DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

FINAL PLANS

NOT RELEASED FOR CONSTRUCTION

WHEELER TRACT

OFFSITE IMPROVEMENTS

TOWN OF ROLESVILLE
WAKE COUNTY, NORTH CAROLINA

DATE: 07/21/22

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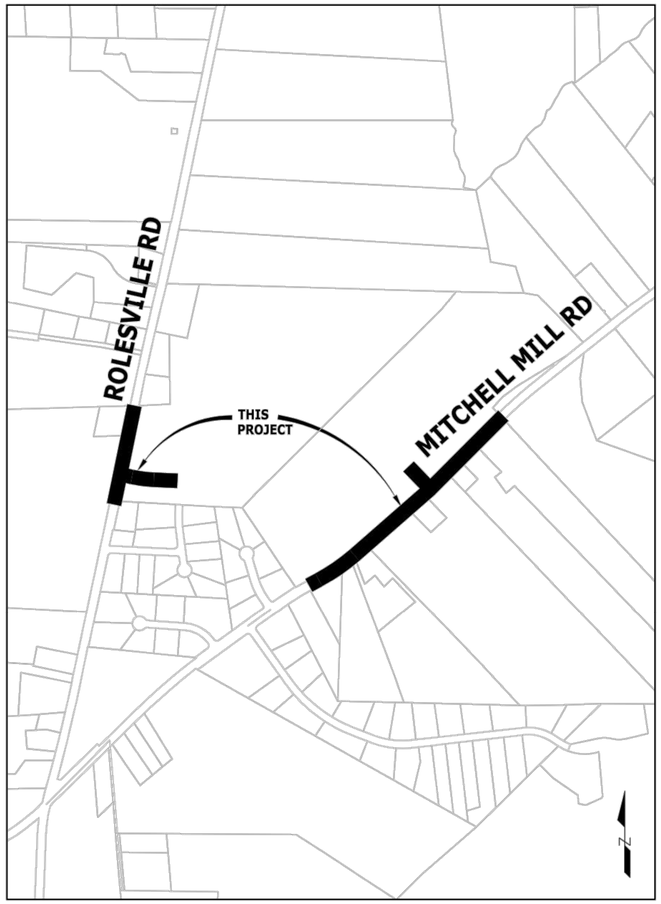

OVERALL VICINITY MAP
SCALE: 1" = 500'

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

ALL CONSTRUCTION SHALL CONFORM WITH THE LATEST VERSION OF NCDOT STANDARDS AND SPECIFICATIONS.

SURVEY NOTES:

1. HORIZONTAL CONTROL (BASIS OF THE BEARINGS) IS BASED ON NC STATE GRID, NAD'83 (2011); VERTICAL CONTROL IS BASED ON NAVD'88, AS ESTABLISHED BY GPS. ALL DISTANCES SHOWN HERON ARE GROUND DISTANCES.
2. CONTOUR INTERVALS ARE 1'.
3. THE LOCATION OF SUB SURFACE UTILITIES AS SHOWN HEREON, IF ANY, ARE BASED ON FIELD LOCATION OF SURFACE FEATURES AND MARKINGS PROVIDED BY NC 811 AND ARE APPROXIMATE. OTHER SUB SURFACE UTILITIES MAY EXIST ON THIS SITE THAT ARE NOT INCLUDED IN THIS SURVEY.
4. THIS MAP CONSTITUTES NEITHER A SUBDIVISION NOR A RECOMBINATION PLAT OF THE PARCELS OF LAND SHOWN HEREON. THIS MAP HAS NOT BEEN PREPARED IN ACCORDANCE WITH NC G.S. 47-30 AND IS NOT SUITABLE FOR RECORDING.
5. THERE ARE NO RECOVERABLE NGS MONUMENTS WITHIN 2000' OF THIS PROPERTY.

EXISTING CONDTIONS NOTES:

1. OTHER SOURCES OF INFORMATION INCLUDE TOWN GIS AND AERIAL IMAGERY.
2. THE UTILITIES ON THESE PLANS ARE APPROXIMATE ONLY, AND ARE NOT ACCURATE FOR CONSTRUCTION PURPOSES. FOR FIELD MARKS CALL 811.

DEMOLITION NOTES:

1. ALL UTILITIES OR STRUCTURES NOT INDICATED FOR REMOVAL OR MODIFICATION ARE TO REMAIN AND BE PROTECTED FROM DAMAGE.
2. ALL WASTE MATERIAL GENERATED FROM CLEARING AND DEMOLITION ACTIVITIES SHALL BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH ALL APPLICABLE RULES AND REGULATIONS.
3. REMOVE TOPSOIL AND STOCKPILE APPROPRIATELY ON-SITE. ON-SITE TEMPORARY STOCKPILES SHALL BE LOCATED WITHIN CONSTRUCTION LIMITS.
4. ALL PAVEMENT OR CONCRETE TO BE REMOVED SHALL BE SAW CUT TO PROVIDE A STRAIGHT AND UNIFORM JOINT WITH NEW CONSTRUCTION. ANY EXISTING PAVEMENT, SIDEWALK, CURB & GUTTER, ETC. THAT MUST BE REMOVED TO ALLOW NEW CONSTRUCTION SHALL BE REMOVED AND REPAIRED PER THE SPECIFICATIONS AND DETAILS OR TO MATCH EXISTING CONDITIONS (WHETHER OR NOT SHOWN ON THE DRAWINGS TO BE REMOVED). UTILITY INSTALLATIONS MAY UTILIZE OPEN CUT OF PAVEMENTS UNLESS INDICATED OTHERWISE. TRENCH IN EXISTING ASPHALT SHALL BE PATCHED PER PAVEMENT REPAIR DETAIL.
5. PROTECT ALL ADJACENT PROPERTIES, THE GENERAL PUBLIC AND ALL OF THE OWNER'S FACILITIES. SHOULD DAMAGE OCCUR, NOTIFY ENGINEER IMMEDIATELY.
6. THE CONTRACTOR SHALL USE NC ONE CALL (811) TO LOCATE ALL UNDERGROUND UTILITIES.
7. VERIFY ALL ILLUSTRATED KNOWN UNDERGROUND ELEMENTS. EXERCISE REASONABLE EFFORTS TO PROTECT ANY UNKNOWN UNDERGROUND ELEMENTS. NOTIFY THE ENGINEER IMMEDIATELY IF UNKNOWN ELEMENTS ARE DISCOVERED THAT WOULD NECESSITATE MODIFICATION TO THE PROPOSED DESIGN.
8. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND OSHA REGULATIONS.
9. EXISTING MANHOLES, VALVE BOXES, VAULTS, CLEANOUTS, UTILITY POLES ETC. TO REMAIN WITHIN THE GRADING LIMITS SHALL BE ADJUSTED AS NEEDED TO FUNCTION PROPERLY WITH THE PROPOSED FINISHED GRADES (WHETHER OR NOT INDICATED TO BE MODIFIED).
10. GENERAL CONTRACTOR TO COORDINATE ALL PEDESTRIAN ACCESS PATHS, LOCATIONS, LIGHTING ETC. WITH THE OWNER.
11. CONTRACTOR TO COORDINATE ALL WORK AS NEEDED WITH UTILITY COMPANIES, MUNICIPALITY, AND INSPECTORS.
12. CONTRACTOR TO COORDINATE ALL DEMOLITION WORK AS NEEDED WITH UTILITY COMPANIES AND MUNICIPALITIES. ALL WORK SHALL BE IN COMPLIANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS.
13. CONTRACTOR TO CONFIRM LOCATION OF ALL ONSITE UTILITY SERVICES AND COORDINATE REMOVAL AS NEEDED.

GRADING AND STORM DRAINAGE NOTES:

1. CONTRACTOR SHALL CALL "NORTH CAROLINA ONE CALL" (1-800-632-4949) AT LEAST 48 HOURS PRIOR TO DIGGING TO HAVE EXISTING UTILITIES LOCATED. REPORT ANY DISCREPANCIES TO THE ENGINEER.
2. CONTRACTOR TO COORDINATE ACTIVITIES WITH UTILITY COMPANIES INVOLVED IN ANY RELATED RELOCATION (I.E. POWER POLES, TELEPHONE PEDESTALS, WATER METERS, ETC.).
3. EXISTING UTILITIES SHOWN ARE BASED ON FIELD SURVEYS AND THE BEST AVAILABLE RECORD DRAWINGS. THE CONTRACTOR SHALL VERIFY CONDITIONS PRIOR TO BEGINNING CONSTRUCTION. ANY DISCREPANCIES BETWEEN ACTUAL FIELD CONDITIONS AND THE PLANS SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
4. ALL EXISTING VAULTS, MANHOLES, STORM DRAIN STRUCTURES, VALVE BOXES, CLEANOUTS, ETC. SHALL BE ADJUSTED AS NEEDED TO MATCH FINISHED GRADE.
5. ALL BACKFILL, COMPACTION, SOILS TESTING, ETC. SHALL BE PERFORMED BY THE CONTRACTOR'S INDEPENDENT TESTING LABORATORY.
6. A PRE-CONSTRUCTION MEETING MUST BE SCHEDULED PRIOR TO ANY WORK, GRADING OR INSTALLATION OF EROSION CONTROL MEASURES.
7. IF CONTRACTOR NOTICES ANY DISCREPANCIES IN ANY OF THESE SLOPE REQUIREMENTS, IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE ENGINEER PRIOR TO POURING ANY ASPHALT SO THAT A SOLUTION CAN BE FOUND.
8. SPOT ELEVATIONS ARE GIVEN AT THE MAJORITY OF THE MAJOR BREAK POINTS BUT IT SHOULD NOT BE ASSUMED THAT ALL NECESSARY SPOT ELEVATIONS ARE SHOWN. DUE TO SPACE LIMITATIONS, THERE MAY BE OTHER CRITICAL SPOTS NOT LABELED THAT SHOULD BE TAKEN INTO CONSIDERATION. THE CONTRACTOR SHALL REVIEW THE GRADING PLAN IN DETAIL AND SHALL ENSURE THAT ALL CRITICAL GRADE POINTS ARE STAKED AND FOLLOWED TO PROVIDE POSITIVE DRAINAGE.
9. EXISTING VEGETATION WITHIN TREE PROTECTIVE AREAS SHALL REMAIN UNDISTURBED UNLESS NOTED OTHERWISE. ANY AND ALL LANDSCAPING AND EXISTING TREES & SHRUBS TO REMAIN WHICH ARE DAMAGED DURING DEMOLITION OR CONSTRUCTION SHALL BE REPLACED BY THE CONTRACTOR USING A LICENSED LANDSCAPE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
10. THE GRADING CONTRACTOR SHALL COMPLY WITH ALL STATE CODES IN OBSERVING EROSION CONTROL MEASURES BOTH ON AND OFF-SITE. THE GRADING CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL DEVICES AFTER EACH RAINFALL EVENT OR AS DIRECTED BY THE EROSION CONTROL INSPECTOR OR THE ENGINEER.
11. THE GRADING CONTRACTOR SHALL BE RESPONSIBLE FOR OFF-SITE DISPOSAL OF ALL CLEARING AND GRADING WASTE MATERIALS GENERATED DURING CONSTRUCTION AND FOR OBTAINING ALL APPLICABLE PERMITS FOR OFF-SITE STOCKPILES AND/OR WASTE AREAS.

DESIGN DATA

Rolesville Road (SR-1003)	Mitchell Mill Road (SR-2224)
ADT 2019 = 4,300	ADT 2019 = 1,900
Vd = 50 mph	Vd = 50 mph
F.C. = Minor Arterial	F.C. = Major Collector

NOTE: SEE TRAFFIC STUDY FOR FUTURE VOLUMES

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049206 07-21-22 REGISTERED BRIAN PATRICK WELCH

THIS DRAWING PREPARED AT THE
RALEIGH OFFICE
5410 Trinity Road, Suite 210 Raleigh, NC 27607
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

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REVISION DESCRIPTION	DATE

DATE	07/21/22
DRAWN BY	BPW
DESIGNED BY	BPW
CHECKED BY	BPW
SCALE	----
JOB NO.	43398
SHEET NO.	R1.00

TIMMONS GROUP

WHEELER TRACT - OFFSITE IMPROVEMENTS
ROLESVILLE - WAKE COUNTY, NORTH CAROLINA
COVER SHEET

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FINAL PLANS

NOT RELEASED FOR CONSTRUCTION

HORIZONTAL ALIGNMENT DATA

****
Alignment Name: MMRD
Station Range: Start: 200+00.00, End: 231+84.86
Description:
****

Begin MMRD
N 776,527.3310 E 2,164,529.4110 200+00.00

Line (1)
N54° 21' 49.81"E 144.382'
N 776,611.4531 E 2,164,646.7550 201+44.38
Line (1)

Curve (2)
BC N 776,611.4531 E 2,164,646.7550 201+44.38
CTR N 774,985.9868 E 2,165,812.0271
PI N 776,682.9466 E 2,164,746.4829

Direction Back N54° 21' 49.81"E
Radius 2,000.000'
Delta 7°01'18"(RT)
Length 245.107'
Tangent 122.707'
Chord Direction N57° 52' 29.02"E Distance 244.953'
Direction Ahead N61° 23' 08.24"E

EC N 776,741.7124 E 2,164,854.2028 203+89.49
Curve (2)

Line (3)
N61° 23' 08.24"E 78.306'
N 776,779.2139 E 2,164,922.9443 204+67.79
Line (3)

Curve (4)
BC N 776,779.2139 E 2,164,922.9443 204+67.79
CTR N 778,096.0081 E 2,164,204.5760
PI N 776,852.1175 E 2,165,056.5791

Direction Back N61° 23' 08.24"E
Radius 1,500.000'
Delta 11°35'23"(LT)
Length 303.416'
Tangent 152.227'
Chord Direction N55° 35' 26.88"E Distance 302.899'
Direction Ahead N49° 47' 45.52"E

EC N 776,950.3820 E 2,165,172.8430 207+71.21
Curve (4)

Line (5)
N49° 47' 45.52"E 283.432'
N 777,133.3404 E 2,165,389.3142 210+54.64
Line (5)

Curve (6)
BC N 777,133.3404 E 2,165,389.3142 210+54.64
CTR N 782,785.0958 E 2,160,612.5306
PI N 777,349.6114 E 2,165,645.1999

Direction Back N49° 47' 45.52"E
Radius 7,400.000'
Delta 5°11'05"(LT)
Length 669.619'
Tangent 335.038'
Chord Direction N47° 12' 13.16"E Distance 669.391'
Direction Ahead N44° 36' 40.81"E

EC N 777,588.1209 E 2,165,880.4953 217+24.26
Curve (6)

Line (7)
N44° 36' 40.81"E 471.600'
N 777,923.8467 E 2,166,211.6969 221+95.86
Line (7)

Curve (8)
BC N 777,923.8467 E 2,166,211.6969 221+95.86
CTR N 776,168.1119 E 2,167,991.4147
PI N 778,026.3744 E 2,166,312.8430

Direction Back N44° 36' 40.81"E
Radius 2,500.000'
Delta 6°35'39"(RT)
Length 287.727'
Tangent 144.022'
Chord Direction N47° 54' 30.39"E Distance 287.568'
Direction Ahead N51° 12' 19.98"E

EC N 778,116.6085 E 2,166,425.0939 224+83.59
Curve (8)

Line (9)
N51° 12' 19.98"E 701.272'
N 778,555.9755 E 2,166,971.6646 231+84.86
Line (9)

N 778,555.9755 E 2,166,971.6646 231+84.86
End MMRD

****
Alignment Length: 3,184.860'
****

****
Alignment Name: RVRD
Station Range: Start: 100+00.00, End: 110+50.00
Description:
****

Begin RVRD
N 777,078.2946 E 2,163,445.9929 100+00.00

Line (1)
N11° 58' 11.82"E 244.367'
N 777,317.3483 E 2,163,496.6743 102+44.37
Line (1)

Line (2)
N11° 42' 08.00"E 299.800'
N 777,610.9169 E 2,163,557.4813 105+44.17
Line (2)

Line (3)
N11° 32' 42.39"E 505.833'
N 778,106.5156 E 2,163,658.7184 110+50.00
Line (3)

N 778,106.5156 E 2,163,658.7184 110+50.00
End RVRD

****
Alignment Length: 1,050.000'
****

****
Alignment Name: ROAD1
Station Range: Start: 10+00.00, End: 14+01.54
Description:
****

Begin ROAD1
N 777,513.6758 E 2,163,537.3397 10+00.00

Line (1)
S78° 25' 03.43"E 81.989'
N 777,497.2142 E 2,163,617.6597 10+81.99
Line (1)

Curve (2)
BC N 777,497.2142 E 2,163,617.6597 10+81.99
CTR N 778,476.8513 E 2,163,818.4364
PI N 777,481.6558 E 2,163,693.5729

Direction Back S78° 25' 03.43"E
Radius 1,000.000'
Delta 8°51'44"(LT)
Length 154.673'
Tangent 77.491'
Chord Direction S82° 50' 55.26"E Distance 154.519'
Direction Ahead S87° 16' 47.09"E

EC N 777,477.9781 E 2,163,770.9768 12+36.66
Curve (2)

Line (3)
S87° 16' 47.09"E 164.875'
N 777,470.1532 E 2,163,935.6661 14+01.54
Line (3)

N 777,470.1532 E 2,163,935.6661 14+01.54
End ROAD1

****
Alignment Length: 401.538'
****

****
Alignment Name: ROAD2
Station Range: Start: 10+00.00, End: 12+17.61
Description:
****

Begin ROAD2
N 777,413.3649 E 2,165,702.1990 10+00.00

Line (1)
N43° 55' 39.13"W 217.614'
N 777,570.0941 E 2,165,551.2300 12+17.61
Line (1)

N 777,570.0941 E 2,165,551.2300 12+17.61
End ROAD2

****
Alignment Length: 217.614'
****

NCDOT GENERAL NOTES: 2018 SPECIFICATIONS
EFFECTIVE: 07-27-2021
REVISED:

GRADE LINE:
GRADING AND SURFACING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

GRADING AND SURFACING OR RESURFACING AND WIDENING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

GRADING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED OR FUTURE SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

SURFACING:

THE ROUGH GRADING AND STRUCTURES ON THIS PROJECT HAVE BEEN DONE OR ARE NOW BEING DONE UNDER A PREVIOUS CONTRACT. THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

SIDE ROADS:

THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

UNDERDRAINS:

UNDERDRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.03 AT LOCATIONS DIRECTED BY THE ENGINEER.

DRIVEWAYS:

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.03 AT LOCATIONS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.

STREET TURNOUT:

STREET RETURNS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 848.04 USING THE RADII NOTED ON PLANS.

SUBSURFACE PLANS:

NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

CURB RAMPS

CURB RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS. CONSTRUCT ALL CURB RAMPS ACCORDANCE WITH STD 848.05 and/or 848.06.

EFF. 07-27-2021
REV.
2018 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2018 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.02	Method of Clearing - Method II
DIVISION 8 - INCIDENTALS	
815.03	Pipe Underdrain and Blind Drain
816.01	Concrete Pads - for Shoulder Drain Installation
838.01	Concrete Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew
840.02	Concrete Catch Basin - 12" thru 54" Pipe
840.03	Frame, Grates and Hood - for Use on Standard Catch Basin
840.14	Concrete Drop Inlet - 12" thru 30" Pipe
840.16	Drop Inlet Frame and Grates - for use with Std. Dwg 840.14 and 840.15
846.01	Concrete Curb, Gutter and Curb & Gutter
848.01	Concrete Sidewalk
848.03	Driveway Turnout - Drop Curb Type
848.04	Street Turnout
848.05	Curb Ramp - Proposed Curb & Gutter
876.02	Guide for Rip Rap at Pipe Outlets

EXISTING CONDITIONS

IPF - IRON PIPE FOUND
IRF - IRON ROD FOUND
IPS - IRON PIPE SET
PT - CALCULATED POINT
CM - CONCRETE MONUMENT
FIRE HYDRANT
ELECTRIC BOX
TELEPHONE PEDESTAL
CABLE TV PEDESTAL
POWER POLE < GUY
LIGHT POLE
YARD LIGHT
WELL
R / W - RIGHT-OF-WAY
P / L - PROPERTY LINE
C / L - CENTERLINE
NTS - NOT TO SCALE
CB - CATCH BASIN
GI - GRATE INLET
YI - YARD INLET
CI - CURB INLET
EP - EDGE OF PAVING
TBC - TOP BACK OF CURB
DB - DEED BOOK
PB - PLAT BOOK PG - PAGE
SF - SQUARE FEET
(T) - INDICATES POINTS SET BY TIMMONS GROUP IN 2009
- CALCULATED POINT UNLESS OTHERWISE NOTED
MAILBOX
MH GREASE
BOLLARD
MH STORM SEWER
MH SANITARY SEWER
MH ELECTRIC
MH TELEPHONE
MH WATER
SPRINKLER BOX
ELECTRIC METER
CLEAN OUT
WATER METER
WATER VALVE
ROOF DRAIN
TRAFFIC SIGNAL POLE
SIGN
SPRINKLER HEAD
SPRINKLER VALVE
GAS METER
GAS VALVE
FLAG POLE
GROUND LAMP
BRICK CONCRETE
STORM LINE
SANITARY LINE
FENCE
OVERHEAD POWER LINE
PAINTED GAS LINE
PAINTED POWER LINE
PAINTED TELEPHONE LINE
PAINTED WATER LINE
EDGE OF SHRUBBERY
EDGE OF WOODS
RCP - REINFORCED CONCRETE PIPE
CMP - CORRUGATED METAL PIPE
CPP - CORRUGATED PLASTIC PIPE
DIP - DUCTILE IRON PIPE
VCP - VITRIFIED CLAY PIPE
HDPE - HIGH DENSITY POLYETHYLENE PIPE
HVAC - HEATING, VENTILATION AND AIR CONDITIONING
C A - CONTROLLED ACCESS

NORTH CAROLINA PROFESSIONAL SEAL 049206 ENGINEER BRIAN PATRICK WELCH
07-21-22

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5410 Trinity Rd, Suite 102 Raleigh, NC 27607
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

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REVISION DESCRIPTION	DATE

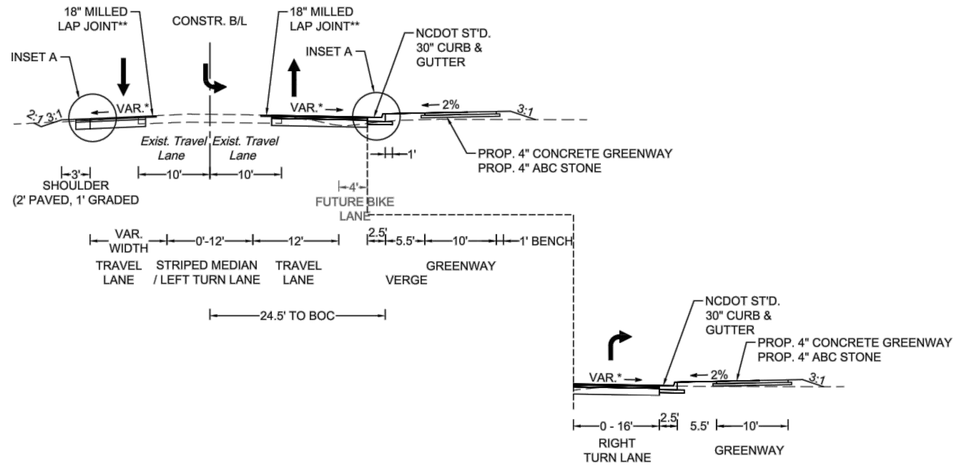
TIMMONS GROUP

WHEELER TRACT - OFFSITE IMPROVEMENTS
ROLESVILLE - WAKE COUNTY, NORTH CAROLINA
GENERAL NOTES, DETAILS & CONVENTIONAL SYMBOLS

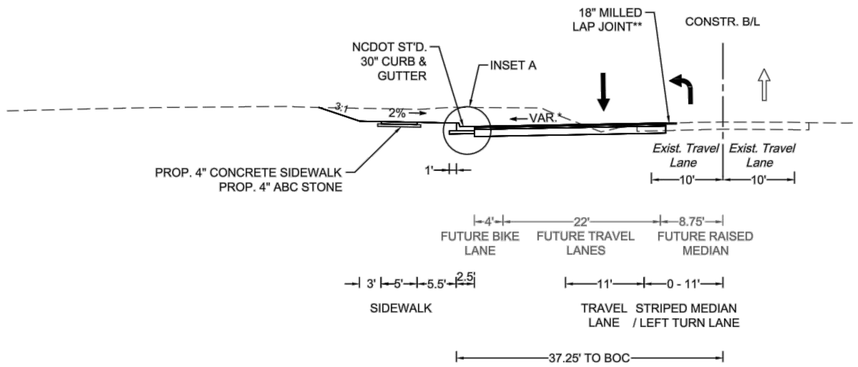
DATE: 07/21/22
DRAWN BY: BPW
DESIGNED BY: BPW
CHECKED BY: BPW
SCALE: ----
JOB NO.: 43398
SHEET NO.: R2.00

TYPICAL SECTIONS

ROLESVILLE ROAD
PROPOSED TYPICAL SECTION
STA. 102+70 TO 110+00

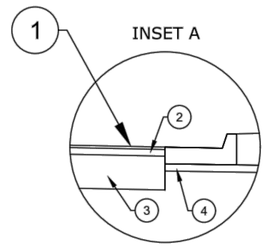


MITCHELL MILL ROAD
PROPOSED TYPICAL SECTION
STA. 203+00 TO 220+75



* OR AS CONTROLLED BY SUPERELEVATION, SEE CROSS SECTIONS FOR FURTHER DETAILS

** SAW CUT 18" INTO EXISTING PAVEMENT TO KEY-IN PAVEMENT WIDENING AREAS. MATCH AND REPLACE EXISTING.



1. 3" ASPHALT CONCRETE SURFACE COURSE (NCDOT S9.5C)
2. 4" ASPHALT INTERMEDIATE COURSE (NCDOT I19.0C)
3. 10" AGGREGATE BASE MATERIAL (NCDOT ABC STONE)
   * USE 5" DEPTH ASPHALT CONCRETE BASE COURSE (NCDOT B25.0C) IF WIDENING < 6'
4. 4" AGGREGATE BASE MATERIAL (NCDOT ABC STONE)

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FINAL PLANS
NOT RELEASED FOR CONSTRUCTION

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049206 07-21-22 REGISTERED BRIAN PATRICK WELCH

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REVISION DESCRIPTION | DATE

DATE: 07/21/22
DRAWN BY: BPW
DESIGNED BY: BPW
CHECKED BY: BPW
SCALE: AS NOTED

TIMMONS GROUP

WHEELER TRACT - OFFSITE IMPROVEMENTS
ROLESVILLE - WAKE COUNTY, NORTH CAROLINA
TYPICAL SECTIONS

JOB NO. 43398
SHEET NO. R2.01

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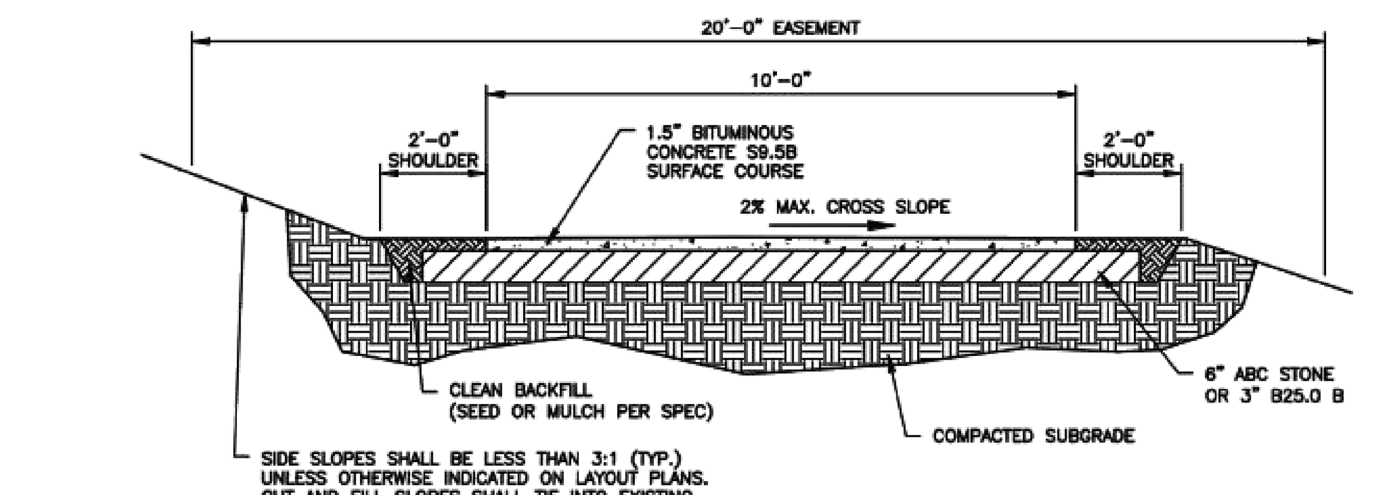


20'-0" EASEMENT
10'-0"
2'-0" SHOULDER
1.5" BITUMINOUS CONCRETE S9.5B SURFACE COURSE
2'-0" SHOULDER
2% MAX. CROSS SLOPE
CLEAN BACKFILL (SEED OR MULCH PER SPEC)
6" ABC STONE OR 3" B25.0 B
COMPACTED SUBGRADE
SIDE SLOPES SHALL BE LESS THAN 3:1 (TYP.) UNLESS OTHERWISE INDICATED ON LAYOUT PLANS. CUT AND FILL SLOPES SHALL TIE INTO EXISTING SLOPES TO CREATE AN EVEN TRANSITION.

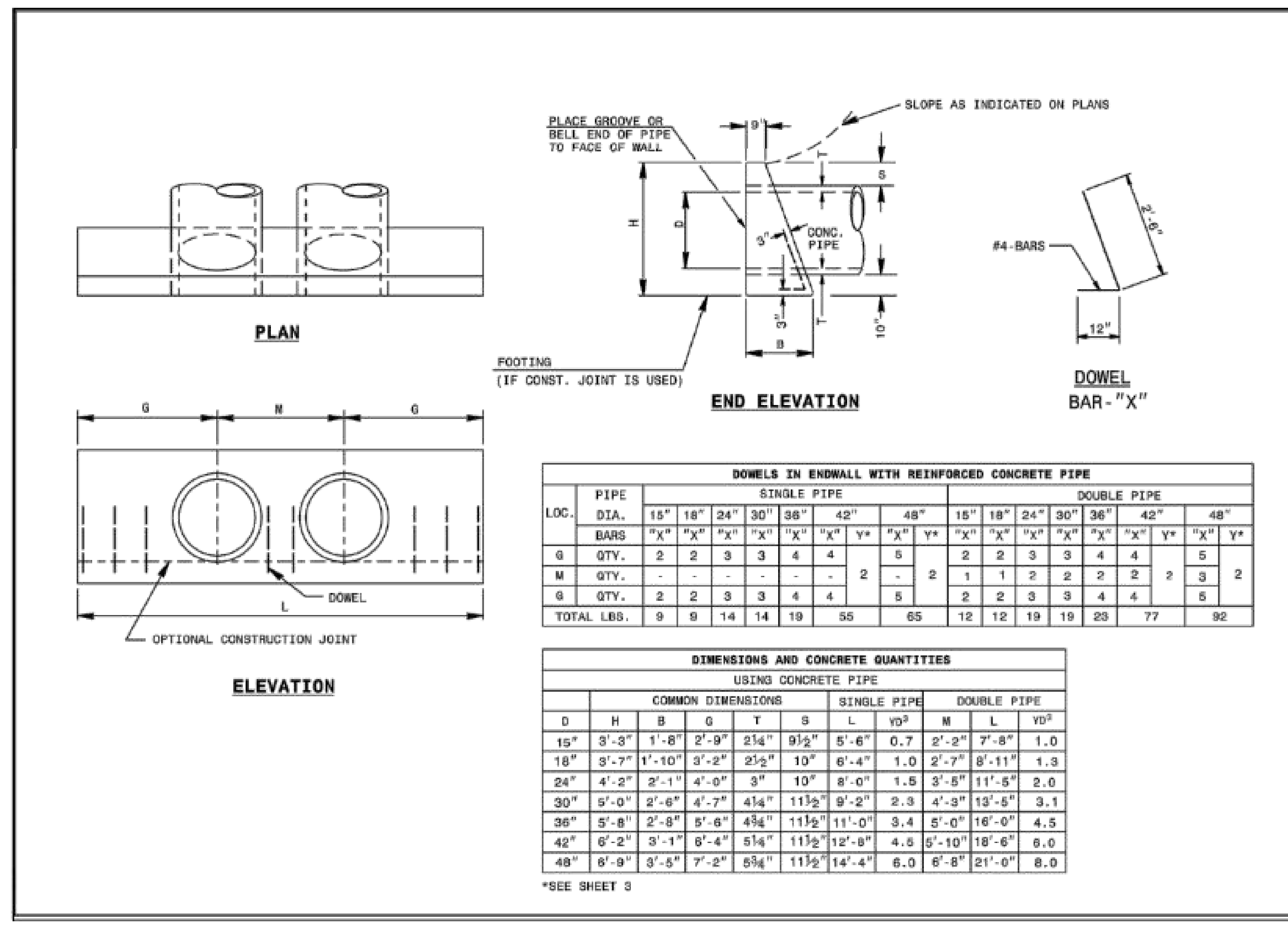
NOTES:

1. CROSS SLOPE DIRECTION VARIES. SEE LAYOUT PLANS FOR DIRECTION OF SLOPE.
2. CONTRACTOR IS RESPONSIBLE FOR RE-ESTABLISHING ALL SLOPES DISTURBED BY CONSTRUCTION.
3. SEE DETAIL 080.13 FOR AREAS WHERE GROUNDWATER IS PRESENT.
4. IF NATURAL DRAINAGE CROSSES TRAIL IN AN EROSIVE MANNER, ADDITIONAL MEASURES SHALL BE REQUIRED TO PASS WATER ACROSS GREENWAY.
5. 20 FT EASEMENT SHALL BE CLEARED OF ALL VEGETATION AND SEEDED APPROPRIATELY.
6. VERTICAL CLEARANCE OF 8' FROM GREENWAY SURFACE TO LOWEST VEGETATION SHALL BE REQUIRED. SELECT REMOVAL OF VEGETATION THAT POSES MAINTENANCE ISSUES MAY BE REQUIRED.

DRAWING NOT TO SCALE

EFFECTIVE: DECEMBER 30, 2016

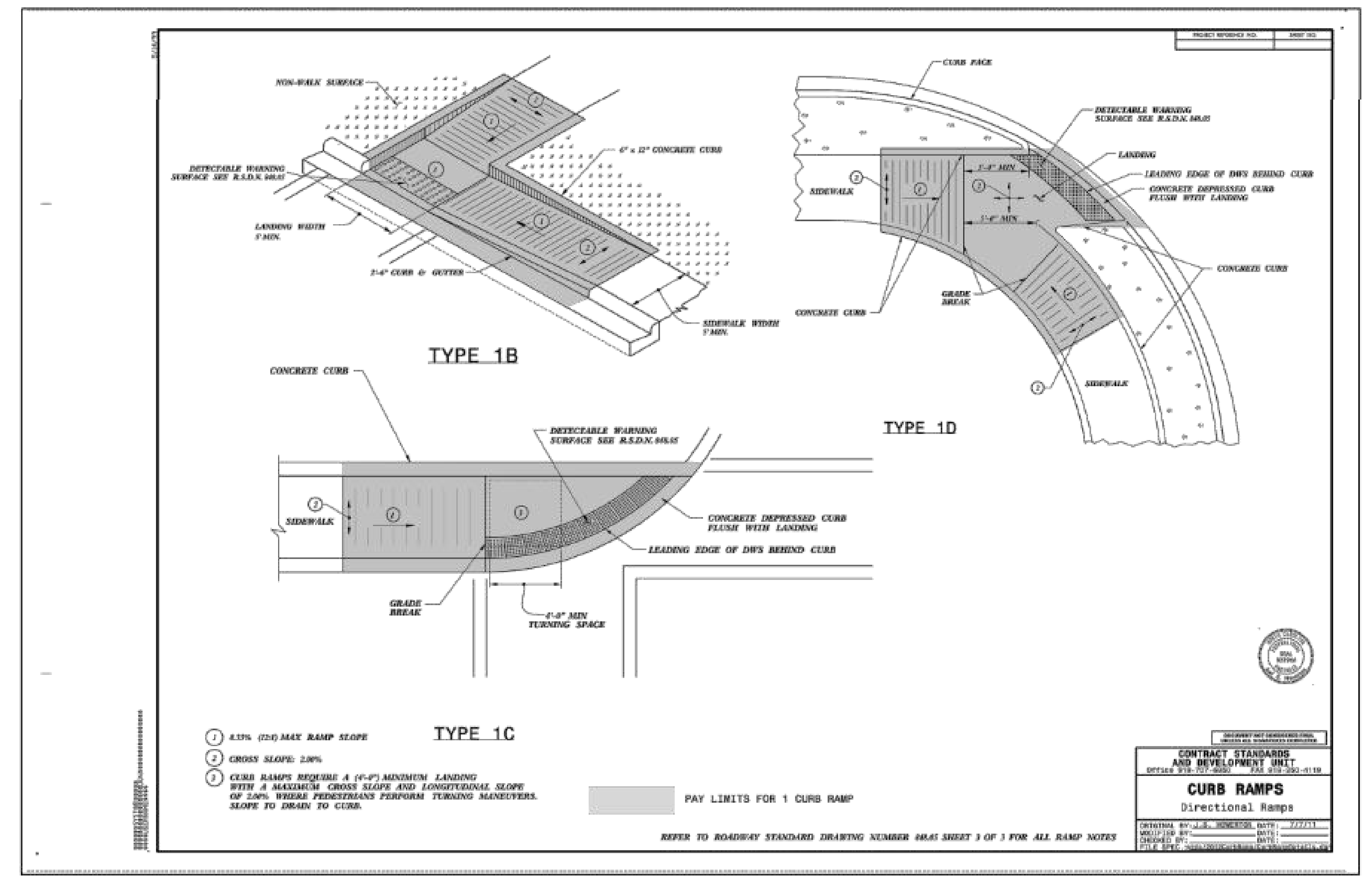
FUQUAY-VARINA north carolina | TOWN OF FUQUAY-VARINA STANDARD DETAILS | 10 FT ASPHALT GREENWAY TRAIL | DETAIL No. 080.12 SHEET 01 of 01

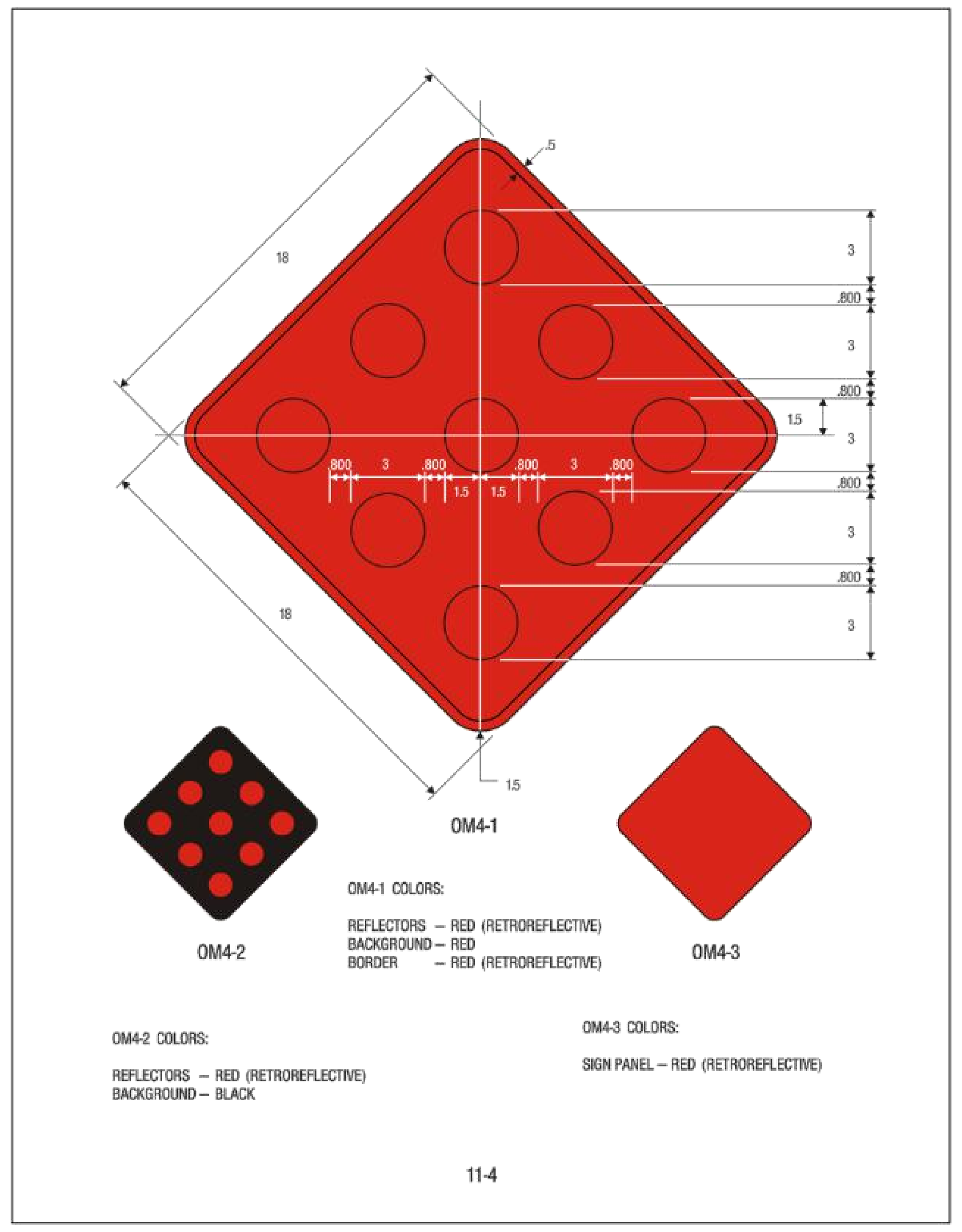


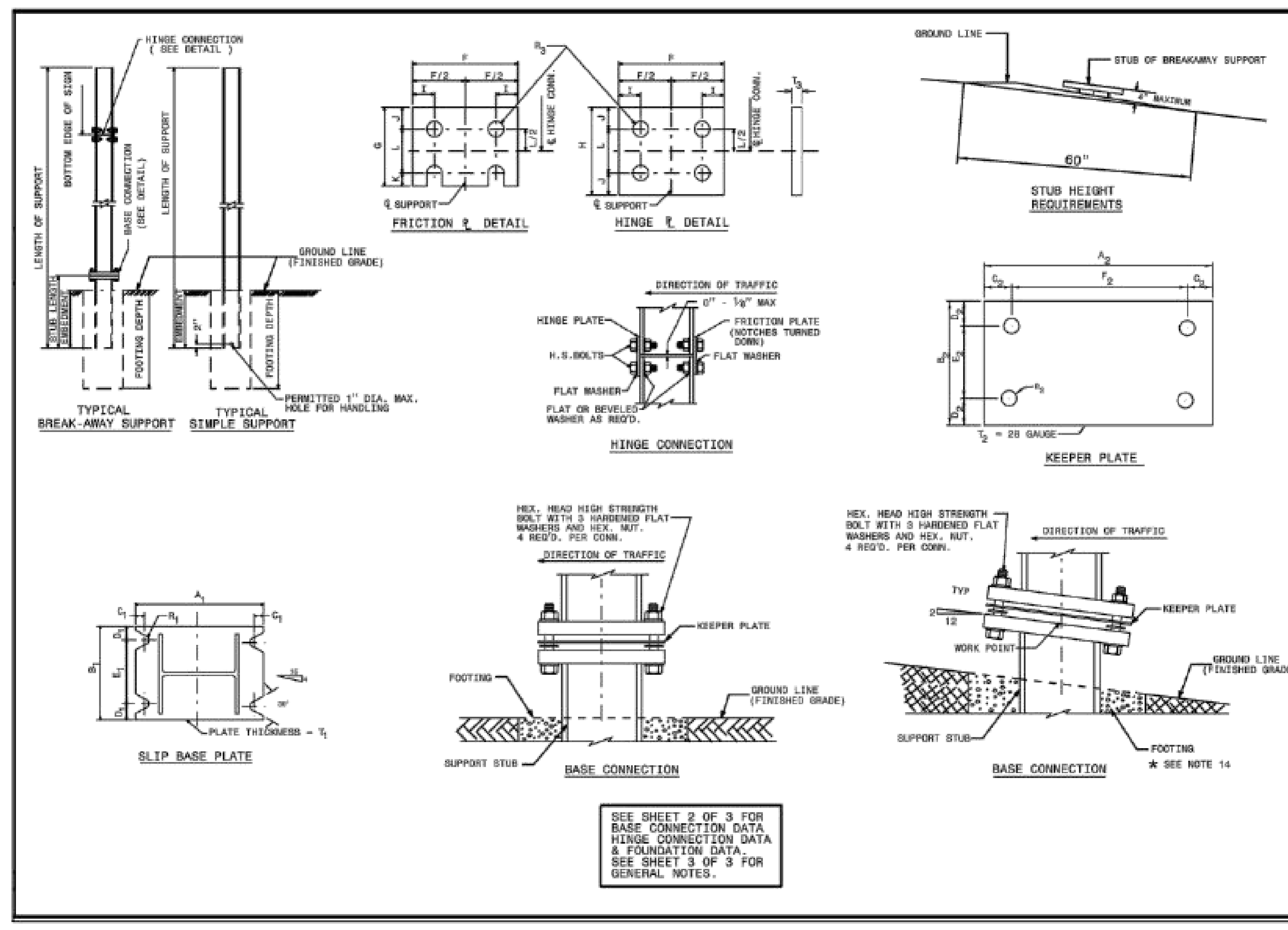
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR CONCRETE ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS 15" THRU 48" PIPE - 90° SKEW

SHEET 1 OF 3 838.01





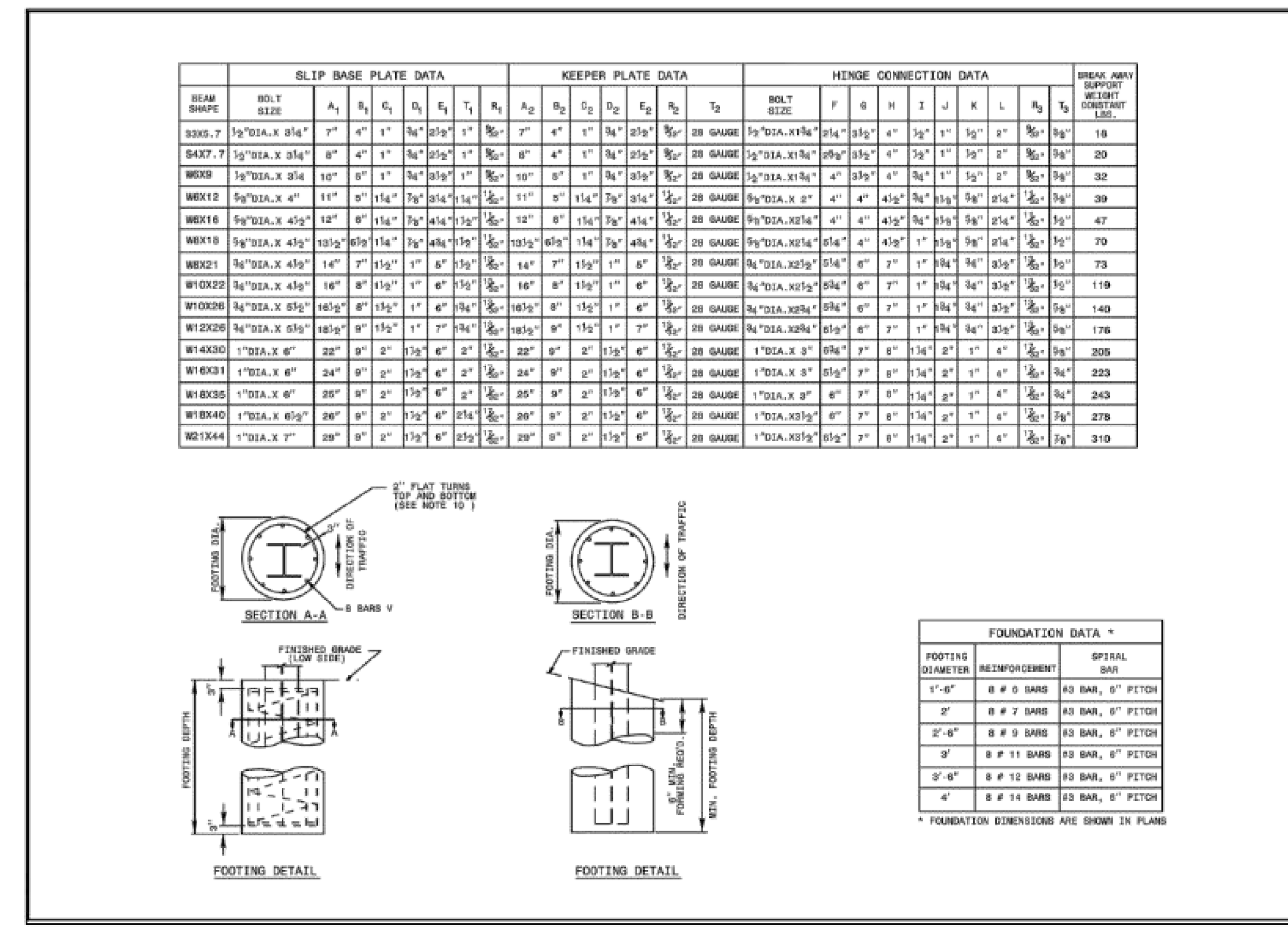


TYPICAL BREAK-AWAY SUPPORT
TYPICAL SIMPLE SUPPORT
FRICTION PLATE DETAIL
HINGE PLATE DETAIL
STUB HEIGHT REQUIREMENTS
HINGE CONNECTION
KEEPER PLATE
SLIP BASE PLATE
BASE CONNECTION
SEE SHEET 2 OF 3 FOR BASE CONNECTION DATA HINGE CONNECTION DATA & FOUNDATION DATA. SEE SHEET 3 OF 3 FOR GENERAL NOTES.

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

ENGLISH STANDARD DRAWING FOR GROUND MOUNTED SIGN SUPPORTS

SHEET 1 OF 3 903.10



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

ENGLISH STANDARD DRAWING FOR GROUND MOUNTED SIGN SUPPORTS

SHEET 2 OF 3 903.10

NOTES:

1. DESIGN CONFORMS WITH THE SPECIFICATIONS FOR THE DESIGN AND CONSTRUCTION OF STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS - AASHTO.
2. USE MATERIALS, FABRICATE AND ERECT SIGNS AND SUPPORTS THAT CONFORM TO THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.
3. USE HIGH STRENGTH BOLTS, NUTS AND WASHERS THAT CONFORM TO ASTM A-325 AND THAT ARE GALVANIZED IN ACCORDANCE WITH ASTM F2329 OR B695 CLASS 55.
4. USE BACKING PLATES, SLIP BASE PLATES, FRICTION PLATES, AND HINGE PLATES THAT CONFORM TO ASTM A-36 AND THAT ARE GALVANIZED IN ACCORDANCE WITH ASTM A-123 PRIOR TO GALVANIZING, GRIND SMOOTH ANY METAL PROJECTION BEYOND THE PLATE FACE. KEEPER PLATES SHALL BE MANUFACTURED FROM 28 GAUGE SHEET STEEL THAT CONFORMS TO ASTM A-36 AND IS GALVANIZED IN ACCORDANCE WITH ASTM A-123
5. ASSEMBLE HINGE CONNECTIONS IN THE SHOP. THE SHOP SHALL TIGHTEN BOLTS BY USE OF EITHER A CALIBRATED POWER WRENCH OR A MANUAL TORQUE WRENCH. TIGHTEN EACH HINGE CONNECTION BOLT TO 1/3 PAST SNUG.
6. BASE PLATES DETAILS ARE FOR INSTALLATIONS ON THE RIGHT SHOULDER AND IN GORE AREAS.
7. ASSEMBLE UPPER SUPPORT TO STUB AS SHOWN IN DETAIL. SLIP BASE PLATES SHALL BE FILLET WELDED ONTO POSTS ALL AROUND THE STRUCTURAL SHAPE SO AS TO INSURE NO LOSS OF STRENGTH. ASSEMBLE IN EITHER SHOP OR FIELD. 28 GAUGE KEEPER PLATE IS PLACED BETWEEN SLIP BASE PLATES TO PREVENT BOLT SLIPPING. TIGHTEN BOLTS TO THE FOLLOWING PRESCRIBED TORQUE:

BOLT DIAMETER	TORQUE (LB. FT.)
1/2"	9
5/8"	22
3/8"	37
1"	48

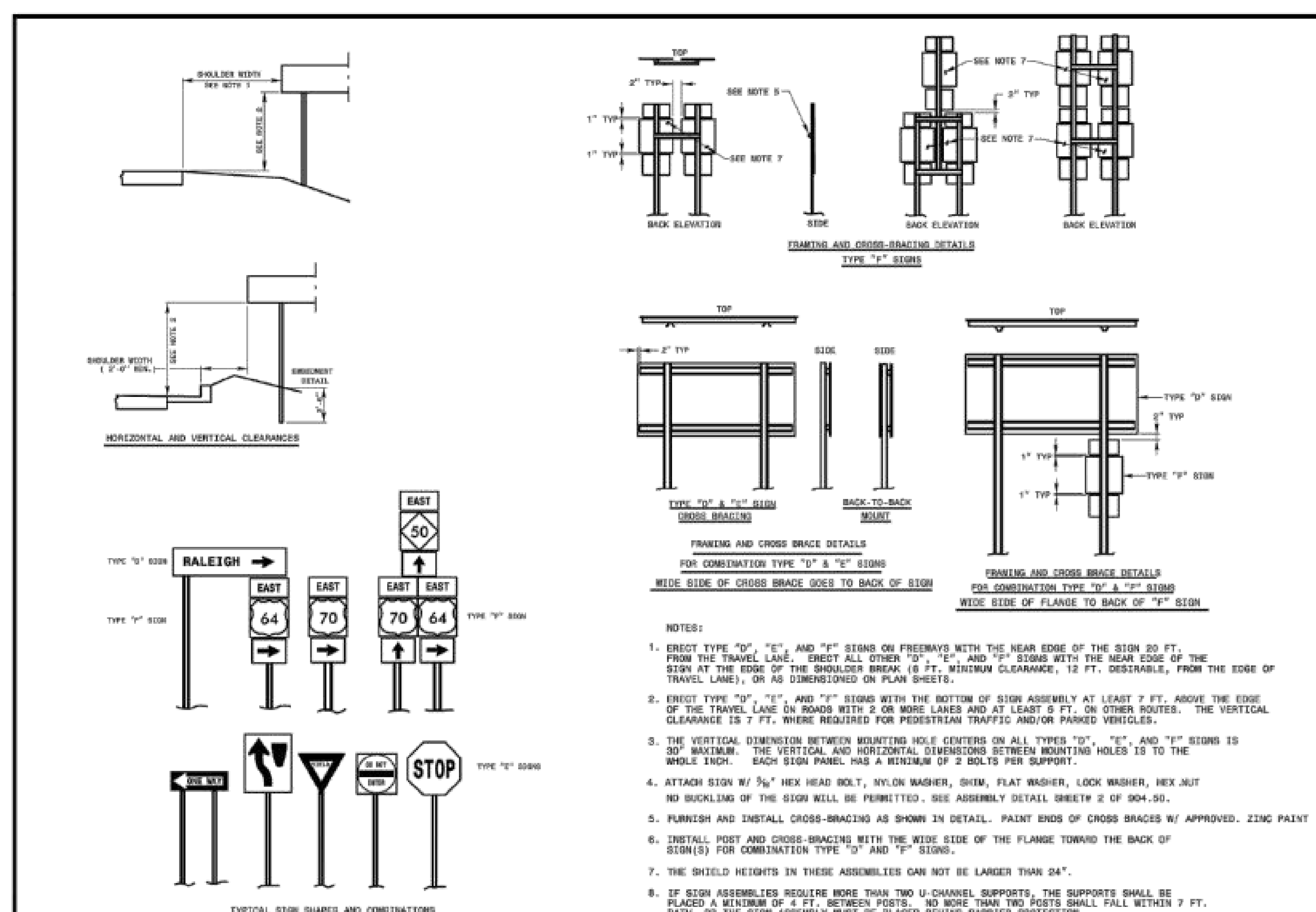
COMPLETELY ASSEMBLE B/A POSTS PRIOR TO ERECTION. B/A POST TO BE SET IN ONE PIECE. AFTER SUPPORT HAS BEEN ERECTED AND THE CONCRETE FOOTINGS HAS CURED AT LEAST 48 HR'S., CLEAN CONCRETE FROM BASE CONNECTION BOLTS THEN LOOSEN AND RE TIGHTEN EACH BOLT IN A SYSTEMATIC ORDER TO THE PRESCRIBED TORQUE. DO NOT OVER TIGHTEN. BURR ALL BOLT THREADS OF BASE CONNECTIONS TO PREVENT LOOSENING.

8. USE REINFORCED FOOTINGS WITH DIMENSIONS AS SHOWN IN PLANS. WHERE SOLID ROCK IS ENCOUNTERED, THE ENGINEER DIRECTS WHETHER TO PLACE THE FOOTING AT THE PRESCRIBED DEPTH OR EXTEND IT AT LEAST TWO FEET INTO THE ROCK. CONSTRUCT ALL FOOTINGS OF CLASS A CONCRETE.
9. FORM TOP 6" OF FOOTINGS. ENGINEER APPROVES THE METHOD USED.
10. THE FINAL FLAT TURN OF SPIRAL OR HOOPS NO. 3 OR LARGER PLACED 3" FROM TOP AND BOTTOM OF FOOTING MAY BE WELDED TO VERTICAL REINFORCING BARS. NO OTHER WELDING WILL BE PERMITTED.
11. ELIMINATE HINGE CONNECTION FOR ALL SINGLE SUPPORT SIGNS.
12. DETAIL IS FOR ONE DIRECTION BREAKAWAY. WHEN PLANS REQUIRE A TWO DIRECTION BREAKAWAY, TWO FRICTION PLATES SHALL BE USED IN LIEU OF ONE FRICTION PLATE AND ONE HINGE PLATE.
13. SHAPE THE TOPS OF THE FOOTINGS TO CONFORM WITH FINISHED GROUND ELEVATIONS SUCH THAT WATER WILL NOT COLLECT AGAINST THE SUPPORTS.
14. IF THE GROUNDWATER IS ENCOUNTERED AT AN DEPTH SHALLOWER THAN 7 FEET, THE SIGN FOUNDATION MUST BE REDESIGNED BASED UPON THE ACTUAL FIELD CONDITIONS. THE FOUNDATION DESIGN DOES NOT APPLY TO VERY SOFT OR LOOSE SOIL, MUCK, WEATHERED ROCK, OR HARD ROCK.

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

ROADWAY STANDARD DRAWING FOR GROUND MOUNTED SIGN SUPPORTS

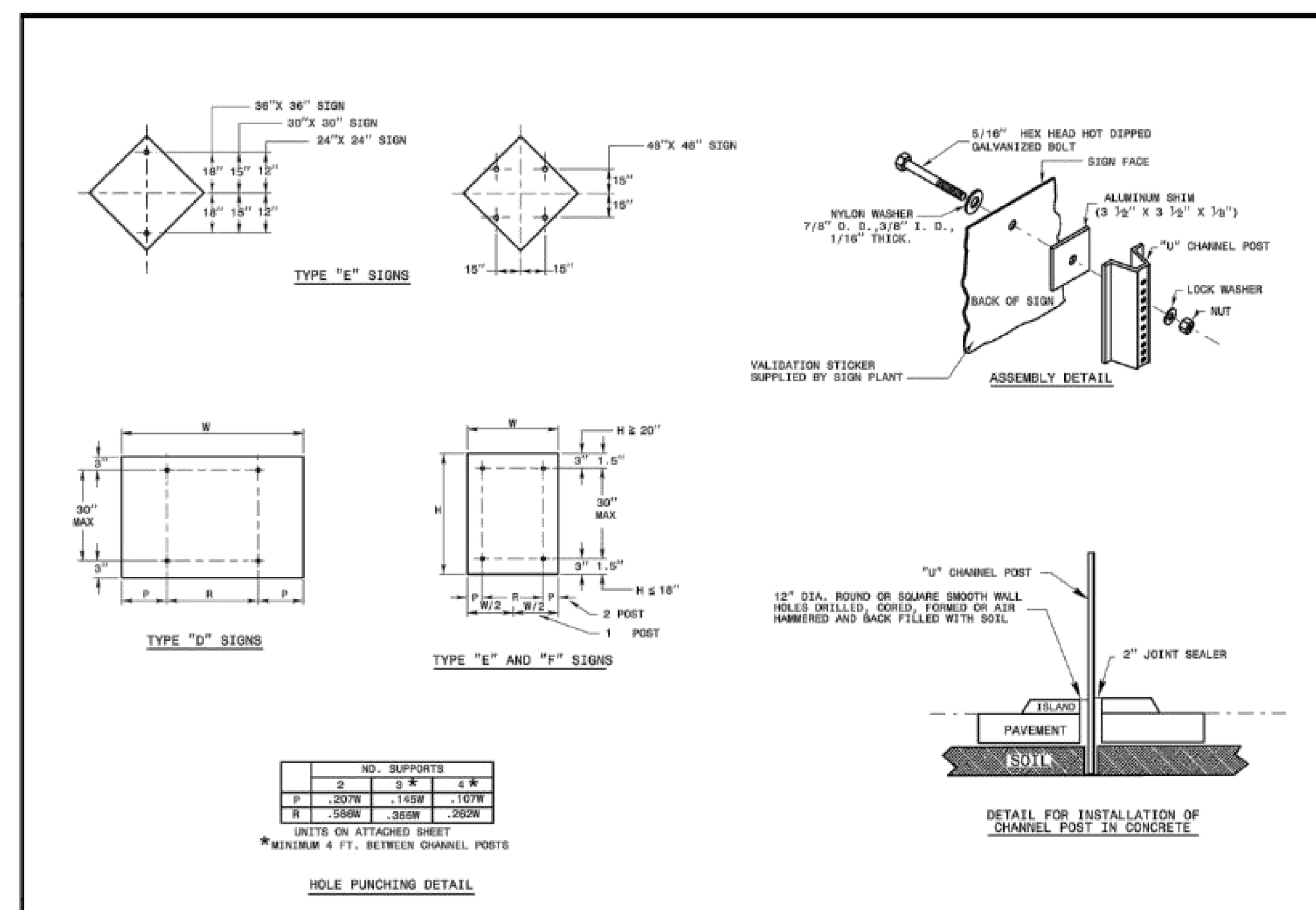
SHEET 3 OF 3 903.10



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

ENGLISH STANDARD DRAWING FOR MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS

SHEET 1 OF 2 904.50



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

ENGLISH STANDARD DRAWING FOR MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS

SHEET 2 OF 2 904.50

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049206 07-21-22 BRIAN PATRICK WELCH

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TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

DATE	REVISION DESCRIPTION

TIMMONS GROUP

DATE 07/21/22
DRAWN BY BPW
DESIGNED BY BPW
CHECKED BY BPW
SCALE N.T.S.

WHEELER TRACT - OFFSITE IMPROVEMENTS
ROLESVILLE - WAKE COUNTY STATE - NORTH CAROLINA
STANDARD DETAILS

JOB NO. 43398
SHEET NO. R2.02

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

FINAL PLANS

NOT RELEASED FOR CONSTRUCTION

NORTH CAROLINA PROFESSIONAL SEAL 049206 ENGINEER BRIAN PATRICK WELCH 07-21-22

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REVISION DESCRIPTION

DATE

NAD 83

SCALE 1"=50'
0 50' 100'

RVRD CONST. BASELINE

BEGIN CONSTR.
STA. 101+92.07

END CONSTR.
STA. 110+01.41

BP

PI

EP

PC

ROAD1 CONST. BASELINE

N11° 58' 11.82"E

N11° 32' 42.39"E

ROLESVILLE ROAD - S.R. 1003
60' PUBLIC R/W

Approx. Location of Exist. ROW

EXIST CONDITIONS

LEGEND:
- DEMOLITION OF EX. PAVEMENT
- NEW PAVEMENT
- CONCRETE SIDEWALK

ROAD IMPROVEMENTS DESIGNED BY OTHERS

EXISTING 24" CROSSING PIPE TO BE REPLACED BY PROPOSED 30" PIPE DESIGNED BY OTHERS

PRIVATE ENTRANCE #1

PRIVATE ENTRANCE #2

3' PROP. SHOULDER (2' PAVED, 1' GRADED)

2' PROP. SHOULDER (1' PAVED, 1' GRADED)

REMOVE EXIST. CULVERT

PROP. NCDOT ST'D 24" CURB & GUTTER

PROP. NCDOT ST'D CURB RAMP

5' PROP. SIDEWALK

10' PROP. CONCRETE GREENWAY

PROP. PIPE UNDERDRAIN NCDOT ST'D 815.03

PLAN

RECEIVING CURB RAMP AND SIDEWALK ON SOUTHBOUND ROLESVILLE RD TO BE INSTALLED AT THE SAME TIME BY OTHERS BASED ON PROPOSED KALAS FALLS IMPROVEMENTS

100' LTL STORAGE

150' LTL DECELERATION

450'

250'

PROP. W11-2 36"x36" PROP. W16-7PL 24"x12"

PROP. W11-2 36"x36" PROP. W16-9P 24"x12"

100' RTL TAPER

100' RTL STORAGE

PROP. R1-1 30"x30"

R RELOCATE EXISTING SIGN PANEL ONTO NEW SIGN ASSEMBLY PER NCDOT STANDARDS. REMOVE AND DISPOSE OF EXISTING ASSEMBLY.

PAVEMENT MARKING LEGEND:

(XX)

- T2 - WHITE STOPEBAR (24", 120 MIL)
- T8 - 2 FT. - 6 FT./SP WHITE MINISKIP (4", 120 MIL)
- TA - WHITE EDGELINE (4", 90 MIL)
- TE - WHITE SOLID LANE LINE (4", 90 MIL)
- TI - YELLOW DOUBLE CENTER (4", 120 MIL)
- TU - WHITE DIAGONAL (12", 90 MIL)
- UA - LEFT TURN ARROW (90 MIL)
- UB - RIGHT TURN ARROW (90 MIL)
- T4 - 3FT. - 9FT./SP WHITE MINISKIP (4" 90 MIL)
- TV - YELLOW DIAGONAL (12", 90 MIL)
- TH - YELLOW SINGLE CENTER (4", 120 MIL)
- TF - 10 FT. YELLOW SKIP (4", 120 MIL)
- T62 - WHITE CROSSWALK LINE (24", 90 MIL)
- T102 - 12" YIELD LINE TRIANGLE (90 MIL)

STRIPING

TIMMONS GROUP

WHEELER TRACT - OFFSITE IMPROVEMENTS

ROLESVILLE - WAKE COUNTY - NORTH CAROLINA

EXISTING CONDITIONS & PLAN & STRIPING SHEET

DATE	07/21/22
DRAWN BY	BPW
DESIGNED BY	BPW
CHECKED BY	BPW
SCALE	1" = 50'
JOB NO.	43398
SHEET NO.	R3.01

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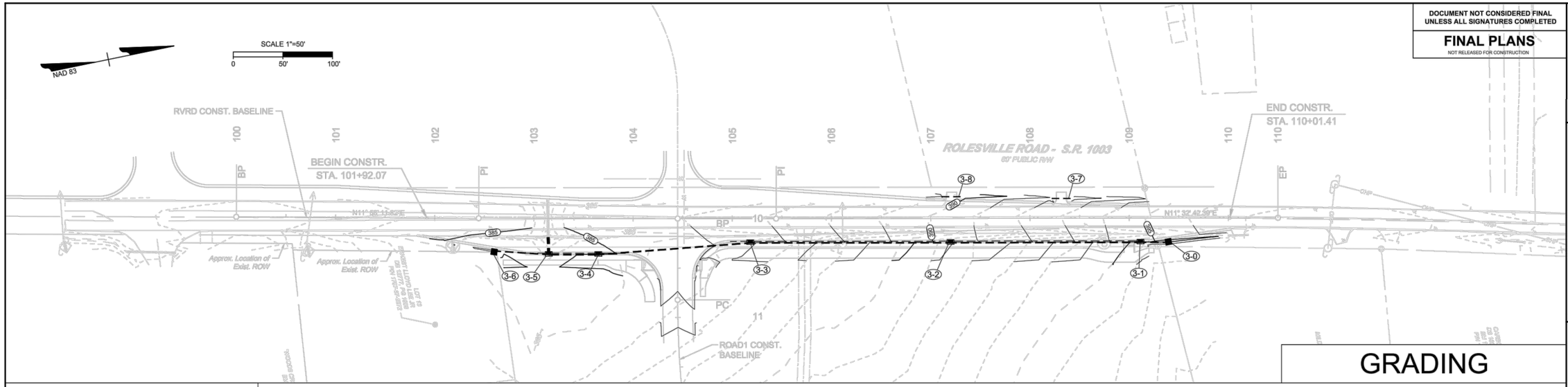


DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

FINAL PLANS

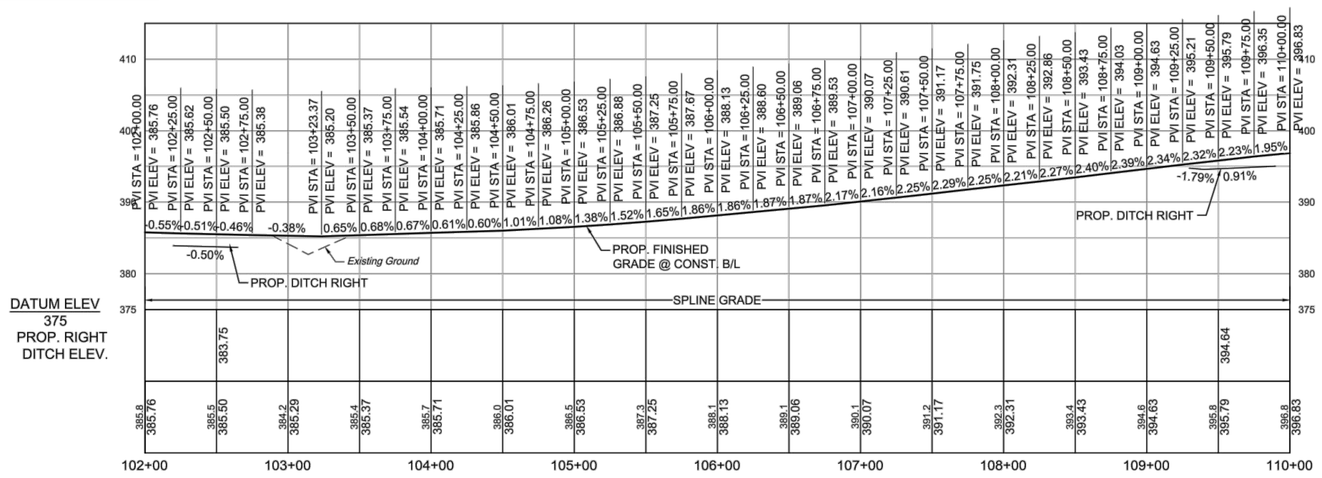
NOT RELEASED FOR CONSTRUCTION

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049206 07-21-22 REGISTERED ENGINEERING BRIAN PATRICK WELCH

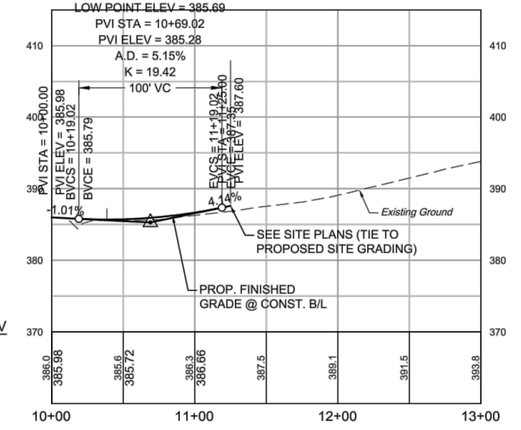
GRADING

PROFILE

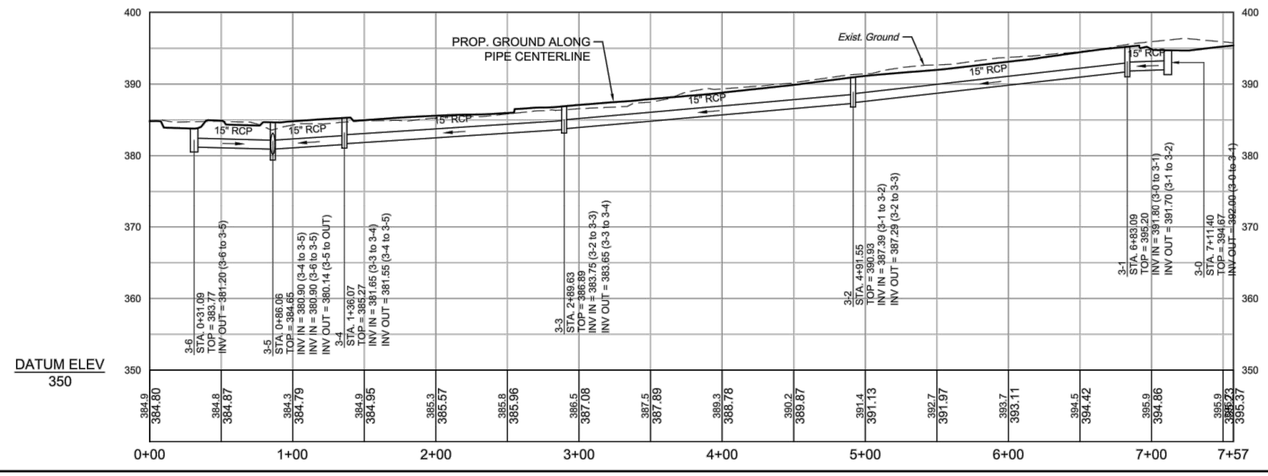
RVRD



ROAD1



STM ROLESVILLE RD



STORM STRUCTURE TABLE
STM Rolesville Road

STR. #	TOP	INV. IN	INV. OUT	DESCRIPTION
3-6	383.77'		381.20' (15" RCP TO 3-5)	NCDOT 840.14 CONCRETE DI
3-5	384.65'	380.90' (15" RCP FROM 3-4) 380.90' (15" RCP FROM 3-6)	380.14' (36" RCP TO OUT)	NCDOT 840.02 CONCRETE CB
3-4	385.27'	381.65' (15" RCP FROM 3-3)	381.55' (15" RCP TO 3-5)	NCDOT 840.02 CONCRETE CB
3-3	386.89'	383.75' (15" RCP FROM 3-2)	383.65' (15" RCP TO 3-4)	NCDOT 840.02 CONCRETE CB
3-2	390.93'	387.39' (15" RCP FROM 3-1)	387.29' (15" RCP TO 3-3)	NCDOT 840.02 CONCRETE CB
3-0	394.67'		392.00' (15" RCP TO 3-1)	NCDOT 840.14 CONCRETE DI
3-1	395.20'	391.80' (15" RCP FROM 3-0)	391.70' (15" RCP TO 3-2)	NCDOT 840.02 CONCRETE CB

STORM PIPE TABLE
STM Rolesville Road

FROM - TO	UPSTREAM INVERT	DOWNSTREAM INVERT	SLOPE	LENGTH	DIA.	MATERIAL	DESCRIPTION
3-0 - 3-1	392.00'	391.80'	0.71%	28.30 LF	15"	RCP	CLASS III
3-1 - 3-2	391.70'	387.39'	2.25%	191.54 LF	15"	RCP	CLASS III
3-2 - 3-3	387.29'	383.75'	1.75%	201.92 LF	15"	RCP	CLASS III
3-3 - 3-4	383.65'	381.65'	1.30%	153.56 LF	15"	RCP	CLASS III
3-4 - 3-5	381.55'	380.90'	1.30%	50.00 LF	15"	RCP	CLASS III
3-6 - 3-5	381.20'	380.90'	0.55%	54.98 LF	15"	RCP	CLASS III
OUT - 3-5	379.98'	380.14'	0.29%	55.64 LF	36"	RCP	EXIST. PIPE

PROFILE

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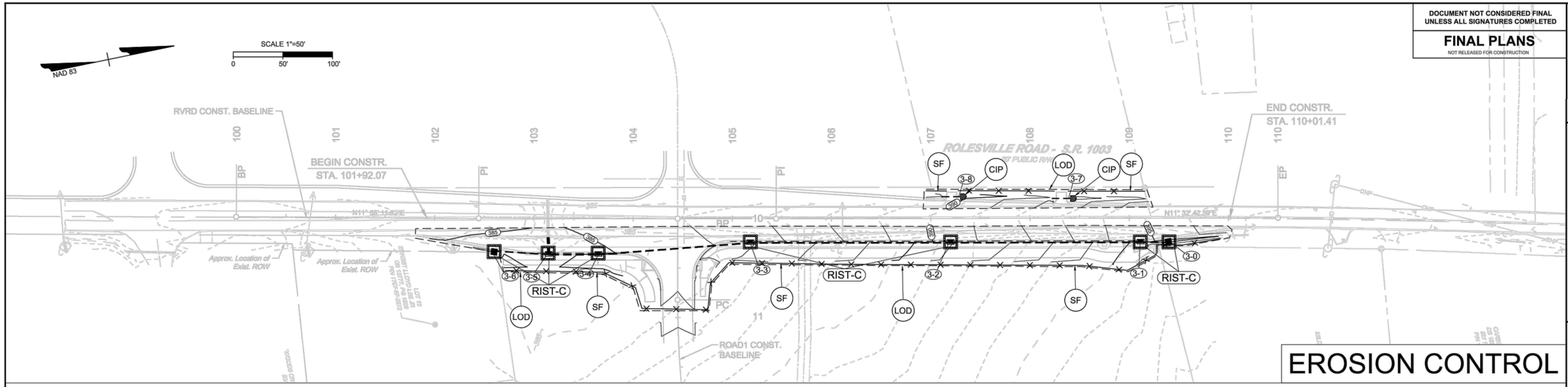
DATE	REVISION DESCRIPTION

DATE 07/21/22
DRAWN BY BPW
DESIGNED BY BPW
CHECKED BY BPW
SCALE 1" = 50'

TIMMONS GROUP

WHEELER TRACT - OFFSITE IMPROVEMENTS
ROLESVILLE - WAKE COUNTY - NORTH CAROLINA
GRADING & PROFILE SHEET

JOB NO. 43398
SHEET NO. R3.02



EROSION CONTROL

EROSION CONTROL NOTES & DETAILS

PROJECT DESCRIPTION

THE PURPOSE OF THIS PROJECT IS TO WIDEN ROLESVILLE ROAD AND MITCHELL MILL ROAD TO THE ONE-HALF THE ULTIMATE CROSS SECTION PER THE TOWN'S COMPREHENSIVE TRANSPORTATION PLAN. THESE IMPROVEMENTS SPAN FOR THE ENTIRE FRONTAGE SITE DEVELOPMENT PER TOWN UDO REQUIREMENTS. ADDITIONAL IMPROVEMENTS INCLUDE STRIPING AND DITCHES.

EROSION AND SEDIMENT CONTROL MEASURES:

UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION EROSION AND SEDIMENT CONTROL DESIGN AND CONSTRUCTION MANUAL. THE MINIMUM STANDARDS SET FORTH BY THIS MANUAL SHALL BE ADHERED TO UNLESS OTHERWISE WAIVED OR APPROVED BY A VARIANCE.

EROSION CONTROL SEQUENCE OF CONSTRUCTION

A SINGLE-PHASED EROSION CONTROL APPROACH IS PROVIDED BELOW TO DESCRIBE GENERAL MEASURES REQUIRED TO MAINTAIN THE SITE THROUGHOUT CONSTRUCTION. THE CONTRACTOR SHALL APPLY PHASE I AS DESCRIBED HEREIN TO THE VARIOUS WORK AREAS ASSOCIATED WITH THIS PROJECT. DUE TO THE NATURE OF WORK AREAS, THE CONTRACTOR SHALL ENSURE EROSION CONTROL MEASURES ARE PROVIDED AS DESCRIBED THROUGH PROJECT COMPLETION AND ACCEPTANCE.

PHASE I:

1. PROVIDE MINIMAL CLEARING TO INSTALL SILT FENCE AS SHOWN ON THE PLANS. INSTALL CULVERT PROTECTION AS REQUIRED FOR EXISTING PIPES. TAKE SPECIAL CARE TO KEEP SOIL BUILD-UP FROM ENTERING THE EXISTING ROAD PAVEMENT.
2. THE CONTRACTOR WILL NOTIFY THE INSPECTOR OF THE PERMITTED LOCATION EXCESS SOIL MATERIAL IS HAULED TO OR BORROW MATERIAL IS BROUGHT IN FROM.
3. CLEAR AND GRUB AS INDICATED IN THE PLANS. MAINTAIN ACCESS ALONG EXISTING ROADS AND TO EXISTING DRIVEWAYS AT ALL TIMES.
4. TEMPORARY GRADING AND SEEDING IS REQUIRED FOR ALL AREAS WHEN DIRECTED:
   - 4.1. WHEN IT IS IMPOSSIBLE OR IMPRACTICAL TO BRING AN AREA TO THE FINAL LINE, GRADE AND FINISH SO THAT PERMANENT SEEDING AND MULCHING OPERATIONS CAN BE PERFORMED WITHOUT SUBSEQUENT SERIOUS DISTURBANCE BY ADDITIONAL GRADING
   - 4.2. WHEN EROSION OCCURS OR IS CONSIDERED TO BE POTENTIALLY SUBSTANTIAL ON AREAS OF GRADED ROADBED WHERE CONSTRUCTION OPERATIONS ARE TEMPORARILY SUSPENDED OR WHEN THE GRADING OF THE ROADBED HAS BEEN COMPLETED SUBSTANTIALLY IN ADVANCE OF THE PAVING CONSTRUCTION
   - 4.3. DURING SEASONS OF THE YEAR WHEN PERMANENT SEEDING AND MULCHING IS PROHIBITED BY THE CONTRACT
   - 4.4. WHEN AN IMMEDIATE COVER WOULD BE DESIRABLE TO MINIMIZE EROSION, SILTATION OR POLLUTION ON ANY AREA
   - 4.5. 7/14-DAY SOIL STABILIZATION REQUIREMENTS APPLY TO ANY SECTION OF THE PROJECT WHERE LAND-DISTURBING ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED AND SHALL SUPERSEDE ANY LESS STRINGENT STABILIZATION REQUIREMENTS ON THE PLANS. [G.S. 143-215.1]
6. CONTRACTOR SHALL REMOVE AND REPLACE ANY DAMAGED EROSION CONTROL MEASURES UNTIL FINAL APPROVAL OF CONSTRUCTION.
7. THE SITE SHALL BE PERMANENTLY STABILIZED AFTER ALL GRADING HAS BEEN COMPLETED BY SEEDING ALL DISTURBED AREAS.
8. UPON CONSTRUCTION COMPLETION, THE CONTRACTOR MUST CONTACT THE INSPECTOR FOR EROSION CONTROL INSPECTION OF SLOPE STABILITY. EROSION CONTROL MEASURES MAY NOT BE REMOVED WITHOUT AUTHORIZATION BY THE ASSIGNED INSPECTOR.
9. UPON APPROVAL CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION CONTROL DEVICES.

NOTE:
1. CONTRACTOR MUST KEEP THE EXISTING ROAD FREE FROM BUILDUP OF SOIL.

EROSION & SEDIMENT CONTROL LEGEND

LOD	LIMITS OF DISTURBANCE
SF	TEMPORARY SILT FENCE (NCDOT ST'D. 1605.01)
W	WATTLE WITH FLOCCULANT
RIST-C	ROCK INLET SEDIMENT TRAP - TYPE C (NCDOT ST'D. 1632.03)
CIP	ROCK PIPE SEDIMENT TRAP - TYPE B (NCDOT ST'D. 1635.02)

STABILIZATION REQUIREMENTS:

Stabilization for this project shall comply with the time frame guidelines as specified by the NCG-010000 general construction permit effective April 1, 2019 issued by the North Carolina Department of Environmental Quality Division of Water Resources. Temporary or permanent ground cover stabilization shall occur within 7 calendar days from the last land-disturbing activity, with the following exceptions in which temporary or permanent ground cover shall be provided in 14 calendar days from the last land-disturbing activity:

- Slopes between 2:1 and 3:1, with a slope length of 10 ft. or less
- Slopes 3:1 or flatter, with a slope of length of 50 ft. or less
- Slopes 4:1 or flatter

The stabilization timeframe for High Quality Water (HQW) Zones shall be 7 calendar days with no exceptions for slope grades or lengths. High Quality Water Zones (HQW) Zones are defined by North Carolina Administrative Code 15A NCAC 04A.0105 (25). Temporary and permanent ground cover stabilization shall be achieved in accordance with the provisions in this contract and as directed.

SEEDING AND MULCHING: **(East)**

The kinds of seed and fertilizer, and the rates of application of seed, fertilizer, and limestone, shall be as stated below. During periods of overlapping dates, the kind of seed to be used shall be determined. All rates are in pounds per acre.

All Roadway Areas

March 1 - August 31		September 1 - February 28	
50#	Tall Fescue	90#	Tall Fescue
10#	Centipede	10#	Centipede
25#	Bermudagrass (hulled)	35#	Bermudagrass (unhulled)
500#	Fertilizer	500#	Fertilizer
4000#	Limestone	4000#	Limestone

Waste and Borrow Locations

March 1 – August 31		September 1 - February 28	
75#	Tall Fescue	75#	Tall Fescue
25#	Bermudagrass (hulled)	35#	Bermudagrass (unhulled)
500#	Fertilizer	500#	Fertilizer
4000#	Limestone	4000#	Limestone

Note: 50# of Bahiagrass may be substituted for either Centipede or Bermudagrass only upon Engineer's request.

Approved Tall Fescue Cultivars

06 Dust	Escalade	Justice	Serengeti
2nd Millennium	Essential	Kalahari	Shelby
3rd Millennium	Evergreen 2	Kitty Hawk 2000	Shenshu
Apache III	Falcon IV	Legitimate	Signia
Avenger	Falcon NG	Lexington	Silver Hawk
Barlexas	Falcon V	LSD	Silverstar
Barlexas II	Faith	Magellan	Shenandoah Elite
Bar Fa	Fat Cat	Matador	Sidewinder
Barrera	Festnova	Millennium SRP	Skyline
Barrington	Fidelity	Monet	Solara
Barrobuste	Finelawn Elite	Mustang 4	Southern Choice II
Barvado	Finelawn Xpress	Ninja 2	Speedway
Biltmore	Finesse II	Ol' Glory	Spyder LS
Biego	Firebird	Olympic Gold	Sonser Gold
Bizem	Firecracker LS	Padre	Tacoca
Blackwatch	Fortress	Patagonia	Tanzania
Blade Runner II	Five Point	Pedigree	Trio
Bonsai	Focus	Picasso	Tahoe II
Braveheart	Forte	Piedmont	Tallhdega
Bravo	Garrison	Plantation	Turbotl
Bulleye	Gazelle II	Proseeds 5301	Terrano
Cannavaro	Gold Medallion	Prospect	Titan ltd
Catalyst	Grande 3	Pure Gold	Titanium LS
Cayenne	Greenbrooks	Quest	Tracer
Cessane Rz	Greenkeeper	Raptor II	Traverse SKP
Chipper	Gremlin	Rebel Exeda	Tuba Time
Cochise IV	Greystone	Rebel Sentry	Turbo
Constitution	Guardian 21	Rebel IV	Turbo RZ
Corgi	Guardian 41	Regiment II	Tuxedo RZ
Corona	Heml	Regenerate	Ultimate
Coyote	Honky Tonk	Rendition	Venture
Darlington	Hot Rod	Rhambler 2 SRP	Umbrella
Davinci	Horizer	Rembrandt	Van Gogh
Desire	Inferno	Resmien	Watchdog
Dominion	Innovator	Riverside	Wellpack II
Dynamic	Integrity	RNP	Xtremegreen
Dynasty	Jaguar 3	Rocket	
Endeavor	Jamboree	Scorpion	

On cut and fill slopes 2:1 or steeper Centipede shall be applied at the rate of 5 pounds per acre and add 20# of Serizoa Lespedeza from January 1 - December 31.

Fertilizer shall be 10-20-20 analysis. A different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as a 10-20-20 analysis and as directed.

TEMPORARY SEEDING:

Fertilizer shall be the same analysis as specified for *Seeding and Mulching* and applied at the rate of 400 pounds and seeded at the rate of 50 pounds per acre. Sweet Sudan Grass, German Millet or Browntop Millet shall be used in summer months and Rye Grain during the remainder of the year. The Engineer will determine the exact dates for using each kind of seed.

FERTILIZER TOPDRESSING:

Fertilizer used for topdressing on all roadway areas except slopes 2:1 and steeper shall be 10-20-20 grade and shall be applied at the rate of 500 pounds per acre. A different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as 10-20-20 analysis and as directed.

Fertilizer used for topdressing on slopes 2:1 and steeper and waste and borrow areas shall be 16-8-8 grade and shall be applied at the rate of 500 pounds per acre. A different analysis of fertilizer may be used provided the 2-1-1 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as 16-8-8 analysis and as directed.

SUPPLEMENTAL SEEDING:

The kinds of seed and proportions shall be the same as specified for *Seeding and Mulching*, with the exception that no centipede seed will be used in the seed mix for supplemental seeding. The rate of application for supplemental seeding may vary from 25# to 75# per acre. The actual rate per acre will be determined prior to the time of topdressing and the Contractor will be notified in writing of the rate per acre, total quantity needed, and areas on which to apply the supplemental seed. Minimum tillage equipment, consisting of a sod seeder shall be used for incorporating seed into the soil as to prevent disturbance of existing vegetation. A cloebuster (bull and chain) may be used where degree of slope prevents the use of a sod seeder.

MOWING:

The minimum mowing height on this project shall be 4 inches.

Mulching Materials and Application Rates

Material	Rate Per Acre	Quality	Notes
Organic Mulches			
Straw	1-2 tons	Dry, unchopped, unweathered; avoid weeds.	Should come from wheat or oats; spread by hand or machine; must be tacked down.
Wood chips	6-6 tons	Air dry	Treat with 12 lbs nitrogen/ton. Apply with mulch blower, chip handler, or by hand. Not for use in fine turf.
Wood fiber	0.5-1 tons		Also referred to as wood cellulose. May be hydroseeded. Do not use in hot, dry weather.
Bark	35 cubic yards	Air dry, shredded or hammer-milled, or chips	Apply with mulch blower, chip handler, or by hand. Do not use asphalt tack.
Corn stalks	4-6 tons	Cut or shredded in 4-6 in. lengths	Apply with mulch blower or by hand. Not for use in fine turf.
Sericea lespedeza seed-bearing stems	1-3 tons	Green or dry; should contain mature seed.	
Nets and Mats[1]			
Jute net	Cover area	Heavy, uniform, woven of single jute yarn.	Withstands waterflow. Best when used with organic mulch.
Fiberglass net	Cover area		Withstands waterflow. Best when used with organic mulch.
Excelsior (wood fiber) mat	Cover area		Withstands waterflow.
Fiberglass roving	0.5-1 tons	Continuous fibers of drawn glass bound together with a non-toxic agent.	Apply with a compressed air ejector. Tack with emulsified asphalt at a rate of 25-35 gal/1,000 sq ft.
Chemical Stabilizers[2]			
Aquatain Aerospray Curasol AK Petroset SB Terra Tack Crust 500 Genapal 743 M-145	follow manufacturer's specifications		Not beneficial to plant growth.

[1] Refer to Practice No. 8.30, *Grass Lined Channels*.

[2] Use of trade names does not imply endorsement of product.

NOTES

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

FINAL PLANS
NOT RELEASED FOR CONSTRUCTION

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049206 07-21-22 REGISTERED BRIAN PATRICK WELCH

THIS DRAWING PREPARED AT THE
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REVISION DESCRIPTION

DATE

DATE 07/21/22
DRAWN BY BPW
DESIGNED BY BPW
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SCALE ----

TIMMONS GROUP

WHEELER TRACT - OFFSITE IMPROVEMENTS
ROLESVILLE - WAKE COUNTY - NORTH CAROLINA
EROSION CONTROL PLAN

JOB NO. 43398
SHEET NO. R3.03

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CHECKED BY BPW
SCALE 1" = 50'

MMRD CURVE (1)
Δ = 5°11'05"
R = 7400.00
T = 335.04
L = 669.62
C = 669.39
PC = 210+54.64
PI = 213+89.68
PT = 217+24.26
Ed = MATCH EXIST.

MMRD CURVE (2)
Δ = 7°01'18"
R = 2000.00
T = 122.71
L = 245.11
C = 244.95
PC = 201+44.38
PI = 202+67.09
PT = 203+89.49
Ed = MATCH EXIST.

MMRD CURVE (3)
Δ = 11°35'23"
R = 1500.00
T = 152.23
L = 303.42
C = 302.90
PC = 204+67.79
PI = 206+20.02
PT = 207+71.21
Ed = MATCH EXIST.

NAD 83

SCALE 1"=50'
0 50' 100'

BEGIN CONSTR. STA. 202+50.00

N61° 23' 08.24"E

MMRD CONST. BASELINE

N49° 47' 45.52"E

ROAD2 CONST. BASELINE

MATCHLINE SHEET R5.01 - STA. 216+00

MITCHELL MILL ROAD - S.R. 2224
60' PUBLIC R/W

EXIST CONDITIONS

LEGEND:
- DEMOLITION OF EX. PAVEMENT
- NEW PAVEMENT
- CONCRETE SIDEWALK

PROP. PAVED FULL DEPTH ASPHALT PRIVATE ENTRANCE

PROP. PIPE UNDERDRAIN NCDOT ST'D 815.03

5' PROP. SIDEWALK

PROP. NCDOT ST'D 24" CURB & GUTTER

PROP. NCDOT ST'D CURB RAMP

PLAN

R RELOCATE EXISTING SIGN PANEL ONTO NEW SIGN ASSEMBLY PER NCDOT STANDARDS. REMOVE AND DISPOSE OF EXISTING ASSEMBLY.

PROP. OM3-R 12"x36"

PAVEMENT MARKING LEGEND: (XX)

T2 - WHITE STOPEBAR (24", 120 MIL)	T91 - BICYCLE STRAIGHT ARROW (90 MIL)
T8 - 2 FT. - 6 FT./SP WHITE MINISKIP (4", 120 MIL)	UA - LEFT TURN ARROW (90 MIL)
TA - WHITE EDGELINE (4", 90 MIL)	UB - RIGHT TURN ARROW (90 MIL)
TE - WHITE SOLID LANE LINE (4", 90 MIL)	T4 - 3FT. - 9FT./SP WHITE MINISKIP (4" 90 MIL)
TI - YELLOW DOUBLE CENTER (4", 120 MIL)	TV - YELLOW DIAGONAL (12", 90 MIL)
TU - WHITE DIAGONAL (12", 90 MIL)	TH - YELLOW SINGLE CENTER (4", 120 MIL)
T90 - BICYCLE SYMBOL (90 MIL)	TF - 10 FT. YELLOW SKIP (4", 120 MIL)

PROP. R1-1 30"x30"

150' LTL DECELERATION

125' LTL STORAGE

STRIPING

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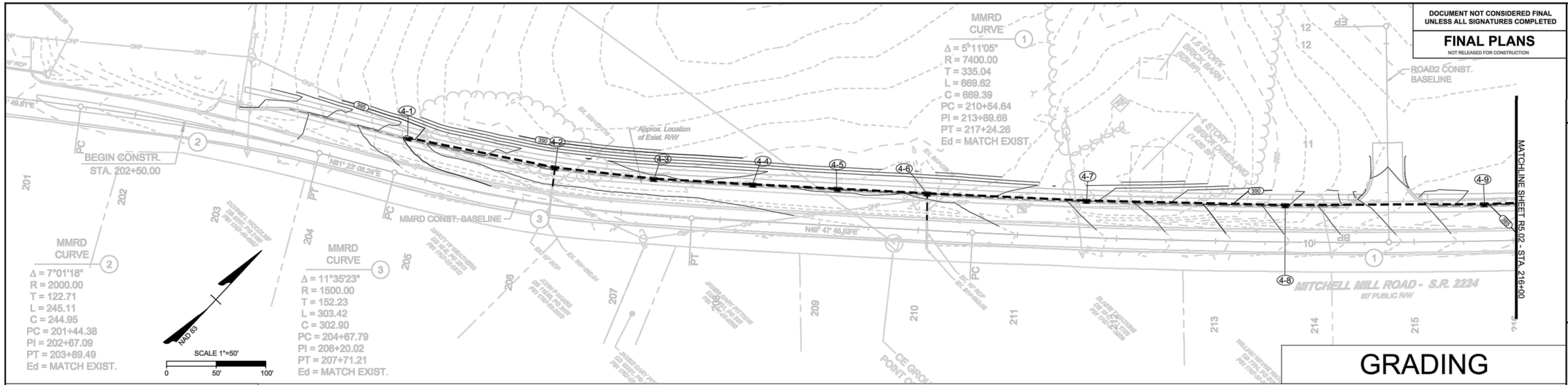
ROLESVILLE - WAKE COUNTY - NORTH CAROLINA
EXISTING CONDITIONS & PLAN & STRIPING SHEET

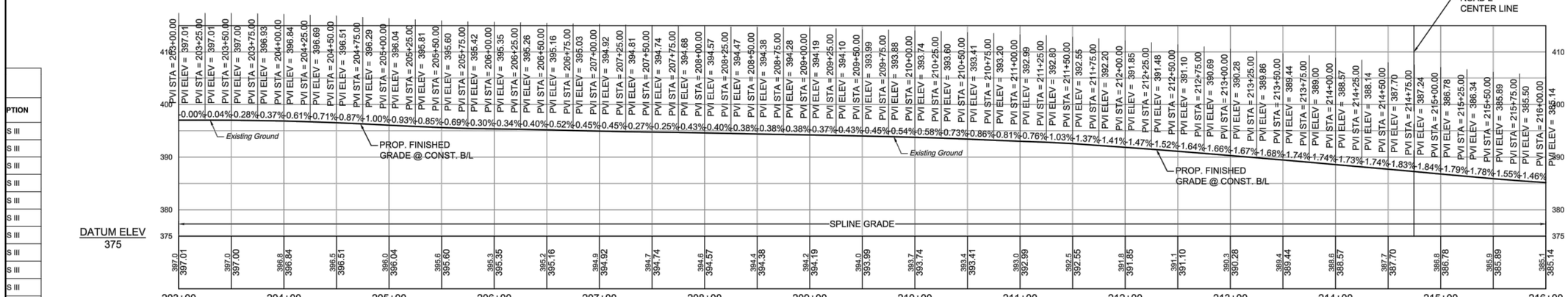
JOB NO. 43398
SHEET NO. R4.01



PROFILE

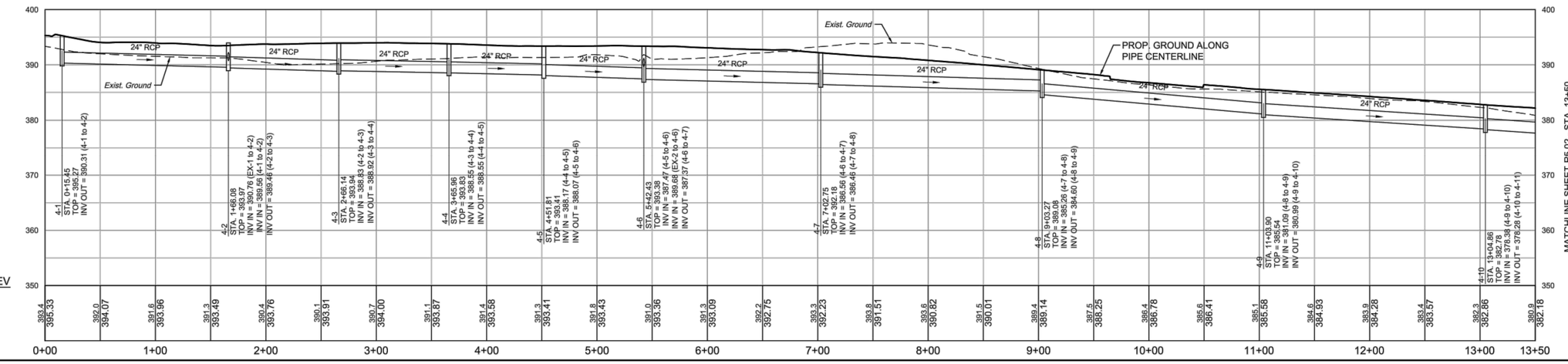
GRADING

MMRD



PROFILE

STM MITCHELL MILL ROAD



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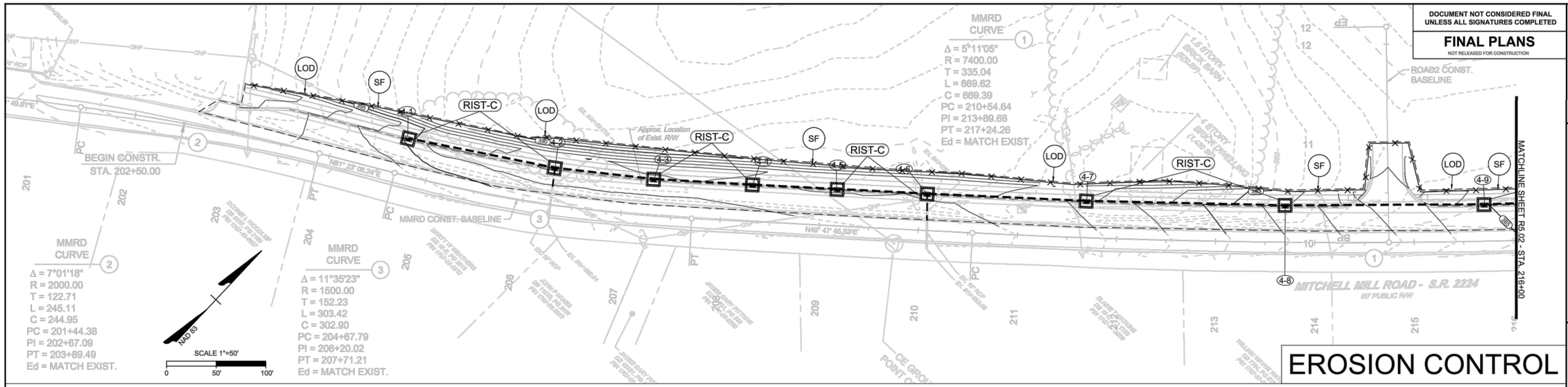
CHECKED BY	BPW
SCALE	1" = 50'

TIMMONS GROUP

WHEELER TRACT - OFFSITE IMPROVEMENTS
ROLESVILLE - WAKE COUNTY - NORTH CAROLINA
GRADING & PROFILE SHEET

JOB NO.	SHEET NO.
43398	R4.02



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EROSION CONTROL

EROSION CONTROL NOTES & DETAILS

PROJECT DESCRIPTION

THE PURPOSE OF THIS PROJECT IS TO WIDEN ROLESVILLE ROAD AND MITCHELL MILL ROAD TO THE ONE-HALF THE ULTIMATE CROSS SECTION PER THE TOWN'S COMPREHENSIVE TRANSPORTATION PLAN. THESE IMPROVEMENTS SPAN FOR THE ENTIRE FRONTAGE SITE DEVELOPMENT PER TOWN UDO REQUIREMENTS. ADDITIONAL IMPROVEMENTS INCLUDE STRIPING AND DITCHES.

EROSION AND SEDIMENT CONTROL MEASURES:

UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION EROSION AND SEDIMENT CONTROL DESIGN AND CONSTRUCTION MANUAL. THE MINIMUM STANDARDS SET FORTH BY THIS MANUAL SHALL BE ADHERED TO UNLESS OTHERWISE WAIVED OR APPROVED BY A VARIANCE.

EROSION CONTROL SEQUENCE OF CONSTRUCTION

A SINGLE-PHASED EROSION CONTROL APPROACH IS PROVIDED BELOW TO DESCRIBE GENERAL MEASURES REQUIRED TO MAINTAIN THE SITE THROUGHOUT CONSTRUCTION. THE CONTRACTOR SHALL APPLY PHASE I AS DESCRIBED HEREIN TO THE VARIOUS WORK AREAS ASSOCIATED WITH THIS PROJECT. DUE TO THE NATURE OF WORK AREAS, THE CONTRACTOR SHALL ENSURE EROSION CONTROL MEASURES ARE PROVIDED AS DESCRIBED THROUGH PROJECT COMPLETION AND ACCEPTANCE.

PHASE I:

1. PROVIDE MINIMAL CLEARING TO INSTALL SILT FENCE AS SHOWN ON THE PLANS. INSTALL CULVERT PROTECTION AS REQUIRED FOR EXISTING PIPES. TAKE SPECIAL CARE TO KEEP SOIL BUILD-UP FROM ENTERING THE EXISTING ROAD PAVEMENT.
2. THE CONTRACTOR WILL NOTIFY THE INSPECTOR OF THE PERMITTED LOCATION EXCESS SOIL MATERIAL IS HAULED TO OR BORROW MATERIAL IS BROUGHT IN FROM.
3. CLEAR AND GRUB AS INDICATED IN THE PLANS. MAINTAIN ACCESS ALONG EXISTING ROADS AND TO EXISTING DRIVEWAYS AT ALL TIMES.
4. TEMPORARY GRADING AND SEEDING IS REQUIRED FOR ALL AREAS WHEN DIRECTED:
   - 4.1. WHEN IT IS IMPOSSIBLE OR IMPRACTICAL TO BRING AN AREA TO THE FINAL LINE, GRADE AND FINISH SO THAT PERMANENT SEEDING AND MULCHING OPERATIONS CAN BE PERFORMED WITHOUT SUBSEQUENT SERIOUS DISTURBANCE BY ADDITIONAL GRADING
   - 4.2. WHEN EROSION OCCURS OR IS CONSIDERED TO BE POTENTIALLY SUBSTANTIAL ON AREAS OF GRADED ROADBED WHERE CONSTRUCTION OPERATIONS ARE TEMPORARILY SUSPENDED OR WHEN THE GRADING OF THE ROADBED HAS BEEN COMPLETED SUBSTANTIALLY IN ADVANCE OF THE PAVING CONSTRUCTION
   - 4.3. DURING SEASONS OF THE YEAR WHEN PERMANENT SEEDING AND MULCHING IS PROHIBITED BY THE CONTRACT
   - 4.4. WHEN AN IMMEDIATE COVER WOULD BE DESIRABLE TO MINIMIZE EROSION, SILTATION OR POLLUTION ON ANY AREA
   - 4.5. 7/14-DAY SOIL STABILIZATION REQUIREMENTS APPLY TO ANY SECTION OF THE PROJECT WHERE LAND-DISTURBING ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED AND SHALL SUPERSEDE ANY LESS STRINGENT STABILIZATION REQUIREMENTS ON THE PLANS. [G.S. 143-215.1]
6. CONTRACTOR SHALL REMOVE AND REPLACE ANY DAMAGED EROSION CONTROL MEASURES UNTIL FINAL APPROVAL OF CONSTRUCTION.
7. THE SITE SHALL BE PERMANENTLY STABILIZED AFTER ALL GRADING HAS BEEN COMPLETED BY SEEDING ALL DISTURBED AREAS.
8. UPON CONSTRUCTION COMPLETION, THE CONTRACTOR MUST CONTACT THE INSPECTOR FOR EROSION CONTROL INSPECTION OF SLOPE STABILITY. EROSION CONTROL MEASURES MAY NOT BE REMOVED WITHOUT AUTHORIZATION BY THE ASSIGNED INSPECTOR.
9. UPON APPROVAL CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION CONTROL DEVICES.

NOTE:
1. CONTRACTOR MUST KEEP THE EXISTING ROAD FREE FROM BUILDUP OF SOIL.

EROSION & SEDIMENT CONTROL LEGEND

- LOD — LIMITS OF DISTURBANCE
- SF — TEMPORARY SILT FENCE (NCDOT ST'D. 1605.01)
- W — WATTLE WITH FLOCCULANT
- RIST-C — ROCK INLET SEDIMENT TRAP - TYPE C (NCDOT ST'D. 1632.03)
- CIP — ROCK PIPE SEDIMENT TRAP - TYPE B (NCDOT ST'D. 1635.02)

STABILIZATION REQUIREMENTS:

Stabilization for this project shall comply with the time frame guidelines as specified by the NCG-010000 general construction permit effective April 1, 2019 issued by the North Carolina Department of Environmental Quality Division of Water Resources. Temporary or permanent ground cover stabilization shall occur within 7 calendar days from the last land-disturbing activity, with the following exceptions in which temporary or permanent ground cover shall be provided in 14 calendar days from the last land-disturbing activity:

- Slopes between 2:1 and 3:1, with a slope length of 10 ft. or less
- Slopes 3:1 or flatter, with a slope of length of 50 ft. or less
- Slopes 4:1 or flatter

The stabilization timeframe for High Quality Water (HQW) Zones shall be 7 calendar days with no exceptions for slope grades or lengths. High Quality Water Zones (HQW) Zones are defined by North Carolina Administrative Code 15A NCAC 04A.0105 (25). Temporary and permanent ground cover stabilization shall be achieved in accordance with the provisions in this contract and as directed.

SEEDING AND MULCHING: **(East)**

The kinds of seed and fertilizer, and the rates of application of seed, fertilizer, and limestone, shall be as stated below. During periods of overlapping dates, the kind of seed to be used shall be determined. All rates are in pounds per acre.

All Roadway Areas

March 1 - August 31		September 1 - February 28	
50#	Tall Fescue	90#	Tall Fescue
10#	Centipede	10#	Centipede
25#	Bermudagrass (hulled)	35#	Bermudagrass (unhulled)
500#	Fertilizer	500#	Fertilizer
4000#	Limestone	4000#	Limestone

Waste and Borrow Locations

March 1 – August 31		September 1 - February 28	
75#	Tall Fescue	75#	Tall Fescue
25#	Bermudagrass (hulled)	35#	Bermudagrass (unhulled)
500#	Fertilizer	500#	Fertilizer
4000#	Limestone	4000#	Limestone

Note: 50# of Bahiagrass may be substituted for either Centipede or Bermudagrass only upon Engineer's request.

Approved Tall Fescue Cultivars

06 Dust	Escalade	Justice	Serengeti
2nd Millennium	Essential	Kalahari	Shelby
3rd Millennium	Evergreen 2	Kitty Hawk 2000	Shenidoa
Apache III	Falcon IV	Legitimate	Signia
Avenger	Falcon NG	Lexington	Silver Hawk
Barlexas	Falcon V	LSD	Silverstar
Barlexas II	Faith	Magellan	Shenandoah Elite
Bar Fa	Fat Cat	Matador	Sidewinder
Barrera	Festnova	Millennium SRP	Skyline
Barrington	Fidelity	Monet	Solara
Barrobuste	Firebrand Elite	Mustang 4	Southern Choice II
Barvado	Firebrand Xpress	Ninja 2	Speedway
Biltmore	Finesse II	Ol' Glory	Spyder LS
Biego	Firebird	Olympic Gold	Sonnet Gold
Bizem	Firecracker LS	Padre	Tuscora
Blackwatch	Fortress	Patagonia	Tanzania
Blade Runner II	Five Point	Pedigree	Trio
Bonsai	Focus	Picasso	Tahoe II
Braveheart	Forte	Piedmont	Talladega
Bravo	Garrison	Plantation	Tarheel
Bullseye	Gazelle II	Proseeds 5301	Terrano
Cannavaro	Gold Medallion	Prospect	Titan ltd
Catalyst	Grande 3	Pure Gold	Titanium LS
Cayenne	Greenbrooks	Quest	Tracer
Cessane Rz	Greenkeeper	Raptor II	Traverse SKP
Chipper	Gremlin	Rebel Exeda	Tuba Time
Cochise IV	Greystone	Rebel Sentry	Turbo
Constitution	Guardian 21	Rebel IV	Turbo RZ
Corgi	Guardian 41	Regiment II	Tuxedo RZ
Corona	Heml	Regenerate	Ultimate
Coyote	Honky Tonk	Rendition	Venture
Darlington	Hot Rod	Rhambler 2 SRP	Umbrella
Davinci	Horizer	Rembrandt	Van Gogh
Desire	Inferno	Resolen	Watchdog
Dominion	Innovator	Riverside	Wellpack II
Dynamic	Integrity	RNP	Xtremegreen
Dynasty	Jaguar 3	Rocket	
Endeavor	Jamboree	Scorpion	

On cut and fill slopes 2:1 or steeper Centipede shall be applied at the rate of 5 pounds per acre and add 20# of Serizoa Lespedeza from January 1 - December 31.

Fertilizer shall be 10-20-20 analysis. A different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as a 10-20-20 analysis and as directed.

TEMPORARY SEEDING:

Fertilizer shall be the same analysis as specified for *Seeding and Mulching* and applied at the rate of 400 pounds and seeded at the rate of 50 pounds per acre. Sweet Sudan Grass, German Millet or Browntop Millet shall be used in summer months and Rye Grain during the remainder of the year. The Engineer will determine the exact dates for using each kind of seed.

FERTILIZER TOPDRESSING:

Fertilizer used for topdressing on all roadway areas except slopes 2:1 and steeper shall be 10-20-20 grade and shall be applied at the rate of 500 pounds per acre. A different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as 10-20-20 analysis and as directed.

Fertilizer used for topdressing on slopes 2:1 and steeper and waste and borrow areas shall be 16-8-8 grade and shall be applied at the rate of 500 pounds per acre. A different analysis of fertilizer may be used provided the 2-1-1 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as 16-8-8 analysis and as directed.

SUPPLEMENTAL SEEDING:

The kinds of seed and proportions shall be the same as specified for *Seeding and Mulching*, with the exception that no centipede seed will be used in the seed mix for supplemental seeding. The rate of application for supplemental seeding may vary from 25# to 75# per acre. The actual rate per acre will be determined prior to the time of topdressing and the Contractor will be notified in writing of the rate per acre, total quantity needed, and areas on which to apply the supplemental seed. Minimum tillage equipment, consisting of a sod seeder shall be used for incorporating seed into the soil as to prevent disturbance of existing vegetation. A cloebuster (bull and chain) may be used where degree of slope prevents the use of a sod seeder.

MOWING:

The minimum mowing height on this project shall be 4 inches.

Mulching Materials and Application Rates

Material	Rate Per Acre	Quality	Notes
Organic Mulches			
Straw	1-2 tons	Dry, unchopped, unweathered; avoid weeds.	Should come from wheat or oats; spread by hand or machine; must be tacked down.
Wood chips	6-6 tons	Air dry	Treat with 12 lbs nitrogen/ton. Apply with mulch blower, chip handler, or by hand. Not for use in fine turf.
Wood fiber	0.5-1 tons		Also referred to as wood cellulose. May be hydroseeded. Do not use in hot, dry weather.
Bark	35 cubic yards	Air dry, shredded or hammer-milled, or chips	Apply with mulch blower, chip handler, or by hand. Do not use asphalt tack.
Corn stalks	4-6 tons	Cut or shredded in 4-6 in. lengths	Apply with mulch blower or by hand. Not for use in fine turf.
Sericea lespedeza seed-bearing stems	1-3 tons	Green or dry; should contain mature seed.	
Nets and Mats[1]			
Jute net	Cover area	Heavy, uniform, woven of single jute yarn.	Withstands waterflow. Best when used with organic mulch.
Fiberglass net	Cover area		Withstands waterflow. Best when used with organic mulch.
Excelsior (wood fiber) mat	Cover area		Withstands waterflow.
Fiberglass roving	0.5-1 tons	Continuous fibers of drawn glass bound together with a non-toxic agent.	Apply with a compressed air ejector. Tack with emulsified asphalt at a rate of 23-35 gal/1,000 sq ft.
Chemical Stabilizers[2]			
Aquatain Aerospray Curasol AK Petroset SB Terra Tack Crust 500 Genapal 743 M-145	follow manufacturer's specifications		Not beneficial to plant growth.

[1] Refer to Practice No. 8.30, *Grass Lined Channels*.

[2] Use of trade names does not imply endorsement of product.

NOTES

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SCALE ----

TIMMONS GROUP

WHEELER TRACT - OFFSITE IMPROVEMENTS
ROLESVILLE - WAKE COUNTY - NORTH CAROLINA
EROSION CONTROL PLAN

JOB NO. 43398
SHEET NO. R4.03

S:\33243398-Wheeler_Tract\DWG\Sheet\CD\20\0943398-203C-R4.03.dwg | Plotted on 7/21/2022 2:34 PM | by Brian Welch

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REVISION DESCRIPTION

DATE

MATCHLINE SHEET R4.01 - STA. 216+00

Approx. Location of Exist. R/W

N44° 36' 40.81"E

PT

END CONSTR. STA. 220+74.49

PC

MMRD CONST. BASELINE

MITCHELL MILL ROAD - S.R. 2224
60' PUBLIC R/W

PT

N51° 12' 19.98"E

MMRD CURVE 4
Δ = 6°35'39"
R = 2500.00
T = 144.02
L = 287.73
C = 287.57
PC = 221+95.86
PI = 223+39.88
PT = 224+83.59
Ed = MATCH EXIST.

217 218 219 220 221 222 223 224 225 226 227 228 229 230 231

NAD 83

SCALE 1"=50'
0 50' 100'

EXIST CONDITIONS

PROP. PIPE UNDERDRAIN NCDOT ST'D 815.03

PROP. NCDOT ST'D 24" CURB & GUTTER

5' PROP. SIDEWALK

4-10 4-11 4-12

PROP. RIP RAP CLASS B T: 18", L: 12', W: 6'

3' PROP. SHOULDER (2' PAVED, 1' GRADED)

FUTURE IMPROVEMENTS TO BE INSTALLED BY OTHERS

LEGEND:
- DEMOLITION OF EX. PAVEMENT
- NEW PAVEMENT
- CONCRETE SIDEWALK

PLAN

R RELOCATE EXISTING SIGN PANEL ONTO NEW SIGN ASSEMBLY PER NCDOT STANDARDS. REMOVE AND DISPOSE OF EXISTING ASSEMBLY.

PAVEMENT MARKING LEGEND: (XX)

T2 - WHITE STOPEBAR (24", 120 MIL)	T91 - BICYCLE STRAIGHT ARROW (90 MIL)
T8 - 2 FT. - 6 FT./SP WHITE MINISKIP (4", 120 MIL)	UA - LEFT TURN ARROW (90 MIL)
TA - WHITE EDGELINE (4", 90 MIL)	UB - RIGHT TURN ARROW (90 MIL)
TE - WHITE SOLID LANE LINE (4", 90 MIL)	T4 - 3FT. - 9FT./SP WHITE MINISKIP (4" 90 MIL)
TI - YELLOW DOUBLE CENTER (4", 120 MIL)	TV - YELLOW DIAGONAL (12", 90 MIL)
TU - WHITE DIAGONAL (12", 90 MIL)	TH - YELLOW SINGLE CENTER (4", 120 MIL)
T90 - BICYCLE SYMBOLE (90 MIL)	TF - 10 FT. YELLOW SKIP (4", 120 MIL)

TU TI TA TV

STRIPING

TIMMONS GROUP

WHEELER TRACT - OFFSITE IMPROVEMENTS

ROLESVILLE - WAKE COUNTY - NORTH CAROLINA

EXISTING CONDITIONS & PLAN & STRIPING SHEET

DATE	07/21/22
DRAWN BY	BPW
DESIGNED BY	BPW
CHECKED BY	BPW
SCALE	1" = 50'
JOB NO.	43398
SHEET NO.	R5.01

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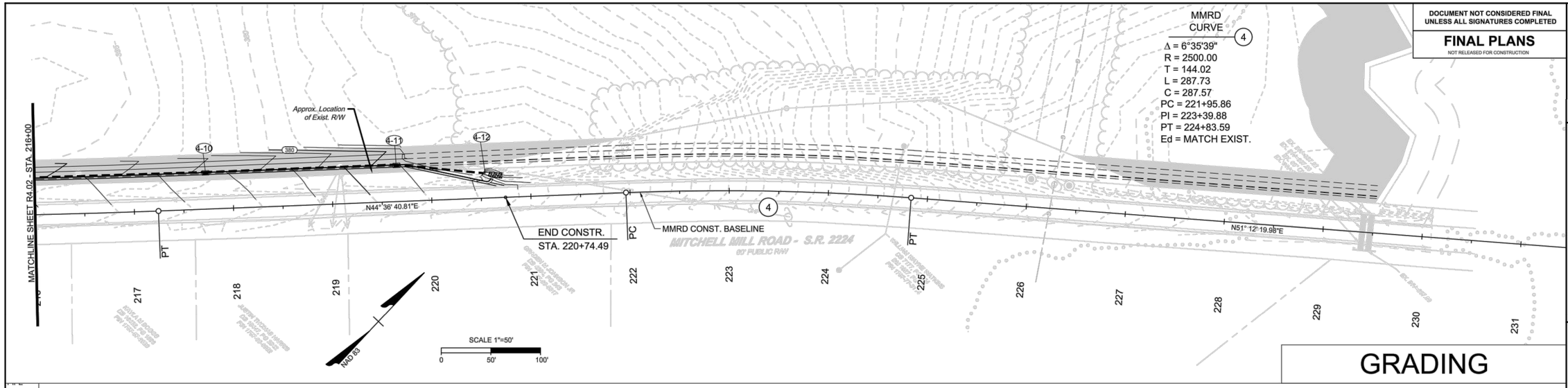


DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

FINAL PLANS

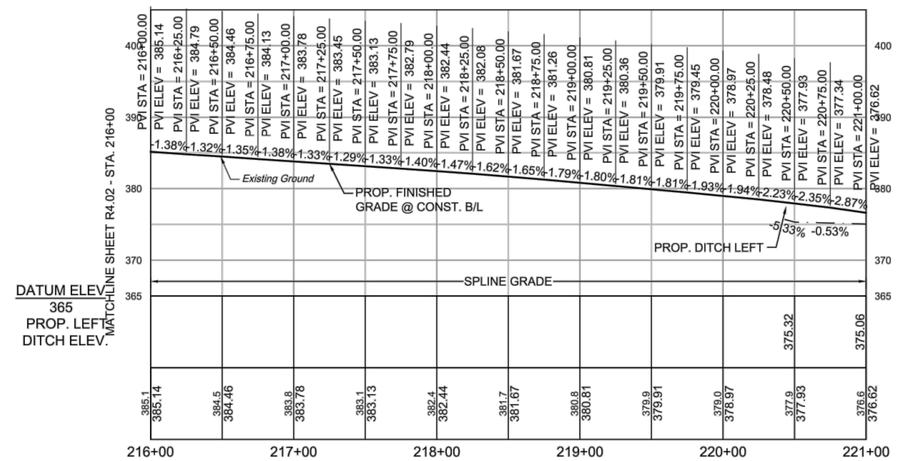
NOT RELEASED FOR CONSTRUCTION

NORTH CAROLINA PROFESSIONAL SEAL 049206 ENGINEER BRIAN PATRICK WELCH 07-21-22

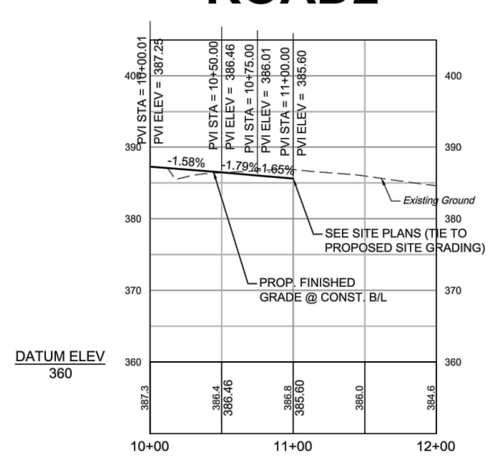
GRADING

PIPE

MMRD

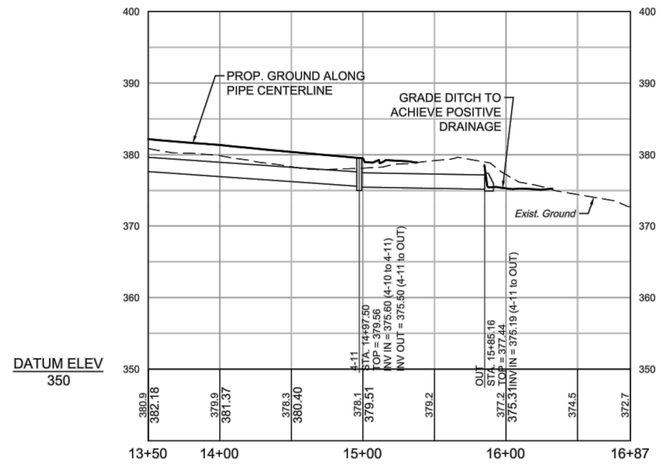


ROAD2



PROFILE

STM MITCHELL MILL ROAD



STORM STRUCTURE TABLE
STM Mitchell Mill Road

STR. #	TOP	INV. IN	INV. OUT	DESCRIPTION
OUT	377.44'	375.19' (24" RCP FROM 4-11)		NCDOT 310.02 CONCRETE ES
4-11	379.56'	375.60' (24" RCP FROM 4-10)	375.50' (24" RCP TO OUT)	NCDOT 840.02 CONCRETE CB
4-10	382.78'	378.38' (24" RCP FROM 4-9)	378.28' (24" RCP TO 4-11)	NCDOT 840.02 CONCRETE CB
4-9	385.54'	381.09' (24" RCP FROM 4-8)	380.99' (24" RCP TO 4-10)	NCDOT 840.02 CONCRETE CB
4-8	389.08'	385.26' (24" RCP FROM 4-7)	384.60' (24" RCP TO 4-9)	NCDOT 840.02 CONCRETE CB
4-7	392.18'	386.56' (24" RCP FROM 4-6)	386.46' (24" RCP TO 4-8)	NCDOT 840.02 CONCRETE CB
4-6	393.38'	387.47' (24" RCP FROM 4-5) 389.68' (18" RCP FROM IN-NORTH)	387.37' (24" RCP TO 4-7)	NCDOT 840.02 CONCRETE CB
4-5	393.41'	388.17' (24" RCP FROM 4-4)	388.07' (24" RCP TO 4-6)	NCDOT 840.02 CONCRETE CB
4-2	393.51'	390.76' (18" RCP FROM EX-1) 389.56' (24" RCP FROM 4-1)	389.46' (24" RCP TO 4-3)	NCDOT 840.02 CONCRETE CB
4-4	393.83'	388.55' (24" RCP FROM 4-3)	388.55' (24" RCP TO 4-5)	NCDOT 840.02 CONCRETE CB
4-3	393.94'	388.83' (24" RCP FROM 4-2)	388.92' (24" RCP TO 4-4)	NCDOT 840.02 CONCRETE CB
4-1	395.27'		390.31' (24" RCP TO 4-2)	NCDOT 840.02 CONCRETE CB

STORM PIPE TABLE
STM Mitchell Mill Road

FROM - TO	UPSTREAM INVERT	DOWNSTREAM INVERT	SLOPE	LENGTH	DIA.	MATERIAL	DESCRIPTION
4-1 - 4-2	390.31'	389.56'	0.50%	150.63 LF	24"	RCP	CLASS III
4-2 - 4-3	389.46'	388.83'	0.63%	100.06 LF	24"	RCP	CLASS III
4-3 - 4-4	388.92'	388.55'	0.38%	99.79 LF	24"	RCP	CLASS III
4-4 - 4-5	388.55'	388.17'	0.44%	85.85 LF	24"	RCP	CLASS III
4-5 - 4-6	388.07'	387.47'	0.66%	90.61 LF	24"	RCP	CLASS III
4-6 - 4-7	387.37'	386.56'	0.51%	160.33 LF	24"	RCP	CLASS III
4-7 - 4-8	386.46'	385.26'	0.60%	200.51 LF	24"	RCP	CLASS III
4-8 - 4-9	384.60'	381.09'	1.75%	200.64 LF	24"	RCP	CLASS III
4-9 - 4-10	380.99'	378.38'	1.30%	200.96 LF	24"	RCP	CLASS III
4-10 - 4-11	378.28'	375.60'	1.39%	192.64 LF	24"	RCP	CLASS III
4-11 - OUT	375.50'	375.19'	0.35%	87.67 LF	24"	RCP	CLASS III
EX-1 - 4-2	392.04'	390.76'	2.25%	56.87 LF	18"	RCP	EXIST. PIPE
IN-NORTH - 4-6	390.03'	389.68'	0.63%	55.98 LF	18"	RCP	EXIST. PIPE

PROFILE

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5410 Trinity Road, Suite 102 Raleigh, NC 27607
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

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REVISION DESCRIPTION

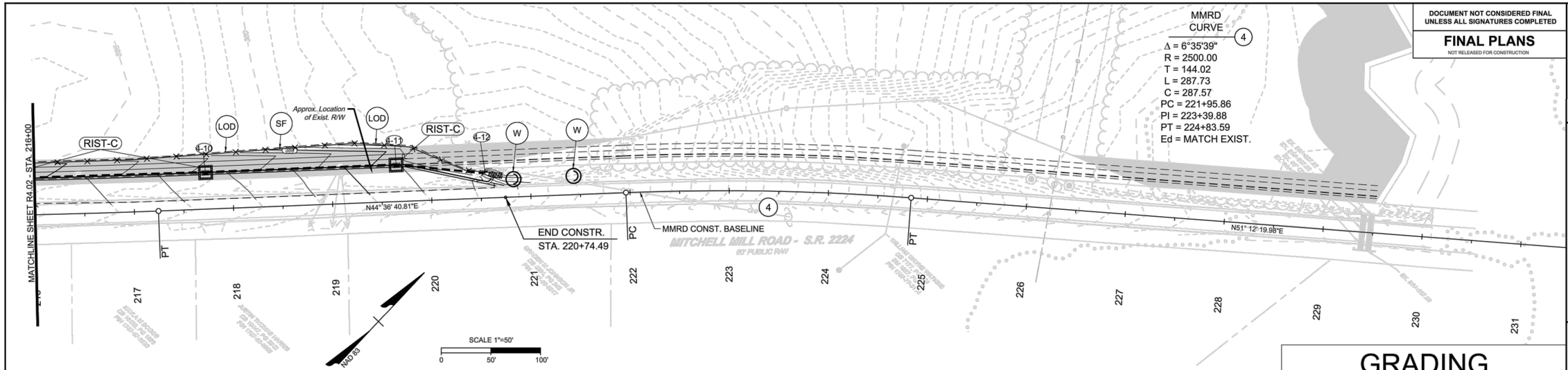
DATE

DATE 07/21/22
DRAWN BY BPW
DESIGNED BY BPW
CHECKED BY BPW
SCALE 1" = 50'

TIMMONS GROUP

WHEELER TRACT - OFFSITE IMPROVEMENTS
ROLESVILLE - WAKE COUNTY - NORTH CAROLINA
GRADING & PROFILE SHEET

JOB NO. 43398
SHEET NO. R5.02



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FINAL PLANS

NOT RELEASED FOR CONSTRUCTION

GRADING

EROSION CONTROL NOTES & DETAILS

PROJECT DESCRIPTION

THE PURPOSE OF THIS PROJECT IS TO WIDEN ROLESVILLE ROAD AND MITCHELL MILL ROAD TO THE ONE-HALF THE ULTIMATE CROSS SECTION PER THE TOWN'S COMPREHENSIVE TRANSPORTATION PLAN. THESE IMPROVEMENTS SPAN FOR THE ENTIRE FRONTAGE SITE DEVELOPMENT PER TOWN UDO REQUIREMENTS. ADDITIONAL IMPROVEMENTS INCLUDE STRIPING AND DITCHES.

EROSION AND SEDIMENT CONTROL MEASURES:

UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION EROSION AND SEDIMENT CONTROL DESIGN AND CONSTRUCTION MANUAL. THE MINIMUM STANDARDS SET FORTH BY THIS MANUAL SHALL BE ADHERED TO UNLESS OTHERWISE WAIVED OR APPROVED BY A VARIANCE.

EROSION CONTROL SEQUENCE OF CONSTRUCTION

A SINGLE-PHASED EROSION CONTROL APPROACH IS PROVIDED BELOW TO DESCRIBE GENERAL MEASURES REQUIRED TO MAINTAIN THE SITE THROUGHOUT CONSTRUCTION. THE CONTRACTOR SHALL APPLY PHASE I AS DESCRIBED HEREIN TO THE VARIOUS WORK AREAS ASSOCIATED WITH THIS PROJECT. DUE TO THE NATURE OF WORK AREAS, THE CONTRACTOR SHALL ENSURE EROSION CONTROL MEASURES ARE PROVIDED AS DESCRIBED THROUGH PROJECT COMPLETION AND ACCEPTANCE.

PHASE I:

1. PROVIDE MINIMAL CLEARING TO INSTALL SILT FENCE AS SHOWN ON THE PLANS. INSTALL CULVERT PROTECTION AS REQUIRED FOR EXISTING PIPES. TAKE SPECIAL CARE TO KEEP SOIL BUILD-UP FROM ENTERING THE EXISTING ROAD PAVEMENT.
2. THE CONTRACTOR WILL NOTIFY THE INSPECTOR OF THE PERMITTED LOCATION EXCESS SOIL MATERIAL IS HAULED TO OR BORROW MATERIAL IS BROUGHT IN FROM.
3. CLEAR AND GRUB AS INDICATED IN THE PLANS. MAINTAIN ACCESS ALONG EXISTING ROADS AND TO EXISTING DRIVEWAYS AT ALL TIMES.
4. TEMPORARY GRADING AND SEEDING IS REQUIRED FOR ALL AREAS WHEN DIRECTED:
   - 4.1. WHEN IT IS IMPOSSIBLE OR IMPRACTICAL TO BRING AN AREA TO THE FINAL LINE, GRADE AND FINISH SO THAT PERMANENT SEEDING AND MULCHING OPERATIONS CAN BE PERFORMED WITHOUT SUBSEQUENT SERIOUS DISTURBANCE BY ADDITIONAL GRADING
   - 4.2. WHEN EROSION OCCURS OR IS CONSIDERED TO BE POTENTIALLY SUBSTANTIAL ON AREAS OF GRADED ROADBED WHERE CONSTRUCTION OPERATIONS ARE TEMPORARILY SUSPENDED OR WHEN THE GRADING OF THE ROADBED HAS BEEN COMPLETED SUBSTANTIALLY IN ADVANCE OF THE PAVING CONSTRUCTION
   - 4.3. DURING SEASONS OF THE YEAR WHEN PERMANENT SEEDING AND MULCHING IS PROHIBITED BY THE CONTRACT
   - 4.4. WHEN AN IMMEDIATE COVER WOULD BE DESIRABLE TO MINIMIZE EROSION, SILTATION OR POLLUTION ON ANY AREA
   - 4.5. 7/14-DAY SOIL STABILIZATION REQUIREMENTS APPLY TO ANY SECTION OF THE PROJECT WHERE LAND-DISTURBING ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED AND SHALL SUPERSEDE ANY LESS STRINGENT STABILIZATION REQUIREMENTS ON THE PLANS. [G.S. 143-215.1]
6. CONTRACTOR SHALL REMOVE AND REPLACE ANY DAMAGED EROSION CONTROL MEASURES UNTIL FINAL APPROVAL OF CONSTRUCTION.
7. THE SITE SHALL BE PERMANENTLY STABILIZED AFTER ALL GRADING HAS BEEN COMPLETED BY SEEDING ALL DISTURBED AREAS.
8. UPON CONSTRUCTION COMPLETION, THE CONTRACTOR MUST CONTACT THE INSPECTOR FOR EROSION CONTROL INSPECTION OF SLOPE STABILITY. EROSION CONTROL MEASURES MAY NOT BE REMOVED WITHOUT AUTHORIZATION BY THE ASSIGNED INSPECTOR.
9. UPON APPROVAL CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION CONTROL DEVICES.

NOTE:
1. CONTRACTOR MUST KEEP THE EXISTING ROAD FREE FROM BUILDUP OF SOIL.

EROSION & SEDIMENT CONTROL LEGEND

- LOD — LIMITS OF DISTURBANCE
- SF — TEMPORARY SILT FENCE (NCDOT ST'D. 1605.01)
- W — WATTLE WITH FLOCCULANT
- RIST-C — ROCK INLET SEDIMENT TRAP - TYPE C (NCDOT ST'D. 1632.03)
- CIP — ROCK PIPE SEDIMENT TRAP - TYPE B (NCDOT ST'D. 1635.02)

STABILIZATION REQUIREMENTS:

Stabilization for this project shall comply with the time frame guidelines as specified by the NCG-010000 general construction permit effective April 1, 2019 issued by the North Carolina Department of Environmental Quality Division of Water Resources. Temporary or permanent ground cover stabilization shall occur within 7 calendar days from the last land-disturbing activity, with the following exceptions in which temporary or permanent ground cover shall be provided in 14 calendar days from the last land-disturbing activity:

- Slopes between 2:1 and 3:1, with a slope length of 10 ft. or less
- Slopes 3:1 or flatter, with a slope of length of 50 ft. or less
- Slopes 4:1 or flatter

The stabilization timeframe for High Quality Water (HQW) Zones shall be 7 calendar days with no exceptions for slope grades or lengths. High Quality Water Zones (HQW) Zones are defined by North Carolina Administrative Code 15A NCAC 04A.0105 (25). Temporary and permanent ground cover stabilization shall be achieved in accordance with the provisions in this contract and as directed.

SEEDING AND MULCHING: (East)

The kinds of seed and fertilizer, and the rates of application of seed, fertilizer, and limestone, shall be as stated below. During periods of overlapping dates, the kind of seed to be used shall be determined. All rates are in pounds per acre.

All Roadway Areas

March 1 - August 31		September 1 - February 28	
50#	Tall Fescue	90#	Tall Fescue
10#	Centipede	10#	Centipede
25#	Bermudagrass (hulled)	35#	Bermudagrass (unhulled)
500#	Fertilizer	500#	Fertilizer
4000#	Limestone	4000#	Limestone

Waste and Borrow Locations

March 1 – August 31		September 1 - February 28	
75#	Tall Fescue	75#	Tall Fescue
25#	Bermudagrass (hulled)	35#	Bermudagrass (unhulled)
500#	Fertilizer	500#	Fertilizer
4000#	Limestone	4000#	Limestone

Note: 50# of Bahiagrass may be substituted for either Centipede or Bermudagrass only upon Engineer's request.

Approved Tall Fescue Cultivars

06 Dust	Escalade	Justice	Serengeti
2nd Millennium	Essential	Kalahari	Shelby
3rd Millennium	Evergreen 2	Kitty Hawk 2000	Shenshia
Apache III	Falcon IV	Legitimate	Signia
Avenger	Falcon NG	Lexington	Silver Hawk
Barlexas	Falcon V	LSD	Silverstar
Barlexas II	Faith	Magellan	Shenandoah Elite
Bar Fa	Fat Cat	Matador	Sidewinder
Barrera	Festnova	Millennium SRP	Skyline
Barrington	Fidelity	Monet	Solara
Barrobusto	Finelawn Elite	Mustang 4	Southern Choice II
Barvado	Finelawn Xpress	Ninja 2	Speedway
Biltmore	Finesse II	Ol' Glory	Spyder LS
Biego	Firebird	Olympic Gold	Sonser Gold
Bizem	Firecracker LS	Padre	Tacoma
Blackwatch	Fiberus	Patagonia	Tanzania
Blade Runner II	Five Point	Pedigree	Trio
Bonsai	Focus	Picasso	Tahoe II
Braveheart	Forte	Piedmont	Talladega
Bravo	Garrison	Plantation	Tarheel
Bullseye	Gazelle II	Proseeds 5301	Termaxx
Cannavaro	Gold Medallion	Prospect	Titan ltd
Catalyst	Grande 3	Pure Gold	Titanium LS
Cayenne	Greenbrooks	Quest	Tracer
Cessane Rz	Greenkeeper	Raptor II	Traverse SKP
Chipper	Gremlin	Rebel Exeda	Tuba Time
Cochise IV	Greystone	Rebel Sentry	Turbo
Constitution	Guardian 21	Rebel IV	Turbo RZ
Corgi	Guardian 41	Regiment II	Tuxedo RZ
Corona	Heml	Regenerate	Ultimate
Coyote	Honky Tonk	Rendition	Venture
Darlington	Hot Rod	Rhambler 2 SRP	Umbrella
Davinci	Hunter	Rembrandt	Van Gogh
Desire	Inferno	Resolen	Watchdog
Dominion	Innovator	Riverside	Wolfpack II
Dynamic	Integrity	RNP	Xtremegreen
Dynasty	Jaguar 3	Rocket	
Endeavor	Jamboree	Scorpion	

On cut and fill slopes 2:1 or steeper Centipede shall be applied at the rate of 5 pounds per acre and add 20# of Serizoa Lespedeza from January 1 - December 31.

Fertilizer shall be 10-20-20 analysis. A different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as a 10-20-20 analysis and as directed.

TEMPORARY SEEDING:

Fertilizer shall be the same analysis as specified for *Seeding and Mulching* and applied at the rate of 400 pounds and seeded at the rate of 50 pounds per acre. Sweet Sudan Grass, German Millet or Browntop Millet shall be used in summer months and Rye Grain during the remainder of the year. The Engineer will determine the exact dates for using each kind of seed.

FERTILIZER TOPDRESSING:

Fertilizer used for topdressing on all roadway areas except slopes 2:1 and steeper shall be 10-20-20 grade and shall be applied at the rate of 500 pounds per acre. A different analysis of fertilizer may be used provided the 2-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as 10-20-20 analysis and as directed.

Fertilizer used for topdressing on slopes 2:1 and steeper and waste and borrow areas shall be 16-8-8 grade and shall be applied at the rate of 500 pounds per acre. A different analysis of fertilizer may be used provided the 2-1-1 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as 16-8-8 analysis and as directed.

SUPPLEMENTAL SEEDING:

The kinds of seed and proportions shall be the same as specified for *Seeding and Mulching*, with the exception that no centipede seed will be used in the seed mix for supplemental seeding. The rate of application for supplemental seeding may vary from 25# to 75# per acre. The actual rate per acre will be determined prior to the time of topdressing and the Contractor will be notified in writing of the rate per acre, total quantity needed, and areas on which to apply the supplemental seed. Minimum tillage equipment, consisting of a sod seeder shall be used for incorporating seed into the soil as to prevent disturbance of existing vegetation. A cloebuster (bull and chain) may be used where degree of slope prevents the use of a sod seeder.

MOWING:

The minimum mowing height on this project shall be 4 inches.

Mulching Materials and Application Rates

Material	Rate Per Acre	Quality	Notes
Organic Mulches			
Straw	1-2 tons	Dry, unchopped, unweathered; avoid weeds.	Should come from wheat or oats; spread by hand or machine; must be tacked down.
Wood chips	6-6 tons	Air dry	Treat with 12 lbs nitrogen/ton. Apply with mulch blower, chip handler, or by hand. Not for use in fine turf.
Wood fiber	0.5-1 tons		Also referred to as wood cellulose. May be hydroseeded. Do not use in hot, dry weather.
Bark	35 cubic yards	Air dry, shredded or hammer-milled, or chips	Apply with mulch blower, chip handler, or by hand. Do not use asphalt tack.
Corn stalks	4-6 tons	Cut or shredded in 4-6 in. lengths	Apply with mulch blower or by hand. Not for use in fine turf.
Sericea lespedeza seed-bearing stems	1-3 tons	Green or dry; should contain mature seed.	
Nets and Mats[1]			
Jute net	Cover area	Heavy, uniform, woven of single jute yarn.	Withstands waterflow. Best when used with organic mulch.
Fiberglass net	Cover area		Withstands waterflow. Best when used with organic mulch.
Excelsior (wood fiber) mat	Cover area		Withstands waterflow.
Fiberglass roving	0.5-1 tons	Continuous fibers of drawn glass bound together with a non-toxic agent.	Apply with a compressed air ejector. Tack with emulsified asphalt at a rate of 25-35 gal/1,000 sq ft.
Chemical Stabilizers[2]			
Aquatain Aerospray Curasol AK Petroset SB Terra Tack Crust 500 Genapal 743 M-145	follow manufacturer's specifications		Not beneficial to plant growth.

[1] Refer to Practice No. 8.30, *Grass Lined Channels*.

[2] Use of trade names does not imply endorsement of product.

NOTES

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049206 07-21-22 BRIAN POINTS BRIAN PATRICK WELCH

REVISION DESCRIPTION

DATE

DATE 07/21/22
DRAWN BY BPW
DESIGNED BY BPW
CHECKED BY BPW
SCALE ----

TIMMONS GROUP

WHEELER TRACT - OFFSITE IMPROVEMENTS
ROLESVILLE - WAKE COUNTY - NORTH CAROLINA
EROSION CONTROL PLAN

JOB NO. 43398
SHEET NO. R5.03

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CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS, AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS OR RESULT IN DUPLICATE OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT EXCEPT WHEN OTHERWISE NOTED IN THE PLAN OR DIRECTED BY THE ENGINEER.

TIME RESTRICTIONS

A) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
Rolesville Road	7am-9am, 3pm-6pm
Mitchell Mill Road	7am-9am, 3pm-6pm

B) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS:

ROAD NAME	
Rolesville Road	7am-9am, 3pm-6pm
Mitchell Mill Road	7am-9am, 3pm-6pm

HOLIDAY

1. FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
2. FOR NEW YEAR'S, BETWEEN THE HOURS OF 7:00 A.M. DECEMBER 31st TO 7:00 P.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 7:00 P.M. THE FOLLOWING TUESDAY.
3. FOR EASTER, BETWEEN THE HOURS OF 7:00 A.M. THURSDAY AND 7:00 P.M. MONDAY.
4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 7:00 A.M. FRIDAY TO 7:00 P.M. TUESDAY.
5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 7:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 7:00 P.M. THE DAY AFTER INDEPENDENCE DAY.

   IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 7:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 7:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.
6. FOR LABOR DAY, BETWEEN THE HOURS OF 7:00 A.M. FRIDAY AND 7:00 P.M. TUESDAY.
7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 7:00 A.M. TUESDAY TO 7:00 P.M. MONDAY.
8. FOR CHRISTMAS, BETWEEN THE HOURS OF 7:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 7:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

LANE AND SHOULDER CLOSURE REQUIREMENTS

C) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.

D) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.

E) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

F) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP, OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

PAVEMENT EDGE DROP OFF REQUIREMENTS

G) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:

BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.

H) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) 500 IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

I) NOTIFY THE ENGINEER THIRTY (30) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

J) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

K) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

L) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 500 IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

TRAFFIC CONTROL DEVICES

M) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH) EXCEPT, 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.

PAVEMENT MARKINGS AND MARKERS

N) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

O) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

MISCELLANEOUS

P) LAW ENFORCEMENT MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS AS DIRECTED BY THE ENGINEER.

Q) ALL CURB RAMP LOCATIONS SHALL BE DERIVED FROM STATIONING SHOWN ON PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER IN COORDINATION WITH THE SIGNING AND DELINEATION UNIT.

REV. OCTOBER 2017

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD.NO.	TITLE
1101.01	WORK ZONE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUMS
1135.01	CONES
1150.01	FLAGGING DEVICES
1165.01	TRUCK MOUNTED ATTENUATOR
1180.01	SKINNY - DRUMS

THE FOLLOWING LISTED WORK ZONE STRATEGIES ARE RECOMMENDED FOR INCLUSION WITHIN THIS TRANSPORTATION MANAGEMENT PLAN (TMP).

RECOMMENDED STRATEGIES:

TRAFFIC MANAGEMENT STRATEGIES:
- SHOULDER CLOSURES
- ONE-LANE, TWO WAY OPERATION (FLAGGING)
- NIGHT WORK
- WEEKEND WORK
- WORK HOUR RESTRICTIONS FOR PEAK TRAVEL

TRAFFIC / INCIDENT MANAGEMENT & SPEED ENFORCEMENT STRATEGIES:
- COORDINATION WITH STATE TRAFFIC OPERATIONS CENTER (STOC)
- COORDINATION WITH MEDIA

SEQUENCE OF CONSTRUCTION

THE FOLLOWING SEQUENCE OF CONSTRUCTION IS A RECOMMENDATION PROVIDED BY THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING APPROVAL FOR ANY CHANGES TO THIS TRANSPORTATION MANAGEMENT PLAN RESULTING FROM ADJUSTMENTS TO THE RECOMMENDED SEQUENCES. ALL PHASES OF CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL PLANS PROVIDED.

CONSTRUCTION FOR EACH LOCATION WILL FOLLOW THE SEQUENCE PROVIDED BELOW. CONSTRUCTION DURING EACH PHASE CONSISTS OF ALL WORK NECESSARY TO COMPLETE THE PROJECT.

TRAFFIC SHALL BE MAINTAINED ACCORDING TO THE N.C. DEPARTMENT OF TRANSPORTATION DETAILS FOUND ON THIS SHEET. THE CONTRACTOR SHALL MINIMIZE LANE CLOSURES TO THE GREATEST EXTENT PRACTICAL.

PHASE 1
INSTALL SIGNING FOR PROJECT LIMITS PER 1101.01. ERECT ALL ADVANCE WARNING SIGNS AND CHANNELIZATION DEVICES PER NCDOT DETAILS FOR APPROPRIATE MAINTENANCE OF TRAFFIC FOR CONSTRUCTION STAGING.

PHASE 2
COMMENCE CLEARING AND INSTALLATION OF EROSION CONTROL MEASURES IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL PLANS. REMOVAL, ABANDONMENT AND ADJUSTMENTS OF PUBLIC UTILITIES SHALL BE COMPLETED PRIOR TO OR DURING THIS PHASE. PERFORM GRADING OPERATIONS FOR PROPOSED WIDENING.

PHASE 3
CONSTRUCT ROUGH GRADING, STORM STRUCTURES AND NETWORK, CURB AND GUTTER, PAVEMENT WIDENING, FINAL PAVING OPERATIONS, STRIPING AND INSTALLATION OF ROADSIDE SIGNS.

PHASE 4
PERFORM FINAL GRADING OPERATIONS AND PLACE FINAL SEED MIX AND STABILIZE ALL WORK AREAS

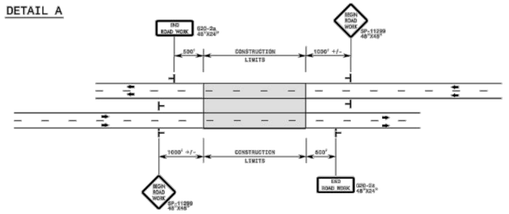
PHASE 5
UPON COMPLETION OF ALL WORK, REMOVE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES (AS APPROVED BY THE ENVIRONMENTAL ENGINEERING INSPECTOR) AND ALL TEMPORARY TRAFFIC CONTROL DEVICES.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

FINAL PLANS

NOT RELEASED FOR CONSTRUCTION

DETAIL A



GENERAL NOTES

1- DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK UNLESS COVERED.

2- SIGNS SHOWN ARE REQUIRED FOR WORK ZONES THAT WILL REMAIN IN EFFECT LONGER THAN 3 CONSECUTIVE DAYS.

3- ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE, FIELD ADJUST AS NECESSARY OR AS DIRECTED.

4- ERECT SIGNS PER RSD. 1110.01. PAYMENT FOR WOOD POSTS, 3LB STEEL U-CHANNEL AND SQUARE STEEL TUBING POSTS WITH SIGNS WILL BE MADE ACCORDING TO STANDARD SPECIFICATIONS FOR WORK ZONE SIGNS.

5- WHEN NECESSARY, USE SPLICING IN ACCORDANCE WITH RSD. 1110.01.

6- DO NOT BACK BRACE SIGN SUPPORTS.

7- TWO-WAY UNDIVIDED ADVANCE WARNING SIGN CONFIGURATION MAY BE USED ON URBAN MULTI-LANE FACILITIES WHERE CONDITIONS LIMIT THE USE OF DUAL MOUNTED SIGNS AS DETERMINED BY THE ENGINEER.

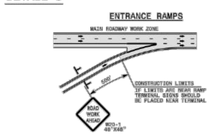
LEGEND
- STATIONARY SIGN
- DIRECTION OF TRAFFIC FLOW

DETAIL B

EXIT RAMPS

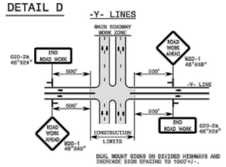
DETAIL C

ENTRANCE RAMPS



DETAIL D

-Y- LINES



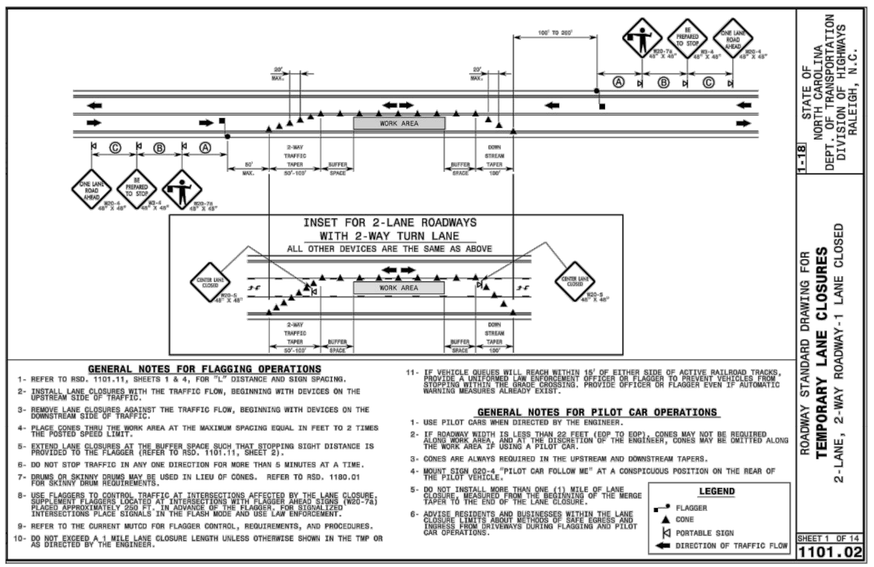
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR
WORK ZONE ADVANCE WARNING SIGNS FOR FACILITIES ≤ 55 MPH

SHEET 2 OF 3

1101.01



GENERAL NOTES FOR FLAGGING OPERATIONS

1- REFER TO RSD. 1101.11, SHEETS 1 & 4, FOR "L" DISTANCE AND SIGN SPACING.

2- INSTALL LANE CLOSURES WITH THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE UPSTREAM SIDE OF TRAFFIC.

3- REMOVE LANE CLOSURES AGAINST THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE DOWNSTREAM SIDE OF TRAFFIC.

4- PLACE CONES THRU THE WORK AREA AT THE MAXIMUM SPACING EQUAL IN FEET TO 2 TIMES THE POSTED SPEED LIMIT.

5- EXTEND LANE CLOSURES AT THE BUFFER SPACE SUCH THAT STOPPING SIGHT DISTANCE IS PROVIDED TO THE FLAGGER (REFER TO RSD. 1101.11, SHEET 2).

6- DO NOT STOP TRAFFIC IN ANY ONE DIRECTION FOR MORE THAN 5 MINUTES AT A TIME.

7- DRUMS OR SKINNY DRUMS MAY BE USED IN LIEU OF CONES. REFER TO RSD. 1180.01 FOR SKINNY DRUM REQUIREMENTS.

8- USE FLAGGERS TO CONTROL TRAFFIC AT INTERSECTIONS AFFECTED BY THE LANE CLOSURE. SUPPLEMENT FLAGGERS LOCATED AT INTERSECTIONS WITH FLAGGER AHEAD SIGNS (W20-7A) PLACED APPROXIMATELY 350 FT. IN ADVANCE OF THE FLAGGER. FOR SIGNALIZED INTERSECTIONS PLACE SIGNALS IN THE FLASH MODE AND USE LAW ENFORCEMENT.

9- REFER TO THE CURRENT MUTCD FOR FLAGGER CONTROL, REQUIREMENTS, AND PROCEDURES.

10- DO NOT EXCEED A 1 MILE LANE CLOSURE LENGTH UNLESS OTHERWISE SHOWN IN THE TMP OR AS DIRECTED BY THE ENGINEER.

11- IF VEHICLE QUEUES WILL REACH WITHIN 15' OF EITHER SIDE OF ACTIVE RAILROAD TRACKS, PROVIDE A UNIFORMED LAW ENFORCEMENT OFFICER OR FLAGGER TO PREVENT VEHICLES FROM STOPPING WITHIN THE GRADE CROSSING. PROVIDE OFFICER OR FLAGGER EVEN IF AUTOMATIC WARNING MEASURES ALREADY EXIST.

GENERAL NOTES FOR PILOT CAR OPERATIONS

1- USE PILOT CARS WHEN DIRECTED BY THE ENGINEER.

2- IF ROADWAY WIDTH IS LESS THAN 22 FEET (EOP TO EOP), CONES MAY NOT BE REQUIRED ALONG WORK AREA, AND AT THE DISCRETION OF THE ENGINEER, CONES MAY BE OMITTED ALONG THE WORK AREA IF USING A PILOT CAR.

3- CONES ARE ALWAYS REQUIRED IN THE UPSTREAM AND DOWNSTREAM TAPERS.

4- MOUNT SIGN G20-4 "PILOT CAR FOLLOW ME" AT A CONSPICUOUS POSITION ON THE REAR OF THE PILOT VEHICLE.

5- DO NOT INSTALL MORE THAN ONE (1) MILE OF LANE CLOSURE, MEASURED FROM THE BEGINNING OF THE MERGE TAPER TO THE END OF THE LANE CLOSURE.

6- ADVISE RESIDENTS AND BUSINESSES WITHIN THE LANE CLOSURE LIMITS ABOUT METHODS OF SAFE EGRESS AND INGRESS FROM DRIVEWAYS DURING FLAGGING AND PILOT CAR OPERATIONS.

LEGEND
- FLAGGER
- CONE
- PORTABLE SIGN
- DIRECTION OF TRAFFIC FLOW

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

1-18

ROADWAY STANDARD DRAWING FOR
TEMPORARY LANE CLOSURES
2-LANE, 2-WAY ROADWAY-1 LANE CLOSED

SHEET 1 OF 14

1101.02

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049206 07-21-22 BRIAN PATRICK WELCH

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REVISION DESCRIPTION	DATE

DATE 07/21/22
DRAWN BY BPW
DESIGNED BY BPW
CHECKED BY BPW
SCALE ---

TIMMONS GROUP

WHEELER TRACT - OFFSITE IMPROVEMENTS
ROLESVILLE - WAKE COUNTY STATE - NORTH CAROLINA
TRAFFIC MANAGEMENT PLAN

JOB NO. 43398
SHEET NO. R7.00

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DESIGNED BY: BPW
CHECKED BY: BPW
SCALE: 1" = 10'

TIMMONS GROUP

WHEELER TRACT - OFFSITE IMPROVEMENTS

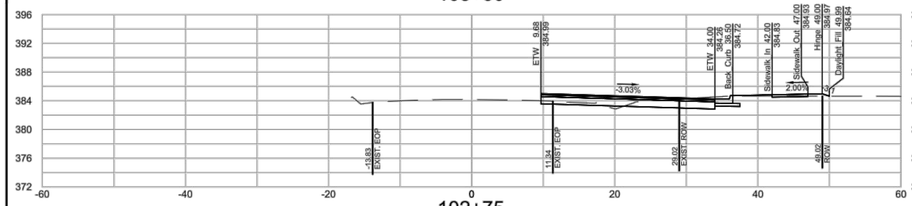
ROLESVILLE - WAKE COUNTY - NORTH CAROLINA

ROLESVILLE ROAD CROSS SECTIONS

JOB NO. 43398

SHEET NO. R8.01

103+00



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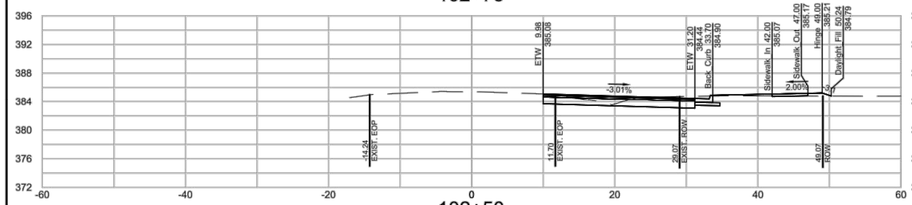

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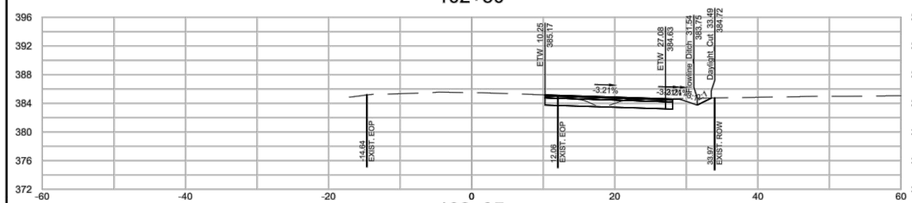

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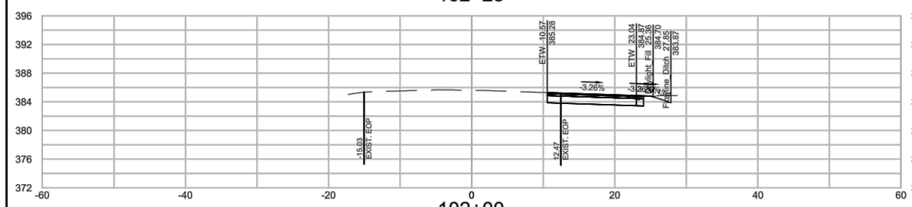

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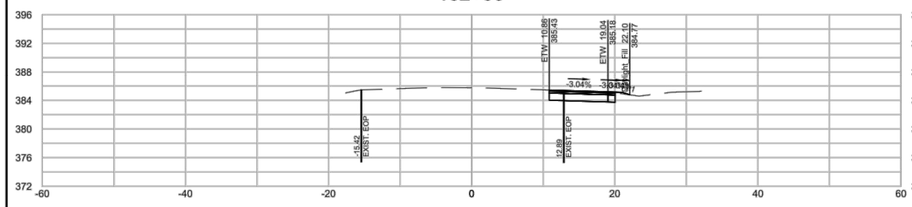

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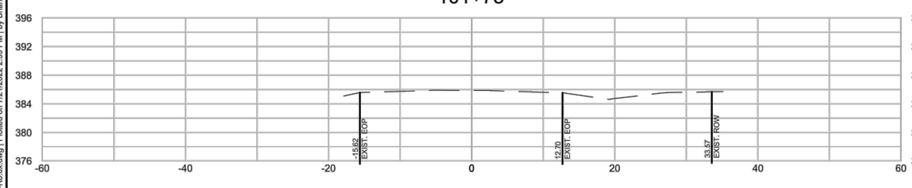

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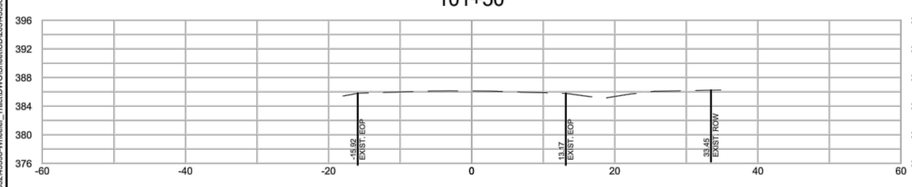

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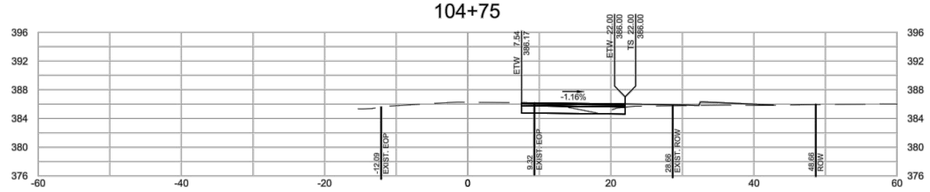

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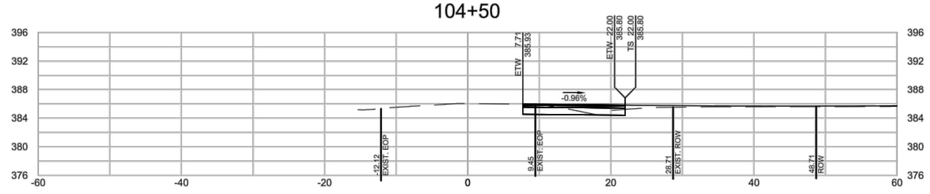

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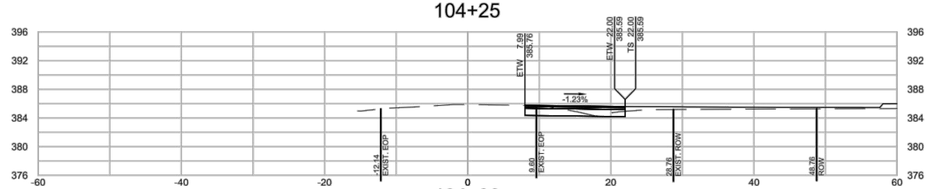

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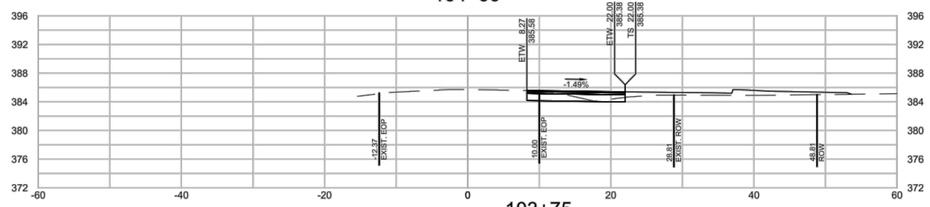

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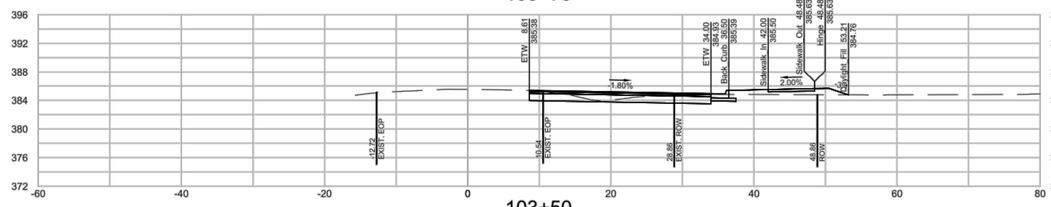

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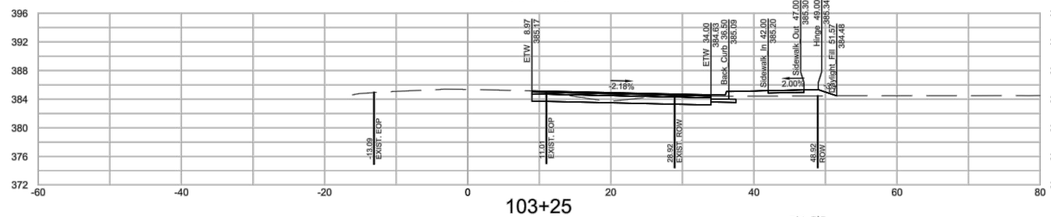

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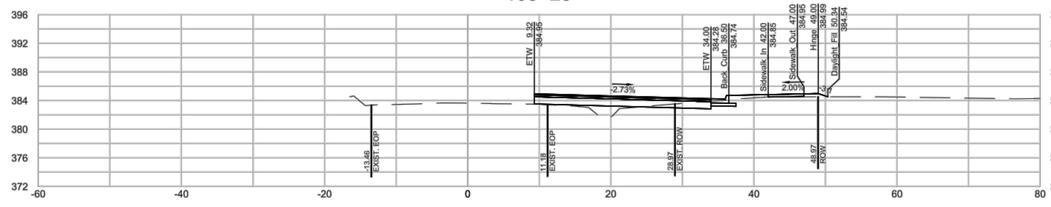

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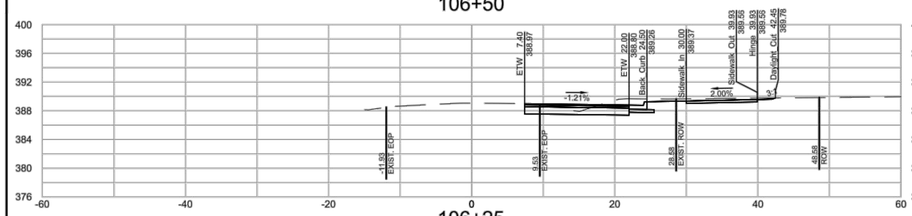

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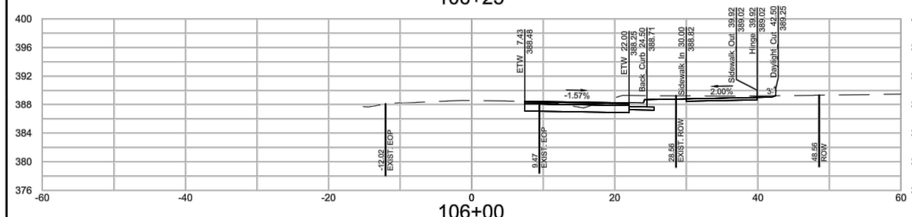

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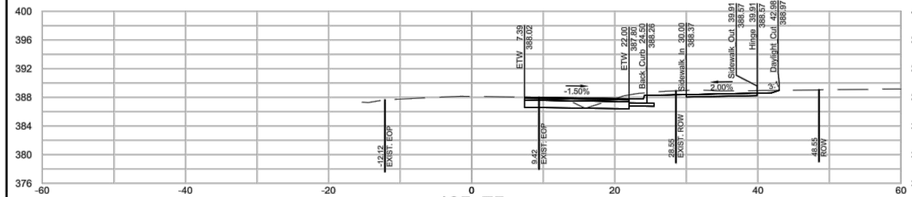

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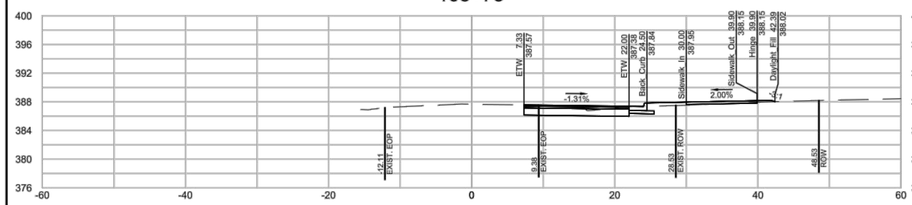

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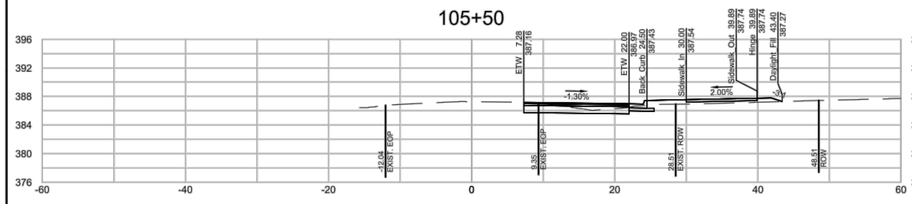

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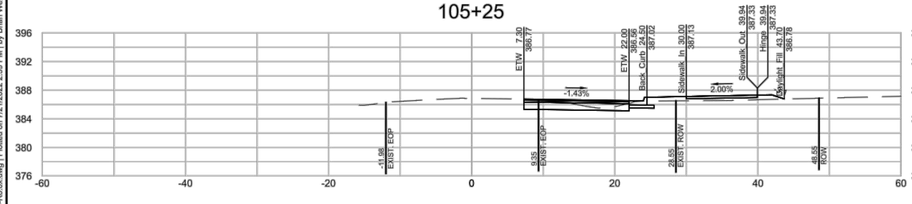

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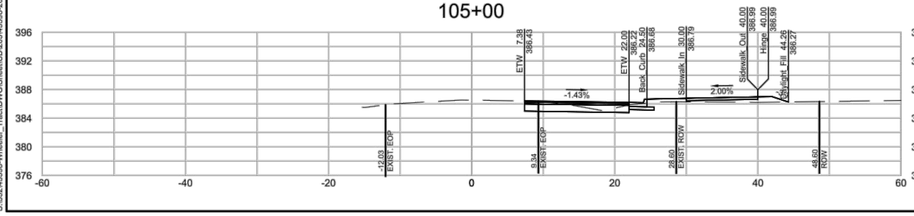

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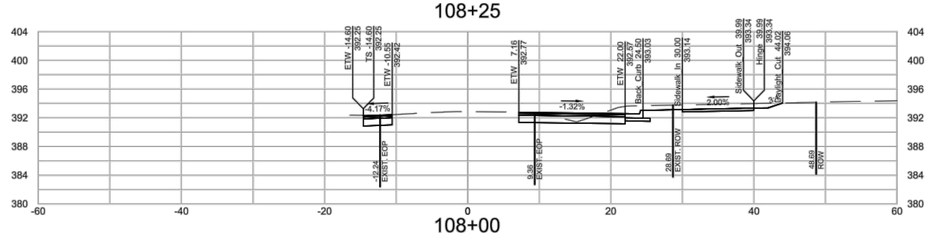

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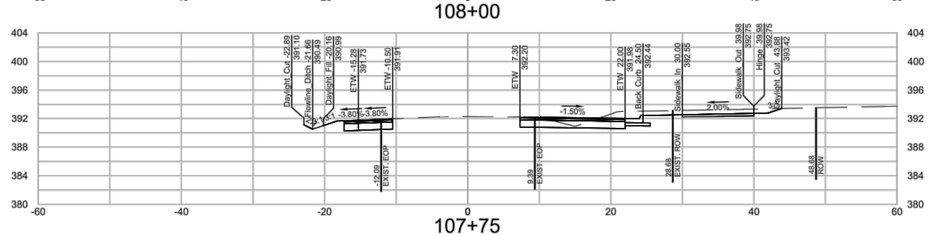

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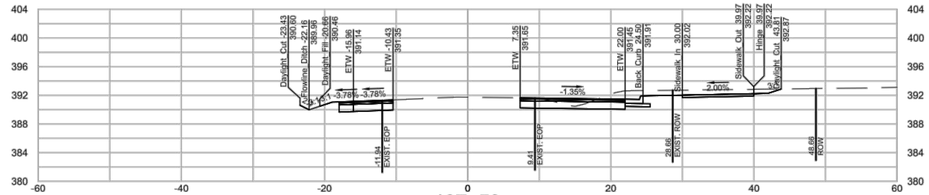

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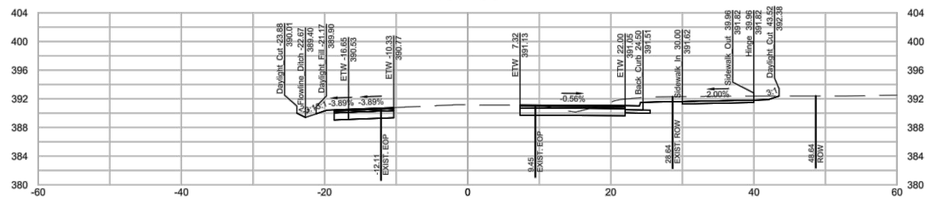

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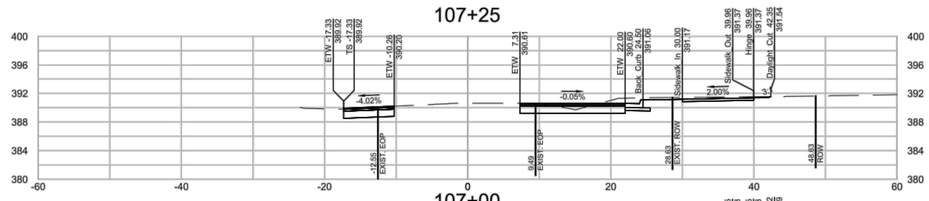

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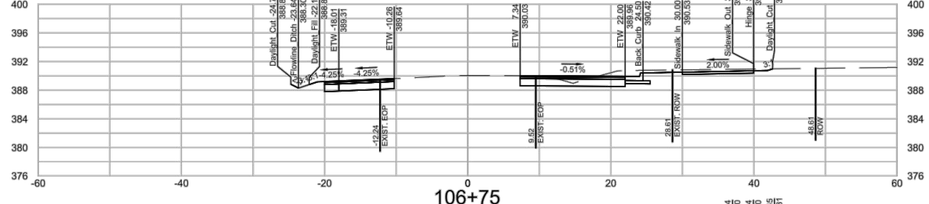

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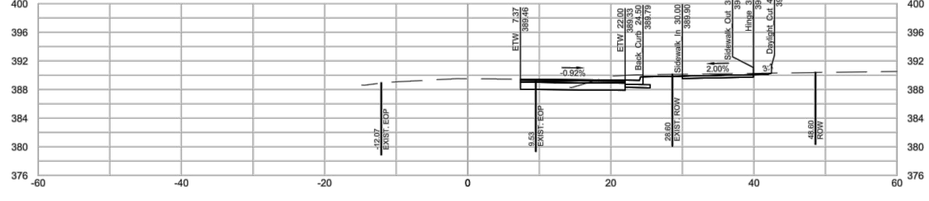

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REVISION DESCRIPTION

DATE

DATE 07/21/22
DRAWN BY BPW
DESIGNED BY BPW
CHECKED BY BPW
SCALE 1" = 10'

TIMMONS GROUP

WHEELER TRACT - OFFSITE IMPROVEMENTS

ROLESVILLE - WAKE COUNTY - NORTH CAROLINA

ROLESVILLE ROAD CROSS SECTIONS

JOB NO. 43398

SHEET NO. R8.02

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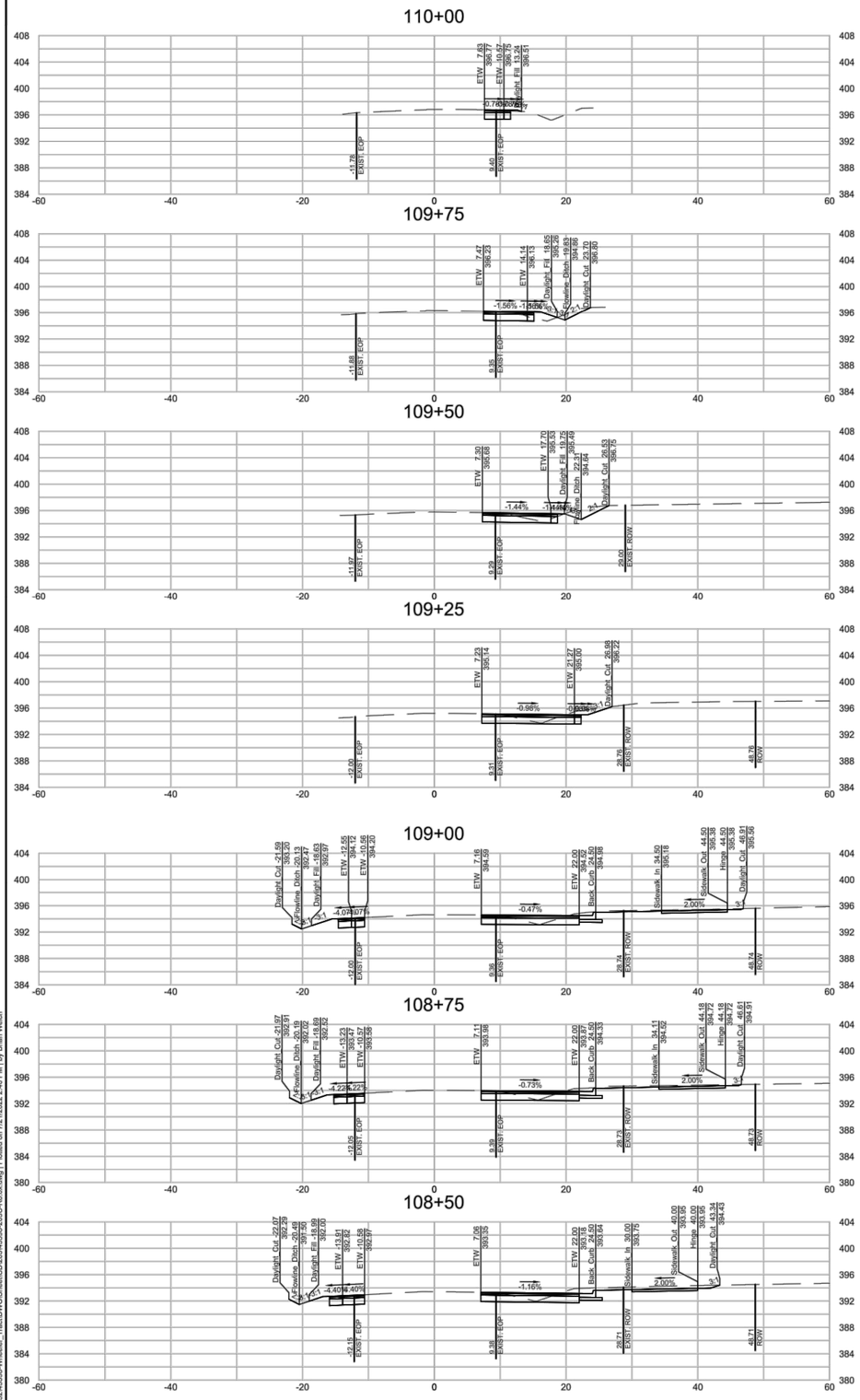
FINAL PLANS

NOT RELEASED FOR CONSTRUCTION



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WHEELER TRACT - OFFSITE IMPROVEMENTS

ROLESVILLE - WAKE COUNTY - NORTH CAROLINA

ROLESVILLE ROAD CROSS SECTIONS

JOB NO. 43398

SHEET NO. R8.03

S:\3324\43398-Wheeler_Tract\DWG\Sheet\CD\20\43398-203C-R8.0x.dwg | Plotted on 7/21/2022 2:40 PM | by Brian Welch

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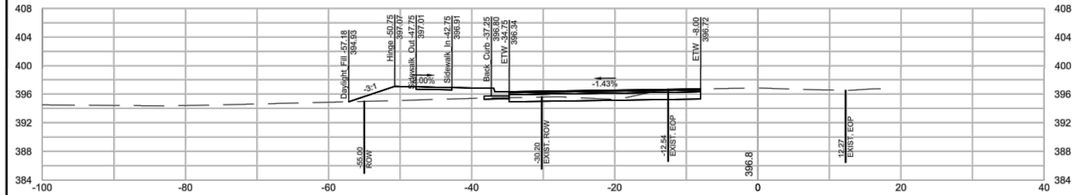

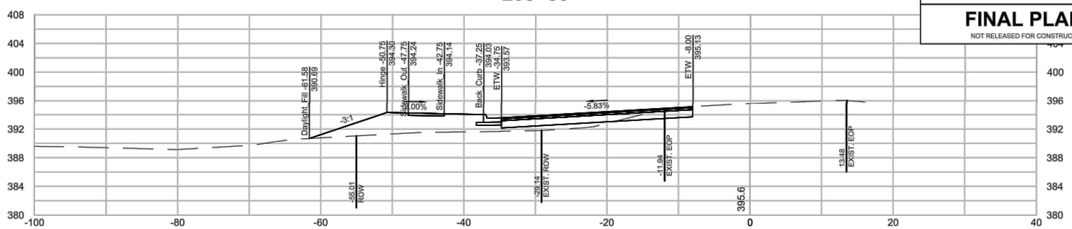

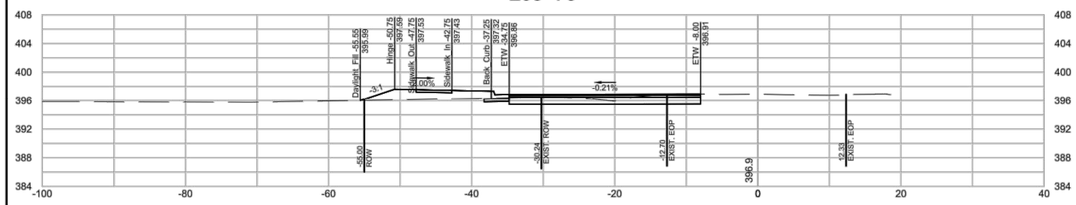

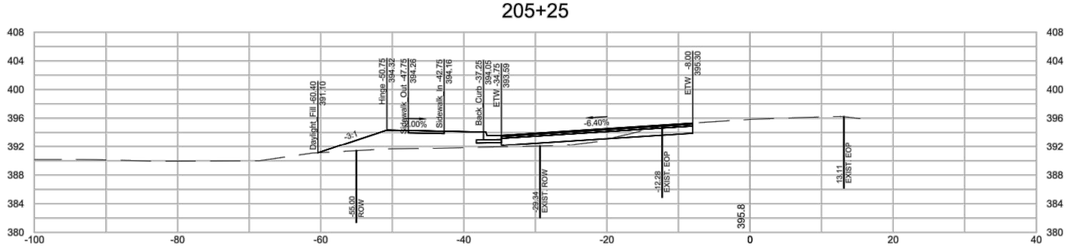

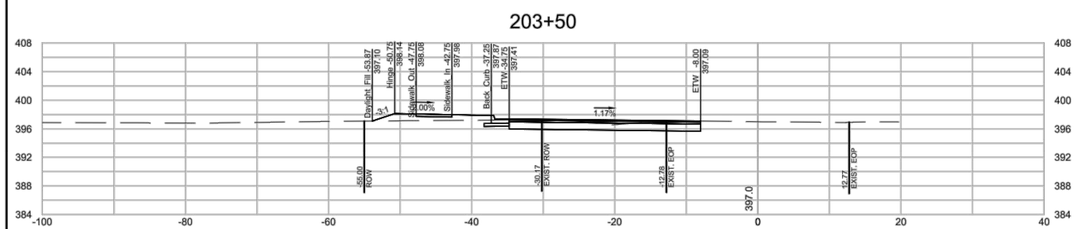

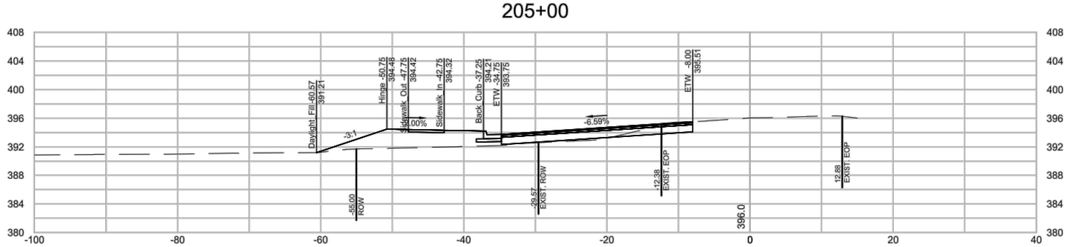

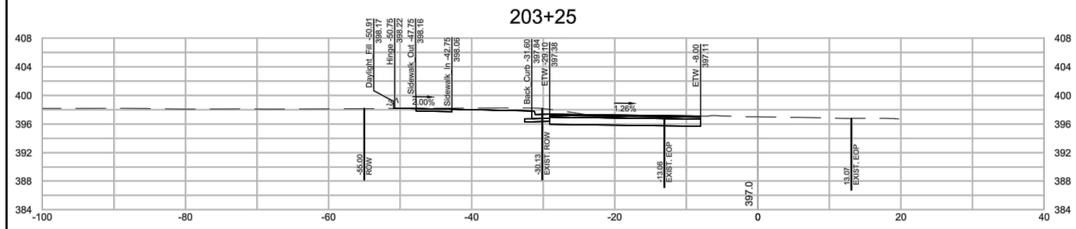

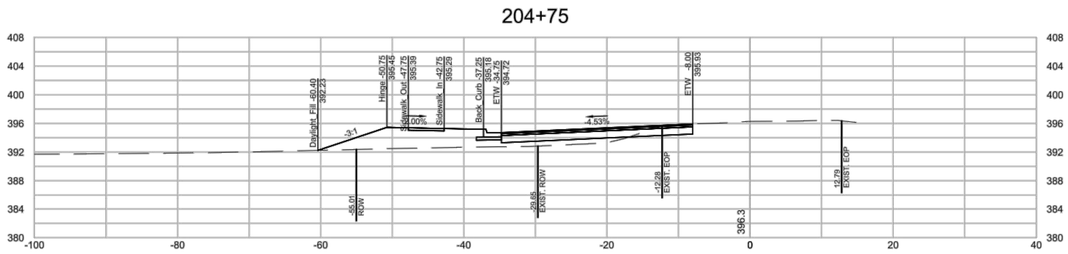

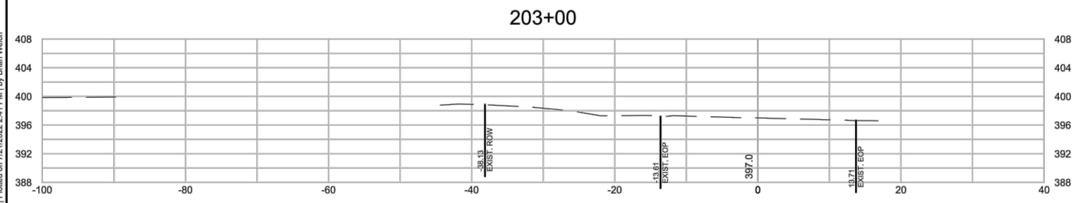

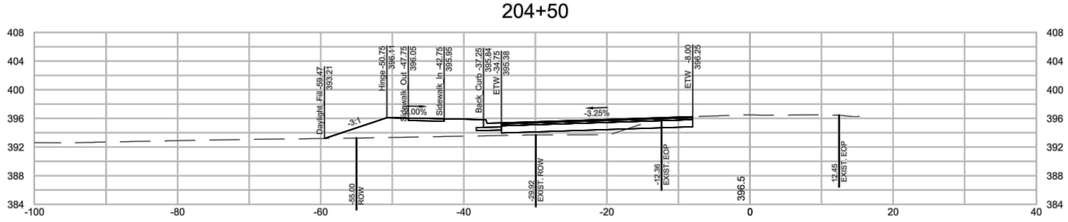

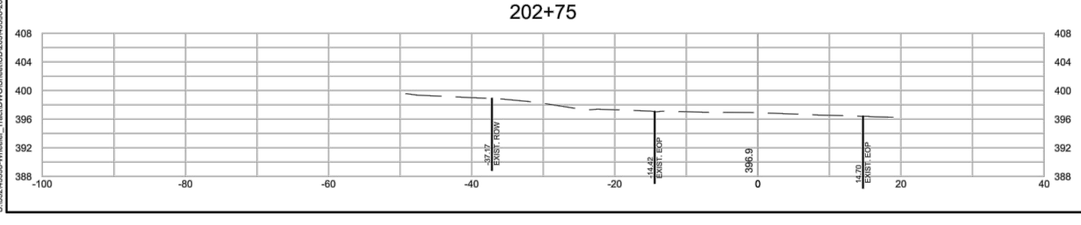

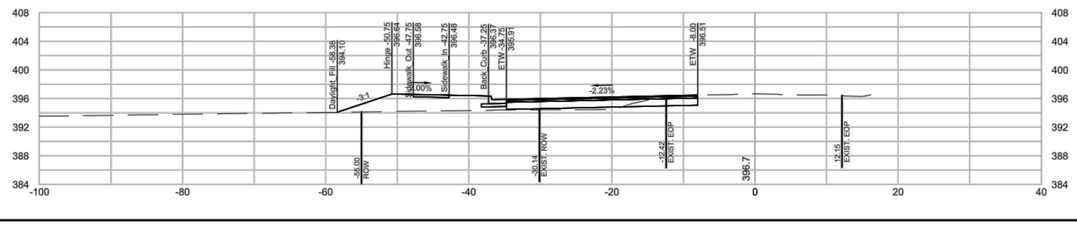

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ROLESVILLE - WAKE COUNTY - NORTH CAROLINA
MITCHELL MILL ROAD CROSS SECTIONS

REVISION DESCRIPTION	DATE

DATE: 07/21/22
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CHECKED BY: BPW
SCALE: 1" = 10'

JOB NO. 43398
SHEET NO. R8.04

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049206 07-21-22 REGISTERED BRIAN PATRICK WELCH

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FINAL PLANS

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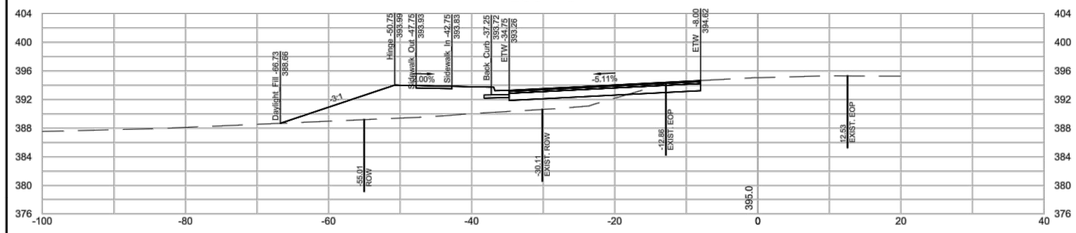
206+75



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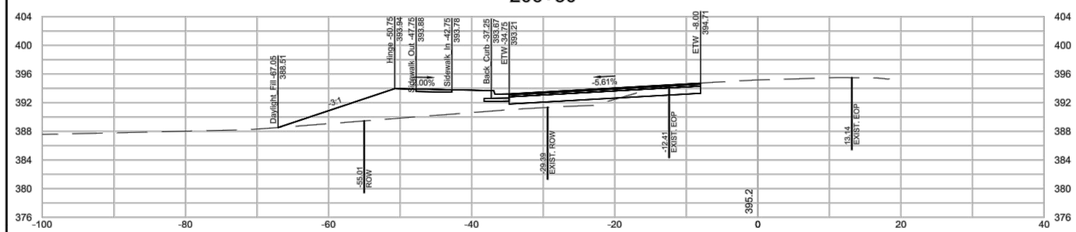

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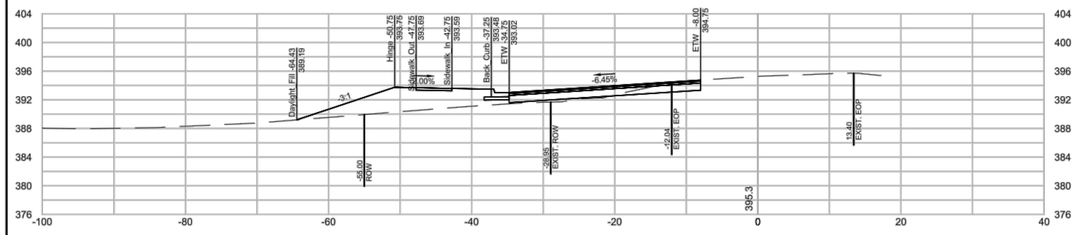

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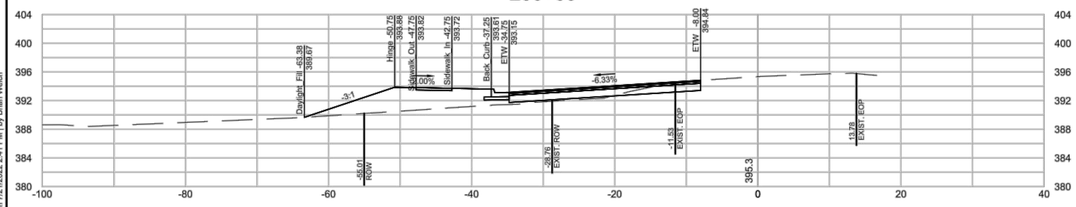

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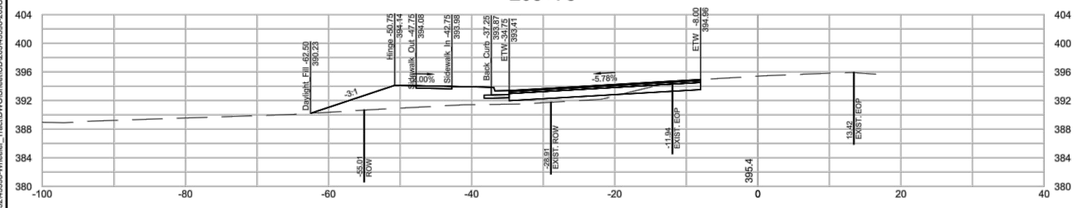

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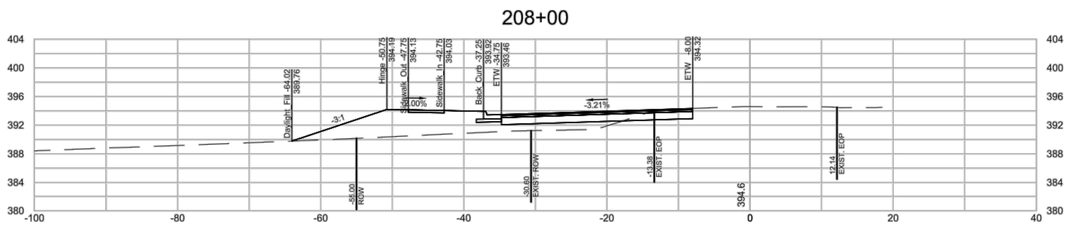

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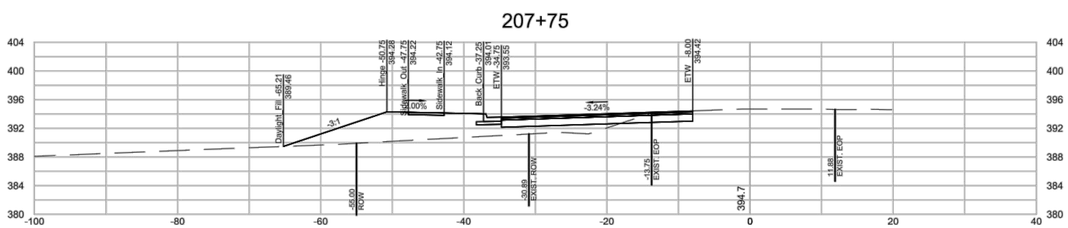

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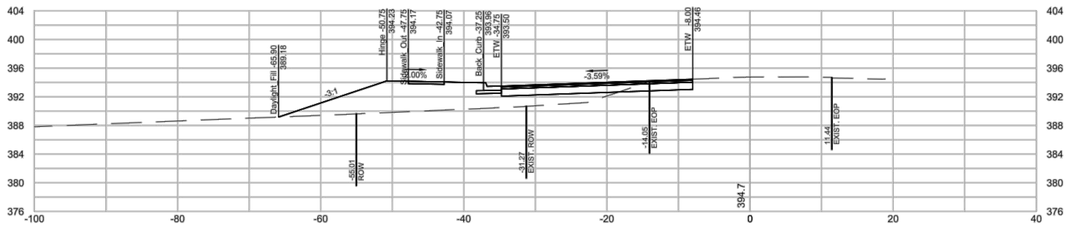

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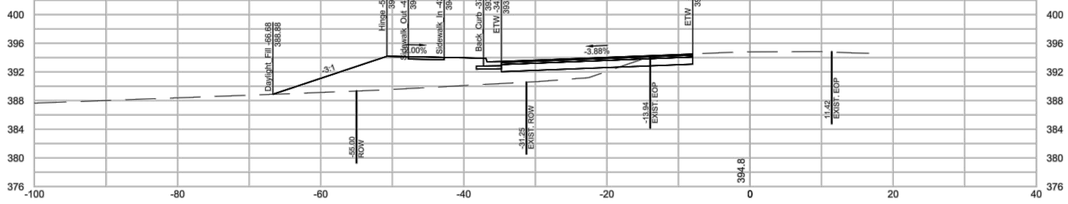

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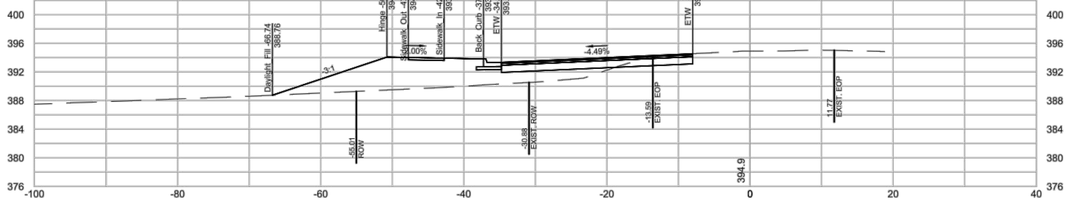

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WHEELER TRACT - OFFSITE IMPROVEMENTS

ROLESVILLE - WAKE COUNTY - NORTH CAROLINA

MITCHELL MILL ROAD CROSS SECTIONS

JOB NO. 43398

SHEET NO. R8.05

NORTH CAROLINA PROFESSIONAL SEAL 049206 07-21-22 ENGINEER BRIAN PATRICK WELCH

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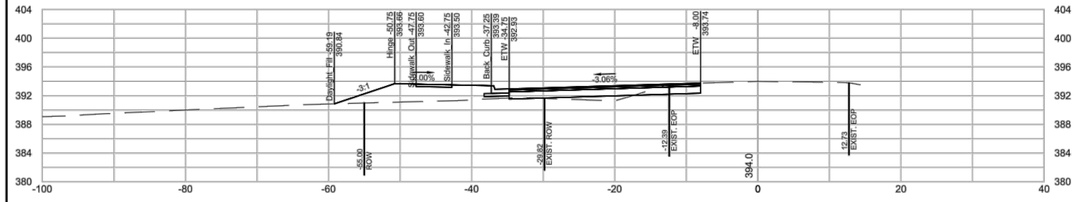
209+50



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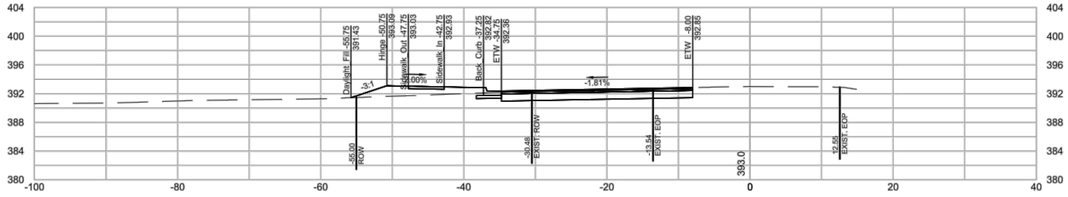

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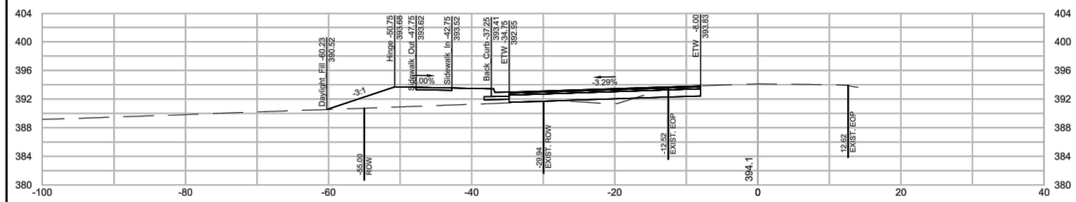

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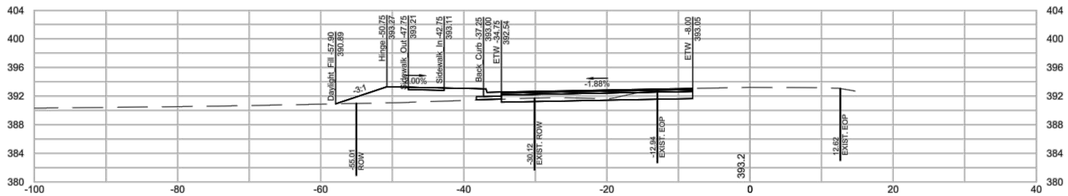

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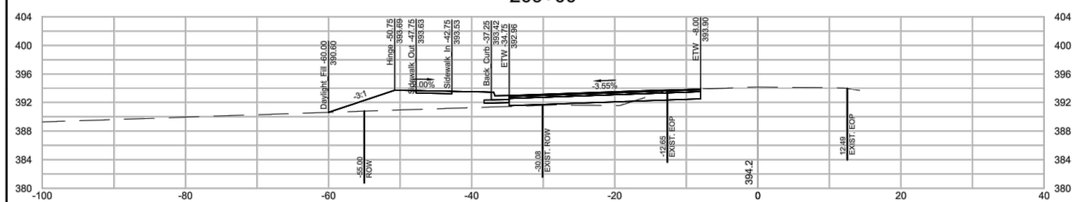

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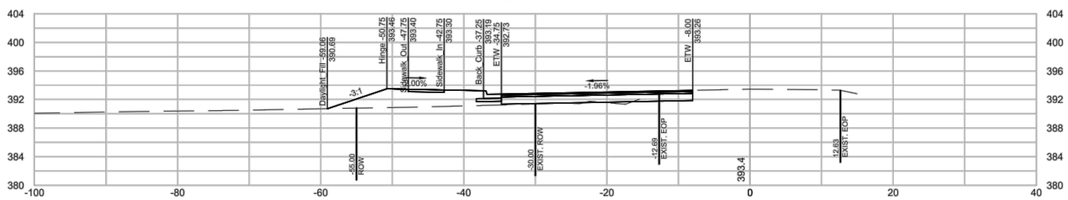

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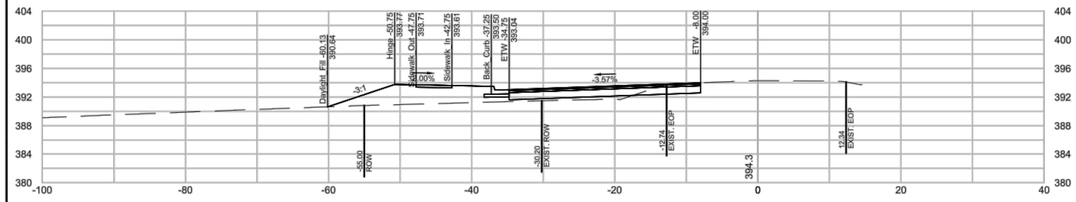

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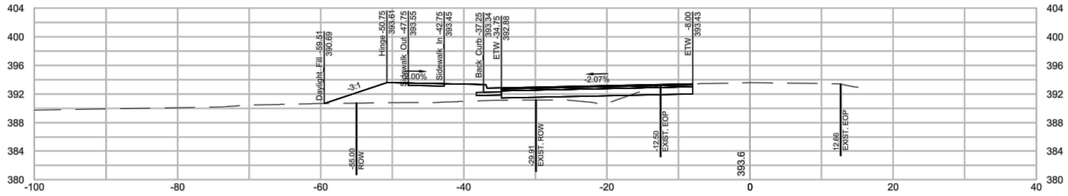

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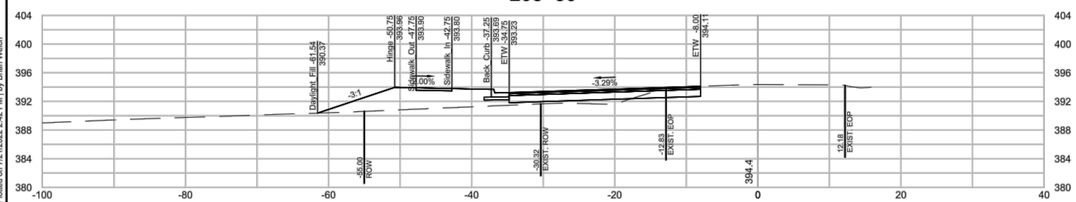

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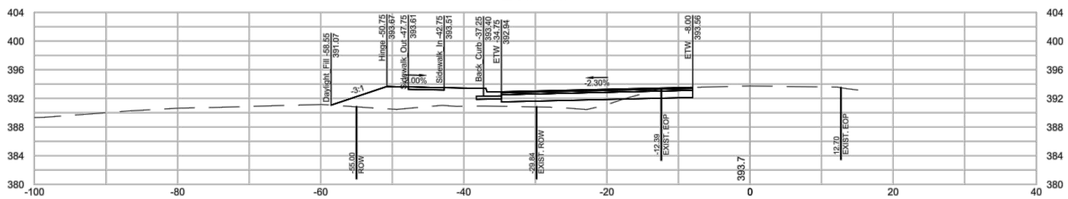

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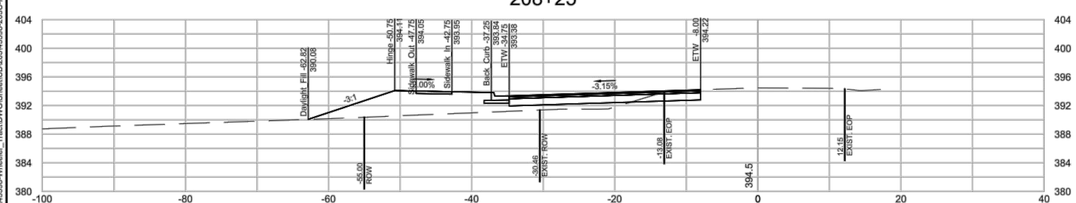

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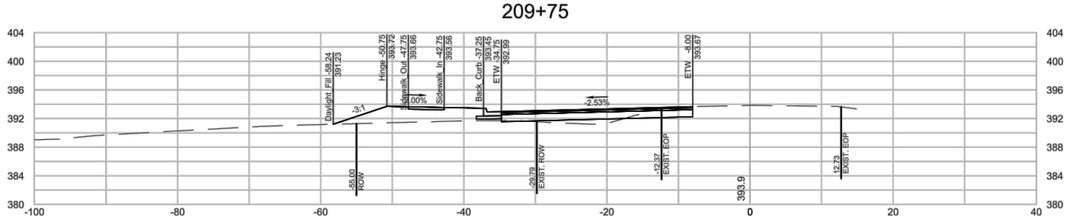

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MITCHELL MILL ROAD CROSS SECTIONS

JOB NO. 43398
SHEET NO. R8.06

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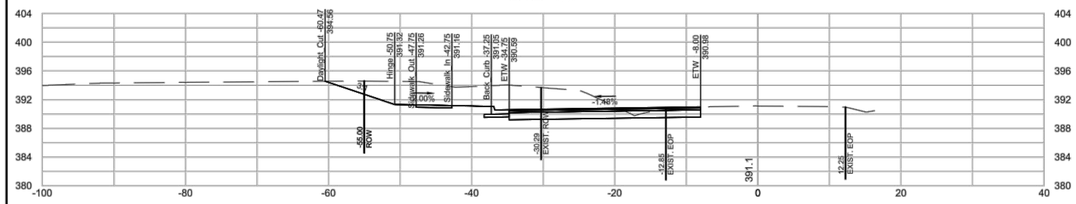
212+50



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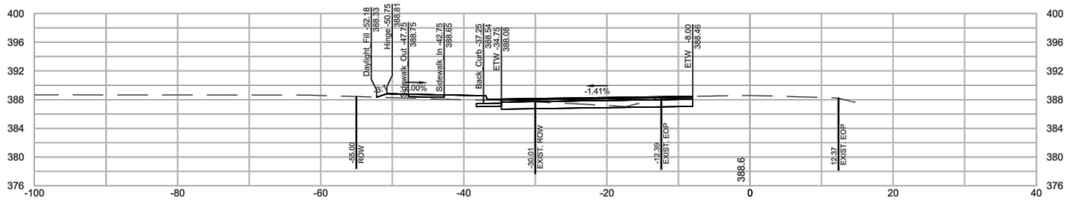

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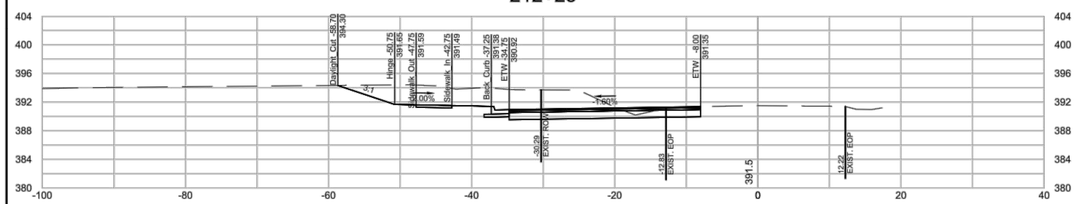

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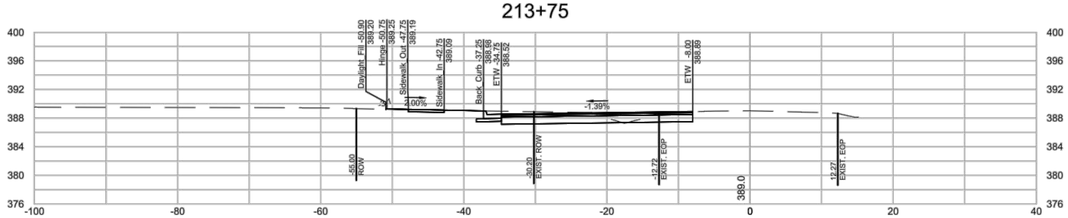

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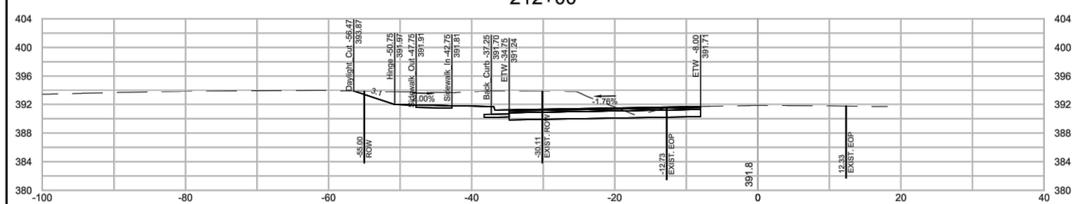

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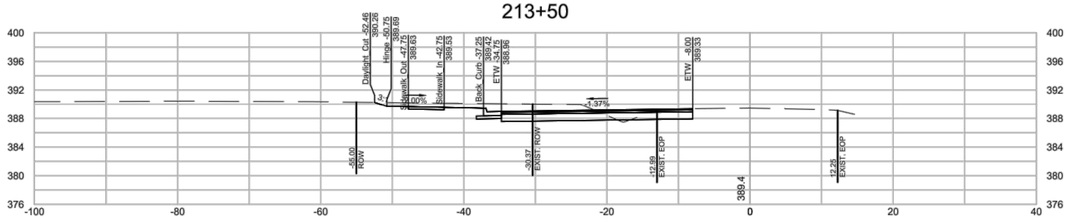

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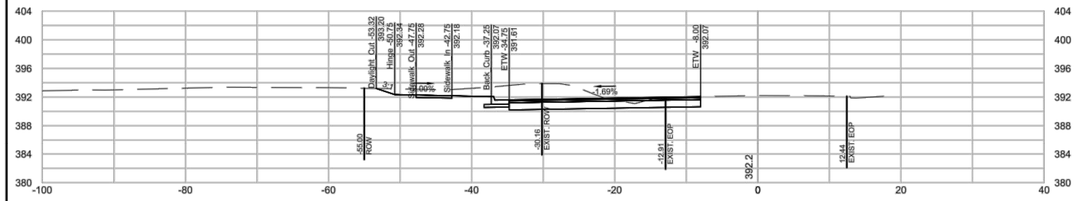

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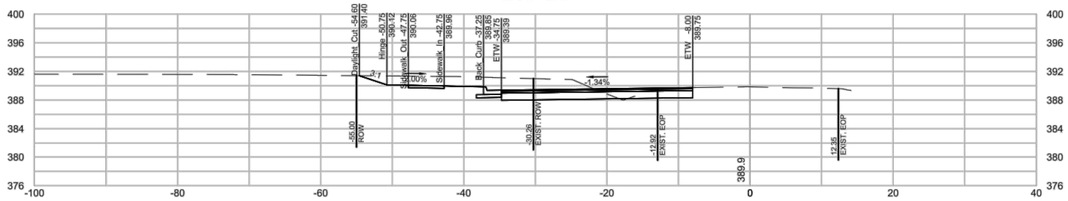

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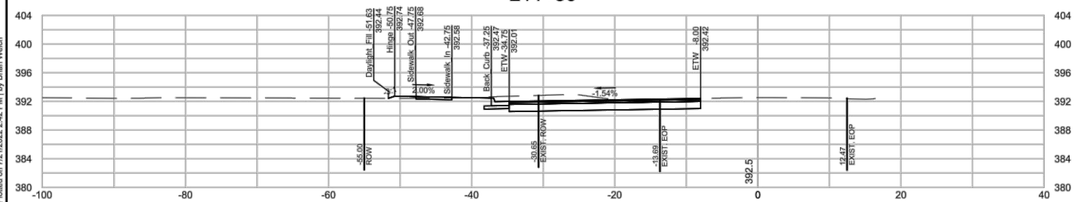

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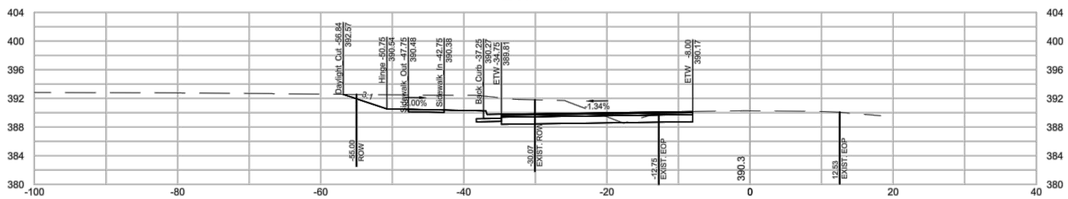

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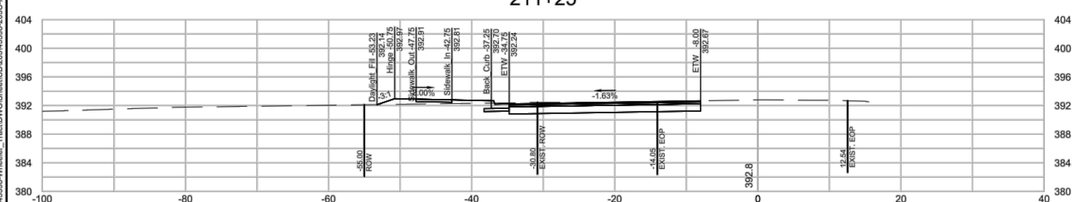

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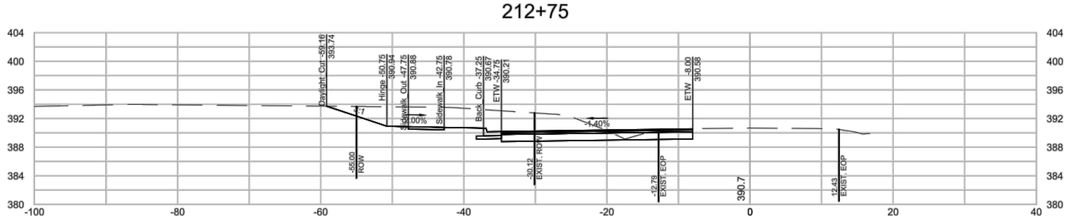

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MITCHELL MILL ROAD CROSS SECTIONS

JOB NO. 43398

SHEET NO. R8.07

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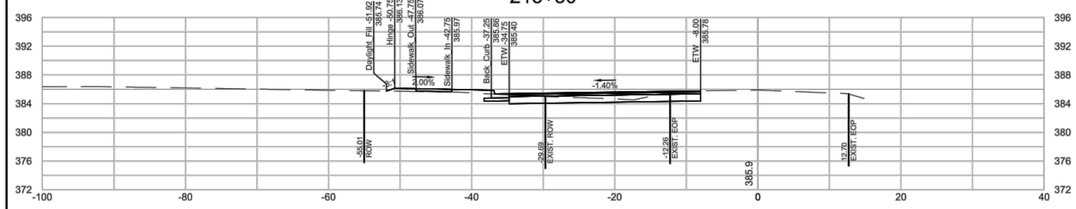
215+50



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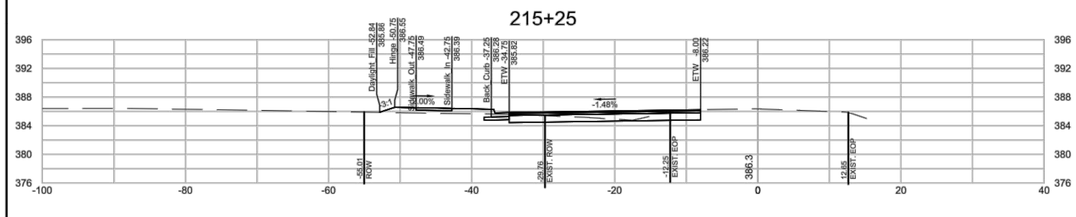

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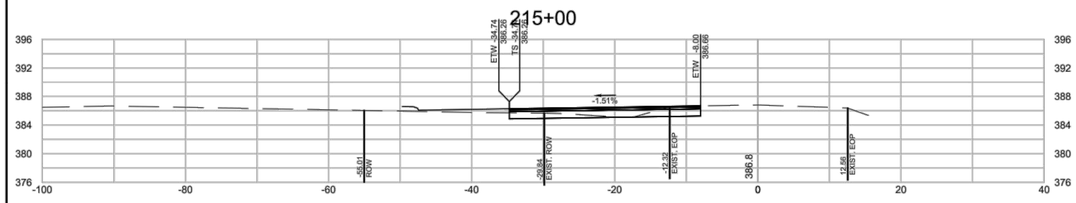

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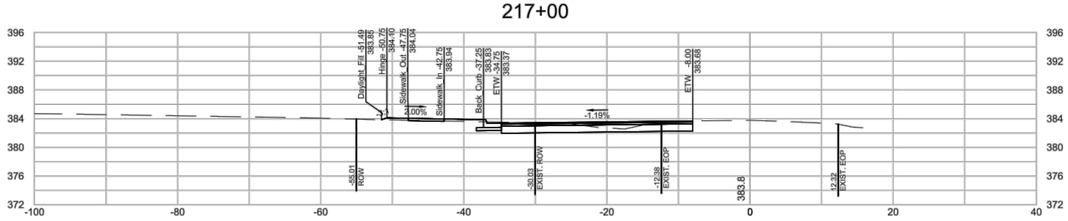

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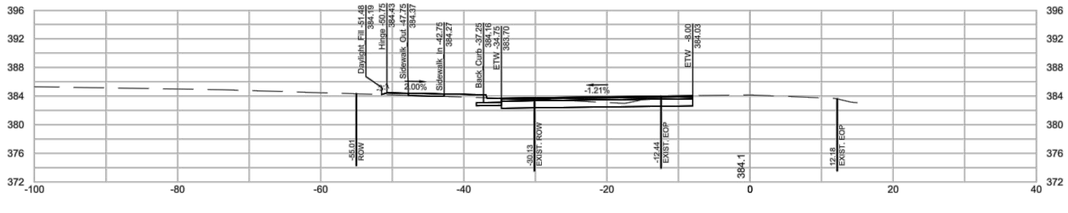

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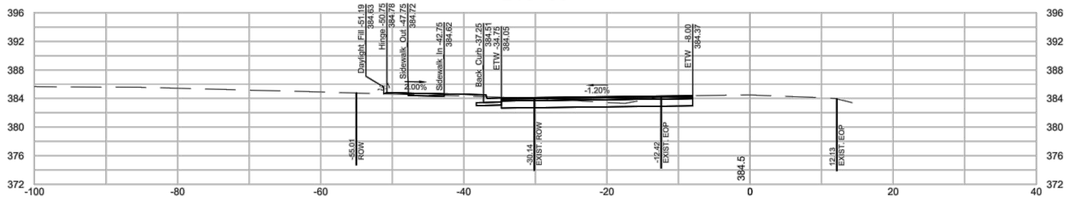

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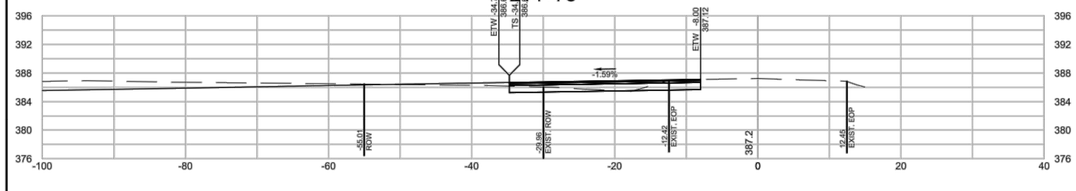

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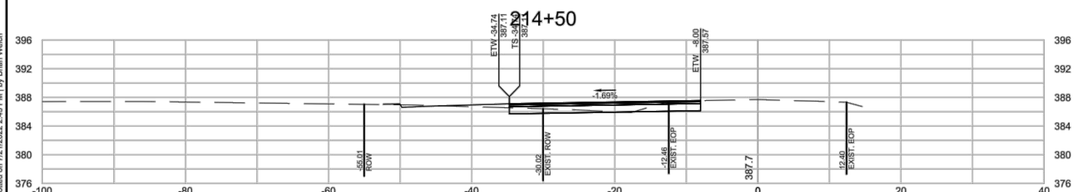

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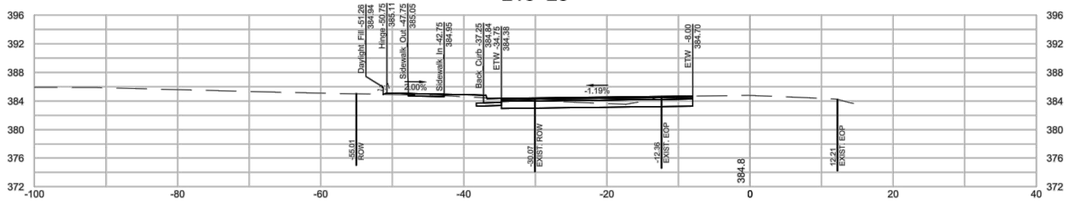

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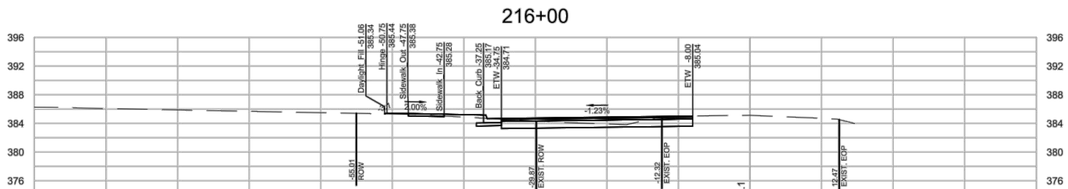

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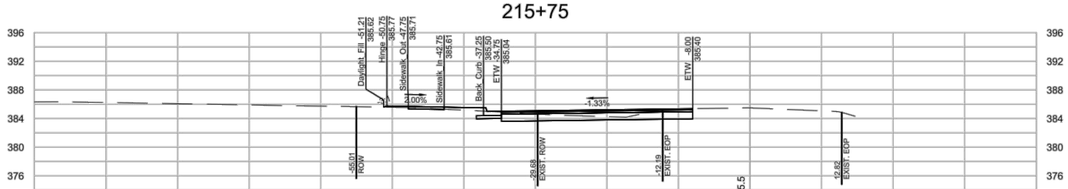

TIMMONS GROUP

WHEELER TRACT - OFFSITE IMPROVEMENTS

ROLESVILLE - WAKE COUNTY - NORTH CAROLINA

MITCHELL MILL ROAD CROSS SECTIONS

JOB NO. 43398

SHEET NO. R8.08

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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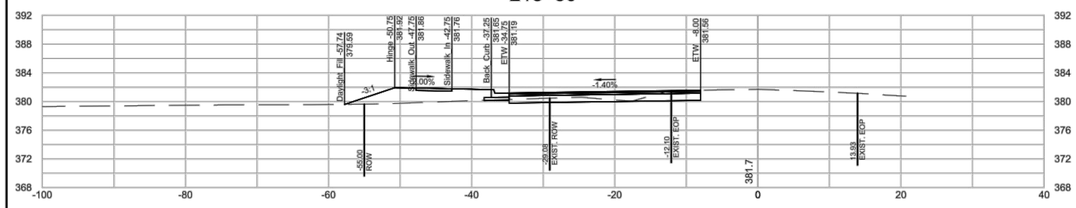
REVISION DESCRIPTION	DATE

218+50



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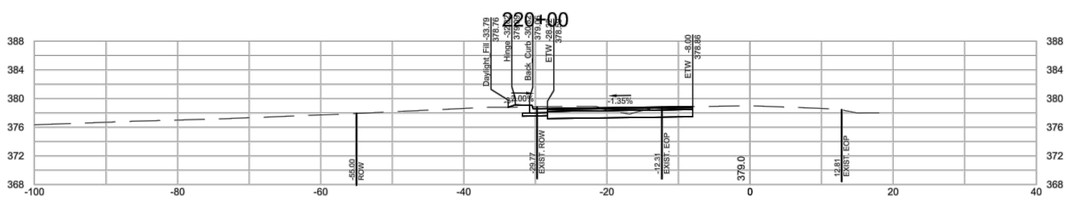

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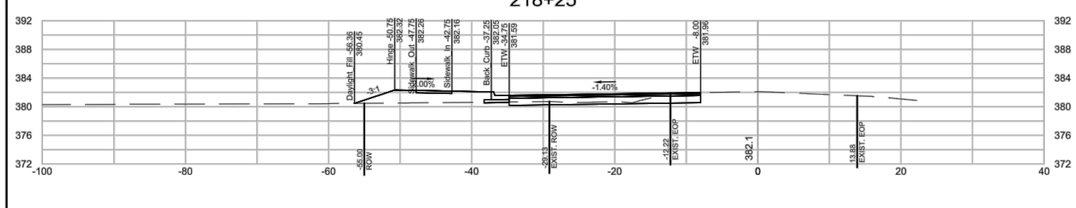

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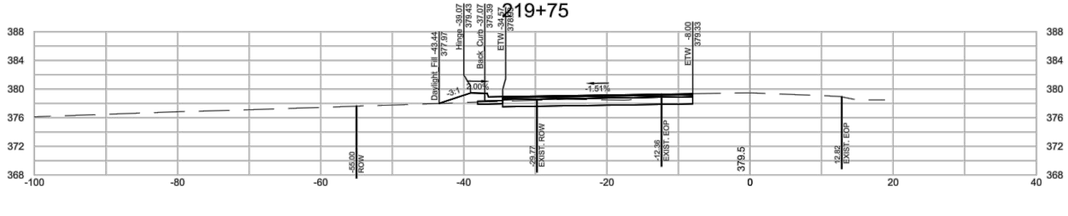

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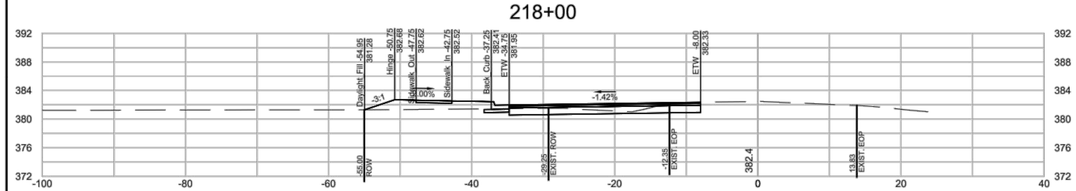

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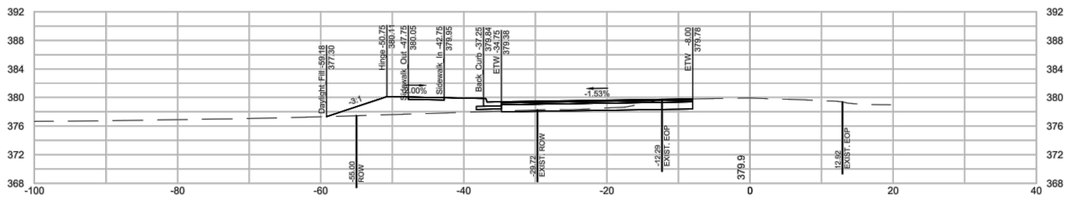

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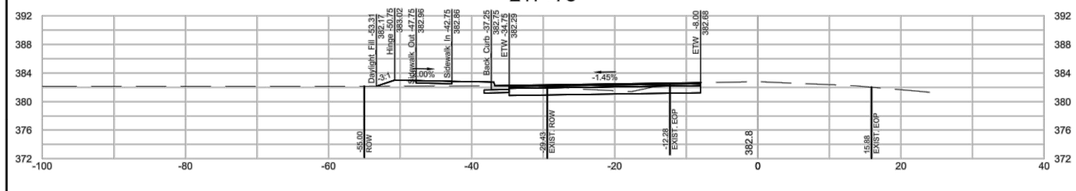

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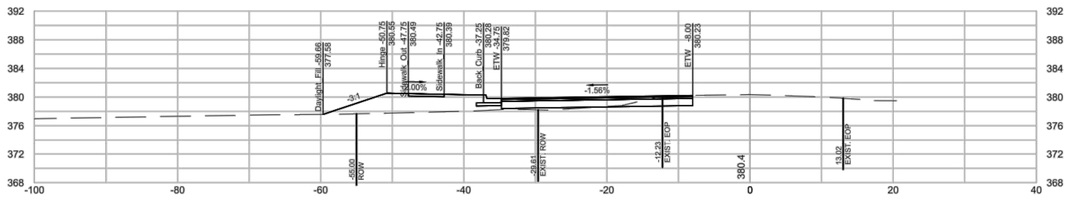

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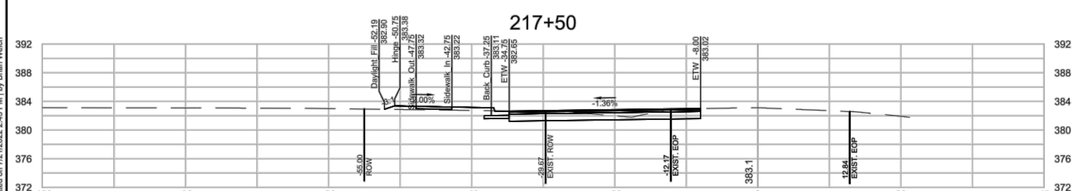

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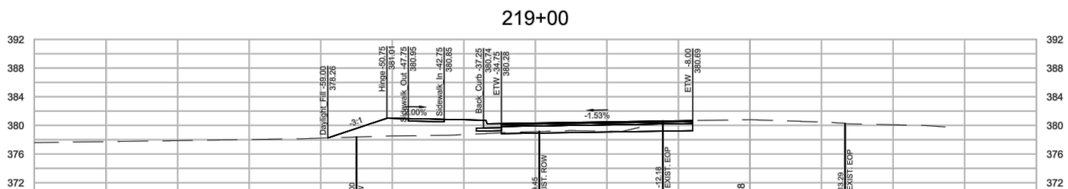

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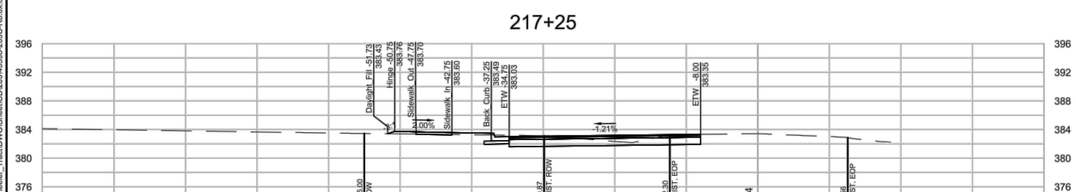

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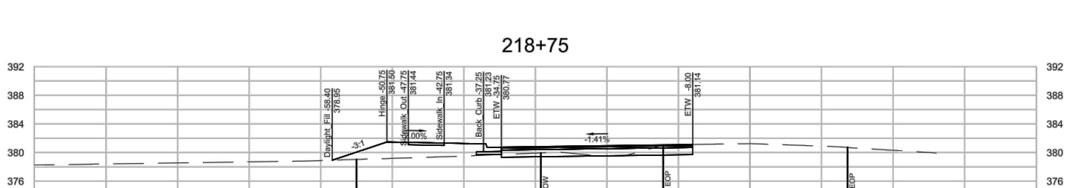

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WHEELER TRACT - OFFSITE IMPROVEMENTS

ROLESVILLE - WAKE COUNTY - NORTH CAROLINA

MITCHELL MILL ROAD CROSS SECTIONS

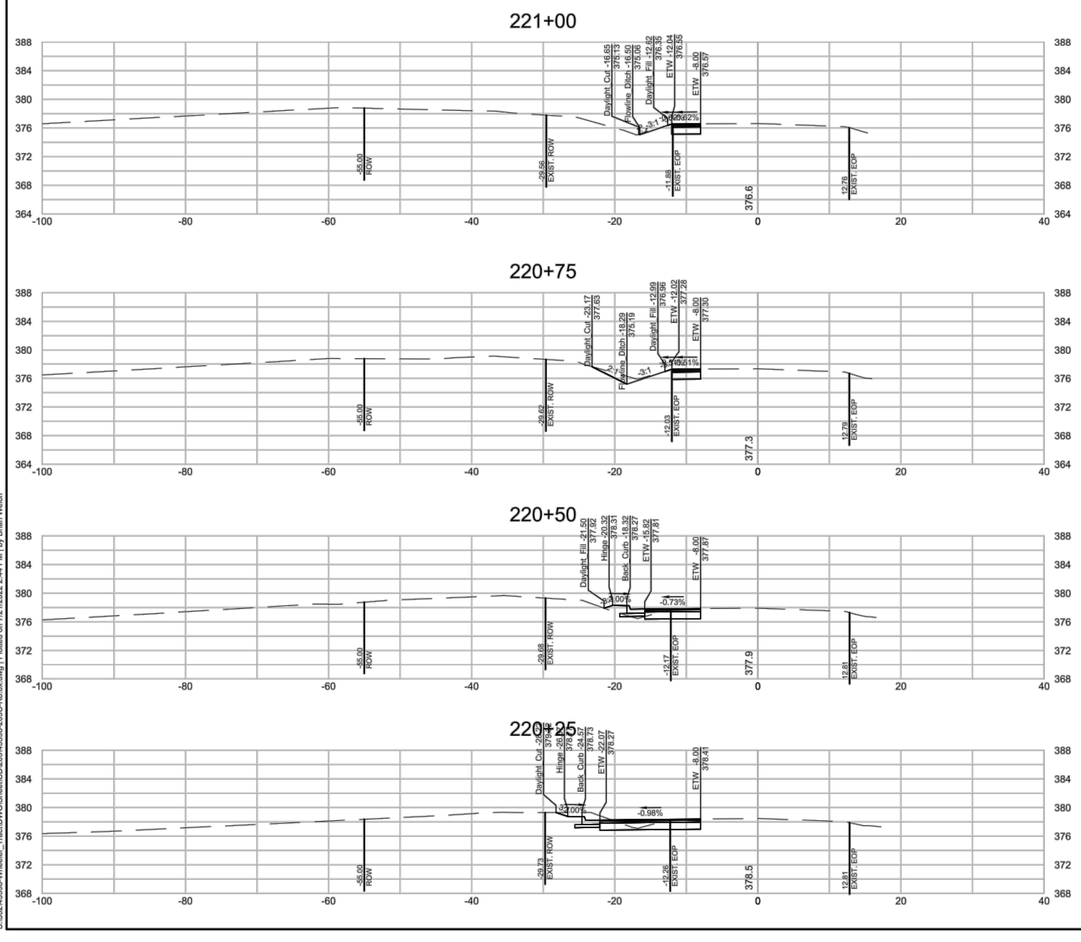
JOB NO.	DATE	DRAWN BY	DESIGNED BY	CHECKED BY	SCALE
43398	07/21/22	BPW	BPW	BPW	1" = 10'

SHEET NO. R8.09

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

FINAL PLANS

NOT RELEASED FOR CONSTRUCTION



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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049206 07-21-22 BRIAN PATRICK WELCH

REVISION DESCRIPTION	DATE

DATE 07/21/22
DRAWN BY BPW
DESIGNED BY BPW
CHECKED BY BPW
SCALE 1" = 10'

TIMMONS GROUP

WHEELER TRACT - OFFSITE IMPROVEMENTS

ROLESVILLE - WAKE COUNTY - NORTH CAROLINA

MITCHELL MILL ROAD CROSS SECTIONS

JOB NO. 43398
SHEET NO. R8.10

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