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STRUCTURES DETAILS

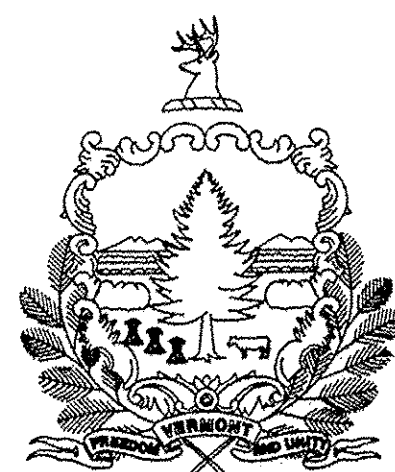
SD-501.00
SD-502.00

INDEX OF STANDARDS

B-5	06/01/1994
C-10	02/11/2008
E-100	01/02/2004
E-100A	01/02/2004
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E-102A	05/01/2004
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G-1	01/03/2000
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S-360A	12/14/2009
S-360B	12/14/2009
S-363	12/14/2009

RECORD PLANS	
CONTRACTOR:	S. D. IRELAND CONC. CONST. CORP - BURLINGTON, VT
RESIDENT ENGINEER:	VICTOR DWIRE
CONSTRUCTION BEGAN:	JANUARY 9, 2012
CONSTRUCTION COMPLETE:	JULY 2, 2012
RECORD PLANS BY:	VICTOR DWIRE
I HEREBY CERTIFY THAT ALL THE CONSTRUCTION REQUIRED BY THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN.	
BY <i>Vic Dwire</i>	RESIDENT ENGINEER
DATE <i>01-22-2014</i>	
NOTE: Any further information concerning final quantities, amounts or other details relative to this project may be found at Central Files in the electronic archives.	

STATE OF VERMONT AGENCY OF TRANSPORTATION



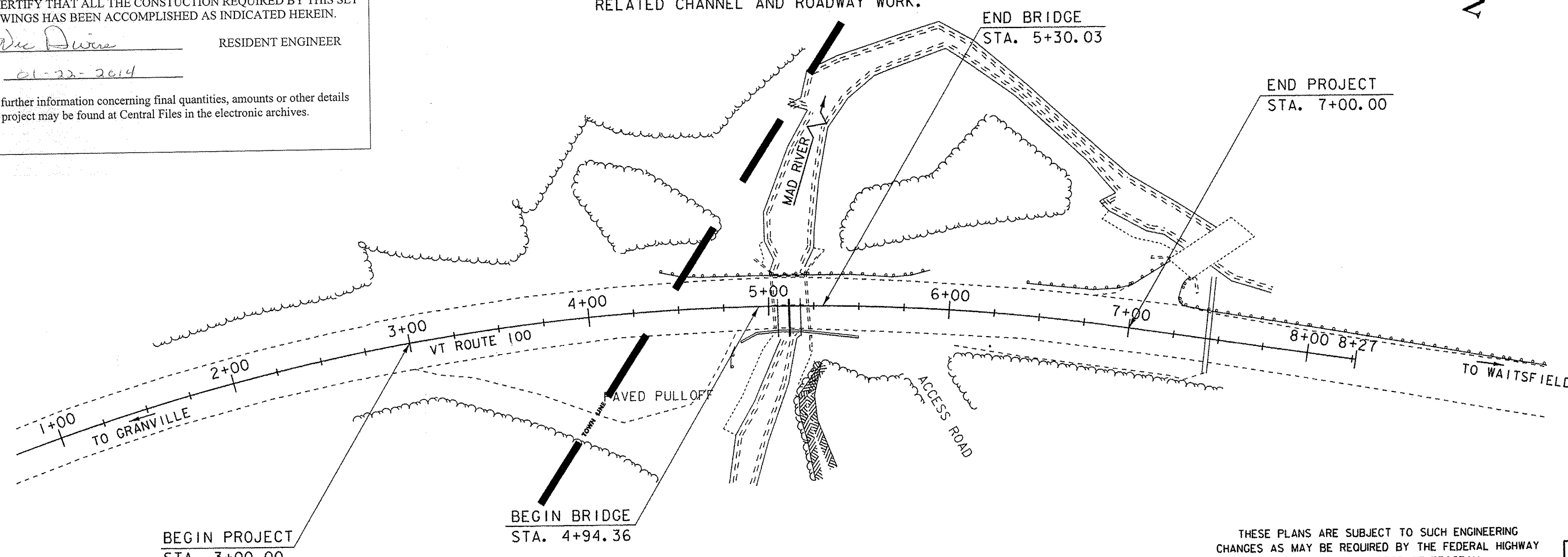
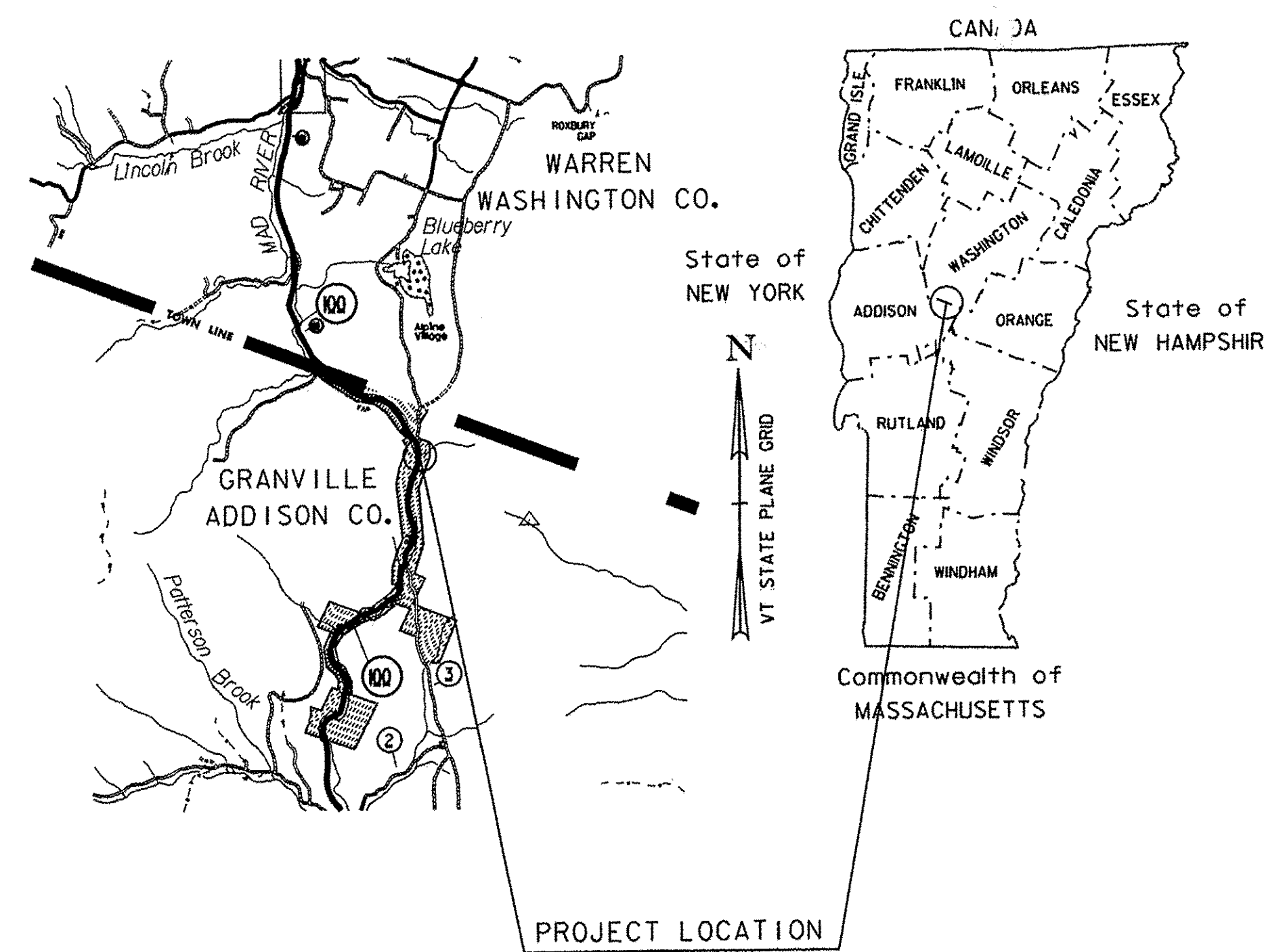
PROPOSED IMPROVEMENT BRIDGE PROJECT

TOWNS OF WARREN & GRANVILLE
COUNTIES OF WASHINGTON & ADDISON

ROUTE NO : VT100 BRIDGE NO : 165

PROJECT LOCATION: LOCATED IN THE COUNTY OF WASHINGTON, BRIDGE NO. 165 ON VT ROUTE 100, APPROXIMATELY 50 FEET NORTH OF THE WARREN AND GRANVILLE TOWN LINE.

PROJECT DESCRIPTION: THE REPLACEMENT OF THE EXISTING STRUCTURE ALONG WITH RELATED CHANNEL AND ROADWAY WORK.



QUALITY ASSURANCE PROGRAM: LEVEL 1

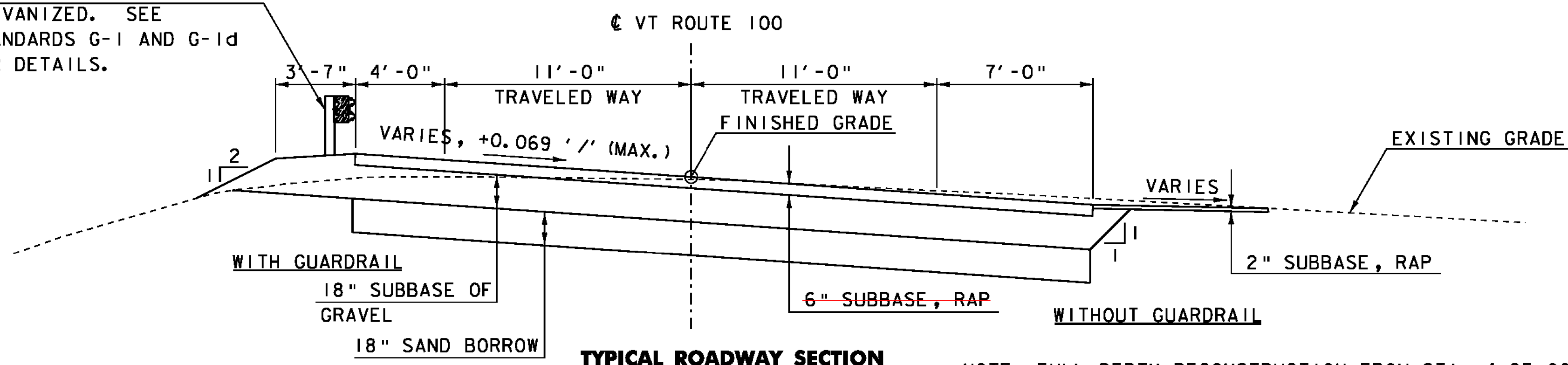
CONVENTIONAL SYMBOLS	
COUNTY LINE	— — — — —
TOWN LINE	— — — — —
LIMITS OF ACCESS	— — — — —
POINT OF ACCESS	X
FENCE LINE	X — — — — X
STONE WALL	○ — — — — ○
TRAVELED WAY	— — — — —
GUARD RAIL	— — — — —
RAILROAD	— — — — —
SURVEY LINE	— — — — —
CULVERT	— — — — —
POWER POLE	⊕
TELEPHONE POLE	⊕
TREES	⊕
CONTROL OF ACCESS	— — — — —
PROPERTY LINE	— — — — —
R.O.W. TAKING LINE	— — — — —
SLOPE RIGHTS	— — — — —
TOP OF CUT	— — — — —
TOE OF SLOPE	— — — — —

SURVEYED BY : R. BELL
SURVEYED DATE : 9/2011
DATUM
VERTICAL ASSUMED
HORIZONTAL ASSUMED

THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE DIRECTOR OF PROGRAM DEVELOPMENT.
CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JUNE 15, 2006 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

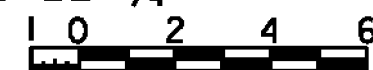
DIRECTOR OF PROGRAM DEVELOPMENT	
APPROVED <i>Richard Johnson</i>	DATE <i>10-21-11</i>
PROJECT MANAGER : TIM FILLBACH	
PROJECT NAME : WARREN	
PROJECT NUMBER : ER-STP 013-4 (36)	
SHEET 1 OF 19 SHEETS	

HD STEEL BEAM GUARDRAIL, GALVANIZED. SEE STANDARDS G-1 AND G-1d FOR DETAILS.

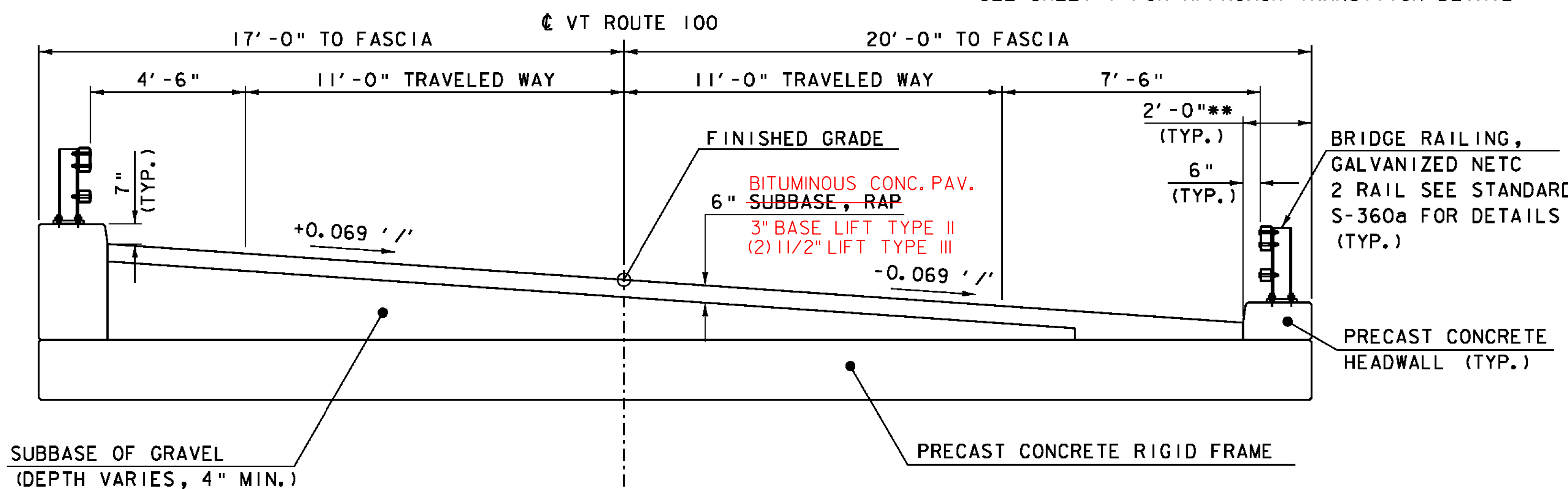


TYPICAL ROADWAY SECTION

SCALE 1/4" = 1'-0"



NOTE: FULL DEPTH RECONSTRUCTION FROM STA. 4+25.00 TO BEGIN BRIDGE AND END BRIDGE TO STA. 6+00.00. IN OTHER LOCATIONS, SUBBASE SHALL BE BUILT-UP AND REGRADED TO OBTAIN GRADE AND CROSS-SLOPE. SEE SHEET 7 FOR APPROACH TRANSITION DETAIL



TYPICAL BRIDGE SECTION

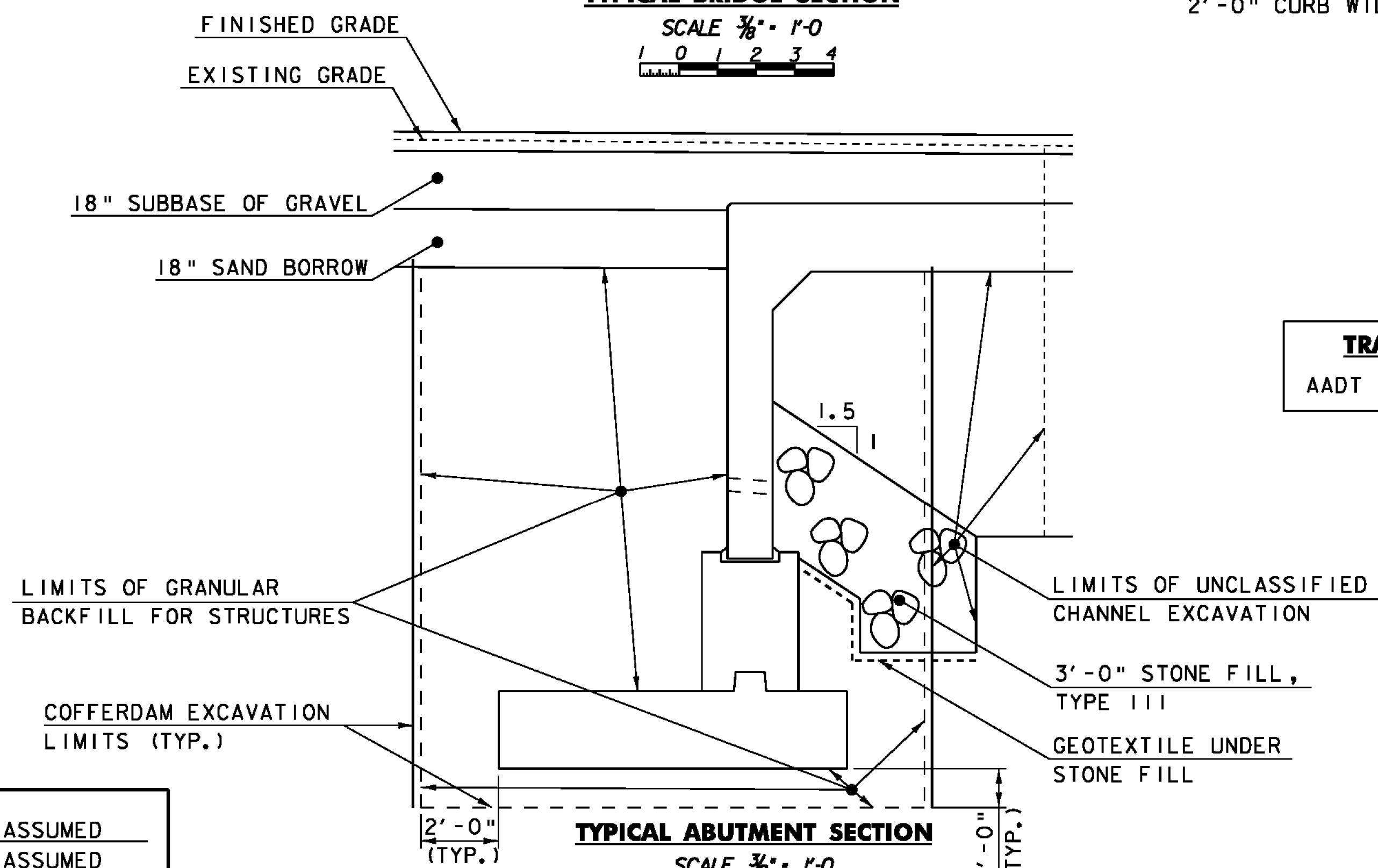
SCALE 3/8" = 1'-0"



** DIMENSION VARIES DUE TO CURVE. 2'-0" CURB WIDTH AT MIDSPAN.

TRAFFIC DATA

AADT = 1100 (2010)



DATUM
VERTICAL ASSUMED
HORIZONTAL ASSUMED

FINAL HYDRAULICS REPORT

HYDROLOGIC DATA

DRAINAGE AREA: 5.0 SQ. MILES
CHARACTER OF TERRAIN: MOUNTAINOUS
CHARACTER & TYPE OF STREAM: PERENNIAL BUT FLASHY, STEEP, LITTLE OR NO FLOODPLAIN, SINUOUS, NOT BRAIDED
NATURE OF STREAMBED: SAND, GRAVEL, COBBLE

02.33= 370 cfs 050= 1140 cfs
010= 700 cfs 0100= 1380 cfs
025= 930 cfs 0500=

DATE OF FLOOD OF RECORD: AUGUST 27 AND 28, 2011
WATER SURFACE ELEV.: UNKNOWN ESTIMATED DISCHARGE: UNKNOWN
NATURAL STREAM VELOCITY @ 0 UNKNOWN
ICE CONDITIONS: UNKNOWN DEBRIS: UNKNOWN
DOES THE STREAM REACH MAXIMUM HIGH WATER ELEVATION RAPIDLY: YES
IS ORDINARY RISE RAPID? YES
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? YES
IF YES, DESCRIBE: STAGE AFFECTED BY DOWNSTREAM FOREST SERVICE BRIDGE

WATERSHED STORAGE: NONE HEADWATERS: UNIFORM THROUGHOUT WATERSHED IMMEDIATELY ABOVE SITE

EXISTING STRUCTURE

STRUCTURE TYPE: CONCRETE SLAB ON SPREAD FOOTINGS YEAR BUILT: 1957
CLEAR SPAN (NORMAL TO STREAM): 18'-0"
VERTICAL CLEARANCE ABOVE STREAMBED: 5'-6"
WATERWAY OF FULL OPENING: 72 SQ. FEET
DISPOSITION OF STRUCTURE: TO BE REMOVED BY CONTRACTOR

TYPE OF MATERIAL UNDER SUBSTRUCTURE:
WATER SURFACE ELEV. @ 02.33= - ft VELOCITY: -
010= - ft -
025= - ft -
050= - ft -
0100= - ft -
SEE ADDITIONAL COMMENTS

LONG TERM STREAM BED CHANGES:
IS THE ROADWAY OVERTOPPED BELOW THE 0100? NO FREQUENCY: N/A
RELIEF ELEVATION: 499.4 DISCHARGE OVER ROAD @ 0100: N/A

UPSTREAM STRUCTURE: TOWN: GRANVILLE DISTANCE: 860 FT
HIGHWAY NO.: VT 100 STRUCTURE NO.: C-164
NOTE:

DOWNSTREAM STRUCTURE: TOWN: WARREN DISTANCE: 300 FT
HIGHWAY NO.: US FOREST SERVICE BR. STRUCTURE NO.: NOT AVAILABLE
NOTE:

DESIGN CRITERIA:

- DESIGN LIVE LOAD AASHTO HL-93
- DESIGN SPAN 32'-0" CLEAR SPAN
- ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL SEE GENERAL NOTES ON LEDGE SEE GENERAL NOTES
- ALLOWABLE LOAD FOR PILING N/A TYPE N/A ESTIMATED LENGTH N/A
- STRUCTURAL STEEL AASHTO GRADE N/A
- REINFORCING STEEL GRADE 60
- CONCRETE $f_c = 3500$ PSI FOOTINGS AND PEDESTAL WALLS (CAST-IN-PLACE CONCRETE)
 $f_c = 5000$ PSI FOOTINGS, PEDESTAL WALLS, AND RIGID FRAME (PRECAST CONCRETE)

TRAFFIC MAINTENANCE:

- IS TRAFFIC TO BE MAINTAINED? YES IF YES, ON EXISTING STRUCTURE YES OR ON TEMPORARY BRIDGE
- TEMPORARY BRIDGE REQUIREMENTS: ONE OR TWO WAY TRAFFIC CONTROL SIGNALS REQUIRED YES
MINIMUM CLEAR SPAN (NORMAL TO STREAM): VERTICAL CLEARANCE ABOVE STREAMBED:
WATERWAY OF FULL OPENING:
ARE SIDEWALKS REQUIRED? IF SO, ON WHAT SIDE?
STRUCTURE TYPE:

PROPOSED STRUCTURE

STRUCTURE TYPE: PRECAST CONCRETE RIGID FRAME ON SPREAD FOOTINGS

CLEAR SPAN (NORMAL TO STREAM): 32'-0"
VERTICAL CLEARANCE ABOVE STREAMBED: 6'-0"
WATERWAY OF FULL OPENING: 179.3 SQ. FEET

WATER SURFACE ELEV. @ 02.33= 494.6 ft VELOCITY= 4.2 fps
010= 495.8 ft 5.4 fps
025= 497.6 ft 5.5 fps
050= 497.8 ft 6.7 fps
0100= 498.1 ft 8.1 fps

IS THE ROADWAY OVERTOPPED BELOW THE 0100? NO FREQUENCY: N/A
RELIEF ELEVATION: 499.4 DISCHARGE OVER ROAD @ 0100: N/A

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 497.25
VERTICAL CLEARANCE @ 0.25: 0.0 FT

SCOUR: ESTIMATED DEPTH SCOUR EL. 487.5
REQUIRED CHANNEL PROTECTION: STONE FILL, TYPE III

ADDITIONAL COMMENTS

EXISTING STRUCTURE DAMAGED BY AUG. 27 & 28, 2011 STORM EVENT. TWO TEMPORARY 78" DIA. CMP PIPES INSTALLED TO MAINTAIN FLOW. NO HYDRAULIC ANALYSIS PERFORMED ON TEMPORARY STRUCTURE.

TEMPORARY BRIDGE SKETCH

NOT TO SCALE

PRELIMINARY INFORMATION SHEET

PROJECT NAME: WARREN
PROJECT NUMBER: ER-STP 013-4 (36)

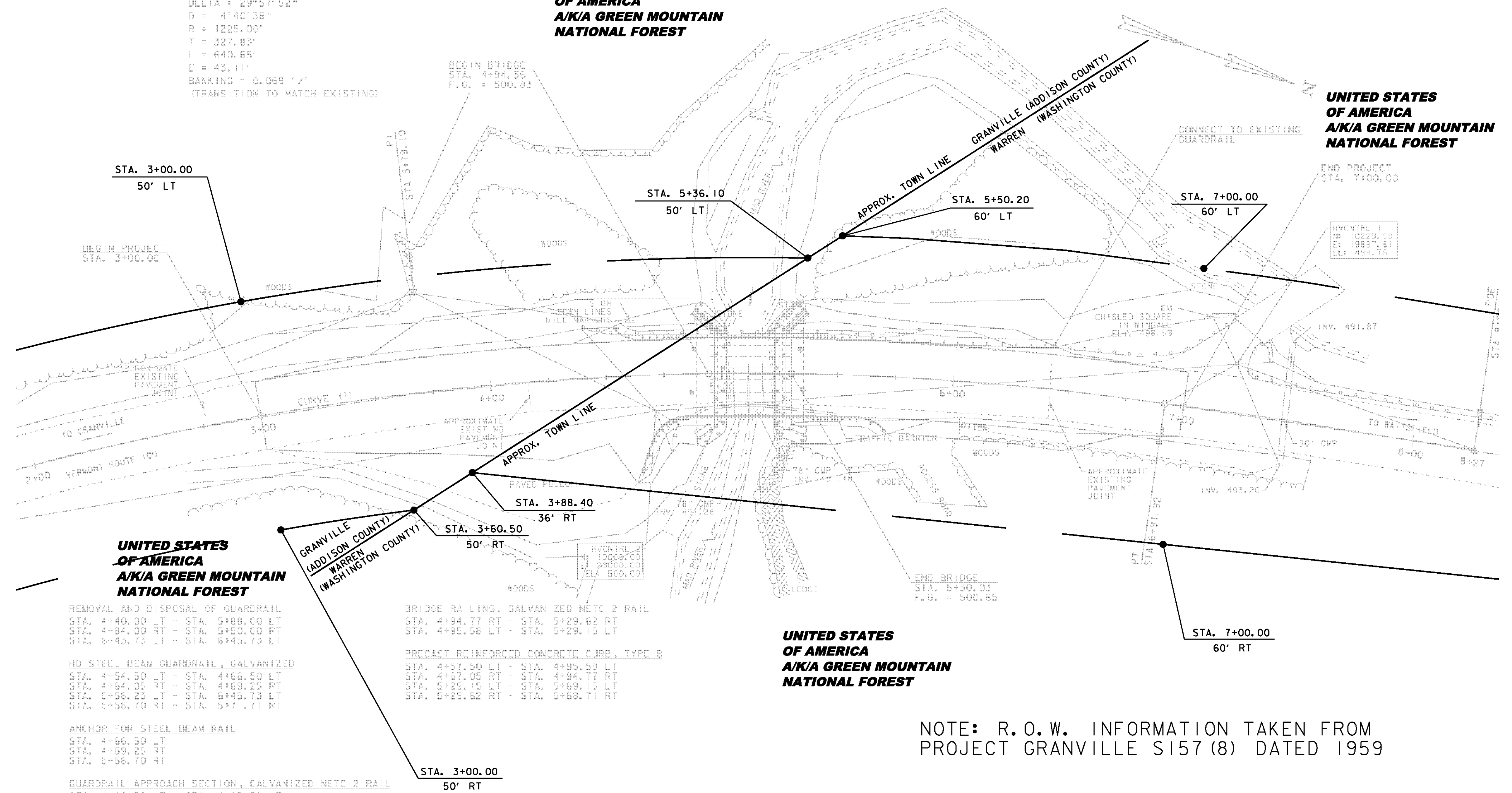
FILE NAME: PLOT DATE: 11/4/2011
PROJECT LEADER: JWT DRAWN BY: BMB
DESIGNED BY: RHB CHECKED BY: EPD
PLOT FILE: SHEET 2 OF 19



CURVE (1)
 DELTA = 29°57'52"
 D = 4°40'38"
 R = 1225.00'
 T = 327.83'
 L = 640.65'
 E = 43.11'
 BANKING = 0.069' / 1'
 (TRANSITION TO MATCH EXISTING)

**UNITED STATES
 OF AMERICA
 A/K/A GREEN MOUNTAIN
 NATIONAL FOREST**

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 NATIONAL FOREST**



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 A/K/A GREEN MOUNTAIN
 NATIONAL FOREST**

REMOVAL AND DISPOSAL OF GUARDRAIL
 STA. 4+40.00 LT - STA. 5+88.00 LT
 STA. 4+84.00 RT - STA. 5+50.00 RT
 STA. 6+43.73 LT - STA. 6+45.73 LT

HD STEEL BEAM GUARDRAIL, GALVANIZED
 STA. 4+54.50 LT - STA. 4+66.50 LT
 STA. 4+64.05 RT - STA. 4+69.25 RT
 STA. 5+58.23 LT - STA. 6+45.73 LT
 STA. 5+58.70 RT - STA. 5+71.71 RT

ANCHOR FOR STEEL BEAM RAIL
 STA. 4+66.50 LT
 STA. 4+69.25 RT
 STA. 5+58.70 RT

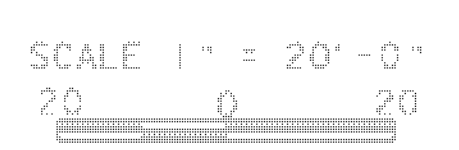
GUARDRAIL APPROACH SECTION, GALVANIZED METC 2 RAIL
 STA. 4+66.50 LT - STA. 4+95.58 LT
 STA. 4+69.25 RT - STA. 4+94.77 RT
 STA. 5+29.15 LT - STA. 5+58.23 LT
 STA. 5+29.62 RT - STA. 5+58.70 RT

BRIDGE RAILING, GALVANIZED METC 2 RAIL
 STA. 4+94.77 RT - STA. 5+29.62 RT
 STA. 4+95.58 LT - STA. 5+29.15 LT

PRECAST REINFORCED CONCRETE CURB, TYPE B
 STA. 4+57.50 LT - STA. 4+95.58 LT
 STA. 4+67.05 RT - STA. 4+94.77 RT
 STA. 5+29.15 LT - STA. 5+69.15 LT
 STA. 5+29.62 RT - STA. 5+68.71 RT

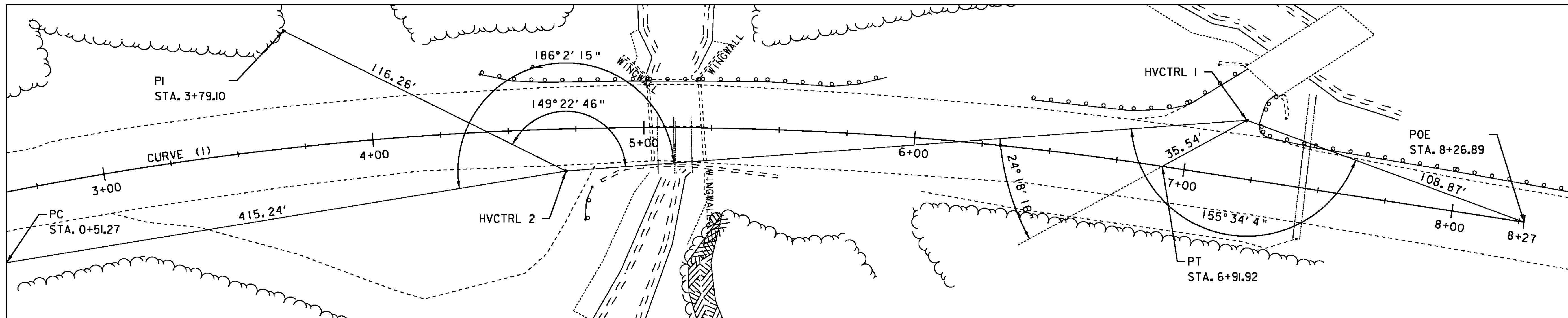
**UNITED STATES
 OF AMERICA
 A/K/A GREEN MOUNTAIN
 NATIONAL FOREST**

NOTE: R.O.W. INFORMATION TAKEN FROM
 PROJECT GRANVILLE S157 (8) DATED 1959

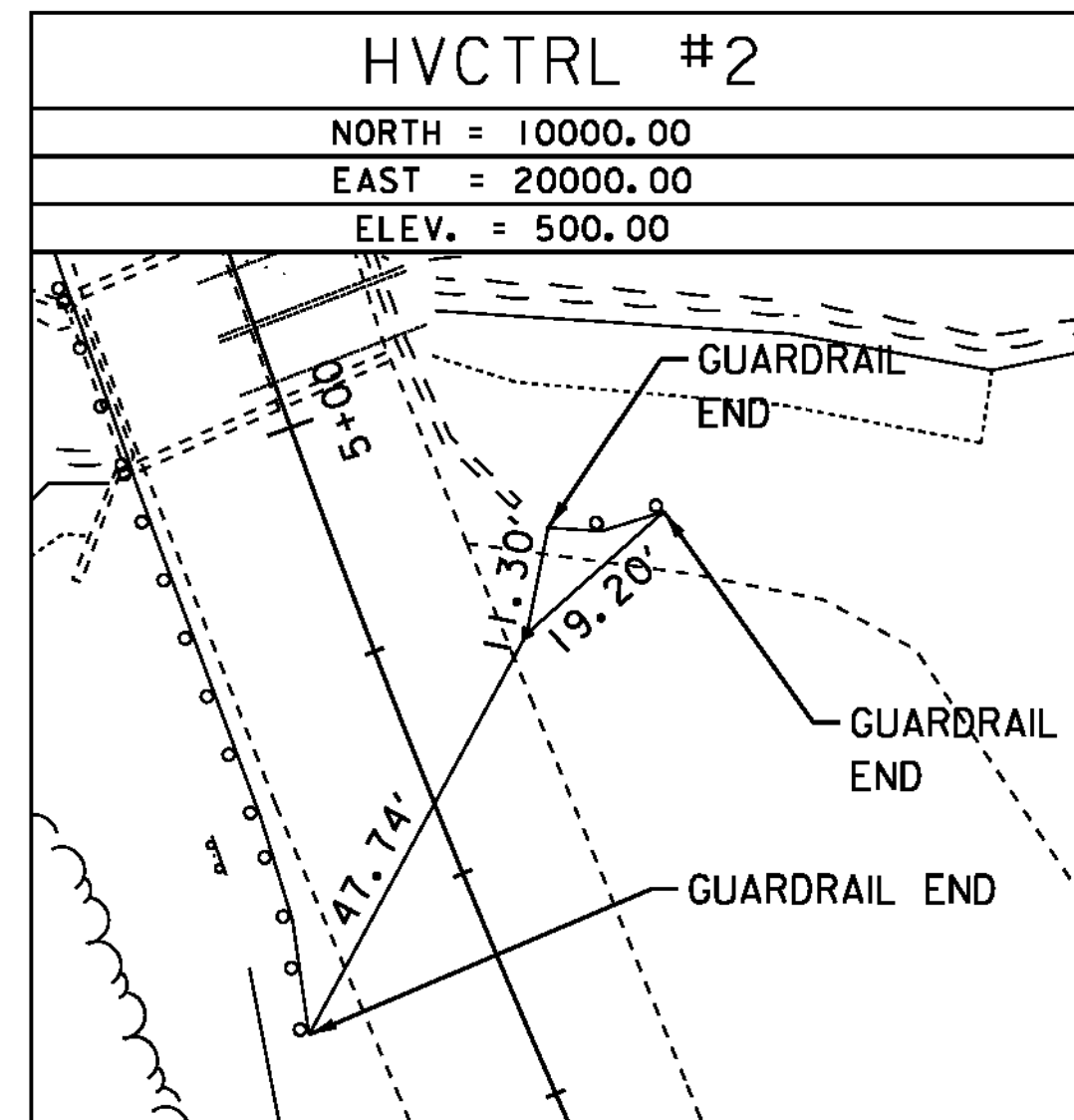
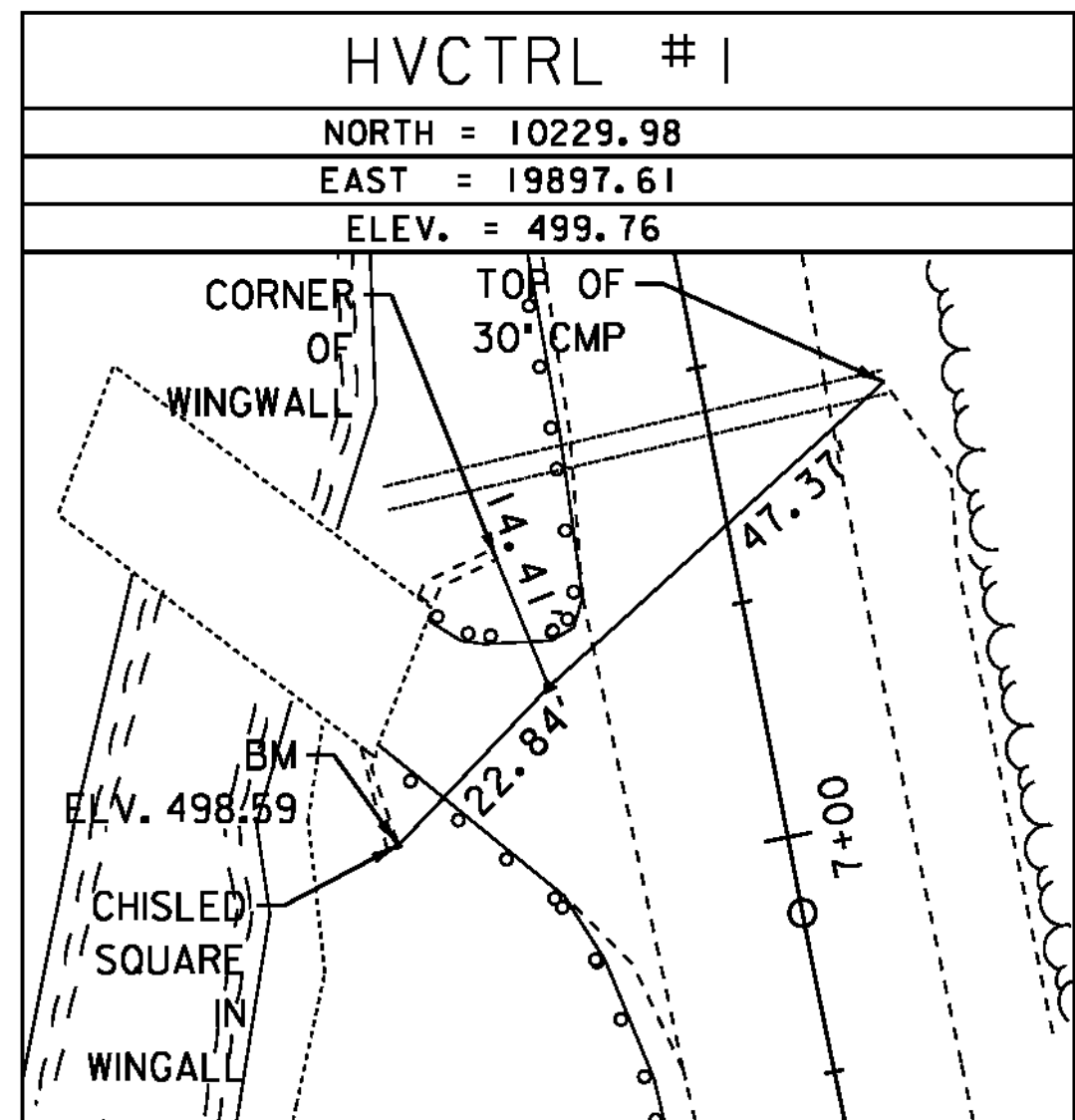


PROJECT NAME:	WARREN	FILE NAME:	11b300\row\11b300\layout1	PLOT DATE:	01-NOV-2011
PROJECT NUMBER:	ER STP 013-4 (36)	PROJECT LEADER:	J. LACROIX	DRAWN BY:	J. BLANCHARD
		DESIGNED BY:		CHECKED BY:	J. BLANCHARD
		R.O.W. LAYOUT 1		SHEET	3 OF 19

ALIGNMENT TIES



TRAVERSE TIES



GEOMETRIC COORDINATES

	STATION	NORTHING	EASTING
POB	STA. 0+00.00	9598.169	20235.038
POC	STA. 0+51.27	9636.900	20201.437
PI	STA. 3+79.10	9884.515	19986.594
POT	STA. 6+91.92	10206.343	19924.144
POE	STA. 8+26.89	10338.846	19898.433

SUMMARY OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANT.
203.15	COMMON EXCAVATION	CY	1000
203.27	UNCLASSIFIED CHANNEL EXCAVATION	CY	80
203.31	SAND BORROW	CY	280
204.22	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	CY	1
204.30	GRANULAR BACKFILL FOR STRUCTURES	CY	450
208.30	COFFERDAM EXCAVATION, EARTH	CY	675
208.35	COFFERDAM EXCAVATION, ROCK	CY	75
208.40	COFFERDAM (STA. 4+92)	LS	1
208.40	COFFERDAM (STA. 5+30)	LS	1
301.15	SUBBASE OF GRAVEL	CY	480
301.40	SUBBASE, RAP	TON	450
404.65	EMULSIFIED ASPHALT	CWT	5
519.20	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	SY	220
525.33	BRIDGE RAILING, GALVANIZED NETC 2 RAIL	LF	68.66
529.15	REMOVAL OF STRUCTURE (640 SF - EST.)	EA	1
540.10	PRECAST CONCRETE STRUCTURE (32'-0" X 7'-5" X 37'-0" RIGID FRAME)	LS	1
613.10	STONE FILL, TYPE I	CY	17
613.12	STONE FILL, TYPE III	CY	195
616.26	PRECAST REINFORCED CONCRETE CURB, TYPE B	LF	160
621.21	HD STEEL BEAM GUARDRAIL, GALVANIZED	LF	131.0
621.60	ANCHOR FOR STEEL BEAM RAIL	EA	3
621.72	GUARDRAIL APPROACH SECTION, GALVANIZED NETC 2 RAIL	EA	4
621.80	REMOVAL AND DISPOSAL OF GUARDRAIL	LF	216
631.16	TESTING EQUIPMENT, CONCRETE	LS	1
635.11	MOBILIZATION/DEMOLITION	LS	1
649.31	GEOTEXTILE UNDER STONE FILL	SY	85
651.15	SEED	LB	5
651.18	FERTILIZER	LB	40

ITEM NO.	DESCRIPTION	UNIT	QUANT.
651.20	AGRICULTURAL LIMESTONE	TON	0.25
651.25	HAY MULCH	TON	0.25
651.35	TOPSOIL	CY	45
900.615	SPECIAL PROVISION (EROSION PREVENTION AND SEDIMENT CONTROL MEASURES) (N.A.B.I.)	DOLLAR	3000
900.615	SPECIAL PROVISION (MAINTENANCE OF EPSC PLAN) (N.A.B.I.)	DOLLAR	1500
900.630	SPECIAL PROVISION (MONITORING EPSC PLAN)	HR	40
900.645	SPECIAL PROVISION (EPSC PLAN)	LS	1
900.645	SPECIAL PROVISION (PEDESTAL WALL) (ABUTMENT NO. 1)	LS	1
900.645	SPECIAL PROVISION (PEDESTAL WALL) (ABUTMENT NO. 2)	LS	1
900.645	SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)	LS	1

DATUM
 VERTICAL ASSUMED
 HORIZONTAL ASSUMED



TIE SHEET & ESTIMATED QUANTITIES

PROJECT NAME: WARREN
 PROJECT NUMBER: ER-STP 013-4 (36)

FILE NAME:
 PROJECT LEADER: JWT
 DESIGNED BY: RHB
 PLOT FILE:
 PLOT DATE: 11/4/2011
 DRAWN BY: BMB
 CHECKED BY: EPD
 SHEET 4 OF 19

GENERAL NOTES:

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT, AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2006, AND ITS LATEST REVISIONS, AND THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 5TH EDITION, DATED 2010, WITH LATEST INTERIM REVISIONS.
2. ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL, AND ARE GIVEN AT 68 DEGREES FAHRENHEIT, UNLESS NOTED OTHERWISE.
3. ALL WORK SHALL BE COMPLETED WITHIN THE EXISTING RIGHT-OF-WAY. IF THE CONTRACTOR DESIRES TO WORK OUTSIDE OF THE EXISTING RIGHT-OF-WAY, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN THE NECESSARY RIGHTS.
4. THE CONTRACTOR SHALL SUBMIT AN EROSION PREVENTION AND SEDIMENT CONTROL PLAN (EPSC PLAN) FOR APPROVAL. THE PLAN SHALL BE IN ACCORDANCE WITH THE 2006 LOW RISK SITE HANDBOOK FOR EROSION PREVENTION AND SEDIMENT CONTROL, PUBLISHED BY THE VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION. REFERENCE SHOULD BE MADE TO THE WINTER STABILIZATION AND DEWATERING ACTIVITIES SECTIONS OF THE HANDBOOK. PAYMENT FOR PREPARING THE PLAN AS WELL AS MODIFICATIONS AND RESUBMITTALS SHALL BE MADE UNDER ITEM 900.645, "SPECIAL PROVISION (EPSC PLAN)".
5. THE EXISTING STRUCTURE SHALL BE REMOVED IN ITS ENTIRETY, INCLUDING THE FOOTINGS, ABUTMENTS, WINGWALLS, DECK SLAB, RAILINGS, TEMPORARY PIPES, AND TEMPORARY CONCRETE BARRIERS. ALL REMOVAL OF THE EXISTING STRUCTURE SHALL BE PAID FOR UNDER ITEM 529.15, "REMOVAL OF STRUCTURE (640 SF-EST.)". THE EXISTING 78" CMP PIPES SHALL BE CAREFULLY REMOVED AND RETURNED TO THE DISTRICT 5 WAITSFIELD GARAGE. PAYMENT FOR REMOVAL AND RETURN OF THE EXISTING 78" CMP PIPES SHALL BE INCLUDED UNDER ITEM 529.15, "REMOVAL OF STRUCTURE (640 SF-EST.)". THE FOLLOWING CONTACT INFORMATION IS PROVIDED REGARDING COORDINATION FOR RETURNING THE PIPES:

DAVE BLACKMORE
 DISTRICT ADMINISTRATOR
 DISTRICT 5 #802-655-1580

6. THE DEBRIS PILE, CONSISTING OF CONCRETE, STEEL RAILING, AND OTHER EXISTING BRIDGE DEBRIS, LOCATED IMMEDIATELY TO THE NORTHEAST OF THE BRIDGE, SHALL BE REMOVED AND DISPOSED OF. PAYMENT FOR REMOVAL AND DISPOSAL SHALL BE INCLUDED UNDER ITEM 529.15, "REMOVAL OF STRUCTURE (640 SF-EST.)".
7. LEDGE ENCOUNTERED DURING EXCAVATION SHALL BE EXCAVATED TO A DEPTH OF 1'-0" BELOW THE BOTTOM OF FOOTING THEN BACKFILLED AND COMPACTED TO THE BOTTOM OF FOOTING ELEVATION WITH GRANULAR BACKFILL FOR STRUCTURES. EXCAVATION OF LEDGE SHALL BE PAID FOR UNDER ITEM 208.35, "COFFERDAM EXCAVATION, ROCK".
8. ALL PRECAST CONCRETE COMPONENTS INCLUDING THE RIGID FRAME, HEADWALLS, WINGWALLS, AND ALL CONNECTIONS BETWEEN THESE COMPONENTS SHALL BE DESIGNED BY THE PRECAST FABRICATOR. THE FOOTINGS AND PEDESTAL WALLS HAVE BEEN DESIGNED AND INCLUDED WITH THE PLANS. THE SOIL PROPERTIES AND DESIGN PARAMETERS USED FOR THIS BRIDGE SITE ARE AS INDICATED BELOW:

NOMINAL BEARING RESISTANCE : 12.21 KSF
 FOUNDATION SOIL UNIT WEIGHT : 110 LB/FT³
 FOUNDATION SOIL FRICTION ANGLE : 28-DEGREES
 BEARING RESISTANCE FACTOR : 0.45
 SLIDING RESISTANCE FACTOR : 0.80

9. THE DIMENSIONS AND DETAILS SHOWN ON THE PLANS ARE FOR CAST-IN-PLACE COCNRETE FOOTINGS AND PEDESTAL WALLS. IF THE CONTRACTOR CHOOSES TO USE PRECAST CONCRETE FOOTINGS AND PEDESTAL WALLS, THEN THE PRECAST MANUFACTURER SHALL SUBMIT, TO THE ENGINEER, DRAWINGS AND CALCULATIONS FOR APPROVAL. REFER TO SPECIAL PROVISION (PEDESTAL WALL) FOR ADDITIONAL REQUIREMENTS AND METHOD OF PAYMENT.

PRECAST CONCRETE RIGID FRAME NOTES:

1. THE RIGID FRAME, HEADWALLS, AND WINGWALLS SHALL BE PRECAST CONCRETE CONFORMING TO SECTION 540 OF THE SPECIFICATIONS, AND SHALL MEET THE DIMENSIONS INDICATED IN THE PLANS. ALL PRECAST COMPONENTS OF THE STRUCTURE WILL BE PAID FOR UNDER ITEM 540.10, "PRECAST CONCRETE STRUCTURE (32'-0" X 7'-5" X 37'-0" RIGID FRAME)".

PRECAST CONCRETE RIGID FRAME NOTES (CONT.)

2. ALL ELEMENTS OF THE PRECAST STRUCTURE (S) SHALL BE DESIGNED BY THE PRECAST SUPPLIER, INCLUDING ANCHORAGE AND CONNECTIONS BETWEEN ELEMENTS. ALL ELEMENTS SHALL BE INSTALLED IN ACCORDANCE WITH THE FABRICATOR'S RECOMMENDATIONS. THE CONTRACTOR SHALL SUBMIT FABRICATION DRAWINGS FOR THE PRECAST RIGID FRAME FOR APPROVAL. IN ADDITION TO FABRICATION DRAWINGS, THE FABRICATOR OF THE PRECAST RIGID FRAME SHALL ALSO PROVIDE A LOAD RATING AND BACKUP CALCULATIONS IN ACCORDANCE WITH THE AASHTO SPECIFICATIONS REFERENCED IN GENERAL NOTE 1 AND THE VTRANS STRUCTURES DESIGN MANUAL, 2010, WHICH PROVIDES SPECIFIC LOAD RATING INSTRUCTIONS. THE RATING AND BACKUP CALCULATIONS SHALL BE SIGNED, STAMPED, AND DATED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE ENGINEERING IN THE STATE OF VERMONT. NOTE THAT THE FABRICATOR ASSUMES ALL LIABILITY FOR THE ADEQUACY AND ACCURACY OF THE RIGID FRAME DESIGN AND LOAD RATING.
3. THE DESIGN OF THE PRECAST CONCRETE RIGID FRAME SHALL BE FOR HL-93 LIVE LOADING, AND SHALL BE DESIGNED FOR A 75-YEAR DESIGN LIFE.
4. ALL EXPOSED EDGES OF THE PRECAST COMPONENTS SHALL BE CHAMFERED 1" X 1".
5. DRILLING OF HOLES IN THE PRECAST RIGID FRAME SHALL NOT BE PERMITTED UNLESS APPROVED IN WRITING BY THE RESIDENT ENGINEER. IF DRILLING OF HOLES, OR THE USE OF INSERTS IN THE PRECAST RIGID FRAME IS REQUIRED FOR SECURING THE TEMPORARY TRAFFIC BARRIER DURING CONSTRUCTION, THE FABRICATION DRAWINGS SHALL DETAIL THE CONFIGURATION AND FINAL SURFACE TREATMENT, AND SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
6. ~~SHEET MEMBRANE WATERPROOFING, TORCH APPLIED SHALL BE APPLIED TO THE PRECAST RIGID FRAME, ON ALL SURFACES OF THE BURIED-SIDES, INCLUDING THE INSIDE SURFACES OF THE HEADWALLS. SHEET MEMBRANE WATERPROOFING, TORCH APPLIED SHALL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS, WHICH MAY NECESSITATE APPLICATION IN A CONTROLLED ENVIRONMENT, PRIOR TO ARRIVAL ON-SITE. PAYMENT WILL BE MADE UNDER ITEM 519.20, "SHEET MEMBRANE WATERPROOFING, TORCH APPLIED".~~
 NOT DONE
7. ~~SHEET MEMBRANE WATERPROOFING, PREFORMED SHEET SHALL BE APPLIED, IN A 2'-0" STRIP, TO THE JOINTS BETWEEN INDIVIDUAL RIGID FRAME SECTIONS, THE RIGID FRAME AND HEADWALL, AND THE RIGID FRAME AND WINGWALLS. SHEET MEMBRANE WATERPROOFING, PREFORMED SHEET MAY BE APPLIED ON-SITE AFTER PLACEMENT OF THE MEMBERS. PAYMENT FOR THIS WORK WILL BE CONSIDERED INCIDENTAL TO ITEM 540.10, "PRECAST CONCRETE STRUCTURE (32'-0" X 7'-5" X 37'-0" RIGID FRAME)".~~
 NOT USED. USED SPECIAL PROVISION SPRAY ON MEMBRANE
8. THE PRECAST HEADWALLS SHALL BE ABLE TO ACCEPT THE SPECIFIED BRIDGE RAIL AND BE DESIGNED FOR A RAILING IMPACT LOAD IN ACCORDANCE WITH SECTION 13 OF THE AASHTO SPECIFICATIONS REFERED TO IN GENERAL NOTE 1.
9. EPOXY COATED REINFORCING STEEL SHALL BE USED IN THE HEADWALLS AND THE TOP MAT OF THE RIGID FRAME.
10. JOINTS BETWEEN ALL ABUTTING PRECAST UNITS SHALL BE WATERTIGHT AND MECHANICALLY CONNECTED.

REINFORCING STEEL NOTES:

1. REINFORCING STEEL USED IN THE FOOTINGS AND PEDESTAL WALLS SHALL BE GRADE 60, CONFORMING TO SUBSECTION 713.01 OF THE SPECIFICATIONS.
2. THE MINIMUM COVER FOR REINFORCING STEEL IN THE SUBSTRUCTURES SHALL BE 2" ALONG WALL FACES AGAINST EARTH, AND 3" ELSEWHERE, UNLESS DETAILED OTHERWISE.
3. REINFORCING STEEL PLACEMENT TOLERANCES SHALL BE AS FOLLOWS:

SPACING +/- 1"
 CLEARANCE +/- 1/4"

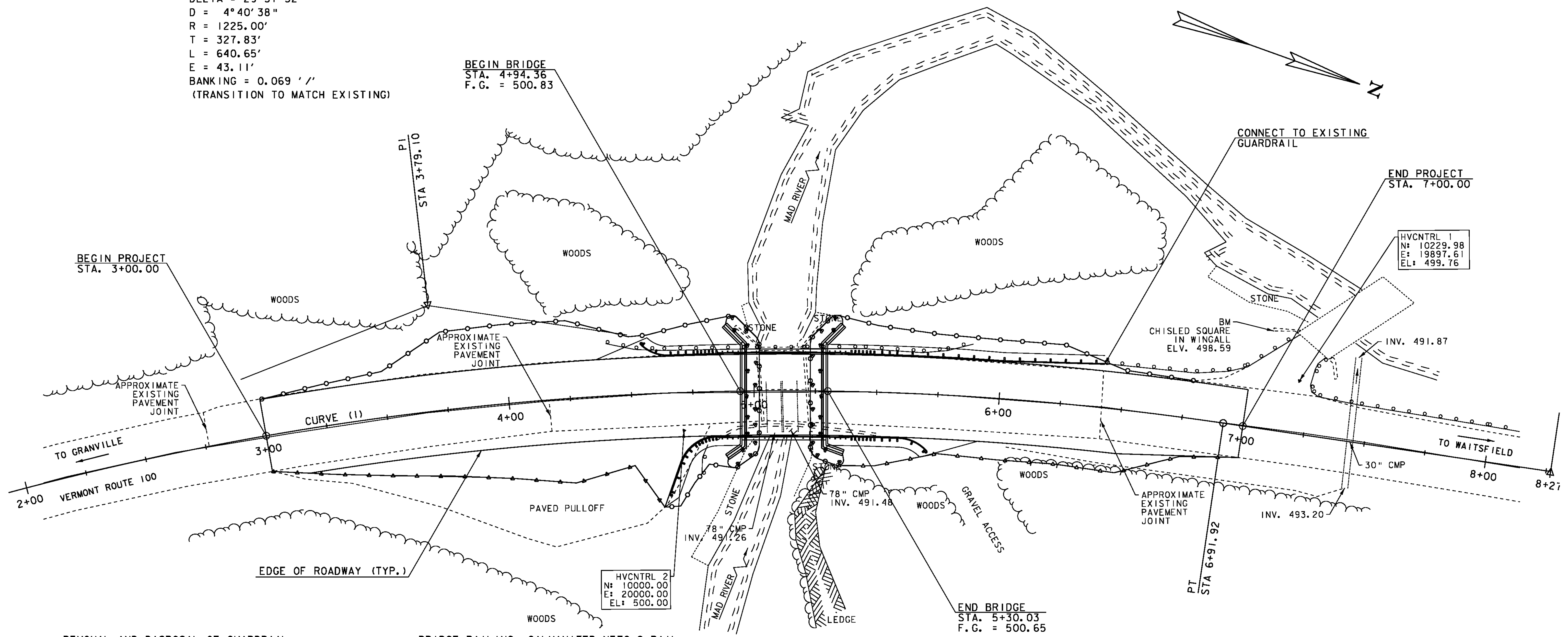
DATUM	
VERTICAL	ASSUMED
HORIZONTAL	ASSUMED



PROJECT NOTES

PROJECT NAME:	WARREN
PROJECT NUMBER:	ER-STP 013-4 (36)
FILE NAME:	
PROJECT LEADER:	JWT
DESIGNED BY:	RHB
PLOT FILE:	
PLOT DATE:	11/6/2011
DRAWN BY:	BMB
CHECKED BY:	EPD
	SHEET 5 OF 19

CURVE (1)
 DELTA = 29° 57' 52"
 D = 4° 40' 38"
 R = 1225.00'
 T = 327.83'
 L = 640.65'
 E = 43.11'
 BANKING = 0.069 ' / '
 (TRANSITION TO MATCH EXISTING)



REMOVAL AND DISPOSAL OF GUARDRAIL
 STA. 4+40.00 LT - STA. 5+88.00 LT
 STA. 4+84.00 RT - STA. 5+50.00 RT
 STA. 6+43.73 LT - STA. 6+45.73 LT

HD STEEL BEAM GUARDRAIL, GALVANIZED
 STA. 4+54.50 LT - STA. 4+66.50 LT
 STA. 4+64.05 RT - STA. 4+69.25 RT
 STA. 5+58.23 LT - STA. 6+45.73 LT
 STA. 5+58.70 RT - STA. 5+71.71 RT

ANCHOR FOR STEEL BEAM RAIL
 STA. 4+66.50 LT
 STA. 4+69.25 RT
 STA. 5+58.70 RT

GUARDRAIL APPROACH SECTION, GALVANIZED NETC 2 RAIL
 STA. 4+66.50 LT - STA. 4+95.58 LT
 STA. 4+69.25 RT - STA. 4+94.77 RT
 STA. 5+29.15 LT - STA. 5+58.23 LT
 STA. 5+29.62 RT - STA. 5+58.70 RT

BRIDGE RAILING, GALVANIZED NETC 2 RAIL
 STA. 4+94.77 RT - STA. 5+29.62 RT
 STA. 4+95.58 LT - STA. 5+29.15 LT

PRECAST REINFORCED CONCRETE CURB, TYPE B
 STA. 4+57.50 LT - STA. 4+95.58 LT
 STA. 4+67.05 RT - STA. 4+94.77 RT
 STA. 5+29.15 LT - STA. 5+69.15 LT
 STA. 5+29.62 RT - STA. 5+68.71 RT

HVCNTRL 2
 N: 10000.00
 E: 20000.00
 EL: 500.00

HVCNTRL 1
 N: 10229.98
 E: 19897.61
 EL: 499.76

BM
 CHISLED SQUARE
 IN WINGALL
 ELV. 498.59

INV. 491.87

78" CMP
 INV. 491.48

78" CMP
 INV. 491.26

INV. 493.20

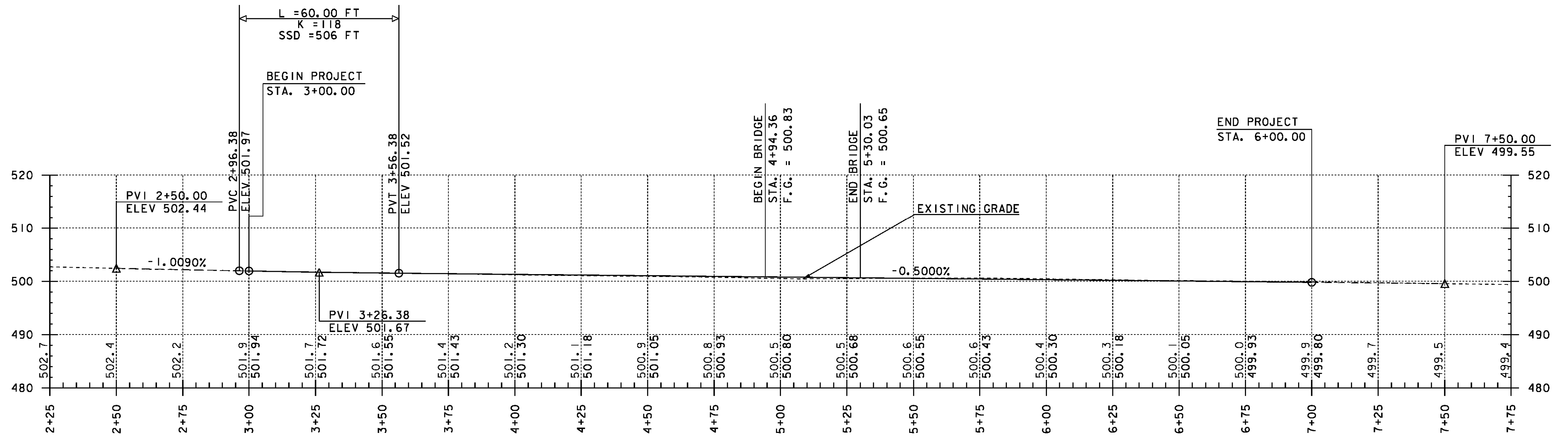
END BRIDGE
 STA. 5+30.03
 F.G. = 500.65

DATUM
 VERTICAL ASSUMED
 HORIZONTAL ASSUMED

SCALE 1" = 20'-0"
 20 0 20

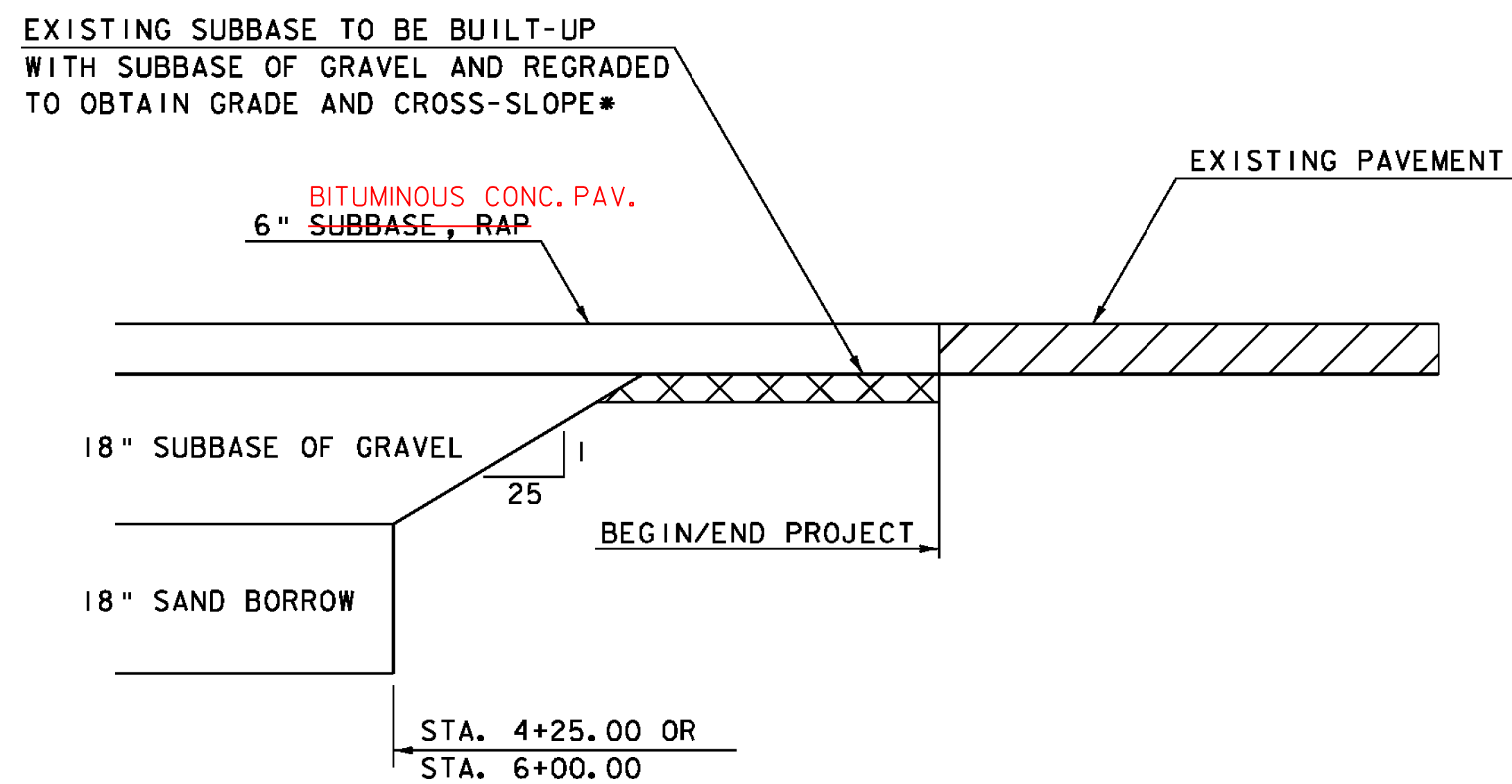


LAYOUT SHEET	PROJECT NAME: WARREN	PLOT DATE: 11/4/2011
	PROJECT NUMBER: ER-STP 013-4 (36)	DRAWN BY: BMB
	FILE NAME:	CHECKED BY: EPD
	PROJECT LEADER: JWT DESIGNED BY: RHB PLOT FILE:	SHEET 6 OF 19



NOTE: GRADES SHOWN TO THE NEAREST TENTH REPRESENT EXISTING GROUND ELEVATION ALONG THE CENTERLINE.
 GRADES SHOWN TO THE NEAREST HUNDREDETH REPRESENT FINISH GRADE ELEVATION ALONG THE CENTERLINE.

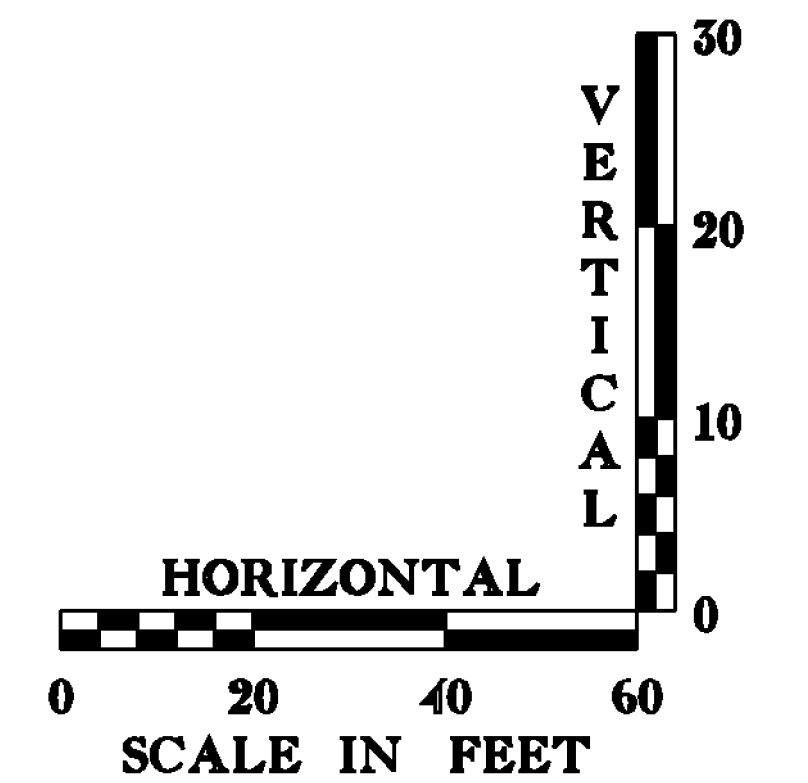
PROFILE VT ROUTE 100



APPROACH TRANSITION DETAIL

NOT TO SCALE

*REGRAIDING OF SUBBASE CONSIDERED INCIDENTAL TO ITEM 301.15, "SUBBASE OF GRAVEL".



DATUM
 VERTICAL ASSUMED
 HORIZONTAL ASSUMED



PROFILE SHEET

PROJECT NAME: WARREN
 PROJECT NUMBER: ER-STP 013-4 (36)
 FILE NAME:
 PROJECT LEADER: JWT
 DESIGNED BY: RHB
 PLOT FILE:
 PLOT DATE: 11/4/2011
 DRAWN BY: BMB
 CHECKED BY: EPD
 SHEET 7 OF 19

SOIL CLASSIFICATION

AASHTO

- A1 Gravel and Sand
- A3 Fine Sand
- A2 Silty or Clayey Gravel and Sand
- A4 Silty Soil - Low Compressibility
- A5 Silty Soil - Highly Compressible
- A6 Clayey Soil - Low Compressibility
- A7 Clayey Soil - Highly Compressible

ROCK QUALITY DESIGNATION

R.Q.D. (%)	ROCK DESCRIPTION
<25	Very Poor
25 to 50	Poor
51 to 75	Fair
76 to 90	Good
>90	Excellent

SHEAR STRENGTH

UNDRAINED SHEAR STRENGTH IN P.S.F.	CONSISTENCY
<250	Very Soft
250-500	Soft
500-1000	Med. Stiff
1000-2000	Stiff
2000-4000	Very Stiff
>4000	Hard

CORRELATION GUIDE OF 'N' TO DENSITY/CONSISTENCY

DENSITY (GRANULAR SOILS)		CONSISTENCY (COHESIVE SOILS)	
N	DESCRIPTIVE TERM	N	DESCRIPTIVE TERM
<5	Very Loose	<2	Very Soft
5-10	Loose	2-4	Soft
11-24	Med. Dense	5-8	Med. Stiff
25-50	Dense	9-15	Stiff
>50	Very Dense	16-30	Very Stiff
		31-60	Hard
		>60	Very Hard

DEFINITIONS (AASHTO)

- BEDROCK (LEDGE)** - Rock in its native location of indefinite thickness.
- BOULDER** - A rock fragment with an average dimension > 12 inches.
- COBBLE** - Rock fragments with an average dimension between 3 and 12 inches.
- GRAVEL** - Rounded particles of rock < 3" and > 0.075" (#10 sieve).
- SAND** - Particles of rock < 0.075" (#10 sieve) and > 0.0025" (#200 sieve).
- SILT** - Soil < 0.0025" (#200 sieve), non or slightly plastic and exhibits no strength when air-dried.
- CLAY** - Fine grained soil, exhibits plasticity when moist and considerable strength when air-dried.
- VARVED** - Alternate layers of silt and clay.
- HARDPAN** - Extremely dense soil, cemented layer, not softened when wet.
- MUCK** - Soft organic soil (containing > 10% organic material).
- MOISTURE CONTENT** - Weight of water divided by dry weight of soil.
- FLOWING SAND** - Granular soil so saturated (loose) that it flows into drill casing during extraction of wash rod.
- STRIKE** - Angle from magnetic north to line of intersection of bed with a horizontal plane.
- DIP** - Inclination of bed with a horizontal plane.

COMMONLY USED SYMBOLS

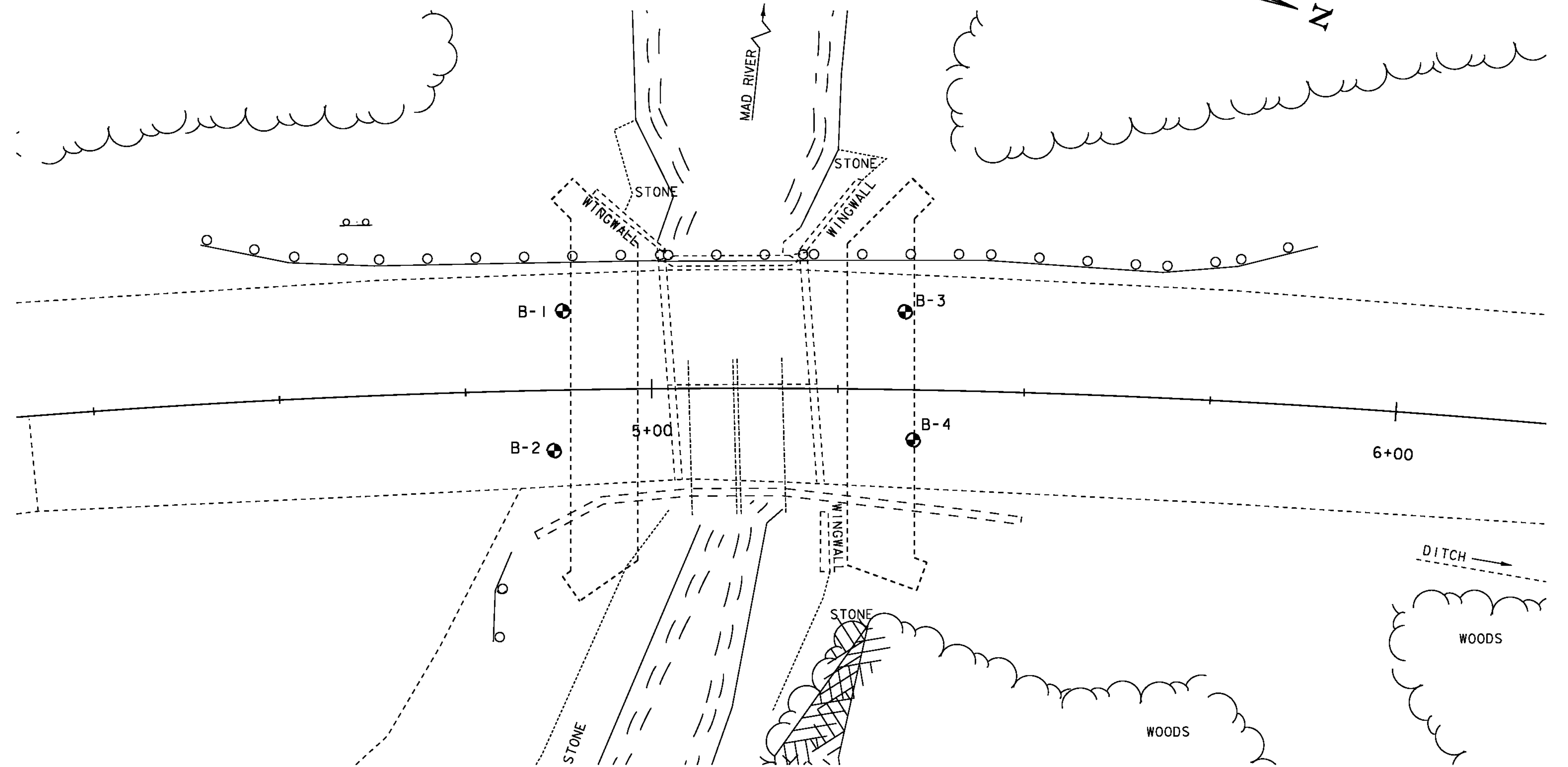
- ▼ Water Elevation
- ⊕ Standard Penetration Boring
- ⊗ Auger Boring
- ⊙ Rod Sounding
- S Sample
- N Standard Penetration Test Blow Count Per Foot For 2" O. D. Sampler
- 1 3/8" I. D. Sampler
- Hammer Weight Of 140 Lbs.
- Hammer Fall Of 30"
- VS Field Vane Shear Test
- US Undisturbed Soil Sample
- B Blast
- DC Diamond Core
- MD Mud Drill
- WA Wash Ahead
- HSA Hollow Stem Auger
- AX Core Size 1 1/8"
- BX Core Size 1 3/8"
- NX Core Size 2 1/8"
- M Double Tube Core Barrel Used
- LL Liquid Limit
- PL Plastic Limit
- PI Plasticity Index
- NP Non Plastic
- w Moisture Content (Dry Wgt. Basis)
- D Dry
- M Moist
- MTW Moist To Wet
- W Wet
- Sat Saturated
- Bo Boulder
- Gr Gravel
- Sa Sand
- SI Silt
- Cl Clay
- HP Hardpan
- Le Ledge
- NLTD No Ledge To Depth
- CNPF Can Not Penetrate Further
- TLOB To Ledge Or Boulder
- NR No Recovery
- Rec. Recovery
- %Rec. Percent Recovery
- RQD Rock Quality Designation
- CBR California Bearing Ratio
- < Less Than
- > Greater Than
- R Refusal (N > 100)

COLOR

bk	Black	pnk	Pink
bl	Blue	pu	Purple
brn	Brown	rd	Red
dk	Dark	tn	Tan
gry	Gray	wh	White
gn	Green	yel	Yellow
lt	Light	mltc	Multicolored
or	Orange		

BORING LOCATION

BORING	STATION	OFFSET	EG. ELEV.
B-1	4+88.25	10.61LT	500.81
B-2	4+86.74	8.11RT	500.29
B-3	5+33.85	10.47LT	500.91
B-4	5+35.23	6.73RT	500.33



BORING LAYOUT

SCALE 1" = 10'-0"
 10 0 10

GENERAL NOTES

- The subsurface explorations shown herein were made October 2011 by Mike's Boring and Coring
- Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
- Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
- Engineering judgement was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgement by the Contractor.
- Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.
- Terminology used on boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.



BORING INFORMATION SHEET

PROJECT NAME: WARREN
 PROJECT NUMBER: ER-STP 013-4 (36)
 FILE NAME:
 PROJECT LEADER: JWT
 DESIGNED BY: RHB
 PLOT FILE:
 PLOT DATE: 11/4/2011
 DRAWN BY: BMB
 CHECKED BY: EPD
 SHEET 8 OF 19

MIKE'S BORING & CORING LLC.
PO Box 75 ° East Barre, Vermont 05649 ° 802 476-5073

TO: Ryan DuBois & King, Inc. P.O. Box 339 Randolph, VT 05060-0339	PROJECT NAME: RT 100 Bridge LOCATION: Warren, VT MBC JOB #: 11089	SHEET: 1 DATE: 10-5-11 HOLE #: B-1 LINE & STA. OFFSET: 3' East
--	---	--

Ground Water Observations none at _0_ hours	Augers-Size I.D. 3.25" Split Spoon 2" Hammer Wt. 140# Hammer Fall 30"	Surface Elevation: Date Started: 10-5-11 Date Completed: 10-5-11 Boring Foreman: Dave Johnson Inspector: Soils Engineer: Ryan
--	--	--

LOCATION OF BORING: As Marked in Road

Sample Depths From/To (Feet)	Type of Sample	Blows per 6" on Sampler	Moisture Density or Consist.	Strata Change Elev.	Soil Identification	Sample		
						No.	Pen. Inches	Rec. Inches
4'-6'	Dry	7/11/8/4	Moist		Brown medium sand with medium gravel	1	24	18
9'-11'	Dry	7/6/4/4	Moist		Gray silty sand into gray medium gravel	2	24	20
14'-16'	Dry	13/23/23/23	Wet		Gray medium gravel	3	24	18
19'-21'	Dry	25/32/18/20	Wet		Gray medium gravel, some fine sand, little weathered rock	4	24	23
24'-26'	Dry	5/4/4/5	Wet		Brown fine sand with some silt	5	24	20
29'-31'	Dry	4/5/5/7	Wet		Brownish gray fine silty sand with a trace of clay	6	24	23
34'-36'	Dry	WORH/4/4/4	Wet		Brownish gray fine silty sand with a trace of clay	7	24	24

Ground Surface to 34' Used 3.25" augers: Then S.S. to 36'

Earth Borings 36'
Rock Coring
Samples: 7
HOLE NUMBER B-1

MIKE'S BORING & CORING LLC.
PO Box 75 ° East Barre, Vermont 05649 ° 802 476-5073

TO: Ryan DuBois & King, Inc. P.O. Box 339 Randolph, VT 05060-0339	PROJECT NAME: RT 100 Bridge LOCATION: Warren, VT MBC JOB #: 11089	SHEET: 2 DATE: 10-4-11 HOLE #: B-2 LINE & STA. OFFSET: 1' South
--	---	---

Ground Water Observations 9.5' at _0_ hours 8' at 1 hours	Augers-Size I.D. 3.25" Split Spoon 2" Hammer Wt. 140# Hammer Fall 30"	Surface Elevation: Date Started: 10-4-11 Date Completed: 10-4-11 Boring Foreman: Dave Johnson Inspector: Soils Engineer: Ryan
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LOCATION OF BORING: As Marked in Road

Sample Depths From/To (Feet)	Type of Sample	Blows per 6" on Sampler	Moisture Density or Consist.	Strata Change Elev.	Soil Identification	Sample		
						No.	Pen. Inches	Rec. Inches
5'-7'	Dry	11/6/6/6	Moist	6'	Gray silty fine sand into gray fine sand with silt layer	1	24	16
10'-12'	Dry	3/4/11/11	Wet		Brown fine sand with medium gravel	2	24	20
15'-17'	Dry	30/23/32/17	Wet		Brown fine sand with medium gravel into brown medium gravel	3	24	20
20'-22'	Dry	4/8/9/8	Wet		Gray fine sand	4	24	18
25'-27'	Dry	6/6/6/6	Wet		Gray silty fine sand	5	24	24
30'-32'	Dry	WORH/4/6/0	Wet		Gray silty fine sand	6	24	24
35'-37'	Dry	8/20/25/30	Wet		Gray silty fine sand with vertical shale	7	24	18

Ground Surface to 35' Used 3.25" augers: Then S.S. to 37'

Earth Borings 37'
Rock Coring
Samples: 7
HOLE NUMBER B-2

DATUM
VERTICAL ASSUMED
HORIZONTAL ASSUMED



BORING LOGS

PROJECT NAME: WARREN
PROJECT NUMBER: ER-STP 013-4 (36)
FILE NAME:
PROJECT LEADER: JWT
DESIGNED BY: RHB
PLOT FILE:

PLOT DATE: 10/28/2011
DRAWN BY: BMB
CHECKED BY: EPD
SHEET 9 OF 19

MIKE'S BORING & CORING LLC.
 PO Box 75 ° East Barre, Vermont 05649 ° 802 476-5073

TO: Ryan DuBois & King, Inc. P.O. Box 339 Randolph, VT 05060-0339	PROJECT NAME: RT 100 Bridge LOCATION: Warren, VT MBC JOB #: 11089	SHEET: 3 DATE: 10-5-11 HOLE #: B-3 LINE & STA. OFFSET: 3' East
--	---	--

Ground Water Observations none at _0_ hours	Augers-Size I.D. 3.25" Split Spoon 2" Hammer Wt. 140# Hammer Fall 30"	Surface Elevation: Date Started: 10-5-11 Date Completed: 10-5-11 Boring Foreman: Dave Johnson Inspector: Soils Engineer: Ryan
--	--	--

LOCATION OF BORING: As Marked in Road

Sample Depths From/To (Feet)	Type of Sample	Blows per 6" on Sampler	Moisture Density or Consist.	Strata Change Elev.	Soil Identification	Sample		
						No.	Pen. Inches	Rec. Inches
4'-6'	Dry	13/20/17/11	Moist		Brown fine sand with medium gravel	1	24	16
9'-11'	Dry	9/8/7/6	Damp		Brown fine sand with medium gravel	2	24	10
14'-16'	Dry	18/28/35/32	Wet		Brown fine sand with medium gravel	3	24	18
19'-21'	Dry	17/25/21/23	Wet		Brown medium gravel	4	24	14
24'-26'	Dry	15/16/13/11	Wet		Brown medium gravel with some weathered rock	5	24	16
29'-31'	Dry	19/14/12/13	Wet		Brown medium sand into rusty gray fine silty sand	6	24	23
34'-36'	Dry	WORH/2/3/3	Wet		Gray silty fine sand	7	24	24

Ground Surface to 34' Used 3.25" augers: Then S.S. to 36'

Earth Borings 36'
 Rock Coring
 Samples: 7
 HOLE NUMBER B-3

MIKE'S BORING & CORING LLC.
 PO Box 75 ° East Barre, Vermont 05649 ° 802 476-5073

TO: Ryan DuBois & King, Inc. P.O. Box 339 Randolph, VT 05060-0339	PROJECT NAME: RT 100 Bridge LOCATION: Warren, VT MBC JOB #: 11089	SHEET: 4 DATE: 10-4-11 HOLE #: B-2 LINE & STA. OFFSET: 4' West
--	---	--

Ground Water Observations 0 at _0_ hours	Augers-Size I.D. 3.25" Split Spoon 2" Hammer Wt. 140# Hammer Fall 30"	Surface Elevation: Date Started: 10-4-11 Date Completed: 10-4-11 Boring Foreman: Dave Johnson Inspector: Soils Engineer: Ryan
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LOCATION OF BORING: As Marked in Road

Sample Depths From/To (Feet)	Type of Sample	Blows per 6" on Sampler	Moisture Density or Consist.	Strata Change Elev.	Soil Identification	Sample		
						No.	Pen. Inches	Rec. Inches
5'-7'	Dry	13/8/6/4	Moist		Gray fine sand	1	24	16
10'-12'	Dry	10/30/65/35	Moist	11.5'	Brown weathered rock into gray weathered rock	2	24	16
					Set up to core			
13'-14'		6 minutes						
14'-15'		6 minutes						
15'-16'		7 minutes			Recovered 4'8"			
16'-17'		8 minutes						
17'-18'		8 minutes						

Ground Surface to 10' Used 3.25" augers: Then S.S. to SS to 12' set up to core

Earth Borings 12'
 Rock Coring 5'
 Samples: 2
 HOLE NUMBER B-4

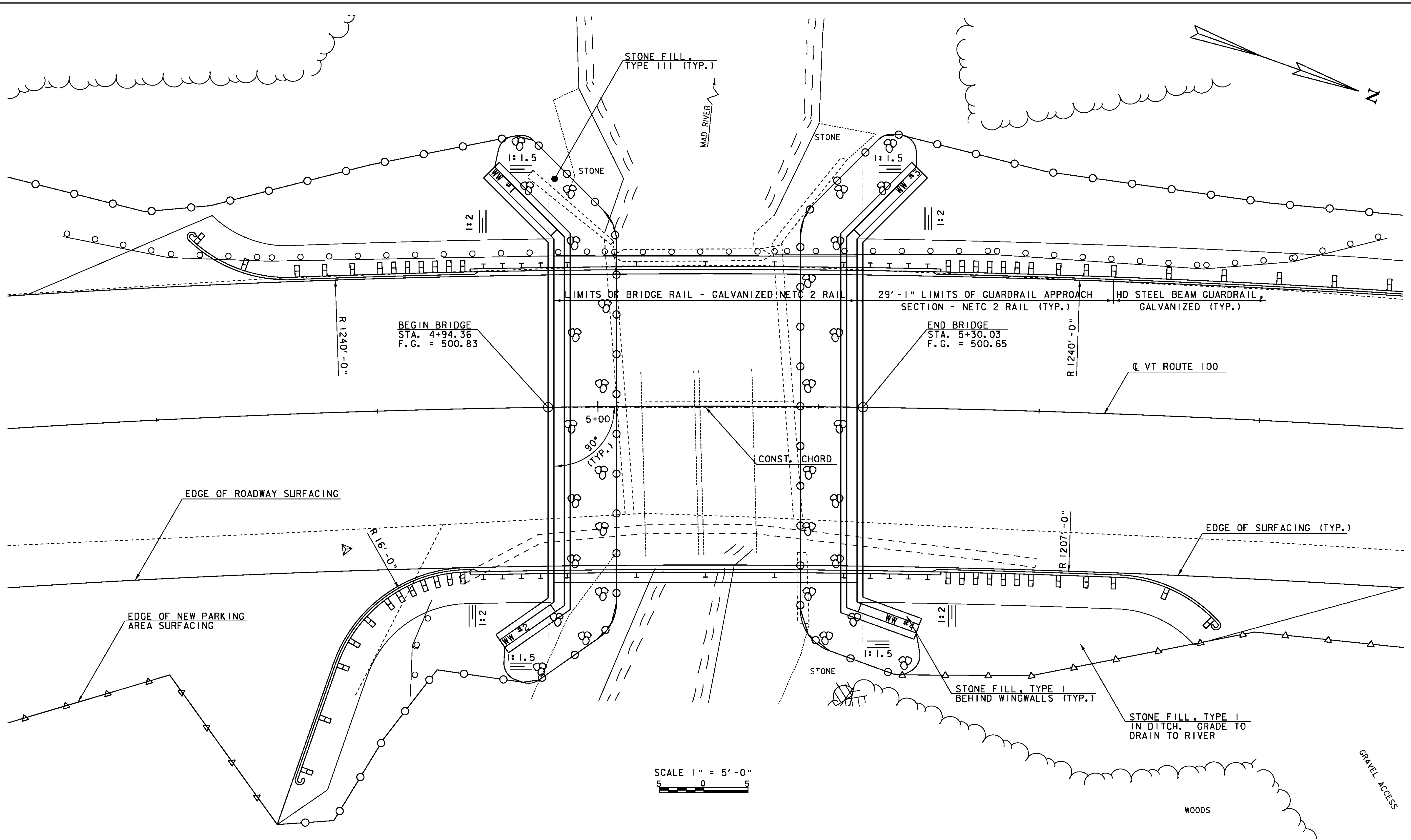
DATUM
 VERTICAL ASSUMED
 HORIZONTAL ASSUMED



BORING LOGS

PROJECT NAME: WARREN
 PROJECT NUMBER: ER-STP 013-4 (36)

FILE NAME: PLOT DATE: 10/28/2011
 PROJECT LEADER: JWT DRAWN BY: BMB
 DESIGNED BY: RHB CHECKED BY: EPD
 PLOT FILE: SHEET 10 OF 19



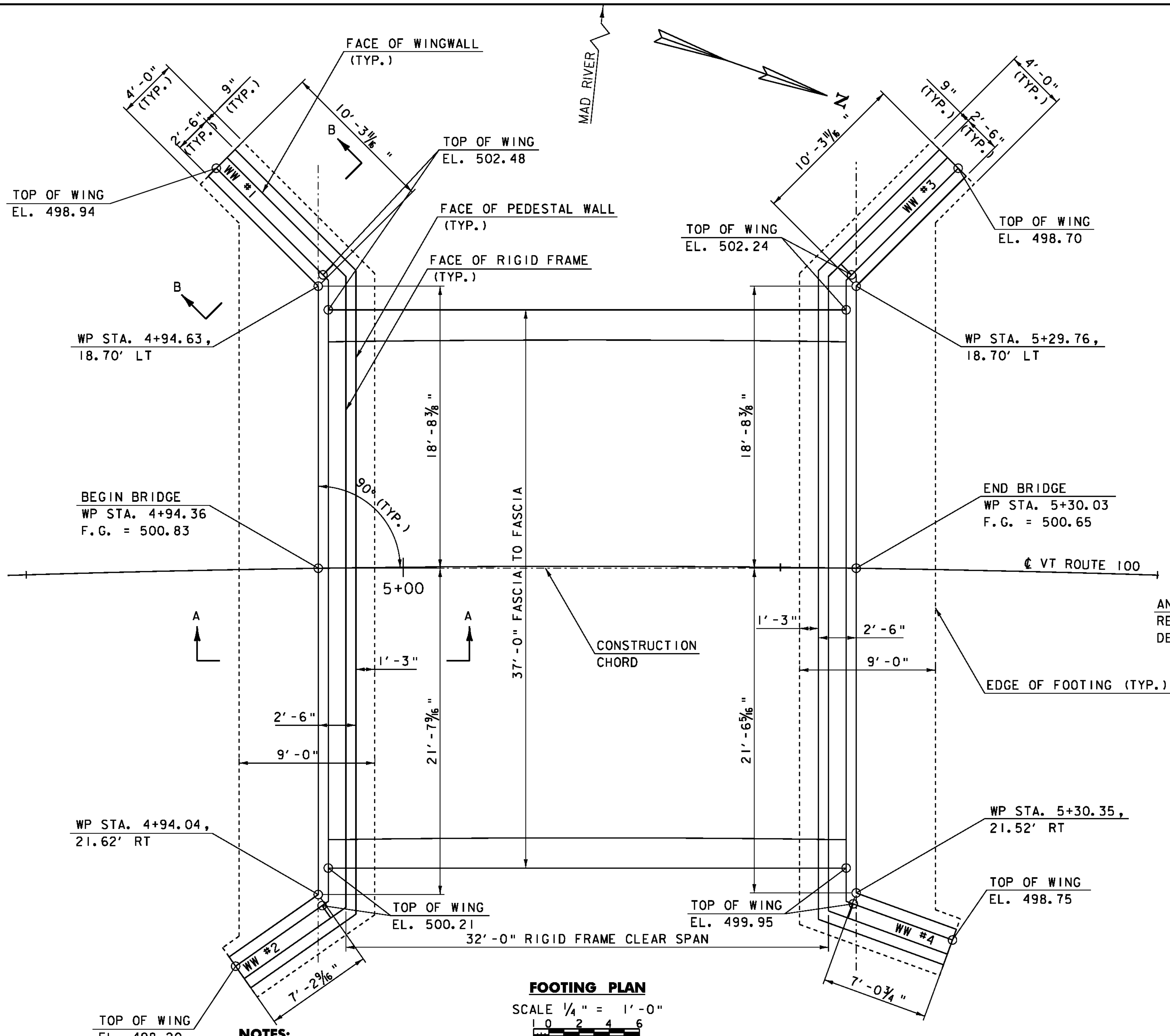
SCALE 1" = 5'-0"
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DATUM
 VERTICAL ASSUMED
 HORIZONTAL ASSUMED



PLAN SHEET

PROJECT NAME: WARREN
 PROJECT NUMBER: ER-STP 013-4 (36)
 FILE NAME:
 PROJECT LEADER: JWT
 DESIGNED BY: RHB
 PLOT FILE:
 PLOT DATE: 11/4/2011
 DRAWN BY: BMB
 CHECKED BY: EPD
 SHEET 11 OF 19



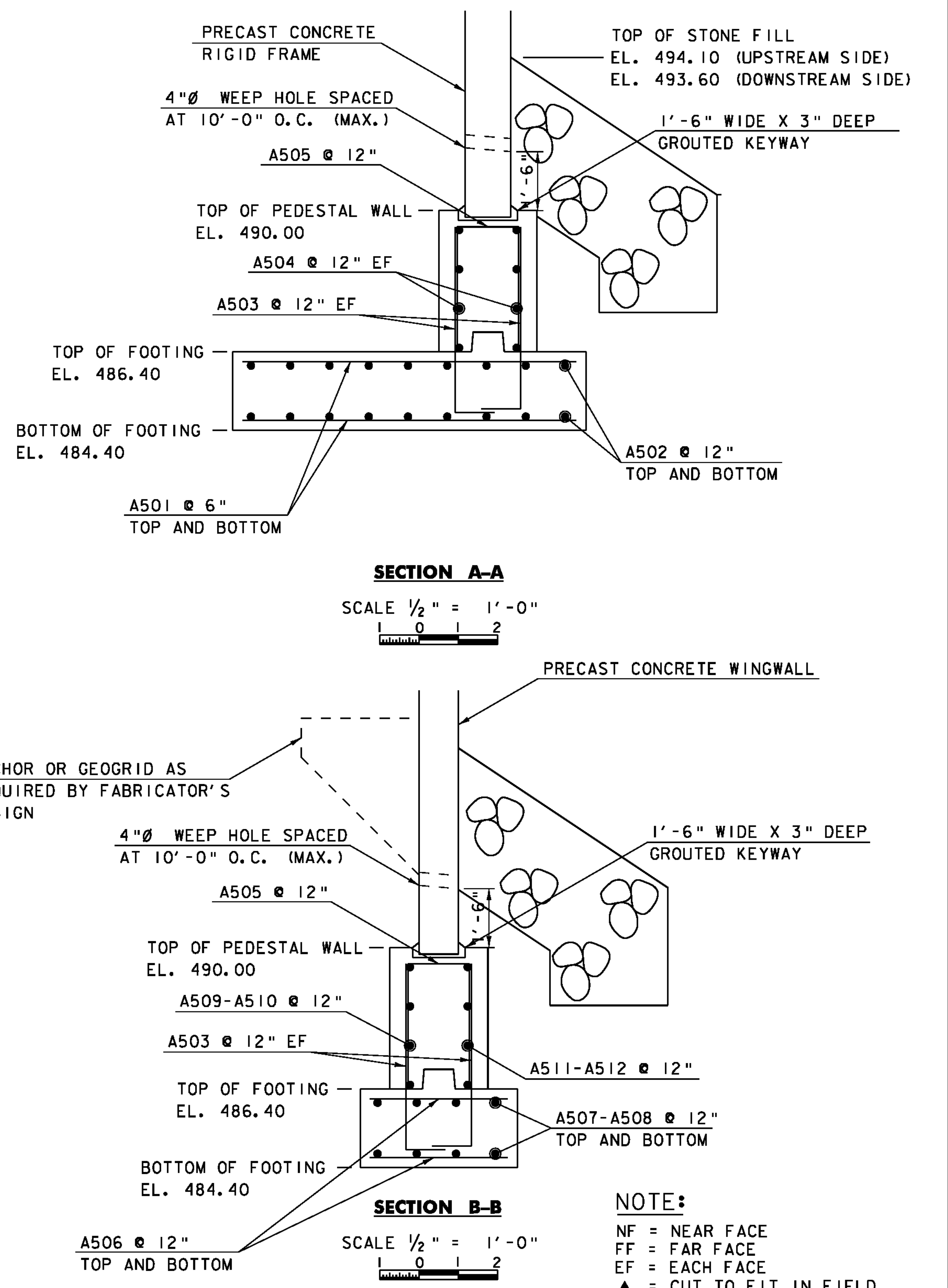
FOOTING PLAN
SCALE 1/4" = 1'-0"
1 0 2 4 6

- NOTES:**
1. THE PRECAST CONCRETE RIGID FRAME SHALL HAVE A 32'-0" CLEAR SPAN, AND A MINIMUM AVERAGE LOW CHORD ELEVATION OF 497.25.
 2. SEE SHEET 5, GENERAL NOTE #9, REGARDING THE REQUIREMENTS FOR THE FOOTINGS AND PEDESTAL WALLS.
 3. A KEYED VERTICAL CONSTRUCTION JOINT SHALL BE PROVIDED BETWEEN ADJACENT FOOTING AND PEDESTAL WALL CONCRETE PLACEMENTS, REQUIRED DUE TO THE PHASING OF TRAFFIC. SEE STRUCTURES DETAIL SD-501.00 FOR DETAILS. JOINTS SHALL BE STAGGERED 6" (MIN.) WITH THE JOINTS OF THE RIGID FRAME. REINFORCING SHALL BE CONTINUOUS THROUGH THE CONSTRUCTION JOINT, CONNECTED WITH MECHANICAL BAR CONNECTORS. THE CONTRACTOR SHALL SUBMIT DETAILS FOR THE FOOTING CONSTRUCTION PHASING, CONSTRUCTION JOINT, AND REINFORCING CONTINUITY TO THE ENGINEER FOR APPROVAL.
 4. SEE SHEET 5, GENERAL NOTE #8 REGARDING COMPONENTS TO BE DESIGNED BY THE PRECAST CONCRETE FABRICATOR.

DATUM
VERTICAL ASSUMED
HORIZONTAL ASSUMED



FOOTING & RIGID FRAME DETAILS

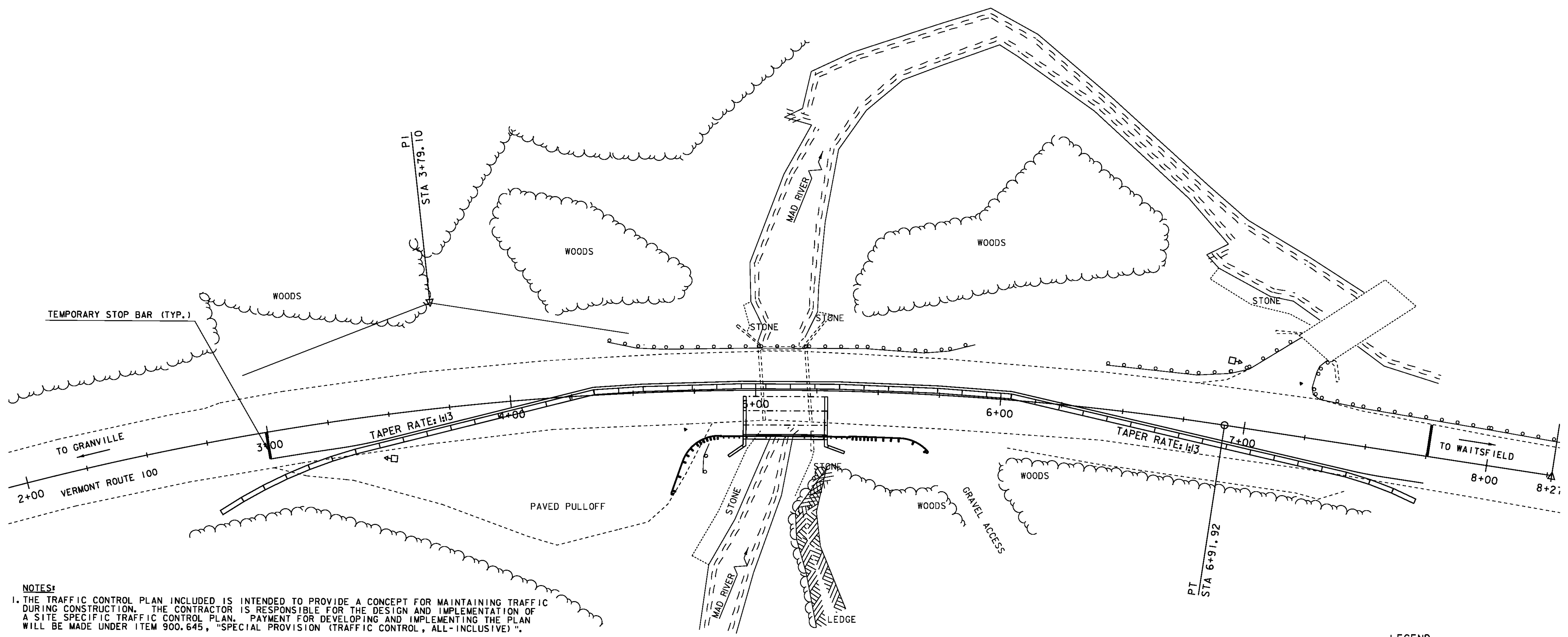
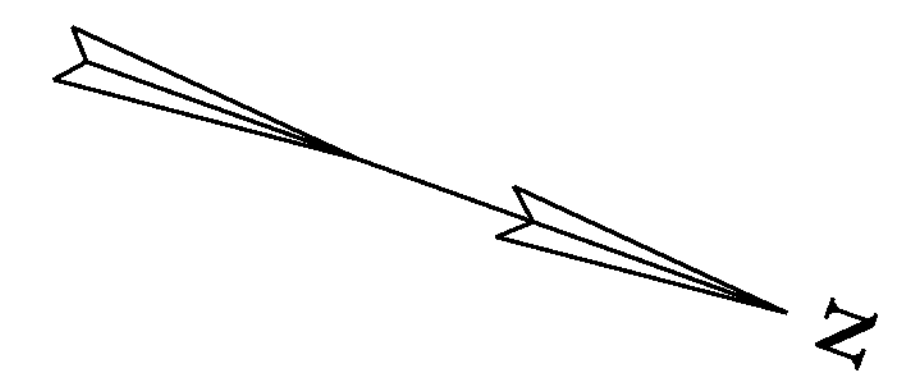


SECTION A-A
SCALE 1/2" = 1'-0"
1 0 1 2

SECTION B-B
SCALE 1/2" = 1'-0"
1 0 1 2

- NOTE:**
- NF = NEAR FACE
 - FF = FAR FACE
 - EF = EACH FACE
 - ▲ = CUT TO FIT IN FIELD
 - 3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
 - 2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

PROJECT NAME: WARREN	
PROJECT NUMBER: ER-STP 013-4 (36)	
FILE NAME:	PLOT DATE: 11/4/2011
PROJECT LEADER: JWT	DRAWN BY: BMB
DESIGNED BY: RHB	CHECKED BY: EPD
PLOT FILE:	SHEET 12 OF 19



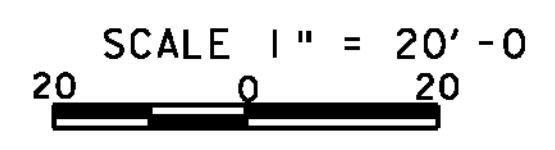
NOTES:

1. THE TRAFFIC CONTROL PLAN INCLUDED IS INTENDED TO PROVIDE A CONCEPT FOR MAINTAINING TRAFFIC DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND IMPLEMENTATION OF A SITE SPECIFIC TRAFFIC CONTROL PLAN. PAYMENT FOR DEVELOPING AND IMPLEMENTING THE PLAN WILL BE MADE UNDER ITEM 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)".
2. AT A MINIMUM, ONE-LANE, TWO-WAY TRAFFIC (SIGNAL CONTROLLED OR FLAGGER CONTROLLED) SHALL BE MAINTAINED AT ALL TIMES. A MINIMUM RAIL TO RAIL WIDTH OF 13'-0" SHALL BE MAINTAINED, AS WELL AS FULL ACCESS TO THE NEARBY SIDE ROAD. THE NORTHERN TEMPORARY TRAFFIC SIGNAL SHALL BE VISIBLE TO VEHICLES TURNING RIGHT AT THE INTERSECTION OF THE SIDE ROAD.
3. TRAFFIC SHALL BE CHANNELIZED USING TEMPORARY TRAFFIC BARRIER.
4. TEMPORARY TRAFFIC SIGNALS SHALL BE INSTALLED TO MAINTAIN TRAFFIC.
5. INSTALL TEMPORARY SHORING AS REQUIRED TO MAINTAIN THE DETOUR WHILE EXCAVATING AND CONSTRUCTING THE FIRST PORTION OF THE FOOTING, STEM, AND RIGID FRAME SECTION.
6. CONTRACTOR SHALL INSTALL AND MAINTAIN APPROPRIATE TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND STANDARD E-SERIES DRAWINGS.
7. SEE SHEET 16 FOR CONCEPTUAL PHASING PLAN SECTIONS.

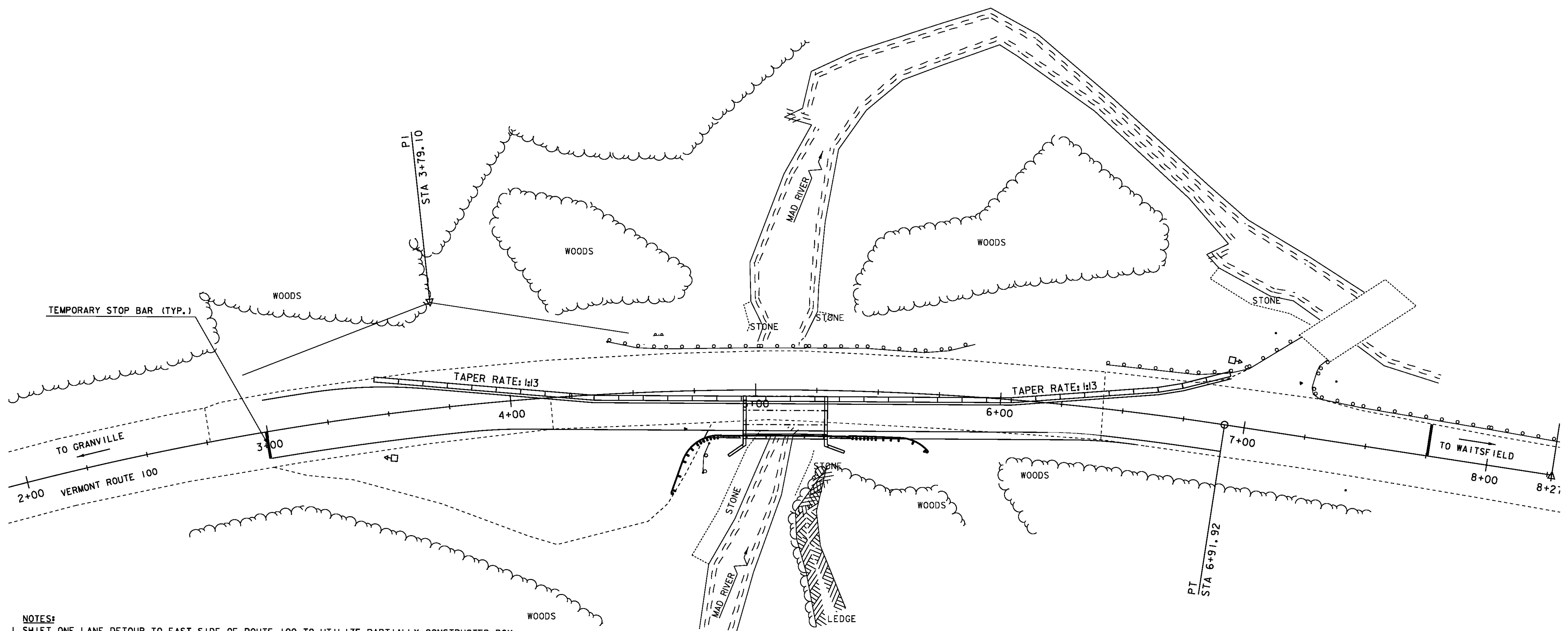
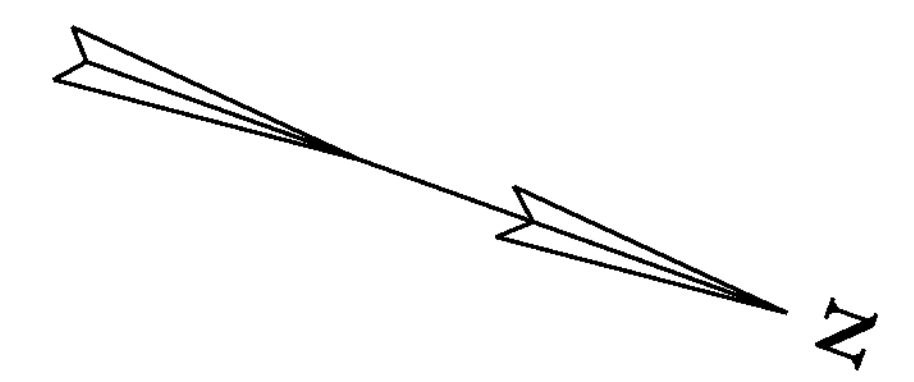
LEGEND

	TEMPORARY TRAFFIC BARRIER
	TEMPORARY TRAFFIC SIGNAL

DATUM	
VERTICAL	ASSUMED
HORIZONTAL	ASSUMED



PHASE 1 PHASING PLAN SHEET	PROJECT NAME: WARREN	PLOT DATE: 11/7/2011
	PROJECT NUMBER: ER-STP 013-4 (36)	DRAWN BY: BMB
	FILE NAME:	CHECKED BY: EPD
	PROJECT LEADER: JWT	SHEET 14 OF 19
	DESIGNED BY: RHB	
	PLOT FILE:	



- NOTES:**
1. SHIFT ONE LANE DETOUR TO EAST SIDE OF ROUTE 100 TO UTILIZE PARTIALLY CONSTRUCTED BOX.
 2. INSTALL TEMPORARY SHORING AS REQUIRED TO EXCAVATE AND CONSTRUCT REMAINING FOOTING, STEM, AND RIGID FRAME.
 3. CONTRACTOR SHALL INSTALL AND MAINTAIN APPROPRIATE TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND STANDARD E-SERIES DRAWINGS.

- LEGEND**
- ▭ TEMPORARY TRAFFIC BARRIER
 - ◁ TEMPORARY TRAFFIC SIGNAL

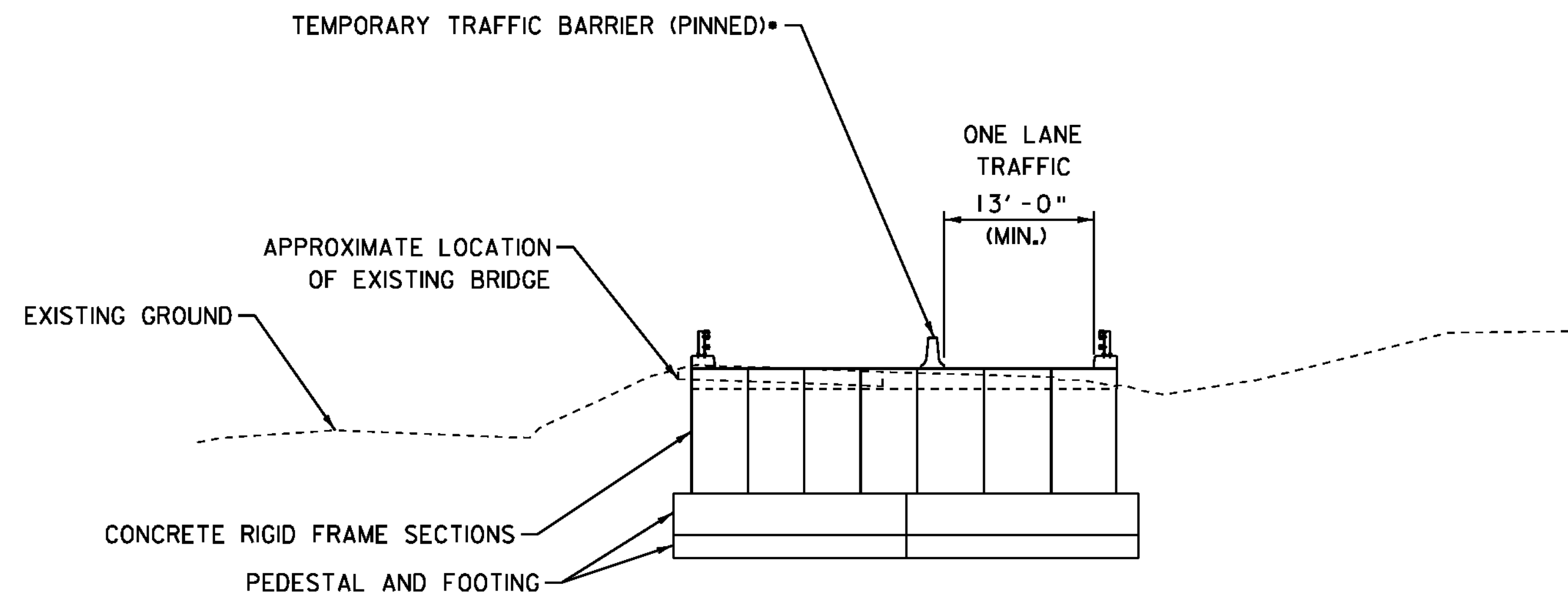
DATUM
 VERTICAL ASSUMED
 HORIZONTAL ASSUMED

SCALE 1" = 20'-0"
 20 0 20

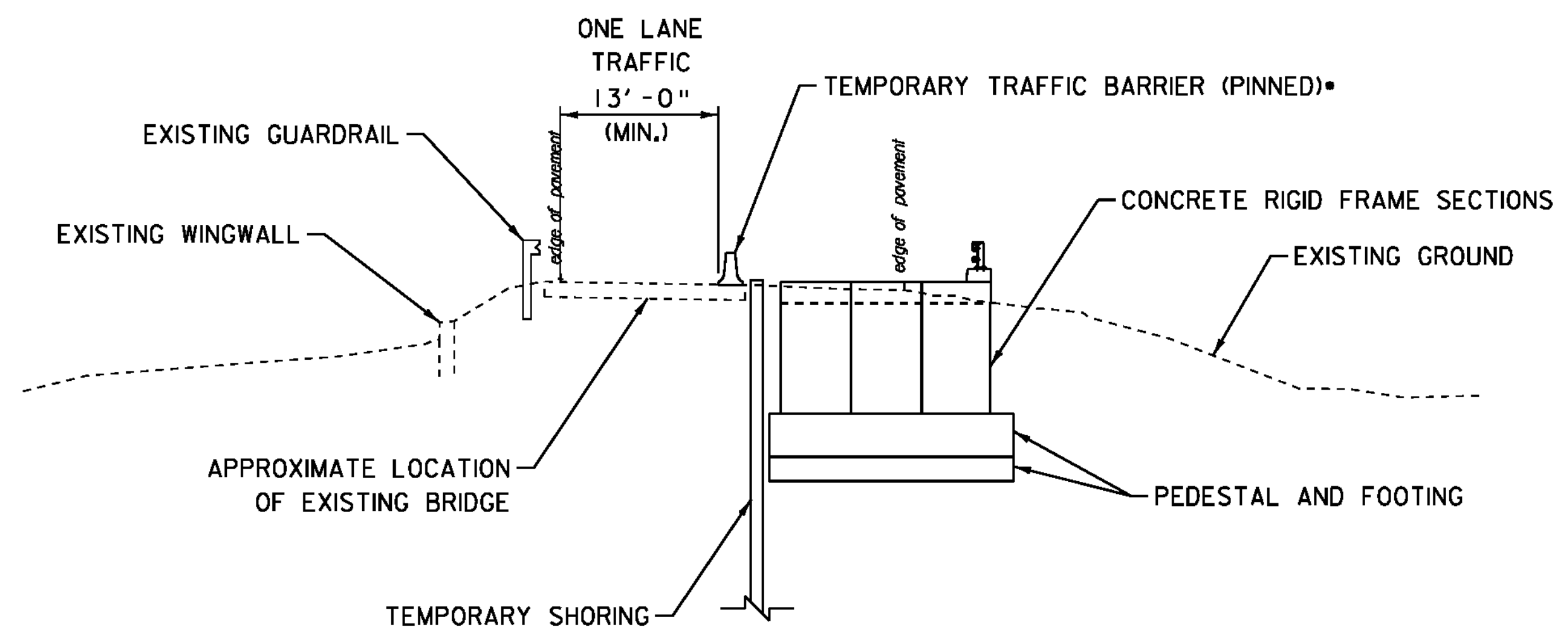


**PHASE 2
 PHASING
 PLAN
 SHEET**

PROJECT NAME: WARREN	
PROJECT NUMBER: ER-STP 013-4 (36)	
FILE NAME:	PLOT DATE: 11/7/2011
PROJECT LEADER: JWT	DRAWN BY: BMB
DESIGNED BY: RHB	CHECKED BY: EPD
PLOT FILE:	SHEET 15 OF 19



PHASE 2 TYPICAL SECTION



PHASE 1 TYPICAL SECTION

* TEMPORARY TRAFFIC BARRIER SHALL BE SECURED TO THE DECK BY THROUGH BOLTS, PINS, OR OTHER METHOD, AS APPROVED BY THE ENGINEER. SEE SHEET 5, PRECAST CONCRETE RIGID FRAME NOTE 5 FOR ADDITIONAL INFORMATION.

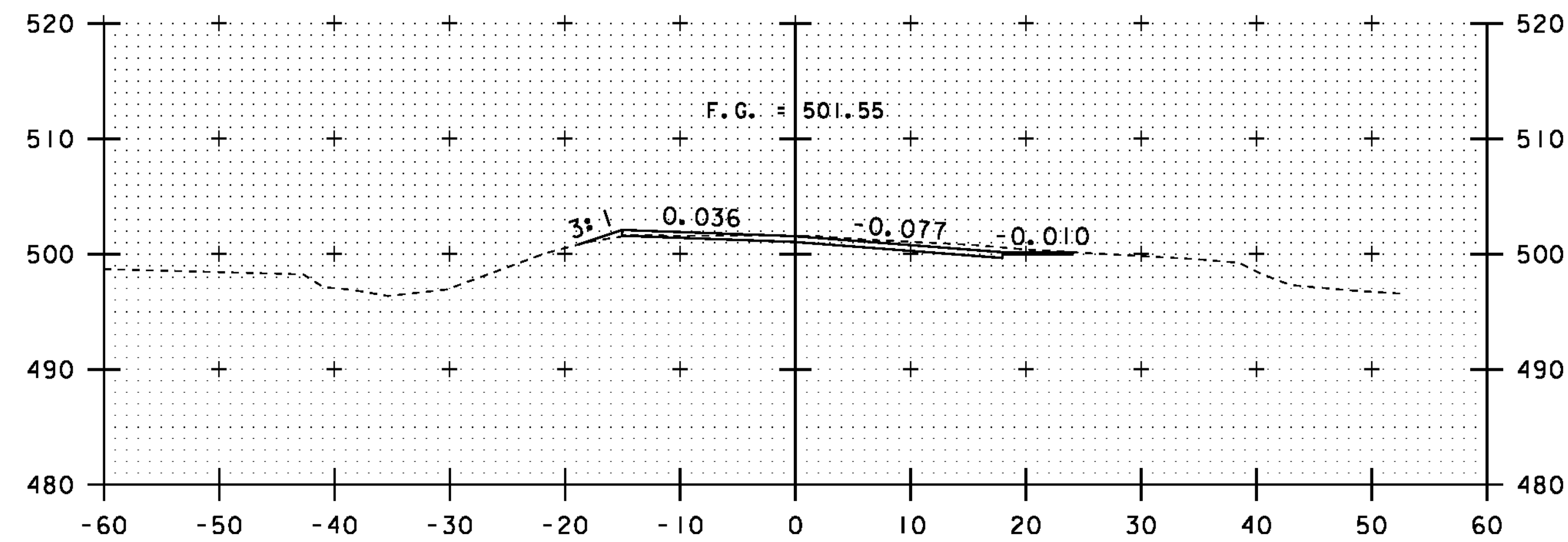
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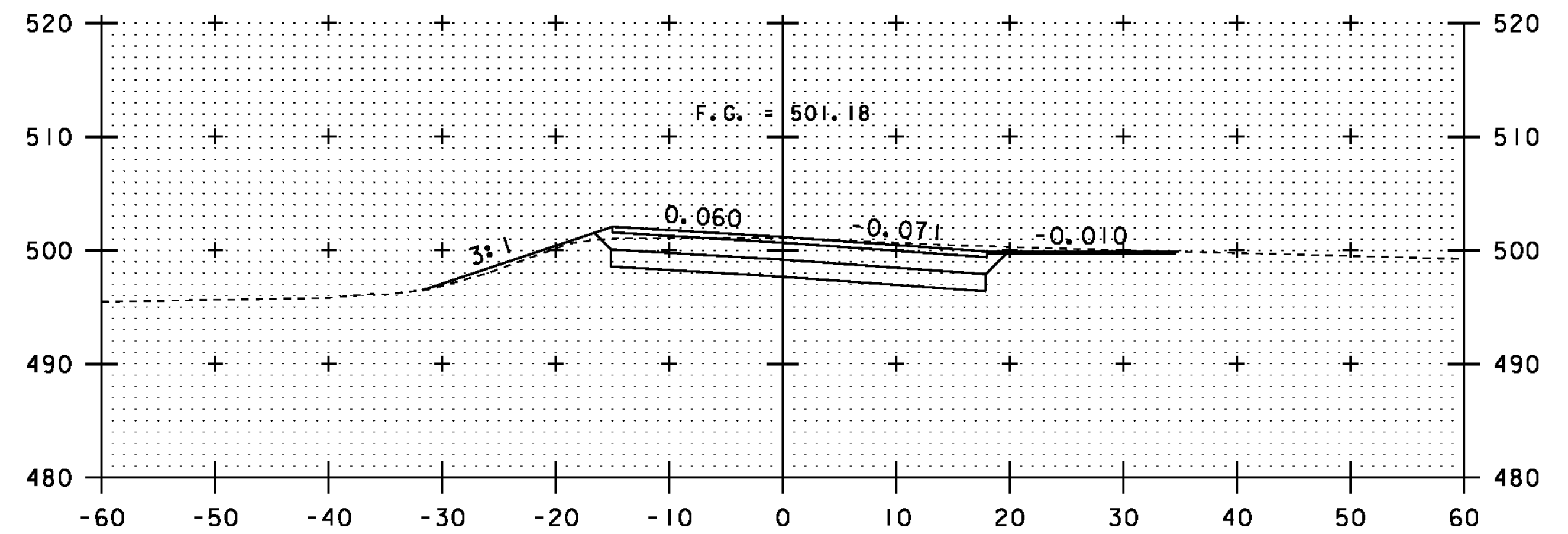


**PHASING
 TYPICAL
 SECTIONS**

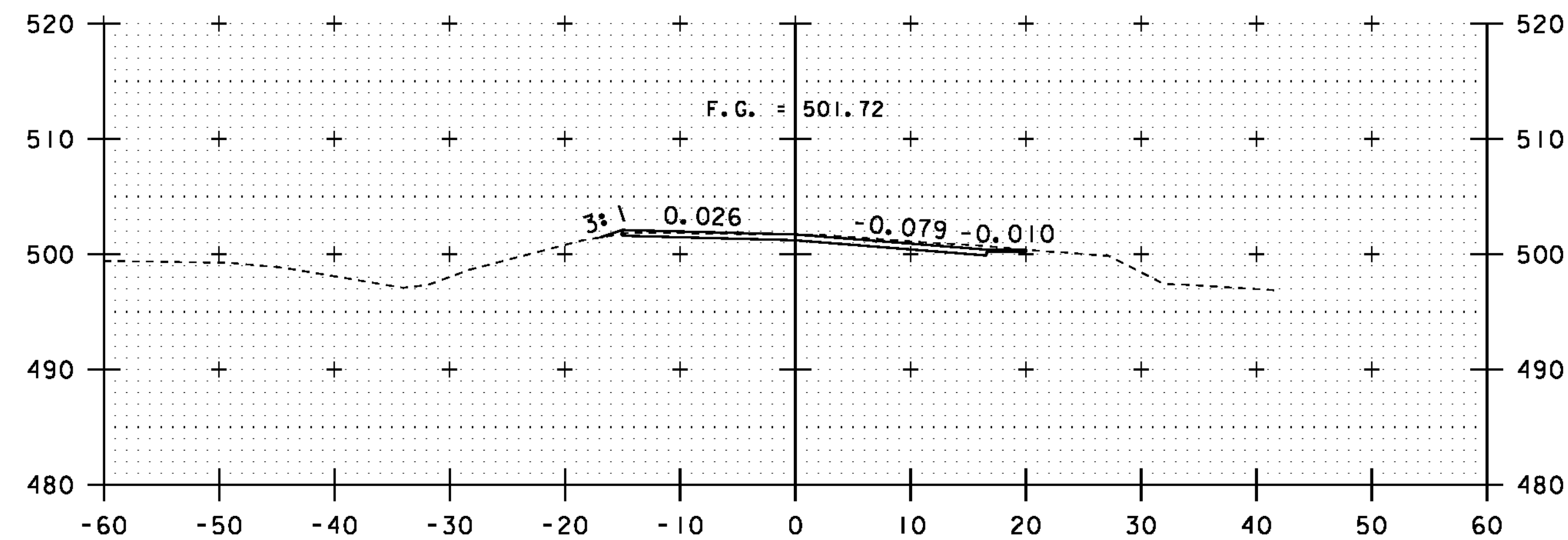
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PROJECT NUMBER: ER-STP 013-4 (36)	
FILE NAME:	PLOT DATE: 11/4/2011
PROJECT LEADER: JWT	DRAWN BY: BMB
DESIGNED BY: RHB	CHECKED BY: EPD
PLOT FILE:	SHEET 16 OF 19



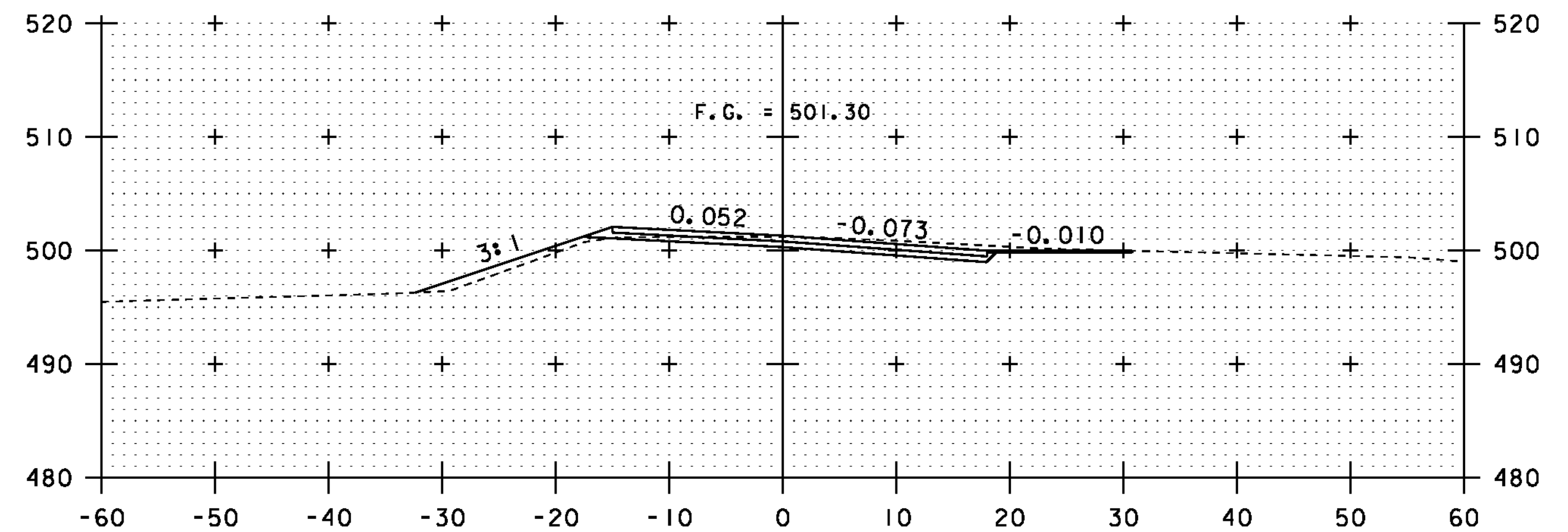
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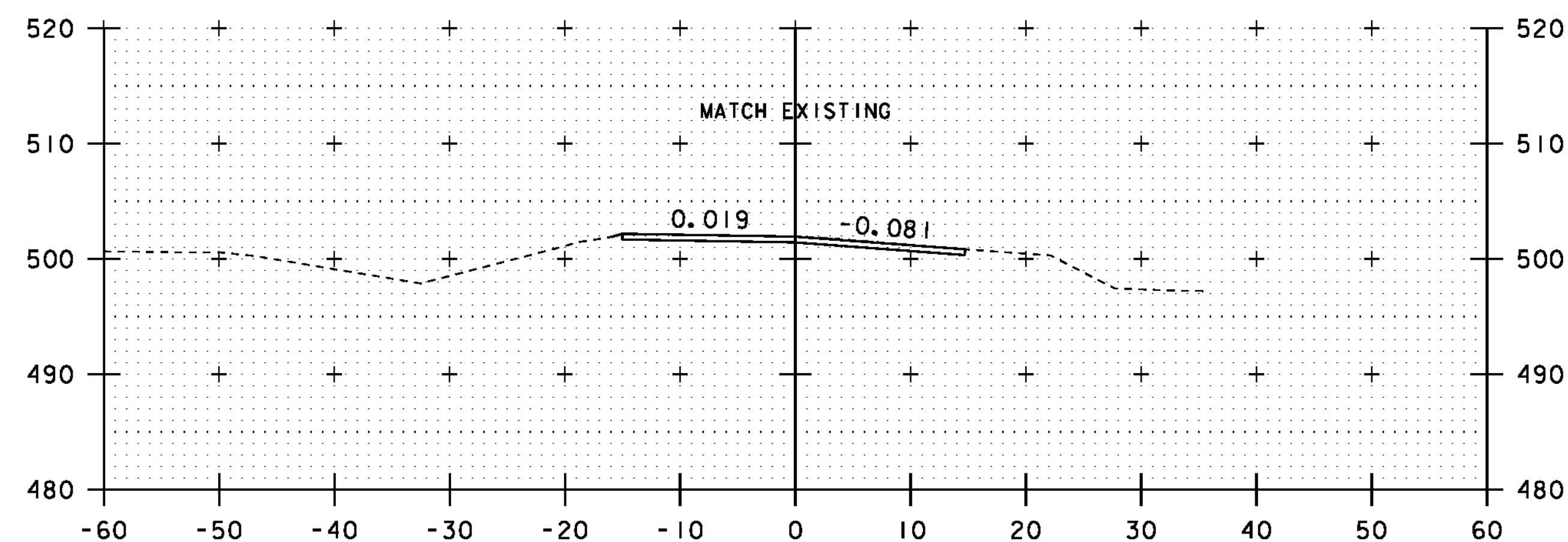
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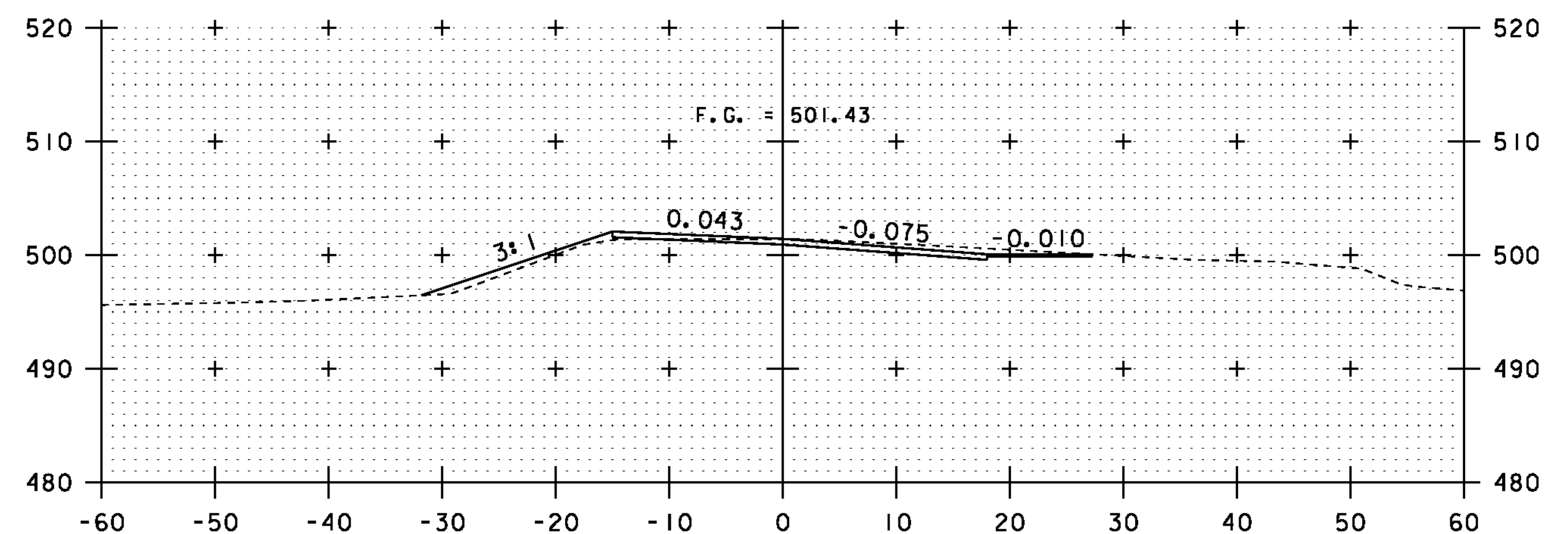


4+00



3+00

BEGIN PROJECT
STA. 3+00.00



3+75

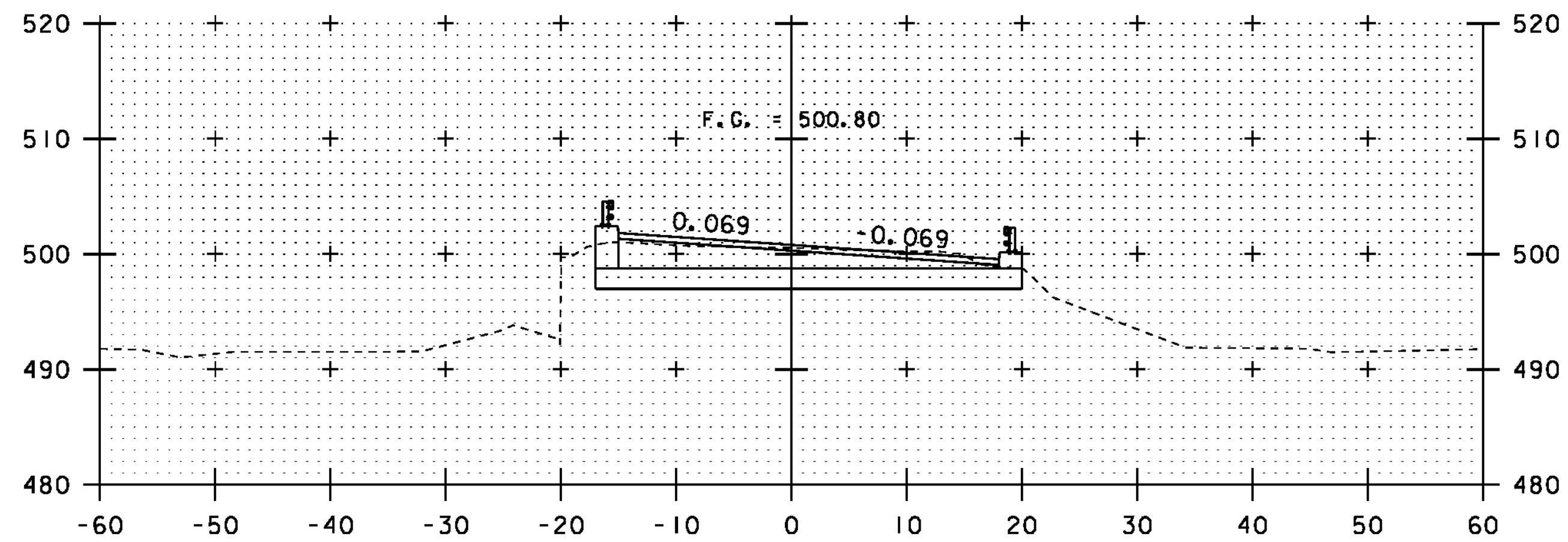
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**ROADWAY
CROSS SECTIONS**

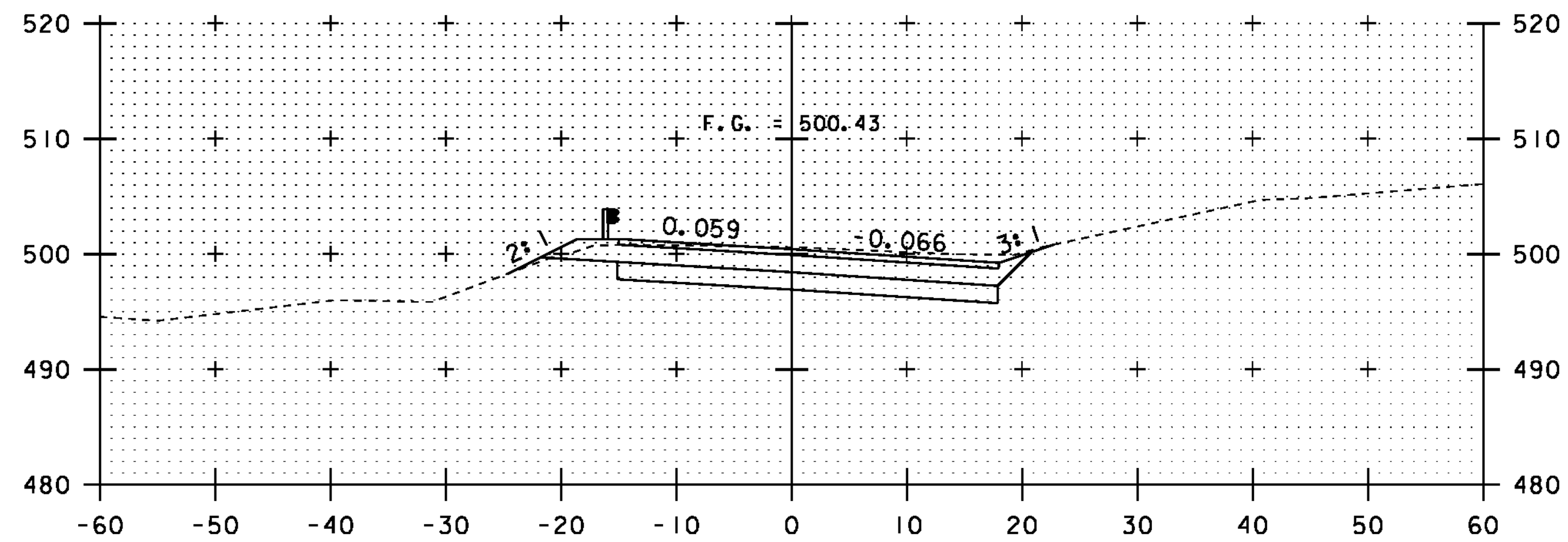
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PROJECT NUMBER: ER-STP 013-4 (36)

FILE NAME: PLOT DATE: 11/4/2011
PROJECT LEADER: JWT DRAWN BY: BMB
DESIGNED BY: RHB CHECKED BY: EPD
PLOT FILE: SHEET 17 OF 19

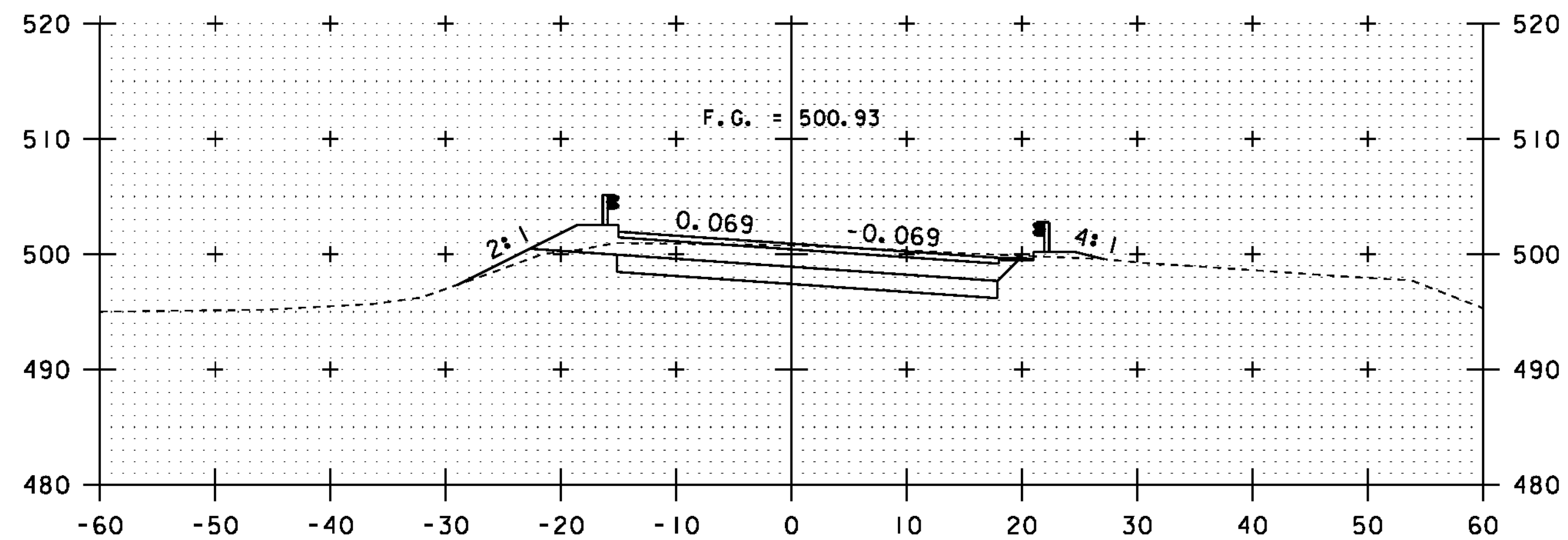


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STA. 4+94.36

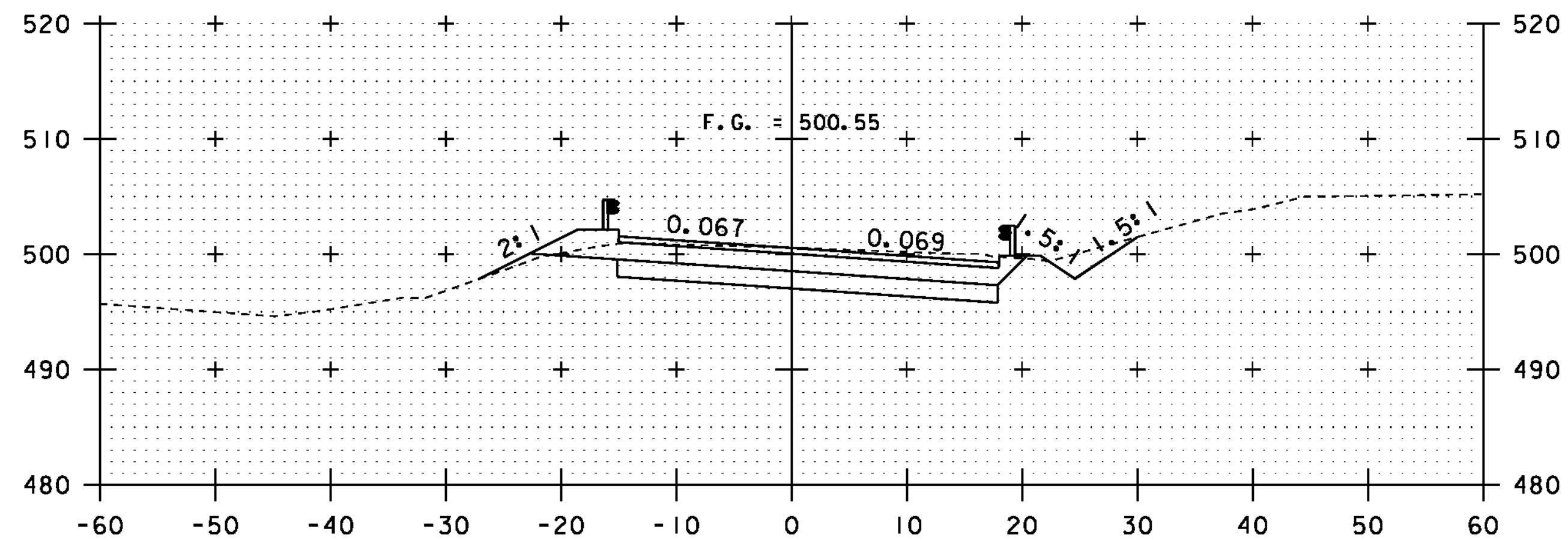
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5+75

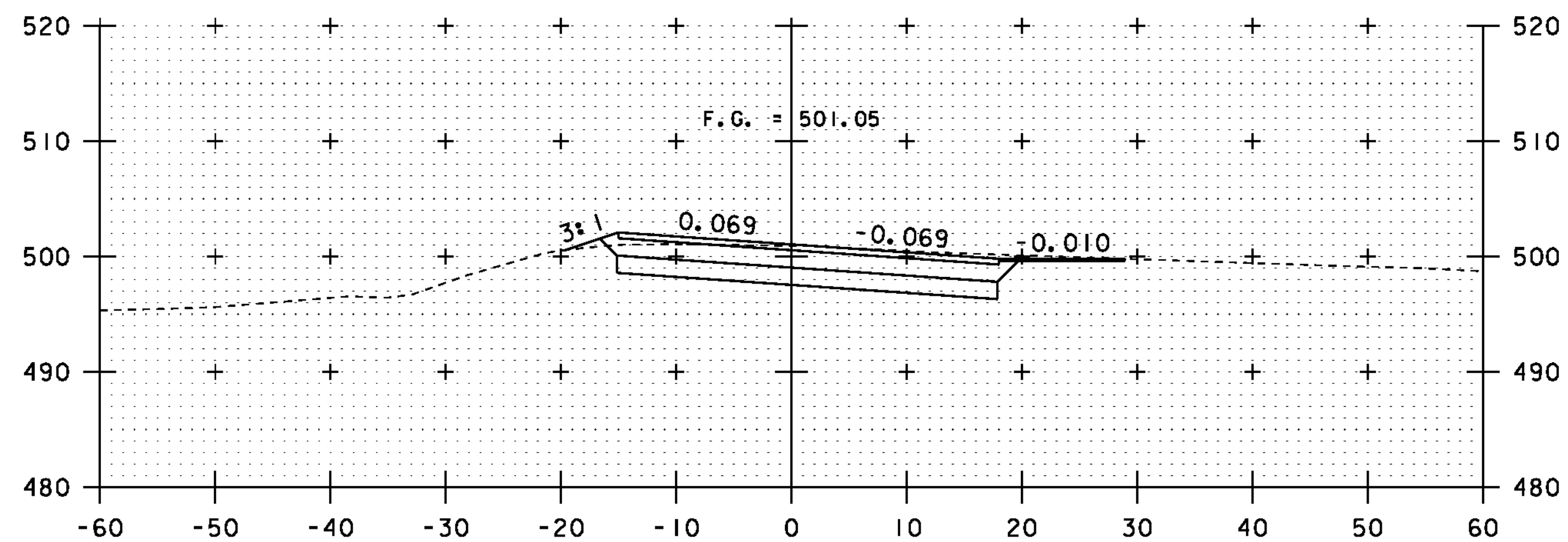


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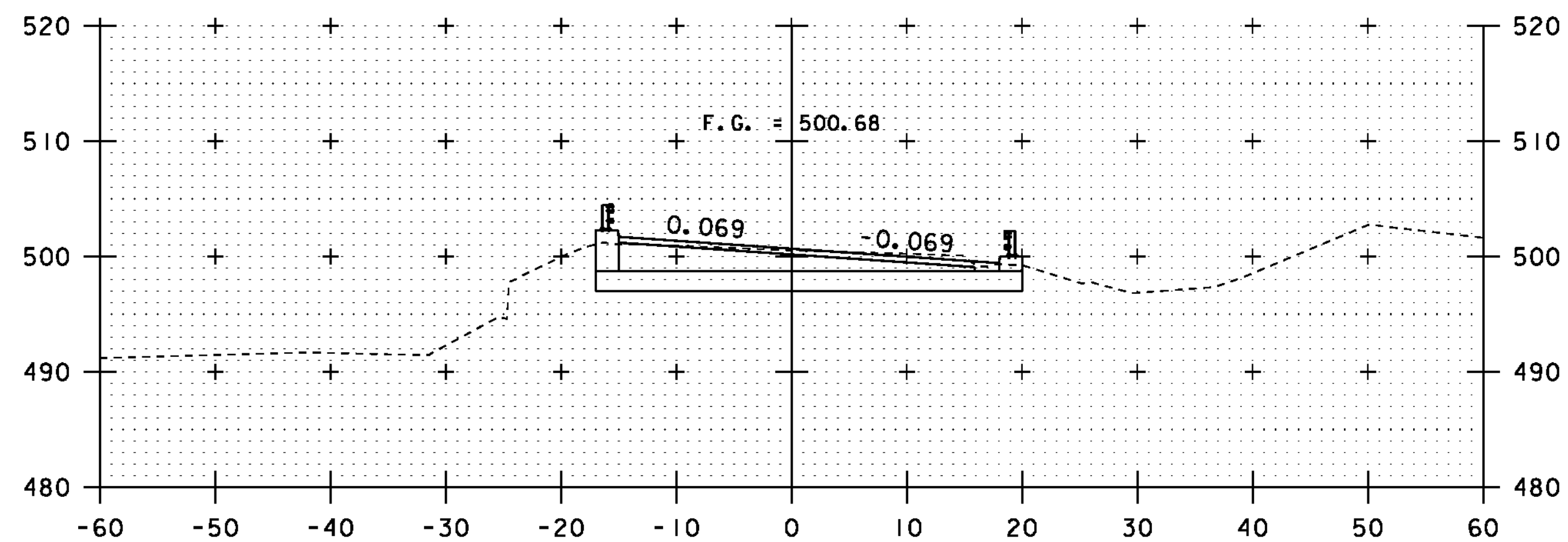


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4+50



5+25

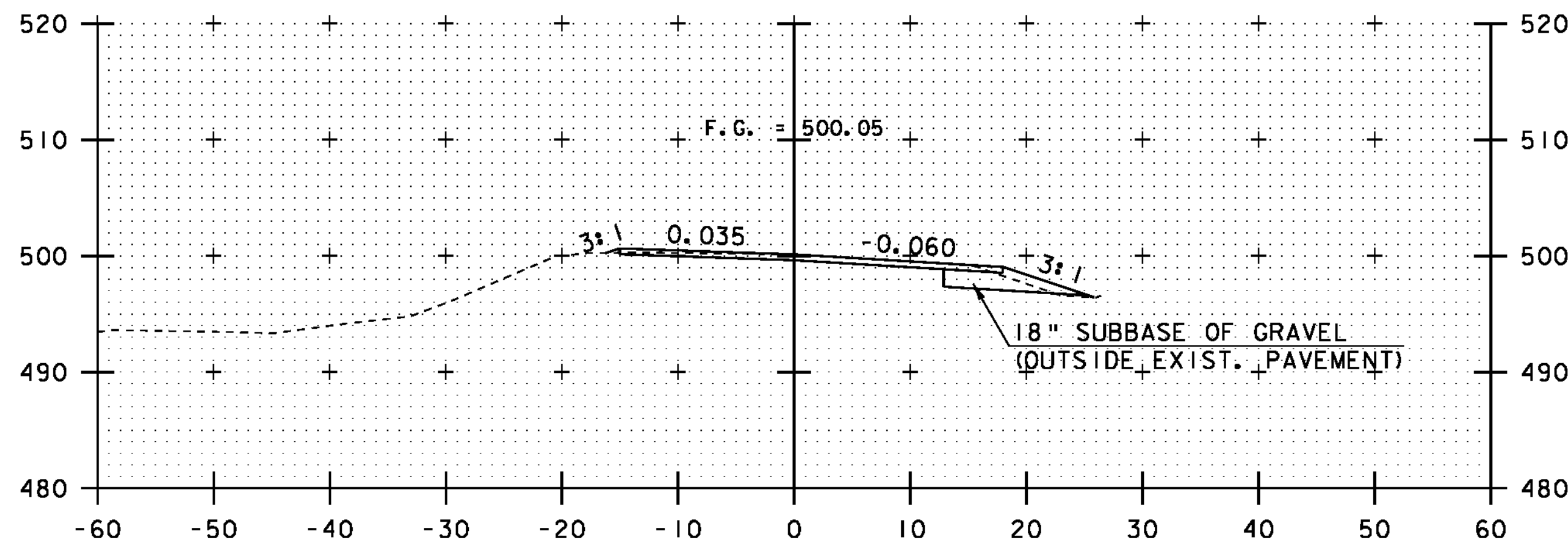
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HORIZONTAL ASSUMED



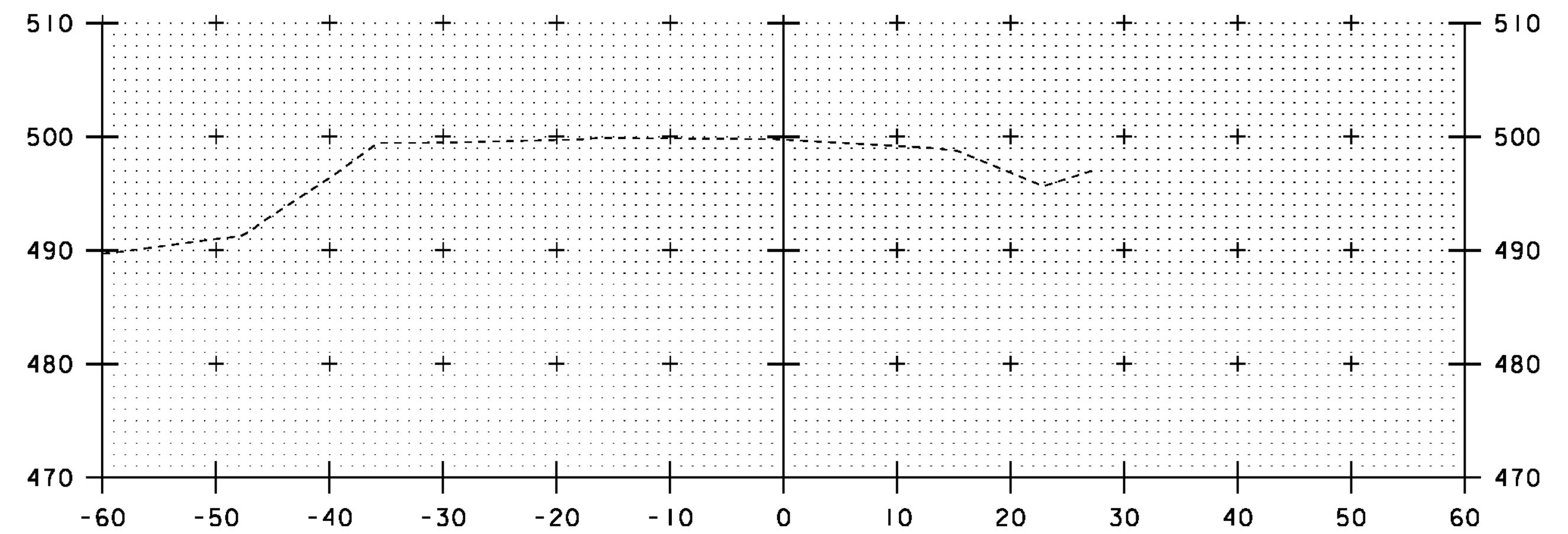
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PROJECT NUMBER: ER-STP 013-4 (36)

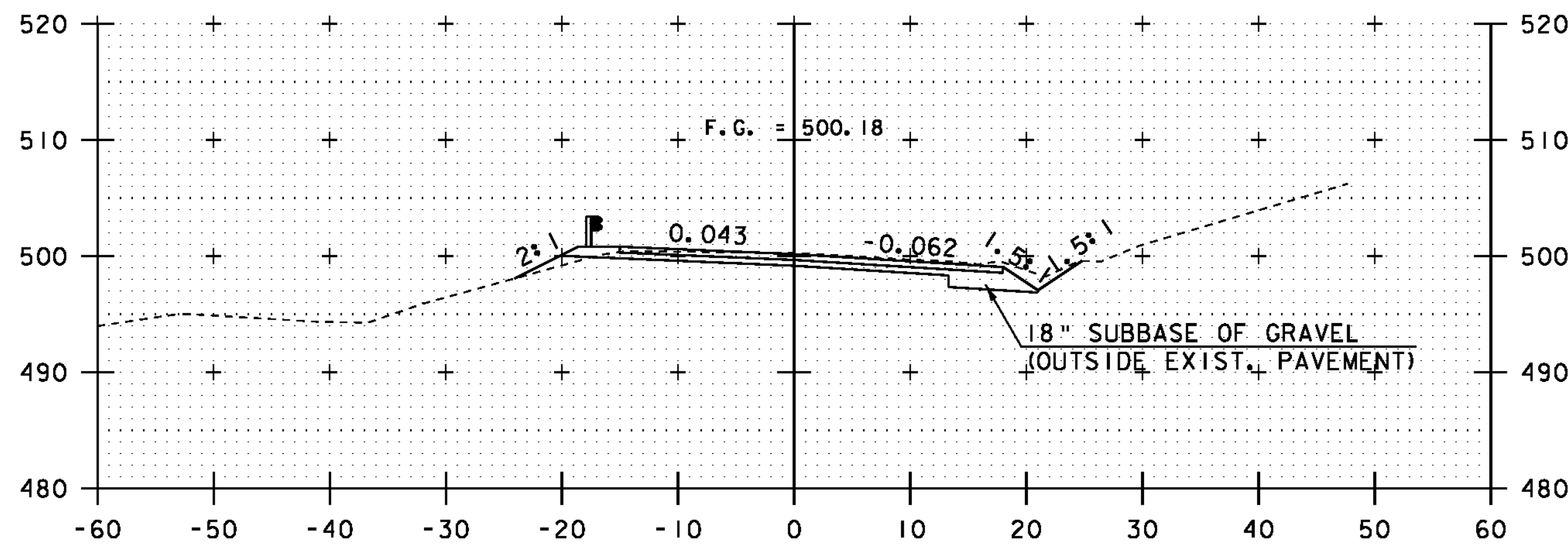
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PROJECT LEADER: JWT DRAWN BY: BMB
DESIGNED BY: RHB CHECKED BY: EPD
PLOT FILE: SHEET 18 OF 19



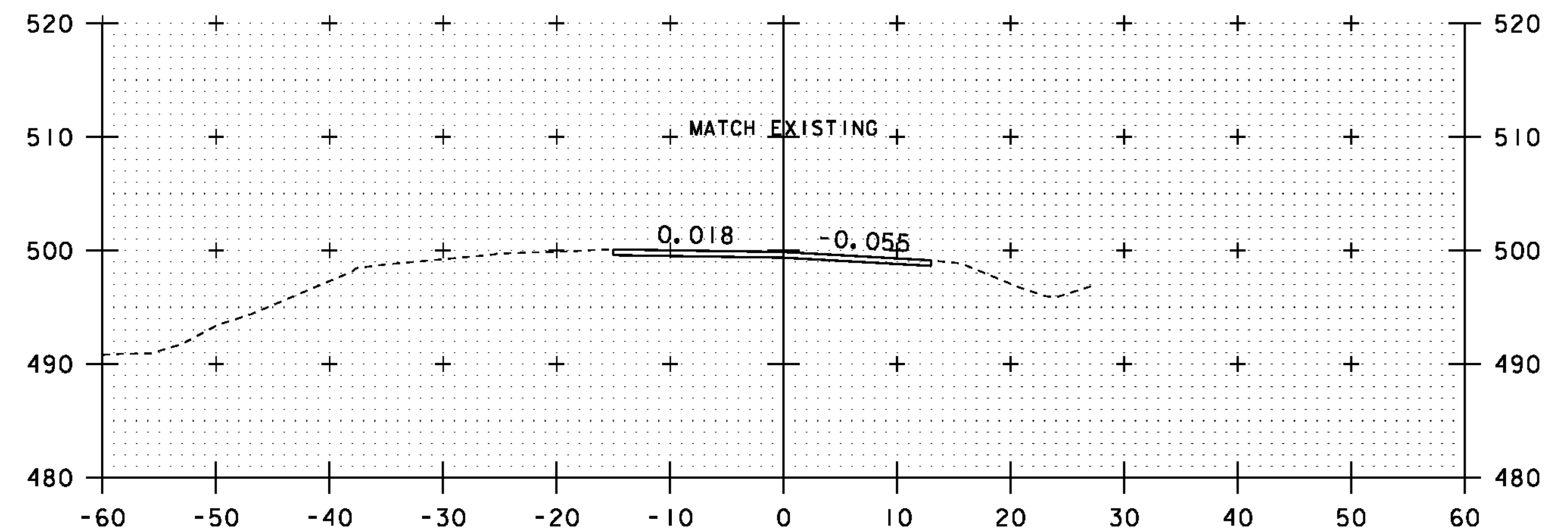
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7+25

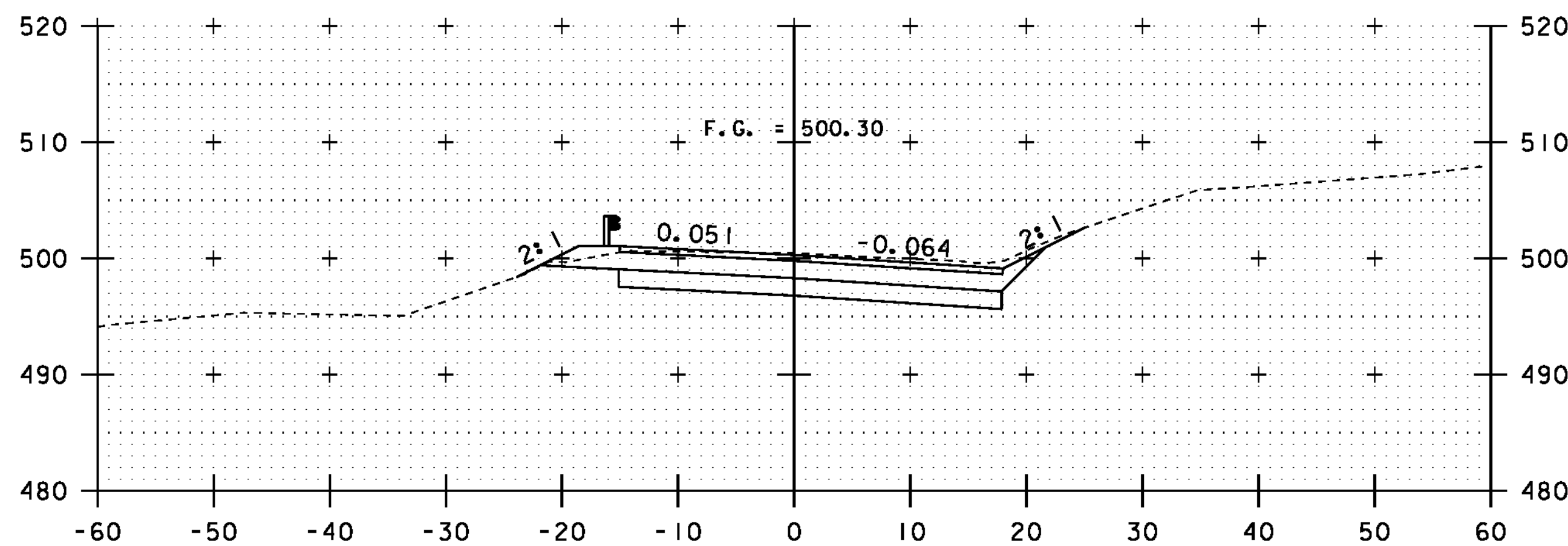


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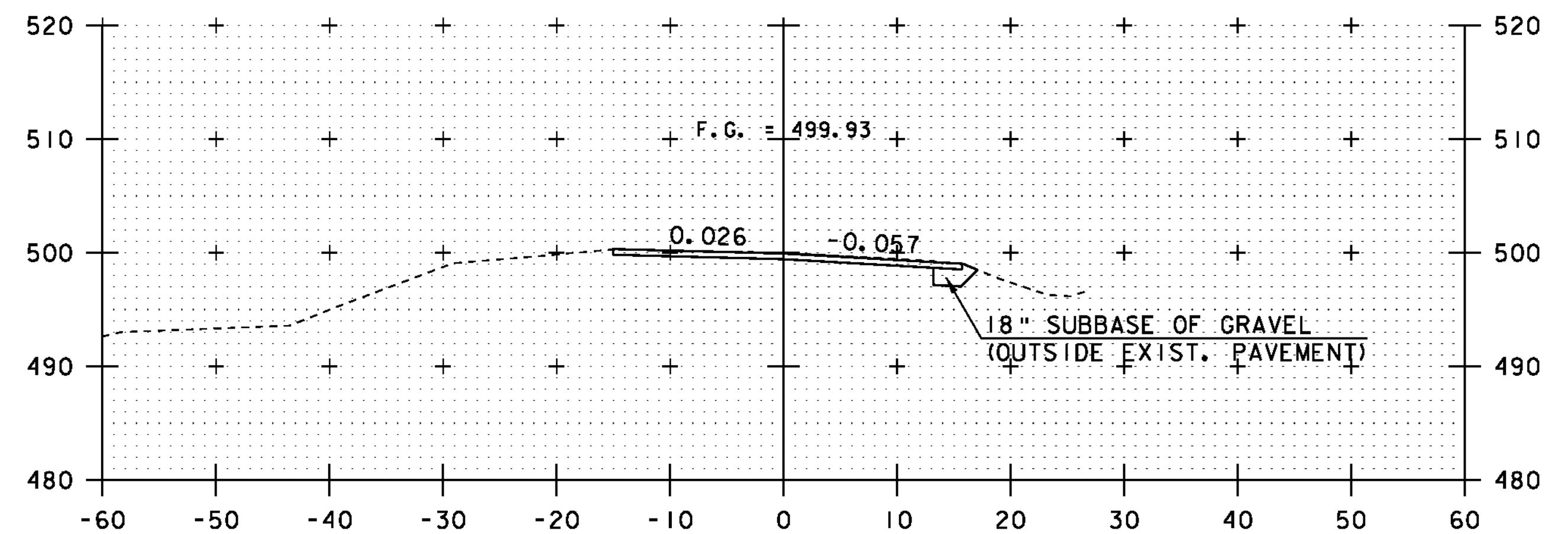


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STA. 7+00.00

7+00



6+00



6+75

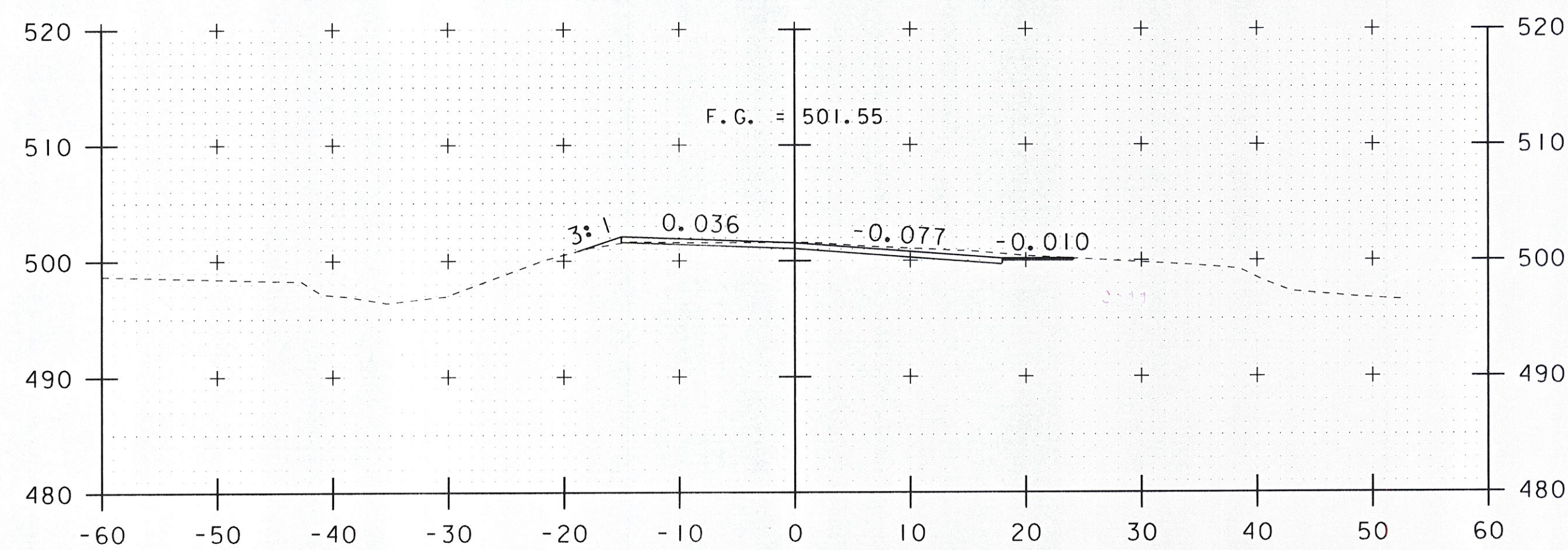
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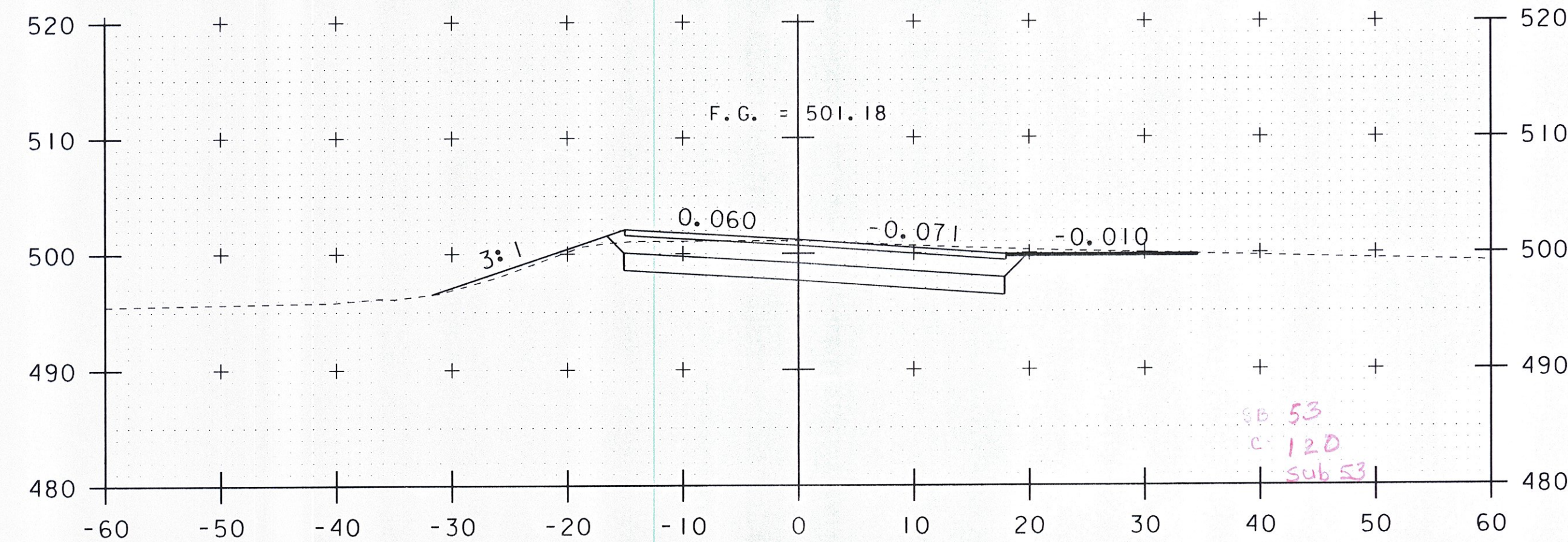
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CROSS SECTIONS**

PROJECT NAME: WARREN
PROJECT NUMBER: ER-STP 013-4 (36)

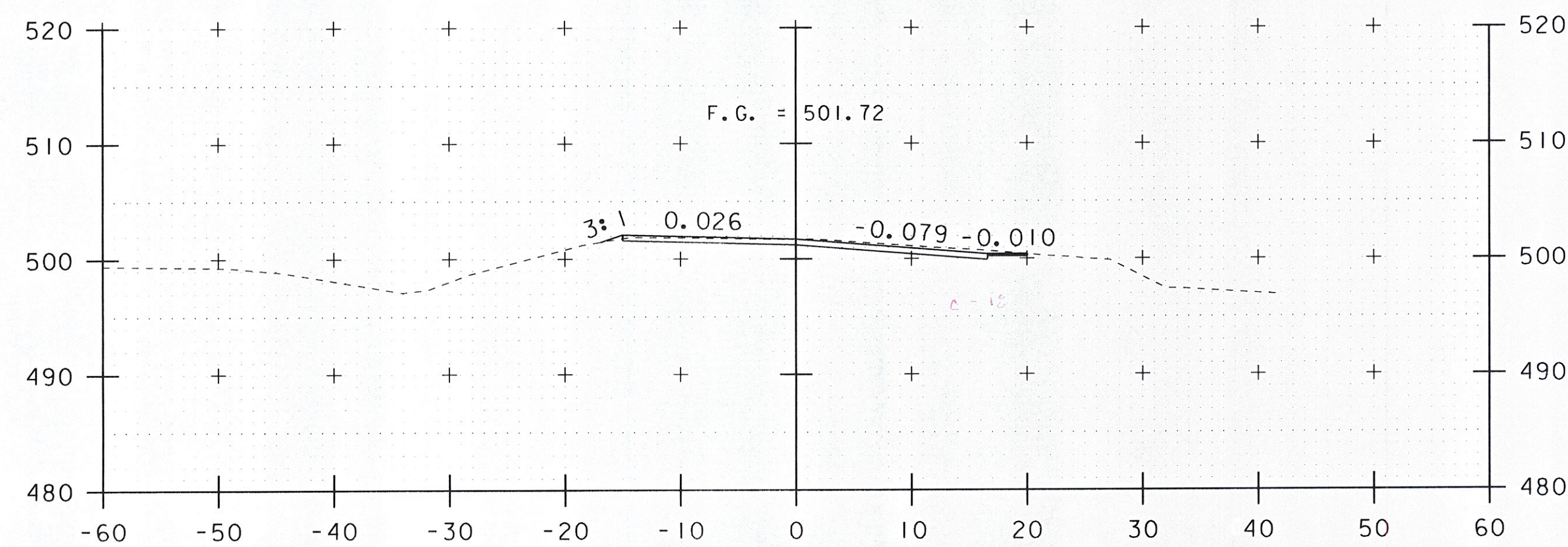
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PROJECT LEADER: JWT DRAWN BY: BMB
DESIGNED BY: RHB CHECKED BY: EPD
PLOT FILE: SHEET 19 OF 19



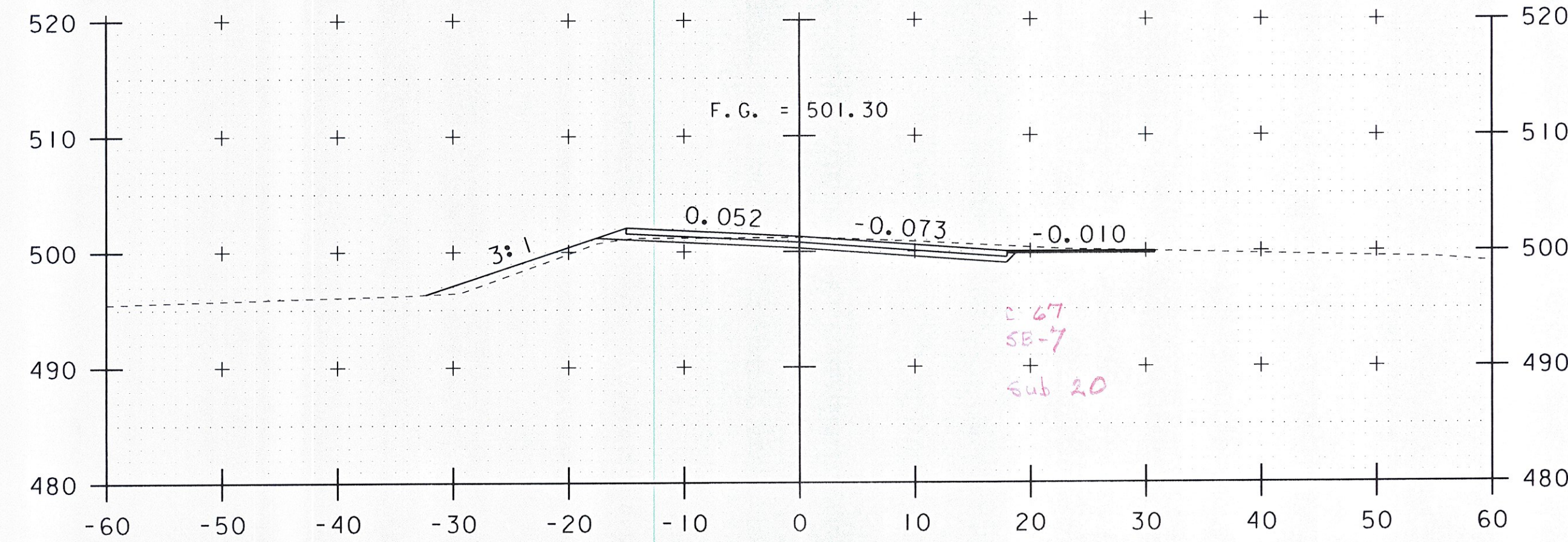
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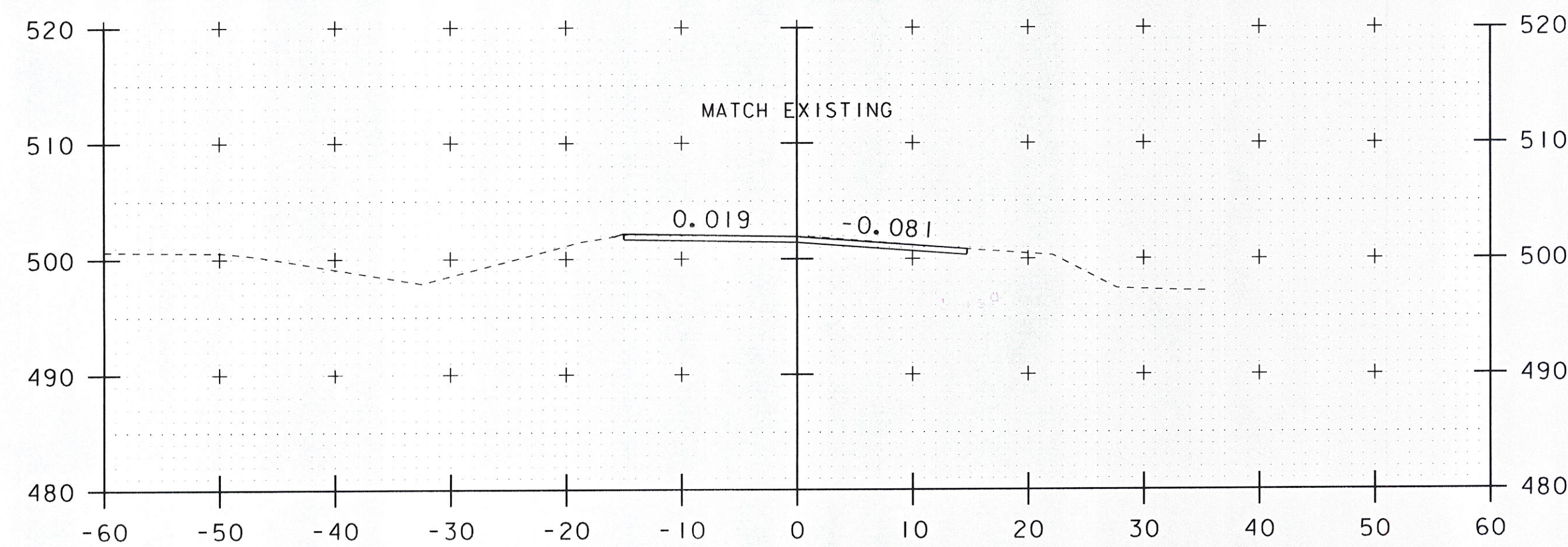
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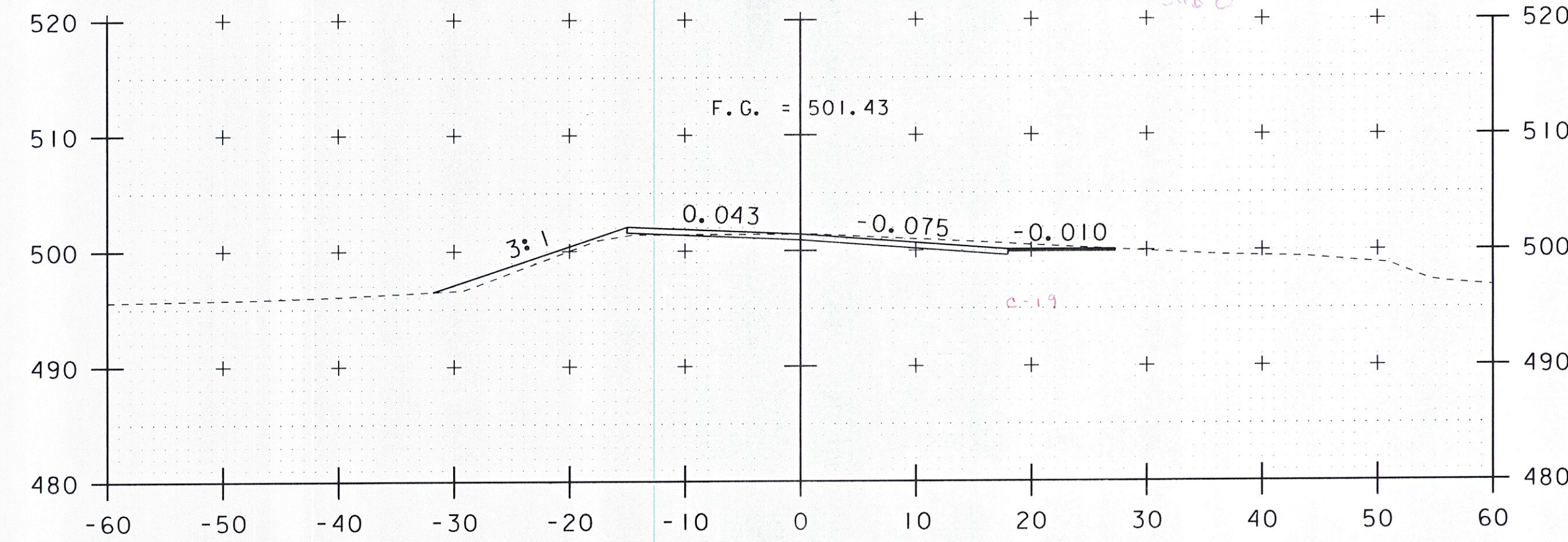


4+00



3+00

BEGIN PROJECT
STA. 3+00.00



3+75

DATUM
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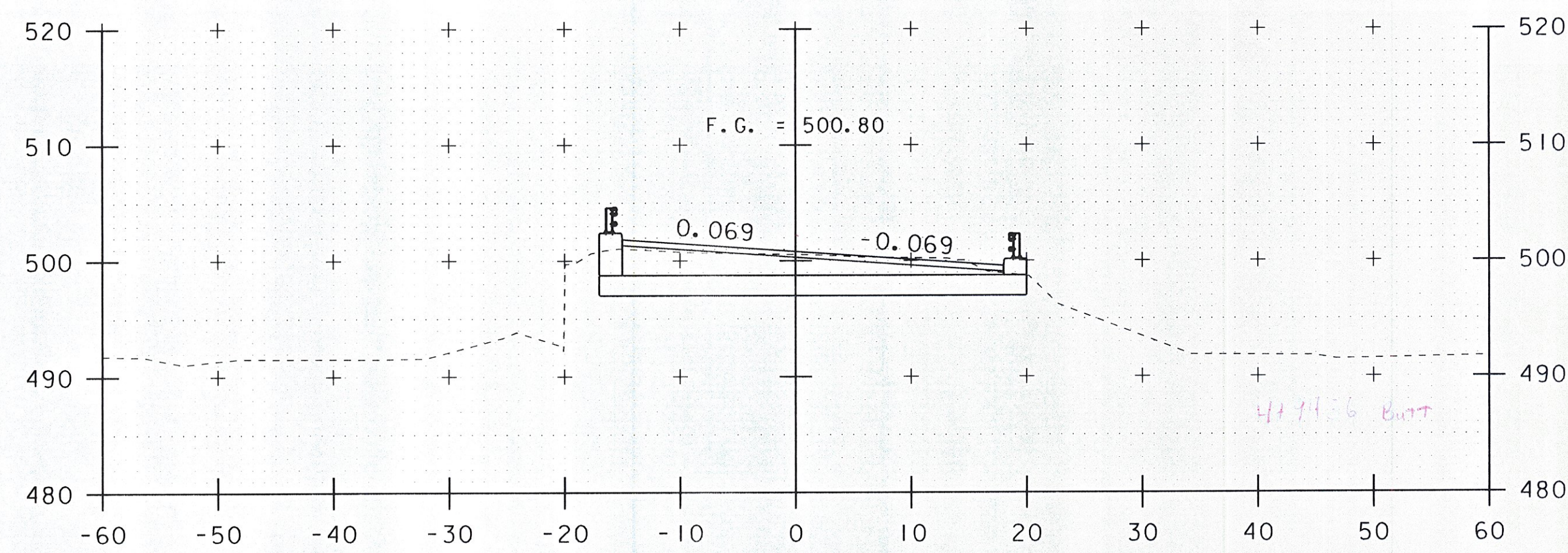


**ROADWAY
CROSS SECTIONS**

PROJECT NAME: WARREN
PROJECT NUMBER: ER-STP 013-4 (36)

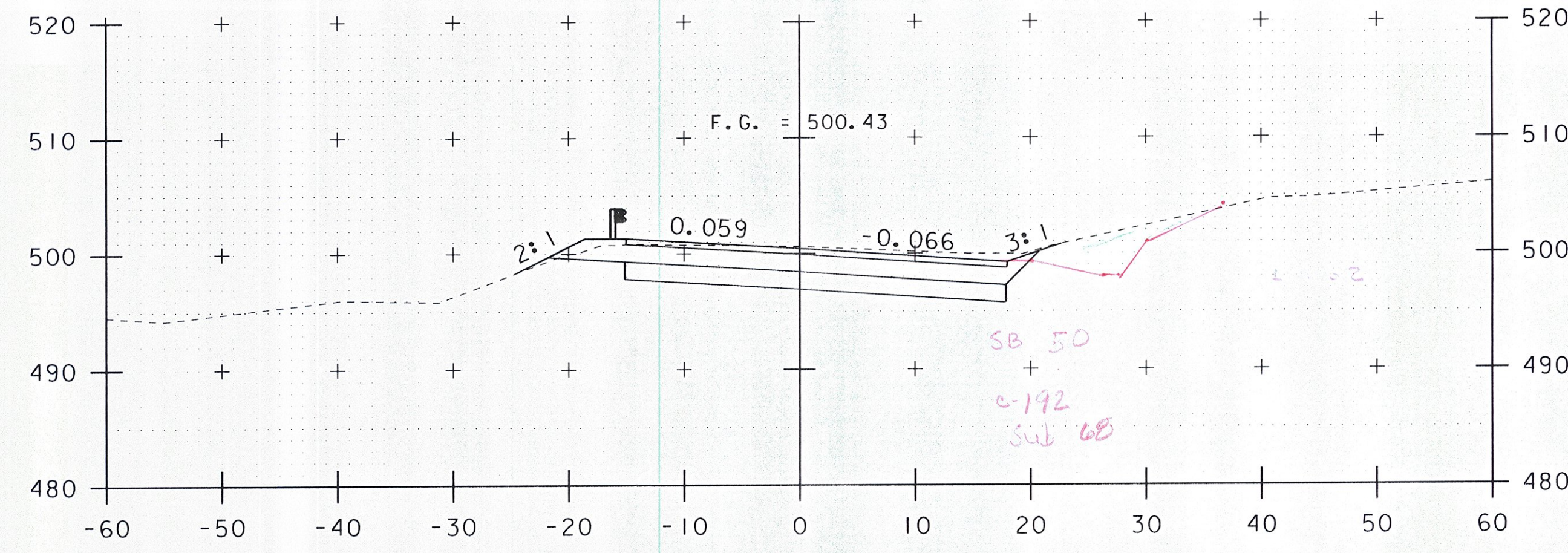
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DESIGNED BY: RHB
PLOT FILE:

PLOT DATE: 11/4/2011
DRAWN BY: BMB
CHECKED BY: EPD
SHEET 17 OF 19

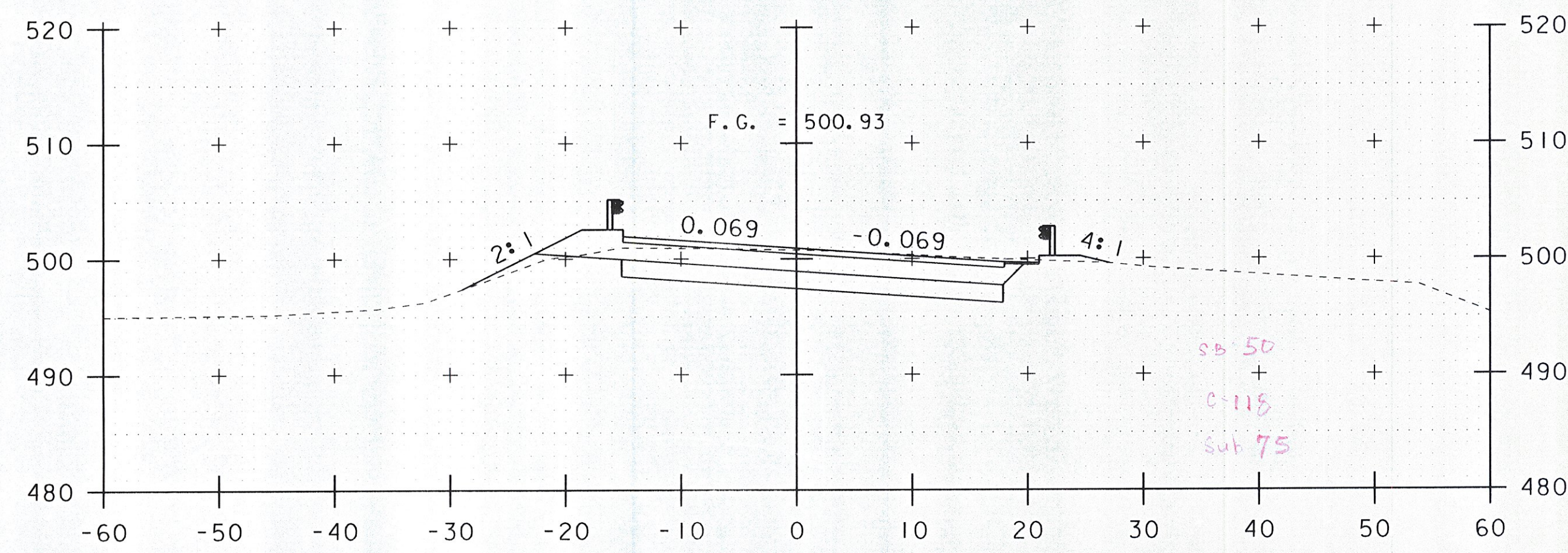


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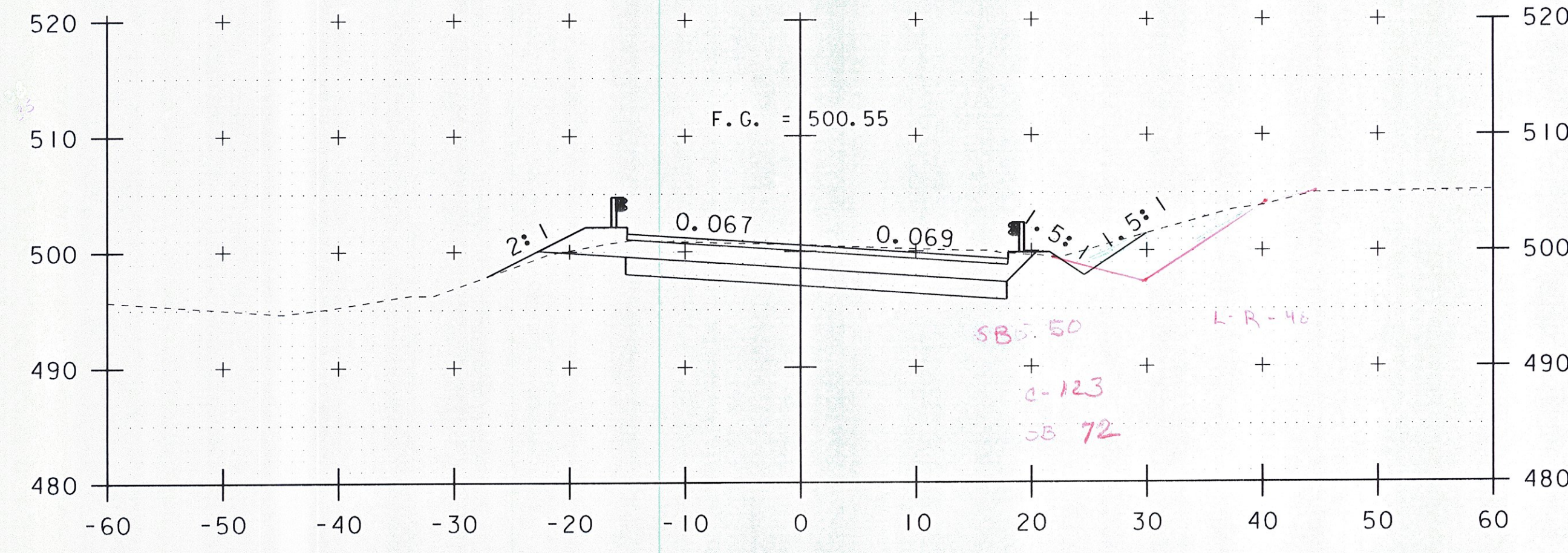
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5+75

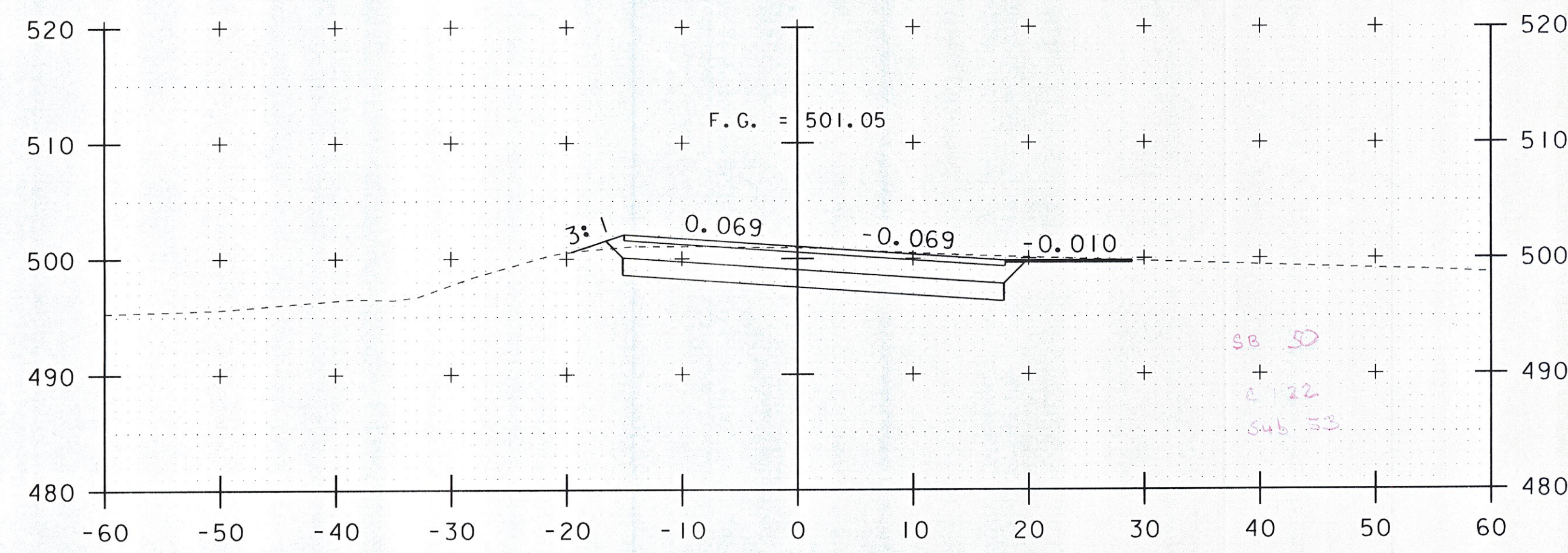


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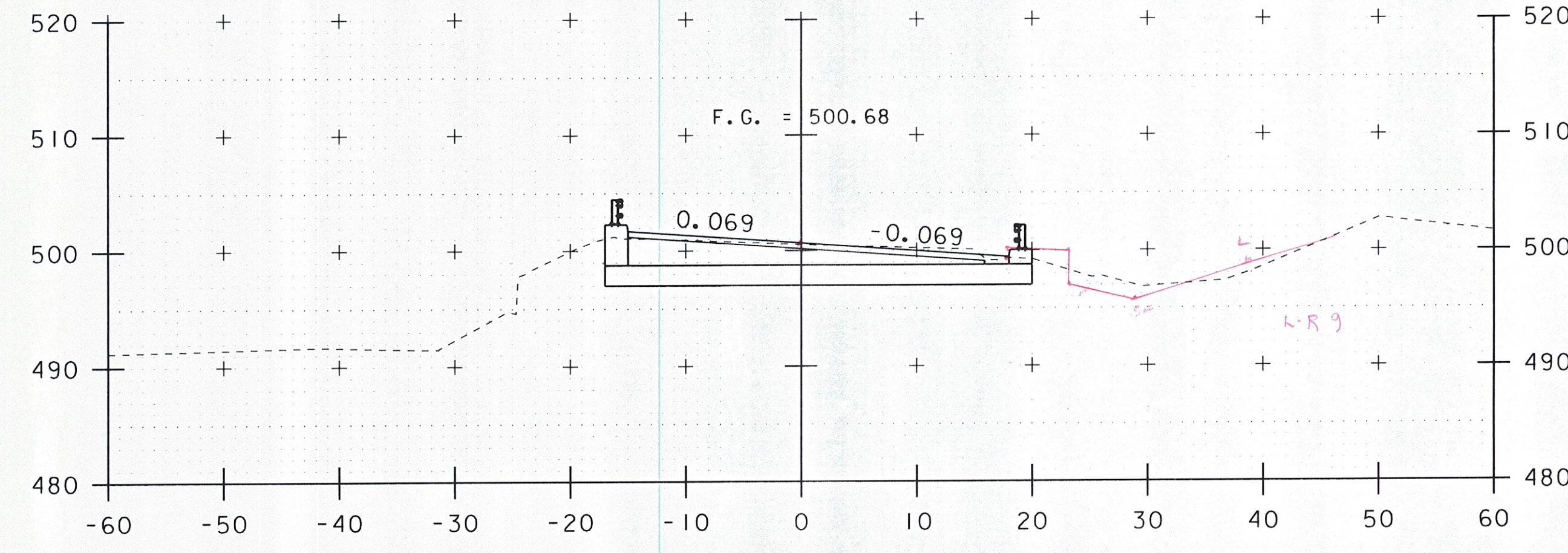


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5+50



4+50



5+25

DATUM
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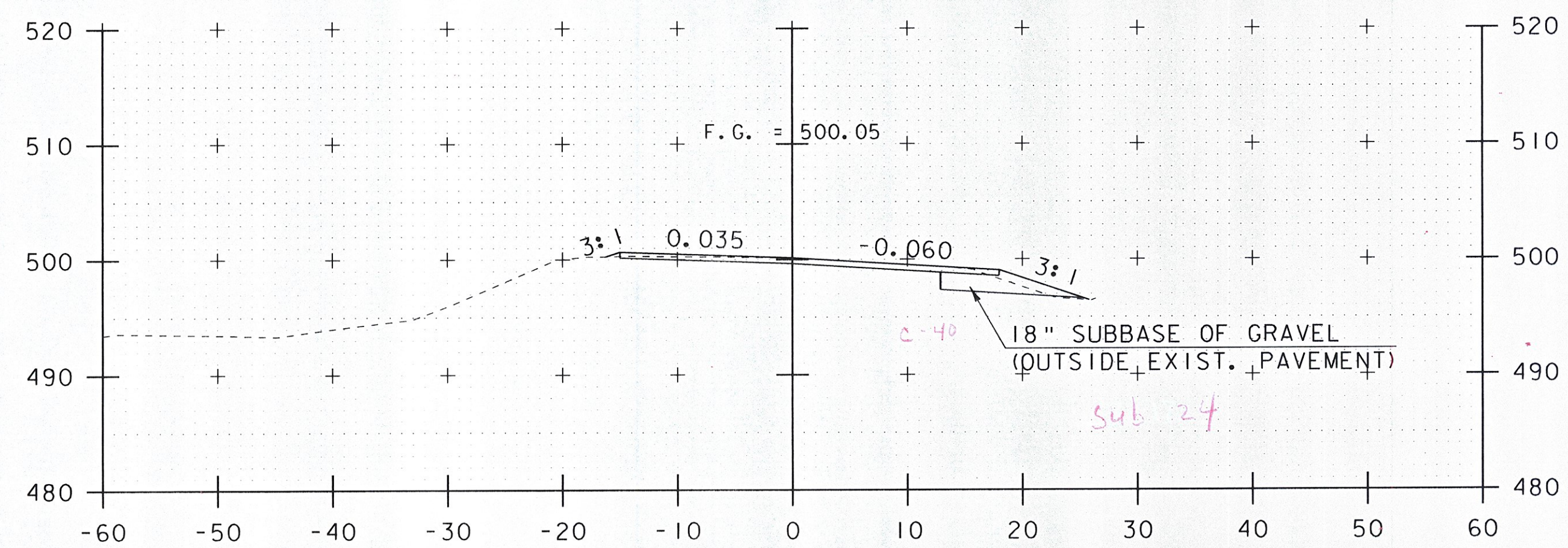


**ROADWAY
CROSS SECTIONS**

PROJECT NAME: WARREN
PROJECT NUMBER: ER-STP 013-4 (36)

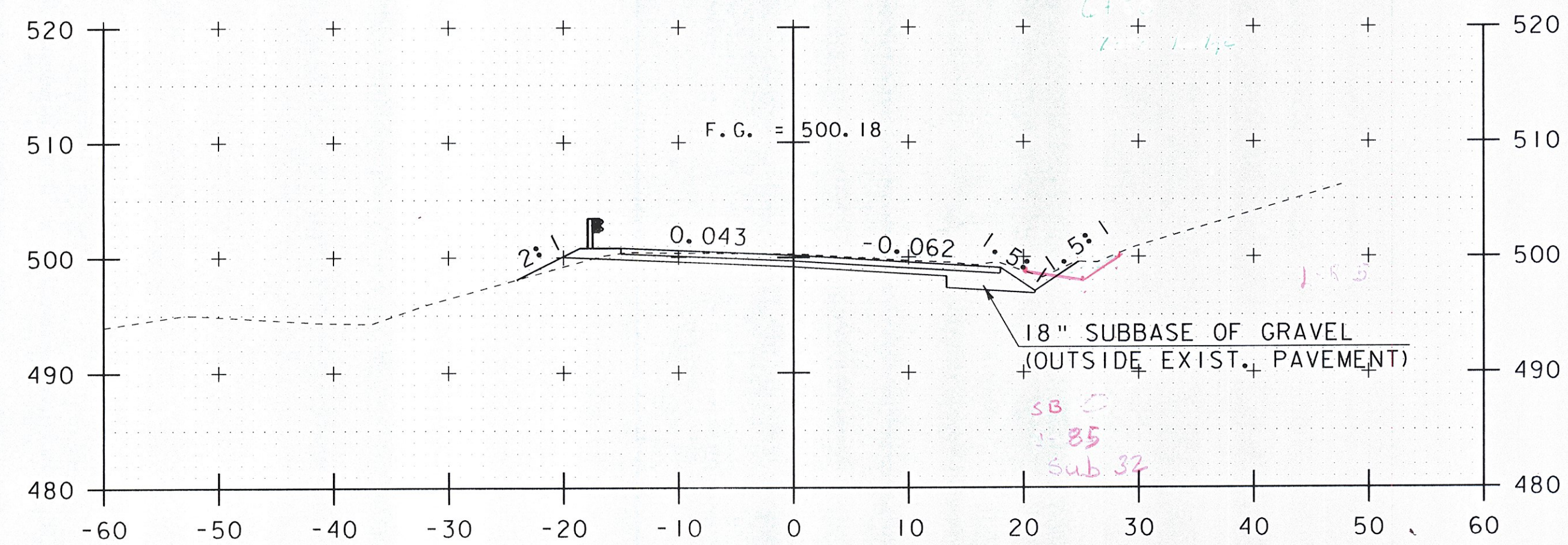
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PLOT FILE:

PLOT DATE: 11/4/2011
DRAWN BY: BMB
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SHEET 18 OF 19

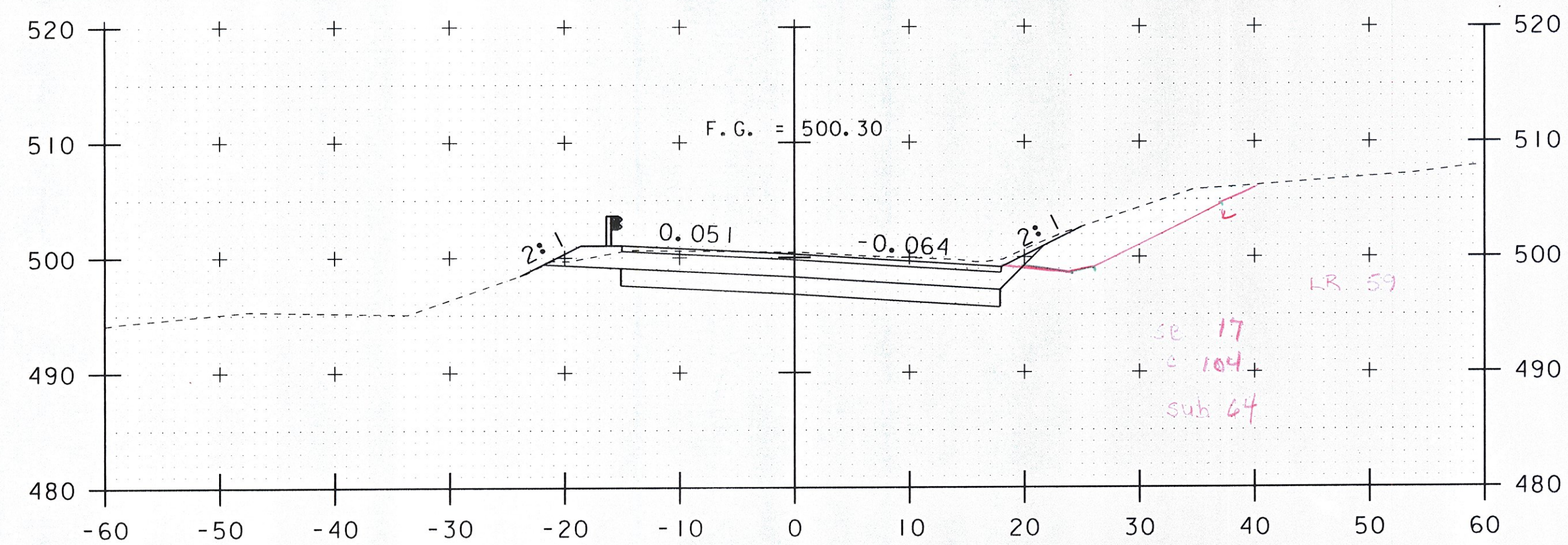


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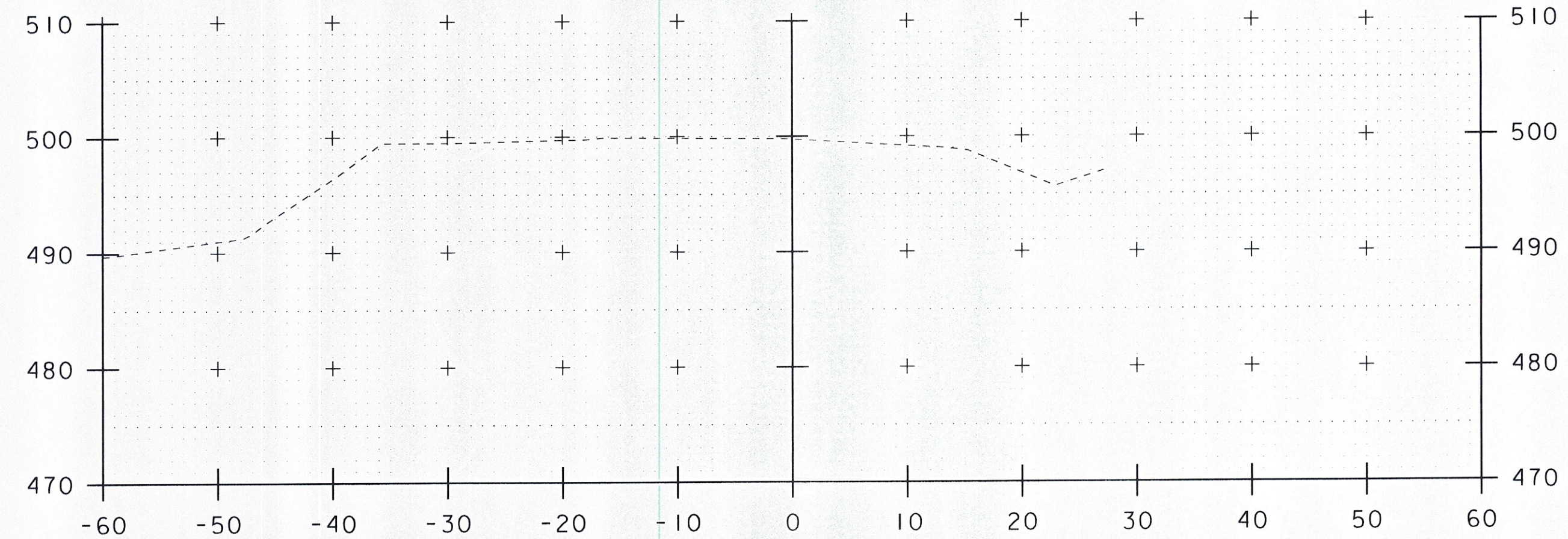
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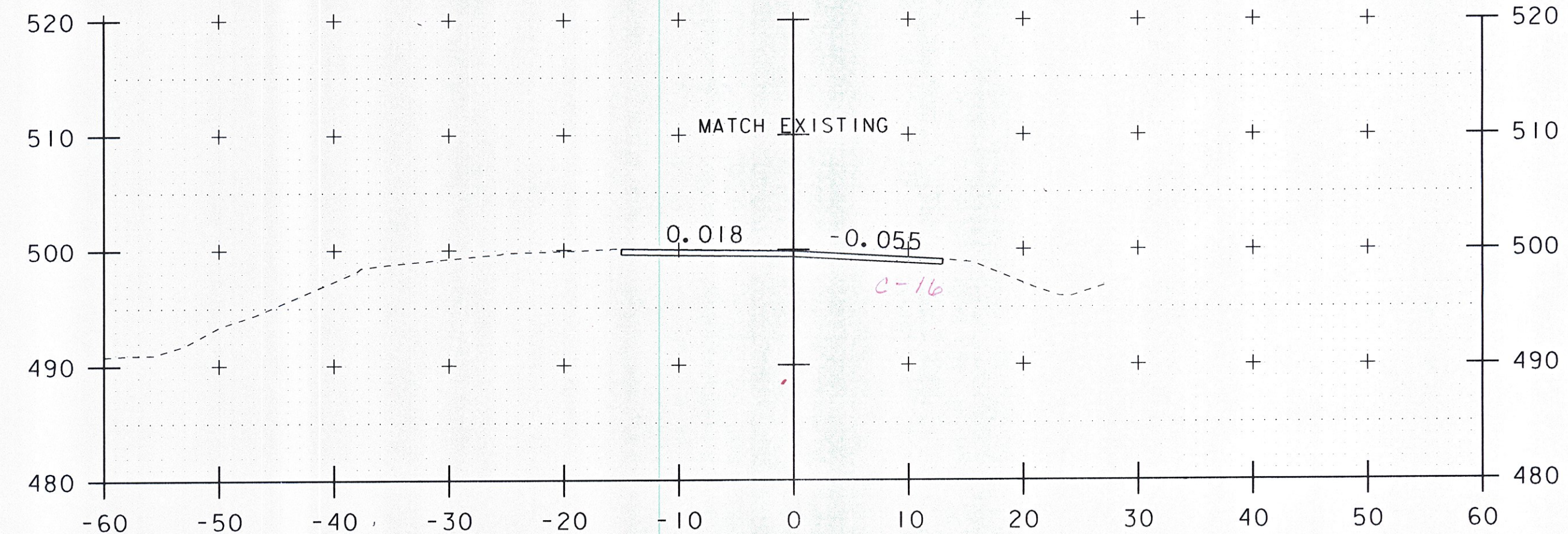
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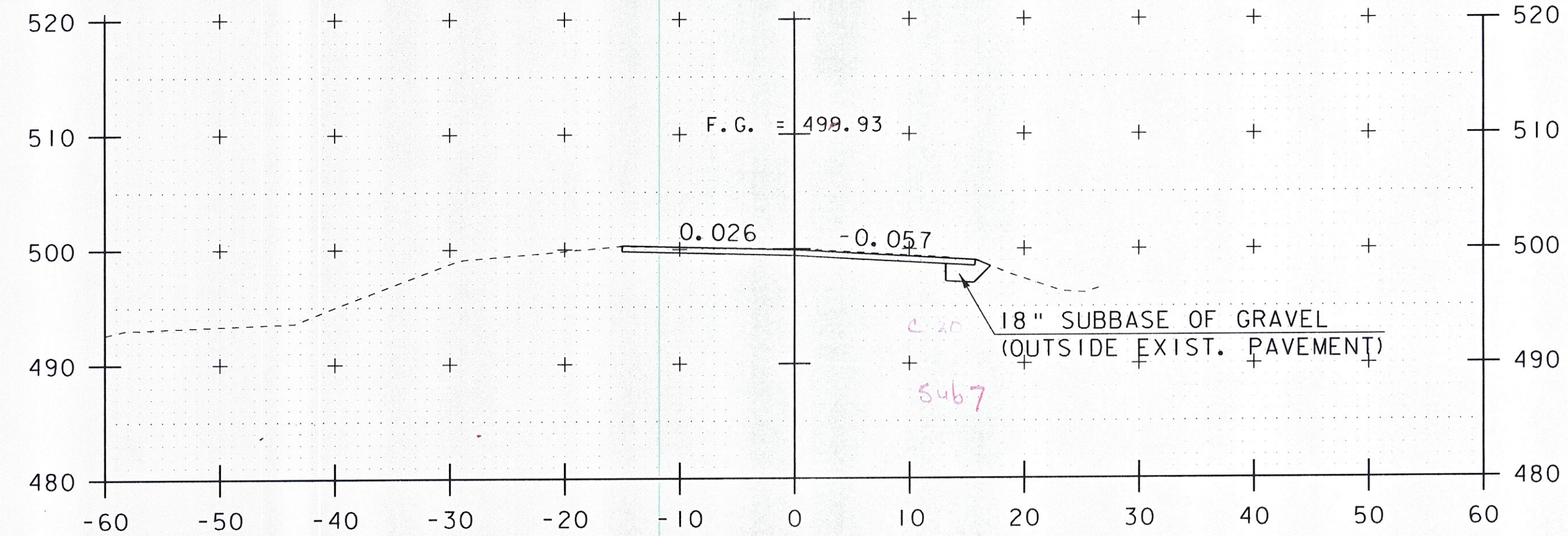


7+25



7+00

END PROJECT
STA. 7+00.00



6+75

DATUM
VERTICAL ASSUMED
HORIZONTAL ASSUMED



**ROADWAY
CROSS SECTIONS**

PROJECT NAME: WARREN
PROJECT NUMBER: ER-STP 013-4 (36)

FILE NAME:
PROJECT LEADER: JWT
DESIGNED BY: RHB
PLOT FILE:

PLOT DATE: 11/4/2011
DRAWN BY: BMB
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SHEET 19 OF 19