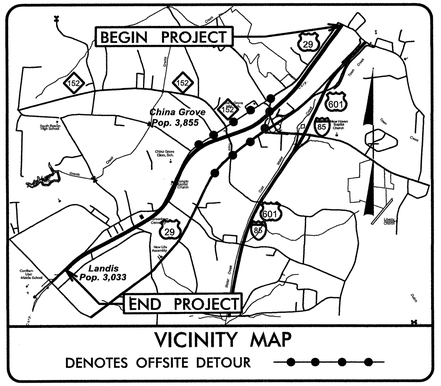
DGN 0164DEL_P10b2

TIP PROJECT: P-5206C

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	P-5206C	EC-1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
52000.1.STR07T1B		PE, UTIL PE
52000.1.STR08T3		PE, UTIL PE
43219.2.STR08P5206		ROW
52000.3.STR02T4D		UTIL CONST



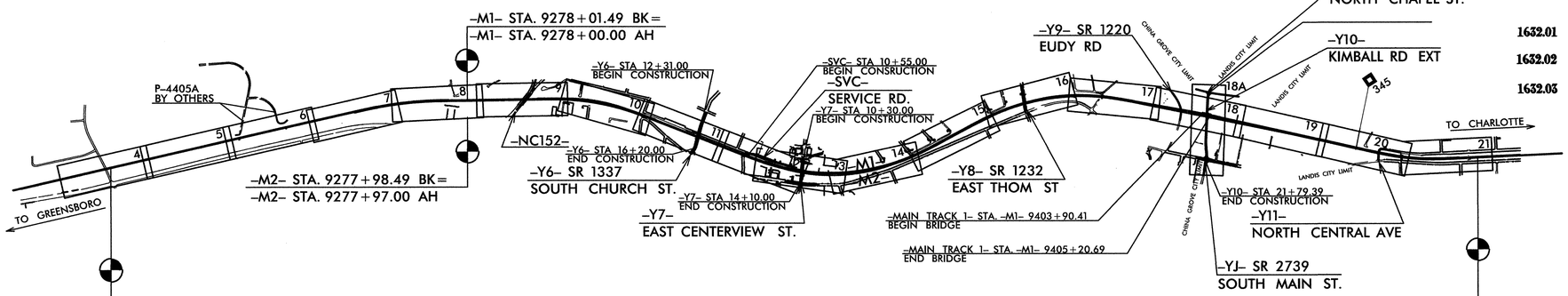
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

ROWAN COUNTY

LOCATION: NCRR/NS MAINLINE RAILROAD ROADBED FROM SOUTH OF MT. HOPE CHURCH RD (SR 1505, MP 340.9) TO NORTH OF RYDER AVE (SR 1210, MP 345.4)

NAD 83/ NSRS 2007



END TIP PROJECT P-5206B (PART1)
BEGIN TIP PROJECT P-5206C (PART2)
MAIN TRACK 1 STA. -M1- 9218+00.00 BK =
STA. -M1- 9218+02.82 AH
MAIN TRACK 2 STA. -M2- 9218+01.63 BK =
STA. -M2- 9218+02.82 AH

END TIP PROJECT P-5206C (PART2)
BEGIN TIP PROJECT P-5206D (PART3)
MAIN TRACK 1 STA. -M1- 9450+00.00 BK =
STA. -M1- 9450+39.03 AH
MAIN TRACK 2 STA. -M2- 9449+97.71 BK =
STA. -M2- 9450+39.03 AH

EROSION AND SEDIMENT CONTROL MEASURES

Std.#	Description	Symbol
1630.03	Temporary Silt Ditch	TSD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.02	Silt Basin Type B	
1633.01	Temporary Rock Silt Check Type-A	
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	
1633.02	Temporary Rock Silt Check Type-B	
	Wattle / Coir Fiber Wattle	SW CFW
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	
1634.01	Temporary Rock Sediment Dam Type-A	
1634.02	Temporary Rock Sediment Dam Type-B	
1635.01	Rock Pipe Inlet Sediment Trap Type-A	
1635.02	Rock Pipe Inlet Sediment Trap Type-B	
1630.04	Stilling Basin	
1630.06	Special Stilling Basin	
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	
	Tiered Skimmer Basin	
	Infiltration Basin	

THIS PROJECT CONTAINS EROSION CONTROL PLANS FOR CLEARING AND GRUBBING PHASE OF CONSTRUCTION.

PART 2 OF 3

GRAPHIC SCALE

25 0 50
PLANS

25 0 50
PROFILE (HORIZONTAL)

5 0 10
PROFILE (VERTICAL)

ROADSIDE ENVIRONMENTAL UNIT
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

JIMMY L. TERRY, PE
PROJECT ENGINEER
LEVEL III CERTIFICATION # 3145

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.

Prepared In the Office of:

TGS ENGINEERS
804-C N. Lafayette St.
Shelby, NC 28150

2012 STANDARD SPECIFICATIONS

Roadway Standard Drawings

The following roadway <u>english</u> standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2012 and the latest revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

1604.01	Railroad Erosion Control Detail	1632.01	Rock Inlet Sediment Trap Type A
1605.01	Temporary Silt Fence	1632.02	Rock Inlet Sediment Trap Type B
1606.01	Special Sediment Control Fence	1632.03	Rock Inlet Sediment Trap Type C
1607.01	Gravel Construction Entrance	1633.01	Temporary Rock Silt Check Type A
1622.01	Temporary Berms and Slope Drains	1633.02	Temporary Rock Silt Check Type B
1630.01	Riser Basin	1634.01	Temporary Rock Sediment Dam Type A
1630.02	Silt Basin Type B	1634.02	Temporary Rock Sediment Dam Type B
1630.03	Temporary Silt Ditch	1635.01	Rock Pipe Inlet Sediment Trap Type A
1630.04	Stilling Basin	1635.02	Rock Pipe Inlet Sediment Trap Type B
1630.05	Temporary Diversion	1640.01	Coir Fiber Baffle
1630.06	Special Stilling Basin	1645.01	Temporary Stream Crossing
1631.01	Matting Installation		

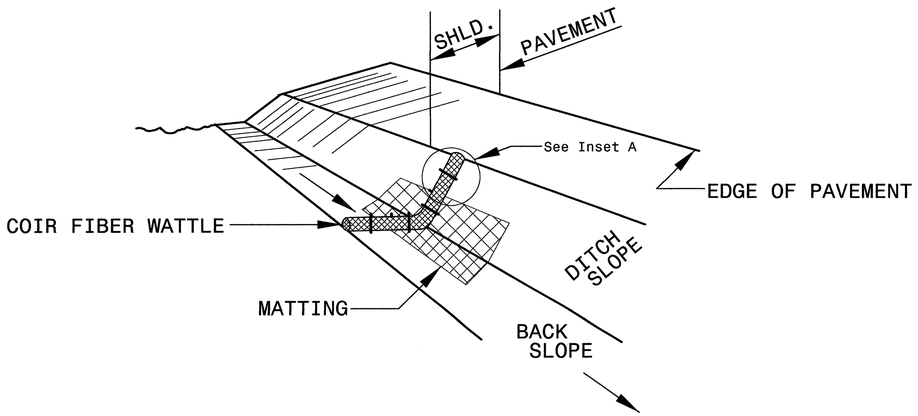
SYSTIME 8/8/2012 8:20:00 AM
DGN 0164DEL_P10b2

0164DEL_P10b2

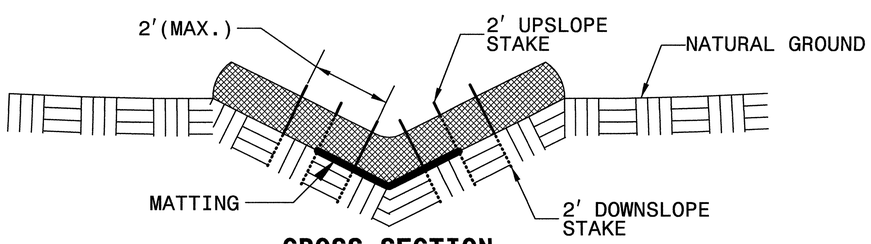
DGN

PROJECT REFERENCE NO.	SHEET NO.
P-5206C	EC-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

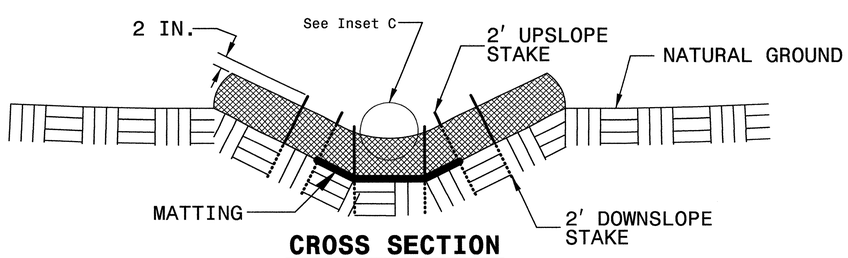
COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

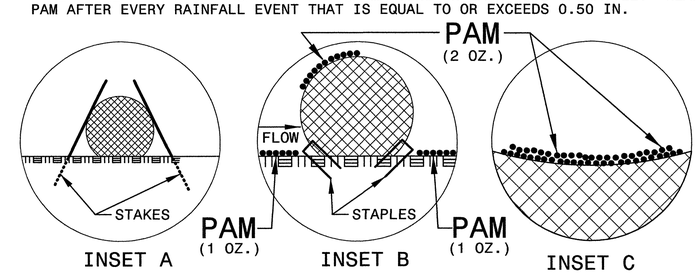
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

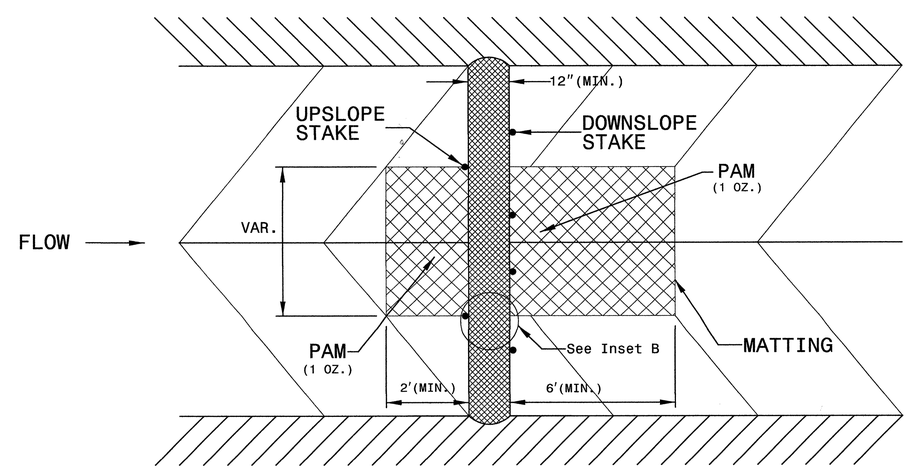
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.

INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



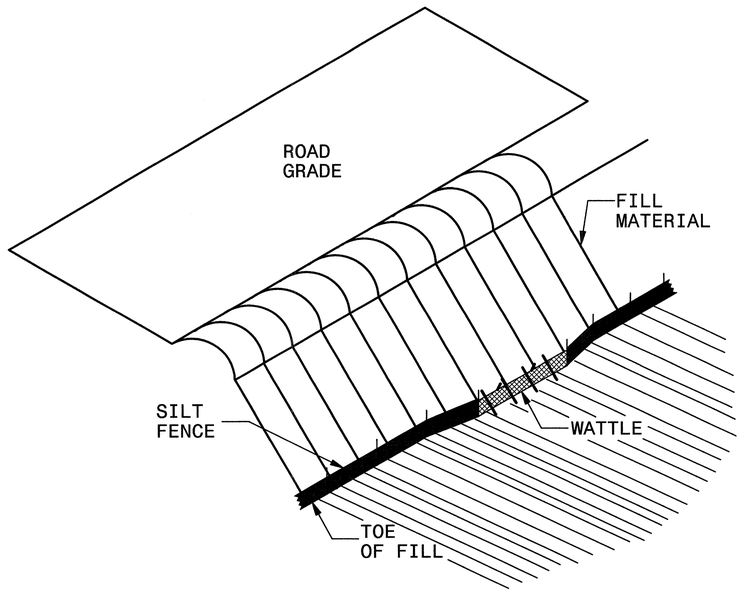


TOP VIEW

0164DEL_P10b2

SILT FENCE COIR FIBER WATTLE BREAK DETAIL

PROJECT REFERENCE NO.	SHEET NO.
P-5206C	EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



ISOMETRIC VIEW

NOTES:

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE AND LENGTH OF 10 FT.

EXCAVATE A 1 TO 2 INCH TRENCH FOR WATTLE TO BE PLACED.

DO NOT PLACE WATTLE ON TOE OF SLOPE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

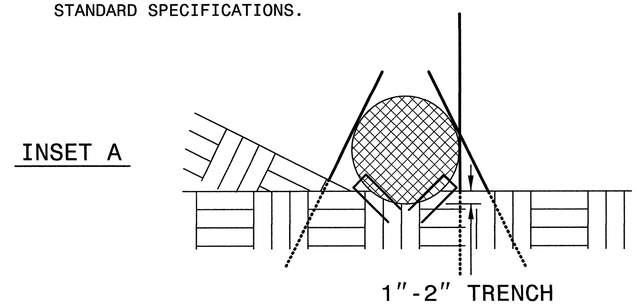
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.

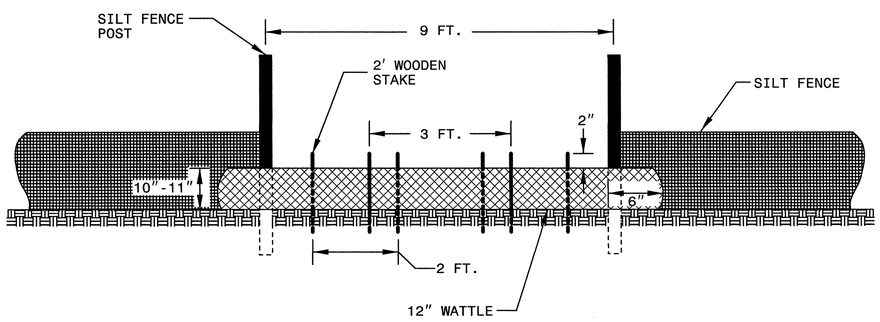
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

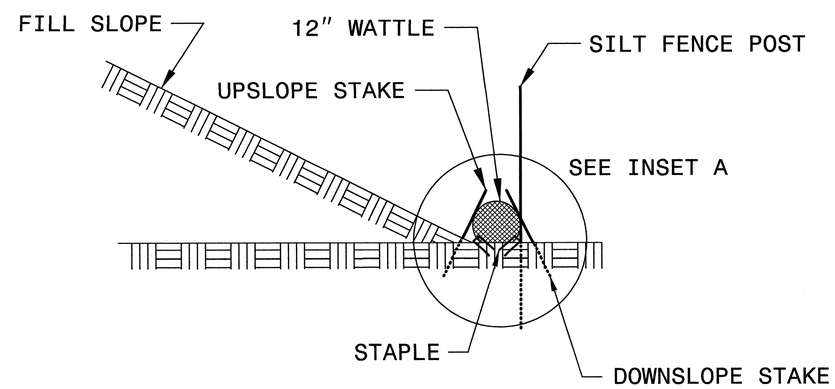
WATTLE INSTALLATION CAN BE ON OUTSIDE OF THE SILT FENCE AS DIRECTED.

INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1605 OF THE STANDARD SPECIFICATIONS.





VIEW FROM SLOPE

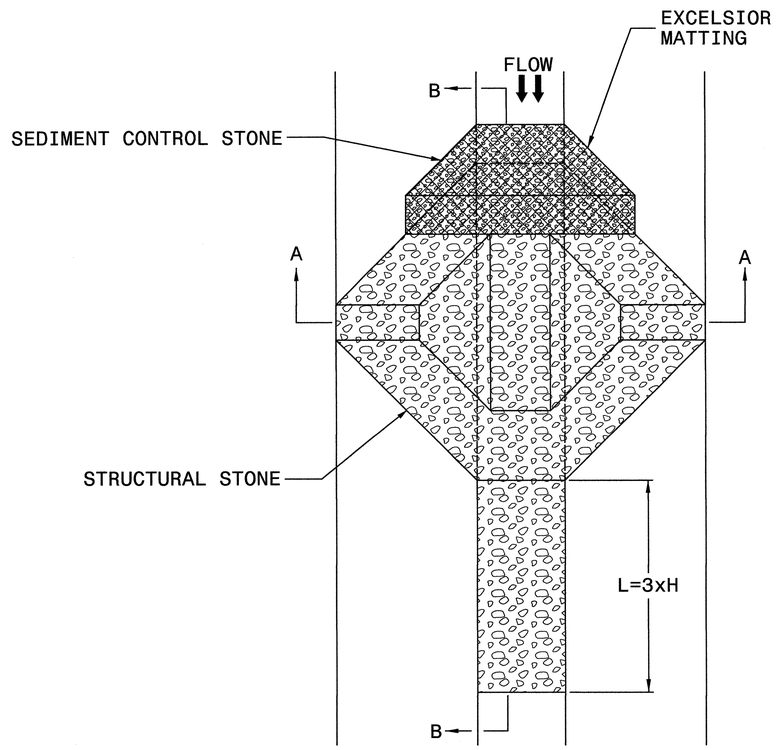


SIDE VIEW

0164DEL_P10b2

PROJECT REFERENCE NO.	SHEET NO.
P-5206C	EC-2B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TEMPORARY ROCK SILT CHECK TYPE 'A' WITH EXCELSIOR MATTING AND POLYACRYLAMIDE (PAM)



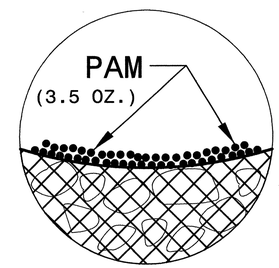
PLAN

NOTES

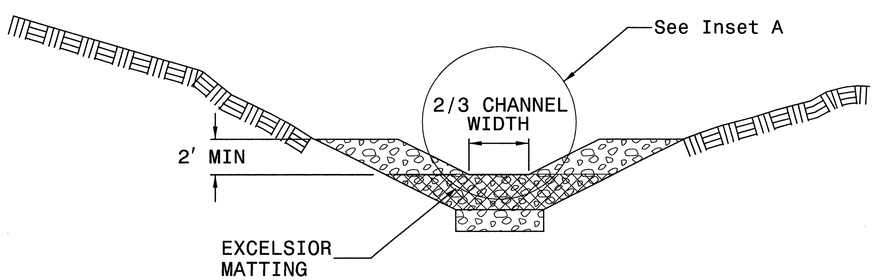
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH ROCK SILT CHECK.

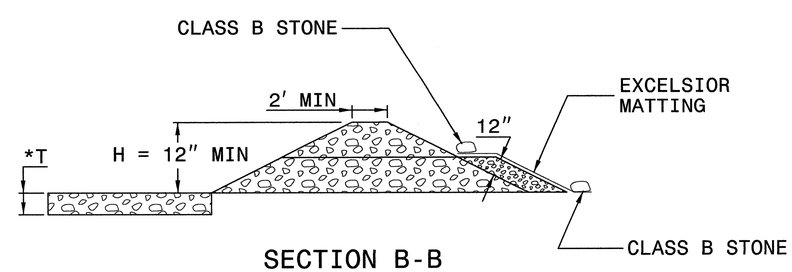
INITIALLY APPLY 3.5 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION A-A



SECTION B-B

*T = 12" MIN., 18" MAX.

NOT TO SCALE

0164DEL_P10b2

DCN

PROJECT REFERENCE NO.	SHEET NO.
P-5206C	EC-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
5	-M2C-	9238+50	9246+50	LT	1,230
12	-M2C-	9325+00	9327+49	RT	385
12	-M2C-	9327+49	9329+00	RT	235
14	-M2C-	9341+50	9343+75	RT	350
14	-M2C-	9346+50	9348+50	RT	310
14	-M2C-	9348+50	9356+00	RT	1,155
18	-M2C-	9401+50	9403+38	RT	315
20,21	-M2C-	9432+00	9438+50	LT	1,000
20,21	-M2C-	9432+00	9441+50	RT	1,460
21	-M2C-	9447+50	9449+50	RT	310
18A	-Y10-	11+00	15+00	RT	560
18A	-Y10-	18+50	20+00	RT	210
18A	-Y10-	16+00	18+00	RT	140
				SUBTOTAL	7,660
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					111,890
				TOTAL	119,550

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)

0164DEL_P10b2

DGN

PROJECT REFERENCE NO.	SHEET NO.
P-5206C	EC-3A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

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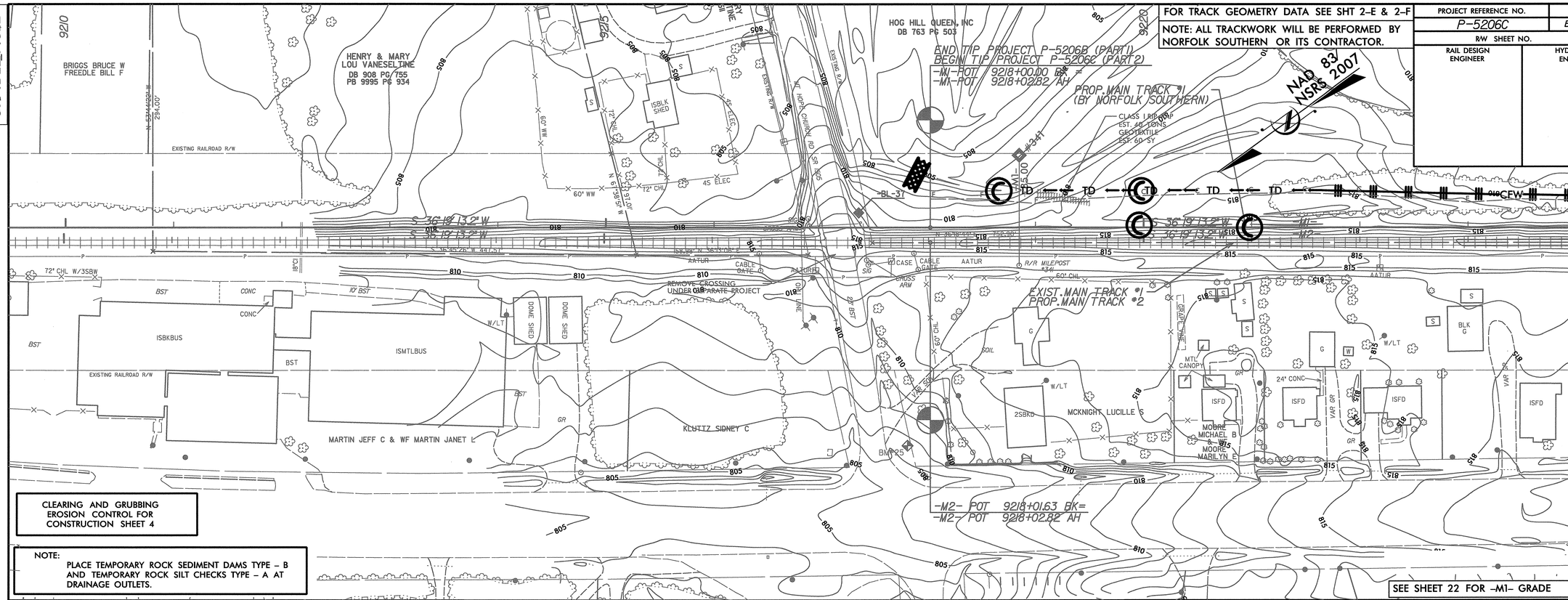
0164DEL_P10b2

FOR TRACK GEOMETRY DATA SEE SHT 2-E & 2-F

NOTE: ALL TRACKWORK WILL BE PERFORMED BY NORFOLK SOUTHERN OR ITS CONTRACTOR.

PROJECT REFERENCE NO.	SHEET NO.
P-5206C	EC-4/CONST.4
R/W SHEET NO.	
RAIL DESIGN ENGINEER	HYDRAULICS ENGINEER

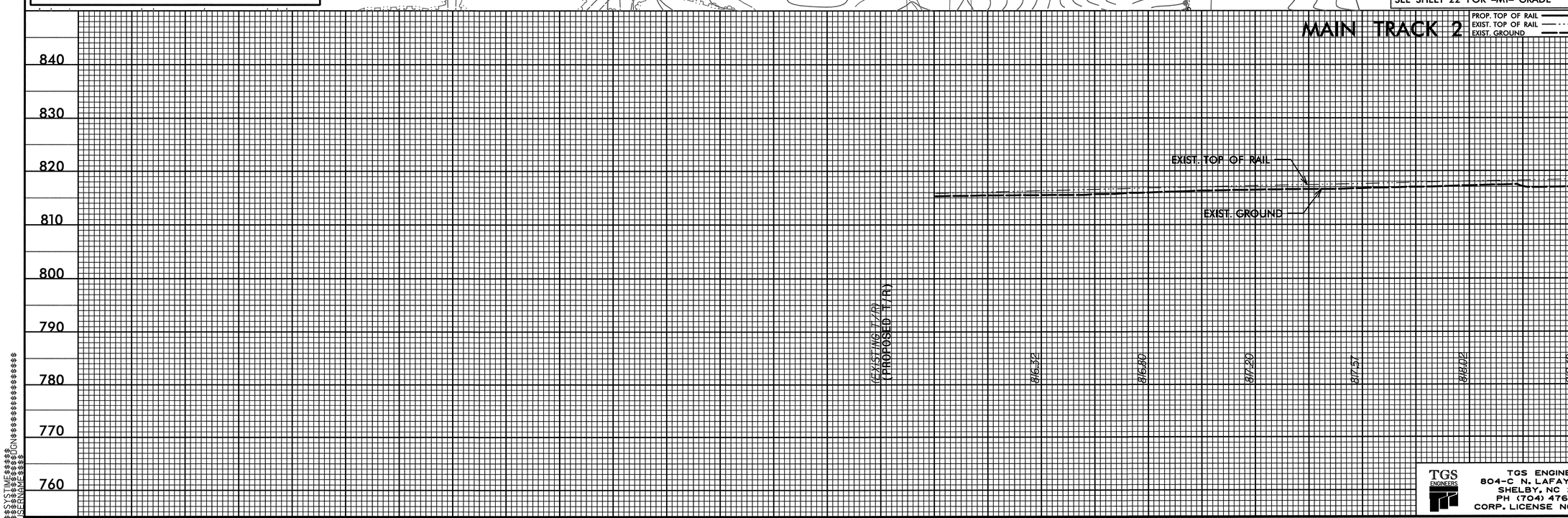


MATCH LINE STA. -M2- 9224+00.00
MATCH TO SHT. EC-5

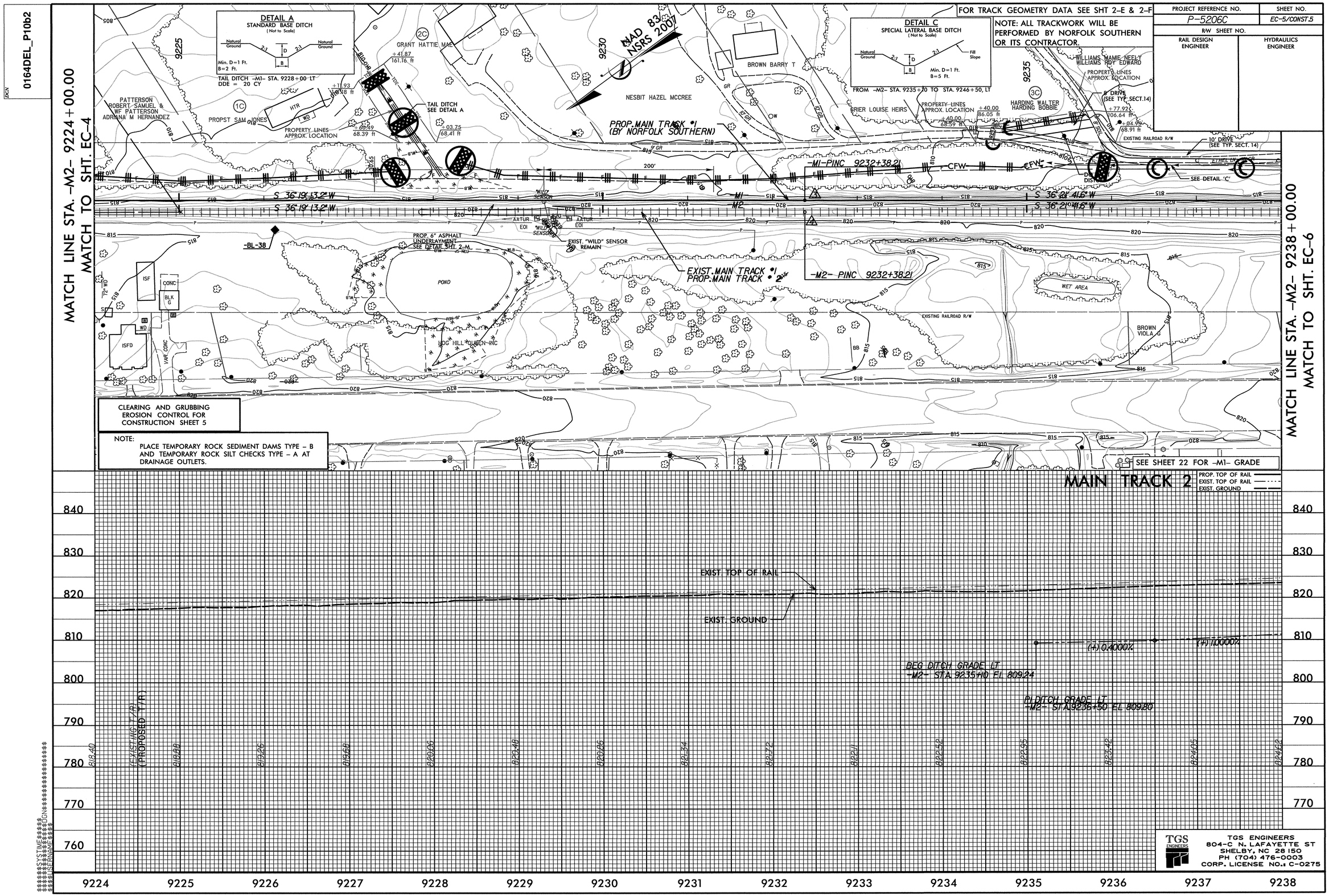
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.

SEE SHEET 22 FOR -M1- GRADE



TGS ENGINEERS
804-C N. LAFAYETTE ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275



0164DEL_P10b2
MATCH LINE STA. -M2- 9224+00.00
MATCH TO SHT. EC-4
MATCH LINE STA. -M2- 9238+00.00
MATCH TO SHT. EC-6
FOR TRACK GEOMETRY DATA SEE SHT 2-E & 2-F
NOTE: ALL TRACKWORK WILL BE PERFORMED BY NORFOLK SOUTHERN OR ITS CONTRACTOR.
PROJECT REFERENCE NO.
P-5206C
SHEET NO.
EC-5/CONST.5
R/W SHEET NO.
RAIL DESIGN ENGINEER
HYDRAULICS ENGINEER
DETAIL A
STANDARD BASE DITCH
(Not to Scale)
Min. D=1 Ft.
B=2 Ft.
TAIL DITCH -M1- STA. 9228+00 LT
DDE = 20 CY
DETAIL C
SPECIAL LATERAL BASE DITCH
(Not to Scale)
Min. D=1 Ft.
B=5 Ft.
FROM -M2- STA. 9235+10 TO STA. 9246+50, LT
NAD 83
NSRS 2007
PROP. MAIN TRACK #1
(BY NORFOLK SOUTHERN)
-M1-PINC 9232+38.21
-M2- PINC 9232+38.21
EXIST. MAIN TRACK #1
PROP. MAIN TRACK #2
S 36°19'13.2"W
S 36°21'41.6"W
PROP. 6" ASPHALT UNDERLAYMENT SEE DETAIL SHT. 2-M
EXIST. "WILD" SENSOR REMAIN
TAIL DITCH SEE DETAIL A
PROPERTY LINES APPROX. LOCATION
PATTERSON ROBERT SAMUEL & WF PATTERSON ADRIANA M HERNANDEZ
PROPST SAM JONES
GRANT HATTIE MAE
NESBIT HAZEL MCCREE
BROWN BARRY T
GRIER LOUISE HEIRS
HARDING WALTER HARDING BOBBIE
WILLIAMS MAMIE NEELY WILLIAMS ROY EDWARD
POND
WET AREA
BROWN VIOLA G
EXISTING RAILROAD R/W
10' DRIVE (SEE TYP. SECT. 14)
SEE DETAIL 'C'
CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 5
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.
SEE SHEET 22 FOR -M1- GRADE
MAIN TRACK 2
PROP. TOP OF RAIL
EXIST. TOP OF RAIL
EXIST. GROUND
EXIST. TOP OF RAIL
EXIST. GROUND
(+) 0.4000%
(+) 1.0000%
BEG DITCH GRADE LT
-M2- STA. 9235+10 EL 809.24
PI DITCH GRADE LT
-M2- STA. 9236+50 EL 809.80
(EXISTING T/R)
(PROPOSED T/R)
818.40
818.88
819.26
819.68
820.06
820.48
820.86
821.34
821.72
822.11
822.52
822.95
823.42
824.05
824.62
840
830
820
810
800
790
780
770
760
9224
9225
9226
9227
9228
9229
9230
9231
9232
9233
9234
9235
9236
9237
9238
TGS ENGINEERS
804-C N. LAFAYETTE ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

DGN 0001ADD_P10b2 0164DEL_P10b2

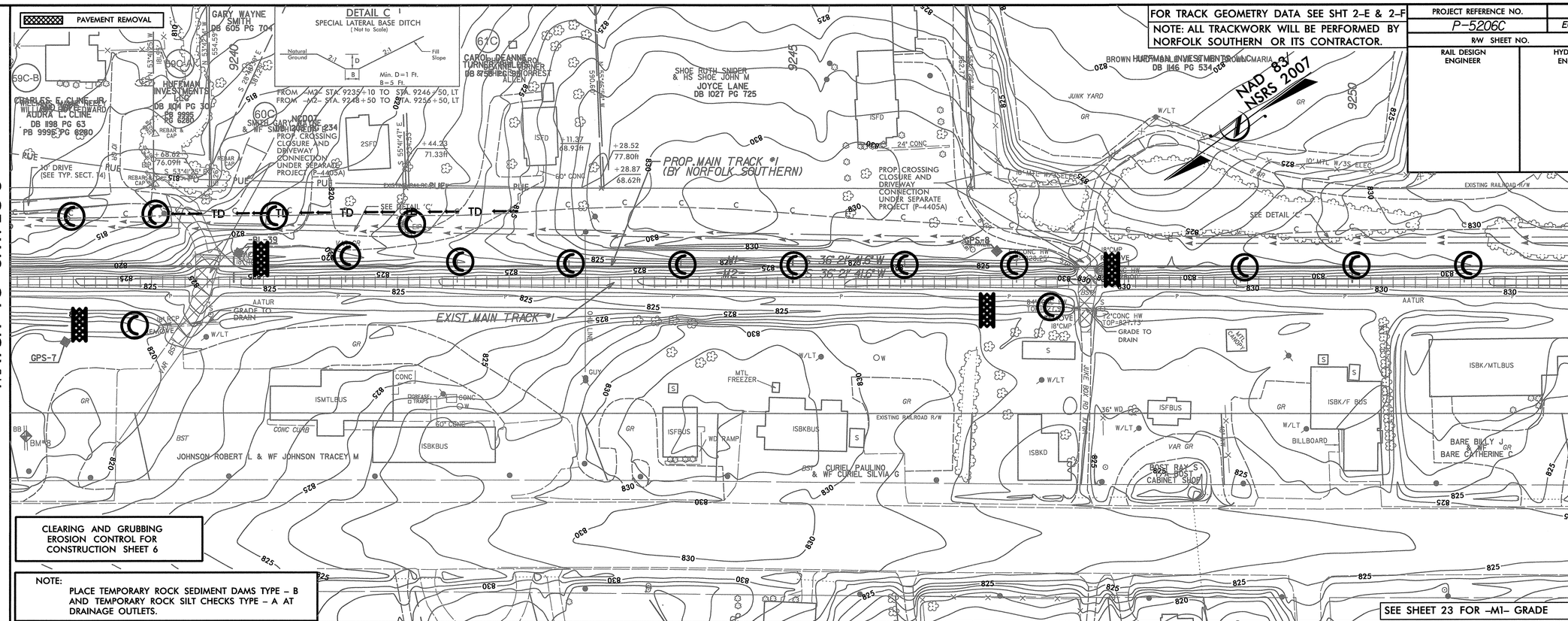
PROJECT REFERENCE NO.	SHEET NO.
P-5206C	EC-6/CONST.6
R/W SHEET NO.	
RAIL DESIGN ENGINEER	HYDRAULICS ENGINEER

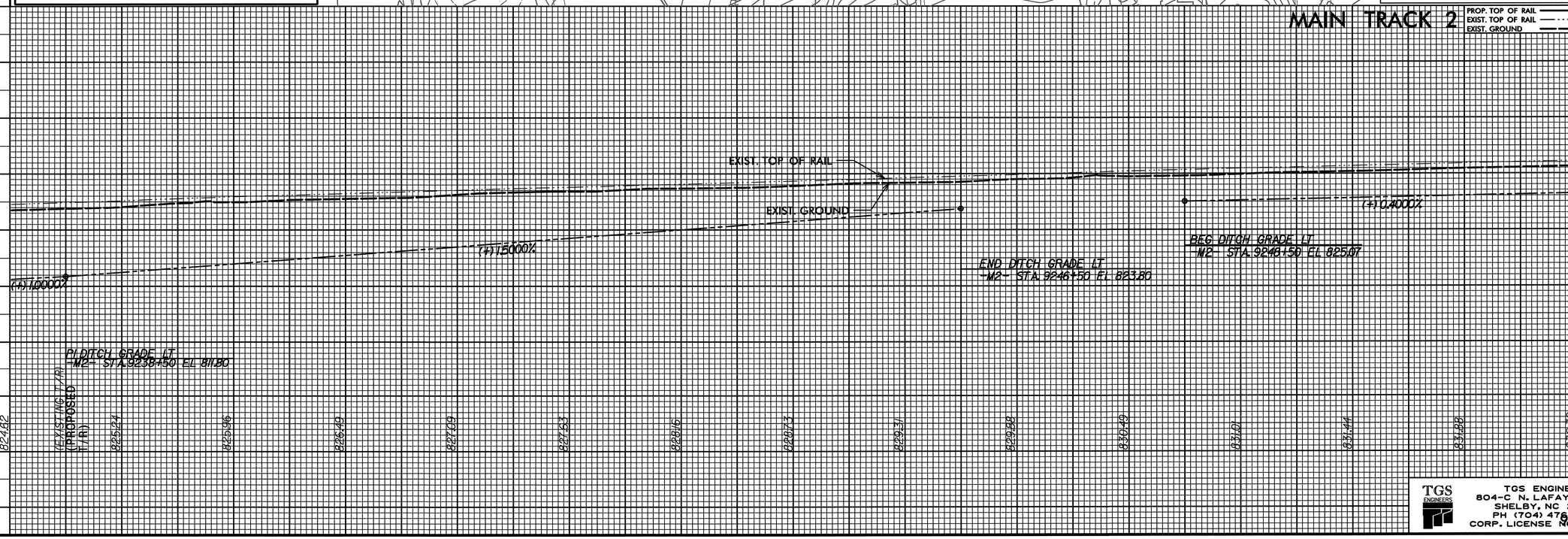
FOR TRACK GEOMETRY DATA SEE SHT 2-E & 2-F

NOTE: ALL TRACKWORK WILL BE PERFORMED BY NORFOLK SOUTHERN OR ITS CONTRACTOR.

MATCH LINE STA. -M2- 9238+00.00
MATCH TO SHT. EC-5

MATCH LINE STA. -M2- 9252+00.00
MATCH TO SHT. EC-7





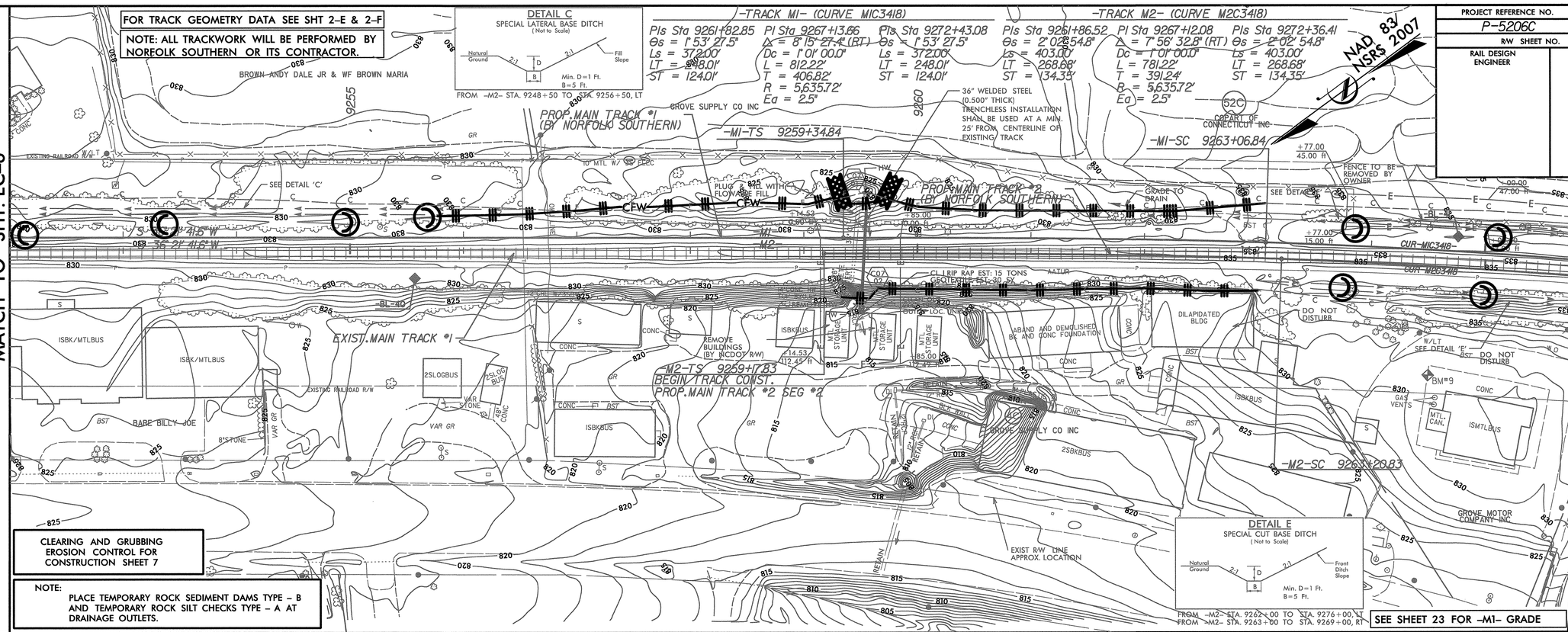
TGS ENGINEERS
804-C N. LAFAYETTE ST
SHELBY, NC 28150
PH (704) 476-0093
CORP. LICENSE NO. C-0275

DGN 0001ADD_P10b2 0164DEL_P10b2

PROJECT REFERENCE NO.	SHEET NO.
P-5206C	EC-7/CONST.7
R/W SHEET NO.	
RAIL DESIGN ENGINEER	HYDRAULICS ENGINEER

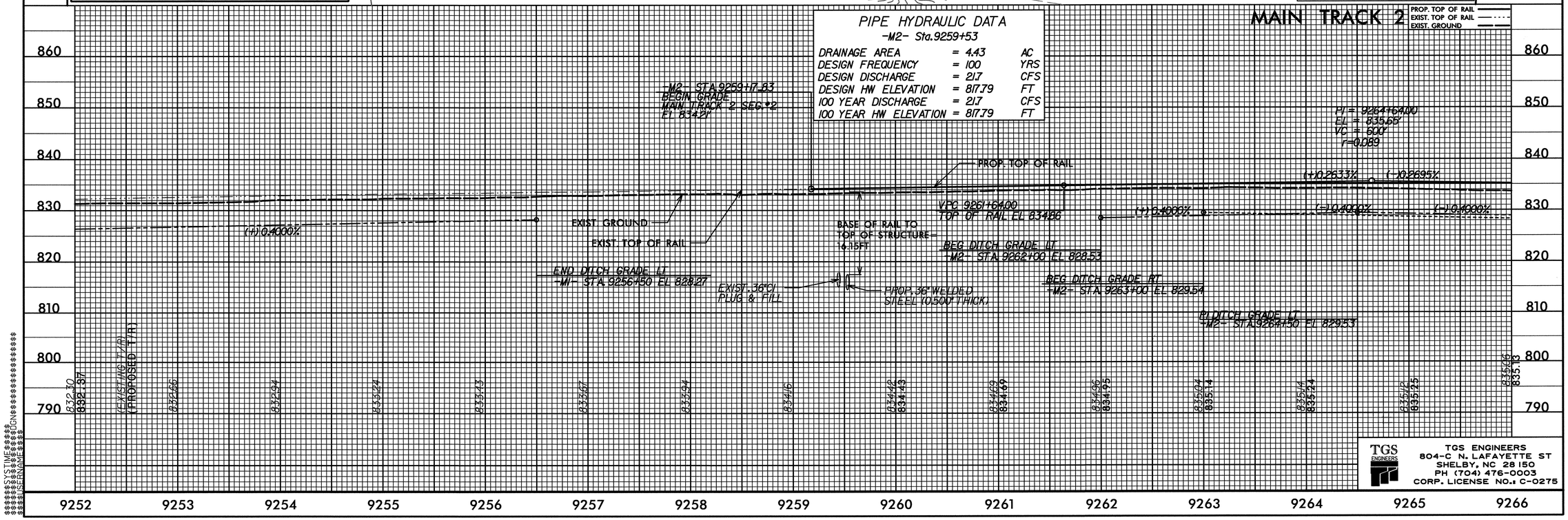
FOR TRACK GEOMETRY DATA SEE SHT 2-E & 2-F

NOTE: ALL TRACKWORK WILL BE PERFORMED BY NORFOLK SOUTHERN OR ITS CONTRACTOR.



CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 7

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.



TGS ENGINEERS
TGS ENGINEERS
804-C N. LAFAYETTE ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

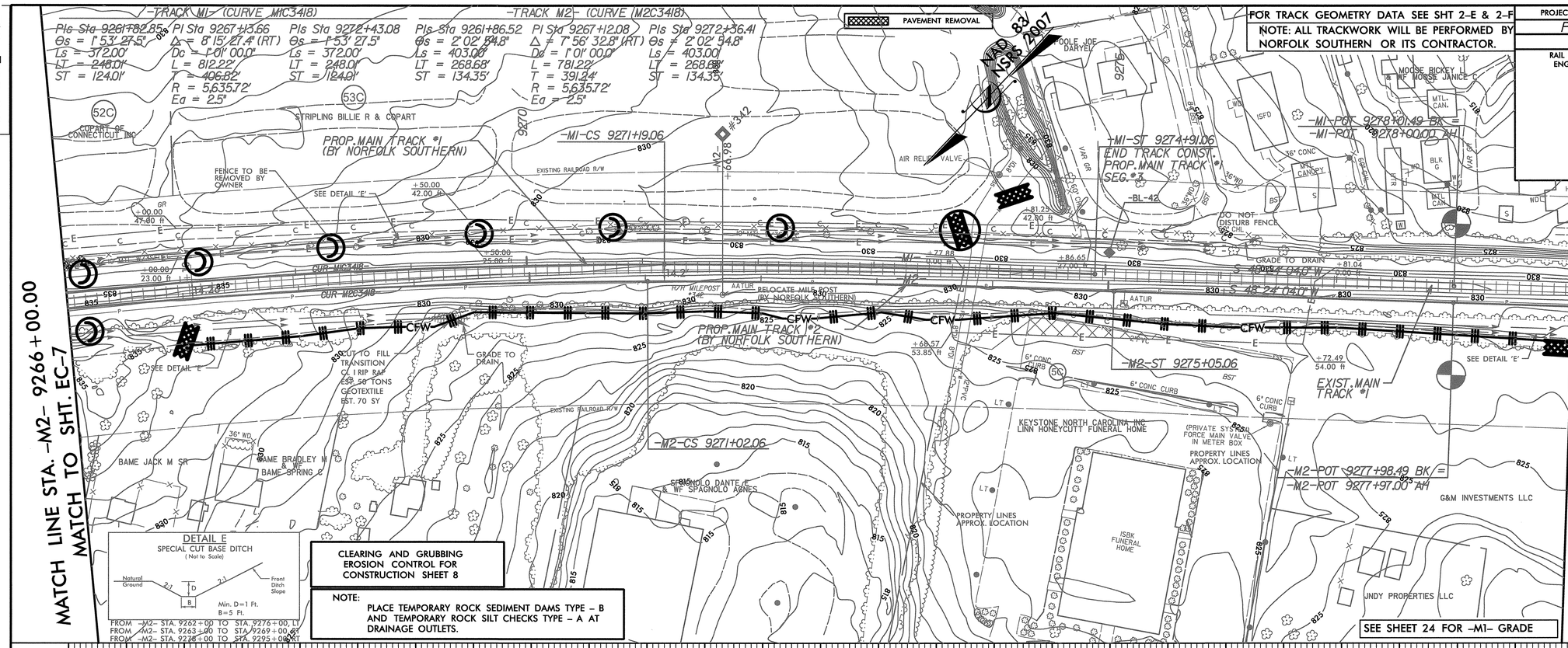
SYSTEM: SYSTEMS
DGN: DGN
USERNAME: USERNAME

0001ADD_P10b2
0164DEL_P10b2

PROJECT REFERENCE NO.	SHEET NO.
P-5206C	EC-8/CONST8
R/W SHEET NO.	
RAIL DESIGN ENGINEER	HYDRAULICS ENGINEER

FOR TRACK GEOMETRY DATA SEE SHT 2-E & 2-F

NOTE: ALL TRACKWORK WILL BE PERFORMED BY NORFOLK SOUTHERN OR ITS CONTRACTOR.



DETAIL E
SPECIAL CUT BASE DITCH
(Not to Scale)

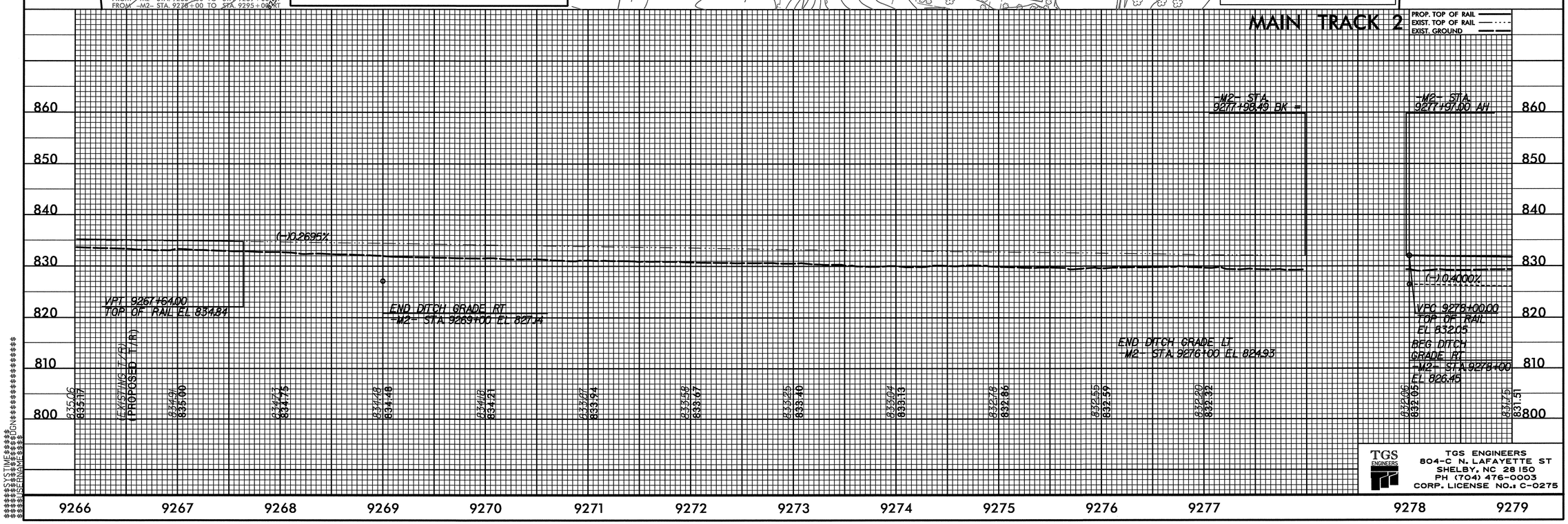
FROM -M2- STA. 9262+00 TO STA. 9276+00, LT
FROM -M2- STA. 9263+00 TO STA. 9269+00, RT
FROM -M2- STA. 9276+00 TO STA. 9295+00, RT

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 8

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

MAIN TRACK 2

PROP. TOP OF RAIL
EXIST. TOP OF RAIL
EXIST. GROUND



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CORP. LICENSE NO.: C-0275

DGN 0001ADD_P10b2 0164DEL_P10b2

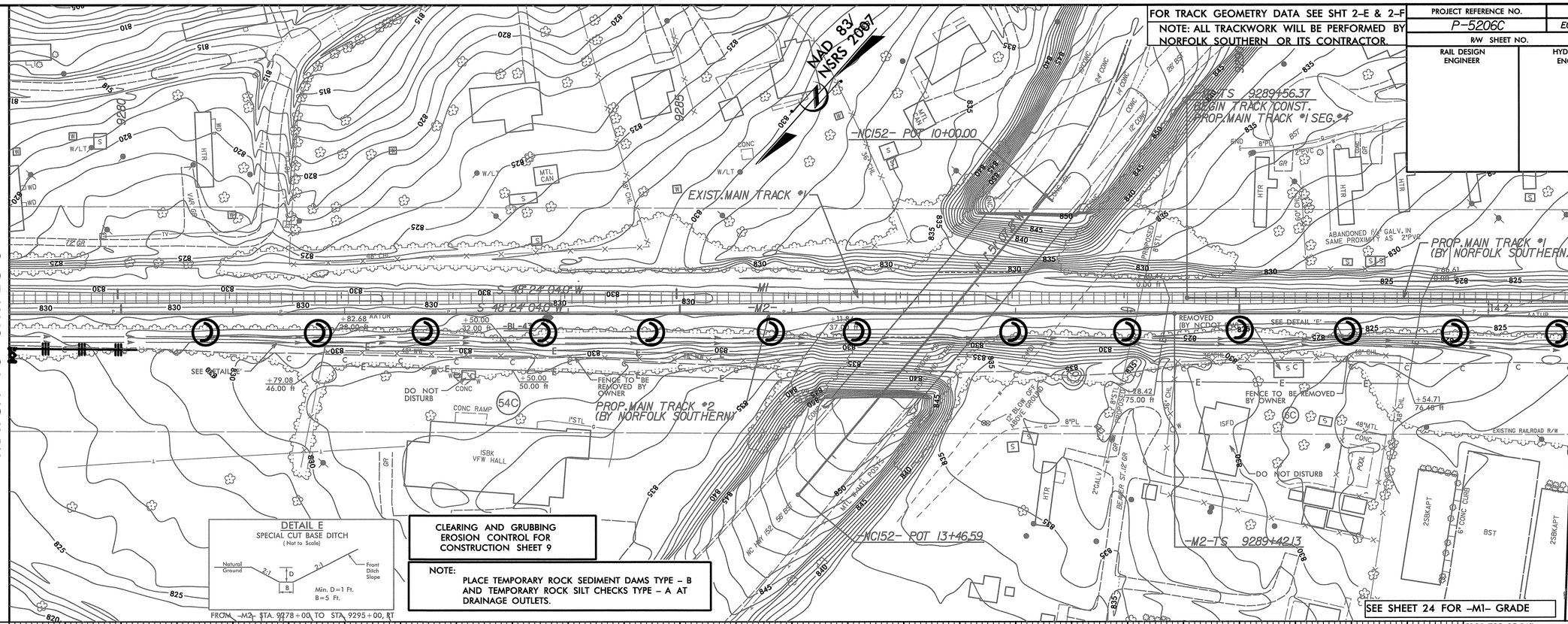
PROJECT REFERENCE NO.	SHEET NO.
P-5206C	EC-9/CONST.9
R/W SHEET NO.	
RAIL DESIGN ENGINEER	HYDRAULICS ENGINEER

FOR TRACK GEOMETRY DATA SEE SHT 2-E & 2-F

NOTE: ALL TRACKWORK WILL BE PERFORMED BY NORFOLK SOUTHERN OR ITS CONTRACTOR.

MATCH LINE STA. -M2- 9279+00.00 MATCH TO SHT. EC-8

MATCH LINE STA. -M2- 9293+00.00 MATCH TO SHT. EC-10



DETAIL E
SPECIAL CUT BASE DITCH
(Not to Scale)

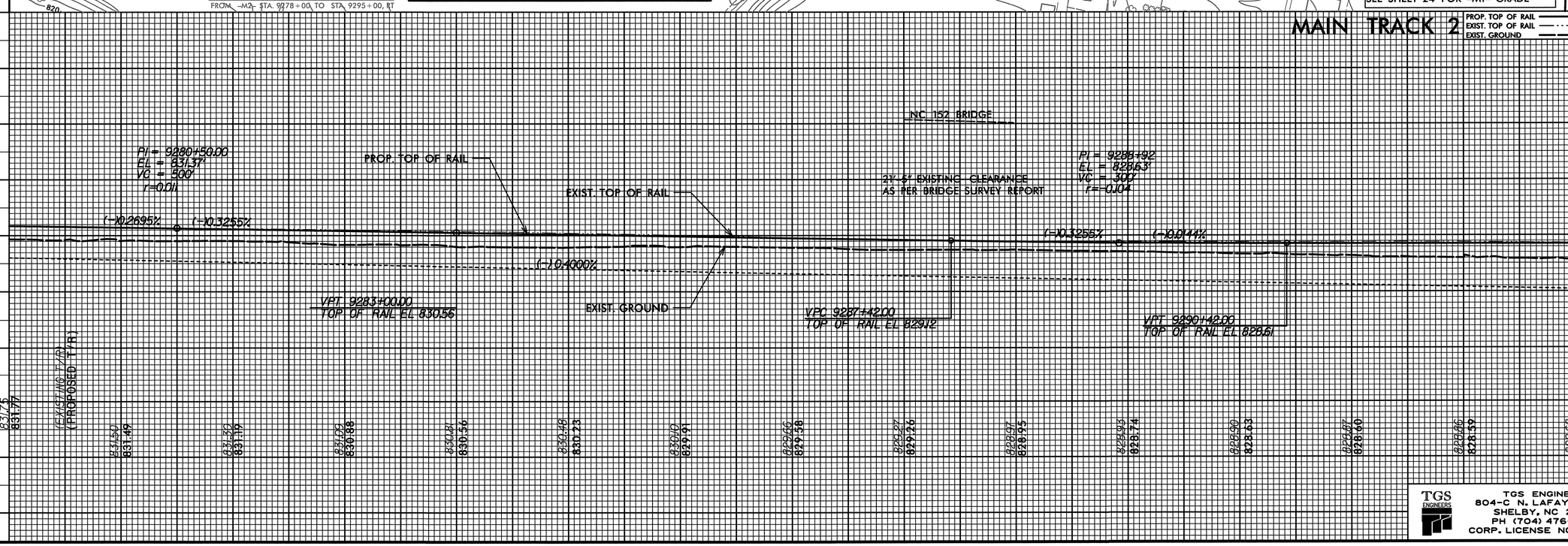
FROM -M2- STA. 9278+00 TO STA. 9295+00, RT

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 9

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

MAIN TRACK 2

PROP. TOP OF RAIL
EXIST. TOP OF RAIL
EXIST. GROUND



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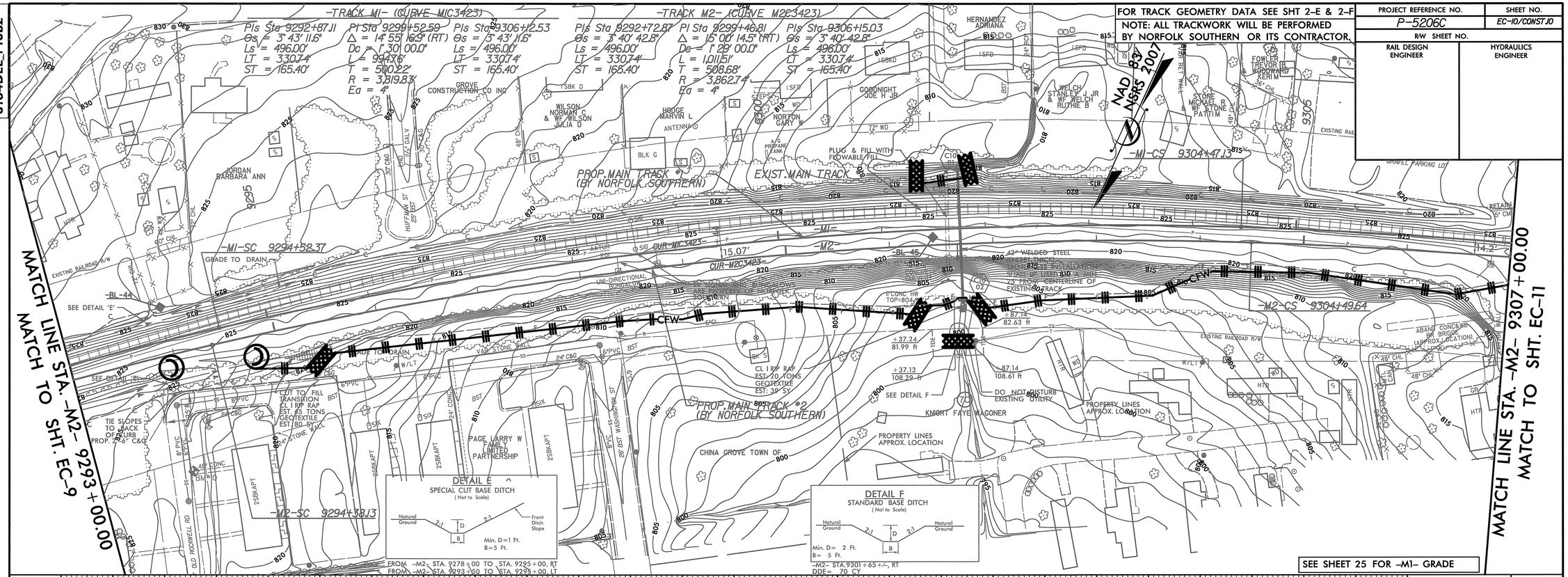
CORP. LICENSE NO.: C-0275

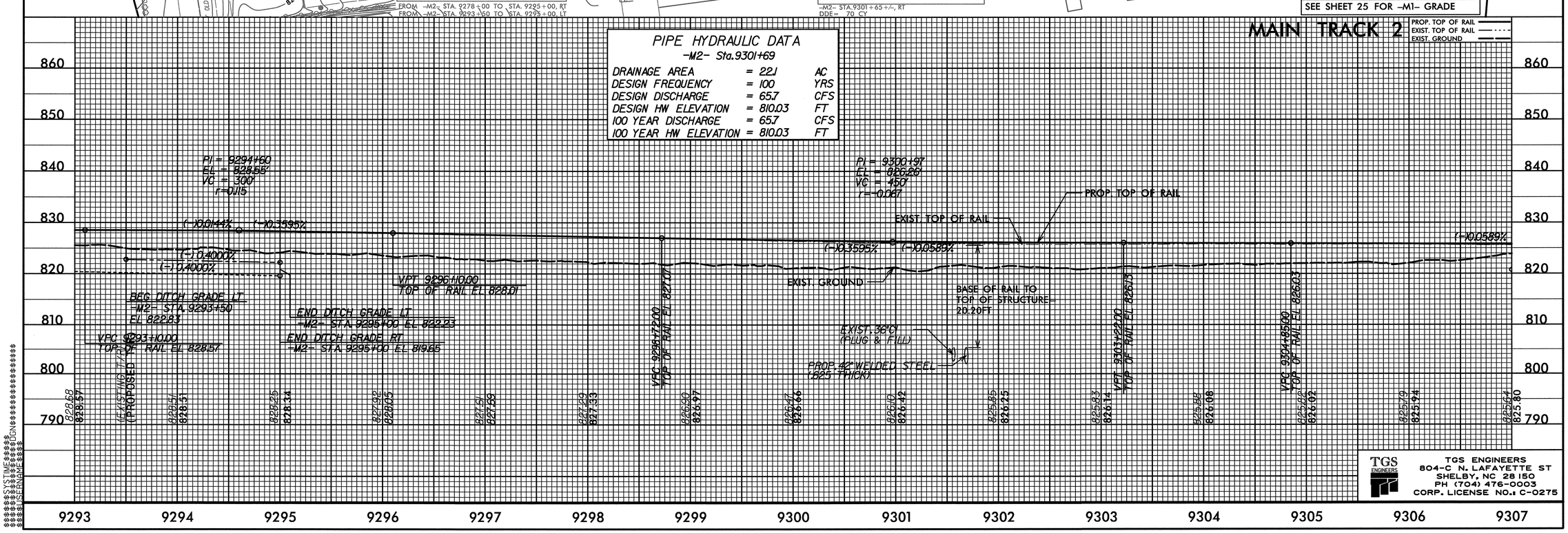
0001ADD_P10b2
0164DEL_P10b2

PROJECT REFERENCE NO.	SHEET NO.
P-5206C	EC-10/CONST.10
R/W SHEET NO.	
RAIL DESIGN ENGINEER	HYDRAULICS ENGINEER

FOR TRACK GEOMETRY DATA SEE SHT 2-E & 2-F
NOTE: ALL TRACKWORK WILL BE PERFORMED BY NORFOLK SOUTHERN OR ITS CONTRACTOR.



SEE SHEET 25 FOR -M1- GRADE



TGS ENGINEERS
804-C N. LAFAYETTE ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

PROJECT REFERENCE NO.	SHEET NO.
P-5206C	EC-11/CONST.11
R/W SHEET NO.	
RAIL/ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

0001ADD_P10b2
0164DEL_P10b2

MATCH LINE STA. –M2– 9307+00.00
MATCH TO SHT. EC-10

MATCH LINE STA. –M2– 9321+00.00
MATCH TO SHT. EC-12

SEE SHT 2-G FOR CROSSING DETAIL.

FOR TRACK GEOMETRY DATA SEE SHT 2-E & 2-F
NOTE: ALL TRACKWORK WILL BE PERFORMED BY NORFOLK SOUTHERN OR ITS CONTRACTOR.

–TRACK M1– (CURVE M1C3423)
PIs Sta 9292+87.11
Θs = 3° 43' 11.6"
Ls = 496.00'
LT = 330.74'
ST = 165.40'
PI Sta 9299+52.59
Δ = 14° 55' 16.9" (RT)
Dc = 1° 30' 00.0"
L = 994.76'
T = 500.22'
R = 3,819.83'
Ea = 4"
PIs Sta 9306+12.53
Θs = 3° 43' 11.6"
Ls = 496.00'
LT = 330.74'
ST = 165.40'

–TRACK M2– (CURVE M2C3423)
PIs Sta 9292+72.87
Θs = 3° 40' 42.8"
Ls = 496.00'
LT = 330.74'
ST = 165.40'
PI Sta 9299+46.81
Δ = 15° 00' 14.5" (RT)
Dc = 1° 29' 00.0"
L = 1,011.51'
T = 508.68'
R = 3,862.74'
Ea = 4"
PIs Sta 9306+15.03
Θs = 3° 40' 42.8"
Ls = 496.00'
LT = 330.74'
ST = 165.40'

NAD 83/ NSRS 2007

PROP. MAIN TRACK #1 (BY NORFOLK SOUTHERN)
EXIST. MAIN TRACK #1 CHINA GROVE TOWN OF
–M1–ST 9309+43.13 END TRACK CONST. PROP. MAIN TRACK #1 SEG. #4
M2–ST 9309+45.64
PROP. MAIN TRACK #2 (BY NORFOLK SOUTHERN)
TURNOUT TO BE REMOVED BY NORFOLK SOUTHERN OR ITS CONTRACTOR
EXIST. TRACK TO BE REMOVED BY NORFOLK SOUTHERN OR ITS CONTRACTOR
BEGIN CONSTRUCTION –Y6– STA. 12+31+/–
PROPOSED CROSSING –Y6– STA. 14+18.67 = –M1– STA. 9312+03.02
PROPOSED CROSSING –Y6– STA. 14+32.76 = –M2– STA. 9316+96.86
END CONSTRUCTION –Y6– STA. 16+20+/–
–Y6– PI Sta 12+45.93 Δ = 5° 05' 34.9" (LT) D = 3° 55' 27.7" L = 129.78' T = 64.93' R = 1,460.00'
PI Sta 16+56.44 Δ = 33° 33' 00.7" (RT) D = 21° 13' 14.4" L = 158.10' T = 81.39' R = 270.00'
–Y6– PC 15+75.05
–Y6–PT 13+10.78
PROP. ISLAND OPENING (SEE DETAIL SHT 2-G)
PROP. MONOLITHIC CONC. ISLAND (KEYED-IN) W/VERTICAL TUBES ON 6' CENTERS SEE SHEET 2-L FOR DETAIL
TRACK TO BE REMOVED BY CONTRACTOR
REMOVE FENCE BY OWNER
DO NOT DISTURB DRIVE
CL RIP RAP EST. 11 TONS GEOTEXTILE EST. 22 SY
EXISTING RAILROAD R/W
PROP. MONOLITHIC CONC. ISLAND (KEYED-IN) W/VERTICAL TUBES ON 6' CENTERS SEE SHEET 2-L FOR DETAIL
TUSCARORA YARNS INC
UNABLE TO LOCATE END
FENCE TO BE REMOVED BY OWNER
REMOVE (BY NCDOT R/W)
DO NOT DISTURB
ALLEN JEFFERY OBRIAN
CHINA GROVE TOWN OF
PATE BRENDA H
DEMARCUS VIOLA M
HEBERLEIN JOHN
WALTERS ANNA CHRISTOPHER & WF
ASHLEY JERRY & WF ASHLEY LUCY
O'KELLEY GENE KETCHIE
EXIST. 36"X36" STONE CULV.

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 11

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

PAVEMENT REMOVAL

DETAIL G
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground, 2:1, D, 2:1, Front Ditch Slope
Min. D=SEE X-SECTIONS
FROM –M2– STA. 9307+00 TO STA. 9308+00, RT
FROM –M2– STA. 9308+00 TO STA. 9309+50, LT

DETAIL H
SPECIAL CUT BASE DITCH
(Not to Scale)
Natural Ground, 2:1, D, 2:1, Front Ditch Slope, B
Min. D=1 Ft.
B=2 Ft.
FROM –M2– STA. 9308+00 TO STA. 9316+50, RT

DETAIL S
SPECIAL CUT BASE DITCH
(Not to Scale)
Natural Ground, 2:1, D, 2:1, Front Ditch Slope, B, d
Min. D= 1 Ft.
Min. d= 1 Ft.
B=5 Ft.
Type of Liner= PSRM
FROM –M2– STA. 9318+50 TO STA. 9319+20, RT
EST. PSRM: 65 SY

DETAIL E
SPECIAL CUT BASE DITCH
(Not to Scale)
Natural Ground, 2:1, D, 2:1, Front Ditch Slope, B
Min. D= 1Ft.
B= 5 Ft.
FROM –M2–STA. 9317+50 TO STA. 9318+50, RT
FROM –M2–STA. 9320+50 TO STA. 9323+50, RT

SEE SHEET 25 FOR –M1– GRADE

MAIN TRACK 2

PROP TOP OF RAIL
EXIST TOP OF RAIL
EXIST GROUND
EXIST GRADE BELOW RAIL

PI = 9307+10
EL = 825.90'
VC = 450'
r=0.044
(–)0.2591%
(–)0.0589%
(–)0.5667%
(–)0.4000%(LT)
BEG DITCH GRADE LT –M2–STA 9308+00 EL 822.10
VPT 9309+35.00 TOP OF RAIL EL 825.32
END DITCH GRADE LT –M2– STA 9309+50 EL 821.50
PI DITCH GRADE RT –M2– STA 9308+50 EL 819.92
BEG DITCH GRADE RT –M2– STA 9307+00 EL 820.77
(–)0.4000%
EXIST TOP OF RAIL
END DITCH GRADE RT –M2– STA 9316+50.00 EL 816.72
BEG DITCH GRADE RT –M2– STA 9317+50 EL 816.02'
PI DITCH GRADE RT –M2– STA 9318+50.00 EL 815.62
END DITCH GRADE RT –M2– STA 9319+20.00 EL 813.52
PI = 9318+80.00
EL = 822.87'
VC = 250'
r=–0.090
VPC 9317+55.00 TOP OF RAIL EL 823.19
VPT 9320+05.00 TOP OF RAIL EL 822.63
(–)0.2591%
(–)0.0337%
BASE OF RAIL TO TOP OF STRUCTURE = 5.70 FT
(–)0.4000%
(–)3.0000%
(+)0.4000%
EXIST. 36"X36" STONE CULV.
BEG DITCH GRADE RT –M2– STA 9320+50 EL 815.98'

825.80 825.54 825.63 825.34 825.41 825.63 825.15 824.77 824.86 824.48 824.63 824.37 824.37 824.09 824.11 823.79 823.85 823.40 823.50 823.32 823.34 823.14 823.09 822.90 822.91 822.97 822.83 822.79 822.79

860 850 840 830 820 810 800 790

9307 9308 9309 9310 9311 9312 9313 9314 9315 9316 9317 9318 9319 9320 9321

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804-C N. LAFAYETTE ST
SHELBY, NC 28150
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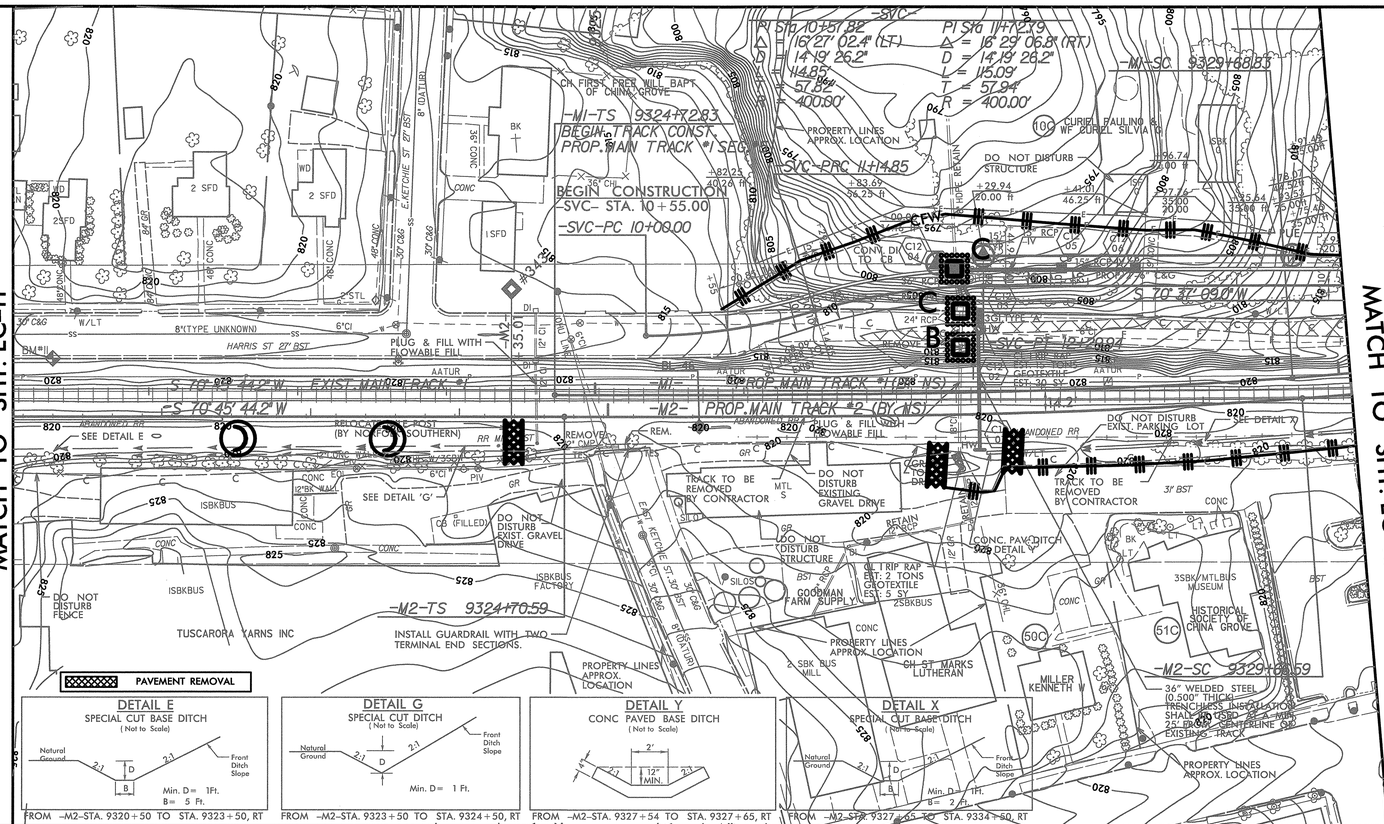
0001ADD_P10b2
0164DEL_P10b2

MATCH LINE STA. -M2- 9321+00.00
MATCH TO SHT. EC-11

MATCH LINE STA. -M2- 9330+00.00
MATCH TO SHT. EC-13

FOR TRACK GEOMETRY DATA SEE SHT 2-E & 2-F
NOTE: ALL TRACKWORK WILL BE PERFORMED BY NORFOLK SOUTHERN OR ITS CONTRACTOR.

PROJECT REFERENCE NO.	SHEET NO.
P-5206C	EC-12/CONST12
R/W SHEET NO.	
RAILROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



-TRACK M1- (CURVE M1C3430)

PIs Sta 9328+03.59	PI Sta 9342+40.24	PIs Sta 9355+65.73
Θs = 4° 12' 57.0"	Δ = 41° 20' 06.4" (LT)	Θs = 4° 12' 57.0"
Ls = 496.00'	Dc = 1° 42' 00.0"	Ls = 496.00'
LT = 330.76'	L = 2,431.48'	LT = 330.76'
ST = 165.42'	T = 1,271.41'	ST = 165.42'
	R = 3,370.46'	
	Ea = 4"	

-TRACK M2- (CURVE M2C3430)

PIs Sta 9328+01.35	PI Sta 9342+38.00	PIs Sta 9355+63.48
Θs = 4° 12' 57.0"	Δ = 41° 20' 06.4" (LT)	Θs = 4° 12' 57.0"
Ls = 496.00'	Dc = 1° 42' 00.0"	Ls = 496.00'
LT = 330.76'	L = 2,431.48'	LT = 330.76'
ST = 165.42'	T = 1,271.41'	ST = 165.42'
	R = 3,370.46'	
	Ea = 4"	

CLEARING AND GRUBBING
EROSION CONTROL FOR CONSTRUCTION SHEET 12

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.

SEE SHEET 31 FOR -SVC- GRADE

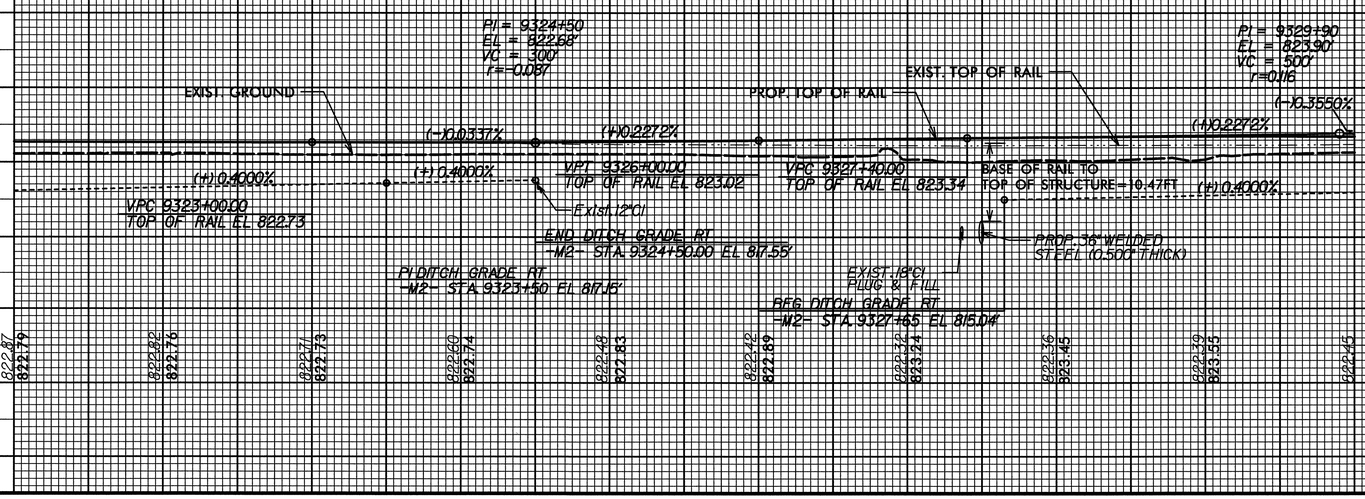
SEE SHEET 26 FOR -M1- GRADE

MAIN TRACK 2

PROP. TOP OF RAIL
EXIST. TOP OF RAIL
EXIST. GROUND

PIPE HYDRAULIC DATA
-M2- Sta.9327+49

DRAINAGE AREA	= 4.15	AC
DESIGN FREQUENCY	= 100	YRS
DESIGN DISCHARGE	= 20.7	CFS
DESIGN HW ELEVATION	= 813.66	FT
100 YEAR DISCHARGE	= 20.7	CFS
100 YEAR HW ELEVATION	= 813.66	FT



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CORP. LICENSE NO.: C-0275

0164DEL_P10b2

DGN

-TRACK M1- (CURVE M1C3430)

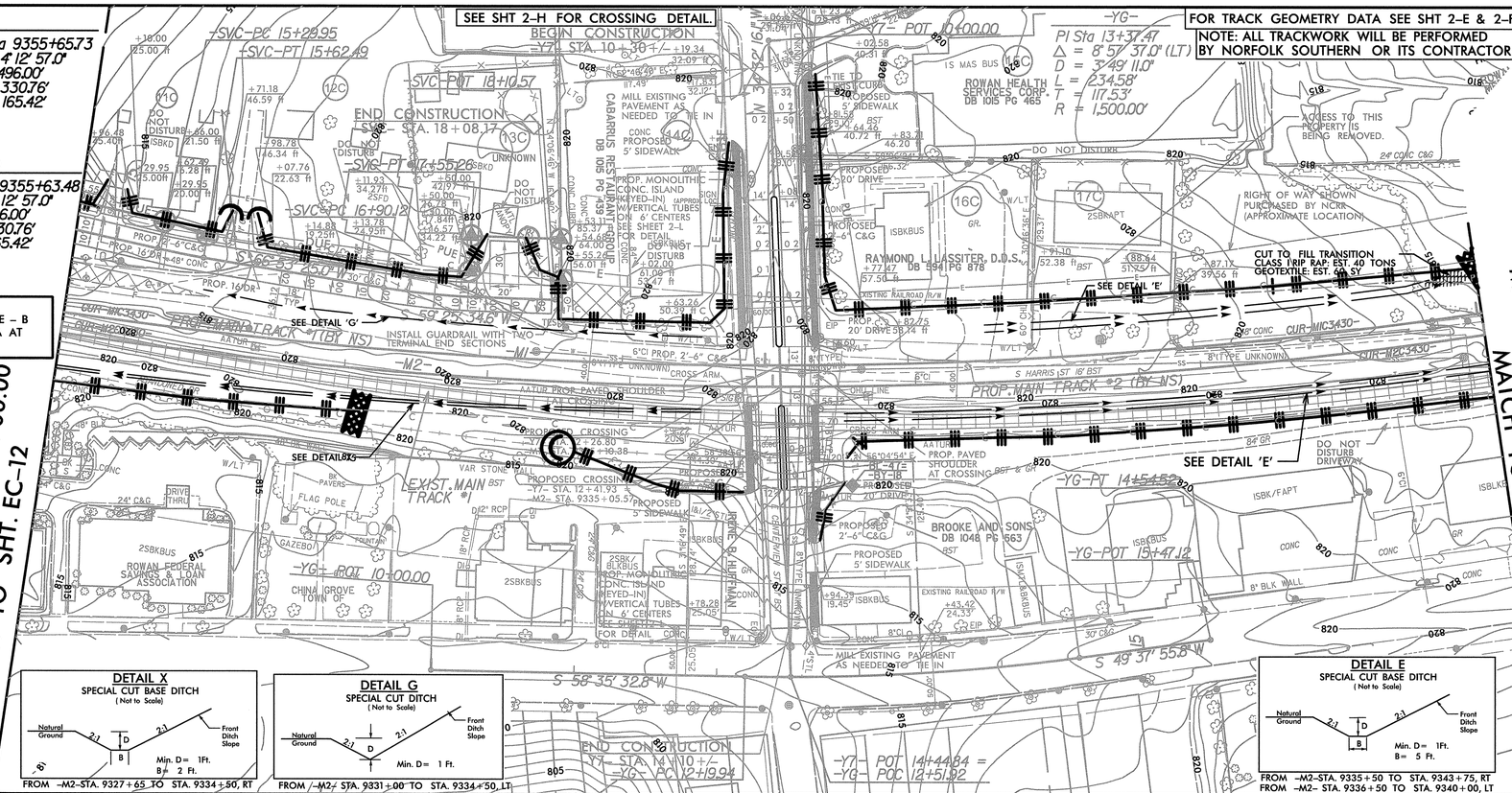
PIs Sta 9328+03.59 PI Sta 9342+40.24 PIs Sta 9355+65.73
Θs = 4° 12' 57.0" Δ = 41° 20' 06.4" (LT) Θs = 4° 12' 57.0"
Ls = 496.00' Dc = 1° 42' 00.0" Ls = 496.00'
LT = 330.76' L = 2,431.48' LT = 330.76'
ST = 165.42' T = 1,271.41' ST = 165.42'
R = 3,370.46'
Ea = 4"

-TRACK M2- (CURVE M2C3430)

PIs Sta 9328+01.35 PI Sta 9342+38.00 PIs Sta 9355+63.48
Θs = 4° 12' 57.0" Δ = 41° 20' 06.4" (LT) Θs = 4° 12' 57.0"
Ls = 496.00' Dc = 1° 42' 00.0" Ls = 496.00'
LT = 330.76' L = 2,431.48' LT = 330.76'
ST = 165.42' T = 1,271.41' ST = 165.42'
R = 3,370.46'
Ea = 4"

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING
EROSION CONTROL FOR CONSTRUCTION SHEET 13



PROJECT REFERENCE NO.	SHEET NO.
P-5206C	EC-13/CONST.13
R/W SHEET NO.	
RAIL/ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DETAIL X
SPECIAL CUT BASE DITCH
(Not to Scale)

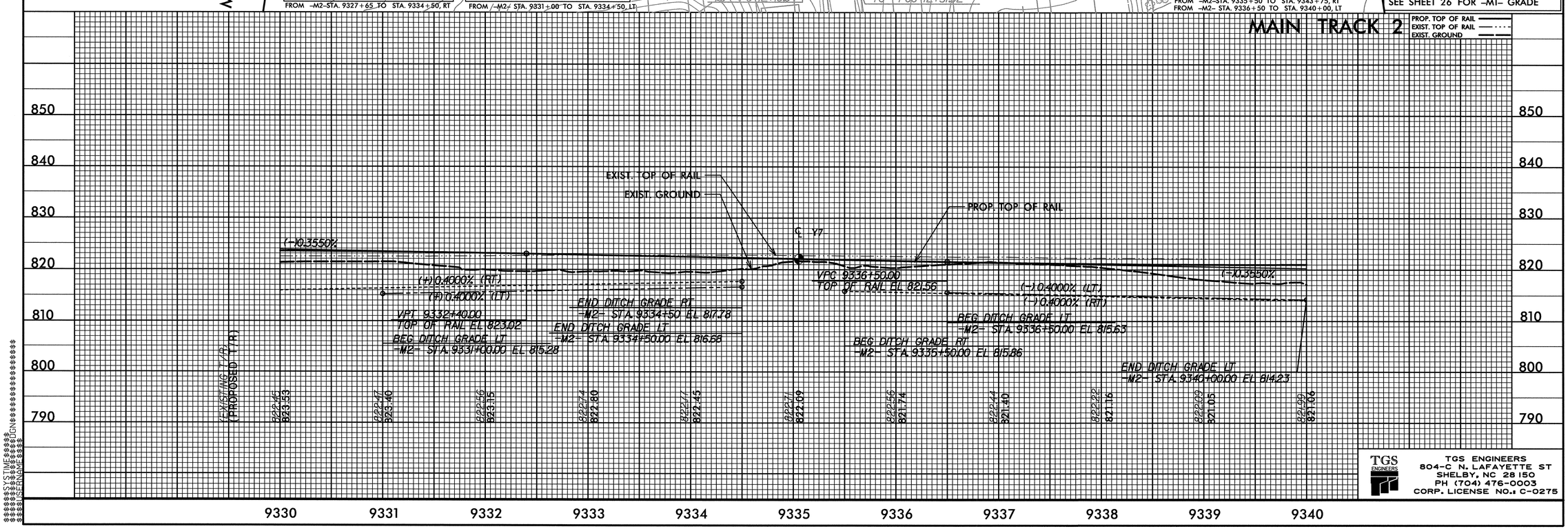
FROM -M2-STA. 9327+65 TO STA. 9334+50, RT

DETAIL G
SPECIAL CUT DITCH
(Not to Scale)

FROM -M2- STA. 9331+00 TO STA. 9334+50, LT

DETAIL E
SPECIAL CUT BASE DITCH
(Not to Scale)

FROM -M2-STA. 9335+50 TO STA. 9343+75, RT
FROM -M2- STA. 9336+50 TO STA. 9340+00, LT



PROP. TOP OF RAIL
EXIST. TOP OF RAIL
EXIST. GROUND

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CORP. LICENSE NO.: C-0275

SYSTIME$$DGN$$

0164DEL_P10b2

PROJECT REFERENCE NO.	SHEET NO.
P-5206C	EC-14/CONST.14
R/W SHEET NO.	
RAIL/ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

FOR TRACK GEOMETRY DATA SEE SHT 2-E & 2-F

NOTE: ALL TRACKWORK WILL BE PERFORMED BY NORFOLK SOUTHERN OR ITS CONTRACTOR.

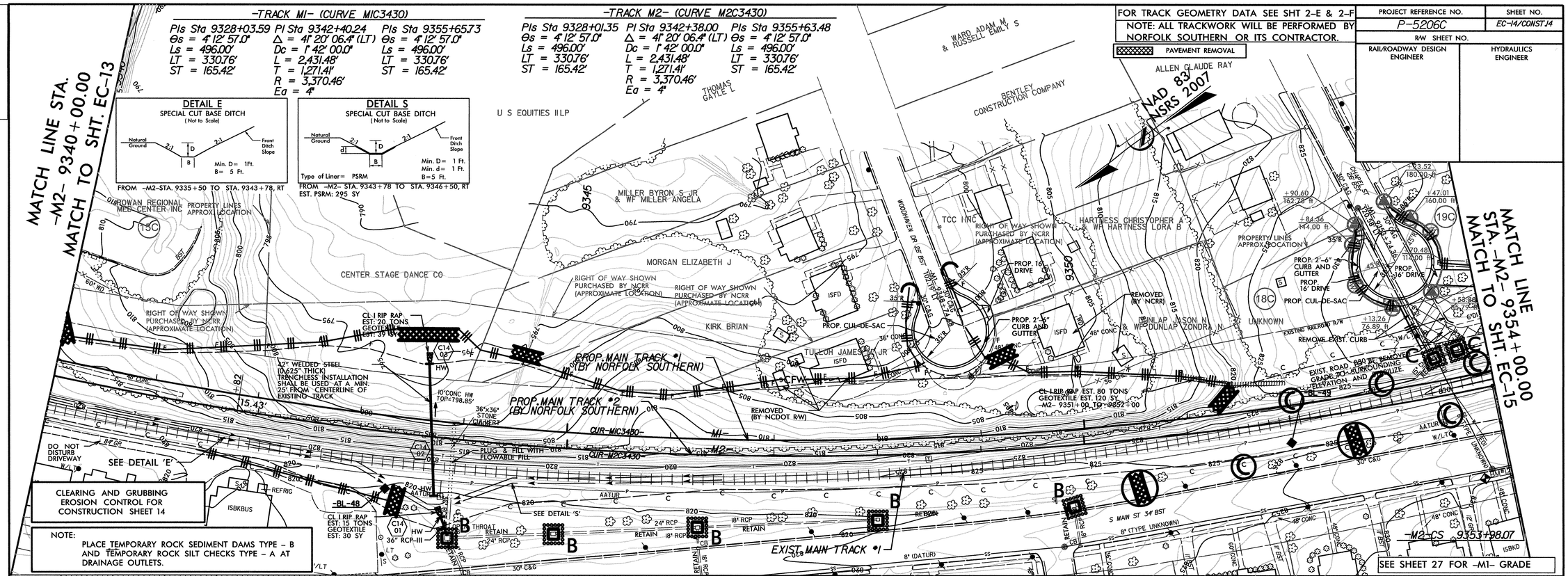
PAVEMENT REMOVAL

-TRACK M1- (CURVE M1C3430)

PIs Sta 9328+03.59 PI Sta 9342+40.24 PIs Sta 9355+65.73
Θs = 4° 12' 57.0" Δ = 41° 20' 06.4" (LT) Θs = 4° 12' 57.0"
Ls = 496.00' Dc = 1° 42' 00.0" Ls = 496.00'
LT = 330.76' L = 2,431.48' LT = 330.76'
ST = 165.42' T = 1,271.41' ST = 165.42'
R = 3,370.46'
Ea = 4"

-TRACK M2- (CURVE M2C3430)

PIs Sta 9328+01.35 PI Sta 9342+38.00 PIs Sta 9355+63.48
Θs = 4° 12' 57.0" Δ = 41° 20' 06.4" (LT) Θs = 4° 12' 57.0"
Ls = 496.00' Dc = 1° 42' 00.0" Ls = 496.00'
LT = 330.76' L = 2,431.48' LT = 330.76'
ST = 165.42' T = 1,271.41' ST = 165.42'
R = 3,370.46'
Ea = 4"



CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 14

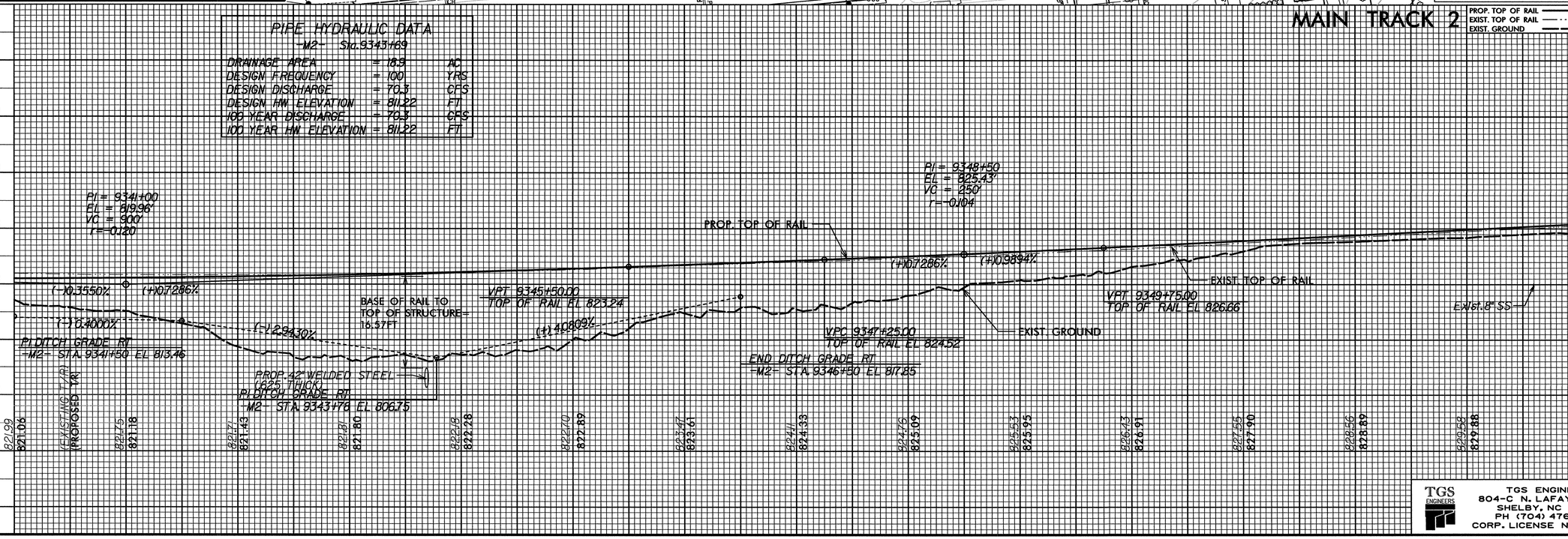
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.

MAIN TRACK 2

PROP. TOP OF RAIL
EXIST. TOP OF RAIL
EXIST. GROUND

PIPE HYDRAULIC DATA
-M2- Sta.9343+69

DRAINAGE AREA	= 18.9	AC
DESIGN FREQUENCY	= 100	YRS
DESIGN DISCHARGE	= 70.3	CFS
DESIGN HW ELEVATION	= 811.22	FT
100 YEAR DISCHARGE	= 70.3	CFS
100 YEAR HW ELEVATION	= 811.22	FT



TGS ENGINEERS
804-C N. LAFAYETTE ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

DGN: $$$$USERNAME$$$$ $$$$SYSTIME$$$$

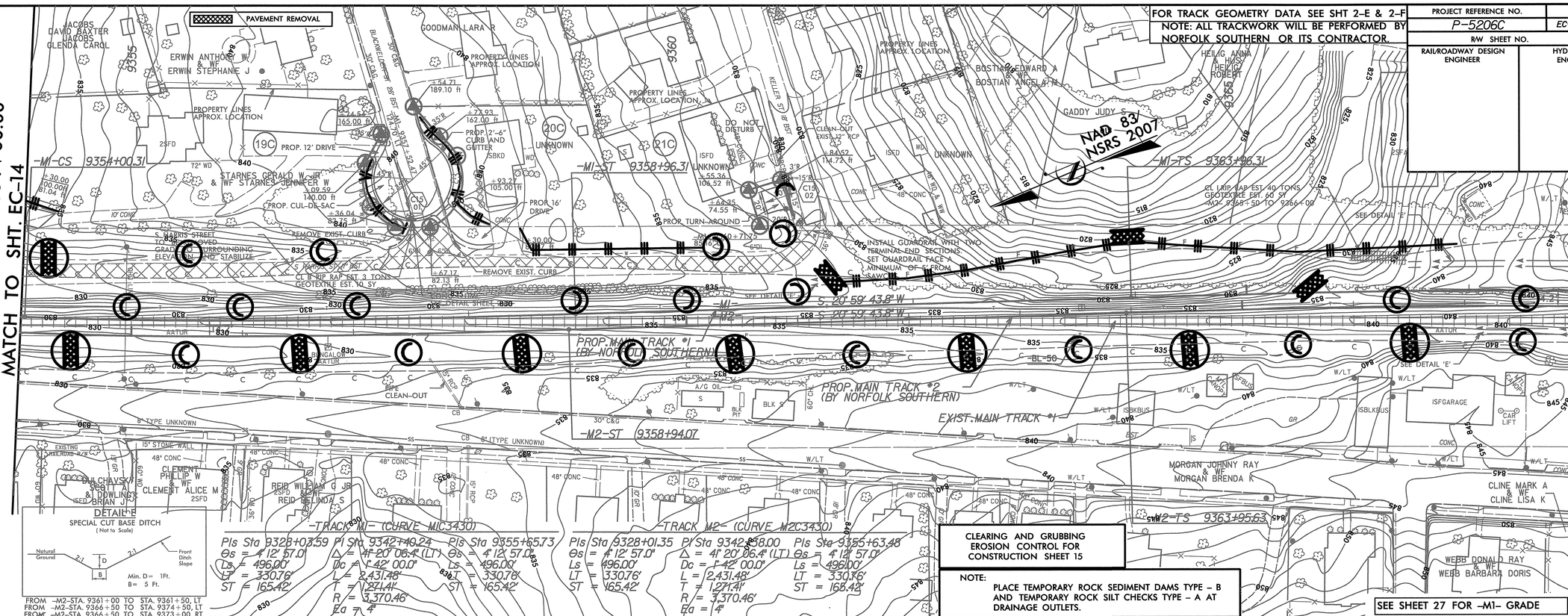
DGN 0001ADD_P10b2 0164DEL_P10b2

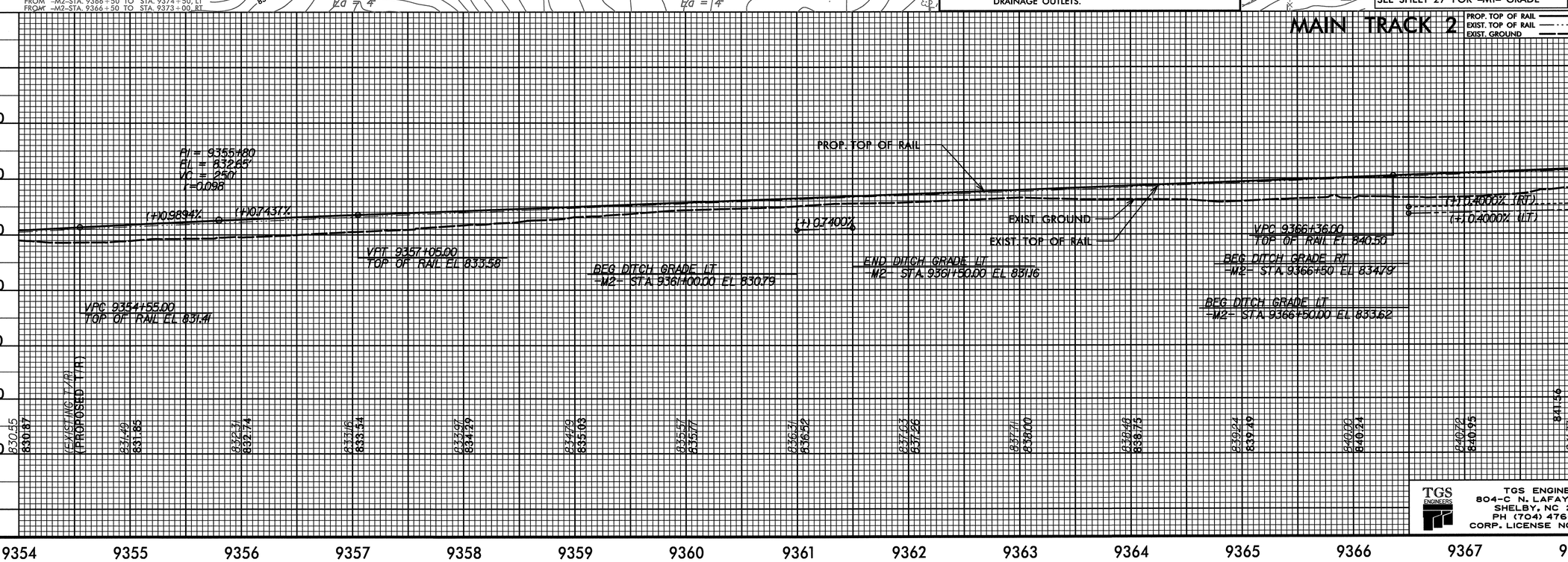
PROJECT REFERENCE NO.	SHEET NO.
P-5206C	EC-15/CONST J5
R/W SHEET NO.	
RAIL/ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

FOR TRACK GEOMETRY DATA SEE SHT 2-E & 2-F
NOTE: ALL TRACKWORK WILL BE PERFORMED BY NORFOLK SOUTHERN OR ITS CONTRACTOR.

MATCH LINE STA. -M2- 9354+00.00 MATCH TO SHT. EC-14

MATCH LINE STA. -M2- 9368+00.00 MATCH TO SHT. EC-16





TGS ENGINEERS
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804-C N. LAFAYETTE ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

0001ADD_P10b2
0164DEL_P10b2

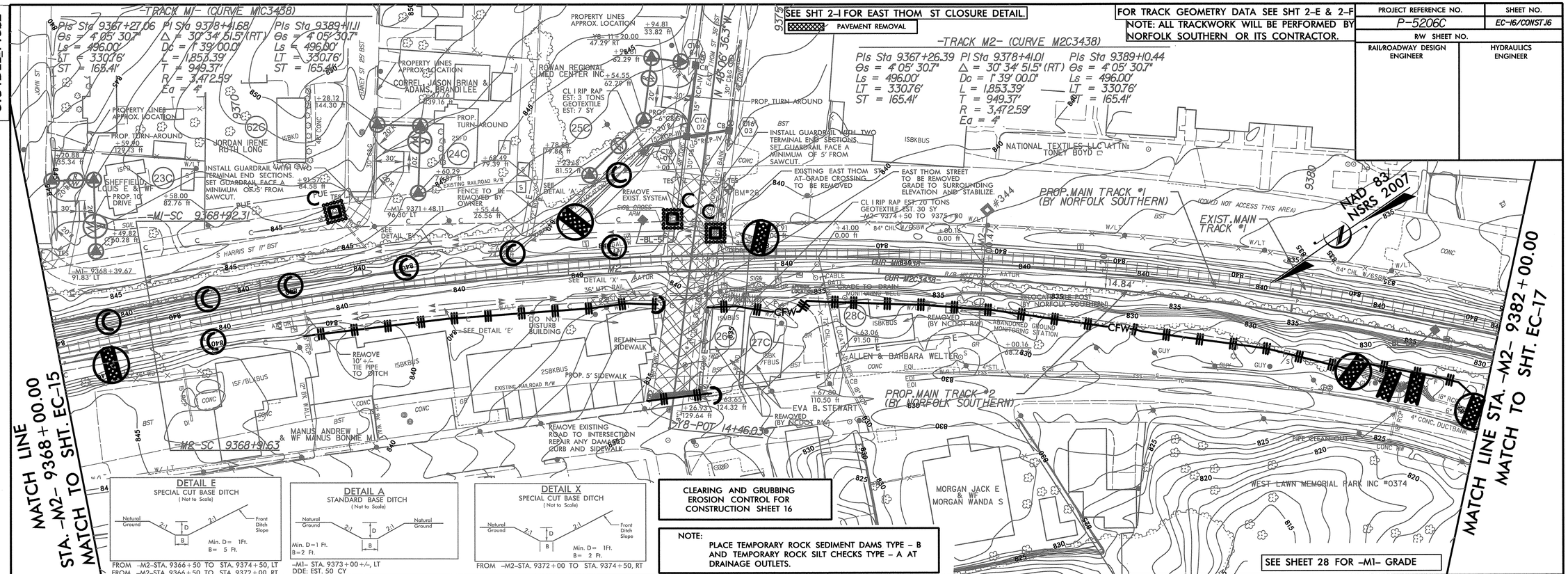
SEE SHT 2-I FOR EAST THOM ST CLOSURE DETAIL.

PAVEMENT REMOVAL

FOR TRACK GEOMETRY DATA SEE SHT 2-E & 2-F

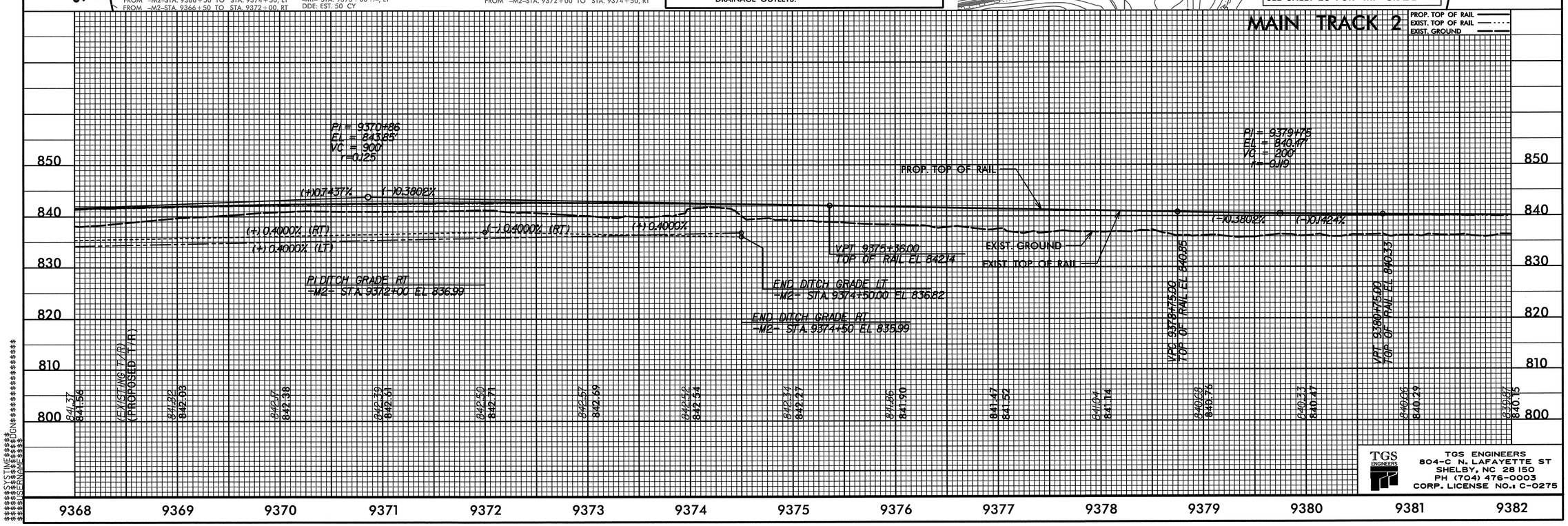
NOTE: ALL TRACKWORK WILL BE PERFORMED BY NORFOLK SOUTHERN OR ITS CONTRACTOR.

PROJECT REFERENCE NO.	SHEET NO.
P-5206C	EC-16/CONST.16
R/W SHEET NO.	
RAIL/ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



CLEARING AND GRUBBING
EROSION CONTROL FOR CONSTRUCTION SHEET 16

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.



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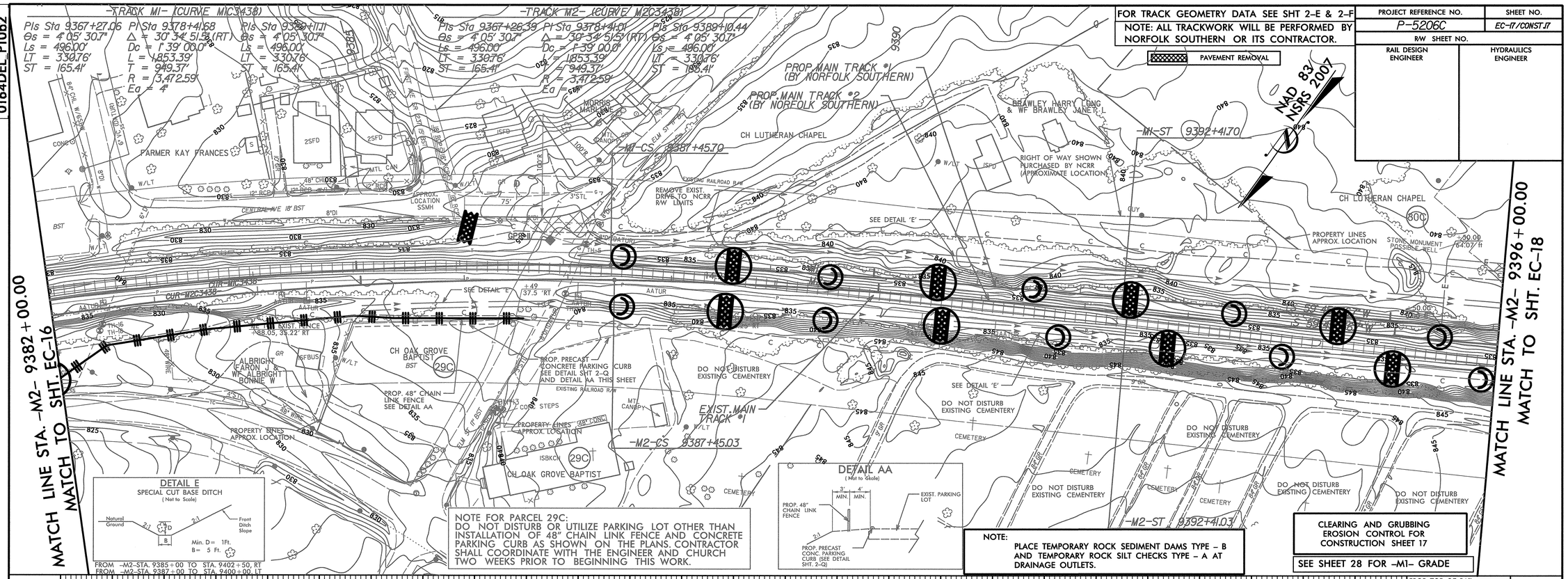
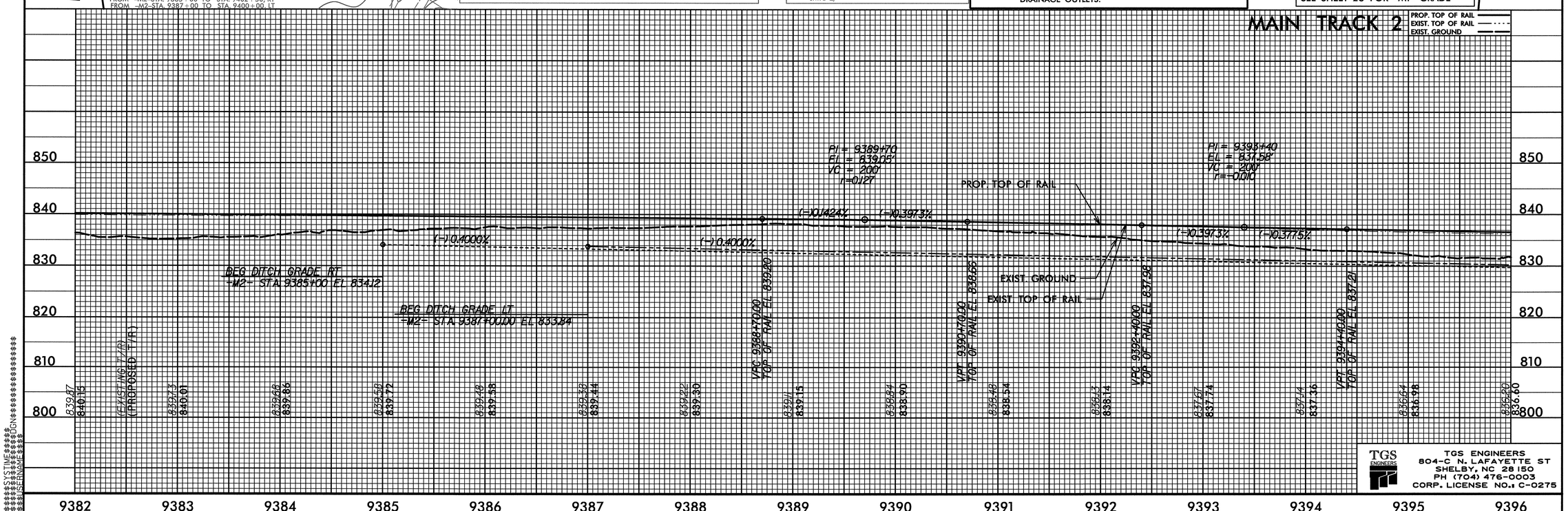
0001ADD_P10b2
0164DEL_P10b2

FOR TRACK GEOMETRY DATA SEE SHT 2-E & 2-F

NOTE: ALL TRACKWORK WILL BE PERFORMED BY NORFOLK SOUTHERN OR ITS CONTRACTOR.

PROJECT REFERENCE NO.	SHEET NO.
P-5206C	EC-17/CONST 17
R/W SHEET NO.	
RAIL DESIGN ENGINEER	HYDRAULICS ENGINEER





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PROJECT REFERENCE NO.	SHEET NO.
P-5206C	EC-18/CONST J8
R/W SHEET NO.	
RAIL/ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

0001ADD_P10b2
0164DEL_P10b2

MATCH LINE STA. -M2- 9396+00.00
MATCH TO SHT. EC-17

SEE SHT 2-J FOR EUDY RD CLOSURE DETAIL.
PAVEMENT REMOVAL

FOR TRACK GEOMETRY DATA SEE SHT 2-E & 2-F
NOTE: ALL TRACKWORK WILL BE PERFORMED BY NORFOLK SOUTHERN OR ITS CONTRACTOR.

NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECK TYPE-A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 18

SEE SHEET 18A FOR KIMBALL RD EXT CONSTRUCTION

-Y9-
PI Sta 11+53.08
△ = 13° 00' 21.0" (RT)
D = 11° 27' 33.0"
L = 113.50'
T = 56.99'
R = 500.00'

PI Sta 13+36.76
△ = 33° 16' 51.2" (RT)
D = 21° 13' 14.4"
L = 156.83'
T = 80.70'
R = 270.00'

-Y9-POT 10+00.00
-Y9-PC 10+96.08
-Y9-PT 12+09.58
-Y9-PC 12+56.07
-Y9-PT 14+12.90

-TRACK M1- (CURVE M1C3445)
PIs Sta 9402+17.28
Θs = 0° 18' 36.0"
Ls = 124.00'
LT = 82.67'
ST = 41.33'

PIs Sta 9404+14.93
△ = 1° 33' 47.0" (RT)
Dc = 0° 30' 00.0"
L = 312.6K
T = 156.32'
R = 11,459.19'
Ea = 1"

PIs Sta 9406+12.56
Θs = 0° 18' 36.0"
Ls = 124.00'
LT = 82.67'
ST = 41.33'

-TRACK M2- (CURVE M2C3445)
PIs Sta 9401+95.82
Θs = 0° 17' 21.6"
Ls = 124.00'
LT = 82.67'
ST = 41.33'

PI Sta 9401+09.01
△ = 1° 36' 15.8" (RT)
Dc = 0° 28' 00.0"
L = 343.80'
T = 171.91'
R = 12,277.77'
Ea = 1"

PIs Sta 9406+22.29
Θs = 0° 17' 21.6"
Ls = 124.00'
LT = 82.67'
ST = 41.33'

-Y10- STA. 12+25.00
-Y10- STA. 15+60.00

NAD 83/ NSRS 2007

CH LUTHERAN CHAPEL
CH LUTHERAN CHAPEL OF CHINA GROVE
30C
PROPERTY LINES APPROX. LOCATION
INSTALL GUARDRAIL WITH TWO TERMINAL END SECTIONS. SET GUARDRAIL FACE A MINIMUM OF 5' FROM SAWCUT.
RIGHT OF WAY SHOWN PURCHASED BY NCRR (APPROXIMATE LOCATION)
GRADE TO DRAIN
CUT TO FILL TRANSITION CLASS I RIPRAP EST. 40 TONS GEOTEXTILE EST. 60 SY
EXISTING EUDY RD AT GRADE CROSSING TO BE REMOVED
SEE DETAIL 'E'
SEE DETAIL 'F'
SEE DETAIL 'L'
SEE DETAIL 'O'
SEE SHEET 18A
SEE SHEET 18A
SEE SHEET 18A
-M1-TS 9401+34.62
PROP. MAIN TRACK #1 (BY NORFOLK SOUTHERN)
-M1-SC 9402+58.62
-M2-SC 9402+37.16
-M2-TS 9401+13.16
-M1-ST 9406+95.23
-M1-CS 9405+71.23
-M2-ST 9407+04.88
-M2-CS 9405+80.96
PROPOSED RAILROAD BRIDGE (SEE SHEET 18A)
EUDY STREET TO BE REMOVED GRADE TO SURROUNDING ELEVATION AND STABILIZE
EXISTING TRACKBED TO BE REMOVED
CFW
CUR M1C3445
CUR M2C3445
MT ZION UNITED CHURCH OF CHRIST -NO DEED REF
CRAFT DEVELOPMENT LLC DB 1091 PG 1
32C
34C
DO NOT DISTURB EXISTING CEMENTERY
INSTALL GUARDRAIL WITH TWO TERMINAL END SECTIONS. SET GUARDRAIL FACE A MINIMUM OF 5' FROM SAWCUT.
ABANDON EUDY RD.
MT ZION UNITED CHURCH OF CHRIST DB 564 PG 688 PB 9995 PG 273
MT ZION UNITED CHURCH OF CHRIST DB 563 PG 787 PB 9995 PG 273
MICHAEL E & TAMMY U. ERVIN DB 1163 PG 479 PB 9995 PG 517
CL RIP RAP EST. 33 TONS GEOTEXTILE EST. 56 SY
54" WELDED STEEL (0.750" THK) TRENCHLESS INSTALLATION SHALL BE USED AT A MIN. 25' FROM CENTERLINE OF DISTURB TRACK
PLUG & FILL WITH FLOWABLE FILL
CL RIP RAP EST. 15 TONS GEOTEXTILE EST. 30 SY
SEE SHEET 18A FOR -Y10- PLAN
SEE SHEET 32 FOR -Y10- GRADE
SEE SHEET 29 FOR -M1- GRADE
SEE SHEETS S-1 THRU S-52 FOR STRUCTURE PLANS.

DETAIL L
SPECIAL CUT BASE DITCH
(Not to Scale)
Natural Ground, 2:1, 40:1, B, 2:1, Front Ditch Slope
Min. D= 1Ft.
B= SEE XS-SECT
FROM -M2- STA. 9402+50 TO STA. 9403+63, RT

DETAIL C
SPECIAL LATERAL BASE DITCH
(Not to Scale)
Natural Ground, 2:1, D, B, SEE XS-SECT, 40:1, SEE XS-SECT, 2:1, Fill Slope
Min. D=1 Ft.
B=5 Ft.
FROM -M2- STA. 9405+15 TO STA. 9407+40, RT

DETAIL E
SPECIAL CUT BASE DITCH
(Not to Scale)
Natural Ground, 2:1, D, B, 2:1, Front Ditch Slope
Min. D= 1Ft.
B= 5 Ft.
FROM -M2-STA. 9385+00 TO STA. 9407+50, RT
FROM -M2-STA. 9387+00 TO STA. 9400+00, LT

DETAIL O
STANDARD BASE DITCH
(Not to Scale)
Natural Ground, 2:1, B, 2:1, Natural Ground
B= 5 Ft.
-M1- STA. 9407+50, LT
DDE=50 CY

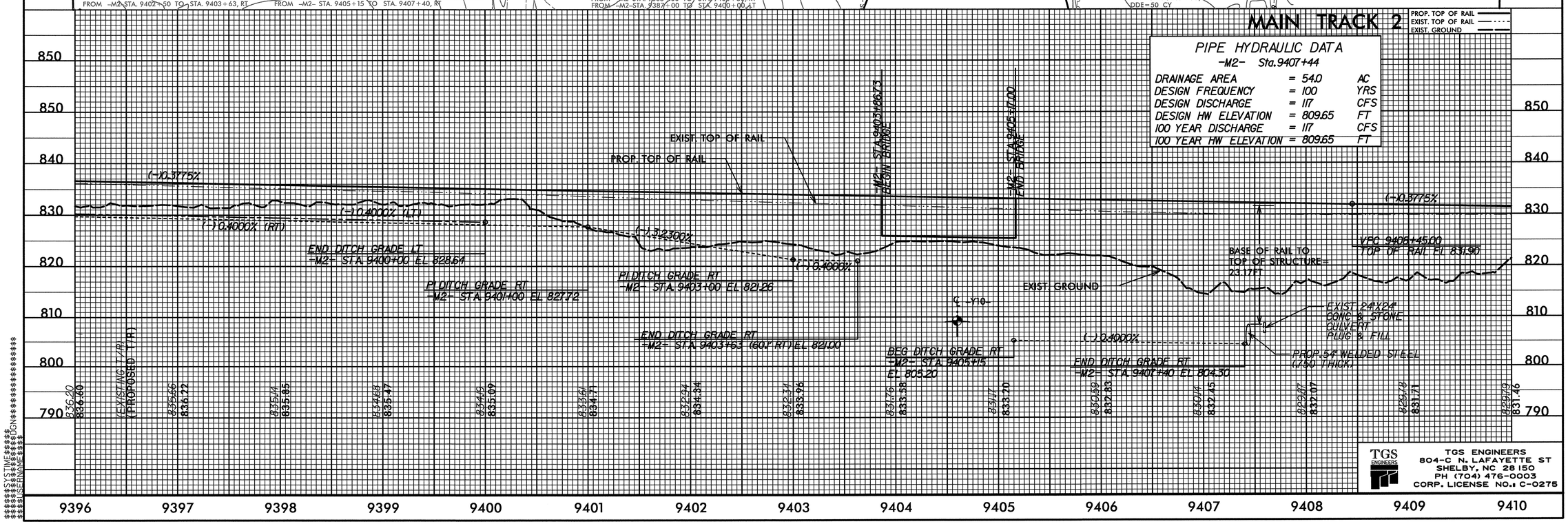
MATCH LINE STA. -M2- 9410+00.00
MATCH TO SHT. EC-19

MAIN TRACK 2

PROP. TOP OF RAIL
EXIST. TOP OF RAIL
EXIST. GROUND

PIPE HYDRAULIC DATA
-M2- Sta.9407+44

DRAINAGE AREA	= 54.0	AC
DESIGN FREQUENCY	= 100	YRS
DESIGN DISCHARGE	= 117	CFS
DESIGN HW ELEVATION	= 809.65	FT
100 YEAR DISCHARGE	= 117	CFS
100 YEAR HW ELEVATION	= 809.65	FT



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DGN 0001ADD_P10b2 0164DEL_P10b2

PROJECT REFERENCE NO.	SHEET NO.
P-5206C	EC-18A/CONST18A
R/W SHEET NO.	
RAIL/ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

FOR TRACK GEOMETRY DATA SEE SHT 2-E & 2-F

NOTE: ALL TRACKWORK WILL BE PERFORMED BY NORFOLK SOUTHERN OR ITS CONTRACTOR.

-Y10-

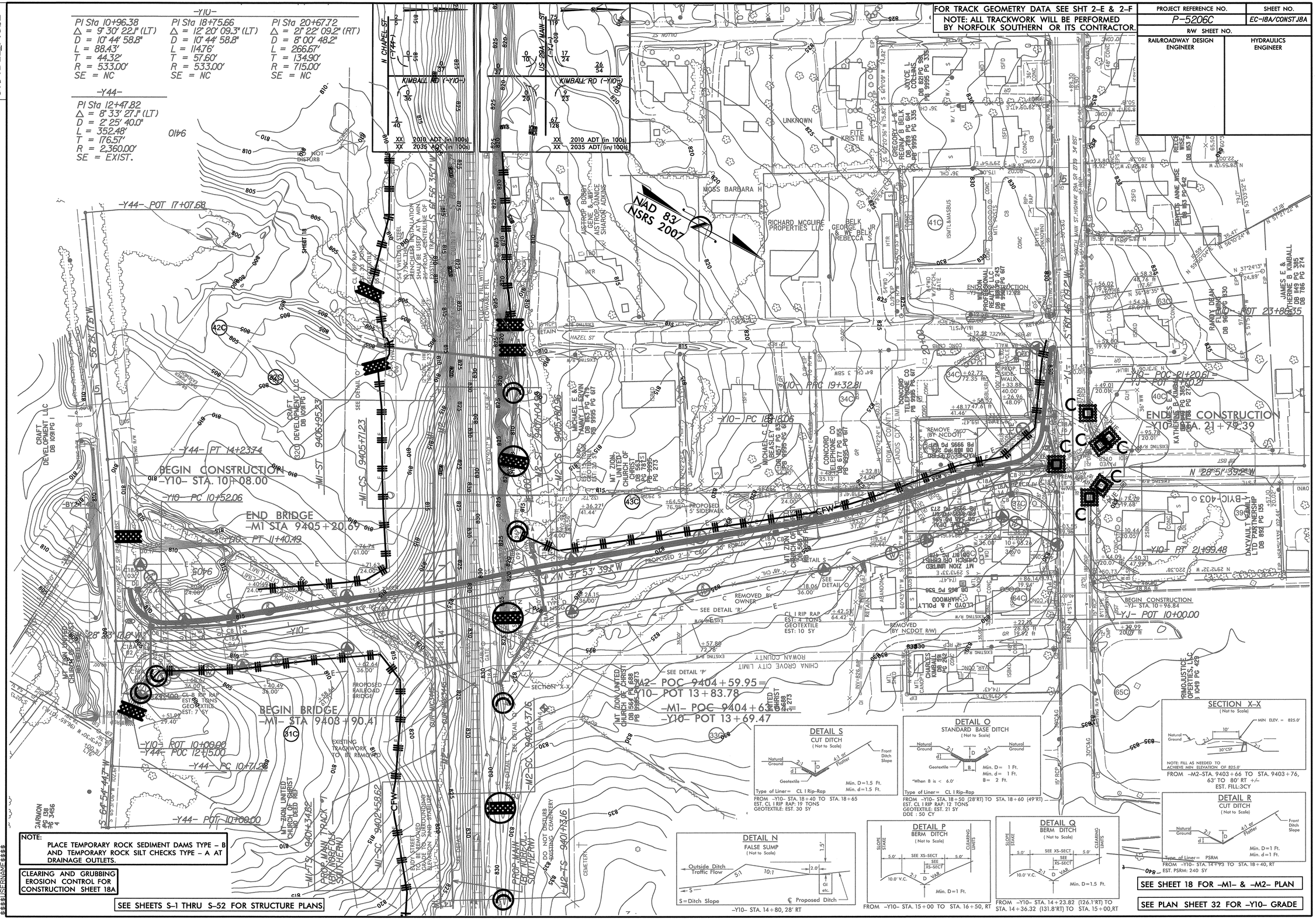
PI Sta 10+96.38
Δ = 9° 30' 22.1" (LT)
D = 10° 44' 58.8"
L = 88.43'
T = 44.32'
R = 533.00'
SE = NC

PI Sta 18+75.66
Δ = 12° 20' 09.3" (LT)
D = 10° 44' 58.8"
L = 114.76'
T = 57.60'
R = 533.00'
SE = NC

PI Sta 20+67.72
Δ = 21° 22' 09.2" (RT)
D = 8° 00' 48.2"
L = 266.67'
T = 134.90'
R = 715.00'
SE = NC

-Y44-

PI Sta 12+47.82
Δ = 8° 33' 27.1" (LT)
D = 2° 25' 40.0"
L = 352.48'
T = 176.57'
R = 2,360.00'
SE = EXIST.



NOTE:

PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 18A

SEE SHEETS S-1 THRU S-52 FOR STRUCTURE PLANS

DETAIL S
CUT DITCH
(Not to Scale)

Type of Liner= CL I Rip-Rap
Min. D=1.5 Ft.
Min. d=1.5 Ft.

FROM –Y10– STA. 18+40 TO STA. 18+65
EST. CL I RIP RAP: 19 TONS
GEOTEXTILE: EST. 30 SY

DETAIL O
STANDARD BASE DITCH
(Not to Scale)

Min. D= 1 Ft.
Min. d= 1 Ft.
B= 2 Ft.
*When B is < 6.0'

Type of Liner= CL I Rip-Rap

FROM –Y10– STA. 18+50 (28'RT) TO STA. 18+60 (49'RT)
EST. CL I RIP RAP: 12 TONS
GEOTEXTILE: EST. 21 SY
DDE : 50 CY

SECTION X–X
(Not to Scale)

MIN ELEV. = 825.0'

NOTE: FILL AS NEEDED TO ACHIEVE MIN. ELEVATION OF 825.0'

FROM –M2–STA. 9403+66 TO STA. 9403+76, 63' TO 80' RT +/–
EST. FILL:3CY

DETAIL N
FALSE SUMP
(Not to Scale)

S=Ditch Slope
℄ Proposed Ditch

–Y10– STA. 14+80, 28' RT

DETAIL P
BERM DITCH
(Not to Scale)

Min. D=1 Ft.

FROM –Y10– STA. 15+00 TO STA. 16+50, RT

DETAIL Q
BERM DITCH
(Not to Scale)

Min. D=1.5 Ft.

FROM –Y10– STA. 14+23.82 (126.1'RT) TO STA. 14+36.32 (131.8'RT) TO STA. 15+00,RT

DETAIL R
CUT DITCH
(Not to Scale)

Type of Liner= PSRM
Min. D=1 Ft.
Min. d=1 Ft.

FROM –Y10– STA. 14+93 TO STA. 18+40, RT
EST. PSRM: 240 SY

SEE SHEET 18 FOR –M1– & –M2– PLAN

SEE PLAN SHEET 32 FOR –Y10– GRADE

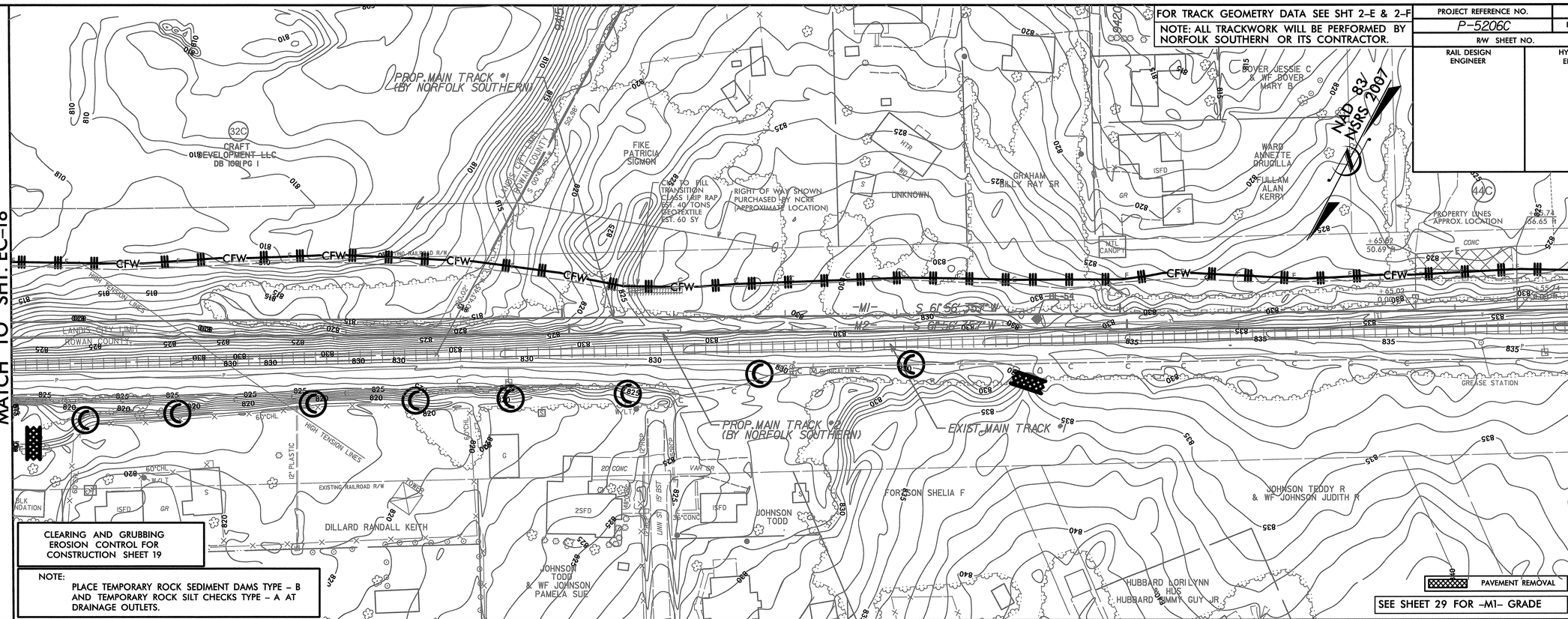
PROJECT REFERENCE NO.	SHEET NO.
P-5206C	EC-19/CONST.19
R/W SHEET NO.	
RAIL DESIGN ENGINEER	HYDRAULICS ENGINEER

FOR TRACK GEOMETRY DATA SEE SHT 2-E & 2-F

NOTE: ALL TRACKWORK WILL BE PERFORMED BY NORFOLK SOUTHERN OR ITS CONTRACTOR.

DCN 0001ADD_P10b2 0164DEL_P10b2

MATCH LINE STA. -M2- 9410+00.00
MATCH TO SHT. EC-18



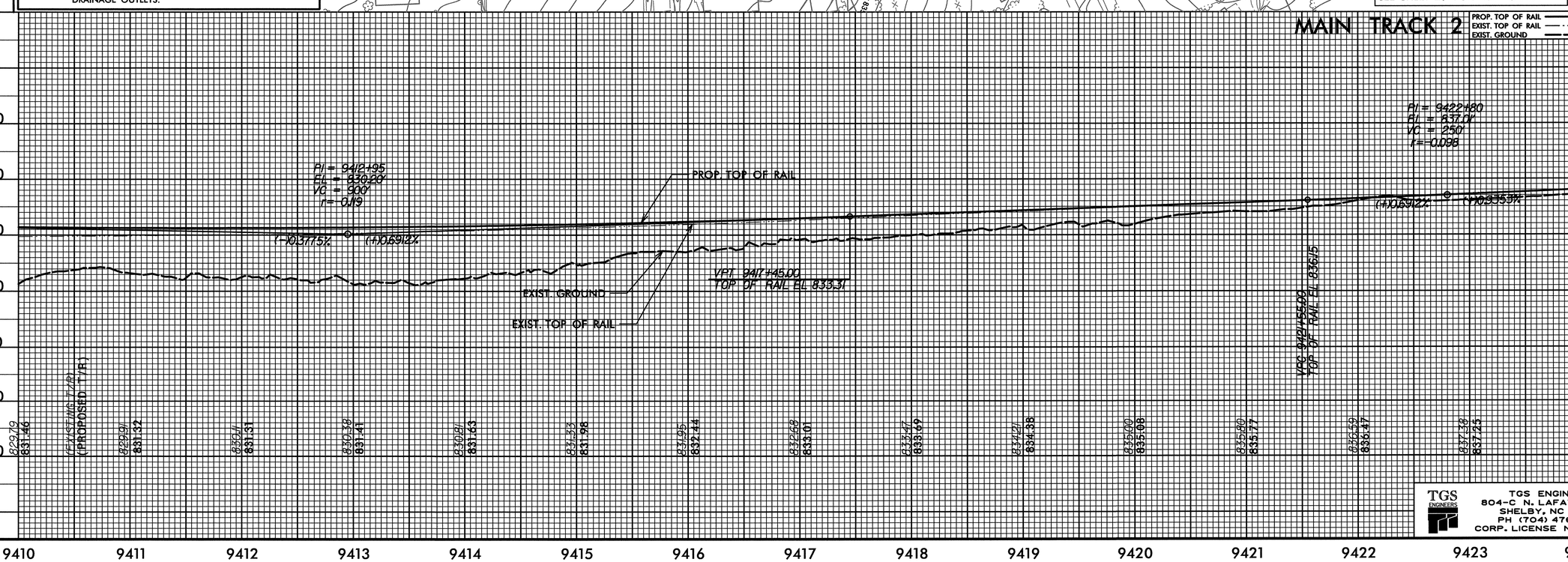
CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 19

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.

PAVEMENT REMOVAL

SEE SHEET 29 FOR -M1- GRADE

MATCH LINE STA. -M2- 9424+00.00
MATCH TO SHT. EC-20



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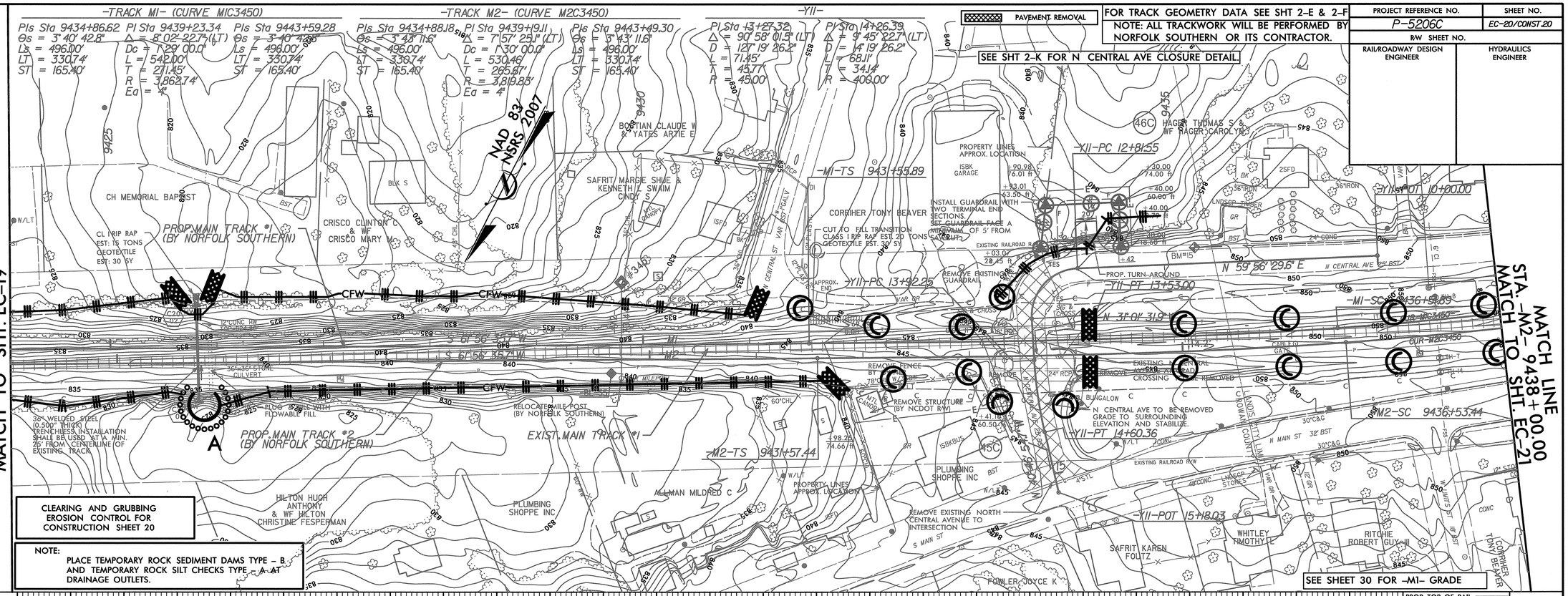
PROJECT REFERENCE NO.	SHEET NO.
P-5206C	EC-20/CONST.20
R/W SHEET NO.	
RAIL/ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

FOR TRACK GEOMETRY DATA SEE SHT 2-E & 2-F
NOTE: ALL TRACKWORK WILL BE PERFORMED BY NORFOLK SOUTHERN OR ITS CONTRACTOR.

0001ADD_P10b2
0164DEL_P10b2

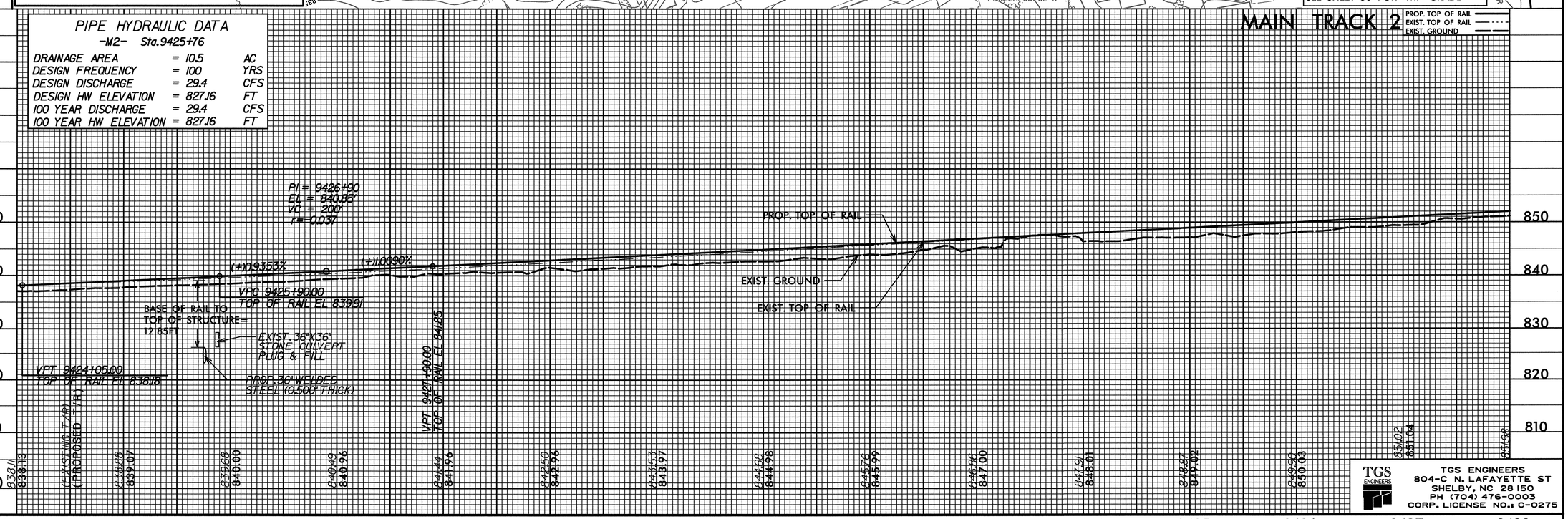
MATCH LINE STA. -M2- 9424+00.00
MATCH TO SHT. EC-19



PIPE HYDRAULIC DATA

-M2- Sta.9425+76

DRAINAGE AREA	= 10.5	AC
DESIGN FREQUENCY	= 100	YRS
DESIGN DISCHARGE	= 29.4	CFS
DESIGN HW ELEVATION	= 827.16	FT
100 YEAR DISCHARGE	= 29.4	CFS
100 YEAR HW ELEVATION	= 827.16	FT



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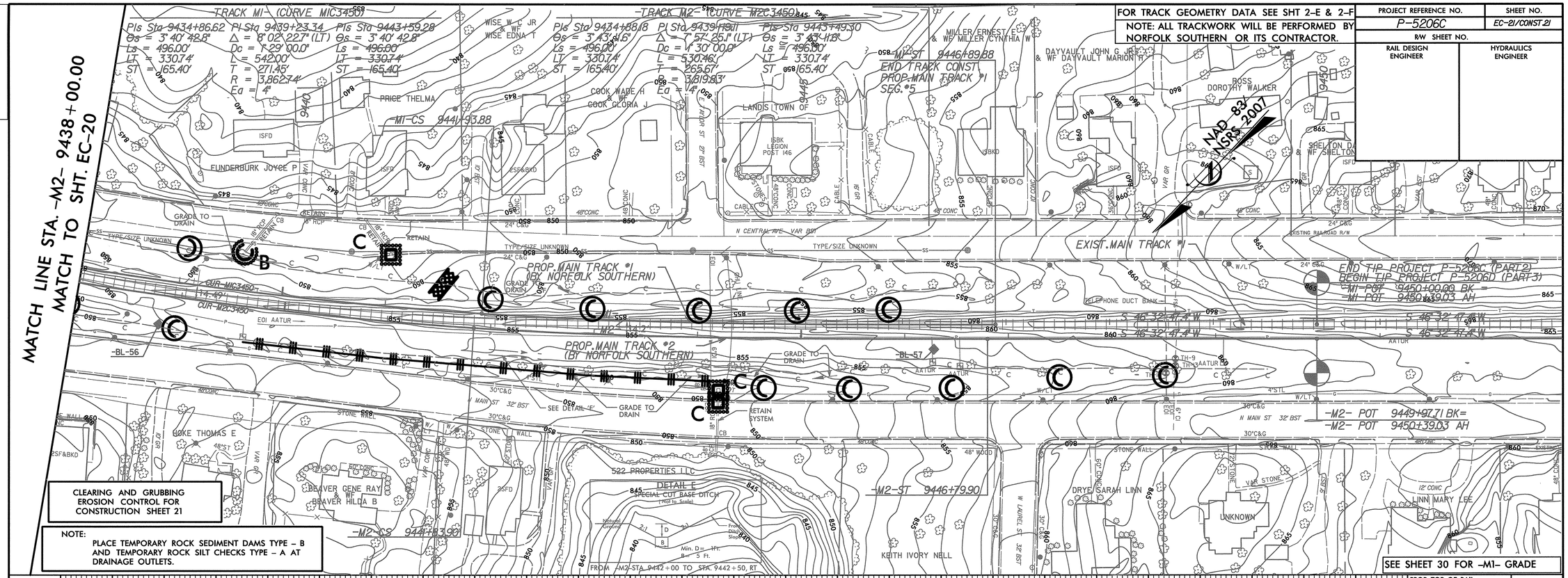
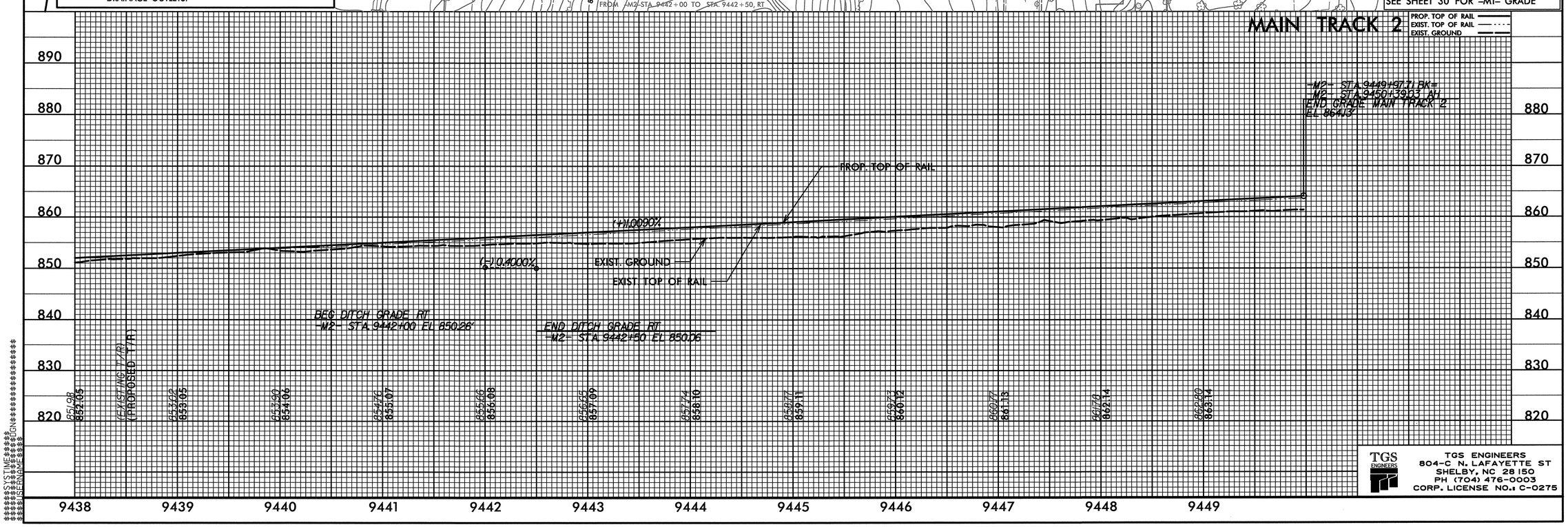
DCN 0001ADD_P10b2 0164DEL_P10b2

PROJECT REFERENCE NO.	SHEET NO.
P-5206C	EC-21/CONST 21
R/W SHEET NO.	
RAIL DESIGN ENGINEER	HYDRAULICS ENGINEER

FOR TRACK GEOMETRY DATA SEE SHT 2-E & 2-F

NOTE: ALL TRACKWORK WILL BE PERFORMED BY NORFOLK SOUTHERN OR ITS CONTRACTOR.





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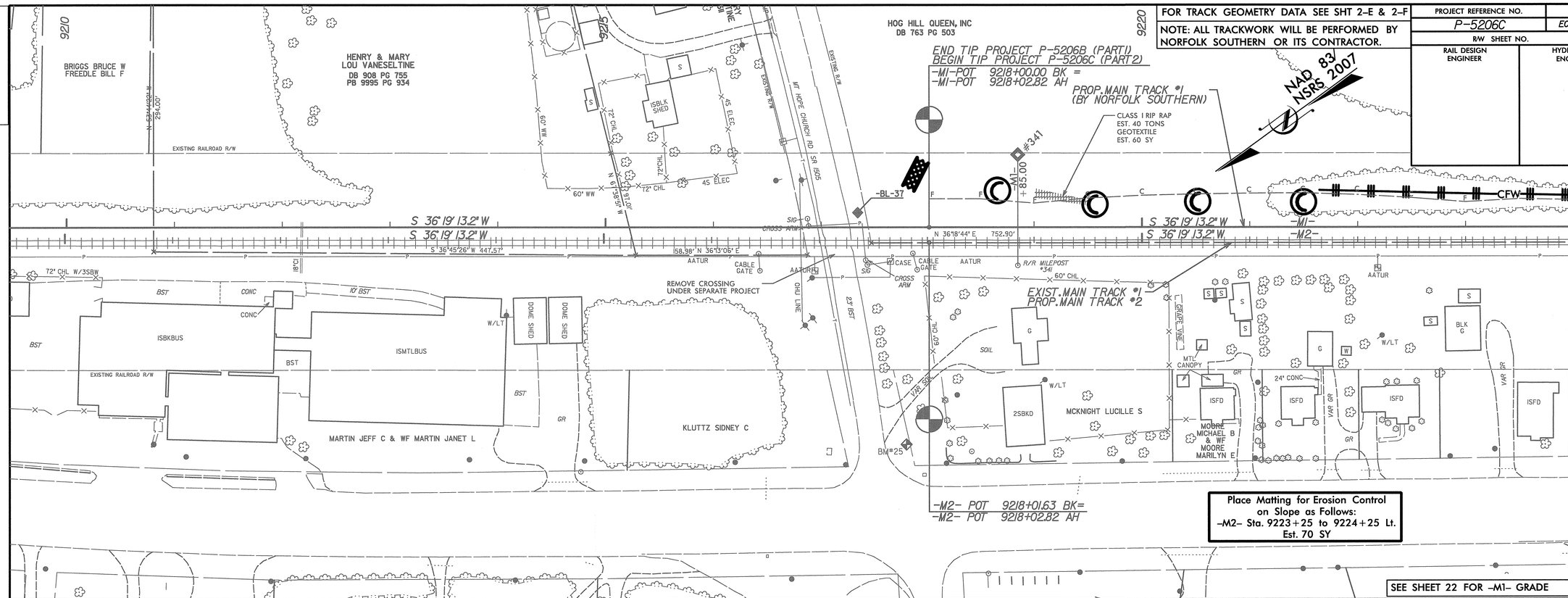
DGN 0001ADD_P10b2 0164DEL_P10b2

FOR TRACK GEOMETRY DATA SEE SHT 2-E & 2-F

NOTE: ALL TRACKWORK WILL BE PERFORMED BY NORFOLK SOUTHERN OR ITS CONTRACTOR.

PROJECT REFERENCE NO.	SHEET NO.
P-5206C	EC-22/CONST.4
R/W SHEET NO.	
RAIL DESIGN ENGINEER	HYDRAULICS ENGINEER



MATCH LINE STA. -M2- 9224+00.00
MATCH TO SHT. EC-23

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PH (704) 476-0003
CORP. LICENSE NO.: C-0275

USERNAME = SYSTIME = DGN

0164DEL_P10b2

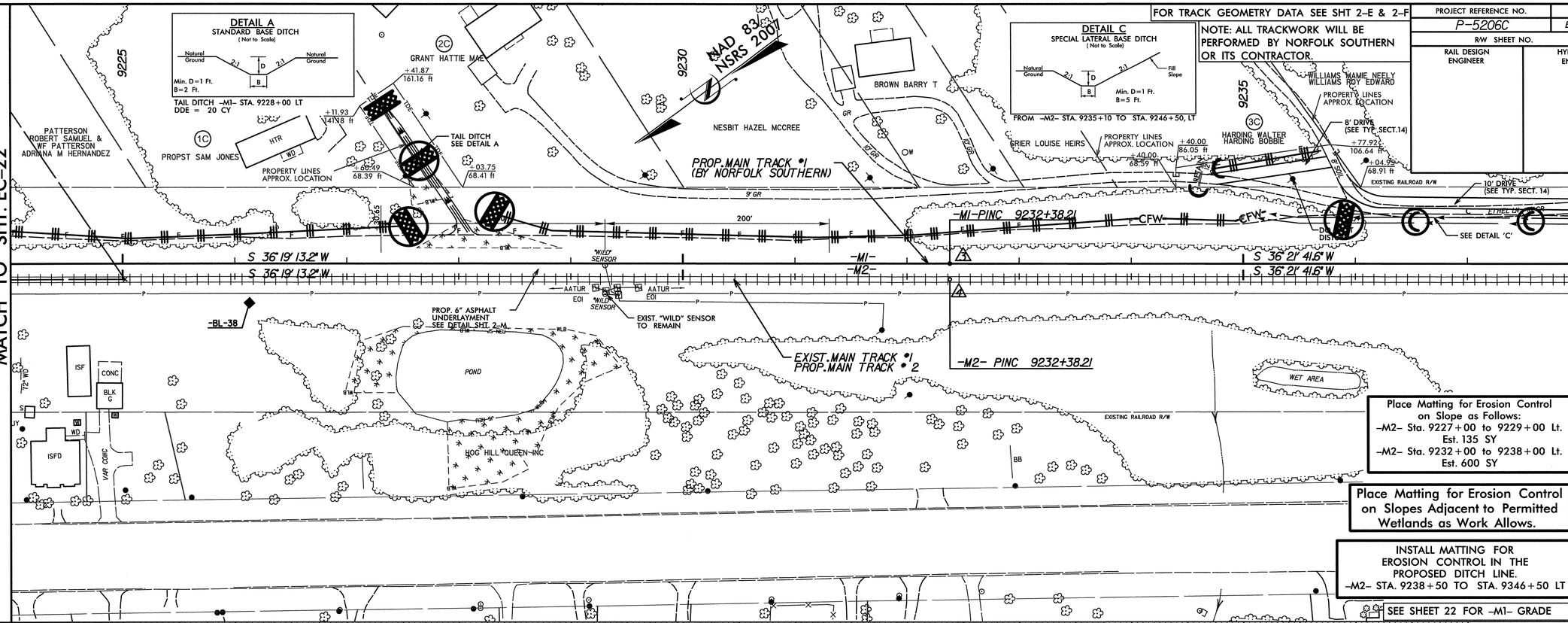
DGN

PROJECT REFERENCE NO.	SHEET NO.
P-5206C	EC-23/CONST.5
R/W SHEET NO.	
RAIL DESIGN ENGINEER	HYDRAULICS ENGINEER

FOR TRACK GEOMETRY DATA SEE SHT 2-E & 2-F

NOTE: ALL TRACKWORK WILL BE PERFORMED BY NORFOLK SOUTHERN OR ITS CONTRACTOR.

MATCH LINE STA. -M2- 9224+00.00
MATCH TO SHT. EC-22



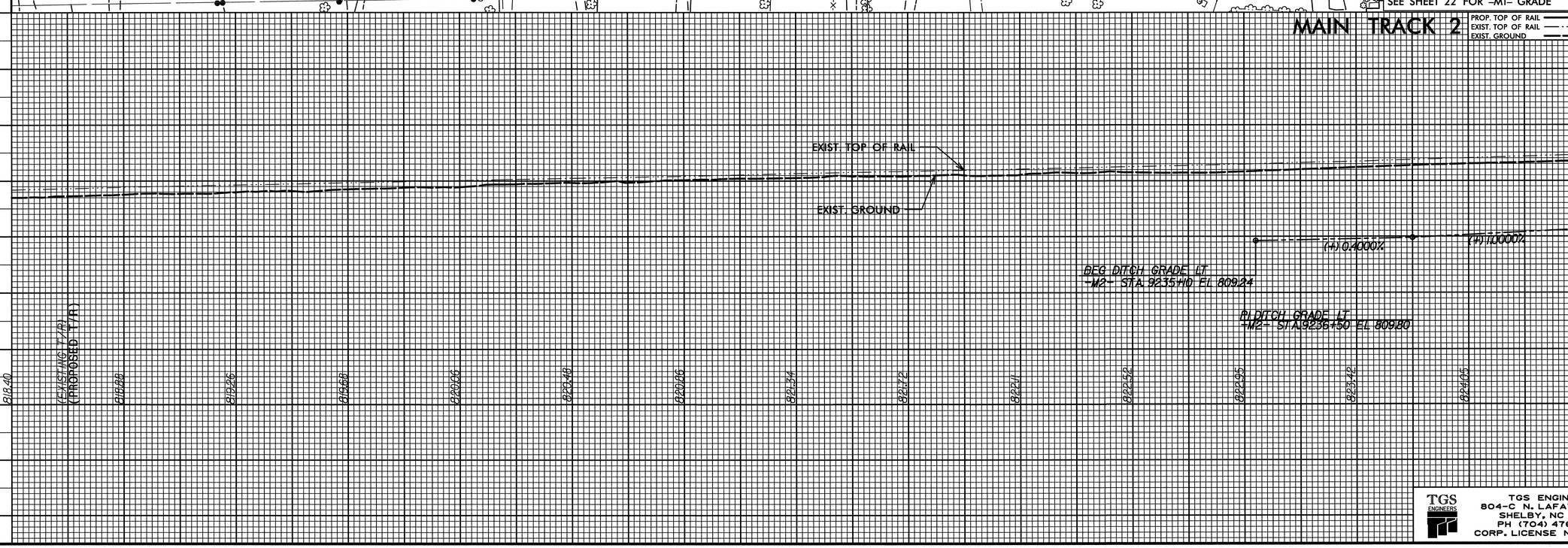
Place Matting for Erosion Control on Slope as Follows:
-M2- Sta. 9227+00 to 9229+00 Lt.
Est. 135 SY
-M2- Sta. 9232+00 to 9238+00 Lt.
Est. 600 SY

Place Matting for Erosion Control on Slopes Adjacent to Permitted Wetlands as Work Allows.

INSTALL MATTING FOR EROSION CONTROL IN THE PROPOSED DITCH LINE.
-M2- STA. 9238+50 TO STA. 9346+50 LT

SEE SHEET 22 FOR -M1- GRADE

MATCH LINE STA. -M2- 9238+00.00
MATCH TO SHT. EC-24



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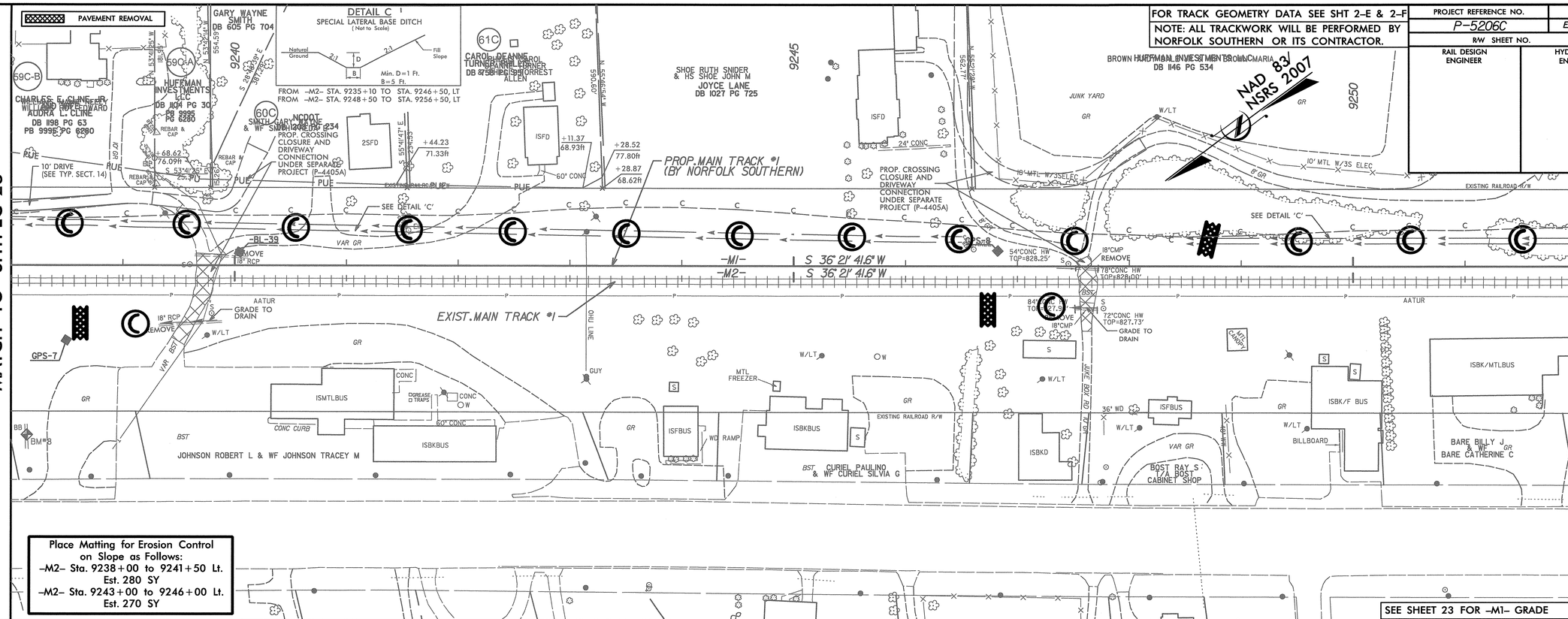
$$$$SYSTIME$$$$
$$$$DGN$$$$
$$$$USERNAME$$$$

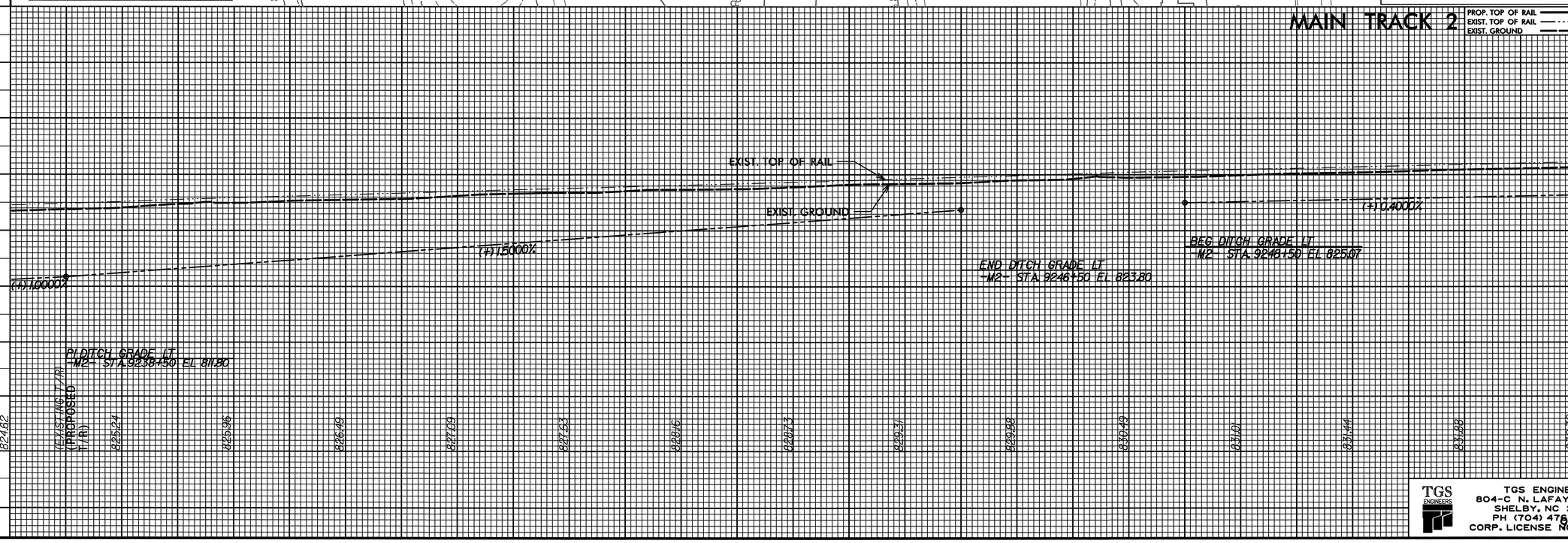
0001ADD_P10b2
0164DEL_P10b2
DGN

MATCH LINE STA. -M2- 9238+00.00
MATCH TO SHT. EC-23

PROJECT REFERENCE NO.	SHEET NO.
P-5206C	EC-24/CONST.6
R/W SHEET NO.	
RAIL DESIGN ENGINEER	HYDRAULICS ENGINEER

FOR TRACK GEOMETRY DATA SEE SHT 2-E & 2-F
NOTE: ALL TRACKWORK WILL BE PERFORMED BY NORFOLK SOUTHERN OR ITS CONTRACTOR.





MATCH LINE STA. -M2- 9252+00.00
MATCH TO SHT. EC-25

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PROJECT REFERENCE NO.	SHEET NO.
P-5206C	EC-25/CONST.7
R/W SHEET NO.	
RAIL DESIGN ENGINEER	HYDRAULICS ENGINEER

DGN 0001ADD_P10b2 0164DEL_P10b2

MATCH LINE STA. -M2- 9252+00.00 MATCH TO SHT. EC-24

FOR TRACK GEOMETRY DATA SEE SHT 2-E & 2-F

NOTE: ALL TRACKWORK WILL BE PERFORMED BY NORFOLK SOUTHERN OR ITS CONTRACTOR.

DETAIL C
SPECIAL LATERAL BASE DITCH
(Not to Scale)
Natural Ground, 2:1, D, B, 2:1, Fill Slope
Min. D=1 Ft.
B=5 Ft.
FROM -M2- STA. 9248+50 TO STA. 9256+50, LT

-TRACK M1- (CURVE M1C3418)

PIs Sta 9261+82.85
Θs = 1° 53' 27.5"
Ls = 372.00'
LT = 248.01'
ST = 124.01'

PI Sta 9267+13.66
Δ = 8° 15' 27.4" (RT)
Dc = 1° 01' 00.0"
L = 812.22'
T = 406.82'
R = 5,635.72'
Ea = 2.5"

PIs Sta 9272+43.08
Θs = 1° 53' 27.5"
Ls = 372.00'
LT = 248.01'
ST = 124.01'

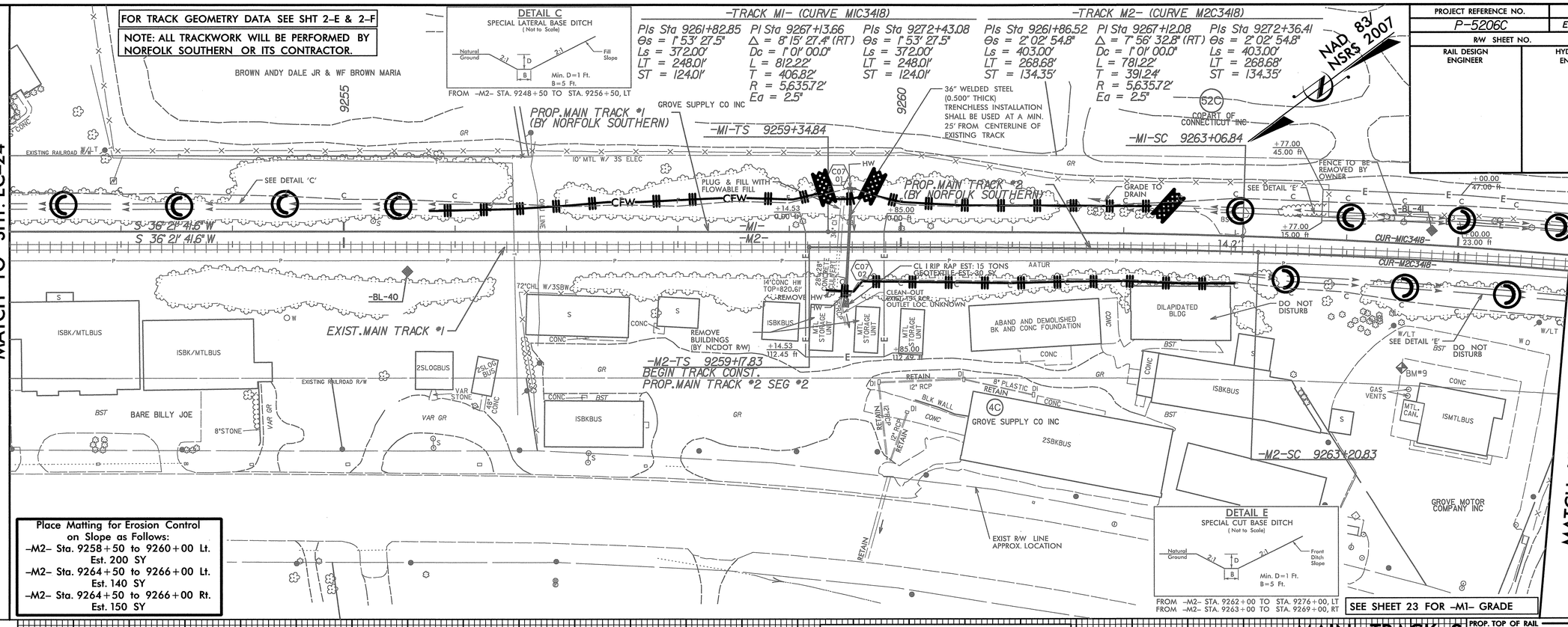
-TRACK M2- (CURVE M2C3418)

PIs Sta 9261+86.52
Θs = 2° 02' 54.8"
Ls = 403.00'
LT = 268.68'
ST = 134.35'

PI Sta 9267+12.08
Δ = 7° 56' 32.8" (RT)
Dc = 1° 01' 00.0"
L = 781.22'
T = 391.24'
R = 5,635.72'
Ea = 2.5"

PIs Sta 9272+36.41
Θs = 2° 02' 54.8"
Ls = 403.00'
LT = 268.68'
ST = 134.35'

NAD 83/ NSRS 2007



MATCH LINE STA. -M2- 9266+00.00 MATCH TO SHT. EC-26

Place Matting for Erosion Control on Slope as Follows:
-M2- Sta. 9258+50 to 9260+00 Lt.
Est. 200 SY
-M2- Sta. 9264+50 to 9266+00 Lt.
Est. 140 SY
-M2- Sta. 9264+50 to 9266+00 Rt.
Est. 150 SY

DETAIL E
SPECIAL CUT BASE DITCH
(Not to Scale)
Natural Ground, 2:1, D, B, 2:1, Front Ditch Slope
Min. D=1 Ft.
B=5 Ft.
FROM -M2- STA. 9262+00 TO STA. 9276+00, LT
FROM -M2- STA. 9263+00 TO STA. 9269+00, RT

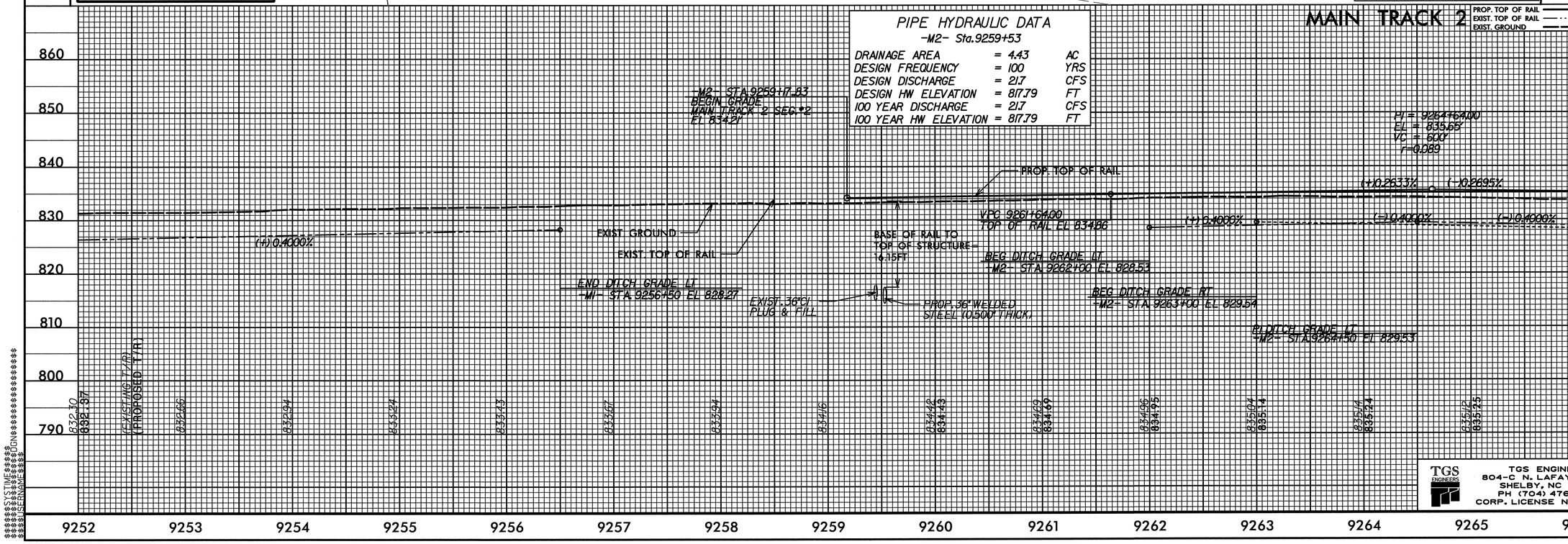
SEE SHEET 23 FOR -M1- GRADE

MAIN TRACK 2

PROP. TOP OF RAIL
EXIST. TOP OF RAIL
EXIST. GROUND

PIPE HYDRAULIC DATA
-M2- Sta.9259+53

DRAINAGE AREA	= 4.43	AC
DESIGN FREQUENCY	= 100	YRS
DESIGN DISCHARGE	= 21.7	CFS
DESIGN HW ELEVATION	= 817.79	FT
100 YEAR DISCHARGE	= 21.7	CFS
100 YEAR HW ELEVATION	= 817.79	FT



TGS ENGINEERS
804-C N. LAFAYETTE ST
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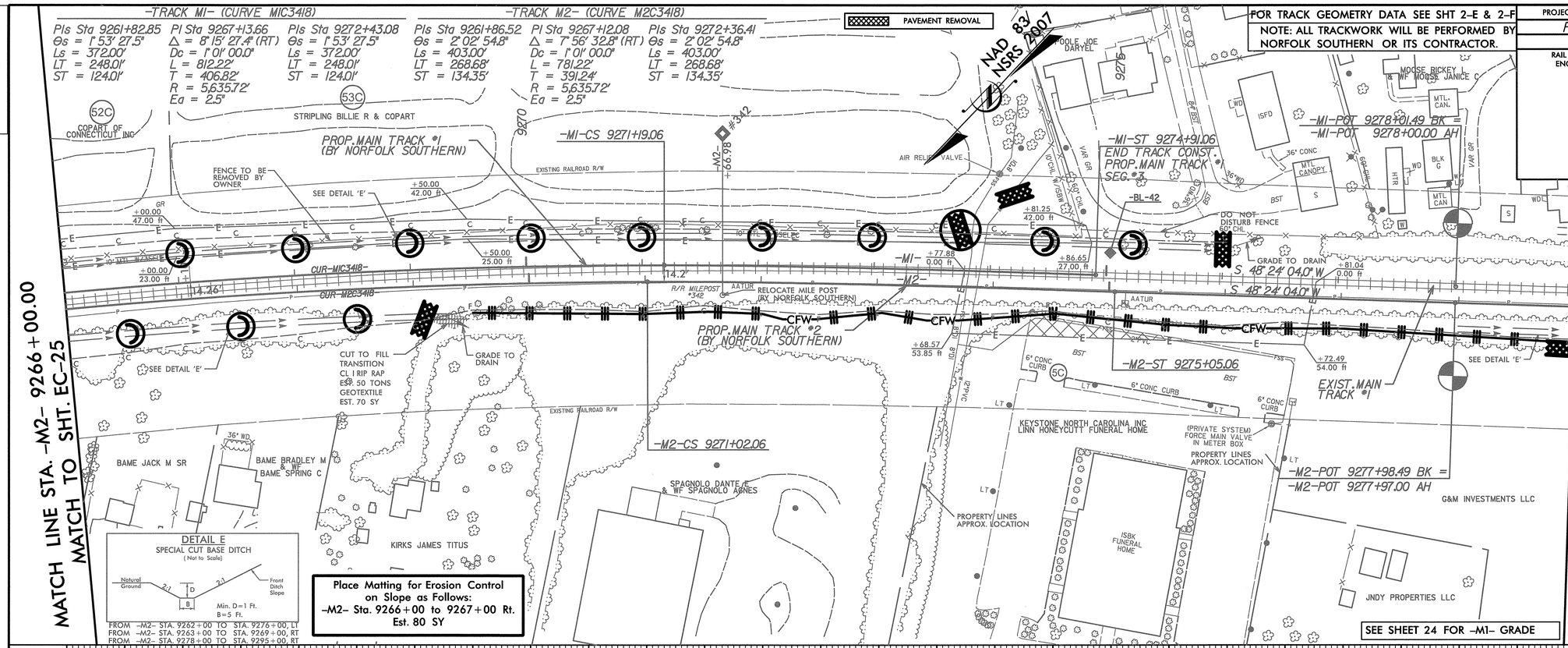
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

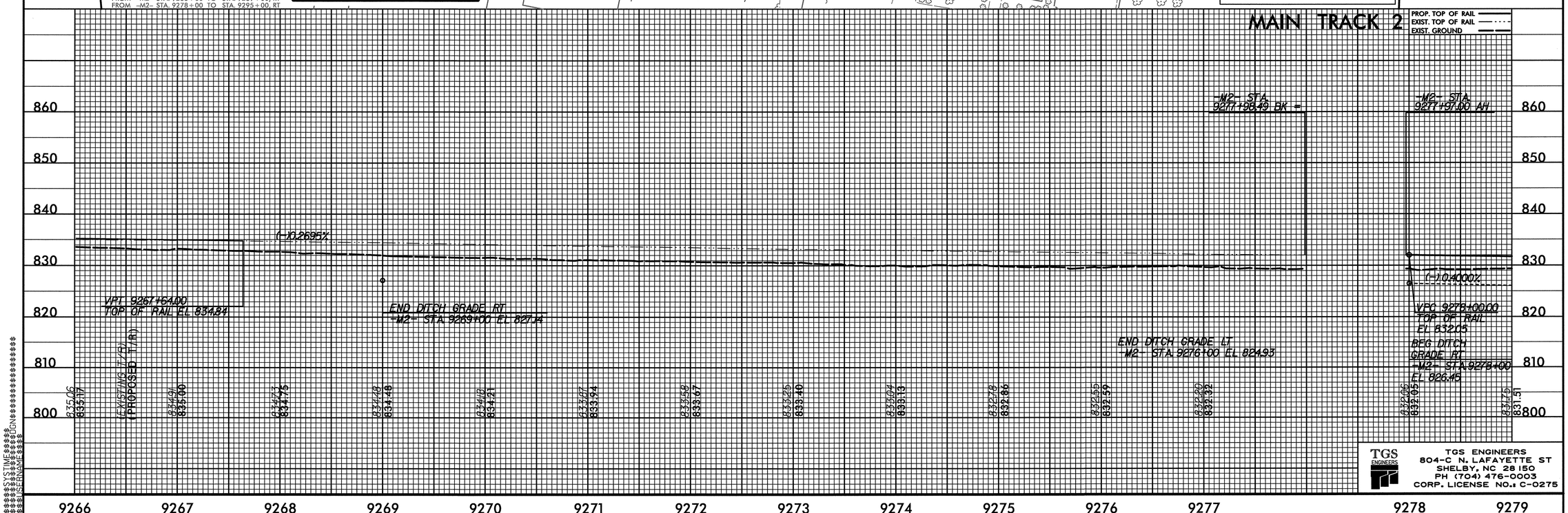
$$$$SYSTIME$$$$
$$$$DGN$$$$
$$$$CELL$$$$
$$$$USERNAME$$$$

0001ADD_P10b2
0164DEL_P10b2

PROJECT REFERENCE NO.	SHEET NO.
P-5206C	EC-26/CONST8
R/W SHEET NO.	
RAIL DESIGN ENGINEER	HYDRAULICS ENGINEER

FOR TRACK GEOMETRY DATA SEE SHT 2-E & 2-F
NOTE: ALL TRACKWORK WILL BE PERFORMED BY NORFOLK SOUTHERN OR ITS CONTRACTOR.





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DGN 0001ADD_P10b2 0164DEL_P10b2

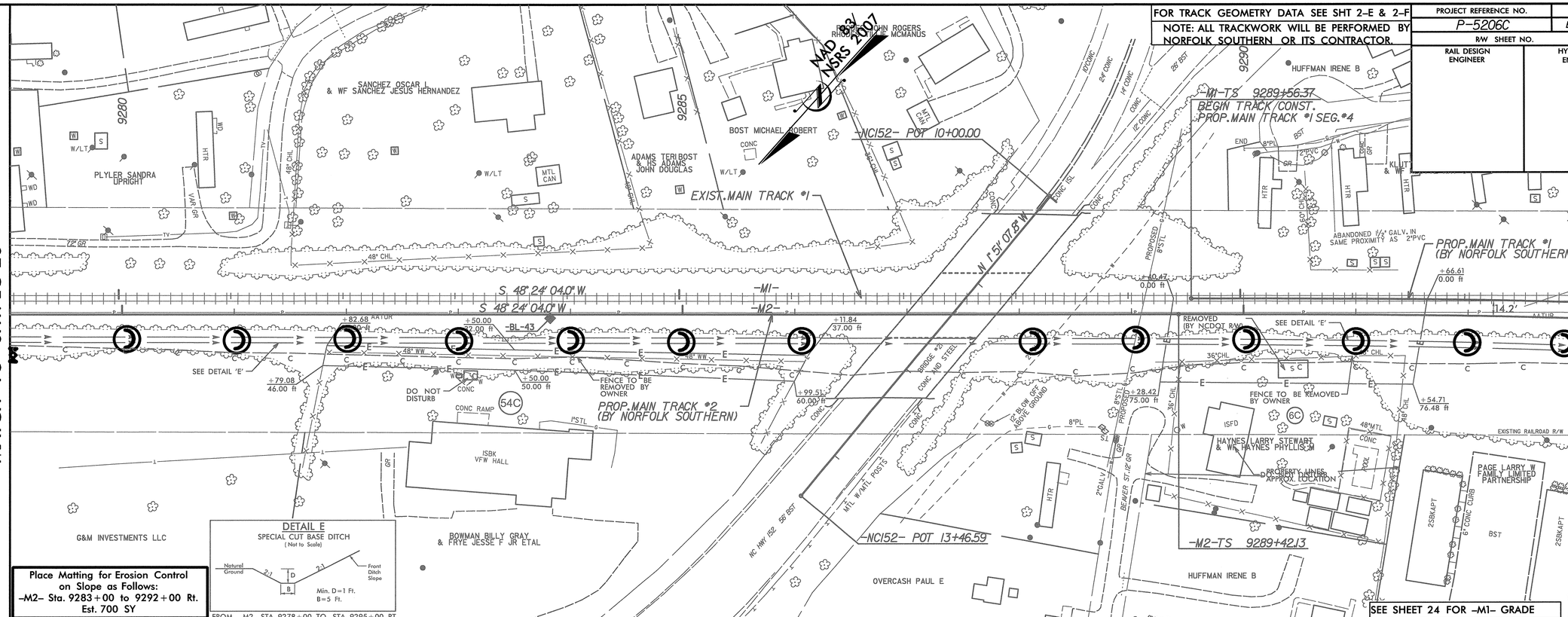
FOR TRACK GEOMETRY DATA SEE SHT 2-E & 2-F

NOTE: ALL TRACKWORK WILL BE PERFORMED BY NORFOLK SOUTHERN OR ITS CONTRACTOR.

PROJECT REFERENCE NO.	SHEET NO.
P-5206C	EC-27/CONST.9
R/W SHEET NO.	
RAIL DESIGN ENGINEER	HYDRAULICS ENGINEER

MATCH LINE STA. -M2- 9279+00.00 MATCH TO SHT. EC-26

MATCH LINE STA. -M2- 9293+00.00 MATCH TO SHT. EC-28

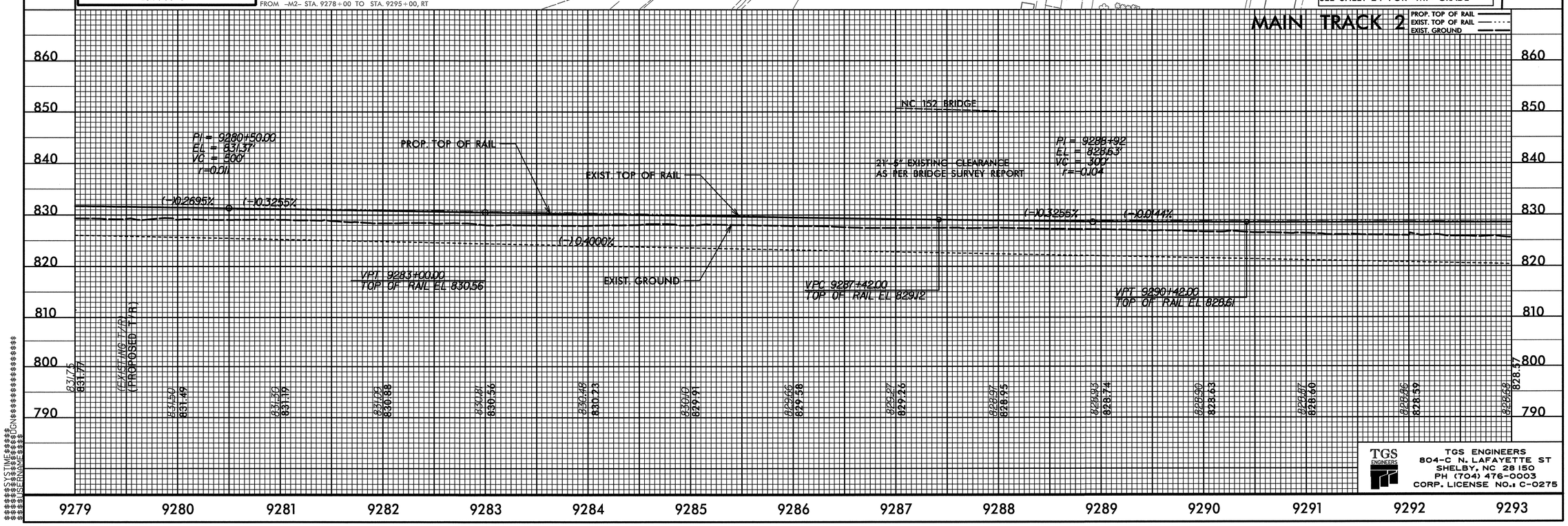


Place Matting for Erosion Control on Slope as Follows:
-M2- Sta. 9283+00 to 9292+00 Rt.
Est. 700 SY

DETAIL E
SPECIAL CUT BASE DITCH
(Not to Scale)

Min. D=1 Ft.
B=5 Ft.

FROM -M2- STA. 9278+00 TO STA. 9295+00, RT



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804-C N. LAFAYETTE ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

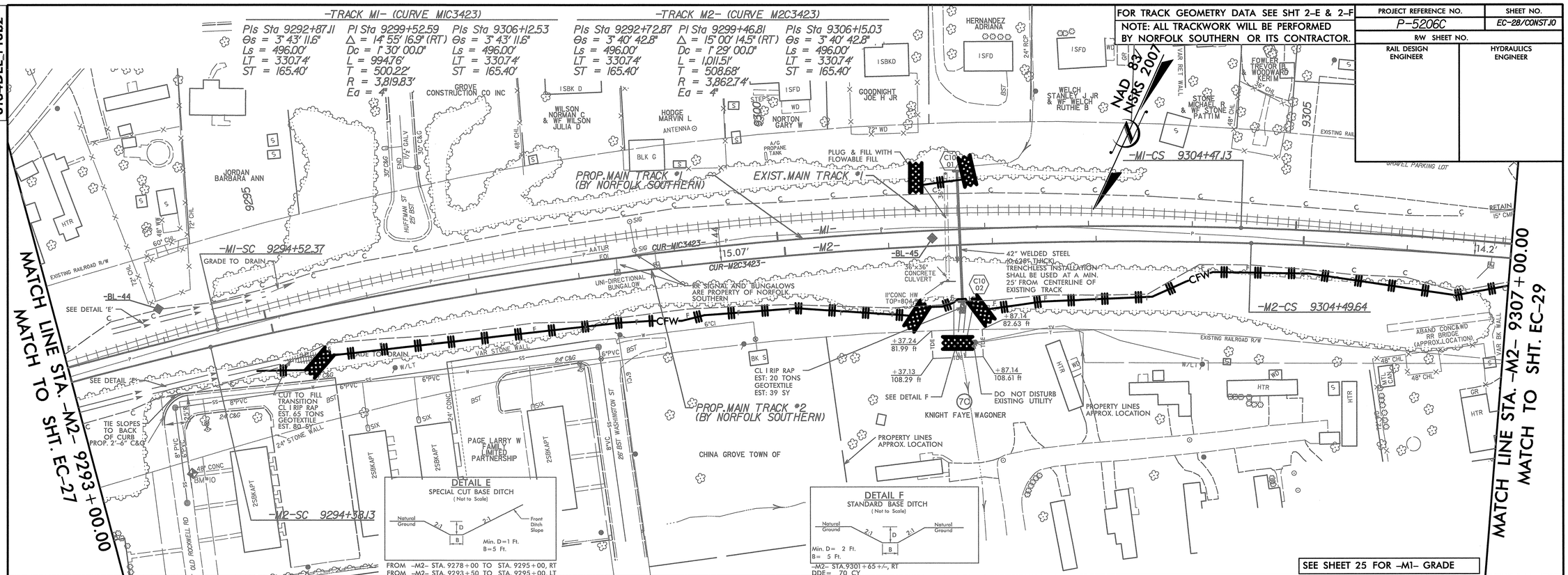
SYSTEM: $$$$$ DGN: $$$$$ USER: $$$$$ TIME: $$$$$

DGN 0001ADD_P10b2 0164DEL_P10b2

PROJECT REFERENCE NO.	SHEET NO.
P-5206C	EC-28/CONST.JO
R/W SHEET NO.	
RAIL DESIGN ENGINEER	HYDRAULICS ENGINEER

FOR TRACK GEOMETRY DATA SEE SHT 2-E & 2-F

NOTE: ALL TRACKWORK WILL BE PERFORMED BY NORFOLK SOUTHERN OR ITS CONTRACTOR.



DETAIL E
SPECIAL CUT BASE DITCH
(Not to Scale)

Natural Ground — 2:1 — D — 2:1 — Front Ditch Slope; B

Min. D=1 Ft.
B=5 Ft.

FROM -M2- STA. 9278+00 TO STA. 9295+00, RT
FROM -M2- STA. 9293+50 TO STA. 9295+00, LT

DETAIL F
STANDARD BASE DITCH
(Not to Scale)

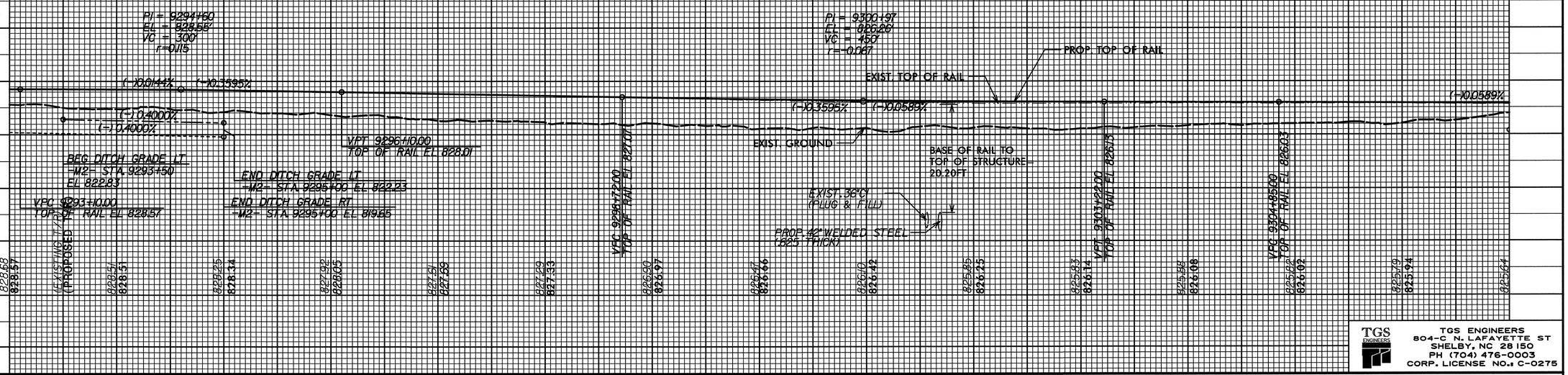
Natural Ground — 2:1 — D — 2:1 — Natural Ground; B

Min. D= 2 Ft.
B= 5 Ft.

-M2- STA.9301+65+/-, RT
DDE= 70 CY

PIPE HYDRAULIC DATA
-M2- Sta.9301+69

DRAINAGE AREA	= 22.1	AC
DESIGN FREQUENCY	= 100	YRS
DESIGN DISCHARGE	= 65.7	CFS
DESIGN HW ELEVATION	= 810.03	FT
100 YEAR DISCHARGE	= 65.7	CFS
100 YEAR HW ELEVATION	= 810.03	FT



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CORP. LICENSE NO.: C-0275

SYSTIME
DGN
USERNAME

0001ADD_P10b2
0164DEL_P10b2

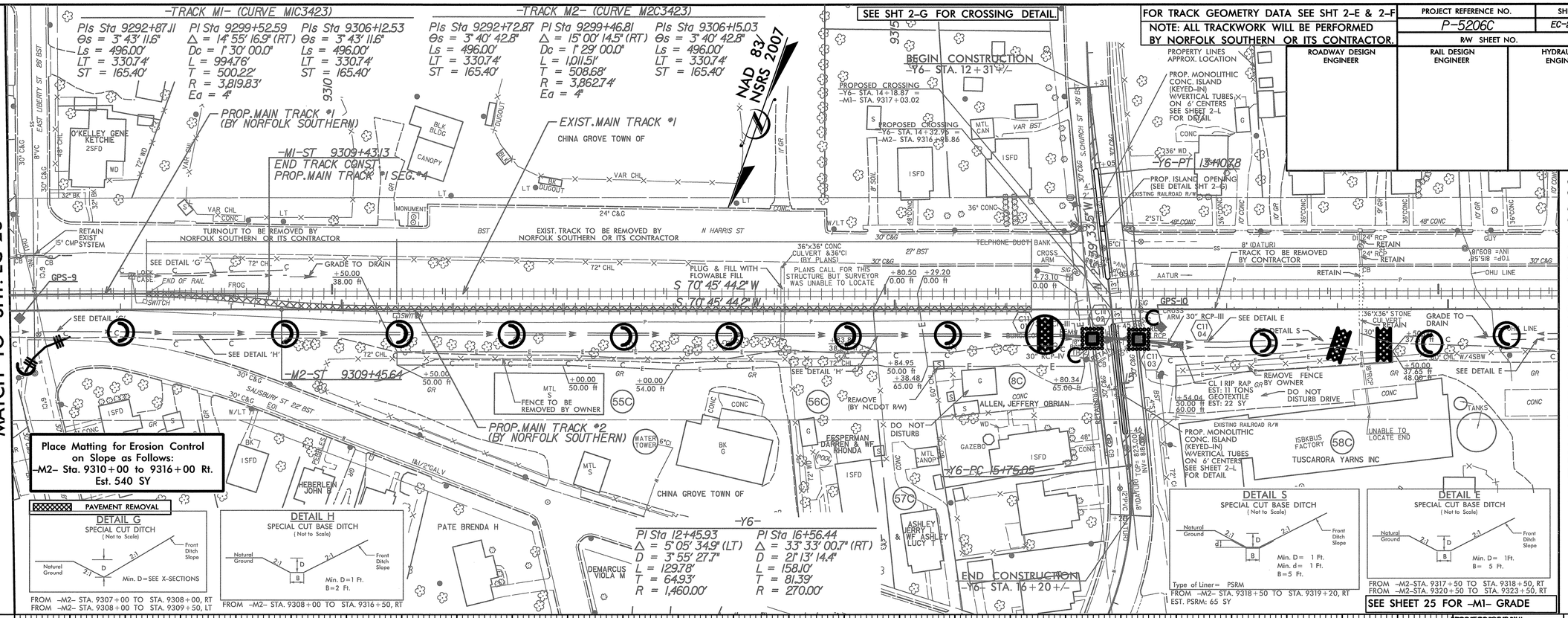
PROJECT REFERENCE NO.	SHEET NO.
P-5206C	EC-29/CONST.11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	RAIL DESIGN ENGINEER / HYDRAULICS ENGINEER

FOR TRACK GEOMETRY DATA SEE SHT 2-E & 2-F

NOTE: ALL TRACKWORK WILL BE PERFORMED BY NORFOLK SOUTHERN OR ITS CONTRACTOR.

MATCH LINE STA. -M2- 9307+00.00
MATCH TO SHT. EC-28

MATCH LINE STA. -M2- 9321+00.00
MATCH TO SHT. EC-30



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DGN 0001ADD_P10b2 0164DEL_P10b2

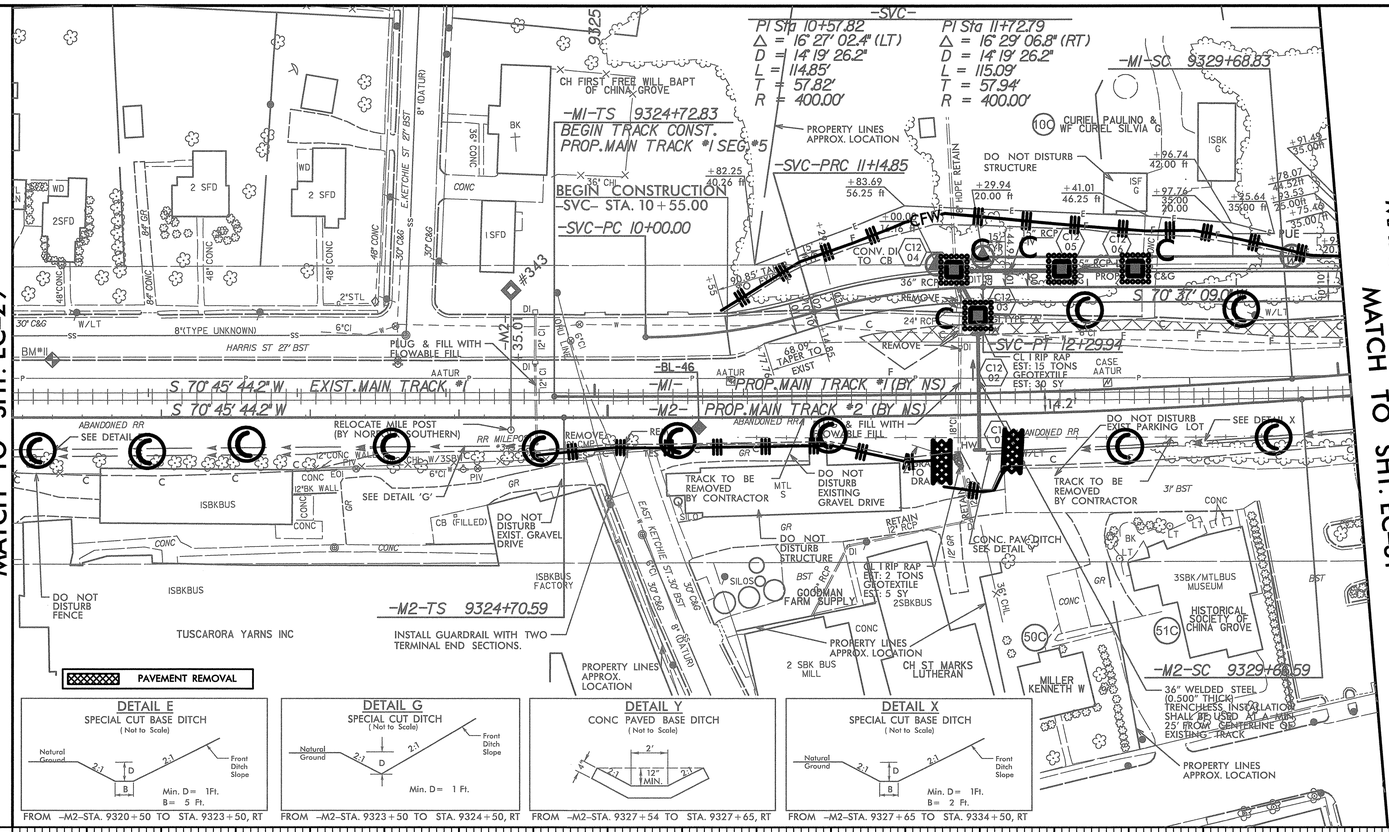
FOR TRACK GEOMETRY DATA SEE SHT 2-E & 2-F

NOTE: ALL TRACKWORK WILL BE PERFORMED BY NORFOLK SOUTHERN OR ITS CONTRACTOR.

PROJECT REFERENCE NO.	SHEET NO.
P-5206C	EC-30/CONST J2
R/W SHEET NO.	
RAIL/ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

MATCH LINE STA. -M2- 9321+00.00
MATCH TO SHT. EC-29

MATCH LINE STA. -M2- 9330+00.00
MATCH TO SHT. EC-31



NAD 83/ NSRS 2007

-TRACK M1- (CURVE M1C3430)

PIs Sta 9328+03.59	PI Sta 9342+40.24	PIs Sta 9355+65.73
Θs = 4° 12' 57.0"	Δ = 41° 20' 06.4" (LT)	Θs = 4° 12' 57.0"
Ls = 496.00'	Dc = 1° 42' 00.0"	Ls = 496.00'
LT = 330.76'	L = 2,431.48'	LT = 330.76'
ST = 165.42'	T = 1,271.41'	ST = 165.42'
	R = 3,370.46'	
	Ea = 4"	

-TRACK M2- (CURVE M2C3430)

PIs Sta 9328+01.35	PI Sta 9342+38.00	PIs Sta 9355+63.48
Θs = 4° 12' 57.0"	Δ = 41° 20' 06.4" (LT)	Θs = 4° 12' 57.0"
Ls = 496.00'	Dc = 1° 42' 00.0"	Ls = 496.00'
LT = 330.76'	L = 2,431.48'	LT = 330.76'
ST = 165.42'	T = 1,271.41'	ST = 165.42'
	R = 3,370.46'	
	Ea = 4"	

Place Matting for Erosion Control on Slope as Follows:
-M2- Sta. 9322+00 to 9330+00 Rt.
Est. 720 SY
-M2- Sta. 9326+00 to 9330+00 Lt.
Est. 450 SY
-SVC- Sta. 10+25 to 14+00 Lt.
Est. 420 SY

INSTALL MATTING FOR EROSION CONTROL IN THE PROPOSED DITCH LINE.
-M2- STA. 9325+00 TO STA. 9329+00 RT

SEE SHEET 31 FOR -SVC- GRADE

SEE SHEET 26 FOR -M1- GRADE

DETAIL E
SPECIAL CUT BASE DITCH
(Not to Scale)
Natural Ground, 2:1, D, B, 2:1, Front Ditch Slope
Min. D= 1Ft.
B= 5 Ft.
FROM -M2-STA. 9320+50 TO STA. 9323+50, RT

DETAIL G
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground, 2:1, D, 2:1, Front Ditch Slope
Min. D= 1 Ft.
FROM -M2-STA. 9323+50 TO STA. 9324+50, RT

DETAIL Y
CONC PAVED BASE DITCH
(Not to Scale)
2', 12" MIN., 2:1
FROM -M2-STA. 9327+54 TO STA. 9327+65, RT

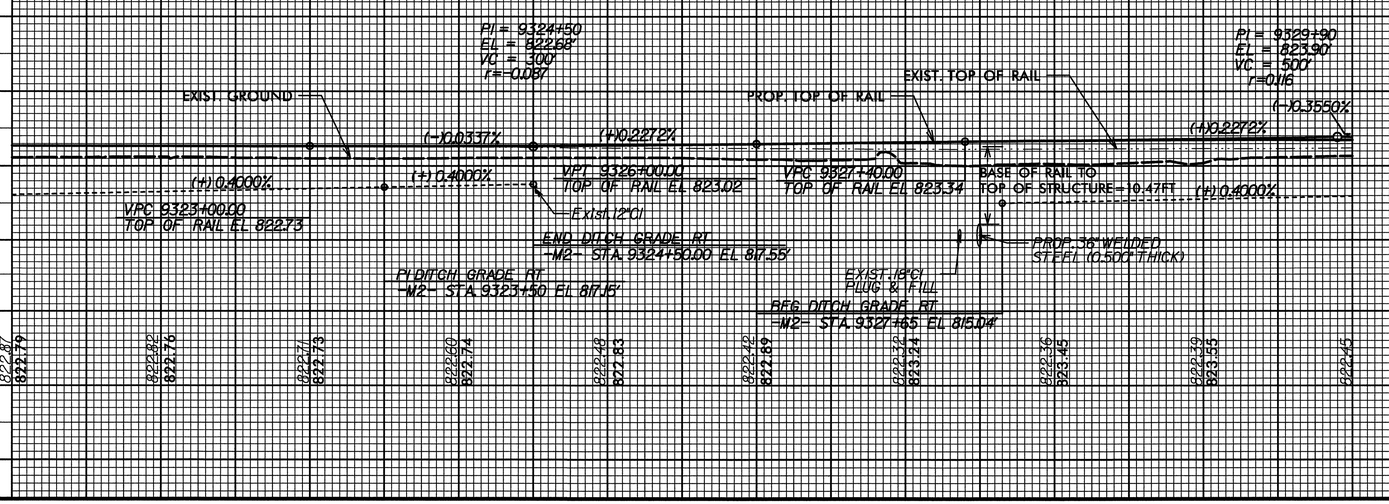
DETAIL X
SPECIAL CUT BASE DITCH
(Not to Scale)
Natural Ground, 2:1, D, B, 2:1, Front Ditch Slope
Min. D= 1Ft.
B= 2 Ft.
FROM -M2-STA. 9327+65 TO STA. 9334+50, RT

PIPE HYDRAULIC DATA
-M2- Sta.9327+49

DRAINAGE AREA	= 4.15	AC
DESIGN FREQUENCY	= 100	YRS
DESIGN DISCHARGE	= 20.7	CFS
DESIGN HW ELEVATION	= 813.66	FT
100 YEAR DISCHARGE	= 20.7	CFS
100 YEAR HW ELEVATION	= 813.66	FT

MAIN TRACK 2

PROP. TOP OF RAIL
EXIST. TOP OF RAIL
EXIST. GROUND



TGS ENGINEERS
804-C N. LAFAYETTE ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

USER: SYTIMES
USERNAME: DESIGN

DCN

0164DEL_P10b2

PROJECT REFERENCE NO.	SHEET NO.
P-5206C	EC-31/CONST J3
R/W SHEET NO.	
RAIL/ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

-TRACK M1- (CURVE M1C3430)

PIs Sta 9328+03.59	PI Sta 9342+40.24	PIs Sta 9355+65.73
Θs = 4° 12′ 57.0″	Δ = 41° 20′ 06.4″ (LT)	Θs = 4° 12′ 57.0″
Ls = 496.00′	Dc = 1° 42′ 00.0″	Ls = 496.00′
LT = 330.76′	L = 2,431.48′	LT = 330.76′
ST = 165.42′	T = 1,271.41′	ST = 165.42′
	R = 3,370.46′	
	Ea = 4″	

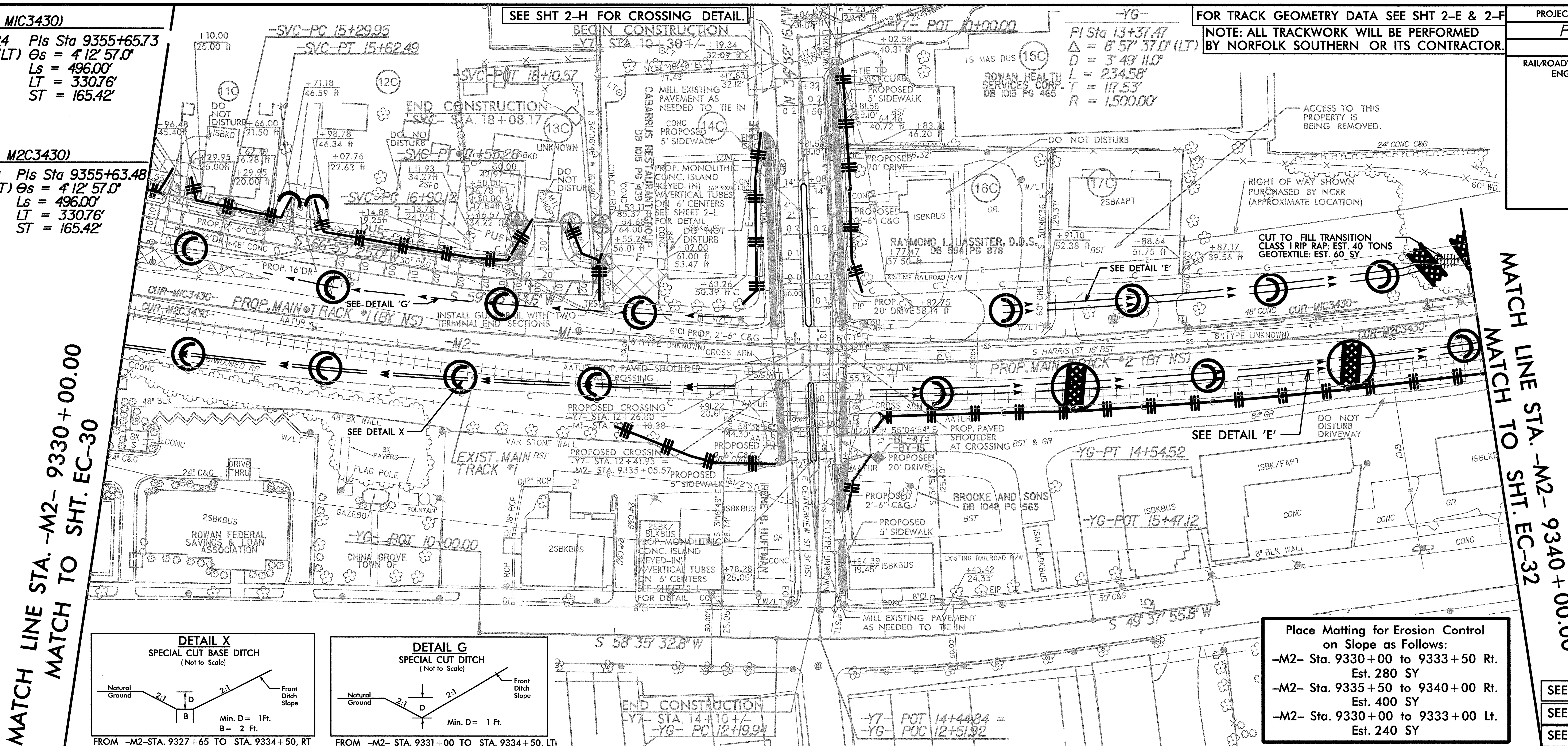
-TRACK M2- (CURVE M2C3430)

PIs Sta 9328+01.35	PI Sta 9342+38.00	PIs Sta 9355+63.48
Θs = 4° 12′ 57.0″	Δ = 41° 20′ 06.4″ (LT)	Θs = 4° 12′ 57.0″
Ls = 496.00′	Dc = 1° 42′ 00.0″	Ls = 496.00′
LT = 330.76′	L = 2,431.48′	LT = 330.76′
ST = 165.42′	T = 1,271.41′	ST = 165.42′
	R = 3,370.46′	
	Ea = 4″	

SEE SHT 2-H FOR CROSSING DETAIL.

FOR TRACK GEOMETRY DATA SEE SHT 2-E & 2-F

NOTE: ALL TRACKWORK WILL BE PERFORMED BY NORFOLK SOUTHERN OR ITS CONTRACTOR.



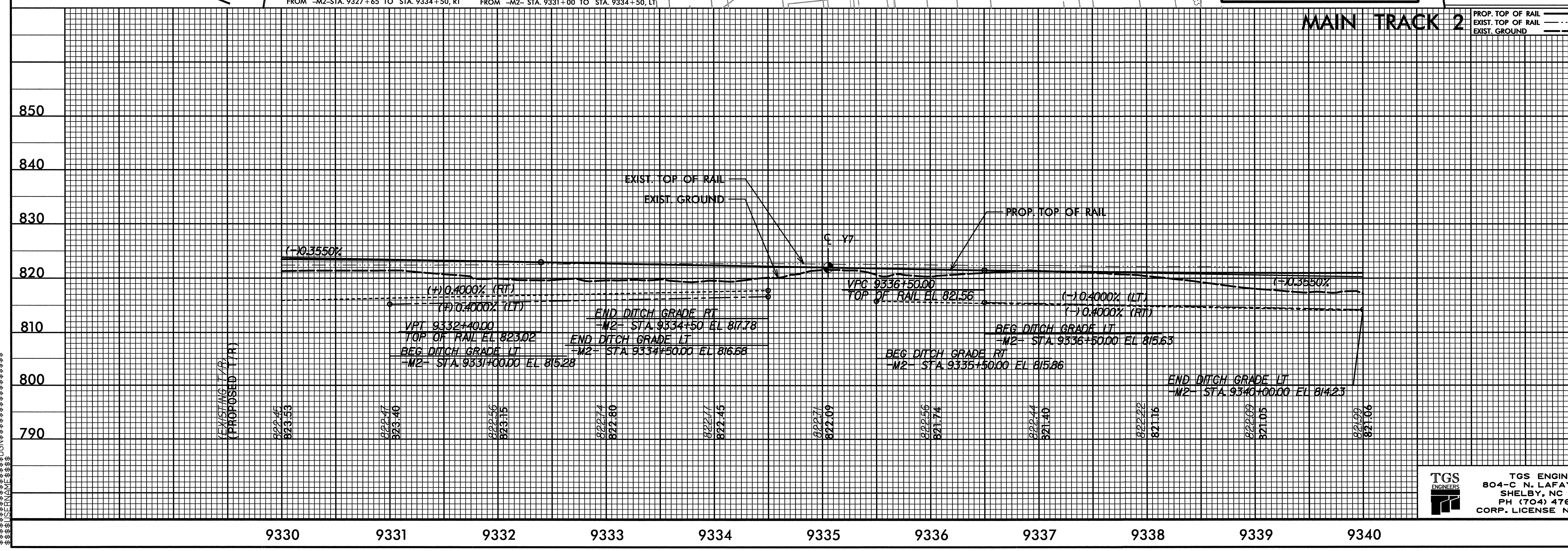
Place Matting for Erosion Control on Slope as Follows:
-M2- Sta. 9330+00 to 9333+50 Rt. Est. 280 SY
-M2- Sta. 9335+50 to 9340+00 Rt. Est. 400 SY
-M2- Sta. 9330+00 to 9333+00 Lt. Est. 240 SY

SEE SHEET 31 FOR -Y7- GRADE

SEE SHEET 31 FOR -SVC- GRADE

SEE SHEET 26 FOR -M1- GRADE

MAIN TRACK 2



$$$$$SYSTIME$$$$$
$$$$$DGN$$$$$$$$$$$$$$$$$$$$$
$$$$$USERNAME$$$$$

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0164DEL_P10b2

PROJECT REFERENCE NO.	SHEET NO.
P-5206C	EC-32/CONST J4
R/W SHEET NO.	
RAIL/ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

FOR TRACK GEOMETRY DATA SEE SHT 2-E & 2-F

NOTE: ALL TRACKWORK WILL BE PERFORMED BY NORFOLK SOUTHERN OR ITS CONTRACTOR.

PAVEMENT REMOVAL

Place Matting for Erosion Control on Slope as Follows:
-M2- Sta. 9340+00 to 9347+00 Rt. Est. 1300 SY
-M2- Sta. 9340+50 to 9351+50 Lt. Est. 1500 SY

INSTALL MATTING FOR EROSION CONTROL IN THE PROPOSED DITCH LINE.
-M2- STA. 9341+50 TO STA. 9343+75 RT
-M2- STA. 9346+50 TO STA. 9356+00 RT

-TRACK M1- (CURVE M1C3430)

PIs Sta 9328+03.59
Θs = 4° 12' 57.0"
Ls = 496.00'
LT = 330.76'
ST = 165.42'

PI Sta 9342+40.24
Δ = 41° 20' 06.4" (LT)
Dc = 1° 42' 00.0"
L = 2,431.48'
T = 1,271.41'
R = 3,370.46'
Ea = 4"

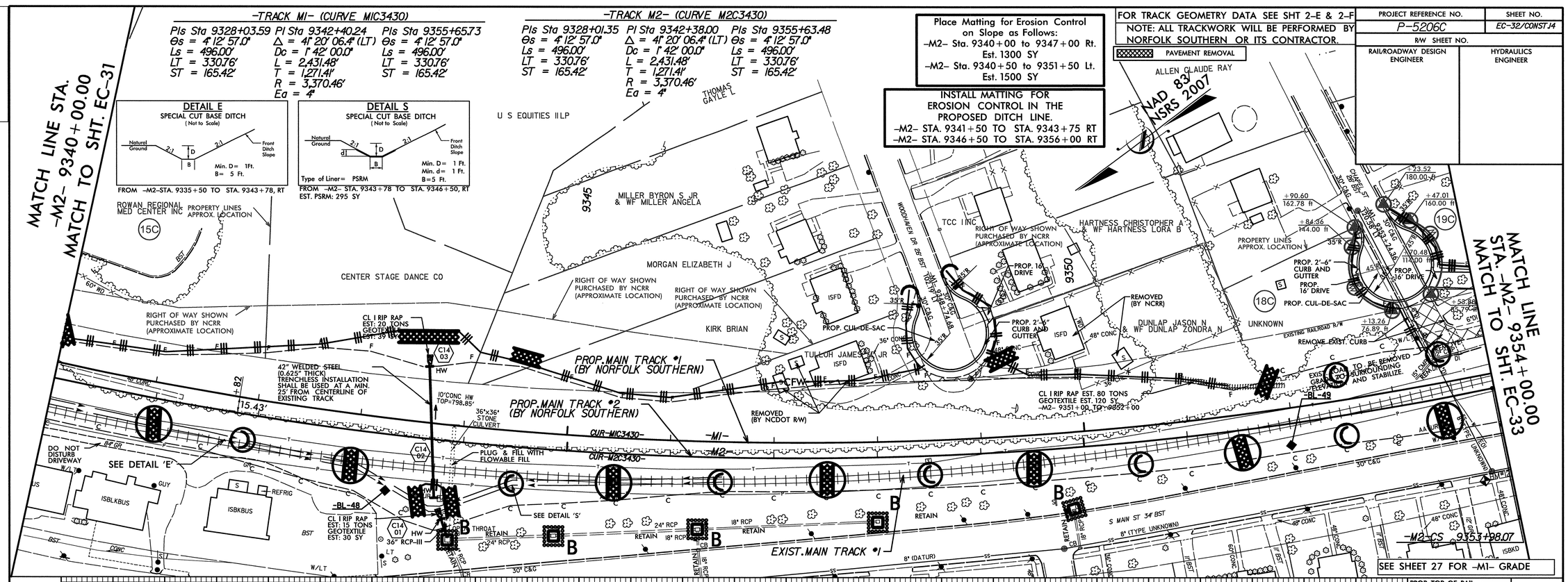
PIs Sta 9355+65.73
Θs = 4° 12' 57.0"
Ls = 496.00'
LT = 330.76'
ST = 165.42'

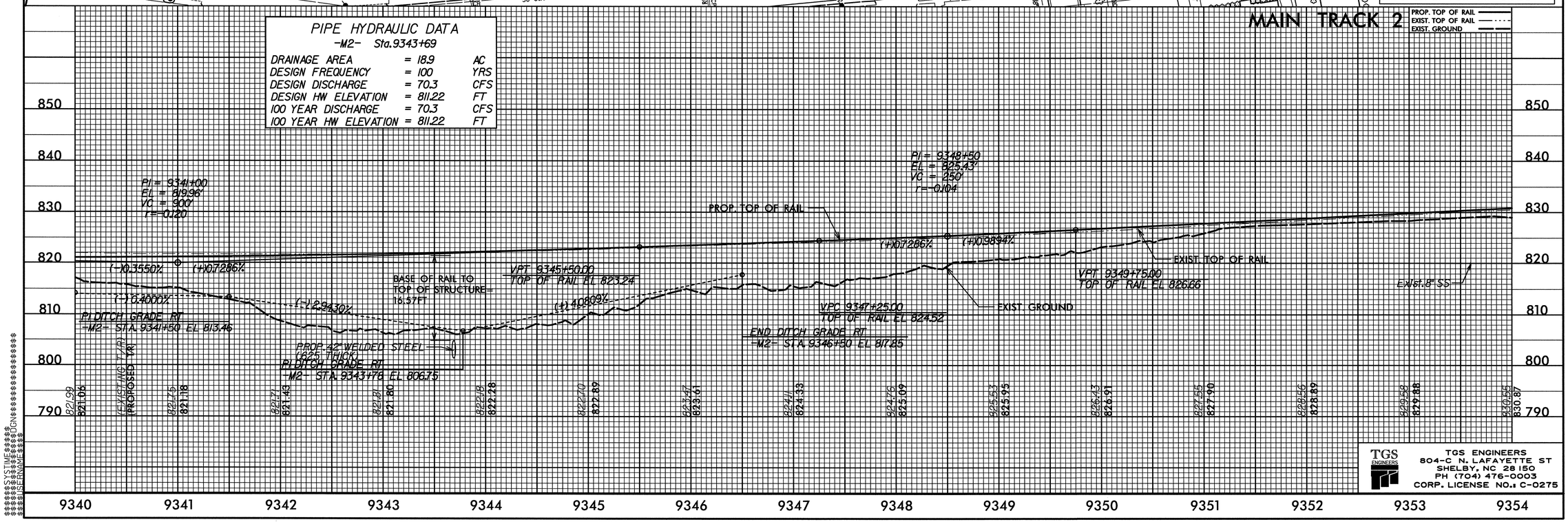
-TRACK M2- (CURVE M2C3430)

PIs Sta 9328+01.35
Θs = 4° 12' 57.0"
Ls = 496.00'
LT = 330.76'
ST = 165.42'

PI Sta 9342+38.00
Δ = 41° 20' 06.4" (LT)
Dc = 1° 42' 00.0"
L = 2,431.48'
T = 1,271.41'
R = 3,370.46'
Ea = 4"

PIs Sta 9355+63.48
Θs = 4° 12' 57.0"
Ls = 496.00'
LT = 330.76'
ST = 165.42'





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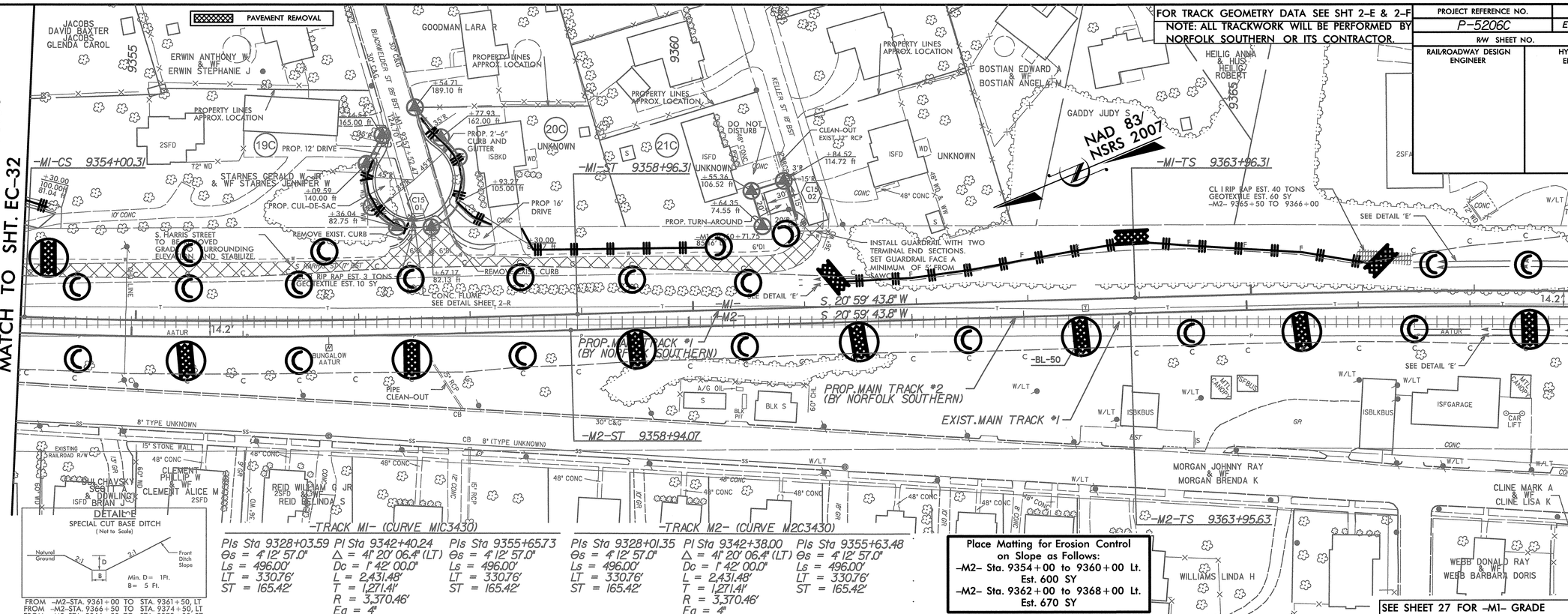
DGN 0001ADD_P10b2 0164DEL_P10b2

PROJECT REFERENCE NO.	SHEET NO.
P-5206C	EC-33/CONST J5
R/W SHEET NO.	
RAIL/ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

FOR TRACK GEOMETRY DATA SEE SHT 2-E & 2-F
NOTE: ALL TRACKWORK WILL BE PERFORMED BY NORFOLK SOUTHERN OR ITS CONTRACTOR.

MATCH LINE STA. -M2- 9354+00.00 MATCH TO SHT. EC-32

MATCH LINE STA. -M2- 9368+00.00 MATCH TO SHT. EC-34

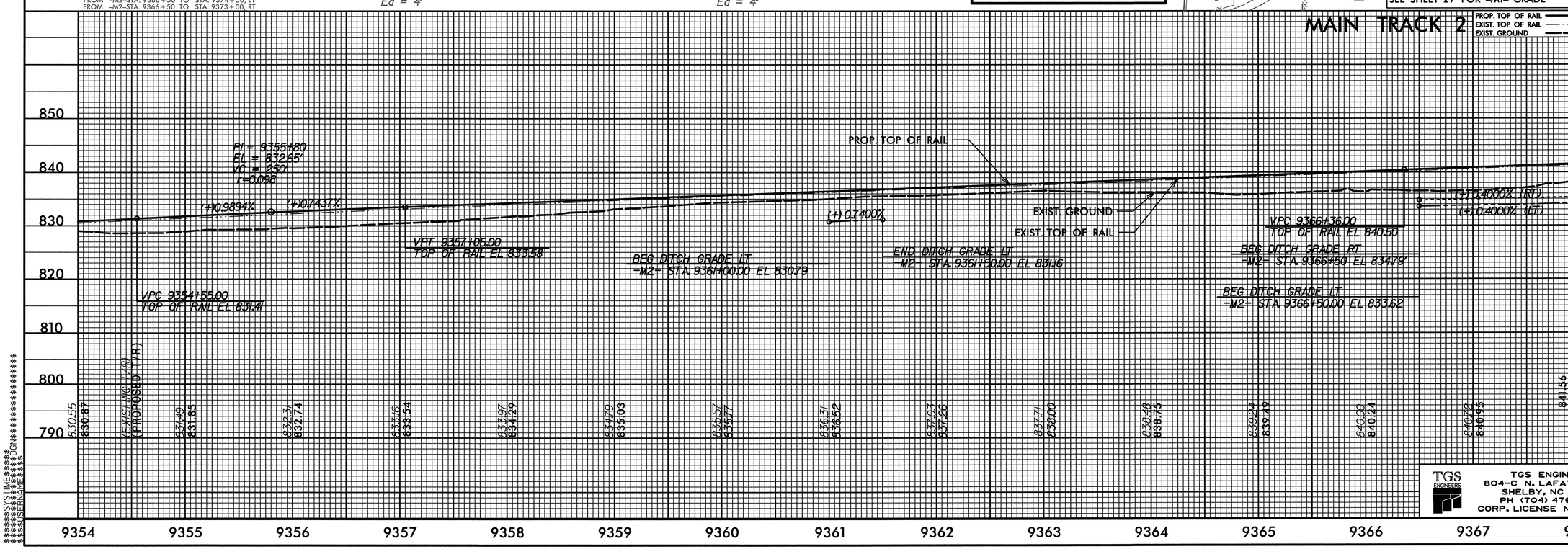


PIs Sta 9328+03.59	PI Sta 9342+40.24	PIs Sta 9355+65.73
Θs = 4° 12' 57.0"	Δ = 41° 20' 06.4" (LT)	Θs = 4° 12' 57.0"
Ls = 496.00'	Dc = 1° 42' 00.0"	Ls = 496.00'
LT = 330.76'	L = 2,431.48'	LT = 330.76'
ST = 165.42'	T = 1,271.41'	ST = 165.42'
	R = 3,370.46'	
	Ea = 4"	

PIs Sta 9328+01.35	PI Sta 9342+38.00	PIs Sta 9355+63.48
Θs = 4° 12' 57.0"	Δ = 41° 20' 06.4" (LT)	Θs = 4° 12' 57.0"
Ls = 496.00'	Dc = 1° 42' 00.0"	Ls = 496.00'
LT = 330.76'	L = 2,431.48'	LT = 330.76'
ST = 165.42'	T = 1,271.41'	ST = 165.42'
	R = 3,370.46'	
	Ea = 4"	

Place Matting for Erosion Control on Slope as Follows:
-M2- Sta. 9354+00 to 9360+00 Lt. Est. 600 SY
-M2- Sta. 9362+00 to 9368+00 Lt. Est. 670 SY

SEE SHEET 27 FOR -M1- GRADE



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SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

$$$$SYSTIME$$$$ $$$$DGN$$$$ $$$$FILENAME$$$$

DGN 0001ADD_P10b2 0164DEL_P10b2

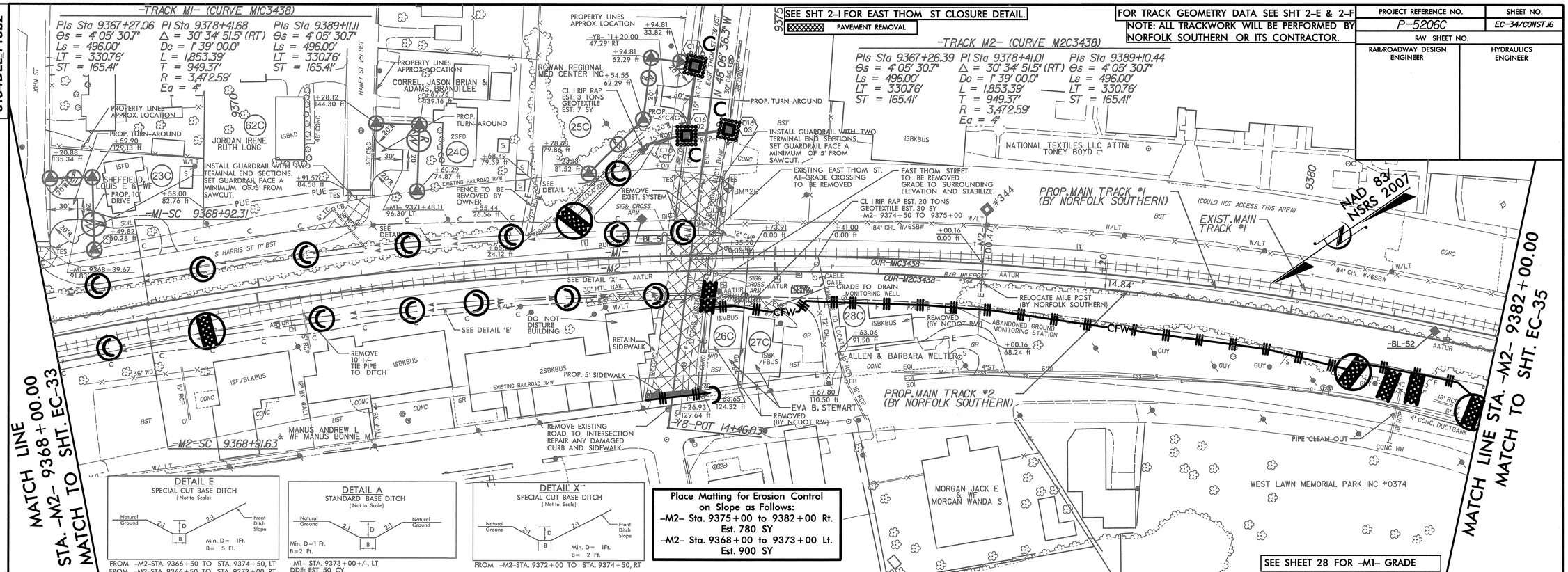
PROJECT REFERENCE NO.	SHEET NO.
P-5206C	EC-34/CONSTJ6
R/W SHEET NO.	
RAILROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

FOR TRACK GEOMETRY DATA SEE SHT 2-E & 2-F

NOTE: ALL TRACKWORK WILL BE PERFORMED BY NORFOLK SOUTHERN OR ITS CONTRACTOR.

SEE SHT 2-I FOR EAST THOM ST CLOSURE DETAIL.

PAVEMENT REMOVAL



DETAIL E
SPECIAL CUT BASE DITCH
(Not to Scale)
Natural Ground, 2:1, D, B, 2:1, Front Ditch Slope
Min. D= 1Ft. B= 5 Ft.
FROM -M2-STA. 9366+50 TO STA. 9374+50, LT
FROM -M2-STA. 9366+50 TO STA. 9372+00, RT

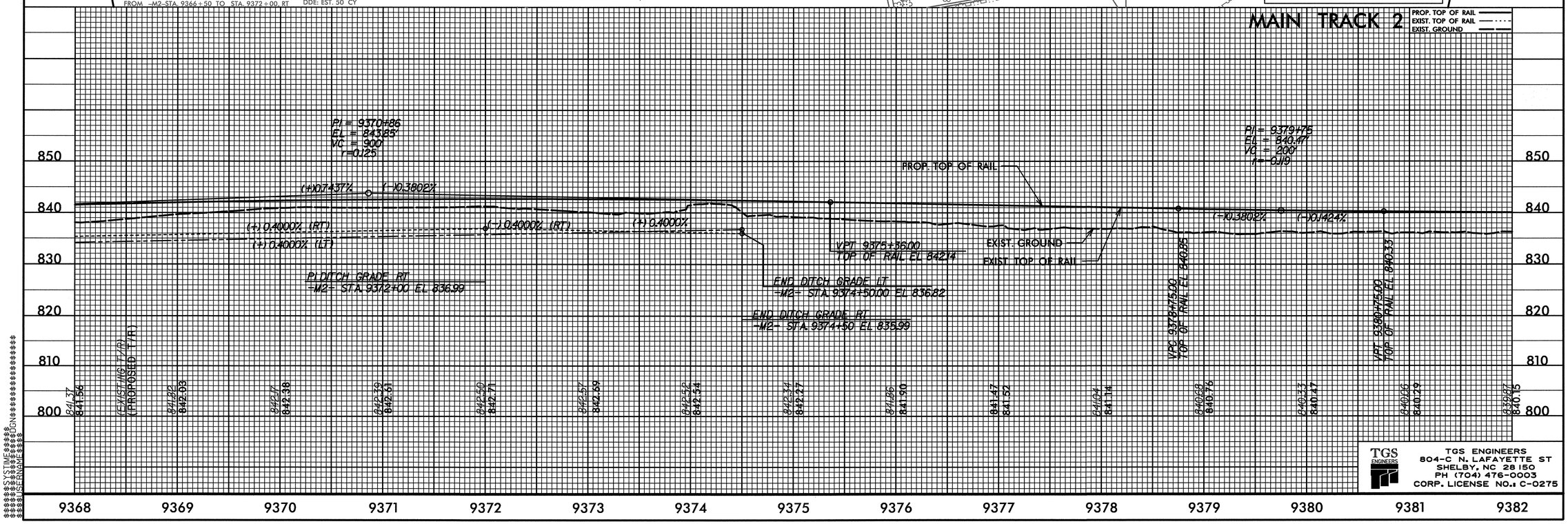
DETAIL A
STANDARD BASE DITCH
(Not to Scale)
Natural Ground, 2:1, D, B, 2:1, Natural Ground
Min. D=1 Ft. B=2 Ft.
-M1- STA. 9373+00+/-, LT
DDE: EST. 50 CY

DETAIL X
SPECIAL CUT BASE DITCH
(Not to Scale)
Natural Ground, 2:1, D, B, 2:1, Front Ditch Slope
Min. D= 1Ft. B= 2 Ft.
FROM -M2-STA. 9372+00 TO STA. 9374+50, RT

Place Matting for Erosion Control on Slope as Follows:
-M2- Sta. 9375+00 to 9382+00 Rt. Est. 780 SY
-M2- Sta. 9368+00 to 9373+00 Lt. Est. 900 SY

MAIN TRACK 2

PROP. TOP OF RAIL
EXIST. TOP OF RAIL
EXIST. GROUND



TGS ENGINEERS
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SHELBY, NC 28150
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CORP. LICENSE NO.: C-0275

$$$$SYSTIME$$$$
$$$$DGN$$$$
$$$$USERNAME$$$$

0001ADD_P10b2
0164DEL_P10b2

PROJECT REFERENCE NO.	SHEET NO.
P-5206C	EC-35/CONST J1
R/W SHEET NO.	
RAIL DESIGN ENGINEER	HYDRAULICS ENGINEER

FOR TRACK GEOMETRY DATA SEE SHT 2-E & 2-F

NOTE: ALL TRACKWORK WILL BE PERFORMED BY NORFOLK SOUTHERN OR ITS CONTRACTOR.

PAVEMENT REMOVAL

NAD 83/ NSRS 2007

-TRACK M1- (CURVE MIC3438)

PIs Sta 9367+27.06
Θs = 4° 05' 30.7"
Ls = 496.00'
LT = 330.76'
ST = 165.41'

PI Sta 9378+41.68
Δ = 30° 34' 51.5" (RT)
Dc = 1° 39' 00.0"
L = 1,853.39'
T = 949.37'
R = 3,472.59'
Ea = 4"

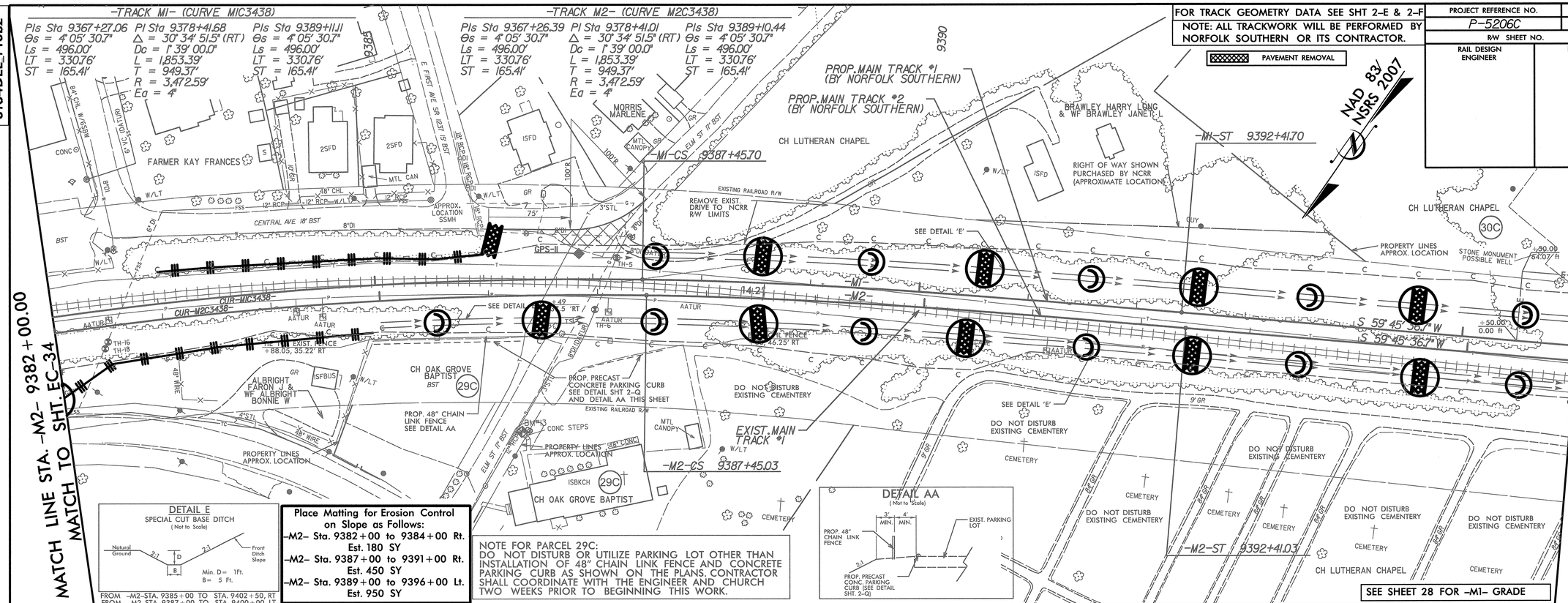
PIs Sta 9389+11.11
Θs = 4° 05' 30.7"
Ls = 496.00'
LT = 330.76'
ST = 165.41'

-TRACK M2- (CURVE M2C3438)

PIs Sta 9367+26.39
Θs = 4° 05' 30.7"
Ls = 496.00'
LT = 330.76'
ST = 165.41'

PI Sta 9378+41.01
Δ = 30° 34' 51.5" (RT)
Dc = 1° 39' 00.0"
L = 1,853.39'
T = 949.37'
R = 3,472.59'
Ea = 4"

PIs Sta 9389+10.44
Θs = 4° 05' 30.7"
Ls = 496.00'
LT = 330.76'
ST = 165.41'



DETAIL E

SPECIAL CUT BASE DITCH
(Not to Scale)

FROM -M2-STA. 9385+00 TO STA. 9402+50, RT
FROM -M2-STA. 9387+00 TO STA. 9400+00, LT

Place Matting for Erosion Control on Slope as Follows:

-M2- Sta. 9382+00 to 9384+00 Rt. Est. 180 SY

-M2- Sta. 9387+00 to 9391+00 Rt. Est. 450 SY

-M2- Sta. 9389+00 to 9396+00 Lt. Est. 950 SY

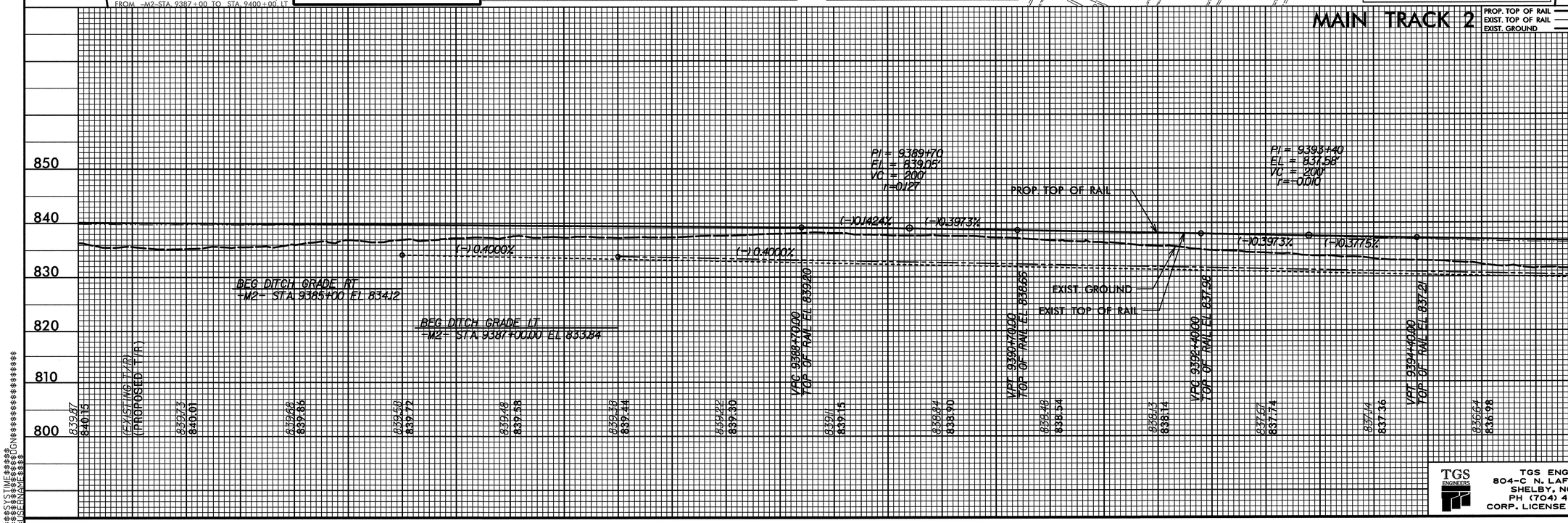
NOTE FOR PARCEL 29C:
DO NOT DISTURB OR UTILIZE PARKING LOT OTHER THAN INSTALLATION OF 48" CHAIN LINK FENCE AND CONCRETE PARKING CURB AS SHOWN ON THE PLANS. CONTRACTOR SHALL COORDINATE WITH THE ENGINEER AND CHURCH TWO WEEKS PRIOR TO BEGINNING THIS WORK.

DETAIL AA

(Not to Scale)

MAIN TRACK 2

PROP. TOP OF RAIL
EXIST. TOP OF RAIL
EXIST. GROUND



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0164DEL_P10b2

PROJECT REFERENCE NO.	SHEET NO.
P-5206C	EC-36/CONST.18
R/W SHEET NO.	
RAILROAD/WAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SEE SHT 2-J FOR EUDY RD CLOSURE DETAIL.

PAVEMENT REMOVAL

FOR TRACK GEOMETRY DATA SEE SHT 2-E & 2-F
NOTE: ALL TRACKWORK WILL BE PERFORMED BY NORFOLK SOUTHERN OR ITS CONTRACTOR.

SEE SHEET 18A FOR KIMBALL RD EXT CONSTRUCTION

MATCH LINE STA. -M2- 9396+00.00
MATCH TO SHT. EC-35

MATCH LINE STA. -M2- 9410+00.00
MATCH TO SHT. EC-37

-Y9-
PI Sta 11+53.08
Δ = 13° 00' 21.0" (RT)
D = 11° 27' 33.0"
L = 113.50'
T = 56.99'
R = 500.00'

PI Sta 13+36.76
Δ = 33° 16' 51.2" (RT)
D = 21° 13' 14.4"
L = 156.83'
T = 80.70'
R = 270.00'

-Y9-POT 10+00.00

-Y9-PC 10+96.08

-TRACK M1- (CURVE M1C3445)
PIs Sta 9402+17.28
Es = 0' 18' 36.0"
Ls = 124.00'
LT = 82.67'
ST = 41.33'

PI Sta 9404+14.93
Δ = 1° 33' 47.0" (RT)
Dc = 0° 30' 00.0"
L = 312.61'
T = 156.32'
R = 11,459.19'
Ea = 1"

PIs Sta 9406+12.56
Es = 0' 18' 36.0"
Ls = 124.00'
LT = 82.67'
ST = 41.33'

-TRACK M2- (CURVE M2C3445)
PIs Sta 9401+95.82
Es = 0' 17' 21.6"
Ls = 124.00'
LT = 82.67'
ST = 41.33'

PI Sta 9404+09.07
Δ = 1° 36' 15.8" (RT)
Dc = 0° 28' 00.0"
L = 343.80'
T = 171.91'
R = 12,277.70'
Ea = 1"

PIs Sta 9406+22.29
Es = 0' 17' 21.6"
Ls = 124.00'
LT = 82.67'
ST = 41.33'

Place Matting for Erosion Control on Slope as Follows:
-M2- Sta. 9396+00 to 9399+50 Lt. Est. 350 SY
-M2- Sta. 9400+50 to 9403+75 Lt. Est. 350 SY
-M2- Sta. 9405+00 to 9410+00 Lt. Est. 1500 SY
-M2- Sta. 9405+00 to 9407+00 Rt. Est. 500 SY

INSTALL MATTING FOR EROSION CONTROL IN THE PROPOSED DITCH LINE.
-M2- STA. 9401+50 TO STA. 9403+38 RT

NAD 83/ NSRS 2007

CH LUTHERAN CHAPEL OF CHINA GROVE

MT ZION UNITED CHURCH OF CHRIST NO DEED REF

CRAFT DEVELOPMENT LLC DB 1091 PG 1

RIGHT OF WAY SHOWN PURCHASED BY NCRR (APPROXIMATE LOCATION)

INSTALL GUARDRAIL WITH TWO TERMINAL END SECTIONS. SET GUARDRAIL FACE A MINIMUM OF 5' FROM SAWCUT.

-M1-TS 9401+34.62

PROP. MAIN TRACK #1 (BY NORFOLK SOUTHERN)

-Y9-PT 12+09.58
N 63° 05' 20.3" W
-Y9-PC 12+56.07

-M1-SC 9402+58.62

-M1-ST 9406+95.23

-M1-CS 9405+71.23

-Y10- STA. 12+25.00

-Y10- STA. 15+60.00

SEE SHEETS S-1 THRU S-- FOR STRUCTURE PLANS.

EUDY STREET TO BE REMOVED GRADE TO SURROUNDING ELEVATION AND STABILIZE.

PROPOSED RAILROAD BRIDGE (SEE SHEET 18A)

EXISTING EUDY ST AT-GRADE CROSSING TO BE REMOVED

EXISTING TRACKBED TO BE REMOVED

S 59° 45' 36.7" W

S 61° 56' 35.7" W

ANDIS CITY LIMIT 14.15'

ROWAN COUNTY

24"x24" CONC &STONE CULVERT

54" WELDED STEEL (0.750" THICK) TRENCHLESS INSTALLATION SHALL BE USED AT A MIN. 25' FROM CENTERLINE OF EXISTING TRACK

CL I RIP RAP EST: 33 TONS GEOTEXTILE EST: 30 SY

PLUG & FILL WITH FLOWABLE FILL

EXIST. MAIN TRACK #1

-Y9- PT 14+12.90

PROP. MAIN TRACK #2 (BY NORFOLK SOUTHERN)

-M2-SC 9402+37.16

-M2-ST 9407+04.96

-M2-CS 9405+80.96

-M2-TS 9401+13.16

DO NOT DISTURB EXISTING CEMETERY

INSTALL GUARDRAIL WITH TWO TERMINAL END SECTIONS. SET GUARDRAIL FACE A MINIMUM OF 5' FROM SAWCUT.

ABANDON EUDY RD.

MT ZION UNITED CHURCH OF CHRIST DB 564 PG 688 PB 9995 PG 273

MT ZION UNITED CHURCH OF CHRIST DB 563 PG 787 PB 9995 PG 273

MICHAEL E & TAMMY U ERVIN DB 1163 PG 479 PB 9995 PG 617

SEE SHEET 18A FOR -Y10- PLAN
SEE SHEET 32 FOR -Y10- GRADE
SEE SHEET 29 FOR -M1- GRADE

DETAIL L
SPECIAL CUT BASE DITCH
(Not to Scale)
Natural Ground, 2:1, 40:1, B, 2:1, Front Ditch Slope
Min. D= 1Ft.
B= SEE XS-SECT
FROM -M2-STA. 9402+50 TO STA. 9403+63, RT

DETAIL C
SPECIAL LATERAL BASE DITCH
(Not to Scale)
Natural Ground, 2:1, D, B, SEE XS-SECT, 40:1, SEE XS-SECT, 2:1, Fill Slope
Min. D=1 Ft.
B=5 Ft.
FROM -M2- STA. 9405+15 TO STA. 9407+40, RT

DETAIL E
SPECIAL CUT BASE DITCH
(Not to Scale)
Natural Ground, 2:1, D, B, 2:1, Front Ditch Slope
Min. D= 1Ft.
B= 5 Ft.
FROM -M2-STA. 9385+00 TO STA. 9402+50, RT
FROM -M2-STA. 9387+00 TO STA. 9400+00, LT

DETAIL O
STANDARD BASE DITCH
(Not to Scale)
Natural Ground, 2:1, B, 2:1, Natural Ground
B= 5 Ft.
-M1- STA. 9407+56, LT
DDE=50 CY

MAIN TRACK 2

PROP. TOP OF RAIL
EXIST. TOP OF RAIL
EXIST. GROUND

PIPE HYDRAULIC DATA
-M2- Sta.9407+44

DRAINAGE AREA	= 54.0	AC
DESIGN FREQUENCY	= 100	YRS
DESIGN DISCHARGE	= 117	CFS
DESIGN HW ELEVATION	= 809.65	FT
100 YEAR DISCHARGE	= 117	CFS
100 YEAR HW ELEVATION	= 809.65	FT

(-)0.3775%
(-)0.4000% (LT)
(-)0.4000% (RT)
(-)1.2300%
(-)0.4000%
(-)0.3775%
(-)0.4000%

EXIST. TOP OF RAIL
PROP. TOP OF RAIL
-M2- STA.9403+86.73 BEGIN BRIDGE
-M2- STA.9405+17.00 END BRIDGE

END DITCH GRADE LT
-M2- STA.9400+00 EL 828.64

PI DITCH GRADE RT
-M2- STA.9401+00 EL 827.72

PI DITCH GRADE RT
-M2- STA.9403+00 EL 821.26

END DITCH GRADE RT
-M2- STA.9403+63 (60.1' RT) EL 821.00

BEG DITCH GRADE RT
-M2- STA.9405+15
EL 805.20

END DITCH GRADE RT
-M2- STA.9407+40 EL 804.50

EXIST. GROUND

BASE OF RAIL TO TOP OF STRUCTURE= 23.17FT

VPC 9406+45.00
TOP OF RAIL EL 831.90

EXIST. 24"X24" CONC. & STONE CULVERT PLUG & FILL

PROP. 54" WELDED STEEL (0.750" THICK)

(EXISTING TYP) (PROPOSED TYP)

836.60 836.22 835.85 835.47 835.09 834.71 834.34 833.96 833.58 833.20 832.83 832.45 832.07 831.71 831.46

850 840 830 820 810 800 790

9396 9397 9398 9399 9400 9401 9402 9403 9404 9405 9406 9407 9408 9409 9410

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CORP. LICENSE NO.: C-0275

DGN 0001ADD_P10b2 0164DEL_P10b2

PROJECT REFERENCE NO.	SHEET NO.
P-5206C	EC-36A/CONST J8A
R/W SHEET NO.	
RAIL/ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

FOR TRACK GEOMETRY DATA SEE SHT 2-E & 2-F

NOTE: ALL TRACKWORK WILL BE PERFORMED BY NORFOLK SOUTHERN OR ITS CONTRACTOR.

INSTALL MATTING FOR EROSION CONTROL IN THE PROPOSED DITCH LINE.
-Y10- STA. 11+00 TO STA. 15+00 RT
-Y10- STA. 18+50 TO STA. 20+00 RT
-Y10- STA. 16+00 TO STA. 18+00 RT (BERM DITCH)

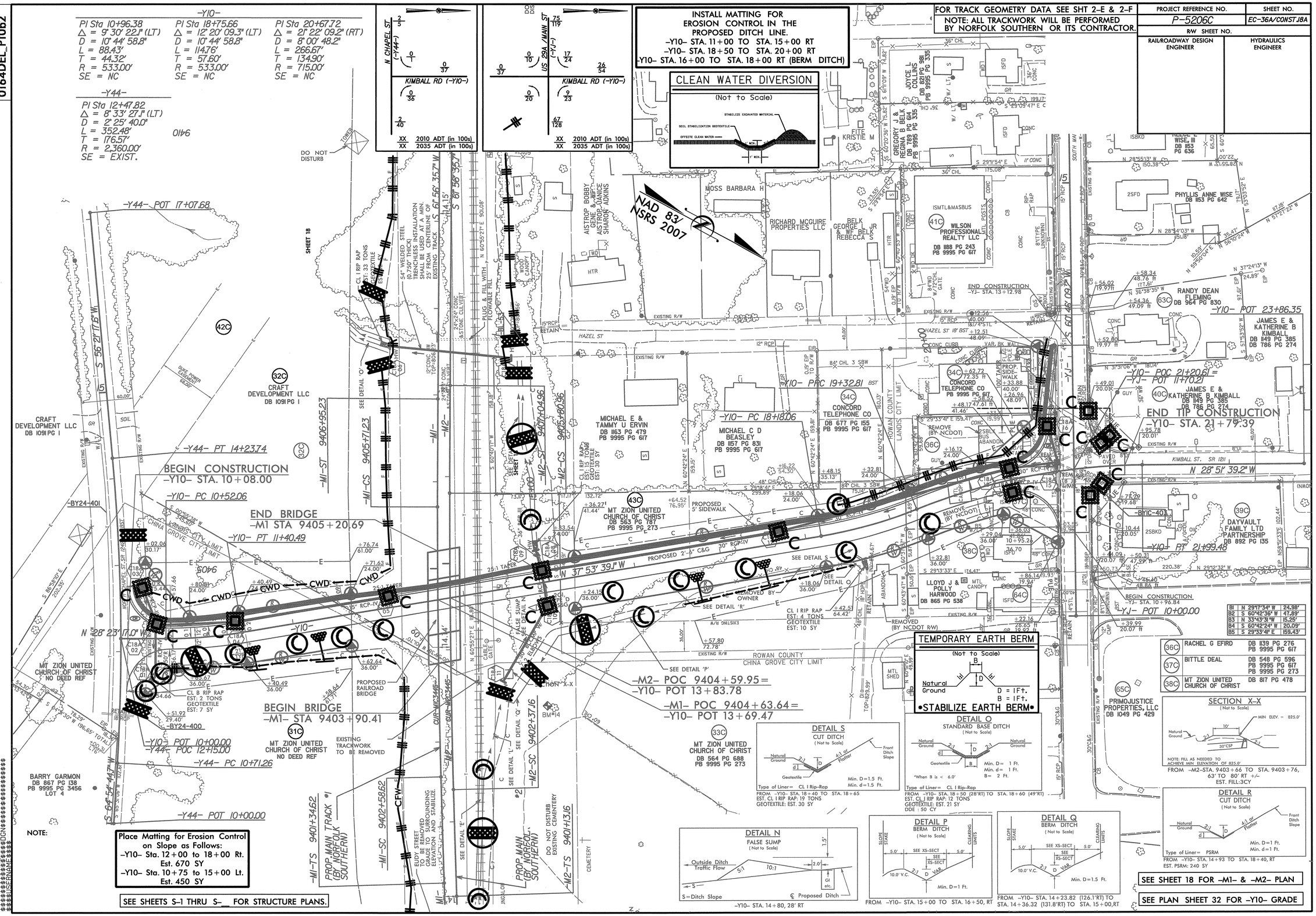
-Y10-

PI Sta 10+96.38	PI Sta 18+75.66	PI Sta 20+67.72
Δ = 9° 30' 22.1" (LT)	Δ = 12° 20' 09.3" (LT)	Δ = 21° 22' 09.2" (RT)
D = 10° 44' 58.8"	D = 10° 44' 58.8"	D = 8° 00' 48.2"
L = 88.43'	L = 114.76'	L = 266.67'
T = 44.32'	T = 57.60'	T = 134.90'
R = 533.00'	R = 533.00'	R = 715.00'
SE = NC	SE = NC	SE = NC

-Y44-

PI Sta 12+47.82
Δ = 8° 33' 27.1" (LT)
D = 2° 25' 40.0"
L = 352.48'
T = 176.57'
R = 2,360.00'
SE = EXIST.

0146



NOTE:

Place Matting for Erosion Control on Slope as Follows:
-Y10- Sta. 12+00 to 18+00 Rt.
Est. 670 SY
-Y10- Sta. 10+75 to 15+00 Lt.
Est. 450 SY

SEE SHEETS S-1 THRU S-__ FOR STRUCTURE PLANS.

DGN 0001ADD_P10b2 0164DEL_P10b2

PROJECT REFERENCE NO.	SHEET NO.
P-5206C	EC-37/CONST.19
R/W SHEET NO.	
RAIL DESIGN ENGINEER	HYDRAULICS ENGINEER

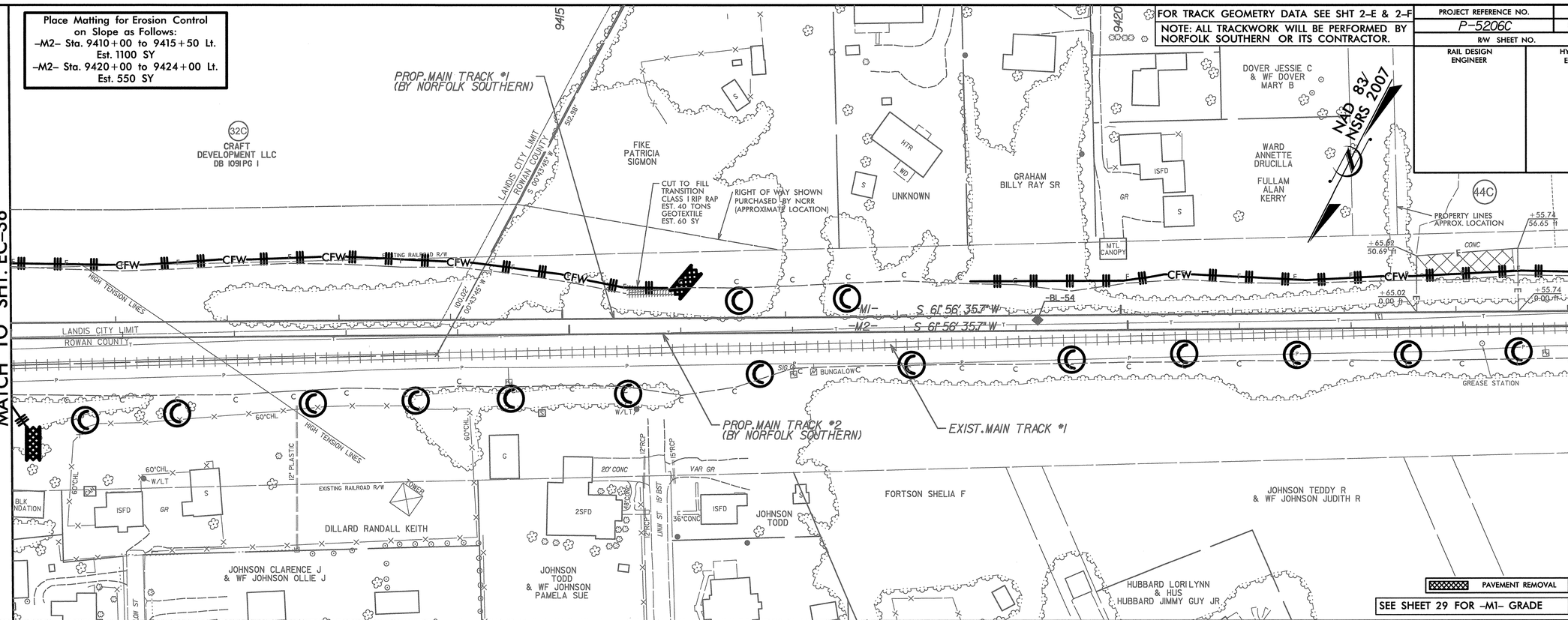
FOR TRACK GEOMETRY DATA SEE SHT 2-E & 2-F

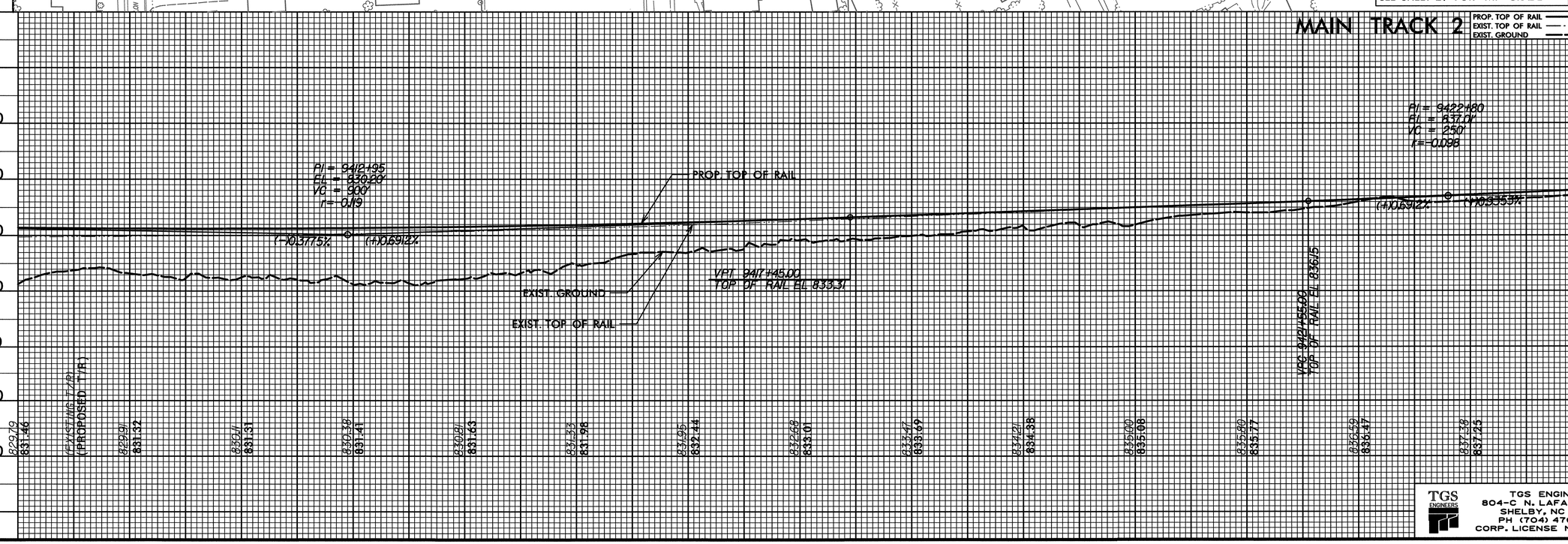
NOTE: ALL TRACKWORK WILL BE PERFORMED BY NORFOLK SOUTHERN OR ITS CONTRACTOR.

MATCH LINE STA. -M2- 9410+00.00
MATCH TO SHT. EC-36

MATCH LINE STA. -M2- 9424+00.00
MATCH TO SHT. EC-38

Place Matting for Erosion Control on Slope as Follows:
-M2- Sta. 9410+00 to 9415+50 Lt.
Est. 1100 SY
-M2- Sta. 9420+00 to 9424+00 Lt.
Est. 550 SY





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$$$$CSCTLINE$$$$
$$$$CSDGN$$$$
$$$$USERNAME$$$$

DGN 0001ADD_P10b2 0164DEL_P10b2

PROJECT REFERENCE NO.	SHEET NO.
P-5206C	EC-38/CONST-20
R/W SHEET NO.	
RAILROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

FOR TRACK GEOMETRY DATA SEE SHT 2-E & 2-F
NOTE: ALL TRACKWORK WILL BE PERFORMED BY NORFOLK SOUTHERN OR ITS CONTRACTOR.

PAVEMENT REMOVAL

SEE SHT 2-K FOR N CENTRAL AVE CLOSURE DETAIL.

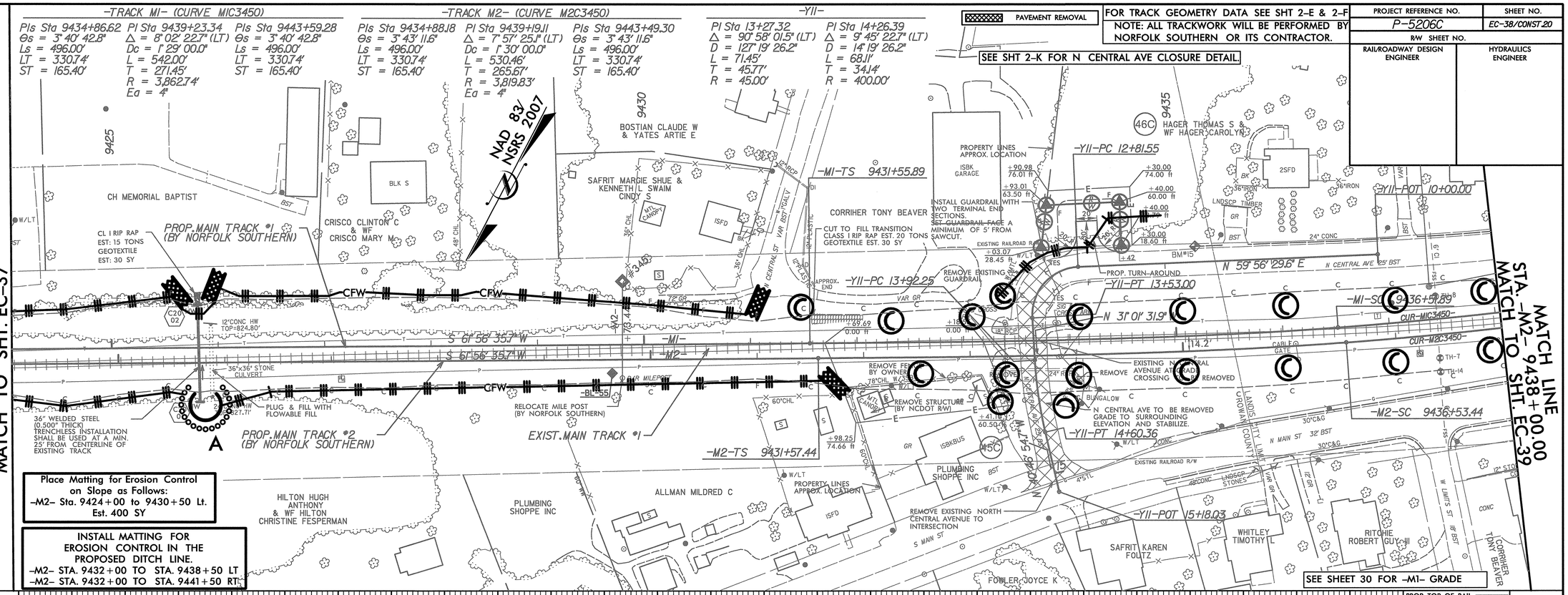
MATCH LINE STA. -M2- 9424+00.00
MATCH TO SHT. EC-37

MATCH LINE STA. -M2- 9438+00.00
MATCH TO SHT. EC-39

-TRACK M1- (CURVE M1C3450)
PIs Sta 9434+86.62, Θs = 3° 40' 42.8", Ls = 496.00', LT = 330.74', ST = 165.40'
PI Sta 9439+23.34, Δ = 8° 02' 22.7" (LT), Dc = 1° 29' 00.0", L = 542.00', T = 271.45', R = 3,862.74', Ea = 4"
PIs Sta 9443+59.28, Θs = 3° 40' 42.8", Ls = 496.00', LT = 330.74', ST = 165.40'

-TRACK M2- (CURVE M2C3450)
PIs Sta 9434+88.18, Θs = 3° 43' 11.6", Ls = 496.00', LT = 330.74', ST = 165.40'
PI Sta 9439+19.11, Δ = 7° 57' 25.1" (LT), Dc = 1° 30' 00.0", L = 530.46', T = 265.67', R = 3,819.83', Ea = 4"
PIs Sta 9443+49.30, Θs = 3° 43' 11.6", Ls = 496.00', LT = 330.74', ST = 165.40'

-Y11-
PI Sta 13+27.32, Δ = 90° 58' 01.5" (LT), D = 127° 19' 26.2", L = 71.45', T = 45.77', R = 45.00'
PI Sta 14+26.39, Δ = 9° 45' 22.7" (LT), D = 14° 19' 26.2", L = 68.11', T = 34.14', R = 400.00'



Place Matting for Erosion Control on Slope as Follows:
-M2- Sta. 9424+00 to 9430+50 Lt.
Est. 400 SY

INSTALL MATTING FOR EROSION CONTROL IN THE PROPOSED DITCH LINE.
-M2- STA. 9432+00 TO STA. 9438+50 LT
-M2- STA. 9432+00 TO STA. 9441+50 RT

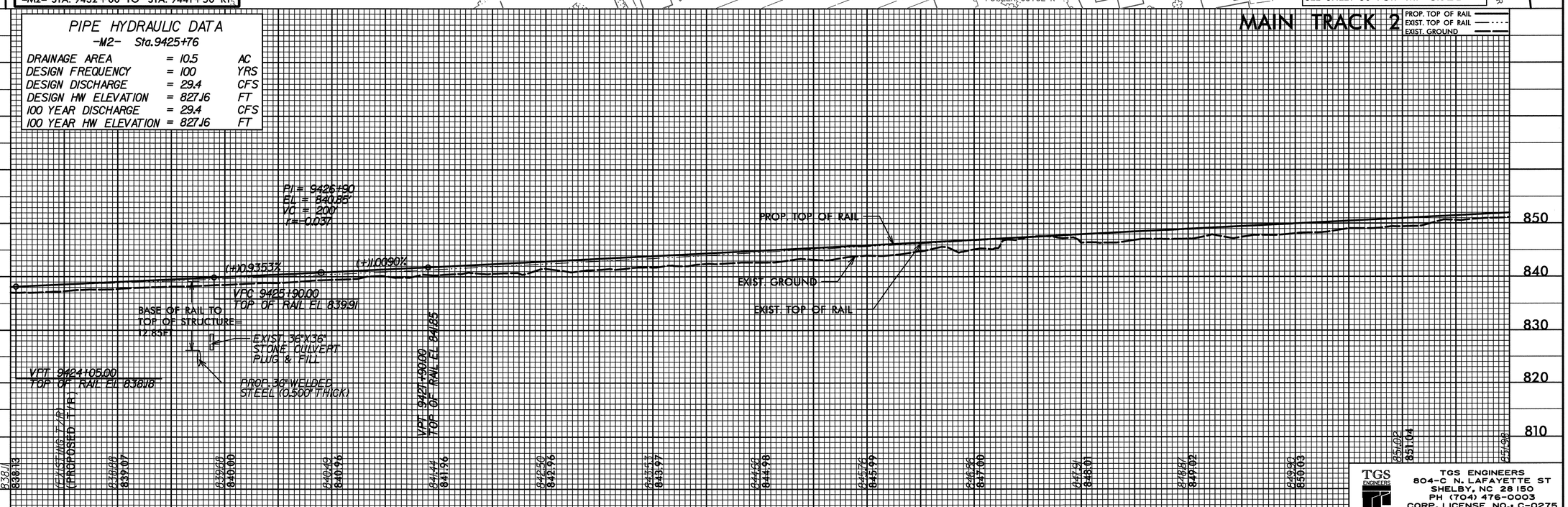
SEE SHEET 30 FOR -M1- GRADE

PIPE HYDRAULIC DATA
-M2- Sta.9425+76

DRAINAGE AREA	= 10.5	AC
DESIGN FREQUENCY	= 100	YRS
DESIGN DISCHARGE	= 29.4	CFS
DESIGN HW ELEVATION	= 827.16	FT
100 YEAR DISCHARGE	= 29.4	CFS
100 YEAR HW ELEVATION	= 827.16	FT

MAIN TRACK 2

PROP. TOP OF RAIL
EXIST. TOP OF RAIL
EXIST. GROUND



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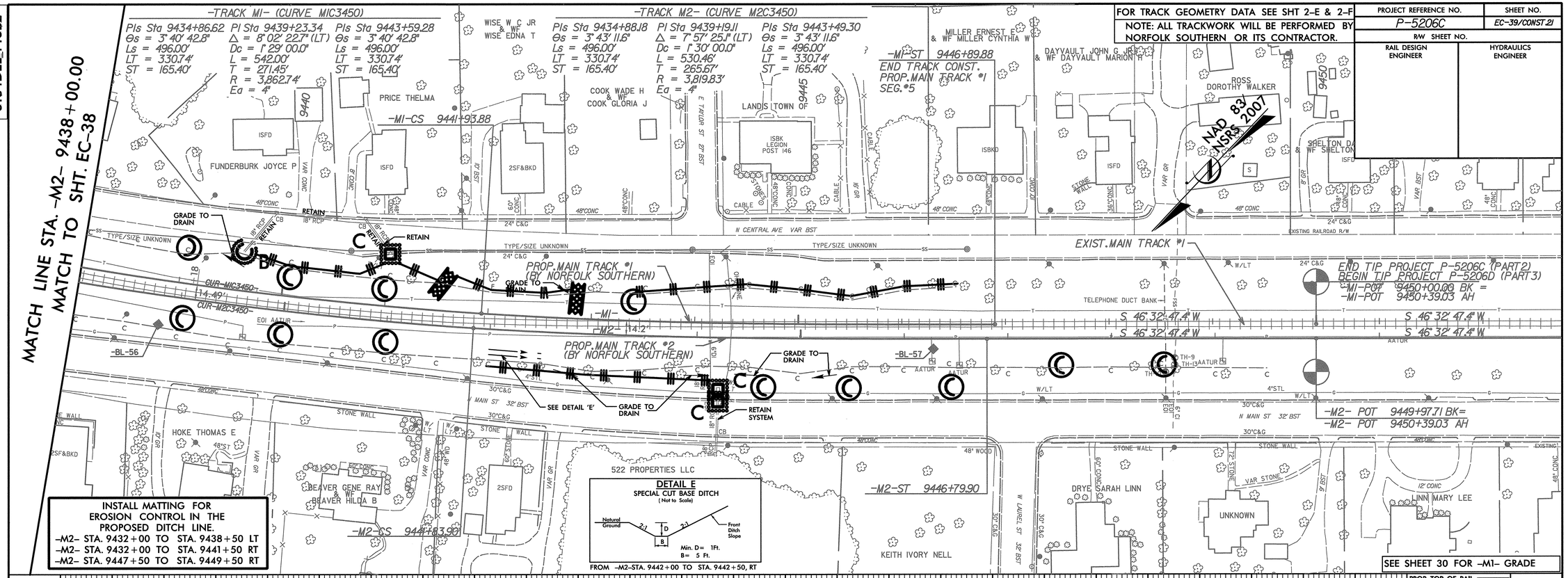
FOR TRACK GEOMETRY DATA SEE SHT 2-E & 2-F
NOTE: ALL TRACKWORK WILL BE PERFORMED BY NORFOLK SOUTHERN OR ITS CONTRACTOR.

PROJECT REFERENCE NO.	SHEET NO.
P-5206C	EC-39/CONST 21
R/W SHEET NO.	
RAIL DESIGN ENGINEER	HYDRAULICS ENGINEER

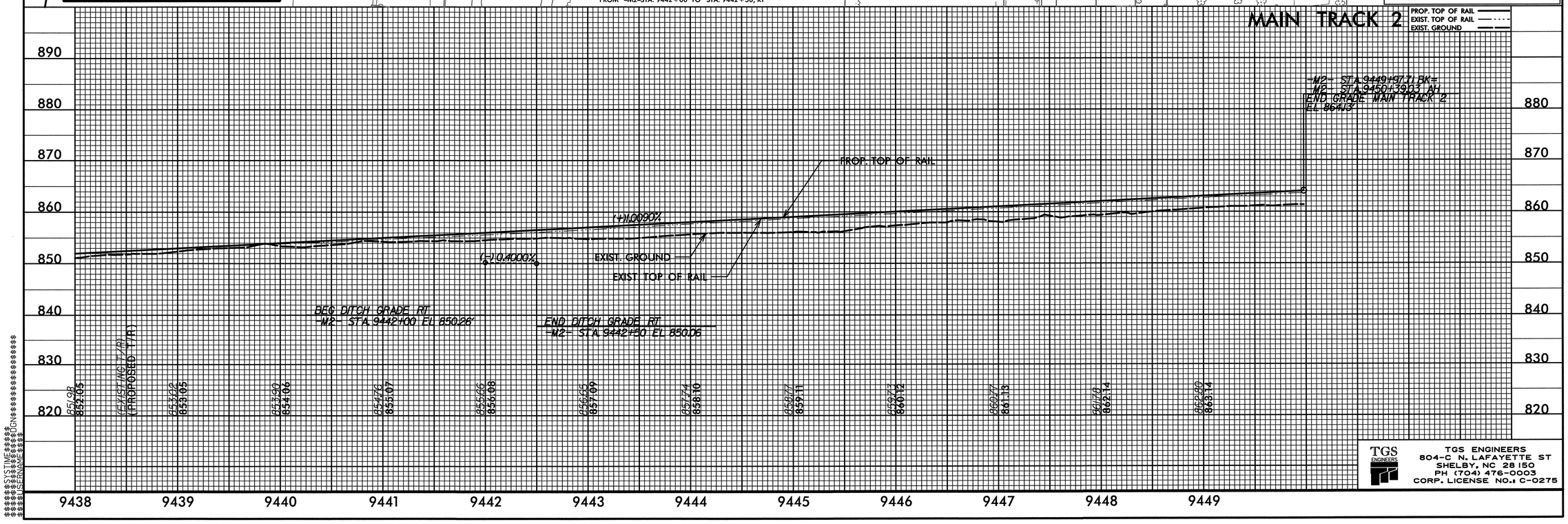
MATCH LINE STA. -M2- 9438+00.00
MATCH TO SHT. EC-38



INSTALL MATTING FOR EROSION CONTROL IN THE PROPOSED DITCH LINE.
-M2- STA. 9432+00 TO STA. 9438+50 LT
-M2- STA. 9432+00 TO STA. 9441+50 RT
-M2- STA. 9447+50 TO STA. 9449+50 RT

DETAIL E
SPECIAL CUT BASE DITCH
(Not to Scale)
Natural Ground
Front Ditch Slope
Min. D= 1Ft.
B= 5 Ft.
FROM -M2-STA. 9442+00 TO STA. 9442+50, RT

SEE SHEET 30 FOR -M1- GRADE



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