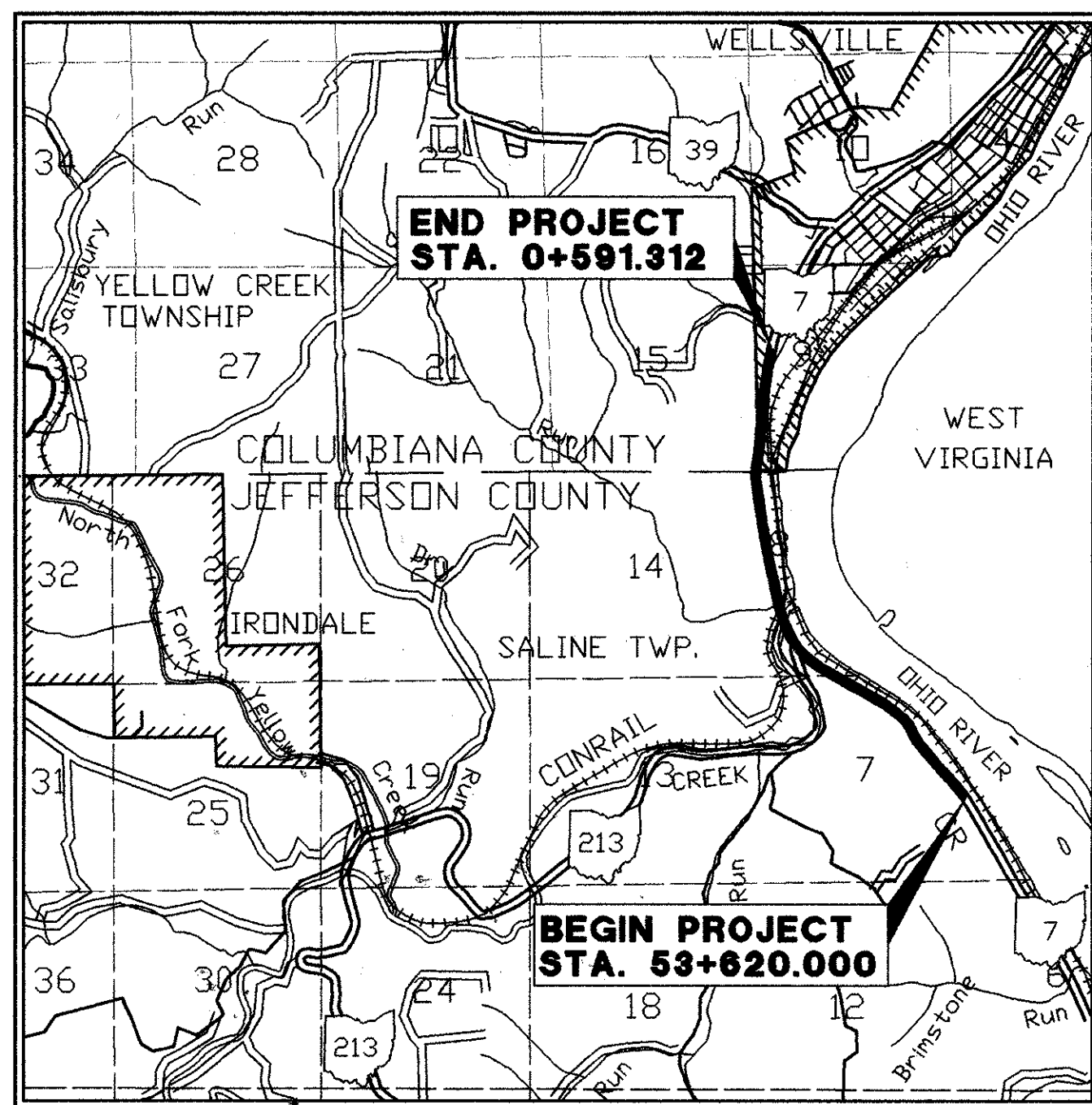
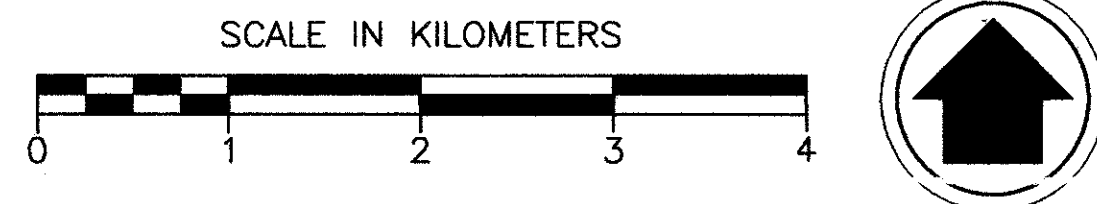




LATITUDE: N 40°34'35" LONGITUDE: W 80°40'05"



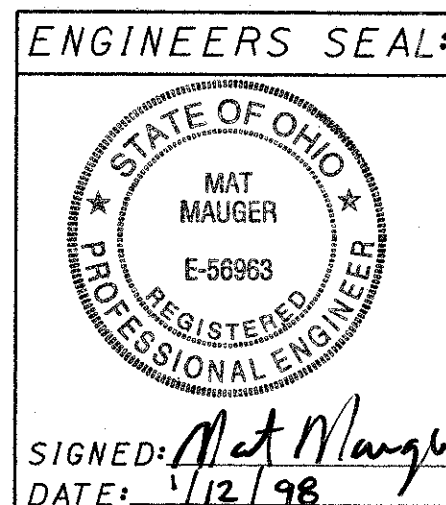
PORTION TO BE IMPROVED _____
STATE & FEDERAL ROUTES _____
OTHER ROADS _____

DESIGN DESIGNATION

CURRENT YEAR A.D.T. (1995) 9430
DESIGN YEAR A.D.T. (2015) 13,200
DESIGN HOURLY VOLUME (2015) 1320
DIRECTIONAL DISTRIBUTION 55 %
TRUCKS (24 HOUR B & C) 19.6 %
DESIGN SPEED 90 KM/H
LEGAL SPEED 55 MPH (89 KM/H)
DESIGN FUNCTIONAL CLASSIFICATION RURAL DIVIDED ARTERIAL

DESIGN EXCEPTIONS

DESIGN FEATURE APPROVAL DATE
GRADED SHOULDER WIDTH OCTOBER 24, 1995
BRIDGE WIDTH OCTOBER 24, 1995



STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
JEF-7-53.620
COL-7-0.000
CITY OF WELLSVILLE
SALINE TOWNSHIP
YELLOW CREEK TOWNSHIP
JEFFERSON & COLUMBIANA COUNTIES

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PROJECT DESCRIPTION

JOINT REPAIR AND RESURFACING OF APPROXIMATELY 2.59 KM OF S.R. 7 IN JEFFERSON AND COLUMBIANA COUNTIES. WORK TO INCLUDE REPLACEMENT OF ALL SIGNING, GUARDRAIL AND PAVEMENT MARKING; REHABILITATION OF TWO BRIDGES (OVER CONRAIL AND OVER CONRAIL/YELLOW CREEK); RECONSTRUCTION OF ROADSIDE PARK PARKING LOT; AND CONSTRUCTION OF A PARK AND RIDE FACILITY.

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE THE OHIO REVISED CODE.

1997 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

UNDER AUTHORITY OF SECTION 4511.21, DIVISION (I) OF THE REVISED CODE OF OHIO, THE REVISED PRIMA FACIE SPEED LIMITS AS INDICATED HEREIN ARE DETERMINED TO BE REASONABLE AND SAFE, AND ARE HEREBY ESTABLISHED FOR THE DURATION OF THIS PROJECT. THE PRIMA FACIE SPEED LIMIT OR LIMITS HEREBY ESTABLISHED SHALL BECOME EFFECTIVE WHEN APPROPRIATE SIGNS GIVING NOTICE THEREOF ARE ERECTED.

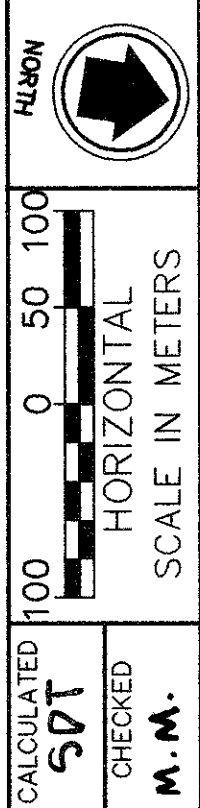
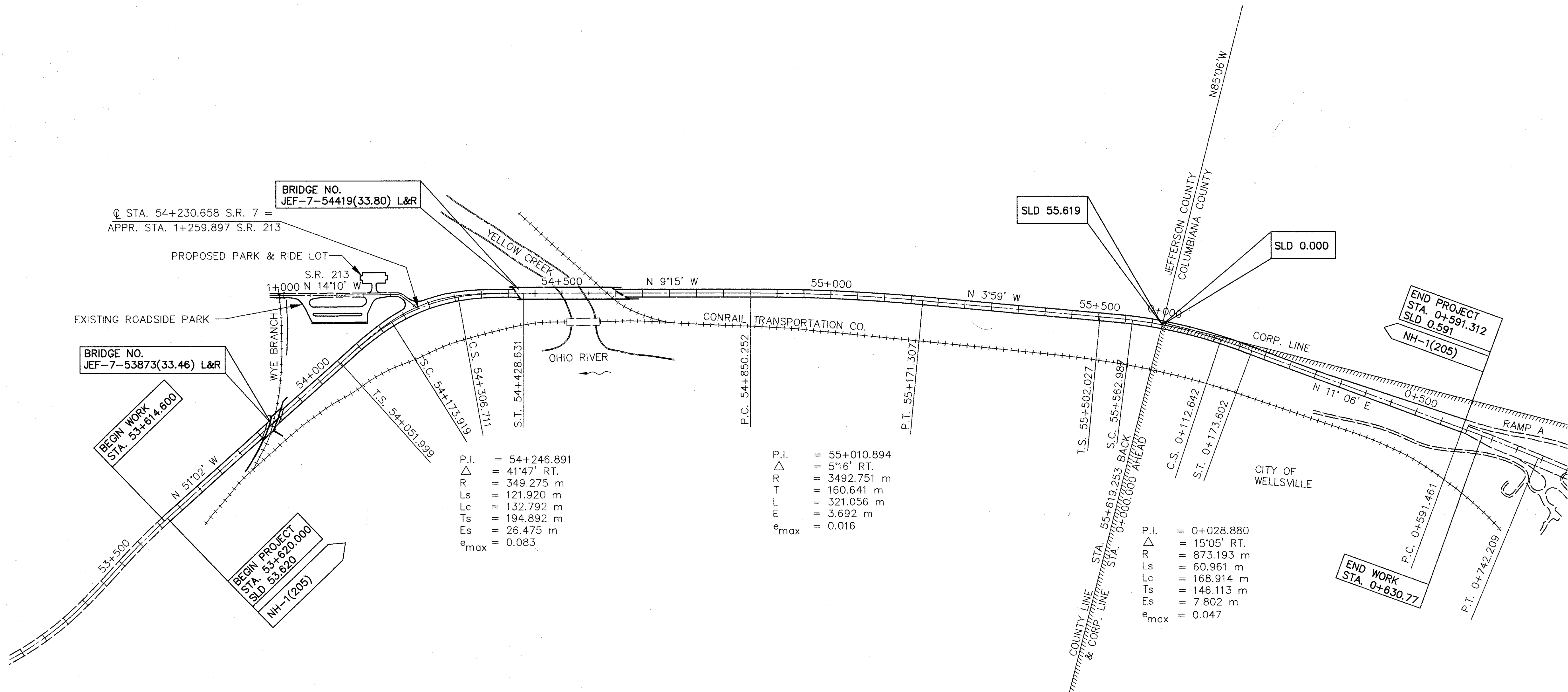
2 WORKING DAYS BEFORE YOU DIG
CALL 1-800-362-2764 (TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS MUST BE CALLED DIRECTLY

Plan Prepared By:
M-E CIVIL ENGINEERING, INC.
500 South Front Street
Columbus, Ohio 43215

STANDARD CONSTRUCTION DRAWINGS										SUPPLEMENTAL SPECIFICATIONS	
AS-1-81M	10-25-94			DM-1.1M	10-21-97	TC-41.10M	3-31-94	MT-35.10M	1-30-95	806	9-9-97
EXJ-4-87M	2-18-97	GR-1.1M	10-21-97	DM-1.2M	10-21-97	TC-41.20M	7-1-94	MT-35.11M	1-30-95	815	5-30-96
PCB-91M	3-20-95	GR-2.1M	10-21-97	DM-4.1M	6-30-95	TC-41.40M	3-31-94	MT-95.30M	4-25-94	910	4-21-97
		GR-3.1M	10-21-97	DM-4.2M	6-30-95	TC-42.10M	3-31-94	MT-95.40M	4-25-94		
BP-2.1M	4-8-97	GR-3.2M	10-21-97	DM-4.3M	6-30-95	TC-42.20M	3-31-94	MT-98.12M	6-24-93		
BP-2.2M	10-21-97	GR-4.1M	11-30-94	DM-4.4M	6-30-95	TC-51.11M	9-30-94	MT-98.13M	6-24-93		
BP-2.5M	4-8-97	GR-4.2M	10-21-97			TC-51.12M	3-31-94	MT-98.14M	6-24-93		
BP-3.1M	10-28-94			HL-10.11M	5-1-95	TC-52.10M	7-29-94	MT-98.15M	6-24-93		
BP-5.1M	10-28-94	RM-1.1M	4-8-97	HL-10.12M	5-1-95	TC-52.20M	7-29-94	MT-98.16M	6-24-93		
BP-7.1M	10-28-94	RM-3.1M	10-21-97	HL-10.13M	5-1-95	TC-65.10M	11-1-95				
		RM-4.2M	10-21-97	HL-20.11M	3-31-95	TC-65.11M	11-1-95	MT-99.20M	1-30-95		
F-1.1M	4-8-97	RM-4.3M	10-21-97	HL-30.11M	3-31-95	TC-65.12M	11-1-95	MT-105.10M	4-25-94		
				HL-40.10M	3-31-95	TC-71.10M	9-1-93	MT-105.11M	4-25-94		
		I-1.1M	9-6-95	HL-50.11M	3-31-95	TC-72.20M	9-1-93				
				HL-60.11M	5-1-95						
				HL-60.12M	3-31-95						

APPROVED: DISTRICT DEPUTY DIRECTOR
DATE: 1-12-98

APPROVED: _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION
DATE: _____



SCHEMATIC PLAN

JEF/COL-7-53.620/0.000

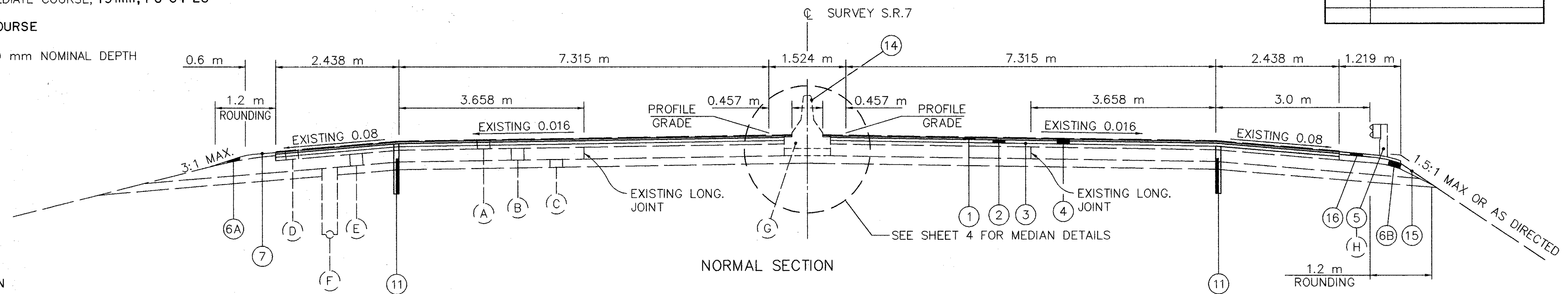
PROPOSED LEGEND

- ① ITEM 446 - 38 mm ASPHALT CONCRETE SURFACE COURSE, 12.5 mm
- ② ITEM 446 - 60 mm ASPHALT CONCRETE INTERMEDIATE COURSE, 19 mm, PG 64-28
- ③ ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE
- ④ ITEM 254 - PAVEMENT PLANING BITUMINOUS, 110 mm NOMINAL DEPTH
- ⑤ ITEM 606 - GUARDRAIL, TYPE 5
- ⑥A ITEM 203 - LINEAR GRADING, METHOD A
- ⑥B ITEM 203 - LINEAR GRADING, METHOD B
- ⑦ ITEM 659 - SEEDING AND MULCHING
- ⑧ ITEM 304 - AGGREGATE BASE (160 mm)
- ⑨ NOT USED
- ⑩ ITEM 622 - CONCRETE BARRIER, TYPE A
- ⑪ ITEM 605 - PREFABRICATED EDGE DRAIN
- ⑫ ITEM 301 - 160 mm BITUMINOUS AGGREGATE BASE, PG 64-28
- ⑬ ITEM 612 - CONCRETE MEDIAN, AS PER PLAN
- ⑭ ITEM SPECIAL - SEALING OF CONCRETE SURFACES (EPOXY)
- ⑮ ITEM 670 - SLOPE EROSION PROTECTION
- ⑯ ITEM 448 - 50 mm ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1 (UNDER GUARDRAIL), AS PER PLAN
- ⑰ ITEM 203 - SUBGRADE COMPACTION
- ⑱ ITEM 304 - 150 mm AGGREGATE BASE
- ⑲ ITEM 611 - REINFORCED CONCRETE APPROACH SLAB (T=380 mm), AS PER PLAN
- ⑳ ITEM 622 - CONCRETE BARRIER, TYPE A, AS PER PLAN 'B'

EXISTING LEGEND

- (A) 178 mm ASPHALT CONCRETE
- (B) 230 mm REINFORCED CONCRETE PAVEMENT
- (C) SUBBASE
- (D) BITUMINOUS AGGREGATE BASE
- (E) AGGREGATE BASE
- (F) 150 mm PIPE UNDERDRAIN (TO REMAIN AND FUNCTION)
- (G) CONCRETE BARRIER, TYPE A
- (H) GUARDRAIL, TYPE 5
- (J) CURB, TYPE 2A (TO BE REMOVED)
- (K) CONCRETE MEDIAN (TO BE REMOVED)

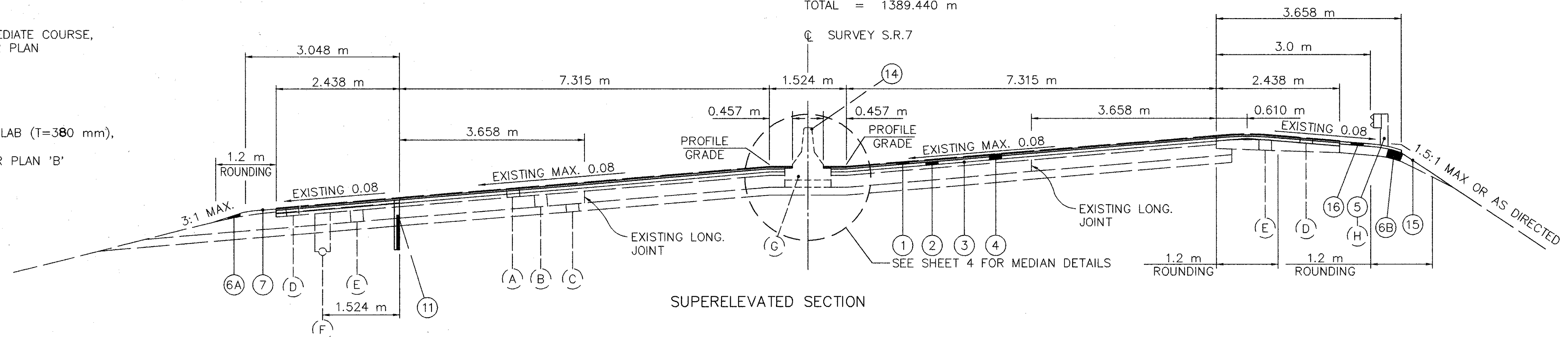
CROSS REFERENCES	
SHT.NO.	ITEM
4	MEDIAN DETAILS



NORMAL SECTION

LIMITING STATIONS

STA. 53+620.000 TO STA. 53+870.988	=	250.988
STA. 53+897.066 TO STA. 54+051.999	=	154.933
STA. 54+615.163 TO STA. 54+850.252	=	235.089
STA. 55+171.307 TO STA. 55+502.027	=	330.720
STA. 0+173.602 TO STA. 0+591.312	=	417.710
TOTAL	=	1389.440 m



SUPERELEVATED SECTION

LIMITING STATIONS

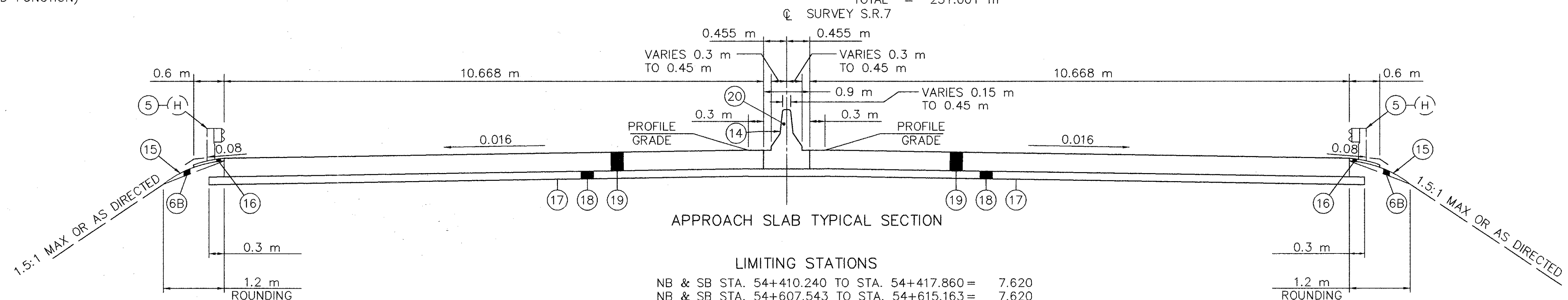
STA. 54+051.999 TO STA. 54+410.240	=	358.241
STA. 54+850.252 TO STA. 55+171.307	=	321.055
STA. 55+502.027 TO STA. 55+619.253 BACK	=	117.226
STA. 0+000.000 AHEAD TO STA. 0+173.602	=	173.602
TOTAL	=	970.124 m

STATION EQUATION

STA. 55+619.253 BACK = STA. 0+000.000 AHEAD

NOTE:
BRIDGES AND APPROACH SLABS

BRIDGE NO. JEF-7-53873(33.46)	STA. 53+870.988 TO STA. 53+897.066	=	26.078
BRIDGE NO. JEF-7-54419(33.80)	STA. 54+410.240 TO STA. 54+615.163	=	204.923
TOTAL		=	231.001 m



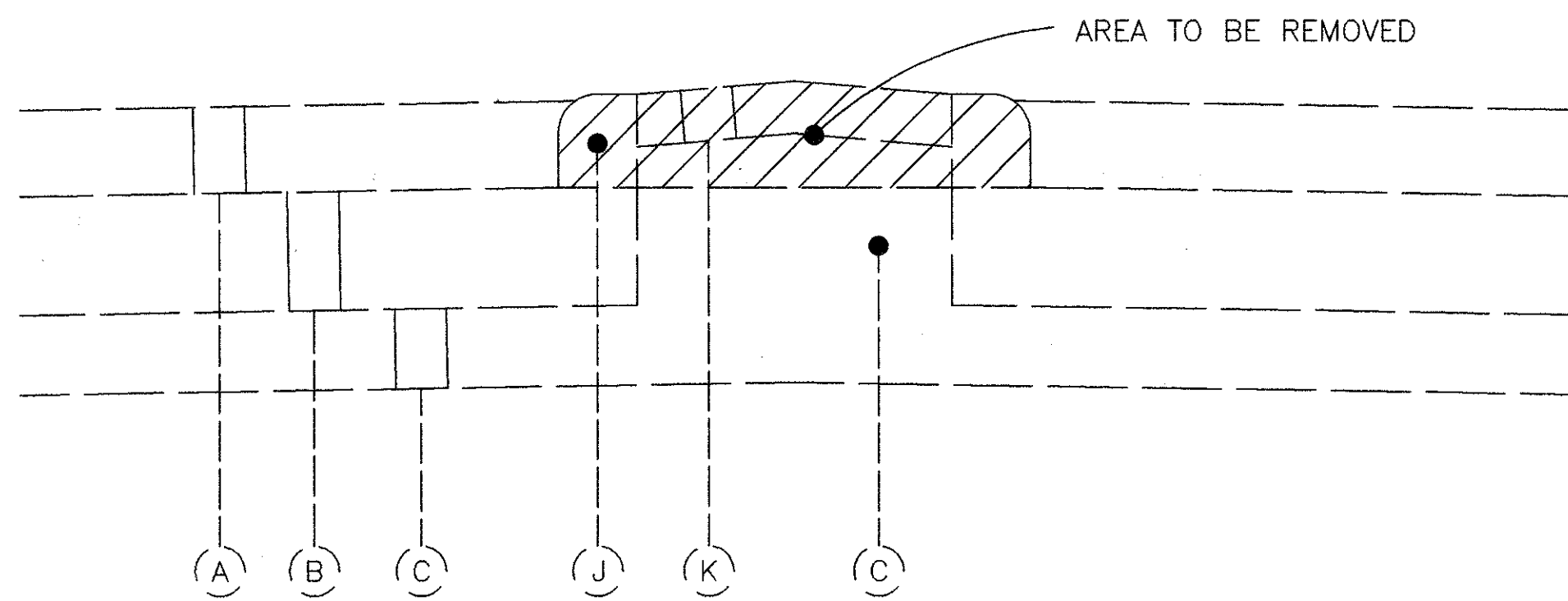
APPROACH SLAB TYPICAL SECTION

LIMITING STATIONS

NB & SB STA. 54+410.240 TO STA. 54+417.860	=	7.620
NB & SB STA. 54+607.543 TO STA. 54+615.163	=	7.620
TOTAL	=	15.240 m

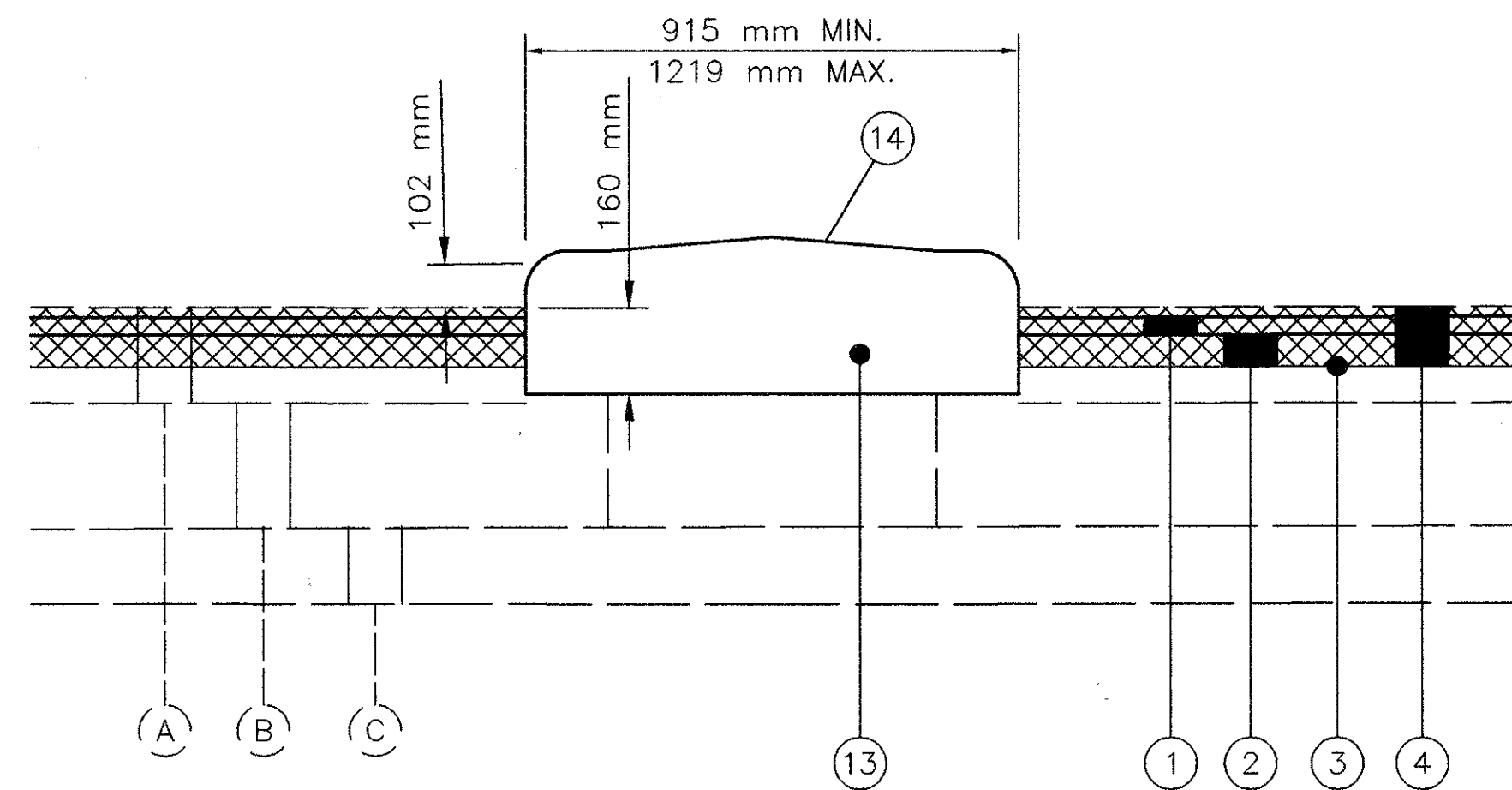
TYPICAL SECTIONS

JEF/COL-7-53.620/0.000



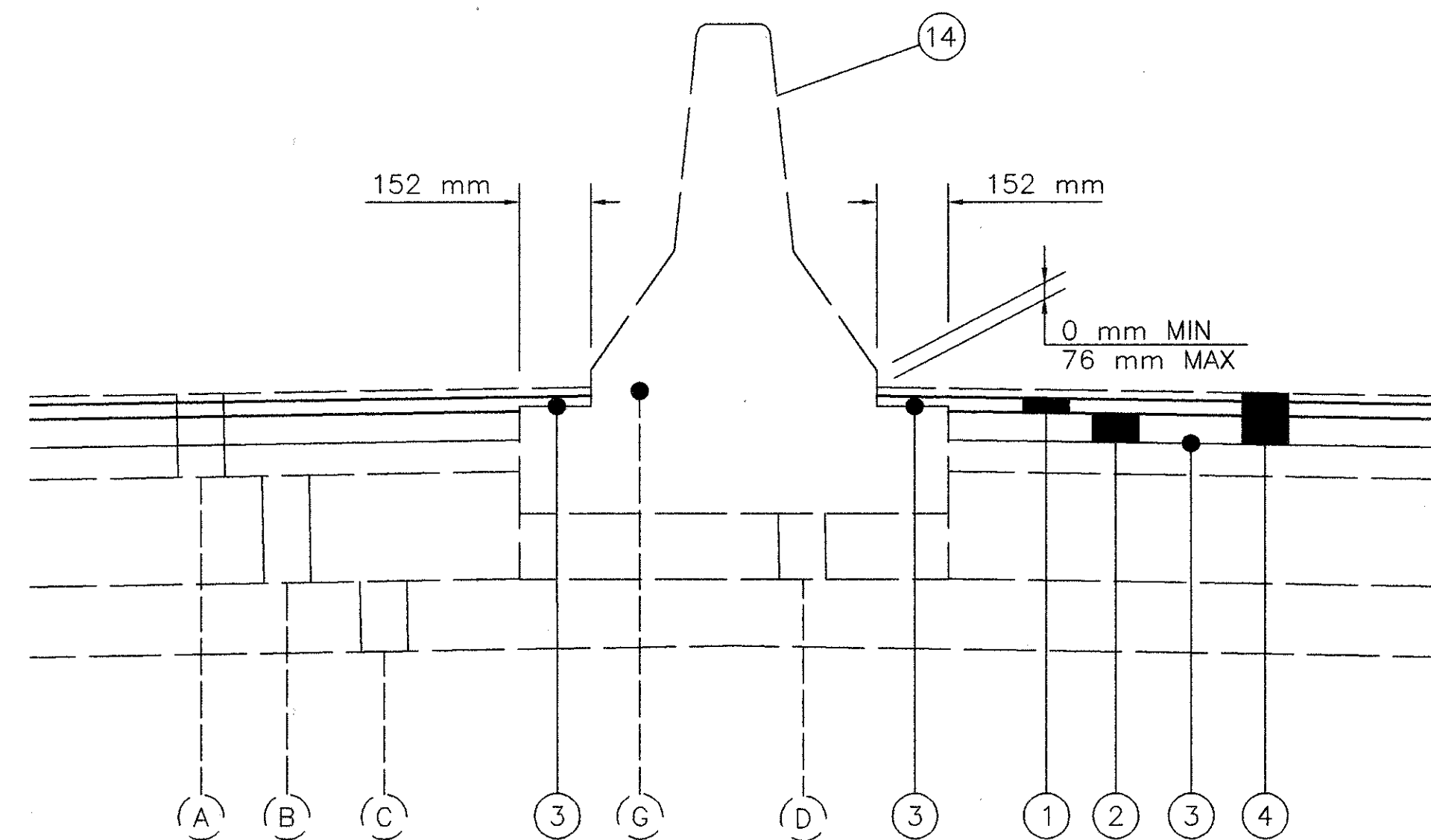
EXISTING CONCRETE MEDIAN REMOVAL
LIMITING STATIONS

STA. 53+863.998 TO STA. 53+870.988	=	6.990
STA. 53+897.066 TO STA. 54+208.109	=	311.043
STA. 54+236.760 TO STA. 54+417.860	=	181.100
STA. 54+607.543 TO STA. 54+614.422	=	6.879
TOTAL	=	506.012 m



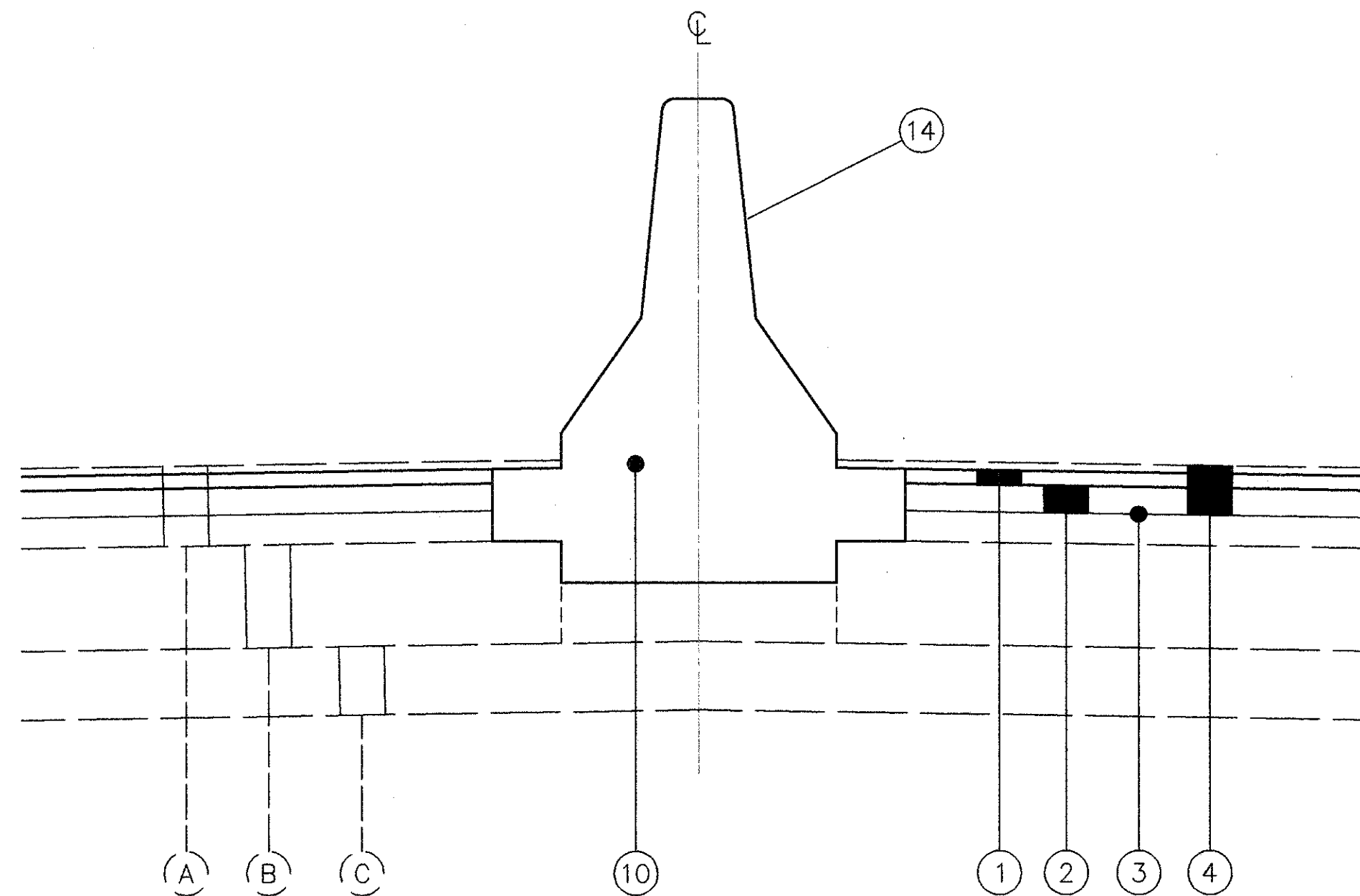
NEW CONCRETE MEDIAN, AS PER PLAN
LIMITING STATIONS

STA. 54+077.530 TO STA. 54+208.109	=	130.579
STA. 54+236.760 TO STA. 54+381.348	=	144.588
TOTAL	=	275.167 m



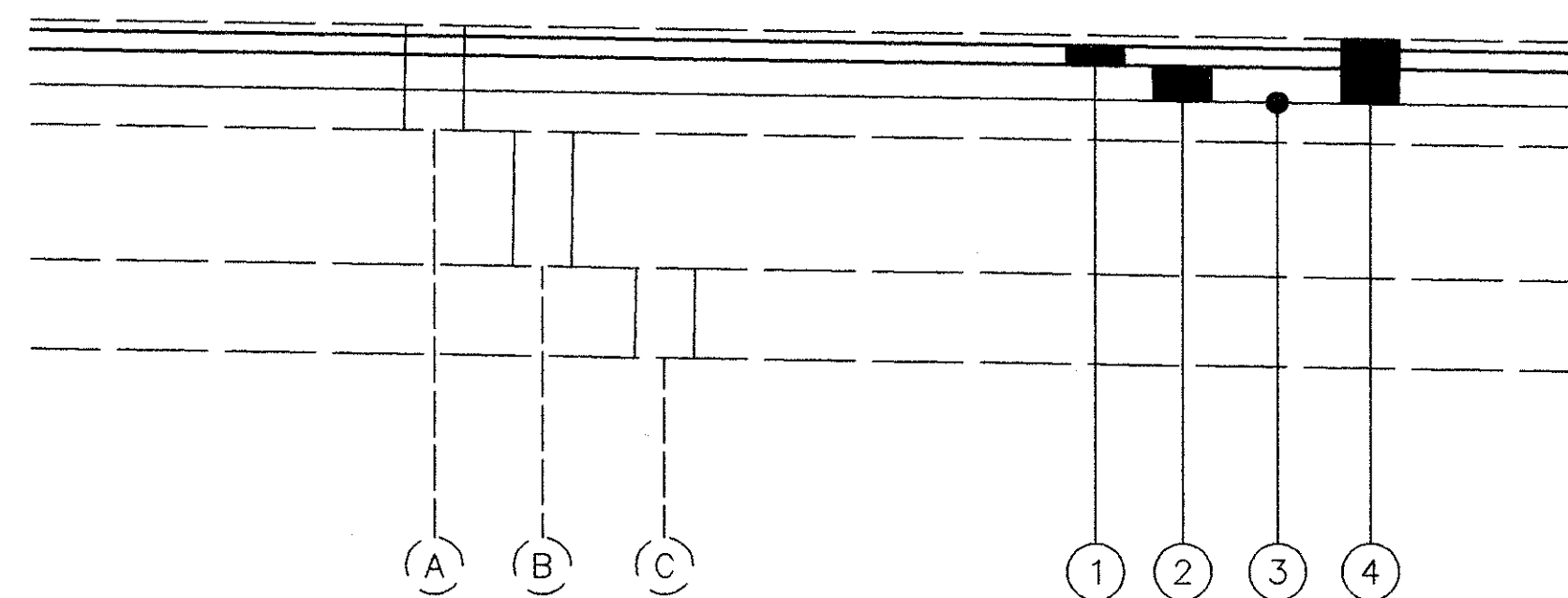
EXISTING CONCRETE BARRIER MEDIAN
LIMITING STATIONS

STA. 53+620.000 TO STA. 53+857.902	=	237.902
STA. 54+620.518 TO STA. 55+619.253 BACK	=	998.735
STA. 0+000.000 AHEAD TO STA. 0+591.312	=	591.312
TOTAL	=	1827.949 m

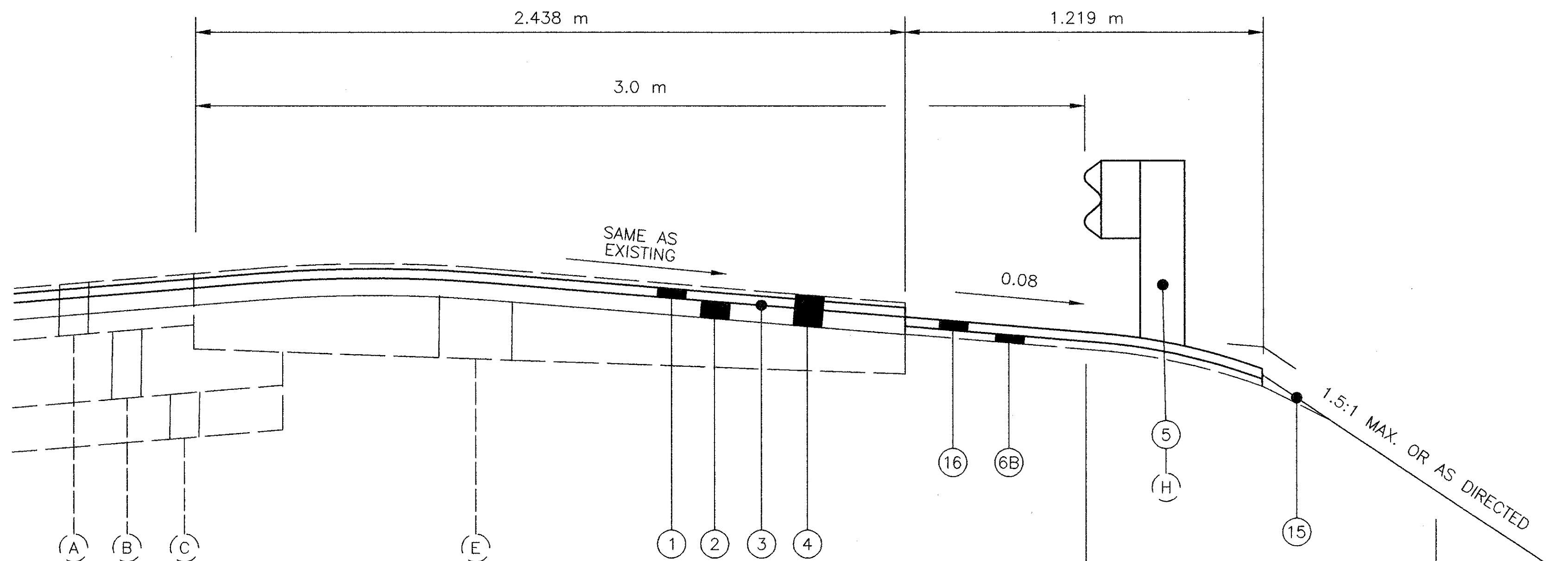


NEW CONCRETE BARRIER MEDIAN, AS PER PLAN
LIMITING STATION

STA. 53+857.902 TO STA. 53+870.988	=	13.086
STA. 53+897.066 TO STA. 54+071.530	=	174.464
STA. 54+387.67 TO STA. 54+410.24	=	22.570
STA. 54+615.16 TO STA. 54+620.52	=	5.360
TOTAL	=	215.480 m

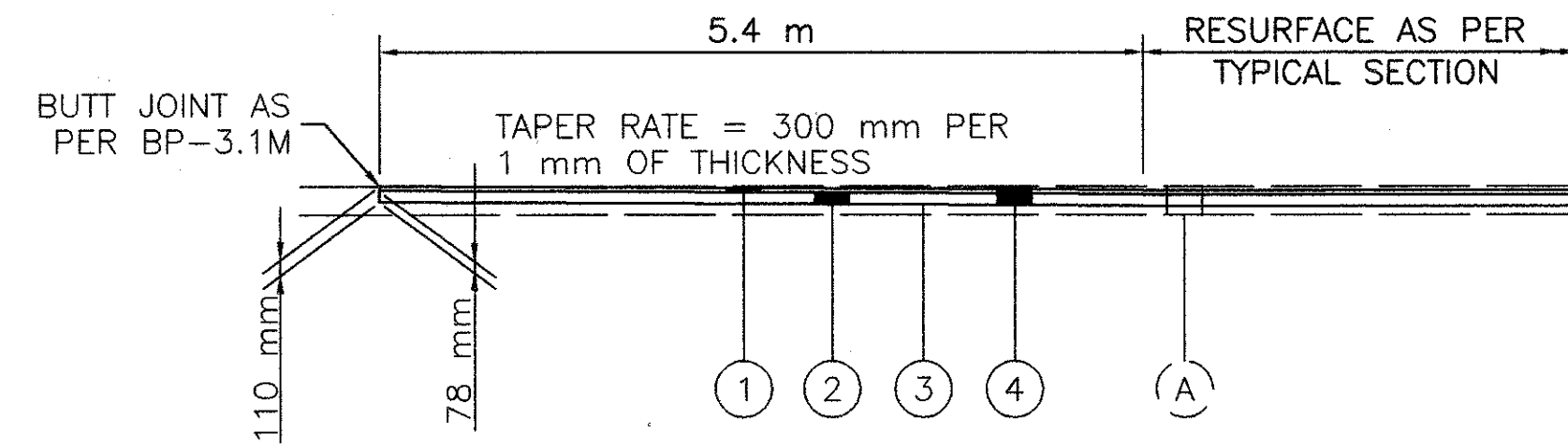


MAINLINE PAVEMENT SECTION OVERLAY



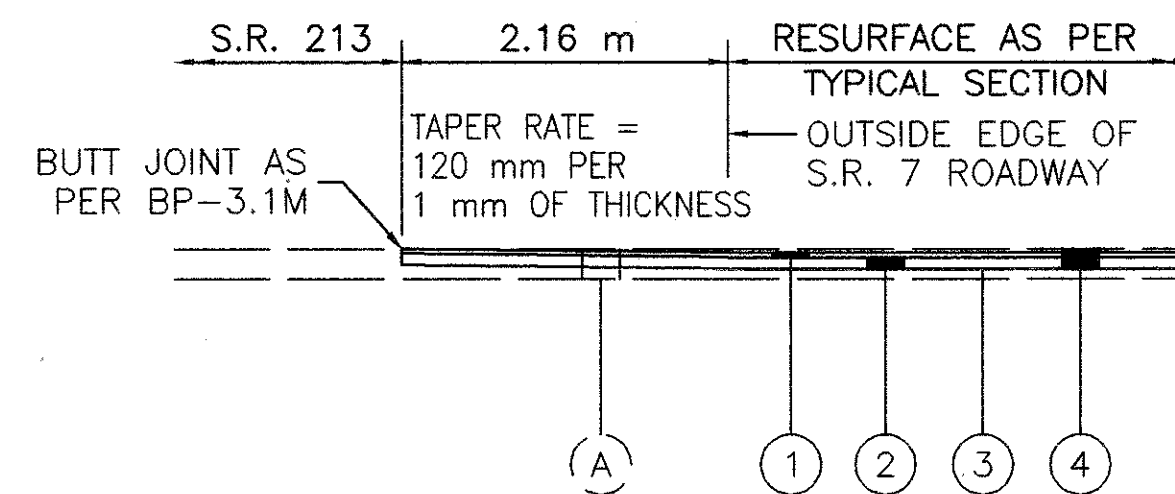
SHOULDER PAVEMENT SECTION OVERLAY

CROSS REFERENCES	
SHT.NO	ITEM
3	EXISTING AND PROPOSED LEGEND
28-31	TYPICAL SECTIONS
28-31	MEDIAN DETAILS



FEATHER DETAIL
AT BEGINNING AND END OF PROJECT
LIMITING STATIONS

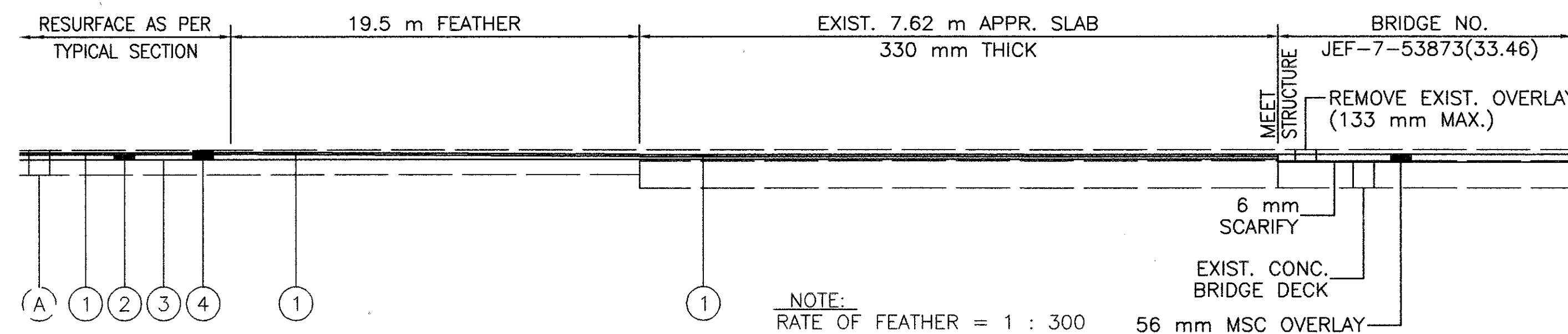
NB & SB STA. 53+614.60 TO STA. 53+620.00 = 5.4 m
NB & SB STA. 0+591.31 TO STA. 0+596.71 = 5.4 m
= 10.8 m



FEATHER DETAIL
AT S.R. 213
LIMITING STATIONS

S.R. 213 STA. 1+239.89 TO STA. 1+242.05 = 2.16 m

NOTE:
S.R. 213 FEATHER TO BEGIN AT OUTSIDE
EDGE OF S.R. 7 ROADWAY.

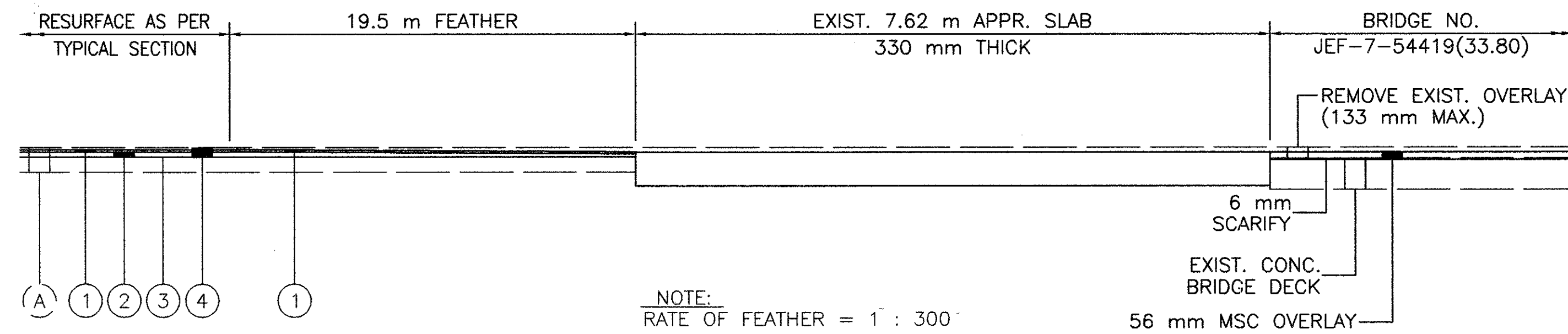


FEATHER DETAIL
AT STRUCTURE NO. JEF-7-53873(33.46)
FEATHER LIMITING STATIONS

NB & SB STA. 53+843.87 TO STA. 53+863.37 = 19.5 m
NB & SB STA. 53+904.69 TO STA. 53+924.19 = 19.5 m
TOTAL = 39.0 m

APPROACH SLAB RESURFACING LIMITING STATIONS

NB & SB STA. 53+863.37 TO STA. 53+870.99 = 7.62 m
NB & SB STA. 53+897.07 TO STA. 53+904.69 = 7.62 m
TOTAL = 15.24 m



FEATHER DETAIL
AT STRUCTURE NO. JEF-7-54419(33.80)
FEATHER LIMITING STATIONS

NB & SB STA. 54+390.74 TO STA. 54+410.24 = 19.5 m
NB & SB STA. 54+615.16 TO STA. 54+634.66 = 19.5 m
TOTAL = 39.0 m

APPROACH SLAB RESURFACING LIMITING STATIONS

NB & SB STA. 54+410.24 TO STA. 54+417.86 = 7.62 m
NB & SB STA. 54+607.54 TO STA. 54+615.16 = 7.62 m
TOTAL = 15.24 m

UTILITIES

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS.

1. ELECTRIC:
AEP OHIO POWER-
301 CLEVELAND AVE. SW
P.O. BOX 24630
CANTON, OHIO 44701-4630
TELEPHONE: (330) 438-7721

3. HIGHWAY LIGHTING:
OHIO DEPT. OF TRANSPORTATION
DISTRICT 11
2201 REISER AVE. S.E.
NEW PHILADELPHIA, OHIO 44663-1000
(216) 339-6633
2. AMERITECH
2933 SALT SPRING ROAD
YOUNGSTOWN, OHIO 44509
TEL. (330) 270-8810

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

PROFILE AND ALIGNMENT

THE PROPOSED PAVEMENT RESURFACING SHALL FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. THE PROPOSED ASPHALT CONCRETE OVERLAY SHALL HAVE A UNIFORM THICKNESS OF 92 mm AS SHOWN ON THE TYPICAL SECTIONS.

PREVIOUS CONSTRUCTION PLANS

THE FOLLOWING CONSTRUCTION PLANS ARE AVAILABLE FOR REFERENCE BY CONTACTING THE DISTRICT 11 OFFICE IN NEW PHILADELPHIA, OHIO:

JEF-7-(33.83-34.10) & COL-7-(0.00-0.50)	1957
JEF-7-34.29	1967
COL-7-0.37	1971
JEF-7-(26.49), (30.77) & COL-7-0.00	1979
COL-7-0.37	1990
JEF-213-(18.11-18.71)	1978

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON U.S.G.S. DATUM UNLESS OTHERWISE NOTED.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TEMPORARY TRAFFIC CONTROL AND TEMPORARY TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS SHALL BE PROVIDED BY THE CONTRATOR WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A "W-BEAM RAIL SPLICE" AS SHOWN ON STANDARD CONSTRUCTION DRAWINGS GR-1.1M AND GR-1.2M. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

SAME SEASON COMPLETION OF SURFACE COURSE

ANY LENGTH OF RESURFACING WORK STARTED IN A CONSTRUCTION SEASON SHALL HAVE THE SURFACE COURSE PLACED THAT SAME CONSTRUCTION SEASON.

ITEM 202 CONCRETE MEDIAN REMOVED, AS PER PLAN

THIS ITEM SHALL CONSIST OF REMOVING THE EXISTING CONCRETE MEDIAN WHICH IS INTEGRAL WITH THE APPROACH SLABS AT BRIDGE NO. JEF-7-53873 (33.46).

THE REMOVAL SHALL BE ACCOMPLISHED BY HORIZONTALLY SAWING OR CUTTING THE CONCRETE MEDIAN IN A MANNER WHICH DOES NOT SPALL OR OTHERWISE DAMAGE THE APPROACH SLABS.

PAYMENT FOR THE ABOVE WORK WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 202, SQ. METER, CONCRETE MEDIAN REMOVED, AS PER PLAN, AND SHALL INCLUDE THE COST OF ALL LABOR, TOOLS, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

ITEM 202 RAISED PAVEMENT MARKER REMOVED FOR STORAGE AS PER PLAN

THIS ITEM SHALL MEET THE CONDITIONS OF ITEM 202.071 EXCEPT THAT THE REQUIREMENT FOR DEPRESSION FILLING SHALL BE WAIVED.

ITEM 203 LINEAR GRADING, METHOD A

THIS WORK SHALL INCLUDE THE EXCAVATION AND EMBANKMENT REQUIRED TO GRADE BEYOND THE PAVED SHOULDERS. THE EXCAVATED MATERIAL SHALL BE REPLACED WITH COMPACTABLE GRANULAR MATERIAL CONFORMING TO 203.02, PLACED TO GRADE AS DETAILED ON THE TYPICAL SECTION. VEGETATION, MATERIAL BUILDUP, AND COLLECTED DEBRIS ON THE SHOULDER OR WITHIN THE LINEAR GRADING LIMITS SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR AS PER 203.05, OR WASTED OVER FILL SLOPES AT THE DIRECTION OF THE ENGINEER. THE GRADED AREA SHALL BE SEEDED AS PER 659.

THIS ITEM APPLIES TO MAINLINE AND RAMP SHOULDER AREAS WITHOUT PAVING UNDER THE GUARDRAIL.

LINEAR WIDTHS SHOWN ON THE PLAN REPRESENT MINIMUM REQUIREMENTS, AND THE ENGINEER MAY INCREASE THESE WIDTHS AS DETERMINED BY HIS ANALYSIS OF PROJECT CONDITIONS AT NO ADDITIONAL COST TO THE STATE.

A QUANTITY OF 8 CUBIC METERS OF ITEM 203, BORROW, TO BE USED AS DIRECTED BY THE ENGINEER, HAS BEEN INCLUDED IN THE GENERAL SUMMARY AS PER 203.04(G).

PAYMENT FOR THE ABOVE WORK, EXCEPT FOR ITEM 659, WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 203, KILOMETER, LINEAR GRADING, METHOD A, AND SHALL INCLUDE THE COST OF ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS AS NECESSARY TO COMPLETE THE WORK.

PAVING UNDER GUARDRAIL

THIS OPERATION SHALL INCLUDE PREPARATION OF THE GRADED SHOULDER USING ITEM 203, LINEAR GRADING, METHOD B, AND PAVING UNDER THE GUARDRAIL USING ITEM 448, ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1 (UNDER GUARDRAIL), AS PER PLAN.

ITEM 203, LINEAR GRADING, METHOD B, SHALL CONSIST OF EXCAVATING TOPSOIL, PLACING GRANULAR MATERIAL AND APPLYING HERBICIDE AS SPECIFIED IN THE PLANS AND IN ACCORDANCE WITH THE FOLLOWING:

ALL COLLECTED DEBRIS AND TOPSOIL, INCLUDING RHIZOMES, ROOTS AND OTHER VEGETATIVE PLANT MATERIAL SHALL BE REMOVED AND DISPOSED OF AS SPECIFIED IN ITEM 203.05.

THE REMOVED MATERIAL SHALL BE REPLACED WITH COMPACTABLE GRANULAR MATERIAL CONFORMING TO ITEM 203.02 PLACED TO GRADE AS DETAILED ON THE TYPICAL SECTION OR AS APPROVED BY THE ENGINEER.

HERBICIDE SHALL BE TREFLAN E.C., SPIKE OR AN APPROVED EQUAL AND SHALL BE APPLIED TO THE PREPARED AREA AFTER FINAL LEVELING AND GRADING HAS BEEN COMPLETED. THE APPLICATION SHALL BE JUST PRIOR TO PAVING AND SHALL STRICTLY ADHERE TO THE MANUFACTURER'S INSTRUCTIONS.

ONLY PROPERLY LICENSED PERSONNEL SHALL APPLY HERBICIDES AS REQUIRED BY THE OHIO REVISED CODE.

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 203, LINEAR GRADING, METHOD B.

PAVING UNDER GUARDRAIL SHALL CONSIST OF PLACING ITEM 448 TO THE DEPTH SPECIFIED USING THE FOLLOWING METHOD:

- 1) PLACE ITEM 448 FLUSH W/ TOP OF 446 INTERMEDIATE COURSE

2) BORE ASPHALT AT POST LOCATION (MAY BE OMITTED IF STEEL POSTS ARE USED)

3) SET GUARDRAIL POSTS

4) PATCH AROUND POSTS. THE MATERIALS USED FOR PATCHING SHALL BE A BITUMINOUS CONCRETE APPROVED BY THE ENGINEER. PATCHED AREAS SHALL BE COMPACTED USING EITHER HAND OR MECHANICAL METHODS. FINISHED SURFACES SHALL BE SMOOTH AND SLOPED TO DRAIN AWAY FROM THE POSTS.

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE, WITH THE EXCEPTION OF SETTING GUARDRAIL POSTS, SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 448, ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1 (UNDER GUARDRAIL) AS PER PLAN.

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES:

ITEM 207 - STRAW OR HAY BALES	200	EACH
ITEM 207 - FILTER FABRIC FENCE	300	METER

TACK COAT APPLICATION

THE RATE OF APPLICATION OF THE 407 TACK COAT SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.34 LITERS PER SQUARE METER OF TACK COAT FOR ESTIMATING PURPOSES ONLY.

ITEM 606 ANCHOR ASSEMBLY TYPE E

THIS ITEM SHALL CONSIST OF FURNISHED AND INSTALLING AN ET-2000, OPTION "B", GUARDRAIL END TERMINAL AS MANUFACTURED BY SYRO STEEL COMPANY, 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 216-545-4373).

THE LENGTH OF THE ET-2000 SYSTEM IS CONSIDERED TO BE 15.24 m, INCLUSIVE OF TWO 7.62 m LONG RAIL ELEMENTS. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND AT THE LOCATIONS SHOWN IN THE PLANS.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT BID PRICE FOR ITEM 606, EACH, ANCHOR ASSEMBLY, TYPE E AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED HARDWARE, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

ITEM 659 SEEDING AND MULCHING

QUANTITIES FOR THIS ITEM ARE CALCULATED FOR SOIL AREAS FROM LINEAR GRADING, METHOD A AND METHOD B.

ITEM 659 WATER

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER TO PROMOTE GROWTH AND TO CARE FOR PERMANENT SEEDED AREAS PER 659.09:

ITEM 659 - WATER	56	CU. METER
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ITEM SPECIAL SEALING OF CONCRETE SURFACES (EPOXY)

AN EPOXY CONCRETE SEALER SHALL BE APPLIED TO THE FOLLOWING SURFACES AS SHOWN IN THE TYPICAL SECTIONS:

- 1) THE PROPOSED 622 TYPE A, CONCRETE BARRIER.

2) THE PROPOSED 612 CONCRETE MEDIAN.

3) THE EXISTING TYPE A CONCRETE BARRIER.

THE SEALING OPERATIONS SHALL BE COMPLETED PRIOR TO MOUNTING THE 802 BARRIER REFLECTORS.

REFER TO THE PROPOSAL NOTE FOR SURFACE PREPARATION REQUIREMENTS, APPLICATION RATES, MATERIAL REQUIREMENTS, AND APPLICATION PROCEDURES.

MONUMENTS

MONUMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH DETAILS AS SHOWN ON THE STANDARD CONSTRUCTION DRAWINGS AND AT THE LOCATIONS SHOWN BELOW.

ITEM 604 - REFERENCE MONUMENT			
LOCATION	NEW OFFSET FROM C S.R. 7		CENTERLINE REFERENCE MONUMENTS
	LT	RT	
	METER		EACH
54+051.999 T.S.	10.820	10.820	2
TOTAL CARRIED TO GENERAL SUMMARY			2

ITEM 254. PATCHING PLANED SURFACE

THE FOLLOWING QUANTITY, WHICH IS ESTIMATED TO BE 10% OF THE PLANED PAVEMENT AREA, IS TO BE USED AS DIRECTED BY THE ENGINEER, AND HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THE PURPOSE OF PATCHING THE PLANED SURFACE AS PER 254.05:

ITEM 254, PATCHING PLANED SURFACE-----2385 SQ. METER

ITEM SPECIAL, IMPACT ATTENUATOR, QUADGUARD TYPE

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING AN IMPACT ATTENUATOR AS REQUIRED IN THE PLANS, AND SHALL ALSO INCLUDE ALL RELATED HARDWARE, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER TO CONSTRUCT A COMPLETE AND FUNCTIONAL QUADGUARD IMPACT ATTENUATOR SYSTEM.

THE ATTENUATOR SHALL BE PLACED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS, AND AT THE LOCATIONS SHOWN IN THE PLANS. THE ATTENUATOR SHALL BE MANUFACTURED BY ENERGY ABSORPTION SYSTEMS, INC., AND IS DISTRIBUTED BY BALDWIN & SOURS, 5263 TRAUBE ROAD, COLUMBUS, OHIO 43228 (TELEPHONE: 614-851-8800).

THE BACKUP SYSTEM SHALL BE A TENSION STRUT DESIGN. WHEN A TWO-WAY TRAFFIC CONDITION EXISTS, A TRANSITION PANEL SHALL BE USED ON THE SIDE WHERE A VEHICLE COULD IMPACT THE BACKUP ASSEMBLY. THE MANUFACTURER SHALL PROVIDE ADDITIONAL DETAILS FOR THE BACKUP SYSTEM, INCLUDING REVISIONS NECESSARY FOR A PROPER INSTALLATION. ALL COSTS ASSOCIATED WITH THE BACKUP SYSTEM SHALL BE CONSIDERED INCIDENTAL TO, AND INCLUDED WITH THE COST OF THE IMPACT ATTENUATOR.

THE NOSE COVER OF THE ATTENUATOR SHALL BE MARKED WITH THREE EVENLY SPACED FOUR INCH WIDE HORIZONTAL STRIPES OF WHITE REFLECTIVE MATERIAL MEETING THE REQUIREMENTS OF 730.19 FOR A PERMANENT INSTALLATION.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSPECTING, MAINTAINING, REPAIRING, AND OTHERWISE RESTORING THE IMPACT ATTENUATOR IN ACCORDANCE WITH THE MANUFACTURER'S MAINTENANCE INSTRUCTIONS WHILE THE ATTENUATOR IS IN USE DURING CONSTRUCTION OF THE PROJECT. IF THE ATTENUATOR GETS DAMAGED BEYOND REPAIR DUE TO VEHICULAR IMPACT PRIOR TO ACCEPTANCE BY THE STATE, IT SHALL BE REPLACED WITHIN 24 HOURS OF THE INCIDENT THAT CAUSED DAMAGE TO THE ATTENUATOR. IN ADDITION TO ANY EXTRA UNITS SUPPLIED FOR THIS PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPLYING ALL NECESSARY LABOR, MATERIALS, HARDWARE, EQUIPMENT, AND INCIDENTALS REQUIRED TO PERFORM THE ABOVE DESCRIBED REPLACEMENT OF THE ATTENUATOR.

THE ESTIMATED QUANTITY BELOW SHALL BE USED AS DIRECTED BY THE ENGINEER FOR USE IN THE ABOVE-MENTIONED REPLACEMENT ONLY WHEN THE ENGINEER DECIDES THAT MINOR OR MAJOR REPAIRS CANNOT BE PERFORMED WITHIN THE 24 HOUR TIME LIMITATION:

ITEM SPECIAL, REPLACEMENT IMPACT ATTENUATOR,

QUADGUARD TYPE ----- 1 EACH

THE PERMANENTLY INSTALLED IMPACT ATTENUATORS SHALL BE BID AS ITEM SPECIAL, EACH, IMPACT ATTENUATOR, QUADGUARD TYPE.

THE MODEL NUMBER OF THE PERMANENT UNIT AND THE REPLACEMENT UNIT SHALL BE QS2406Y (BI-DIRECTIONAL).

FOR LOCATIONS AND QUANTITIES OF THE PERMANENTLY INSTALLED ATTENUATORS, SEE SHEET NO. 21.

PAYMENT FOR THE ABOVE WORK, INCLUDING FURNISHING, INSTALLING, MAINTAINING, AND RESTORING THE ATTENUATOR AFTER EACH VEHICULAR IMPACT, WILL BE MADE AT THE CONTRACT PRICE FOR ITEM SPECIAL, EACH, IMPACT ATTENUATOR, QUADGUARD TYPE, AND SHALL INCLUDE THE COST OF ALL LABOR, MATERIALS, HARDWARE, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

ITEM 611 REINFORCED CONCRETE APPROACH SLAB (T = 390 mm), AS PER PLAN

THE REINFORCING STEEL FOR THE APPROACH SLABS OF BRIDGE NO. JEF-7-54419(33.80) SHALL BE EPOXY COATED IN CONFORMANCE WITH ITEM 509.

TWO SEPARATE THICKNESSES OF CLEAR OR OPAQUE POLYETHYLENE FILM, 705.06, SHALL BE PLACED ON THE PREPARED SUBBASE AND WHERE THE APPROACH SLAB IS TO BE CONSTRUCTED. THE POLYETHYLENE FILMS SHALL COMPLETELY COVER THE FULL LENGTH AND WIDTH OF THE SUBBASE BETWEEN THE SIDEWALL FORMS FOR THE APPROACH SLAB.

ALL MATERIALS, LABOR AND INSTALLATION SHALL BE INCLUDED FOR PAYMENT IN THE CONTRACT UNIT PRICE FOR ITEM 611 REINFORCED CONCRETE APPROACH SLAB (T= 390 mm), AS PER PLAN.

ITEM 612, CONCRETE MEDIAN, AS PER PLAN 'A' OR 'B'

THIS ITEM OF WORK SHALL CONSIST OF CONSTRUCTING CONCRETE MEDIAN AS PER STANDARD DRAWING RM-3.1M EXCEPT FOR THE FOLLOWING DEVIATIONS:

AS PER PLAN 'A': THE MEDIAN HEIGHT SHALL BE 102 mm (TYP.) IN LIEU OF 150 mm AS SHOWN ON STANDARD DRAWING.

AS PER PLAN 'B': THE MEDIAN HEIGHT AND WIDTH VARIES, AS DETAILED ON SHEET 29. THIS IS TRANSITION UNDER G.R.E.A.T. IMPACT ATTENUATOR.

PAYMENT FOR THE ABOVE WORK WILL BE MADE AT THE RESPECTIVE CONTRACT PRICE FOR ITEM 612, METER, CONCRETE MEDIAN, AS PER PLAN 'A' OR ITEM 612, METER, CONCRETE MEDIAN, AS PER PLAN 'B' AND SHALL INCLUDE THE COST OF ALL LABOR, MATERIALS, EQUIPMENT AND INCEDENTALS AS NECESSARY TO COMPLETE THE WORK.

ITEM 622, CONCRETE BARRIER, TYPE A, AS PER PLAN 'A', 'B', OR 'C'

THIS ITEM OF WORK SHALL CONSIST OF CONSTRUCTING TYPE A CONCRETE BARRIER AS PER STANDARD CONSTRUCTION DRAWING RM4.3M EXCEPT FOR THE FOLLOWING DEVIATIONS:

AS PER PLAN 'A': THE TOP PORTION VARIES IN WIDTH AND SHAPE AS DETAILED ON SHEETS 30 & 31. THIS IS A TRANSITION AREA FROM G.R.E.A.T. ATTENUATOR (CONCRETE MEDIAN, AS PER PLAN 'B') TO ITEM 622, CONCRETE BARRIER, TYPE A.

AS PER PLAN 'B': THE TOP PORTION VARIES IN WIDTH AND SHAPE AND THE BASE VARIES IN THICKNESS TO MATCH THE APPROACH SLABS AS DETAILED ON SHEETS 30 & 31. THIS IS A TRANSITION FROM BRIDGE BARRIER TO ITEM 622, CONCRETE BARRIER, TYPE A.

AS PER PLAN 'C': THE TOP AND BOTTOM PORTION VARIES IN WIDTH AND SHAPE AS DETAILED ON SHEETS 30 & 31 THIS IS A TRANSITION FROM EXISTING BARRIER TO ITEM 622, CONCRETE BARRIER, TYPE A.

PAYMENT FOR THE ABOVE WORK WILL BE MADE AT THE RESPECTIVE CONTRACT PRICE FOR ITEM 622, METER, CONCRETE BARRIER, TYPE A, AS PER PLAN 'A' ITEM 622, METER, CONCRETE BARRIER, TYPE A, AS PER PLAN 'B', OR ITEM 622, METER, CONCRETE BARRIER, TYPE A, AS PER PLAN 'C', AND SHALL INCLUDE THE COST OF ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS AS NECESSARY TO COMPLETE THE WORK.

ITEM 202, INLET, CATCH BASIN, MANHOLE, AND PIPE CLEANOUT

THIS ITEM SHALL CONSIST OF REMOVING ALL FOREIGN MATERIAL, MATERIAL BUILDUP, AND OBSTRUCTIONS FROM THE INSIDE OF EXISTING INLETS, CATCH BASINS, MANHOLES, AND CONDUITS.

THE CLEANOUT SHALL BE ACCOMPLISHED BY USING A HIGH PRESSURE WATER JET, VACU-JET, OR ANY OTHER METHOD AS APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL DISPOSE OF ALL COLLECTED MATERIAL AND DEBRIS AS PER 203.05.

FOR LOCATIONS AND QUANTITIES, SEE SHEET NO. 32.

PAYMENT FOR THE ABOVE WORK WILL BE MADE AT THE RESPECTIVE CONTRACT PRICE FOR ITEM 202, EACH, INLET CLEANOUT, ITEM 202, EACH, CATCH BASIN CLEANOUT, ITEM 202, EACH, MANHOLE CLEANOUT, AND ITEM SPECIAL, METER, PIPE CLEANOUT, AND SHALL INCLUDE THE COST OF ALL LABOR, TOOLS, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

STATION MARKING IN CONCRETE BARRIER AND CONCRETE MEDIAN

CENTERLINE STATIONING SHALL BE IMPRESSED IN THE "GREEN" CONCRETE ON BOTH SIDES OF ITEM 622, CONCRETE BARRIER, TYPE A, AND ON THE TOP OF ITEM 612, CONCRETE MEDIAN.

THE STATIONING SHALL BE MARKED AT EVEN 50 METER INTERVALS. THE FORMAT OF THE STATIONING SHALL BE "S+SSS" FOR FULL STATIONS, AND "+SSS" FOR 50 METER STATIONS.

PAYMENT FOR THE ABOVE SHALL BE INCIDENTAL TO THE COST OF THE PERTINENT ITEM 622, CONCRETE BARRIER AND ITEM 612, CONCRETE MEDIAN ITEMS.

EROSION CONTROL

ITEM 670 IS PROVIDED IN THE PLANS FOR EROSION CONTROL. ROCK OF A STABLE NATURE SHALL NOT BE REMOVED IN ORDER TO PLACE THIS ITEM. THE ENGINEER SHALL CHECK AND NON-PERFORM QUANTITIES OR ADJUST LOCATIONS AND QUANTITIES OF THIS ITEM WHERE INDICATED BY FIELD CONDITIONS DURING CONSTRUCTION. IN ADDITION, THIS ITEM SHALL MEET THE REQUIREMENT OF 108.04.

PAVING AT MEDIAN INLETS

THE CONTRACTOR SHALL EXERCISE SPECIAL CARE DURING PAVING OPERATIONS AT MEDIAN INLETS TO PREVENT THE ENTRANCE OF ASPHALT CONCRETE. ALL SUCH ASPHALT CONCRETE RESULTING FROM CONSTRUCTION OPERATIONS SHALL BE REMOVED FROM THE MEDIAN INLET. AT THE EXPENSE OF THE CONTRACTOR.

GENERAL NOTES

JEF/COL-7-53.620/0.000

ITEM 614 – MAINTAINING TRAFFIC

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES BY USE OF THE EXISTING PAVEMENT AND THE COMPLETED PAVEMENT. LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

CONSTRUCTION WORK SHALL BE PERMITTED ON ONLY ONE SIDE OF THE DIRECTIONAL ROADWAY AT A TIME AND ANY OPEN PAVEMENT SHALL BE ADEQUATELY MAINTAINED AND PROTECTED WITH BARRICADES, DRUMS, OR VERTICAL PANELS. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR BE PERMITTED TO HAVE WORK ZONES THAT ALTERNATELY CLOSE BOTH THE PASSING LANE AND THE TRAVEL LANE.

THE NORTHBOUND AND SOUTHBOUND PASSING LANES SHALL BE SIMULTANEOUSLY CLOSED DURING CONCRETE MEDIAN BARRIER CONSTRUCTION ON THIS PROJECT. PORTABLE CONCRETE BARRIER, 813 mm SHALL BE FURNISHED, INSTALLED AT THE BRIDGES, MAINTAINED, AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR. ALL INSTALLATIONS SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

TRAFFIC SHALL BE MAINTAINED AS PER STANDARD DRAWING MT-95.30M & MT-95.40M DURING CONSTRUCTION.

TWO LANES OF TRAFFIC SHALL NOT BE PERMITTED ACROSS BRIDGE NO. JEF-7-53873(33.46) AND JEF-7-54419(33.80) ON WHICH ONLY ONE LANE OF REHABILITATION HAS BEEN COMPLETED.

ACCESS SHALL BE MAINTAINED TO AND FROM S.R. 213 AND THE ADJACENT ROADSIDE REST AREA AT ALL TIMES. THE LIMITS AND DURATION OF ANY TRAFFIC STOPPAGE SHALL AT ALL TIMES BE SUBJECT TO THE DIRECTION OF THE ENGINEER.

SPEED CHANGE LANES

SPEED CHANGE LANE TRAFFIC SHALL BE MAINTAINED AT ALL TIMES BY USE OF PORTIONS OF THE EXISTING AND/OR RESURFACED PAVEMENT AND EXISTING SHOULDERS.

CONTRACTOR'S EQUIPMENT – OPERATION AND STORAGE

THE CONTRACTOR'S EQUIPMENT SHALL BE OPERATED IN THE DIRECTION OF TRAFFIC. A QUALIFIED FLAGGER SHALL BE EMPLOYED WHERE THE CONTRACTOR'S EQUIPMENT MUST MERGE WITH THE TRAFFIC STREAM. THE CONTRACTOR'S EQUIPMENT SHALL BE EQUIPPED WITH AT LEAST ONE (1) AMBER FLASHING LIGHT. PAVERS, ROLLERS AND OTHER EQUIPMENT MAY BE PARKED IN AREAS ALONG THE HIGHWAY WHEN PAVEMENT REPAIR OR PAVING OPERATIONS ARE SCHEDULED TO CONTINUE WITHIN THE NEXT WORKDAY; OTHERWISE, THE EQUIPMENT SHALL BE STORED AT A STORAGE AREA, THE LOCATION OF WHICH SHALL HAVE PRIOR APPROVAL OF THE ENGINEER. WHEN PARKING ALONG THE HIGHWAY, THE EQUIPMENT SHALL BE PARKED EITHER TEN (10) METERS FROM THE OUTSIDE EDGE OF PAVEMENT OR TWO (2) METERS BEHIND GUARDRAIL WITH A MINIMUM OF 38.1 METERS OF GUARDRAIL PRECEDING THE EQUIPMENT. ALL OTHER EQUIPMENT, INCLUDING PRIVATE VEHICLES SHALL BE STORED AT THE APPROVED CONTRACTOR'S STORAGE AREA.

THE CONTRACTOR SHALL DESIGNATE AN INDIVIDUAL OTHER THAN THE SUPERINTENDENT AND SUBJECT TO THE APPROVAL OF THE ENGINEER, TO CONTINUOUSLY INSPECT ALL TRAFFIC CONTROL DEVICES WHENEVER CONSTRUCTION WORK IS BEING PERFORMED WITHIN THE WORK LIMITS OF THE PROJECT. THE DESIGNATED INDIVIDUAL SHALL ALSO INSPECT ALL TRAFFIC CONTROL DEVICES AT THE END OF EACH WORK DAY. THE DESIGNATED INDIVIDUAL SHALL ALSO BE AVAILABLE ON AN AROUND-THE-CLOCK BASIS TO REPAIR AND/OR REPLACE DAMAGED OR MISSING TRAFFIC CONTROL DEVICES. PAYMENT FOR THE TRAFFIC CONTROL INSPECTOR SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 – MAINTAINING TRAFFIC.

GENERAL

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH ITEM 614 AND OTHER APPLICABLE PORTIONS OF THE CONSTRUCTION AND MATERIALS SPECIFICATIONS AS WELL AS IN ACCORDANCE WITH PART 7 OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

TRAFFIC SHALL BE MAINTAINED AS SPECIFIED BY USE OF THE EXISTING AND/OR RESURFACED PAVEMENT AND SHOULDERS.

IF THE PROJECT IS SHUT DOWN FOR WINTER AND THE PERMANENT PAVEMENT MARKINGS HAVE NOT BEEN APPLIED, THEN CLASS I TEMPORARY EDGE LINES AND LANE LINES SHALL BE APPLIED TO EACH DIRECTIONAL ROADWAY FOR THE LENGTH OF THE PROJECT.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR 614 – MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

COVERING OF SIGNS

WHERE THE PLANS CALL FOR A PERMANENT SIGN TO BE COVERED, THE CONTRACTOR SHALL DO SO IN SUCH A MANNER AS TO AVOID DAMAGING THE PERMANENT SIGN WHEN THE COVER IS REMOVED. THE COVER SHALL BE TOTALLY OPAQUE. THE USE OF ADHESIVE TAPE APPLIED DIRECTLY TO A SIGN FACE IS STRICTLY PROHIBITED.

ITEM 614, BARRIER REFLECTORS

REFLECTORS AND THEIR MOUNTING SHALL CONFORM TO ITEM 626 EXCEPT THAT SPACING SHALL BE 7.6 METERS.

ITEM 614, WORK ZONE SPEED LIMIT SIGN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, COVER DURING SUSPENSION OF WORK, AND SUBSEQUENTLY REMOVE WORK ZONE SPEED LIMIT SIGNS AND SUPPORTS (R-10-24 IN THE MEDIAN AND R-10-48 ON OUTSIDE) WITHIN THE WORK LIMITS IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS.

THE CONTRACTOR SHALL COVER OR REMOVE ANY EXISTING SPEED LIMIT OR MINIMUM SPEED SIGNS WITH THE REDUCED SPEED ZONE. THESE SIGNS SHALL BE RESTORED DURING SUSPENSION OR TERMINATION OF THE REDUCED SPEED LIMIT. THE EXPENSE OF COVERING OR REMOVAL AND RESTORATION OF EXISTING SPEED LIMIT OR MINIMUM SPEED SIGNS SHALL BE INCLUDED IN THE PAY ITEM FOR THE WORK ZONE SPEED LIMIT SIGNS.

THE WORK ZONE SPEED LIMIT SIGNS MAY BE ERECTED OR UNCOVERED NO MORE THAN 4 HOURS BEFORE THE ACTUAL START OF WORK. THE SIGNS SHALL BE REMOVED OR COVERED NO LATER THAN 4 HOURS FOLLOWING RESTORATION OF ALL LANES TO TRAFFIC WITH NO RESTRICTIONS, OR SOONER AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL ERECT A WORK ZONE SPEED LIMIT SIGN IN ADVANCE OF ANY LANE RESTRICTION EXPECTED TO LAST AT LEAST 30 DAYS, OR AS DIRECTED BY THE ENGINEER. THE SIGN SHALL BE MOUNTED ON BOTH SIDES OF DIVIDED HIGHWAYS, 150 m IN ADVANCE OF THE LANE REDUCTION TAPER. THE SIGN SHALL BE MOUNTED ON THE RIGHT SIDE, 80 m IN ADVANCE OF THE LANE REDUCTION TAPER ON UNDIVIDED HIGHWAYS. THE SIGN SHALL BE REPEATED, ON THE SIDE NEAREST TRAFFIC, EVERY 1600 m FOR 55 MPH ZONES AND EVERY 800 m FOR 45 MPH ZONES. THESE SIGNS SHALL ALSO BE ERECTED IMMEDIATELY AFTER EACH OPEN ENTRANCE RAMP WITHIN THE ZONE. A SIGN TO INDICATE THE RESUMPTION OF THE STATUTORY SPEED LIMIT SHALL BE ERECTED AT THE END OF ANY REDUCED SPEED ZONE. THIS SIGN SHALL BE AN R-8A.

THE CONTRACTOR MAY USE SIGNS AND SUPPORTS IN USED BUT GOOD CONDITION PROVIDED THE SIGNS MEET CURRENT ODOT SPECIFICATIONS. SIGN FACES SHALL BE REFLECTORIZED WITH TYPE G SHEETING COMPLYING WITH THE REQUIREMENTS OF ITEM 730.19 AND U.S. DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATION FOR TYPE III-C SHEETING, FP-85. WORK ZONE SPEED LIMIT SIGNS SHALL BE MOUNTED ON TWO (2) ITEM 630 GROUND MOUNTED SUPPORTS, NO. 4 POSTS.

WORK ZONE SPEED LIMIT SIGNS AND SUPPORTS WILL BE MEASURED AS THE NUMBER OF SIGN INSTALLATIONS, INCLUDING THE SIGNS AND NECESSARY SUPPORTS. IF A SIGN AND SUPPORT COMBINATION IS REMOVED AND REERECTED AT ANOTHER LOCATION WITHIN THE PROJECT DUE TO CHANGES IN THE SPEED ZONE DIRECTED BY THE ENGINEER, IT SHALL BE CONSIDERED ANOTHER UNIT.

PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE IN PLACE, WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR FURNISHING, ERECTING, MAINTAINING, COVERING DURING SUSPENSION OF WORK, AND REMOVING THE SIGNS AND SUPPORTS.

ITEM 614, BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR THE MAINTENANCE OF TRAFFIC.

ITEM 614 – BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC 20 CU. METER

ITEM 622, PORTABLE CONCRETE BARRIER

IT IS ANTICIPATED THAT THE SAME BARRIER WILL BE USED IN VARIOUS PHASES OF CONSTRUCTION. MOVEMENT OF THE CONCRETE BARRIER BETWEEN PHASES SHALL BE ACCOMPLISHED IN ONE WORKING DAY. FLAGGERS SHALL BE UTILIZED FOR PROTECTION OF VEHICULAR TRAFFIC UNTIL MOVEMENT OF THE BARRIER IS COMPLETE.

GUARDRAIL REPLACEMENT

NO HAZARD SHALL BE LEFT UNPROTECTED EXCEPT FOR THE ACTUAL TIME NECESSARY TO REMOVE THE EXISTING GUARDRAIL, PREPARE THE SITE, AND INSTALL NEW GUARDRAIL IN A CONTINUOUS OPERATION. THE REMOVAL OF ALL GUARDRAIL SHALL AT ALL TIMES BE AS DIRECTED BY THE ENGINEER. NO GUARDRAIL SHALL BE REMOVED UNTIL THE REPLACEMENT MATERIAL IS ON THE SITE, READY FOR INSTALLATION. FAILURE TO COMPLY WITH THIS REQUIREMENT SHALL BE DEEMED SUFFICIENT CAUSE TO ORDER WORK SUSPENDED UNTIL SUCH TIME AS THE ENGINEER IS ASSURED OF COMPLIANCE.

ITEM 614 – LAW ENFORCEMENT OFFICER (WITH PATROL CAR)

IN ADDITION TO THE REQUIREMENTS OF 614 AND THE LATEST EDITION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD), A UNIFORMED LAW ENFORCEMENT OFFICER AND OFFICIAL PATROL CAR WITH WORKING TOP MOUNTED EMERGENCY FLASHING LIGHTS SHALL BE PROVIDED FOR CONTROLLING TRAFFIC FOR THE FOLLOWING TASKS:

1. DURING THE INITIAL SETUP AND TEAR DOWN PERIODS OF LANE CLOSURES AND CHANNELIZATION OF DIRECTIONAL TRAFFIC INTO A REDUCED NUMBER OF LANES.
2. WHEN THE BEGINNING POINT OF A LANE CLOSURE IS SHIFTED SUBSTANTIALLY.

LAW ENFORCEMENT OFFICERS (L.E.O.'S) SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED. THE LEO'S ARE CONSIDERED TO BE EMPLOYED BY THE CONTRACTOR AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR ACTIONS. ALTHOUGH THEY ARE EMPLOYED BY THE CONTRACTOR, THE PROJECT ENGINEER SHALL HAVE CONTROL OVER THEIR PLACEMENT. THE OFFICIAL PATROL CAR SHALL BE A PUBLIC SAFETY VEHICLE AS REQUIRED BY THE OHIO REVISED CODE.

THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THESE SERVICES WITH:

JEFFERSON COUNTY SHERIFF'S DEPARTMENT	OHIO STATE HIGHWAY PATROL
117 NORTH THIRD STREET	STEUBENVILLE POST
STEUBENVILLE, OHIO 43952	901 CADIZ ROAD
ATTN: CHIEF DEPUTY RON TURNER	STEUBENVILLE, OHIO 43952
TELEPHONE: (614) 283-8600	TELEPHONE: (614) 264-1641

LAW ENFORCEMENT OFFICERS WITH PATROL CAR REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614 – LAW ENFORCEMENT OFFICER WITH PATROL CAR. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 614 – LAW ENFORCEMENT OFFICER WITH PATROL CAR 160 HOURS

THE HOURS PAID SHALL INCLUDE MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

IF THE CONTRACTOR WISHES TO UTILIZE LEO'S FOR FLAGGING AND TRAFFIC CONTROL OTHER THAN FOR THAT REQUIRED IN THESE PLANS, HE MAY DO SO AT HIS OWN EXPENSE. PAYMENT FOR THE EXCESS ABOVE THE CONTRACT REQUIREMENTS WILL BE INCLUDED IN ITEM 614 MAINTAINING TRAFFIC.

NOTIFICATION OF WORK ZONE LANE RESTRICTIONS

THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST EIGHTEEN (18) DAYS PRIOR TO IMPLEMENTING ANY WORK ZONE RESTRICTIONS WHICH WILL REDUCE THE WIDTH OR VERTICAL CLEARANCE OF ANY LANE ON WHICH TRAFFIC WILL BE MAINTAINED DURING CONSTRUCTION.

THE ENGINEER SHALL IMMEDIATELY NOTIFY THE DISTRICT ROADWAY SERVICES MANAGER TO ADVISE THE OFFICE OF HIGHWAY MANAGEMENT OF THE RESTRICTIONS.

ITEM 614									
CONSTRUCTION PHASE	STATION		LANE	TEMPORARY LANE LINE, CLASS 1	TEMPORARY EDGE LINE, CLASS 1		WORK_ZONE SPEED LIMIT SIGN	OBJECT MARKER	REMARKS
					YELLOW METER	WHITE METER			
	FROM	TO		METER			EACH	EACH	
PHASE I	53+250 RT & LT		NB				2		
	54+050 RT		NB				1		
	54+850 RT		NB				1		
	0+030.75 RT & LT		NB				2		
	54+180 RT & LT		SB				2		
	54+980 LT		SB				1		
	0+160 LT		SB				1		
	0+960 RT & LT		SB				2		
	53+671.00	53+972.07	NB					40	
	54+236.76	54+682.54	NB					59	
	53+795.00	54+097.07	SB					40	
	54+342.87	54+807.54	SB					61	
	53+614.600	55+619.253	NB	2004.653	2004.653				PLACED AFTER ITEM 254 PAVEMENT PLANING
	0+000.000	0+596.712	NB	596.712	596.712				
	53+614.600	55+619.253	SB	2004.653	2004.653				
	0+000.000	0+596.712	SB	596.712	596.712				
	PHASE I TOTALS:			5202.730	5202.730		12	200	
PHASE II	53+250 RT & LT		NB				2		
	54+050 RT		NB				1		
	54+850 RT		NB				1		
	0+030.75 RT & LT		NB				2		
	54+180 RT & LT		SB				2		
	54+980 LT		SB				1		
	0+160 LT		SB				1		
	0+960 RT & LT		SB				2		
	53+671.00	53+972.07	NB					40	
	54+236.76	54+682.54	NB					59	
	53+795.00	54+097.07	SB					40	
	54+342.87	54+807.54	SB					61	
	53+614.600	55+619.253	NB	2004.653		2004.653			PLACED AFTER ITEM 254 PAVEMENT PLANING
	0+000.000	0+596.712	NB	596.712		596.712			
	53+614.600	55+619.253	SB	2004.653		2004.653			
	0+000.000	0+596.712	SB	596.712		596.712			
	PHASE II TOTALS:			5202.730		5202.730	12	200	
PHASE III	53+614.600	55+619.253	NB	2004.653	2004.653	2004.653			PLACED AFTER ITEM 446 ASPHALT CONCRETE INTERMEDIATE COURSE
	0+000.000	0+596.712	NB	596.712	596.712	596.712			
	53+614.600	55+619.253	SB	2004.653	2004.653	2004.653			
	0+000.000	0+596.712	SB	596.712	596.712	596.712			PLACED AFTER ITEM 446 ASPHALT CONCRETE SURFACE COURSE
	53+614.600	55+619.253	NB	2004.653	2004.653	2004.653			
	0+000.000	0+596.712	NB	596.712	596.712	596.712			
	53+614.600	55+619.253	SB	2004.653	2004.653	2004.653			
	0+000.000	0+596.712	SB	596.712	596.712	596.712			
	PHASE III TOTALS:			10405.460	10405.460	10405.460			
SUBTOTALS			20810.920	20810.920	20810.920	24	400		
TOTALS – CARRIED TO GENERAL SUMMARY			20.81 km	41.62 km		24	400		

CONSTRUCTION PHASE	STATION		LANE	ITEM 622		ITEM 614			REMARKS
				PORTABLE CONCRETE BARRIER, 813 mm	PORTABLE CONCRETE BARRIER, 813 mm BRIDGE MOUNTED	BARRIER REFLECTOR, TYPE B	TEMPORARY RAISED PAVEMENT MARKER (ONE WAY)		
							YELLOW EACH	WHITE EACH	
	FROM	TO		METER	METER	EACH			
PHASE I									
	53+400.00	53+671.00	NB						DRUMS
	53+671.00	53+870.99	NB	200		40	52	26	
	53+870.99	53+897.07	NB		26				JEF-7-53873(33.46)
	53+897.07	53+972.07	NB	75					
	53+972.07	54+208.11	NB						DRUMS
	54+208.11	54+236.76	NB						SR 213 INTERSECTION
	54+236.76	54+117.86	NB	180		59	76	38	
	54+117.86	54+607.54	NB		190				JEF-7-54419(33.80)
	54+607.54	54+682.54	NB	75					
	54+682.54	55+619.253	NB						DRUMS
	0+000.000	0+862.75	NB						DRUMS
	53+400.00	53+795.00	SB						DRUMS
	53+795.00	53+870.99	SB	75		40	52	26	
	53+870.99	53+897.07	SB		26				JEF-7-53873(33.46)
	53+897.07	54+097.07	SB	200					
54+097.07	54+208.11	SB						DRUMS	
54+208.11	54+236.76	SB						SR 213 INTERSECTION	
54+236.76	54+342.86	SB						DRUMS	
54+342.86	54+417.86	SB	75		61	80	40		
54+417.86	54+607.54	SB		190				JEF-7-54419(33.80)	
54+607.54	54+807.54	SB	200						
54+807.54	55+619.253	SB						DRUMS	
0+000.00	0+862.75	SB						DRUMS	
PHASE II									
	53+400.00	53+671.00	NB						DRUMS
						40		78	
	53+671.00	53+870.99	NB	200					
					26				JEF-7-53873(33.46)
	53+870.99	53+897.07	NB						
	53+897.07	53+972.07	NB	75					
	53+972.07	54+236.76	NB						DRUMS
	54+236.76	54+117.86	NB	180		59		114	
54+117.86	54+607.54	NB		190	JEF-7-54419(33.80)				
54+607.54	54+682.54	NB	75						
54+682.54	55+619.253	NB						DRUMS	
0+000.000	0+862.75	NB						DRUMS	

CONSTRUCTION PHASE	STATION		LANE	ITEM 622		ITEM 614			REMARKS
				PORTABLE CONCRETE BARRIER, 813 mm	PORTABLE CONCRETE BARRIER, 813 mm BRIDGE MOUNTED	BARRIER REFLECTOR, TYPE B	TEMPORARY RAISED PAVEMENT MARKER (ONE WAY)		
							YELLOW EACH	WHITE EACH	
	FROM	TO		METER	METER	EACH			
PHASE II									
	53+400.00	53+795.00	SB						DRUMS
	53+795.00	53+870.99	SB	75		40		78	
	53+870.99	53+897.07	SB		26				JEF-7-53873(33.46)
	53+897.07	54+097.07	SB	200					
	54+097.07	54+208.11	SB						DRUMS
	54+208.11	54+236.76	SB						SR 213 INTERSECTION
	54+236.76	54+342.86	SB						DRUMS
	54+342.86	54+417.86	SB	75		61		120	
	54+417.86	54+607.54	SB		190				JEF-7-54419(33.80)
	54+607.54	54+807.54	SB	200					
54+807.54	55+619.253	SB						DRUMS	
0+000.000	0+862.75	SB						DRUMS	
SUBTOTAL							260	520	
TOTALS – CARRIED TO GENERAL SUMMARY				2160	864	400	780		

GENERAL

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING, INSTALLING, MAINTAINING, AND SUBSEQUENTLY REMOVING TEMPORARY RAISED PAVEMENT MARKERS (TRPM'S). THE MARKERS SHALL BE YELLOW OR WHITE, AS DESCRIBED IN THE PLAN.

MATERIAL

ALL MARKERS SHALL BE OF SUFFICIENT STRENGTH AND PROPERLY SHAPED SO AS NOT TO BE DISLODGED OR BROKEN, OR THE REFLECTOR DISLODGED OR BROKEN, OR THE REFLECTOR DISLODGED OR DAMAGED BY IMPACTS FROM VEHICLES TIRES. INCLUDING THOSE OF HIGH PRESSURE TRUCK TIRES LOADED TO 2043 KILOGRAMS.

RETROREFLECTORS SHALL BE PROVIDED IN ONE OR TWO DIRECTIONS ON EACH MARKER AS REQUIRED BY THE USAGE AND SHALL RETURN WHITE OR YELLOW LIGHT AS IS APPROPRIATE FOR THE APPLICATION.

THE REFLECTOR SHALL HAVE AN EFFECTIVE AREA OF 225 SQUARE MILLIMETERS FOR TYPE A OR 1935 SQUARE MILLIMETERS FOR TYPE B. ITS BRIGHTNESS OR SPECIFIC INTENSITY (WHEN TESTED AT 0.2 DEGREE ANGLE OF OBSERVATION AND THE FOLLOWING ANGLES OF INCIDENCE) SHALL MEET OR EXCEED THE FOLLOWING:

SPECIFIC INTENSITY		
TYPE A		
INCIDENCE ANGLE (DEGREES)	WHITE	YELLOW
0	1.0	0.6
20	0.4	0.24
45	-	-
TYPE B		
	WHITE	YELLOW
0	3.0	1.8
20	1.2	0.72
45	0.3	0.2

ANGLE OF INCIDENCE FORMED BY A RAY FROM LIGHT SOURCE TO THE MARKER AND THE NORMAL TO THE LEADING EDGE OF THE MARKER FACE (ALSO HORIZONTAL ENTRANCE ANGLE).

ANGLE OF OBSERVATION FORMED BY A RAY FROM LIGHT SOURCE TO THE MARKER AND THE RETURNED RAY FROM THE MARKER TO THE MEASURING RECEPTOR.

SPECIFIC INTENSITY IS THE MEAN CANDLEPOWER OF THE REFLECTED LIGHT (AT GIVEN INCIDENCE AND DIVERGENCE ANGLES) FOR EVERY 10.7 LUX AT THE REFLECTOR (ON A PLANE PERPENDICULAR TO THE INCIDENT LIGHT).

TYPE A MARKERS ARE INTENDED TO PROVIDE HIGH VISIBILITY BOTH DAY AND NIGHT. THEIR DAYTIME VISIBILITY SHALL BE ASSURED BY SIZE, SHAPE AND COLOR AS FOLLOWS:

1) THE MARKERS SHALL BE A HIGH VISIBILITY YELLOW OR WHITE COLOR WHICH WILL NOT DEGRADE SUBSTANTIALLY DUE TO TRAFFIC WEAR AND WHICH WILL MATCH THE COLOR OF THE REFLECTOR.

2) WHEN VIEWED FROM ABOVE, THE MARKERS SHALL HAVE A VISIBLE AREA OF NOT LESS THAN 9030 SQUARE MILLIMETERS.

3) WHEN VIEWED FROM THE FRONT, PARALLEL TO THE PAVEMENT, AS FROM APPROACHING TRAFFIC, THE MARKER SHALL HAVE A WIDTH OF APPROXIMATELY 100 MILLIMETERS AND A VISIBLE AREA OF NOT LESS THAN 970 SQUARE MILLIMETERS.

TYPE B MARKERS ARE INTENDED TO PROVIDE HIGH VISIBILITY AT NIGHT BY RETROREFLECTING AUTOMOTIVE HEADLIGHT BACK TO DRIVER.

INSTALLATION

TEMPORARY RAISED PAVEMENT MARKERS SHALL BE ATTACHED TO CLEAN, DRY PAVEMENT BY A BUTYL ADHESIVE PAD. A BITUMINOUS ADHESIVE OR OTHER CONSTRUCTION GRADE ADHESIVES (SUCH AS FRANKLIN PANEL AND METAL ADHESIVE) SUITABLE TO ANCHOR THE MARKER UNDER THE ABOVE CONDITIONS. WHEN IT IS NECESSARY TO ATTACH MARKERS TO NEW CONCRETE PAVEMENT WITH CURING COMPOUND REAMAINING, THE CURING COMPOUND MEMBRANE SHALL BE REMOVED BY SANDBLASTING OR OTHER MECHANICAL CLEANING METHOD. MARKERS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

THE CONTRACTOR SHALL IMMEDIATELY REPLACE, AT HIS EXPENSE, ANY MARKERS WHICH FAIL (BROKEN HOUSING, HOUSING WORN TO THE EXTENT THAT DAYTIME VISIBILITY IS SIGNIFICANTLY DIMINISHED OR OF AN UNACCEPTABLE COLOR, DETACHED OR BROKEN REFLECTOR, HOUSING DETACHED FROM ADHESIVE).

MARKERS ARE LIKELY TO BE REMOVED BY SNOW PLOWING OPERATIONS, THUS THEY ARE NOT CONSIDERED SUITABLE FOR USE DURING THE PERIOD FROM OCTOBER 15 UNTIL APRIL 30. THE CONTRACTOR IS ADVISED TO SCHEDULE HIS WORK AND/OR THE USE OF THESE DEVICES TO AVOID THIS PERIOD. SHOULD THE CONTRACTOR CHOOSE TO USE TRPM'S DURING THIS PERIOD AND THEY ARE SUBSEQUENTLY REMOVED OR DESTROYED BY SNOW AND ICE CONTROL ACTIVITIES. THE CONTRACTOR SHALL IMMEDIATELY, AT HIS EXPENSE, PROVIDE A SUBSTITUTE TRAFFIC GUIDANCE SYSTEM EFFECTIVE DURING DAY AND NIGHT AND WHICH IS ACCEPTABLE TO THE ENGINEER.

THE MARKERS SHALL BE PLACED ACCURATELY TO DEPICT STRAIGHT OR UNIFORMLY CURVING LINES. WHEN USED TO SUPPLEMENT TEMPORARY PAVEMENT MARKINGS, THEY SHALL BE PLACED ON OR IMMEDIATELY ADJACENT TO THE PAVEMENT MARKING. LOCATIONS SHALL BE ADJUSTED UP TO 300 MILLIMETERS LONGITUDINALLY OR 150 MILLIMETERS LATERALLY TO AVOID PLACEMENT ON JOINTS, OR ON CRACKED OR DETERIORATED PAVEMENT. MARKERS SHALL NOT BE PLACED DIRECTLY ON PAVEMENT MARKINGS IF THIS DISTRACTS FROM THEIR ABILITY TO REMAIN ATTACHED TO THE PAVEMENT.

APPLICATION

1) WHEN REQUIRED TO SUPPLEMENT PAVEMENT MARKING, TEMPORARY RAISED PAVEMENT MARKERS SHALL BE PLACED AS FOLLOWS:

LINE	TYPE	SPACING
EDGE LINE	A OR B	6 m C/C
LANE LINE	A OR B	12 m C/C*
CENTER LINE (SINGLE/BROKEN)	A OR B	12 m C/C*
CENTER LINE (DOUBLE/SOLID)	A OR B	2 UNITS SIDE BY SIDE 100 mm APART 6 m C/C
CHANNELIZING LINE (INCLUDES EXIT GORE NOSE)	A OR B	3 m C/C

* CENTERED IN GAP

2) WHEN USED TO SIMULATE (REPLACE) PAVEMENT MARKING, TEMPORARY RAISED PAVEMENT MARKERS SHALL BE PLACED AS FOLLOWS:

LINE	TYPE	SPACING
EDGE LINE	A	1.5 m C/C
LANE LINE	A	4 @ 0.75 m C/C 9 m GAP (12 m CYCLE)
CHANNELIZING LINE (INCLUDES EXIT GORE NOSE)	A	1.5 m C/C
EDGE LINE (TWO COLOR) (WHITE/YELLOW)	A	BACK TO BACK 1.5 m C/C

YELLOW MARKERS USED TO SEPARATE OPPOSITE FLOWS OF TRAFFIC (CENTER LINES) SHALL INCLUDE REFLECTIONS FOR BOTH DIRECTIONS. ALL OTHER YELLOW AND WHITE MARKERS SHALL PROVIDE RETROREFLECTIVITY FOR ONE DIRECTION ONLY.

REMOVAL

REMOVAL SHALL BE ACCOMPLISHED IN A MANNER THAT LITTLE OR NONE OF THE ADHESIVE REMAINS ON THE PAVEMENT. PERMANENT PAVEMENT SURFACES SHALL NOT BE SCARRED, BROKEN OR ROUGHENED SIGNIFICANTLY.

PAYMENT

BASIS OF PAYMENT SHALL BE AT THE CONTRACT UNIT PRICE PER EACH MARKER AND SHALL INCLUDE ALL LABOR, EQUIPMENT, HARDWARE AND INCIDENTALS REQUIRED TO PERFORM THE WORK. IT SHALL ALSO INCLUDE REPLACEMENT AT NO ADDITIONAL COST OF ALL TEMPORARY RAISED PAVEMENT MARKERS WHICH, IN THE JUDGEMENT OF THE ENGINEER, FAIL FOR ANY REASON, EXCEPT DUE TO FAILURE OF THE PAVEMENT TO WHICH THEY ARE ATTACHED.

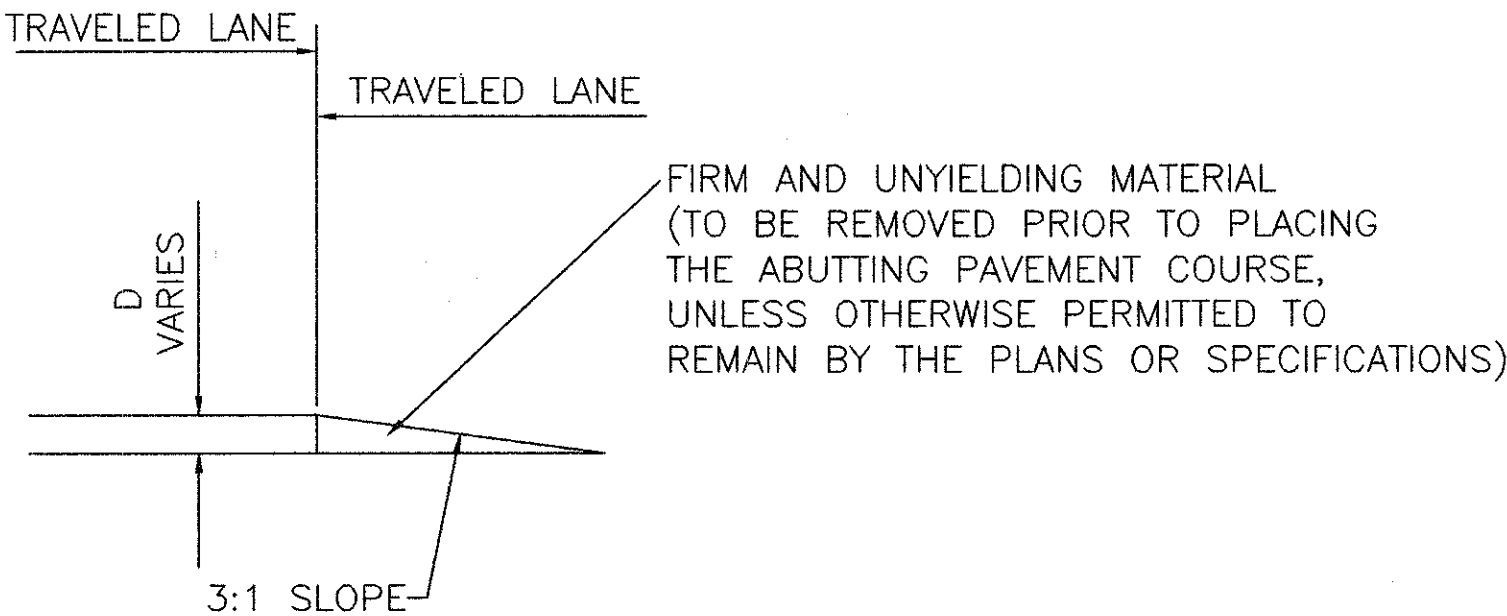
ITEM	UNIT	DESCRIPTION
614	EACH	TEMPORARY RAISED PAVEMENT MARKER

GENERAL NOTES

1. IT IS INTENDED THAT THIS DRAWING BE USED FOR TREATMENT OF DROP-OFFS THAT DEVELOP DURING CONSTRUCTION OPERATIONS, AND THAT ARE NOT OTHERWISE PROVIDED FOR IN THE CONSTRUCTION PLANS. WHERE THE PLANS DO NOT PROVIDE SPECIFIC ITEMS FOR LABOR, EQUIPMENT, OR MATERIALS TO IMPLEMENT THE DROP-OFF TREATMENTS SPECIFIED HEREON, THEY SHALL BE INCLUDED FOR PAYMENT IN THE LUMP SUM BID FOR ITEM 614 – MAINTAINING TRAFFIC.
2. WHILE THE NEED FOR CERTAIN ADVISORY SIGNING IS NOTED HEREON, IT IS NOT INTENDED THAT THIS BE INDICATIVE OF ALL SIGNING THAT MAY BE REQUIRED TO ADVISE OR WARN MOTORISTS, AND ALL REQUIREMENTS OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD) MUST BE FULFILLED.
3. IN URBAN OR OTHERWISE HEAVILY DEVELOPED AREAS WHERE PEDESTRIANS AND/OR BICYCLISTS MAY BE PRESENT IN SIGNIFICANT NUMBERS, ADDITIONAL SIGNING AND PROTECTIVE MEASURES OTHER THAN THOSE SHOWN HEREON MAY BE REQUIRED.
4. THE DROP-OFF TREATMENT SELECTED FOR USE AT ANY GIVEN LOCATION SHALL BE AS APPROPRIATE FOR THE PREVAILING CONDITIONS AT THE SITE.
5. WHERE CONCRETE BARRIER IS SPECIFIED, IT SHALL BE IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING RM-4.2M AND ITEM 622.
6. WHEN DRUMS ARE SPECIFIED FOR A DROP-OFF CONDITION, A MINIMUM NUMBER OF FOUR DRUMS SHALL BE USED. SPACING SHALL BE AS INDICATED IN THE PLANS OR AS SPECIFIED IN THE OMUTCD.
7. WHEN OW-151 (LOW SHOULDER) SIGNS OR OW-171 (UNEVEN LANES) AND OWP-171 SIGNS ARE REQUIRED, THEY SHALL BE PLACED 225 METERS IN ADVANCE OF THE CONDITION, ON ALL INTERSECTING ENTRANCE RAMPS WITHIN THE LIMITS OF THE CONDITION AND IMMEDIATELY BEYOND ALL INTERSECTING ROADWAYS WITHIN THE LIMITS OF THE CONDITION. WHEN THE DROP-OFF CONDITION EXTENDS MORE THAN 0.8 KILOMETER, ADDITIONAL SIGNS SHOULD BE ERECTED AT INTERVALS OF 1.6 KILOMETERS OR LESS.
8. FOR LOCATIONS, SUCH AS AT RAMPS, LANE SHIFTS, LANE CLOSURES, ETC., WHERE TRAFFIC IS REQUIRED TO NEGOTIATE ANY DIFFERENCE IN ELEVATION BETWEEN PAVEMENTS, A 3:1 SLOPE TREATMENT SIMILAR TO THE OPTIONAL WEDGE TREATMENT SHALL BE PROVIDED.
9. PORTABLE CONCRETE BARRIER SHALL BE PLACED ON THE SAME LEVEL AS THE TRAFFIC SURFACE AND SHALL NOT ENCROACH ON LANE WIDTH(S) DESIGNATED AS THE MINIMUM REQUIRED FOR TRAFFIC USE. WHERE DRUMS ARE USED, AND THEIR PRESENCE WOULD REDUCE TRAVELED LANE WIDTHS TO LESS THAN 3 METERS, DRUMS MAY BE PLACED ON THE OPPOSITE LEVEL FROM THAT OF TRAFFIC PROVIDED THE DROP-OFF DEPTH DOES NOT EXCEED 125 mm AND APPROVAL IS GRANTED BY THE PROJECT ENGINEER.
- PAVEMENT REPAIRS (OR SIMILAR WORK):
- A. LENGTHS GREATER THAN 18 METERS – UTILIZE APPROPRIATE TREATMENT FROM CONDITION I.
- B. LENGTHS OF 18 METERS OR LESS – REPAIRS SHALL BE EFFECTED IN ACCORDANCE WITH 255.08. DRUMS MAY BE USED AS A SEPARATOR ADJACENT TO THE TRAVELED LANE.

OPTIONAL WEDGE TREATMENT
(MILLING OR RESURFACING)

1. THIS TREATMENT MAY BE USED WHEN PERMITTED FOR CONDITION I ONLY.
2. OW-171 OWP-171 SIGNS REQUIRED.

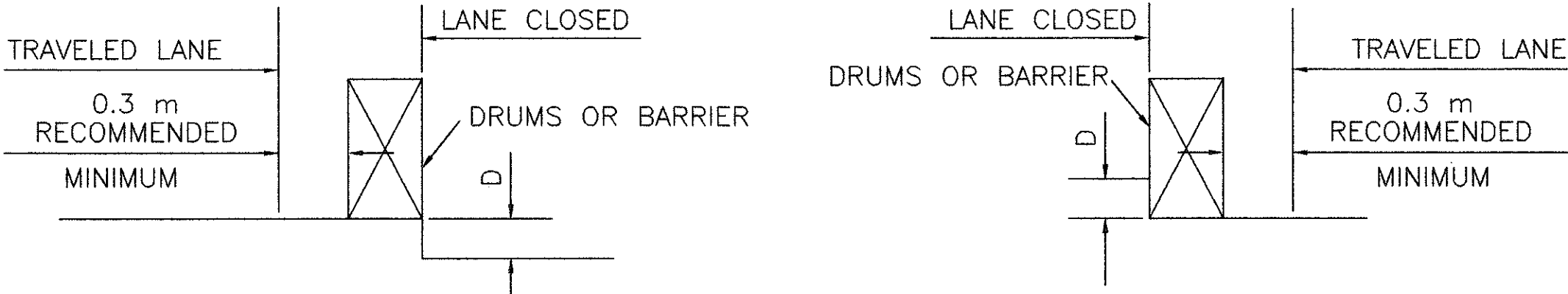


CONDITION I
DROPOFFS BETWEEN TRAVELED LANES

1. THESE TREATMENTS ARE TO BE USED FOR RESURFACING, PAVEMENT PLANING, EXCAVATION, ETC. BETWEEN OR WITHIN TRAVELED LANES.

D (mm)	TREATMENT
≤38	ERECT OW-171 AND OWP-171 SIGNS.
>38-75	1) LANE CLOSURE UTILIZING DRUMS AS SHOWN BELOW OR 2) OPTIONAL WEDGE TREATMENT
>75-125	LANE CLOSURE UTILIZING DRUMS AS SHOWN BELOW.
>125	LANE CLOSURE UTILIZING PORTABLE COCRETE BARRIER AS SHOWN BELOW.

* CONES MAY USED FOR DAYTIME ONLY CONDITIONS.

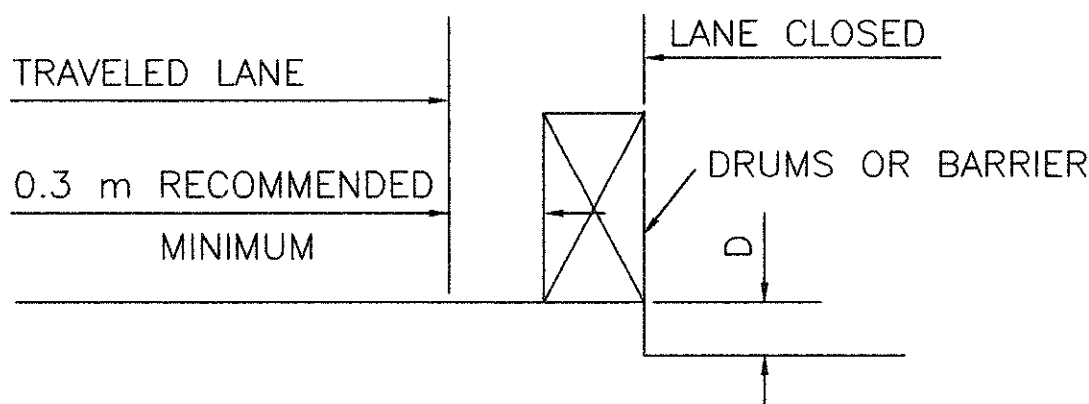


CONDITION II
DROPOFFS BETWEEN TRAVELED LANES

1. THE TREATMENTS INDICATED BELOW ARE FOR USE IN CONJUNCTION WITH RESURFACING, PLANING OR EXCAVATIONS WITHIN THE GRADED SHOULDER AREA.
2. THE GRADED SHOULDER AREA IS THAT FLAT OR GRADUALLY SLOPING AREA BETWEEN THE EDGE OF A NORMALLY TRAVELED LANE AND THE MORE STEEPLY SLOPING DITCH FORESLOPE OR EMBANKMENT SLOPE. ITS SURFACE MAY BE SOIL OR TURF, AND/OR IT MAY BE INCLUSIVE OF A "TREATED" AREA (IMPROVED WITH AGGREGATES, ASPHALTIC MATERIALS, OR CONCRETE). FOR THE PURPOSES HEREIN, ITS MAXIMUM WIDTH SHALL BE CONSIDERED TO BE 3.6 METERS.

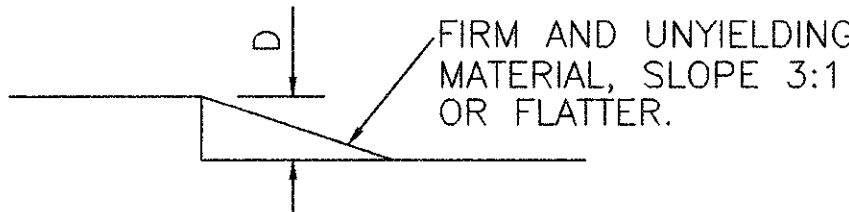
D (mm)	TREATMENT
≤38	1) IF EDGELINES ARE PRESENT, NO TREATMENT NECESSARY OR 2) ERECT OW-171 AND OWP-171 SIGNS.
>38-125	1) IF MINIMUM LANE WIDTH* REQUIREMENTS CAN BE MET, MAINTAIN LANES UTILIZING DRUMS AS SHOWN BELOW OR 2) IF MINIMUM LANE WIDTH* REQUIREMENTS CANNOT BE MET, CLOSE ADJACENT LANE UTILIZING DRUMS OR 3) OPTIONAL SHOULDER TREATMENT.
>125-300 DAYLIGHT ONLY	IF MINIMUM LANE WIDTH* REQUIREMENTS CAN BE MET, MAINTAIN LANES UTILIZING DRUMS AS SHOWN BELOW.
>125-600	1) IF MINIMUM LANE WIDTH* REQUIREMENTS CAN BE MET, MAINTAIN LANES UTILIZING PORTABLE CONCRETE BARRIER AS SHOWN BELOW. OR 2) IF MINIMUM LANE WIDTH* REQUIREMENTS CANNOT BE MET, CLOSE ADJACENT LANE UTILIZING DRUMS.
>600	LANE CLOSURE UTILIZING PORTABLE CONCRETE BARRIER AS SHOWN BELOW.

* MINIMUM LANE WIDTHS SHALL BE 3.0 METERS UNLESS OTHERWISE SPECIFIED IN THE PLANS.



OPTIONAL SHOULDER TREATMENT

1. THIS TREATMENT MAY NOT BE USED WITHIN A BITUMINOUS SHOULDER WHERE A HOT LONGITUDNAL JOINT PER 401.15 IS REQUIRED.
2. OW-151 SIGNS REQUIRED.

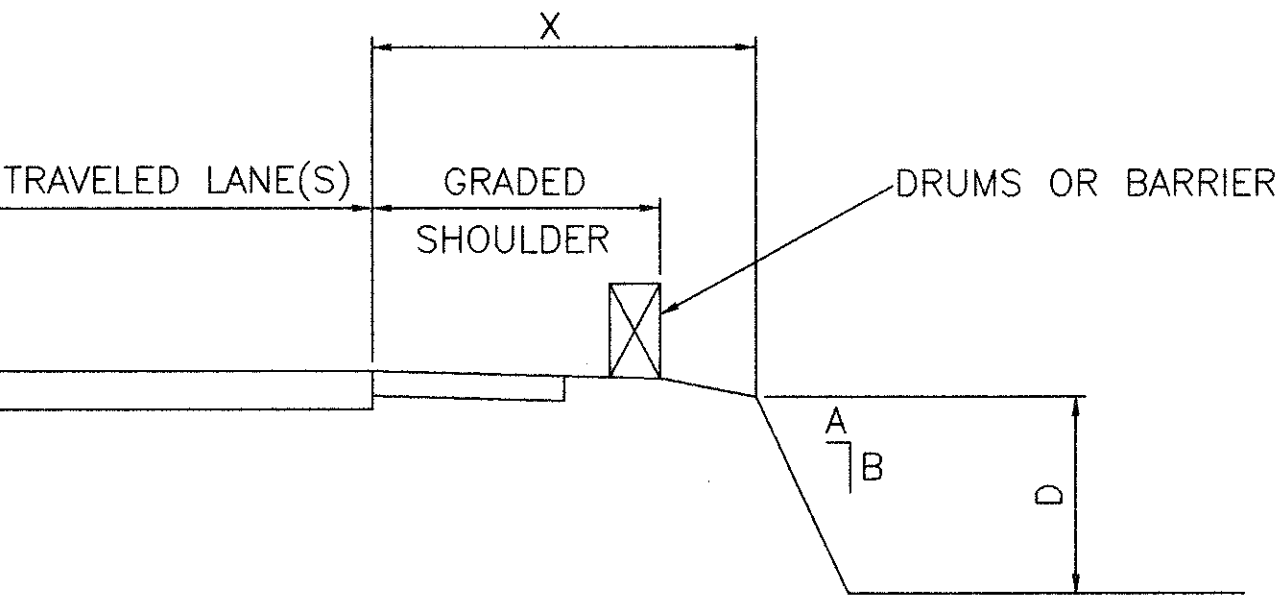


CONDITION III
DROPOFFS BEYOND GRADED SHOULDER OR BACK OF CURB

1. SEE NOTE 2 UNDER CONDITION II.
2. USE CHART A OR B BELOW, AS APPLICABLE.

CHART A

- USE FOR:
1. UNCURBED FACILITIES.
2. CURBED FACILITIES, WHERE:
- A. CURBS ARE LESS THAN 150 mm IN HEIGHT.
- B. CURBS ARE 150 mm OR GREATER IN HEIGHT AND THE LEGAL SPEED IS GREATER THAN 60 km/h.

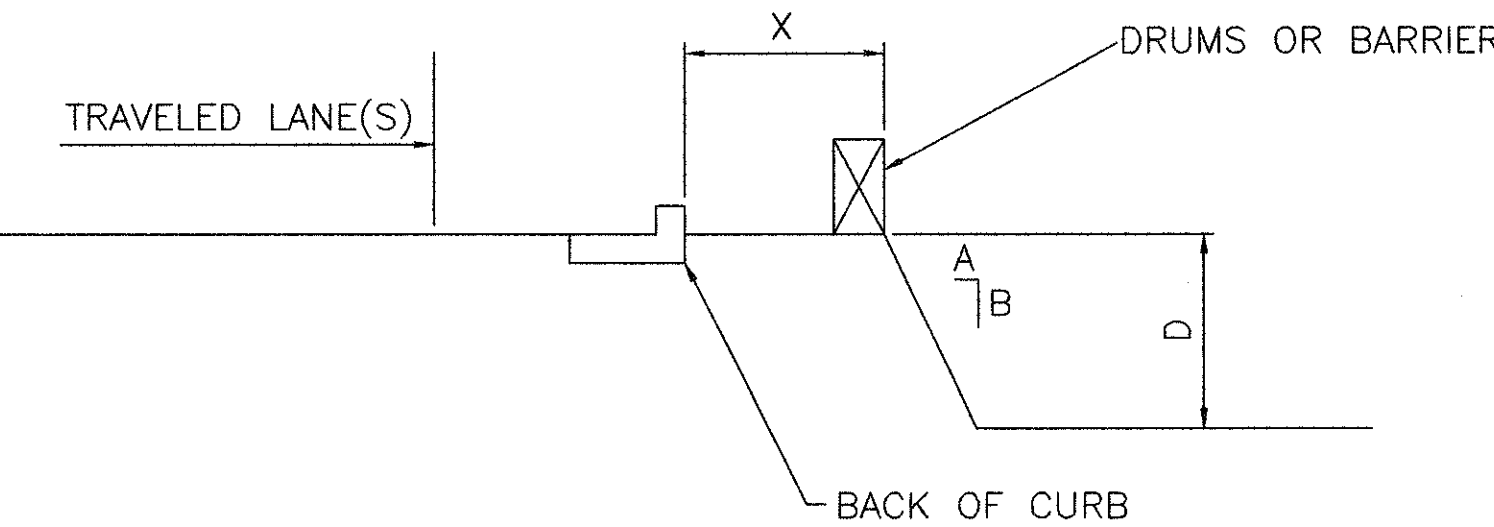


X (METER)	D (mm.)	A/B	TREATMENT REQUIRED	
			DAY	NIGHT
0-1.2	ANY	ANY	(A)	(A)
1.2-9.0	ANY	3:1 OR FLATTER	NONE	NONE
1.2-36.0	<75	STEEPER THAN 3:1	NONE	NONE
1.2-36.0	>75-<300	STEEPER THAN 3:1	DRUMS	DRUMS
1.2-36.0	>300	STEEPER THAN 3:1	DRUMS	BARRIER
>3.6-6.0	<300	STEEPER THAN 3:1	NONE	NONE
>3.6-6.0	>300-<600	STEEPER THAN 3:1	DRUMS	DRUMS
>3.6-6.0	>600	STEEPER THAN 3:1	DRUMS	BARRIER
>3.6-9.0	<600	STEEPER THAN 3:1	NONE	DRUMS
>3.6-9.0	>600	STEEPER THAN 3:1	DRUMS	BARRIER
>9.0	ANY	ANY	NONE	NONE

(A) USE TREATMENT SPECIFIED UNDER CONDITION II

CHART B

- USE FOR:
- CURBED FACILITIES, WHERE THE CURB IS 150 mm OR GREATER IN HEIGHT AND THE LEGAL SPEED IS 60 km/h OR LESS.



X (METER)	D (mm.)	A/B	TREATMENT REQUIRED	
			DAY	NIGHT
0-3.0	<300	ANY	NONE	DRUMS
0-3.0	>300	ANY	DRUMS	DRUMS
>3.0	ANY	ANY	NONE	NONE

DROPOFFS IN WORK ZONE
(MAINLINE APPLICATION)

JEF/COL-7-53.620/0.000

[illegible]

SHEET NUMBER													ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	AS PER PLAN SHEET NO.
7	16	17	19	20	21	34	35	36	37	38	46	51						
																	PAVEMENT	
	24848	25647											254	01000	50 495	SO METER	PAVEMENT PLANING, BITUMINOUS	
2385													254	01600	2385	SO METER	PATCHING PLANED SURFACE	
			5000										255	10000	5000	SO METER	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS C	
			5775										255	20000	5775	METER	FULL DEPTH PAVEMENT SAWING	
												116	301	46010	116	CU METER	BITUMINOUS AGGREGATE BASE, PG64-28	
	26	26									40	178	304	20000	270	CU METER	AGGREGATE BASE	
											1231		407	10000	1231	LITER	TACK COAT	
	8448	8720										383	407	14000	17 551	LITER	TACK COAT FOR INTERMEDIATE COURSE	
												2092	408	10000	2092	LITER	BITUMINOUS PRIME COAT	
			6825										413	14000	6825	METER	SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS	
	1460	1510									163	51	446	30000	3184	CU METER	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, PG64-28	
	944	975											446	30020	1919	CU METER	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM	
											116	36	446	30030	152	CU METER	ASPHALT CONCRETE SURFACE COURSE, 9.5 MM	
				73									448	46061	73	CU METER	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I, UNDER GUARDRAIL, PG64-22, AS PER PLAN	6
											296		451	14000	296	SO METER	230 MM REINFORCED CONCRETE PAVEMENT	
											103		609	16001	103	METER	CURB, TYPE 2-B, AS PER PLAN	45
											36		609	28000	36	METER	CURB, TYPE 7	
											9		609	28001	9	METER	CURB, TYPE 7, AS PER PLAN	45
	163	163											611	25001	326	SO METER	REINFORCED CONCRETE APPROACH SLAB (T=380 MM), AS PER PLAN	7
					429								612	42001	429	SO METER	CONCRETE MEDIAN, AS PER PLAN 'A'	7
					16								612	42001	16	SO METER	CONCRETE MEDIAN, AS PER PLAN 'B'	7
																	TRAFFIC CONTROL	
										250			621	00100	250	EACH	RAISED PAVEMENT MARKER	
						24	7		26				630	02100	57	METER	GROUND MOUNTED SUPPORT, NO. 2 POST	
						20	45	49	20				630	03100	134	METER	GROUND MOUNTED SUPPORT, NO. 3 POST	
						27	5	15					630	04100	47	METER	GROUND MOUNTED SUPPORT, NO. 4 POST	
						20	20	9					630	06400	49	METER	GROUND MOUNTED SUPPORT, S100 X 11.5 BEAM	
						24	26	88					630	07600	138	METER	GROUND MOUNTED SUPPORT, W250 X 17.9 BEAM	
						4	6	14					630	09000	24	EACH	BREAKAWAY BEAM CONNECTION	
						4	2						630	79500	6	EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	
						12	9	10	2				630	80100	33	SO METER	SIGN, FLAT SHEET	
						6	6		2				630	80102	14	SO METER	SIGN, FLAT SHEET, TYPE G	
						10	11	42					630	80204	63	SO METER	SIGN, EXTRUSHEET, TYPE G	
						2	1	1					630	82000	4	EACH	SIGN BACKING ASSEMBLY	
						8	8	16					630	84500	32	EACH	GROUND MOUNTED BEAM SUPPORT FOUNDATION	
						21	23	13	5				630	84900	62	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
						1		1					630	85100	2	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
							1	5					630	85400	6	EACH	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL	
						16	15	8	5				630	86002	44	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
						2	4	16					630	86102	22	EACH	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL	
										10.30			642	00100	10.30	KILOMETER	EDGE LINE, TYPE I	
										5.20		0.02	642	00200	5.22	KILOMETER	LANE LINE, TYPE I	
										0.06			642	00300	0.06	KILOMETER	CENTER LINE, TYPE I	
										110			642	00400	110	METER	CHANNELIZING LINE, TYPE I	
										14	26	8	642	00500	48	METER	STOP LINE, TYPE I	
										120			642	00700	120	METER	TRANSVERSE LINE, TYPE I	
											530		642	00800	530	METER	CURB MARKING, TYPE I	
											490	177	642	01200	667	METER	PARKING LOT STALL MARKING, TYPE I	

GENERAL SUMMARY

JEF / COL-7-53.620

[illegible]

PAVEMENT & SHOULDER QUANTITIES																	
LOCATION	STATION		LENGTH	WIDTH	AREA	202	203		254	304		407	446			611	
						APPROACH SLAB REMOVED	SUBGRADE COMPACTION	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	PAVEMENT PLANING BITUMINOUS	THICKNESS	AGGREGATE BASE	TACK COAT FOR INTERMEDIATE COURSE	THICKNESS	ASPHALT CONCRETE INTERMEDIATE COURSE, 19mm, PG 64-28	THICKNESS	ASPHALT CONCRETE SURFACE COURSE, 12.5mm	REINFORCED CONCRETE APPROACH SLAB (T=380 mm) AS PER PLAN
	FROM	TO	METER	METER	SQ. METER	SQ. METER	SQ. METER	CU. METER	SQ. METER	mm	CU. METER	LITER	mm	CU. METER	mm	CU. METER	SQ. METER
SOUTHBOUND PAVEMENT																	
FEATHER	53+614.60	53+620.00	5.40	7.772	41.97				41.97			14.27	69 AVG	2.90	38	1.59	
PAVEMENT	53+620.00	53+843.87	223.87	7.772	1739.92				1739.92			591.57	60	104.40	38	66.12	
FEATHER	53+843.87	53+863.37	19.50	7.772	151.55				151.55			51.53	33 AVG	5.00	38	5.76	
APPROACH SLAB (TO REMAIN)	53+863.37	53+870.99	7.62	7.772	59.22				59.22			20.13	5	0.30	38	2.26	
BRIDGE NO. JEF-7-53873(33.46)	53+870.99	53+897.07	-	-	-				-			-	-	-	-	-	
APPROACH SLAB (TO REMAIN)	53+897.07	53+904.69	7.62	7.772	59.22				59.22			20.13	5	0.30	38	2.26	
FEATHER	53+904.69	53+924.19	19.50	7.772	151.55				151.55			51.53	33 AVG	5.00	38	5.76	
PAVEMENT	53+924.19	54+052.00	127.81	7.772	993.34				993.34			337.74	60	59.60	38	37.75	
PVMNT 'A' LINE (SPIRAL) (SEE SH. 24)	54+052.00	54+074.11	22.11	7.772	171.84				171.84			58.43	60	10.31	38	6.53	
PVMNT 'A' LINE (SPIRAL) (SEE SH. 24)	54+074.11	54+196.03	121.92	7.772	947.56				947.56			322.17	60	56.85	38	36.01	
PVMNT 'A' LINE (CURVE) (SEE SH. 24)	54+196.03	54+286.37	90.34	7.772	702.12				702.12			238.72	60	42.13	38	26.68	
PVMNT 'A' LINE (SPIRAL) (SEE SH. 24)	54+286.37	54+390.74	104.37	7.772	811.16				811.16			275.79	60	48.67	38	30.83	
FEATHER (SPIRAL) (SEE SH. 24)	54+390.74	54+410.24	19.50	7.772	151.55				151.55			51.53	30 AVG	4.55	38	5.76	
APPROACH SLAB (SPIRAL)	54+410.24	54+417.86	7.62	-	-	59.23	81.29	12.31	-	150	13.06	-	-	-	-	-	81.29
BRIDGE NO. JEF-7-54419(33.80)	54+417.86	54+607.54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
APPROACH SLAB	54+607.54	54+615.16	7.62	-	-	59.23	81.29	12.31	-	150	13.06	-	-	-	-	-	81.29
FEATHER	54+615.16	54+634.66	19.50	7.772	151.55				151.55			51.53	30 AVG	4.55	38	5.76	
PAVEMENT	54+634.66	54+850.25	215.59	7.772	1675.57				1675.57			569.69	60	100.53	38	63.67	
PAVEMENT (CURVE)	54+850.25	55+171.31	321.06	7.772	2495.28				2495.28			848.40	60	149.72	38	94.82	
PAVEMENT	55+171.31	55+502.03	330.72	7.772	2570.36				2570.36			873.92	60	154.22	38	97.67	
PAVEMENT (SPIRAL)	55+502.03	55+562.99	60.96	7.772	473.78				473.78			161.09	60	28.43	38	18.00	
PAVEMENT (CURVE)	55+562.99	55+619.25	56.26	7.772	437.25				437.25			148.67	60	26.24	38	16.61	
PAVEMENT (SPIRAL)	0+000.00	0+112.64	112.64	7.772	875.44				875.44			297.65	60	52.53	38	33.26	
PAVEMENT	0+112.64	0+173.60	60.96	7.772	473.78				473.78			161.09	60	28.43	38	18.00	
PAVEMENT	0+173.60	0+328.08	154.48	7.772	1200.62				1200.62			408.21	60	72.04	38	45.62	
PAVEMENT (SPEED CHANGE LANE)	0+328.08	0+591.31	263.23	11.582 AVG	3048.73				3048.73			1036.57	60	182.92	38	115.85	
FEATHER (SPEED CHANGE LANE)	0+591.31	0+596.71	5.40	15.392	83.12				83.12			28.26	69 AVG	5.74	38	3.16	
APPR. S.R. 213 'A' LINE	54+206.59	54+299.55	92.96	3.658	340.05				340.05			115.62	60	20.40	38	12.92	
APPR. S.R. 213 'A' LINE	54+299.55	54+349.84	50.29	1.981	99.62				99.62			33.87	60	5.98	38	3.79	
APPR. S.R. 213 FEATHER	1+239.89	1+242.05	2.16	29.566 AVG.	63.86				63.86			21.71	69 AVG	4.41	38	2.42	
SOUTHBOUND SHOULDERS																	
FEATHER	53+614.60	53+620.00	5.40	2.438	13.17				13.17			4.48	69 AVG	0.91	38	0.50	
PAVEMENT	53+620.00	53+843.87	223.87	2.438	545.80				545.80			185.57	60	32.75	38	20.75	
FEATHER	53+843.87	53+863.37	19.50	2.438	47.54				47.54			16.16	33 AVG	1.57	38	1.81	
APPROACH SLAB (TO REMAIN)	53+863.37	53+870.99	7.62	2.438	18.58				18.58			6.32	5	0.09	38	0.70	
BRIDGE NO. JEF-7-53873(33.46)	53+870.99	53+897.07	-	-	-				-			-	-	-	-	-	
APPROACH SLAB (TO REMAIN)	53+897.07	53+904.69	7.62	2.438	18.58				18.58			6.32	5	0.09	38	0.70	
FEATHER	53+904.69	53+924.19	19.50	2.438	47.54				47.54			16.16	33 AVG	1.57	38	1.81	
PAVEMENT	53+924.19	53+932.63	8.44	2.438	20.58				20.58			7.00	60	1.23	38	0.78	
PAVEMENT	53+932.63	54+052.00	119.37	2.438	291.02				291.02			98.95	60	17.46	38	11.06	
PAVEMENT	54+052.00	54+074.11	22.11	2.438	53.90				53.90			18.33	60	3.23	38	2.04	
PAVEMENT 'A' LINE	54+074.11	54+196.03	121.92	2.438	297.24				297.24			101.06	60	17.83	38	11.29	
PAVEMENT 'A' LINE	54+196.03	54+201.03	4.99	2.438	12.17				12.17			4.14	60	0.73	38	0.46	
S.R. 213 APPR. 'A' LINE	54+201.03	54+349.84	INCLUDED WITH S.R. 213 QUANTITIES														
PAVEMENT 'A' LINE	54+349.84	54+390.74	40.90	2.438	99.71				99.71			33.90	60	5.98	38	3.79	
FEATHER	54+390.74	54+410.24	19.50	2.438	47.54				47.54			16.16	30 AVG	1.43	38	1.81	
APPROACH SLAB	54+410.24	54+417.86	7.62	-	-				-								
BRIDGE NO. JEF-7-54419(33.80)	54+417.86	54+607.54	-	-	-				-								
APPROACH SLAB	54+607.54	54+615.16	7.62	-	-				-								
FEATHER	54+615.16	54+634.66	19.50	2.438	47.54				47.54			16.16	30 AVG	1.43	38	1.81	
PAVEMENT	54+634.66	55+619.25	984.59	2.438	2400.43				2400.43			816.15	60	144.03	38	91.21	
PAVEMENT	0+000.00	0+591.31	591.31	2.438	1441.61				1441.61			490.15	60	86.50	38	54.78	
FEATHER	0+591.31	0+596.71	5.40	2.438	13.17				13.17			4.48	69 AVG	0.91	38	0.50	
APPR. S.R.213 'A' LINE	54+242.87	54+299.55	56.68	2.438	138.19				138.19			46.98	60	8.29	38	5.25	
	54+299.55	54+349.84	50.29	2.438	122.61				122.61			41.69	60	7.36	38	4.66	

CALCULATED	CHECKED
SOT	M.M.

**PAVEMENT & SHOULDER QUANTITIES
SOUTHBOUND LANES**

JEF/COL-7-53.620/0.000

EXISTING JOINT, CRACK OR FLEXIBLE PATCH LOCATION (± 0.5 m)	L A N E	EXISTING FLEXIBLE LENGTH	PROPOSED RIGID REPLACEMENT LENGTH	ITEM 255						ITEM 413	REMARKS	
				FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS C				FULL DEPTH PAVEMENT SAWING	WELDED WIRE FABRIC REINFORCEMENT	SAWING & SEALING ASPHALT CONCRETE PAVEMENT JOINTS		
				TYPE Y/Y		TYPE Y/N/Y						
				PASSING LANE	TRAVEL LANE	PASSING LANE	TRAVEL LANE					
STATION		METER	METER	SQ METER	SQ METER	SQ METER	SQ METER	METER	SQ METER	METER		
53+683.4/53+691.0	NORTHBOUND LANES		9.40			37.24	34.39	24.64	70.10	35.21	JOINT/CRACK REPAIR	
54+103.5		1.37	1.97	7.81	7.21			17.21		21.03	EXIST. FLEXIBLE PATCH	
+121.5		1.52	2.12	8.40	7.75			17.36		21.03	EXIST. FLEXIBLE PATCH	
+139.5		1.52	2.12	8.40	7.75			17.36		21.03	EXIST. FLEXIBLE PATCH	
+150.0		1.83	2.43	9.63	8.89			17.67		21.03	EXIST. FLEXIBLE PATCH	
+306.5		1.52	2.12	8.40	7.75			17.36		23.47	EXIST. FLEXIBLE PATCH	
+369.5		1.52	2.12	8.40	7.75			17.36		23.47	EXIST. FLEXIBLE PATCH	
+734.0		1.52	2.12	8.40	7.75			17.36		21.03	EXIST. FLEXIBLE PATCH	
+752.5		1.52	2.12	8.40	7.75			17.36		21.03	EXIST. FLEXIBLE PATCH	
+806.5		1.83	2.43	9.63	8.89			17.67		21.03	EXIST. FLEXIBLE PATCH	
54+893/54+899		1.52	7.80			30.90	28.53	23.04	57.91	31.55	CRACK/FLEXIBLE PATCH	
+945.0		2.13	2.73	10.82	9.99			17.97		21.03	EXIST. FLEXIBLE PATCH	
+991.5		1.52	2.12	8.40	7.75			17.36		21.03	EXIST. FLEXIBLE PATCH	
55+009.5		1.52	2.12	8.40	7.75			17.36		21.03	EXIST. FLEXIBLE PATCH	
+137.5		1.52	2.12	8.40	7.75			17.36		21.03	EXIST. FLEXIBLE PATCH	
+182.0		1.52	2.12	8.40	—			10.04		8.84	EXIST. FLEXIBLE PATCH	
+200.5		1.52	2.12	8.40	7.75			17.36		23.47	EXIST. FLEXIBLE PATCH	
+218.5		1.52	2.12	8.40	7.75			17.36		21.03	EXIST. FLEXIBLE PATCH	
+344.5		1.83	2.43	9.63	8.89			17.67		23.47	EXIST. FLEXIBLE PATCH	
+473.0		1.52	2.12	8.40	7.75			17.36		21.03	EXIST. FLEXIBLE PATCH	
+491.5		1.52	2.12	8.40	7.75			17.36		23.47	EXIST. FLEXIBLE PATCH	
+601.0		1.83	2.43	9.63	8.89			17.67		21.03	EXIST. FLEXIBLE PATCH	
0+018.5		1.83	2.43	9.63	8.89			17.67		21.03	EXIST. FLEXIBLE PATCH	
+037.0		1.52	2.12	8.40	7.75			17.36		21.03	EXIST. FLEXIBLE PATCH	
+091.5		1.52	2.12	8.40	7.75			17.36		23.47	EXIST. FLEXIBLE PATCH	
+111.0		1.52	2.12	8.40	7.75			17.36		23.47	EXIST. FLEXIBLE PATCH	
+202.0		2.13	2.73	10.82	9.99			17.97		21.03	EXIST. FLEXIBLE PATCH	
+221.0		1.83	2.43	9.63	8.89			17.67		21.03	EXIST. FLEXIBLE PATCH	
+239.0		1.83	2.43	9.63	8.89			17.67		21.03	EXIST. FLEXIBLE PATCH	
+258.0		1.52	2.12	8.40	7.75			17.36		21.03	EXIST. FLEXIBLE PATCH	
+276.0		1.52	2.12	8.40	7.75			17.36		21.03	EXIST. FLEXIBLE PATCH	
+330.0		2.13	2.73	10.82	9.99			17.97		21.03	EXIST. FLEXIBLE PATCH	
+367.0		1.52	2.12	8.40	7.75			17.36		21.03	EXIST. FLEXIBLE PATCH	
+404.0		1.52	2.12	8.40	7.75			17.36		21.03	EXIST. FLEXIBLE PATCH	
+440.5		1.83	2.43	9.63	8.89			17.67		21.03	EXIST. FLEXIBLE PATCH	
+551.0		1.37	1.97	7.81	7.21			17.21		21.03	EXIST. FLEXIBLE PATCH	
SUBTOTALS				301.52	270.51	68.14	62.92					
				572.03		131.06						
TOTALS CARRIED TO SHEET NO. 19				703.09				634.61	128.01 *	786.67		

EXISTING JOINT, CRACK OR FLEXIBLE PATCH LOCATION (± 0.5 m)	L A N E	EXISTING FLEXIBLE LENGTH	PROPOSED RIGID REPLACEMENT LENGTH	ITEM 255						ITEM 413	REMARKS	
				FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS C				FULL DEPTH PAVEMENT SAWING	WELDED WIRE FABRIC REINFORCEMENT	SAWING & SEALING ASPHALT CONCRETE PAVEMENT JOINTS		
				TYPE Y/Y		TYPE Y/N/Y						
				PASSING LANE	TRAVEL LANE	PASSING LANE	TRAVEL LANE					
STATION		METER	METER	SQ METER	SQ METER	SQ METER	SQ METER	METER	SQ METER	METER		
0+458.5	SOUTHBOUND LANES	1.83	2.43	9.63	8.89			17.67		21.03	EXIST. FLEXIBLE PATCH	
+440.5		1.52	2.12	8.40	7.75			17.36		21.03	EXIST. FLEXIBLE PATCH	
+421.5		1.52	2.12	8.40	7.75			17.36		21.03	EXIST. FLEXIBLE PATCH	
+403.5		1.52	2.12	8.40	7.75			17.36		21.03	EXIST. FLEXIBLE PATCH	
+385.5		1.83	2.43	9.63	8.89			17.67		21.03	EXIST. FLEXIBLE PATCH	
+366.5		1.52	2.12	8.40	7.75			17.36		21.03	EXIST. FLEXIBLE PATCH	
+348.5		1.52	2.12	8.40	7.75			17.36		21.03	EXIST. FLEXIBLE PATCH	
+331.5		1.52	2.12	8.40	7.75			17.36		21.03	EXIST. FLEXIBLE PATCH	
55+410.0		1.52	2.12	8.40	7.75			17.36		23.47	EXIST. FLEXIBLE PATCH	
+370.0		2.44	3.04	12.04	11.12			18.28	21.64	23.47	EXIST. FLEXIBLE PATCH	
55+231.0/55+225.0			7.80			30.90	28.53	23.04	57.91	35.21	JOINT/CRACK REPAIR	
+185.5		1.52	2.12	8.40	7.75			17.36		21.03	EXIST. FLEXIBLE PATCH	
+167.5		2.44	3.04	12.04	11.12			18.28	21.64	21.03	EXIST. FLEXIBLE PATCH	
+015.0		1.22	1.82	7.21	6.66			17.06		21.03	EXIST. FLEXIBLE PATCH	
54+839.5		1.52	2.12	8.40	7.75			17.36		21.03	EXIST. FLEXIBLE PATCH	
+821.5		1.52	2.12	8.40	7.75			17.36		21.03	EXIST. FLEXIBLE PATCH	
+766.0		1.83	2.43	9.63	8.89			17.67		21.03	EXIST. FLEXIBLE PATCH	
+710.5		1.68	2.28	9.03	8.34			17.52		21.03	EXIST. FLEXIBLE PATCH	
+692.5		1.52	2.12	8.40	7.75			17.36		21.03	EXIST. FLEXIBLE PATCH	
+674.5		1.83	2.43	9.63	8.89			17.67		21.03	EXIST. FLEXIBLE PATCH	
+361.0		1.52	2.12	8.40	7.75			17.36		21.03	EXIST. FLEXIBLE PATCH	
+150.0		1.83	2.43	9.63	8.89			17.67		21.03	EXIST. FLEXIBLE PATCH	
+103.5		1.37	1.97	7.81	7.21			17.21		21.03	EXIST. FLEXIBLE PATCH	
SUBTOTALS				197.08	181.90	30.90	28.53					
				378.98		59.43						
TOTALS CARRIED TO SHEET NO. 19				438.41				408.06	101.19 *	502.75		

* THE QUANTITY OF WELDED WIRE FABRIC REINFORCEMENT IS INCLUDED FOR ESTIMATING PURPOSES ONLY.
PAYMENT FOR THE WELDED WIRE FABRIC REINFORCEMENT SHALL BE INCLUDED WITH ITEM 255 – FULL
DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS C.

CROSS REFERENCES	
SHEET NO.	ITEM
19	PAVEMENT REPAIR CALCULATIONS
33	PAVEMENT REPAIR DETAILS

CALCULATED
SPT
CHECKED
M.M.

FULL DEPTH PAVEMENT REMOVAL & RIGID REPLACEMENT
QUANTITIES

JEF/COL-7-53.620/0.000

1. TRANSVERSE JOINT CALCULATIONS

A) MAINLINE:
STA. 53+620.00 TO STA. 55+619.25 = 1999.25 m
STA. 0+000.00 TO STA. 0+591.31 = 591.31 m
TOTAL PROJECT LENGTH = 2590.56 m

DEDUCT FOR BRIDGES AND APPROACH SLABS:
BRIDGE NO. JEF-7-53873 (33.46); 26.08 m + 15.24 m = 41.32 m
BRIDGE NO. JEF-7-54419 (33.80); 189.68 m + 15.24 m = 204.92 m
246.24 m

DEDUCT FOR PAVEMENT TRANSITION AT S.R. 213:
N.B. STA. 54+158.12 TO N.B. STA. 54+362.18 = 204.06 m
S.B. STA. 54+158.12 TO S.B. STA. 54+349.84 'A' = 191.72 m
395.78 m

NET PAVEMENT LENGTH:
(2590.56 m - 246.24 m) x 2 DIRECTIONS - 395.78 m = 4292.86 m
4292.86 m ÷ 18.288 METERS/JOINT = 235 JOINTS OF 7.62 m WIDTH

DEDUCT FOR 59 FULL DEPTH FLEXIBLE PATCHES THAT WERE REPLACED
ON THE PREVIOUS SUBSUMMARY SHEET:

235 JOINTS - 59 JOINTS = 176 JOINTS OF 7.62 m WIDTH

B) INCLUDE JOINTS AT PAVEMENT TRANSITION AT S.R. 213:
SEE TABLE BELOW:

EXISTING TRANSVERSE PAVEMENT JOINT LOCATIONS AT S.R. 213 TRANSITION							
STATION	LANE	JOINT WIDTH	NO. OF LONG. JOINTS CROSSED	STATION	LANE	JOINT WIDTH	NO. OF LONG. JOINTS CROSSED
		METER				METER	
54+158.12	NB	7.62	1	54+158.12	SB	7.62	1
+168.48	NB	8.23	1	+172.75 'A'	SB	7.62	1
+182.20	NB	9.91	2	+186.16 'A'	SB	7.62	1
+195.92	NB	10.82	2	+204.45 'A'	SB	8.23	2
+207.50	NB	11.28	2	+242.70 'A'	SB	11.28	2
+223.65	NB & SB	19.96	4	+260.38 'A'	SB	11.28	2
+241.64	NB	11.58	2	+278.21 'A'	SB	11.28	2
+259.92	NB	11.43	2	+296.04 'A'	SB	11.28	2
+278.21	NB	11.13	2	+313.87 'A'	SB	10.36	2
+296.65	NB	10.52	2	+331.86 'A'	SB	8.99	2
+315.09	NB	9.91	2	+349.84 'A'	SB	7.62	1
+333.53	NB	9.30	2				
+351.82	NB	8.69	2				
+362.18	NB	8.23	1				
NORTHBOUND TOTAL		148.61	27	SOUTHBOUND TOTAL		103.18	18
TOTALS CARRIED TO STEPS 2, 3 & 4 (25 TRANSVERSE JOINTS)						251.79	45

C) SPEED CHANGE LANES:
RAMP "A":

STA. 0+328.00 TO STA. 0+591.312 = 263.312 m
263.312 m ÷ 18.288 METERS/JOINT + 1 = 16 JOINTS
AVERAGE JOINT WIDTH = 4.572 m

16 JOINTS OF 4.572 m WIDTH = 73.15 m

2. ITEM 255 - FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS C:

A) TRANSVERSE JOINTS:
(176 JOINTS x 7.62 m) + 251.79 m + (16 JOINTS x 4.572 m) = 1666.06 m
1666.06 m X 1.8 m PATCH LENGTH = 2998.91 SQ METER

TOTAL QUANTITY THIS SHEET = 2998.91 SQ METER

3. ITEM 255 - FULL DEPTH PAVEMENT SAWING

A) MAINLINE TRANSVERSE JOINTS:
((7.62 m x 2) + 1.8 m) x 176 JOINTS = 2999.04 m

B) JOINTS AT PAVEMENT TRANSITION AT S.R. 213:
(251.79 m x 2) + (1.8 m x 45 LONG. JOINTS) = 584.58 m

C) JOINTS AT SPEED CHANGE LANE TO RAMP "A":
16 JOINTS x ((4.572 m WIDTH x 2) + 1.8 m) = 175.10 m

TOTAL QUANTITY THIS SHEET = 2999.04 m + 584.58 m + 175.10 m = 3758.72 m

4. ITEM 413 - SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS:

A) MAINLINE TRANSVERSE JOINTS:
176 JOINTS x (7.62 m + 2.44 m) x 2 = 3541.12 m

B) JOINTS AT PAVEMENT TRANSITION AT S.R. 213:
(251.79 m x 2) + (2.44 m x 25 JOINTS x 2) = 625.58 m

C) JOINTS AT SPEED CHANGE LANE TO RAMP "A":
16 JOINTS x ((4.572 m + 2.44 m) x 2 = 224.38 m

TOTAL QUANTITY THIS SHEET = 3541.12 m + 625.58 m + 224.38 m = 4391.08 m

CROSS REFERENCES	
SHEET NO.	ITEM
18	FULL DEPTH PAVEMENT REMOVAL & RIGID REPLACEMENT QUANTITIES
33	PAVEMENT REPAIR DETAILS

PAVEMENT REPAIR SUMMARY				
TOTALS FROM SHEET NO.	ITEM 255			ITEM 413
	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS C	FULL DEPTH PAVEMENT SAWING	WELDED WIRE FABRIC REINFORCEMENT *	SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS
	SQ METER	METER	SQ METER	METER
THIS SHEET	2998.91	3758.72		4391.08
18	703.09	634.61	128.01	786.67
18	438.41	408.06	101.19	502.75
SUBTOTALS	4140.41	4801.39	229.20	5680.50
A 20% INCREASE HAS BEEN ADDED TO THE FOLLOWING PAVEMENT REPAIR ITEMS TO ACCOUNT FOR FURTHER PAVEMENT DETERIORATION FROM THE TIME OF INSPECTION TO THE TIME OF CONSTRUCTION:				
ITEM 255 - FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS C: 4140.41 SQ METER x 1.20 = 4968.49 SQ METER USE 5000 SQ METER				
ITEM 255 - FULL DEPTH PAVEMENT SAWING: 4801.39 METER x 1.20 = 5761.67 METER USE 5775 METER				
ITEM 255 - WELDED WIRE FABRIC REINFORCEMENT: 229.20 SQ METER x 1.20 = 275.04 SQ METER USE 275 SQ METER *				
ITEM 413 - SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS: 5680.50 METER x 1.20 = 6816.60 METER USE 6825 METER				
TOTALS	5000	5775	275 *	6825
TOTALS	5000	5775		6825
CARRIED TO GENERAL SUMMARY				

* THE QUANTITY OF WELDED WIRE FABRIC REINFORCEMENT IS INCLUDED FOR ESTIMATING PURPOSES ONLY. THIS QUANTITY HAS NOT BEEN CARRIED TO THE GENERAL SUMMARY. PAYMENT FOR THE WELDED WIRE FABRIC REINFORCEMENT SHALL BE INCLUDED WITH ITEM 255 - FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS C.

LINEAR GRADING QUANTITIES										
STATION		SIDE	GUARDRAIL REF. NO.	LENGTH	203		448			670
					LINEAR GRADING, METHOD A	LINEAR GRADING, METHOD B	WIDTH	AREA	50 mm ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (UNDER GUARDRAIL) AS PER PLAN	SLOPE EROSION PROTECTION
FROM	TO			METER	KILOMETER	KILOMETER	METER	SQ. METER	CU. METER	1.0 METER WIDTH SQ. METER
NORTHBOUND LANES										
53+614.60	53+845.41	RT.	GR-1	230.81		0.231	1.219	281.36	14.07	230.81
53+845.41	53+879.34	BRIDGE NO. JEF-7-53873(33.46)								
53+879.34	53+935.88	RT.	GR-3	56.54		0.057	1.219	68.92	3.45	56.54
53+935.88	54+193.945	RT.	-	258.065	0.258					
54+193.945	54+420.00	RT.	GR-7	226.055		0.226	1.219	275.56	13.78	226.055
54+420.00	54+643.74	BRIDGE NO. JEF-7-54419(33.80)								
54+643.74	54+815.77	RT.	-	172.03	0.172					
54+815.77	54+880.54	RT.	GR-10	64.77		0.065	1.219	78.95	3.95	64.77
54+880.54	55+158.67	RT.	-	278.13	0.278					
55+158.67	55+208.20	RT.	GR-12	49.53		0.050	1.219	60.38	3.02	49.53
55+208.20	55+341.55	RT.	-	133.35	0.133					
55+341.55	55+413.94	RT.	GR-14	72.39		0.072	1.219	88.24	4.41	72.39
55+413.94	55+501.57	RT.	-	87.63	0.088					
55+501.57	55+566.34	RT.	GR-16	64.77		0.065	1.219	78.95	3.95	64.77
55+566.34	55+619.253	RT.	-	52.913	0.053					
0+000.000	0+055.74	RT.	-	55.74	0.056					
0+055.74	0+112.89	RT.	GR-18	57.15		0.057	1.219	69.67	3.48	57.15
0+112.89	0+596.71	RT.	-	483.82	0.484					
SOUTHBOUND LANES										
53+614.60	53+873.48	LT.	-	258.88	0.259					
53+873.48	53+884.30	LT.	GR-2	10.82		0.011	1.219	13.19	0.66	10.82
53+884.30	53+917.96	BRIDGE NO. JEF-7-53873(33.46)								
53+917.96	53+949.705	LT.	GR-4	31.745		0.032	1.219	38.70	1.93	31.745
53+949.705	54+170.01	LT.	-	220.305	0.220					
54+170.01	54+200.79	LT.	GR-5	30.78		0.031	1.219	37.52	1.88	30.78
54+200.79	54+241.64	APPR. S.R. 213								
54+241.64	54+374.34	LT.	-	132.70	0.133					
54+374.34	54+404.21	LT.	GR-8	29.87		0.030	1.219	36.41	1.82	29.87
54+404.21	54+609.60	BRIDGE NO. JEF-7-54419(33.80)								
54+609.60	54+645.155	LT.	GR-9	35.555		0.036	1.219	43.34	2.17	35.555
54+645.155	54+842.44	LT.	-	197.285	0.197					
54+842.44	54+884.35	LT.	GR-11	41.91		0.042	1.219	51.09	2.55	41.91
54+884.35	55+192.96	LT.	-	308.61	0.309					
55+192.96	55+234.87	LT.	GR-13	41.91		0.042	1.219	51.09	2.55	41.91
55+234.87	55+362.43	LT.	-	127.56	0.128					
55+362.43	55+411.96	LT.	GR-15	49.53		0.050	1.219	60.38	3.02	49.53
55+411.96	55+526.10	LT.	-	114.14	0.114					
55+526.10	55+575.63	LT.	GR-17	49.53		0.050	1.219	60.38	3.02	49.53
55+575.63	55+619.253	LT.	-	43.623	0.044					
0+000.000	0+095.83	LT.	-	95.83	0.096					
0+095.83	0+137.74	LT.	GR-19	41.91		0.042	1.219	51.09	2.55	41.91
0+137.74	0+596.71	LT.	-	458.97	0.459					
SUBTOTALS					3.481	1.189			72.26	1185.58
TOTALS - CARRIED TO GENERAL SUMMARY					4	2			73	

ITEM 659
SEEDING & MULCHING FROM LINEAR GRADING, METHOD A: 3.481 km x 1000 x 1.20 m AVG. WIDTH = 4177.20 SQ. METER FROM LINEAR GRADING, METHOD B: 1.189 km x 1000 x 1.00 m AVG. WIDTH = 1189.00 SQ. METER TOTAL = 5366.20 SQ. METER
COMMERCIAL FERTILIZER 5366.20 m ² x 0.1 kg/m ² = 536.62 KILOGRAM USE 537 KILOGRAM *
AGRICULTURAL LIMING 5366.20 m ² x 256 kg/1000 m ² x 220% = 3022.24 KILOGRAM USE 3022 KILOGRAM *
WATER 5366.20 m ² x 5 m ³ x 2 APPLICATIONS = 53.66 m ³ 1000 m ² USE 54 CU. METER *

ITEM 670 - SLOPE EROSION PROTECTION
LOCATED AT NORTH END OF BRIDGE NO. JEF-7-53873 (SEE SHEET 55) NE CORNER- (8.5 m + 6.7 m) x 6.0 m x 1/2 x 1.12 = 51.1 NW CORNER (7.7 m + 3.4 m) x 1.8 m x 1/2 x 1.03 = 10.3 SUBTOTAL = 61.4 SQ METER SUBTOTAL FROM LINEAR GRADING QUANTITIES = 1188.58 SQ METER TOTAL = 1249.98 SQ METER USE 1250 SQ. METER *

* TOTALS CARRIED TO GENERAL SUMMARY

CONCRETE MEDIAN & CONCRETE BARRIER SUBSUMMARY																						
REF. NO.	PLAN SHEET NO.	MEDIAN & BARRIER DETAIL SHEET NO.	STATION		SIDE	LENGTH	AVERAGE EXISTING MEDIAN PAVEMENT WIDTH	AVERAGE PROPOSED MEDIAN PAVEMENT WIDTH	202				SPECIAL	612			622				SPEC.	COMMENTS
									CONCRETE MEDIAN REMOVED	CONCRETE MEDIAN REMOVED, AS PER PLAN	CONCRETE BARRIER REMOVED	CURB REMOVED	SEALING OF CONCRETE SURFACES (EPOXY)	CONCRETE MEDIAN, AS PER PLAN 'A'	CONCRETE MEDIAN, AS PER PLAN 'B'	CONCRETE BARRIER, TYPE A	CONCRETE BARRIER, TYPE A, AS PER PLAN 'A'	CONCRETE BARRIER, TYPE A, AS PER PLAN 'B'	CONCRETE BARRIER, TYPE A, AS PER PLAN 'C'	IMPACT ATTENUATOR, QUADGUARD TYPE		
			FROM	TO		METER	METER	METER	SQ. METER	SQ. METER	METER	METER	SQ. METER	SQ. METER	SQ. METER	METER	METER	METER	METER	EACH		
	23		53+620.00	53+857.90	℄	237.90							452.01								EXISTING TYPE A CONCRETE BARRIER	
B-1	23	30	53+857.90	53+863.37	℄	5.47					5.47		12.03						5.47		REMOVE EXISTING BARRIER TRANSITION	
B-2	23	30	53+863.37	53+870.99	℄	7.62	0.914			6.39	0.63		16.76					7.62			TRANSITION TO BRIDGE FROM TYPE A	
	23	30	53+870.99	53+897.07																	BRIDGE NO. JEF-7-53873(33.46)	
B-3	23	30	53+897.07	53+904.69	℄	7.62	0.914			6.97			16.76					7.62			TRANSITION FROM BRIDGE TO TYPE A	
B-4	23	30	53+904.69	53+960.78	℄	56.09	0.610		34.19			112.18	123.40			56.09					STD. TYPE A BARRIER	
B-5	23	30	53+960.78	53+971.44	℄	10.66	0.610		6.50			21.32	22.77				10.66				TRANSITION FROM TYPE A TO ATTENUATOR	
A-1	23	30	53+971.44	53+979.51	℄	8.07	0.610	1.19	4.92			16.14	11.25		8.07					1	ATTENUATOR MOUNTED ON MEDIAN	
B-6	23		53+979.51	54+052.00	℄	72.49	0.610	0.91	44.22			144.98	80.75	65.97							MEDIAN, AS PER PLAN A	
B-7	23		54+052.00	54+208.11 'A'	℄	156.11	1.23	1.54	192.02			312.22	272.26	240.41							VARIABLE WIDTH MEDIAN, AS PER PLAN A	
	23		54+208.11 'A'	54+236.76 'A'																	INTERSECTION WITH S.R. 213	
B-8	23, 24		54+236.76 'A'	54+381.00	℄	144.24	0.610	0.91	87.93			288.48	160.68	131.26							MEDIAN, AS PER PLAN A	
A-2	24	31	54+381.00	54+389.07	℄	8.07	0.610	1.19	4.92			16.14	11.25		8.07					1	ATTENUATOR MOUNTED ON MEDIAN	
B-9	24	31	54+389.07	54+399.73	℄	10.66	0.610		6.50			21.32	22.77				10.66				TRANSITION FROM ATTENUATOR TO TYPE A	
B-10	24	31	54+399.73	54+410.24	℄	10.51	0.610		6.41			21.02	23.12			10.51					STD. TYPE A BARRIER	
B-11	24	31	54+410.24	54+417.86	℄	7.62	0.610		4.65			15.24	16.76					7.62			TRANSITION FROM TYPE A TO BRIDGE	
	24	31	54+417.86	54+607.54																	BRIDGE NO. JEF-7-54419(33.80)	
B-12	24	31	54+607.54	54+615.16	℄	7.62	0.610		4.20		0.74	13.76	16.76					7.62			TRANSITION FROM BRIDGE TO TYPE A	
B-13	24	31	54+615.16	54+620.52	℄	5.36					5.36		11.79						5.36		REMOVE EXISTING BARRIER TRANSITION	
	24-26		54+620.52	55+619.25	℄	998.73							1897.59								EXISTING TYPE A CONCRETE BARRIER	
	26		0+000.00	0+591.31	℄	591.31							1123.49								EXISTING TYPE A CONCRETE BARRIER	
D-4	23	32	54+206.58 'A'		℄	2.84								-2.84							MEDIAN INLET NO. 2-8	
D-6	24	32	54+330.03 'A'		℄	2.84								-2.84							MEDIAN INLET NO. 2-8 RECONSTRUCTED	
D-7	24	32	54+354.41 'A'		℄	2.84								-2.84							MEDIAN INLET NO. 2-8 RECONSTRUCTED	
TOTALS - CARRIED TO GENERAL SUMMARY									396.46	13.36	12.20	982.80	4292.20	429.12	16.14	66.60	21.32	30.48	10.83	2		

GUARDRAIL CALCULATIONS															
REF. NO.	PLAN SHEET NO.	STATION		SIDE	202		606						626		REMARKS
					GUARDRAIL REMOVED	REMOVAL MISC.: BARRIER REFLECTOR, TYPE B	GUARDRAIL, TYPE 5	ANCHOR ASSEMBLY, TYPE A	ANCHOR ASSEMBLY, TYPE E	ANCHOR ASSEMBLY, TYPE T	BRIDGE TERMINAL ASSEMBLY, TYPE 1	BRIDGE TERMINAL ASSEMBLY, TYPE 2	BARRIER REFLECTOR, TYPE A	BARRIER REFLECTOR, TYPE B	
		FROM	TO		METER	EACH	METER	EACH	EACH	EACH	EACH	EACH	EACH	EACH	
GR-1	23	53+614.60	53+848.69	RT	234.09										FIELD SPLICE TO EXISTING GUARDRAIL AT STA. 53+614.60
		53+614.60	53+846.04				234.315				1		SEE BELOW		
GR-2	23	53+876.19	53+887.62	LT	11.43										
		53+873.48	53+884.91				7.62			1		1	SEE BELOW		
GR-3	23	53+875.90	53+936.86	RT	60.96										
		53+878.73	53+935.88				41.91			1		1	SEE BELOW		
GR-4	23	53+914.81	53+952.91	LT	38.10										
		53+917.32	53+949.705				17.145		1		1		SEE BELOW		
GR-5	23	54+170.01~LT S.R.7	1+195.53~RT S.R.213	-	60.96		38.10	1		1			8		INCL. 30.48 m @ 10.668 m RADIUS (USE 7.62 m BARRIER REFLECTOR SPACING)
GR-6	23	1+192.05±S.R.213	1+232.01±S.R.213	LT	38.10		30.48	2					5		INCL. 19.05 m @ 24.384 m RADIUS (USE 7.62 m BARRIER REFLECTOR SPACING)
GR-7	23, 24	54+192.63	54+421.23	RT	228.60										
		54+193.945	54+420.64				211.455		1		1		SEE BELOW		
GR-8	24	54+371.53	54+405.82	LT	34.29										
		54+374.34	54+404.82				15.24			1		1	SEE BELOW		
GR-9	24	54+609.24	54+639.72	LT	30.48										
		54+608.96	54+645.155				20.955		1		1		SEE BELOW		
GR-10	24, 25	54+811.96	54+880.54	RT	68.58										
		54+815.77	54+880.54				45.72		1	1			4		
GR-11	24, 25	54+842.44	54+888.16	LT	45.72										
		54+842.44	54+884.35				22.86		1	1			3		
GR-12	25	55+154.86	55+208.20	RT	53.34										
		55+158.67	55+208.20				30.48		1	1			3		
GR-13	25	55+192.96	55+238.68	LT	45.72										
		55+192.96	55+234.87				22.86		1	1			3		
GR-14	25	55+337.74	55+413.94	RT	76.20										
		55+341.55	55+413.94				53.34		1	1			4		
GR-15	25	55+362.43	55+415.77	LT	53.34										
		55+362.43	55+411.96				30.48		1	1			3		
GR-16	25, 26	55+497.76	55+566.34	RT	68.58										
		55+501.57	55+566.34				45.72		1	1			4		
GR-17	26	55+526.10	55+579.44	LT	53.34										
		55+526.10	55+575.63				30.48		1	1			3		
GR-18	26	0+051.93	0+112.89	RT	60.96										
		0+055.74	0+112.89				38.10		1	1			3		
GR-19	26	0+095.83	0+141.55	LT	45.72										
		0+095.83	0+137.74				22.86		1	1			3		
	23	53+614.60	53+935.88	RT									11	1	
	23	53+873.48	53+949.705	LT									3	1	
	23, 24	54+193.945	54+643.74	RT									8	8	
	24	54+374.34	54+645.155	LT									4	6	
		53+620	53+977.85	℄		18								26	NB & SB (13 EACH SIDE) LOCATED ON ITEM 622, CONCRETE BARRIER, TYPE A
		54+381.35	55+619.253	℄		86								84	NB & SB (42 EACH SIDE) LOCATED ON ITEM 622, CONCRETE BARRIER, TYPE A
		0+000.000	0+591.312	℄		20								38	NB & SB (19 EACH SIDE) LOCATED ON ITEM 622, CONCRETE BARRIER, TYPE A
TOTAL - CARRIED TO GENERAL SUMMARY					1308.51	124	960.12	3	13	14	4	3	72	164	

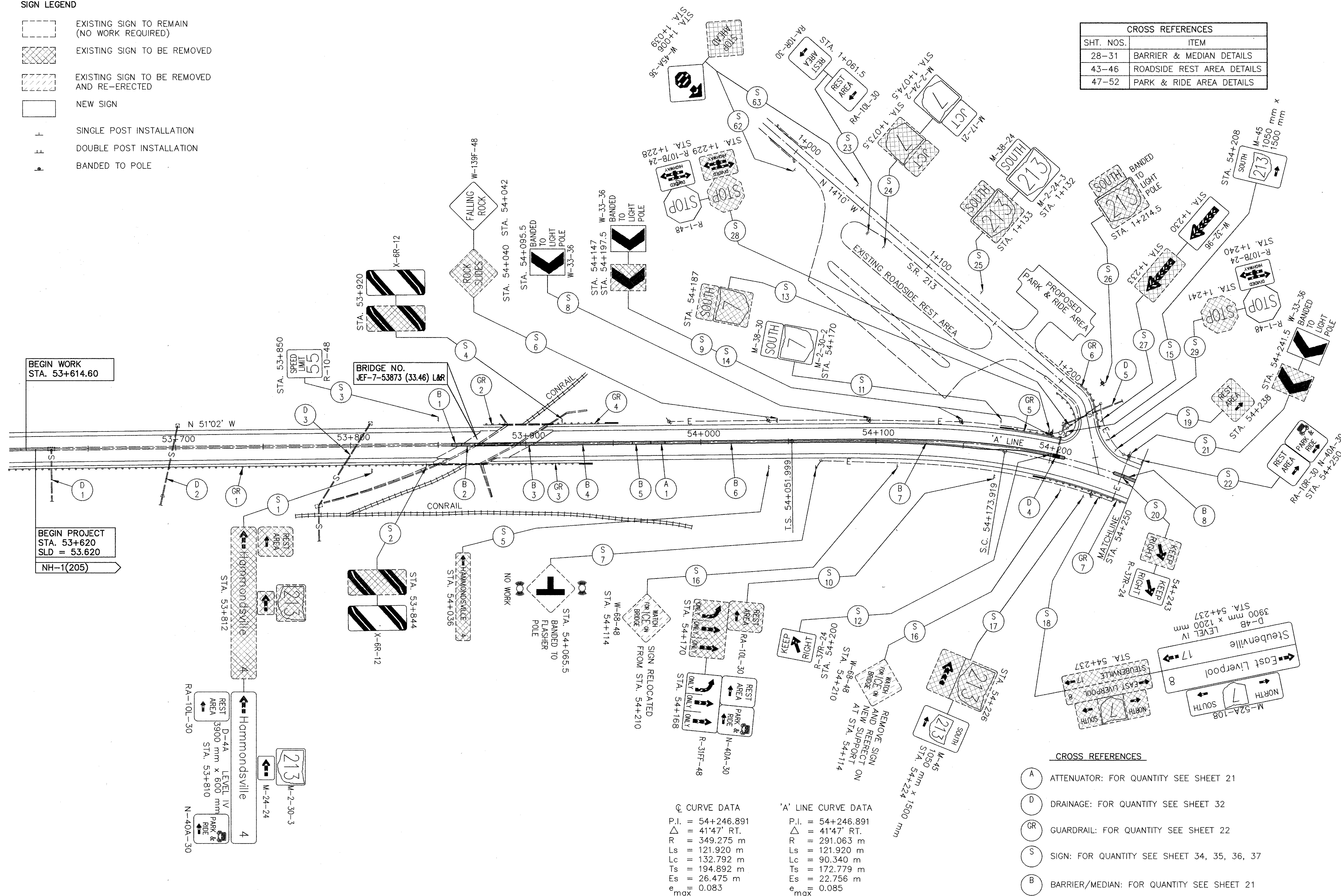
CALCULATED
SPT
CHECKED
M.N.

GUARDRAIL CALCULATIONS

JEF/COL-7-53.620/0.000

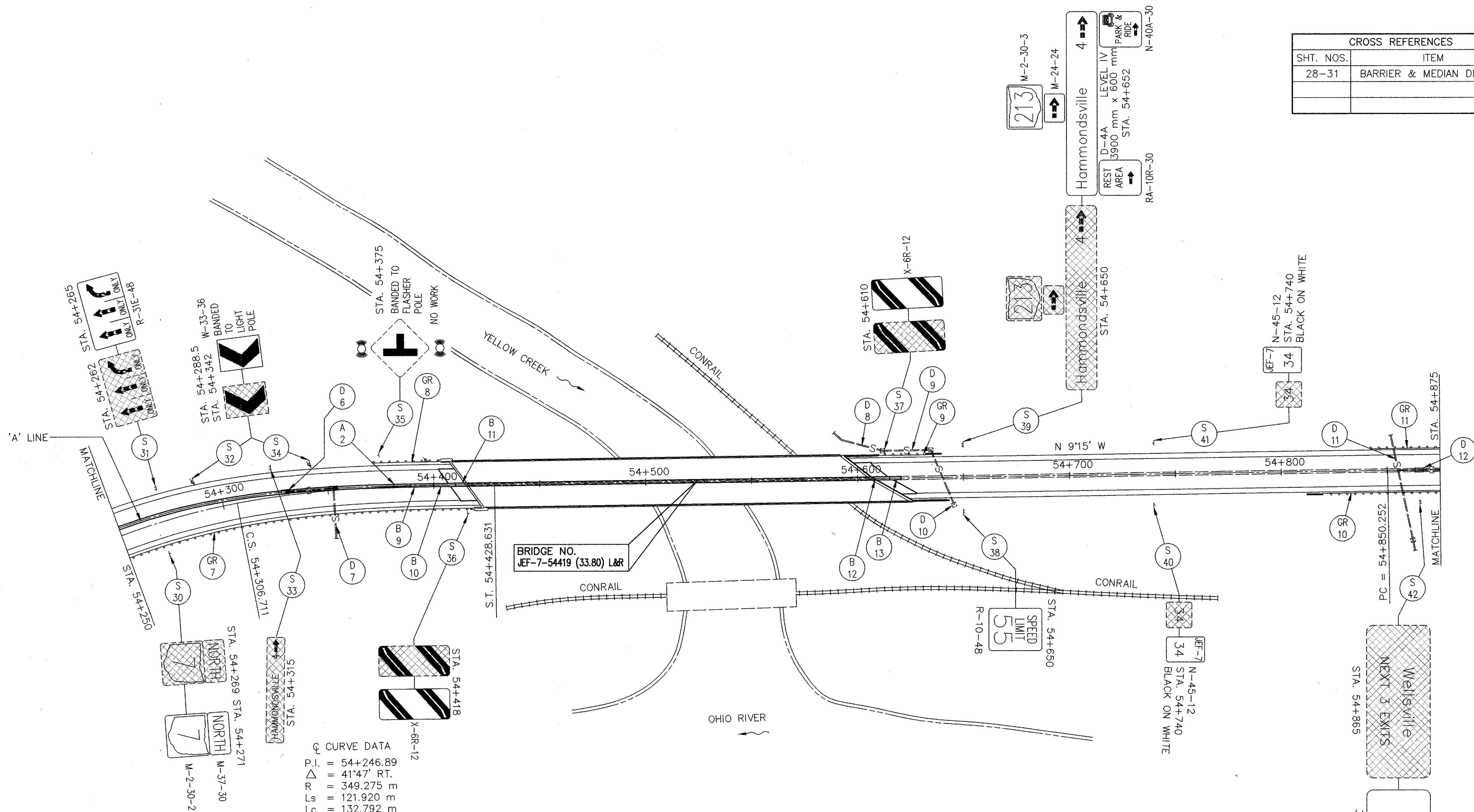
	EXISTING SIGN TO REMAIN (NO WORK REQUIRED)
	EXISTING SIGN TO BE REMOVED
	EXISTING SIGN TO BE REMOVED AND RE-ERECTED
	NEW SIGN
	SINGLE POST INSTALLATION
	DOUBLE POST INSTALLATION
	BANDED TO POLE

CROSS REFERENCES	
SHT. NOS.	ITEM
28-31	BARRIER & MEDIAN DETAILS
43-46	ROADSIDE REST AREA DETAILS
47-52	PARK & RIDE AREA DETAILS



PLAN SHEET
STA. 53+620 TO STA. 54+250

JEF/COL-7-53.620/0.000



CURVE DATA
 P.I. = 54+246.89
 Δ = 41°47' RT.
 R = 349.275 m
 Ls = 121.920 m
 Lc = 132.792 m
 Ts = 194.892 m
 Es = 26.475 m
 e_{max} = 0.083

'A' LINE CURVE DATA
 P.I. = 54+246.891
 Δ = 41°47' RT.
 R = 291.063 m
 Ls = 121.920 m
 Lc = 90.340 m
 Ts = 172.779 m
 Es = 22.756 m
 e_{max} = 0.085

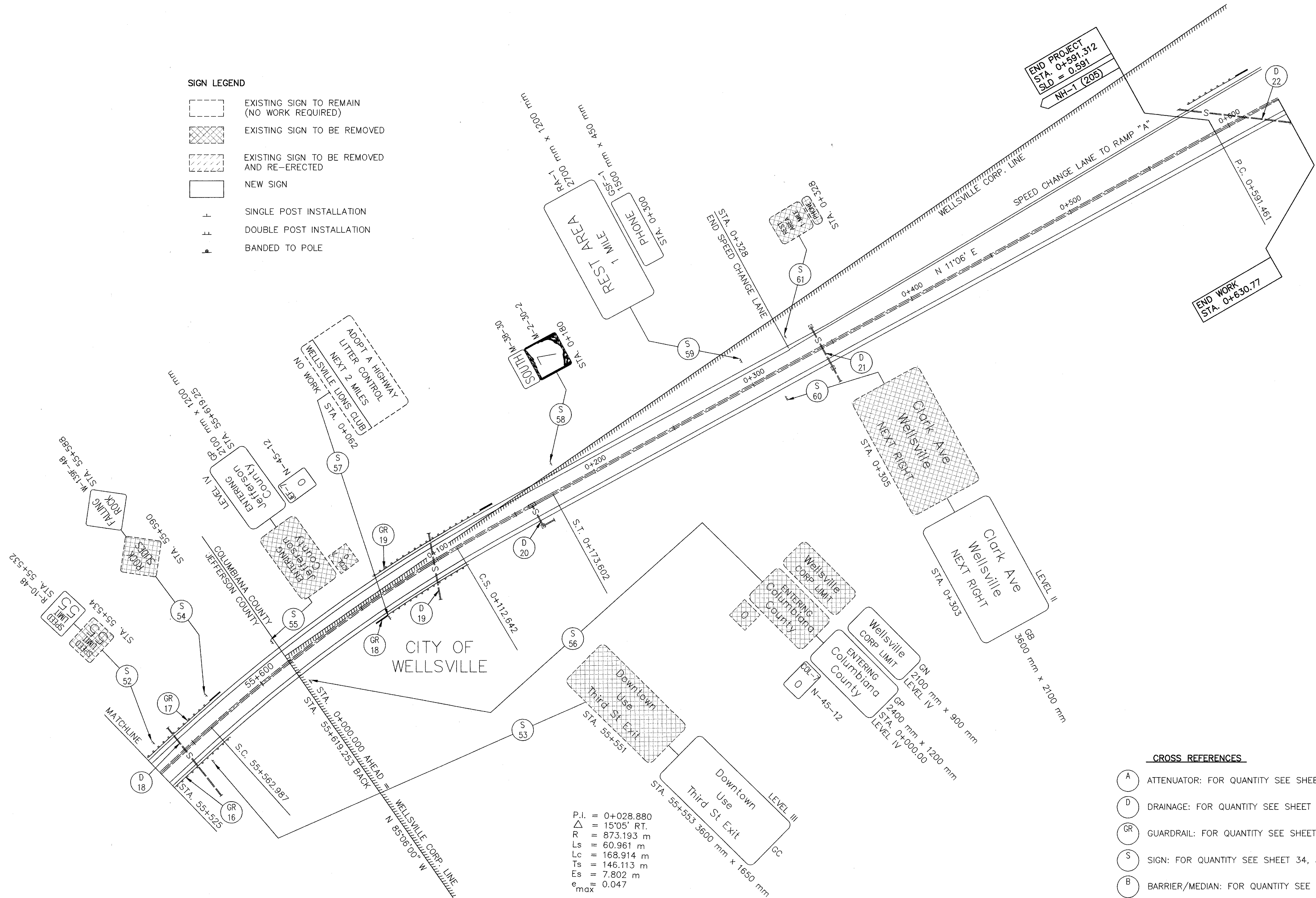
- SIGN LEGEND**
- EXISTING SIGN TO REMAIN (NO WORK REQUIRED)
 - EXISTING SIGN TO BE REMOVED
 - EXISTING SIGN TO BE REMOVED AND RE-ERECTED
 - NEW SIGN
 - SINGLE POST INSTALLATION
 - DOUBLE POST INSTALLATION
 - BANDED TO POLE

- CROSS REFERENCES**
- (A) ATTENUATOR: FOR QUANTITY SEE SHEET 21
 - (D) DRAINAGE: FOR QUANTITY SEE SHEET 32
 - (GR) GUARDRAIL: FOR QUANTITY SEE SHEET 22
 - (S) SIGN: FOR QUANTITY SEE SHEET 34, 35, 36, 37
 - (B) BARRIER/MEDIAN: FOR QUANTITY SEE SHEET 21

CROSS REFERENCES	
SHT. NOS.	ITEM
28-31	BARRIER & MEDIAN DETAILS

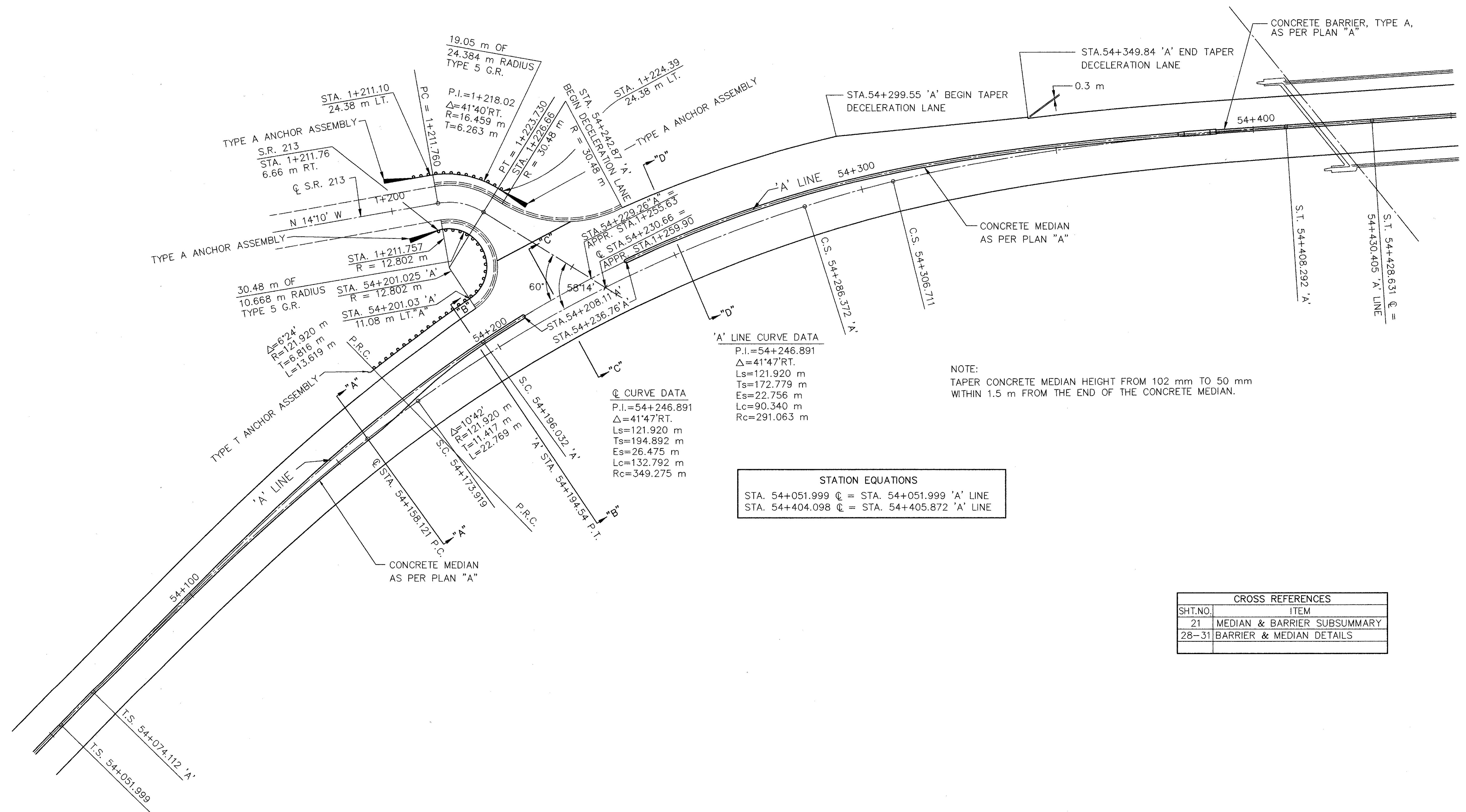
SIGN LEGEND

- EXISTING SIGN TO REMAIN (NO WORK REQUIRED)
- EXISTING SIGN TO BE REMOVED
- EXISTING SIGN TO BE REMOVED AND RE-ERECTED
- NEW SIGN
- SINGLE POST INSTALLATION
- DOUBLE POST INSTALLATION
- BANDED TO POLE



- CROSS REFERENCES
- A ATTENUATOR: FOR QUANTITY SEE SHEET 21
 - D DRAINAGE: FOR QUANTITY SEE SHEET 32
 - GR GUARDRAIL: FOR QUANTITY SEE SHEET 22
 - S SIGN: FOR QUANTITY SEE SHEET 34, 35, 36, 37
 - B BARRIER/MEDIAN: FOR QUANTITY SEE SHEET 21

P.I. = 0+028.880
Δ = 15°05' RT.
R = 873.193 m
Ls = 60.961 m
Lc = 168.914 m
Ts = 146.113 m
Es = 7.802 m
e_{max} = 0.047



CALCULATED	SOT
CHECKED	M.M.

PAVEMENT TRANSITION PLAN SHEET
STA. 54+050 TO STA. 54+450

JEF/COL-7-53.620/0.000

CROSS REFERENCES	
SHT.NO.	ITEM
21	MEDIAN & BARRIER SUBSUMMARY
28-31	BARRIER & MEDIAN DETAILS

CROSS REFERENCES	
SHT.NO.	ITEM
27	PAVEMENT TRANSITION PLAN

CALCULATED

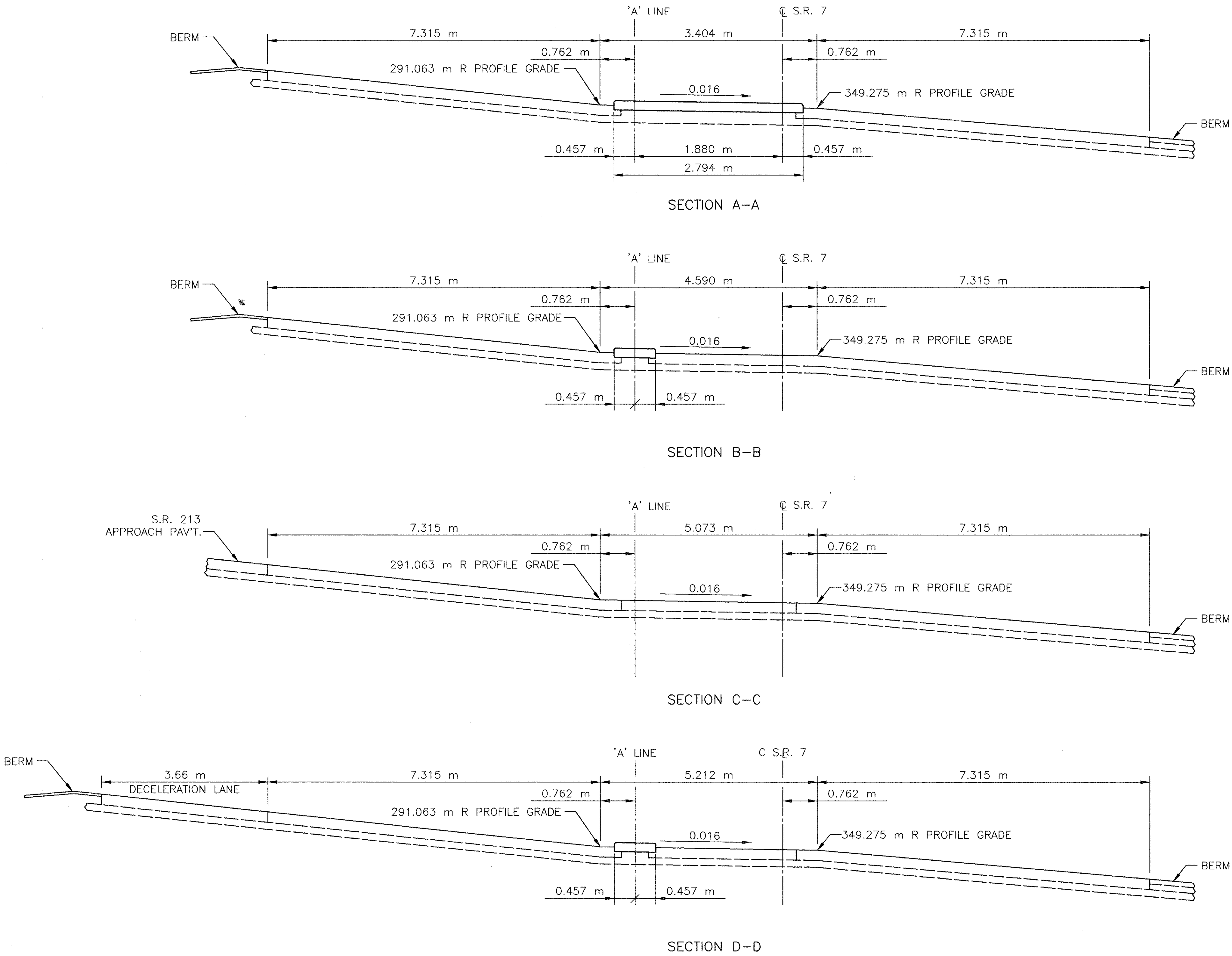
SPT

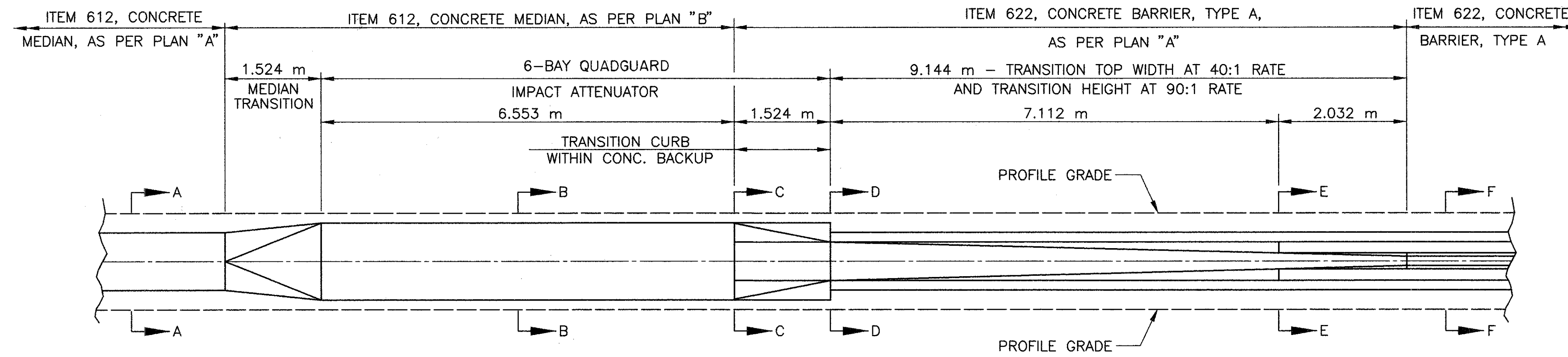
CHECKED

M.M.

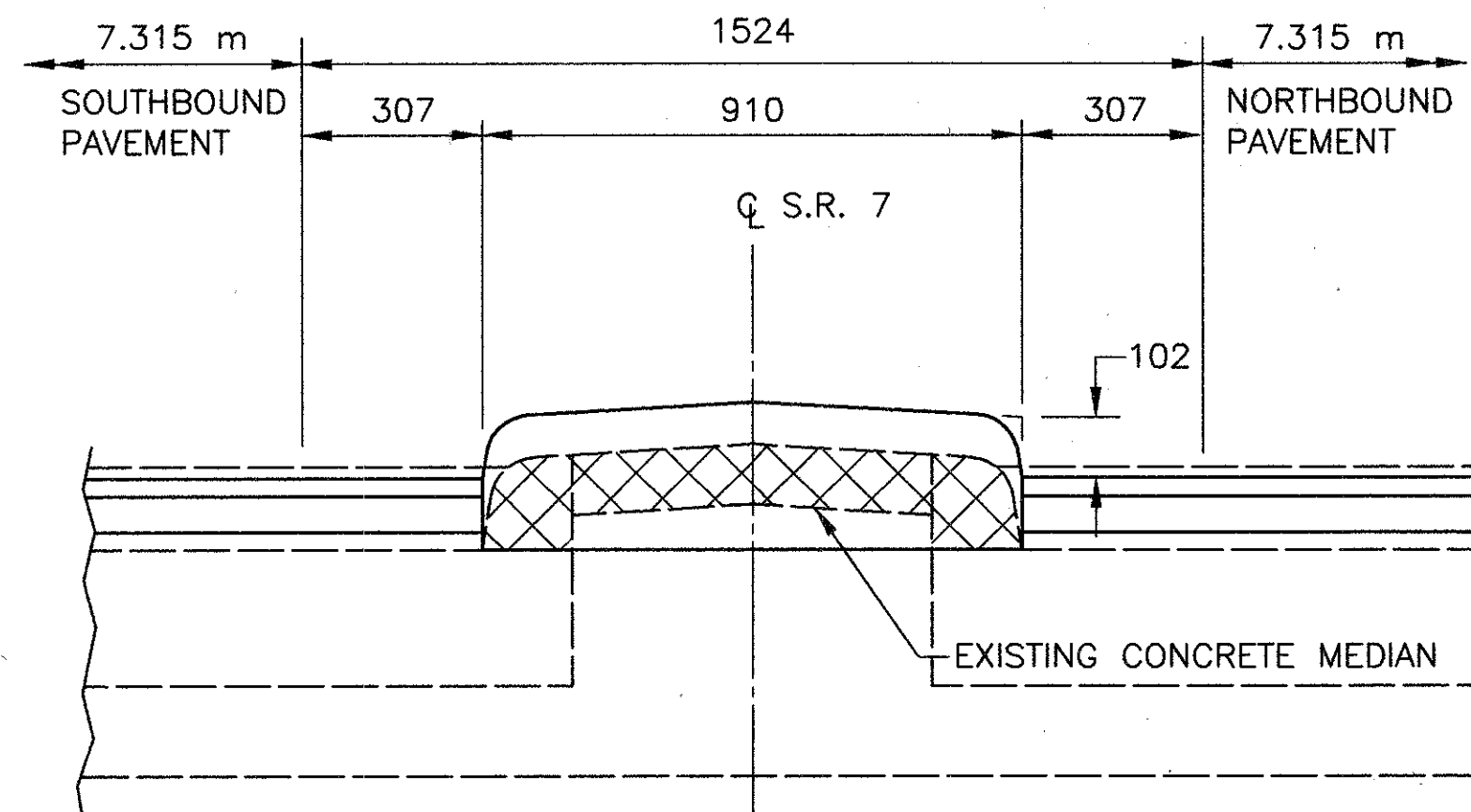
MEDIAN DETAILS

JEF/COL-7-53.620/0.000

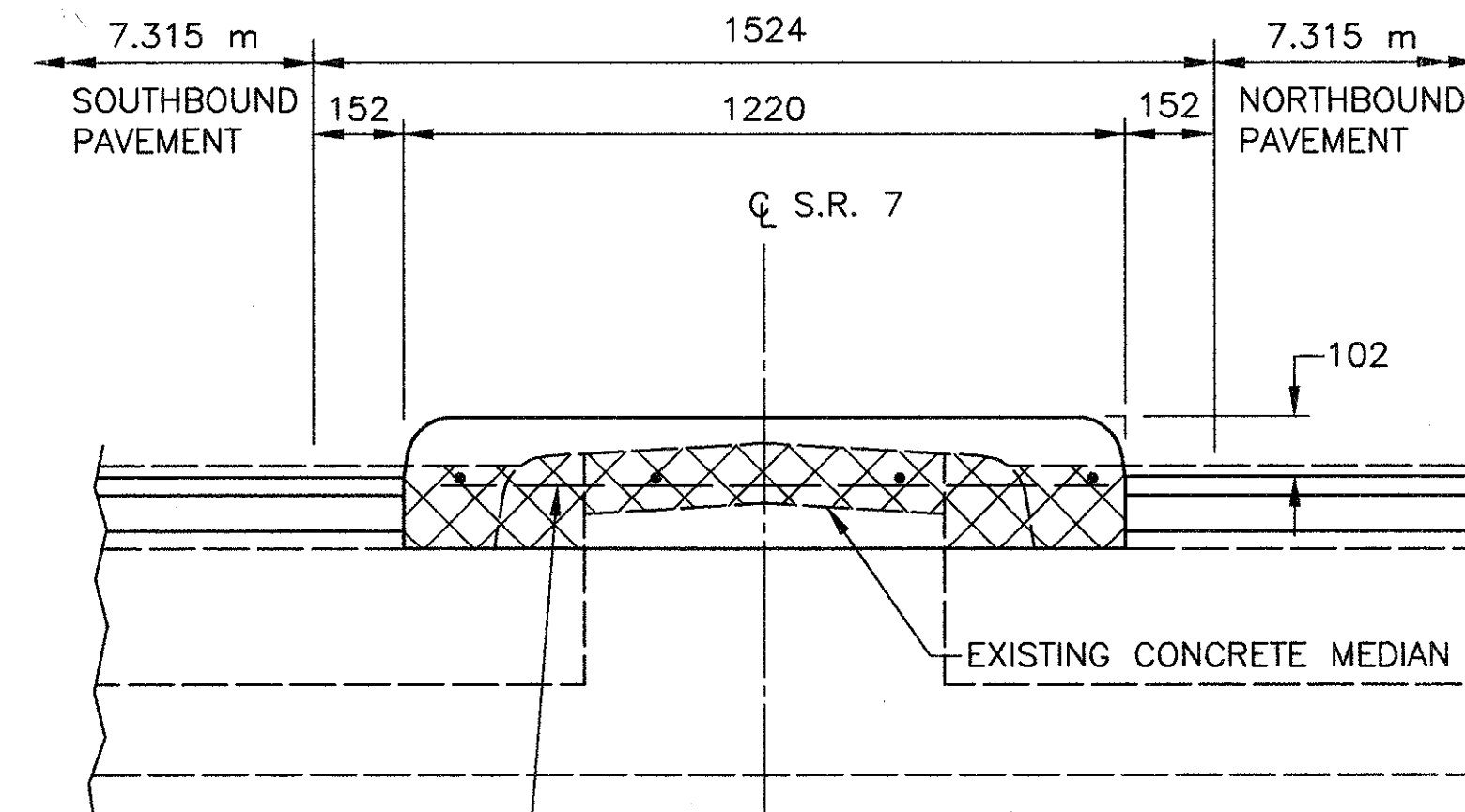




TRANSITION DETAIL
PLAN VIEW - NOT TO SCALE

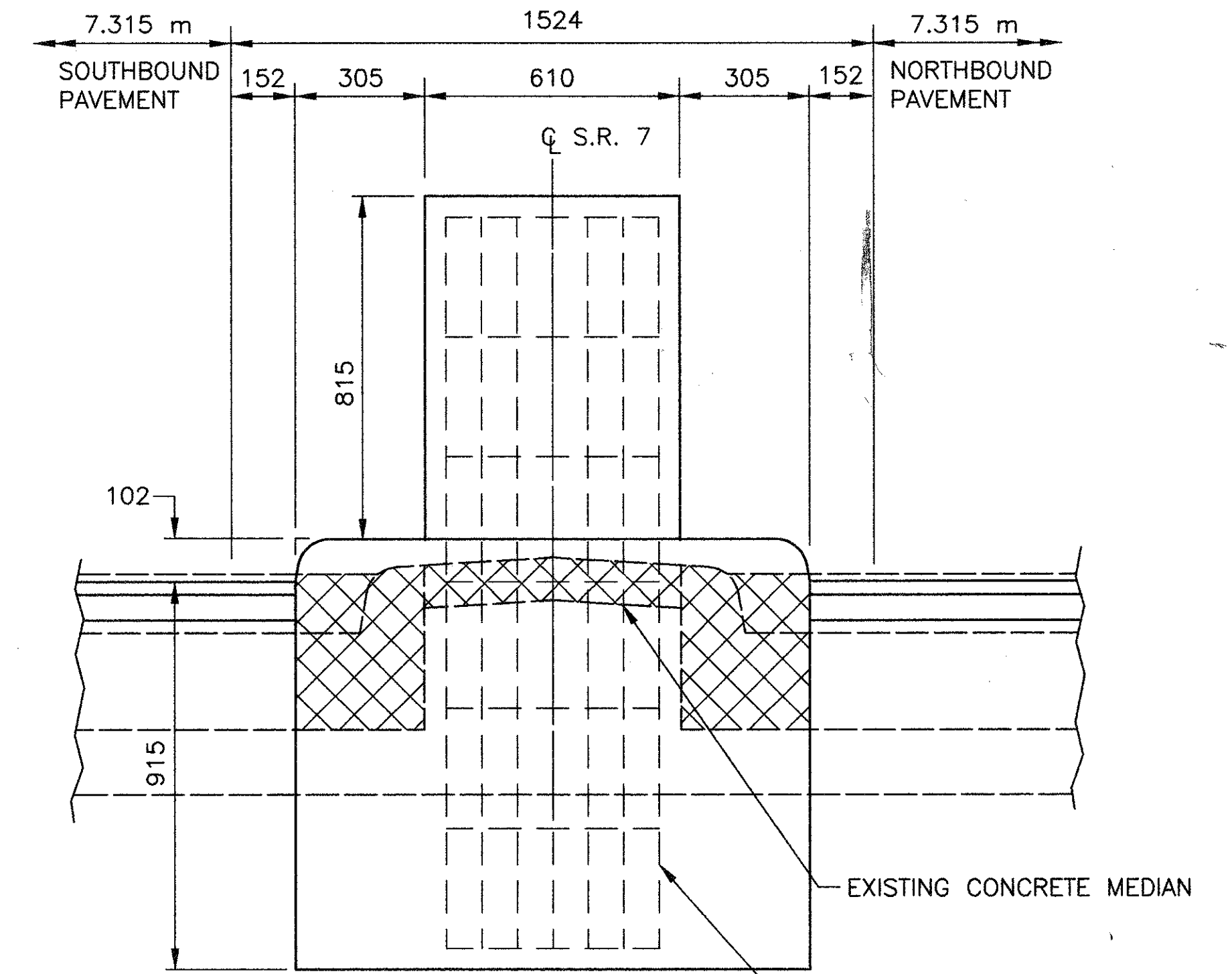


SEC A-A



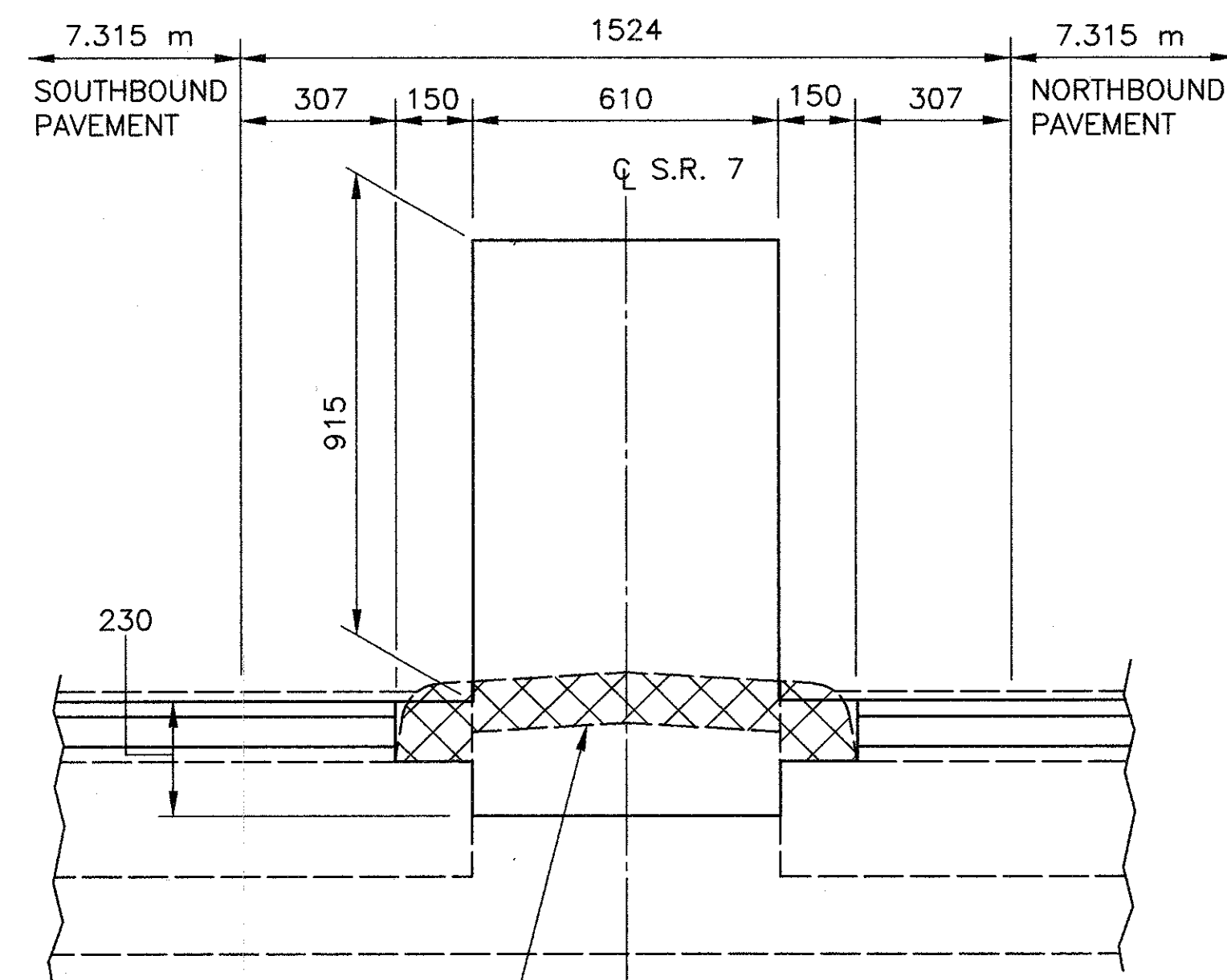
REINFORCING STEEL IS INCLUDED IN THE COST OF THE ATTENUATOR

SEC B-B

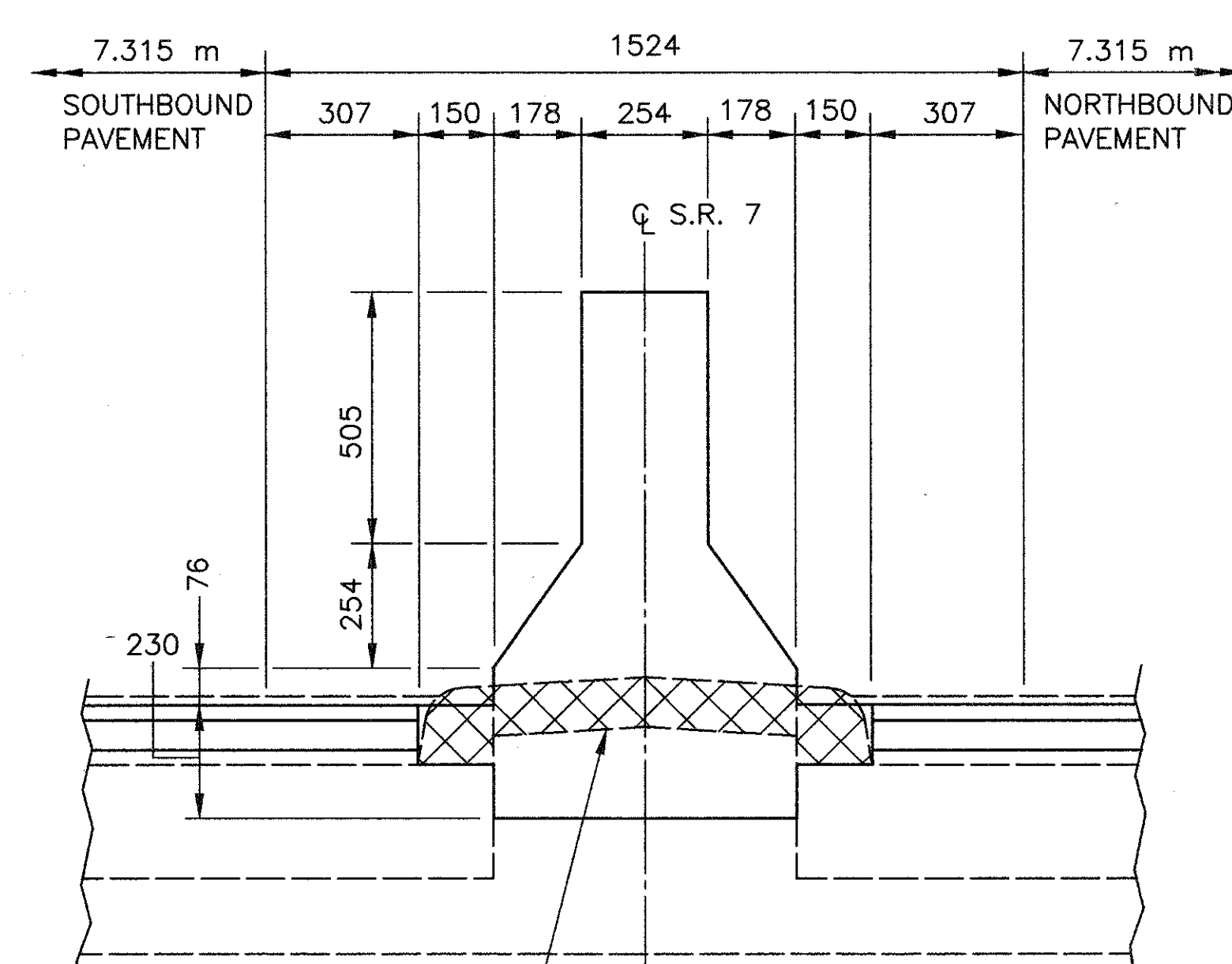


REINFORCING STEEL IS INCLUDED IN THE COST OF THE ATTENUATOR

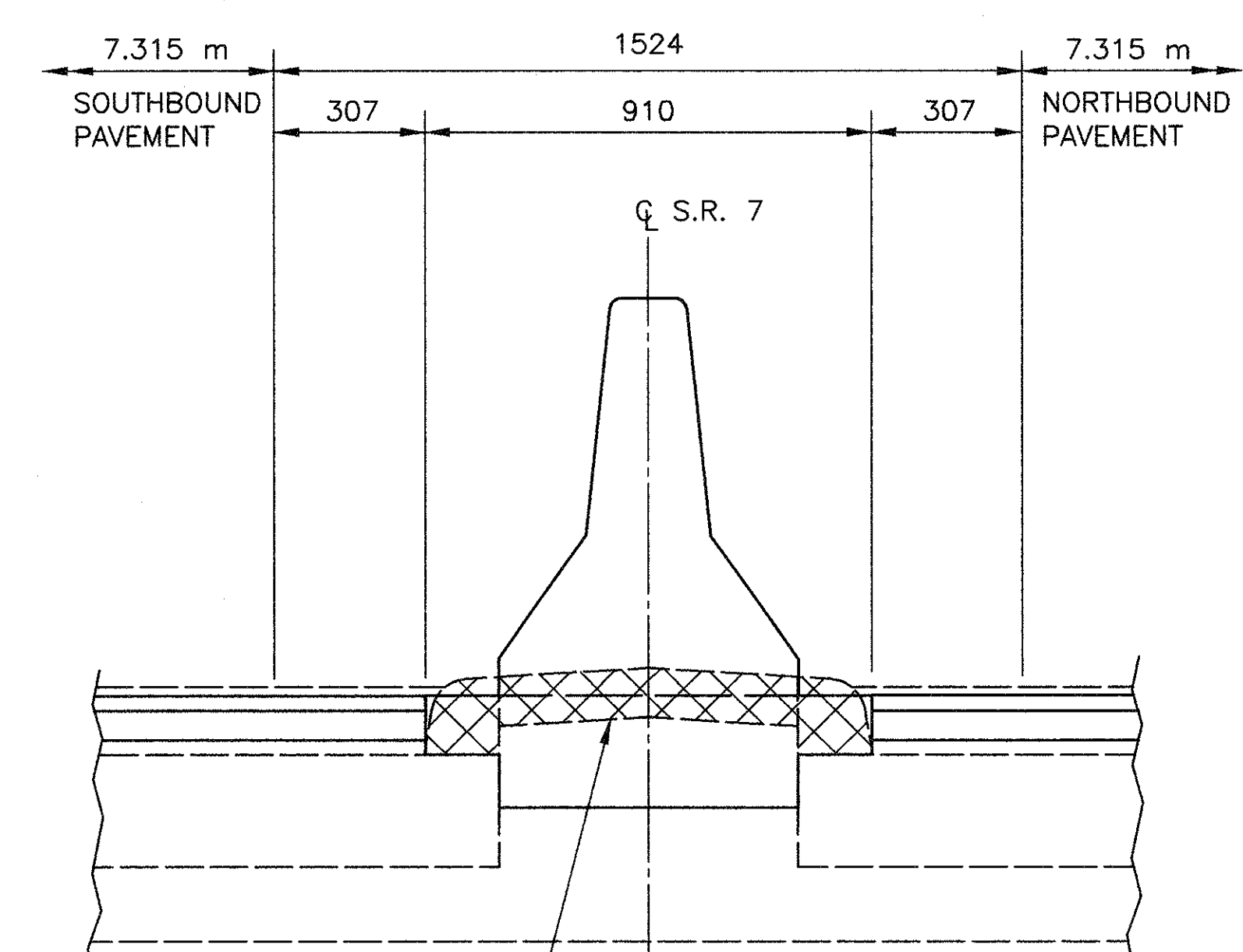
SEC C-C



SEC D-D

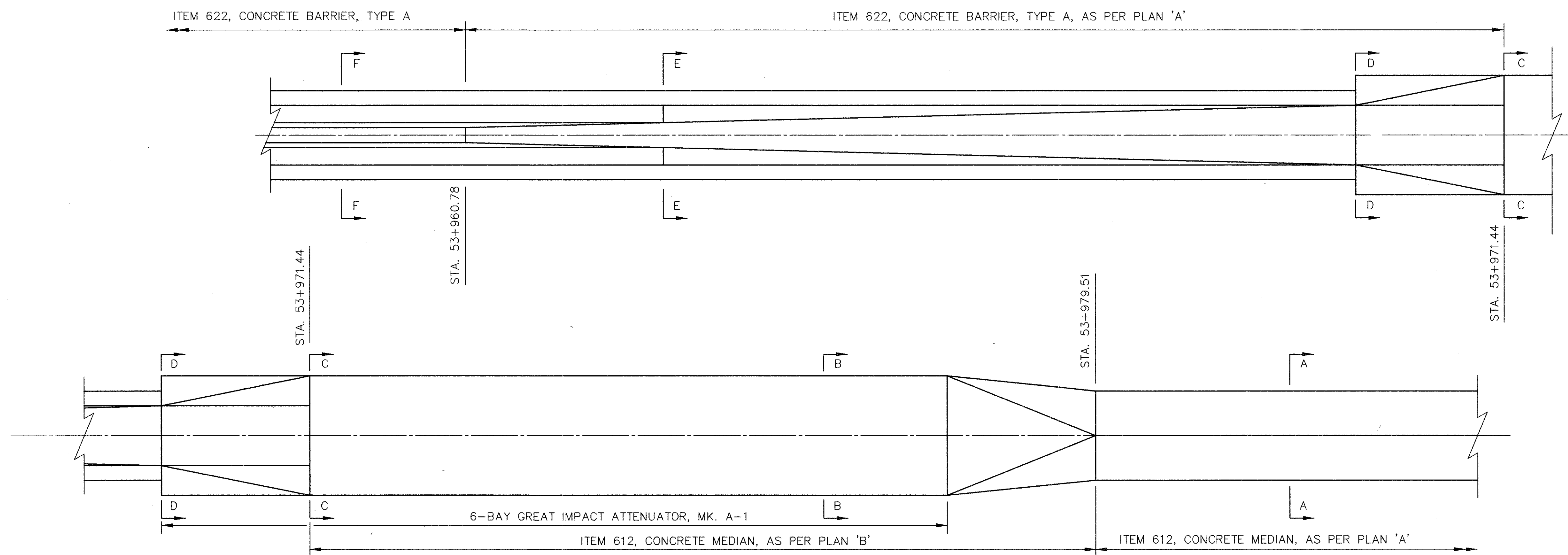
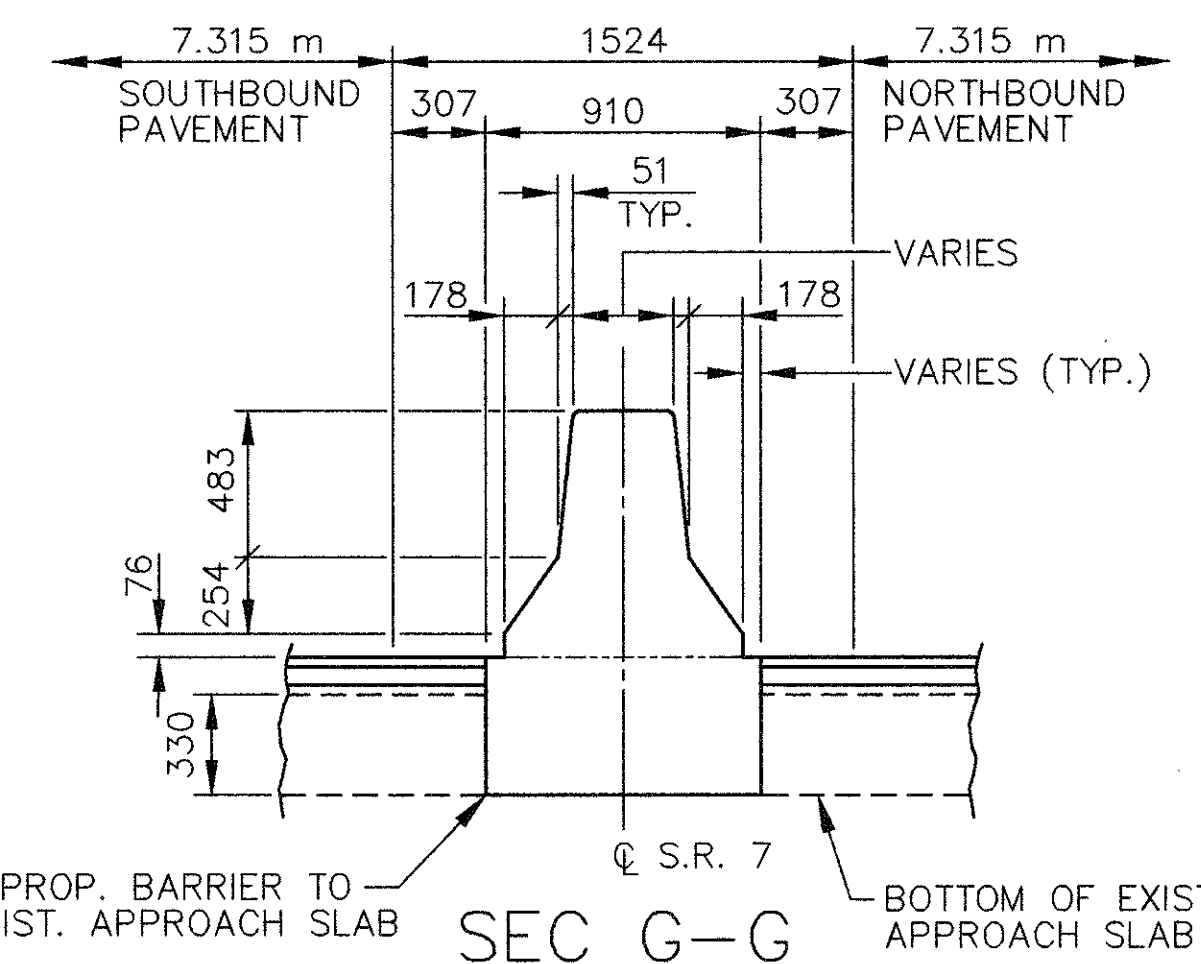
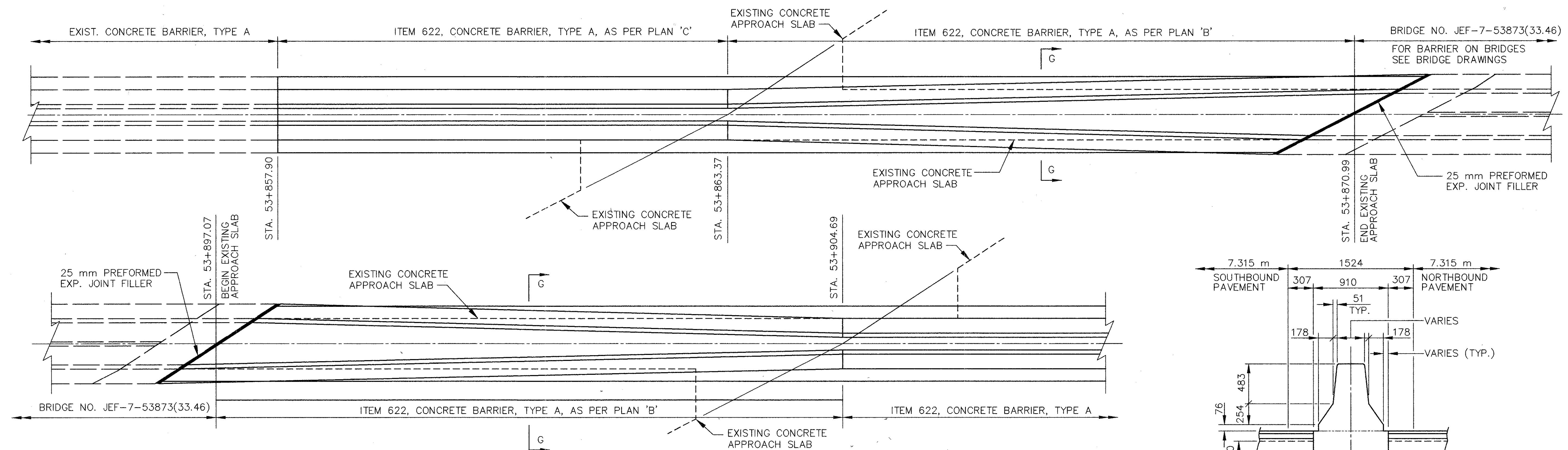


SEC E-E



SEC F-F

NOTE:
ALL DIMENSIONS ARE IN MILLIMETERS
UNLESS NOTED OTHERWISE.

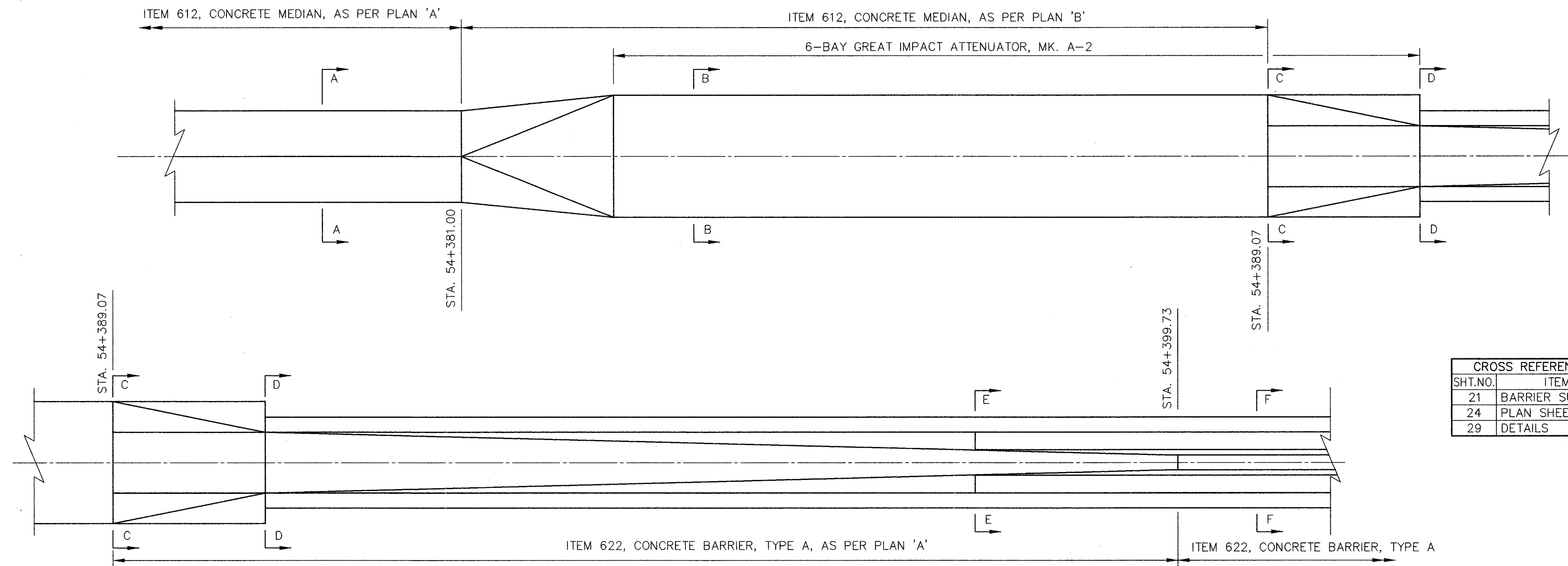


CROSS REFERENCES	
SHT.NO.	ITEM
21	BARRIER SUBSUMMARY
23	PLAN SHEETS
29	DETAILS

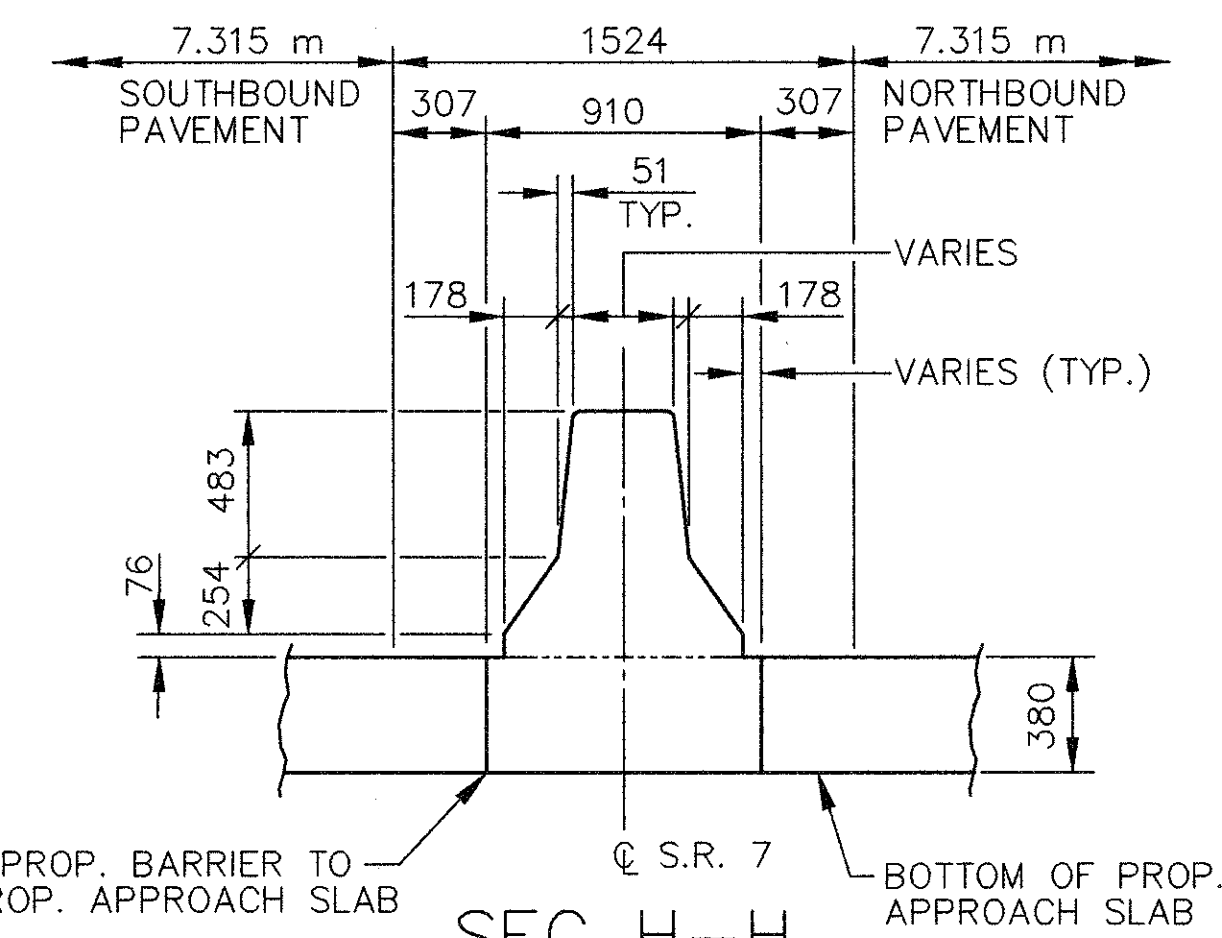
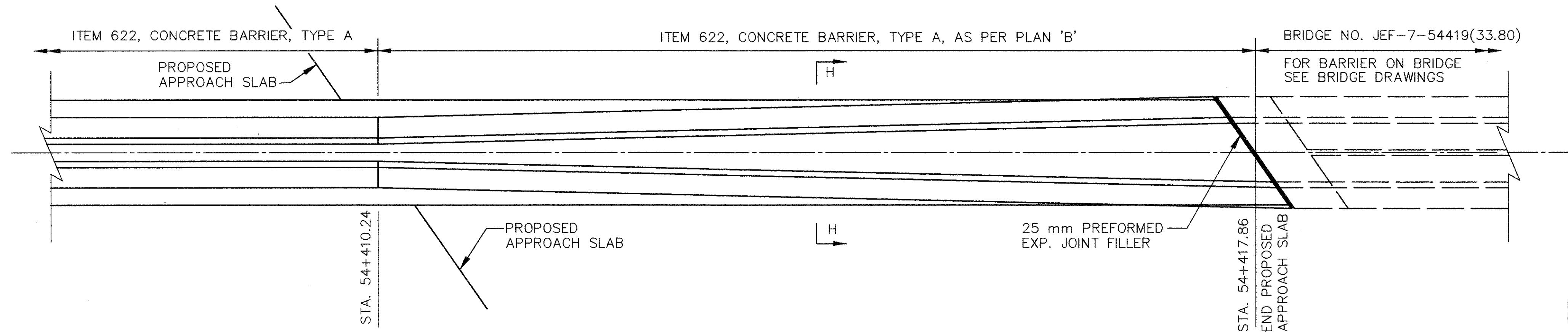
CALCULATED 0.5 0 0.25 0.5
SPT
CHECKED
M.M.
HORIZONTAL
SCALE IN METERS

MEDIAN & BARRIER PLAN

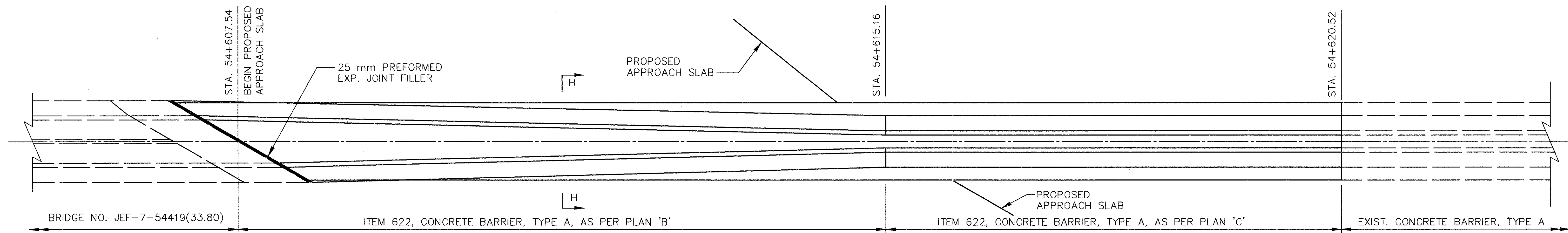
JEF/COL-7-53.620/0.000



CROSS REFERENCES	
SHT.NO.	ITEM
21	BARRIER SUBSUMMARY
24	PLAN SHEETS
29	DETAILS



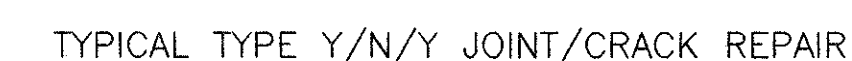
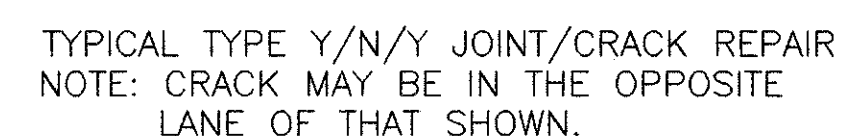
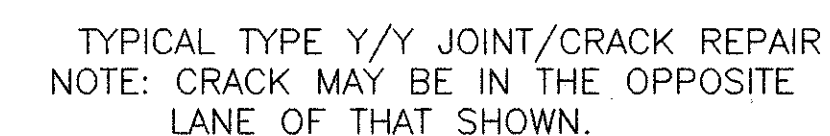
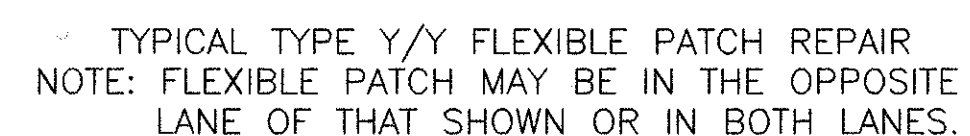
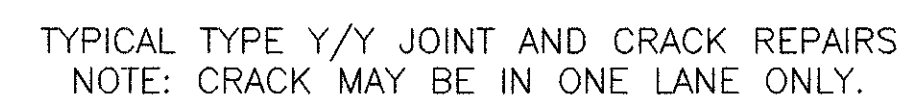
NOTE: ALL DIMENSIONS ARE IN MILLIMETERS
UNLESS NOTED OTHERWISE.



CALCULATED 0.5
SPT
CHECKED
M.M.

MEDIAN & BARRIER PLAN

JEF/COL-7-53.620/0.000



FOR ADDITIONAL DETAILS AND NOTES,
SEE STANDARD DRAWING BP-2.5M

* WHEN THE (Y) JOINT SPACING EXCEEDS 12.802 m,
THEN THE (N) JOINTS WITH A MINIMUM SPACING OF
3.353 m AND A MAXIMUM SPACING OF 6.401 m SHALL
BE EQUALLY SPACED BETWEEN THE (Y) JOINTS.

EXISTING PATCH LENGTH VARIES FROM 1.22 m
TO 2.44 m.



CROSS REFERENCES	
SHT.NO.	ITEM
18	PAVEMENT REPAIR SUBSUMMARY
19	PAVEMENT REPAIR CALCULATION

TRAFFIC CONTROL QUANTITIES																																	
PLAN SHEET NO.	ELEV. VIEW SHT. NO.	SIGN REF. NO.	Q REF.	STATION	SIDE	WORK REQUIRED		SIGN CODE	SIGN DIMENSION	SIGN CLEARANCE	SUPPORT LENGTHS			ITEM 630																			
														REMOVAL OF GROUND MOUNTED SIGN & DISPOSAL	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL	SIGN, FLAT SHEET	SIGN, FLAT SHEET, TYPE G	SIGN, EXTRUSHEET, TYPE G	SIGN BACKING ASSEMBLY	GROUND MOUNTED SUPPORT, NO. 2 POST	GROUND MOUNTED SUPPORT, NO. 3 POST	GROUND MOUNTED SUPPORT, NO. 4 POST	GROUND MOUNTED SUPPORT, S100x11.5 BEAM	GROUND MOUNTED SUPPORT, W250x17.9 BEAM	BREAKAWAY BEAM CONNECTION	GROUND MOUNTED BEAM SUPPORT FOUNDATION	SIGN SUPPORT ASSEMBLY, POLE MOUNTED			
																															mm x mm	METERS	LEFT
23	39	S-1	S.R. 7	53+812 53+810	RT	REMOVE SIGNS & SUPPORTS								4					2														
						ERECT NEW SIGN ON NEW SUPPORTS	D-4A	3900x600	4.2	5.70		6.90								2.34	1							12.60		2			
						-do-	M-2-30-3	938x750											0.70														
						-do-	M-24-24	600x450											0.27														
						-do-	RA-10L-30	750x900											0.68														
						-do-	N-40A-30	750x900											0.68														
23		S-2	S.R. 7	53+844	RT	REMOVE SIGN & SUPPORT								1																			
						ERECT NEW SIGN ON NEW SUPPORT	X-6R-12	300x900	3.6		3.45									0.27			3.45										
23	39	S-3	S.R. 7	53+850	LT	ERECT NEW SIGN ON NEW SUPPORTS	R-10-48	1200x1500	5.5	5.00		4.60							1.80								9.60		2	2			
23		S-4	S.R. 7	53+920	LT	REMOVE SIGN & SUPPORT								1																			
						ERECT NEW SIGN ON NEW SUPPORT	X-6R-12	300x900	3.6		3.45								0.27			3.45											
23		S-5	S.R. 7	54+036	RT	REMOVE SIGN & SUPPORTS								1				2															
23		S-6	S.R. 7	54+040 54+042	LT	REMOVE SIGN & SUPPORTS								1				2															
						ERECT NEW SIGN ON NEW SUPPORTS	W-139F-48	1200x1200	4.2	4.90		5.00							1.44			9.90											
23		S-7	S.R. 7	54+065.5	RT	NO WORK																											
23		S-8	S.R. 7	54+095.5	LT	ERECT NEW SIGN ON EXIST. LIGHT POLE	W-33-36	900x1200												1.08													1
23		S-9	S.R. 7	54+147	LT	REMOVE SIGN								1																			1
						ERECT NEW SIGN ON EXIST. LIGHT POLE	W-33-36	900x1200												1.08													
23	39	S-10	S.R. 7	54+170 54+168	RT	REMOVE SIGNS & SUPPORTS								2				2								10.60		2	2				
						ERECT NEW SIGN ON NEW SUPPORTS	R-31FF-48	1200x750	4.2	5.20		5.40							0.90														
						-do-	RA-10L-30	750x900											0.68														
						-do-	N-40A-30	750x900											0.68														
23		S-11	S.R. 7	54+170	LT	ERECT NEW SIGN ON NEW SUPPORT	M-2-30-2	750x750	4.2		4.80								0.56					4.80									
						-do-	M-38-30	750x375											0.28														
23		S-12	S.R. 7	54+200	Q 'A'	ERECT NEW SIGN ON NEW SUPPORT	R-37R-24	600x750	-		4.10									0.45			4.10										
23		S-13	S.R. 7	54+187	LT	REMOVE SIGNS & SUPPORT								2				1															
23		S-14	S.R. 7	54+197.5	LT	REMOVE SIGN								1																			1
						ERECT NEW SIGN ON EXIST. LIGHT POLE	W-33-36	900x1200												1.08													
23		S-15	S.R. 7	54+208	LT	ERECT NEW SIGN ON NEW SUPPORTS	M-45	1050x1500	4.2	5.40		5.55								1.58					10.95								
23		S-16	S.R. 7	54+210 54+114	RT	REMOVE SIGN & SUPPORT									1			1								9.60							
						REERECT EXIST. SIGN ON NEW SUPPORT		1200x1200	4.2	4.60		5.00																					
23		S-17	S.R. 7	54+226 54+224	RT	REMOVE SIGN & SUPPORTS								1				2							10.95								
						ERECT NEW SIGN ON NEW SUPPORTS	M-45	1050x1500	4.2	5.40		5.55								1.58													
23	39	S-18	S.R. 7	54+237	RT	REMOVE SIGNS & SUPPORTS								3				2															
						ERECT NEW SIGN ON NEW SUPPORTS	D-4B	3900x1200	4.2	5.40		5.80								4.68							11.20		2				
						-do-	M-52A-108	2700x750												2.03		1											
23		S-19	S.R. 7	54+238	LT	REMOVE SIGN & SUPPORT								1				1															
23		S-20	S.R. 7	54+243	Q 'A'	REMOVE SIGN & SUPPORT								1				1															
						ERECT NEW SIGN ON NEW SUPPORT	R-37R-24	600x750	-		4.10									0.45			4.10										
23		S-21	S.R. 7	54+241.5	LT	REMOVE SIGN								1																			1
						ERECT NEW SIGN ON EXIST. LIGHT POLE	W-33-36	900x1200												1.08													
23		S-22	S.R. 7	54+250	LT	ERECT NEW SIGN ON NEW SUPPORT	RA-10R-30	750x900	4.2		4.35								0.68				4.35										
						-do-	N-40A-30	750x900	4.95		4.35								0.68				4.35										
TOTAL CARRIED TO GENERAL SUMMARY														21	1			16	2	12.06	5.76	10.18	2	23.80	19.50	26.70	20.20	23.80	4	8	4		

TRAFFIC CONTROL QUANTITIES																															
PLAN SHEET NO.	ELEV. VIEW SHT. NO.	SIGN REF. NO.	Q REF.	STATION	SIDE	WORK REQUIRED	SIGN CODE	SIGN DIMENSION	SIGN CLEARANCE	SUPPORT LENGTHS			ITEM 630																		
													REMOVAL OF GROUND MOUNTED SIGN & DISPOSAL	REMOVAL OF GROUND MOUNTED SIGN AND SIGN REERECTION	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL	SIGN, FLAT SHEET	SIGN, FLAT SHEET, TYPE G	SIGN, EXTRUSHEET, TYPE G	SIGN BACKING ASSEMBLY	GROUND MOUNTED SUPPORT, NO. 2 POST	GROUND MOUNTED SUPPORT, NO. 3 POST	GROUND MOUNTED SUPPORT, NO. 4 POST	GROUND MOUNTED SUPPORT, S100x11.5 BEAM	GROUND MOUNTED SUPPORT, W250x17.9 BEAM	BREAKAWAY BEAM CONNECTION	GROUND MOUNTED BEAM SUPPORT FOUNDATION	SIGN SUPPORT ASSEMBLY, POLE MOUNTED		
										mm x mm	METERS	LEFT	CTR	RIGHT	EACH	EACH	EACH	EACH	EACH	SQ. METER	SQ. METER	SQ. METER	EACH	METER	METER	METER	METER	METER	EACH	EACH	EACH
23		S-23	S.R. 213	1+061.5	RT	ERECT NEW SIGNS ON NEW SUPPORT -do-	RA-10R-30 RA-10L-30	750x900 750x900	3.7		3.90							0.68 0.68					3.90								
23		S-24	S.R. 213	1+073.5 1+074.5	RT	REMOVE SIGNS & SUPPORT ERECT NEW SIGN ON NEW SUPPORT -do-	M-17-21 M-2-24-2	525x375 600x600	3.7		3.90		2			1		0.20 0.36					3.90								
23		S-25	S.R. 213	1+133 1+132	LT	REMOVE SIGNS & SUPPORT ERECT NEW SIGN ON NEW SUPPORT -do-	M-38-24 M-2-24-3	600x300 750x600	3.7		3.90		2			1		0.18 0.45					3.90								
23		S-26	S.R. 213	1+214.5	LT	REMOVE SIGNS							2																		
23	39	S-27	S.R. 213	1+233 1+230	LT	REMOVE SIGN & SUPPORTS ERECT NEW SIGN ON NEW SUPPORTS	W-32-96	2400x1200	3.7	5.30		5.10	1			2			2.88						10.40		2	2			
23		S-28	S.R. 213	1+229 1+228	RT	REMOVE SIGNS & SUPPORT ERECT NEW SIGN ON NEW SUPPORTS -do-	R-1-48 R-107B-24	1200X1200 600x450	1.8	4.35		4.35	2			1			1.44 0.27				8.70								
23		S-29	S.R. 213	1+241 1+240	LT	REMOVE SIGN & SUPPORT ERECT NEW SIGN ON NEW SUPPORTS -do-	R-1-48 R-107B-24	1200x1200 600x450	3.7	4.50		4.50	1			1			1.44 0.27				9.00								
24		S-30	S.R. 7	54+269 54+271	RT	REMOVE SIGNS & SUPPORT ERECT NEW SIGN ON NEW SUPPORTS -do-	M-37-30 M-2-30-2	750x375 750x750	4.2		4.80		2			1		0.28 0.56					4.80								
24		S-31	S.R. 7	54+262 54+265	LT	REMOVE SIGN & SUPPORTS ERECT NEW SIGN ON NEW SUPPORTS	R-31E-48	1200x750	4.2	4.20		4.50	1			2		0.90					8.70								
24		S-32	S.R. 7	54+288.5	LT	REMOVE SIGN ERECT NEW SIGN ON EXIST. LIGHT POLE	W-33-36	900x1200	-				1						1.08											1	
24		S-33	S.R. 7	54+315	LT	REMOVE SIGN & SUPPORTS							1			2															
24		S-34	S.R. 7	54+342	LT	REMOVE SIGN ERECT NEW SIGN ON EXIST. LIGHT POLE	W-33-36	900x1200	-				1						1.08											1	
24		S-35	S.R. 7	54+375	LT	NO WORK																									
24		S-36	S.R. 7	54+418	RT	REMOVE SIGN & SUPPORT ERECT NEW SIGN ON NEW SUPPORT	X-6R-12	300x900	3.6		3.45		1			1			0.27				3.45								
24		S-37	S.R. 7	54+610	LT	REMOVE SIGN & SUPPORT ERECT NEW SIGN ON NEW SUPPORT	X-6R-12	300x900	3.6		3.45		1			1			0.27				3.45								
24	40	S-38	S.R. 7	54+650	RT	ERECT NEW SIGN ON NEW SUPPORTS	R-10-48	1200x1500	4.2	4.94		5.12						1.80						10.06		2	2				
24	40	S-39	S.R. 7	54+650 54+652	LT	REMOVE SIGNS & SUPPORTS ERECT NEW SIGN ON NEW SUPPORTS -do- -do- -do- -do-	D-4A M-2-30-3 M-24-24 RA-10R-30 N-40A-30	3900x600 938x750 600x450 750x900 750x900	5.2	7.20		5.70	3				2			2.34	1					12.90	2	2			
24		S-40	S.R. 7	55+740	RT	REMOVE SIGN & SUPPORT ERECT NEW SIGN ON NEW SUPPORT	N-45-12	300x450	4.2		3.30		1			1		0.14				3.30									
24		S-41	S.R. 7	54+740	LT	REMOVE SIGN & SUPPORT ERECT NEW SIGN ON NEW SUPPORT	N-45-12	300x450	4.2		3.30		1			1		0.14				3.30									
24	40	S-42	S.R. 7	54+865 54+867	RT	REMOVE SIGN & SUPPORTS ERECT NEW SIGN ON NEW SUPPORTS	GA-1	3600x1500	4.2	6.00		6.60				1	2			5.40						12.60		2			
TOTAL CARRIED TO GENERAL SUMMARY													23		1	15	4	9.24	5.58	10.62	1	6.60	45.00	4.80	20.46	25.50	6	8	2		

TRAFFIC CONTROL QUANTITIES																																								
PLAN SHEET NO.	ELEV. VIEW SHT. NO.	SIGN REF. NO.	Q. REF.	STATION	SIDE	WORK REQUIRED	SIGN CODE	SIGN DIMENSION	SIGN CLEARANCE	SUPPORT LENGTHS			ITEM 630																											
													REMOVAL OF GROUND MOUNTED SIGN & DISPOSAL	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL	SIGN, FLAT SHEET	SIGN, FLAT SHEET, TYPE G	SIGN, EXTRUSHEET, TYPE G	SIGN BACKING ASSEMBLY	GROUND MOUNTED SUPPORT, NO. 2 POST	GROUND MOUNTED SUPPORT, NO. 3 POST	GROUND MOUNTED SUPPORT, NO. 4 POST	GROUND MOUNTED SUPPORT, S100x11.5 BEAM	GROUND MOUNTED SUPPORT, W250x17.9 BEAM	BREAKAWAY BEAM CONNECTION	SIGN SUPPORT ASSEMBLY, POLE MOUNTED												
								mm x mm	METERS	LEFT	CTR	RIGHT	EACH	EACH	EACH	EACH	EACH	SQ. METER	SQ. METER	SQ. METER	EACH	METER	METER	METER	METER	METER	EACH	EACH												
44		S-64	ROAD SIDE REST AREA ON S.R. 213			REMOVE SIGNS & SUPPORTS							2				2																							
44		S-65				REMOVE SIGN & SUPPORT							1				1																							
46		S-66				ERECT NEW SIGN ON NEW SUPPORT	R-59A-12	300x450	0.6		3.80																													
46		S-67				-do-	R-55L-12	300x450	0.6		3.80																													
46		S-68				-do-	R-55R-12	300x450	0.6		3.80																													
46		S-69				-do-	R-59A-12	300x450	0.6		3.80																													
46		S-70				REMOVE SIGN & SUPPORT								1				1																						
						ERECT NEW SIGN ON NEW SUPPORT	R-1-36	900x900	0.6		4.00																													
46		S-71				REMOVE SIGN & SUPPORT								1				1																						
						ERECT NEW SIGN ON NEW SUPPORT	R-1-36	900x900	0.6		4.00																													
51		S-72	PARK & RIDE ON S.R. 213			ERECT NEW SIGN ON NEW SUPPORT	R-1-36	900x900	0.6		3.90																													
51		S-73				-do-	R-55-12	300x450	0.6		3.50																													
51		S-74				-do-	R-59A-12	300x450	0.3		3.50																													
51		S-75				-do-	R-55-12	300x450	0.6		3.50																													
51		S-76	S.R. 213	1+188	LT.	ERECT NEW SIGN ON NEW SUPPORT	N-40A-30	750x900	3.6		3.90																													
51		S-77	S.R. 213	1+135.5	RT.	ERECT NEW SIGN ON NEW SUPPORT	N-40A-30	750x900	3.6		3.90																													
TOTAL CARRIED TO GENERAL SUMMARY													5				5			2.34	2.43			25.70	19.70															
TRAFFIC CONTROL QUANTITIES																																								
CALCULATED SPT CHECKED M.M.																																								
JEF/COL-7-53.620/0.000																																								
37 79																																								

RAISED PAVEMENT MARKER QUANTITIES											
STATION		LANE	SIDE	LENGTH	SPACING	ITEM 202	ITEM 621			REMARKS	
						RAISED PAVEMENT MARKER REMOVED FOR STORAGE, AS PER PLAN	1-WAY				
							2-WAY WHITE/RED	YELLOW	WHITE		
FROM	TO			METER	METER	EACH	EACH	EACH	EACH		
53+632	53+728	NORTHBOUND LANE	CTR	96	24				5	LANE LINE	
53+752	54+208		CTR	456	24		20			LANE LINE	
54+194	54+209		CTR	15	5				4	CHANNELIZING LINE	
54+256	55+600		CTR	1344	24				57	LANE LINE	
0+004.75	0+340.75		CTR	336	24				15	LANE LINE	
0+364.75	0+580.75		CTR	216	24		10			LANE LINE	
53+624	54+056		CTR	432	24				19	LANE LINE	
54+080	54+200	SOUTHBOUND LANE	CTR	120	24				6	LANE LINE	
			LT						6	EDGE LINE	
54+238	54+298		CTR	60	6				11	CHANNELIZING LINE	
54+238	54+694		CTR	456	24		20			LANE LINE	
54+718	55+606		CTR	888	24				38	LANE LINE	
0+010.75	0+586.75		CTR	576	24				25	LANE LINE	
0+563.75	0+587.75		LT	72	12				7	EDGE LINE	
53+614.60	55+619.253	NB				83			7	RAMP 'A' CHANNELIZING LINE	
0+000.000	0+596.712					25				LANE LINE	
53+614.60	55+619.253		SB				83				LANE LINE
0+000.000	0+596.712						25				LANE LINE
TOTAL - CARRIED TO GENERAL SUMMARY						216	50	250			

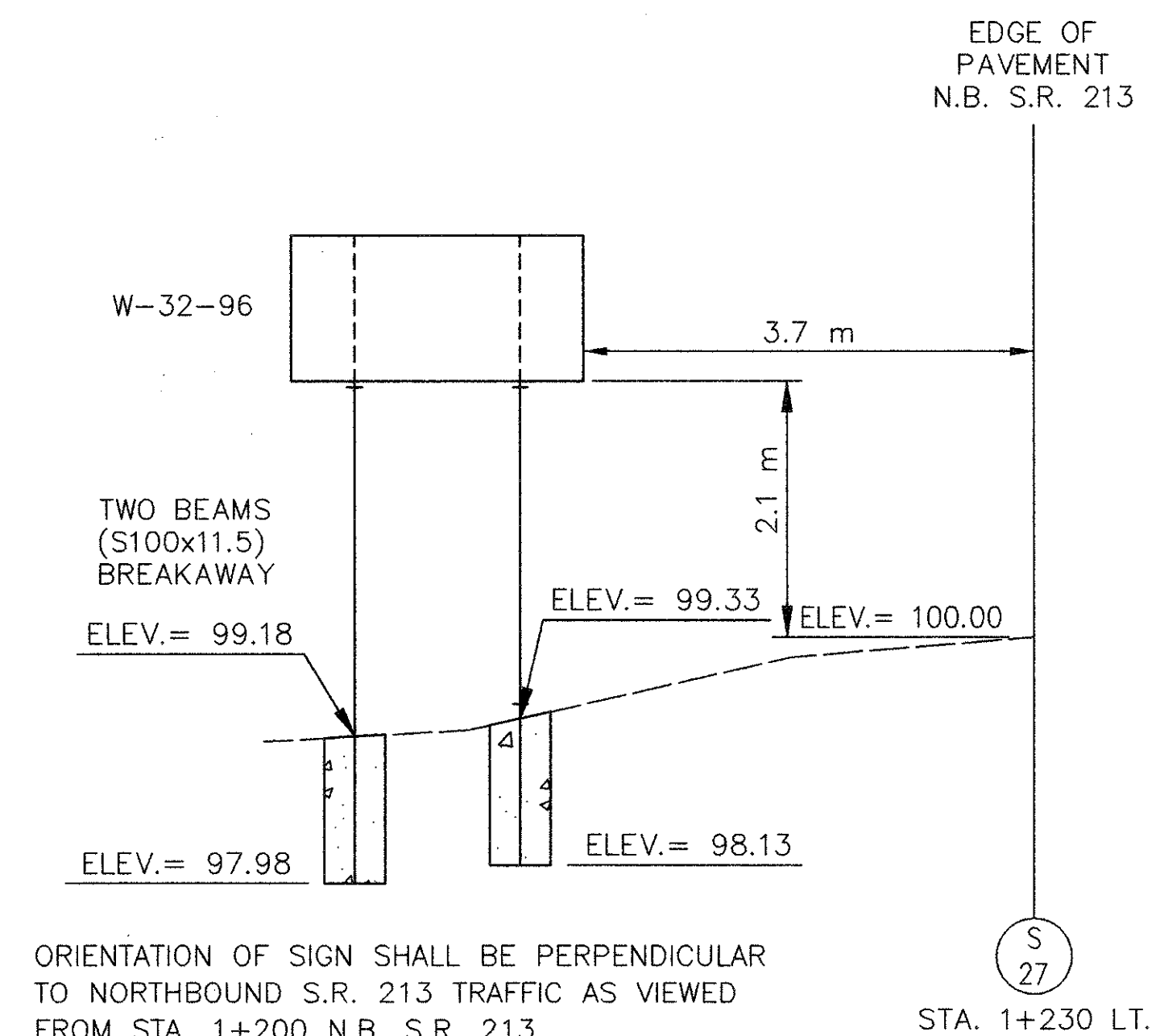
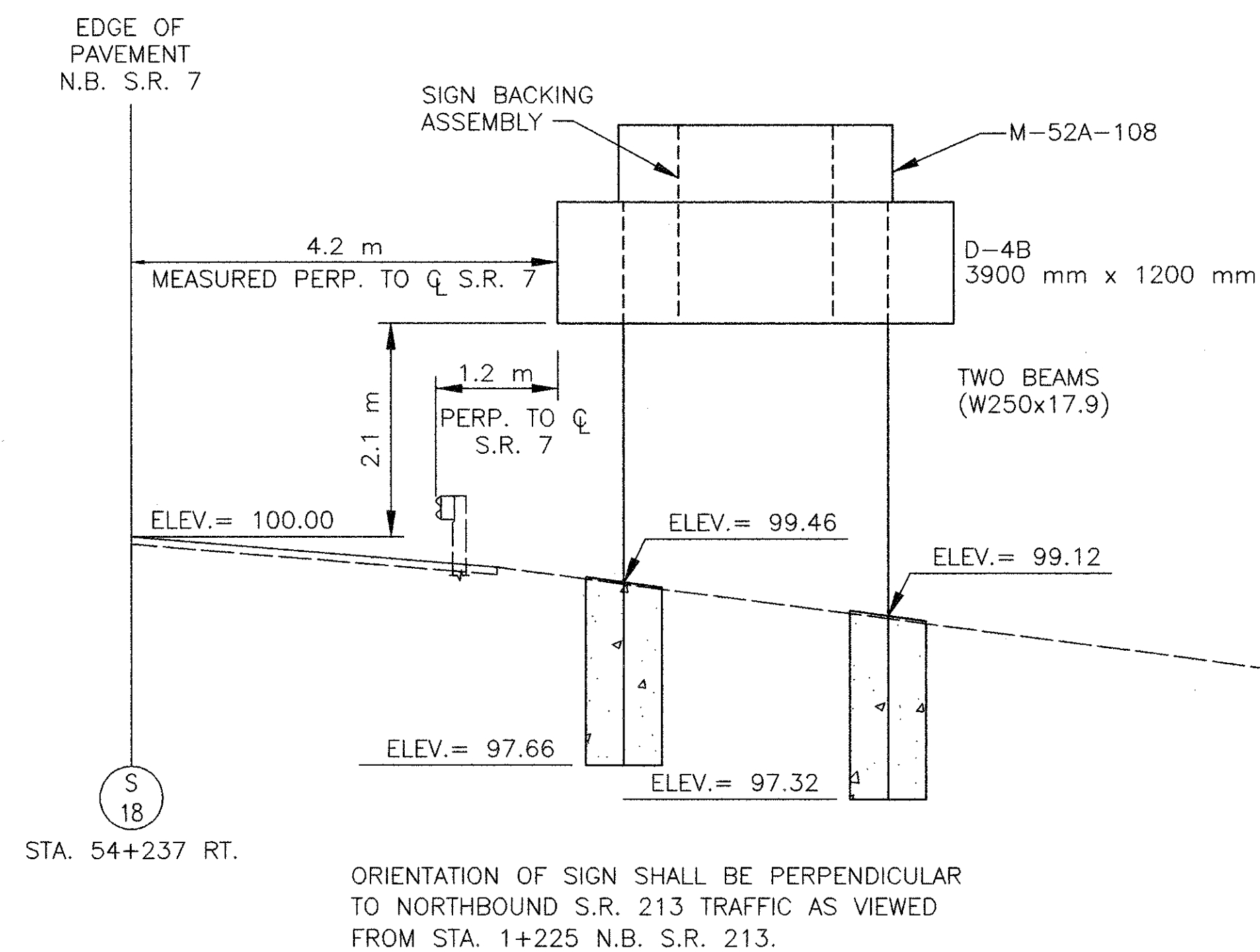
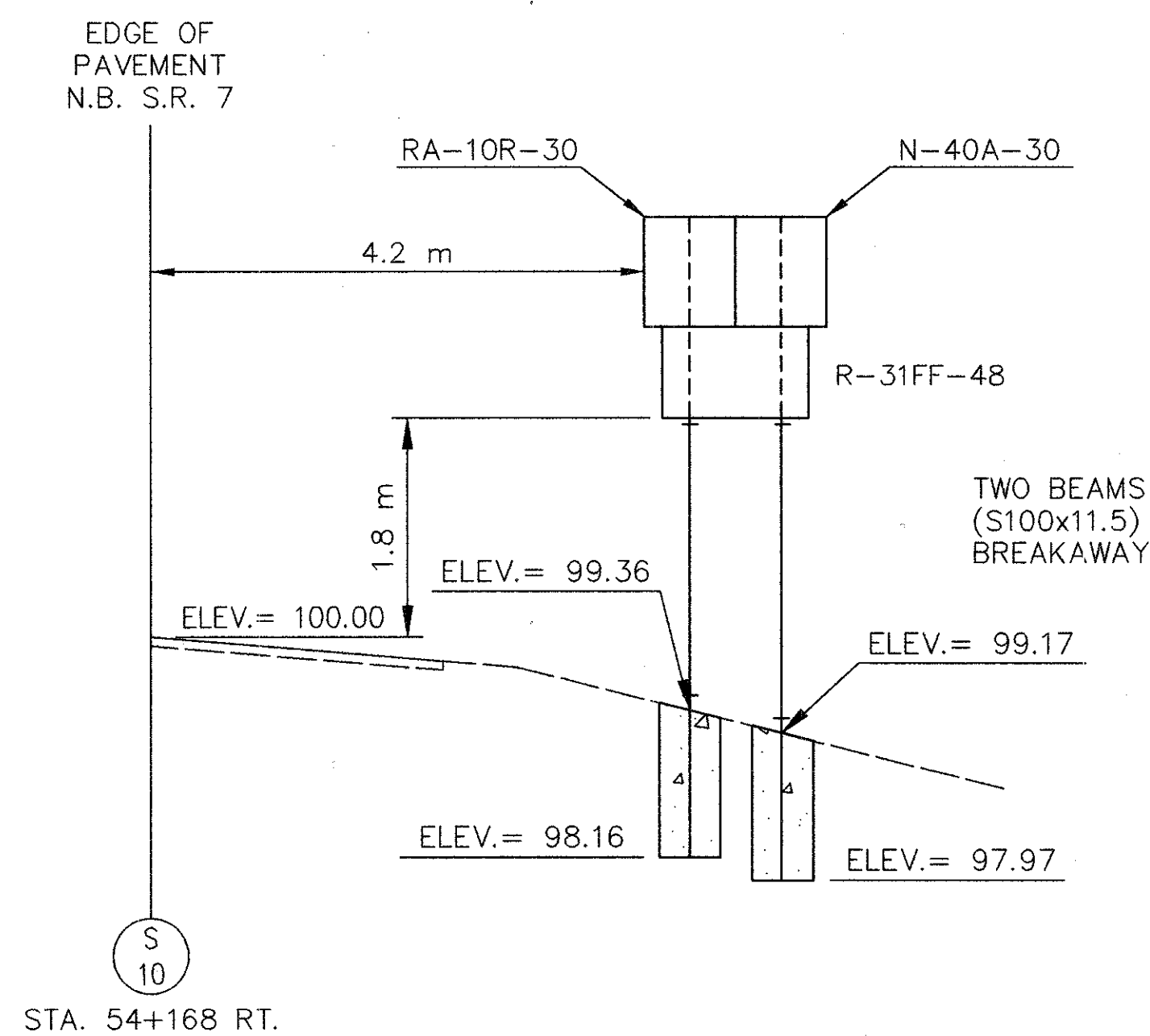
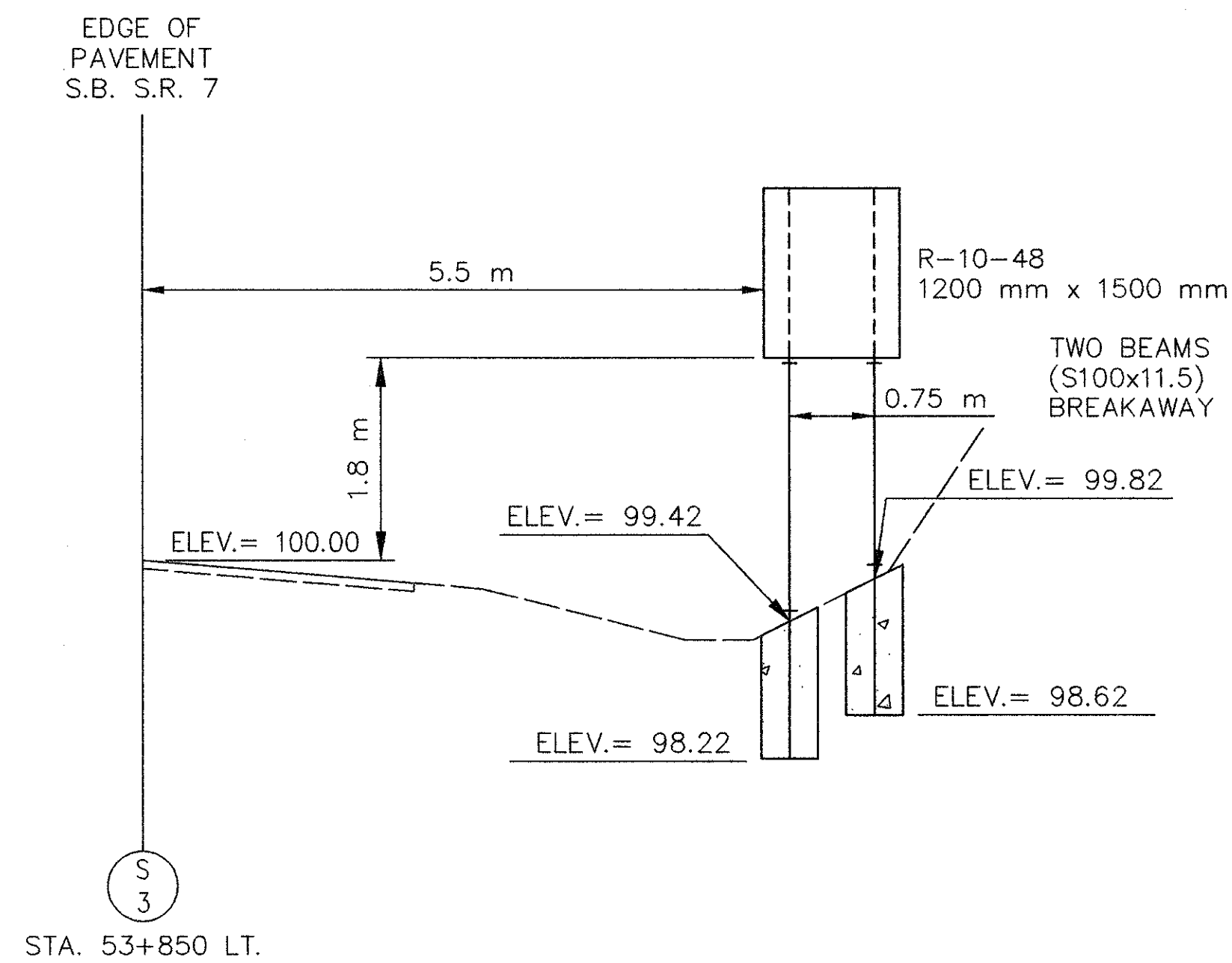
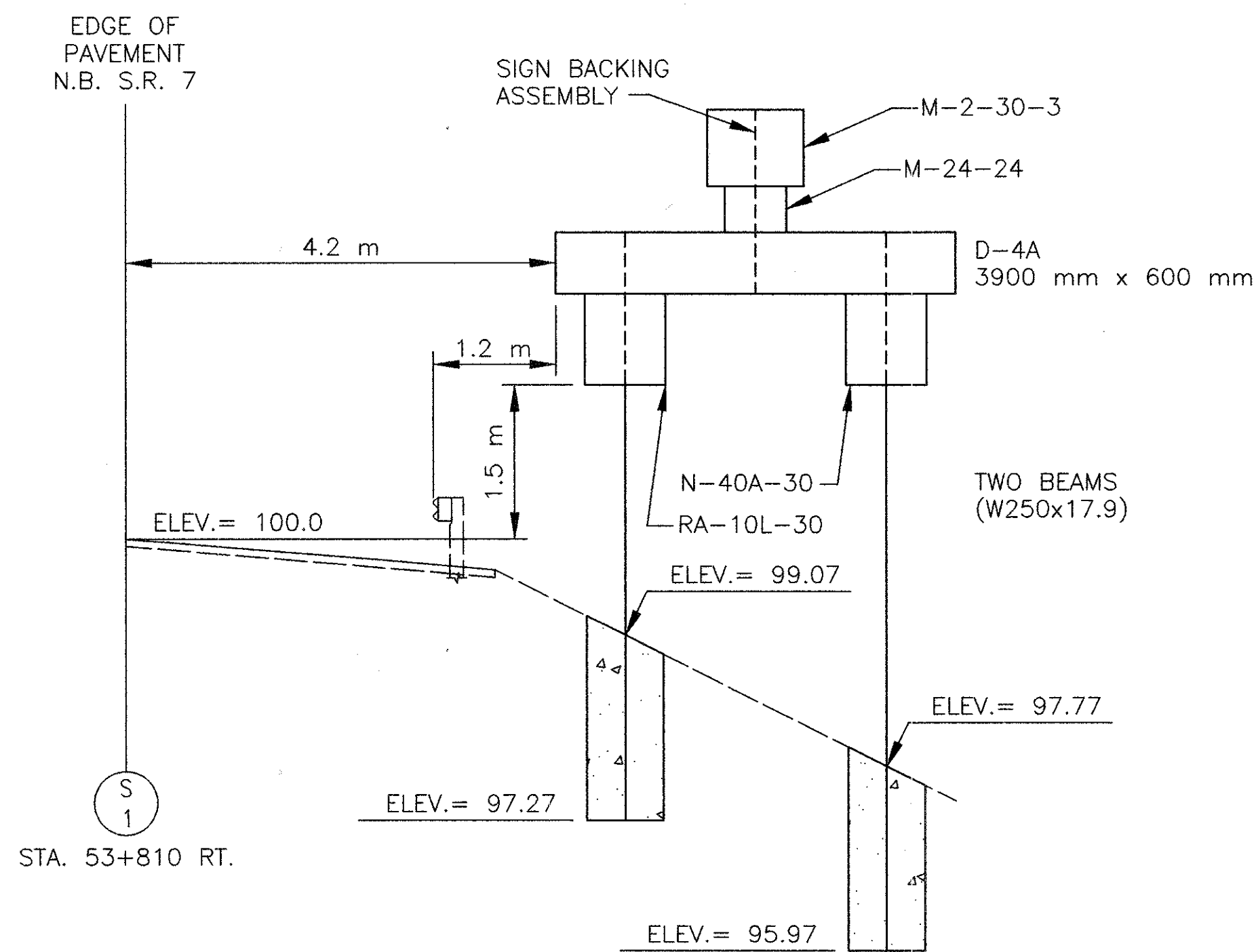
PAVEMENT MARKING QUANTITIES														
STATION		LANE	SIDE	ITEM 642 – PAVEMENT MARKING										
				EDGE LINE, TYPE I			LANE LINE, TYPE I	CENTER LINE, TYPE I, DOUBLE SOLID	DOTTED LINE, 100 mm, TYPE I (WHITE)	CHANNELIZING LINE, TYPE I	TRANSVERSE LINE, TYPE I (YELLOW)	STOP LINE, TYPE I	LANE ARROW, TYPE I	WORD ON PAVEMENT, 2500 mm, TYPE I (ONLY)
				WHITE	YELLOW	TOTAL								
FROM	TO			METER	METER	METER	METER	METER	METER	METER	METER	EACH	EACH	
53+614.60	54+168.48	NORTHBOUND LANE	LT & RT CTR	553.88	553.88	1107.76	553.88							
54+168.48	54+194.39		LT & RT CTR	25.91	25.91	51.82	25.91		25.91					
54+194.39	54+209.39		LT & RT CTR	15.00	15.00	30.00	15.00			15.00				
54+197			LT										1	
54+207			LT CTR				29.20					1		
54+209.39	54+238.59		RT	29.20		29.20								
54+238.59	54+375.00		LT & RT CTR	136.41	136.41	272.82	136.41				120.26			
54+375.00	55+615.253		LT & RT CTR	1244.253	1244.253	2488.506	1244.253							
0+000.000	0+596.712		LT & RT CTR	596.712	596.712	1193.424	596.712							
53+614.60	54+200.49		SOUTHBOUND LANE	LT & RT CTR	585.89	585.89	1171.78	585.89						
54+200.49	54+238.59	CTR					38.10							
54+238.59	54+300.59	LT							38.10					
54+300.59	54+348.32	LT & RT CTR		62.00	62.00	124.00	62.00			62.00				
54+248		LT & RT CTR		47.73	47.73	95.46	47.73		47.73				1	
54+274		CTR												
54+291		LT											1	
54+348.32	55+619.253	LT												
0+000.000	0+563.872	LT & RT CTR		1270.933	1270.933	2541.866	1270.933							
0+563.872	0+596.712	LT & RT CTR		563.872	563.872	1127.744	563.872							
1+178.00		LT & RT CTR		32.84	32.84	65.68	32.84			32.84				
1+235.75		LT		32.84										
		S.R. 213		Q				57.75						
			RT								13.72			
SUB-TOTALS						10300.06	5202.73	57.75	111.74	109.84	120.26	13.72	3	2
TOTAL – CARRIED TO GENERAL SUMMARY						10.30 km	5.20 km	0.06 km	112	110	120	14	3	2

CALCULATED
SPT
CHECKED
M.N.

TRAFFIC CONTROL QUANTITIES

JEF/COL-7-53.620/0.000

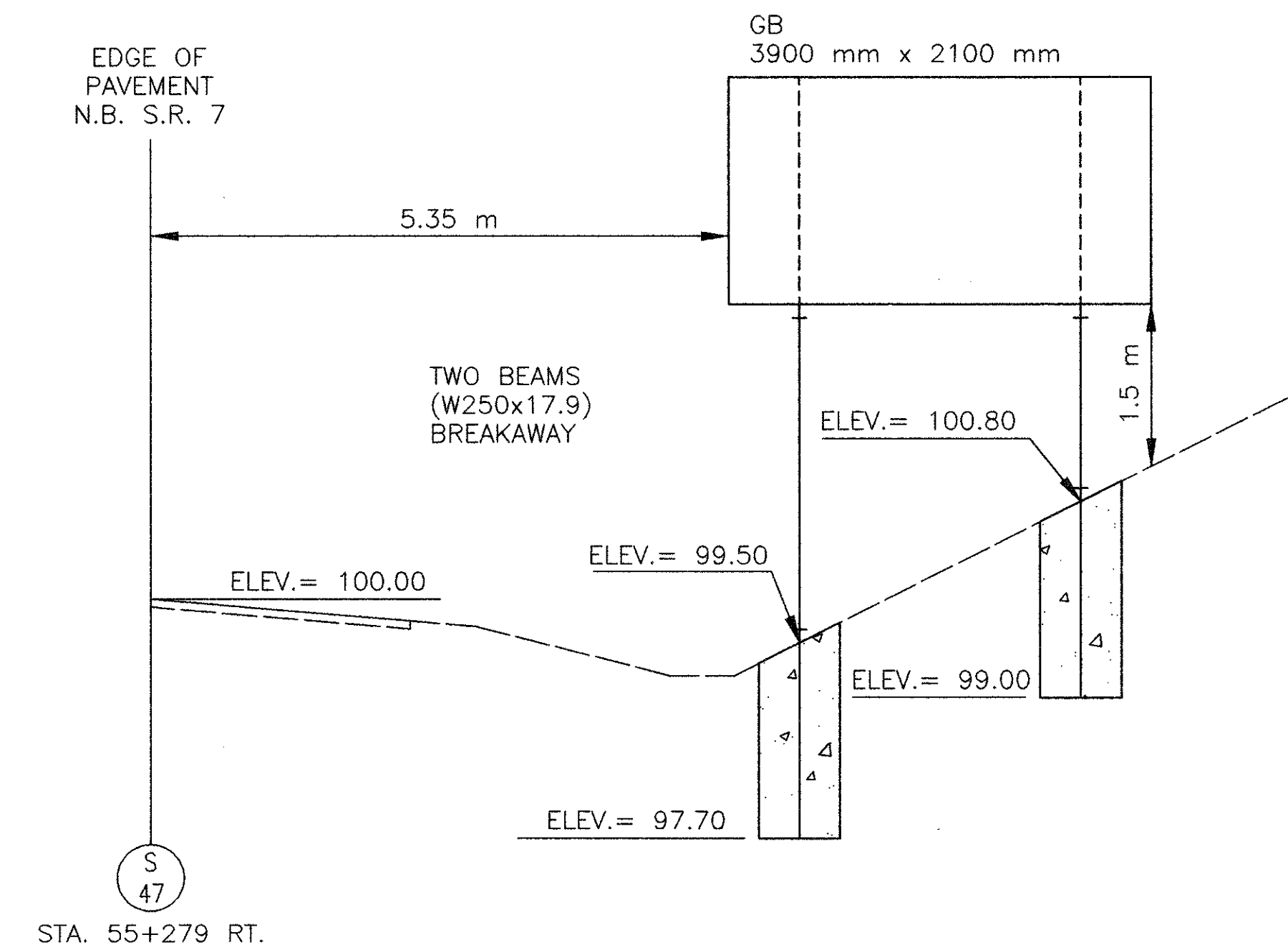
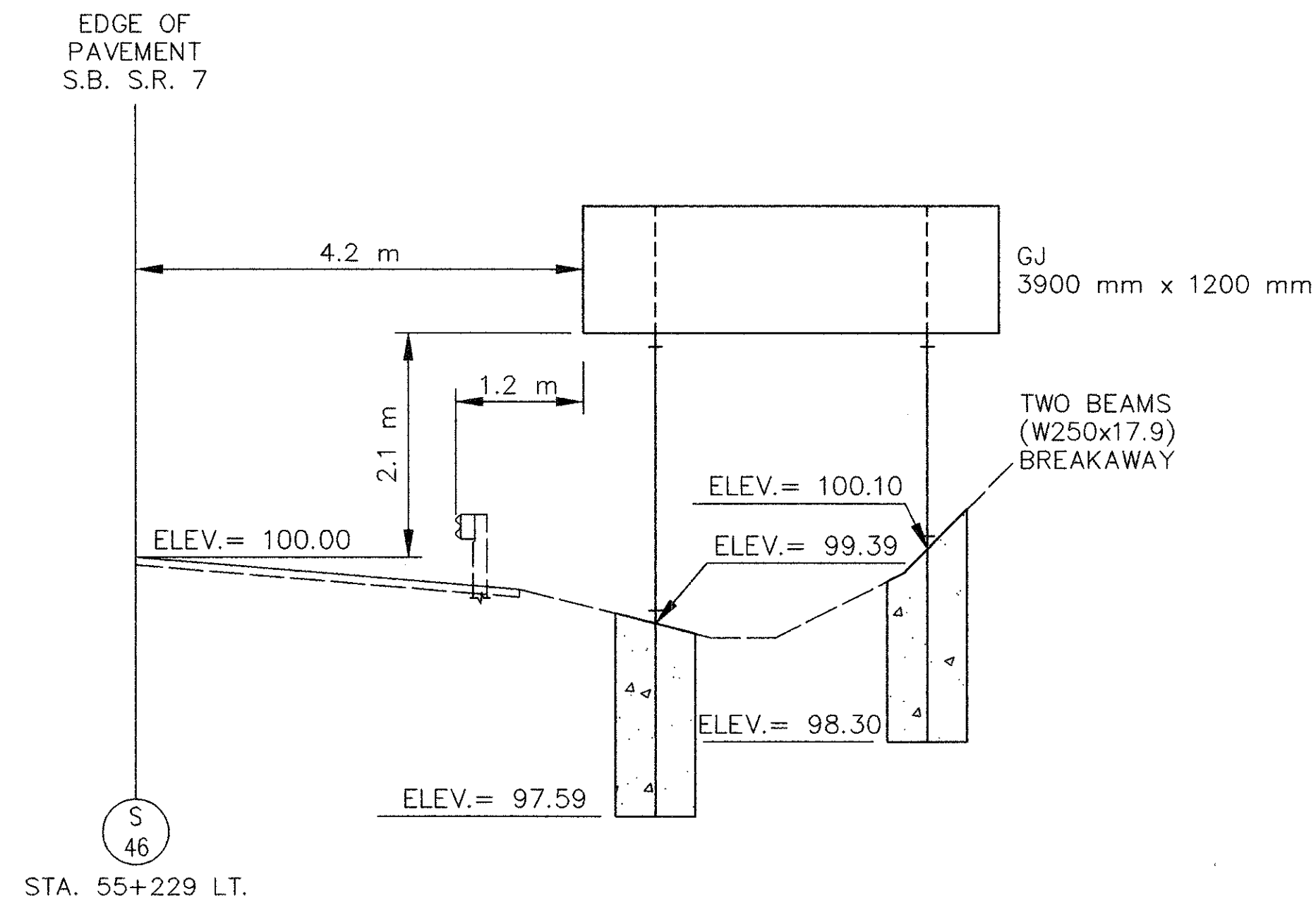
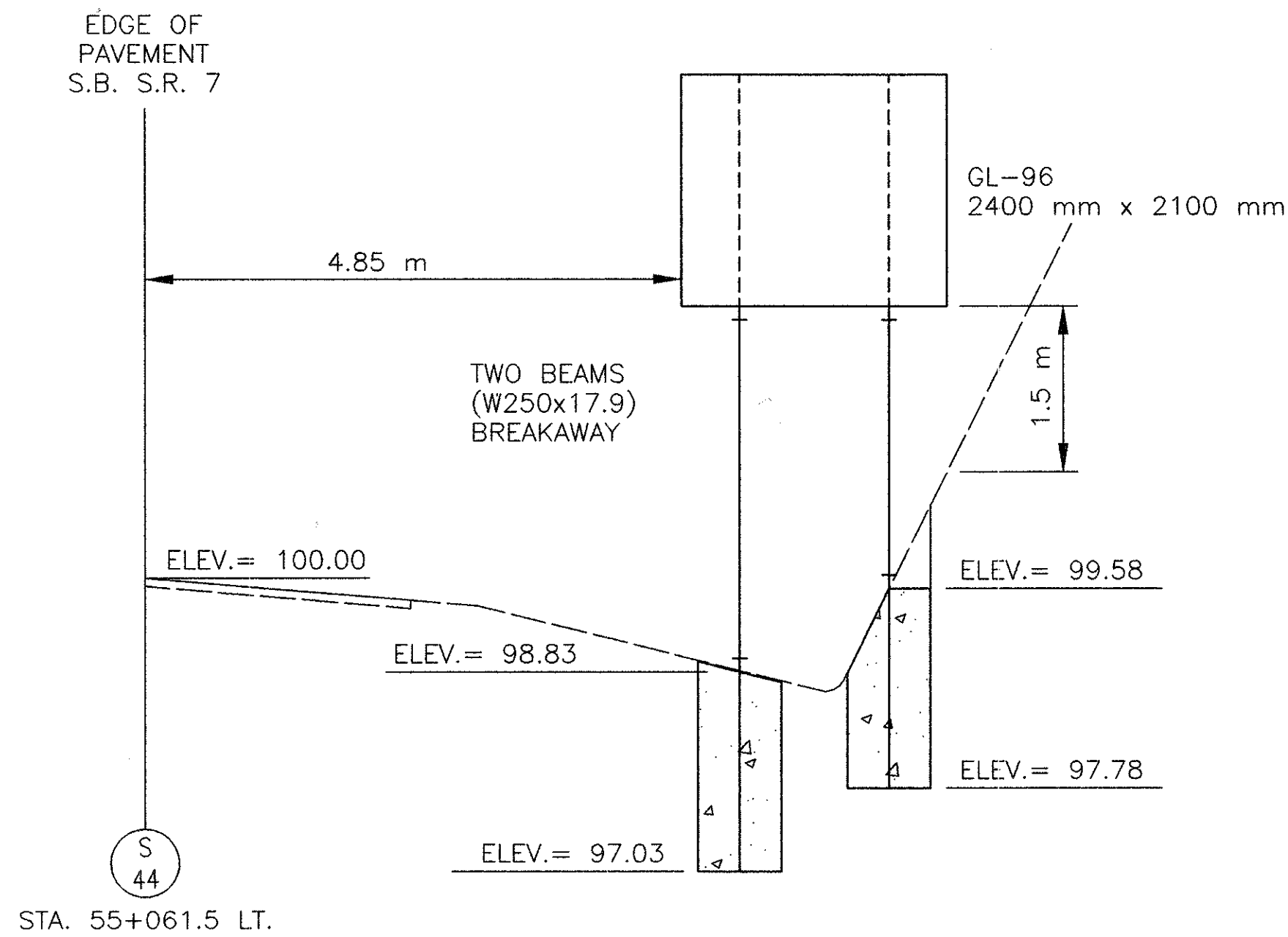
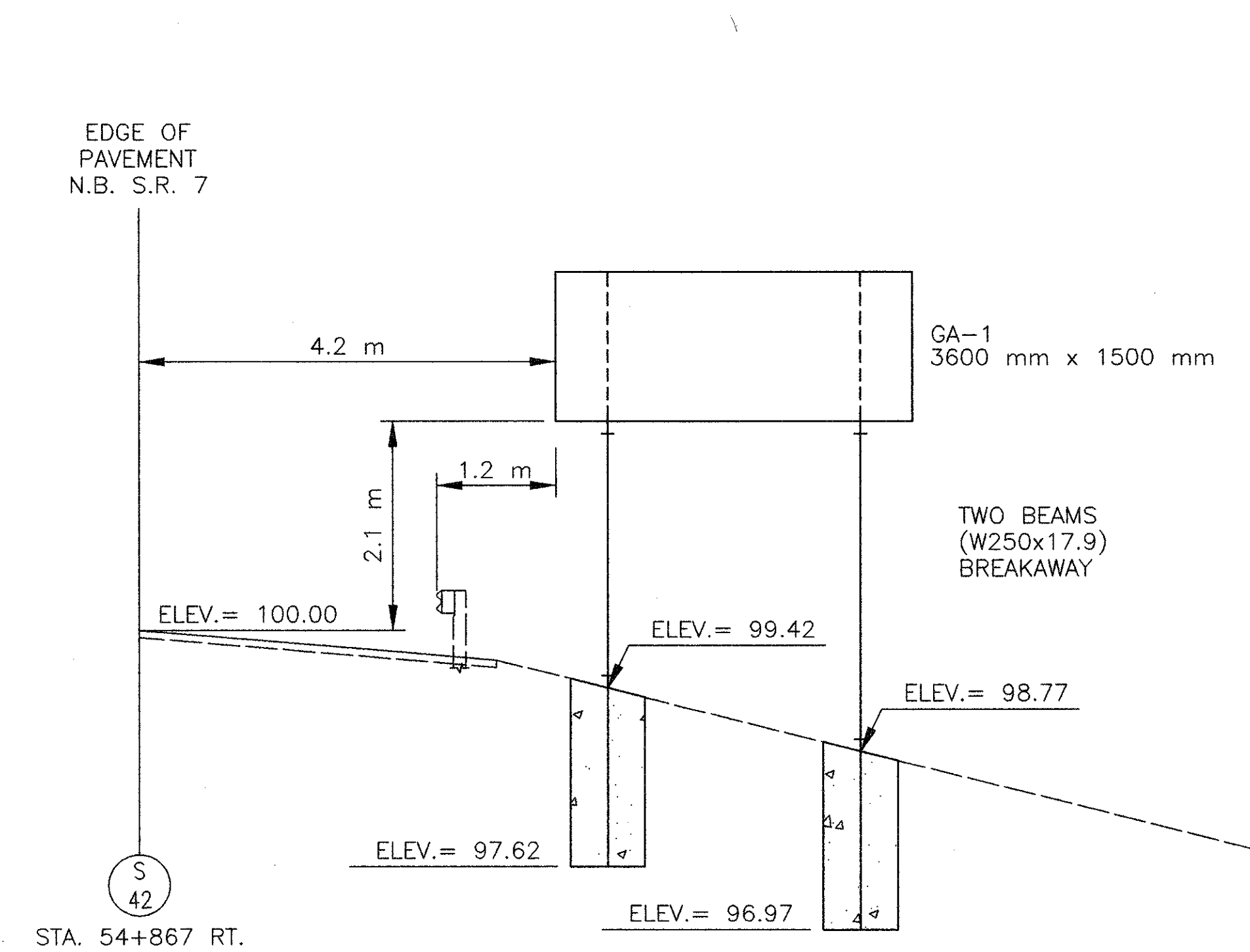
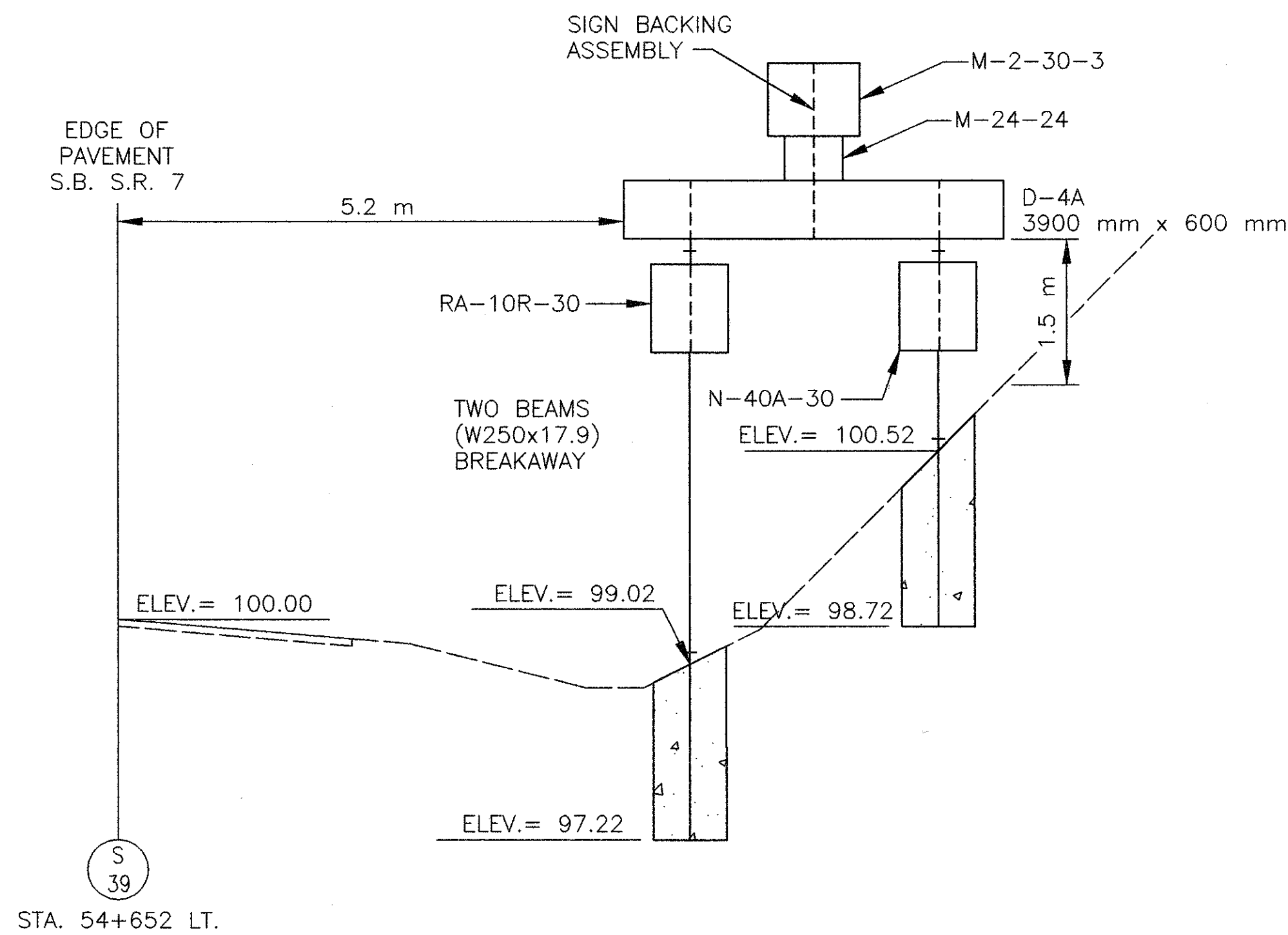
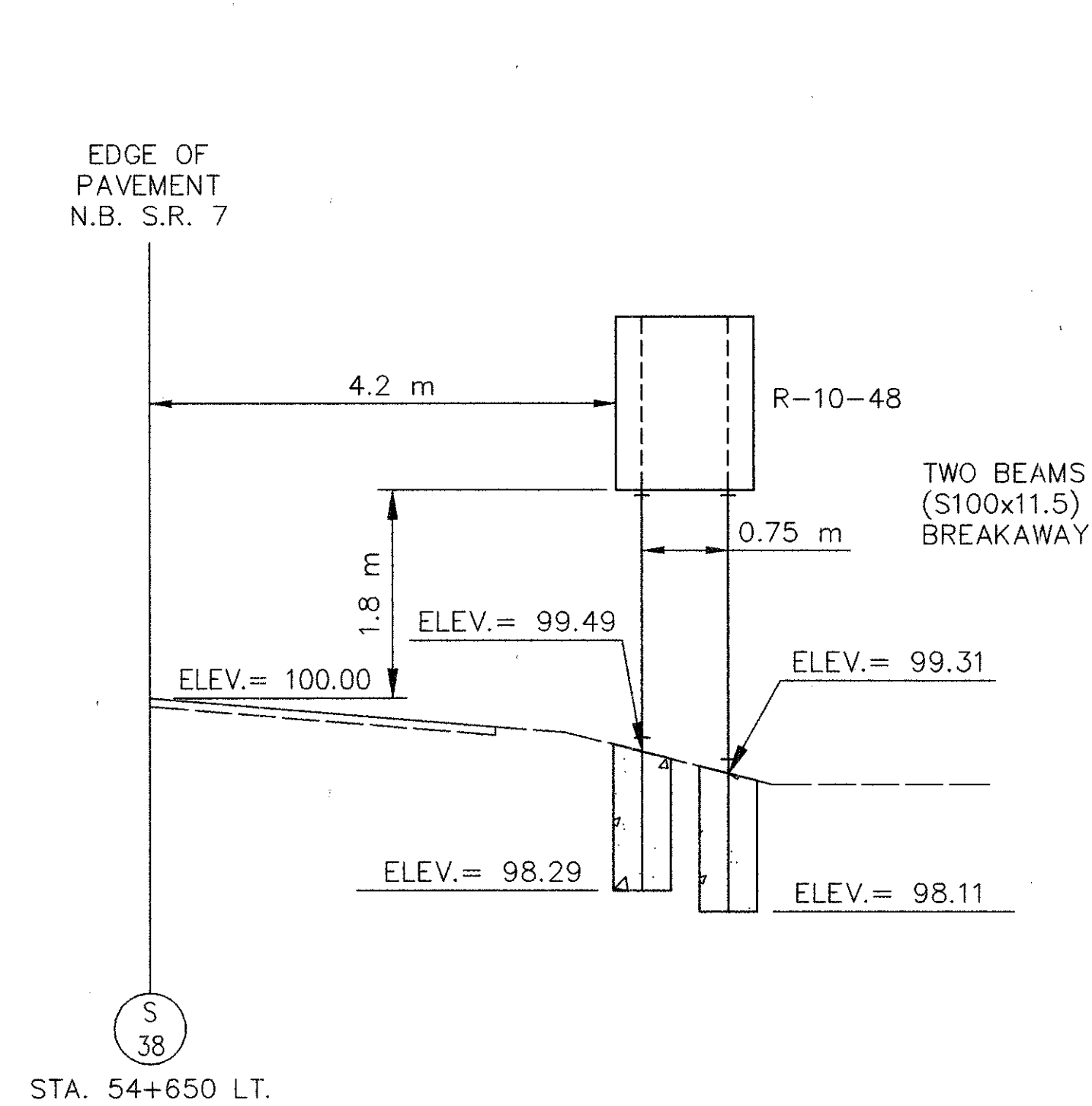
38
79



NOTES:

1. FOR FASTENERS, SEE STD. DRAWING TC-41.20M OR TC-51.10M.
2. FOR SUPPORT BEAM SPACING, SEE STD. DRAWING TC-42.10M.
3. FOR SUPPORT DETAILS, SEE STD. DRAWING TC-41.10M.
4. FOR SIGN ATTACHMENT DETAIL, SEE STD. DRAWING TC-42.10M.
5. FOR DETAILS AND SPECIFICATIONS NOT SHOWN, SEE STD. DRAWING TC-42.10M.

CROSS REFERENCES	
SHT.NO.	ITEM
34, 35	TRAFFIC CONTROL QUANTITIES



CROSS REFERENCES	
SHT.NO.	ITEM
35, 36	TRAFFIC CONTROL QUANTITIES

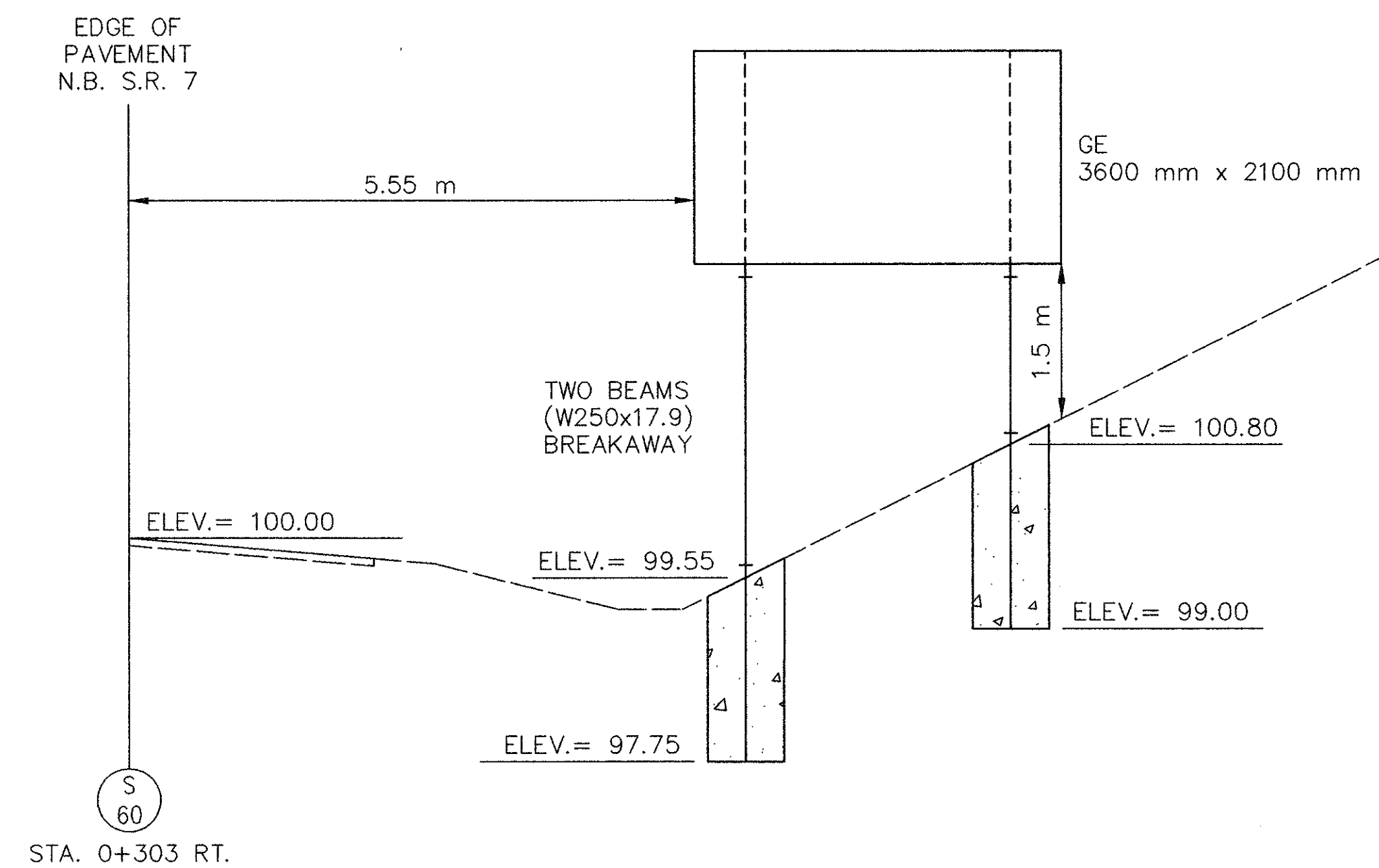
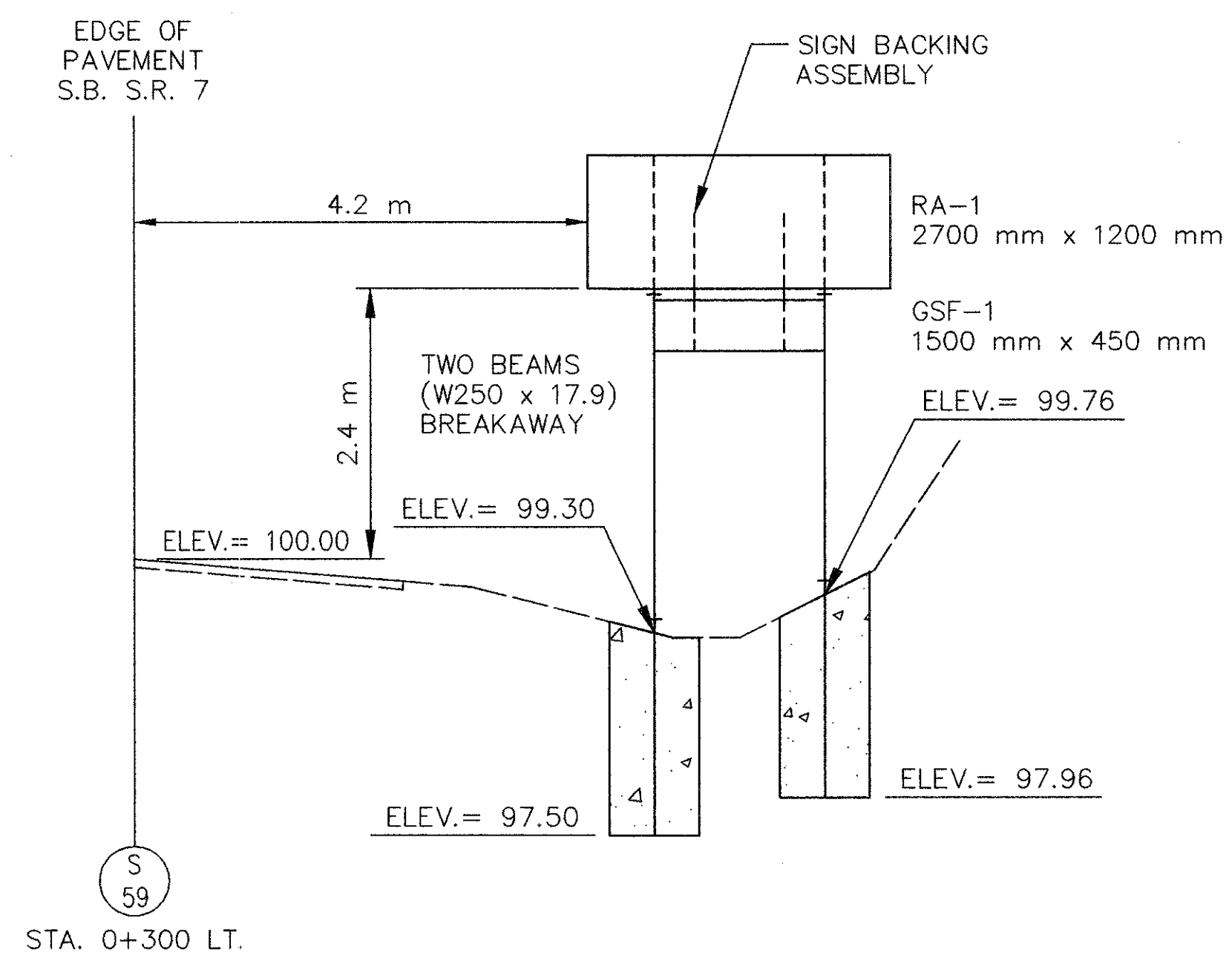
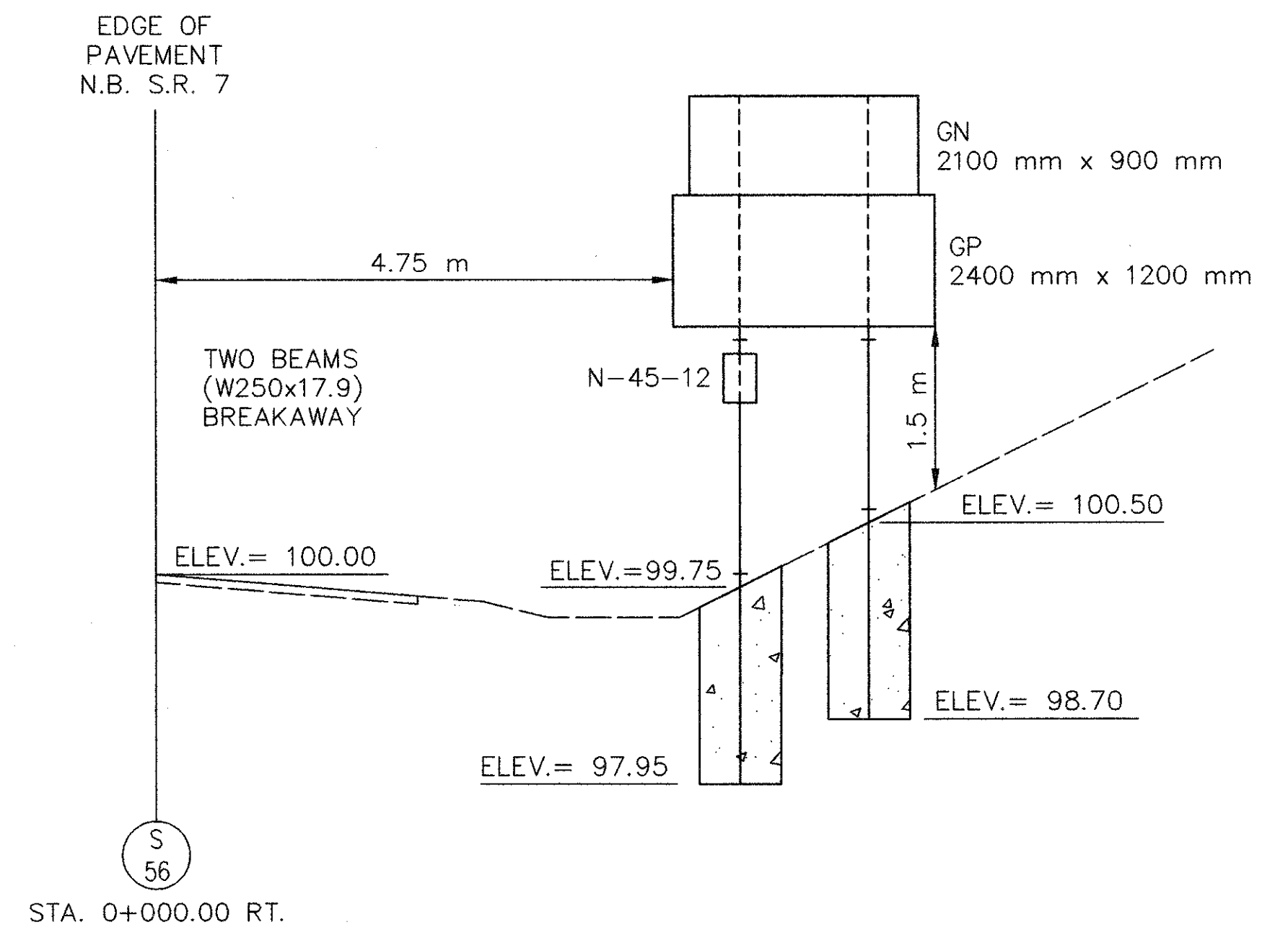
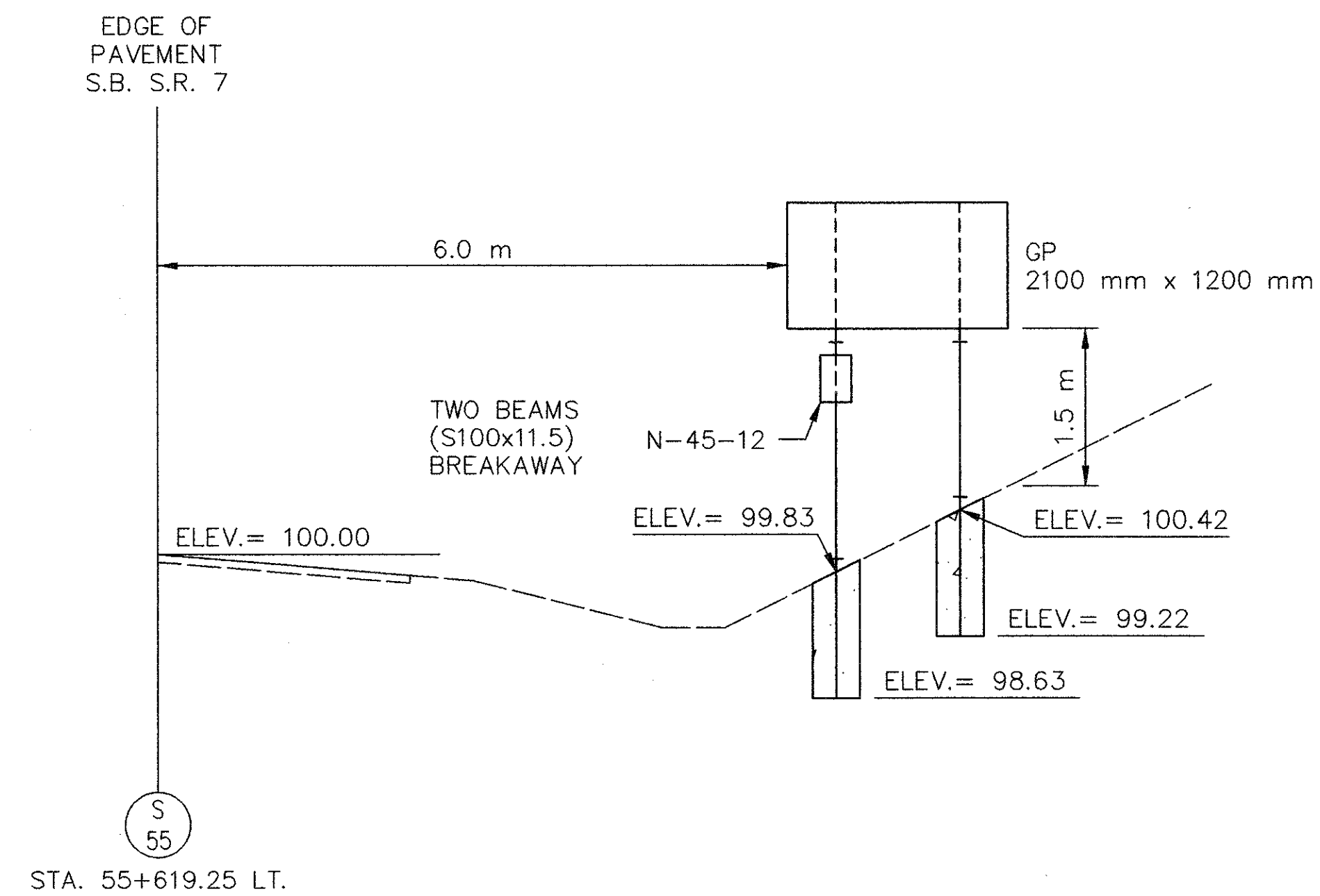
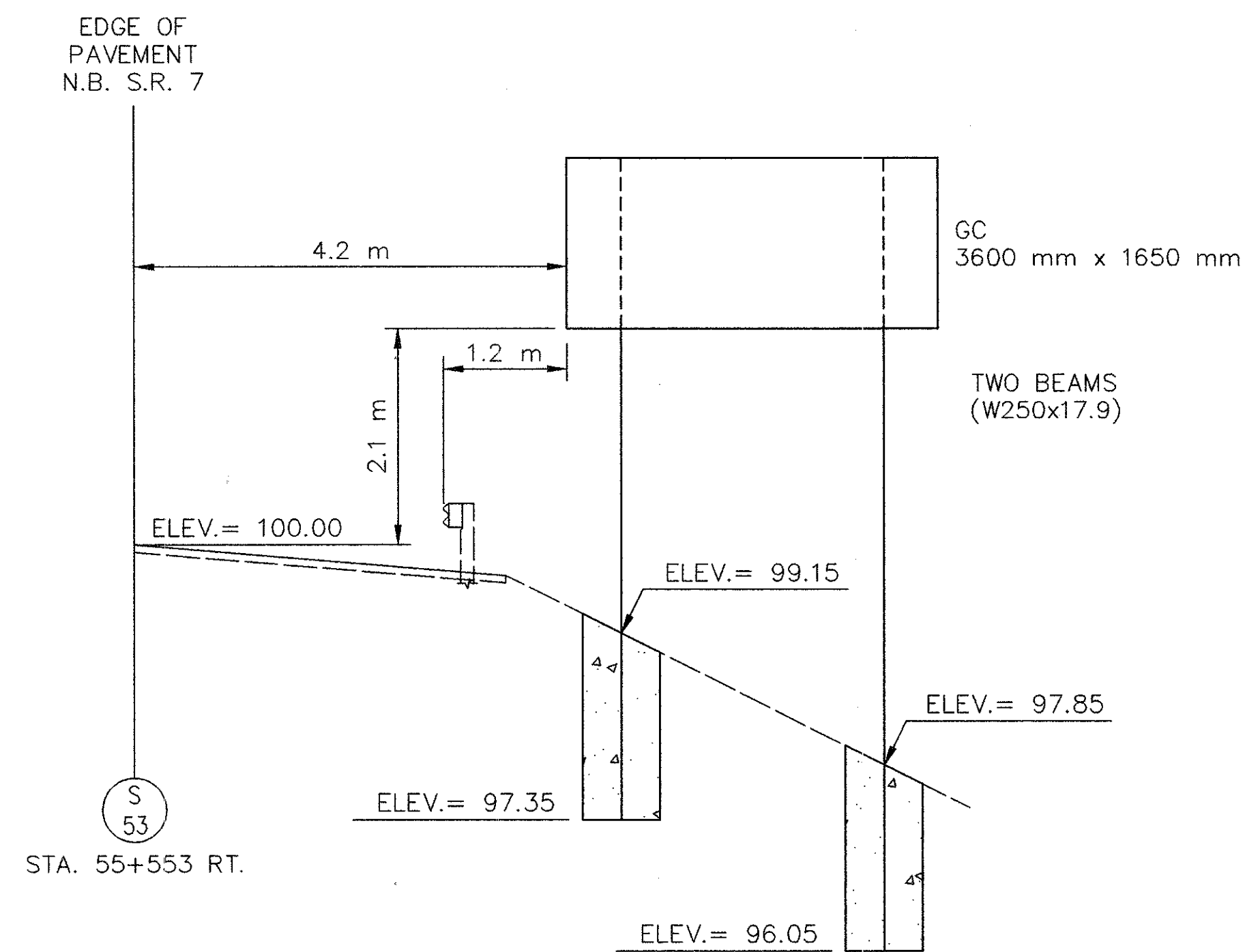
NOTES:

1. FOR FASTENERS, SEE STD. DRAWING TC-41.20M OR TC-51.10M.
2. FOR SUPPORT BEAM SPACING, SEE STD. DRAWING TC-42.10M.
3. FOR SUPPORT DETAILS, SEE STD. DRAWING TC-41.10M.
4. FOR SIGN ATTACHMENT DETAIL, SEE STD. DRAWING TC-42.10M.
5. FOR DETAILS AND SPECIFICATIONS NOT SHOWN, SEE STD. DRAWING TC-42.10M.

SIGN STRUCTURE ELEVATIONS

JEF/COL-7-53.620/0.000

CALCULATED
SPT
CHECKED
M. M.



CROSS REFERENCES	
SHT.NO.	ITEM
36	TRAFFIC CONTROL QUANTITIES

- NOTES:
1. FOR FASTENERS, SEE STD. DRAWING TC-41.20M OR TC-51.10M.
 2. FOR SUPPORT BEAM SPACING, SEE STD. DRAWING TC-42.10M.
 3. FOR SUPPORT DETAILS, SEE STD. DRAWING TC-41.10M.
 4. FOR SIGN ATTACHMENT DETAIL, SEE STD. DRAWING TC-42.10M.
 5. FOR DETAILS AND SPECIFICATIONS NOT SHOWN, SEE STD. DRAWING TC-42.10M.

SIGN STRUCTURE ELEVATIONS

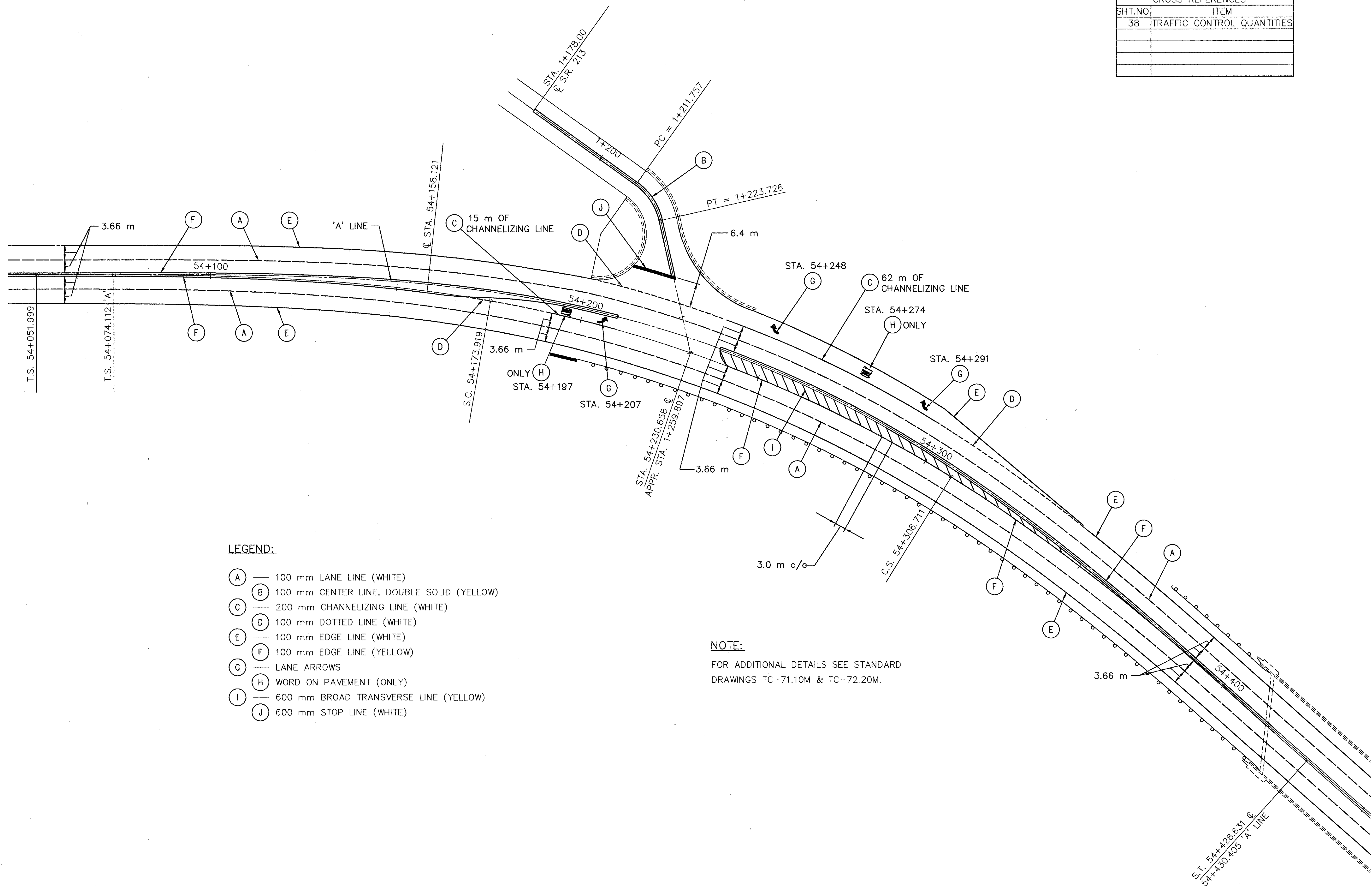
JEF/COL-7-53.620/0.000

CALCULATED
SPT
CHECKED
M.M.

PAVEMENT MARKING DETAILS

JEF/COL-7-53.620/0.000

CROSS REFERENCES	
SHT.NO	ITEM
38	TRAFFIC CONTROL QUANTITIES

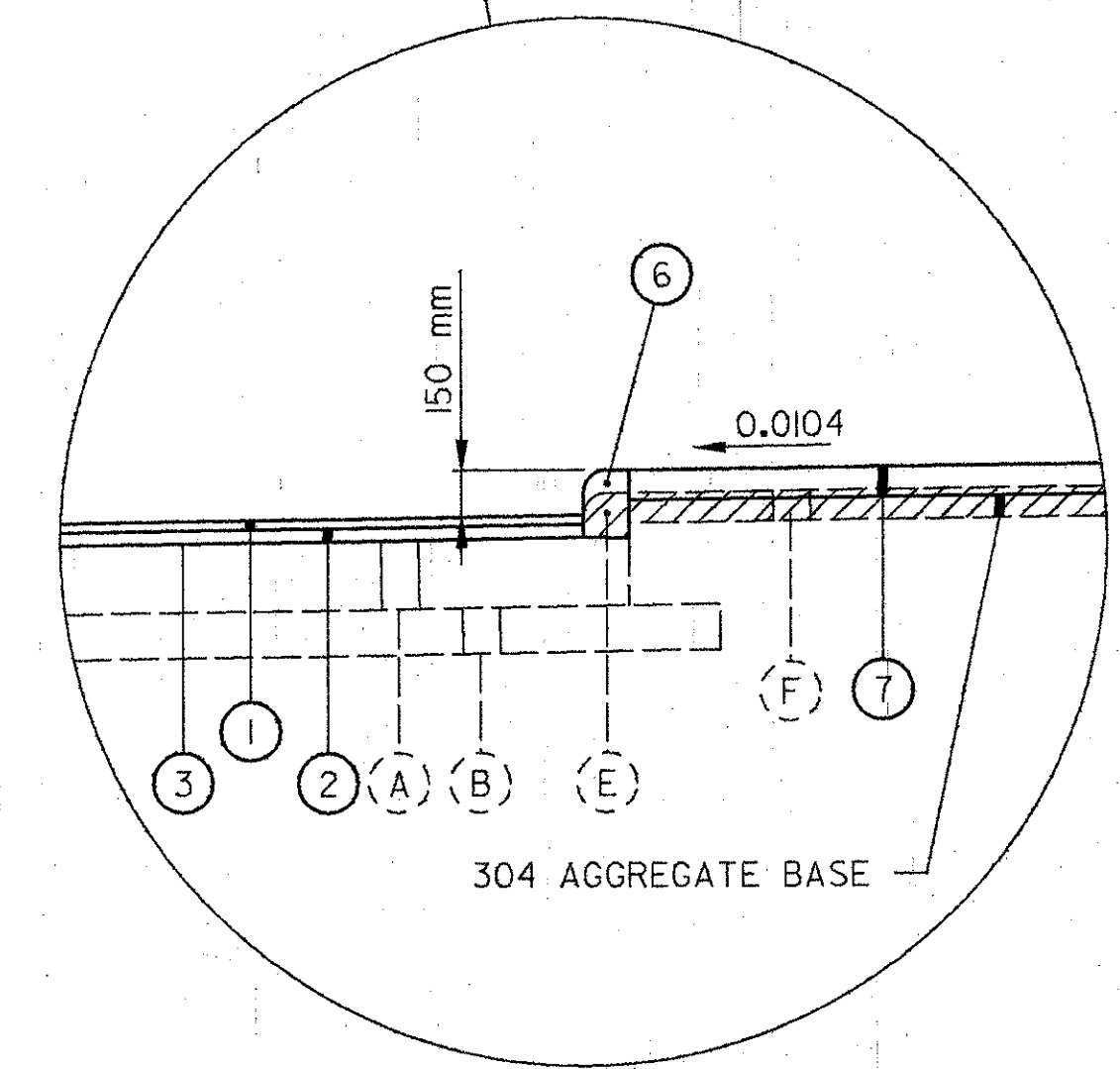
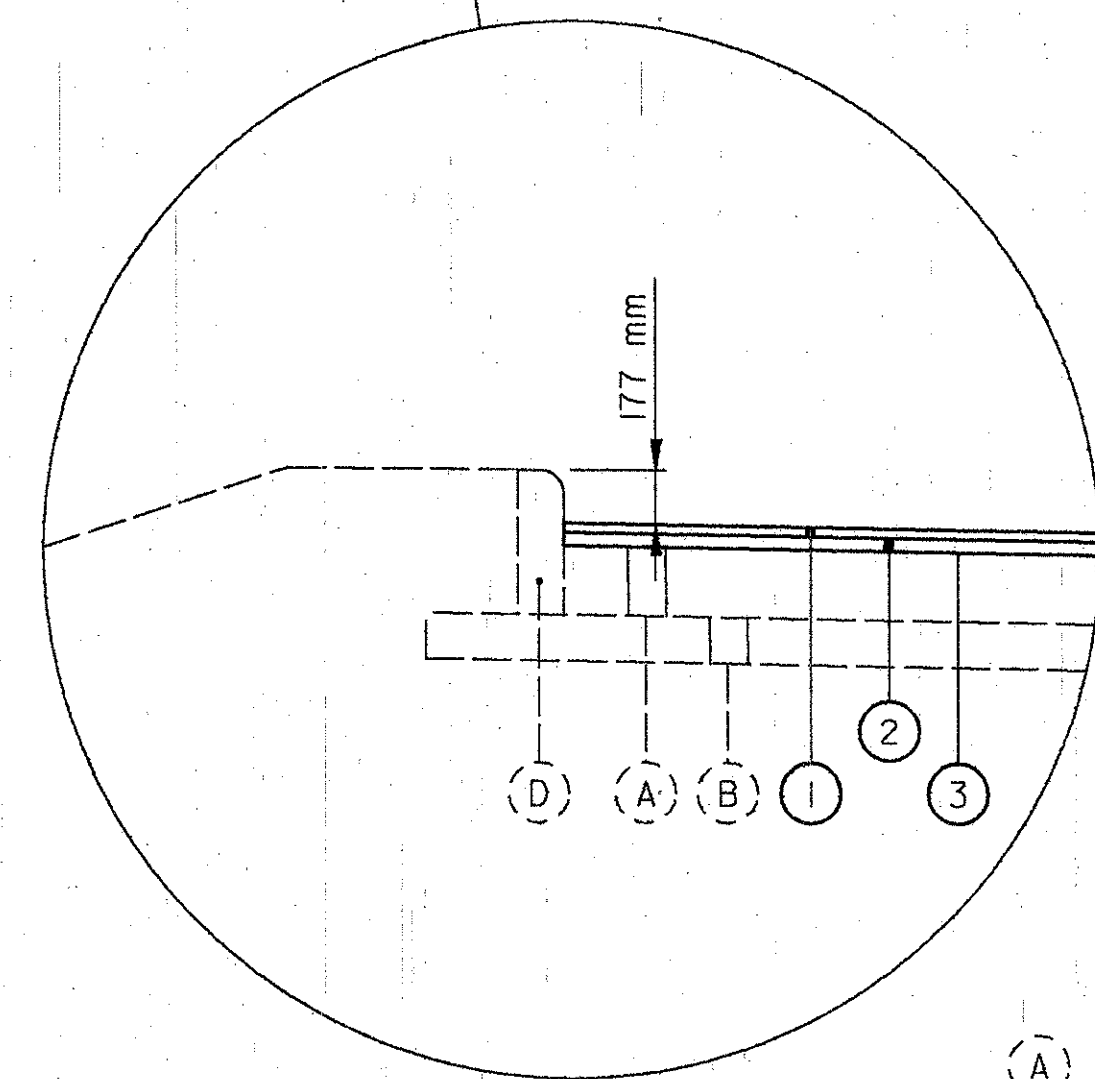
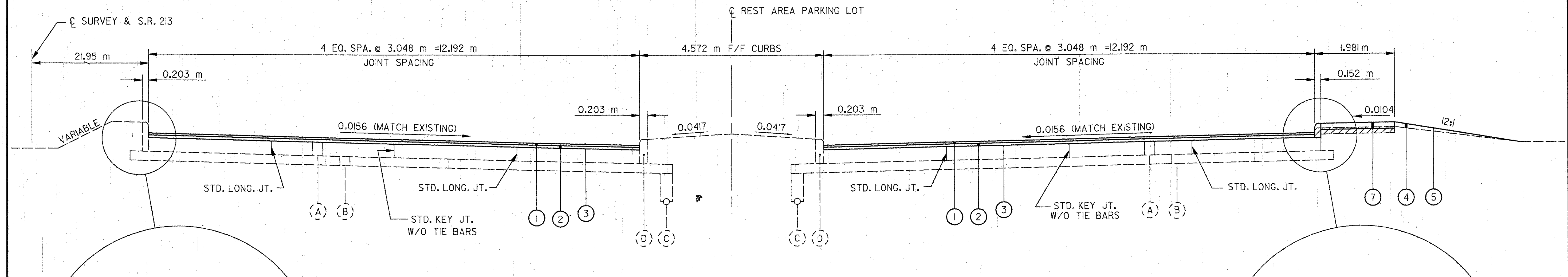


NOTE:

FOR ADDITIONAL DETAILS SEE STANDARD
DRAWINGS TC-71.10M & TC-72.20M.

LEGEND:

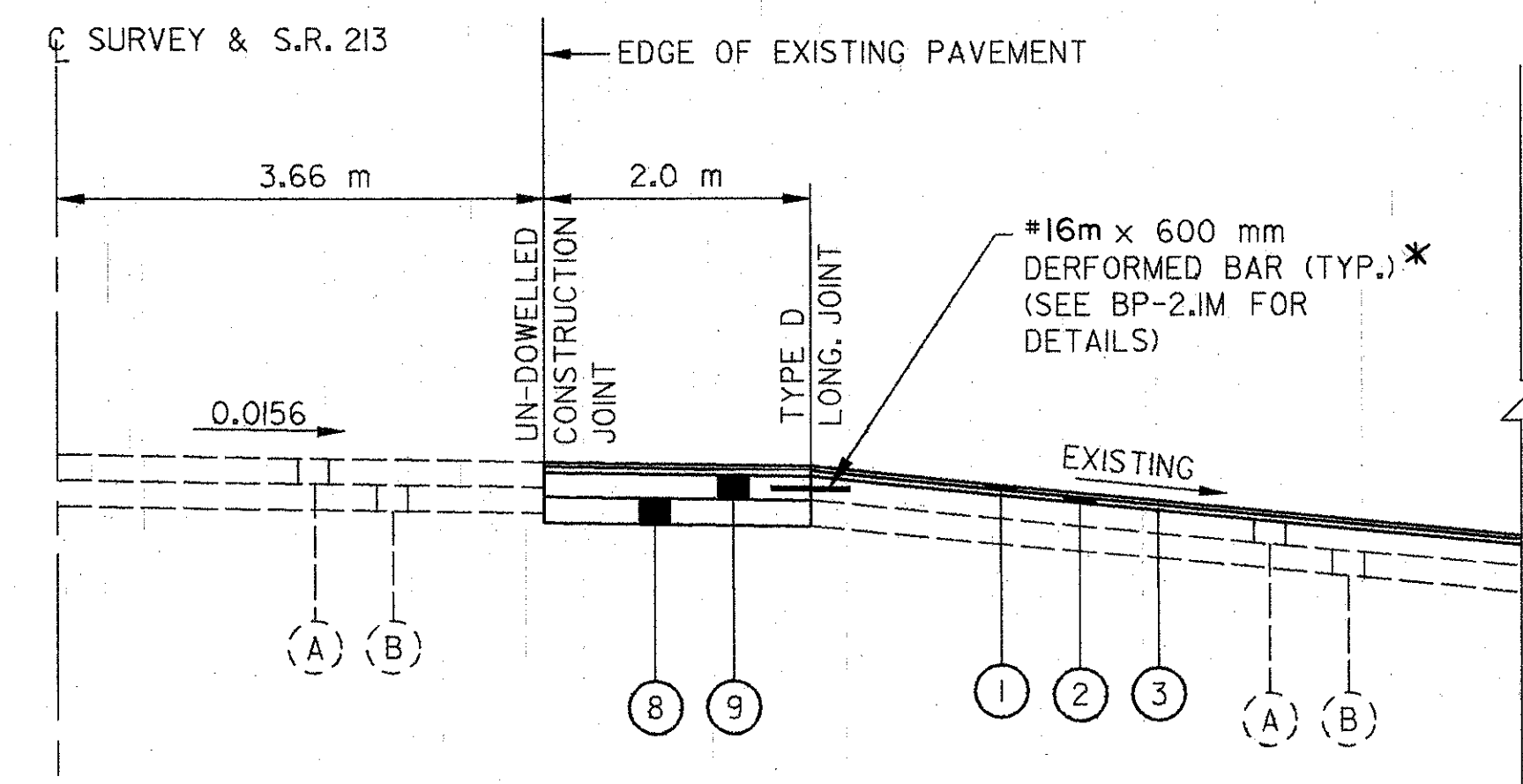
- (A) — 100 mm LANE LINE (WHITE)
- (B) — 100 mm CENTER LINE, DOUBLE SOLID (YELLOW)
- (C) — 200 mm CHANNELIZING LINE (WHITE)
- (D) — 100 mm DOTTED LINE (WHITE)
- (E) — 100 mm EDGE LINE (WHITE)
- (F) — 100 mm EDGE LINE (YELLOW)
- (G) — LANE ARROWS
- (H) — WORD ON PAVEMENT (ONLY)
- (I) — 600 mm BROAD TRANSVERSE LINE (YELLOW)
- (J) — 600 mm STOP LINE (WHITE)



TYPICAL SECTION
ROADSIDE REST AREA

- EXISTING LEGEND**
- (A) 230 mm REINFORCED PORTLAND CEMENT CONCRETE
 - (B) SUBBASE
 - (C) 150 mm PIPE UNDERDRAIN (TO REMAIN AND FUNCTION)
 - (D) CONCRETE CURB, TYPE 7
 - (E) CONCRETE CURB, TYPE 2A
 - (F) 100 mm CONCRETE WALK

- PROPOSED LEGEND**
- (1) ITEM 446 - 32 mm ASPHALT CONCRETE SURFACE COURSE, 9.5mm
 - (2) ITEM 446 - 45 mm ASPHALT CONCRETE INTERMEDIATE COURSE, 19mm, PG 64-28
 - (3) ITEM 407 - TACK COAT
 - (4) ITEM 203 - LINEAR GRADING
 - (5) ITEM 659 - SEEDING AND MULCHING
 - (6) ITEM 609 - CURB, TYPE 2-B, AS PER PLAN
 - (7) ITEM 608 - 100 mm CONCRETE WALK
 - (8) ITEM 304 - 150 mm AGGREGATE BASE
 - (9) ITEM 451 - 230 mm REINFORCED CONCRETE PAVEMENT

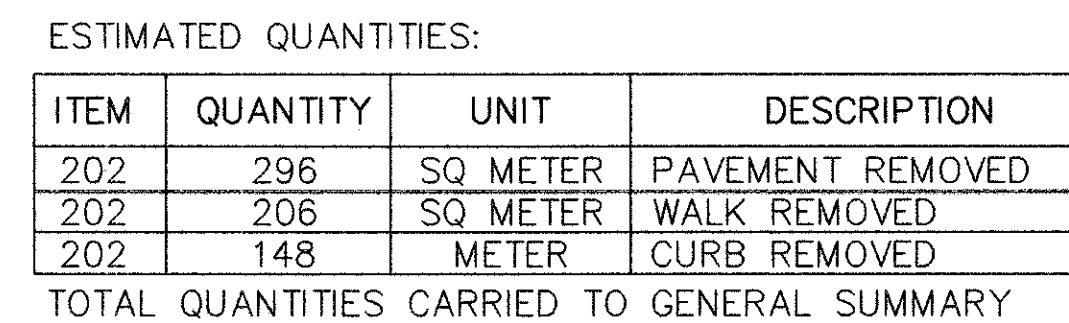


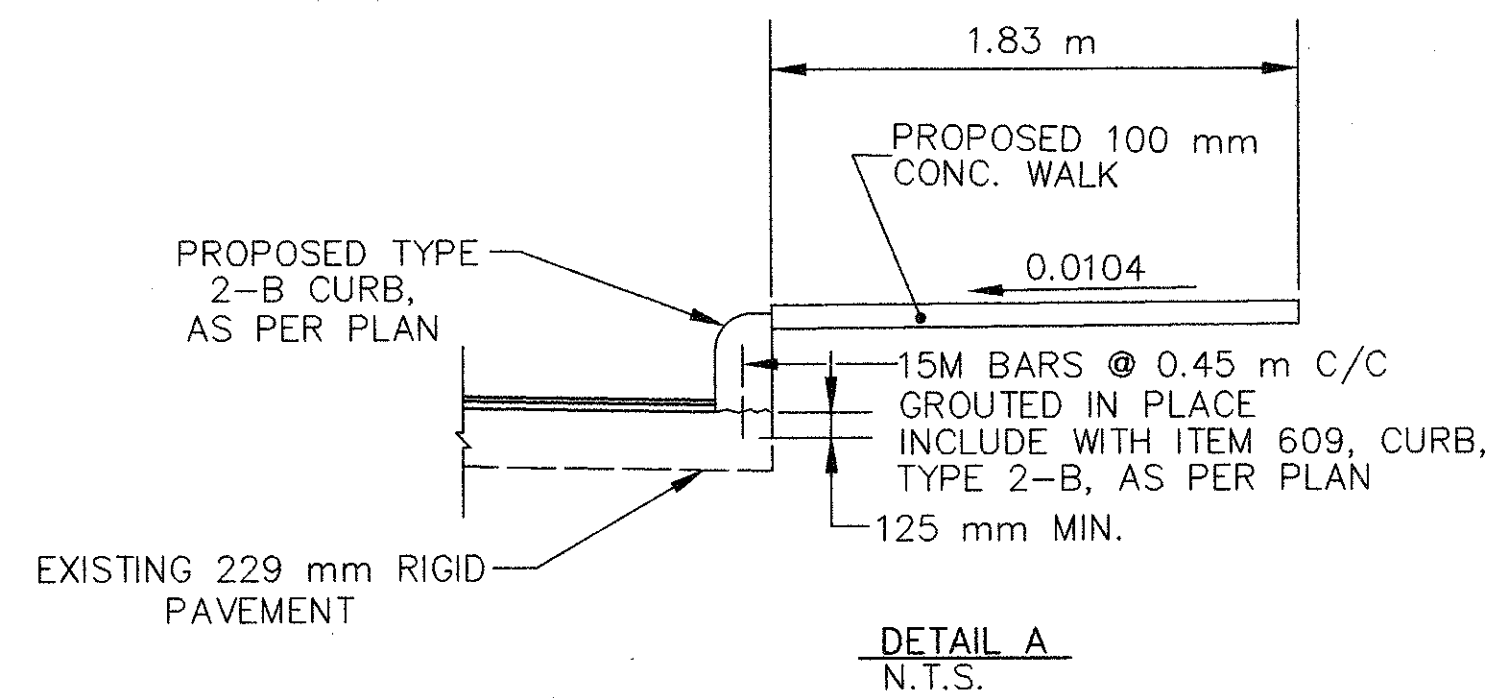
TYPICAL SECTION THROUGH
ROADSIDE REST AREA ENTRANCES

* INCLUDED WITH ITEM 451 FOR PAYMENT

ROADSIDE REST AREA
TYPICAL SECTIONS

JEFF / COL-7-53.620 / 0.000



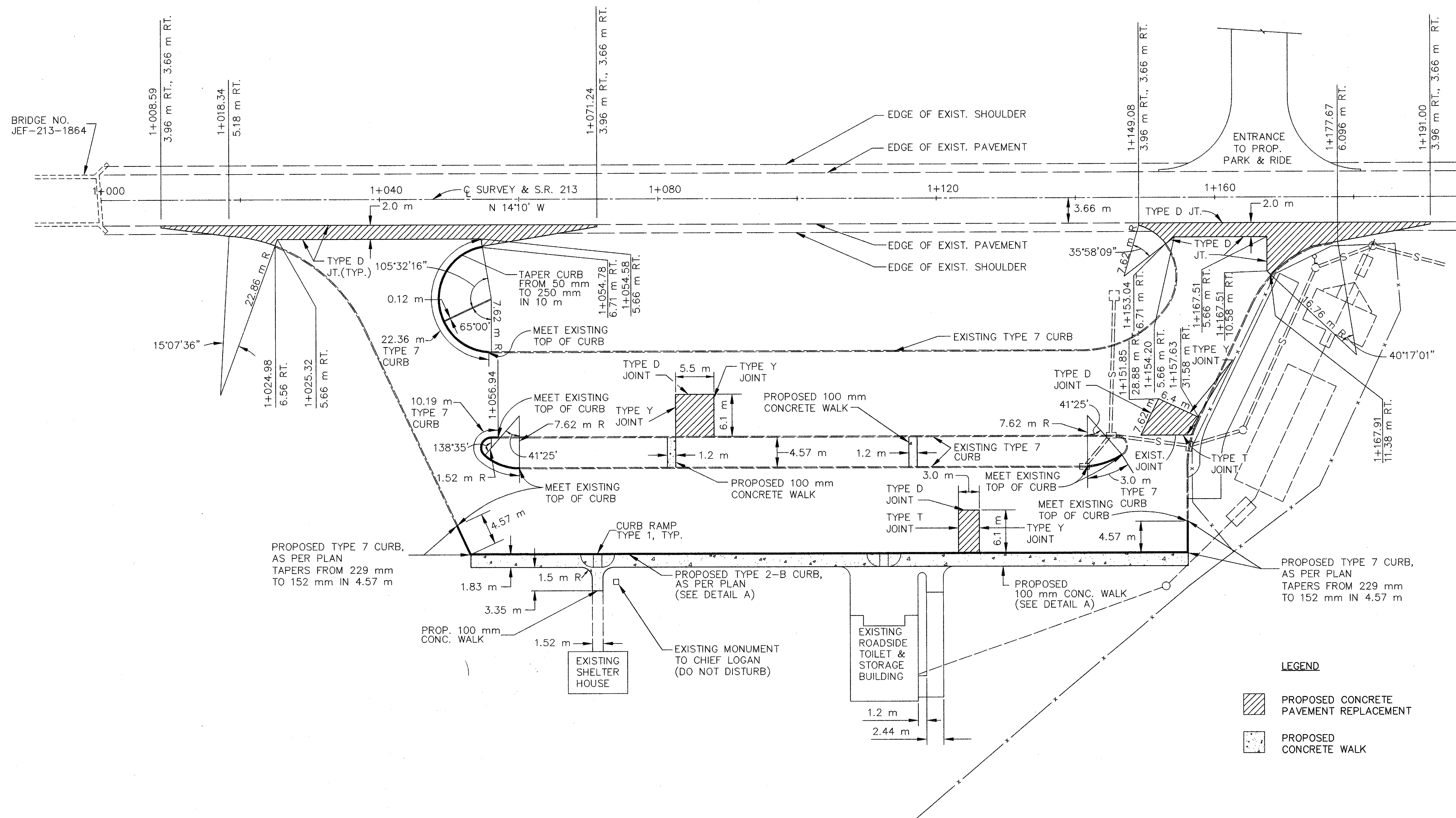


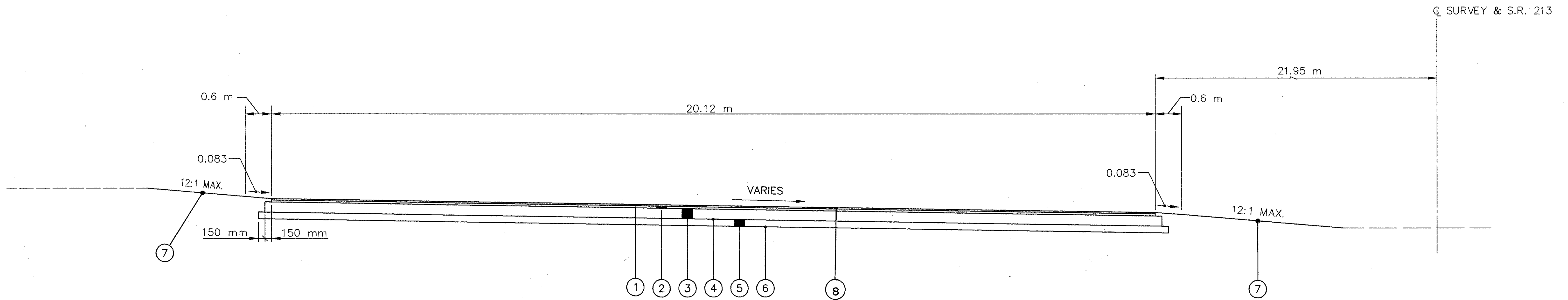
HORIZONTAL
SCALE IN METERS

SPT
CHECKED
M.M.

ROADSIDE REST AREA PROPOSED IMPROVEMENTS

JEF/COL-7-53.620/0.000

$$\frac{45}{79}$$




TYPICAL SECTION
PARK & RIDE AREA
STA. 1+145.16 TO STA. 1+187.83 = 42.67 m

PROPOSED LEGEND

- ① ITEM 446 – 32 mm ASPHALT CONCRETE SURFACE COURSE, 9.5mm
- ② ITEM 446 – 45 mm ASPHALT CONCRETE INTERMEDIATE COURSE, 19mm, PG 64-28
- ③ ITEM 301 – 100 mm BITUMINOUS AGGREGATE BASE, PG 64-28
- ④ ITEM 408 – BITUMINOUS PRIME COAT, APPLIED AT 1.8 LITER/SQ. METER
- ⑤ ITEM 304 – 150 mm AGGREGATE BASE
- ⑥ ITEM 203 – SUBGRADE COMPACTION
- ⑦ ITEM 659 – SEEDING & MULCHING
- ⑧ ITEM 407 – TACK COAT FOR INTERMEDIATE COURSE

CROSS REFERENCES	
SHT.NO.	ITEM
49, 50	CROSS SECTIONS
51	QUANTITIES

CALCULATED
SPT
CHECKED
M.M.

PARK & RIDE AREA
TYPICAL SECTIONS

JEF/COL-7-53.620/0.000

QUANTITY CALCULATIONS

ITEM 203 - SUBGRADE COMPACTION

PARKING AREA:	20.12 m x 42.67 m	= 858.52
TURNOUT AREAS:	4.0 m x 7.92 m x 2	= 63.36
	$[(2.0 \text{ m} \times 2.0 \text{ m}) - 3.142(2.0 \text{ m}) / 4] \times 2^2$	= 3.43
DRIVE AREA:	17.95 m x 8.0 m	= 143.60
	0.4 m x 24.0 m	= 9.60
	$[(2.0 \text{ m} \times 2.0 \text{ m}) - 3.142(2.0 \text{ m}) / 4] \times 2^2$	= 1.72
	$[(10.5 \text{ m} \times 10.5 \text{ m}) - 3.142(10.5 \text{ m}) / 4] \times 2^2$	= 47.32
TOTAL AREA:		= 1127.55 SQ METER
USE:		= 1128 SQ METER

ITEM 446 - ASPHALT CONCRETE INTERMEDIATE COURSE, 19mm, PG 64-28

AREA FROM ITEM 203 - SUBGRADE COMPACTION:	= 1127.55 SQ METER
1127.55 SQ METER x 45 mm x 1/1000	= 50.74 CU METER
USE:	= 51 CU METER

ITEM 446 - ASPHALT CONCRETE SURFACE COURSE, 9.5mm

AREA FROM ITEM 203 - SUBGRADE COMPACTION:	= 1127.55 SQ METER
1127.55 SQ METER x 32 mm x 1/1000	= 36.08 CU METER
USE:	= 36 CU METER

ITEM 304 - AGGREGATE BASE

PARKING AREA:	20.72 m x 43.27 m	= 896.55
TURNOUT AREAS:	4.0 m x 8.52 m x 2	= 68.16
	$[(1.7 \text{ m} \times 1.7 \text{ m}) - 3.142(1.7 \text{ m}) / 4] \times 4^2$	= 2.48
DRIVE AREA:	17.95 m x 8.6 m	= 154.37
	0.7 m x 24.6 m	= 17.22
	$[(1.7 \text{ m} \times 1.7 \text{ m}) - 3.142(1.7 \text{ m}) / 4] \times 2^2$	= 1.24
	$[(10.2 \text{ m} \times 10.2 \text{ m}) - 3.142(10.2 \text{ m}) / 4] \times 2^2$	= 44.65
TOTAL AREA:		= 1184.67 SQ METER
VOLUME:	1184.67 SQ METER x 150 mm x 1/1000	= 177.70 CU METER
USE:		= 178 CU METER

ITEM 301 - BITUMINOUS AGGREGATE BASE, PG 64-28

PARKING AREA:	20.42 m x 42.97 m	= 877.45
TURNOUT AREAS:	4.0 m x 8.22 m x 2	= 65.76
	$[(1.85 \text{ m} \times 1.85 \text{ m}) - 3.142(1.85 \text{ m}) / 4] \times 4^2$	= 2.94
DRIVE AREA:	17.95 m x 8.3 m	= 148.99
	0.55 m x 24.3 m	= 13.37
	$[(1.85 \text{ m} \times 1.85 \text{ m}) - 3.142(1.85 \text{ m}) / 4] \times 2^2$	= 1.47
	$[(10.35 \text{ m} \times 10.35 \text{ m}) - 3.142(10.35 \text{ m}) / 4] \times 2^2$	= 45.98
TOTAL AREA:		= 1155.96 SQ METER
VOLUME:	1155.96 SQ METER x 100 mm x 1/1000	= 115.60 CU METER
USE:		= 116 CU METER

ITEM 203 - EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION

AREA FROM ITEM 304 AGGREGATE BASE:	= 1184.67 SQ METER	
VOLUME:	1184.67 SQ METER x (32+45+100+150)x1/1000	= 387.39 CU METER
USE:		= 387 CU METER

ITEM 408 - BITUMINOUS PRIME COAT

AREA FROM ITEM 301 BITUMINOUS AGGREGATE BASE:	= 1155.96 SQ METER
APPLIED AT THE RATE OF 1.81 LITER/SQ METER	
1155.96 x 1.81	= 2092 LITER

ITEM 659 SEEDING AND MULCHING

PERIMETER		
CALCULATION:	10.5 m x 3.142 x $\frac{1}{2} \times 2$	= 32.99
	2 m x 3.142 x $\frac{1}{2} \times 6$	= 18.85
	15.34 + 15.33 + 42.67	= 73.34
	2 m x 4	= 8.00
	$(4.1 \text{ m} \times 4) + (5.45 \text{ m} \times 2) + (7.92 \text{ m} \times 2)$	= 43.14
PERIMETER:		= 176.32 METER

AVG. WIDTH:	2.0 m
AREA:	176.32 m x 2.0 m = 353 SQ METER

ITEM 659 COMMERCIAL FERTILIZER

353 SQ METER x 0.1 KILOGRAM/SQ METER	= 35 KILOGRAM
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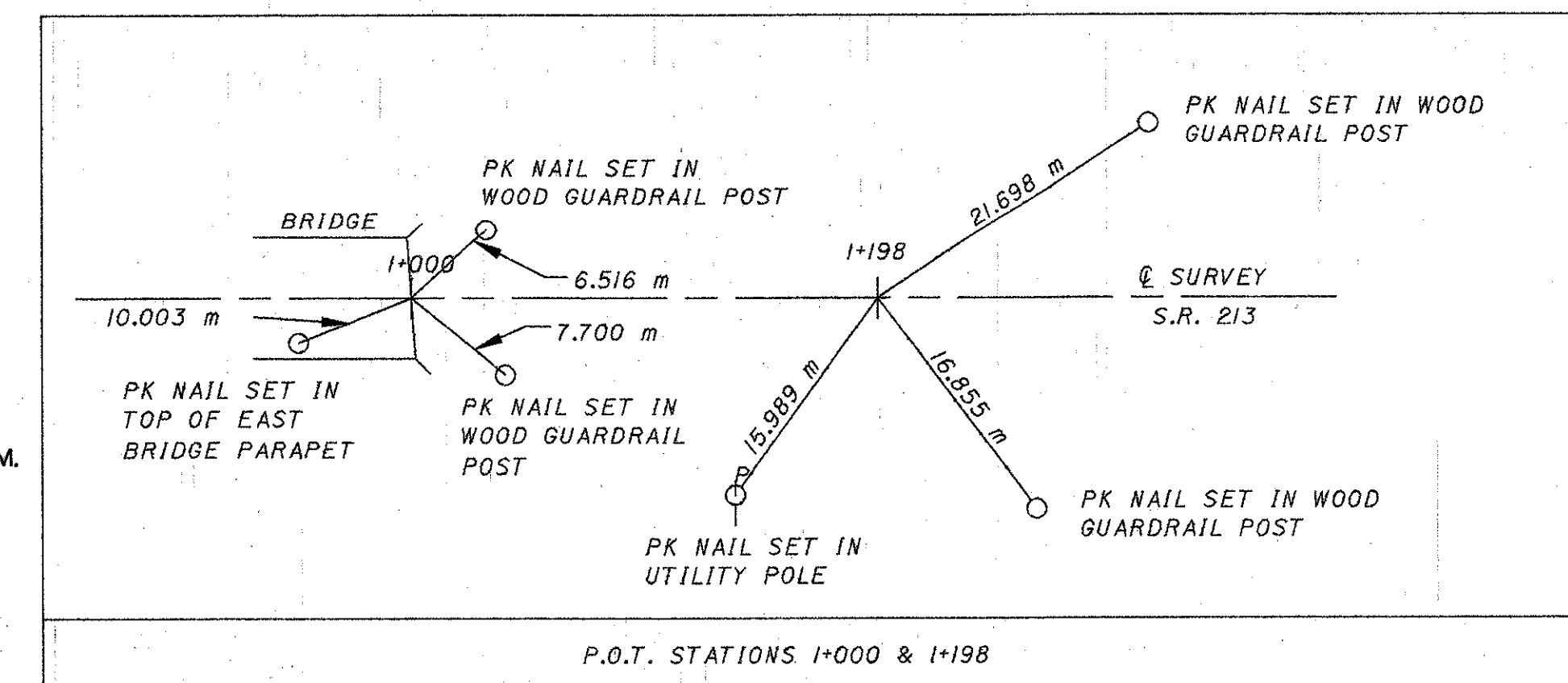
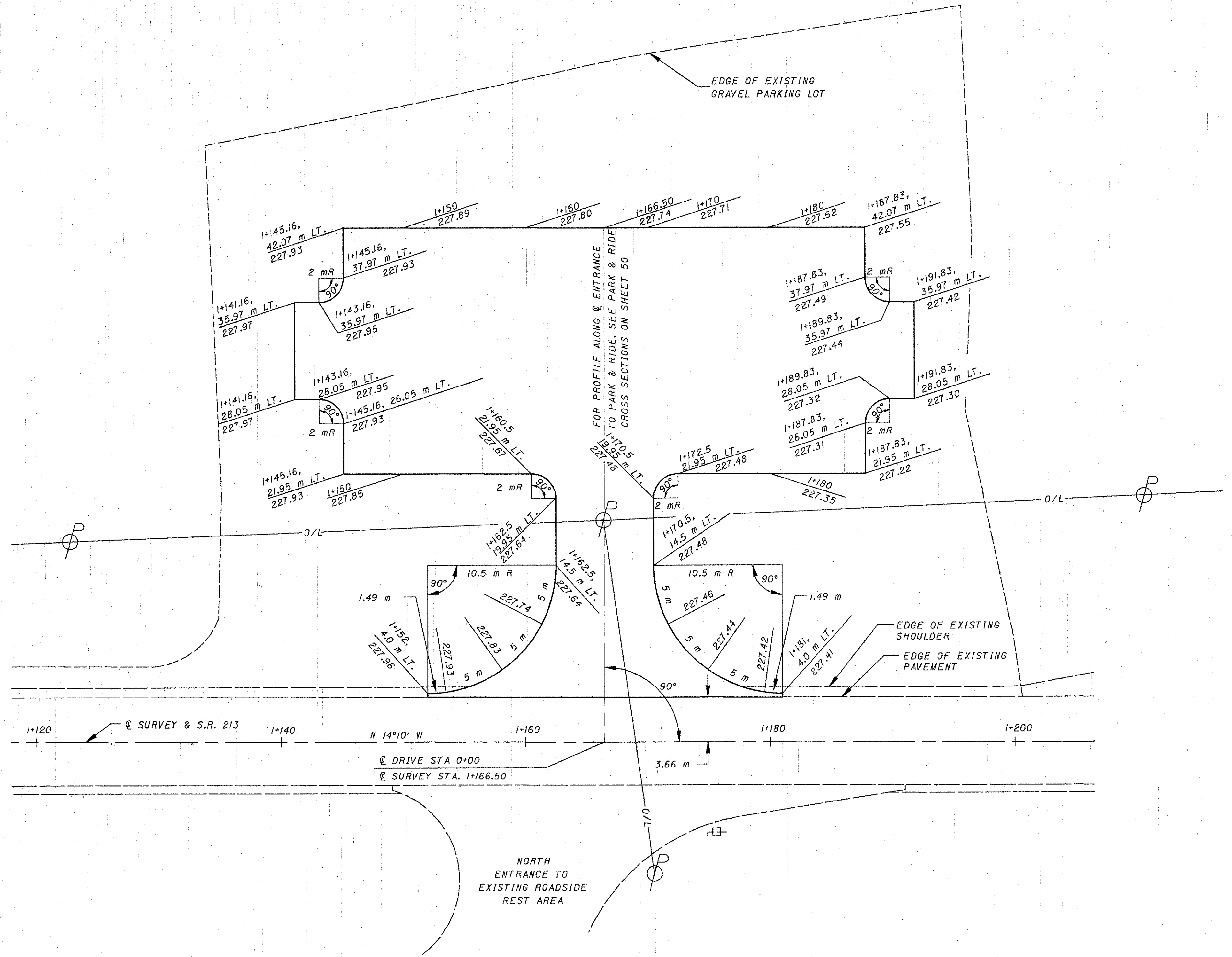
ITEM 659 WATER

353 SQ METER x $\frac{5 \text{ CU METER}}{1000 \text{ SQ METER}^2}$	= 3.53 CU METER
USE:	= 4 CU METER

ITEM 407 TACK COAT FOR INTERMEDIATE COURSE

AREA FROM ITEM 446 - ASPHALT CONCRETE INTERMEDIATE COURSE, 19mm, PG 64-28	= 1127.55 SQ.M.
APPLIED AT THE RATE OF 0.34 LITER/SQ.METER	
1127.55 x 0.34 = 383.37	USE 383 LITER

ALL QUANTITY TOTALS CARRIED TO SHEET 51.



CROSS REFERENCES	
SHT. NO.	ITEM
50	PARK & RIDE ENTRANCE - PROFILE
51	PARK & RIDE AREA - QUANTITIES

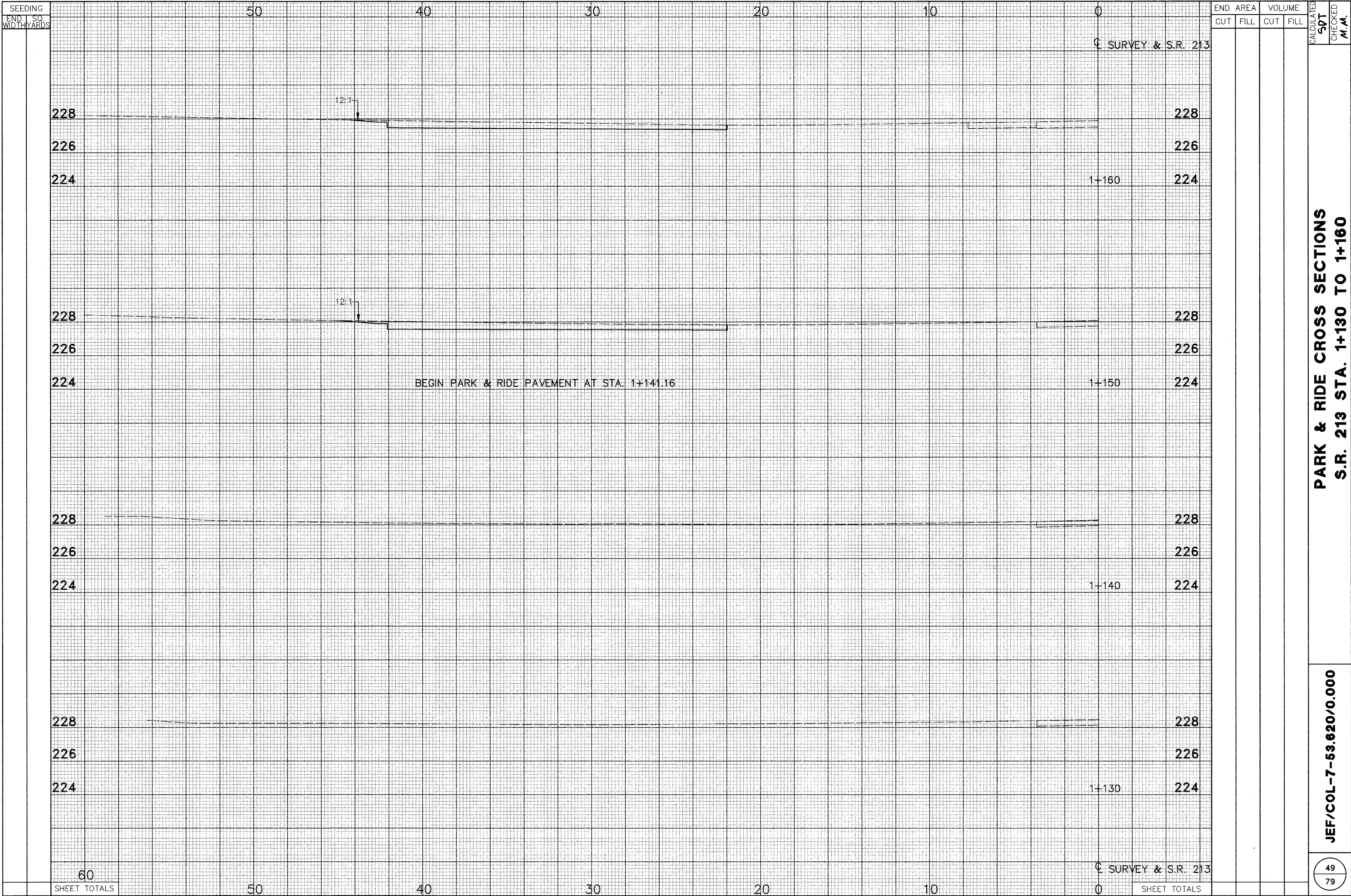


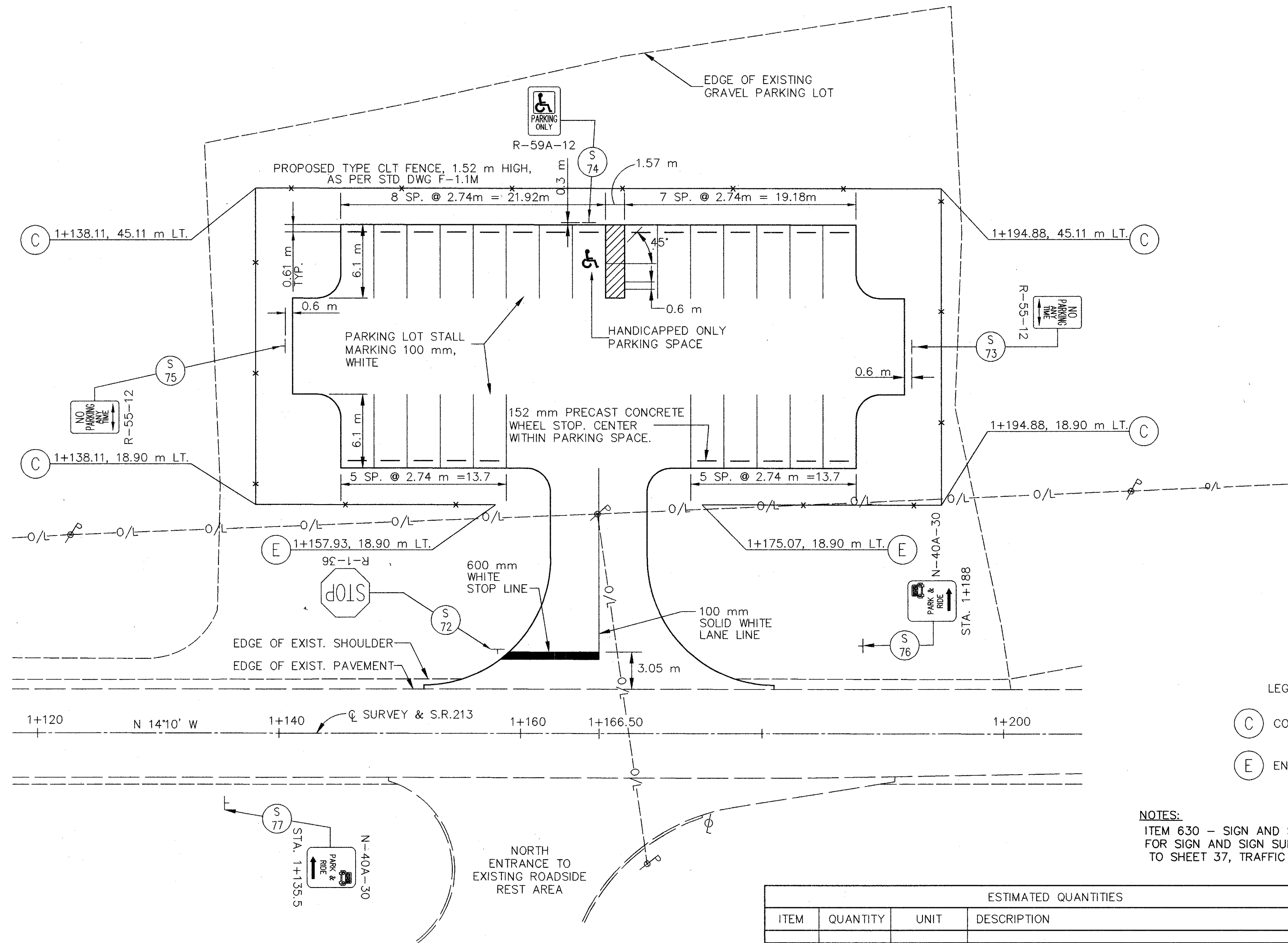
HORIZONTAL SCALE IN METERS

CALCULATED
SDT
CHECKED
M.M.

PARK & RIDE AREA PAVEMENT PLAN AND CALCULATIONS

JEF/ COL-7-53.620/ 0.000





NOTES:

ITEM 630 - SIGN AND SIGN SUPPORTS:

FOR SIGN AND SIGN SUPPORT QUANTITIES, REFER TO SHEET 37, TRAFFIC CONTROL QUANTITIES.

ESTIMATED QUANTITIES			
ITEM	QUANTITY	UNIT	DESCRIPTION
203	390	CU METER	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION
203	1128	SO METER	SUBGRADE COMPACTION
301	116	CU METER	BITUMINOUS AGGREGATE BASE, PG 64-28
304	178	CU METER	AGGREGATE BASE
408	2092	LITER	BITUMINOUS PRIME COAT
407	383	LITER	TACK COAT FOR INTERMEDIATE COURSE
446	51	CU METER	ASPHALT CONCRETE INTERMEDIATE COURSE, 19mm, PG 64-28
446	36	CU METER	ASPHALT CONCRETE SURFACE COURSE, 9.5mm
607	149	METER	FENCE, TYPE CLT
642	0.02	KILOMETER	LANE LINE, TYPE I
642	8	METER	STOP LINE, TYPE I
642	177	METER	PARKING LOT STALL MARKING, TYPE I
642	1	EACH	HANDICAP SYMBOL MARKING, TYPE I
659	353	SO METER	SEEDING AND MULCHING
659	35	KILOGRAM	COMMERCIAL FERTILIZER
659	4	CU METER	WATER
SPECIAL	25	EACH	CONCRETE PARKING BLOCK

ALL QUANTITIES CARRIED TO GENERAL SUMMARY

PARK & RIDE AREA QUANTITIES / TRAFFIC CONTROL PLAN

JEF/COL-7-53.620/0.000

DESIGN SPECIFICATIONS

THE PROPOSED REHABILITATION WORK FOR THESE STRUCTURES CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1992, INCLUDING THE 1993 AND 1994 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN DATA

CONCRETE CLASS S: COMPRESSIVE STRENGTH 31.0 MPa FOR SUPERSTRUCTURE

CONCRETE CLASS C: COMPRESSIVE STRENGTH 27.5 MPa FOR SUBSTRUCTURE

REINFORCING STEEL: ASTM A615M, A616M OR A617M - GRADE 400, MINIMUM YIELD STRENGTH, 400 MPa

STRUCTURAL STEEL: ASTM A36M, MINIMUM YIELD STRENGTH 250 MPa

DECK PROTECTION METHODS: MICRO-SILICA MODIFIED CONCRETE OVERLAY

REFERENCES

REFERENCE SHALL BE MADE TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS AND STANDARD DRAWINGS OF THE STATE OF OHIO.

STANDARD DRAWING NO. AS-1-81M DATED 10-25-94

STANDARD DRAWING NO. EXJ-4-87M DATED 2-18-97

STANDARD DRAWING NO. PCB-91M DATED 3-20-95

SUPPLEMENTAL SPECIFICATION 815 DATED 5-30-96

SUPPLEMENTAL SPECIFICATION 910 DATED 4-21-97

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURES HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURES AND/OR FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURES AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.02.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURES BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

EXISTING STRUCTURE PLANS

THE EXISTING STRUCTURE PLANS ARE ON FILE AND MAY BE REVIEWED IN THE OFFICE OF THE ODOT DISTRICT DEPUTY DIRECTOR, 1072 WEST HIGH AVENUE, NEW PHILADELPHIA, OH 44663.

ITEM 516. STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN

THIS ITEM SHALL CONFORM TO CMS 516 EXCEPT AS NOTED HEREIN. THIS ITEM SHALL INCLUDE ALL WORK REQUIRED TO REMOVE PORTIONS OF THE EXISTING EXPANSION JOINTS AND FURNISHING AND INSTALLING OF THE NEW STRUCTURAL STEEL INCLUDING PARAPET AND MEDIAN BARRIER EXPANSION JOINT ASSEMBLIES, STEEL RETAINERS AND STRIP SEAL GLANDS AS SHOWN IN THE PLANS.

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK LISTED IN THE GENERAL SUMMARY FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED AT THE ENGINEER'S DISCRETION SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

ITEM 519 - PATCHING CONCRETE STRUCTURES AS PER PLAN

THIS ITEM SHALL CONSIST OF MAKING STRUCTURAL REPAIRS TO THE DETERIORATED ABUTMENT, BACKWALLS AND BEAM SEATS AND EXPOSED FACES OF ABUTMENTS AND PIERS AS SHOWN IN SHEET NO. 10/27 OR AS DIRECTED BY THE ENGINEER.

SURFACE PREPARATION SHALL INCLUDE ABRASIVE BLASTING OF ALL REINFORCING STEEL AND CONCRETE TO BE PATCHED (STEEL CLEANED TO SA-1 QUALITY).

PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE BID PER SQ. METER FOR ITEM 519, PATCHING CONCRETE STRUCTURES, AS PER PLAN AND SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK INCLUDING ABRASIVE BLASTING.

PROTECTION OF TRAFFIC

PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE, THE CONTRACTOR SHALL SUBMIT HIS PLANS FOR THE PROTECTION OF TRAFFIC (VEHICULAR, PEDESTRIAN, BOAT, ETC.) ADJACENT TO AND/OR UNDER THE STRUCTURE TO THE DIRECTOR FOR APPROVAL. THESE PLANS SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT MAY BE NECESSARY TO ENSURE SUCH PROTECTION. TEMPORARY VERTICAL CLEARANCES SPECIFIED ON THE PLANS OR IN THE PROPOSAL SHALL BE MAINTAINED AT ALL TIMES EXCEPT AS OTHERWISE APPROVED BY THE DIRECTOR.

REINFORCING STEEL

ALL REINFORCING STEEL SHALL BE EPOXY COATED.

REPLACEMENT OF EXISTING REINFORCING STEEL

ANY EXISTING REINFORCING BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND WHICH ARE MADE UNUSABLE BY THE CONTRACTOR'S CONCRETE REMOVAL OPERATIONS SHALL BE REPLACED WITH NEW STEEL AT HIS COST.

ANY EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION SHALL BE REPLACED WITH NEW STEEL. AN ALLOWANCE OF 100 KILOGRAMS IS INCLUDED IN ITEM 509 FOR THIS PURPOSE, LISTED IN THE "GENERAL" COLUMN OF THE ESTIMATED QUANTITIES TABLE.

BONDING GROUT

THE BONDING GROUT TO BE USED BETWEEN OLD AND NEW CLASS S OR C CONCRETE SHALL BE "SIKA ARMATEC 110" AS MANUFACTURED BY SIKA CORPORATION, 201 POLITO AVENUE, LYNDHURST, NEW JERSEY 07071; "EUOCO NO. 452 EPOXY SYSTEM" AS MANUFACTURED BY THE EUCLID CHEMICAL CO., 19218 REDWOOD ROAD, CLEVELAND, OHIO 44110; "CONCRETSIVE STANDARD LIQUID" AS MANUFACTURED BY MASTER BUILDERS, INC., 23700 CHAGRIN BOULEVARD, CLEVELAND, OHIO 44122; OR AN APPROVED ALTERNATE. SURFACE PREPARATION MIXING AND PLACING OF GROUT SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. INCLUDE WITH CONCRETE FOR PAYMENT.

DUST CONTROL

WHEN CONDUCTING ABRASIVE BLASTING OR PAVEMENT GRINDING OPERATIONS AND/OR CLEANING BRIDGE DECKS PRIOR TO THE PLACEMENT OF THE OVERLAY, THE CONTRACTOR SHALL SUPPLY AND OPERATE ADDITIONAL EQUIPMENT OR ERECT TEMPORARY SCREENINGS TO PROTECT ADJACENT TRAFFIC AND PROPERTY FROM THE DUST ORIGINATING FROM THESE OPERATIONS.

THE CONTRACTOR SHALL SUBMIT HIS METHOD OF CONTROLLING DUST FOR APPROVAL TO THE ENGINEER AT LEAST ONE (1) WEEK PRIOR TO THE BEGINNING OF WORK. THESE PROVISIONS SHALL BE FURNISHED AT NO ADDITIONAL COST TO THE PROJECT. THIS REQUIREMENT IS IN ADDITION TO THE PROVISIONS OF SECTION 107.12 OF THE SPECIFICATIONS AND SHALL NOT RELIEVE THE CONTRACTOR FROM HIS OBLIGATION TO PROTECT AND RESTORE PROPERTY FROM HIS OTHER OPERATIONS. INCLUDE WITH OVERLAY OR PERTINENT CONCRETE OPERATION FOR PAYMENT.

BRIDGE DECK CLEANING AFTER ABRASIVE BLASTING

UPON COMPLETION OF BRIDGE DECK ABRASIVE BLASTING IN PREPARATION FOR AN OVERLAY, THE DECK SHALL BE CLEANED USING A VACUUM TYPE APPARATUS APPROVED BY THE ENGINEER. THIS APPARATUS IS TO BE USED TO MINIMIZE DUST AND OBJECTIONABLE AIRBORNE MATERIAL. IN NO CASE SHALL THE MATERIAL BE REMOVED BY DIRECT COMPRESSED AIR. INCLUDE WITH OVERLAY FOR PAYMENT.

ITEM 202 - PORTIONS OF STRUCTURES REMOVED, AS PER PLAN

THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND ARE NOT SEPARATELY LISTED FOR PAYMENT, EXCEPT FOR WEARING COURSE REMOVAL. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. ALL WORK SHALL BE DONE IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 41 KILOGRAM CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

CUT LINE CONSTRUCTION JOINT PREPARATION. FOR SUBSTRUCTURE CONCRETE REMOVAL: SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 25 mm DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. WHERE PRACTICABLE, THE EXISTING REINFORCING STEEL WHERE REQUIRED IN THE PLANS SHALL BE LEFT IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT, ABRASIVELY CLEAN JOINT SURFACE AND EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THEN, THE JOINT SURFACE AND EXPOSED REINFORCEMENT SHALL BE THOROUGHLY CLEANED OF ALL DIRT, DUST, OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. CONCRETE BONDING SURFACES SHALL BE WET WITHOUT FREE WATER AS CONCRETE IS PLACED.

SUBSTRUCTURE CONCRETE REMOVAL SHALL BE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 16 KILOGRAMS. FOR REMOVAL WITHIN 450 mm OF PORTIONS TO BE PRESERVED. OUTSIDE THE 450 mm LIMIT, A HAMMER HEAVIER THAN 16 KILOGRAMS, BUT NOT TO EXCEED 41 KILOGRAMS, MAY BE USED AT THE APPROVAL OF THE ENGINEER. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORING THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

ITEM 516 - STRUCTURAL JOINT OR JOINT SEALER, MISC.

THIS ITEM SHALL INCLUDE THE SURFACE PREPARATION AND INSTALLATION OF THE PREFORMED JOINT FILLER BETWEEN THE MEDIAN BARRIERS. THE PREFORMED JOINT FILLER INSTALLATION SHALL BE IN ACCORDANCE WITH CMS 516. THE MATERIAL SHALL BE EVASOTE 380 E.S.P., MANUFACTURED BY E-POXY INDUSTRIES, INC., OR AN APPROVED EQUAL.

CONCRETE PARAPETS

AS SOON AS A CONCRETE SAW CAN BE OPERATED WITHOUT DAMAGING THE FRESHLY PLACED CONCRETE, 25 mm DEEP CONTROL JOINTS SHALL BE SAWED INTO THE PERIMETER OF THE CONCRETE PARAPET. THE SAW CUT SHALL BE MADE IN THE COMPLETE CIRCUMFERENCE OF THE PARAPET, STARTING AND ENDING AT THE ELEVATION OF THE CONCRETE DECK. THE SAWCUT LOCATIONS ARE SHOWN ON SHEET NOS. 9, 24, 25, AND 26/27. THE USE OF AN EDGE GUIDE, FENCE, OR JIG IS REQUIRED TO INSURE THAT THE CUT JOINT IS STRAIGHT, TRUE, AND ALIGNED ON ALL FACES OF THE PARAPET. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF 6 mm. THE PERIMETER OF THE DEFLECTION CONTROL JOINT SHALL BE SEALED TO A MINIMUM DEPTH OF 25 mm WITH A CAULKING MATERIAL CONFORMING TO FEDERAL SPECIFICATION, TT-S-00227E TO A MINIMUM DEPTH OF 25 mm.

ITEM 516 - VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINT

MAINTENANCE OF TRAFFIC: GENERALLY THE BARS SHALL BE WELDED WHILE THE LANE IS CLOSED FOR WATERPROOFING OR RESURFACING. HOWEVER, IF TRAFFIC IS ROUTED OVER THE BARS BEFORE RESURFACING, TEMPORARY RAMPS SHALL BE CONSTRUCTED TO THE TOPS OF THE BARS USING 402 OR 404 FEATHERING AT A MAX. SLOPE OF 1800 mm/mm. THE RAMPS SHALL BE REMOVED PRIOR TO RESURFACING. PAYMENT FOR PLACING AND REMOVING THE RAMPS SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614.

STRUCTURAL GENERAL NOTES

BRIDGE NO.'S JEF-7-53873, JEF-7-54419

S.R. 7 OVER WYE BRANCH OF CONRAIL R.R/S.R. 7 OVER CONRAIL R.R. AND YELLOW CREEK

JEF/COL-7-53.62/0.00

1 / 27

53
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CALCULATED BY A.D DATE 07/12/95 ESTIMATED QUANTITIES
CHECKED BY SPT DATE 1/13/96

ITEM	EXTENSION	DESCRIPTION	TOTAL	UNIT	BRIDGE NO. JEF-7-53873	BRIDGE NO. JEF-7-54419	GENERAL
202	11201	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	LUMP		LUMP	LUMP	
202	23501	WEARING COURSE REMOVED, AS PER PLAN	4,479	SQ METER	502	3,977	
511	34401	CLASS S CONCRETE SUPERSTRUCTURE, AS PER PLAN	238	CU METER	29	209	
511	45701	CLASS C CONCRETE, ABUTMENT, AS PER PLAN	105	CU METER	9	96	
SPECIAL	51267502	SEALING OF CONCRETE SURFACES (EPOXY) *	2,171	SQ METER	445	1,726	
516	11211	STRUCTURAL EXPANSION JOINT, INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN *	67	METER		67	
516	11800	VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINT *	88	METER	88		
516	13600	25 mm PREFORMED EXPANSION JOINT FILLER	15	SQ METER		15	
516	14600	STRUCTURAL JOINT OR JOINT SEALER, MISC. *	213	METER	25	188	
518	12700	SCUPPER, VERTICAL EXTENSION *	95	EACH		95	
518	21101	POROUS BACKFILL, AS PER PLAN	69	CU METER		69	
519	11101	PATCHING CONCRETE STRUCTURE, AS PER PLAN	78	SQ METER		78	
SPECIAL	51922006	MICRO-SILICA, MODIFIED CONCRETE OVERLAY (56 mm THICK) *⊗	4,479	SQ METER	502	3,977	
SPECIAL	51922100	MICRO-SILICA, MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS) *	33	CU METER	1	32	
SPECIAL	51922200	FULL DEPTH REPAIR *	15	CU METER	4	11	
SPECIAL	51922300	TEST SLAB *	LUMP		LUMP	LUMP	
815	00050	SURFACE PREPARATION OF EXISTING STEEL, SYSTEM OZEU	8,307	SQ METER	994	7,313	
815	00056	FIELD PAINTING OF EXISTING STEEL, PRIME COAT, SYSTEM OZEU	8,307	SQ METER	994	7,313	
815	00060	FIELD PAINTING OF EXISTING STEEL, INTERMEDIATE COAT, SYSTEM OZEU	8,307	SQ METER	994	7,313	
815	00066	FIELD PAINTING OF EXISTING STEEL, FINISH COAT, SYSTEM OZEU	8,307	SQ METER	994	7,313	

* SEE PROPOSAL NOTE

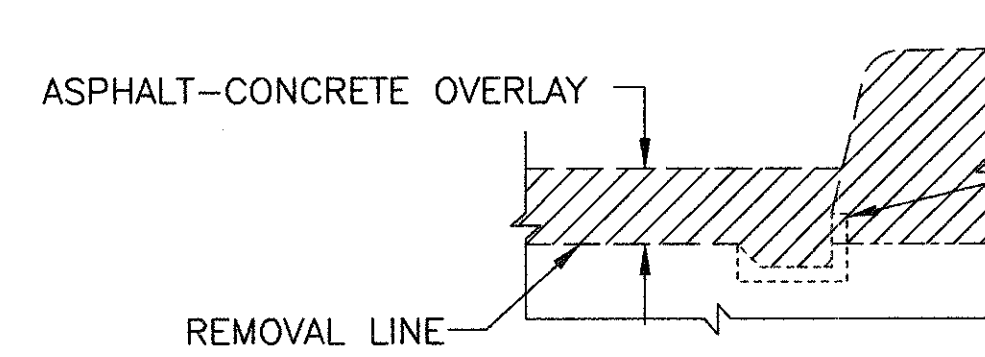
☐ ITEM 519: AN ALLOWANCE OF 75 SQ METERS HAS BEEN INCLUDED TO BE USED AT THE DIRECTION OF THE ENGINEER.

⊗ SEE NOTE NO. 3 ON SHEET NO. 21/27.



* LIMITS OF ITEM SPECIAL—"SEALING OF CONCRETE SURFACES (EPOXY)"

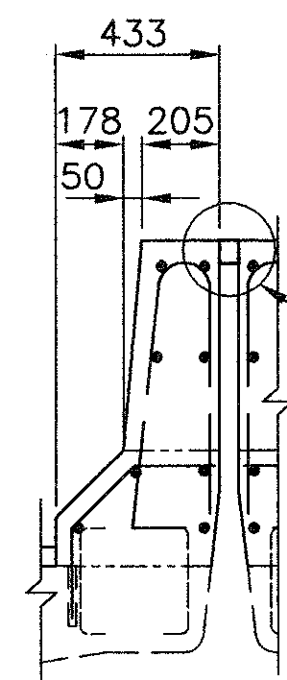
- NOTES:
1. SEE SHEET NO. 4/27 FOR DETAILS 1, 2, AND 3.
 2. ABBREVIATION:
MSM = MICRO-SILICA MODIFIED CONCRETE
 3. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.



DETAIL 1
BRIDGE NO.'S JEF-7-53873 & 54419

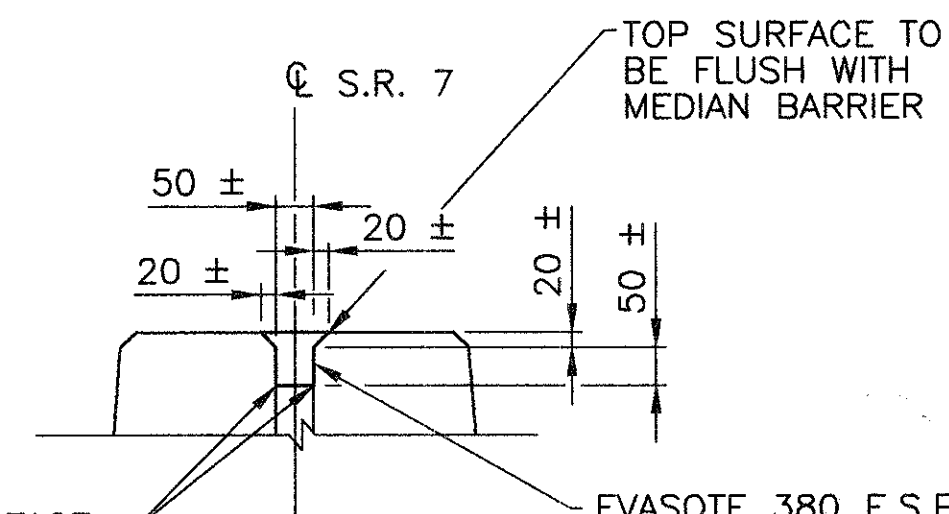
LEGEND
INDICATES REMOVAL LIMITS

EXIST. BULB ANGLE
CUT VERTICAL LEG
TO THE LIMIT SHOWN.



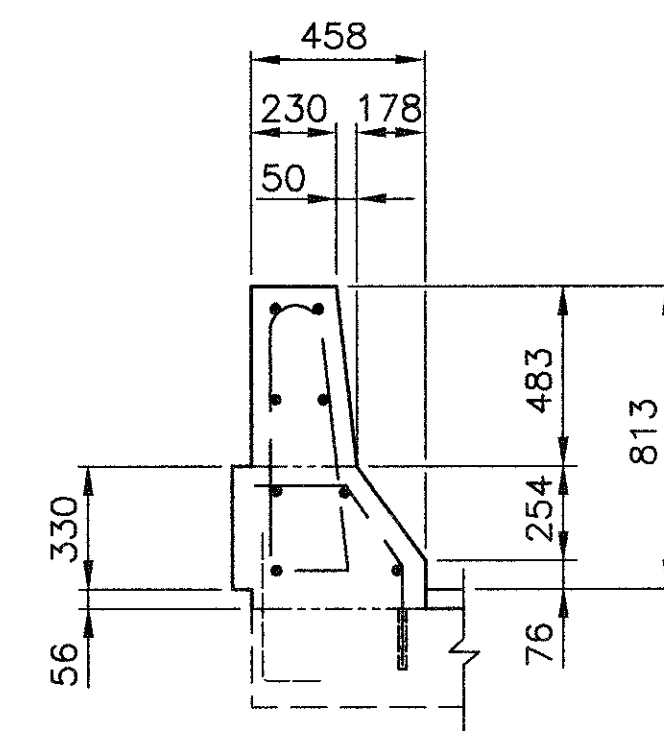
DETAIL 2
BRIDGE NO.'S JEF-7-53873 & 54419

CLEAN AND PREPARE SURFACE
AS PER MANUFACTURER'S
RECOMMENDATIONS.



EVASOTE 380 E.S.P.,
E-POXY INDUSTRIES INC.,
14 W. SHORE ST., RAVENNA,
N.Y. 12143, 1-800-833-3400,
OR EQUAL. INSTALLATION
AS PER MANUFACTURER'S
INSTRUCTIONS. OVERSIZE
JOINT MATERIAL BY 25%.

DETAIL A
BRIDGE NO.'S JEF-7-53873 & 54419



DETAIL 3
BRIDGE NO.'S JEF-7-53873 & 54419

NOTE

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED.
- FOR LOCATIONS OF DETAILS 1, 2, AND 3, SEE SHEET NO. 3/27.

JEF/COL-7-53.62/0.00

COMMON DETAILS
BRIDGE NO. JEF-7-53873, JEF-7-54419
S.R. 7 OVER WYE BRANCH OF CONRAIL R.R./S.R. 7 OVER CONRAIL R.R. AND YELLOW CREEK

DESIGNED
A.D.

CHECKED
50T

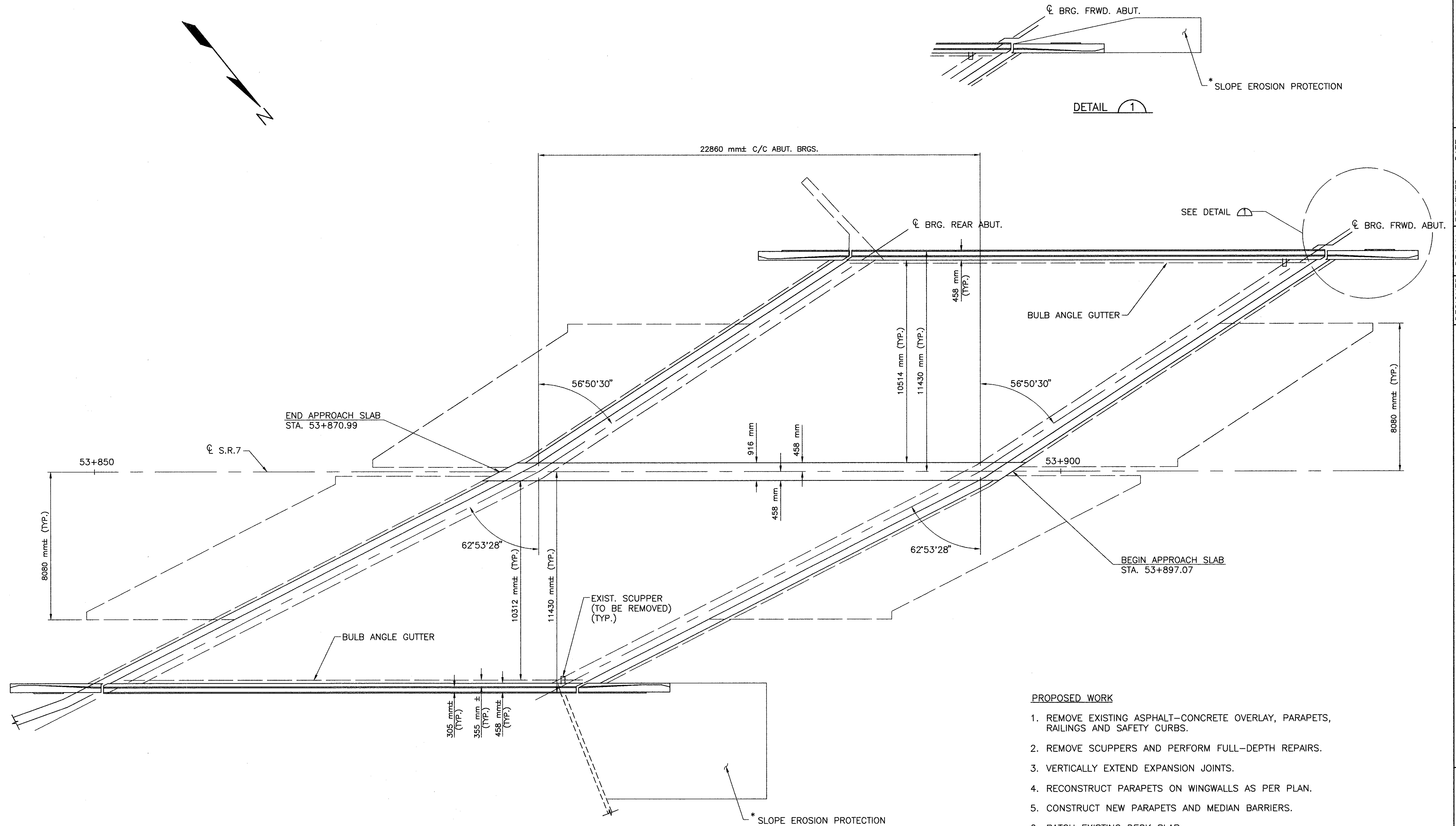
DRAWN
J.H.

REVIEWED
M.M.
DATE
2/5/96

STRUCTURE FILE NO.

4 / 27

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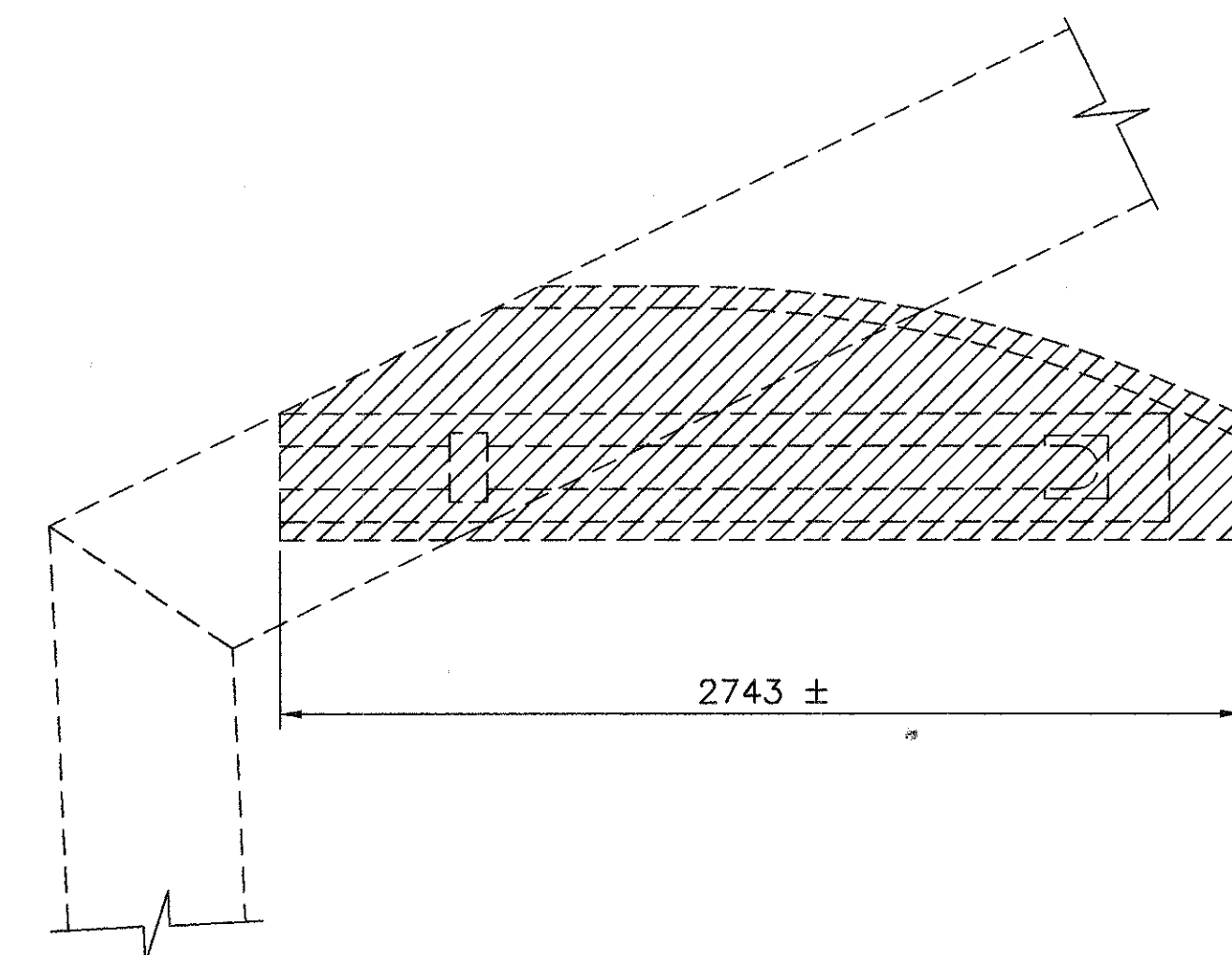
* INCLUDED IN ROADWAY
QUANTITIES FOR PAYMENT.

PLAN

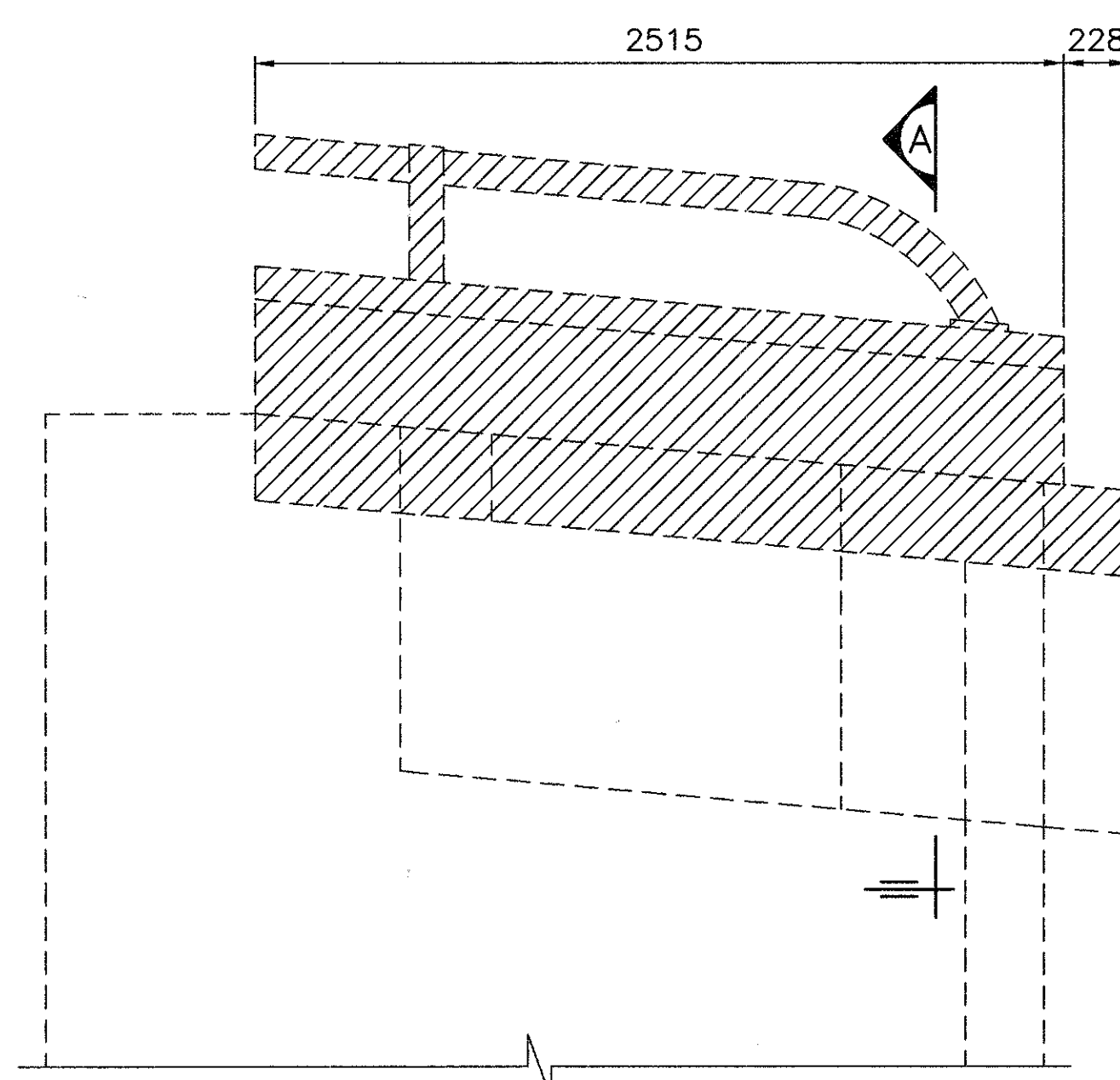
PROPOSED WORK

1. REMOVE EXISTING ASPHALT-CONCRETE OVERLAY, PARAPETS, RAILINGS AND SAFETY CURBS.
2. REMOVE SCUPPERS AND PERFORM FULL-DEPTH REPAIRS.
3. VERTICALLY EXTEND EXPANSION JOINTS.
4. RECONSTRUCT PARAPETS ON WINGWALLS AS PER PLAN.
5. CONSTRUCT NEW PARAPETS AND MEDIAN BARRIERS.
6. PATCH EXISTING DECK SLAB.
7. PROVIDE 56 mm MICRO-SILICA MODIFIED CONCRETE OVERLAY.
8. PATCH CONCRETE SURFACES AS DIRECTED BY THE ENGINEER.
9. SEAL PARAPETS, ABUTMENT BACKWALLS AND BEAM SEATS WITH EPOXY.
10. PAINT EXISTING STEEL USING SYSTEM OZEU.

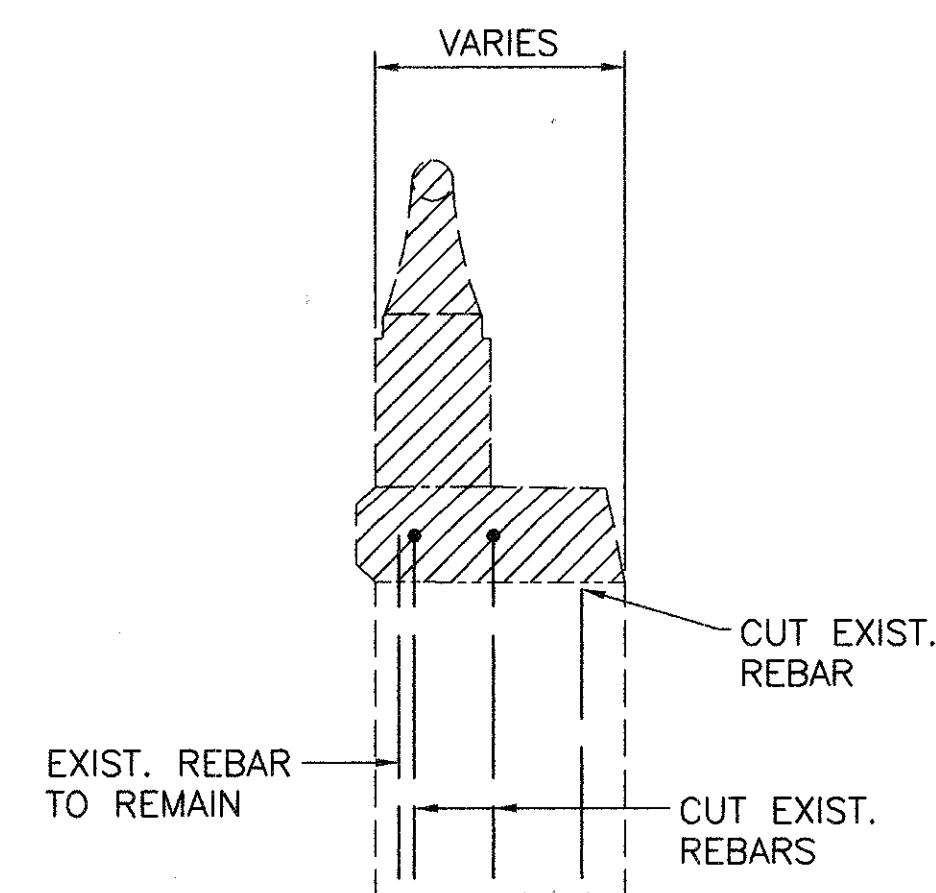
5 / 27		JEF/COL-7-53.62/0.00		GENERAL PLAN BRIDGE NO. JEF-7-53873 S.R. 7 OVER WYE BRANCH OF CONRAIL R.R.				DESIGNED A.D. DRAWN J.H. REVIEWED M.M. DATE 2/5/96	
				CHECKED SPT		REVISED		STRUCTURE FILE NO	



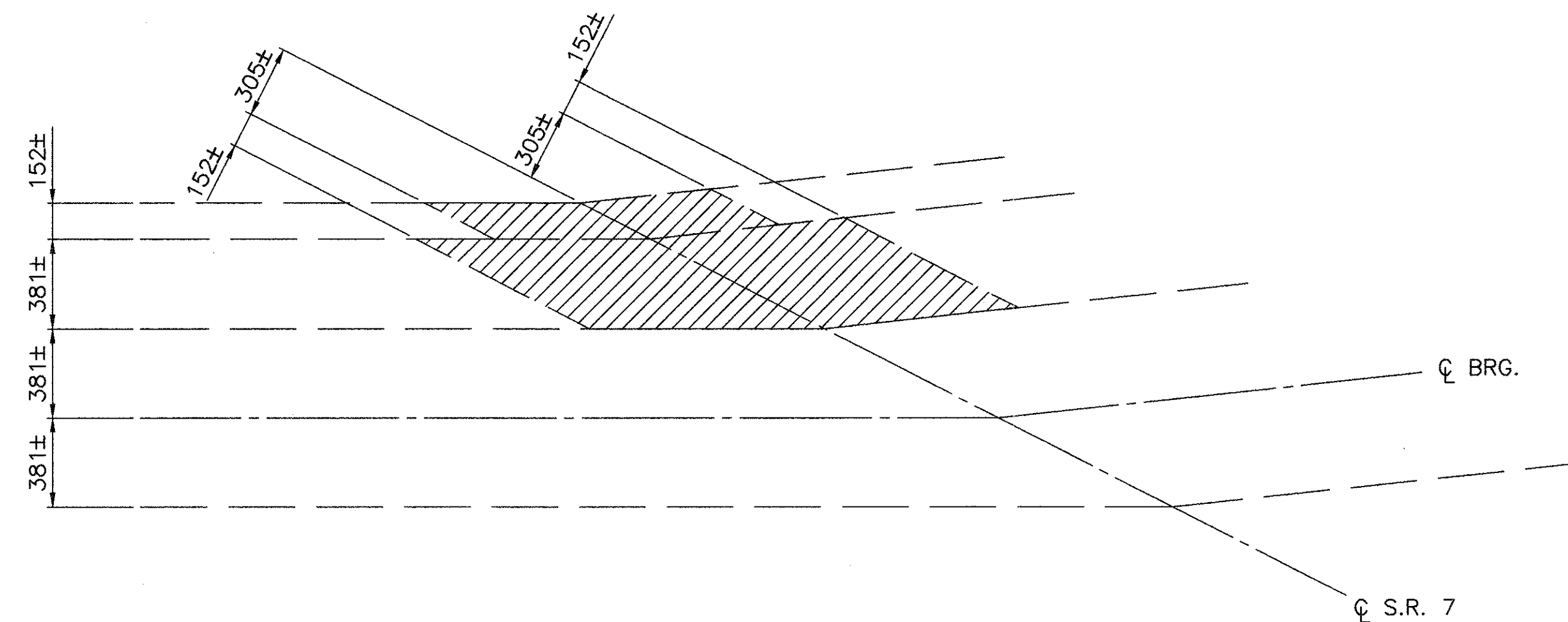
PLAN — WINGWALL (TYP.)



ELEVATION — WINGWALL (TYP.)



SECTION A



PLAN — MEDIAN BARRIER (TYP.)

LEGEND:

 INDICATES REMOVAL LIMITS

NOTES

1. FOR EXISTING STRUCTURE VERIFICATION NOTE SHEET NO. 1/27.
2. FOR NOTE "PORTIONS OF STRUCTURE REMOVED", SEE SHEET NO. 1/27.
3. ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS NOTED OTHERWISE.

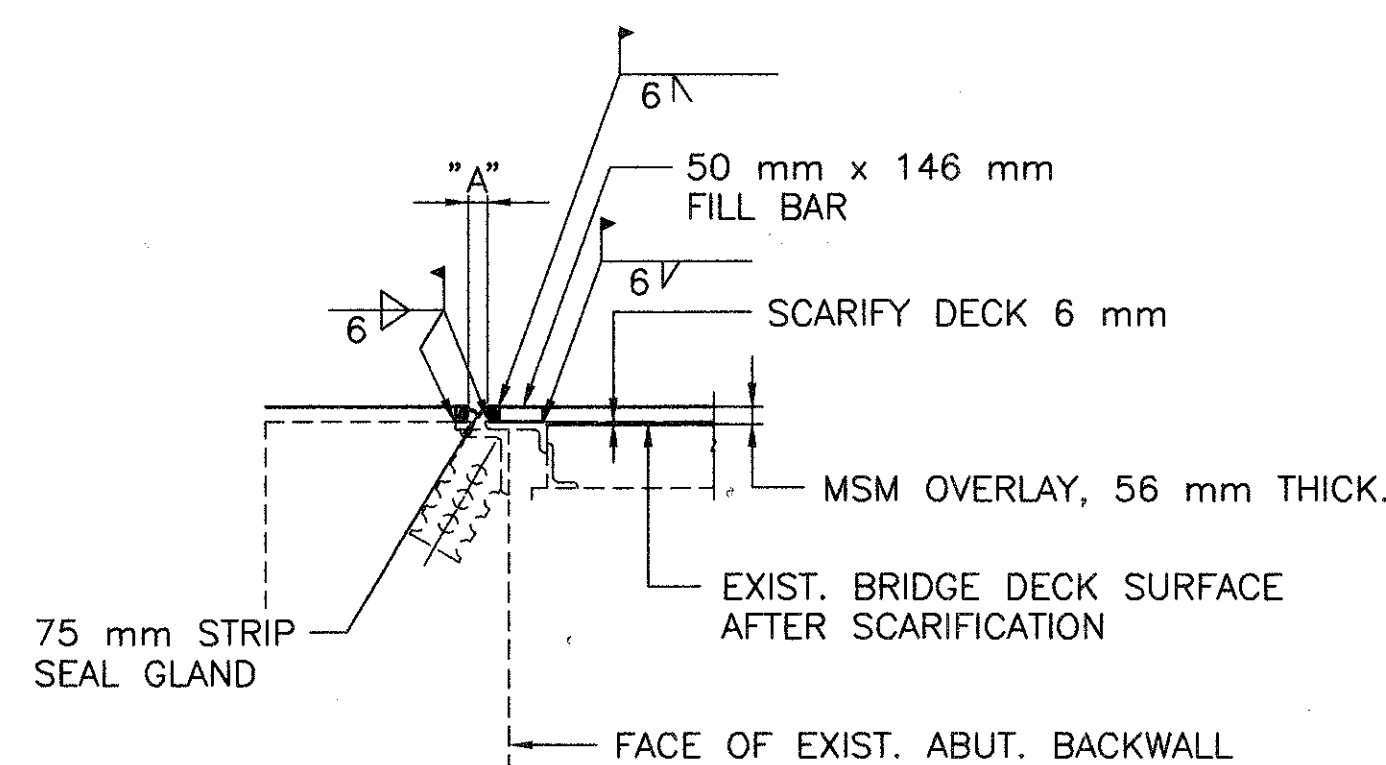
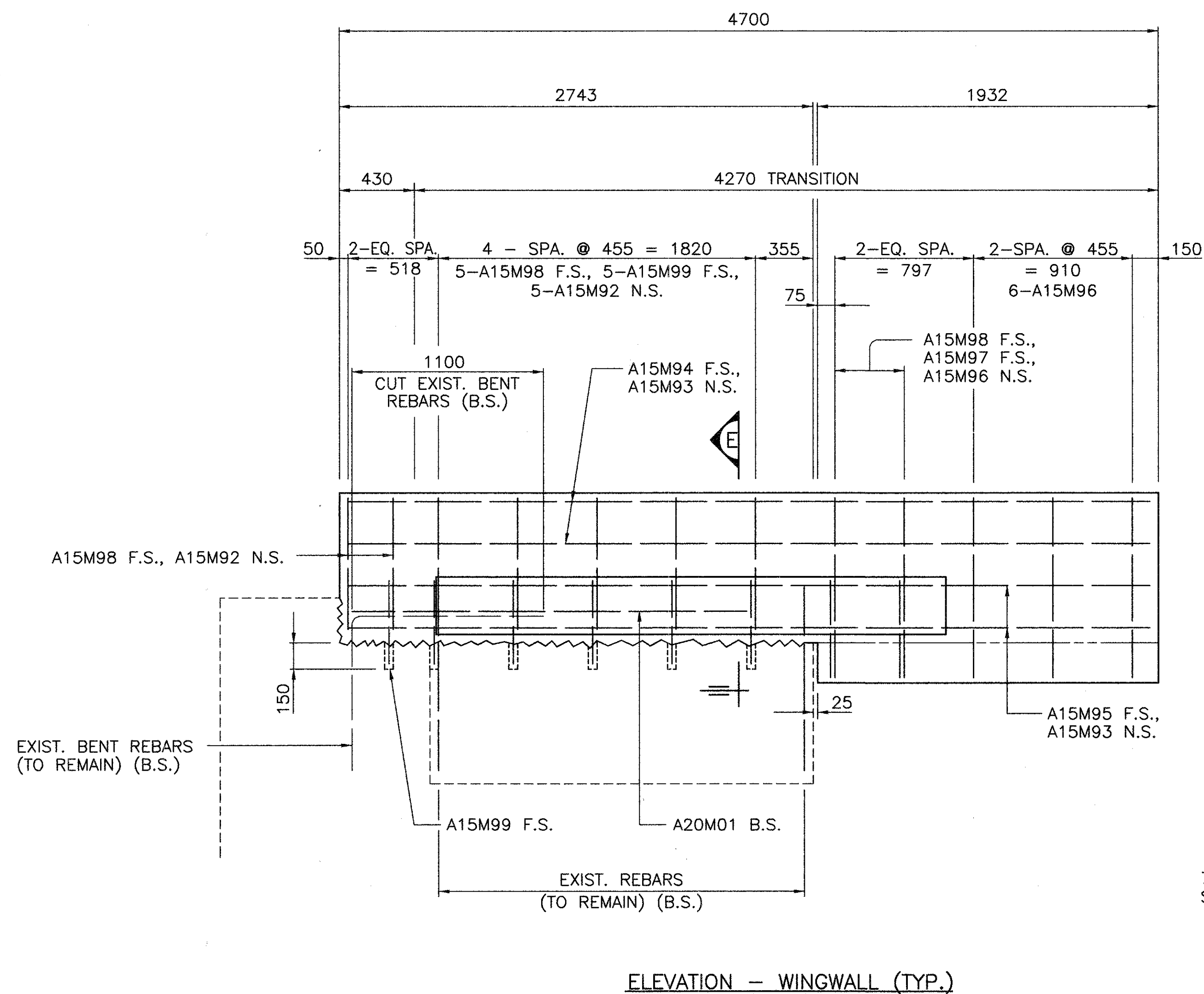
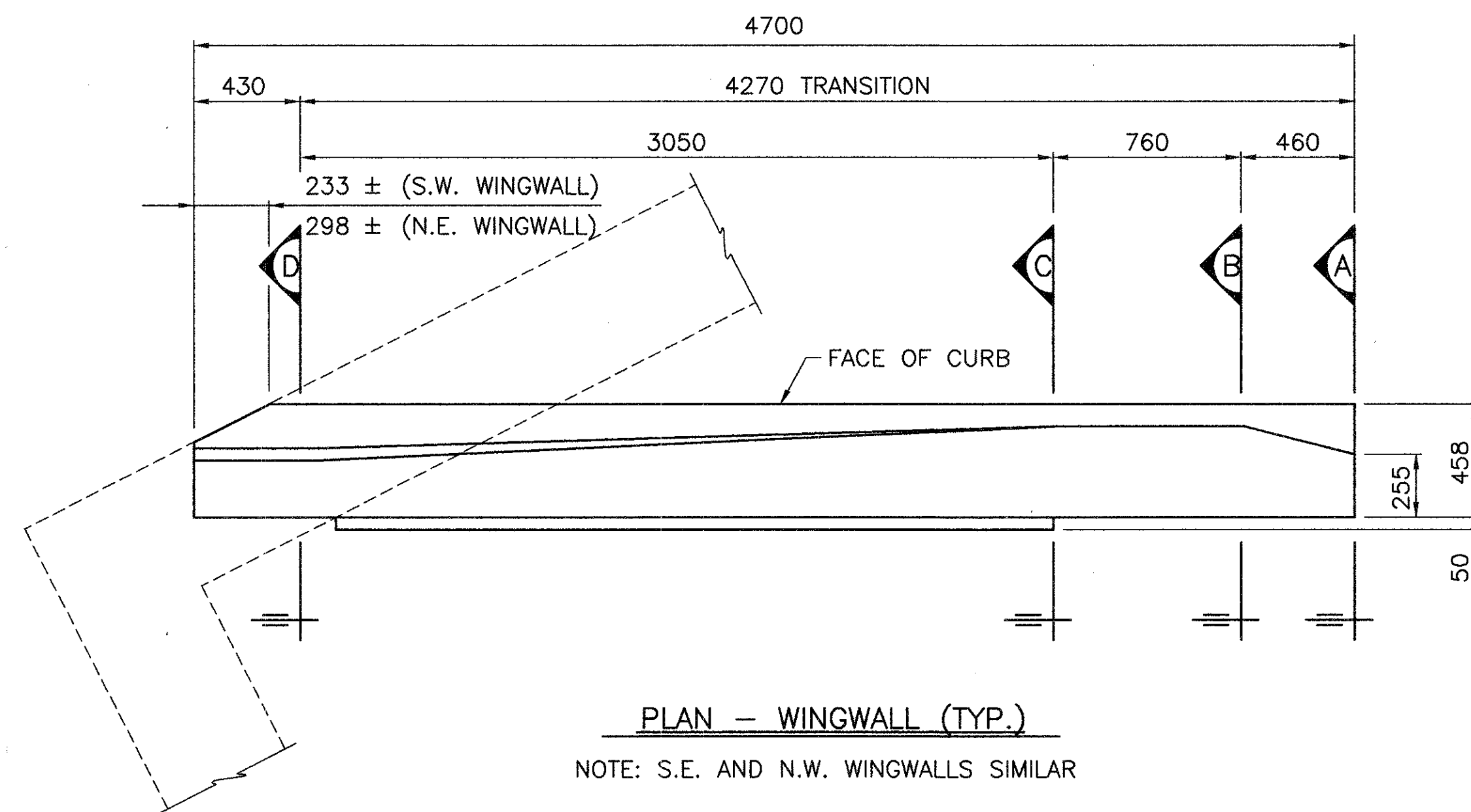
DEMOLITION PLAN
BRIDGE NO. JEF-7-53873
S.R. 7 OVER WYE BRANCH OF CONRAIL R.R.

JEF/COL-7-53.62/0.00

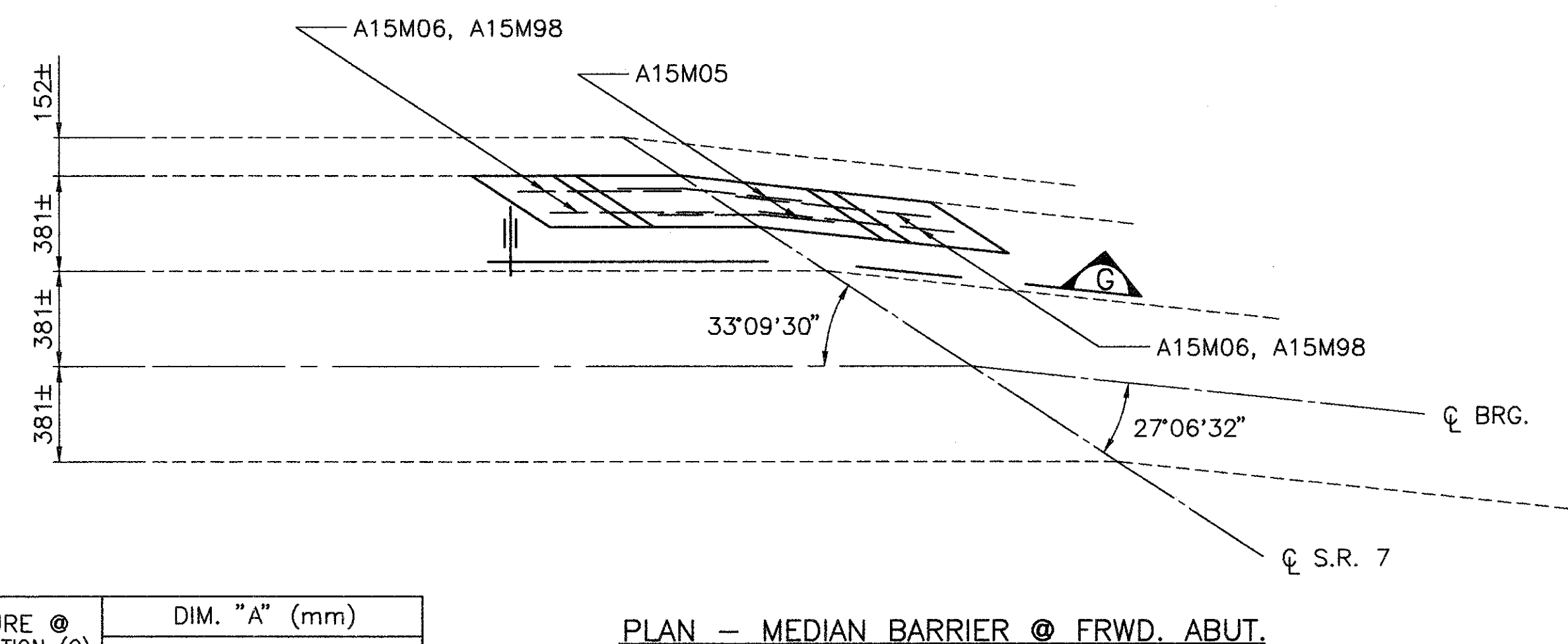
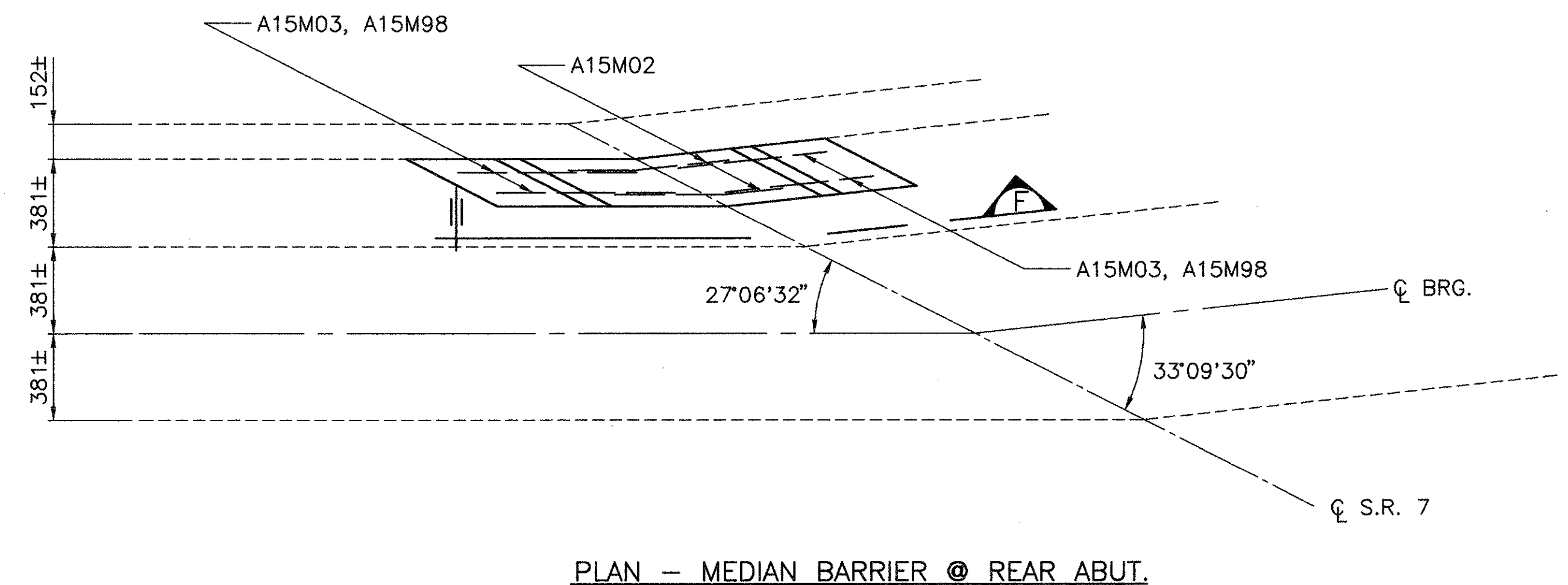
6 / 27

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DESIGNED A.D.	DRAWN J.H.	REVIEWED M.M.	DATE 2/5/96
CHECKED SPT	REVISED	STRUCTURE FILE NO.	



TEMPERATURE @ JOINT INSTALLATION (C)	DIM. "A" (mm)
	REAR ABUT. = FRWD. ABUT.
30°	49
25°	50
20°	50
15°	51
10°	52
5°	52
0°	53



NOTES

- CARE SHALL BE EXERCISED IN REMOVING PORTIONS OF THE EXISTING WINGWALLS SO THAT NO DAMAGE IS DONE TO THE EXISTING REBARS WHICH ARE TO PROJECT INTO THE PROPOSED CONSTRUCTION. WHERE EXISTING REBARS ARE DAMAGED, NEW EQUIVALENT SIZE DOWEL BARS, 915 mm LONG SHALL BE PROVIDED. SUCH DOWELS SHALL BE EMBEDDED 460 mm INTO EXISTING CONCRETE BY DRILLING 38 mm DIAMETER HOLES AND FILLING WITH NON-SHRINK GROUT MORTAR PER CMS 705.20. REPLACEMENT OF DAMAGED BARS SHALL BE AT CONTRACTOR'S COST.
- PRIOR TO THE PLACEMENT OF NEW CONCRETE, THE EXISTING CONCRETE SURFACE SHALL BE THOROUGHLY CLEANED BY ABRASIVE BLASTING AND/OR OTHER APPROVED METHODS SO THAT IT IS FREE OF LOOSE OR DISINTEGRATED CONCRETE, DUST, LAITANCE, GREASE, RUST AND OTHER FOREIGN MATTER. ALL EXISTING REBARS SHALL BE CLEANED BY WIRE BRUSH OR ABRASIVE BLASTED TO REMOVE ANY RUST. A BONDING GROUT SHALL BE USED BETWEEN OLD CONCRETE AND NEW CONCRETE. BONDING GROUT IS INCLUDED WITH ITEM 511, CLASS C CONCRETE, ABUTMENT, FOR PAYMENT.
- FOR BONDING GROUT NOTE, SEE SHEET NO. 1/27.
- MINIMUM CLEARANCE TO REBARS SHALL BE 50 mm UNLESS NOTED OTHERWISE.
- ABBREVIATIONS: N.S. NEAR SIDE, F.S. FAR SIDE, B.S. BOTH SIDES, SPA. SPACING, P.E.J.F. PREFORMED EXPANSION JOINT FILLER.
- FOR SECTIONS A, B, C, D, AND E, SEE SHEET NO. 8/27.
- ALL REINFORCING SHALL BE EPOXY COATED.
- QUANTITIES OF CONCRETE AND REINFORCING STEEL FOR PARAPETS ARE INCLUDED WITH ITEM 511, CLASS C CONCRETE ABUTMENT FOR PAYMENT.
- FOR ADDITIONAL NOTES, SEE SHEET NO. 1/27.
- ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS NOTED OTHERWISE.

DESIGNED
A.D.

CHECKED
SPT

DRAWN
J.H.

REVIEWED
M.M. 2/5/96

DATE
2/5/96

STRUCTURE FILE NO.

WINGWALL AND BARRIER DETAILS

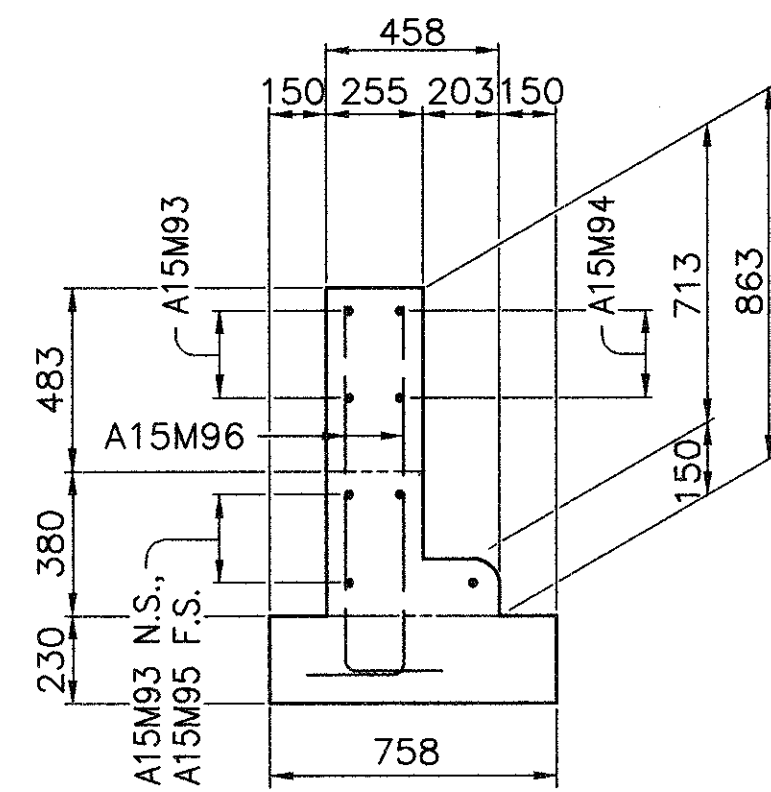
BRIDGE NO. JEF-7-53873

S.R. 7 OVER WYE BRANCH OF CONRAIL R.R.

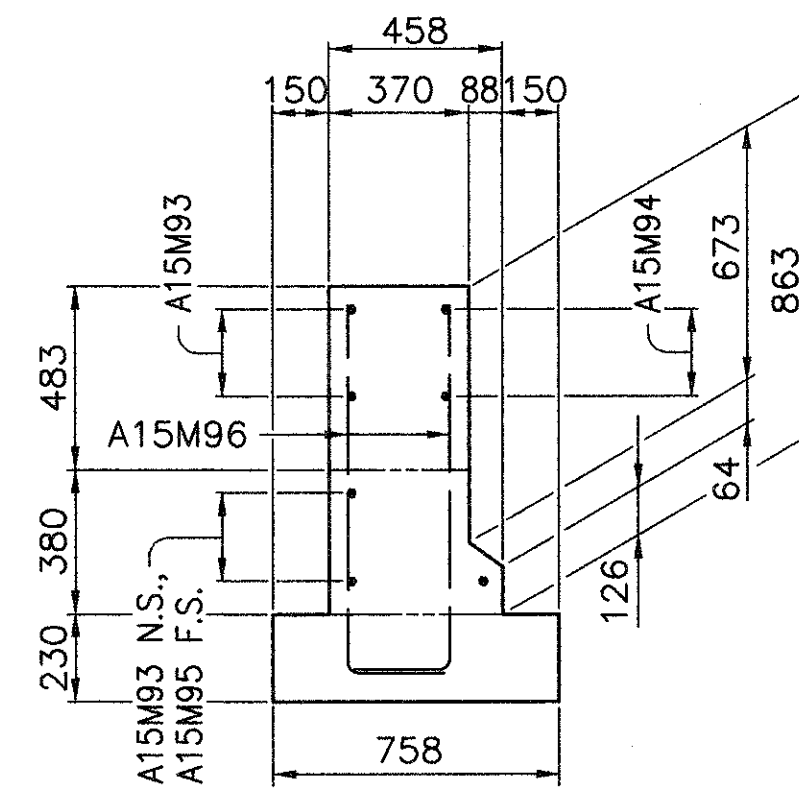
JEF/COL-7-53.62/0.00

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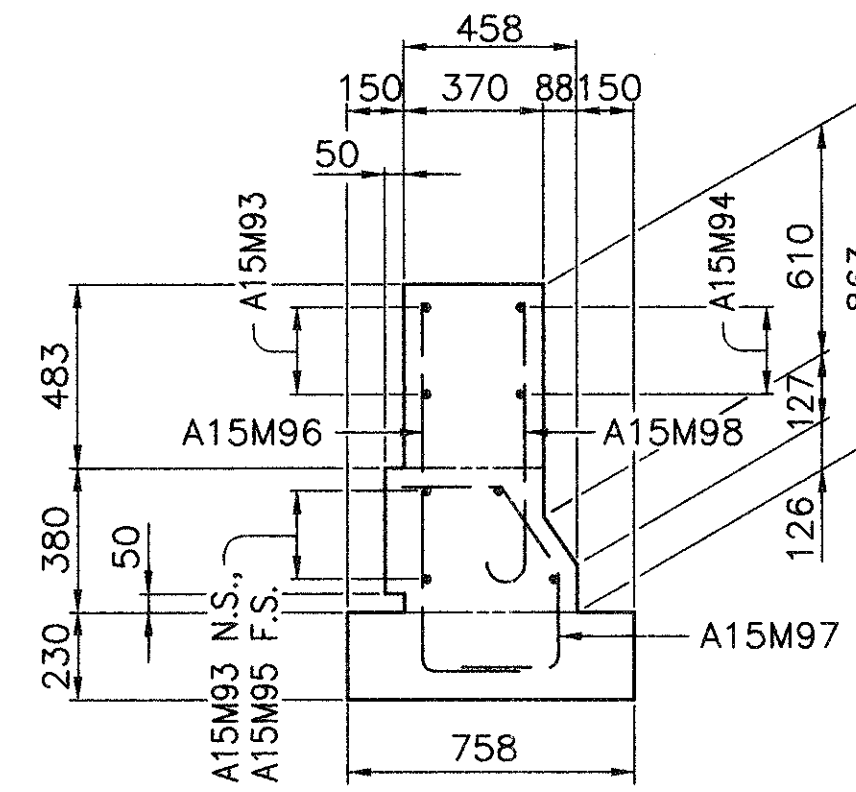
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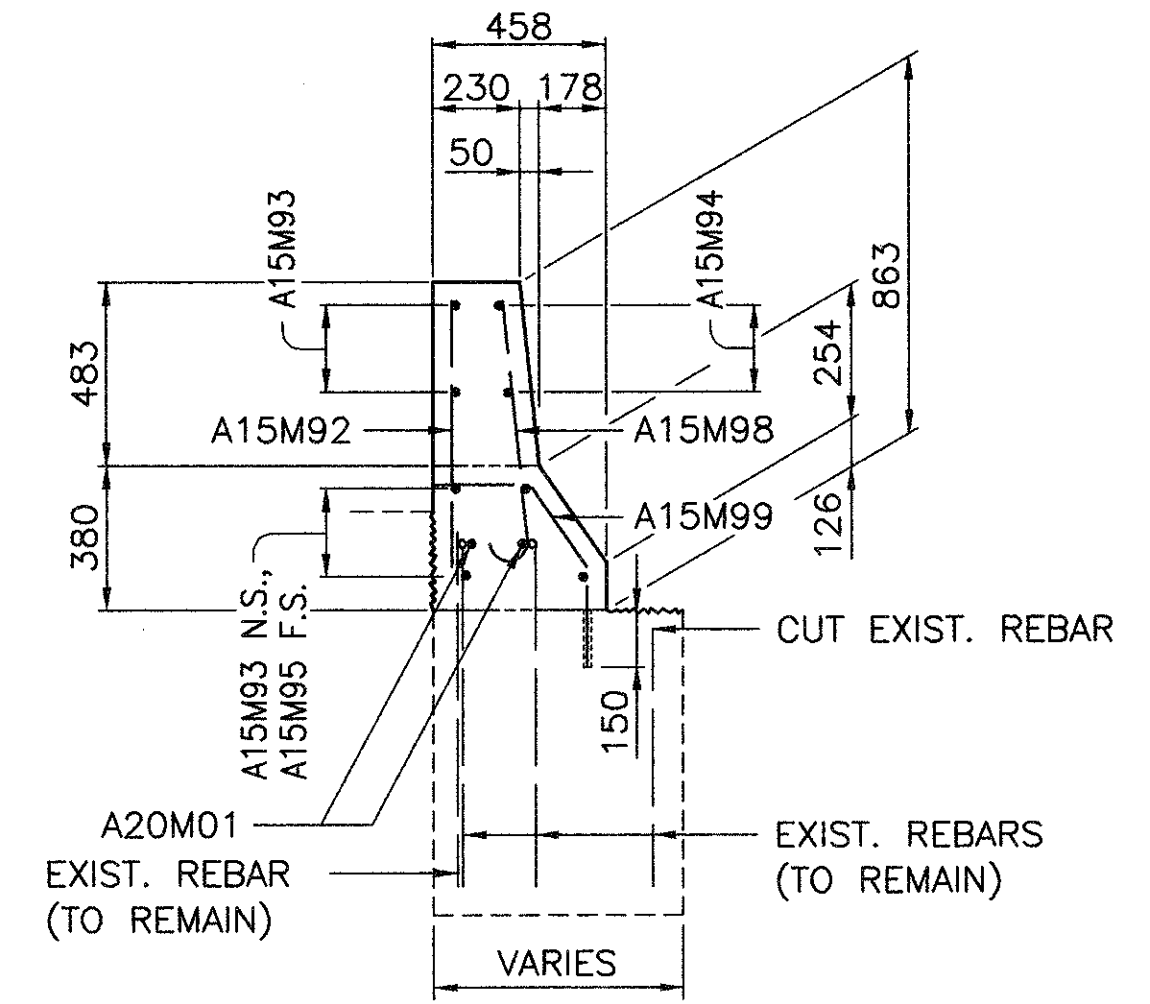
SECTION (A)



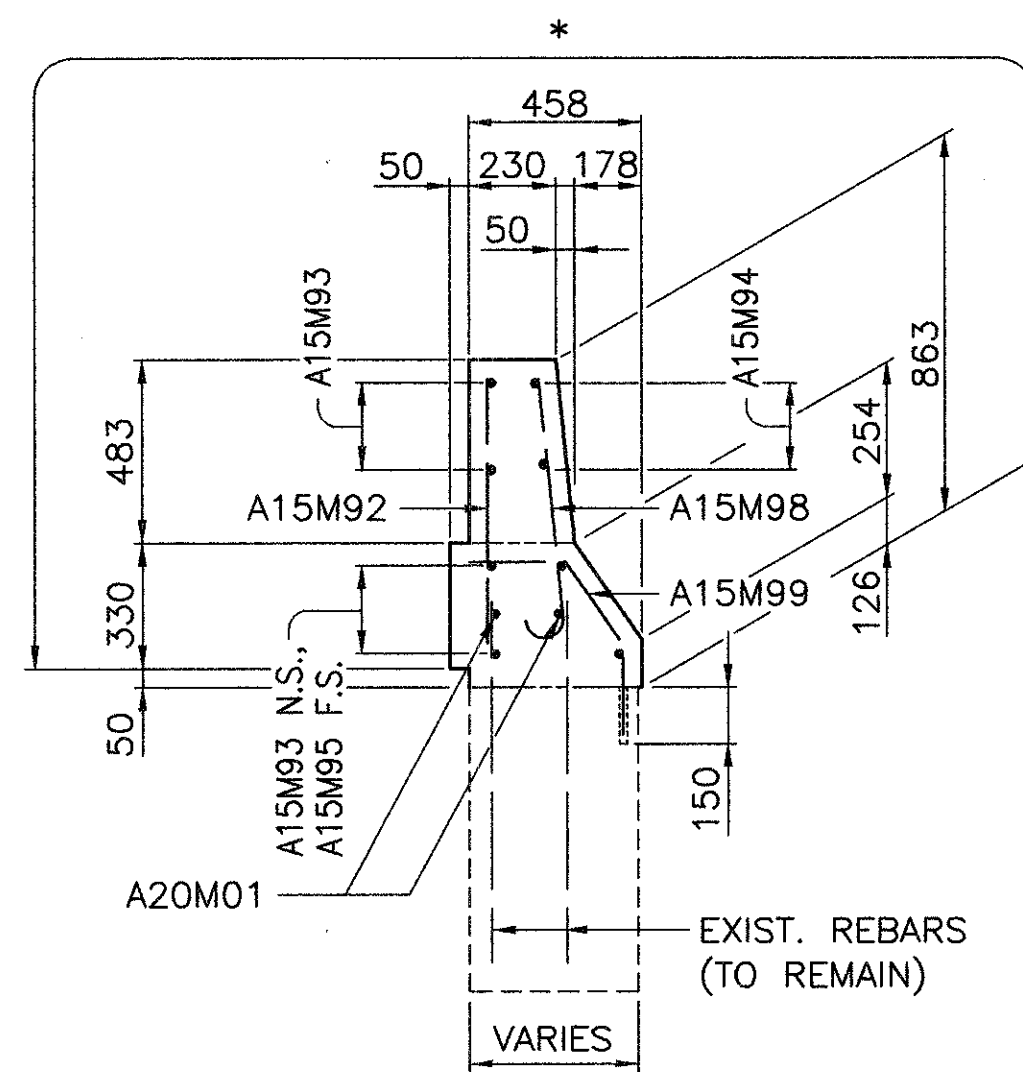
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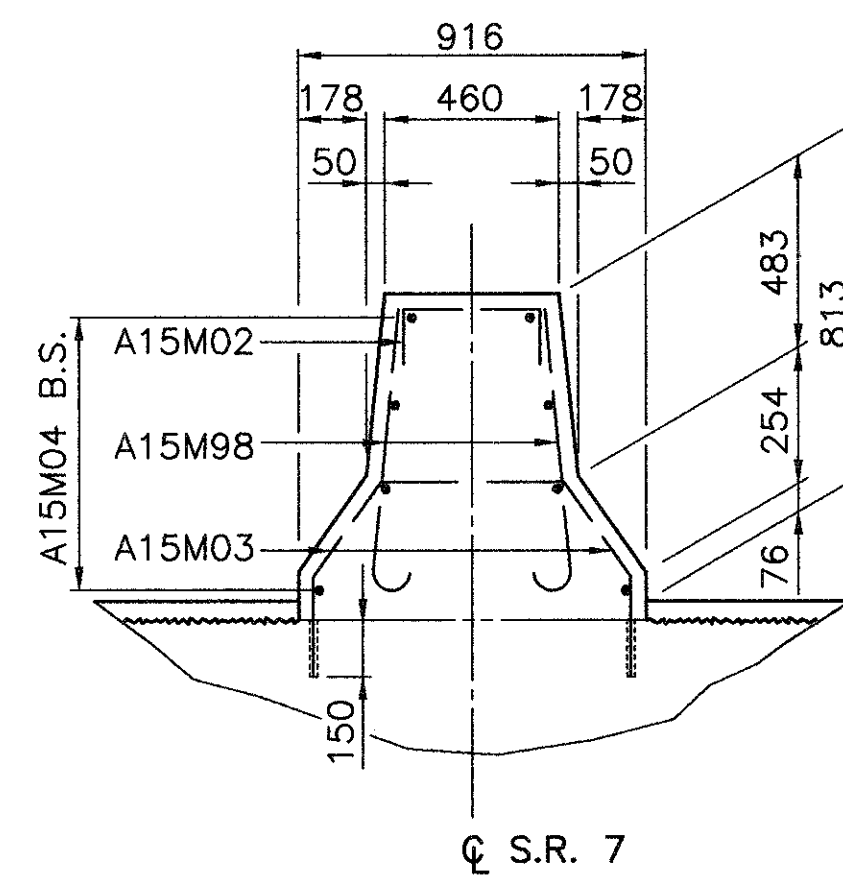
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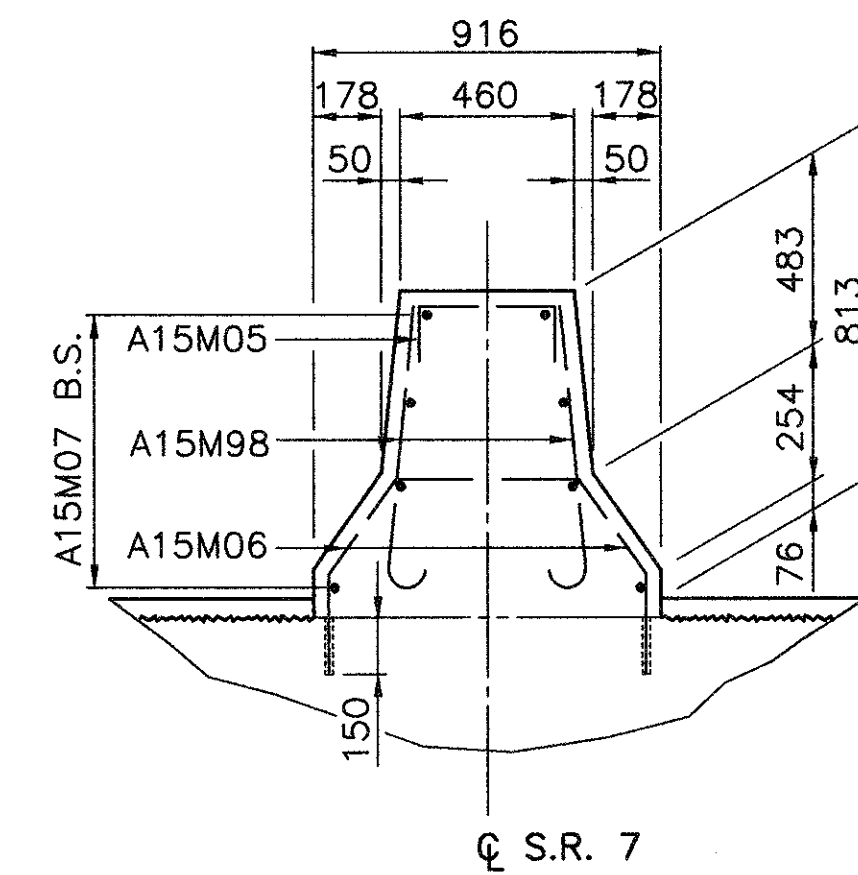
SECTION (D)



SECTION (E)



SECTION (F)



SECTION (G)

* LIMITS OF ITEM SPECIAL - SEALING OF CONCRETE SURFACES (EPOXY).

NOTES:

1. FOR SECTIONS A THROUGH G, SEE SHEET NO. 7/27.
2. FOR ADDITIONAL, NOTES, SEE SHEET NO. 7/27.
3. ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS NOTED.

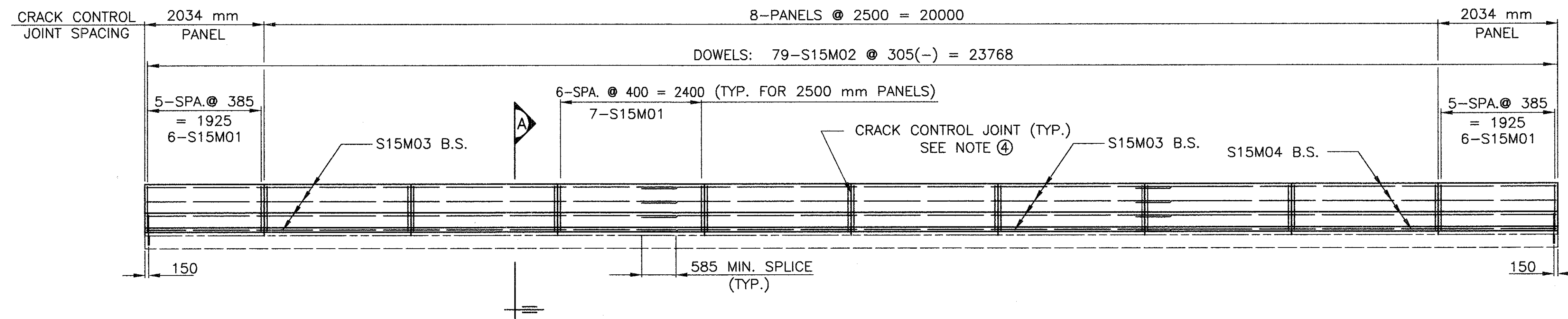
WINGWALL AND BARRIER DETAILS
BRIDGE NO. JEF-7-53873
S.R. 7 OVER WYE BRANCH OF CONRAIL R.R.

JEF/COL-7-53.62/0.00

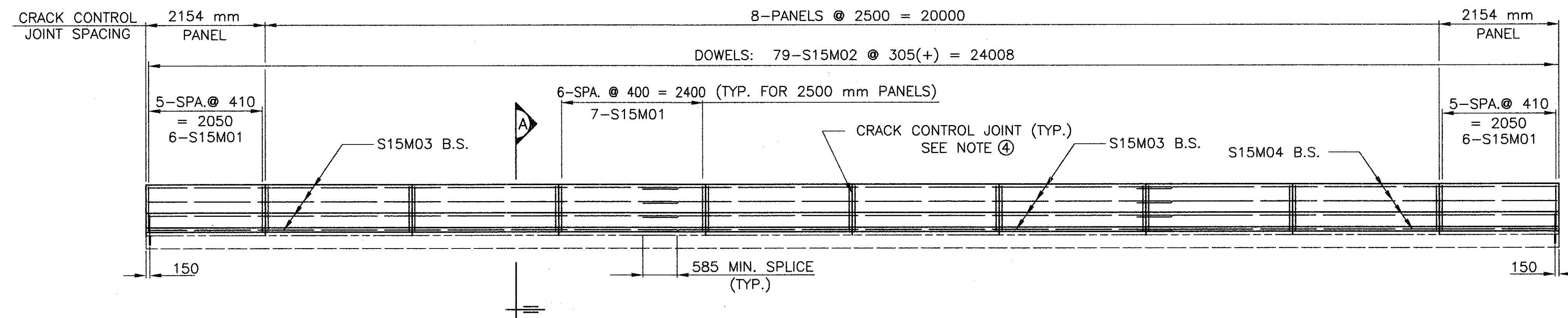
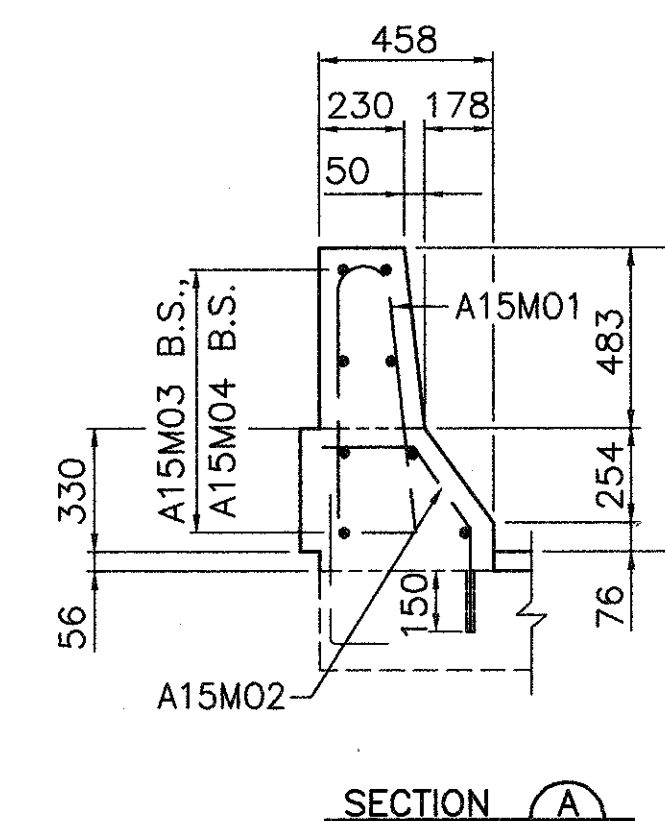
DESIGNED	DRAWN	REVIEWED	DATE
A.D.	J.H.	M.M.	2/5/94
CHECKED	REVISED	STRUCTURE	FILE NO.
SPT			

8 / 27

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WEST PARAPET ELEVATION
(WEST MEDIAN BARRIER SIMILAR)

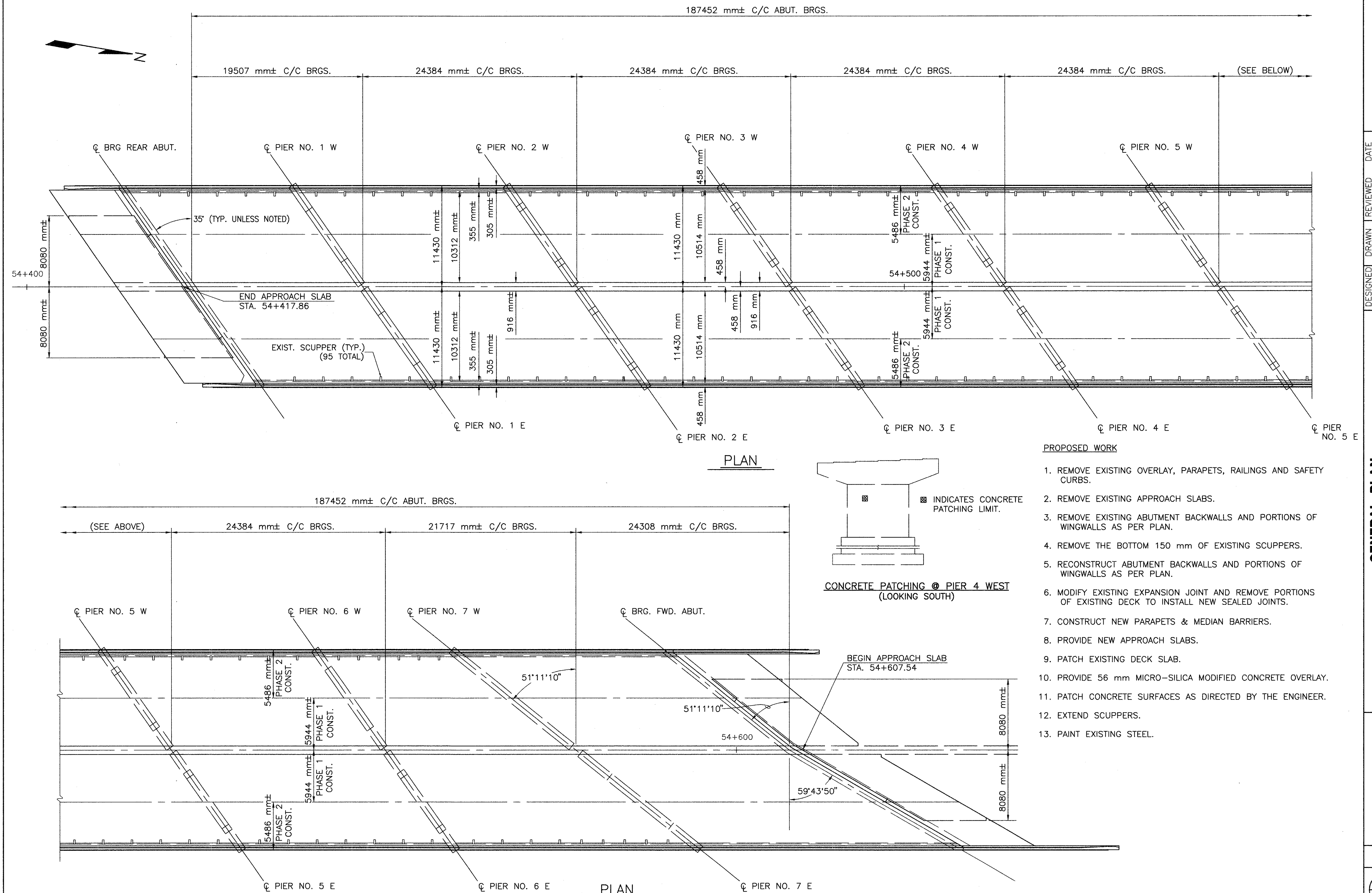


EAST PARAPET ELEVATION
(EAST MEDIAN BARRIER SIMILAR)

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
3. FOR CONCRETE PARAPET NOTE, SEE SHEET NO. 1/27.
4. QUANTITIES OF CONCRETE AND REINFORCING STEEL FOR PARAPETS ARE INCLUDED WITH
ITEM 511, CLASS S CONCRETE, SUPERSTRUCTURE, FOR PAYMENT.

JEF/COL-7-53.62/0.00	9 / 27	PARAPET AND MEDIAN BARRIER DETAILS		DESIGNED A.D.	DRAWN J.H.	REVIEWED M.M. 2/5/96	DATE 2/5/96
		BRIDGE NO. JEF-7-53873 S.R. 7 OVER WYE BRANCH OF CONRAIL R.R.		CHECKED SPT	REVISED	STRUCTURE FILE NO.	



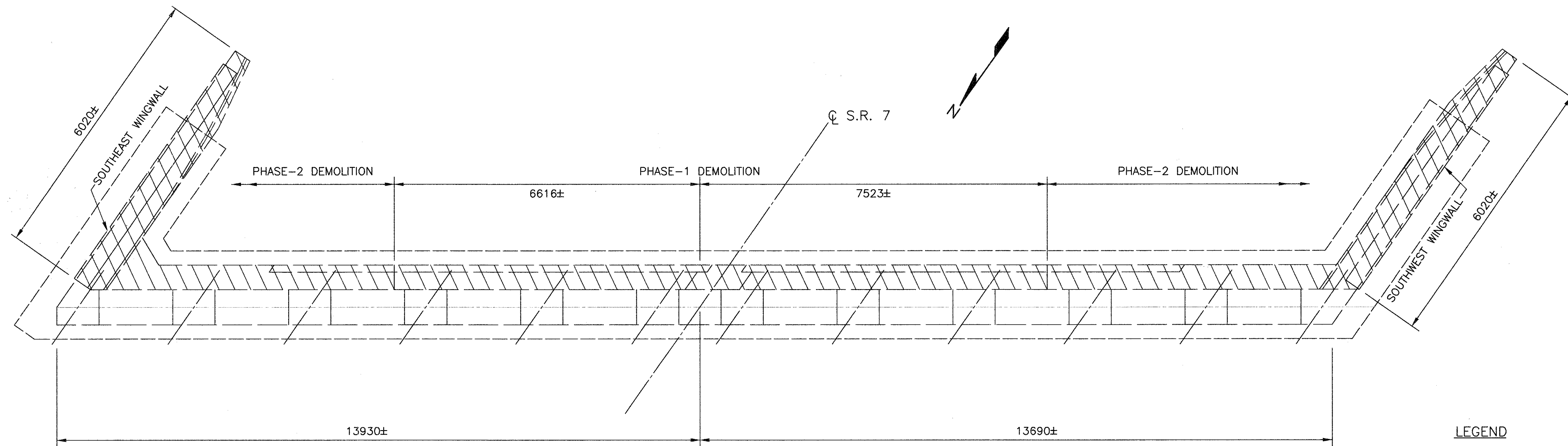
DESIGNED	DRAWN	REVIEWED	DATE
A.D.	J.H.	M.M.	2/5/94
CHECKED	REVIS	STRUCTURE	FILE NO
SPT			

GENERAL PLAN
 BRIDGE NO. JEF-7-54419
 S.R. 7 OVER CONRAIL R.R. AND YELLOW CREEK

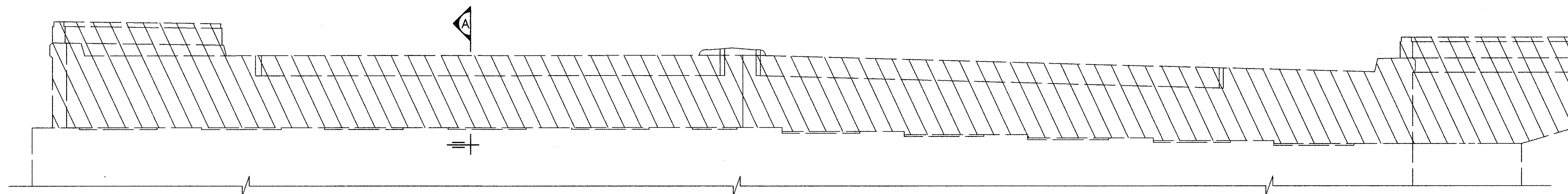
JEF/COL-7-53.62/0.00

10 27

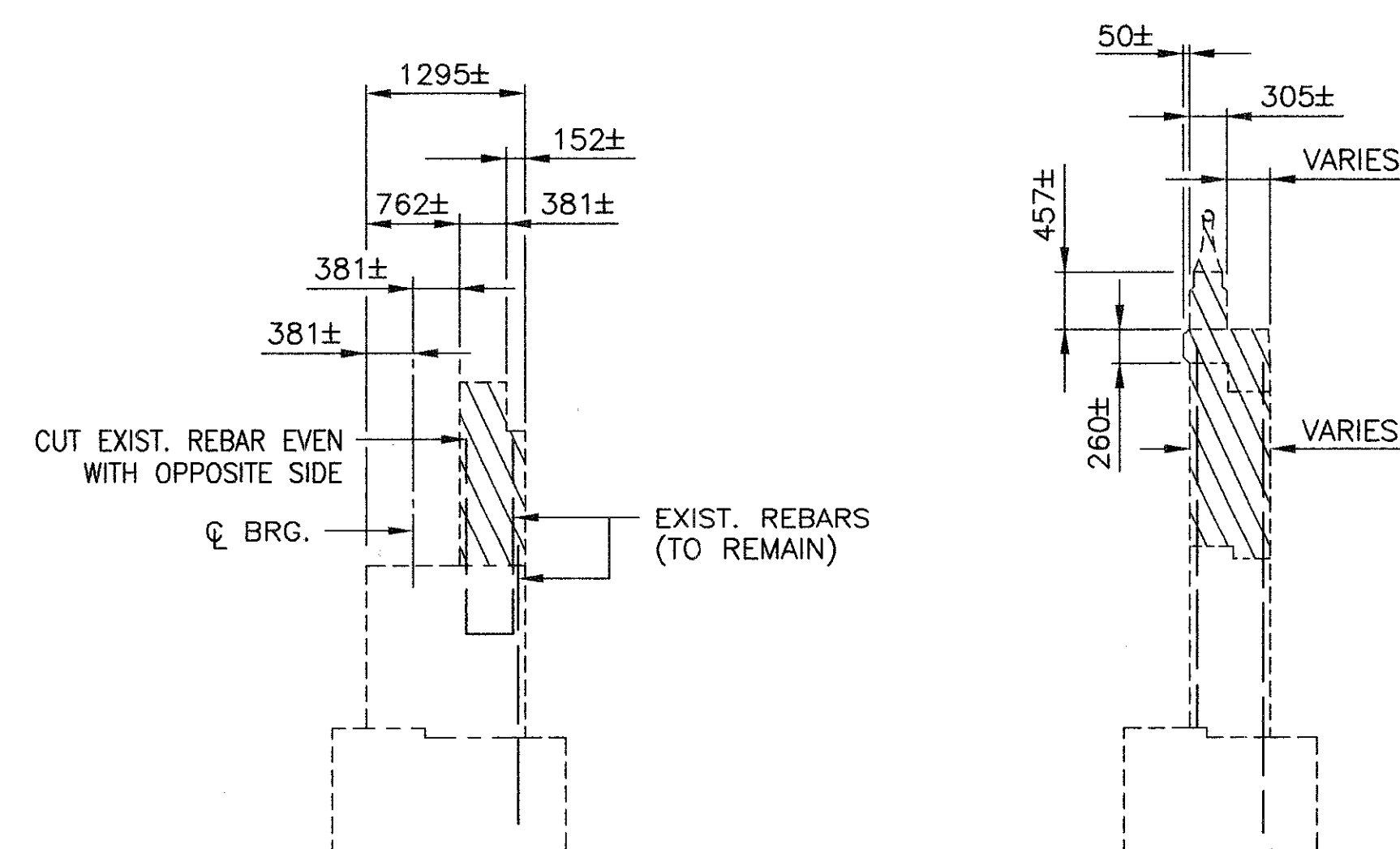
62
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PLAN - REAR ABUTMENT

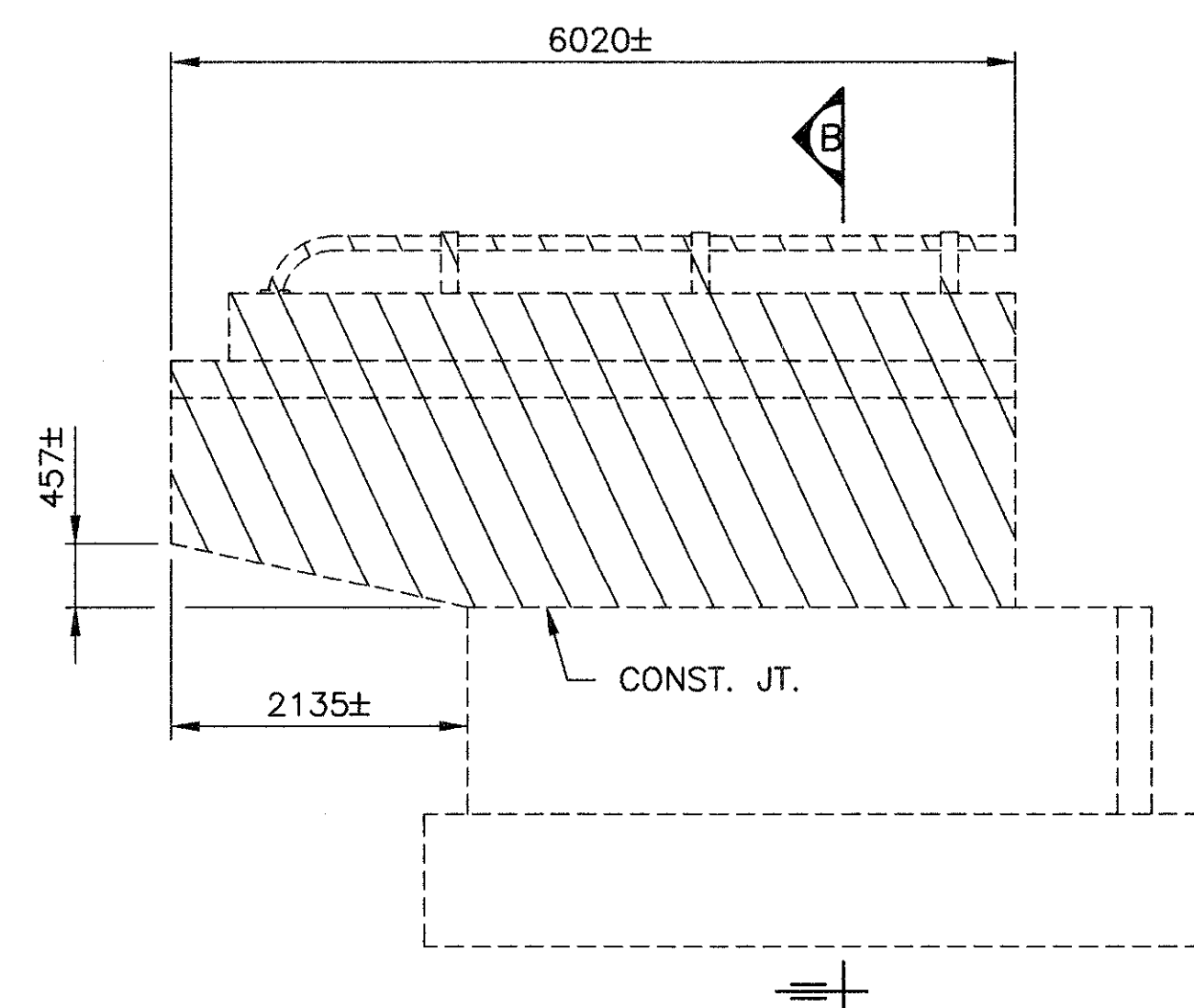


ELEVATION - REAR ABUTMENT

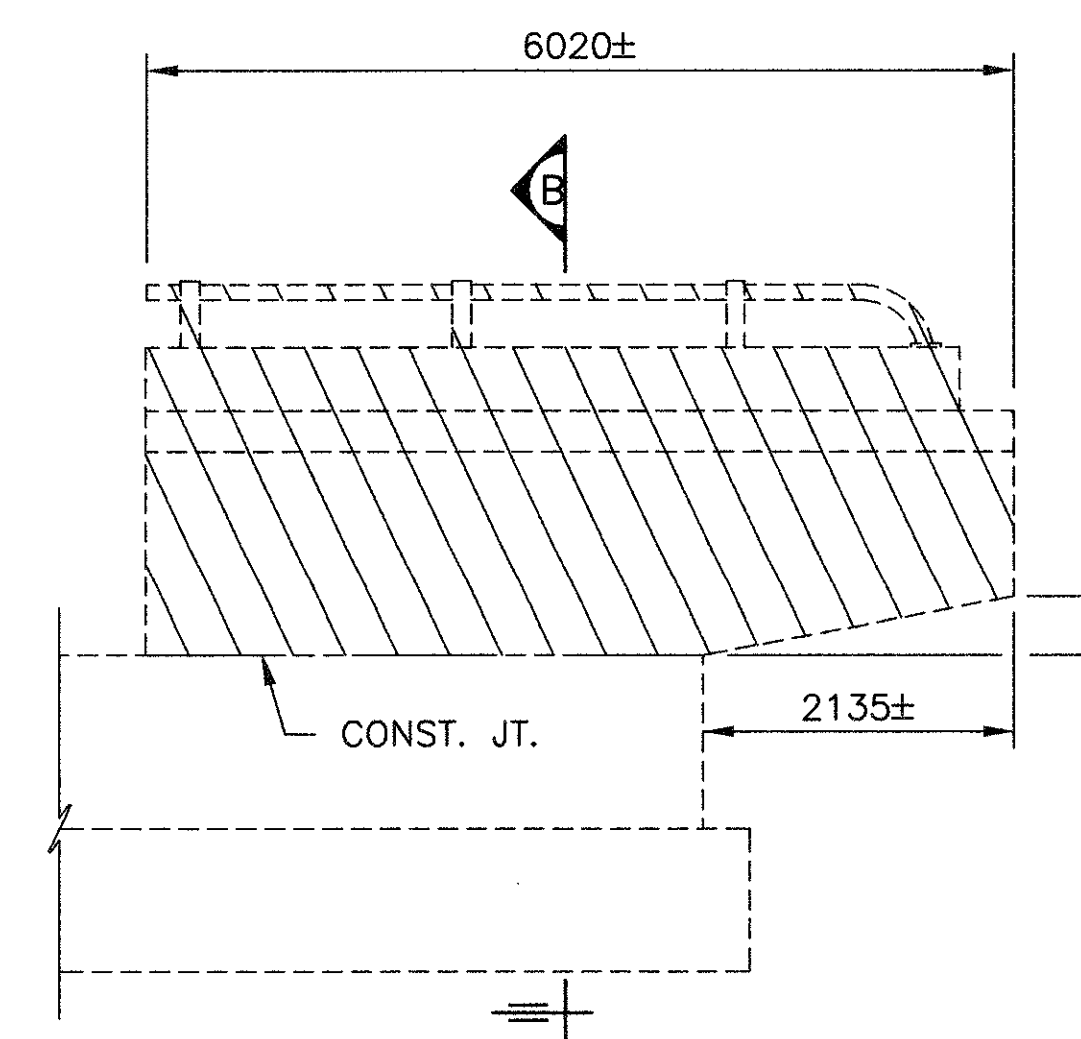


SECTION A

SECTION B



ELEVATION - SOUTHEAST WINGWALL



ELEVATION - SOUTHWEST WINGWALL

- NOTES:
1. FOR EXISTING STRUCTURE VERIFICATION NOTE, SEE SHEET NO. 1/27.
 2. FOR NOTE "PORTIONS OF STRUCTURE REMOVED," SEE SHEET NO. 1/27.
 3. ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS NOTED.

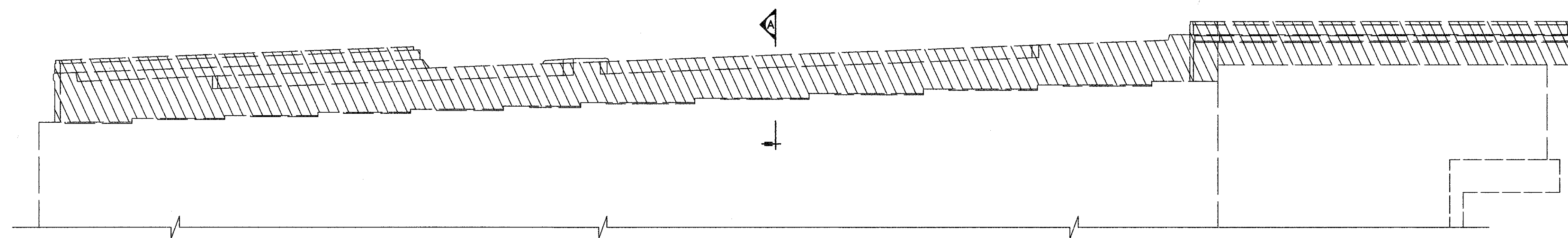
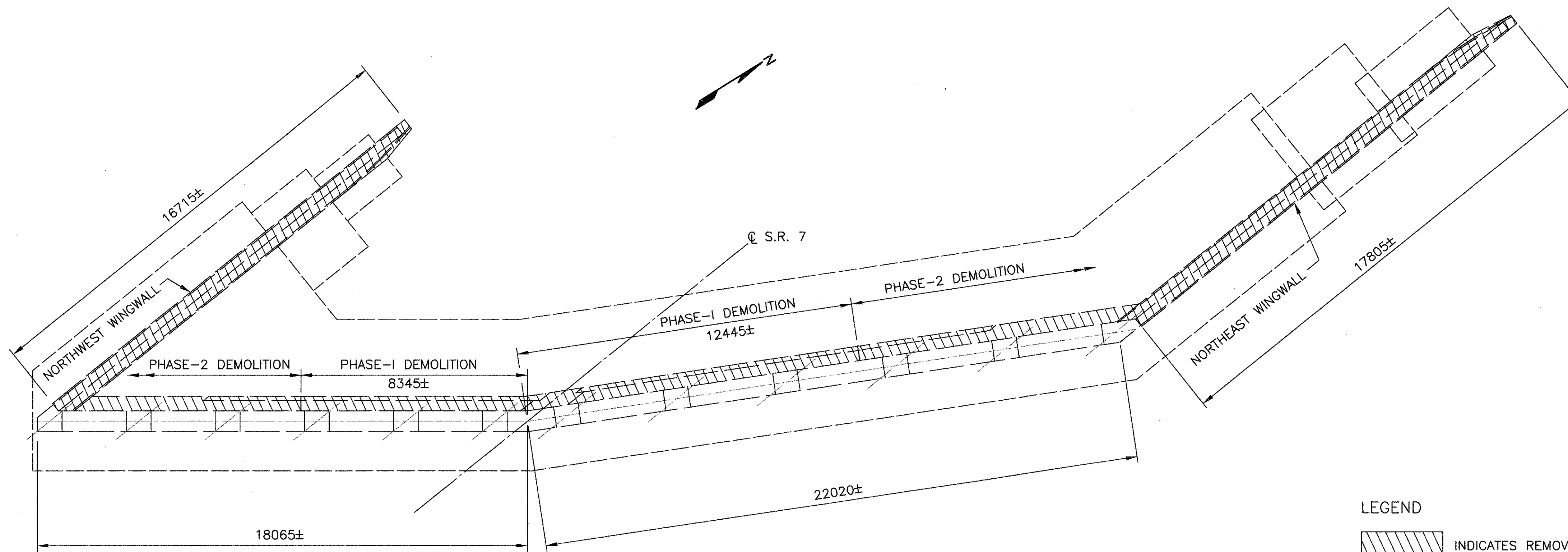
DESIGNED	A.D.	CHECKED	SPT
DRAWN	J.M.	REVISED	STRUCTURE FILE NO.
REVIEWED	M.M.	DATE	2/5/96

DEMOLITION PLAN
BRIDGE NO. JEF-7-54419
S.R. 7 OVER CONRAIL R.R. AND YELLOW CREEK

JEF/COL-7-53.62/0.00

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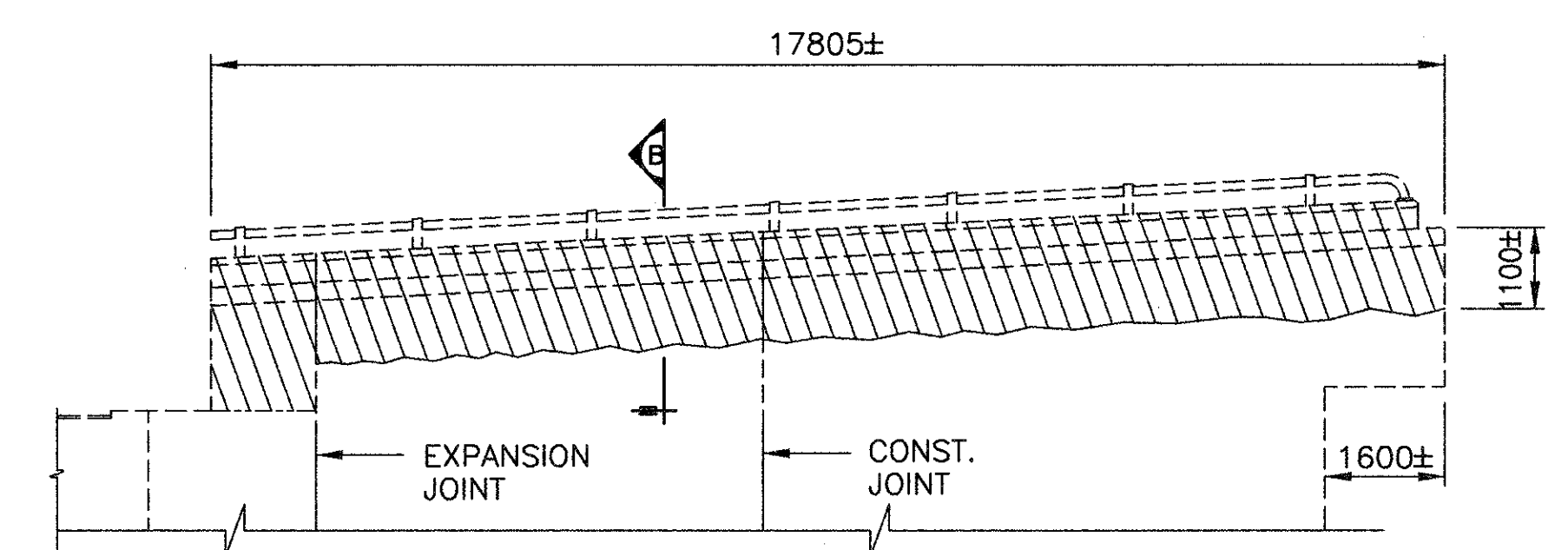
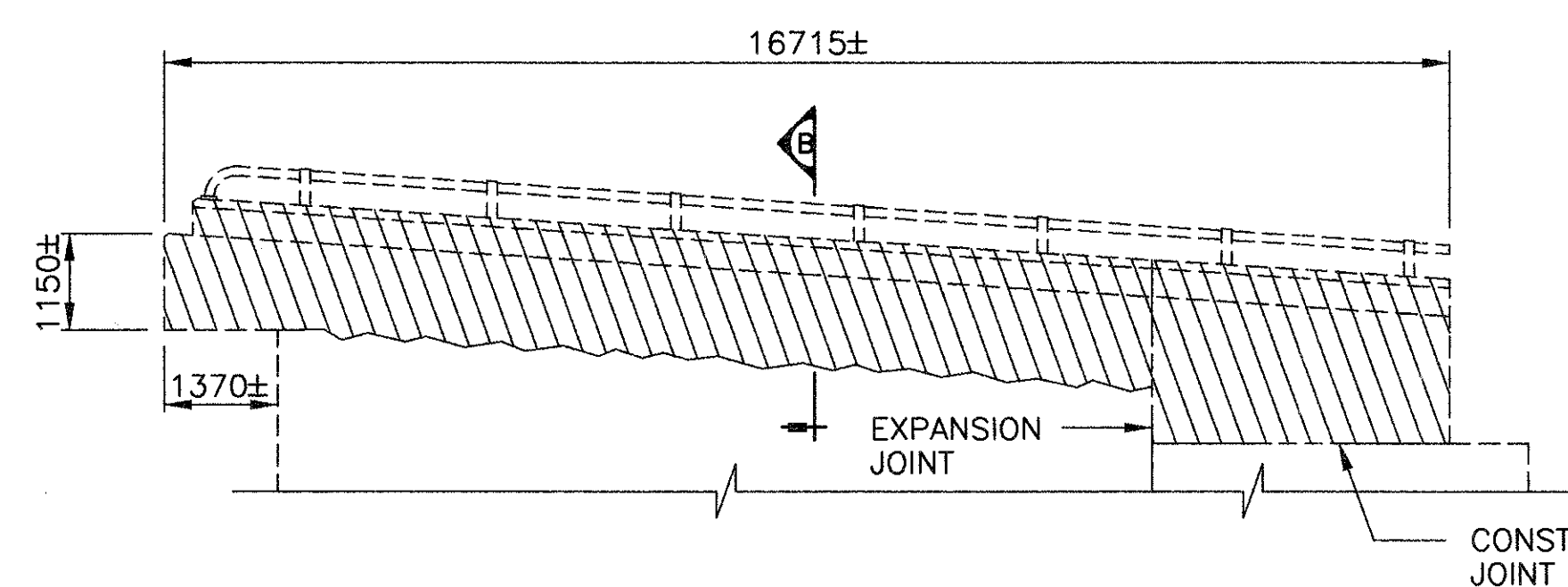
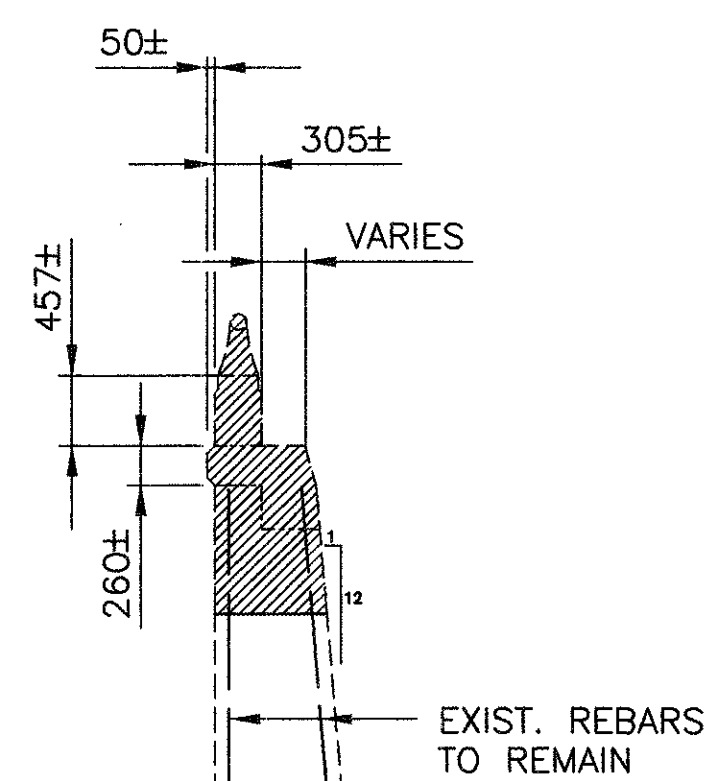
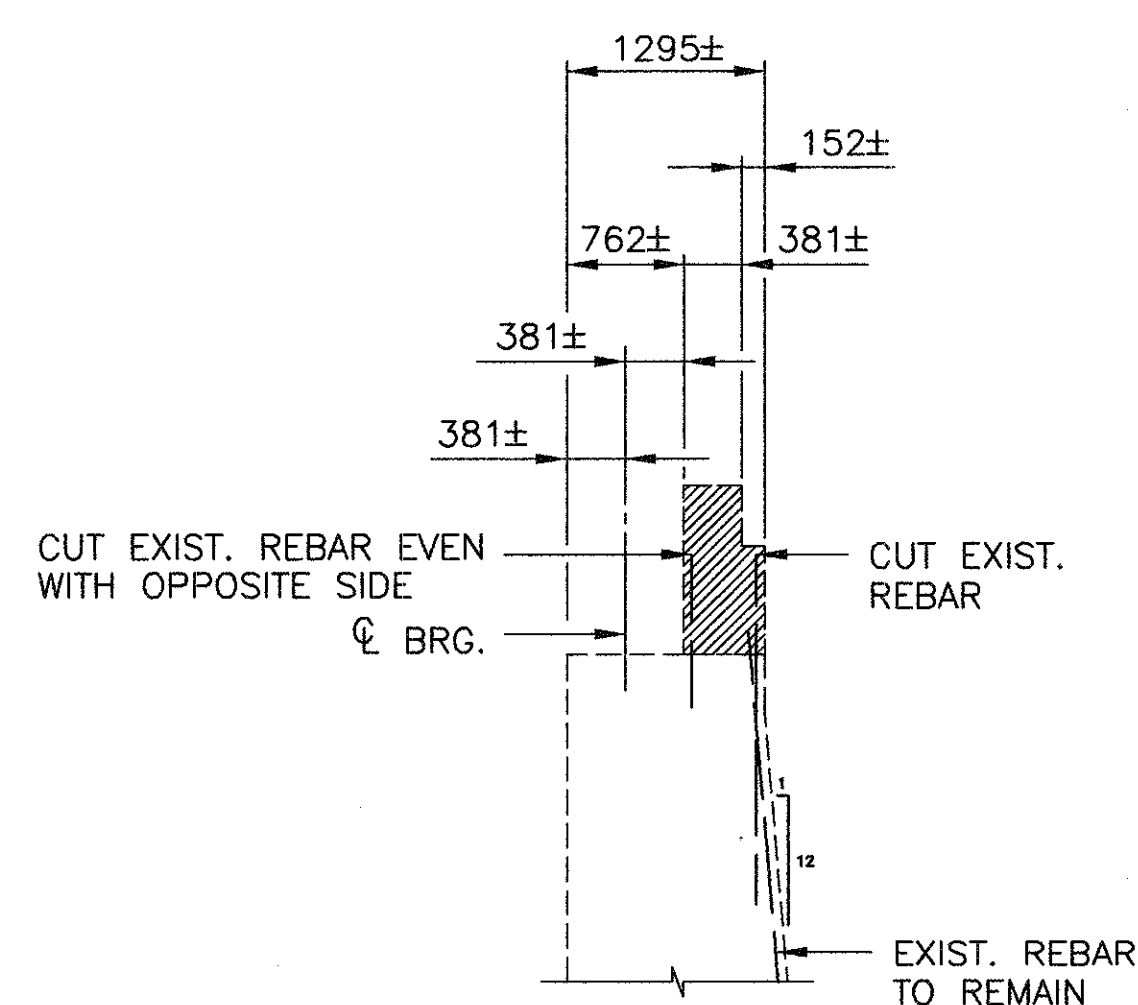


LEGEND

INDICATES REMOVAL LIMITS

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS NOTED.
2. FOR ADDITIONAL NOTES, SEE SHEET NO. 11/27.



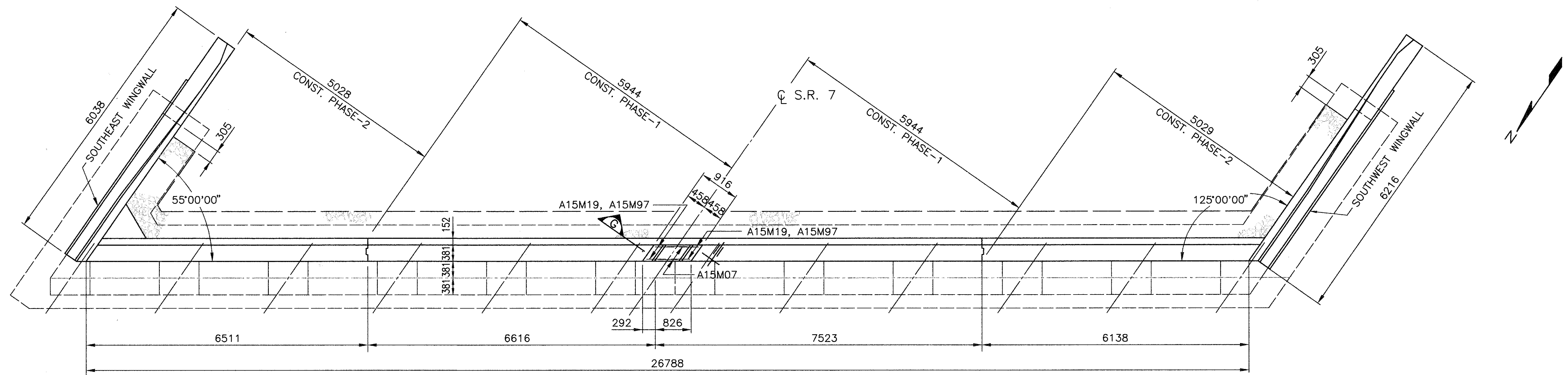
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A.D.	J.H.	M.M.	2/5/96
CHECKED	REVISED	STRUCTURE	FILE NO.
SPT			

DEMOLITION PLAN
BRIDGE NO. JEF-7-54419
S.R. 7 OVER CONRAIL R.R. AND YELLOW CREEK

JEF/COL-7-53.62/0.00

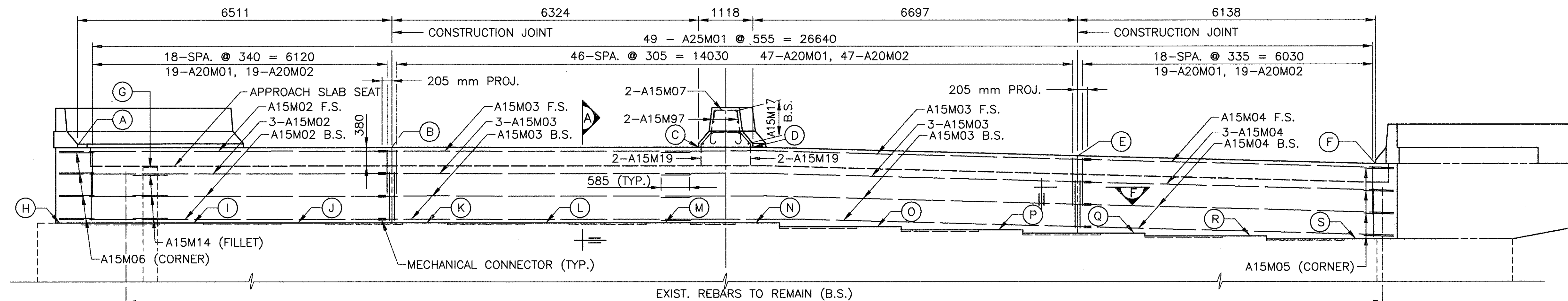
12 27

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PLAN - REAR ABUTMENT

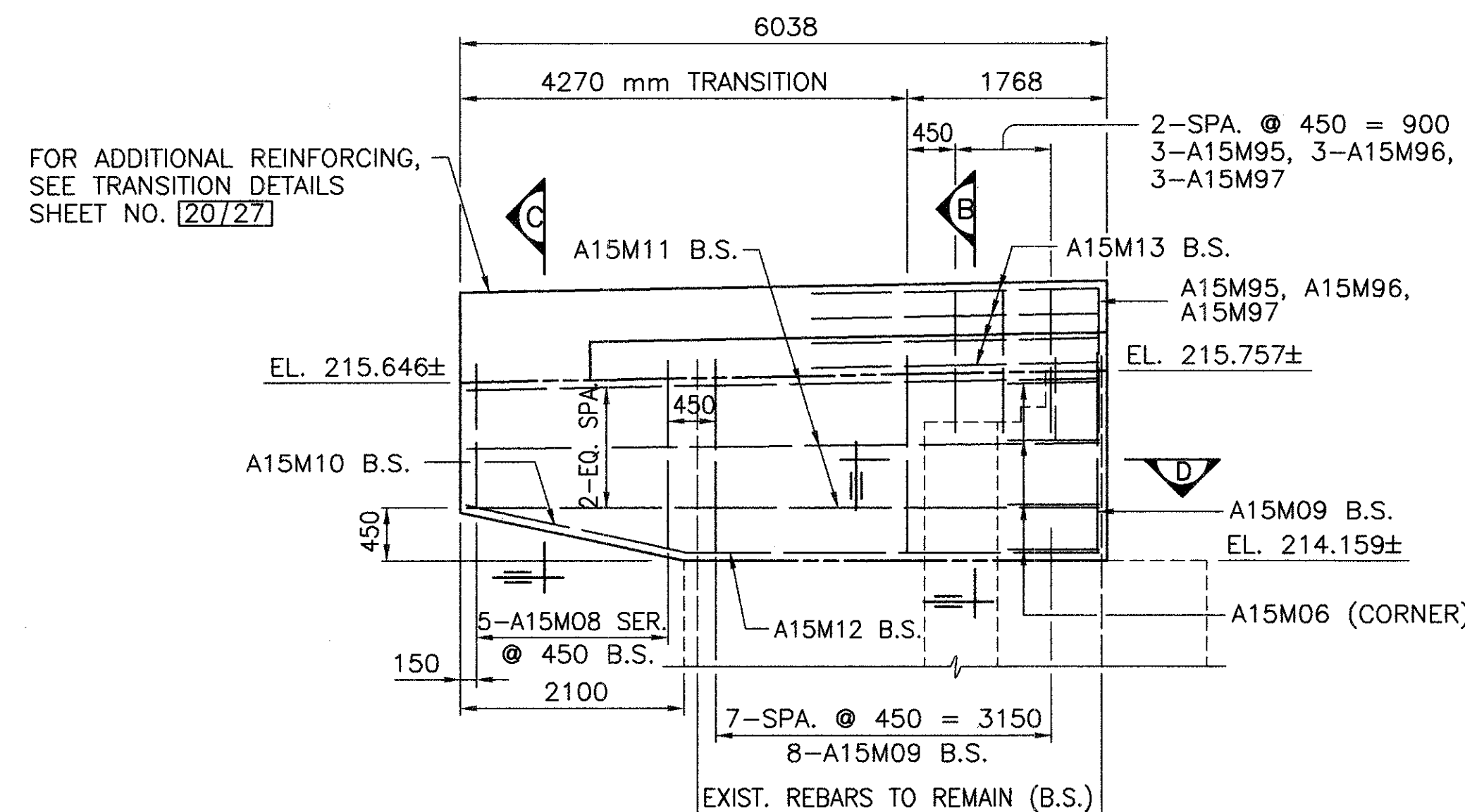
ELEVATIONS									
A	B	C	D	E	F	G	H	I	J
215.757±	215.756±	215.776±	215.766±	215.622±	215.490±	215.227±	214.156±	214.159±	214.162±
K	L	M	N	O	P	Q	R	S	
214.165±	214.171±	214.174±	214.152±	214.095±	214.037±	213.979±	213.924±	213.863±	

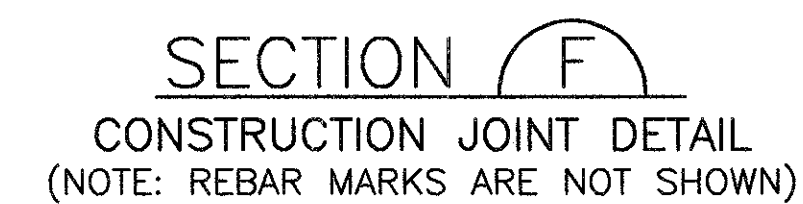


ELEVATION - REAR ABUTMENT

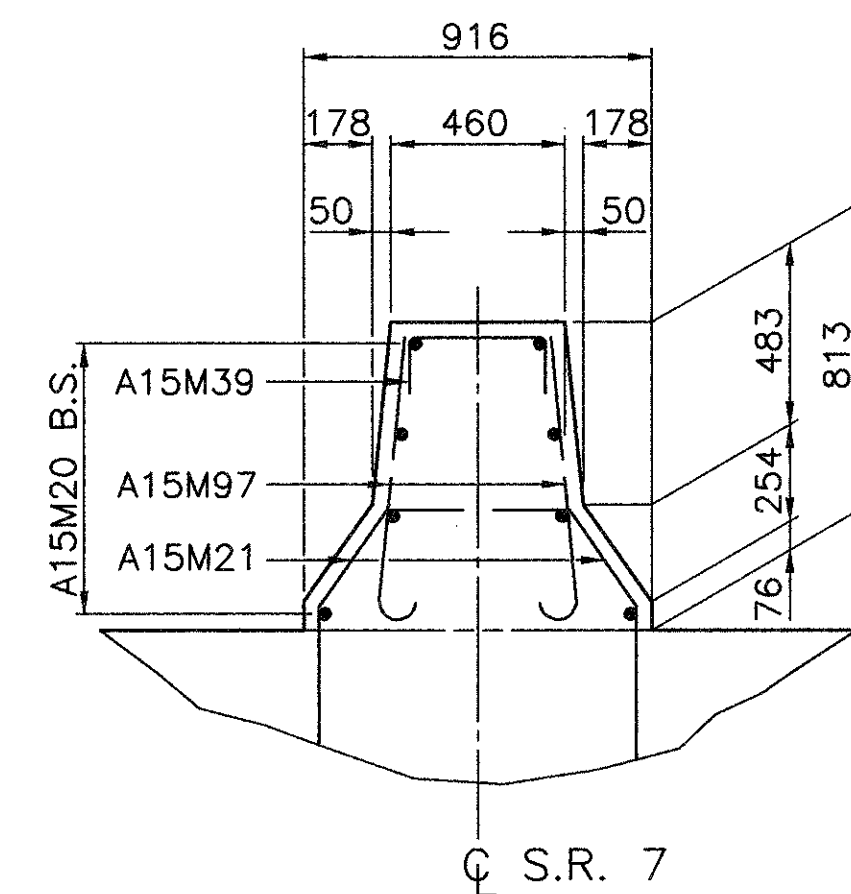
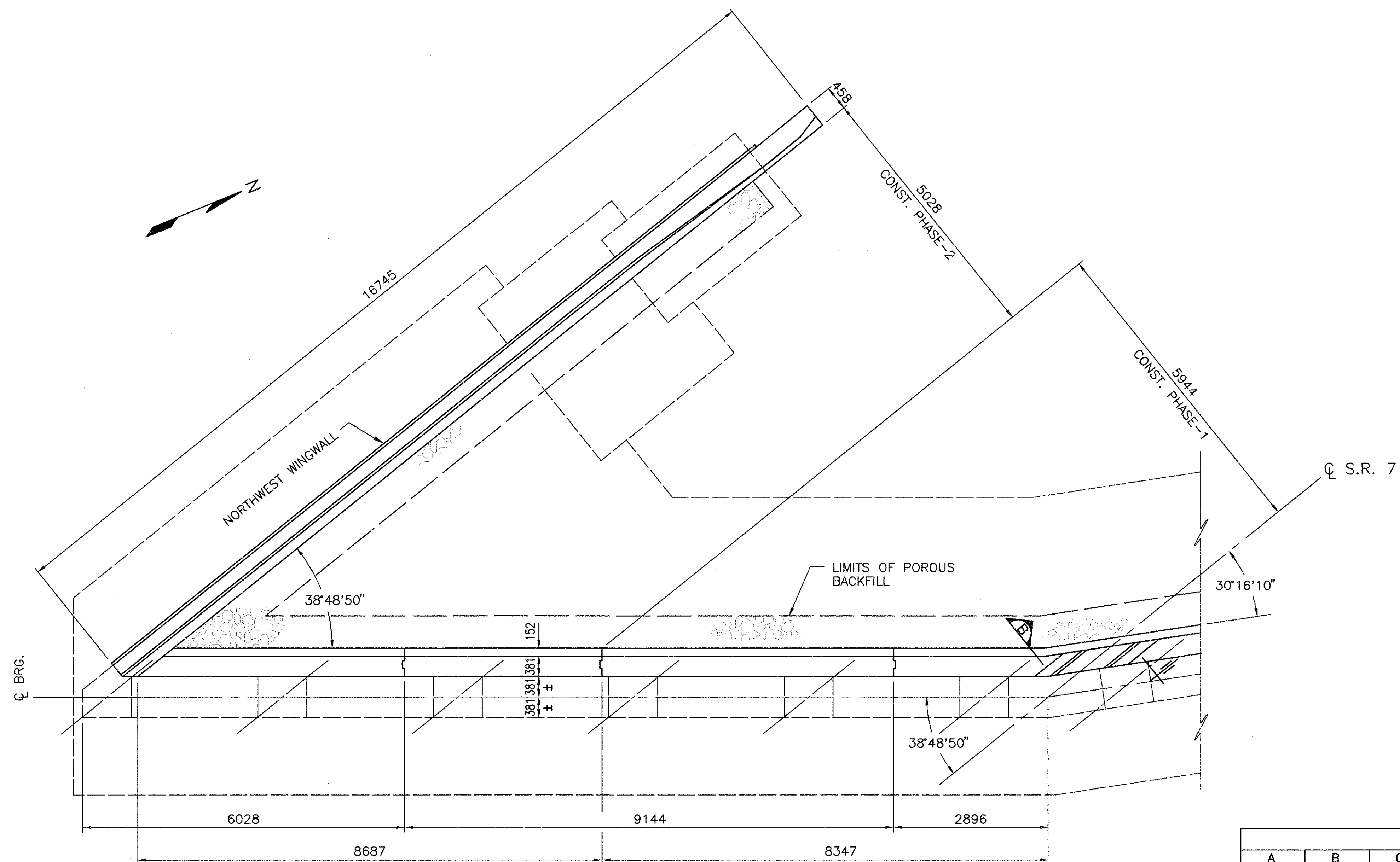
NOTES

- CARE SHALL BE EXERCISED IN REMOVING PORTIONS OF THE EXISTING ABUTMENT SO THAT NO DAMAGE IS DONE TO THE EXISTING REBARS WHICH ARE TO PROJECT INTO THE PROPOSED CONSTRUCTION. WHERE EXISTING REBARS ARE DAMAGED, NEW EQUIVALENT SIZE DOWEL BARS, 915 mm LONG SHALL BE PROVIDED. SUCH DOWELS SHALL BE EMBEDDED 460 mm INTO EXISTING CONCRETE BY DRILLING 38 mm DIAMETER HOLES AND FILLING WITH NON-SHRINK GROUT MORTAR PER CMS 705.20. REPLACEMENT OF DAMAGED BARS SHALL BE AT CONTRACTOR'S COST.
- PRIOR TO THE PLACEMENT OF NEW CONCRETE, THE EXISTING CONCRETE SURFACE SHALL BE THOROUGHLY CLEANED BY ABRASIVE BLASTING AND/OR OTHER APPROVED METHODS SO THAT IT IS FREE OF LOOSE OR DISINTEGRATED CONCRETE, DUST, LAITANCE, GREASE, RUST, AND OTHER FOREIGN MATTER. ALL EXISTING REBARS SHALL BE CLEANED BY WIRE BRUSH OR ABRASIVE BLASTED TO REMOVE ANY RUST. A BONDING GROUT SHALL BE USED BETWEEN OLD CONCRETE AND NEW CONCRETE. BONDING GROUT IS INCLUDED WITH ITEM 511, CLASS C CONCRETE, ABUTMENT, FOR PAYMENT.
- FOR BONDING GROUT NOTE, SEE SHEET NO. 1/27.
- MINIMUM CLEARANCE TO REBARS SHALL BE 50 mm UNLESS NOTED OTHERWISE.
- ABBREVIATIONS: N.S. NEAR SIDE, F.S. FAR SIDE, B.S. BOTH SIDES, P.E.J.F. PREFORMED EXPANSION JOINT FILLER, SPA. SPACING, SER. SERIES
- FOR SECTIONS A THROUGH G, SEE SHEET NO. 14/27.
- ALL REINFORCING SHALL BE EPOXY COATED.
- FOR JOINT DETAILS, SEE SHEET NO. 14/27.
- QUANTITIES OF CONCRETE AND REINFORCING STEEL FOR PARAPETS ARE INCLUDED WITH ITEM 509, EPOXY COATED REINFORCING STEEL AND ITEM 511, CLASS C CONCRETE, ABUTMENT, FOR PAYMENT.
- ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS NOTED OTHERWISE.

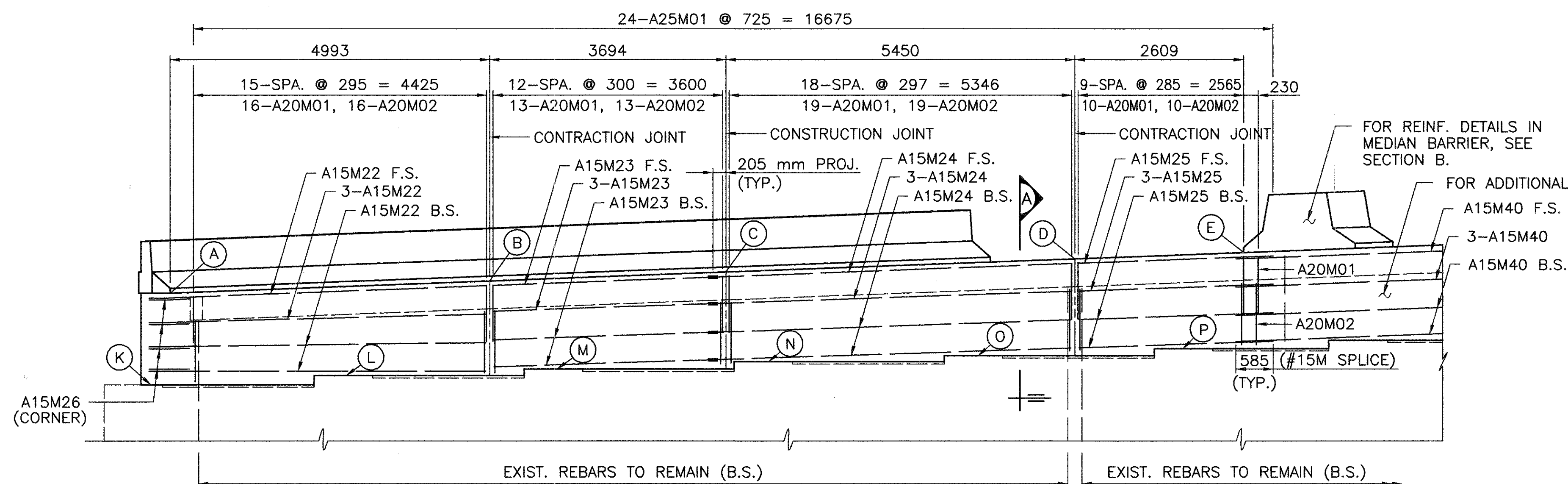




2. ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS NOTED OTHERWISE.



ELEVATIONS										
A	B	C	D	E	F	G	H	I	J	K
222.612±	222.855±	223.035±	223.301±	223.430±	223.505±	223.681±	223.889±	224.004±	224.241±	220.977±
L	M	N	O	P	Q	R	S	T	U	V
221.135±	221.297±	221.455±	221.617±	221.776±	221.888±	222.029±	222.175±	222.321±	222.464±	222.608±



NOTES

1. FOR FORWARD ABUTMENT (NBL) DETAIL, SEE SHEET NO. 16/27.
2. FOR SECTION A, SEE SHEET NO. 16/27.
3. FOR NORTHWEST WINGWALL DETAIL, SEE SHEET NO. 17/27.
4. FOR ADDITIONAL NOTES, SEE SHEET NO. 13/27.
5. FOR JOINT DETAILS, SEE SHEET NO. 14/27.
6. ALL DIMENSIONS ARE IN MILLIMETER, UNLESS NOTED OTHERWISE.

DESIGNED
A.D.
CHECKED
SPT

DRAWN
J.H.

REVIEWED
M.M.
DATE
2/5/96

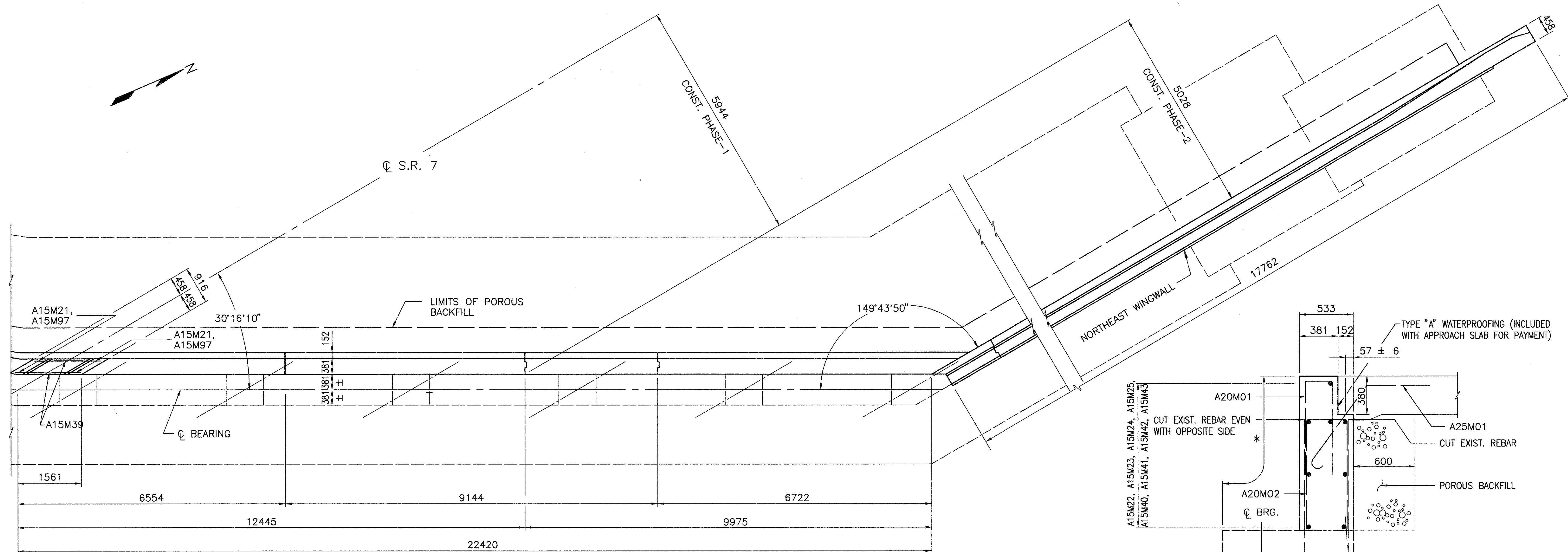
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FORWARD ABUTMENT - SBL
BRIDGE NO. JEF-7-54419
S.R. 7 OVER CONRAIL R.R. AND YELLOW CREEK

JEF/COL-7-53.62/0.00

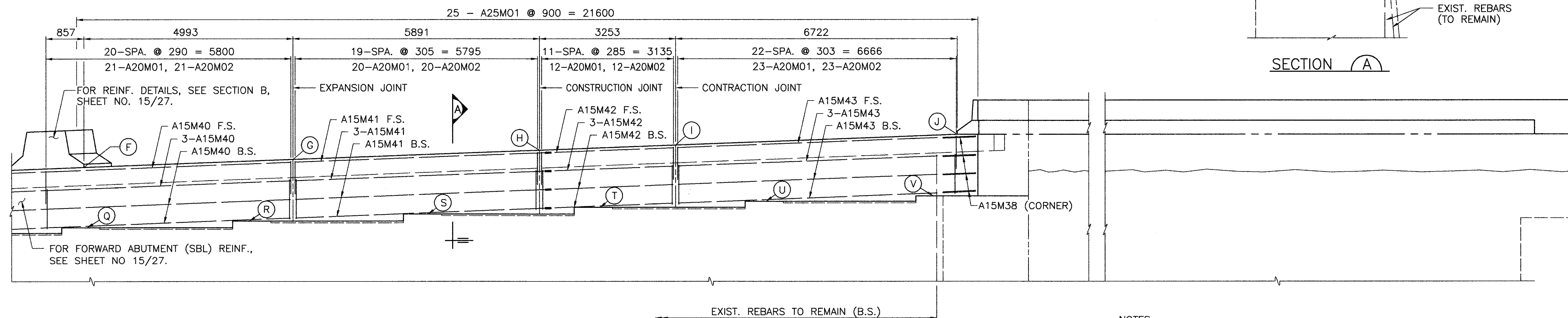
15 27

67
79



PLAN - FORWARD ABUTMENT (NBL)

* LIMITS OF ITEM SPECIAL - SEALING OF CONCRETE SURFACES (EPOXY)



ELEVATION - FORWARD ABUTMENT (NBL)

SECTION A

NOTES

1. FOR ADDITIONAL NOTES, SEE SHEET NO. 13/27.
2. FOR ELEVATION TABLE, SEE SHEET NO. 15/27.
3. FOR NORTHEAST WINGWALL DETAIL, SEE SHEET NO. 19/27.
4. FOR JOINT DETAILS, SEE SHEET NO. 14/27.
5. ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS NOTED OTHERWISE.

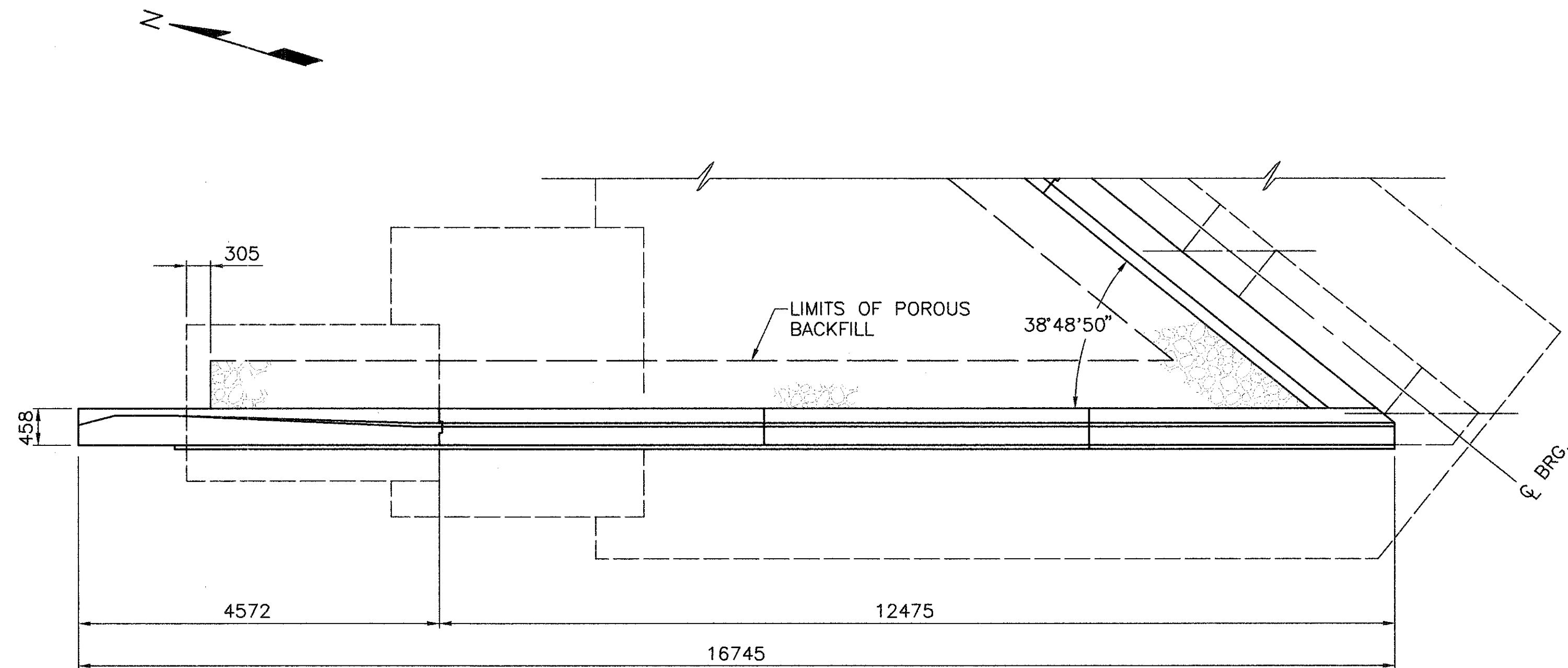
DESIGNED	DRAWN	REVIEWED	DATE
A.D.	J.H.	M.M.	2/5/96
CHECKED	REVISED	STRUCTURE	FILE NO.
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FORWARD ABUTMENT - NBL
 BRIDGE NO. JEF-7-54419
 S.R. 7 OVER CONRAIL R.R. AND YELLOW CREEK

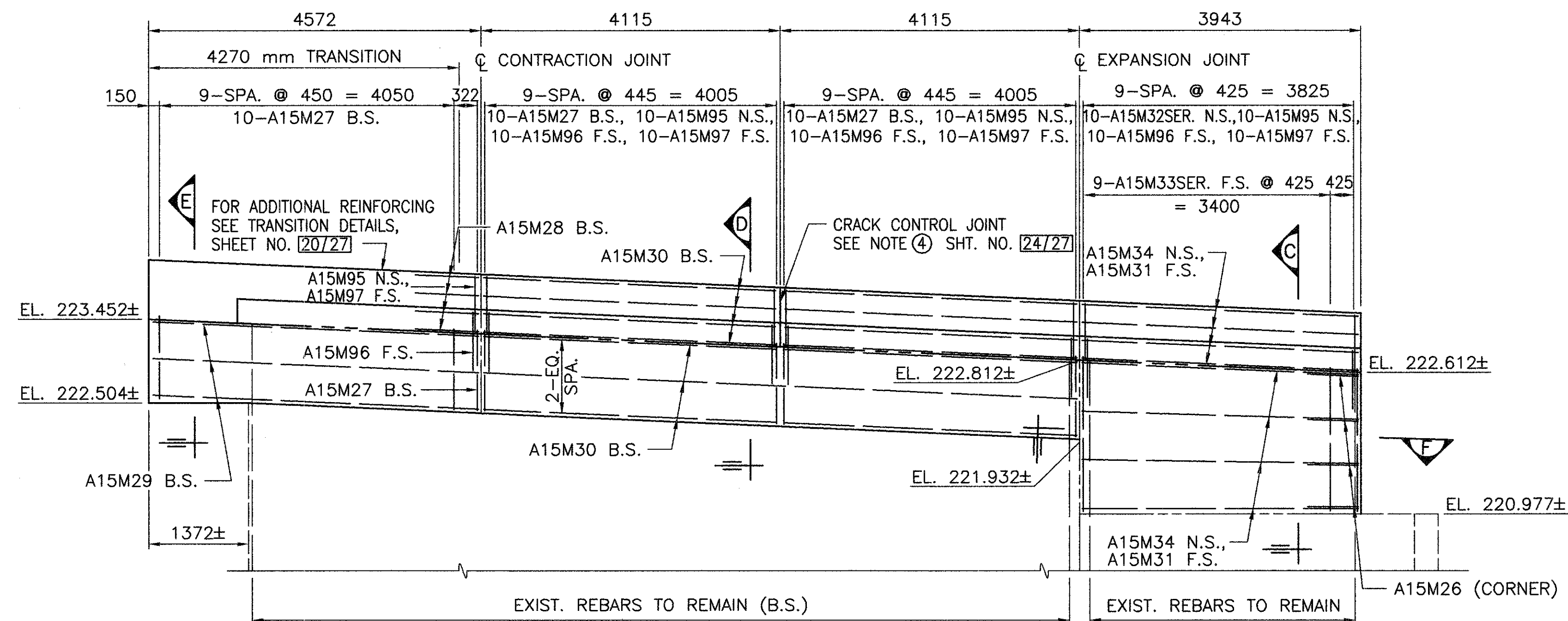
JEF/COL-7-53.62/0.00

16/27

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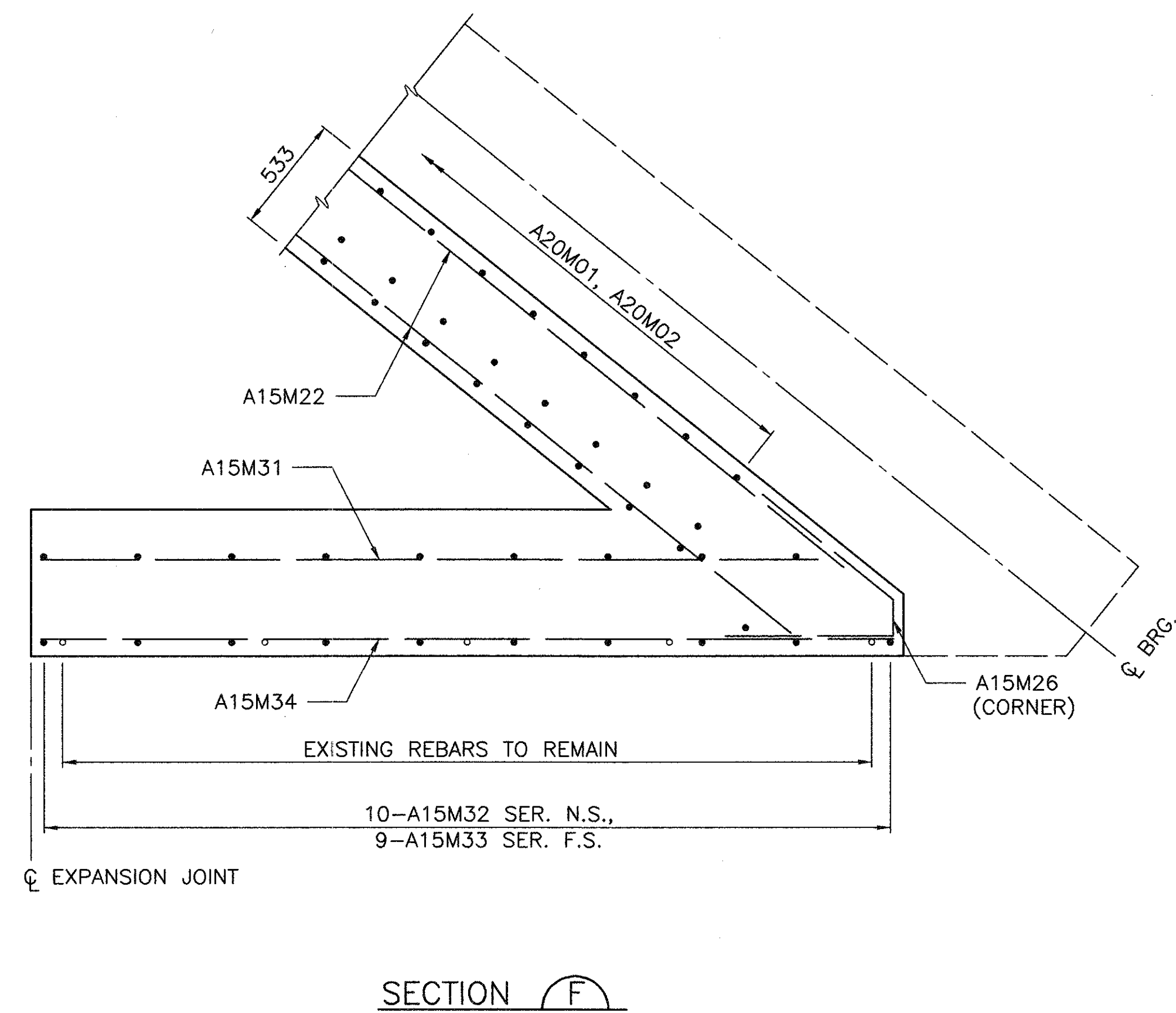
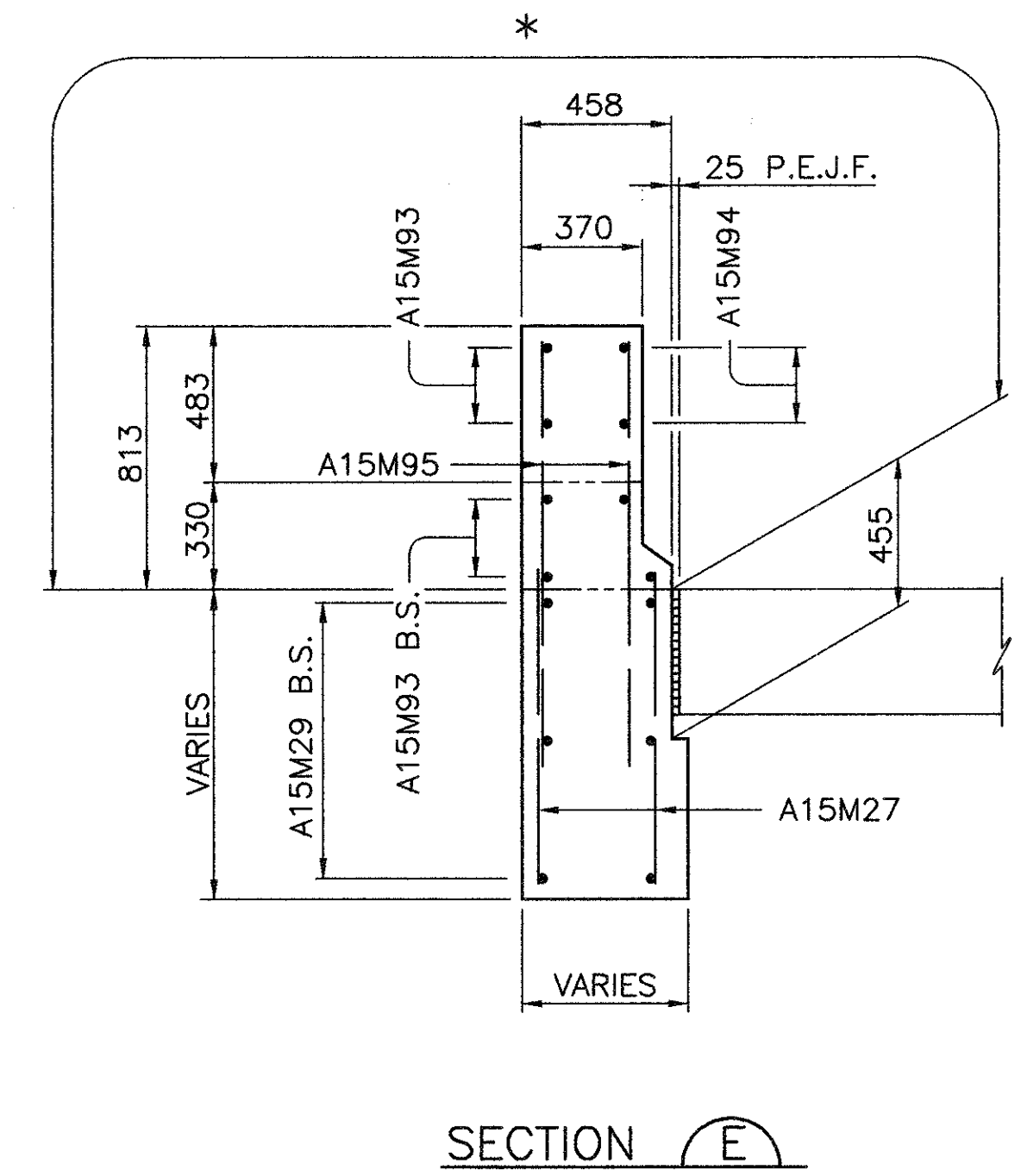
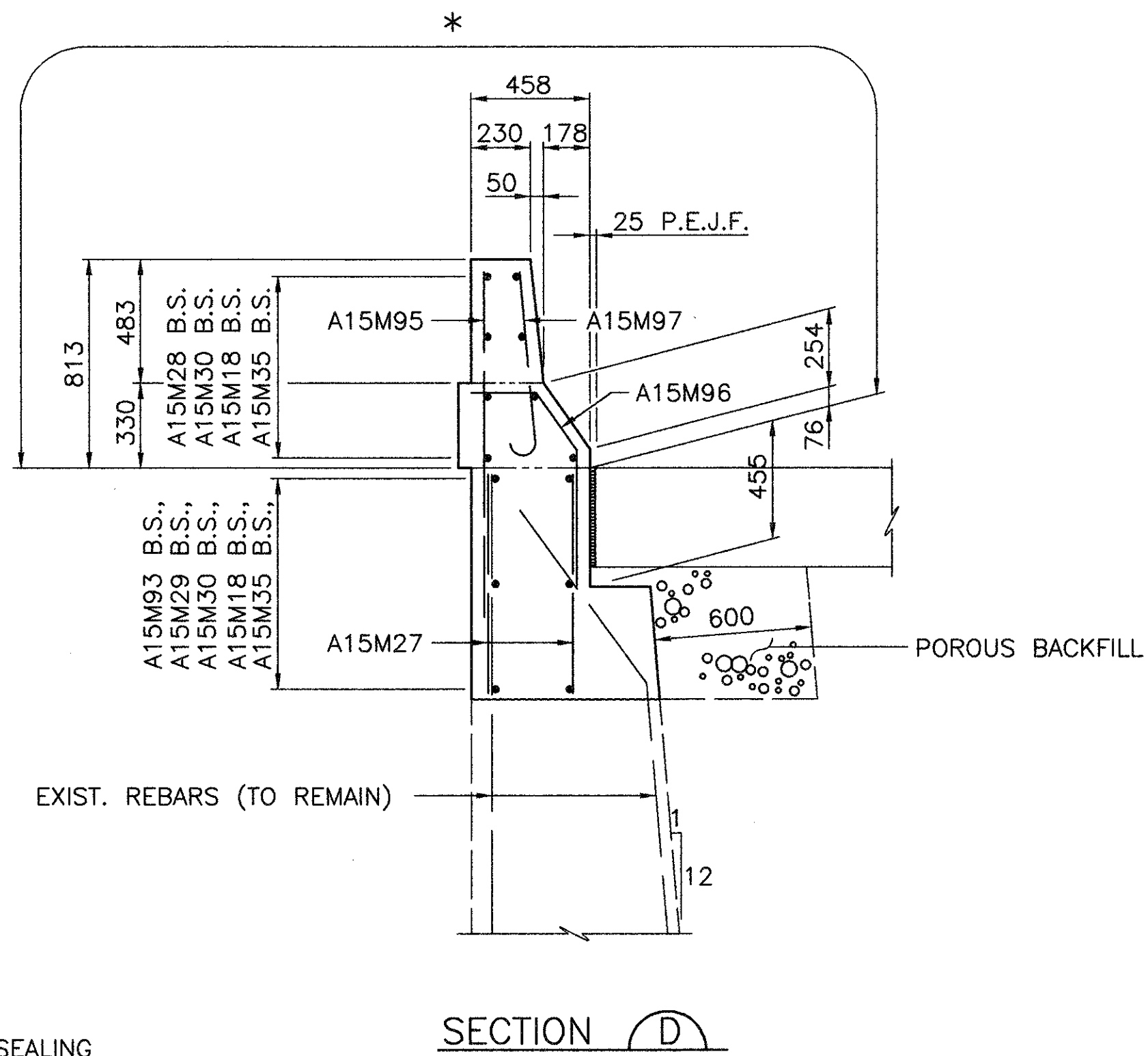
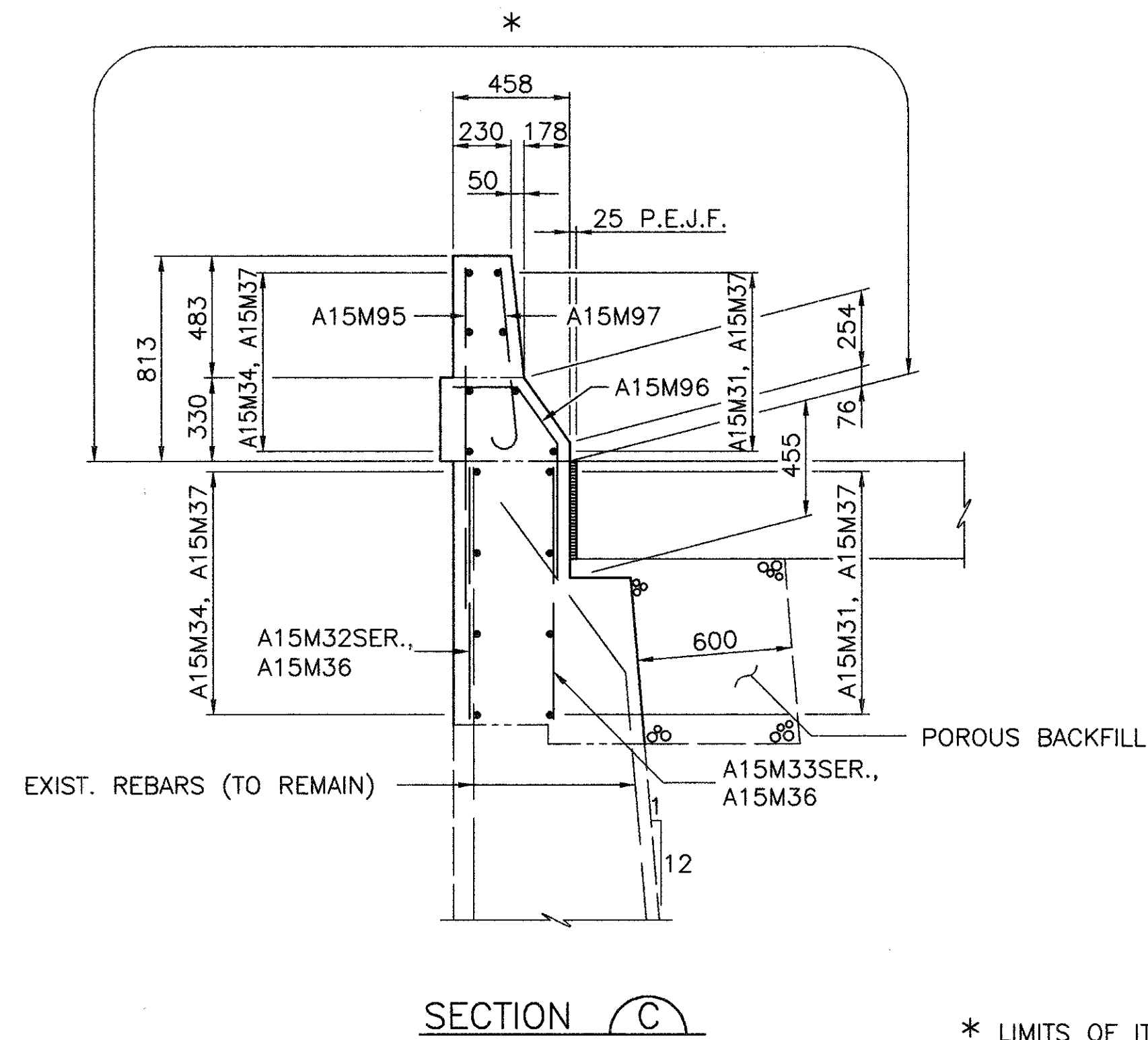
PLAN - NORTHWEST WINGWALL



ELEVATION - NORTHWEST WINGWALL

NOTES

1. FOR ADDITIONAL NOTES, SEE SHEET NO. 13/27.
2. FOR SECTIONS C, D, E, AND F, SEE SHEET NO. 18/27.
3. FOR FORWARD ABUTMENT DETAILS, SEE SHEET NOS. 15 AND 16/27.
4. FOR CONTRACTION AND EXPANSION JOINT DETAILS, SEE SHEET NO. 14/27.
5. ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS NOTED OTHERWISE.



- NOTES
1. FOR LOCATIONS OF SECTIONS C AND D, SEE SHEET NO. 17 AND 19/27.
 2. FOR LOCATION OF SECTIONS E AND F, SEE SHEET NO. 17/27.
 3. FOR ADDITIONAL NOTES, SEE SHEET NO. 13/27.
 4. FOR JOINT DETAILS, SEE SHEET NO. 14/27.
 5. ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS NOTED OTHERWISE.

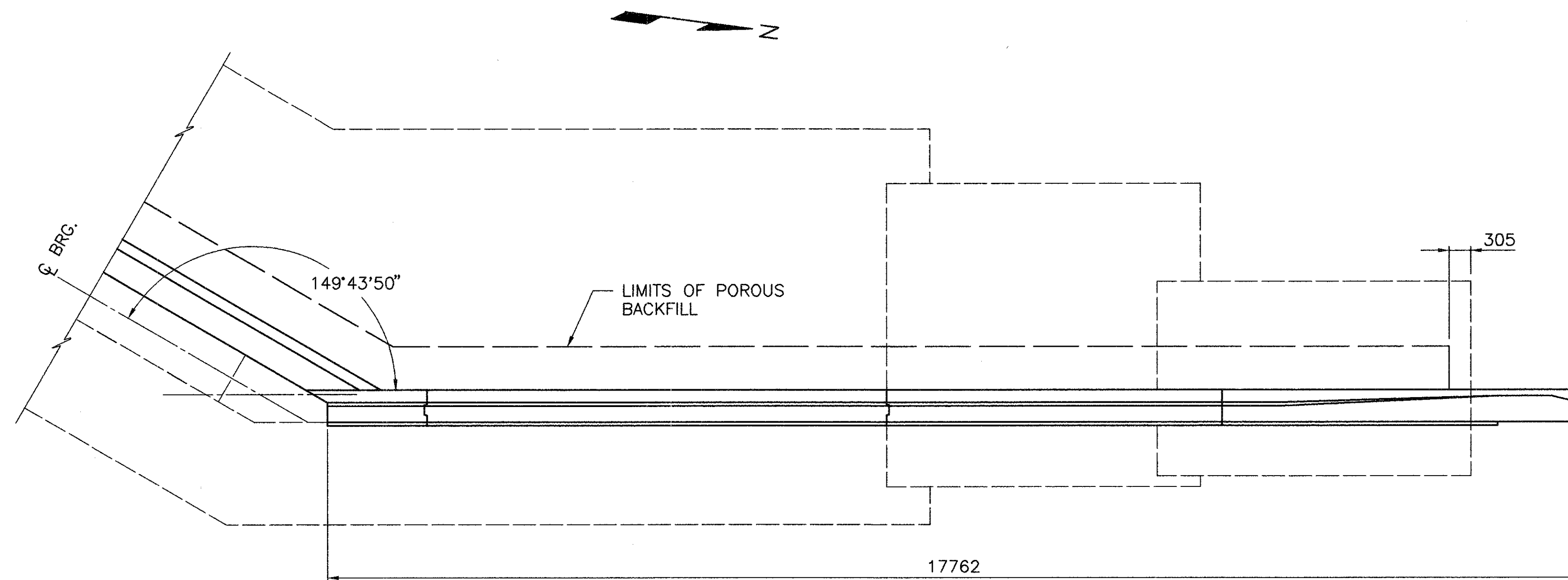
WINGWALL DETAILS
BRIDGE NO. JEF-7-54419
S.R. 7 OVER CONRAIL R.R. AND YELLOW CREEK

JEF/COL-7-53.62/0.00

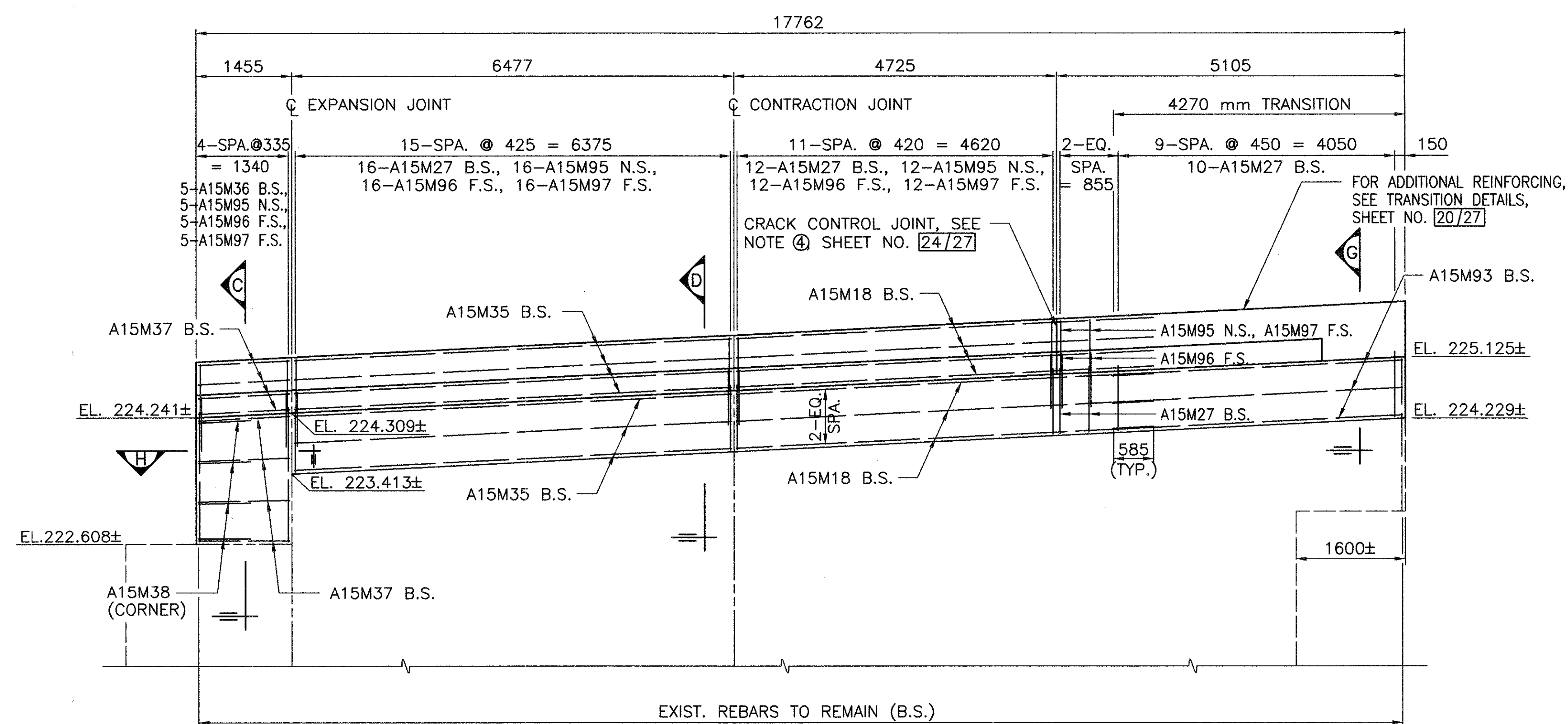
18/27

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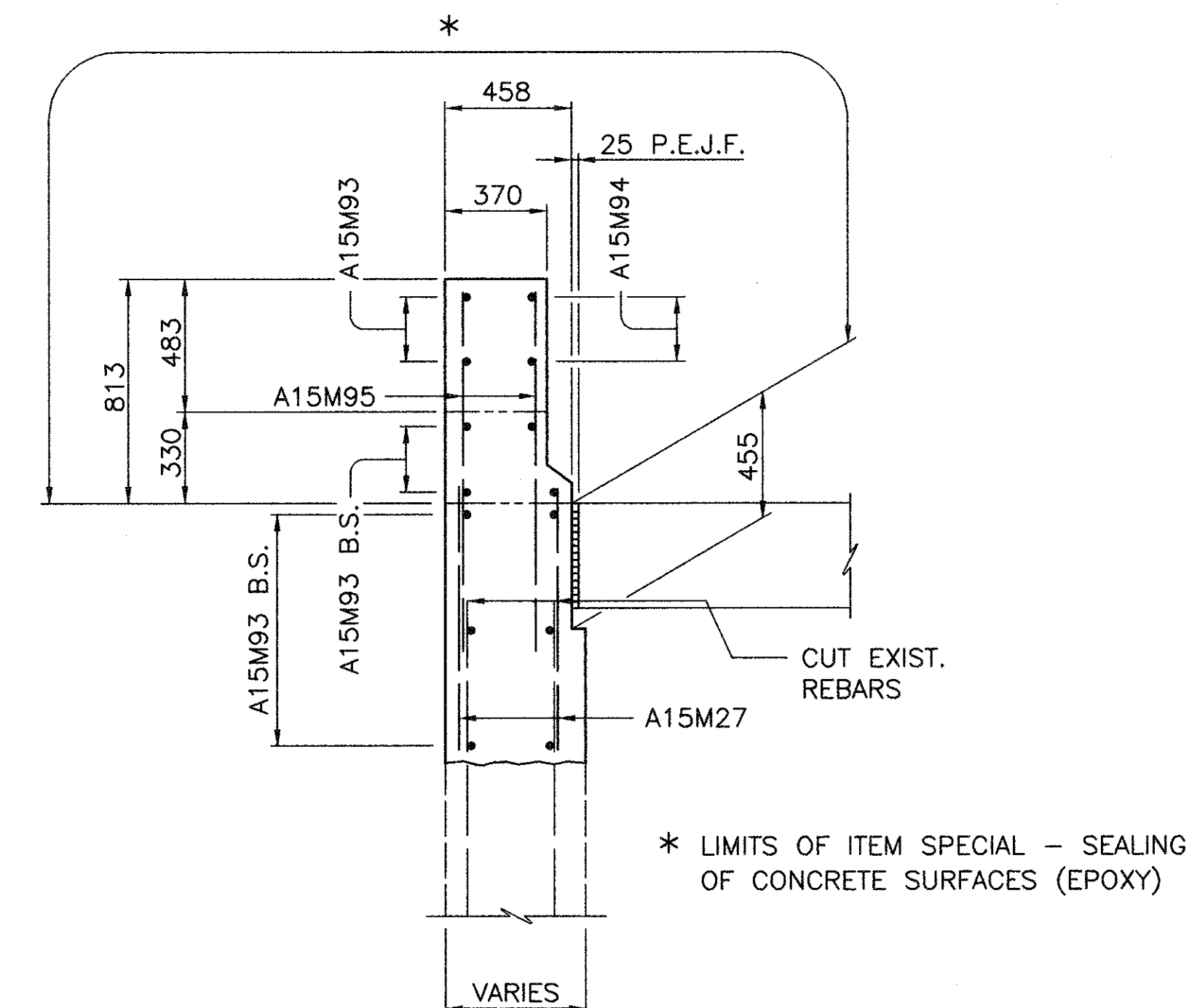
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DRAWN
J.H.
REVISED
STRUCTURE FILE NO.
REVIEWED
DATE
M.M. 2/5/24



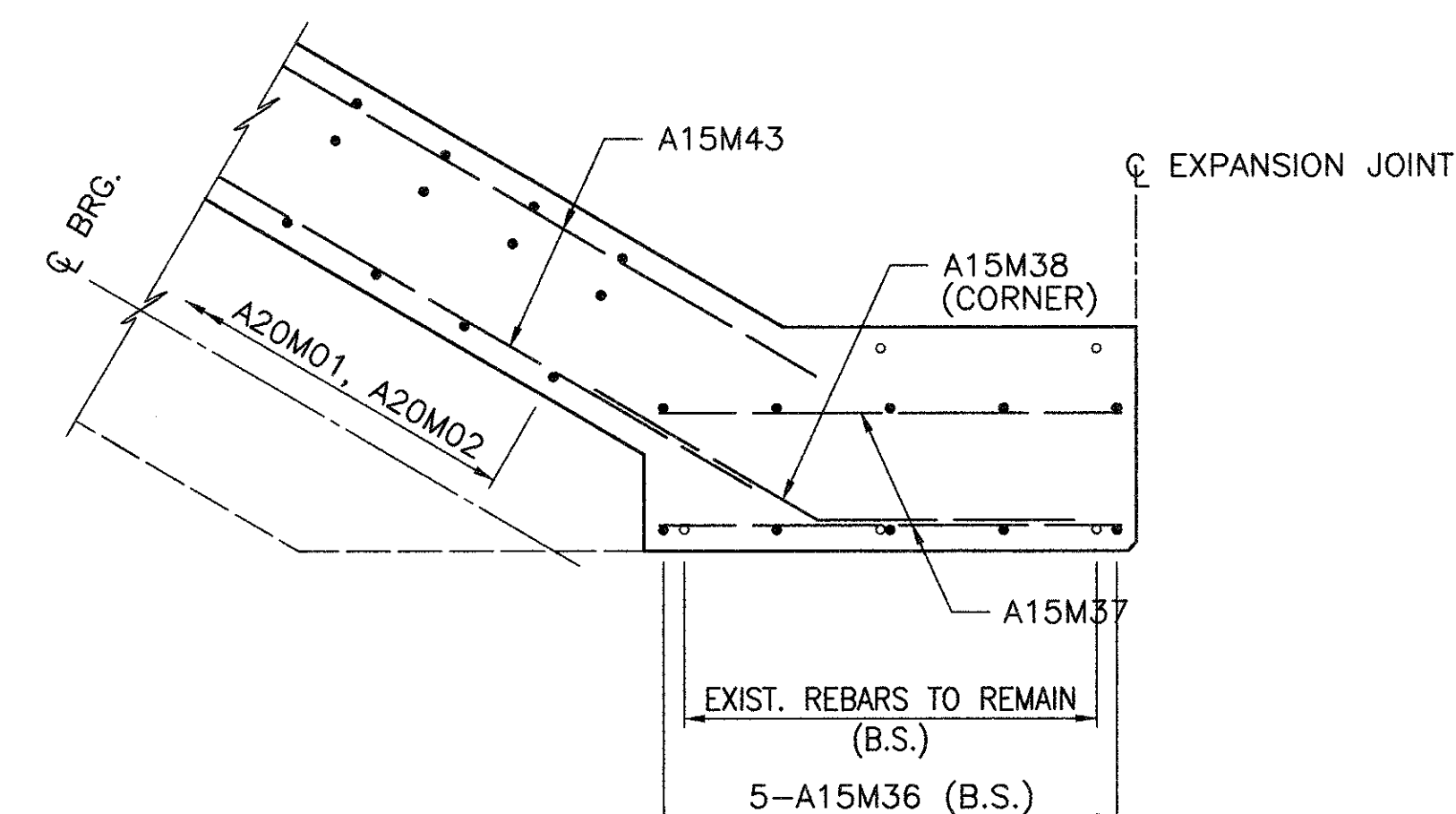
PLAN - NORTHEAST WINGWALL



ELEVATION - NORTHEAST WINGWALL



SECTION G



SECTION H

NOTES

1. FOR SECTIONS C AND D, SEE SHEET NO. 18/27.
2. FOR ADDITIONAL NOTES, SEE SHEET NO. 13/27.
3. FOR FORWARD ABUTMENT DETAILS, SEE SHEET NOS. 15 AND 16/27.
4. FOR JOINT DETAILS, SEE SHEET NO. 14/27.
5. ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS NOTED OTHERWISE.

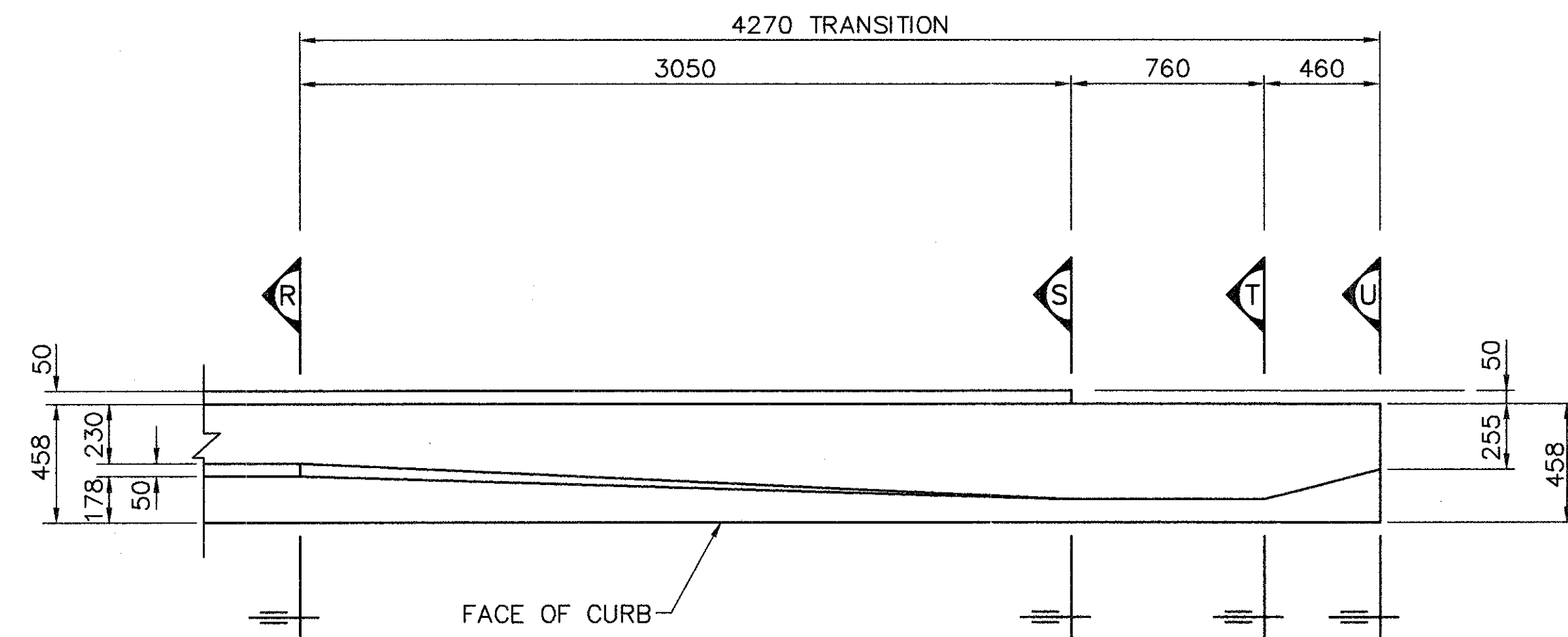
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A.D.	J.H.	M.M.	2/5/96
CHECKED		REVIS	STRUCTURE FILE NO

NORTHEAST WINGWALL
BRIDGE NO. JEF-7-54419
S.R. 7 OVER CONRAIL R.R. AND YELLOW CREEK

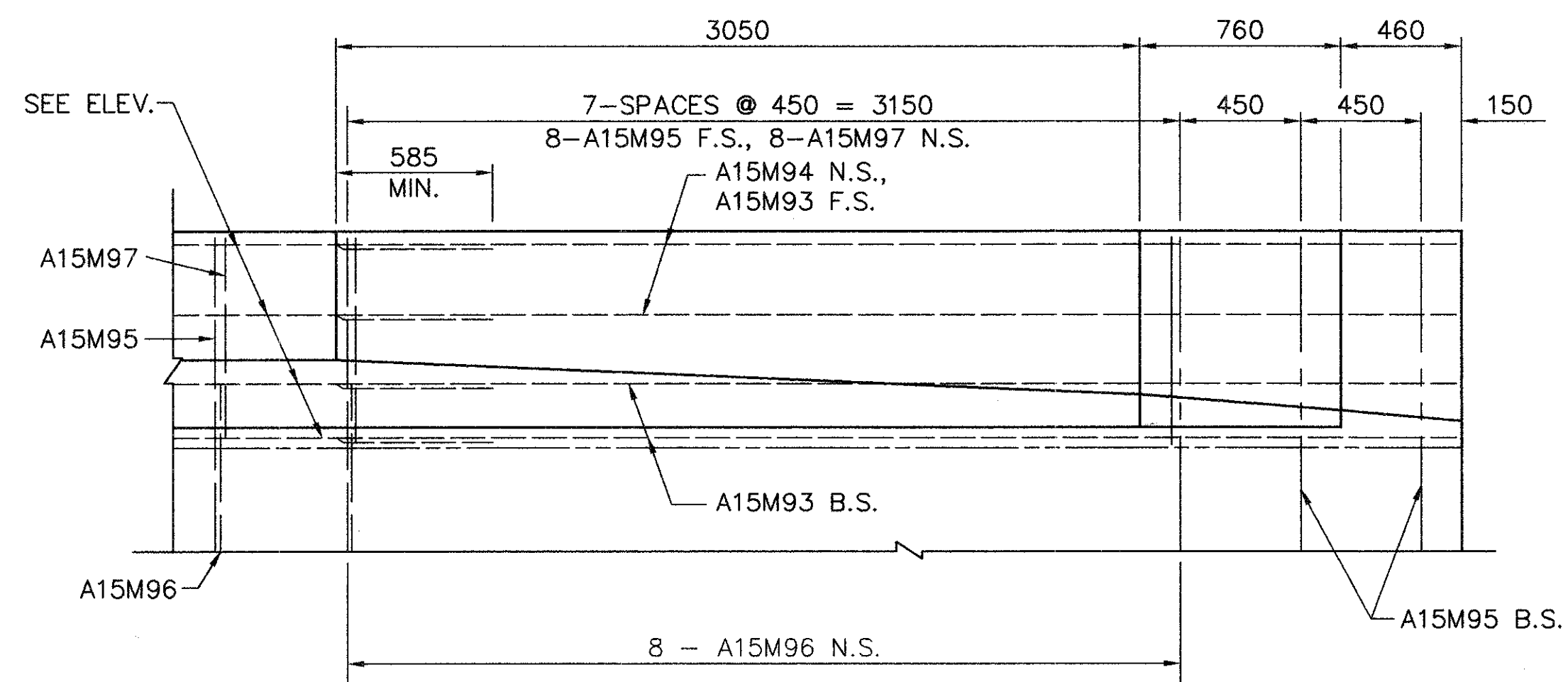
JEF/COL-7-53.62/0.00

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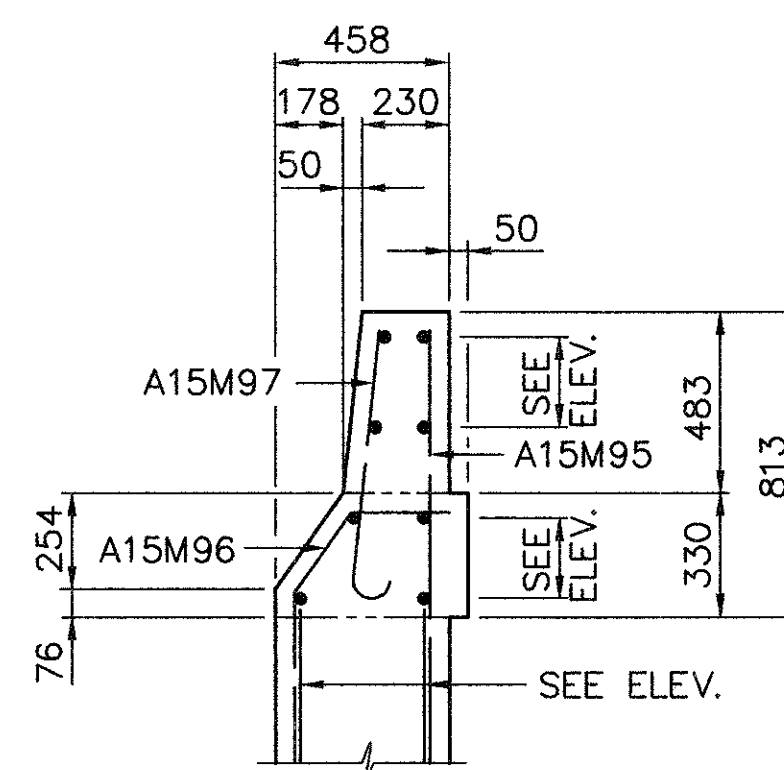
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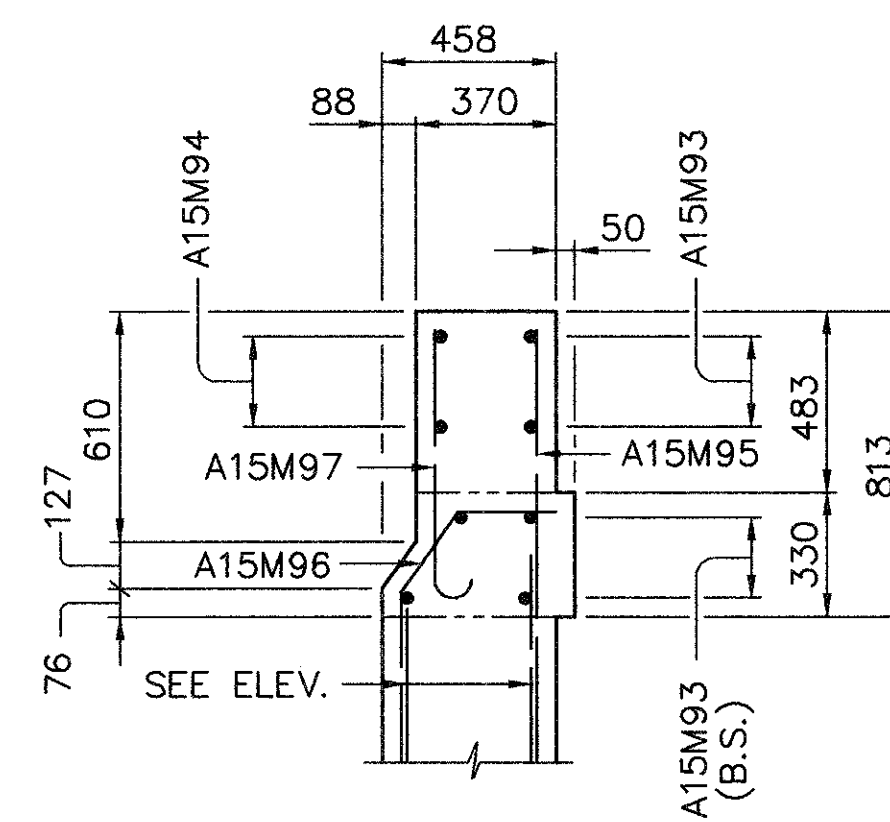
PLAN



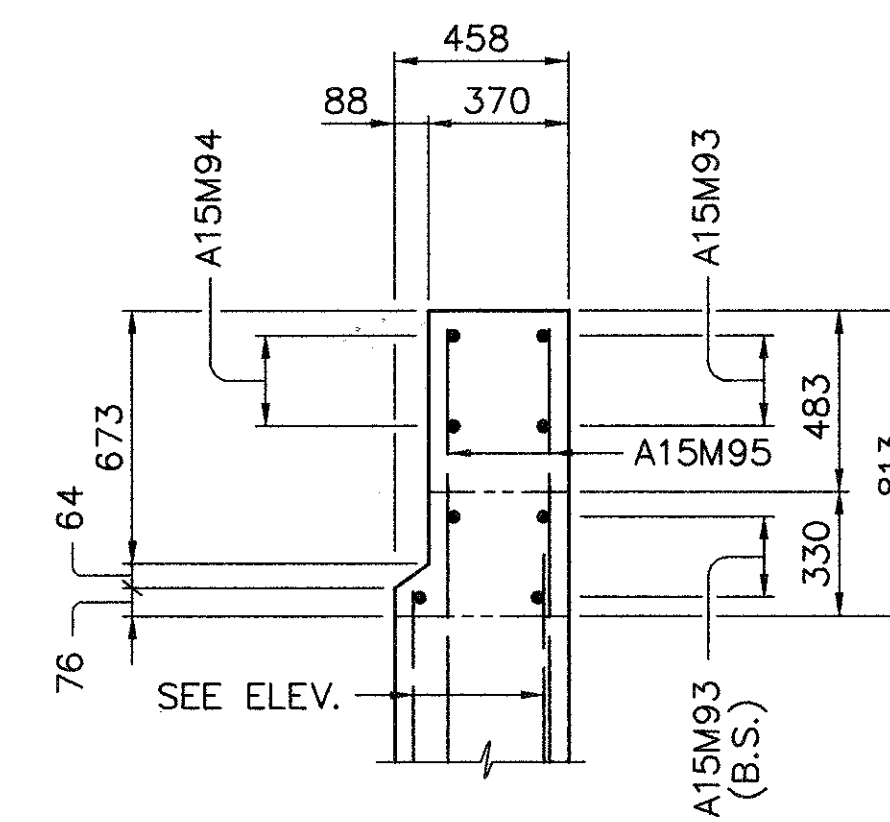
ELEVATION



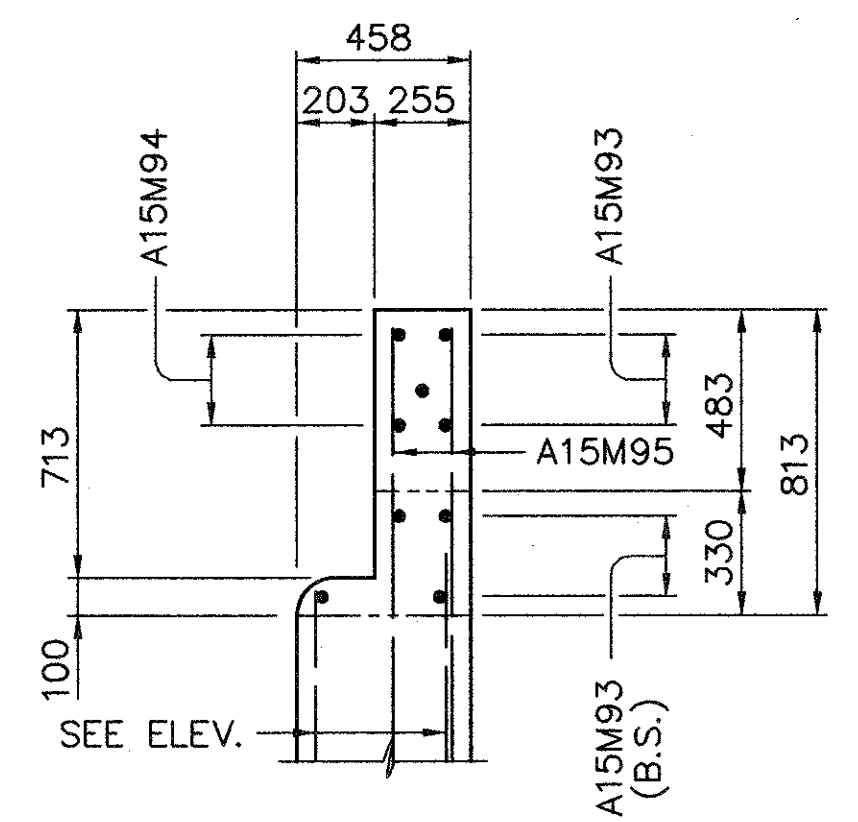
SECTION R



SECTION S



SECTION T



SECTION U

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS NOTED OTHERWISE.
2. FOR ADDITIONAL, NOTES, SEE SHEET NO. 13/27.
3. FOR LOCATION OF TRANSITION "A", SEE SHEET NO. 13, 17 AND 19/27.

TRANSITION DETAILS
 BRIDGE NO. JEF-7-54419
 S.R. 7 OVER CONRAIL R.R. AND YELLOW CREEK

JEF/COL-7-53.62/0.00

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DESIGNED
A.D.

CHECKED
SPT

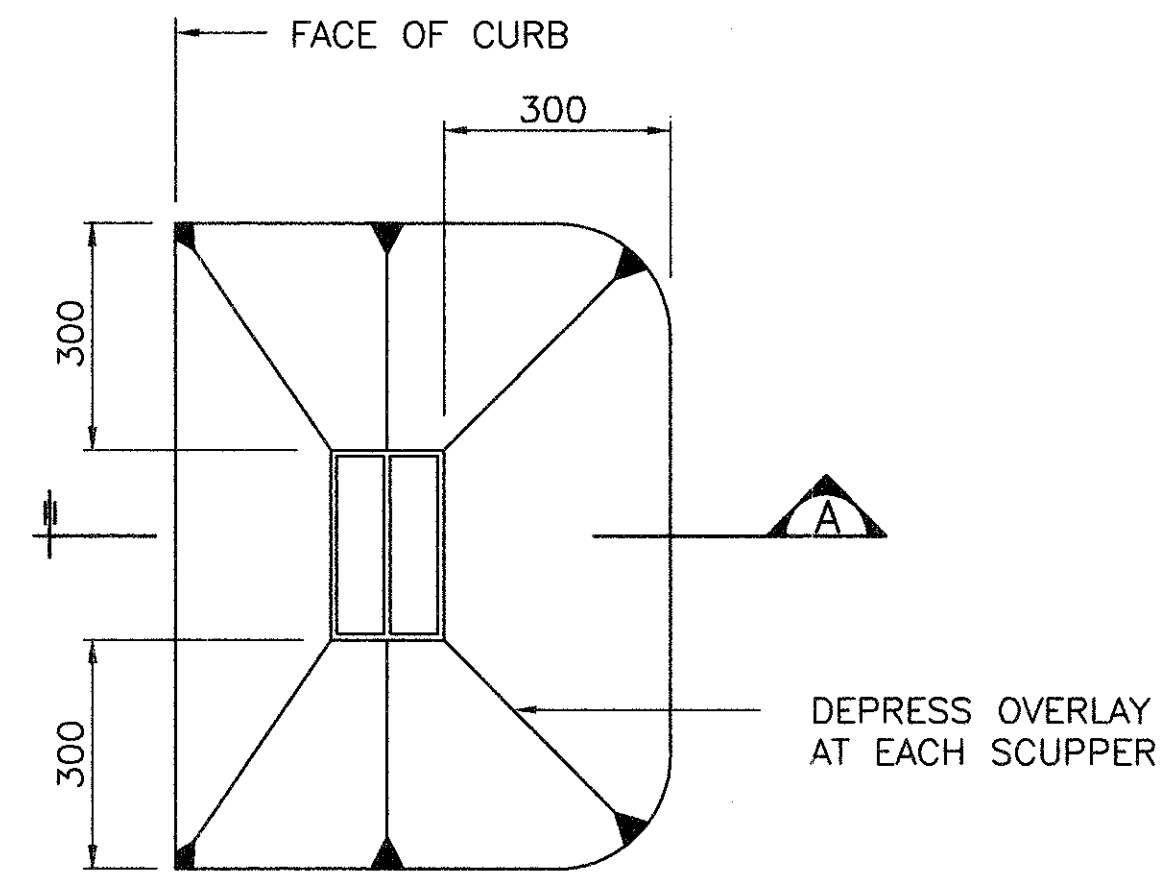
DRAWN
J.H.

REVISED

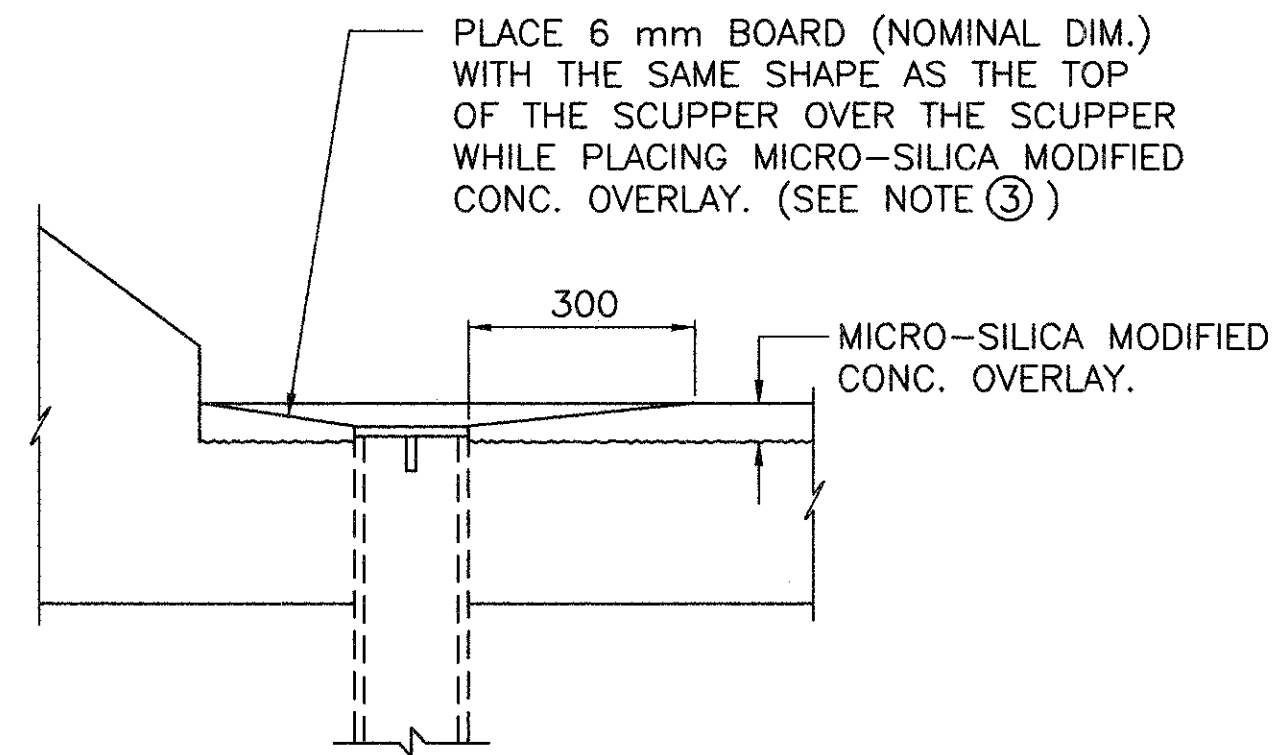
REVIEWED
M.M.

DATE
2/5/90

STRUCTURE FILE NO.

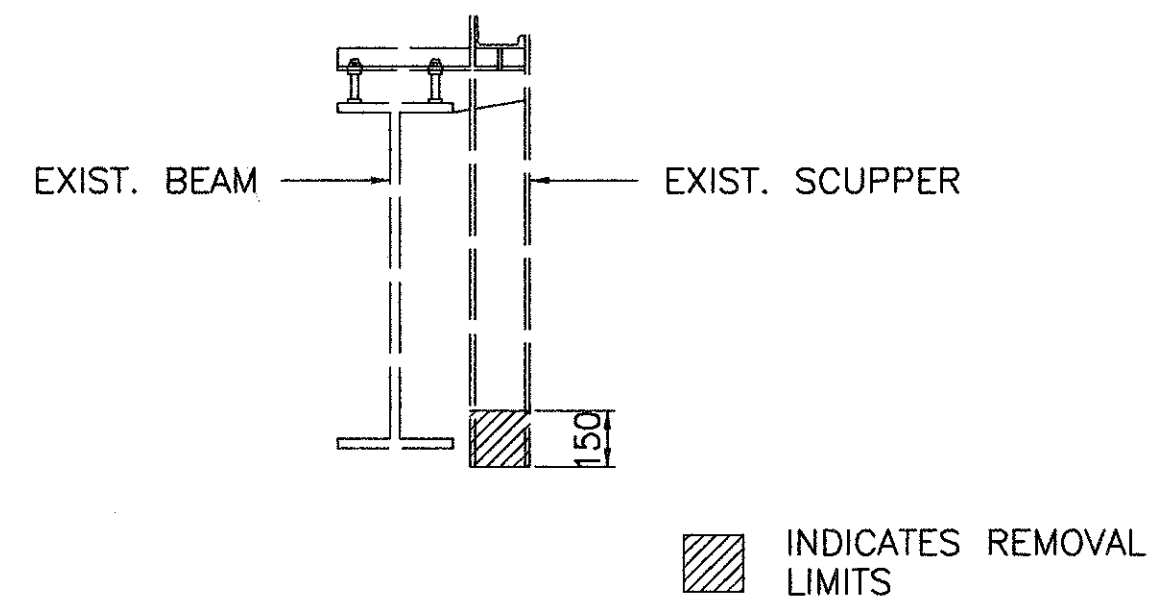


PLAN

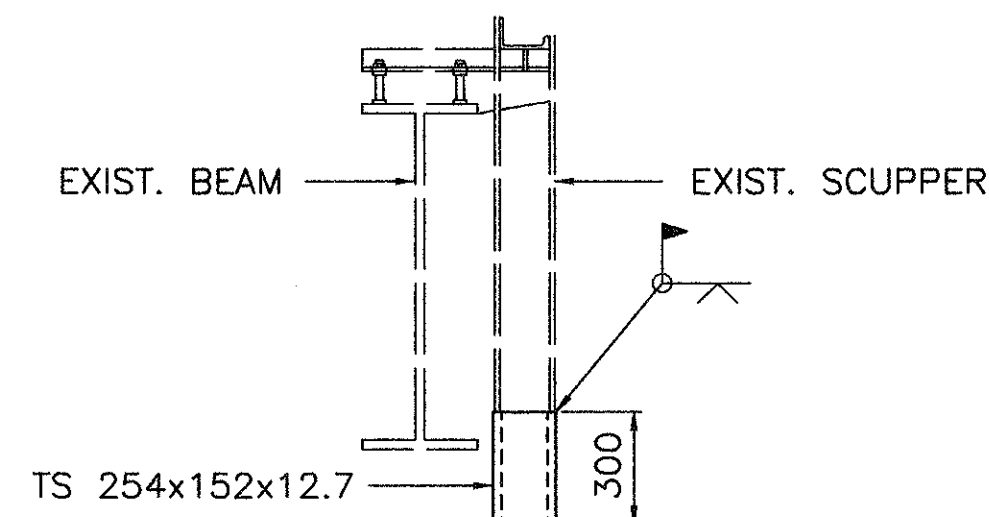


SECTION A

DETAIL AT SCUPPERS



LIMITS OF REMOVAL AT SCUPPERS



NOTE: ALL WELDS TO BE COMPLETE PENETRATION GROOVE WELDS.

SCUPPER EXTENSION DETAIL

NOTES

1. FOR LOCATION OF SCUPPERS, SEE SHEET NO. 10/27.
2. PRIOR TO INSTALLING SCUPPER EXTENSIONS, EXISTING SCUPPERS SHALL BE THOROUGHLY CLEANED OF ALL DEBRIS OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. PAYMENTS FOR CLEANING THE EXISTING SCUPPERS AND MODIFICATION AT SCUPPERS IS INCLUDED WITH ITEM SPECIAL, MICRO-SILICA MODIFIED CONCRETE OVERLAY (56 mm).
3. ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS NOTED OTHERWISE.
4. THE REQUIREMENT OF CMS SECTION 518.06 TO GALVANIZE THE SCUPPER EXTENSION MATERIAL SHALL BE WAIVED.
5. SCUPPERS SHALL BE EXTENDED PRIOR TO PAINTING THE EXISTING STEEL USING SYSTEM OZEU,

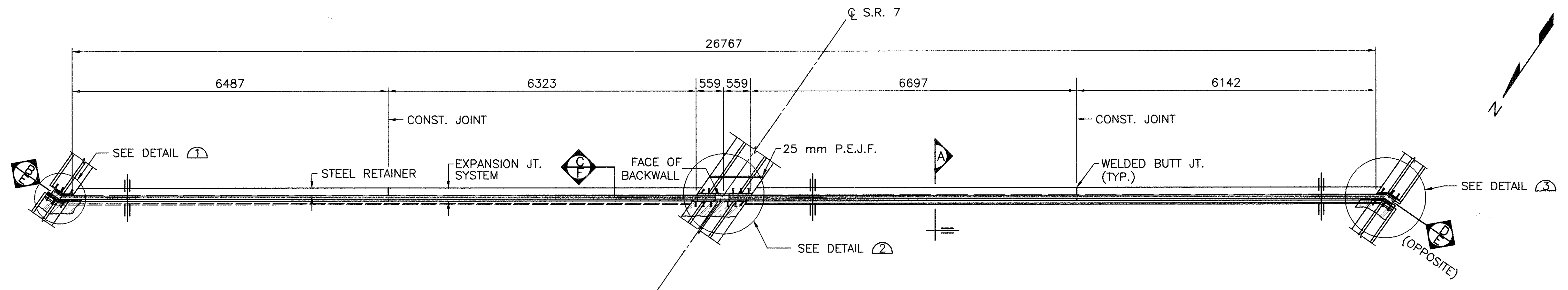
DESIGNED	DRAWN	REVIEWED	DATE
A.D.	J.A.	M.M.	2/5/76
CHECKED	REVISED	STRUCTURE	FILE NO
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SCUPPER DETAILS
 BRIDGE NO. JEF-7-54419
 S.R. 7 OVER CONRAIL R.R. AND YELLOW CREEK

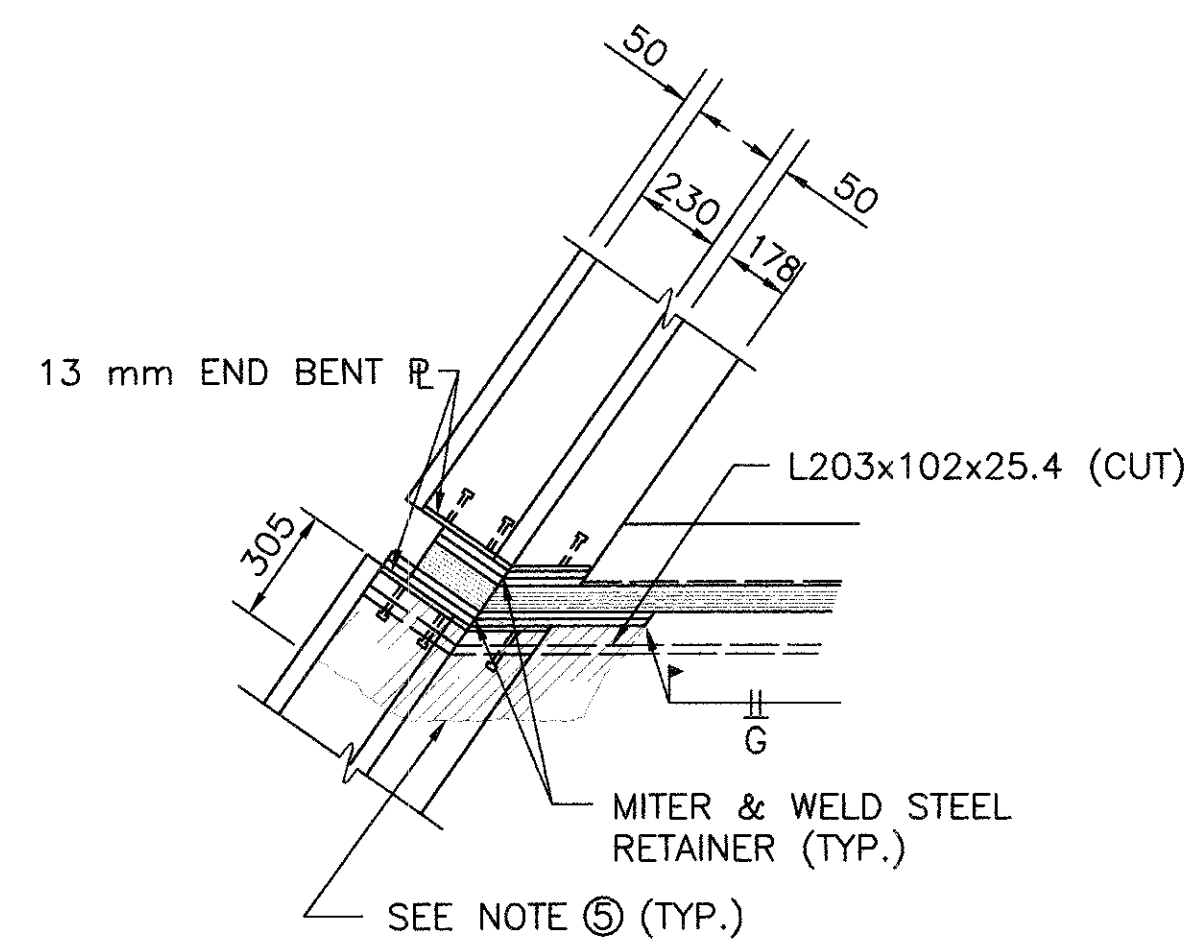
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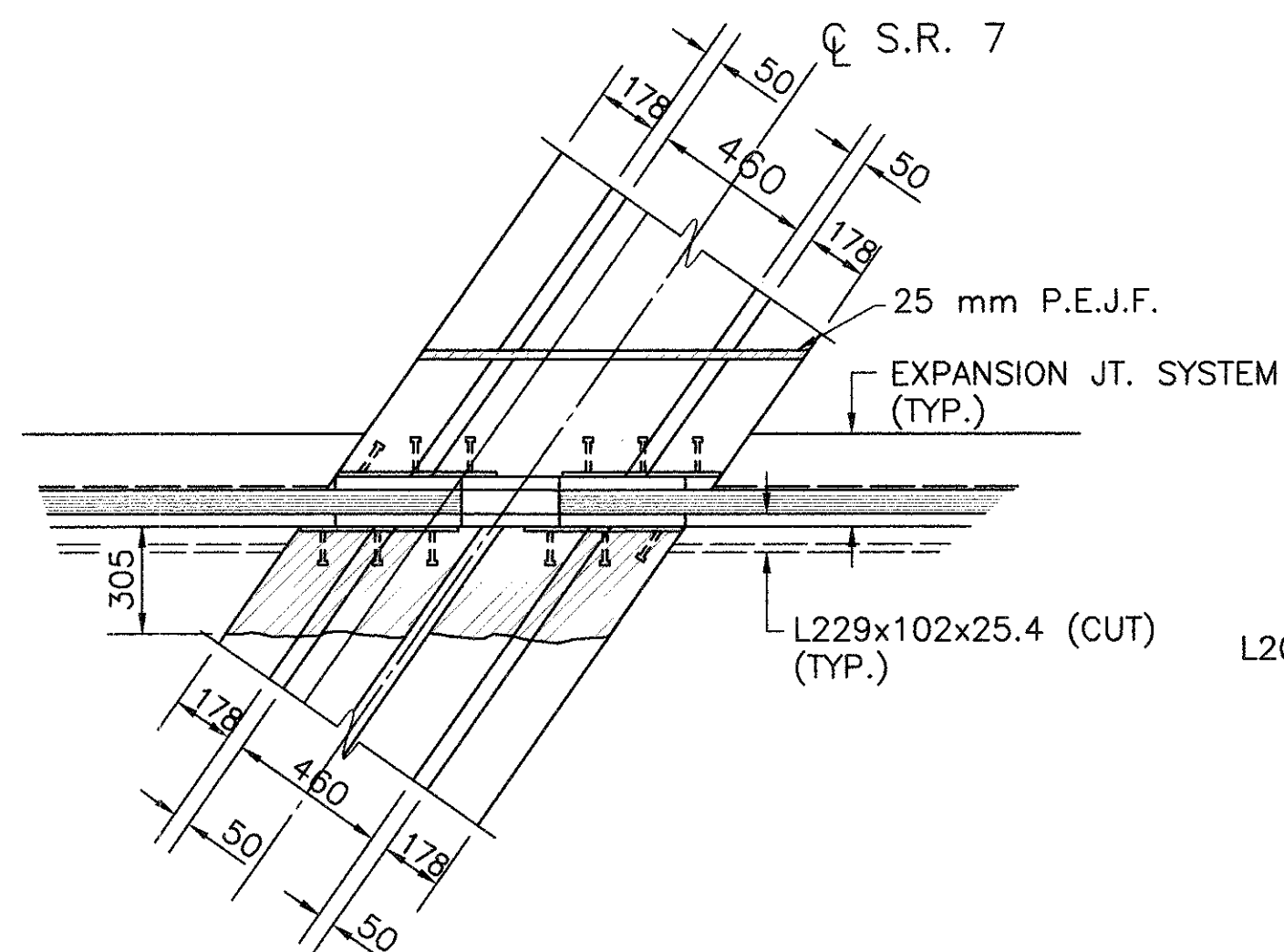


PLAN - REAR ABUTMENT

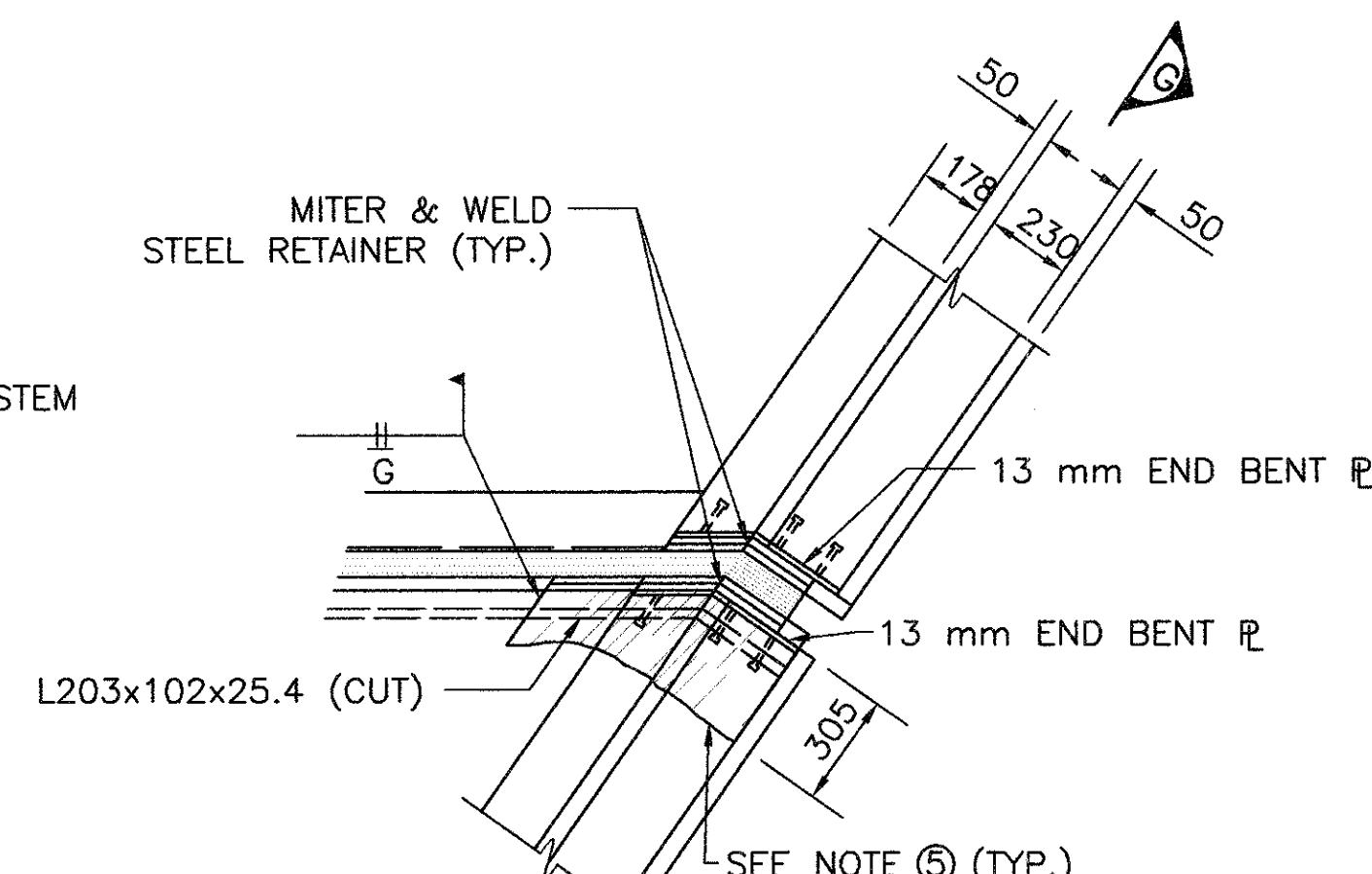


DETAIL 1

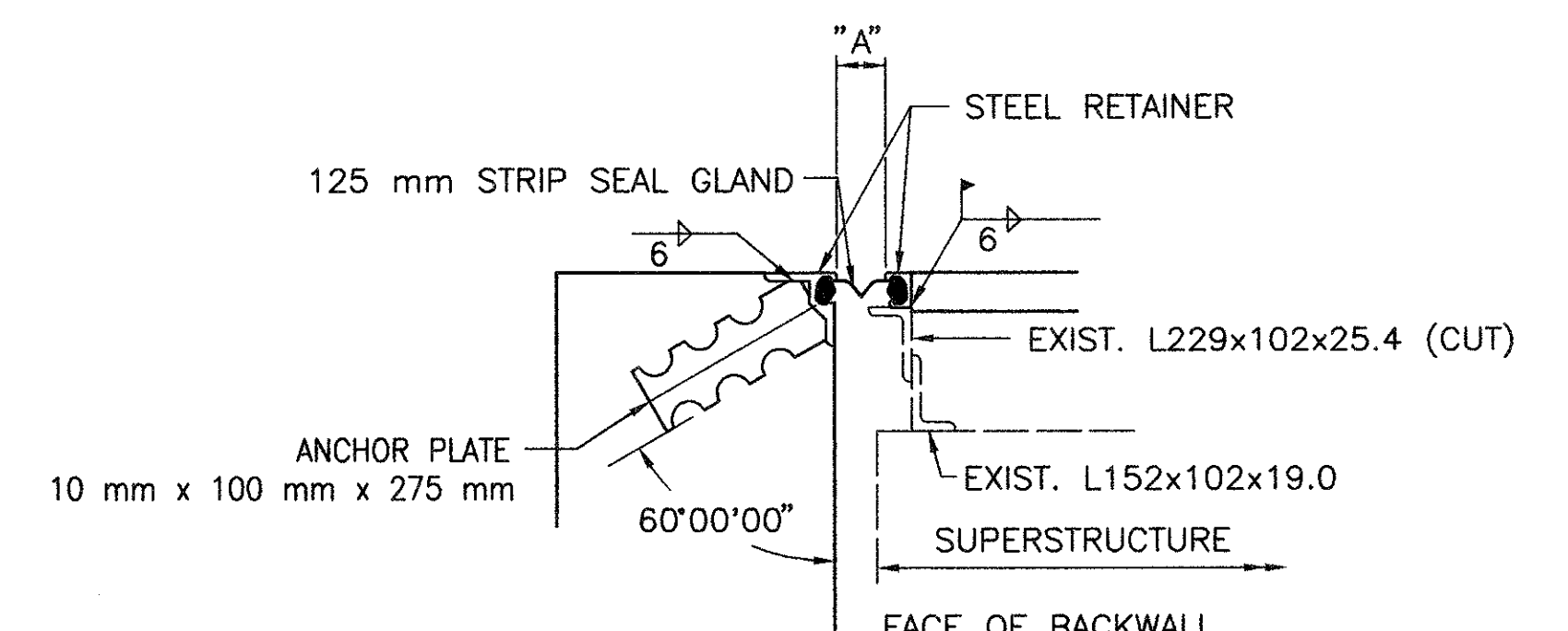
INDICATES REMOVAL LIMITS



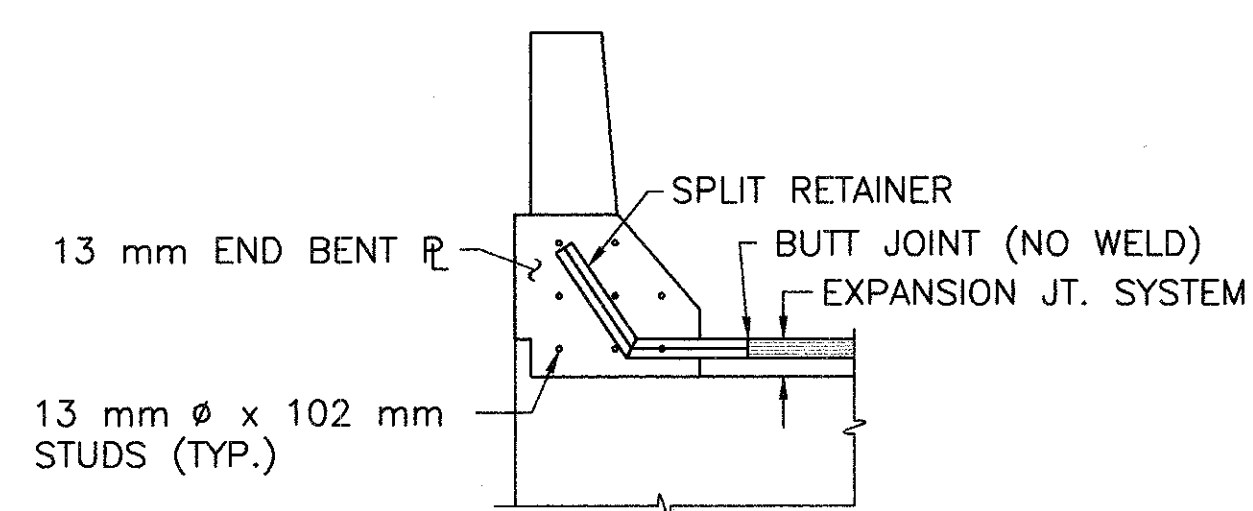
DETAIL 2



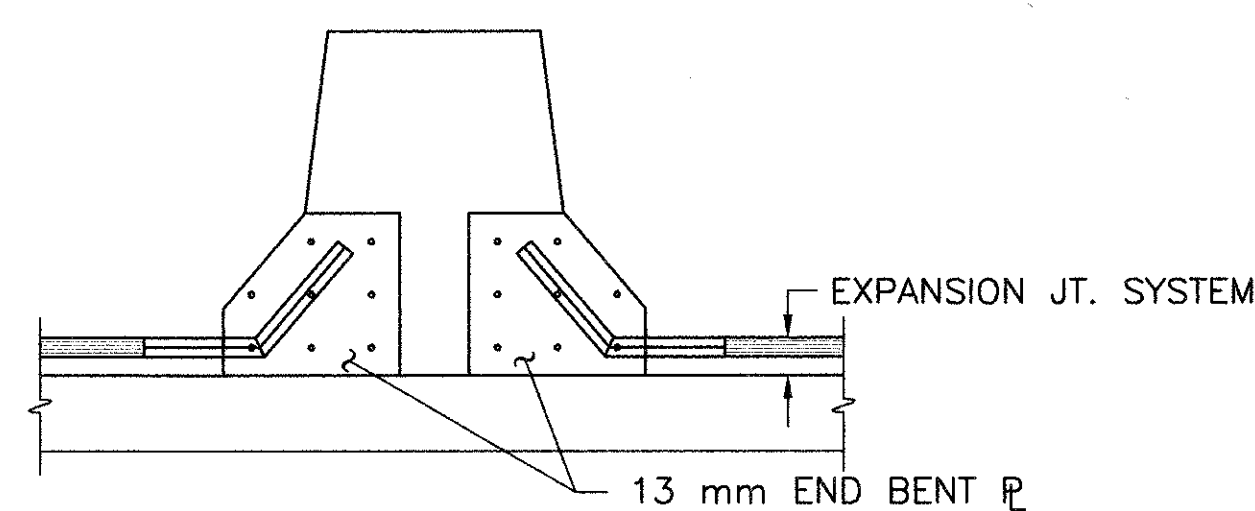
DETAIL 3



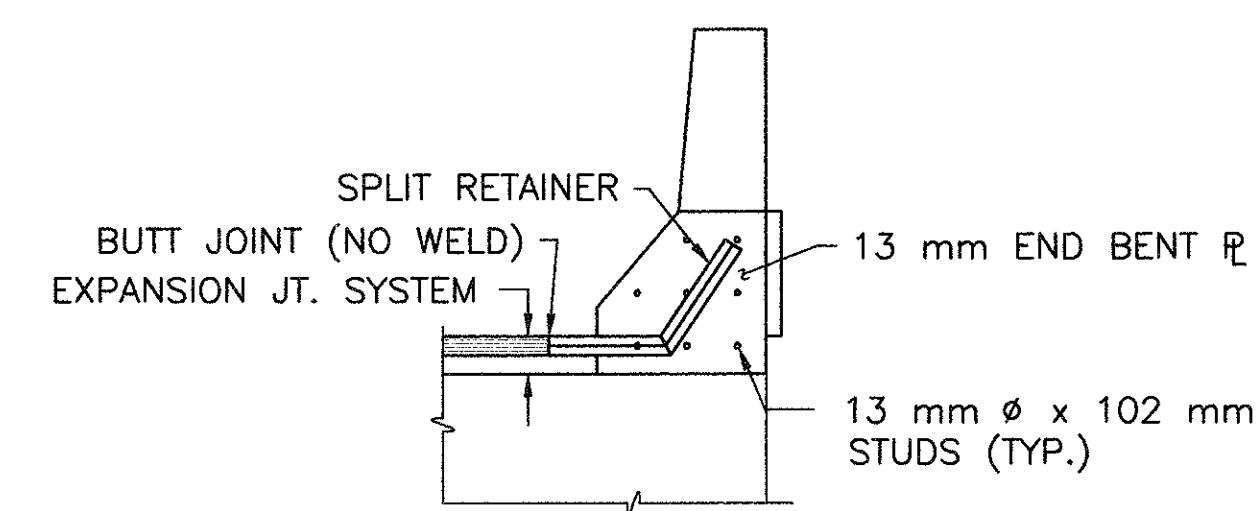
SECTION A



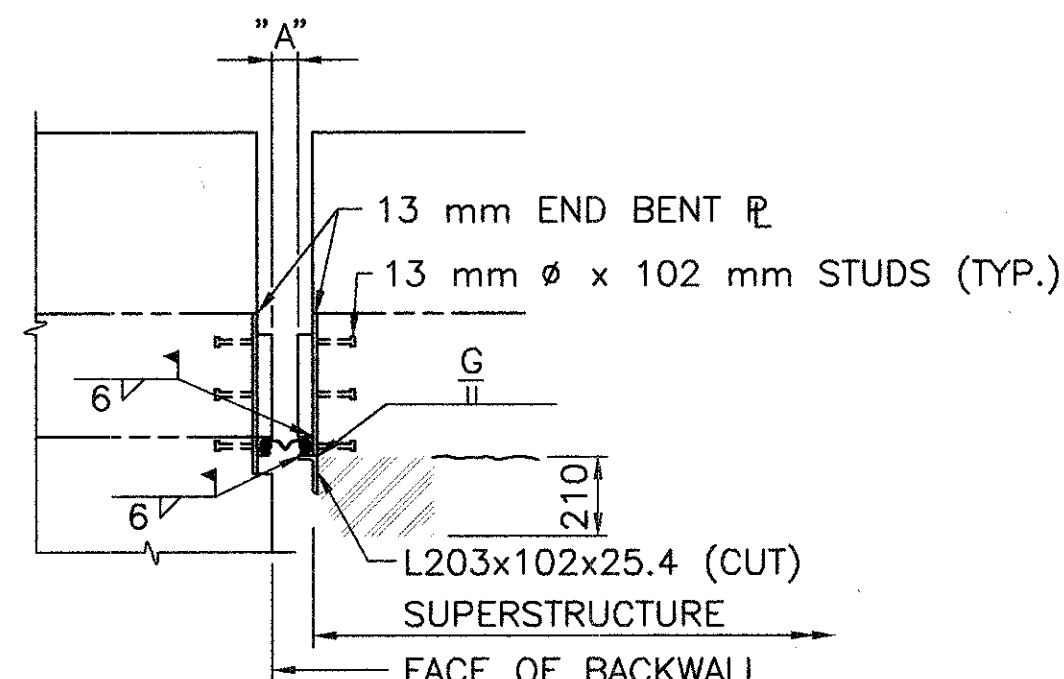
SECTION B



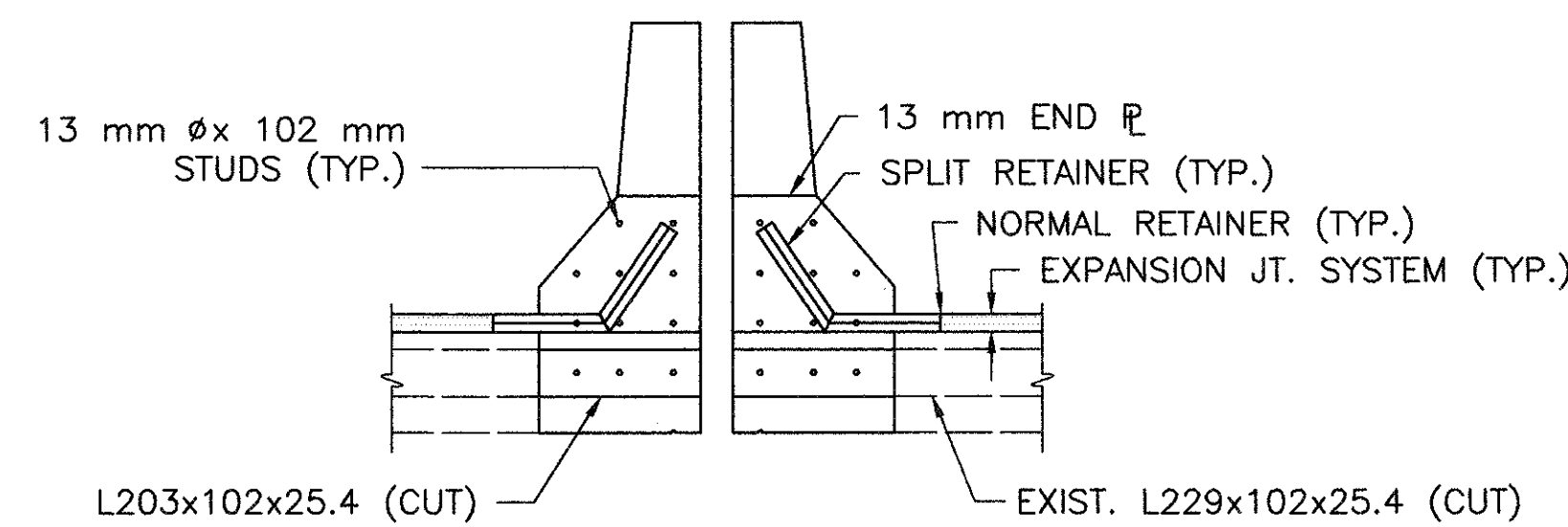
SECTION C



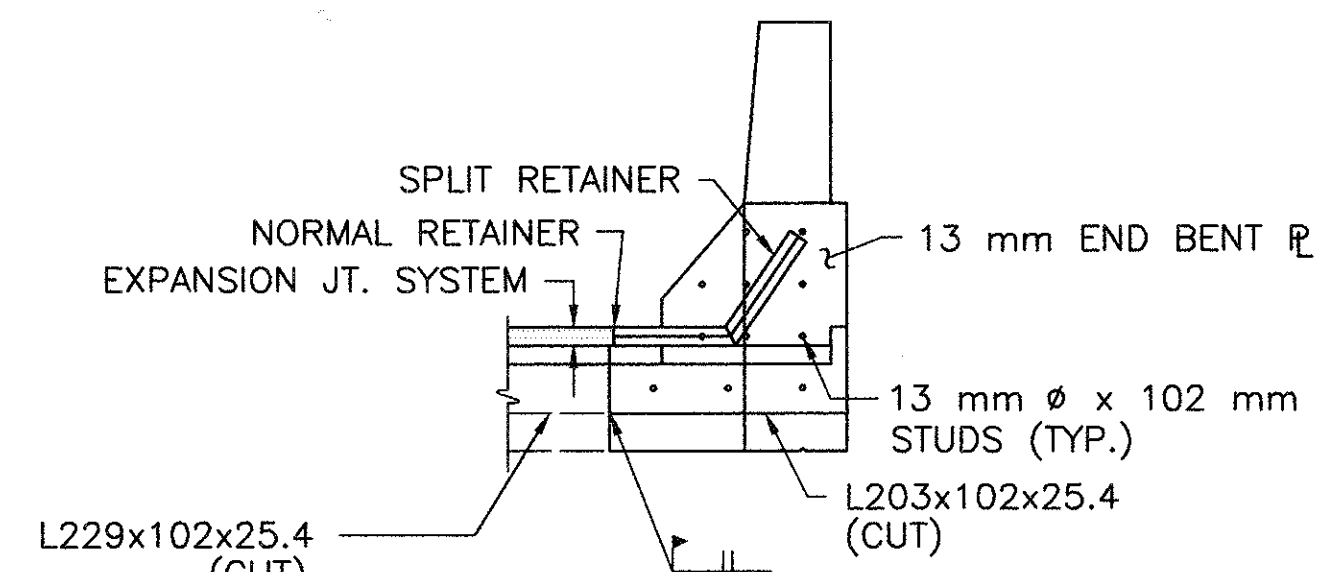
SECTION D



SECTION G



SECTION F



SECTION E

NOTES

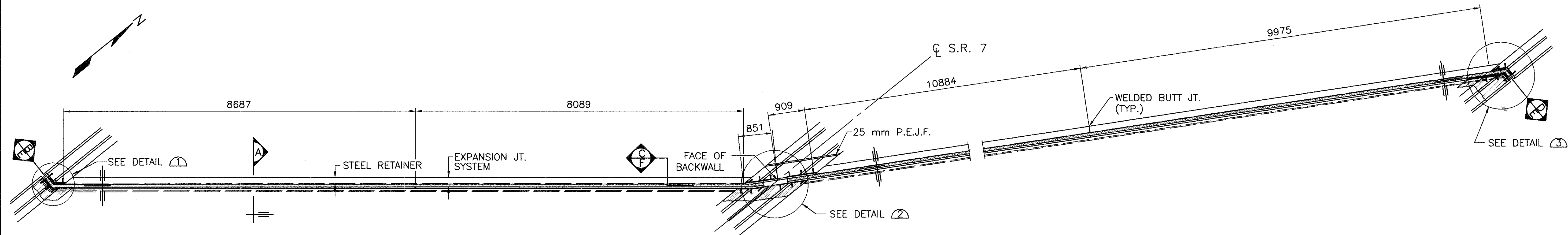
- ELASTOMERIC STRIP SEAL GLAND FOR THE EXPANSION JOINTS SHALL BE WATSON BOWMAN & ACME MODEL NO. S-300, D.S. BROWN MODEL NO. SS300, OR APPROVED EQUAL.
- FOR NOTE "PORTIONS OF STRUCTURE REMOVED" AND NOTE "ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL", SEE SHEET NO. 1/27.
- FOR ADDITIONAL DETAILS AND NOTES, REFER TO STANDARD BRIDGE DRAWING NO. EXJ-4-87M.
- FOR JOINT INSTALLATION DIMENSION "A", SEE SHEET NO. 23/27.
- REMOVE EXISTING CONCRETE AS REQUIRED TO INSTALL EXPANSION JOINT EXTENSIONS. SALVAGE EXISTING REINFORCING STEEL. REPLACE EXISTING CONCRETE WITH ITEM 511, CLASS S CONCRETE, SUPERSTRUCTURE. ALL WORK IS INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, FOR PAYMENT.
- ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS NOTED OTHERWISE.

DESIGNED	DRAWN	REVIEWED	DATE
A.D.	J.H.	M.M.	2/5/96
CHECKED	REVIS	STRUCTURE	FILE NO
SPT			

EXPANSION JOINT DETAILS
BRIDGE NO. JEF-7-54419
S.R. 7 OVER CONRAL R.R. AND YELLOW CREEK

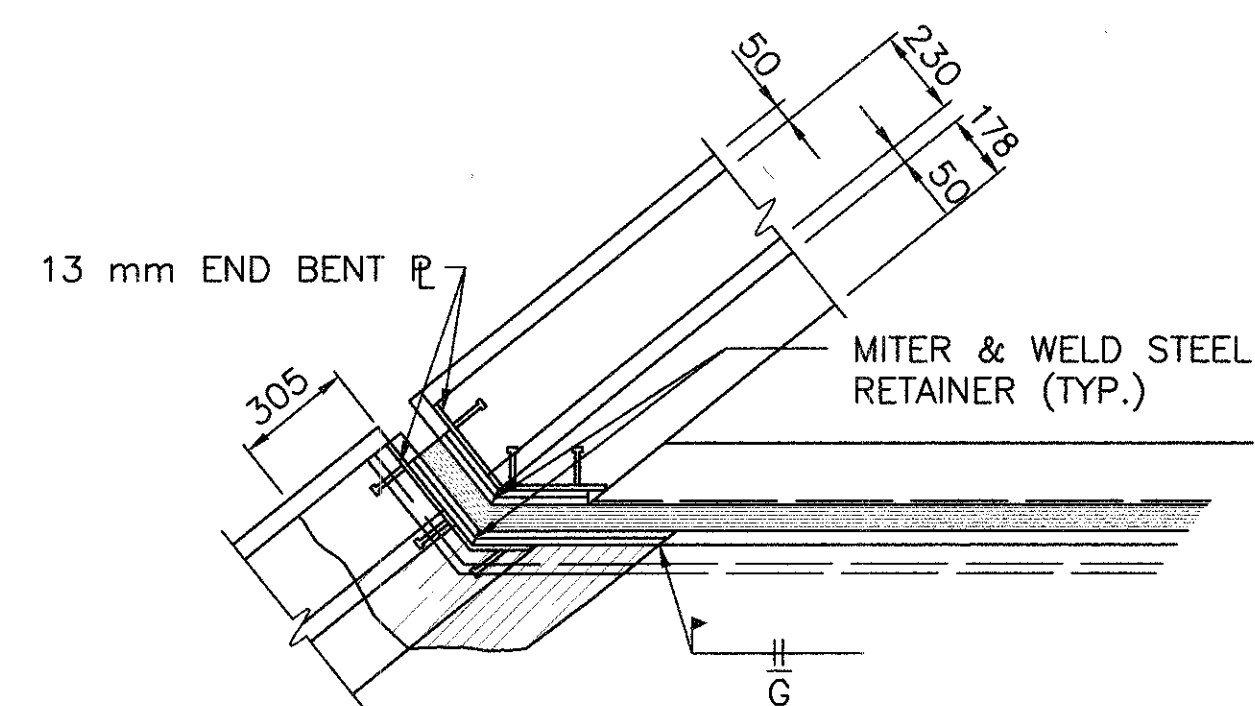
JEF/COL-7-53.62/0.00
22 27

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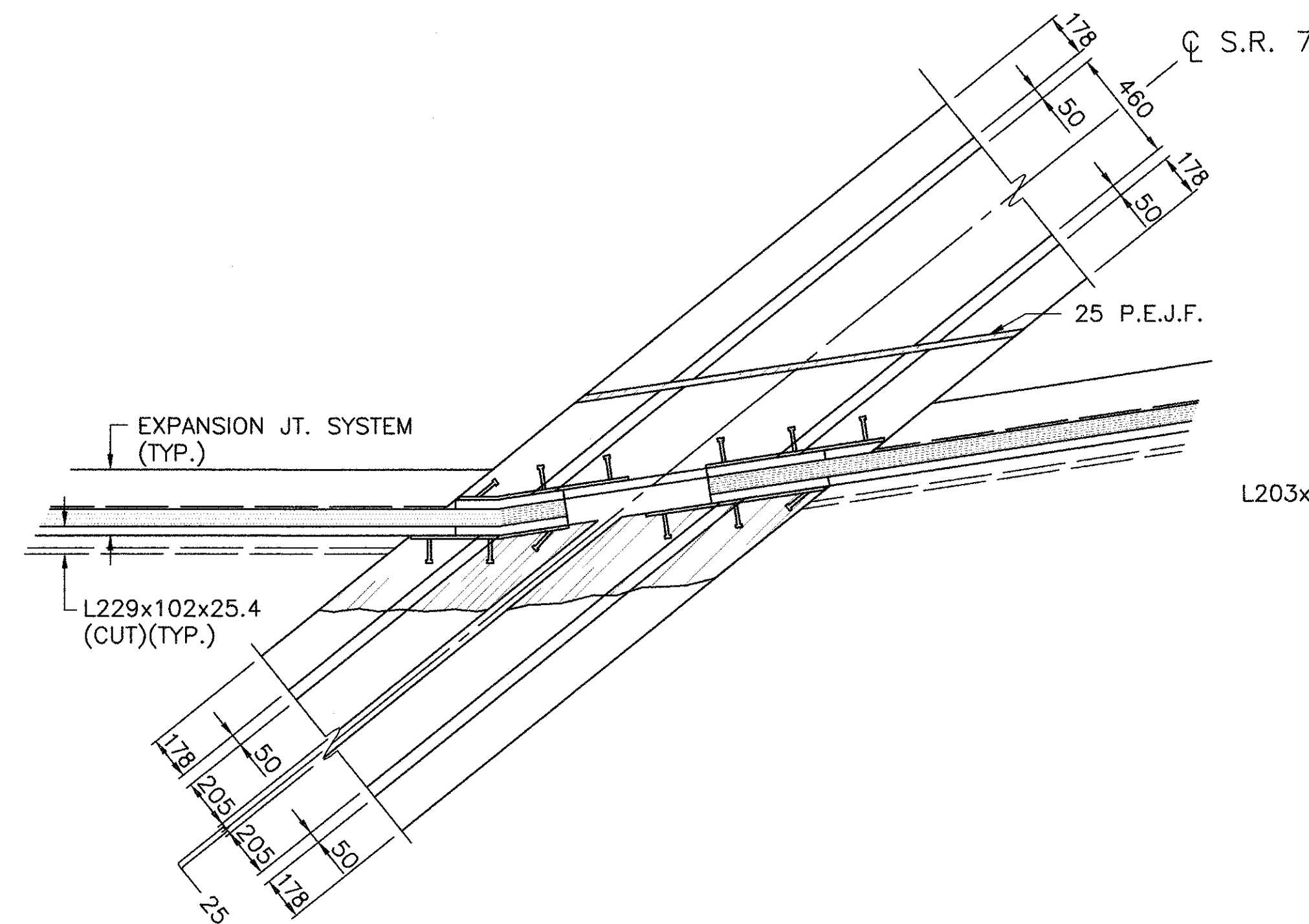


PLAN - FORWARD ABUTMENT

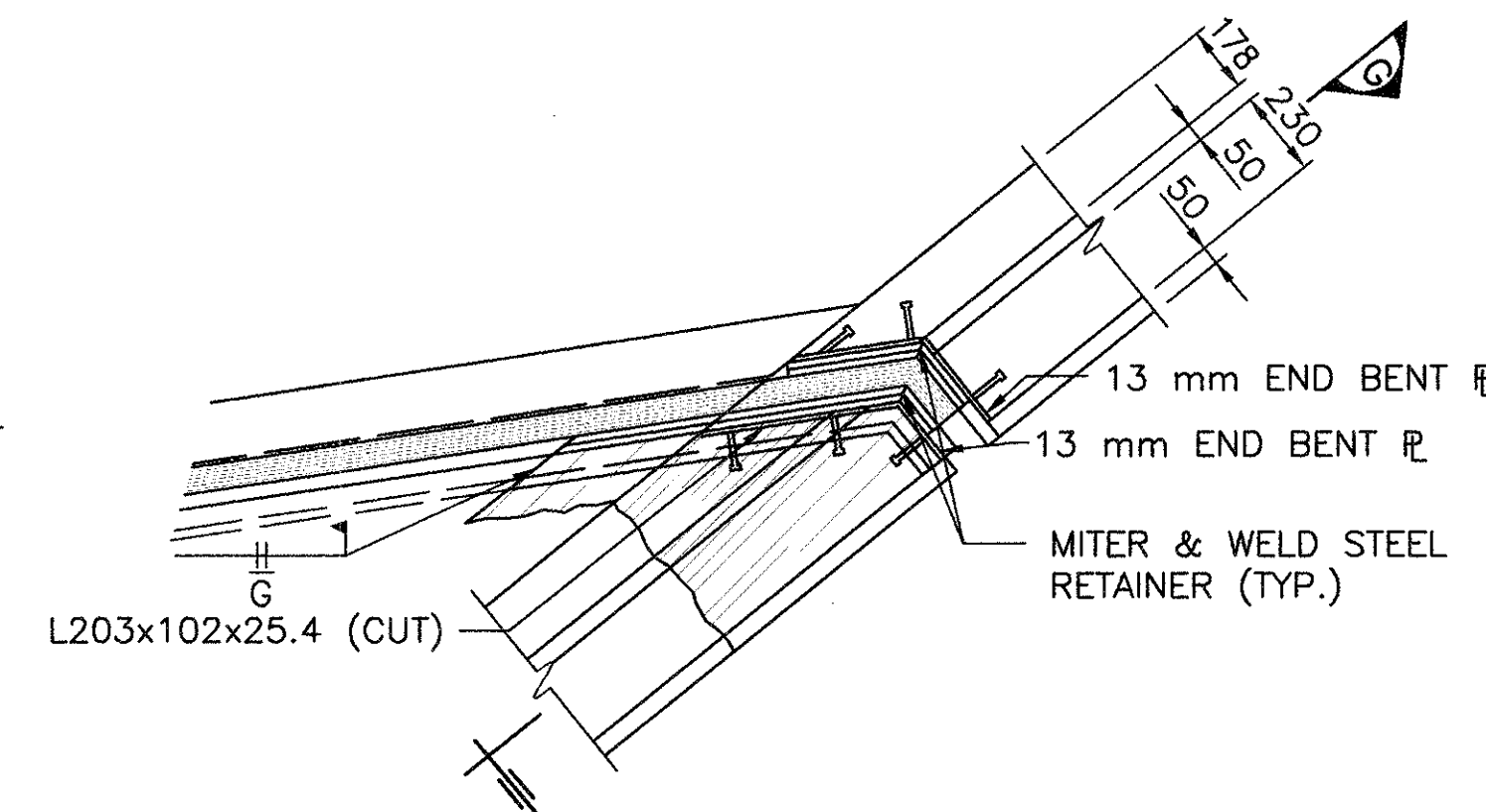
INDICATES REMOVAL LIMITS



DETAIL 1

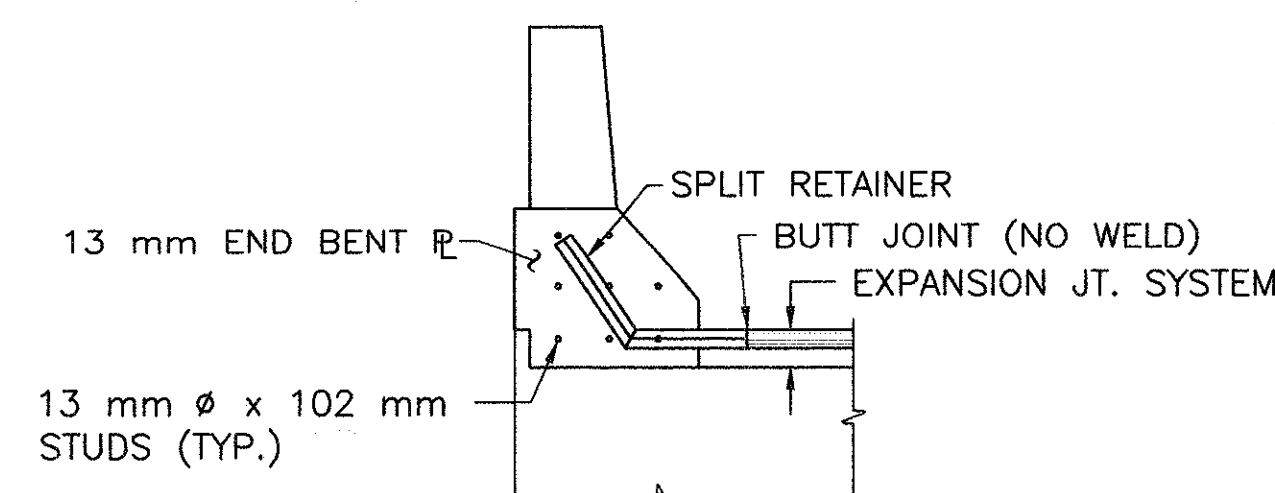


DETAIL 2

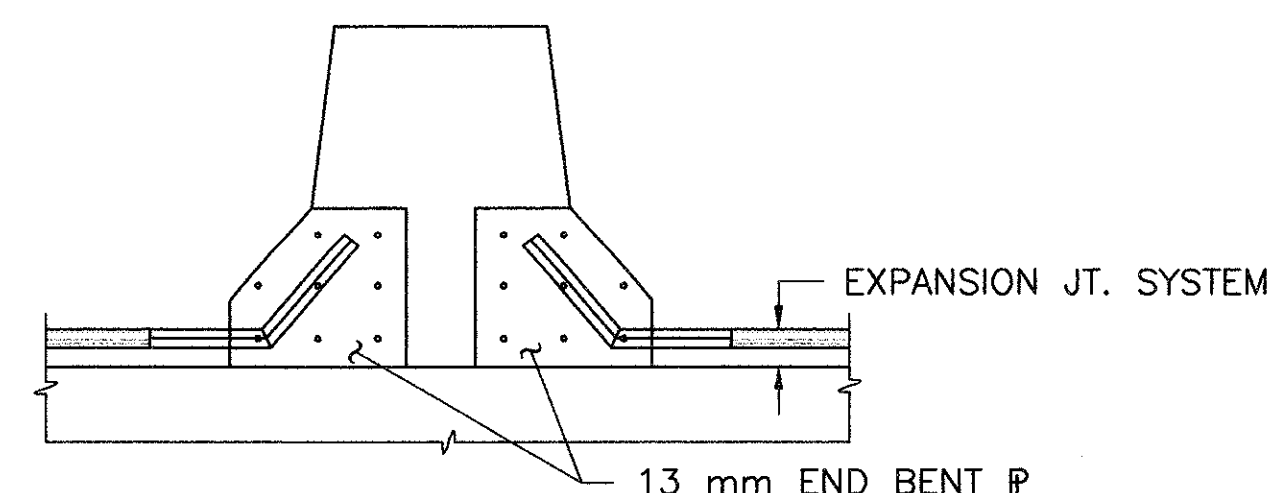


DETAIL 3

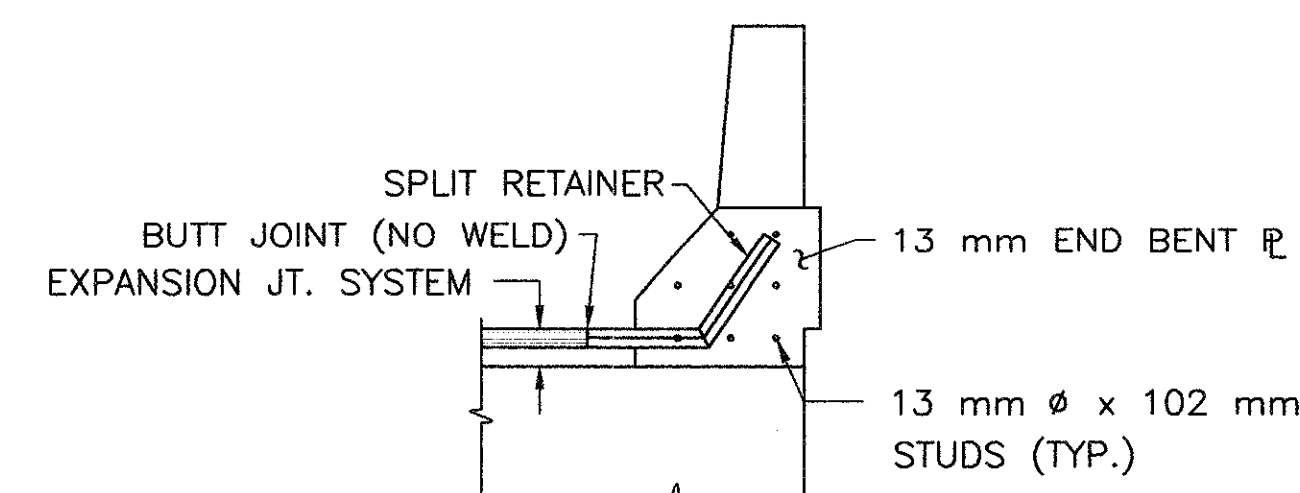
TEMPERATURE @ JOINT INSTALLATION (C)	DIM. "A" (mm)	
	REAR ABUT.	FRWD. ABUT.
30°	53	65
25°	58	68
20°	63	70
15°	68	73
10°	73	76
5°	78	78
0°	83	81



SECTION B



SECTION C



SECTION D

- NOTES
1. FOR ADDITIONAL NOTES, SEE SHEET NO. 22/27.
 2. FOR SECTIONS A, E, F, AND G, SEE SHEET NO. 22/27.
 3. ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS NOTED OTHERWISE

DESIGNED
A.D.

CHECKED
SPT

DRAWN
J.H.

REVIEWED
M.A.

DATE
2/5/96

STRUCTURE FILE NO.

EXPANSION JOINT DETAILS

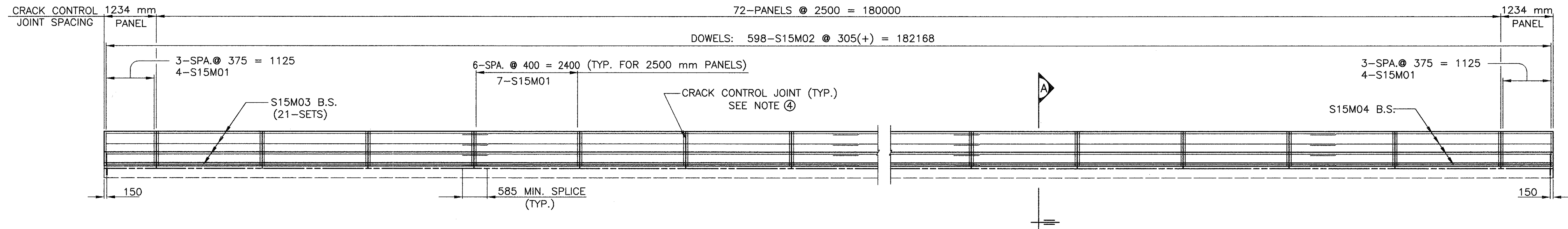
BRIDGE NO. JEF-7-54419

S.R. 7 OVER CONRAIL R.R. AND YELLOW CREEK

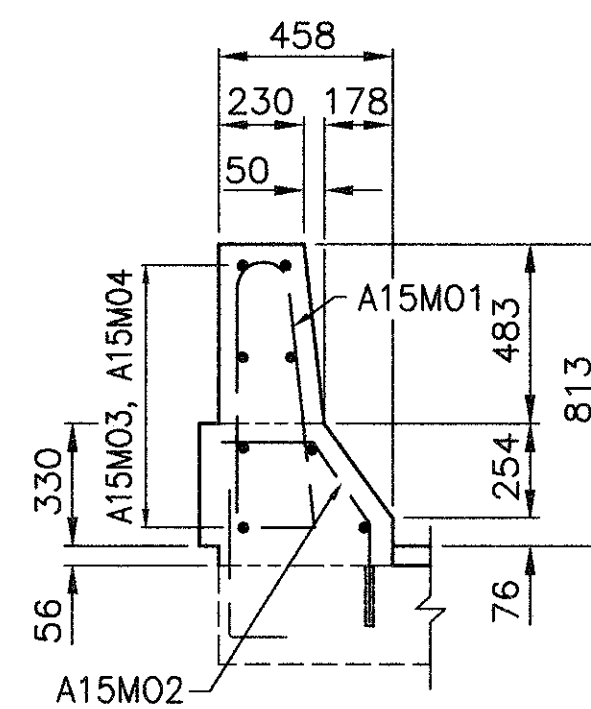
JEF/COL-7-53.62/0.00

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WEST PARAPET ELEVATION



SECTION A-A

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
3. FOR CONCRETE PARAPET NOTE, SEE SHEET NO. 1/27.
4. QUANTITIES OF CONCRETE AND REINFORCING STEEL FOR PARAPETS ARE INCLUDED WITH

ITEM 511, CLASS S CONCRETE, SUPERSTRUCTURE, FOR PAYMENT.

WEST PARAPET DETAILS
BRIDGE NO. JEF-7-54419
S.R. 7 OVER CONRAIL R.R. AND YELLOW CREEK

JEF/COL-7-53.62/0.00

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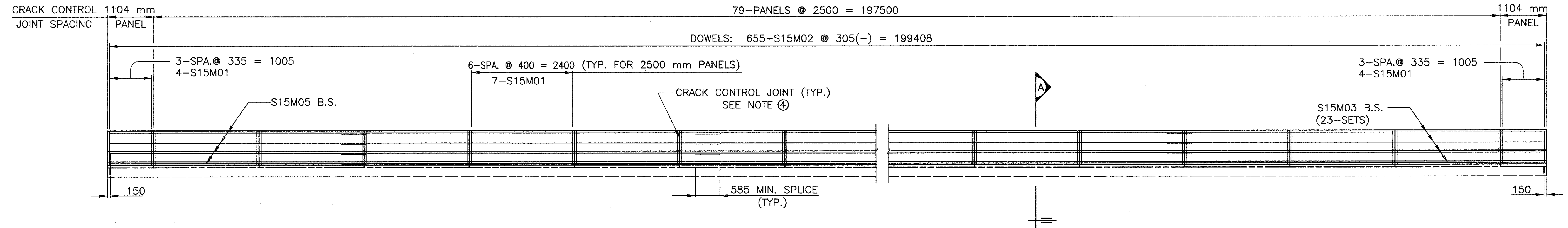
DESIGNED
A.D.
CHECKED
SPT

DRAWN
J.H.

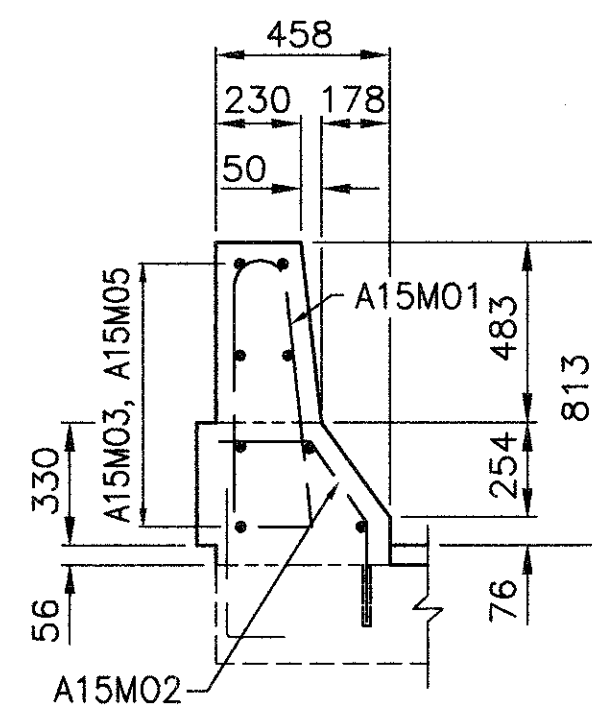
REVIEWED
M.M.

DATE
2/5/96

STRUCTURE FILE NO.



EAST PARAPET ELEVATION



SECTION A

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
3. FOR CONCRETE PARAPET NOTE, SEE SHEET NO. 1/27.
4. QUANTITIES OF CONCRETE AND REINFORCING STEEL FOR PARAPETS ARE INCLUDED WITH

ITEM 511, CLASS S CONCRETE, SUPERSTRUCTURE, FOR PAYMENT.

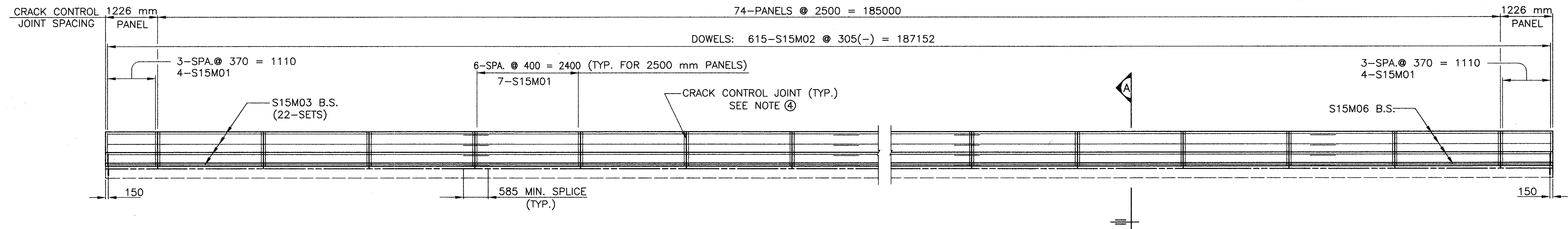
EAST PARAPET DETAILS
BRIDGE NO. JEF-7-54419
S.R. 7 OVER CONRAIL R.R. AND YELLOW CREEK

JEF/COL-7-53.62/0.00

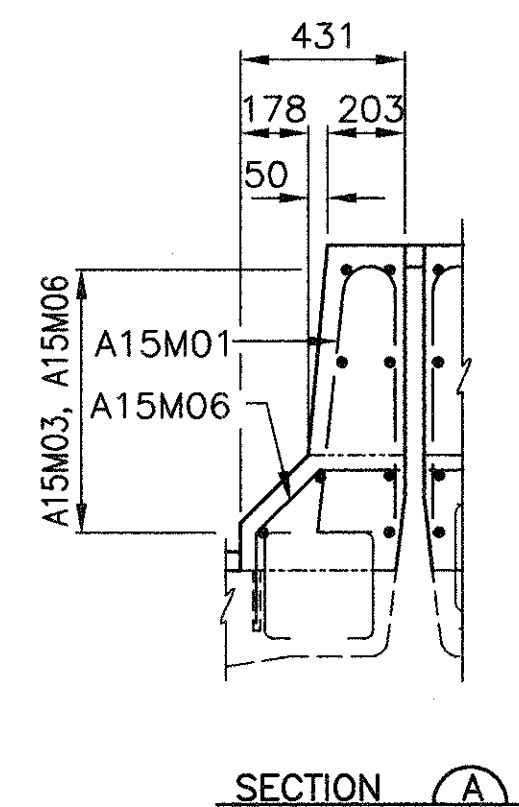
DESIGNED	DRAWN	REVIEWED	DATE
A.D.	V.H.	M.M.	4/5/92
CHECKED	REVISED	STRUCTURE	FILE NO.
SPT			

25 / 27

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TYP. MEDIAN BARRIER ELEVATION



NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
 2. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
 3. FOR CONCRETE PARAPET NOTE, SEE SHEET NO. 1/27.
 4. QUANTITIES OF CONCRETE AND REINFORCING STEEL FOR PARAPETS ARE INCLUDED WITH
- ITEM 511, CLASS S CONCRETE, SUPERSTRUCTURE, FOR PAYMENT.

MEDIAN BARRIER DETAILS
BRIDGE NO. JEF-7-54419
S.R. 7 OVER CONRAIL R.R. AND YELLOW CREEK

JEF/COL-7-53.62/0.00

26 / 27

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DESIGNED
A.D.

CHECKED
SPT

DRAWN
J.H.

REVIEWED
M.M.

DATE
2/5/94

STRUCTURE FILE NO.

REINFORCING SCHEDULE

BRIDGE NO. JEF-7-53873 SUPERSTRUCTURE										
MARK	NUMBER			LENGTH (mm)	WEIGHT (kg)	TYPE	DIMENSIONS (mm)			INC.
	REAR	FRWD.	TOTAL				A	B	C	
S15M01	272		272	1702	718	113	790	710		
S15M02	316		316	686	337	111	265	153	180	
S15M03	64		64	9000	894	STR.				
S15M04	32		32	7400	367	STR.				

BRIDGE NO. JEF-7-53873 ABUTMENTS										
MARK	NUMBER			LENGTH (mm)	WEIGHT (kg)	TYPE	DIMENSIONS (mm)			INC.
	REAR	FRWD.	TOTAL				A	B	C	
A15M02	2		2	1016	3	103	790	150		
A15M03	4		4	1092	7	111	265	330	450	
A15M04	8		8	615	8	STR.				
A15M05		2	2	864	3	103	660	150		
A15M06		4	4	965	6	111	265	275	375	
A15M07		8	8	515	6	STR.				
A15M92	14	14	28	790	34	STR.				
A15M93	8	8	16	4600	114	STR.				
A15M94	4	4	8	4496	56	121	3350			
A15M95	4	4	8	4350	54	STR.				
A15M96	16	16	32	1118	55	102	910	255		
A15M97	4	4	8	940	12	112	225	153	230	
A15M98	22	22	44	965	66	101	790			
A15M99	12	12	24	686	25	111	265	153	180	
A20M01	4	4	8	3150	56	STR.				

BRIDGE NO. JEF-7-54419 SUPERSTRUCTURE										
MARK	NUMBER			LENGTH (mm)	WEIGHT (kg)	TYPE	DIMENSIONS (mm)			INC.
	REAR	FRWD.	TOTAL				A	B	C	
S15M01	2125		2125	1702	5613	113	790	710		
S15M02	2483		2483	686	2643	111	265	153	180	
S15M03	704		704	9000	9834	STR.				
S15M04	8		8	5700	71	STR.				
S15M05	8		8	6100	76	STR.				
S15M06	16		16	2300	57	STR.				

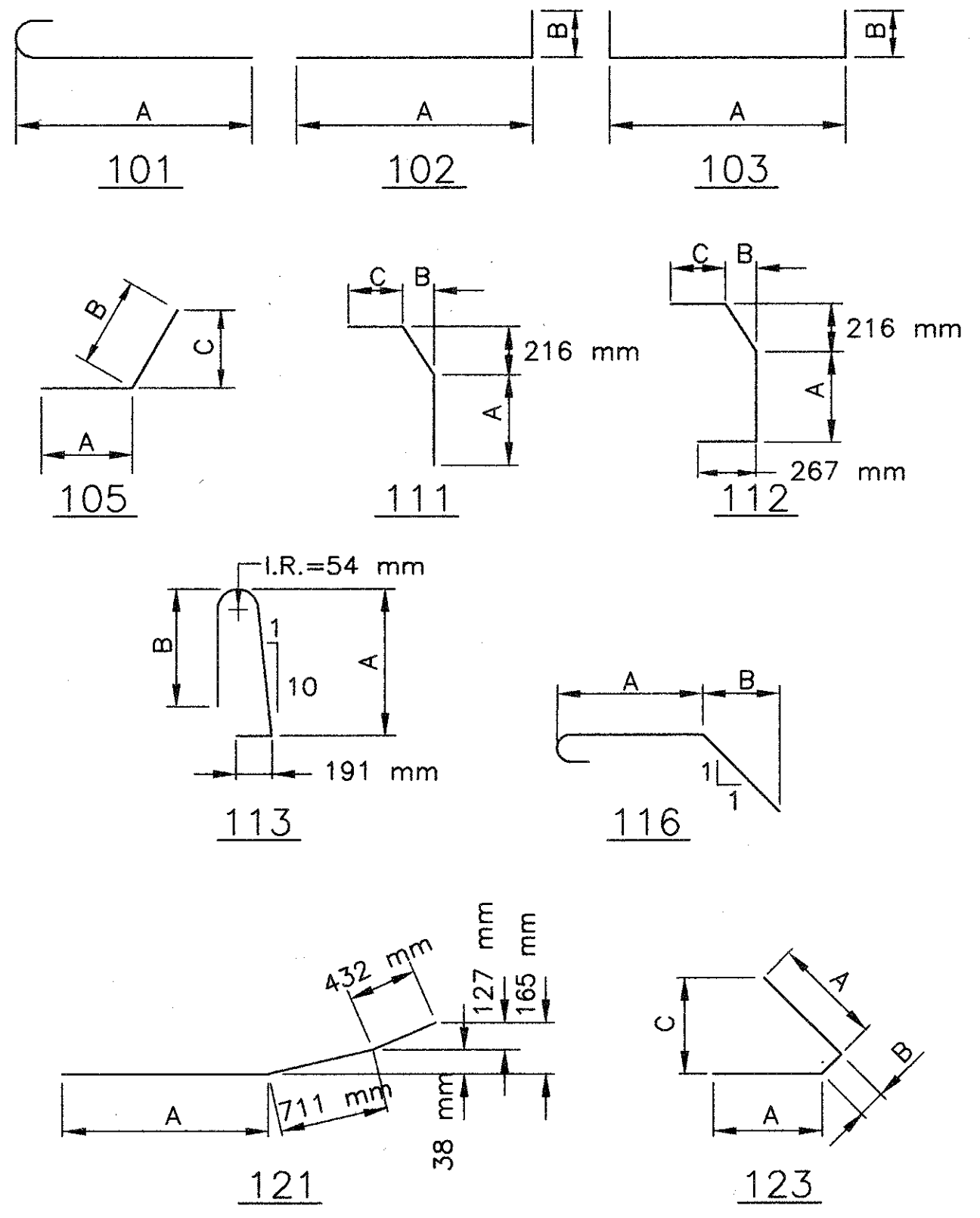
BRIDGE NO. JEF-7-54419 ABUTMENTS										
MARK	NUMBER			LENGTH (mm)	WEIGHT (kg)	TYPE	DIMENSIONS (mm)			INC.
	REAR	FRWD.	TOTAL				A	B	C	
A15M02	8		8	5950	74	STR.				
A15M03	16		16	7600	189	STR.				
A15M04	8		8	5650	70	STR.				
A15M05	4		4	1499	10	105	760	760	625	
A15M06	4		4	1702	10	123	760	230	760	
A15M07	2		2	686	2	103	460	150		
A15M08SER.	2 SER. OF 5		2 SER. OF 5	2362 TO 3150	43	103	355 TO 355	1050 TO 1450		197

BRIDGE NO. JEF-7-54419 ABUTMENTS (CONTINUED)										
MARK	NUMBER			LENGTH (mm)	WEIGHT (kg)	TYPE	DIMENSIONS (mm)			INC.
	REAR	FRWD.	TOTAL				A	B	C	
A15M09	36		36	1600	89	STR.				
A15M10	4		4	2718	17	105	2100	610	130	
A15M11	6		6	5900	55	STR.				
A15M12	2		2	3900	12	STR.				
A15M13	16		16	2300	57	STR.				
A15M14	3		3	1500	7	STR.				

A15M15SER.	2 SER. OF 5		2 SER. OF 5	2235 TO 2997	41	103	355 TO 355	990 TO 1370		191
A15M16	2		2	4000	12	STR.				
A15M17	8		8	310	4	STR.				
A15M18	6	14	20	6100	189	STR.				
A15M19	4		4	965	6	111	510	185	180	
A15M20		8	8	555	7	STR.				
A15M21		4	4	1041	6	111	510	300	180	
A15M22		8	8	5130	64	STR.				
A15M23		8	8	3480	43	STR.				
A15M24		8	8	5550	69	STR.				
A15M25		8	8	3050	38	STR.				
A15M26		4	4	1702	10	123	760	230	655	
A15M27		142	142	850	187	STR.				
A15M28		8	8	950	12	STR.				
A15M29		6	6	4500	42	STR.				
A15M30		14	14	8150	177	STR.				
A15M31		8	8	3600	45	STR.				

A15M32SER.		1 SER. OF 10	1 SER. OF 10	1750 TO 1930	29	STR.				20
A15M33SER.		1 SER. OF 9	1 SER. OF 9	1700 TO 1830	24	STR.				16
A15M34		8	8	3850	48	STR.				
A15M35		14	14	6400	139	STR.				
A15M36		10	10	1650	25	STR.				
A15M37		16	16	1370	34	STR.				
A15M38		4	4	1524	10	105	760	760	400	
A15M39		2	2	1041	3	103	810	150		
A15M40		8	8	6900	86	STR.				
A15M41		8	8	6050	75	STR.				
A15M42		8	8	2970	37	STR.				
A15M43		8	8	3650	45	STR.				

A15M93	12	18	30	4220	196	STR.				
A15M94	4	4	8	4166	52	121	3025	760	400	
A15M95	32	90	122	1450	274	STR.				
A15M96	24	82	106	965	159	111	510	153	205	
A15M97	28	86	114	965	171	101	790	760	400	
A20M01	85	135	220	3124	1536	103	280	1470		
A20M02	85	135	220	2540	1249	103	430	1100		
A25M01	49	49	98	1524	593	116	840	305		



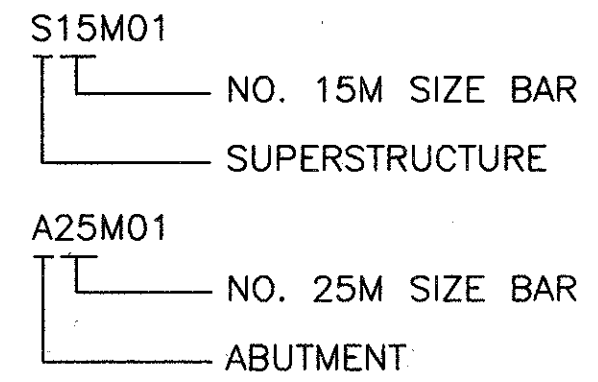
SUMMARY AND GRAND TOTAL OF BAR WEIGHTS

JEF-7-53873 SUPERSTRUCTURE	2,316
JEF-7-53873 ABUTMENTS	505
JEF-7-54419 SUPERSTRUCTURE	18,294
JEF-7-54419 ABUTMENTS	6,372
GRAND TOTAL	27,487

REINFORCING SCHEDULE

BAR SIZE LOCATION IS INDICATED IN THE BAR MARK. THE FIRST ALPHABETICAL LETTER INDICATES LOCATION. THE FIRST TWO DIGITS INDICATES THE BAR SIZE NUMBER.

EXAMPLES:



ALL REINFORCING STEEL TO BE EPOXY COATED.
ALL BAR DIMENSIONS ARE GIVEN OUT TO OUT.

REINFORCING SCHEDULE
BRIDGE NO.'S JEF-7-53873, JEF-7-54419
S.R. 7 OVER WYE BRANCH OF CONRAIL R.R./S.R. 7 OVER CONRAIL R.R. AND YELLOW CREEK

DESIGNED
A.D.

DRAWN
J.H.

REVIEWED
M.M.

DATE
2/6/96

CHECKED
SPT

FILE NO.

JEF/COL-7-53.62/0.00

27 27

79 79