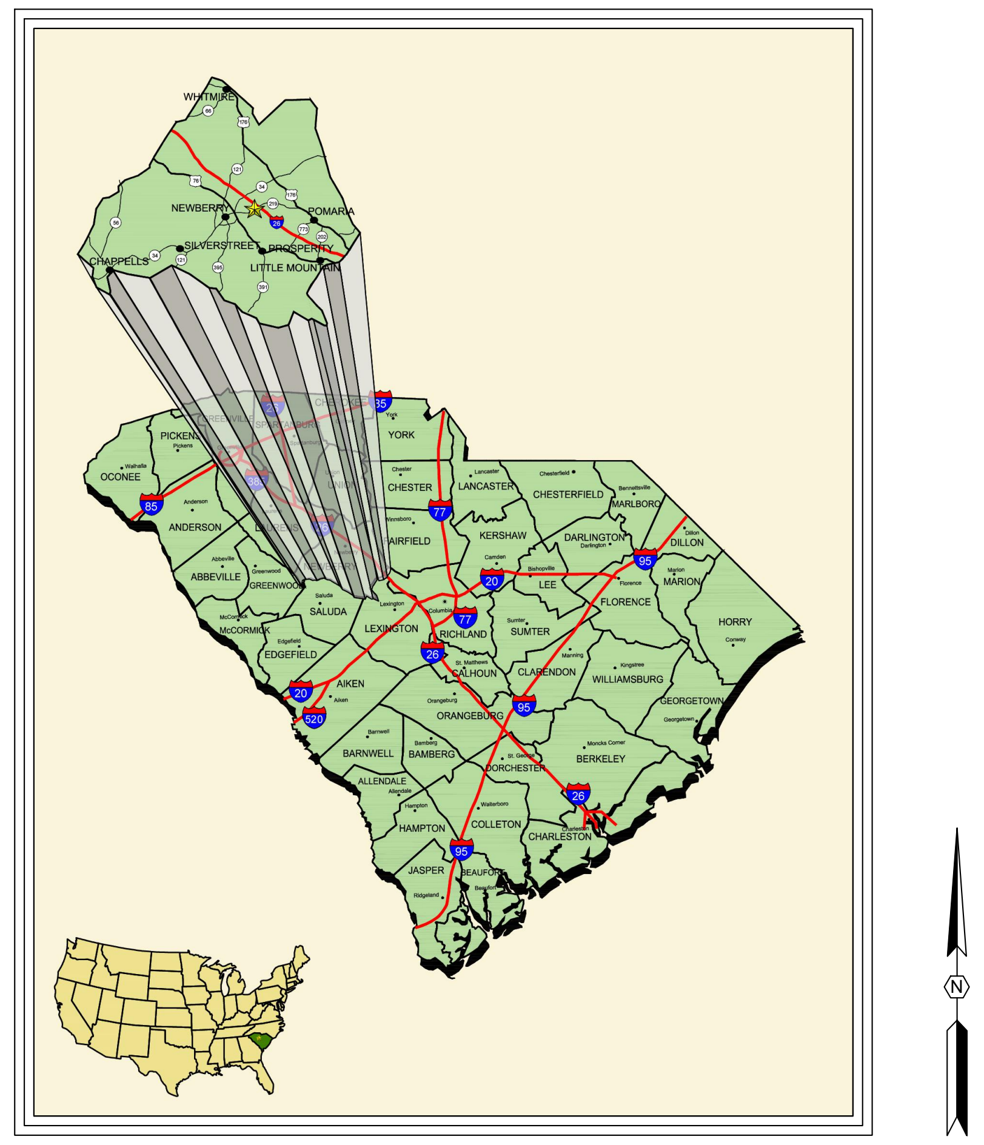
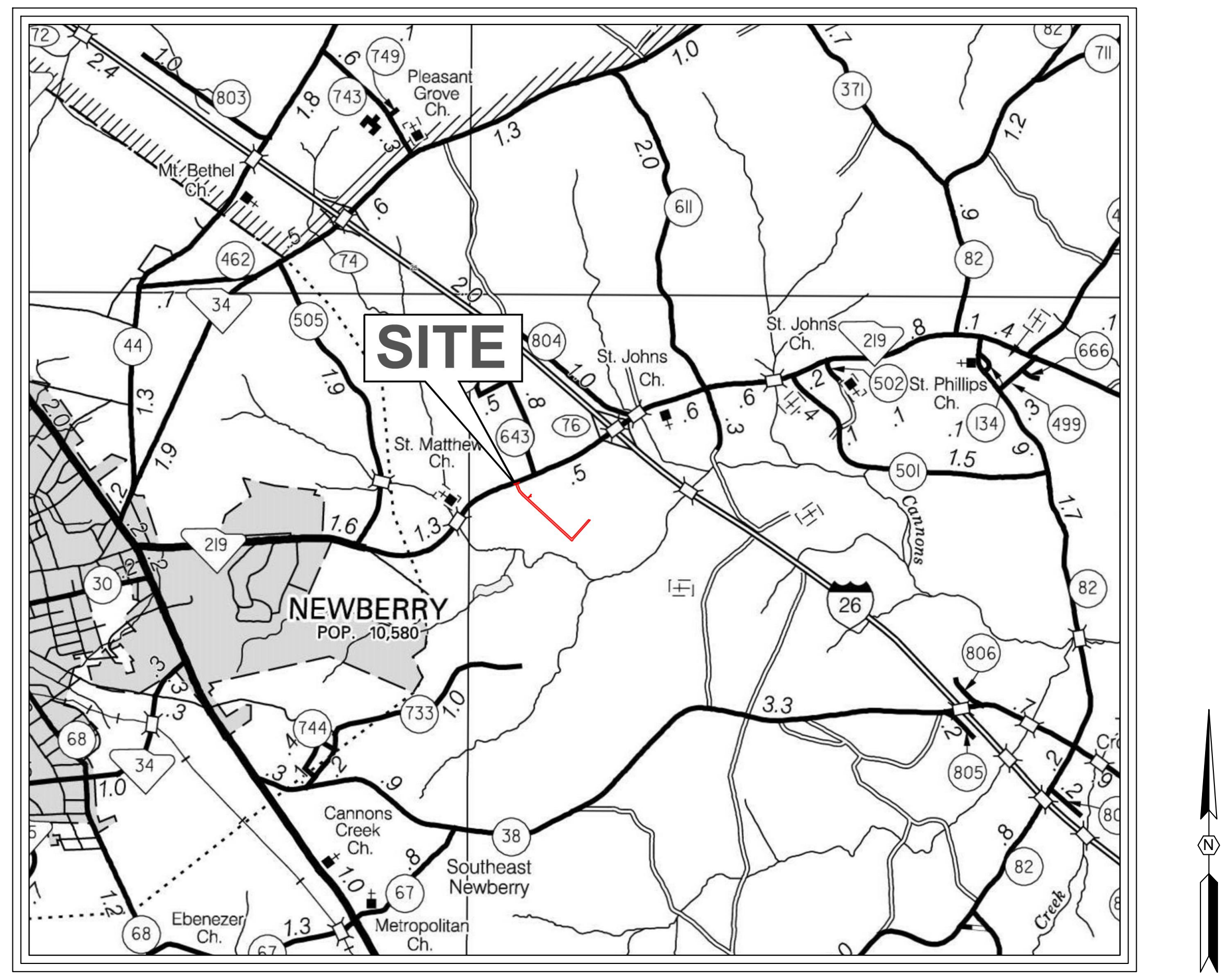
± 3,350-LF OF ROADWAY IMPROVEMENTS
TO
MAWSONS WAY
AT THE
SC HIGHWAY 219 INDUSTRIAL PARK
IN
NEWBERRY COUNTY, SOUTH CAROLINA



VICINITY MAP

NOT TO SCALE



SITE LOCATION MAP

1" = 1 MILE

SHEET INDEX

SHEET NO	SHEET
C0.0	COVER SHEET
C1.0	OVERALL SHEET AND STANDARD NOTES
C1.1	TYPICAL SECTION
C1.2	EXISTING CONDITIONS PLAN - STA: 0+00 - 24+67
C1.3	EXISTING CONDITIONS PLAN - STA 28+00 - 37+86 & STA: 0+00 - 1+00
C1.4	CLEARING, GRUBBING, AND DEMOLITION PLAN - STA: 0+00 - 24+67
C1.5	CLEARING, GRUBBING, AND DEMOLITION PLAN - STA 28+00 - 37+86 & STA: 0+00 - 1+00
C2.0	PAVING, STRIPING, AND SIGNAGE PLAN - STA: 0+00 - 24+67
C2.1	PAVING, STRIPING, AND SIGNAGE PLAN - STA 28+00 - 37+86 & STA: 0+00 - 1+00
C3.0	ROADWAY PLAN AND PROFILE - STA 0+00 - 13+00
C3.1	ROADWAY PLAN AND PROFILE - STA 13+00 - 24+67
C3.2	ROADWAY PLAN AND PROFILE - STA 29+00 - 37+86
C3.3	STORM DRAINAGE PROFILES (1 OF 2)
C3.4	STORM DRAINAGE PROFILES (2 OF 2)
C4.0	ROADWAY CROSS SECTIONS - STA 0+50 - 3+00
C4.1	ROADWAY CROSS SECTIONS - STA 3+50 - 6+00
C4.2	ROADWAY CROSS SECTIONS - STA 6+50 - 9+00
C4.3	ROADWAY CROSS SECTIONS - STA 9+50 - 12+00
C4.4	ROADWAY CROSS SECTIONS - STA 12+50 - 15+00
C4.5	ROADWAY CROSS SECTIONS - STA 15+50 - 18+00
C4.6	ROADWAY CROSS SECTIONS - STA 18+50 - 21+00
C4.7	ROADWAY CROSS SECTIONS - STA 21+50 - 24+50
C4.8	ROADWAY CROSS SECTIONS - STA 29+00 - 31+50
C4.9	ROADWAY CROSS SECTIONS - STA 32+00 - 34+50
C4.10	ROADWAY CROSS SECTIONS - STA 35+00 - 37+50
C5.0	PHASE I EROSION AND SEDIMENT CONTROL PLAN - STA 0+00 - 24+67
C5.1	PHASE I EROSION AND SEDIMENT CONTROL PLAN - STA 28+00 - 37+86 & STA: 0+00 - 1+00
C5.2	PHASE II EROSION AND SEDIMENT CONTROL PLAN - STA 0+00 - 24+67
C5.3	PHASE II EROSION AND SEDIMENT CONTROL PLAN - STA 28+00 - 37+86 & STA: 0+00 - 1+00
C5.4	PHASE III EROSION AND SEDIMENT CONTROL PLAN - STA 0+00 - 24+67
C5.5	PHASE III EROSION AND SEDIMENT CONTROL PLAN - STA 28+00 - 37+86 & STA: 0+00 - 1+00
C6.0	ROADWAY DETAILS (1 OF 4)
C6.1	ROADWAY DETAILS (2 OF 4)
C6.2	ROADWAY DETAILS (3 OF 4)
C6.3	ROADWAY DETAILS (4 OF 4)
C7.0	STORM DRAINAGE DETAILS
C8.0	EROSION AND SEDIMENT CONTROL DETAILS (1 OF 2)
C8.1	EROSION AND SEDIMENT CONTROL DETAILS (1 OF 2)

811

Know what's below.
Call before you dig.

CAUTION-NOTE TO CONTRACTOR

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. SC LAW REQUIRES THE CONTRACTOR TO CALL THE UTILITY PROTECTION CENTER AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE THE RELOCATION OF ALL THE UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

RAILROAD INVOLVEMENT?
YES / [✓ NO]

GAS TRANSMISSION INVOLVEMENT?
[✓ YES] / NO

NPDES PERMIT INFORMATION

NPDES DISTURBED AREA = 7.9 ACRES

NEWBERRY COUNTY BID NO. 2025-4

DEVELOPER INFORMATION:

OWNER: NEWBERRY COUNTY ECONOMIC DEVELOPMENT
CONTACT: RICK FARMER, SCCED, DIRECTOR
ADDRESS: 1842 WILSON ROAD
CITY, STATE: NEWBERRY, SOUTH CAROLINA 29108
TELEPHONE: (803) 321-2042
FAX: (803) 321-2094
EMAIL: RFARMER@NEWBERRYCOUNTY.NET

ENGINEER INFORMATION:

ALLIANCE CONSULTING ENGINEERS, INC.
CONTACT: JOHN V. BURBAGE, P.E.
ADDRESS: POST OFFICE BOX 8147
CITY, STATE: COLUMBIA, SOUTH CAROLINA 29202
TELEPHONE: (803) 779-2078
E-MAIL: VBURBAGE@ALLIANCECE.COM

UTILITY PROVIDER CONTACTS

WATER AND WASTEWATER PROVIDER:
CONTACT: MR. TIM BAKER
UTILITY DIRECTOR
CITY OF NEWBERRY
TELEPHONE: (803) 321-1018
FAX: (803) 321-2609

ELECTRICAL UTILITY PROVIDER:
CONTACT: MR. JASON MERCHANT, MANAGER OF ENGINEERING AND OPERATIONS
NEWBERRY ELECTRIC COOPERATIVE, INC.
TELEPHONE: (803) 276-1121
FAX: (803) 276-4121

NATURAL GAS PROVIDER:
CONTACT: MR. STAN BRYSON, GENERAL MANAGER
CLINTON-NEWBERRY NATURAL GAS AUTHORITY
TELEPHONE: (803) 276-1550
FAX: (803) 276-9096

TELECOMMUNICATIONS PROVIDER:
CONTACT: MR. IKE BYRD, REGIONAL DIRECTOR EXTERNAL AFFAIRS
AT&T SOUTH CAROLINA
TELEPHONE: (803) 401-2214
FAX: (803) 765-2674

#	REVISION DATE
1	

Alliance Consulting Engineers, Inc.
No. C02854

DATE: FEBRUARY 14 2025

JOHN V. BURBAGE
No. 40365

SIGNATURE:

ALLIANCE
CONSULTING ENGINEERS

ALLIANCE CONSULTING ENGINEERS, INC.
POST OFFICE BOX 8147
COLUMBIA, SOUTH CAROLINA 29202-8147
PHONE (803) 779-2078
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WWW.ALLIANCECE.COM

PROJECT

± 3,350-LF OF ROADWAY
IMPROVEMENTS
TO MAWSONS WAY AT THE
SC HIGHWAY 219 INDUSTRIAL PARK
NEWBERRY COUNTY,
SOUTH CAROLINA

NEWBERRY COUNTY
SOUTH CAROLINA

MAY 2024

Project No. 19166-0036

DWG NO. 01,1347-D23

March 06, 2025 - 4:28:15 PM S:\Projects\19166-0036 Roadway Improvements to Mawson's Way at SC Hwy 219 Ind Pk in Newberry, Co\dwg\Construction Plans\ C1.0-1.4 - Existing Conditions Plan and Clearing, Grubbing, and Demolition Plan.dwg

STANDARD NOTES

PERMITS / LICENSES

1. PRIOR TO THE COMMENCEMENT OF ANY WORK WITHIN THE PROJECT SITE, THE GENERAL CONTRACTOR AND ALL SUB-CONTRACTORS SHALL POSSESS ALL APPLICABLE PERMITTING AND THE OWNER AND ENGINEER WILL BE GIVEN AT LEAST TWENTY-FOUR (24) HOURS NOTICE BEFORE BEGINNING WORK.

PROCEDURES / RESPONSIBILITIES

1. IF NECESSARY, SLOPES, WHICH EXCEED EIGHT (8) VERTICAL FEET SHOULD BE STABILIZED WITH SYNTHETIC OR VEGETATIVE MATS, IN ADDITION TO 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.
   - WHERE STABILIZATION BY THE 14TH DAY IS PRECLUDED BY SNOW COVER OR FROZEN GROUND CONDITIONS STABILIZATION MEASURES MUST BE INITIATED AS SOON AS PRACTICABLE.
   - 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 THE 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 INAPPROPRIATELY OR INCORRECTLY INSTALLED, 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 SEDIMENT BEFORE BEING PUMPED BACK 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 PAVED ROADWAY(S) FROM CONSTRUCTION AREAS AND THE GENERATION OF DUST. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT, AS MAY BE REQUIRED.
7. TEMPORARY DIVERSION BERMS AND/OR DITCHES SHALL 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.
8. 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 AREAS AND ALL WOS. A 10-FOOT BUFFER SHOULD BE MAINTAINED BETWEEN THE LAST ROW OF SILT FENCE AND ALL WOS.
9. 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.
10. A COPY OF THE OS-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 THE FINAL STABILIZATION IS REACHED.
11. INITIATE STABILIZATION MEASURES ON ANY EXPOSED STEEP SLOPE (3H:1V OR GREATER) WHERE LAND-DISTURBING ACTIVITIES HAVE BEEN PERMANENTLY OR TEMPORARILY CEASED, AND WILL NOT RESUME FOR A PERIOD OF 7 CALENDAR DAYS.
12. MINIMIZE SOIL COMPACTION AND, UNLESS FEASIBLE, PRESERVE TOPSOIL.
13. 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 TO PROVIDE EQUIVALENT OR BETTER TREATMENT PRIOR TO DISCHARGE.
14. 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.)
15. THE FOLLOWING DISCHARGES FROM SITES ARE PROHIBITED:
   - WASTEWATER FROM WASHOUT OF CONCRETE, UNLESS MANAGED BY AN APPROPRIATE CONTROL;
   - WASTEWATER FROM WASHOUT AND CLEANOUT OF STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS AND OTHER CONSTRUCTION MATERIALS;
   - FUELS, OILS, OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE; AND
   - 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 THE CONSTRUCTION SITE.
18. IF EXISTING BMPS NEED TO BE MODIFIED OR IF ADDITIONAL BMPS ARE NECESSARY TO COMPLY WITH THE REQUIREMENTS OF THIS PERMIT 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.

NOTE: UTILITY LOCATIONS ARE APPROXIMATE AND MUST BE FIELD LOCATED PRIOR TO ANY LAND DISTURBANCE BY THE CONTRACTOR.

NOTE:
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REFERENCES:
1. REFERENCE IS MADE TO A TOPOGRAPHIC SURVEY COMPLETED BY ABRAHAM LAND SURVEYING, DATED AUGUST 7, 2019.
2. REFERENCE IS MADE TO A WETLANDS SURVEY COMPLETED BY S&ME, DATED AUGUST 4, 2017.
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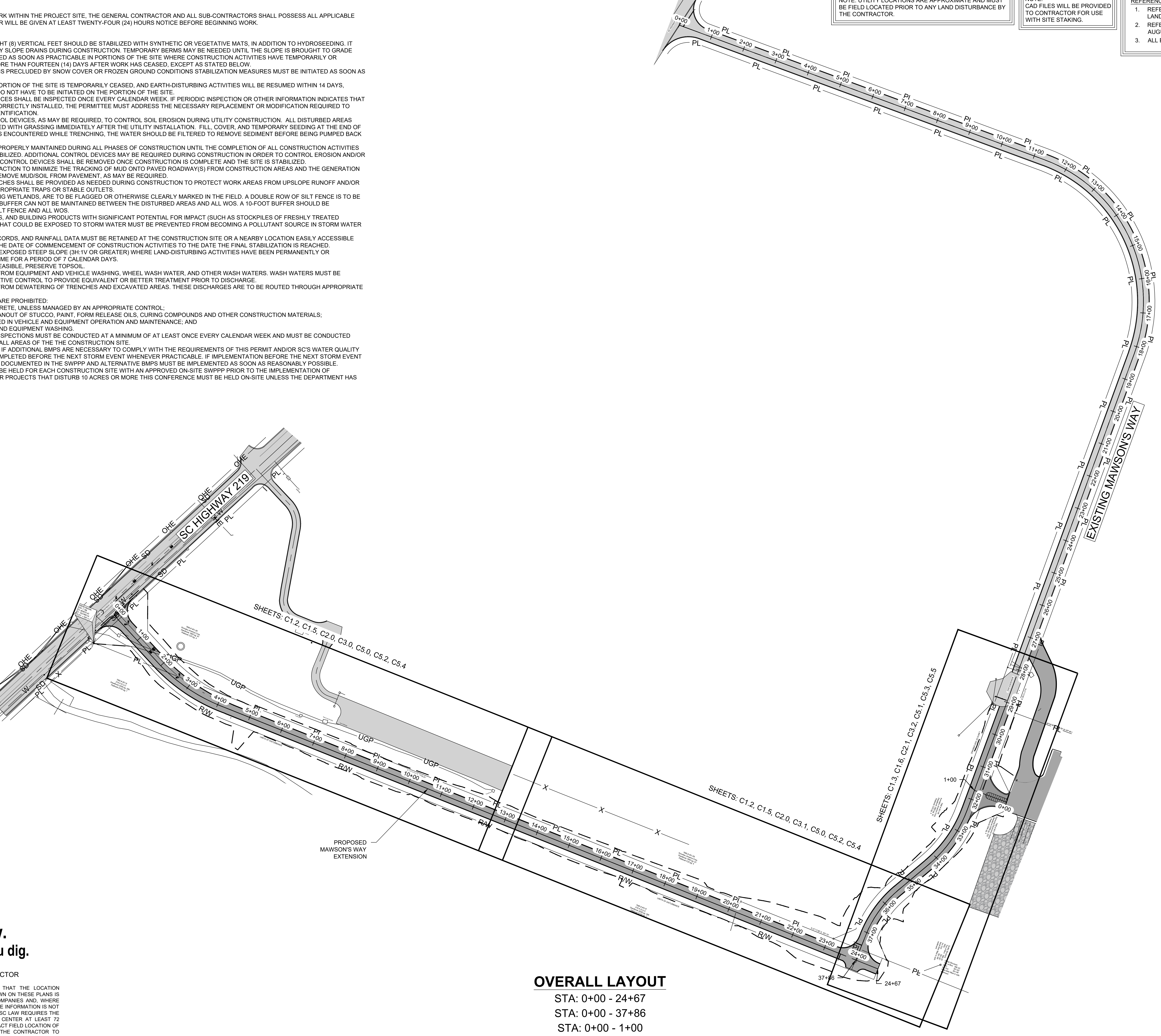
0+00
PL
EXISTING MAWSON'S WAY
SC HIGHWAY 219
OHE
SD
W
UGP
R/W
PI
SHEETS: C1.2, C1.5, C2.0, C3.0, C5.0, C5.2, C5.4
SHEETS: C1.2, C1.5, C2.0, C3.1, C5.0, C5.2, C5.4
SHEETS: C1.3, C1.6, C2.1, C3.2, C5.1, C5.3, C5.5
PROPOSED MAWSON'S WAY EXTENSION
24+00
24+67
37+86
1+00

OVERALL LAYOUT
STA: 0+00 - 24+67
STA: 0+00 - 37+86
STA: 0+00 - 1+00

150 75 0 150 450
(IN FEET)

811
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REVISION
DATE

APPROVALS	
ENGINEER	JVB
DESIGNER	JVB
TECHNICIAN	RDS
CHECKED BY	DMN
APPROVED	KMC

SOUTH CAROLINA
CERTIFICATE OF AUTHORIZATION
Alliance Consulting Engineers, Inc.
No. C02854
DATE: FEBRUARY 14, 2025

SOUTH CAROLINA
LICENSED PROFESSIONAL ENGINEER
No. 40365
JOHN V. BABAGE
SIGNATURE: John V. Babage

ALLIANCE
CONSULTING ENGINEERS
Alliance Consulting Engineers, Inc.
Post Office Box 8147 Columbia, South Carolina 29202-8147
Phone (803) 779-2078 • Fax (803) 779-2079

SHEET
OVERALL SHEET AND
STANDARD NOTES
DATE: MAY 2024
SCALE: 1" = 150'

PROJECT
± 3,350-LF OF ROADWAY
IMPROVEMENTS
TO MAWSONS WAY AT THE
SC HIGHWAY 219 INDUSTRIAL PARK
NEWBERRY COUNTY,
SOUTH CAROLINA
NEWBERRY COUNTY
SOUTH CAROLINA

FILE NAME:
C1.0.DWG
REFERENCE FILE:
19166Base. dwg
PROJECT NO.
19166-0036

SHEET
C1.0

DWG NO. 01.1347-D23

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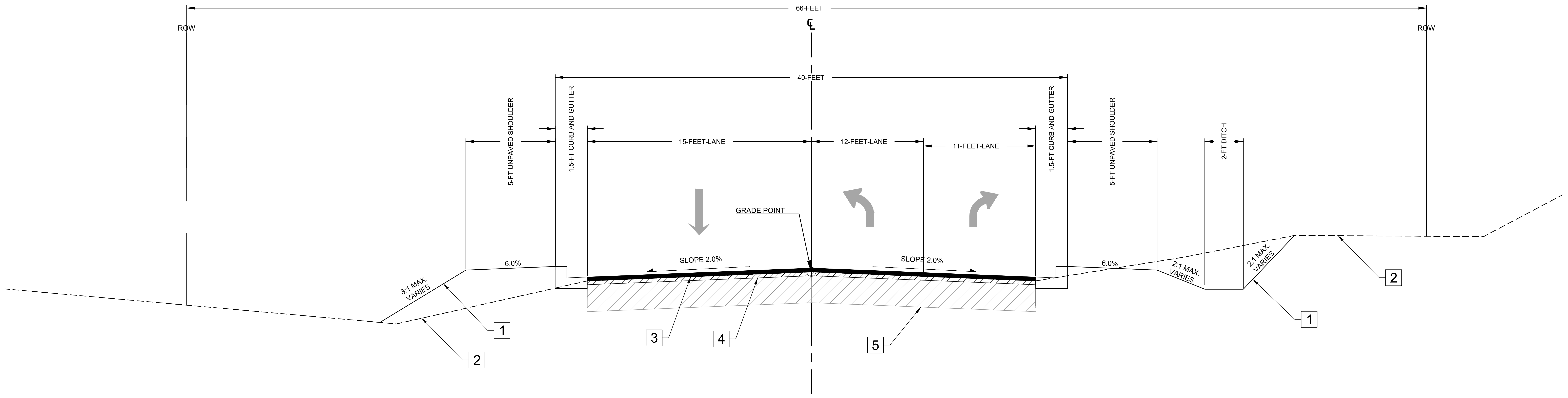
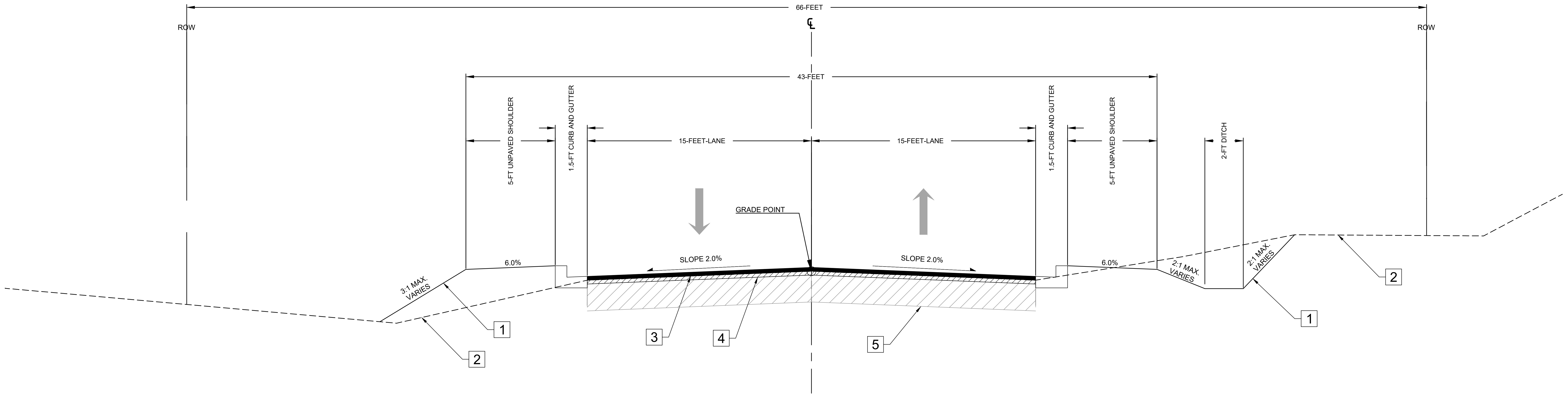


TYPICAL SECTION

USE THIS SECTION ON
MAWSON'S WAY
STA: 0+00 to 4+50
N.T.S.



TYPICAL SECTION

USE THIS SECTION ON
MAWSON'S WAY
STA: 4+50 to 24+67
STA: 29+00 to 37+86
N.T.S.

DESIGN SPEED : 40 MPH

LEGEND

1	———	FINISHED GRADE
2	- - - -	EXISTING GRADE
3	▬	NEW 2-INCH TYPE B SURFACE COURSE
4	▨	NEW 3.5-INCH TYPE B INTERMEDIATE COURSE
5	▨	NEW 12-INCH GRADED AGGERGATE BASE COURSE (GABC)

#	REVISION DATE
1	

APPROVALS	ENGINEER	DESIGNER	TECHNICIAN	CHECKED BY	APPROVED
	JVB	JVB	RDS	DMN	KMC

Alliance Consulting Engineers, Inc. No. C02854

DATE: FEBRUARY 14, 2025

No. 40365

SIGNATURE:

ALLIANCE CONSULTING ENGINEERS

Alliance Consulting Engineers, Inc.
Post Office Box 8147 Columbia, South Carolina 29202-8147
Phone (803) 779-2078 • Fax (803) 779-2079

SHEET

TYPICAL SECTION

DATE: MAY 2024

SCALE: 1" = 150'

PROJECT

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NEWBERRY COUNTY,
SOUTH CAROLINA

NEWBERRY COUNTY
SOUTH CAROLINA

FILE NAME:
C1.0.DWG

REFERENCE FILE:
19166Base. dwg

PROJECT NO.
19166-0036

SHEET
C1.1

DWG NO. 01,1347-D23

March 06, 2025 - 4:51:03 PM S:\Projects\19166-0036 Roadway Improvements to Mawson's Way at SC Hwy 219 Ind Pk in Newberry, Co\dwg\Construction Plans\ C1.0-1.4 - Existing Conditions Plan and Clearing, Grubbing, and Demolition Plan.dwg

March 10, 2025 - 8:49:59 AM S:\Projects\19166-0036 Roadway Improvements to Mawson's Way at SC Hwy 219 Ind Pk in Newberry, Co\dwg\Construction Plans\ C1.0-1.4 - Existing Conditions Plan and Clearing, Grubbing, and Demolition Plan.dwg

LINE DATA

LINE #	ALIGNMENT	LENGTH	DIRECTION	START	END
L1	Mawson's Way	200	S21° 49' 14"E	N 893,732.49 E 1,832,059.95	N 893,547.07 E 1,832,134.19
L2	Mawson's Way	2,038	S47° 19' 37"E	N 893,359.70 E 1,832,263.37	N 891,978.41 E 1,833,761.67
L3	Mawson's Way	79	S42° 42' 22"W	N 892,083.25 E 1,833,764.10	N 892,025.40 E 1,833,710.70

POINT DATA

POINT #	DESCRIPTION	NORTHING	EASTING
1	IPF 1" RB	893,675.42	1,831,969.34

CURVE DATA

CURVE #	ALIGNMENT	PI STATION	DELTA	D	T	L	E	R	D.S.	P.C. STA	P.T. STA	eMAX	e
C1	Mawson's Way	3+16.4	25°31'48"	11°07'31"	116.7'	229.47'	13.1'	515.0'	40 MPH	2+00	4+29	4%	4%

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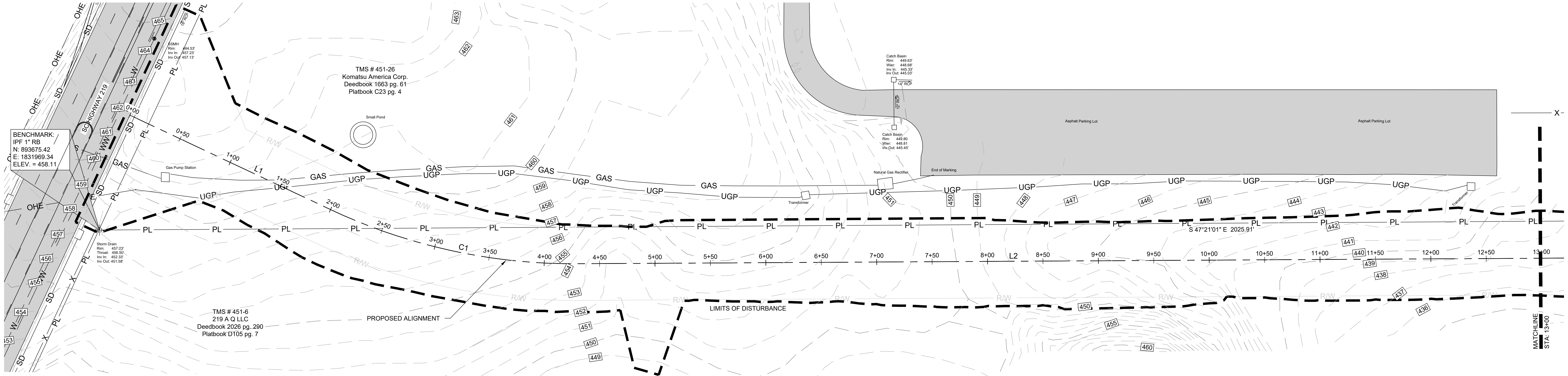
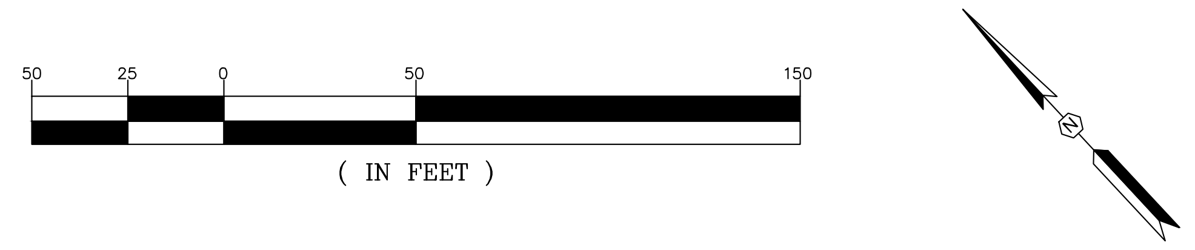
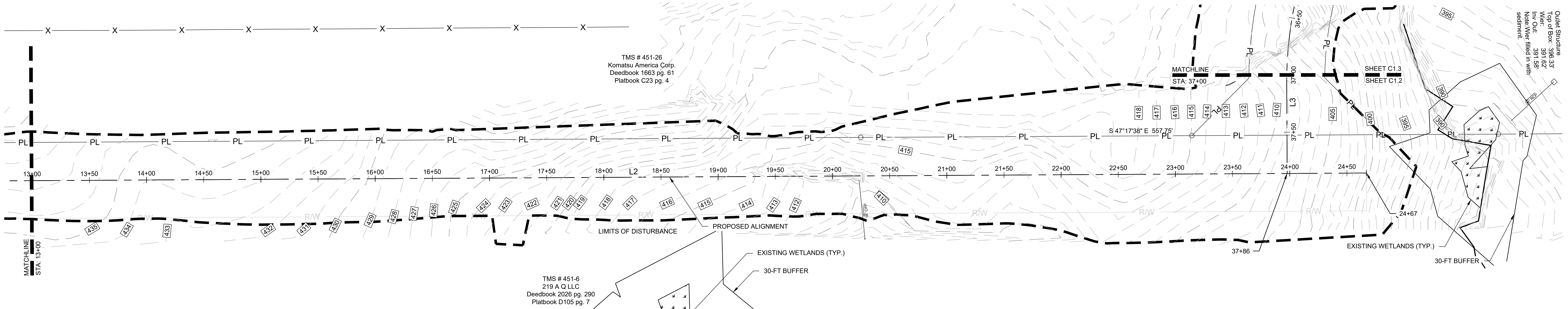
LEGEND

450	EXISTING CONTOUR MAJOR
451	EXISTING CONTOUR MINOR
PL	EXISTING PROPERTY LINE
SD	EXISTING STORM DRAINAGE
▨	EXISTING ASPHALT ROADWAY
═	EXISTING CURB AND GUTTER
X	EXISTING FENCE
W	EXISTING WATER LINE
WW	EXISTING WASTEWATER LINE
GAS	EXISTING NATURAL GAS LINE
OHE	EXISTING OVERHEAD ELECTRIC LINE
UGP	EXISTING UNDERGROUND ELECTRIC LINE
— - —	EXISTING ROADWAY CENTER LINE
—	EXISTING TRIBUTARIES
↓ ↓ ↓	EXISTING WETLANDS
— - —	PROPOSED ROADWAY CENTER LINE
— —	PROPOSED LIMITS OF DISTURBANCE
▬ ▬ ▬	MATCH LINE

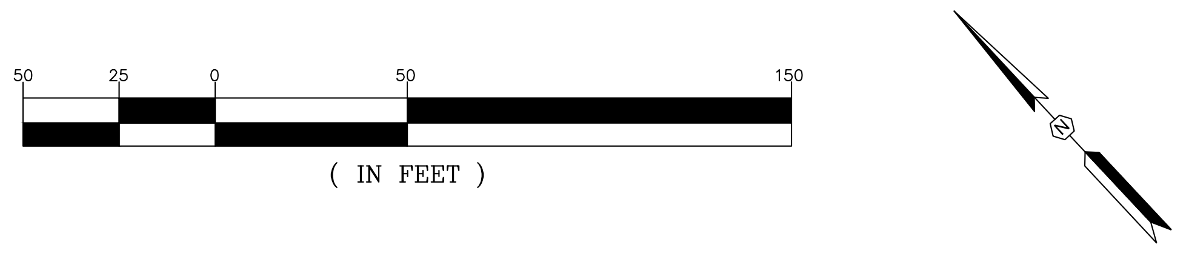


EXISTING CONDITIONS PLAN
STA: 0+00 TO 13+00





EXISTING CONDITIONS PLAN
STA: 13+00 TO 24+67



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Call before you dig.

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#	REVISION DATE
1	

APPROVALS	ENGINEER	DESIGNER	TECHNICIAN	CHECKED BY	APPROVED
	JVB	JVB	RDS	DMN	KMC

Alliance Consulting Engineers, Inc. No. C02854

DATE: FEBRUARY 14, 2025

JOHN V. BABCOCK No. 40365

SIGNATURE:

ALLIANCE
CONSULTING ENGINEERS

Alliance Consulting Engineers, Inc.
Post Office Box 8147 Columbia, South Carolina 29202-8147
Phone (803) 779-2078 • Fax (803) 779-2079

SHEET

EXISTING CONDITIONS PLAN
STA: 0+00 TO 24+67

DATE: MAY 2024
SCALE: 1" = 50'

PROJECT

± 3,350-LF OF ROADWAY
IMPROVEMENTS
TO MAWSONS WAY AT THE
SC HIGHWAY 219 INDUSTRIAL PARK
NEWBERRY COUNTY,
SOUTH CAROLINA

NEWBERRY COUNTY
SOUTH CAROLINA

FILE NAME: C1.0.DWG
REFERENCE FILE: 19166Base. dwg
PROJECT NO. 19166-0036

SHEET
C1.2

DWG NO. 01,1347-D23

March 10, 2025 - 8:49:28 AM S:\Projects\19166-0036 Roadway Improvements to Mawson's Way at SC Hwy 219 Ind Pk in Newberry, Co\dwg\Construction Plans\ C1.0-1.4 - Existing Conditions Plan and Clearing, Grubbing, and Demolition Plan.dwg

LINE DATA

LINE #	ALIGNMENT	LENGTH	DIRECTION	START	END
L3	Mawson's Way	79	S42° 42' 22"W	N 892,083.25 E 1,833,764.10	N 892,025.40 E 1,833,710.70
L4	Mawson's Way	116	S70° 50' 59"W	N 892,209.38 E 1,834,007.94	N 892,171.49 E 1,833,898.83
L5	Mawson's Way	312	S41° 06' 49"W	N 892,553.06 E 1,834,374.02	N 892,317.99 E 1,834,168.86
L10	Samsung Driveway	100	N48° 58' 15"W	N 892,297.64 E 1,834,283.72	N 892,363.23 E 1,834,208.34

CURVE DATA

CURVE #	ALIGNMENT	PI STATION	DELTA	D	T	L	E	R	D.S.	P.C. STA	P.T. STA	eMAX	e
C2	Mawson's Way	36+27.7	28°08'36"	17°17'57"	83.0'	162.69'	10.2'	331.2'	40 MPH	35+45	37+07	4%	4%
C3	Mawson's Way	33+33.2	29°44'09"	15°08'44"	100.4'	196.33'	13.1'	378.3'	40 MPH	32+33	34+29	4%	4%

NOTE: UTILITY LOCATIONS ARE APPROXIMATE AND MUST BE FIELD LOCATED PRIOR TO ANY LAND DISTURBANCE BY THE CONTRACTOR.

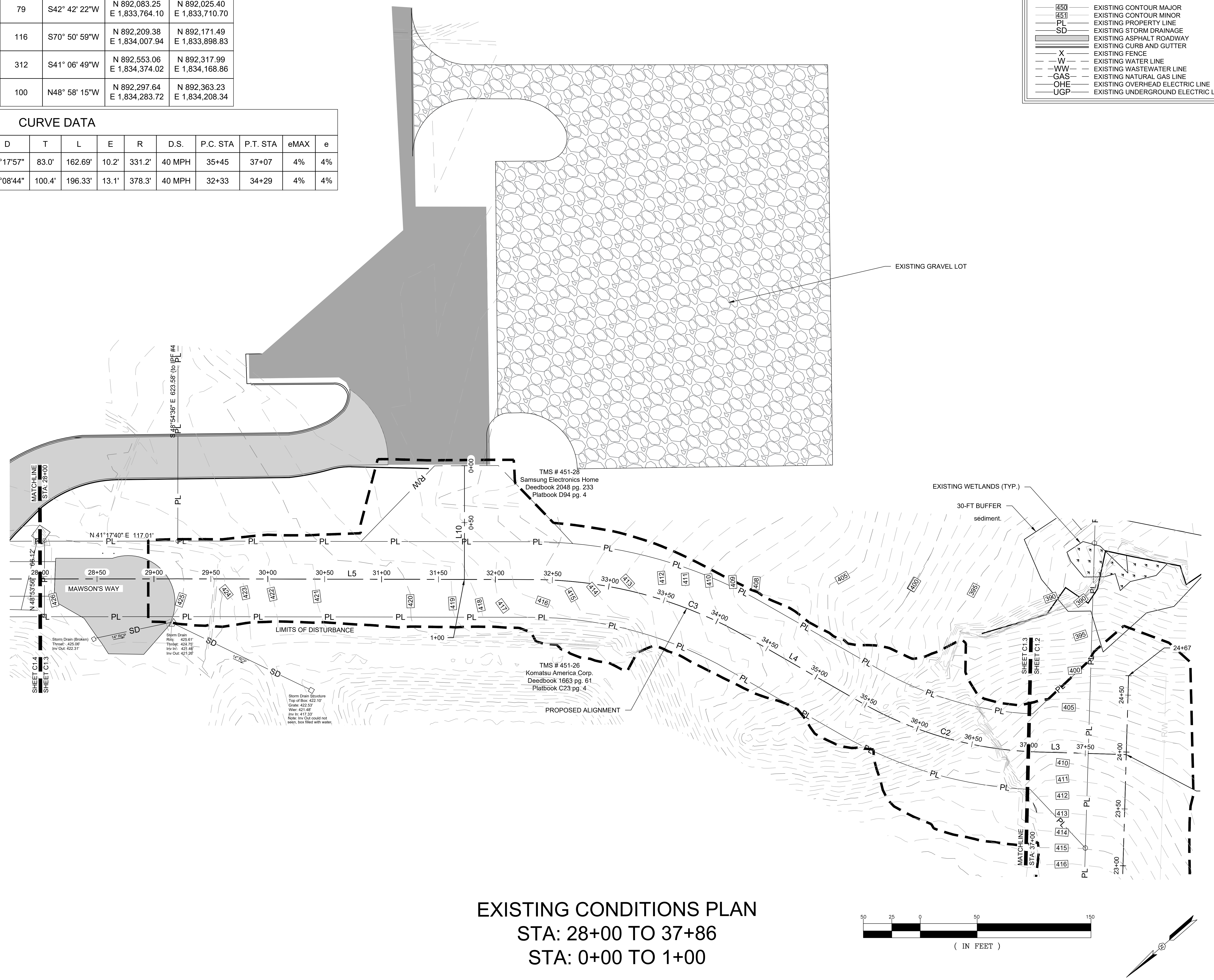
NOTE:
CAD FILES WILL BE PROVIDED TO CONTRACTOR FOR USE WITH SITE STAKING.

REFERENCES:

1. REFERENCE IS MADE TO A TOPOGRAPHIC SURVEY COMPLETED BY ABRAHAM LAND SURVEYING, DATED AUGUST 7, 2019.
2. REFERENCE IS MADE TO A WETLANDS SURVEY COMPLETED BY S&ME, DATED AUGUST 4, 2017.
3. ALL ELEVATIONS ARE REFERENCED TO NAVD 88.

LEGEND

—450—	EXISTING CONTOUR MAJOR
—451—	EXISTING CONTOUR MINOR
—PL—	EXISTING PROPERTY LINE
—SD—	EXISTING STORM DRAINAGE
▨	EXISTING ASPHALT ROADWAY
═	EXISTING CURB AND GUTTER
—X—	EXISTING FENCE
— —W— —	EXISTING WATER LINE
— —WW— —	EXISTING WASTEWATER LINE
— —GAS— —	EXISTING NATURAL GAS LINE
—OHE—	EXISTING OVERHEAD ELECTRIC LINE
—UGP—	EXISTING UNDERGROUND ELECTRIC LINE
— - — - —	EXISTING ROADWAY CENTER LINE
——	EXISTING TRIBUTARIES
↓ ↓ ↓	EXISTING WETLANDS
— - — - —	PROPOSED ROADWAY CENTER LINE
—— ——	PROPOSED LIMITS OF DISTURBANCE
▬ ▬ ▬	MATCH LINE



EXISTING CONDITIONS PLAN
STA: 28+00 TO 37+86
STA: 0+00 TO 1+00

811
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APPROVALS	ENGINEER	DESIGNER	TECHNICIAN	CHECKED BY	APPROVED
	JVB	JVB	RDS	DMN	KMC

SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION
Alliance Consulting Engineers, Inc.
No. C02854

DATE: FEBRUARY 14, 2025

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER
No. 40365
JOHN

SIGNATURE:

ALLIANCE CONSULTING ENGINEERS
Alliance Consulting Engineers, Inc.
Post Office Box 8147 Columbia, South Carolina 29202-8147
Phone (803) 779-2078 • Fax (803) 779-2079

SHEET
EXISTING CONDITIONS PLAN
STA: 28+00 TO 37+86
STA: 0+00 TO 1+00

DATE: MAY 2024
SCALE: 1" = 50'

PROJECT
± 3,350-LF OF ROADWAY IMPROVEMENTS
TO MAWSONS WAY AT THE
SC HIGHWAY 219 INDUSTRIAL PARK
NEWBERRY COUNTY,
SOUTH CAROLINA

NEWBERRY COUNTY
SOUTH CAROLINA

FILE NAME:
C1.0.DWG
REFERENCE FILE:
19166Base. dwg
PROJECT NO.
19166-0036

SHEET
C1.3

DWG NO. 01,1347-D23

NOTE: UTILITY LOCATIONS ARE APPROXIMATE AND MUST BE FIELD LOCATED PRIOR TO ANY LAND DISTURBANCE BY THE CONTRACTOR.

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LEGEND

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451	EXISTING CONTOUR MINOR
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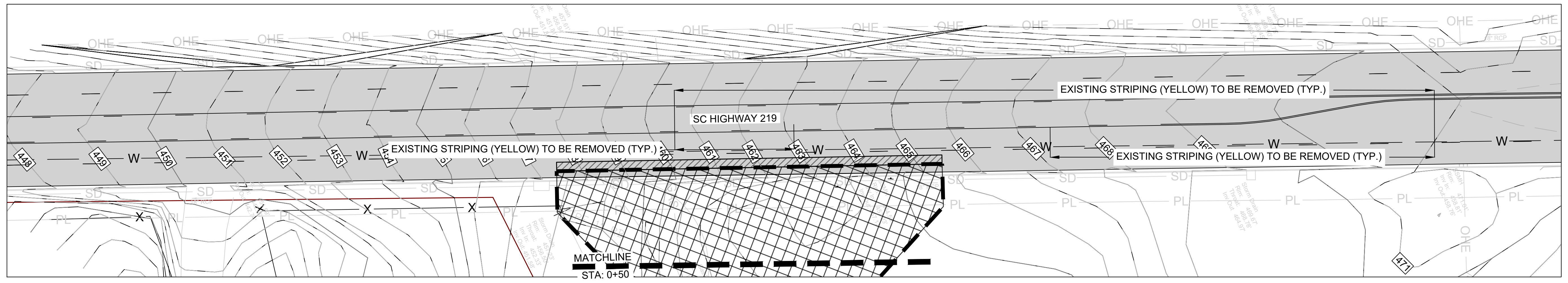
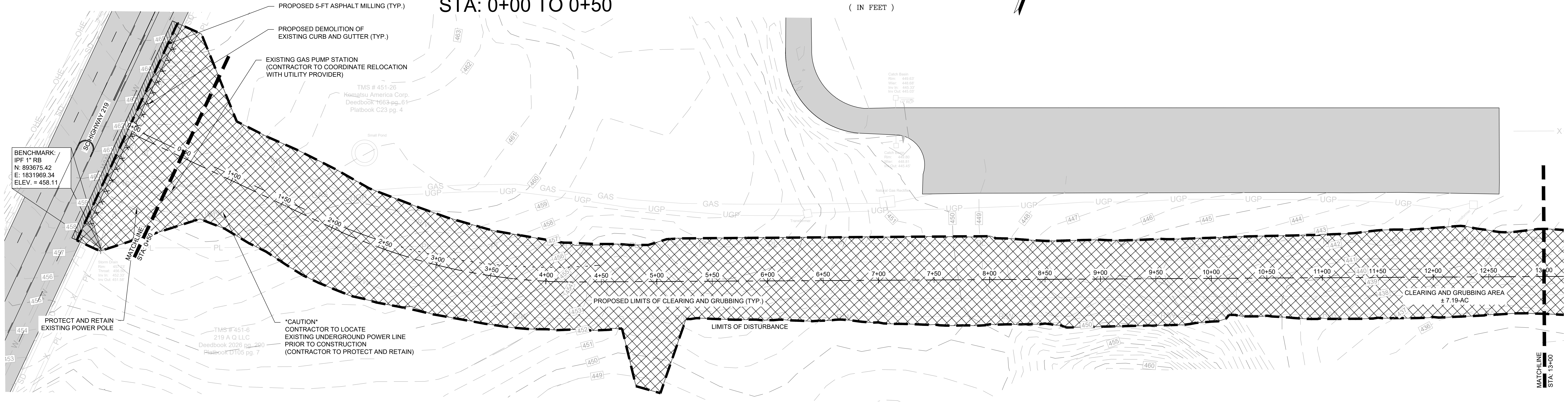
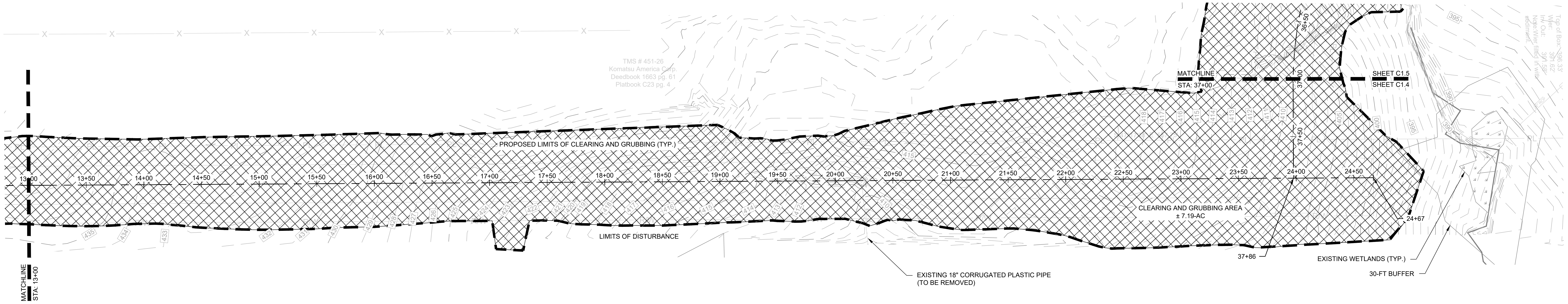
SD	EXISTING STORM DRAINAGE
▭	EXISTING ASPHALT ROADWAY
═	EXISTING CURB AND GUTTER
X	EXISTING FENCE
W	EXISTING WATER LINE
WW	EXISTING WASTEWATER LINE
GAS	EXISTING NATURAL GAS LINE
OHE	EXISTING OVERHEAD ELECTRIC LINE
UGP	EXISTING UNDERGROUND ELECTRIC LINE
— - —	EXISTING ROADWAY CENTER LINE
—	EXISTING TRIBUTARIES
↓ ↓ ↓	EXISTING WETLANDS
— - —	PROPOSED ROADWAY CENTER LINE
R/W	PROPOSED RIGHT-OF-WAY
▩	PROPOSED CLEARING AND GRUBBING LIMITS
▨	PROPOSED ASPHALT MILLING
— —	PROPOSED LIMITS OF DISTURBANCE
▬ ▬ ▬	MATCH LINE


OHE
SD
PL
W
X
SC HIGHWAY 219
EXISTING STRIPING (YELLOW) TO BE REMOVED (TYP.)
EXISTING STRIPING (YELLOW) TO BE REMOVED (TYP.)
EXISTING STRIPING (YELLOW) TO BE REMOVED (TYP.)
MATCHLINE
STA: 0+50
50 25 0 50 150
(IN FEET)

CLEARING, GRUBBING, AND DEMOLITION PLAN
STA: 0+00 TO 0+50


PROPOSED 5-FT ASPHALT MILLING (TYP.)
PROPOSED DEMOLITION OF EXISTING CURB AND GUTTER (TYP.)
EXISTING GAS PUMP STATION (CONTRACTOR TO COORDINATE RELOCATION WITH UTILITY PROVIDER)
TMS # 451-26
Komatsu America Corp.
Deedbook 1663 pg. 81
Platbook C23 pg. 4
BENCHMARK:
IPF 1" RB
N: 893675.42
E: 1831969.34
ELEV. = 458.11
SC HIGHWAY 219
MATCHLINE
STA: 0+50
GAS
UGP
PL
1+00
1+50
2+00
2+50
3+00
3+50
4+00
4+50
5+00
5+50
6+00
6+50
7+00
7+50
8+00
8+50
9+00
9+50
10+00
10+50
11+00
11+50
12+00
12+50
13+00
PROPOSED LIMITS OF CLEARING AND GRUBBING (TYP.)
CLEARING AND GRUBBING AREA
± 7.19-AC
LIMITS OF DISTURBANCE
PROTECT AND RETAIN EXISTING POWER POLE
CAUTION
CONTRACTOR TO LOCATE EXISTING UNDERGROUND POWER LINE PRIOR TO CONSTRUCTION (CONTRACTOR TO PROTECT AND RETAIN)
TMS # 451-6
219 A Q LLC
MATCHLINE
STA: 13+00
50 25 0 50 150
(IN FEET)

CLEARING, GRUBBING, AND DEMOLITION PLAN
STA: 0+00 TO 13+00



CLEARING, GRUBBING, AND DEMOLITION PLAN
STA: 13+00 TO 24+67

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Know what's **below.**
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#	REVISION DATE
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APPROVALS

ENGINEER	DESIGNER	TECHNICIAN	CHECKED BY	APPROVED
JVB	JVB	RDS	DMN	KMC

Alliance Consulting Engineers, Inc. No. C02854
DATE: FEBRUARY 14, 2025

JOHN V. BURBAGE No. 40365
SIGNATURE:

ALLIANCE CONSULTING ENGINEERS
Alliance Consulting Engineers, Inc.
Post Office Box 8147 Columbia, South Carolina 29202-8147
Phone (803) 779-2078 • Fax (803) 779-2079

SHEET
CLEARING, GRUBBING, AND DEMOLITION PLAN
STA: 0+00 TO 24+67
DATE: MAY 2024
SCALE: 1" = 50'

PROJECT
± 3,350-LF OF ROADWAY IMPROVEMENTS
TO MAWSONS WAY AT THE
SC HIGHWAY 219 INDUSTRIAL PARK
NEWBERRY COUNTY,
SOUTH CAROLINA
NEWBERRY COUNTY SOUTH CAROLINA

FILE NAME:
C1.0.DWG
REFERENCE FILE:
19166Base. dwg
PROJECT NO.
19166-0036

SHEET
C1.4

DWG NO. 01,1347-D23

March 10, 2025 - 8:48:05 AM S:\Projects\19166-0036 Roadway Improvements to Mawson's Way at SC Hwy 219 Ind Pk in Newberry, Co\dwg\Construction Plans\ C1.0-1.4 - Existing Conditions Plan and Clearing, Grubbing, and Demolition Plan.dwg

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▭	EXISTING ASPHALT ROADWAY
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R/W	PROPOSED RIGHT-OF-WAY
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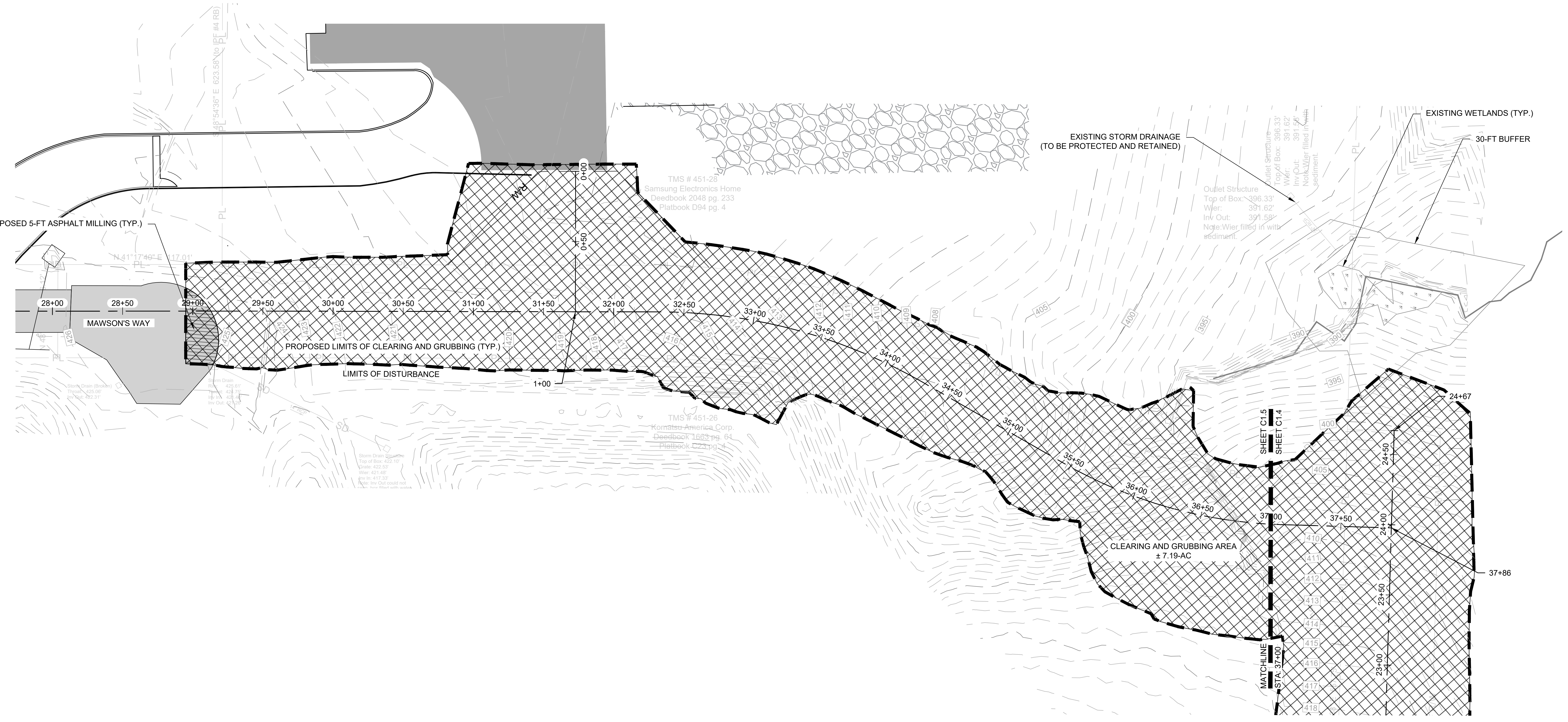
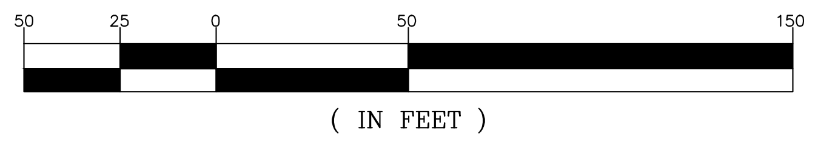
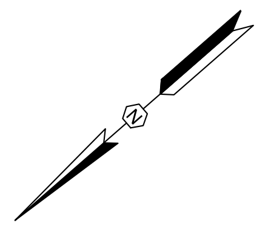
— —	PROPOSED LIMITS OF DISTURBANCE
▬ ▬	MATCH LINE



CLEARING, GRUBBING, AND DEMOLITION PLAN
STA: 28+00 TO 37+86
STA: 0+00 TO 1+00





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March 10, 2025 - 8:47:08 AM S:\Projects\19166-0036 Roadway Improvements to Mawson's Way at SC Hwy 219 Ind Pk in Newberry, Co\dwg\Construction Plans\ C1.0-1.4 - Existing Conditions Plan and Clearing, Grubbing, and Demolition Plan.dwg

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APPROVALS	ENGINEER	DESIGNER	TECHNICIAN	CHECKED BY	APPROVED
	JVB	JVB	RDS	DMN	KMC

Alliance Consulting Engineers, Inc. No. C02854

DATE: FEBRUARY 14, 2025

No. 40365

SIGNATURE:

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Alliance Consulting Engineers, Inc.
Post Office Box 8147 Columbia, South Carolina 29202-8147
Phone (803) 779-2078 • Fax (803) 779-2079

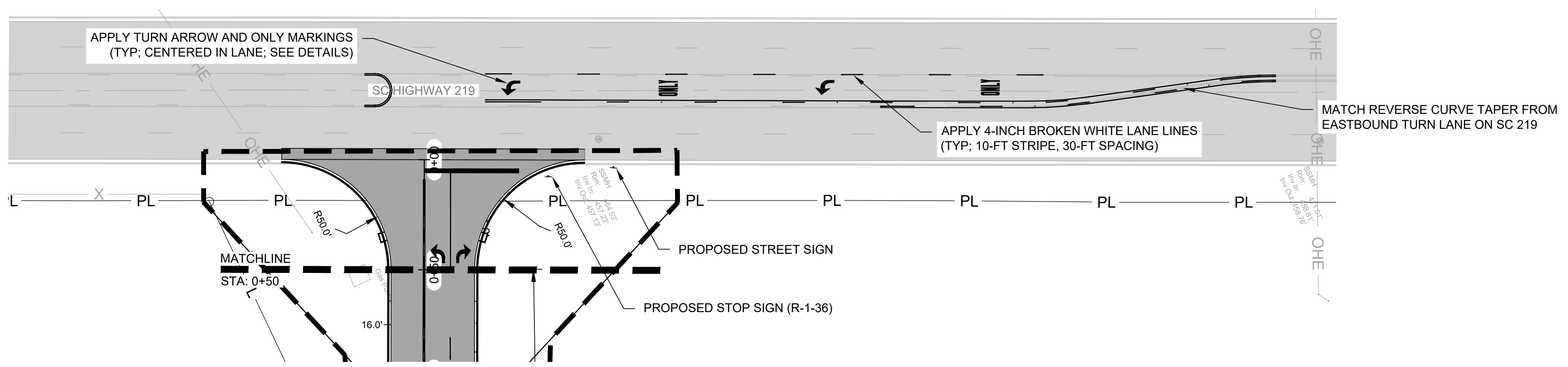
SHEET
CLEARING, GRUBBING, AND DEMOLITION PLAN
STA: 28+00 TO 37+86
STA: 0+00 TO 1+00
DATE: MAY 2024
SCALE: 1" = 50'

PROJECT
± 3,350-LF OF ROADWAY IMPROVEMENTS
TO MAWSONS WAY AT THE
SC HIGHWAY 219 INDUSTRIAL PARK
NEWBERRY COUNTY,
SOUTH CAROLINA
NEWBERRY COUNTY
SOUTH CAROLINA

FILE NAME: C1.0.DWG
REFERENCE FILE: 19166Base. dwg
PROJECT NO. 19166-0036

SHEET C1.5

DWG NO. 01,1347-D23


APPLY TURN ARROW AND ONLY MARKINGS
(TYP; CENTERED IN LANE; SEE DETAILS)
SC HIGHWAY 219
ONLY
ONLY
OHE
APPLY 4-INCH BROKEN WHITE LANE LINES
(TYP; 10-FT STRIPE, 30-FT SPACING)
MATCH REVERSE CURVE TAPER FROM
EASTBOUND TURN LANE ON SC 219
PL
X
R50.0'
R50.0'
0+00
0+50
SSMH
Rim: 464.53'
Inv In: 457.23'
Inv Out: 457.13'
PROPOSED STREET SIGN
MATCHLINE
STA: 0+50
PROPOSED STOP SIGN (R-1-36)
16.0'

PAVING, STRIPING, AND SIGNAGE PLAN
STA: 0+00 TO 0+50

50 25 0 50 150
(IN FEET)

NOTE: LANE DIMENSIONS TAKEN FROM EDGE OF PAVEMENT (EOP). RADIAL DIMENSIONS TAKEN FROM FACE OF CURB (FOC).

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REFERENCES:

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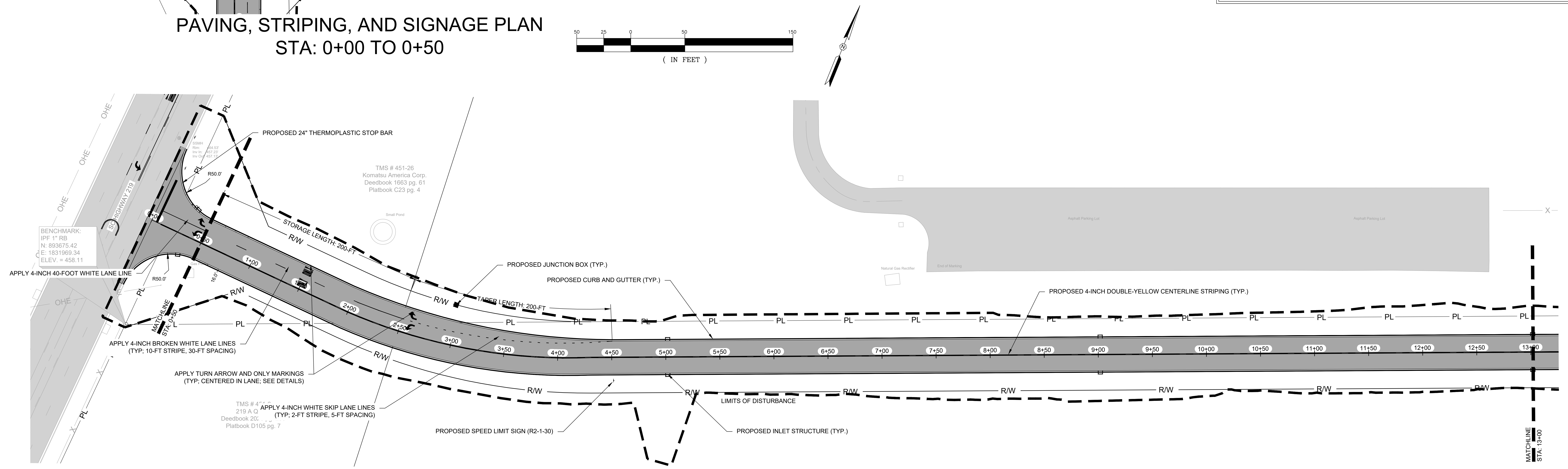
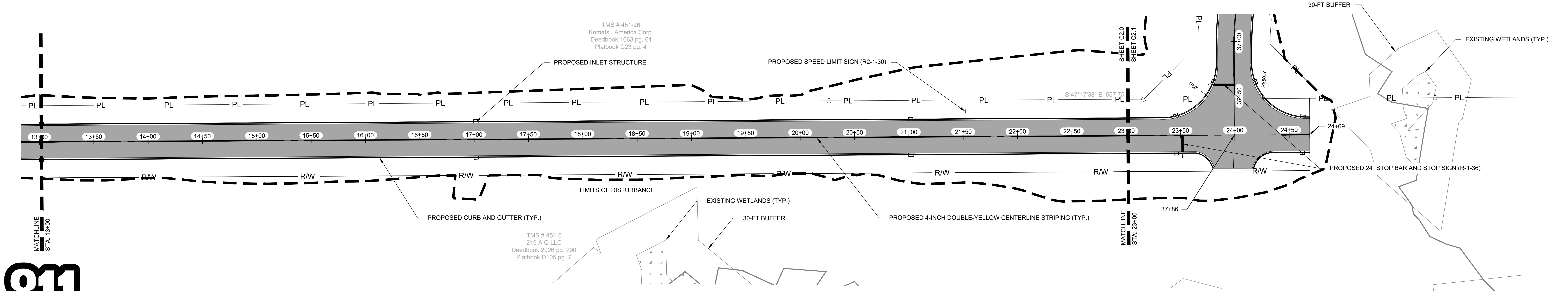
LEGEND

—— PL ——	EXISTING PROPERTY LINE
□	EXISTING STORM DRAINAGE STRUCTURE
▨	EXISTING ASPHALT ROADWAY
═	EXISTING CURB AND GUTTER
—— X ——	EXISTING FENCE
ⓢ	EXISTING WASTEWATER STRUCTURE
□	EXISTING NATURAL GAS BOX
—— OHE ——	EXISTING OVERHEAD ELECTRIC LINE
— - — - —	EXISTING ROADWAY CENTER LINE
— - — - —	PROPOSED ROADWAY CENTER LINE
—— R/W ——	PROPOSED RIGHT-OF-WAY
■	PROPOSED ASPHALT ROADWAY
▨	PROPOSED GRAVEL ROADAY
═	PROPOSED CURB AND GUTTER
□ ■	PROPOSED STORM DRAINAGE STRUCTURE
—— ——	PROPOSED LIMITS OF DISTURBANCE
▬ ▬ ▬	MATCH LINE



PAVING, STRIPING, AND SIGNAGE PLAN
STA: 0+00 TO 13+00
STA 0+00 TO 1+51



PAVING, STRIPING, AND SIGNAGE PLAN
STA: 13+00 TO 24+67

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March 07, 2025 - 9:25:07 AM S:\Projects\19166-0036 Roadway Improvements to Mawson's Way at SC Hwy 219 Ind Pk in Newberry, Co\dwg\Construction Plans\ C2.0-C2.1 - Paving, Striping, and Signage Plan.dwg

#	REVISION DATE
1	

APPROVALS	
ENGINEER	JVB
DESIGNER	JVB
TECHNICIAN	RDS
CHECKED BY	DMN
APPROVED	KMC

Alliance Consulting Engineers, Inc. No. C02854

DATE: FEBRUARY 14, 2025

JOHN V. BABBAGE No. 40365

SIGNATURE:

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SHEET

PAVING, STRIPING, AND
SIGNAGE PLAN
STA: 0+00 TO 24+67

DATE: MAY 2024 SCALE: 1" = 50'

PROJECT

± 3,350-LF OF ROADWAY
IMPROVEMENTS
TO MAWSONS WAY AT THE
SC HIGHWAY 219 INDUSTRIAL PARK
NEWBERRY COUNTY,
SOUTH CAROLINA

NEWBERRY COUNTY SOUTH CAROLINA

FILE NAME:	C2.0.DWG
REFERENCE FILE:	19166Base. dwg
PROJECT NO.	19166-0036

SHEET
C2.0

DWG NO. 01,1347-D23

NOTE: LANE DIMENSIONS TAKEN FROM EDGE OF PAVEMENT (EOP). RADIAL DIMENSIONS TAKEN FROM FACE OF CURB (FOC).

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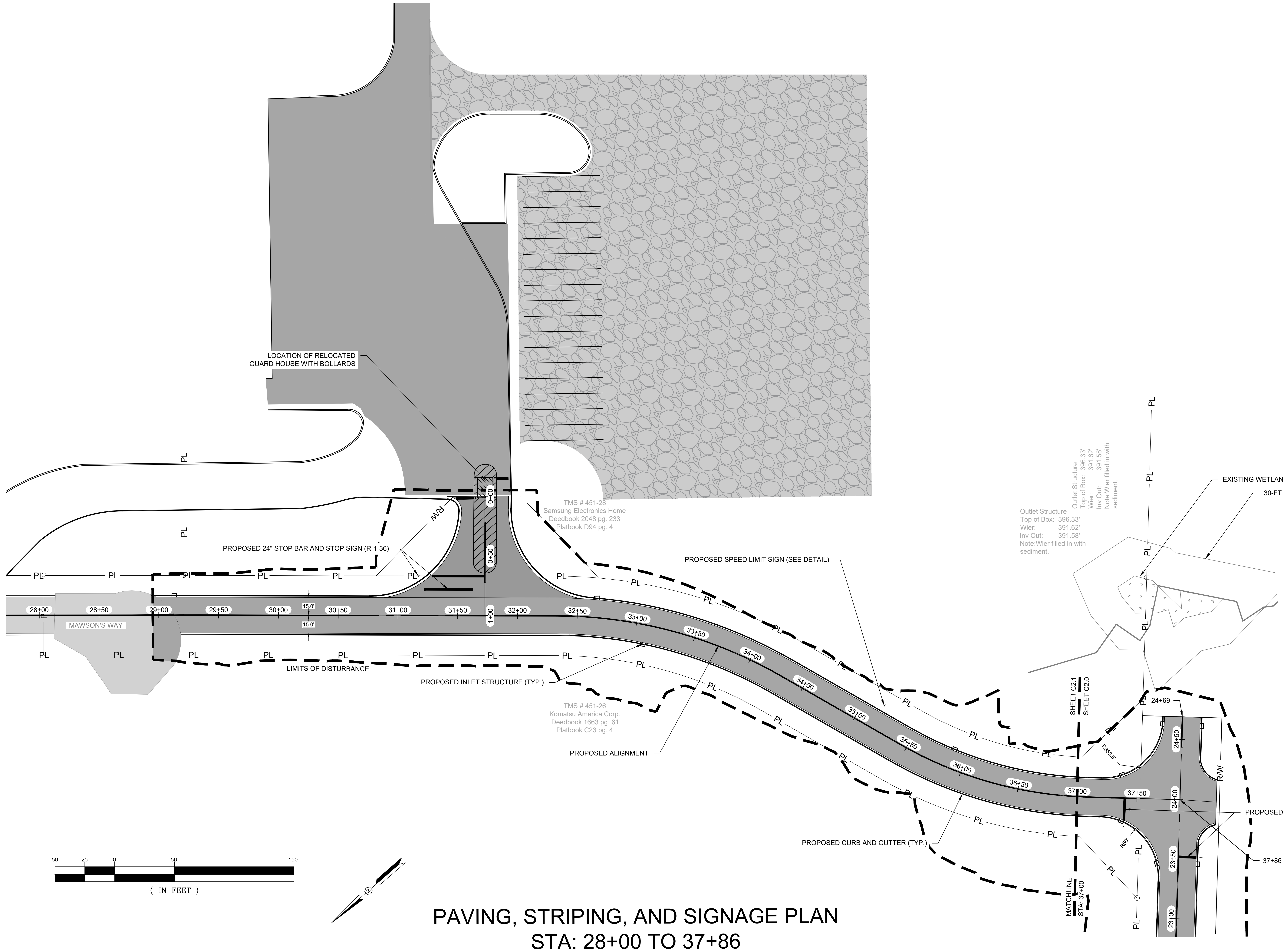
LEGEND

Symbol	Description
—— PL ——	EXISTING PROPERTY LINE
□	EXISTING STORM DRAINAGE STRUCTURE
▨	EXISTING ASPHALT ROADWAY
═══	EXISTING CURB AND GUTTER
—— X ——	EXISTING FENCE
Ⓢ	EXISTING WASTEWATER STRUCTURE
□	EXISTING NATURAL GAS BOX
—— OHE ——	EXISTING OVERHEAD ELECTRIC LINE
— - — - —	EXISTING ROADWAY CENTER LINE
— - — - —	PROPOSED ROADWAY CENTER LINE
—— R/W ——	PROPOSED RIGHT-OF-WAY
▨	PROPOSED ASPHALT ROADWAY
▨	PROPOSED GRAVEL ROADAY
═══	PROPOSED CURB AND GUTTER
□ ■	PROPOSED STORM DRAINAGE STRUCTURE
—— ——	PROPOSED LIMITS OF DISTURBANCE
— — —	MATCH LINE



PAVING, STRIPING, AND SIGNAGE PLAN
STA: 28+00 TO 37+86
STA: 0+00 TO 1+00

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

CAUTION-NOTE TO CONTRACTOR

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#	REVISION DATE
1	

APPROVALS

ENGINEER	DESIGNER	TECHNICIAN	CHECKED BY	APPROVED
JVB	JVB	RDS	DMN	KMC

Alliance Consulting Engineers, Inc. No. C02854

DATE: FEBRUARY 14, 2025

JOHN V. BABBAGE No. 40365

SIGNATURE:

ALLIANCE CONSULTING ENGINEERS
Alliance Consulting Engineers, Inc.
Post Office Box 8147 Columbia, South Carolina 29202-8147
Phone (803) 779-2078 • Fax (803) 779-2079

SHEET

PAVING, STRIPING, AND SIGNAGE PLAN
STA: 28+00 TO 37+86
STA: 0+00 TO 1+00

DATE: MAY 2024 SCALE: 1" = 50'

PROJECT

± 3,350-LF OF ROADWAY IMPROVEMENTS
TO MAWSONS WAY AT THE
SC HIGHWAY 219 INDUSTRIAL PARK
NEWBERRY COUNTY,
SOUTH CAROLINA

NEWBERRY COUNTY SOUTH CAROLINA

FILE NAME: C2.0.DWG
REFERENCE FILE: 19166Base. dwg
PROJECT NO. 19166-0036

SHEET C2.1

DWG NO. 01,1347-D23

Know what's below.
Call before you dig.

CAUTION-NOTE TO CONTRACTOR

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NOTE: UTILITY LOCATIONS ARE APPROXIMATE AND MUST BE FIELD LOCATED PRIOR TO ANY LAND DISTURBANCE BY THE CONTRACTOR

NOTE:
CAD FILES WILL BE PROVIDED TO CONTRACTOR FOR USE WITH SITE STAKING.

REFERENCES:

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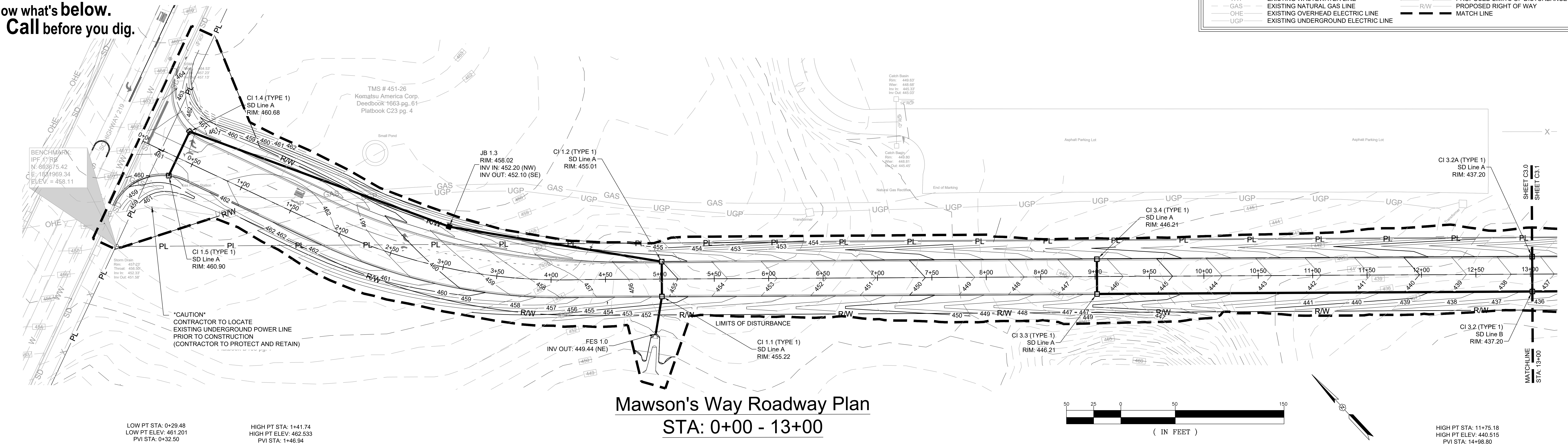
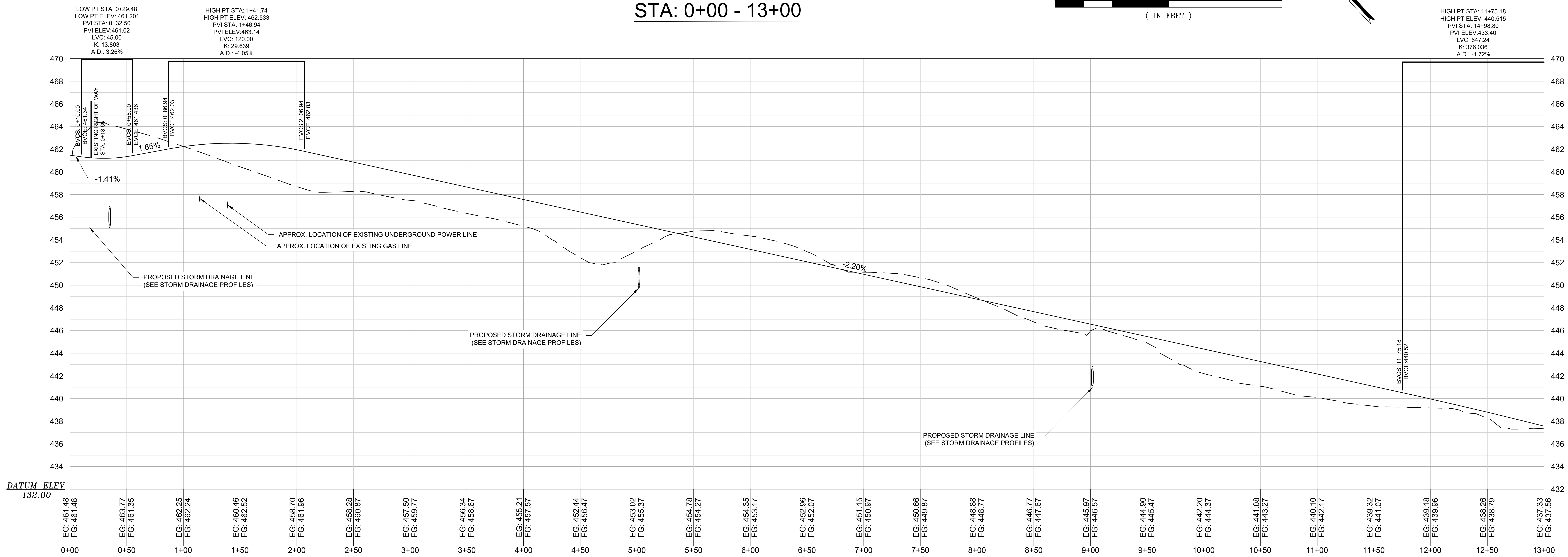
2. REFERENCE IS MADE TO A WETLANDS SURVEY COMPLETED BY S&ME, DATED AUGUST 4, 2017.
3. ALL ELEVATIONS ARE REFERENCED TO NAVD 88.

LEGEND

450	EXISTING CONTOUR MAJOR
451	EXISTING CONTOUR MINOR
PL	EXISTING PROPERTY LINE
SD	EXISTING STORM DRAINAGE
▨	EXISTING ASPHALT ROADWAY
═	EXISTING CURB AND GUTTER
X	EXISTING FENCE
W	EXISTING WATER LINE
WW	EXISTING WASTEWATER LINE
GAS	EXISTING NATURAL GAS LINE
OHE	EXISTING OVERHEAD ELECTRIC LINE
UGP	EXISTING UNDERGROUND ELECTRIC LINE
— - —	EXISTING ROADWAY CENTER LINE
— - —	PROPOSED ROADWAY CENTER LINE
═	PROPOSED CURB AND GUTTER
⊦	PROPOSED SIGN
450	PROPOSED CONTOUR MAJOR
451	PROPOSED CONTOUR MINOR
—	PROPOSED STORM DRAINAGE LINE
□	PROPOSED STORM DRAINAGE STRUCTURE
— —	PROPOSED LIMITS OF DISTURBANCE
R/W	PROPOSED RIGHT OF WAY
■ ■ ■	MATCH LINE



Mawson's Way Roadway Plan
STA: 0+00 - 13+00



LEGEND
- - - EXISTING GRADE
——— PROPOSED GRADE

Mawson's Way Roadway Profile
STA: 0+00 - 13+00

SCALE: HORIZ: 1" = 50' VERT: 1" = 5'

#	REVISION DATE
1	

APPROVALS	
ENGINEER	JVB
DESIGNER	JVB
TECHNICIAN	RDS
CHECKED BY	DMN
APPROVED	KMC

SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION
Alliance Consulting Engineers, Inc.
No. C02854
DATE: FEBRUARY 14, 2025

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER
JOHN V. BABBAGE
No. 40365
SIGNATURE:

ALLIANCE CONSULTING ENGINEERS
Alliance Consulting Engineers, Inc.
Post Office Box 8147 Columbia, South Carolina 29202-8147
Phone (803) 779-2078 • Fax (803) 779-2079

SHEET
ROADWAY PLAN AND PROFILE
STA: 0+00 TO 13+00
DATE: MAY 2024
SCALE: AS SHOWN

PROJECT
± 3,350-LF OF ROADWAY IMPROVEMENTS
TO MAWSONS WAY AT THE
SC HIGHWAY 219 INDUSTRIAL PARK
NEWBERRY COUNTY,
SOUTH CAROLINA
NEWBERRY COUNTY
SOUTH CAROLINA

FILE NAME: C3.0.DWG
REFERENCE FILE: 19166Base. dwg
PROJECT NO. 19166-0036

SHEET C3.0

DWG NO. 01,1347-D23

March 19, 2025 - 10:30:28 AM S:\Projects\19166-0036 Roadway Improvements to Mawson's Way at SC Hwy 219 Ind Pk in Newberry, Co\dwg\Construction Plans\ C3.0-C3.3 - Mawson's Way Plan and Profile.dwg

LEGEND

450	EXISTING CONTOUR MAJOR	— - — -	EXISTING ROADWAY CENTER LINE
451	EXISTING CONTOUR MINOR	— - — -	PROPOSED ROADWAY CENTER LINE
PL	EXISTING PROPERTY LINE	═	PROPOSED CURB AND GUTTER
SD	EXISTING STORM DRAINAGE	⊦	PROPOSED SIGN
▨	EXISTING ASPHALT ROADWAY	450	PROPOSED CONTOUR MAJOR
═	EXISTING CURB AND GUTTER	451	PROPOSED CONTOUR MINOR
X	EXISTING FENCE	━	PROPOSED STORM DRAINAGE LINE
W	EXISTING WATER LINE	□	PROPOSED STORM DRAINAGE STRUCTURE
WW	EXISTING WASTEWATER LINE	— —	PROPOSED LIMITS OF DISTURBANCE
GAS	EXISTING NATURAL GAS LINE	R/W	PROPOSED RIGHT OF WAY
OHE	EXISTING OVERHEAD ELECTRIC LINE	━ ━ ━	MATCH LINE
UGP	EXISTING UNDERGROUND ELECTRIC LINE		

REFERENCES:

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2. REFERENCE IS MADE TO A WETLANDS SURVEY COMPLETED BY S&ME, DATED AUGUST 4, 2017.
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NOTE:
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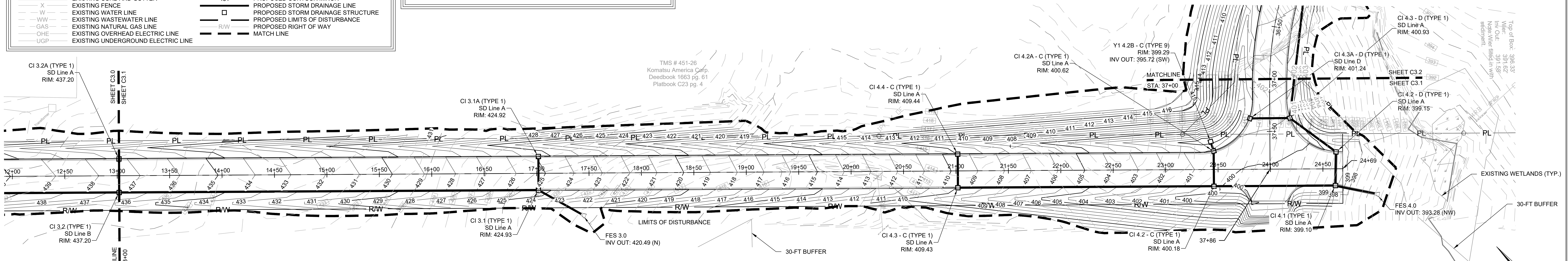
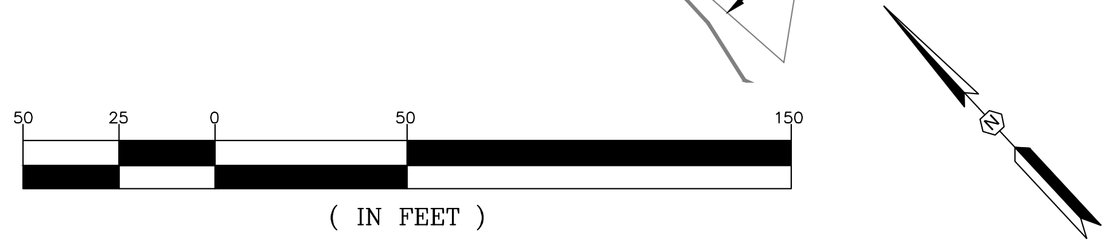
NOTE: UTILITY LOCATIONS ARE APPROXIMATE AND MUST BE FIELD LOCATED PRIOR TO ANY LAND DISTURBANCE BY THE CONTRACTOR

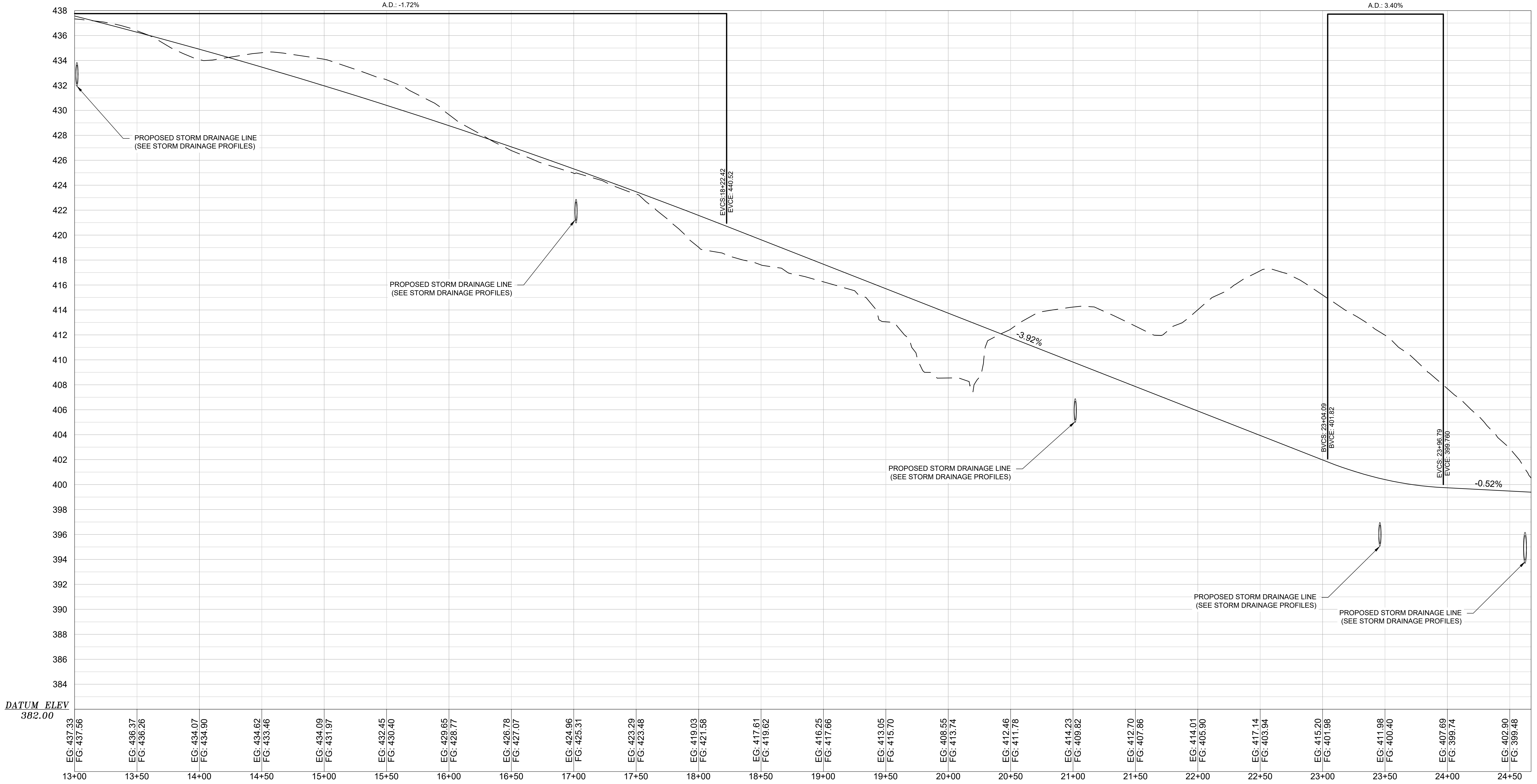


Mawson's Way Roadway Plan
STA: 13+00 - 24+67



HIGH PT STA: 11+75.18
HIGH PT ELEV: 440.515
PVI STA: 14+98.80
PVI ELEV:433.40
LVC: 647.24
K: 376.036
A.D.: -1.72%

LOW PT STA: 23+96.79
LOW PT ELEV: 399.760
PVI STA: 23+50.44
PVI ELEV:400.00
LVC: 92.70
K: 27.246
A.D.: 3.40%



STA	EG	FG
13+00	437.33	437.56
13+50	436.37	436.26
14+00	434.07	434.90
14+50	434.62	433.46
15+00	434.09	431.97
15+50	432.45	430.40
16+00	429.65	428.77
16+50	426.78	427.07
17+00	424.96	425.31
17+50	423.29	423.48
18+00	419.03	421.58
18+50	417.61	419.62
19+00	416.25	417.66
19+50	413.05	415.70
20+00	408.55	413.74
20+50	412.46	411.78
21+00	414.23	409.82
21+50	412.70	407.86
22+00	414.01	405.90
22+50	417.14	403.94
23+00	415.20	401.98
23+50	411.98	400.40
24+00	407.69	399.74
24+50	402.90	399.48

LEGEND

— —	EXISTING GRADE
——	PROPOSED GRADE

Mawson's Way Roadway Profile
STA: 13+00 - 24+67

SCALE: HORIZ: 1" = 50' VERT: 1" = 5'

Know what's below. Call before you dig.

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#	REVISION DATE
1	

APPROVALS	
ENGINEER	JVB
DESIGNER	JVB
TECHNICIAN	RDS
CHECKED BY	DMN
APPROVED	KMC

Alliance Consulting Engineers, Inc. No. C02854

DATE: FEBRUARY 14, 2025

No. 40365

SIGNATURE:

ALLIANCE CONSULTING ENGINEERS

Alliance Consulting Engineers, Inc.
Post Office Box 8147 Columbia, South Carolina 29202-8147
Phone (803) 779-2078 • Fax (803) 779-2079

SHEET

MAWSON'S WAY
ROADWAY PLAN AND PROFILE
STA: 13+00 TO 24+67

DATE: MAY 2024 SCALE: AS SHOWN

PROJECT

± 3,350-LF OF ROADWAY IMPROVEMENTS
TO MAWSONS WAY AT THE
SC HIGHWAY 219 INDUSTRIAL PARK
NEWBERRY COUNTY,
SOUTH CAROLINA

NEWBERRY COUNTY SOUTH CAROLINA

FILE NAME: C3.0.DWG
REFERENCE FILE: 19166Base. dwg
PROJECT NO. 19166-0036

SHEET C3.1

DWG NO. 01,1347-D23

NOTE: UTILITY LOCATIONS ARE APPROXIMATE AND MUST BE FIELD LOCATED PRIOR TO ANY LAND DISTURBANCE BY THE CONTRACTOR

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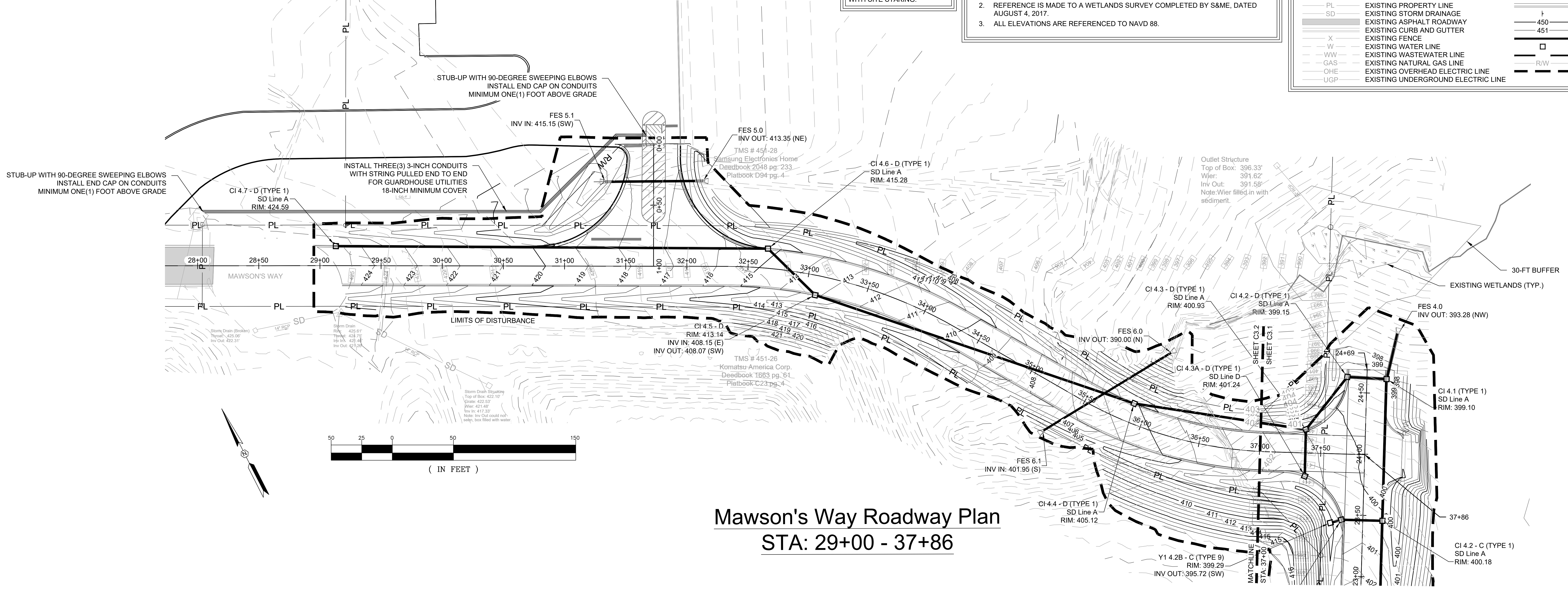
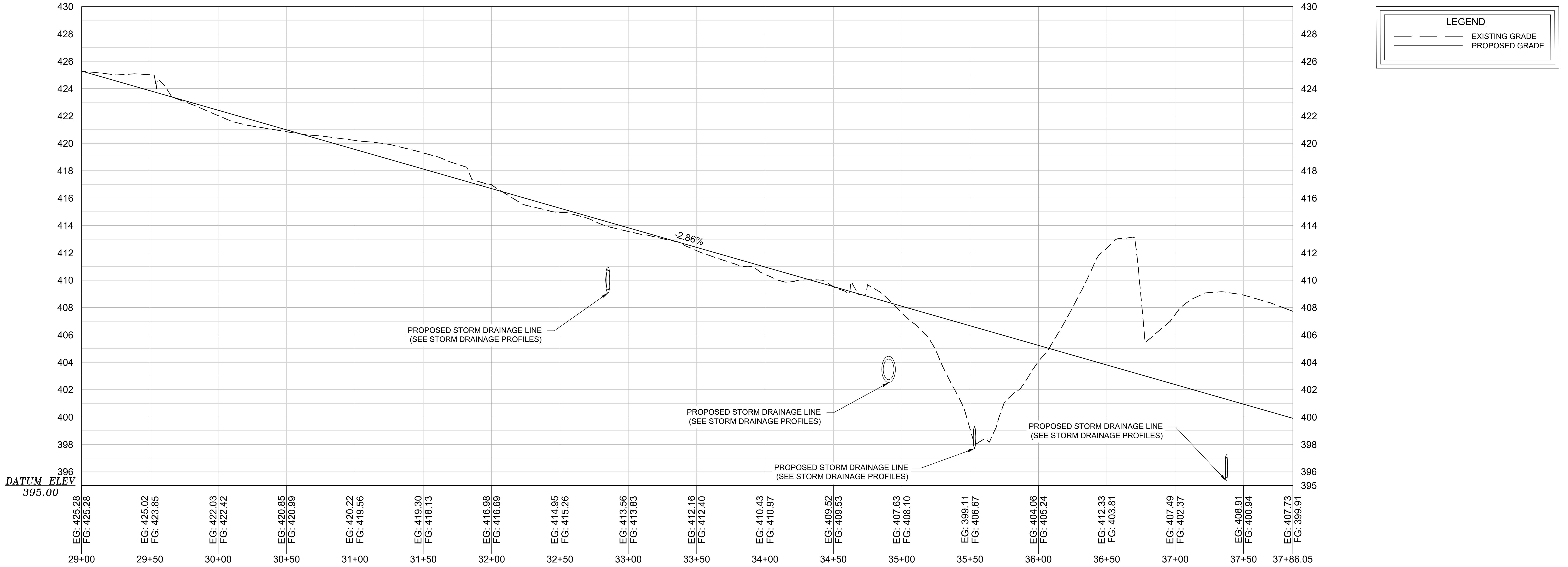
3. ALL ELEVATIONS ARE REFERENCED TO NAVD 88.

LEGEND

450	EXISTING CONTOUR MAJOR	— - — -	EXISTING ROADWAY CENTER LINE
451	EXISTING CONTOUR MINOR	— - — -	PROPOSED ROADWAY CENTER LINE
PL	EXISTING PROPERTY LINE	═	PROPOSED CURB AND GUTTER
SD	EXISTING STORM DRAINAGE	⊦	PROPOSED SIGN
▨	EXISTING ASPHALT ROADWAY	450	PROPOSED CONTOUR MAJOR
═	EXISTING CURB AND GUTTER	451	PROPOSED CONTOUR MINOR
X	EXISTING FENCE	—	PROPOSED STORM DRAINAGE LINE
W	EXISTING WATER LINE	□	PROPOSED STORM DRAINAGE STRUCTURE
WW	EXISTING WASTEWATER LINE	— —	PROPOSED LIMITS OF DISTURBANCE
GAS	EXISTING NATURAL GAS LINE	R/W	PROPOSED RIGHT OF WAY
OHE	EXISTING OVERHEAD ELECTRIC LINE	— — —	MATCH LINE
UGP	EXISTING UNDERGROUND ELECTRIC LINE		



Mawson's Way Roadway Plan
STA: 29+00 - 37+86



Mawson's Way Roadway Profile
STA: 29+00 - 37+86

SCALE: HORIZ: 1" = 50' VERT: 1" = 5'

811®
Know what's **below.**
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March 19, 2025 - 10:35:13 AM S:\Projects\19166-0036 Roadway Improvements to Mawson's Way at SC Hwy 219 Ind Pk in Newberry, Co\dwg\Construction Plans\ C3.0-C3.3 - Mawson's Way Plan and Profile.dwg

#	REVISION DATE
1	

APPROVALS	ENGINEER	DESIGNER	TECHNICIAN	CHECKED BY	APPROVED
	JVB	JVB	RDS	DMN	KMC

SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION
Alliance Consulting Engineers, Inc.
No. C02854

DATE: FEBRUARY 14, 2025

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER
No. 40365
JOHN V. BABCAGE

SIGNATURE:

ALLIANCE
CONSULTING ENGINEERS

Alliance Consulting Engineers, Inc.
Post Office Box 8147 Columbia, South Carolina 29202-8147
Phone (803) 779-2078 • Fax (803) 779-2079

SHEET
MAWSON'S WAY
ROADWAY PLAN AND PROFILE
STA: 29+00 TO 37+86

DATE: MAY 2024 SCALE: AS SHOWN

PROJECT
± 3,350-LF OF ROADWAY IMPROVEMENTS
TO MAWSONS WAY AT THE
SC HIGHWAY 219 INDUSTRIAL PARK
NEWBERRY COUNTY,
SOUTH CAROLINA

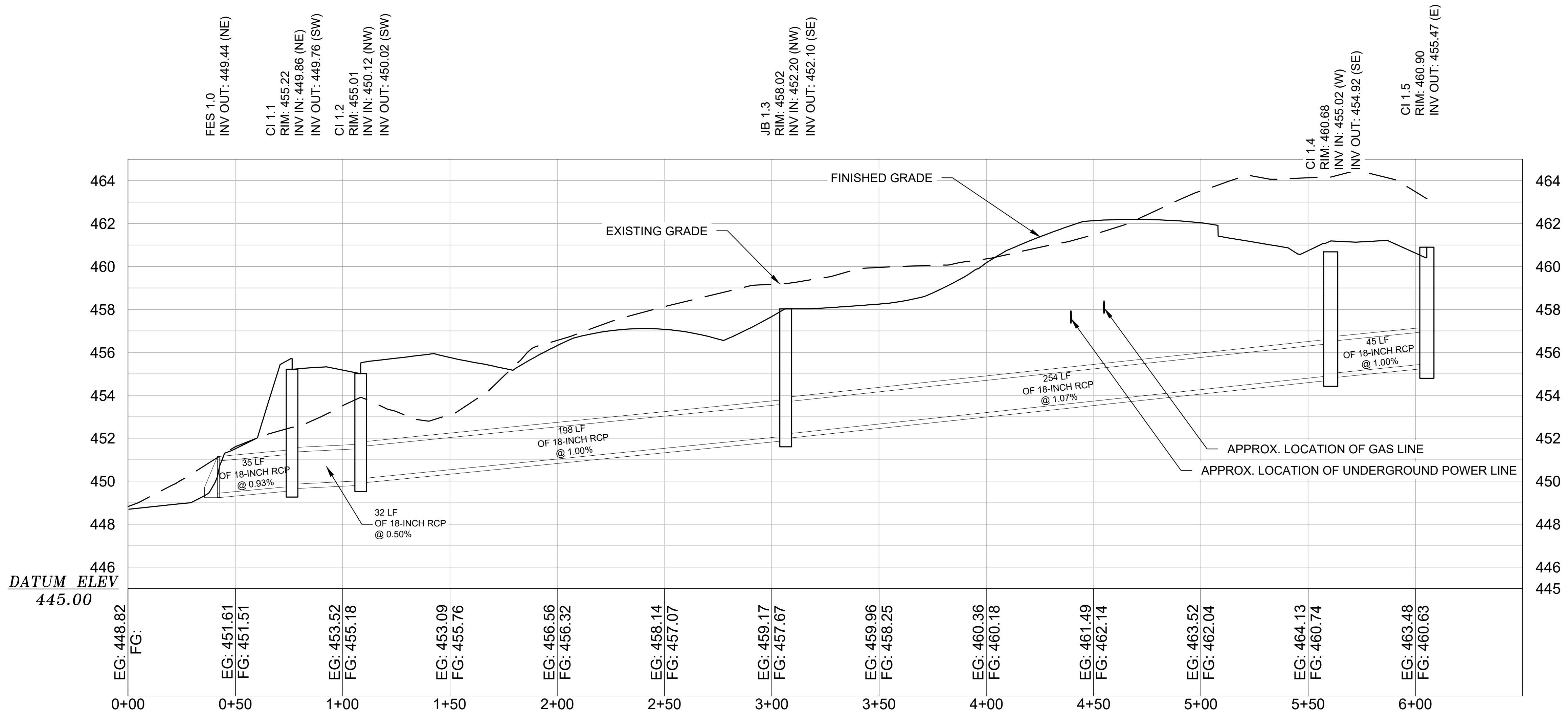
NEWBERRY COUNTY SOUTH CAROLINA

FILE NAME:
C3.0.DWG
REFERENCE FILE:
19166Base. dwg
PROJECT NO.
19166-0036

SHEET
C3.2

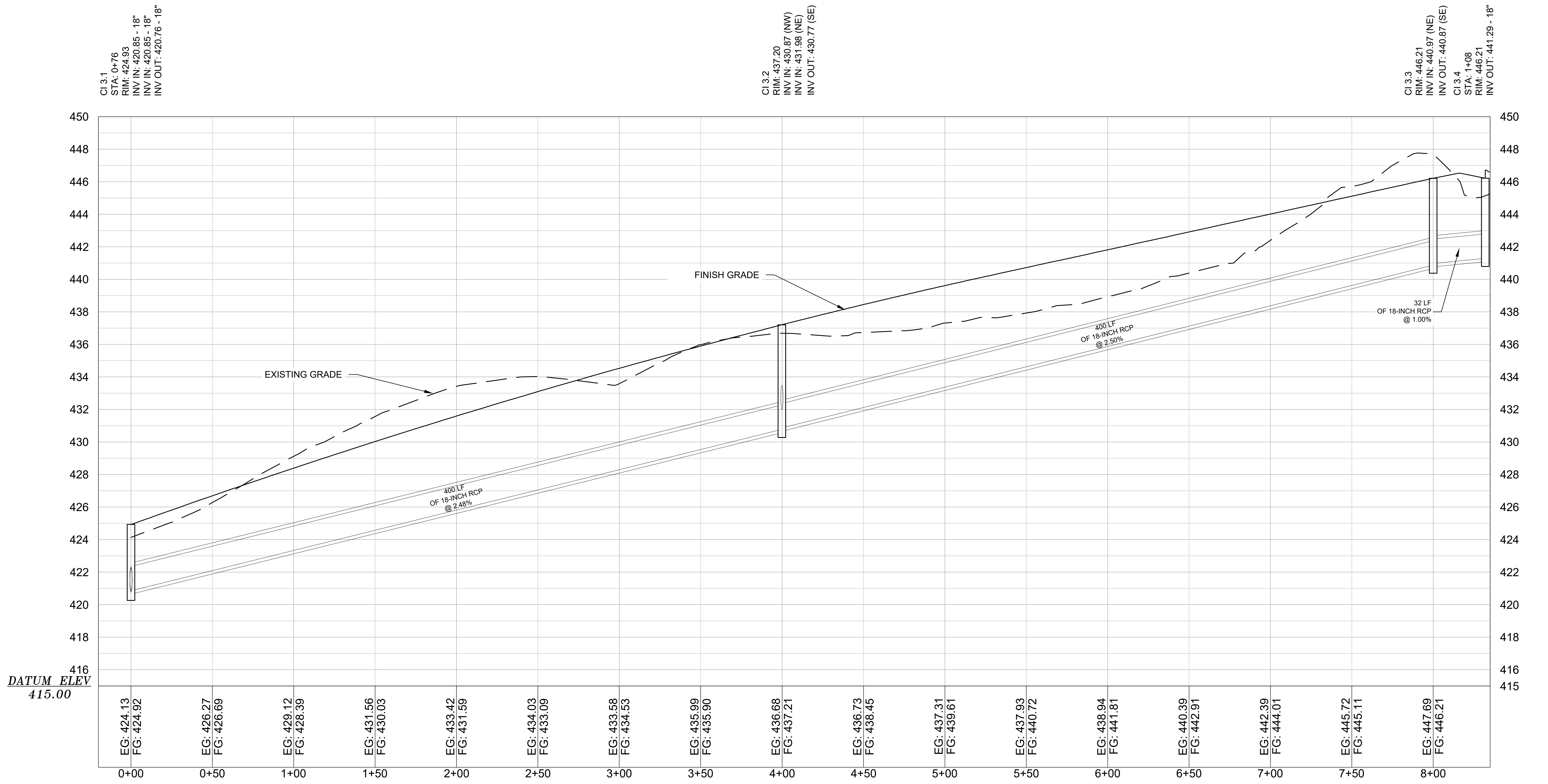
DWG NO. 01,1347-D23

March 19, 2025 - 10:27:12 AM S:\Projects\19166-0036 Roadway Improvements to Mawson's Way at SC Hwy 219 Ind Pk in Newberry, Co\dwg\Construction Plans\ C3.4-C3.6 - Storm Drainage Profiles.dwg



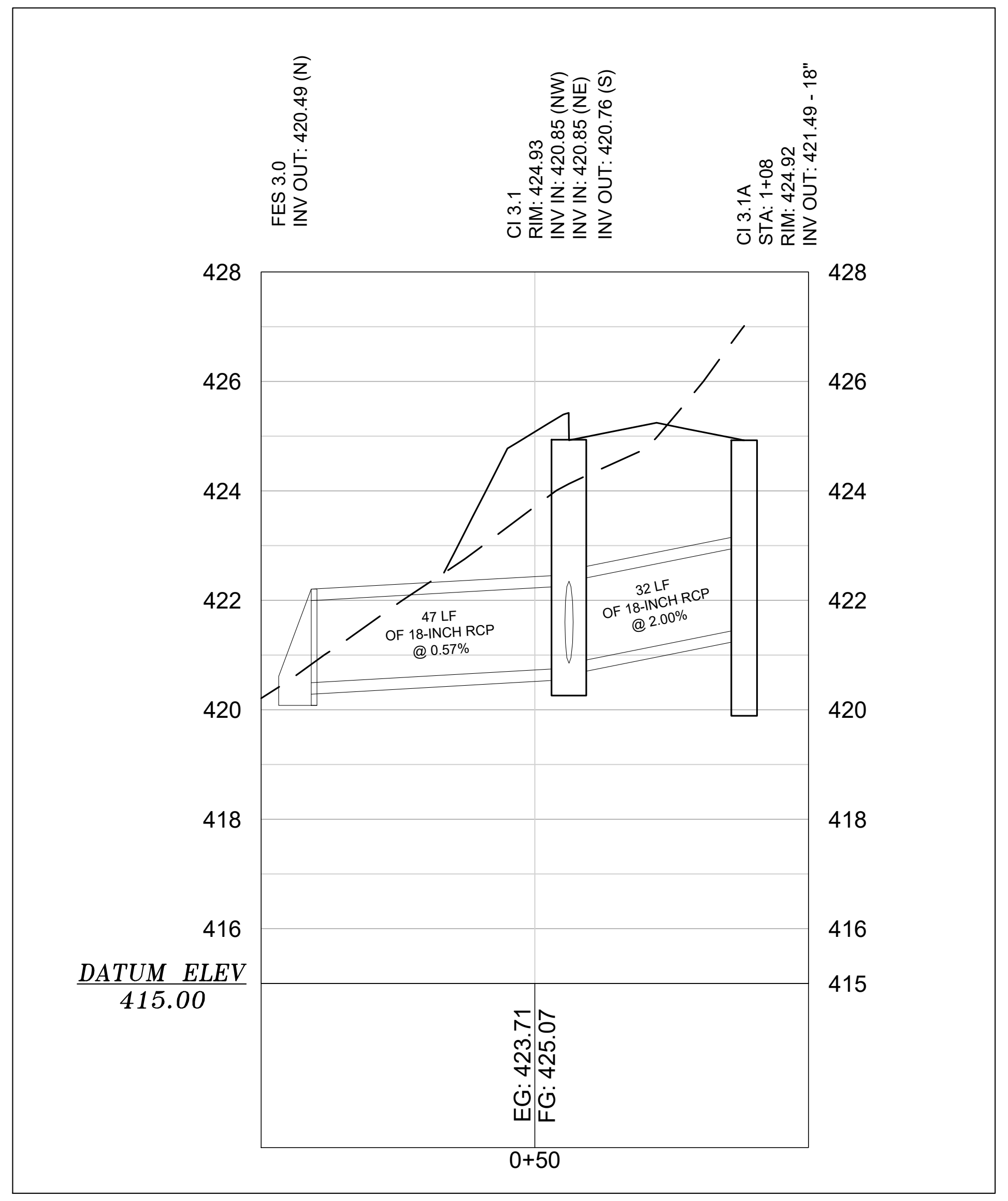
Storm Drainage Profiles
SD LINE A

SCALE: HORIZ: 1" = 50' VERT: 1" = 5'



Storm Drainage Profiles
SD Line B

SCALE: HORIZ: 1" = 50' VERT: 1" = 5'



Storm Drainage Profiles
SD Line B

SCALE: HORIZ: 1" = 50' VERT: 1" = 5'

LEGEND	
— — —	EXISTING GRADE
———	FINISHED GRADE

NOTE: UTILITY LOCATIONS ARE APPROXIMATE AND MUST BE FIELD LOCATED PRIOR TO ANY LAND DISTURBANCE BY THE CONTRACTOR

NOTE:
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REFERENCES:
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3. ALL ELEVATIONS ARE REFERENCED TO NAVD 88.

#	REVISION DATE
1	

APPROVALS	
ENGINEER	JVB
DESIGNER	JVB
TECHNICIAN	RDS
CHECKED BY	DMN
APPROVED	KMC

Alliance Consulting Engineers, Inc. No. C02854

DATE: FEBRUARY 14, 2025

No. 40365
JOHN

SIGNATURE:

ALLIANCE
CONSULTING ENGINEERS

Alliance Consulting Engineers, Inc.
Post Office Box 8147 Columbia, South Carolina 29202-8147
Phone (803) 779-2078 • Fax (803) 779-2079

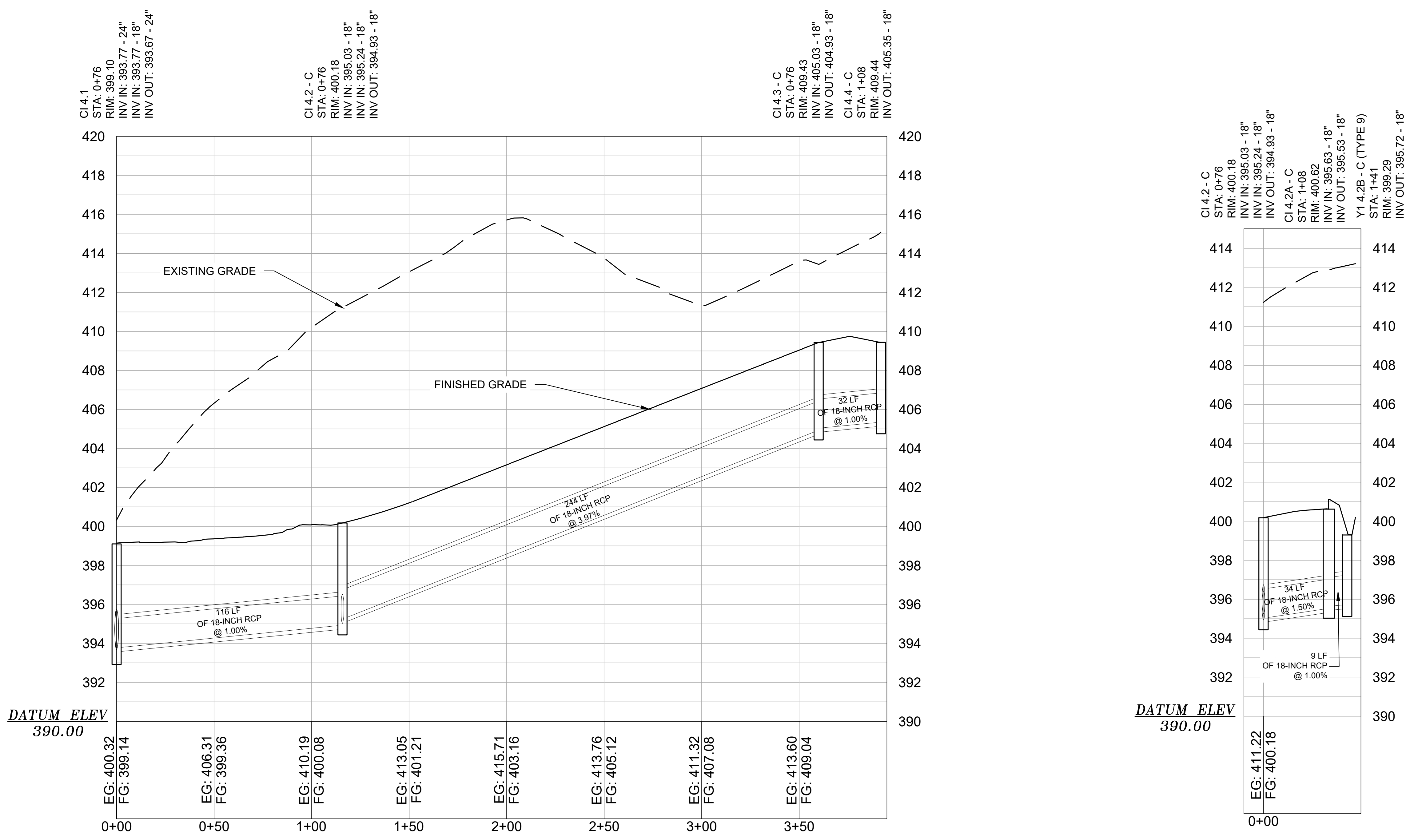
SHEET
STORM DRAINAGE PROFILES
(1 OF 2)
DATE: MAY 2024
SCALE: AS SHOWN

PROJECT
± 3,350-LF OF ROADWAY IMPROVEMENTS
TO MAWSONS WAY AT THE
SC HIGHWAY 219 INDUSTRIAL PARK
NEWBERRY COUNTY,
SOUTH CAROLINA
NEWBERRY COUNTY
SOUTH CAROLINA

FILE NAME:
C3.4.DWG
REFERENCE FILE:
19166Base. dwg
PROJECT NO.
19166-0036

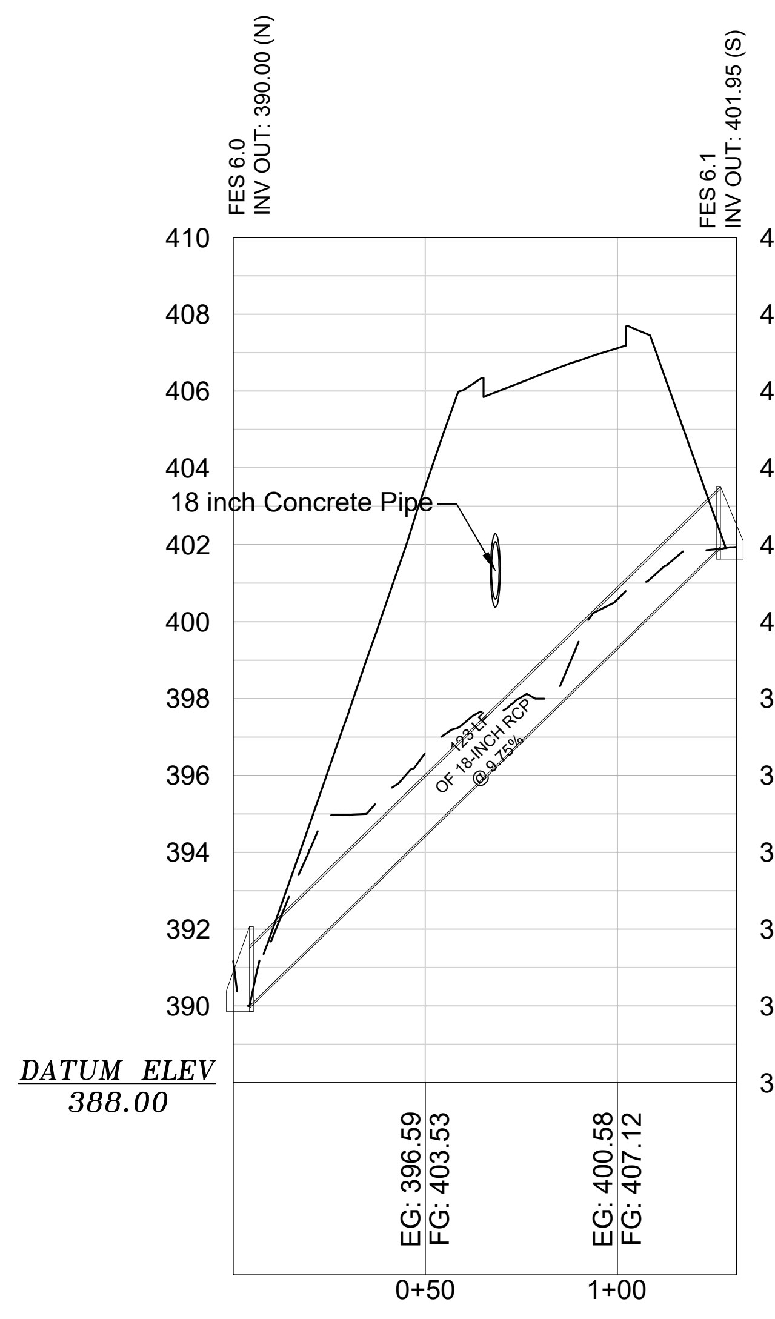
SHEET
C3.3

DWG NO. 01.1347-D23



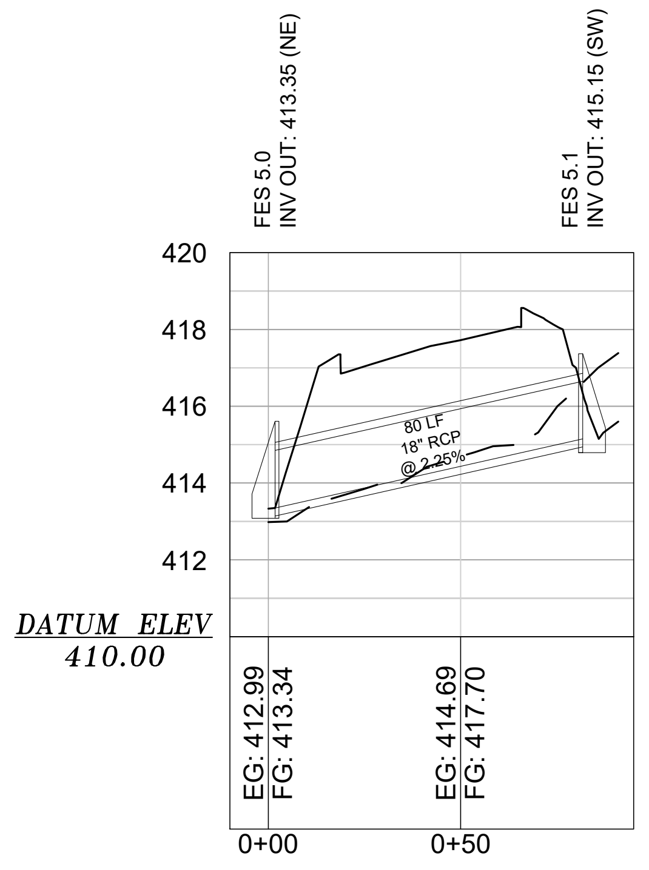
Storm Drainage Profiles
SD Line C

SCALE: HORIZ: 1" = 50' VERT: 1" = 5'



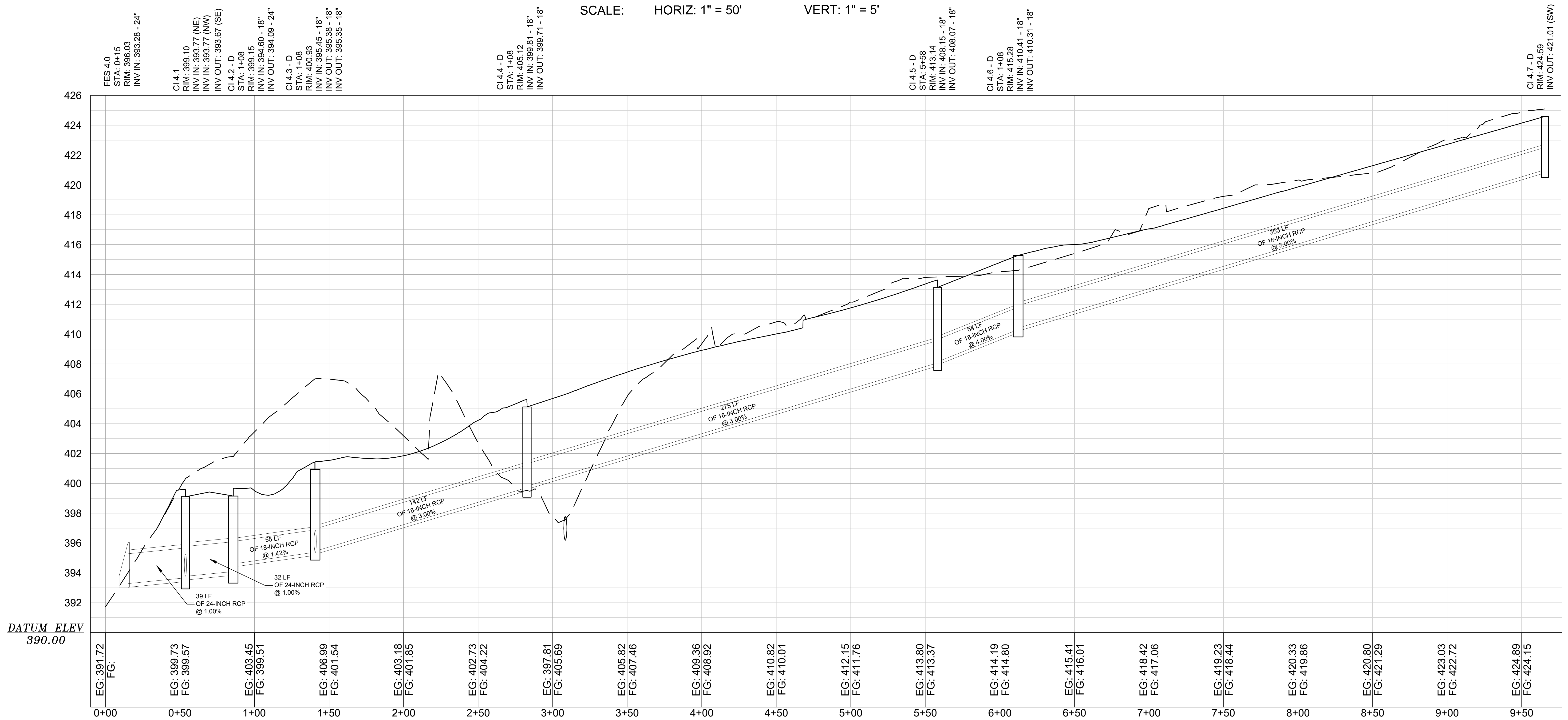
Storm Drainage Profiles
SD Line E

SCALE: HORIZ: 1" = 50' VERT: 1" = 5'



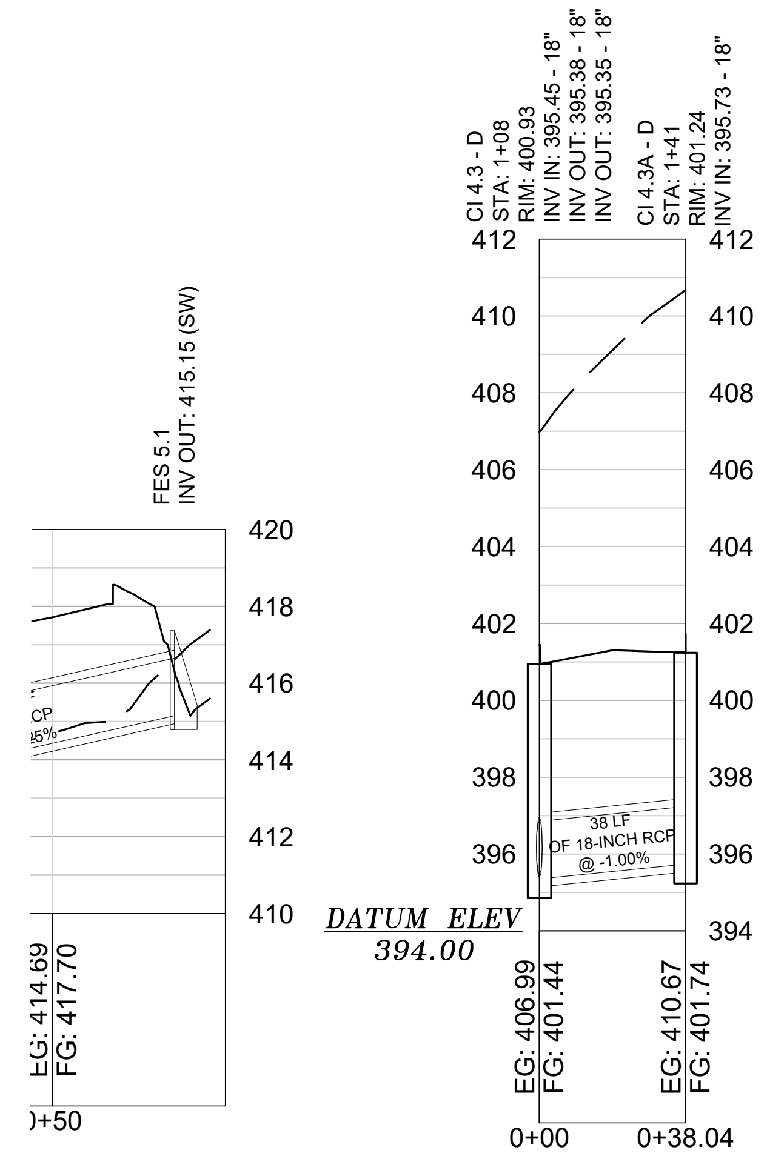
Storm Drainage Profiles
SD Line F

SCALE: HORIZ: 1" = 50' VERT: 1" = 5'



Storm Drainage Profiles
SD Line D

SCALE: HORIZ: 1" = 50' VERT: 1" = 5'



Storm Drainage Profiles
SD Line D

SCALE: HORIZ: 1" = 50' VERT: 1" = 5'

LEGEND	
— — —	EXISTING GRADE
———	FINISHED GRADE

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#	REVISION DATE
1	

APPROVALS	ENGINEER	DESIGNER	TECHNICIAN	CHECKED BY	APPROVED
	JVB	JVB	RDS	DMN	KMC

Alliance Consulting Engineers, Inc.
No. C02854
SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION

DATE: FEBRUARY 14, 2025

No. 40365
JOHN

SIGNATURE:

ALLIANCE
CONSULTING ENGINEERS

Alliance Consulting Engineers, Inc.
Post Office Box 8147 Columbia, South Carolina 29202-8147
Phone (803) 779-2078 • Fax (803) 779-2079

SHEET
STORM DRAINAGE PROFILES
(2 OF 2)
DATE: MAY 2024
SCALE: AS SHOWN

PROJECT
± 3,350-LF OF ROADWAY
IMPROVEMENTS
TO MAWSONS WAY AT THE
SC HIGHWAY 219 INDUSTRIAL PARK
NEWBERRY COUNTY,
SOUTH CAROLINA
NEWBERRY COUNTY
SOUTH CAROLINA

FILE NAME:
C3.4.DWG
REFERENCE FILE:
19166Base. dwg
PROJECT NO.
19166-0036

SHEET
C3.4

DWG NO. 01,1347-D23

March 19, 2025 - 10:26:17 AM S:\Projects\19166-0036 Roadway Improvements to Mawson's Way at SC Hwy 219 Ind Pk in Newberry, Co\dwg\Construction Plans\C3.4-C3.6 - Storm Drainage Profiles.dwg

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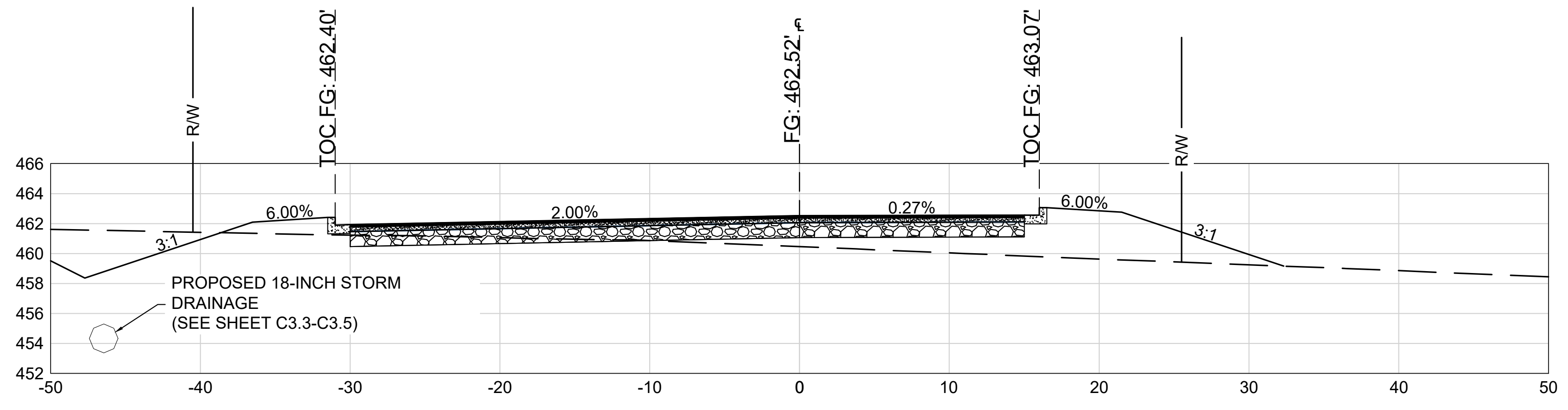
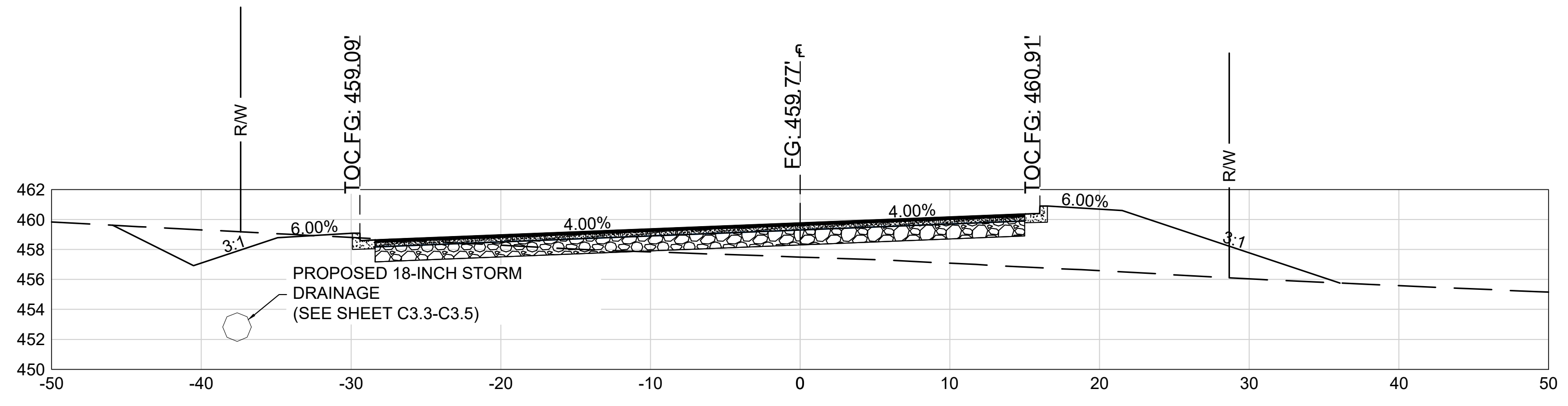
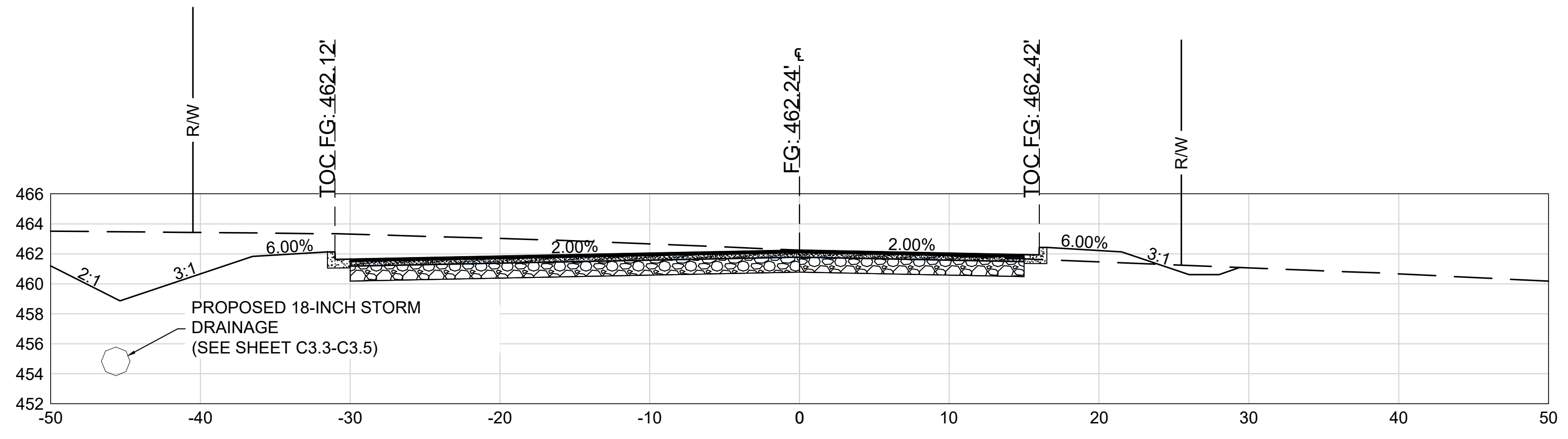


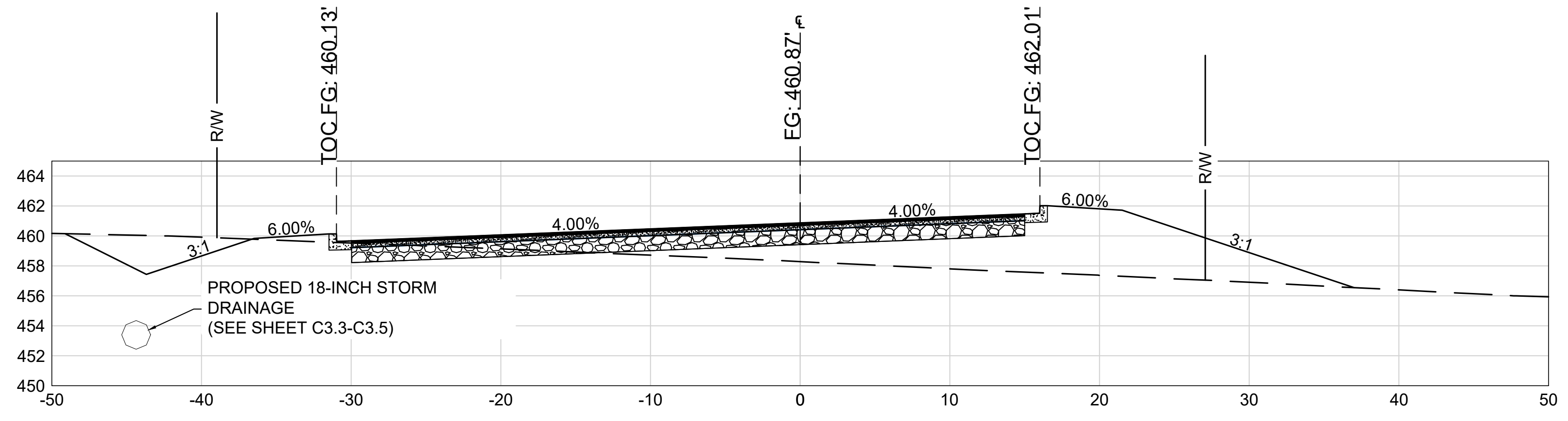
1+50



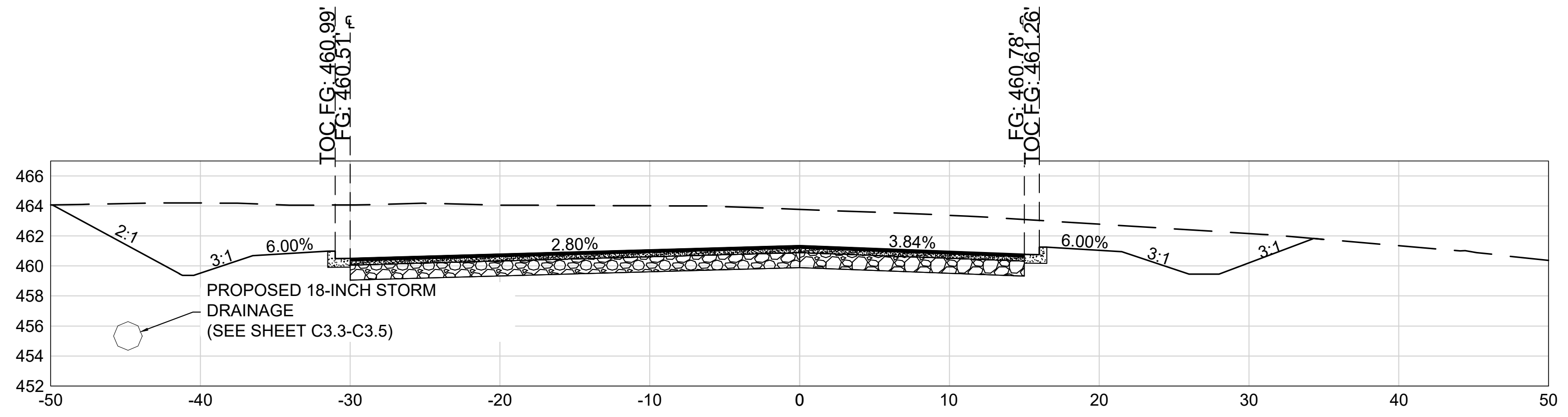
3+00



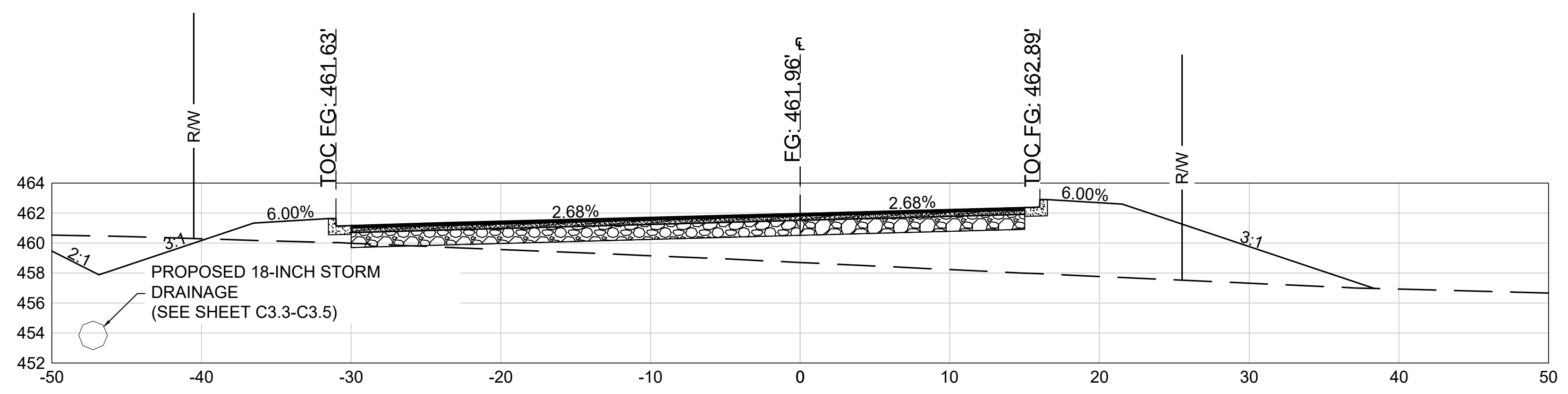
1+00



2+50



0+50



2+00

Roadway Cross Sections
STA: 0+50 - 3+00

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

CAUTION-NOTE TO CONTRACTOR

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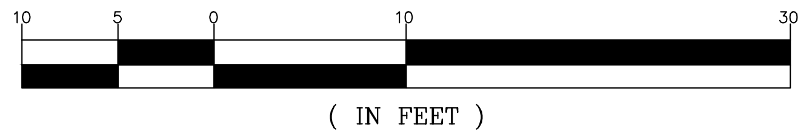

(IN FEET)

CROSS SECTION LEGEND

▬	2" TYPE B SURFACE COURSE
▨	3.5" TYPE B INTERMEDIATE COURSE
▨	12" GRADED AGGREGATE BASE COURSE (GABC)
▨	CONCRETE CURB AND GUTTER
— — —	EXISTING GRADE
———	PROPOSED GRADE

#	REVISION DATE
1	

APPROVALS
ENGINEER JVB
DESIGNER JVB
TECHNICIAN RDS
CHECKED BY DMN
APPROVED KMC

Alliance Consulting Engineers, Inc.
No. C02854
DATE: FEBRUARY 14, 2025

No. 40365
SIGNATURE:

ALLIANCE CONSULTING ENGINEERS
Alliance Consulting Engineers, Inc.
Post Office Box 8147 Columbia, South Carolina 29202-8147
Phone (803) 779-2078 • Fax (803) 779-2079

SHEET
ROADWAY CROSS SECTIONS
STA: 0+50 TO 3+00
DATE: MAY 2024
SCALE: 1" = 10'

PROJECT
± 3,350-LF OF ROADWAY
IMPROVEMENTS
TO MAWSONS WAY AT THE
SC HIGHWAY 219 INDUSTRIAL PARK
NEWBERRY COUNTY,
SOUTH CAROLINA
NEWBERRY COUNTY
SOUTH CAROLINA

FILE NAME:
C4.0.DWG
REFERENCE FILE:
19166Base. dwg
PROJECT NO.
19166-0036

SHEET
C4.0

DWG NO. 01,1347-D23

March 04, 2025 - 3:33:17 PM S:\Projects\19166-0036 Roadway Improvements to Mawson's Way at SC Hwy 219 Ind Pk in Newberry, Co\dwg\Construction Plans\ C4.0 - Roadway Cross Sections.dwg

NOTE: UTILITY LOCATIONS ARE APPROXIMATE AND MUST BE FIELD LOCATED PRIOR TO ANY LAND DISTURBANCE BY THE CONTRACTOR

NOTE:
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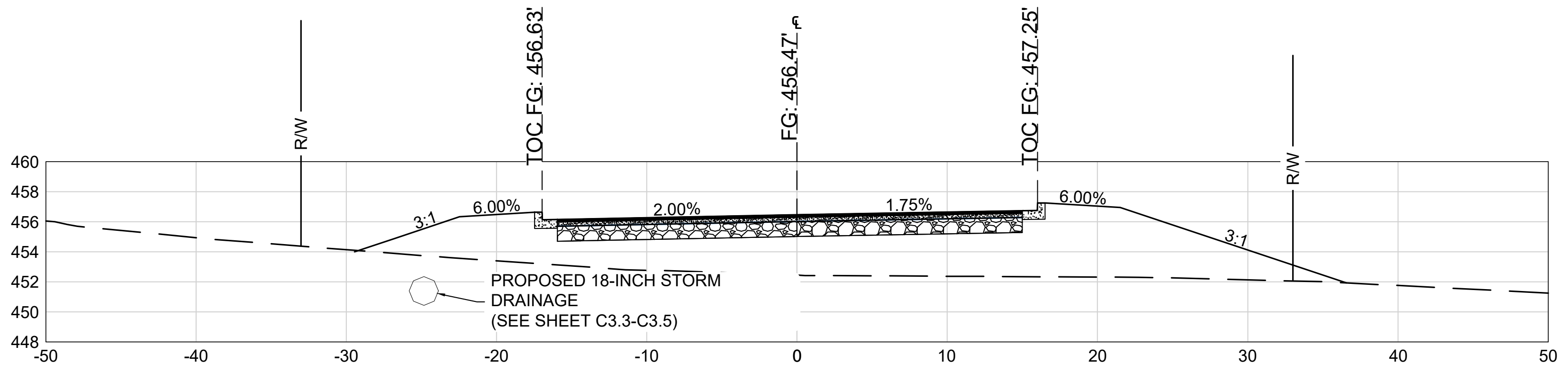
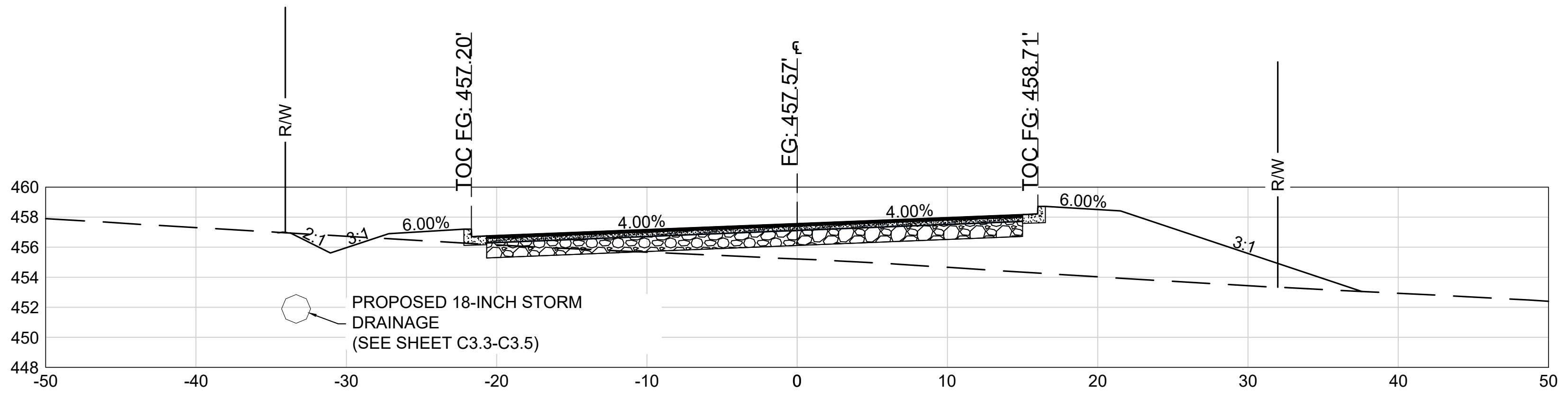
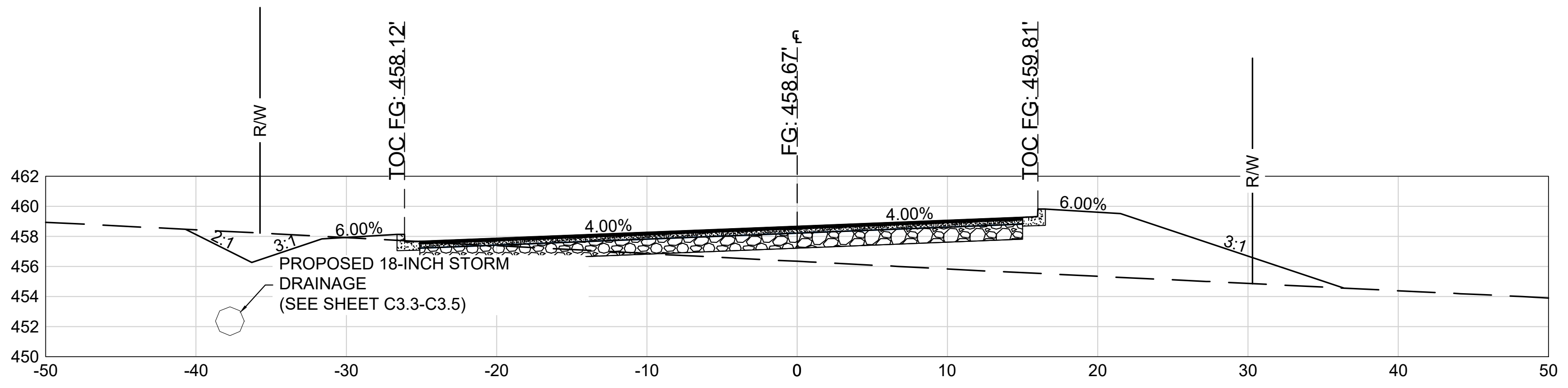


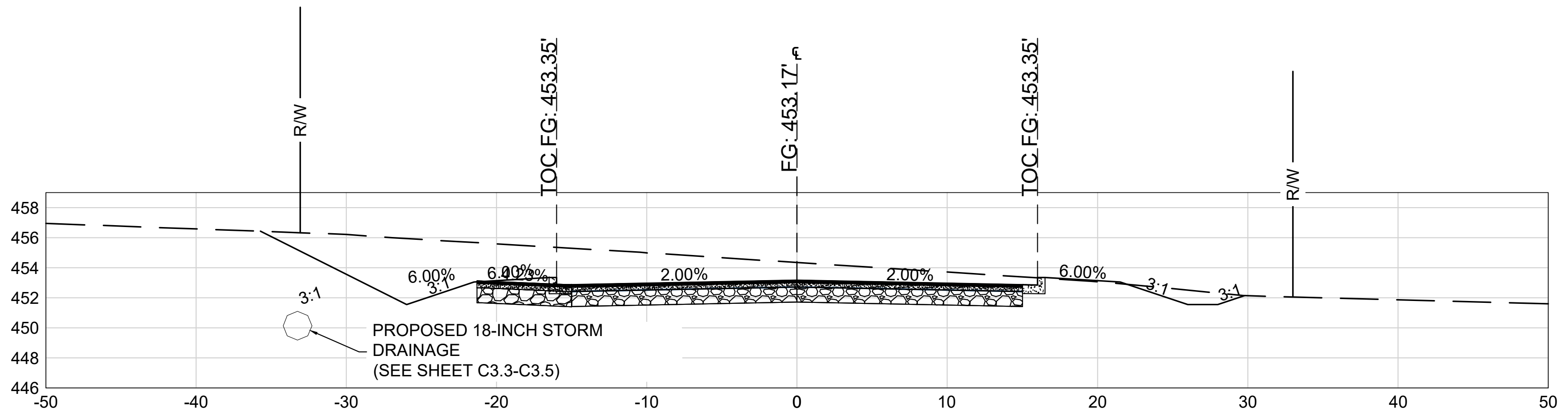
4+50



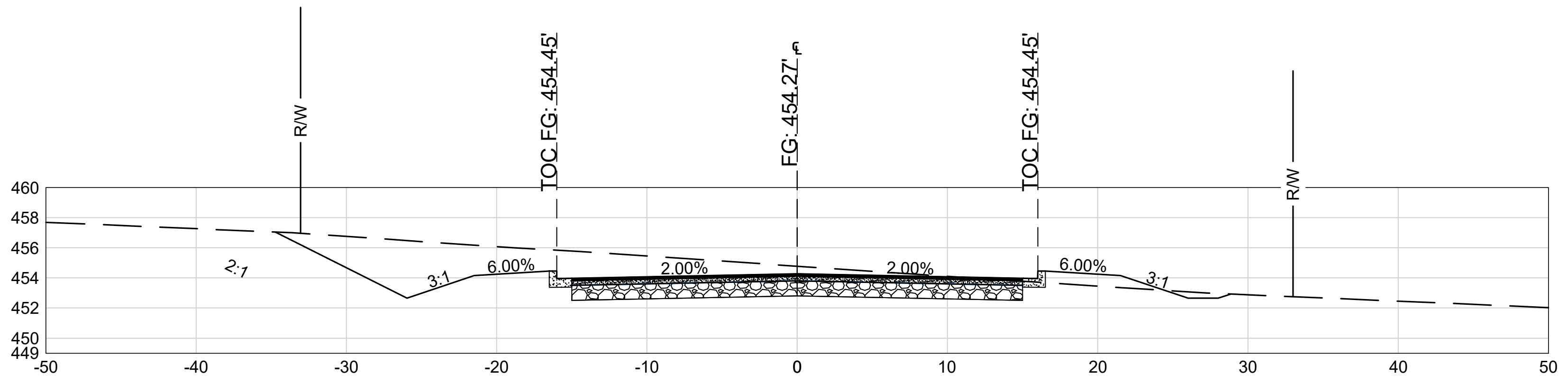
4+00



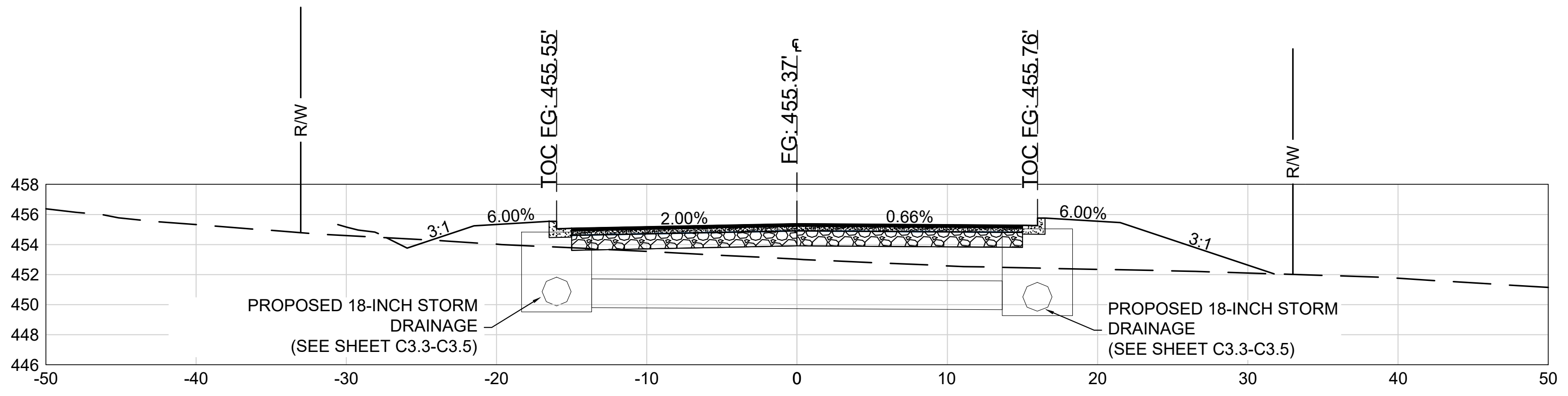
3+50



6+00



5+50



5+00

Roadway Cross Sections
STA: 3+50 - 6+00

811®
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Call before you dig.

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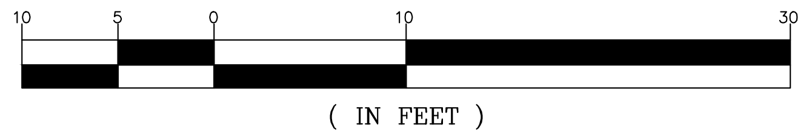

(IN FEET)

CROSS SECTION LEGEND

▬	2" TYPE B SURFACE COURSE
▨	3.5" TYPE B INTERMEDIATE COURSE
▨	12" GRADED AGGREGATE BASE COURSE (GABC)
▨	CONCRETE CURB AND GUTTER
— — —	EXISTING GRADE
———	PROPOSED GRADE

#	REVISION DATE
1	
▲	
△	
▲	
△	
▲	

APPROVALS	ENGINEER	DESIGNER	TECHNICIAN	CHECKED BY	APPROVED
	JVB	JVB	RDS	DMN	KMC

Alliance Consulting Engineers, Inc.
No. C02854

DATE: FEBRUARY 14, 2025

JOHN
No. 40365

SIGNATURE:

ALLIANCE
CONSULTING ENGINEERS
Alliance Consulting Engineers, Inc.
Post Office Box 8147 Columbia, South Carolina 29202-8147
Phone (803) 779-2078 • Fax (803) 779-2079

SHEET
ROADWAY CROSS SECTIONS
STA: 3+50 TO 6+00
DATE: MAY 2024
SCALE: 1" = 10'

PROJECT
± 3,350-LF OF ROADWAY
IMPROVEMENTS
TO MAWSONS WAY AT THE
SC HIGHWAY 219 INDUSTRIAL PARK
NEWBERRY COUNTY,
SOUTH CAROLINA
NEWBERRY COUNTY
SOUTH CAROLINA

FILE NAME:
C4.0.DWG
REFERENCE FILE:
19166Base. dwg
PROJECT NO.
19166-0036

SHEET
C4.1

DWG NO. 01,1347-D23

March 04, 2025 - 3:34:06 PM S:\Projects\19166-0036 Roadway Improvements to Mawson's Way at SC Hwy 219 Ind Pk in Newberry, Co\dwg\Construction Plans\ C4.0 - Roadway Cross Sections.dwg

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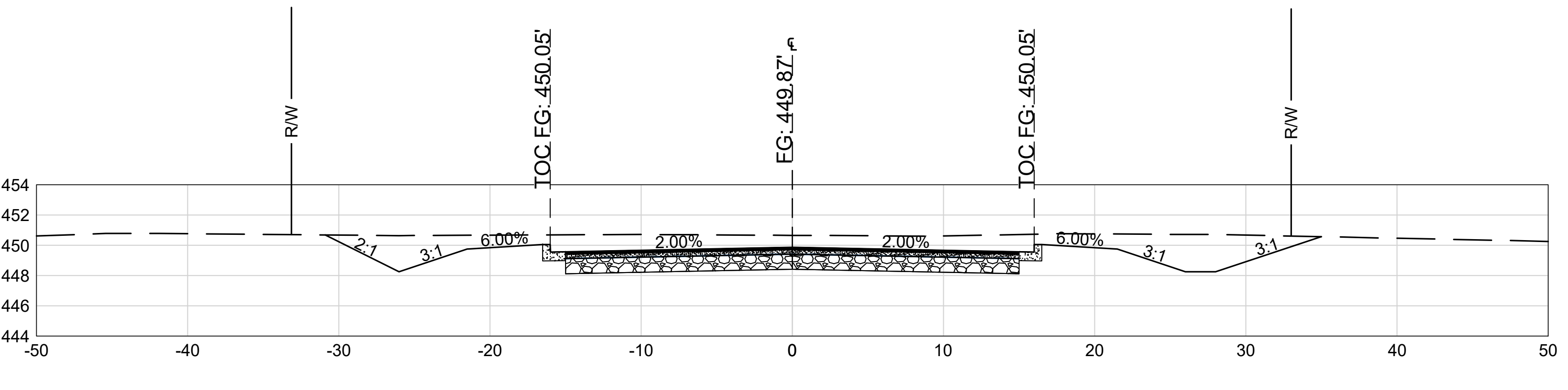
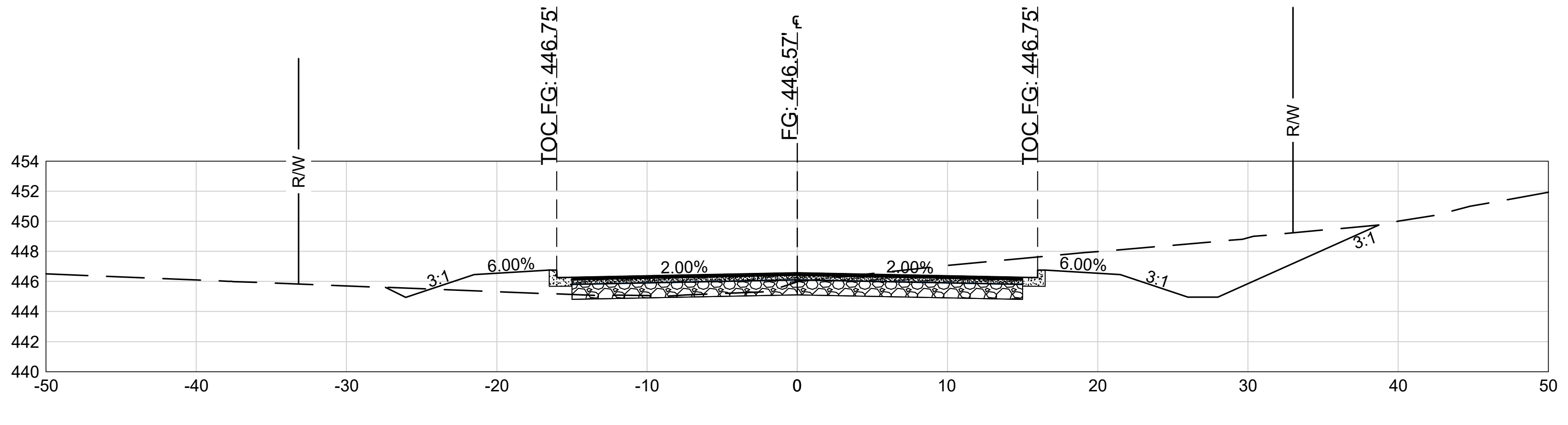
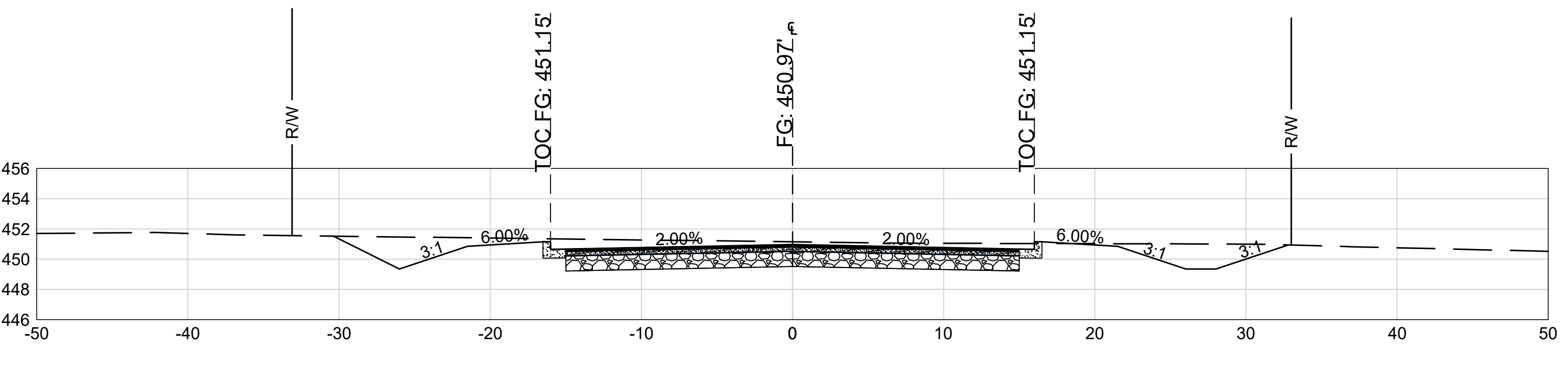


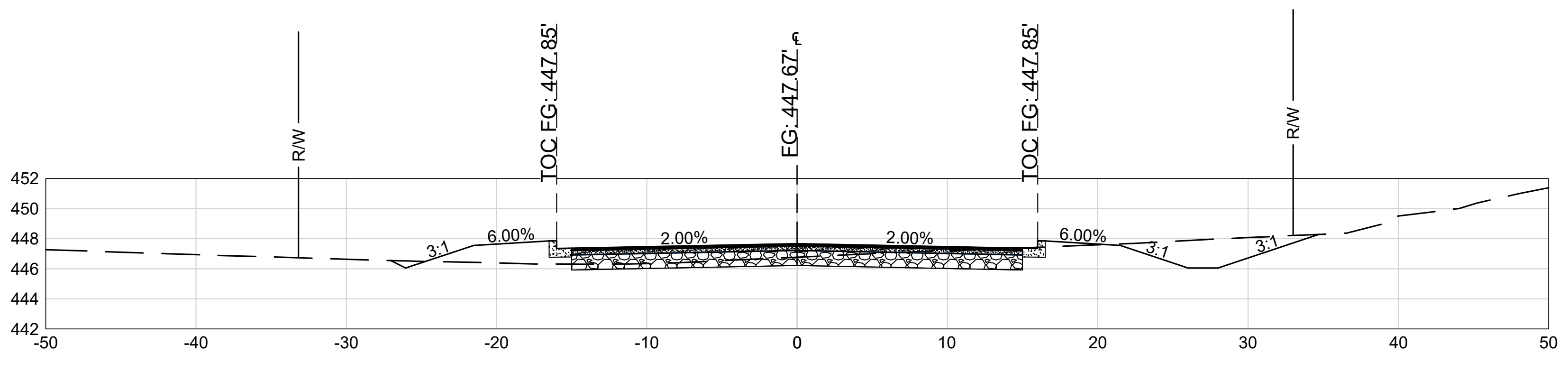
7+50



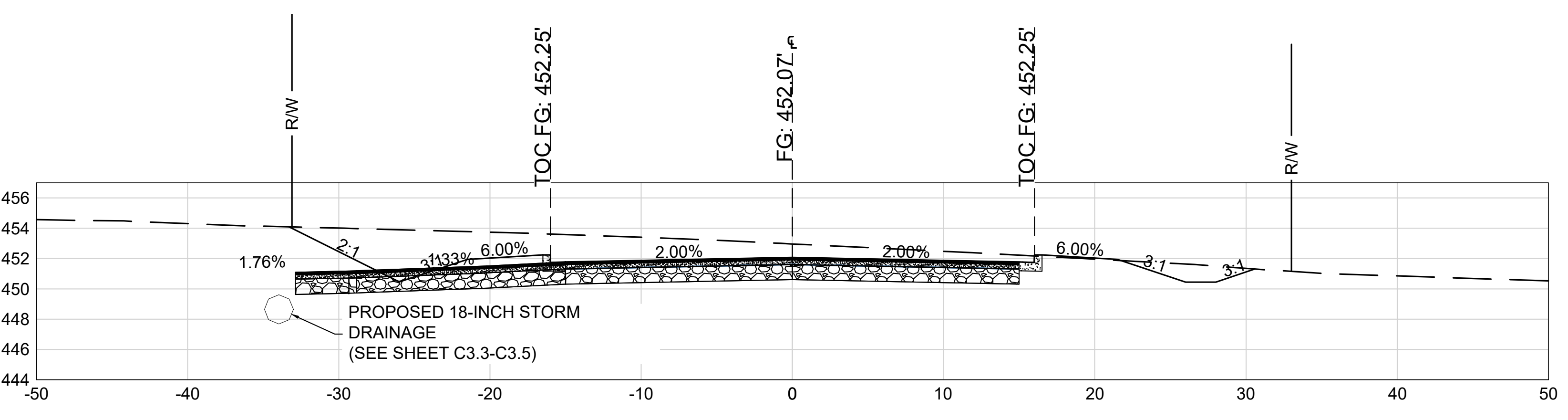
9+00



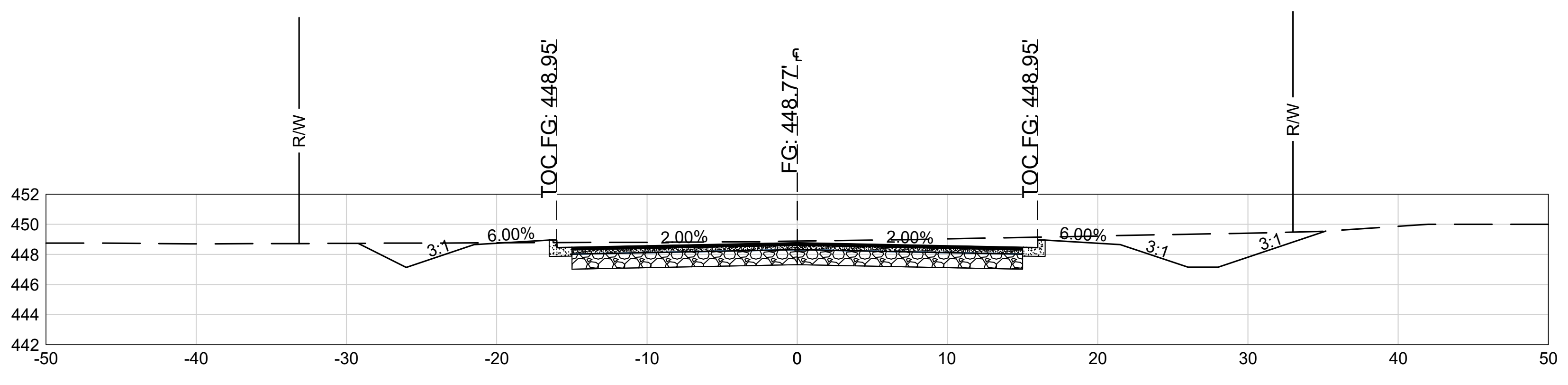
7+00



8+50



6+50



8+00

Roadway Cross Sections
STA: 6+50 - 9+00

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

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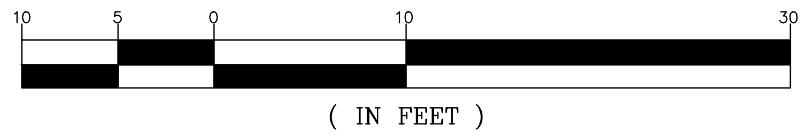

CROSS SECTION LEGEND

▬	2" TYPE B SURFACE COURSE
▨	3.5" TYPE B INTERMEDIATE COURSE
▨	12" GRADED AGGREGATE BASE COURSE (GABC)
▙	CONCRETE CURB AND GUTTER
— — —	EXISTING GRADE
———	PROPOSED GRADE

#	REVISION DATE
1	

APPROVALS	ENGINEER	DESIGNER	TECHNICIAN	CHECKED BY	APPROVED
	JVB	JVB	RDS	DMN	KMC

Alliance Consulting Engineers, Inc. No. C02854

DATE: FEBRUARY 14, 2025

No. 40365
JOHN

SIGNATURE:

ALLIANCE
CONSULTING ENGINEERS
Alliance Consulting Engineers, Inc.
Post Office Box 8147 Columbia, South Carolina 29202-8147
Phone (803) 779-2078 • Fax (803) 779-2079

SHEET
ROADWAY CROSS SECTIONS
STA: 6+50 TO 9+00
DATE: MAY 2024
SCALE: 1" = 10'

PROJECT
± 3,350-LF OF ROADWAY
IMPROVEMENTS
TO MAWSONS WAY AT THE
SC HIGHWAY 219 INDUSTRIAL PARK
NEWBERRY COUNTY,
SOUTH CAROLINA
NEWBERRY COUNTY
SOUTH CAROLINA

FILE NAME: C4.0.DWG
REFERENCE FILE: 19166Base. dwg
PROJECT NO. 19166-0036

SHEET C4.2

DWG NO. 01,1347-D23

March 04, 2025 - 3:34:57 PM S:\Projects\19166-0036 Roadway Improvements to Mawson's Way at SC Hwy 219 Ind Pk in Newberry, Co\dwg\Construction Plans\ C4.0 - Roadway Cross Sections.dwg

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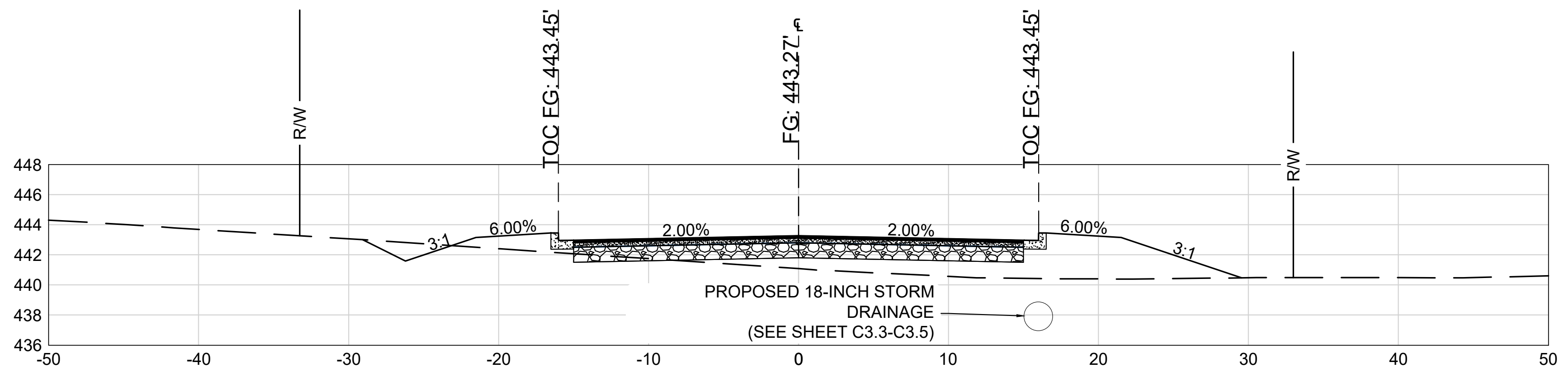
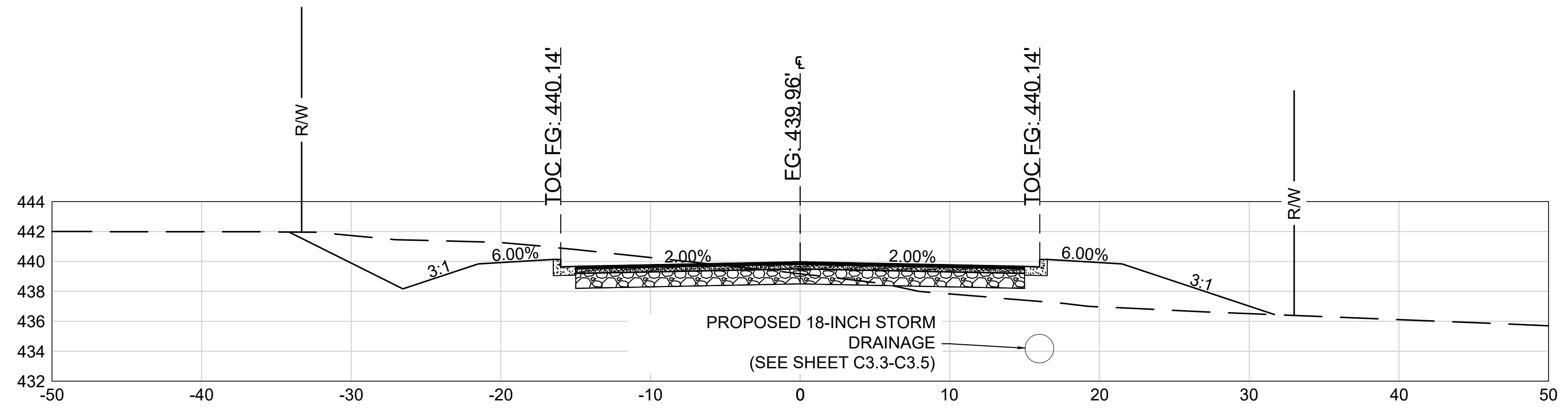
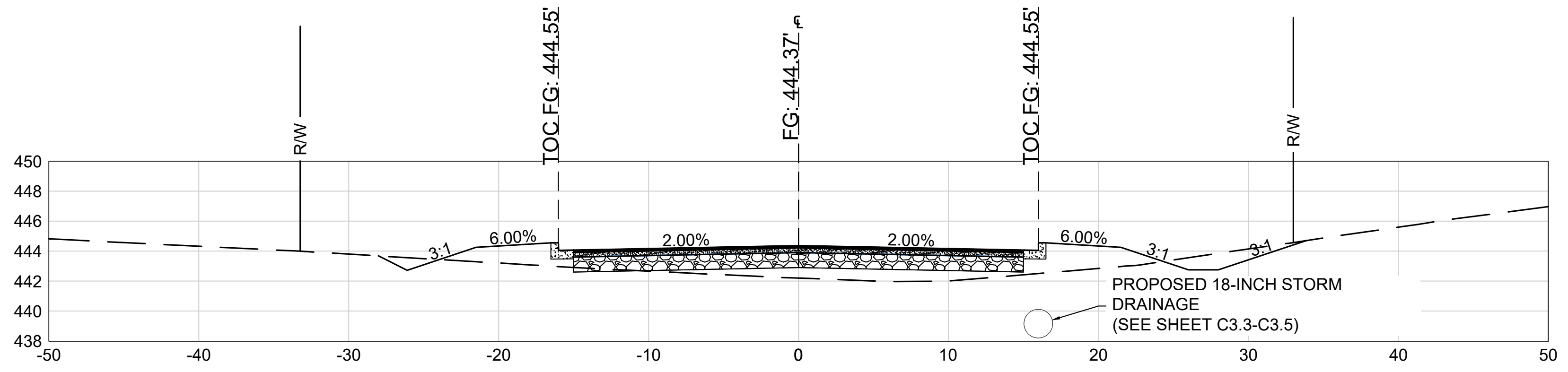


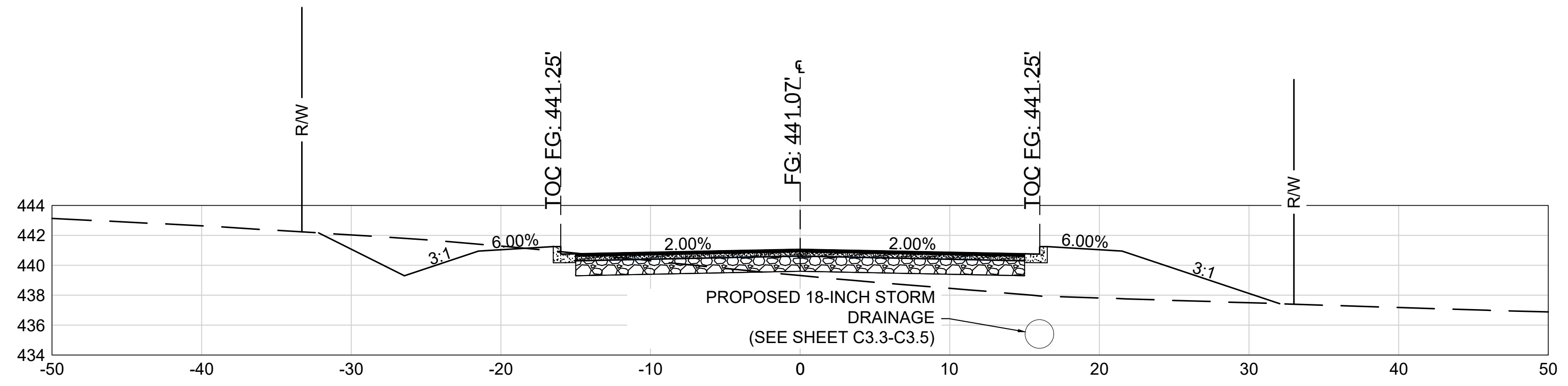
10+50



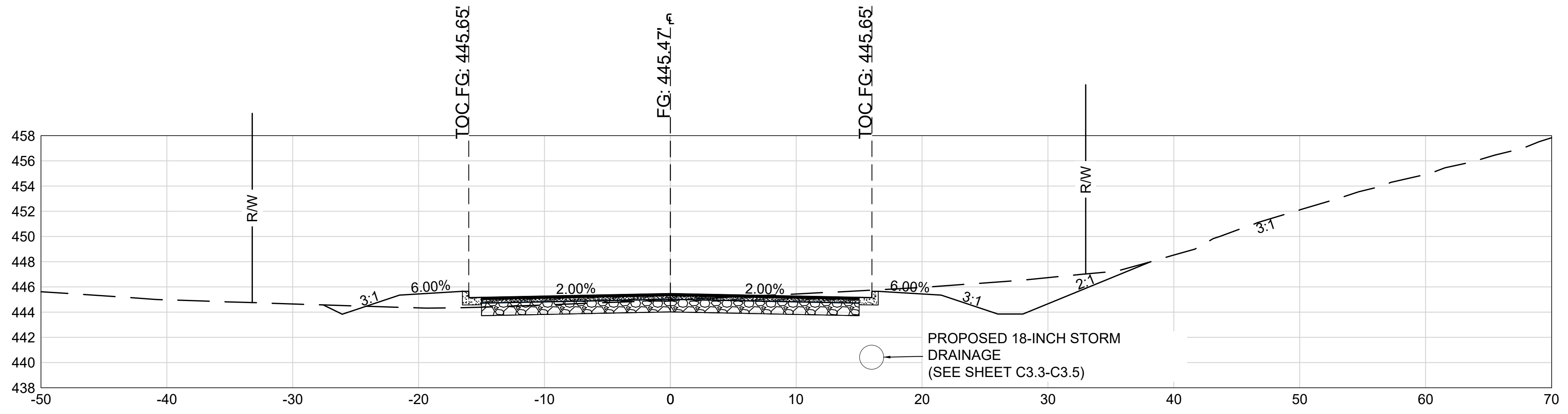
12+00



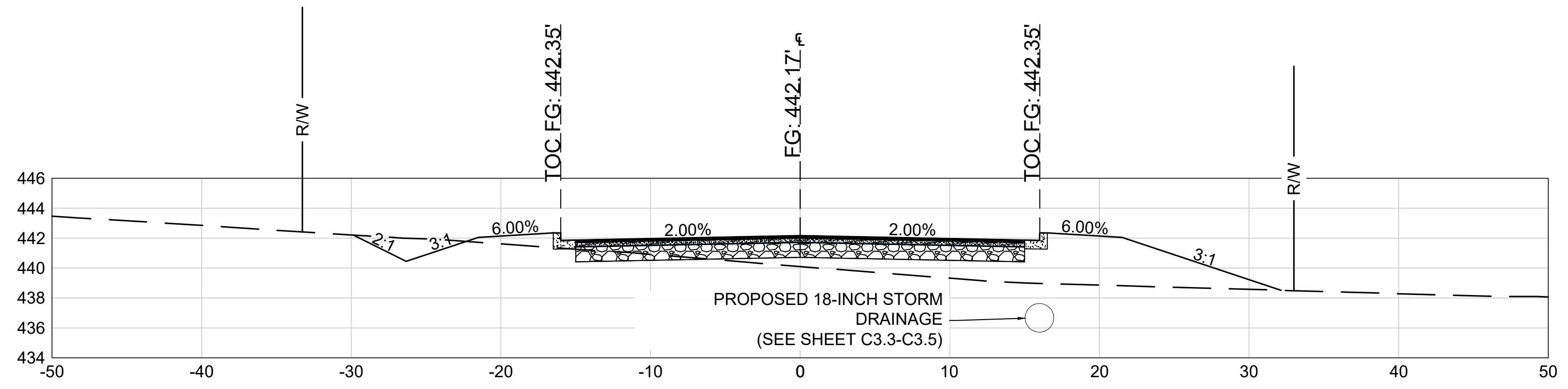
10+00



11+50



9+50



11+00

Roadway Cross Sections
STA: 9+50 - 12+00

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Call before you dig.

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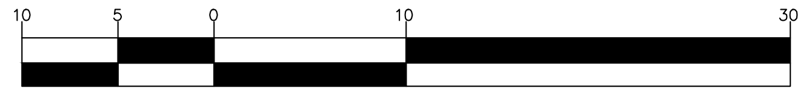

(IN FEET)

CROSS SECTION LEGEND

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#	REVISION DATE
1	

APPROVALS
ENGINEER JVB
DESIGNER JVB
TECHNICIAN RDS
CHECKED BY DMN
APPROVED KMC

Alliance Consulting Engineers, Inc.
No. C02854

DATE: FEBRUARY 14, 2025

JOHN W. BABAGE
No. 40365

SIGNATURE:

ALLIANCE
CONSULTING ENGINEERS
Alliance Consulting Engineers, Inc.
Post Office Box 8147 Columbia, South Carolina 29202-8147
Phone (803) 779-2078 • Fax (803) 779-2079

SHEET
ROADWAY CROSS SECTIONS
STA: 9+50 TO 12+00
DATE: MAY 2024
SCALE: 1" = 10'

PROJECT
± 3,350-LF OF ROADWAY
IMPROVEMENTS
TO MAWSONS WAY AT THE
SC HIGHWAY 219 INDUSTRIAL PARK
NEWBERRY COUNTY,
SOUTH CAROLINA
NEWBERRY COUNTY
SOUTH CAROLINA

FILE NAME: C4.0.DWG
REFERENCE FILE: 19166Base. dwg
PROJECT NO. 19166-0036

SHEET C4.3

DWG NO. 01,1347-D23

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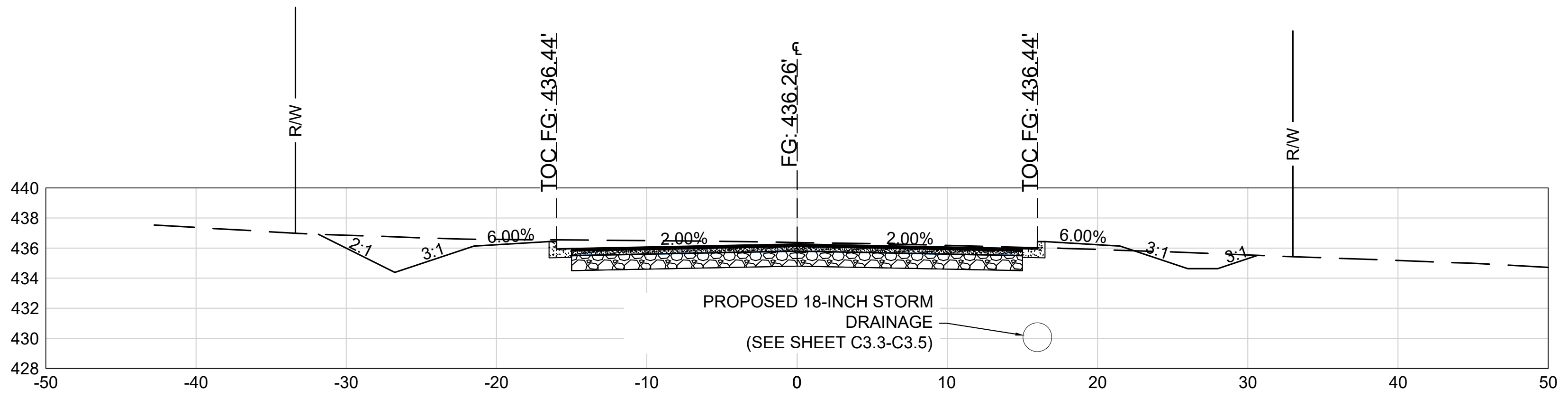
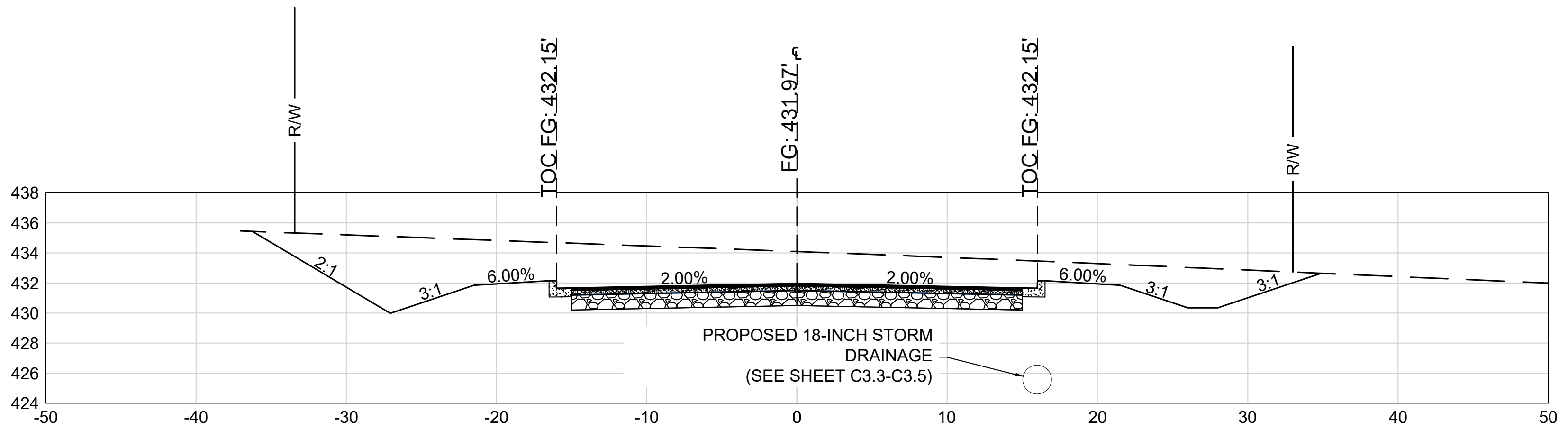
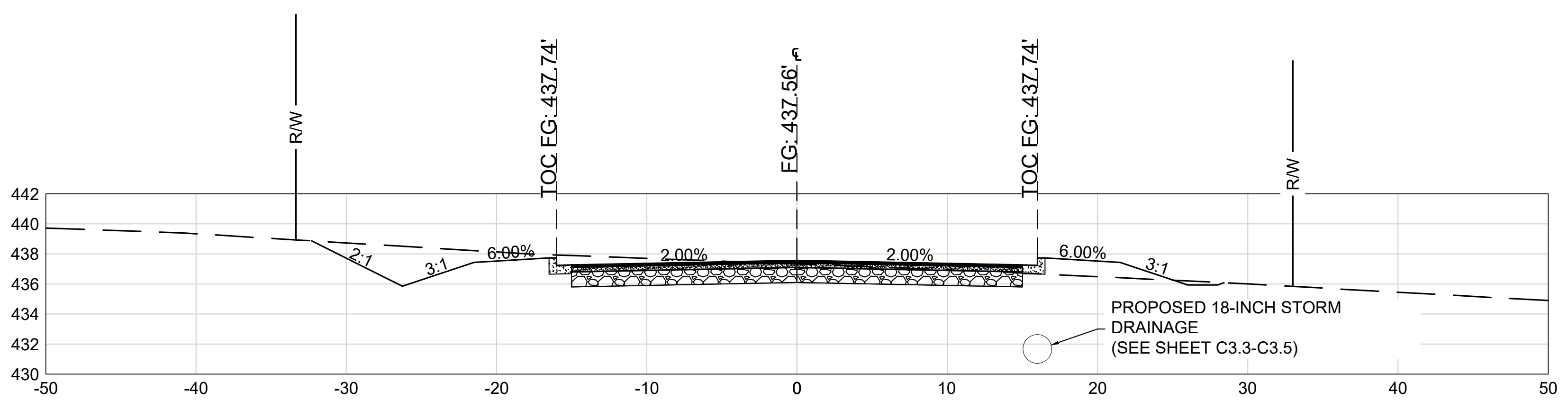


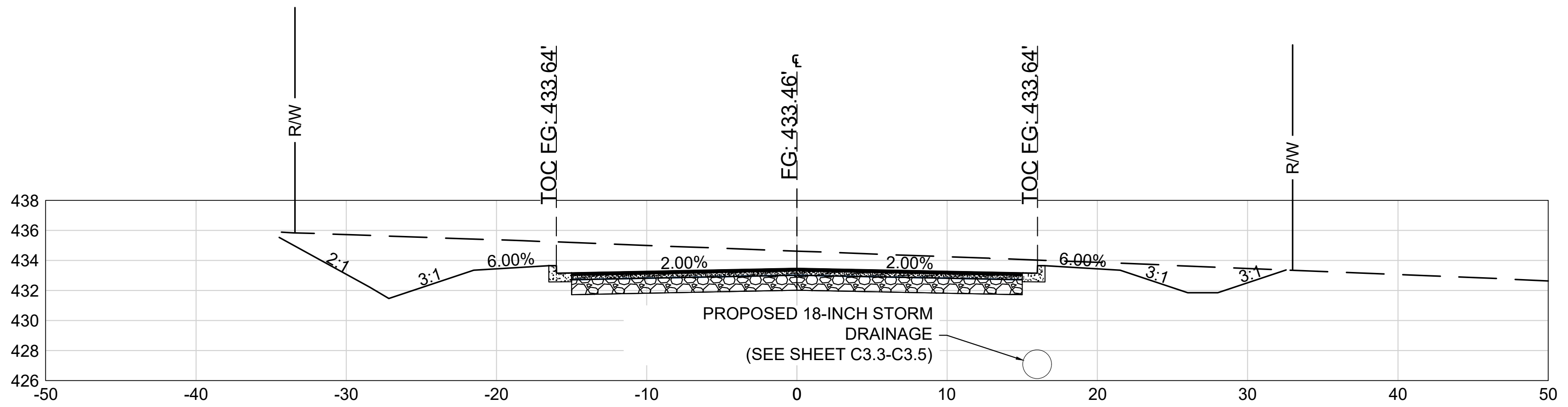
13+50



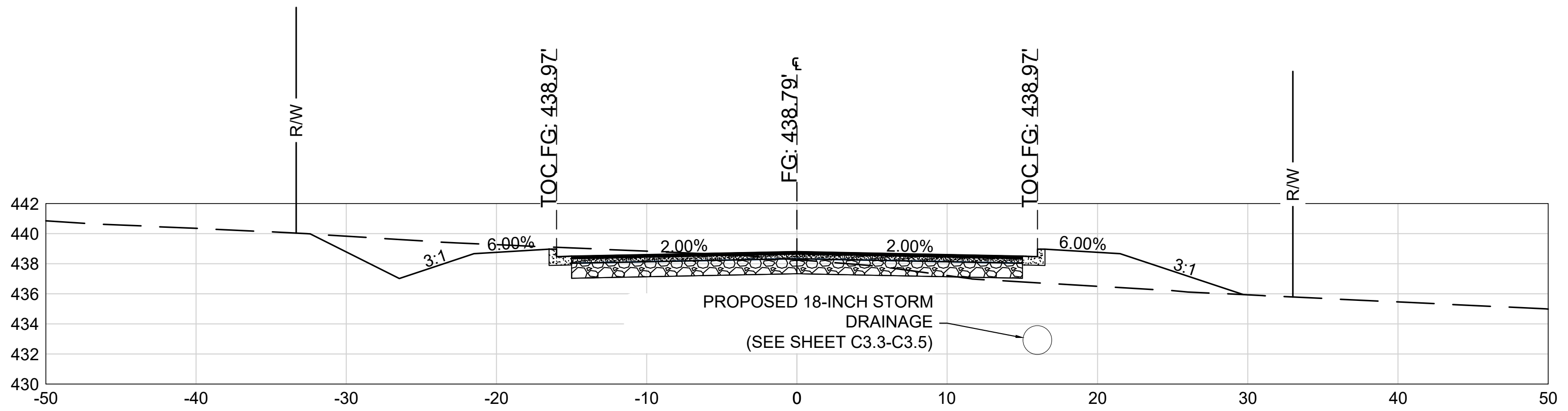
15+00



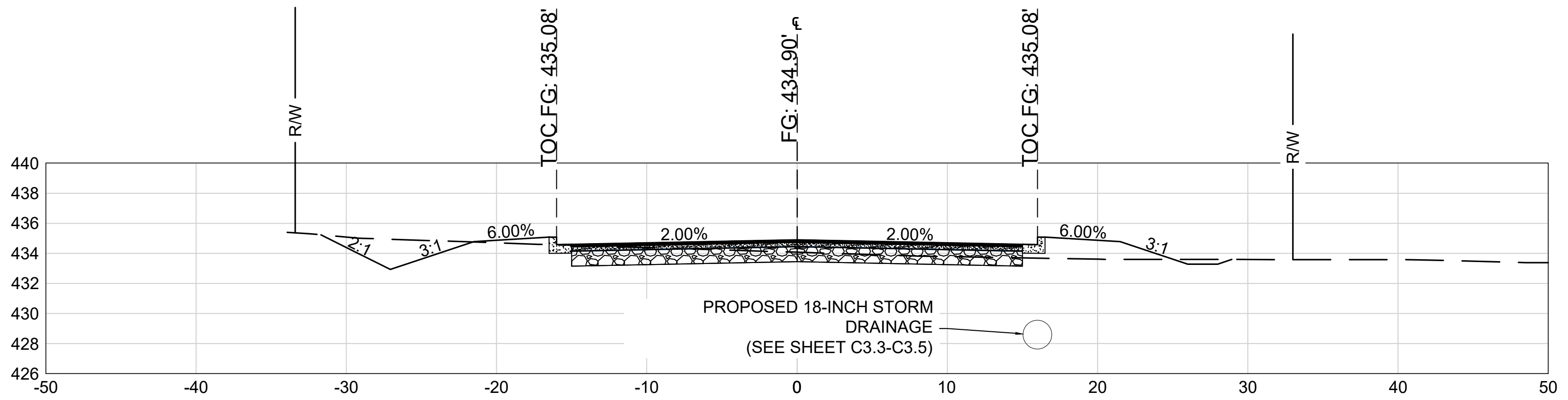
13+00



14+50



12+50



14+00

Roadway Cross Sections
STA: 12+50 - 15+00

811®
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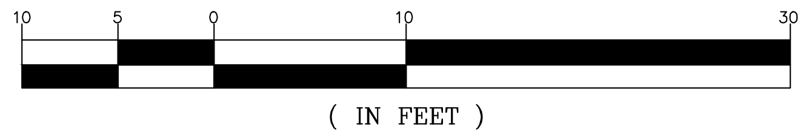

CROSS SECTION LEGEND

■	2" TYPE B SURFACE COURSE
▨	3.5" TYPE B INTERMEDIATE COURSE
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	JVB	JVB	RDS	DMN	KMC

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SHEET
ROADWAY CROSS SECTIONS
STA: 12+50 TO 15+00
DATE: MAY 2024
SCALE: 1" = 10'

PROJECT
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C4.0.DWG
REFERENCE FILE:
19166Base. dwg
PROJECT NO.
19166-0036

SHEET
C4.4

DWG NO. 01,1347-D23

March 04, 2025 - 3:32:24 PM S:\Projects\19166-0036 Roadway Improvements to Mawson's Way at SC Hwy 219 Ind Pk in Newberry, Co\dwg\Construction Plans\ C4.0 - Roadway Cross Sections.dwg

NOTE: UTILITY LOCATIONS ARE APPROXIMATE AND MUST BE FIELD LOCATED PRIOR TO ANY LAND DISTURBANCE BY THE CONTRACTOR

NOTE:
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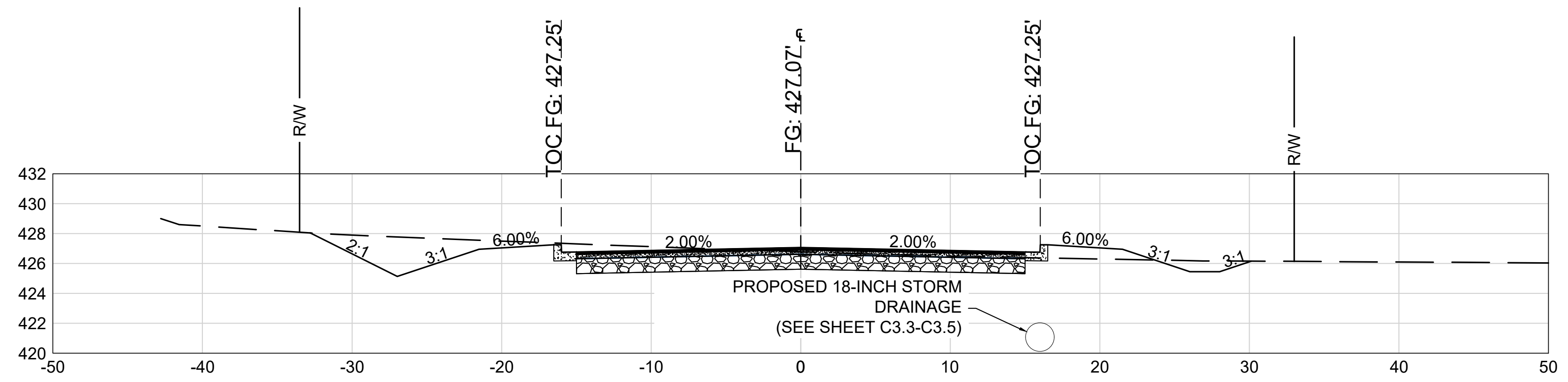
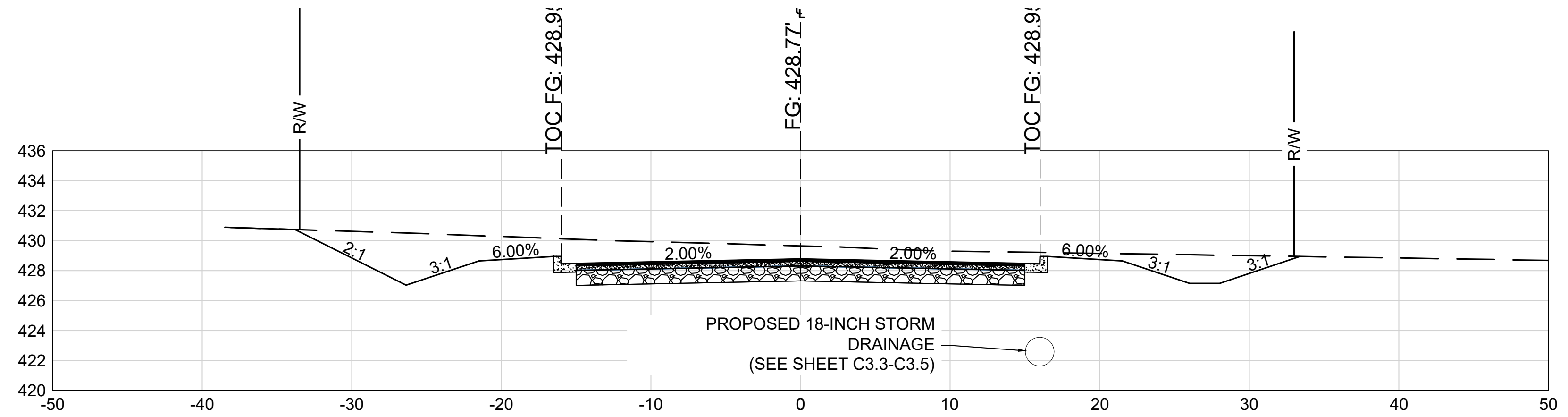
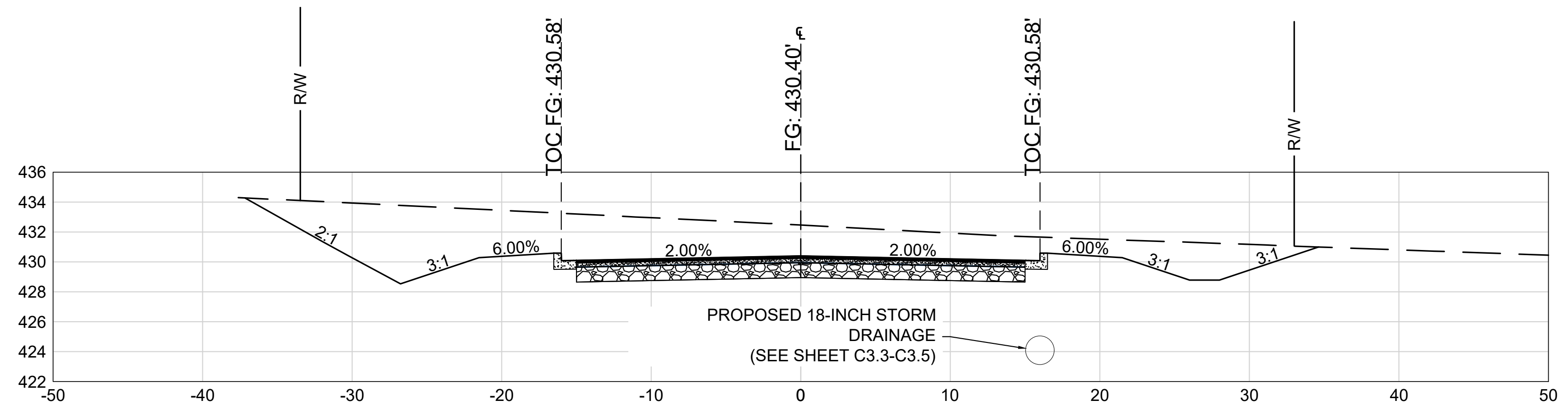


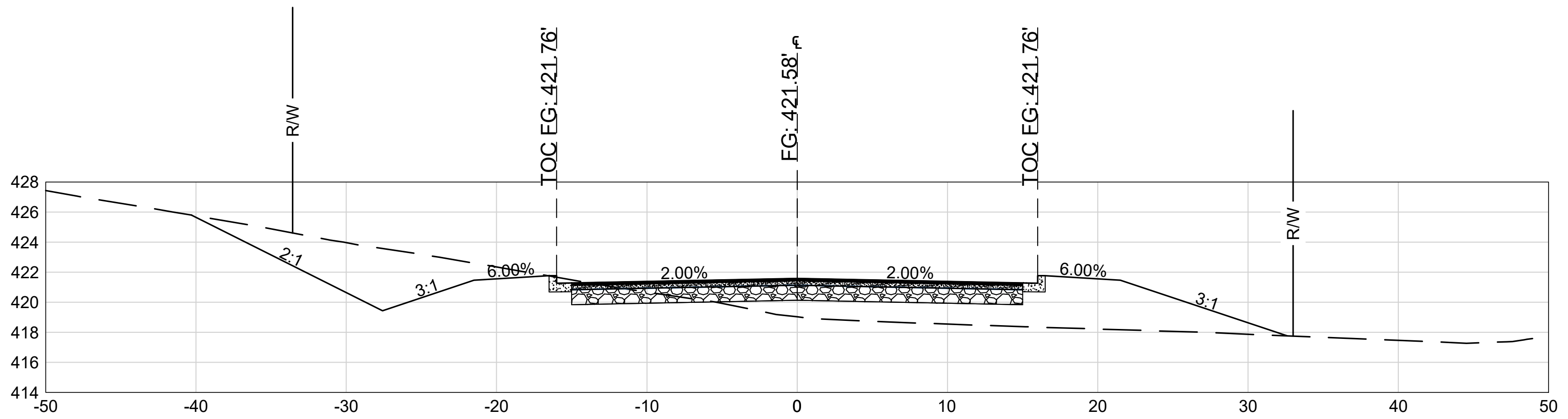
16+50



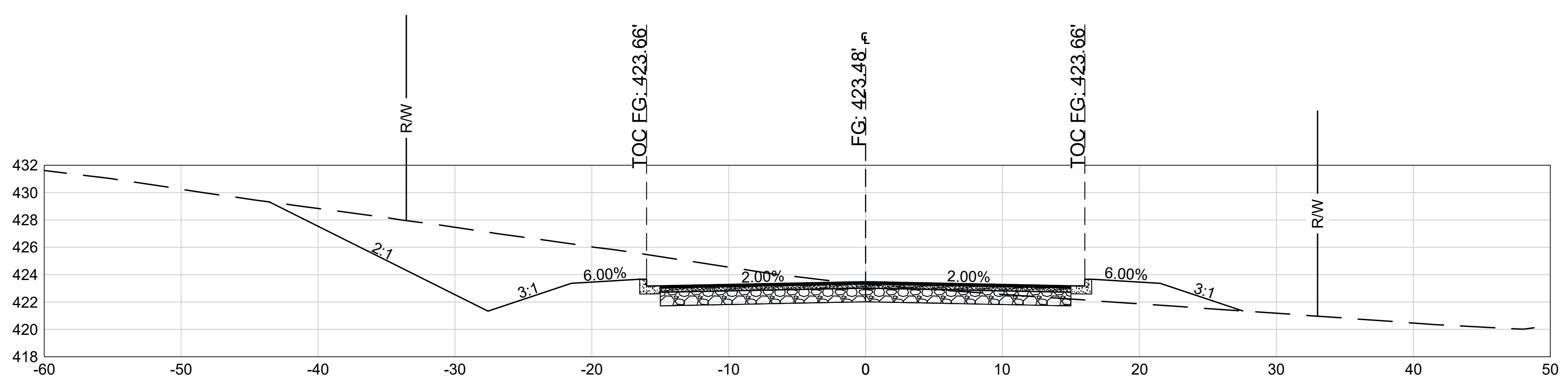
16+00



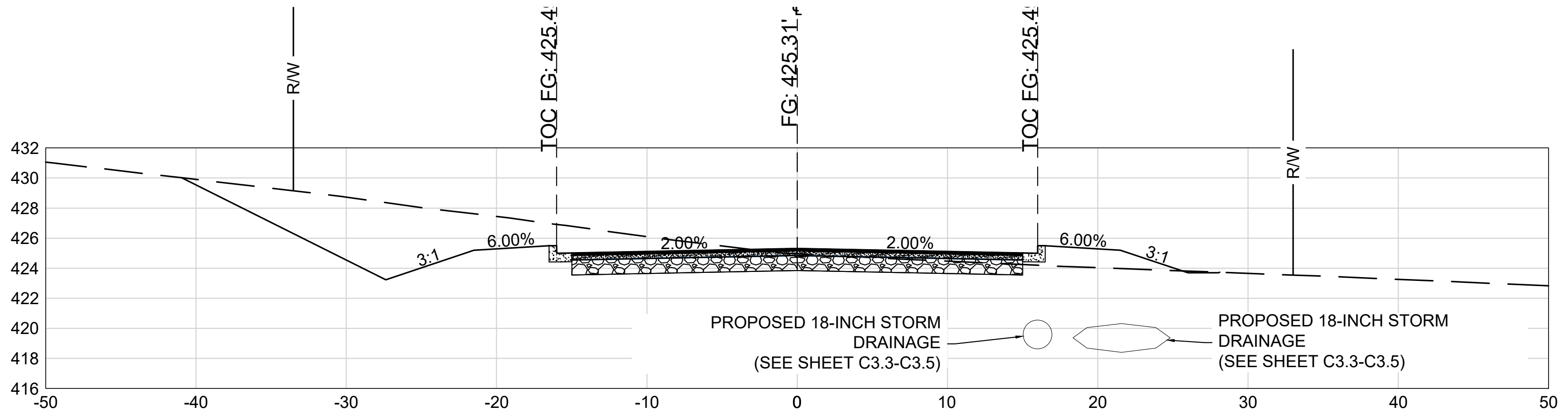
15+50



18+00



17+50



17+00

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

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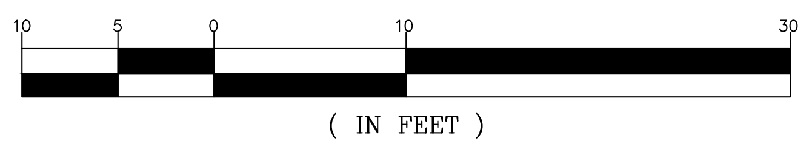
Roadway Cross Sections
STA: 15+50 - 18+00



CROSS SECTION LEGEND

▬	2" TYPE B SURFACE COURSE
▨	3.5" TYPE B INTERMEDIATE COURSE
▨	12" GRADED AGGREGATE BASE COURSE (GABC)
▙	CONCRETE CURB AND GUTTER
— — —	EXISTING GRADE
———	PROPOSED GRADE

#	REVISION DATE
1	

APPROVALS	ENGINEER	DESIGNER	TECHNICIAN	CHECKED BY	APPROVED
	JVB	JVB	RDS	DMN	KMC

Alliance Consulting Engineers, Inc. No. C02854

DATE: FEBRUARY 14, 2025

No. 40365

SIGNATURE:

ALLIANCE
CONSULTING ENGINEERS
Alliance Consulting Engineers, Inc.
Post Office Box 8147 Columbia, South Carolina 29202-8147
Phone (803) 779-2078 • Fax (803) 779-2079

SHEET
ROADWAY CROSS SECTIONS
STA: 15+50 TO 18+00
DATE: MAY 2024
SCALE: 1" = 10'

PROJECT
± 3,350–LF OF ROADWAY IMPROVEMENTS
TO MAWSONS WAY AT THE
SC HIGHWAY 219 INDUSTRIAL PARK
NEWBERRY COUNTY,
SOUTH CAROLINA
NEWBERRY COUNTY
SOUTH CAROLINA

FILE NAME:
C4.0.DWG
REFERENCE FILE:
19166Base. dwg
PROJECT NO.
19166-0036

SHEET
C4.5

DWG NO. 01,1347–D23

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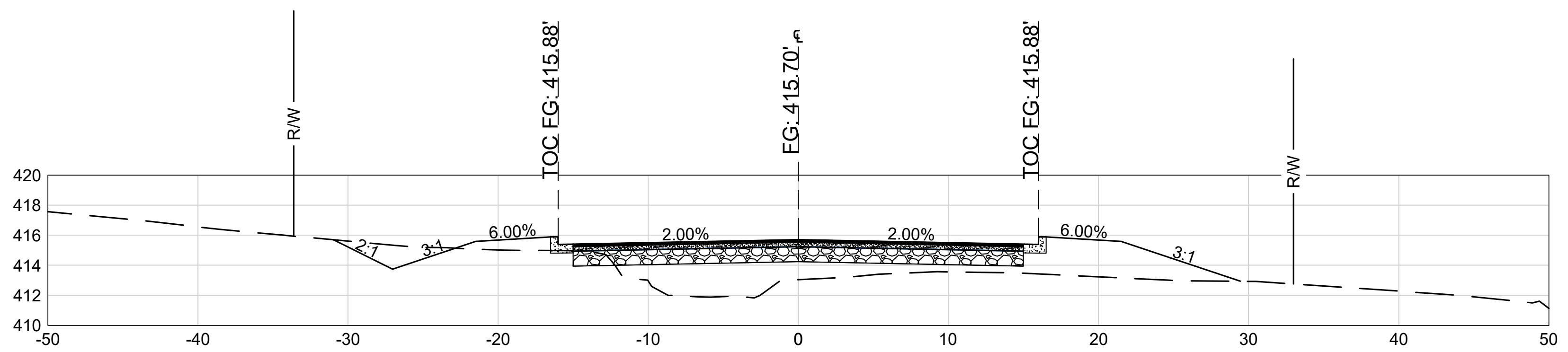
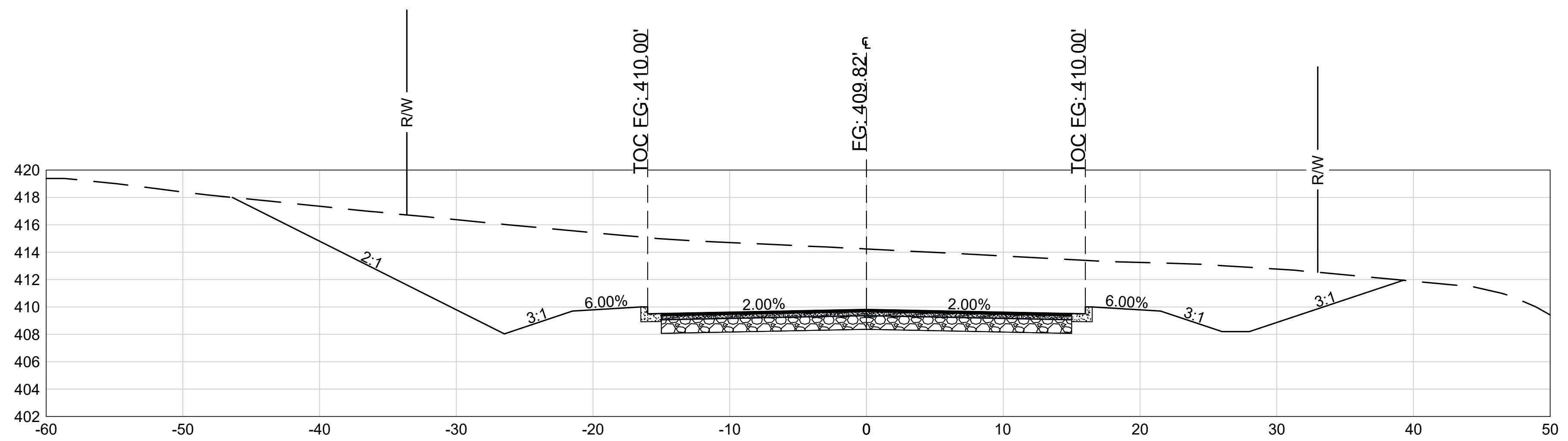
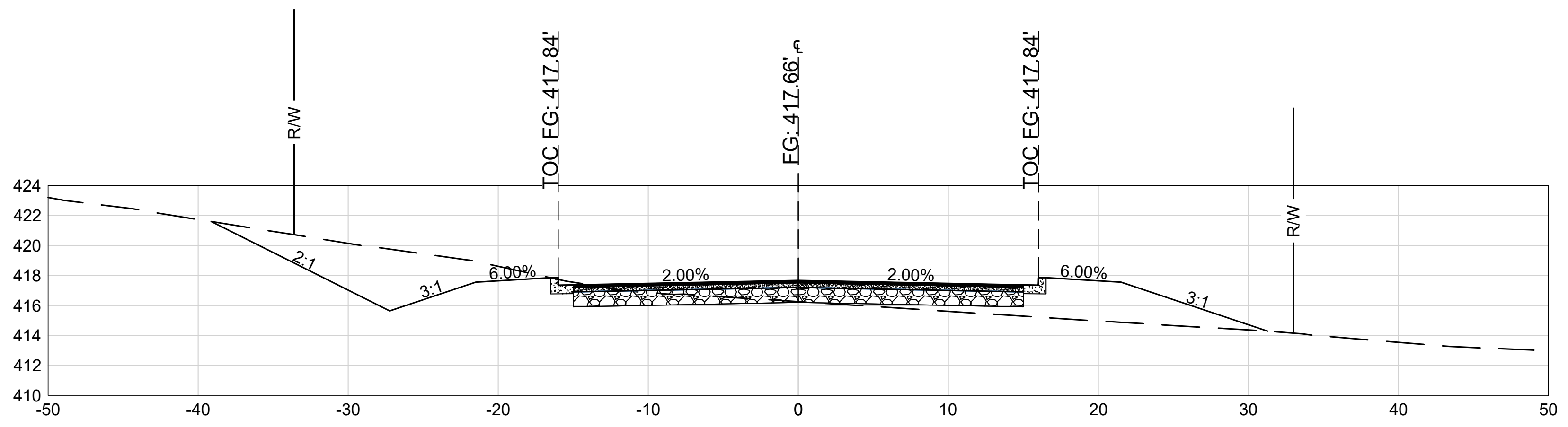


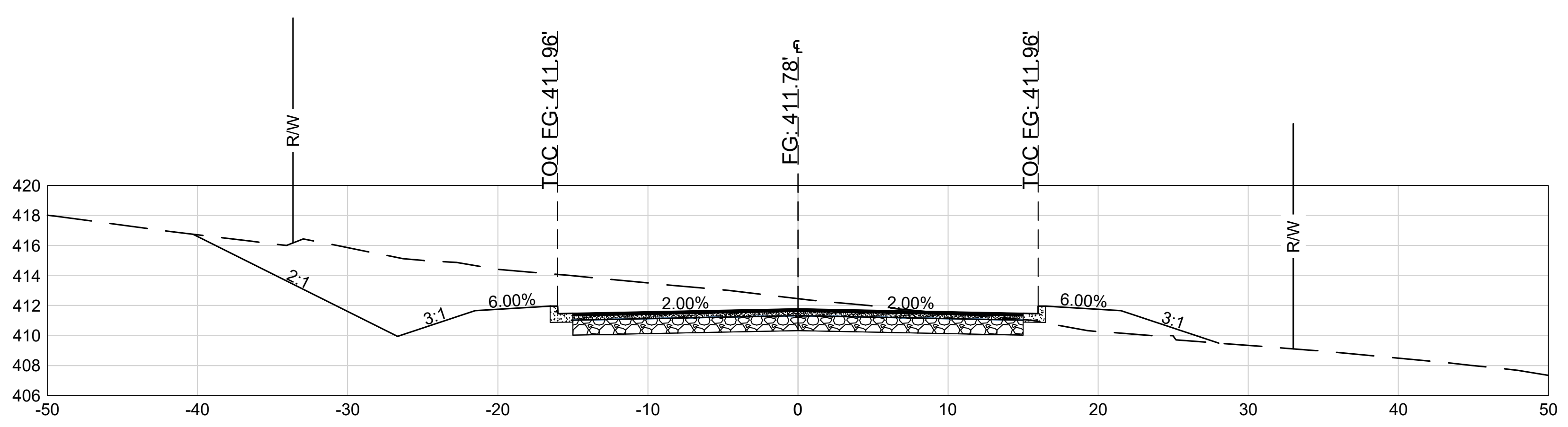
19+50



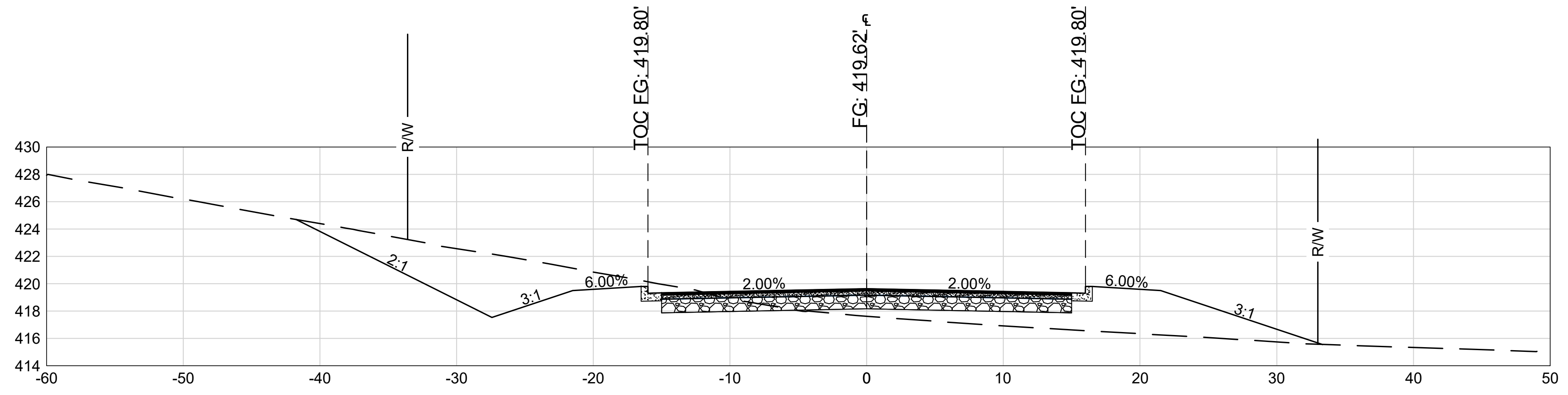
21+00



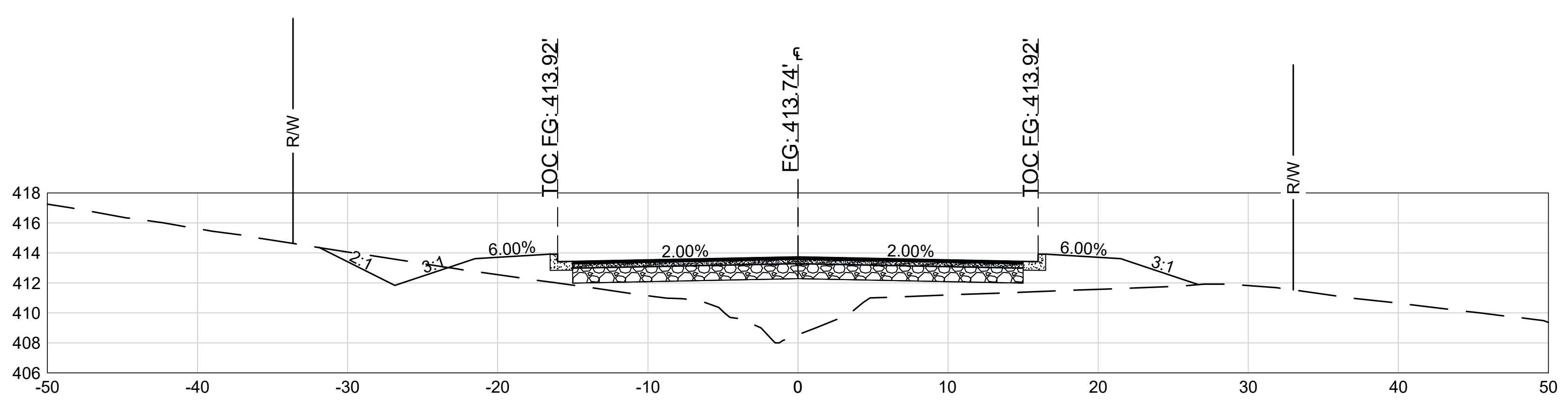
19+00



20+50



18+50



20+00

Roadway Cross Sections
STA: 18+50 - 21+00

811
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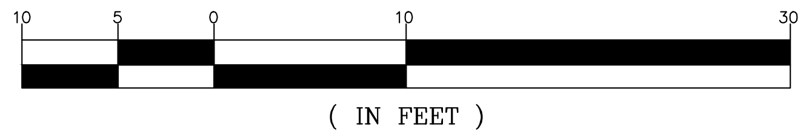

CROSS SECTION LEGEND

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▨	3.5" TYPE B INTERMEDIATE COURSE
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#	REVISION DATE
1	

APPROVALS	ENGINEER	DESIGNER	TECHNICIAN	CHECKED BY	APPROVED
	JVB	JVB	RDS	DMN	KMC

Alliance Consulting Engineers, Inc. No. C02854

DATE: FEBRUARY 14, 2025

No. 40365 JOHN V. BABBAGE

SIGNATURE:

ALLIANCE CONSULTING ENGINEERS

Alliance Consulting Engineers, Inc.
Post Office Box 8147 Columbia, South Carolina 29202-8147
Phone (803) 779-2078 • Fax (803) 779-2079

SHEET

ROADWAY CROSS SECTIONS
STA: 18+50 TO 21+00

DATE: MAY 2024 SCALE: 1" = 10'

PROJECT

± 3,350-LF OF ROADWAY
IMPROVEMENTS
TO MAWSONS WAY AT THE
SC HIGHWAY 219 INDUSTRIAL PARK
NEWBERRY COUNTY,
SOUTH CAROLINA

NEWBERRY COUNTY SOUTH CAROLINA

FILE NAME:
C4.0.DWG

REFERENCE FILE:
19166Base. dwg

PROJECT NO.
19166-0036

SHEET
C4.6

DWG NO. 01,1347-D23

NOTE: UTILITY LOCATIONS ARE APPROXIMATE AND MUST BE FIELD LOCATED PRIOR TO ANY LAND DISTURBANCE BY THE CONTRACTOR

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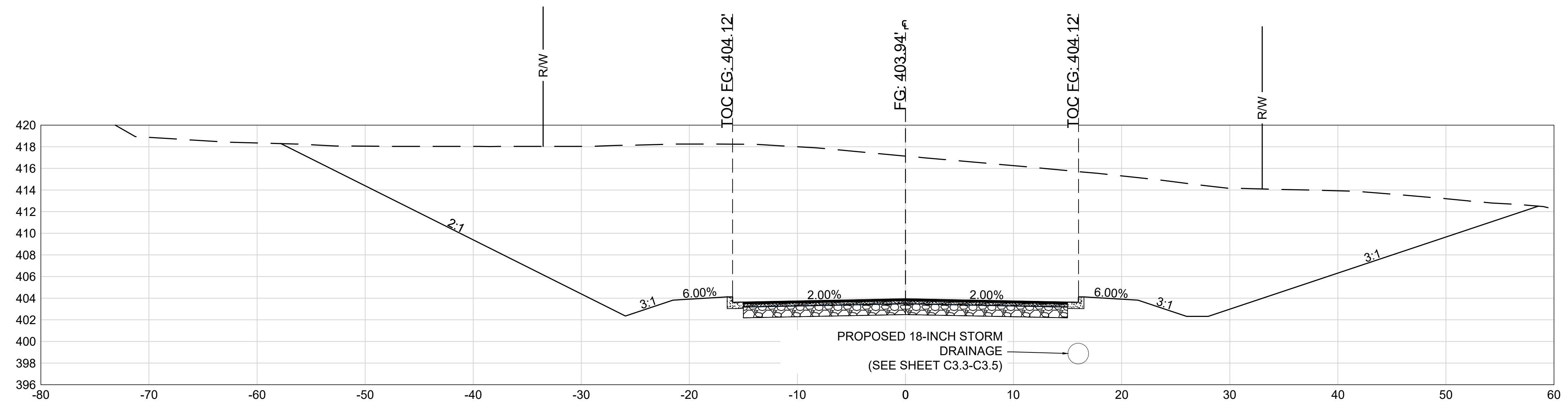
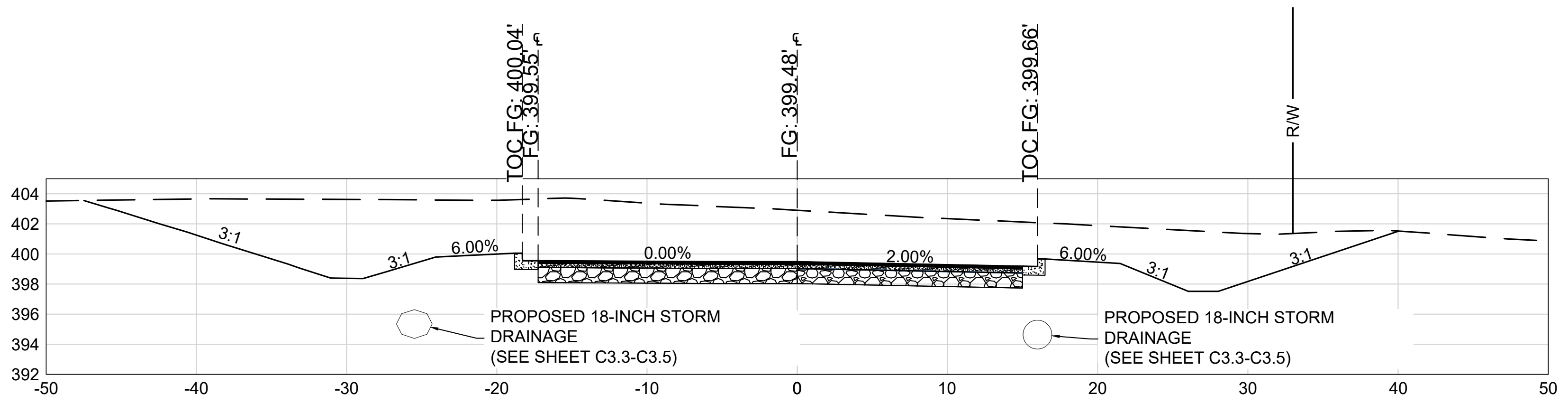
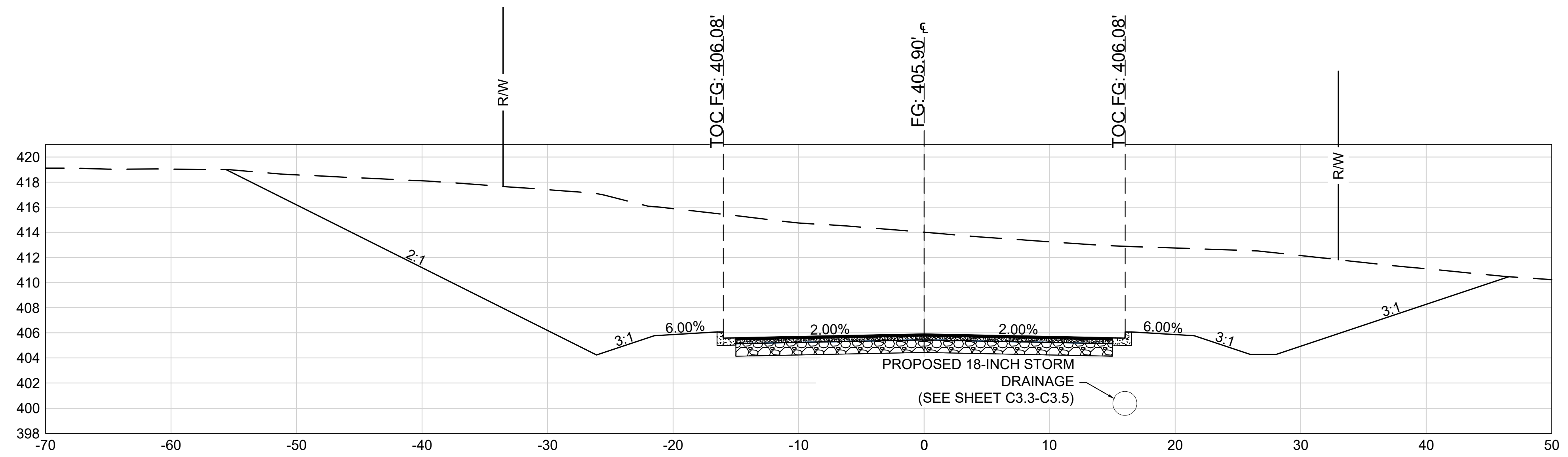


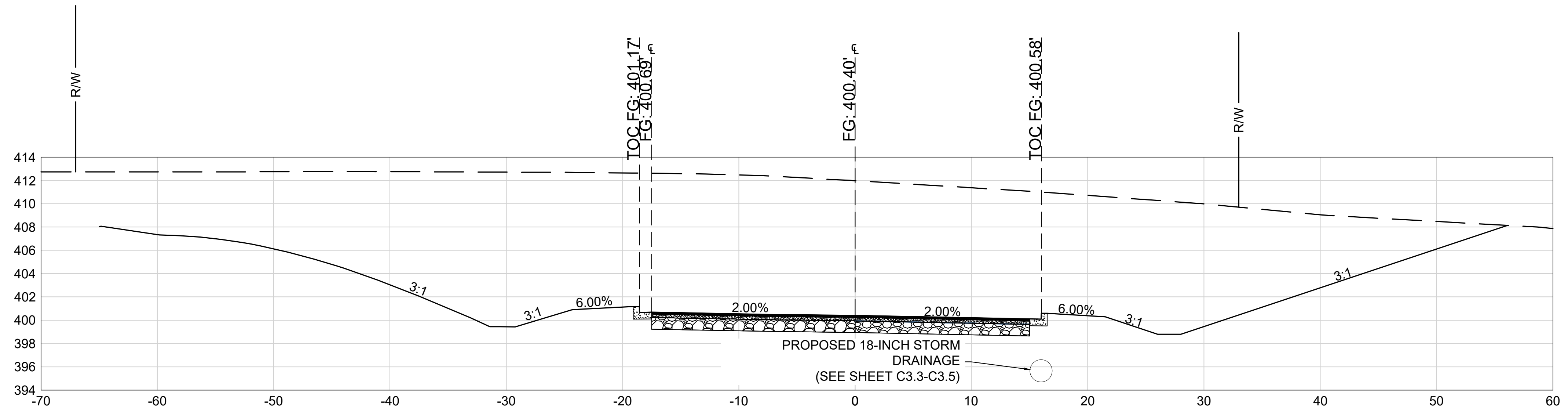
22+50



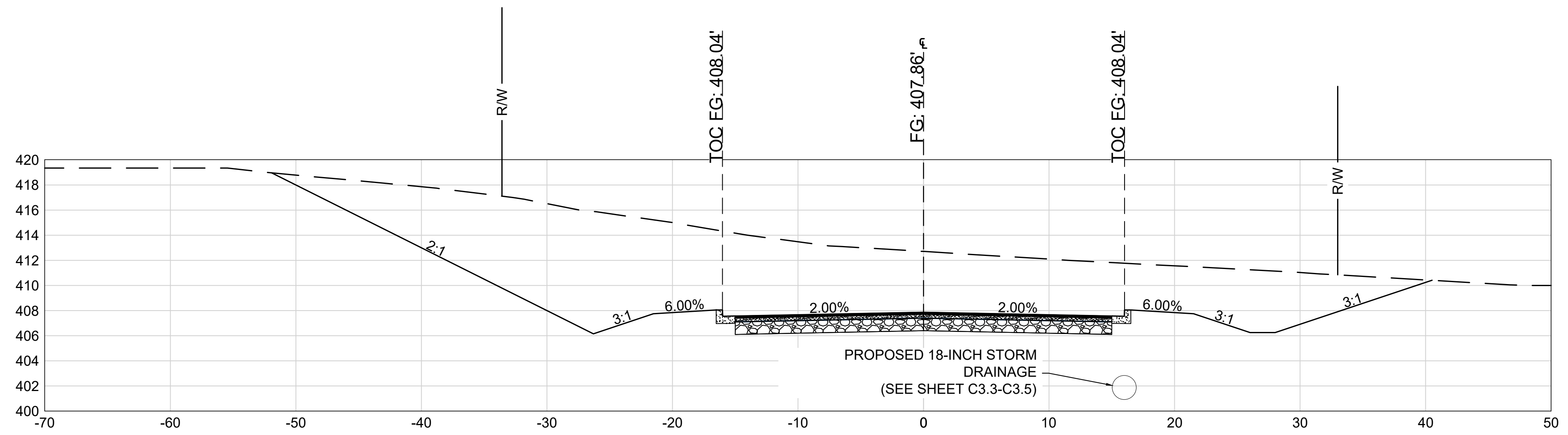
24+50



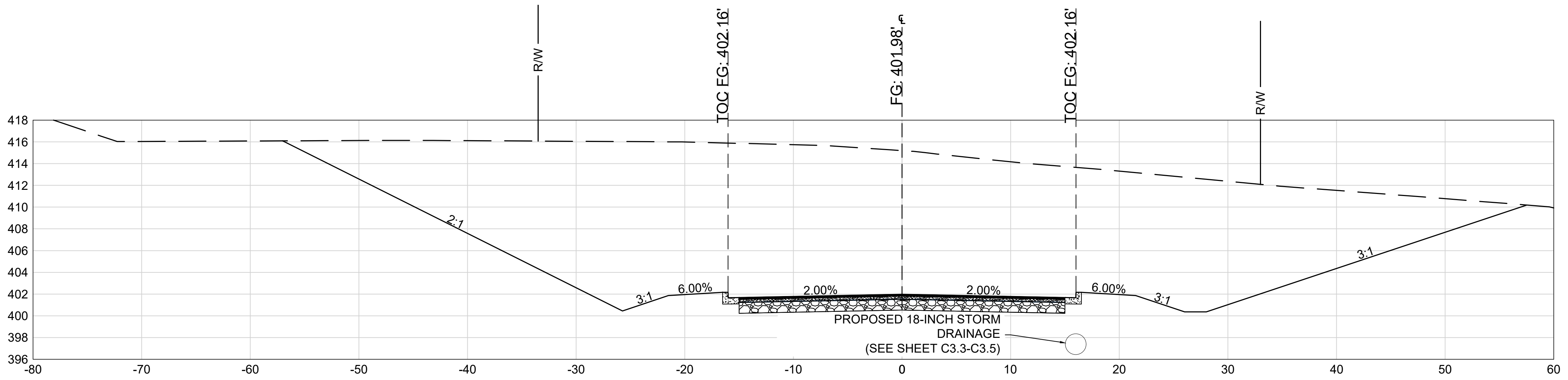
22+00



23+50



21+50



23+00

Roadway Cross Sections
STA: 21+50 - 24+50

Know what's below.
Call before you dig.

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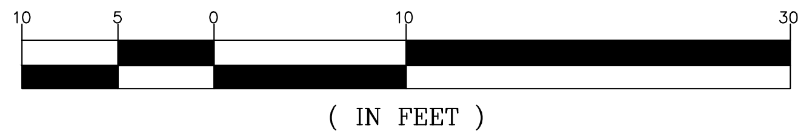

(IN FEET)

CROSS SECTION LEGEND

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#	REVISION DATE
1	

APPROVALS
ENGINEER JVB
DESIGNER JVB
TECHNICIAN RDS
CHECKED BY DMN
APPROVED KMC

Alliance Consulting Engineers, Inc. No. C02854
DATE: FEBRUARY 14, 2025

No. 40365
SIGNATURE:

ALLIANCE
CONSULTING ENGINEERS
Alliance Consulting Engineers, Inc.
Post Office Box 8147 Columbia, South Carolina 29202-8147
Phone (803) 779-2078 • Fax (803) 779-2079

SHEET
ROADWAY CROSS SECTIONS
STA: 21+50 TO 24+50
DATE: MAY 2024
SCALE: 1" = 10'

PROJECT
± 3,350–LF OF ROADWAY
IMPROVEMENTS
TO MAWSONS WAY AT THE
SC HIGHWAY 219 INDUSTRIAL PARK
NEWBERRY COUNTY,
SOUTH CAROLINA
NEWBERRY COUNTY
SOUTH CAROLINA

FILE NAME:
C4.0.DWG
REFERENCE FILE:
19166Base. dwg
PROJECT NO.
19166-0036

SHEET
C4.7

DWG NO. 01,1347–D23

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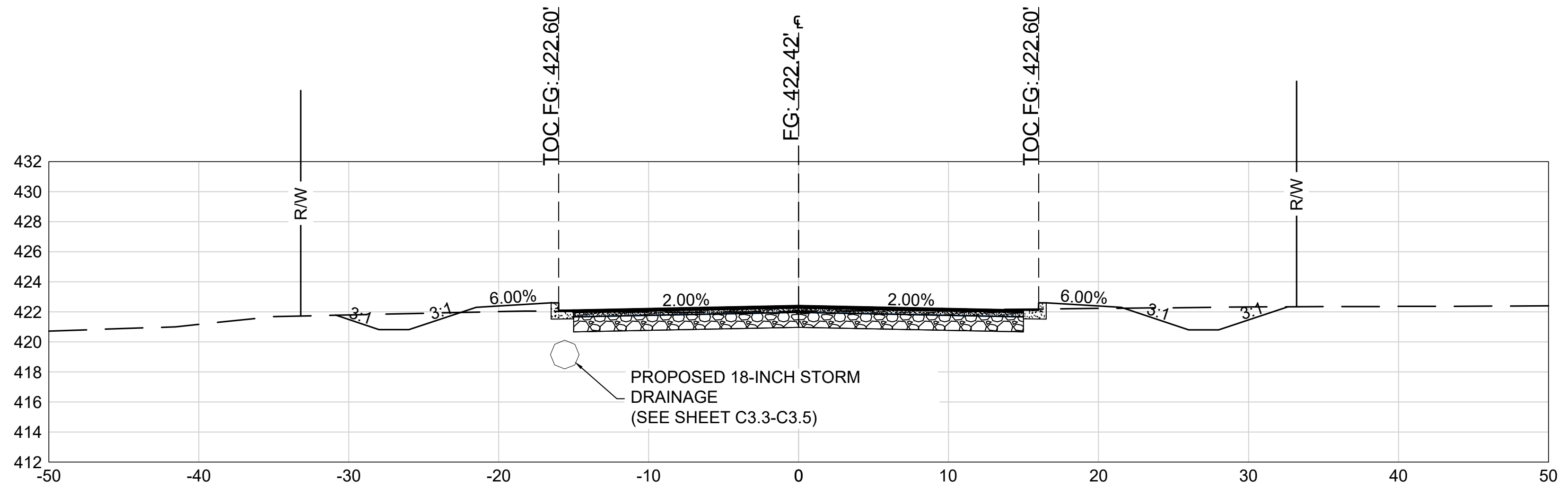

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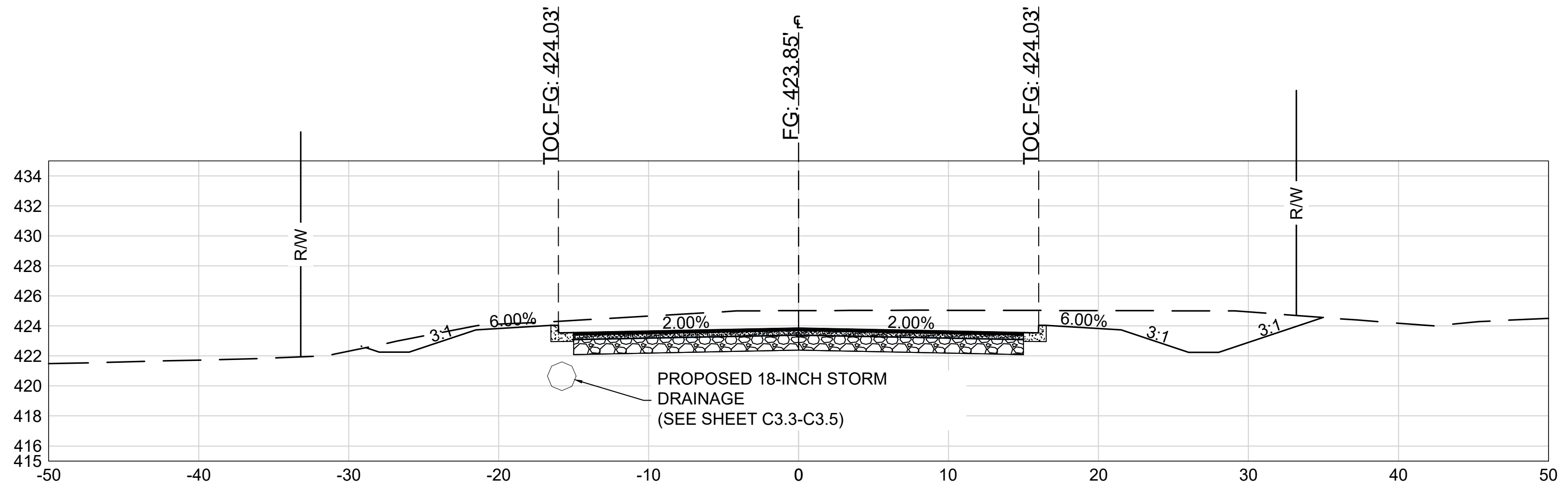
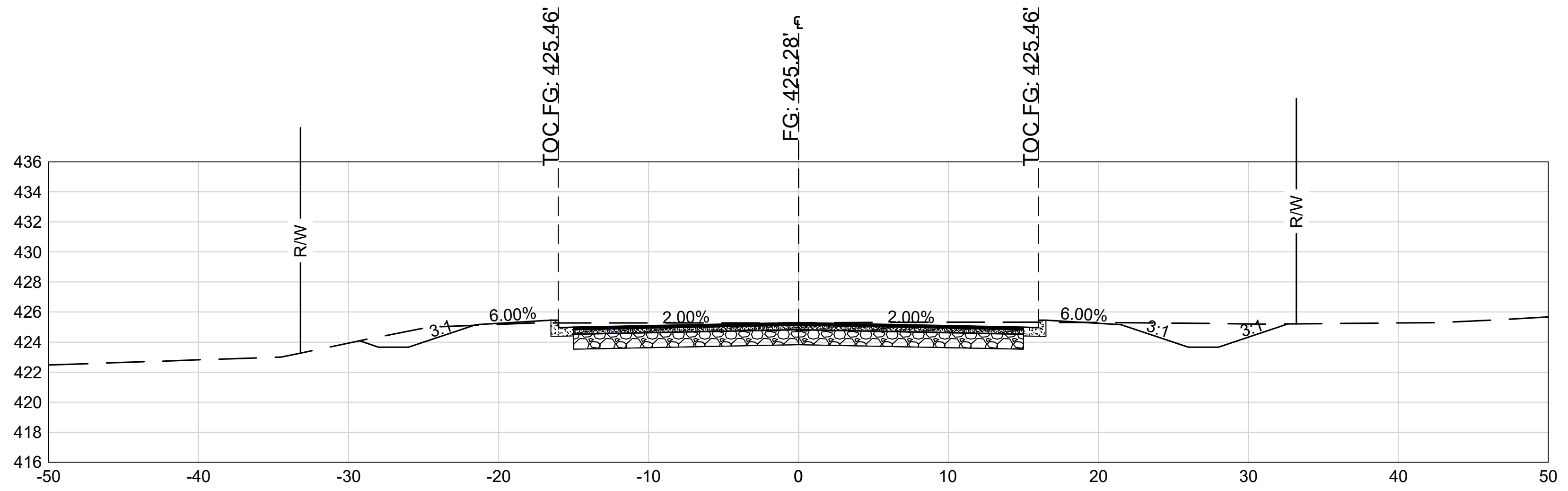
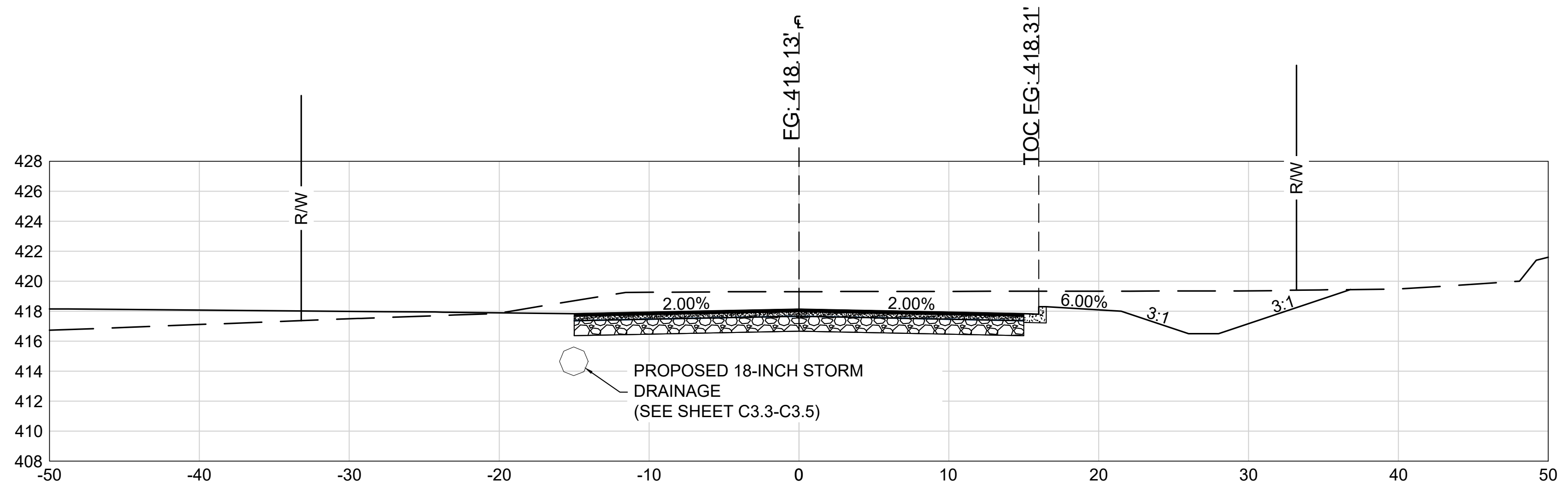


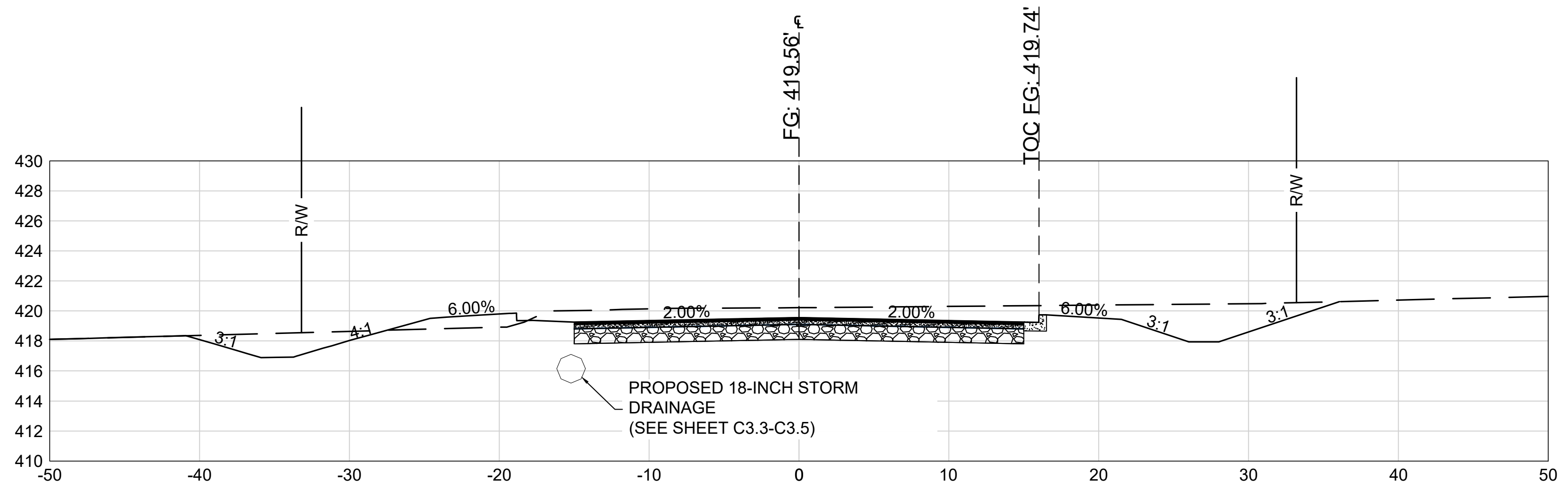
29+50



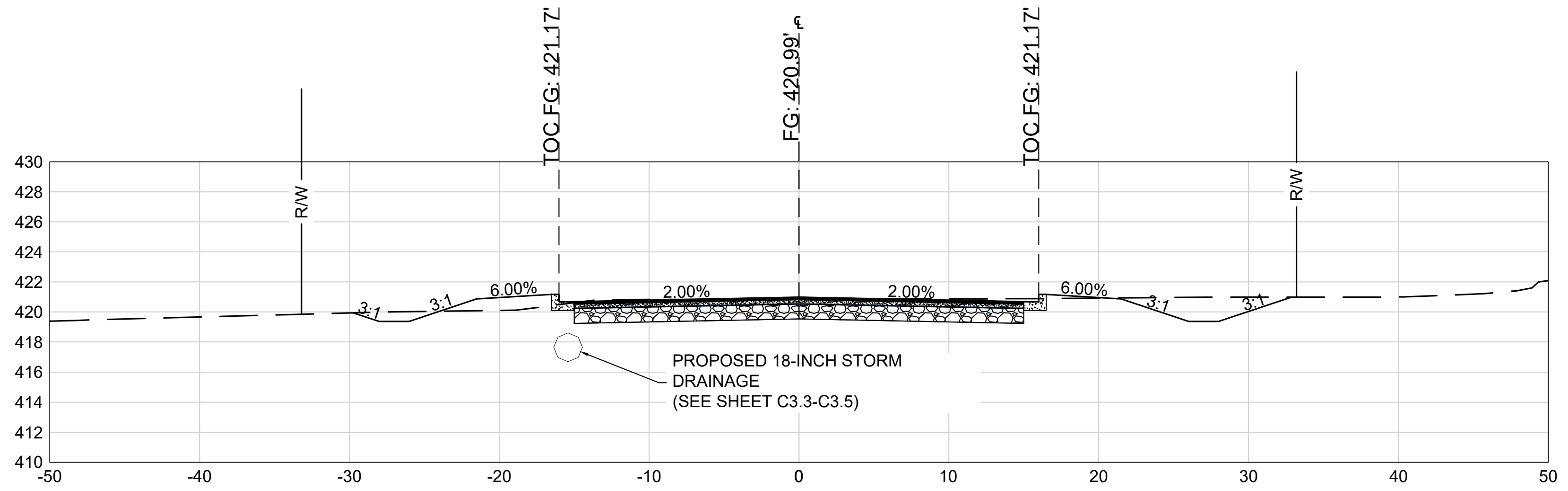
29+00



31+50



31+00



30+50

Roadway Cross Sections
STA: 29+00 - 31+50

811
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10 5 0 10 30
(IN FEET)

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#	REVISION DATE
1	

APPROVALS	ENGINEER	DESIGNER	TECHNICIAN	CHECKED BY	APPROVED
	JVB	JVB	RDS	DMN	KMC

Alliance Consulting Engineers, Inc. No. C02854

DATE: FEBRUARY 14, 2025

JOHN BABBAGE No. 40365

SIGNATURE:

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SHEET
ROADWAY CROSS SECTIONS
STA: 29+00 TO 31+50
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PROJECT
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NEWBERRY COUNTY
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FILE NAME: C4.0.DWG
REFERENCE FILE: 19166Base. dwg
PROJECT NO. 19166-0036

SHEET
C4.8

DWG NO. 01,1347-D23

March 04, 2025 - 3:29:43 PM S:\Projects\19166-0036 Roadway Improvements to Mawson's Way at SC Hwy 219 Ind Pk in Newberry, Co\dwg\Construction Plans\ C4.0 - Roadway Cross Sections.dwg

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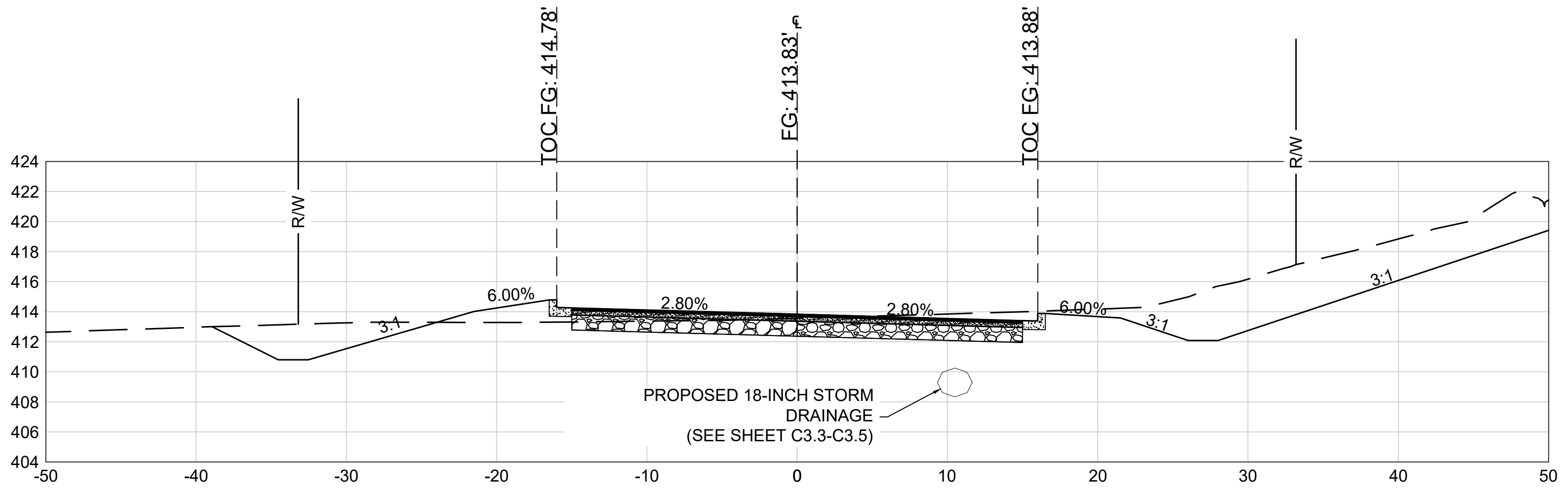
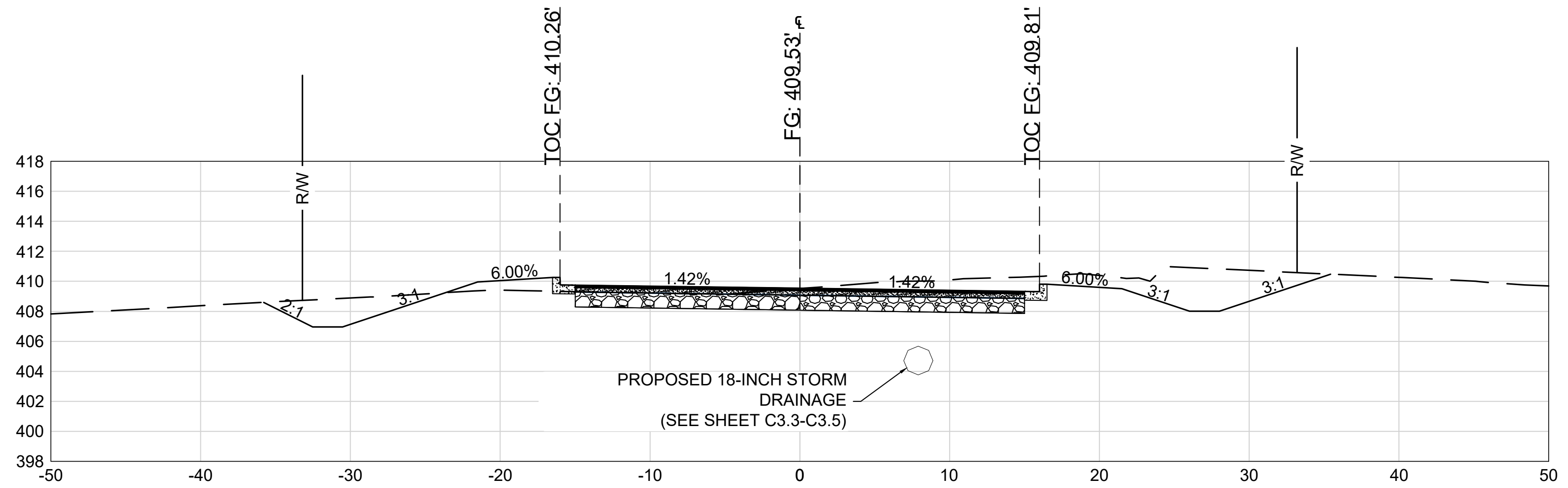
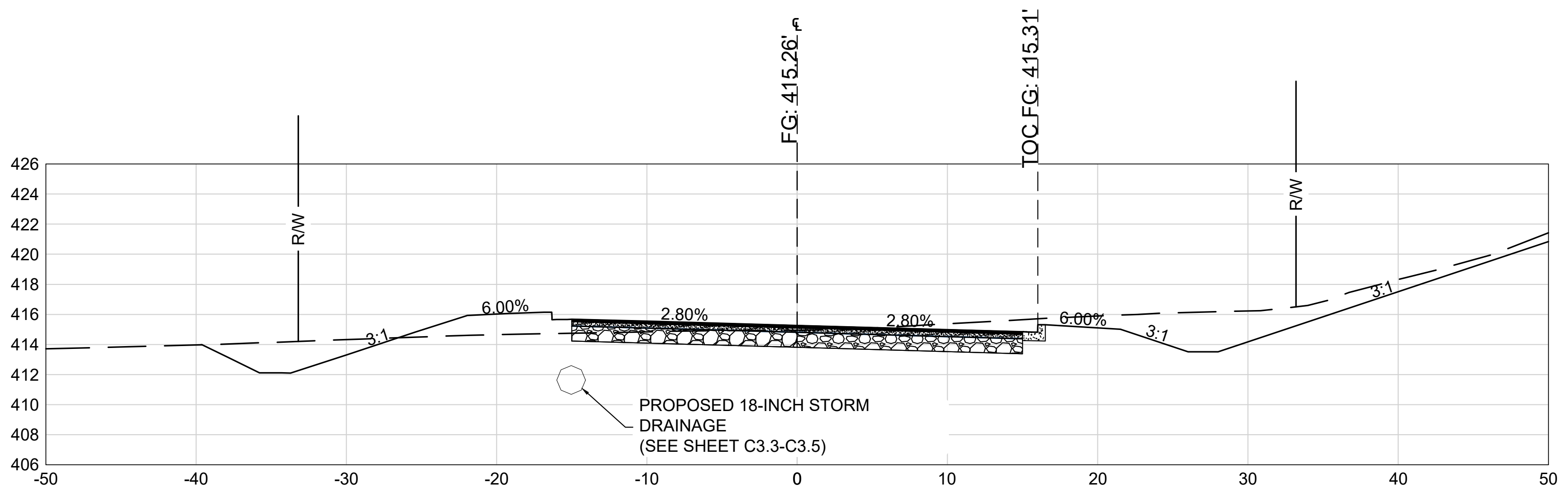


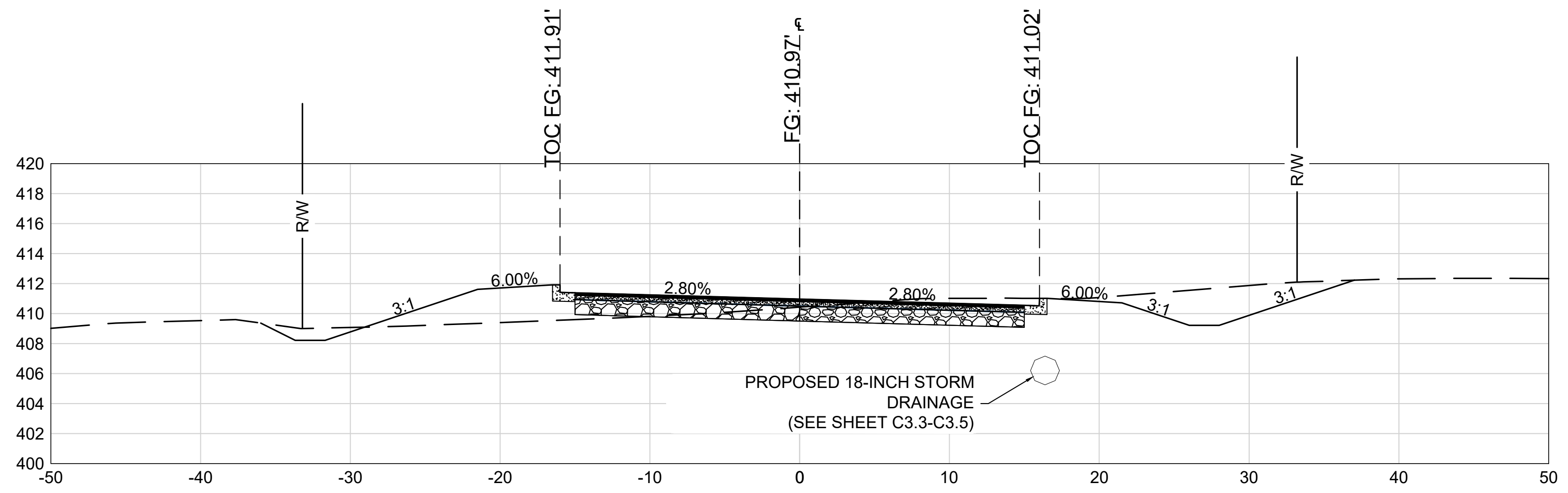
33+00



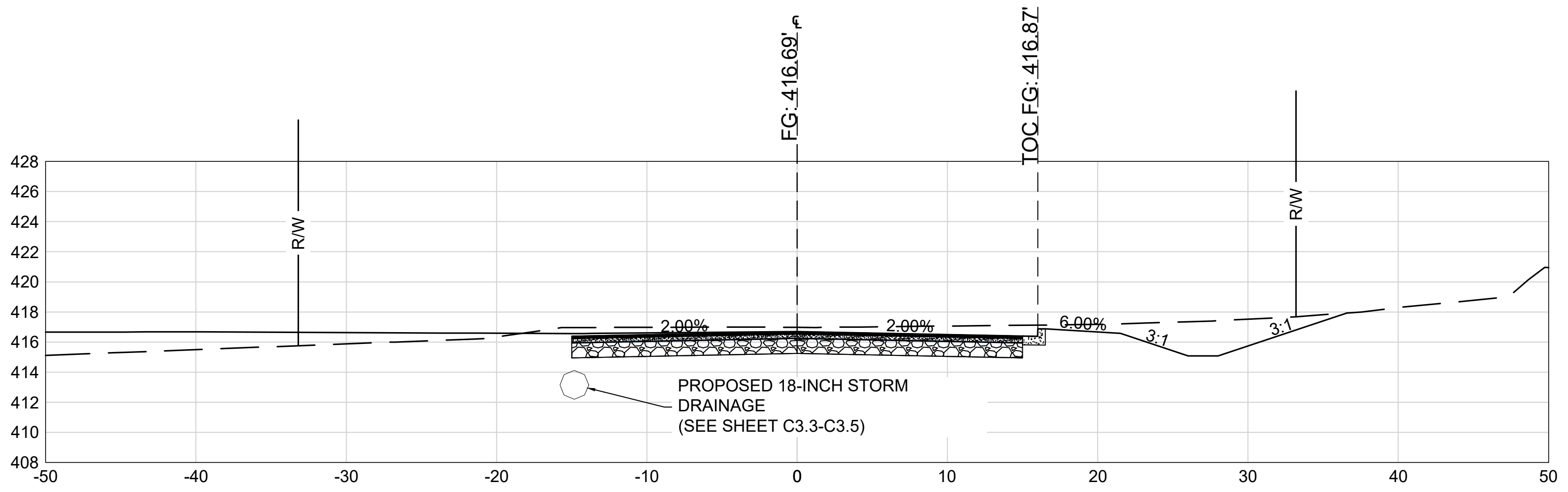
34+50



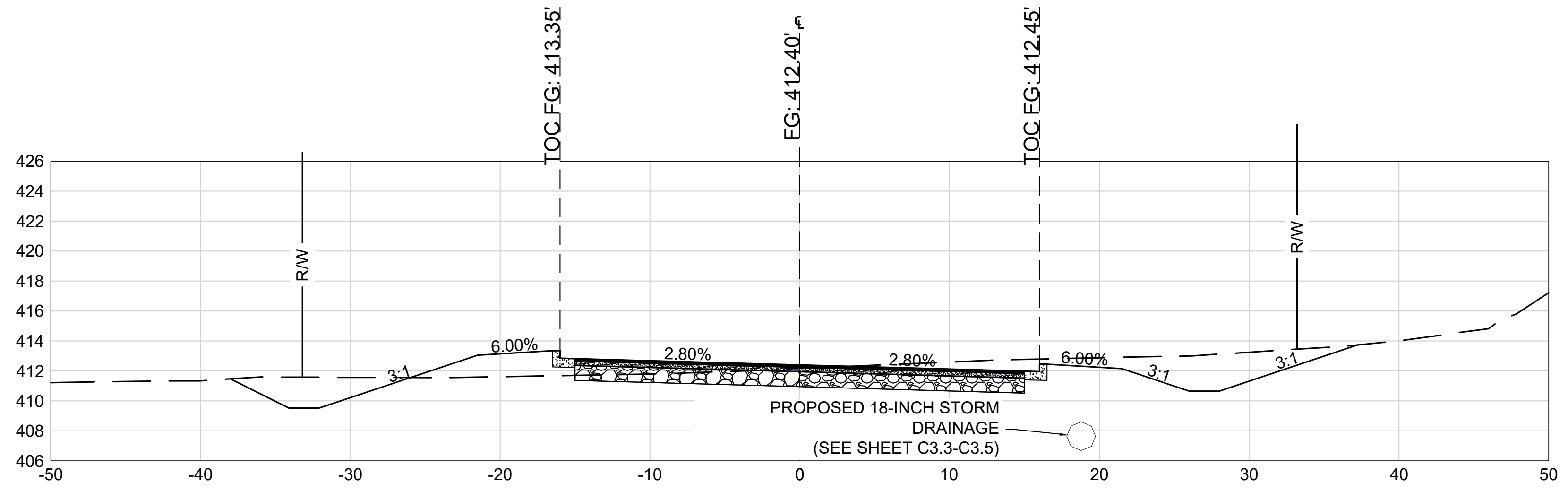
32+50



34+00



32+00



33+50

Roadway Cross Sections
STA: 32+00 - 34+50

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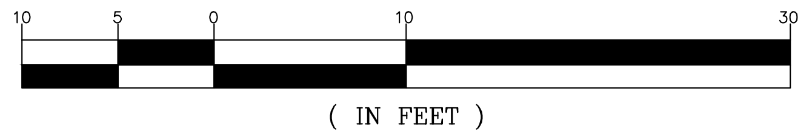

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ROADWAY CROSS SECTIONS
STA: 32+00 TO 34+50

DATE: MAY 2024
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± 3,350-LF OF ROADWAY IMPROVEMENTS
TO MAWSONS WAY AT THE
SC HIGHWAY 219 INDUSTRIAL PARK
NEWBERRY COUNTY,
SOUTH CAROLINA

NEWBERRY COUNTY
SOUTH CAROLINA

FILE NAME:
C4.0.DWG
REFERENCE FILE:
19166Base. dwg
PROJECT NO.
19166-0036

SHEET
C4.9

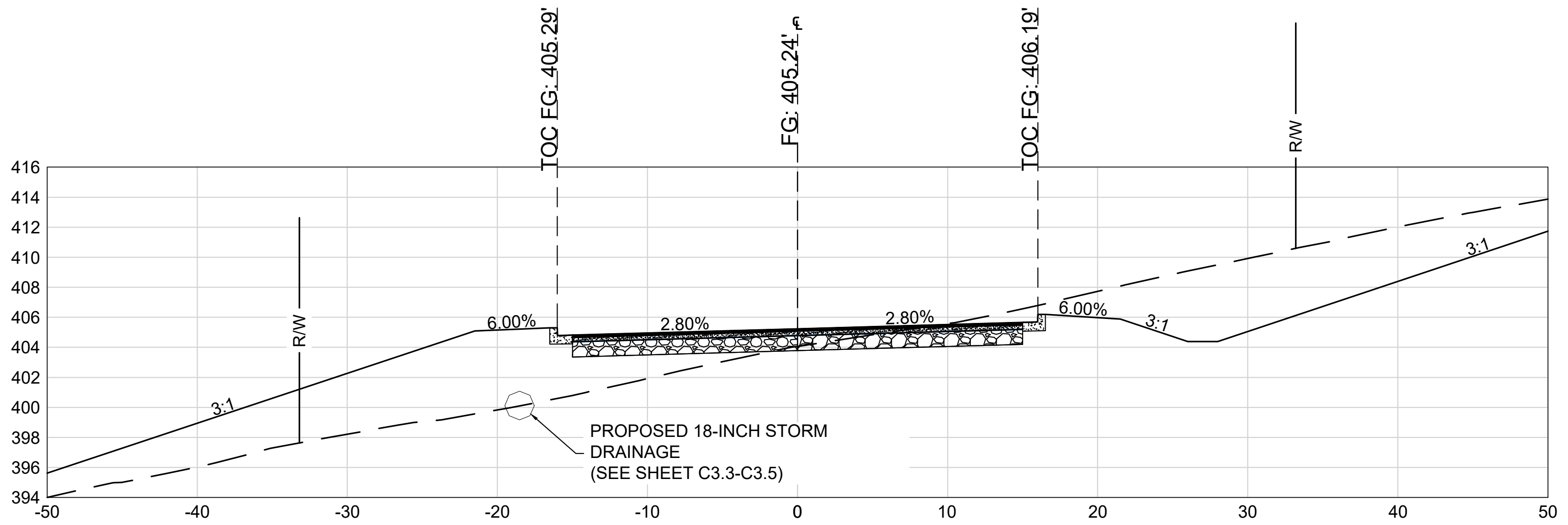
DWG NO. 01.1347-D23

NOTE: UTILITY LOCATIONS ARE APPROXIMATE AND MUST BE FIELD LOCATED PRIOR TO ANY LAND DISTURBANCE BY THE CONTRACTOR

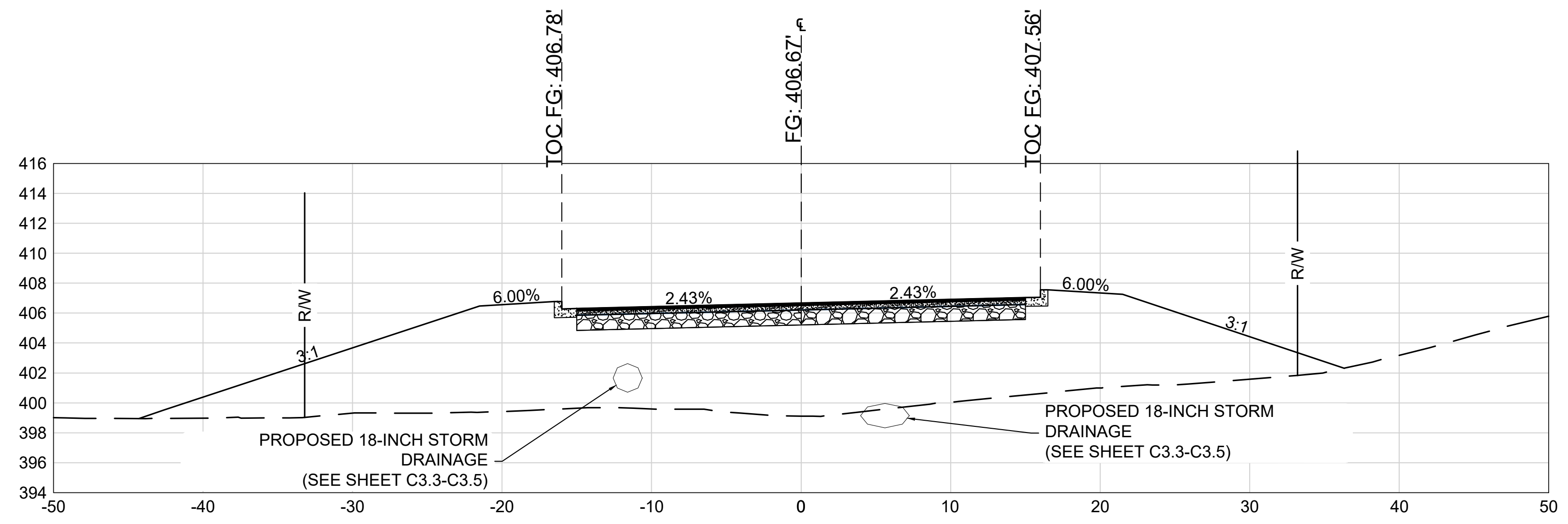
NOTE:
CAD FILES WILL BE PROVIDED TO CONTRACTOR FOR USE WITH SITE STAKING.

REFERENCES:

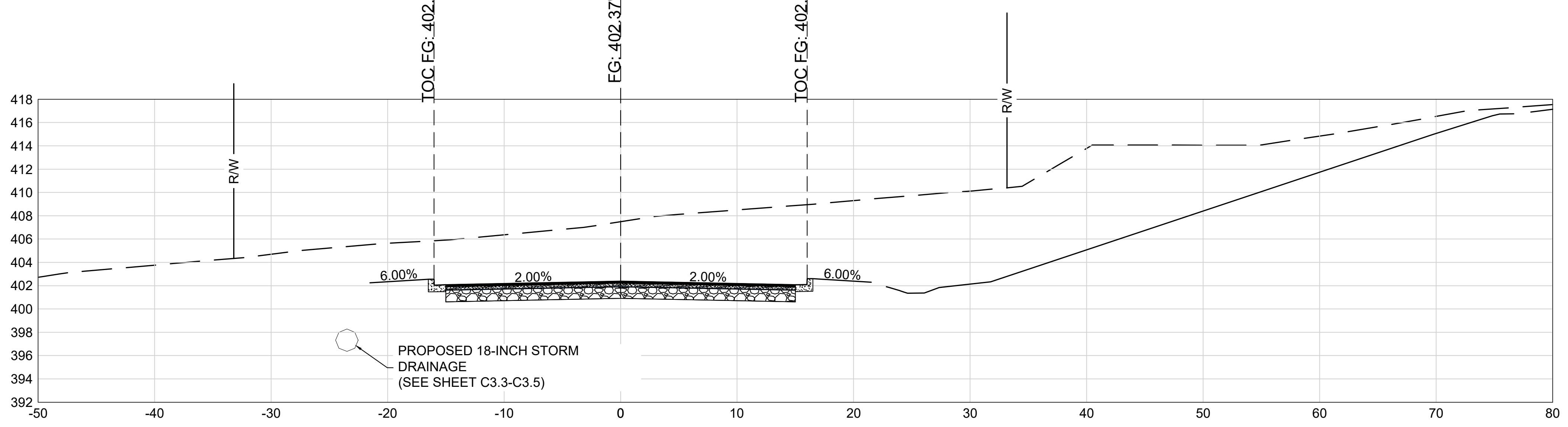
1. REFERENCE IS MADE TO A TOPOGRAPHIC SURVEY COMPLETED BY ABRAHAM LAND SURVEYING, DATED AUGUST 7, 2019.
2. REFERENCE IS MADE TO A WETLANDS SURVEY COMPLETED BY S&ME, DATED AUGUST 4, 2017.
3. ALL ELEVATIONS ARE REFERENCED TO NAVD 88.



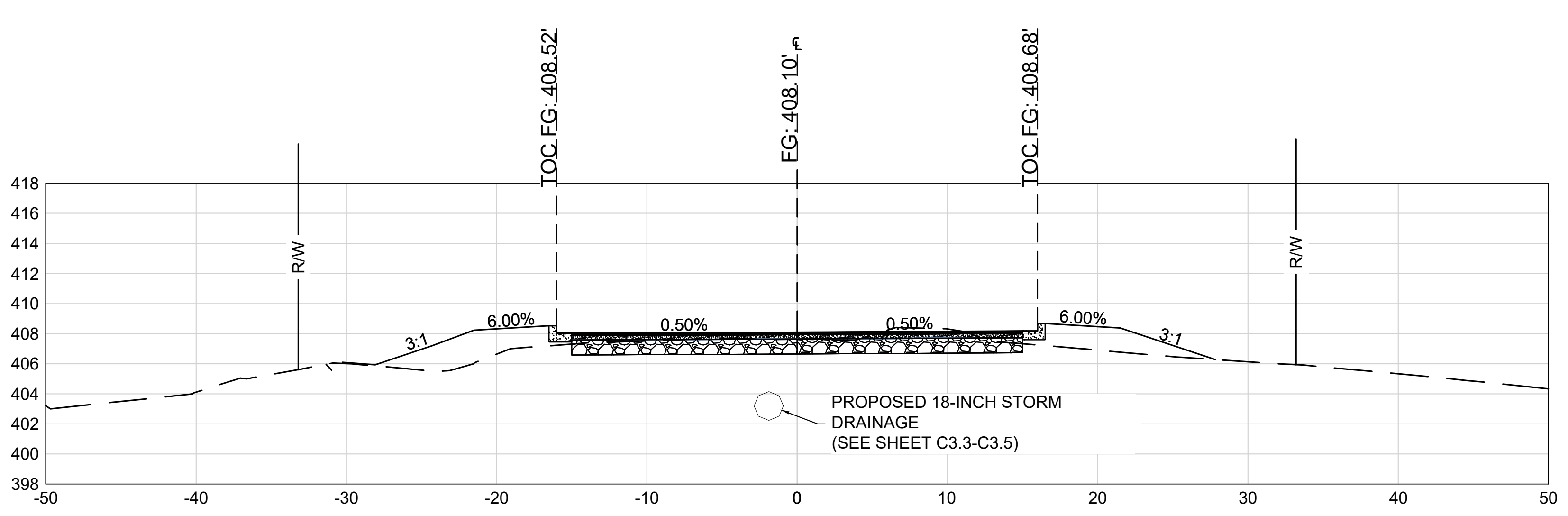
36+00



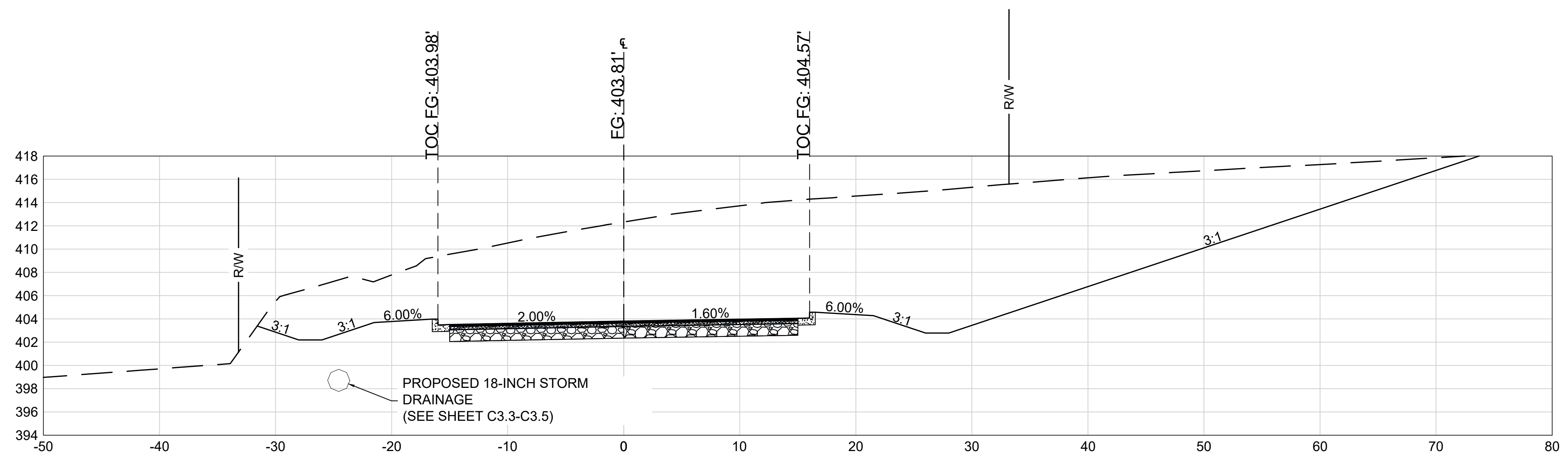
35+50



37+00



35+00



36+50

Roadway Cross Sections
STA: 35+00 - 37+00

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

CAUTION-NOTE TO CONTRACTOR

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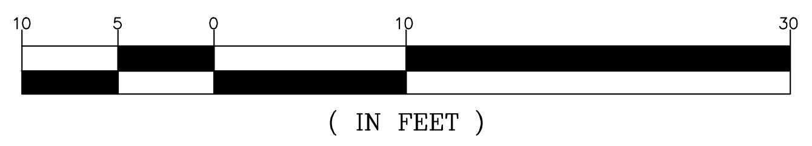

(IN FEET)

CROSS SECTION LEGEND

▬	2" TYPE B SURFACE COURSE
▨	3.5" TYPE B INTERMEDIATE COURSE
▨	12" GRADED AGGREGATE BASE COURSE (GABC)
▙	CONCRETE CURB AND GUTTER
— — —	EXISTING GRADE
———	PROPOSED GRADE

#	REVISION DATE
1	

APPROVALS	ENGINEER	DESIGNER	TECHNICIAN	CHECKED BY	APPROVED
	JVB	JVB	RDS	DMN	KMC

Alliance Consulting Engineers, Inc. No. C02854
DATE: FEBRUARY 14, 2025

JOHN V. BABBAGE No. 40365
SIGNATURE:

ALLIANCE CONSULTING ENGINEERS
Alliance Consulting Engineers, Inc.
Post Office Box 8147 Columbia, South Carolina 29202-8147
Phone (803) 779-2078 • Fax (803) 779-2079

SHEET
ROADWAY CROSS SECTIONS
STA: 35+00 TO 37+00
DATE: MAY 2024
SCALE: 1" = 10'

PROJECT
± 3,350-LF OF ROADWAY IMPROVEMENTS
TO MAWSONS WAY AT THE
SC HIGHWAY 219 INDUSTRIAL PARK
NEWBERRY COUNTY,
SOUTH CAROLINA
NEWBERRY COUNTY
SOUTH CAROLINA

FILE NAME: C4.0.DWG
REFERENCE FILE: 19166Base. dwg
PROJECT NO. 19166-0036

SHEET C4.10

DWG NO. 01,1347-D23

March 04, 2025 - 3:27:50 PM S:\Projects\19166-0036 Roadway Improvements to Mawson's Way at SC Hwy 219 Ind Pk in Newberry, Co\dwg\Construction Plans\ C4.0 - Roadway Cross Sections.dwg

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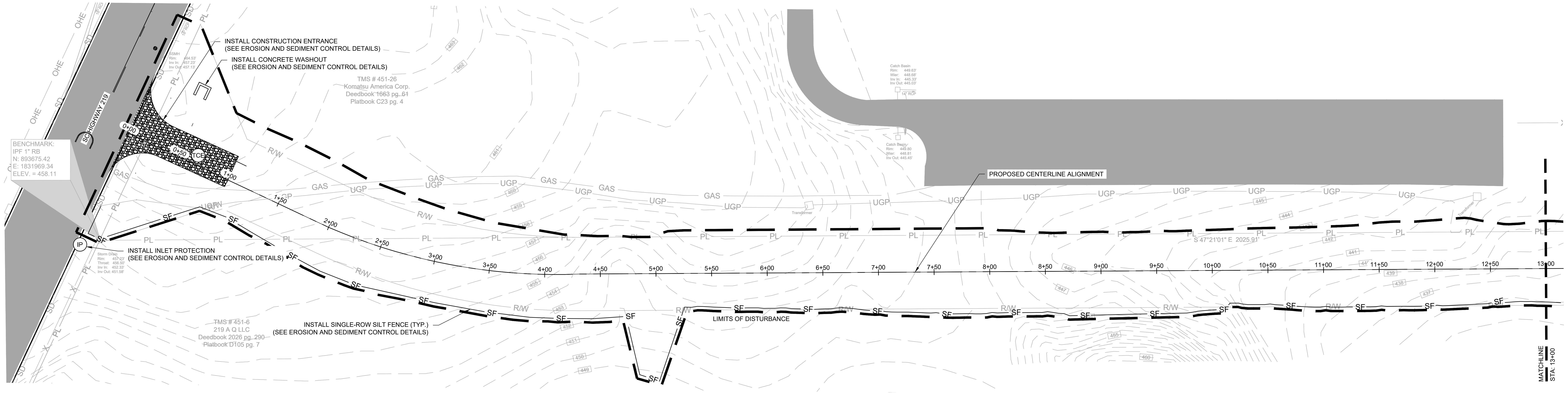
3. ALL ELEVATIONS ARE REFERENCED TO NAVD 88.

E&SC LEGEND

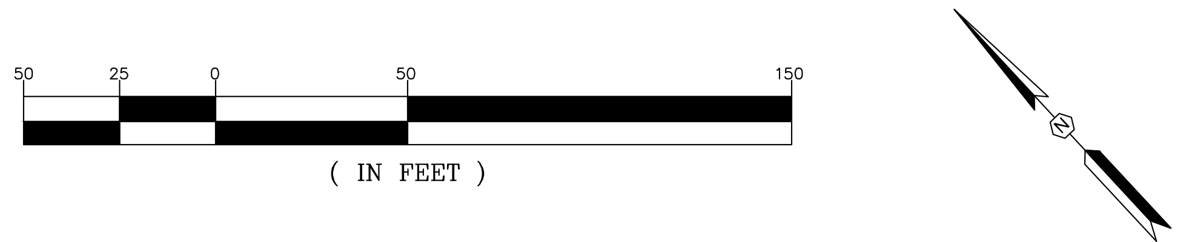
▬ ▬ ▬	LIMITS OF DISTURBANCE
—SF—	SILT FENCE
(IP) (OP)	INLET/OUTLET PROTECTION
▨ (MAT)	EROSION CONTROL MATTING
▨ (PS)	PERMANENT SEEDING
(CD)	RIP RAP CHECK DAM
▨ (TCE)	CONSTRUCTION ENTRANCE

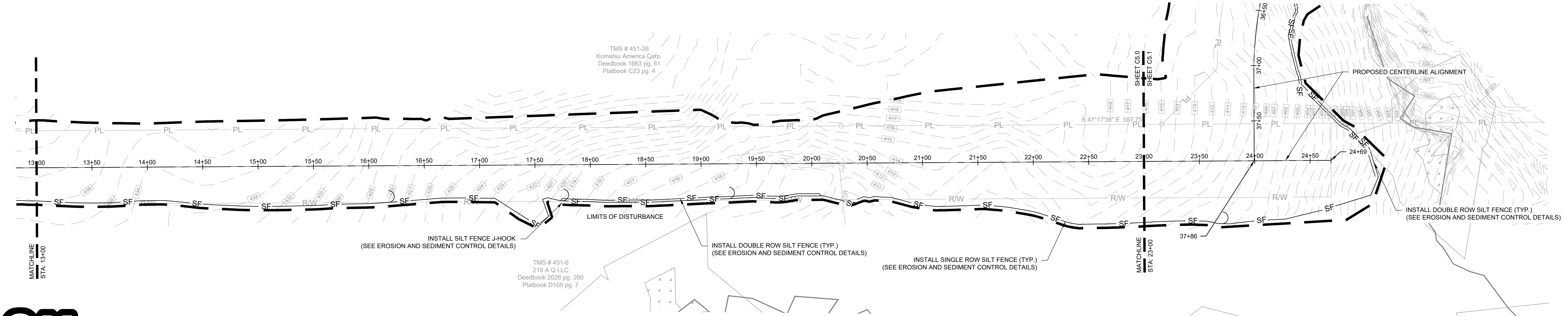
LEGEND

450	EXISTING CONTOUR MAJOR
451	EXISTING CONTOUR MINOR
PL	EXISTING PROPERTY LINE
SD	EXISTING STORM DRAINAGE
▨	EXISTING ASPHALT ROADWAY
═	EXISTING CURB AND GUTTER
X	EXISTING FENCE
W	EXISTING WATER LINE
WW	EXISTING WASTEWATER LINE
GAS	EXISTING NATURAL GAS LINE
OHE	EXISTING OVERHEAD ELECTRIC LINE
UGP	EXISTING UNDERGROUND ELECTRIC LINE
— - —	EXISTING ROADWAY CENTER LINE
— - —	PROPOSED ROADWAY CENTER LINE
═	PROPOSED CURB AND GUTTER
⊦	PROPOSED SIGN
450	PROPOSED CONTOUR MAJOR
451	PROPOSED CONTOUR MINOR
━	PROPOSED STORM DRAINAGE LINE
☐	PROPOSED STORM DRAINAGE STRUCTURE
— —	PROPOSED LIMITS OF DISTURBANCE
R/W	PROPOSED RIGHT OF WAY
▬ ▬ ▬	MATCH LINE

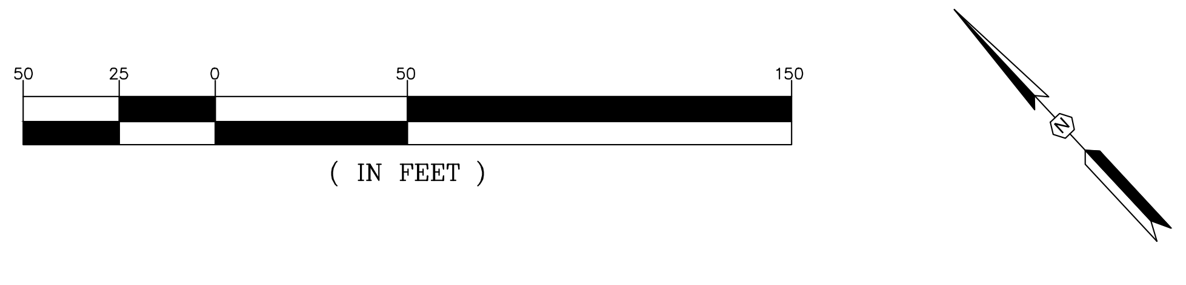


PHASE I EROSION AND SEDIMENT CONTROL PLAN
STA: 0+00 TO 13+00





PHASE I EROSION AND SEDIMENT CONTROL PLAN
STA: 13+00 TO 24+67



811
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Call before you dig.

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#	REVISION DATE
1	

APPROVALS	ENGINEER	DESIGNER	TECHNICIAN	CHECKED BY	APPROVED
	JVB	JVB	RDS	DMN	KMC

Alliance Consulting Engineers, Inc. No. C02854

DATE: FEBRUARY 14, 2025

JOHN VERBACE No. 40365

SIGNATURE:

ALLIANCE CONSULTING ENGINEERS
Alliance Consulting Engineers, Inc.
Post Office Box 8147 Columbia, South Carolina 29202-8147
Phone (803) 779-2078 • Fax (803) 779-2079

SHEET
PHASE I EROSION AND SEDIMENT CONTROL PLAN
STA: 0+00 TO 24+67
DATE: MAY 2024
SCALE: 1" = 50'

PROJECT
± 3,350-LF OF ROADWAY IMPROVEMENTS
TO MAWSONS WAY AT THE
SC HIGHWAY 219 INDUSTRIAL PARK
NEWBERRY COUNTY,
SOUTH CAROLINA
NEWBERRY COUNTY
SOUTH CAROLINA

FILE NAME: C5.0.DWG
REFERENCE FILE: 19166Base. dwg
PROJECT NO. 19166-0036

SHEET C5.0

DWG NO. 01,1347-D23

NOTE: UTILITY LOCATIONS ARE APPROXIMATE AND MUST BE FIELD LOCATED PRIOR TO ANY LAND DISTURBANCE BY THE CONTRACTOR

NOTE:
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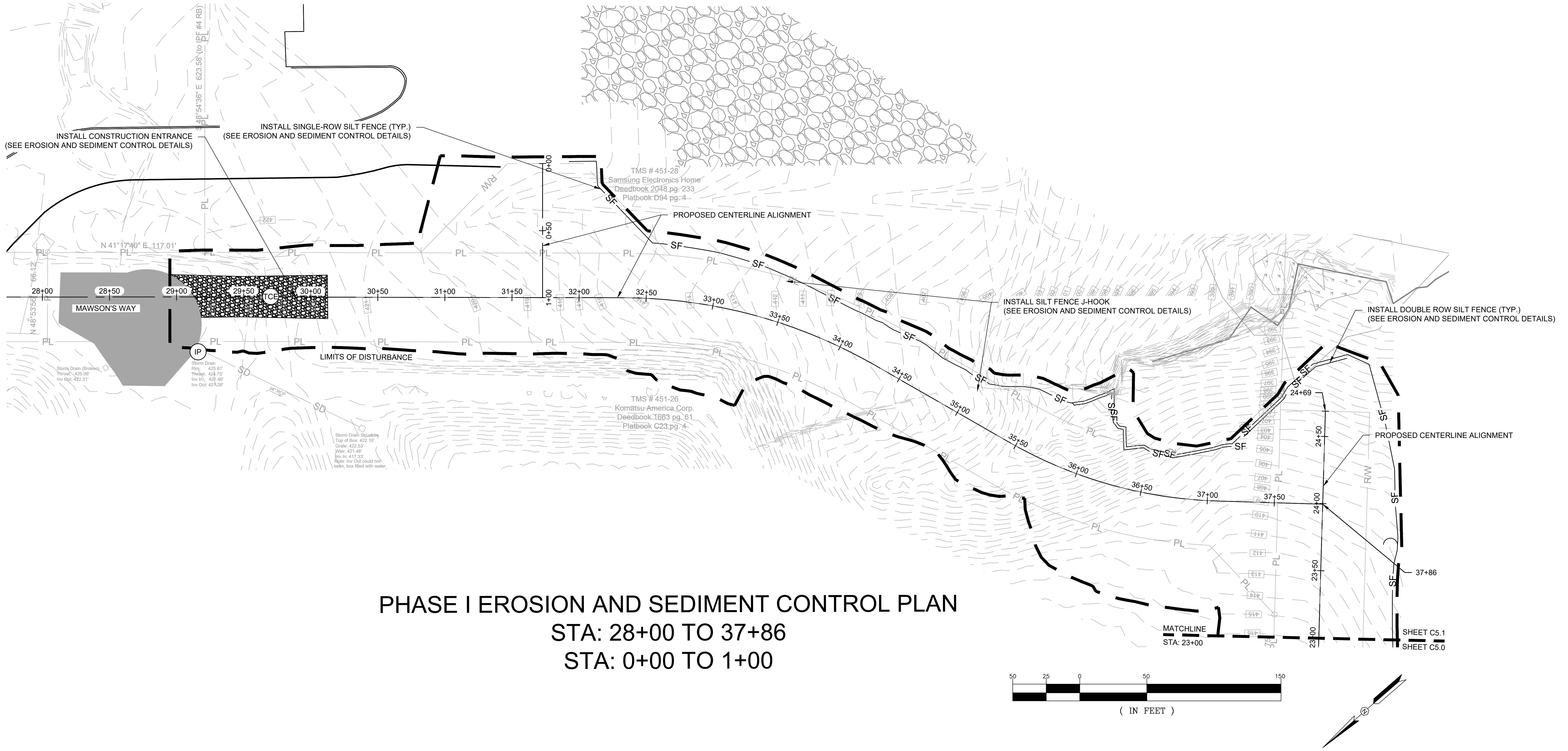
3. ALL ELEVATIONS ARE REFERENCED TO NAVD 88.

E&SC LEGEND

▬ ▬ ▬	LIMITS OF DISTURBANCE
—SF—	SILT FENCE
(IP) (OP)	INLET/OUTLET PROTECTION
(MAT)	EROSION CONTROL MATTING
(PS)	PERMANENT SEEDING
(CD)	RIP RAP CHECK DAM
(TCE)	CONSTRUCTION ENTRANCE

LEGEND

—450—	EXISTING CONTOUR MAJOR	— - — -	EXISTING ROADWAY CENTER LINE
—451—	EXISTING CONTOUR MINOR	— - — -	PROPOSED ROADWAY CENTER LINE
—PL—	EXISTING PROPERTY LINE	═══	PROPOSED CURB AND GUTTER
—SD—	EXISTING STORM DRAINAGE	ǂ	PROPOSED SIGN
▒▒▒	EXISTING ASPHALT ROADWAY	—450—	PROPOSED CONTOUR MAJOR
═══	EXISTING CURB AND GUTTER	—451—	PROPOSED CONTOUR MINOR
—X—	EXISTING FENCE	━━━	PROPOSED STORM DRAINAGE LINE
—W—	EXISTING WATER LINE	□	PROPOSED STORM DRAINAGE STRUCTURE
—WW—	EXISTING WASTEWATER LINE	━━ ━━	PROPOSED LIMITS OF DISTURBANCE
—GAS—	EXISTING NATURAL GAS LINE	—R/W—	PROPOSED RIGHT OF WAY
—OHE—	EXISTING OVERHEAD ELECTRIC LINE	▬ ▬ ▬	MATCH LINE
—UGP—	EXISTING UNDERGROUND ELECTRIC LINE		



PHASE I EROSION AND SEDIMENT CONTROL PLAN
STA: 28+00 TO 37+86
STA: 0+00 TO 1+00

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

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March 19, 2025 - 3:03:25 PM S:\Projects\19166-0036 Roadway Improvements to Mawson's Way at SC Hwy 219 Ind Pk in Newberry, Co\dwg\Construction Plans\ C5.0-C5.5 - Phase I, II, and III Erosion and Sediment Control Plans.dwg

#	REVISION DATE
1	

APPROVALS	ENGINEER	DESIGNER	TECHNICIAN	CHECKED BY	APPROVED
	JVB	JVB	RDS	DMN	KMC

Alliance Consulting Engineers, Inc.
No. C02854

DATE: FEBRUARY 14, 2025

JOHN
No. 40365

SIGNATURE:

ALLIANCE
CONSULTING ENGINEERS
Alliance Consulting Engineers, Inc.
Post Office Box 8147 Columbia, South Carolina 29202-8147
Phone (803) 779-2078 • Fax (803) 779-2079

SHEET
PHASE I EROSION AND
SEDIMENT CONTROL PLAN
STA: 28+00 TO 37+86
STA: 0+00 TO 1+00
DATE: MAY 2024
SCALE: 1" = 50'

PROJECT
± 3,350-LF OF ROADWAY
IMPROVEMENTS
TO MAWSONS WAY AT THE
SC HIGHWAY 219 INDUSTRIAL PARK
NEWBERRY COUNTY,
SOUTH CAROLINA
NEWBERRY COUNTY
SOUTH CAROLINA

FILE NAME:
C5.0.DWG
REFERENCE FILE:
19166Base. dwg
PROJECT NO.
19166-0036

SHEET
C5.1

DWG NO. 01,1347-D23

NOTE: UTILITY LOCATIONS ARE APPROXIMATE AND MUST BE FIELD LOCATED PRIOR TO ANY LAND DISTURBANCE BY THE CONTRACTOR

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REFERENCES:

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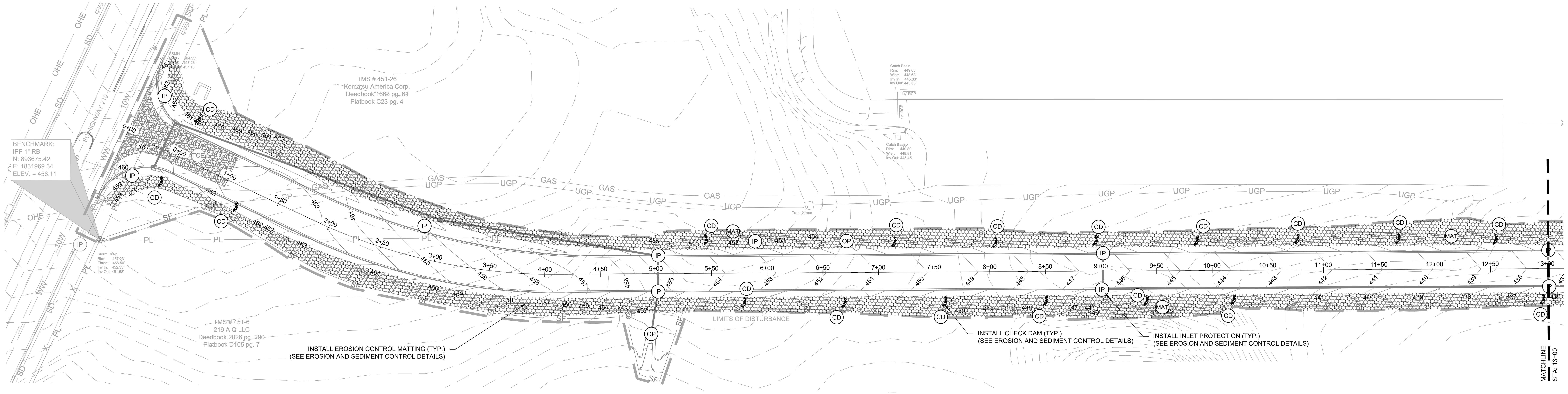
E&SC LEGEND

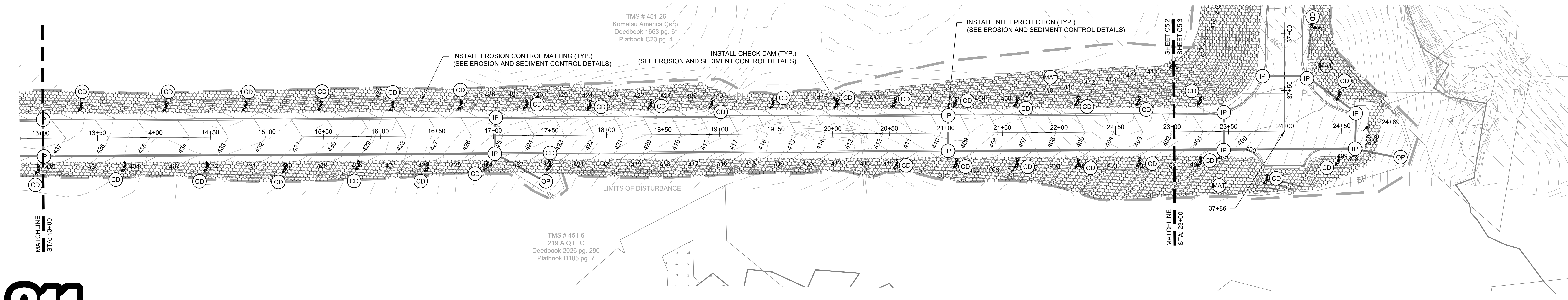
▬ ▬ ▬	LIMITS OF DISTURBANCE
—SF—	SILT FENCE
(IP) (OP)	INLET/OUTLET PROTECTION
▨ (MAT)	EROSION CONTROL MATTING
▨ (PS)	PERMANENT SEEDING
(CD)	RIP RAP CHECK DAM
▨ (TCE)	CONSTRUCTION ENTRANCE

LEGEND

—450—	EXISTING CONTOUR MAJOR	— - — -	EXISTING ROADWAY CENTER LINE
—451—	EXISTING CONTOUR MINOR	— - — -	PROPOSED ROADWAY CENTER LINE
—PL—	EXISTING PROPERTY LINE	═	PROPOSED CURB AND GUTTER
—SD—	EXISTING STORM DRAINAGE	⍿	PROPOSED SIGN
▬	EXISTING ASPHALT ROADWAY	—450—	PROPOSED CONTOUR MAJOR
═	EXISTING CURB AND GUTTER	—451—	PROPOSED CONTOUR MINOR
—X—	EXISTING FENCE	━	PROPOSED STORM DRAINAGE LINE
—W—	EXISTING WATER LINE	□	PROPOSED STORM DRAINAGE STRUCTURE
—WW—	EXISTING WASTEWATER LINE	━ ━	PROPOSED LIMITS OF DISTURBANCE
—GAS—	EXISTING NATURAL GAS LINE	—R/W—	PROPOSED RIGHT OF WAY
—OHE—	EXISTING OVERHEAD ELECTRIC LINE	▬ ▬ ▬	MATCH LINE
—UGP—	EXISTING UNDERGROUND ELECTRIC LINE		



PHASE II EROSION AND SEDIMENT CONTROL PLAN
STA: 0+00 TO 13+00



PHASE II EROSION AND SEDIMENT CONTROL PLAN
STA: 13+00 TO 24+67

811
Know what's **below.**
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March 19, 2025 - 2:59:09 PM S:\Projects\19166-0036 Roadway Improvements to Mawson's Way at SC Hwy 219 Ind Pk in Newberry, Co\dwg\Construction Plans\ C5.0-C5.5 - Phase I, II, and III Erosion and Sediment Control Plans.dwg

#	REVISION DATE
1	

APPROVALS	ENGINEER	DESIGNER	TECHNICIAN	CHECKED BY	APPROVED
	JVB	JVB	RDS	DMN	KMC

Alliance Consulting Engineers, Inc.
No. C02854

DATE: FEBRUARY 14, 2025

No. 40365

SIGNATURE:

ALLIANCE CONSULTING ENGINEERS

Alliance Consulting Engineers, Inc.
Post Office Box 8147 Columbia, South Carolina 29202-8147
Phone (803) 779-2078 • Fax (803) 779-2079

SHEET

PHASE II EROSION AND
SEDIMENT CONTROL PLAN
STA: 0+00 TO 24+67
STA: 0+00 TO 1+51

DATE: MAY 2024
SCALE: 1" = 50'

PROJECT

± 3,350-LF OF ROADWAY
IMPROVEMENTS
TO MAWSONS WAY AT THE
SC HIGHWAY 219 INDUSTRIAL PARK
NEWBERRY COUNTY,
SOUTH CAROLINA

NEWBERRY COUNTY
SOUTH CAROLINA

FILE NAME:
C5.0.DWG

REFERENCE FILE:
19166Base. dwg

PROJECT NO.
19166-0036

SHEET
C5.2

DWG NO. 01,1347-D23

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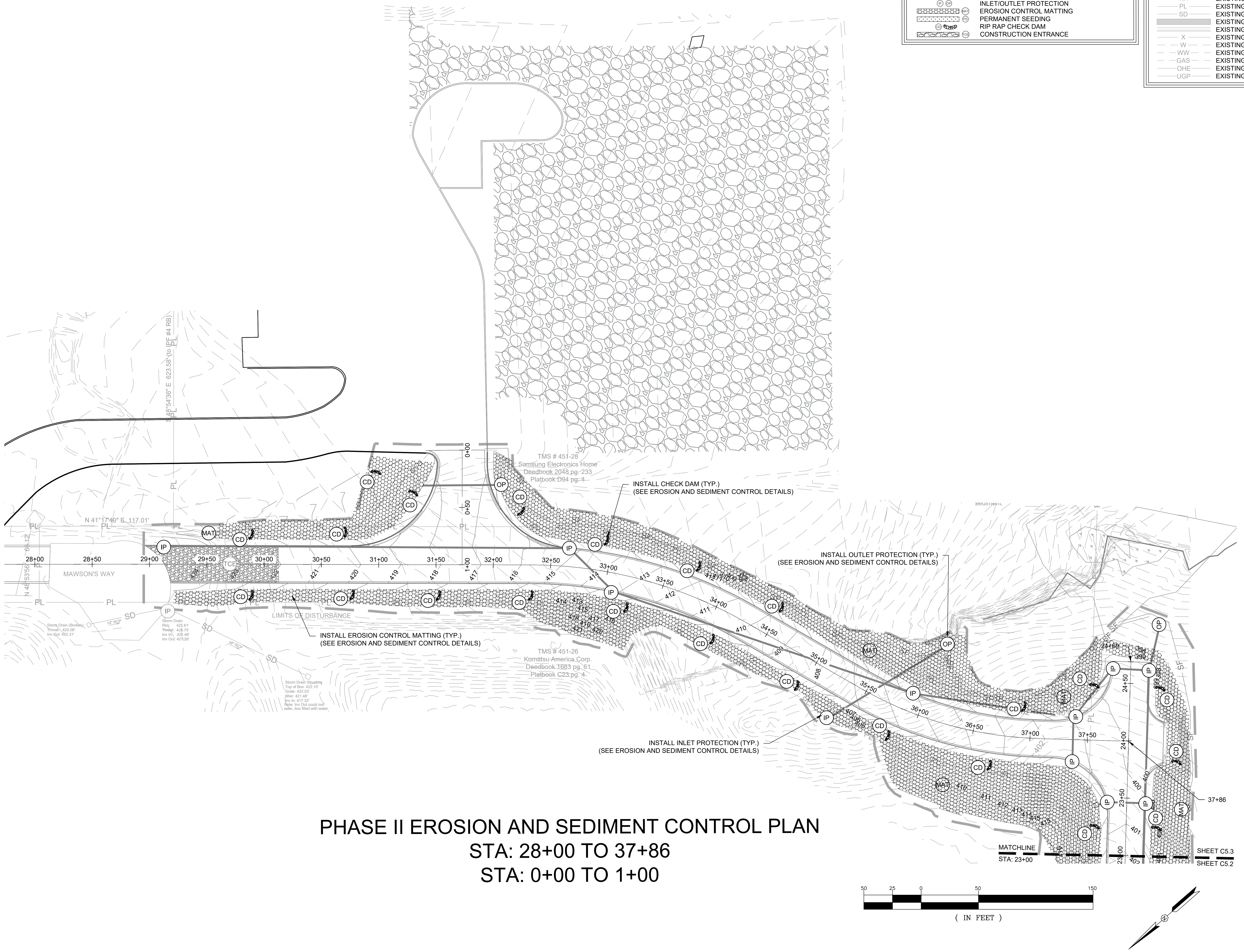
E&SC LEGEND

— — —	LIMITS OF DISTURBANCE
—SF—	SILT FENCE
IP OP	INLET/OUTLET PROTECTION
MAT	EROSION CONTROL MATTING
PS	PERMANENT SEEDING
CD	RIP RAP CHECK DAM
TCE	CONSTRUCTION ENTRANCE

LEGEND

450	EXISTING CONTOUR MAJOR	— - — -	EXISTING ROADWAY CENTER LINE
451	EXISTING CONTOUR MINOR	— - — -	PROPOSED ROADWAY CENTER LINE
PL	EXISTING PROPERTY LINE	═	PROPOSED CURB AND GUTTER
SD	EXISTING STORM DRAINAGE	⊦	PROPOSED SIGN
▨	EXISTING ASPHALT ROADWAY	450	PROPOSED CONTOUR MAJOR
═	EXISTING CURB AND GUTTER	451	PROPOSED CONTOUR MINOR
X	EXISTING FENCE	━	PROPOSED STORM DRAINAGE LINE
W	EXISTING WATER LINE	□	PROPOSED STORM DRAINAGE STRUCTURE
WW	EXISTING WASTEWATER LINE	— —	PROPOSED LIMITS OF DISTURBANCE
GAS	EXISTING NATURAL GAS LINE	R/W	PROPOSED RIGHT OF WAY
OHE	EXISTING OVERHEAD ELECTRIC LINE	— — —	MATCH LINE
UGP	EXISTING UNDERGROUND ELECTRIC LINE		



PHASE II EROSION AND SEDIMENT CONTROL PLAN
STA: 28+00 TO 37+86
STA: 0+00 TO 1+00

811
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	JVB	JVB	RDS	DMN	KMC

Alliance Consulting Engineers, Inc. No. C02854

DATE: FEBRUARY 14, 2025

No. 40365

SIGNATURE:

ALLIANCE CONSULTING ENGINEERS
Alliance Consulting Engineers, Inc.
Post Office Box 8147 Columbia, South Carolina 29202-8147
Phone (803) 779-2078 • Fax (803) 779-2079

SHEET
PHASE II EROSION AND SEDIMENT CONTROL PLAN
STA: 28+00 TO 37+86
STA: 0+00 TO 1+00
DATE: MAY 2024 SCALE: 1" = 50'

PROJECT
± 3,350-LF OF ROADWAY IMPROVEMENTS
TO MAWSONS WAY AT THE
SC HIGHWAY 219 INDUSTRIAL PARK
NEWBERRY COUNTY,
SOUTH CAROLINA
NEWBERRY COUNTY SOUTH CAROLINA

FILE NAME: C5.0.DWG
REFERENCE FILE: 19166Base. dwg
PROJECT NO. 19166-0036

SHEET C5.3

DWG NO. 01,1347-D23

March 19, 2025 - 3:07:31 PM S:\Projects\19166-0036 Roadway Improvements to Mawson's Way at SC Hwy 219 Ind Pk in Newberry, Co\dwg\Construction Plans\ C5.0-C5.5 - Phase I, II, and III Erosion and Sediment Control Plans.dwg

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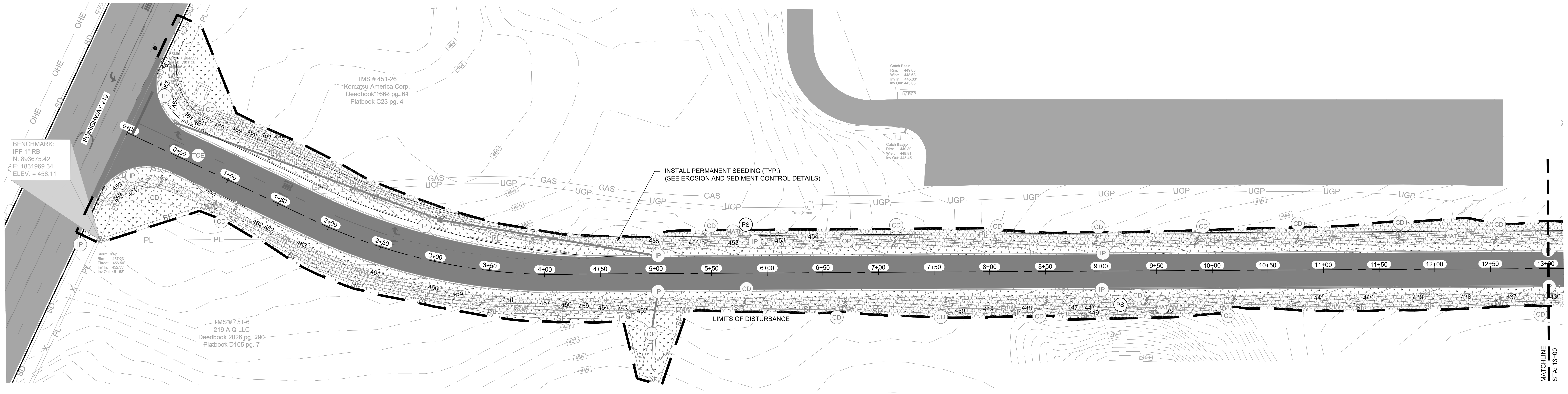
E&SC LEGEND

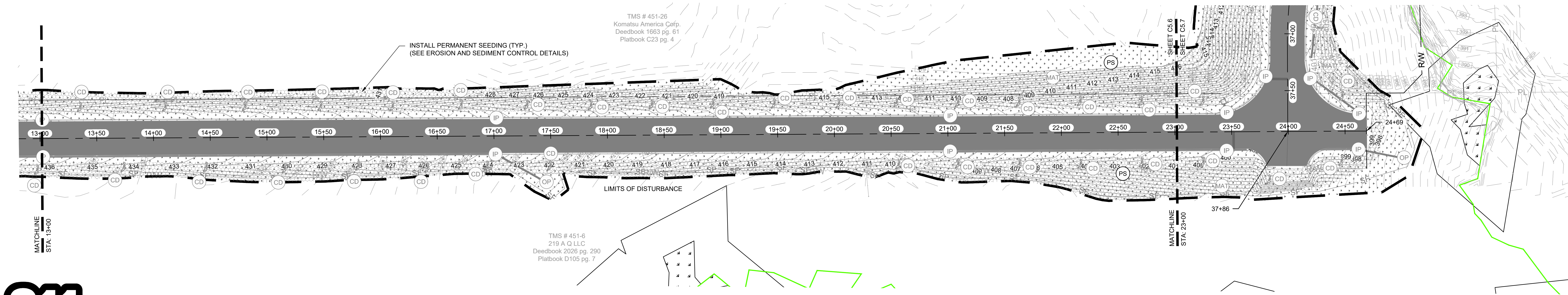
▬ ▬ ▬	LIMITS OF DISTURBANCE
—SF—	SILT FENCE
(IP) (OP)	INLET/OUTLET PROTECTION
▨ (MAT)	EROSION CONTROL MATTING
▨ (PS)	PERMANENT SEEDING
(CD)	RIP RAP CHECK DAM
▨ (TCE)	CONSTRUCTION ENTRANCE

LEGEND

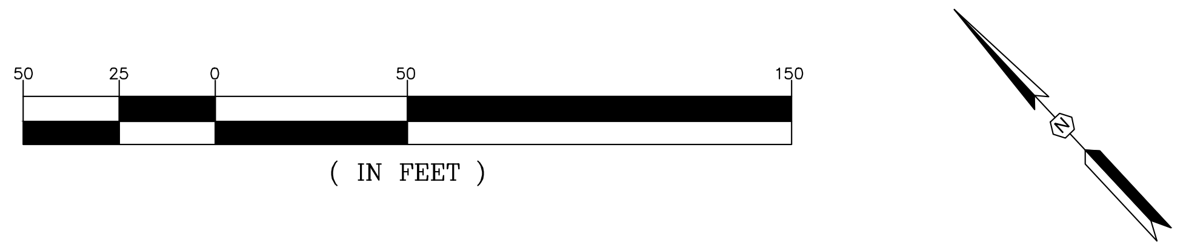
—450—	EXISTING CONTOUR MAJOR	— - — - —	EXISTING ROADWAY CENTER LINE
—451—	EXISTING CONTOUR MINOR	— - — - —	PROPOSED ROADWAY CENTER LINE
—PL—	EXISTING PROPERTY LINE	═══	PROPOSED CURB AND GUTTER
—SD—	EXISTING STORM DRAINAGE	⊦	PROPOSED SIGN
▭	EXISTING ASPHALT ROADWAY	—450—	PROPOSED CONTOUR MAJOR
═══	EXISTING CURB AND GUTTER	—451—	PROPOSED CONTOUR MINOR
—X—	EXISTING FENCE	━━━	PROPOSED STORM DRAINAGE LINE
—W—	EXISTING WATER LINE	□	PROPOSED STORM DRAINAGE STRUCTURE
—WW—	EXISTING WASTEWATER LINE	━━ ━━	PROPOSED LIMITS OF DISTURBANCE
—GAS—	EXISTING NATURAL GAS LINE	—R/W—	PROPOSED RIGHT OF WAY
—OHE—	EXISTING OVERHEAD ELECTRIC LINE	▬ ▬ ▬	MATCH LINE
—UGP—	EXISTING UNDERGROUND ELECTRIC LINE		



PHASE III EROSION AND SEDIMENT CONTROL PLAN
STA: 0+00 TO 13+00



PHASE III EROSION AND SEDIMENT CONTROL PLAN
STA: 13+00 TO 24+67



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

CAUTION-NOTE TO CONTRACTOR

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. SC LAW REQUIRES THE CONTRACTOR TO CALL THE UTILITY PROTECTION CENTER AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE THE RELOCATION OF ALL THE UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

March 19, 2025 - 3:00:46 PM S:\Projects\19166-0036 Roadway Improvements to Mawson's Way at SC Hwy 219 Ind Pk in Newberry, Co\dwg\Construction Plans\ C5.0-C5.5 - Phase I, II, and III Erosion and Sediment Control Plans.dwg

#	REVISION DATE
1	

APPROVALS

ENGINEER	DESIGNER	TECHNICIAN	CHECKED BY	APPROVED
JVB	JVB	RDS	DMN	KMC

Alliance Consulting Engineers, Inc. No. C02854

DATE: FEBRUARY 14, 2025

No. 40365 JOHN

SIGNATURE:

ALLIANCE CONSULTING ENGINEERS
Alliance Consulting Engineers, Inc.
Post Office Box 8147 Columbia, South Carolina 29202-8147
Phone (803) 779-2078 • Fax (803) 779-2079

SHEET
PHASE III EROSION AND SEDIMENT CONTROL PLAN
STA: 0+00 TO 24+67
DATE: MAY 2024
SCALE: 1" = 50'

PROJECT
± 3,350-LF OF ROADWAY IMPROVEMENTS
TO MAWSONS WAY AT THE SC HIGHWAY 219 INDUSTRIAL PARK
NEWBERRY COUNTY, SOUTH CAROLINA
NEWBERRY COUNTY
SOUTH CAROLINA

FILE NAME:
C5.0.DWG
REFERENCE FILE:
19166Base. dwg
PROJECT NO.
19166-0036

SHEET
C5.4

DWG NO. 01,1347-D23

NOTE: UTILITY LOCATIONS ARE APPROXIMATE AND MUST BE FIELD LOCATED PRIOR TO ANY LAND DISTURBANCE BY THE CONTRACTOR

NOTE:
CAD FILES WILL BE PROVIDED TO CONTRACTOR FOR USE WITH SITE STAKING.

REFERENCES:

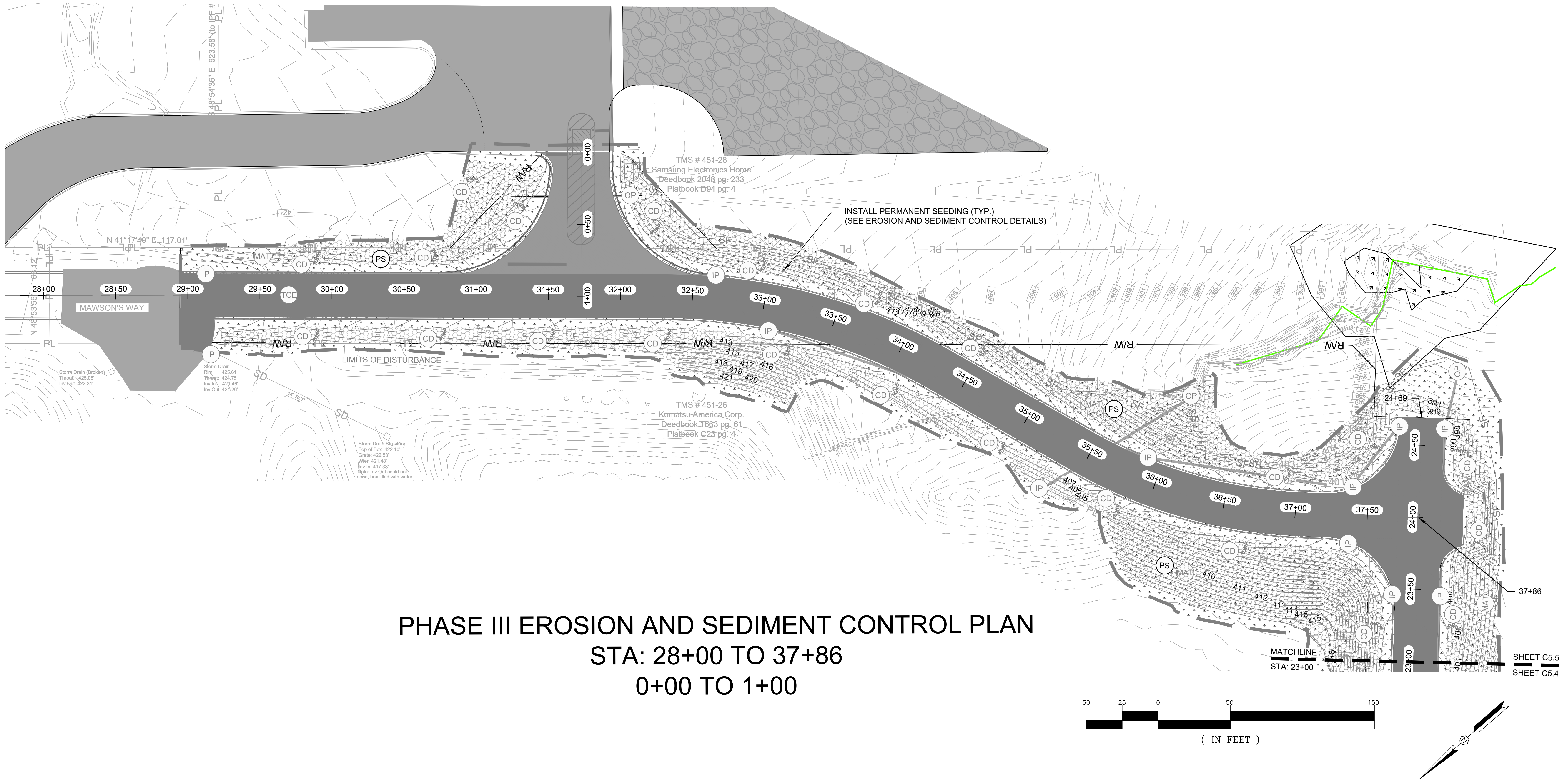
1. REFERENCE IS MADE TO A TOPOGRAPHIC SURVEY COMPLETED BY ABRAHAM LAND SURVEYING, DATED AUGUST 7, 2019.
2. REFERENCE IS MADE TO A WETLANDS SURVEY COMPLETED BY S&ME, DATED AUGUST 4, 2017.
3. ALL ELEVATIONS ARE REFERENCED TO NAVD 88.

E&SC LEGEND

— — —	LIMITS OF DISTURBANCE
SF	SILT FENCE
IP OP	INLET/OUTLET PROTECTION
MAT	EROSION CONTROL MATTING
PS	PERMANENT SEEDING
CD	RIP RAP CHECK DAM
TCE	CONSTRUCTION ENTRANCE

LEGEND

450	EXISTING CONTOUR MAJOR	— - —	EXISTING ROADWAY CENTER LINE
451	EXISTING CONTOUR MINOR	— - —	PROPOSED ROADWAY CENTER LINE
PL	EXISTING PROPERTY LINE	═	PROPOSED CURB AND GUTTER
SD	EXISTING STORM DRAINAGE	⊦	PROPOSED SIGN
▨	EXISTING ASPHALT ROADWAY	450	PROPOSED CONTOUR MAJOR
═	EXISTING CURB AND GUTTER	451	PROPOSED CONTOUR MINOR
X	EXISTING FENCE	—	PROPOSED STORM DRAINAGE LINE
W	EXISTING WATER LINE	□	PROPOSED STORM DRAINAGE STRUCTURE
WW	EXISTING WASTEWATER LINE	— —	PROPOSED LIMITS OF DISTURBANCE
GAS	EXISTING NATURAL GAS LINE	R/W	PROPOSED RIGHT OF WAY
OHE	EXISTING OVERHEAD ELECTRIC LINE	— — —	MATCH LINE
UGP	EXISTING UNDERGROUND ELECTRIC LINE		



PHASE III EROSION AND SEDIMENT CONTROL PLAN
STA: 28+00 TO 37+86
0+00 TO 1+00

Know what's below. Call before you dig.

CAUTION-NOTE TO CONTRACTOR

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. SC LAW REQUIRES THE CONTRACTOR TO CALL THE UTILITY PROTECTION CENTER AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE THE RELOCATION OF ALL THE UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

#	REVISION DATE
1	

APPROVALS	ENGINEER	DESIGNER	TECHNICIAN	CHECKED BY	APPROVED
	JVB	JVB	RDS	DMN	KMC

Alliance Consulting Engineers, Inc.
No. C02854

DATE: FEBRUARY 14, 2025

No. 40365

SIGNATURE:

ALLIANCE
CONSULTING ENGINEERS
Alliance Consulting Engineers, Inc.
Post Office Box 8147 Columbia, South Carolina 29202-8147
Phone (803) 779-2078 • Fax (803) 779-2079

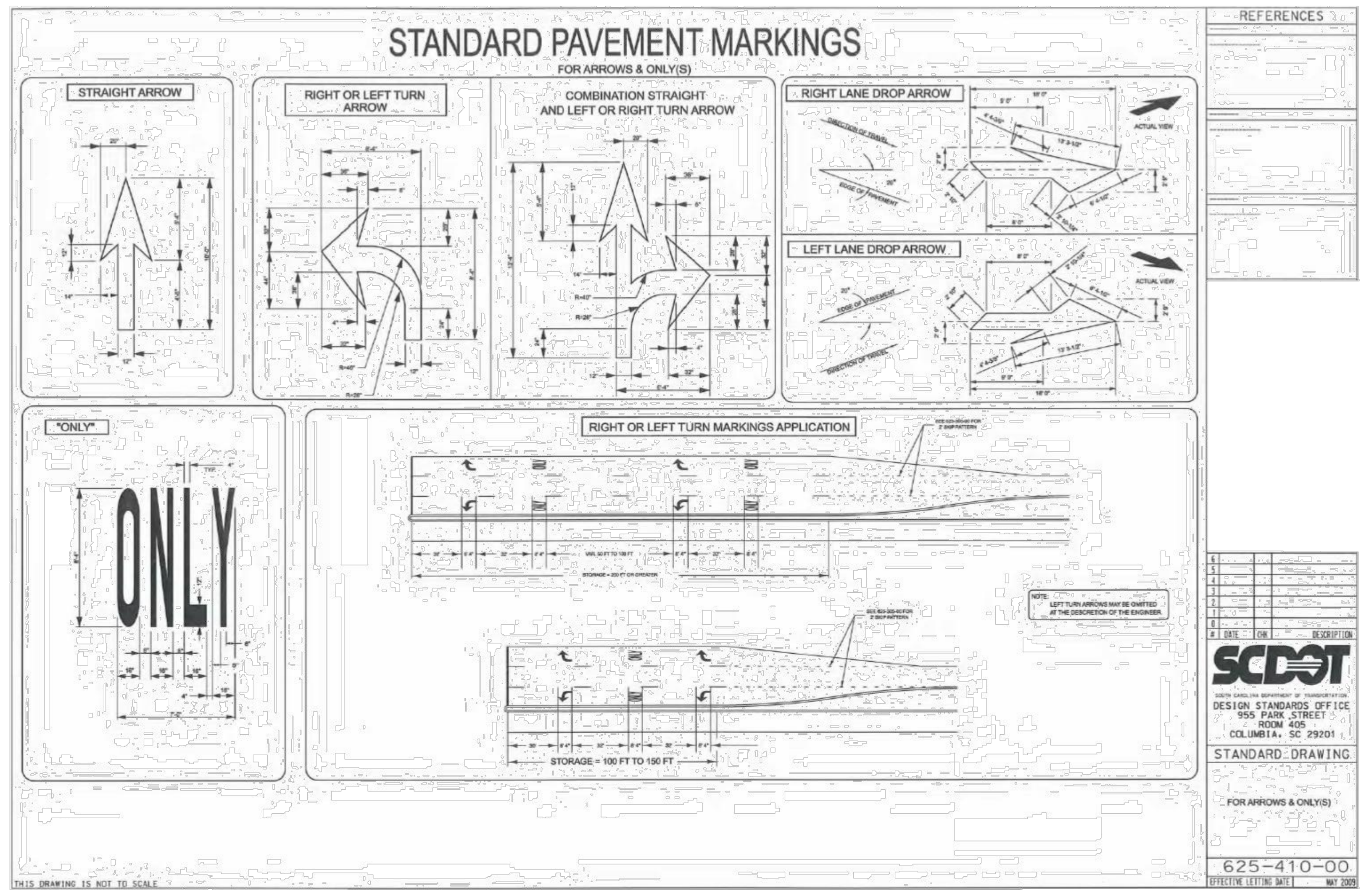
SHEET
PHASE III EROSION AND SEDIMENT CONTROL PLAN
STA: 28+00 TO 37+86
STA: 0+00 TO 1+00
DATE: MAY 2024
SCALE: 1" = 50'

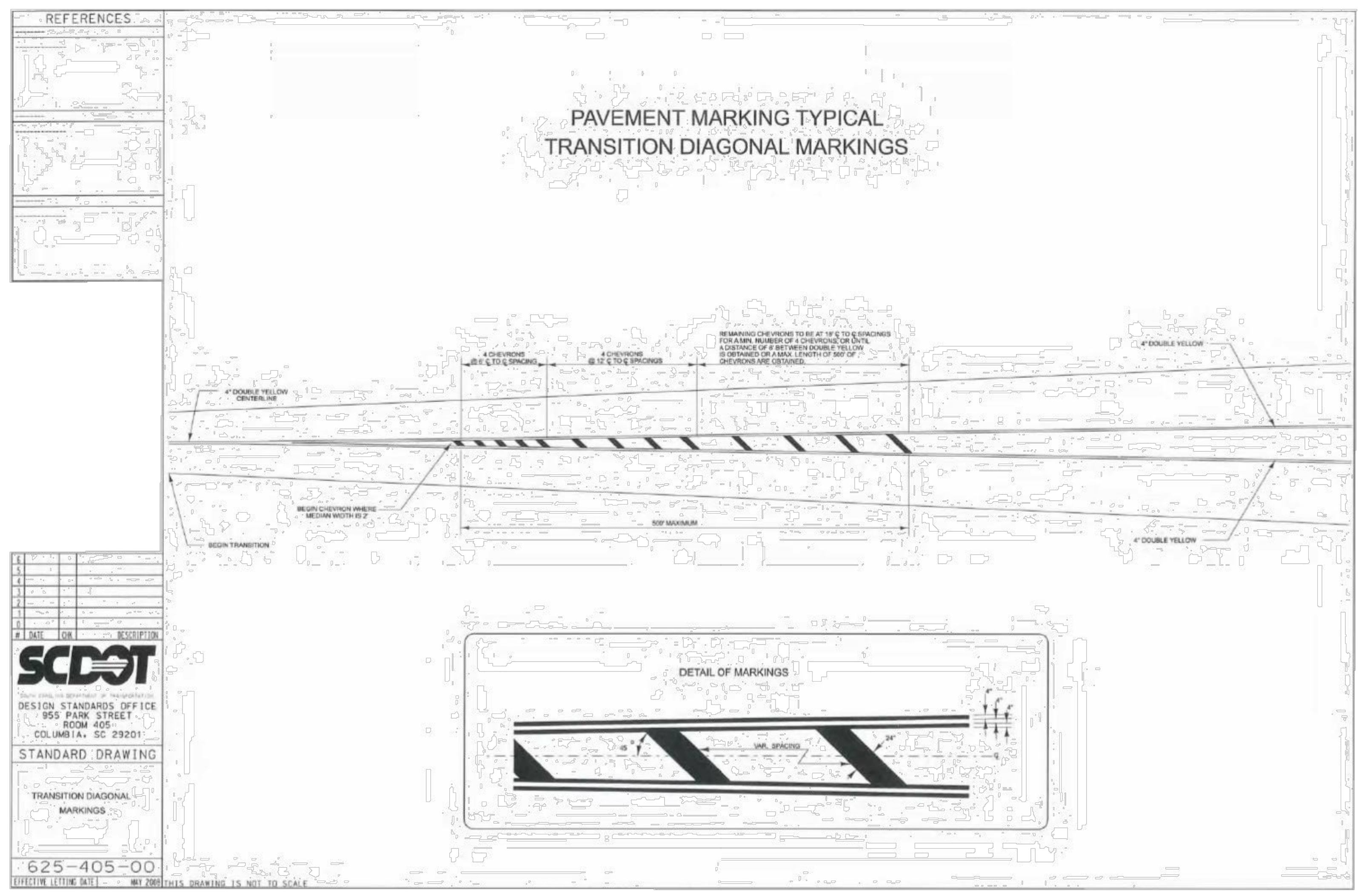
PROJECT
± 3,350-LF OF ROADWAY IMPROVEMENTS
TO MAWSONS WAY AT THE
SC HIGHWAY 219 INDUSTRIAL PARK
NEWBERRY COUNTY,
SOUTH CAROLINA
NEWBERRY COUNTY
SOUTH CAROLINA

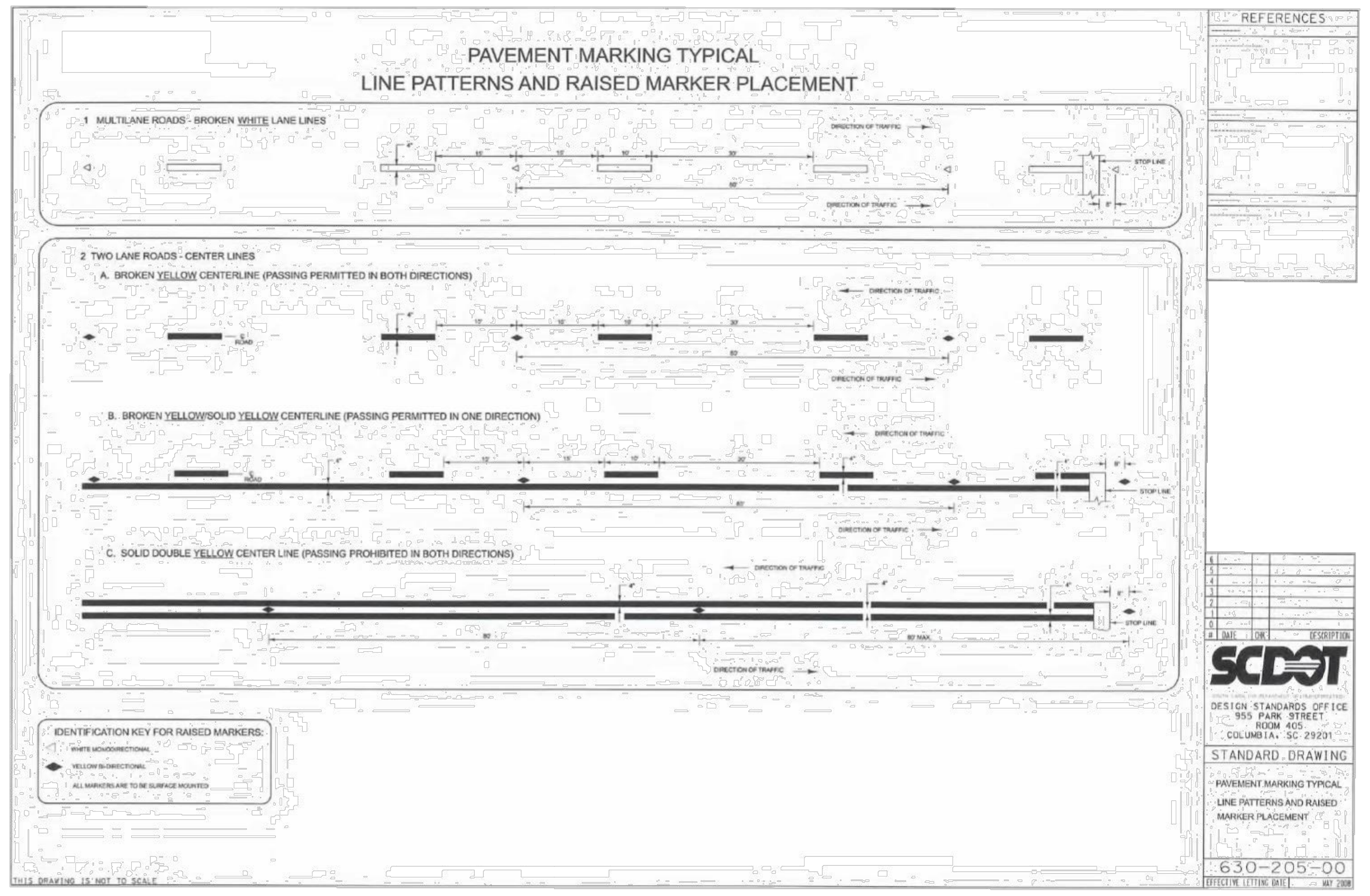
FILE NAME:
C5.0.DWG
REFERENCE FILE:
19166Base. dwg
PROJECT NO.
19166-0036

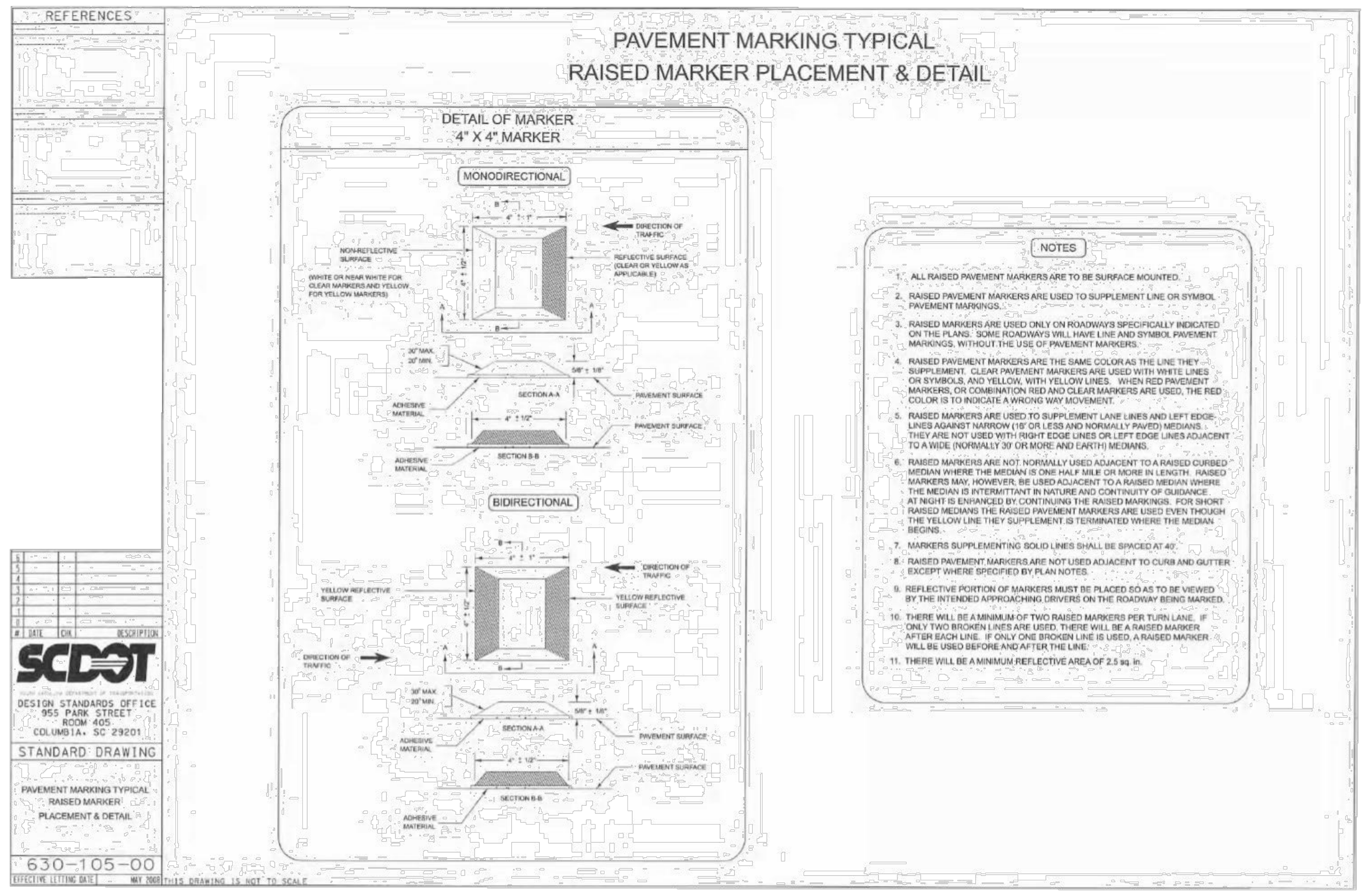
SHEET
C5.5

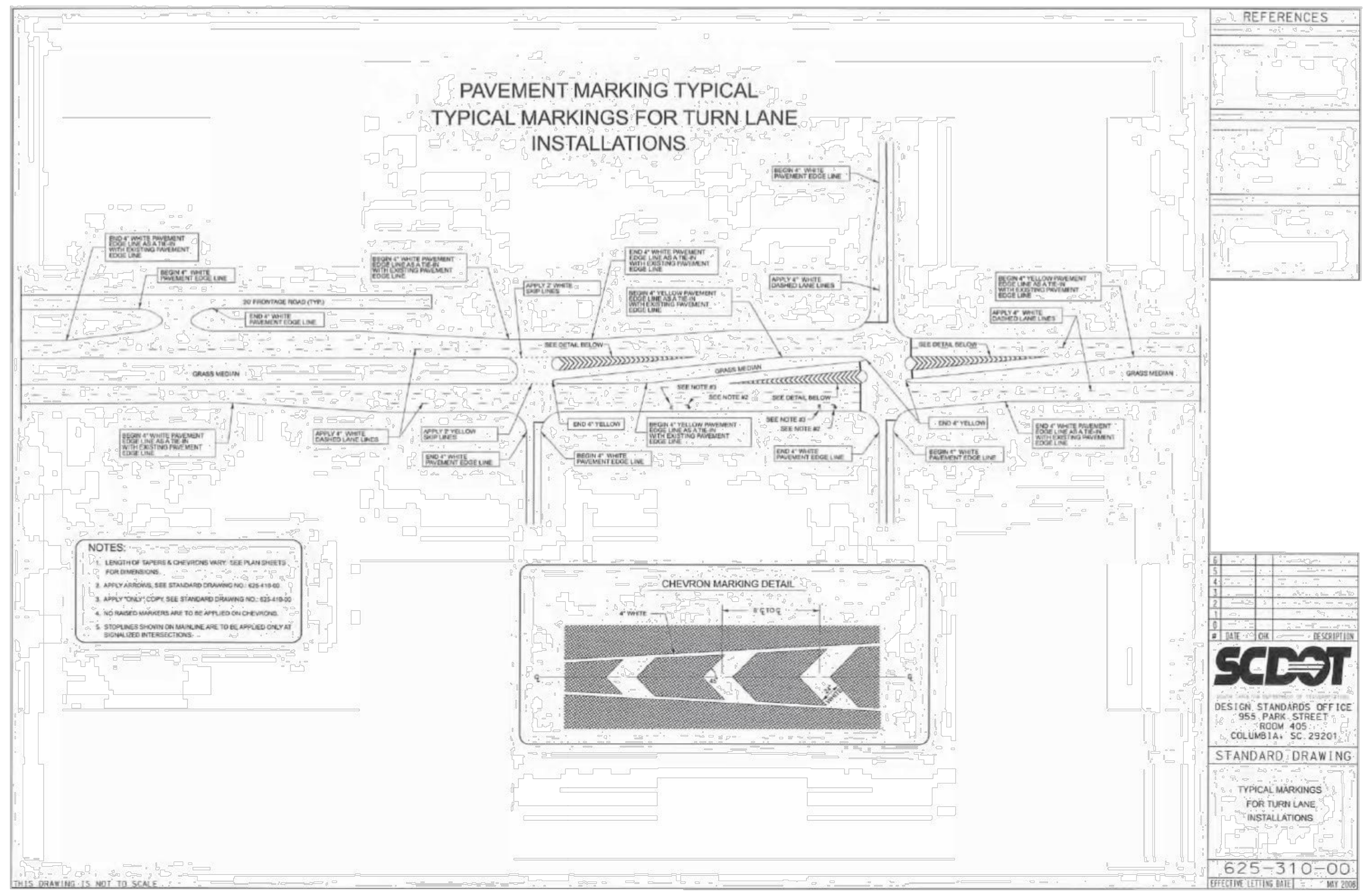
DWG NO. 01,1347-D23

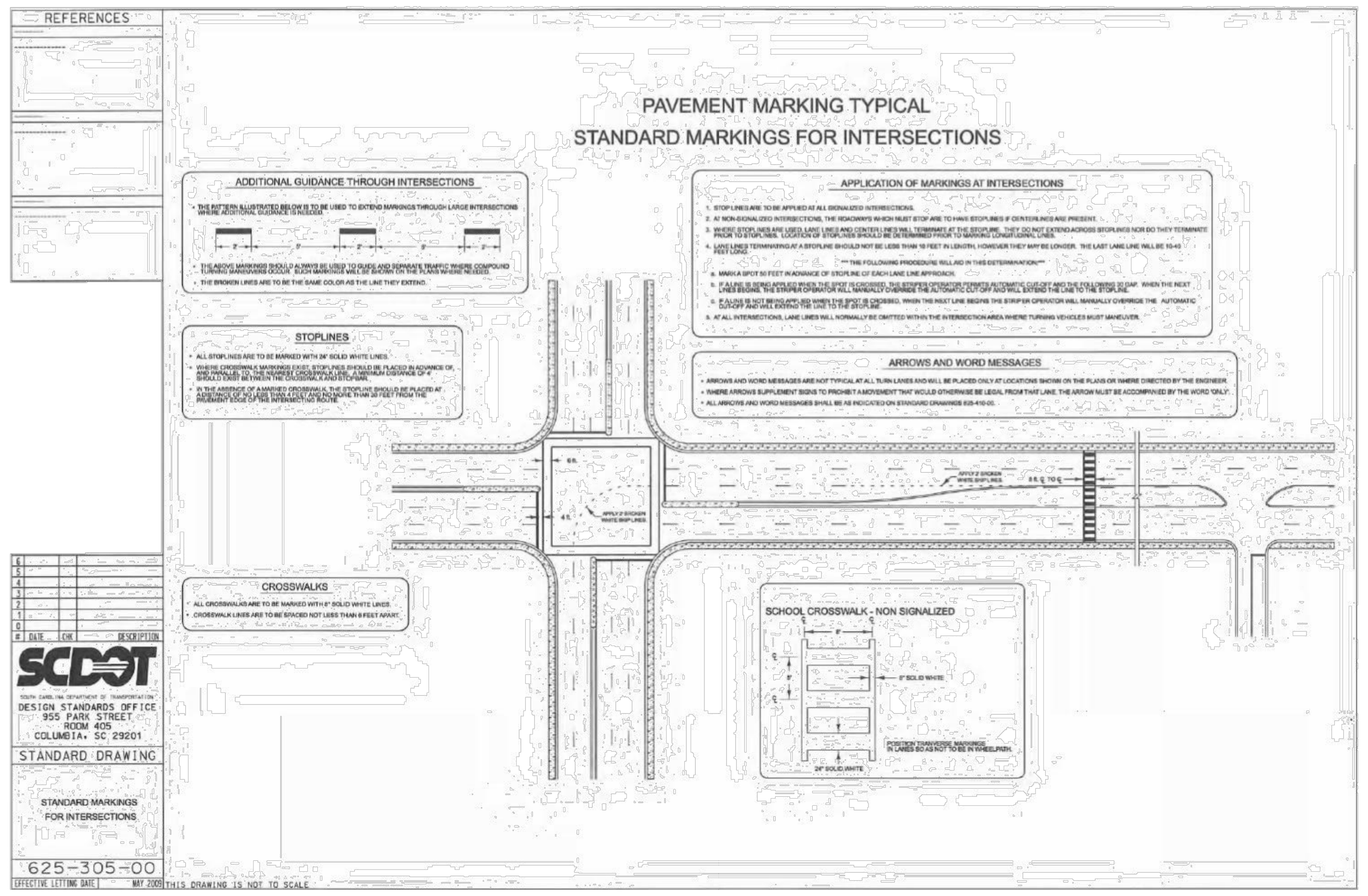





PAVEMENT MARKING TYPICAL
LINE PATTERNS AND RAISED MARKER PLACEMENT
1. MULTILANE ROADS - BROKEN WHITE LANE LINES
2. TWO LANE ROADS - CENTER LINES
A. BROKEN YELLOW CENTERLINE (PASSING PERMITTED IN BOTH DIRECTIONS)
B. BROKEN YELLOW/SOLID YELLOW CENTERLINE (PASSING PERMITTED IN ONE DIRECTION)
C. SOLID DOUBLE YELLOW CENTER LINE (PASSING PROHIBITED IN BOTH DIRECTIONS)
DIRECTION OF TRAFFIC
IDENTIFICATION KEY FOR RAISED MARKERS:
REFERENCES
SCDOT
DESIGN STANDARDS OFFICE
955 PARK STREET
ROOM 405
COLUMBIA, SC 29201
STANDARD DRAWING
PAVEMENT MARKING TYPICAL LINE PATTERNS AND RAISED MARKER PLACEMENT
630-205-00
THIS DRAWING IS NOT TO SCALE






PAVEMENT MARKING TYPICAL
STANDARD MARKINGS FOR INTERSECTIONS
ADDITIONAL GUIDANCE THROUGH INTERSECTIONS
APPLICATION OF MARKINGS AT INTERSECTIONS
STOPLINES
ARROWS AND WORD MESSAGES
CROSSWALKS
SCHOOL CROSSWALK - NON SIGNALIZED
REFERENCES
SCDOT
DESIGN STANDARDS OFFICE
955 PARK STREET
ROOM 405
COLUMBIA, SC 29201
STANDARD DRAWING
STANDARD MARKINGS FOR INTERSECTIONS
625-305-00
THIS DRAWING IS NOT TO SCALE

APPLICATION OF MARKINGS AT INTERSECTIONS

1. STOP LINES ARE TO BE APPLIED AT ALL SIGNALIZED INTERSECTIONS.
2. AT NON-SIGNALIZED INTERSECTIONS, THE ROADWAYS WHICH MUST STOP ARE TO HAVE STOPLINES IF CENTERLINES ARE PRESENT.
3. WHERE STOPLINES ARE USED, LANE LINES AND CENTER LINES WILL TERMINATE AT THE STOPLINE. THEY DO NOT EXTEND ACROSS STOPLINES NOR DO THEY TERMINATE PRIOR TO STOPLINES. LOCATION OF STOPLINES SHOULD BE DETERMINED PRIOR TO MARKING LONGITUDINAL LINES.
4. LANE LINES TERMINATING AT A STOPLINE SHOULD NOT BE LESS THAN 10 FEET IN LENGTH, HOWEVER THEY MAY BE LONGER. THE LAST LANE LINE WILL BE 10-40 FEET. THE FOLLOWING PROCEDURE WILL AID IN THIS DETERMINATION:
   a. MARK A SPOT 50 FEET IN ADVANCE OF STOPLINE OF EACH LANE LINE APPROACH.
   b. IF A LINE IS BEING APPLIED WHEN THE SPOT IS CROSSED, THE STRIPER OPERATOR PERMITS AUTOMATIC CUT-OFF AND THE FOLLOWING 30 GAP. WHEN THE NEXT LINE BEGINS, THE STRIPER OPERATOR WILL MANUALLY OVERRIDE THE AUTOMATIC CUT- OFF AND WILL EXTEND THE LINE TO THE STOPLINE.
   c. IF A LINE IS NOT BEING APPLIED WHEN THE SPOT IS CROSSED, WHEN THE NEXT LINE BEGINS THE STRIPER OPERATOR WILL MANUALLY OVERRIDE THE AUTOMATIC CUT-OFF AND WILL EXTEND TEH LINE TO THE STOPLINE.
5. AT ALL INTERSECTIONS, LANE LINES WILL NORMALLY BE OMITTED WITHIN THE INTERSECTION AREA WHERE TURNING VEHICLES MUST MANEUVER.
6. ALL STRIPING IS TO BE THERMOPLASTIC.

ARROWS AND WORD MESSAGES

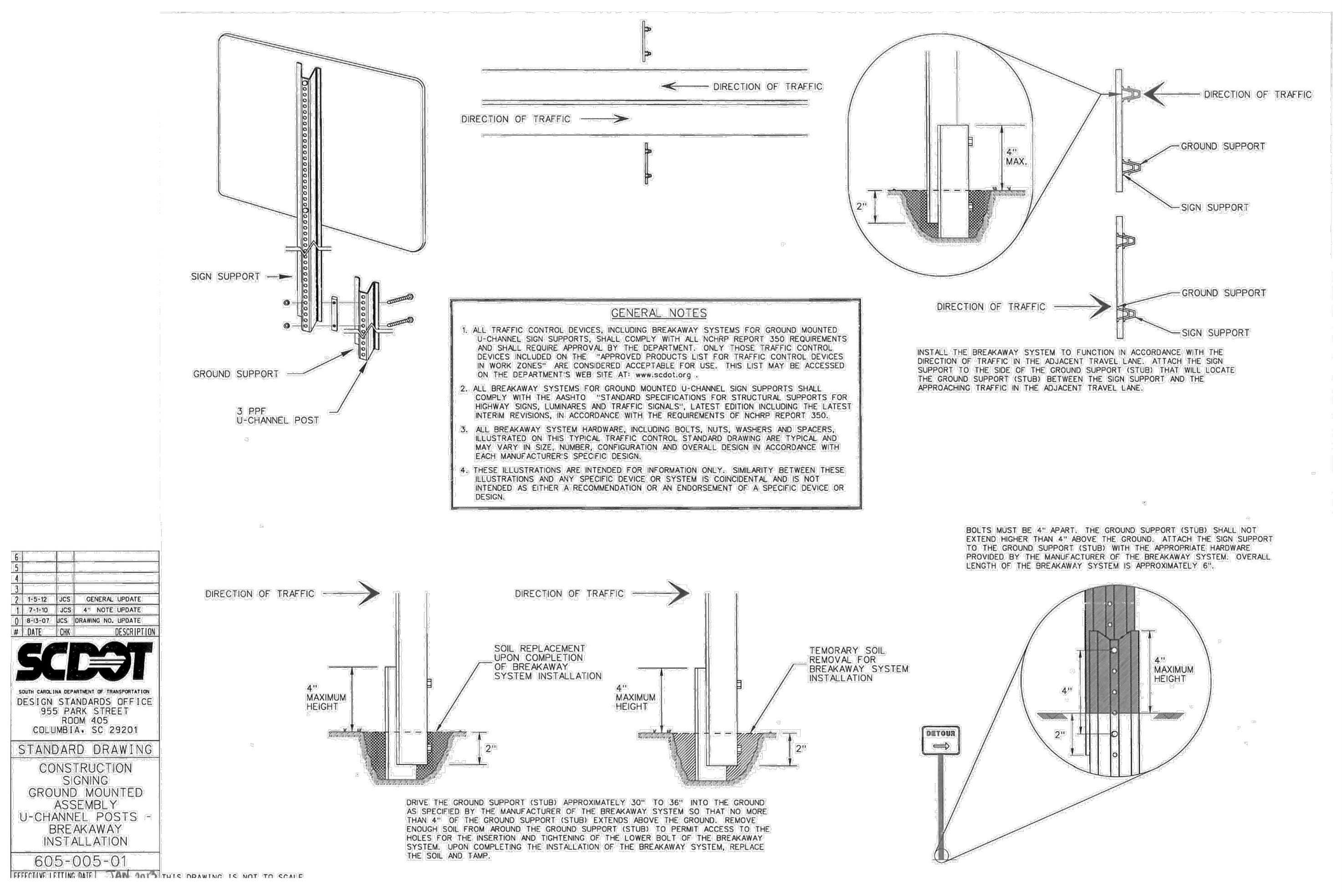
1. ARROWS AND WORD MESSAGES ARE NOT TYPICAL AT ALL TURN LANES AND WILL BE PLACED ONLY AT LOCATIONS SHOWN ON THE CONSTRUCTION DRAWINGS OR WHERE DIRECTED BY THE ENGINEER.
2. WHERE ARROWS SUPPLEMENT SIGNS TO PROHIBIT A MOVEMENT THAT WOULD OTHERWISE BE LEGAL FROM THAT LANE, THE ARROW MUST BE ACCOMPANIED BY THE WORD "ONLY".
3. WHERE STOPLINES ARE USED, LANE LINES AND CENTER LINES WILL TERMINATE AT TEH STOPLINE. THEY DO NOT ALL ARROWS AND WORD MESSAGES SHALL BE AS INDICATED ON THE SCDOT STANDARD DRAWING NO. 525-410-00.
4. ALL ARROWS AND WORD MESSAGES ARE TO HAVE A THICKNESS OF 125 MILS.
5. ALL STRIPIN IS TO BE THERMOPLASTIC.

STOPLINES

1. ALL STOPLINES ARE TO BE MARKED WITH 24" SOLID WHITE LINES.
2. WHERE CROSSWALK MARKINGS EXIST, STOPLINES SHOULD BE PLACED IN ADVANCE OF AND PARALLEL TO THE NEAREST CROSSWALK LINE. A MINIMUM DISTANCE OF 4' SHOULD EXIST BETWEEN THE CROSSWALK AND STOPBAR.
3. IN THE ABSENCE OF A MARKED CROSSWALK, THE STOPLINE SHOULD BE PLACED AT A DISTANCE OF NO LESS THAN FOUR' AND NO MORE THAN 30' FROM THE PAVEMENT EDGE OF THE INTERSECTING ROUTE.
4. STOPLINES ARE TO HAVE A THICKNESS OF 125 MILS.
5. ALL STRIPING IS TO BE THERMOPLASTIC.

APPLICATION OF MARKINGS AT MEDIAN

1. DOUBLE YELLOW LINES ARE TO BE APPLIED ON EACH SIDE FO A PAVED MEDIAN WHERE THE MEDIAN WIDTH (D) IS 3' TO 10', AND THE FULL WIDTH MEDIAN LENGTH (L) IS LESS THAN 200'.
2. SINGLE YELLOW LINES ARE TO BE APPLIED ON EACH SIDE OF A PAVED MEDIAN WHERE THE MEDIAN WIDTH (D) IS LESS THAN 3'.
3. ALL STRIPING IS TO BE THERMOPLASTIC.


DIRECTION OF TRAFFIC
SIGN SUPPORT
GROUND SUPPORT
3 PPF U-CHANNEL POST
GENERAL NOTES
4" MAX.
SOIL REPLACEMENT UPON COMPLETION OF BREAKAWAY SYSTEM INSTALLATION
TEMPORARY SOIL REMOVAL FOR BREAKAWAY SYSTEM INSTALLATION
4" MAXIMUM HEIGHT
SCDOT
DESIGN STANDARDS OFFICE
955 PARK STREET
ROOM 405
COLUMBIA, SC 29201
STANDARD DRAWING
CONSTRUCTION SIGNING GROUND MOUNTED ASSEMBLY U-CHANNEL POSTS - BREAKAWAY INSTALLATION
605-005-01
THIS DRAWING IS NOT TO SCALE

#	REVISION DATE
1	

APPROVALS	
ENGINEER	JVB
DESIGNER	JVB
TECHNICIAN	RDS
CHECKED BY	DMN
APPROVED	KMC

Alliance Consulting Engineers, Inc.
No. C02854

DATE: FEBRUARY 14, 2025

No. 40365
JOHN

SIGNATURE:

ALLIANCE
CONSULTING ENGINEERS
Alliance Consulting Engineers, Inc.
Post Office Box 8147 Columbia, South Carolina 29202-8147
Phone (803) 779-2078 • Fax (803) 779-2079

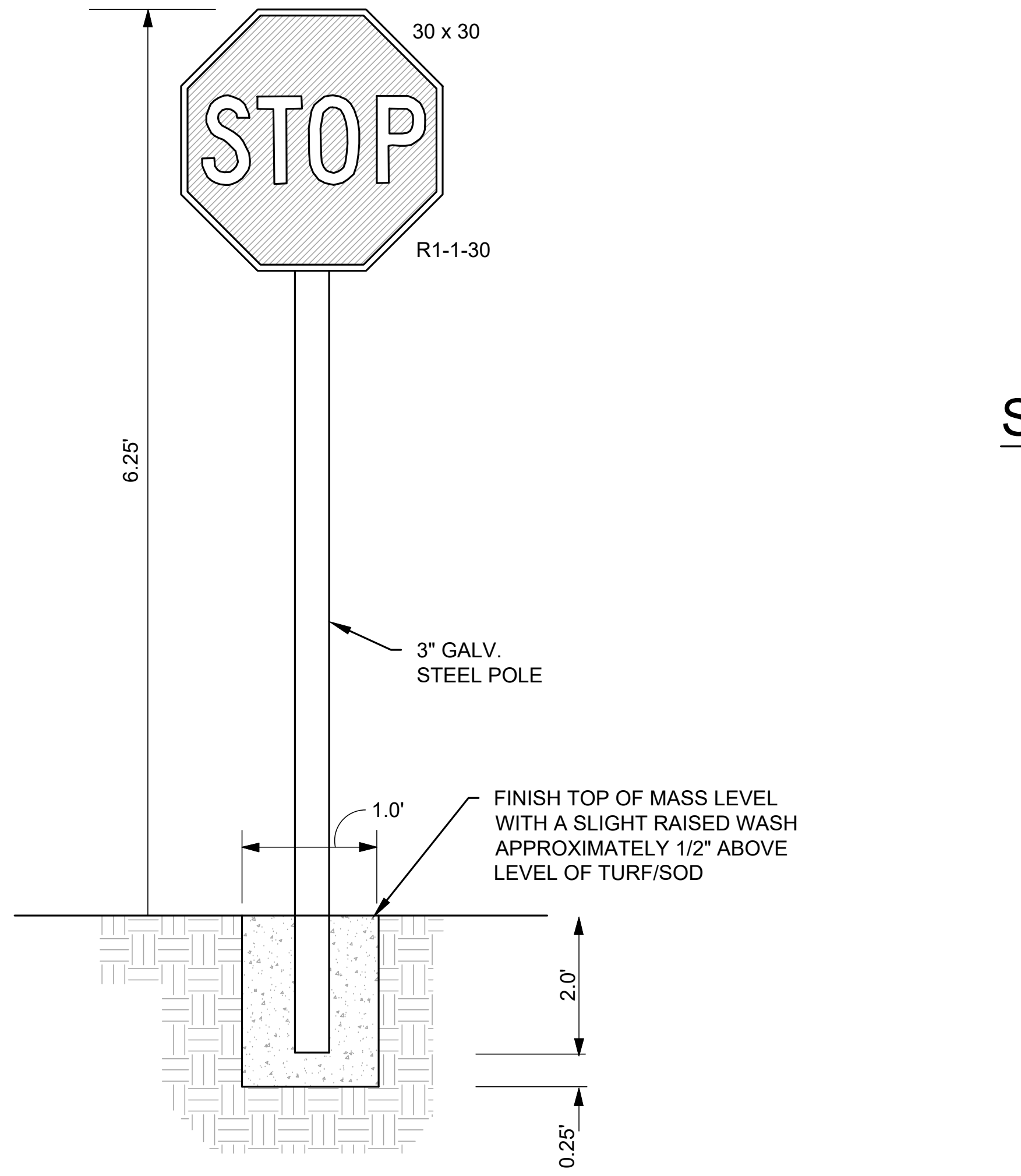
SHEET
ROADWAY DETAILS
(1 OF 4)
DATE: MAY 2024
SCALE: AS SHOWN

PROJECT
± 3,350-LF OF ROADWAY IMPROVEMENTS
TO MAWSONS WAY AT THE
SC HIGHWAY 219 INDUSTRIAL PARK
NEWBERRY COUNTY,
SOUTH CAROLINA
NEWBERRY COUNTY
SOUTH CAROLINA

FILE NAME: C8.0.dwg
REFERENCE FILE: 19166Base. dwg
PROJECT NO. 19166-0036

SHEET C6.0

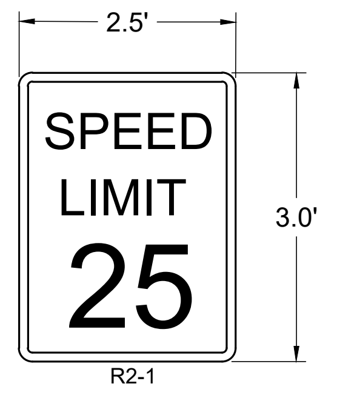
DWG NO. 01,1347-D23


30 x 30
STOP
R1-1-30
6.25'
3" GALV. STEEL POLE
1.0'
FINISH TOP OF MASS LEVEL WITH A SLIGHT RAISED WASH APPROXIMATELY 1/2" ABOVE LEVEL OF TURF/SOD
2.0'
0.25'

NOTES:
1. ALL SIGNS SHALL CONFORM WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR COLOR, SIZE, REFLECTIVITY, AND HEIGHT.
2. SIGNS TO BE PLACED AS SHOWN ON PLAN.

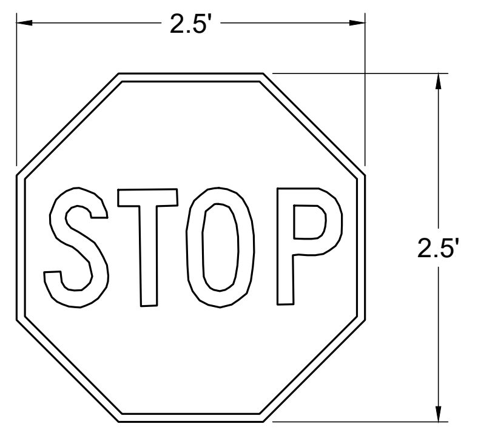
TYPICAL SIGN DETAIL

N.T.S.



SPEED LIMIT SIGN DETAIL

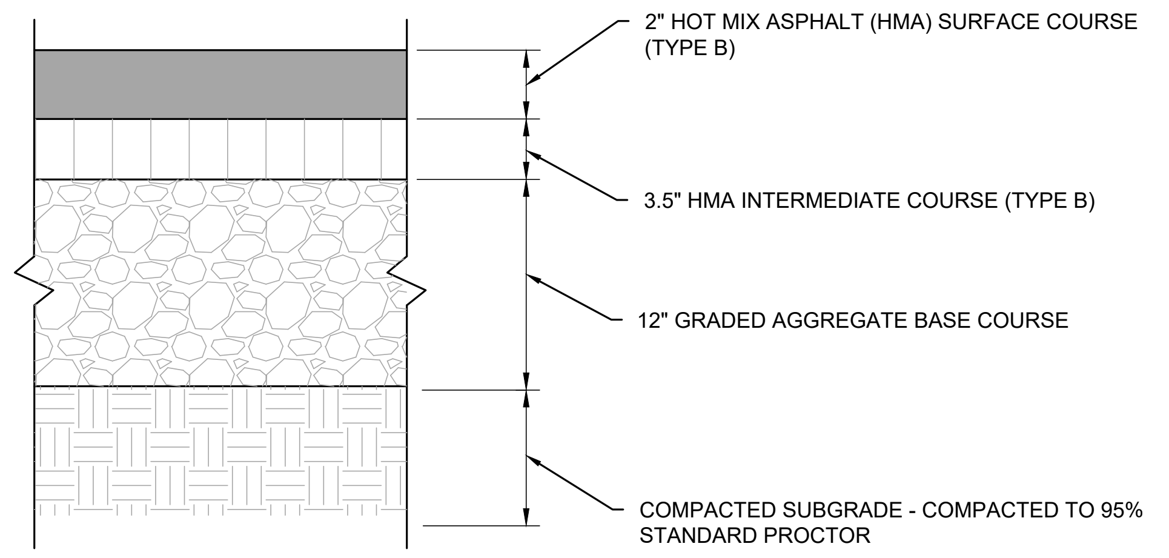
N.T.S.



STOP SIGN DETAIL

N.T.S.

ASPHALT SECTION BASED ON "REPORT OF GEOTECHNICAL EXPLORATION MAWSON'S WAY EXTENSION" PREPARED BY S&ME DATED OCTOBER 3, 2019, PROJECT NO. 1461-19-042


2" HOT MIX ASPHALT (HMA) SURFACE COURSE (TYPE B)
3.5" HMA INTERMEDIATE COURSE (TYPE B)
12" GRADED AGGREGATE BASE COURSE
COMPACTED SUBGRADE - COMPACTED TO 95% STANDARD PROCTOR

TYPICAL ASPHALT SECTIONS

STA: 0+00 TO 24+67
STA: 29+00 TO 37+86
STA: 0+00 TO 1+00

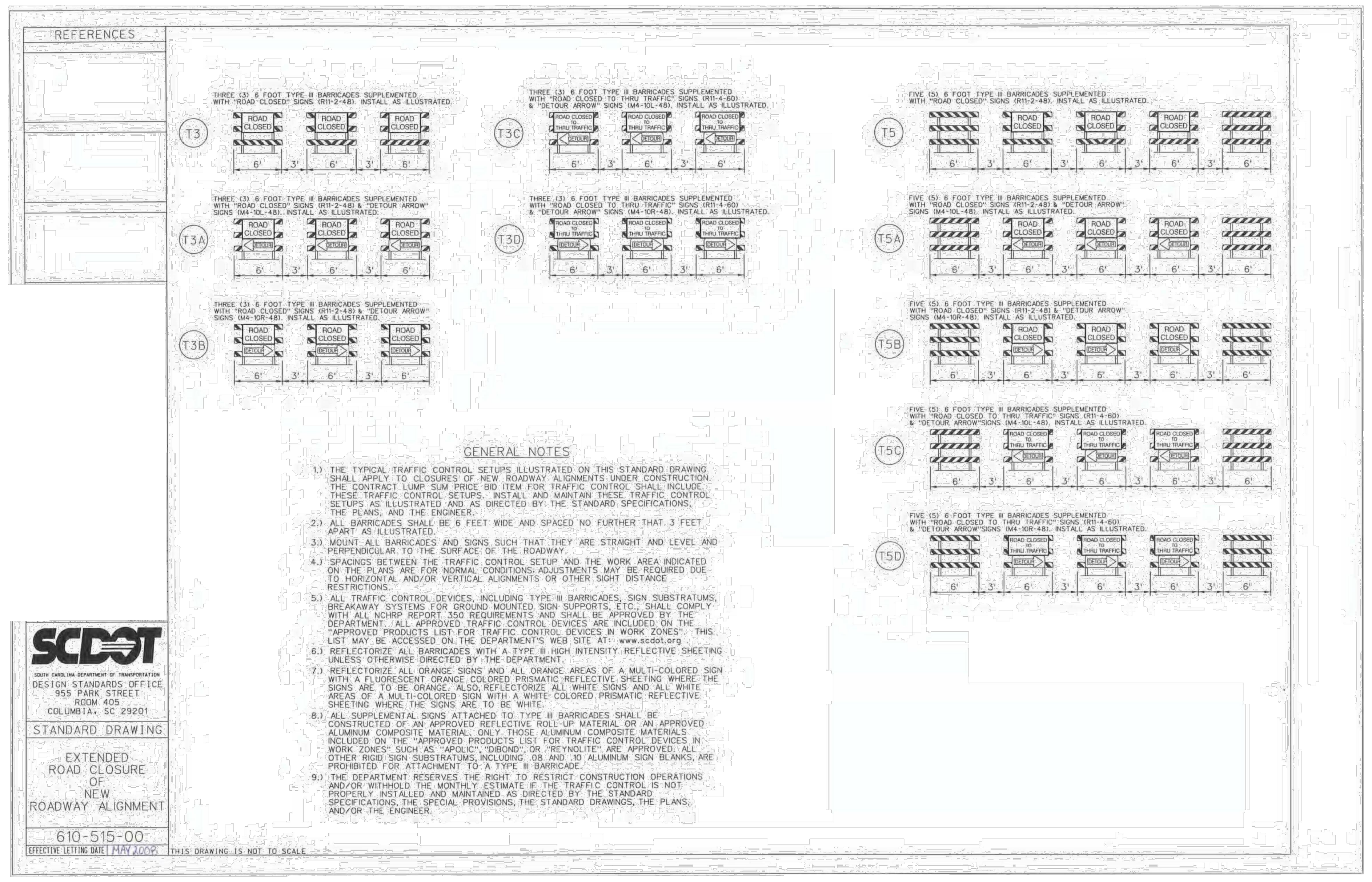
N.T.S.

PAVEMENT SECTION

N.T.S.

ROAD SIGNS

N.T.S.


REFERENCES

THREE (3) 6 FOOT TYPE III BARRICADES SUPPLEMENTED WITH "ROAD CLOSED" SIGNS (R11-2-48). INSTALL AS ILLUSTRATED.

THREE (3) 6 FOOT TYPE III BARRICADES SUPPLEMENTED WITH "ROAD CLOSED" SIGNS (R11-2-48) & "DETOUR ARROW" SIGNS (M4-10L-48). INSTALL AS ILLUSTRATED.

THREE (3) 6 FOOT TYPE III BARRICADES SUPPLEMENTED WITH "ROAD CLOSED" SIGNS (R11-2-48) & "DETOUR ARROW" SIGNS (M4-10R-48). INSTALL AS ILLUSTRATED.

THREE (3) 6 FOOT TYPE III BARRICADES SUPPLEMENTED WITH "ROAD CLOSED TO THRU TRAFFIC" SIGNS (R11-4-60) & "DETOUR ARROW" SIGNS (M4-10L-48). INSTALL AS ILLUSTRATED.

THREE (3) 6 FOOT TYPE III BARRICADES SUPPLEMENTED WITH "ROAD CLOSED TO THRU TRAFFIC" SIGNS (R11-4-60) & "DETOUR ARROW" SIGNS (M4-10R-48). INSTALL AS ILLUSTRATED.

FIVE (5) 6 FOOT TYPE III BARRICADES SUPPLEMENTED WITH "ROAD CLOSED" SIGNS (R11-2-48). INSTALL AS ILLUSTRATED.

FIVE (5) 6 FOOT TYPE III BARRICADES SUPPLEMENTED WITH "ROAD CLOSED" SIGNS (R11-2-48) & "DETOUR ARROW" SIGNS (M4-10L-48). INSTALL AS ILLUSTRATED.

FIVE (5) 6 FOOT TYPE III BARRICADES SUPPLEMENTED WITH "ROAD CLOSED" SIGNS (R11-2-48) & "DETOUR ARROW" SIGNS (M4-10R-48). INSTALL AS ILLUSTRATED.

FIVE (5) 6 FOOT TYPE III BARRICADES SUPPLEMENTED WITH "ROAD CLOSED TO THRU TRAFFIC" SIGNS (R11-4-60) & "DETOUR ARROW"SIGNS (M4-10L-48). INSTALL AS ILLUSTRATED.

FIVE (5) 6 FOOT TYPE III BARRICADES SUPPLEMENTED WITH "ROAD CLOSED TO THRU TRAFFIC" SIGNS (R11-4-60) & "DETOUR ARROW"SIGNS (M4-10R-48). INSTALL AS ILLUSTRATED.

GENERAL NOTES

1.) THE TYPICAL TRAFFIC CONTROL SETUPS ILLUSTRATED ON THIS STANDARD DRAWING SHALL APPLY TO CLOSURES OF NEW ROADWAY ALIGNMENTS UNDER CONSTRUCTION. THE CONTRACT LUMP SUM PRICE BID ITEM FOR TRAFFIC CONTROL SHALL INCLUDE THESE TRAFFIC CONTROL SETUPS. INSTALL AND MAINTAIN THESE TRAFFIC CONTROL SETUPS AS ILLUSTRATED AND AS DIRECTED BY THE STANDARD SPECIFICATIONS, THE PLANS, AND THE ENGINEER.
2.) ALL BARRICADES SHALL BE 6 FEET WIDE AND SPACED NO FURTHER THAT 3 FEET APART AS ILLUSTRATED.
3.) MOUNT ALL BARRICADES AND SIGNS SUCH THAT THEY ARE STRAIGHT AND LEVEL AND PERPENDICULAR TO THE SURFACE OF THE ROADWAY.
4.) SPACINGS BETWEEN THE TRAFFIC CONTROL SETUP AND THE WORK AREA INDICATED ON THE PLANS ARE FOR NORMAL CONDITIONS; ADJUSTMENTS MAY BE REQUIRED DUE TO HORIZONTAL AND/OR VERTICAL ALIGNMENTS OR OTHER SIGHT DISTANCE RESTRICTIONS.
5.) ALL TRAFFIC CONTROL DEVICES, INCLUDING TYPE III BARRICADES, SIGN SUBSTRATUMS, BREAKAWAY SYSTEMS FOR GROUND MOUNTED SIGN SUPPORTS, ETC., SHALL COMPLY WITH ALL NCHRP REPORT 350 REQUIREMENTS AND SHALL BE APPROVED BY THE DEPARTMENT. ALL APPROVED TRAFFIC CONTROL DEVICES ARE INCLUDED ON THE "APPROVED PRODUCTS LIST FOR TRAFFIC CONTROL DEVICES IN WORK ZONES". THIS LIST MAY BE ACCESSED ON THE DEPARTMENT'S WEB SITE AT: www.scdot.org .
6.) REFLECTORIZE ALL BARRICADES WITH A TYPE III HIGH INTENSITY REFLECTIVE SHEETING UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT.
7.) REFLECTORIZE ALL ORANGE SIGNS AND ALL ORANGE AREAS OF A MULTI-COLORED SIGN WITH A FLUORESCENT ORANGE COLORED PRISMATIC REFLECTIVE SHEETING WHERE THE SIGNS ARE TO BE ORANGE. ALSO, REFLECTORIZE ALL WHITE SIGNS AND ALL WHITE AREAS OF A MULTI-COLORED SIGN WITH A WHITE COLORED PRISMATIC REFLECTIVE SHEETING WHERE THE SIGNS ARE TO BE WHITE.
8.) ALL SUPPLEMENTAL SIGNS ATTACHED TO TYPE III BARRICADES SHALL BE CONSTRUCTED OF AN APPROVED REFLECTIVE ROLL-UP MATERIAL OR AN APPROVED ALUMINUM COMPOSITE MATERIAL. ONLY THOSE ALUMINUM COMPOSITE MATERIALS INCLUDED ON THE "APPROVED PRODUCTS LIST FOR TRAFFIC CONTROL DEVICES IN WORK ZONES" SUCH AS "APOLIC", "DIBOND", OR "REYNOLITE" ARE APPROVED. ALL OTHER RIGID SIGN SUBSTRATUMS, INCLUDING .08 AND .10 ALUMINUM SIGN BLANKS, ARE PROHIBITED FOR ATTACHMENT TO A TYPE III BARRICADE.
9.) THE DEPARTMENT RESERVES THE RIGHT TO RESTRICT CONSTRUCTION OPERATIONS AND/OR WITHHOLD THE MONTHLY ESTIMATE IF THE TRAFFIC CONTROL IS NOT PROPERLY INSTALLED AND MAINTAINED AS DIRECTED BY THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, THE STANDARD DRAWINGS, THE PLANS, AND/OR THE ENGINEER.

SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
DESIGN STANDARDS OFFICE
955 PARK STREET
ROOM 405
COLUMBIA, SC 29201

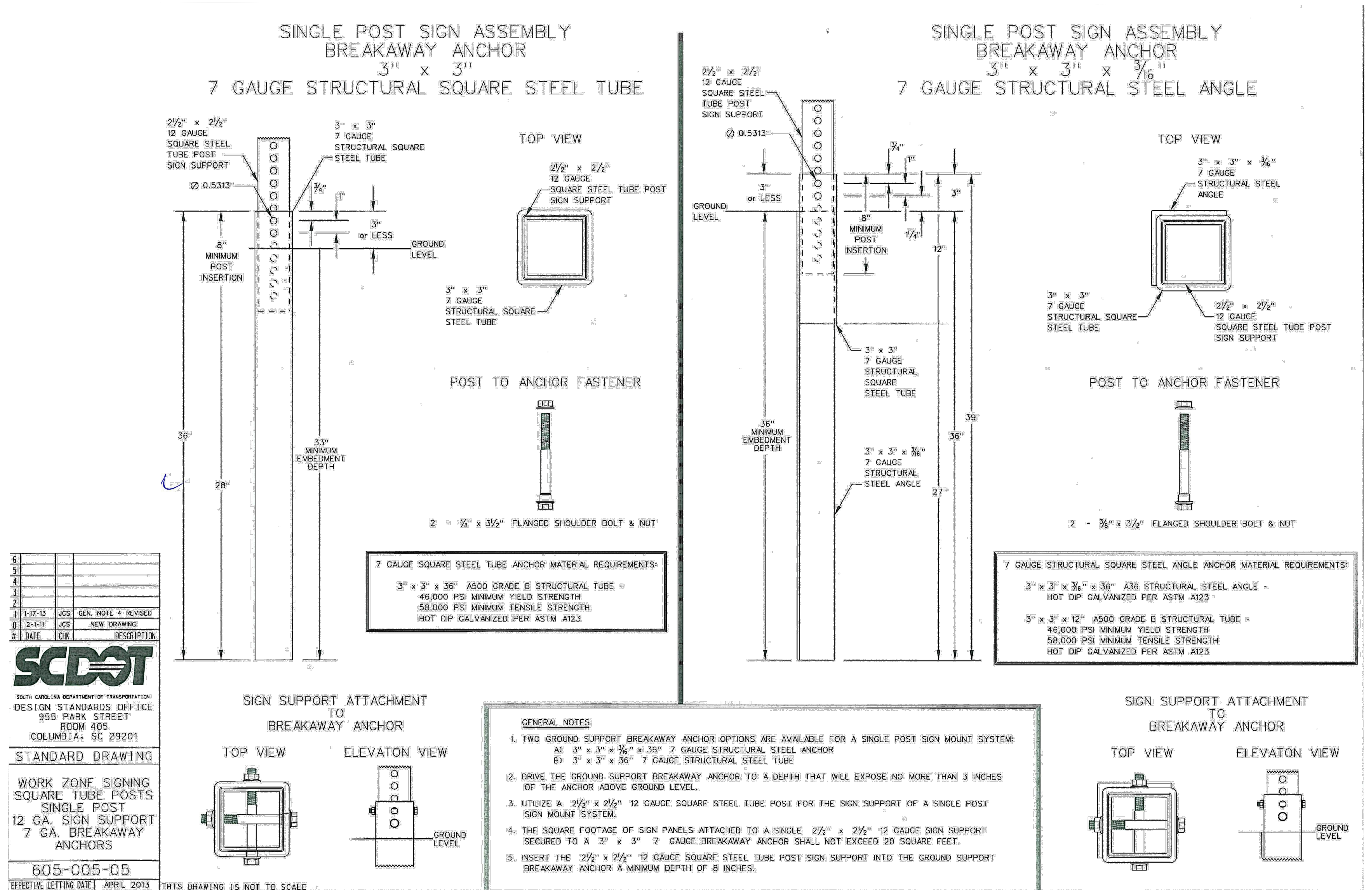
STANDARD DRAWING

EXTENDED ROAD CLOSURE OF NEW ROADWAY ALIGNMENT

610-515-00

EFFECTIVE LETTING DATE MAY 2008

THIS DRAWING IS NOT TO SCALE


SINGLE POST SIGN ASSEMBLY
BREAKAWAY ANCHOR
3" x 3"
7 GAUGE STRUCTURAL SQUARE STEEL TUBE

2½" x 2½" 12 GAUGE SQUARE STEEL TUBE POST SIGN SUPPORT
Ø 0.5313"
3" x 3" 7 GAUGE STRUCTURAL SQUARE STEEL TUBE
¾"
1"
3" or LESS
GROUND LEVEL
8" MINIMUM POST INSERTION
36"
28"
33" MINIMUM EMBEDMENT DEPTH
TOP VIEW
2½" x 2½" 12 GAUGE SQUARE STEEL TUBE POST SIGN SUPPORT
3" x 3" 7 GAUGE STRUCTURAL SQUARE STEEL TUBE
POST TO ANCHOR FASTENER
2 - ⅜" x 3½" FLANGED SHOULDER BOLT & NUT

7 GAUGE SQUARE STEEL TUBE ANCHOR MATERIAL REQUIREMENTS:
3" x 3" x 36" A500 GRADE B STRUCTURAL TUBE -
46,000 PSI MINIMUM YIELD STRENGTH
58,000 PSI MINIMUM TENSILE STRENGTH
HOT DIP GALVANIZED PER ASTM A123

SIGN SUPPORT ATTACHMENT TO BREAKAWAY ANCHOR

TOP VIEW
ELEVATON VIEW
GROUND LEVEL

SINGLE POST SIGN ASSEMBLY
BREAKAWAY ANCHOR
3" x 3" x 3/16"
7 GAUGE STRUCTURAL STEEL ANGLE

2½" x 2½" 12 GAUGE SQUARE STEEL TUBE POST SIGN SUPPORT
Ø 0.5313"
GROUND LEVEL
3" or LESS
¾"
1"
3"
8" MINIMUM POST INSERTION
1¼"
12"
3" x 3" 7 GAUGE STRUCTURAL SQUARE STEEL TUBE
36" MINIMUM EMBEDMENT DEPTH
3" x 3" x 3/16" 7 GAUGE STRUCTURAL STEEL ANGLE
39"
36"
27"
TOP VIEW
3" x 3" x 3/16" 7 GAUGE STRUCTURAL STEEL ANGLE
3" x 3" 7 GAUGE STRUCTURAL SQUARE STEEL TUBE
2½" x 2½" 12 GAUGE SQUARE STEEL TUBE POST SIGN SUPPORT
POST TO ANCHOR FASTENER
2 - ⅜" x 3½" FLANGED SHOULDER BOLT & NUT

7 GAUGE STRUCTURAL SQUARE STEEL ANGLE ANCHOR MATERIAL REQUIREMENTS:
3" x 3" x 3/16" x 36" A36 STRUCTURAL STEEL ANGLE -
HOT DIP GALVANIZED PER ASTM A123
3" x 3" x 12" A500 GRADE B STRUCTURAL TUBE -
46,000 PSI MINIMUM YIELD STRENGTH
58,000 PSI MINIMUM TENSILE STRENGTH
HOT DIP GALVANIZED PER ASTM A123

SIGN SUPPORT ATTACHMENT TO BREAKAWAY ANCHOR

GENERAL NOTES
1. TWO GROUND SUPPORT BREAKAWAY ANCHOR OPTIONS ARE AVAILABLE FOR A SINGLE POST SIGN MOUNT SYSTEM:
   A) 3" x 3" x 3/16" x 36" 7 GAUGE STRUCTURAL STEEL ANCHOR
   B) 3" x 3" x 36" 7 GAUGE STRUCTURAL STEEL TUBE
2. DRIVE THE GROUND SUPPORT BREAKAWAY ANCHOR TO A DEPTH THAT WILL EXPOSE NO MORE THAN 3 INCHES OF THE ANCHOR ABOVE GROUND LEVEL.
3. UTILIZE A 2½" x 2½" 12 GAUGE SQUARE STEEL TUBE POST FOR THE SIGN SUPPORT OF A SINGLE POST SIGN MOUNT SYSTEM.
4. THE SQUARE FOOTAGE OF SIGN PANELS ATTACHED TO A SINGLE 2½" x 2½" 12 GAUGE SIGN SUPPORT SECURED TO A 3" x 3" 7 GAUGE BREAKAWAY ANCHOR SHALL NOT EXCEED 20 SQUARE FEET.
5. INSERT THE 2½" x 2½" 12 GAUGE SQUARE STEEL TUBE POST SIGN SUPPORT INTO THE GROUND SUPPORT BREAKAWAY ANCHOR A MINIMUM DEPTH OF 8 INCHES.

#	DATE	CHK	DESCRIPTION
6			
5			
4			
3			
2			
1	1-17-13	JCS	GEN. NOTE 4 REVISED
0	2-1-11	JCS	NEW DRAWING

SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
DESIGN STANDARDS OFFICE
955 PARK STREET
ROOM 405
COLUMBIA, SC 29201

STANDARD DRAWING

WORK ZONE SIGNING SQUARE TUBE POSTS SINGLE POST 12 GA. SIGN SUPPORT 7 GA. BREAKAWAY ANCHORS

605-005-05

EFFECTIVE LETTING DATE APRIL 2013

THIS DRAWING IS NOT TO SCALE

#	REVISION DATE
1	

APPROVALS	
ENGINEER	JVB
DESIGNER	JVB
TECHNICIAN	RDS
CHECKED BY	DMN
APPROVED	KMC

Alliance Consulting Engineers, Inc. No. C02854

DATE: FEBRUARY 14, 2025

JOHN BABBAGE No. 40365

SIGNATURE:

ALLIANCE CONSULTING ENGINEERS
Alliance Consulting Engineers, Inc.
Post Office Box 8147 Columbia, South Carolina 29202-8147
Phone (803) 779-2078 • Fax (803) 779-2079

SHEET
ROADWAY DETAILS
(2 OF 4)
DATE: MAY 2024
SCALE: AS SHOWN

PROJECT
± 3,350-LF OF ROADWAY IMPROVEMENTS
TO MAWSONS WAY AT THE
SC HIGHWAY 219 INDUSTRIAL PARK
NEWBERRY COUNTY,
SOUTH CAROLINA
NEWBERRY COUNTY
SOUTH CAROLINA

FILE NAME: C8.0.dwg
REFERENCE FILE: 19166Base. dwg
PROJECT NO. 19166-0036

SHEET C6.1

DWG NO. 01,1347-D23

FLAGGING OPERATIONS
GENERAL NOTES

(ALL NOTES, SPECIFICATIONS AND REQUIREMENTS ON THIS STANDARD DRAWING APPLY TO ALL SUBSEQUENT STANDARD DRAWINGS REGARDING FLAGGING OPERATIONS UNLESS OTHERWISE NOTED)

FLAGGING OPERATIONS -

1. KEY FEATURES RELEVANT TO FLAGGING OPERATIONS:
   - APPROACH TAPER - THIS IS A ONE-LANE TWO-WAY TAPER PLACED IN THE TRAVEL LANE WHERE THE WORK ACTIVITY TAKES PLACE. THIS TAPER PRECEDES THE BUFFER SPACE AND THE WORK ACTIVITY AREA. THE LENGTH OF THIS TAPER MAY VARY FROM 50 FEET TO 100 FEET. INSTALL AND MAINTAIN NO LESS THAN FIVE (5) TRAFFIC CONTROL DEVICES EQUALLY SPACED AT 10' TO 25' INTERVALS AS NECESSARY TO CORRESPOND WITH THE LENGTH OF THE TAPER.
   - DOWNSTREAM TAPER - THIS TAPER, PLACED IN THE TRAVEL LANE WHERE THE WORK ACTIVITY TAKES PLACE, FOLLOWS THE WORK ACTIVITY AREA AND SERVES AS THE TERMINATION AREA FOR THE CLOSURE OF THE TRAVEL LANE. THE LENGTH OF THIS TAPER MAY VARY FROM 50 FEET TO 100 FEET. INSTALL AND MAINTAIN NO LESS THAN FIVE (5) TRAFFIC CONTROL DEVICES IN THIS TAPER.
   - FLAGGER STATION - THIS IS THE SPECIFIC LOCATION OF THE FLAGGER.
   - CLOSED LANE FLAGGER - THIS FLAGGER IS STATIONED ADJACENT TO THE FIRST TRAFFIC CONTROL DEVICE IN THE APPROACH TAPER WHO CONTROLS THE TRAFFIC THAT REQUIRES RELOCATION FROM THE TRAVEL LANE BEING CLOSED TO TRAFFIC.
   - OPEN LANE FLAGGER - THIS FLAGGER IS STATIONED 100 FEET BEYOND THE LAST TRAFFIC CONTROL DEVICE IN THE DOWNSTREAM TAPER WHO CONTROLS THE TRAFFIC OPERATING IN THE TRAVEL LANE REMAINING OPEN TO TRAFFIC.
   - SIDE ROAD FLAGGER - THIS FLAGGER IS STATIONED ON AN INTERSECTING SIDE ROAD AND CONTROLS THE SIDE ROAD TRAFFIC ENTERING INTO THE ROADWAY WHERE THE WORK ACTIVITY AREA IS LOCATED.
   - BUFFER SPACE - THIS AREA IS LOCATED BETWEEN THE DOWNSTREAM END OF THE APPROACH TAPER AND THE NEAREST LIMITS OF THE WORK ACTIVITY AREA AND MAY PROVIDE SOME RECOVERY SPACE FOR AN ERRANT VEHICLE. THE PRESENCE OF PERSONNEL, TOOLS, MATERIALS, EQUIPMENT, WORK VEHICLES, ETC. WITHIN THE LIMITS OF THE BUFFER SPACE IS PROHIBITED. HOWEVER, WHEN THE MINIMUM DISTANCE REQUIREMENTS FOR THE BUFFER SPACE ARE UNAVAILABLE, A TRUCK MOUNTED ATTENUATOR MAY TEMPORARILY ENCROACH UPON THE BUFFER SPACE IN ACCORDANCE WITH THE REQUIREMENTS SPECIFIED IN THE SECTION BELOW ENTITLED, "BUFFER SPACE", WHEN APPROVED BY THE ENGINEER.
   - WORK ACTIVITY AREA - PERSONNEL, MATERIALS, EQUIPMENT, WORK VEHICLES, ETC. ARE PRESENT WITHIN THIS AREA TO CONDUCT THE WORK.
   - LIMITS of the WORK ACTIVITY AREA - THIS IS THE BOUNDARY OF THE WORK ACTIVITY AREA FIRST ENCOUNTERED, FROM EITHER DIRECTION, BY MOTORISTS PASSING BY THE WORK ACTIVITY AREA IN THE ADJACENT TRAVEL LANE OPEN TO TRAFFIC AND CONTROLLED BY THE FLAGGERS.
   - APPROACH LANE - TRAFFIC APPROACHES AN INTERSECTION OR A SPECIFIC LOCATION IN THIS TRAVEL LANE.
   - DEPARTURE LANE - TRAFFIC DEPARTS FROM AN INTERSECTION OR A SPECIFIC LOCATION IN THIS TRAVEL LANE.
   - MAINLINE APPROACH - THIS IS AN APPROACH TO THE WORK ACTIVITY AREA ON THE ROADWAY WHERE THE WORK ACTIVITY AREA IS LOCATED.
   - SIDE ROADS - THESE ROADS INTERSECT THE ROADWAY ON WHICH THE WORK ACTIVITY AREA IS LOCATED.
   - LIMITS of the INTERSECTION - THE LIMITS OF OR THE PHYSICAL AREA WITHIN AN INTERSECTION IS DEFINED BY THE LOCATION OF STOP BARS WHEN PRESENT. WHEN STOP BARS ARE ABSENT, THE LIMITS OF OR THE PHYSICAL AREA WITHIN AN INTERSECTION IS DEFINED BY THE LOCATION POINTS WHERE THE CORNER RADII BETWEEN ADJACENT ROADWAY APPROACHES TIE TO THE EDGE OF PAVEMENT OR THE EDGE OF TRAVEL LANE ADJACENT TO THE EDGE OF PAVEMENT OF EACH ROADWAY.
2. INSTALL, CONDUCT AND MAINTAIN FLAGGING OPERATIONS IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, THE STANDARD DRAWINGS, THE MUTCD AND THE "SOUTH CAROLINA FLAGGER'S HANDBOOK" UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. INSTALL ALL SIGNS RELATIVE TO A FLAGGING OPERATION PRIOR TO INITIATION OF THE OPERATION AND REMOVE OR COVER ALL SIGNS IMMEDIATELY UPON TERMINATION OF THE OPERATION. EQUIP EACH FLAGGER WITH A 24" x 24" STOP/SLOW PADDLE MOUNTED ON A RIGID HANDLE WITH A MINIMUM LENGTH OF 7 FEET. THE DEPARTMENT PROHIBITS THE USE OF FLAGS EXCEPT DURING EMERGENCY SITUATIONS.
3. LANE CLOSURES FOR FLAGGING OPERATIONS ARE RESTRICTED TO A MAXIMUM DISTANCE OF 2 MILES UNLESS OTHERWISE APPROVED BY THE ENGINEER. THE WORK LIMITS WILL COMPLY WITH THE CONTRACT AND SHALL REQUIRE THE ENGINEER'S APPROVAL PRIOR TO BEGINNING THE WORK.
4. INSTALL AND MAINTAIN THE PROPER ARRAY OF ADVANCE WARNING SIGNS FOR EACH "MAINLINE APPROACH" WHEN A FLAGGING OPERATION IS IN PLACE AND ACTIVE. WHEN NECESSARY TO RELOCATE THE "FLAGGER STATION" WHILE ACTIVELY MAINTAINING THE FLAGGING OPERATION, INSTALL AN ADDITIONAL ARRAY OF ADVANCE WARNING SIGNS AT THE LOCATION RELATIVE TO THE NEW "FLAGGER STATION" AND REMOVE THE ORIGINAL ARRAY OF ADVANCE WARNING SIGNS IMMEDIATELY UPON COMPLETION OF THE RELOCATION OF THE FLAGGER TO THE NEW "FLAGGER STATION".
5. INSTALL ALL ADVANCE WARNING SIGNS IMMEDIATELY PRIOR TO INITIATING A FLAGGING OPERATION AND REMOVE OR COVER ALL SIGNS IMMEDIATELY UPON TERMINATION OF THE OPERATION.
6. MAINTAIN TWO-WAY RADIO COMMUNICATIONS BETWEEN ALL FLAGGERS.

NIGHTTIME FLAGGING OPERATIONS -

1. EACH FLAGGER SHALL WEAR SAFETY APPAREL IN COMPLIANCE WITH THE REQUIREMENTS OF ANSI/ ISEA 107 STANDARD PERFORMANCE FOR CLASS 3 RISK EXPOSURE, LATEST REVISION, WHEN CONDUCTING NIGHTTIME FLAGGING OPERATIONS.
2. ILLUMINATE EACH "FLAGGER STATION" WITH ANY COMBINATION OF PORTABLE LIGHTS, STANDARD ELECTRIC LIGHTS, EXISTING STREET LIGHTS, ETC. THAT WILL PROVIDE A MINIMUM ILLUMINATION LEVEL OF 108 Lx OR 10 fc WHEN CONDUCTING NIGHTTIME FLAGGING OPERATIONS.
3. SUPPLEMENT EACH ARRAY OF ADVANCE WARNING SIGNS ON EACH "MAINLINE APPROACH" WITH A TRAILER MOUNTED CHANGEABLE MESSAGE SIGN. THESE CHANGEABLE MESSAGE SIGNS ARE NOT REQUIRED ON THE "SIDE ROADS" INTERSECTING THE ROADWAY WHERE THE "WORK ACTIVITY AREA" IS LOCATED. ALSO, THESE CHANGEABLE MESSAGE SIGNS ARE NOT REQUIRED DURING DAYTIME FLAGGING OPERATIONS UNLESS OTHERWISE DIRECTED BY THE STANDARD DRAWINGS. INSTALL THE CHANGEABLE MESSAGE SIGNS IN ADVANCE OF THE ADVANCE WARNING SIGN ARRAYS. THE MESSAGES SHOULD BE "PREPARE TO STOP", "FLAGGER AHEAD". A TRUCK MOUNTED CHANGEABLE MESSAGE SIGN IS NOT AN ACCEPTABLE ALTERNATIVE TO A TRAILER MOUNTED CHANGEABLE MESSAGE SIGN DURING NIGHTTIME FLAGGING OPERATIONS.
4. UTILIZE PORTABLE PLASTIC DRUMS OR 42" OVERSIZED TRAFFIC CONES IN PLACE OF 36" STANDARD TRAFFIC CONES DURING NIGHTTIME FLAGGING OPERATIONS.

BUFFER SPACE -

1. THE MINIMUM DISTANCE REQUIREMENTS FOR THE "BUFFER SPACE" ARE BASED UPON THE LEGAL POSTED REGULATORY SPEED LIMIT OF THE ROADWAY PRIOR TO BEGINNING THE WORK.

SPEED LIMIT	DISTANCES
LOW SPEED ≤ 35 MPH	200 FEET
INTERMEDIATE SPEED 40 - 50 MPH	300 FEET
HIGH SPEED 55 MPH	400 FEET

2. THE PRESENCE OF PERSONNEL, TOOLS, MATERIALS, EQUIPMENT, WORK VEHICLES, ETC. WITHIN THE LIMITS OF THE "BUFFER SPACE" IS PROHIBITED. A TRUCK MOUNTED ATTENUATOR IS THE ONLY WORK VEHICLE THAT MAY TEMPORARILY ENCROACH UPON THE "BUFFER SPACE" IN ACCORDANCE WITH THE CONDITIONS SPECIFIED IN THE FOLLOWING NOTE WHEN APPROVED BY THE ENGINEER. SEE NOTE NO. 3.
3. WHEN THE MINIMUM DISTANCE REQUIREMENTS FOR THE "BUFFER SPACE" ARE UNAVAILABLE DUE TO FIELD CONDITIONS, IT MAY BE NECESSARY FOR A TRUCK MOUNTED ATTENUATOR TO TEMPORARILY ENCROACH UPON THE "BUFFER SPACE" WHEN APPROVED BY THE ENGINEER. A TRUCK MOUNTED ATTENUATOR IS THE ONLY VEHICLE PERMITTED TO TEMPORARILY ENCROACH UPON THE "BUFFER SPACE" AND THIS ENCROACHMENT IS ONLY PERMITTED WHEN ALL REASONABLE OPTIONS TO AVOID DOING SO HAVE BEEN EXHAUSTED. WHEN ENCROACHMENT UPON THE "BUFFER SPACE" IS APPROVED BY THE ENGINEER, MINIMIZE THE TIME DURATION OF THE ENCROACHMENT BY REMOVAL OF THE TRUCK MOUNTED ATTENUATOR FROM THE "BUFFER SPACE" AT THE FIRST OPPORTUNITY THE MINIMUM DISTANCE REQUIREMENTS FOR THE "BUFFER SPACE" BECOME AVAILABLE.

SIGNS AND TRAFFIC CONTROL DEVICES -

1. MEASURE THE ADVANCE WARNING SIGN LOCATIONS FOR EACH APPROACH FROM THE "FLAGGER STATION" LOCATED ON THAT APPROACH.
2. INSTALL THE ADVANCE WARNING SIGNS AS SPACING INTERVALS BASED UPON THE POSTED REGULATORY SPEED LIMIT OF THE ROADWAY PRIOR TO BEGINNING ANY WORK. THE ADVANCE WARNING SIGN SPACING INTERVALS INDICATED ARE FOR NORMAL CONDITIONS. ADJUSTMENTS TO THESE DISTANCES MAY BE NECESSARY DUE TO EXISTING SIGNS, INTERSECTING ROADWAYS, HORIZONTAL AND/OR VERTICAL ALIGNMENTS OR OTHER SIGHT DISTANCE RESTRICTIONS. SEE TABLE A.
3. INSTALL ADVANCE WARNING SIGNS MOUNTED ON PORTABLE SIGN SUPPORTS NO LESS THAN 4 FEET FROM THE NEAR EDGE OF THE SIGN TO THE NEAR EDGE OF AN ADJACENT TRAVEL LANE ON ROADWAYS WITH EARTH SHOULDERS AND NO LESS THAN 6 FEET FROM THE NEAR EDGE OF THE SIGN TO THE NEAR EDGE OF AN ADJACENT TRAVEL LANE ON ROADWAYS WITH PAVED SHOULDERS. WHEN CURB & GUTTER IS PRESENT, INSTALL THE SIGN NO LESS THAN 2 FEET FROM THE NEAR EDGE OF THE SIGN TO THE FACE OF THE CURB.
4. ALL SIGNS MOUNTED ON PORTABLE SIGN SUPPORTS SHALL HAVE A MINIMUM MOUNTING HEIGHT OF 5 FEET FROM THE GROUND TO THE BOTTOM OF THE SIGN. ALL SIGNS MOUNTED ON GROUND MOUNTED U-CHANNEL OR SQUARE STEEL TUBE POSTS SHALL HAVE A MINIMUM MOUNTING HEIGHT OF 7 FEET FROM THE GRADE ELEVATION OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE TO THE BOTTOM OF THE SIGN UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. MOUNT ALL SIGNS STRAIGHT AND LEVEL AND WITH THE FACE OF THE SIGNS PERPENDICULAR TO THE SURFACE OF THE ROADWAY.
5. REFLECTORIZE ORANGE ADVANCE WARNING SIGNS AND ANY ORANGE AREAS OF A MULTI-COLORED ADVANCE WARNING SIGN WITH A FLUORESCENT ORANGE COLORED PRISMATIC RETROREFLECTIVE SHEETING. REFLECTORIZE WHITE REGULATORY SIGNS AND ANY WHITE AREAS OF A MULTI-COLORED ADVANCE WARNING SIGN WITH A WHITE COLORED PRISMATIC RETROREFLECTIVE SHEETING.
6. ALL TRAFFIC CONTROL DEVICES SHALL COMPLY WITH THE REQUIREMENTS OF NCHRP REPORT 350 OR THE AASHTO MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) AND SHALL REQUIRE APPROVAL BY THE DEPARTMENT. ONLY THOSE TRAFFIC CONTROL DEVICES INCLUDED ON THE "APPROVED PRODUCTS LIST FOR TRAFFIC CONTROL DEVICES IN WORK ZONES" ARE CONSIDERED ACCEPTABLE FOR USE. THIS LIST MAY BE ACCESSED ON THE DEPARTMENT'S WEB SITE AT: www.scdot.org .
7. REFLECTORIZATION OF 36" TRAFFIC CONES USED DURING DAYLIGHT HOURS IS NOT REQUIRED. IN THE EVENT A DAYTIME FLAGGING OPERATION EXTENDS INTO THE NIGHTTIME HOURS, REPLACE ALL 36" TRAFFIC CONES WITH EITHER PORTABLE PLASTIC DRUMS OR 42" OVERSIZED TRAFFIC CONES. REFLECTORIZE ALL PORTABLE PLASTIC DRUMS AND 42" OVERSIZED TRAFFIC CONES WITH TYPE III OR GREATER FLEXIBLE MICROPRISMATIC RETROREFLECTIVE SHEETING UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT.
8. DELINEATE THE TANGENT AREA OF THE LANE CLOSURE WITH THE NECESSARY TRAFFIC CONTROL DEVICES TO MINIMIZE ENCROACHMENT BY MOTORISTS INTO THE CLOSED TRAVEL LANE UNLESS OTHERWISE DIRECTED BY THE ENGINEER. ON ROADWAYS WITH POSTED REGULATORY SPEED LIMITS OF 35 MPH OR LESS, INSTALL THE TRAFFIC CONTROL DEVICES AT SPACING INTERVALS OF 25 FEET. ON ROADWAYS WITH POSTED REGULATORY SPEED LIMITS OF 40 MPH OR GREATER, INSTALL THE TRAFFIC CONTROL DEVICES AT SPACING INTERVALS OF 50 FEET. SEE TABLE B.

ADVANCE WARNING ARROW PANEL -

1. DURING FLAGGING OPERATIONS, AN ADVANCE WARNING ARROW PANEL SHALL OPERATE IN THE "FOUR CORNERS" CAUTION MODE WHEN LOCATED WITHIN OR IN BETWEEN THE LIMITS OF THE ADVANCE WARNING SIGN ARRAYS SPECIFIC TO A FLAGGING OPERATION. OPERATION OF AN ADVANCE WARNING ARROW PANEL IN AN ARROW, CHEVRON OR ANY OTHER TYPE OF CAUTION MODE OTHER THAN THE "FOUR CORNERS" CAUTION MODE WHEN LOCATED WITHIN OR IN BETWEEN THE LIMITS OF THE ADVANCE WARNING SIGN ARRAYS AS SPECIFIED HEREINBEFORE IS PROHIBITED.
2. ALL ADVANCE WARNING ARROW PANELS SHALL COMPLY WITH THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, LATEST EDITION. THE SPECIFIC LOCATION OF AN ADVANCE WARNING ARROW PANEL MAY REQUIRE ADJUSTMENTS DUE TO HORIZONTAL AND/OR VERTICAL ALIGNMENT OR OTHER SIGHT DISTANCE RESTRICTIONS.

TRUCK MOUNTED ATTENUATOR -

1. A TRUCK MOUNTED ATTENUATOR IS OPTIONAL. UTILIZATION OF A TRUCK MOUNTED ATTENUATOR SHOULD BE CONSIDERED WHEN THE MINIMUM DISTANCE REQUIREMENTS FOR THE "BUFFER SPACE" ARE UNAVAILABLE DUE TO FIELD CONDITIONS. HOWEVER, A TRAILER MOUNTED ADVANCE WARNING ARROW PANEL MAY BE UTILIZED IN PLACE OF A TRUCK MOUNTED ATTENUATOR DURING TRAFFIC CONTROL SETUPS FOR WORK ACTIVITIES SUCH AS ASPHALT CONCRETE PLACEMENT OPERATIONS WHEN APPROVED BY THE ENGINEER.
2. WHEN UTILIZING A TRUCK MOUNTED ATTENUATOR, ENSURE THE TRUCK HAS THE CORRECT GROSS VEHICULAR WEIGHT (GVM) REQUIRED FOR THE TYPE OF TRUCK MOUNTED ATTENUATOR BEING UTILIZED. A DIRECT TRUCK MOUNTED TRUCK MOUNTED ATTENUATOR, A UNIT MOUNTED AND ATTACHED TO BRACKETS OR SIMILAR DEVICES CONNECTED TO THE FRAME OF THE TRUCK, REQUIRES A TRUCK WITH A MINIMUM GVM OF 15,000 POUNDS (ACTUAL WEIGHT) UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. A TRAILER TOWED TRUCK MOUNTED ATTENUATOR, A TRAILER TYPE UNIT TOWED FROM BEHIND AND ATTACHED TO THE FRAME OF THE TRUCK VIA A PINTLE HOOK / HITCH, REQUIRES A TRUCK WITH A MINIMUM GVM OF 10,000 POUNDS (ACTUAL WEIGHT) UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. IF THE ADDITION OF SUPPLEMENTAL WEIGHT TO THE VEHICLE AS BALLAST IS NECESSARY, CONTAIN THE MATERIAL WITHIN A STRUCTURE CONSTRUCTED OF STEEL. CONSTRUCT THIS STEEL STRUCTURE TO HAVE A MINIMUM OF FOUR (4) SIDES AND A BOTTOM. A TOP IS OPTIONAL. BOLT THIS STRUCTURE TO THE FRAME OF THE TRUCK. UTILIZE A SUFFICIENT NUMBER OF FASTENERS FOR ATTACHMENT OF THE STEEL STRUCTURE TO THE FRAME OF THE TRUCK TO ENSURE THE STRUCTURE WILL NOT SEPARATE FROM THE FRAME OF THE TRUCK DURING AN IMPACT UPON THE TRUCK MOUNTED ATTENUATOR. UTILIZE EITHER DRY LOOSE SAND OR STEEL REINFORCED CONCRETE FOR BALLAST MATERIAL WITHIN THE STEEL STRUCTURE TO ACHIEVE THE NECESSARY WEIGHT. THE BALLAST MATERIAL SHALL REMAIN CONTAINED WITHIN THE CONFINES OF THE STEEL STRUCTURE IN ITS ENTIRETY AND SHALL NOT PROTRUDE FROM THE STEEL STRUCTURE IN ANY MANNER.
3. LOCATE THE TRUCK MOUNTED ATTENUATOR APPROXIMATELY 100 FEET IN ADVANCE OF THE "WORK ACTIVITY AREA" UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
4. PROVIDE, INSTALL AND MAINTAIN THE TRUCK MOUNTED ATTENUATOR AS SPECIFIED BY THE STANDARD SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER.

GENERAL -

1. CONDUCT THE WORK IN SUCH A MANNER SO AS NOT TO ENCROACH ONTO THE ADJACENT TRAVEL LANE OPEN TO TRAFFIC. INSTALL, MAINTAIN AND ADJUST THE TRAFFIC CONTROL DEVICES AS NECESSARY TO ENSURE PROPER DELINEATION OF THE WORK AREA.
2. IF WORK IS BEING CONDUCTED AT TWO DIFFERENT LOCATIONS AT THE SAME TIME, SEPARATE THE TWO LOCATIONS BY NO LESS THAN 2 MILES FROM THE LAST TRAFFIC CONTROL DEVICE IN THE "DOWNSTREAM TAPER" OF THE FIRST LANE CLOSURE TO THE FIRST TRAFFIC CONTROL DEVICE IN THE "APPROACH TAPER" OF THE SECOND LANE CLOSURE ENCOUNTERED BY A MOTORIST UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
3. THE DEPARTMENT RESERVES THE RIGHT TO RESTRICT WORK OPERATIONS AND/OR WITHHOLD THE MONTHLY ESTIMATE IF THE TRAFFIC CONTROL IS NOT PROPERLY INSTALLED AND MAINTAINED AS DIRECTED BY THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, THE STANDARD DRAWINGS, THE PLANS AND/OR THE ENGINEER.

TABLE A

SIGN PLACEMENT INTERVALS	
SPEED LIMIT	✳
# ≤ 35 MPH LOW SPEED	200
# 40 - 50 MPH INTERMEDIATE SPEED	350
# 55 MPH HIGH SPEED	500

# REGULATORY POSTED SPEED LIMIT PRIOR TO BEGINNING WORK

TABLE B

TRAFFIC CONTROL DEVICE SPACING INTERVALS WORK ACTIVITY / BUFFER SPACE AREAS	
SPEED LIMIT	SPACING INTERVALS
≤ 35 MPH	25 FEET
40 - 55 MPH	50 FEET

#	DATE	CHK	DESCRIPTION
5			
4			
3			
2			
1	4-27-18	WEM	REVISED FLAGGING OPERATIONS NOTE 1
0	1-14-15	JCS	NEW DRAWING

SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
DESIGN STANDARDS OFFICE
955 PARK STREET
ROOM 405
COLUMBIA, SC 29201

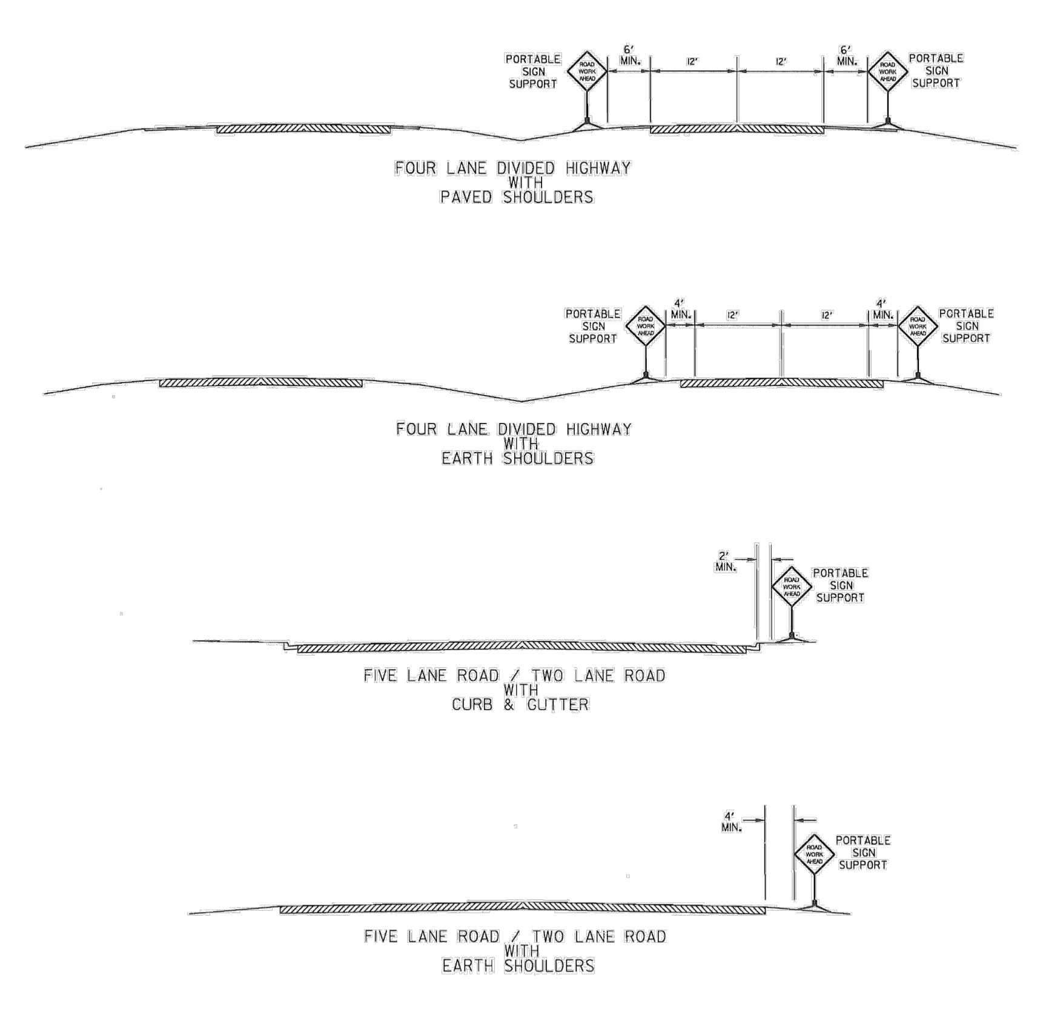
STANDARD DRAWING

FLAGGING OPERATIONS TWO-LANE TWO-WAY PRIMARY & SECONDARY ROUTES

610-005-00

EFFECTIVE LETTING DATE JAN 2019

THIS DRAWING IS NOT TO SCALE



PORTABLE SIGN SUPPORT
6' MIN.
12'
FOUR LANE DIVIDED HIGHWAY WITH PAVED SHOULDERS
FOUR LANE DIVIDED HIGHWAY WITH EARTH SHOULDERS
FIVE LANE ROAD / TWO LANE ROAD WITH CURB & GUTTER
FIVE LANE ROAD / TWO LANE ROAD WITH EARTH SHOULDERS
ROAD WORK AHEAD
5' MINIMUM MOUNTING HEIGHT

GENERAL NOTES

1. ALL SIGN LOCATIONS ARE TO BE MEASURED FROM THE WORK AREA. WORK LIMITS FOR THE PROJECT WILL BE DETERMINED BY THE ENGINEER AND AS INDICATED IN THE CONTRACT.
2. INSTALL ADVANCE WARNING SIGNS MOUNTED ON PORTABLE SIGN SUPPORTS NO LESS THAN 4 FEET FROM THE NEAR EDGE OF THE SIGN TO THE NEAR EDGE OF AN ADJACENT TRAVEL LANE ON ROADWAYS WITH EARTH SHOULDERS AND NO LESS THAN 6 FEET FROM THE NEAR EDGE OF THE SIGN TO THE NEAR EDGE OF AN ADJACENT TRAVEL LANE ON ROADWAYS WITH PAVED SHOULDERS. WHEN CURB & GUTTER IS PRESENT, INSTALL THE SIGN NO LESS THAN 2 FEET FROM THE NEAR EDGE OF THE SIGN TO THE FACE OF THE CURB.
3. ALL SIGNS MOUNTED ON PORTABLE SIGN SUPPORTS SHALL HAVE A MINIMUM MOUNTING HEIGHT OF 5 FEET FROM THE GROUND TO THE BOTTOM OF THE SIGN. ALL SIGNS MOUNTED ON GROUND MOUNTED U-CHANNEL POSTS OR SQUARE STEEL TUBE POSTS SHALL HAVE A MINIMUM MOUNTING HEIGHT OF 7 FEET FROM THE GRADE ELEVATION OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE TO THE BOTTOM OF THE SIGN UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. MOUNT ALL SIGNS STRAIGHT AND LEVEL AND WITH THE FACE OF THE SIGNS PERPENDICULAR TO THE SURFACE OF THE ROADWAY.
4. REFLECTORIZE ORANGE ADVANCE WARNING SIGNS AND ANY ORANGE AREAS OF A MULTI-COLORED ADVANCE WARNING SIGN WITH A FLUORESCENT ORANGE COLORED PRISMATICE RETROREFLECTIVE SHEETING. REFLECTORIZE WHITE REGULATORY SIGNS AND ANY WHITE AREAS OF A MULTI-COLORED ADVANCE WARNING SIGN WITH A WHITE COLORED PRISMATIC RETROREFLECTIVE SHEETING.
5. ALL TRAFFIC CONTROL DEVICES SHALL COMPLY WITH ALL NCHRP REPORT 350 REQUIREMENTS AND SHALL REQUIRE APPROVAL BY THE DEPARTMENT. ONLY THOSE TRAFFIC CONTROL DEVICES INCLUDED ON THE "APPROVED PRODUCTS LIST FOR TRAFFIC CONTROL DEVICES IN WORK ZONES" ARE CONSIDERED ACCEPTABLE FOR USE. THIS LIST MAY BE ACCESSED ON THE DEPARTMENT'S WEB SITE AT: www.scdot.org .
6. ONLY THOSE PORTABLE SIGN SUPPORTS INCLUDED ON THE "APPROVED PRODUCTS LIST FOR TRAFFIC CONTROL IN WORK ZONES" ARE CONSIDERED ACCEPTABLE. ALL PORTABLE SIGN SUPPORTS UTILIZED FOR CONTRACT WORK SHALL PROVIDE A MINIMUM MOUNTING HEIGHT OF 5 FEET FROM THE GROUND TO THE BOTTOM OF THE SIGN ON ALL ROADWAYS. MOUNTING HEIGHTS LESS THAN 5 FEET ARE UNACCEPTABLE FOR CONTRACT WORK.
7. FABRICATE ALL SIGNS INTENDED FOR MOUNTING ON PORTABLE SIGN SUPPORTS FROM ONLY THOSE SIGN SUBSTRATUMS INCLUDED ON THE "APPROVED PRODUCTS LIST FOR TRAFFIC CONTROL DEVICES IN WORK ZONES".
8. PROVIDE AND UTILIZE ANY SPECIAL SIGN MOUNTING ASSEMBLIES AND HARDWARE THAT MAY BE NECESSARY FOR INSTALLING AND MOUNTING SIGNS IN AREAS WHERE CONCRETE MEDIAN BARRIERS, BRIDGE PARAPET WALLS OR DOUBLEFACED GUARDRAIL ARE PRESENT.
9. THESE ILLUSTRATIONS ARE INTENDED FOR INFORMATION ONLY. SIMILARITY BETWEEN THESE ILLUSTRATIONS AND ANY SPECIFIC DEVICE OR SYSTEM IS COINCIDENTAL AND IS NOT INTENDED AS EITHER A RECOMMENDATION OR AN ENDORSEMENT OF A SPECIFIC DEVICE OR DESIGN.
10. INSTALL AND PLACE ADVANCE WARNING SIGNS MOUNTED ON PORTABLE SIGN SUPPORTS AS ILLUSTRATED ON THIS TYPICAL TRAFFIC CONTROL STANDARD DRAWING.

#	DATE	CHK	DESCRIPTION
6			
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1	1-5-12	JCS	GENERAL UPDATE
0	8-13-07	JCS	DRAWING NO. UPDATE

SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
DESIGN STANDARDS OFFICE
955 PARK STREET
ROOM 405
COLUMBIA, SC 29201

STANDARD DRAWING

CONSTRUCTION SIGNING-TEMPORARY PORTABLE SIGN SUPPORTS INSTALLATION & PLACEMENT

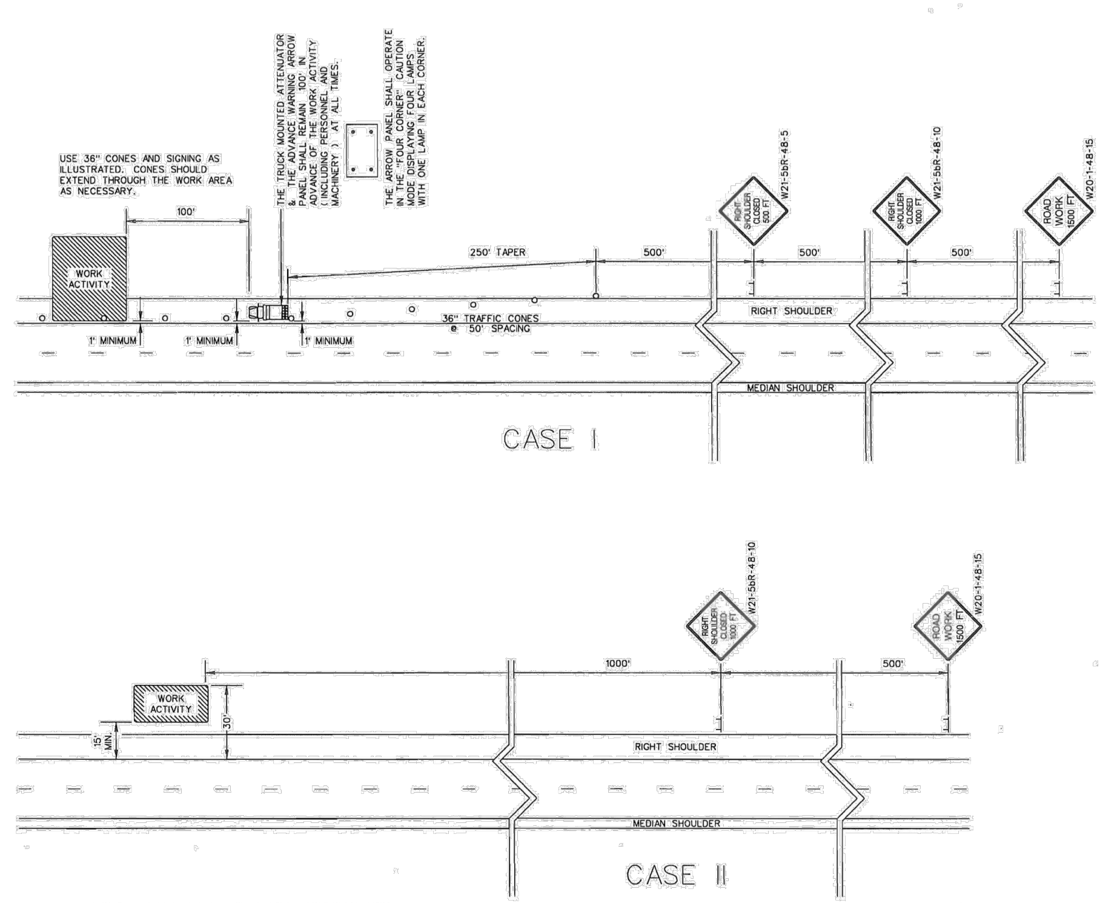
602-005-00

EFFECTIVE LETTING DATE JAN. 2013

THIS DRAWING IS NOT TO SCALE

GENERAL NOTES

1. ALL SIGN LOCATIONS ARE TO BE MEASURED FROM THE WORK AREA. WORK LIMITS FOR THE PROJECT WILL BE DETERMINED BY THE ENGINEER AND AS INDICATED IN THE CONTRACT.
2. INSTALL ADVANCE WARNING SIGNS MOUNTED ON PORTABLE SIGN SUPPORTS NO LESS THAN 4 FEET FROM THE NEAR EDGE OF THE SIGN TO THE NEAR EDGE OF AN ADJACENT TRAVEL LANE ON ROADWAYS WITH EARTH SHOULDERS AND NO LESS THAN 6 FEET FROM THE NEAR EDGE OF THE SIGN TO THE NEAR EDGE OF AN ADJACENT TRAVEL LANE ON ROADWAYS WITH PAVED SHOULDERS. WHEN CURB & GUTTER IS PRESENT, INSTALL THE SIGN NO LESS THAN 2 FEET FROM THE NEAR EDGE OF THE SIGN TO THE FACE OF THE CURB.
3. SPACINGS INDICATED ARE FOR NORMAL CONDITIONS; ADJUSTMENTS MAY BE REQUIRED DUE TO HORIZONTAL AND/OR VERTICAL ALIGNMENTS OR OTHER SIGHT DISTANCE RESTRICTIONS.
4. ALL SIGNS MOUNTED ON PORTABLE SIGN SUPPORTS SHALL HAVE A MINIMUM MOUNTING HEIGHT OF 5 FEET FROM THE GROUND TO THE BOTTOM OF THE SIGN. ALL SIGNS MOUNTED ON GROUND MOUNTED U-CHANNEL POSTS OR SQUARE STEEL TUBE POSTS SHALL HAVE A MINIMUM MOUNTING HEIGHT OF 7 FEET FROM THE GRADE ELEVATION OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE TO THE BOTTOM OF THE SIGN UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. MOUNT ALL SIGNS STRAIGHT AND LEVEL AND WITH THE FACE OF THE SIGNS PERPENDICULAR TO THE SURFACE OF THE ROADWAY.
5. REFLECTORIZE ORANGE ADVANCE WARNING SIGNS AND ANY ORANGE AREAS OF A MULTI-COLORED ADVANCE WARNING SIGN WITH A FLUORESCENT ORANGE COLORED PRISMATIC RETROREFLECTIVE SHEETING. REFLECTORIZE WHITE REGULATORY SIGNS AND ANY WHITE AREAS OF A MULTI-COLORED ADVANCE WARNING SIGN WITH A WHITE COLORED PRISMATIC RETROREFLECTIVE SHEETING.
6. ALL TRAFFIC CONTROL DEVICES SHALL COMPLY WITH ALL NCHRP REPORT 350 REQUIREMENTS AND SHALL REQUIRE APPROVAL BY THE DEPARTMENT. ONLY THOSE TRAFFIC CONTROL DEVICES INCLUDED ON THE "APPROVED PRODUCTS LIST FOR TRAFFIC CONTROL DEVICES IN WORK ZONES" ARE CONSIDERED ACCEPTABLE FOR USE. THIS LIST MAY BE ACCESSED ON THE DEPARTMENT'S WEB SITE AT: www.scdot.org .
7. THE CONTRACTOR SHALL PROVIDE AND UTILIZE ANY SPECIAL SIGN MOUNTING ASSEMBLIES AND HARDWARE THAT MAY BE NECESSARY FOR INSTALLING AND MOUNTING SIGNS IN AREAS OF CONCRETE MEDIAN BARRIER, BRIDGE PARAPET WALLS OR DOUBLEFACED GUARDRAIL.
8. THE PRIMARY TRAFFIC CONTROL DEVICES UTILIZED FOR DAYTIME SHOULDER CLOSURES ARE 36" CONES. THE PRIMARY TRAFFIC CONTROL DEVICES UTILIZED FOR NIGHTTIME SHOULDER CLOSURES ARE PORTABLE PLASTIC DRUMS. DURING DAYTIME SHOULDER CLOSURES, 42" OVERSIZED CONES MAY BE SUBSTITUTED FOR 36" CONES. DURING NIGHTTIME SHOULDER CLOSURES, 42" OVERSIZED CONES ARE PROHIBITED FOR USE. IF THIS TRAFFIC CONTROL SETUP EXTENDS INTO THE HOURS OF DARKNESS, REPLACE ALL CONES, 36" OR 42" OVERSIZED, WITH PORTABLE PLASTIC DRUMS.
9. THE 36" CONES UTILIZED DURING DAYLIGHT HOURS ARE NOT REQUIRED TO BE REFLECTORIZED. REFLECTORIZE ALL 42" OVERSIZED CONES UTILIZED DURING DAYTIME SHOULDER CLOSURES WITH TYPE III FLEXIBLE PRISMATIC RETROREFLECTIVE SHEETING UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. REFLECTORIZE ALL PORTABLE PLASTIC DRUMS WITH TYPE III FLEXIBLE PRISMATIC RETROREFLECTIVE SHEETING UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT.
11. THE DEPARTMENT PROHIBITS CONDUCTING WORK ON PRIMARY AND SECONDARY ROUTES WITHIN 1' OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE UNDER A SHOULDER CLOSURE. ALL WORK THAT MAY REQUIRE THE PRESENCE OF EQUIPMENT, PERSONNEL, MATERIALS OR WORK VEHICLES WITHIN 1' OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE SHALL BE CONDUCTED UNDER A LANE CLOSURE.
    - CASE I: WHENEVER ANY PORTION OF THE SHOULDER AREA WITHIN 15' BUT NOT CLOSER THAN 1' OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE MUST BE OCCUPIED BY EQUIPMENT, PERSONNEL, MATERIALS OR WORK VEHICLES TO CONDUCT THE WORK, INSTALL AND MAINTAIN THE SIGNING AND TRAFFIC CONTROL DEVICES AS ILLUSTRATED.
    - CASE II: WHENEVER THE WORK IS CONDUCTED BEYOND 15' BUT WITHIN 30' OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE, INCLUDING THE PRESENCE OF EQUIPMENT, PERSONNEL, MATERIALS OR WORK VEHICLES, INSTALL AND MAINTAIN THE SIGNING AND TRAFFIC CONTROL AS ILLUSTRATED.
12. CONDUCT THE WORK IN SUCH A MANNER THAT WILL NOT REQUIRE ENCROACHMENT OF TRAFFIC CONTROL DEVICES, EQUIPMENT, PERSONNEL, MATERIALS OR ANY WORK RELATED VEHICLES WITHIN 1' OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE.
13. PLACE THE TRUCK MOUNTED ATTENUATOR AT A LOCATION 100' IN ADVANCE OF THE WORK ACTIVITY AND NO CLOSER THAN 1' FROM THE NEAR EDGE OF THE ADJACENT TRAVEL LANE.
14. FOR A CASE I SCENARIO IN THE RIGHT SHOULDER AREA, ADJUST THE TAPER AS NECESSARY TO FIT THE WIDTH OF THE SHOULDER WHILE MAINTAINING THE REQUIRED 250' TAPER LENGTH.
15. IF WORK IS BEING CONDUCTED SIMULTANEOUSLY AT TWO DIFFERENT LOCATIONS AT THE SAME TIME UNDER CASE I SHOULDER CLOSURES, SEPARATE THE TWO LOCATIONS BY NO LESS THAN 1 MILE FROM THE END OF THE FIRST CASE I CLOSURE THAT A MOTORIST WILL ENCOUNTER TO THE BEGINNING OF THE TAPER OF THE SECOND CASE I CLOSURE. A MINIMUM SEPARATION DISTANCE OF ONE-HALF MILE IS RECOMMENDED BETWEEN SHOULDER CLOSURES WHEN ONE OR BOTH SHOULDER CLOSURES IS A CASE II CLOSURE.
16. THE DEPARTMENT RESERVES THE RIGHT TO RESTRICT WORK OPERATIONS AND/OR WITHHOLD THE MONTHLY ESTIMATE IF THE TRAFFIC CONTROL IS NOT PROPERLY INSTALLED AND MAINTAINED AS DIRECTED BY THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, THE STANDARD DRAWINGS, THE PLANS AND/OR THE ENGINEER.
17. THIS TYPICAL TRAFFIC CONTROL SETUP APPLIES TO THE INSTALLATION OF SHOULDER CLOSURES IN THE RIGHT SHOULDER AREAS OF PRIMARY AND SECONDARY ROADWAYS.



USE 36" CONES AND SIGNING AS ILLUSTRATED. CONES SHOULD EXTEND THROUGH THE WORK AREA AS NECESSARY.
WORK ACTIVITY
1' MINIMUM
250' TAPER
500'
RIGHT SHOULDER
MEDIAN SHOULDER
CASE I
15' MIN.
30'
CASE II

PORTABLE TRUCK MOUNTED ATTENUATOR

1. UTILIZE A TRUCK MOUNTED ATTENUATOR ATTACHED TO THE REAR OF A TRUCK WITH A MINIMUM GROSS VEHICULAR WEIGHT (GVM) OF 15,000 POUNDS (ACTUAL WEIGHT). IF THE ADDITION OF SUPPLEMENTAL WEIGHT TO THE VEHICLE AS BALLAST IS NECESSARY, CONTAIN THE MATERIAL WITHIN A STRUCTURE CONSTRUCTED OF STEEL. CONSTRUCT THIS STEEL STRUCTURE TO HAVE A MINIMUM OF FOUR SIDES AND A BOTTOM. A TOP IS OPTIONAL. BOLT THIS STRUCTURE TO THE FRAME OF THE TRUCK. UTILIZE A SUFFICIENT NUMBER OF FASTENERS FOR ATTACHMENT OF THE STEEL STRUCTURE TO THE FRAME OF THE TRUCK TO ENSURE THE STRUCTURE WILL NOT SEPARATE FROM THE FRAME OF THE TRUCK DURING AN IMPACT UPON THE ATTACHED TRUCK MOUNTED ATTENUATOR. UTILIZE EITHER DRY LOOSE SAND OR STEEL REINFORCED CONCRETE FOR BALLAST MATERIAL WITHIN THE STEEL STRUCTURE TO ACHIEVE THE NECESSARY WEIGHT. THE BALLAST MATERIAL SHALL REMAIN CONTAINED WITHIN THE CONFINES OF THE STEEL STRUCTURE AND SHALL NOT PROTRUDE FROM THE STEEL STRUCTURE IN ANY MANNER.
2. LOCATE THE TRUCK MOUNTED ATTENUATOR 100 FEET IN ADVANCE OF THE WORK AREA UNLESS OTHERWISE SPECIFIED.
3. PROVIDE, INSTALL AND MAINTAIN THE TRUCK MOUNTED ATTENUATOR AS SPECIFIED BY THE STANDARD SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER.

ADVANCE WARNING ARROW PANEL

ALL ADVANCE WARNING ARROW PANELS SHALL BE 48" x 96" WITH A MINIMUM LEGIBILITY DISTANCE OF 1 MILE. PLACEMENT OF AN ADVANCE WARNING ARROW PANEL MAY REQUIRE ADJUSTMENTS DUE TO HORIZONTAL AND/OR VERTICAL ALIGNMENT OR OTHER SIGHT DISTANCE RESTRICTIONS. THE PANEL FACE SHALL BE NONREFLECTIVE BLACK. ALL ADVANCE WARNING ARROW PANELS SHALL COMPLY WITH THE STANDARD SPECIFICATONS FOR HIGHWAY CONSTRUCTION, LATEST EDITION.

WHEN AN ADVANCE WARNING ARROW PANEL IS REQUIRED TO OPERATE IN THE CAUTION MODE, THE ADVANCE WARNING ARROW PANEL SHALL DISPLAY THE "FOUR CORNERS" CAUTION MODE, WITH ONE LAMP IN EACH CORNER. DISPLAY OF ANY OTHER TYPE OF CAUTION MODE OTHER THAN THE "FOUR CORNERS" CAUTION MODE SUCH AS THE "FLASHING BAR" OR THE "ALTERNATING DIAMOND" CAUTION MODES ARE UNACCEPTABLE AND PROHIBITED.

LEGEND
- ○ 36" TRAFFIC CONES

#	DATE	CHK	DESCRIPTION
1		JCS	GENERAL UPDATE
0		JCS	DRAWING NO. UPDATE

SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
DESIGN STANDARDS OFFICE
955 PARK STREET
ROOM 405
COLUMBIA, SC 29201

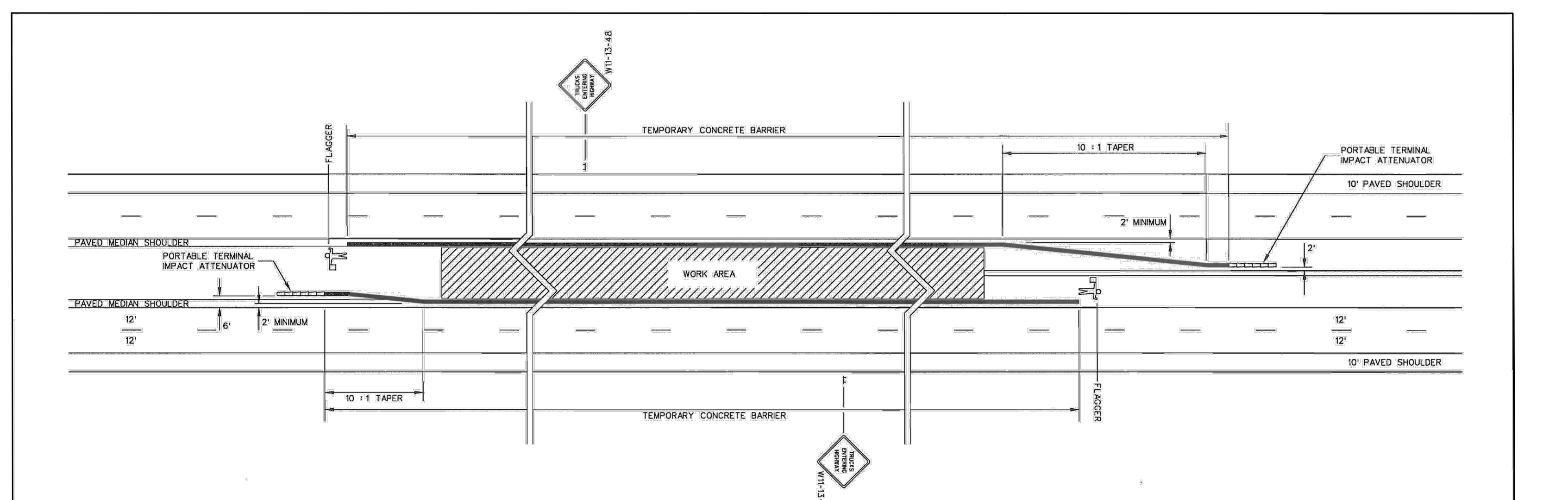
STANDARD DRAWING

RIGHT SHOULDER CLOSURE (CASE I / CASE II) PRIMARY ROUTES

610-205-00

EFFECTIVE LETTING DATE JAN. 2013

THIS DRAWING IS NOT TO SCALE



GENERAL NOTES

1. ALL TRAFFIC CONTROL DEVICES SHALL COMPLY WITH ALL NCHRP REPORT 350 REQUIREMENTS AND SHALL REQUIRE APPROVAL BY THE DEPARTMENT. ONLY THOSE TRAFFIC CONTROL DEVICES INCLUDED ON THE "APPROVED PRODUCTS LIST FOR TRAFFIC CONTROL DEVICES IN WORK ZONES" ARE CONSIDERED ACCEPTABLE FOR USE. THIS LIST MAY BE ACCESSED ON THE DEPARTMENT'S WEB SITE AT: www.scdot.org .
2. ALL SIGNS MOUNTED ON PORTABLE SIGN SUPPORTS SHALL HAVE A MINIMUM MOUNTING HEIGHT OF 5 FEET FROM THE GROUND TO THE BOTTOM OF THE SIGN. ALL SIGNS MOUNTED ON GROUND MOUNTED U-CHANNEL POSTS OR SQUARE STEEL TUBE POSTS SHALL HAVE A MINIMUM MOUNTING HEIGHT OF 7 FEET FROM THE GRADE ELEVATION OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE TO THE BOTTOM OF THE SIGN UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. MOUNT ALL SIGNS STRAIGHT AND LEVEL AND WITH THE FACE OF THE SIGNS PERPENDICULAR TO THE SURFACE OF THE ROADWAY.
3. SPACINGS INDICATED ARE FOR NORMAL CONDITIONS: ADJUSTMENTS MAY BE REQUIRED DUE TO VARIOUS SITE CONDITIONS SUCH AS BUT NOT LIMITED TO HORIZONTAL AND/OR VERTICAL ALIGNMENTS. A REDUCTION OF THE LANE WIDTHS OR THE MINIMUM 2 FEET BETWEEN THE FACE OF THE TEMPORARY CONCRETE BARRIER AND THE NEAR EDGE OF THE ADJACENT TRAVEL LANE IS PROHIBITED UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT.
4. PLACE THE TEMPORARY CONCRETE BARRIER THE MAXIMUM DISTANCE FROM THE NEAR EDGE OF THE ADJACENT TRAVEL LANE WHILE PROVIDING A SUFFICIENT WORK AREA.
5. ALL SECTIONS OF TEMPORARY CONCRETE BARRIER WALLS IN A CONTINUOUS LINE SHALL HAVE THE SAME SHAPE, LENGTH AND CONNECTION TYPES.
6. INSTALL AND PLACE THE APPROACH TAPERS AND THE BARRIER ENDS OF THE TEMPORARY CONCRETE BARRIER AS FOLLOWS:

   APPROACH TAPERS - TAPER THE APPROACH TAPER OF A LINE OF TEMPORARY CONCRETE BARRIER ADJACENT TO A TRAVEL LANE AWAY FROM THE TRAVEL LANE AT THE FIRST PRACTICAL OPPORTUNITY. INSTALL THE TAPERS AT THE FOLLOWING RATES:

DESIGN SPEED	TAPER RATE	MINIMUM CLEARANCE
45 & ABOVE	10 : 1	30 FEET
40 & BELOW	8 : 1	15 FEET

   BARRIER ENDS - MINIMIZE THE HAZARD OF A BARRIER END BY PROTECTING THE END OF THE BARRIER, TERMINATING THE BARRIER SUCH THAT IT IS INACCESSIBLE TO VEHICLES OR TERMINATING THE BARRIER AT OR IN EXCESS OF THE MINIMUM CLEARANCE DISTANCES FROM THE NEAR EDGE OF THE ADJACENT TRAVEL LANE.

   PORTABLE TERMINAL IMPACT ATTENUATORS - A TEMPORARY CONCRETE BARRIER END CAN BE SHIELDED BY AN APPROVED PORTABLE TERMINAL IMPACT ATTENUATOR.

   COORDINATING TERMINATION WITH EXISTING FEATURES - A TEMPORARY CONCRETE BARRIER CAN BE MADE INACCESSIBLE TO VEHICLES BY EXTENDING THE LINE OF BARRIER BEHIND GUARDRAIL, A BRIDGE RAIL OR OTHER EXISTING HIGHWAY FEATURE. WHEN TERMINATING THE BARRIER BEHIND GUARDRAIL, ALWAYS TIE THE GUARDRAIL TO THE BARRIER TO PREVENT AN IMPACT NEAR THE JUNCTION FROM DEFLECTING THE GUARDRAIL AND EXPOSING THE BARRIER END. PLACEMENT OF NON-COMPACTED FILL DIRT IN FRONT OF THE BARRIER END IS PROHIBITED.

   CLEARANCE DISTANCES - ON A TANGENT SECTION AND ON THE INSIDE OF A CURVE WITH A DESIGN SPEED OF 40 MPH OR LESS AND WITH ROADSIDE SLOPES OF 10 : 1 OR FLATTER, A TEMPORARY CONCRETE BARRIER MAY BE TERMINATED WITH A MINIMUM CLEARANCE OF 15 FEET VIA AN 8 : 1 TAPER FROM THE NEAR EDGE OF AN OPPOSING TRAVEL LANE TO THE BARRIER END. ON A TANGENT SECTION AND ON THE OUTSIDE OF A CURVE WITH A DESIGN SPEED OF 45 MPH OR GREATER, A TEMPORARY CONCRETE BARRIER MAY BE TERMINATED WITH A MINIMUM CLEARANCE OF 30 FEET VIA A 10 : 1 TAPER FROM THE NEAR EDGE OF AN OPPOSING TRAVEL LANE TO THE BARRIER END.
7. EACH PORTABLE TERMINAL IMPACT ATTENUATOR SHALL COMPLY WITH ALL REQUIREMENTS AS SPECIFIED BY THE STANDARD SPECIFICATIONS. EACH ATTENUATOR SHALL BE ONE OF THREE TYPES AND UTILIZATION OF THESE UNITS SHALL BE DETERMINED BY THE DESIGN SPEEDS OF THE ROADWAY UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT.

DESIGN SPEED	PERFORMANCE REQUIREMENT
45 & BELOW	TEST LEVEL II
60 & BELOW	TEST LEVEL III - 60 MPH
70 & BELOW	TEST LEVEL III - 70 MPH
8. AN IDEAL SITE LOCATION FOR A PORTABLE TERMINAL IMPACT ATTENUATOR SHALL PLACE THE ATTENUATOR NO CLOSER THAN 2 FEET FROM THE NEAR EDGE OF AN ADJACENT TRAVEL LANE AND PREFERABLY NO CLOSER THAN 6 FEET WHEN SPACE IS AVAILABLE. ALWAYS INSTALL THE ATTENUATOR PARALLEL TO THE FLOW OF TRAFFIC IN THE ADJACENT TRAVEL LANE UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. WHENEVER PLACED WITHIN A GORE AREA, INSTALL THE ATTENUATOR PARALLEL TO THE MAINLINE TRAFFIC FLOW.
9. WHEN THE CONTRACTOR'S VEHICLES ENTER THE ROADWAY FROM THE MEDIAN AREA, A FLAGGER SHALL CONTROL THE CONTRACTOR'S VEHICLES. THE FLAGGER SHALL NOT STOP TRAFFIC, CAUSE TRAFFIC TO CHANGE LANES OR AFFECT TRAFFIC IN ANY MANNER. THE CONTRACTOR'S VEHICLES SHALL NOT DISRUPT THE NORMAL FLOW OF TRAFFIC OR ENTER THE TRAVEL LANES OR THE ROADWAY UNTIL A SUFFICIENT GAP IS PRESENT.
10. THE DEPARTMENT RESERVES THE RIGHT TO RESTRICT WORK OPERATIONS AND/OR WITHHOLD THE MONTHLY ESTIMATE IF THE TRAFFIC CONTROL IS NOT PROPERLY INSTALLED AND MAINTAINED AS DIRECTED BY THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, THE STANDARD DRAWINGS, THE PLANS AND/OR THE ENGINEER.

TAPER NOTE

INSTALL TAPER RATE OF TEMPERARY CONCRETE BARRIER WALL PER DESIGN SPEED. ACQUIRE ENGINEER'S APPROVAL PRIOR TO INSTALLATION.
(SEE GENERAL NOTE NO. 6)

LEGEND

▬	TEMPORARY CONCRETE BARRIER
▨	WORK AREA
▭	PORTABLE TERMINAL IMPACT ATTENUATOR
🚩	FLAGGER

#	DATE	CHK	DESCRIPTION
6			
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1	1-11-12	JCS	GENERAL UPDATE
0	10-1-07	JCS	DRAWING NO. UPDATE

SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
DESIGN STANDARDS OFFICE
955 PARK STREET
ROOM 405
COLUMBIA, SC 29201

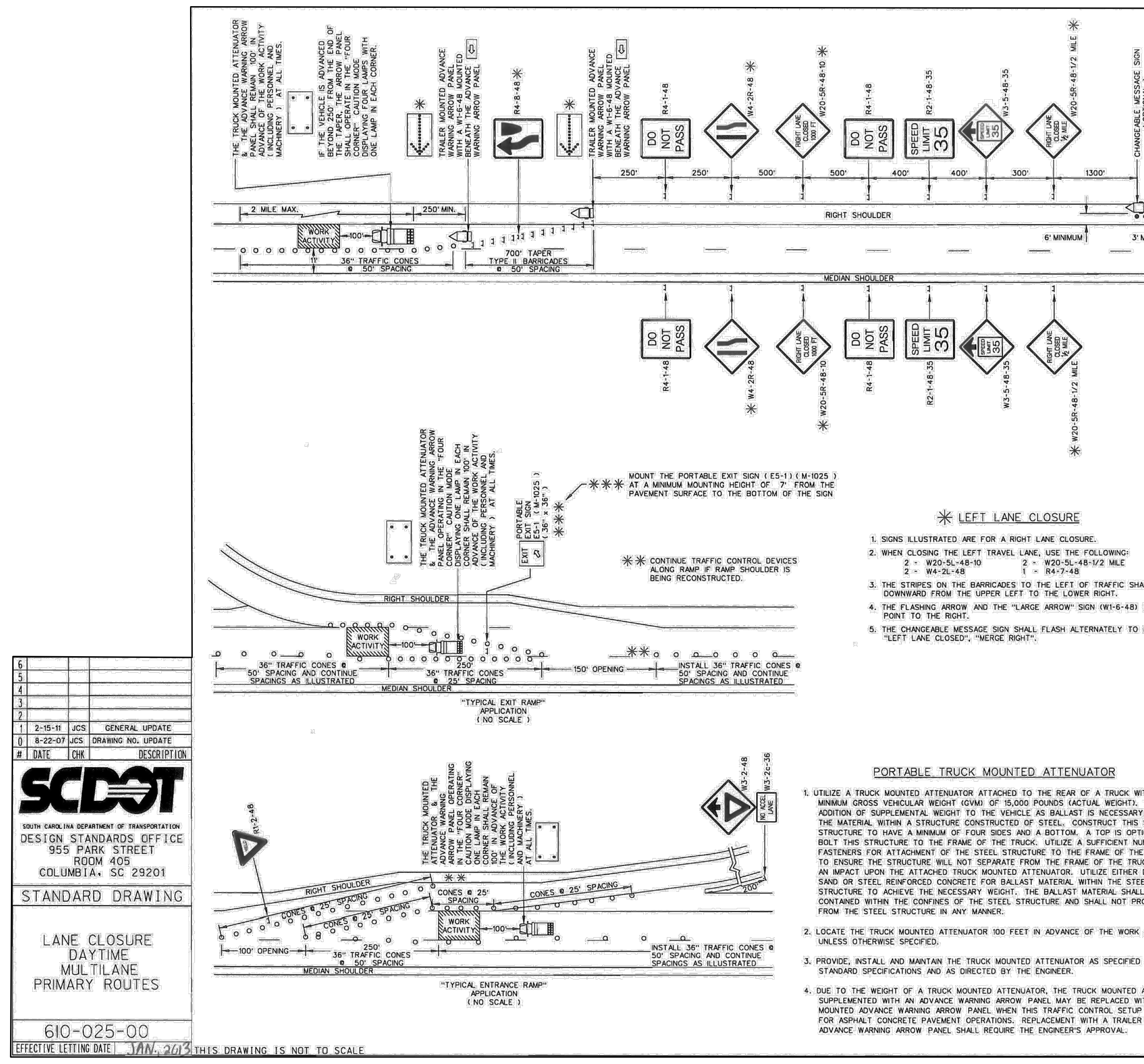
STANDARD DRAWING

TEMPORARY CONCRETE BARRIER PLACEMENT & INSTALLATION MEDIAN AREAS

605-420-00

EFFECTIVE LETTING DATE JAN. 2013

THIS DRAWING IS NOT TO SCALE



W20-5R-48-1/2 MILE
RIGHT LANE CLOSED 1/2 MILE
CHANGEABLE MESSAGE SIGN (OPTIONAL) SEE NOTE 15 INSTALL 5 DRUMS TO DELINEATE CHANGEABLE MESSAGE SIGN LOCATION
W4-2R-48
W20-5R-48-10
R4-1-48
R2-1-48-35
W3-5-48-35
W1-6-48
1300'
6' MINIMUM
3' MINIMUM
RIGHT SHOULDER
MEDIAN SHOULDER
WORK ACTIVITY
TYPE II BARRICADES
36" TRAFFIC CONES
MOUNT THE PORTABLE EXIT SIGN (E5-1) (M-1025) AT A MINIMUM MOUNTING HEIGHT OF 7' FROM THE PAVEMENT SURFACE TO THE BOTTOM OF THE SIGN
CONTINUE TRAFFIC CONTROL DEVICES ALONG RAMP IF RAMP SHOULDER IS BEING RECONSTRUCTED.
INSTALL 36" TRAFFIC CONES @ 50' SPACING AND CONTINUE SPACINGS AS ILLUSTRATED
"TYPICAL EXIT RAMP" APPLICATION (NO SCALE)
"TYPICAL ENTRANCE RAMP" APPLICATION (NO SCALE)
W3-2-48
W3-2c-36
NO ACCEL LANE
200'

✳ LEFT LANE CLOSURE

1. SIGNS ILLUSTRATED ARE FOR A RIGHT LANE CLOSURE.
2. WHEN CLOSING THE LEFT TRAVEL LANE, USE THE FOLLOWING:
   2 - W20-5L-48-10
   2 - W4-2L-48
   2 - W20-5L-48-1/2 MILE
   1 - R4-7-48
3. THE STRIPES ON THE BARRICADES TO THE LEFT OF TRAFFIC SHALL SLOPE DOWNWARD FROM THE UPPER LEFT TO THE LOWER RIGHT.
4. THE FLASHING ARROW AND THE "LARGE ARROW" SIGN (W1-6-48) SHALL POINT TO THE RIGHT.
5. THE CHANGEABLE MESSAGE SIGN SHALL FLASH ALTERNATELY TO READ "LEFT LANE CLOSED", "MERGE RIGHT".

PORTABLE TRUCK MOUNTED ATTENUATOR

1. UTILIZE A TRUCK MOUNTED ATTENUATOR ATTACHED TO THE REAR OF A TRUCK WITH A MINIMUM GROSS VEHICULAR WEIGHT (GVM) OF 15,000 POUNDS (ACTUAL WEIGHT). IF THE ADDITION OF SUPPLEMENTAL WEIGHT TO THE VEHICLE AS BALLAST IS NECESSARY, CONTAIN THE MATERIAL WITHIN A STRUCTURE CONSTRUCTED OF STEEL. CONSTRUCT THIS STEEL STRUCTURE TO HAVE A MINIMUM OF FOUR SIDES AND A BOTTOM. A TOP IS OPTIONAL. BOLT THIS STRUCTURE TO THE FRAME OF THE TRUCK. UTILIZE A SUFFICIENT NUMBER OF FASTENERS FOR ATTACHMENT OF THE STEEL STRUCTURE TO THE FRAME OF THE TRUCK TO ENSURE THE STRUCTURE WILL NOT SEPARATE FROM THE FRAME OF THE TRUCK DURING AN IMPACT UPON THE ATTACHED TRUCK MOUNTED ATTENUATOR. UTILIZE EITHER DRY LOOSE SAND OR STEEL REINFORCED CONCRETE FOR BALLAST MATERIAL WITHIN THE STEEL STRUCTURE TO ACHIEVE THE NECESSARY WEIGHT. THE BALLAST MATERIAL SHALL REMAIN CONTAINED WITHIN THE CONFINES OF THE STEEL STRUCTURE AND SHALL NOT PROTRUDE FROM THE STEEL STRUCTURE IN ANY MANNER.
2. LOCATE THE TRUCK MOUNTED ATTENUATOR 100 FEET IN ADVANCE OF THE WORK AREA UNLESS OTHERWISE SPECIFIED.
3. PROVIDE, INSTALL AND MAINTAIN THE TRUCK MOUNTED ATTENUATOR AS SPECIFIED BY THE STANDARD SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER.
4. DUE TO THE WEIGHT OF A TRUCK MOUNTED ATTENUATOR, THE TRUCK MOUNTED ATTENUATOR SUPPLEMENTED WITH AN ADVANCE WARNING ARROW PANEL MAY BE REPLACED WITH A TRAILER MOUNTED ADVANCE WARNING ARROW PANEL WHEN THIS TRAFFIC CONTROL SETUP IS UTILIZED FOR ASPHALT CONCRETE PAVEMENT OPERATIONS. REPLACEMENT WITH A TRAILER MOUNTED ADVANCE WARNING ARROW PANEL SHALL REQUIRE THE ENGINEER'S APPROVAL.

GENERAL NOTES

1. ALL SIGN LOCATIONS ARE TO BE MEASURED FROM THE WORK AREA. WORK LIMITS FOR THE PROJECT WILL BE DETERMINED BY THE ENGINEER AND AS INDICATED IN THE CONTRACT.
2. INSTALL ADVANCE WARNING SIGNS MOUNTED ON PORTABLE SIGN SUPPORTS NO LESS THAN 4 FEET FROM THE NEAR EDGE OF THE SIGN TO THE NEAR EDGE OF AN ADJACENT TRAVEL LANE ON ROADWAYS WITH EARTH SHOULDERS AND NO LESS THAN 6 FEET FROM THE NEAR EDGE OF THE SIGN TO THE NEAR EDGE OF AN ADJACENT TRAVEL LANE ON ROADWAYS WITH PAVED SHOULDERS. WHEN CURB & GUTTER IS PRESENT, INSTALL THE SIGN NO LESS THAN 2 FEET FROM THE NEAR EDGE OF THE SIGN TO THE FACE OF THE CURB.
3. SPACINGS INDICATED ARE FOR NORMAL CONDITIONS; ADJUSTMENTS MAY BE REQUIRED DUE TO HORIZONTAL AND/OR VERTICAL ALIGNMENTS OR OTHER SIGHT DISTANCE RESTRICTIONS.
4. ALL SIGNS MOUNTED ON PORTABLE SIGN SUPPORTS SHALL HAVE A MINIMUM MOUNTING HEIGHT OF 5 FEET FROM THE GROUND TO THE BOTTOM OF THE SIGN. ALL SIGNS MOUNTED ON GROUND MOUNTED U-CHANNEL POSTS OR SQUARE STEEL TUBE POSTS SHALL HAVE A MINIMUM MOUNTING HEIGHT OF 7 FEET FROM THE GRADE ELEVATION OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE TO THE BOTTOM OF THE SIGN UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. MOUNT ALL SIGNS STRAIGHT AND LEVEL AND WITH THE FACE OF THE SIGNS PERPENDICULAR TO THE SURFACE OF THE ROADWAY.
5. REFLECTORIZE ORANGE ADVANCE WARNING SIGNS AND ANY ORANGE AREAS OF A MULTI-COLORED ADVANCE WARNING SIGN WITH A FLUORESCENT ORANGE COLORED PRISMATIC RETROREFLECTIVE SHEETING. REFLECTORIZE WHITE REGULATORY SIGNS AND ANY WHITE AREAS OF A MULTI-COLORED ADVANCE WARNING SIGN WITH A WHITE COLORED PRISMATIC RETROREFLECTIVE SHEETING.
6. ALL TRAFFIC CONTROL DEVICES SHALL COMPLY WITH ALL NCHRP REPORT 350 REQUIREMENTS AND SHALL REQUIRE APPROVAL BY THE DEPARTMENT. ONLY THOSE TRAFFIC CONTROL DEVICES INCLUDED ON THE "APPROVED PRODUCTS LIST FOR TRAFFIC CONTROL DEVICES IN WORK ZONES" ARE CONSIDERED ACCEPTABLE FOR USE. THIS LIST MAY BE ACCESSED ON THE DEPARTMENT'S WEB SITE AT: www.scdot.org .
7. THE CONTRACTOR SHALL PROVIDE AND UTILIZE ANY SPECIAL SIGN MOUNTING ASSEMBLIES AND HARDWARE THAT MAY BE NECESSARY FOR INSTALLING AND MOUNTING SIGNS IN AREAS OF CONCRETE MEDIAN BARRIER, BRIDGE PARAPET WALLS OR DOUBLEFACED GUARDRAIL.
8. REFLECTORIZATION OF 36" TRAFFIC CONES USED DURING DAYLIGHT HOURS IS NOT REQUIRED. IF THIS TRAFFIC CONTROL SETUP EXTENDS INTO THE NIGHTTIME HOURS, REPLACE ALL 36" TRAFFIC CONES WITH EITHER PORTABLE PLASTIC DRUMS OR 42" OVERSIZED TRAFFIC CONES. REFLECTORIZE ALL PORTABLE PLASTIC DRUMS AND 42" OVERSIZED TRAFFIC CONES WITH TYPE III FLEXIBLE PRISMATIC RETROREFLECTIVE SHEETING UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT.
9. REFLECTORIZE ALL BARRICADES WITH A TYPE VIII OR IX PRISMATIC RETROREFLECTIVE SHEETING ON ALL PROJECTS LET TO CONTRACT AFTER MAY 1, 2012 UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT.
10. TYPE II BARRICADES SHALL HAVE A MINIMUM WIDTH OF 3 FEET UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT.
11. CONDUCT THE WORK IN SUCH A MANNER THAT WILL MINIMIZE ENCROACHMENT OF TRAFFIC CONTROL DEVICES, EQUIPMENT, PERSONNEL, MATERIALS OR ANY WORK RELATED VEHICLES ONTO AN ADJACENT TRAVEL LANE OPEN TO TRAFFIC. INSTALL, MAINTAIN AND ADJUST THE TRAFFIC CONTROL DEVICES AS NECESSARY TO ENSURE PROPER DELINEATION OF THE WORK AREA.
12. LANE CLOSURES ARE RESTRICTED TO MAXIMUM LENGTHS OF 2 MILES UNLESS OTHERWISE DIRECTED BY THE SPECIAL PROVISIONS AND/OR THE DEPARTMENT.
13. IF WORK IS BEING CONDUCTED SIMULTANEOUSLY AT TWO DIFFERENT LOCATIONS WITHIN THE SAME TRAVEL LANE UNDER TWO SEPARATE LANE CLOSURES ON A PRIMARY ROADWAY WITH A POSTED REGULATORY SPEED LIMIT OF 40 MPH OR GREATER, SEPARATE THE TWO LANE CLOSURES BY NO LESS THAN 2 MILES FROM THE END OF THE FIRST CLOSURE THAT A MOTORIST WILL ENCOUNTER TO THE BEGINNING OF THE TAPER OF THE SECOND CLOSURE.
14. IF WORK IS BEING CONDUCTED SIMULTANEOUSLY AT TWO DIFFERENT LOCATIONS IN THE SAME DIRECTION BUT WITHIN DIFFERENT TRAVEL LANES UNDER TWO SEPARATE LANE CLOSURES ON A PRIMARY ROADWAY WITH A POSTED REGULATORY SPEED LIMIT OF 40 MPH OR GREATER, SEPARATE THE TWO LANE CLOSURES BY NO LESS THAN 4 MILES FROM THE END OF THE FIRST CLOSURE THAT A MOTORIST WILL ENCOUNTER TO THE BEGINNING OF THE TAPER OF THE SECOND CLOSURE.
15. UTILIZATION OF A CHANGEABLE MESSAGE SIGN IS OPTIONAL WITH THIS TRAFFIC CONTROL SETUP. HOWEVER, WHEN A CHANGEABLE MESSAGE SIGN IS UTILIZED, INSTALL THE SIGN AS ILLUSTRATED ON THIS STANDARD DRAWING UNLESS OTHERWISE DIRECTED BY THE SPECIAL PROVISIONS, THE PLANS AND/OR THE ENGINEER. INSTALL THE CHANGEABLE MESSAGE SIGN NO LESS THAN 6 FEET FROM THE NEAR EDGE OF THE ADJACENT TRAVEL LANE AND SUPPLEMENT THE SIGN LOCATION WITH NO LESS THAN 5 PORTABLE PLASTIC DRUMS FOR DELINEATION AS ILLUSTRATED. 36" STANDARD TRAFFIC CONES OR 42" OVERSIZED TRAFFIC CONES ARE PROHIBITED AS SUBSTITUTES FOR THE PORTABLE PLASTIC DRUMS IN THIS APPLICATION. DURING A RIGHT LANE CLOSURE, THE SIGN SHOULD FLASH ALTERNATELY TO READ "RIGHT LANE CLOSED", "MERGE LEFT" AT A RATE THAT WILL PERMIT MOTORISTS TO READ BOTH MESSAGES AT LEAST ONCE.
16. THE DEPARTMENT RESERVES THE RIGHT TO RESTRICT WORK OPERATIONS AND/OR WITHHOLD THE MONTHLY ESTIMATE IF THE TRAFFIC CONTROL IS NOT PROPERLY INSTALLED AND MAINTAINED AS DIRECTED BY THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, THE STANDARD DRAWINGS, THE PLANS AND/OR THE ENGINEER.
17. THIS TYPICAL TRAFFIC CONTROL SETUP APPLIES TO THE INSTALLATION OF A LANE CLOSURE ON A PRIMARY ROADWAY WITH A POSTED REGULATORY SPEED LIMIT OF 40 MPH OR GREATER.

ADVANCE WARNING ARROW PANEL

ALL ADVANCE WARNING ARROW PANELS SHALL BE 48" x 96" WITH A MINIMUM LEGIBILITY DISTANCE OF 1 MILE. PLACEMENT OF AN ADVANCE WARNING ARROW PANEL MAY REQUIRE ADJUSTMENTS DUE TO HORIZONTAL AND/OR VERTICAL ALIGNMENT OR OTHER SIGHT DISTANCE RESTRICTIONS. THE PANEL FACE SHALL BE NONREFLECTIVE BLACK. ALL ADVANCE WARNING ARROW PANELS SHALL COMPLY WITH THE STANDARD SPECIFICATONS FOR HIGHWAY CONSTRUCTION, LATEST EDITION.

WHEN AN ADVANCE WARNING ARROW PANEL IS REQUIRED TO OPERATE IN THE CAUTION MODE, THE ADVANCE WARNING ARROW PANEL SHALL DISPLAY THE "FOUR CORNERS" CAUTION MODE, WITH ONE LAMP IN EACH CORNER. DISPLAY OF ANY OTHER TYPE OF CAUTION MODE OTHER THAN THE "FOUR CORNERS" CAUTION MODE SUCH AS THE "FLASHING BAR" OR THE "ALTERNATING DIAMOND" CAUTION MODES ARE UNACCEPTABLE AND PROHIBITED.

LEGEND
- ○ 36" TRAFFIC CONES

#	DATE	CHK	DESCRIPTION
1	2-15-11	JCS	GENERAL UPDATE
0	8-20-07	JCS	DRAWING NO. UPDATE

SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
DESIGN STANDARDS OFFICE
955 PARK STREET
ROOM 405
COLUMBIA, SC 29201

STANDARD DRAWING

LANE CLOSURE DAYTIME MULTILANE PRIMARY ROUTES

610-025-00

EFFECTIVE LETTING DATE JAN. 2013

THIS DRAWING IS NOT TO SCALE

#	REVISION DATE
1	

APPROVALS	
ENGINEER	JVB
DESIGNER	JVB
TECHNICIAN	RDS
CHECKED BY	DMN
APPROVED	KMC

Alliance Consulting Engineers, Inc. No. C02854

DATE: FEBRUARY 14, 2025

JOHN V. BABBAGE No. 40365

SIGNATURE:

ALLIANCE CONSULTING ENGINEERS
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Post Office Box 8147 Columbia, South Carolina 29202-8147
Phone (803) 779-2078 • Fax (803) 779-2079

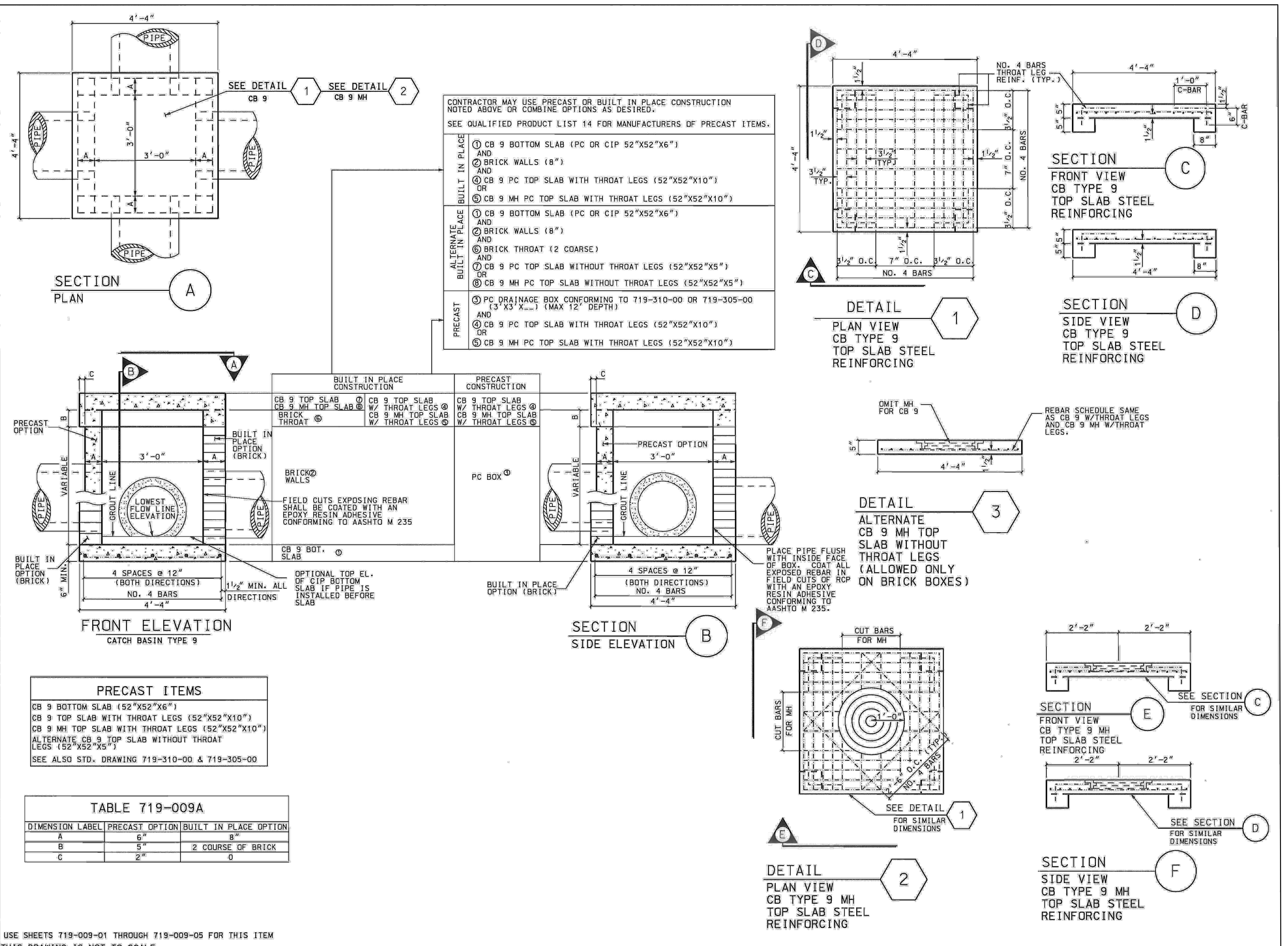
SHEET
ROADWAY DETAILS
(3 OF 4)
DATE: MAY 2024
SCALE: AS SHOWN

PROJECT
± 3,350-LF OF ROADWAY IMPROVEMENTS
TO MAWSONS WAY AT THE
SC HIGHWAY 219 INDUSTRIAL PARK
NEWBERRY COUNTY,
SOUTH CAROLINA
NEWBERRY COUNTY
SOUTH CAROLINA

FILE NAME: C8.0.dwg
REFERENCE FILE: 19166Base. dwg
PROJECT NO. 19166-0036

SHEET C6.2

DWG NO. 01,1347-D23


4'-4"
PIPE
SEE DETAIL 1 CB 9
SEE DETAIL 2 CB 9 MH
3'-0"
A
SECTION A PLAN
B
C
PRECAST OPTION
BUILT IN PLACE OPTION (BRICK)
VARIABLE
GROUT LINE
LOWEST FLOW LINE ELEVATION
BUILT IN PLACE OPTION (BRICK)
6" MIN.
4 SPACES @ 12" (BOTH DIRECTIONS)
NO. 4 BARS
1½" MIN. ALL DIRECTIONS
OPTIONAL TOP EL. OF CIP BOTTOM SLAB IF PIPE IS INSTALLED BEFORE SLAB
FRONT ELEVATION
CATCH BASIN TYPE 9
BUILT IN PLACE CONSTRUCTION
PRECAST CONSTRUCTION
CB 9 TOP SLAB ⑦
CB 9 MH TOP SLAB ⑧
BRICK THROAT ⑥
CB 9 TOP SLAB W/ THROAT LEGS ④
CB 9 MH TOP SLAB W/ THROAT LEGS ⑤
BRICK② WALLS
PC BOX③
FIELD CUTS EXPOSING REBAR SHALL BE COATED WITH AN EPOXY RESIN ADHESIVE CONFORMING TO AASHTO M 235
CB 9 BOT. SLAB ①
PLACE PIPE FLUSH WITH INSIDE FACE OF BOX. COAT ALL EXPOSED REBAR IN FIELD CUTS OF RCP WITH AN EPOXY RESIN ADHESIVE CONFORMING TO AASHTO M 235.
SECTION B SIDE ELEVATION
D
1½"
3½" TYP.
3½" O.C.
7" O.C.
NO. 4 BARS
NO. 4 BARS THROAT LEG REINF. (TYP.)
DETAIL 1 PLAN VIEW CB TYPE 9 TOP SLAB STEEL REINFORCING
1'-0"
C-BAR
5"
6"
8"
SECTION C FRONT VIEW CB TYPE 9 TOP SLAB STEEL REINFORCING
SECTION D SIDE VIEW CB TYPE 9 TOP SLAB STEEL REINFORCING
OMIT MH FOR CB 9
REBAR SCHEDULE SAME AS CB 9 W/THROAT LEGS AND CB 9 MH W/THROAT LEGS.
DETAIL 3 ALTERNATE CB 9 MH TOP SLAB WITHOUT THROAT LEGS (ALLOWED ONLY ON BRICK BOXES)
F
CUT BARS FOR MH
1'-0"
2'-6" O.C. NO. 4 BARS (TYP.)
SEE DETAIL 1 FOR SIMILAR DIMENSIONS
E
DETAIL 2 PLAN VIEW CB TYPE 9 MH TOP SLAB STEEL REINFORCING
2'-2"
SEE SECTION C FOR SIMILAR DIMENSIONS
SECTION E FRONT VIEW CB TYPE 9 MH TOP SLAB STEEL REINFORCING
SEE SECTION D FOR SIMILAR DIMENSIONS
SECTION F SIDE VIEW CB TYPE 9 MH TOP SLAB STEEL REINFORCING

CONTRACTOR MAY USE PRECAST OR BUILT IN PLACE CONSTRUCTION NOTED ABOVE OR COMBINE OPTIONS AS DESIRED.

SEE QUALIFIED PRODUCT LIST 14 FOR MANUFACTURERS OF PRECAST ITEMS.

BUILT IN PLACE	① CB 9 BOTTOM SLAB (PC OR CIP 52"X52"X6") AND ② BRICK WALLS (8") AND ④ CB 9 PC TOP SLAB WITH THROAT LEGS (52"X52"X10") OR ⑤ CB 9 MH PC TOP SLAB WITH THROAT LEGS (52"X52"X10")
ALTERNATE BUILT IN PLACE	① CB 9 BOTTOM SLAB (PC OR CIP 52"X52"X6") AND ② BRICK WALLS (8") AND ⑥ BRICK THROAT (2 COARSE) AND ⑦ CB 9 PC TOP SLAB WITHOUT THROAT LEGS (52"X52"X5") OR ⑧ CB 9 MH PC TOP SLAB WITHOUT THROAT LEGS (52"X52"X5")
PRECAST	③ PC DRAINAGE BOX CONFORMING TO 719-310-00 OR 719-305-00 (3'X3'X__) (MAX 12' DEPTH) AND ④ CB 9 PC TOP SLAB WITH THROAT LEGS (52"X52"X10") OR ⑤ CB 9 MH PC TOP SLAB WITH THROAT LEGS (52"X52"X10")

PRECAST ITEMS

CB 9 BOTTOM SLAB (52"X52"X6")
CB 9 TOP SLAB WITH THROAT LEGS (52"X52"X10")
CB 9 MH TOP SLAB WITH THROAT LEGS (52"X52"X10")
ALTERNATE CB 9 TOP SLAB WITHOUT THROAT LEGS (52"X52"X5")
SEE ALSO STD. DRAWING 719-310-00 & 719-305-00

TABLE 719-009A

DIMENSION LABEL	PRECAST OPTION	BUILT IN PLACE OPTION
A	6"	8"
B	5"	2 COURSE OF BRICK
C	2"	0

SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
DESIGN STANDARDS OFFICE
955 PARK STREET
ROOM 405
COLUMBIA, SC 29201

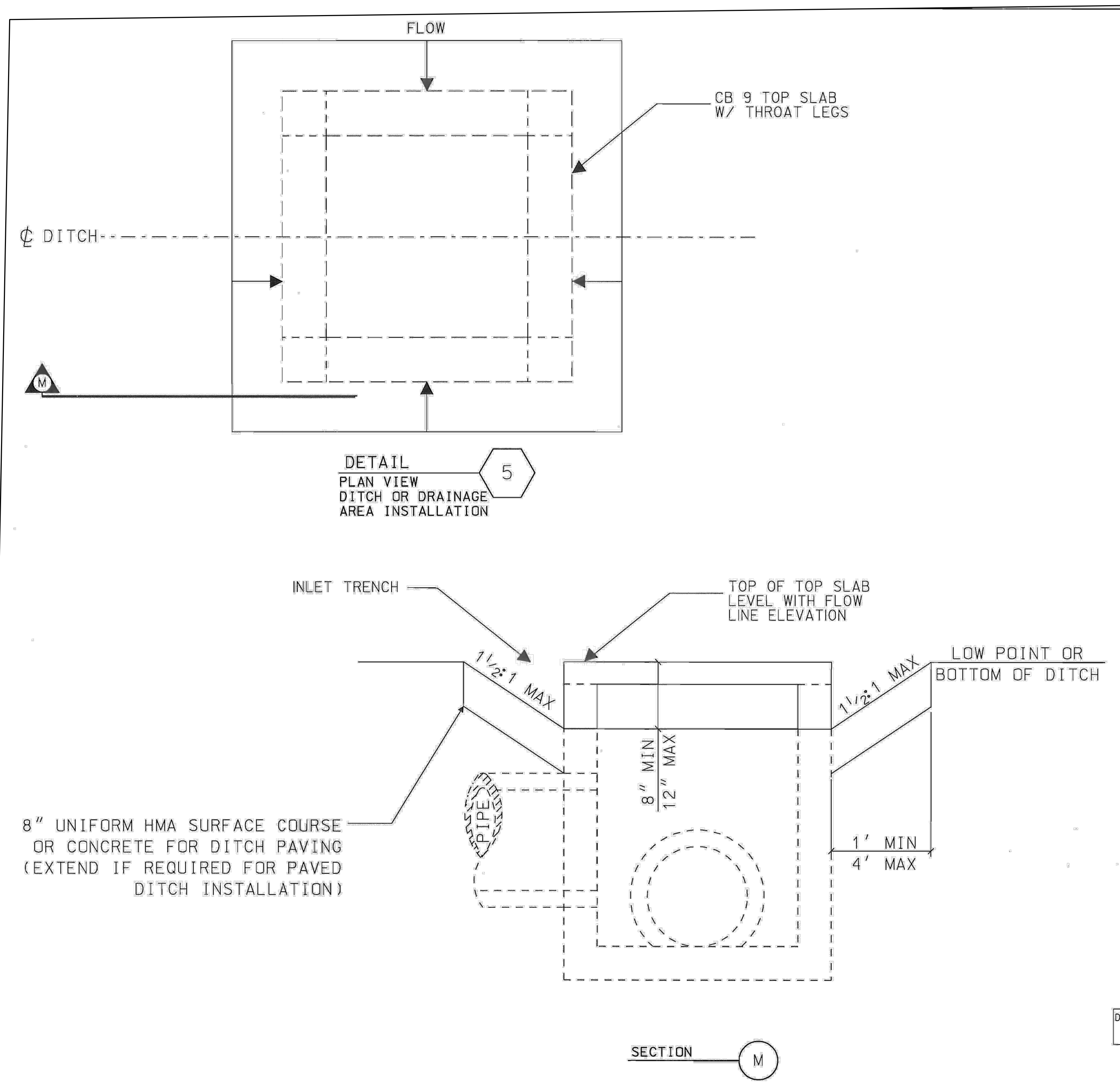
STANDARD DRAWING

CATCH BASIN TYPE 9 & 9MH DETAILS

719-009-01

EFFECTIVE LETTING DATE MAY, 2008

USE SHEETS 719-009-01 THROUGH 719-009-05 FOR THIS ITEM
THIS DRAWING IS NOT TO SCALE


FLOW
CB 9 TOP SLAB W/ THROAT LEGS
℄ DITCH
M
DETAIL 5 PLAN VIEW DITCH OR DRAINAGE AREA INSTALLATION
INLET TRENCH
TOP OF TOP SLAB LEVEL WITH FLOW LINE ELEVATION
1½:1 MAX
1½:1 MAX
LOW POINT OR BOTTOM OF DITCH
8" MIN
12" MAX
PIPE
1' MIN
4' MAX
8" UNIFORM HMA SURFACE COURSE OR CONCRETE FOR DITCH PAVING (EXTEND IF REQUIRED FOR PAVED DITCH INSTALLATION)
SECTION M

NOTES:

1. FOLLOW MATERIAL AND DIMENSION REQUIREMENTS OF CATCH BASIN TYPE 9 (719-009-01 AND 719-009-02).

2. CATCH BASIN TYPE 9 DITCH INSTALLATION MAY BE USED IN LIEU OF OLD STYLE CATCH BASIN TYPE 14 MODIFIED.

DESCRIPTION	ADA	NON ADA BICYCLE	VEHICLE
CB TYPE 9	NO	NO	NO

USE WHERE PROTECTED FROM TRAFFIC.

SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
DESIGN STANDARDS OFFICE
955 PARK STREET
ROOM 405
COLUMBIA, SC 29201

STANDARD DRAWING

CATCH BASIN TYPE 9 & 9 MH DITCH INSTALLATION

719-009-03

EFFECTIVE LETTING DATE MAY, 2008

USE SHEETS 719-009-01 THROUGH 719-009-05 FOR THIS ITEM
THIS DRAWING IS NOT TO SCALE

#	REVISION DATE
1	

APPROVALS	ENGINEER	DESIGNER	TECHNICIAN	CHECKED BY	APPROVED
	JVB	JVB	RDS	DMN	KMC

SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION
Alliance Consulting Engineers, Inc.
No. C02854

DATE: FEBRUARY 14, 2025

JOHN
No. 40365

SIGNATURE:

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SHEET
ROADWAY DETAILS
(4 OF 4)
DATE: MAY 2024
SCALE: AS SHOWN

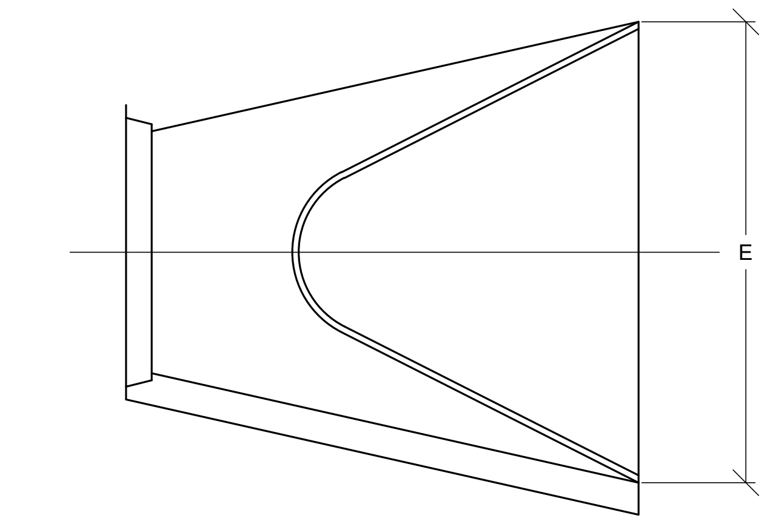
PROJECT
± 3,350-LF OF ROADWAY
IMPROVEMENTS
TO MAWSONS WAY AT THE
SC HIGHWAY 219 INDUSTRIAL PARK
NEWBERRY COUNTY,
SOUTH CAROLINA
NEWBERRY COUNTY
SOUTH CAROLINA

FILE NAME: C8.0.dwg
REFERENCE FILE: 19166Base. dwg
PROJECT NO. 19166-0036

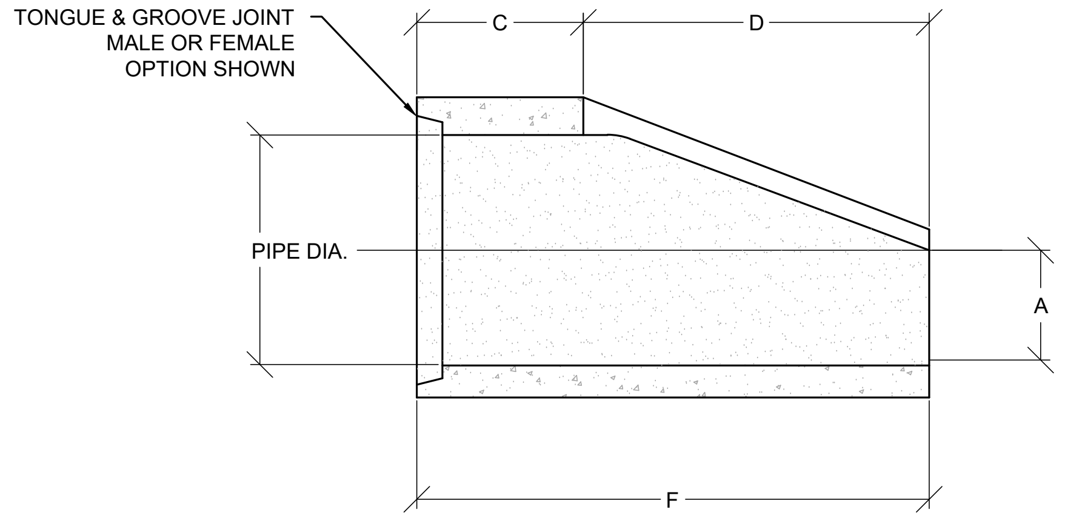
SHEET C6.3

DWG NO. 01,1347-D23

March 07, 2025 - 4:09:29 PM S:\Projects\19166-0036 Roadway Improvements to Mawson's Way at SC Hwy 219 Ind Pk in Newberry, Co\dwg\Construction Plans\ C8.0 - Details.dwg

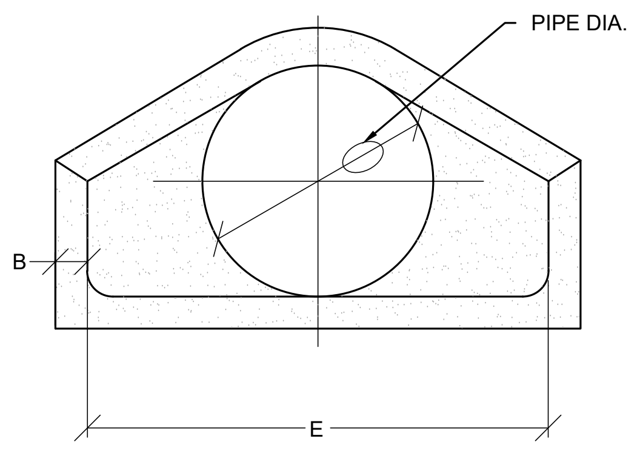


PLAN VIEW



SECTION VIEW

NOTES:
1. CONCRETE SHALL TEST 3000 PSI AT 28 DAYS.
2. REINFORCEMENT SHALL BE EQUAL TO THAT REQUIRED FOR CLASS III R.C.P. OF CORRESPONDING DIAMETER PER CALTRANS SPECIFICATIONS.

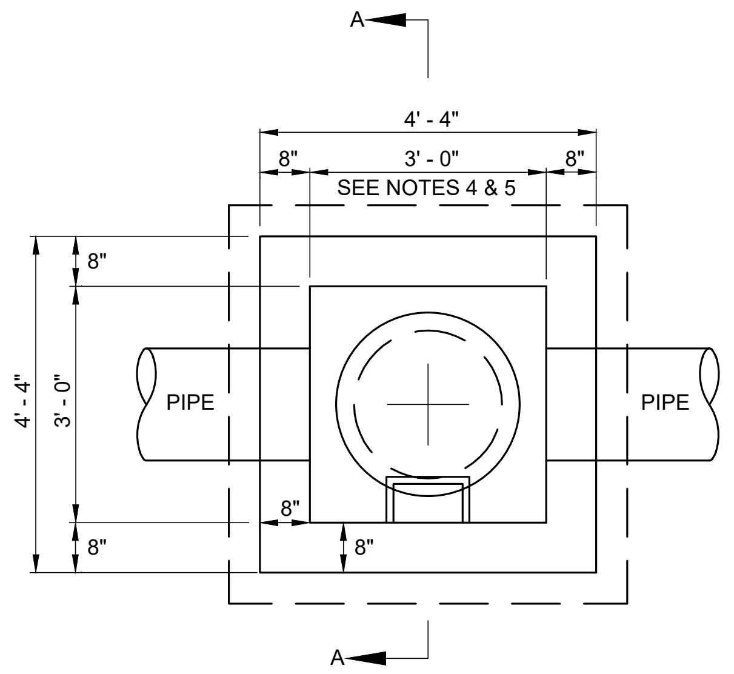


LEFT VIEW

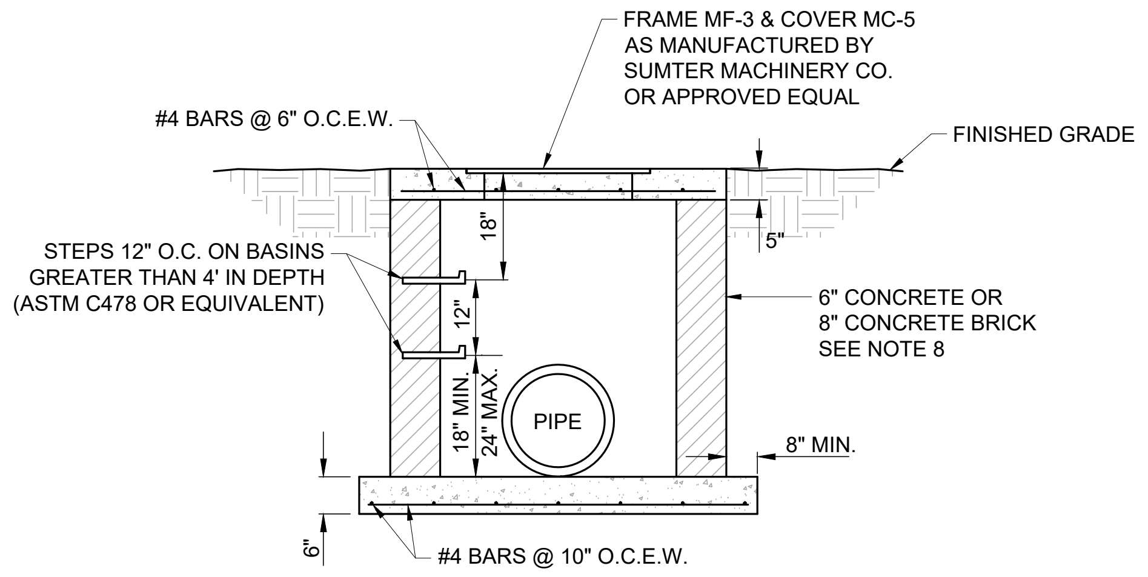
PIPE DIA.	A	B	C	D	E	F	WEIGHT-(LBS)
12"	4"	2"	13"	24"	24"	37"	400
18"	9"	2 1/2"	13"	27"	36"	40"	900
24"	9 1/2"	3"	13"	43"	48"	56"	1400
30"	12"	3 1/2"	18"	54"	60"	72"	2300
36"	15"	4"	18"	63"	72"	81"	4100
42"	21"	5"	18"	63"	78"	81"	5200
48"	24"	5"	18"	72"	84"	90"	6500
54"	27"	5 1/2"	18"	65"	90"	83"	7400

FLARED END SECTION DETAIL

N.T.S.



PLAN VIEW

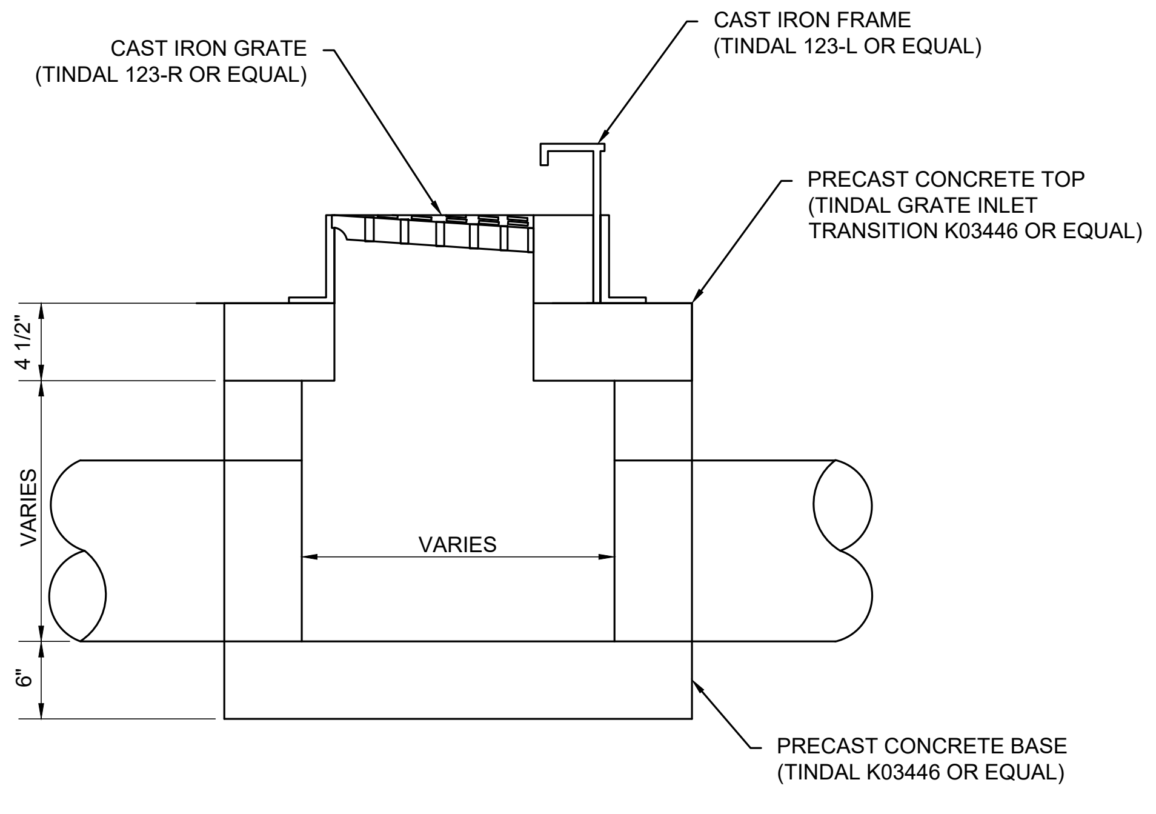


SECTION A-A

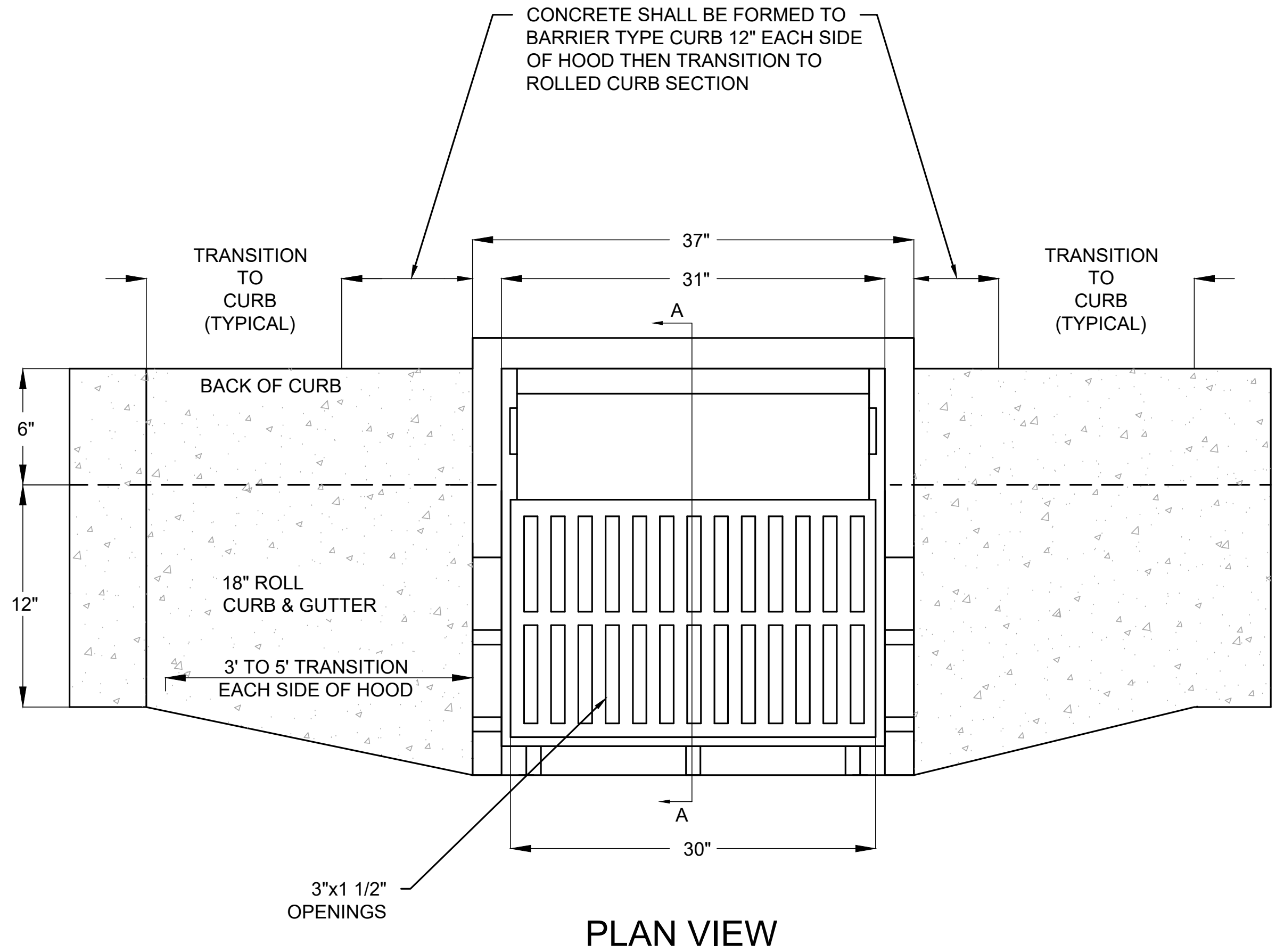
NOTES:
1. ALL CONCRETE SHALL BE 3000 PSI.
2. ENDS OF ALL PIPES SHALL BE FLUSH WITH INSIDE WALL.
3. ALL STEEL BARS SHALL BE PLACED 1-1/2" CLEAR FROM BOTTOM AND SIDES OF SLAB.
4. FOR PIPES UP TO 24" I.D. USE 3'-0" x 3'-0" BOX.
5. FOR PIPES OVER 24" I.D. BOX INSIDE DIMENSIONS SHALL BE PIPE O.D. + 6" EACH SIDE OF PIPE.
6. ALL STEPS SHALL PROTRUDE 4" FROM THE INSIDE FACE OF STRUCTURE WALL.
7. CONCRETE BRICK WALLS SHALL HAVE A 1/4" MORTAR COAT ON INSIDE SURFACE.
8. WALL THICKNESS IS TO BE 12" IF BOX DEPTH EXCEEDS 12'-0".
9. ALL MATERIALS AND CONSTRUCTION ARE TO COMPLY WITH SECTION 720 OF THE SCDOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
10. REINFORCED CONCRETE MAY BE SUBSTITUTED FOR BRICK WALLS. REINFORCING TO BE #4 BARS @ 12" O.C.E.W.

TYPICAL JUNCTION BOX DETAIL

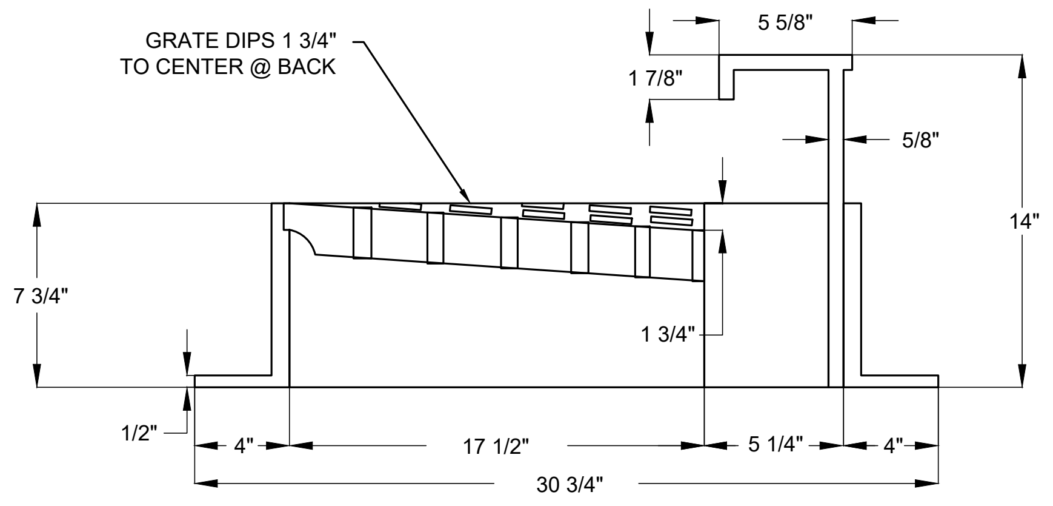
N.T.S.



SECTION VIEW



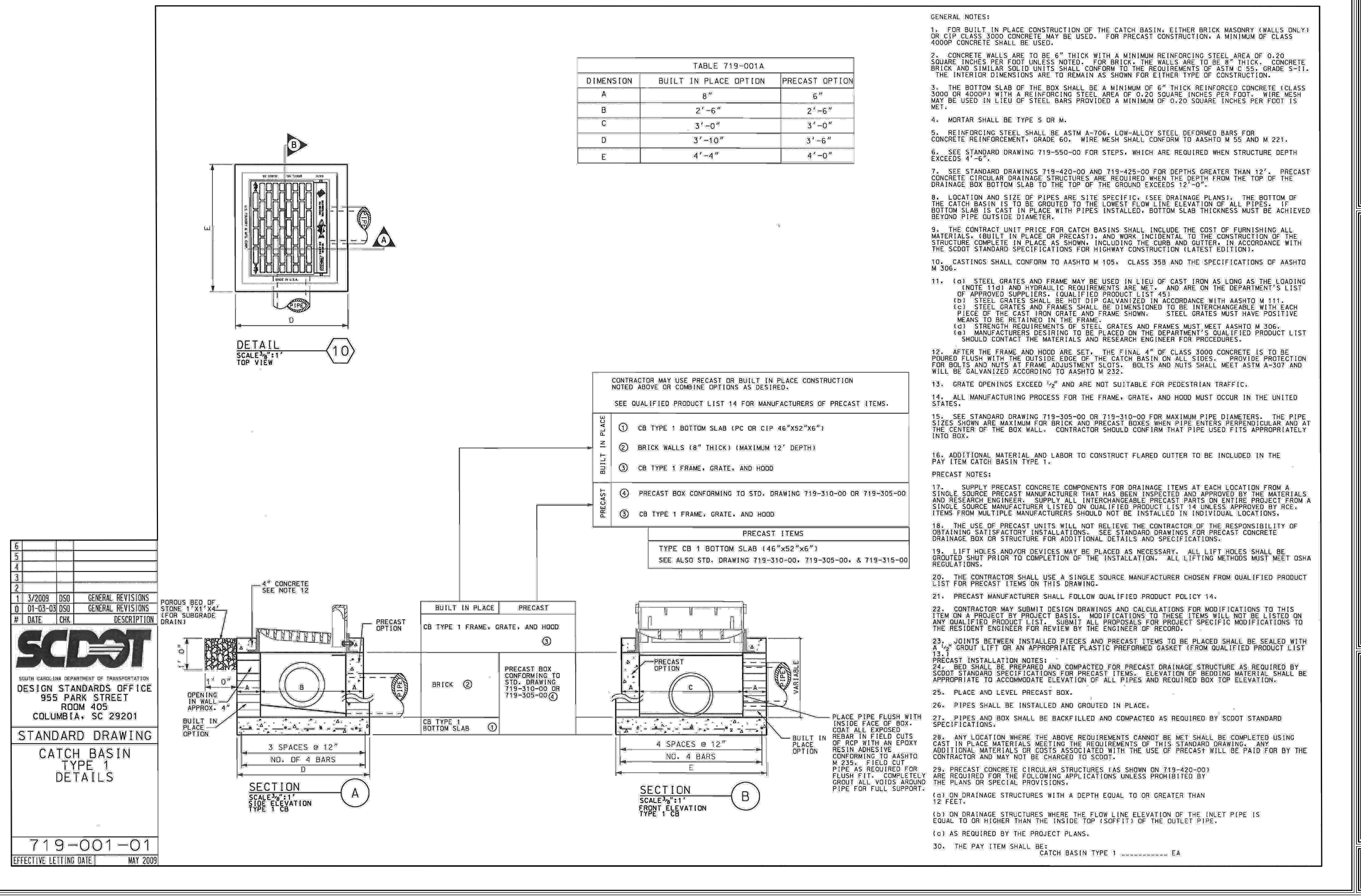
PLAN VIEW



SECTION A-A

CATCH BASIN - TYPE 1 DETAIL

N.T.S.


B
E
PIPE
A
PIPE
D
4" CONCRETE
SEE NOTE 12
POROUS BED OF
STONE 1'X1'X4'
(FOR SUBGRADE
DRAIN)
1' 0"
1' 0"
OPENING
IN WALL
APPROX. 4"
BUILT IN
PLACE
OPTION
PRECAST
OPTION
A
B
A
PIPE
3 SPACES @ 12"
NO. OF 4 BARS
D
PRECAST
OPTION
C
A
A
PIPE
VARIABLE
4 SPACES @ 12"
NO. 4 BARS
E
BUILT IN
PLACE
OPTION

DETAIL (10)
SCALE $\frac{3}{8}$":1'
TOP VIEW

TABLE 719-001A		
DIMENSION	BUILT IN PLACE OPTION	PRECAST OPTION
A	8"	6"
B	2'-6"	2'-6"
C	3'-0"	3'-0"
D	3'-10"	3'-6"
E	4'-4"	4'-0"

CONTRACTOR MAY USE PRECAST OR BUILT IN PLACE CONSTRUCTION NOTED ABOVE OR COMBINE OPTIONS AS DESIRED.

SEE QUALIFIED PRODUCT LIST 14 FOR MANUFACTURERS OF PRECAST ITEMS.

BUILT IN PLACE
① CB TYPE 1 BOTTOM SLAB (PC OR CIP 46"X52"X6")
② BRICK WALLS (8" THICK) (MAXIMUM 12' DEPTH)
③ CB TYPE 1 FRAME, GRATE, AND HOOD

PRECAST
④ PRECAST BOX CONFORMING TO STD. DRAWING 719-310-00 OR 719-305-00
③ CB TYPE 1 FRAME, GRATE, AND HOOD

PRECAST ITEMS
TYPE CB 1 BOTTOM SLAB (46"x52"x6")
SEE ALSO STD. DRAWING 719-310-00, 719-305-00, & 719-315-00

BUILT IN PLACE	PRECAST
CB TYPE 1 FRAME, GRATE, AND HOOD ③	
BRICK ②	PRECAST BOX CONFORMING TO STD. DRAWING 719-310-00 OR 719-305-00 ④
CB TYPE 1 BOTTOM SLAB ①	

SECTION (A)
SCALE $\frac{3}{8}$":1'
SIDE ELEVATION
TYPE 1 CB

SECTION (B)
SCALE $\frac{3}{8}$":1'
FRONT ELEVATION
TYPE 1 CB

PLACE PIPE FLUSH WITH INSIDE FACE OF BOX. COAT ALL EXPOSED REBAR IN FIELD CUTS OF RCP WITH AN EPOXY RESIN ADHESIVE CONFORMING TO AASHTO M 235. FIELD CUT PIPE AS REQUIRED FOR FLUSH FIT. COMPLETELY GROUT ALL VOIDS AROUND PIPE FOR FULL SUPPORT.

GENERAL NOTES:

1. FOR BUILT IN PLACE CONSTRUCTION OF THE CATCH BASIN, EITHER BRICK MASONRY (WALLS ONLY) OR CIP CLASS 3000 CONCRETE MAY BE USED. FOR PRECAST CONSTRUCTION, A MINIMUM OF CLASS 4000P CONCRETE SHALL BE USED.

2. CONCRETE WALLS ARE TO BE 6" THICK WITH A MINIMUM REINFORCING STEEL AREA OF 0.20 SQUARE INCHES PER FOOT UNLESS NOTED. FOR BRICK, THE WALLS ARE TO BE 8" THICK. CONCRETE BRICK AND SIMILAR SOLID UNITS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C 55, GRADE S-II. THE INTERIOR DIMENSIONS ARE TO REMAIN AS SHOWN FOR EITHER TYPE OF CONSTRUCTION.

3. THE BOTTOM SLAB OF THE BOX SHALL BE A MINIMUM OF 6" THICK REINFORCED CONCRETE (CLASS 3000 OR 4000P) WITH A REINFORCING STEEL AREA OF 0.20 SQUARE INCHES PER FOOT. WIRE MESH MAY BE USED IN LIEU OF STEEL BARS PROVIDED A MINIMUM OF 0.20 SQUARE INCHES PER FOOT IS MET.

4. MORTAR SHALL BE TYPE S OR M.

5. REINFORCING STEEL SHALL BE ASTM A-706, LOW-ALLOY STEEL DEFORMED BARS FOR CONCRETE REINFORCEMENT, GRADE 60. WIRE MESH SHALL CONFORM TO AASHTO M 55 AND M 221.

6. SEE STANDARD DRAWING 719-550-00 FOR STEPS, WHICH ARE REQUIRED WHEN STRUCTURE DEPTH EXCEEDS 4'-6".

7. SEE STANDARD DRAWINGS 719-420-00 AND 719-425-00 FOR DEPTHS GREATER THAN 12'. PRECAST CONCRETE CIRCULAR DRAINAGE STRUCTURES ARE REQUIRED WHEN THE DEPTH FROM THE TOP OF THE DRAINAGE BOX BOTTOM SLAB TO THE TOP OF THE GROUND EXCEEDS 12'-0".

8. LOCATION AND SIZE OF PIPES ARE SITE SPECIFIC, (SEE DRAINAGE PLANS). THE BOTTOM OF THE CATCH BASIN IS TO BE GROUTED TO THE LOWEST FLOW LINE ELEVATION OF ALL PIPES. IF BOTTOM SLAB IS CAST IN PLACE WITH PIPES INSTALLED, BOTTOM SLAB THICKNESS MUST BE ACHIEVED BEYOND PIPE OUTSIDE DIAMETER.

9. THE CONTRACT UNIT PRICE FOR CATCH BASINS SHALL INCLUDE THE COST OF FURNISHING ALL MATERIALS, (BUILT IN PLACE OR PRECAST), AND WORK INCIDENTAL TO THE CONSTRUCTION OF THE STRUCTURE COMPLETE IN PLACE AS SHOWN, INCLUDING THE CURB AND GUTTER, IN ACCORDANCE WITH THE SCDOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (LATEST EDITION).

10. CASTINGS SHALL CONFORM TO AASHTO M 105, CLASS 35B AND THE SPECIFICATIONS OF AASHTO M 306.

11. (a) STEEL GRATES AND FRAME MAY BE USED IN LIEU OF CAST IRON AS LONG AS THE LOADING (NOTE 11d) AND HYDRAULIC REQUIREMENTS ARE MET, AND ARE ON THE DEPARTMENT'S LIST OF APPROVED SUPPLIERS. (QUALIFIED PRODUCT LIST 45)
(b) STEEL GRATES SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH AASHTO M 111.
(c) STEEL GRATES AND FRAMES SHALL BE DIMENSIONED TO BE INTERCHANGEABLE WITH EACH PIECE OF THE CAST IRON GRATE AND FRAME SHOWN. STEEL GRATES MUST HAVE POSITIVE MEANS TO BE RETAINED IN THE FRAME.
(d) STRENGTH REQUIREMENTS OF STEEL GRATES AND FRAMES MUST MEET AASHTO M 306.
(e) MANUFACTURERS DESIRING TO BE PLACED ON THE DEPARTMENT'S QUALIFIED PRODUCT LIST SHOULD CONTACT THE MATERIALS AND RESEARCH ENGINEER FOR PROCEDURES.

12. AFTER THE FRAME AND HOOD ARE SET, THE FINAL 4" OF CLASS 3000 CONCRETE IS TO BE POURED FLUSH WITH THE OUTSIDE EDGE OF THE CATCH BASIN ON ALL SIDES. PROVIDE PROTECTION FOR BOLTS AND NUTS AT FRAME ADJUSTMENT SLOTS. BOLTS AND NUTS SHALL MEET ASTM A-307 AND WILL BE GALVANIZED ACCORDING TO AASHTO M 232.

13. GRATE OPENINGS EXCEED ½" AND ARE NOT SUITABLE FOR PEDESTRIAN TRAFFIC.

14. ALL MANUFACTURING PROCESS FOR THE FRAME, GRATE, AND HOOD MUST OCCUR IN THE UNITED STATES.

15. SEE STANDARD DRAWING 719-305-00 OR 719-310-00 FOR MAXIMUM PIPE DIAMETERS. THE PIPE SIZES SHOWN ARE MAXIMUM FOR BRICK AND PRECAST BOXES WHEN PIPE ENTERS PERPENDICULAR AND AT THE CENTER OF THE BOX WALL. CONTRACTOR SHOULD CONFIRM THAT PIPE USED FITS APPROPRIATELY INTO BOX.

16. ADDITIONAL MATERIAL AND LABOR TO CONSTRUCT FLARED GUTTER TO BE INCLUDED IN THE PAY ITEM CATCH BASIN TYPE 1.

PRECAST NOTES:

17. SUPPLY PRECAST CONCRETE COMPONENTS FOR DRAINAGE ITEMS AT EACH LOCATION FROM A SINGLE SOURCE PRECAST MANUFACTURER THAT HAS BEEN INSPECTED AND APPROVED BY THE MATERIALS AND RESEARCH ENGINEER. SUPPLY ALL INTERCHANGEABLE PRECAST PARTS ON ENTIRE PROJECT FROM A SINGLE SOURCE MANUFACTURER LISTED ON QUALIFIED PRODUCT LIST 14 UNLESS APPROVED BY RCE. ITEMS FROM MULTIPLE MANUFACTURERS SHOULD NOT BE INSTALLED IN INDIVIDUAL LOCATIONS.

18. THE USE OF PRECAST UNITS WILL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF OBTAINING SATISFACTORY INSTALLATIONS. SEE STANDARD DRAWINGS FOR PRECAST CONCRETE DRAINAGE BOX OR STRUCTURE FOR ADDITIONAL DETAILS AND SPECIFICATIONS.

19. LIFT HOLES AND/OR DEVICES MAY BE PLACED AS NECESSARY. ALL LIFT HOLES SHALL BE GROUTED SHUT PRIOR TO COMPLETION OF THE INSTALLATION. ALL LIFTING METHODS MUST MEET OSHA REGULATIONS.

20. THE CONTRACTOR SHALL USE A SINGLE SOURCE MANUFACTURER CHOSEN FROM QUALIFIED PRODUCT LIST FOR PRECAST ITEMS ON THIS DRAWING.

21. PRECAST MANUFACTURER SHALL FOLLOW QUALIFIED PRODUCT POLICY 14.

22. CONTRACTOR MAY SUBMIT DESIGN DRAWINGS AND CALCULATIONS FOR MODIFICATIONS TO THIS ITEM ON A PROJECT BY PROJECT BASIS. MODIFICATIONS TO THESE ITEMS WILL NOT BE LISTED ON ANY QUALIFIED PRODUCT LIST. SUBMIT ALL PROPOSALS FOR PROJECT SPECIFIC MODIFICATIONS TO THE RESIDENT ENGINEER FOR REVIEW BY THE ENGINEER OF RECORD.

23. JOINTS BETWEEN INSTALLED PIECES AND PRECAST ITEMS TO BE PLACED SHALL BE SEALED WITH A ½" GROUT LIFT OR AN APPROPRIATE PLASTIC PREFORMED GASKET (FROM QUALIFIED PRODUCT LIST 13.)

PRECAST INSTALLATION NOTES:

24. BED SHALL BE PREPARED AND COMPACTED FOR PRECAST DRAINAGE STRUCTURE AS REQUIRED BY SCDOT STANDARD SPECIFICATIONS FOR PRECAST ITEMS. ELEVATION OF BEDDING MATERIAL SHALL BE APPROPRIATE TO ACCOMMODATE ELEVATION OF ALL PIPES AND REQUIRED BOX TOP ELEVATION.

25. PLACE AND LEVEL PRECAST BOX.

26. PIPES SHALL BE INSTALLED AND GROUTED IN PLACE.

27. PIPES AND BOX SHALL BE BACKFILLED AND COMPACTED AS REQUIRED BY SCDOT STANDARD SPECIFICATIONS.

28. ANY LOCATION WHERE THE ABOVE REQUIREMENTS CANNOT BE MET SHALL BE COMPLETED USING CAST IN PLACE MATERIALS MEETING THE REQUIREMENTS OF THIS STANDARD DRAWING. ANY ADDITIONAL MATERIALS OR COSTS ASSOCIATED WITH THE USE OF PRECAST WILL BE PAID FOR BY THE CONTRACTOR AND MAY NOT BE CHARGED TO SCDOT.

29. PRECAST CONCRETE CIRCULAR STRUCTURES (AS SHOWN ON 719-420-00) ARE REQUIRED FOR THE FOLLOWING APPLICATIONS UNLESS PROHIBITED BY THE PLANS OR SPECIAL PROVISIONS.

(a) ON DRAINAGE STRUCTURES WITH A DEPTH EQUAL TO OR GREATER THAN 12 FEET.

(b) ON DRAINAGE STRUCTURES WHERE THE FLOW LINE ELEVATION OF THE INLET PIPE IS EQUAL TO OR HIGHER THAN THE INSIDE TOP (SOFFIT) OF THE OUTLET PIPE.

(c) AS REQUIRED BY THE PROJECT PLANS.

30. THE PAY ITEM SHALL BE:
CATCH BASIN TYPE 1 __________ EA

#	DATE	CHK.	DESCRIPTION
6			
5			
4			
3			
2			
1	3/2009	DSO	GENERAL REVISIONS
0	01-03-03	DSO	GENERAL REVISIONS

SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
DESIGN STANDARDS OFFICE
955 PARK STREET
ROOM 405
COLUMBIA, SC 29201

STANDARD DRAWING
CATCH BASIN
TYPE 1
DETAILS

719-001-01
EFFECTIVE LETTING DATE MAY 2009

#	REVISION DATE
1	

APPROVALS	ENGINEER	DESIGNER	TECHNICIAN	CHECKED BY	APPROVED
	JVB	JVB	RDS	DMN	KMC

Alliance Consulting Engineers, Inc. No. C02854
DATE: FEBRUARY 14, 2025

No. 40365
SIGNATURE:

ALLIANCE
CONSULTING ENGINEERS
Alliance Consulting Engineers, Inc.
Post Office Box 8147 Columbia, South Carolina 29202-8147
Phone (803) 779-2078 • Fax (803) 779-2079

SHEET
STORM DRAINAGE DETAILS
DATE: MAY 2024
SCALE: AS SHOWN

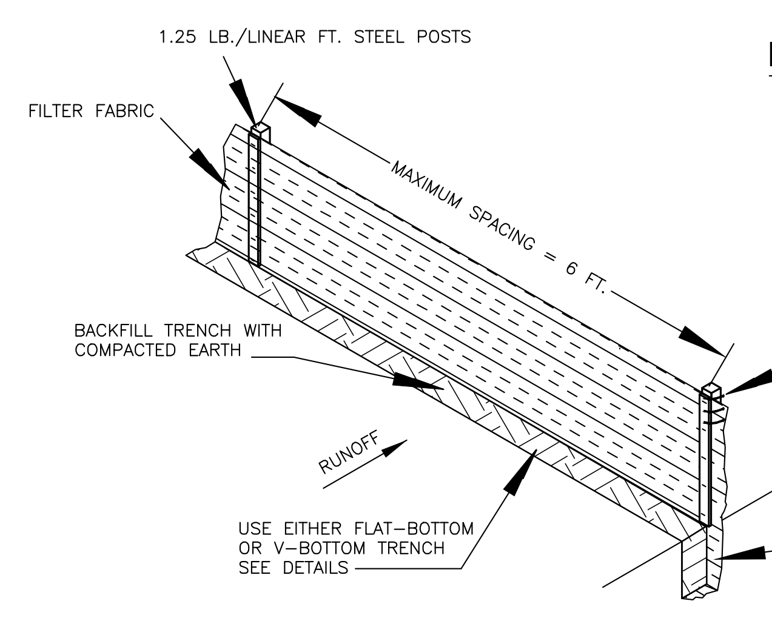
PROJECT
± 3,350-LF OF ROADWAY
IMPROVEMENTS
TO MAWSONS WAY AT THE
SC HIGHWAY 219 INDUSTRIAL PARK
NEWBERRY COUNTY,
SOUTH CAROLINA
NEWBERRY COUNTY
SOUTH CAROLINA

FILE NAME: C8.0.dwg
REFERENCE FILE: 19166Base. dwg
PROJECT NO. 19166-0036
SHEET C7.0

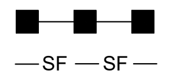
DWG NO. 01,1347-D23

March 04, 2025 - 4:33:53 PM S:\Projects\19166-0036 Roadway Improvements to Mawson's Way at SC Hwy 219 Ind Pk in Newberry, Co\dwg\Construction Plans\ C8.0 - Details.dwg

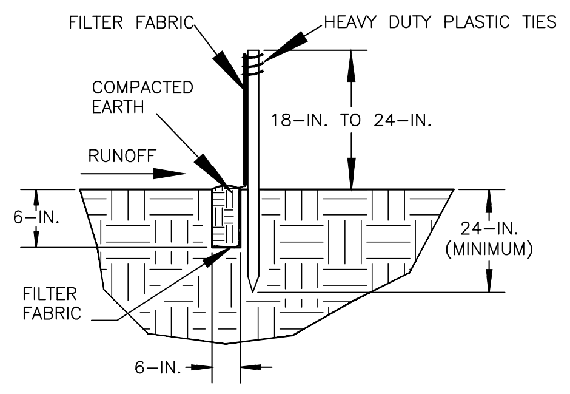
SILT FENCE INSTALLATION


1.25 LB./LINEAR FT. STEEL POSTS
FILTER FABRIC
MAXIMUM SPACING = 6 FT.
BACKFILL TRENCH WITH COMPACTED EARTH
HEAVY DUTY PLASTIC TIE FOR STEEL POSTS (RESTRICT TO TOP 8-INCHES OF FABRIC)
RUNOFF
USE EITHER FLAT-BOTTOM OR V-BOTTOM TRENCH SEE DETAILS
BURY FABRIC

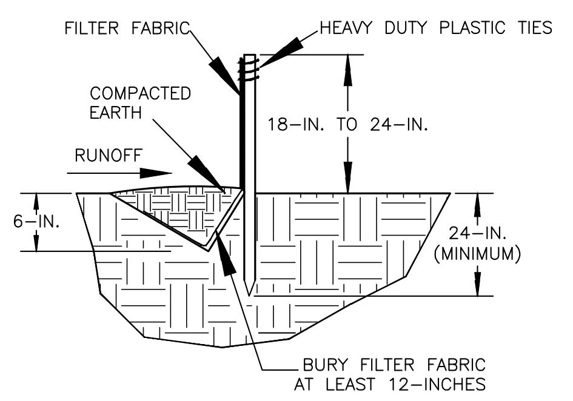
PLAN SYMBOL



FLAT-BOTTOM TRENCH DETAIL



V-SHAPED TRENCH DETAIL



SILT FENCE - GENERAL NOTES

1. Do not place silt fence across channels or in other areas subject to concentrated flows. Silt fence should not be used as a velocity control BMP. Concentrated flows are any flows greater than 0.5 cfs.
2. Maximum sheet or overland flow path length to the silt fence shall be 100-feet.
3. Maximum slope steepness (normal [perpendicular] to the fence line) shall be 2:1.
4. Silt fence joints, when necessary, shall be completed by one of the following options:
   - Wrap each fabric together at a support post with both ends fastened to the post, with a 1-foot minimum overlap;
   - Overlap silt fence by installing 3-feet passed the support post to which the new silt fence roll is attached. Attach old roll to new roll with heavy-duty plastic ties; or,
   - Overlap entire width of each silt fence roll from one support post to the next support post.
5. Attach filter fabric to the steel posts using heavy-duty plastic ties that are evenly spaced within the top 8-inches of the fabric.
6. Install the silt fence perpendicular to the direction of the stormwater flow and place the silt fence the proper distance from the toe of steep slopes to provide sediment storage and access for maintenance and cleanout.
7. Install Silt Fence Checks (Tie-Backs) every 50-100 feet, dependent on slope, along silt fence that is installed with slope and where concentrated flows are expected or are documented along the proposed/installed silt fence.

South Carolina Department of
Health and Environmental Control
SILT FENCE
STANDARD DRAWING NO. SC-03 Page 1 of 2
NOT TO SCALE
FEBRUARY 2014
DATE

SILT FENCE - POST REQUIREMENTS

1. Silt Fence posts must be 48-inch long steel posts that meet, at a minimum, the following physical characteristics.
   - Composed of a high strength steel with a minimum yield strength of 50,000 psi.
   - Include a standard "T" section with a nominal face width of 1.38-inches and a nominal "T" length of 1.48-inches.
   - Weigh 1.25 pounds per foot (± 8%)
2. Posts shall be equipped with projections to aid in fastening of filter fabric.
3. Steel posts may need to have a metal soil stabilization plate welded near the bottom when installed along steep slopes or installed in loose soils. The plate should have a minimum cross section of 17-square inches and be composed of 15 gauge steel, at a minimum. The metal soil stabilization plate should be completely buried.
4. Install posts to a minimum of 24-inches. A minimum height of 1- to 2-inches above the fabric shall be maintained, and a maximum height of 3 feet shall be maintained above the ground.
5. Post spacing shall be at a maximum of 6-feet on center.

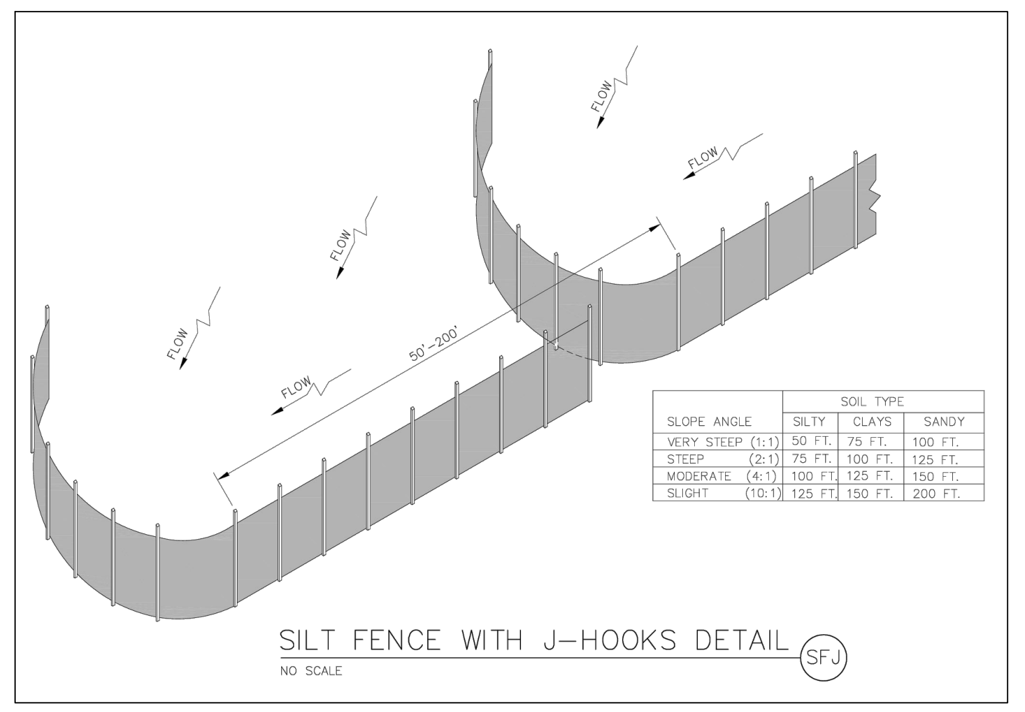
SILT FENCE - FABRIC REQUIREMENTS

1. Silt fence must be composed of woven geotextile filter fabric that consists of the following requirements:
   - Composed of fibers consisting of long chain synthetic polymers of at least 85% by weight of polyolefins, polyesters, or polyamides that are 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 any defects or flaws that significantly affect its physical and/or filtering properties; and,
   - Have a minimum width of 36-inches.
2. Use only fabric appearing on SC DOT's Qualified Products Listing (QPL), Approval Sheet #34, meeting the requirements of the most current edition of the SC DOT Standard Specifications for Highway Construction.
3. 12-inches of the fabric should be placed within excavated trench and toed in when the trench is backfilled.
4. Filter Fabric shall be purchased in continuous rolls and cut to the length of the barrier to avoid joints.
5. Filter Fabric shall be installed at a minimum of 24-inches above the ground.

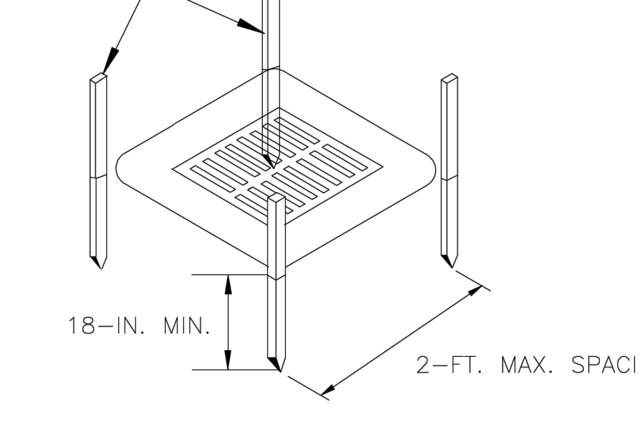
SILT FENCE - INSPECTION & MAINTENANCE

1. The key to functional silt fence is weekly inspections, routine maintenance, and regular sediment removal.
2. Regular inspections of silt fence 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 along the silt fence 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 silt fence.
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. Check for areas where stormwater runoff has eroded a channel beneath the silt fence, or where the fence has sagged or collapsed due to runoff overtopping the silt fence. Install checks/tie-backs and/or reinstall silt fence, as necessary.
7. Check for tears within the silt fence, areas where silt fence has begun to decompose, and for any other circumstance that may render the silt fence ineffective. Removed damaged silt fence and reinstall new silt fence immediately.
8. Silt fence should be removed within 30 days after final stabilization is achieved and once it is removed, the resulting disturbed area shall be permanently stabilized.

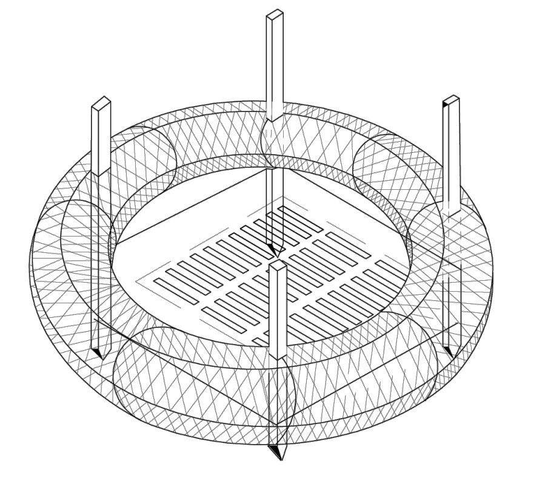
South Carolina Department of
Health and Environmental Control
SILT FENCE
STANDARD DRAWING NO. SC-03 PAGE 2 of 2
GENERAL NOTES
FEBRUARY 2014
DATE



SILT FENCE WITH J-HOOKS DETAIL
NO SCALE
SFJ

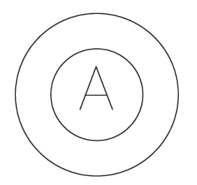


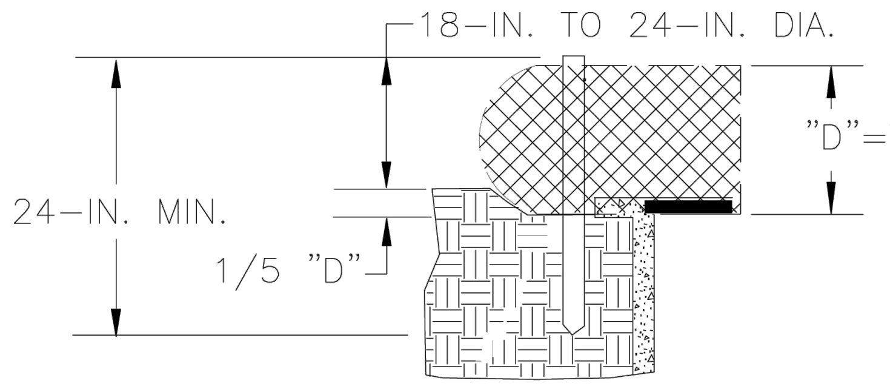
POST INSTALLATION DETAIL



SEDIMENT TUBE INSTALLATION DETAIL

PLAN SYMBOL





SEDIMENT TUBE BURIAL DETAIL

South Carolina Department of
Health and Environmental Control
Type A
SEDIMENT TUBE INLET PROTECTION
STANDARD DRAWING NO. SC-07A PAGE 1 of 2
NOT TO SCALE
FEBRUARY 2014
DATE

TYPE A – SEDIMENT TUBE INLET PROTECTION

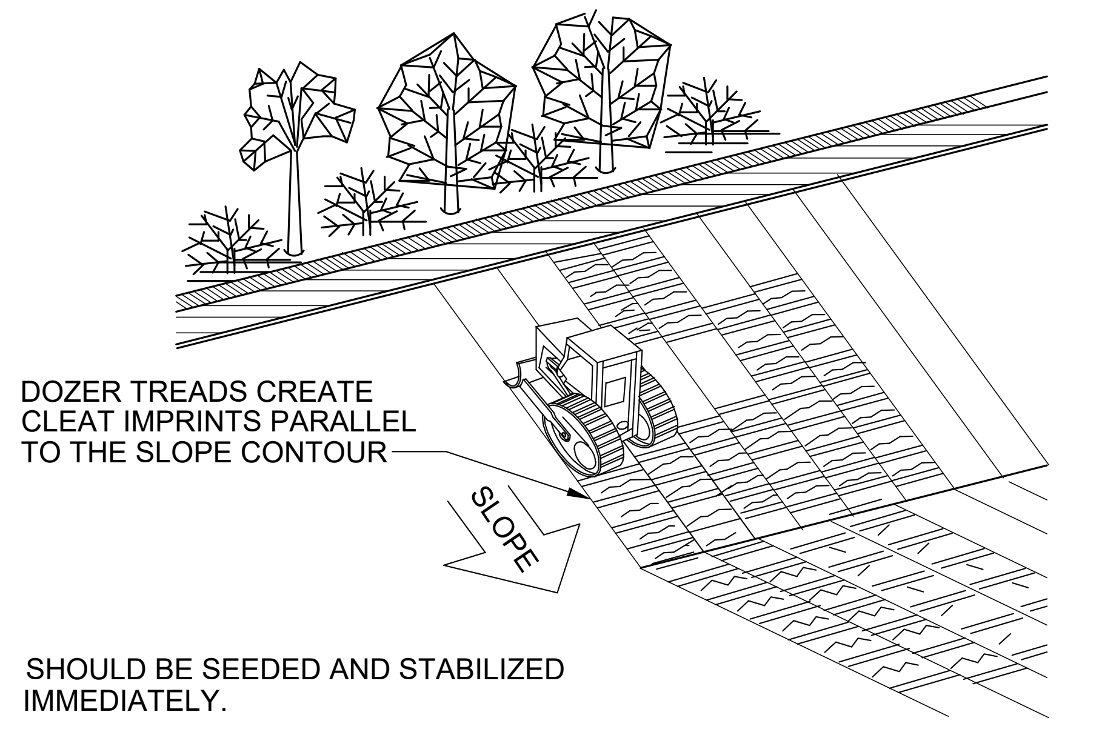
GENERAL NOTES

1. 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.
2. 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.
3. Sediment tube diameters shall range from 18-inches to 24-inches. Sediment tunes with smaller diameters are prohibited when used as inlet protection.
4. Curled excelsior wood, or natural coconut products that are rolled up to create a sediment tube are not allowed.
5. Sediment tubes should be staked using wooden oak 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.
6. Install all sediment tubes to ensure that no gaps exist between the soil and the bottom of the tube. Manufactuer's recommendations should always be consulted before installation.
7. The ends of adjacent sediment tubes should be overlapped 6-inches to prevent flow and sediment from passing through the field joint.
8. Sediment tubes should not be stacked on top of one another.
9. Each sediment tube should be installed in a trench with a depth equal to 1/5 the diameter of the sediment tube.
10. Install stakes at a diagonal facing incoming runoff.

INSPECTION & MAINTENANCE

1. The key to functional inlet protection is weekly inspections, routine maintenance, and regular sediment removal.
2. Regular inspections of sediment tube inlet protection 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. When a sump is installed in front of the inlet protection, sediment shall be removed when if fills approximately 1/3 the depth of the sump.
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. Inlet protection structures should be removed 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. Stabilize all bare areas immediately.

South Carolina Department of
Health and Environmental Control
Type A
SEDIMENT TUBE INLET PROTECTION
STANDARD DRAWING NO. SC-07A PAGE 2 of 2
NOT TO SCALE
FEBRUARY 2014
DATE


DOZER TREADS CREATE CLEAT IMPRINTS PARALLEL TO THE SLOPE CONTOUR
SLOPE
SHOULD BE SEEDED AND STABILIZED IMMEDIATELY.

TRACKING

South Carolina Department of
Health and Environmental Control
TRACKING
STANDARD DRAWING NO. EC-01 Page 1
APPROVED BY: SCDHEC
AUGUST, 2005
DATE

Permanent Seeding - Upstate

Species	Lbs/Ac	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Bahia Grass (Alone)	40				🟩	🟩	🟩	🟩					
Bahia Grass (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 Innoculant	40					🟩	🟩	🟩	🟩				
Ladino Clover (mix only) Innoculate with AB Innoculant	2									🟩	🟩	🟩	🟩
For Steep Slopes/Cut Slopes													
Weeping Lovegrass (Alone)	4					🟩	🟩	🟩	🟩				
Weeping Lovegrass (Mix)	2					🟩	🟩	🟩	🟩				
Crownvetch (Mix) (Inoculate with Type M Innoculant	8-10			🟩	🟩	🟩							

Temporary Seeding - Upstate

Species	lbs./ac	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Browntop Millet (Alone)	40				🟩	🟩	🟩	🟩	🟩				
Browntop Millet (Mix)	10				🟩	🟩	🟩	🟩	🟩				
Rye Grain (Alone)	56		🟩	🟩	🟩					🟩	🟩	🟩	🟩
Rye Grain (Mix)	10		🟩	🟩	🟩					🟩	🟩	🟩	🟩
Rye Grass (Alone)	50									🟩	🟩	🟩	
Rye Grass (Mix)	8									🟩	🟩	🟩	
For Steep Slopes/Cut Slopes													
Weeping Lovegrass (Alone)	4				🟩	🟩	🟩	🟩	🟩				
Weeping Lovegrass (Mix)	2				🟩	🟩	🟩	🟩	🟩				

WHEN STABILIZED 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.

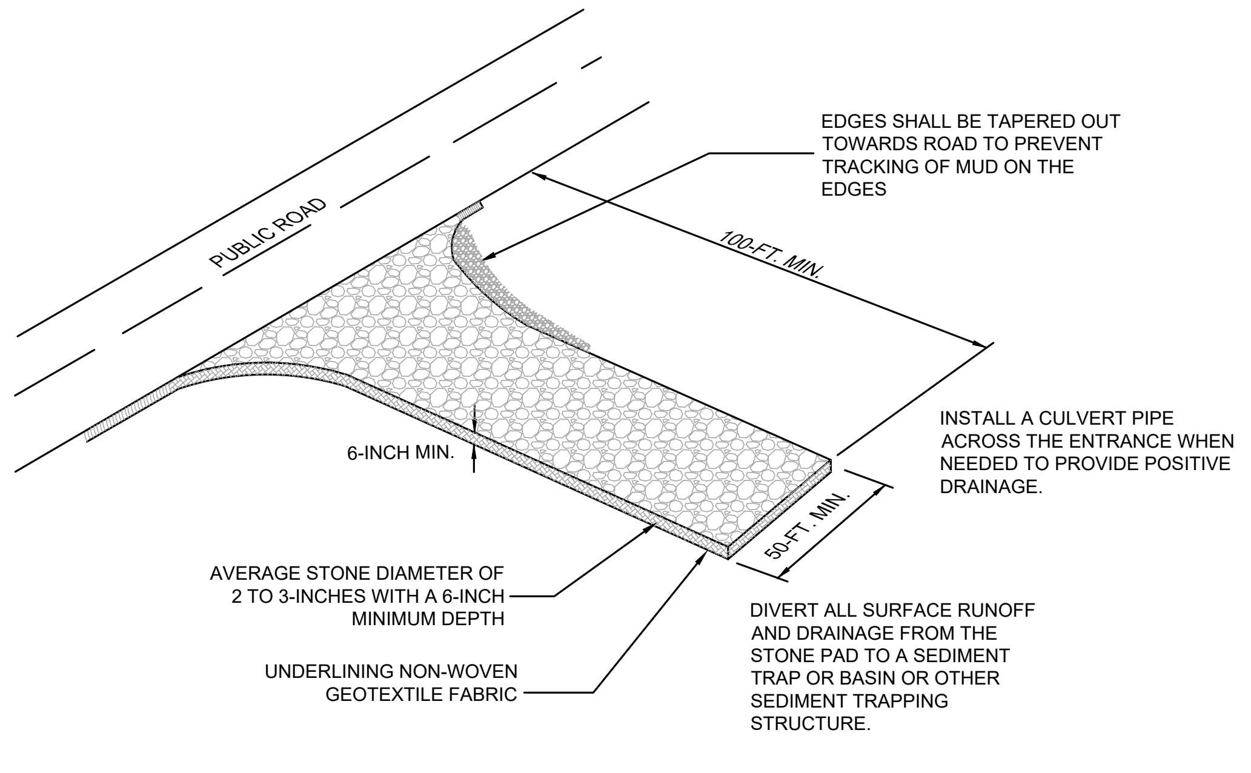
INSTALLATION
1. REMOVE ALL VEGETATION AND ANY OBJECTIONABLE MATERIAL FROM THE FOUNDATION AREA.
2. DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM STONES TO A SEDIMENT TRAP OR BASIN.
3. INSTALL A NON-WOVEN GEOTEXTILE FABRIC PRIOR TO PLACING ANY STONE.
4. INSTALL A CULVERT PIPE ACROSS THE ENTRANCE WHEN NEEDED TO PROVIDE POSITIVE DRAINAGE.
5. THE ENTRANCE SHALL CONSIST OF 1-INCH TO 3-INCH D50 STONE PLACED AT A MINIMUM DEPTH OF 6-INCHES.
6. MINIMUM DIMENSIONS OF THE ENTRANCE SHALL BE 24-FEET WIDE BY 100-FEET LONG, AND MAY BE MODIFIED AS NECESSARY TO ACCOMMODATE SITE CONSTRAINTS.
7. 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
INSPECT CONSTRUCTION ENTRANCES EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24-HOURS AFTER EACH RAINFALL EVENT THAT PRODUCES ½-INCHES OR MORE OF PRECIPITATION, OR AFTER HEAVY USE. 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 AND AS DIRECTED BY THE INSPECTOR. 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.

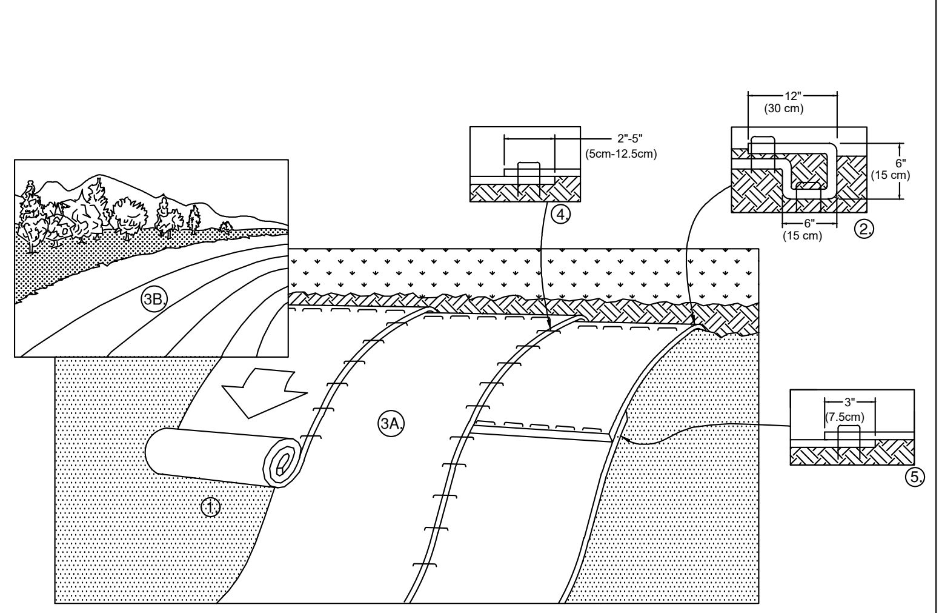
REPAIR ANY BROKEN PAVEMENT IMMEDIATELY.


EDGES SHALL BE TAPERED OUT TOWARDS ROAD TO PREVENT TRACKING OF MUD ON THE EDGES
PUBLIC ROAD
100-FT MIN.
INSTALL A CULVERT PIPE ACROSS THE ENTRANCE WHEN NEEDED TO PROVIDE POSITIVE DRAINAGE.
6-INCH MIN.
50-FT MIN.
AVERAGE STONE DIAMETER OF 2 TO 3-INCHES WITH A 6-INCH MINIMUM DEPTH
DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE STONE PAD TO A SEDIMENT TRAP OR BASIN OR OTHER SEDIMENT TRAPPING STRUCTURE.
UNDERLINING NON-WOVEN GEOTEXTILE FABRIC

STABILIZED CONSTRUCTION ENTRANCE

(SCDHEC DETAIL SC-06)
NOT TO SCALE

NORTH AMERICAN GREEN
EROSION CONTROL Products
Guaranteed SOLUTIONS
14649 HIGHWAY 41 NORTH
EVANSVILLE, IN 47725
800-772-2040
www.nagreen.com



1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
   NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP's IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF RECP's EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP's BACK OVER SEED AND COMPACTED SOIL. SECURE RECP's OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE RECP's.
3. ROLL THE RECP's (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM™, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL RECP's MUST BE STAPLED WITH APPROXIMATELY 2" - 5" (5 CM - 12.5 CM) OVERLAP DEPENDING ON RECP's TYPE.
5. CONSECUTIVE RECP's SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE RECP's WIDTH.
   NOTE:
   *IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE RECP's.

1. PREPARE EL TERRENO ANTES DE INSTALAR LAS MANTAS, INCLUYENDO LA APLICACION DE CAL, FERTILIZANTE Y SEMILLA.
   NOTA: CUANDO ESTE USANDO CELL-O-SEED NO SIEMBRE EL AREA PREPARADA. CELL-O-SEED TIENE QUE INSTALARSE CON EL LADO DE PAPEL HACIA ABAJO.
2. COMIENCE EN LA CABECERA DEL TALUD SUJETANDO LA MANTA EN UNA ZANJA DE 6" (15 CM) DE PROFUNDIDAD FOR 6" (15 CM) DE ANCHO CON APROXIMADAMENTE 12" (30 CM) DE LA MANTA EXTENDIDA MAS ALLA DE LA PENDIENTE ALTA DE LA ZANJA. SUJETE LA MANTA AL FONDO DE LA ZANJA CON UNA LINEA DE GRAPAS O ESTACAS APROXIMADAMENTE 12" (30 CM) UNA DE LA OTRA. RELLENE Y COMPACTE LA ZANJA DESPUES DEL ENGRAPE. RIEGE LA SEMILLA EN EL SUELO COMPACTADO Y DOBLE LAS 12" (30 CM) REMANENTES DE MANTA SOBRE LA SEMILLA EL SUELO COMPACTADO. ASEGURE LA MANTA SOBRE EL SUELO CON UNA LINEA DE GRAPAS O ESTACAS APROXIMADAMENTE 12" (30 CM) UNA DE LA OTRA A TRAVES DEL ANCHO DE LA MANTA.
3. DESENROLLE LAS MANTAS (3A) HACIA ABAJO U (3B) HORIZONTALMENTE A TRAVES DEL TALUD CON EL LADO APROPIADO HACIA LA SUPERFICIE DEL SUELO. TODAS LAS MANTAS DEBERAN ASEGURARSE A LA SUPERFICIE DEL SUELO POR MEDIO DE GRAPAS O ESTACAS EN LUGARES APROPIADOS TAL Y COMO SE INDICA EN EL PATRON GUIA DE ENGRAPADO. CUANDO ESTE USANDO EL DOT SYSTEM™. LAS GRAPAS O ESTACAS DEBEN COLOCARSE A TRAVES DE CADU UNDO DE LOS PUNTOS CON COLOR CORRESPONDIENTES AL PATRON DE ENGRAPADO APROPIADO.
4. LOS BORDES DE LAS MANTAS PARALELAS TIENEN QUE ENGRAPARSE CON UN TRASLAPE DE APROXIMADAMENTE 2" - 5" (5 CM - 12.5 CM) DEPENDIENDO DEL TIPO DE MANTA.
5. MANTAS CONSECUTIVAS UNIDAS EN LA BAJADA DE LOS TALUDES, DEBEN COLOCARSE ORILLA SOBRE ORILLA (TIPO EXCALONADO) CON UN TRASLAPE DE APROXIMADAMENTE 3" (7.5 CM). ENGRAPE EL AREA TRASLAPADA CON UNA SEPARACION DE APROXIMADAMENTE 12" (30 CM) A TRAVES DE TODO EL ANCHO DE LA MANTA.

   NOTA:
   * EN CONDICIONES DE SUELTO, PUEDE QUE SE NECESITEN GRAPAS O ESTACAS DE MAS DE 6" (15 CM) DE LARGO PARA ASEGURAR LAS MANTAS CORRECTAMENTE.

REV. 01/05

SLOPE INSTALLATION
APLICACIONES PARA TALUDES

#	REVISION DATE
1	

APPROVALS	ENGINEER	DESIGNER	TECHNICIAN	CHECKED BY	APPROVED
	JVB	JVB	RDS	DMN	KMC

Alliance Consulting Engineers, Inc. No. C02854
DATE: FEBRUARY 14, 2025

No. 40365
SIGNATURE:

ALLIANCE
CONSULTING ENGINEERS
Alliance Consulting Engineers, Inc.
Post Office Box 8147 Columbia, South Carolina 29202-8147
Phone (803) 779-2078 • Fax (803) 779-2079

SHEET
EROSION AND SEDIMENT CONTROL DETAILS
(1 OF 2)
DATE: MAY 2024
SCALE: AS SHOWN

PROJECT
± 3,350-LF OF ROADWAY IMPROVEMENTS
TO MAWSONS WAY AT THE
SC HIGHWAY 219 INDUSTRIAL PARK
NEWBERRY COUNTY,
SOUTH CAROLINA
NEWBERRY COUNTY
SOUTH CAROLINA

FILE NAME: C8.0.dwg
REFERENCE FILE: 19166Base. dwg
PROJECT NO. 19166-0036
SHEET C8.0
DWG NO. 01,1347-D23

March 07, 2025 - 4:25:11 PM S:\Projects\19166-0036 Roadway Improvements to Mawson's Way at SC Hwy 219 Ind Pk in Newberry, Co\dwg\Construction Plans\ C8.0 - Details.dwg

SURFACE COURSE CURB INLET PROTECTION

GENEARL NOTES

1. Only use surface curb inlet filters that have a minimum height or diameter of 9–inches and have a minimum length that is 2–feet longer than the length of the curb opening.

2. Surface course inlets filters that are designed to completely block the inlet opening are prohibited. Acceptable inlet filters should allow for overflows to enter the catch basin.

3. Surface course inlet filters should be constructed with a synthetic material that will allow stormwater to freely flow through while trapping sediment and debris.

4. Straw, straw fiber, straw bales, pine needles and leaf mulch are not permissible filter materials.

5. Each filter should have aggregate compartments for stone, sand, and other weighted materials or mechanisms to hold the unit in place. Fill aggregate compartments to a level (at least 1/2 full) to hold the filter in place and create a seal between the filter and the road surface.

6. Use only Type E inlet filters appearing on SC DOT's Qualified Products Listing (QPL), Approval Sheet #58, or filters meeting the most current edition of the SC DOT Standard Specifications for Highway Construction.

INSPECTION AND MAINTENANCE

1. The key to functional inlet protection is weekly inspections, routine maintenance, and regular sediment removal.

2. Regular inspections of all inlet protection shall be conducted once every calendar week and, as recommended, within 24–hours after each rainfall event that produces 1/2–inch or more of precipitation.

3. Attention to sediment accumulations in front of the inlet protection is extremely important. Accumulated sediment should be continually monitored and removed when necessary.

4. Remove accumulated sediment when silt and/or debris has built up around the filter preventing stormwater to flow through the filter.

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. Inlet protection structures should be removed 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. Stabilize all bare areas immediately.

South Carolina Department of
Health and Environmental Control
Type E
SURFACE COURSE CURB INLET FILTERS
STANDARD DRAWING NO. SC–10 PAGE 2 of 2
GENERAL NOTES FEBRUARY 2014
DATE

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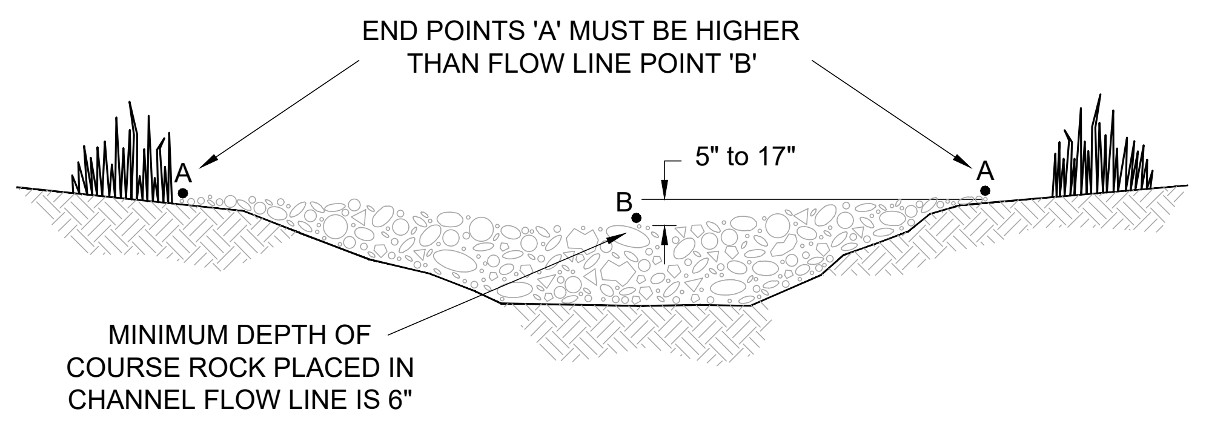
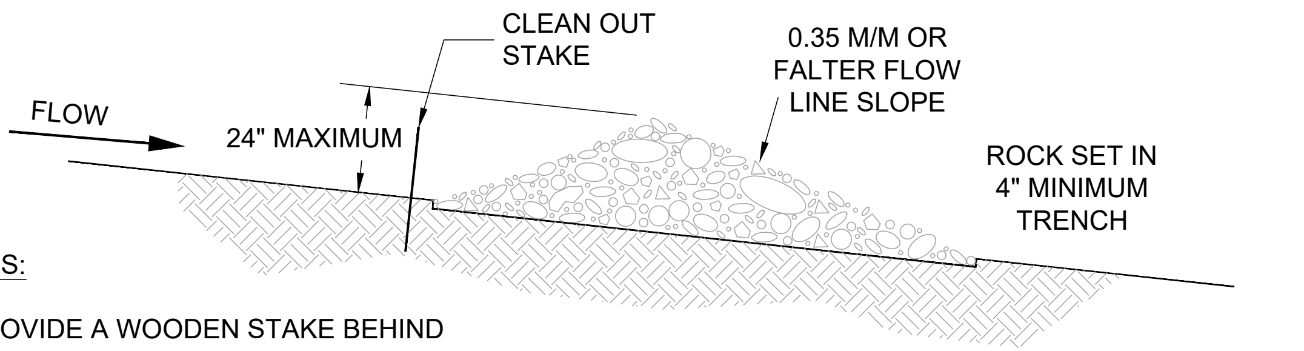
South Carolina Department of
Health and Environmental Control
Type E
SURFACE COURSE CURB INLET FILTERS
STANDARD DRAWING NO. SC–10 PAGE 2 of 2
GENERAL NOTES FEBRUARY 2014
DATE


END POINTS 'A' MUST BE HIGHER THAN FLOW LINE POINT 'B'
A
B
5" to 17"
A
MINIMUM DEPTH OF COURSE ROCK PLACED IN CHANNEL FLOW LINE IS 6"

VIEW LOOKING UPSTREAM

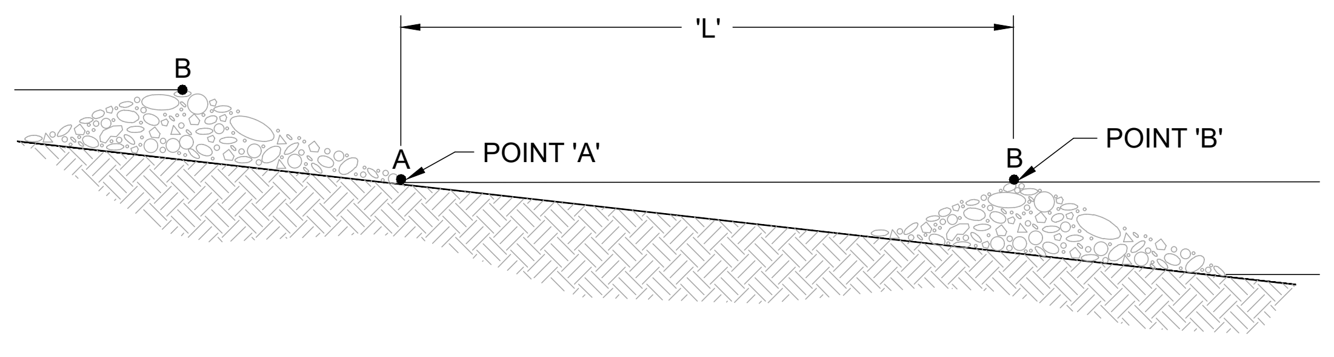

CLEAN OUT STAKE
0.35 M/M OR FALTER FLOW LINE SLOPE
FLOW
24" MAXIMUM
ROCK SET IN 4" MINIMUM TRENCH
3" MINIMUM COURSE ROCK

NOTES:

1. PROVIDE A WOODEN STAKE BEHIND EACH CHECK DAM, 18 INCHES IN LENGTH, DRIVEN APPROXIMATELY 12 INCHES INTO THE GROUND.
2. EACH TIME SEDIMENT ACCUMULATES TO THE TOP OF THE WOODEN STAKE, CONTRACTOR IS TO REMOVE AND PROPERLY DISPOSE OF SEDIMENT.

SIDE VIEW

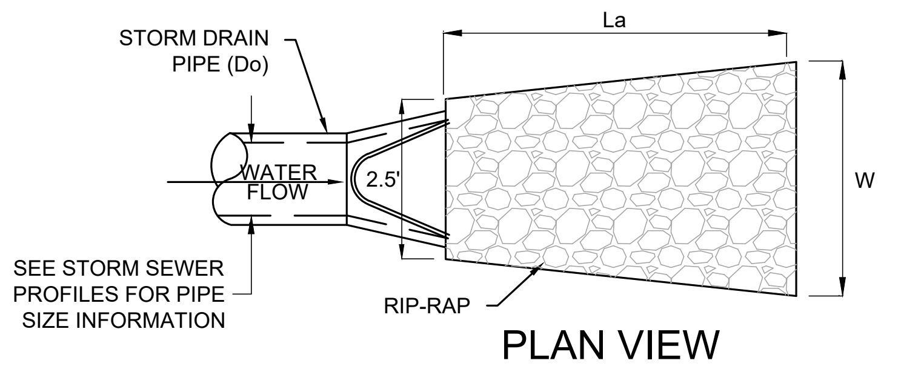
'L' = THE DISTANCE SUCH THAT POINTS 'A' AND 'B' ARE OF EQUAL ELEVATION



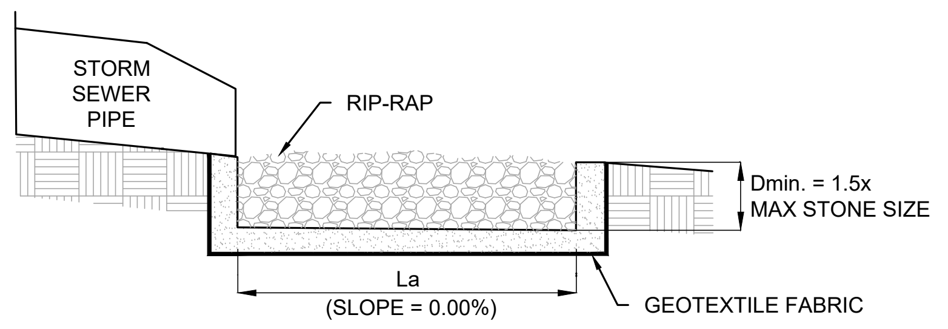
SPACING BETWEEN CHECK DAMS

CHECK DAMS

NOT TO SCALE



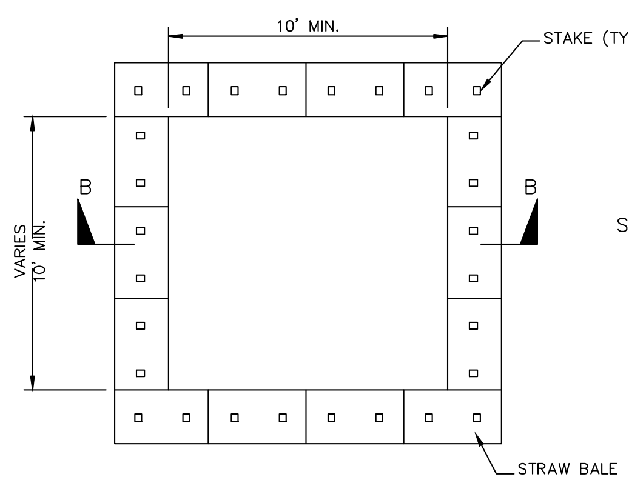
PLAN VIEW



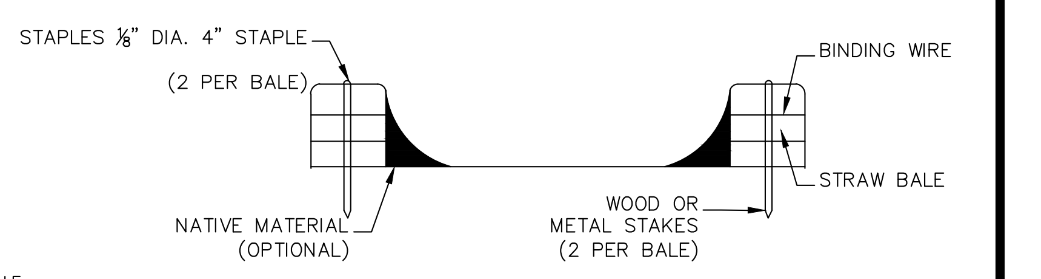
SIDE VIEW

MAINTENANCE:
INSPECT RIPRAP OUTLET STRUCTURES AFTER HEAVY RAINS TO SEE IF ANY EROSION AROUND OR BELOW THE RIPRAP HAS TAKEN PLACE OR IF STONES HAVE BEEN DISLODGED. IMMEDIATELY MAKE ALL NEEDED REPAIRS TO PREVENT FURTHER DAMAGE.

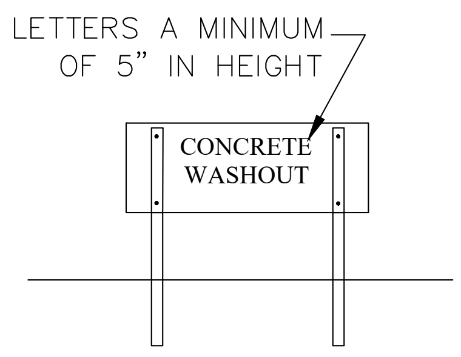
STRAW BALE BARRIER CONCRETE WASHOUT



PLAN
TYPE "ABOVE GRADE"
WITH STRAW BALES


STAPLES ⅛" DIA. 4" STAPLE (2 PER BALE)
BINDING WIRE
STRAW BALE
NATIVE MATERIAL (OPTIONAL)
WOOD OR METAL STAKES (2 PER BALE)

SECTION B-B



CONCRETE WASHOUT SIGN DETAIL

NOTES:

1. ACTUAL LAYOUT DETERMINED IN FIELD.
2. INSTALL CONCRETE WASHOUT SIGN (24"X24", MINIMUM) WITHIN 30' OF THE TEMPORARY CONCRETE WASHOUT FACILITY.
3. TEMPORARY WASHOUT AREA MUST BE AT LEAST 50' FROM A STORM DRAIN, CREEK BANK OR PERIMETER CONTROL.
4. CLEAN OUT CONCRETE WASHOUT AREA WHEN 50% FULL.
5. THE KEY TO FUNCTIONAL CONCRETE WASHOUTS IS WEEKLY INSPECTIONS, ROUTINE MAINTENANCE, AND REGULAR CLEAN OUT.
6. SILT FENCE SHALL BE INSTALLED AROUND PERIMETER OF CONCRETE WASHOUT AREA EXCEPT FOR THE SIDE UTILIZED FOR ACCESSING THE WASHOUT.
7. A ROCK CONSTRUCTION ENTRANCE MAY BE NECESSARY ALONG ONE SIDE OF THE WASHOUT TO PROVIDE VEHICLE ACCESS.

South Carolina Department of
Health and Environmental Control
CONCRETE WASHOUT
STRAW BALES OR ABOVE GROUND
STANDARD DRAWING NO. RC–07 PAGE 1 of 1
NOT TO SCALE FEBRUARY 2014
DATE

CONSTRUCTION NOTES:

DRAINAGE STRUCTURE	APRON LENGTH (La)	APRON WIDTH (W)	AVERAGE STONE DIAMETER (d50)	APRON THICKNESS (D)
FES 1.0	9.0	10.5	0.5'	0.5'
FES 2.0	9.0	10.5	0.5'	0.5'
FES 3.0	9.0	10.5	0.5'	0.5'
FES 4.0	13.0	15.0	0.5'	0.5'

1. THE RIP-RAP APRON SHALL BE CONSTRUCTED WITH NO SLOPE ALONG ITS LENGTH (0.0% GRADE). THE INVERT ELEVATION OF THE DOWNSTREAM END OF THE APRON SHALL BE EQUAL TO THE ELEVATION OF THE INVERT OF THE RECEIVING CHANNEL. THERE SHALL BE NO OVERFALL AT THE END OF THE APRON.
2. IF THE PIPE DISCHARGES INTO A WELL-DEFINED CHANNEL, THE SIDE SLOPES OF THE CHANNEL SHALL NOT BE STEEPER THAN 2:1.
3. THE APRON SHALL BE LOCATED SO THAT THERE ARE NO BENDS IN THE HORIZONTAL ALIGNMENT.
4. GEOTEXTILES SHOULD BE USED AS A SEPARATOR BETWEEN THE GRADED STONE, THE SOIL BASE, AND THE ABUTMENTS. THE GEOTEXTILE SHALL BE SPECIFIED IN ACCORDANCE WITH AASHTO M288-96 SECTION 7.5 PERMANENT EROSION CONTROL RECOMMENDATIONS. THE GEOTEXTILE SHOULD BE PLACED IMMEDIATELY ADJACENT TO THE SUBGRADE WITHOUT ANY VOIDS. ENSURE THAT THE SUBGRADE FOR THE FILTER AND THE RIPRAP FOLLOWS THE REQUIRED LINES AND GRADES SHOWN IN THE PLAN.
5. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO THE DENSITY OF THE SURROUNDING UNDISTURBED MATERIAL. LOW AREAS IN THE SUBGRADE ON THE UNDISTURBED SOIL MAY ALSO BE FILLED BY INCREASING THE RIPRAP THICKNESS.
6. THE RIPRAP AND GRAVEL FILTER MUST CONFORM TO THE SPECIFIED GRADING LIMITS SHOWN ON THE PLANS.
7. GEOTEXTILE MUST MEET DESIGN REQUIREMENTS AND BE PROPERLY PROTECTED FROM PUNCHING OR TEARING DURING INSTALLATION. REPAIR ANY DAMAGE BY REMOVING THE RIPRAP AND PLACING ANOTHER PIECE OF FILTER FABRIC OVER THE DAMAGED AREA. ALL CONNECTING JOINTS SHOULD OVER- LAP A MINIMUM OF 1 FT. IF THE DAMAGE IS EXTENSIVE, REPLACE THE ENTIRE FILTER FABRIC. RIPRAP MAY BE PLACED BY EQUIPMENT, BUT TAKE CARE TO AVOID DAMAGING THE FILTER. REFER TO ABOVE DETAIL FOR RIPRAP THICKNESS.
8. IMMEDIATELY AFTER CONSTRUCTION, STABILIZE ALL DIS- TURBED AREAS WITH VEGETATION.
9. STONE QUALITY - SELECT STONE FOR RIPRAP FROM FIELD STONE OR QUARRY STONE. THE STONE SHOULD BE HARD, ANGULAR, AND HIGHLY WEATHER-RESISTANT. THE SPECIFIC GRAVITY OF THE INDIVIDUAL STONES SHOULD BE AT LEAST 2.5.
10. FILTER - INSTALL A FILTER TO PREVENT SOIL MOVEMENT THROUGH THE OPENINGS IN THE RIPRAP. THE FILTER SHOULD CONSIST OF A GRADED GRAVEL LAYER OR A SYNTHETIC FILTER CLOTH. REFER TO SCDOT CONSTRUCTION MANUAL DIVISION 800 FOR SPECIFICATIONS OF FILTER LAYER.

STORM DRAIN OUTLET PROTECTION DETAIL

N.T.S.

SEQUENCE OF CONSTRUCTION:

1. RECEIVE NPDES COVERAGE FROM SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (SCDHEC).
2. NOTIFY SCDHEC EQC REGIONAL OFFICE OR OCRM OFFICE 48 HOURS PRIOR TO BEGINNING LAND-DISTURBING ACTIVITIES.
3. INSTALLATION OF CONSTRUCTION ENTRANCES.
4. CLEARING AND GRUBBING AS NECESSARY ALONG THE LIMITS OF DISTURBANCE FOR INSTALLATION OF PERIMETER CONTROLS, TEMPORARY SEDIMENT CONTROL MEASURES, AND BEST MANAGEMENT PRACTICES (BMPS).
5. INSTALL PERIMETER CONTROLS.
6. CLEARING AND GRUBBING OF SITE AND DEMOLITION AS NEEDED (EROSION AND SEDIMENT CONTROL MEASURES MUST ALREADY BE INSTALLED FOR THESE AREAS).
7. BEGIN ROUGH GRADING OPERATIONS AND COMPACT ALL LAYERS OF FILL TO STRUCTURAL FILL STANDARDS.
8. INSTALLATION OF STORM DRAINAGE SYSTEM AND PLACEMENT OF INLET PROTECTION AS EACH INLET IS INSTALLED.
9. FINE GRADING, INSTALLATION OF WATER AND WASTEWATER LINES, ETC. INSTALL EROSION CONTROL MATTING ON SLOPES TO BEGIN STABILIZATION. INSTALL TEMPORARY GRASSING AS NECESSARY TO MAINTAIN A STABLE SITE PRIOR TO PAVING.
10. INSTALL CONCRETE CURB, CONCRETE KEY, AND BEGIN PAVING OPERATIONS.
11. INSTALL PERMANENT STABLIZATION/GRASSING.
12. REMOVE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES AFTER ENTIRE AREA DRAINING TO THE MEASURES ARE FULLY STABILIZED. (SCDHEC RECOMMENDS THAT THE PROJECT OWNER/OPERATOR HAVE THE SWPPP PREPARER (IF APPLICABLE) OR REGISTERED EQUIVALENT APPROVE THE REMOVAL OF TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES.
13. COMPLETE AS-BUILT SURVEY AND SUBMIT TO SCDHEC FOR ACCEPTANCE.
14. SUBMIT NOTICE OF TERMINATION (NOT) TO SCDHEC.

Sediment and Erosion Control Notes

Standard Notes:

1. If necessary, slopes, which exceed eight (8) vertical feet should be stabilized with synthetic or vegetative mats, in addition to 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.
   - ➢ Where stabilization by the 14th day is precluded by snow cover or frozen ground conditions stabilization measures must be initiated as soon as practicable.
   - ➢ Where construction activity on a portion of the Site is temporarily ceased, and earth-disturbing activities will be resumed within fourteen (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 every seven (7) days. If site inspections identify BMPs that are damaged or are not operating effectively, maintenance must be performed as soon as practical or as reasonably possible and before the next storm event whenever practicable.
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 back 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 paved roadway(s) 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 et seq. 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't 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 accesible 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 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 equivalent 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 from sites are prohibited:
   - Wastewater from washout of concrete, unless managed by an appropriate control;
   - Wastewater form washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;
   - Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance; and
   - 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 this permit and/or SC's Water Quality Standards, implementations 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 priop 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.

#	REVISION DATE
1	

APPROVALS
ENGINEER JVB
DESIGNER JVB
TECHNICIAN RDS
CHECKED BY DMN
APPROVED KMC

Alliance Consulting Engineers, Inc. No. C02854
DATE: FEBRUARY 14, 2025

JOHN No. 40365
SIGNATURE:

ALLIANCE CONSULTING ENGINEERS
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Post Office Box 8147 Columbia, South Carolina 29202-8147
Phone (803) 779-2078 • Fax (803) 779-2079

SHEET
EROSION AND SEDIMENT
CONTROL DETAILS
(2 OF 2)
DATE: MAY 2024 SCALE: AS SHOWN

PROJECT
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IMPROVEMENTS
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NEWBERRY COUNTY,
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NEWBERRY COUNTY SOUTH CAROLINA

FILE NAME:
C8.0.dwg
REFERENCE FILE:
19166Base. dwg
PROJECT NO.
19166-0036

SHEET
C8.1

DWG NO. 01,1347–D23