURES ARE COMPLETELY INSTALLED). PROPOSED TEMPORARY SEDIMENT BASINS SHOWN IN THE INITIAL PHASE MUST BE STABILIZED PRIOR TO DECOMMISSIONING OF EXISTING SEDIMENT BASINS THAT ARE UPSTREAM. SEE EXISTING BASIN DECOMMISSIONING PLANSHEETS EX2.0-EX2.5 FOR REFERENCE.

GENERAL NOTE:

1. CONTRACTOR SHALL ADJUST TEMPORARY DIVERSIONS/BERMS DAILY AS GRADING OPERATIONS PROGRESS TO PROVIDE POSITIVE DRAINAGE TO PONDS AND SEDIMENT BASINS.
2. CONTRACTOR SHALL INSTALL AND MAINTAIN 3' TALL BERMS ON EACH PAD WHERE FILL SLOPES ARE PRESENT AND PROVIDE POSITIVE DRAINAGE AWAY FROM FILL SLOPES TO PREVENT EROSION AS PADS ARE RAISED IN LIFTS.
3. ALL TEMPORARY PONDS TO HAVE A MINIMUM SLOPE OF 0.5% FOR POSITIVE DRAINAGE TOWARDS OUTFALL

NATIVE SEEDING MIX

LIMITS OF DISTURBANCE (LOD)

ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA PROFESSIONAL ENGINEER — THOMAS HUTTON ENGINEERING CO. No. C00285 — CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER — No. 28573 — 12/19/2023 — MARCUS B. SHEALY

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.4789
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RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC
PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - INITIAL PHASE

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1"=100'

EC1.16

MATCH LINE - SEE SHEET NO. EC1.14

MATCH LINE - SEE SHEET NO. EC1.16

PIPE END
INV.: 384.50

94 LF 8" PVC - SDR 26
@ 5.00%

FLOODWAY

FLOOD ZONE AE PER F.I.R.M.
MAP NO. 45079C, PANEL 0136L
(1% ANNUAL CHANCE FLOOD HAZARD)

TEMPORARY DIVERSION DITCH
(TYP.)

NATIVE SEEDING MIX (TYP.)
(NON-CRITICAL AREA)
(SEE SHEET EC0.2 FOR DETAILS)

PROJECT BOUNDARY
(TYP.)

PROPOSED OVERHEAD
POWER BY OTHERS

DOUBLE ROW SILT FENCE (TYP.)
(CONTRACTOR TO ADD MULCH
BETWEEN SILT FENCE)

TEMPORARY DIVERSION DITCH
(TYP.)

INSTALL ROCK SEDIMENT DIKE
(SEE SHEET EC4.2)(TYP.)

INSTALL POROUS BAFFLES
(SEE SHEET EC4.4)(TYP.)

PIPE END
INV.: 438.00

TEMPORARY ROCK CHECK DAM
(TYP.) (SEE SHEET EC4.3)

CLEAN OUT STAKE

FOREBAY BERM

DRY TEMPORARY
SEDIMENT BASIN 9

INSTALL RIP-RAP
BLANKET WHERE
TEMPORARY DIVERSIONS
ENTER POND (TYP.)

INSTALL 50' EMERGENCY SPILLWAY
AT ELEVATION 444.00'

PIPE END
INV.: 430.36

INSTALL 6" SKIMMER
(SEE SHEET EC4.2)

50' WETLANDS BUFFER
(TYP.)

77 LF 6" PVC - SDR 26
@ 9.94%

RIP-RAP OUTFALL TREATMENT
APRON LENGTH: 6' MINIMUM
APRON WIDTH: 7' MINIMUM
d50 PARTICLE SIZE: 0.5' MINIMUM

REINFORCED ROCK OUTLET -
INSTALL SEDIMENT DIKE ON
TOP OF ROCK OUTLET SKIRT

OUTLET PROTECTION
DESIGN CRITERIA (St)

OUTLET OPENING :	36"
FLOW RATE (CFS):	25.3 CFS
VELOCITY (FPS):	3.58 FPS
TAILWATER CONDITION:	MIN
(MIN. or MAX.)	
d_{50} RIPRAP SIZE:	8"
d_{100} RIPRAP SIZE:	1'
MIN. RIPRAP THICKNESS(D):	1.40'
Lo:	20'
Wup:	9'
Wdown:	23'

EXISTING WETLANDS EDGE
(TYP.)

CONSTRUCTION SEQUENCE	
INITIAL PHASE	
1	RECEIVE NPDES COVERAGE FROM SCDHEC AND USACE WETLAND PERMIT.
2	FLAG THE WORK LIMITS AND MARK BUFFER AREAS FOR PROTECTION. WATER QUALITY BUFFERS WILL BE CLEARLY MARKED IN THE FIELD. ALL MARKINGS MUST BE MAINTAINED UNTIL COMPLETION OF CONSTRUCTION ACTIVITIES.
3	PRE-CONSTRUCTION MEETING WITH SCDHEC.
4	NOTIFY DHEC EQC REGIONAL OFFICE PRIOR TO BEGINNING LAND-DISTURBING ACTIVITIES.
5	INSTALLATION OF CONSTRUCTION ENTRANCES.
6	CLEARING & GRUBBING ONLY AS NECESSARY FOR INSTALLATION OF PERIMETER CONTROLS.
7	INSTALLATION OF PERIMETER CONTROLS (E.G., SILT FENCE).
8	CLEARING & GRUBBING ONLY IN AREAS OF POND.
9	INSTALLATION OF POND & INSTALLATION OF DIVERSIONS TO THAT STRUCTURE (AREAS DRAINING TO THIS STRUCTURE CANNOT BE DISTURBED UNTIL THE DIVERSIONS TO THE STRUCTURES ARE COMPLETELY INSTALLED). PROPOSED TEMPORARY SEDIMENT BASINS SHOWN IN THE INITIAL PHASE MUST BE STABILIZED PRIOR TO DECOMMISSIONING OF EXISTING SEDIMENT BASINS THAT ARE UPSTREAM. SEE EXISTING BASIN DECOMMISSIONING PLANSHEETS EX2.0-EX2.5 FOR REFERENCE.

GENERAL NOTE:

1. CONTRACTOR SHALL ADJUST TEMPORARY DIVERSIONS/BERMS DAILY AS GRADING OPERATIONS PROGRESS TO PROVIDE POSITIVE DRAINAGE TO PONDS AND SEDIMENT BASINS.
2. CONTRACTOR SHALL INSTALL AND MAINTAIN 3' TALL BERMS ON EACH PAD WHERE FILL SLOPES ARE PRESENT AND PROVIDE POSITIVE DRAINAGE AWAY FROM FILL SLOPES TO PREVENT EROSION AS PADS ARE RAISED IN LIFTS.
3. ALL TEMPORARY PONDS TO HAVE A MINIMUM SLOPE OF 0.5% FOR POSITIVE DRAINAGE TOWARDS OUTFALL

NATIVE SEEDING MIX

LIMITS OF DISTURBANCE

ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

INITIAL EROSION CONTROL
LIMITS OF DISTURBANCE:
±503.1 ACRES

CLEAN OUT STAKE

FOREBAY BERM

INSTALL POROUS BAFFLES
(SEE SHEET EC4.4)(TYP.)

INSTALL ROCK SEDIMENT DIKE
(SEE SHEET EC4.2)(TYP.)

2 x 95 LF 6" PVC - SDR 26
@ 15.70%

INSTALL (1) 8" AND (1) 6" SKIMMER
(SEE SHEET EC4.2)

RIP-RAP OUTFALL TREATMENT TO
BE INSTALLED PER PIPE
APRON LENGTH: 6' MINIMUM
APRON WIDTH: 7' MINIMUM
d50 PARTICLE SIZE: 0.5' MINIMUM

PIPE END
INV.: 383.87

PIPE END
INV.: 369.00

INSTALL 50' EMERGENCY SPILLWAY
AT ELEVATION 389.00'

INSTALL RIP-RAP
BLANKET WHERE
TEMPORARY DIVERSIONS
ENTER POND (TYP.)

DRY TEMPORARY
SEDIMENT BASIN 10

TEMPORARY SEEDING

TEMPORARY ROCK CHECK DAM
(TYP.) (SEE SHEET EC4.3)

EXISTING DITCH TO
REMAIN UNDER SCDHEC
PERMIT SCR10ZCPU

REINFORCED ROCK OUTLET -
INSTALL SEDIMENT DIKE ON
TOP OF ROCK OUTLET SKIRT

EXISTING DOUBLE ROW
SILT FENCE REMAIN UNDER
SCDHEC PERMIT SCR10ZCPU

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

MATCH LINE - SEE SHEET NO. EC1.18

SOUTH CAROLINA
PROFESSIONAL ENGINEER
THOMAS HUTTON ENGINEERING CO.
No. C00285
CERTIFICATE OF AUTHORIZATION
NOLTEMUS

SOUTH CAROLINA
PROFESSIONAL ENGINEER
No. 28573
CHRISTOPHER G. WARREN
12-19-2024

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

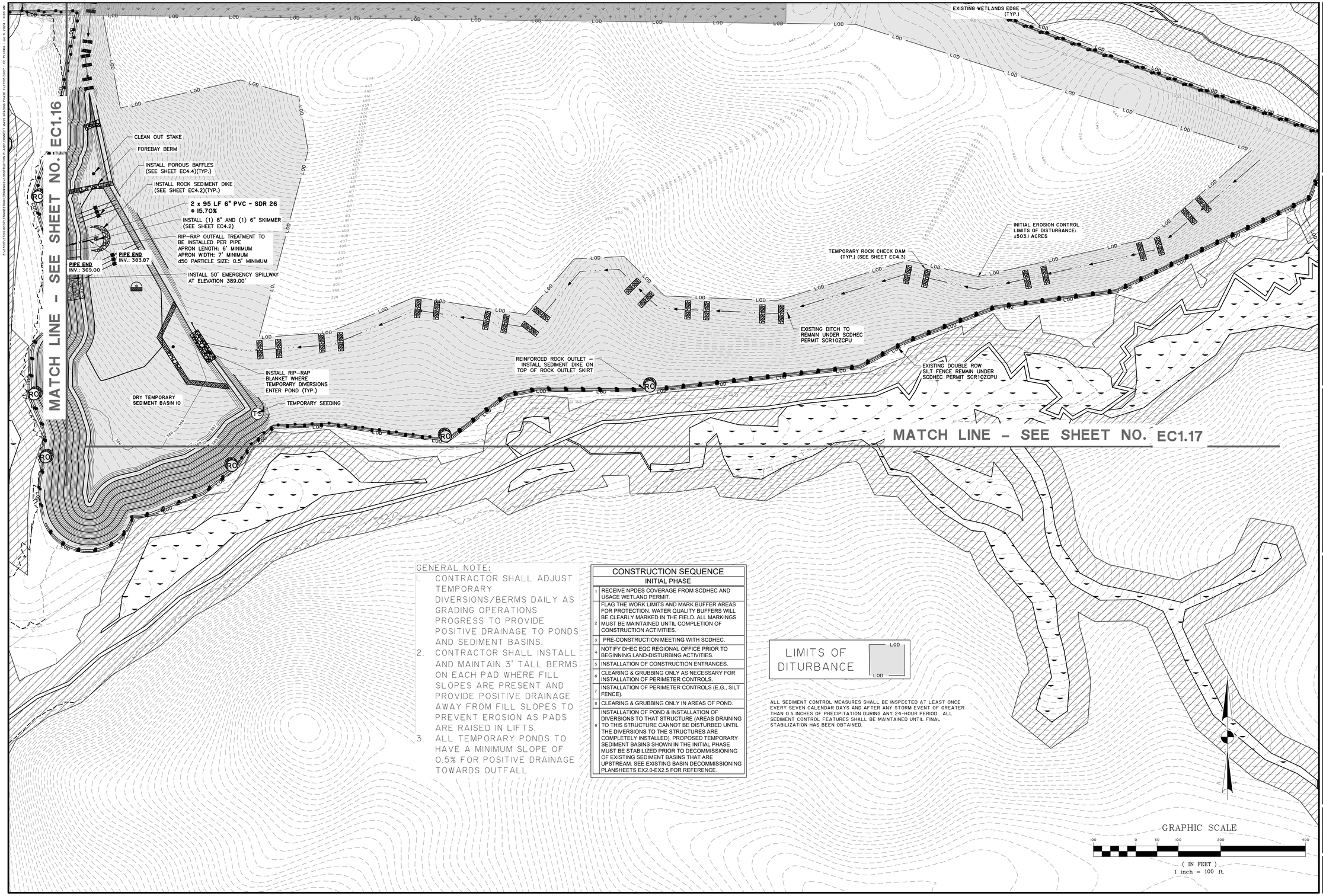
RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - INITIAL PHASE

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1"=100'

EC1.17



GENERAL NOTE:

1. CONTRACTOR SHALL ADJUST TEMPORARY DIVERSIONS/BERMS DAILY AS GRADING OPERATIONS PROGRESS TO PROVIDE POSITIVE DRAINAGE TO PONDS AND SEDIMENT BASINS.
2. CONTRACTOR SHALL INSTALL AND MAINTAIN 3' TALL BERMS ON EACH PAD WHERE FILL SLOPES ARE PRESENT AND PROVIDE POSITIVE DRAINAGE AWAY FROM FILL SLOPES TO PREVENT EROSION AS PADS ARE RAISED IN LIFTS.
3. ALL TEMPORARY PONDS TO HAVE A MINIMUM SLOPE OF 0.5% FOR POSITIVE DRAINAGE TOWARDS OUTFALL

CONSTRUCTION SEQUENCE	
INITIAL PHASE	
1	RECEIVE NPDES COVERAGE FROM SCDHEC AND USACE WETLAND PERMIT.
2	FLAG THE WORK LIMITS AND MARK BUFFER AREAS FOR PROTECTION. WATER QUALITY BUFFERS WILL BE CLEARLY MARKED IN THE FIELD. ALL MARKINGS MUST BE MAINTAINED UNTIL COMPLETION OF CONSTRUCTION ACTIVITIES.
3	PRE-CONSTRUCTION MEETING WITH SCDHEC.
4	NOTIFY DHEC EQC REGIONAL OFFICE PRIOR TO BEGINNING LAND-DISTURBING ACTIVITIES.
5	INSTALLATION OF CONSTRUCTION ENTRANCES.
6	CLEARING & GRUBBING ONLY AS NECESSARY FOR INSTALLATION OF PERIMETER CONTROLS.
7	INSTALLATION OF PERIMETER CONTROLS (E.G., SILT FENCE).
8	CLEARING & GRUBBING ONLY IN AREAS OF POND.
9	INSTALLATION OF POND & INSTALLATION OF DIVERSIONS TO THAT STRUCTURE (AREAS DRAINING TO THIS STRUCTURE CANNOT BE DISTURBED UNTIL THE DIVERSIONS TO THE STRUCTURES ARE COMPLETELY INSTALLED). PROPOSED TEMPORARY SEDIMENT BASINS SHOWN IN THE INITIAL PHASE MUST BE STABILIZED PRIOR TO DECOMMISSIONING OF EXISTING SEDIMENT BASINS THAT ARE UPSTREAM. SEE EXISTING BASIN DECOMMISSIONING PLANSHEETS EX2.0-EX2.5 FOR REFERENCE.

LIMITS OF DITURBANCE — LOD — LOD

ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA PROFESSIONAL ENGINEER — No. 28573 — MARCUS B. SIMS — 12-17-2024

SOUTH CAROLINA NOLTHOMAS HUTTON ENGINEERING CERTIFICATE OF AUTHORIZATION No. COA2285

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
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www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - INITIAL PHASE

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	JHV
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1"=100'

EC1.18

Z:\27015\27015.0007\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015.0007 - OV-EC-PL2.DWG - Jan 9, 2024 - 9:03 AM

WETLANDS HATCHING LEGEND	
	JURISDICTIONAL WETLANDS
	WETLAND PERMANENT FILL IMPACT
	WETLAND BUFFER
	WETLAND PERMANENT CLEARING IMPACT
	NON-WETLAND WATERS (PONDS) PERMANENT FILL IMPACT
	WETLAND TEMPORARY EXCAVATION/PERMANENT CLEARING IMPACT (UNDERGROUND UTILITY IMPACT)
	JURISDICTIONAL NON-WETLAND WATERS (NWW) (PONDS)

CONSTRUCTION SEQUENCE	
CONSTRUCTION PHASE	
10	CLEARING & GRUBBING OF SITE (SEDIMENT & EROSION CONTROL MEASURES FOR THESE AREAS MUST ALREADY BE INSTALLED).
11	ROUGH GRADING.
12	INSTALLATION OF STORM DRAIN SYSTEM & PLACEMENT OF INLET PROTECTION AS EACH INLET IS INSTALLED.
13	BUILDING PAD CONSTRUCTION.

LIMITS OF DITURBANCE — LOD

⚠1

NOTE: CONTRACTOR TO PROVIDE POSITIVE DRAINAGE TO PROPOSED DITCHES AND DETENTION PONDS AT A MINIMUM SLOPE OF 0.33%. PROPOSED DETENTION PONDS SHALL BE CONSTRUCTED AT ELEVATIONS SHOWN ON PLANS.

EC2.1 EC2.2 EC2.3 EC2.4 EC2.5 EC2.6 EC2.7 EC2.8 EC2.9 EC2.10 EC2.11 EC2.12 EC2.13 EC2.14 EC2.15 EC2.16 EC2.17 EC2.18

BLYTHWOOD ROAD (S-59)
COMMUNITY ROAD (S-2885)
EXISTING PROPERTY LINE (TYP.)
LIMITS OF DISTURBANCE (TYP.)
PROJECT BOUNDARY (TYP.)
LONER ROAD
INTERSTATE 77
WET POND 1
WET POND 2
WET POND 3
WET POND 4
WET POND 5
WET POND 6
DRY POND 7
DRY POND 8
DRY POND 9
DRY TEMPORARY SEDIMENT BASIN 10
TEMPORARY SEDIMENT BASIN 6; APPROVED SCDHEC PERMIT NUMBER SCR10ZPCU V1.1
TEMPORARY SEDIMENT BASIN 7; APPROVED SCDHEC PERMIT NUMBER SCR10ZPCU V1.1
TEMPORARY SEDIMENT BASIN 8; APPROVED SCDHEC PERMIT NUMBER SCR10ZPCU V1.1
TEMPORARY SEDIMENT BASIN 9; APPROVED SCDHEC PERMIT NUMBER SCR10ZPCU V1.1
TEMPORARY SEDIMENT BASIN 10; APPROVED SCDHEC PERMIT NUMBER SCR10ZPCU V1.1
8"FM
4" UGG

GRAPHIC SCALE
600 0 300 600 1200 2400
(IN FEET)
1 inch = 600 ft.

SOUTH CAROLINA — NOLTE/ZIMMERMAN — THOMAS & HUTTON ENGINEERING CO. — No. C00285 — CERTIFICATE OF AUTHORITY

SOUTH CAROLINA — PROFESSIONAL ENGINEER — No. 28573 — MARCUS B. SIMPSON — REGISTERED — 12-19-2023

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 740
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

OVERALL EROSION CONTROL PLAN - CONSTRUCTION PHASE

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 600'

EC2.0

GENERAL NOTE:

1. CONTRACTOR SHALL INSTALL AND MAINTAIN 3' TALL BERMS ON EACH PAD WHERE FILL SLOPES ARE PRESENT AND PROVIDE POSITIVE DRAINAGE AWAY FROM FILL SLOPES TO PREVENT EROSION AS PADS ARE RAISED IN LIFTS. UNLESS OTHERWISE SPECIFIED
2. CONTRACTOR SHALL ADJUST TEMPORARY DIVISION / BERMS DAILY AS GRADING OPERATIONS PROGRESS TO PROVIDE POSITIVE DRAINAGE TO PONDS AND SEDIMENT BASINS.
3. CONTRACTOR SHALL ESTABLISH GRASS IN TEMPORARY SWALES AS SOON AS GRADING OF SWALES IS COMPLETE.
4. ALL TEMPORARY PONDS TO HAVE MINIMUM SLOPE 0.5% FOR POSITIVE DRAINAGE TOWARDS THE OUTFALL.

CONSTRUCTION SEQUENCE

	CONSTRUCTION PHASE
10	CLEARING & GRUBBING OF SITE (SEDIMENT & EROSION CONTROL MEASURES FOR THESE AREAS MUST ALREADY BE INSTALLED).
11	ROUGH GRADING.
12	INSTALLATION OF STORM DRAIN SYSTEM & PLACEMENT OF INLET PROTECTION AS EACH INLET IS INSTALLED.
13	BUILDING PAD CONSTRUCTION.

LIMITS OF DITURBANCE — LOD

EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
SILT FENCE	
SURFACE ROUGHENING	(RR) or (LG)
TEMPORARY SEEDING	(TS)
ROCK OUTLET	(RO)
EROSION CONTROL BLANKET OR TURF REINFORCEMENT MAT	
RIPRAP	

EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
OUTLET PROTECTION - RIP RAP	
ROCK SEDIMENT DIKE	
SEDIMENT TUBE	
ROCK CHECK DAM	OR
STABILIZED CONSTRUCTION ENTRANCE	
CONCRETE WASHOUT	

ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

INSTALL STABILIZED CONSTRUCTION ENTRANCE (SEE DETAIL SHEET EC4.4)(TYP.)

LIMITS OF DISTURBANCE (TYP.)

INSTALL SLOPE PROTECTION (SEE DETAIL SHEET EC4.3) (TYP.)

INSTALL EROSION CONTROL MATTING (SEE DETAIL SHEET EC4.I)(TYP.)

PROJECT BOUNDARY (TYP.)

INSTALL CONCRETE WASHOUT (SEE DETAIL SHEET EC4.4)(TYP.)

INLET PROTECTION RIP RAP (TYP.)

TEMPORARY SEEDING (TYP.)

INSTALL EROSION CONTROL MATTING (SEE DETAIL SHEET EC4.I)(TYP.)

ZONE A FLOOD HAZARD AREA PER FEMA FIRM PANEL: 45019C1218L

APPROXIMATE POND DISCHARGE

EXISTING DETENTION POND

INSTALL 500 SY OF RIP-RAP

INSTALL EROSION CONTROL MATTING (SEE DETAIL SHEET EC4.I)(TYP.)

LIMITS OF DISTURBANCE (TYP.)

EXISTING POND (TO BE DRAINED)

BLYTHEWOOD ROAD (S-59)

N/F SARA COOPER PALMER TMS 16-15100-04-03

N/F ROBERT WILLIAM COOPER TMS NO. 15100-01-08

N/F THOMAS EDWARD COOPER TMS NO. 15100-04-07

N/F FAIRFIELD ELECTRIC TMS NO. 12600-03-01

TMS NO. 15200-01-28

MATCH LINE - SEE SHEET NO. EC2.2

MATCH LINE - SEE SHEET NO. EC2.4

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)

1 inch = 100 ft.

SOUTH CAROLINA NOLAN CLARK THOMAS & HUTTON ENGINEERING CO. No. C00285 CERTIFICATE OF AUTHORITY

SOUTH CAROLINA PROFESSIONAL ENGINEER CHRISTOPHER G. WILLIAMSON No. 28573 REGISTERED 12-19-2023 MARCH 31, 2025

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 740
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - CONSTRUCTION PHASE

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC2.1

ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

BLYTHEWOOD ROAD (S-59)

PROJECT BOUNDARY (TYP.)

COMMUNITY ROAD (S-2885)

INSTALL EROSION CONTROL MATTING (SEE DETAIL SHEET EC4.I)(TYP.)

LIMITS OF DISTURBANCE (TYP.)

INSTALL SLOPE PROTECTION (SEE DETAIL SHEET EC4.3) (TYP.)

CHECK DAM (TYP.)

WET PERMANENT POND 5

INSTALL TURBIDITY CURTAINS (SEE DETAIL SHEET EC4.I) (TYP.)

INSTALL ROCK SEDIMENT DIKE (SEE SHEET EC4.2)(TYP.)

INSTALL (3) 8" SKIMMER (SEE SHEET EC4.1)

CS #L-0370DS
FR: 486.8
INV. OUT: 482.73 (S)
(SEE DETAIL SHEET C3.23)

297 LF 36" RCP @ 0.55%

INSTALL STABILIZED CONSTRUCTION ENTRANCE (SEE DETAIL SHEET EC4.4)(TYP.)

DUST CONTROL (TYP.)

CHECK DAM (TYP.)

LAND GRADING (TYP.)

PIPE END
INV.: 481.10

DOUBLE ROW SILT FENCE (TYP.) (CONTRACTOR TO ADD MULCH BETWEEN THE SILT FENCE)

INSTALL CONCRETE WASHOUT (SEE DETAIL SHEET EC4.4)(TYP.)

N/F AMERCO REAL ESTATE COMPANY
TMS NO. 1500-04-02

RIP-RAP OUTFALL TREATMENT TO BE INSTALLED PER PIPE
APRON LENGTH: 20' MINIMUM
APRON WIDTH: 24' MINIMUM
d50 PARTICLE SIZE: 0.75' MINIMUM

PERMANENT UTILITY CLEARING IMPACT (TYP.)

CONTRACTOR TO INSTALL 3-FT TALL AND 3-FT WIDE BERM

CHECK DAM (TYP.)

PERMANENT UTILITY CLEARING IMPACT (TYP.)

MATCH LINE - SEE SHEET NO. EC2.1

MATCH LINE - SEE SHEET NO. EC2.5

LIMITS OF DITURBANCE — LOD

EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
SILT FENCE	
SURFACE ROUGHENING	= LG
TEMPORARY SEEDING	TS
ROCK OUTLET	RO
EROSION CONTROL BLANKET OR TURF REINFORCEMENT MAT	
RIPRAP	

EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
OUTLET PROTECTION - RIP RAP	
ROCK SEDIMENT DIKE	
SEDIMENT TUBE	
ROCK CHECK DAM	OR
STABILIZED CONSTRUCTION ENTRANCE	
CONCRETE WASHOUT	

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

GENERAL NOTE:

1. CONTRACTOR SHALL INSTALL AND MAINTAIN 3' TALL BERMS ON EACH PAD WHERE FILL SLOPES ARE PRESENT AND PROVIDE POSITIVE DRAINAGE AWAY FROM FILL SLOPES TO PREVENT EROSION AS PADS ARE RAISED IN LIFTS. UNLESS OTHERWISE SPECIFIED
2. CONTRACTOR SHALL ADJUST TEMPORARY DIVISION / BERMS DAILY AS GRADING OPERATIONS PROGRESS TO PROVIDE POSITIVE DRAINAGE TO PONDS AND SEDIMENT BASINS.
3. CONTRACTOR SHALL ESTABLISH GRASS IN TEMPORARY SWALES AS SOON AS GRADING OF SWALES IS COMPLETE.
4. ALL TEMPORARY PONDS TO HAVE MINIMUM SLOPE 0.5% FOR POSITIVE DRAINAGE TOWARDS THE OUTFALL.

CONSTRUCTION SEQUENCE

CONSTRUCTION PHASE	
10	CLEARING & GRUBBING OF SITE (SEDIMENT & EROSION CONTROL MEASURES FOR THESE AREAS MUST ALREADY BE INSTALLED).
11	ROUGH GRADING.
12	INSTALLATION OF STORM DRAIN SYSTEM & PLACEMENT OF INLET PROTECTION AS EACH INLET IS INSTALLED.
13	BUILDING PAD CONSTRUCTION.

SOUTH CAROLINA — NOLAN KIZER — THOMAS & HUTTON ENGINEERING CO. — No. C00285 — CERTIFICATE OF AUTHORITY

SOUTH CAROLINA — PROFESSIONAL ENGINEER — No. 28573 — 12-11-2023 — MARCUS B. SIMS

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - CONSTRUCTION PHASE

JOB NO:	J-2705.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC2.2

D:\TH\2015\2700\2007\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\2700X007 - EC-PLANS - Jan 9, 2024 - 9:22 AM

GENERAL NOTE:

1. CONTRACTOR SHALL INSTALL AND MAINTAIN 3' TALL BERMS ON EACH PAD WHERE FILL SLOPES ARE PRESENT AND PROVIDE POSITIVE DRAINAGE AWAY FROM FILL SLOPES TO PREVENT EROSION AS PADS ARE RAISED IN LIFTS. UNLESS OTHERWISE SPECIFIED
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ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

CONSTRUCTION SEQUENCE	
CONSTRUCTION PHASE	
10	CLEARING & GRUBBING OF SITE (SEDIMENT & EROSION CONTROL MEASURES FOR THESE AREAS MUST ALREADY BE INSTALLED).
11	ROUGH GRADING.
12	INSTALLATION OF STORM DRAIN SYSTEM & PLACEMENT OF INLET PROTECTION AS EACH INLET IS INSTALLED.
13	BUILDING PAD CONSTRUCTION.

EROSION CONTROL LEGEND	
DESCRIPTION	PLAN SYMBOL
SILT FENCE	
SURFACE ROUGHENING	or LG
TEMPORARY SEEDING	TS
ROCK OUTLET	RO
EROSION CONTROL BLANKET OR TURF REINFORCEMENT MAT	
RIPRAP	

EROSION CONTROL LEGEND	
DESCRIPTION	PLAN SYMBOL
OUTLET PROTECTION - RIP RAP	
ROCK SEDIMENT DIKE	
SEDIMENT TUBE	
ROCK CHECK DAM	OR
STABILIZED CONSTRUCTION ENTRANCE	
CONCRETE WASHOUT	

LIMITS OF DITURBANCE — LOD

PROJECT BOUNDARY (TYP.)

LIMITS OF DISTURBANCE (TYP.)

LAND GRADING (TYP.)

DUST CONTROL (TYP.)

INSTALL EROSION CONTROL MATTING (SEE SHEET EC4.1) (TYP.)

CHECK DAM (TYP.)

TEMPORARY SEEDING (TYP.)

CHECK DAM (TYP.)

INSTALL SLOPE PROTECTION (SEE DETAIL SHEET EC4.3) (TYP.)

TEMPORARY SLOPE DRAINS (TYP.) (CONTRACTOR TO INSTALL SEE SHEET EC 4.4)

N/F WILLIAM W. RHYES TMS NO. R2600-03-08

MATCH LINE - SEE SHEET NO. EC2.6

MATCH LINE - SEE SHEET NO. EC2.4

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)

1 inch = 100 ft.

SOUTH CAROLINA — NO. 17,000 — THOMAS & HUTTON ENGINEERING CO. — No. COA0285 — CERTIFICATE OF AUTHORITY

SOUTH CAROLINA — PROFESSIONAL ENGINEER — No. 28573 — 12-19-2023 — MARCUS B. SHEALY — REGISTERED PROFESSIONAL ENGINEER

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - CONSTRUCTION PHASE

JOB NO:	J-2015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC2.3

MATCH LINE - SEE SHEET NO. EC2.1

MATCH LINE - SEE SHEET NO. EC2.3

MATCH LINE - SEE SHEET NO. EC2.5

MATCH LINE - SEE SHEET NO. EC2.7

INSTALL EROSION CONTROL MATTING (SEE DETAIL SHEET EC4.I)(TYP.)

LIMITS OF DISTURBANCE (TYP.)

PROJECT BOUNDARY (TYP.)

INSTALL SLOPE PROTECTION (SEE DETAIL SHEET EC4.3) (TYP.)

EXISTING POND (TO BE DRAINED)

DUST CONTROL (TYP.)

LAND GRADING (TYP.)

CHECK DAM (TYP.)

TEMPORARY SEEDING (TYP.)

INSTALL EROSION CONTROL MATTING (SEE SHEET EC4.I) (TYP.)

EXISTING POND (TO BE DRAINED)

ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

LIMITS OF DITURBANCE — LOD / LOD

GENERAL NOTE:

1. CONTRACTOR SHALL INSTALL AND MAINTAIN 3' TALL BERMS ON EACH PAD WHERE FILL SLOPES ARE PRESENT AND PROVIDE POSITIVE DRAINAGE AWAY FROM FILL SLOPES TO PREVENT EROSION AS PADS ARE RAISED IN LIFTS. UNLESS OTHERWISE SPECIFIED
2. CONTRACTOR SHALL ADJUST TEMPORARY DIVISION / BERMS DAILY AS GRADING OPERATIONS PROGRESS TO PROVIDE POSITIVE DRAINAGE TO PONDS AND SEDIMENT BASINS.
3. CONTRACTOR SHALL ESTABLISH GRASS IN TEMPORARY SWALES AS SOON AS GRADING OF SWALES IS COMPLETE.
4. ALL TEMPORARY PONDS TO HAVE MINIMUM SLOPE 0.5% FOR POSITIVE DRAINAGE TOWARDS THE OUTFALL.

CONSTRUCTION SEQUENCE	
CONSTRUCTION PHASE	
10	CLEARING & GRUBBING OF SITE (SEDIMENT & EROSION CONTROL MEASURES FOR THESE AREAS MUST ALREADY BE INSTALLED).
11	ROUGH GRADING.
12	INSTALLATION OF STORM DRAIN SYSTEM & PLACEMENT OF INLET PROTECTION AS EACH INLET IS INSTALLED.
13	BUILDING PAD CONSTRUCTION.

EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
SILT FENCE	
SURFACE ROUGHENING	or LG
TEMPORARY SEEDING	TS
ROCK OUTLET	RO
EROSION CONTROL BLANKET OR TURF REINFORCEMENT MAT	
RIPRAP	

EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
OUTLET PROTECTION - RIP RAP	
ROCK SEDIMENT DIKE	
SEDIMENT TUBE	
ROCK CHECK DAM	OR
STABILIZED CONSTRUCTION ENTRANCE	
CONCRETE WASHOUT	

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft

SOUTH CAROLINA PROFESSIONAL ENGINEER — No. 28573 — CHRISTOPHER G. WARREN — 12/11/2023

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
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RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - CONSTRUCTION PHASE

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC2.4

Z:\27015\27015.0007\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015007 - EC-PL2.DWG - Jun 19, 2024 - 9:53 AM

MATCH LINE - SEE SHEET NO. EC2.2

MATCH LINE - SEE SHEET NO. EC2.4

MATCH LINE - SEE SHEET NO. EC2.8

TEMPORARY SEEDING (TYP.)

CONTRACTOR TO INSTALL 3-FT TALL AND 3-FT WIDE BERM

DUST CONTROL (TYP.)

CHECK DAM (TYP.)

LAND GRADING (TYP.)

PERMANENT UTILITY CLEARING IMPACT (TYP.)

2' HT X5'W BERM ALONG ADJACENT WETLAND, TYP

LIMITS OF DISTURBANCE (TYP.)

PROJECT BOUNDARY (TYP.)

SILT FENCE (TYP.)

CLEARING IMPACT (TYP.)

TEMPORARY SEEDING (TYP.)

INSTALL EROSION CONTROL MATTING (SEE SHEET EC4.1) (TYP.)

ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

LIMITS OF DITURBANCE — LOD — LOD

EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
SILT FENCE	
SURFACE ROUGHENING	SR OR LG
TEMPORARY SEEDING	TS
ROCK OUTLET	RO
EROSION CONTROL BLANKET OR TURF REINFORCEMENT MAT	
RIPRAP	

EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
OUTLET PROTECTION - RIP RAP	
ROCK SEDIMENT DIKE	
SEDIMENT TUBE	
ROCK CHECK DAM	OR
STABILIZED CONSTRUCTION ENTRANCE	
CONCRETE WASHOUT	

GENERAL NOTE:

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4. ALL TEMPORARY PONDS TO HAVE MINIMUM SLOPE 0.5% FOR POSITIVE DRAINAGE TOWARDS THE OUTFALL.

CONSTRUCTION SEQUENCE

CONSTRUCTION PHASE	
10	CLEARING & GRUBBING OF SITE (SEDIMENT & EROSION CONTROL MEASURES FOR THESE AREAS MUST ALREADY BE INSTALLED).
11	ROUGH GRADING.
12	INSTALLATION OF STORM DRAIN SYSTEM & PLACEMENT OF INLET PROTECTION AS EACH INLET IS INSTALLED.
13	BUILDING PAD CONSTRUCTION.

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA PROFESSIONAL ENGINEER — THOMAS & HUTTON ENGINEERING CO. — No. C00285 — CERTIFICATE OF AUTHORITY — NOV 17, 2010

SOUTH CAROLINA PROFESSIONAL ENGINEER — No. 28573 — MARCUS G. WILLIAMS — 12-17-24

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.4789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - CONSTRUCTION PHASE

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC2.5

Z:\27015\27500\DOCS\ENGINEERING\DRAINAGE\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27500.DGN?J-27015.0007 / EC-PLANS - Jan 9, 2024 - 9:53 AM

MATCH LINE - SEE SHEET NO. EC2.3

N/F WILLIAM W. SHIVES
TMS NO. 12600-03-10

N/F WILLIAM W. SHIVES
TMS NO. 12600-03-09

TEMPORARY SLOPE DRAINS (TYP.)
(CONTRACTOR TO INSTALL
SEE SHEET EC 4.4)

EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
SILT FENCE	
SURFACE ROUGHENING	or LG
TEMPORARY SEEDING	TS
ROCK OUTLET	RO
EROSION CONTROL BLANKET OR TURF REINFORCEMENT MAT	
RIPRAP	

EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
OUTLET PROTECTION - RIP RAP	
ROCK SEDIMENT DIKE	
SEDIMENT TUBE	
ROCK CHECK DAM	or
STABILIZED CONSTRUCTION ENTRANCE	
CONCRETE WASHOUT	

ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

LIMITS OF DITURBANCE — LOD

CONSTRUCTION SEQUENCE

	CONSTRUCTION PHASE
10	CLEARING & GRUBBING OF SITE (SEDIMENT & EROSION CONTROL MEASURES FOR THESE AREAS MUST ALREADY BE INSTALLED).
11	ROUGH GRADING.
12	INSTALLATION OF STORM DRAIN SYSTEM & PLACEMENT OF INLET PROTECTION AS EACH INLET IS INSTALLED.
13	BUILDING PAD CONSTRUCTION.

GENERAL NOTE:

1. CONTRACTOR SHALL INSTALL AND MAINTAIN 3' TALL BERMS ON EACH PAD WHERE FILL SLOPES ARE PRESENT AND PROVIDE POSITIVE DRAINAGE AWAY FROM FILL SLOPES TO PREVENT EROSION AS PADS ARE RAISED IN LIFTS. UNLESS OTHERWISE SPECIFIED
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4. ALL TEMPORARY PONDS TO HAVE MINIMUM SLOPE 0.5% FOR POSITIVE DRAINAGE TOWARDS THE OUTFALL.

PROJECT BOUNDARY (TYP.)

LIMITS OF DISTURBANCE (TYP.)

SILT FENCE (TYP.)

INSTALL EROSION CONTROL MATTING (SEE DETAIL SHEET EC4.I)(TYP.)

INSTALL EROSION CONTROL MATTING (SEE SHEET EC4.I) (TYP.)

CHECK DAM (TYP.)

DUST CONTROL (TYP.)

LAND GRADING (TYP.)

INSTALL TURBIDITY CURTAINS (SEE DETAIL SHEET EC4.I) (TYP.)

CONTRACTOR TO INSTALL 3-FT TALL AND 3-FT WIDE BERM

TEMPORARY SLOPE DRAINS (TYP.) (CONTRACTOR TO INSTALL SEE SHEET EC 4.4)

INSTALL SLOPE PROTECTION (SEE DETAIL SHEET EC4.3) (TYP.)

CLEAN OUT STAKE

PROPOSED TEMPORARY DRY POND #13 TO BE USED AS SEDIMENT BASIN DURING CONSTRUCTION

INSTALL POROUS BAFFLES (SEE SHEET EC4.4)(TYP.)

POND NOTE: POND DAMS REGULATED BY SCDHEC SHALL NOT BE CONSTRUCTED UNTIL RECEIPT OF APPROVED PERMIT.

PROPOSED PERMANENT WET POND #1 TO BE USED AS SEDIMENT BASIN DURING CONSTRUCTION

FOREBAY BERM

INSTALL ROCK SEDIMENT DIKE (SEE SHEET EC4.2)(TYP.)

INSTALL 6" SKIMMER (SEE SHEET EC4.1)

2' HT X5'W BERM ALONG ADJACENT WETLAND, TYP

PIPE END
INV.: 459.50
92 LF 6" PVC - SDR 26
@ 1.63%

PIPE END
INV.: 458.00

REINFORCED ROCK OUTLET - INSTALL SEDIMENT DIKE ON TOP OF ROCK OUTLET SKIRT

TEMPORARY SEEDING (TYP.)

RIP-RAP OU
APRON LENGTH: 50' MINIMUM
APRON WIDTH: 56' MINIMUM
d50 PARTICLE SIZE: 1.9" MINIMUM

MATCH LINE - SEE SHEET NO. EC2.9

MATCH LINE - SEE SHEET NO. EC2.7

GRAPHIC SCALE
(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA NOLTE/ZIEGLER THOMAS & HUTTON ENGINEERING CO. No. COD285 CERTIFICATE OF AUTHORITY

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 28573 REGISTERED PROFESSIONAL ENGINEER MARCUS C. WILLIAMS 12-19-2023

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - CONSTRUCTION PHASE

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC2.6

MATCH LINE - SEE SHEET NO. EC2.4

MATCH LINE - SEE SHEET NO. EC2.6

MATCH LINE - SEE SHEET NO. EC2.8

MATCH LINE - SEE SHEET NO. EC2.10

INSTALL EROSION CONTROL MATTING (SEE SHEET EC4.1) (TYP.)

LAND GRADING (TYP.)

DUST CONTROL (TYP.)

CHECK DAM (TYP.)

TEMPORARY SEEDING (TYP.)

ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

GENERAL NOTE:

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CONSTRUCTION SEQUENCE

	CONSTRUCTION PHASE
10	CLEARING & GRUBBING OF SITE (SEDIMENT & EROSION CONTROL MEASURES FOR THESE AREAS MUST ALREADY BE INSTALLED).
11	ROUGH GRADING.
12	INSTALLATION OF STORM DRAIN SYSTEM & PLACEMENT OF INLET PROTECTION AS EACH INLET IS INSTALLED.
13	BUILDING PAD CONSTRUCTION.

EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
SILT FENCE	
SURFACE ROUGHENING	OR LG
TEMPORARY SEEDING	TS
ROCK OUTLET	RO
EROSION CONTROL BLANKET OR TURF REINFORCEMENT MAT	
RIPRAP	

EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
OUTLET PROTECTION - RIP RAP	
ROCK SEDIMENT DIKE	
SEDIMENT TUBE	
ROCK CHECK DAM	OR
STABILIZED CONSTRUCTION ENTRANCE	
CONCRETE WASHOUT	

LIMITS OF DISTURBANCE — LOD — LOD

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)

1 inch = 100 ft

SOUTH CAROLINA PROFESSIONAL ENGINEER — THOMAS HUTTON ENGINEERING CO. — No. C00285 — CERTIFICATE OF AUTHORITY

SOUTH CAROLINA PROFESSIONAL ENGINEER — No. 28573 — 12-11-2023 — MARCUS B. SMITH

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - CONSTRUCTION PHASE

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC2.7

EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
SILT FENCE	
SURFACE ROUGHENING	OR LG
TEMPORARY SEEDING	TS
ROCK OUTLET	RO
EROSION CONTROL BLANKET OR TURF REINFORCEMENT MAT	
RIPRAP	

EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
OUTLET PROTECTION - RIP RAP	
ROCK SEDIMENT DIKE	
SEDIMENT TUBE	
ROCK CHECK DAM	OR
STABILIZED CONSTRUCTION ENTRANCE	SCE
CONCRETE WASHOUT	

MATCH LINE - SEE SHEET NO. EC2.5

MATCH LINE - SEE SHEET NO. EC2.7

MATCH LINE - SEE SHEET NO. EC2.11

LAND GRADING (TYP.) LG

DUST CONTROL (TYP.) DC

INSTALL EROSION CONTROL MATTING ON ALL DITCH SLOPES (TYP.)

ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

LIMITS OF DITURBANCE (LOD)

GENERAL NOTE:

1. CONTRACTOR SHALL INSTALL AND MAINTAIN 3' TALL BERMS ON EACH PAD WHERE FILL SLOPES ARE PRESENT AND PROVIDE POSITIVE DRAINAGE AWAY FROM FILL SLOPES TO PREVENT EROSION AS PADS ARE RAISED IN LIFTS. UNLESS OTHERWISE SPECIFIED
2. CONTRACTOR SHALL ADJUST TEMPORARY DIVISION / BERMS DAILY AS GRADING OPERATIONS PROGRESS TO PROVIDE POSITIVE DRAINAGE TO PONDS AND SEDIMENT BASINS.
3. CONTRACTOR SHALL ESTABLISH GRASS IN TEMPORARY SWALES AS SOON AS GRADING OF SWALES IS COMPLETE.
4. ALL TEMPORARY PONDS TO HAVE MINIMUM SLOPE 0.5% FOR POSITIVE DRAINAGE TOWARDS THE OUTFALL.

TS TEMPORARY SEEDING (TYP.)

TEMPORARY DIVERSIONS (TYP.) (SEE DETAIL SHEET EC4.2)

TEMPORARY SLOPE DRAINS (TYP.) (CONTRACTOR TO INSTALL SEE SHEET EC 4.4)

DB

CONSTRUCTION SEQUENCE

	CONSTRUCTION PHASE
10	CLEARING & GRUBBING OF SITE (SEDIMENT & EROSION CONTROL MEASURES FOR THESE AREAS MUST ALREADY BE INSTALLED).
11	ROUGH GRADING.
12	INSTALLATION OF STORM DRAIN SYSTEM & PLACEMENT OF INLET PROTECTION AS EACH INLET IS INSTALLED.
13	BUILDING PAD CONSTRUCTION.

TEMPORARY SLOPE DRAINS (TYP.) (CONTRACTOR TO INSTALL SEE SHEET EC4.4)

PROPOSED PERMANENT WET POND #2 TO BE USED AS SEDIMENT BASIN DURING CONSTRUCTION

INSTALL TURBIDITY CURTAINS (SEE DETAIL SHEET EC4.1) (TYP.)

INSTALL ROCK SEDIMENT DIKE (SEE SHEET EC4.2)(TYP.)

INSTALL (1) 6" AND (5) 8" SKIMMERS (SEE SHEET EC4.1)

INSTALL 400' WIDE EMERGENCY SPILLWAY AT 464.00' (SEE DETAIL SHEET EC4.2) (TYP.)

82 LF 24" RCP @ 9.94%

CS #L-0340DS
FR: 464.00
INV. OUT: 450.50 (SE)
(SEE DETAIL SHEET C3.24)

PIPE END
INV.: 434.00

RIP-RAP OUTFALL TREATMENT TO BE INSTALLED PER PIPE
APRON LENGTH: 20' MINIMUM
APRON WIDTH: 23' MINIMUM
d50 PARTICLE SIZE: 0.75'

PERMANENT UTILITY CLEARING IMPACT (TYP.)

COMMUNITY ROAD (S-2885)

CONTRACTOR TO INSTALL 3-FT TALL AND 3-FT WIDE BERM

SILT FENCE (TYP.)

PROJECT BOUNDARY (TYP.)

LIMITS OF DISTURBANCE (TYP.)

INTERSTATE 77

GRAPHIC SCALE
0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA
PROFESSIONAL ENGINEER
No. 28573
CERTIFICATE OF AUTHORIZATION
THOMAS & HUTTON ENGINEERING Co.
No. C00285
11/10/2023

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - CONSTRUCTION PHASE

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC2.8

Z:\27015\27015.0007\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015.0007 - EC-PLAN.dwg - Jan 9, 2024 - 9:54 AM

MATCH LINE - SEE SHEET NO. EC2.6

REINFORCE
INSTALL SE
TOP OF RI

INSTALL TURBIDITY CURTAINS
(SEE DETAIL SHEET EC4.i) (TYP.)

TEMPORARY SEEDING
(TYP.)

RIP-RAP OUTFALL TREATMENT TO BE INSTALLED
APRON LENGTH: 50' MINIMUM
APRON WIDTH: 56' MINIMUM
d50 PARTICLE SIZE: 1.9' MINIMUM

CONTRACTOR TO INSTALL 3-FT
TALL AND 3-FT WIDE BERM

POND NOTE: POND DAMS REGULATED BY SCDHEC SHALL
NOT BE CONSTRUCTED UNTIL RECEIPT OF APPROVED PERMIT.

INSTALL SLOPE PROTECTION
(SEE DETAIL SHEET EC4.3) (TYP.)

PROPOSED PERMANENT
WET POND #1 TO BE USED
AS SEDIMENT BASIN
DURING CONSTRUCTION

TEMPORARY SLOPE DRAINS (TYP.)
(CONTRACTOR TO INSTALL
SEE SHEET EC 4.4)

0.33%

BUMBLEBEE CT
(50' R/W)

LIMITS OF DISTURBANCE
(TYP.)

PROJECT BOUNDARY
(TYP.)

ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

LIMITS OF DITURBANCE — LOD

EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
SILT FENCE	
SURFACE ROUGHENING	or LG
TEMPORARY SEEDING	TS
ROCK OUTLET	RO
EROSION CONTROL BLANKET OR TURF REINFORCEMENT MAT	
RIPRAP	

EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
OUTLET PROTECTION - RIP RAP	
ROCK SEDIMENT DIKE	
SEDIMENT TUBE	
ROCK CHECK DAM	OR
STABILIZED CONSTRUCTION ENTRANCE	
CONCRETE WASHOUT	

GENERAL NOTE:

1. CONTRACTOR SHALL INSTALL AND MAINTAIN 3' TALL BERMS ON EACH PAD WHERE FILL SLOPES ARE PRESENT AND PROVIDE POSITIVE DRAINAGE AWAY FROM FILL SLOPES TO PREVENT EROSION AS PADS ARE RAISED IN LIFTS. UNLESS OTHERWISE SPECIFIED
2. CONTRACTOR SHALL ADJUST TEMPORARY DIVISION / BERMS DAILY AS GRADING OPERATIONS PROGRESS TO PROVIDE POSITIVE DRAINAGE TO PONDS AND SEDIMENT BASINS.
3. CONTRACTOR SHALL ESTABLISH GRASS IN TEMPORARY SWALES AS SOON AS GRADING OF SWALES IS COMPLETE.
4. ALL TEMPORARY PONDS TO HAVE MINIMUM SLOPE 0.5% FOR POSITIVE DRAINAGE TOWARDS THE OUTFALL.

CONSTRUCTION SEQUENCE	
CONSTRUCTION PHASE	
10	CLEARING & GRUBBING OF SITE (SEDIMENT & EROSION CONTROL MEASURES FOR THESE AREAS MUST ALREADY BE INSTALLED).
11	ROUGH GRADING.
12	INSTALLATION OF STORM DRAIN SYSTEM & PLACEMENT OF INLET PROTECTION AS EACH INLET IS INSTALLED.
13	BUILDING PAD CONSTRUCTION.

INSTALL TURBIDITY CURTAINS
(SEE DETAIL SHEET EC4.i) (TYP.)

INSTALL ROCK SEDIMENT DIKE
(SEE DETAIL SHEET EC4.2) (TYP.)

INSTALL (6) 8" SKIMMERS
(SEE SHEET EC4.1)

CS #L-0410DS
FR: 443.12
INV. OUT: 439.20 (SE)
(SEE DETAIL SHEET C3.24)

66 LF 36" RCP
@ 3.25%

INSTALL 300' WIDE EMERGENCY SPILLWAY
AT 446.20'
(SEE DETAIL SHEET EC4.2) (TYP.)

PIPE END
INV.: 437.04

RIP-RAP OUTFALL TREATMENT TO
BE INSTALLED PER PIPE
APRON LENGTH: 25' MINIMUM
APRON WIDTH: 26' MINIMUM
d50 PARTICLE SIZE: 1' MINIMUM

DOUBLE ROW
SILT FENCE (TYP.)
(CONTRACTOR TO
ADD MULCH
BETWEEN THE
SILT FENCE)

NOTE:
CONTRACTOR TO PROVIDE POSITIVE DRAINAGE TO PROPOSED DITCHES AND DETENTION PONDS AT A MINIMUM SLOPE OF 0.33%. PROPOSED DETENTION PONDS SHALL BE CONSTRUCTED AT ELEVATIONS SHOWN ON PLANS.

MATCH LINE - SEE SHEET NO. EC2.10

MATCH LINE - SEE SHEET NO. EC2.12

GRAPHIC SCALE
(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA PROFESSIONAL ENGINEER
THOMAS & HUTTON ENGINEERING Co.
No. C00285
CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER
No. 28573
CHRISTOPHER G. WARREN
11-21-2024

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC
PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - CONSTRUCTION PHASE

JOB NO:	J-2705.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC2.9

D:\27050\5700\DOT\ENGINEERING\DRAINAGE\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\2705DOT - EC-PLANS - Oct 9, 2024 - 9:53 AM

Z:\27015\27000\0007\ENGINEERING\DRAINAGE\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27000007 - EC-PLOT.DWG - Jan 9, 2024 - 9:43 AM

MATCH LINE - SEE SHEET NO. EC2.7

MATCH LINE - SEE SHEET NO. EC2.9

MATCH LINE - SEE SHEET NO. EC2.11

MATCH LINE - SEE SHEET NO. EC2.13

INSTALL EROSION CONTROL MATTING (SEE SHEET EC4.1) (TYP.)

LAND GRADING (TYP.) LG

DUST CONTROL (TYP.) DC

PLANNED GRAVITY SEWER MAIN BY OTHERS

TS

TEMPORARY SEEDING (TYP.)

ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

INSTALL EROSION CONTROL MATTING (SEE SHEET EC4.1) (TYP.)

INSTALL EROSION CONTROL MATTING (SEE SHEET EC4.1) (TYP.)

GENERAL NOTE:

1. CONTRACTOR SHALL INSTALL AND MAINTAIN 3' TALL BERMS ON EACH PAD WHERE FILL SLOPES ARE PRESENT AND PROVIDE POSITIVE DRAINAGE AWAY FROM FILL SLOPES TO PREVENT EROSION AS PADS ARE RAISED IN LIFTS. UNLESS OTHERWISE SPECIFIED
2. CONTRACTOR SHALL ADJUST TEMPORARY DIVISION / BERMS DAILY AS GRADING OPERATIONS PROGRESS TO PROVIDE POSITIVE DRAINAGE TO PONDS AND SEDIMENT BASINS.
3. CONTRACTOR SHALL ESTABLISH GRASS IN TEMPORARY SWALES AS SOON AS GRADING OF SWALES IS COMPLETE.
4. ALL TEMPORARY PONDS TO HAVE MINIMUM SLOPE 0.5% FOR POSITIVE DRAINAGE TOWARDS THE OUTFALL.

LIMITS OF DITURBANCE — LOD — LOD

EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
SILT FENCE	
SURFACE ROUGHENING	OR LG
TEMPORARY SEEDING	TS
ROCK OUTLET	RO
EROSION CONTROL BLANKET OR TURF REINFORCEMENT MAT	
RIPRAP	

EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
OUTLET PROTECTION - RIP RAP	RR
ROCK SEDIMENT DIKE	
SEDIMENT TUBE	
ROCK CHECK DAM	OR
STABILIZED CONSTRUCTION ENTRANCE	SCE
CONCRETE WASHOUT	

CONSTRUCTION SEQUENCE

	CONSTRUCTION PHASE
10	CLEARING & GRUBBING OF SITE (SEDIMENT & EROSION CONTROL MEASURES FOR THESE AREAS MUST ALREADY BE INSTALLED).
11	ROUGH GRADING.
12	INSTALLATION OF STORM DRAIN SYSTEM & PLACEMENT OF INLET PROTECTION AS EACH INLET IS INSTALLED.
13	BUILDING PAD CONSTRUCTION.

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)

1 inch = 100 ft.

SOUTH CAROLINA PROFESSIONAL ENGINEER — No. 28573 — REGISTERED — MARCH 5, 2024

SOUTH CAROLINA — NOLTENIUS — THOMAS & HUTTON ENGINEERING CO. — No. C00285 — CERTIFICATE OF AUTHORITY

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.4789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - CONSTRUCTION PHASE

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC2.10

Z:\13\01\07\05\00\01\ENGINEERING DRAWINGS\CONSTRUCTION PLANS\CONNECT WASS GRADING PHASE 2\07050001 - EC-PLAN5 - Jan 9, 2024 - 9:56 AM

MATCH LINE - SEE SHEET NO. EC2.8

MATCH LINE - SEE SHEET NO. EC2.10

MATCH LINE - SEE SHEET NO. EC2.14

PIPE END
INV.: 434.00

RIP-RAP OUTFALL TREATMENT TO BE INSTALLED PER PIPE APRON LENGTH: 20' MINIMUM APRON WIDTH: 23' MINIMUM d50 PARTICLE SIZE: 0.75' MINIMUM

INSTALL EROSION CONTROL MATTING (SEE SHEET EC4.I) (TYP.)

CHECK DAM (TYP.)

INSTALL STABILIZED CONSTRUCTION ENTRANCE (SEE DETAIL SHEET EC4.4)(TYP.)

INSTALL SLOPE PROTECTION (SEE DETAIL SHEET EC4.3) (TYP.)

INSTALL CONCRETE WASHOUT (SEE DETAIL SHEET EC4.4)(TYP.)

TEMPORARY DIVERSIONS (TYP.) (SEE SHEET EC4.2)

TEMPORARY SEEDING (TYP.)

LIMITS OF DISTURBANCE (TYP.)

PROJECT BOUNDARY (TYP.)

COMMUNITY ROAD (S-2885)

DUST CONTROL (TYP.)

LAND GRADING (TYP.)

CLEAN OUT STAKE

INSTALL POROUS BAFFLES (SEE SHEET EC4.4)(TYP.)

PROPOSED TEMPORARY DRY POND #4 TO BE USED AS SEDIMENT BASIN DURING CONSTRUCTION

CONTRACTOR TO INSTALL 3-FT TALL AND 3-FT WIDE BERM

FOREBAY BERM

INSTALL ROCK SEDIMENT DIKE (SEE SHEET EC4.2)(TYP.)

INSTALL 3" SKIMMER (SEE SHEET EC4.1)

INSTALL EROSION CONTROL MATTING (SEE DETAIL SHEET EC4.I)(TYP.)

PIPE END
INV.: 430.00

PIPE END
INV.: 425.00

47 LF 3" PVC - SDR 26 @ 10.67%

SLOPE PROTECTION (SEE DETAIL SHEET E4.3) (TYP.)

12 S.Y. OF RIP-RAP AT 6" PIPE END

INSTALL MINIMUM 180 S.Y. OF RIP RAP TO TREAT HEADWALL; APRON TO BE NO LESS THAN 52' LONG X 30' WIDE

LIMITS OF DITURBANCE

PIPE END
INV.: 405.85

INSTALL 20 S.Y. OF RIP RAP TO TREAT 24" PIPE END

352 LF 24" RCP @ 6.85%

PIPE END
INV.: 430.07

INSTALL RIP RAP AT PIPE END (TYP.) (20 S.Y.)

LF 60" RCP @ 0.45%

INSTALL EROSION CONTROL MATTING (SEE SHEET EC4.I) (TYP.)

0.35%

ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

GENERAL NOTE:
1. CONTRACTOR SHALL INSTALL AND MAINTAIN 3' TALL BERMS ON EACH PAD WHERE FILL SLOPES ARE PRESENT AND PROVIDE POSITIVE DRAINAGE AWAY FROM FILL SLOPES TO PREVENT EROSION AS PADS ARE RAISED IN LIFTS. UNLESS OTHERWISE SPECIFIED
2. CONTRACTOR SHALL ADJUST TEMPORARY DIVISION / BERMS DAILY AS GRADING OPERATIONS PROGRESS TO PROVIDE POSITIVE DRAINAGE TO PONDS AND SEDIMENT BASINS.
3. CONTRACTOR SHALL ESTABLISH GRASS IN TEMPORARY SWALES AS SOON AS GRADING OF SWALES IS COMPLETE.
4. ALL TEMPORARY PONDS TO HAVE MINIMUM SLOPE 0.5% FOR POSITIVE DRAINAGE TOWARDS THE OUTFALL.

GENERAL NOTE: CONTRACTOR SHALL INSTALL AND MAINTAIN 3' TALL BERMS ON EACH PAD WHERE FILL SLOPES ARE PRESENT AND PROVIDE POSITIVE DRAINAGE AWAY FROM FILL SLOPES TO PREVENT EROSION AS PADS ARE RAISED IN LIFTS.

EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
SILT FENCE	
SURFACE ROUGHENING	OR LG
TEMPORARY SEEDING	TS
ROCK OUTLET	RO
EROSION CONTROL BLANKET OR TURF REINFORCEMENT MAT	
RIPRAP	

EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
OUTLET PROTECTION - RIP RAP	
ROCK SEDIMENT DIKE	
SEDIMENT TUBE	
ROCK CHECK DAM	OR
STABILIZED CONSTRUCTION ENTRANCE	
CONCRETE WASHOUT	

CONSTRUCTION SEQUENCE

	CONSTRUCTION PHASE
10	CLEARING & GRUBBING OF SITE (SEDIMENT & EROSION CONTROL MEASURES FOR THESE AREAS MUST ALREADY BE INSTALLED).
11	ROUGH GRADING.
12	INSTALLATION OF STORM DRAIN SYSTEM & PLACEMENT OF INLET PROTECTION AS EACH INLET IS INSTALLED.
13	BUILDING PAD CONSTRUCTION.

GRAPHIC SCALE
(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA PROFESSIONAL ENGINEER — No. C002285 — THOMAS & HUTTON ENGINEERING CO. — CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER — No. 28573 — 12-19-24 — MARCUS B. WASSON

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 740
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC
PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS
EROSION CONTROL PLAN - CONSTRUCTION PHASE

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC2.11

EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
SILT FENCE	
SURFACE ROUGHENING	or LG
TEMPORARY SEEDING	TS
ROCK OUTLET	RO
EROSION CONTROL BLANKET OR TURF REINFORCEMENT MAT	
RIPRAP	

EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
OUTLET PROTECTION - RIP RAP	
ROCK SEDIMENT DIKE	
SEDIMENT TUBE	
ROCK CHECK DAM	OR
STABILIZED CONSTRUCTION ENTRANCE	
CONCRETE WASHOUT	

ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

LIMITS OF DITURBANCE — LOD

NATIVE SEEDING MIX

GENERAL NOTE:

1. CONTRACTOR SHALL INSTALL AND MAINTAIN 3' TALL BERMS ON EACH PAD WHERE FILL SLOPES ARE PRESENT AND PROVIDE POSITIVE DRAINAGE AWAY FROM FILL SLOPES TO PREVENT EROSION AS PADS ARE RAISED IN LIFTS. UNLESS OTHERWISE SPECIFIED
2. CONTRACTOR SHALL ADJUST TEMPORARY DIVISION / BERMS DAILY AS GRADING OPERATIONS PROGRESS TO PROVIDE POSITIVE DRAINAGE TO PONDS AND SEDIMENT BASINS.
3. CONTRACTOR SHALL ESTABLISH GRASS IN TEMPORARY SWALES AS SOON AS GRADING OF SWALES IS COMPLETE.
4. ALL TEMPORARY PONDS TO HAVE MINIMUM SLOPE 0.5% FOR POSITIVE DRAINAGE TOWARDS THE OUTFALL.

CONSTRUCTION SEQUENCE	
CONSTRUCTION PHASE	
10	CLEARING & GRUBBING OF SITE (SEDIMENT & EROSION CONTROL MEASURES FOR THESE AREAS MUST ALREADY BE INSTALLED).
11	ROUGH GRADING.
12	INSTALLATION OF STORM DRAIN SYSTEM & PLACEMENT OF INLET PROTECTION AS EACH INLET IS INSTALLED.
13	BUILDING PAD CONSTRUCTION.

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)

1 inch = 100 ft

SILT FENCE (TYP.)

CONTRACTOR TO INSTALL 3-FT TALL AND 3-FT WIDE BERM

LAND GRADING (TYP.)

BEGIN 5-FT TALL AND 5-FT WIDE BERM

NOTE:
CONTRACTOR TO PROVIDE POSITIVE DRAINAGE TO PROPOSED DITCHES AND DETENTION PONDS AT A MINIMUM SLOPE OF 0.33%. PROPOSED DETENTION PONDS SHALL BE CONSTRUCTED AT ELEVATIONS SHOWN ON PLANS.

DUST CONTROL (TYP.)

0.33%

TEMPORARY SEEDING (TYP.)

INSTALL EROSION CONTROL MATTING (SEE DETAIL SHEET EC4.1)(TYP.)

INSTALL SLOPE PROTECTION (SEE DETAIL SHEET EC4.3) (TYP.)

LIMITS OF DISTURBANCE (TYP.)

PROJECT BOUNDARY (TYP.)

DOUBLE ROW SILT FENCE (TYP.) (CONTRACTOR TO ADD MULCH BETWEEN THE SILT FENCE)

CONTRACTOR TO INSTALL 5-FT TALL AND 5-FT WIDE BERM

INSTALL SLOPE PROTECTION (SEE DETAIL SHEET EC4.3) (TYP.)

GROUTED RIP-RAP OUTFALL TREATMENT TO BE INSTALLED PER PIPE
APRON LENGTH: 28' MINIMUM
APRON WIDTH: 31' MINIMUM
d50 PARTICLE SIZE: 1.25' MINIMUM

PIPE END
INV.: 412.21

PIPE END
INV.: 412.99

RIP-RAP OUTFALL TREATMENT TO BE INSTALLED PER PIPE
APRON LENGTH: 14' MINIMUM
APRON WIDTH: 15' MINIMUM
d50 PARTICLE SIZE: 0.50' MINIMUM

SOUTH CAROLINA PROFESSIONAL ENGINEER — THOMAS HUTTON ENGINEERING CO. No. COD285 — CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER — No. 28573 — 12-11-24 — CHRISTOPHER L. KEATON — MARCH 2025

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 740
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - CONSTRUCTION PHASE

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC2.12

Z:\27015\27015.0007\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONEC12 MASS GRADING PHASE 2\27015.0007 - EC-PLAN2 - Jan 9, 2024 - 9:58 AM

MATCH LINE - SEE SHEET NO. EC2.10

MATCH LINE - SEE SHEET NO. EC2.12

MATCH LINE - SEE SHEET NO. EC2.14

MATCH LINE - SEE SHEET NO. EC2.15

INSTALL EROSION CONTROL MATTING (SEE SHEET EC4.I) (TYP.)

PLANNED GRAVITY SEWER MAIN BY OTHERS

INSTALL EROSION CONTROL MATTING (SEE SHEET EC4.I) (TYP.)

INSTALL TURBIDITY CURTAINS (SEE DETAIL SHEET EC4.I) (TYP.)

LAND GRADING (TYP.)

DUST CONTROL (TYP.)

TEMPORARY SEEDING (TYP.)

PROPOSED PERMANENT WET POND #3 TO BE USED AS SEDIMENT BASIN DURING CONSTRUCTION

INSTALL ROCK SEDIMENT DIKE (SEE SHEET EC4.2)(TYP.)

INSTALL TURBIDITY CURTAINS (SEE DETAIL SHEET EC4.I) (TYP.)

INSTALL (1) 6" AND (5) 8" SKIMMERS (SEE SHEET EC4.1)

CS #L-0420DS
FR: 457.00
INV. OUT: 448.50 (SW)
(SEE DETAIL SHEET C3.24)

568 LF 36" RCP
@ 7.95%

INSTALL TURBIDITY CURTAINS (SEE DETAIL SHEET EC4.I) (TYP.)

PIPE END
INV.: 412.99

152 LF 48" HDPE
@ 0.27%

INSTALL EROSION CONTROL MATTING (SEE SHEET EC4.I) (TYP.)

LAND GRADING (TYP.)

TEMPORARY SEEDING (TYP.)

EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
SILT FENCE	
SURFACE ROUGHENING	OR LG
TEMPORARY SEEDING	TS
ROCK OUTLET	RO
EROSION CONTROL BLANKET OR TURF REINFORCEMENT MAT	
RIPRAP	

EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
OUTLET PROTECTION - RIP RAP	
ROCK SEDIMENT DIKE	
SEDIMENT TUBE	
ROCK CHECK DAM	OR
STABILIZED CONSTRUCTION ENTRANCE	
CONCRETE WASHOUT	

GENERAL NOTE:

1. CONTRACTOR SHALL INSTALL AND MAINTAIN 3' TALL BERMS ON EACH PAD WHERE FILL SLOPES ARE PRESENT AND PROVIDE POSITIVE DRAINAGE AWAY FROM FILL SLOPES TO PREVENT EROSION AS PADS ARE RAISED IN LIFTS. UNLESS OTHERWISE SPECIFIED
2. CONTRACTOR SHALL ADJUST TEMPORARY DIVISION / BERMS DAILY AS GRADING OPERATIONS PROGRESS TO PROVIDE POSITIVE DRAINAGE TO PONDS AND SEDIMENT BASINS.
3. CONTRACTOR SHALL ESTABLISH GRASS IN TEMPORARY SWALES AS SOON AS GRADING OF SWALES IS COMPLETE.
4. ALL TEMPORARY PONDS TO HAVE MINIMUM SLOPE 0.5% FOR POSITIVE DRAINAGE TOWARDS THE OUTFALL.

CONSTRUCTION SEQUENCE	
10	CLEARING & GRUBBING OF SITE (SEDIMENT & EROSION CONTROL MEASURES FOR THESE AREAS MUST ALREADY BE INSTALLED).
11	ROUGH GRADING.
12	INSTALLATION OF STORM DRAIN SYSTEM & PLACEMENT OF INLET PROTECTION AS EACH INLET IS INSTALLED.
13	BUILDING PAD CONSTRUCTION.

ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

LIMITS OF DITURBANCE — LOD — LOD

GENERAL NOTE: CONTRACTOR SHALL INSTALL AND MAINTAIN 3' TALL BERMS ON EACH PAD WHERE FILL SLOPES ARE PRESENT AND PROVIDE POSITIVE DRAINAGE AWAY FROM FILL SLOPES TO PREVENT EROSION AS PADS ARE RAISED IN LIFTS.

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA NOLTE/HUTTON THOMAS & HUTTON ENGINEERING CO. No. COA0285 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 28573 CHRISTOPHER BRADLEY MARCHANT 12-19-24

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 740
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - CONSTRUCTION PHASE

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC2.13

EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
SILT FENCE	
SURFACE ROUGHENING	or LG
TEMPORARY SEEDING	TS
ROCK OUTLET	RO
EROSION CONTROL BLANKET OR TURF REINFORCEMENT MAT	
RIPRAP	

EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
OUTLET PROTECTION - RIP RAP	
ROCK SEDIMENT DIKE	
SEDIMENT TUBE	
ROCK CHECK DAM	OR
STABILIZED CONSTRUCTION ENTRANCE	SCE
CONCRETE WASHOUT	

MATCH LINE - SEE SHEET NO. EC2.11

MATCH LINE - SEE SHEET NO. EC2.13

MATCH LINE - SEE SHEET NO. EC2.16

INSTALL EROSION CONTROL MATTING ON ALL DITCH SLOPES (TYP)

LAND GRADING (TYP.)

DUST CONTROL (TYP.)

INSTALL ROCK SEDIMENT DIKE (SEE DETAIL SHEET EC4.2) (TYP.)

PROPOSED PERMANENT WET POND #4 TO BE USED AS SEDIMENT BASIN DURING CONSTRUCTION

INSTALL TURBIDITY CURTAINS (SEE DETAIL SHEET EC4.I) (TYP.)

INSTALL (3) 8" SKIMMERS (SEE SHEET EC4.1)

CONTRACTOR TO INSTALL 3-FT TALL AND 3-FT WIDE BERM

INSTALL RIP RAP AT PIPE END (TYP.) (20 S.Y.)

INSTALL SLOPE PROTECTION (SEE SHEET EC4.3) (TYP.)

PROJECT BOUNDARY (TYP.)

CONTRACTOR TO INSTALL 3-FT TALL AND 3-FT WIDE BERM

DOUBLE ROW SILT FENCE (TYP.) (CONTRACTOR TO ADD MULCH BETWEEN THE SILT FENCE)

LIMITS OF DISTURBANCE

LIMITS OF DISTURBANCE (TYP.)

INSTALL STABILIZED CONSTRUCTION ENTRANCE (SEE DETAIL SHEET EC4.4)(TYP.)

ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

CS #L-0490DS
FR: 462.80
INV. OUT: 453.80 (SE)
(SEE DETAIL SHEET C3.24)

PIPE END
INV.: 399.00

INSTALL MINIMUM 345 S.Y. OF RIP RAP TO TREAT HEADWALL; APRON TO BE NO LESS THAN 52' LONG X 62' WIDE

52 LF 24" RCP @ 4.98%

415 LF 24" RCP @ 10.40%

RIP-RAP OUTFALL TREATMENT TO BE INSTALLED PER PIPE
APRON LENGTH: 16' MINIMUM
APRON WIDTH: 19' MINIMUM
d50 PARTICLE SIZE: 0.75' MINIMUM

SMH #6A
FR: 413.47
INV. IN: 402.10 (SE)
INV. OUT: 399.42 (NW)

INSTALL 60' WIDE EMERGENCY SPILLWAY AT 431.00'
(SEE DETAIL SHEET EC4.2) (TYP.)

SMH #4A
FR: 416.07
INV. IN: 410.66 (NW)
INV. OUT: 399.04 (SE)

72 LF 24" RCP @ 5.00%

129 LF 24" RCP @ 5.35%

PIPE END
INV.: 395.45

RIP-RAP OUTFALL TREATMENT TO BE INSTALLED PER PIPE
APRON LENGTH: 16' MINIMUM
APRON WIDTH: 19' MINIMUM
d50 PARTICLE SIZE: 0.75' MINIMUM

CS #L-0460DS
419.60
INV. OUT: 409.01 (NW)
(SEE DETAIL SHEET C3.23)

INSTALL (1) 6" AND (1) 8" SKIMMER (SEE SHEET EC4.1)

INSTALL ROCK SEDIMENT DIKE (SEE SHEET EC4.2)(TYP.)

INSTALL TURBIDITY CURTAINS (SEE DETAIL SHEET EC4.I) (TYP.)

PROPOSED PERMANENT WET POND #6 TO BE USED AS SEDIMENT BASIN DURING CONSTRUCTION

INSTALL TURBIDITY CURTAINS (SEE DETAIL SHEET EC4.I) (TYP.)

INSTALL MINIMUM 195 S.Y. OF RIP RAP TO TREAT HEADWALL; APRON TO BE NO LESS THAN 58' LONG X 30' WIDE

CONTRACTOR TO INSTALL 3-FT TALL AND 3-FT WIDE BERM

PLANNED GRAVITY SEWER MAIN BY OTHERS

PIPE END
INV.: 399.00

PIPE END
INV.: 420.36

477 LF 24" RCP @ 1.16%

PIPE END
INV.: 425.88

PIPE END
INV.: 425.88

INSTALL RIP RAP AT PIPE END (TYP.) (20 S.Y.)

316 LF 60" RCP @ 0.46%

316 LF 60" RCP @ 0.46%

LAND GRADING (TYP.)

CONSTRUCTION SEQUENCE

CONSTRUCTION PHASE	
10	CLEARING & GRUBBING OF SITE (SEDIMENT & EROSION CONTROL MEASURES FOR THESE AREAS MUST ALREADY BE INSTALLED).
11	ROUGH GRADING.
12	INSTALLATION OF STORM DRAIN SYSTEM & PLACEMENT OF INLET PROTECTION AS EACH INLET IS INSTALLED.
13	BUILDING PAD CONSTRUCTION.

GRAPHIC SCALE
(IN FEET)
1 inch = 100 ft.

GENERAL NOTE:

1. CONTRACTOR SHALL INSTALL AND MAINTAIN 3' TALL BERMS ON EACH PAD WHERE FILL SLOPES ARE PRESENT AND PROVIDE POSITIVE DRAINAGE AWAY FROM FILL SLOPES TO PREVENT EROSION AS PADS ARE RAISED IN LIFTS. UNLESS OTHERWISE SPECIFIED
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4. ALL TEMPORARY PONDS TO HAVE MINIMUM SLOPE 0.5% FOR POSITIVE DRAINAGE TOWARDS THE OUTFALL.

SOUTH CAROLINA — NO. 102 — THOMAS HUTTON ENGINEERING CO. — No. COA0285 — CERTIFICATE OF AUTHORITY

SOUTH CAROLINA — PROFESSIONAL ENGINEER — No. 28573 — MARCUS B. SHEALY — 12-19-2023

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

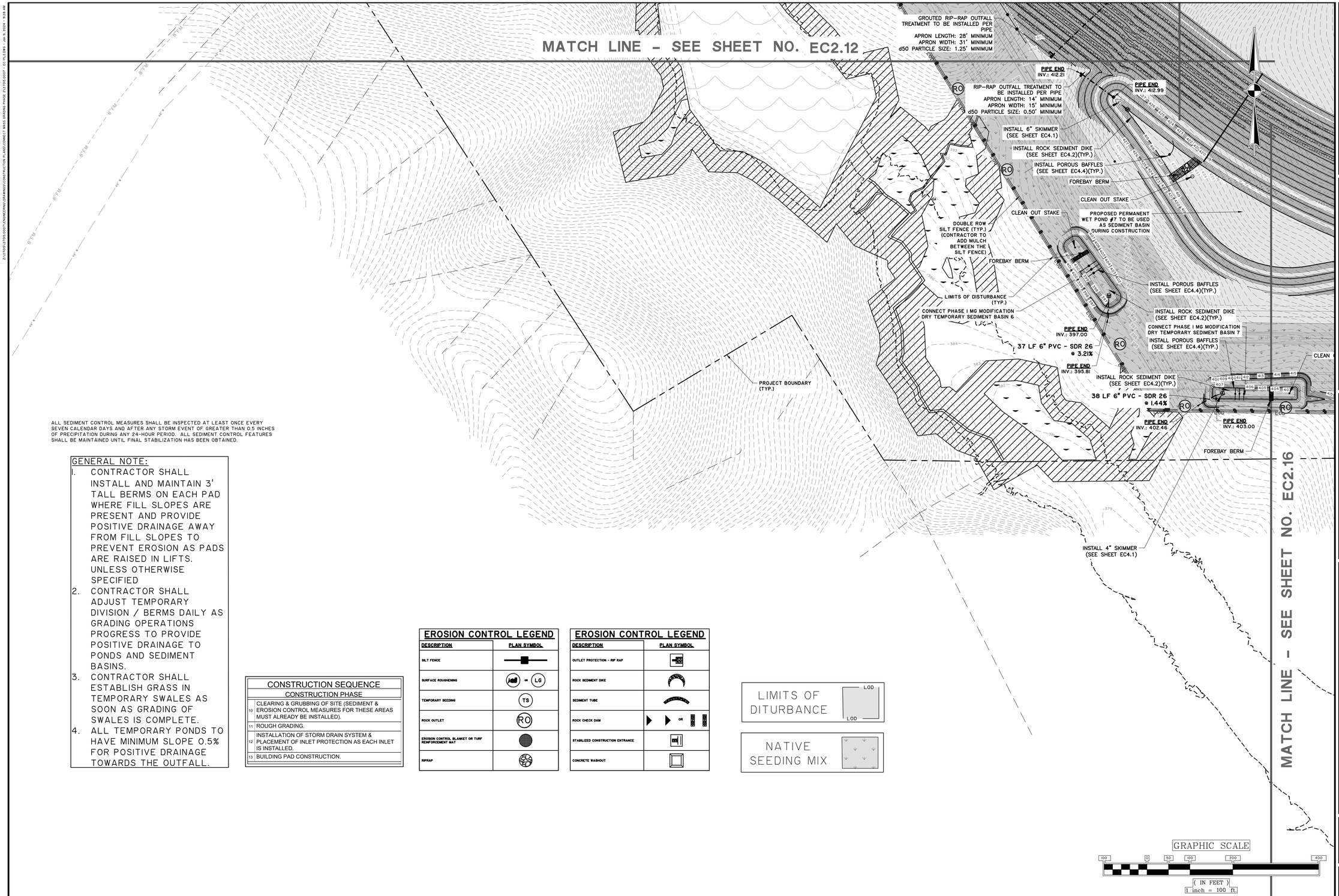
RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - CONSTRUCTION PHASE

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC2.14



ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

GENERAL NOTE:

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CONSTRUCTION SEQUENCE	
CONSTRUCTION PHASE	
10	CLEARING & GRUBBING OF SITE (SEDIMENT & EROSION CONTROL MEASURES FOR THESE AREAS MUST ALREADY BE INSTALLED).
11	ROUGH GRADING.
12	INSTALLATION OF STORM DRAIN SYSTEM & PLACEMENT OF INLET PROTECTION AS EACH INLET IS INSTALLED.
13	BUILDING PAD CONSTRUCTION.

EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
SILT FENCE	
SURFACE ROUGHENING	or LG
TEMPORARY SEEDING	TS
ROCK OUTLET	RO
EROSION CONTROL BLANKET OR TURF REINFORCEMENT MAT	
RIPRAP	

EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
OUTLET PROTECTION - RIP RAP	
ROCK SEDIMENT DIKE	
SEDIMENT TUBE	
ROCK CHECK DAM	OR
STABILIZED CONSTRUCTION ENTRANCE	
CONCRETE WASHOUT	

LIMITS OF DITURBANCE — LOD — LOD

NATIVE SEEDING MIX

SOUTH CAROLINA — NOLAN K. THOMAS — THOMAS & HUTTON ENGINEERING CO. — No. C002285 — CERTIFICATE OF AUTHORITY

SOUTH CAROLINA — PROFESSIONAL ENGINEER — No. 28573 — 12-19-2024 — CHRISTOPHER M. MARCHEWKA

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.4789
www.thomasandhutton.com

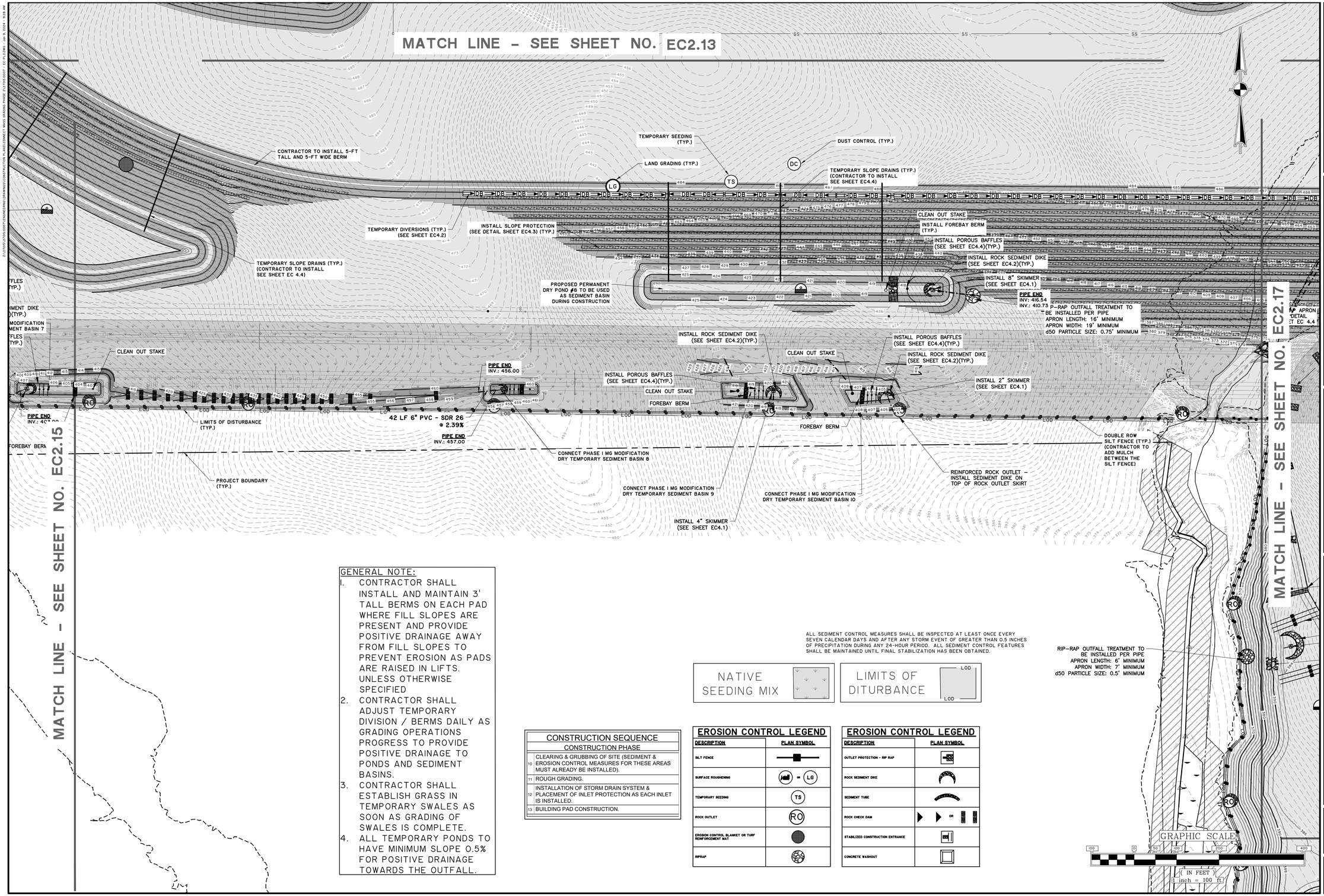
RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - CONSTRUCTION PHASE

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC2.15



GENERAL NOTE:

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3. CONTRACTOR SHALL ESTABLISH GRASS IN TEMPORARY SWALES AS SOON AS GRADING OF SWALES IS COMPLETE.
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ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

NATIVE SEEDING MIX

LIMITS OF DITURBANCE (LOD)

CONSTRUCTION SEQUENCE	
CONSTRUCTION PHASE	
10	CLEARING & GRUBBING OF SITE (SEDIMENT & EROSION CONTROL MEASURES FOR THESE AREAS MUST ALREADY BE INSTALLED).
11	ROUGH GRADING.
12	INSTALLATION OF STORM DRAIN SYSTEM & PLACEMENT OF INLET PROTECTION AS EACH INLET IS INSTALLED.
13	BUILDING PAD CONSTRUCTION.

EROSION CONTROL LEGEND	
DESCRIPTION	PLAN SYMBOL
SILT FENCE	
SURFACE ROUGHENING	= LG
TEMPORARY SEEDING	TS
ROCK OUTLET	RO
EROSION CONTROL BLANKET OR TURF REINFORCEMENT MAT	
RIPRAP	

EROSION CONTROL LEGEND	
DESCRIPTION	PLAN SYMBOL
OUTLET PROTECTION - RIP RAP	
ROCK SEDIMENT DIKE	
SEDIMENT TUBE	
ROCK CHECK DAM	OR
STABILIZED CONSTRUCTION ENTRANCE	
CONCRETE WASHOUT	

SOUTH CAROLINA PROFESSIONAL ENGINEER — THOMAS HUTTON ENGINEERING CO. No. C00285 — CERTIFICATE OF AUTHORITY

SOUTH CAROLINA PROFESSIONAL ENGINEER — No. 28573 — MARCUS B. SIMMONS — 12/19/2024

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON

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Columbia, SC 29201 • 803.451.4789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - CONSTRUCTION PHASE

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC2.16

MATCH LINE - SEE SHEET NO. EC2.16

MATCH LINE - SEE SHEET NO. EC2.14

CONTRACTOR TO INSTALL 3-FT TALL AND 3-FT WIDE BERM

PLANNED GRAVITY SEWER MAIN

PROJECT BOUNDARY (TYP.)

LAND GRADING (TYP.)

TEMPORARY SEEDING (TYP.)

DUST CONTROL (TYP.)

CONTRACTOR TO INSTALL 3-FT TALL AND 3-FT WIDE BERM

TEMPORARY SLOPE DRAINS (TYP.) (CONTRACTOR TO INSTALL SEE SHEET EC 4.4)

CONTRACTOR TO INSTALL 5-FT TALL AND 5-FT WIDE BERM

INSTALL EROSION CONTROL MATTING (SEE DETAIL SHEET EC4.I)(TYP.)

END 5-FT TALL AND 5-FT WIDE BERM

CS #104 (IO)
FR: 440.25
INV. OUT: 438.00 (S)
(SEE DETAIL SHEET C3.25)

PROPOSED PERMANENT WET POND #9 TO BE USED AS SEDIMENT BASIN DURING CONSTRUCTION

INSTALL SLOPE PROTECTION (SEE DETAIL SHEET EC4.3) (TYP.)

RIP-RAP APRON SEE DETAIL SHEET EC 4.4

INSTALL POROUS BAFFLES (SEE SHEET EC4.4)(TYP.)

CLEAN OUT STAKE

INSTALL FOREBAY BERM (TYP.)

INSTALL ROCK SEDIMENT DIKE (SEE SHEET EC4.2)(TYP.)

INSTALL 6" SKIMMER (SEE SHEET EC4.1)

RIP-RAP OUTFALL TREATMENT TO BE INSTALLED PER PIPE
APRON LENGTH: 16' MINIMUM
APRON WIDTH: 19' MINIMUM
d50 PARTICLE SIZE: 0.75' MINIMUM

EXISTING DITCH (TYP.)

DOUBLE ROW SILT FENCE (TYP.) (CONTRACTOR TO ADD MULCH BETWEEN THE SILT FENCE)

GENERAL NOTE:

1. CONTRACTOR SHALL INSTALL AND MAINTAIN 3' TALL BERMS ON EACH PAD WHERE FILL SLOPES ARE PRESENT AND PROVIDE POSITIVE DRAINAGE AWAY FROM FILL SLOPES TO PREVENT EROSION AS PADS ARE RAISED IN LIFTS. UNLESS OTHERWISE SPECIFIED
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CONSTRUCTION SEQUENCE	
CONSTRUCTION PHASE	
10	CLEARING & GRUBBING OF SITE (SEDIMENT & EROSION CONTROL MEASURES FOR THESE AREAS MUST ALREADY BE INSTALLED).
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12	INSTALLATION OF STORM DRAIN SYSTEM & PLACEMENT OF INLET PROTECTION AS EACH INLET IS INSTALLED.
13	BUILDING PAD CONSTRUCTION.

EROSION CONTROL LEGEND	
DESCRIPTION	PLAN SYMBOL
SILT FENCE	
SURFACE ROUGHENING	DC or LG
TEMPORARY SEEDING	TS
ROCK OUTLET	RO
EROSION CONTROL BLANKET OR TURF REINFORCEMENT MAT	
RIPRAP	

EROSION CONTROL LEGEND	
DESCRIPTION	PLAN SYMBOL
OUTLET PROTECTION - RIP RAP	
ROCK SEDIMENT DIKE	
SEDIMENT TUBE	
ROCK CHECK DAM	OR
STABILIZED CONSTRUCTION ENTRANCE	
CONCRETE WASHOUT	

NATIVE SEEDING MIX

LIMITS OF DITURBANCE (LOD)

GRAVITY SEWER MAIN BY OTHERS

ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

FOREBAY BERM

CLEAN OUT STAKE

INSTALL POROUS BAFFLES (SEE SHEET EC4.4)(TYP.)

INSTALL ROCK SEDIMENT DIKE (SEE SHEET EC4.2)(TYP.)

INSTALL (1) 8" AND (1) 6" SKIMMER (SEE SHEET EC4.1)

INSTALL 50' EMERGENCY SPILLWAY AT 389.0' (SEE DETAIL SHEET EC4.2) (TYP.)

TEMPORARY SEDIMENT BASIN #10 (INSTALLED IN EC01) (SEE DETAILS SHEET) (TYP.)

EXISTING CHECK DAMS TO REMAIN UNDER SCDHEC PERMIT SCR10ZCPU

CLEAN OUT STAKE

INSTALL RIP-RAP BLANKET WHERE TEMPORARY DIVERSIONS ENTER POND (TYP.)

FOREBAY BERM

DOUBLE ROW SILT FENCE (TYP.) (CONTRACTOR TO ADD MULCH BETWEEN THE SILT FENCE)

GRAPHIC SCALE
100 50 0 100 200 400
(IN FEET)
1 inch = 100 ft.

MATCH LINE - SEE SHEET NO. EC2.18

SOUTH CAROLINA PROFESSIONAL ENGINEER — THOMAS HUTTON ENGINEERING CO. — No. C00285 — CERTIFICATE OF AUTHORITY

SOUTH CAROLINA PROFESSIONAL ENGINEER — No. 28573 — 12-19-2024 — MARCUS B. SHEALY

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.4789
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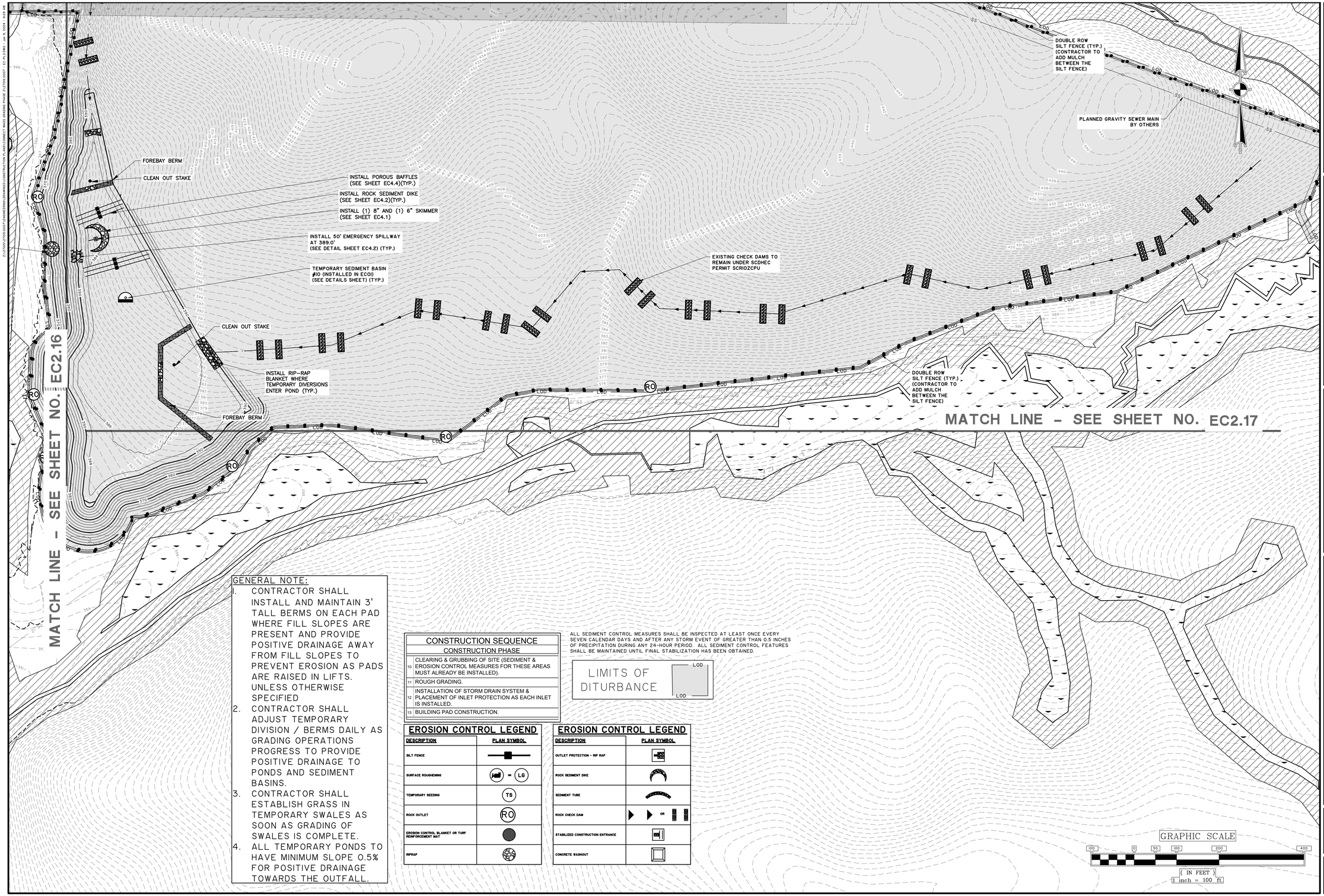
RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC
PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS
EROSION CONTROL PLAN - CONSTRUCTION PHASE

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC2.17



GENERAL NOTE:

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CONSTRUCTION SEQUENCE	
CONSTRUCTION PHASE	
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LIMITS OF DITURBANCE — LOD / LOD

EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
SILT FENCE	
SURFACE ROUGHENING	= LG
TEMPORARY SEEDING	TS
ROCK OUTLET	RO
EROSION CONTROL BLANKET OR TURF REINFORCEMENT MAT	
RIPRAP	

EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
OUTLET PROTECTION - RIP RAP	
ROCK SEDIMENT DIKE	
SEDIMENT TUBE	
ROCK CHECK DAM	OR
STABILIZED CONSTRUCTION ENTRANCE	
CONCRETE WASHOUT	

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA — NOLTENIUS — THOMAS HUTTON ENGINEERING Co. No. COA0285 — CERTIFICATE OF AUTHORITY

SOUTH CAROLINA — PROFESSIONAL ENGINEER — No. 28573 — 12-17-24 — MARCUS B. SIMMONS — LOT

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 400
Columbia, SC 29201 • 803.451.6789
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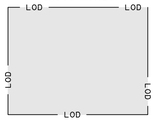
RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC
PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS
EROSION CONTROL PLAN - CONSTRUCTION PHASE

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

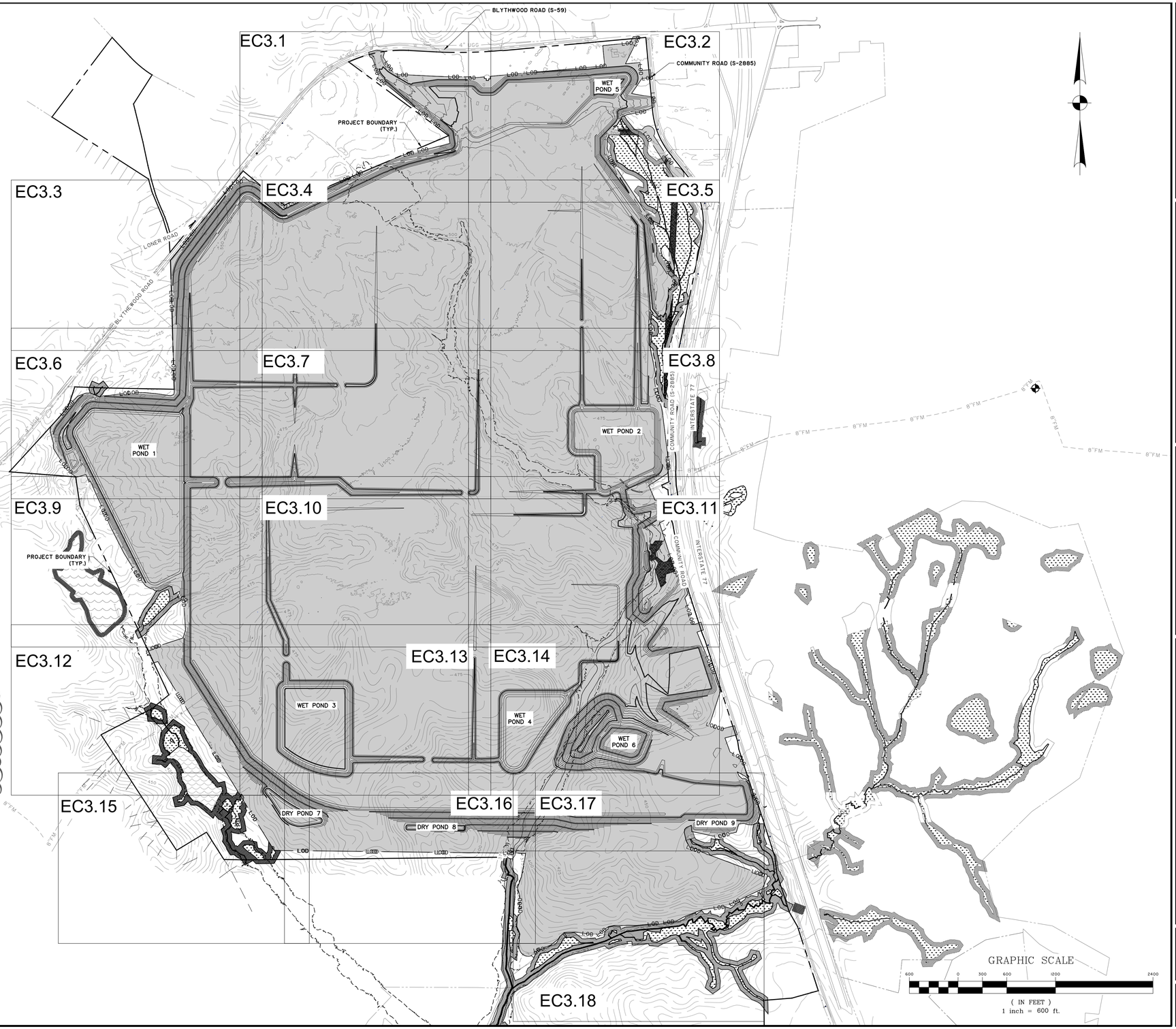
EC2.18

Z:\27015.0007\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015.0007 - OV-EC-PLSHT - Jan 9, 2024 - 9:53 AM

LIMITS OF DISTURBANCE
±1,360 ACRES



WETLANDS HATCHING LEGEND	
	JURISDICTIONAL WETLANDS
	WETLAND PERMANENT FILL IMPACT
	WETLAND BUFFER
	WETLAND PERMANENT CLEARING IMPACT
	NON-WETLAND WATERS (PONDS) PERMANENT FILL IMPACT
	WETLAND TEMPORARY EXCAVATION/PERMANENT CLEARING IMPACT (UNDERGROUND UTILITY IMPACT)
	JURISDICTIONAL NON-WETLAND WATERS (NWW) (PONDS)



NOTE: CONTRACTOR TO PROVIDE POSITIVE DRAINAGE TO PROPOSED DITCHES AND DETENTION PONDS AT A MINIMUM SLOPE OF 0.33%. PROPOSED DETENTION PONDS SHALL BE CONSTRUCTED AT ELEVATIONS SHOWN ON PLANS.

GRAPHIC SCALE
600 0 300 600 1200 2400
(IN FEET)
1 inch = 600 ft.

SOUTH CAROLINA — NOLAN KEITH THOMAS — THOMAS & HUTTON ENGINEERING CO. — No. C00285 — CERTIFICATE OF AUTHORITY

SOUTH CAROLINA — PROFESSIONAL ENGINEER — No. 28573 — MARCUS BRYAN WILKINSON — 12-19-2023

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

OVERALL EROSION CONTROL PLAN - STABILIZATION

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 600'

EC3.0

CONSTRUCTION SEQUENCE	
STABILIZATION PHASE	
14	PERMANENT/FINAL STABILIZATION.
15	CLEAN-OUT OF DETENTION BASIN THAT WAS USED AS A SEDIMENT CONTROL STRUCTURE & RE-GRADING OF DETENTION POND BOTTOM; IF NECESSARY, MODIFICATION OF SEDIMENT BASIN RISER TO CONVERT TO DETENTION BASIN OUTLET STRUCTURE.
16	PERFORM AS-BUILT SURVEY OF DETENTION STRUCTURE & SUBMIT TO SCDHEC FOR ACCEPTANCE.
17	SUBMIT NOTICE OF TERMINATION (NOT) AND CERTIFIED POND AS-BUILTS TO DHEC UPON A MINIMUM OF 70% UNIFORM SITE DENSITY PERMANENT SITE STABILIZATION

GENERAL NOTE:

1. CONTRACTOR SHALL ADJUST TEMPORARY DIVERSIONS/BERMS DAILY AS GRADING OPERATIONS PROGRESS TO PROVIDE POSITIVE DRAINAGE TO PONDS AND SEDIMENT BASINS.
2. CONTRACTOR SHALL INSTALL AND MAINTAIN 3' TALL BERMS ON EACH PAD WHERE FILL SLOPES ARE PRESENT AND PROVIDE POSITIVE DRAINAGE AWAY FROM FILL SLOPES TO PREVENT EROSION AS PADS ARE RAISED IN LIFTS.
3. ALL TEMPORARY PONDS, DRY PONDS, AND DRY SEDIMENT TRAPS SHALL HAVE A MINIMUM SLOPE OF 0.5% FOR POSITIVE DRAINAGE TOWARDS OUTFALL.

LIMITS OF DITURBANCE — LOD

INSTALL STABILIZED CONSTRUCTION ENTRANCE (SEE DETAIL SHEET EC4.4)(TYP.)

BLYTHEWOOD ROAD (S-59)

ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

LIMITS OF DISTURBANCE (TYP.)

INSTALL SLOPE PROTECTION (SEE DETAIL SHEET EC4.3)(TYP.)

PROJECT BOUNDARY (TYP.)

INSTALL CONCRETE WASHOUT (SEE DETAIL SHEET EC4.4)(TYP.)

MATCH LINE – SEE SHEET NO. EC3.2

151 LF 24" RCP @ 0.69%

PIPE END INV.: 488.49

PIPE END INV.: 489.54

N/F SARA COOPER PALMER TMS NO. 15100-01-03

N/F ROBERT, WILLIAM COOPER TMS NO. 15100-01-08

N/F THOMAS EDWARD COOPER TMS NO. 15100-01-01

N/F FAIRFIELD ELECTRIC TMS NO. 12600-03-01

FLOOD HAZARD ZONE A AREA PER FEMA FIRM PANEL: 45019C128L

PS — PERMANENT SEEDING (TYP.)

INSTALL EROSION CONTROL MATTING (SEE DETAIL SHEET EC4.1)(TYP.)

MATCH LINE – SEE SHEET NO. EC3.4

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA PROFESSIONAL ENGINEER — No. 28573 — CHRISTOPHER L. MARCHESE — 12-11-2023

SOUTH CAROLINA NOLTE/ASSOCIATE — THOMAS & HUTTON ENGINEERING CO. — No. C00285 — CERTIFICATE OF AUTHORITY

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
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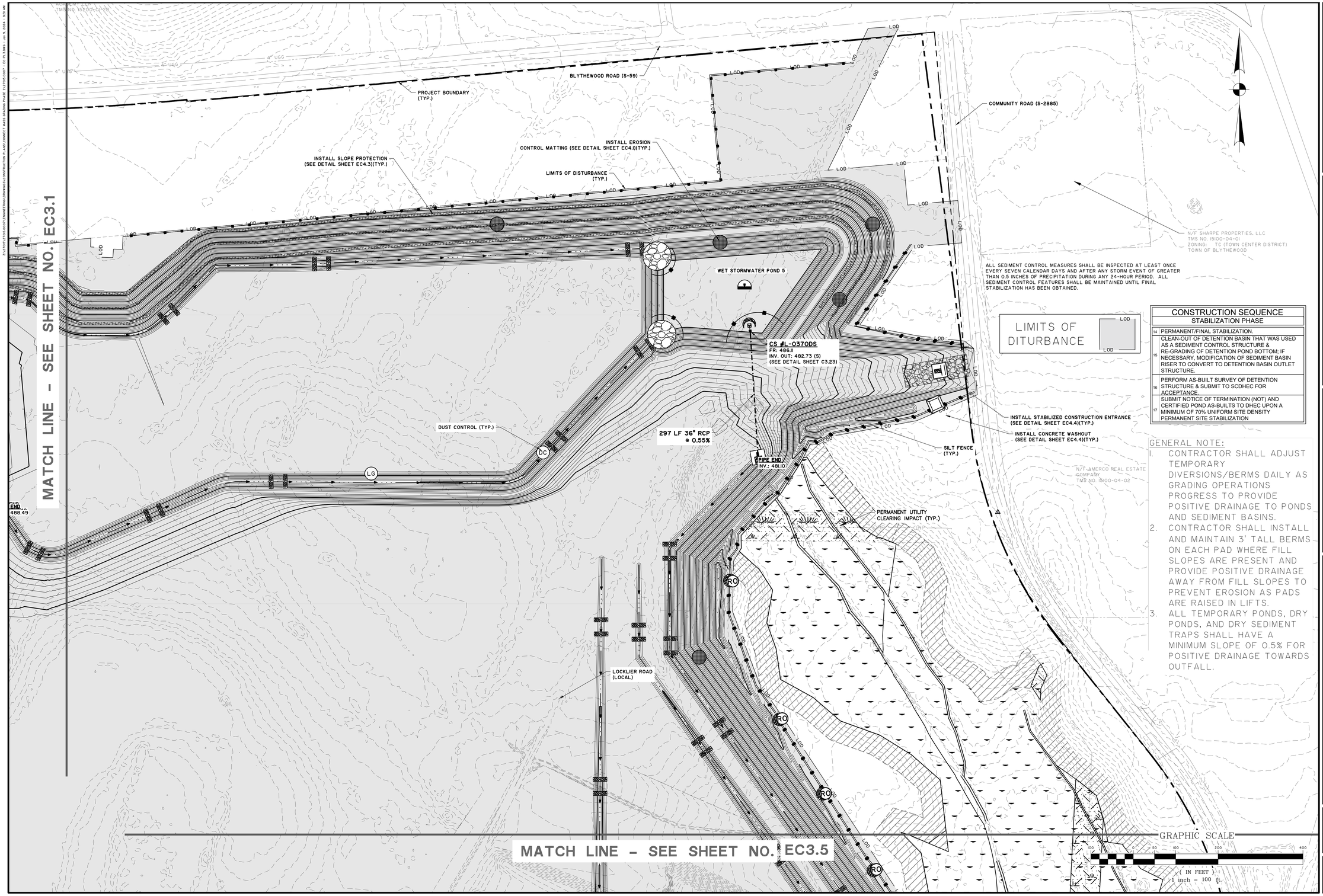
RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN – STABILIZATION

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC3.1



ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

LIMITS OF DITURBANCE

CONSTRUCTION SEQUENCE	
STABILIZATION PHASE	
14	PERMANENT/FINAL STABILIZATION.
15	CLEAN-OUT OF DETENTION BASIN THAT WAS USED AS A SEDIMENT CONTROL STRUCTURE & RE-GRADING OF DETENTION POND BOTTOM; IF NECESSARY, MODIFICATION OF SEDIMENT BASIN RISER TO CONVERT TO DETENTION BASIN OUTLET STRUCTURE.
16	PERFORM AS-BUILT SURVEY OF DETENTION STRUCTURE & SUBMIT TO SCDHEC FOR ACCEPTANCE.
17	SUBMIT NOTICE OF TERMINATION (NOT) AND CERTIFIED POND AS-BUILTS TO DHEC UPON A MINIMUM OF 70% UNIFORM SITE DENSITY PERMANENT SITE STABILIZATION

GENERAL NOTE:

1. CONTRACTOR SHALL ADJUST TEMPORARY DIVERSIONS/BERMS DAILY AS GRADING OPERATIONS PROGRESS TO PROVIDE POSITIVE DRAINAGE TO PONDS AND SEDIMENT BASINS.
2. CONTRACTOR SHALL INSTALL AND MAINTAIN 3' TALL BERMS ON EACH PAD WHERE FILL SLOPES ARE PRESENT AND PROVIDE POSITIVE DRAINAGE AWAY FROM FILL SLOPES TO PREVENT EROSION AS PADS ARE RAISED IN LIFTS.
3. ALL TEMPORARY PONDS, DRY PONDS, AND DRY SEDIMENT TRAPS SHALL HAVE A MINIMUM SLOPE OF 0.5% FOR POSITIVE DRAINAGE TOWARDS OUTFALL.

SOUTH CAROLINA PROFESSIONAL ENGINEER — No. 26573 — CERTIFICATE OF AUTHORITY — No. C00285 — 12-11-2023 — MARCUS B. SIMPSON

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

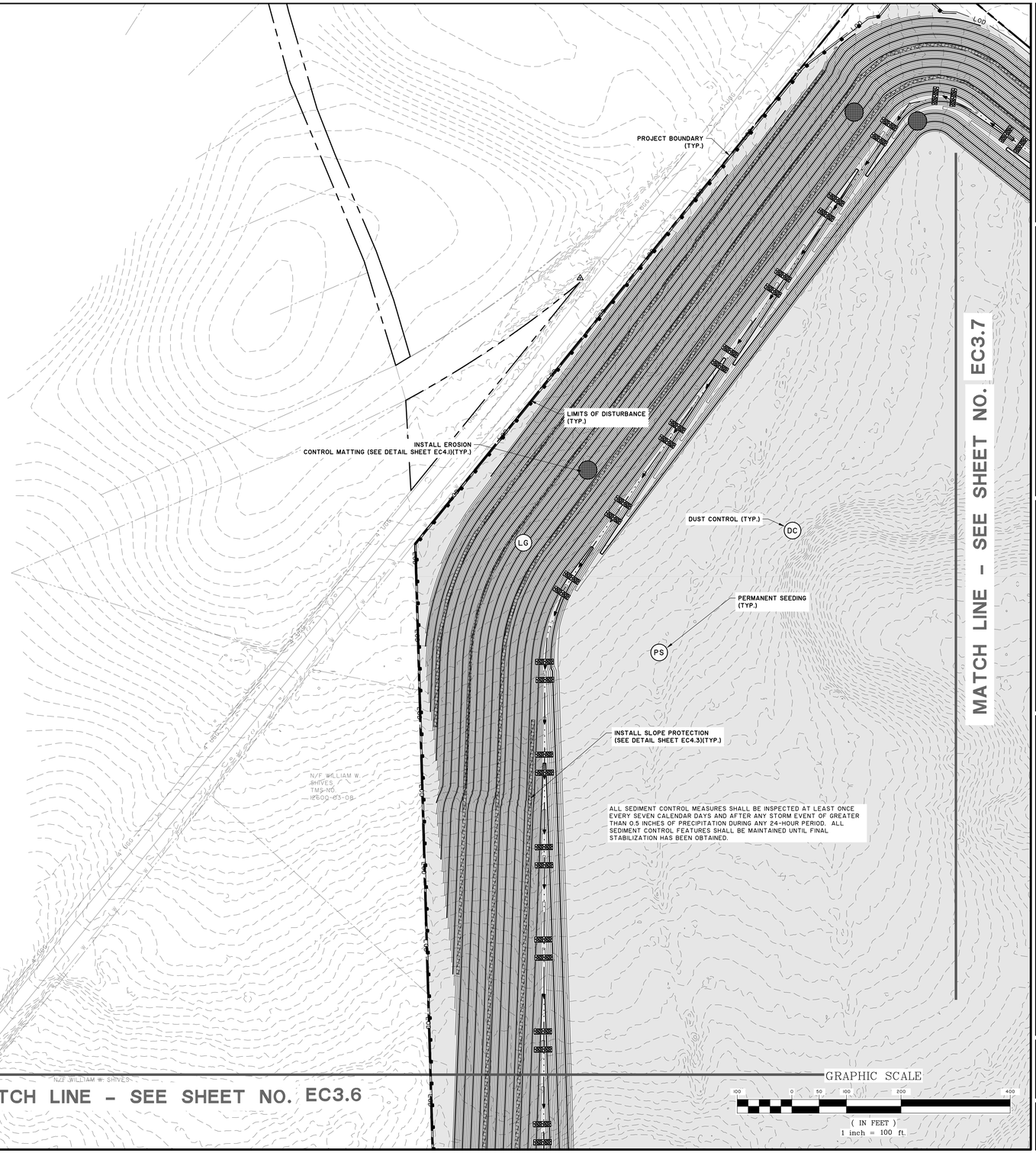
PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - STABILIZATION

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC3.2

Z:\27015\27015.0007\ENGINEERING\04 MASS\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015.0007 - EC-4.DWG - Jan 9, 2024 - 9:31 AM



ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

LIMITS OF DITURBANCE

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CONSTRUCTION SEQUENCE	
STABILIZATION PHASE	
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GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA NOLTE/ZIMMERMAN THOMAS & HUTTON ENGINEERING CO. No. C00285 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 28573 MARCUS B. SHIVES 12-19-2023

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - STABILIZATION

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC3.3

MATCH LINE - SEE SHEET NO. EC3.1

MATCH LINE - SEE SHEET NO. EC3.3

MATCH LINE - SEE SHEET NO. EC3.5

MATCH LINE - SEE SHEET NO. EC3.7

PROJECT BOUNDARY (TYP.)

LIMITS OF DISTURBANCE (TYP.)

INSTALL SLOPE PROTECTION (SEE DETAIL SHEET EC4.3)(TYP.)

DUST CONTROL (TYP.)

DC

LAND GRADING (TYP.)

PERMANENT SEEDING (TYP.)

PS

PERMANENT SEEDING (TYP.)

PS

ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

LIMITS OF DITURBANCE

LOD

LOD

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CONSTRUCTION SEQUENCE	
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17	SUBMIT NOTICE OF TERMINATION (NOT) AND CERTIFIED POND AS-BUILTS TO DHEC UPON A MINIMUM OF 70% UNIFORM SITE DENSITY PERMANENT SITE STABILIZATION

GRAPHIC SCALE

-100 0 50 100 200 400

(IN FEET)

1 inch = 100 ft.

SOUTH CAROLINA PROFESSIONAL ENGINEER — THOMAS HUTTON ENGINEERING CO. No. C00285 — CERTIFICATE OF AUTHORITY

SOUTH CAROLINA PROFESSIONAL ENGINEER — No. 28573 — MARCUS B. SCHWEERS — 12/11/2023

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
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RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - STABILIZATION

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC3.4

Z:\27015\27015.0007\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015007 - EC-PLANS - Lan 9, 2024 - 9:52 AM

MATCH LINE - SEE SHEET NO. EC3.4

MATCH LINE - SEE SHEET NO. EC3.2

MATCH LINE - SEE SHEET NO. EC3.8

CONSTRUCTION SEQUENCE	
STABILIZATION PHASE	
14	PERMANENT/FINAL STABILIZATION.
15	CLEAN-OUT OF DETENTION BASIN THAT WAS USED AS A SEDIMENT CONTROL STRUCTURE & RE-GRADING OF DETENTION POND BOTTOM; IF NECESSARY, MODIFICATION OF SEDIMENT BASIN RISER TO CONVERT TO DETENTION BASIN OUTLET STRUCTURE.
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3. ALL TEMPORARY PONDS, DRY PONDS, AND DRY SEDIMENT TRAPS SHALL HAVE A MINIMUM SLOPE OF 0.5% FOR POSITIVE DRAINAGE TOWARDS OUTFALL.

INSTALL EROSION CONTROL MATTING (SEE DETAIL SHEET EC4.1)(TYP.)

PERMANENT SEEDING (TYP.)

DUST CONTROL (TYP.)

LAND GRADING (TYP.)

PERMANENT SEEDING (TYP.)

LIMITS OF DITURBANCE

PIPE END
INV.: 472.41

110 LF 48" HDPE
@ 0.35%

PIPE END
INV.: 472.02

2' HT X5'W BERM ALONG ADJACENT WETLAND, TYP

PERMANENT UTILITY CLEARING IMPACT (TYP.)

SILT FENCE (TYP.)

LIMITS OF DISTURBANCE (TYP.)

PROJECT BOUNDARY (TYP.)

ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

INTERSTATE 77

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA
THOMAS & HUTTON ENGINEERING CO.
No. C00285
CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA
PROFESSIONAL ENGINEER
No. 28573
CHRISTOPHER G. WARREN
12-17-24

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON

1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
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RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - STABILIZATION

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC3.5

GENERAL NOTE:

1. CONTRACTOR SHALL ADJUST TEMPORARY DIVERSIONS/BERMS DAILY AS GRADING OPERATIONS PROGRESS TO PROVIDE POSITIVE DRAINAGE TO PONDS AND SEDIMENT BASINS.
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CONSTRUCTION SEQUENCE STABILIZATION PHASE	
14	PERMANENT/FINAL STABILIZATION.
15	CLEAN-OUT OF DETENTION BASIN THAT WAS USED AS A SEDIMENT CONTROL STRUCTURE & RE-GRADING OF DETENTION POND BOTTOM; IF NECESSARY, MODIFICATION OF SEDIMENT BASIN RISER TO CONVERT TO DETENTION BASIN OUTLET STRUCTURE.
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LIMITS OF DISTURBANCE — LOD

MATCH LINE - SEE SHEET NO. EC3.3

ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

INSTALL EROSION CONTROL MATTING (SEE DETAIL SHEET EC4.1)(TYP.)

INSTALL EROSION CONTROL MATTING (SEE DETAIL SHEET EC4.1)(TYP.)

PROJECT BOUNDARY (TYP.)

LIMITS OF DISTURBANCE (TYP.)

SILT FENCE (TYP.)

DUST CONTROL (TYP.)

INSTALL SLOPE PROTECTION (SEE DETAIL SHEET EC4.3)(TYP.)

INSTALL SLOPE PROTECTION (SEE DETAIL SHEET EC4.3)(TYP.)

PROPOSED PERMANENT WET POND #1 TO BE USED AS SEDIMENT BASIN DURING CONSTRUCTION

2' HT X5'W BERM ALONG ADJACENT WETLAND, TYP

198 LF 60" HDPE @ 0.50%

PIPE END INV.: 455.85

PIPE END INV.: 456.84

PERMANENT SEEDING (TYP.)

MATCH LINE - SEE SHEET NO. EC3.7

MATCH LINE - SEE SHEET NO. EC3.9

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA PROFESSIONAL ENGINEER — THOMAS & HUTTON ENGINEERING CO. — No. C00285 — CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER — No. 28573 — 12/17/2024 — CHRISTOPHER G. WEISS — REGISTERED PROFESSIONAL ENGINEER

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - STABILIZATION

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC3.6

Z:\27015\27015.0007\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONNECT WEISS GRADING PHASE 2\27015007 - EC4PLAN5 - Jan 9, 2024 - 9:52 AM

Z:\27015\27015.0007\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015007 - EC-PLSHT5 - Jun 19, 2024 - 9:52 AM

MATCH LINE - SEE SHEET NO. EC3.4

MATCH LINE - SEE SHEET NO. EC3.6

MATCH LINE - SEE SHEET NO. EC3.8

MATCH LINE - SEE SHEET NO. EC3.10

CONSTRUCTION SEQUENCE	
STABILIZATION PHASE	
14	PERMANENT/FINAL STABILIZATION.
15	CLEAN-OUT OF DETENTION BASIN THAT WAS USED AS A SEDIMENT CONTROL STRUCTURE & RE-GRADING OF DETENTION POND BOTTOM; IF NECESSARY, MODIFICATION OF SEDIMENT BASIN RISER TO CONVERT TO DETENTION BASIN OUTLET STRUCTURE.
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17	SUBMIT NOTICE OF TERMINATION (NOT) AND CERTIFIED POND AS-BUILTS TO DHEC UPON A MINIMUM OF 70% UNIFORM SITE DENSITY PERMANENT SITE STABILIZATION

ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

126 LF 48" HDPE @ 0.50%
PIPE END INV.: 470.24
PIPE END INV.: 470.87

INSTALL EROSION CONTROL MATTING (SEE DETAIL SHEET EC4.1)(TYP.)

LAND GRADING (TYP.) — LG

DUST CONTROL (TYP.) — DC

PS — PERMANENT SEEDING (TYP.)

GENERAL NOTE:

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LIMITS OF DITURBANCE — LOD

INSTALL EROSION CONTROL MATTING (SEE DETAIL SHEET EC4.1)(TYP.)

INV.: 467.46 IN FEET INV.: 468.58

GRAPHIC SCALE
100 0 50 100 200 400
1 inch = 100 ft.

SOUTH CAROLINA NOLTE/THOMAS & HUTTON ENGINEERING CO. No. C00285 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 28573 MARCUS B. SIMPSON 12-11-24

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 740
Columbia, SC 29201 • 803.451.6789
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RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - STABILIZATION

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC3.7

Z:\27015\27015.0007\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015.0007 - EC-PL1.DWG - Jan 9, 2024 - 9:52 AM

MATCH LINE - SEE SHEET NO. EC3.5

MATCH LINE - SEE SHEET NO. EC3.7

MATCH LINE - SEE SHEET NO. EC3.11

PIPE END
INV.: 472.02

LAND GRADING (TYP.)

DUST CONTROL (TYP.)

PERMANENT SEEDING (TYP.)

PERMANENT UTILITY CLEARING IMPACT (TYP.)

COMMUNITY ROAD (S-2885)

PROJECT BOUNDARY (TYP.)

SILT FENCE (TYP.)

LIMITS OF DISTURBANCE (TYP.)

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GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

LIMITS OF DITURBANCE
LOD
LOD

CONSTRUCTION SEQUENCE
STABILIZATION PHASE

14	PERMANENT/FINAL STABILIZATION.
15	CLEAN-OUT OF DETENTION BASIN THAT WAS USED AS A SEDIMENT CONTROL STRUCTURE & RE-GRADING OF DETENTION POND BOTTOM; IF NECESSARY, MODIFICATION OF SEDIMENT BASIN RISER TO CONVERT TO DETENTION BASIN OUTLET STRUCTURE.
16	PERFORM AS-BUILT SURVEY OF DETENTION STRUCTURE & SUBMIT TO SCDHEC FOR ACCEPTANCE.
17	SUBMIT NOTICE OF TERMINATION (NOT) AND CERTIFIED POND AS-BUILTS TO DHEC UPON A MINIMUM OF 70% UNIFORM SITE DENSITY PERMANENT SITE STABILIZATION

WET STORMWATER POND 2

CS #L-0340DS
FR: 464.00
INV. OUT: 450.50 (SE)
(SEE DETAIL SHEET C3.24)

82 LF 24" RCP
@ 9.94%

SMH #2A
FR: 456.36
INV. IN: 442.31 (NW)
INV. OUT: 436.31 (SE)

55 LF 24" RCP
@ 4.18%

PIPE END
INV.: 434.00

INSTALL 400' WIDE EMERGENC
AT 464.00'
(SEE DETAIL SHEET EC4.2) (T

INSTALL EROSION CONTROL MATTING (SEE DETAIL SHEET EC4.1)(TYP.)

PIPE @ 0.41%

PIPE END
INV.: 468.58

INTERSTATE 77

GENERAL NOTE:

1. CONTRACTOR SHALL ADJUST TEMPORARY DIVERSIONS/BERMS DAILY AS GRADING OPERATIONS PROGRESS TO PROVIDE POSITIVE DRAINAGE TO PONDS AND SEDIMENT BASINS.
2. CONTRACTOR SHALL INSTALL AND MAINTAIN 3' TALL BERMS ON EACH PAD WHERE FILL SLOPES ARE PRESENT AND PROVIDE POSITIVE DRAINAGE AWAY FROM FILL SLOPES TO PREVENT EROSION AS PADS ARE RAISED IN LIFTS.
3. ALL TEMPORARY PONDS, DRY PONDS, AND DRY SEDIMENT TRAPS SHALL HAVE A MINIMUM SLOPE OF 0.5% FOR POSITIVE DRAINAGE TOWARDS OUTFALL.

SOUTH CAROLINA
PROFESSIONAL ENGINEER
No. 28573
CERTIFICATE OF AUTHORIZATION
THOMAS & HUTTON ENGINEERING Co.
No. C00285
MARCH 31, 2024

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - STABILIZATION

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC3.8

D:\27015\0007\ENGINEERING\DRAINAGE\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015007 - EC-PLSHTS - Jan 9, 2024 - 10:14 AM

MATCH LINE - SEE SHEET NO. EC3.6

WET STORMWATER POND 1

198 LF 60" HDPE @ 0.50%

PIPE END
INV.: 455.85

PIPE END
INV.: 456.84

PS

PERMANENT SEEDING
(TYP.)

BUMBLEBEE CT
(50' R/W)

PROPOSED PERMANENT WET POND #1 TO BE USED AS SEDIMENT BASIN DURING CONSTRUCTION

LIMITS OF DISTURBANCE
(TYP.)

PROJECT BOUNDARY
(TYP.)

SILT FENCE
(TYP.)

INSTALL SLOPE PROTECTION
(SEE DETAIL SHEET EC4.3)(TYP.)

ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

MATCH LINE - SEE SHEET NO. EC3.10

LIMITS OF DITURBANCE — LOD

CS #L-04IODS
FR: 443.12
INV. OUT: 439.20 (SE)
(SEE DETAIL SHEET C3.24)

66 LF 36" RCP
@ 3.25%

PIPE END
INV.: 437.04

INSTALL 300' WIDE EMERGENCY SPILLWAY AT 447.20'
(SEE DETAIL SHEET EC4.2) (TYP.)

CONSTRUCTION SEQUENCE	
STABILIZATION PHASE	
14	PERMANENT/FINAL STABILIZATION.
15	CLEAN-OUT OF DETENTION BASIN THAT WAS USED AS A SEDIMENT CONTROL STRUCTURE & RE-GRADING OF DETENTION POND BOTTOM; IF NECESSARY, MODIFICATION OF SEDIMENT BASIN RISER TO CONVERT TO DETENTION BASIN OUTLET STRUCTURE.
16	PERFORM AS-BUILT SURVEY OF DETENTION STRUCTURE & SUBMIT TO SCDHEC FOR ACCEPTANCE.
17	SUBMIT NOTICE OF TERMINATION (NOT) AND CERTIFIED POND AS-BUILTS TO DHEC UPON A MINIMUM OF 70% UNIFORM SITE DENSITY PERMANENT SITE STABILIZATION

GENERAL NOTE:

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2. CONTRACTOR SHALL INSTALL AND MAINTAIN 3' TALL BERMS ON EACH PAD WHERE FILL SLOPES ARE PRESENT AND PROVIDE POSITIVE DRAINAGE AWAY FROM FILL SLOPES TO PREVENT EROSION AS PADS ARE RAISED IN LIFTS.
3. ALL TEMPORARY PONDS, DRY PONDS, AND DRY SEDIMENT TRAPS SHALL HAVE A MINIMUM SLOPE OF 0.5% FOR POSITIVE DRAINAGE TOWARDS OUTFALL.

MATCH LINE - SEE SHEET NO. EC3.12

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA
PROFESSIONAL ENGINEER
No. 26573
CHRISTOPHER G. WARREN
11/10/2023

SOUTH CAROLINA
THOMAS & HUTTON ENGINEERING CO.
No. COA2285
CERTIFICATE OF AUTHORIZATION

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - STABILIZATION

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC3.9

Z:\27015\27015.0007\LANDDEV\DRAWINGS\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015.0007 - EC-PLT.DWG - Jan 9, 2024 - 9:53 AM

MATCH LINE - SEE SHEET NO. EC3.7

129 LF 48" HDPE @ 0.41%
PIPE END
INV.: 468.05
PIPE L...
INV.: 468...

INSTALL EROSION CONTROL MATTING (SEE DETAIL SHEET EC4.1)(TYP.)

DUST CONTROL (TYP.)

LAND GRADING (TYP.)

LG

DC

ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

MATCH LINE - SEE SHEET NO. EC3.9

MATCH LINE - SEE SHEET NO. EC3.11

PS

PERMANENT SEEDING (TYP.)

GENERAL NOTE:

1. CONTRACTOR SHALL ADJUST TEMPORARY DIVERSIONS/BERMS DAILY AS GRADING OPERATIONS PROGRESS TO PROVIDE POSITIVE DRAINAGE TO PONDS AND SEDIMENT BASINS.
2. CONTRACTOR SHALL INSTALL AND MAINTAIN 3' TALL BERMS ON EACH PAD WHERE FILL SLOPES ARE PRESENT AND PROVIDE POSITIVE DRAINAGE AWAY FROM FILL SLOPES TO PREVENT EROSION AS PADS ARE RAISED IN LIFTS.
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CONSTRUCTION SEQUENCE	
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LIMITS OF DITURBANCE — LOD — LOD

INSTALL EROSION CONTROL MATTING (SEE DETAIL SHEET EC4.1)(TYP.)

MATCH LINE - SEE SHEET NO. EC3.13

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA PROFESSIONAL ENGINEER — No. 28573 — MARCUS B. SHEALY — 12/19/2024

SOUTH CAROLINA NOLTR&DC — THOMAS & HUTTON ENGINEERING CO. — No. C00285 — CERTIFICATE OF AUTHORIZATION

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - STABILIZATION

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC3.10

MATCH LINE - SEE SHEET NO. EC3.8

MATCH LINE - SEE SHEET NO. EC3.10

MATCH LINE - SEE SHEET NO. EC3.14

PIPE @ 0.41%
PIPE END
INV.: 468.58

INSTALL EROSION CONTROL MATTING (SEE DETAIL SHEET EC4.I)(TYP.)

INSTALL EROSION CONTROL MATTING (SEE DETAIL SHEET EC4.I)(TYP.)

SMH #2A
FR: 456.36
INV. IN: 442.31 (NW)
INV. OUT: 436.31 (SE)

55 LF 24" RCP @ 4.18%

PIPE END
INV.: 434.00

PIPE END
INV.: 427.96

195 LF 24" RCP @ 3.18%

PIPE END
INV.: 421.76

INSTALL STABILIZED CONSTRUCTION ENTRANCE (SEE DETAIL SHEET EC4.4)(TYP.)

INSTALL CONCRETE WASHOUT (SEE DETAIL SHEET EC4.4)(TYP.)

PERMANENT SEEDING (TYP.)

SILT FENCE (TYP.)

PROJECT BOUNDARY (TYP.)

LIMITS OF DISTURBANCE (TYP.)

COMMUNITY ROAD (S-2885)

EXISTING WETLANDS (TYP.)

ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

INSTALL EROSION CONTROL MATTING (SEE DETAIL SHEET EC4.I)(TYP.)

INSTALL SLOPE PROTECTION (SEE DETAIL SHEET EC4.5)(TYP.)

PIPE END
INV.: 405.85
PIPE 440LF @ 4.00%
INV.: 405.00

152 LF 24" RCP @ 6.05%

PIPE END
INV.: 430.07

INSTALL STABILIZED CONSTRUCTION ENTRANCE (SEE DETAIL SHEET EC4.4)(TYP.)

INTERSTATE 77

GENERAL NOTE:

1. CONTRACTOR SHALL ADJUST TEMPORARY DIVERSIONS/BERMS DAILY AS GRADING OPERATIONS PROGRESS TO PROVIDE POSITIVE DRAINAGE TO PONDS AND SEDIMENT BASINS.
2. CONTRACTOR SHALL INSTALL AND MAINTAIN 3' TALL BERMS ON EACH PAD WHERE FILL SLOPES ARE PRESENT AND PROVIDE POSITIVE DRAINAGE AWAY FROM FILL SLOPES TO PREVENT EROSION AS PADS ARE RAISED IN LIFTS.
3. ALL TEMPORARY PONDS, DRY PONDS, AND DRY SEDIMENT TRAPS SHALL HAVE A MINIMUM SLOPE OF 0.5% FOR POSITIVE DRAINAGE TOWARDS OUTFALL.

LIMITS OF DITURBANCE — LOD

CONSTRUCTION SEQUENCE	
STABILIZATION PHASE	
14	PERMANENT/FINAL STABILIZATION.
15	CLEAN-OUT OF DETENTION BASIN THAT WAS USED AS A SEDIMENT CONTROL STRUCTURE & RE-GRADING OF DETENTION POND BOTTOM; IF NECESSARY, MODIFICATION OF SEDIMENT BASIN RISER TO CONVERT TO DETENTION BASIN OUTLET STRUCTURE.
16	PERFORM AS-BUILT SURVEY OF DETENTION STRUCTURE & SUBMIT TO SCDHEC FOR ACCEPTANCE.
17	SUBMIT NOTICE OF TERMINATION (NOT) AND CERTIFIED POND AS-BUILTS TO DHEC UPON A MINIMUM OF 70% UNIFORM SITE DENSITY PERMANENT SITE STABILIZATION

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA NOTIFICATION OF THOMAS & HUTTON ENGINEERING CO. No. C00285 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 28573 MARCUS B. SIMPSON 12-17-24

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 740
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC
PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS
EROSION CONTROL PLAN - STABILIZATION

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC3.11

Z:\27015\27015.0007\ENGINEERING\DRAINAGE\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015007 - EC PLSHEET - Jan 9, 2024 - 9:53 AM

P:\27015\27015-0007\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015-0007 - EC-PL-3345 - on 9, 2024 - 10:18 AM

MATCH LINE - SEE SHEET NO. EC3.9

MATCH LINE - SEE SHEET NO. EC3.13

LAND GRADING (TYP.)

DUST CONTROL (TYP.)

PERMANENT SEEDING (TYP.)

INSTALL EROSION CONTROL MATTING (SEE DETAIL SHEET EC4.1)(TYP.)

ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

EXISTING WETLANDS (TYP.)

LIMITS OF DISTURBANCE (TYP.)

INSTALL SLOPE PROTECTION (SEE DETAIL SHEET EC4.3)(TYP.)

DOUBLE ROW SILT FENCE (TYP.)

NATURAL SEEDING (TYP.) (NON-CRITICAL AREA)

PROJECT BOUNDARY (TYP.)

LIMITS OF DITURBANCE — LOD

NATIVE SEEDING MIX

GENERAL NOTE:

1. CONTRACTOR SHALL ADJUST TEMPORARY DIVERSIONS/BERMS DAILY AS GRADING OPERATIONS PROGRESS TO PROVIDE POSITIVE DRAINAGE TO PONDS AND SEDIMENT BASINS.
2. CONTRACTOR SHALL INSTALL AND MAINTAIN 3' TALL BERMS ON EACH PAD WHERE FILL SLOPES ARE PRESENT AND PROVIDE POSITIVE DRAINAGE AWAY FROM FILL SLOPES TO PREVENT EROSION AS PADS ARE RAISED IN LIFTS.
3. ALL TEMPORARY PONDS, DRY PONDS, AND DRY SEDIMENT TRAPS SHALL HAVE A MINIMUM SLOPE OF 0.5% FOR POSITIVE DRAINAGE TOWARDS OUTFALL.

CONSTRUCTION SEQUENCE

	STABILIZATION PHASE
14	PERMANENT/FINAL STABILIZATION.
15	CLEAN-OUT OF DETENTION BASIN THAT WAS USED AS A SEDIMENT CONTROL STRUCTURE & RE-GRADING OF DETENTION POND BOTTOM; IF NECESSARY, MODIFICATION OF SEDIMENT BASIN RISER TO CONVERT TO DETENTION BASIN OUTLET STRUCTURE.
16	PERFORM AS-BUILT SURVEY OF DETENTION STRUCTURE & SUBMIT TO SCDHEC FOR ACCEPTANCE.
17	SUBMIT NOTICE OF TERMINATION (NOT) AND CERTIFIED POND AS-BUILTS TO DHEC UPON A MINIMUM OF 70% UNIFORM SITE DENSITY PERMANENT SITE STABILIZATION

INSTALL CONTR

PIPE END INV.: 464.6

141 LF 48" HDPE @ 0.71%

PIPE END INV.: 463.4

PIPE INV.:

568 LF 36" RCP @ 7.95%

PIPE END INV.: 403.3

95 LF 18" RCP @ 0.83%

SS #104 (6) RIM: 425.00 INV. OUT: 412.99 (NW)

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)

1 inch = 100 ft.

SOUTH CAROLINA PROFESSIONAL ENGINEER THOMAS & HUTTON ENGINEERING CO. No. 28573 CERTIFICATE OF AUTHORITY

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 28573 12/17/2024 MARCUS S. GRIFFIN

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - STABILIZATION

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC3.12

D:\27015\27015.0007\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015.0007 - EC-PL-3.DWG - Jan 15, 2024 - 10:31 AM

MATCH LINE - SEE SHEET NO. EC3.10

INSTALL EROSION CONTROL MATTING (SEE DETAIL SHEET EC4.1)(TYP.)

147 LF 48" HDPE @ 0.71%
PIPE END
INV.: 463.83
PIPE END
INV.: 464.87

LAND GRADING (TYP.)

DUST CONTROL (TYP.)

ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

GENERAL NOTE:

1. CONTRACTOR SHALL ADJUST TEMPORARY DIVERSIONS/BERMS DAILY AS GRADING OPERATIONS PROGRESS TO PROVIDE POSITIVE DRAINAGE TO PONDS AND SEDIMENT BASINS.
2. CONTRACTOR SHALL INSTALL AND MAINTAIN 3' TALL BERMS ON EACH PAD WHERE FILL SLOPES ARE PRESENT AND PROVIDE POSITIVE DRAINAGE AWAY FROM FILL SLOPES TO PREVENT EROSION AS PADS ARE RAISED IN LIFTS.
3. ALL TEMPORARY PONDS, DRY PONDS, AND DRY SEDIMENT TRAPS SHALL HAVE A MINIMUM SLOPE OF 0.5% FOR POSITIVE DRAINAGE TOWARDS OUTFALL.

CONSTRUCTION SEQUENCE	
STABILIZATION PHASE	
14	PERMANENT/FINAL STABILIZATION.
15	CLEAN-OUT OF DETENTION BASIN THAT WAS USED AS A SEDIMENT CONTROL STRUCTURE & RE-GRADING OF DETENTION POND BOTTOM; IF NECESSARY, MODIFICATION OF SEDIMENT BASIN RISER TO CONVERT TO DETENTION BASIN OUTLET STRUCTURE.
16	PERFORM AS-BUILT SURVEY OF DETENTION STRUCTURE & SUBMIT TO SCDHEC FOR ACCEPTANCE.
17	SUBMIT NOTICE OF TERMINATION (NOT) AND CERTIFIED POND AS-BUILTS TO DHEC UPON A MINIMUM OF 70% UNIFORM SITE DENSITY PERMANENT SITE STABILIZATION

LIMITS OF DITURBANCE — LOD — LOD

104 LF 48" HDPE @ 0.31%
PIPE END
INV.: 475.46
PIPE END
INV.: 475.14

LAND GRADING (TYP.)

MATCH LINE - SEE SHEET NO. EC3.12

MATCH LINE - SEE SHEET NO. EC3.14

PERMANENT SEEDING (TYP.)

WET STORMWATER POND 3

PERMANENT SEEDING (TYP.)

PIPE END
INV.: 448.50

9 LF 36" RCP @ 7.95%

152 LF 48" HDPE @ 0.27%
PIPE END
INV.: 467.07
PIPE END
INV.: 467.48

CS #104 (6)
FR: 425.00
INV. OUT: 412.99 (NW)
(SEE DETAIL SHEET C3.23)

MATCH LINE - SEE SHEET NO. EC3.15

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA NOVEMBER 2023 THOMAS BRENT HUTTON JR. CO. 030285 No. CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 26572 11/7/2023 MARCUS B. SLOAN

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 740
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - STABILIZATION

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC3.13

MATCH LINE - SEE SHEET NO. EC3.11

MATCH LINE - SEE SHEET NO. EC3.13

MATCH LINE - SEE SHEET NO. EC3.16

CONSTRUCTION SEQUENCE	
STABILIZATION PHASE	
14	PERMANENT/FINAL STABILIZATION.
15	CLEAN-OUT OF DETENTION BASIN THAT WAS USED AS A SEDIMENT CONTROL STRUCTURE & RE-GRADING OF DETENTION POND BOTTOM; IF NECESSARY, MODIFICATION OF SEDIMENT BASIN RISER TO CONVERT TO DETENTION BASIN OUTLET STRUCTURE.
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ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

LIMITS OF DITURBANCE — LOD

INSTALL EROSION CONTROL MATTING (SEE DETAIL SHEET EC4.1)(TYP.)

DUST CONTROL (TYP.)

INSTALL SLOPE PROTECTION (SEE DETAIL SHEET EC4.3)(TYP.)

PROJECT BOUNDARY (TYP.)

LIMITS OF DISTURBANCE (TYP.)

INSTALL STABILIZED CONSTRUCTION ENTRANCE (SEE DETAIL SHEET EC4.4)(TYP.)

INSTALL CONCRETE WASHOUT (SEE DETAIL SHEET EC4.4)(TYP.)

INSTALL 60' WIDE EMERGENCY SPILLWAY AT 431.00' (SEE DETAIL SHEET EC4.2) (TYP.)

LAND GRADING (TYP.)

WET STORMWATER POND 4

WET STORMWATER POND 6

CS #L-0490DS
FR: 462.80
INV. OUT: 453.80 (SE)
(SEE DETAIL SHEET C3.24)

CS #L-0460DS
419.60
INV. OUT: 409.01 (NW)
(SEE DETAIL SHEET C3.23)

SMH #6A
FR: 413.47
INV. IN: 402.10 (SE)
INV. OUT: 399.42 (NW)

SMH #4A
FR: 416.07
INV. IN: 410.66 (NW)
INV. OUT: 399.04 (SE)

PIPE END
INV.: 430.07

1316 LF 60" RCP @ 0.46%

415 LF 24" RCP @ 10.40%

52 LF 24" RCP @ 4.98%

129 LF 24" RCP @ 5.35%

72 LF 24" RCP @ 5.00%

477 LF 24" RCP @ 1.16%

1251 LF 60" RCP @ 2.04%

PIPE END
INV.: 425.88

PIPE END
INV.: 420.36

PIPE END
INV.: 399.00

PIPE END
INV.: 396.85

PIPE END
INV.: 395.45

PIPE END
INV.: 392.70

GRAPHIC SCALE
-100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA — THOMAS & HUTTON ENGINEERING CO. — COA0285 — CERTIFICATE OF AUTHORIZATION — NOLYN W. HUTTON

SOUTH CAROLINA — PROFESSIONAL ENGINEER — No. 26573 — NOLYN WAYNE HUTTON — LICENSED — MARCH 5, 2024

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - STABILIZATION

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC3.14

P:\27015\27015.0007\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015.0007 - EC-PL3.DWG - Jan 19, 2024 - 10:14 AM

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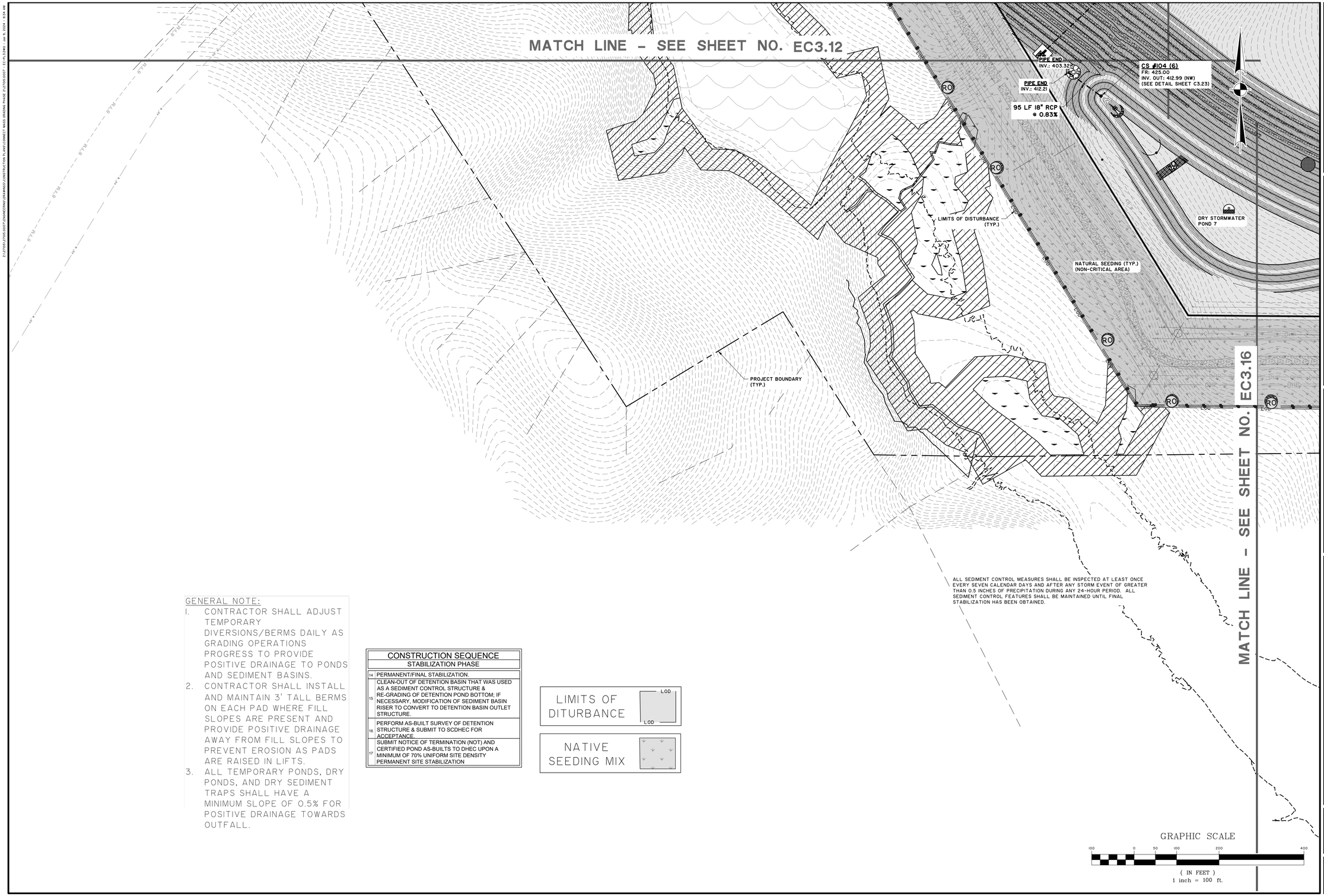

GENERAL NOTE:

1. CONTRACTOR SHALL ADJUST TEMPORARY DIVERSIONS/BERMS DAILY AS GRADING OPERATIONS PROGRESS TO PROVIDE POSITIVE DRAINAGE TO PONDS AND SEDIMENT BASINS.
2. CONTRACTOR SHALL INSTALL AND MAINTAIN 3' TALL BERMS ON EACH PAD WHERE FILL SLOPES ARE PRESENT AND PROVIDE POSITIVE DRAINAGE AWAY FROM FILL SLOPES TO PREVENT EROSION AS PADS ARE RAISED IN LIFTS.
3. ALL TEMPORARY PONDS, DRY PONDS, AND DRY SEDIMENT TRAPS SHALL HAVE A MINIMUM SLOPE OF 0.5% FOR POSITIVE DRAINAGE TOWARDS OUTFALL.

CONSTRUCTION SEQUENCE	
STABILIZATION PHASE	
14	PERMANENT/FINAL STABILIZATION.
15	CLEAN-OUT OF DETENTION BASIN THAT WAS USED AS A SEDIMENT CONTROL STRUCTURE & RE-GRADING OF DETENTION POND BOTTOM; IF NECESSARY, MODIFICATION OF SEDIMENT BASIN RISER TO CONVERT TO DETENTION BASIN OUTLET STRUCTURE.
16	PERFORM AS-BUILT SURVEY OF DETENTION STRUCTURE & SUBMIT TO SCDHEC FOR ACCEPTANCE.
17	SUBMIT NOTICE OF TERMINATION (NOT) AND CERTIFIED POND AS-BUILTS TO DHEC UPON A MINIMUM OF 70% UNIFORM SITE DENSITY PERMANENT SITE STABILIZATION

LIMITS OF DITURBANCE — LOD

NATIVE SEEDING MIX

SOUTH CAROLINA — NOLTENIUS — THOMAS & HUTTON ENGINEERING CO. — No. C00285 — CERTIFICATE OF AUTHORITY

SOUTH CAROLINA — PROFESSIONAL ENGINEER — No. 28573 — 12-19-2023 — MARCUS B. SCHWARTZ

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN – STABILIZATION

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC3.15

MATCH LINE - SEE SHEET NO. EC3.13

MATCH LINE - SEE SHEET NO. EC3.15

MATCH LINE - SEE SHEET NO. EC3.17

DRY STORMWATER POND 7

LAND GRADING (TYP.) (LG)

PERMANENT SEEDING (TYP.) (PS)

DUST CONTROL (TYP.) (DC)

INSTALL SLOPE PROTECTION (SEE DETAIL SHEET EC4.3) (TYP.)

DRY STORMWATER POND 8

83 LF 24" RCP @ 8.74%

PIPE END INV.: 410.73

CS #104 (8)
FR: 423.00
INV. OUT: 418.00 (E)
(SEE DETAIL SHEET C3.23)

RIPRAP APRON SEE DETAIL SHEET EC4.4

PIPE END INV.: 367.12

END 367.12

NATURAL SEEDING (TYP.) (NON-CRITICAL AREA)

LIMITS OF DISTURBANCE (TYP.)

DOUBLE ROW SILT FENCE (TYP.)

PROJECT BOUNDARY (TYP.)

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CONSTRUCTION SEQUENCE	
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ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

LIMITS OF DITURBANCE — LOD

NATIVE SEEDING MIX

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA — NOLTE/ZOU — THOMAS & HUTTON ENGINEERING CO. — No. C00285 — CERTIFICATE OF AUTHORITY

SOUTH CAROLINA — PROFESSIONAL ENGINEER — No. 28573 — MARCUS B. SCHWARTZ — 12/12/2023

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.4789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - STABILIZATION

JOB NO:	J-27015.0007
DATE:	11/10/2023
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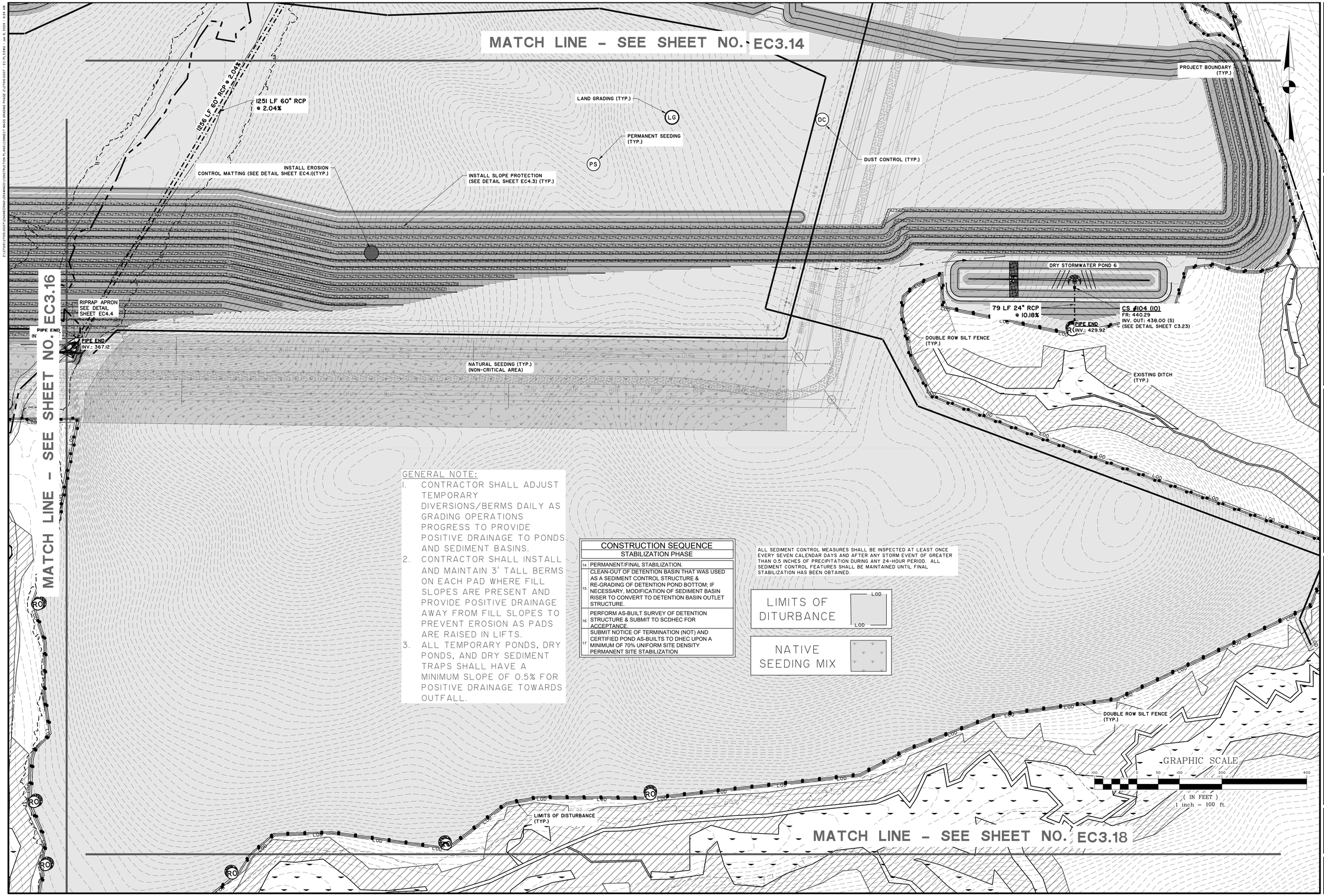
SCALE:	1" = 100'

EC3.16



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LIMITS OF DITURBANCE — LOD

NATIVE SEEDING MIX

SOUTH CAROLINA — PROFESSIONAL ENGINEER — No. 28573 — MARCUS B. SIMMONS — 12-19-24 — CERTIFICATE OF AUTHORIZATION — THOMAS & HUTTON ENGINEERING CO. — No. COA0285

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 740
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - STABILIZATION

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

EC3.17

MATCH LINE - SEE SHEET NO. EC3.16

ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.

DOUBLE ROW SILT FENCE (TYP.)

LIMITS OF DISTURBANCE (TYP.)

MATCH LINE - SEE SHEET NO. EC3.17

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LIMITS OF DITURBANCE — LOD

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA — NOLTENIUS — THOMAS & HUTTON ENGINEERING CO. — No. C00285 — CERTIFICATE OF AUTHORITY

SOUTH CAROLINA — PROFESSIONAL ENGINEER — No. 28573 — 12/11/2023 — MARCUS B. SCHNEIDER

NO.	REVISIONS	BY	DATE

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RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL PLAN - STABILIZATION

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DATE:	11/10/2023
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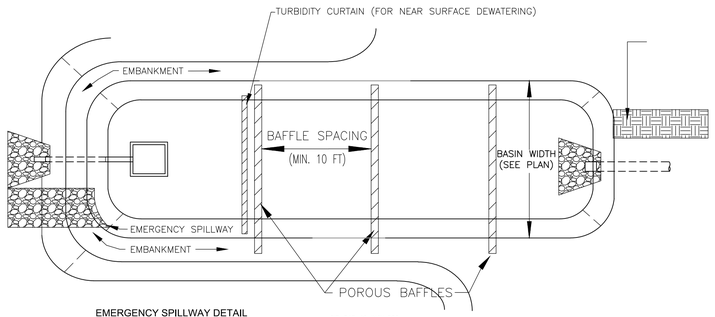
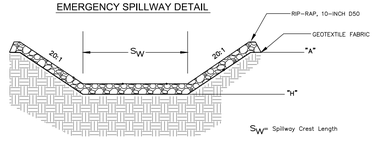
SCALE:	1" = 100'

EC3.18



EMERGENCY SPILLWAY DETAIL



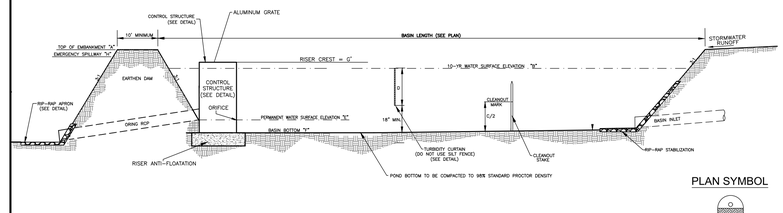
South Carolina Department of Health and Environmental Control

WET SEDIMENT BASIN

STANDARD DRAWING NO. SC-01A Page 2 of 3

NOT TO SCALE FEBRUARY 2014 DATE

WET SEDIMENT BASIN SECTIONAL VIEW



PLAN SYMBOL

South Carolina Department of Health and Environmental Control

WET SEDIMENT BASIN

STANDARD DRAWING NO. SC-01A Page 1 of 3

NOT TO SCALE FEBRUARY 2014

SEDIMENT BASIN DESIGN TABLE (ECO2)

SEDIMENT BASIN	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"
DETENTION BASIN 1	448.7	445.90	8'	7.5'	443.7	439.7	447.7	447.7
DETENTION BASIN 2	467.8	462.42	11'	10.5'	459.8	455.8	466.8	466.8
DETENTION BASIN 3	462.8	460.90	8'	7.5'	457.8	453.8	461.8	---
DETENTION BASIN 4	470.8	467.11	9.5'	9.5'	463.8	459.8	469.3	---
DETENTION BASIN 5	493.0	490.24	13'	16.5'	483.0	475.0	488.0	---
DETENTION BASIN 6	435.0	423.02	24'	24.5'	419.0	409.0	433.0	---
DETENTION BASIN 7	427.0	422.77	10'	10.5'	419.0	415.0	425.0	426.0
DETENTION BASIN 8	425.0	422.44	5'	5.5'	418.0	418.0	423.0	424.0
DETENTION BASIN 9	445.0	444.13	8'	8.5	439.0	435.0	443.0	444.0

WET SEDIMENT BASIN – GENERAL NOTES

1. Sediment basins should not be placed in Waters of the State or USGS blue-line streams (unless approved by Federal Authorities).
2. Sediment basin's side slopes shall be seeded and, when necessary, stabilized with vegetative or synthetic matting to prevent the formation of rills and gullies.
3. Install three (3) rows of porous baffles with a minimum spacing of 10 feet. Baffles should ultimately be placed to maximize the space between each row of baffles and the basin's inlets/outlets. Only two (2) rows of baffles are necessary for basins that are less than 50 feet in length.
4. Porous Baffles should be composed of coir-based materials or TRMs with a light penetration (open spaces) between 10–35%. These materials should not have loose straw. Silt Fence may not be used as Porous Baffles.
5. Each porous baffles shall be installed across the entire width of the basin and along the basin's side slope until the height of the baffle intersects the slope.
6. Install skimmer and coupling (as necessary) to riser structure at orifice along bottom of the principle spillway's riser structure. (Refer to skimmer manufacturer for installation procedures and skimmer specifications.)
7. Skimmer should be equipped with a mechanism, such as a rope, to allow easy access to skimmer to unclogged orifice or perform other necessary maintenance.
8. Stormwater runoff entering the basin must be directed into proper BMPs to prevent erosion along side slopes and to prevent scour at the basin's inlets.
9. The forebay berm should consist of riprap, gabion, or an earthen berm with a rock filled outlet that is constructed across the bottom of the basin's width.
10. An additional cleanout stake for the forebay area is recommended and should be marked for cleanout at 50% of provided sediment storage.
11. The elevation of the emergency spillway should be at least 1 foot below the top of the embankment. The emergency spillway should not be located on fill material, when possible. Riprap and geotextile liner should be placed on all spillways that must be located on fill material.

WET SEDIMENT BASIN – INSPECTION AND MAINTENANCE

1. The key to a functional sediment basin is weekly inspections, routine maintenance, and regular sediment removal.
2. Attention to sediment accumulations within the basin is extremely important. Accumulated sediment deposition should be continually checked and removed when necessary.
3. Remove accumulated sediment when it reaches 50% of the design sediment storage volume or 1/2 the height of the riser structure, whichever is reached first.
4. Removed sediment from the basin shall be placed in stockpile storage areas or spread thinly across the disturbed area. Stabilize the removed sediment after it is relocated.
5. Inspections of sediment basins should be conducted once every calendar week and, as recommended, within 24–hours of each rainfall event that produces ½–inch or more of precipitation.
6. All temporary sediment basins, which are not to be converted to a detention basin post–construction, should be removed within 30 days after final site stabilization is achieved.
7. Disturbed areas resulting from the removal of the sediment basin should be permanently stabilized and additional BMPs, such as silt fence, should be utilized to accept stormwater runoff from this disturbed area until final stabilization is reached.

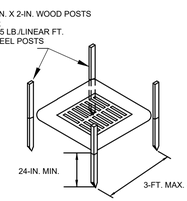
South Carolina Department of Health and Environmental Control

WET SEDIMENT BASIN

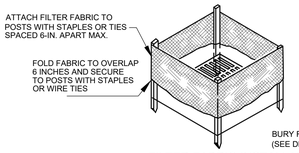
STANDARD DRAWING NO. SC-01A Page 3 of 3

GENERAL NOTES FEBRUARY 2014 DATE

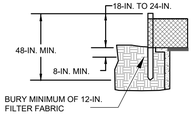
STORMWATER POLLUTION PREVENTION PLAN



POST INSTALLATION DETAIL



FILTER FABRIC INSTALLATION DETAIL



FILTER FABRIC BURIAL DETAIL

MATERIALS:
USE FILTER FABRIC THAT CONFORMS TO SCDOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (LATEST EDITION).

USE STEEL POSTS THAT MEET THE FOLLOWING MINIMUM PHYSICAL REQUIREMENTS:
BE COMPOSED OF HIGH STRENGTH STEEL WITH MINIMUM YIELD STRENGTH OF 50,000 PSI.
HAVE A STANDARD "T" SECTION WITH A NOMINAL FACE WIDTH OF 1.38-INCHES AND NOMINAL "T" LENGTH OF 1.48-INCHES.
WEIGH 1.25 POUNDS PER FOOT (± 8%).
BE PAINTED WITH A WATER BASED BAKED ENAMEL PAINT.

INSTALLATION:
EXCAVATE A TRENCH 6-INCHES WIDE AND 6-INCHES DEEP AROUND THE OUTSIDE PERIMETER OF THE INLET UNLESS THE FABRIC IS PNEUMATICALLY INSTALLED.

EXTEND THE FILTER FABRIC A MINIMUM OF 12-INCHES INTO THE TRENCH. BACKFILL THE TRENCH WITH SOIL OR CRUSHED STONE AND COMPACT OVER THE FILTER FABRIC UNLESS THE FABRIC IS PNEUMATICALLY INSTALLED.

USE STEEL POSTS WITH A MINIMUM POST LENGTH OF 60-INCHES CONSISTING OF STANDARD "T" SECTIONS WITH A WEIGHT OF 1.25 POUNDS PER FOOT (±8%). INSTALL THE FILTER FABRIC TO A MINIMUM HEIGHT OF 24-INCHES ABOVE GRADE. SPACE THE STEEL POSTS AROUND THE PERIMETER OF THE INLET A MAXIMUM OF 3-FEET APART AND DRIVE THEM INTO THE GROUND A MINIMUM OF 24-INCHES. CUT THE FILTER FABRIC FROM A CONTINUOUS ROLL TO THE LENGTH OF THE PROTECTED AREA TO AVOID THE USE OF JOINTS. WHEN JOINTS ARE NECESSARY, WRAP FILTER FABRIC TOGETHER ONLY AT A SUPPORT POST WITH BOTH ENDS SECURELY FASTENED TO THE POST, WITH A MINIMUM 6-INCH OVERLAP.

ATTACH FABRIC TO STEEL POSTS WITH HEAVY-DUTY PLASTIC TIES.

ATTACH AT LEAST FOUR (4) EVENLY SPACED TIES IN A MANNER TO PREVENT SAGGING OR TEARING OF THE FABRIC. IN ALL CASES, AFFIX TIES IN NO LESS THAN FOUR (4) PLACES.

INSPECTION AND MAINTENANCE:

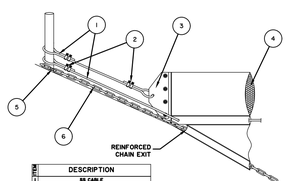
SEDIMENT SHOULD BE REMOVED WHEN IT REACHES APPROXIMATELY 1/3 THE HEIGHT OF THE FENCE. TAKE CARE NOT TO DAMAGE OR UNDERCUT FABRIC WHEN REMOVING SEDIMENT. IF A SUMP IS USED, SEDIMENT SHOULD BE REMOVED WHEN IT FILLS APPROXIMATELY 1/3 THE DEPTH OF THE HOLE. MAINTAIN THE POOL AREA, ALWAYS PROVIDING ADEQUATE SEDIMENT STORAGE VOLUME FOR THE NEXT STORM.

STORM DRAIN INLET PROTECTION STRUCTURES SHOULD BE REMOVED ONLY AFTER THE DISTURBED AREAS ARE PERMANENTLY STABILIZED. REMOVE ALL CONSTRUCTION MATERIAL AND SEDIMENT, AND DISPOSE OF THEM PROPERLY. GRADE THE DISTURBED AREA TO THE ELEVATION OF THE DROP INLET STRUCTURE CREST. USE APPROPRIATE PERMANENT STABILIZATION METHODS TO STABILIZE BARE AREAS AROUND THE INLET.

A

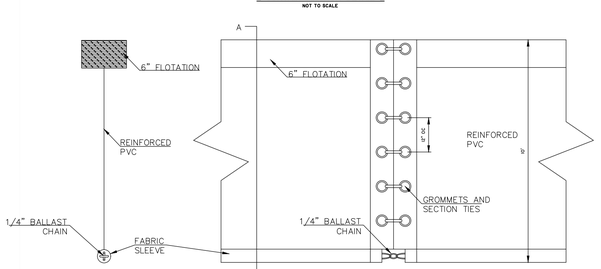
FILTER FABRIC INLET PROTECTION (TYPE A)

NOT TO SCALE



#	DESCRIPTION
1	5/8 CABLE
2	5/8 CABLE CLAMPS
3	10.5" x 4.5" x .075" 5/8 BRACKET
4	UNCELLULAR FLOAT
5	5/8 QUICK LINK
6	5/8 CHAIN

CURTAIN ANCHOR DETAIL
NOT TO SCALE



NOTE:
MAINTAIN MINIMUM 1.5' SEPARATION BETWEEN BOTTOM OF CURTAIN AND BOTTOM OF POND

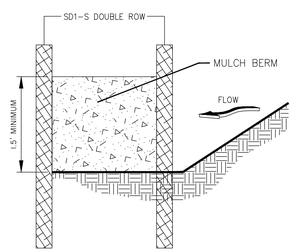
NOTE:
WILL BE GRANITE: TYPE 1 ECONOMY SILT BARRIER OR EQUIVALENT

TYPICAL BARRIER SPECIFICATIONS							
FLOTATION	FABRIC	SECTION CONNECTORS	CONNECTOR FABRIC	BOTTOM CHAIN	STANDARD LENGTH	HEIGHT	FLOTATION
6" Marine Grade Foam (depending on skirt depth)	PVC Impermeable Fabric	Bolt Rope Reinforced Grommet Section Ties	Poly Rope and Web Handle	Heavy Ballast Chain	50' or 100'	Sizes 3' to 100' Available	6" Marine Grade Foam (depending on skirt depth)

TURBIDITY CURTAIN
NOT TO SCALE

SILT FENCE MULCH BERM

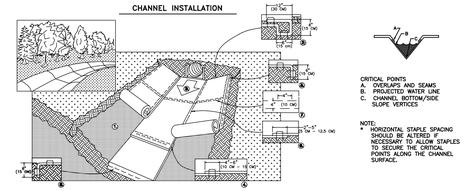
SIDE VIEW



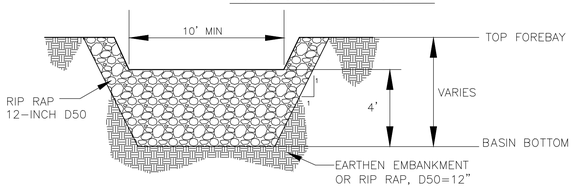
MULCH BERM
NOT TO SCALE

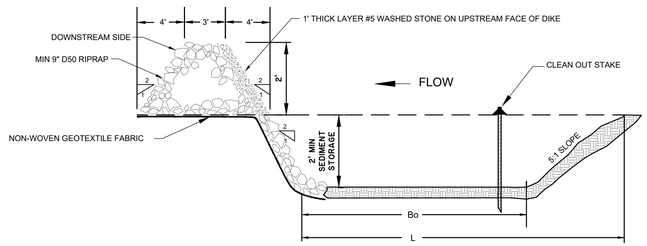
NORTH AMERICAN GREEN
EROSION CONTROL Products Guaranteed SOLUTIONS
14649 HIGHWAY 41 NORTH
EVANSVILLE, IN 47725
800-772-2040
www.nagreen.com

CHANNEL INSTALLATION

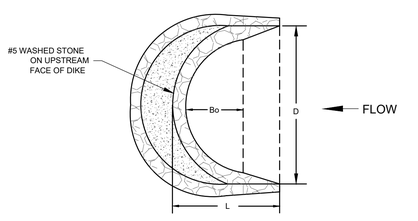

12" (30 cm)
6" (15 cm)
4" (10 cm)
3" (7.5 cm)
4" (10 cm)
4" (10 cm)
3" (7.5 cm)
4" (10 cm)
4" (10 cm)
3" (7.5 cm)
4" (10

FOREBAY BERM DETAIL





SECTION



D	L	Bo	PEAK FLOW (CFS)	TOTAL STORAGE VOL. (CU. FT.)	SEDIMENT STORAGE VOLUME (CU. FT.)
15'	17.5'	3.5'	24.1	838	250
20'	20.0'	6.0'	32.1	1263	406
25'	22.5'	8.5'	40.1	1766	601
30'	25.0'	11.0'	48.2	2348	836

TYPICAL ROCK DIKE PLAN DIMENSIONS

WHEN AND WHERE TO USE IT:
ROCK SEDIMENT DIKES ARE MOST EFFECTIVE IN AREAS WHERE SEDIMENT CONTROL IS NEEDED WITH MINIMAL DISTURBANCE. THEY CAN BE USED AS SEDIMENT CONTROL STRUCTURES FOR THE OUTFALLS OF DIVERSION SWALES, DIVERSION DIKES, IN LOW AREAS OR OTHER AREAS WHERE CONCENTRATED SEDIMENT LADEN FLOW IS EXPECTED. ROCK SEDIMENT DIKES SHOULD NOT BE PLACED IN WATERS OF THE STATE OR ANY OTHER STREAMS THAT HAVE A BASE FLOW. MAXIMUM 2 - ACRE DRAINAGE AREA TO DIKE.

INSTALLATION:
A NON-WOVEN GEOTEXTILE FABRIC SHALL BE INSTALLED OVER THE SOIL SURFACE WHERE THE ROCK SEDIMENT DIKE IS TO BE PLACED.

THE BODY OF THE ROCK SEDIMENT DIKE SHALL BE COMPOSED OF MINIMUM 9-INCH D50 RIPRAP.

THE UPSTREAM FACE OF THE ROCK SEDIMENT DIKE SHALL BE COMPOSED OF A 1-FOOT THICK LAYER OF 3/4-INCH TO 1-INCH D50 WASHED STONE PLACED AT A SLOPE OF 2H:1V.

ROCK SEDIMENT DIKES SHALL HAVE A MINIMUM TOP FLOW LENGTH OF 3-FEET (2-FOOT FLOW LENGTH THROUGH THE RIPRAP AND 1-FOOT FLOW LENGTH THROUGH THE WASHED STONE).

THE ROCK MUST BE PLACED BY HAND OR MECHANICAL PLACEMENT (NO DUMPING OF ROCK TO FORM THE SEDIMENT DIKE) TO ACHIEVE THE PROPER

DIMENSIONS.
A SEDIMENT SUMP SHALL BE LOCATED ON THE UPSTREAM SIDE OF THE STRUCTURE TO PROVIDE SEDIMENT STORAGE. THE UPSTREAM SIDE OF THE SEDIMENT SUMP SHALL HAVE A SLOPE OF 5H:1V TO INHIBIT EROSION OF THE SEDIMENT STORAGE AREA. THE MINIMUM DEPTH OF THE SEDIMENT SUMP SHALL BE 2-FEET. MARK THE SEDIMENT CLEANOUT LEVEL OF THE SEDIMENT DIKE WITH A STAKE IN THE FIELD.

SEED AND MULCH ALL DISTURBED AREAS.

INSPECTION AND MAINTENANCE:

CONTRACTOR SHALL PROVIDE CONTINUAL MONITORING, REGULAR MAINTENANCE AND REGULAR SEDIMENT REMOVAL.

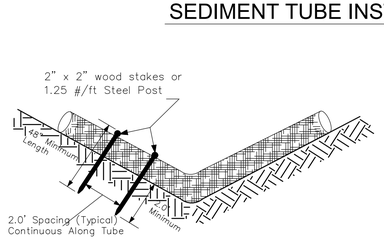
REMOVE SEDIMENT WHEN IT REACHES 50% OF THE SEDIMENT STORAGE VOLUME OR WHEN REACHES THE TOP OF CLEANOUT STAKE.
REMOVED SEDIMENT FROM THE SUMP SHOULD BE REMOVED FROM, OR STABILIZED ON SITE.

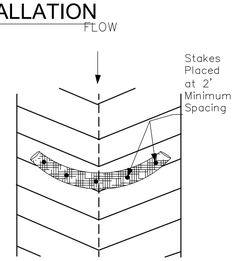
ALL ROCK SEDIMENT DIKES SHOULD BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THEY ARE NO LONGER NEEDED. DISTURBED AREAS RESULTING FROM THE REMOVAL OF ROCK SEDIMENT DIKES SHOULD BE PERMANENTLY STABILIZED.

ROCK SEDIMENT DIKES

NOT TO SCALE

SEDIMENT TUBE INSTALLATION





SEDIMENT TUBE SPACING

SLOPE	MAX. SEDIMENT TUBE SPACING
LESS THAN 2%	150-FEET
2%	100-FEET
3%	75-FEET
4%	50-FEET
5%	40-FEET
6%	30-FEET
GREATER THAN 6%	25-FEET

PLAN SYMBOL

South Carolina Department of Health and Environmental Control

SEDIMENT TUBES

STANDARD DRAWING NO. SC-05 PAGE 1 of 2

NOT TO SCALE — FEBRUARY 2014 DATE

SEDIMENT TUBES - GENERAL NOTES

1. Sediment tubes may be installed along contours, in drainage conveyance channels, and around inlets to help prevent off-site discharge of sediment-laden stormwater runoff.
2. Sediment tubes are elongated tubes of compacted geotextiles, curled excelsior wood, natural coconut fiber, or hardwood mulch. Straw, pine needle, and leaf mulch-filled sediment tubes are not permitted.
3. The outer netting of the sediment tube should consist of seamless, high-density polyethylene photodegradable materials treated with ultraviolet stabilizers or a seamless, high-density polyethylene non-degradable material.
4. Sediment tubes, when used as checks within channels, should range between 18-inches and 24-inches depending on channel dimensions. Diameters outside this range may be allowed where necessary when approved.
5. Curled excelsior wood, or natural coconut products that are rolled up to create a sediment tube are not allowed.
6. Sediment tubes should be staked using wooden stakes (2-inch X 2-inch) or steel posts (standard "U" or "T" sections with a minimum weight of 1.25 pounds per foot) at a minimum of 48-inches in length placed on 2-foot centers.
7. Install all sediment tubes to ensure that no gaps exist between the soil and the bottom of the tube. Manufacturer's recommendations should always be consulted before installation.
8. The ends of adjacent sediment tubes should be overlapped 6-inches to prevent flow and sediment from passing through the field joint.
9. Sediment tubes should not be stacked on top of one another, unless recommended by manufacturer.
10. Each sediment tube should be installed in a trench with a depth equal to 1/5 the diameter of the sediment tube.
11. Sediment tubes should continue up the side slopes a minimum of 1-foot above the design flow depth of the channel.
12. Install stakes at a diagonal facing incoming runoff.

SEDIMENT TUBES - INSPECTION & MAINTENANCE

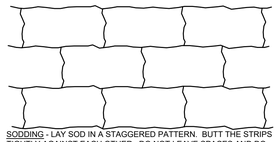
1. The key to functional sediment tubes is weekly inspections, routine maintenance, and regular sediment removal.
2. Regular inspections of sediment tubes shall be conducted once every calendar week and, as recommended, within 24-hours after each rainfall even that produces 1/2-inch or more of precipitation.
3. Attention to sediment accumulations in front of the sediment tube is extremely important. Accumulated sediment should be continually monitored and removed when necessary.
4. Remove accumulated sediment when it reaches 1/3 the height of the sediment tube.
5. Removed sediment shall be placed in stockpile storage areas or spread thinly across disturbed area. Stabilize the removed sediment after it is relocated.
6. Large debris, trash, and leaves should be removed from in front of tubes when found.
7. If erosion causes the edges to fall to a height equal to or below the height of the sediment tube, repairs should be made immediately to prevent runoff from bypassing tube.
8. Sediment tubes should be removed after the contributing drainage area has been completely stabilized. Permanent vegetation should replace areas from which sediment tubes have been removed.

South Carolina Department of Health and Environmental Control

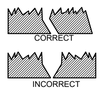
SEDIMENT TUBES

STANDARD DRAWING NO. SC-05 PAGE 2 of 2

GENERAL NOTES — FEBRUARY 2014 DATE

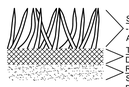


SODDING - LAY SOD IN A STAGGERED PATTERN. BUTT THE STRIPS TIGHTLY AGAINST EACH OTHER. DO NOT LEAVE SPACES AND DO NOT OVERLAP. A SHARPENED MASON'S TROWEL IS A HANDY TOOL FOR TUCKING DOWN THE ENDS AND TRIMMING PIECES.



BUTTING - ANGLED ENDS CAUSED BY THE AUTOMATIC SOD CUTTER MUST BE MATCHED CORRECTLY

ROLL SOD IMMEDIATELY TO ACHIEVE FIRM CONTACT WITH THE SOIL. WATER TO A DEPTH OF 4" AS NEEDED. WATER WELL AS SOON AS THE SOD IS LAID. MOW WHEN THE SOD IS ESTABLISHED - IN 2 - 3 WEEKS. SET THE MOWER HIGH (2"-3").



SHOOTS OR GRASS BLADES - GRASS SHOULD BE GREEN AND HEALTHY
THATCH - GRASS CLIPPINGS AND DEAD LEAVES, UP TO 1/2" THICK
ROOT ZONE - SOI AND ROOTS SHOULD BE 1/2" TO 3/4" THICK, WITH DENSE ROOT MAT FOR STRENGTH

SPECIFICATIONS:
IF FEASIBLE, SOD SHOULD NOT BE LAID IN EXCESSIVELY WET OR DRY WEATHER.

DURING PERIODS OF HIGH TEMPERATURE, OR IF THE SOIL IS DRY, THE SOIL SHOULD BE LIGHTLY IRRIGATED IMMEDIATELY PRIOR TO LAYING THE SOD.

THE FIRST ROW OF SOD SHOULD BE LAID IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO AND BUTTING TIGHTLY AGAINST EACH OTHER. JOINTS SHOULD BE STAGGERED TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH AND TO REDUCE THE CHANCE OF WASHOUTS UNDERNEATH THE SOD. CARE SHOULD BE EXERCISED TO INSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE DRYING OF THE ROOTS. SMALL GAPS OR VOIDS REMAINING AFTER THE SOIL IS LAID SHOULD BE FILLED WITH TOPSOIL.

PLACEMENT SHOULD BEGIN AT THE LOWER END OF SLOPES AND CHANNELS. ON SLOPES 3:1 OR GREATER, OR WHEREVER EROSION MAY BE A PROBLEM, SOD SHOULD BE SECURED BY PEGGING OR OTHER APPROVED METHODS. SOD SHOULD BE INSTALLED WITH THE LENGTH PERPENDICULAR TO THE SLOPE (ON THE CONTOUR).

AS SODDING IS COMPLETED, SOD SHOULD BE ROLLED OR TAMPED TO PROVIDE FIRM CONTACT BETWEEN ROOTS AND SOIL.

AFTER ROLLING, SOD SHOULD BE IRRIGATED TO A DEPTH SUFFICIENT THAT THE UNDERSIDE OF THE SOD PAD AND THE SOIL 4" BELOW THE SOD IS THOROUGHLY WET.

ESTABLISHMENT AND MAINTENANCE OF SOD:
DURING THE FIRST 3 - 4 WEEKS WATERING SHOULD BE PERFORMED AS OFTEN AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF AT LEAST 2 INCHES.

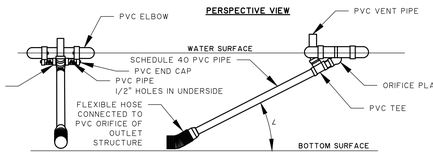
THE FIRST MOWING SHOULD NOT BE ATTEMPTED UNTIL THE SOD IS FIRMLY ROOTED, USUALLY 2 - 3 WEEK. THE MOWER SHOULD BE SET HIGH (2 -3 INCHES) FOR THE FIRST MOWING. NO MORE THAN 1/3 OF THE SHOOT (GRASS LEAF) SHOULD BE REMOVED IN ANY MOWING.

FERTILIZER SHOULD BE APPLIED, AS NECESSARY, TO OBTAIN AND MAINTAIN THE DESIRED GROWTH AND DENSITY. LIME SHOULD BE ADDED, AS NEEDED, TO MAINTAIN PROPER pH. SOIL SHOULD BE TESTED EVERY 1 - 2 YEARS TO DETERMINE FERTILIZER AND LIME REQUIREMENTS.

SO

SODDING

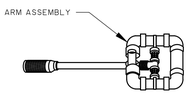
NOT TO SCALE



NOTES:
1. CONTRACTOR TO REMOVE SKIMMER UPON STABILIZATION OF THE CONTRIBUTING DRAINAGE AREA AND INSTALL PERMANENT PVC ORIFICE PER OUTLET STRUCTURE DETAILS.

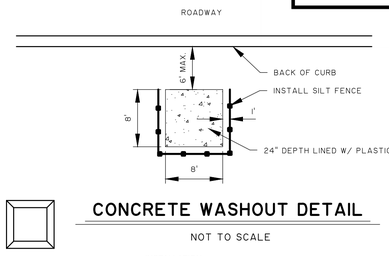
DESIGN CRITERIA				
POND NUMBER	SKIMMER SIZE (IN)	ORIFICE RADIUS (IN)	ORIFICE DIA. (IN)	VOLUME (CF) *

*SKIMMER SIZE IS BASED ON THE VOLUME OF THE NEXT HIGHEST WEIR ELEVATION ABOVE NORMAL POOL WHICH IS GREATER THAN THE REQUIRED SEDIMENT BASIN VOLUME. SEE EC4.3 FOR SKIMMER CRITERIA.



SKIMMER DETAIL

NOT TO SCALE



CONCRETE WASHOUT DETAIL

NOT TO SCALE

ROCK SEDIMENT DIKE - GENERAL NOTES

1. Rock sediment dikes should not be placed in Waters of the State or USGS blue-line streams (unless approved by Federal Authorities).
2. A non-woven geotextile fabric shall be installed over the soil surface where the rock sediment dike is to be placed.
3. The body of a rock sediment dike shall be composed of 9-inch D50 riprap at a minimum.
4. The upstream face of the rock sediment dike shall be composed of a 1-foot thick layer of 3/4-inch to 1-inch D50 washed stone placed at a slope of 2H:1V.
5. Rock sediment dikes shall have a minimum top flow length of 3-feet (2-foot flow length through the riprap and 1-foot flow length through the washed stone).
6. The rock must be placed by hand or mechanical placement (no dumping of rock to form the sediment dike) to achieve proper dimensions.
7. A sediment sump shall be located on the upstream side of the structure to provide sediment storage. The upstream side of the sump shall have a slope of 5H:1V to inhibit erosion of the sediment storage area. The minimum depth of the sump shall be 2-feet.
8. Mark the sediment clean-out level of the sediment dike with a stake in the field.
9. Seed and mulch all disturbed areas.

ROCK SEDIMENT DIKE - INSPECTION AND MAINTENANCE

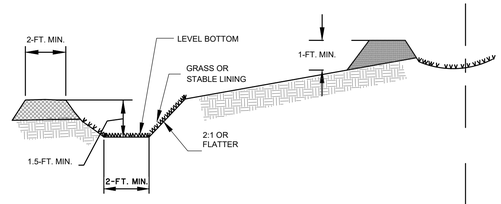
1. The key to a functional rock sediment dike is weekly inspection, routine maintenance and regular sediment removal.
2. Attention to sediment accumulations within the rock sediment dike is extremely important. Accumulated sediment deposition should be continually monitored in the trap and removed when necessary.
3. Remove accumulated sediment when it reaches 50% of the designed sediment storage volume as marked by the clean-out stake.
4. Removed sediment from the rock sediment dike shall be placed in stockpile storage areas or spread thinly across the disturbed area. Stabilize the removed sediment after it is relocated.
5. Regular inspections of rock sediment dikes should be conducted once every calendar week and, as recommended, within 24-hours after each rainfall event that produces ½-inch or more of precipitation.
6. All rock sediment dikes should be removed within 30 days after final stabilization is achieved. Dispose of all construction materials appropriately. Disturbed area resulting from removal shall be permanently stabilized.

South Carolina Department of Health and Environmental Control

ROCK SEDIMENT DIKE

STANDARD DRAWING NO. SC-12 PAGE 2 of 2

GENERAL NOTES — FEBRUARY 2014 DATE



SECTION

INSTALLATION:
THE BOTTOM WIDTH SHOULD BE A MINIMUM OF 2-FEET, AND THE BOTTOM SHOULD BE LEVEL.

THE DEPTH SHOULD BE A MINIMUM OF 1.5-FEET AND THE SIDE SLOPES SHOULD BE 2H:1V OR FLATTER.

THE MAXIMUM GRADE SHALL BE 5%, WITH POSITIVE DRAINAGE TO A SUITABLE OUTLET.

SLOPES SHALL BE STABILIZED IMMEDIATELY USING VEGETATION, SOD, AND EROSION CONTROL BLANKETS OR TURF REINFORCEMENT MATS TO PREVENT EROSION.

THE UPSLOPE SIDE OF THE SWALE SHOULD PROVIDE POSITIVE DRAINAGE SO NO EROSION OCCURS AT THE OUTLET. PROVIDE ENERGY DISSIPATION MEASURES AS NECESSARY.

SEDIMENT-LADEN RUNOFF SHALL BE DIRECTED TO A SEDIMENT TRAPPING FACILITY.

INSPECTION AND MAINTENANCE:

DAMAGE CAUSED BY CONSTRUCTION TRAFFIC OR OTHER ACTIVITY MUST BE REPAIRED BEFORE THE END OF EACH WORKING DAY.

TD

TEMPORARY DIVERSION DITCH OR SWALE

NOT TO SCALE

SOUTH CAROLINA — NO. 17101 — THOMAS & HUTTON ENGINEERING CO. — No. COA0285 — CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA — PROFESSIONAL ENGINEER — No. 28573 — CHRISTOPHER G. WARREN — 12-14-2023 — REGISTERED

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 740
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC
PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS
EROSION CONTROL DETAILS

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	N/A

EC4.2

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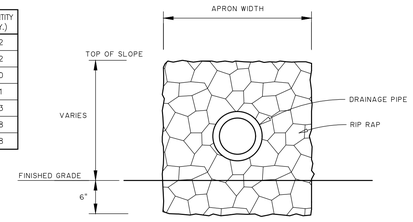
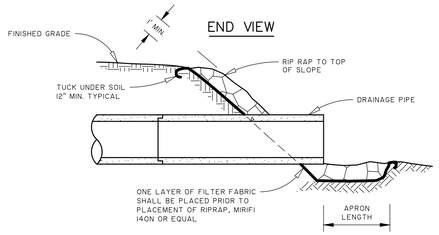
STORMWATER POLLUTION PREVENTION PLAN

PIPE SIZE (INCHES)	APRON WIDTH (FEET)	APRON LENGTH (FEET)	QUANTITY (S.Y.)
15	6	18	12
18	6	18	12
24	8	22	20
30	10	28	31
36	12	32	43
42	16	36	68
48	16	44	78





RIP RAP DETAIL

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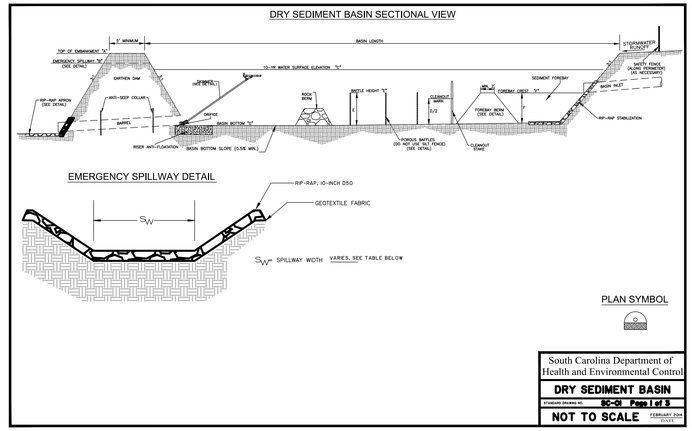


South Carolina Department of Health and Environmental Control

DRY SEDIMENT BASIN

STANDARD DRAWING NO. **SC-Ct Page 1 of 3**

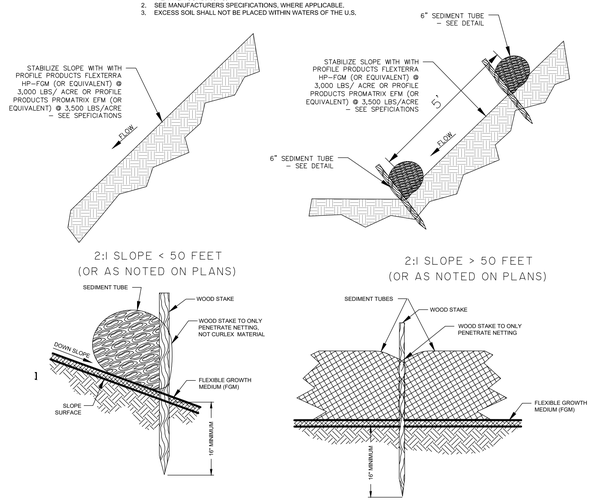
NOT TO SCALE DATE: FEBRUARY 2014

TEMPORARY SEDIMENT BASIN DESIGN TABLE

Sediment Basin Number/Name	"A"	"B"	"C"	"Sw"	"D"	"E"	"F"	"G"	Skimmer Size (in.)	Skimmer Orifice (in.)	Skimmer Daily Discharge Capacity (FT^3/DAY)	Skimmer Average Discharge Rate (CFS)	Dewatering Time (Days)	No. of Skimmers
PHASE 1														
BASIN 01	457.0'	456.0'	455.98'	50'	9'	3'	2'	448.0'	8"		97,978	1.13	3.60	1
BASIN 02	452.0'	451.0'	451.96'	200'	8.3'	3'	2'	443.7'	8"		97,978	1.13	3.96	1
BASIN 03	448.7'	447.7'	444.39'	50'	9'	3'	2'	439.7'	8"	1x6"; 3x8"	97,978	1.13	3.02	4
BASIN 04	455.0'	454.0'	454.81'	50'	13'	3'	2'	442.0'	8"	6"	97,978	1.13	4.86	3
BASIN 05	426.0'	424.0'	424.68'	150'	8.4'	3'	2'	417.6'	8"	7"	97,978	1.13	3.31	2
BASIN 06	416.0'	415.0'	415.36'	25'	8'	3'	2'	408.0'	8"		97,978	1.13	4.26	1
BASIN 07	435.0'	434.0'	432.47'	50'	6'	3'	2'	429.0'	8"	7"	97,978	1.13	3.55	1
BASIN 08	422.0'	421.0'	421.96'	50'	12'	3'	2'	410.0'	8"		97,978	1.13	3.63	2
BASIN 09	445.0'	444.0'	444.06'	50'	7'	3'	2'	438.0'	6"		51,840	0.60	3.10	1
BASIN 10	390.0'	389.0'	389.35'	50'	5'	3'	2'	385.0'	8"x1; 6"x1		97,978	1.13	3.84	2
BASIN 11	394.5'	393.5'	393.50'	50'	10'	3'	2'	384.5'	8"		97,978	1.13	5.05	1
BASIN 12	425.0'	424.0'	424.18'	50'	7'	3'	2'	418.0'	6"	5"	51,840	0.60	4.80	1

GENERAL NOTES

1. SLOPE PROTECTION DETAILS SHOWN ARE GENERAL GUIDELINES. ADDITIONAL SLOPE PROTECTION MEASURES MAY BE NECESSARY, DEPENDING ON SITE AND WEATHER CONDITIONS.
2. SEE MANUFACTURERS SPECIFICATIONS, WHERE APPLICABLE.
3. EXCESS SOIL SHALL NOT BE PLACED WITHIN WATERS OF THE U.S.



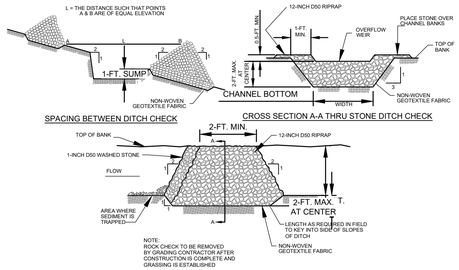
NOTE:

1 1/2" X 1 1/2" X 30" WOODEN STAKES ARE RECOMMENDED FOR 6", 9", AND 12" SEDIMENT TUBES.

1 1/2" X 1 1/2" X 48" WOODEN STAKES ARE RECOMMENDED FOR 20" SEDIMENT TUBES.

SLOPE PROTECTION DETAIL

NOT TO SCALE



NOTE:
ROCK CHECK TO BE REMOVED BY GRADING CONTRACTOR AFTER CONSTRUCTION IS COMPLETE AND GRASSING IS ESTABLISHED

TYPICAL DITCH CHECK SECTION

WHEN AND WHERE TO USE IT:
A ROCK DITCH CHECK SHOULD BE INSTALLED IN STEEPLY SLOPED SWALES, OR IN SWALES WHERE ADEQUATE VEGETATION CANNOT BE ESTABLISHED. ROCK DITCH CHECKS SHOULD BE USED ONLY IN SMALL OPEN CHANNELS. ROCK DITCH CHECKS SHOULD NOT BE PLACED IN WATERS OF THE COMMONWEALTH OR USGS BLUE-LINE STREAMS.

INSTALLATION:
A NON-WOVEN GEOTEXTILE FABRIC SHALL BE INSTALLED OVER THE SOIL SURFACE WHERE THE ROCK DITCH CHECK IS TO BE PLACED.

THE BODY OF THE ROCK DITCH CHECK SHALL BE COMPOSED OF 12-INCH D50 RIPRAP.

THE UPSTREAM FACE OF THE ROCK DITCH CHECK MAY BE COMPOSED OF 1-INCH D50 WASHED STONE.

ROCK DITCH CHECKS SHOULD NOT EXCEED A HEIGHT OF 2-FEET AT THE CENTERLINE OF THE CHANNEL.

ROCK DITCH CHECKS SHOULD HAVE A MINIMUM TOP FLOW LENGTH OF 2-FEET.

STONE SHOULD BE PLACED OVER THE CHANNEL BANKS TO PREVENT WATER FROM CUTTING AROUND THE DITCH CHECK.

THE ROCK MUST BE PLACED BY HAND OR MECHANICAL PLACEMENT (NO DUMPING OF ROCK TO FORM DAM) TO ACHIEVE COMPLETE COVERAGE OF THE DITCH OR SWALE AND TO ENSURE THAT THE CENTER OF THE CHECK IS LOWER THAN THE EDGES.

THE MAXIMUM SPACING BETWEEN THE DAMS SHOULD BE SUCH THAT THE TOE OF THE UPSTREAM CHECK IS AT THE SAME ELEVATION AS THE TOP OF THE DOWNSTREAM CHECK.

INSPECTION AND MAINTENANCE:
INSPECT FOR SEDIMENT AND DEBRIS ACCUMULATION. INSPECT DITCH CHECK EDGES FOR EROSION AND REPAIR PROMPTLY AS REQUIRED.

SEDIMENT SHOULD BE REMOVED WHEN IT REACHES 1/3 THE ORIGINAL CHECK HEIGHT.

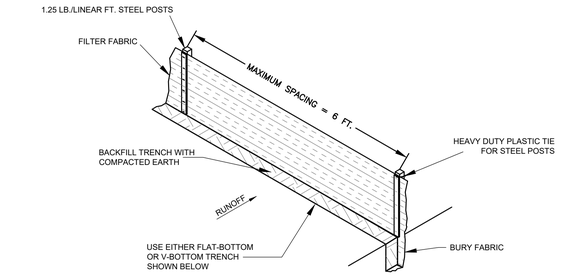
IN THE CASE OF GRASS-LINED DITCHES AND SWALES, ROCK DITCH CHECKS SHOULD BE REMOVED WHEN THE GRASS HAS MATURED SUFFICIENTLY TO PROTECT THE DITCH OR SWALE UNLESS THE SLOPE OF THE SWALE IS GREATER THAN 4%.

AFTER CONSTRUCTION IS COMPLETE, ALL STONE SHOULD BE REMOVED BY THE GRADING CONTRACTOR IF VEGETATION WILL BE USED FOR PERMANENT EROSION CONTROL MEASURES.

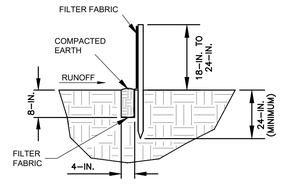
THE AREA BENEATH THE ROCK DITCH CHECKS SHOULD BE SEEDED AND MULCHED IMMEDIATELY AFTER ROCK CHECK DAM REMOVAL.

ROCK DITCH CHECK

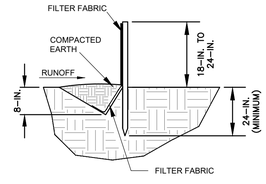
NOT TO SCALE



SILT FENCE INSTALLATION



FLAT-BOTTOM TRENCH DETAIL



V-SHAPED TRENCH DETAIL

WHEN AND WHERE TO USE IT:
SILT FENCE IS APPLICABLE IN AREAS:

WHERE THE MAXIMUM SHEET OR OVERLAND FLOW PATH LENGTH TO THE FENCE IS 100-FEET.
WHERE THE MAXIMUM SLOPE STEEPNESS (NORMAL [PERPENDICULAR] TO FENCE LINE) IS 2H:1V.
THAT DO NOT RECEIVE CONCENTRATED FLOWS GREATER THAN 0.5 CFS.

DO NOT PLACE SILT FENCE ACROSS CHANNELS OR USE IT AS A VELOCITY CONTROL BMP.

MATERIALS:
STEEL POSTS
USE 48-INCH LONG STEEL POSTS THAT MEET THE FOLLOWING MINIMUM PHYSICAL REQUIREMENTS:
COMPOSED OF HIGH STRENGTH STEEL WITH MINIMUM YIELD STRENGTH OF 50,000 PSI.
HAVE A STANDARD "T" SECTION WITH A NOMINAL FACE WIDTH OF 1.38-INCHES AND NOMINAL "T" LENGTH OF 1.48-INCHES.
WEIGH 1.25 POUNDS PER FOOT (± 8%).
HAVE A SOIL STABILIZATION PLATE WITH A MINIMUM CROSS SECTION AREA OF 17-SQUARE INCHES ATTACHED TO THE STEEL POSTS.
PAINTED WITH A WATER BASED BAKED ENAMEL PAINT.

USE STEEL POSTS WITH A MINIMUM LENGTH OF 4-FEET, WEIGHING 1.25 POUNDS PER LINEAR FOOT (± 8%) WITH PROJECTIONS TO AID IN FASTENING THE FABRIC. EXCEPT WHEN HEAVY CLAY SOILS ARE PRESENT ON SITE, STEEL POSTS WILL HAVE A METAL SOIL STABILIZATION PLATE WELDED NEAR THE BOTTOM SUCH THAT WHEN THE POST IS DRIVEN TO THE PROPER DEPTH, THE PLATE WILL BE BELOW THE GROUND LEVEL FOR ADDED STABILITY.
THE SOIL PLATES SHOULD HAVE THE FOLLOWING CHARACTERISTICS:
BE COMPOSED OF MINIMUM 15 GAUGE STEEL.
HAVE A MINIMUM CROSS SECTION AREA OF 17-SQUARE INCHES.

GEOTEXTILE FILTER FABRIC:
FILTER FABRIC IS:
COMPOSED OF FIBERS CONSISTING OF LONG CHAIN SYNTHETIC POLYMERS COMPOSED OF AT LEAST 85% BY WEIGHT OF POLYOLEFINS, POLYESTERS, OR POLYAMIDES.
FORMED INTO A NETWORK SUCH THAT THE FILAMENTS OR YARNS RETAIN DIMENSIONAL STABILITY RELATIVE TO EACH OTHER.
FREE OF ANY TREATMENT OR COATING WHICH MIGHT ADVERSELY ALTER ITS PHYSICAL PROPERTIES AFTER INSTALLATION.
FREE OF DEFECTS OR FLAWS THAT SIGNIFICANTLY AFFECT ITS PHYSICAL AND/OR FILTERING PROPERTIES.
CUT TO A MINIMUM WIDTH OF 36 INCHES.

USE ONLY FABRIC APPEARING ON SCDOT APPROVAL SHEET #34 MEETING THE REQUIREMENTS OF THE MOST CURRENT EDITION OF THE SCDOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

INSTALLATION:
EXCAVATE A TRENCH APPROXIMATELY 6-INCHES WIDE AND 6-INCHES DEEP WHEN PLACING FABRIC BY HAND. PLACE 12-INCHES OF GEOTEXTILE FABRIC INTO THE 6-INCH DEEP TRENCH, EXTENDING THE REMAINING 6-INCHES TOWARDS THE UPSLOPE SIDE OF THE TRENCH. BACKFILL THE TRENCH WITH SOIL OR GRAVEL AND COMPACT. BURY 12-INCHES OF FABRIC INTO THE GROUND WHEN PNEUMATICALLY INSTALLING SILT FENCE WITH A SLICING METHOD. PURCHASE FABRIC IN CONTINUOUS ROLLS AND CUT TO THE LENGTH OF THE BARRIER TO AVOID JOINTS. WHEN JOINTS ARE NECESSARY, WRAPPED THE FABRIC TOGETHER AT A SUPPORT POST WITH BOTH ENDS FASTENED TO THE POST, WITH A 6-INCH MINIMUM OVERLAP. INSTALL POSTS TO A MINIMUM DEPTH OF 24-INCHES. INSTALL POSTS A MINIMUM OF 1- TO 2- INCHES ABOVE THE FABRIC, WITH NO MORE THAN 5-FEET OF THE POST ABOVE THE GROUND. SPACE POSTS TO MAXIMUM 6-FEET CENTERS. ATTACH FABRIC TO WOOD POSTS USING STAPLES MADE OF HEAVY-DUTY WIRE AT LEAST 1-1/2-INCH LONG, SPACED A MAXIMUM OF 6-INCHES APART. STAPLE A 2-INCH WIDE LATHE OVER THE FILTER FABRIC TO SECURELY FASTEN IT TO THE UPSLOPE SIDE OF WOODEN POSTS. ATTACH FABRIC TO THE STEEL POSTS USING HEAVY-DUTY PLASTIC TIES THAT ARE EVENLY SPACED AND PLACED IN A MANNER TO PREVENT SAGGING OR TEARING OF THE FABRIC. IN CALL CASES, TIES SHOULD BE AFFIXED IN NO LESS THAN 4 PLACES. INSTALL THE FABRIC A MINIMUM OF 24-INCHES ABOVE THE GROUND. WHEN NECESSARY, THE HEIGHT OF THE FENCE ABOVE GROUND MAY BE GREATER THAN 24-INCHES. IN TIDAL AREAS, EXTRA SILT FENCE HEIGHT MAY BE REQUIRED. THE POST HEIGHT WILL BE TWICE THE EXPOSED POST HEIGHT. POST SPACING WILL REMAIN THE SAME AND EXTRA HEIGHT FABRIC WILL BE 4-, 5-, OR 6-FEET TALL. LOCATE SILT FENCE CHECKS EVERY 100 FEET MAXIMUM AND AT LOW POINTS. INSTALL THE FENCE PERPENDICULAR TO THE DIRECTION OF FLOW AND PLACE THE FENCE THE PROPER DISTANCE FROM THE TOE OF STEEP SLOPES TO PROVIDE SEDIMENT STORAGE AND ACCESS FOR MAINTENANCE AND CLEANOUT.

INSPECTION AND MAINTENANCE:
CHECK FOR SEDIMENT BUILDUP AND FENCE INTEGRITY. CHECK WHERE RUNOFF HAS ERODED A CHANNEL BENEATH THE FENCE, OR WHERE THE FENCE HAS SAGGED OR COLLAPSED BY FENCE OVERTOPPING. IF THE FENCE FABRIC TEARS, BEGINS TO DECOMPOSE, OR IN ANY WAY BECOMES INEFFECTIVE, REPLACE THE SECTION OF FENCE IMMEDIATELY. REMOVE SEDIMENT ACCUMULATED ALONG THE FENCE WHEN IT REACHES 1/3 THE HEIGHT OF THE FENCE, ESPECIALLY IF HEAVY RAINS ARE EXPECTED. REMOVE TRAPPED SEDIMENT FROM THE SITE OR STABILIZE IT ON SITE. REMOVE SILT FENCE WITHIN 30 DAYS AFTER FINAL STABILIZATION IS ACHIEVED OR

AFTER TEMPORARY BEST MANAGEMENT PRACTICES (BMPS) ARE NO LONGER NEEDED. PERMANENTLY STABILIZE DISTURBED AREAS RESULTING FROM FENCE REMOVAL.

SILT FENCE

NOT TO SCALE

SOUTH CAROLINA NOLTE, JR. 27015 CERTIFICATE OF AUTHORIZATION THOMAS & HUTTON ENGINEERING Co. No. C00285

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 28573 MARCUS D. WILSON 12-19-24

NO.	REVISIONS	BY	DATE

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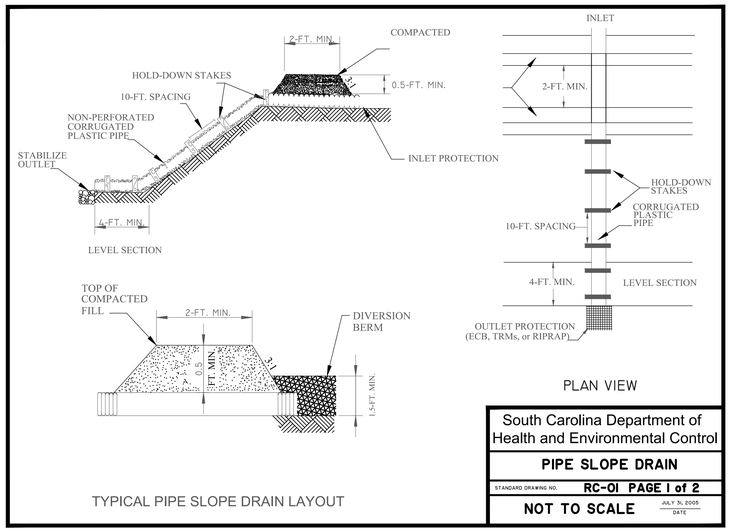
RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC
PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL DETAILS

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	N/A

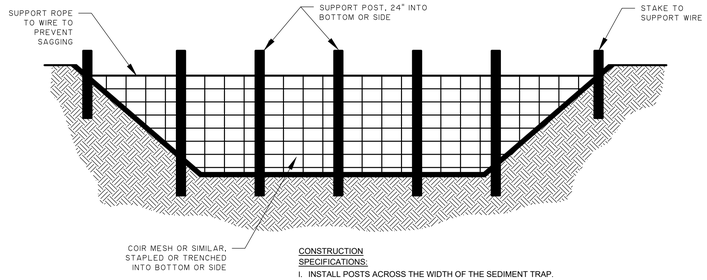
EC4.3

P:\21\05\21505.0007\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\21505.0007 EC - ST.DWG - Jun 11, 2024 - 9:53 AM



TYPICAL PIPE SLOPE DRAIN LAYOUT

South Carolina Department of Health and Environmental Control	
PIPE SLOPE DRAIN	
STANDARD DRAWING NO.	RC-01 PAGE 1 of 2
NOT TO SCALE	JULY 31, 2005 DATE

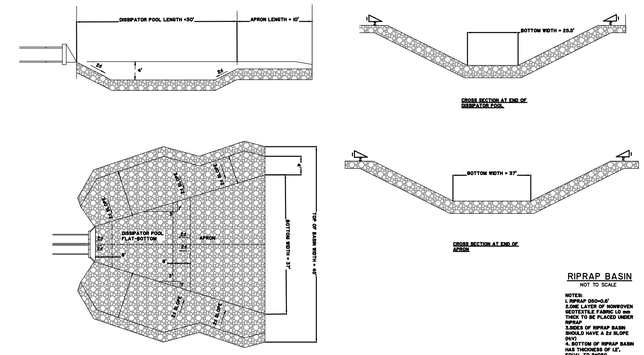


CONSTRUCTION SPECIFICATIONS:

1. INSTALL POSTS ACROSS THE WIDTH OF THE SEDIMENT TRAP.
2. STEEL POSTS SHOULD BE DRIVEN TO A DEPTH OF 24 INCHES, SPACED A MAXIMUM OF 4 FEET APART, AND INSTALLED UP THE SIDES OF THE BASIN AS WELL. THE TOP OF THE FABRIC SHOULD BE 6 INCHES HIGHER THAN THE INVERT OF THE SPILLWAY. TOPS OF BAFFLES SHOULD BE 2 INCHES LOWER THAN THE TOP OF THE BERMS.
3. INSTALL AT LEAST THREE ROWS OF BAFFLES BETWEEN THE INLET AND OUTLET DISCHARGE POINT.
4. WHEN USING POSTS, ADD A SUPPORT WIRE OR ROPE ACROSS THE TOP OF THE MEASURE TO PREVENT SAGGING.
5. WRAP POROUS MATERIAL, LIKE JUTE BACKED BY COIR MATERIAL, OVER THE TOP WIRE. THE FABRIC SHOULD HAVE FIVE TO TEN PERCENT OPENINGS IN THE WEAVE. ATTACH FABRIC TO A ROPE AND A SUPPORT STRUCTURE WITH ZIP TIES, WIRE, OR STAPLES.
6. THE BOTTOM SIDES OF THE FABRIC SHOULD BE ANCHORED IN A TRENCH OR PINNED WITH 8 INCH EROSION CONTROL MATTING STAPLES.
7. DO NOT SPLICE THE FABRIC, BUT USE A CONTINUOUS PIECE ACROSS THE BASIN.
8. AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED, REMOVE ALL BAFFLE MATERIALS, AND UNSTABLE SEDIMENT DEPOSITS, BRING THE AREA TO GRADE, AND STABILIZE IT.

POROUS BAFFLE DETAIL

NOT TO SCALE

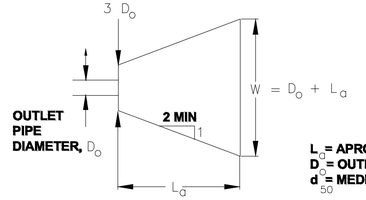


RIPRAP BASIN

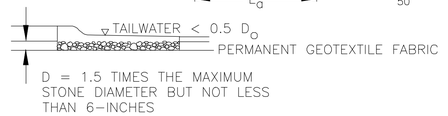
NOT TO SCALE

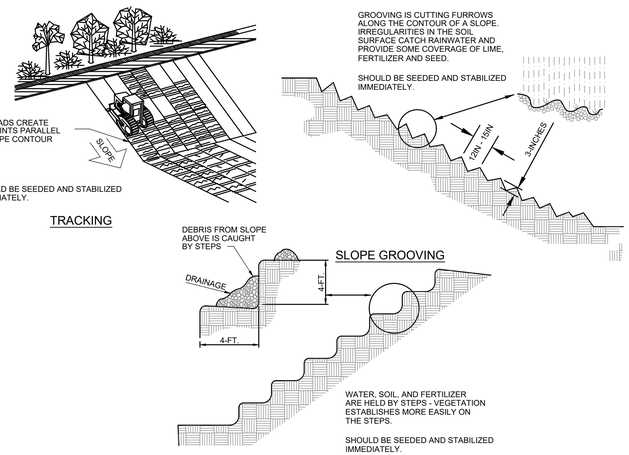
NOTES:
1. RIPRAP D50=0.6'
2. ONE LAYER OF NONWOVEN GEOTEXTILE FABRIC LO mm MINIMUM TO BE PLACED UNDER RIPRAP.
3. SIDES OF RIPRAP BASIN SHOULD HAVE A 2:1 SLOPE OR LESS.
4. BOTTOM OF RIPRAP BASIN HAS THICKNESS OF 1.6', EQUAL TO D=D50

PIPE OUTLET TO FLAT AREA WITH NO DEFINED CHANNEL:



L_a = APRON LENGTH, (FEET)
D_o = OUTLET PIPE DIAMETER, (INCHES)
d_{50} = MEDIAN STONE SIZE, (FEET)





OR LG

LAND GRADING TECHNIQUES

NOT TO SCALE

WHEN AND WHERE TO USE IT:

STABILIZED CONSTRUCTION ENTRANCES SHOULD BE USED AT ALL POINTS WHERE TRAFFIC WILL BE LEAVING A CONSTRUCTION SITE AND MOVING DIRECTLY ONTO A PUBLIC ROAD.

IMPORTANT CONSIDERATIONS:

IF WASHING IS USED, PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFFSITE. WASHDOWN FACILITIES SHALL BE REQUIRED AS DIRECTED BY SCDHEC AS NEEDED. WASHDOWN AREAS IN GENERAL MUST BE ESTABLISHED WITH CRUSHED GRAVEL AND DRAIN INTO A SEDIMENT TRAP OR SEDIMENT BASIN.

CONSTRUCTION ENTRANCES SHOULD BE USED IN CONJUNCTION WITH THE STABILIZATION OF CONSTRUCTION ROADS TO REDUCE THE AMOUNT OF MUD PICKED UP BY VEHICLES.

INSTALLATION:

REMOVE ALL VEGETATION AND ANY OBJECTIONABLE MATERIAL FROM THE FOUNDATION AREA.

DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM STONES TO A SEDIMENT TRAP OR BASIN.

INSTALL A NON-WOVEN GEOTEXTILE FABRIC PRIOR TO PLACING ANY STONE.

INSTALL A CULVERT PIPE ACROSS THE ENTRANCE WHEN NEEDED TO PROVIDE POSITIVE DRAINAGE.

THE ENTRANCE SHALL CONSIST OF 1-INCH TO 3-INCH D50 STONE PLACED AT A MINIMUM DEPTH OF 6-INCHES.

MINIMUM DIMENSIONS OF THE ENTRANCE SHALL BE 24-FEET WIDE BY 100-FEET LONG, AND MAY BE MODIFIED AS NECESSARY TO ACCOMMODATE SITE CONSTRAINTS.

THE EDGES OF THE ENTRANCE SHALL BE TAPERED OUT TOWARDS THE ROAD TO PREVENT TRACKING OF MUD AT THE EDGE OF THE ENTRANCE.

INSPECTION AND MAINTENANCE:

CHECK FOR MUD AND SEDIMENT BUILDUP AND PAD INTEGRITY. MAKE DAILY INSPECTIONS DURING PERIODS OF WET WEATHER. MAINTENANCE IS REQUIRED MORE FREQUENTLY IN WET WEATHER CONDITIONS. RESHAPE THE STONE PAD AS NEEDED FOR DRAINAGE AND RUNOFF CONTROL.

WASH OR REPLACE STONES AS NEEDED. THE STONE IN THE ENTRANCE SHOULD BE WASHED OR REPLACED WHENEVER THE ENTRANCE FAILS TO REDUCE MUD BEING CARRIED OFF-SITE BY VEHICLES.

FREQUENT WASHING WILL EXTEND THE USEFUL LIFE OF STONE.

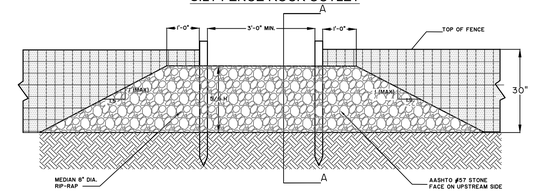
IMMEDIATELY REMOVE MUD AND SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROADS BY BRUSHING OR SWEEPING. FLUSHING SHOULD ONLY BE USED WHEN THE WATER CAN BE DISCHARGED TO A SEDIMENT TRAP OR BASIN.

REPAIR ANY BROKEN PAVEMENT IMMEDIATELY.

STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE

SILT FENCE ROCK OUTLET



NOTES:

1. WASHED STONE (#57) TO BE REMOVED AND REPLACED ONCE IT BECOMES CLOGGED WITH SEDIMENT.
2. SEDIMENT TO BE REMOVED WHEN ACCUMULATIONS REACH 1/3 HEIGHT OF SILT FENCE
3. THE KEY TO FUNCTIONAL ROCK OUTLETS IS WEEKLY INSPECTIONS, ROUTINE MAINTENANCE, AND REGULAR SEDIMENT REMOVAL.

RO

SILT FENCE ROCK OUTLET

NOT TO SCALE

SOUTH CAROLINA PROFESSIONAL ENGINEER — No. 28573 — CHRISTOPHER G. WILSON — 12-11-2024

NO.	REVISIONS	BY	DATE

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RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC
PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

EROSION CONTROL DETAILS

JOB NO:	J-21015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	N/A

EC4.4

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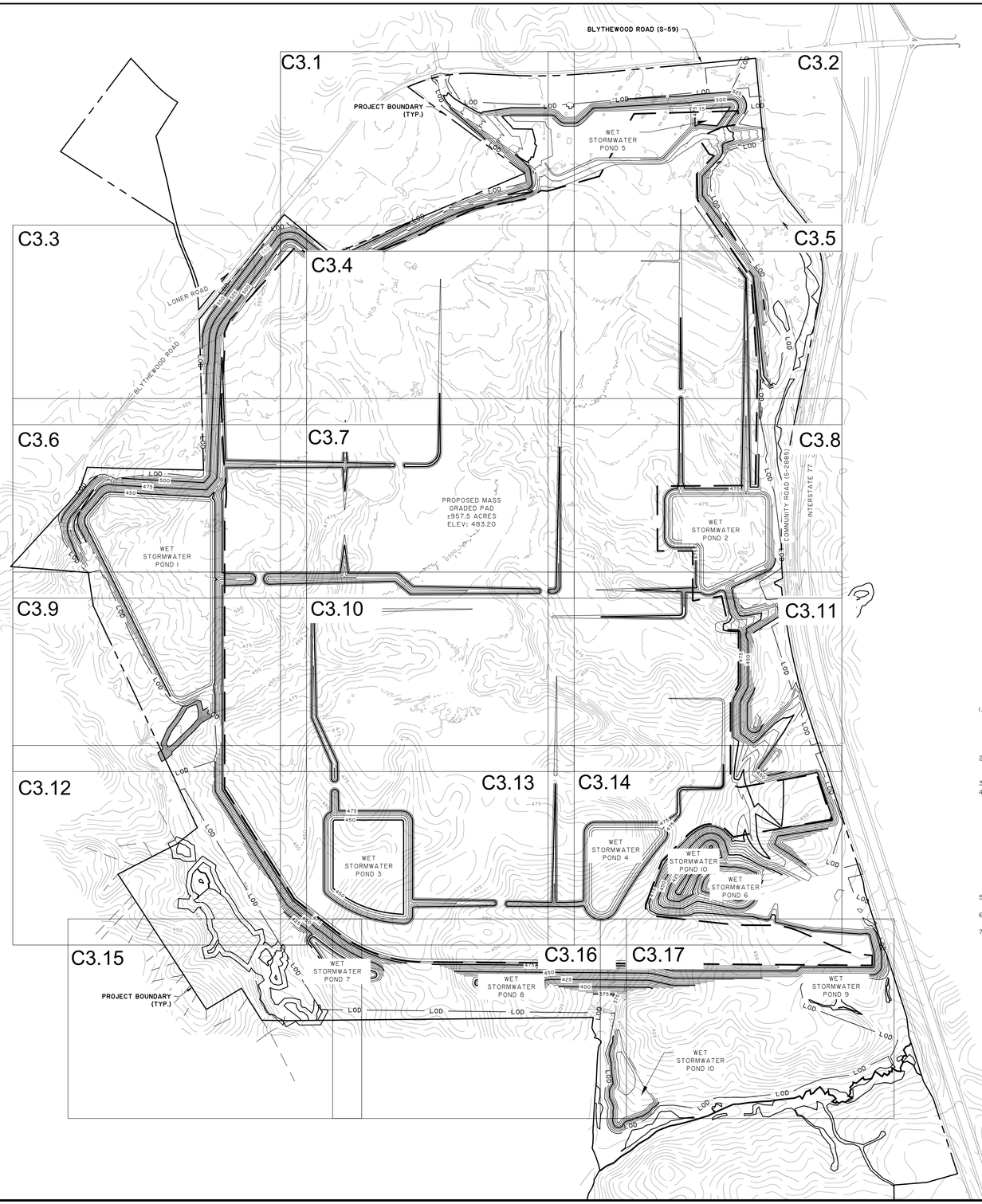
GRADING AND DRAINAGE
POND EMBANKMENT NOTES

1. CONTRACTOR SHALL ADHERE TO ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/REGULATIONS IN REGARD TO SITE SAFETY WHILE ACCESSING AND WORKING WITH STEEP SLOPES/EMBANKMENTS DURING CONSTRUCTION.
2. PRIOR TO COMMENCING WORK CONTRACTOR SHALL REFER TO GEOTECHNICAL REPORT REFERENCED ON SHEET G0.1 FOR REQUIREMENTS AND CRITERIA RELATED TO EARTHWORK MATERIALS, PROCEDURES, AND METHODS. IF INFORMATION CONTAINED IN THESE PLANS DIFFERS FROM OR NEGATES REQUIREMENTS AND SPECIFICATIONS OUTLINED IN GEOTECHNICAL REPORT, THEN THE ENGINEER OF RECORD SHALL BE NOTIFIED PRIOR TO COMMENCING WORK RELATED TO THIS INFORMATION.
3. WHEN CONSTRUCTING FILL SLOPES CONTRACTOR SHALL REMOVE (UNDERCUT) LOOSE MATERIAL FROM THE TOE OF THE PROPOSED FILL SLOPE OR COMPACT IT AS INDICATED IN GEOTECHNICAL REPORT REFERENCED ON SHEET G0.1 PRIOR TO PLACING NEW FILL. THE FILL SLOPES SHALL BE BENCHED INTO EXISTING SLOPING TERRAIN AND ADEQUATELY COMPACTED. FILL SLOPES CONSTRUCTED ALONG EXISTING SLOPES OR EMBANKMENTS STEEPER THAN 4H:1V SHALL HAVE A KEYWAY CONSTRUCTED ALONG THE SLOPE BASE. THE KEYWAY WIDTH SHALL BE AT LEAST 1/2 OF THE PLANNED SLOPE HEIGHT, OR A MINIMUM OF 15 FEET WIDE, AND THE KEYWAY SHALL BE EMBEDDED A MINIMUM OF 2-FEET INTO STIFF TO MEDIUM DENSE SOILS. UPON CONSTRUCTION OF A COMPETENT SLOPE FACE IT SHALL BE PROTECTED FROM EROSION.
4. GROUNDWATER SHALL BE CONTROLLED AT THE LOWEST LEVEL OF SLOPE EXCAVATION WHILE THE EXCAVATION IS OPEN AND SUCH THAT IT DOES NOT FLOW OR EMERGE FROM SOIL EXCAVATION SLOPES.
5. SLOPE CUTOFF DRAINS (SEE DETAIL ON SHEET EC4.4) SHALL BE INSTALLED IN EXCAVATION SLOPES WHERE NEEDED AT THE DIRECTION OF THE GEOTECHNICAL ENGINEER IN THE FIELD. GEOTECHNICAL ENGINEER TO PROVIDE RECOMMENDATION FOR PIPE SIZE BASED ON ASSESSMENT OF FLOW IN THE FIELD.
6. SURFACE WATER SHALL BE CAPTURED BY APPROPRIATE DRAINAGE MEASURES ABOVE SLOPE CRESTS AND NOT ALLOWED TO DRAIN DOWN SLOPES. IF PERCHED GROUNDWATER IS OBSERVED EMERGING FROM THE FACE OF SLOPES OR IF SURFACE WATER IS ADVERSELY AFFECTING SLOPES THE ENGINEER OF RECORD SHOULD BE CONTACTED IMMEDIATELY.
7. ORGANIC MUCK ENCOUNTERED IN AND AROUND EXISTING PONDS, STREAMS, AND WETLANDS IS NOT SUITABLE FOR REUSE AS STRUCTURAL FILL AND THE SATURATED/WATER-SOFTENED MATERIALS REQUIRE EXTENSIVE DRYING AND REWORKING TO BE ABLE TO BE REUSED AS STRUCTURAL FILL. THESE MATERIALS SHALL BE SPREAD AND DRIED, STOCKPILED FOR FUTURE USE IN NON-STRUCTURAL AREAS, WASTED IN DEEP FILL AREAS, OR HAULED OFF-SITE. FOR EXISTING PONDS, STREAMS, AND WETLANDS WITHIN CLOSE PROXIMITY TO THE PLANNED CUT/FILL LINE THE ORGANIC MUCK AND SATURATED/WATER-SOFTENED SOILS SHALL BE OVER-EXCAVATED AND REPLACED PRIOR TO FILL PLACEMENT OR TO ACHIEVE PLANNED GRADE. IN DEEP FILL AREAS, ORGANIC MUCK AND SATURATED/WATER-SOFTENED SOILS MAY BE LEFT IN PLACE AT THE DIRECTION OF THE ENGINEER, AS LONG AS THEY ARE NOT WITHIN THE DEPTH OF INFLUENCE OF BUILDING FOUNDATIONS AND DO NOT POSE A CONCERN WITH FUTURE LONG-TERM CONSOLIDATION TO THE FILL TO BE PLACED.
8. GROUNDWATER IN UNCONFINED OR CONFINED AQUIFERS WILL LIKELY BE ENCOUNTERED DURING GRADING ACTIVITIES. SEE GEOTECHNICAL REPORT REFERENCED ON SHEET G0.1 FOR RECOMMENDATIONS ON TEMPORARY AND LONG-TERM GROUNDWATER CONTROL MEASURES. CONTRACTOR SHALL COORDINATE WITH ENGINEER OF RECORD PRIOR TO PLACEMENT OF ANY LONG-TERM GROUNDWATER CONTROL MEASURES.
9. A WRAPPED ROCK DRAIN (SEE DETAIL ON SHEET C3.20) SHALL BE INSTALLED WHERE NEEDED IN EXISTING TRIBUTARIES AND WETLANDS AT THE DIRECTION OF THE ENGINEER OF RECORD.

NOTE: CONTRACTOR TO PROVIDE POSITIVE DRAINAGE DITCHES AND DETENTION PONDS AT A MINIMUM OF 0.33% SLOPE. PROPOSED DETENTION PONDS SHALL BE CONSTRUCTED AT ELEVATION SHOWN ON PLANS.



GRADING AND DRAINAGE
POND EMBANKMENT NOTES

1. THE CONTRACTOR OR OWNER SHALL RETAIN THE SERVICES OF A GEOTECHNICAL CONSULTANT TO PERFORM SOIL TESTING OF THE SOILS TO BE USED TO CONSTRUCT THE EMBANKMENT, AND PERFORM TESTING OF THE EXISTING SOILS IN THE LOCATION OF THE PROPOSED EMBANKMENT. THE GEOTECHNICAL CONSULTANT WILL BE RESPONSIBLE FOR PROVIDING FINAL RECOMMENDATIONS FOR THE CONSTRUCTION OF THE EMBANKMENT INCLUDING FOUNDATION PREPARATION, SOIL SUITABILITY AND COMPACTION.
2. SOILS FOR FILL SHALL BE OF SUFFICIENT CLAY CONTENT AS TO REMAIN RELATIVELY IMPERVIOUS, BUT NOT OF SUCH HIGH CONTENT THAT SIGNIFICANT SWELLING AND SHRINKAGE OCCURS.
3. SOILS SHALL BE RELATIVELY FREE OF LIMESTONE AND HIGH SODIUM.
4. FOR THE FOUNDATION OF THE EMBANKMENT, REMOVE ALL ORGANICS AND TOPSOIL. IF THE FOUNDATION IS OVERLAIN WITH PERVIOUS SANDS OR GRAVELS, OR IN SOME CASES ROCK, INSTALL A CUTOFF TRENCH ALONG THE LENGTH OF THE CENTER OF THE EMBANKMENT AT LEAST 8' WIDE, OR THE WIDTH OF A BULLDOZER BLADE. THE CUTOFF TRENCH SHALL EXTEND AT LEAST 12' DOWN INTO THE UNDERLYING IMPERVIOUS MATERIAL, OR AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT. THE SIDE SLOPES SHALL BE NO STEEPER THAN 1.5:1. IN THE EVENT THAT ROCK IS ENCOUNTERED IN THE CUTOFF TRENCH, CARE SHOULD BE TAKEN TO NOT DISTURB THE ROCK UNTIL IT IS REVIEWED BY THE GEOTECHNICAL CONSULTANT, AND IN NO CASE SHALL BLASTING BE UTILIZED TO REMOVE ROCK FOR A CUTOFF TRENCH. REPLACE MATERIAL IN THE TRENCH WITH SOIL AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT TO PREVENT SEEPAGE AND TO AN ELEVATION IN THE FILL OF THE EMBANKMENT AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT.
5. PLACE FILLS FOR THE EMBANKMENT IN A MINIMUM OF 8"LIFTS COMPACTED TO 98% OF THE MAXIMUM DRY DENSITY OR AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT.
6. CONTRACTOR TO INSTALL 2' BERM ALONG EDGE OF ALL PADS AS SLOPES ARE CONSTRUCTED.
7. CONTRACTOR TO INSTALL TEMPORARY INTERCEPTOR SWALES, AS NECESSARY, TO PROMOTE POSITIVE DRAINAGE AWAY FROM ROUGH GRADING TO DESIGNATED SEDIMENT PONDS.

GRAPHIC SCALE

600 0 300 600 1200 2400

(IN FEET)
1 inch = 600 ft.

SOUTH CAROLINA NOVEMBER 2023 THOMAS & HUTTON ENGINEERING CO. No. C00285 CERTIFICATE OF AUTHORITY

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 28573 MARCUS B. SCHNEIDER

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

OVERALL MASS GRADING & DRAINAGE PLAN

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 600'

C3.0

GRADING AND DRAINAGE
POND EMBANKMENT NOTES

1. THE CONTRACTOR OR OWNER SHALL RETAIN THE SERVICES OF A GEOTECHNICAL CONSULTANT TO PERFORM SOIL TESTING OF THE SOILS TO BE USED TO CONSTRUCT THE EMBANKMENT, AND PERFORM TESTING OF THE EXISTING SOILS IN THE LOCATION OF THE PROPOSED EMBANKMENT. THE GEOTECHNICAL CONSULTANT WILL BE RESPONSIBLE FOR PROVIDING FINAL RECOMMENDATIONS FOR THE CONSTRUCTION OF THE EMBANKMENT INCLUDING FOUNDATION PREPARATION, SOIL SUITABILITY AND COMPACTION.
2. SOILS FOR FILL SHALL BE OF SUFFICIENT CLAY CONTENT AS TO REMAIN RELATIVELY IMPERVIOUS, BUT NOT OF SUCH HIGH CONTENT THAT SIGNIFICANT SWELLING AND SHRINKAGE OCCURS.
3. SOILS SHALL BE RELATIVELY FREE OF LIMESTONE AND HIGH SODIUM.
4. FOR THE FOUNDATION OF THE EMBANKMENT, REMOVE ALL ORGANICS AND TOPSOIL. IF THE FOUNDATION IS OVERLAIN WITH PERVIOUS SANDS OR GRAVELS, OR IN SOME CASES ROCK, INSTALL A CUTOFF TRENCH ALONG THE LENGTH OF THE CENTER OF THE EMBANKMENT AT LEAST 8' WIDE, OR THE WIDTH OF A BULLDOZER BLADE. THE CUTOFF TRENCH SHALL EXTEND AT LEAST 12"DOWN INTO THE UNDERLYING IMPERVIOUS MATERIAL, OR AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT. THE SIDE SLOPES SHALL BE NO STEEPER THAN 1.5:1. IN THE EVENT THAT ROCK IS ENCOUNTERED IN THE CUTOFF TRENCH, CARE SHOULD BE TAKEN TO NOT DISTURB THE ROCK UNTIL IT IS REVIEWED BY THE GEOTECHNICAL CONSULTANT, AND IN NO CASE SHALL BLASTING BE UTILIZED TO REMOVE ROCK FOR A CUTOFF TRENCH. REPLACE MATERIAL IN THE TRENCH WITH SOIL AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT TO PREVENT SEEPAGE AND TO AN ELEVATION IN THE FILL OF THE EMBANKMENT AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT.
5. PLACE FILLS FOR THE EMBANKMENT IN A MINIMUM OF 8"LIFTS COMPACTED TO 98% OF THE MAXIMUM DRY DENSITY OR AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT.
6. PROPOSED BUILDING PADS TO BE COMPLETED IN FUTURE PHASE OF CONSTRUCTION

POND DAM NOTE:
POND DAMS TO BE CONSTRUCTED IN ACCORDANCE WITH SAME DESIGN PROVIDED AS SHEETS G-1, G-2, & G-3 FOR REFERENCE WITHIN THIS PLAN SET.

GRADING AND DRAINAGE

1. CONTRACTOR SHALL ADHERE TO ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/REGULATIONS IN REGARD TO SITE SAFETY WHILE ACCESSING AND WORKING WITH STEEP SLOPES/EMBANKMENTS DURING CONSTRUCTION.
2. PRIOR TO COMMENCING WORK CONTRACTOR SHALL REFER TO GEOTECHNICAL REPORT REFERENCED ON SHEET G0.1 FOR REQUIREMENTS AND CRITERIA RELATED TO EARTHWORK MATERIALS, PROCEDURES, AND METHODS. IF INFORMATION CONTAINED IN THESE PLANS DIFFERS FROM OR NEGATES REQUIREMENTS AND SPECIFICATIONS OUTLINED IN GEOTECHNICAL REPORT, THEN THE ENGINEER OF RECORD SHALL BE NOTIFIED PRIOR TO COMMENCING WORK RELATED TO THIS INFORMATION.
3. WHEN COSTRUCTING FILL SLOPES CONTRACTOR SHALL REMOVE (UNDERCUT) LOOSE MATERIAL FROM THE TOE OF THE PROPOSED FILL SLOPE OR COMPACT IT AS INDICATED IN GEOTECHNICAL REPORT REFERENCED ON SHEET G0.1 PRIOR TO PLACING NEW FILL. THE FILL SLOPES SHALL BE BENCHED INTO EXISTING SLOPING TERRAIN AND ADEQUATELY COMPACTED. FILL SLOPES CONSTRUCTED ALONG EXISTING SLOPES OR EMBANKMENTS STEEPER THAN 4H:1V SHALL HAVE A KEYWAY CONSTRUCTED ALONG THE SLOPE BASE. THE KEYWAY WIDTH SHALL BE AT LEAST 1/2 OF THE PLANNED SLOPE HEIGHT, OR A MINIMUM OF 15 FEET WIDE, AND THE KEYWAY SHALL BE EMBEDDED A MINIMUM OF 2-FEET INTO STIFF TO MEDIUM DENSE SOILS. UPON CONSTRUCTION OF A COMPETENT SLOPE FACE IT SHALL BE PROTECTED FROM EROSION.
4. GROUNDWATER SHALL BE CONTROLLED AT THE LOWEST LEVEL OF SLOPE EXCAVATION WHILE THE EXCAVATION IS OPEN AND SUCH THAT IT DOES NOT FLOW OR EMERGE FROM SOIL EXCAVATION SLOPES.
5. SLOPE CUTOFF DRAINS (SEE DETAIL ON SHEET EC4.4) SHALL BE INSTALLED IN EXCAVATION SLOPES WHERE NEEDED AT THE DIRECTION OF THE GEOTECHNICAL ENGINEER IN THE FIELD. GEOTECHNICAL ENGINEER TO PROVIDE RECOMMENDATION FOR PIPE SIZE BASED ON ASSESSMENT OF FLOW IN THE FIELD.
6. SURFACE WATER SHALL BE CAPTURED BY APPROPRIATE DRAINAGE MEASURES ABOVE SLOPE CRESTS AND NOT ALLOWED TO DRAIN DOWN SLOPES. IF PERCHED GROUNDWATER IS OBSERVED EMERGING FROM THE FACE OF SLOPES OR IF SURFACE WATER IS ADVERSELY AFFECTING SLOPES THE ENGINEER OF RECORD SHOULD BE CONTACTED IMMEDIATELY.
7. ORGANIC MUCK ENCOUNTERED IN AND AROUND EXISTING PONDS, STREAMS, AND WETLANDS IS NOT SUITABLE FOR REUSE AS STRUCTURAL FILL AND THE SATURATED/WATER-SOFTENED MATERIALS REQUIRE EXTENSIVE DRYING AND REWORKING TO BE ABLE TO BE REUSED AS STRUCTURAL FILL. THESE MATERIALS SHALL BE SPREAD AND DRIED, STOCKPILED FOR FUTURE USE IN NON-STRUCTURAL AREAS, WASTED IN DEEP FILL AREAS, OR HAULED OFF-SITE. FOR EXISTING PONDS, STREAMS, AND WETLANDS WITHIN CLOSE PROXIMITY TO THE PLANNED CUT/FILL LINE. THE ORGANIC MUCK AND SATURATED/WATER-SOFTENED SOILS SHALL BE OVER-EXCAVATED AND REPLACED PRIOR TO FILL PLACEMENT OR TO ACHIEVE PLANNED GRADE. IN DEEP FILL AREAS, ORGANIC MUCK AND SATURATED/WATER-SOFTENED SOILS MAY BE LEFT IN PLACE AT THE DIRECTION OF THE ENGINEER, AS LONG AS THEY ARE NOT WITHIN THE DEPTH OF INFLUENCE OF BUILDING FOUNDATIONS AND DO NOT POSE A CONCERN WITH FUTURE LONG-TERM CONSOLIDATION TO THE FILL TO BE PLACED.
8. GROUNDWATER IN UNCONFINED OR CONFINED AQUIFERS WILL LIKELY BE ENCOUNTERED DURING GRADING ACTIVITIES. SEE GEOTECHNICAL REPORT REFERENCED ON SHEET G0.1 FOR RECOMMENDATIONS ON TEMPORARY AND LONG-TERM GROUNDWATER CONTROL MEASURES. CONTRACTOR SHALL COORDINATE WITH ENGINEER OF RECORD PRIOR TO PLACEMENT OF ANY LONG-TERM GROUNDWATER CONTROL MEASURES.
9. A WRAPPED ROCK DRAIN (SEE DETAIL ON SHEET C3.20) SHALL BE INSTALLED WHERE NEEDED IN EXISTING TRIBUTARIES AND WETLANDS AT THE DIRECTION OF THE ENGINEER OF RECORD.

BLYTHEWOOD ROAD (S-59)
4" UGG
LOD
PROJECT BOUNDARY (TYP.)
N/F SARA COOPER PALMER TMS NO. 15100-01-03
N/F ROBERT WILLIAM COOPER TMS NO. 15100-01-08
N/F THOMAS EDWARD COOPER TMS NO. 15100-01-01
ADJACENT LOT TMS NO. 15200-01-28
151 LF 24" RCP @ 0.70%
151 LF 24" RCP @ 0.69%
FES INV.: 488.49
FES INV.: 488.49
FES INV.: 489.54
FES INV.: 489.54
PROPOSED MASS GRADED PAD ±945.1 ACRES ELEV: 483.20
1% ANNUAL CHANCE SFHA FLOODPLAIN: NO FILL WORK SHALL OCCUR WITHIN THE 1% ANNUAL CHANCE SFHA FLOODPLAIN UNTIL RECEIPT OF APPROVED PERMIT.
MATCH LINE - SEE SHEET NO. C3.2
MATCH LINE - SEE SHEET NO. C3.4

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA PROFESSIONAL ENGINEER — THOMAS HUTTON ENGINEERING CO. No. COA0285 — CERTIFICATE OF AUTHORIZATION
SOUTH CAROLINA PROFESSIONAL ENGINEER — No. 28573 — 12-19-2024 — MARCUS B. SCHWARTZ

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

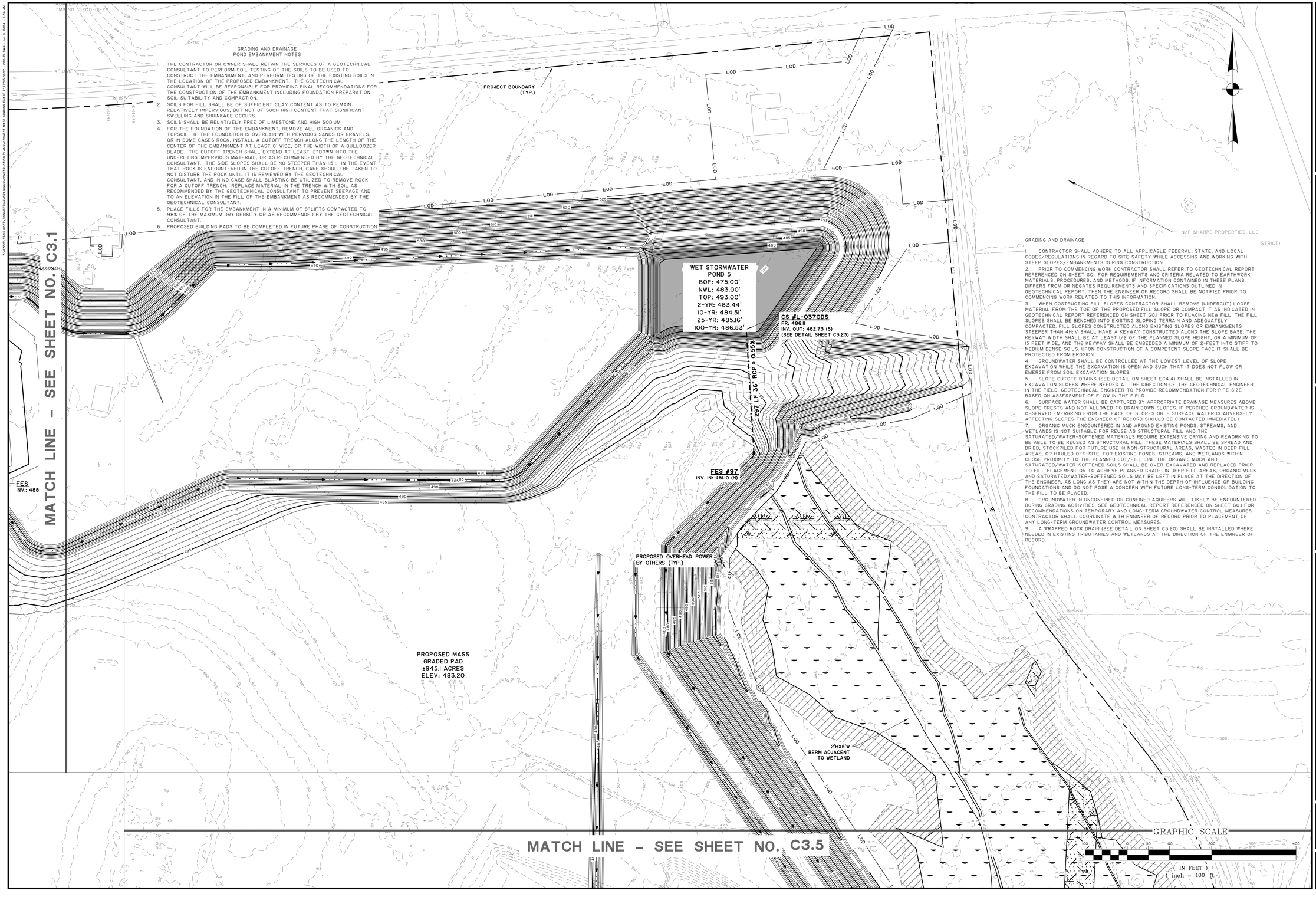
RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

MASS GRADING & DRAINAGE PLAN

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

C3.1



SOUTH CAROLINA NOLTE/ZIEGLER THOMAS & HUTTON ENGINEERING CO. No. C00285 CERTIFICATE OF AUTHORITY

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 28572 MARCUS B. SCHOLL 12-19-2023

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON

1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.4789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

MASS GRADING & DRAINAGE PLAN

JOB NO:	J-2705.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

C3.2

2:\27015\27015.0007\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015007 - PDP-PLANS - Jan 9, 2024 - 9:57 AM

GRADING AND DRAINAGE
POND EMBANKMENT NOTES

1. THE CONTRACTOR OR OWNER SHALL RETAIN THE SERVICES OF A GEOTECHNICAL CONSULTANT TO PERFORM SOIL TESTING OF THE SOILS TO BE USED TO CONSTRUCT THE EMBANKMENT, AND PERFORM TESTING OF THE EXISTING SOILS IN THE LOCATION OF THE PROPOSED EMBANKMENT. THE GEOTECHNICAL CONSULTANT WILL BE RESPONSIBLE FOR PROVIDING FINAL RECOMMENDATIONS FOR THE CONSTRUCTION OF THE EMBANKMENT INCLUDING FOUNDATION PREPARATION, SOIL SUITABILITY AND COMPACTION.
2. SOILS FOR FILL SHALL BE OF SUFFICIENT CLAY CONTENT AS TO REMAIN RELATIVELY IMPERVIOUS, BUT NOT OF SUCH HIGH CONTENT THAT SIGNIFICANT SWELLING AND SHRINKAGE OCCURS.
3. SOILS SHALL BE RELATIVELY FREE OF LIMESTONE AND HIGH SODIUM.
4. FOR THE FOUNDATION OF THE EMBANKMENT, REMOVE ALL ORGANICS AND TOPSOIL. IF THE FOUNDATION IS OVERLAIN WITH PERVIOUS SANDS OR GRAVELS, OR IN SOME CASES ROCK, INSTALL A CUTOFF TRENCH ALONG THE LENGTH OF THE CENTER OF THE EMBANKMENT AT LEAST 8' WIDE, OR THE WIDTH OF A BULLDOZER BLADE. THE CUTOFF TRENCH SHALL EXTEND AT LEAST 12" DOWN INTO THE UNDERLYING IMPERVIOUS MATERIAL, OR AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT. THE SIDE SLOPES SHALL BE NO STEEPER THAN 1.5:1. IN THE EVENT THAT ROCK IS ENCOUNTERED IN THE CUTOFF TRENCH, CARE SHOULD BE TAKEN TO NOT DISTURB THE ROCK UNTIL IT IS REVIEWED BY THE GEOTECHNICAL CONSULTANT, AND IN NO CASE SHALL BLASTING BE UTILIZED TO REMOVE ROCK FOR A CUTOFF TRENCH. REPLACE MATERIAL IN THE TRENCH WITH SOIL AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT TO PREVENT SEEPAGE AND TO AN ELEVATION IN THE FILL OF THE EMBANKMENT AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT.
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6. PROPOSED BUILDING PADS TO BE COMPLETED IN FUTURE PHASE OF CONSTRUCTION

GRADING AND DRAINAGE

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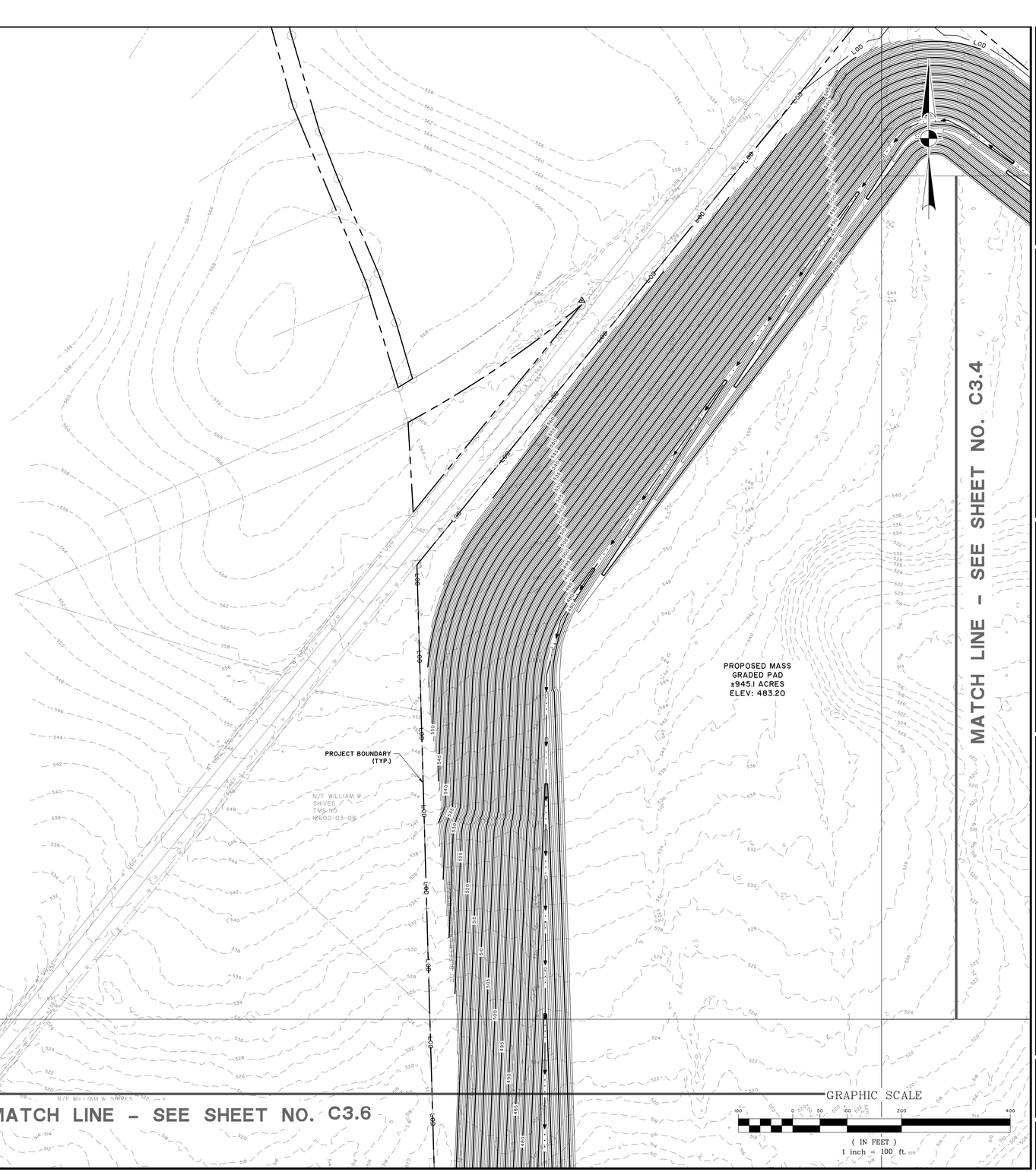
8. GROUNDWATER IN UNCONFINED OR CONFINED AQUIFERS WILL LIKELY BE ENCOUNTERED DURING GRADING ACTIVITIES. SEE GEOTECHNICAL REPORT REFERENCED ON SHEET G0.1 FOR RECOMMENDATIONS ON TEMPORARY AND LONG-TERM GROUNDWATER CONTROL MEASURES. CONTRACTOR SHALL COORDINATE WITH ENGINEER OF RECORD PRIOR TO PLACEMENT OF ANY LONG-TERM GROUNDWATER CONTROL MEASURES.
9. A WRAPPED ROCK DRAIN (SEE DETAIL ON SHEET C3.20) SHALL BE INSTALLED WHERE NEEDED IN EXISTING TRIBUTARIES AND WETLANDS AT THE DIRECTION OF THE ENGINEER OF RECORD.



SOUTH CAROLINA NOLTE CORPORATE CERTIFICATE OF AUTHORITY THOMAS & HUTTON ENGINEERING CO. No. C00285

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 28573 CHRISTOPHER L. KNOX 12/19/2023 REGISTERED PROFESSIONAL ENGINEER

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

MASS GRADING & DRAINAGE PLAN

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

C3.3

MATCH LINE - SEE SHEET NO. C3.1

MATCH LINE - SEE SHEET NO. C3.3

MATCH LINE - SEE SHEET NO. C3.5

MATCH LINE - SEE SHEET NO. C3.7

PROPOSED MASS
GRADED PAD
±945.1 ACRES
ELEV: 483.20

GRADING AND DRAINAGE
POND EMBANKMENT NOTES

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1% ANNUAL CHANCE SFHA FLOODPLAIN: NO FILL WORK SHALL OCCUR WITHIN THE 1% ANNUAL CHANCE SFHA FLOODPLAIN UNTIL RECEIPT OF APPROVED PERMIT.

GRADING AND DRAINAGE

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1% ANNUAL CHANCE SFHA FLOODPLAIN: NO FILL WORK SHALL OCCUR WITHIN THE 1% ANNUAL CHANCE SFHA FLOODPLAIN UNTIL RECEIPT OF APPROVED PERMIT.

IE = 480.82

IE = 480.52

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA
PROFESSIONAL ENGINEER
No. 28573
12-19-2023
MARCUS C. WHITE

SOUTH CAROLINA
NOLTENIUS
THOMAS & HUTTON ENGINEERING CO.
No. COA2285
CERTIFICATE OF AUTHORITY

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
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RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC
PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

MASS GRADING & DRAINAGE PLAN

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DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

C3.4

MATCH LINE - SEE SHEET NO. C3.2

MATCH LINE - SEE SHEET NO. C3.4

GRADING AND DRAINAGE

1. CONTRACTOR SHALL ADHERE TO ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/REGULATIONS IN REGARD TO SITE SAFETY WHILE ACCESSING AND WORKING WITH STEEP SLOPES/EMBANKMENTS DURING CONSTRUCTION.
2. PRIOR TO COMMENCING WORK CONTRACTOR SHALL REFER TO GEOTECHNICAL REPORT REFERENCED ON SHEET G0.1 FOR REQUIREMENTS AND CRITERIA RELATED TO EARTHWORK MATERIALS, PROCEDURES, AND METHODS. IF INFORMATION CONTAINED IN THESE PLANS DIFFERS FROM OR NEGATES REQUIREMENTS AND SPECIFICATIONS OUTLINED IN GEOTECHNICAL REPORT, THEN THE ENGINEER OF RECORD SHALL BE NOTIFIED PRIOR TO COMMENCING WORK RELATED TO THIS INFORMATION.
3. WHEN CONSTRUCTING FILL SLOPES CONTRACTOR SHALL REMOVE (UNDERCUT) LOOSE MATERIAL FROM THE TOE OF THE PROPOSED FILL SLOPE OR COMPACT IT AS INDICATED IN GEOTECHNICAL REPORT REFERENCED ON SHEET G0.1 PRIOR TO PLACING NEW FILL. THE FILL SLOPES SHALL BE BENCHED INTO EXISTING SLOPING TERRAIN AND ADEQUATELY COMPACTED. FILL SLOPES CONSTRUCTED ALONG EXISTING SLOPES OR EMBANKMENTS STEEPER THAN 4H:1V SHALL HAVE A KEYWAY CONSTRUCTED ALONG THE SLOPE BASE. THE KEYWAY WIDTH SHALL BE AT LEAST 1/2 OF THE PLANNED SLOPE HEIGHT, OR A MINIMUM OF 15 FEET WIDE, AND THE KEYWAY SHALL BE EMBEDDED A MINIMUM OF 2-FEET INTO STIFF TO MEDIUM DENSE SOILS. UPON CONSTRUCTION OF A COMPETENT SLOPE FACE IT SHALL BE PROTECTED FROM EROSION.
4. GROUNDWATER SHALL BE CONTROLLED AT THE LOWEST LEVEL OF SLOPE EXCAVATION WHILE THE EXCAVATION IS OPEN AND SUCH THAT IT DOES NOT FLOW OR EMERGE FROM SOIL EXCAVATION SLOPES.
5. SLOPE CUTOFF DRAINS (SEE DETAIL ON SHEET EC4.4) SHALL BE INSTALLED IN EXCAVATION SLOPES WHERE NEEDED AT THE DIRECTION OF THE GEOTECHNICAL ENGINEER IN THE FIELD. GEOTECHNICAL ENGINEER TO PROVIDE RECOMMENDATION FOR PIPE SIZE BASED ON ASSESSMENT OF FLOW IN THE FIELD.
6. SURFACE WATER SHALL BE CAPTURED BY APPROPRIATE DRAINAGE MEASURES ABOVE SLOPE CRESTS AND NOT ALLOWED TO DRAIN DOWN SLOPES. IF PERCHED GROUNDWATER IS OBSERVED EMERGING FROM THE FACE OF SLOPES OR IF SURFACE WATER IS ADVERSELY AFFECTING SLOPES THE ENGINEER OF RECORD SHOULD BE CONTACTED IMMEDIATELY.
7. ORGANIC MUCK ENCOUNTERED IN AND AROUND EXISTING PONDS, STREAMS, AND WETLANDS IS NOT SUITABLE FOR REUSE AS STRUCTURAL FILL AND THE SATURATED/WATER-SOFTENED MATERIALS REQUIRE EXTENSIVE DRYING AND REWORKING TO BE ABLE TO BE REUSED AS STRUCTURAL FILL. THESE MATERIALS SHALL BE SPREAD AND DRIED, STOCKPILED FOR FUTURE USE IN NON-STRUCTURAL AREAS, WASTED IN DEEP FILL AREAS, OR HAULED OFF-SITE. FOR EXISTING PONDS, STREAMS, AND WETLANDS WITHIN CLOSE PROXIMITY TO THE PLANNED CUT/FILL LINE THE ORGANIC MUCK AND SATURATED/WATER-SOFTENED SOILS SHALL BE OVER-EXCAVATED AND REPLACED PRIOR TO FILL PLACEMENT OR TO ACHIEVE PLANNED GRADE. IN DEEP FILL AREAS, ORGANIC MUCK AND SATURATED/WATER-SOFTENED SOILS MAY BE LEFT IN PLACE AT THE DIRECTION OF THE ENGINEER, AS LONG AS THEY ARE NOT WITHIN THE DEPTH OF INFLUENCE OF BUILDING FOUNDATIONS AND DO NOT POSE A CONCERN WITH FUTURE LONG-TERM CONSOLIDATION TO THE FILL TO BE PLACED.
8. GROUNDWATER IN UNCONFINED OR CONFINED AQUIFERS WILL LIKELY BE ENCOUNTERED DURING GRADING ACTIVITIES. SEE GEOTECHNICAL REPORT REFERENCED ON SHEET G0.1 FOR RECOMMENDATIONS ON TEMPORARY AND LONG-TERM GROUNDWATER CONTROL MEASURES. CONTRACTOR SHALL COORDINATE WITH ENGINEER OF RECORD PRIOR TO PLACEMENT OF ANY LONG-TERM GROUNDWATER CONTROL MEASURES.
9. A WRAPPED ROCK DRAIN (SEE DETAIL ON SHEET C3.20) SHALL BE INSTALLED WHERE NEEDED IN EXISTING TRIBUTARIES AND WETLANDS AT THE DIRECTION OF THE ENGINEER OF RECORD.

PROPOSED MASS
GRADED PAD
±945.1 ACRES
ELEV: 483.20

#86
INV. OUT: 472.41 (S)

110 LF 48" HDPE
@ 0.35%

#87
INV. IN: 472.02 (N)

GRADING AND DRAINAGE
POND EMBANKMENT NOTES

1. THE CONTRACTOR OR OWNER SHALL RETAIN THE SERVICES OF A GEOTECHNICAL CONSULTANT TO PERFORM SOIL TESTING OF THE SOILS TO BE USED TO CONSTRUCT THE EMBANKMENT, AND PERFORM TESTING OF THE EXISTING SOILS IN THE LOCATION OF THE PROPOSED EMBANKMENT. THE GEOTECHNICAL CONSULTANT WILL BE RESPONSIBLE FOR PROVIDING FINAL RECOMMENDATIONS FOR THE CONSTRUCTION OF THE EMBANKMENT INCLUDING FOUNDATION PREPARATION, SOIL SUITABILITY AND COMPACTION.
2. SOILS FOR FILL SHALL BE OF SUFFICIENT CLAY CONTENT AS TO REMAIN RELATIVELY IMPERVIOUS, BUT NOT OF SUCH HIGH CONTENT THAT SIGNIFICANT SWELLING AND SHRINKAGE OCCURS.
3. SOILS SHALL BE RELATIVELY FREE OF LIMESTONE AND HIGH SODIUM.
4. FOR THE FOUNDATION OF THE EMBANKMENT, REMOVE ALL ORGANICS AND TOPSOIL. IF THE FOUNDATION IS OVERLAIN WITH PERVIOUS SANDS OR GRAVELS, OR IN SOME CASES ROCK, INSTALL A CUTOFF TRENCH ALONG THE LENGTH OF THE CENTER OF THE EMBANKMENT AT LEAST 8' WIDE, OR THE WIDTH OF A BULLDOZER BLADE. THE CUTOFF TRENCH SHALL EXTEND AT LEAST 12"DOWN INTO THE UNDERLYING IMPERVIOUS MATERIAL, OR AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT. THE SIDE SLOPES SHALL BE NO STEEPER THAN 1:1. IN THE EVENT THAT ROCK IS ENCOUNTERED IN THE CUTOFF TRENCH, CARE SHOULD BE TAKEN TO NOT DISTURB THE ROCK UNTIL IT IS REVIEWED BY THE GEOTECHNICAL CONSULTANT, AND IN NO CASE SHALL BLASTING BE UTILIZED TO REMOVE ROCK FOR A CUTOFF TRENCH. REPLACE MATERIAL IN THE TRENCH WITH SOIL AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT TO PREVENT SEEPAGE AND TO AN ELEVATION IN THE FILL OF THE EMBANKMENT AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT.
5. PLACE FILLS FOR THE EMBANKMENT IN A MINIMUM OF 8"LIFTS COMPACTED TO 98% OF THE MAXIMUM DRY DENSITY OR AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT.
6. PROPOSED BUILDING PADS TO BE COMPLETED IN FUTURE PHASE OF CONSTRUCTION

PROJECT BOUNDARY (TYP.)

PROPOSED OVERHEAD POWER BY OTHERS (TYP.)

INTERSTATE 77

MATCH LINE - SEE SHEET NO. C3.8

GRAPHIC SCALE
1" = 100'

GRADING AND DRAINAGE
CODE
STEEP SLOPES/EMBANKMENTS DURING CONSTRUCTION.
2. PRIOR TO COMMENCING WORK CONT(IN FEET), REFER TO GEOTECHNICAL REPORT REFERENCED ON SHEET G0.1 FOR REQ1 inch = 100 ft.TERIA RELATED TO EARTHWORK MATERIALS, PROCEDURES, AND METHODS. IF INFORMATION CONTAINED IN THESE PLANS DIFFERS FROM OR NEGATES REQUIREMENTS AND SPECIFICATIONS OUTLINED IN

SOUTH CAROLINA
NOLAN KEITH MARCHESE
THOMAS & HUTTON ENGINEERING CO.
No. C00285
CERTIFICATE OF AUTHORITY

SOUTH CAROLINA
PROFESSIONAL ENGINEER
NOLAN KEITH MARCHESE
No. 28573
12-11-2023

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

MASS GRADING & DRAINAGE PLAN

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

C3.5

2:\27015\07\05\DOT\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONSTRUCTION PLANS\CONSTRUCTION PLANS\SHEETS\ MASS GRADING PHASE 2 27015.DGT - PDF PLOTS - Jan 19, 2024 - 9:57 AM

MATCH LINE – SEE SHEET NO. C3.3

GRADING AND DRAINAGE
POND EMBANKMENT NOTES

1. THE CONTRACTOR OR OWNER SHALL RETAIN THE SERVICES OF A GEOTECHNICAL CONSULTANT TO PERFORM SOIL TESTING OF THE SOILS TO BE USED TO CONSTRUCT THE EMBANKMENT, AND PERFORM TESTING OF THE EXISTING SOILS IN THE LOCATION OF THE PROPOSED EMBANKMENT. THE GEOTECHNICAL CONSULTANT WILL BE RESPONSIBLE FOR PROVIDING FINAL RECOMMENDATIONS FOR THE CONSTRUCTION OF THE EMBANKMENT INCLUDING FOUNDATION PREPARATION, SOIL SUITABILITY AND COMPACTION.
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GRADING AND DRAINAGE

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5. SLOPE CUTOFF DRAINS (SEE DETAIL ON SHEET EC4.4) SHALL BE INSTALLED IN EXCAVATION SLOPES WHERE NEEDED AT THE DIRECTION OF THE GEOTECHNICAL ENGINEER IN THE FIELD. GEOTECHNICAL ENGINEER TO PROVIDE RECOMMENDATION FOR PIPE SIZE BASED ON ASSESSMENT OF FLOW IN THE FIELD.
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9. A WRAPPED ROCK DRAIN (SEE DETAIL ON SHEET C3.20) SHALL BE INSTALLED WHERE NEEDED IN EXISTING TRIBUTARIES AND WETLANDS AT THE DIRECTION OF THE ENGINEER OF RECORD.

N/F WILLIAM W. SIMMES
TMS NO. 12600-03-10

PROJECT BOUNDARY (TYP.)

50' LAND-USE BUFFER

LOD

4' UCB (LYTHEWOOD ROAD (S-39)

30' LANDUSE BUFFER

2'HX5'W BERM ADJACENT TO WETLAND

POND NOTE: POND DAMS REGULATED BY SCDHEC SHALL NOT BE CONSTRUCTED UNTIL RECEIPT OF APPROVED PERMIT.

WET STORMWATER POND 1
BOP: 438.20'
NWL: 442.20'
TOP: 448.70'
2-YR: 443.82'
10-YR: 444.79'
25-YR: 445.38'
100-YR: 446.26'

PROPOSED MASS GRADED PAD
±945.1 ACRES
ELEV: 483.20

#69
INV. IN: 455.85 (E)

MATCH LINE – SEE SHEET NO. C3.9

MATCH LINE – SEE SHEET NO. C3.7

GRAPHIC SCALE
100 50 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA
PROFESSIONAL ENGINEER
THOMAS & HUTTON ENGINEERING CO.
No. C00285
CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA
PROFESSIONAL ENGINEER
No. 28573
MARCUS B. SHEALY
12-19-24

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

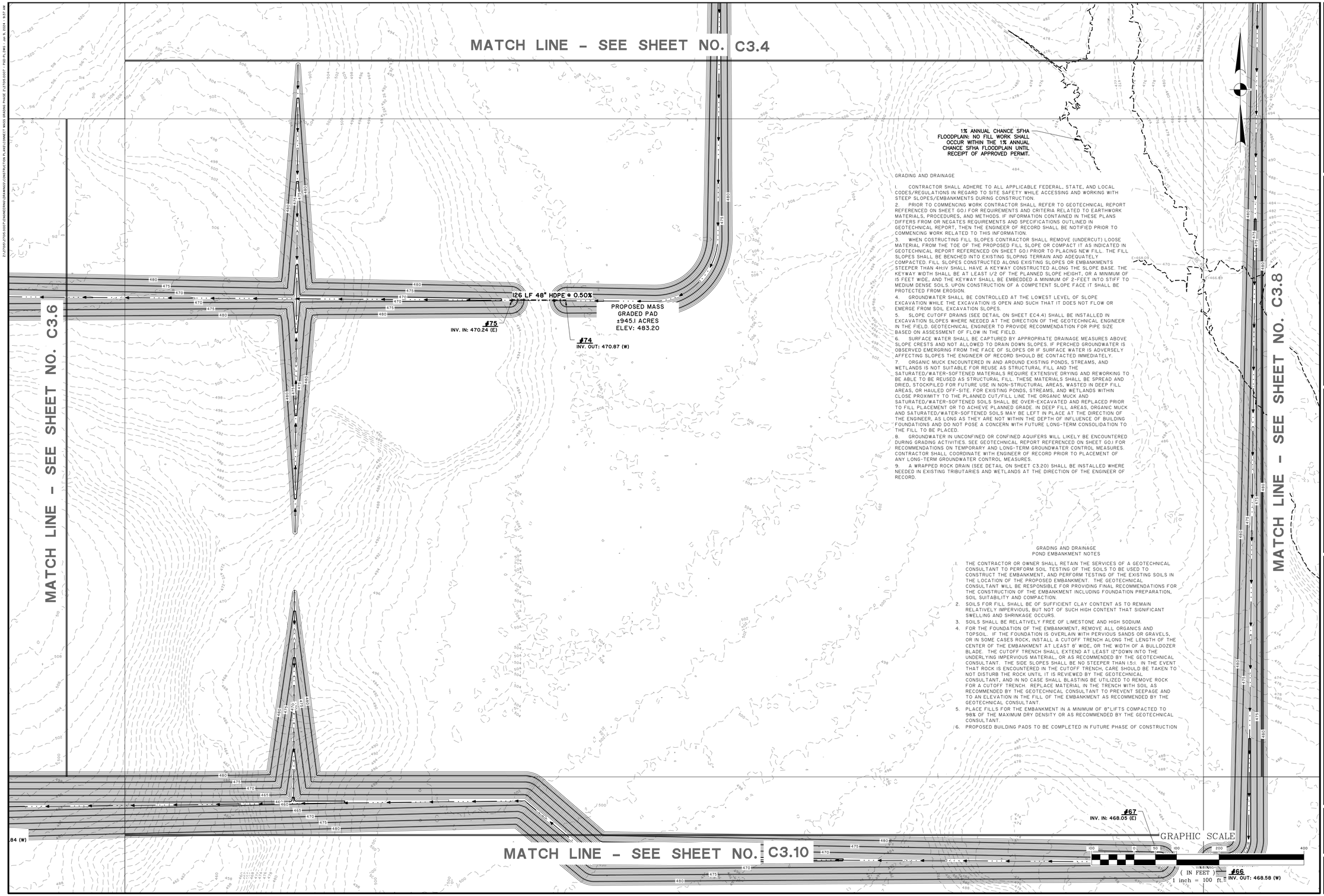
RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

MASS GRADING & DRAINAGE PLAN

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

C3.6



GRADING AND DRAINAGE

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9. A WRAPPED ROCK DRAIN (SEE DETAIL ON SHEET C3.20) SHALL BE INSTALLED WHERE NEEDED IN EXISTING TRIBUTARIES AND WETLANDS AT THE DIRECTION OF THE ENGINEER OF RECORD.

GRADING AND DRAINAGE
POND EMBANKMENT NOTES

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SOUTH CAROLINA
NOLAN CLARK
THOMAS & HUTTON ENGINEERING CO.
No. C00285
CERTIFICATE OF AUTHORITY

SOUTH CAROLINA
PROFESSIONAL ENGINEER
No. 28573
12-19-2023
MARCH 31, 2024
REGISTRATION EXPIRES

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 740
Columbia, SC 29201 • 803.451.6789
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RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

MASS GRADING & DRAINAGE PLAN

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

C3.7

MATCH LINE - SEE SHEET NO. C3.5

#87
INV. IN: 472.02 (N)

GRADING AND DRAINAGE
POND EMBANKMENT NOTES

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4. FOR THE FOUNDATION OF THE EMBANKMENT, REMOVE ALL ORGANICS AND TOPSOIL. IF THE FOUNDATION IS OVERLAIN WITH PERVIOUS SANDS OR GRAVELS, OR IN SOME CASES ROCK, INSTALL A CUTOFF TRENCH ALONG THE LENGTH OF THE CENTER OF THE EMBANKMENT AT LEAST 8' WIDE, OR THE WIDTH OF A BULLDOZER BLADE. THE CUTOFF TRENCH SHALL EXTEND AT LEAST 12"DOWN INTO THE UNDERLYING IMPERVIOUS MATERIAL, OR AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT. THE SIDE SLOPES SHALL BE NO STEEPER THAN 1:5:1. IN THE EVENT THAT ROCK IS ENCOUNTERED IN THE CUTOFF TRENCH, CARE SHOULD BE TAKEN TO NOT DISTURB THE ROCK UNTIL IT IS REVIEWED BY THE GEOTECHNICAL CONSULTANT, AND IN NO CASE SHALL BLASTING BE UTILIZED TO REMOVE ROCK FOR A CUTOFF TRENCH. REPLACE MATERIAL IN THE TRENCH WITH SOIL AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT TO PREVENT SEEPAGE AND TO AN ELEVATION IN THE FILL OF THE EMBANKMENT AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT.
5. PLACE FILLS FOR THE EMBANKMENT IN A MINIMUM OF 8"LIFTS COMPACTED TO 98% OF THE MAXIMUM DRY DENSITY OR AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT.
6. PROPOSED BUILDING PADS TO BE COMPLETED IN FUTURE PHASE OF CONSTRUCTION

PROPOSED MASS GRADED PAD
±945.1 ACRES
ELEV: 483.20

GRADING AND DRAINAGE

1. CONTRACTOR SHALL ADHERE TO ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/REGULATIONS IN REGARD TO SITE SAFETY WHILE ACCESSING AND WORKING WITH STEEP SLOPES/EMBANKMENTS DURING CONSTRUCTION.
2. PRIOR TO COMMENCING WORK CONTRACTOR SHALL REFER TO GEOTECHNICAL REPORT REFERENCED ON SHEET G0.1 FOR REQUIREMENTS AND CRITERIA RELATED TO EARTHWORK MATERIALS, PROCEDURES, AND METHODS. IF INFORMATION CONTAINED IN THESE PLANS DIFFERS FROM OR NEGATES REQUIREMENTS AND SPECIFICATIONS OUTLINED IN GEOTECHNICAL REPORT, THEN THE ENGINEER OF RECORD SHALL BE NOTIFIED PRIOR TO COMMENCING WORK RELATED TO THIS INFORMATION.
3. WHEN CONSTRUCTING FILL SLOPES CONTRACTOR SHALL REMOVE (UNDERCUT) LOOSE MATERIAL FROM THE TOE OF THE PROPOSED FILL SLOPE OR CONTACT IT AS INDICATED IN GEOTECHNICAL REPORT REFERENCED ON SHEET G0.1 PRIOR TO PLACING NEW FILL. THE FILL SLOPES SHALL BE BENCHED INTO EXISTING SLOPING TERRAIN AND ADEQUATELY COMPACTED. FILL SLOPES CONSTRUCTED ALONG EXISTING SLOPES OR EMBANKMENTS STEEPER THAN 4H:1V SHALL HAVE A KEYWAY CONSTRUCTED ALONG THE SLOPE BASE. THE KEYWAY WIDTH SHALL BE AT LEAST 1/2 OF THE PLANNED SLOPE HEIGHT, OR A MINIMUM OF 15 FEET WIDE, AND THE KEYWAY SHALL BE EMBEDDED A MINIMUM OF 2-FEET INTO STIFF TO MEDIUM DENSE SOILS. UPON CONSTRUCTION OF A COMPETENT SLOPE FACE IT SHALL BE PROTECTED FROM EROSION.
4. GROUNDWATER SHALL BE CONTROLLED AT THE LOWEST LEVEL OF SLOPE EXCAVATION WHILE THE EXCAVATION IS OPEN AND SUCH THAT IT DOES NOT FLOW OR EMERGE FROM SOIL EXCAVATION SLOPES.
5. SLOPE CUTOFF DRAINS (SEE DETAIL ON SHEET EC4.4) SHALL BE INSTALLED IN EXCAVATION SLOPES WHERE NEEDED AT THE DIRECTION OF THE GEOTECHNICAL ENGINEER IN THE FIELD. GEOTECHNICAL ENGINEER TO PROVIDE RECOMMENDATION FOR PIPE SIZE BASED ON ASSESSMENT OF FLOW IN THE FIELD.
6. SURFACE WATER SHALL BE CAPTURED BY APPROPRIATE DRAINAGE MEASURES ABOVE SLOPE CRESTS AND NOT ALLOWED TO DRAIN DOWN SLOPES. IF PERCHED GROUNDWATER IS OBSERVED EMERGING FROM THE FACE OF SLOPES OR IF SURFACE WATER IS ADVERSELY AFFECTING SLOPES THE ENGINEER OF RECORD SHOULD BE CONTACTED IMMEDIATELY.
7. ORGANIC MUCK ENCOUNTERED IN AND AROUND EXISTING PONDS, STREAMS, AND WETLANDS IS NOT SUITABLE FOR REUSE AS STRUCTURAL FILL AND THE SATURATED/WATER-SOFTENED MATERIALS REQUIRE EXTENSIVE DRYING AND REWORKING TO BE ABLE TO BE REUSED AS STRUCTURAL FILL. THESE MATERIALS SHALL BE SPREAD AND DRIED, STOCKPILED FOR FUTURE USE IN NON-STRUCTURAL AREAS, WASTED IN DEEP FILL AREAS, OR HAULED OFF-SITE. FOR EXISTING PONDS, STREAMS, AND WETLANDS WITHIN CLOSE PROXIMITY TO THE PLANNED CUT/FILL LINE THE ORGANIC MUCK AND SATURATED/WATER-SOFTENED SOILS SHALL BE OVER-EXCAVATED AND REPLACED PRIOR TO FILL PLACEMENT OR TO ACHIEVE PLANNED GRADE. IN DEEP FILL AREAS, ORGANIC MUCK AND SATURATED/WATER-SOFTENED SOILS MAY BE LEFT IN PLACE AT THE DIRECTION OF THE ENGINEER, AS LONG AS THEY ARE NOT WITHIN THE DEPTH OF INFLUENCE OF BUILDING FOUNDATIONS AND DO NOT POSE A CONCERN WITH FUTURE LONG-TERM CONSOLIDATION TO THE FILL TO BE PLACED.
8. GROUNDWATER IN UNCONFINED OR CONFINED AQUIFERS WILL LIKELY BE ENCOUNTERED DURING GRADING ACTIVITIES. SEE GEOTECHNICAL REPORT REFERENCED ON SHEET G0.1 FOR RECOMMENDATIONS ON TEMPORARY AND LONG-TERM GROUNDWATER CONTROL MEASURES. CONTRACTOR SHALL COORDINATE WITH ENGINEER OF RECORD PRIOR TO PLACEMENT OF ANY LONG-TERM GROUNDWATER CONTROL MEASURES.
9. A WRAPPED ROCK DRAIN (SEE DETAIL ON SHEET C3.20) SHALL BE INSTALLED WHERE NEEDED IN EXISTING TRIBUTARIES AND WETLANDS AT THE DIRECTION OF THE ENGINEER OF RECORD.

WET STORMWATER
POND 2
BOP: 450.50'
NWL: 455.00'
TOP: 466.00'
2-YR: 457.86'
10-YR: 459.33'
25-YR: 460.17'
100-YR: 461.48'

POND NOTE: POND DAMS REGULATED BY SCDHEC SHALL NOT BE CONSTRUCTED UNTIL RECEIPT OF APPROVED PERMIT.

PROPERTY BOUNDARY (TYP.)

PROPOSED OVERHEAD POWER BY OTHERS (TYP.)

1% ANNUAL CHANCE SFHA FLOODPLAIN: NO FILL WORK SHALL OCCUR WITHIN THE 1% ANNUAL CHANCE SFHA FLOODPLAIN UNTIL RECEIPT OF APPROVED PERMIT.

POND NOTE: POND DAMS REGULATED BY SCDHEC SHALL NOT BE CONSTRUCTED UNTIL RECEIPT OF APPROVED PERMIT.

CS #L-0340DS
FR: 464.00
INV. OUT: 450.50 (SE)
(SEE DETAIL SHEET C3.24)
82 LF 24" RCP
@ 9.94%

400' WIDE EMERGENCY SPILLWAY
INV 464.00'
3:1 SIDE SLOPES

SMH #2A
FR: 456.36
INV. IN: 442.31 (NW)
INV. OUT: 436.31 (SE)

55 LF 24" RCP
@ 4.18%

FES #36
INV. IN: 434.00 (NW)

#66
INV. OUT: 468.58 (W)

MATCH LINE - SEE SHEET NO. C3.7

MATCH LINE - SEE SHEET NO. C3.11

GRAPHIC SCALE
(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA
NOLTE ASSOCIATES
THOMAS HUTTON ENGINEERING
No. C00285
CERTIFICATE OF AUTHORITY

SOUTH CAROLINA
PROFESSIONAL ENGINEER
No. 28572
MARCUS B. SIMPSON
12-19-2024

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 740
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

MASS GRADING & DRAINAGE PLAN

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

C3.8

GRADING AND DRAINAGE
POND EMBANKMENT NOTES

1. THE CONTRACTOR OR OWNER SHALL RETAIN THE SERVICES OF A GEOTECHNICAL CONSULTANT TO PERFORM SOIL TESTING OF THE SOILS TO BE USED TO CONSTRUCT THE EMBANKMENT, AND PERFORM TESTING OF THE EXISTING SOILS IN THE LOCATION OF THE PROPOSED EMBANKMENT. THE GEOTECHNICAL CONSULTANT WILL BE RESPONSIBLE FOR PROVIDING FINAL RECOMMENDATIONS FOR THE CONSTRUCTION OF THE EMBANKMENT INCLUDING FOUNDATION PREPARATION, SOIL SUITABILITY AND COMPACTION.
2. SOILS FOR FILL SHALL BE OF SUFFICIENT CLAY CONTENT AS TO REMAIN RELATIVELY IMPERVIOUS, BUT NOT OF SUCH HIGH CONTENT THAT SIGNIFICANT SWELLING AND SHRINKAGE OCCURS.
3. SOILS SHALL BE RELATIVELY FREE OF LIMESTONE AND HIGH SODIUM.
4. FOR THE FOUNDATION OF THE EMBANKMENT, REMOVE ALL ORGANICS AND TOPSOIL. IF THE FOUNDATION IS OVERLAIN WITH PERVIOUS SANDS OR GRAVELS, OR IN SOME CASES ROCK, INSTALL A CUTOFF TRENCH ALONG THE LENGTH OF THE CENTER OF THE EMBANKMENT AT LEAST 8' WIDE, OR THE WIDTH OF A BULLDOZER BLADE. THE CUTOFF TRENCH SHALL EXTEND AT LEAST 12"DOWN INTO THE UNDERLYING IMPERVIOUS MATERIAL, OR AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT. THE SIDE SLOPES SHALL BE NO STEEPER THAN 1:1. IN THE EVENT THAT ROCK IS ENCOUNTERED IN THE CUTOFF TRENCH, CARE SHOULD BE TAKEN TO NOT DISTURB THE ROCK UNTIL IT IS REVIEWED BY THE GEOTECHNICAL CONSULTANT, AND IN NO CASE SHALL BLASTING BE UTILIZED TO REMOVE ROCK FOR A CUTOFF TRENCH. REPLACE MATERIAL IN THE TRENCH WITH SOIL AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT TO PREVENT SEEPAGE AND TO AN ELEVATION IN THE FILL OF THE EMBANKMENT AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT.
5. PLACE FILLS FOR THE EMBANKMENT IN A MINIMUM OF 8" LIFTS COMPACTED TO 98% OF THE MAXIMUM DRY DENSITY OR AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT.
6. PROPOSED BUILDING PADS TO BE COMPLETED IN FUTURE PHASE OF CONSTRUCTION

GRADING AND DRAINAGE

1. CONTRACTOR SHALL ADHERE TO ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/REGULATIONS IN REGARD TO SITE SAFETY WHILE ACCESSING AND WORKING WITH STEEP SLOPES/EMBANKMENTS DURING CONSTRUCTION.
2. PRIOR TO COMMENCING WORK CONTRACTOR SHALL REFER TO GEOTECHNICAL REPORT REFERENCED ON SHEET G0.1 FOR REQUIREMENTS AND CRITERIA RELATED TO EARTHWORK MATERIALS, PROCEDURES, AND METHODS. IF INFORMATION CONTAINED IN THESE PLANS DIFFERS FROM OR NEGATES REQUIREMENTS AND SPECIFICATIONS OUTLINED IN GEOTECHNICAL REPORT, THEN THE ENGINEER OF RECORD SHALL BE NOTIFIED PRIOR TO COMMENCING WORK RELATED TO THIS INFORMATION.
3. WHEN CONSTRUCTING FILL SLOPES CONTRACTOR SHALL REMOVE (UNDERCUT) LOOSE MATERIAL FROM THE TOE OF THE PROPOSED FILL SLOPE OR COMPACT IT AS INDICATED IN GEOTECHNICAL REPORT REFERENCED ON SHEET G0.1 PRIOR TO PLACING NEW FILL. THE FILL SLOPES SHALL BE BENCHED INTO EXISTING SLOPING TERRAIN AND ADEQUATELY COMPACTED. FILL SLOPES CONSTRUCTED ALONG EXISTING SLOPES OR EMBANKMENTS STEEPER THAN 4H:1V SHALL HAVE A KEYWAY CONSTRUCTED ALONG THE SLOPE BASE. THE KEYWAY WIDTH SHALL BE AT LEAST 1/2 OF THE PLANNED SLOPE HEIGHT, OR A MINIMUM OF 15 FEET WIDE, AND THE KEYWAY SHALL BE EMBEDDED A MINIMUM OF 2-FEET INTO STIFF TO MEDIUM DENSE SOILS. UPON CONSTRUCTION OF A COMPETENT SLOPE FACE IT SHALL BE PROTECTED FROM EROSION.
4. GROUNDWATER SHALL BE CONTROLLED AT THE LOWEST LEVEL OF SLOPE EXCAVATION WHILE THE EXCAVATION IS OPEN AND SUCH THAT IT DOES NOT FLOW OR EMERGE FROM SOIL EXCAVATION SLOPES.
5. SLOPE CUTOFF DRAINS (SEE DETAIL ON SHEET EC4.4) SHALL BE INSTALLED IN EXCAVATION SLOPES WHERE NEEDED AT THE DIRECTION OF THE GEOTECHNICAL ENGINEER IN THE FIELD. GEOTECHNICAL ENGINEER TO PROVIDE RECOMMENDATION FOR PIPE SIZE BASED ON ASSESSMENT OF FLOW IN THE FIELD.
6. SURFACE WATER SHALL BE CAPTURED BY APPROPRIATE DRAINAGE MEASURES ABOVE SLOPE CRESTS AND NOT ALLOWED TO DRAIN DOWN SLOPES. IF PERCHED GROUNDWATER IS OBSERVED EMERGING FROM THE FACE OF SLOPES OR IF SURFACE WATER IS ADVERSELY AFFECTING SLOPES THE ENGINEER OF RECORD SHOULD BE CONTACTED IMMEDIATELY.
7. ORGANIC MUCK ENCOUNTERED IN AND AROUND EXISTING PONDS, STREAMS, AND WETLANDS IS NOT SUITABLE FOR REUSE AS STRUCTURAL FILL AND THE SATURATED/WATER-SOFTENED MATERIALS REQUIRE EXTENSIVE DRYING AND REWORKING TO BE ABLE TO BE REUSED AS STRUCTURAL FILL. THESE MATERIALS SHALL BE SPREAD AND DRIED, STOCKPILED FOR FUTURE USE IN NON-STRUCTURAL AREAS, WASTED IN DEEP FILL AREAS, OR HAULED OFF-SITE. FOR EXISTING PONDS, STREAMS, AND WETLANDS WITHIN CLOSE PROXIMITY TO THE PLANNED CUT/FILL LINE THE ORGANIC MUCK AND SATURATED/WATER-SOFTENED SOILS SHALL BE OVER-EXCAVATED AND REPLACED PRIOR TO FILL PLACEMENT OR TO ACHIEVE PLANNED GRADE. IN DEEP FILL AREAS, ORGANIC MUCK AND SATURATED/WATER-SOFTENED SOILS MAY BE LEFT IN PLACE AT THE DIRECTION OF THE ENGINEER, AS LONG AS THEY ARE NOT WITHIN THE DEPTH OF INFLUENCE OF BUILDING FOUNDATIONS AND DO NOT POSE A CONCERN WITH FUTURE LONG-TERM CONSOLIDATION TO THE FILL TO BE PLACED.
8. GROUNDWATER IN UNCONFINED OR CONFINED AQUIFERS WILL LIKELY BE ENCOUNTERED DURING GRADING ACTIVITIES. SEE GEOTECHNICAL REPORT REFERENCED ON SHEET G0.1 FOR RECOMMENDATIONS ON TEMPORARY AND LONG-TERM GROUNDWATER CONTROL MEASURES. CONTRACTOR SHALL COORDINATE WITH ENGINEER OF RECORD PRIOR TO PLACEMENT OF ANY LONG-TERM GROUNDWATER CONTROL MEASURES.
9. A WRAPPED ROCK DRAIN (SEE DETAIL ON SHEET C3.20) SHALL BE INSTALLED WHERE NEEDED IN EXISTING TRIBUTARIES AND WETLANDS AT THE DIRECTION OF THE ENGINEER OF RECORD.

PROPERTY BOUNDARY (TYP.)

BUMBLEBEE CT (50' R/W)

50' BUFFER AND WATER RIGHT-OF-WAY

WET STORMWATER POND 1
BOP: 438.20'
NWL: 442.20'
TOP: 448.70'
2-YR: 443.82'
10-YR: 444.79'
25-YR: 445.38'
100-YR: 446.26'

POND NOTE: POND DAMS REGULATED BY SCDHEC SHALL NOT BE CONSTRUCTED UNTIL RECEIPT OF APPROVED PERMIT.

CS #L-0410DS
FR: 443.12
INV. OUT: 439.20 (SE)
(SEE DETAIL SHEET C3.24)

300' WIDE EMERGENCY SPILLWAY
INV 446.20'
3:1 SIDE SLOPES

66 LF 36" RCP @ 3.25%

FES #34
INV. IN: 437.04 (NW)

EXISTING POND

1% ANNUAL CHANCE SFHA FLOODPLAIN: NO FILL WORK SHALL OCCUR WITHIN THE 1% ANNUAL CHANCE SFHA FLOODPLAIN UNTIL RECEIPT OF APPROVED PERMIT.

#69
INV. IN: 455.85 (E)

198 LF 60" HDPE @ 0.50%

#68
INV. OUT: 456.84 (W)

PROPOSED MASS GRADED PAD
±945.1 ACRES
ELEV: 483.20

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

MATCH LINE - SEE SHEET NO. C3.10

MATCH LINE - SEE SHEET NO. C3.12

SOUTH CAROLINA NOLTE/ZIMMERMAN THOMAS & HUTTON ENGINEERING CO. No. COA0285 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 28573 CHRISTOPHER G. WILLIAMS 12-11-2024 MARCH 31, 2025

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.4789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

MASS GRADING & DRAINAGE PLAN

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

C3.9

Z:\27015\27015.0007\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015.0007 - PRE-PLOTS - JAN 9, 2024 - 9:28 AM

MATCH LINE – SEE SHEET NO. C3.7

#67
INV. IN: 468.05 (E)

129 LF 48" HDPE @ 0.41%

#66
INV. OUT: 468.58 (W)

84 (W)

MATCH LINE – SEE SHEET NO. C3.9

MATCH LINE – SEE SHEET NO. C3.11

PROPOSED MASS
GRADED PAD
±945.1 ACRES
ELEV: 483.20

EXISTING 20" DIP
GRAVITY SEWER

GRADING AND DRAINAGE

1. CONTRACTOR SHALL ADHERE TO ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/REGULATIONS IN REGARD TO SITE SAFETY WHILE ACCESSING AND WORKING WITH STEEP SLOPES/EMBANKMENTS DURING CONSTRUCTION.
2. PRIOR TO COMMENCING WORK CONTRACTOR SHALL REFER TO GEOTECHNICAL REPORT REFERENCED ON SHEET G0.1 FOR REQUIREMENTS AND CRITERIA RELATED TO EARTHWORK MATERIALS, PROCEDURES, AND METHODS. IF INFORMATION CONTAINED IN THESE PLANS DIFFERS FROM OR NEGATES REQUIREMENTS AND SPECIFICATIONS OUTLINED IN GEOTECHNICAL REPORT, THEN THE ENGINEER OF RECORD SHALL BE NOTIFIED PRIOR TO COMMENCING WORK RELATED TO THIS INFORMATION.
3. WHEN CONSTRUCTING FILL SLOPES CONTRACTOR SHALL REMOVE (UNDERCUT) LOOSE MATERIAL FROM THE TOE OF THE PROPOSED FILL SLOPE OR COMPACT IT AS INDICATED IN GEOTECHNICAL REPORT REFERENCED ON SHEET G0.1 PRIOR TO PLACING NEW FILL. THE FILL SLOPES SHALL BE BENCHED INTO EXISTING SLOPING TERRAIN AND ADEQUATELY COMPACTED. FILL SLOPES CONSTRUCTED ALONG EXISTING SLOPES OR EMBANKMENTS STEEPER THAN 4H:1V SHALL HAVE A KEYWAY CONSTRUCTED ALONG THE SLOPE BASE. THE KEYWAY WIDTH SHALL BE AT LEAST 1/2 OF THE PLANNED SLOPE HEIGHT, OR A MINIMUM OF 15 FEET WIDE, AND THE KEYWAY SHALL BE EMBEDDED A MINIMUM OF 2-FEET INTO STIFF TO MEDIUM DENSE SOILS. UPON CONSTRUCTION OF A COMPETENT SLOPE FACE IT SHALL BE PROTECTED FROM EROSION.
4. GROUNDWATER SHALL BE CONTROLLED AT THE LOWEST LEVEL OF SLOPE EXCAVATION WHILE THE EXCAVATION IS OPEN AND SUCH THAT IT DOES NOT FLOW OR EMERGE FROM SOIL EXCAVATION SLOPES.
5. SLOPE CUTOFF DRAINS (SEE DETAIL ON SHEET EC4.4) SHALL BE INSTALLED IN EXCAVATION SLOPES WHERE NEEDED AT THE DIRECTION OF THE GEOTECHNICAL ENGINEER IN THE FIELD. GEOTECHNICAL ENGINEER TO PROVIDE RECOMMENDATION FOR PIPE SIZE BASED ON ASSESSMENT OF FLOW IN THE FIELD.
6. SURFACE WATER SHALL BE CAPTURED BY APPROPRIATE DRAINAGE MEASURES ABOVE SLOPE CRESTS AND NOT ALLOWED TO DRAIN DOWN SLOPES. IF PERCHED GROUNDWATER IS OBSERVED EMERGING FROM THE FACE OF SLOPES OR IF SURFACE WATER IS ADVERSELY AFFECTING SLOPES THE ENGINEER OF RECORD SHOULD BE CONTACTED IMMEDIATELY.
7. ORGANIC MUCK ENCOUNTERED IN AND AROUND EXISTING PONDS, STREAMS, AND WETLANDS IS NOT SUITABLE FOR REUSE AS STRUCTURAL FILL AND THE SATURATED/WATER-SOFTENED MATERIALS REQUIRE EXTENSIVE DRYING AND REWORKING TO BE ABLE TO BE REUSED AS STRUCTURAL FILL. THESE MATERIALS SHALL BE SPREAD AND DRIED, STOCKPILED FOR FUTURE USE IN NON-STRUCTURAL AREAS, WASTED IN DEEP FILL AREAS, OR HAULED OFF-SITE. FOR EXISTING PONDS, STREAMS, AND WETLANDS WITHIN CLOSE PROXIMITY TO THE PLANNED CUT/FILL LINE THE ORGANIC MUCK AND SATURATED/WATER-SOFTENED SOILS SHALL BE OVER-EXCAVATED AND REPLACED PRIOR TO FILL PLACEMENT OR TO ACHIEVE PLANNED GRADE. IN DEEP FILL AREAS, ORGANIC MUCK AND SATURATED/WATER-SOFTENED SOILS MAY BE LEFT IN PLACE AT THE DIRECTION OF THE ENGINEER, AS LONG AS THEY ARE NOT WITHIN THE DEPTH OF INFLUENCE OF BUILDING FOUNDATIONS AND DO NOT POSE A CONCERN WITH FUTURE LONG-TERM CONSOLIDATION TO THE FILL TO BE PLACED.
8. GROUNDWATER IN UNCONFINED OR CONFINED AQUIFERS WILL LIKELY BE ENCOUNTERED DURING GRADING ACTIVITIES. SEE GEOTECHNICAL REPORT REFERENCED ON SHEET G0.1 FOR RECOMMENDATIONS ON TEMPORARY AND LONG-TERM GROUNDWATER CONTROL MEASURES. CONTRACTOR SHALL COORDINATE WITH ENGINEER OF RECORD PRIOR TO PLACEMENT OF ANY LONG-TERM GROUNDWATER CONTROL MEASURES.
9. A WRAPPED ROCK DRAIN (SEE DETAIL ON SHEET C3.20) SHALL BE INSTALLED WHERE NEEDED IN EXISTING TRIBUTARIES AND WETLANDS AT THE DIRECTION OF THE ENGINEER OF RECORD.

GRADING AND DRAINAGE
POND EMBANKMENT NOTES

1. THE CONTRACTOR OR OWNER SHALL RETAIN THE SERVICES OF A GEOTECHNICAL CONSULTANT TO PERFORM SOIL TESTING OF THE SOILS TO BE USED TO CONSTRUCT THE EMBANKMENT, AND PERFORM TESTING OF THE EXISTING SOILS IN THE LOCATION OF THE PROPOSED EMBANKMENT. THE GEOTECHNICAL CONSULTANT WILL BE RESPONSIBLE FOR PROVIDING FINAL RECOMMENDATIONS FOR THE CONSTRUCTION OF THE EMBANKMENT INCLUDING FOUNDATION PREPARATION, SOIL SUITABILITY AND COMPACTION.
2. SOILS FOR FILL SHALL BE OF SUFFICIENT CLAY CONTENT AS TO REMAIN RELATIVELY IMPERVIOUS, BUT NOT OF SUCH HIGH CONTENT THAT SIGNIFICANT SWELLING AND SHRINKAGE OCCURS.
3. SOILS SHALL BE RELATIVELY FREE OF LIMESTONE AND HIGH SODIUM.
4. FOR THE FOUNDATION OF THE EMBANKMENT, REMOVE ALL ORGANICS AND TOPSOIL. IF THE FOUNDATION IS OVERLAIN WITH PERVIOUS SANDS OR GRAVELS, OR IN SOME CASES ROCK, INSTALL A CUTOFF TRENCH ALONG THE LENGTH OF THE CENTER OF THE EMBANKMENT AT LEAST 8' WIDE, OR THE WIDTH OF A BULLDOZER BLADE. THE CUTOFF TRENCH SHALL EXTEND AT LEAST 12"DOWN INTO THE UNDERLYING IMPERVIOUS MATERIAL, OR AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT. THE SIDE SLOPES SHALL BE NO STEEPER THAN 1.5:1. IN THE EVENT THAT ROCK IS ENCOUNTERED IN THE CUTOFF TRENCH, CARE SHOULD BE TAKEN TO NOT DISTURB THE ROCK UNTIL IT IS REVIEWED BY THE GEOTECHNICAL CONSULTANT, AND IN NO CASE SHALL BLASTING BE UTILIZED TO REMOVE ROCK FOR A CUTOFF TRENCH. REPLACE MATERIAL IN THE TRENCH WITH SOIL AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT TO PREVENT SEEPAGE AND TO AN ELEVATION IN THE FILL OF THE EMBANKMENT AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT.
5. PLACE FILLS FOR THE EMBANKMENT IN A MINIMUM OF 8"LIFTS COMPACTED TO 98% OF THE MAXIMUM DRY DENSITY OR AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT.
6. PROPOSED BUILDING PADS TO BE COMPLETED IN FUTURE PHASE OF CONSTRUCTION

MATCH LINE – SEE SHEET NO. C3.13

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA
PROFESSIONAL ENGINEER
No. 28573
MARCUS B. SCHWEERS
11-9-2023

SOUTH CAROLINA
NOLTENIUS
THOMAS & HUTTON ENGINEERING CO.
No. COD285
CERTIFICATE OF AUTHORITY

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC
PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

MASS GRADING & DRAINAGE PLAN

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

C3.10

MATCH LINE - SEE SHEET NO. C3.10

MATCH LINE - SEE SHEET NO. C3.14

PE @ 0.41%

#66
INV. OUT: 468.58 (W)

SMH #2A
FR: 456.36
INV. IN: 442.31 (NW)
INV. OUT: 436.31 (SE)

55 LF 24" RCP @ 4.18%

FES #36
INV. IN: 434.00 (NW)

FES #98
INV. OUT: 427.96 (SE)

95 LF 24" RCP @ 3.16%

100-YR FLOOD PLAIN: NO FILL WORK SHALL OCCUR WITHIN THE 100-YR FLOOD PLAIN UNTIL RECEIPT OF APPROVED PERMIT.

FLOODWAY NOTE: NO FILL WORK OR INSTALLATION OF DRAINAGE STRUCTURES SHALL OCCUR WITHIN THE FEMA FLOODWAY UNTIL RECEIPT OF APPROVED PERMIT.

FES #99
INV. IN: 421.76 (NW)

APPROXIMATE LOCATION OF EXISTING DRAINAGE PIPE

PROPOSED OVERHEAD POWER (BY OTHERS)

PROPERTY BOUNDARY (TYP.)

EXISTING 10" PVC FORCE MAIN

EXISTING 48" DIP WATER MAIN

INTERSTATE 77

GRADING AND DRAINAGE

1. CONTRACTOR SHALL ADHERE TO ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/REGULATIONS IN REGARD TO SITE SAFETY WHILE ACCESSING AND WORKING WITH STEEP SLOPES/EMBANKMENTS DURING CONSTRUCTION.
2. PRIOR TO COMMENCING WORK CONTRACTOR SHALL REFER TO GEOTECHNICAL REPORT REFERENCED ON SHEET G0.1 FOR REQUIREMENTS AND CRITERIA RELATED TO EARTHWORK MATERIALS, PROCEDURES, AND METHODS. IF INFORMATION CONTAINED IN THESE PLANS DIFFERS FROM OR NEGATES REQUIREMENTS AND SPECIFICATIONS OUTLINED IN GEOTECHNICAL REPORT, THEN THE ENGINEER OF RECORD SHALL BE NOTIFIED PRIOR TO COMMENCING WORK RELATED TO THIS INFORMATION.
3. WHEN CONSTRUCTING FILL SLOPES CONTRACTOR SHALL REMOVE (UNDERCUT) LOOSE MATERIAL FROM THE TOE OF THE PROPOSED FILL SLOPE OR COMPACT IT AS INDICATED IN GEOTECHNICAL REPORT REFERENCED ON SHEET G0.1 PRIOR TO PLACING NEW FILL. THE FILL SLOPES SHALL BE BENCHED INTO EXISTING SLOPING TERRAIN AND ADEQUATELY COMPACTED. FILL SLOPES CONSTRUCTED ALONG EXISTING SLOPES OR EMBANKMENTS STEEPER THAN 4H:1V SHALL HAVE A KEYWAY CONSTRUCTED ALONG THE SLOPE BASE. THE KEYWAY WIDTH SHALL BE AT LEAST 1/2 OF THE PLANNED SLOPE HEIGHT, OR A MINIMUM OF 15 FEET WIDE, AND THE KEYWAY SHALL BE EMBEDDED A MINIMUM OF 2-FEET INTO STIFF TO MEDIUM DENSE SOILS. UPON CONSTRUCTION OF A COMPETENT SLOPE FACE IT SHALL BE PROTECTED FROM EROSION.
4. GROUNDWATER SHALL BE CONTROLLED AT THE LOWEST LEVEL OF SLOPE EXCAVATION WHILE THE EXCAVATION IS OPEN AND SUCH THAT IT DOES NOT FLOW OR EMERGE FROM SOIL EXCAVATION SLOPES.
5. SLOPE CUTOFF DRAINS (SEE DETAIL ON SHEET EC4.4) SHALL BE INSTALLED IN EXCAVATION SLOPES WHERE NEEDED AT THE DIRECTION OF THE GEOTECHNICAL ENGINEER IN THE FIELD. GEOTECHNICAL ENGINEER TO PROVIDE RECOMMENDATION FOR PIPE SIZE BASED ON ASSESSMENT OF FLOW IN THE FIELD.
6. SURFACE WATER SHALL BE CAPTURED BY APPROPRIATE DRAINAGE MEASURES ABOVE SLOPE CRESTS AND NOT ALLOWED TO DRAIN DOWN SLOPES. IF PERCHED GROUNDWATER IS OBSERVED EMERGING FROM THE FACE OF SLOPES OR IF SURFACE WATER IS ADVERSELY AFFECTING SLOPES THE ENGINEER OF RECORD SHOULD BE CONTACTED IMMEDIATELY.
7. ORGANIC MUCK ENCOUNTERED IN AND AROUND EXISTING PONDS, STREAMS, AND WETLANDS IS NOT SUITABLE FOR REUSE AS STRUCTURAL FILL AND THE SATURATED/WATER-SOFTENED MATERIALS REQUIRE EXTENSIVE DRYING AND REWORKING TO BE ABLE TO BE REUSED AS STRUCTURAL FILL. THESE MATERIALS SHALL BE SPREAD AND DRIED, STOCKPILED FOR FUTURE USE IN NON-STRUCTURAL AREAS, WASTED IN DEEP FILL AREAS, OR HAULED OFF-SITE. FOR EXISTING PONDS, STREAMS, AND WETLANDS WITHIN CLOSE PROXIMITY TO THE PLANNED CUT/FILL LINE THE ORGANIC MUCK AND SATURATED/WATER-SOFTENED SOILS SHALL BE OVER-EXCAVATED AND REPLACED PRIOR TO FILL PLACEMENT OR TO ACHIEVE PLANNED GRADE. IN DEEP FILL AREAS, ORGANIC MUCK AND SATURATED/WATER-SOFTENED SOILS MAY BE LEFT IN PLACE AT THE DIRECTION OF THE ENGINEER, AS LONG AS THEY ARE NOT WITHIN THE DEPTH OF INFLUENCE OF BUILDING FOUNDATIONS AND DO NOT POSE A CONCERN WITH FUTURE LONG-TERM CONSOLIDATION TO THE FILL TO BE PLACED.
8. GROUNDWATER IN UNCONFINED OR CONFINED AQUIFERS WILL LIKELY BE ENCOUNTERED DURING GRADING ACTIVITIES. SEE GEOTECHNICAL REPORT REFERENCED ON SHEET G0.1 FOR RECOMMENDATIONS ON TEMPORARY AND LONG-TERM GROUNDWATER CONTROL MEASURES. CONTRACTOR SHALL COORDINATE WITH ENGINEER OF RECORD PRIOR TO PLACEMENT OF ANY LONG-TERM GROUNDWATER CONTROL MEASURES.
9. A WRAPPED ROCK DRAIN (SEE DETAIL ON SHEET C3.20) SHALL BE INSTALLED WHERE NEEDED IN EXISTING TRIBUTARIES AND WETLANDS AT THE DIRECTION OF THE ENGINEER OF RECORD.

GRADING AND DRAINAGE
POND EMBANKMENT NOTES

1. THE CONTRACTOR OR OWNER SHALL RETAIN THE SERVICES OF A GEOTECHNICAL CONSULTANT TO PERFORM SOIL TESTING OF THE SOILS TO BE USED TO CONSTRUCT THE EMBANKMENT, AND PERFORM TESTING OF THE EXISTING SOILS IN THE LOCATION OF THE PROPOSED EMBANKMENT. THE GEOTECHNICAL CONSULTANT WILL BE RESPONSIBLE FOR PROVIDING FINAL RECOMMENDATIONS FOR THE CONSTRUCTION OF THE EMBANKMENT INCLUDING FOUNDATION PREPARATION, SOIL SUITABILITY AND COMPACTION.
2. SOILS FOR FILL SHALL BE OF SUFFICIENT CLAY CONTENT AS TO REMAIN RELATIVELY IMPERVIOUS, BUT NOT OF SUCH HIGH CONTENT THAT SIGNIFICANT SWELLING AND SHRINKAGE OCCURS.
3. SOILS SHALL BE RELATIVELY FREE OF LIMESTONE AND HIGH SODIUM.
4. FOR THE FOUNDATION OF THE EMBANKMENT, REMOVE ALL ORGANICS AND TOPSOIL. IF THE FOUNDATION IS OVERLAIN WITH PERVIOUS SANDS OR GRAVELS, OR IN SOME CASES ROCK, INSTALL A CUTOFF TRENCH ALONG THE LENGTH OF THE CENTER OF THE EMBANKMENT AT LEAST 8' WIDE, OR THE WIDTH OF A BULLDOZER BLADE. THE CUTOFF TRENCH SHALL EXTEND AT LEAST 12"DOWN INTO THE UNDERLYING IMPERVIOUS MATERIAL, OR AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT. THE SIDE SLOPES SHALL BE NO STEEPER THAN 1:1. IN THE EVENT THAT ROCK IS ENCOUNTERED IN THE CUTOFF TRENCH, CARE SHOULD BE TAKEN TO NOT DISTURB THE ROCK UNTIL IT IS REVIEWED BY THE GEOTECHNICAL CONSULTANT, AND IN NO CASE SHALL BLASTING BE UTILIZED TO REMOVE ROCK FOR A CUTOFF TRENCH. REPLACE MATERIAL IN THE TRENCH WITH SOIL AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT TO PREVENT SEEPAGE AND TO AN ELEVATION IN THE FILL OF THE EMBANKMENT AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT.
5. PLACE FILLS FOR THE EMBANKMENT IN A MINIMUM OF 8"LIFTS COMPACTED TO 98% OF THE MAXIMUM DRY DENSITY OR AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT.
6. PROPOSED BUILDING PADS TO BE COMPLETED IN FUTURE PHASE OF CONSTRUCTION

PROPOSED MASS GRADED PAD
±945.1 ACRES
ELEV: 483.20

FLOODWAY NOTE: NO FILL WORK OR INSTALLATION OF DRAINAGE STRUCTURES SHALL OCCUR WITHIN THE FEMA FLOODWAY UNTIL RECEIPT OF APPROVED PERMIT.

100-YR FLOOD PLAIN: NO FILL WORK SHALL OCCUR WITHIN THE 100-YR FLOOD PLAIN UNTIL RECEIPT OF APPROVED PERMIT.

RE-ALIGNED CREEK

HEADWALL 1
SEE DETAIL SHEET C3.25
INV. OUT: 405.00 (S)

FES #101
INV. IN: 405.85 (SE)

CUSTOM DESIGN TO BE PROVIDED BY SUPPLIER

152 LF 24" RCP @ 6.93%

1316 LF 60" RCP @ 0.46%

1316 LF 60" RCP @ 0.46%

FES #100
INV. OUT: 430.07 (NW)

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA NOLTE/THOMAS HUTTON ENGINEERING CO. No. COA2285 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 28573 CHRISTOPHER L. KLEIN 12-11-24 REGISTERED PROFESSIONAL ENGINEER

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 740
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC
PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS
MASS GRADING & DRAINAGE PLAN

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

C3.11

Z:\27015\STORE\DOCS\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015DOCT - FIG2-PLOWE - Jan 9, 2024 - 9:38 AM

MATCH LINE - SEE SHEET NO. C3.9

GRADING AND DRAINAGE
POND EMBANKMENT NOTES

1. THE CONTRACTOR OR OWNER SHALL RETAIN THE SERVICES OF A GEOTECHNICAL CONSULTANT TO PERFORM SOIL TESTING OF THE SOILS TO BE USED TO CONSTRUCT THE EMBANKMENT, AND PERFORM TESTING OF THE EXISTING SOILS IN THE LOCATION OF THE PROPOSED EMBANKMENT. THE GEOTECHNICAL CONSULTANT WILL BE RESPONSIBLE FOR PROVIDING FINAL RECOMMENDATIONS FOR THE CONSTRUCTION OF THE EMBANKMENT INCLUDING FOUNDATION PREPARATION, SOIL SUITABILITY AND COMPACTION.
2. SOILS FOR FILL SHALL BE OF SUFFICIENT CLAY CONTENT AS TO REMAIN RELATIVELY IMPERVIOUS, BUT NOT OF SUCH HIGH CONTENT THAT SIGNIFICANT SWELLING AND SHRINKAGE OCCURS.
3. SOILS SHALL BE RELATIVELY FREE OF LIMESTONE AND HIGH SODIUM.
4. FOR THE FOUNDATION OF THE EMBANKMENT, REMOVE ALL ORGANICS AND TOPSOIL. IF THE FOUNDATION IS OVERLAIN WITH PERVIOUS SANDS OR GRAVELS, OR IN SOME CASES ROCK, INSTALL A CUTOFF TRENCH ALONG THE LENGTH OF THE CENTER OF THE EMBANKMENT AT LEAST 8' WIDE, OR THE WIDTH OF A BULLDOZER BLADE. THE CUTOFF TRENCH SHALL EXTEND AT LEAST 12"DOWN INTO THE UNDERLYING IMPERVIOUS MATERIAL, OR AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT. THE SIDE SLOPES SHALL BE NO STEEPER THAN 1.5:1. IN THE EVENT THAT ROCK IS ENCOUNTERED IN THE CUTOFF TRENCH, CARE SHOULD BE TAKEN TO NOT DISTURB THE ROCK UNTIL IT IS REVIEWED BY THE GEOTECHNICAL CONSULTANT, AND IN NO CASE SHALL BLASTING BE UTILIZED TO REMOVE ROCK FOR A CUTOFF TRENCH. REPLACE MATERIAL IN THE TRENCH WITH SOIL AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT TO PREVENT SEEPAGE AND TO AN ELEVATION IN THE FILL OF THE EMBANKMENT AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT.
5. PLACE FILLS FOR THE EMBANKMENT IN A MINIMUM OF 8"LIFTS COMPACTED TO 98% OF THE MAXIMUM DRY DENSITY OR AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT.
6. PROPOSED BUILDING PADS TO BE COMPLETED IN FUTURE PHASE OF CONSTRUCTION

GRADING AND DRAINAGE

1. CONTRACTOR SHALL ADHERE TO ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/REGULATIONS IN REGARD TO SITE SAFETY WHILE ACCESSING AND WORKING WITH STEEP SLOPES/EMBANKMENTS DURING CONSTRUCTION.
2. PRIOR TO COMMENCING WORK CONTRACTOR SHALL REFER TO GEOTECHNICAL REPORT REFERENCED ON SHEET G0.1 FOR REQUIREMENTS AND CRITERIA RELATED TO EARTHWORK MATERIALS, PROCEDURES, AND METHODS. IF INFORMATION CONTAINED IN THESE PLANS DIFFERS FROM OR NEGATES REQUIREMENTS AND SPECIFICATIONS OUTLINED IN GEOTECHNICAL REPORT, THEN THE ENGINEER OF RECORD SHALL BE NOTIFIED PRIOR TO COMMENCING WORK RELATED TO THIS INFORMATION.
3. WHEN COSTRUCTING FILL SLOPES CONTRACTOR SHALL REMOVE (UNDERCUT) LOOSE MATERIAL FROM THE TOE OF THE PROPOSED FILL SLOPE OR COMPACT IT AS INDICATED IN GEOTECHNICAL REPORT REFERENCED ON SHEET G0.1 PRIOR TO PLACING NEW FILL. THE FILL SLOPES SHALL BE BENCHED INTO EXISTING SLOPING TERRAIN AND ADEQUATELY COMPACTED. FILL SLOPES CONSTRUCTED ALONG EXISTING SLOPES OR EMBANKMENTS STEEPER THAN 4H:1V SHALL HAVE A KEYWAY CONSTRUCTED ALONG THE SLOPE BASE. THE KEYWAY WIDTH SHALL BE AT LEAST 1/2 OF THE PLANNED SLOPE HEIGHT, OR A MINIMUM OF 15 FEET WIDE, AND THE KEYWAY SHALL BE EMBEDDED A MINIMUM OF 2-FEET INTO STIFF TO MEDIUM DENSE SOILS. UPON CONSTRUCTION OF A COMPETENT SLOPE FACE IT SHALL BE PROTECTED FROM EROSION.
4. GROUNDWATER SHALL BE CONTROLLED AT THE LOWEST LEVEL OF SLOPE EXCAVATION WHILE THE EXCAVATION IS OPEN AND SUCH THAT IT DOES NOT FLOW OR EMERGE FROM SOIL EXCAVATION SLOPES.
5. SLOPE CUTOFF DRAINS (SEE DETAIL ON SHEET EC4.4) SHALL BE INSTALLED IN EXCAVATION SLOPES WHERE NEEDED AT THE DIRECTION OF THE GEOTECHNICAL ENGINEER IN THE FIELD. GEOTECHNICAL ENGINEER TO PROVIDE RECOMMENDATION FOR PIPE SIZE BASED ON ASSESSMENT OF FLOW IN THE FIELD.
6. SURFACE WATER SHALL BE CAPTURED BY APPROPRIATE DRAINAGE MEASURES ABOVE SLOPE CRESTS AND NOT ALLOWED TO DRAIN DOWN SLOPES. IF PERCHED GROUNDWATER IS OBSERVED EMERGRING FROM THE FACE OF SLOPES OR IF SURFACE WATER IS ADVERSELY AFFECTING SLOPES THE ENGINEER OF RECORD SHOULD BE CONTACTED IMMEDIATELY.
7. ORGANIC MUCK ENCOUNTERED IN AND AROUND EXISTING PONDS, STREAMS, AND WETLANDS IS NOT SUITABLE FOR REUSE AS STRUCTURAL FILL AND THE SATURATED/WATER-SOFTENED MATERIALS REQUIRE EXTENSIVE DRYING AND REWORKING TO BE ABLE TO BE REUSED AS STRUCTURAL FILL. THESE MATERIALS SHALL BE SPREAD AND DRIED, STOCKPILED FOR FUTURE USE IN NON-STRUCTURAL AREAS, WASTED IN DEEP FILL AREAS, OR HAULED OFF-SITE. FOR EXISTING PONDS, STREAMS, AND WETLANDS WITHIN CLOSE PROXIMITY TO THE PLANNED CUT/FILL LINE THE ORGANIC MUCK AND SATURATED/WATER-SOFTENED SOILS SHALL BE OVER-EXCAVATED AND REPLACED PRIOR TO FILL PLACEMENT OR TO ACHIEVE PLANNED GRADE. IN DEEP FILL AREAS, ORGANIC MUCK AND SATURATED/WATER-SOFTENED SOILS MAY BE LEFT IN PLACE AT THE DIRECTION OF THE ENGINEER, AS LONG AS THEY ARE NOT WITHIN THE DEPTH OF INFLUENCE OF BUILDING FOUNDATIONS AND DO NOT POSE A CONCERN WITH FUTURE LONG-TERM CONSOLIDATION TO THE FILL TO BE PLACED.
8. GROUNDWATER IN UNCONFINED OR CONFINED AQUIFERS WILL LIKELY BE ENCOUNTERED DURING GRADING ACTIVITIES. SEE GEOTECHNICAL REPORT REFERENCED ON SHEET G0.1 FOR RECOMMENDATIONS ON TEMPORARY AND LONG-TERM GROUNDWATER CONTROL MEASURES. CONTRACTOR SHALL COORDINATE WITH ENGINEER OF RECORD PRIOR TO PLACEMENT OF ANY LONG-TERM GROUNDWATER CONTROL MEASURES.
9. A WRAPPED ROCK DRAIN (SEE DETAIL ON SHEET C3.20) SHALL BE INSTALLED WHERE NEEDED IN EXISTING TRIBUTARIES AND WETLANDS AT THE DIRECTION OF THE ENGINEER OF RECORD.

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

PROPERTY BOUNDARY (TYP.)
PROPOSED OVERHEAD POWER (BY OTHERS)
50' LANDSCAPE BUFFER
PROPOSED MASS GRADED PAD ±945.1 ACRES ELEV: 483.20
EXISTING 10" PVC FORCE MAIN
EXISTING 48" DIP WATER MAIN
50' WATER QUALITY BUFFER (TYP.)
147 LF 48" HDPE @ 0.71%
INV.
CUSTOM DESIGN TO BE PROVIDED BY SUPPL
565 LF 36" RCP @ 7.95%
FES #48
INV. IN: 403.32 (NE)
FES
INV.: 412.21
95 LF 18" RCP @ 0.83%
MATCH LINE - SEE SHEET NO. C3.13
MATCH LINE - SEE SHEET NO. C3.15

SOUTH CAROLINA PROFESSIONAL ENGINEER — THOMAS HUTTON ENGINEERING CO. — No. C00285 — CERTIFICATE OF AUTHORITY
SOUTH CAROLINA PROFESSIONAL ENGINEER — No. 28573 — 12-19-2023 — CHRISTOPHER M. MARCHESE

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 740
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC
PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS
MASS GRADING & DRAINAGE PLAN

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

C3.12

MATCH LINE - SEE SHEET NO. C3.10

MATCH LINE - SEE SHEET NO. C3.12

MATCH LINE - SEE SHEET NO. C3.14

MATCH LINE - SEE SHEET NO. C3.15

#90
INV. OUT: 464.87 (S)

147 LF 48" HDPE @ 0.71%

#91
INV. IN: 463.83 (N)

#84
INV. OUT: 475.46 (S)

104 LF 48" HDPE @ 0.31%

#85
INV. IN: 475.14 (N)

WET STORMWATER
POND 3
BOP: 448.50'
NWL: 453.50'
TOP: 458.50'
2-YR: 455.26'
10-YR: 456.19'
25-YR: 456.79'
100-YR: 457.69'

ICS #L-0420DS
FR: 457.00
INV. OUT: 448.50 (SW)
(SEE DETAIL SHEET C3.24)

POND NOTE: POND DAMS REGULATED BY SCDHEC SHALL NOT BE CONSTRUCTED UNTIL RECEIPT OF APPROVED PERMIT.

93 LF 36" RCP @ 7.95%

CUSTOM DESIGN TO BE PROVIDED BY SUPPLIER

0.83%

PROPOSED MASS
GRADED PAD
±945.1 ACRES
ELEV: 483.20

152 LF 48" HDPE @ 0.27%

#89
INV. IN: 467.07 (E)

#88
INV. OUT: 467.48 (W)

EXISTING 20" DIP
GRAVITY SEWER

GRADING AND DRAINAGE

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2. PRIOR TO COMMENCING WORK CONTRACTOR SHALL REFER TO GEOTECHNICAL REPORT REFERENCED ON SHEET G0.1 FOR REQUIREMENTS AND CRITERIA RELATED TO EARTHWORK MATERIALS, PROCEDURES, AND METHODS. IF INFORMATION CONTAINED IN THESE PLANS DIFFERS FROM OR NEGATES REQUIREMENTS AND SPECIFICATIONS OUTLINED IN GEOTECHNICAL REPORT, THEN THE ENGINEER OF RECORD SHALL BE NOTIFIED PRIOR TO COMMENCING WORK RELATED TO THIS INFORMATION.
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4. GROUNDWATER SHALL BE CONTROLLED AT THE LOWEST LEVEL OF SLOPE EXCAVATION WHILE THE EXCAVATION IS OPEN AND SUCH THAT IT DOES NOT FLOW OR EMERGE FROM SOIL EXCAVATION SLOPES.
5. SLOPE CUTOFF DRAINS (SEE DETAIL ON SHEET EC4.4) SHALL BE INSTALLED IN EXCAVATION SLOPES WHERE NEEDED AT THE DIRECTION OF THE GEOTECHNICAL ENGINEER IN THE FIELD. GEOTECHNICAL ENGINEER TO PROVIDE RECOMMENDATION FOR PIPE SIZE BASED ON ASSESSMENT OF FLOW IN THE FIELD.
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8. GROUNDWATER IN UNCONFINED OR CONFINED AQUIFERS WILL LIKELY BE ENCOUNTERED DURING GRADING ACTIVITIES. SEE GEOTECHNICAL REPORT REFERENCED ON SHEET G0.1 FOR RECOMMENDATIONS ON TEMPORARY AND LONG-TERM GROUNDWATER CONTROL MEASURES. CONTRACTOR SHALL COORDINATE WITH ENGINEER OF RECORD PRIOR TO PLACEMENT OF ANY LONG-TERM GROUNDWATER CONTROL MEASURES.
9. A WRAPPED ROCK DRAIN (SEE DETAIL ON SHEET C3.20) SHALL BE INSTALLED WHERE NEEDED IN EXISTING TRIBUTARIES AND WETLANDS AT THE DIRECTION OF THE ENGINEER OF RECORD.

GRADING AND DRAINAGE
POND EMBANKMENT NOTES

1. THE CONTRACTOR OR OWNER SHALL RETAIN THE SERVICES OF A GEOTECHNICAL CONSULTANT TO PERFORM SOIL TESTING OF THE SOILS TO BE USED TO CONSTRUCT THE EMBANKMENT, AND PERFORM TESTING OF THE EXISTING SOILS IN THE LOCATION OF THE PROPOSED EMBANKMENT. THE GEOTECHNICAL CONSULTANT WILL BE RESPONSIBLE FOR PROVIDING FINAL RECOMMENDATIONS FOR THE CONSTRUCTION OF THE EMBANKMENT INCLUDING FOUNDATION PREPARATION, SOIL SUITABILITY AND COMPACTION.
2. SOILS FOR FILL SHALL BE OF SUFFICIENT CLAY CONTENT AS TO REMAIN RELATIVELY IMPERVIOUS, BUT NOT OF SUCH HIGH CONTENT THAT SIGNIFICANT SWELLING AND SHRINKAGE OCCURS.
3. SOILS SHALL BE RELATIVELY FREE OF LIMESTONE AND HIGH SODIUM.
4. FOR THE FOUNDATION OF THE EMBANKMENT, REMOVE ALL ORGANICS AND TOPSOIL. IF THE FOUNDATION IS OVERLAIN WITH PERVIOUS SANDS OR GRAVELS, OR IN SOME CASES ROCK, INSTALL A CUTOFF TRENCH ALONG THE LENGTH OF THE CENTER OF THE EMBANKMENT AT LEAST 8' WIDE, OR THE WIDTH OF A BULLDOZER BLADE. THE CUTOFF TRENCH SHALL EXTEND AT LEAST 12" DOWN INTO THE UNDERLYING IMPERVIOUS MATERIAL, OR AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT. THE SIDE SLOPES SHALL BE NO STEEPER THAN 1:1. IN THE EVENT THAT ROCK IS ENCOUNTERED IN THE CUTOFF TRENCH, CARE SHOULD BE TAKEN TO NOT DISTURB THE ROCK UNTIL IT IS REVIEWED BY THE GEOTECHNICAL CONSULTANT, AND IN NO CASE SHALL BLASTING BE UTILIZED TO REMOVE ROCK FOR A CUTOFF TRENCH. REPLACE MATERIAL IN THE TRENCH WITH SOIL AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT TO PREVENT SEEPAGE AND TO AN ELEVATION IN THE FILL OF THE EMBANKMENT AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT.
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6. PROPOSED BUILDING PADS TO BE COMPLETED IN FUTURE PHASE OF CONSTRUCTION

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA
PROFESSIONAL ENGINEER
THOMAS S. HUTTON
No. C00285
CERTIFICATE OF AUTHORITY
SOUTH CAROLINA
PROFESSIONAL ENGINEER
No. 28573
12-19-2023
MARCH 31, 2024

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

MASS GRADING & DRAINAGE PLAN

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

C3.13

MATCH LINE – SEE SHEET NO. C3.11

MATCH LINE – SEE SHEET NO. C3.13

MATCH LINE – SEE SHEET NO. C3.16

GRADING AND DRAINAGE
POND EMBANKMENT NOTES

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2. SOILS FOR FILL SHALL BE OF SUFFICIENT CLAY CONTENT AS TO REMAIN RELATIVELY IMPERVIOUS, BUT NOT OF SUCH HIGH CONTENT THAT SIGNIFICANT SWELLING AND SHRINKAGE OCCURS.
3. SOILS SHALL BE RELATIVELY FREE OF LIMESTONE AND HIGH SODIUM.
4. FOR THE FOUNDATION OF THE EMBANKMENT, REMOVE ALL ORGANICS AND TOPSOIL. IF THE FOUNDATION IS OVERLAIN WITH PERVIOUS SANDS OR GRAVELS, OR IN SOME CASES ROCK, INSTALL A CUTOFF TRENCH ALONG THE LENGTH OF THE CENTER OF THE EMBANKMENT AT LEAST 8' WIDE, OR THE WIDTH OF A BULLDOZER BLADE. THE CUTOFF TRENCH SHALL EXTEND AT LEAST 12"DOWN INTO THE UNDERLYING IMPERVIOUS MATERIAL, OR AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT. THE SIDE SLOPES SHALL BE NO STEEPER THAN 1:1. IN THE EVENT THAT ROCK IS ENCOUNTERED IN THE CUTOFF TRENCH, CARE SHOULD BE TAKEN TO NOT DISTURB THE ROCK UNTIL IT IS REVIEWED BY THE GEOTECHNICAL CONSULTANT, AND IN NO CASE SHALL BLASTING BE UTILIZED TO REMOVE ROCK FOR A CUTOFF TRENCH. REPLACE MATERIAL IN THE TRENCH WITH SOIL AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT TO PREVENT SEEPAGE AND TO AN ELEVATION IN THE FILL OF THE EMBANKMENT AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT.
5. PLACE FILLS FOR THE EMBANKMENT IN A MINIMUM OF 8"LIFTS COMPACTED TO 98% OF THE MAXIMUM DRY DENSITY OR AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT.
6. PROPOSED BUILDING PADS TO BE COMPLETED IN FUTURE PHASE OF CONSTRUCTION

FLOODWAY NOTE: NO FILL WORK OR INSTALLATION OF DRAINAGE STRUCTURES SHALL OCCUR WITHIN THE FEMA FLOODWAY UNTIL RECEIPT OF APPROVED PERMIT.

1316 LF 60" RCP @ 0.46%

FES #100
INV. OUT: 430.07 (NW)

PROPERTY BOUNDARY (TYP.)

PROPOSED MASS GRADED PAD ±945.1 ACRES ELEV: 483.20

CUSTOM DESIGN TO BE PROVIDED BY SUPPLIER

POND NOTE: POND DAMS REGULATED BY SCDHEC SHALL NOT BE CONSTRUCTED UNTIL RECEIPT OF APPROVED PERMIT.

WET STORMWATER POND 4
BOP: 453.80'
NWL: 457.80'
TOP: 464.80'
2-YR: 460.47'
10-YR: 461.65'
25-YR: 462.40'
100-YR: 463.45'

CS #L-0490DS
FR: 462.80
INV. OUT: 453.80 (SE)
(SEE DETAIL SHEET C3.24)

ENDWALL 2
SEE DETAIL SHEET C3.25
INV. IN: 399.00 (N)

FES #63
INV. IN: 396.85 (SE)

52 LF 24" RCP @ 4.98%

SMH #6A
FR: 413.47
INV. IN: 402.10 (SE)
INV. OUT: 399.42 (NW)

129 LF 24" RCP @ 5.35%

FES #103
INV. IN: 420.36 (NE)

CS #L-0460DS
419.60
INV. OUT: 409.01 (NW)
(SEE DETAIL SHEET C3.23)

WET STORMWATER POND 6
BOP: 409.00'
NWL: 419.00'
TOP: 435.00'
2-YR: 421.54'
10-YR: 423.63'
25-YR: 424.44'
100-YR: 425.98'

FES #102
INV. OUT: 425.88 (SW)

PROPOSED OVERHEAD POWER (BY OTHERS)

DUAL 417 LF 24" RCP @ 1.63%

5W WATER QUALITY BUFFER (TYP.)

415 LF 24" RCP @ 10.40%

72 LF 24" RCP @ 5.00%

SMH #4A
FR: 416.07
INV. IN: 410.66 (NW)
INV. OUT: 399.04 (SE)

FES #46
INV. IN: 395.45 (NW)

BEASLEY CREEK DITCH CONTROL STRUCTURE – SEE DETAIL SHEET C3.21

60' WIDE EMERGENCY SPILLWAY
INV 431.00'
3:1 SIDE SLOPES

WET STORMWATER POND 10
BOP: 392.7'
TOP: 483.2'
2-YR: 404.58'
10-YR: 409.59'
25-YR: 410.10'
100-YR: 410.71'

100-YR FLOOD PLAIN: NO FILL WORK SHALL OCCUR WITHIN THE 100-YR FLOOD PLAIN UNTIL RECEIPT OF APPROVED PERMIT.

EXISTING 20" DIP GRAVITY SEWER

EXISTING 10" PVC FORCE MAIN

EXISTING 48" DIP WATER MAIN

GRADING AND DRAINAGE

1. CONTRACTOR SHALL ADHERE TO ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/REGULATIONS IN REGARD TO SITE SAFETY WHILE ACCESSING AND WORKING WITH STEEP SLOPES/EMBANKMENTS DURING CONSTRUCTION.
2. PRIOR TO COMMENCING WORK CONTRACTOR SHALL REFER TO GEOTECHNICAL REPORT REFERENCED ON SHEET G0.1 FOR REQUIREMENTS AND CRITERIA RELATED TO EARTHWORK MATERIALS, PROCEDURES, AND METHODS. IF INFORMATION CONTAINED IN THESE PLANS DIFFERS FROM OR NEGATES REQUIREMENTS AND SPECIFICATIONS OUTLINED IN GEOTECHNICAL REPORT, THEN THE ENGINEER OF RECORD SHALL BE NOTIFIED PRIOR TO COMMENCING WORK RELATED TO THIS INFORMATION.
3. WHEN COSTRUCTING FILL SLOPES CONTRACTOR SHALL REMOVE (UNDERCUT) LOOSE MATERIAL FROM THE TOE OF THE PROPOSED FILL SLOPE OR COMPACT IT AS INDICATED IN GEOTECHNICAL REPORT REFERENCED ON SHEET G0.1 PRIOR TO PLACING NEW FILL. THE FILL SLOPES SHALL BE BENCHED INTO EXISTING SLOPING TERRAIN AND ADEQUATELY COMPACTED. FILL SLOPES CONSTRUCTED ALONG EXISTING SLOPES OR EMBANKMENTS STEEPER THAN 4H:1V SHALL HAVE A KEYWAY CONSTRUCTED ALONG THE SLOPE BASE. THE KEYWAY WIDTH SHALL BE AT LEAST 1/2 OF THE PLANNED SLOPE HEIGHT, OR A MINIMUM OF 15 FEET WIDE, AND THE KEYWAY SHALL BE EMBEDDED A MINIMUM OF 2-FEET INTO STIFF TO MEDIUM DENSE SOILS. UPON CONSTRUCTION OF A COMPETENT SLOPE FACE IT SHALL BE PROTECTED FROM EROSION.
4. GROUNDWATER SHALL BE CONTROLLED AT THE LOWEST LEVEL OF SLOPE EXCAVATION WHILE THE EXCAVATION IS OPEN AND SUCH THAT IT DOES NOT FLOW OR EMERGE FROM SOIL EXCAVATION SLOPES.
5. SLOPE CUTOFF DRAINS (SEE DETAIL ON SHEET EC4.4) SHALL BE INSTALLED IN EXCAVATION SLOPES WHERE NEEDED AT THE DIRECTION OF THE GEOTECHNICAL ENGINEER IN THE FIELD. GEOTECHNICAL ENGINEER TO PROVIDE RECOMMENDATION FOR PIPE SIZE BASED ON ASSESSMENT OF FLOW IN THE FIELD.
6. SURFACE WATER SHALL BE CAPTURED BY APPROPRIATE DRAINAGE MEASURES ABOVE SLOPE CRESTS AND NOT ALLOWED TO DRAIN DOWN SLOPES. IF PERCHED GROUNDWATER IS OBSERVED EMERGING FROM THE FACE OF SLOPES OR IF SURFACE WATER IS ADVERSELY AFFECTING SLOPES THE ENGINEER OF RECORD SHOULD BE CONTACTED IMMEDIATELY.
7. ORGANIC MUCK ENCOUNTERED IN AND AROUND EXISTING PONDS, STREAMS, AND WETLANDS IS NOT SUITABLE FOR REUSE AS STRUCTURAL FILL AND THE SATURATED/WATER-SOFTENED MATERIALS REQUIRE EXTENSIVE DRYING AND REWORKING TO BE ABLE TO BE REUSED AS STRUCTURAL FILL. THESE MATERIALS SHALL BE SPREAD AND DRIED, STOCKPILED FOR FUTURE USE IN NON-STRUCTURAL AREAS, WASTED IN DEEP FILL AREAS, OR HAULED OFF-SITE. FOR EXISTING PONDS, STREAMS, AND WETLANDS WITHIN CLOSE PROXIMITY TO THE PLANNED CUT/FILL LINE THE ORGANIC MUCK AND SATURATED/WATER-SOFTENED SOILS SHALL BE OVER-EXCAVATED AND REPLACED PRIOR TO FILL PLACEMENT OR TO ACHIEVE PLANNED GRADE. IN DEEP FILL AREAS, ORGANIC MUCK AND SATURATED/WATER-SOFTENED SOILS MAY BE LEFT IN PLACE AT THE DIRECTION OF THE ENGINEER, AS LONG AS THEY ARE NOT WITHIN THE DEPTH OF INFLUENCE OF BUILDING FOUNDATIONS AND DO NOT POSE A CONCERN WITH FUTURE LONG-TERM CONSOLIDATION TO THE FILL TO BE PLACED.
8. GROUNDWATER IN UNCONFINED OR CONFINED AQUIFERS WILL LIKELY BE ENCOUNTERED DURING GRADING ACTIVITIES. SEE GEOTECHNICAL REPORT REFERENCED ON SHEET G0.1 FOR RECOMMENDATIONS ON TEMPORARY AND LONG-TERM GROUNDWATER CONTROL MEASURES. CONTRACTOR SHALL COORDINATE WITH ENGINEER OF RECORD PRIOR TO PLACEMENT OF ANY LONG-TERM GROUNDWATER CONTROL MEASURES.
9. A WRAPPED ROCK DRAIN (SEE DETAIL ON SHEET C3.20) SHALL BE INSTALLED WHERE NEEDED IN EXISTING TRIBUTARIES AND WETLANDS AT THE DIRECTION OF THE ENGINEER OF RECORD.

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA PROFESSIONAL ENGINEER — No. 26572 — CHRISTOPHER G. WILSON — 12/11/2023

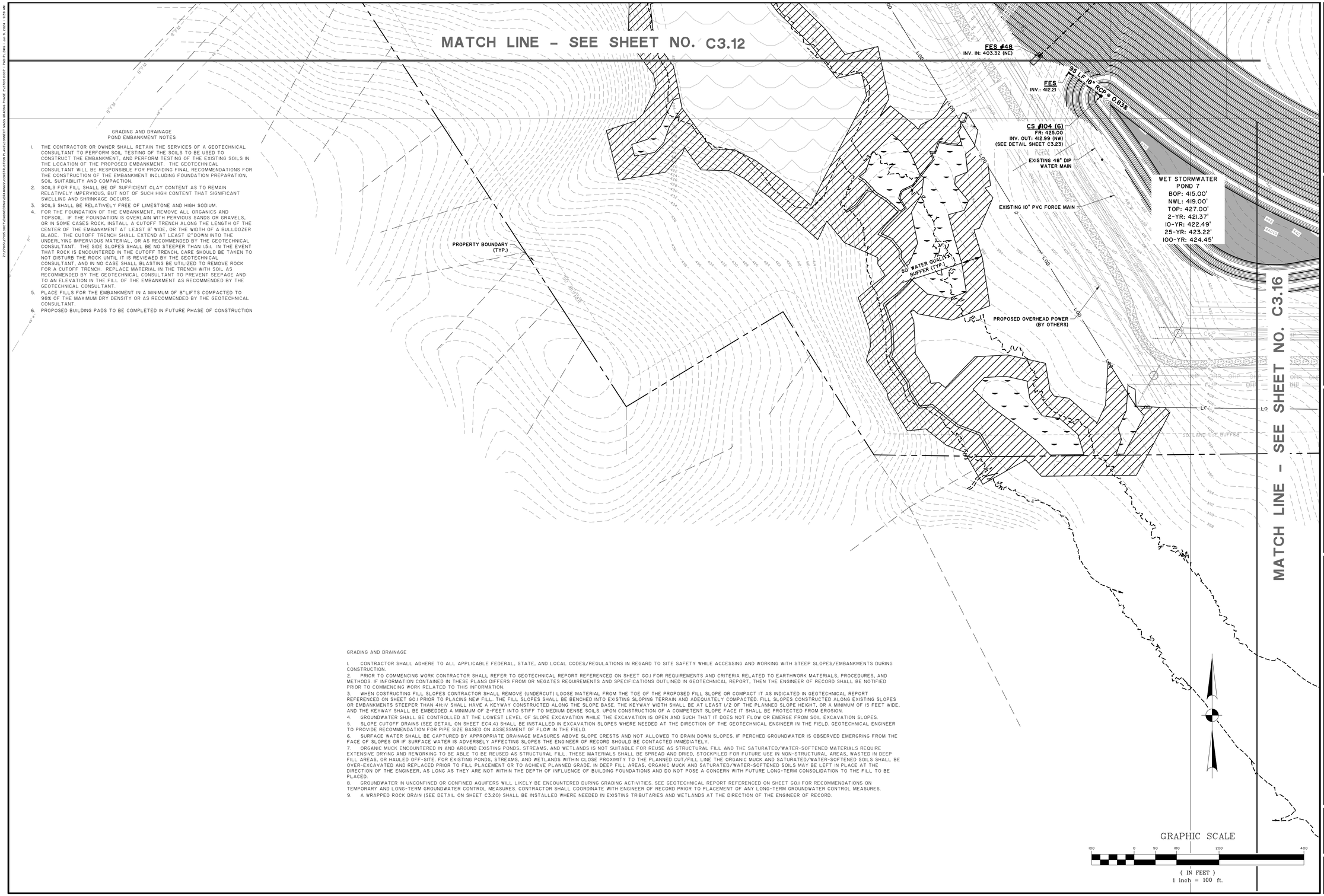
NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.4789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC
PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS
MASS GRADING & DRAINAGE PLAN

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

C3.14



GRADING AND DRAINAGE
POND EMBANKMENT NOTES

1. THE CONTRACTOR OR OWNER SHALL RETAIN THE SERVICES OF A GEOTECHNICAL CONSULTANT TO PERFORM SOIL TESTING OF THE SOILS TO BE USED TO CONSTRUCT THE EMBANKMENT, AND PERFORM TESTING OF THE EXISTING SOILS IN THE LOCATION OF THE PROPOSED EMBANKMENT. THE GEOTECHNICAL CONSULTANT WILL BE RESPONSIBLE FOR PROVIDING FINAL RECOMMENDATIONS FOR THE CONSTRUCTION OF THE EMBANKMENT INCLUDING FOUNDATION PREPARATION, SOIL SUITABILITY AND COMPACTION.
2. SOILS FOR FILL SHALL BE OF SUFFICIENT CLAY CONTENT AS TO REMAIN RELATIVELY IMPERVIOUS, BUT NOT OF SUCH HIGH CONTENT THAT SIGNIFICANT SWELLING AND SHRINKAGE OCCURS.
3. SOILS SHALL BE RELATIVELY FREE OF LIMESTONE AND HIGH SODIUM.
4. FOR THE FOUNDATION OF THE EMBANKMENT, REMOVE ALL ORGANICS AND TOPSOIL. IF THE FOUNDATION IS OVERLAIN WITH PERVIOUS SANDS OR GRAVELS, OR IN SOME CASES ROCK, INSTALL A CUTOFF TRENCH ALONG THE LENGTH OF THE CENTER OF THE EMBANKMENT AT LEAST 8' WIDE, OR THE WIDTH OF A BULLDOZER BLADE. THE CUTOFF TRENCH SHALL EXTEND AT LEAST 12" DOWN INTO THE UNDERLYING IMPERVIOUS MATERIAL, OR AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT. THE SIDE SLOPES SHALL BE NO STEEPER THAN 1.5:1. IN THE EVENT THAT ROCK IS ENCOUNTERED IN THE CUTOFF TRENCH, CARE SHOULD BE TAKEN TO NOT DISTURB THE ROCK UNTIL IT IS REVIEWED BY THE GEOTECHNICAL CONSULTANT, AND IN NO CASE SHALL BLASTING BE UTILIZED TO REMOVE ROCK FOR A CUTOFF TRENCH. REPLACE MATERIAL IN THE TRENCH WITH SOIL AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT TO PREVENT SEEPAGE AND TO AN ELEVATION IN THE FILL OF THE EMBANKMENT AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT.
5. PLACE FILLS FOR THE EMBANKMENT IN A MINIMUM OF 8" LIFTS COMPACTED TO 98% OF THE MAXIMUM DRY DENSITY OR AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT.
6. PROPOSED BUILDING PADS TO BE COMPLETED IN FUTURE PHASE OF CONSTRUCTION

GRADING AND DRAINAGE

1. CONTRACTOR SHALL ADHERE TO ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/REGULATIONS IN REGARD TO SITE SAFETY WHILE ACCESSING AND WORKING WITH STEEP SLOPES/EMBANKMENTS DURING CONSTRUCTION.
2. PRIOR TO COMMENCING WORK CONTRACTOR SHALL REFER TO GEOTECHNICAL REPORT REFERENCED ON SHEET G0.1 FOR REQUIREMENTS AND CRITERIA RELATED TO EARTHWORK MATERIALS, PROCEDURES, AND METHODS. IF INFORMATION CONTAINED IN THESE PLANS DIFFERS FROM OR NEGATES REQUIREMENTS AND SPECIFICATIONS OUTLINED IN GEOTECHNICAL REPORT, THEN THE ENGINEER OF RECORD SHALL BE NOTIFIED PRIOR TO COMMENCING WORK RELATED TO THIS INFORMATION.
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4. GROUNDWATER SHALL BE CONTROLLED AT THE LOWEST LEVEL OF SLOPE EXCAVATION WHILE THE EXCAVATION IS OPEN AND SUCH THAT IT DOES NOT FLOW OR EMERGE FROM SOIL EXCAVATION SLOPES.
5. SLOPE CUTOFF DRAINS (SEE DETAIL ON SHEET EC4.4) SHALL BE INSTALLED IN EXCAVATION SLOPES WHERE NEEDED AT THE DIRECTION OF THE GEOTECHNICAL ENGINEER IN THE FIELD. GEOTECHNICAL ENGINEER TO PROVIDE RECOMMENDATION FOR PIPE SIZE BASED ON ASSESSMENT OF FLOW IN THE FIELD.
6. SURFACE WATER SHALL BE CAPTURED BY APPROPRIATE DRAINAGE MEASURES ABOVE SLOPE CRESTS AND NOT ALLOWED TO DRAIN DOWN SLOPES. IF PERCHED GROUNDWATER IS OBSERVED EMERGING FROM THE FACE OF SLOPES OR IF SURFACE WATER IS ADVERSELY AFFECTING SLOPES THE ENGINEER OF RECORD SHOULD BE CONTACTED IMMEDIATELY.
7. ORGANIC MUCK ENCOUNTERED IN AND AROUND EXISTING PONDS, STREAMS, AND WETLANDS IS NOT SUITABLE FOR REUSE AS STRUCTURAL FILL AND THE SATURATED/WATER-SOFTENED MATERIALS REQUIRE EXTENSIVE DRYING AND REWORKING TO BE ABLE TO BE REUSED AS STRUCTURAL FILL. THESE MATERIALS SHALL BE SPREAD AND DRIED, STOCKPILED FOR FUTURE USE IN NON-STRUCTURAL AREAS, WASTED IN DEEP FILL AREAS, OR HAULED OFF-SITE, FOR EXISTING PONDS, STREAMS, AND WETLANDS WITHIN CLOSE PROXIMITY TO THE PLANNED CUT/FILL LINE THE ORGANIC MUCK AND SATURATED/WATER-SOFTENED SOILS SHALL BE OVER-EXCAVATED AND REPLACED PRIOR TO FILL PLACEMENT OR TO ACHIEVE PLANNED GRADE. IN DEEP FILL AREAS, ORGANIC MUCK AND SATURATED/WATER-SOFTENED SOILS MAY BE LEFT IN PLACE AT THE DIRECTION OF THE ENGINEER, AS LONG AS THEY ARE NOT WITHIN THE DEPTH OF INFLUENCE OF BUILDING FOUNDATIONS AND DO NOT POSE A CONCERN WITH FUTURE LONG-TERM CONSOLIDATION TO THE FILL TO BE PLACED.
8. GROUNDWATER IN UNCONFINED OR CONFINED AQUIFERS WILL LIKELY BE ENCOUNTERED DURING GRADING ACTIVITIES. SEE GEOTECHNICAL REPORT REFERENCED ON SHEET G0.1 FOR RECOMMENDATIONS ON TEMPORARY AND LONG-TERM GROUNDWATER CONTROL MEASURES. CONTRACTOR SHALL COORDINATE WITH ENGINEER OF RECORD PRIOR TO PLACEMENT OF ANY LONG-TERM GROUNDWATER CONTROL MEASURES.
9. A WRAPPED ROCK DRAIN (SEE DETAIL ON SHEET C3.20) SHALL BE INSTALLED WHERE NEEDED IN EXISTING TRIBUTARIES AND WETLANDS AT THE DIRECTION OF THE ENGINEER OF RECORD.

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA NO. 17260 THOMAS & HUTTON ENGINEERING CO. No. COA0285 CERTIFICATE OF AUTHORITY

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 28573 MARCUS B. SHEALY 12-11-2023

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.4789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

MASS GRADING & DRAINAGE PLAN

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

C3.15

MATCH LINE - SEE SHEET NO. C3.13

EXISTING 20" DIP GRAVITY SEWER

PROPOSED MASS GRADED PAD ±945.1 ACRES ELEV: 483.20

MWATER
7
5.00'
9.00'
7.00'
21.37'
22.49'
23.22'
24.45'

EXISTING 48" DIP WATER MAIN

EXISTING 10" PVC FORCE MAIN

DRY STORMWATER POND 8
BOP: 418.00'
TOP: 425.00'
2-YR: 420.00'
10-YR: 421.65'
25-YR: 422.48'
100-YR: 423.11'

CS #104 (8)
FR: 423.00
INV. OUT: 418.00 (E)
(SEE DETAIL SHEET C3.23)

83 LF 24" RCP @ 8.74%

FES
INV.: 410.73

DOUBLE WING HEADWALL SEE DETAIL SHEET C3.22

100-YR FLOOD PLAIN: NO FILL WORK SHALL OCCUR WITHIN THE 100-YR FLOOD PLAIN UNTIL RECEIPT OF APPROVED PERMIT.

RAP APRON DETAIL ET EC4.4

PROPOSED OVERHEAD POWER (BY OTHERS)

PROPERTY BOUNDARY (TYP.)

LOD

50' BUFFER

MATCH LINE - SEE SHEET NO. C3.15

MATCH LINE - SEE SHEET NO. C3.17

GRADING AND DRAINAGE
POND EMBANKMENT NOTES

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GRADING AND DRAINAGE

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9. A WRAPPED ROCK DRAIN (SEE DETAIL ON SHEET C3.20) SHALL BE INSTALLED WHERE NEEDED IN EXISTING TRIBUTARIES AND WETLANDS AT THE DIRECTION OF THE ENGINEER OF RECORD.

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

SOUTH CAROLINA — NOLTENIUS — THOMAS & HUTTON ENGINEERING CO. — No. COA2285 — CERTIFICATE OF AUTHORITY

SOUTH CAROLINA — PROFESSIONAL ENGINEER — No. 28573 — 12-11-2023 — MARCUS B. SIMS

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.4789
www.thomasandhutton.com

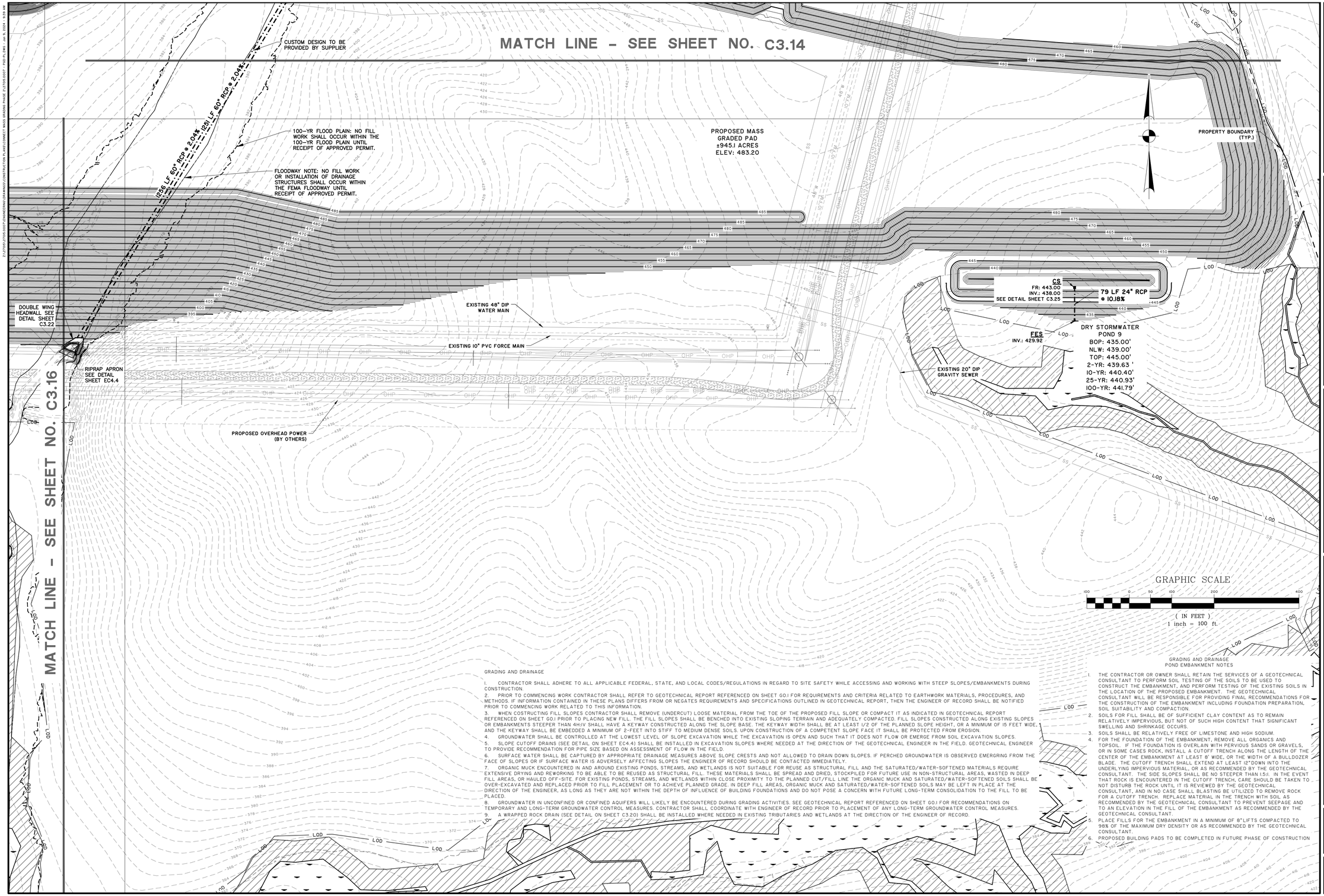
RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

MASS GRADING & DRAINAGE PLAN

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

C3.16



GRAPHIC SCALE

(IN FEET)
1 inch = 100 ft.

GRADING AND DRAINAGE POND EMBANKMENT NOTES

1. THE CONTRACTOR OR OWNER SHALL RETAIN THE SERVICES OF A GEOTECHNICAL CONSULTANT TO PERFORM SOIL TESTING OF THE SOILS TO BE USED TO CONSTRUCT THE EMBANKMENT, AND PERFORM TESTING OF THE EXISTING SOILS IN THE LOCATION OF THE PROPOSED EMBANKMENT. THE GEOTECHNICAL CONSULTANT WILL BE RESPONSIBLE FOR PROVIDING FINAL RECOMMENDATIONS FOR THE CONSTRUCTION OF THE EMBANKMENT INCLUDING FOUNDATION PREPARATION, SOIL SUITABILITY AND COMPACTION.
2. SOILS FOR FILL SHALL BE OF SUFFICIENT CLAY CONTENT AS TO REMAIN RELATIVELY IMPERVIOUS, BUT NOT OF SUCH HIGH CONTENT THAT SIGNIFICANT SWELLING AND SHRINKAGE OCCURS.
3. SOILS SHALL BE RELATIVELY FREE OF LIMESTONE AND HIGH SODIUM.
4. FOR THE FOUNDATION OF THE EMBANKMENT, REMOVE ALL ORGANICS AND TOPSOIL. IF THE FOUNDATION IS OVERLAIN WITH PERVIOUS SANDS OR GRAVELS, OR IN SOME CASES ROCK, INSTALL A CUTOFF TRENCH ALONG THE LENGTH OF THE CENTER OF THE EMBANKMENT AT LEAST 8' WIDE, OR THE WIDTH OF A BULLDOZER BLADE. THE CUTOFF TRENCH SHALL EXTEND AT LEAST 12"DOWN INTO THE UNDERLYING IMPERVIOUS MATERIAL, OR AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT. THE SIDE SLOPES SHALL BE NO STEEPER THAN 1.5:1. IN THE EVENT THAT ROCK IS ENCOUNTERED IN THE CUTOFF TRENCH, CARE SHOULD BE TAKEN TO NOT DISTURB THE ROCK UNTIL IT IS REVIEWED BY THE GEOTECHNICAL CONSULTANT, AND IN NO CASE SHALL BLASTING BE UTILIZED TO REMOVE ROCK FOR A CUTOFF TRENCH. REPLACE MATERIAL IN THE TRENCH WITH SOIL AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT TO PREVENT SEEPAGE AND TO AN ELEVATION IN THE FILL OF THE EMBANKMENT AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT.
5. PLACE FILLS FOR THE EMBANKMENT IN A MINIMUM OF 8"LIFTS COMPACTED TO 98% OF THE MAXIMUM DRY DENSITY OR AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT.
6. PROPOSED BUILDING PADS TO BE COMPLETED IN FUTURE PHASE OF CONSTRUCTION

GRADING AND DRAINAGE

1. CONTRACTOR SHALL ADHERE TO ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/REGULATIONS IN REGARD TO SITE SAFETY WHILE ACCESSING AND WORKING WITH STEEP SLOPES/EMBANKMENTS DURING CONSTRUCTION.
2. PRIOR TO COMMENCING WORK CONTRACTOR SHALL REFER TO GEOTECHNICAL REPORT REFERENCED ON SHEET G0.1 FOR REQUIREMENTS AND CRITERIA RELATED TO EARTHWORK MATERIALS, PROCEDURES, AND METHODS. IF INFORMATION CONTAINED IN THESE PLANS DIFFERS FROM OR NEGATES REQUIREMENTS AND SPECIFICATIONS OUTLINED IN GEOTECHNICAL REPORT, THEN THE ENGINEER OF RECORD SHALL BE NOTIFIED PRIOR TO COMMENCING WORK RELATED TO THIS INFORMATION.
3. WHEN CONSTRUCTING FILL SLOPES CONTRACTOR SHALL REMOVE (UNDERCUT) LOOSE MATERIAL FROM THE TOE OF THE PROPOSED FILL SLOPE OR COMPACT IT AS INDICATED IN GEOTECHNICAL REPORT REFERENCED ON SHEET G0.1 PRIOR TO PLACING NEW FILL. THE FILL SLOPES SHALL BE BENCHED INTO EXISTING SLOPING TERRAIN AND ADEQUATELY COMPACTED. FILL SLOPES CONSTRUCTED ALONG EXISTING SLOPES OR EMBANKMENTS STEEPER THAN 4H:1V SHALL HAVE A KEYWAY CONSTRUCTED ALONG THE SLOPE BASE. THE KEYWAY WIDTH SHALL BE AT LEAST 1/2 OF THE PLANNED SLOPE HEIGHT, OR A MINIMUM OF 15 FEET WIDE, AND THE KEYWAY SHALL BE EMBEDDED A MINIMUM OF 2-FEET INTO STIFF TO MEDIUM DENSE SOILS. UPON CONSTRUCTION OF A COMPETENT SLOPE FACE IT SHALL BE PROTECTED FROM EROSION.
4. GROUNDWATER SHALL BE CONTROLLED AT THE LOWEST LEVEL OF SLOPE EXCAVATION WHILE THE EXCAVATION IS OPEN AND SUCH THAT IT DOES NOT FLOW OR EMERGE FROM SOIL EXCAVATION SLOPES.
5. SLOPE CUTOFF DRAINS (SEE DETAIL ON SHEET EC4.4) SHALL BE INSTALLED IN EXCAVATION SLOPES WHERE NEEDED AT THE DIRECTION OF THE GEOTECHNICAL ENGINEER IN THE FIELD. GEOTECHNICAL ENGINEER TO PROVIDE RECOMMENDATION FOR PIPE SIZE BASED ON ASSESSMENT OF FLOW IN THE FIELD.
6. SURFACE WATER SHALL BE CAPTURED BY APPROPRIATE DRAINAGE MEASURES ABOVE SLOPE CRESTS AND NOT ALLOWED TO DRAIN DOWN SLOPES. IF PERCHED GROUNDWATER IS OBSERVED EMERGING FROM THE FACE OF SLOPES OR IF SURFACE WATER IS ADVERSELY AFFECTING SLOPES THE ENGINEER OF RECORD SHOULD BE CONTACTED IMMEDIATELY.
7. ORGANIC MUCK ENCOUNTERED IN AND AROUND EXISTING PONDS, STREAMS, AND WETLANDS IS NOT SUITABLE FOR REUSE AS STRUCTURAL FILL AND THE SATURATED/WATER-SOFTENED MATERIALS REQUIRE EXTENSIVE DRYING AND REWORKING TO BE ABLE TO BE REUSED AS STRUCTURAL FILL. THESE MATERIALS SHALL BE SPREAD AND DRIED, STOCKPILED FOR FUTURE USE IN NON-STRUCTURAL AREAS, WASTED IN DEEP FILL AREAS, OR HAULED OFF-SITE. FOR EXISTING PONDS, STREAMS, AND WETLANDS WITHIN CLOSE PROXIMITY TO THE PLANNED CUT/FILL LINE THE ORGANIC MUCK AND SATURATED/WATER-SOFTENED SOILS SHALL BE OVER-EXCAVATED AND REPLACED PRIOR TO FILL PLACEMENT OR TO ACHIEVE PLANNED GRADE. IN DEEP FILL AREAS, ORGANIC MUCK AND SATURATED/WATER-SOFTENED SOILS MAY BE LEFT IN PLACE AT THE DIRECTION OF THE ENGINEER, AS LONG AS THEY ARE NOT WITHIN THE DEPTH OF INFLUENCE OF BUILDING FOUNDATIONS AND DO NOT POSE A CONCERN WITH FUTURE LONG-TERM CONSOLIDATION TO THE FILL TO BE PLACED.
8. GROUNDWATER IN UNCONFINED OR CONFINED AQUIFERS WILL LIKELY BE ENCOUNTERED DURING GRADING ACTIVITIES. SEE GEOTECHNICAL REPORT REFERENCED ON SHEET G0.1 FOR RECOMMENDATIONS ON TEMPORARY AND LONG-TERM GROUNDWATER CONTROL MEASURES. CONTRACTOR SHALL COORDINATE WITH ENGINEER OF RECORD PRIOR TO PLACEMENT OF ANY LONG-TERM GROUNDWATER CONTROL MEASURES.
9. A WRAPPED ROCK DRAIN (SEE DETAIL ON SHEET C3.20) SHALL BE INSTALLED WHERE NEEDED IN EXISTING TRIBUTARIES AND WETLANDS AT THE DIRECTION OF THE ENGINEER OF RECORD.

SOUTH CAROLINA NOLTE/ZINK THOMAS & HUTTON ENGINEERING CO. No. COA2285 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 28573 CHRISTOPHER G. WARREN 12-19-24

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.4789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

MASS GRADING & DRAINAGE PLAN

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

C3.17

TABLE 714-205B

REINFORCED CONCRETE PIPE (RCP) SMOOTH WALL PIPE

AASHTO M170 B & C WALL PIPE WITH CIRCULAR REINFORCEMENT ONLY (AS NOTED)

LOADING FROM SCDOT INSTRUCTIONAL BULLETIN 2010-01 HL-93 LOAD CASES 1, 2, AND 4.

INDIRECT DESIGN

PIPE DIAMETER [IN]

******DEPTH OF COVER (FEET)******			12	15	18	24	30	36	42	48	54	60	66	72	78	84	90	96	108	120
AT LEAST		0.00	NA	V^	V^	IV^	IV^	III^ (B)	III^ (B)	III^	III^	III^	III^	III^	III^	III^	III^	III^	III^	CUSTOM
		0.50	V^	V^	V^	IV^	IV^	III^ (B)	III^ (B)	III^	III^	III^	III^	III^	III^	III^	III^	III^	III^	CUSTOM
		0.75	V+	V+	IV+	IV+	IV+	III+ (B)	III+ (B)	III+	III+	III+	III+	III+	III+	III+	III+	III+	III+	CUSTOM
		1.00	IV	IV	IV	III	III	III (B)	III (B)	III	III	III	III	III	III	III	III	III	III	CUSTOM
		1.25	IV	IV	IV	III	III	III (B)	III (B)	III	III	III	III	III	III	III	III	III	III	CUSTOM
		1.50	IV	III	III	III	III	III (B)	III (B)	III	III	III	III	III	III	III	III	III	III	CUSTOM
		1.75	III	III	III	III	III	III (B)	III (B)	III	III	III	III	III	III	III	III	III	III	CUSTOM
		2.00	III	III	III	III	III	III (B)	III (B)	III	III	III	III	III	III	III	III	III	III	CUSTOM
		2.25	III	III	III	III	III	III (B)	III (B)	III	III	III	III	III	III	III	III	III	III	CUSTOM
		2.50	III	III	III	III	III	III (B)	III (B)	III	III	III	III	III	III	III	III	III	III	CUSTOM
		2.75	III	III	III	III	III	III (B)	III (B)	III	III	III	III	III	III	III	III	III	III	CUSTOM
		3.00	III	III	III	III	III	III (B)	III (B)	III	III	III	III	III	III	III	III	III	III	CUSTOM
		4.00	III	III	III	III	III	III (B)	III (B)	III	III	III	III	III	III	III	III	III	III	CUSTOM
		5.00	III	III	III	III	III	III (B)	III (B)	III	III	III	III	III	III	III	III	III	III	CUSTOM
		6.00	III	III	III	III	III	III (B)	III (B)	III	III	III	III	III	III	III	III	III	III	CUSTOM
		7.00	III	III	III	III	III	III (B)	III (B)	III	III	III	III	III	III	III	III	III	III	CUSTOM
		8.00	III	III	III	III	III	III (B)	III (B)	III	III	III	III	III	III	III	III	III	III	CUSTOM
		9.00	III	III	III	III	III	III (B)	III (B)	III	III	III	III	III	III	III	III	III	III	CUSTOM
		10.00	III	III	III	III	III	III (B)	III (B)	III	III	III	III	III	III	III	III	III	III	CUSTOM
		11.00	III	III	III	III	III	III (B)	III (B)	III	III	III	III	III	III	III	III	III	III	CUSTOM
		12.00	III	III	III	III	III	III (B)	III (B)	III	III	III	III	III	III	III	III	III	III	CUSTOM
		13.00	III	III	III	III	III	III (B)	III (B)	III	III	III	III	III	III	III	III	III	III	CUSTOM
		14.00	III	III	III	III	III	III (B)	III (B)	III	III	III	III	III	III	III	III	III	III	CUSTOM
		15.00	III	III	III	III	III	III (B)	III (B)	III	III	III	III	III	III	III	III	CUSTOM	CUSTOM	CUSTOM
		16.00	III	III	III	III	III	III (B)	III (B)	III	III	IV	IV	IV	IV	IV	CUSTOM	CUSTOM	CUSTOM	CUSTOM
		17.00	IV	IV	IV	IV	IV	IV (B)	IV (B)	IV	IV	IV	IV	IV	IV	IV	CUSTOM	CUSTOM	CUSTOM	CUSTOM
		18.00	IV	IV	IV	IV	IV	IV (B)	IV (B)	IV	IV	IV	IV	IV	IV	IV	CUSTOM	CUSTOM	CUSTOM	CUSTOM
		19.00	IV	IV	IV	IV	IV	IV (B)	IV (B)	IV	IV	IV	IV	IV	IV	IV	CUSTOM	CUSTOM	CUSTOM	CUSTOM
		20.00	IV	IV	IV	IV	IV	IV (B)	IV (B)	IV	IV	IV	IV	IV	IV	IV	CUSTOM	CUSTOM	CUSTOM	CUSTOM
		21.00	IV	IV	IV	IV	IV	IV (B)	IV (B)	IV	IV	IV	IV	IV	IV	IV	CUSTOM	CUSTOM	CUSTOM	CUSTOM
		22.00	IV	IV	IV	IV	IV	IV (B)	IV (B)	IV	IV	IV	IV	IV	IV	IV	CUSTOM	CUSTOM	CUSTOM	CUSTOM
		23.00	IV	IV	IV	IV	IV	IV (B)	IV (B)	IV	IV	IV	IV	IV	IV	IV	CUSTOM	CUSTOM	CUSTOM	CUSTOM
		24.00	IV	IV	IV	IV	IV	IV (B)	IV (B)	IV	IV	IV	IV	IV	IV	IV	CUSTOM	CUSTOM	CUSTOM	CUSTOM
		25.00	IV	IV	IV	IV	IV	IV (B)	IV (B)	IV	IV	IV	IV	V	CUSTOM	CUSTOM	CUSTOM	CUSTOM	CUSTOM	CUSTOM
		26.00	V	V	V	V	V	V	V	V	V	V	V	V	CUSTOM	CUSTOM	CUSTOM	CUSTOM	CUSTOM	CUSTOM
		27.00	V	V	V	V	V	V	V	V	V	V	V	V	CUSTOM	CUSTOM	CUSTOM	CUSTOM	CUSTOM	CUSTOM
		28.00	V	V	V	V	V	V	V	V	V	V	V	V	CUSTOM	CUSTOM	CUSTOM	CUSTOM	CUSTOM	CUSTOM
		29.00	V	V	V	V	V	V	V	V	V	V	V	V	CUSTOM	CUSTOM	CUSTOM	CUSTOM	CUSTOM	CUSTOM
		30.00	V	V	V	V	V	V	V	V	V	V	V	V	CUSTOM	CUSTOM	CUSTOM	CUSTOM	CUSTOM	CUSTOM

NO MORE THAN

+ ALLOWED UNDER RIGID PAVEMENT ONLY OR DRIVEWAY.

^ LOAD CASE 4: UNIVERSAL DRIVEWAY APPLICATION (NOT ALLOWED UNDER ROADWAY CROSSINGS).

(B) B WALL ONLY, C WALL IS NOT ALLOWED FOR THIS DIAMETER AND CLASS.

CUSTOM – DESIGN REINFORCED CONCRETE PIPE USING THE DIRECT DESIGN METHOD IN ACCORDANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATION SECTION 12.

DESIGN CALCULATIONS MUST BE SEALED AND SIGNED BY A SOUTH CAROLINA PROFESSIONAL ENGINEER AND SUBMITTED TO THE DEPARTMENT FOR REVIEW PRIOR TO PIPE FABRICATION.

REFERENCES

NATIONAL DOCUMENTS

AASHTO M32, M55, M170, M198, M221, M225, M295, M302, M315, T96, T104, ASTM A706

SCDOT DOCUMENTS

SCDOT SUPPLEMENTAL TECHNICAL SPECIFICATION SC-M-714
ENGINEERING DIRECTIVE MEMO 24
INSTRUCTIONAL BULLETIN 2010-01
QUALIFIED PRODUCT LIST 60, 69
SCDOT TO ACPA (MARCH 14, 2012 LETTER)

RELATED DRAWINGS & KEYWORDS

714-005-00
714-105-00
714-110-00
714-205-01
714-990-MO

THIS DRAWING IS ONLY VALID FOR CONSTRUCTION WHEN SEALED AND SIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF SOUTH CAROLINA. CHECK WWW.SCDOT.ORG FOR LATEST UPDATE.

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER
NO. 21242
JAMES W. KENDALL, JR.

James W. Kendall
SIGNATURE

9-26-12
DATE

#	DATE	CHK	DESCRIPTION
6	---	---	---
5	---	---	---
4	---	---	---
3	---	---	---
2	8/2012	DSO	SCDOT LETTER 3/12
1	3/2010	JBH	GENERAL REVISIONS
0	3/2009	HJC	NEW STANDARD

SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
DESIGN STANDARDS OFFICE
955 PARK STREET
ROOM 405
COLUMBIA, SC 29201

STANDARD DRAWING

PIPE CULVERTS
SMOOTH WALL
(RIGID REINFORCED CONCRETE PIPE (RCP)
FILL HEIGHT CHART

714-205-02

EFFECTIVE LETTING DATE: JANUARY, 2013

SOUTH CAROLINA PROFESSIONAL ENGINEER
THOMAS & HUTTON ENGINEERING Co.
No. C00285
CERTIFICATE OF AUTHORITY
SOUTH CAROLINA PROFESSIONAL ENGINEER
No. 28573
JAMES W. KENDALL, JR.
REGISTERED PROFESSIONAL ENGINEER
MARCH 31, 2013

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 740
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
TOWN OF BLYTHEWOOD, RICHLAND COUNTY, SC
PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS
GRADING AND DRAINAGE DETAILS

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	N.T.S.

C3.18

Z:\27015.0007-SOUTH\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015.0007 - PSD - DT.DWG - Jan 11, 2024 - 9:49 AM

REFERENCES

NATIONAL DOCUMENTS

AASHTO M31, M170, M198, M295, M302, M315, M336, T96, T104

ASTM C443, C990

SCDOT DOCUMENTS

SC-M-714
PCCM-05
QPL 60
QPL 69

RELATED DRAWINGS & KEYWORDS

714-005-00
714-020-00
714-105-00
714-120-00
714-990-MO

THIS DRAWING IS ONLY VALID FOR CONSTRUCTION WHEN SEALED AND SIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF SOUTH CAROLINA.
CHECK WWW.SCDOT.ORG FOR LATEST UPDATE.

SOUTH CAROLINA PROFESSIONAL ENGINEER
NO. 19782
ROBERT BEDENBAUGH JR.

SIGNATURE

11/09/20
DATE

#	DATE	CHK	DESCRIPTION
6	—	—	
5	3/2020	DSO	GENERAL REVISIONS
4	6/2012	DSO	SCDOT LETTER 3/12
3	3/2010	JBH	GENERAL REVISIONS
2	3/2009	HJC	COMPLETE TABLE
1	7/2008	HJC	GENERAL REVISIONS
0	3/2008	DSO	NEW STANDARD

SCDOT

SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
DESIGN STANDARDS OFFICE
955 PARK STREET
ROOM 405
COLUMBIA, SC 29201

STANDARD DRAWING

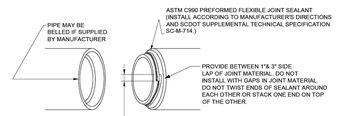
PIPE CULVERTS
SMOOTH WALL
(RIGID REINFORCED
CONCRETE PIPE (RCP)
DETAILS &
FILL HEIGHT)

714-205-01

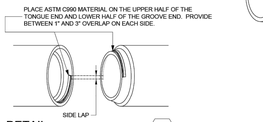
EFFECTIVE LETTING DATE: JULY 2020

THIS DRAWING IS NOT TO SCALE.

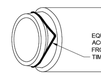
DETAIL 1
JOINT SEALANT INSTALLATION



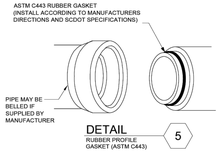
DETAIL 2
PREFORMED FLEXIBLE JOINT MATERIAL FOR PIPES UP TO AND INCLUDING 48" DIAMETER (ASTM C990)



DETAIL 3
PREFORMED FLEXIBLE JOINT MATERIAL FOR PIPES LARGER THAN 48" DIAMETER (ASTM C990)



DETAIL 4
RUBBER PROFILE GASKET EQUALIZATION (ASTM C443)



DETAIL 5
RUBBER PROFILE GASKET (ASTM C443)

1. SEE SHEET 714-005-00, 714-020-00, 714-105-00, & 714-120-00 FOR GENERAL NOTES, AND TRENCH INSTALLATION REQUIREMENTS.
2. USE ONLY REINFORCED CONCRETE PIPE AND JOINT MATERIAL FROM MANUFACTURERS LISTED ON QUALIFIED PRODUCT LIST 69. USE ONLY PIPE CLASSES LISTED IN TABLE 714-205A.
3. FLEXIBLE PIPE CULVERTS ARE PROHIBITED FROM USE ON ALL INTERSTATE AND SCDOT EVACUATION ROUTES. USE ONLY RIGID PIPE CULVERTS FOR ALL INTERSTATE AND SCDOT EVACUATION ROUTES STATEWIDE.
4. MANUFACTURERS MAY SUBSTITUTE A HIGHER CLASS PIPE THAN THE PIPE CLASS SPECIFIED ON THE PLANS, HOWEVER, INSTALLATION DEPTH SHALL NOT EXCEED THE DEPTH SHOWN ON THE PLANS OR VIOLATE THE FILL HEIGHTS IDENTIFIED IN TABLE 714-205A. NO ADDITIONAL PAYMENT WILL BE MADE FOR HIGHER CLASS PIPE SUBSTITUTION.
5. SITE CONDITIONS OTHER THAN TYPICAL INSTALLATION MAY REQUIRE SPECIAL DESIGNED PIPE. SPECIAL DESIGN PIPE MAY ALSO BE REQUIRED FOR INSTALLATIONS OUTSIDE OF SCDOT RIGHT OF WAY - SEE RIGHT OF WAY/UTILITY/MUNICIPAL AGREEMENT FOR THESE INSTALLATIONS. WHEN REQUIRED, ALL SPECIAL DESIGN PIPES MUST BE DESIGNED IN ACCORDANCE WITH PCDM-05.
6. THIS FILL HEIGHT TABLE IS FOR USE IN SCDOT ROADWAY APPLICATIONS ONLY AND SHOULD NOT BE USED FOR ANY OTHER TRANSPORTATION FACILITY.
7. THE REINFORCED CONCRETE PIPE FILL HEIGHT VALUES IN TABLE 714-205A ARE BASED ON CALCULATIONS PROVIDED BY THE AMERICAN CONCRETE PIPE ASSOCIATION. FILL HEIGHT VALUES IN TABLE 714-205A ARE APPLICABLE FOR THE FOLLOWING LOAD CASE CRITERIA:

   LOAD CASE 1 - STANDARD MAXIMUM COVER INSTALLATION UNDERNEATH ROADWAY. ANY PIPE REQUIRING INSTALLATION DEPTHS GREATER THAN THIS VALUE WILL REQUIRE A SPECIAL DESIGNED PIPE.

   LOAD CASE 2 - STANDARD MINIMUM COVER INSTALLATION UNDERNEATH ROADWAY. THIS VALUE IS SET BY AASHTO LRFD MINIMUM COVER REQUIREMENTS, REGARDLESS OF PIPE STRUCTURAL CAPACITY. PIPE INSTALLATIONS AT DEPTHS SHALLOWER THAN THIS VALUE ARE NOT PERMITTED FOR LOAD CASE 2.

   LOAD CASE 3 - STANDARD MINIMUM COVER INSTALLATION FOR CONSTRUCTION VEHICLE LOADING. THIS VALUE INCLUDES AASHTO BRIDGE CONSTRUCTION SPECIFICATION MINIMUM (75 KIP/AXLE) CONSTRUCTION LOAD. WHERE POSSIBLE, AVOID DRIVING CONSTRUCTION VEHICLES OVER INSTALLED PIPE. EXTEND CONSTRUCTION FILL HEIGHT BEYOND SIDES OF PIPE BY THE LARGER OF 3 FEET OR ONE PIPE DIAMETER, IN ORDER TO MINIMIZE LATERAL DISPLACEMENT, PERIODICALLY CHANGE THE LOCATION OF EQUIPMENT CROSSING OVER PIPE.

   LOAD CASE 4 - NON-RESIDENTIAL DRIVEWAY (LIGHT COMMERCIAL) SAME STRUCTURAL DESIGN LOADING AS LOAD CASE 2 BUT MINIMUM COVER OVER PIPE IS NOT LIMITED BY AASHTO LRFD (MOST CURRENT EDITION ADOPTED BY THE DEPARTMENT) SECTION 12 MINIMUM COVER REQUIREMENT. FOR THIS CONDITION SCDOT WILL PERMIT PIPE TO BE INSTALLED AT A DEPTH THAT IS SHALLOWER THAN THE AASHTO MINIMUM. THE VALUE USED FOR MINIMUM COVER WILL ONLY BE LIMITED BY THE PIPES STRUCTURAL CAPACITY DETERMINED FROM THE STRUCTURAL DESIGN. USE LOAD CASE 2 FOR HEAVY COMMERCIAL DRIVEWAYS. SEE 714-990-MO FOR RESIDENTIAL DRIVEWAY INSTALLATION FOR MAINTENANCE APPLICATIONS.

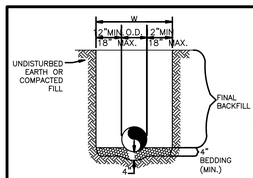
   LOAD CASE 6 - STANDARD MAXIMUM COVER INSTALLATION BELOW GROUNDWATER TABLE. MAXIMUM DEPTH PIPE CAN BE INSTALLED WITH GROUNDWATER TABLE ELEVATION AT 2 X O.D. ABOVE PIPE INVERT.
8. ALL VALUES NOTED AS "--" TYPICALLY INDICATE THAT PIPE SIZE IN NOT AVAILABLE OR THAT A SPECIAL DESIGN PIPE IS REQUIRED FOR THIS SIZE. CHECK WITH PIPE MANUFACTURE FOR SPECIAL DESIGN PIPE.

PAY ITEMS:
714XXXX (SIZE) SMOOTH WALL PIPE CULVERT.....LF
714XXXX (SIZE) RC PIPE CULVERT (RCP) - (CLASS).....LF
714XXXX (SIZE) RC PIPE CULVERT (RCP) - (CLASS) AASHTO M198 JOINT (ASTM C990).....LF
714XXXX (SIZE) RC PIPE CULVERT (RCP) - (CLASS) AASHTO M315 JOINT (ASTM C443).....LF
203AXXX (DIAMETER) PIPE ADDITIONAL FOUNDATION WORK.....LF

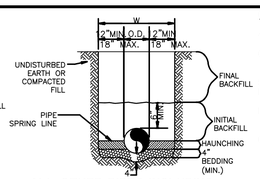
TABLE 714-205A: REINFORCED CONCRETE PIPE ALLOWABLE FILL HEIGHTS

PIPE DIAMETER	HYDRAULIC AREA	MANNING'S COEFFICIENT	ESTIMATED MINIMUM TRENCH WIDTH	LOAD CASE 1 MAXIMUM COVER (UNDER ROADWAY) [FT]				LOAD CASE 2 MINIMUM COVER (UNDER ROADWAY) [FT]				LOAD CASE 3 MINIMUM COVER (CONSTRUCTION VEHICLE) [FT]				LOAD CASE 4 MINIMUM COVER (NON-RESIDENTIAL DRIVEWAY) NOT FOR USE UNDER ROADWAY [FT]				LOAD CASE 6 MAXIMUM COVER (INVERT AT 2 X OD BELOW GROUNDWATER TABLE) [FT]			
				PIPE CLASS				PIPE CLASS				PIPE CLASS				PIPE CLASS				PIPE CLASS			
[IN]	[FT²]	[n]	[IN]	II	III	IV	V	II	III	IV	V	II	III	IV	V	II	III	IV	V	II	III	IV	V
12	0.78	SEE MFG	42	12.00	17.00	25.00	38.00	2.75	1.25	1.00*	1.00*	5.00	4.00	3.00	1.00	2.75	1.25	0.00	0.00	12.00	17.00	25.00	38.00
15	1.22	SEE MFG	45	13.00	17.00	26.00	39.00	2.75	1.25	1.00*	1.00*	5.00	4.00	3.00	1.00	2.75	1.25	0.00	0.00	12.00	17.00	26.00	39.00
18	1.76	0.012	49	13.00	17.00	26.00	40.00	2.50	1.25	1.00*	1.00*	5.00	4.00	3.00	1.00	2.50	1.25	0.00	0.00	12.00	17.00	26.00	40.00
24	3.14	0.012	56	13.00	17.00	26.00	40.00	2.50	1.00*	1.00*	1.00*	5.00	4.00	3.00	1.00	2.50	0.00	0.00	0.00	12.00	17.00	26.00	40.00
30	4.90	0.012	63	13.00	17.00	26.00	40.00	2.50	1.00*	1.00*	1.00*	5.00	4.00	3.00	1.00	2.50	0.00	0.00	0.00	12.00	17.00	26.00	39.00
36	7.06	0.012	70	12.00	17.00	26.00	40.00	2.50	1.00*	1.00*	1.00*	5.00	4.00	3.00	1.00	2.50	0.00	0.00	0.00	12.00	17.00	26.00	39.00
42	9.62	0.012	77	12.00	17.00	26.00	40.00	2.25	1.00*	1.00*	1.00*	4.00	3.00	2.00	1.00	2.25	0.00	0.00	0.00	12.00	17.00	26.00	39.00
48	12.56	0.012	84	12.00	17.00	26.00	40.00	1.00*	1.00*	1.00*	1.00*	4.00	3.00	2.00	1.00	0.00	0.00	0.00	0.00	12.00	16.00	25.00	39.00
54	15.90	0.012	91	12.00	17.00	26.00	40.00	1.00*	1.00*	1.00*	1.00*	4.00	3.00	2.00	1.00	0.00	0.00	0.00	0.00	11.00	16.00	25.00	39.00
60	19.63	0.012	98	12.00	17.00	26.00	39.00	1.00*	1.00*	1.00*	1.00*	4.00	3.00	1.00	1.00	0.00	0.00	0.00	0.00	11.00	16.00	25.00	39.00
66	23.75	0.012	107	12.00	17.00	26.00	39.00	1.00*	1.00*	1.00*	1.00*	4.00	3.00	1.00	1.00	0.00	0.00	0.00	0.00	11.00	16.00	25.00	38.00
72	28.27	0.012	116	12.00	17.00	25.00	39.00	1.00*	1.00*	1.00*	1.00*	4.00	3.00	1.00	1.00	0.00	0.00	0.00	0.00	11.00	16.00	24.00	38.00
78	33.18	0.012	126	12.00	17.00	25.00	---	1.00*	1.00*	1.00*	---	3.00	3.00	1.00	---	0.00	0.00	0.00	---	11.00	15.00	24.00	---
84	38.48	0.012	135	12.00	16.00	25.00	---	1.00*	1.00*	1.00*	---	3.00	3.00	1.00	---	0.00	0.00	0.00	---	10.00	15.00	24.00	---
90	44.17	0.012	144	12.00	16.00	---	---	1.00*	1.00*	---	---	3.00	3.00	---	---	0.00	0.00	---	---	10.00	15.00	---	---
96	56.74	0.012	154	11.00	16.00	---	---	1.00*	1.00*	---	---	3.00	3.00	---	---	0.00	0.00	---	---	10.00	15.00	---	---
108	63.61	0.012	172	11.00	16.00	---	---	1.00*	1.00*	---	---	3.00	3.00	---	---	0.00	0.00	---	---	9.00	15.00	---	---
120	78.54	0.012	191	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

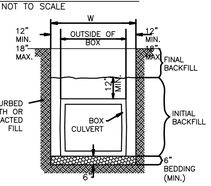
* IF PIPE IS INSTALLED UNDER RIGID PAVEMENT VALUE MAY BE REDUCED TO 0.75-FT



REINFORCED CONCRETE PIPE (RCP) AND SPIRAL RIB PIPE SMALLER THAN 60"ø
NOT TO SCALE



ALL OTHER PIPES INCLUDING SPIRAL RIB PIPE 60"ø AND LARGER
NOT TO SCALE



D127
OCT. 2008
THOMAS & HUTTON ENGINEERING CO.

CONCRETE BOX CULVERT
NOT TO SCALE

GENERAL NOTES

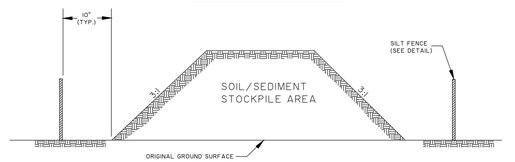
1. BEDDING SHALL BE CLASS I–A WORKED BY HAND. IF GROUNDWATER IS ANTICIPATED, THEN BEDDING SHALL BE CLASS I–B COMPACTED TO 85% STANDARD PROCTOR.
2. HAUNCHING SHALL BE WORKED AROUND THE PIPE BY HAND TO ELIMINATE VOIDS AND SHALL BE CLASS I–A OR CLASS I–B OR CLASS II COMPACTED TO 85% PROCTOR.
3. INITIAL BACKFILL SHALL BE CLASS I–A WORKED BY HAND, OR CLASS I–B OR CLASS II COMPACTED TO 85% STANDARD PROCTOR.

GENERAL NOTES– CONTINUED

4. INITIAL BACKFILL NOT UNDER PAVED AREAS CAN BE CLASS III COMPACTED TO 90% STANDARD PROCTOR.
5. FINAL BACKFILL SHALL BE CLASS I, II, OR III COMPACTED AS NOTED IN NOTES 3 AND 4.
6. FINAL BACKFILL NOT UNDER PAVED AREAS CAN BE CLASS IV–A COMPACTED TO 95% STANDARD PROCTOR.
7. ALL MATERIALS ARE CLASSIFIED IN ACCORDANCE WITH ASTM D 2321–LATEST EDITION.
8. ALL MATERIALS SHALL BE INSTALLED IN MAXIMUM 8" LOOSE LIFTS IN ACCORDANCE WITH ASTM D 698. CLASS III AND IV–A MATERIALS SHALL BE COMPACTED NEAR OPTIMUM MOISTURE CONTENT.
9. FILL SALVAGED FROM EXCAVATION SHALL BE FREE OF DEBRIS, ORGANICS AND ROCKS LARGER THAN 3".
10. ALL TRENCH EXCAVATIONS SHALL BE SLOPED, SHORED, SHEETED, BRACED, OR OTHERWISE SUPPORTED IN COMPLIANCE WITH OSHA REGULATIONS AND LOCAL ORDINANCES. (SEE SPECIFICATIONS)

STORM SEWER TRENCH AND BEDDING
NOT TO SCALE

TEMPORARY STOCKPILE AREA



NOTES:

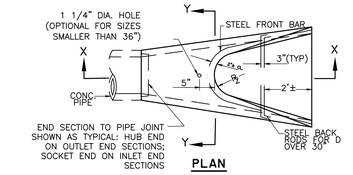
1. SILT FENCE TO EXTEND AROUND ENTIRE PERIMETER OF STOCKPILE, OR IF STOCKPILE AREA IS LOCATED ON/NEAR A SLOP THE SILT FENCE IS TO EXTEND ALONG CONTOURS OF THE DOWN–GRADIENT AREA.
2. IF STOCKPILE IS TO REMAIN FOR MORE THAN 14 DAYS, TEMPORARY STABILIZATION MEASURES MUST BE IMPLEMENTED.
3. SILT FENCE SHALL BE MAINTAINED UNTIL STOCKPILE AREA HAS EITHER BEEN REMOVED OR PERMANENTLY STABILIZED.
4. THE KEY TO FUNCTIONAL TEMPORARY STOCKPILE AREAS IS WEEKLY INSPECTIONS, ROUTINE MAINTENANCE, AND REGULAR SEDIMENT REMOVAL.

South Carolina Department of Health and Environmental Control

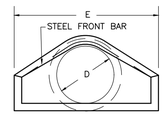
TEMPORARY STOCKPILE

STANDARD DRAWING NO. **SC-15** PAGE 1 of 1

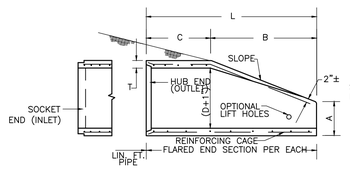
NOT TO SCALE FEBRUARY 2014 DATE



PLAN

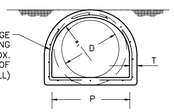


FRONT



SECTION X-X

NOTE:
DO NOT CUT CONCRETE PIPE. USE FULL LENGTH END SECTIONS ONLY. WARP SLOPE TO CONFORM WITH PIPE LENGTH AND END SECTION.



SECTION Y-Y

DIMENSIONS AND REINFORCING FOR CONCRETE FLARED END SECTIONS (± 1" TOLERANCE)

PIPE DIA.	FRONT BAR	BACK RODS	SLOPE	A	B	C	L	E	P	R	R
12"	1–#3x5'–4"	NOT REQ'D.	2.2:1	4"	2'–0"	4'–1"	6'–1"	2'–0"	1'–8"	10"	9"
15"	1–#3x6'–0"	NOT REQ'D.	2.2:1	6"	2'–3"	3'–10"	6'–1"	2'–6"	2'–0"	1'–0"	11"
18"	1–#3x7'–2"	NOT REQ'D.	2.2:1	9"	2'–3"	3'–10"	6'–1"	3'–0"	2'–6"	1'–4"	1'–0"
24"	1–#3x9'–10"	NOT REQ'D.	2.4:1	10"	3'–8"	2'–6"	6'–2"	4'–0"	2'–9"	1'–5"	1'–2"
30"	1–#4x11'–8"	NOT REQ'D.	2.4:1	12"	4'–6"	1'–8"	6'–2"	5'–0"	3'–1"	1'–6"	1'–3"
36"	1–#4x13'–10"	2–#4x6'–3"	2.4:1	15"	5'–3"	2'–11"	8'–2"	6'–0"	4'–0"	2'–0"	1'–8"
42"	1–#4x13'–10"	2–#4x7'–4"	2.4:1	21"	5'–3"	2'–11"	8'–2"	6'–6"	4'–6"	2'–4"	1'–10

NOTE:
SPECIFIED REINFORCING IS MINIMAL AND MAY BE INCREASED AT PRODUCERS OPTION TO AID CASTING & HANDLING. ALTERNATE REINFORCEMENT PERMITTED IF ACCEPTABLE TO ENGINEER.

REINFORCING CAGE:
1. WIRE FABRIC HAVING SAME STEEL AREA AS INNER CAGE FOR CL. III PIPE, AASHTO M–170, BUT PLACED IN CENTER OF WALL.
2. ALTERNATE: #3 BARS SPACED 12"± LONGITUDINALLY WITH #2 BARS TRANSVERSELY AT 6" O.C. MAX. SPACING, SPOT WELDED OR TIED TO FORM CAGE.

NOTE:
CONTRACTOR WILL INFORM PRODUCER IF CONCRETE FLARED END SECTION IS FOR INLET OR FOR OUTLET
END. SOCKET (TONGUE OR SPIGOT) END IS REQUIRED FOR INLETS. HUB (GROOVE OR BELL) END IS REQUIRED FOR OUTLETS. SOCKET TO SOCKET OR HUB TO HUB JOINT WILL NOT BE ACCEPTED UNLESS A REINFORCED CONCRETE COLLAR IS BUILT AROUND THE JOINT WITH NO PAYMENT BEING MADE FOR THE COLLAR. FLARED END SECTIONS SHALL BE JOINTED TO PIPE WITH ALL SPACE IN THE JOINT FILLED WITH PREFORMED PLASTIC GASKET (SEC.848). WALL THICKNESS (T) IS SHOWN AS NOMINAL AND MAY BE INCREASED AT PRODUCERS OPTION FOR DESIRED JOINT DESIGN OR TO ALLOW A FLAT OUTSIDE BOTTOM ON THE FLARE, WITH INSIDE DIMENSIONS OF FLARE RETAINED AS SHOWN.
T = PIPE WALL THICKNESS (0.08330+1"± TYPICAL).

CONCRETE FLARED END SECTION
NOT TO SCALE

SOUTH CAROLINA PROFESSIONAL ENGINEER
NO. 25573
CHRISTOPHER G. WILSON
12-19-2023
MARCH 31, 2024 EXPIRATION DATE

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 740
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
TOWN OF BLYTHEWOOD, RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

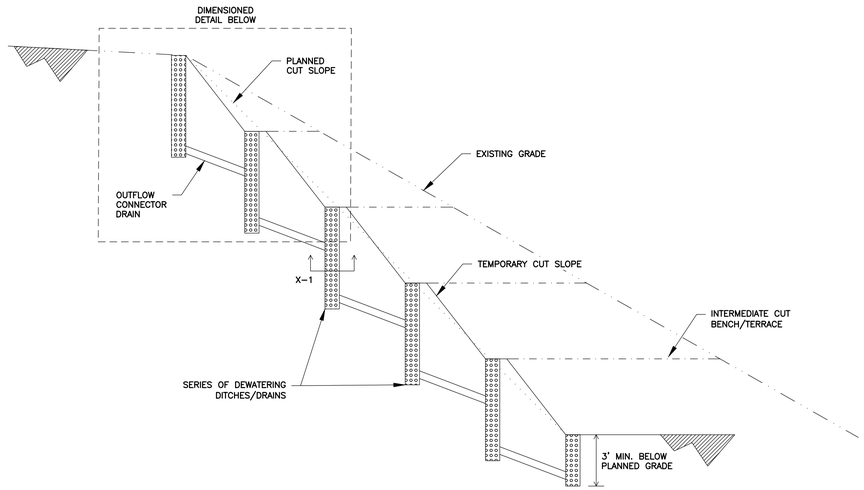
GRADING AND DRAINAGE DETAILS

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	N.T.S.

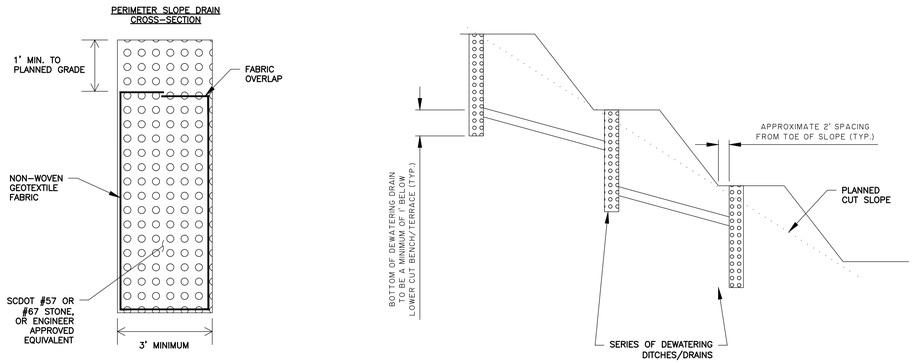
C3.19

Z:\27015.27\05-SCDOT\Engineering\Drawings\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015.0007 - PSD - ST.DWG - Jan 9, 2024 - 9:42 AM

EX27015-27015-003-PLOTTING-DRAINAGE-DRAWINGS-CONSTRUCTION PLANS-CONNECT MASS GRADING PHASE EX27015-0007 - PAD - DT.DWG - Jan 9, 2024 - 9:43 AM



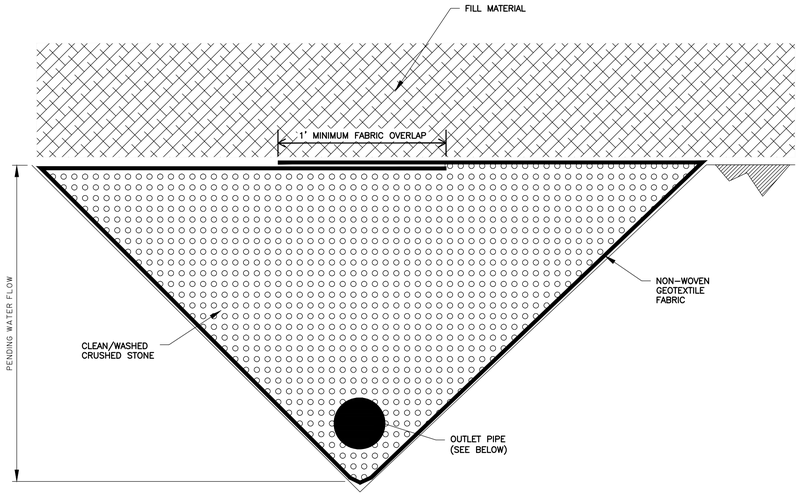
DEWATERING DRAIN (X-1)



DIMENSION DETAIL

PERIMETER SLOPE DRAIN NOTES

1. PERIMETER SLOPE DRAIN TO BE INSTALLED AS CUT EXCAVATION PROGRESSES (TOP-DOWN CONSTRUCTION).
2. DRAIN TO BE EXCAVATED PARALLEL WITH FACE OF CUT SLOPE.
3. INITIAL DRAIN TO BE EXCAVATED PRIOR TO CUT ACTIVITIES.
4. INITIAL AND SUBSEQUENT DRAIN TO BE EXCAVATED TO A MIN. DEPTH OF 1 FOOT BELOW ELEVATION OF SUBSEQUENT CUT BENCH/TERRACE.
5. DEPTH OF INITIAL AND SUBSEQUENT DRAINS TO BE DETERMINED BY CONTRACTOR BASED ON PLANNED EXCAVATION BENCHES/TERRACES.
6. INITIAL DRAIN TO BE INSTALLED NEAR THE CREST OF THE CUT SLOPE, ROUGHLY 2-FOOT MAX. OFFSET FROM CREST.
7. SUBSEQUENT DRAINS TO BE INSTALLED NEAR THE TOE OF THE CUT BENCH/TERRACE, ROUGHLY 2-FOOT MAX. OFFSET FROM TOE OF ABOVE SLOPE.
8. FINAL DRAIN TO BE INSTALLED NEAR THE TOE OF THE FINAL CUT BENCH/TERRACE, ROUGHLY 2-FOOT MAX OFFSET FROM TOE OF ABOVE SLOPE.
9. FINAL DRAIN TO BE EXCAVATED TO A MINIMUM DEPTH OF 3 FEET BELOW PLANNED FINISHED GRADE, PENDING REQUIRED EXCAVATIONS FOR BUILDING CONSTRUCTION AND OBSERVED CONDITIONS.
10. OUTFLOW CONNECTOR DRAINS, CONSTRUCTED IN SIMILAR MANNER AS DEWATERING DRAINS, TO BE INSTALLED AT 500-FOOT MAX SPACING ALONG THE CUT SLOPE.
11. DRAINS TO BE SHAPED/SLOPED TO ALLOW FOR POSITIVE DRAINAGE FLOW OF THE COLLECTED WATER TO BE DIVERTED FROM THE GRADED AREA.
12. COLLECTED/DIVERTED WATER WILL EITHER BE DISCHARGED INTO THE PLANNED STORMWATER SYSTEM OR 'DAY-LIGHTED' OUTSIDE OF THE GRADED AREA , TO BE FIELD COORDINATED BY CONTRACTOR WITH CIVIL ENGINEER.

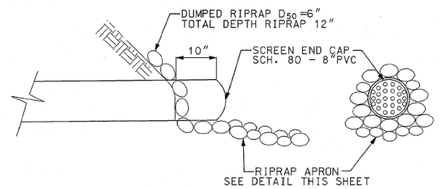


TRIBUTARY/WETLANDS WRAPPED ROCK DRAIN DETAIL

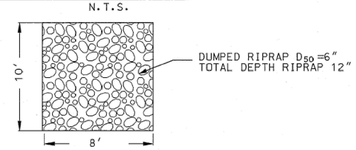
TRIBUTARY/WETLANDS WRAPPED ROCK DRAIN NOTES

1. WRAPPED ROCK DRAIN FOR DEWATERING OF EXISTING TRIBUTARIES AND WETLANDS.
2. TO BE PLACED IN EXISTING DRAINAGE SWALE/VALEY OR TRIBUTARY/CREEK BOTTOM AFTER NECESSARY CLEARING, STRIPPING, GRUBBING AND MUCKING.
3. DEPTH OF ROCK SECTION DEPENDS ON AMOUNT OF FLOW. CONTRACTOR TO COORDINATE WITH CIVIL ENGINEER.
4. CLEAN/WASHED CRUSHED STONE TO CONSIST OF DRAINAGE MATERIAL APPROPRIATE FOR DEPTH OF ROCK SECTION AS DETAILED BELOW.
   a. ROCK SECTION GREATER THAN 3 FEET THICK – MAY CONSIST OF SCDOT CLASS A RIP-RAP, RAILROAD BALLAST OR SCDOT #57 OR #67 STONE.
   b. ROCK SECTION 1 FOOT TO 3 FEET THICK – MAY CONSIST OF RAILROAD BALLAST OR SCDOT #57 OR #67 STONE
   c. ROCK SECTION UP TO 1 FOOT THICK – TO CONSIST OF SCDOT #57 OR #67 STONE
      - CONTRACTOR MAY PROPOSE EQUIVALENT ALTERNATE CLEAN, WASHED STONE MATERIALS FOR APPROVAL BY CIVIL ENGINEER.
      - USE OF SCDOT CLASS A RIP RAP NOT PERMITED IN DRAINS THAT EXTEND WITHIN 10 FEET OF PLANNED FINISHED GRADE.
5. EXISTING GROUND SURFACE OF BASE OF WRAPPED ROCK DRAIN MAY NEED TO BE SHAPED TO ALLOW FOR POSITIVE DRAINAGE FLOW OF THE COLLECTED WATER TO BE DIVERTED FROM THE GRADED AREA.
6. COLLECTED/DIVERTED WATER WILL EITHER BE DISCHARGED INTO THE PLANNED STORMWATER SYSTEM OR 'DAY-LIGHTED' OUTSIDE OF THE GRADED AREA , TO BE FIELD COORDINATED BY CONTRACTOR WITH CIVIL ENGINEER.
7. EARTHWORK CONTRACTOR TO COORDINATE WITH GROUND IMPROVEMENT CONTRACTOR TO ENSURE POTENTIAL CONFLICTS ARE RESOLVED.

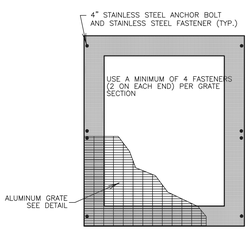
8" PERFORATED OUTLET PIPE INSTALLED IN LAST 100' OF DRAIN.

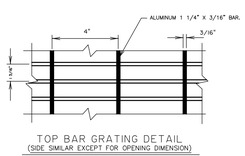


SCREENED END CAP DETAIL
N.T.S.



RIPRAP APRON DETAIL
N.T.S.





TOP BAR GRATING DETAIL
(SIDE SIMILAR EXCEPT FOR OPENING DIMENSION)
NOT TO SCALE

NOTES:

1. USE ALUMINUM 1 1/4" X 3/16" BAR GRATING.
2. SECURE GRATE WITH 4" STAINLESS STEEL ANCHOR BOLTS AND STAINLESS STEEL FASTENERS DESIGNED TO HOLD BAR GRATING.
3. SHADED AREA CORRESPONDS TO TOP OF PRECAST CONCRETE BOX.

OUTFALL STRUCTURE GRATE
NOT TO SCALE

SOUTH CAROLINA
NOLTENIUS
THOMAS & HUTTON ENGINEERING CO.
No. C00285
CERTIFICATE OF AUTHORITY

SOUTH CAROLINA
PROFESSIONAL ENGINEER
No. 28573
MARCUS B. SHEALY
12-19-2023

NO.	REVISIONS	BY	DATE

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Columbia, SC 29201 • 803.451.6789
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RICHLAND COUNTY ECONOMIC DEVELOPMENT
TOWN OF BLYTHEWOOD, RICHLAND COUNTY, SC

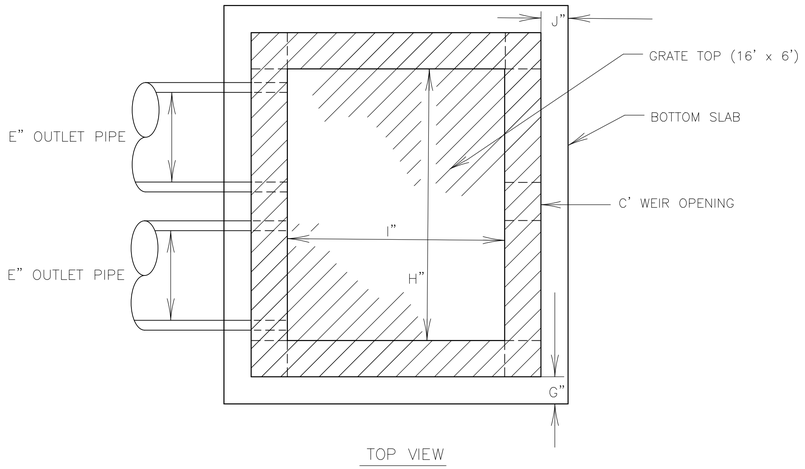
PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

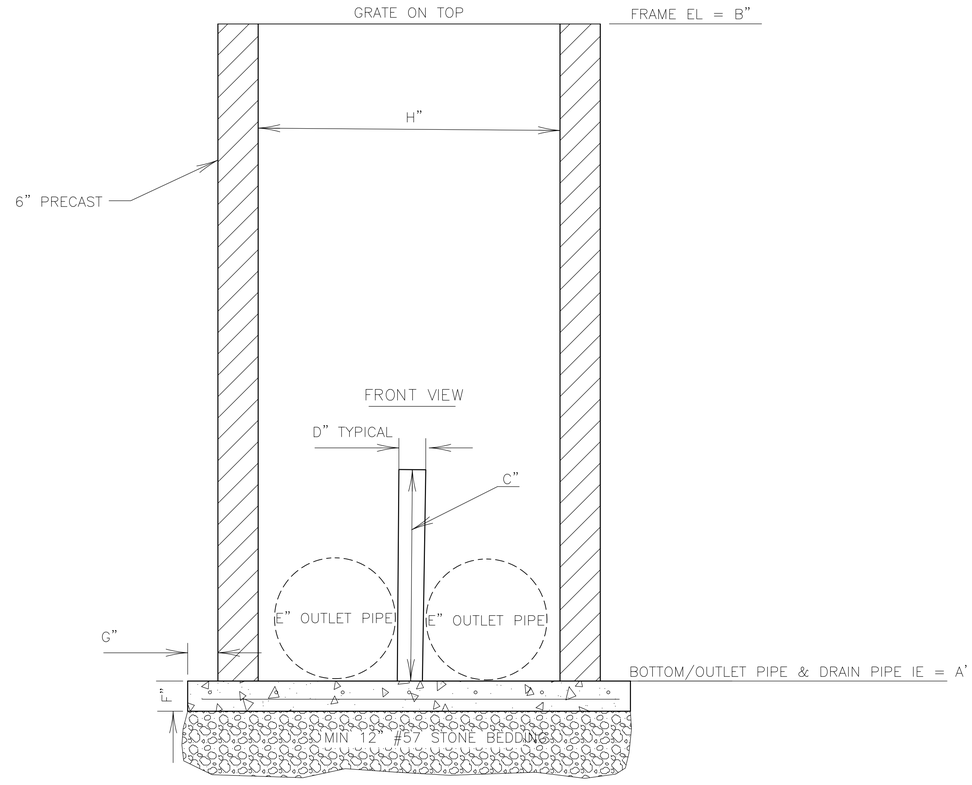
GRADING AND DRAINAGE DETAILS

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	N.T.S

C3.20

CONTROL STRUCTURE DIMENSIONS TABLE										
POND NUMBER	A	B	C	D	E	F	G	H	I	J
10	392.70'	408.70'	5'	0.5'	60"	48"	48"	15'	5'	42"





BEASLEY CREEK
CONTROL STRUCTURE

NOT TO SCALE

SOUTH CAROLINA
THOMAS & HUTTON ENGINEERING CO.
No. C00285
CERTIFICATE OF AUTHORIZATION
NOT VALID WITHOUT ORIGINAL SIGNATURE

SOUTH CAROLINA
PROFESSIONAL ENGINEER
No. 28573
MARCUS B. SIMPSON
12-17-2024

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 760
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
TOWN OF BLYTHEWOOD, RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

GRADING AND DRAINAGE DETAILS

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	N.T.S

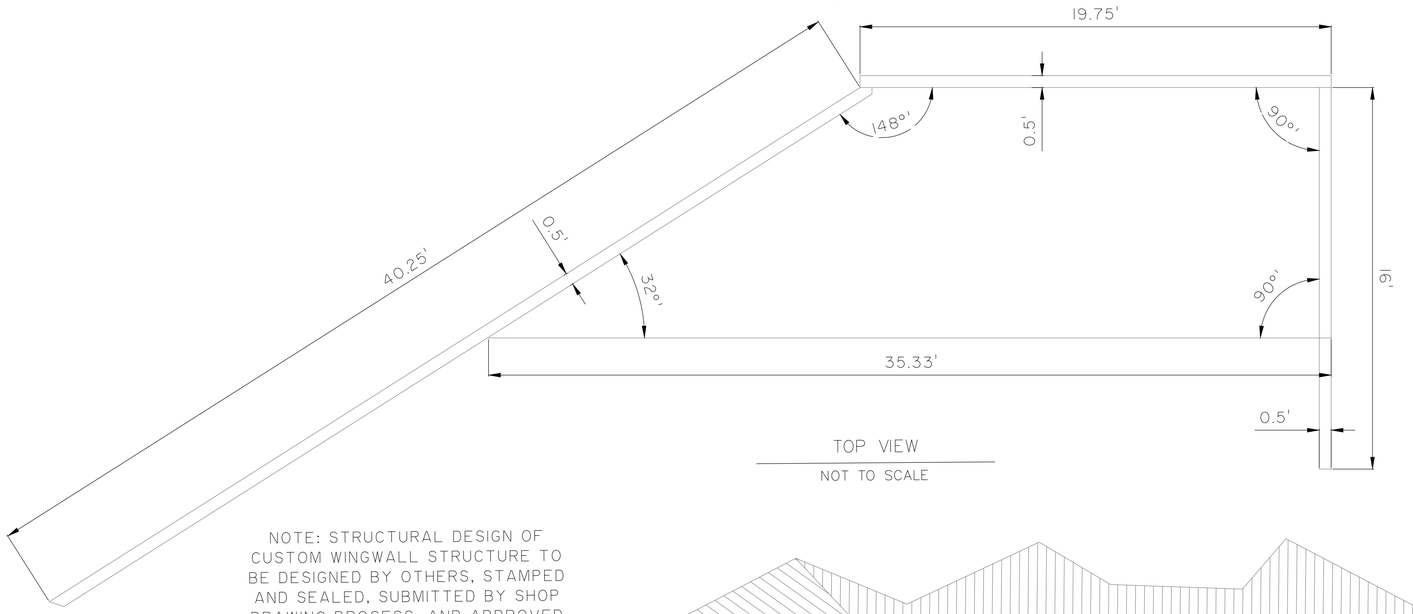
C3.21

Z:\27015\27015.0007\ENGINEERING\GRADING CONSTRUCTION PLANS\CONSECT MASS GRADING PHASE 2\27015.0007 - GP - DTAND - Dec 11, 2024 - 9:43 AM

Z:\27015\27015.0007\ENGINEERING\DRAINAGE\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015.0007 - GR - ST.DWG - Jan 9, 2024 - 9:43 AM

CUSTOM HEADWALL/WINGWALL DETAIL

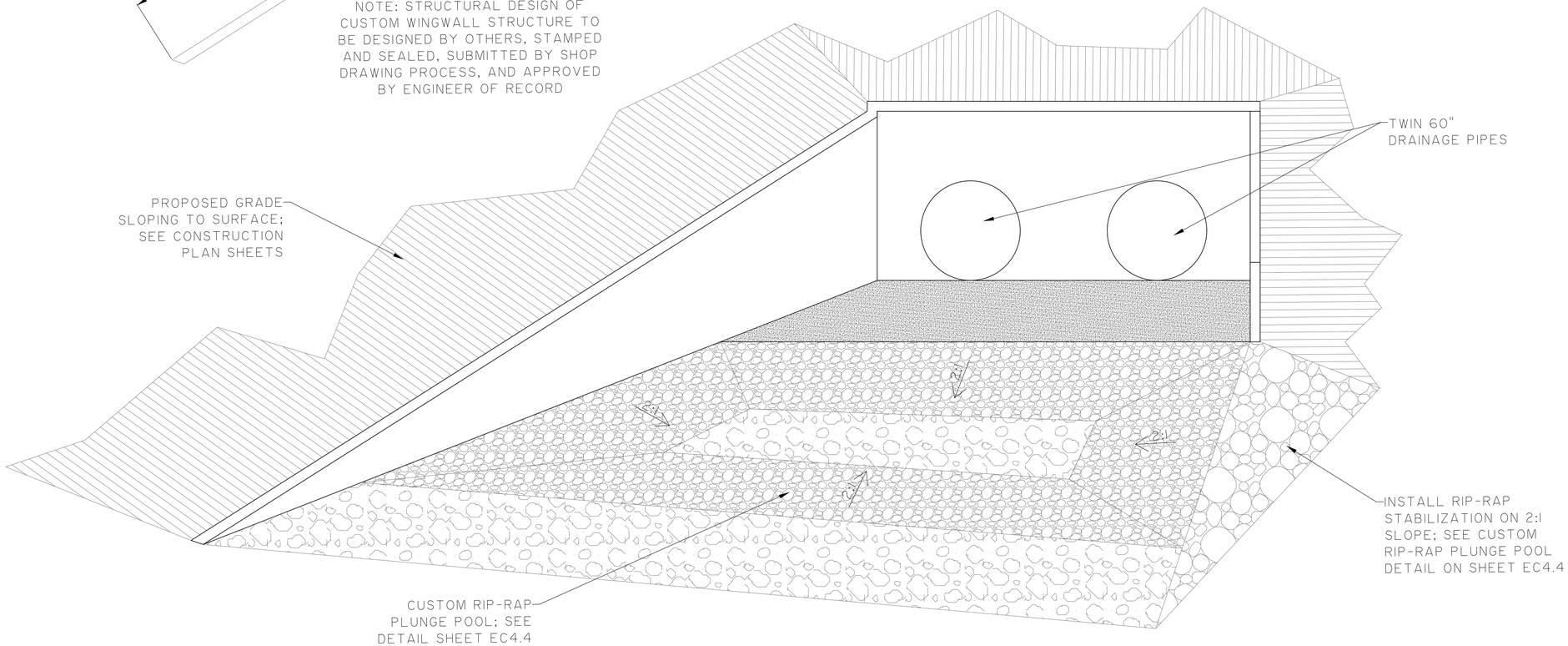
NOT TO SCALE



TOP VIEW

NOT TO SCALE

NOTE: STRUCTURAL DESIGN OF CUSTOM WINGWALL STRUCTURE TO BE DESIGNED BY OTHERS, STAMPED AND SEALED, SUBMITTED BY SHOP DRAWING PROCESS, AND APPROVED BY ENGINEER OF RECORD



FRONT VIEW 3-D VIEW

NOT TO SCALE

SOUTH CAROLINA — NOLTE ASSOCIATES — THOMAS & HUTTON ENGINEERING CO. — No. C00285 — CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA — PROFESSIONAL ENGINEER — No. 28573 — MARCUS B. SIMPSON — 12/9/2024

NO.	REVISIONS	BY	DATE

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RICHLAND COUNTY ECONOMIC DEVELOPMENT
TOWN OF BLYTHEWOOD, RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

GRADING AND DRAINAGE DETAILS

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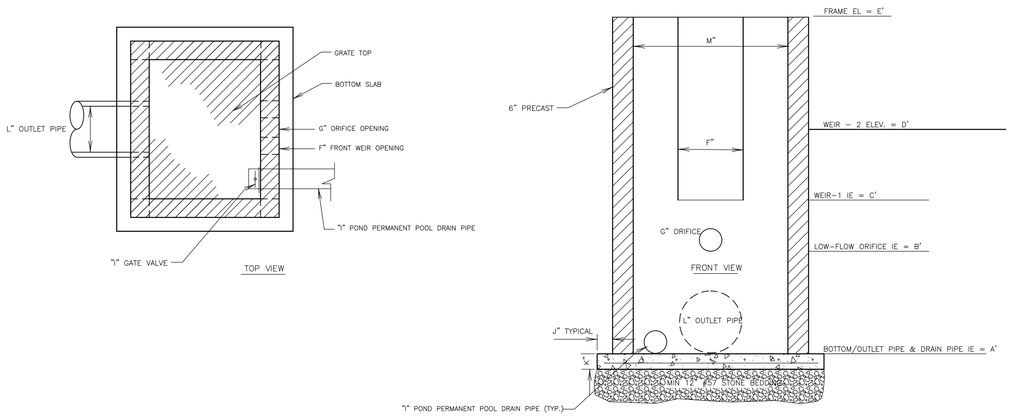
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	N.T.S

C3.22

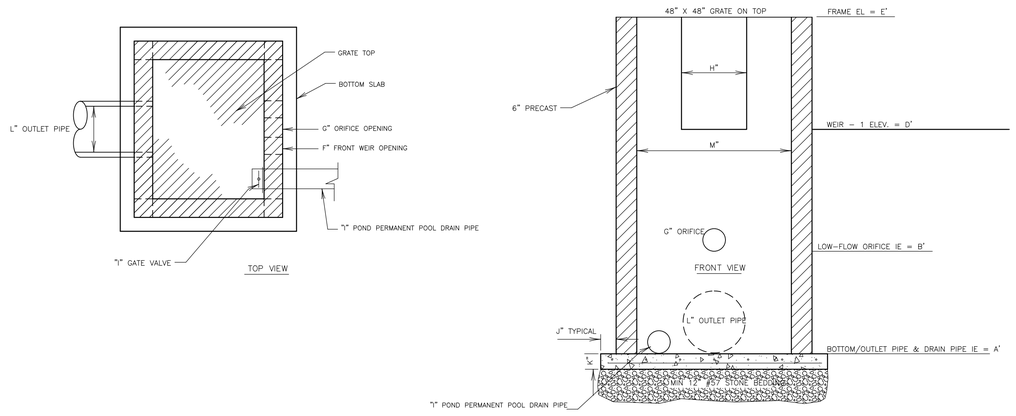
Z:\27015-0007-LEXINGTON\DRAWINGS\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015-0007 - GP - DTEMS - Jan 9, 2024 - 9:43 AM

CONTROL STRUCTURE DIMENSIONS TABLE													
POND NUMBER	A	B	C	D	E	F	G	H	I	J	K	L	M
5	482.73'	483.0'	484.0'	NA	488.0'	12"	6"	NA	6"	9"	15"	36"	48"



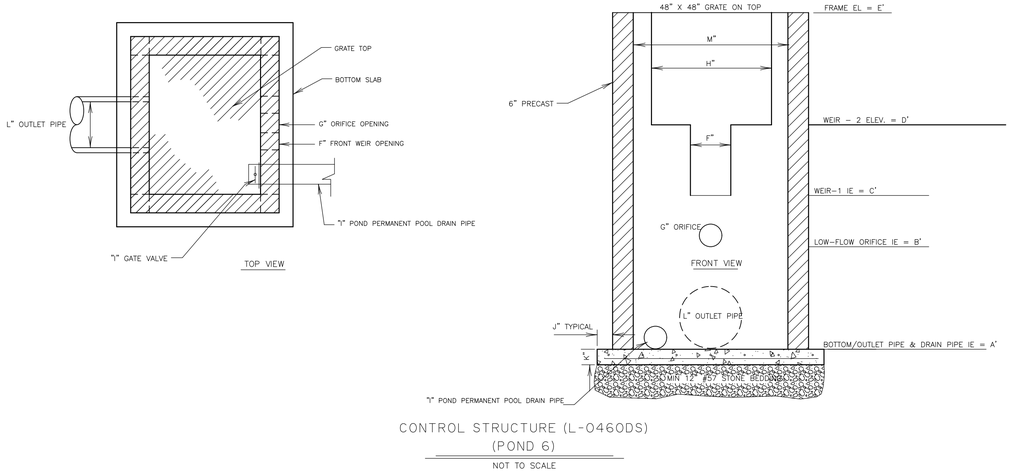
CONTROL STRUCTURE (L-0370DS)
(POND 5)
NOT TO SCALE

CONTROL STRUCTURE DIMENSIONS TABLE													
POND NUMBER	A	B	C	D	E	F	G	H	I	J	K	L	M
7	412.99'	419.0'	NA	421.0'	425.0'	NA	6"	12"	6"	21"	12"	18"	36"



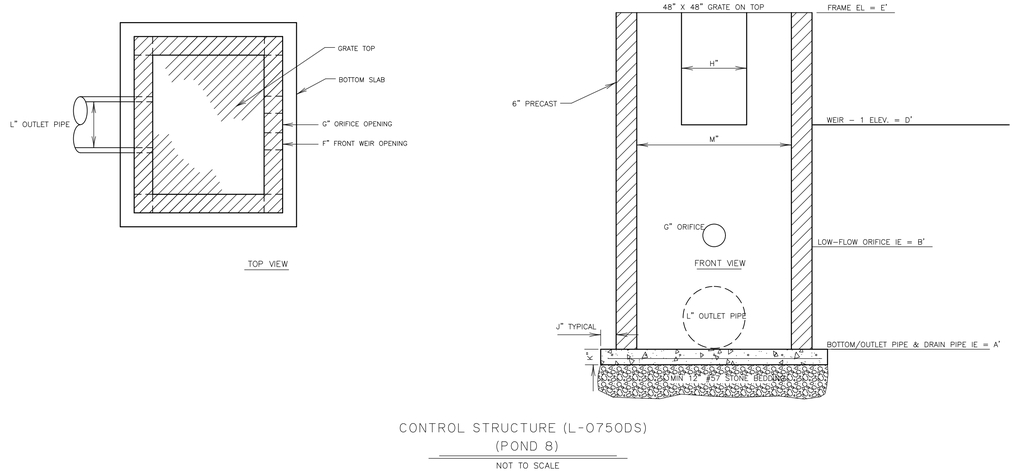
CONTROL STRUCTURE (L-0740DS)
(POND 7)
NOT TO SCALE

CONTROL STRUCTURE DIMENSIONS TABLE													
POND NUMBER	A	B	C	D	E	F	G	H	I	J	K	L	M
6	409.0'	419.0'	423.0'	427.0'	433.0'	12"	6"	24"	6"	30"	21"	24"	36"



CONTROL STRUCTURE (L-0460DS)
(POND 6)
NOT TO SCALE

CONTROL STRUCTURE DIMENSIONS TABLE													
POND NUMBER	A	B	C	D	E	F	G	H	I	J	K	L	M
8	418.0'	418.0'	NA	419.0'	423.0'	NA	3"	12"	3"	12"	12"	18"	36"



CONTROL STRUCTURE (L-0750DS)
(POND 8)
NOT TO SCALE

SOUTH CAROLINA
PROFESSIONAL ENGINEER
No. 28573
MARCUS B. SHEALY
NOT VALID UNLESS SIGNED AND SEALED
12-11-24

SOUTH CAROLINA
THOMAS & HUTTON ENGINEERING CO.
No. COA2285
CERTIFICATE OF AUTHORIZATION

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 400
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
TOWN OF BLYTHEWOOD, RICHLAND COUNTY, SC
PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

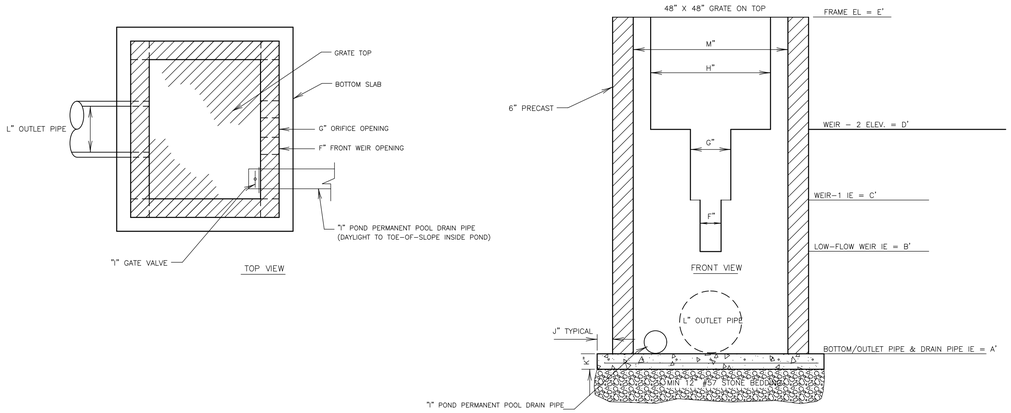
GRADING AND DRAINAGE DETAILS

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	N.T.S

C3.23

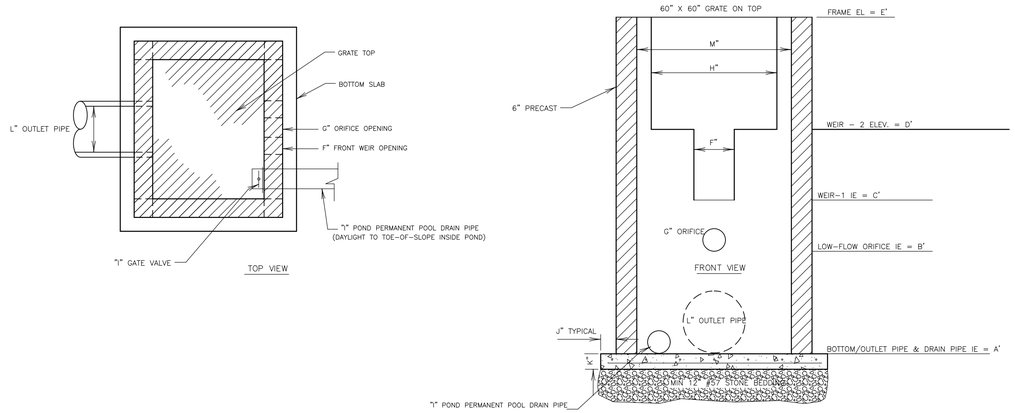
Z:\27015-2\DOCS\ENGINEERING\DRAINAGE\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015.0007 - GP - SITEWIDE - Jan 9, 2024 - 9:42 AM

CONTROL STRUCTURE DIMENSIONS TABLE													
POND NUMBER	A	B	C	D	E	F	G	H	I	J	K	L	M
1	439.70'	443.70'	445.20'	446.20'	447.20'	12"	30"	42"	24"	18"	15"	36"	48"



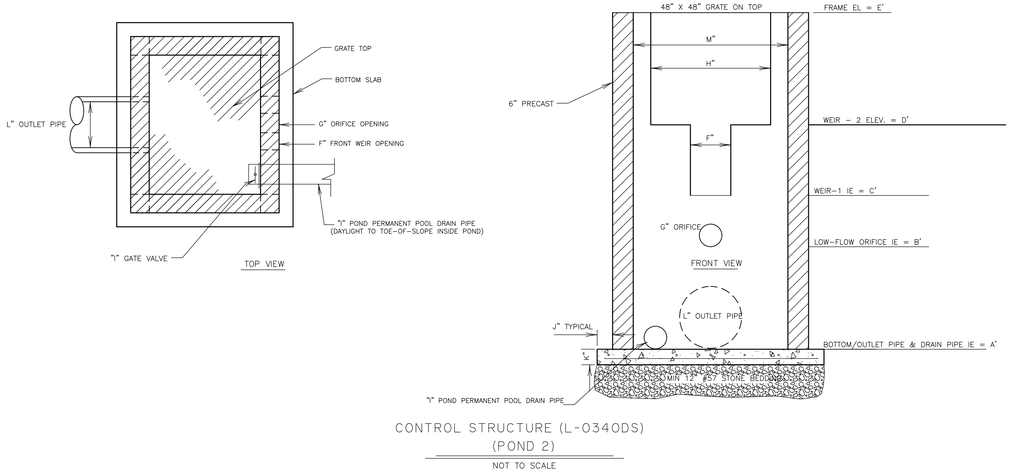
CONTROL STRUCTURE (L-0410DS)
(POND 1)
NOT TO SCALE

CONTROL STRUCTURE DIMENSIONS TABLE													
POND NUMBER	A	B	C	D	E	F	G	H	I	J	K	L	M
3	448.50'	453.50'	454.00'	455.50'	457.00'	24"	6"	42"	12"	15"	21"	36"	48"



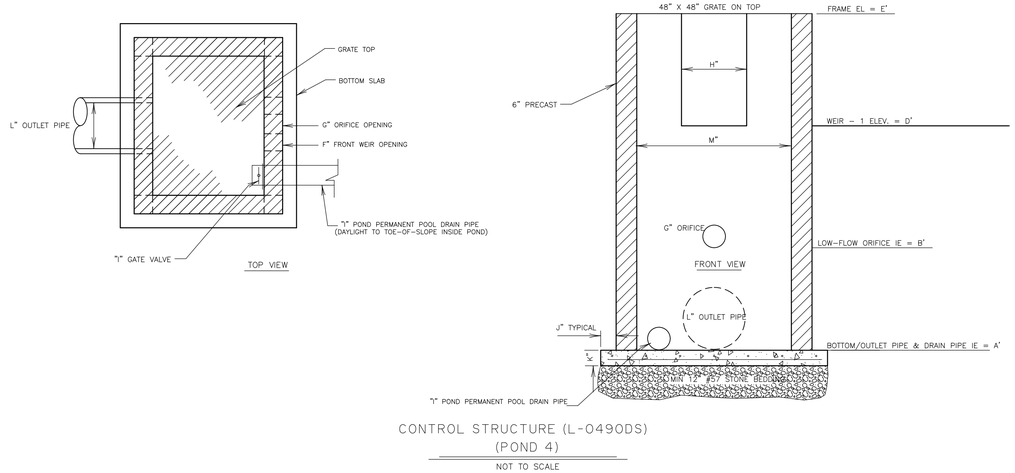
CONTROL STRUCTURE (L-0420DS)
(POND 3)
NOT TO SCALE

CONTROL STRUCTURE DIMENSIONS TABLE													
POND NUMBER	A	B	C	D	E	F	G	H	I	J	K	L	M
2	452.50'	457.00'	459.50'	462.00'	464.00'	12"	6"	24"	12"	21"	15"	24"	36"



CONTROL STRUCTURE (L-0340DS)
(POND 2)
NOT TO SCALE

CONTROL STRUCTURE DIMENSIONS TABLE													
POND NUMBER	A	B	C	D	E	F	G	H	I	J	K	L	M
4	453.80'	457.80'	NA	459.80'	462.80'	NA	6"	12"	12"	9"	21"	24"	36"



CONTROL STRUCTURE (L-0490DS)
(POND 4)
NOT TO SCALE

SOUTH CAROLINA NOLTE/ZIMMERMAN THOMAS & HUTTON ENGINEERING CO. No. C00285 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 28573 MARCUS B. SIMPSON 12-19-24

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 400
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
TOWN OF BLYTHEWOOD, RICHLAND COUNTY, SC
PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

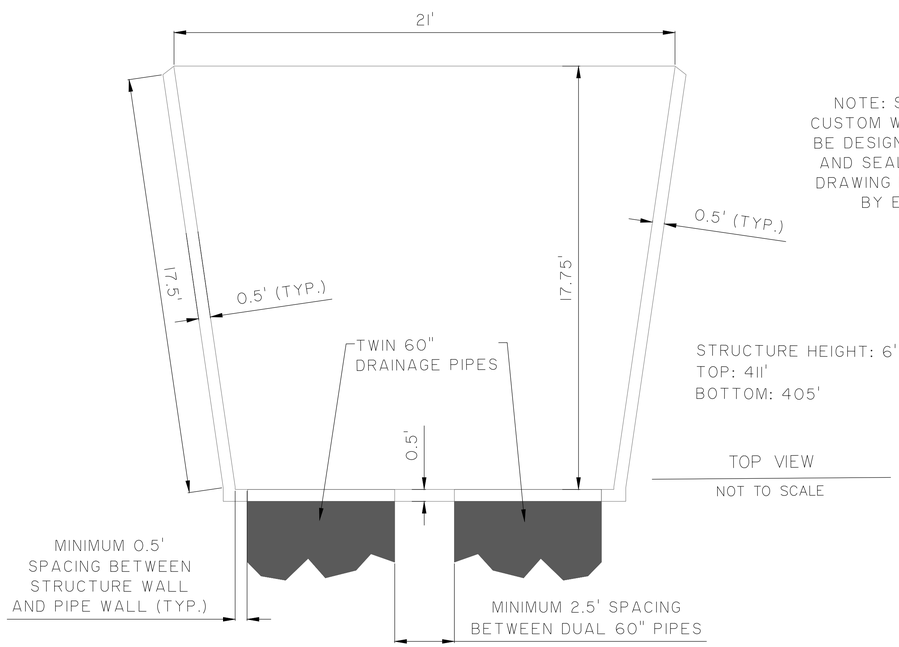
GRADING AND DRAINAGE DETAILS

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	N.T.S

C3.24

Z:\27015.0007-DOT\ENGINEERING\DRAINAGE\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015.0007 - DET - STORMS - Jan 9, 2024 - 9:43 AM

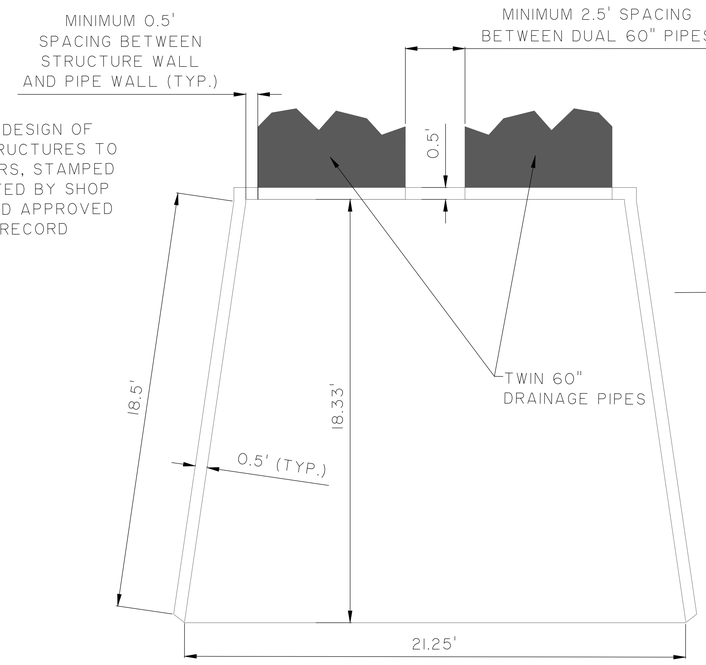
WINGWALL 1 DETAIL
NOT TO SCALE



STRUCTURE HEIGHT: 6'
TOP: 411'
BOTTOM: 405'

TOP VIEW
NOT TO SCALE

NOTE: STRUCTURAL DESIGN OF CUSTOM WINGWALL STRUCTURES TO BE DESIGNED BY OTHERS, STAMPED AND SEALED, SUBMITTED BY SHOP DRAWING PROCESS, AND APPROVED BY ENGINEER OF RECORD

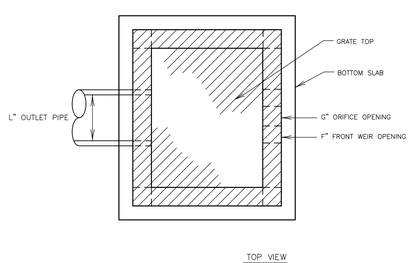


TOP VIEW
NOT TO SCALE

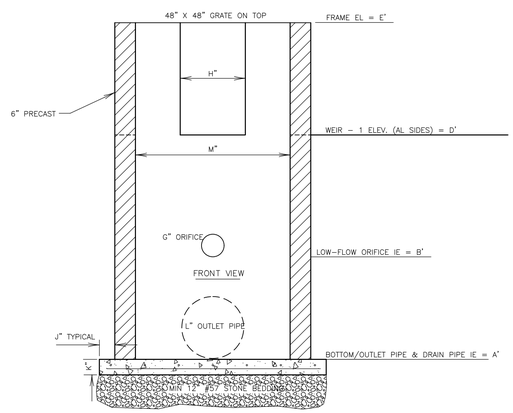
STRUCTURE HEIGHT: 6'
TOP: 405'
BOTTOM: 399'

WINGWALL 2 DETAIL
NOT TO SCALE

CONTROL STRUCTURE DIMENSIONS TABLE												
POND NUMBER	A	B	C	D	E	F	G	H	J	K	L	M
9	438.0'	439.0'	NA	440.0'	443.0'	NA	3"	6"	12"	12"	18"	36"



TOP VIEW



CONTROL STRUCTURE (L-0730DS)
(POND 9)
NOT TO SCALE

SOUTH CAROLINA
PROFESSIONAL ENGINEER
No. 28573
MARCH 29, 2024
CERTIFICATE OF AUTHORIZATION
THOMAS & HUTTON ENGINEERING Co.
No. C00285

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
1501 Main Street • Suite 400
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
TOWN OF BLYTHEWOOD, RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

GRADING AND DRAINAGE DETAILS

JOB NO:	J-27015.0007
DATE:	11/10/2023
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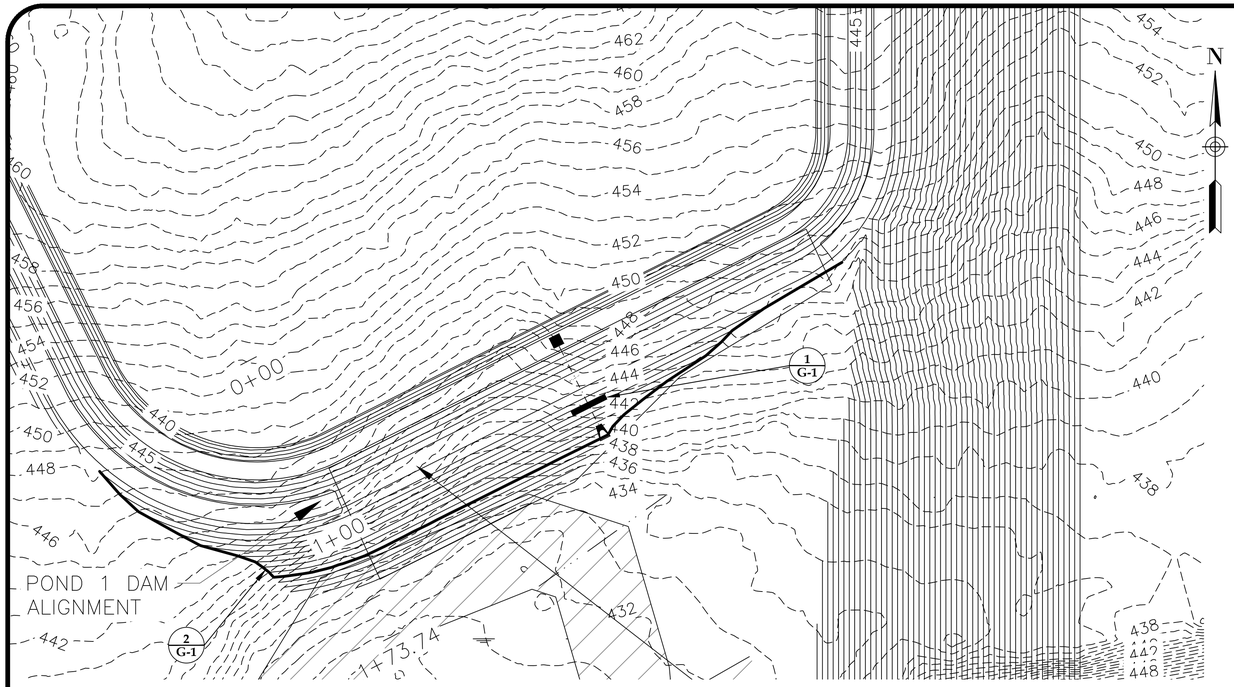
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	N.T.S

C3.25



0 40 80 120
GRAPHIC SCALE (IN FEET)

CONSTRUCTION NOTES:

Dam Fill Materials

1. Consisting of on-site or off-site borrow materials meeting the dam embankment fill requirements.
2. Samples to be obtained and tested to demonstrate materials meet specification:
   a. Prior to use.
   b. Each soil type.
   c. Every 5,000 cubic yards of material placed.
3. Laboratory testing by Owner's Geotechnical Engineer or his qualified representative shall consist of the following suite of tests:
   a. Grain-size Analysis with hydrometer (ASTM D7928).
   b. Atterberg Limits (ASTM D4318).
   c. Natural Moisture Content (ASTM D2216).
   d. Standard Proctor (ASTM D698).
4. Dam fill materials shall be classified as ML, CL, MH or CH soils according to the Unified Soil Classification System (USCS) (ASTM D2487).
5. Dam fill materials shall have a liquid limit (LL) between 30 and 60 and a plasticity index (PI) between 10 and 35.
6. Material shall be free of topsoil, organic material, roots, stumps, brush, rocks larger than 3 inches, debris, vegetation and other foreign matter.
7. Materials shall have less than 3 percent organic content by weight.

Site Preparation

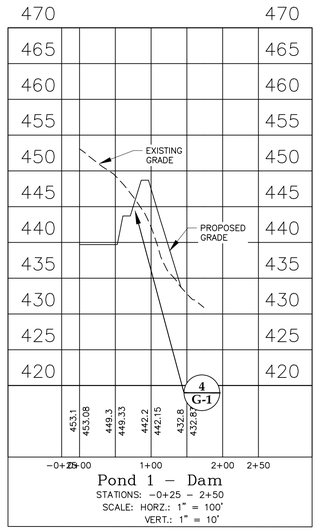
1. Remove surface vegetation, organic laden topsoil, stumps, root bulbs, roots, organic materials, other deleterious materials, and unstable/unsuitable surface or subsurface soils from structural areas.
2. Dewater existing water features (ponds and wetlands).
3. Divert/re-route existing tributaries/creeks/streams as necessary.
4. Provide temporary dewatering measures as required to help prevent softening of soil subgrade. Dewatering may consist of construction of sumps and pumping, well point installation, ditching, or other methods to lower water levels in the work area. Water levels shall be maintained at minimum depth of 3 feet below the excavation subgrade or to a depth sufficient to help prevent softening of the subgrade soils. Pumping shall be performed continuously to provide effective dewatering and until compacted fill levels reach a minimum of 3 feet above the static water level.
5. Observe and evaluate the subgrade prior to fill or structure placement. Owner's Geotechnical Engineer or his qualified representative shall perform this evaluation. This evaluation may consist of visual observations, proofrolling observations, probing with a rod, hand auger borings with Dynamic Cone Penetrometer (DCP) testing, and/or test pit observations.
6. Areas of unstable/unsuitable subgrade will require modification/stabilization to remove or stabilize soft or loose materials. Modification/stabilization may consist of:
   a. Removing and replacing unstable materials with properly compacted structural fill.
   b. Scarifying, drying and compacting in-place.
   c. Blending with the on-site sandy and lower plasticity soils.
   d. Chemical stabilization.
7. Upon achieving a stable subgrade, protect and maintain area until fill or structure placement.

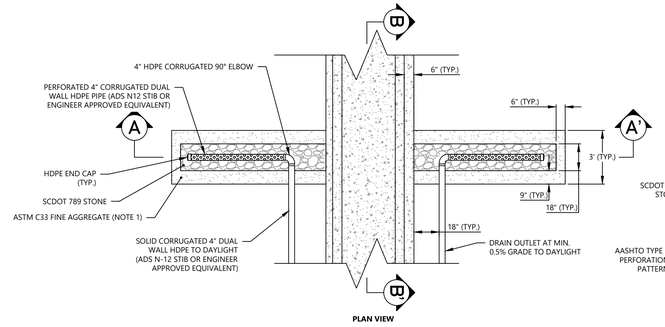
Fill Placement

1. Place dam embankment fill soils in maximum 8-inch loose lifts.
2. Dam fill materials shall be compacted to a minimum of 98 percent of the laboratory maximum dry density, and at -2 to +3 percent of optimum moisture content, as determined by the standard Proctor (ASTM D698) compaction criteria.
3. Contractor should be prepared to wet or dry soils as necessary to achieve compaction.
4. In addition to meeting the compaction requirement, fill material must be stable under movement of the construction equipment and must not exhibit rutting or pumping after compaction.
5. Fill slopes shall benched into existing sloping terrain at a minimum of 2 feet horizontally for each 1 foot vertically and adequately compacted.
6. Compacted fill slopes shall be over-built a minimum of 1 foot horizontally to promote compaction at the embankment face and shall then be cut back to firm, well compacted soils prior to the placement of structures or vegetative cover.
7. Systematically fill to allow maximum time for natural settlement. Do not fill over porous, wet, frozen or spongy subgrade surfaces.
8. Slope grades to help prevent ponding of water on the fill surface.
9. Reshape and re-compact fills subjected to vehicular traffic.
10. Maintain temporary means and methods, as required, to remove all water while fill is being placed as required. Remove and replace soils deemed unsuitable by classification and which are excessively moist due to lack of dewatering or surface water control.

Field Quality Control

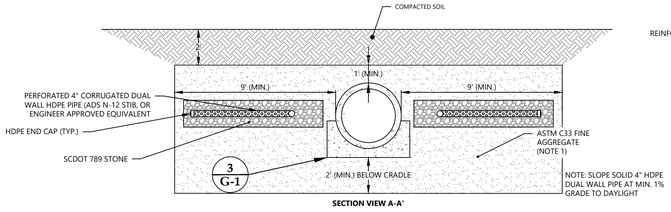
1. Owner's Geotechnical Engineer or his qualified representative shall perform field quality control testing.
2. Perform compaction density testing on compacted fill in accordance with ASTM D1556, ASTM D2167, or ASTM D6938. Field moisture content tests shall be performed in accordance with the Direct Heating (ASTM D4959) method.
3. Evaluate results in relation to compaction curve determined by testing uncompacted material in accordance with ASTM D698 standard Proctor).
4. One-point Proctor compaction tests shall be performed at a frequency of at least one per day during fill placement or when fill dry densities vary by more than 2 pounds per cubic foot (pcf). The one-point Proctor compaction tests shall be used to select the representative standard Proctor relationship for the fill material being tested from a project family of standard Proctor compaction curves.
5. If tests indicate work does not meet specified requirements, remove work, moisture condition fill, re-compact, and re-test.
6. Frequency of Tests: Field density testing shall be performed at a frequency of one test per 2,500 square feet per lift of fill working face per lift or a minimum of one test per 100 linear feet per lift in trench excavations.

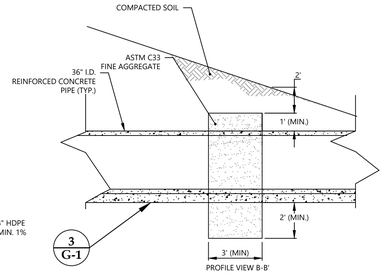


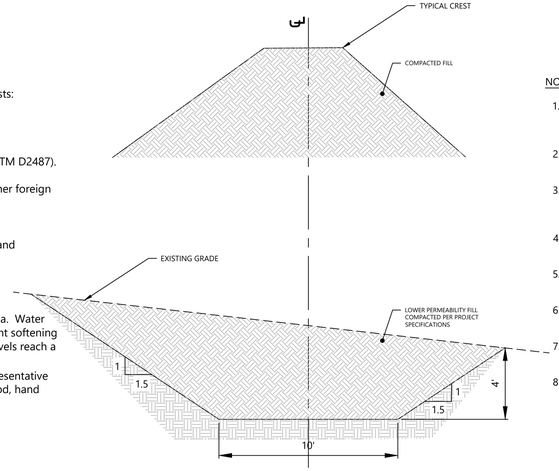


NOTES:

1. AT LEAST 9 INCHES OF ASTM C33 FINE AGGREGATE SHOULD BE USED TO SEPARATE THE SCDOT 789 STONE FROM THE COMPACTED SOIL EMBANKMENT.
2. THE PERFORATED PIPE SHALL HAVE AT LEAST 7 INCHES OF SCDOT 789 STONE PLACED AROUND THE PERFORATED DRAINAGE PIPE.
3. AASHTO TYPE II PERFORATION PATTERN WITH MAXIMUM SLOT WIDTH OF 0.125 IN. AND SLOT LENGTH OF 0.875 IN.
4. END OF THE PERFORATED PIPE TO HAVE 4" DIA. HDPE CAP.
5. FORWORK SHALL BE USED DURING COARSE AGGREGATE PLACEMENT TO PREVENT MIXING OF FINE AND COARSE AGGREGATES.
6. COMPACT AGGREGATE IN MAX. 12 INCH LIFTS WITH MIN 2 PASSES OF VIBRATORY PLATE TAMP PER LIFT.
7. SOLID SECTION OF PIPE DISCHARGES FROM DIAPHRAGM DRAIN TO DAYLIGHT.
8. INSTALL 4" AGIDRAIN STAINLESS STEEL RAT GUARDS AT DIAPHRAGM OUTLETS.





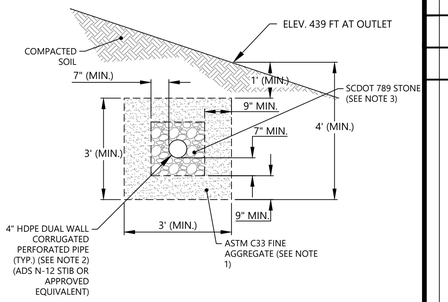


4 G-1 SEEPAGE CUTOFF DETAIL
SCALE: 1" = 4'

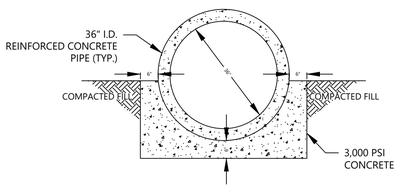
1 G-1 SEEPAGE DIAPHRAGM
SCALE: 1" = 4'

NOTES:

1. AT LEAST 9 INCHES OF ASTM C33 FINE AGGREGATE SHOULD BE USED TO SEPARATE THE SCDOT 789 STONE FROM THE COMPACTED SOIL EMBANKMENT.
2. AASHTO TYPE II PERFORATION PATTERN WITH MAXIMUM SLOT WIDTH OF 0.125 IN. AND SLOT LENGTH OF 0.875 IN.
3. FORMWORK SHALL BE USED DURING COARSE AGGREGATE PLACEMENT TO PREVENT MIXING OF FINE AND COARSE AGGREGATES.
4. AT LEAST 7 INCHES OF SCDOT 789 STONE SHOULD BE PLACED AROUND THE PERFORATED DRAINAGE PIPE.
5. AGGREGATE SHALL BE COMPACTED IN MAX. 12 INCH LIFTS WITH MAXIMUM 2 PASSES OF VIBRATORY PLATE TAMP PER LIFT.
6. WHERE TOE DRAIN WILL OUTLET CONCRETE HEADWALL, HYDRAULIC GROUT ANNULUS.
7. INSTALL AGRIDRAIN 4" STAINLESS STEEL RAT GUARD AT TOE DRAIN OUTLETS.
8. MINIMUM OF 2 TOE DRAIN OUTLETS, CONSISTING OF 4 INCH DIAMETER UNPERFORATED DUAL WALL CORRUGATED HDPE PIPE, SLOPED TO GRAVITY DISCHARGE AT DOWNSTREAM TOE OF DAM SLOPE.



2 G-1 TOE DRAIN
SCALE: 1" = 2'



CRADLE CONSTRUCTION NOTES:

1. EXCAVATE TO PROPOSED GRADES.
2. UNDERCUT AND REPLACE EXISTING SOFT SOILS BENEATH PIPE AREA WITH COMPACTED STRUCTURAL FILL MATERIAL AS REQUIRED BY ENGINEER OR THIS REPRESENTATION.
3. PLACE COMPACTED BACKFILL TO PIPE SPRING LINE LEVEL. BACKFILL SHALL MEET PROJECT STRUCTURAL FILL AND COMPACTION SPECIFICATIONS.
4. EXCAVATE FOR PIPE CRADLE.
5. INSTALL PIPE AND PROVIDE SUPPORTS BENEATH PIPE AS NECESSARY TO ENSURE PIPE JOINT ALIGNMENT TO MANUFACTURER'S SPECIFICATIONS.
6. INSTALL BITUMINOUS OR OTHER APPROVED JOINT FILLER MATERIAL AT EACH PIPE JOINT IN CRADLE. JOINT FILLER MATERIAL SHALL EXTEND TO FULL DEPTH OF CRADLE AT EACH JOINT AND BE CONTOURED TO BOTTOM HALF OF THE PIPE.
7. PLACE CONCRETE FOR CRADLE TO REQUIRED DIMENSIONS. SIDES AND BOTTOM OF CRADLE SHALL BE CAST DIRECTLY AGAINST SOIL BACKFILL. CONSTRUCTION JOINTS SHALL BE LEFT ROUGH TO ENSURE BONDING WITH SUBSEQUENT CONCRETE POURS. PERFORM VIBRATORY CONSOLIDATION OF CONCRETE DURING PLACEMENT.
8. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI.
9. STRUCTURAL FILL PLACED AROUND PIPE SHALL BE COMPACTED USING HAND OPERATED OR WALK BEHIND COMPACTION EQUIPMENT UNTIL THE FILL REACHES A MINIMUM OF 24 INCHES OVER THE PIPE PRIOR TO THE USE OF HEAVY COMPACTION EQUIPMENT AND SHALL MEET THE PROJECT STRUCTURAL FILL AND COMPACTION SPECIFICATIONS.
10. PROVIDE SHEETING AND SHORING, AS NEEDED, TO PROTECT EXCAVATIONS IN ACCORDANCE WITH OSHA STANDARDS.

3 G-1 CONCRETE PIPE CRADLE
SCALE: 1" = 2'

134 SUBER ROAD
COLUMBIA, SC 29210
(803) 561-9024

NO.	DATE	DESCRIPTION	BY	CHK	APV

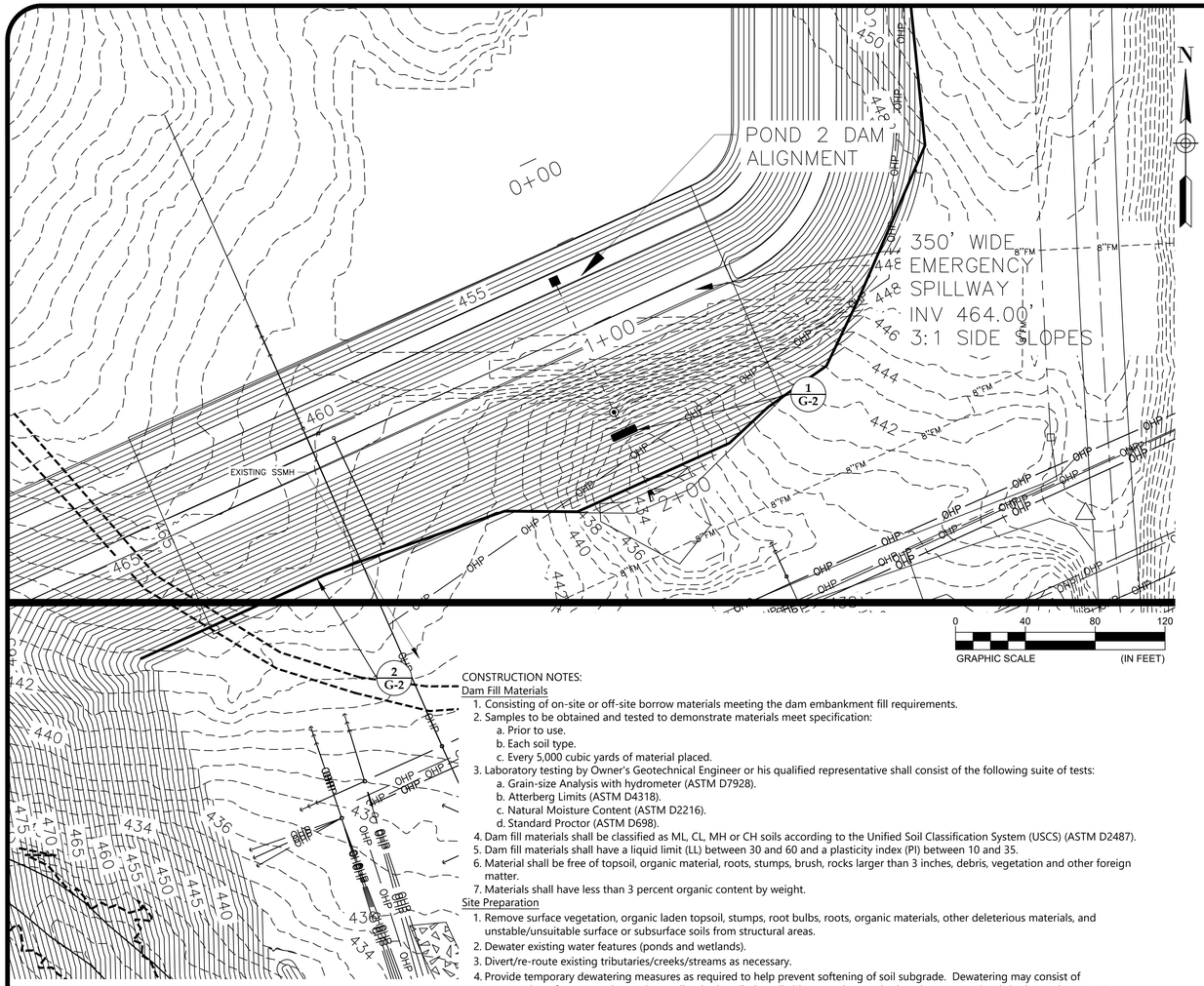
GEOTECHNICAL DETAILS

PROJECT CONNECT - SCDHEC REGULATED DAMS
HARVESTER DAM
BLYTHEWOOD, SOUTH CAROLINA

PROJECT NUMBER
23610258F

DRAWING NUMBER
G-1

DRAWING PATH: T:\Columbia-1610\Projects\2023\23610258F_TH-DB, LLC Project Connect-Regulated Dams_Blythewood, SC\GEO\CAD\Construction\EXISTING SITE CONDITION.dwg



CONSTRUCTION NOTES:

Dam Fill Materials

1. Consisting of on-site or off-site borrow materials meeting the dam embankment fill requirements.
2. Samples to be obtained and tested to demonstrate materials meet specification:
   a. Prior to use.
   b. Each soil type.
   c. Every 5,000 cubic yards of material placed.
3. Laboratory testing by Owner's Geotechnical Engineer or his qualified representative shall consist of the following suite of tests:
   a. Grain-size Analysis with hydrometer (ASTM D7928).
   b. Atterberg Limits (ASTM D4318).
   c. Natural Moisture Content (ASTM D2216).
   d. Standard Proctor (ASTM D698).
4. Dam fill materials shall be classified as ML, CL, MH or CH soils according to the Unified Soil Classification System (USCS) (ASTM D2487).
5. Dam fill materials shall have a liquid limit (LL) between 30 and 60 and a plasticity index (PI) between 10 and 35.
6. Material shall be free of topsoil, organic material, roots, stumps, brush, rocks larger than 3 inches, debris, vegetation and other foreign matter.
7. Materials shall have less than 3 percent organic content by weight.

Site Preparation

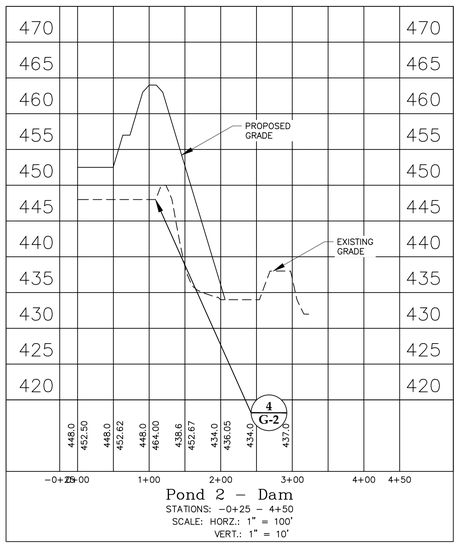
1. Remove surface vegetation, organic laden topsoil, stumps, root bulbs, roots, organic materials, other deleterious materials, and unstable/unsuitable surface or subsurface soils from structural areas.
2. Dewater existing water features (ponds and wetlands).
3. Divert/re-route existing tributaries/creeks/streams as necessary.
4. Provide temporary dewatering measures as required to help prevent softening of soil subgrade. Dewatering may consist of construction of sumps and pumping, well point installation, ditching, or other methods to lower water levels in the work area. Water levels shall be maintained at minimum depth of 3 feet below the excavation subgrade or to a depth sufficient to help prevent softening of the subgrade soils. Pumping shall be performed continuously to provide effective dewatering and until compacted fill levels reach a minimum of 3 feet above the static water level.
5. Observe and evaluate the subgrade prior to fill or structure placement. Owner's Geotechnical Engineer or his qualified representative shall perform this evaluation. This evaluation may consist of visual observations, proofrolling observations, probing with a rod, hand auger borings with Dynamic Cone Penetrometer (DCP) testing, and/or test pit observations.
6. Areas of unstable/unsuitable subgrade will require modification/stabilization to remove or stabilize soft or loose materials. Modification/stabilization may consist of:
   a. Removing and replacing unstable materials with properly compacted structural fill.
   b. Scarifying, drying and compacting in-place.
   c. Blending with the on-site sandy and lower plasticity soils.
   d. Chemical stabilization.
7. Upon achieving a stable subgrade, protect and maintain area until fill or structure placement.

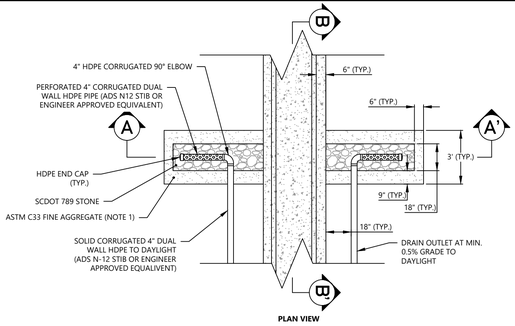
Fill Placement

1. Place dam embankment fill soils in maximum 8-inch loose lifts.
2. Dam fill materials shall be compacted to a minimum of 98 percent of the laboratory maximum dry density, and at -2 to +3 percent of optimum moisture content, as determined by the standard Proctor (ASTM D698) compaction criteria.
3. Contractor should be prepared to wet or dry soils as necessary to achieve compaction.
4. In addition to meeting the compaction requirement, fill material must be stable under movement of the construction equipment and must not exhibit rutting or pumping after compaction.
5. Fill slopes shall benched into existing sloping terrain at a minimum of 2 feet horizontally for each 1 foot vertically and adequately compacted.
6. Compacted fill slopes shall be over-built a minimum of 1 foot horizontally to promote compaction at the embankment face and shall then be cut back to firm, well compacted soils prior to the placement of structures or vegetative cover.
7. Systematically fill to allow maximum time for natural settlement. Do not fill over porous, wet, frozen or spongy subgrade surfaces.
8. Slope grades to help prevent ponding of water on the fill surface.
9. Reshape and re-compact fills subjected to vehicular traffic.
10. Maintain temporary means and methods, as required, to remove all water while fill is being placed as required. Remove and replace soils deemed unsuitable by classification and which are excessively moist due to lack of dewatering or surface water control.

Field Quality Control

1. Owner's Geotechnical Engineer or his qualified representative shall perform field quality control testing.
2. Perform compaction density testing on compacted fill in accordance with ASTM D1556, ASTM D2167, or ASTM D6938. Field moisture content tests shall be performed in accordance with the Direct Heating (ASTM D4959) method.
3. Evaluate results in relation to compaction curve determined by testing uncompacted material in accordance with ASTM D698 standard Proctor).
4. One-point Proctor compaction tests shall be performed at a frequency of at least one per day during fill placement or when fill dry densities vary by more than 2 pounds per cubic foot (pcf). The one-point Proctor compaction tests shall be used to select the representative standard Proctor relationship for the fill material being tested from a project family of standard Proctor compaction curves.
5. If tests indicate work does not meet specified requirements, remove work, moisture condition fill, re-compact, and re-test.
6. Frequency of Tests: Field density testing shall be performed at a frequency of one test per 2,500 square feet per lift of fill working face per lift or a minimum of one test per 100 linear feet per lift in trench excavations.



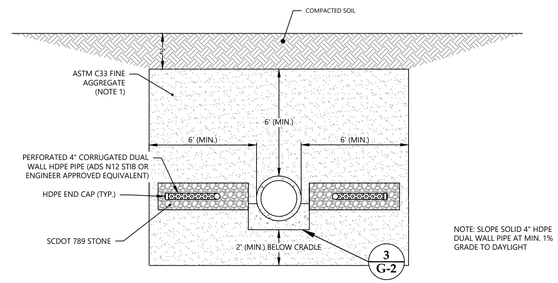


PLAN VIEW

PROFILE

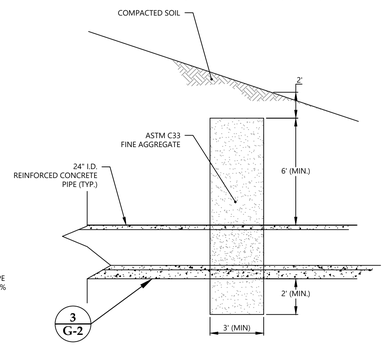
NOTES:

1. AT LEAST 9 INCHES OF ASTM C33 FINE AGGREGATE SHOULD BE USED TO SEPARATE THE SCDOT 789 STONE FROM THE COMPACTED SOIL EMBANKMENT.
2. THE PERFORATED PIPE SHALL HAVE AT LEAST 7 INCHES OF SCDOT 789 STONE PLACED AROUND THE PERFORATED DRAINAGE PIPE.
3. AASHTO TYPE II PERFORATION PATTERN WITH MAXIMUM SLOT WIDTH OF 0.125 IN. AND SLOT LENGTH OF 0.875 IN.
4. END OF THE PERFORATED PIPE TO HAVE 4" DIA. HDPE CAP.
5. FORWORK SHALL BE USED DURING COARSE AGGREGATE PLACEMENT TO PREVENT MIXING OF FINE AND COARSE AGGREGATES.
6. COMPACT AGGREGATE IN MAX. 12 INCH LIFTS WITH MIN 2 PASSES OF VIBRATORY PLATE TAMP PER LIFT.
7. SOLID SECTION OF PIPE DISCHARGES FROM DIAPHRAGM DRAIN TO DAYLIGHT.
8. INSTALL 4" AGIDRAIN STAINLESS STEEL RAT GUARDS AT DIAPHRAGM OUTLETS.



SECTION VIEW A-A'

NOTE: SLOPE SOLID 4" HDPE DUAL WALL PIPE AT MIN. 1% GRADE TO DAYLIGHT

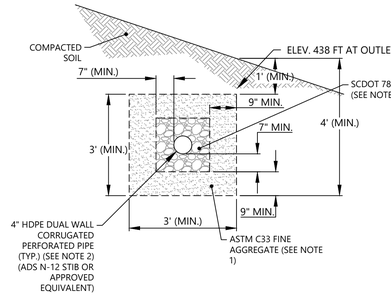


PROFILE VIEW B-B'

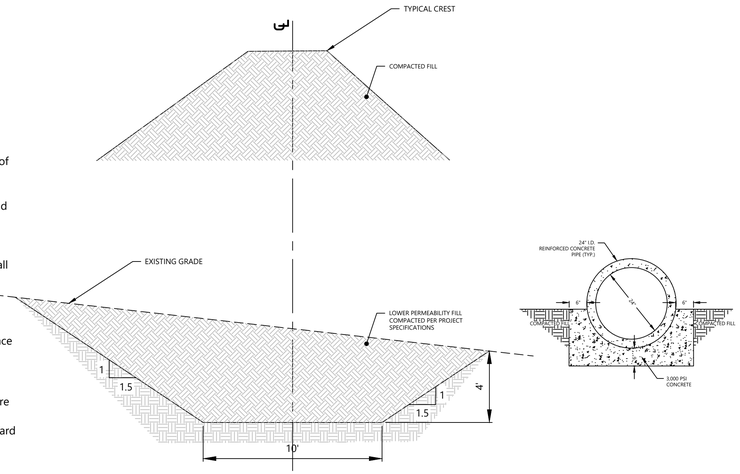
1 G-2 **SEEPAGE DIAPHRAGM**
SCALE: 1" = 4'

NOTES:

1. AT LEAST 9 INCHES OF ASTM C33 FINE AGGREGATE SHOULD BE USED TO SEPARATE THE SCDOT 789 STONE FROM THE COMPACTED SOIL EMBANKMENT.
2. AASHTO TYPE II PERFORATION PATTERN WITH MAXIMUM SLOT WIDTH OF 0.125 IN. AND SLOT LENGTH OF 0.875 IN.
3. FORMWORK SHALL BE USED DURING COARSE AGGREGATE PLACEMENT TO PREVENT MIXING OF FINE AND COARSE AGGREGATES.
4. AT LEAST 7 INCHES OF SCDOT 789 STONE SHOULD BE PLACED AROUND THE PERFORATED DRAINAGE PIPE.
5. AGGREGATE SHALL BE COMPACTED IN MAX. 12 INCH LIFTS WITH MAXIMUM 2 PASSES OF VIBRATORY PLATE TAMP PER LIFT.
6. WHERE TOE DRAIN WILL OUTLET CONCRETE HEADWALL, HYDRAULIC GROUT ANNULUS.
7. INSTALL AGRIDRAIN 4" STAINLESS STEEL RAT GUARD AT TOE DRAIN OUTLETS.
8. MINIMUM OF 2 TOE DRAIN OUTLETS, CONSISTING OF 4 INCH DIAMETER UNPERFORATED DUAL WALL CORRUGATED HDPE PIPE, SLOPED TO GRAVITY DISCHARGE AT DOWNSTREAM TOE OF DAM SLOPE.



2 G-2 **TOE DRAIN**
SCALE: 1" = 2'



4 G-2 **SEEPAGE CUTOFF DETAIL**
SCALE: 1" = 4'

CRADLE CONSTRUCTION NOTES:

1. EXCAVATE TO PROPOSED GRADES.
2. UNDERCUT AND REPLACE EXISTING SOFT FILL OR ALLUVIAL SOILS BENEATH PIPE AREA WITH COMPACTED STRUCTURAL FILL MATERIAL AS REQUIRED BY ENGINEER OR THIS REPRESENTATION.
3. PLACE COMPACTED BACKFILL TO PIPE SPRING LINE LEVEL. BACKFILL SHALL MEET PROJECT STRUCTURAL FILL AND COMPACTION SPECIFICATIONS.
4. EXCAVATE FOR PIPE CRADLE.
5. INSTALL PIPE AND PROVIDE SUPPORTS BENEATH PIPE AS NECESSARY TO ENSURE PIPE JOINT ALIGNMENT TO MANUFACTURER'S SPECIFICATIONS.
6. INSTALL BITUMINOUS OR OTHER APPROVED JOINT FILLER MATERIAL AT EACH PIPE JOINT IN CRADLE. JOINT FILLER MATERIAL SHALL EXTEND TO FULL DEPTH OF CRADLE AT EACH JOINT AND BE CONTOURED TO BOTTOM HALF OF THE PIPE.
7. PLACE CONCRETE FOR CRADLE TO REQUIRED DIMENSIONS. SIDES AND BOTTOM OF CRADLE SHALL BE CAST DIRECTLY AGAINST SOIL BACKFILL. CONSTRUCTION JOINTS SHALL BE LEFT ROUGH TO ENSURE BONDING WITH SUBSEQUENT CONCRETE POURS. PERFORM VIBRATORY CONSOLIDATION OF CONCRETE DURING PLACEMENT.
8. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI.
9. STRUCTURAL FILL PLACED AROUND PIPE SHALL BE COMPACTED USING HAND OPERATED OR WALK BEHIND COMPACTION EQUIPMENT UNTIL THE FILL REACHES A MINIMUM OF 24 INCHES OVER THE PIPE PRIOR TO THE USE OF HEAVY COMPACTION EQUIPMENT AND SHALL MEET THE PROJECT STRUCTURAL FILL AND COMPACTION SPECIFICATIONS.
10. PROVIDE SHEETING AND SHORING TO PROTECT EXCAVATIONS IN ACCORDANCE WITH OSHA STANDARDS.

3 G-2 **CONCRETE PIPE CRADLE**
SCALE: 1" = 2'

134 SUBER ROAD
COLUMBIA, SC 29210
(803) 561-9024

SOUTH CAROLINA NOLLYMOUTON SAME, INC. No. C00473 CERTIFICATE OF

SOUTH CAROLINA ROBERT C. DUNN 12435 REGISTERED

NO.	DATE	DESCRIPTION	BY	CHK	APV

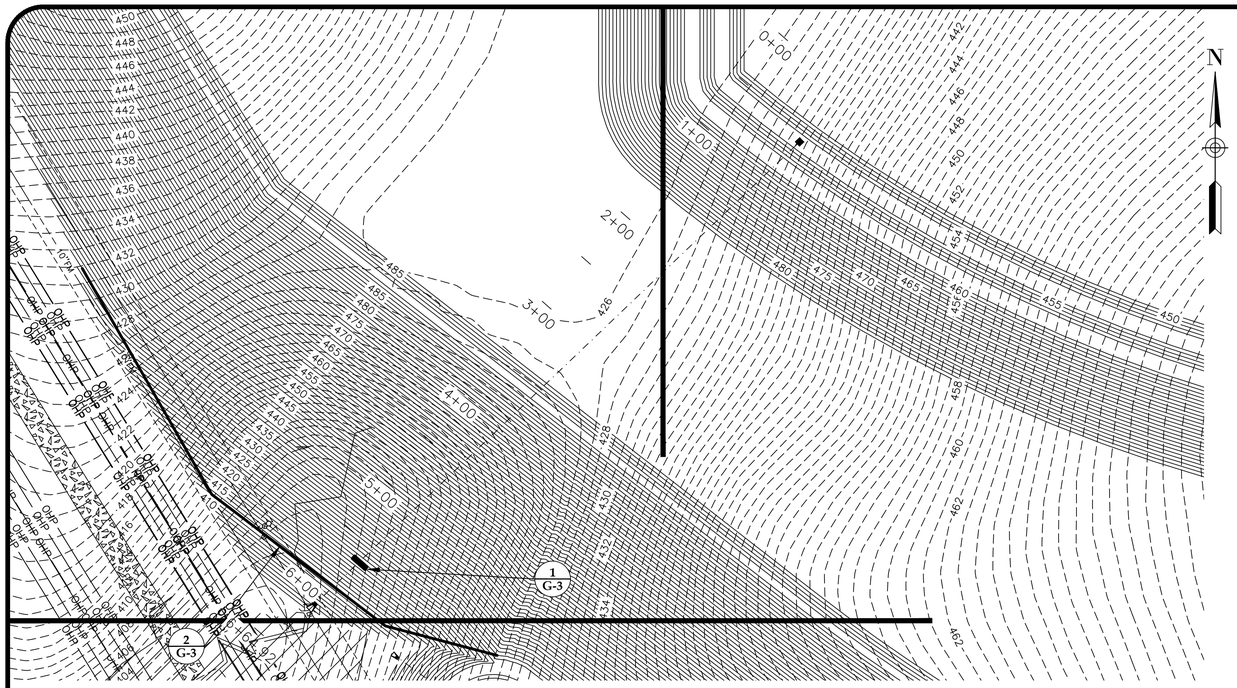
GEOTECHNICAL DETAILS

PROJECT CONNECT - SCDHEC REGULATED DAMS
TERRA DAM
BLYTHEWOOD, SOUTH CAROLINA

PROJECT NUMBER
23610258F

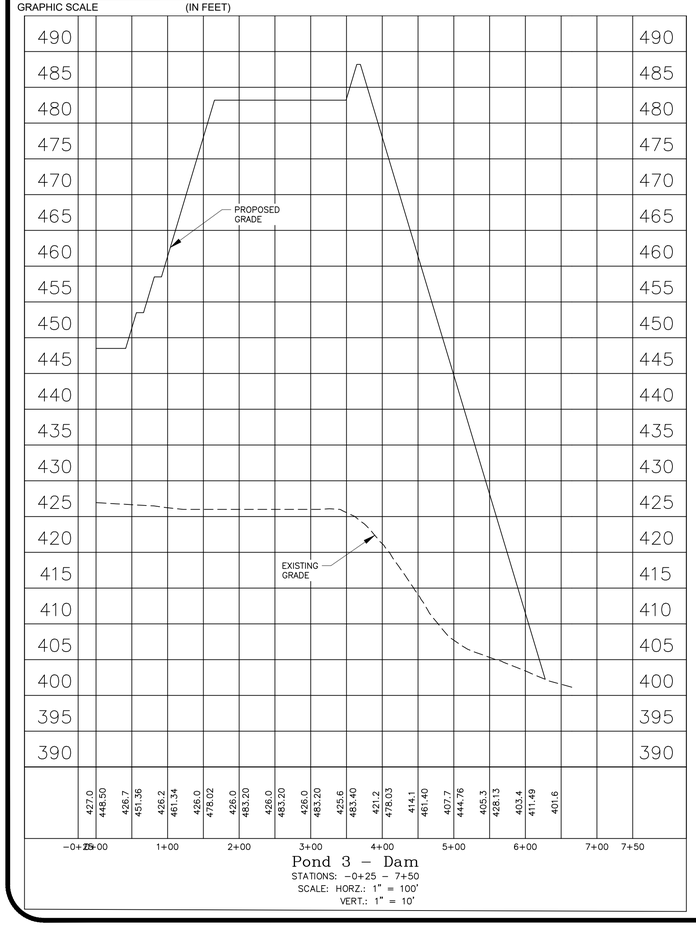
DRAWING NUMBER
G-2

DRAWING PATH: T:\Columbia-1610\Projects\2023\23610258F_TH-08, LLC_Project Connect-Regulated Dams_Blythewood, SC\GEO\CAD\Construction\EXISTING SITE CONDITION.dwg



0 60 120 180

GRAPHIC SCALE (IN FEET)



Pond 3 – Dam

STATIONS: −0+25 – 7+50

SCALE: HORZ.: 1" = 100'

VERT.: 1" = 10'

CONSTRUCTION NOTES:

Dam Fill Materials

1. Consisting of on-site or off-site borrow materials meeting the dam embankment fill requirements.
2. Samples to be obtained and tested to demonstrate materials meet specification:
   a. Prior to use.
   b. Each soil type.
   c. Every 5,000 cubic yards of material placed.
3. Laboratory testing by Owner's Geotechnical Engineer or his qualified representative shall consist of the following suite of tests:
   a. Grain-size Analysis with hydrometer (ASTM D7928).
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   c. Natural Moisture Content (ASTM D2216).
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4. Dam fill materials shall be classified as ML, CL, MH or CH soils according to the Unified Soil Classification System (USCS) (ASTM D2487).
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6. Material shall be free of topsoil, organic material, roots, stumps, brush, rocks larger than 3 inches, debris, vegetation and other foreign matter.
7. Materials shall have less than 3 percent organic content by weight.

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1. Remove surface vegetation, organic laden topsoil, stumps, root bulbs, roots, organic materials, other deleterious materials, and unstable/unsuitable surface or subsurface soils from structural areas.
2. Dewater existing water features (ponds and wetlands).
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1. Place dam embankment fill soils in maximum 8-inch loose lifts.
2. Dam fill materials shall be compacted to a minimum of 98 percent of the laboratory maximum dry density, and at -2 to +3 percent of optimum moisture content, as determined by the standard Proctor (ASTM D698) compaction criteria.
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5. Fill slopes shall benched into existing sloping terrain at a minimum of 2 feet horizontally for each 1 foot vertically and adequately compacted.
6. Compacted fill slopes shall be over-built a minimum of 1 foot horizontally to promote compaction at the embankment face and shall then be cut back to firm, well compacted soils prior to the placement of structures or vegetative cover.
7. Systematically fill to allow maximum time for natural settlement. Do not fill over porous, wet, frozen or spongy subgrade surfaces.
8. Slope grades to help prevent ponding of water on the fill surface.
9. Reshape and re-compact fills subjected to vehicular traffic.
10. Maintain temporary means and methods, as required, to remove all water while fill is being placed as required. Remove and replace soils deemed unsuitable by classification and which are excessively moist due to lack of dewatering or surface water control.

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3. Evaluate results in relation to compaction curve determined by testing uncompacted material in accordance with ASTM D698 standard Proctor).
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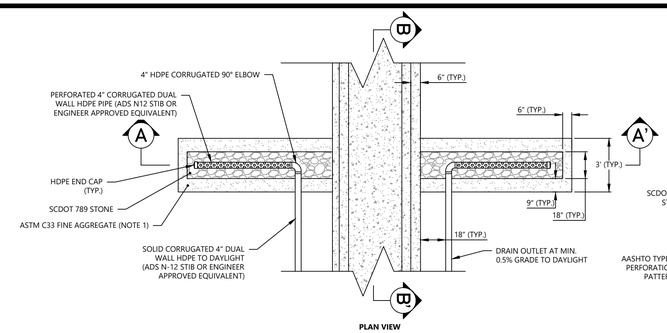
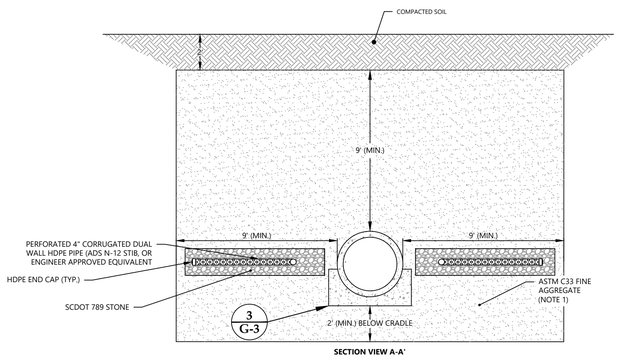
5. If tests indicate work does not meet specified requirements, remove work, moisture condition fill, re-compact, and re-test.
6. Frequency of Tests: Field density testing shall be performed at a frequency of one test per 2,500 square feet per lift of fill working face per lift or a minimum of one test per 100 linear feet per lift in trench excavations.



PLAN VIEW

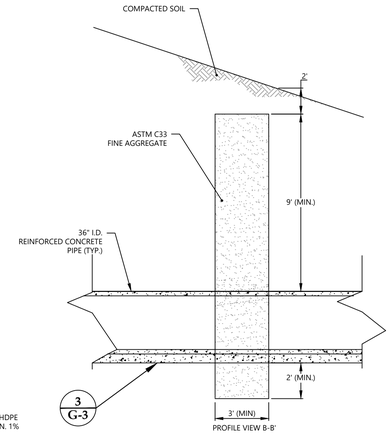
NOTES:

1. AT LEAST 9 INCHES OF ASTM C33 FINE AGGREGATE SHOULD BE USED TO SEPARATE THE SCDOT 789 STONE FROM THE COMPACTED SOIL EMBANKMENT.
2. THE PERFORATED PIPE SHALL HAVE AT LEAST 7 INCHES OF SCDOT 789 STONE PLACED AROUND THE PERFORATED DRAINAGE PIPE.
3. AASHTO TYPE II PERFORATION PATTERN WITH MAXIMUM SLOT WIDTH OF 0.125 IN. AND SLOT LENGTH OF 0.875 IN.
4. END OF THE PERFORATED PIPE TO HAVE 4" DIA. HDPE CAP.
5. FORWORK SHALL BE USED DURING COARSE AGGREGATE PLACEMENT TO PREVENT MIXING OF FINE AND COARSE AGGREGATES.
6. COMPACT AGGREGATE IN MAX. 12 INCH LIFTS WITH MIN 2 PASSES OF VIBRATORY PLATE TAMP PER LIFT.
7. SOLID SECTION OF PIPE DISCHARGES FROM DIAPHRAGM DRAIN TO DAYLIGHT.
8. INSTALL 4" AGIDRAIN STAINLESS STEEL RAT GUARDS AT DIAPHRAGM OUTLETS.



SECTION VIEW A-A'

NOTE: SLOPE SOLID 4" HDPE DUAL WALL PIPE AT MIN. 1% GRADE TO DAYLIGHT



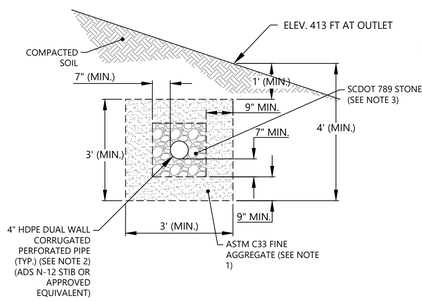
PROFILE VIEW B-B'

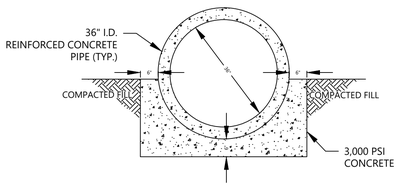
1 G-3 SEEPAGE DIAPHRAGM

SCALE: 1" = 4'

NOTES:

1. AT LEAST 9 INCHES OF ASTM C33 FINE AGGREGATE SHOULD BE USED TO SEPARATE THE SCDOT 789 STONE FROM THE COMPACTED SOIL EMBANKMENT.
2. AASHTO TYPE II PERFORATION PATTERN WITH MAXIMUM SLOT WIDTH OF 0.125 IN. AND SLOT LENGTH OF 0.875 IN.
3. FORMWORK SHALL BE USED DURING COARSE AGGREGATE PLACEMENT TO PREVENT MIXING OF FINE AND COARSE AGGREGATES.
4. AT LEAST 7 INCHES OF SCDOT 789 STONE SHOULD BE PLACED AROUND THE PERFORATED DRAINAGE PIPE.
5. AGGREGATE SHALL BE COMPACTED IN MAX. 12 INCH LIFTS WITH MAXIMUM 2 PASSES OF VIBRATORY PLATE TAMP PER LIFT.
6. WHERE TOE DRAIN WILL OUTLET CONCRETE HEADWALL, HYDRAULIC GROUT ANNULUS.
7. INSTALL AGRIDRAIN 4" STAINLESS STEEL RAT GUARD AT TOE DRAIN OUTLETS.
8. MINIMUM OF 2 TOE DRAIN OUTLETS, CONSISTING OF 4 INCH DIAMETER UNPERFORATED DUAL WALL CORRUGATED HDPE PIPE, SLOPED TO GRAVITY DISCHARGE AT DOWNSTREAM TOE OF DAM SLOPE.





2 G-3 TOE DRAIN

SCALE: 1" = 2'

CRADLE CONSTRUCTION NOTES:

1. EXCAVATE TO PROPOSED GRADES.
2. UNDERCUT AND REPLACE EXISTING SOFT SOILS BENEATH PIPE AREA WITH COMPACTED STRUCTURAL FILL MATERIAL AS REQUIRED BY ENGINEER OR THIS REPRESENTATION.
3. PLACE COMPACTED BACKFILL TO PIPE SPRING LINE LEVEL. BACKFILL SHALL MEET PROJECT STRUCTURAL FILL AND COMPACTION SPECIFICATIONS.
4. EXCAVATE FOR PIPE CRADLE.
5. INSTALL PIPE AND PROVIDE SUPPORTS BENEATH PIPE AS NECESSARY TO ENSURE PIPE JOINT ALIGNMENT TO MANUFACTURER'S SPECIFICATIONS.
6. INSTALL BITUMINOUS OR OTHER APPROVED JOINT FILLER MATERIAL AT EACH PIPE JOINT IN CRADLE. JOINT FILLER MATERIAL SHALL EXTEND TO FULL DEPTH OF CRADLE AT EACH JOINT AND BE CONTOURED TO BOTTOM HALF OF THE PIPE.
7. PLACE CONCRETE FOR CRADLE TO REQUIRED DIMENSIONS. SIDES AND BOTTOM OF CRADLE SHALL BE CAST DIRECTLY AGAINST SOIL BACKFILL. CONSTRUCTION JOINTS SHALL BE LEFT ROUGH TO ENSURE BONDING WITH SUBSEQUENT CONCRETE POURS. PERFORM VIBRATORY CONSOLIDATION OF CONCRETE DURING PLACEMENT.
8. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI.
9. STRUCTURAL FILL PLACED AROUND PIPE SHALL BE COMPACTED USING HAND OPERATED OR WALK BEHIND COMPACTION EQUIPMENT UNTIL THE FILL REACHES A MINIMUM OF 24 INCHES OVER THE PIPE PRIOR TO THE USE OF HEAVY COMPACTION EQUIPMENT AND SHALL MEET THE PROJECT STRUCTURAL FILL AND COMPACTION SPECIFICATIONS.
10. PROVIDE SHEETING AND SHORING, AS NEEDED, TO PROTECT EXCAVATIONS IN ACCORDANCE WITH OSHA STANDARDS.

3 G-3 CONCRETE PIPE CRADLE

SCALE: 1" = 2'

134 SUBER ROAD
COLUMBIA, SC 29210
(803) 561-9024

SOUTH CAROLINA PROFESSIONAL ENGINEER — S&ME, INC. No. C00473 — CERTIFICATE OF AUTHORIZATION

NO.	DATE	DESCRIPTION	BY	CHK	APV

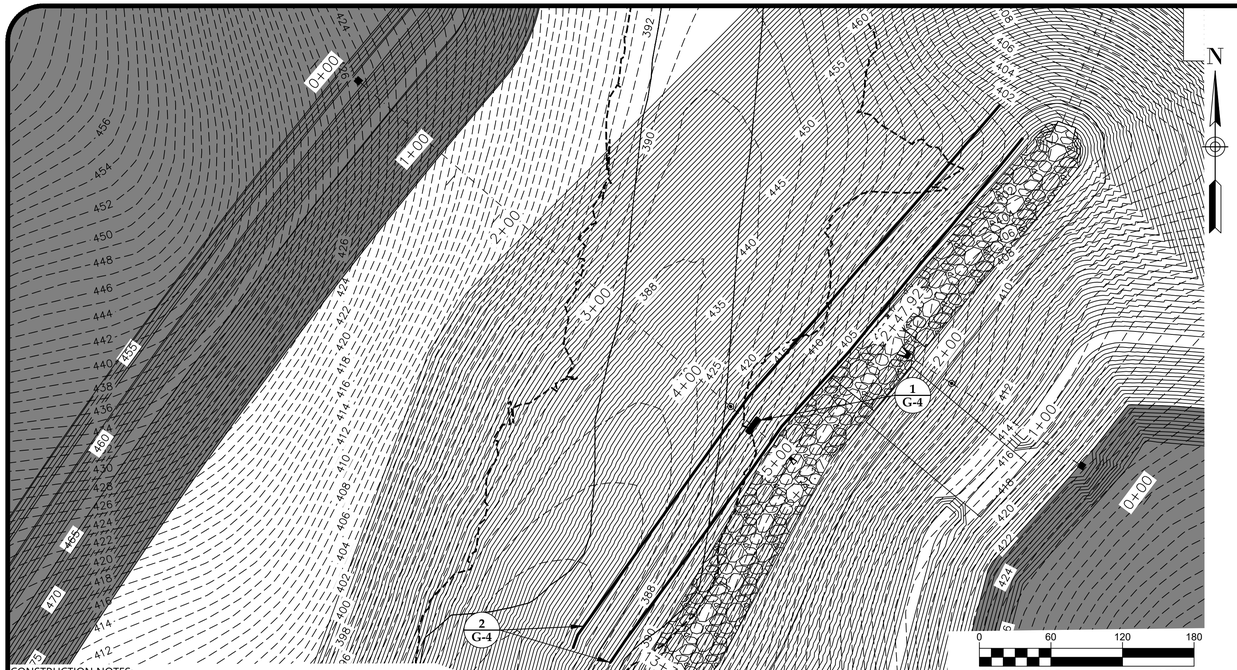
GEOTECHNICAL DETAILS

PROJECT CONNECT - SCDHEC REGULATED DAMS
TRAVELER DAM
BLYTHEWOOD, SOUTH CAROLINA

PROJECT NUMBER
23610258F

DRAWING NUMBER
G-3

DRAWING PATH: T:\Columbia-1610\Projects\2023\23610258F_TH-DB, LLC_Project Connect-Regulated Dams_Blythewood, SC\GEO\CAD\Construction\EXISTING SITE CONDITION.dwg



CONSTRUCTION NOTES:

Dam Fill Materials

1. Consisting of on-site or off-site borrow materials meeting the dam embankment fill requirements.
2. Samples to be obtained and tested to demonstrate materials meet specification:
   a. Prior to use.
   b. Each soil type.
   c. Every 5,000 cubic yards of material placed.
3. Laboratory testing by Owner's Geotechnical Engineer or his qualified representative shall consist of the following suite of tests:
   a. Grain-size Analysis with hydrometer (ASTM D7928).
   b. Atterberg Limits (ASTM D4318).
   c. Natural Moisture Content (ASTM D2216).
   d. Standard Proctor (ASTM D698).
4. Dam fill materials shall be classified as ML, CL, MH or CH soils according to the Unified Soil Classification System (USCS) (ASTM D2487).
5. Dam fill materials shall have a liquid limit (LL) between 30 and 60 and a plasticity index (PI) between 10 and 35.
6. Material shall be free of topsoil, organic material, roots, stumps, brush, rocks larger than 3 inches, debris, vegetation and other foreign matter.
7. Materials shall have less than 3 percent organic content by weight.

Site Preparation

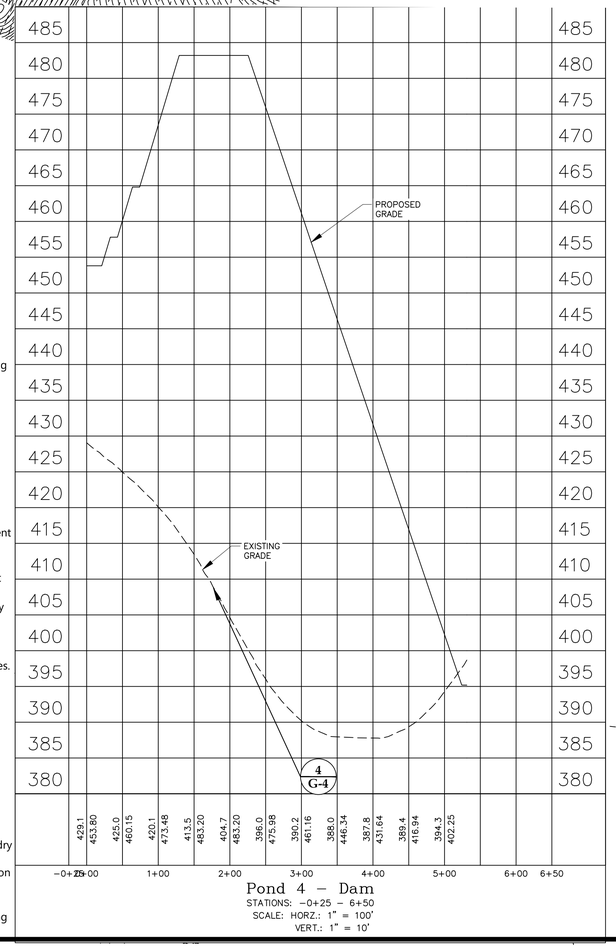
1. Remove surface vegetation, organic laden topsoil, stumps, root bulbs, roots, organic materials, other deleterious materials, and unstable/unsuitable surface or subsurface soils from structural areas.
2. Dewater existing water features (ponds and wetlands).
3. Divert/re-route existing tributaries/creeks/streams as necessary.
4. Provide temporary dewatering measures as required to help prevent softening of soil subgrade. Dewatering may consist of construction of sumps and pumping, well point installation, ditching, or other methods to lower water levels in the work area. Water levels shall be maintained at minimum depth of 3 feet below the excavation subgrade or to a depth sufficient to help prevent softening of the subgrade soils. Pumping shall be performed continuously to provide effective dewatering and until compacted fill levels reach a minimum of 3 feet above the static water level.
5. Observe and evaluate the subgrade prior to fill or structure placement. Owner's Geotechnical Engineer or his qualified representative shall perform this evaluation. This evaluation may consist of visual observations, proofrolling observations, probing with a rod, hand auger borings with Dynamic Cone Penetrometer (DCP) testing, and/or test pit observations.
6. Areas of unstable/unsuitable subgrade will require modification/stabilization to remove or stabilize soft or loose materials. Modification/stabilization may consist of:
   a. Removing and replacing unstable materials with properly compacted structural fill.
   b. Scarifying, drying and compacting in-place.
   c. Blending with the on-site sandy and lower plasticity soils.
   d. Chemical stabilization.
7. Upon achieving a stable subgrade, protect and maintain area until fill or structure placement.

Fill Placement

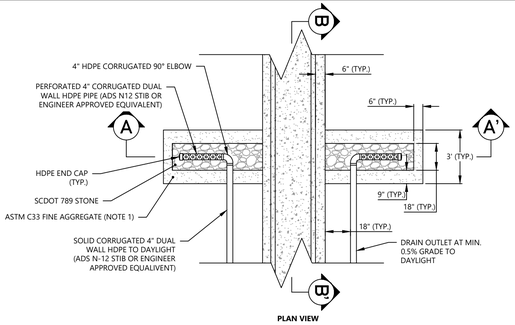
1. Place dam embankment fill soils in maximum 8-inch loose lifts.
2. Dam fill materials shall be compacted to a minimum of 98 percent of the laboratory maximum dry density, and at -2 to +3 percent of optimum moisture content, as determined by the standard Proctor (ASTM D698) compaction criteria.
3. Contractor should be prepared to wet or dry soils as necessary to achieve compaction.
4. In addition to meeting the compaction requirement, fill material must be stable under movement of the construction equipment and must not exhibit rutting or pumping after compaction.
5. Fill slopes shall benched into existing sloping terrain at a minimum of 2 feet horizontally for each 1 foot vertically and adequately compacted.
6. Compacted fill slopes shall be over-built a minimum of 1 foot horizontally to promote compaction at the embankment face and shall then be cut back to firm, well compacted soils prior to the placement of structures or vegetative cover.
7. Systematically fill to allow maximum time for natural settlement. Do not fill over porous, wet, frozen or spongy subgrade surfaces.
8. Slope grades to help prevent ponding of water on the fill surface.
9. Reshape and re-compact fills subjected to vehicular traffic.
10. Maintain temporary means and methods, as required, to remove all water while fill is being placed as required. Remove and replace soils deemed unsuitable by classification and which are excessively moist due to lack of dewatering or surface water control.

Field Quality Control

1. Owner's Geotechnical Engineer or his qualified representative shall perform field quality control testing.
2. Perform compaction density testing on compacted fill in accordance with ASTM D1556, ASTM D2167, or ASTM D6938. Field moisture content tests shall be performed in accordance with the Direct Heating (ASTM D4959) method.
3. Evaluate results in relation to compaction curve determined by testing uncompacted material in accordance with ASTM D698 standard Proctor).
4. One-point Proctor compaction tests shall be performed at a frequency of at least one per day during fill placement or when fill dry densities vary by more than 2 pounds per cubic foot (pcf). The one-point Proctor compaction tests shall be used to select the representative standard Proctor relationship for the fill material being tested from a project family of standard Proctor compaction curves.
5. If tests indicate work does not meet specified requirements, remove work, moisture condition fill, re-compact, and re-test.
6. Frequency of Tests: Field density testing shall be performed at a frequency of one test per 2,500 square feet per lift of fill working face per lift or a minimum of one test per 100 linear feet per lift in trench excavations.



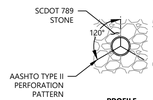
Pond 4 – Dam
STATIONS: −0+25 – 6+50
SCALE: HORZ.: 1" = 100'
VERT.: 1" = 10'



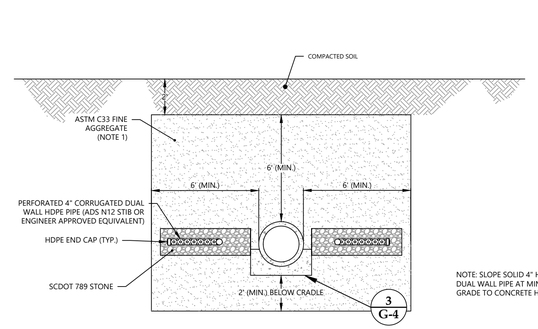
PLAN VIEW

NOTES:

1. AT LEAST 9 INCHES OF ASTM C33 FINE AGGREGATE SHOULD BE USED TO SEPARATE THE SCDOT 789 STONE FROM THE COMPACTED SOIL EMBANKMENT.
2. THE PERFORATED PIPE SHALL HAVE AT LEAST 7 INCHES OF SCDOT 789 STONE PLACED AROUND THE PERFORATED DRAINAGE PIPE.
3. AASHTO TYPE II PERFORATION PATTERN WITH MAXIMUM SLOT WIDTH OF 0.125 IN. AND SLOT LENGTH OF 0.875 IN.
4. END OF THE PERFORATED PIPE TO HAVE 4" DIA. HDPE CAP.
5. FORWORK SHALL BE USED DURING COARSE AGGREGATE PLACEMENT TO PREVENT MIXING OF FINE AND COARSE AGGREGATES.
6. COMPACT AGGREGATE IN MAX. 12 INCH LIFTS WITH MIN 2 PASSES OF VIBRATORY PLATE TAMP PER LIFT.
7. SOLID SECTION OF PIPE DISCHARGES FROM DIAPHRAGM DRAIN TO DAYLIGHT.
8. INSTALL 4" AGIDRAIN STAINLESS STEEL RAT GUARDS AT DIAPHRAGM OUTLETS.

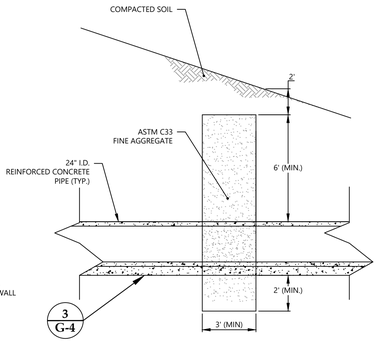


PROFILE



SECTION VIEW A-A'

NOTE: SLOPE SOLID 4" HDPE DUAL WALL PIPE AT MIN. 1% GRADE TO CONCRETE HEADWALL

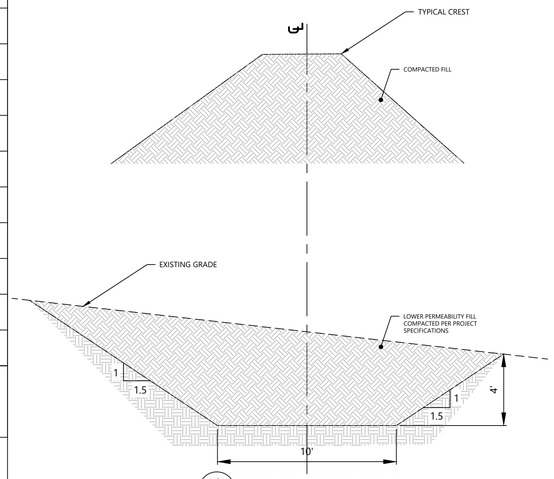


PROFILE VIEW 8-8'

1 / G-4 SEEPAGE DIAPHRAGM
SCALE: 1" = 4'

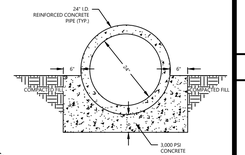
NOTES:

1. AT LEAST 9 INCHES OF ASTM C33 FINE AGGREGATE SHOULD BE USED TO SEPARATE THE SCDOT 789 STONE FROM THE COMPACTED SOIL EMBANKMENT.
2. AASHTO TYPE II PERFORATION PATTERN WITH MAXIMUM SLOT WIDTH OF 0.125 IN. AND SLOT LENGTH OF 0.875 IN.
3. FORMWORK SHALL BE USED DURING COARSE AGGREGATE PLACEMENT TO PREVENT MIXING OF FINE AND COARSE AGGREGATES.
4. AT LEAST 7 INCHES OF SCDOT 789 STONE SHOULD BE PLACED AROUND THE PERFORATED DRAINAGE PIPE.
5. AGGREGATE SHALL BE COMPACTED IN MAX. 12 INCH LIFTS WITH MAXIMUM 2 PASSES OF VIBRATORY PLATE TAMP PER LIFT.
6. WHERE TOE DRAIN WILL OUTLET CONCRETE HEADWALL, HYDRAULIC GROUT ANNULUS.
7. INSTALL AGRIDRAIN 4" STAINLESS STEEL RAT GUARD AT TOE DRAIN OUTLETS.
8. MINIMUM OF 2 TOE DRAIN OUTLETS, CONSISTING OF 4 INCH DIAMETER UNPERFORATED DUAL WALL CORRUGATED HDPE PIPE, SLOPED TO GRAVITY DISCHARGE AT DOWNSTREAM TOE OF DAM SLOPE.



4 / G-4 SEEPAGE CUTOFF DETAIL
SCALE: 1" = 4'

2 / G-4 TOE DRAIN
SCALE: 1" = 2'



CRADLE CONSTRUCTION NOTES:

1. EXCAVATE TO PROPOSED GRADES.
2. UNDERCUT AND REPLACE EXISTING SOFT FILL OR ALLUVIAL SOILS BENEATH PIPE AREA WITH COMPACTED STRUCTURAL FILL MATERIAL AS REQUIRED BY ENGINEER OR THIS REPRESENTATION.
3. PLACE COMPACTED BACKFILL TO PIPE SPRING LINE LEVEL. BACKFILL SHALL MEET PROJECT STRUCTURAL FILL AND COMPACTION SPECIFICATIONS.
4. EXCAVATE FOR PIPE CRADLE.
5. INSTALL PIPE AND PROVIDE SUPPORTS BENEATH PIPE AS NECESSARY TO ENSURE PIPE JOINT ALIGNMENT TO MANUFACTURER'S SPECIFICATIONS.
6. INSTALL BITUMINOUS OR OTHER APPROVED JOINT FILLER MATERIAL AT EACH PIPE JOINT IN CRADLE. JOINT FILLER MATERIAL SHALL EXTEND TO FULL DEPTH OF CRADLE AT EACH JOINT AND BE CONTOURED TO BOTTOM HALF OF THE PIPE.
7. PLACE CONCRETE FOR CRADLE TO REQUIRED DIMENSIONS. SIDES AND BOTTOM OF CRADLE SHALL BE CAST DIRECTLY AGAINST SOIL BACKFILL. CONSTRUCTION JOINTS SHALL BE LEFT ROUGH TO ENSURE BONDING WITH SUBSEQUENT CONCRETE POURS. PERFORM VIBRATORY CONSOLIDATION OF CONCRETE DURING PLACEMENT.
8. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI.
9. STRUCTURAL FILL PLACED AROUND PIPE SHALL BE COMPACTED USING HAND OPERATED OR WALK BEHIND COMPACTION EQUIPMENT UNTIL THE FILL REACHES A MINIMUM OF 24 INCHES OVER THE PIPE PRIOR TO THE USE OF HEAVY COMPACTION EQUIPMENT AND SHALL MEET THE PROJECT STRUCTURAL FILL AND COMPACTION SPECIFICATIONS.
10. PROVIDE SHEETING AND SHORING TO PROTECT EXCAVATIONS IN ACCORDANCE WITH OSHA STANDARDS.

3 / G-4 CONCRETE PIPE CRADLE
SCALE: 1" = 2'

134 SUBER ROAD
COLUMBIA, SC 29210
(803) 561-9024

NO.	DATE	DESCRIPTION	BY	CHK	APV

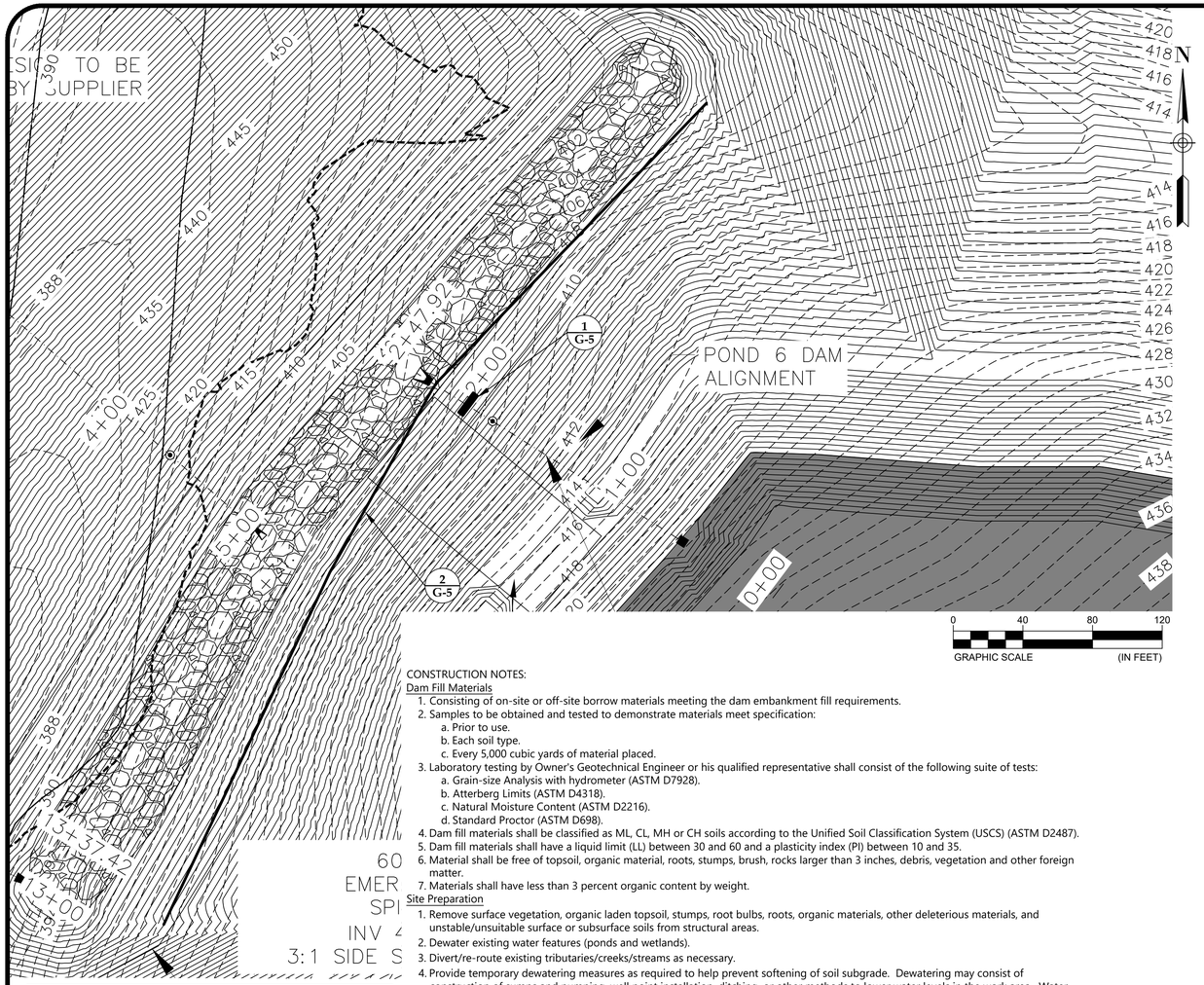
GEOTECHNICAL DETAILS

PROJECT CONNECT - SCDHEC REGULATED DAMS
SPIRIT DAM
BLYTHEWOOD, SOUTH CAROLINA

PROJECT NUMBER
23610258F

DRAWING NUMBER
G-4

DRAWING PATH: T:\Columbia-161\Project\2023\23610258F_TH-08, LLC-Project Connect-Regulated Dams_Blythewood, SC\GEO\CAD\Construction\EXISTING SITE CONDITION.dwg



CONSTRUCTION NOTES:

Dam Fill Materials

1. Consisting of on-site or off-site borrow materials meeting the dam embankment fill requirements.
2. Samples to be obtained and tested to demonstrate materials meet specification:
   a. Prior to use.
   b. Each soil type.
   c. Every 5,000 cubic yards of material placed.
3. Laboratory testing by Owner's Geotechnical Engineer or his qualified representative shall consist of the following suite of tests:
   a. Grain-size Analysis with hydrometer (ASTM D7928).
   b. Atterberg Limits (ASTM D4318).
   c. Natural Moisture Content (ASTM D2216).
   d. Standard Proctor (ASTM D698).
4. Dam fill materials shall be classified as ML, CL, MH or CH soils according to the Unified Soil Classification System (USCS) (ASTM D2487).
5. Dam fill materials shall have a liquid limit (LL) between 30 and 60 and a plasticity index (PI) between 10 and 35.
6. Material shall be free of topsoil, organic material, roots, stumps, brush, rocks larger than 3 inches, debris, vegetation and other foreign matter.
7. Materials shall have less than 3 percent organic content by weight.

Site Preparation

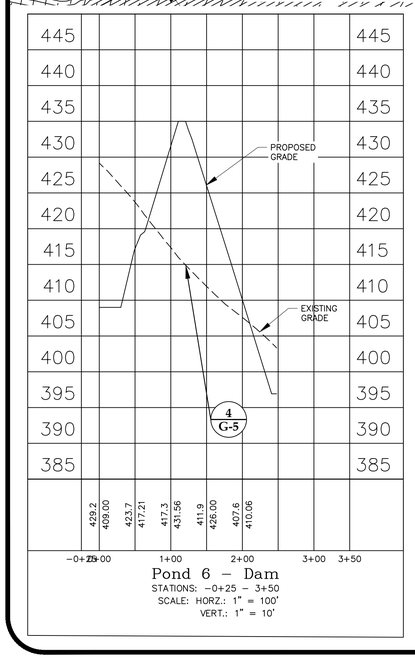
1. Remove surface vegetation, organic laden topsoil, stumps, root bulbs, roots, organic materials, other deleterious materials, and unstable/unsuitable surface or subsurface soils from structural areas.
2. Dewater existing water features (ponds and wetlands).
3. Divert/re-route existing tributaries/creeks/streams as necessary.
4. Provide temporary dewatering measures as required to help prevent softening of soil subgrade. Dewatering may consist of construction of sumps and pumping, well point installation, ditching, or other methods to lower water levels in the work area. Water levels shall be maintained at minimum depth of 3 feet below the excavation subgrade or to a depth sufficient to help prevent softening of the subgrade soils. Pumping shall be performed continuously to provide effective dewatering and until compacted fill levels reach a minimum of 3 feet above the static water level.
5. Observe and evaluate the subgrade prior to fill or structure placement. Owner's Geotechnical Engineer or his qualified representative shall perform this evaluation. This evaluation may consist of visual observations, proofrolling observations, probing with a rod, hand auger borings with Dynamic Cone Penetrometer (DCP) testing, and/or test pit observations.
6. Areas of unstable/unsuitable subgrade will require modification/stabilization to remove or stabilize soft or loose materials. Modification/stabilization may consist of:
   a. Removing and replacing unstable materials with properly compacted structural fill.
   b. Scarifying, drying and compacting in-place.
   c. Blending with the on-site sandy and lower plasticity soils.
   d. Chemical stabilization.
7. Upon achieving a stable subgrade, protect and maintain area until fill or structure placement.

Fill Placement

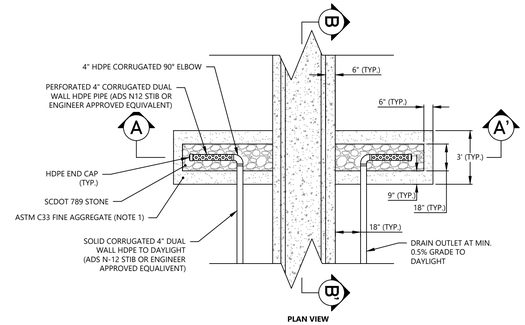
1. Place dam embankment fill soils in maximum 8-inch loose lifts.
2. Dam fill materials shall be compacted to a minimum of 98 percent of the laboratory maximum dry density, and at -2 to +3 percent of optimum moisture content, as determined by the standard Proctor (ASTM D698) compaction criteria.
3. Contractor should be prepared to wet or dry soils as necessary to achieve compaction.
4. In addition to meeting the compaction requirement, fill material must be stable under movement of the construction equipment and must not exhibit rutting or pumping after compaction.
5. Fill slopes shall benched into existing sloping terrain at a minimum of 2 feet horizontally for each 1 foot vertically and adequately compacted.
6. Compacted fill slopes shall be over-built a minimum of 1 foot horizontally to promote compaction at the embankment face and shall then be cut back to firm, well compacted soils prior to the placement of structures or vegetative cover.
7. Systematically fill to allow maximum time for natural settlement. Do not fill over porous, wet, frozen or spongy subgrade surfaces.
8. Slope grades to help prevent ponding of water on the fill surface.
9. Reshape and re-compact fills subjected to vehicular traffic.
10. Maintain temporary means and methods, as required, to remove all water while fill is being placed as required. Remove and replace soils deemed unsuitable by classification and which are excessively moist due to lack of dewatering or surface water control.

Field Quality Control

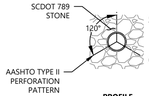
1. Owner's Geotechnical Engineer or his qualified representative shall perform field quality control testing.
2. Perform compaction density testing on compacted fill in accordance with ASTM D1556, ASTM D2167, or ASTM D6938. Field moisture content tests shall be performed in accordance with the Direct Heating (ASTM D4959) method.
3. Evaluate results in relation to compaction curve determined by testing uncompacted material in accordance with ASTM D698 standard Proctor).
4. One-point Proctor compaction tests shall be performed at a frequency of at least one per day during fill placement or when fill dry densities vary by more than 2 pounds per cubic foot (pcf). The one-point Proctor compaction tests shall be used to select the representative standard Proctor relationship for the fill material being tested from a project family of standard Proctor compaction curves.
5. If tests indicate work does not meet specified requirements, remove work, moisture condition fill, re-compact, and re-test.
6. Frequency of Tests: Field density testing shall be performed at a frequency of one test per 2,500 square feet per lift of fill working face per lift or a minimum of one test per 100 linear feet per lift in trench excavations.



Pond 6 – Dam
STATIONS: −0+25 – 3+50
SCALE: HORZ.: 1" = 100'
VERT.: 1" = 10'



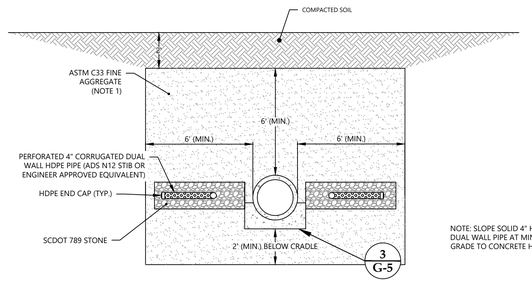
PLAN VIEW



PROFILE

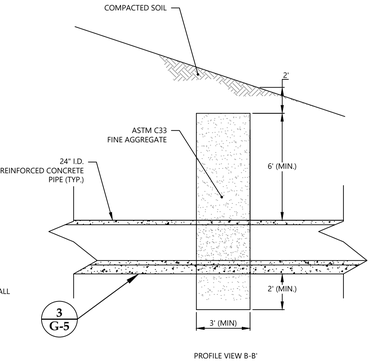
NOTES:

1. AT LEAST 9 INCHES OF ASTM C33 FINE AGGREGATE SHOULD BE USED TO SEPARATE THE SCDOT 789 STONE FROM THE COMPACTED SOIL EMBANKMENT.
2. THE PERFORATED PIPE SHALL HAVE AT LEAST 7 INCHES OF SCDOT 789 STONE PLACED AROUND THE PERFORATED DRAINAGE PIPE.
3. AASHTO TYPE II PERFORATION PATTERN WITH MAXIMUM SLOT WIDTH OF 0.125 IN. AND SLOT LENGTH OF 0.875 IN.
4. END OF THE PERFORATED PIPE TO HAVE 4" DIA. HDPE CAP.
5. FORWORK SHALL BE USED DURING COARSE AGGREGATE PLACEMENT TO PREVENT MIXING OF FINE AND COARSE AGGREGATES.
6. COMPACT AGGREGATE IN MAX. 12 INCH LIFTS WITH MIN 2 PASSES OF VIBRATORY PLATE TAMP PER LIFT.
7. SOLID SECTION OF PIPE DISCHARGES FROM DIAPHRAGM DRAIN TO DAYLIGHT.
8. INSTALL 4" AGIDRAIN STAINLESS STEEL RAT GUARDS AT DIAPHRAGM OUTLETS.



SECTION VIEW A-A'

NOTE: SLOPE SOLID 4" HDPE DUAL WALL PIPE AT MIN. 1% GRADE TO CONCRETE HEADWALL



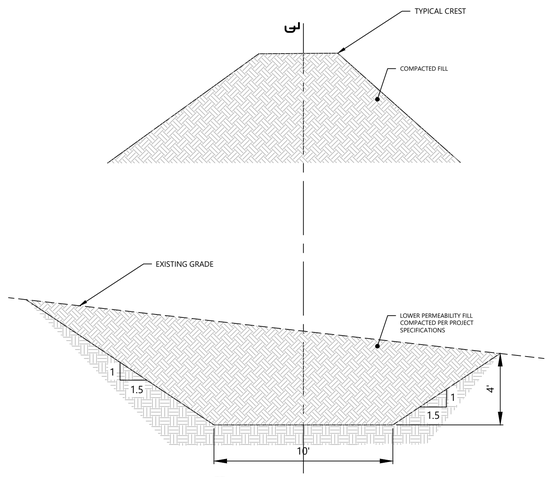
PROFILE VIEW B-B'

1 / G-5 SEEPAGE DIAPHRAGM
SCALE: 1" = 4'

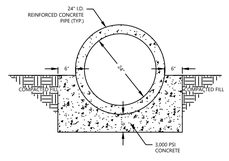
NOTES:

1. AT LEAST 9 INCHES OF ASTM C33 FINE AGGREGATE SHOULD BE USED TO SEPARATE THE SCDOT 789 STONE FROM THE COMPACTED SOIL EMBANKMENT.
2. AASHTO TYPE II PERFORATION PATTERN WITH MAXIMUM SLOT WIDTH OF 0.125 IN. AND SLOT LENGTH OF 0.875 IN.
3. FORMWORK SHALL BE USED DURING COARSE AGGREGATE PLACEMENT TO PREVENT MIXING OF FINE AND COARSE AGGREGATES.
4. AT LEAST 7 INCHES OF SCDOT 789 STONE SHOULD BE PLACED AROUND THE PERFORATED DRAINAGE PIPE.
5. AGGREGATE SHALL BE COMPACTED IN MAX. 12 INCH LIFTS WITH MAXIMUM 2 PASSES OF VIBRATORY PLATE TAMP PER LIFT.
6. WHERE TOE DRAIN WILL OUTLET CONCRETE HEADWALL, HYDRAULIC GROUT ANNULUS.
7. INSTALL AGRIDRAIN 4" STAINLESS STEEL RAT GUARD AT TOE DRAIN OUTLETS.
8. MINIMUM OF 2 TOE DRAIN OUTLETS, CONSISTING OF 4 INCH DIAMETER UNPERFORATED DUAL WALL CORRUGATED HDPE PIPE, SLOPED TO GRAVITY DISCHARGE AT DOWNSTREAM TOE OF DAM SLOPE.

2 / G-5 TOE DRAIN
SCALE: 1" = 2'



4 / G-5 SEEPAGE CUTOFF DETAIL
SCALE: 1" = 4'



CRADLE CONSTRUCTION NOTES:

1. EXCAVATE TO PROPOSED GRADES.
2. UNDERCUT AND REPLACE EXISTING SOFT FILL OR ALLUVIAL SOILS BENEATH PIPE AREA WITH COMPACTED STRUCTURAL FILL MATERIAL AS REQUIRED BY ENGINEER OR THIS REPRESENTATION.
3. PLACE COMPACTED BACKFILL TO PIPE SPRING LINE LEVEL. BACKFILL SHALL MEET PROJECT STRUCTURAL FILL AND COMPACTION SPECIFICATIONS.
4. EXCAVATE FOR PIPE CRADLE.
5. INSTALL PIPE AND PROVIDE SUPPORTS BENEATH PIPE AS NECESSARY TO ENSURE PIPE JOINT ALIGNMENT TO MANUFACTURER'S SPECIFICATIONS.
6. INSTALL BITUMINOUS OR OTHER APPROVED JOINT FILLER MATERIAL AT EACH PIPE JOINT IN CRADLE. JOINT FILLER MATERIAL SHALL EXTEND TO FULL DEPTH OF CRADLE AT EACH JOINT AND BE CONTOURED TO BOTTOM HALF OF THE PIPE.
7. PLACE CONCRETE FOR CRADLE TO REQUIRED DIMENSIONS. SIDES AND BOTTOM OF CRADLE SHALL BE CAST DIRECTLY AGAINST SOIL BACKFILL. CONSTRUCTION JOINTS SHALL BE LEFT ROUGH TO ENSURE BONDING WITH SUBSEQUENT CONCRETE POURS. PERFORM VIBRATORY CONSOLIDATION OF CONCRETE DURING PLACEMENT.
8. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI.
9. STRUCTURAL FILL PLACED AROUND PIPE SHALL BE COMPACTED USING HAND OPERATED OR WALK BEHIND COMPACTION EQUIPMENT UNTIL THE FILL REACHES A MINIMUM OF 24 INCHES OVER THE PIPE PRIOR TO THE USE OF HEAVY COMPACTION EQUIPMENT AND SHALL MEET THE PROJECT STRUCTURAL FILL AND COMPACTION SPECIFICATIONS.
10. PROVIDE SHEETING AND SHORING TO PROTECT EXCAVATIONS IN ACCORDANCE WITH OSHA STANDARDS.

3 / G-5 CONCRETE PIPE CRADLE
SCALE: 1" = 2'

134 SUBER ROAD
COLUMBIA, SC 29210
(803) 561-9024

NO.	DATE	DESCRIPTION	BY	CHK	APV

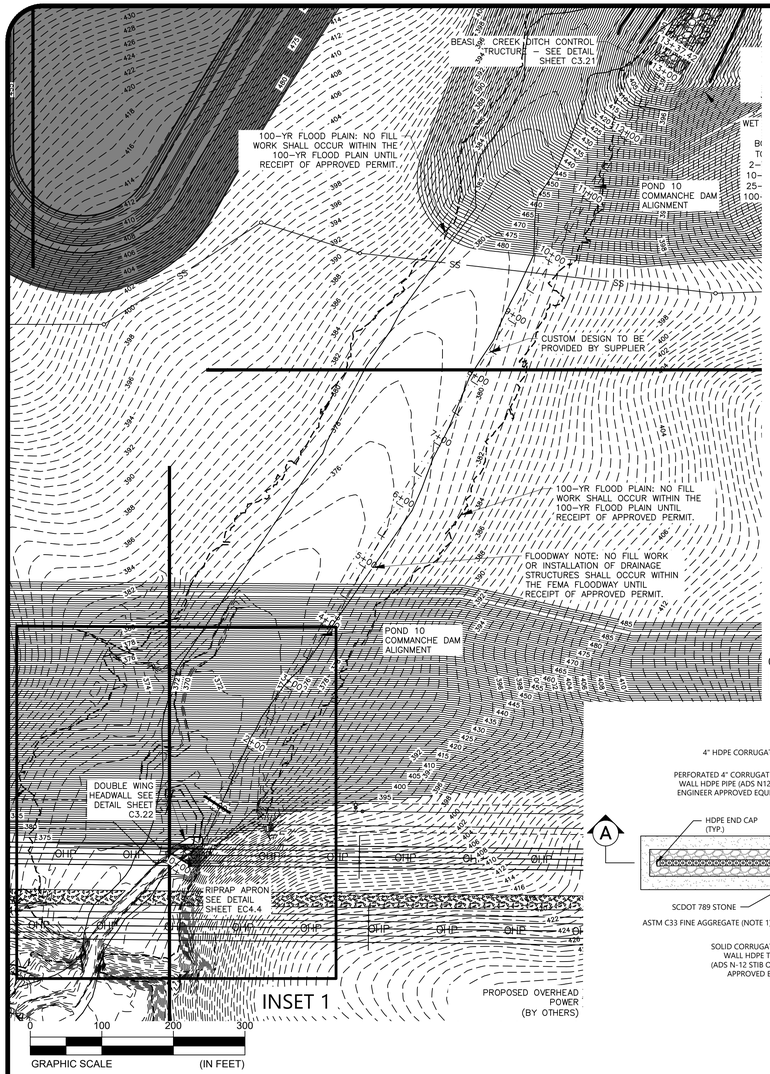
GEOTECHNICAL DETAILS

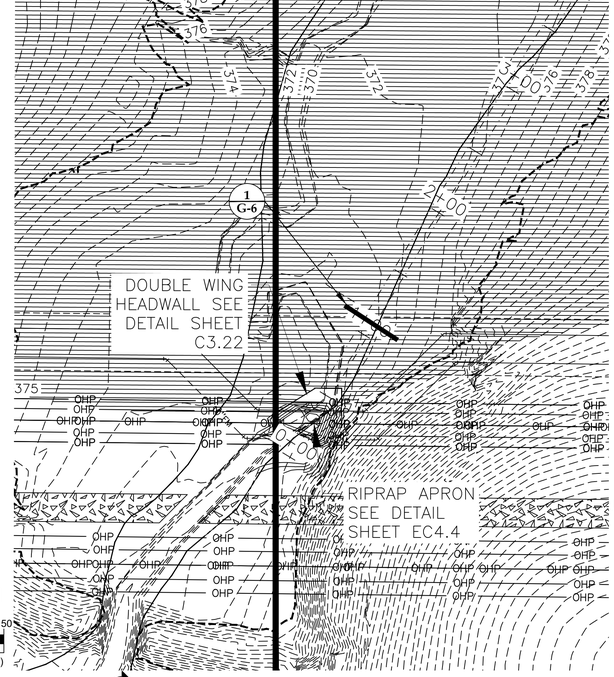
PROJECT CONNECT - SCDHEC REGULATED DAMS
PATRIOT DAM
BLYTHEWOOD, SOUTH CAROLINA

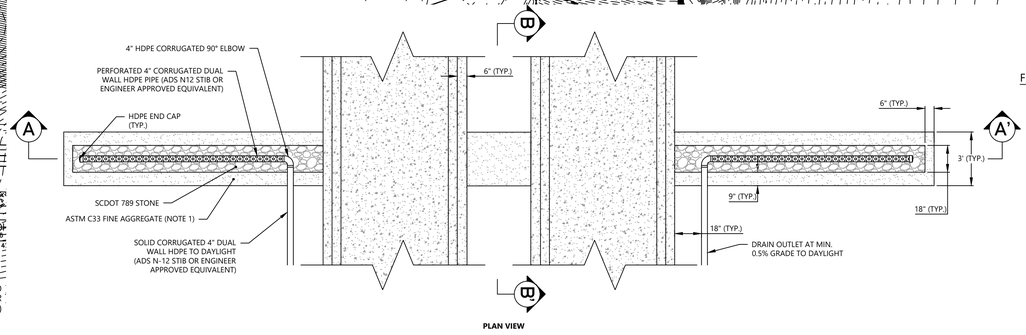
PROJECT NUMBER
23610258F

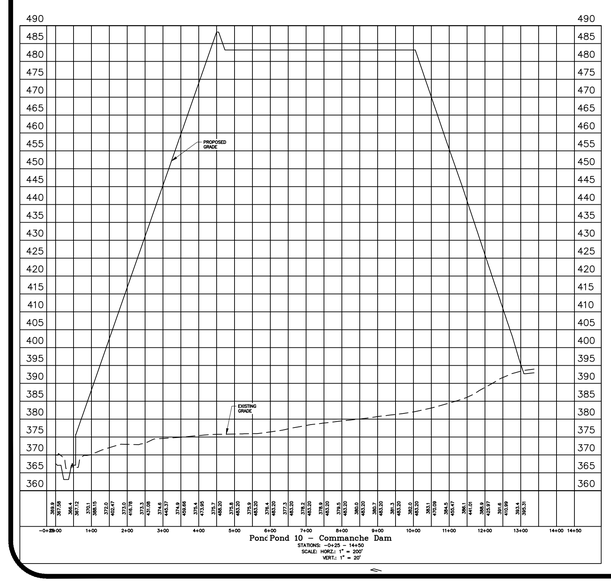
DRAWING NUMBER
G-5

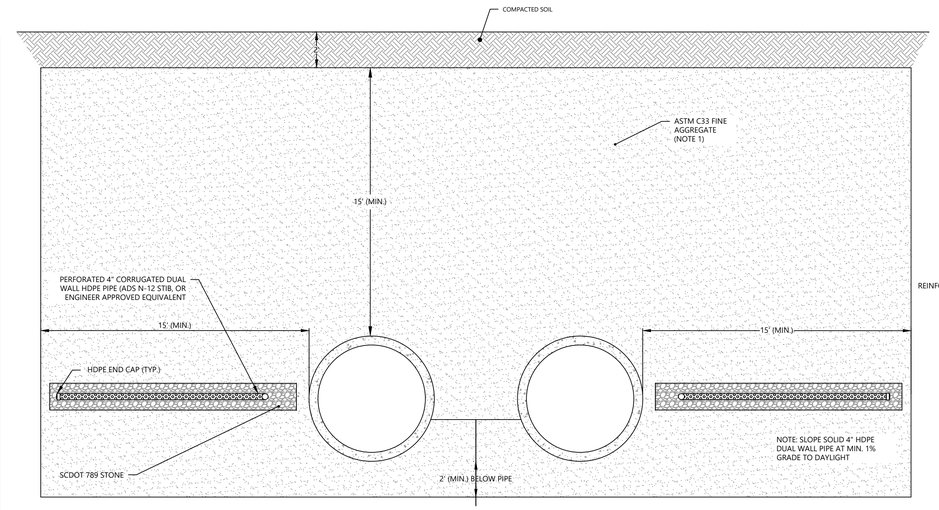
DRAWING PATH: T:\Columbia-1610\Projects\2023\23610258F_TH-DB, LLC_Project Connect- Regulated Dams_Blythewood, SC\GEO\CAD\Construction\EXISTING SITE CONDITION.dwg

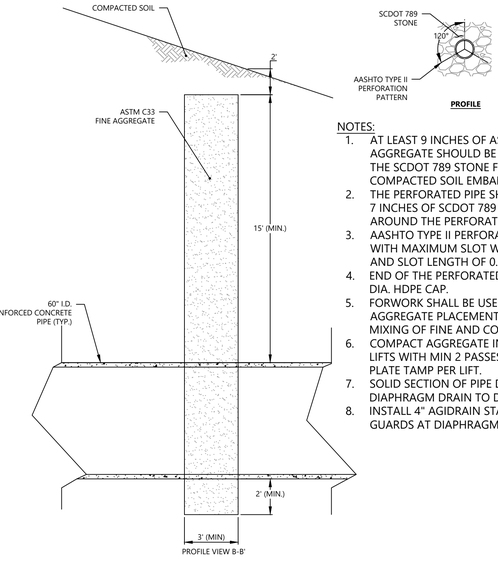












NOTES:

1. AT LEAST 9 INCHES OF ASTM C33 FINE AGGREGATE SHOULD BE USED TO SEPARATE THE SCDOT 789 STONE FROM THE COMPACTED SOIL EMBANKMENT.
2. THE PERFORATED PIPE SHALL HAVE AT LEAST 7 INCHES OF SCDOT 789 STONE PLACED AROUND THE PERFORATED DRAINAGE PIPE.
3. AASHTO TYPE II PERFORATION PATTERN WITH MAXIMUM SLOT WIDTH OF 0.125 IN. AND SLOT LENGTH OF 0.875 IN.
4. END OF THE PERFORATED PIPE TO HAVE 4" DIA. HDPE CAP.
5. FORWORK SHALL BE USED DURING COARSE AGGREGATE PLACEMENT TO PREVENT MIXING OF FINE AND COARSE AGGREGATES.
6. COMPACT AGGREGATE IN MAX. 12 INCH LIFTS WITH MIN 2 PASSES OF VIBRATORY PLATE TAMP PER LIFT.
7. SOLID SECTION OF PIPE DISCHARGES FROM DIAPHRAGM DRAIN TO DAYLIGHT.
8. INSTALL 4" AGIDRAIN STAINLESS STEEL RAT GUARDS AT DIAPHRAGM OUTLETS.

1 G-6 **SEEPAGE DIAPHRAGM**
SCALE: 1" = 4'

CONSTRUCTION NOTES:

Dam Fill Materials

1. Consisting of on-site or off-site borrow materials meeting the dam embankment fill requirements.
2. Samples to be obtained and tested to demonstrate materials meet specification:
   a. Prior to use.
   b. Each soil type.
   c. Every 5,000 cubic yards of material placed.
3. Laboratory testing by Owner's Geotechnical Engineer or his qualified representative shall consist of the following suite of tests:
   a. Grain-size Analysis with hydrometer (ASTM D7928).
   b. Atterberg Limits (ASTM D4318).
   c. Natural Moisture Content (ASTM D2216).
   d. Standard Proctor (ASTM D698).
4. Dam fill materials shall be classified as ML, CL, MH or CH soils according to the Unified Soil Classification System (USCS) (ASTM D2487).
5. Dam fill materials shall have a liquid limit (LL) between 30 and 60 and a plasticity index (PI) between 10 and 35.
6. Material shall be free of topsoil, organic material, roots, stumps, brush, rocks larger than 3 inches, debris, vegetation and other foreign matter.
7. Materials shall have less than 3 percent organic content by weight.

Site Preparation

1. Remove surface vegetation, organic laden topsoil, stumps, root bulbs, roots, organic materials, other deleterious materials, and unstable/unsuitable surface or subsurface soils from structural areas.
2. Dewater existing water features (ponds and wetlands).
3. Divert/re-route existing tributaries/creeks/streams as necessary.
4. Provide temporary dewatering measures as required to help prevent softening of soil subgrade. Dewatering may consist of construction of sumps and pumping, well point installation, ditching, or other methods to lower water levels in the work area. Water levels shall be maintained at minimum depth of 3 feet below the excavation subgrade or to a depth sufficient to help prevent softening of the subgrade soils. Pumping shall be performed continuously to provide effective dewatering and until compacted fill levels reach a minimum of 3 feet above the static water level.
5. Observe and evaluate the subgrade prior to fill or structure placement. Owner's Geotechnical Engineer or his qualified representative shall perform this evaluation. This evaluation may consist of visual observations, proofrolling observations, probing with a rod, hand auger borings with Dynamic Cone Penetrometer (DCP) testing, and/or test pit observations.
6. Areas of unstable/unsuitable subgrade will require modification/stabilization to remove or stabilize soft or loose materials. Modification/stabilization may consist of:
   a. Removing and replacing unstable materials with properly compacted structural fill.
   b. Scarifying, drying and compacting in-place.
   c. Blending with the on-site sandy and lower plasticity soils.
   d. Chemical stabilization.
7. Upon achieving a stable subgrade, protect and maintain area until fill or structure placement.

Fill Placement

1. Place dam embankment fill soils in maximum 8-inch loose lifts.
2. Dam fill materials shall be compacted to a minimum of 98 percent of the laboratory maximum dry density, and at -2 to +3 percent of optimum moisture content, as determined by the standard Proctor (ASTM D698) compaction criteria.
3. Contractor should be prepared to wet or dry soils as necessary to achieve compaction.
4. In addition to meeting the compaction requirement, fill material must be stable under movement of the construction equipment and must not exhibit rutting or pumping after compaction.
5. Fill slopes shall benched into existing sloping terrain at a minimum of 2 feet horizontally for each 1 foot vertically and adequately compacted.
6. Compacted fill slopes shall be over-built a minimum of 1 foot horizontally to promote compaction at the embankment face and shall then be cut back to firm, well compacted soils prior to the placement of structures or vegetative cover.
7. Systematically fill to allow maximum time for natural settlement. Do not fill over porous, wet, frozen or spongy subgrade surfaces.
8. Slope grades to help prevent ponding of water on the fill surface.
9. Reshape and re-compact fills subjected to vehicular traffic.
10. Maintain temporary means and methods, as required, to remove all water while fill is being placed as required. Remove and replace soils deemed unsuitable by classification and which are excessively moist due to lack of dewatering or surface water control.

Field Quality Control

1. Owner's Geotechnical Engineer or his qualified representative shall perform field quality control testing.
2. Perform compaction density testing on compacted fill in accordance with ASTM D1556, ASTM D2167, or ASTM D6938. Field moisture content tests shall be performed in accordance with the Direct Heating (ASTM D4959) method.
3. Evaluate results in relation to compaction curve determined by testing uncompacted material in accordance with ASTM D698 standard Proctor).
4. One-point Proctor compaction tests shall be performed at a frequency of at least one per day during fill placement or when fill dry densities vary by more than 2 pounds per cubic foot (pcf). The one-point Proctor compaction tests shall be used to select the representative standard Proctor relationship for the fill material being tested from a project family of standard Proctor compaction curves.
5. If tests indicate work does not meet specified requirements, remove work, moisture condition fill, re-compact, and re-test.
6. Frequency of Tests: Field density testing shall be performed at a frequency of one test per 2,500 square feet per lift of fill working face per lift or a minimum of one test per 100 linear feet per lift in trench excavations.

134 SUBER ROAD
COLUMBIA, SC 29210
(803) 561-9024

NO.	DATE	DESCRIPTION	BY	CHK	APV

GEOTECHNICAL DETAILS

PROJECT CONNECT - SCDHEC REGULATED DAMS
COMANCHE DAM
BLYTHEWOOD, SOUTH CAROLINA

PROJECT NUMBER
23610258F

DRAWING NUMBER
G-6

DRAWING PATH: T:\Columbia-1610\Projects\2023\23610258F_TH-DB, LLC_Project Connect-Regulated Dams_Blythewood, SC\GEO\CAD\Construction\EXISTING SITE CONDITION.dwg

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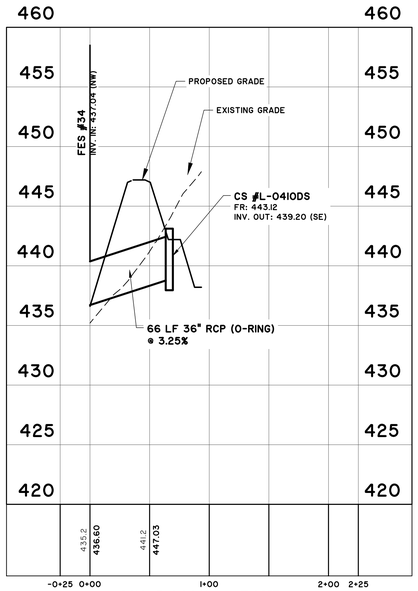

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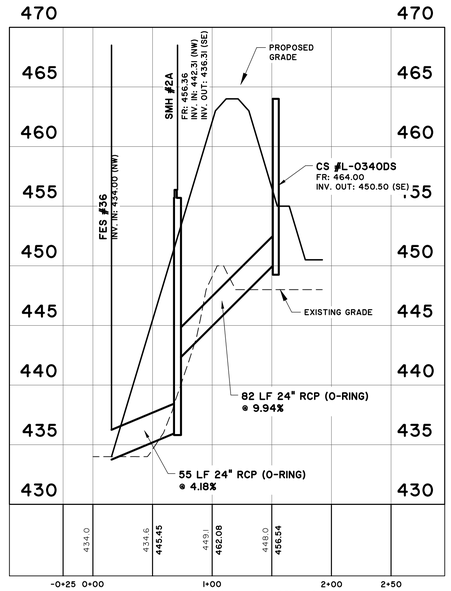

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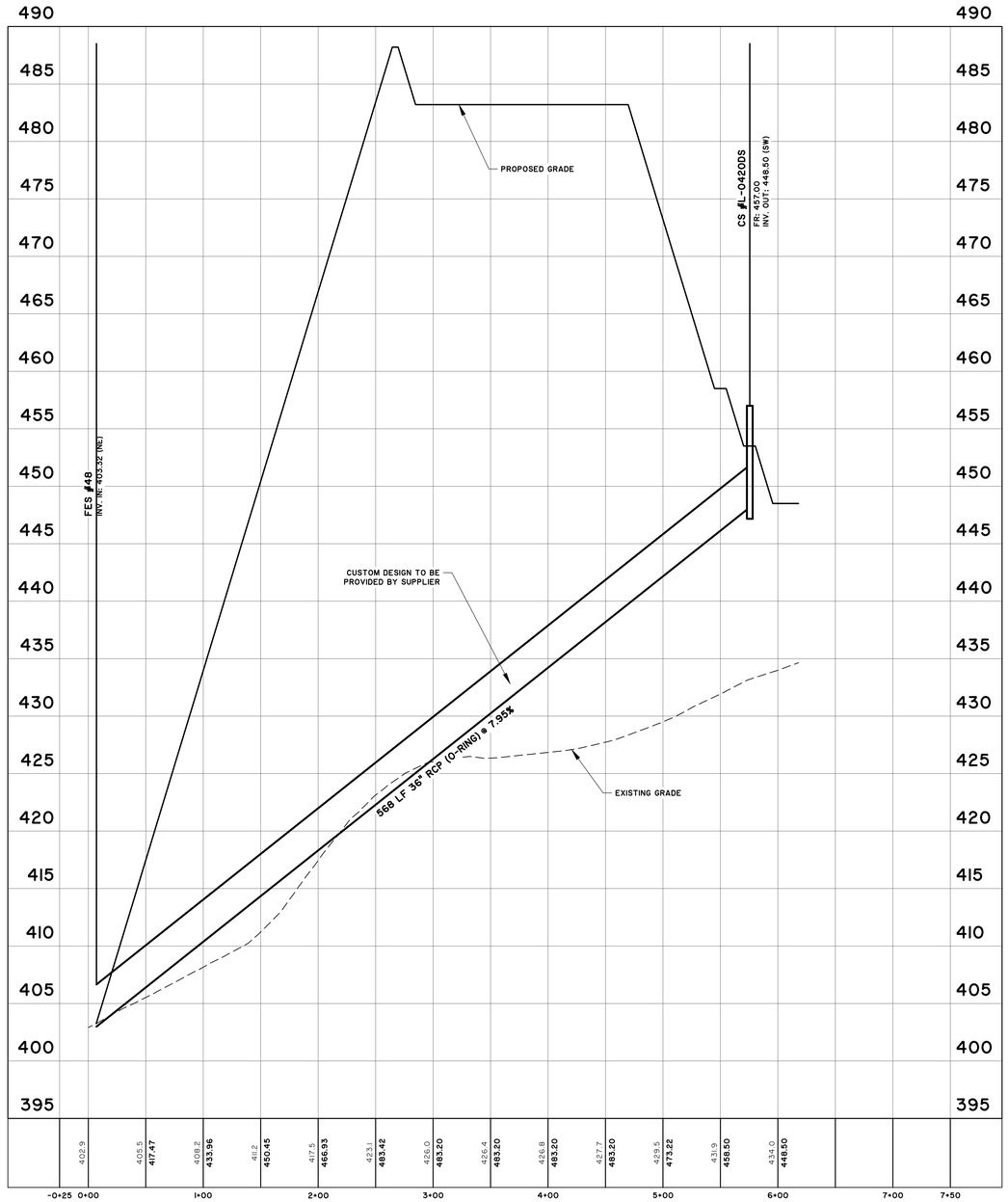

27015.0007 – POND 3
STATIONS: –0+25 – 7+50
SCALE: HORZ.: 1" = 60'
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SOUTH CAROLINA
PROFESSIONAL ENGINEER
No. 28573
MARCUS B. SIMPSON
NOT FOR CONSTRUCTION
11-21-2023

SOUTH CAROLINA
THOMAS & HUTTON ENGINEERING CO.
No. COA0285
CERTIFICATE OF AUTHORIZATION

NO.	REVISIONS	BY	DATE

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Columbia, SC 29201 • 803.451.6789
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RICHLAND COUNTY ECONOMIC DEVELOPMENT
TOWN OF BLYTHEWOOD, RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

STORM DRAINAGE PROFILES

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
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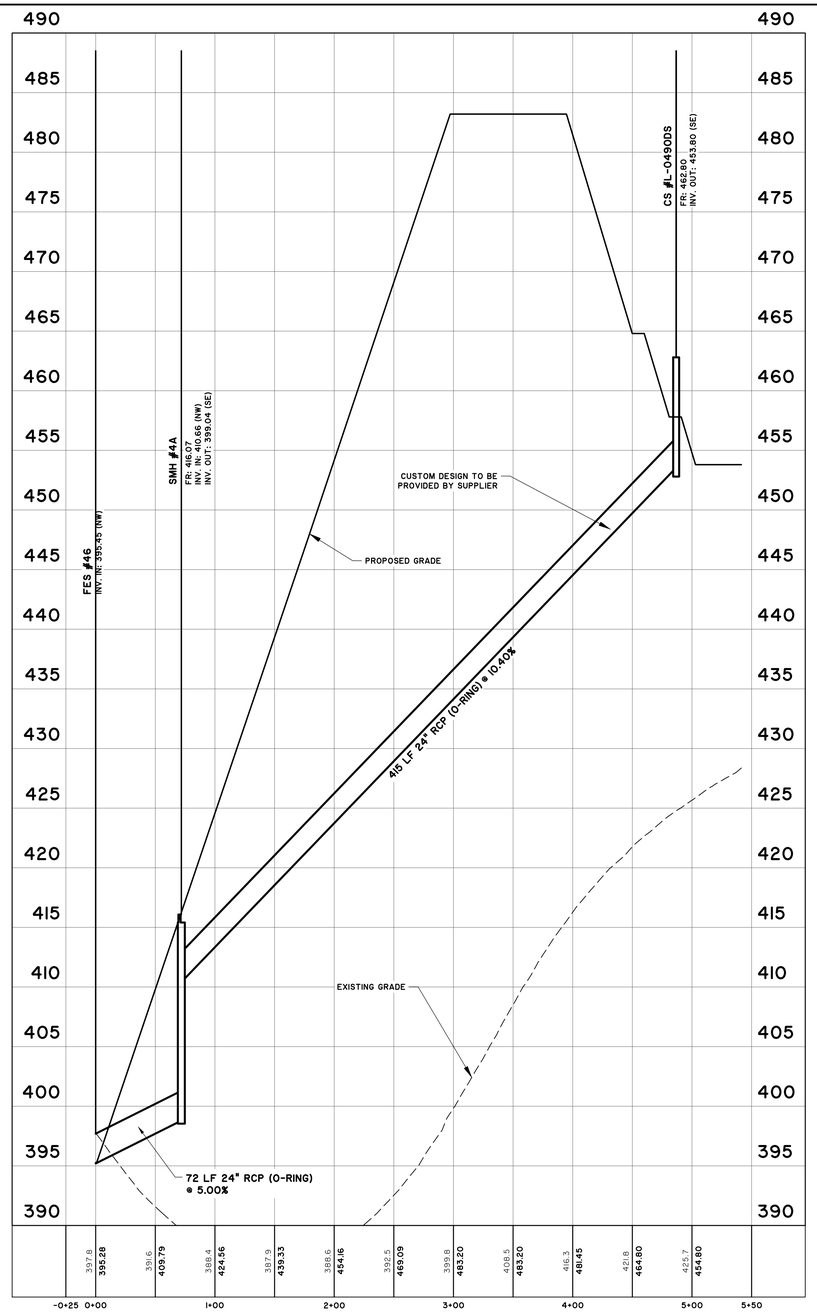
C4.1



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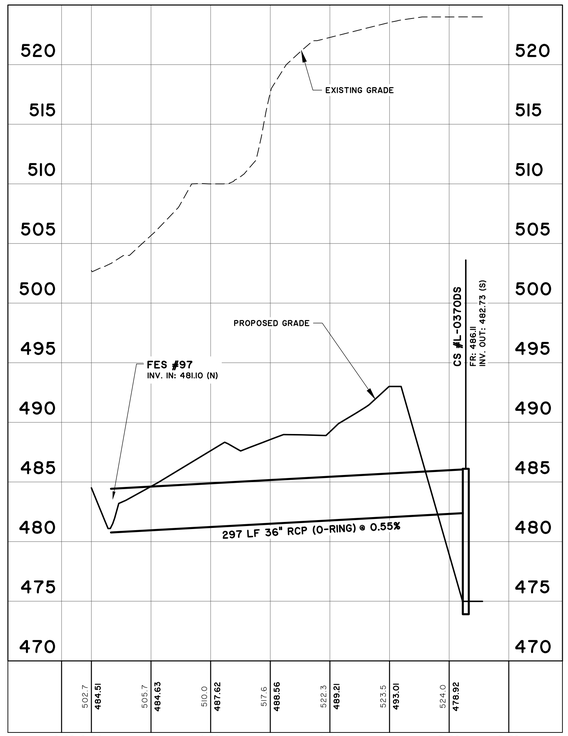

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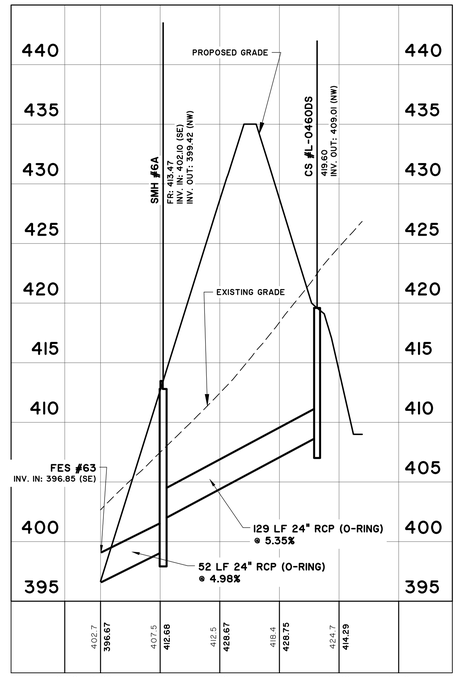

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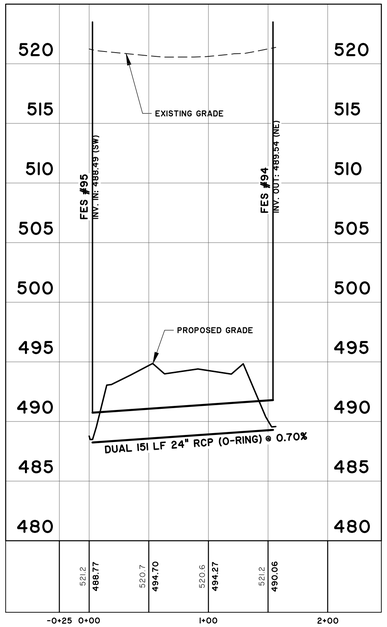

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STATIONS: −0+25 – 2+00
SCALE: HORZ.: 1" = 60'
VERT.: 1" = 6'

SOUTH CAROLINA NOLTE/ZIEGLER THOMAS & HUTTON ENGINEERING CERTIFICATE OF AUTHORIZATION No. C00285

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 28573 MARCUS B. SIMPSON 12/19/2024

NO.	REVISIONS	BY	DATE

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RICHLAND COUNTY ECONOMIC DEVELOPMENT
TOWN OF BLYTHEWOOD, RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

STORM DRAINAGE PROFILES

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
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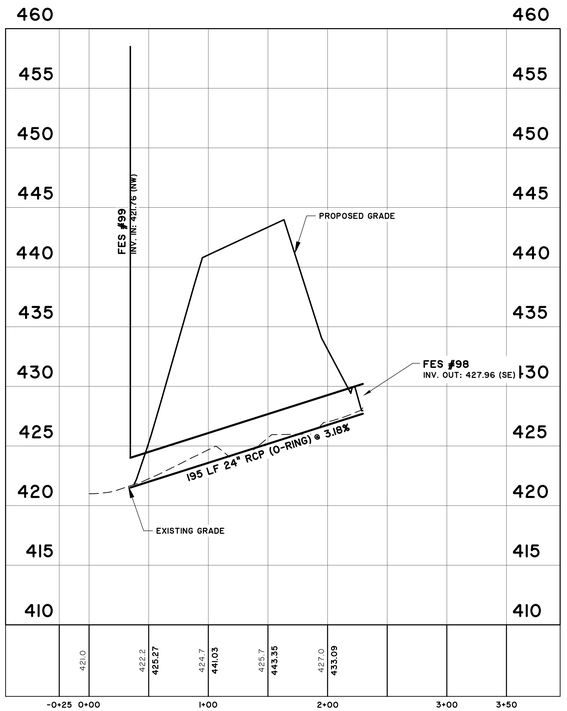

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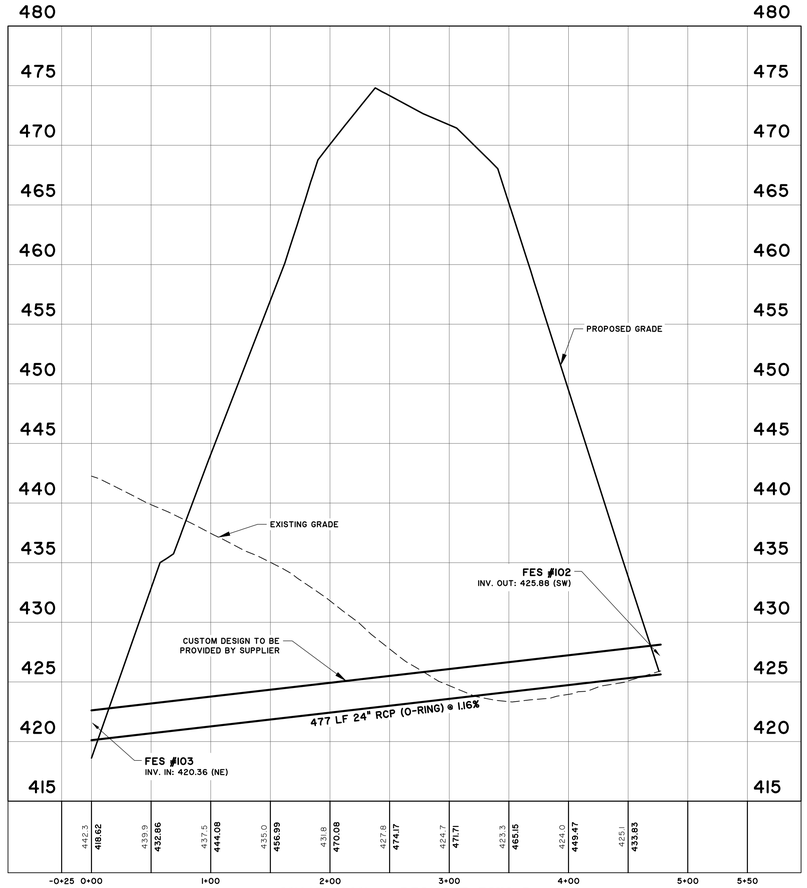

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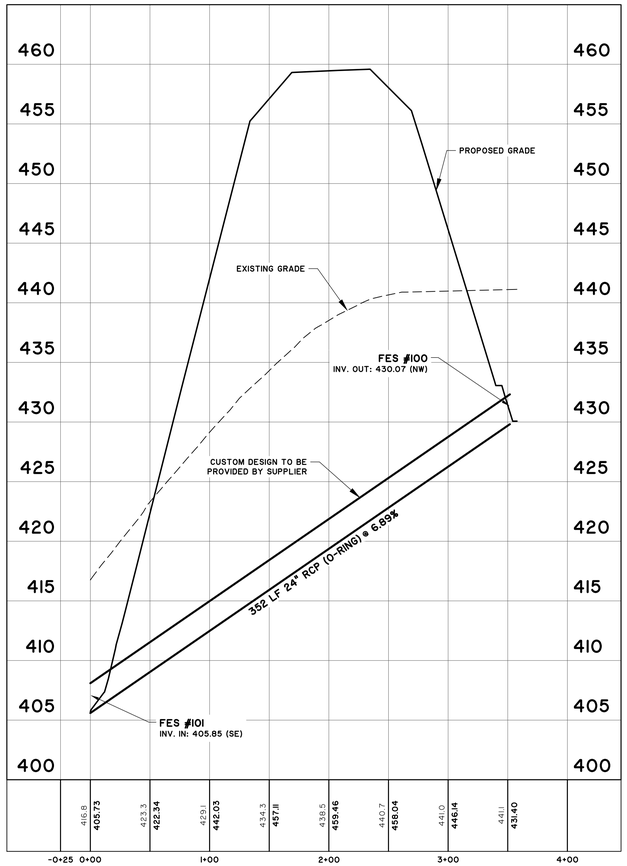

27015.0007 – DRAINAGE RUN 6

STATIONS: −0+25 – 4+00
SCALE: HORZ.: 1" = 60'
VERT.: 1" = 6'

SOUTH CAROLINA
PROFESSIONAL ENGINEER
No. 28573
MARCUS B. SHEALY
NOT VALID WITHOUT ORIGINAL SIGNATURE
12-11-2024

SOUTH CAROLINA
THOMAS & HUTTON ENGINEERING CO.
No. COA2285
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RICHLAND COUNTY ECONOMIC DEVELOPMENT
TOWN OF BLYTHEWOOD, RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

STORM DRAINAGE PROFILES

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
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C4.3

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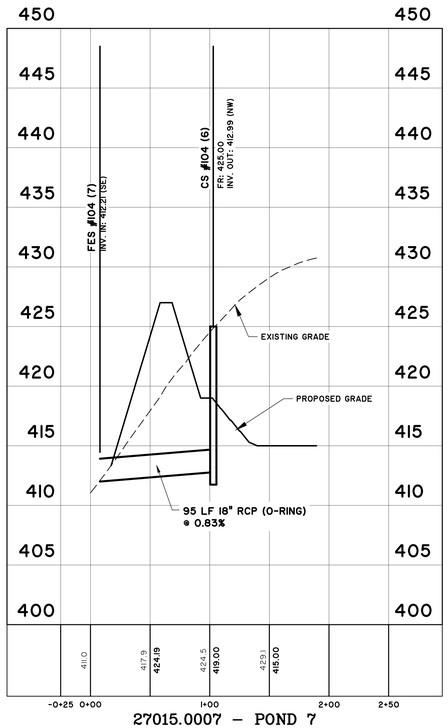

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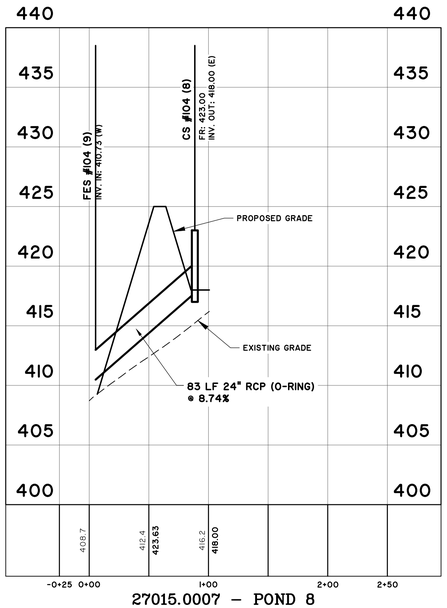

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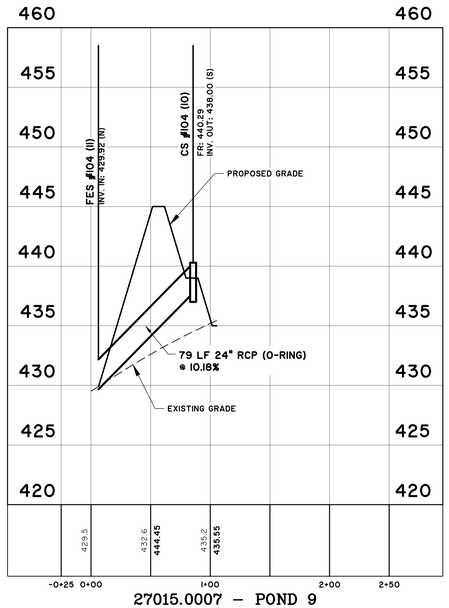

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STATIONS: −0+25 – 2+50
SCALE: HORZ.: 1" = 60'
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SOUTH CAROLINA
PROFESSIONAL ENGINEER
THOMAS & HUTTON ENGINEERING CO.
No. C00285
CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA
PROFESSIONAL ENGINEER
No. 28573
MARCUS B. SIMPSON
1/9/2024

NO.	REVISIONS	BY	DATE

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RICHLAND COUNTY ECONOMIC DEVELOPMENT
TOWN OF BLYTHEWOOD, RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

STORM DRAINAGE PROFILES

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
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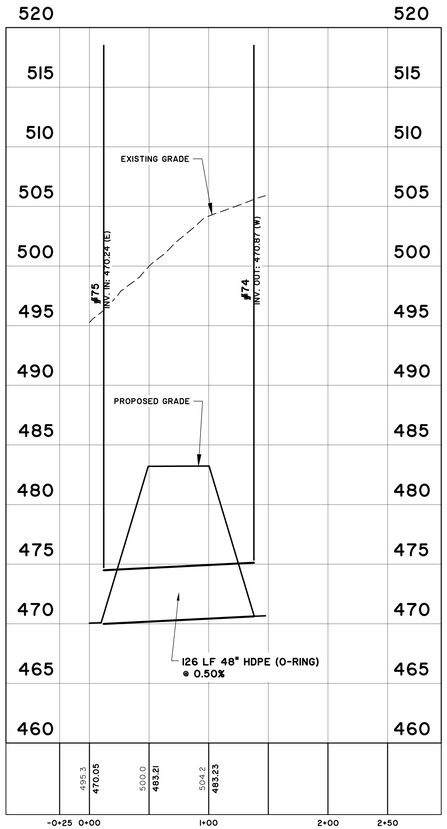

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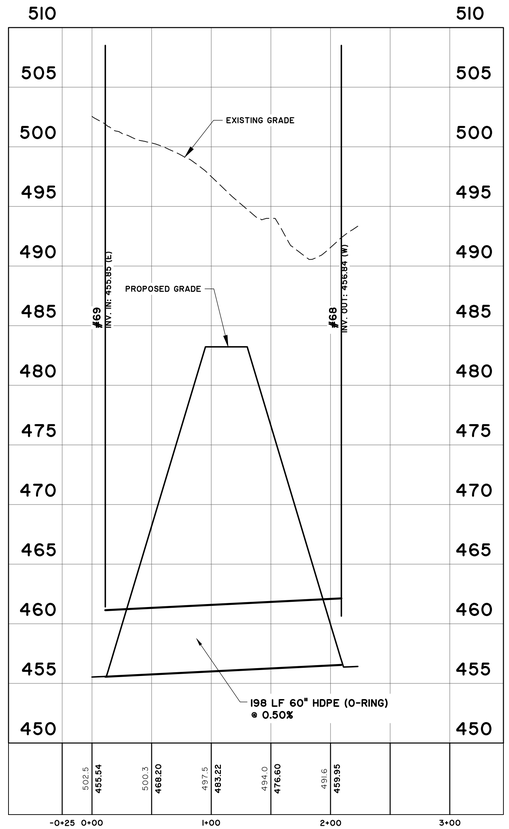

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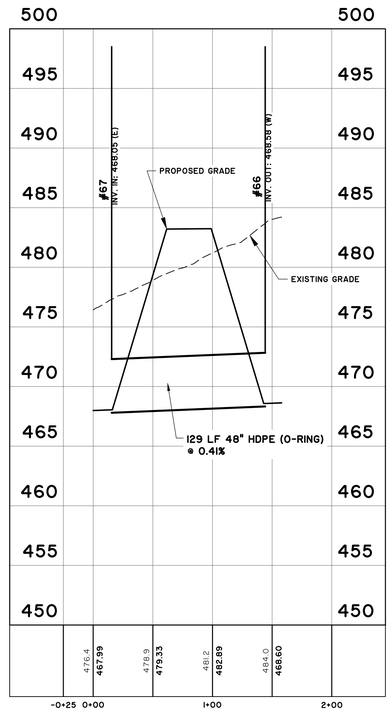

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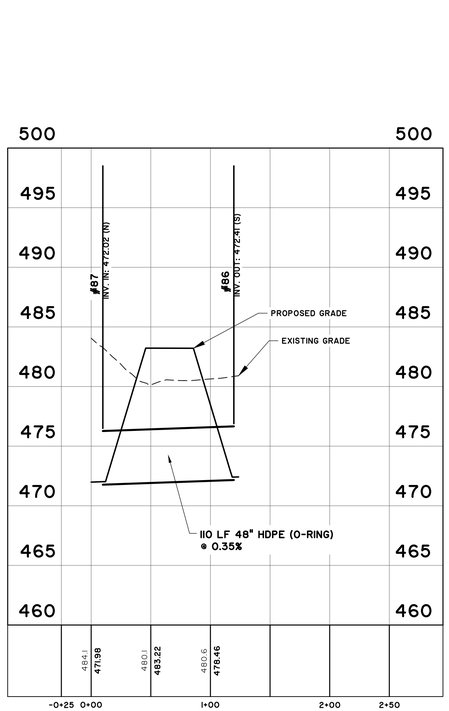
SCALE: HORZ.: 1" = 60'
VERT.: 1" = 6'



27015.0007 – PIPE 2A
STATIONS: −0+25 – 2+50
SCALE: HORZ.: 1" = 60'
VERT.: 1" = 6'

SOUTH CAROLINA
PROFESSIONAL ENGINEER
No. 26573
MARCUS B. SIMPSON
NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL SEAL OF A LICENSED PROFESSIONAL ENGINEER
12/17/2024

SOUTH CAROLINA
THOMAS & HUTTON ENGINEERING CO.
No. COA2285
CERTIFICATE OF AUTHORIZATION
NOT VALID

NO.	REVISIONS	BY	DATE

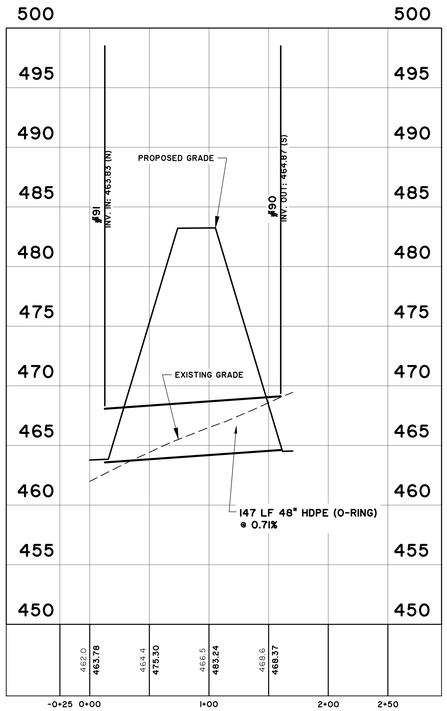
THOMAS & HUTTON
1501 Main Street • Suite 400
Columbia, SC 29201 • 803.451.6789
www.thomasandhutton.com

RICHLAND COUNTY ECONOMIC DEVELOPMENT
TOWN OF BLYTHEWOOD, RICHLAND COUNTY, SC
PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

STORM DRAINAGE PROFILES

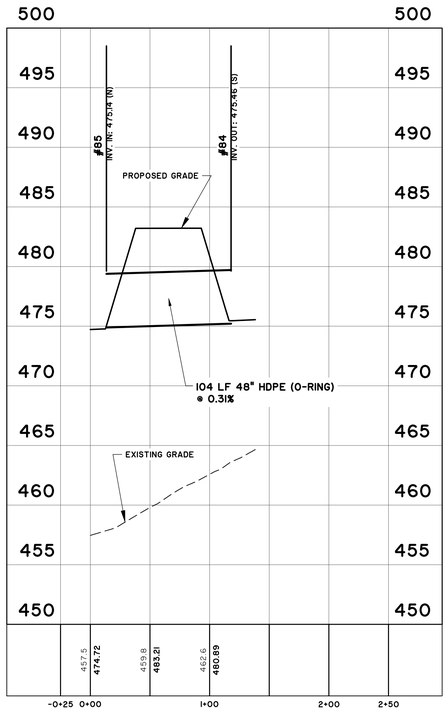
JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 60'

C4.5



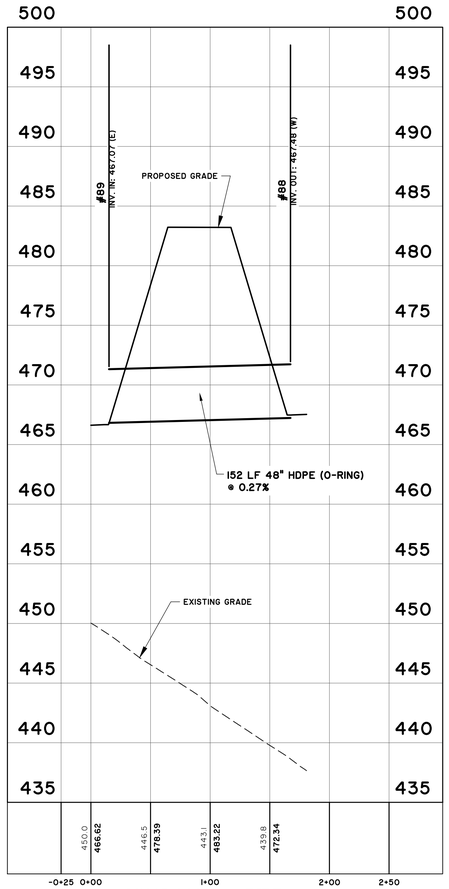
27015.0007 – PIPE 3A

STATIONS: −0+25 – 2+50
SCALE: HORZ.: 1" = 60'
VERT.: 1" = 6'



27015.0007 – PIPE 4A.1

STATIONS: −0+25 – 2+50
SCALE: HORZ.: 1" = 60'
VERT.: 1" = 6'



27015.0007 – PIPE 4A.2

STATIONS: −0+25 – 2+50
SCALE: HORZ.: 1" = 60'
VERT.: 1" = 6'

SOUTH CAROLINA
PROFESSIONAL ENGINEER
No. 28573
MARCUS B. SIMPSON
12/11/2024

SOUTH CAROLINA
NOT FOR CONSTRUCTION
THOMAS & HUTTON ENGINEERING CO.
No. C00285
CERTIFICATE OF AUTHORIZATION

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RICHLAND COUNTY ECONOMIC DEVELOPMENT
TOWN OF BLYTHEWOOD, RICHLAND COUNTY, SC

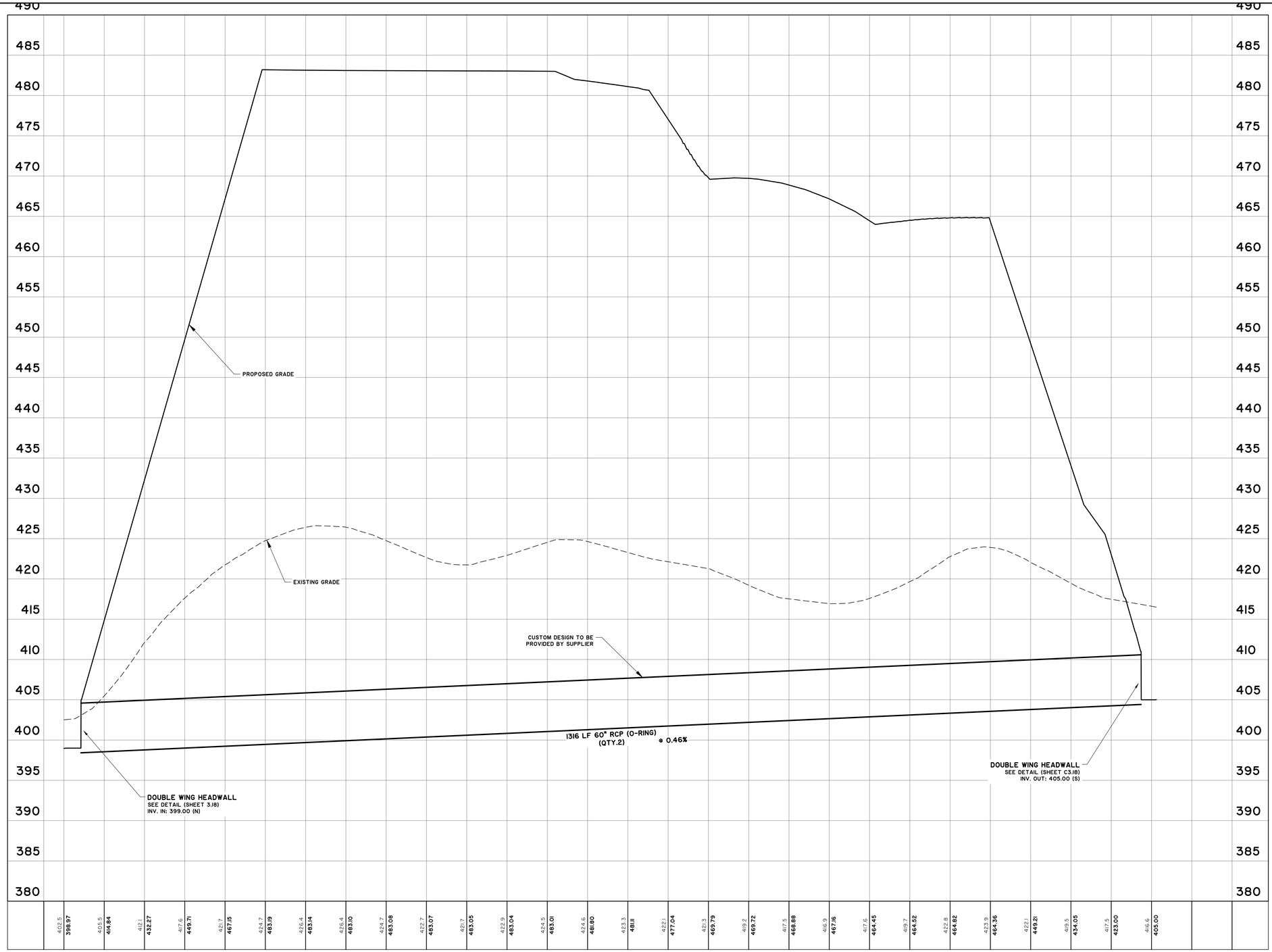
PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

STORM DRAINAGE PROFILES

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 60'

C4.6

Z:\27015\27015.0007\ENGINEERING\GRADING\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015.0007 - PIS.DWG - Jan 9, 2025 - 9:41 AM



27015.0007 – DRAINAGE RUN 3

STATIONS: -0+25 – 14+50
SCALE: HORZ.: 1" = 60'
VERT.: 1" = 6'

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RICHLAND COUNTY ECONOMIC DEVELOPMENT
TOWN OF BLYTHEWOOD, RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

STORM DRAINAGE PROFILES

NO.	REVISIONS	BY	DATE

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 60'

C4.7

Z:\27015\27015.0007\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015.0007-PRO - PS.DWG - Jan 19, 2024 - 9:41 AM

27015.0004 – Dranage Run 4

STATIONS: -0+25 – 14+50

SCALE: HORZ.: 1" = 100'

VERT.: 1" = 10'

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No. C00285
CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA
PROFESSIONAL ENGINEER
No. 28573
MARCUS B. SHEALY

NO.	REVISIONS	BY	DATE

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RICHLAND COUNTY ECONOMIC DEVELOPMENT
RICHLAND COUNTY, SC

PHASE 2 MASS GRADING & DRAINAGE IMPROVEMENTS

STORM DRAINAGE PROFILES

JOB NO:	J-27015.0007
DATE:	11/10/2023
DRAWN:	CLK
DESIGNED:	CLK
REVIEWED:	CGW
APPROVED:	MBS
SCALE:	1" = 100'

C4.8

J:\27015.0007\DWG\DRAWINGS\CONSTRUCTION PLANS\CONNECT MASS GRADING PHASE 2\27015.0007 PDS - PM - PDS_SCALE.DWG - Jan 9, 2024 - 9:41 AM