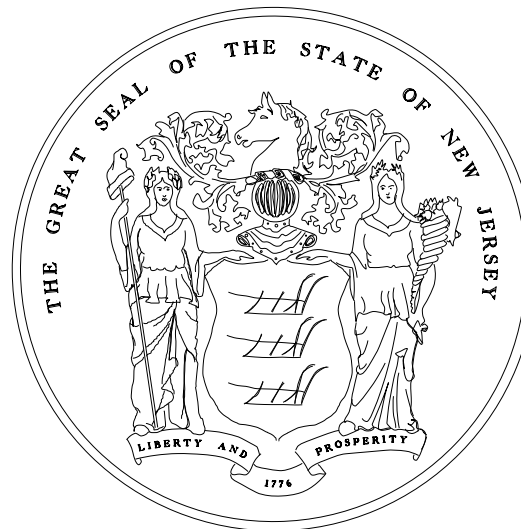


# Township of Lawrence Mercer County New Jersey

PLANS FOR

## PRETTY BROOK ROAD - LHT CONNECTOR TRAIL FROM PROVINCE LINE ROAD TO CLEVELAND ROAD

JUNE 2022

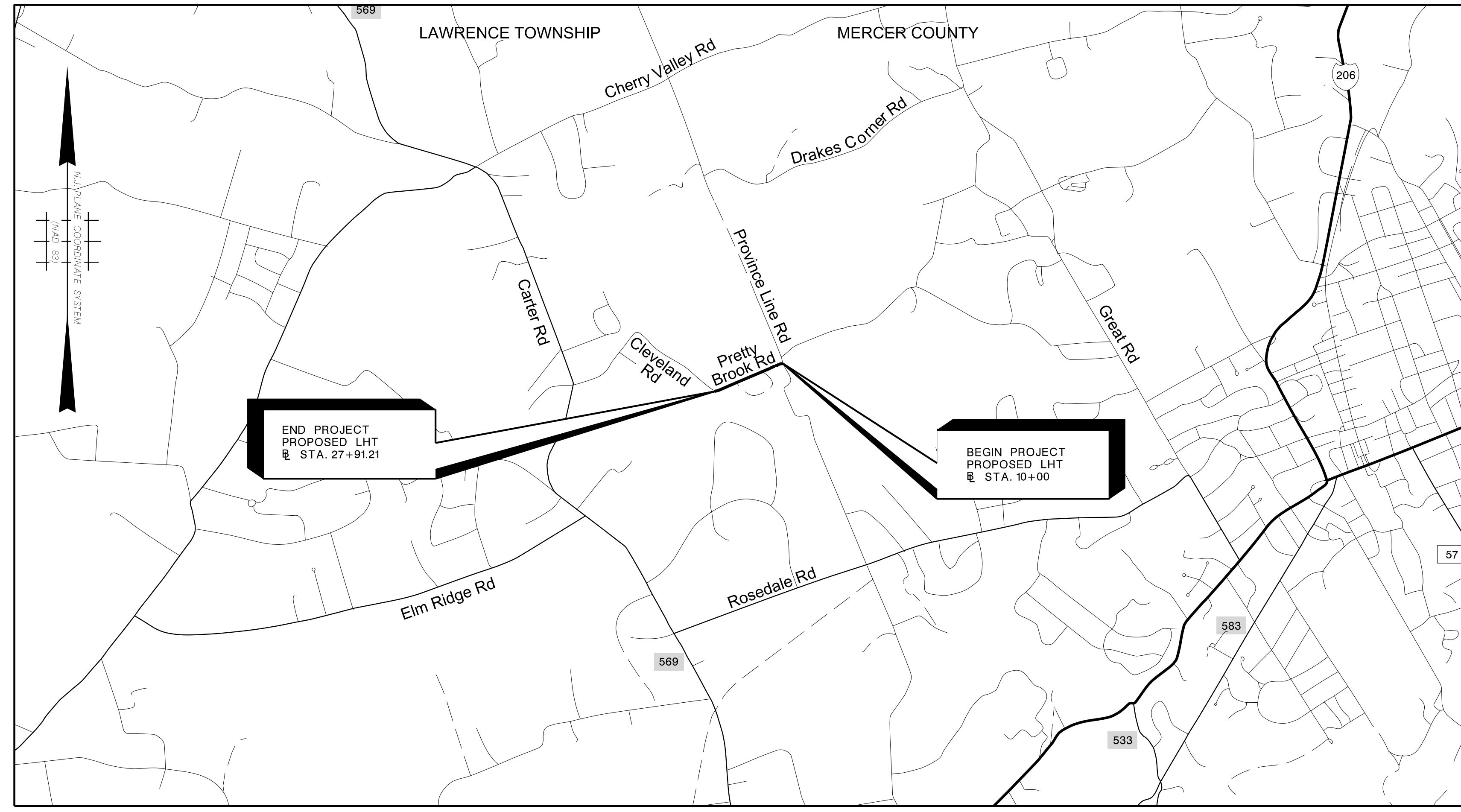


UTILITIES
PUBLIC SERVICE ELECTRIC AND GAS COMPANY (GAS)
PUBLIC SERVICE ELECTRIC AND GAS COMPANY (ELECTRIC)
VERIZON NEW JERSEY INC. (TELEPHONE)
COMCAST CABLE COMMUNICATIONS MANAGEMENT, LLC (CABLE)

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	KEY MAP
2	ESTIMATE - DISTRIBUTION OF QUANTITIES
3	TYPICAL SECTIONS
4	LEGEND AND GENERAL NOTES
5 - 6	CONSTRUCTION PLANS
7	SOIL EROSION AND SEDIMENT CONTROL NOTES
8	SOIL EROSION AND SEDIMENT CONTROL DETAILS
9-10	PROFILES
11-12	TIES
13-14	TRAFFIC CONTROL DETAILS
15-17	TRAFFIC CONTROL AND STAGING PLANS
18-23	CROSS SECTIONS
24-27	CONSTRUCTION DETAILS
28	GENERAL ELEVATION, PROFILE AND TYPICAL SECTION

STANDARD ROADWAY CONSTRUCTION/TRAFFIC CONTROL/BRIDGE CONSTRUCTION DETAILS BOOKLET, 2016 AND STANDARD ELECTRICAL DETAILS BOOKLET, 2007 ARE APPLICABLE TO THIS PROJECT EXCEPT FOR THOSE DETAILS CONTAINED HEREIN.

LAWRENCE TOWNSHIP COUNCIL	
MAYOR:	JOHN T. RYAN
COUNCILMAN:	CHRISTOPHER BOBBITT
COUNCILWOMAN:	CATHLEEN LEWIS
COUNCILMAN:	MICHAEL POWERS
COUNCILMAN:	JAMES KOWNACKI



### KEY MAP



TOTAL LENGTH OF PROJECT = 1,791 LIN. FT. OR 0.34 MILES

"CHANGES MADE TO THESE PLANS SINCE SIGNATURE BY THE CONSULTANT MAY BE DETERMINED BY COMPARISON OF THE PLANS FILED AT THE DEPARTMENT WITH THOSE FILED AT THE OFFICE OF THE CONSULTANT."

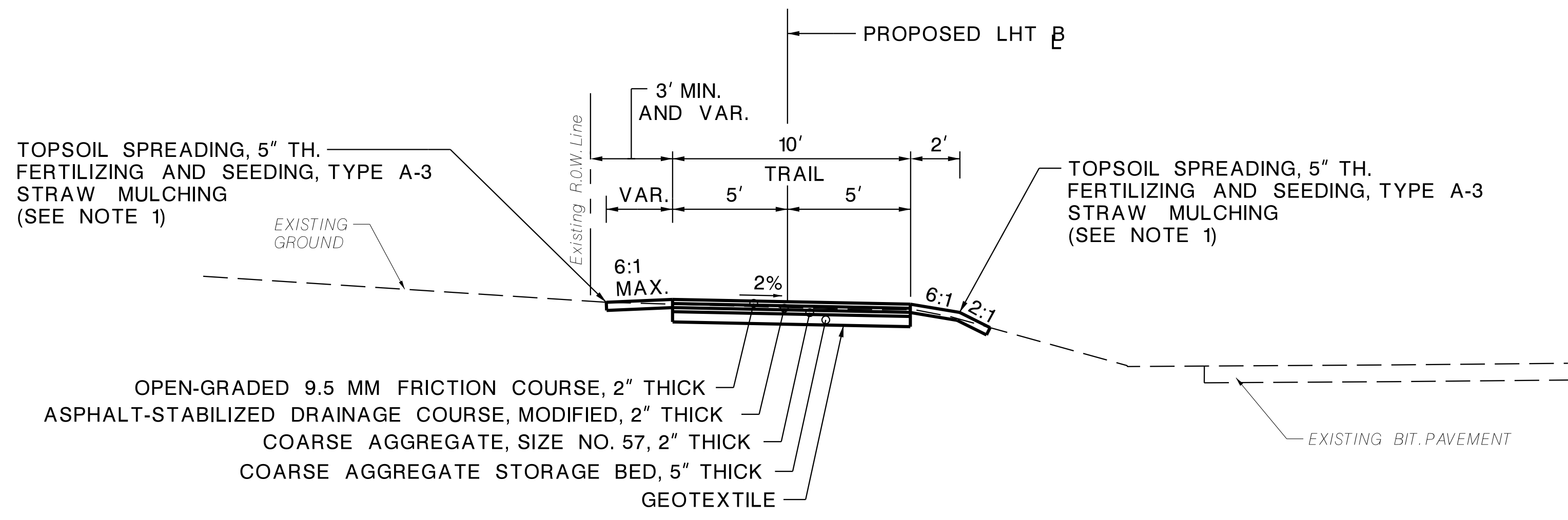
WSP USA Inc.  
 CERTIFICATE OF AUTHORIZATION NO. 24GA28029800  
 JOLLY O. BENITEZ  
 NEW JERSEY PROFESSIONAL ENGINEER LICENSE NO. 24GE05810100

Accepted by \_\_\_\_\_ Date \_\_\_\_\_  
 James Parvesse, PE, CME  
 Lawrence Municipal Engineer

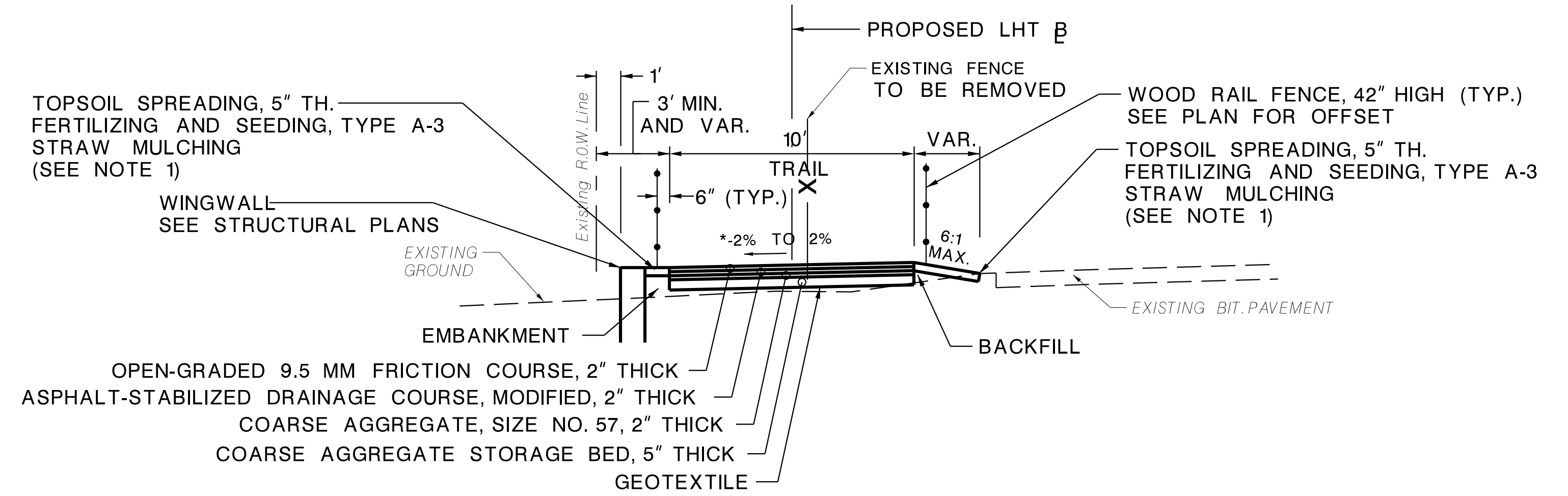
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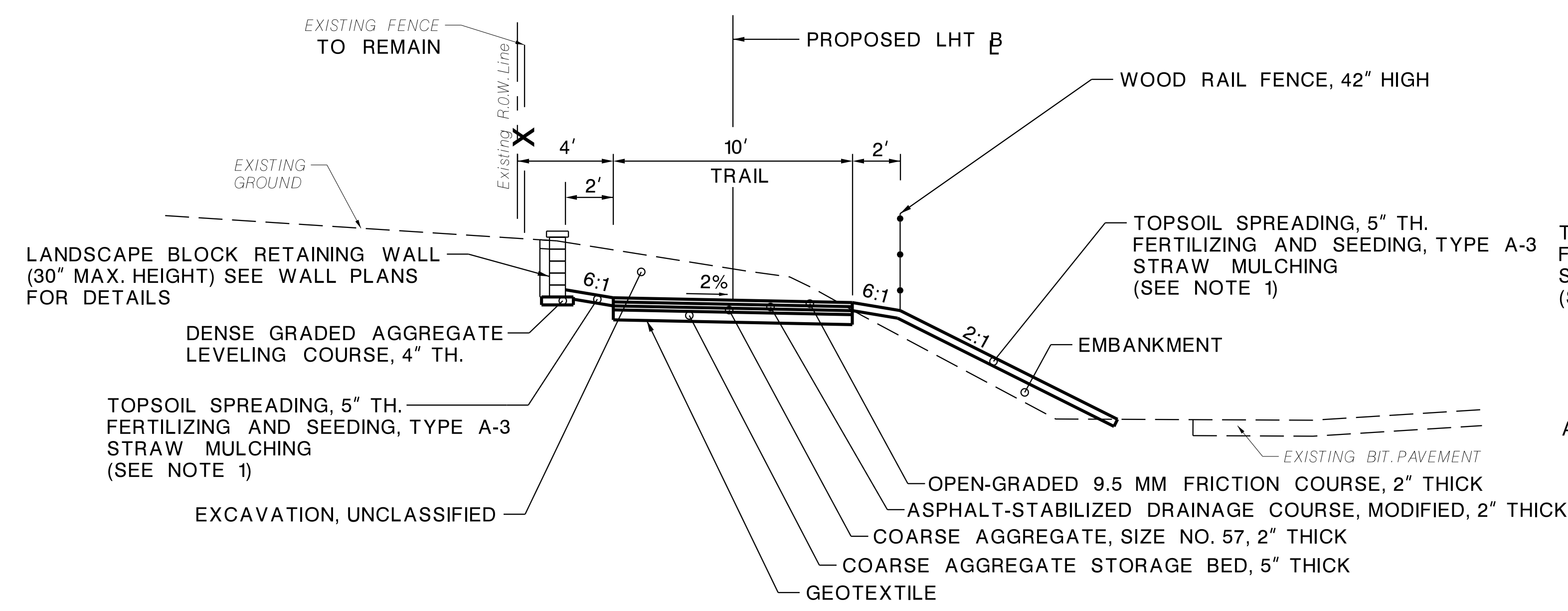


**LAWRENCE HOPEWELL TRAIL**  
 STA 10+00 TO 17+50  
 STA 18+25 TO 20+00

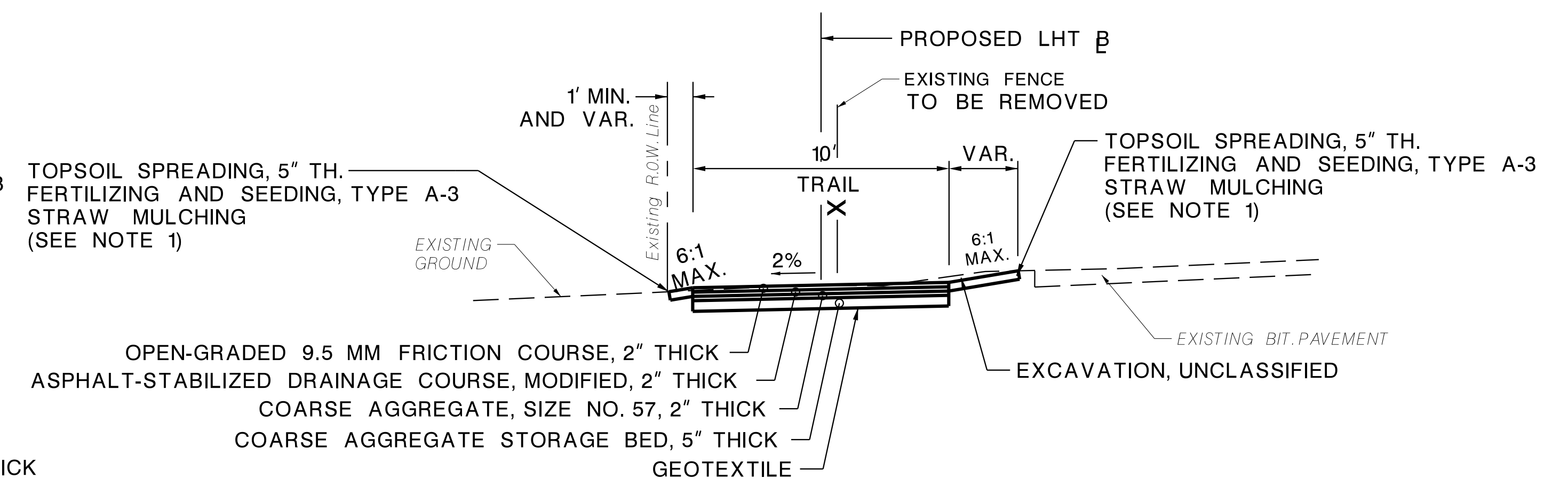


**LAWRENCE HOPEWELL TRAIL**  
 STA 22+50 TO 23+00  
 STA 23+60 TO 23+90

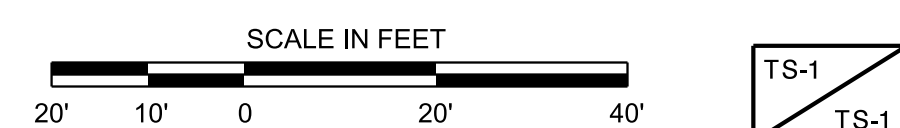
\* SEE CONSTRUCTION PLANS FOR CROSS-SLOPE DIRECTION



**LAWRENCE HOPEWELL TRAIL**  
 STA 17+50 TO 18+25  
 STA 20+00 TO 22+50



**LAWRENCE HOPEWELL TRAIL**  
 STA 23+90 TO 27+90



**NOTES**  
 1. TACKIFIER TO BE APPLIED TO TOPSOIL ADJACENT TO EDGE OF THE TRAIL. COST FOR TACKIFIER TO BE INCLUDED IN THE COST FOR TOPSOIL SPREADING, 5" THICK.

LAWRENCE TOWNSHIP, MERCER COUNTY, NEW JERSEY

**TYPICAL SECTIONS**

LAWRENCE HOPEWELL TRAIL - PRETTY BROOK SEGMENT FROM PROVINCE LINE ROAD TO CLEVELAND ROAD

WSP USA Inc.  
 CERTIFICATION OF AUTHORIZATION NO. 24GA28029800

JOLLY O. BENITEZ  
 NEW JERSEY PROFESSIONAL ENGINEER NO. 24GE05810100

WSP USA Inc.  
 OPERATOR Runk  
 PLOT DATE 30-JUN-2022 16:58  
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# STANDARD LEGEND

### Linear Features

Existing	PROPOSED	Description
W	W	Water Main (Size)
G	G	Gas Main (Size)
T	T	Telephone Conduit
E	E	Electric Conduit (Highway or Utility)
CTV	CTV	Cable TV
FO	FO	Fiber Optic
(Size & Type) (Over 30" - Drawn to Size)	(SIZE & TYPE) (OVER 30" - DRAWN TO SIZE)	Sanitary Sewers or Storm Drains
		Pavements (Concrete or Bituminous)
		Shoulders
		Curbs
(F) ^ (C)	(C) ^ (F)	Slopes (Cut & Fill)
5+00	10+00	Base Line
Existing R.O.W. Line	PROPOSED R.O.W. LINE	Twp., City, County Lines
Existing R.O.W. & No Access Line	PROP. R.O.W. & NO ACCESS LINE	Right of Way Lines (Access Permitted)
		Right of Way Lines (No Access)
		Easements
		Property Line
x x x x x x x x x x		Fence (Size & Type)
		Reset Fence
		Beam Guide Rail
		Reset Beam Guide Rail
		Noise Walls
		Wetland Limit Line
		Silt Fence
		Heavy Duty Silt Fence
Ditch	DITCH	Ditches
		Railroad Tracks
		Tree Line

### Topographical Features

Existing	PROPOSED	Description
□	□	Inlets (Label Type)
"ES"	"ES"	Inlets (Type ES)
⊙	⊙	Manholes (Label Type or Utility)
⊙	⊙	Reset (Inlets or Manholes)
⊗	⊗	Reconstructed (Inlets or Manholes)
⊗	⊗	Cast Iron Extension (Frame or Ring) (Inlet or Manhole)
⊗	⊗	New Manhole Casting, Square Frame, Circular Cover
△	△	R.C. End Section or C.M. Headwall
▭	▭	Headwalls
▭	▭	Headwalls & Aprons
⊙	⊙	Water Gate Valves
⊙	⊙	Reset Water Gate Valves
⊙	⊙	Gas Gate Valves
⊙	⊙	Reset Gas Gate Valves
Hyd.	Hyd.	Hydrants
Hyd.	Hyd.	Reset Hydrants
⊙	⊙	Utility Pole (Type & Number)
TEMP	TEMP	Temporary Utility Pole
⊗	⊗	Traffic Signal
J.B.	J.B.	Junction Box
⊗	⊗	Fiber Optic Junction Box
J.B. & Light	J.B. & Light	Junction Box Foundation
+	+	Signs
⊗	⊗	Vertical Panels

### Topographical Features

Existing	PROPOSED	Description
○	●	Flared Guide Rail Terminal
△	△	Beam Guide Rail Anchorages
▽	▽	Tangent Guide Rail Terminal
Mgn.	■	Monuments
□	■	ROW Monument (ROW Control Points)
TEST PIT NUMBER	■	Test Pit
⊗	⊗	Boring with Ground Water Observation Well
Boring Number	⊗	Borings (Boring Number)
⊗	⊗	Deciduous Tree (Size, Kind)
★	★	Evergreens
○	○	Bush
~~~~~	~~~~~	Hedges
⊗	⊗	Swamp

### Miscellaneous Symbols

▭	Full Depth Pavement Construction (Trail)
▭	Removal of Concrete Base Course & Concrete Surface Courses
▭	Rip Rap

### Double Reference Codes

EDQ - ESTIMATE AND DISTRIBUTION OF QUANTITIES - ROADWAY  
 TS - TYPICAL SECTIONS  
 CL - LEGEND AND GENERAL NOTES  
 C - CONSTRUCTION PLANS  
 SESC - SOIL EROSION AND SEDIMENT CONTROL  
 P - PROFILES  
 T - TIES  
 TCD - TRAFFIC CONTROL DETAILS  
 TC - TRAFFIC CONTROL AND STAGING PLANS  
 X - CROSS SECTIONS  
 DTL - CONSTRUCTION DETAILS

### ABBREVIATIONS USED IN THIS CONTRACT

AH., BK.	AHEAD, BACK	J.B.	JUNCTION BOX	R	RADIUS
AUX.	AUXILIARY	LT., RT.	LEFT, RIGHT	RCCP, R.C.C.P.	REINFORCED CONCRETE CULVERT PIPE
φ, B.L.	BASELINE	L.O.D.	LIMIT OF DISTURBANCE	ROP, R.C.P.	REINFORCED CONCRETE PIPE
B.M.	BENCH MARK	L.O.E.	LIMIT OF EXCAVATION	RMC, R.M.C.	RIGID METALLIC CONDUIT
B.G.R.A.	BEAM GUIDE RAIL ANCHORAGE	L.O.P.	LIMIT OF PAVEMENT (PAVING)	RNMC, R.N.M.C.	RIGID NON-METALLIC CONDUIT
BIT., BITUM.	BITUMINOUS	L.O.M.	LIMIT OF MILLING	ROW, R.O.W.	RIGHT OF WAY
BLDG.	BUILDING	M.B.	MAILBOX	R.R.	RAILROAD
☉, C.L.	CENTERLINE	M.P.	MILE POST	RTE., RT.	ROUTE
C.I.P.	CAST IRON PIPE	MAX.	MAXIMUM	SAN.	SANITARY
C.M.P.	CORRUGATED METAL PIPE	M.E.C.	MEET EXISTING CURB	SC	SAWCUT
CONC.	CONCRETE	M.E.P.	MEET EXISTING PAVEMENT	S.H.D.	STATE HIGHWAY DEPARTMENT
C.R.	COUNTY ROUTE	MH	MANHOLE	SHLD.	SHOULDER
C.T.	CURB TRANSITION	MIN.	MINIMUM	S.S.L.	SURVEY LINE
CULV.	CULVERT	MTD	MANUFACTURED TREATMENT DEVICE	S.O.D.	SUBBASE OUTLET DRAIN
D, DIA.	DIAMETER	NO.	NUMBER	STY.	STORY
D.C.	DEPRESSED CURB	N.T.S.	NOT TO SCALE	SW, SDWK.	SIDEWALK
DE	DITCH EXCAVATION	N.V.S.	NON VEGETATIVE SURFACE	T, TAN	TANGENT
DH	DRILL HOLE	PAVT.	PAVEMENT	T.B.A.	TO BE ABANDONED
DWY	DRIVEWAY	PERF.	PERFORATED	T.B.R.	TO BE REMOVED
E.B., W.B., N.B., S.B.	EASTBOUND, WESTBOUND NORTHBOUND, SOUTHBOUND	P.G.L.	PROFILE GRADE LINE	TEL.	TELEPHONE
E.O.P.	EDGE OF PAVEMENT	I, P.L.	PROPERTY LINE, PROFILE LINE	TEMP.	TEMPORARY
EL., ELEV.	ELEVATION	PK	PARKER KAYLON MASONRY NAIL	T.G.R.T.	TANGENT GUIDE RAIL TERMINAL
EXIST.	EXISTING	POC, P.O.C.	POINT ON CURVE	THK., TH.	THICK
F.G.R.T.	FLARED GUIDE RAIL TERMINAL	POL, P.O.L.	POINT ON LINE	TYP.	TYPICAL
FM	FORCE MAIN	POT, P.O.T.	POINT ON TANGENT	U.D.	UNDERDRAIN
GR.	GRATE	PRC, P.R.C.	POINT OF REVERSE CURVE	UP, U.P.	UTILITY POLE
HT.	HEIGHT	PROP.	PROPOSED	VAR.	VARIABLE, VARIES
H.W.	HEADWALL	PT, P.T.	POINT OF TANGENCY	W.C.V.C.	WHITE CONCRETE VERTICAL CURB
HYD.	HYDRANT	PVC, P.V.C.	POLYVINYL CHLORIDE PIPE,	WM	WATER METER
INVT.	INVERT	PVI, P.V.I.	POINT OF VERTICAL CURVATURE	X-SECT	CROSS SECTION
IP	IRON PIN	PVT, P.V.T.	POINT OF VERTICAL INTERSECTION POINT OF VERTICAL TANGENCY, PAVEMENT		

### GENERAL NOTES:

North Arrow To Be Used On Standard Construction Sheets  
Where Bearings Refer To N. J. Plane Coordinate System

LAWRENCE TOWNSHIP, MERCER COUNTY, NEW JERSEY

## LEGEND AND GENERAL NOTES

LAWRENCE HOPEWELL TRAIL - PRETTY BROOK SEGMENT  
FROM PROVINCE LINE ROAD TO CLEVELAND ROAD

WSP USA Inc.  
CERTIFICATION OF AUTHORIZATION NO. 24GA28029800

JOLLY O. BENITEZ  
 NEW JERSEY PROFESSIONAL ENGINEER NO. 24GE05810100

WSP USA Inc. Runk QUEUE \\usiv100\p101\PR\PL03\_BW  
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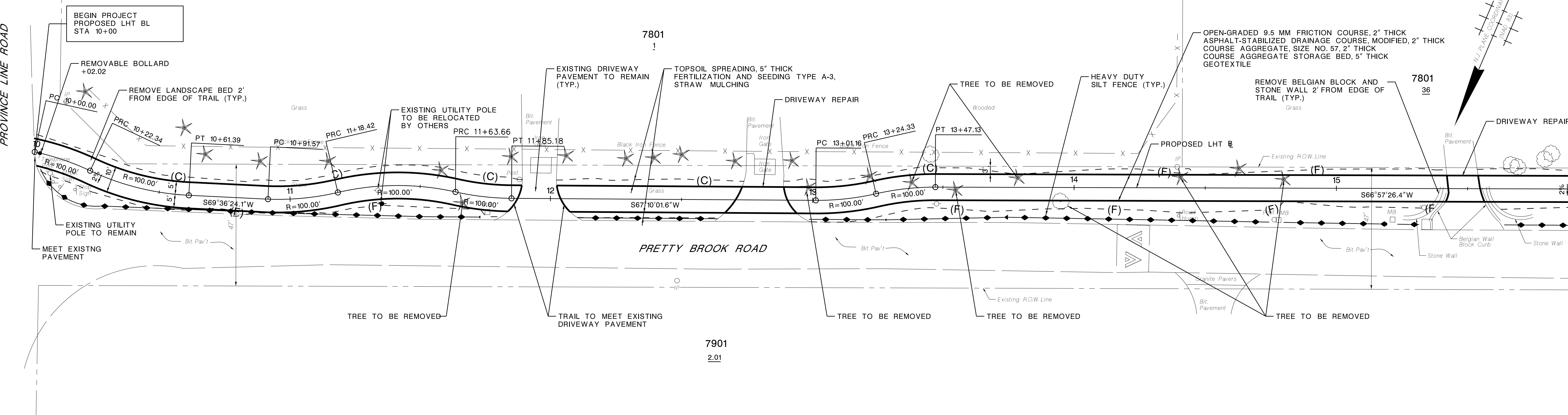


LAWRENCE TOWNSHIP

MERCER COUNTY

PROVINCE LINE ROAD

MATCH LINE @ STA. 16+00  
SHEET BELOW

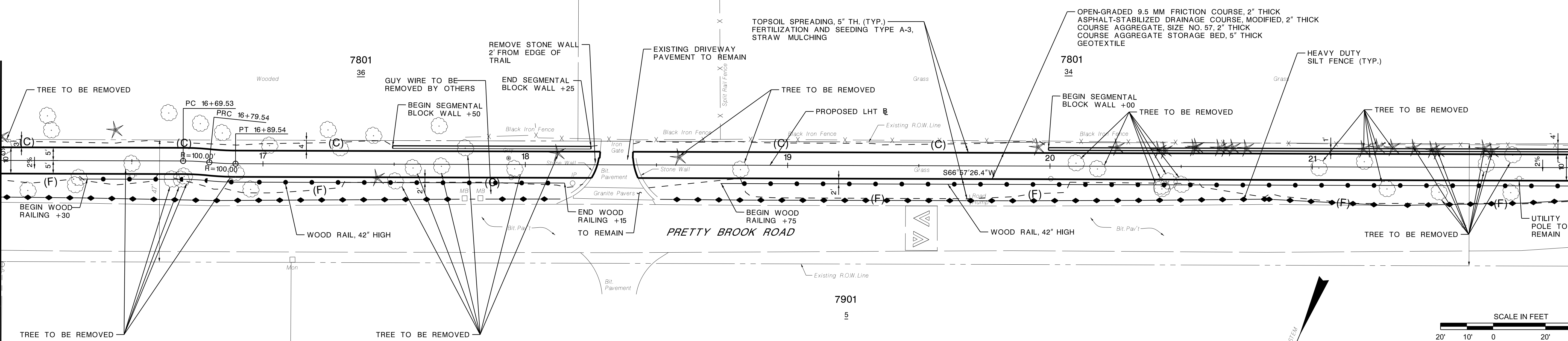


LAWRENCE TOWNSHIP

MERCER COUNTY

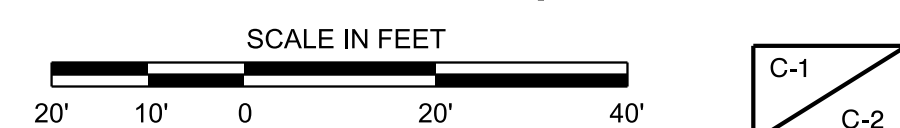
SHEET ABOVE  
MATCH LINE @ STA. 16+00

MATCH LINE @ STA. 22+00  
SHEET NO. C-2



TO BE CONSTRUCTED	CONTRACT QUANTITY
TOPSOIL SPREADING 5" THICK	716 S.Y.
FERTILIZING AND SEEDING, TYPE A-3	716 S.Y.
STRAW MULCHING	716 S.Y.
HEAVY DUTY SILT FENCE, ORANGE	1041 L.F.
OPEN-GRADED 9.5 MM FRICTION COURSE, 2" THICK	146 TON
ASPHALT-STABILIZED DRAINAGE COURSE, MODIFIED, 2" THICK	146 TON
COURSE AGGREGATE, SIZE NO. 57, 2" THICK	71 C.Y.
COURSE AGGREGATE STORAGE BED, 5" THICK	17 C.Y.
GEOTEXTILE	1299 S.Y.
REMOVABLE BOLLARD	1 UNIT
SEGMENTAL BLOCK WALL	275 L.F.
DRIVEWAY REPAIR	2 UNIT
WOOD RAILING, 42" HIGH	511 L.F.

**NOTE:**  
CARE TO BE TAKEN WHEN REMOVING LANDSCAPING, STONE WALLS, CURBING, ETC., TO MINIMIZE DISTURBANCE. DISTURBED AREAS TO BE REPAIRED TO MATCH EXISTING CONDITION.



LAWRENCE TOWNSHIP, MERCER COUNTY, NEW JERSEY

## CONSTRUCTION PLAN

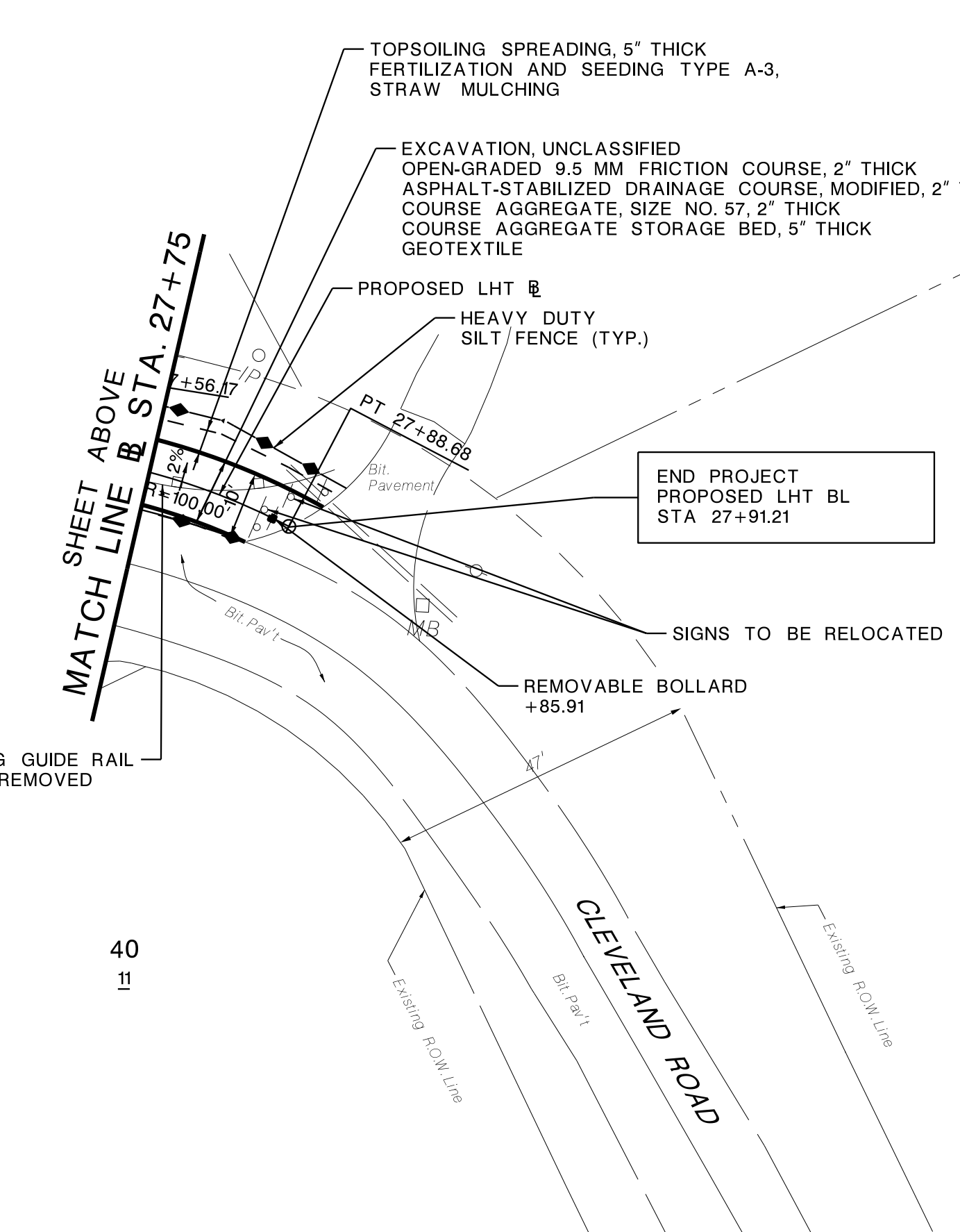
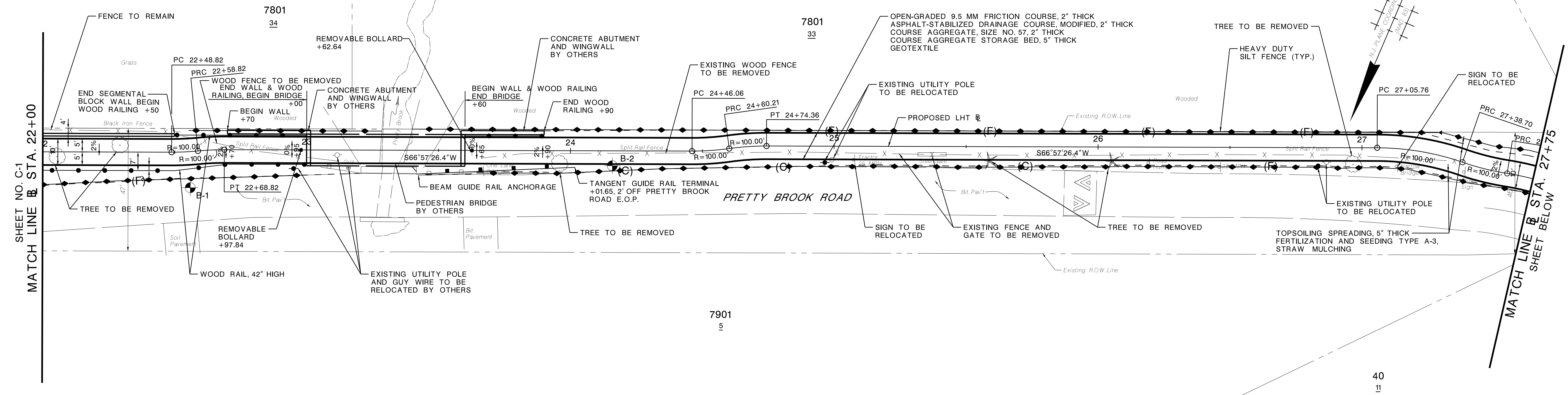
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*Jolly O. Benitez*  
JOLLY O. BENITEZ  
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 OPERATOR Runk  
 PLOT DATE 30-JUN-2022 18:58  
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TO BE CONSTRUCTED	CONTRACT QUANTITY
TOPSOILING SPREADING, 5" THICK	251 S.Y.
FERTILIZING AND SEEDING, TYPE A-3	251 S.Y.
STRAW MULCHING	251 S.Y.
HEAVY DUTY SILT FENCE, ORANGE	1,055 L.F.
OPEN-GRADED 9.5 MM FRICTION COURSE 2" THICK	68 TON
ASPHALT-STABILIZED DRAINAGE COURSE, MODIFIED, 2" THICK	68 TON
COURSE AGGREGATE, SIZE NO. 57, 2" THICK	33 C.Y.
COURSE AGGREGATE STORAGE BED, 5" THICK	82 C.Y.
GEOTEXTILE	125 S.Y.
REMOVABLE BOLLARD	3 UNIT
SEGMENTAL BLOCK WALL	50 L.F.
WOOD RAILING, 42" HIGH	180 L.F.
NONVEGETATIVE SURFACE, BROKEN STONE, 4" THICK	27 S.Y.
BEAM GUIDE RAIL	25 S.Y.
TANGENT GUIDE RAIL TERMINAL	1 L.F.
BEAM GUIDE RAIL ANCHORAGE	1 UNIT
REMOVAL OF BEAM GUIDE RAIL	25 L.F.

**BORINGS:**  
 INDICATES LOCATION OF BORING LOG NO.

SCALE IN FEET  
 20' 10' 0 20' 40'

LAWRENCE TOWNSHIP, MERCER COUNTY, NEW JERSEY

### CONSTRUCTION PLAN

LAWRENCE HOPEWELL TRAIL - PRETTY BROOK SEGMENT  
 FROM PROVINCE LINE ROAD TO CLEVELAND ROAD

WSP USA Inc.  
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40  
11

41  
5

40  
11



MERCER COUNTY SCD'S REQUIREMENTS FOR  
PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION

IN ACCORDANCE WITH THE NJ STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL, JUNE 2008

PROPOSED CONSTRUCTION SEQUENCE

STATE	FEDERAL PROJECT NO.
N.J.	

1. TOPSOIL STRIPPING AND STOCKPILING

- A. FIELD EXPLORATION SHOULD BE MADE TO DETERMINE WHETHER QUANTITY AND/OR QUALITY OF SURFACE SOIL JUSTIFIES STRIPPING.
- B. A 6-INCH STRIPPING DEPTH IS TYPICAL, BUT MAY VARY DEPENDING ON THE PARTICULAR SOIL STRUCTURE OR PRE-EXISTING USE.
- C. STOCKPILES SHOULD BE LOCATED SO AS NOT TO OBSTRUCT NATURAL DRAINAGE OR CAUSE OFF-SITE ENVIRONMENTAL DAMAGE, AND SHALL BE DELINEATED ON THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN AND BE CONSTRUCTED IN ACCORDANCE WITH THE TOPSOIL STOCKPILE DETAIL.
- D. STOCKPILING OVERNIGHT IS NOT PERMITTED.

2. SITE PREPARATION

- A. INSTALL EROSION CONTROL MEASURES AND FACILITIES SUCH AS SILT FENCE, DIVERSIONS, SEDIMENT BASINS, AND CHANNEL STABILIZATION.
- B. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, TACKING, AND MAINTENANCE. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH THE STANDARD FOR LAND GRADING, 19-1.

3. SEEDBED PREPARATION

- A. TOPSOIL REQUIRED  
MIN. DEPTH: 5" (UNSETTLED)  
PH: 6.0 TO 8.0  
ORGANIC MATTER CONTENT: 2.75% MIN.  
NITRATE N2: 50 LBS/ACRE (50% WATER INSOLUBLE)  
PHOSPHOROUS: 100 LBS/ACRE  
POTASSIUM: 50 LBS/ACRE
- B. THE CONTRACTOR SHOULD BE AWARE OF THE POSSIBILITY, DEPENDING UPON THE SITE CONDITIONS, THAT ALL TOPSOIL MAY HAVE TO BE PROVIDED FROM AN OFF-SITE SOURCE.
- C. TOPSOIL SHOULD BE HANDLED ONLY WHEN DRY ENOUGH TO WORK WITHOUT DAMAGING SOIL STRUCTURE.
- D. APPLY A UNIFORM 5 INCHES (UNSETTLED) OF TOPSOIL ON ALL DISTURBED AREAS. SOILS WITH A PH OF 4.0 OR LESS OR CONTAINING IRON SULFIDE SHALL BE COVERED WITH A MINIMUM DEPTH OF 12 INCHES OF SOIL HAVING A PH OF 5.0 OR MORE AND THE TOP 5 INCHES SHALL CONFORM TO THE TOPSOIL STANDARD AND SHALL BE LIMED ACCORDING TO THE SPECIFICATIONS.
- E. IF THE TOPSOIL BECOMES COMPACTED, THE SURFACE MUST BE SCARIFIED 6" TO 12" TO PROVIDE GOOD SEED-TO-SOIL BOND.
- F. APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS THOSE OFFERED BY RUTGERS UNIVERSITY COOPERATIVE EXTENSION. IF SOIL TESTING IS NOT FEASIBLE, FERTILIZER (10-20-10) WITH 50% WATER INSOLUBLE NITROGEN SHOULD BE APPLIED AT THE TYPICAL RATE OF 500 LBS/ACRE OR 11 LBS/1,000 SQUARE FEET.
- G. APPLY LIMESTONE EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDES (PULVERIZED DOLOMITIC LIMESTONE IS PREFERRED FOR MOST SOILS SOUTH OF THE NEW BRUNSWICK - TRENTON FALL LINE) AS FOLLOWS:

SOIL TEXTURE	TONS/ACRE	LBS/1,000 SQ. FT.
CLAY, CLAY LOAM, HIGH ORGANIC	3	135
SANDY LOAM, LOAM, SILT LOAM	2	90
LOAMY SAND, SAND	1	45
- H. WORK LIME AND FERTILIZER INTO THE SOIL TO A DEPTH OF 4 INCHES. THE FINAL HARROWING OR DISC OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A UNIFORM, FINE SEEDBED IS PREPARED.
- I. REMOVE FROM THE SURFACE ALL STONES 2 INCHES OR LARGER IN ANY DIMENSION, AND OTHER OBJECTIONABLE STONES OR DEBRIS SUCH AS WIRE, TREE ROOTS, PIECES OF CONCRETE, CLODS, LUMPS, OR OTHER UNSUITABLE MATERIAL.

4. SEEDING

- A. SELECT A SEED MIXTURE APPROVED BY THE MERCER COUNTY SCD.
- B. APPLY SEED UNIFORMLY BY HAND, CYCLONES, DROP SEEDER, DRILL, CULTIPACKER, OR HYDROSEEDER\*. THE LATTER MAY BE JUSTIFIABLE FOR LARGE, STEEP AREAS WHERE CONVENTIONAL APPLICATIONS ARE NOT FEASIBLE. HYDROSEEDING SHALL BE A TWO-STEP PROCESS: MULCH SHALL NOT BE MIXED WITH THE SEED; THE SEED MUST BE APPLIED FIRST TO ASSURE PROPER SEED TO SOIL CONTACT. THE HYDROMULCH IS THEN SPRAYED OVER THE SEEDING. FOR OPTIMUM RESULTS, THE SEED SHOULD BE INCORPORATED INTO THE SOIL TO A DEPTH OF 1/4" TO 1/2" INCH DEPENDING UPON SPECIES.

- C. AFTER SEEDING, THE SOIL SHOULD BE PACKED WITH A CORRUGATED ROLLER. WHEN PERFORMED ON THE CONTOUR, ROLLING WILL MINIMIZE SHEET EROSION AND MAXIMIZE WATER CONSERVATION.

5. MULCHING

- A. UNROTTED STRAW, HAY FREE OF SEEDS, OR SALT HAY IS REQUIRED ON ALL SEEDING AT A RATE OF 15 TO 2 TONS/ACRE, (70 TO 90 LBS./1,000 SQUARE FEET), EXCEPT WHERE A CRIMPER IS USED INSTEAD OF A LIQUID MULCH-BINDER, THEN THE RATE OF APPLICATION IS 3 TONS PER ACRE.
- B. MULCH ANCHORING SHOULD BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT TO MINIMIZE LOSS DUE TO WIND OR WATER. THIS MAY BE DONE ACCORDING TO THE FOLLOWING METHODS:
  1. WOOD-FIBER OR PAPER-FIBER MULCH AT THE RATE OF 1,500 LBS/ACRE APPLIED BY THE HYDROSEEDER. USE IS LIMITED TO ONLY THE OPTIMUM SEEDING SEASON.
  2. SYNTHETIC OR ORGANIC BINDERS
  3. PEG AND TWINE, MULCH NETTING, AND MECHANICAL CRIMPING.
  4. CRIMPING REQUIRES A HIGHER MULCH RATE (3 TONS/ACRE).

NOTE:

- 1) ONE BALE OF HAY WEIGHS 40-60 LBS DEPENDING ON HOW IT WAS BALED.
- 2) 1,500 GALLON TANK OF HYDROMULCH COVERS .5 ACRES.

PLEASE NOTE: THE QUALITY OF PERMANENT VEGETATION RESTS WITH THE CONTRACTOR. THE TIMING OF SEEDING, PREPARING THE SEEDBED, APPLYING NUTRIENTS, MULCH AND OTHER MANAGEMENT ARE ESSENTIAL. THE SEED APPLICATION RATES IN TABLE 4-3 OF THE STANDARDS ARE REQUIRED WHEN A REPORT OF COMPLIANCE IS REQUESTED PRIOR TO ACTUAL ESTABLISHMENT OF PERMANENT VEGETATION. (UP TO 50% REDUCTION IS APPLICATION RATES MAY BE USED WHEN PERMANENT VEGETATION IS ESTABLISHED PRIOR TO REQUESTING A REPORT OF COMPLIANCE FROM THE DISTRICT. THESE RATES APPLY TO ALL METHODS OF SEEDING.

*ESTABLISHING PERMANENT VEGETATION MEANS 80% EVENLY DISTRIBUTED VEGETATIVE COVER OF THE SEEDED SPECIES AND MOWED ONCE.)*

6. TEMPORARY SEEDING MIXES

MIX: EARLY SPRING/LATE SUMMER TO EARLY FALL  
100% PERENNIAL RYEGRASS  
RATE: 100 LBS/ACRE

MIX: LATE FALL

100% CEREAL RYE  
RATE: 112 LBS/ACRE

MIX: MID-SUMMER

40% PEARL MILLET  
20% WEEPING LOVEGRASS  
40% MILLET (GERMAN OR HUNGARIAN)  
RATE: 100 LBS/ACRE

7. RECOMMENDED PERMANENT SEEDING MIXES

OPTIMUM SEEDING DATES: MARCH 1 TO MAY 15 AND AUGUST 15 TO OCTOBER 15  
LAWNS - RATE 200 LBS/ACRE

MERCER CO. SCD PREFERRED MIX FOR LAWNS AND DETENTION BASINS

(NJDOT SEED MIX TYPE A-3)

60% TURF TYPE TALL FESCUE\*#  
20% CHEWING OR HARD FESCUE  
10% PERENNIAL RYEGRASS  
10% KENTUCKY BLUEGRASS

MIX: LAWNS - LOW MAINTENANCE, DROUGHTY & HEAVY TRAFFIC

80% TALL FESCUE TURF TYPE (LOW GROWING VARIETIES)\*#  
10% PERENNIAL RYEGRASS (LOW GROWING VARIETIES)

MIX: LAWNS - QUALITY SUN AND SHADE

20% PERENNIAL RYEGRASS  
30% CHEWINGS FESCUE  
35% CREEPING RED FESCUE  
15% KENTUCKY BLUEGRASS

MIX: SHADE

65% HARD, CHEWINGS, OR CREEPING RED FESCUE\*  
20% KENTUCKY BLUEGRASS  
15% PERENNIAL RYEGRASS

MIX: MOIST DETENTION BASIN BOTTOMS

40% FLAT PEA (WITH PROPER INOCULANT)  
25% PERENNIAL RYEGRASS  
25% TALL FESCUE OR STRONG CREEPING RED FESCUE  
10% REDTOP

(\*INCLUDE AT LEAST THREE VARIETIES IN MIX)  
#EXCLUDE K-3)

+ USE THE ABOVE MIX FOR INFREQUENT MOWING. FOR A REGULAR MOWING REGIME, SUBSTITUTE ROUGH BLUEGRASS AND/OR TALL FESCUE FOR THE FLAT PEA.

CONSERVATION PLANTINGS

RIPIARIAN MITIGATION AREAS (SEED MIX TYPE S) RATE: 100 LBS/ACRE

25% SWITCH GRASS  
25% VIRGINIA WILDROYE  
25% PURPLE TOP  
25% ANNUAL RYE

MIX: RECLAMATION, EROSION CONTROL & ACID SOILS - Rate: 150 lbs/acre

40% SWITCHGRASS  
25% SEREGIA LESPEDEZA OR FLAT PEA  
15% TALL FESCUE OR CREEPING RED FESCUE  
15% DEERTONGUE  
5% BIRDSFOOT TREFLOIL

MIX: WILDLIFE HABITAT ENHANCEMENT RATE: 100 LBS/ACRE

40% SWITCHGRASS OR COASTAL PANICGRASS  
30% CANADA BLUEGRASS OR SMOOTH BROMEGRASS  
10% ORCHARDGRASS  
10% WHITE CLOVER  
5% JAPANESE MILLET  
5% BIRDSFOOT TREFLOIL

MIX: WILDFLOWER MEADOW RATE: 50 LBS/ACRE

72% HARD OR SHEEPS FESCUE  
22% NORTHEAST/MID-ATLANTIC WILDFLOWER MIXTURE  
6% BIRDSFOOT TREFLOIL

MIX: WATERWAYS & WET BASINS\* RATE: 100 LBS/ACRE

40% SWITCHGRASS  
30% CANADA BLUEGRASS OR SMOOTH BROMEGRASS  
15% ROUGH BLUEGRASS (SHADE) OR TALL FESCUE (OPEN)  
10% ALSIKE CLOVER OR LADINO WHITE CLOVER  
10% BIRDSFOOT TREFLOIL OR CREEPING FOXTAIL  
4% JAPANESE MILLET  
1% RED TOP

(\*SHOULD NOT BE MOWED LESS THAN 6 INCHES)

- 1. NOTIFY MERCER COUNTY ENGINEERING DEPARTMENT ONE WEEK PRIOR TO START OF CONSTRUCTION.

- 2. SET PROPER EROSION AND SEDIMENT CONTROL MEASURES. - 1 DAY
- 3. CLEAR SITE AND INSTALL MAINTENANCE OF TRAFFIC DEVICES. - 5 DAYS
- 4. EXCAVATE FOR PAVEMENT BOX AND SET PROFILE GRADE. - 5 DAYS
- 5. CONSTRUCT LANDSCAPE BLOCK RETAINING WALL. - 5 DAYS
- 6. CONSTRUCT RETAINING WALL AND BRIDGE ABUTMENTS. - 20 DAYS
- 7. CONSTRUCT PAVEMENT BASE COURSES. - 10 DAYS
- 8. INSTALL PREFABRICATED PEDESTRIAN BRIDGE. - 2 DAYS
- 9. INSTALL GUIDE RAIL. - 1 DAY
- 10. CONSTRUCT FINAL PAVEMENT COURSE. - 2 DAYS
- 11. INSTALL WOOD RAIL FENCE. - 2 DAYS
- 12. LANDSCAPING - TOPSOILING, SEEDING AND STRAW MULCHING, AND PLANTINGS. - 4 DAYS
- 13. REMOVE SOIL EROSION AND SEDIMENT CONTROL DEVICES. - 1 DAY

- 14. DURING THE COURSE OF CONSTRUCTION, SOIL COMPACTION MAY OCCUR WITHIN HAUL ROUTES, STAGING AREAS AND OTHER PROJECT AREAS. IN ACCORDANCE WITH THE STANDARD FOR TOPSOILING, COMPACTED SURFACES SHOULD BE SCARIFIED 6" TO 12" IMMEDIATELY PRIOR TO TOPSOIL APPLICATION. THIS WILL HELP ENSURE A GOOD BOND BETWEEN THE TOPSOIL AND SUBSOIL. THIS PRACTICE IS PERMISSIBLE ONLY WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.).

- 15. PRIOR TO SEEDING, TOPSOIL SHALL BE WORKED TO PREPARE A PROPER SEEDBED. THIS SHALL INCLUDE RAKING OF THE TOPSOIL AND REMOVAL OF DEBRIS AND STONES, ALONG WITH OTHER REQUIREMENTS OF THE STANDARD FOR PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION.

- 16. IN ACCORDANCE WITH THE STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS, ANY SOIL HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDES SHALL BE BURIED WITH LIMESTONE IN ACCORDANCE WITH THE STANDARD AND BE COVERED WITH A MINIMUM OF 12" OF SOIL HAVING A PH OF 5 OR MORE PRIOR TO TOPSOIL APPLICATION AND SEEDBED PREPARATION. IF THE AREA IS TO RECEIVE TREE OR SHRUB PLANTINGS, OR IS LOCATED ON A SLOPE, THEN THE AREA SHALL BE COVERED WITH A MINIMUM OF 24" OF SOIL HAVING A PH OF 5 OR MORE.

- 17. MULCHING TO THE STANDARDS IS REQUIRED FOR OBTAINING A CONDITIONAL REPORT OF COMPLIANCE. CONDITIONAL ROC'S ARE ONLY ISSUED WHEN THE SEASON PROHIBITS SEEDING. PERMANENT STABILIZATION MUST THEN BE COMPLETED DURING THE OPTIMUM SEEDING SEASON IMMEDIATELY FOLLOWING THE CONDITIONAL ROC, OR THE COMPLETION OF WORK IN A GIVEN AREA.

- 18. HYDROSEEDING IS A TWO-STEP PROCESS. THE FIRST STEP INCLUDES SEED, FERTILIZER, LIME, ETC., ALONG WITH MINIMAL AMOUNTS OF MULCH TO PROMOTE CONSISTENCY. GOOD SEED-TO-SOIL CONTACT AND GIVE A VISUAL INDICATION OF COVERAGE. UPON COMPLETION OF THE SEEDING OPERATION, HYDROMULCH SHOULD BE APPLIED AT A MINIMUM RATE OF 1500 LBS. PER ACRE IN SECOND STEP. THE USE OF HYDRO-MULCH, AS OPPOSED TO STRAW, IS LIMITED TO OPTIMUM SEEDING DATES AS LISTED IN THE STANDARDS. THE USE OF HYDROMULCH ON SLOPED AREAS IS DISCOURAGED.

- 19. THE CONTRACTOR IS RESPONSIBLE FOR KEEPING ALL ADJACENT ROADS CLEAN DURING LIFE OF THE CONSTRUCTION PROJECT. ALL SEDIMENT WASHED, DROPPED, TRACKED OR SPILLED ONTO PAVED SURFACES SHALL BE IMMEDIATELY REMOVED.

- 20. THE DEVELOPER SHALL BE RESPONSIBLE FOR REMEDIATING ANY EROSION OR SEDIMENT PROBLEMS THAT ARISE AS A RESULT OF ONGOING CONSTRUCTION, AND FOR EMPLOYING ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES AT THE REQUEST OF THE MERCER COUNTY SOIL CONSERVATION DISTRICT.

- 21. CONDUIT OUTLET PROTECTION MUST BE INSTALLED AT ALL REQUIRED OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL.

- 22. ALL DETENTION / RETENTION BASINS MUST BE FULLY CONSTRUCTED (INCLUDING OF ALL STRUCTURAL COMPONENTS AND LINERS) AND PERMANENTLY STABILIZED PRIOR TO PAVING OR PRIOR TO THE ADDITION OF ANY IMPERVIOUS SURFACES. PERMANENT STABILIZATION INCLUDES, BUT MAY NOT BE LIMITED TO: TOPSOIL, SEED, STRAW MULCH AND BINDERS OR EROSION CONTROL BLANKETS ON ALL SEEDING. ALL AGRONOMIC REQUIREMENTS AS SPECIFIED ON THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN, INSTALLATION OF THE OUTFLOW CONTROL STRUCTURES AND DISCHARGE STORM DRAINAGE PIPING, LOW FLOW CHANNELS, CONDUIT OUTLET PROTECTION, EMERGENCY SPILLWAYS, AND LAP RING PROTECTION.

- 23. THE RIDING SURFACE OF ALL UTILITY TRENCHES WITHIN PAVED AREAS SHALL BE 3/4" CLEAN STONE OR BASE PAVEMENT UNTIL SUCH TIME AS FINAL PAVEMENT HAS BEEN INSTALLED. TEMPORARY SOIL RIDING SURFACES ARE PROHIBITED.

- 24. ALL CONSTRUCTION DEWATERING (TRENCHES, EXCAVATIONS, ETC.) MUST BE DONE THROUGH AN INLET OR OUTLET FILTER IN ACCORDANCE WITH THE STANDARD FOR DEWATERING OR AS DEPICTED ON THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN. DISCHARGE LOCATIONS FOR THE DEWATERING OPERATION MUST CONTAIN PERENNIAL VEGETATION OR SIMILAR STABLE SURFACE.

- 25. ALL SWALES OR CHANNELS THAT WILL RECEIVE RUNOFF FROM PAVED SURFACES MUST BE PERMANENTLY STABILIZED PRIOR TO THE INSTALLATION OF PAVEMENT. IF THE SEASON PROHIBITS THE ESTABLISHMENT OF PERMANENT STABILIZATION, THE SWALES OR CHANNELS MAY BE TEMPORARILY STABILIZED IN ACCORDANCE WITH THE STANDARDS.

- 26. NJSA 4:24-39 ET SEQ. REQUIRES THAT NO CERTIFICATE OF OCCUPANCY OR TEMPORARY CERTIFICATE OF OCCUPANCY BE ISSUED BY THE MUNICIPALITY BEFORE THE PROVISIONS OF THE CERTIFIED SOILEROSION AND SEDIMENT CONTROL PLAN HAVE BEEN SATISFIED. THEREFORE, ALL SITE WORK FOR SITE PLANS AND ALL WORK AROUND INDIVIDUAL LOTS IN SUBDIVISIONS MUST BE COMPLETED BEFORE THE DISTRICT ISSUES A REPORT OF COMPLIANCE OR CONDITIONAL REPORT OF COMPLIANCE, WHICH MUST BE FORWARDED TO THE MUNICIPALITY PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY OR TEMPORARY CERTIFICATE OF OCCUPANCY, RESPECTIVELY.

SOIL EROSION AND SEDIMENT CONTROL NOTES

1. THE MERCER COUNTY SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED 48 HOURS PRIOR TO STARTING LAND DISTURBANCE ACTIVITY. NOTICE MAY BE MAILED, FAXED OR EMAILED TO: MCSCD, 590 HUGHES DRIVE, HAMILTON SQUARE, NJ 08690  
PHONE: 609-586-9603 FAX: 609-586-1117 EMAIL: PAULSIMERCER@AOL.COM
2. IF APPLICABLE TO THIS PROJECT, THE OWNER SHOULD BE AWARE OF HIS OR HER OBLIGATION TO FILE FOR A NJPDES CONSTRUCTION ACTIVITY STORMWATER 5G3 PERMIT (NJG0088323) VIA THE NJDEP ONLINE PERMITTING SYSTEM (WWW.NJ.GOV/DEP/ONLINE) AND TO MAINTAIN THE ASSOCIATED BEST MANAGEMENT PRACTICES AND STORMWATER POLLUTION PREVENTION PLAN SELF-INSPECTION LOGBOOK ONSITE AT ALL TIMES. THIS PERMIT MUST BE FILED PRIOR TO THE START OF SOIL DISTURBANCE. THE ONLINE APPLICATION PROCESS WILL REQUIRE ENTRY OF AN SCD CERTIFICATION CODE, WHICH IS PROVIDED BY THE SOIL CONSERVATION DISTRICT UPON CERTIFICATION OF THE SOIL EROSION AND SEDIMENT CONTROL PLAN.
3. THE MERCER COUNTY SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED OF ANY CHANGES IN OWNERSHIP.
4. ANY CHANGES TO THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN, INCLUDING AN INCREASE IN THE LIMIT OF DISTURBANCE, WILL REQUIRE THE SUBMISSION OF REVISED SOIL EROSION AND SEDIMENT CONTROL PLANS TO THE DISTRICT FOR RECERTIFICATION. THE REVISED PLANS MUST MEET ALL CURRENT STATE SOIL EROSION & SEDIMENT CONTROL STANDARDS.
5. A COPY OF THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON SITE AT ALL TIMES.
6. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCES, OR IN THEIR PROPER SEQUENCE AS OUTLINED WITHIN THE SEQUENCE OF CONSTRUCTION ON THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN, AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
7. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CURRENT STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NJ. IF LANGUAGE CONTAINED WITHIN ANY OTHER PERMIT FOR THIS PROJECT IS MORE RESTRICTIVE THAN (BUT NOT CONTRADICTORY TO) WHAT IS CONTAINED WITHIN THESE NOTES OR ON THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN, THEN THE MORE RESTRICTIVE PERMIT REQUIREMENTS SHALL BE FOLLOWED.
8. THE STANDARD FOR STABILIZED CONSTRUCTION ACCESS REQUIRES THE INSTALLATION OF A 1 1/2" TO 2 1/2" CLEAN STONE TRACKING PAD AT ALL CONSTRUCTION DRIVEWAYS IMMEDIATELY AFTER INITIAL SITE DISTURBANCE, WHETHER IDENTIFIED ON THE CERTIFIED PLAN OR NOT. THE WIDTH SHALL SPAN THE FULL WIDTH OF EGRESS, AND LENGTH SHALL BE 50 FT. OR MORE, DEPENDING ON SITE CONDITIONS AND AS REQUIRED BY THE STANDARD. THIS SHALL INCLUDE INDIVIDUAL LOT ACCESS POINTS WITHIN RESIDENTIAL SUBDIVISIONS IF THE EGRESS IS TO A COUNTY ROAD. THEN A 20 FT. LONG PAVED TRANSITION SHALL BE PROVIDED BETWEEN THE EDGE OF PAVEMENT AND THE STONE ACCESS PAD.
9. A SUB-BASE COURSE WILL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING AND INSTALLATION OF IMPROVEMENTS IN ORDER TO STABILIZE STREETS, ROADS, DRIVEWAYS AND PARKING AREAS. IN AREAS WHERE NO UTILITIES ARE PRESENT, THE SUB-BASE SHALL BE INSTALLED WITHIN 15 DAYS OF PRELIMINARY GRADING, PROVIDED THAT ALL OTHER REQUIREMENTS RELATED TO DETENTION BASINS, SWALES AND THE SEQUENCE OF CONSTRUCTION HAVE BEEN MET.
10. ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN 14 DAYS AND NOT SUBJECT TO CONSTRUCTION ACTIVITY, WILL IMMEDIATELY RECEIVE TEMPORARY STABILIZATION. IF THE SEASON PREVENTS ESTABLISHMENT OF A TEMPORARY VEGETATIVE COVER, OR IF THE AREA IS NOT TOPSOILED, THEN THE DISTURBED AREAS WILL BE MULCHED WITH STRAW, OR EQUIVALENT MATERIAL, AT A RATE OF TWO (2) TONS PER ACRE, ACCORDING TO STATE STANDARDS. SLOPED AREAS IN EXCESS OF 3:1V SHALL BE PROVIDED WITH EROSION CONTROL BLANKETS. CRITICAL AREAS SUBJECT TO EROSION (I.E. STEEP SLOPES, ROADWAY EMBANKMENTS, ENVIRONMENTALLY SENSITIVE AREAS) WILL RECEIVE TEMPORARY STABILIZATION IMMEDIATELY AFTER INITIAL DISTURBANCE OR ROUGH GRADING.
11. ANY STEEP SLOPES (I.E. SLOPES GREATER THAN 3:1) RECEIVING PIPELINE OR UTILITY INSTALLATION WILL BE BACKFILLED AND STABILIZED DAILY, AS THE INSTALLATION PROCEEDS.
12. PERMANENT VEGETATION SHALL BE SEEDED OR SODDED ON ALL EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING AND TOPSOILING. ALL AGRONOMIC REQUIREMENTS CONTAINED WITHIN THE STANDARDS AND ON THE CERTIFIED PLAN SHALL BE EMPLOYED. MULCH WITH BINDER, IN ACCORDANCE WITH THE STANDARDS, SHALL BE USED ON ALL SEEDED AREAS. SAVE ALL TAGS AND/OR BAGS USED FOR SEED, LIME AND FERTILIZER, AND PROVIDE THEM TO THE DISTRICT INSPECTOR TO VERIFY THAT MIXTURES AND RATES MEET THE STANDARDS.
13. AT THE TIME WHEN THE SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS GOING TO BE ACCOMPLISHED, ANY SOIL THAT WILL NOT PROVIDE A SUITABLE ENVIRONMENT TO SUPPORT ADEQUATE VEGETATIVE GROUND COVER, SHALL BE REMOVED OR TREATED IN SUCH A WAY THAT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE GROUND COVER. IF THE REMOVAL OR TREATMENT OF THE SOIL WILL NOT PROVIDE SUITABLE CONDITIONS, THEN NON-VEGETATIVE MEANS OF PERMANENT GROUND STABILIZATION WILL HAVE TO BE EMPLOYED.

ADDRESS:

MERCER COUNTY SOIL CONSERVATION DISTRICT  
590 HUGHES DRIVE  
HAMILTON SQUARE, NJ 08690  
(609) 586-9603

TOTAL PROTECT DISTURBANCE AREA 0.83 AC. (36,038 S.F.±)

LAWRENCE TOWNSHIP, MERCER COUNTY, NEW JERSEY

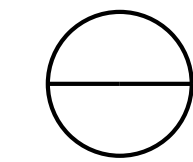
SOIL EROSION AND  
SEDIMENT CONTROL NOTES

LAWRENCE HOPEWELL TRAIL - PRETTY BROOK SEGMENT  
FROM PROVINCE LINE ROAD TO CLEVELAND ROAD

WSP USA Inc.  
CERTIFICATION OF AUTHORIZATION NO. 24GA28029800

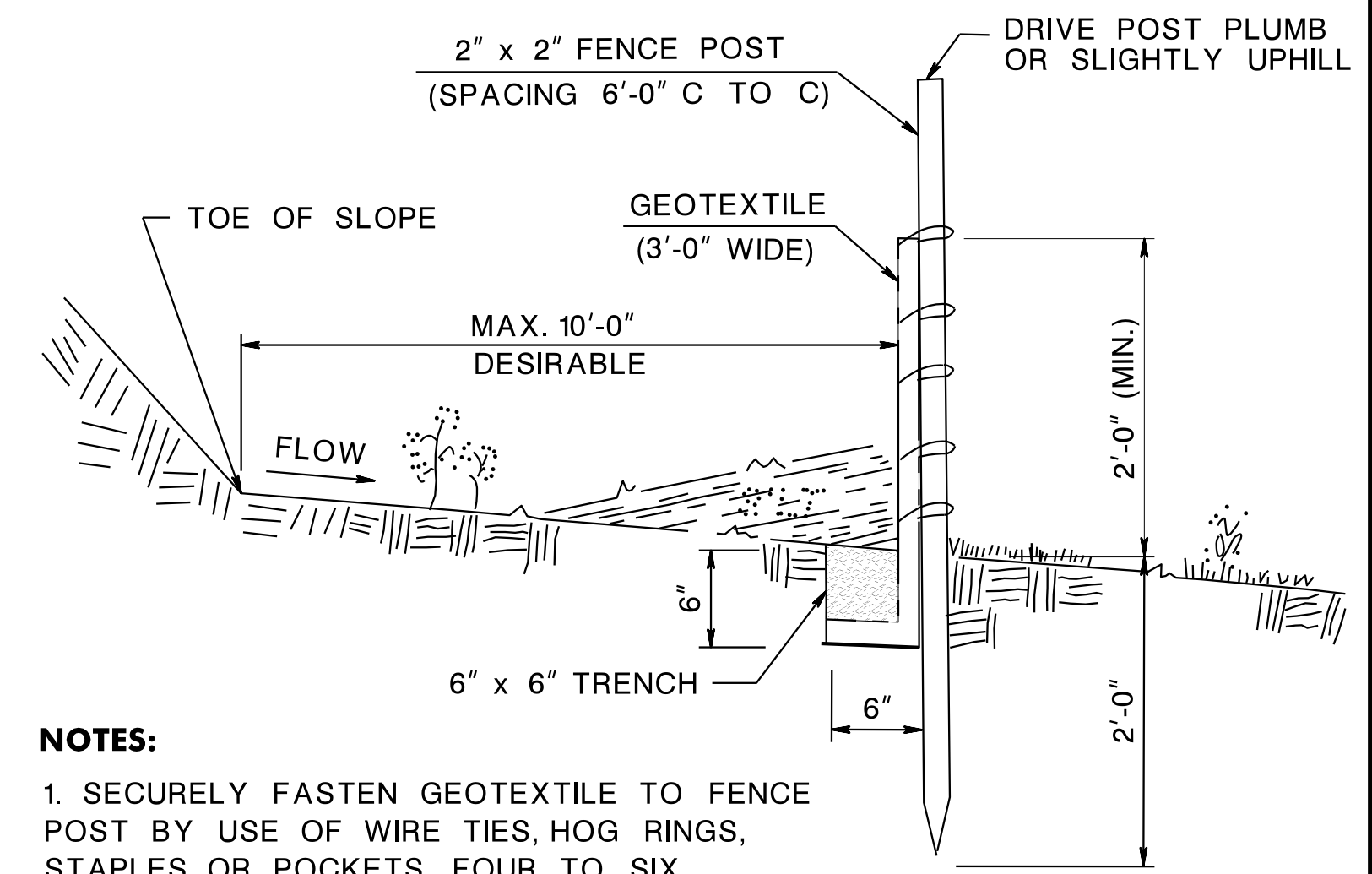
JOLLY O. BENITEZ  
NEW JERSEY PROFESSIONAL ENGINEER NO. 24GE05810100

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SESC-2



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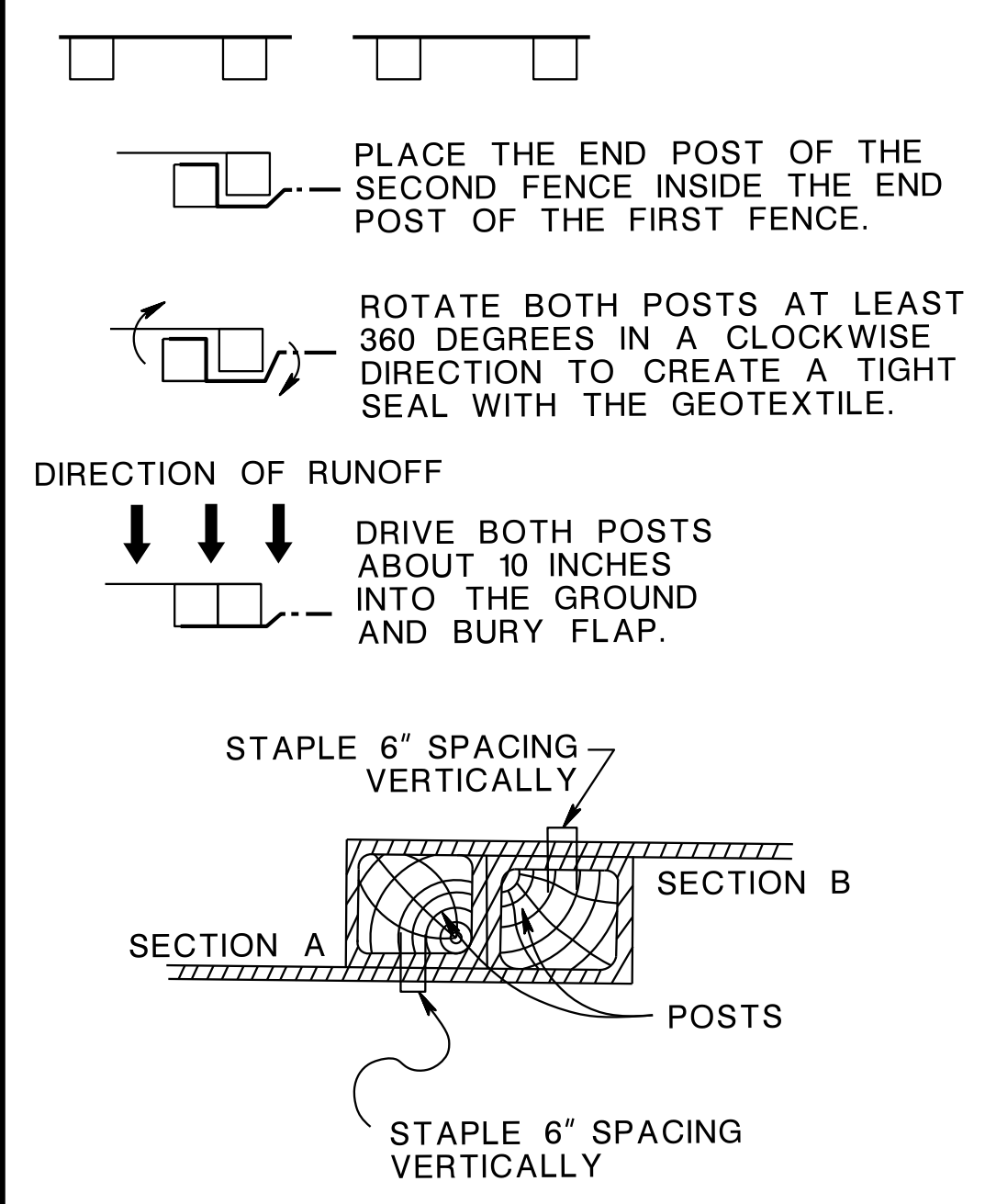




- NOTES:**
1. SECURELY FASTEN GEOTEXTILE TO FENCE POST BY USE OF WIRE TIES, HOG RINGS, STAPLES, OR POCKETS. FOUR TO SIX FASTENERS PER POST.
  2. BURY BOTTOM 1'-0" OF GEOTEXTILE AND TAMP IN PLACE.
  3. SECURELY FASTEN ENDS OF INDIVIDUAL ROLLS OF GEOTEXTILE TO A POST BY WRAPPING EACH END OF THE GEOTEXTILE AROUND THE POST TWICE AND ATTACHING AS SPECIFIED IN NOTE 1 ABOVE. DO NOT SPLICE INDIVIDUAL ROLLS AT LOW POINTS.
  4. SET SILT FENCE WITHIN PROJECT LIMITS. 10'-0" IS DESIRABLE.

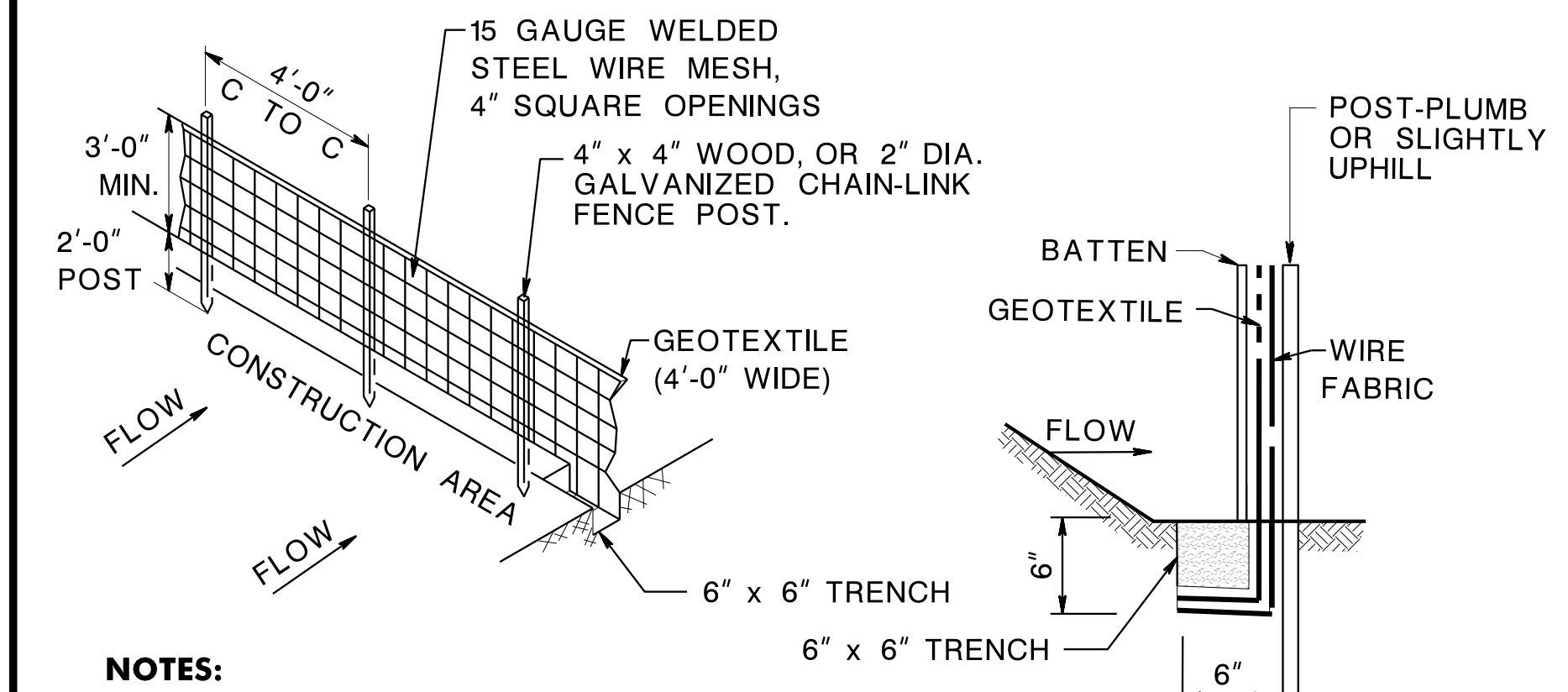
**SILT FENCE**

CD-158-1.1



**ATTACHING TWO SILT FENCES**

CD-158-1.2



- NOTES:**
1. SECURELY FASTEN GEOTEXTILE TO WIRE FABRIC BY USE OF WIRE TIES OR HOG RINGS, THEN SANDWICH BETWEEN A 1" x 3" x 3' BATTEN AND THE POSTS PLACING SCREWS, OR APPROVED FASTENERS, AT 6 INCH INTERVALS STARTING 3 INCHES FROM TOP.
  2. BURY FENCE POST 2'-0" BELOW GROUND.
  3. BURY BOTTOM 1 FOOT OF GEOTEXTILE AS PER SILT FENCE AND TAMP IN PLACE.
  4. SECURELY FASTEN ENDS OF INDIVIDUAL ROLLS OF GEOTEXTILE TO A COMMON POST BY WRAPPING EACH END OF THE GEOTEXTILE AROUND A BATTEN TWICE AND ATTACHING THE BATTEN TO POST WITH SCREWS AT 6 INCH INTERVALS STARTING 3 INCHES FROM THE TOP. DO NOT SPLICE INDIVIDUAL ROLLS AT LOW POINTS.
  5. BURY 6" OF WIRE FABRIC IN TIDAL AREAS.

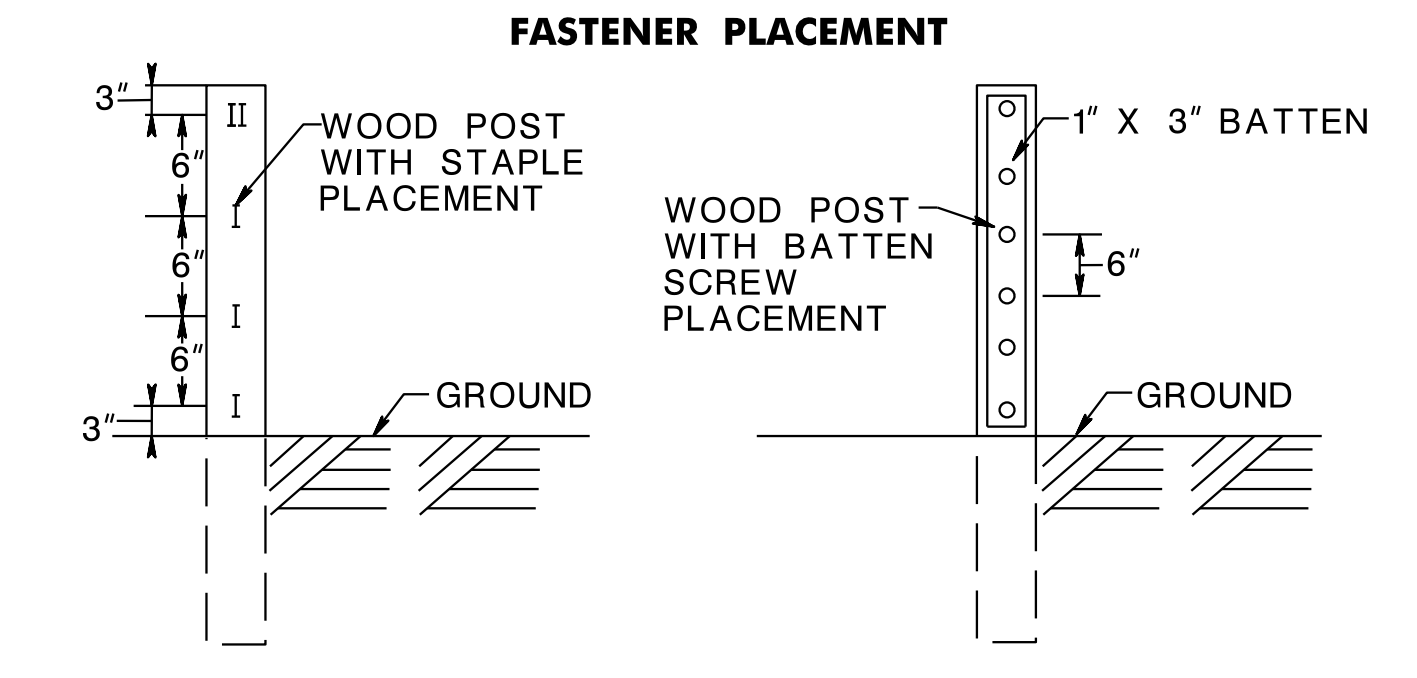
**HEAVY DUTY SILT FENCE**

CD-158-1.3

**FASTENERS FOR WOOD POSTS**

	<b>GAUGE</b>	<b>CROWN</b>	<b>LEGS</b>	<b>STAPLES/POST</b>
WIRE STAPLES	17 MIN.	3/4" WIDE	1/2" LONG	5 MIN.
SCREWS		<b>LENGTH</b>	<b>PHILLIPS HEADS</b>	<b>SCREW/POST</b>
		2"	2"	6 MIN.

SOURCE: GA SWCC



**SILT FENCE FASTENER REQUIREMENTS**

CD-158-1.4

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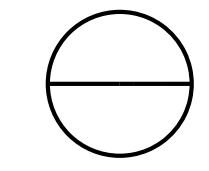
LAWRENCE TOWNSHIP, MERCER COUNTY, NEW JERSEY

**SOIL EROSION AND SEDIMENT CONTROL DETAILS**

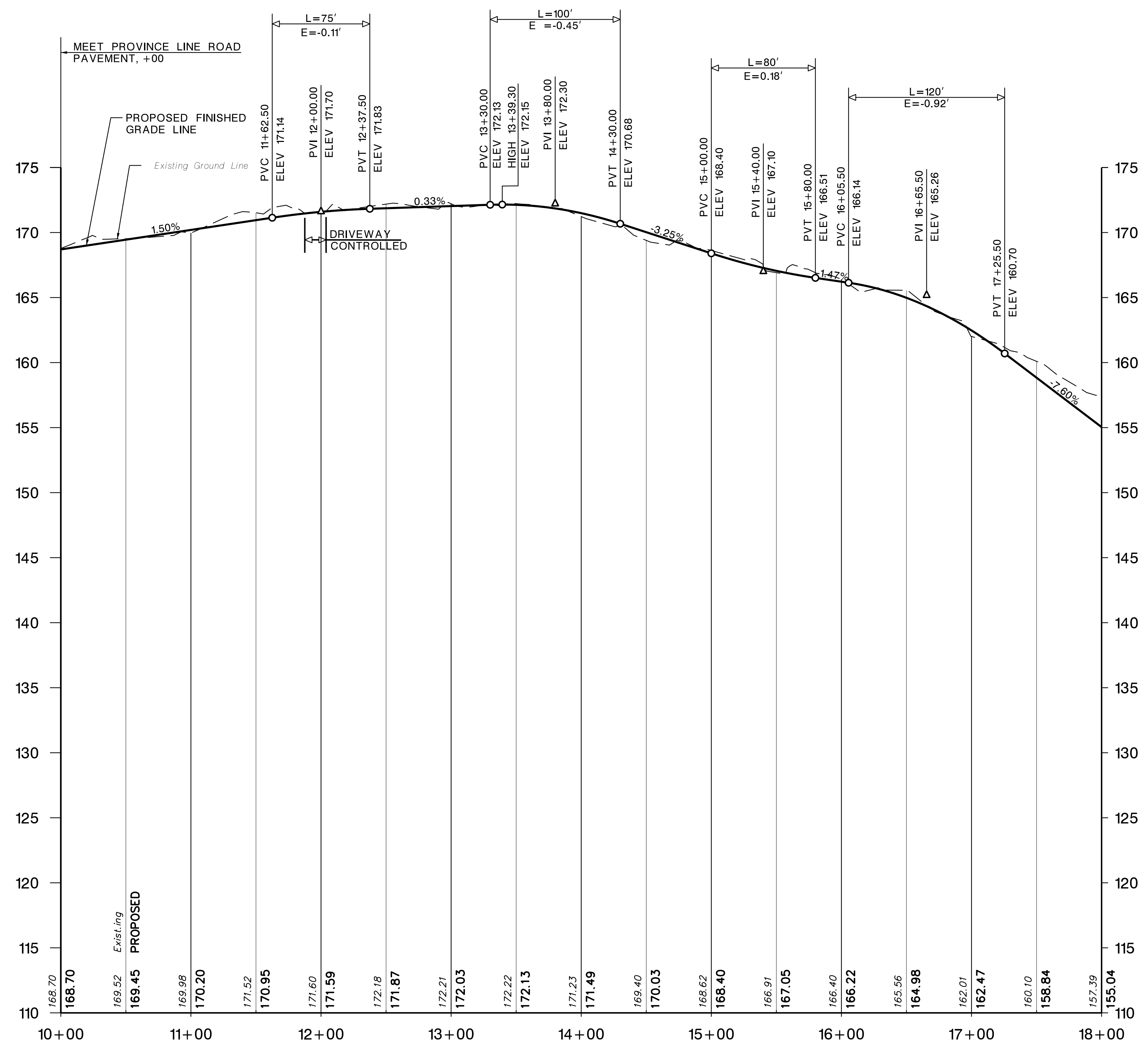
LAWRENCE HOPEWELL TRAIL - PRETTY BROOK SEGMENT FROM PROVINCE LINE ROAD TO CLEVELAND ROAD

WSP USA Inc.  
 CERTIFICATION OF AUTHORIZATION NO. 24GA28029800  
  
 JOLLY O. BENITEZ  
 NEW JERSEY PROFESSIONAL ENGINEER NO. 24GE05810100

SESC-2  
SESC-2







TRAIL PROFILE

NOTE:  
EXISTING DRIVEWAY GRADES TO BE MAINTAINED.

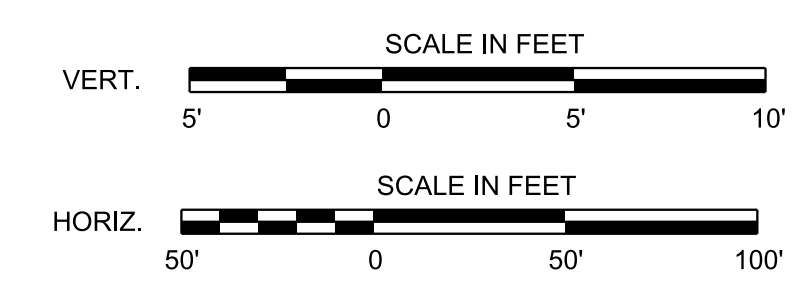
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LAWRENCE TOWNSHIP, MERCER COUNTY, NEW JERSEY

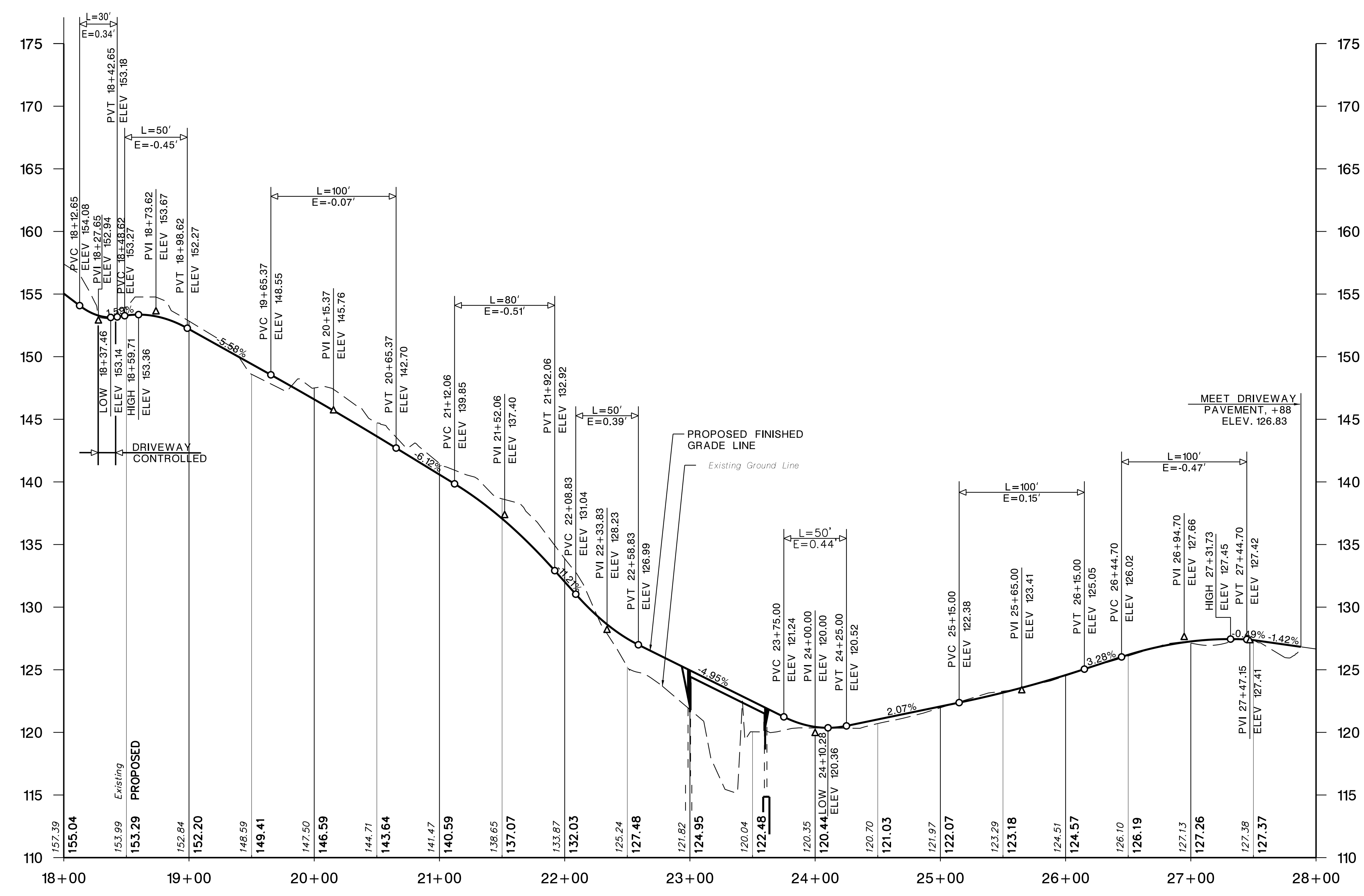
## PROFILES

LAWRENCE HOPEWELL TRAIL - PRETTY BROOK SEGMENT  
FROM PROVINCE LINE ROAD TO CLEVELAND ROAD

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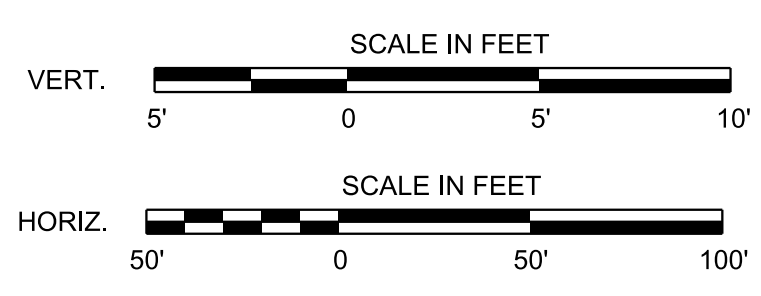




TRAIL PROFILE

NOTE:  
EXISTING DRIVEWAY GRADES TO BE MAINTAINED.

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LAWRENCE TOWNSHIP, MERCER COUNTY, NEW JERSEY

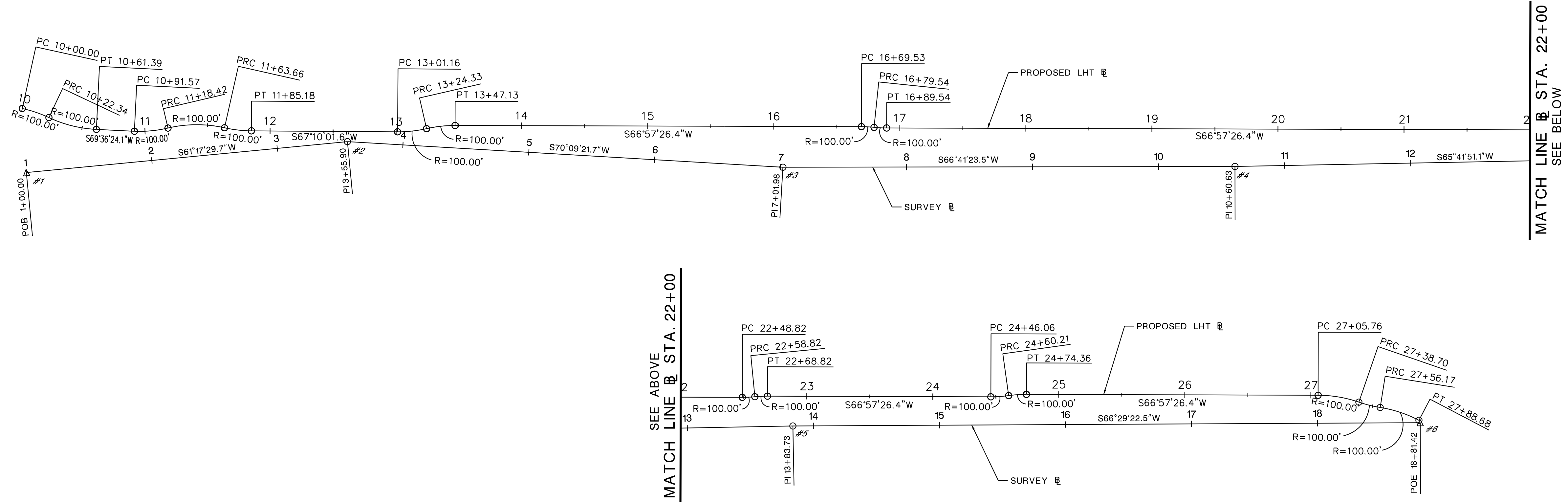
## PROFILES

LAWRENCE HOPEWELL TRAIL - PRETTY BROOK SEGMENT  
FROM PROVINCE LINE ROAD TO CLEVELAND ROAD

WSP USA, Inc.  
 CERTIFICATION OF AUTHORIZATION NO. 24GA28029800  
  
 JOLLY O. BENITEZ  
 NEW JERSEY PROFESSIONAL ENGINEER NO. 24GE05810100



ALIGNMENT SCHEMATIC PLAN



ALIGNMENT DATA			
LOCATION		COORDINATES	
POINT	STATION	NORTHING	EASTING
<b>PROPOSED LAWRENCE HOPEWELL TRAIL BASELINE</b>			
PC	10+00.00	554710.6696	433041.6504
PRC	10+22.34	554708.9495	433019.4188
PT	10+61.39	554702.7413	432981.1228
PC	10+91.57	554692.2240	432952.8327
PRC	11+18.42	554679.3565	432929.3533
PRC	11+63.66	554661.5028	432888.2131
PT	11+85.18	554655.3419	432867.6349
PC	13+01.16	554610.3349	432760.7393
PRC	13+24.33	554598.9632	432740.6150
PT	13+47.13	554587.7342	432720.8280
PC	16+69.53	554461.5396	432424.1466
PRC	16+79.54	554458.0904	432414.7603
PT	16+89.54	554454.6412	432405.3739
PC	22+48.82	554235.7328	431890.7242
PRC	22+58.82	554231.3634	431881.7293
PT	22+68.82	554226.9941	431872.7343
PC	24+46.06	554157.6224	431709.6429
PRC	24+60.21	554151.1806	431697.0531
PT	24+74.36	554144.7388	431684.4633
PC	27+05.76	554054.1656	431471.5274
PRC	27+38.70	554046.4516	431439.6563
PRC	27+56.17	554043.6703	431422.4337
PT	27+88.68	554040.9259	431390.1814

TIES			
POINT	BASELINE STATION	SURVEY BASELINE	
		STATION	OFFSET
<b>PROPOSED LAWRENCE HOPEWELL TRAIL BASELINE</b>			
PC	10+00.00	1+01.68	50.87
PRC	10+22.34	1+22.01	41.70
PT	10+61.39	1+58.58	28.75
PC	10+91.57	1+88.44	24.38
PRC	11+18.42	2+15.22	24.39
PRC	11+63.66	2+59.88	20.29
PT	11+85.18	2+80.88	15.81
PC	13+01.16	3+95.17	10.11
PRC	13+24.33	4+17.96	13.97
PT	13+47.13	4+40.38	17.82
PC	16+69.53	7+64.34	32.10
PRC	16+79.54	7+74.33	31.55
PT	16+89.54	7+84.31	31.00
PC	22+48.82	13+44.03	23.49
PRC	22+58.82	13+54.02	23.77
PT	22+68.82	13+64.02	24.05
PC	24+46.06	15+40.91	22.33
PRC	24+60.21	15+55.03	23.21
PT	24+74.36	15+69.14	24.10
PC	27+05.76	18+00.53	22.21
PRC	27+38.70	18+32.84	16.57
PRC	27+56.17	18+49.74	12.25
PT	27+88.68	18+80.41	1.90

SURVEY CONTROL POINTS - GEOGRAPHIC COORDINATES			
CONTROL POINT	NORTHING	EASTING	ELEV.
1	554756.0950	433018.6910	169.16
2	554633.1710	432794.2440	171.78
3	554515.6925	432468.7192	162.95
4	554373.7725	432139.3452	144.41
5	554240.7976	431844.8724	123.67
6	554042.2603	431388.4945	127.04



T-1  
T-2

LAWRENCE TOWNSHIP, MERCER COUNTY, NEW JERSEY

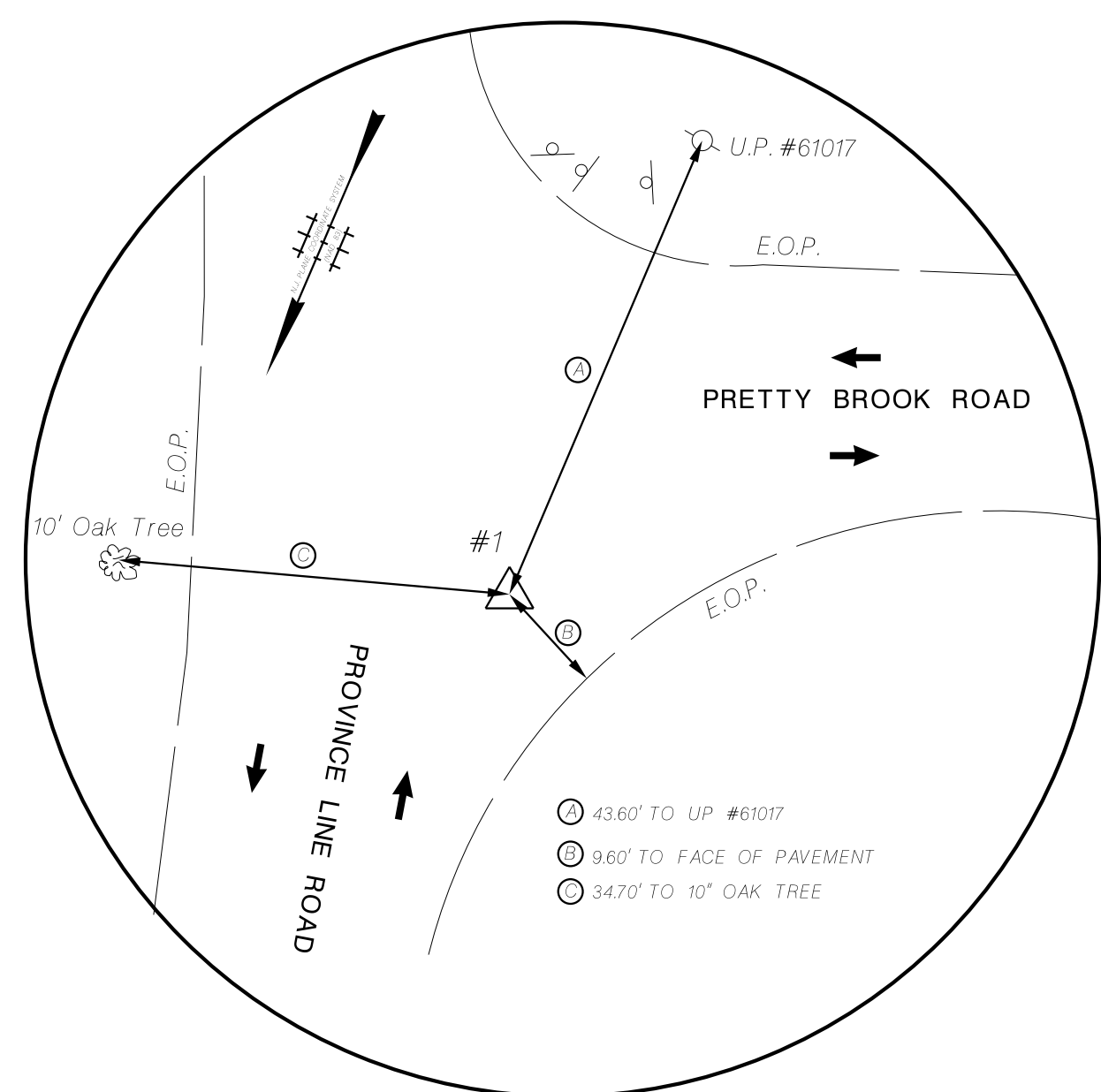
## TIES

LAWRENCE HOPEWELL TRAIL - PRETTY BROOK SEGMENT  
FROM PROVINCE LINE ROAD TO CLEVELAND ROAD

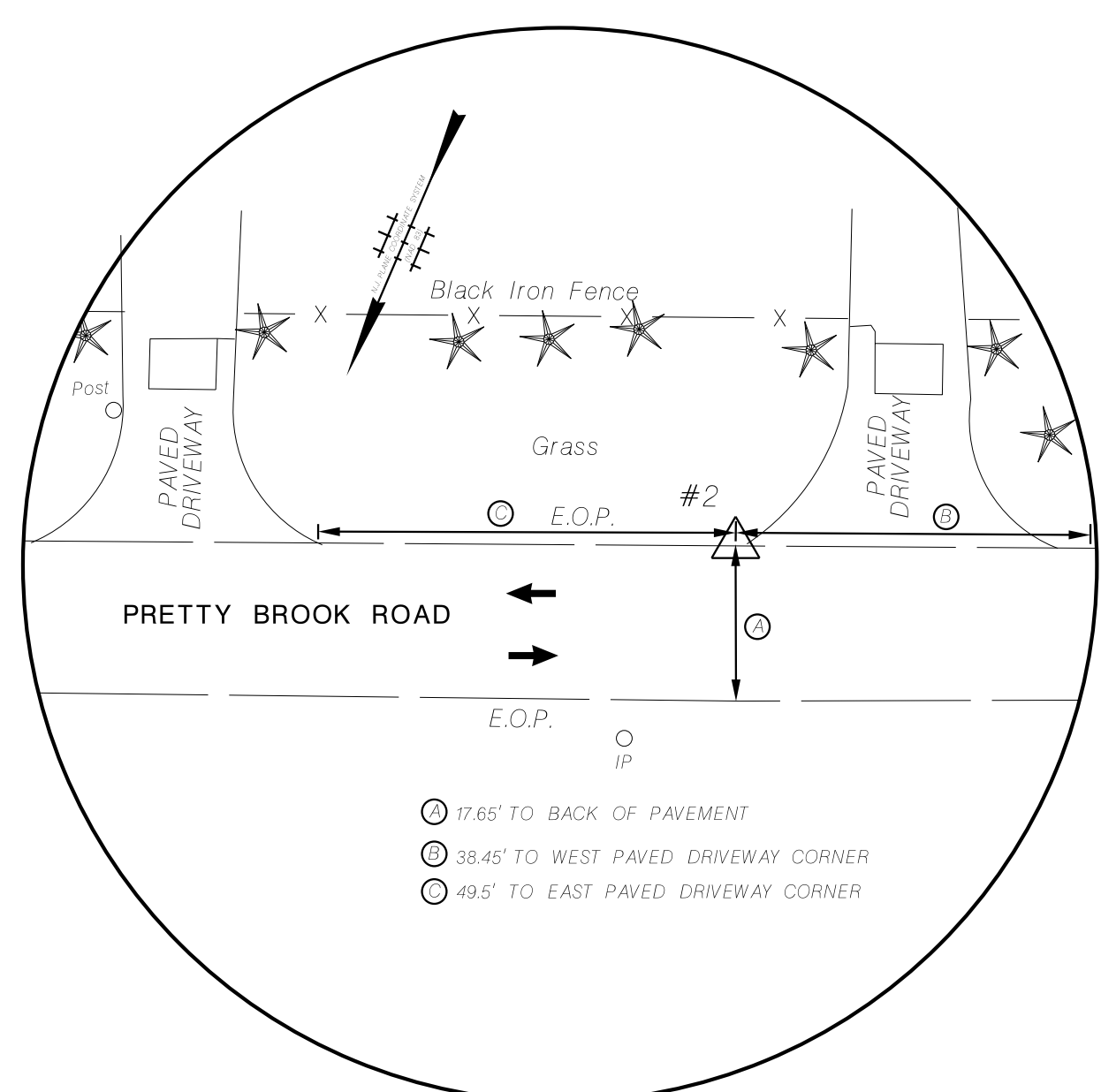
WSP USA Inc.  
 CERTIFICATION OF AUTHORIZATION NO. 24GA28029800  
  
 JOLLY O. BENITEZ  
 NEW JERSEY PROFESSIONAL ENGINEER NO. 24GE05810100

WSP USA Inc.  
 OPERATOR Runk  
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 PLOT DATE 30-JUN-2022 16:59  
 PENTABLE ehx.tbl  
 DESIGN FILE T:\92341 LHT Pretty Brook\hwy002.dgn

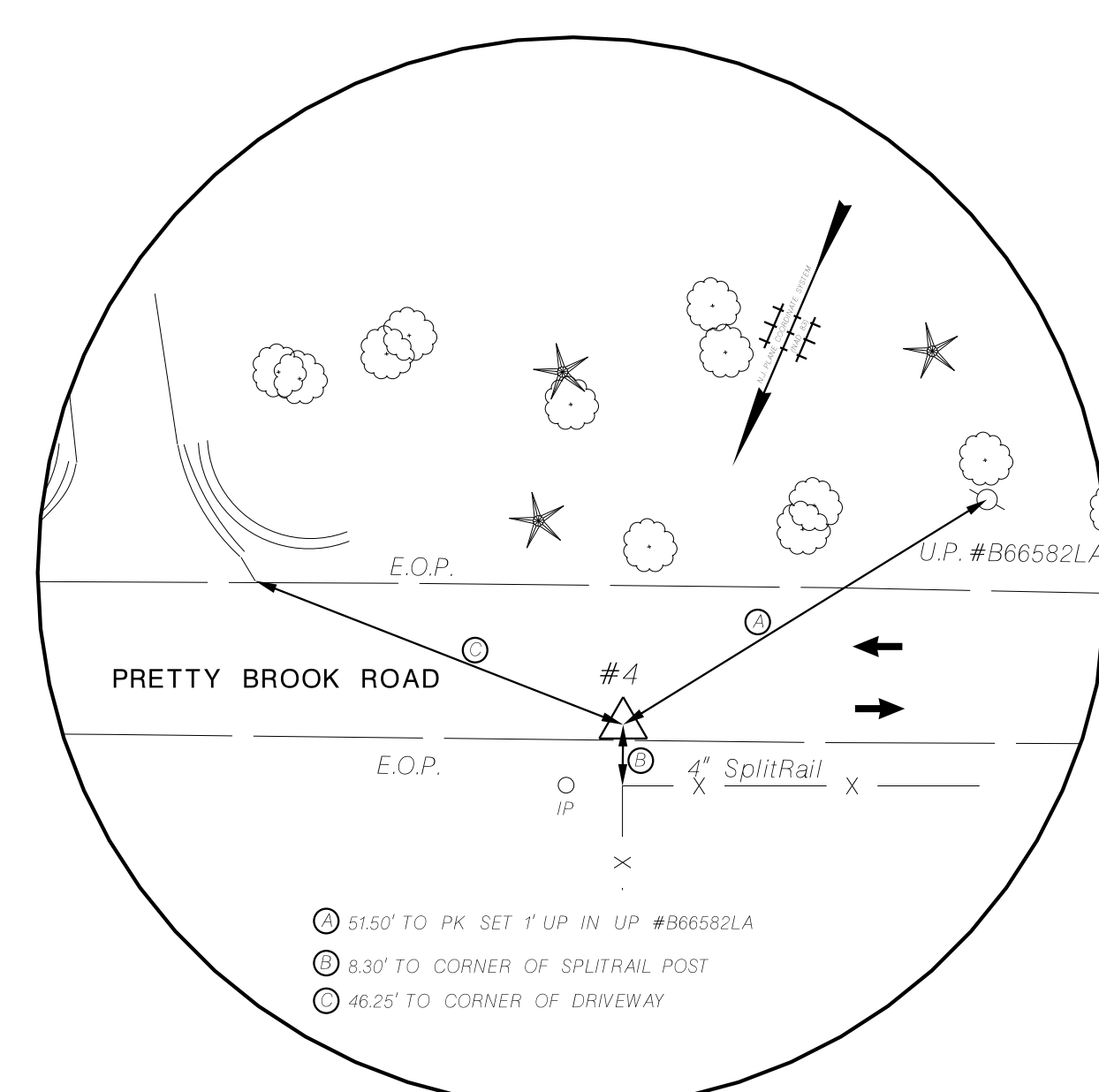




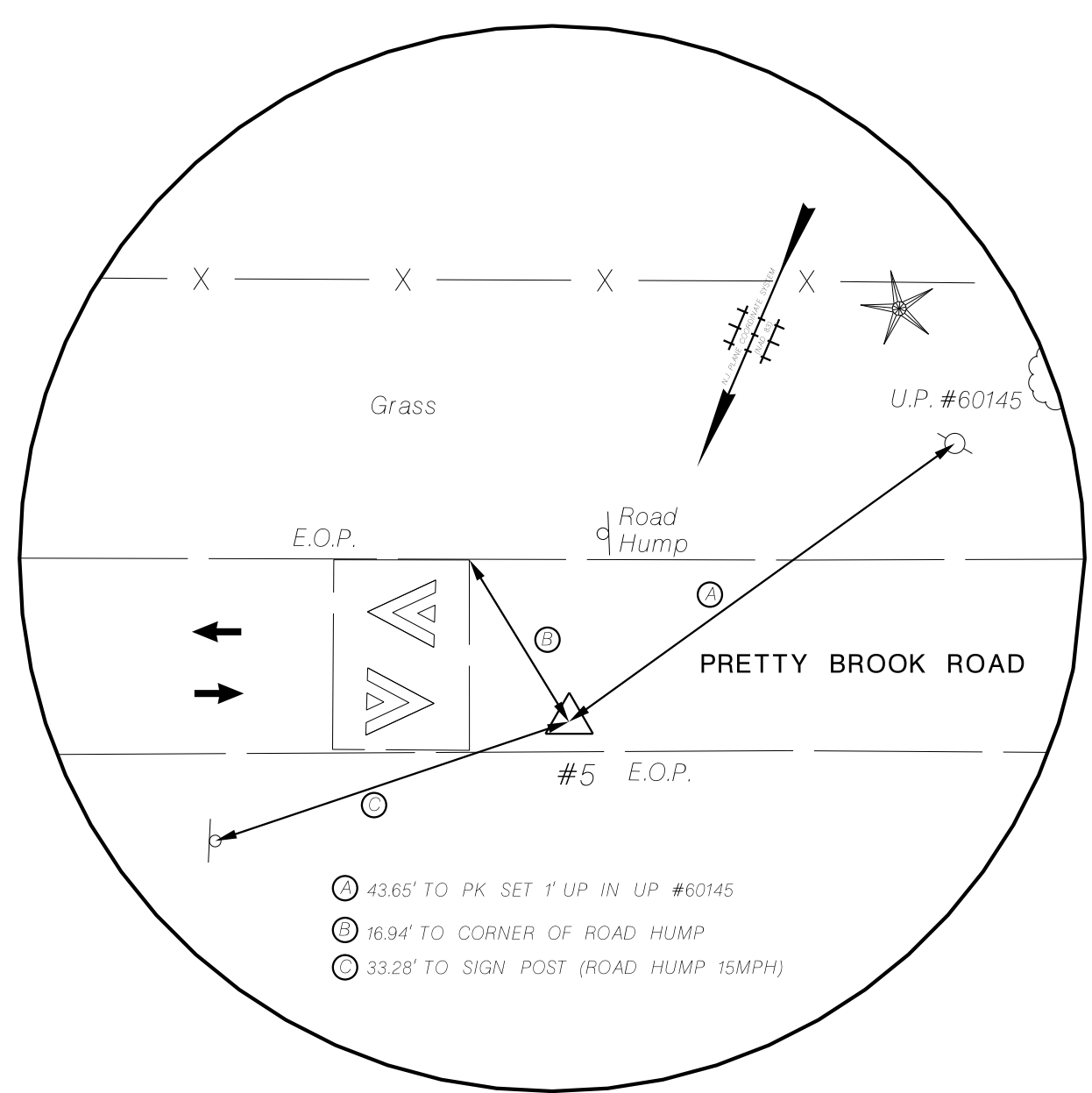
#1  
CONTROL POINT #1, PK NAIL SET IN PAVEMENT ON NORTH SIDE OF INTERSECTION OF PRETTY BROOK ROAD AND PROVINCE LINE ROAD  
N 554756.0950  
E 433018.6910  
ELEV. 169.160  
N.T.S.



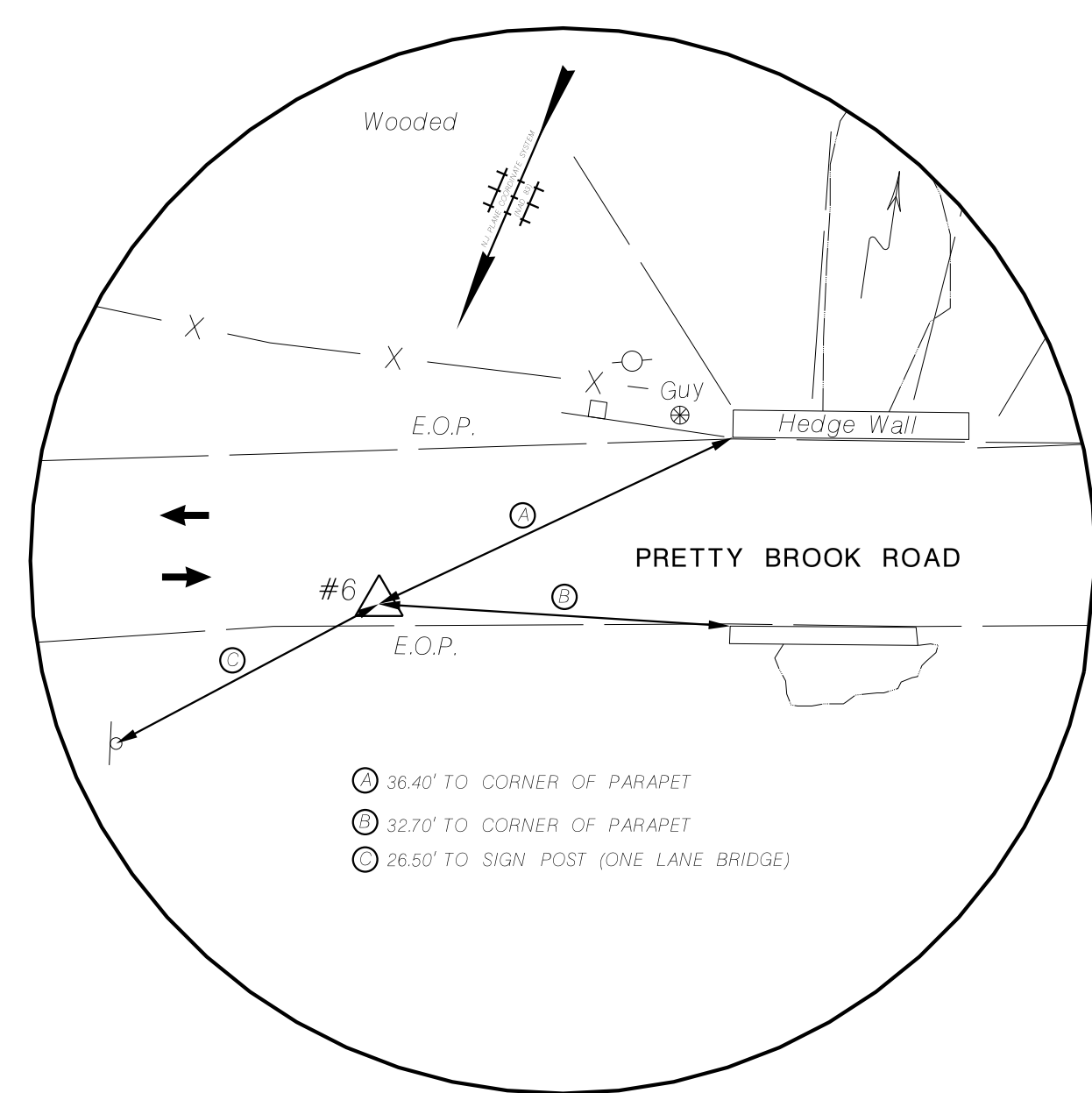
#2  
CONTROL POINT #2, PK NAIL SET ON SOUTH EDGE OF PRETTY BROOK ROAD IN FRONT OF HOUSE #800  
N 554633.1710  
E 432794.2440  
ELEV. 171.778  
N.T.S.



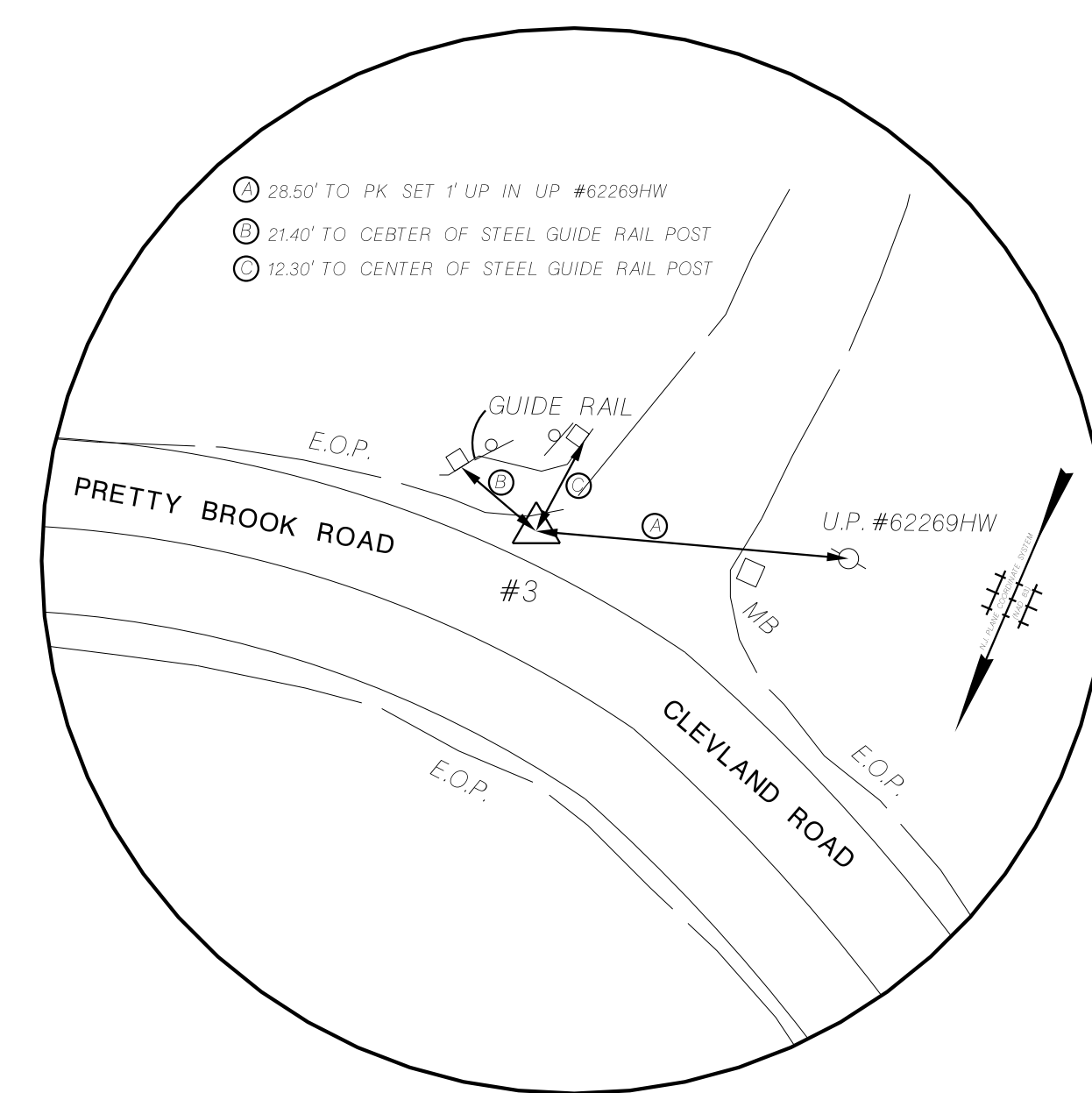
#4  
CONTROL POINT #4, PK NAIL SET ON NORTH SIDE OF PRETTY BROOK ROAD BETWEEN LOT 2.01 AND LOT 4  
N 554515.6925  
E 432468.7192  
ELEV. 162.954  
N.T.S.



#5  
CONTROL POINT #5, PK NAIL SET ON NORTH SIDE OF PRETTY BROOK ROAD  
N 554373.7725  
E 432139.3452  
ELEV. 144.414  
N.T.S.



#6  
CONTROL POINT #6, PK NAIL SET ON NORTH SIDE OF PRETTY BROOK ROAD 50' ± EAST OF CREEK  
N 554240.7976  
E 431844.8724  
ELEV. 123.668  
N.T.S.



#3  
CONTROL POINT #3, PK NAIL SET ON EDGE OF DRIVEWAY ON SOUTH SIDE OF WHERE PRETTY BROOK ROAD CHANGES TO CLEVELAND ROAD  
N 554042.2603  
E 431388.4945  
ELEV. 127.037  
N.T.S.

WSP USA, Inc.  
 OPERATOR Runk |QUEUE |\\usiv100prt01\PR\PL03\_BW  
 PLOT DATE 30-JUN-2022 18:59  
 PENTABLE ehx.tbl  
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LAWRENCE TOWNSHIP, MERCER COUNTY, NEW JERSEY

## TIES

LAWRENCE HOPEWELL TRAIL - PRETTY BROOK SEGMENT  
FROM PROVINCE LINE ROAD TO CLEVELAND ROAD

WSP USA Inc.  
 CERTIFICATION OF AUTHORIZATION NO. 24GA28029800  
  
 JOLLY O. BENITEZ  
 NEW JERSEY PROFESSIONAL ENGINEER NO. 24GE05810100



**GENERAL NOTES - CONSTRUCTION STAGING:**

- 48 HOURS NOTICE SHALL BE GIVEN TO PROPERTY OWNERS BEFORE BEGINNING WORK IN THEIR DRIVEWAY OR ON PROPERTY FRONTAGE. THE CONTRACTOR SHALL PROVIDE EMERGENCY ACCESS TO ALL SITES AT ALL TIMES.
- ACCESS TO AND FROM LOCAL STREETS, BUSINESSES, AND PRIVATE PROPERTIES SHALL BE MAINTAINED AT ALL TIMES FOR BOTH VEHICULAR AND PEDESTRIAN TRAFFIC.
- MAINTAIN ACCESS TO EXISTING DRIVEWAYS WITHIN THE PROJECT LIMITS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE RE. WORK IN OR ACROSS DRIVEWAYS SHOULD BE SCHEDULED TO ALLOW ENTRY EACH EVENING.
- THE CONTRACTOR SHALL PROVIDE AND MAINTAIN PROPER DRAINAGE IN ALL AREAS UNDER CONSTRUCTION.
- THE CONTRACTOR BY HIS MEANS AND METHODS OF CONSTRUCTION SHALL COMPLY WITH THE HIGH VOLTAGE PROXIMITY ACT AT ALL TIMES DURING THE CONSTRUCTION OF THE PROJECT.
- TOPSOILING AND SEEDING SHALL BE FINALIZED FOR EACH STAGE BEFORE THE CONTRACTOR MOVES ONTO NEXT WORK ZONE AREA, AS DIRECTED BY THE RE.
- DURING NON-WORKING HOURS, EXCAVATIONS GREATER THAN 2" ADJACENT TO TRAVEL LANES MUST BE BACKFILLED AND PROVIDED WITH 6:1 (MINIMUM) TEMPORARY ESCAPE RAMPS, SEE DETAIL.
- ALL EXCAVATIONS AND OPEN PITS WITHIN THE TOWNSHIP RIGHT OF WAY ARE TO BE ROPED OFF WITH CAUTION FENCE EVENINGS AND WEEKENDS TO PROTECT AGAINST PEDESTRIANS, BIKES OR OTHERS FROM INJURY.
- ALL OPENINGS BEYOND THE ROADWAY SHALL BE BROUGHT TO GRADE WITH COMPACTED BACKFILL AND STABILIZED ACCORDING TO SOIL EROSION AND SEDIMENT CONTROL STANDARDS.
- STAGING AREAS ARE NOT TO BE LOCATED IN ENVIRONMENTALLY SENSITIVE AREAS.

**GENERAL NOTES - TRAFFIC CONTROL:**

- ADVANCE WARNING SIGNS, DISTANCE, AND TAPER LENGTHS MAY BE EXTENDED, AT THE DIRECTION OF THE RE, TO ADJUST FOR REDUCED VISIBILITY DUE TO HORIZONTAL AND VERTICAL CURVATURE OF THE ROADWAY.
- THE APPROXIMATE LOCATIONS OF THE ILLUMINATED FLASHING ARROW BOARDS ARE SHOWN ON THE TRAFFIC CONTROL PLANS. THESE LOCATIONS MAY BE MODIFIED AS APPROVED BY THE RE TO ADJUST FOR THE VISIBILITY DUE TO HORIZONTAL OR VERTICAL CURVATURE OF THE ROADWAY OR TO POSITION AT A SAFER LOCATION. ILLUMINATED FLASHING ARROW BOARDS ARE TO BE USED FOR TEMPORARY LANE CLOSINGS AND AT LOCATIONS SHOWN ON THE TRAFFIC CONTROL PLANS.
- PRIOR TO ANY CONSTRUCTION, TRAFFIC CONTROL SIGNS AND DEVICES SHALL BE IN PLACE.
- ROADS ENTERING THE ROADWAY AFTER THE FIRST ADVANCE WARNING SIGN SHALL BE PROVIDED WITH AT LEAST ONE SIGN (W20-IF, ROAD WORK AHEAD) AS A MINIMUM.
- ALL EXISTING ROAD SIGNS, PAVEMENT MARKINGS AND/OR PLOWABLE PAVEMENT REFLECTORS WHICH CONFLICT WITH THE PROPOSED TRAFFIC CONTROL PLAN SHALL BE COVERED, REMOVED OR RELOCATED AS DIRECTED BY THE RE.
- MAINTENANCE AND PROTECTION OF TRAFFIC SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES - PART 6 "STANDARDS AND GUIDES FOR TRAFFIC CONTROL FOR STREET AND HIGHWAY CONSTRUCTION MAINTENANCE, UTILITY AND INCIDENT MANAGEMENT OPERATION", UNLESS OTHERWISE NOTED IN THE PLANS AND SPECIFICATIONS.
- CONSTRUCTION SIGN W99-2 (GIVE US A BREAK) SHALL BE LOCATED 200 FEET IN ADVANCE OF THE PROJECT LIMITS.
- A W1-6 (ARROW) SIGN MOUNTED ON A BREAKAWAY BARRICADE AND CENTERED ON THE CLOSED WIDTH SHALL BE LOCATED 100 FEET BEYOND EACH INTERSECTION APPROACHING THE ROAD OR LANE CLOSURE AREA.
- THE REQUIRED CONSTRUCTION WARNING SIGNS SHALL BE MAINTAINED BY THE CONTRACTOR THROUGHOUT THE ENTIRE CONSTRUCTION PERIOD. CONSTRUCTION SIGNS SHALL BE REMOVED OR COVERED WITH AN OPAQUE MATERIAL WHEN THE MESSAGE IS NOT APPLICABLE FOR A PARTICULAR STAGE.
- THE CONTRACTOR SHALL SUBMIT A PLAN FOR THE SAFE ACCESS OF CONSTRUCTION VEHICLES THROUGHOUT THE WORK SITE WHERE SPACE CONSTRAINTS PREVENT THE USE OF LANE CLOSURES. THE PLANS SHALL BE SUBMITTED TO THE RE IN ACCORDANCE WITH THE SPECIFICATIONS.
- THE USE OF POLICE TRAFFIC DIRECTOR SHALL BE APPROVED BY THE RE PRIOR TO ENGAGEMENT. AN ALLOWANCE FOR POLICE TRAFFIC DIRECTORS HAS BEEN PROVIDED FOR IN THE CONTRACT.
- "ON OR ABOUT" SIGNS TO BE ERECTED A MINIMUM OF 2 WEEKS PRIOR TO CONSTRUCTION.
- THE CONTRACTOR IS DIRECTED TO NOTIFY THE TOWNSHIP CLERK, LOCAL MUNICIPAL POLICE, FIRE DEPARTMENT AND RESCUE SQUAD ONE WEEK PRIOR TO THE START OF CONSTRUCTION AND 24 HOURS PRIOR TO THE IMPLEMENTATION OF LANE CLOSURE.
- MAINTAIN ACCESS TO EXISTING DRIVEWAYS WITHIN PROJECT LIMITS AS SHOWN ON PLANS OR DIRECTED BY THE RE.
- SPECIAL SIGNS SHALL HAVE BLACK MESSAGE ON ORANGE WIDE ANGLE PRISMATIC RETROREFLECTIVE SHEETING FOR VISUAL IMPACT PERFORMANCE BACKGROUND. REFERENCE IS MADE TO THE PUBLICATION ENTITLED "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS" BY THE FEDERAL HIGHWAY ADMINISTRATION FOR LETTER STROKE AND DESIGN AND SPACING BETWEEN LETTERS IN A WORD. SPACING BETWEEN WORDS IN A LINE, BETWEEN LINES OF A MESSAGE, AND BORDER REQUIREMENTS SHOULD BE DETERMINED BY GOOD SIGN-PAINTING PRACTICES.
- WHERE REQUIRED, THE CONTRACTOR SHALL MAKE PROVISIONS FOR MAINTAINING PEDESTRIAN CROSSING LOCATIONS AND TYPE AS SHOWN ON THE PLANS OR DIRECTED BY THE RE.
- TRAFFIC FINES DOUBLED IN WORK AREA R(NJ)5-17(S), 4' X 2.5' SIGN SHALL BE LOCATED 500 FEET AFTER THE FIRST ADVANCE WARNING SIGN, (W20 SERIES) AT EACH WORK AREA.
- THE CONTRACTOR SHALL BE REQUIRED TO INSTALL AND RUN VARIABLE MESSAGE SIGNS FOR ONE WEEK PRIOR TO CHANGE OF TRAFFIC PATTERNS TO KEEP THE DRIVING PUBLIC INFORMED OF THE NEW TRAFFIC PATTERNS.
- THE CONTRACTOR IS TO PLACE SIGNS SO AS NOT TO OBSCURE DRIVER'S LINE OF SIGHT AT ALL INTERSECTIONS AND COMMERCIAL DRIVEWAYS.
- TRAFFIC CONTROL DEVICES FOR LANE CLOSURES INCLUDING SIGNS, CONES, DRUMS, BARRICADES, ETC. SHALL BE PLACED AS SHOWN ON PLANS. SIGNS SHALL NOT BE PLACED WITHOUT ACTUAL LANE CLOSURES AND SHALL BE IMMEDIATELY REMOVED UPON REMOVAL OF THE CLOSURES.
- CONES MAY BE SUBSTITUTED FOR DRUMS AND INSTALLED UPON THE APPROVAL OF THE RE.
- IF AND WHEN DIRECTED BY THE RE, THE CONTRACTOR SHALL SUPPLY AND PLACE ADDITIONAL TRAFFIC CONTROL SIGNS AND DEVICES AT THE UNIT BID PRICE.
- THE TRAFFIC CONTROL SIGNS AND DEVICES SHALL BE CLEANED AND MAINTAINED IN GOOD CONDITION BY THE CONTRACTOR THROUGHOUT THE ENTIRE CONSTRUCTION PERIOD. SIGN MAINTENANCE AND REPLACEMENT COSTS WILL BE INCLUDED IN THE INITIAL BID PRICE OF THE SIGN. CONSTRUCTION SIGNS SHALL BE REMOVED OR COVERED WITH AN OPAQUE MATERIAL WHEN THE MESSAGE IS NOT APPLICABLE FOR A PARTICULAR STAGE OF CONSTRUCTION.
- THE CONTRACTOR IS REQUIRED TO CONTACT THE ONE CALL SYSTEM AT 1-800-272-1000 FOR UNDERGROUND UTILITY MARKOUT PRIOR TO THE INSTALLATION OF SIGNS.
- THE LAWRENCE TOWNSHIP DEPARTMENT OF PUBLIC WORKS ARE TO BE NOTIFIED A MINIMUM OF 48 HOURS PRIOR TO THE INSTALLATION OF ANY STRIPING WITHIN TOWNSHIP RIGHT OF WAY. THE NOTIFICATION IS TO BE MADE BY THE CONTRACTOR WHO WILL INSTALL THE STRIPING.
- PRIOR TO THE DETOUR ROUTE BEING INSTALLED, THE CONTRACTOR SHALL HAVE A PRECONSTRUCTION MEETING WITH MUNICIPALITY OF PRINCETON AND THE COUNTY.

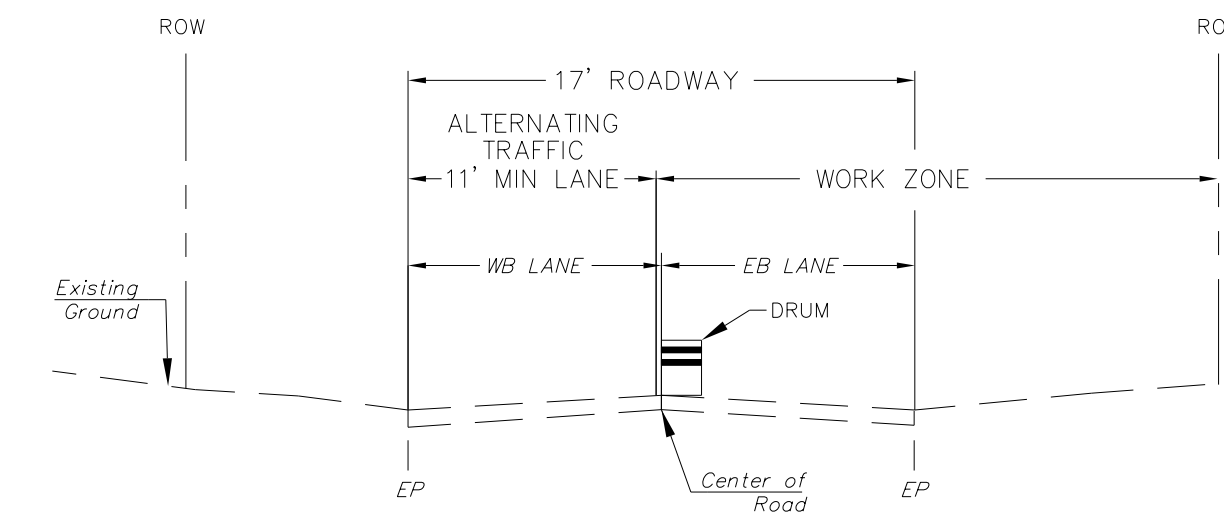
**TYPICAL CONSTRUCTION STAGING NOTES**

- INSTALL CAUTION FENCE AND SILT FENCE WITHIN THE LIMITS OF THE CURRENT STAGE AT LOCATIONS SHOWN ON THE PLANS. CLEAR TREES AND BRUSH UP TO SILT OR CAUTION FENCING. THE CONTRACTOR IS ONLY TO CLEAR TREES AND BRUSH AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.
- STRIP TOPSOIL WITHIN CURRENT STAGE WORK AREA. REFER TO THE CONSTRUCTION PLANS FOR THE "LIMIT OF DISTURBANCE" LINE WHICH INDICATES THE LIMIT OF STRIPPING. STRIPPED MATERIAL DEEMED SUITABLE FOR USE AS TOPSOIL MAY BE STOCKPILED ON-SITE FOR USE ON FUTURE STAGES AT THE DIRECTION OF THE ENGINEER.
- AT THE CONCLUSION OF EACH WORKING DAY THE CONTRACTOR IS TO PROVIDE PAVEMENT RAMPS OF 50:1 AT TRAVERSE JOINTS OF 1 1/2 INCHES OR GREATER AND HMA PAVEMENT RAMPS AT ALL DRIVEWAYS. THE CONTRACTOR IS TO PLACE TEMPORARY PAVEMENT MARKINGS, STRIPING, OR CONSTRUCTION DEVICES PRIOR TO OPENING TO NORMAL TRAFFIC, AS DIRECTED BY THE RE.
- LANDSCAPE EMBANKMENT AREAS PRIOR TO MOVING ONTO NEXT STAGE.
- FINAL RESTORATION SHALL BEGIN A MINIMUM OF ONE (1) MONTH (OR AT THE DISCRETION OF THE RE) AFTER TRENCH BACKFILLING AND PAVEMENT REPAIR.

**NOTES - TRAFFIC CONTROL PLANS**

- FOR ONE LANE DAYTIME OPERATIONS, THE WORKING HOURS IN THE ROAD LANES IS 9:00 AM TO 4:00 PM.
- TWO LANES OF 11 FEET WIDE UNOBSTRUCTED TRAVEL WAY SHALL BE MAINTAINED AT ALL TIMES BETWEEN THE HOURS OF 7 - 9 AM AND 4 - 6 PM.
- WORK ON SATURDAYS, SUNDAYS, OR HOLIDAYS WILL REQUIRE PRIOR APPROVAL FROM THE RE AND THE MUNICIPALITY.

NOTE: REFER TO NJDOT STANDARD ROADWAY CONSTRUCTION - TRAFFIC CONTROL - BRIDGE CONSTRUCTION DETAILS (2016) FOR DETAILS NOT SHOWN ON THESE PLANS.



**TYPICAL SECTION  
1-LANE CLOSURE**

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WSP USA Inc.

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TCD-2

NEW JERSEY DEPARTMENT OF TRANSPORTATION

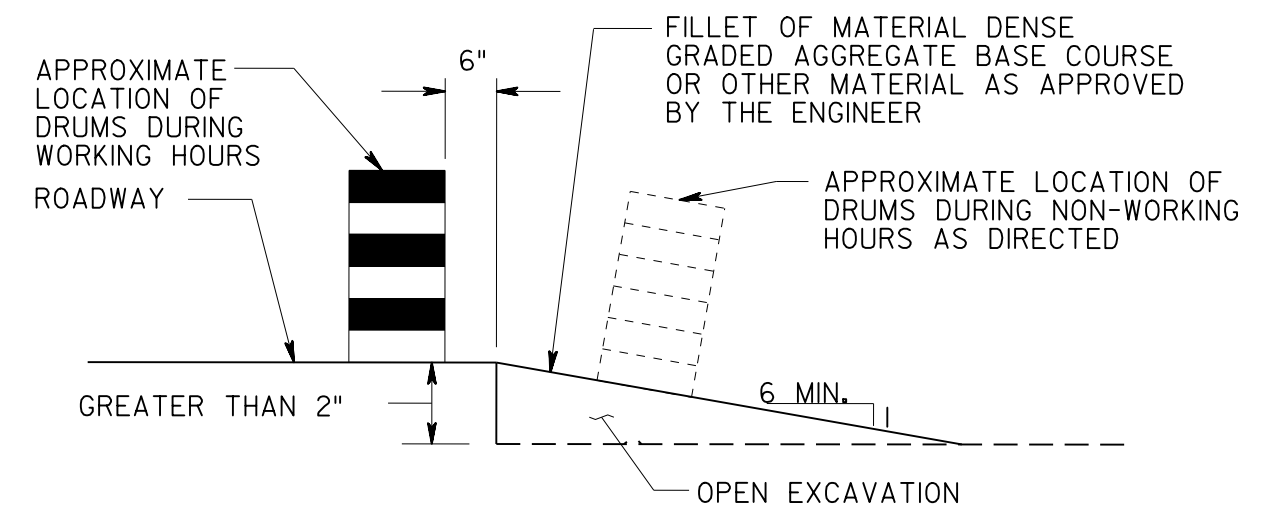
**TRAFFIC CONTROL DETAILS**

PRETTY BROOK ROAD - LHT CONNECTOR TRAIL  
FROM PROVINCE LINE ROAD TO  
CLEVELAND ROAD

WSP USA Inc.  
CERTIFICATION OF AUTHORIZATION NO. 24GA28029800  
*Alfred W. Kotchi, Jr.*  
ALFRED W. KOTCHI, JR.  
NEW JERSEY PROFESSIONAL ENGINEER LICENSE NO. 24GE03930500

**GENERAL LEGEND**  
(NOT TO SCALE)

- [ BREAKAWAY BARRICADE
- [ BREAKAWAY BARRICADE WITH SIGN
- ▬ CONSTRUCTION SIGN
- DRUM
- ◊ CONE
- ▬ PRECAST OR MOVABLE CONCRETE CURB CONSTRUCTION BARRIER (TYPE AND JOINT CLASS SPECIFIED)
- ← DIRECTION OF TRAFFIC FLOW
- ▬ FLAGGER
- ⋮ ILLUMINATED FLASHING ARROW MOUNTED ON TOWING VEHICLE SHOWING CAUTION MODE
- ▬ TRAFFIC CONTROL TRUCK WITH MOUNTED CRASH CUSHION AND ARROW BOARD SHOWING CAUTION MODE
- [ WORK AREA
- [ BUFFER ZONE
- [ TEMPORARY PAVEMENT BEING CONSTRUCTED
- [ TEMPORARY PAVEMENT BUILT
- PAINT STRIPING TRUCK OR OTHER OPERATING VEHICLE



NOTE:  
ESCAPE RAMPS MUST BE CONSTRUCTED PRIOR TO NON-WORKING HOURS AND MAINTAINED DURING NON-WORKING HOURS WHERE A VERTICAL DROP OF GREATER THAN 2 INCHES EXISTS ADJACENT TO A TRAVELED LINE.

**ESCAPE RAMP DETAIL**  
N.T.S.

REGULATORY APPROACH SPEED OF TRAFFIC IN MILES/HOUR	RECOMMENDED TAPER LENGTH AND SPACING FOR CHANNELIZING TAPERS				RECOMMENDED SPACING ALONG TANGENTS	
	MINIMUM TAPER RATIO IN LENGTH PER METER OF WIDTH	MINIMUM TAPER LENGTH L-FOR LANE WIDTHS		MAXIMUM DEVICE (B) SPACING ALONG TAPERS IN FEET	MAXIMUM DEVICE (D) SPACING ALONG TANGENTS IN FEET	
	10'	11'	12'			
25	10.5h	105	115	125	25	50
30	15h	150	165	180	30	60
35	20.5h	205	225	245	35	70
40	27h	270	300	325	40	80
45	45h	450	495	540	45	90
50	50h	500	550	600	50	100
55	55h	550	605	660	55	110
60	60h	600	660	720	60	120
65	65h	650	715	780	65	130

NOTE:  
1. THE MAXIMUM DEVICE SPACING ALONG CURVES SHALL BE AS DEFINED FOR TAPERS (B) IN THE ABOVE TABLE.

**CONSTRUCTION SIGN TABLE**

SIGN DESIGNATION	MESSAGE (DESCRIPTION)	SIZE INCH X INCH	AREA IN SQ. FT.	REQUIRED QUANTITY IN NUMBER	TOTAL AREA IN SQ. FT.
G20-2A	END ROAD WORK	48 X 24	8.0	3	24.0
M4-8a	END DETOUR	24 X 18	3.0	1	3.0
M4-9l	DETOUR LEFT	30 X 24	5.0	5	25.0
M4-9r	DETOUR RIGHT	30 X 24	5.0	6	30.0
M4-9x	DETOUR STRAIGHT	30 X 24	5.0	16	80.0
R11-2	ROAD CLOSED	60 X 30	12.5	2	25.0
R11-3a (LOCAL)	ROAD CLOSED AHEAD LOCAL TRAFFIC ONLY	60 X 30	12.5	2	25.0
SIGN P	PRETTY BROOK RD	24 X 18	3.0	31	93.0
W20-1A (1500 FT)	ROAD WORK 1500 FT	48 X 48	16.0	3	48.0
W20-1D (1/2 MILE)	ROAD WORK 1/2 MILE	48 X 48	16.0	3	48.0
W20-2	ROAD CLOSED AHEAD	48 X 48	16.0	2	32.0
W20-2 (AHEAD)	DETOUR AHEAD	48 X 48	16.0	2	32.0
W20-4B	ONE LANE ROAD 1000 FT	48 X 48	16.0	3	48.0
W20-7a	FLAGGER SYMBOL	48 X 48	16.0	3	48.0
W20-7aS	500 FEET	24 X 18	3.0	3	9.0
W20-7b	BE PREPARED TO STOP	48 X 48	16.0	3	48.0
<b>CONSTRUCTION SIGN TOTAL</b>					<b>618 S.F.</b>

REGULATORY APPROACH SPEED OF TRAFFIC MILES/HOUR	RECOMMENDED SIGHT DISTANCE TO BEGINNING OF CHANNELIZING TAPERS		
	DESIRABLE		MINIMUM
	RURAL FEET	URBAN FEET	RURAL AND URBAN FEET
25	375	525	150
30	450	625	200
35	525	725	250
40	600	825	325
45	675	925	400
50	750	1025	475
55	875	1150	550
60	1000	1275	650
65	1050		725

- NOTES:
1. AVOIDANCE MANEUVER IS FOR A SPEED, PATH, AND/OR DIRECTION CHANGE PRIOR TO THE BEGINNING OF CHANNELIZING TAPERS.
  2. RECOMMENDED DISTANCES BETWEEN TWO SEPARATE LANE CLOSURES SHALL BE DOUBLE THE VALUES SHOWN ABOVE.
  3. RURAL AND URBAN ROAD DESIGNATIONS SHALL BE AS DEFINED IN THE NJDOT STATE HIGHWAY STRAIGHT LINE DIAGRAMS. THIS PROJECT IS DESIGNATED AS URBAN.
  4. DESIRABLE VALUES SHALL BE PROVIDED WHEREVER POSSIBLE. IF IT IS NOT FEASIBLE OR PRACTICAL TO PROVIDE DESIRABLE VALUES BECAUSE OF HORIZONTAL OR VERTICAL CURVATURE OR IF RELOCATION OF THE TAPER IS NOT POSSIBLE, THEN MINIMUM VALUES CAN BE APPLIED. WHEN MINIMUM VALUES ARE USED, SPECIAL ATTENTION SHOULD BE GIVEN TO THE USE OF SUITABLE TRAFFIC CONTROL DEVICES FOR PROVIDING ADVANCED WARNING OF THE CONDITIONS THAT ARE LIKELY TO BE ENCOUNTERED.
  5. TAPERS SHALL BE LOCATED TO MAXIMIZE THE VISIBILITY OF THEIR TOTAL LENGTH.

CHANNELIZATION DEVICES	
DEVICE	CONTRACT QUANTITY
BREAKAWAY BARRICADES	20 UNITS
DRUMS	40 UNITS
TRAFFIC CONES	20 UNITS

NEW JERSEY DEPARTMENT OF TRANSPORTATION

**TRAFFIC CONTROL DETAILS**

PRETTY BROOK ROAD - LHT CONNECTOR TRAIL  
FROM PROVINCE LINE ROAD TO  
CLEVELAND ROAD

WSP USA Inc.  
CERTIFICATION OF AUTHORIZATION NO. 24GA28029800  
*Alfred W. Kotchi, Jr.*  
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NEW JERSEY PROFESSIONAL ENGINEER LICENSE NO. 24GE03930500

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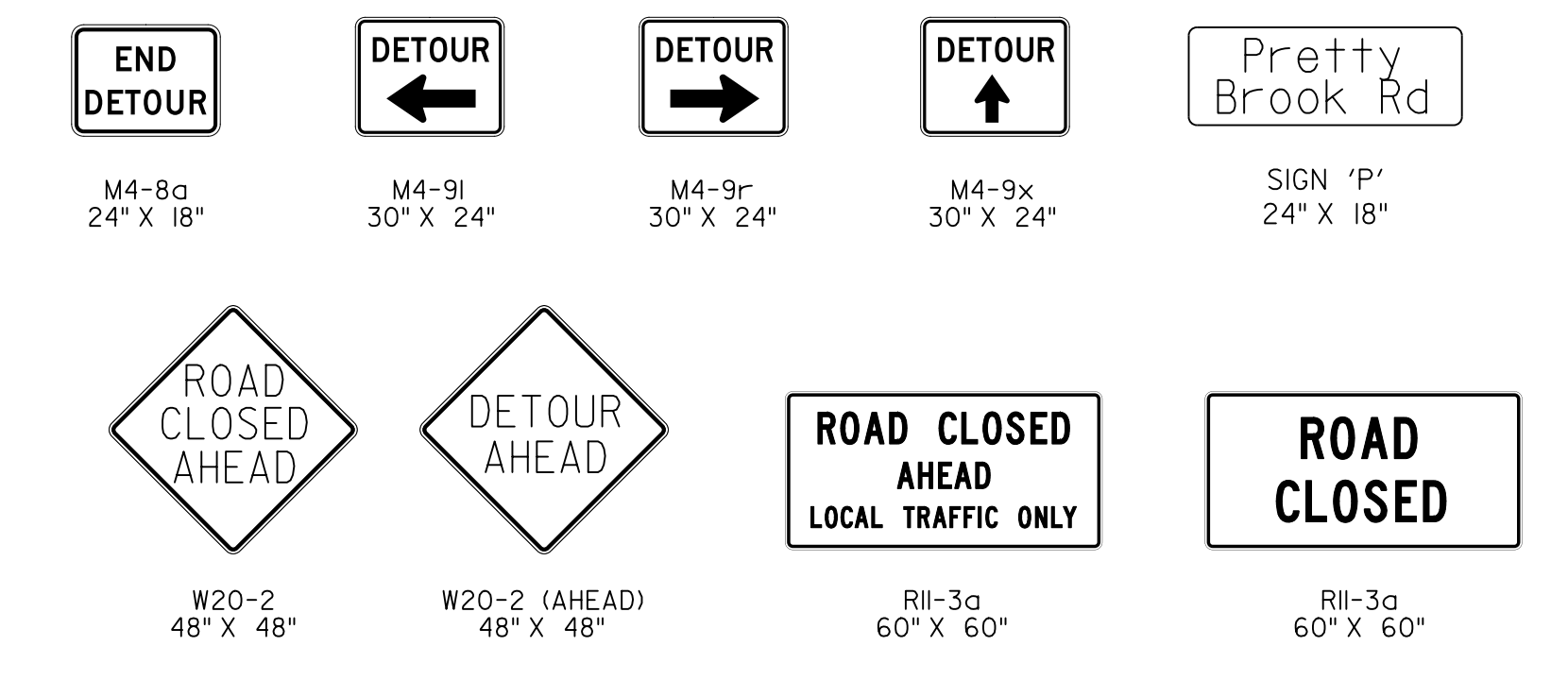
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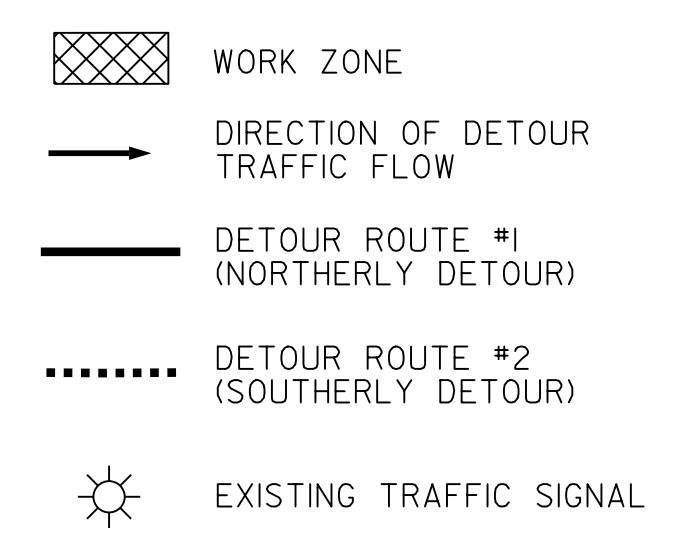
WSP USA Inc.



**SIGN LEGEND**

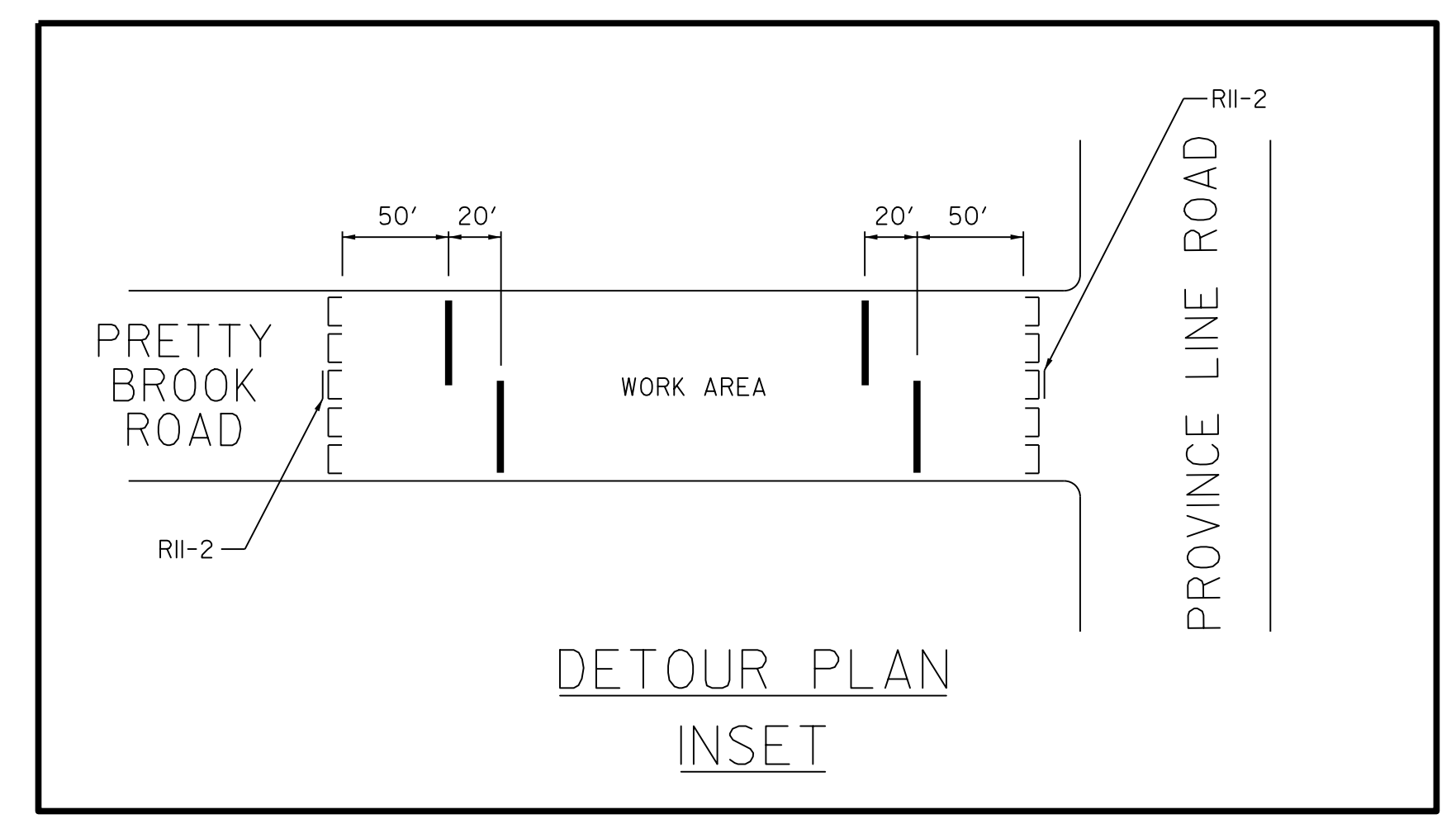


**LEGEND**



**NOTES:**

I, M, W AND D SERIES SIGNS TO BE BLACK LETTERS ON ORANGE BACKGROUND.

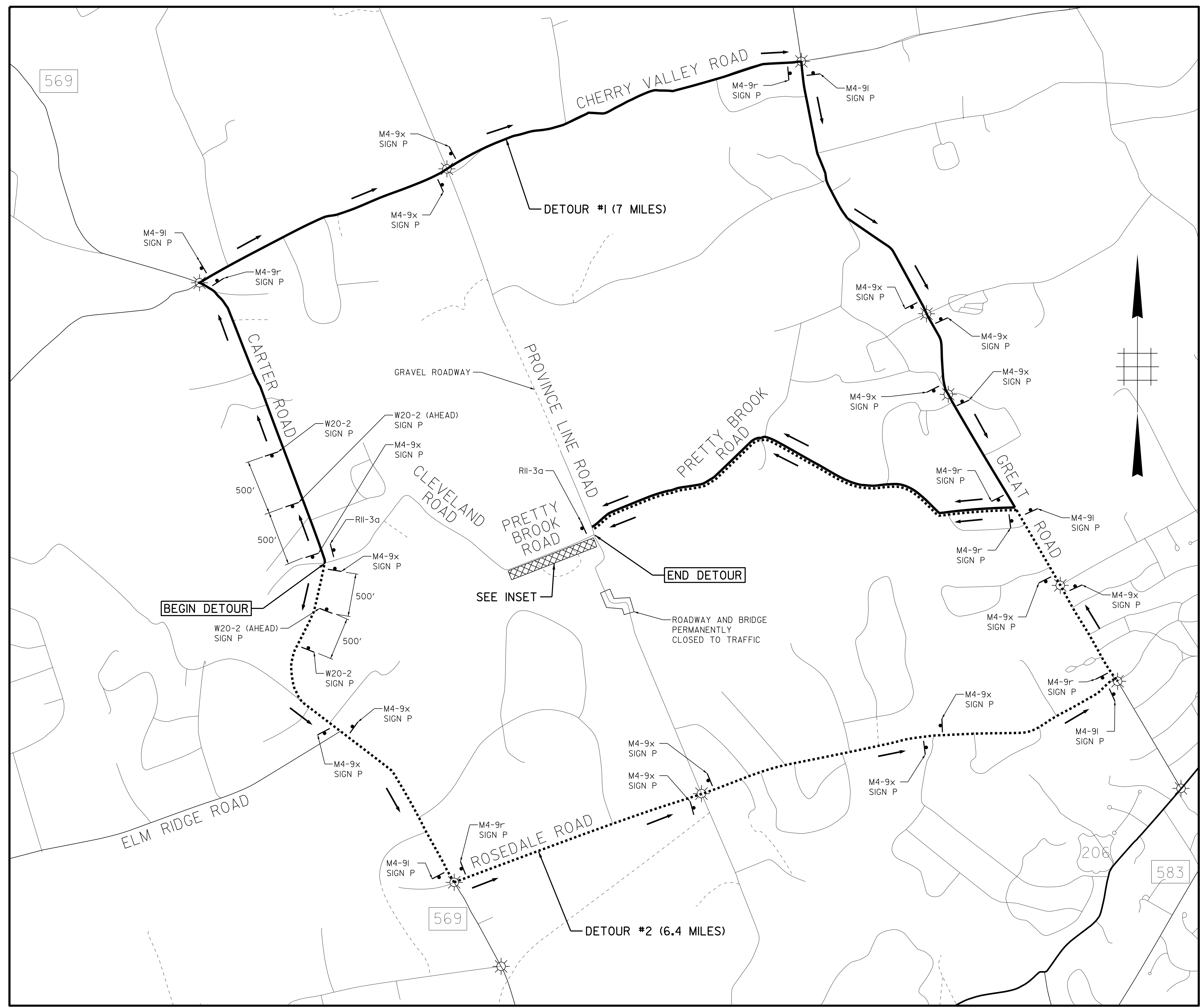


NEW JERSEY DEPARTMENT OF TRANSPORTATION

**TRAFFIC CONTROL AND STAGING PLANS**  
 PRETTY BROOK ROAD - LHT CONNECTOR TRAIL FROM PROVINCE LINE ROAD TO CLEVELAND ROAD

WSP USA Inc.  
 CERTIFICATION OF AUTHORIZATION NO. 24GA28029800  
 ALFRED W. KOTCHI, JR.  
 NEW JERSEY PROFESSIONAL ENGINEER LICENSE NO. 24GE03930500

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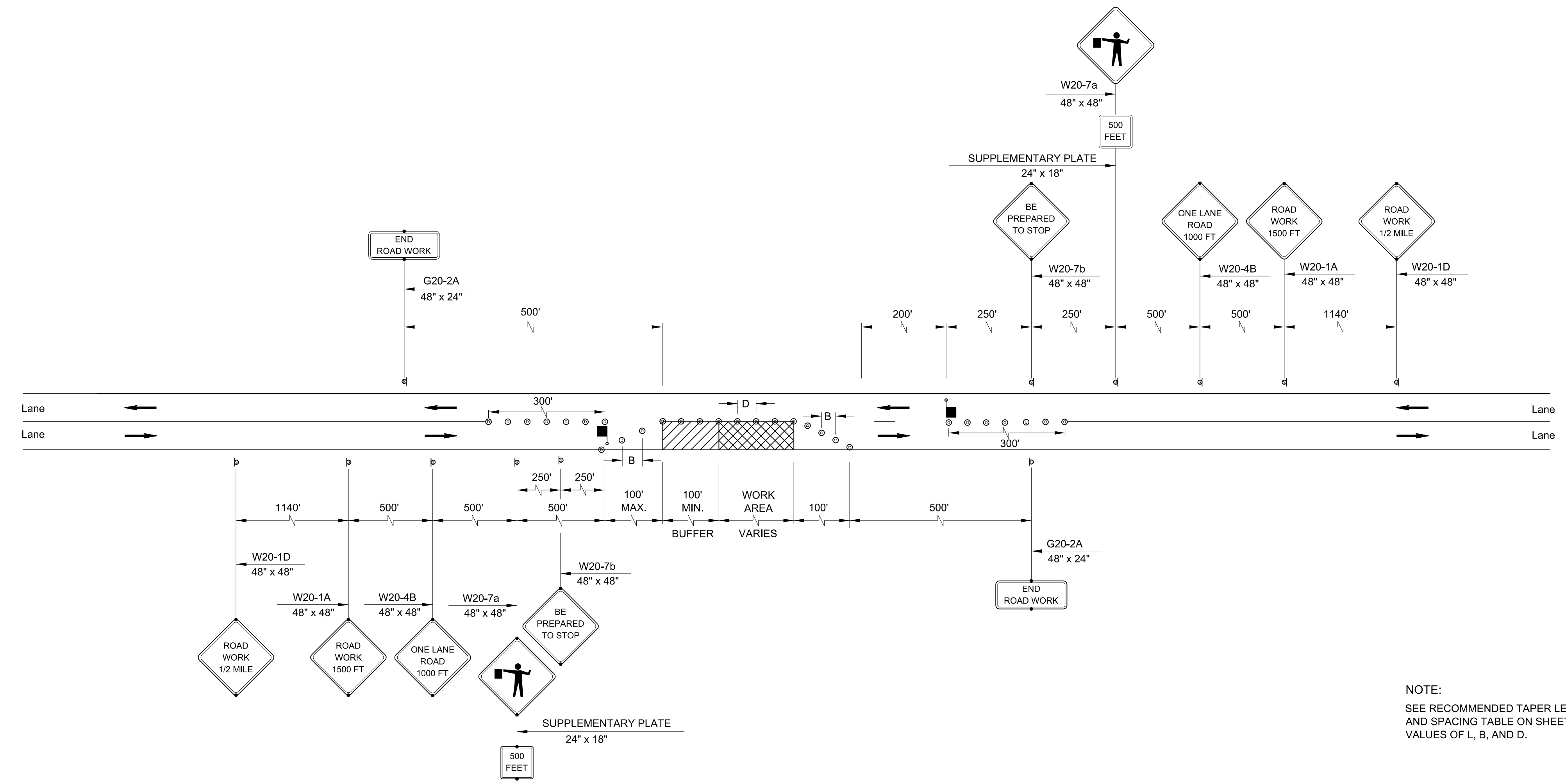
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LEGEND

- [ ] BREAKAWAY BARRICADES
- [ ] BREAKAWAY BARRICADES WITH SIGN
- Ⓢ CONSTRUCTION SIGNS
- ⊙ DRUMS OR ◈ CONES
- PRECAST CONCRETE CONSTRUCTION BARRIER (TYPE SPECIFIED)
- ← DIRECTION OF TRAFFIC FLOW
- FLAGGER
- ▨ WORK AREA
- ▩ BUFFER ZONE

STANDARD SIGNS					
SIGN	SIGN DESIGN	SIGN TYPE	SIGN SIZE	MOUNT TYPE	
1		R(NJ)5-17	48"x30"	2 POSTS	
2		W20-4B	48"x48"	2 POSTS	
3		W20-7a	48"x48"	2 POSTS	
4		W20-1*	48"x48"	2 POSTS	
5		W20-7b	48"x48"	2 POSTS	
6		G20-2A	48"x24"	2 POSTS	
7		W16-2A	24"x18"	2 POSTS	



NOTE:  
SEE RECOMMENDED TAPER LENGTH  
AND SPACING TABLE ON SHEET 18 FOR  
VALUES OF L, B, AND D.

2 LANES, UNDIVIDED, LANE CLOSING WITH FLAGGING

NOTE:  
REFER TO THE NJDOT STANDARD CONSTRUCTION DETAILS  
ROADWAY / TRAFFIC CONTROL / BRIDGE CONSTRUCTION  
BOOKLET, 2016 FOR TRAFFIC CONTROL DEVICE DETAILS.

NOTE:  
NJDOT STANDARD CONSTRUCTION DETAILS  
(ROADWAY, TRAFFIC CONTROL, BRIDGE) TO BE USED  
FOR DETAILS NOT SHOWN ON THESE PLANS.

NEW JERSEY DEPARTMENT OF TRANSPORTATION

**TRAFFIC CONTROL AND STAGING PLANS**

PRETTY BROOK ROAD - LHT CONNECTOR TRAIL FROM PROVINCE LINE ROAD TO CLEVELAND ROAD

WSP USA Inc.  
CERTIFICATION OF AUTHORIZATION NO. 24GA28029800

*Alfred W. Kotchi, Jr.*  
ALFRED W. KOTCHI, JR.  
NEW JERSEY PROFESSIONAL ENGINEER LICENSE NO. 24GE03930500

TC-2  
TC-3



NJDOT.rbl

Brelsford

30-JUN-2022 08:18

T:\52341\LHT\_Pretty\_Brook\trf\td05.dgn

WSP USA Inc.

**LEGEND**

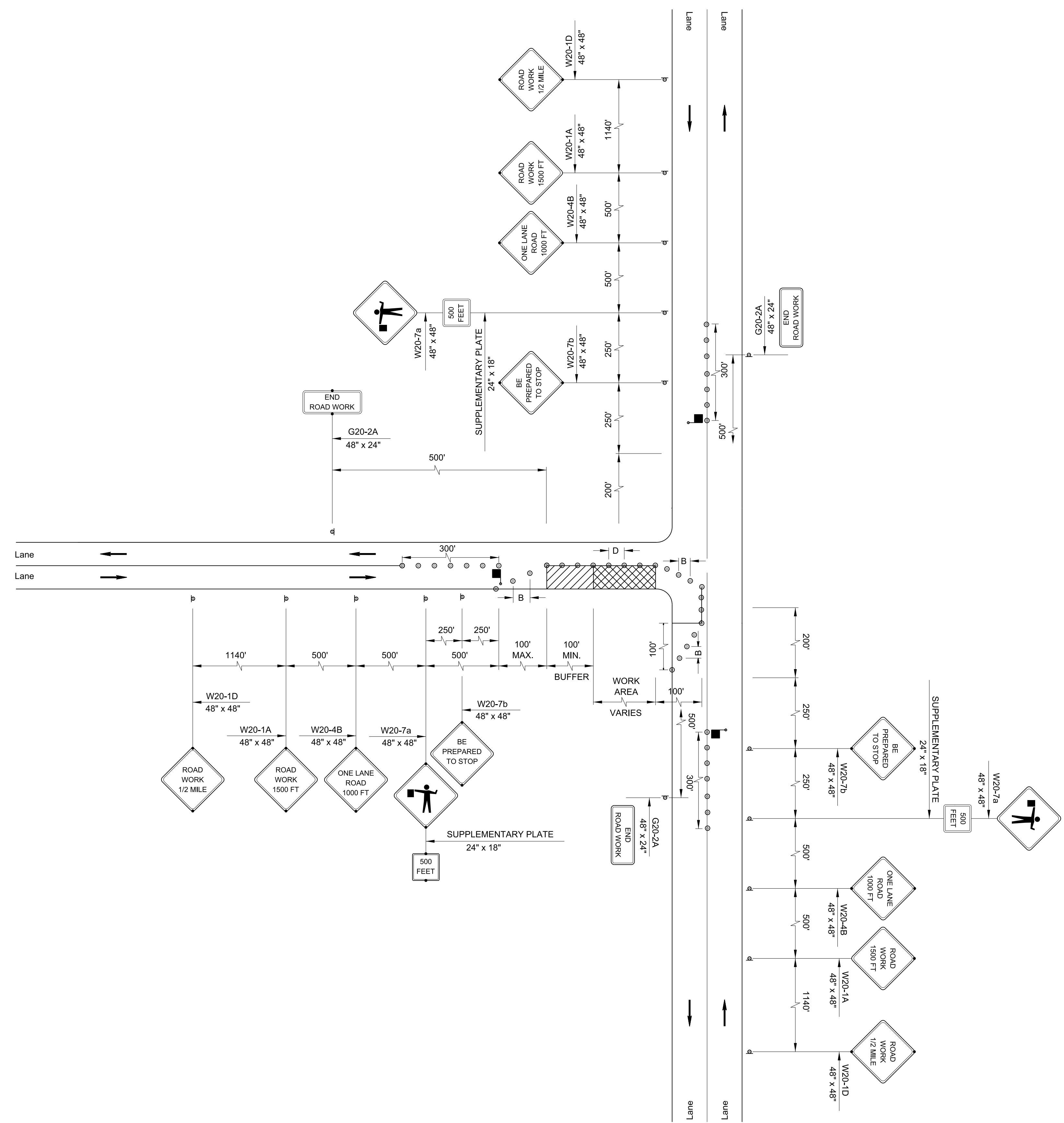
- BREAKAWAY BARRICADES
- BREAKAWAY BARRICADES WITH SIGN
- CONSTRUCTION SIGNS
- DRUMS OR CONES
- PRECAST CONCRETE CONSTRUCTION BARRIER (TYPE SPECIFIED)
- DIRECTION OF TRAFFIC FLOW
- FLAGGER
- WORK ZONE
- BUFFER ZONE

**STANDARD SIGNS**

SIGN	SIGN DESIGN	SIGN TYPE	SIGN SIZE	MOUNT TYPE
1		W20-4B	48"x48"	2 POSTS
2		W20-7a	48"x48"	2 POSTS
3		W20-1*	48"x48"	2 POSTS
4		W20-7b	48"x48"	2 POSTS
5		G20-2A	48"x24"	2 POSTS
6		W16-2A	24"x18"	2 POSTS
7		W1-4A (L OR R)	48"x48"	2 POSTS
8		W5-1 (S)	48"x48"	2 POSTS
9		W1-6	48"x 24"	BARRICADE MOUNTED

NOTE:  
REFER TO THE NJDOT STANDARD CONSTRUCTION DETAILS ROADWAY / TRAFFIC CONTROL / BRIDGE CONSTRUCTION BOOKLET, 2016 FOR TRAFFIC CONTROL DEVICE DETAILS.

NOTE:  
SEE RECOMMENDED TAPER LENGTH AND SPACING TABLE ON SHEET 18 FOR VALUES OF L, B, AND D.



2 LANES, UNDIVIDED, T-INTERSECTION

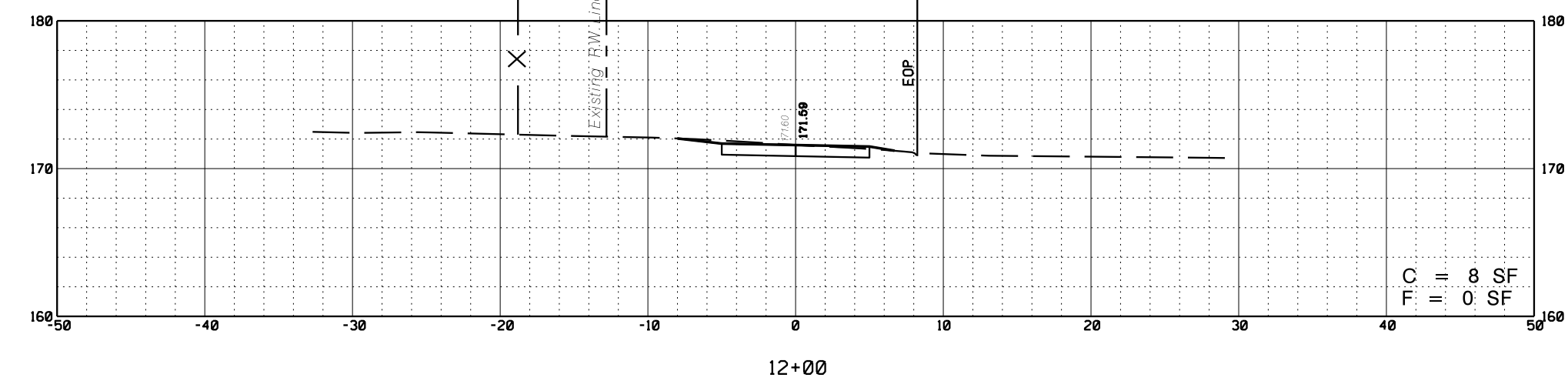
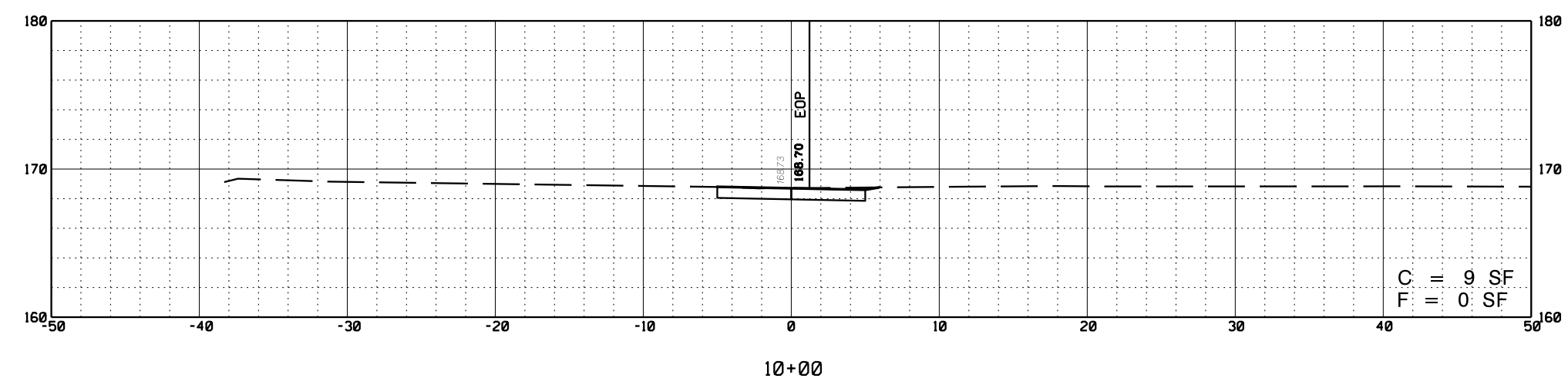
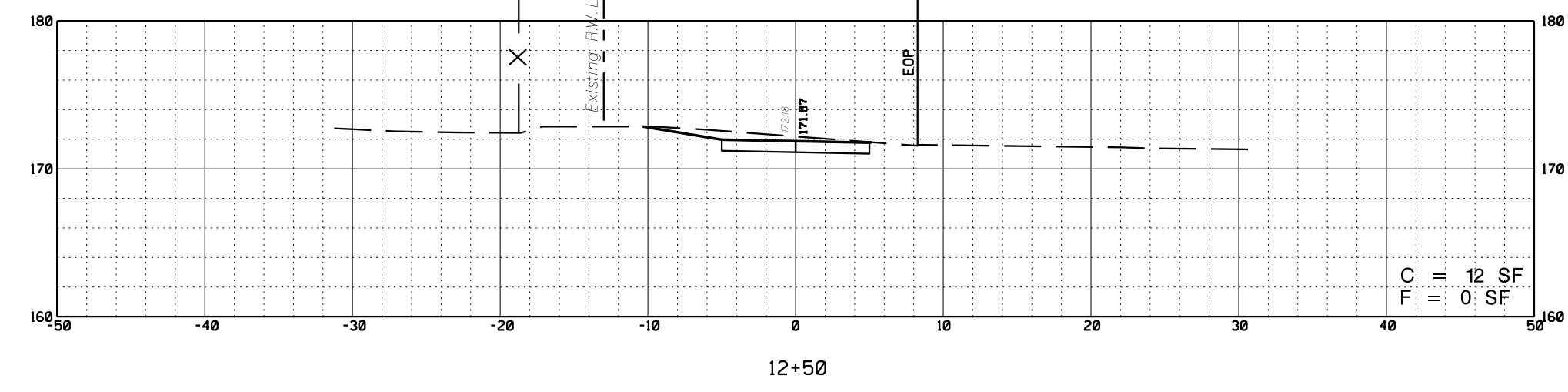
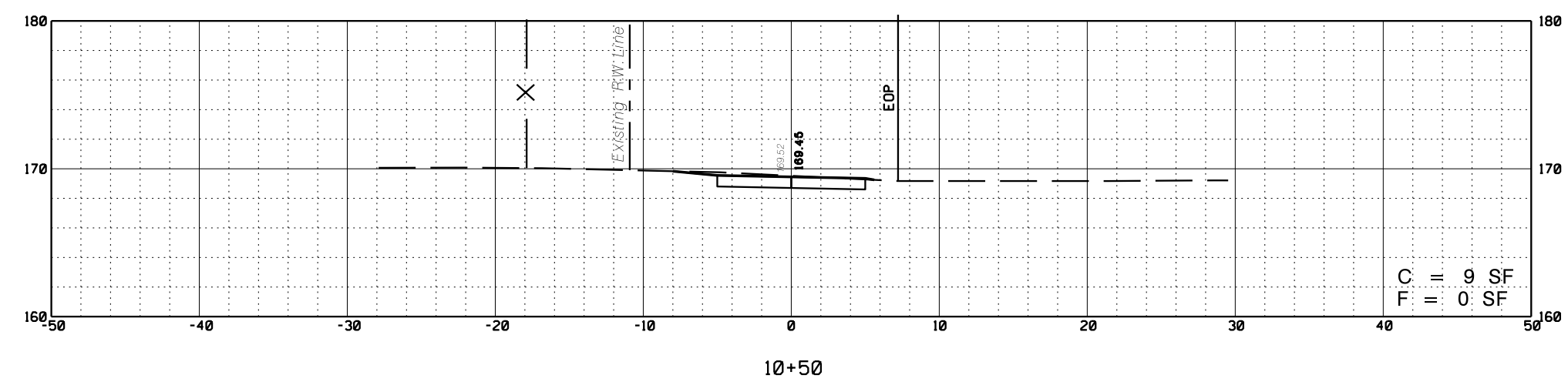
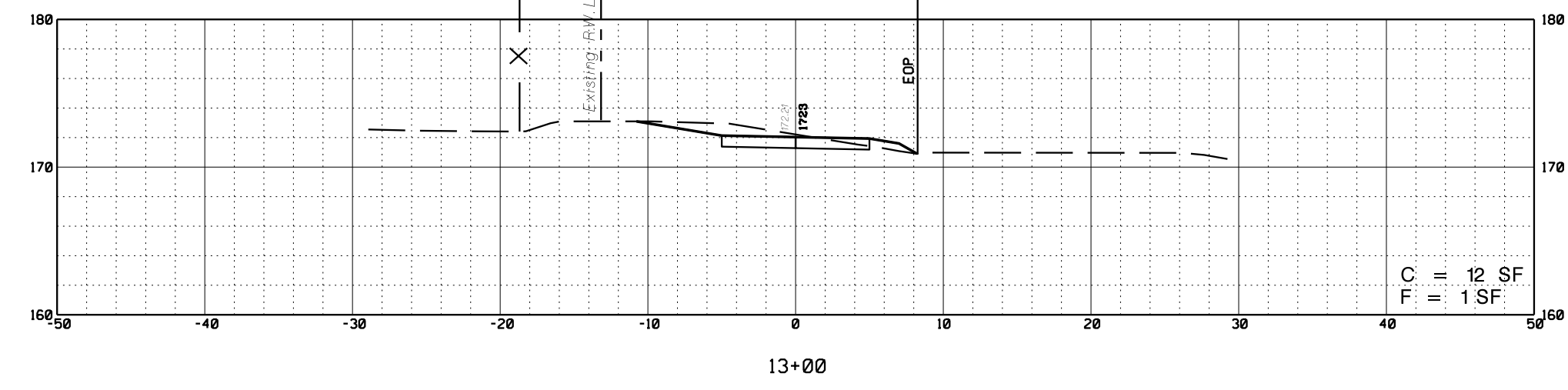
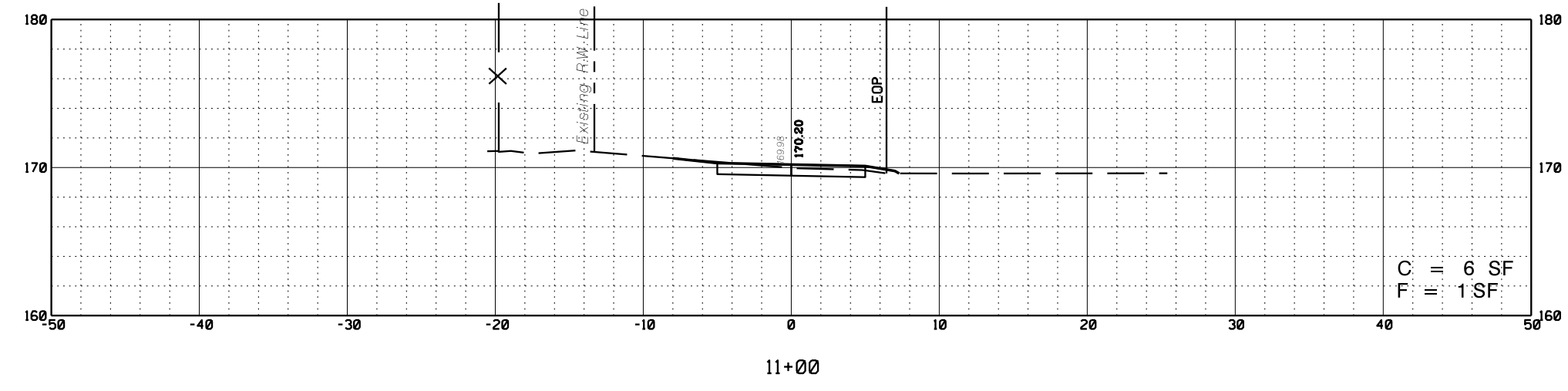
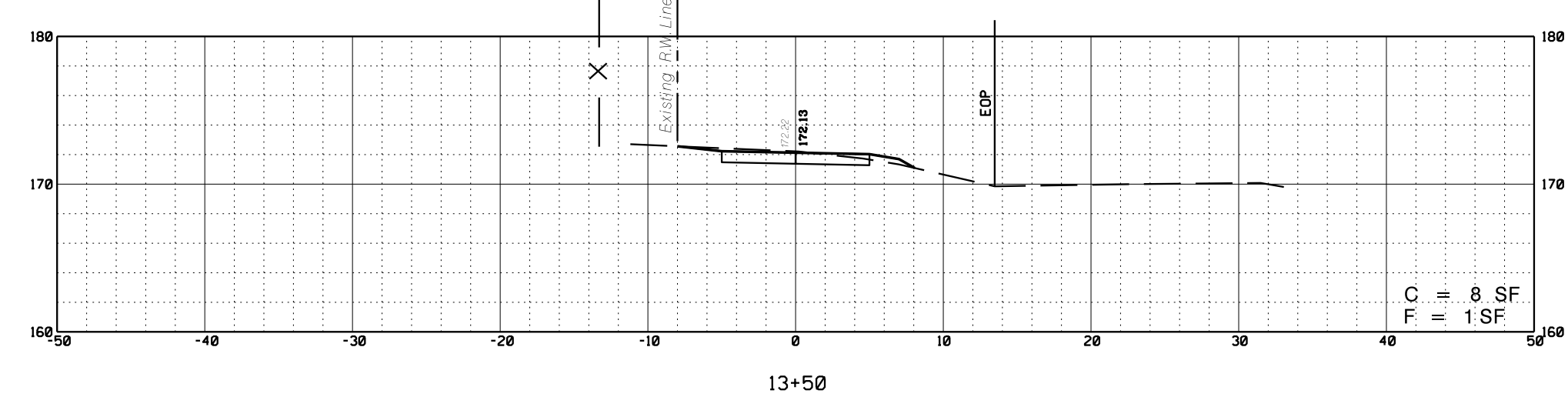
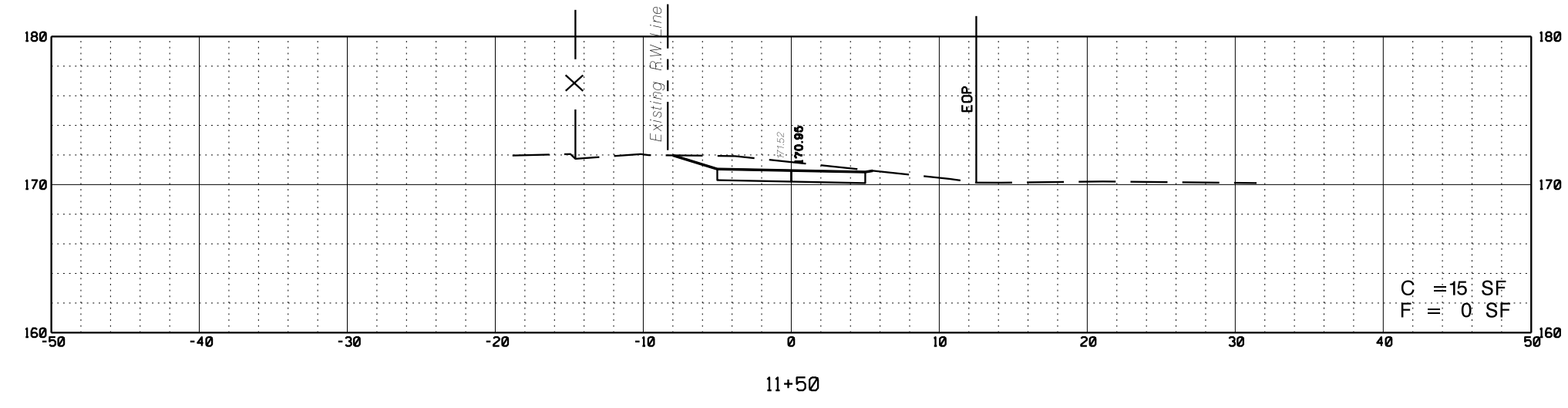
NEW JERSEY DEPARTMENT OF TRANSPORTATION

**TRAFFIC CONTROL AND STAGING PLANS**

PRETTY BROOK ROAD - LHT CONNECTOR TRAIL FROM PROVINCE LINE ROAD TO CLEVELAND ROAD

WSP USA Inc.  
CERTIFICATION OF AUTHORIZATION NO. 24GA28029800  
*Alfred W. Kotchi, Jr.*  
ALFRED W. KOTCHI, JR.  
NEW JERSEY PROFESSIONAL ENGINEER LICENSE NO. 24GE03930500

TC-3  
TC-3



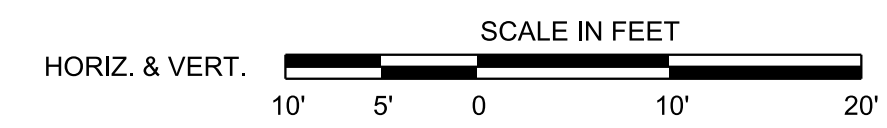
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Runk

30-JUN-2022 18:59



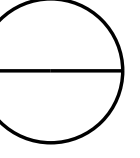
LAWRENCE TOWNSHIP, MERCER COUNTY, NEW JERSEY

### CROSS SECTIONS

LAWRENCE HOPEWELL TRAIL - PRETTY BROOK SEGMENT  
FROM PROVINCE LINE ROAD TO CLEVELAND ROAD

WSP USA, Inc.  
CERTIFICATION OF AUTHORIZATION NO. 24GA28029800  
*Jolly O. Benitez*  
JOLLY O. BENITEZ  
NEW JERSEY PROFESSIONAL ENGINEER NO. 24GE05810100

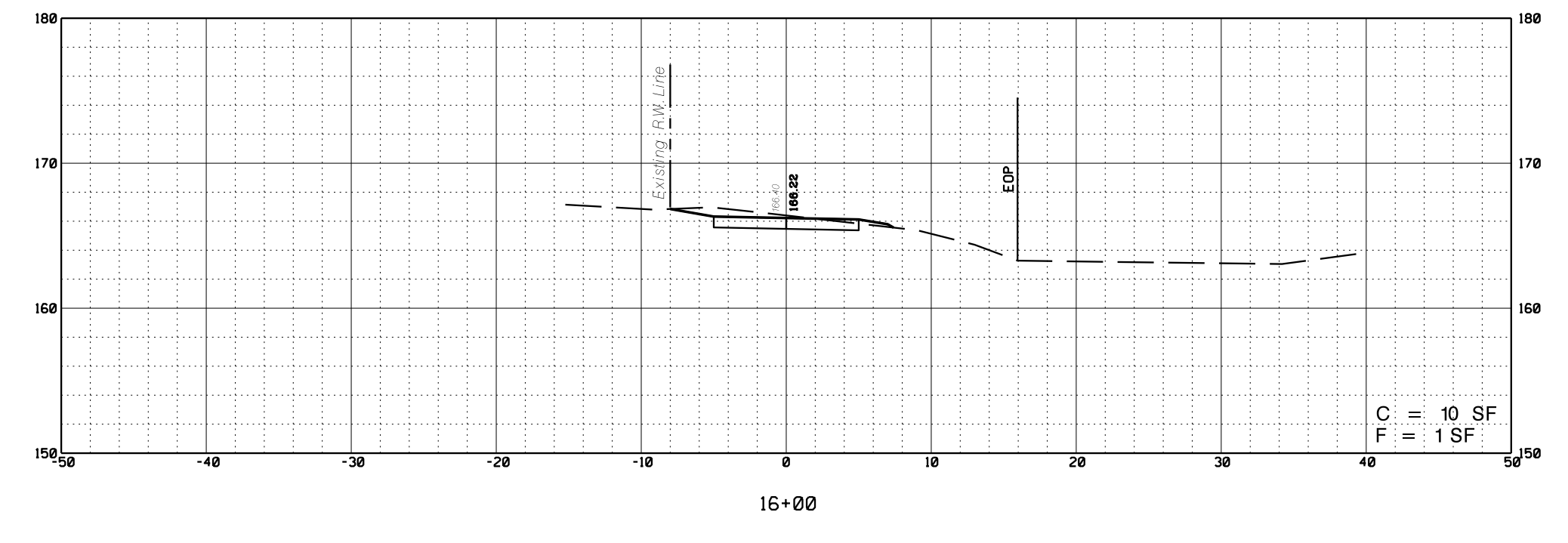
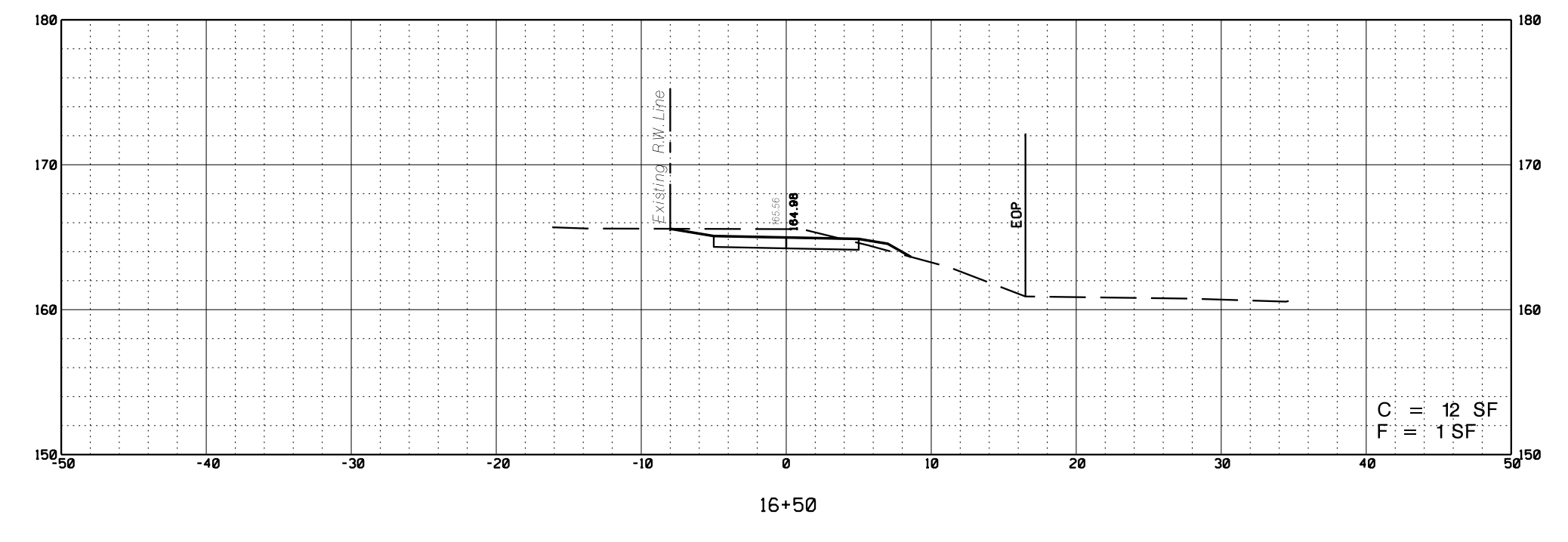
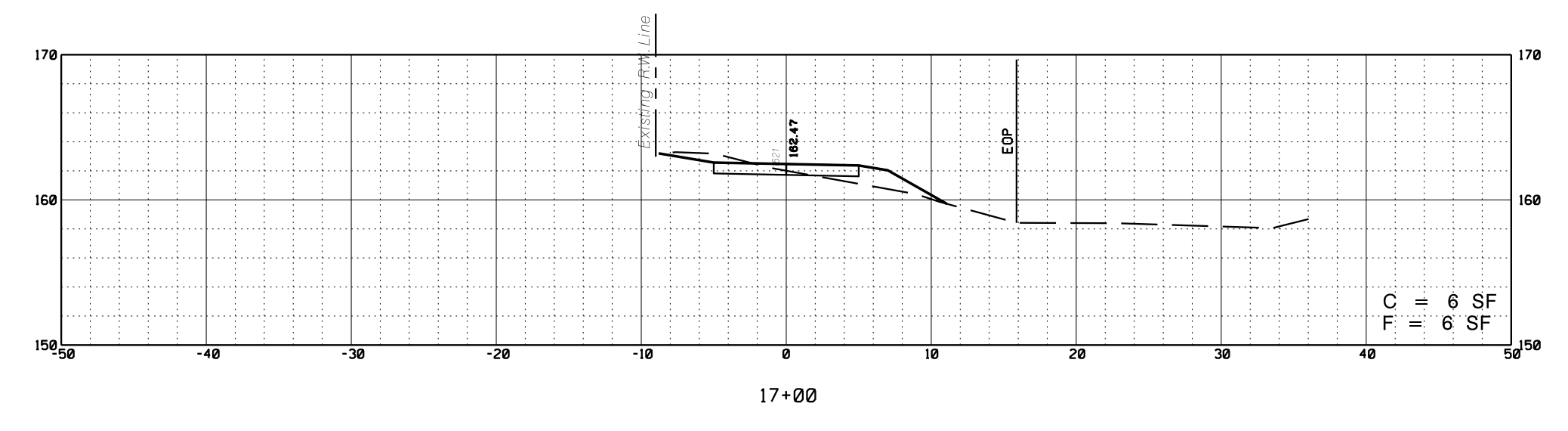
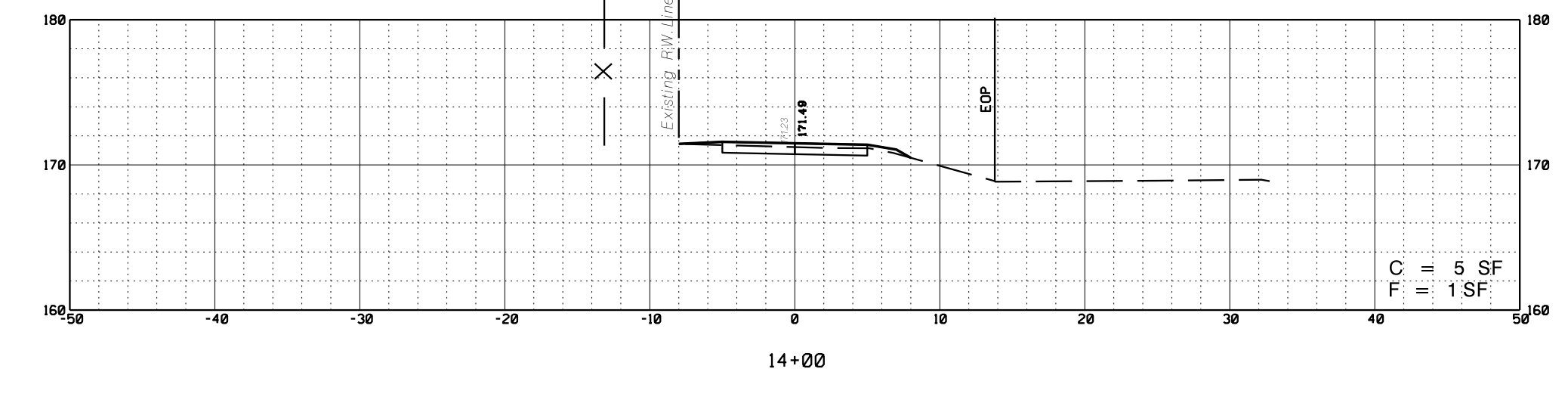
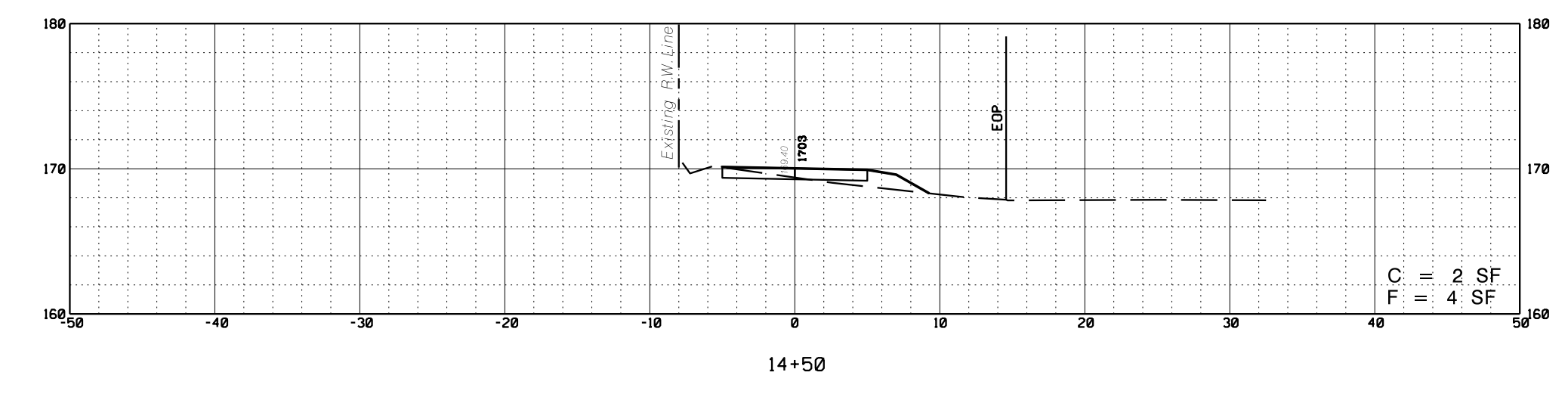
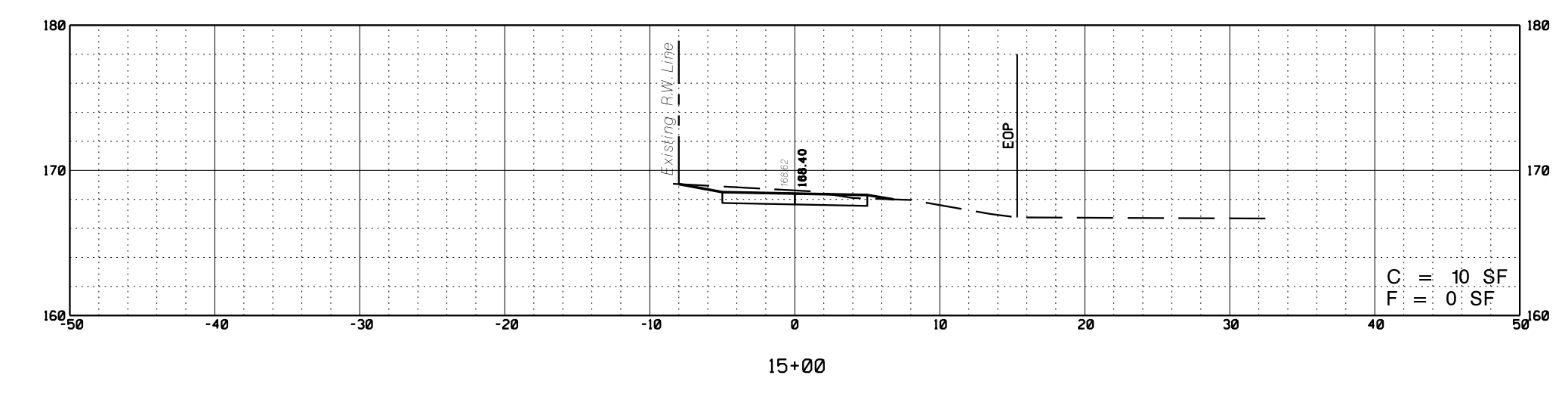
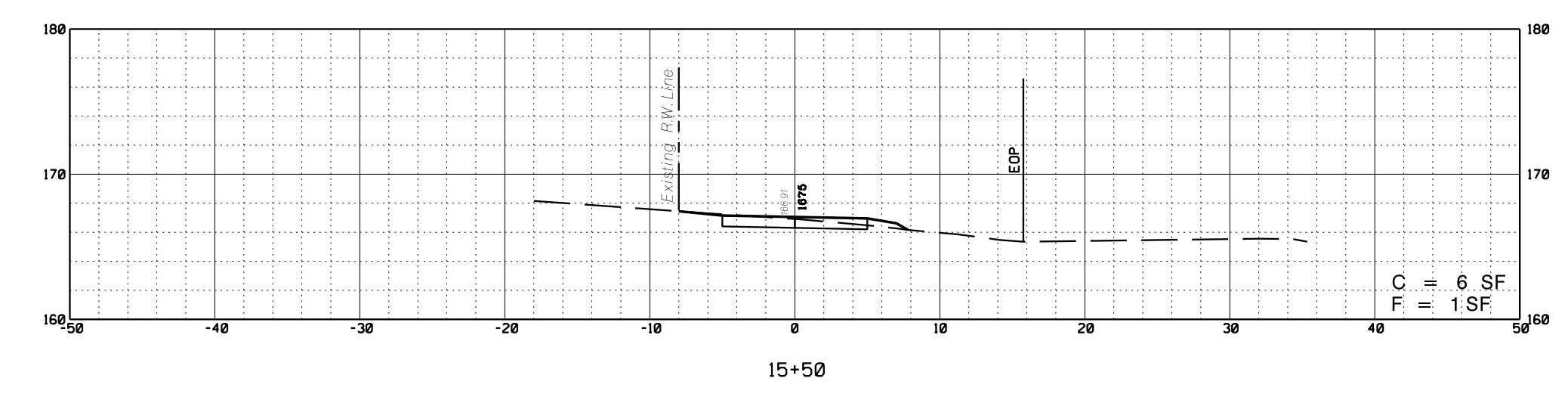
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X-6



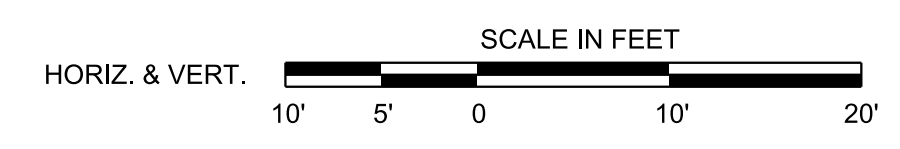



WSP USA, Inc.  
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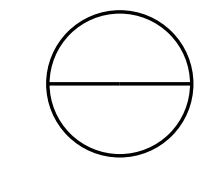


STA. 14+00 TO STA. 17+00



LAWRENCE TOWNSHIP, MERCER COUNTY, NEW JERSEY	
<b>CROSS SECTIONS</b>	
LAWRENCE HOPEWELL TRAIL - PRETTY BROOK SEGMENT FROM PROVINCE LINE ROAD TO CLEVELAND ROAD	
WSP USA, Inc. CERTIFICATION OF AUTHORIZATION NO. 24GA28029800	
 JOLLY O. BENITEZ NEW JERSEY PROFESSIONAL ENGINEER NO. 24GE05810100	

X-2  
X-6

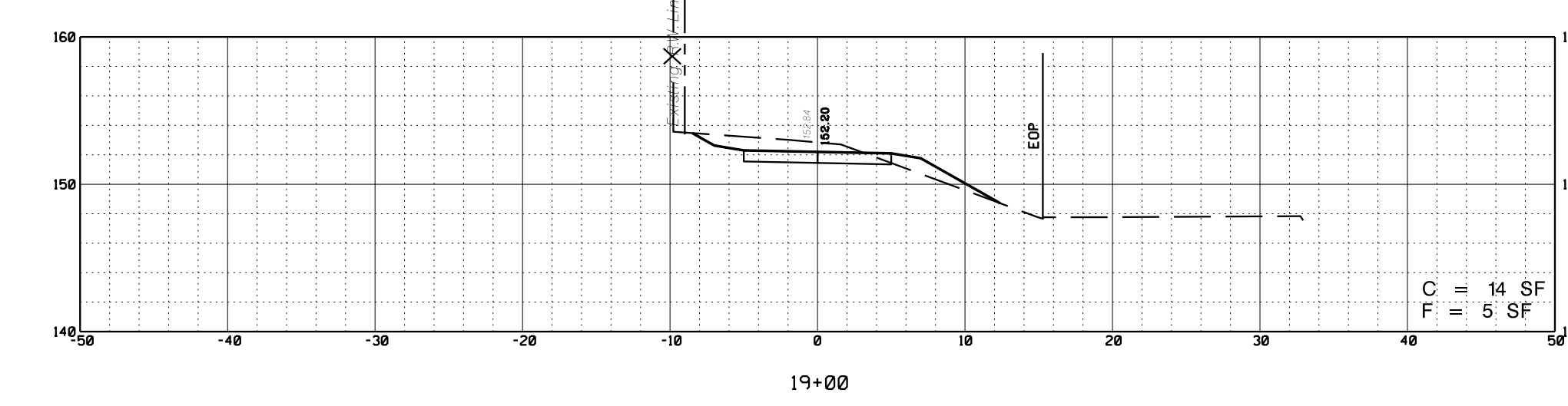
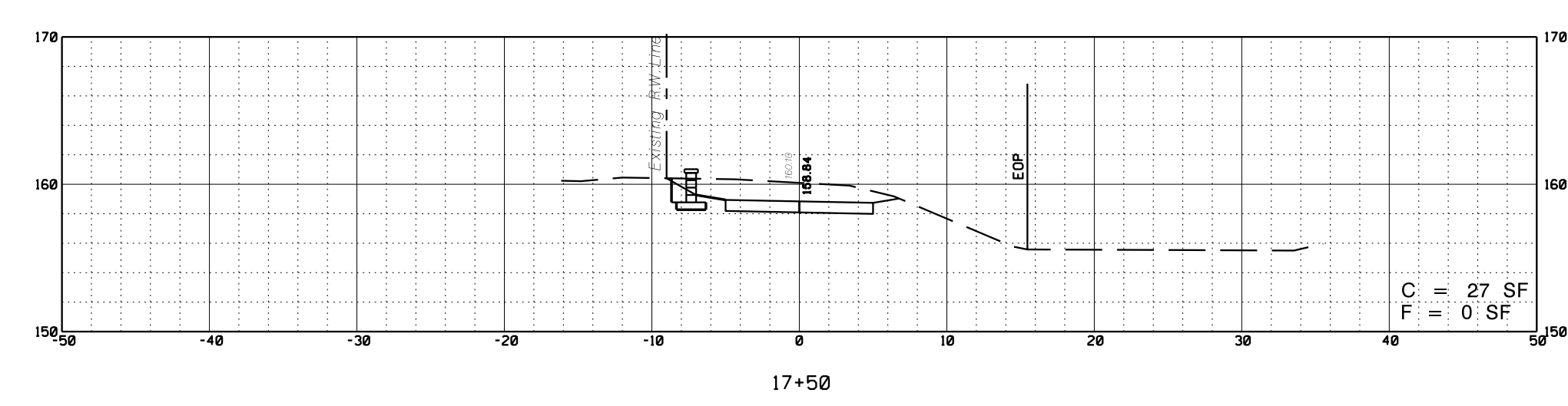
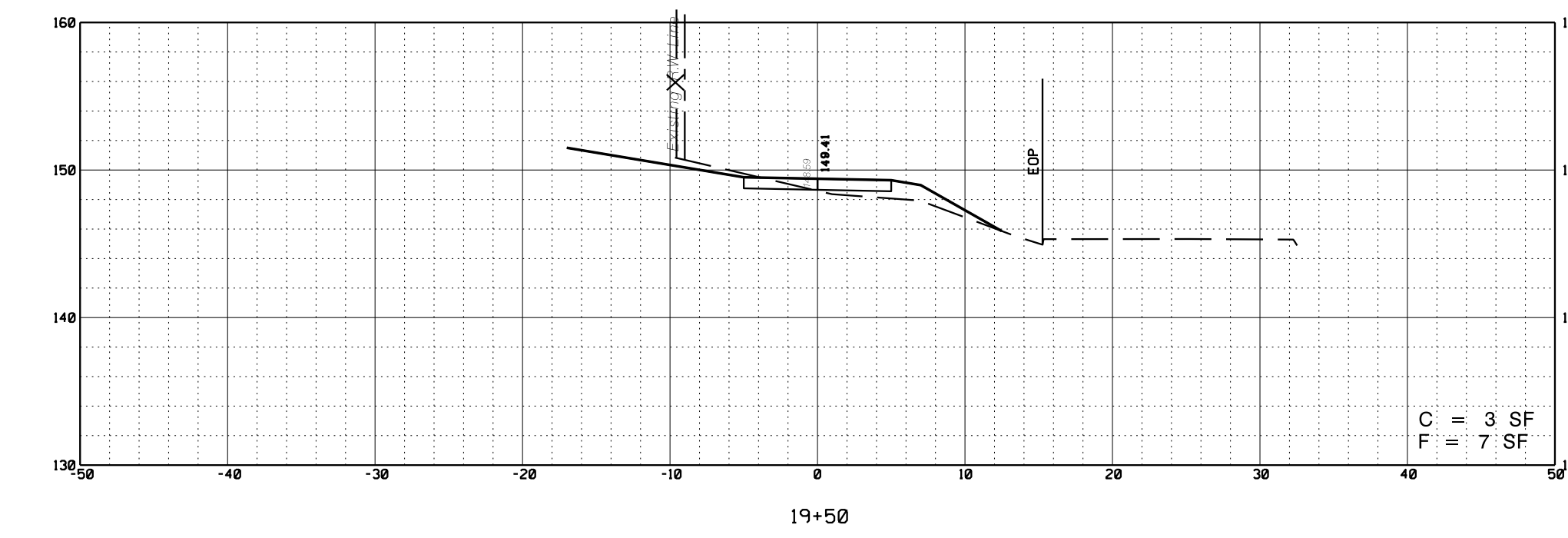
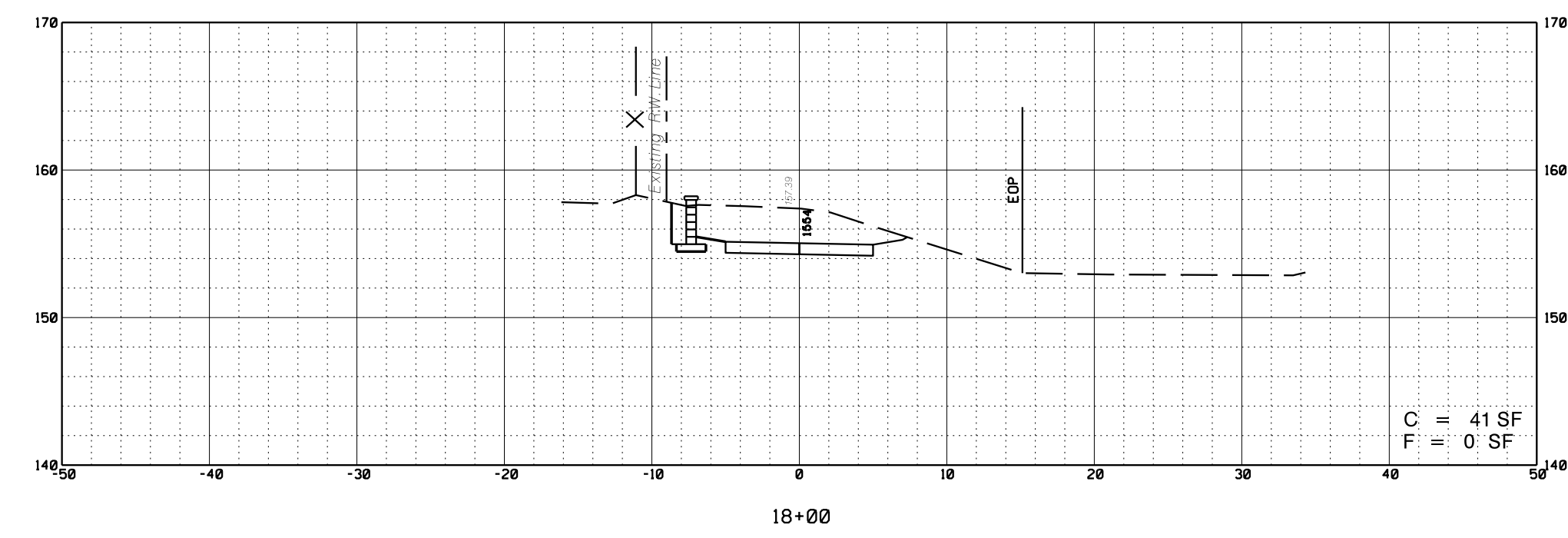
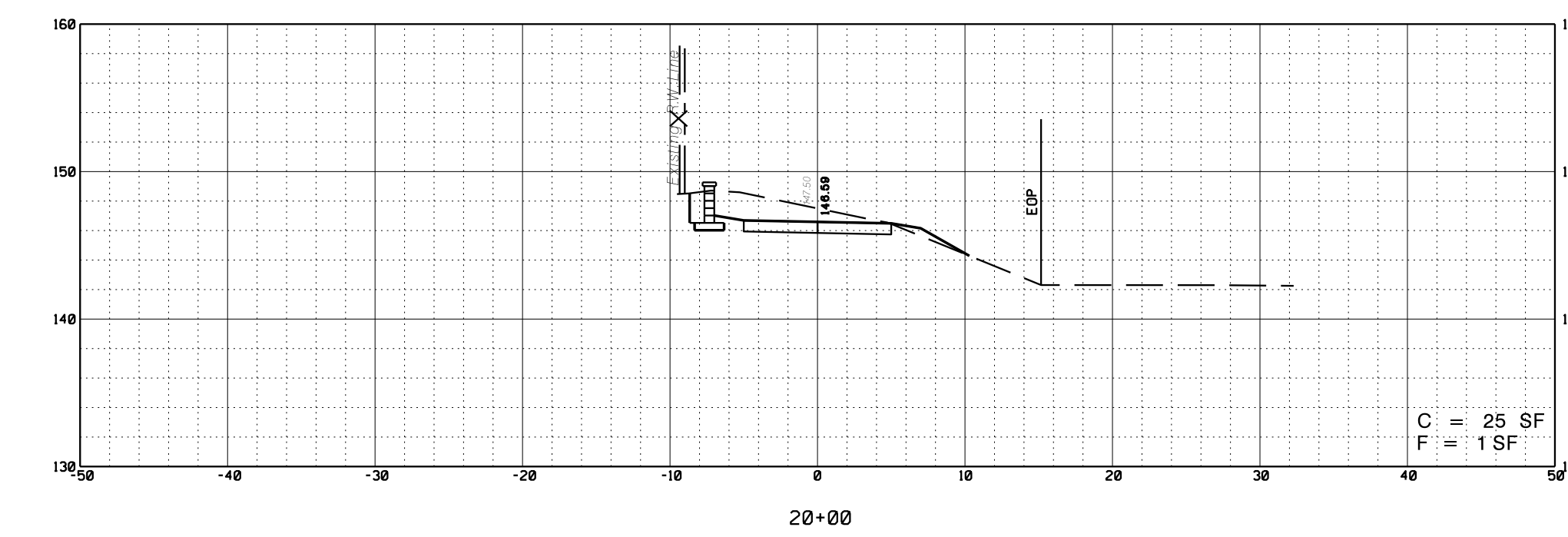
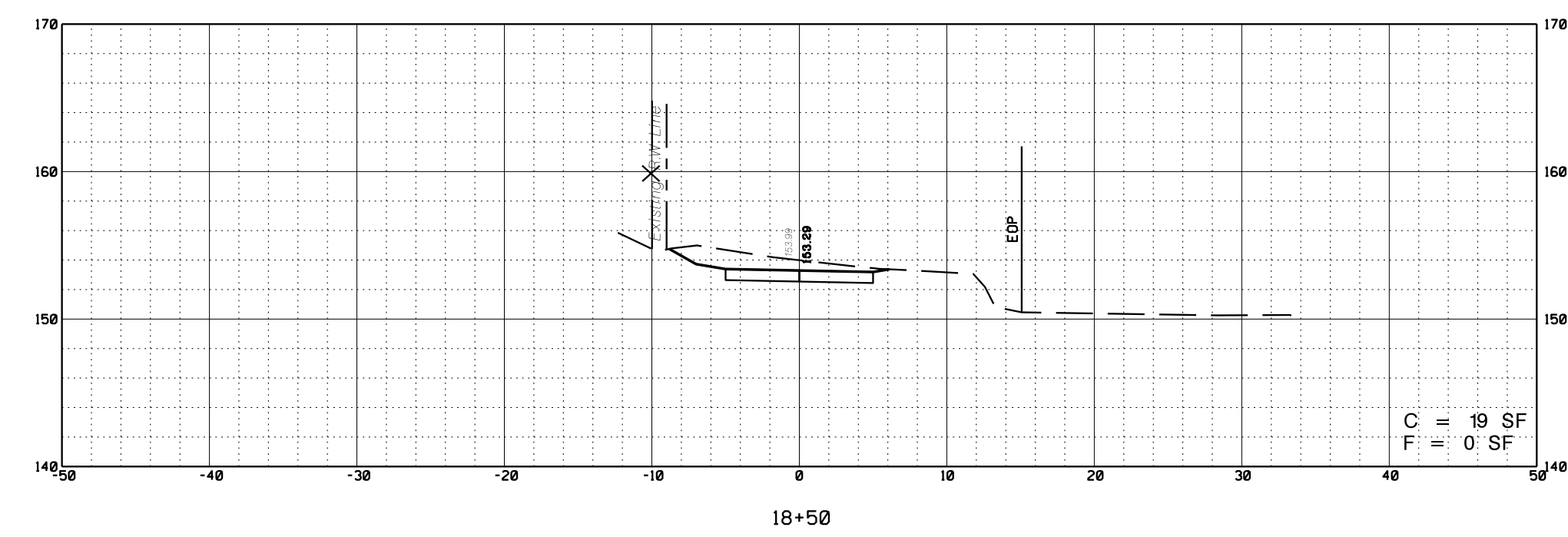


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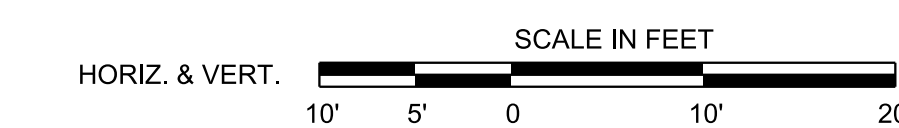
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30-JUN-2022 19:00

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STA. 17+50 TO STA. 20+00



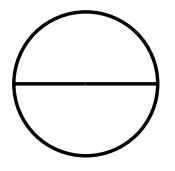
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X-6

LAWRENCE TOWNSHIP, MERCER COUNTY, NEW JERSEY

## CROSS SECTIONS

LAWRENCE HOPEWELL TRAIL - PRETTY BROOK SEGMENT  
FROM PROVINCE LINE ROAD TO CLEVELAND ROAD

WSP USA Inc.  
 CERTIFICATION OF AUTHORIZATION NO. 24GA28029800  
  
 JOLLY O. BENITEZ  
 NEW JERSEY PROFESSIONAL ENGINEER NO. 24GE05810100

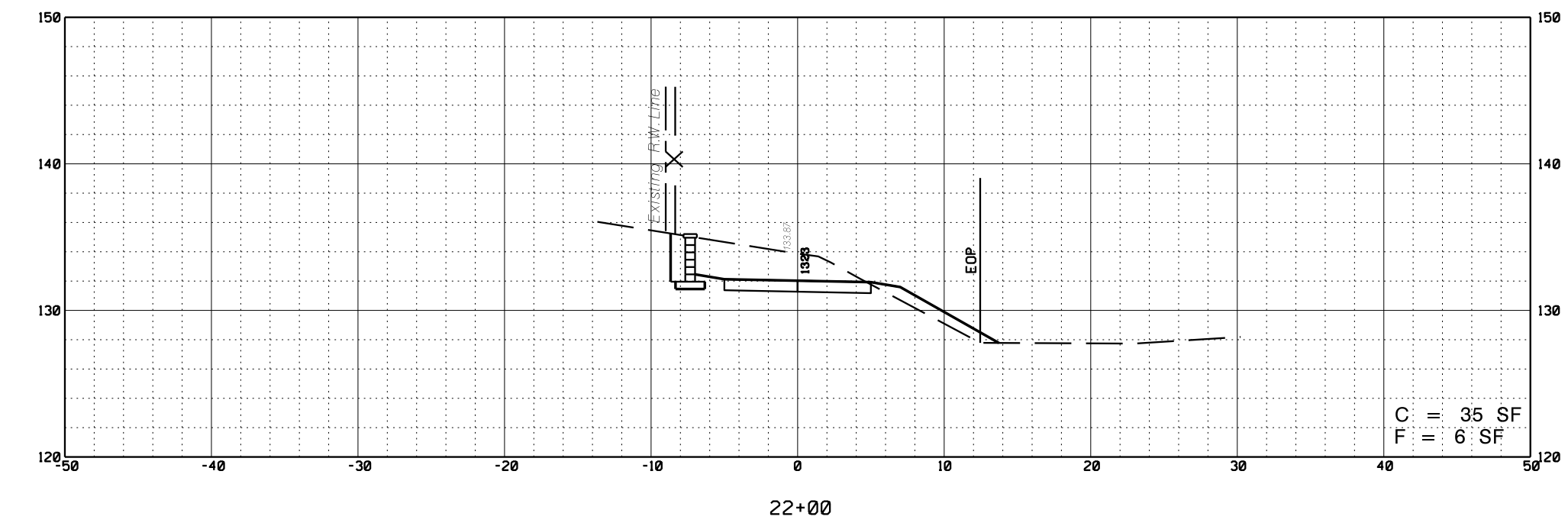
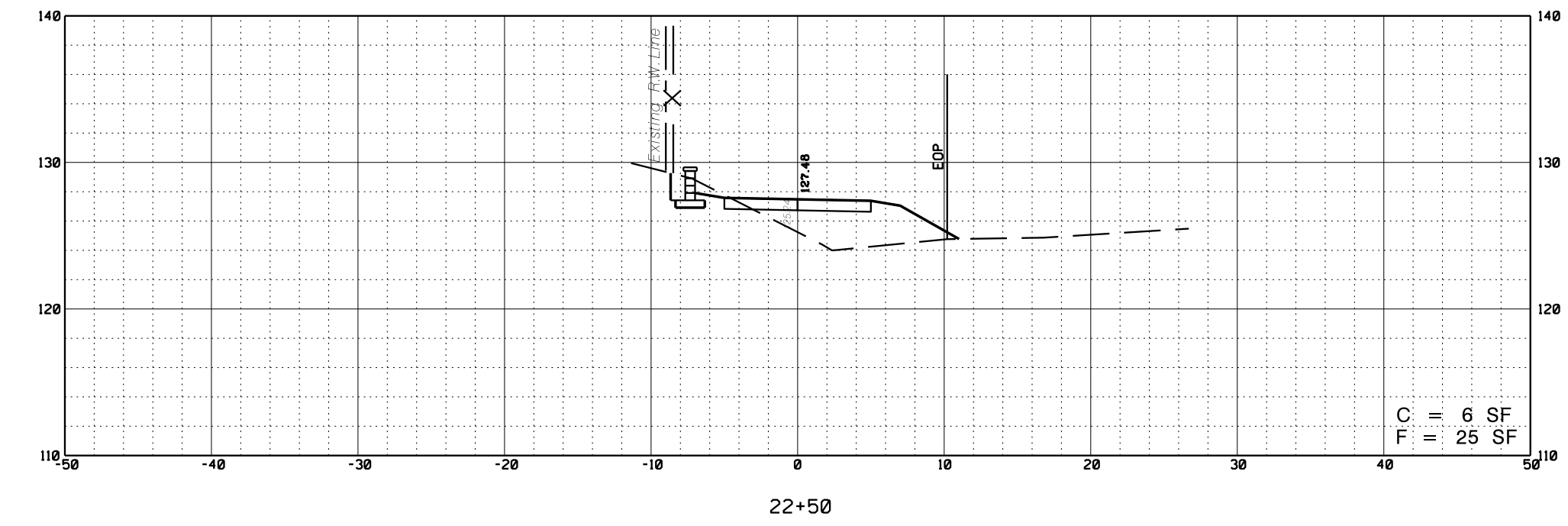
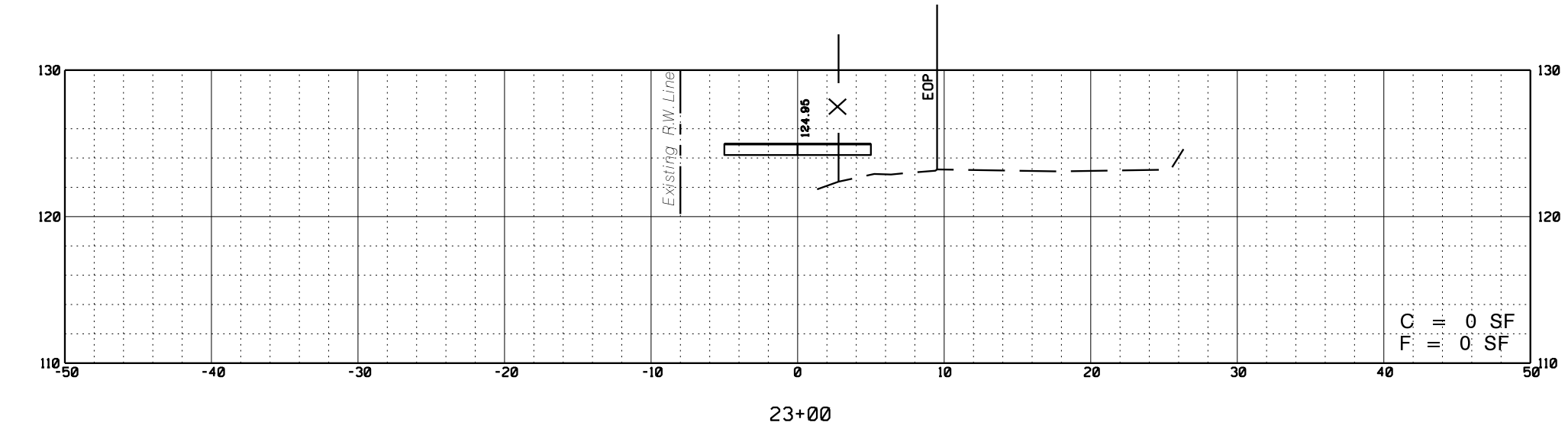
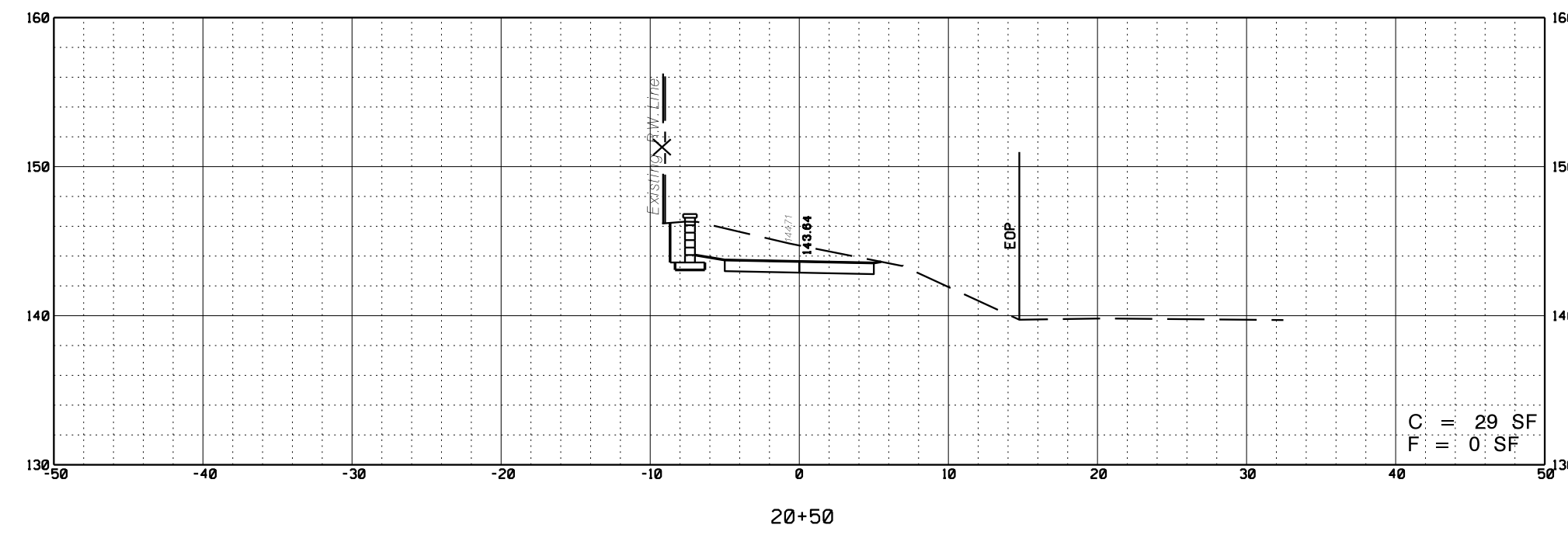
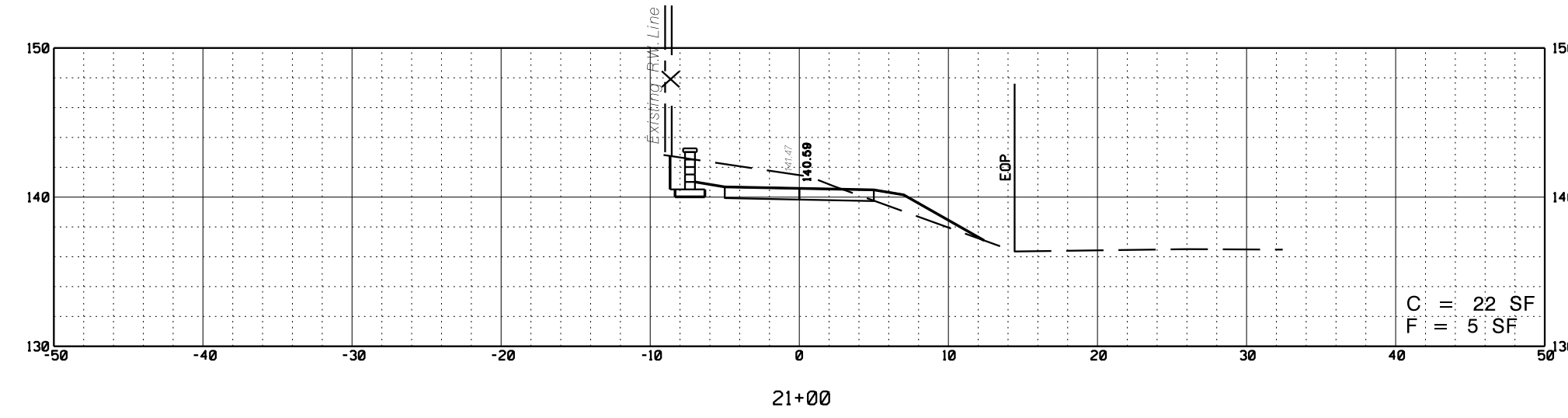
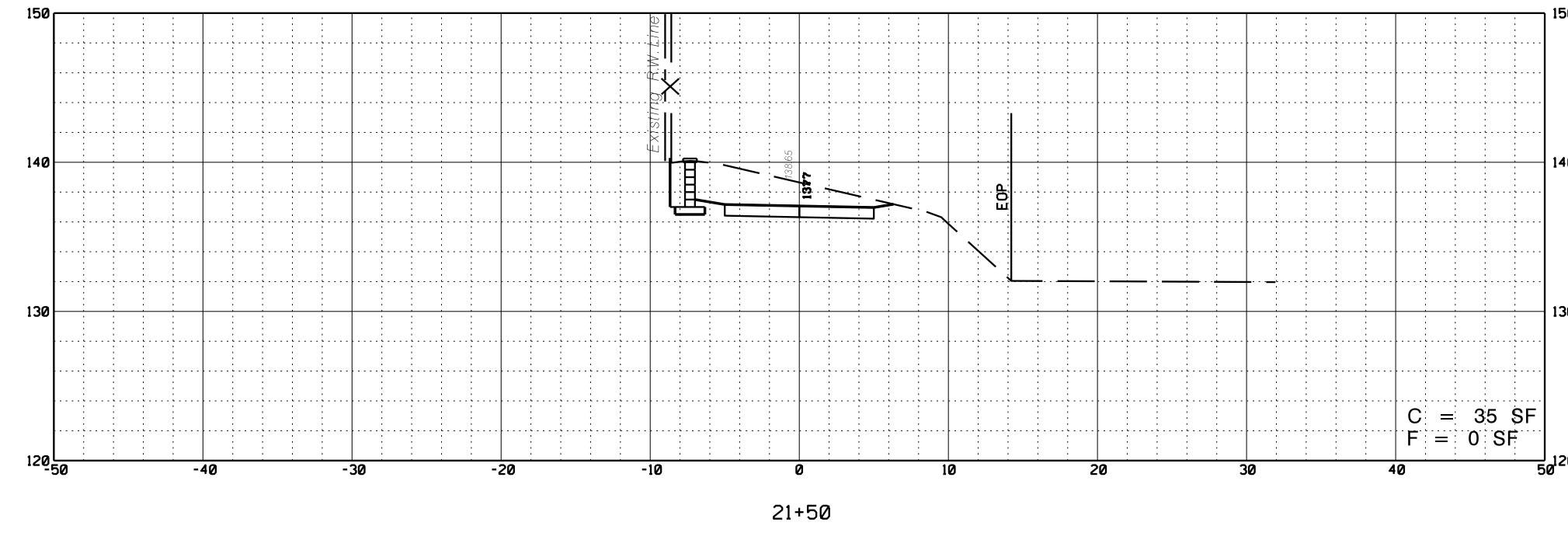




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30-JUN-2022 19:00



STA. 20+50 TO STA. 23+00

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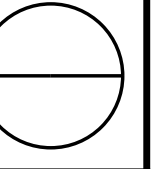
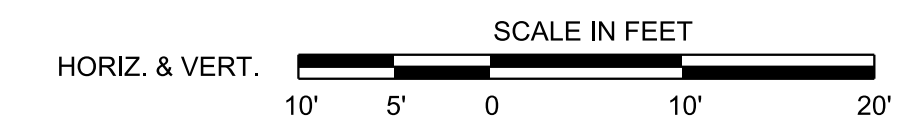
X-4  
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LAWRENCE TOWNSHIP, MERCER COUNTY, NEW JERSEY

## CROSS SECTIONS

LAWRENCE HOPEWELL TRAIL - PRETTY BROOK SEGMENT  
FROM PROVINCE LINE ROAD TO CLEVELAND ROAD

WSP USA Inc.  
 CERTIFICATION OF AUTHORIZATION NO. 24GA28029800  
  
 JOLLY O. BENITEZ  
 NEW JERSEY PROFESSIONAL ENGINEER NO. 24GE05810100

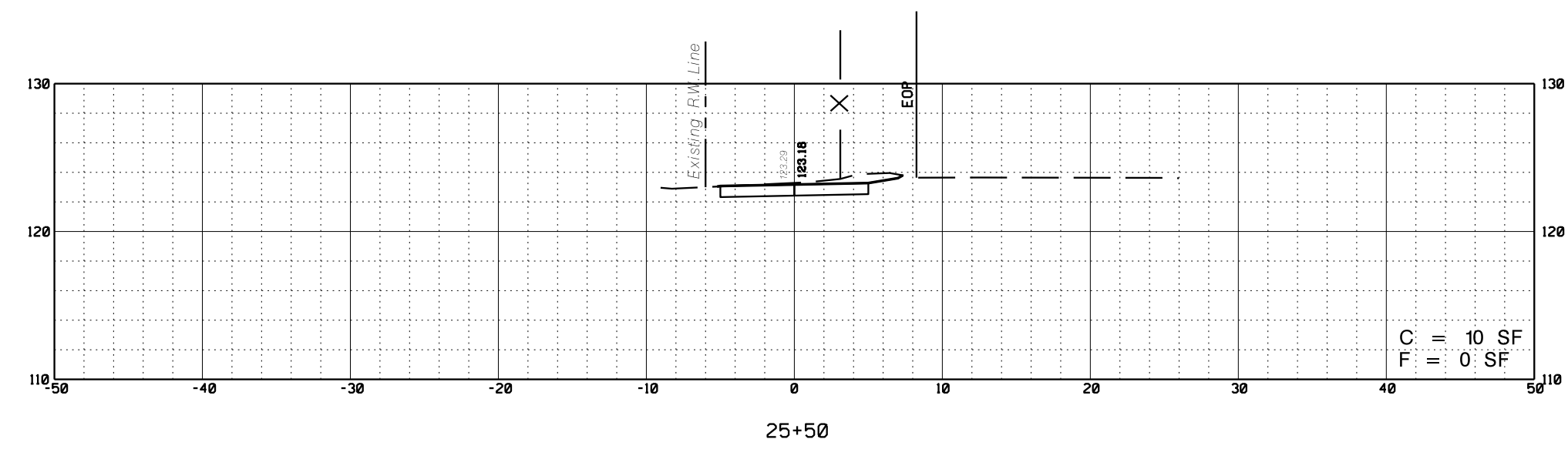
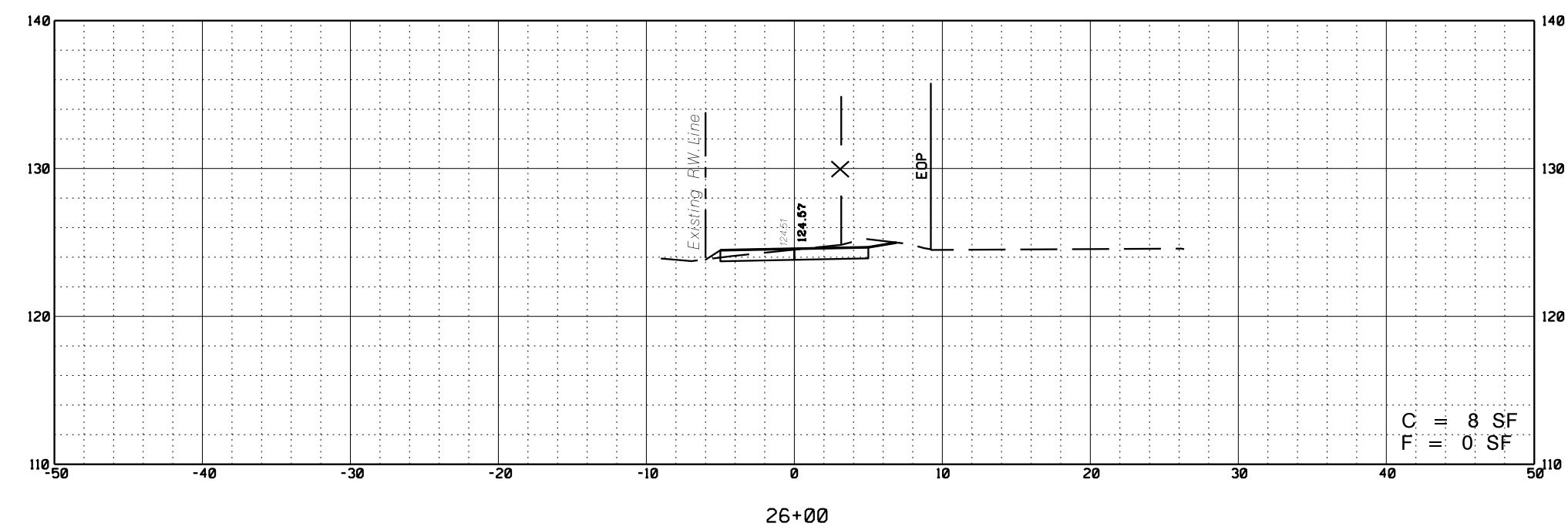
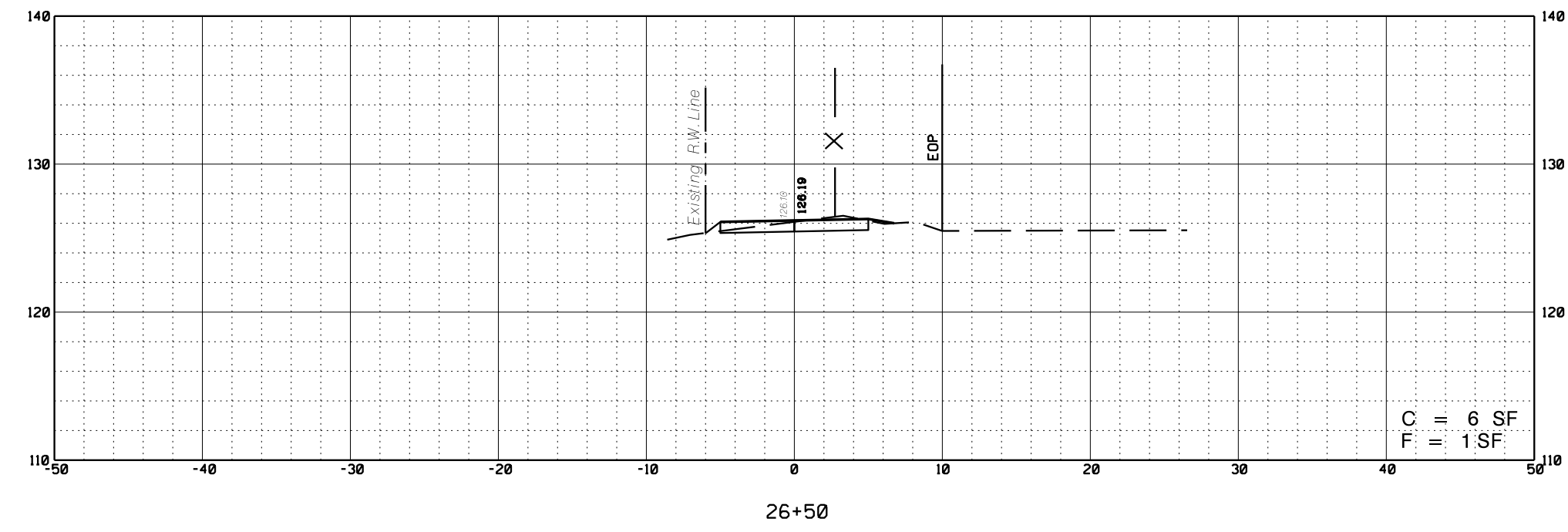
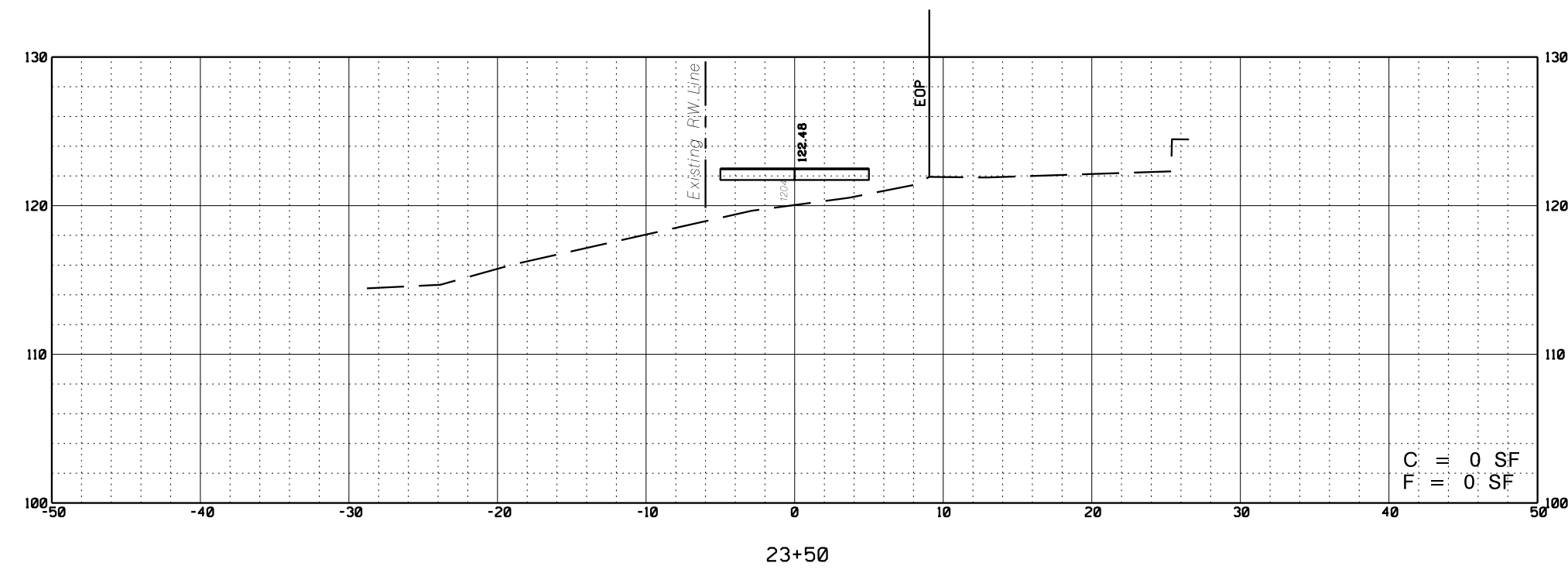
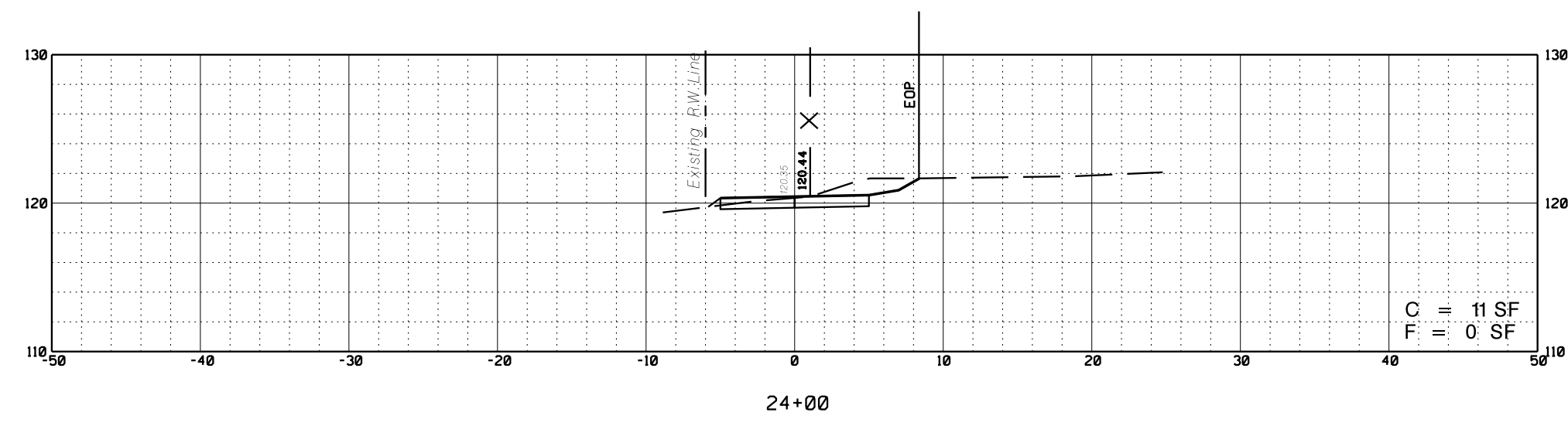
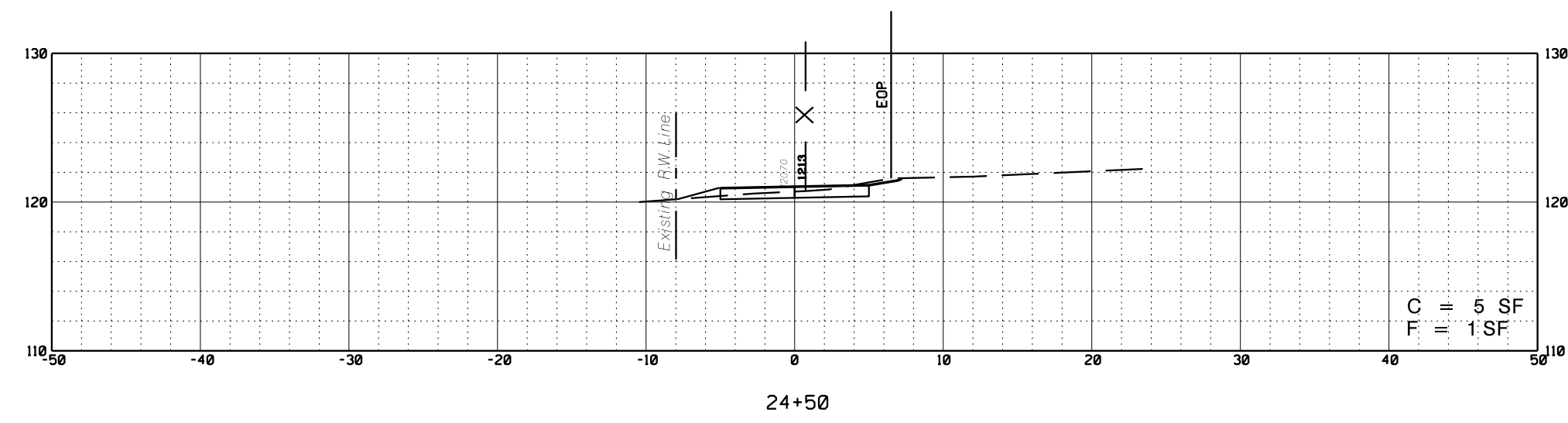
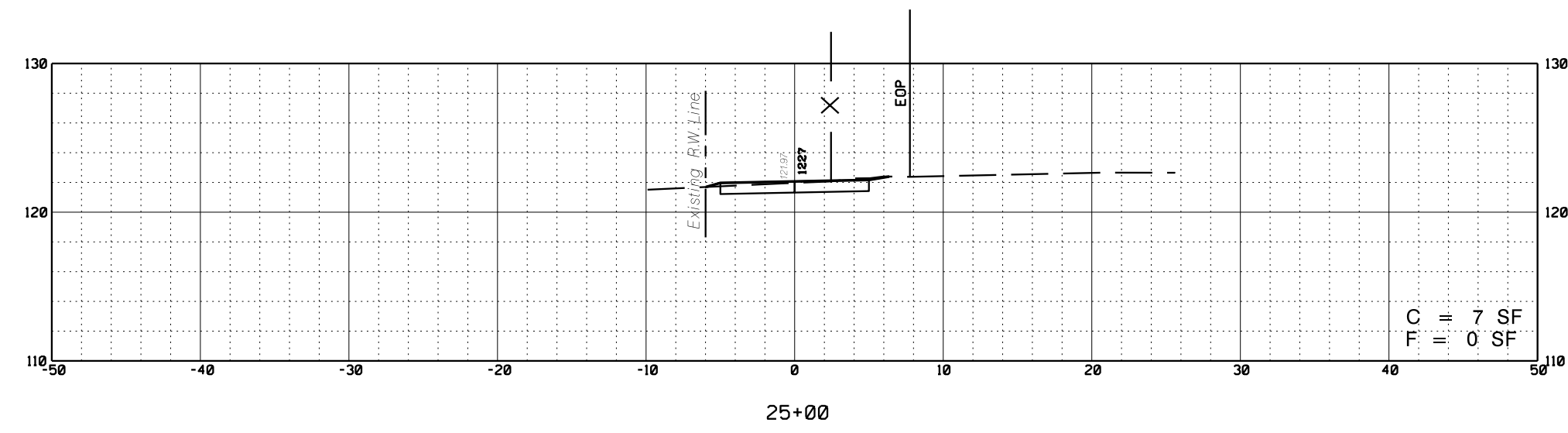


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STA. 23+50 TO STA. 26+50

X-5  
X-6

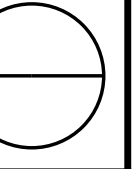
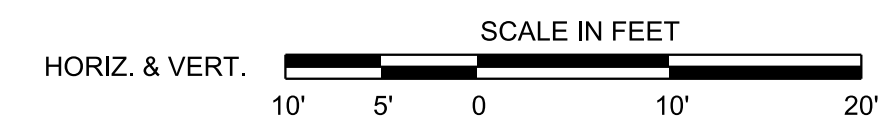
LAWRENCE TOWNSHIP, MERCER COUNTY, NEW JERSEY

**CROSS SECTIONS**

LAWRENCE HOPEWELL TRAIL - PRETTY BROOK SEGMENT  
FROM PROVINCE LINE ROAD TO CLEVELAND ROAD

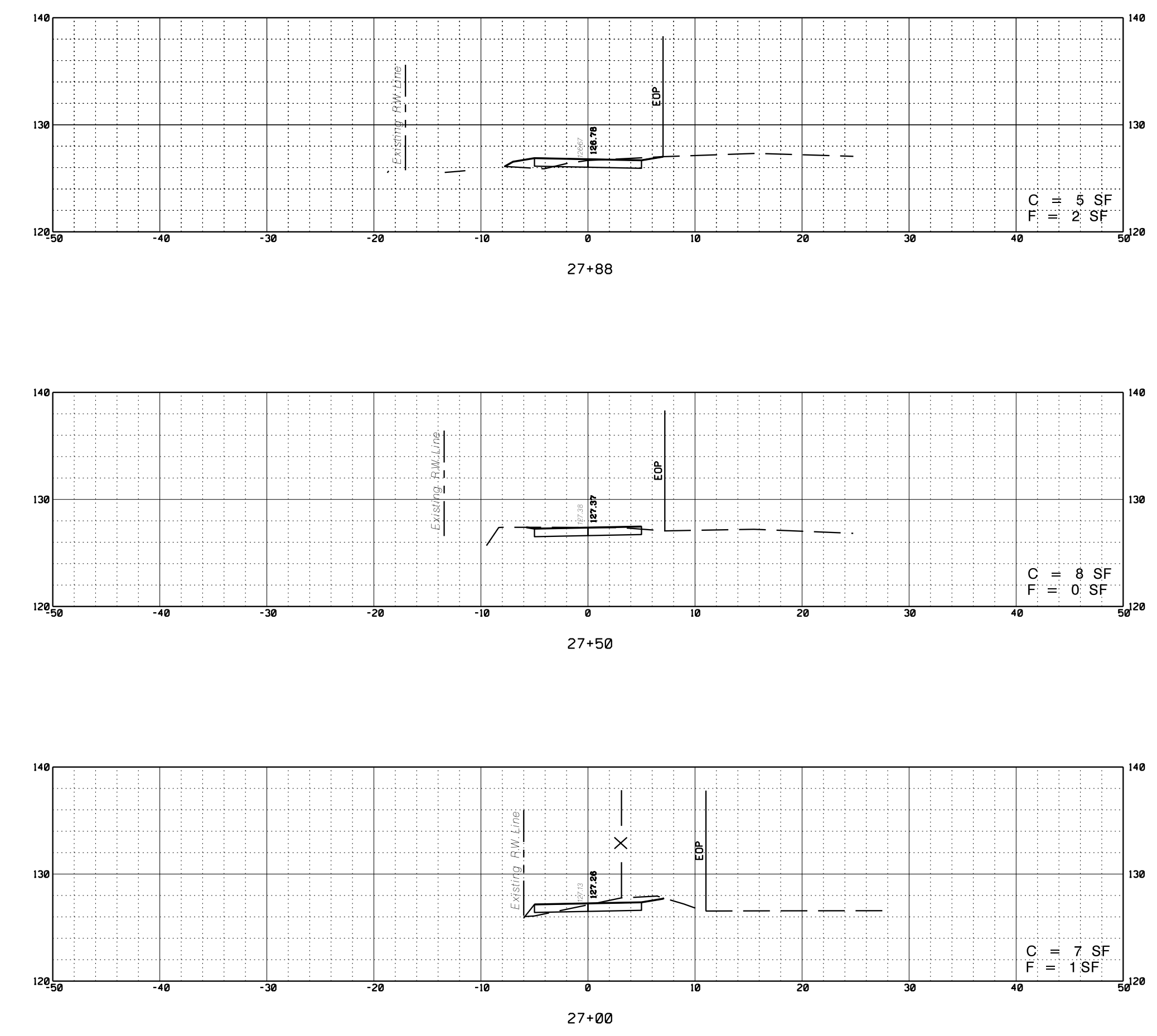
WSP USA, Inc.  
CERTIFICATION OF AUTHORIZATION NO. 24GA28029800

*Jolly O. Benitez*  
JOLLY O. BENITEZ  
NEW JERSEY PROFESSIONAL ENGINEER NO. 24GE05810100



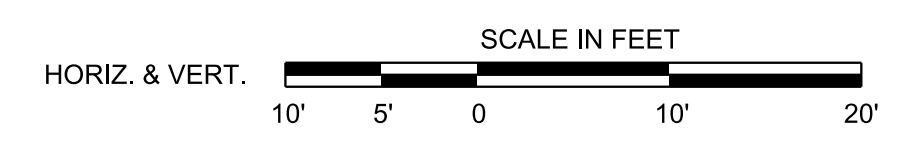


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 30-JUN-2022 19:00 Runk



Description	Contract Quantity
<b>Excavation</b>	
<b>(A) Excavated Materials</b>	
Excavation, Unclassified	
Excavation from Cross Sections	824 C.Y.
Less Removal of Pavement	0 C.Y.
<b>Total Excavation, Unclassified</b>	<b>824 C.Y.</b>
<b>Topsoiling</b>	
<b>(A) Topsoil Available</b>	
Topsoiling, 5" Thick from Cross Sections	967 S.Y.
Total Stripping Available for Top Soil	967 S.Y.
<b>(A) Topsoil Required</b>	
Topsoiling, 5" Thick from Cross Sections	967 S.Y.
Total Topsoiling, 5" Thick required in SY	967 S.Y.
<b>Fertilization and Seeding</b>	<b>967 S.Y.</b>
<b>Straw Mulching</b>	<b>967 S.Y.</b>

STA. 27+00 TO STA. 27+88



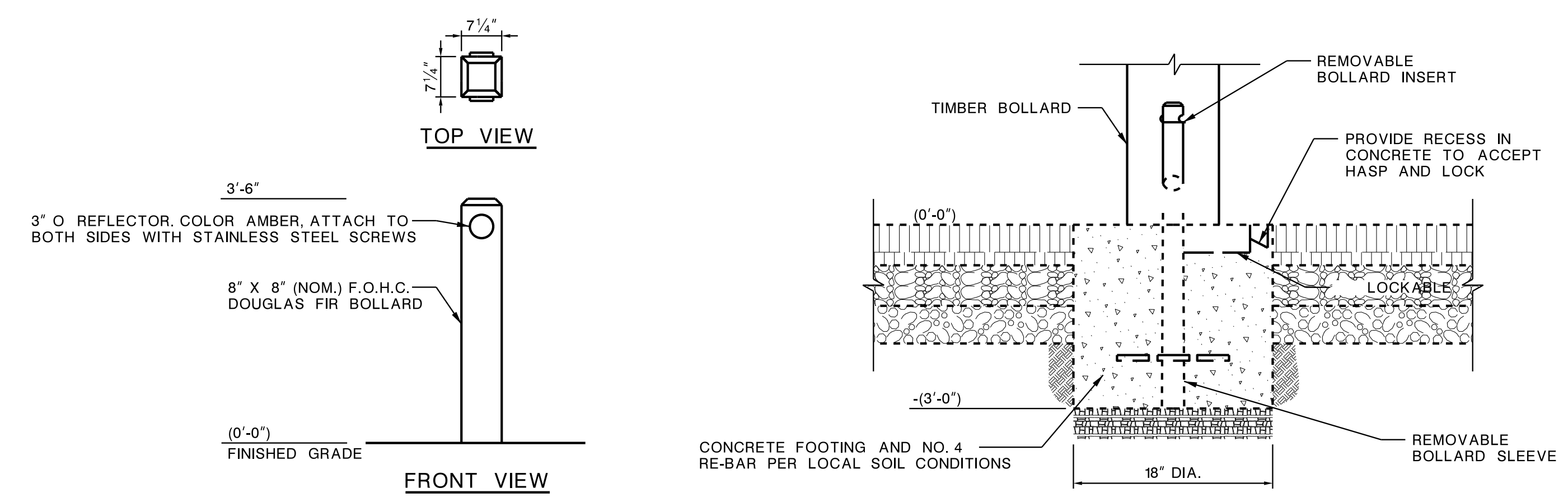
LAWRENCE TOWNSHIP, MERCER COUNTY, NEW JERSEY

### CROSS SECTIONS

LAWRENCE HOPEWELL TRAIL - PRETTY BROOK SEGMENT  
FROM PROVINCE LINE ROAD TO CLEVELAND ROAD

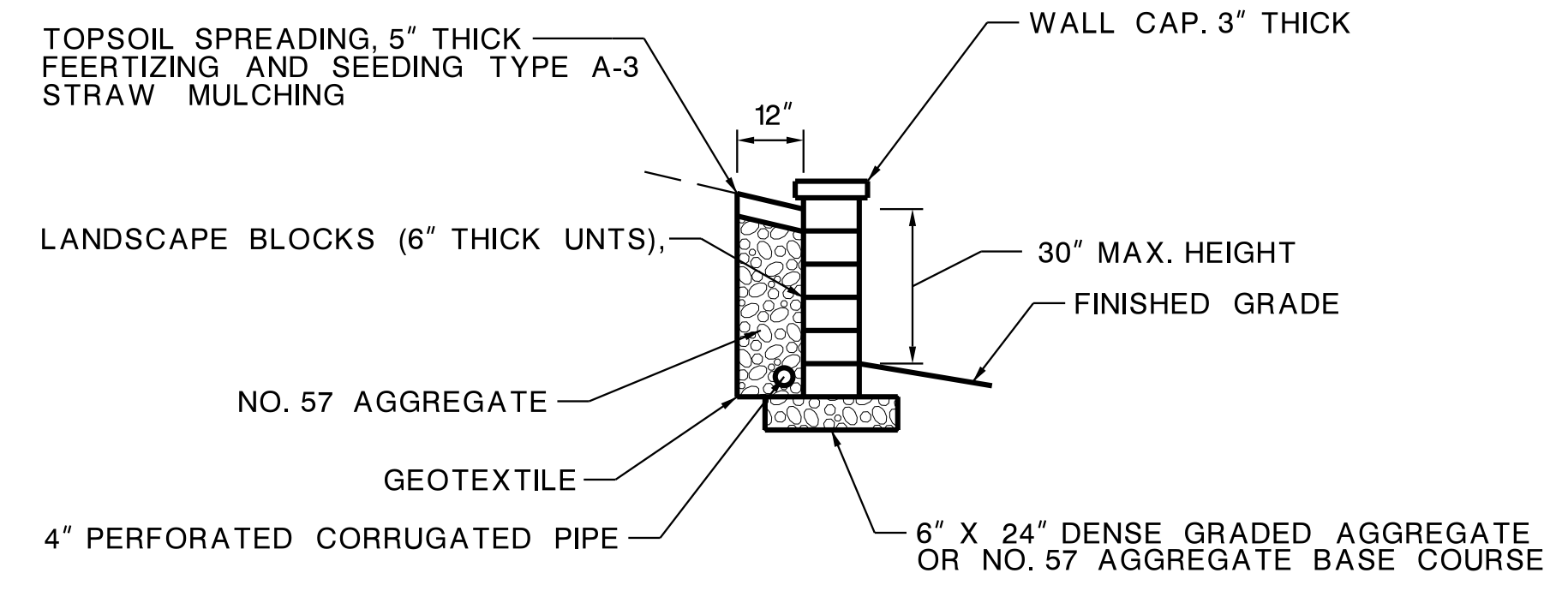
WSP USA, Inc.  
 CERTIFICATION OF AUTHORIZATION NO. 24GA28029800  
*Jolly O. Benitez*  
 JOLLY O. BENITEZ  
 NEW JERSEY PROFESSIONAL ENGINEER NO. 24GE05810100

X-6  
X-6



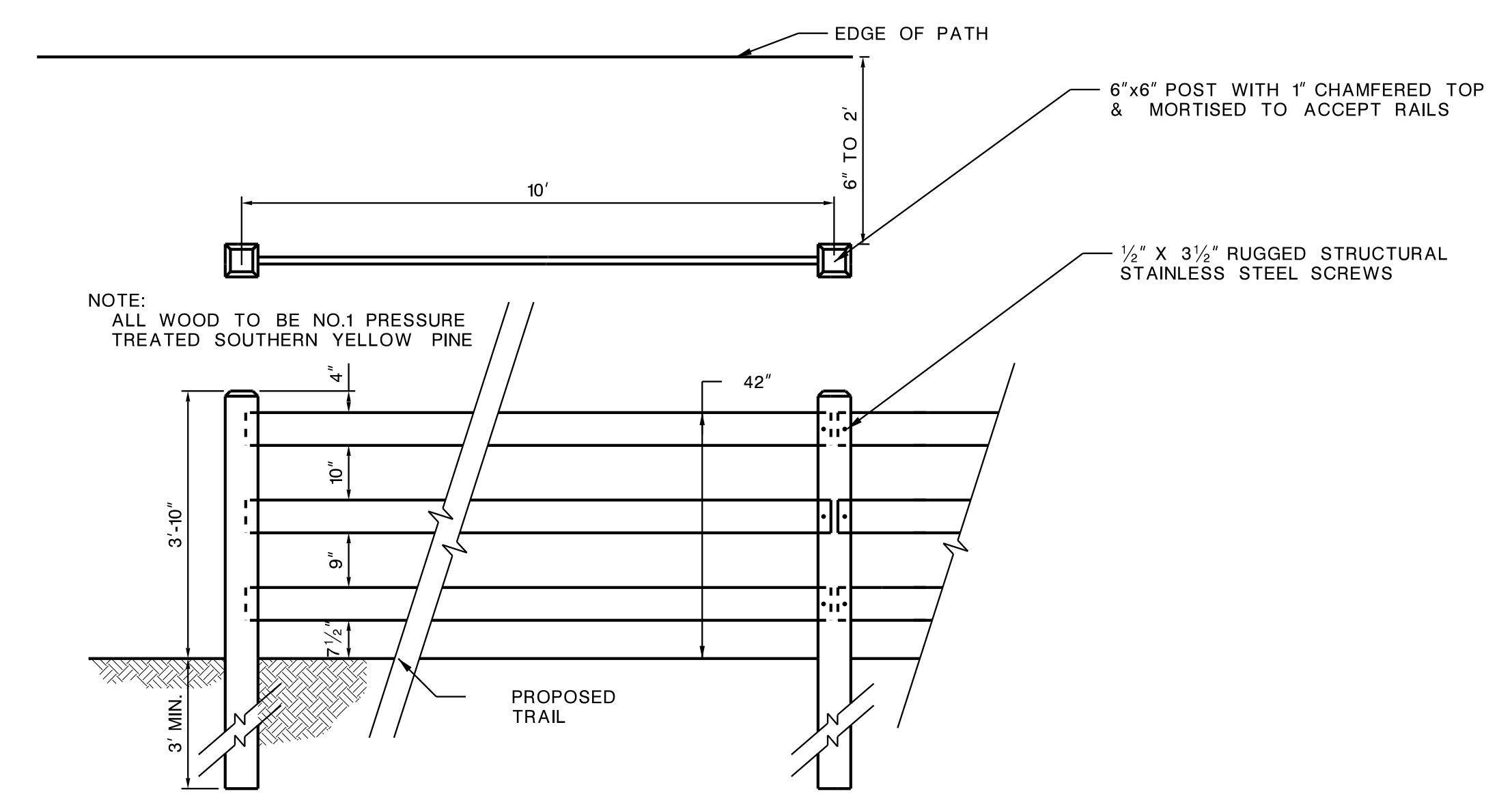
**REMOVABLE BOLLARD**  
N.T.S.

- NOTES:
1. BOLLARD SHALL BE LOCKABLE.
  2. PROVIDE A REMOVABLE BOLLARD HOLE COVER.
  3. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS TO COUNTY FOR APPROVAL.
  4. REMOVABLE FOR EMERGENCY VEHICLES.
  5. ALL WORK ITEMS ASSOCIATED WITH THE BOLLARD INCLUDING CONCRETE, REBAR, REMOVAL SLEEVE AND INSERT ARE TO BE INCLUDED IN THE PAY ITEM REMOVABLE BOLLARD.



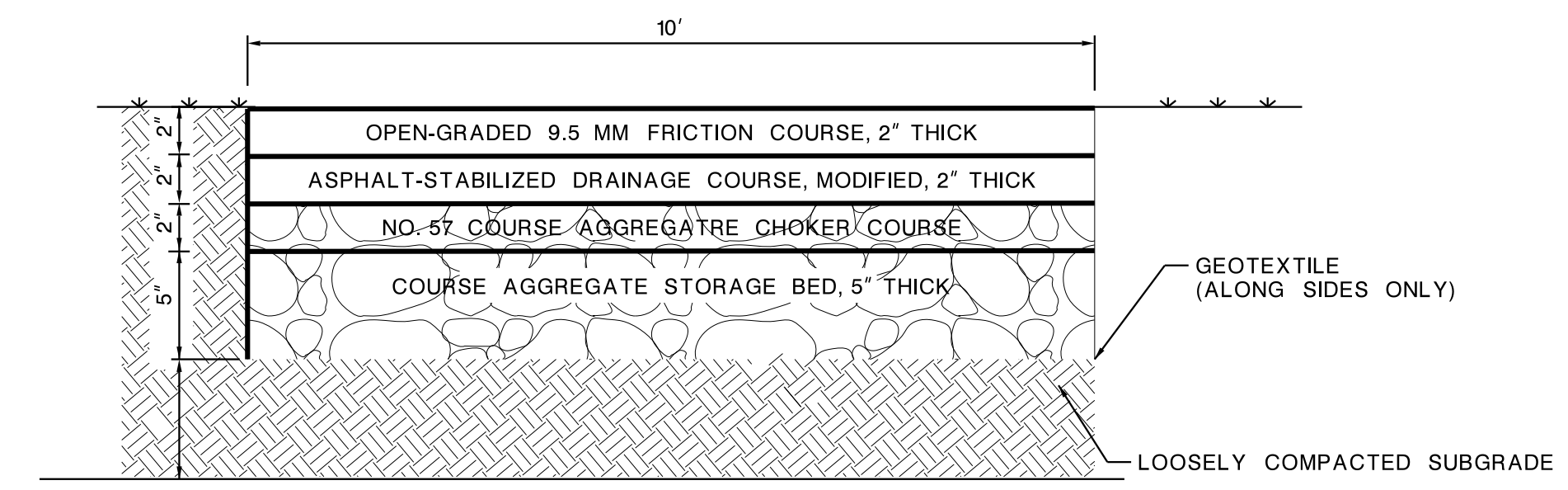
**LANDSCAPE BLOCK RETAINING WALL**  
N.T.S.

NOTE:  
WALL TO BE CONSTRUCTED FOLLOWING MANUFACTURERS' INSTALLATION GUIDELINES.



**WOOD RAILING, 42" HIGH**  
N.T.S.

CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OF FENCE CONSTRUCTION FOR APPROVAL TO COUNTY



**PERVIOUS PAVEMENT TYPICAL SECTION**  
N.T.S.

NOTE:  
EXISTING DRIVEWAY GRADES TO BE MAINTAINED.

WSP USA, Inc.  
 OPERATOR Runk  
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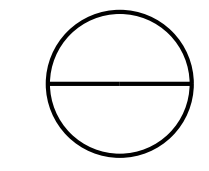
LAWRENCE TOWNSHIP, MERCER COUNTY, NEW JERSEY

**CONSTRUCTION DETAILS**

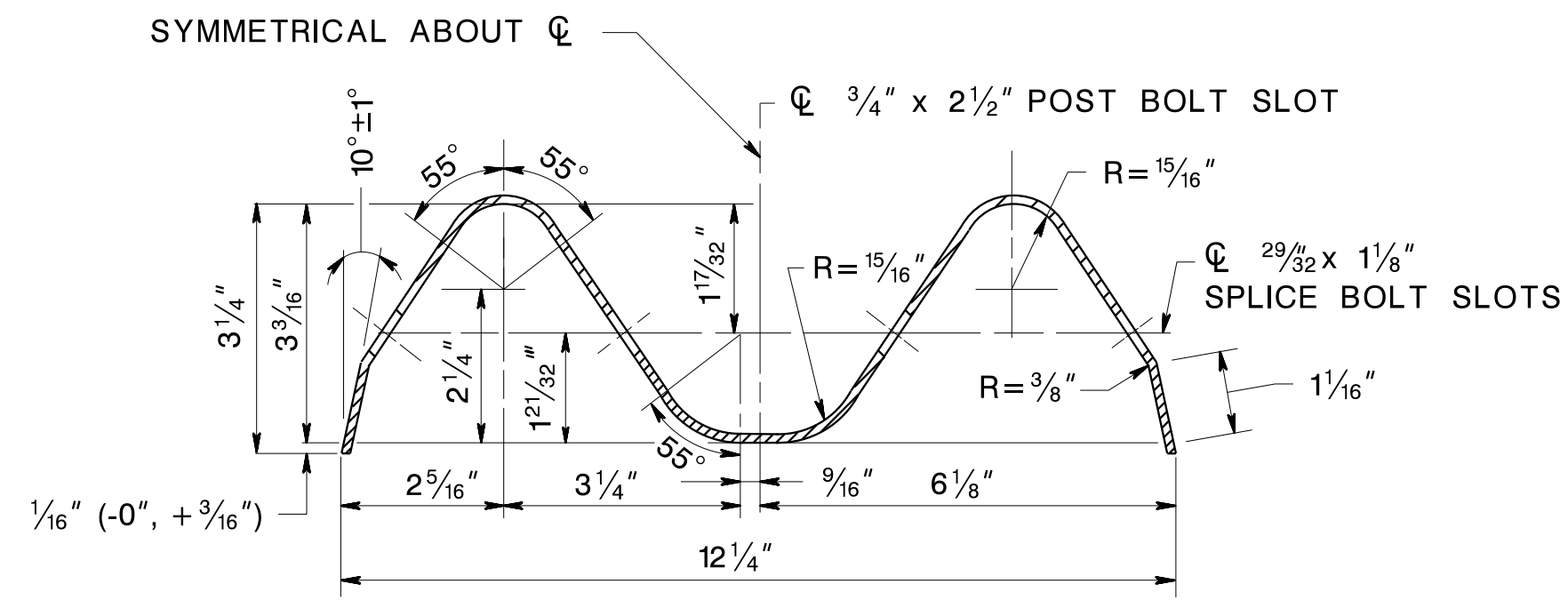
LAWRENCE HOPEWELL TRAIL - PRETTY BROOK SEGMENT  
FROM PROVINCE LINE ROAD TO CLEVELAND ROAD

WSP USA Inc.  
 CERTIFICATION OF AUTHORIZATION NO. 24GA28029800  
 JOLLY O. BENITEZ  
 NEW JERSEY PROFESSIONAL ENGINEER NO. 24GE05810100

DTL-1  
DTL-4

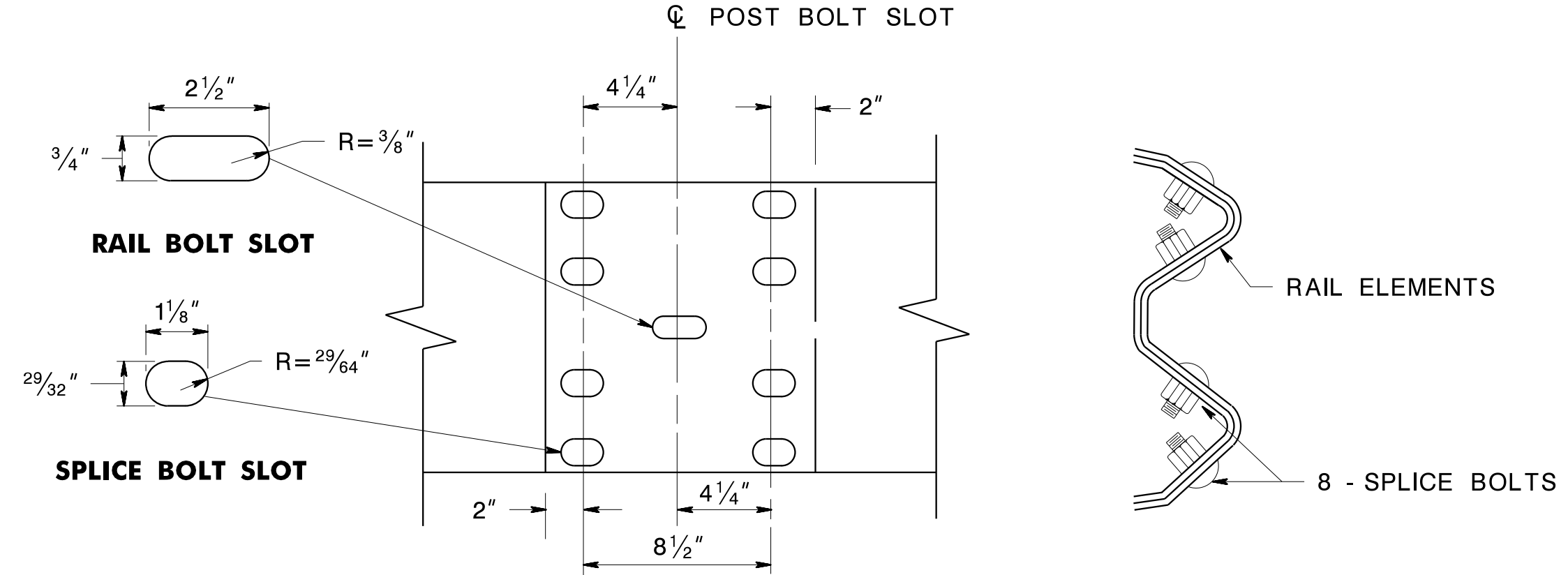




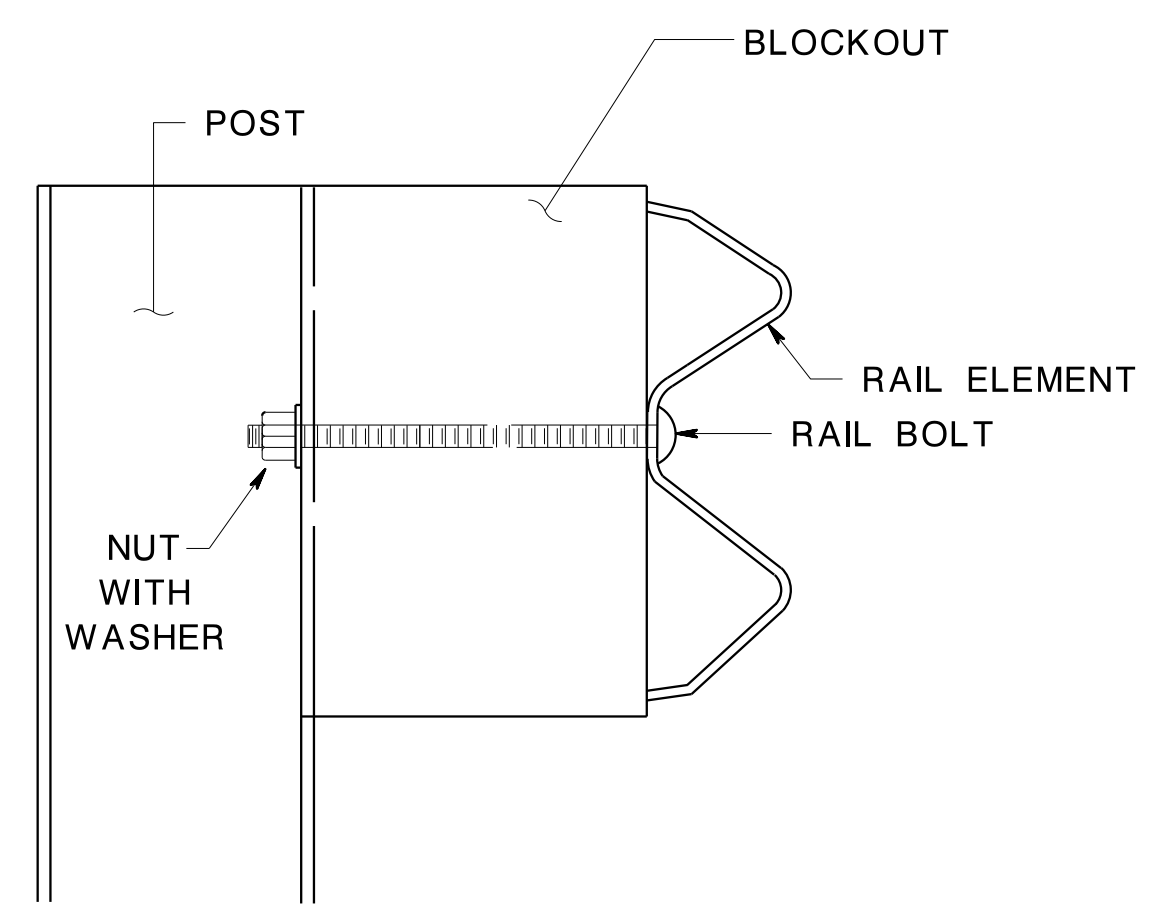


RAIL ELEMENT TO BE SUPPLIED IN LENGTHS OF 13'-6 1/2" OR 26'-0 1/2"

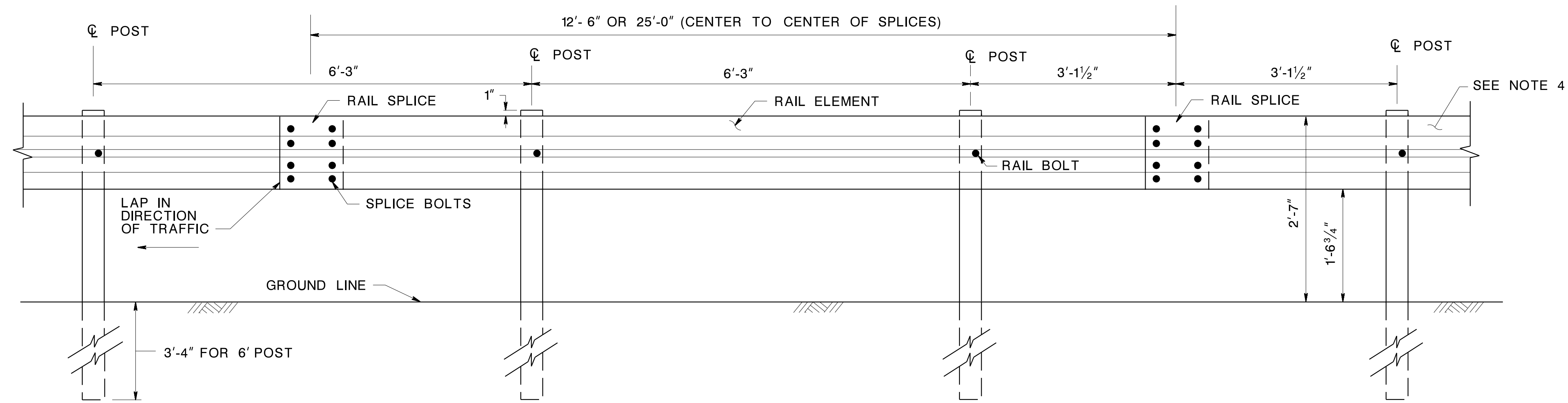
**W-BEAM RAIL ELEMENT**



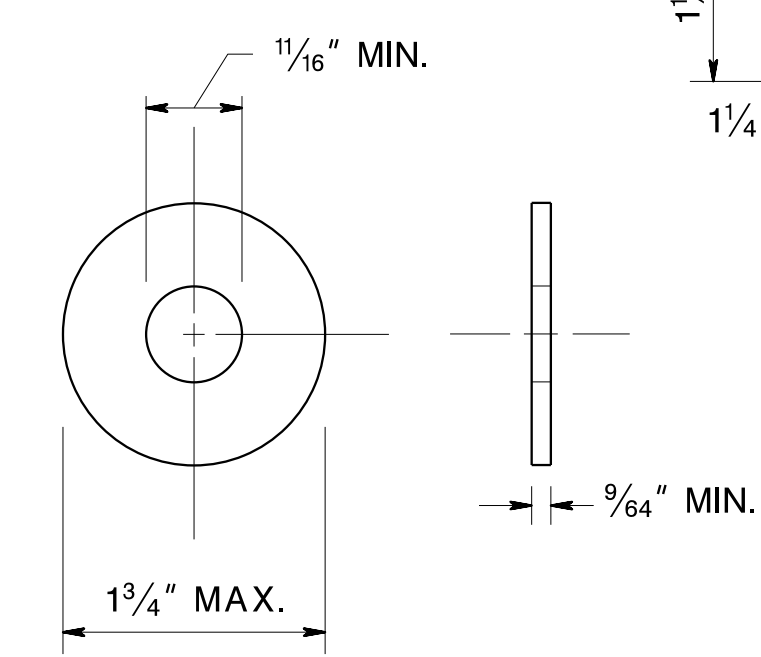
**RAIL SPLICE**



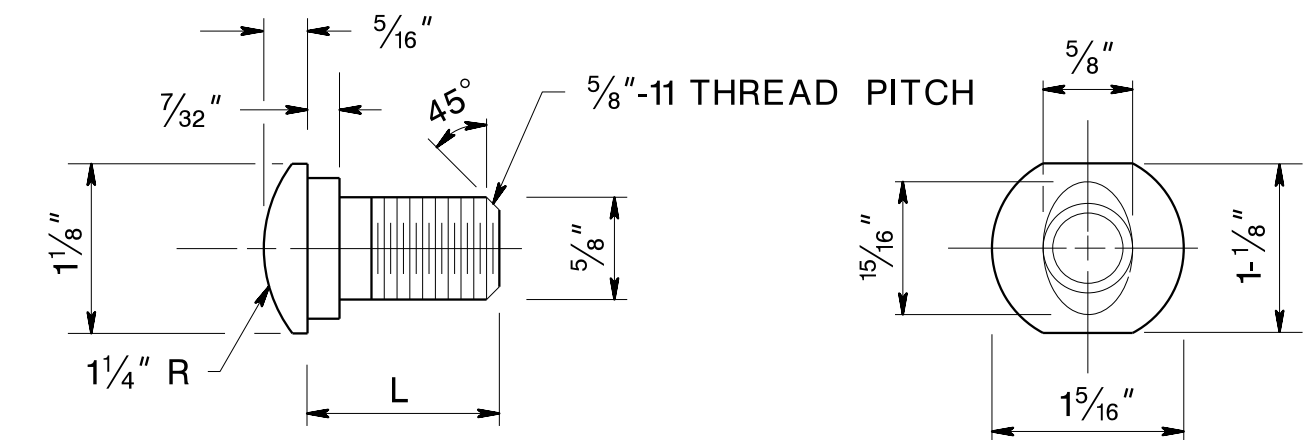
**BEAM GUIDE RAIL POST ASSEMBLY**



**BEAM GUIDE RAIL**

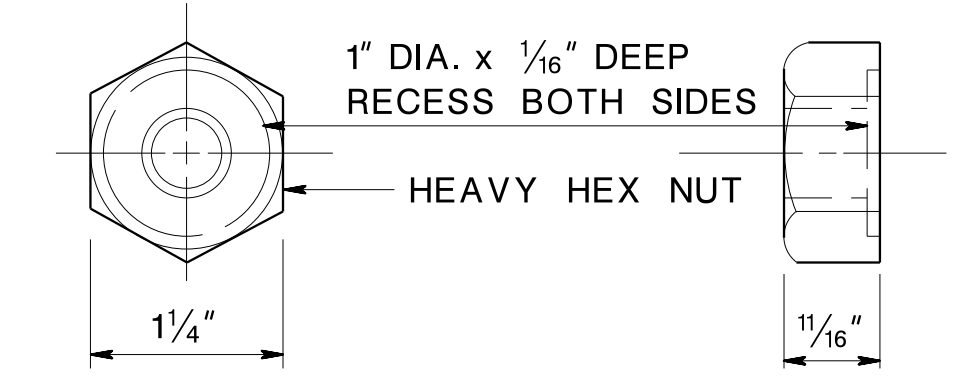


**STEEL WASHER**



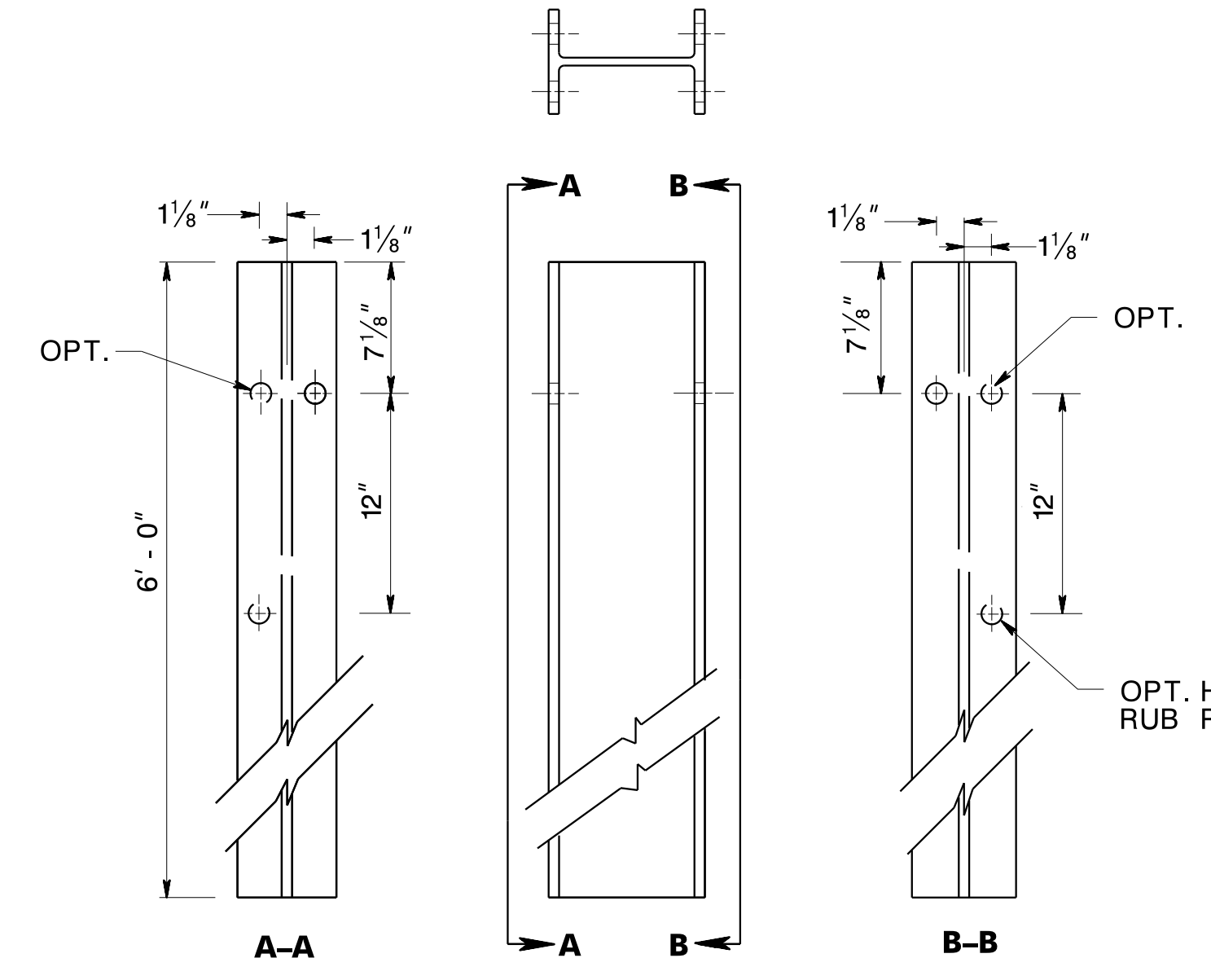
TYPE	L	MIN. THREAD LENGTH
SPLICE	1 1/4"	FULL LENGTH THREAD
RAIL	9 1/2"	1 3/4"

**5/8" DIA. BUTTON HEAD BOLT**



**5/8" DIA. RECESS NUT**

**SPLICE & RAIL NUT & BOLT**

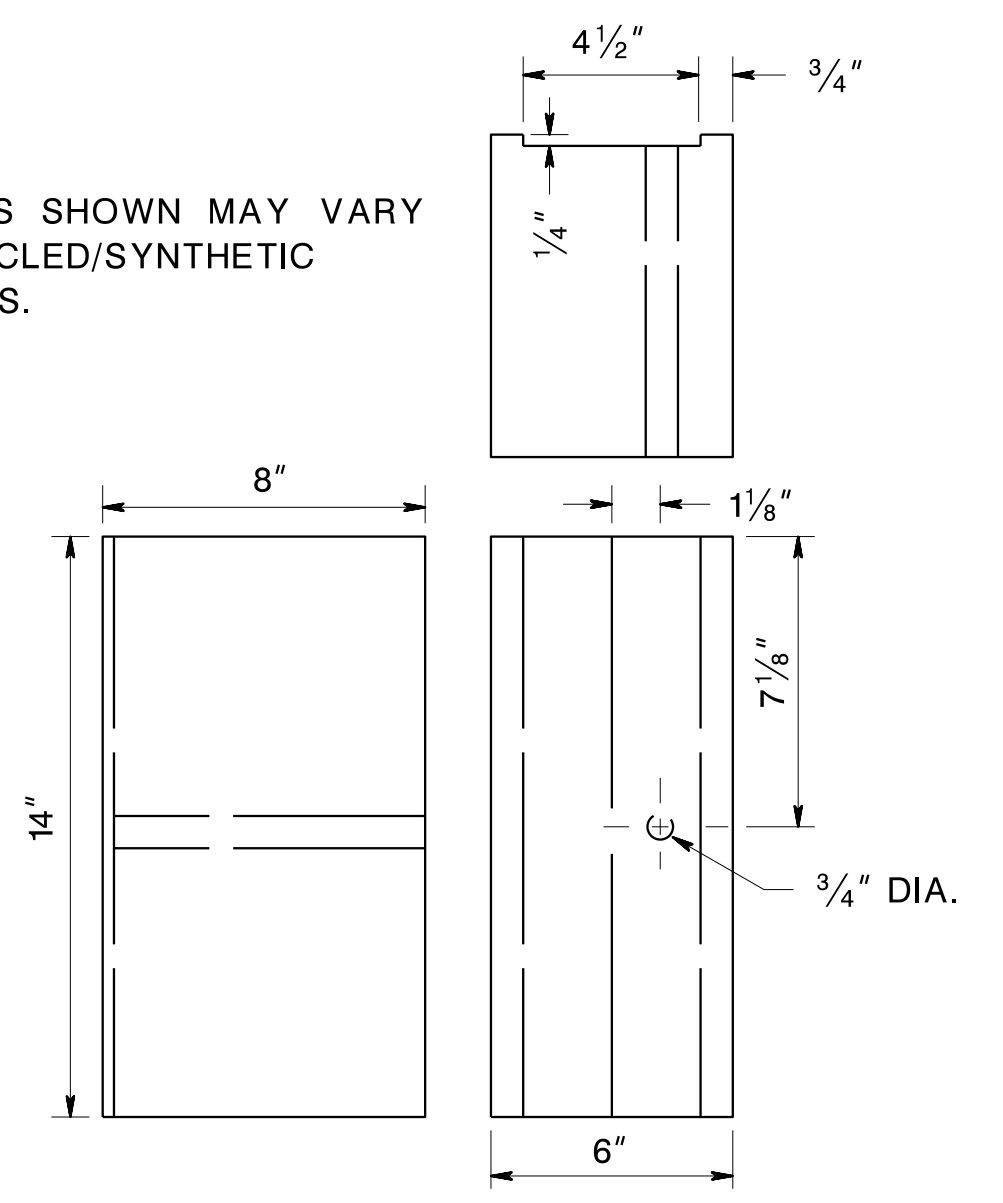


W6x8.5 OR W6x9 STEEL POST

**6' POST**

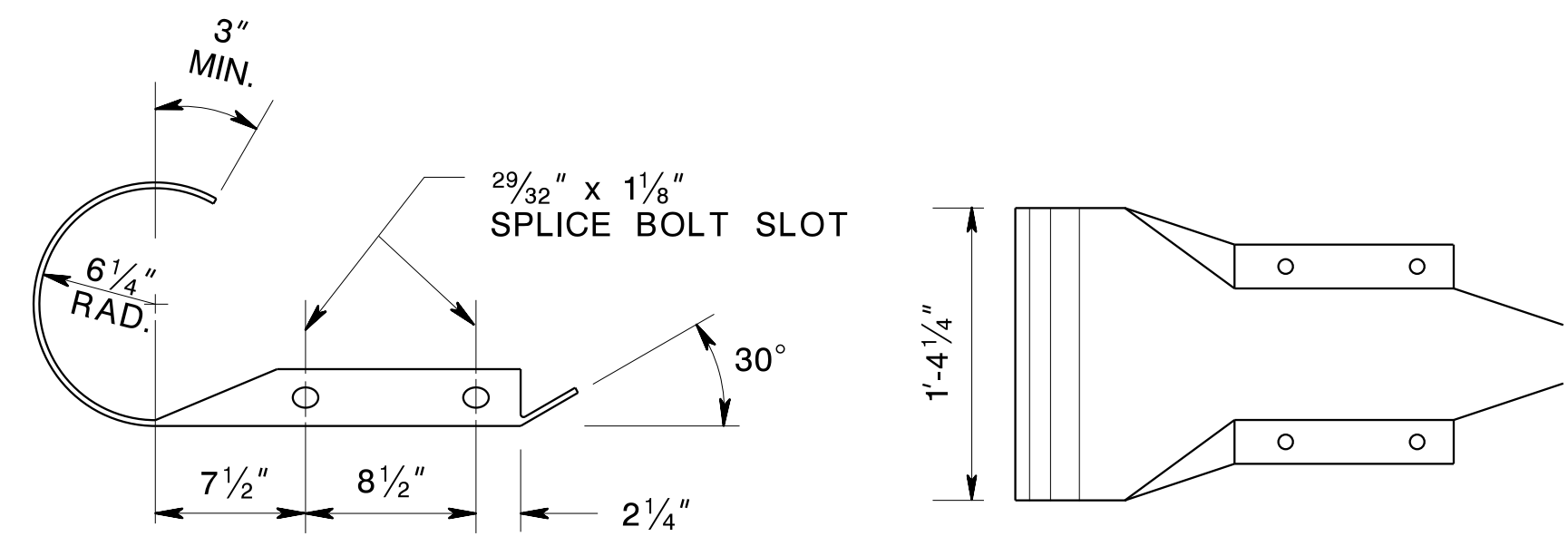
**NOTE:**  
DIMENSIONS SHOWN MAY VARY FOR RECYCLED/SYNTHETIC BLOCKOUTS.

**NOTE:**  
ALL HOLES 13/16" DIA.



APPROVED RECYCLED/SYNTHETIC MATERIALS

**6"x8"x14" BLOCKOUT**



**END SECTION (ROUNDED)**

**NOTES:**

1. ALL DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES.
2. FURNISH RAIL ELEMENTS SHOPCURVED, CONCAVE OR CONVEX, FOR RADII BETWEEN 20 AND 150 FEET.
3. WHERE TRANSITIONING TO EXISTING GUIDE RAIL, AN END TERMINAL, OR A CRASH CUSHION MOUNTED AT A HEIGHT OTHER THAN 2'-7", THE VERTICAL TRANSITION TO BE ACCOMPLISHED IN A MINIMUM LENGTH OF 12'-6" FOR EACH 2" OF VERTICAL CHANGE. SEE CD-609-8.
4. INSTALL AN END TERMINAL AS SHOWN ON THE PLANS. USE THE END SECTION (ROUNDED) ON THE END OF THE RAIL ELEMENT WHERE DUAL FACED BEAM GUIDE RAIL ENDS AND SINGLE FACED BEAM GUIDE RAIL BEGINS.

**BEAM GUIDE RAIL (MASH TL-3)**

N.T.S.

LAWRENCE TOWNSHIP, MERCER COUNTY, NEW JERSEY

**CONSTRUCTION DETAILS**

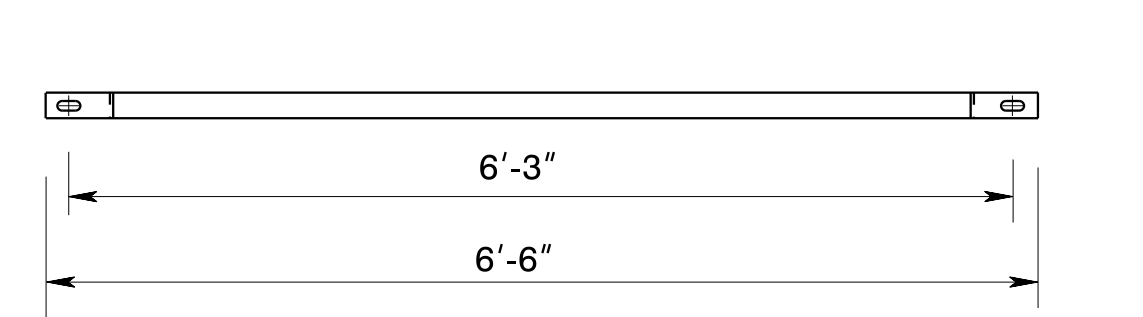
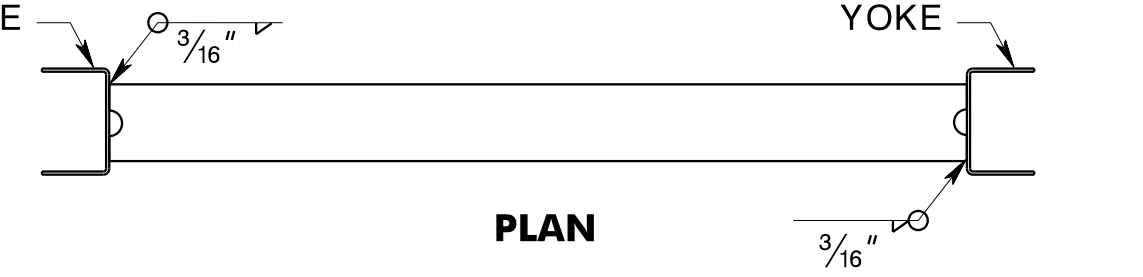
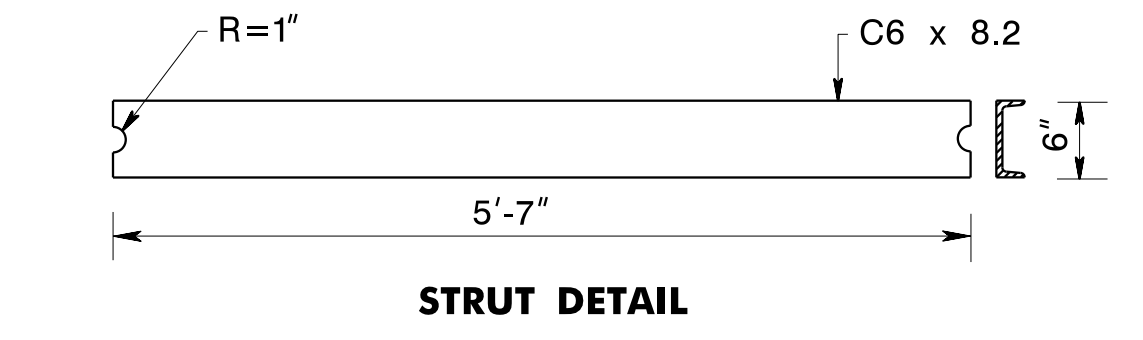
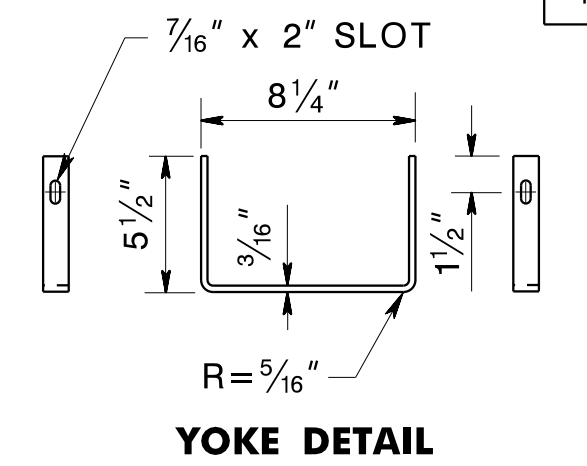
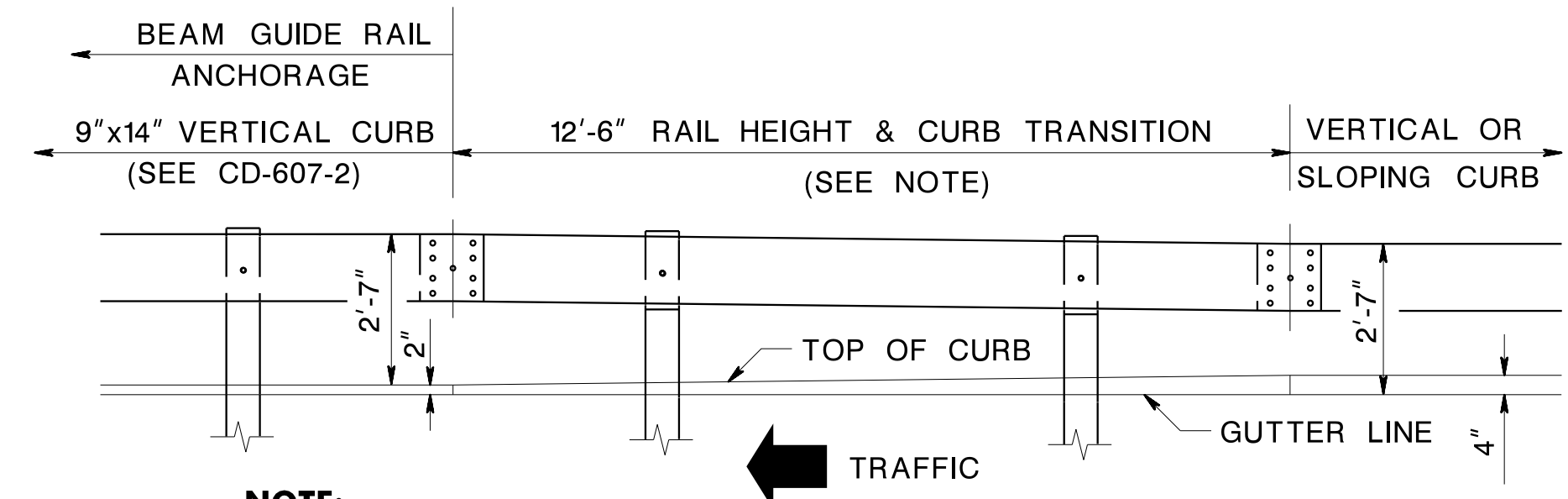
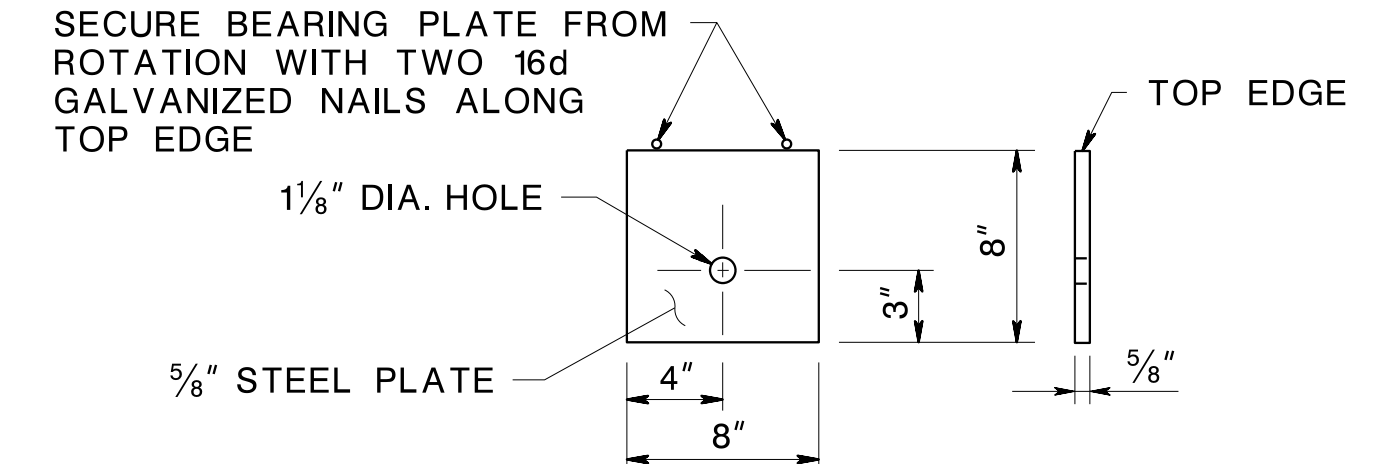
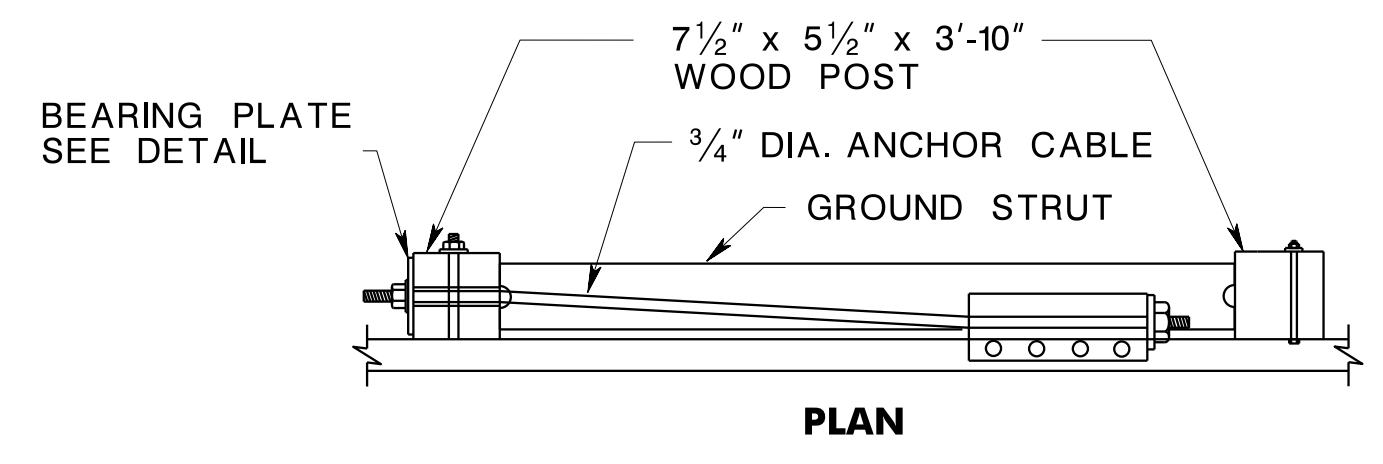
LAWRENCE HOPEWELL TRAIL - PRETTY BROOK SEGMENT FROM PROVINCE LINE ROAD TO CLEVELAND ROAD

WSP USA Inc.  
CERTIFICATION OF AUTHORIZATION NO. 24GA28029800

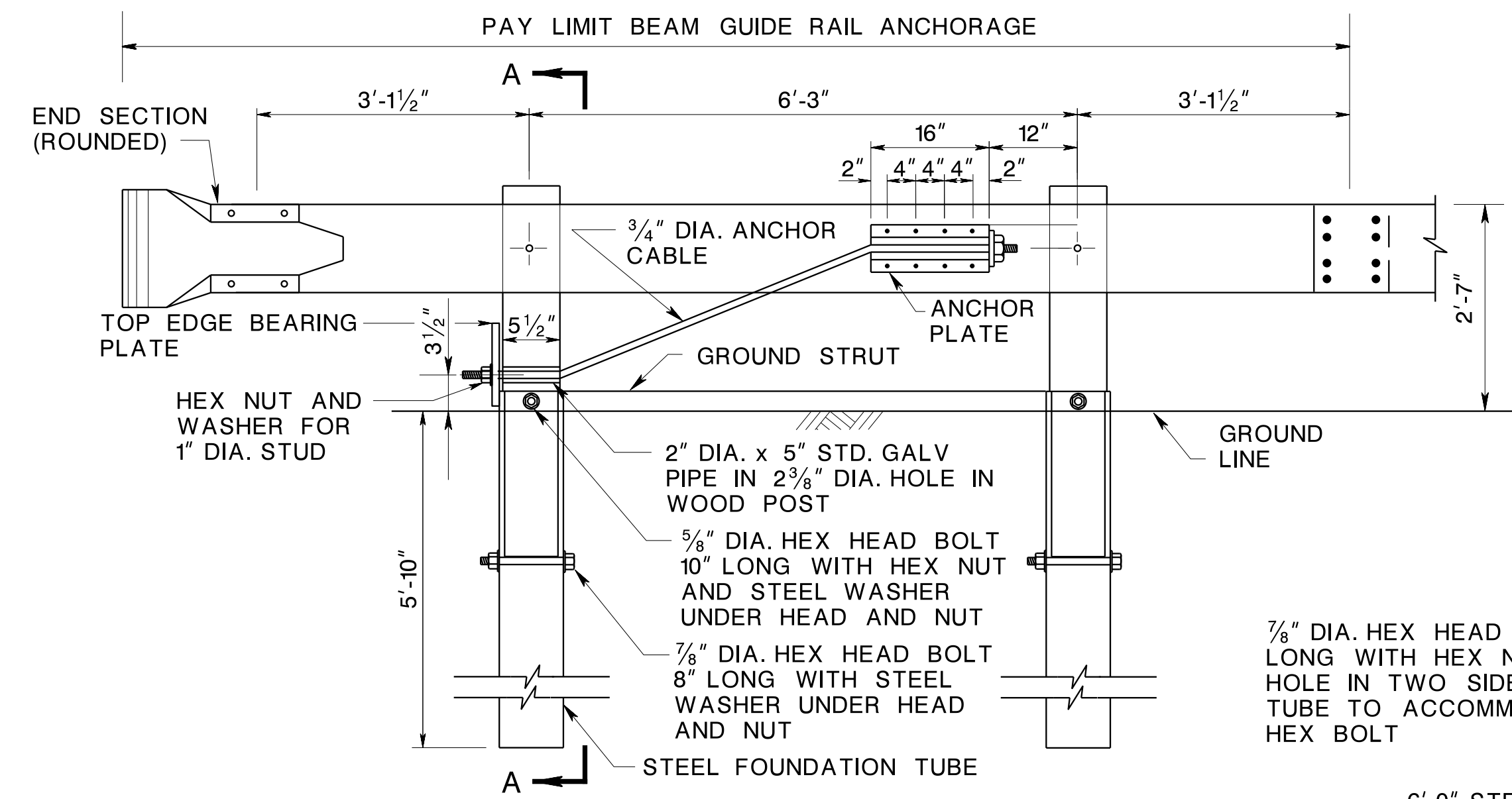
JOLLY O. BENITEZ  
NEW JERSEY PROFESSIONAL ENGINEER NO. 24GE05810100

CD-609-1.1

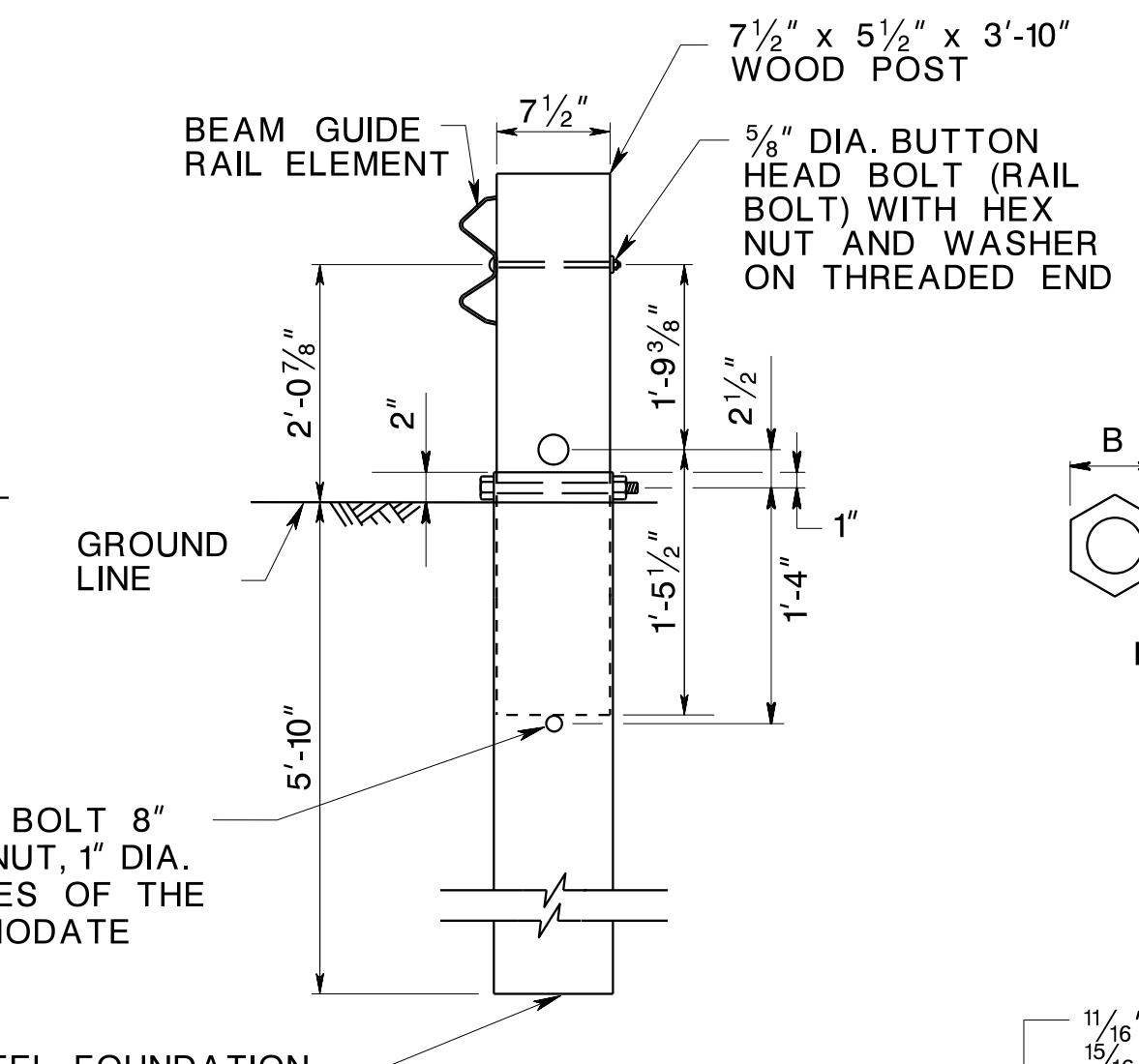
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 DESIGN FILE T:\52341\_LHT\_Pretty\_Brook\hwydt02.dgn



ELEVATION  
GROUND STRUT

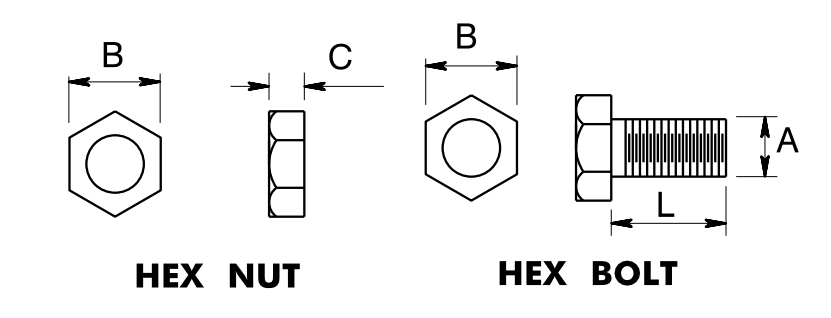


BEARING PLATE



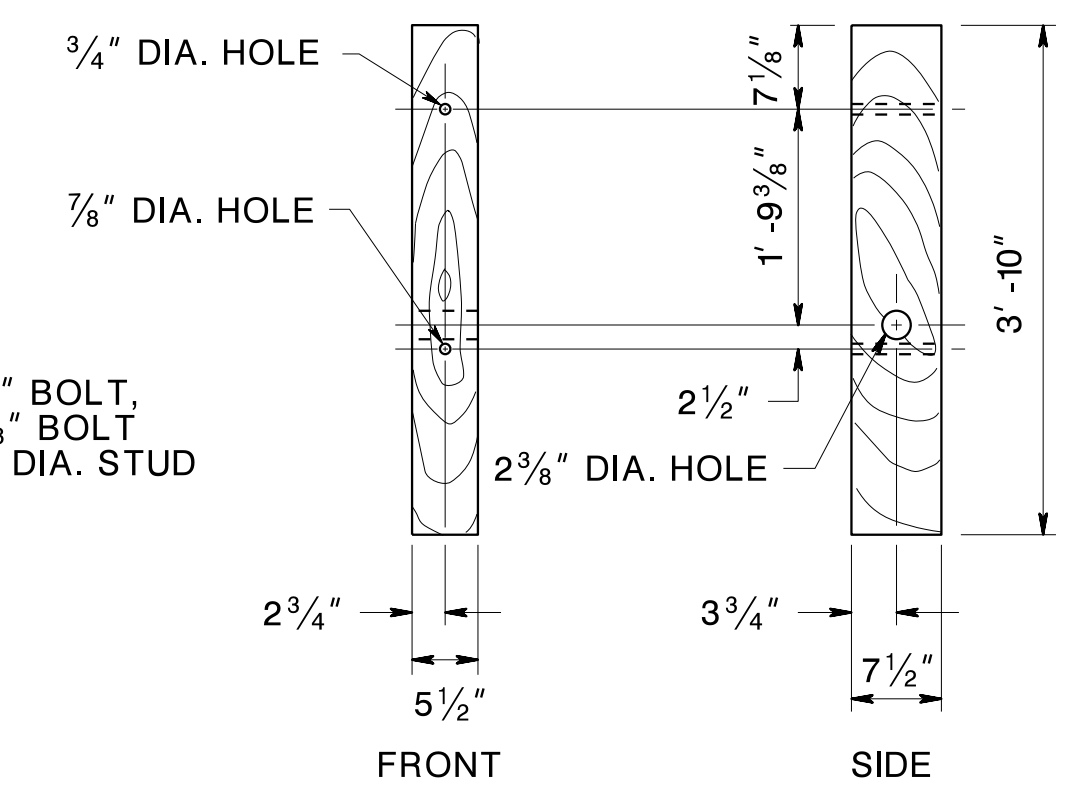
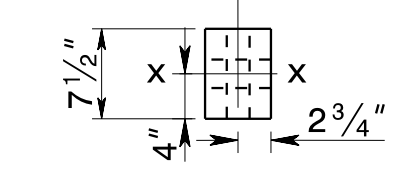
**NOTE:**  
WHERE GUIDE RAIL IS OFFSET 4 FEET OR MORE FROM THE GUTTER LINE, RAIL HEIGHT IS MEASURED FROM THE GROUND LINE (CD-609-8A). A RAIL HEIGHT TRANSITION IS NOT REQUIRED.

**RAIL HEIGHT TRANSITION FOR GUIDE RAIL ANCHORAGE WITH 2 VERTICAL CURB WHERE GUIDE RAIL IS OFFSET LESS THAN 4 FEET FROM THE GUTTER LINE**

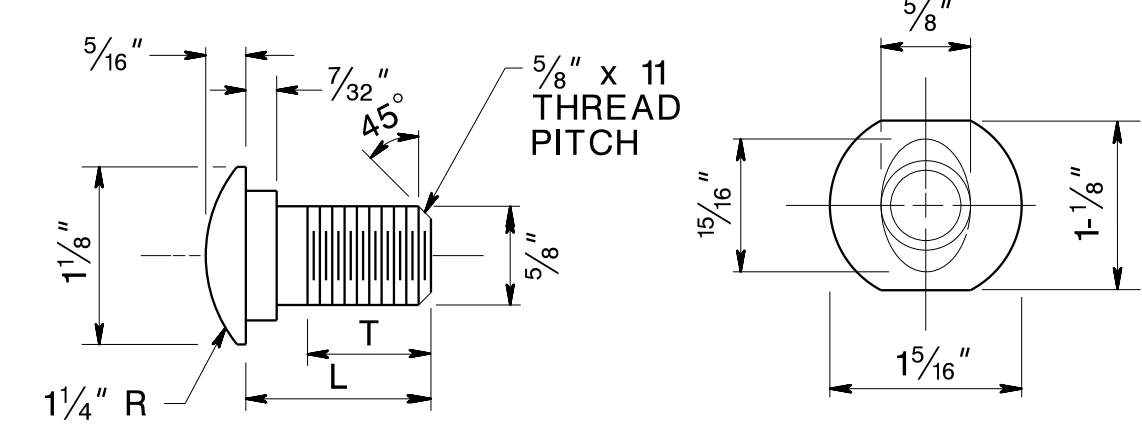


BOLT SIZE	THREAD PITCH	A	B	C	L
5/8"	5/8-11	5/8"	15/16"	35/64"	1 1/2", 10"
7/8"	7/8-9	7/8"	1 1/16"	3/4"	8"

HEX NUT AND BOLT

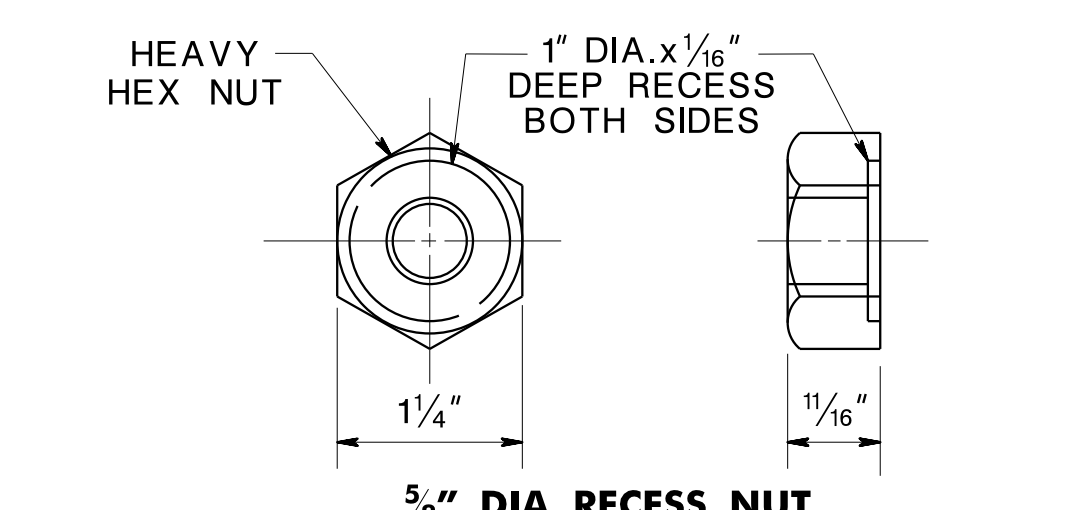


WOOD POST

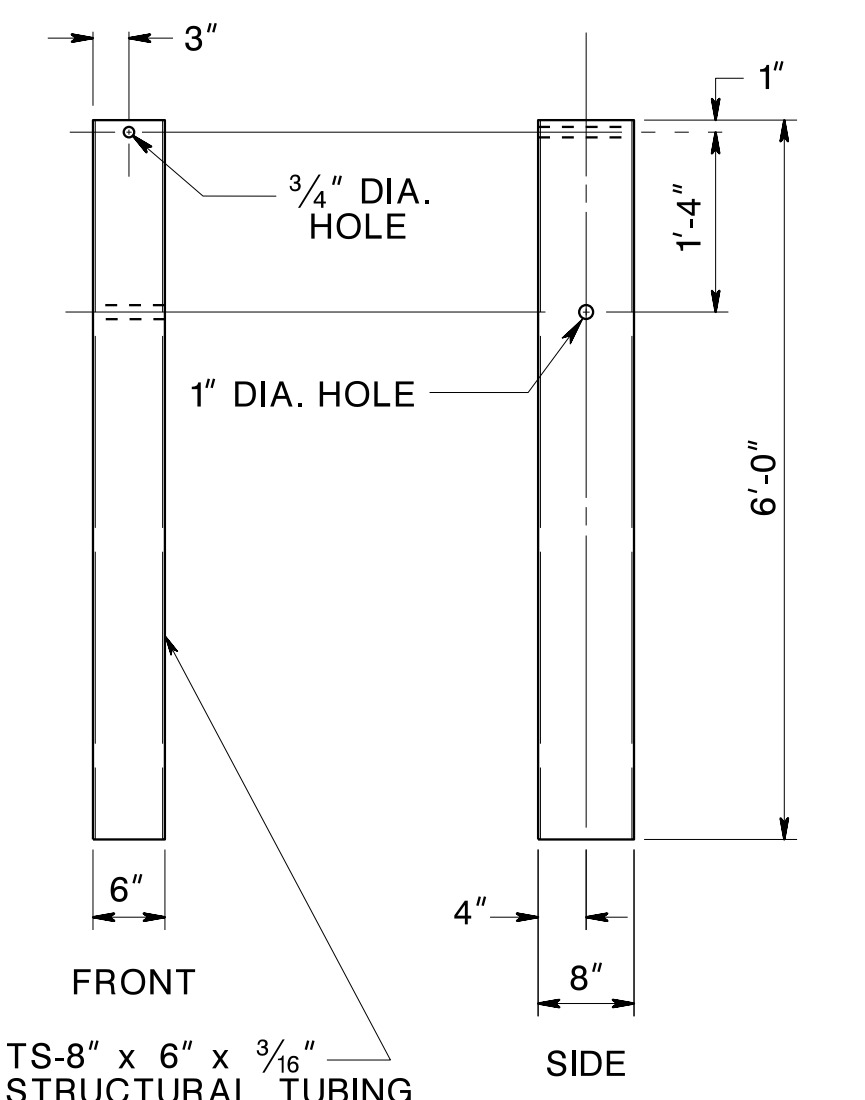


5/8 DIA. BUTTON HEAD BOLT

TYPE	L	MIN. THREAD LENGTH (T)
RAIL	10"	4"
SPLICE	1 1/4"	FULL LENGTH THREAD



5/8 DIA. RECESS NUT  
RAIL NUT & BOLT



STEEL FOUNDATION TUBE

**BEAM GUIDE RAIL ANCHORAGE (MASH TL-3)**

N.T.S.

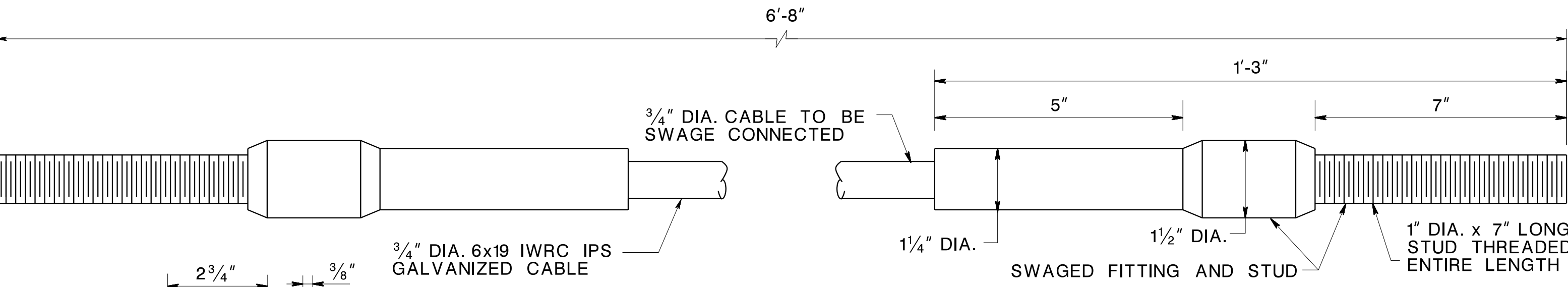
LAWRENCE TOWNSHIP, MERCER COUNTY, NEW JERSEY

**CONSTRUCTION DETAILS**

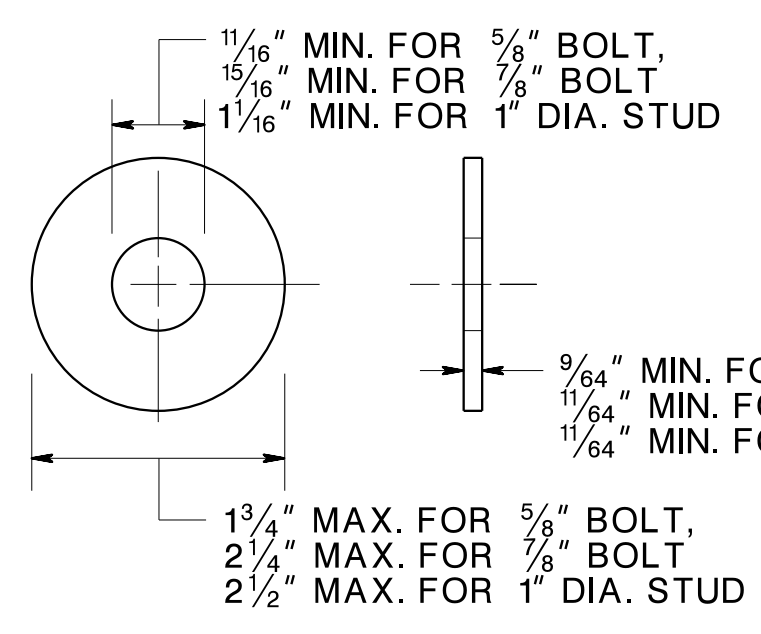
LAWRENCE HOPEWELL TRAIL - PRETTY BROOK SEGMENT FROM PROVINCE LINE ROAD TO CLEVELAND ROAD

WSP USA Inc.  
CERTIFICATION OF AUTHORIZATION NO. 24GA28029800

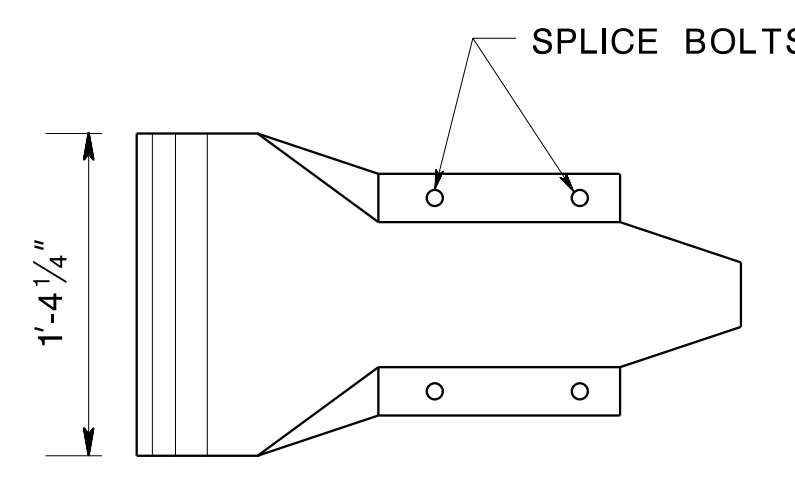
JOLLY O. BENITEZ  
NEW JERSEY PROFESSIONAL ENGINEER NO. 24GE05810100



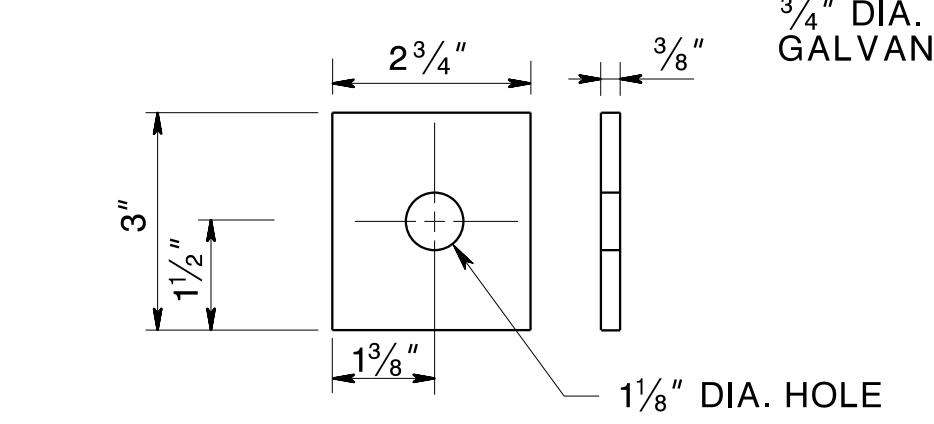
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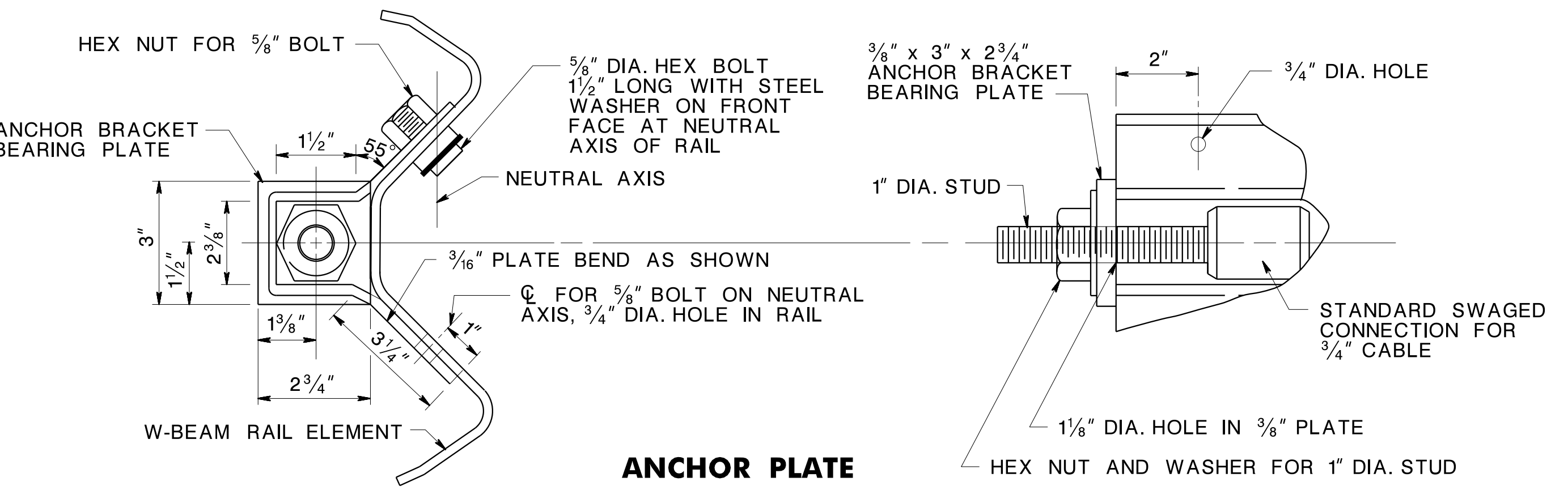
STEEL WASHER



END SECTION (ROUNDED)



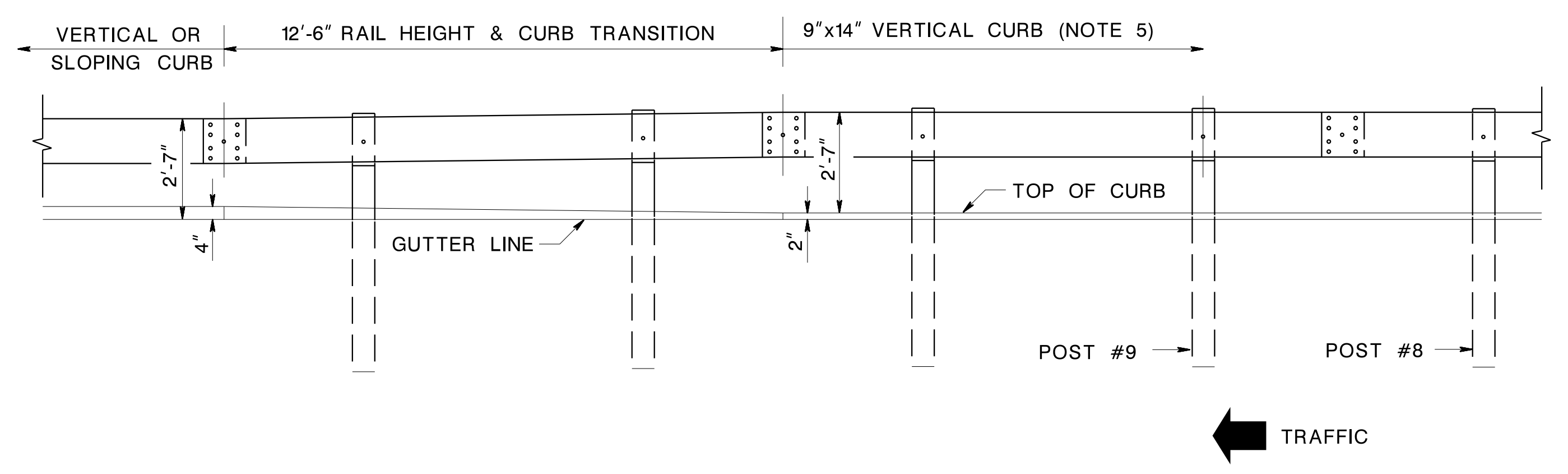
ANCHOR BRACKET BEARING PLATE



ANCHOR PLATE

WSP USA, Inc.  
 OPERATOR Runk  
 PLOT DATE 30-JUN-2022 19:00  
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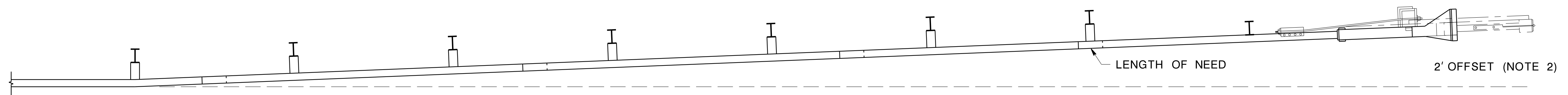




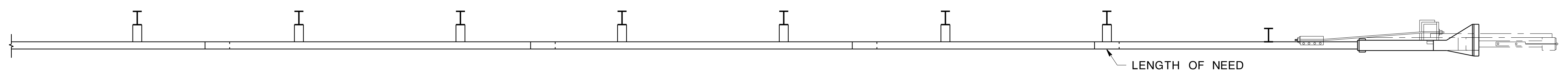
**RAIL HEIGHT TRANSITION FOR TANGENT GUIDE RAIL TERMINAL WITH 2" VERTICAL CURB WHERE GUIDE RAIL IS OFFSET LESS THAN 4 FEET FROM THE GUTTER LINE (NOTE 6)**

**NOTES:**

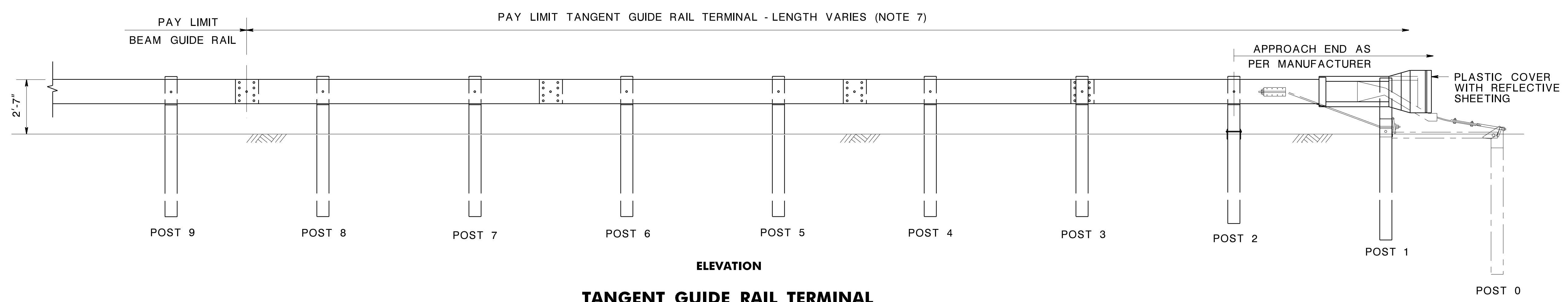
1. NUMBER OF POSTS, TYPE OF POST, POST SPACING, FLARE RATE, AND MATERIALS TO BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND THE DEPARTMENT'S QUALIFIED PRODUCTS LIST.
2. THE LOCATION OF THE 2 FOOT OFFSET VARIES WITH EACH MANUFACTURER. WHERE A 2 FOOT OFFSET IS SHOWN ON THE PLANS, CONSTRUCT THE TANGENT GUIDE RAIL TERMINAL WITH A STRAIGHT FLARE FOR ITS ENTIRE LENGTH AS PER THE MANUFACTURER.
3. WHERE GUIDE RAIL IS INSTALLED FLUSH WITH THE GUTTER LINE OR OFFSET 6 INCHES FROM THE GUTTER LINE, CONSTRUCT THE TANGENT GUIDE RAIL TERMINAL WITH A TWO FOOT OFFSET SO THAT THE TERMINAL END DOES NOT PROTRUDE INTO THE ROADWAY.
4. WHERE THE DOWNSTREAM GUIDE RAIL IS ON A HORIZONTAL CURVE, CONSTRUCT THE TANGENT GUIDE RAIL TERMINAL IN A STRAIGHT LINE AS SHOWN ON THIS DETAIL (DO NOT FOLLOW THE HORIZONTAL CURVE).
5. 9"x14" CONCRETE VERTICAL CURB WHERE SHOWN ON PLANS. SEE CD-607-2 FOR ADDITIONAL CURB TRANSITION DETAILS.
6. WHERE GUIDE RAIL IS OFFSET 4 FEET OR MORE FROM THE GUTTER LINE, RAIL HEIGHT OF THE GUIDE RAIL AND TANGENT GUIDE RAIL TERMINAL IS MEASURED FROM THE GROUND LINE (CD-609-8A). A RAIL HEIGHT TRANSITION IS NOT REQUIRED.
7. LENGTH OF TANGENT GUIDE RAIL TERMINAL AS PER MANUFACTURER. SEE QUALIFIED PRODUCTS LIST.
8. LOCATION OF POST #1 AS SHOWN ON THE PLANS.



PLAN - 2' OFFSET



PLAN - 0' OFFSET



**TANGENT GUIDE RAIL TERMINAL**

**TANGENT GUIDE RAIL TERMINAL (MASH TL-3)**

N.T.S.

CD-609-5 DTL-4

LAWRENCE TOWNSHIP, MERCER COUNTY, NEW JERSEY

**CONSTRUCTION DETAILS**

LAWRENCE HOPEWELL TRAIL - PRETTY BROOK SEGMENT FROM PROVINCE LINE ROAD TO CLEVELAND ROAD

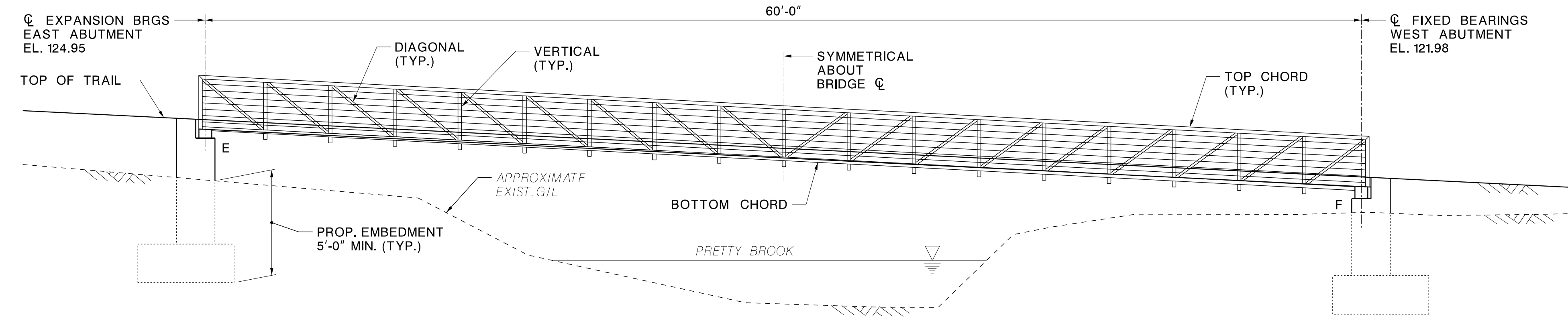
WSP USA Inc. CERTIFICATION OF AUTHORIZATION NO. 24GA28029800

JOLLY O. BENITEZ NEW JERSEY PROFESSIONAL ENGINEER NO. 24GE05810100

CD-609-5.1

WSP USA, Inc. OPERATOR Runk QUEUE \\usiv100prt01\PR\PL03\_BW  
 PLOT DATE 30-JUN-2022 18:00 PENTABLE ehx.tbl  
 DESIGN FILE T:\92341\_LHT\_Pretty\_Brook\hwy\dtl04.dgn

STATE	FEDERAL PROJECT NO.	SHEET	TOTAL SHEETS
N.J.			
STRUCTURE NO.			



**PEDESTRIAN BRIDGE - ELEVATION VIEW**  
(LOOKING SOUTHEAST)  
3/4" = 1'-0"

**NOTE:**  
ELEVATIONS SHOWN ARE AT THE PROPOSED BASELINE ON THE TOP OF TRAIL.

**GENERAL NOTES:**

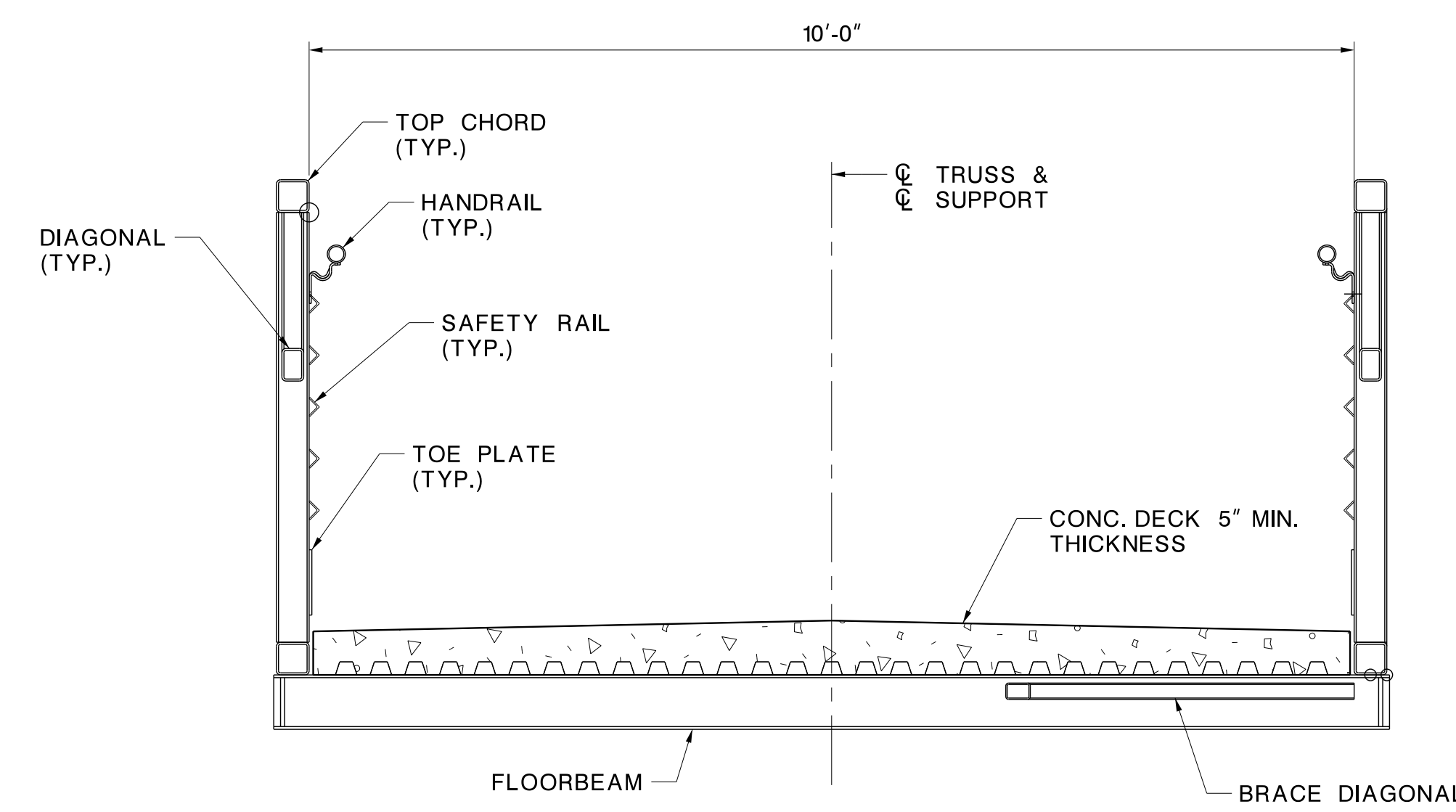
- DESIGN SPECIFICATIONS:**
  - 2020 (9TH EDITION) AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS WITH CURRENT INTERIMS, AS MODIFIED BY SECTION 3 OF THE NJDOT DESIGN MANUAL FOR BRIDGES AND STRUCTURES 6TH EDITION, 2016.
  - AASHTO LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES, 2ND EDITION, WITH 2015 INTERIM REVISIONS
  - 2004 ADA ACCESSIBILITY GUIDELINES
  - WELDING, EXCEPT FOR HOLLOW STRUCTURAL SECTIONS, SHALL CONFORM TO THE CURRENT ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE WITH NJDOT AMENDMENTS. WELDING AND NONDESTRUCTIVE TESTING SYMBOLS SHALL CONFORM TO SYMBOLS FOR WELDING, BRAZING AND NONDESTRUCTIVE EXAMINATION AWS A2.4.
  - FOR STRUCTURES FABRICATED WITH HOLLOW STRUCTURAL SECTIONS (HSS), ALL WELDING QUALIFICATION OF WELD DETAILS, INSPECTION AND WELDER QUALIFICATIONS SHALL CONFORM TO THE PROVISIONS OF THE CURRENT ANSI/AWS D1.1 STRUCTURAL WELDING CODE-STEEL.

- CONSTRUCTION SPECIFICATIONS:**  
2019 NJDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AS AMENDED BY THE SPECIAL PROVISIONS.

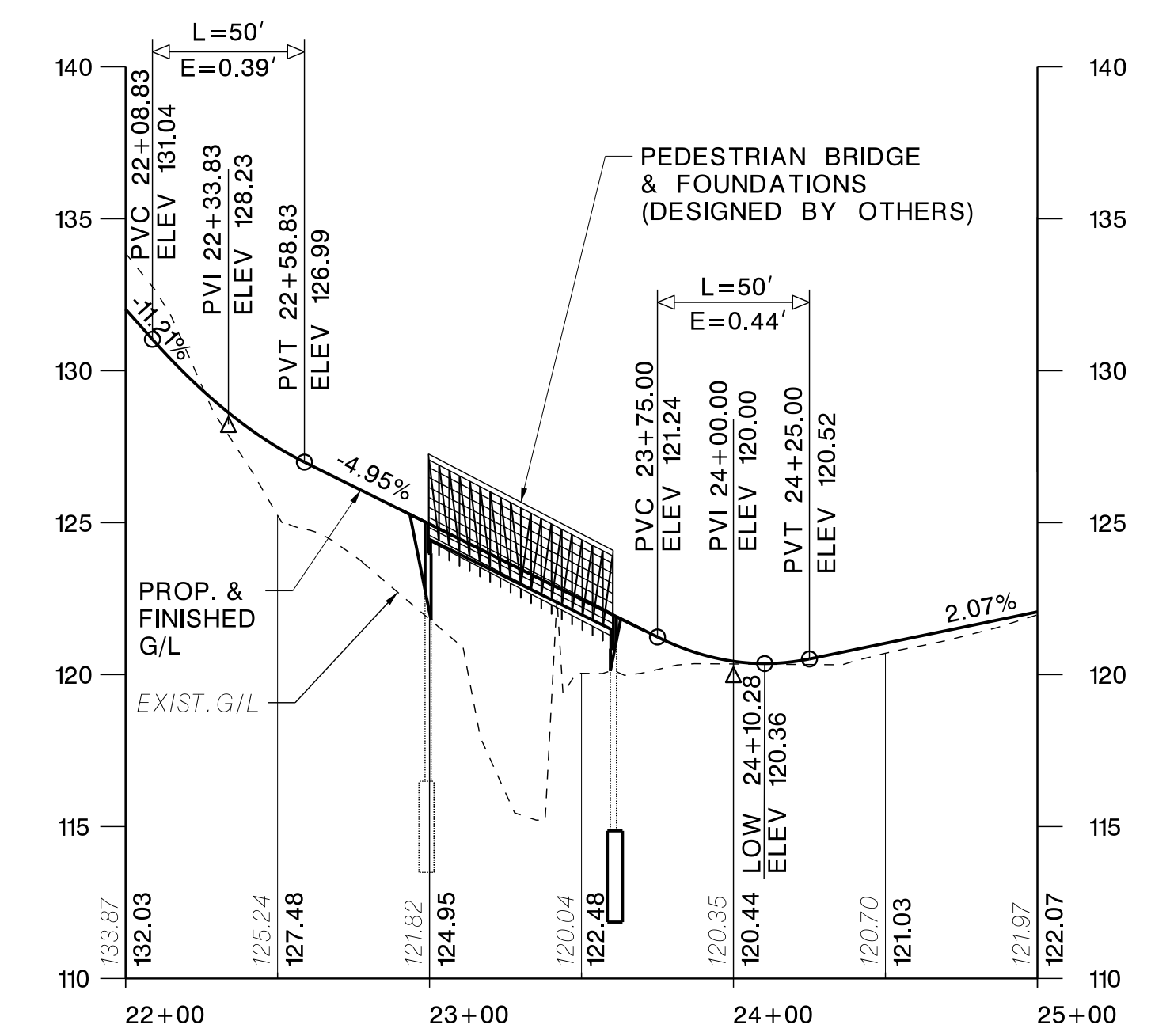
- DESIGN LOADS:**  
FOR SUPERSTRUCTURE (PREFABRICATED TRUSSES):
  - DEAD LOAD:**  
THE BRIDGE STRUCTURE DESIGN SHALL CONSIDER ITS OWN DEAD LOAD (PREFABRICATED TRUSSES AND CONCRETE DECK SLAB).
  - LIVE LOAD:**  
-90 PSF PEDESTRIAN LIVE LOAD FOR WALKWAY.  
-AASHTO H-5 TRUCK (FOUR WHEEL TRUCK WITH TOTAL WEIGHT = 10,000 LB)
  - CONCENTRATED LOADS:**  
ALL THE CONCENTRATED OR WHEEL LOADS SHALL BE PLACED SO AS TO PRODUCE THE MAXIMUM STRESS IN EACH MEMBER ANALYZED. CRITICAL STRESSES SHALL BE CALCULATED ASSUMING THERE IS ONLY ONE (1) VEHICLE ON THE BRIDGE AT ANY GIVEN TIME. ASSUMPTIONS THAT VEHICLES ONLY TRAVEL DOWN THE CENTER OF THE BRIDGE OR THAT THE VEHICLE LOAD IS A UNIFORM LINE LOAD SHALL NOT BE ALLOWED.
  - 53.3 PSF WIND LOAD HORIZONTALLY AT RIGHT ANGLES TO THE LONGITUDINAL AXIS OF THE STRUCTURE.
  - 20 PSF UPWARD FORCE APPLIED AT THE WINDWARD QUARTER POINT OF THE TRANSVERSE BRIDGE WIDTH APPLIED CONCURRENTLY.
  - SEISMIC LOAD (SEE NOTE 8).
  - DESIGN LOAD COMBINATIONS SHALL BE IN ACCORDANCE WITH AASHTO LRFD TABLE 3.4.1-1.
  - THE FUNDAMENTAL FREQUENCY OF THE PEDESTRIAN BRIDGE WITHOUT LIVE LOAD SHALL BE GREATER THAN 3.0 (HZ) TO AVOID THE FIRST HARMONIC MOTION.

- CONCRETE COMPRESSIVE STRESS:**
  - DESIGN COMPRESSIVE STRENGTH (f'c):  
CLASS A = 4,000 PSI  
CLASS B = 3,000 PSI
  - CLASS MIX DESIGN STRENGTHS:  
(IN ACCORDANCE WITH TABLE 914-3 OF THE NJDOT STANDARD SPECIFICATIONS).  
CLASS A = 4,600 PSI AT 28 DAYS  
CLASS B = 3,700 PSI AT 28 DAYS

- REINFORCEMENT STEEL:**  
ASTM A615 (GRADE 60).
- SUPERSTRUCTURE:**
  - THE STEEL TRUSSES OF THE PEDESTRIAN BRIDGE SHALL BE PREFABRICATED BY A MANUFACTURER. THE DESIGN OF THE SUPERSTRUCTURE INCLUDING THE STEEL TRUSSES, BEARINGS, HAND RAIL AND DECK SLAB SHALL BE THE RESPONSIBILITY OF THE MANUFACTURER.
  - THE BRIDGE FABRICATOR IN CONJUNCTION WITH THE CONTRACTOR SHALL SUBMIT THE SHOP DRAWINGS AND THE DESIGN CALCULATIONS OF THE PEDESTRIAN BRIDGE SUPERSTRUCTURE AND THE CONSTRUCTION PLANS THAT INDICATE THE PROCEDURES FOR FABRICATION, ERECTION AND DECK PLACEMENT FOR THE ENGINEER'S APPROVAL. SHOP DRAWINGS AND CALCULATIONS SHALL BE SIGNED AND SEALED BY A NEW JERSEY PROFESSIONAL ENGINEER.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY OF ALL COMPONENTS OF THE BRIDGE.



**TYPICAL SECTION**  
3/4" = 1'-0"

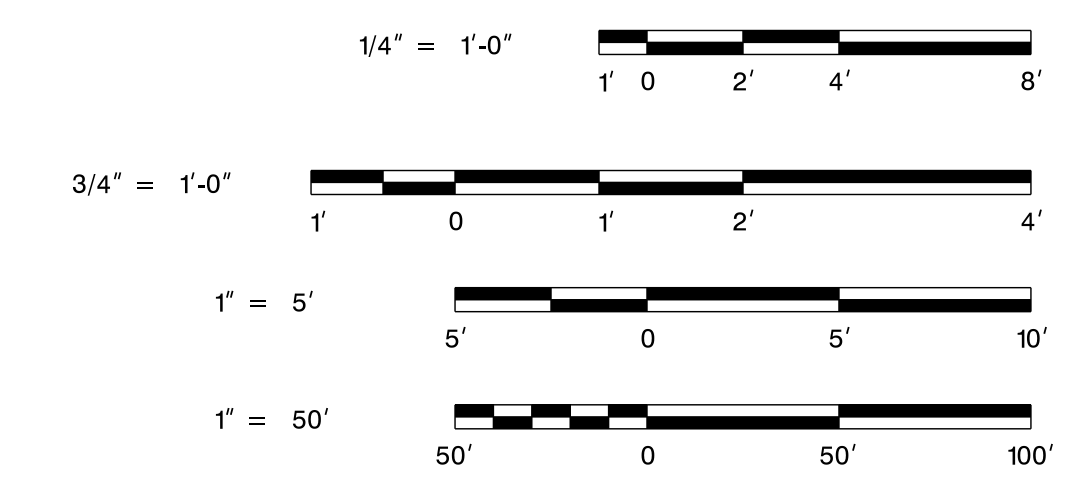


**PROFILE - PEDESTRIAN BRIDGE OVER PRETTY BROOK**  
HORIZ: 1" = 50'  
VERT: 1" = 5'

- SUPERSTRUCTURE (CONTINUED):**
  - ALL STRUCTURAL STEEL SHALL BE ZINC COAT (HOT-DIP) GALVANIZED PER THE SPECIFICATIONS LISTED IN ASTM A123. STRUCTURAL STEEL SHALL NOT BE FABRICATED USING WEATHERING STEEL.
  - S-I-P FORMS SHALL BE USED FOR CONCRETE PLACEMENT.
  - THE BRIDGE DECK SHALL BE CONSTRUCTED USING CLASS A CONCRETE.
  - THE MAIN SPAN SHALL HAVE A VERTICAL CAMBER DIMENSION AT MIDSPAN EQUAL TO 100% OF THE FULL DEAD LOAD DEFLECTION PLUS 1% OF THE FULL LENGTH OF THE BRIDGE IN INCHES. ALL VERTICAL MEMBERS SHALL BE PLUMB AFTER FULL DEAD LOAD.
- SUBSTRUCTURE:**  
CLASS B CONCRETE: ABUTMENTS, WINGWALLS AND FOOTINGS.  
SHOP DRAWINGS AND CALCULATIONS SHALL BE SIGNED AND SEALED BY A NEW JERSEY PROFESSIONAL ENGINEER.

- SEISMIC DESIGN NOTES:**  
THE PEDESTRIAN BRIDGE OVER PRETTY BROOK IS ON SEISMIC ZONE 1. SITE CLASS IS D.
- FOUNDATION DESIGN CRITERIA:**  
FOUNDATIONS ARE DESIGNED BY THE LRFD METHOD IN ACCORDANCE WITH THE 2020 (9TH EDITION) AASHTO LRFD DESIGN SPECIFICATIONS FOR HIGHWAY BRIDGES.  
SOIL BEARING CAPACITY: 20 KSF  
SOIL DENSITY: 120 PCF  
FRICTION ANGLE: 32°
- FOR BRIDGE PLAN VIEW, SEE DRAWING C-2.
- FOR ADDITIONAL TRAIL ELEVATIONS AND PROFILE, SEE DRAWING P-2.
- THE EXISTING BRIDGE ADJACENT TO THE PEDESTRIAN BRIDGE ON PRETTY BROOK ROAD WILL REMAIN. THE CONTRACTOR SHALL TAKE EVERY PRECAUTION TO AVOID DAMAGING THE EXISTING BRIDGE ELEMENTS. ANY DAMAGE CAUSED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED IN A MANNER SATISFACTORY TO THE TOWNSHIP AT THE CONTRACTOR'S EXPENSE.
- TOP OF PRETTY BROOK SHOWN IS APPROXIMATE.

CONTROL SECTION	JOB NO. _____		
DES. BY	K. MULRENNAN	CHK. BY	T. SILLICK L. LAU M. CHEN
DWN. BY	K. MULRENNAN	CHK. BY	M. CHEN
EST. BY	K. MULRENNAN	CHK. BY	L. LAU
SPECS. BY	K. MULRENNAN	CHK. BY	L. LAU
IN CHARGE OF	T. SILLICK		



**GENERAL ELEVATION, PROFILE AND TYPICAL SECTION**  
**LAWRENCEVILLE HOPEWELL TRAIL**  
**PRETTY BROOK SEGMENT FROM PROVIDENCE LINE ROAD TO CLEVELAND ROAD**

WSP USA Inc.	CERTIFICATION OF AUTHORIZATION NO. 24GA28029800	SCALE: AS SHOWN
TAM L. SILLICK	<i>Tam L. Sillick</i>	BRIDGE SHEET NO. ____ OF ____
NEW JERSEY PROFESSIONAL ENGINEER LICENSE NO. 24GE04513400		

REVISION	BY	CHK.	DATE

NJDOT\_STR\_Full\_PB.tbl  
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 WSP USA Inc.