

B.M. #1 ELEV. 162.001
Square Cut in Southwest Corner
of West Abutment.
Sta. 41+279.63± ~ 8.221m±Rt.

END APPROACH SLAB
STA. 41+275.810

Limits Of Item 203
Embankment Using Rock

0.02 km WEST OF PORTSMOUTH

DESIGN DESIGNATION

1995 ADT 6620
2015 ADT 7940
2015 ADTT 318

EARTHWORK LIMITS SHOWN ARE
APPROXIMATE. ACTUAL SLOPES SHALL
CONFORM TO PLAN CROSS-SECTIONS.

STREAM DATA

DESIGN FREQUENCY: 25 YEAR
DRAINAGE AREA: 16 861 km²
Q25 = 4417 m³/s, V25 = 1.1 m/s
Q100 = 7136 m³/s, V100 = 1.7 m/s

BRIDGE IS LOCATED 300± METERS UPSTREAM
OF CONFLUENCE OF SCIOTO AND OHIO RIVERS.
OHIO RIVER BACKWATER ELEVATIONS
REGULATED BY U.S. ARMY CORPS OF
ENGINEERS.

OHIO RIVER POOL ELEVATIONS AT CONFLUENCE:
NORMAL POOL ELEV. 148.1± METERS
1-YEAR POOL ELEV. 156.4± METERS
2-YEAR POOL ELEV. 157.7± METERS
5-YEAR POOL ELEV. 159.4± METERS
10-YEAR POOL ELEV. 160.3± METERS
20-YEAR POOL ELEV. 161.2± METERS
25-YEAR POOL ELEV. 161.5± METERS
50-YEAR POOL ELEV. 162.5± METERS
100-YEAR POOL ELEV. 163.2± METERS

OVERTOPPING FLOOD ELEV. = 161.7± METERS

OVERTOPPING FLOOD POOL = 28± YEAR

STRUCTURE DOES NOT CLEAR 25 YR. POOL
ELEVATION.

EXISTING STRUCTURE DATA

SFN 7303009 (TO BE REMOVED) DATE BUILT: 1915

TYPE: FOUR SPAN STEEL THRU TRUSS WITH
STEEL BEAM REAR APPROACH SPAN AND TWIN
STEEL GIRDER FORWARD APPROACH SPAN
WITH CONCRETE DECK AND SUBSTRUCTURES
SPANS: 19 810 mm±-102 410 mm±-
102 410 mm±-102 410 mm±-
102 410 mm±-22 860 mm± C/C BEARINGS
ROADWAY: 7620 mm± FACE OF CURB TO FACE
OF GUARDRAIL
SKEW: NONE
WEARING SURFACE: 32± mm BITUMINOUS
ASPHALT
LOADING: H-15
APPROACH SLABS: AS-1-54 (REAR ONLY)
ALIGNMENT: STRAIGHT
SUPERELEVATION: NONE

PROPOSED STRUCTURE

Latitude: N 38°-43'-57" Longitude: W 83°-00'-41"

TYPE: CONTINUOUS AASHTO MODIFIED TYPE 4 PRE-
STRESSED CONCRETE I-BEAMS WITH REINFORCED
CONCRETE DECK AND SUBSTRUCTURE UNITS
SPANS: 46 978 mm-47 413 mm-42 320 mm
42 320 mm-42 320 mm-47 413 mm
47 413 mm-47 413 mm-47 413 mm
46 978 mm C/C PIER MEASURED ALONG
Q SURVEY
ROADWAY: 8838 mm FACE OF CURB TO TOE OF
PARAPET WITH 1829 mm SIDEWALK
SKEW: NONE
WEARING SURFACE: MONOLITHIC CONCRETE
LOADING: MS18 AND THE ALTERNATE
MILITARY LOADING
APPROACH SLABS: AS-1-81M, 7600 mm LONG
ALIGNMENT: TANGENT
SUPERELEVATION: NONE CROWN: 0.0156

JANSSEN & SPAANS ENGINEERING, INC.

2825 E. 56TH STREET
INDIANAPOLIS, IN 46220

DATE 11-7-97

REVIEWED LS

STRUCTURE FILE NUMBER

7303017

DRAWN TMD

REVIEWED

DESIGNED DAT

CHECKED MJH

SITE PLAN 1

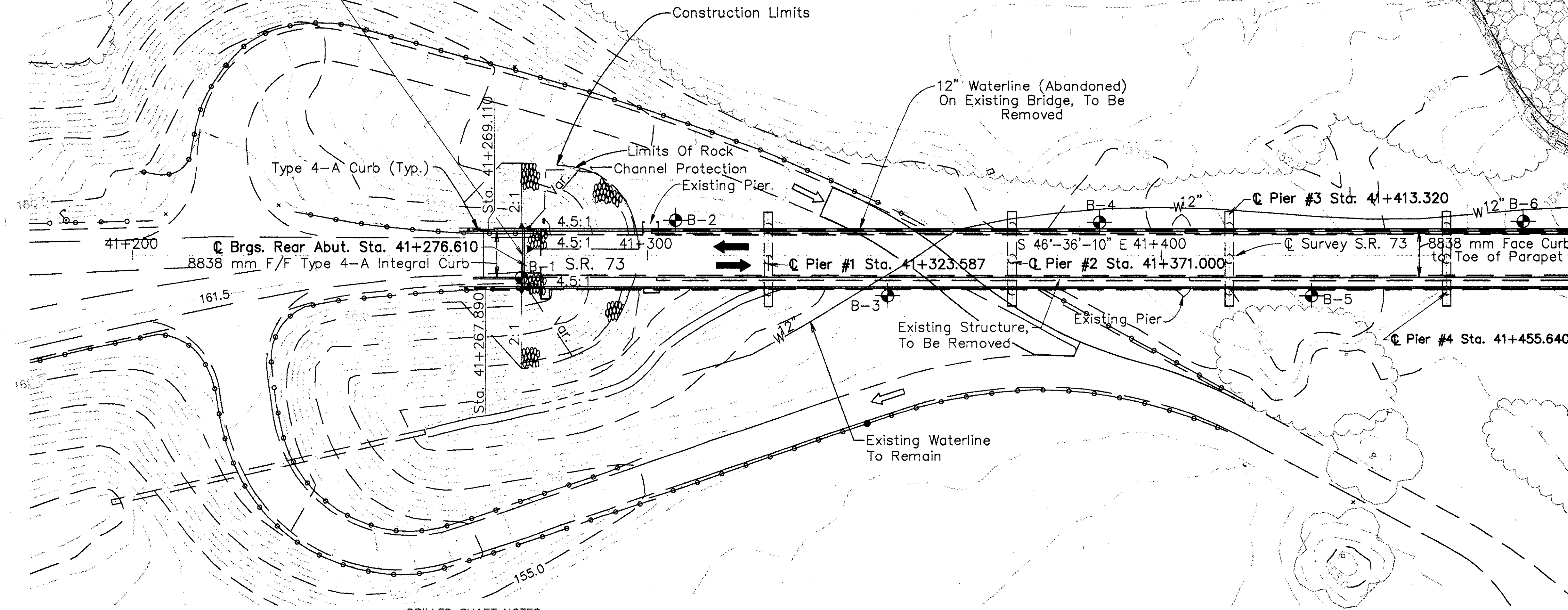
BRIDGE NO. SCI-73-41276

S.R. 73 OVER SCIOTO RIVER

1/47

24

80



PLAN

● DENOTES SOIL
BORING LOCATION

NOTE: ALL ABUTMENT PILING TO BE HP310X79
ESTIMATED AVERAGE PILE LENGTH:

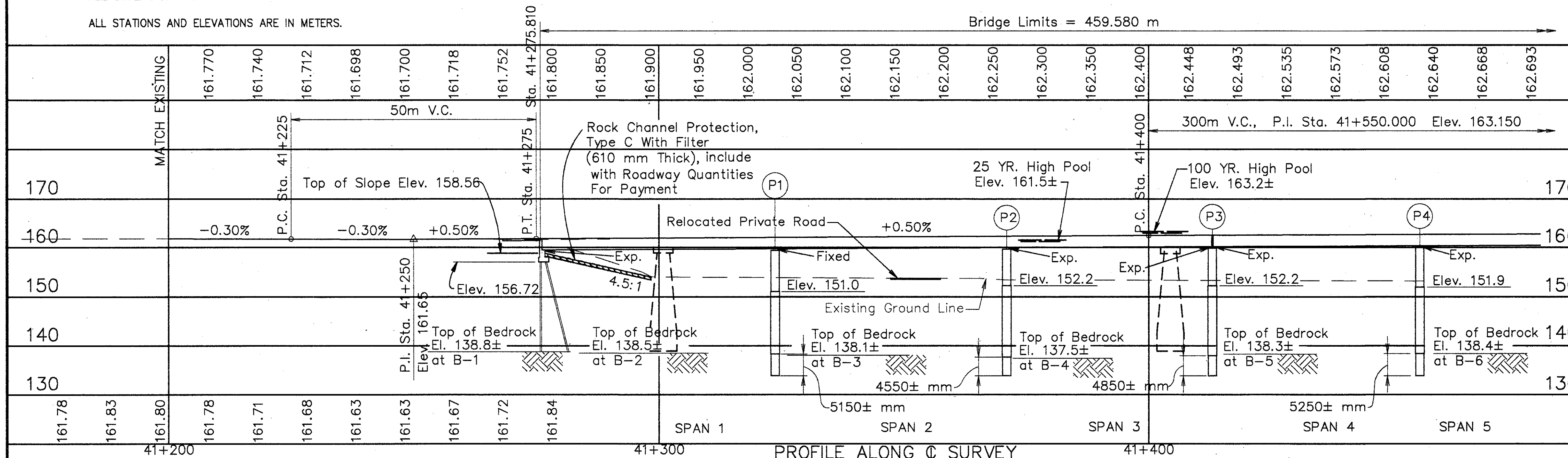
REAR ABUTMENT ----- 20 m
FWD. ABUTMENT ----- 22 m

ALL DIMENSIONS ARE IN MILLIMETERS.

ALL STATIONS AND ELEVATIONS ARE IN METERS.

DRILLED SHAFT NOTES:

1. DRILLED SHAFT DIAMETER IS 1829 mm
DRILLED SHAFT SOCKET DIAMETER IS 1676 mm
DIAMETER OF COLUMNS ABOVE DRILLED SHAFTS IS 1676 mm
2. "TOP OF ROCK" AS NOTED BELOW IS TO TOP LAYER OF
"GRAY SOFT SHALE"
3. DRILLED SHAFT SOCKETS SHALL EXTEND A MINIMUM OF 2750 mm
INTO THE "HARD GRAY OR HARD BLACK SHALE" INCLUDING A
MINIMUM OF 600 mm INTO THE "HARD BLACK SHALE".



PROFILE ALONG Q SURVEY

B.M.#2 ELEV. 162.647
U.S.C.S. BM Stamped J193-1956
Bronze Disk in West Face of Flood
Wall Abutment.
Sta. 41+890.7± ~ 10.3m± Rt.

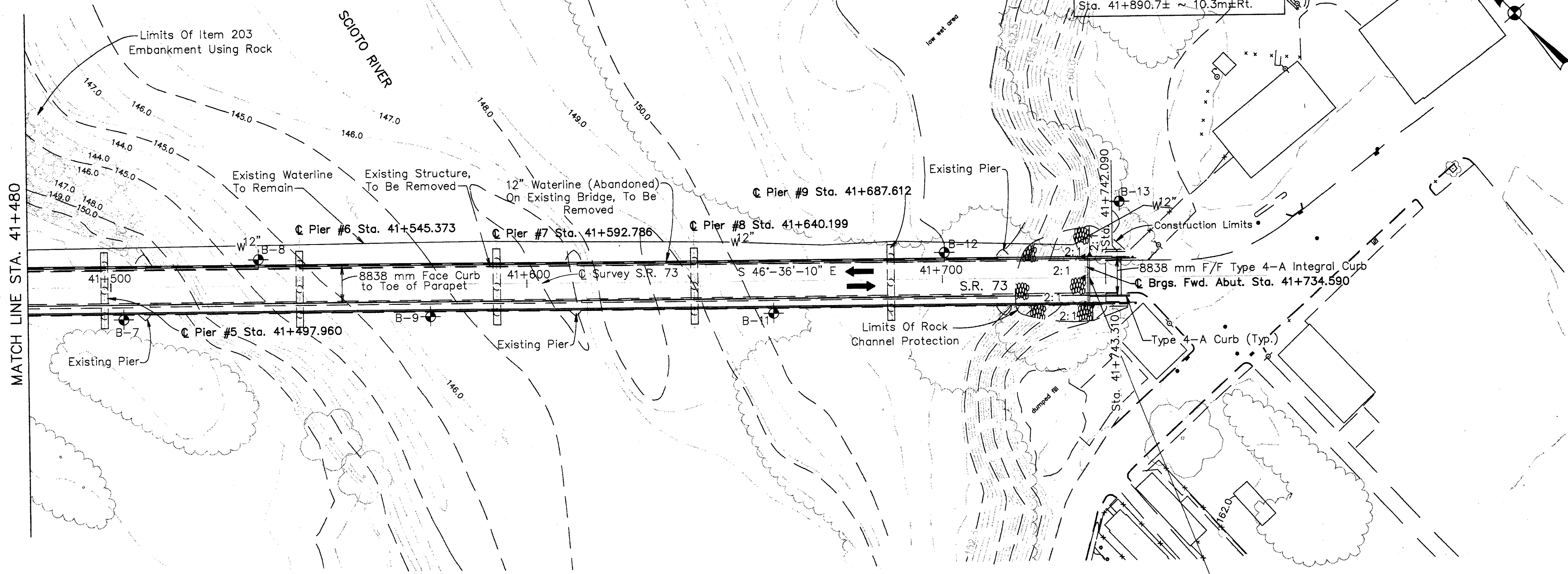
0.02 km WEST OF PORTSMOUTH

JANSSEN & SPAANS ENGINEERING, INC.
2825 E. 56TH STREET
INDIANAPOLIS, IN 46220

DATE 11-7-97
REVIEWED LS
DRAWN TMD
DESIGNED DAT
CHECKED LS

STRUCTURE FILE NUMBER 7303017
SITE PLAN 2
BRIDGE NO. SCI-73-41276
S.R. 73 OVER SCIOTO RIVER

SCI-73-41.268
2/47
25/80

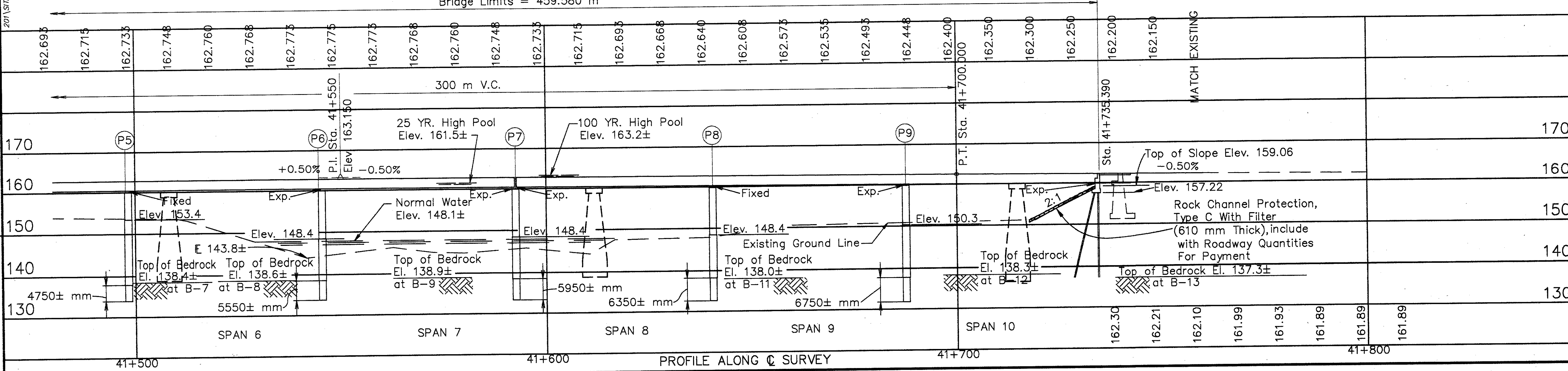


PLAN

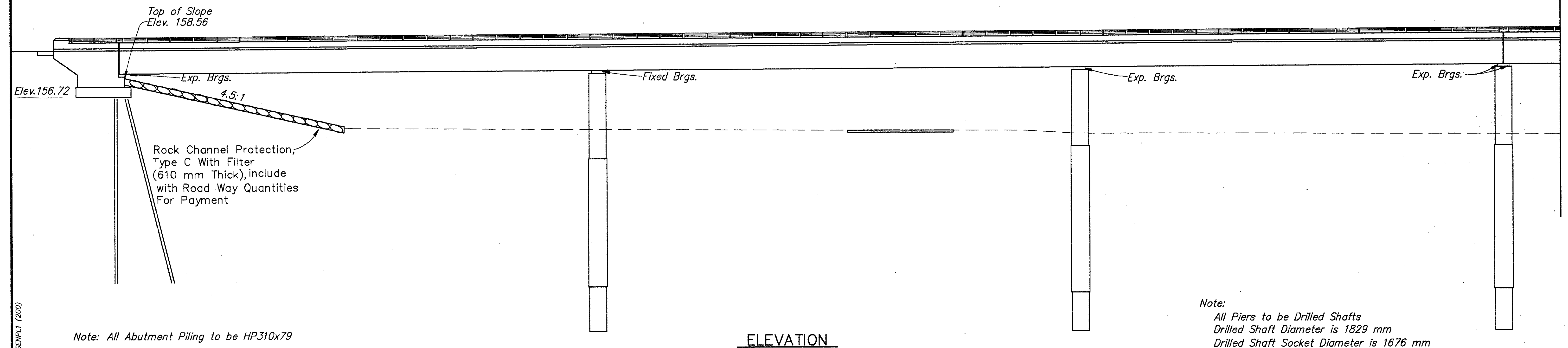
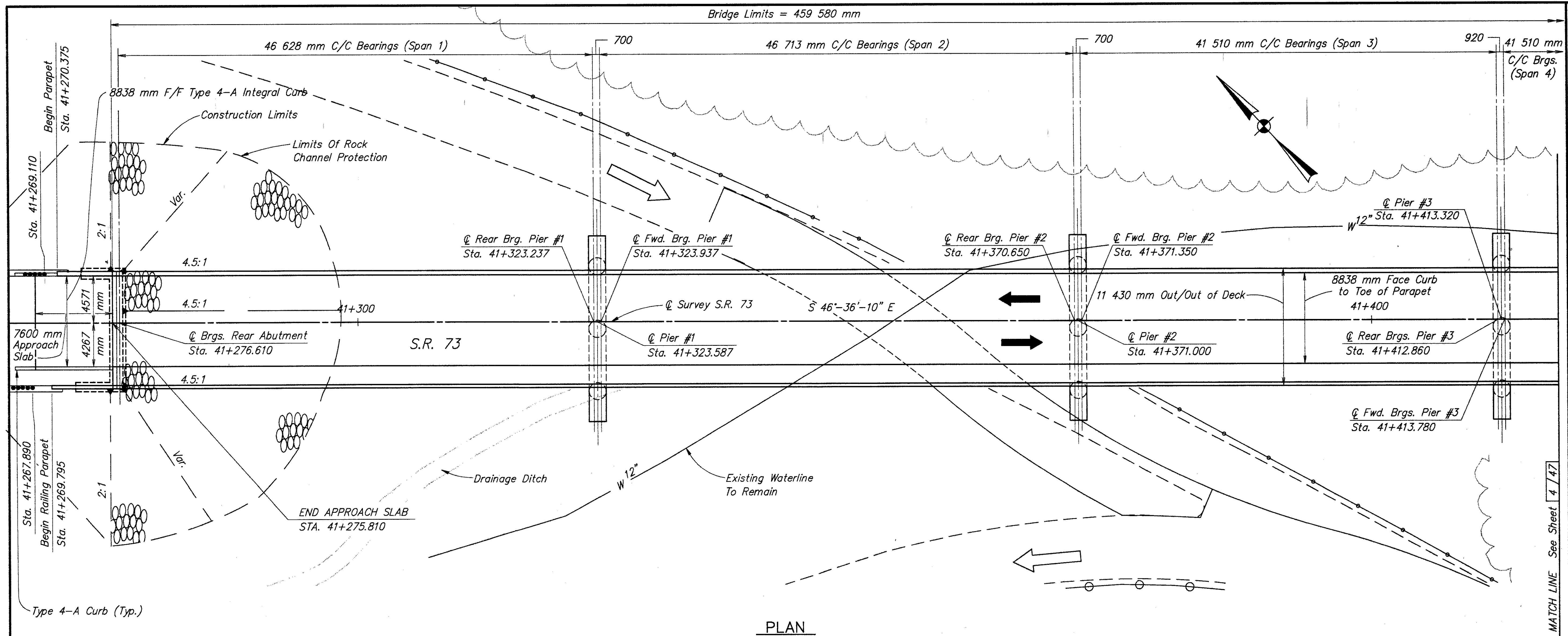
- DRILLED SHAFT NOTES:
1. DRILLED SHAFT DIAMETER IS 1829 mm
DRILLED SHAFT SOCKET DIAMETER IS 1676 mm
DIAMETER OF COLUMNS ABOVE DRILLED SHAFTS IS 1676 mm
 2. "TOP OF ROCK" AS NOTED BELOW IS TO TOP LAYER OF "GRAY SOFT SHALE"
 3. DRILLED SHAFT SOCKETS SHALL EXTEND A MINIMUM OF 2000 mm INTO THE "HARD GRAY OR HARD BLACK SHALE" INCLUDING A MINIMUM OF 600 mm INTO THE "HARD BLACK SHALE".

● DENOTES SOIL BORING LOCATION

Bridge Limits = 459.580 m



PROFILE ALONG C SURVEY



Note:
All Piers to be Drilled Shafts
Drilled Shaft Diameter is 1829 mm
Drilled Shaft Socket Diameter is 1676 mm

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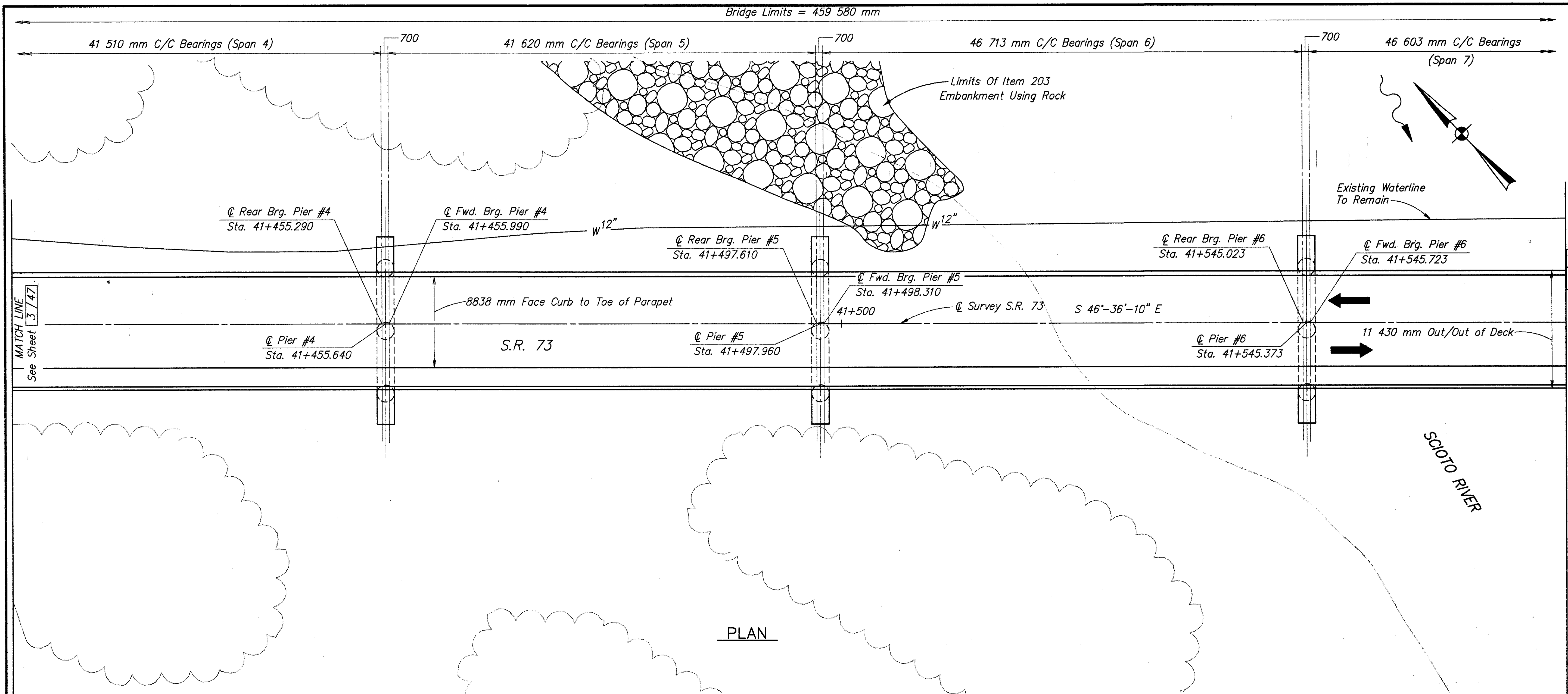
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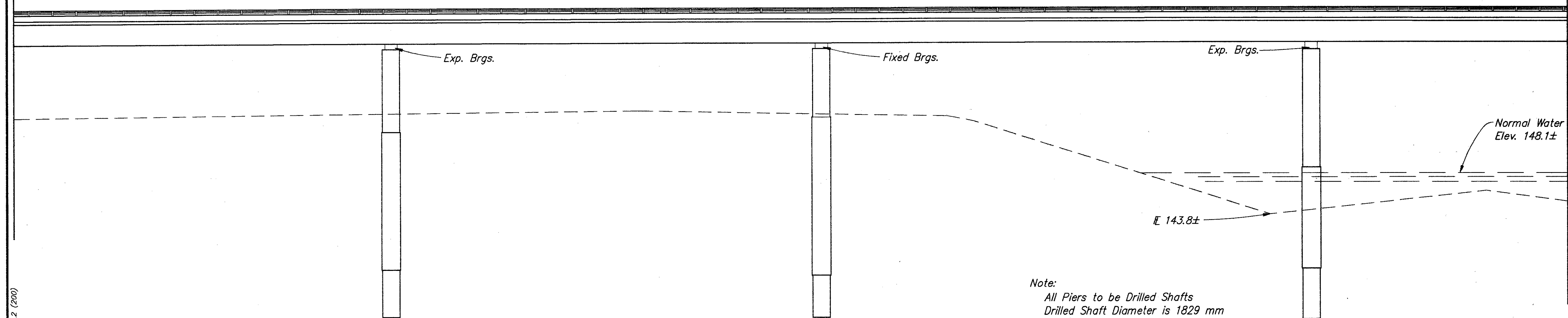
GENERAL PLAN AND ELEVATION 1
BRIDGE NO. SCI-73-41276
S.R. 73 OVER SCIOTO RIVER

SCI-73-41.268
3/47
26/80

201 GENPL1 (200)



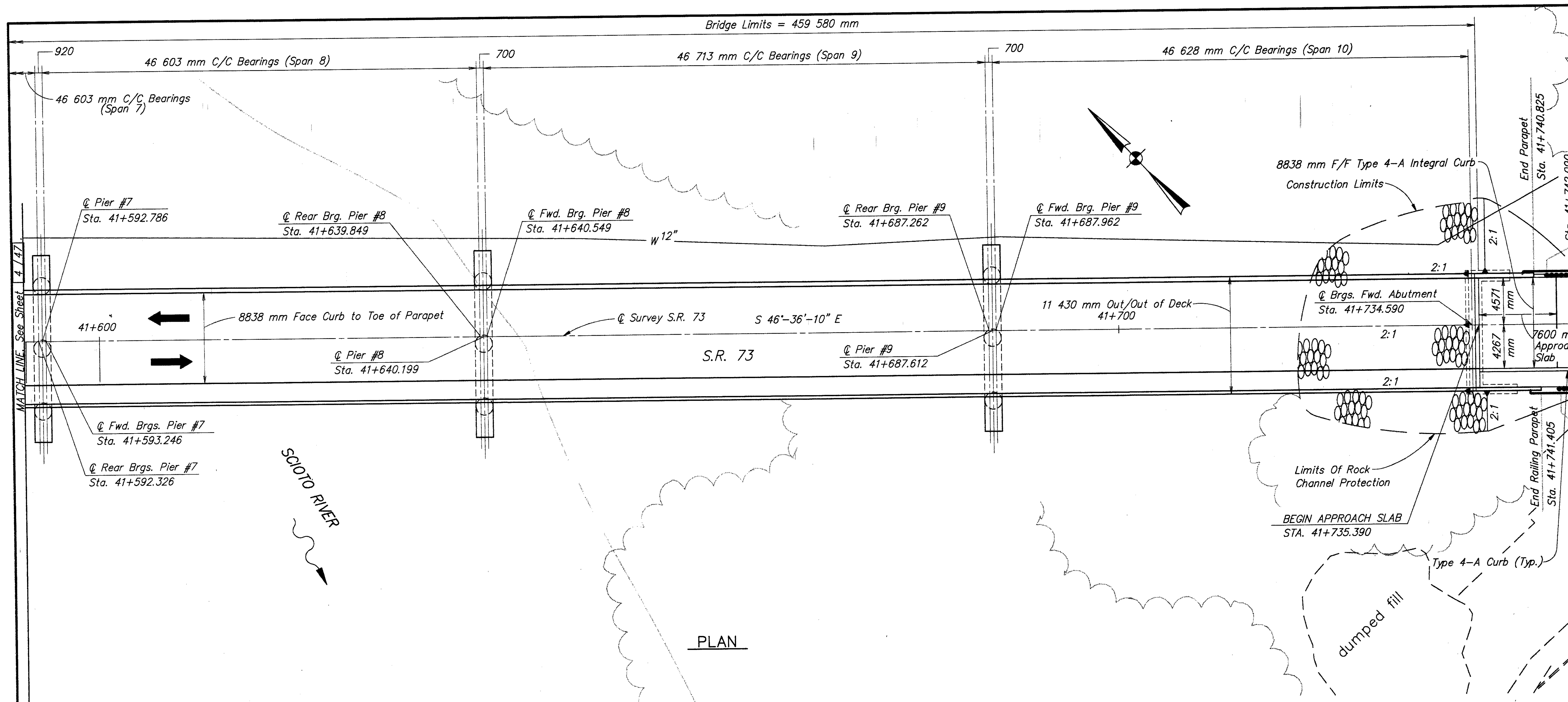
PLAN



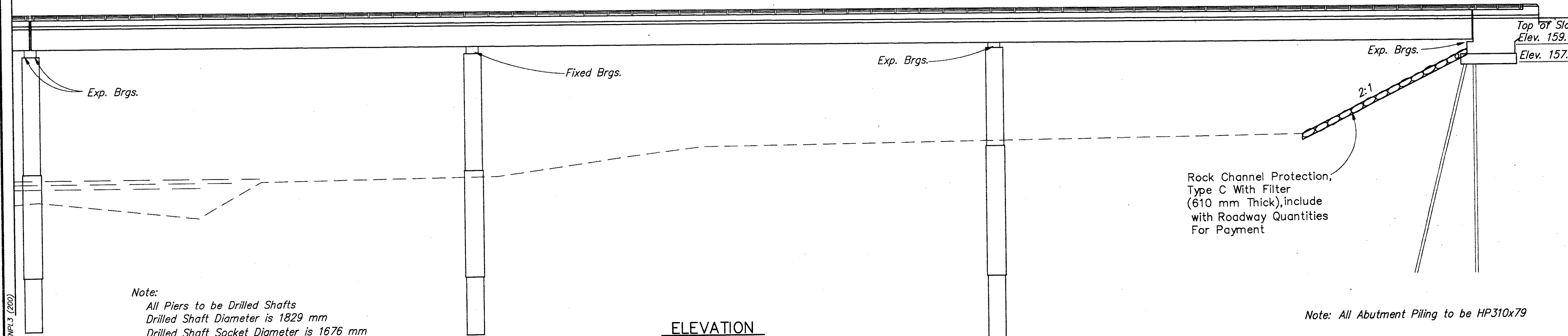
ELEVATION

Note:
All Piers to be Drilled Shafts
Drilled Shaft Diameter is 1829 mm
Drilled Shaft Socket Diameter is 1676 mm

JANSSEN & SPAANS ENGINEERING, INC. 2825 E. 50TH STREET INDIANAPOLIS, IN 46220	
DATE 11-7-97	STRUCTURE FILE NUMBER 7303017
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DESIGNED DAT	CHECKED MJH
GENERAL PLAN AND ELEVATION 2 BRIDGE NO. SCI-73-41.268 S.R. 73 OVER SCIOTO RIVER	
SCI-73-41.268	
4/47	
27/80	



PLAN



ELEVATION

Note:
All Piers to be Drilled Shafts
Drilled Shaft Diameter is 1829 mm
Drilled Shaft Socket Diameter is 1676 mm

Note: All Abutment Piling to be HP310x79

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DATE 11-7-97	STRUCTURE FILE NUMBER 7303017
DESIGNED TMD	CHECKED LS
GENERAL PLAN AND ELEVATION 3	
BRIDGE NO. SCI-73-41276 S.R. 73 OVER SCIOTO RIVER	
SCI-73-41.268	
5/47	
28/80	

GENERAL NOTES

DESIGN SPECIFICATIONS

THIS STRUCTURE 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 O.D.O.T. BRIDGE DESIGN MANUAL.

DESIGN DATA

DESIGN LOADING: MS18, AND THE ALTERNATE MILITARY LOADING WITH A FUTURE WEARING SURFACE OF 2.87 kN/m²

HIGH PERFORMANCE CONCRETE, SUPERSTRUCTURE: ASSUMED COMPRESSIVE STRENGTH 31.0 MPa

CONCRETE CLASS C: COMPRESSIVE STRENGTH 27.5 MPa (SUBSTRUCTURE)

REINFORCING STEEL: ASTM A615M, A616M OR A617M – GRADE 400 MINIMUM YIELD STRENGTH 400 MPa SPIRAL REINFORCEMENT MAY BE PLAIN BARS, ASTM A82M OR A615M

STRUCTURAL STEEL: ASTM A36M – YIELD STRENGTH 248 MPa (GALVANIZED)

MILD REINFORCING STEEL FOR THE CONCRETE PRESTRESSED BEAMS GRADE 400 MINIMUM YIELD STRENGTH 400 MPa.

CONCRETE FOR PRESTRESSED BEAMS:

COMPRESSIVE STRENGTH – 48.3 MPa
UNITS STRESS – 19.31 MPa COMPRESSION
– 3.46 MPa TENSION

PRESTRESSING STRANDS ASTM A416–80 (SPECIAL)

f's = 1862 MPa

INITIAL STRESS = 0.75 f's (LOW RELAXATION STRANDS)

12.7 mm DIAMETER 107.7 mm² WITH G.U.T.S. OF 200 kN PER STRAND

ADDITIONAL DESIGN DATA ON BEAM DETAILS SHEET 26 / 47

DECK PROTECTION METHOD

65 mm CONCRETE COVER
EPOXY COATED REINFORCING STEEL
SEALING OF CONCRETE TO LIMITS SHOWN IN THESE PLANS

MONOLITHIC WEARING SURFACE

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 25 mm THICK.

REFERENCE SHALL BE MADE TO:

STANDARD DRAWINGS			SUPPLEMENTAL SPECIFICATIONS		
AS-1-81M	DATED	10-25-94	820	DATED	6-14-95
BR-1M	DATED	12-15-94	944	DATED	3-23-95
BR-2-82M	DATED	12-19-94			
EXJ-6-95M	DATED	10-18-95			
SD-1-69	DATED	6-12-69			
PSID-1-95M (SHEET 4/7)	DATED	9-18-95			

REINFORCING STEEL SPLICES

UNLESS SHOWN OTHERWISE, ALL SPLICES SHALL BE MADE BY OVERLAPPING THE ENDS OF THE BARS NOT LESS THAN SHOWN IN THE FOLLOWING TABLE:

BAR SIZE	LAP LENGTH
#13M	690 mm
#16M	890 mm
#19M	1040 mm
#22M	1320 mm

ITEM 518 – 150 mm PERFORATED CORRUGATED PLASTIC PIPE, AS PER PLAN

CORRUGATED PIPE USED IN ABUTMENT DRAINAGE SHALL BE 150 mm DIAMETER, PLASTIC CORRUGATED AS PER SUPPLEMENTAL SPECIFICATION 944, AASHTO M294, TYPE SP.

ITEM 518 – 150 mm NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN

CORRUGATED PIPE USED IN ABUTMENT DRAINAGE SHALL BE 150 mm DIAMETER, PLASTIC CORRUGATED AS PER SUPPLEMENTAL SPECIFICATION 944, AASHTO M294, TYPE S. THIS ITEM SHALL INCLUDE ALL ELBOWS, TEES AND END CAPS REQUIRED TO COMPLETE THE ABUTMENT DRAINAGE SYSTEM.

SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

THIS ITEM SHALL CONSIST OF THE APPLICATION OF BOTH AN EPOXY AND URETHANE SEALER TO THE CONCRETE SURFACES DESIGNATED ON THE PLANS IN ACCORDANCE WITH THE PROPOSAL NOTE EXCEPT THAT THE COLOR OF THE URETHANE COATING SHALL BE FEDERAL COLOR STANDARD NO. 17778 (OFF-WHITE).

REMOVAL OF EXISTING STRUCTURE

WHEN NO LONGER NEEDED TO MAINTAIN TRAFFIC, THE EXISTING STRUCTURE SHALL BE REMOVED AS PER CMS UPON RECEIVING PERMISSION FROM THE ENGINEER.

ITEM 203 EMBANKMENT, AS PER PLAN

ALL FILL MATERIAL FOR CONSTRUCTION OF THE APPROACH EMBANKMENT AND FOR FILLING THE EXCAVATION VOID CREATED BY REMOVAL OF THE EXISTING ABUTMENTS SHALL BE 203 MATERIAL PLACED IN LIFTS NOT TO EXCEED A THICKNESS OF 150 mm. QUANTITY CARRIED WITH ROADWAY PLANS.

PILE DRIVING CONSTRAINTS

PRIOR TO DRIVING PILES, THE SPILL THROUGH SLOPES AND THE BRIDGE APPROACH EMBANKMENT BEHIND THE ABUTMENTS SHALL BE CONSTRUCTED UP TO THE LEVEL OF THE SUBGRADE ELEVATION. THE EXCAVATION FOR THE ABUTMENT FOOTINGS AND THE INSTALLATION OF THE ABUTMENT PILES SHALL NOT BEGIN UNTIL AFTER THE ABOVE REQUIRED EMBANKMENT HAS BEEN CONSTRUCTED.

ITEM 507 STEEL HP310x79 PILES, AS PER PLAN

PILE HAMMER: THE PILE HAMMER USED TO INSTALL THE STEEL HP310x79 PILES SHALL HAVE A STATE'S ENERGY RATING OF NOT LESS THAN 22 500 JOULES. THIS REQUIREMENT DOES NOT RELIEVE THE CONTRACTOR FROM 108.05 WHICH STATES THAT THE CONTRACTOR IS TO PROVIDE SUFFICIENT EQUIPMENT FOR PROSECUTING THE REQUIRED WORK. REFER TO "ODOT'S MANUAL OF PROCEDURES FOR STRUCTURES" TO OBTAIN THE STATE'S ENERGY RATING.

PILES

PILES SHALL BE DRIVEN TO REFUSAL ON BEDROCK. REFUSAL SHALL BE CONSIDERED AS OBTAINED BY PENETRATING SOFT BEDROCK FOR SEVERAL MILLIMETERS WITH A MINIMUM RESISTANCE OF 20 BLOWS PER 25 mm, OR REFUSAL SHALL BE CONSIDERED AS OBTAINED AFTER THE PILE HAS CONTACTED HARD BEDROCK AND THE PILE HAS THEN RECEIVED AT LEAST 20 BLOWS.

THE DESIGN LOAD IS 578 kN PER PILE FOR THE REAR ABUTMENT PILES. THE DESIGN LOAD IS 585 kN PER PILE FOR THE FORWARD ABUTMENT PILES.

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 SAWCUTS SHALL BE PLACED AS SHOWN ON SHEET 36 / 47. 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.

HIGH PERFORMANCE CONCRETE, SUPERSTRUCTURE (DECK)

THIS ITEM SHALL BE IN ACCORDANCE WITH THE PROPOSAL NOTE EXCEPT THAT THE CONCRETE SHALL CONSIST OF MIX 4.

HIGH PERFORMANCE CONCRETE, SUPERSTRUCTURE (PARAPETS)

HIGH PERFORMANCE CONCRETE, SUBSTRUCTURE

THIS ITEM SHALL BE IN ACCORDANCE WITH THE PROPOSAL NOTE EXCEPT THAT THE CONCRETE SHALL CONSIST OF MIX 2.

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2825 E. 56TH STREET
INDIANAPOLIS, IN 46220

DATE 11-7-97
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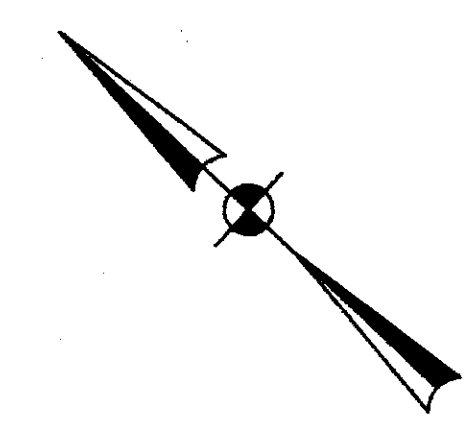
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CHECKED LS

GENERAL NOTES
BRIDGE NO. SCI-73-41276
S.R. 73 OVER SCIOTO RIVER

SCI-73-41.268

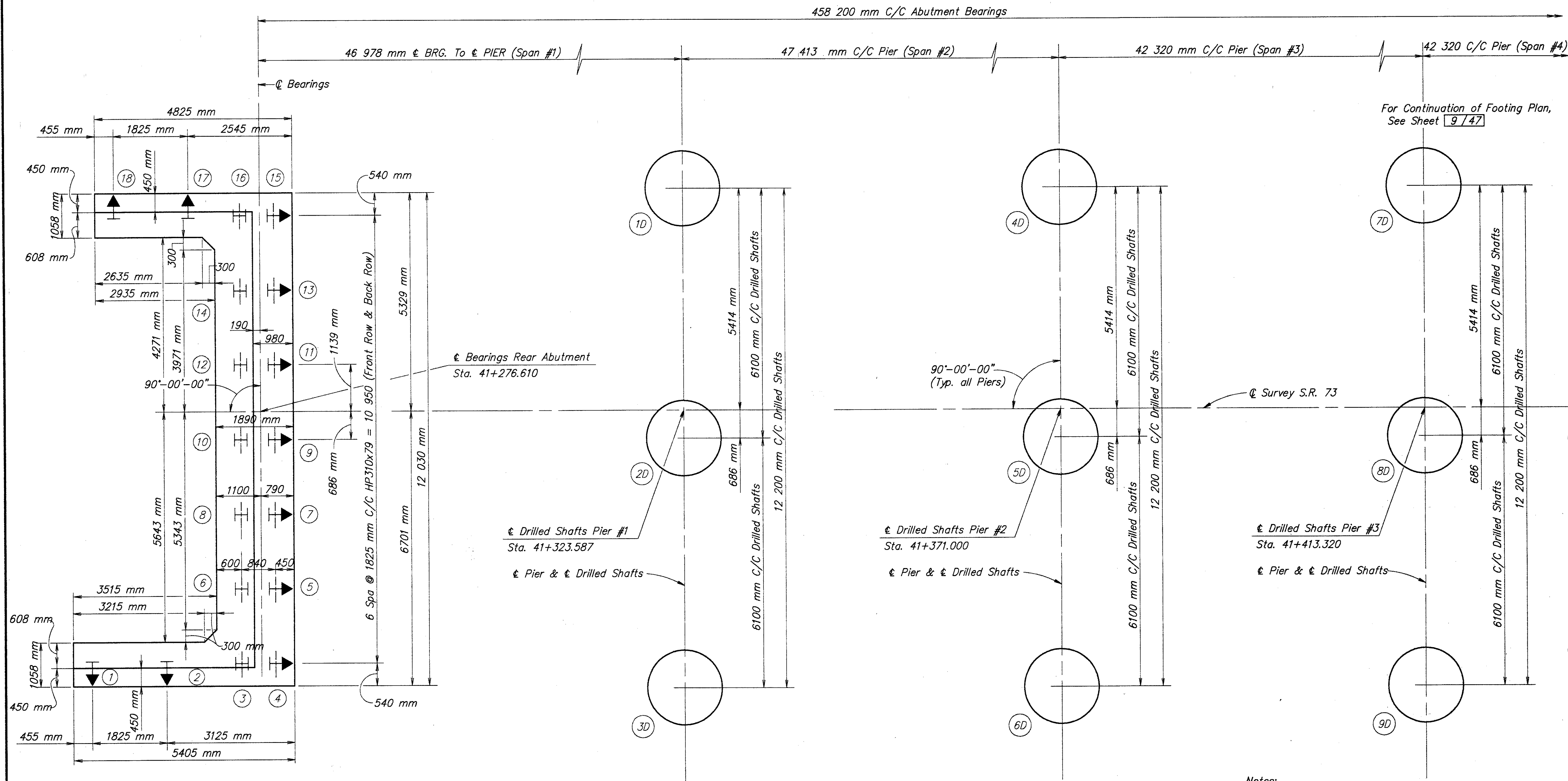
7 / 47

30
80



DESIGNED	DAT	CHECKED	LS
DRAWN	TMD	REVIEWED	1-13-98
REVIEWED	LS	DATE	11-7-97
STRUCTURE FILE NUMBER	7303017		

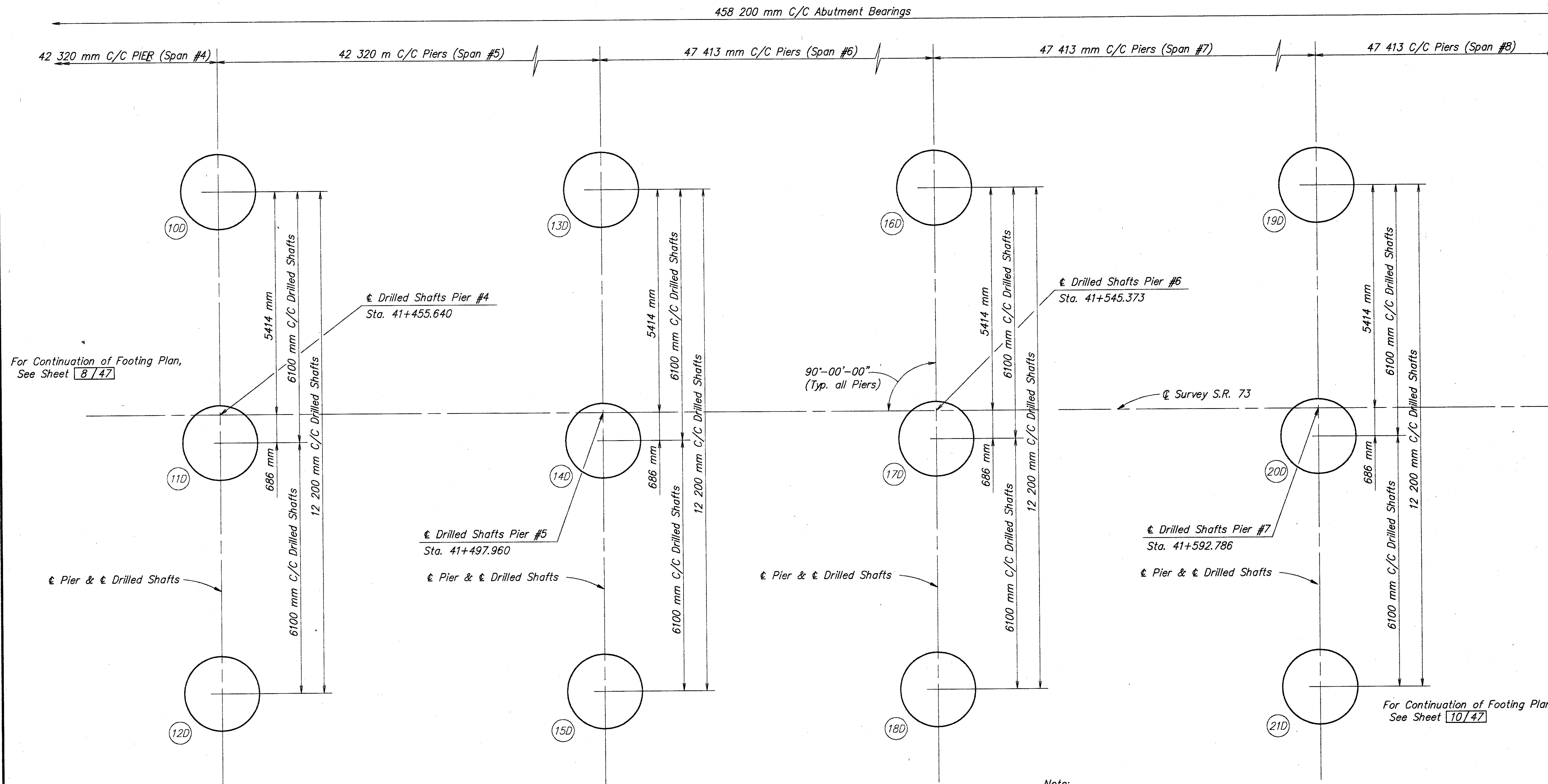
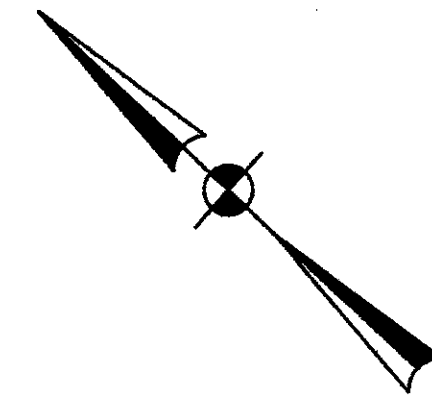
FOOTING PLAN 1
BRIDGE NO. SCI-73-41276
S.R. 73 OVER SCIOTO RIVER



FOOTING PLAN 1

- Notes:
- All Abutment Piles to be HP310x79.
 - Indicates direction of 3:1 batter
 - All pier piling to be 1829 mm Diameter Drilled Shafts

201/F61(50)

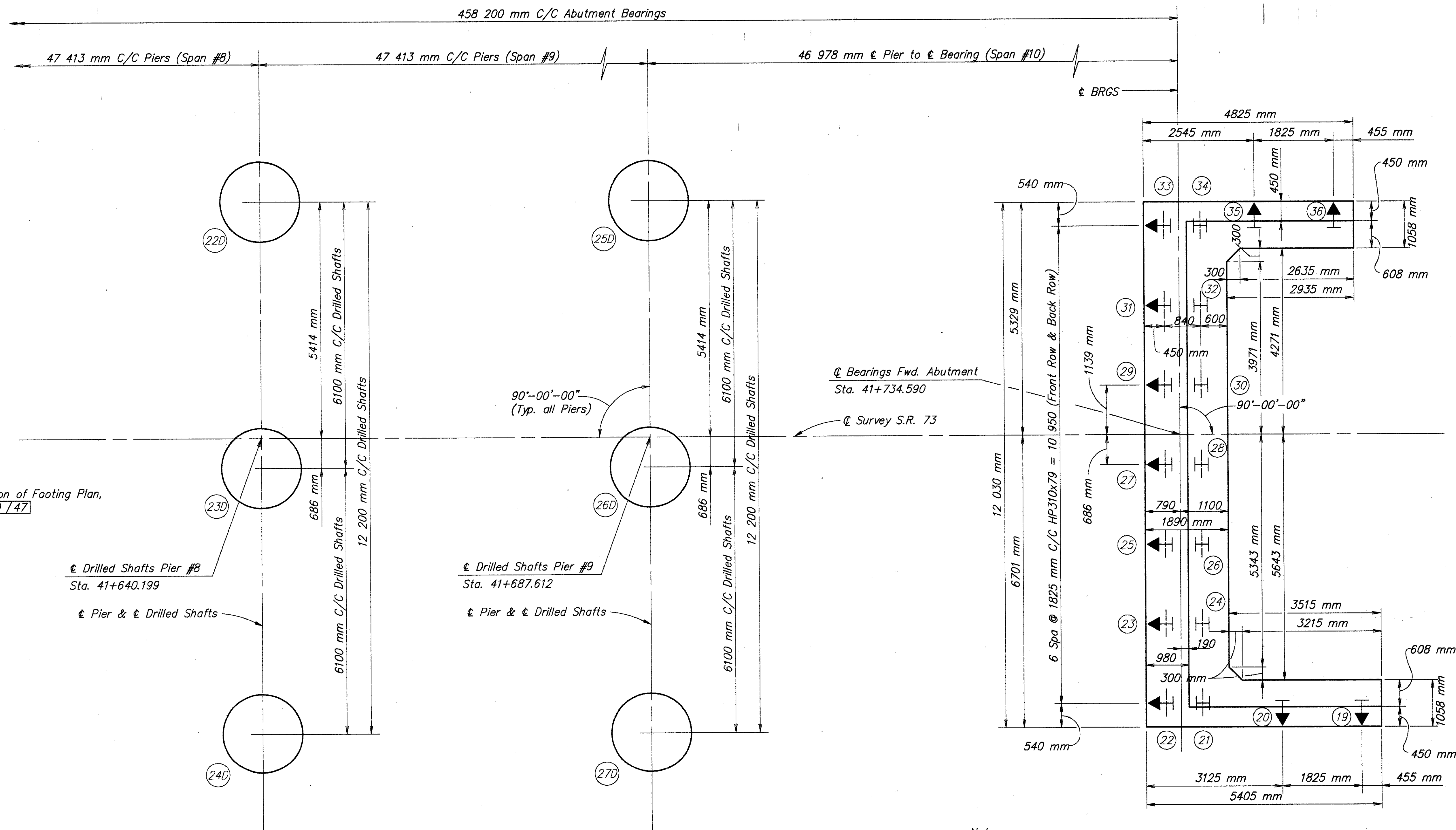
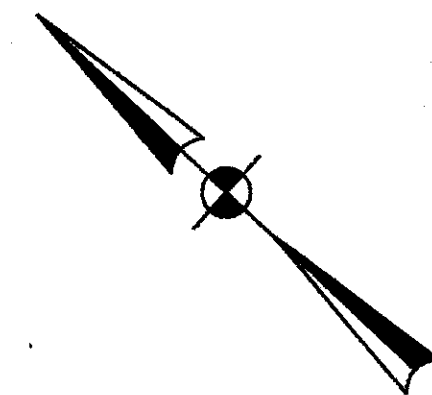


Note:
All pier piling to be 1829 mm Diameter Drilled Shafts

FOOTING PLAN 2

JANSSEN & SPANS ENGINEERING, INC. 2825 E. 56TH STREET INDIANAPOLIS, IN 46220			
DESIGNED DAT	DRAWN TMD	REVIEWED LS	DATE 11-7-97
CHECKED MJH	REVISED	STRUCTURE FILE NUMBER 7303017	
FOOTING PLAN 2 BRIDGE NO. SCI-73-41276 S.R. 73 OVER SCIOTO RIVER			
SCI-73-41.268			
9/47		32/80	

201 V102(50)



For Continuation of Footing Plan,
See Sheet 9/47

Centerline Drilled Shafts Pier #8
Sta. 41+640.199

Centerline Pier & Centerline Drilled Shafts

Centerline Drilled Shafts Pier #9
Sta. 41+687.612

Centerline Pier & Centerline Drilled Shafts

Centerline Bearings Fwd. Abutment
Sta. 41+734.590

Centerline Survey S.R. 73

Notes:

All Abutment Piles to be HP310x79.

Indicates direction of 3:1 batter

All pier piling to be 1829 mm Diameter Drilled Shafts

FOOTING PLAN 3

JANSSEN & SPANS ENGINEERING, INC.
2825 E. 56TH STREET
INDIANAPOLIS, IN 46220

REVIEWED DATE
LS 11-7-97
STRUCTURE FILE NUMBER
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1-13-98

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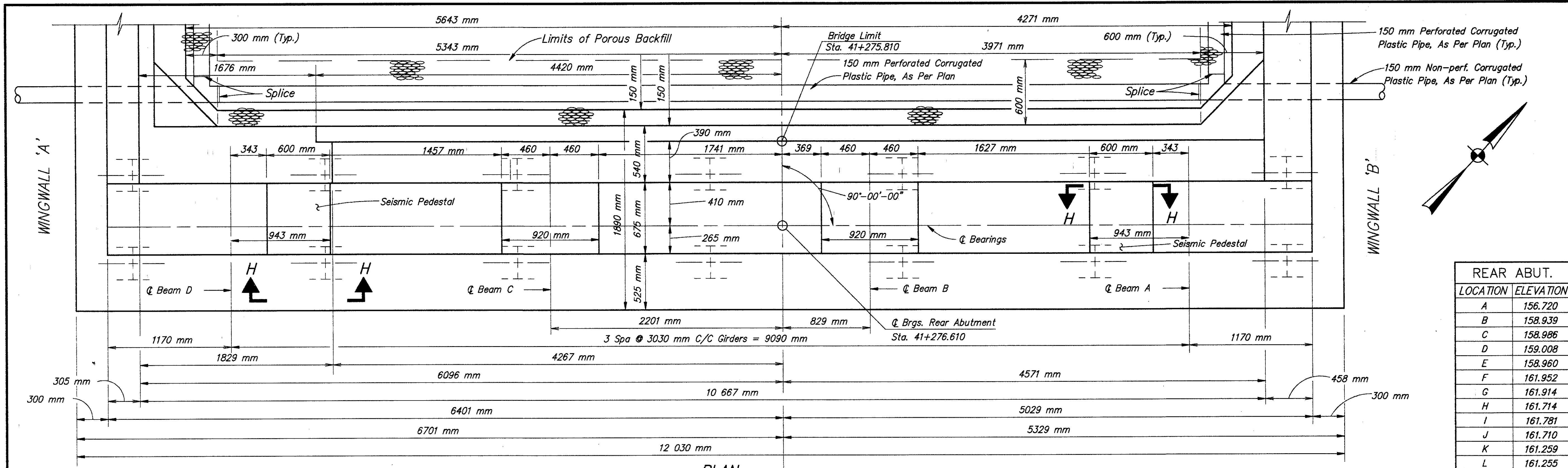
FOOTING PLAN 3
BRIDGE NO. SCI-73-41276
S.R. 73 OVER SCIOTO RIVER

SCI-73-41.268

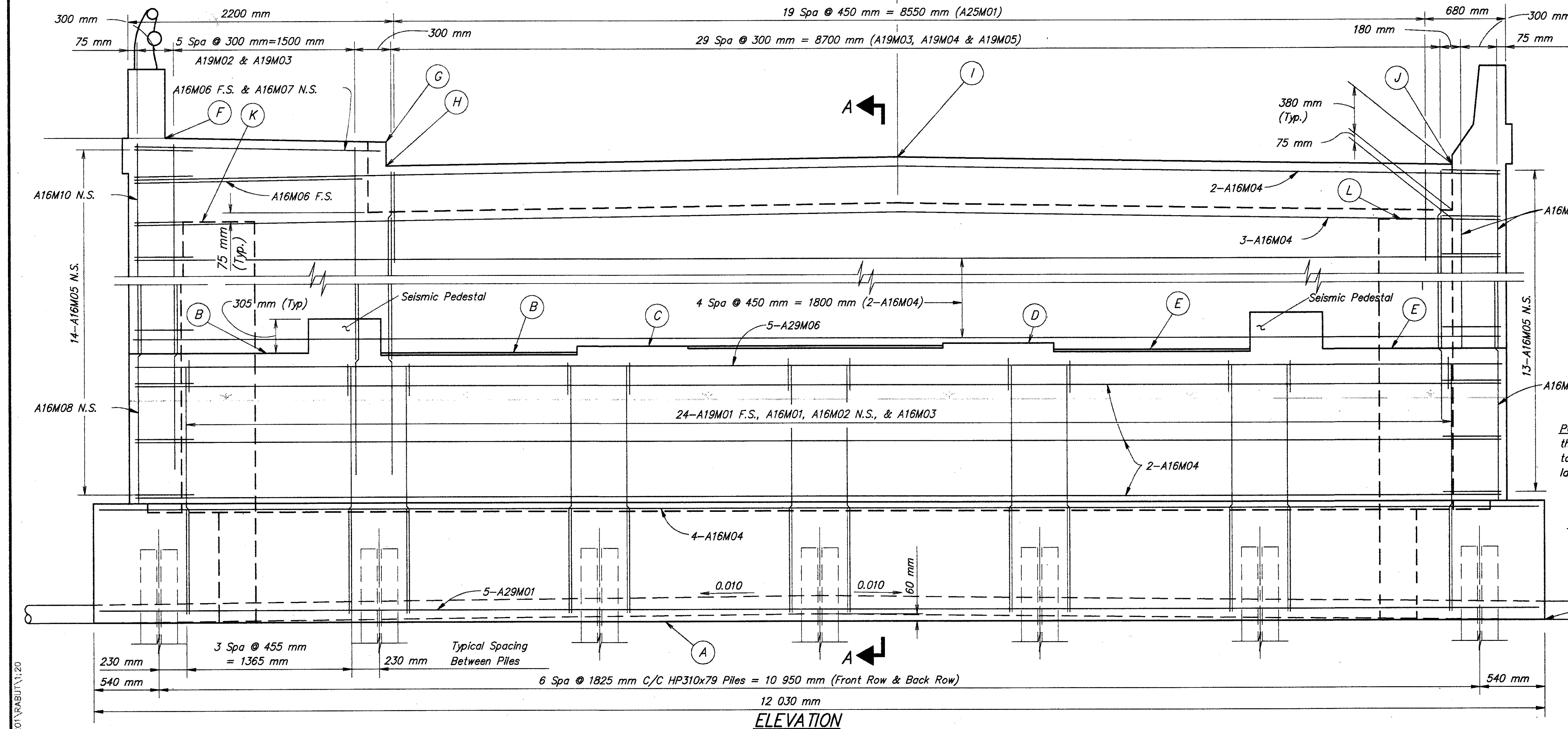
10/47

33/80

201V703(50)



REAR ABUT.	
LOCATION	ELEVATION
A	156.720
B	158.939
C	158.986
D	159.008
E	158.960
F	161.952
G	161.914
H	161.714
I	161.781
J	161.710
K	161.259
L	161.255



N.S. Denotes Near Side
F.S. Denotes Far Side

For Section A-A, See Sheet 17/47.

For Wingwall 'A' Plan & Elevation, See Sheet 12/47.

For Wingwall 'B' Plan & Elevation, See Sheet 13/47.

For Typical Section Thru Girder Seat, See Sheet 17/47.

For Footing Plan, See Sheet 8/47.

For Termination of 150 mm C.P.P., See Sheet 17/47.

For View H-H & Additional Details for Seismic Pedestals, See Sheet 18/47.

POROUS BACKFILL WITH FILTER FABRIC 600 mm thick shall extend up to the plane of the subgrade, to 300 mm below the embankment surface, and laterally to the ends of the wingwalls.

BACKWALL CONCRETE: In addition to the provisions of 511.08, backwall concrete above the optional construction joint at the approach slab seat shall not be placed until after the deck concrete in the span adjacent to the abutment has been placed.

F.L. 156.72 (Typ.)

PREPARED BY:

JANSSEN & SPAANS ENGINEERING, INC.

2825 E. 56TH STREET

INDIANAPOLIS, IN 46220

DATE

11-7-97

REVIEWED

LS

STRUCTURE FILE NUMBER

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DAT

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MJH

DRAWN

TMD

REVIEWED

REAR ABUTMENT DETAILS

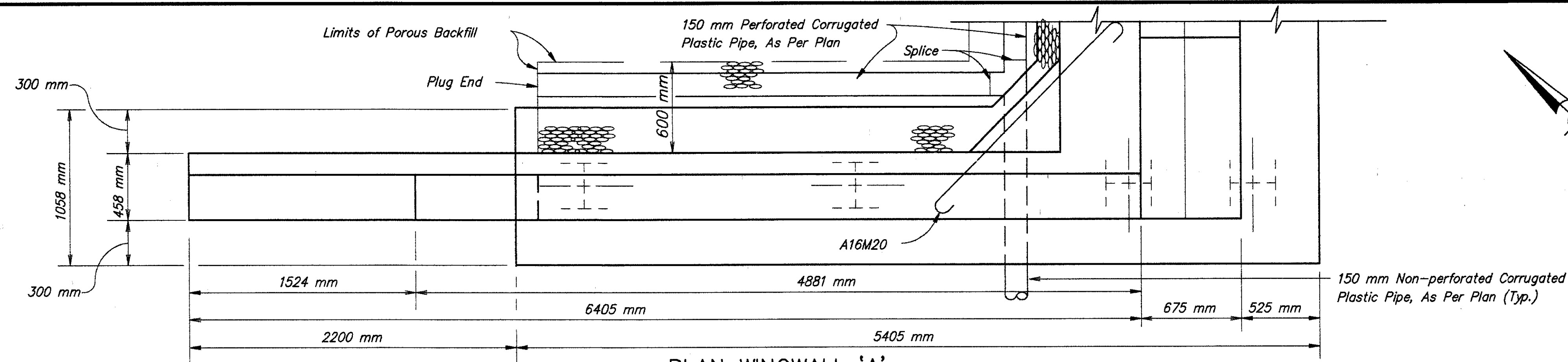
BRIDGE NO. SCI-73-41276

S.R. 73 OVER SCIOTO RIVER

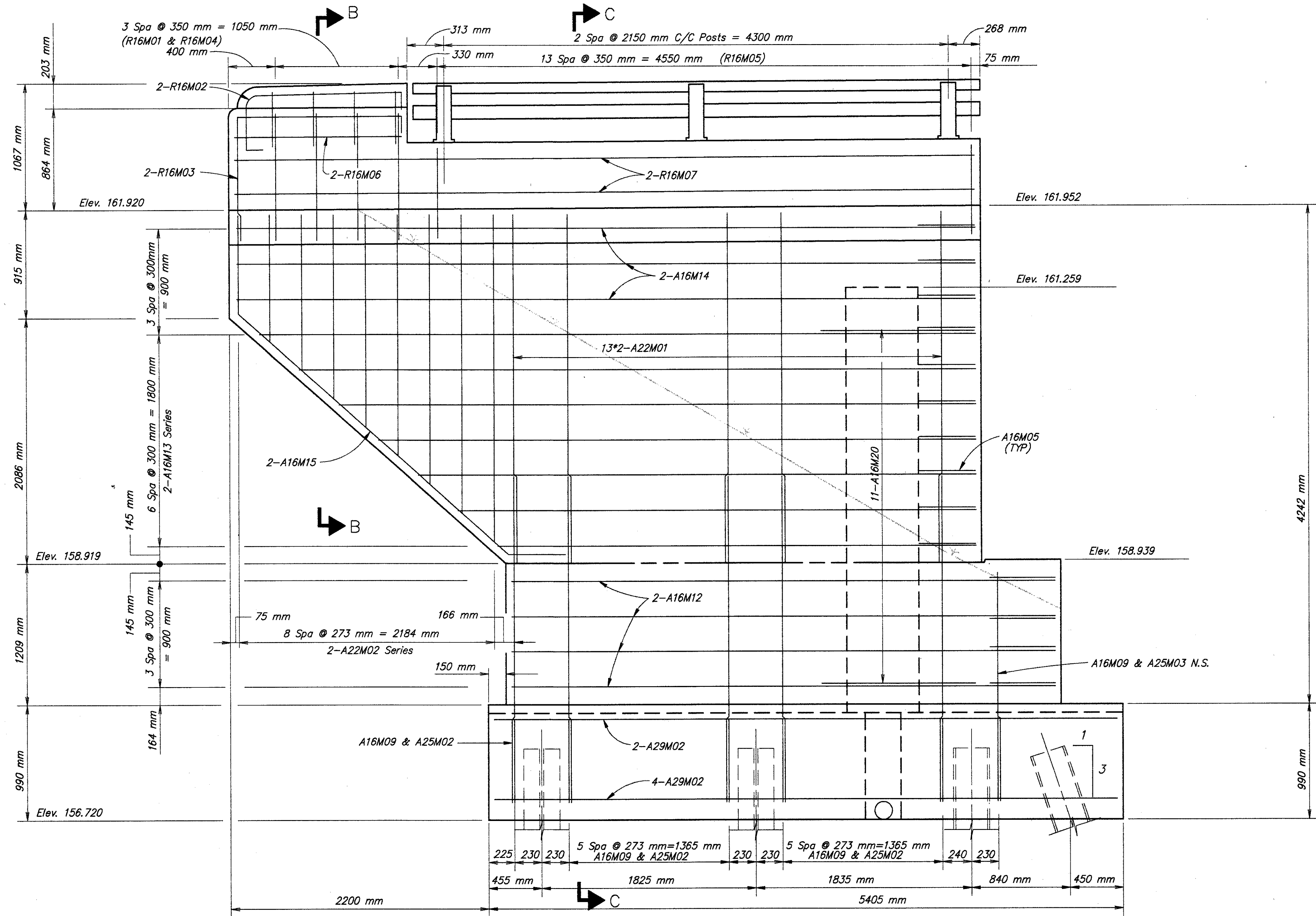
SCI-73-41.268

11/47

34/80



PLAN WINGWALL 'A'



ELEVATION WINGWALL 'A'

N.S. Denotes Near Side
F.S. Denotes Far Side

For Sections B-B & C-C, See Sheet 18 / 47.

For Rear Abutment Plan & Elevation,
See Sheet 11 / 47.

For Footing Plan,
See Sheet 8 / 47.

For Additional Wingwall Railing Details,
See Std. Dwg. BR-2-82M.

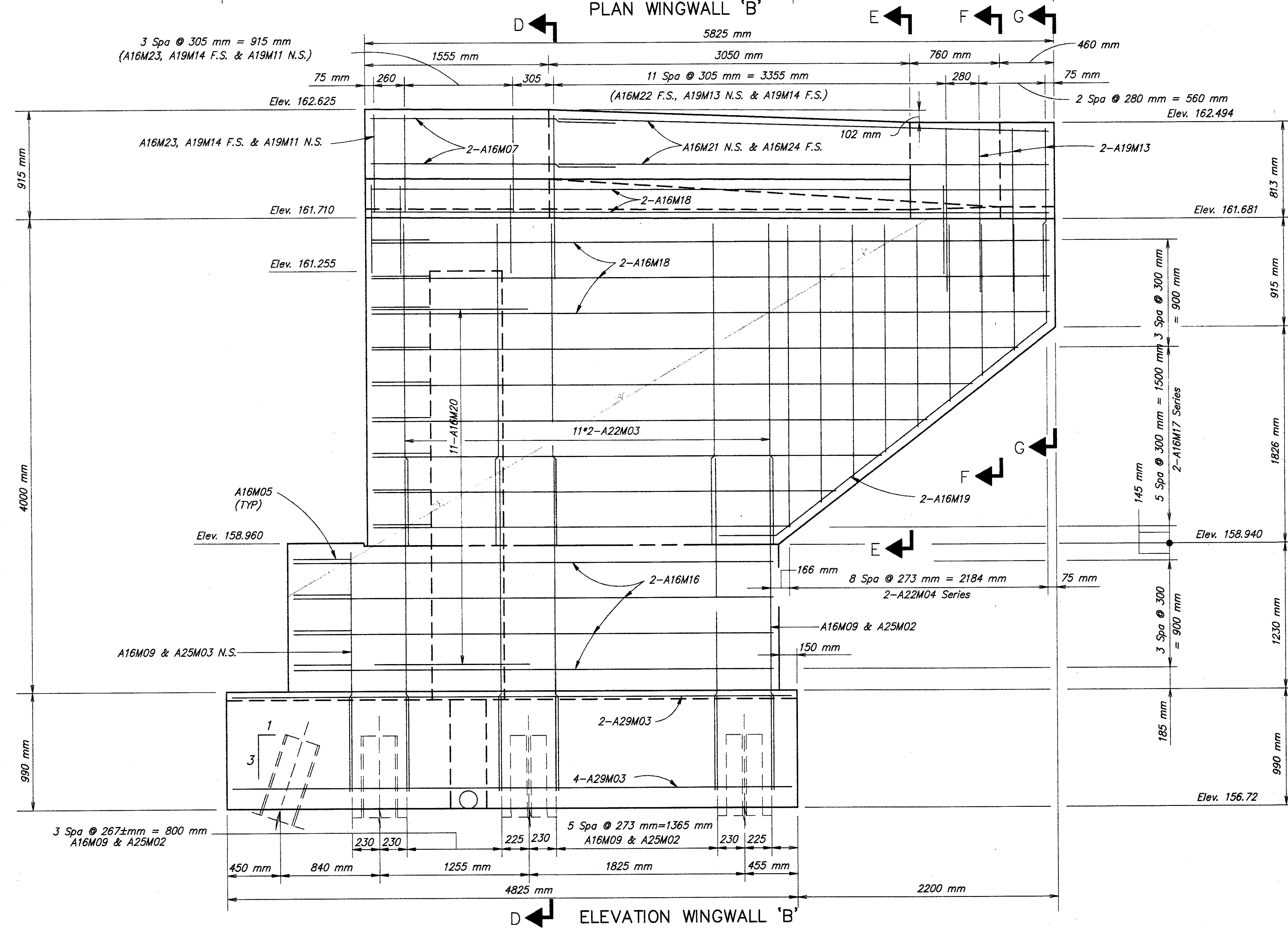
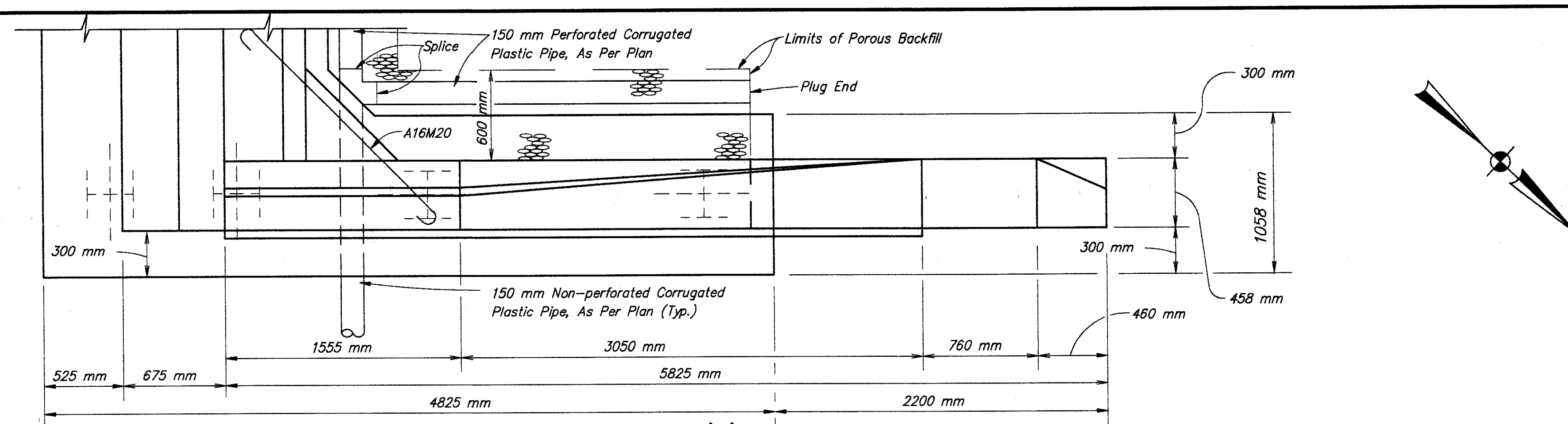
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2825 E. 56TH STREET
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DATE	11-7-97
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STRUCTURE FILE NUMBER	7303107

WINGWALL "A" DETAILS
BRIDGE NO. SCI-73-41276
S.R. 73 OVER SCIOTO RIVER

SCI-73-41.268

12 / 47
35 / 80



N.S. Denotes Near Side
F.S. Denotes Far Side

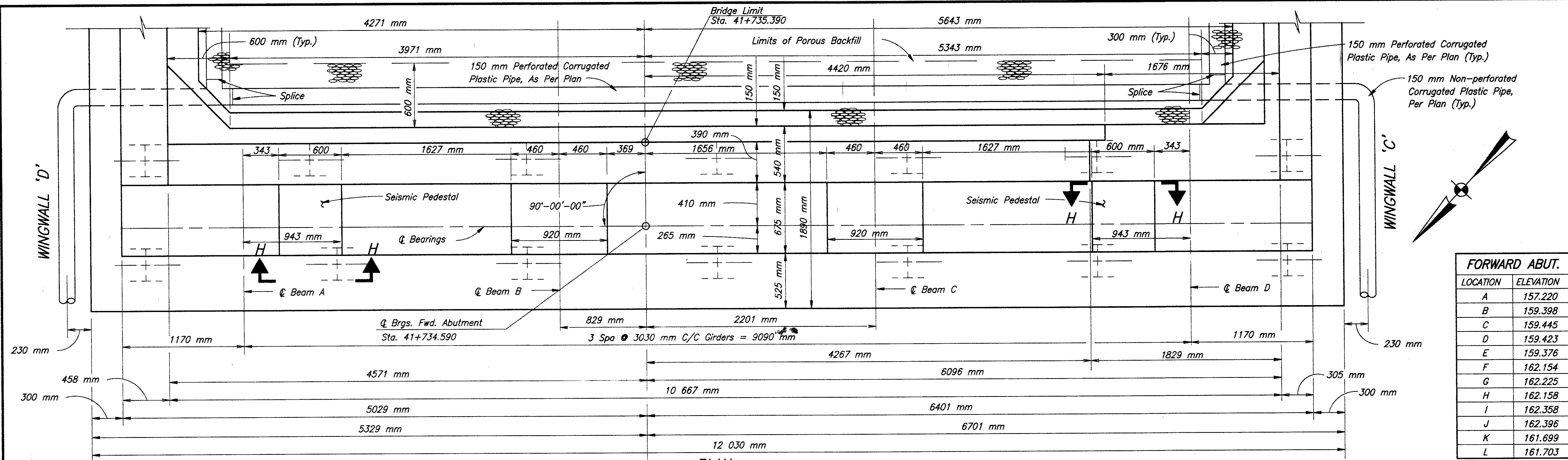
For Section D-D, See Sheet **18/47**.

For Sections E-E thru G-G, See Sheet **17/47**.

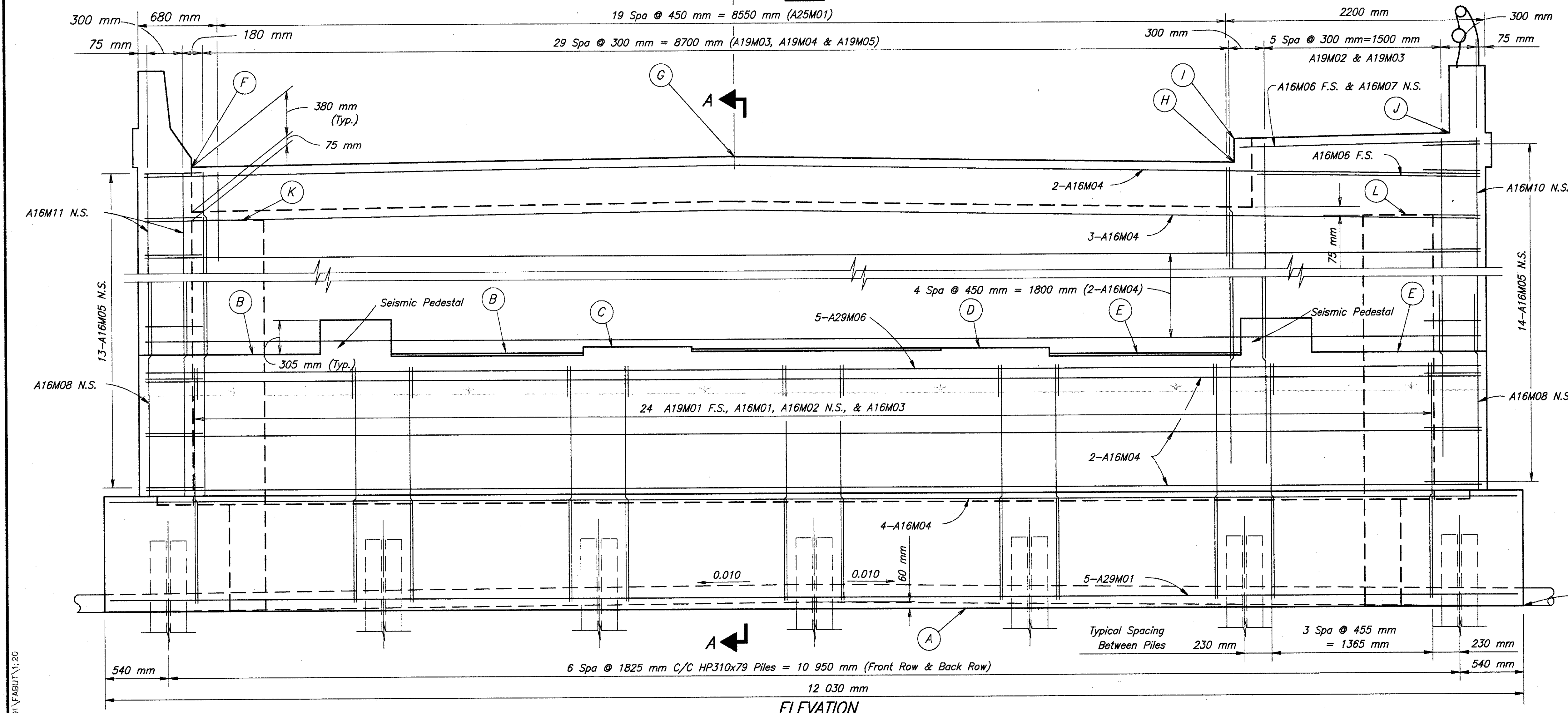
For Rear Abutment Plan & Elevation,
See Sheet **11/47**

For Footing Plan,
See Sheet **8/47**

PREPARED BY: JANSSEN & SPANNS ENGINEERING, INC. 2825 E. 56TH STREET INDIANAPOLIS, IN 46220	
DATE: _____ REVIEWED: LS DRAWN: TMD DESIGNED: DAT	STRUCTURE FILE NUMBER: 7303107 CHECKED: MJH REWISED: _____
WINGWALL "B" DETAILS BRIDGE NO. SCI-73-41276 S.R. 73 OVER SCIOTO RIVER	
SCI-73-41.268 13/47 36/80	



FORWARD ABUT.	
LOCATION	ELEVATION
A	157.220
B	159.398
C	159.445
D	159.423
E	159.376
F	162.154
G	162.225
H	162.158
I	162.358
J	162.396
K	161.699
L	161.703



N.S. Denotes Near Side
F.S. Denotes Far Side

For Section A-A, See Sheet 17/47.

For Wingwall 'C' Plan & Elevation, See Sheet 15/47.

For Wingwall 'D' Plan & Elevation, See Sheet 16/47.

For Typical Section Thru Girder Seat, See Sheet 17/47.

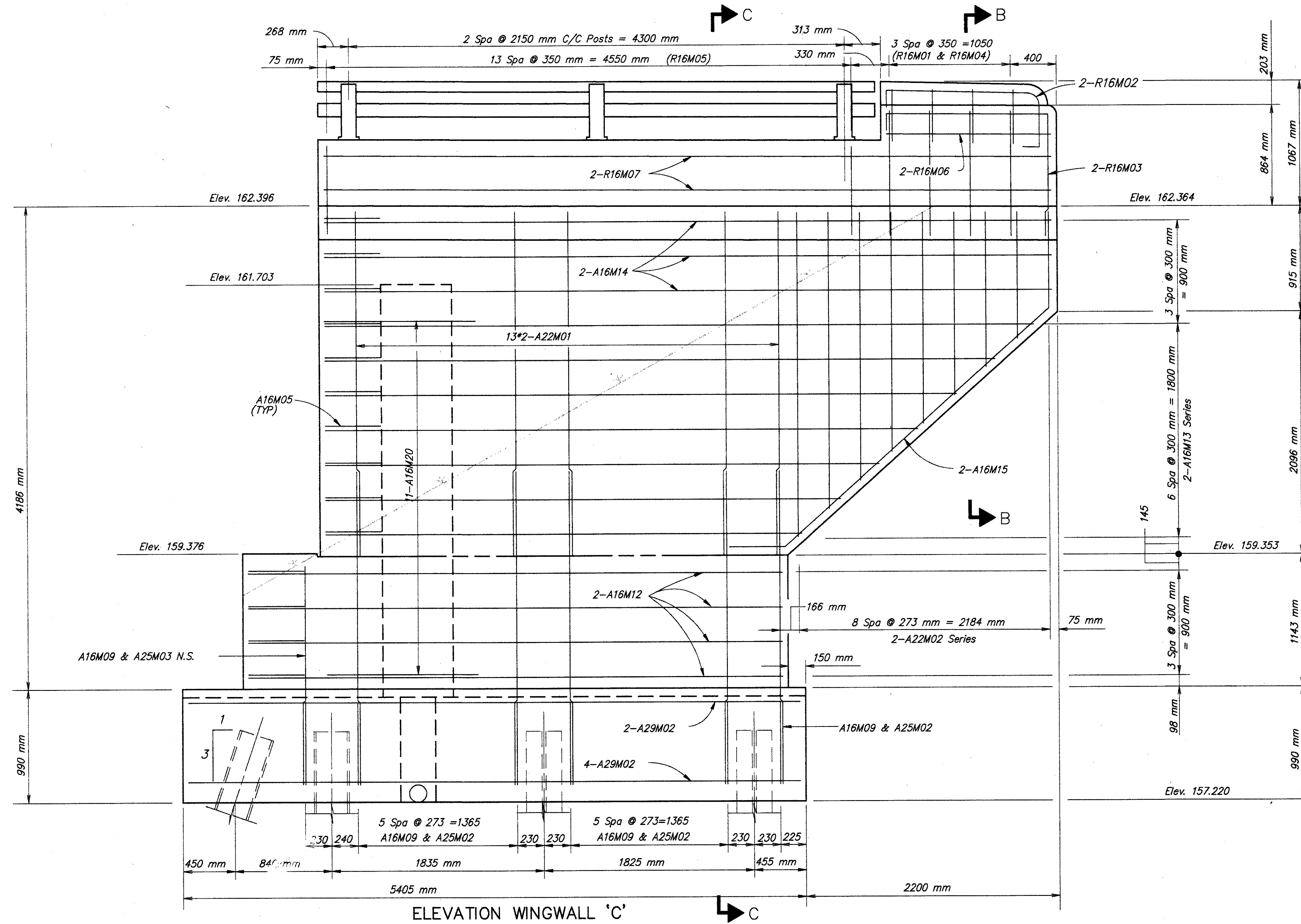
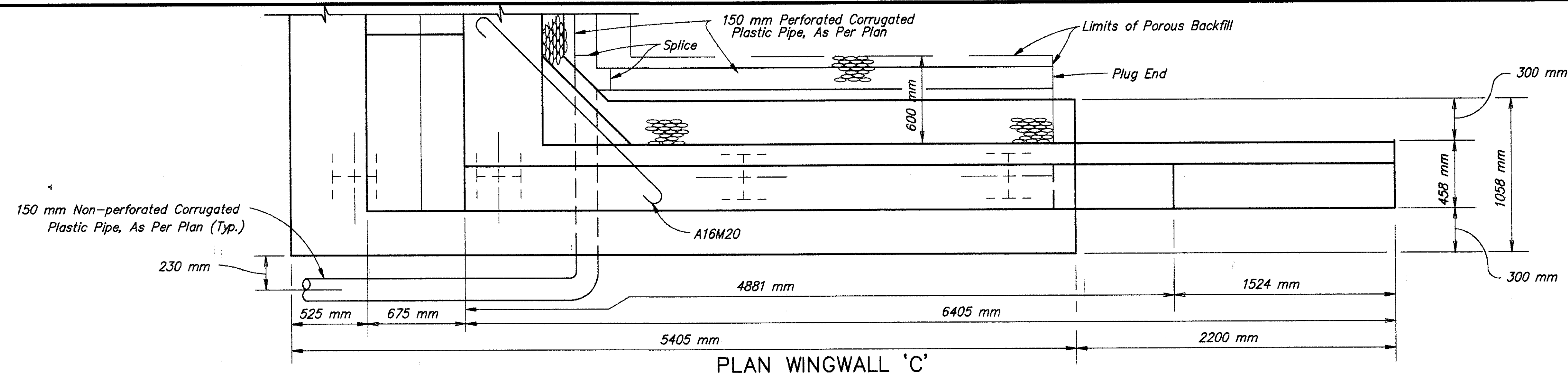
For Backwall Concrete Note, See Sheet 11/47.

For Footing Plan, See Sheet 10/47.

For Porous Backfill Note, See Sheet 11/47.

For Termination of 150 mm C.P.P., See Sheet 17/47.

For View H-H & Additional Details for Seismic Pedestals, See Sheet 18/47.



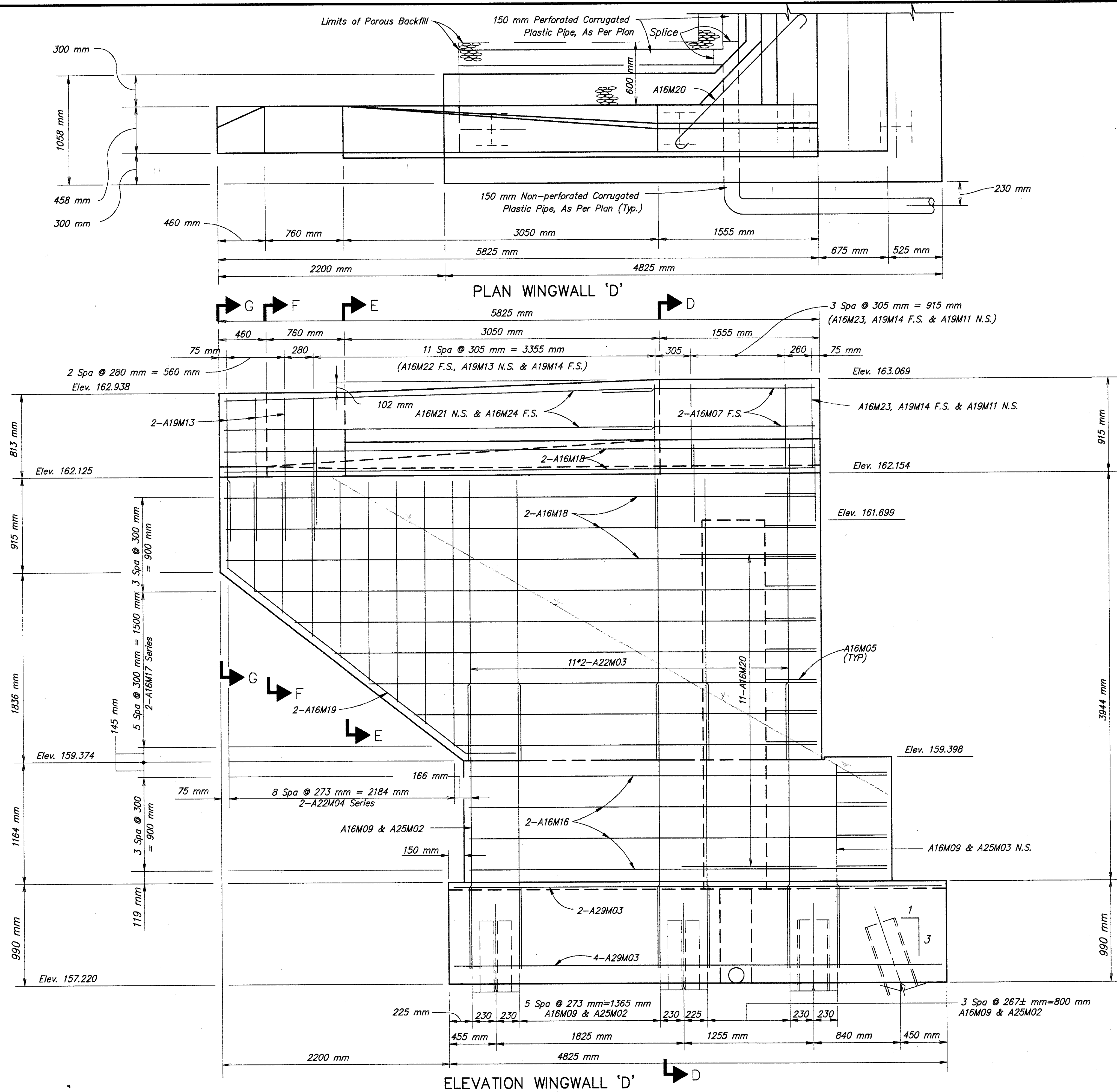
N.S. Denotes Near Side
F.S. Denotes Far Side

For Sections B-B & C-C, See Sheet 18 / 47

For Forward Abutment Plan & Elevation,
See Sheet 14 / 47

For Footing Plan,
See Sheet 10 / 47

For Additional Wingwall Railing Details,
See Std. Dwg. BR-2-82M



N.S. Denotes Near Side
F.S. Denotes Far Side

For Section D-D, See Sheet 18 / 47.

For Sections E-E thru G-G, See Sheet **17 / 47**.

For Forward Abutment Plan & Elevation,
See Sheet 14 / 47

For Footing Plan,
See Sheet 10 / 47

All horizontal bars are A16M18 unless noted otherwise.

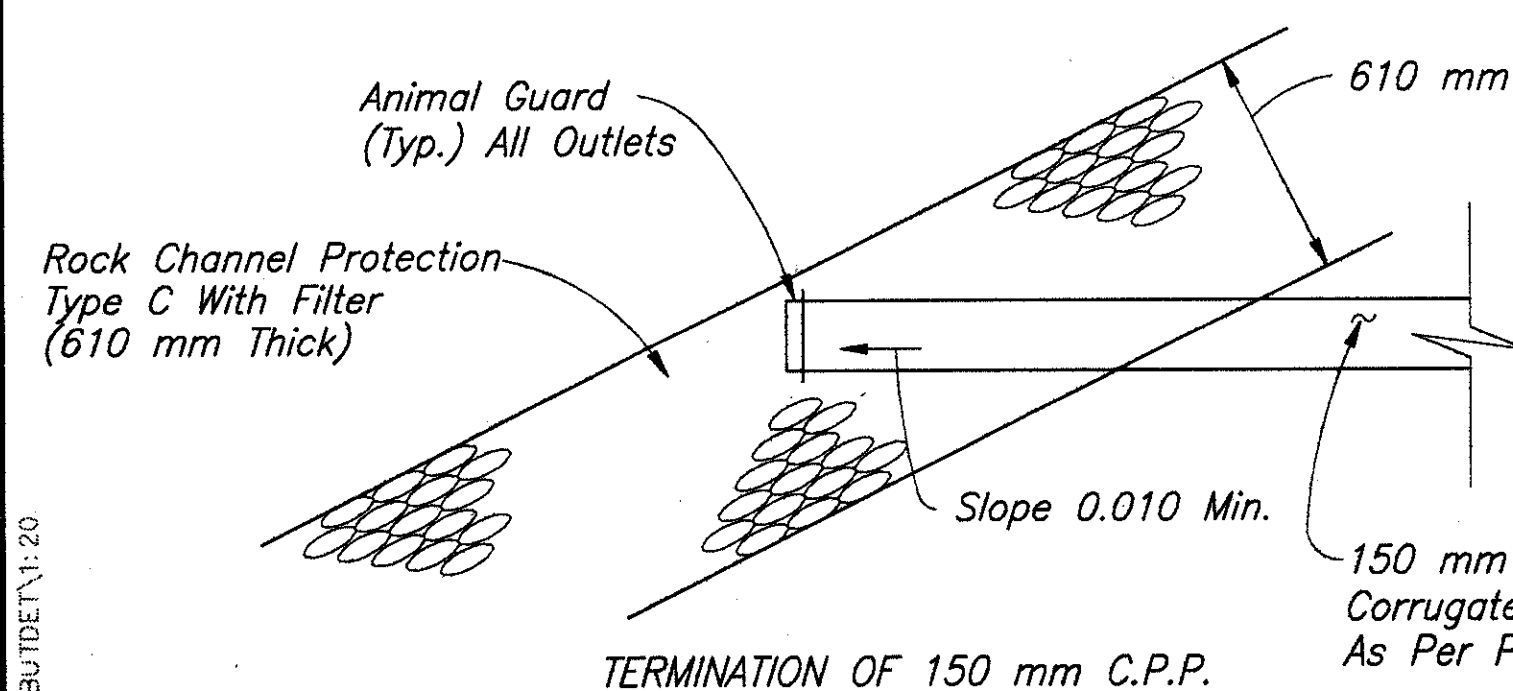
SECTION F-F
(WINGWALL 'B' SHOWN,
WINGWALL 'D' OPPOSITE HAND)

All horizontal bars are
A16M18 unless noted
otherwise.

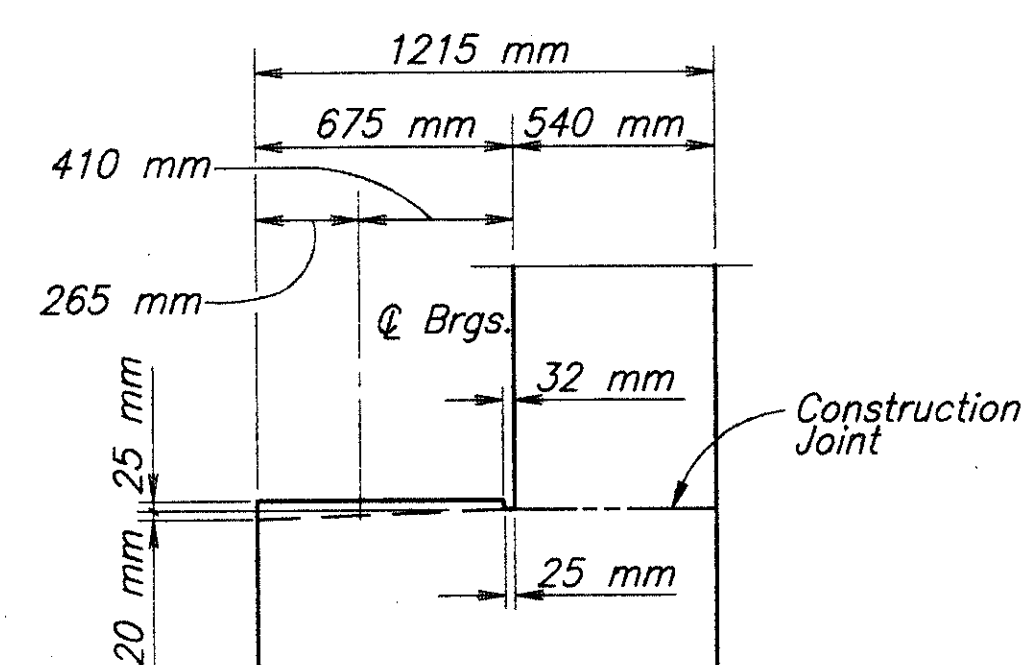
SECTION G-G
(WINGWALL 'B' SHOWN,
WINGWALL 'D' OPPOSITE HAND)

All horizontal bars are
A16M18 unless noted
otherwise.

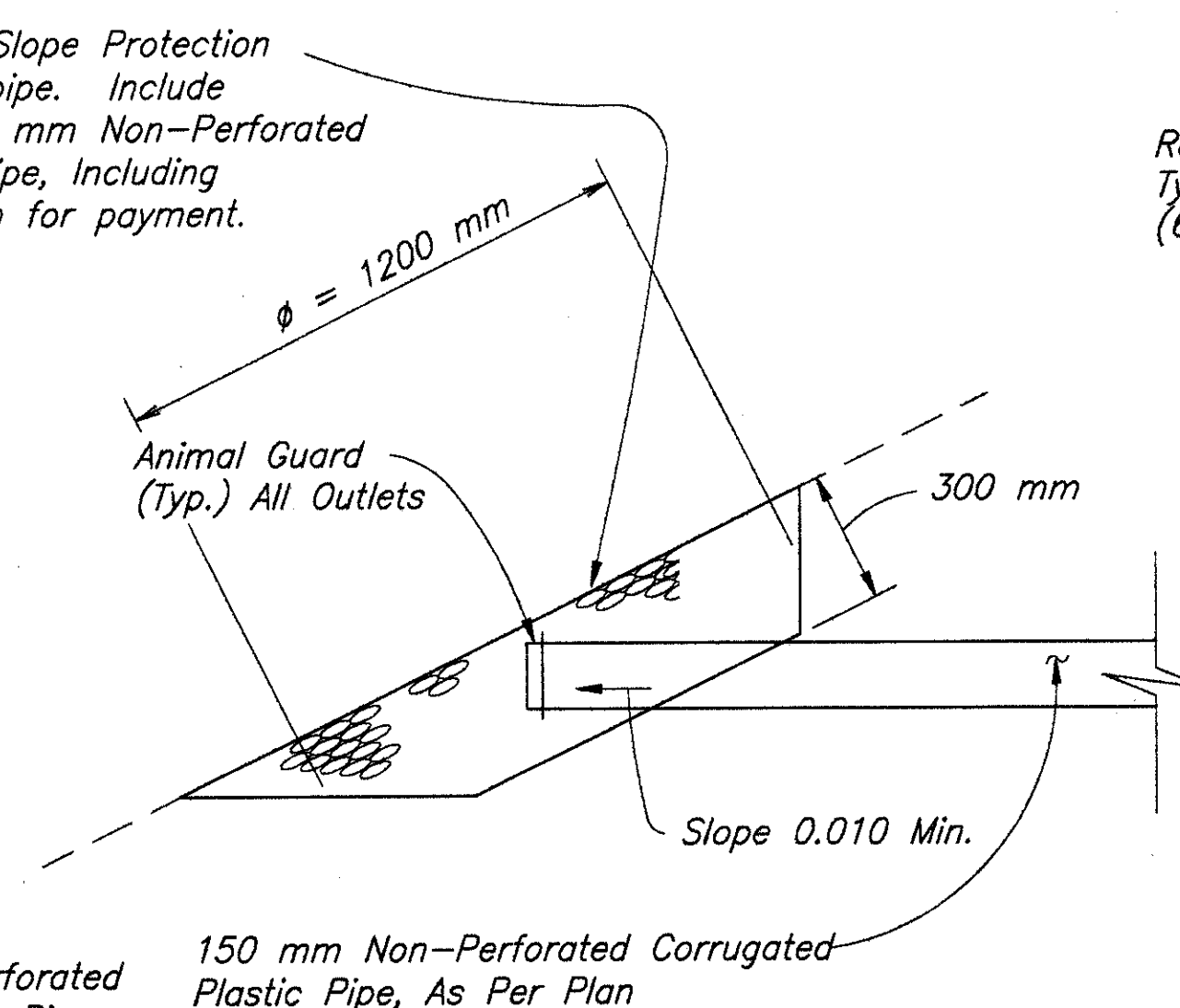
SECTION E-E
(WINGWALL 'B' SHOWN,
WINGWALL 'D' OPPOSITE HAND)



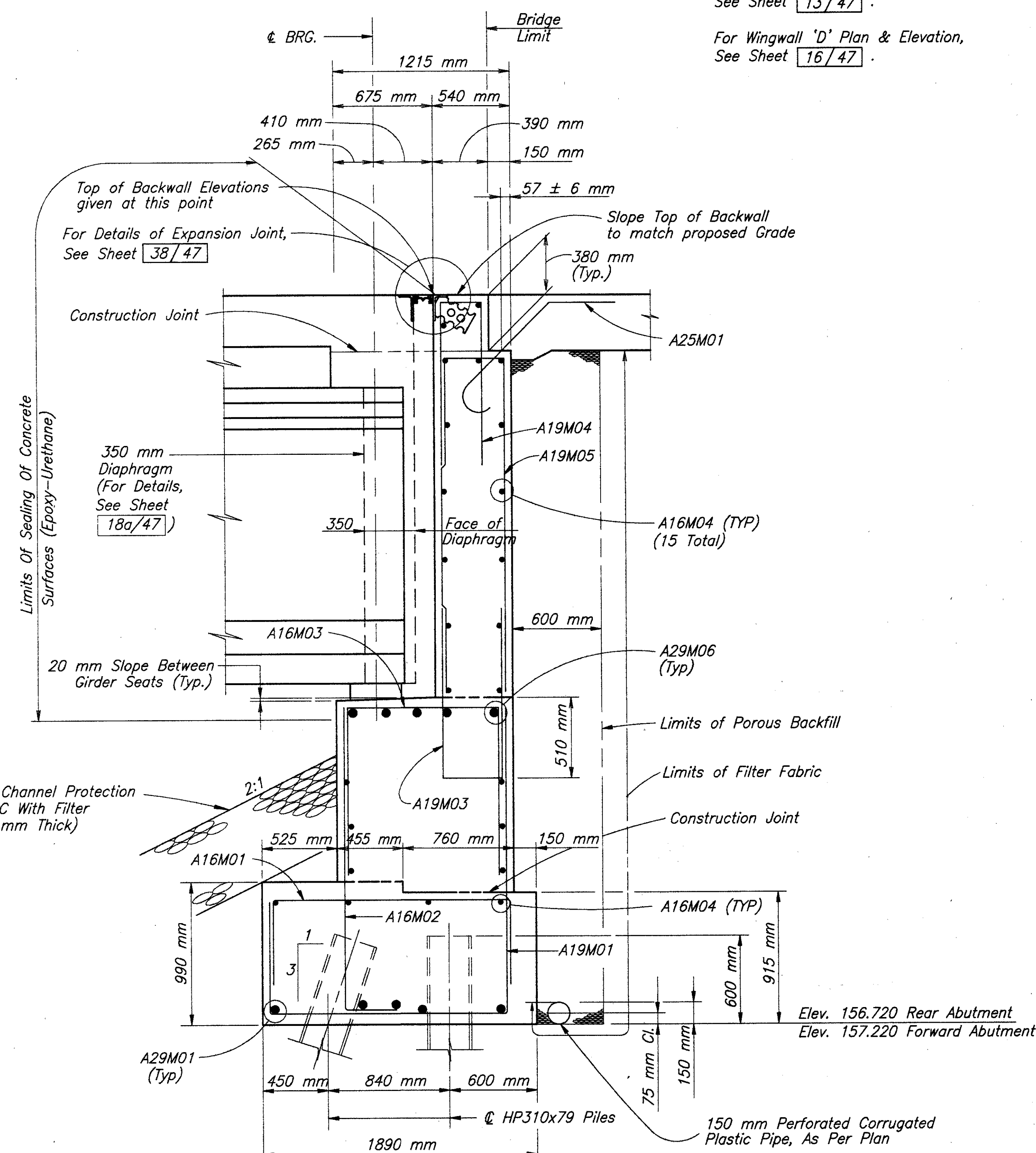
FORWARD ABUTMENT



TYPICAL SECTION
THRU GIRDER SEAT



TERMINATION OF 150 mm C.P.P.



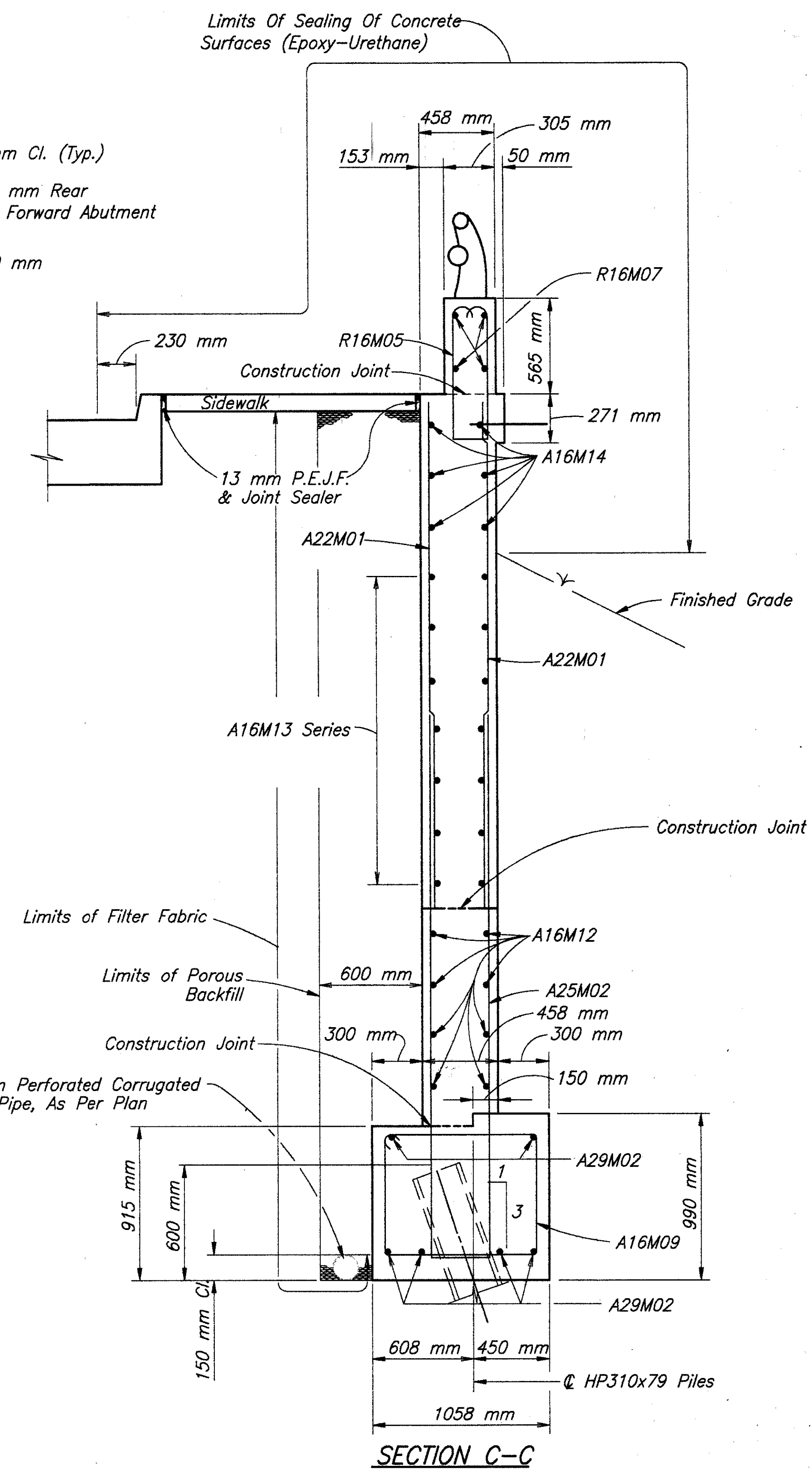
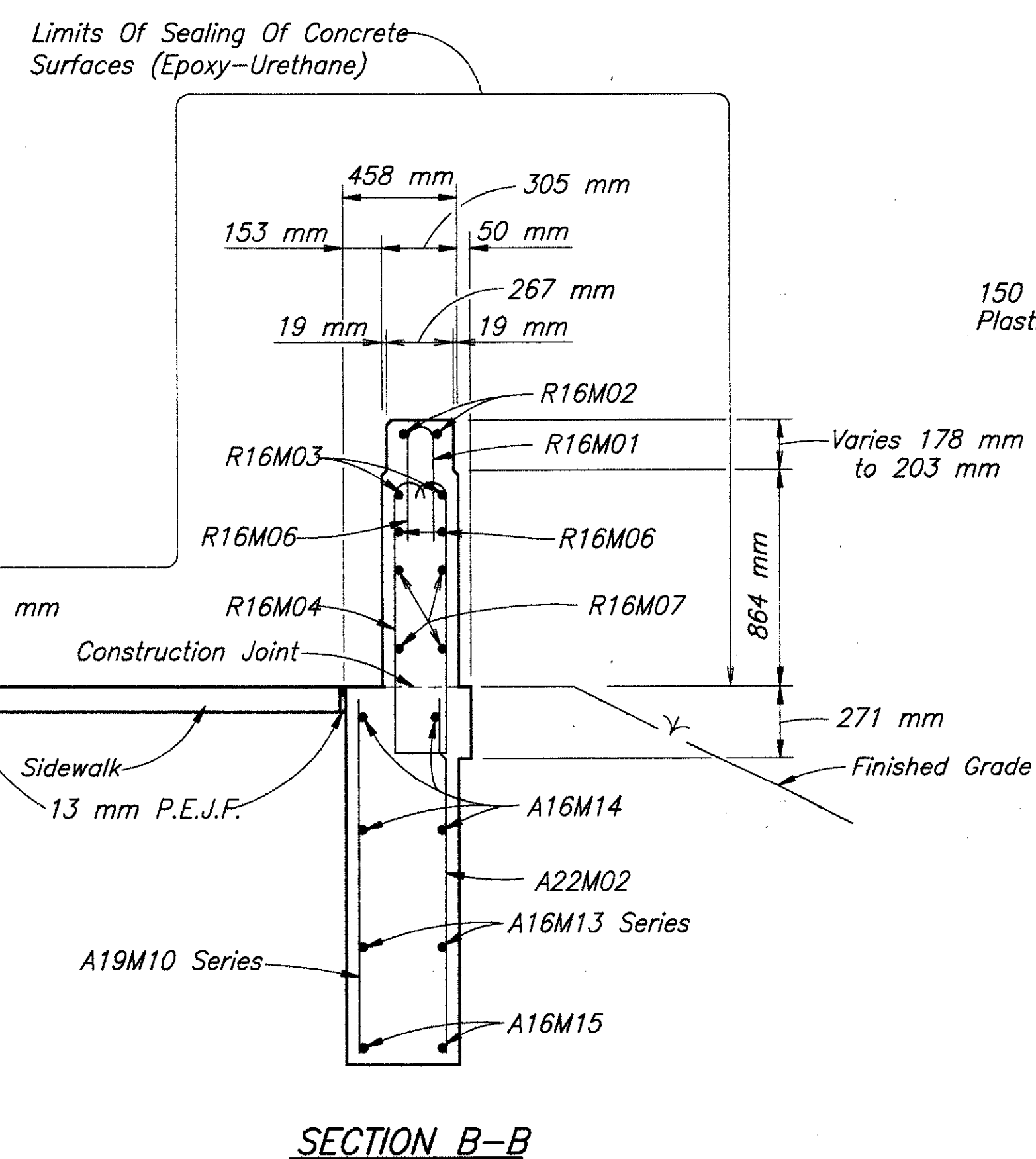
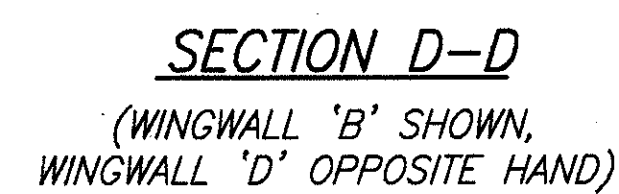
SECTION A-A

For Rear Abutment Plan & Elevation,
See Sheet 11/47 .

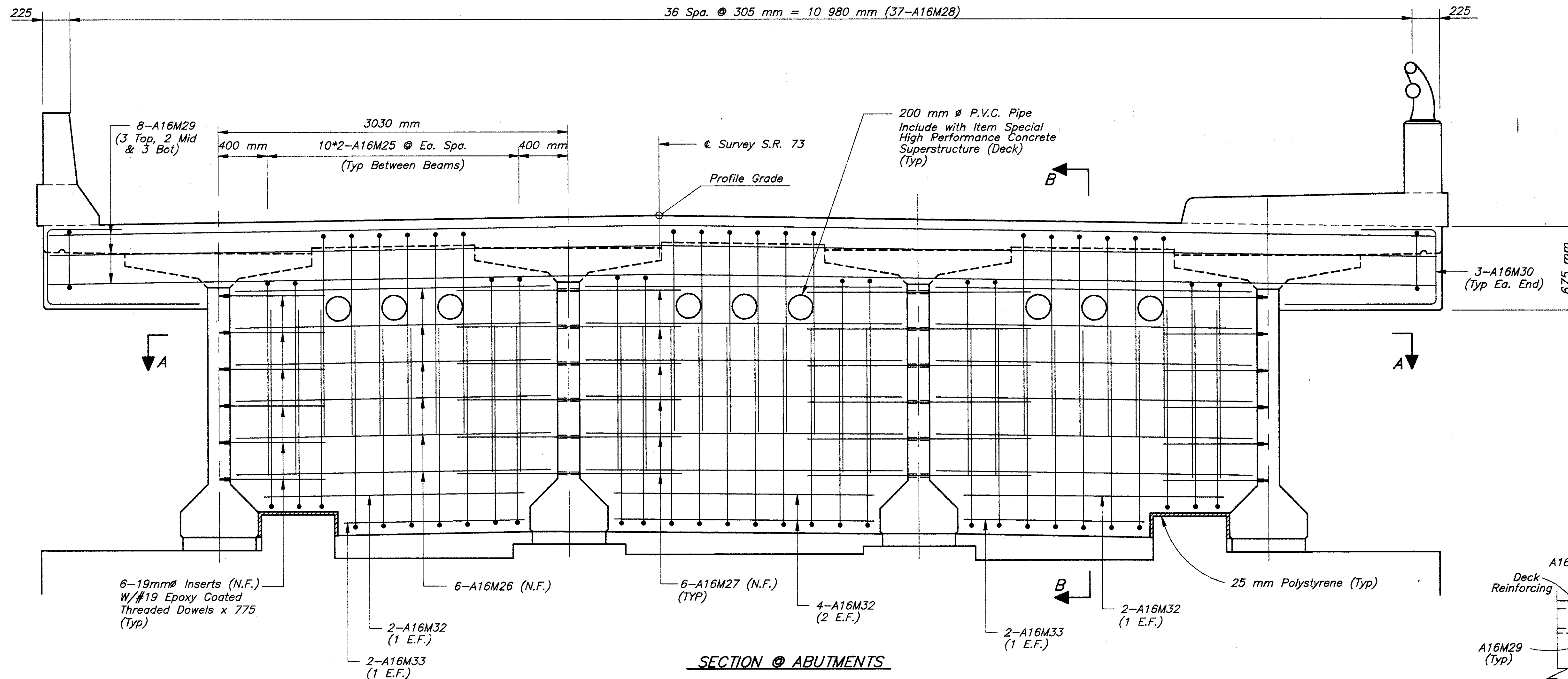
For Forward Abutment Plan & Elevation,
See Sheet 14/47.

For Wingwall 'B' Plan & Elevation,
See Sheet 13/47 .

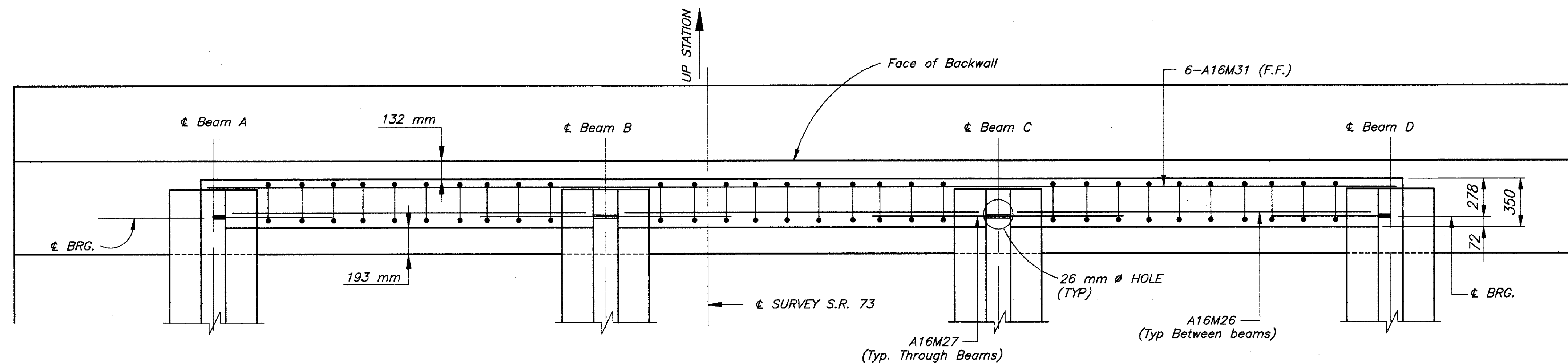
For Wingwall 'D' Plan & Elevation,
See Sheet 16/47 .



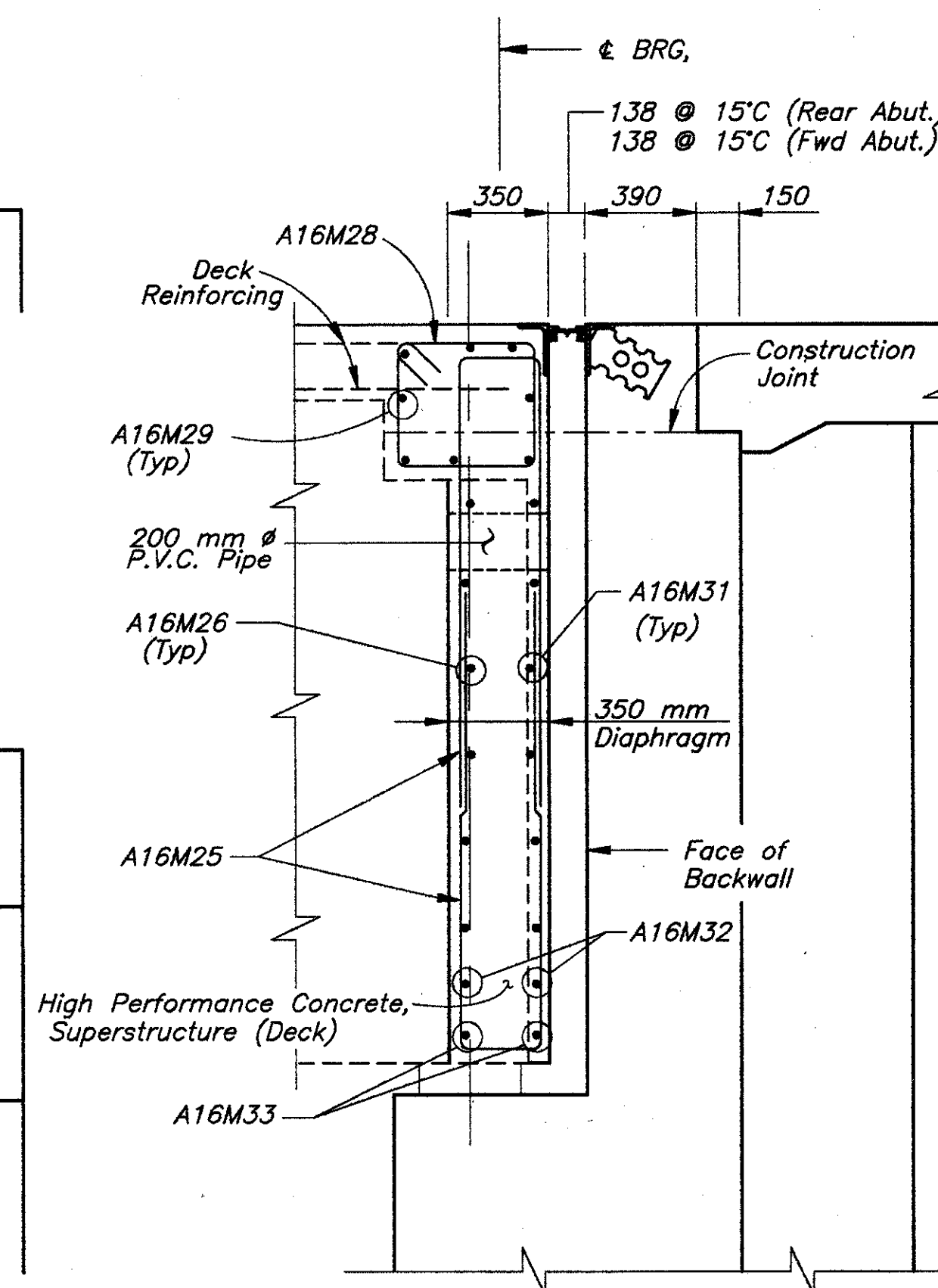
For Wingwall 'D' Plan & Elevation,
See Sheet 16/47 .



SECTION @ ABUTMENTS



SECTION A-A
(FORWARD ABUTMENT SHOWN)



SECTION B-B

LEGEND
N.F. ~ NEAR FACE
F.F. ~ FAR FACE
E.F. ~ EACH FACE

For additional details not drawn or noted
See Std Dwg. EXJ-6-95M.
For Rear & Forward Abutment details
See Sheets 11/47 thru 18/47

PREPARED BY:
JANSSEN & SPAANS ENGINEERING, INC.
2826 E. 66TH STREET
INDIANAPOLIS, IN 46220

DATE	11-7-97
REVIEWED	LS
STRUCTURE FILE NUMBER	7303017
DRAWN	TMD
CHECKED	MJH

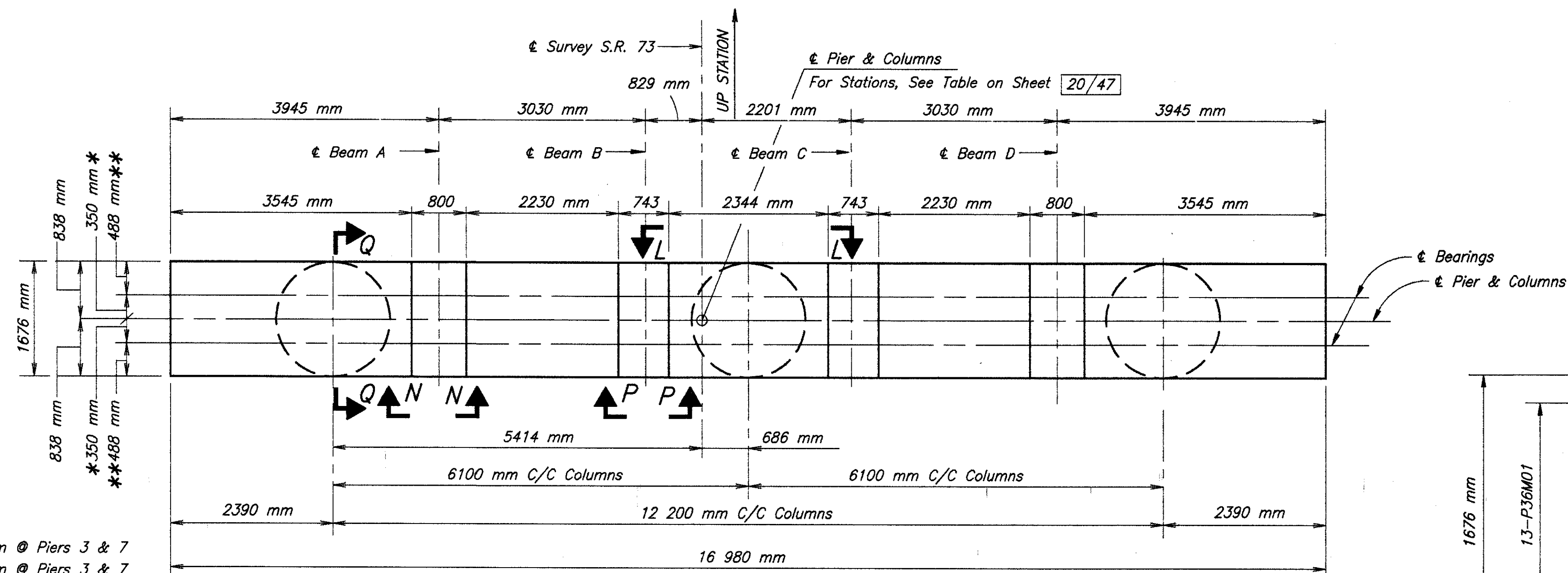
DIAPHRAGM DETAILS @ ABUTMENTS
BRIDGE NO. SCI-73-41276
S.R. 73 OVER SCIOTO RIVER

SCI-73-41.268

18a/47

41a/80

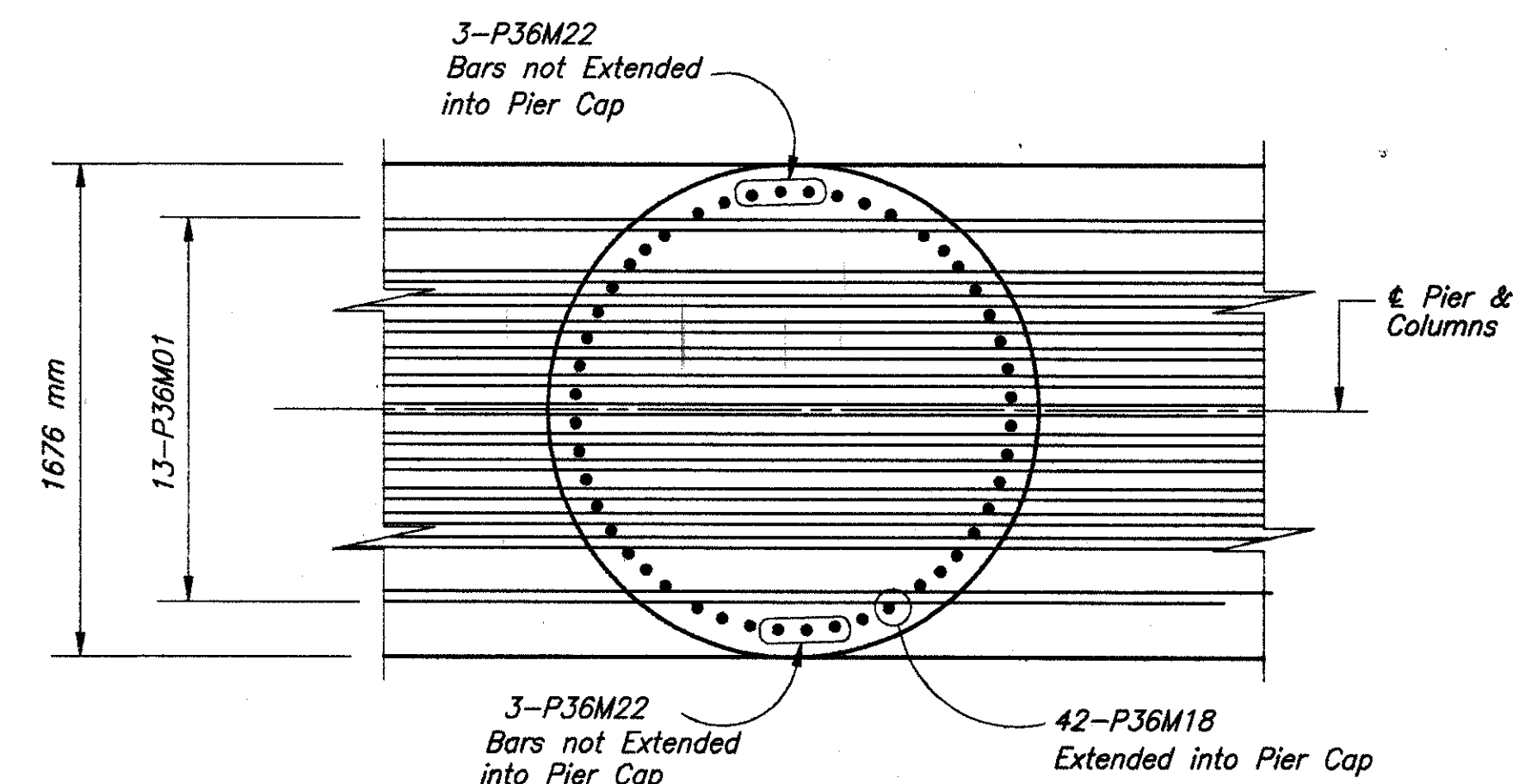
* 460 mm @ Piers 3 & 7
 ** 378 mm @ Piers 3 & 7



PLAN

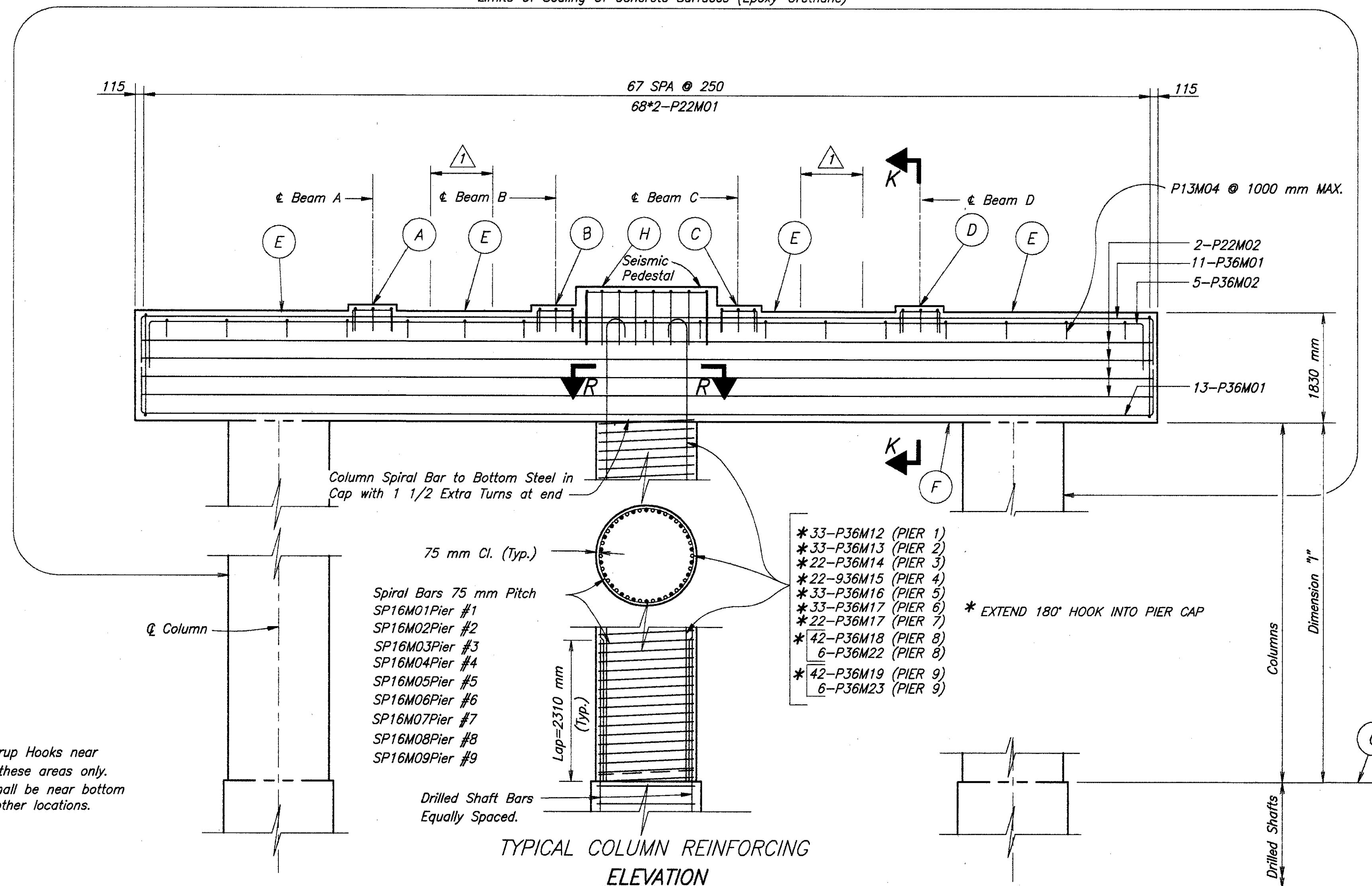
BRIDGE SEAT REINFORCING: Reinforcing steel in the vicinity of the bridge seat shall be accurately placed to avoid interference with the drilling of dowel bars (Piers 1, 5, & 8 only).

Limits Of Sealing Of Concrete Surfaces (Epoxy-Urethane)



SECTION R-R
 (PIER 8 ONLY)

Place 135° Stirrup Hooks near top of cap in these areas only. These hooks shall be near bottom of cap at all other locations.



TYPICAL COLUMN REINFORCING
 ELEVATION

NOTES:

Roughen construction joints to an amplitude of 6.4 mm.

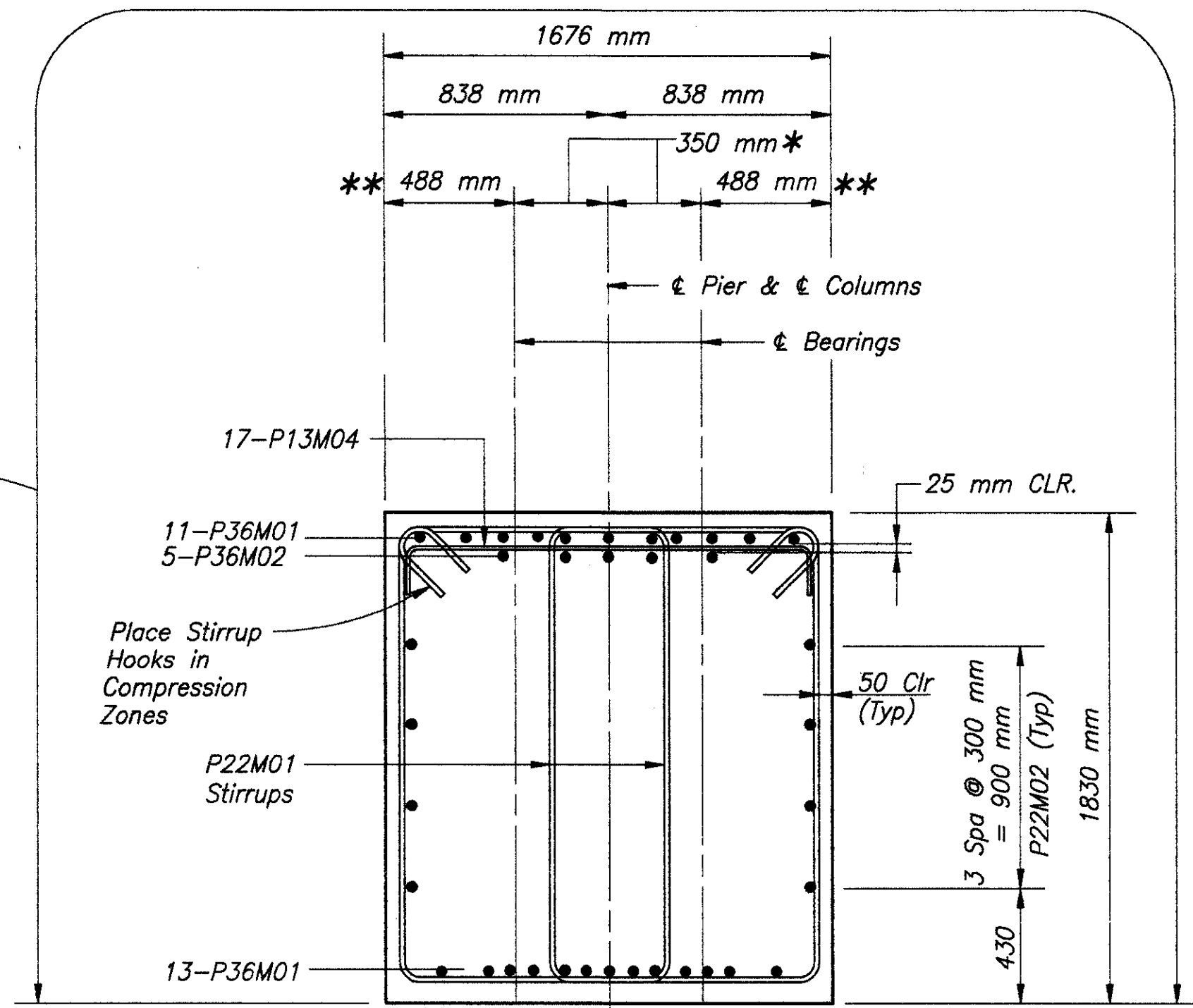
For Pier Stations, elevations and dimensions, See Sheets 20/47

For Drilled Shaft Details and Notes, See Sheets 43/47 Thru 47/47

For Sections See Sheet 20/47

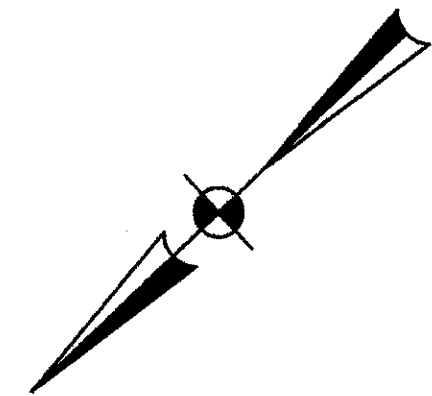
Dowel Bars @ Piers 1, 5 & 8 only. Refer to Standard PSID-1-95M, Sheet 4 of 7.

Limits Of Sealing
Of Concrete Surfaces
(Epoxy-Urethane)

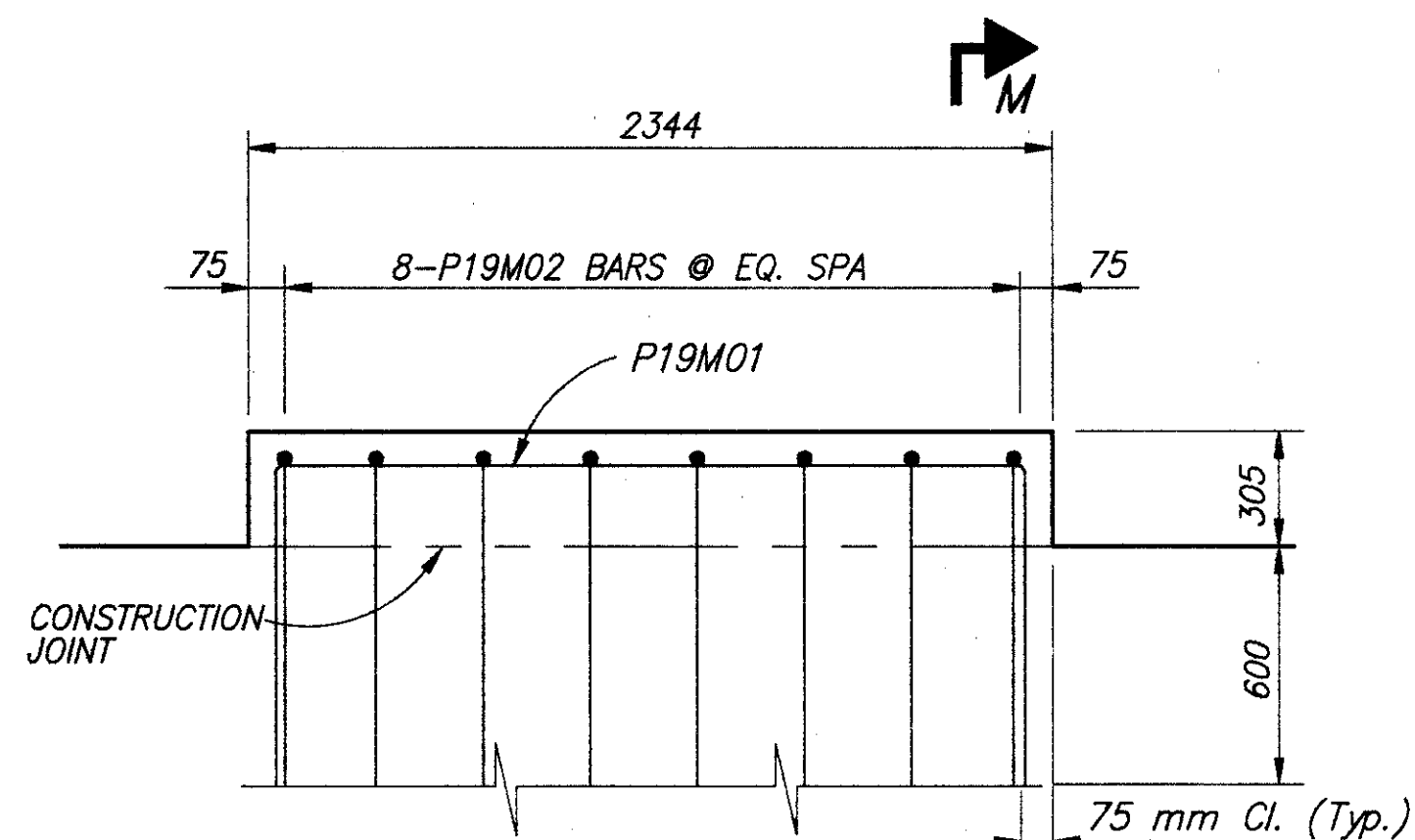


SECTION K-K

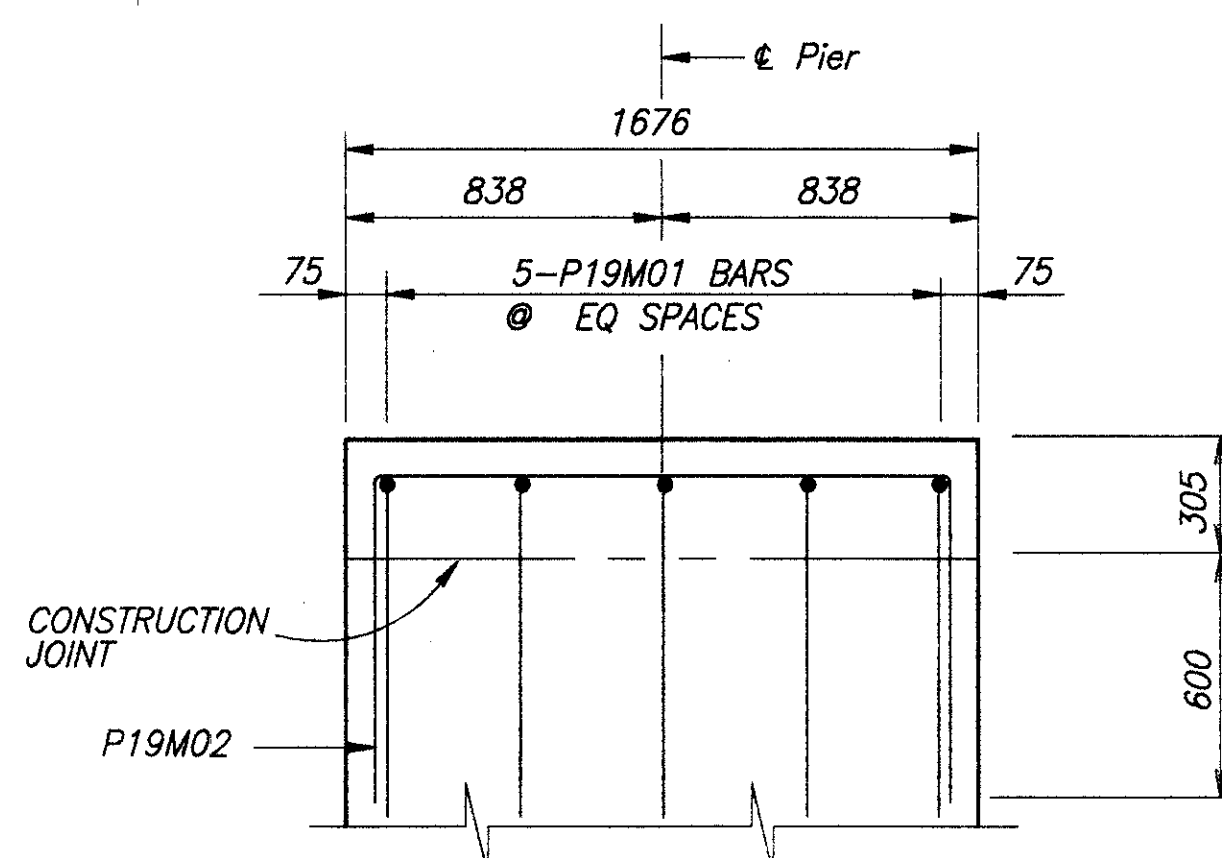
* 460 mm @ Piers 3 & 7
** 378 mm @ Piers 3 & 7



STATION	PIER #	ELEVATIONS								DIMENSION (mm)
		A	B	C	D	E	F	G	H	
41+323.587	PIER #1	159.232	159.279	159.258	159.211	159.111	157.281	151.000	159.584	6281
41+371.000	PIER #2	159.462	159.510	159.488	159.441	159.341	157.511	152.200	159.815	5311
41+413.320	PIER #3	159.628	159.675	159.654	159.606	159.506	157.676	152.200	159.980	5476
41+455.640	PIER #4	159.828	159.875	159.853	159.806	159.706	157.876	151.900	160.180	5976
41+497.960	PIER #5	159.936	159.983	159.962	159.914	159.814	157.984	153.400	160.288	4584
41+545.373	PIER #6	159.988	160.035	160.014	159.966	159.866	158.036	148.400	160.340	9636
41+592.786	PIER #7	159.920	159.967	159.946	159.899	159.799	157.969	148.400	160.272	9569
41+640.199	PIER #8	159.850	159.897	159.876	159.828	159.728	157.898	148.400	160.202	9498
41+687.612	PIER #9	159.668	159.715	159.694	159.647	159.547	157.717	150.300	160.020	7417

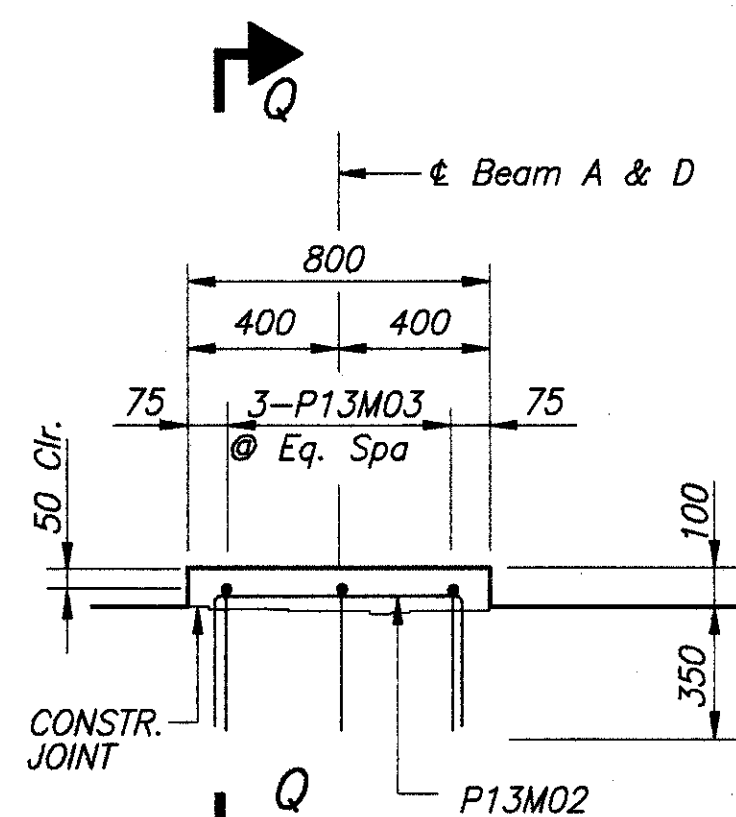


VIEW L-L

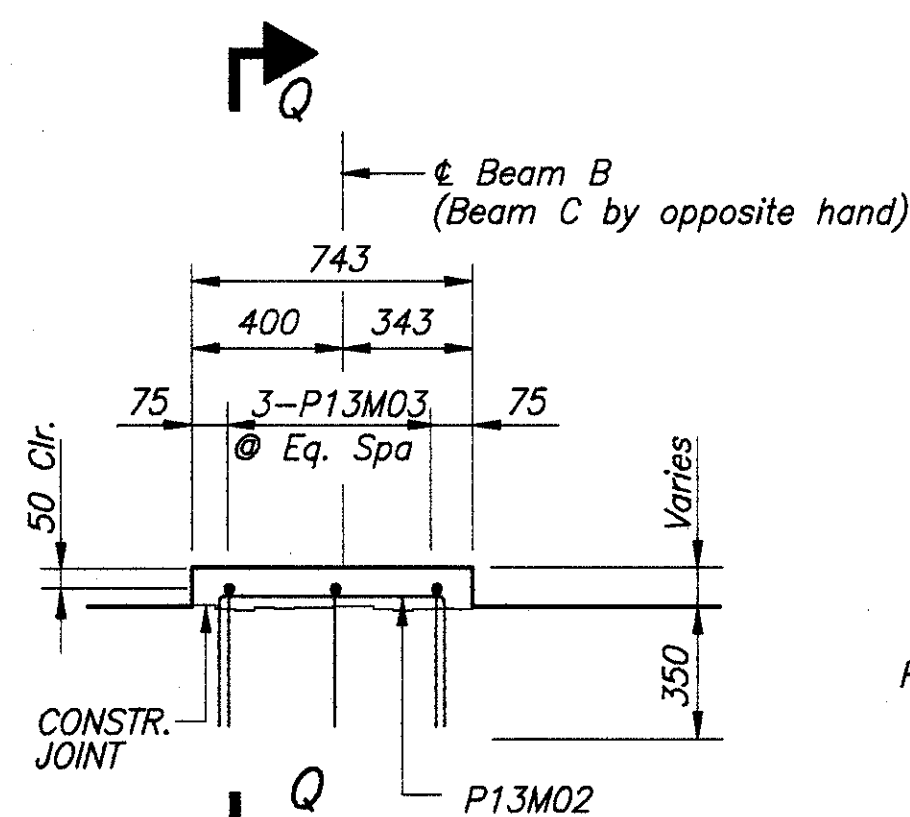


VIEW M-M

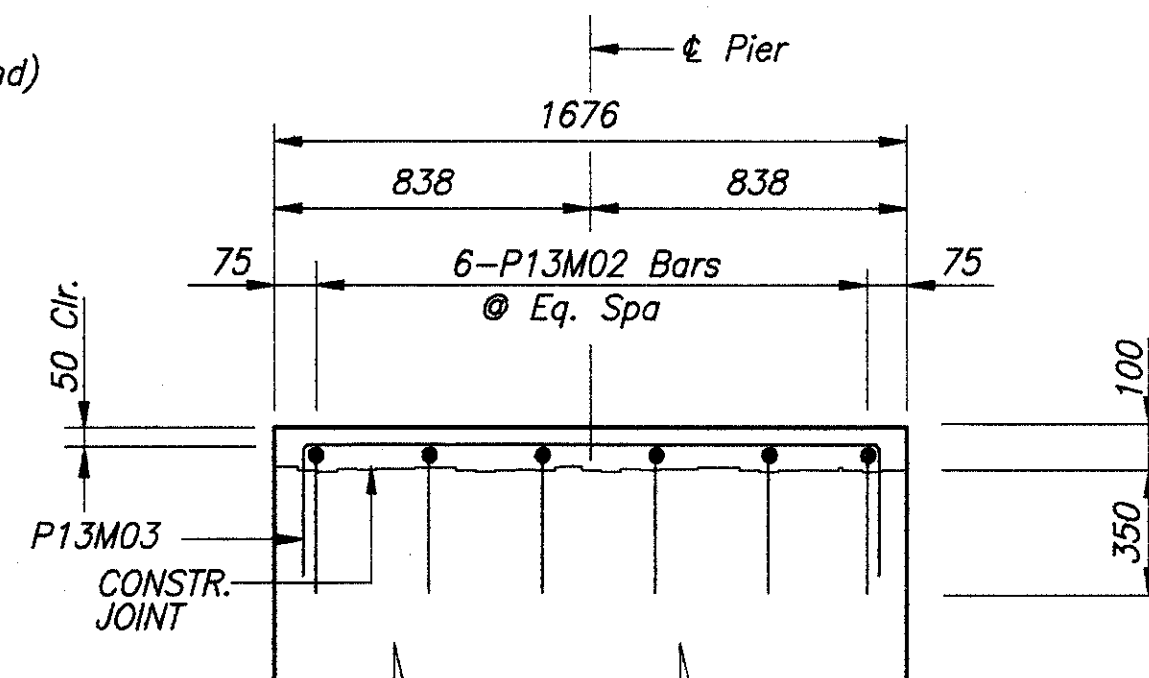
SHEAR KEY



VIEW N-N



VIEW P-P



VIEW Q-Q

NOTES:

Roughen construction joints to an amplitude of 6.4 mm.

PREPARED BY:
JANSSEN & SPANNS ENGINEERING, INC.
2825 E. 56TH STREET
INDIANAPOLIS, IN 46286

DATE
11-7-97
REVIEWED
LS
STRUCTURE FILE NUMBER
7303017

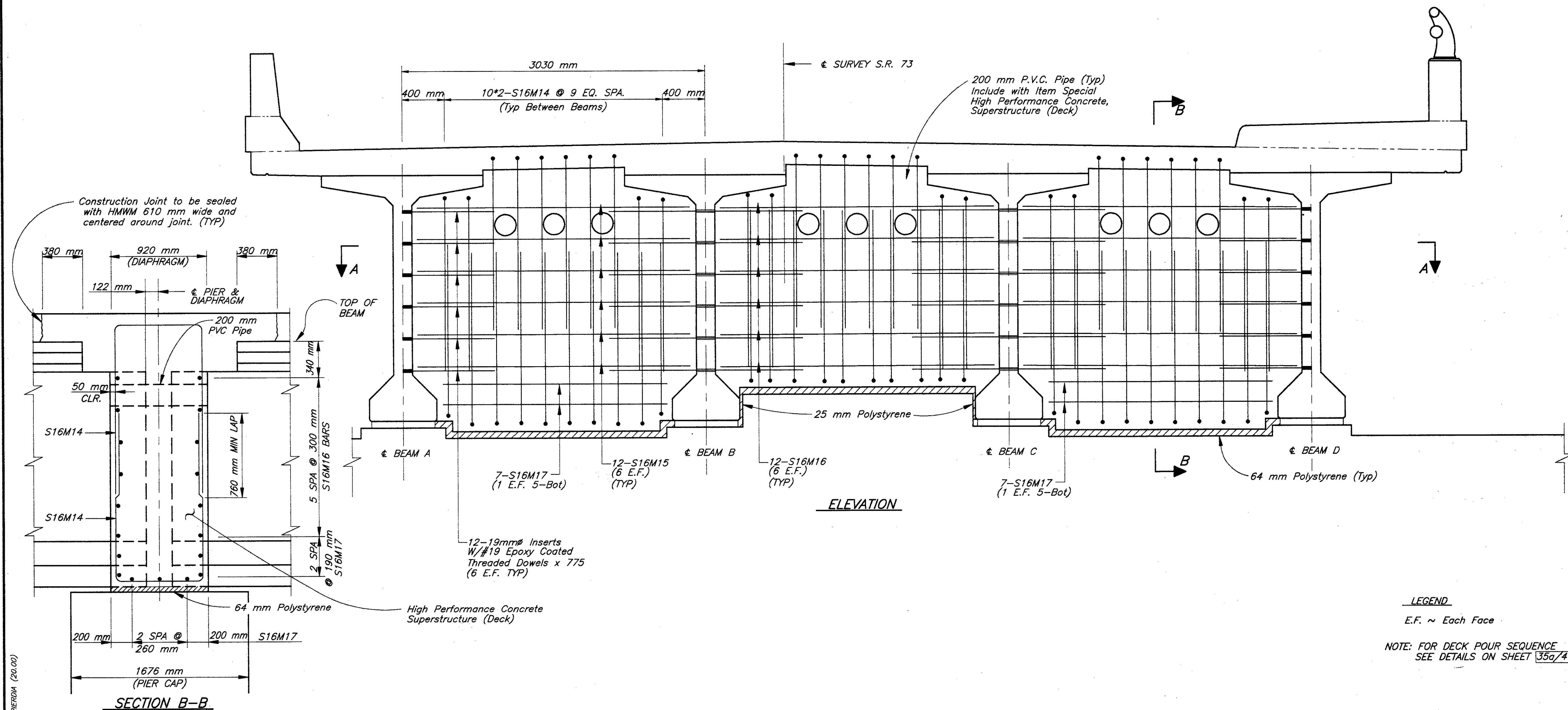
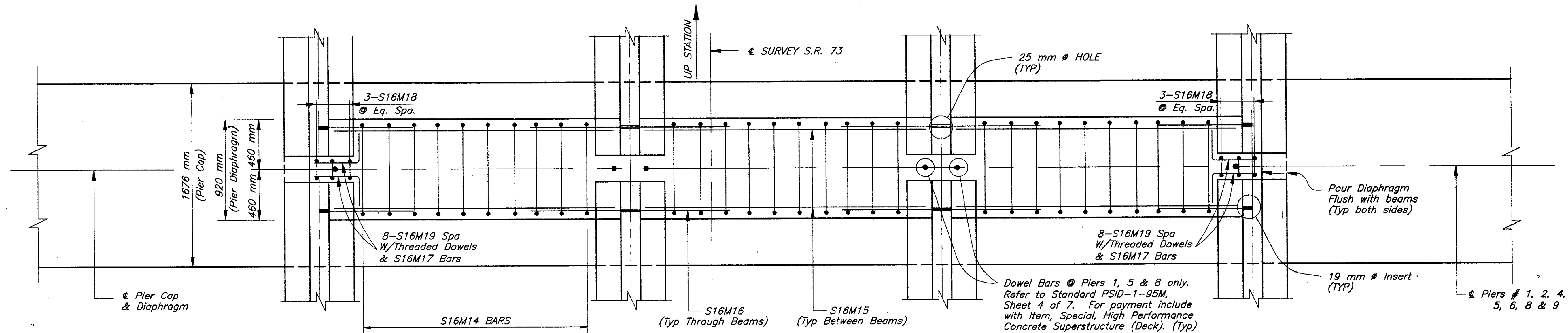
DRAWN
TMD
DESIGNED
DAT
CHECKED
MJH

PIER DETAILS 2
BRIDGE NO. SCI-73-41276
S.R. 73 OVER SCIOTO RIVER

SCI-73-41.268

20/47

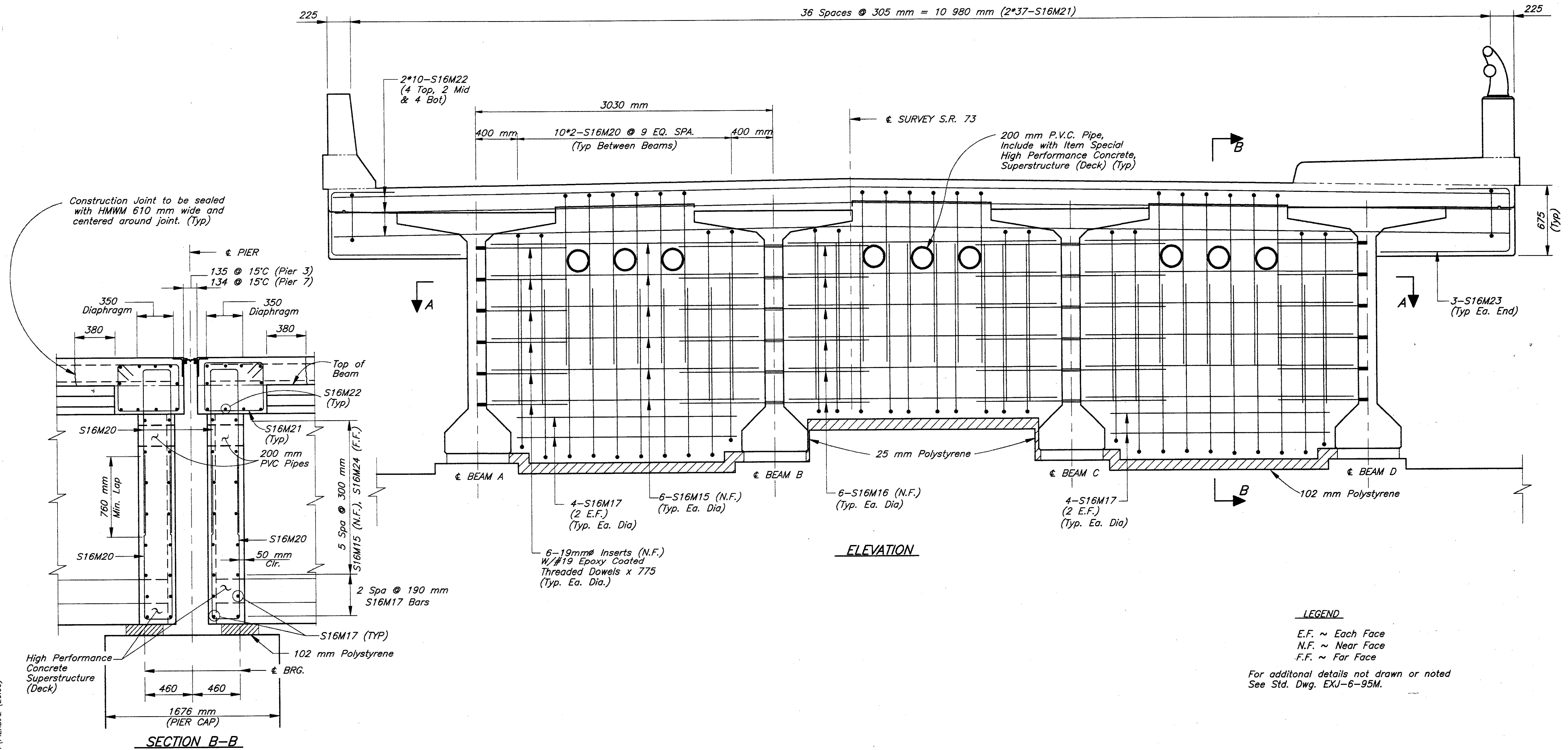
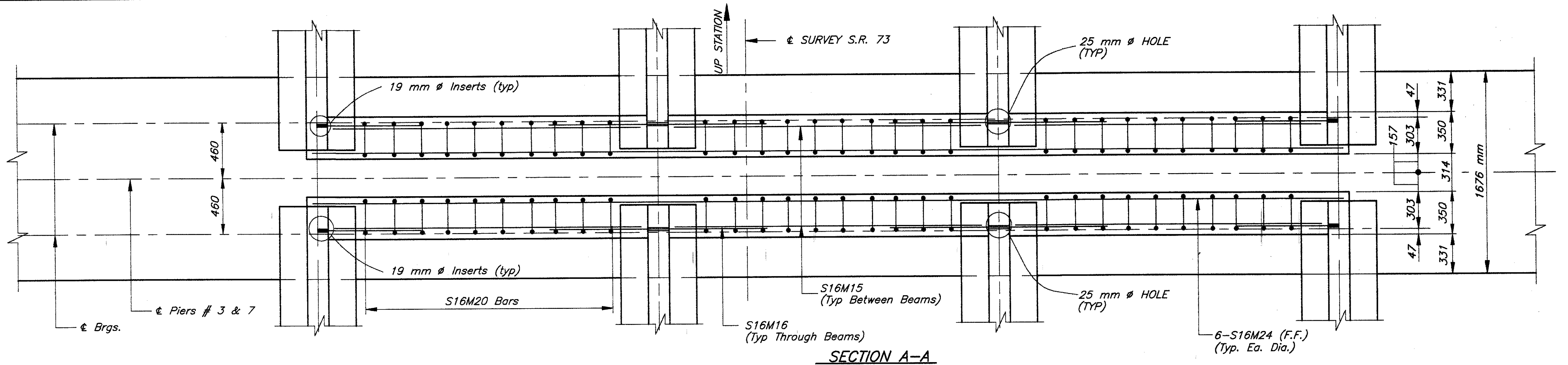
43/80



LEGEND

E.F. ~ Each Face

NOTE: FOR DECK POUR SEQUENCE SEE DETAILS ON SHEET 35a/47.



LEGEND

E.F. ~ Each Face
N.F. ~ Near Face
F.F. ~ Far Face

For additional details not drawn or noted
See Std. Dwg. EXJ-6-95M.

JANSSEN & SPAANS ENGINEERING, INC.
2825 E. 56TH STREET
INDIANAPOLIS, IN 46220

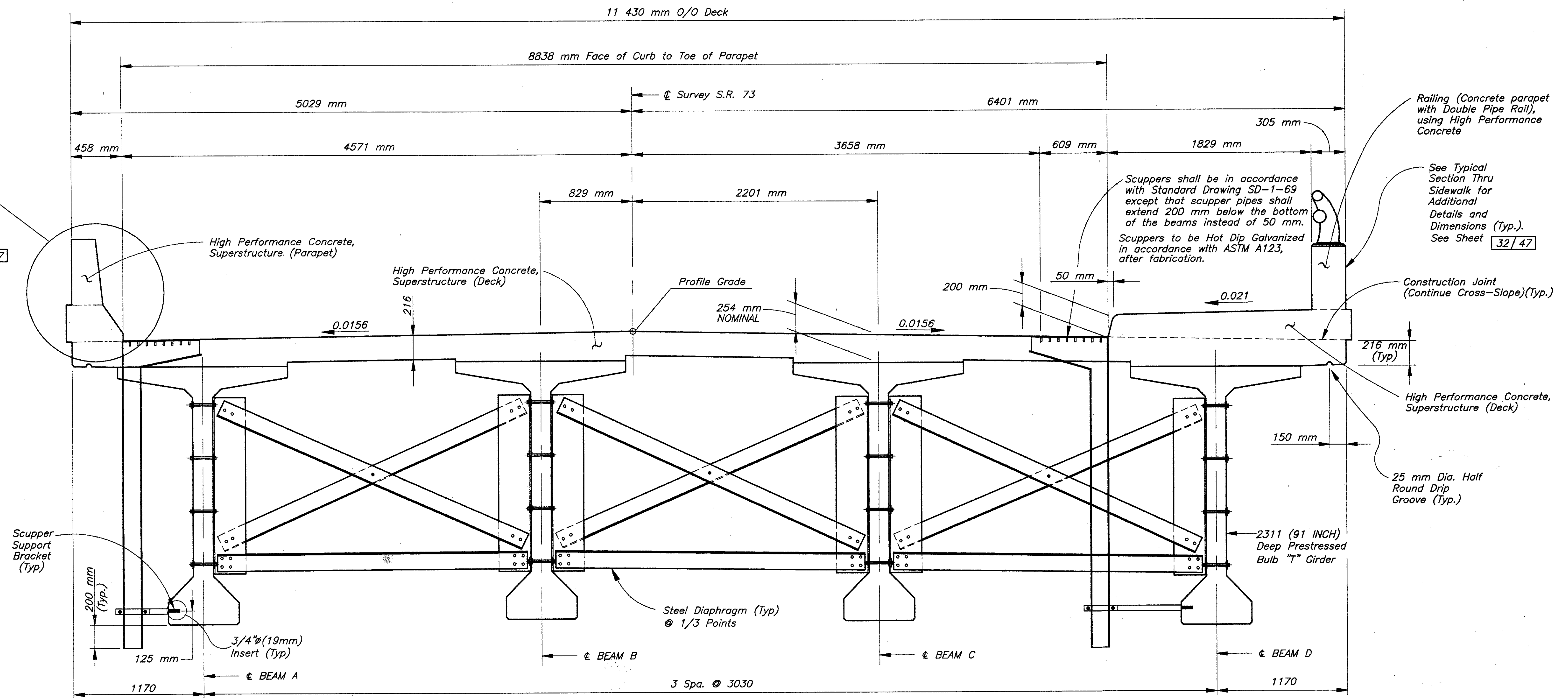
DATE 11-7-97
REVIEWED LS
STRUCTURE FILE NUMBER 7305017

DRAWN TMD
DESIGNED DAT
CHECKED MJH

PIER DIAPHRAGM DETAILS 2
BRIDGE NO. SCI-73-41276
S.R. 73 OVER SCIOTO RIVER

SCI-73-41.268

21a/47
44a
80



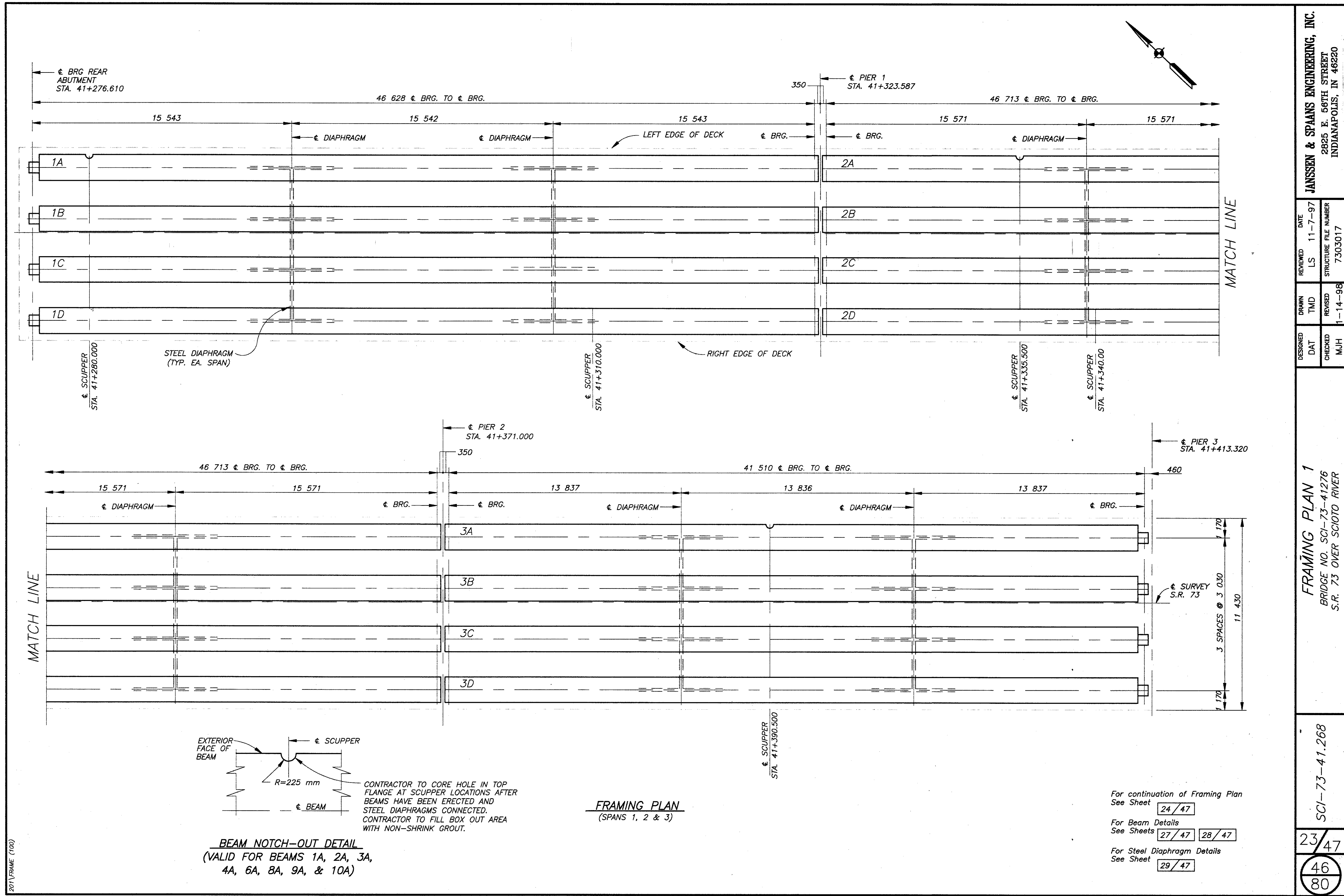
TRANSVERSE SECTION

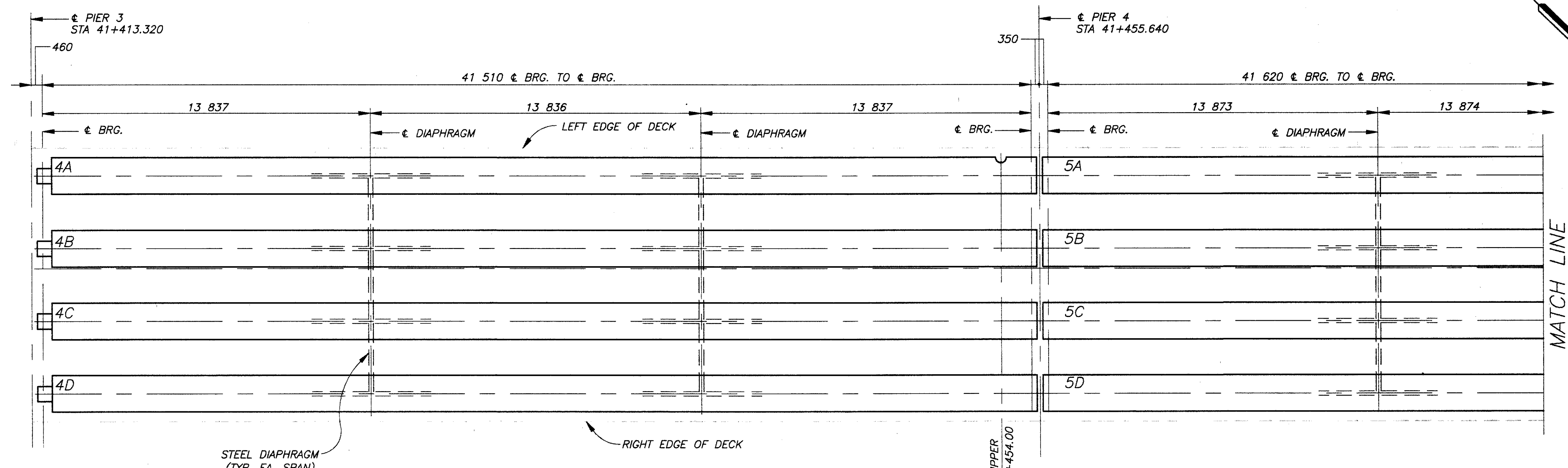
For Limits of Sealing of Concrete Surfaces
See Sheet 32/47

For Steel Diaphragm Locations
See Sheets 23/47 24/47 25/47 26/47

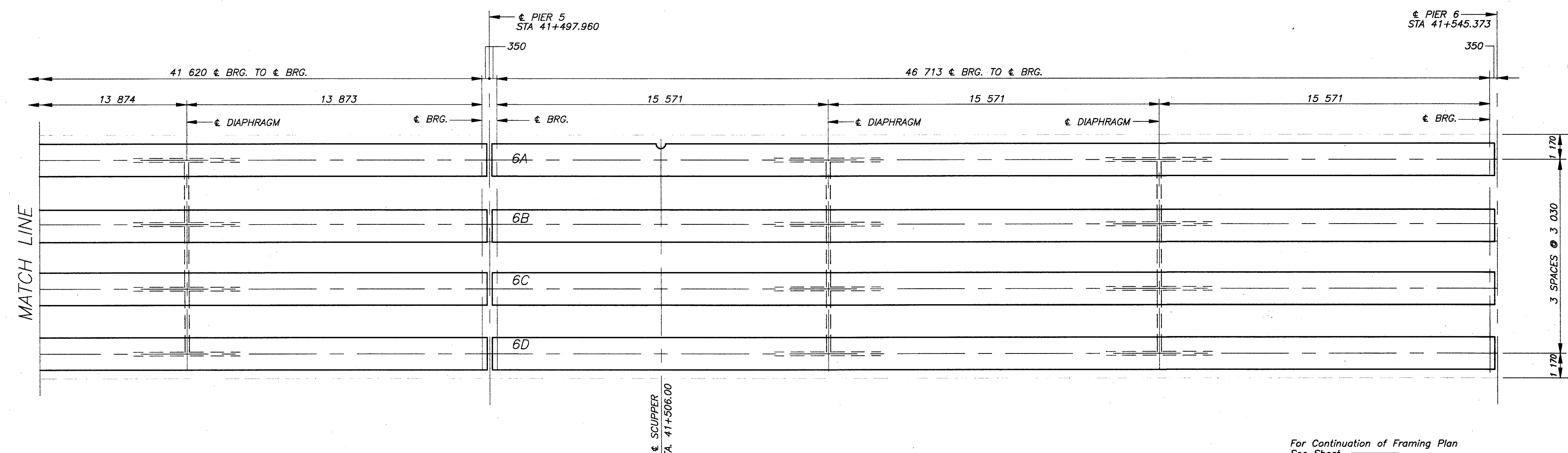
For Steel Diaphragm Details
See Sheet 29/47

For Slab Reinforcing Details
See Sheets 31/47 32/47 33/47 34/47 35/47





For Continuation of Framing Plan
See Sheet **23/47**



FRAMING PLAN
(SPANS 4, 5 & 6)

For Continuation of Framing Plan
See Sheet **25/47**

For Beam Details
See Sheets **27/47** **28/47**

For Steel Diaphragm Details
See Sheet **29/47**

JANSSEN & SPAANS ENGINEERING, INC.
2825 E. 58TH STREET
INDIANAPOLIS, IN 46220

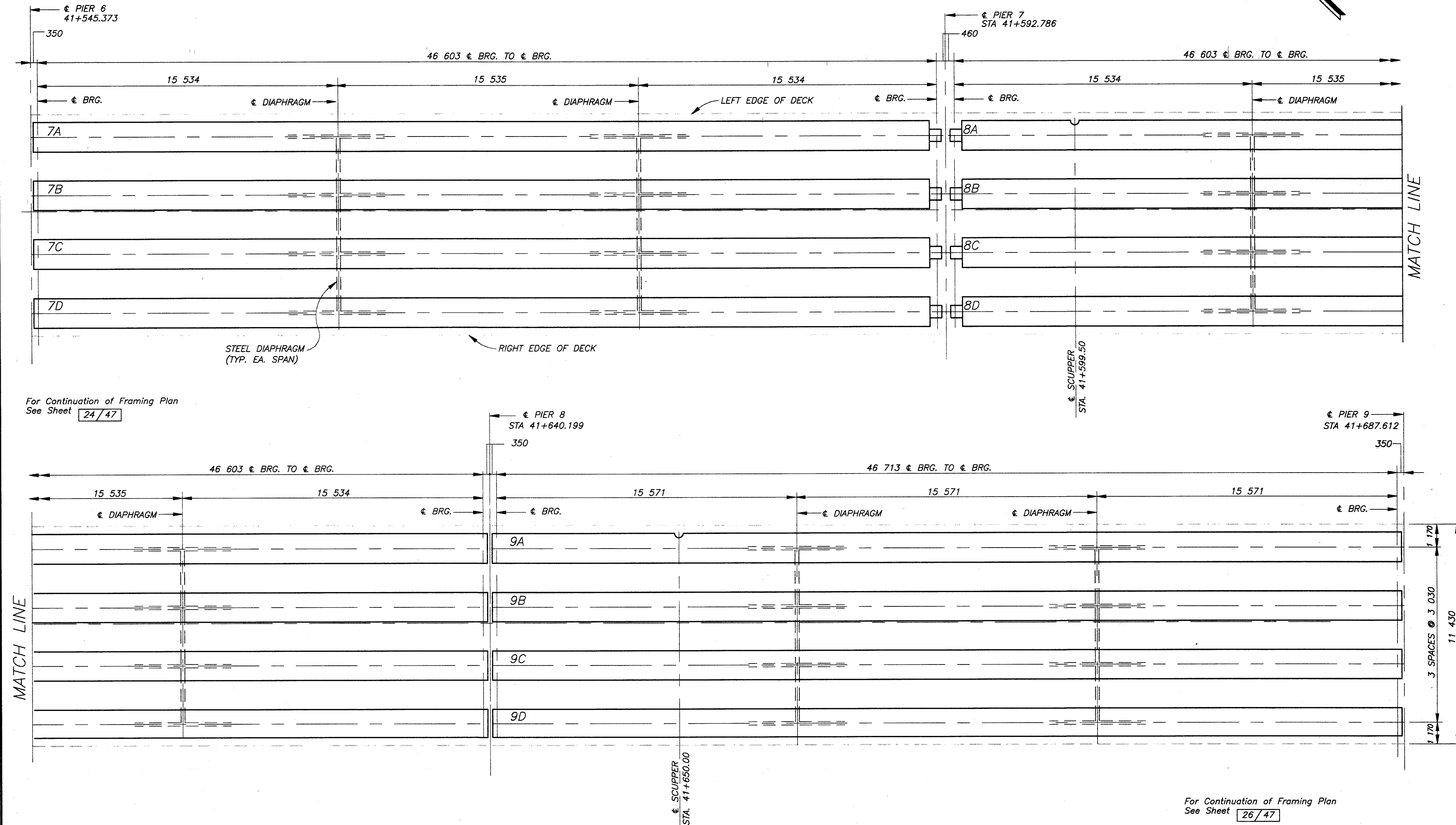
DESIGNED	DAT	CHECKED	MJH
DRAWN	TMD	REVISED	
REVIEWED	LS	STRUCTURE FILE NUMBER	7303017
DATE	11-7-97		

FRAMING PLAN 2
BRIDGE NO. SCI-73-41276
S.R. 73 OVER SCIOTO RIVER

SCI-73-41.268

24/47

47
80



For Continuation of Framing Plan
See Sheet **24/47**

For Continuation of Framing Plan
See Sheet **26/47**

For Beam Details
See Sheet **27/47** **28/47**

For Steel Diaphragm Details
See Sheet **29/47**

FRAMING PLAN
(SPANS 7, 8 & 9)

JANSSEN & SPAANS ENGINEERING, INC.
2825 E. 56TH STREET
INDIANAPOLIS, IN 46220

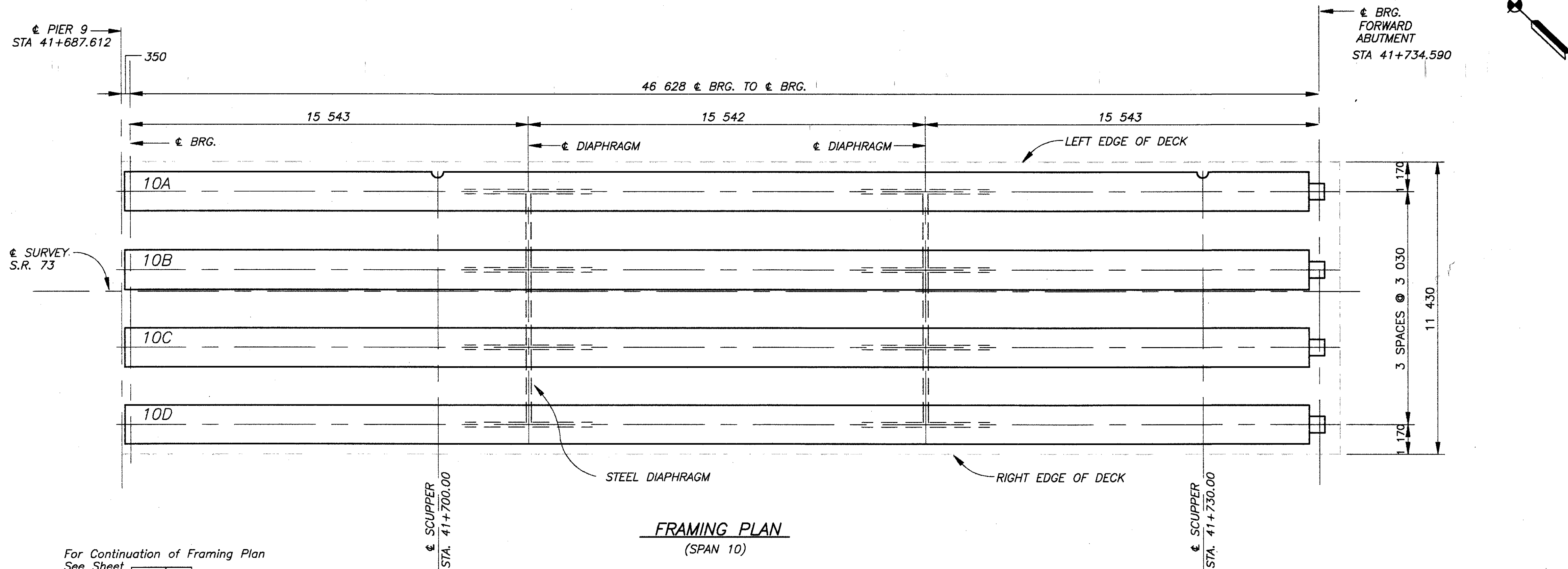
DATE: 11-7-97
REVIEWED: LS
DRAWN: TMD
DESIGNED: DAT
CHECKED: MJH
STRUCTURE FILE NUMBER: 7303017

FRAMING PLAN 3
BRIDGE NO. SCI-73-41276
S.R. 73 OVER SCIOTO RIVER

SCI-73-41.268

25/47

48
80



NOTES

CONCRETE FOR PRECAST BEAMS SHALL BE SEMI-LIGHT WEIGHT CONCRETE 2000 kg/m³ (125 pcf).

DCI 5.2 GALLONS/m³ (4 GALLONS/CYDS) SHALL BE ADDED TO CONCRETE AS A CORROSION INHIBITOR.

PRESTRESSING REINFORCEMENT SHALL BE 12.7 mm (1/2 INCH) UNCOATED, SEVEN WIRE LOW RELAXATION 1862 MPa (270 KSI) SPECIAL (ASTM)A416-80 (12.7 mm NOMINAL DIAMETER 107.7 mm² (0.167 SQ INCH) AREA WITH A G.U.T.S. OF 200 kN (45000 LBS PER STRAND)-M203. SPACING TO BE 50 mm VERTICALLY AND HORIZONTALLY. THE COST OF THE PRESTRESSING STRAND IS INCLUDED IN THE COST OF THE PRESTRESSED BEAM.

INITIAL PULL PER STRAND 150.4 kN (33,820 LBS.)

BEAMS SHALL BE CAST A MINIMUM OF 14 DAYS BEFORE DECK IS POURED, AND BEAMS MUST HAVE A MINIMUM CONCRETE STRENGTH OF 48.3 MPa (7000 PSI).

CONCRETE STRENGTH @ 28 DAYS: $F'_c = 48.3 \text{ MPa}$ (7000 psi).

NO BOND STRESS SHALL BE TRANSFERRED TO THE CONCRETE, NOR SHALL END ANCHORS BE RELEASED, UNTIL THE CONCRETE HAS ATTAINED A COMPRESSIVE STRENGTH OF 37.9 MPa (5500 PSI).

TOP OF BEAMS ARE TO BE SCORED TRANSVERSELY AT ABOUT 75 mm (3 IN.) CENTERS WITH A POINTED TOOL. MAX. DEPTH OF SCORING TO BE 6.4 mm (1/4").

ALL REINFORCING IN PRECAST BEAMS SHALL BE GRADE 400 MPa (60 ksi) (EPOXY COATED).

BEAMS ARE TO BE LIFTED AND SUPPORTED AS SHOWN IN THE PLANS DURING HANDLING, STORAGE AND TRANSPORTATION.

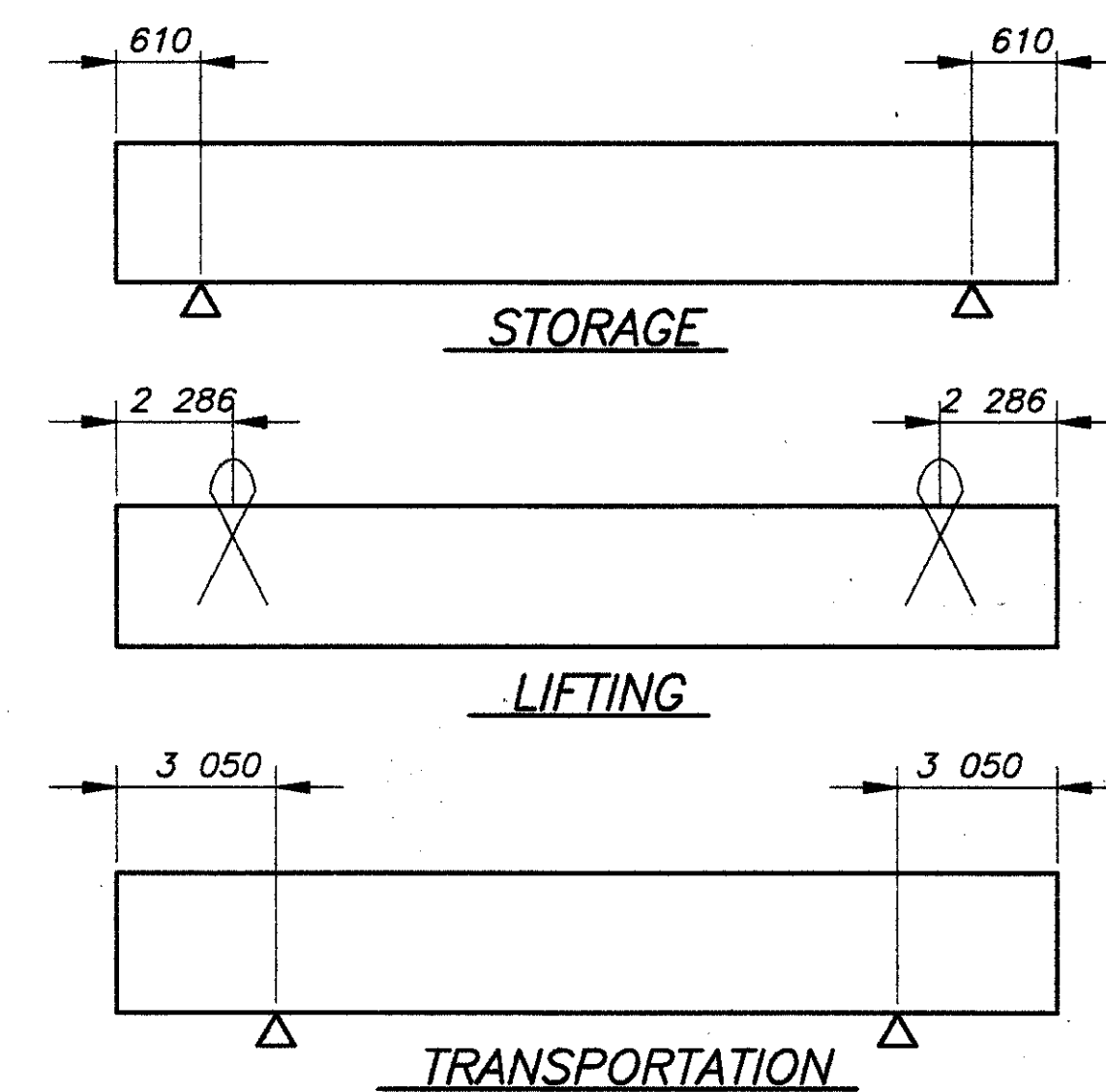
DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

DURING LIFTING, TRANSPORTATION, STORAGE, AND ERECTION, BEAMS SHALL BE MAINTAINED VERTICALLY AT ALL TIMES. FAILURE TO DO SO COULD RESULT IN SUDDEN FAILURE OF BEAMS.

ADEQUATE BRACING MUST BE PROVIDED AT ALL TIMES DURING STORAGE, TRANSPORTATION, AND ERECTION TO RESIST LATERAL LOADS.

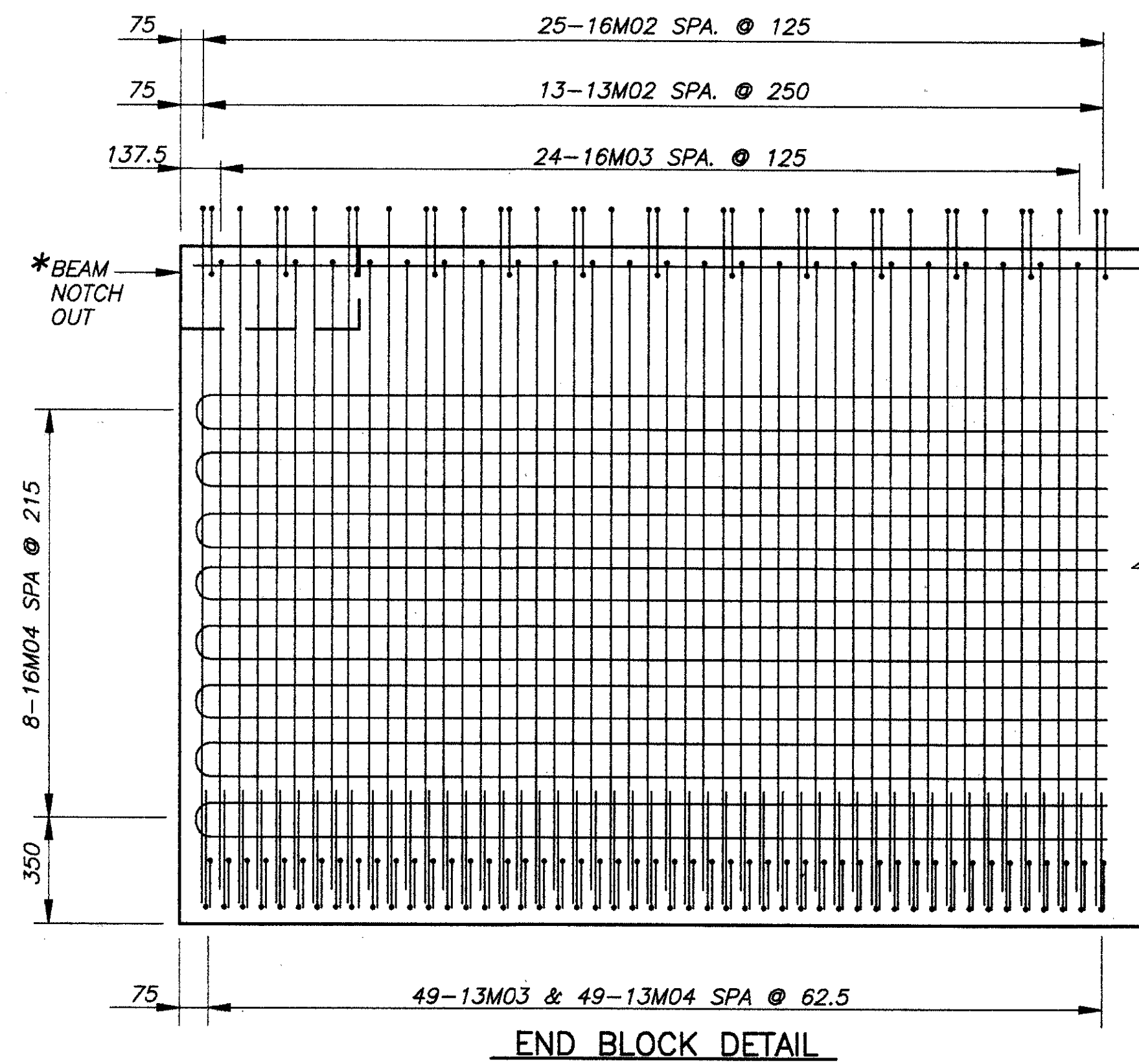
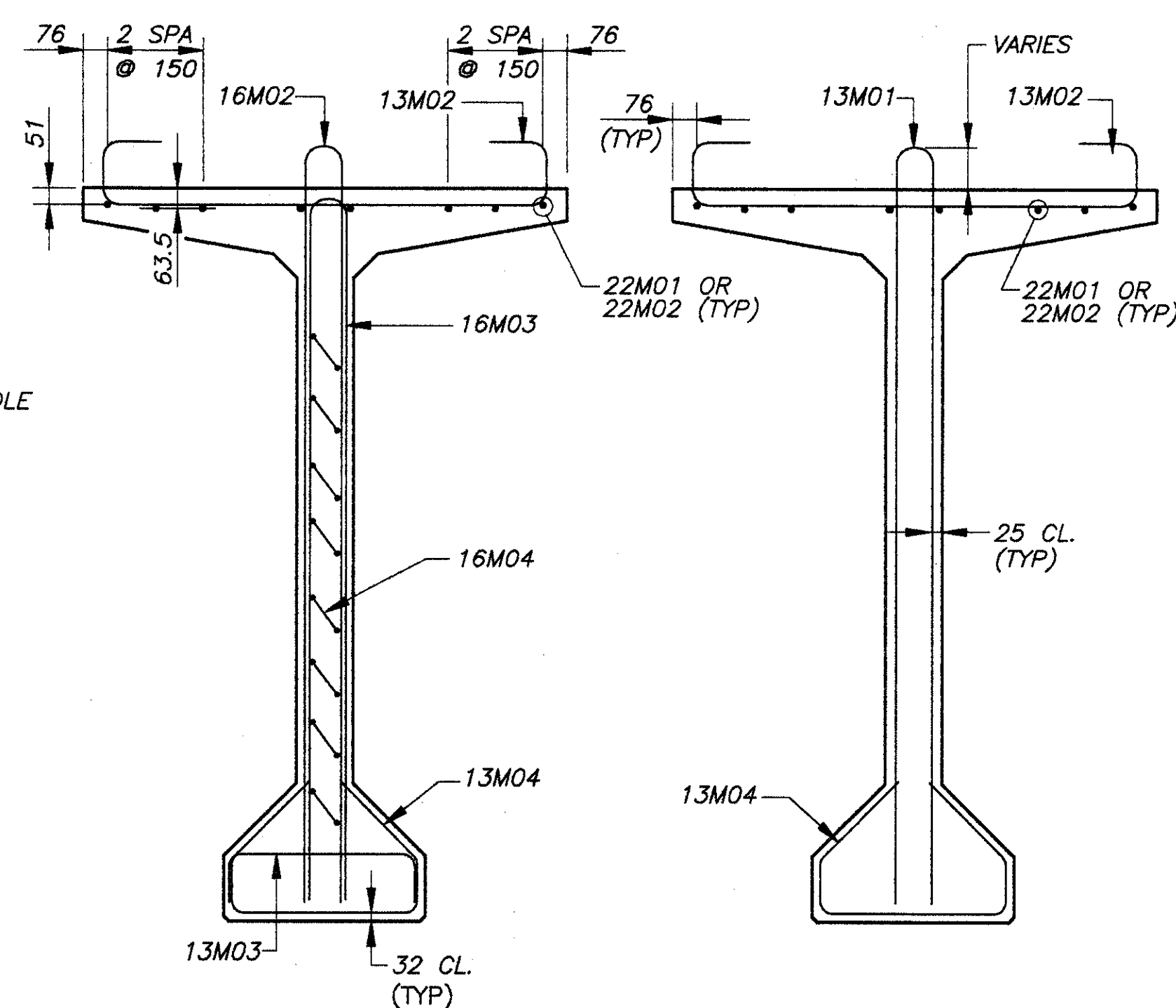
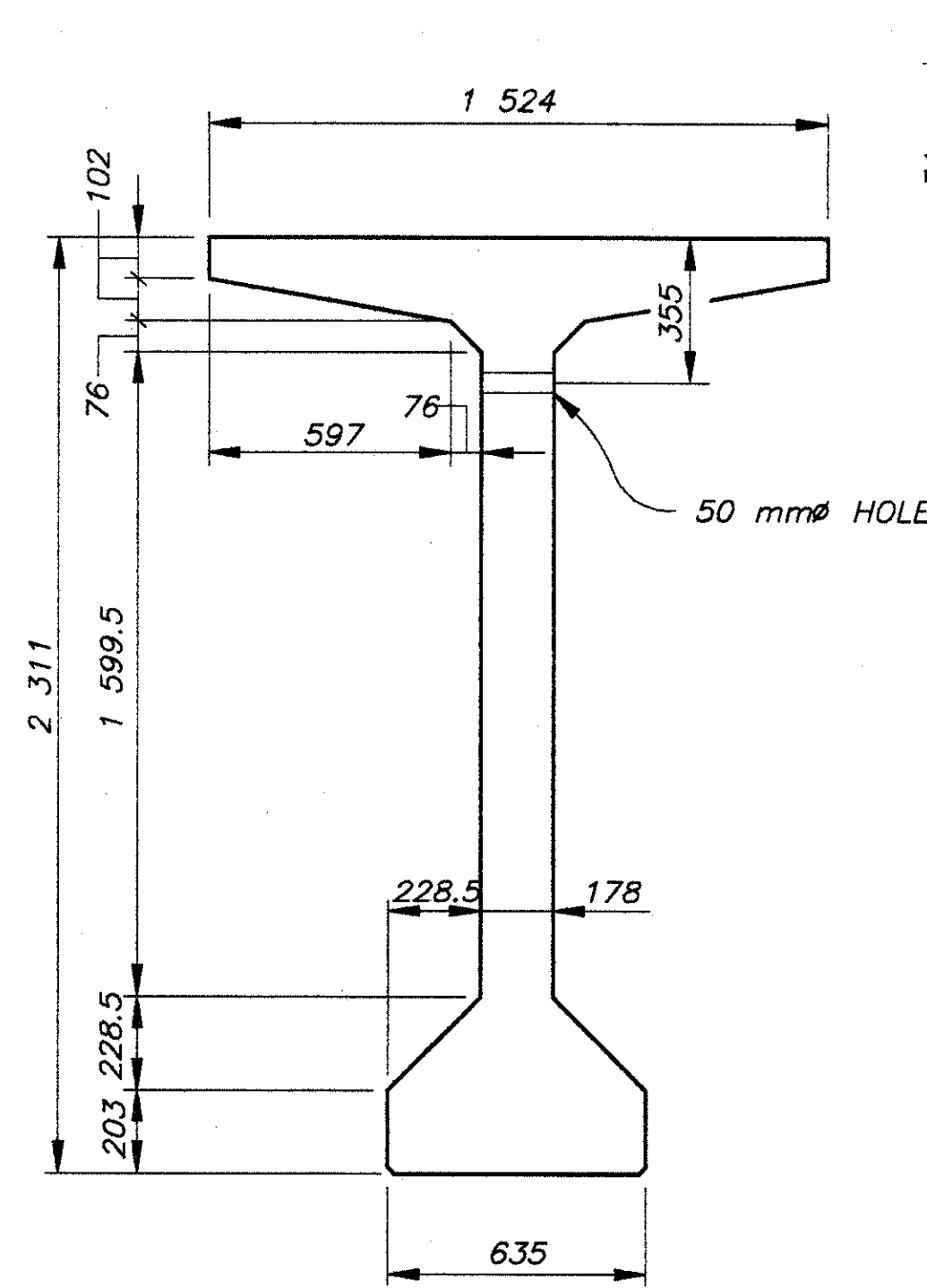
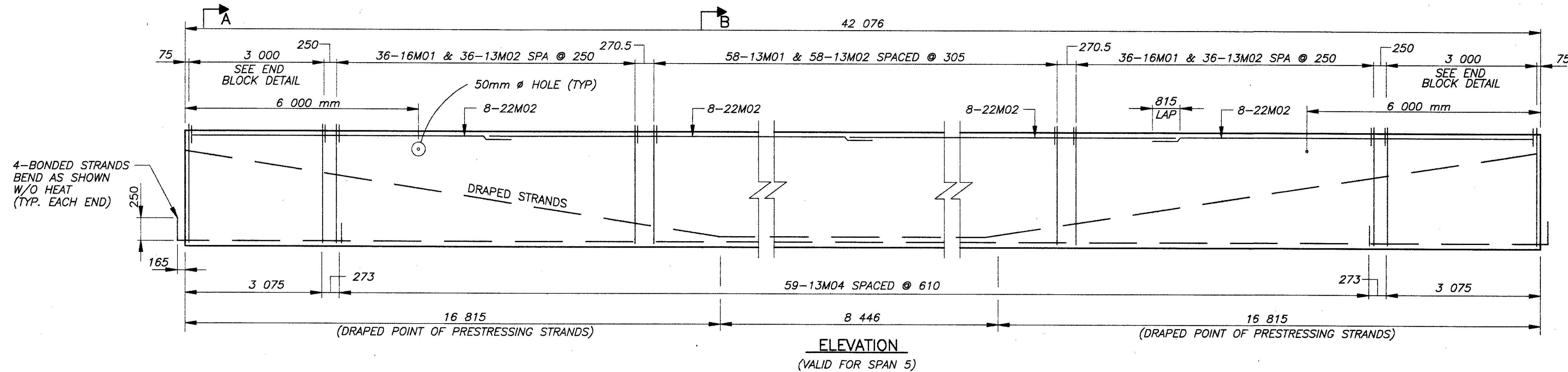
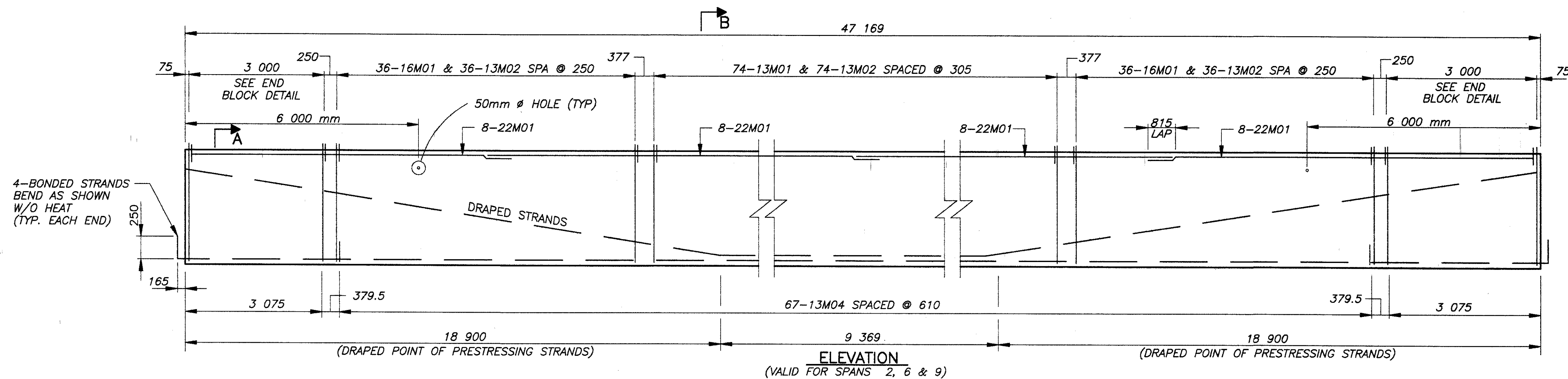
BEAMS HAVE BEEN DESIGNED FOR A MAXIMUM SUPER-ELEVATION DURING TRANSPORTATION OF 5%. THIS IS TO BE VERIFIED BY THE BEAM MANUFACTURER AND CONTRACTOR.

ESTIMATED BEAM CAMBER: SPANS 3, 4, 5 159 mm (6 1/4")
(AT INSTALLATION) SPANS 1, 2, 6-10 171 mm (6 3/4")

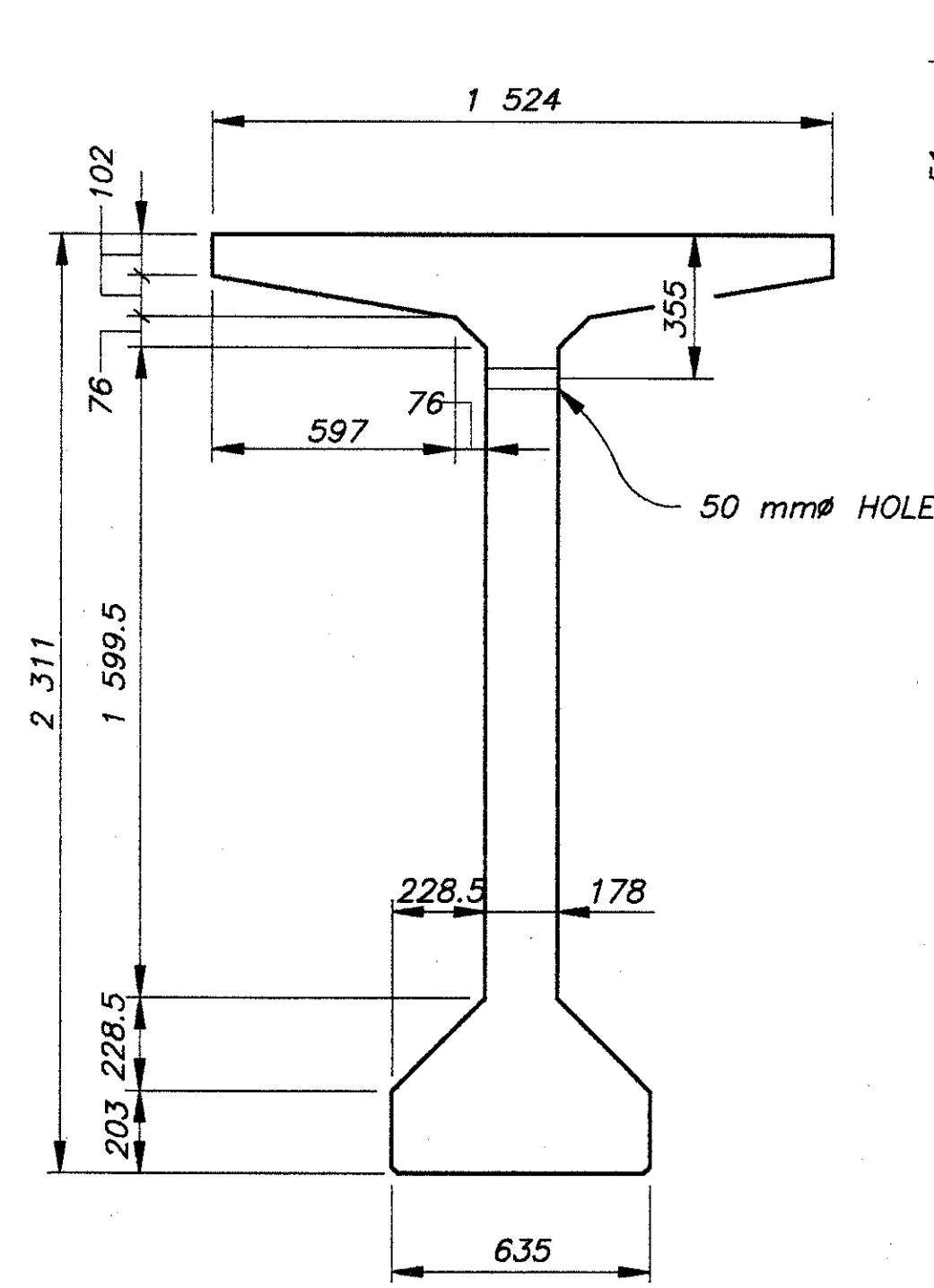
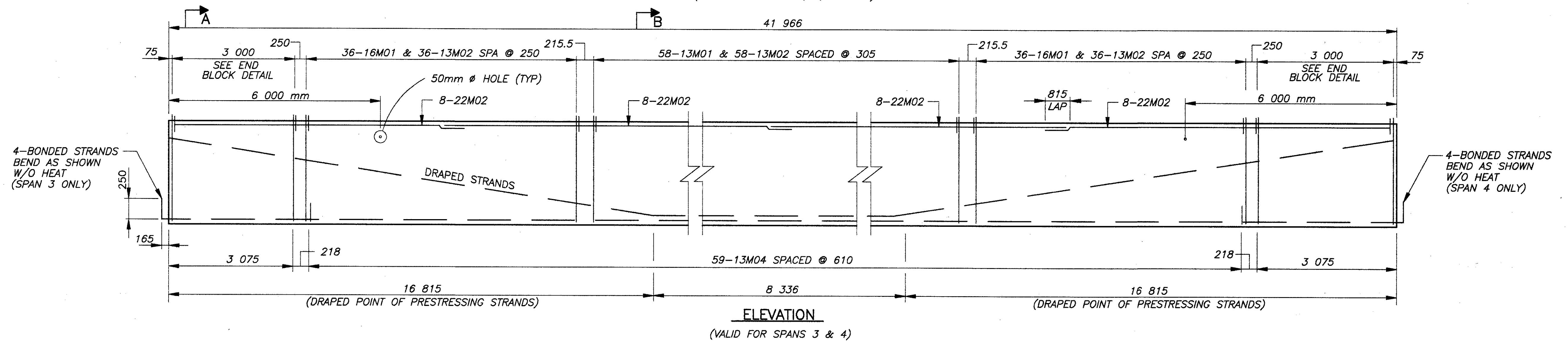
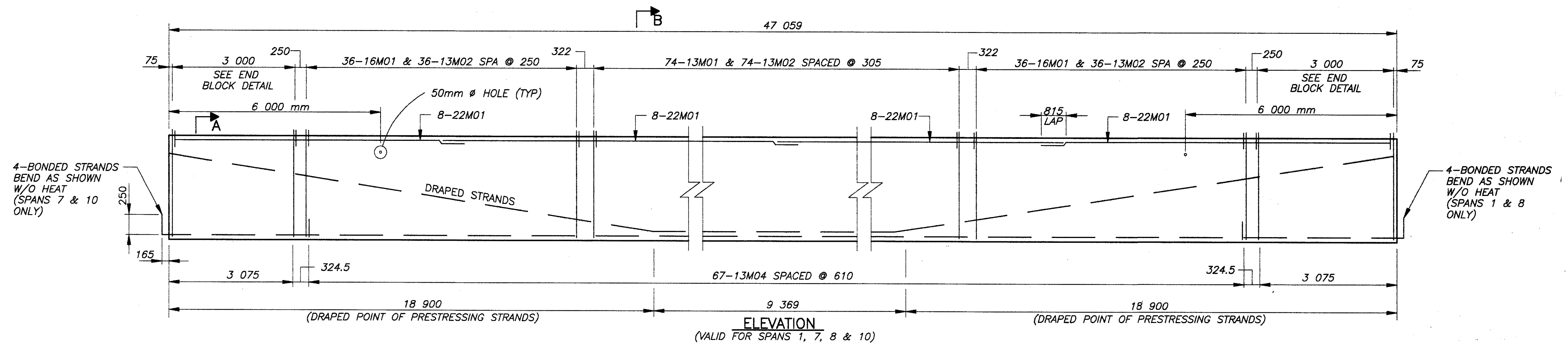


For Beam Details
See Sheet **27 / 47** **28 / 47**

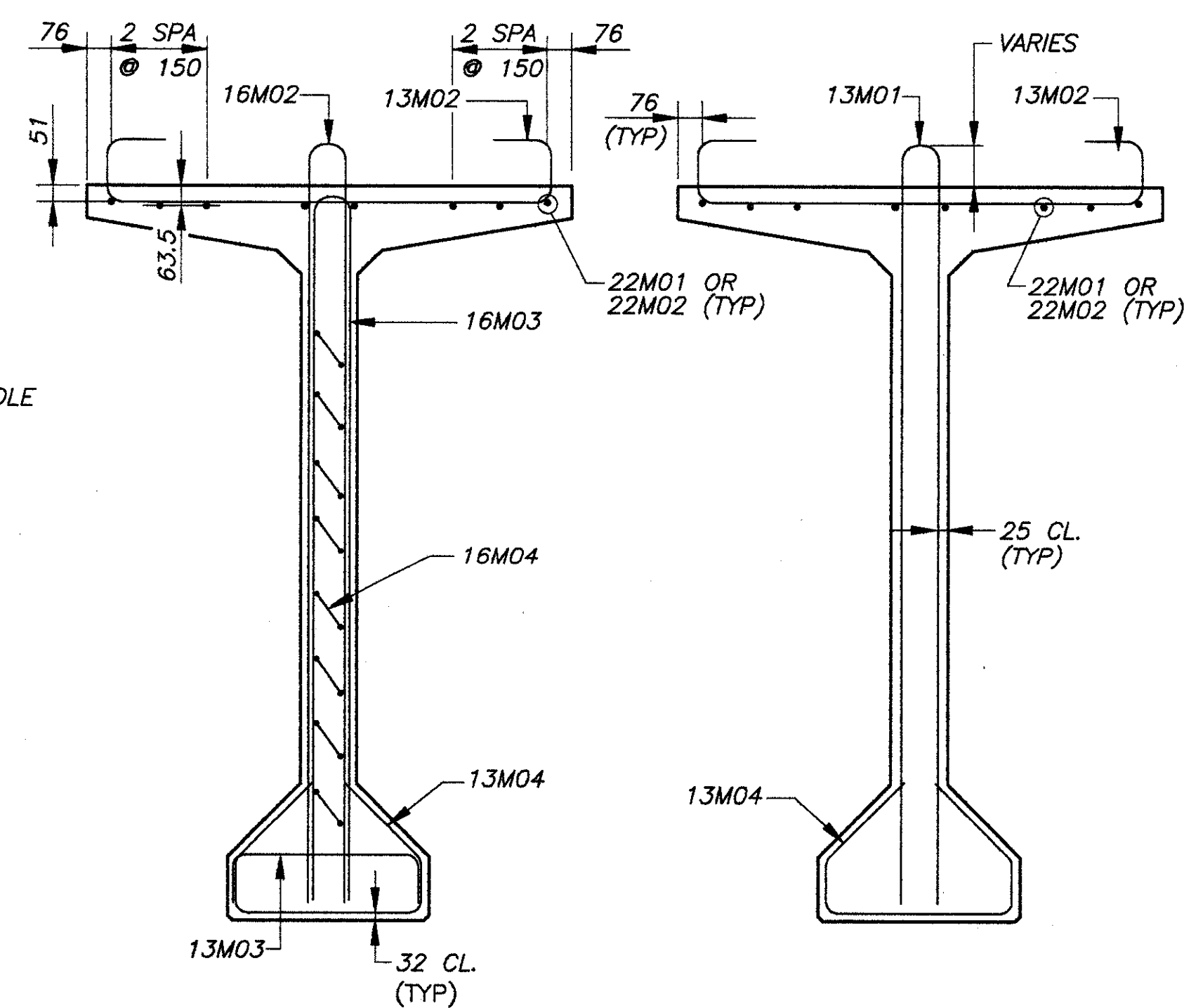
For Steel Diaphragm Details
See Sheet **29 / 47**



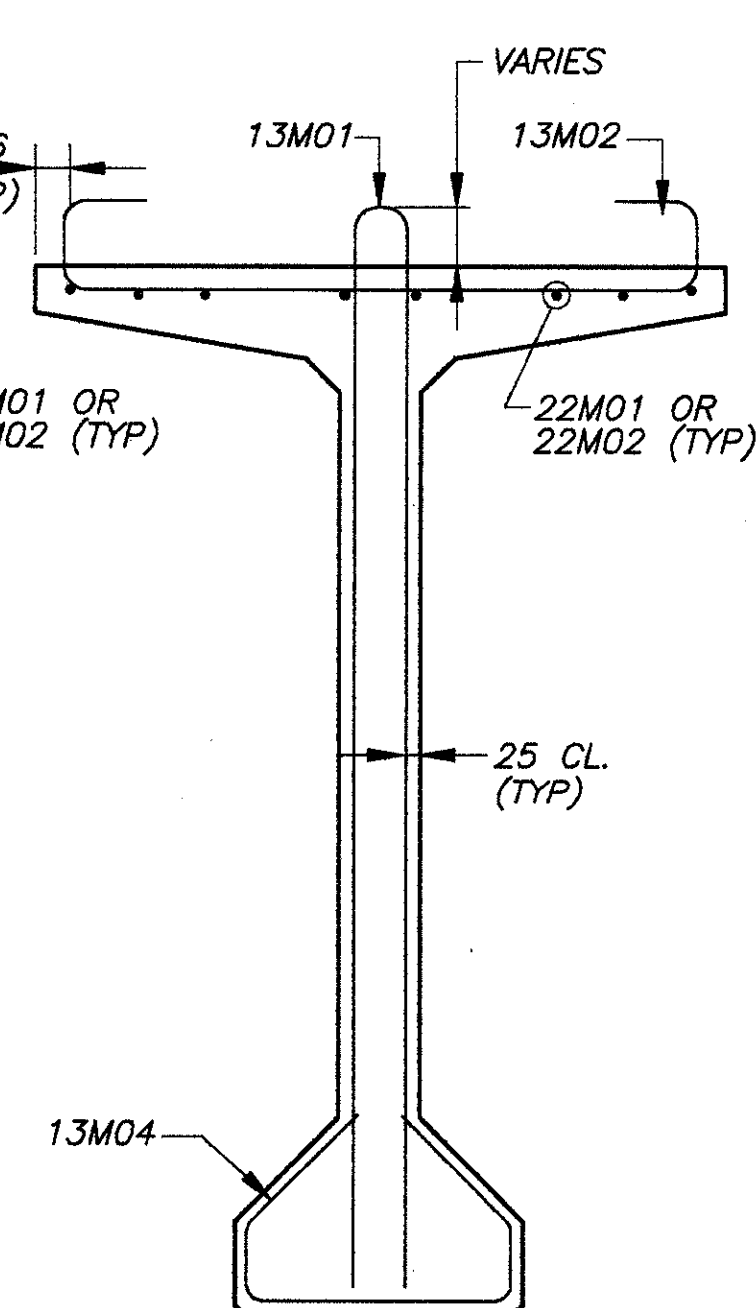
* DELETE 3-13M02 BARS
IN NOTCH-OUT.



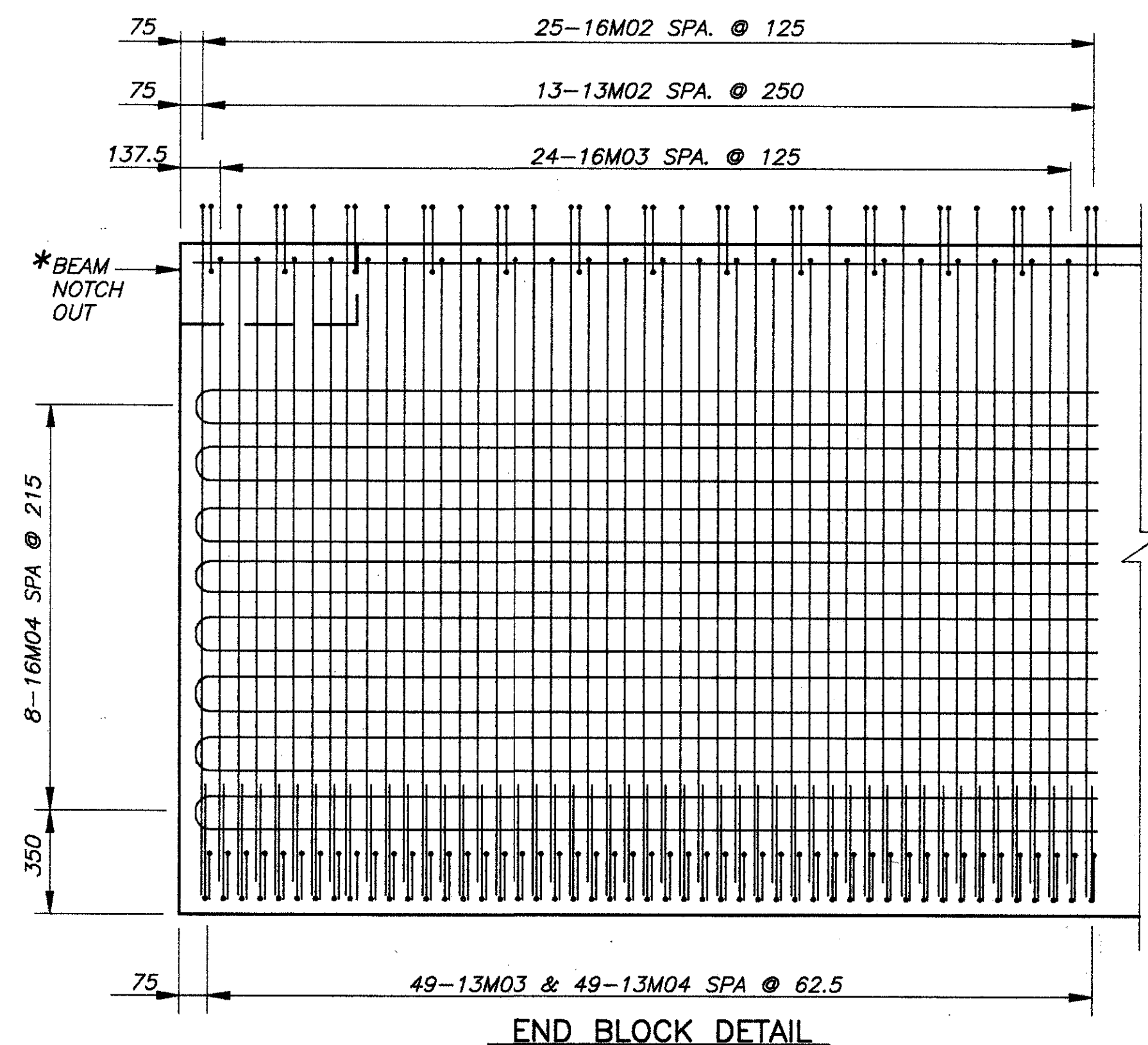
TYPICAL SECTION



SECTION A

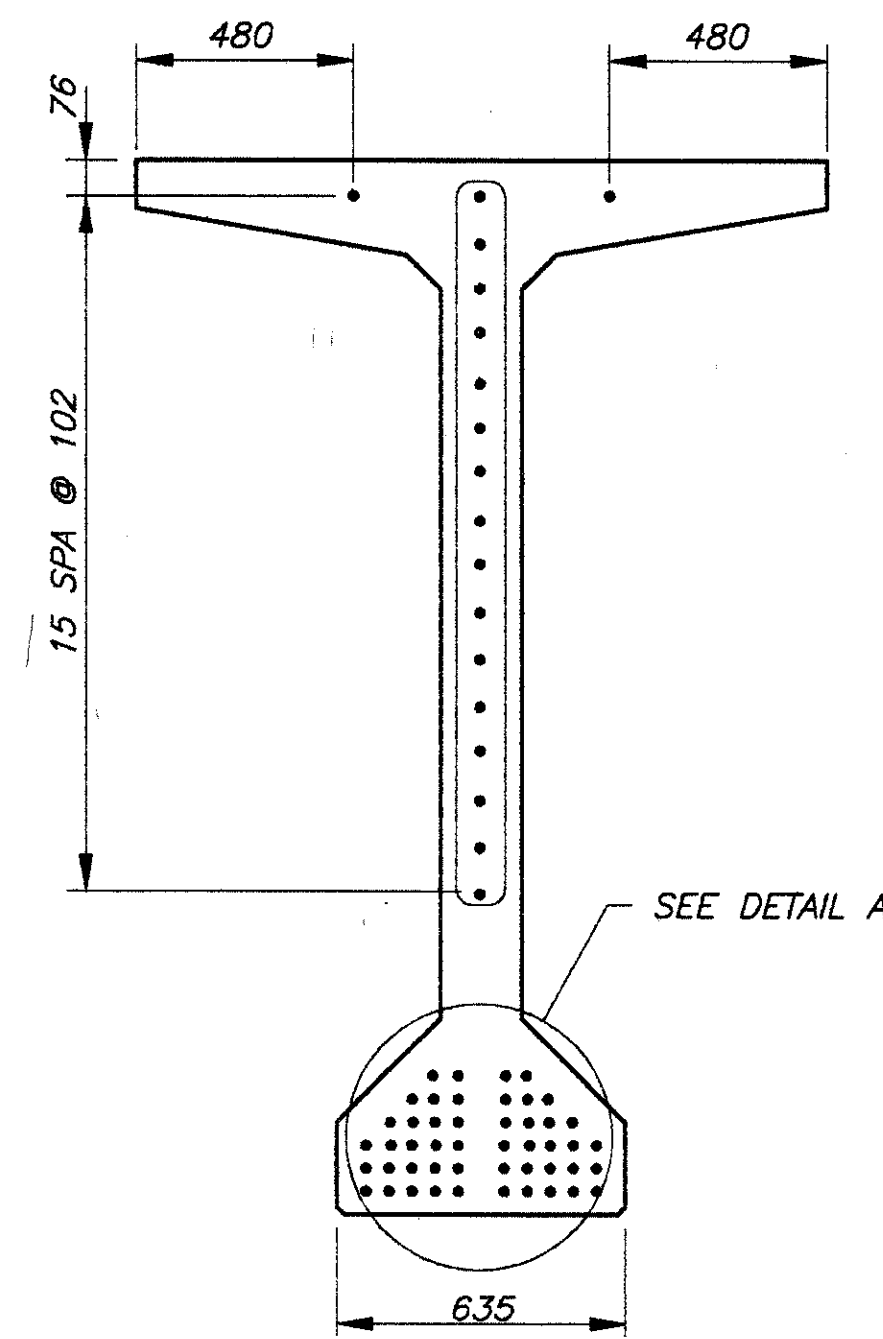


SECTION B



END BLOCK DETAIL

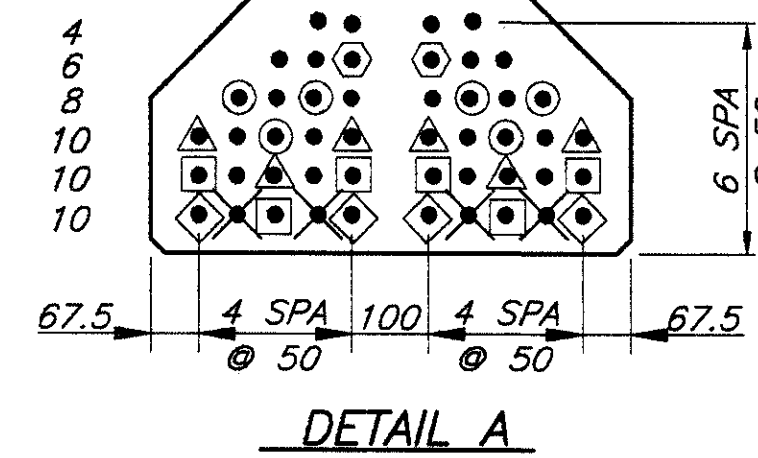
* DELETE 3-13M02 BARS IN NOTCH-OUT.



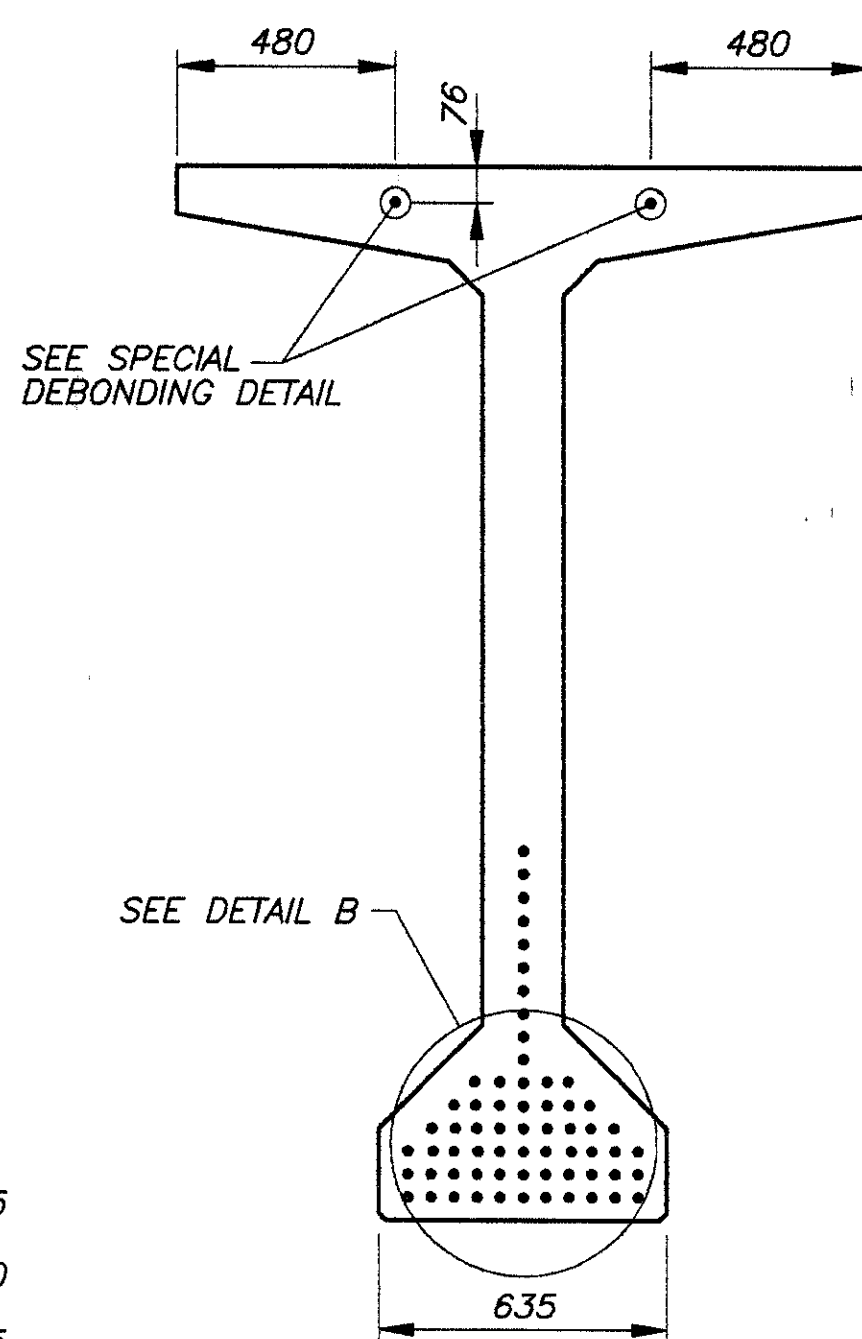
**STRAND PATTERN
@ BEAM END**

TOTAL 66 - 12.7 mm ϕ STRANDS
 $A_s = 107.7 \text{ mm}^2/\text{STRAND}$
 1862 MPa LOLAX
 PULL EA. 150.4 kN

- ◊ - INDICATES STRANDS DEBONDED 1 525
- - INDICATES STRANDS DEBONDED 3 050
- ▲ - INDICATES STRANDS DEBONDED 4 575
- - INDICATES STRANDS DEBONDED 6 100
- ◆ - INDICATES STRANDS DEBONDED 7 620
- X - INDICATES EXTENDED STRANDS

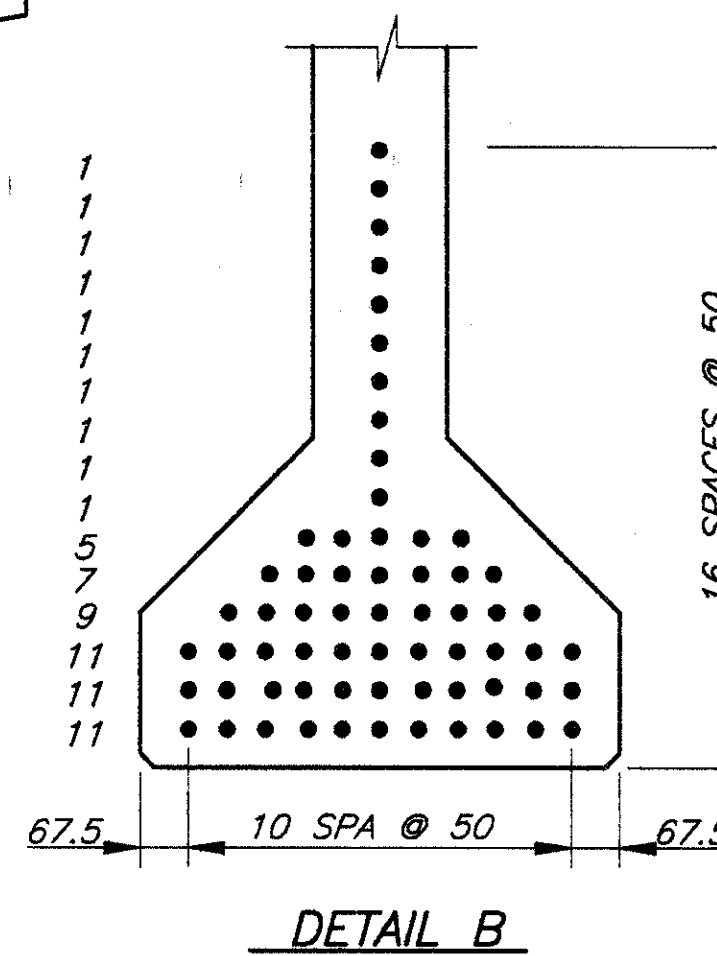


DETAIL A

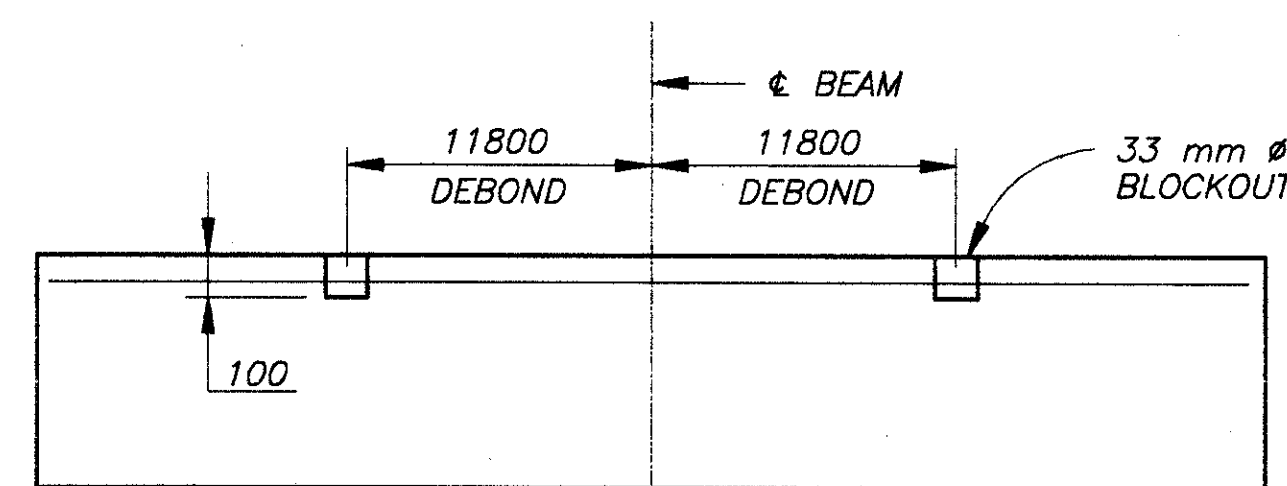
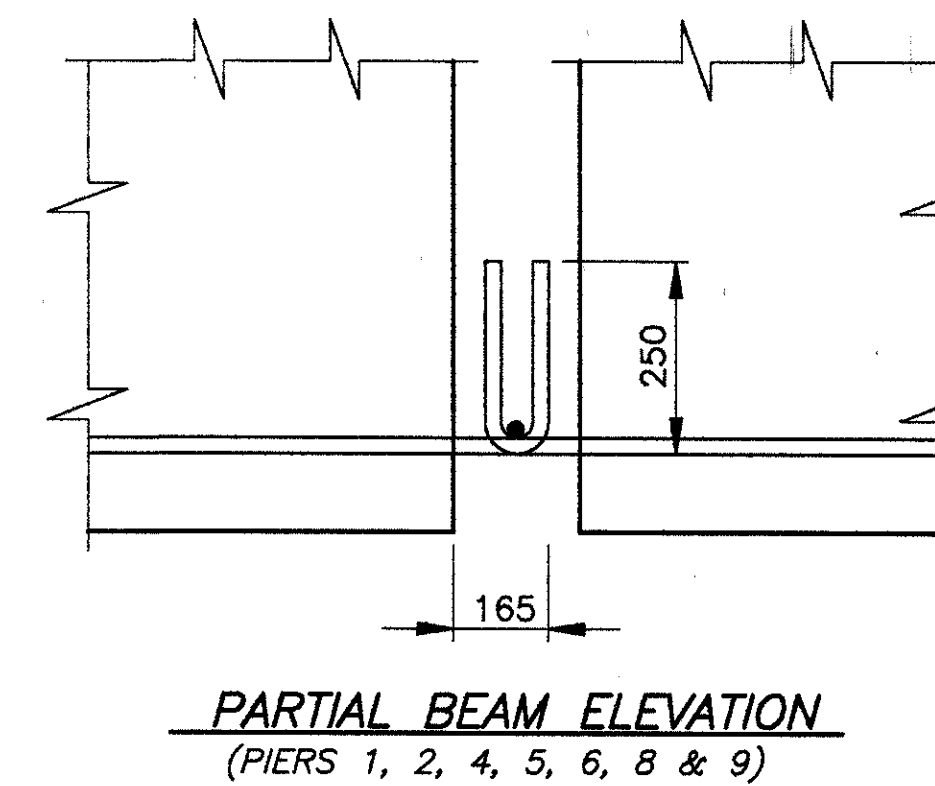


**STRAND PATTERN
@ ϕ BEAM**

TOTAL 66 - 12.7 mm ϕ STRANDS
 $A_s = 107.7 \text{ mm}^2/\text{STRAND}$
 1862 MPa LOLAX
 PULL EA. 150.4 kN

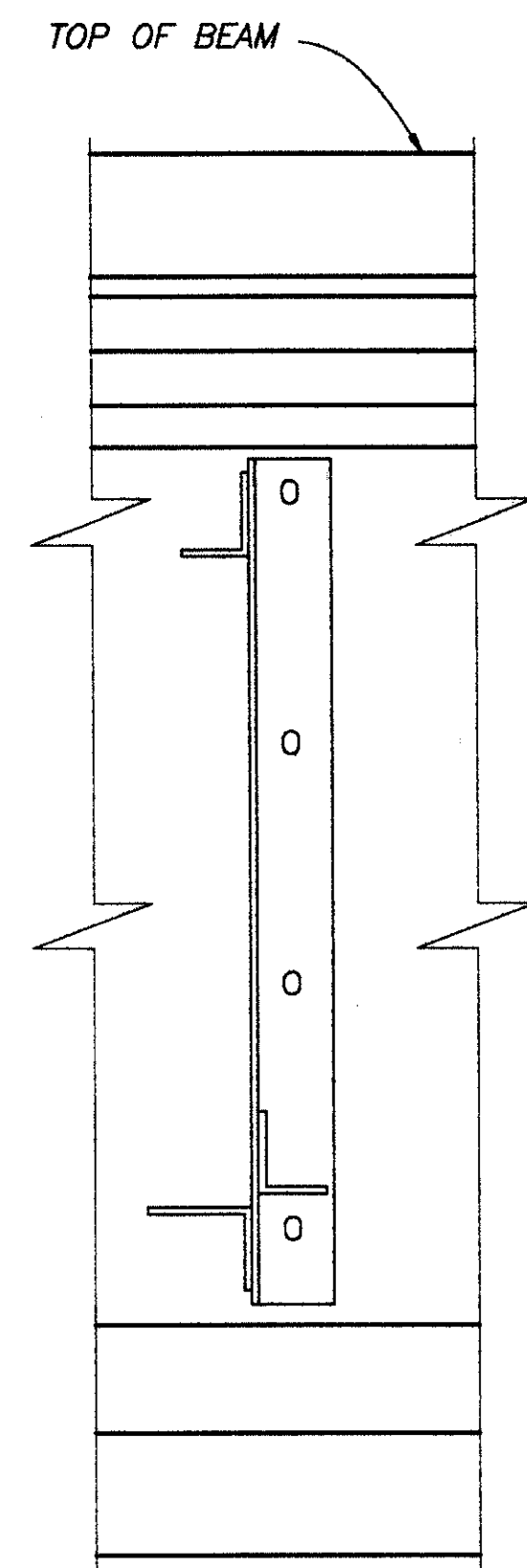
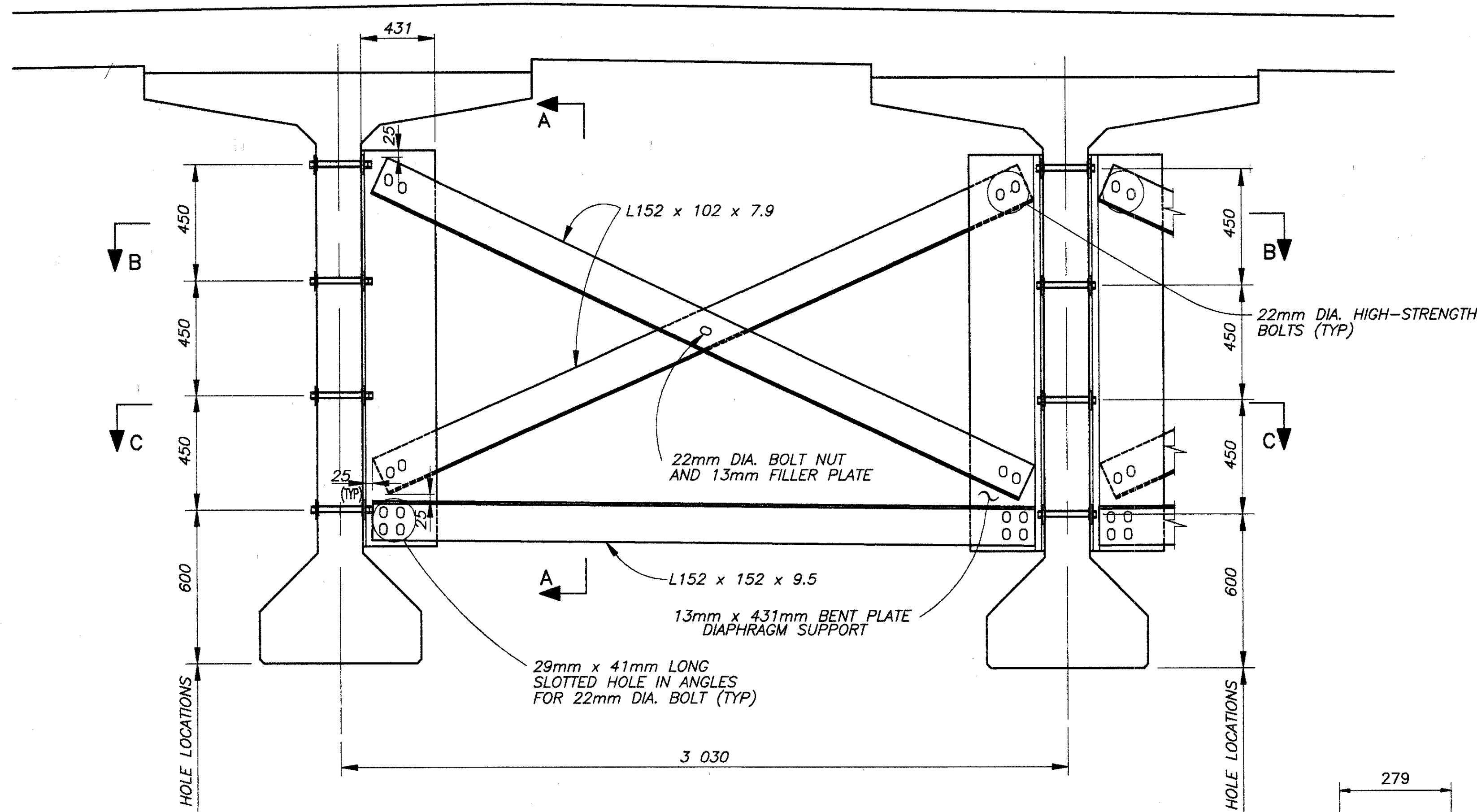


DETAIL B



DEBOND TOP STRANDS AS SHOWN.
 CUT AFTER DIAPHRAGMS HAVE BEEN INSTALLED.

SPECIAL DEBONDING DETAIL



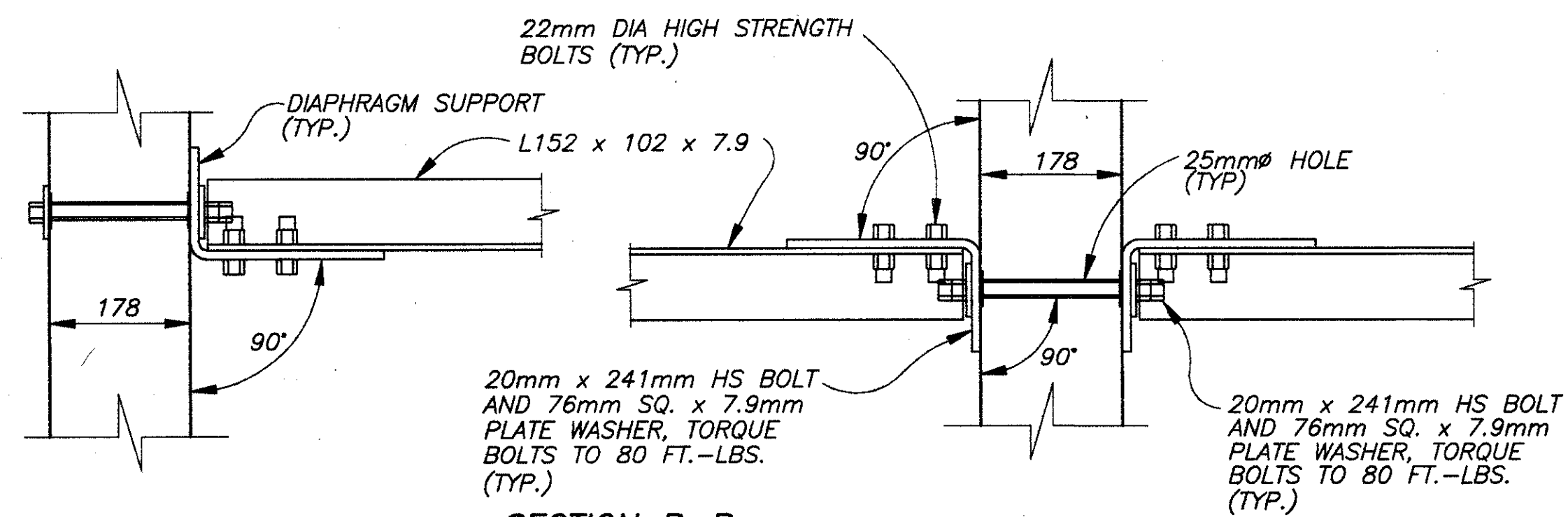
SECTION A-A

DIAPHRAGM INSTALLATION PROCEDURE

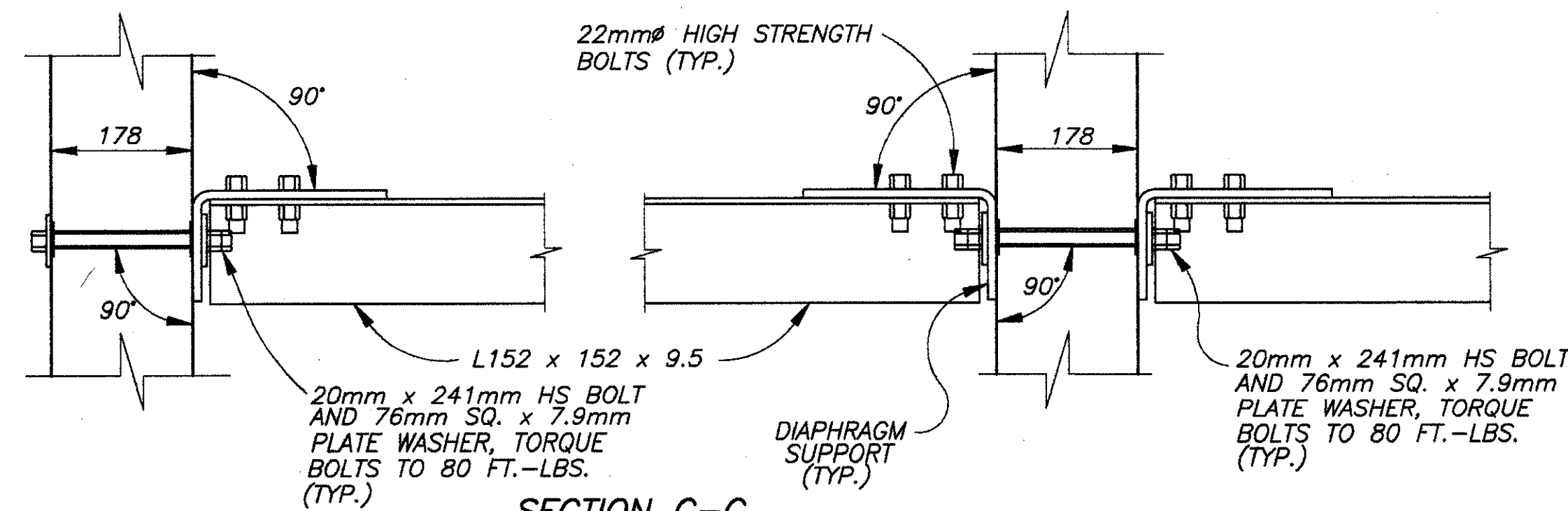
1. BOLT 13mm x 432mm BENT PLATE TO BEAMS.
2. BOLT L152 x 152 x 9.5 AND 2-L152 x 102 x 7.9 TO BENT PLATE.
3. TIGHTEN BOLTS.

NOTES

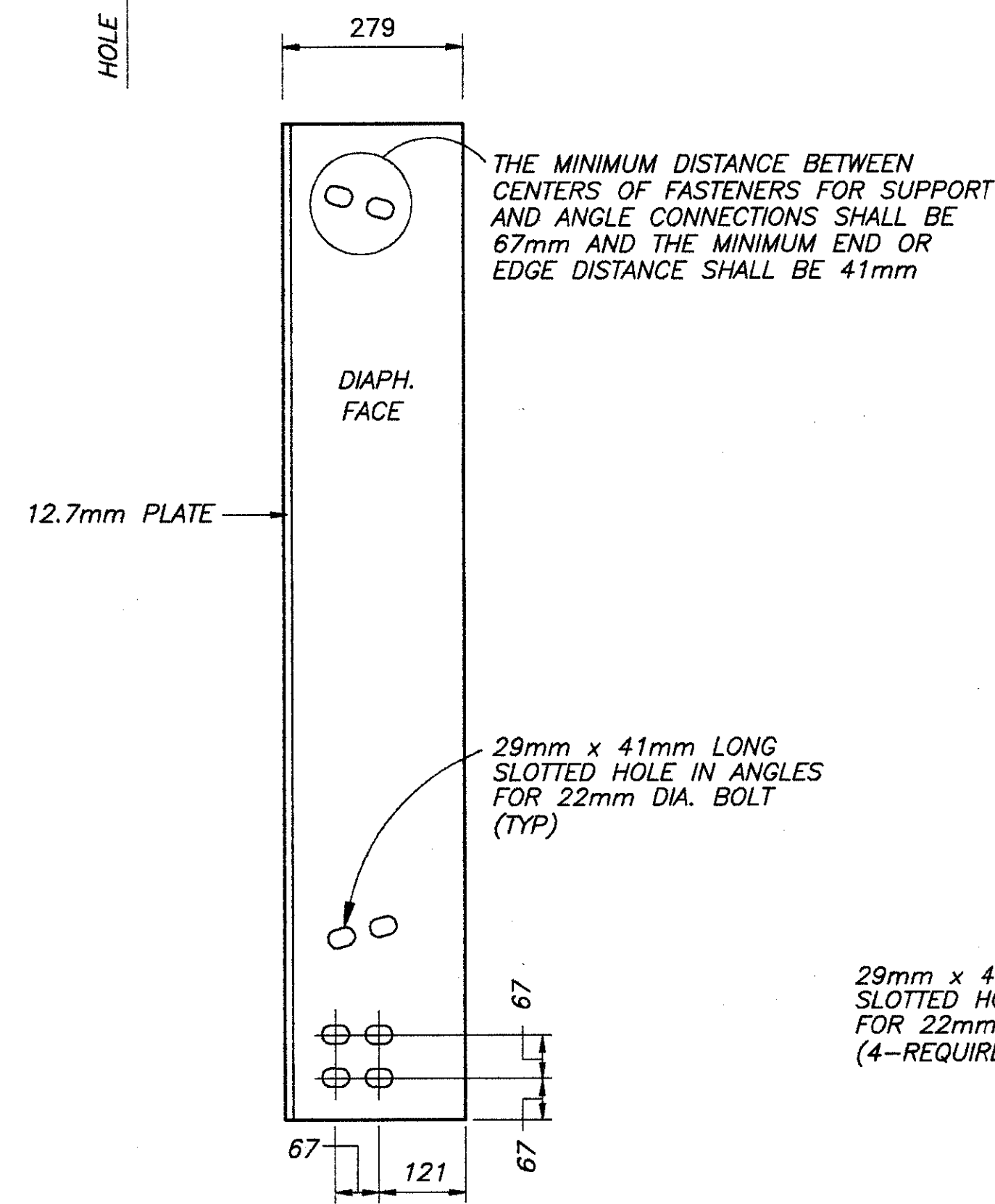
1. ALL STRUCTURAL STEEL SHOWN ON THIS DETAIL, INCLUDING BOLTS AND WASHERS, SHALL BE INCLUDED IN THE PAYMENT ITEM 513, GALVANIZED STRUCTURAL (AISC CATEGORY I)
2. BOLTS, NUTS, WASHERS AND ALL DIAPHRAGM MEMBERS SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A123M & A153M
3. STEEL GRADE A36M
4. ALL BOLTS ASTM A325M, TYPE 1



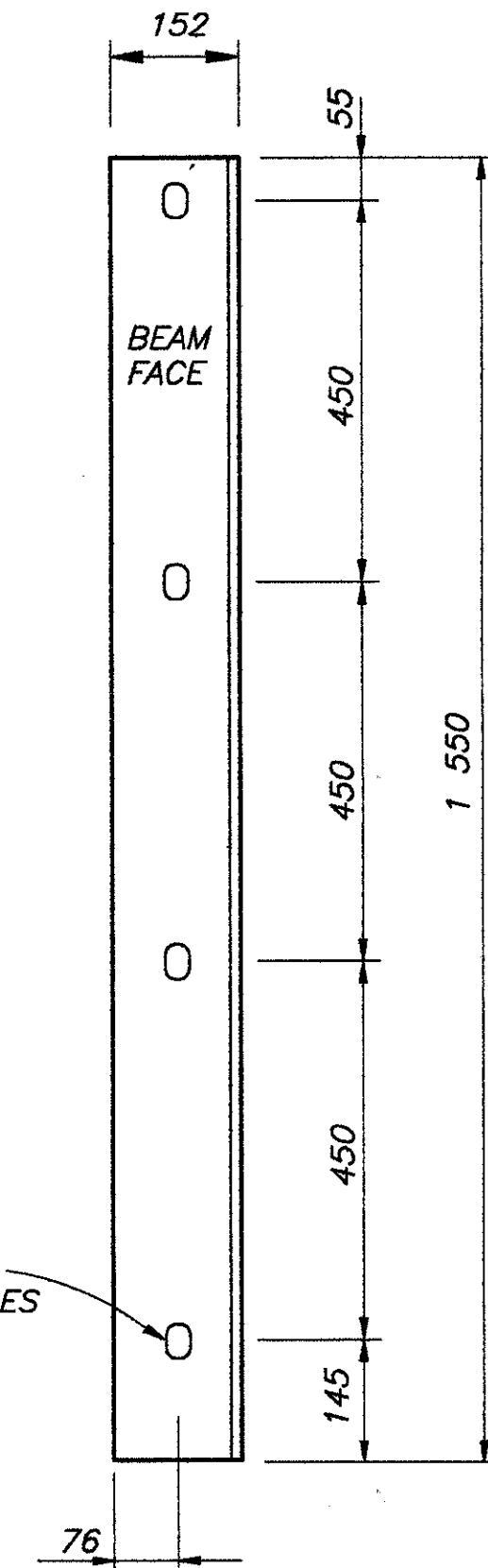
SECTION B-B



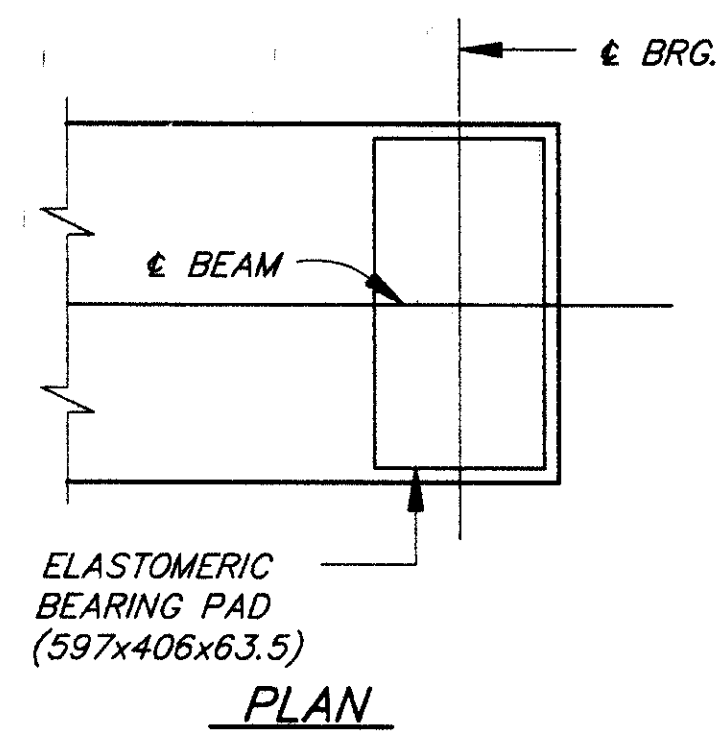
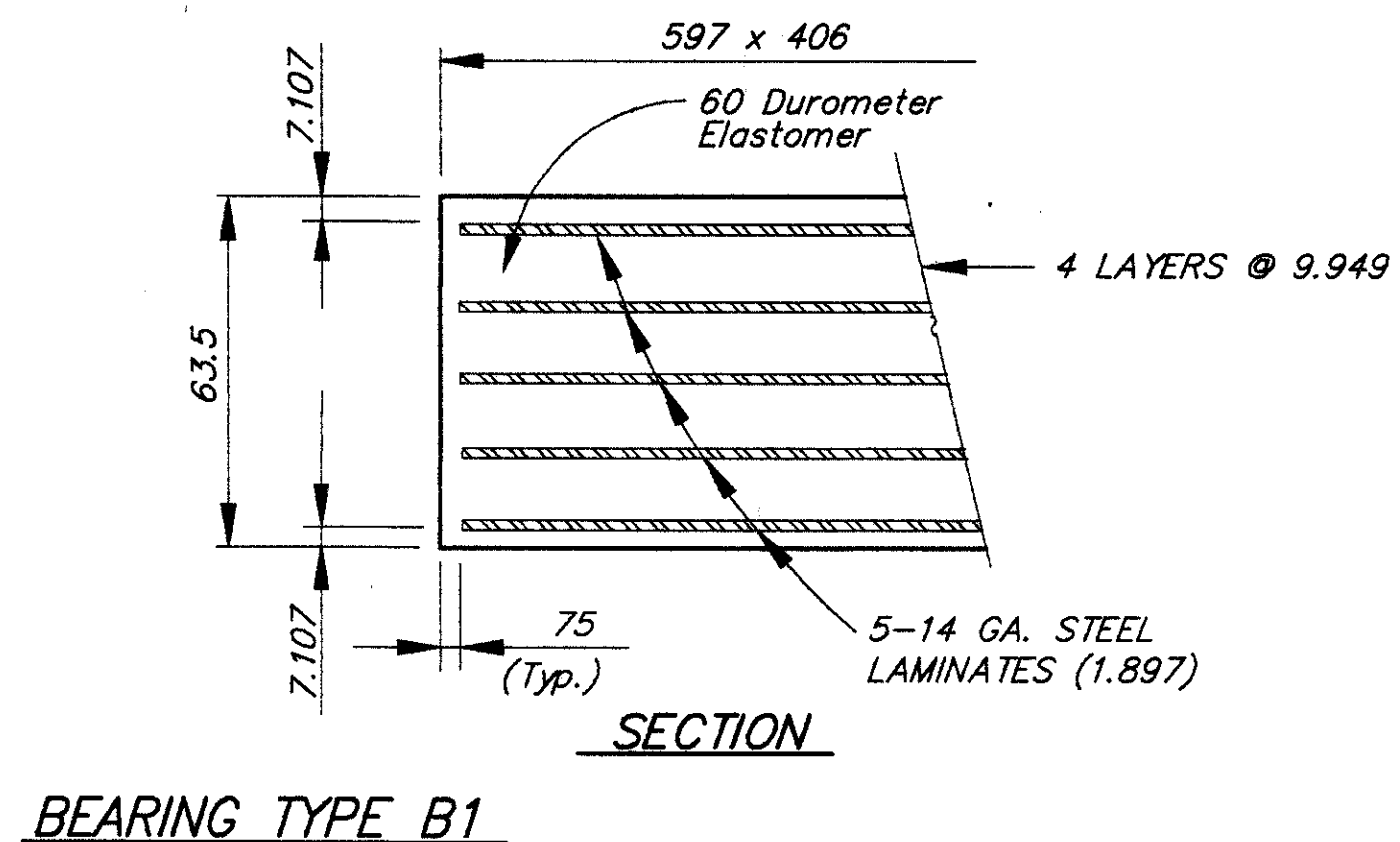
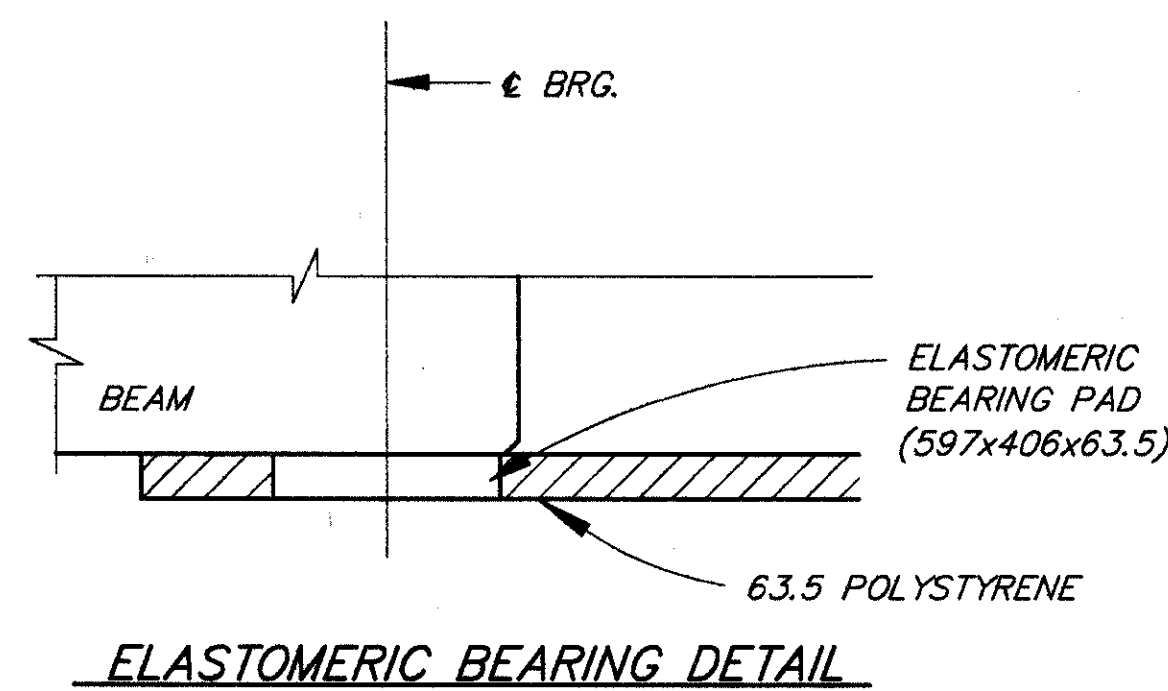
SECTION C-C



DIAPHRAGM SUPPORT



SECTION

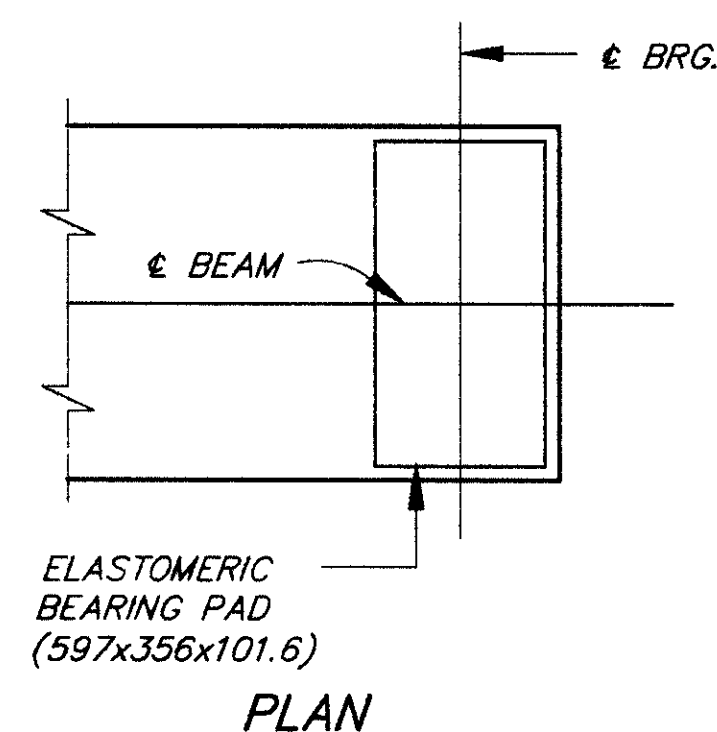
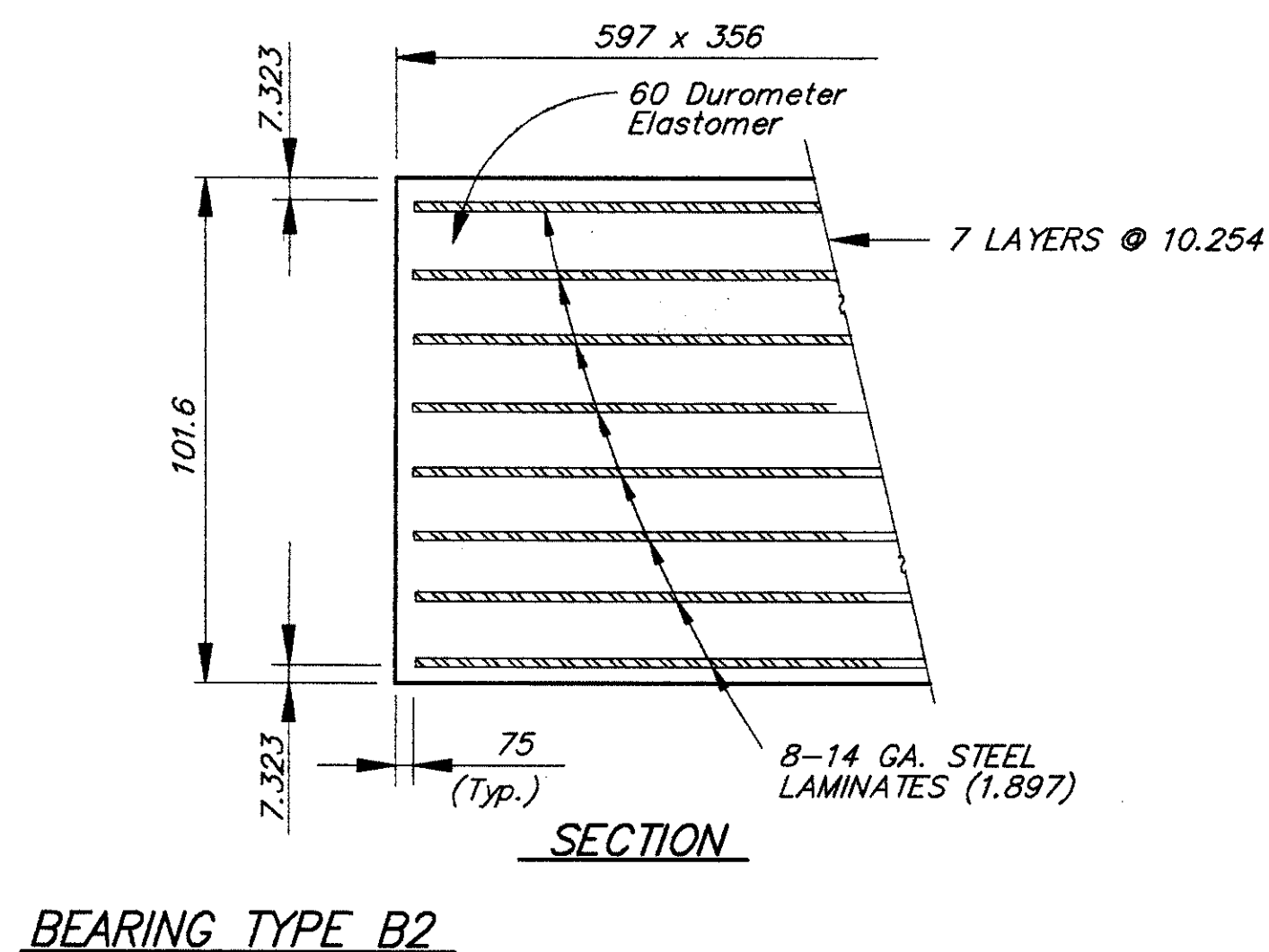
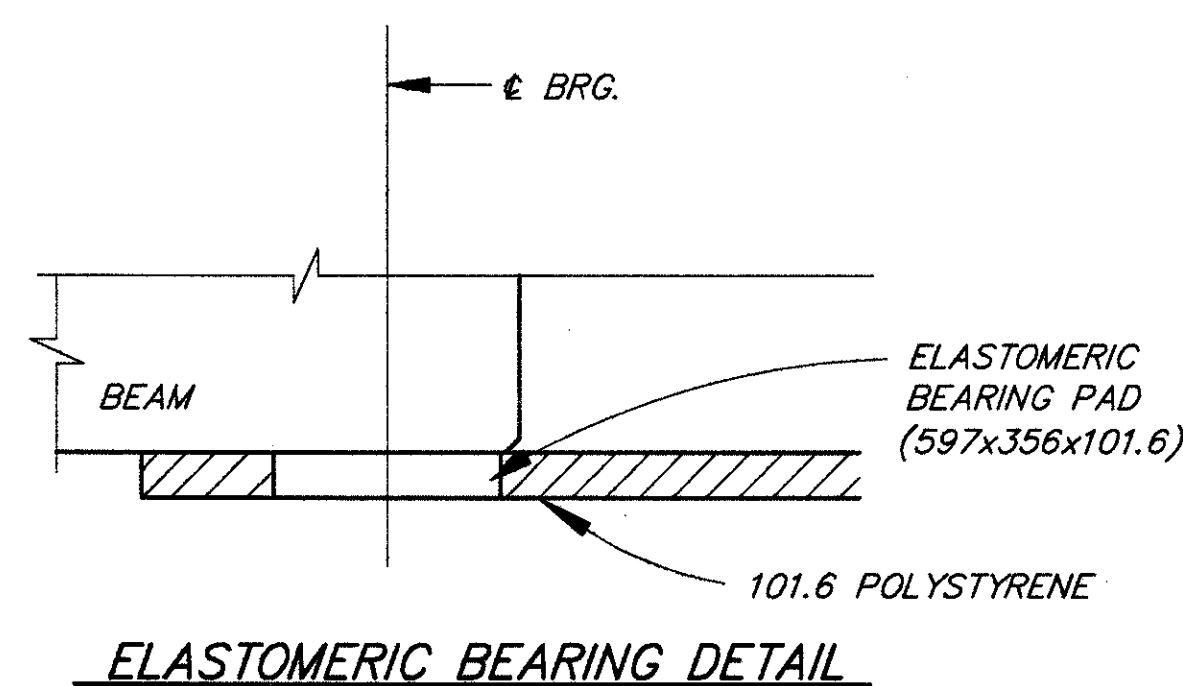


NOTES

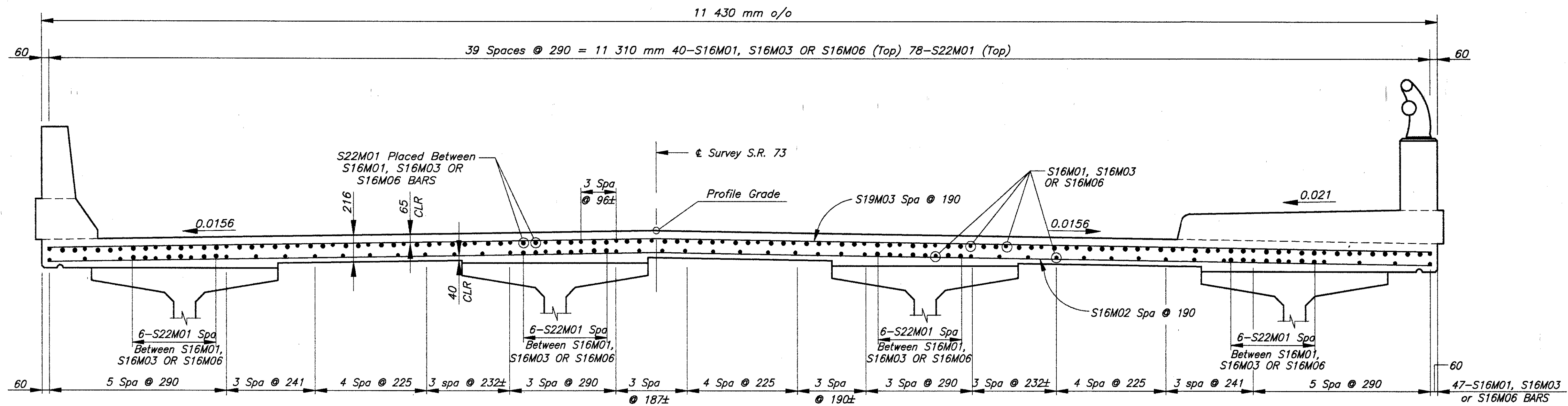
BRIDGE SEAT REINFORCING: Reinforcing steel in the vicinity of the bridge seat shall be accurately placed to avoid interference with the drilling of dowel bars.

BEARING REPOSITIONING: If deck concrete is placed at an ambient temperature higher than 27°C or lower than 4°C, and the bearing shear deflection exceeds one-sixth of the bearing height at 15°C ± 5°C, the beams or girders shall be raised to allow the bearings to return to their undeformed shape at 15°C ± 5°C.

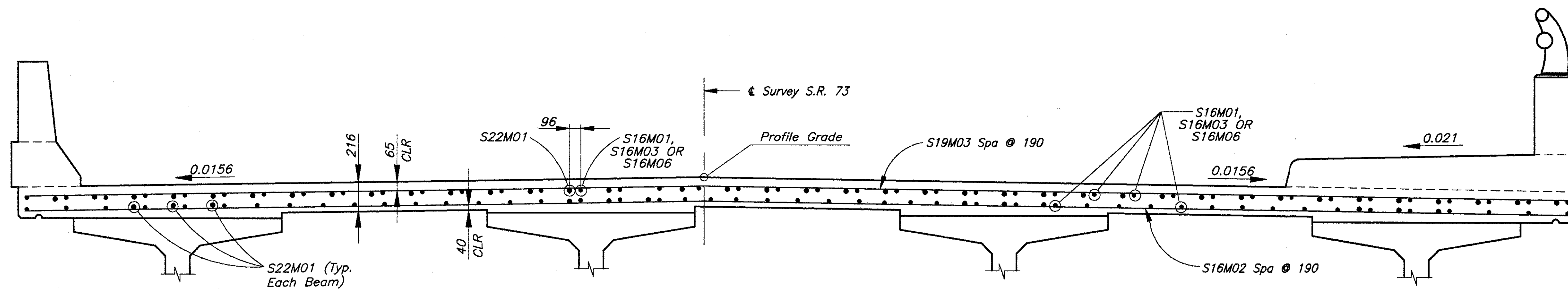
ELASTOMERIC BEARINGS shall comply with item 516 and Articles 18.2.5 through 18.2.8 of Section 18, Bearing Devices, Division II, Construction of the AASHTO Standard Specification for Highway Bridges. Bearings shall be Grade 3, 60 durometer elastomer, and shall be subject to the load testing requirements corresponding to Design Method A. Testing shall be included in the unit price bid for the bearings, each.



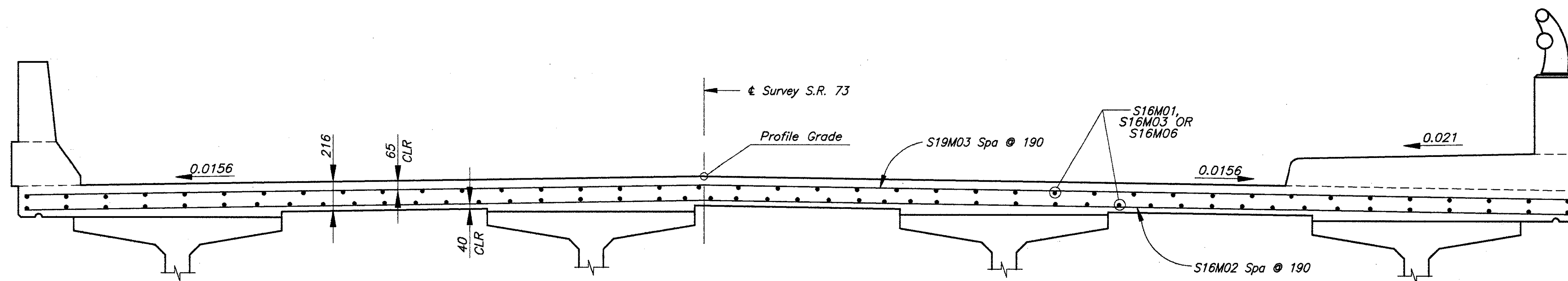
LOCATION	REACTIONS (kN) (Per Bearing)			TYPE BEARING	DUROMETER HARDNESS	NO. OF BEARINGS
	LIVE LOAD	DEAD LOAD	MAXIMUM DESIGN LOAD			
REAR ABUTMENT	283	1178	1461	B2	60	4
PIER NO. 1	292	1245	1537	B1	60	8
PIER NO. 2	278	1169	1447	B1	60	8
PIER NO. 3	267	1015	1282	B2	60	8
PIER NO. 4	273	1121	1394	B1	60	8
PIER NO. 5	269	1119	1388	B1	60	8
PIER NO. 6	295	1257	1552	B1	60	8
PIER NO. 7	283	1131	1414	B2	60	8
PIER NO. 8	293	1238	1531	B1	60	8
PIER NO. 9	292	1238	1530	B1	60	8
FWD. ABUTMENT	284	1181	1465	B2	60	4



SECTION A-A



SECTION B-B



SECTION C-C

For Sidewalk, Railing and Parapet Reinforcing
see Sheet 32 / 47

For Sections A-A, B-B & C-C locations
See Sheets 33 / 47, 34 / 47 & 35 / 47

PREPARED BY:
JANSSEN & SPAANS ENGINEERING, INC.
2825 E. 58TH STREET
INDIANAPOLIS, IN 46220

DATE
11-7-97
REVIEWED
LS
STRUCTURE FILE NUMBER
7303017

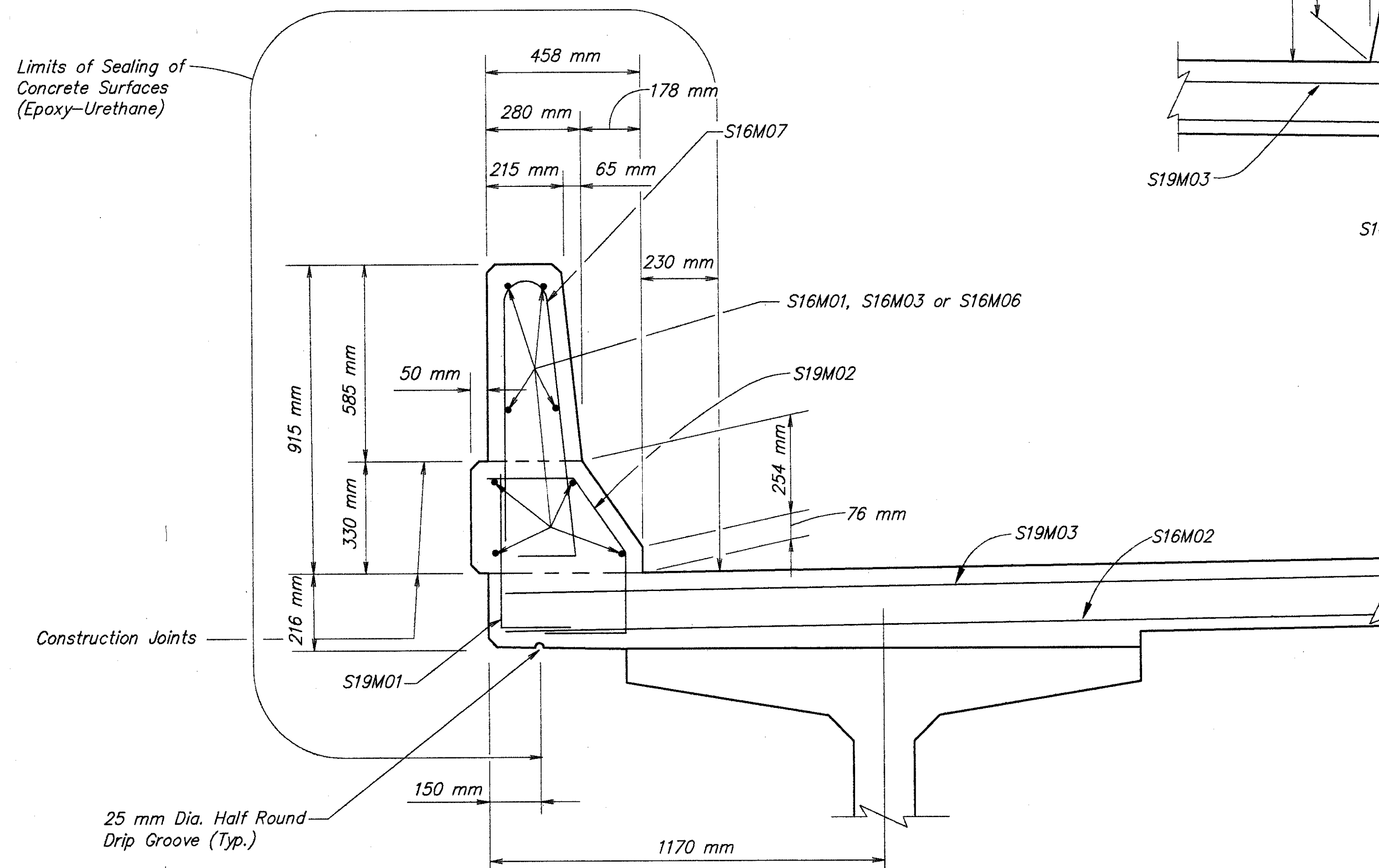
DRAWN
TMD
DESIGNED
DAT
CHECKED
MJH

SLAB REINFORCING
BRIDGE NO. SCI-73-41276
S.R. 73 OVER SCIOTO RIVER

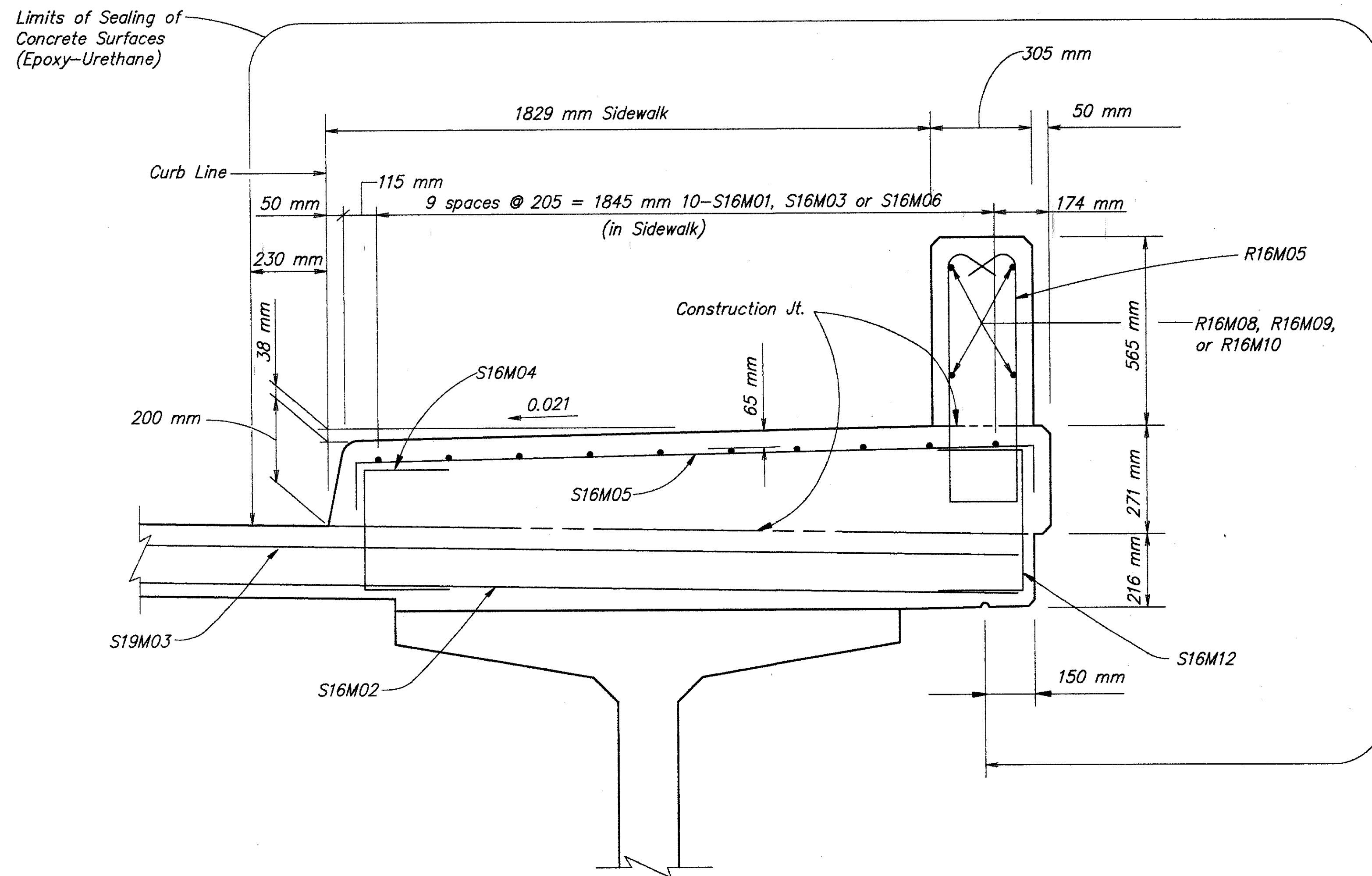
SCI-73-41.268

31 / 47

54
80



TYPICAL SECTION THRU PARAPET



TYPICAL SECTION THRU SIDEWALK

For Slab Plan, See Sheets **33/47** & **35/47**.

For Railing & Parapet Details See Sheet **36/47**.

PARAPET, RAILING & SIDEWALK REINFORCING

BRIDGE NO. SCI-73-41276
S.R. 73 OVER SCIOTO RIVER

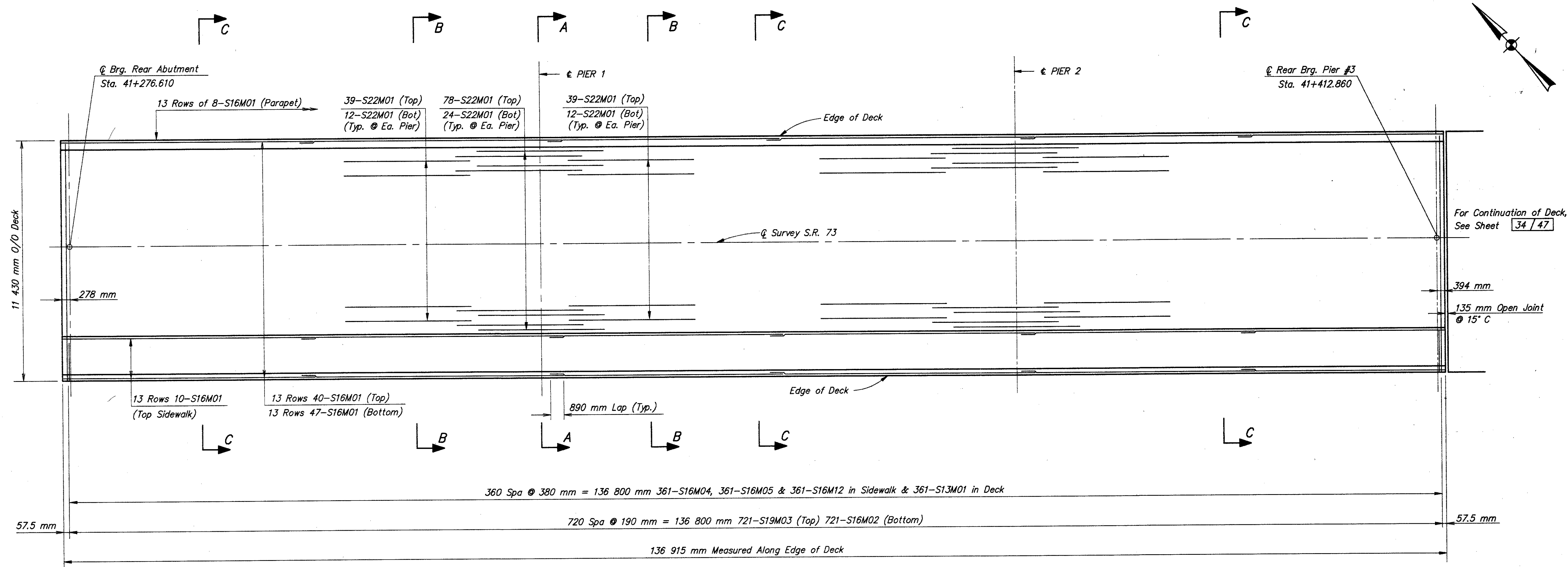
SCI-73-41.268

PREPARED BY: **JANSSEN & SPAINS ENGINEERING, INC.**
2825 E. 56TH STREET
INDIANAPOLIS, IN 46220

DATE: 11-7-97
REVIEWED: LS
DESIGNED: DAT
DRAWN: TMD
CHECKED: MJH
REVIS: REVISED
STRUCTURE FILE NUMBER: 7303017

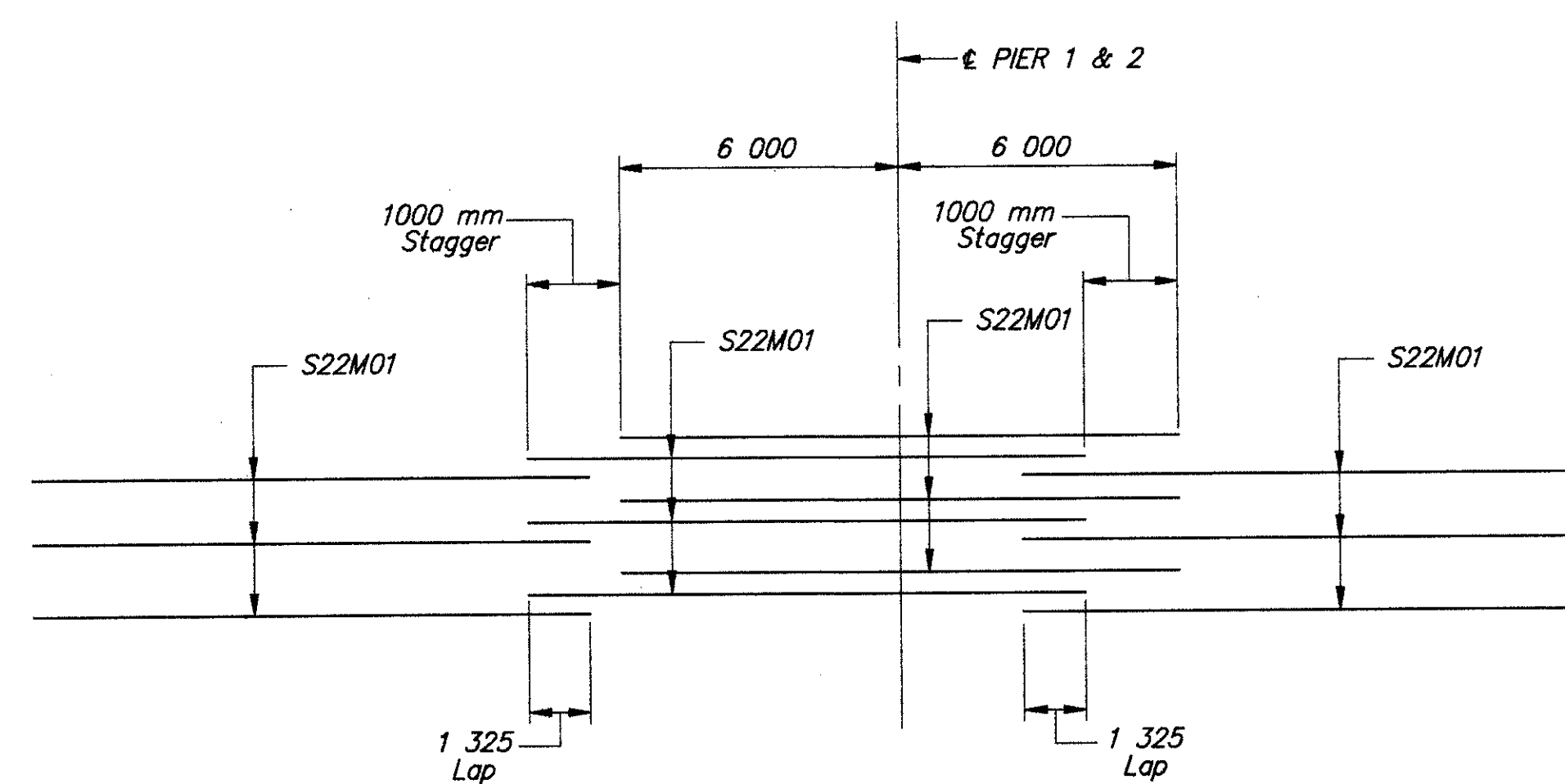
32/47

55/80



PLAN OF DECK REINFORCING

(SPANS 1, 2 & 3)
NOT TO SCALE



STAGGER SYSTEM OF S22M01 BARS OVER PIERS #1 & #2 (Top & Bottom Bars)

For Vertical Reinforcing Steel in Parapets,
See Sheets 32/47 and 36/47

For Strip Seal Expansion Joint,
See Sheets 38/47 & 39/47

For Sections A-A, B-B & C-C
See Sheet 31/47

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JANSSEN & SPAANS ENGINEERING, INC.
2826 E. 56TH STREET
INDIANAPOLIS, IN 46220

DATE
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STRUCTURE FILE NUMBER
7303017

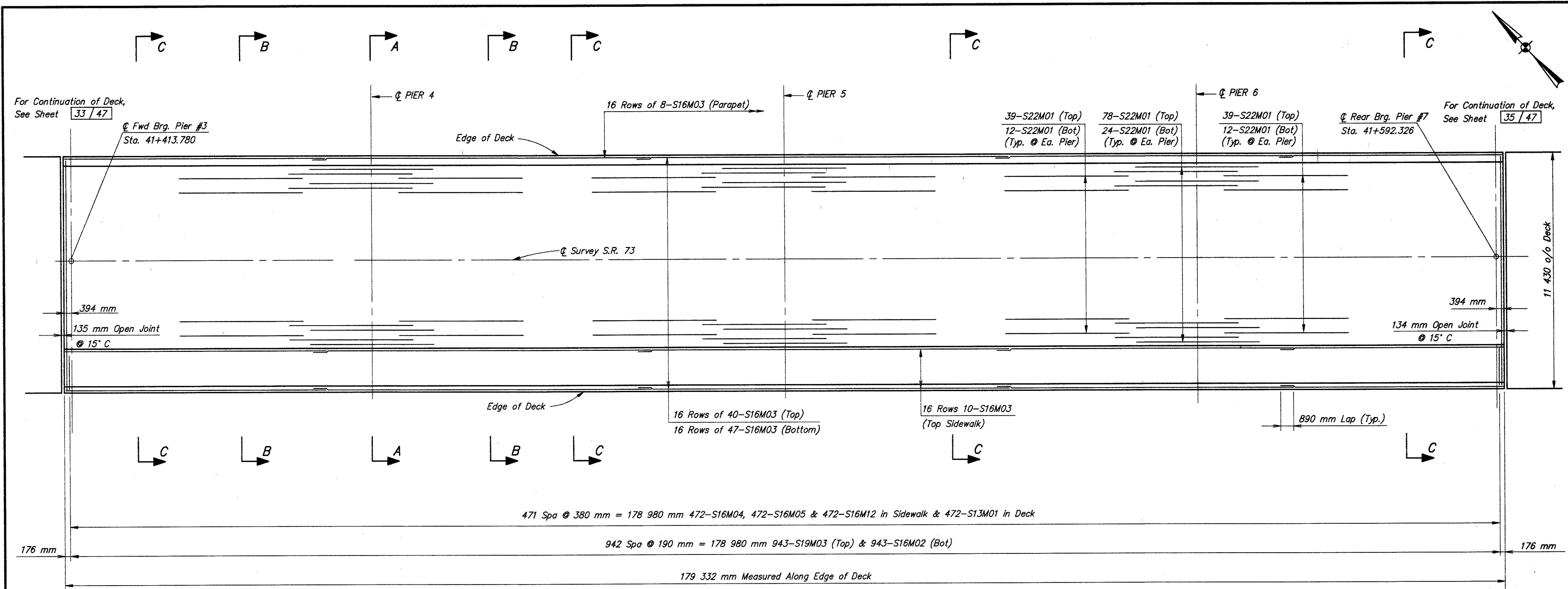
DRAWN
TMD
CHECKED
MJH

SLAB PLAN 1
BRIDGE NO. SCI-73-41276
S.R. 73 OVER SCIOTO RIVER

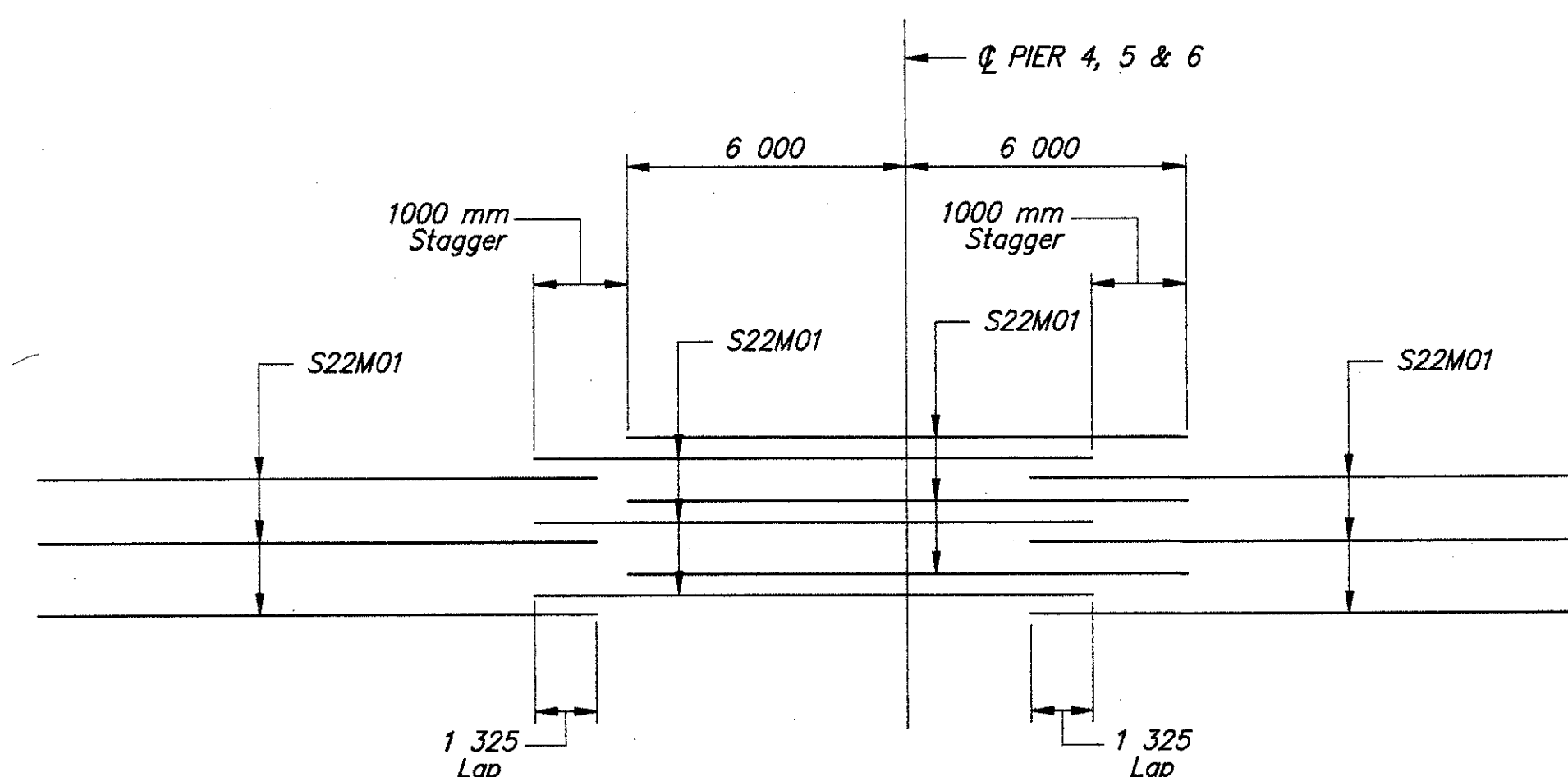
SCI-73-41.268

33/47

56
80



PLAN OF DECK REINFORCING
(SPANS 4, 5, 6 & 7)
NOT TO SCALE



**STAGGER SYSTEM OF
S22M01 BARS OVER PIERS #4, #5 & #6**
(Top & Bottom Bars)

For Vertical Reinforcing Steel in Parapets,
See Sheets **32/47** and **36/47**

For Strip Seal Expansion Joint,
See Sheets **38/47** & **39/47**

For Sections A-A, B-B & C-C
See Sheet **31/47**

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JANSSEN & SPANS ENGINEERING, INC.
2025 E. 56TH STREET
INDIANAPOLIS, IN 46220

DATE
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REVIEWED
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STRUCTURE FILE NUMBER
7303017

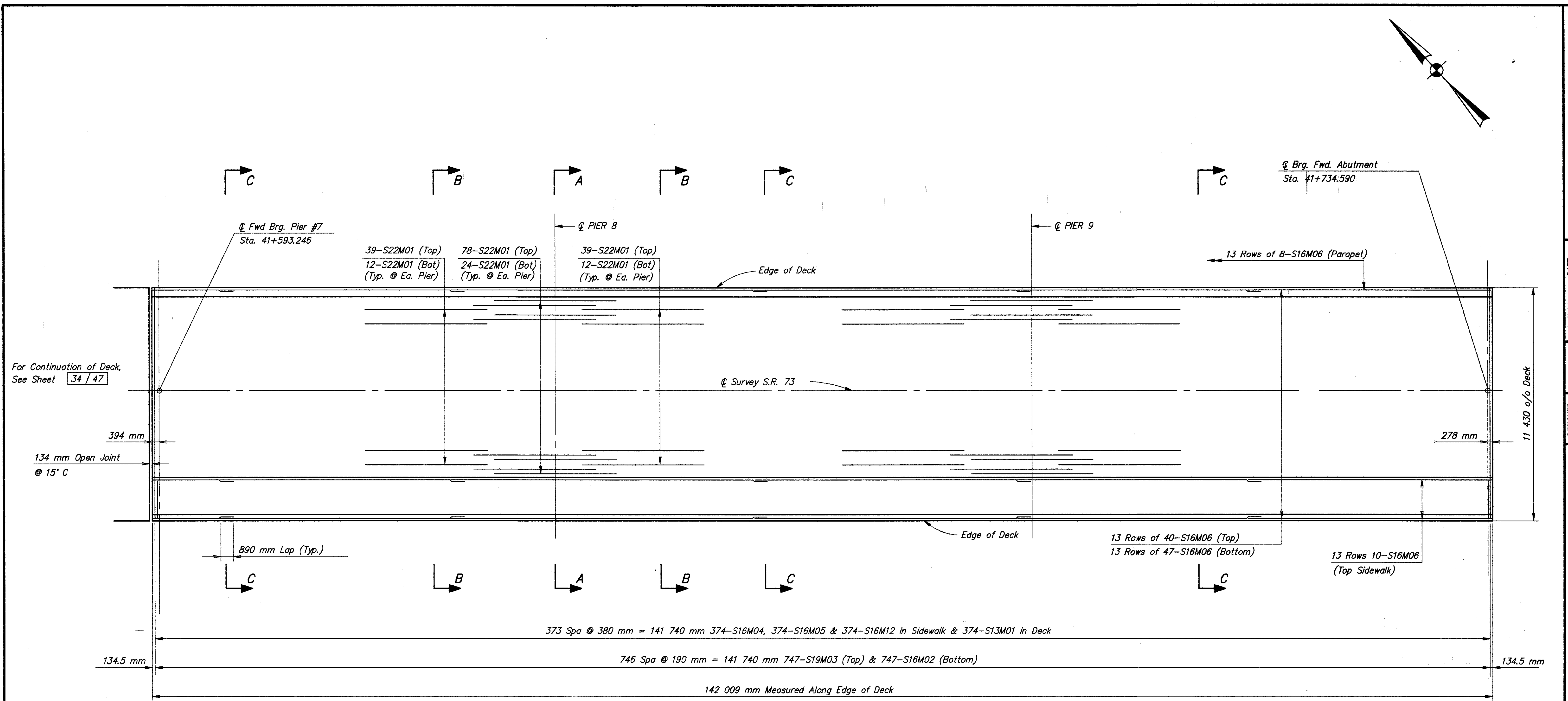
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DESIGNED
DAT
CHECKED
MUJH

SLAB PLAN 2
BRIDGE NO. SCI-73-41276
S.R. 73 OVER SCIOTO RIVER

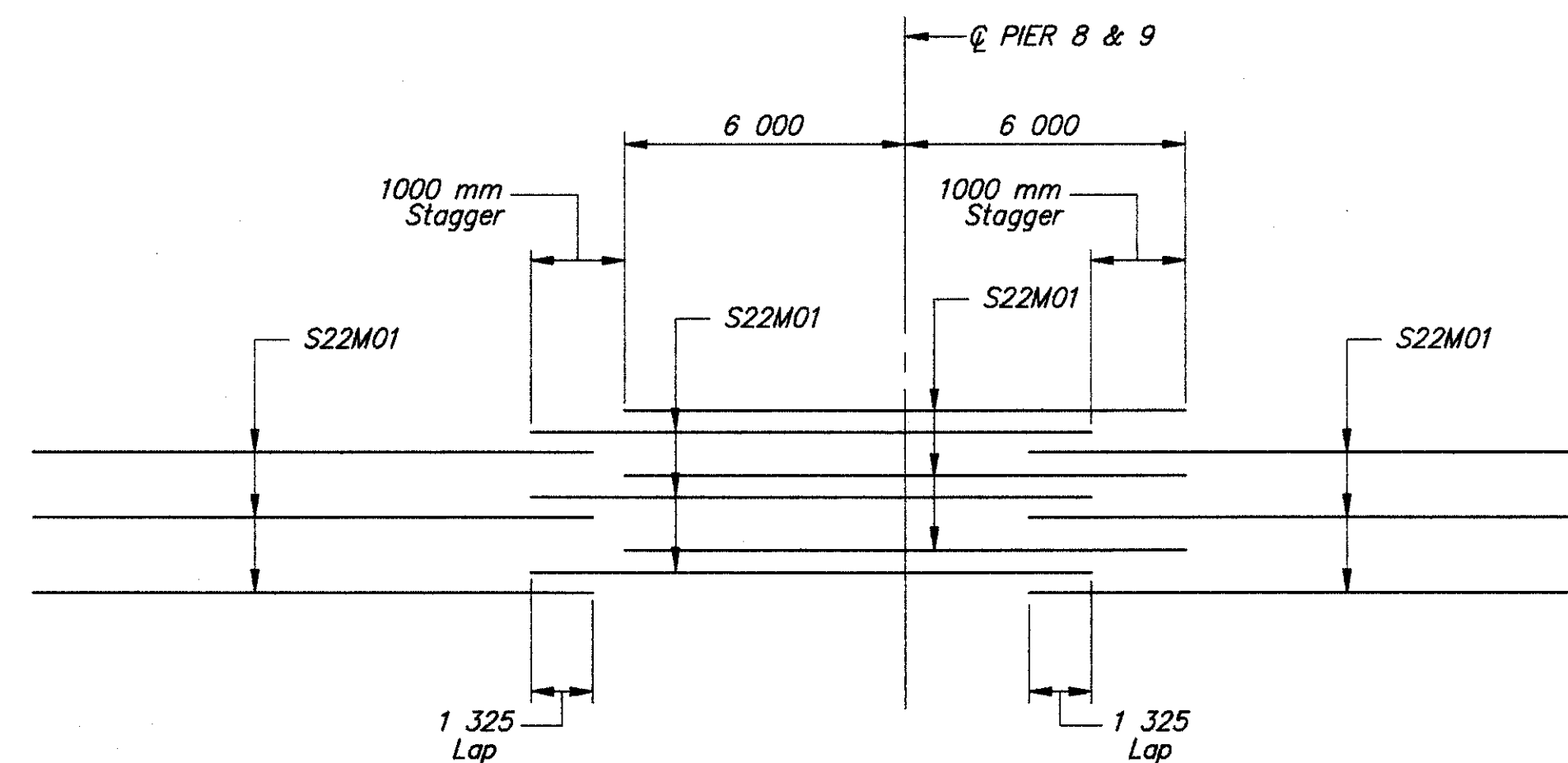
SCI-73-41.268

34/47

57
80



PLAN OF DECK REINFORCING
(SPANS 8, 9 & 10)



STAGGER SYSTEM OF S22M01 BARS OVER PIERS #8 & #9
(Top & Bottom Bars)

For Vertical Reinforcing Steel in Parapets,
See Sheets **32 / 47** and **36 / 47**

For Strip Seal Expansion Joint,
See Sheets **38 / 47** and **39 / 47**

For Sections A-A, B-B, C-C
See Sheet **31 / 47**

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JANSSEN & SPAANS ENGINEERING, INC.
2825 E. 66TH STREET
INDIANAPOLIS, IN 46220

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DAT
CHECKED
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STRUCTURE FILE NUMBER
7303017

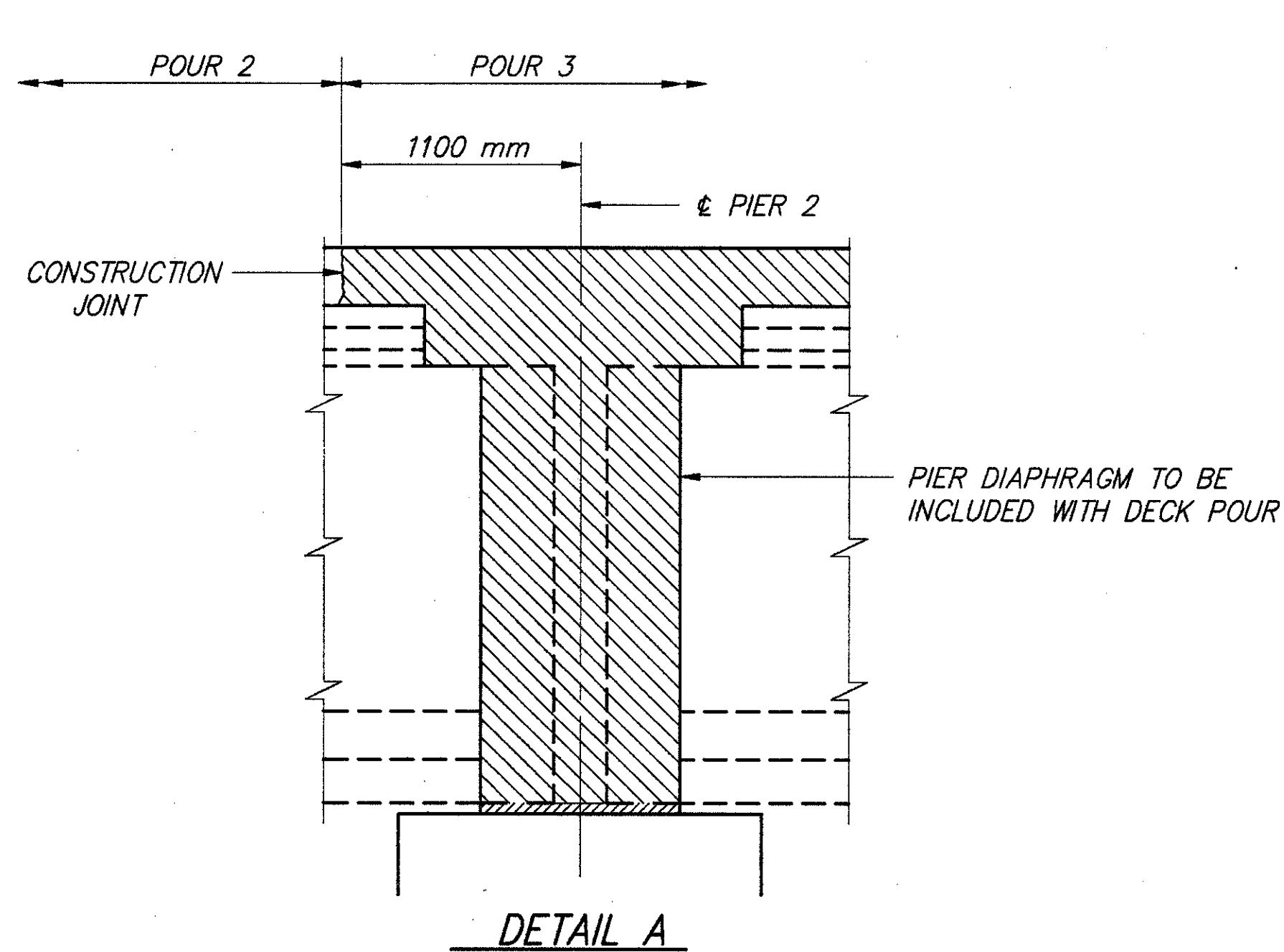
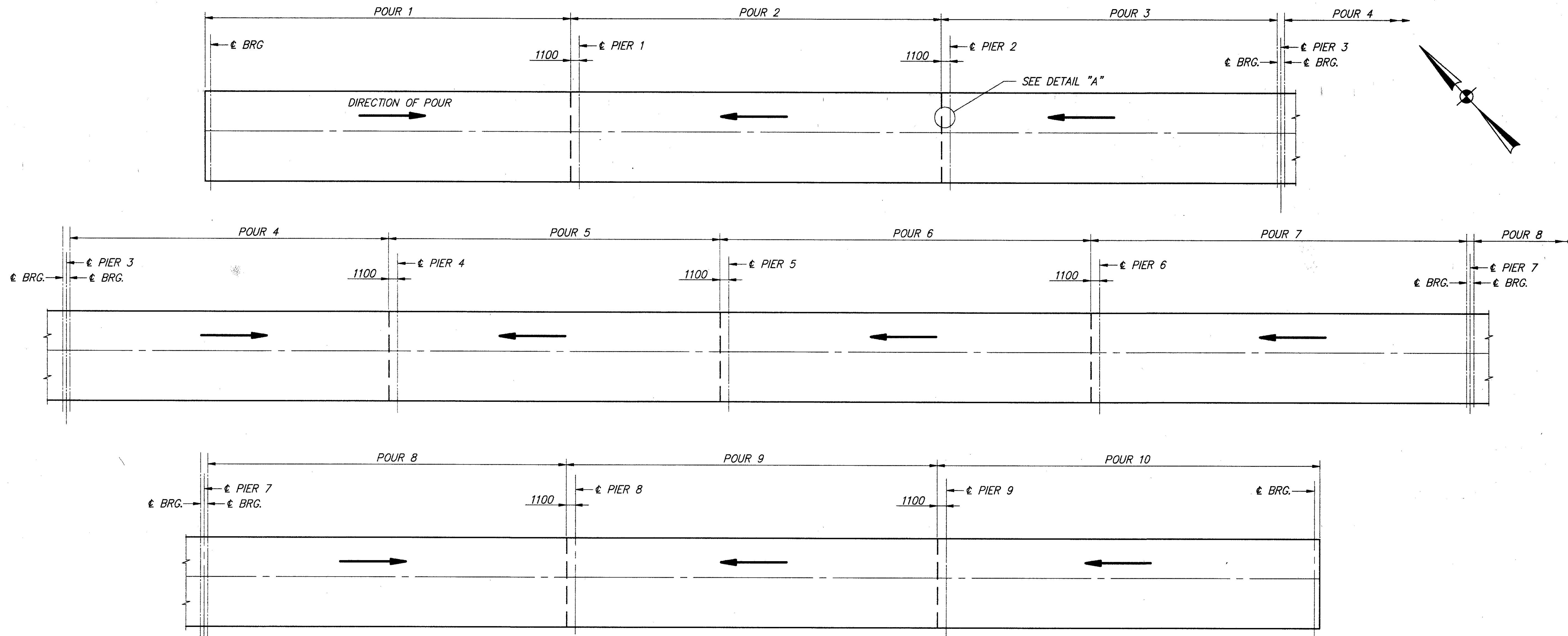
SLAB PLAN-3
BRIDGE NO. SCI-73-41276
S.R. 73 OVER SCIOTO RIVER

SCI-73-41.268

35 / 47

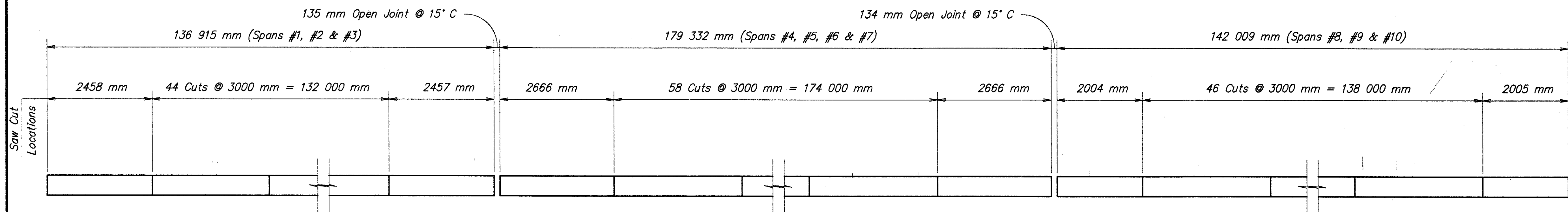
58
80

201\POUR\100

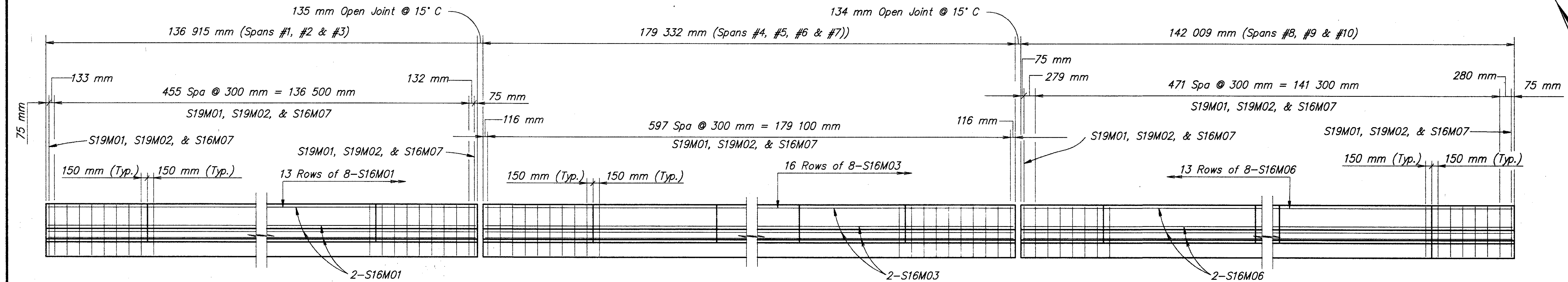


POUR SEQUENCE

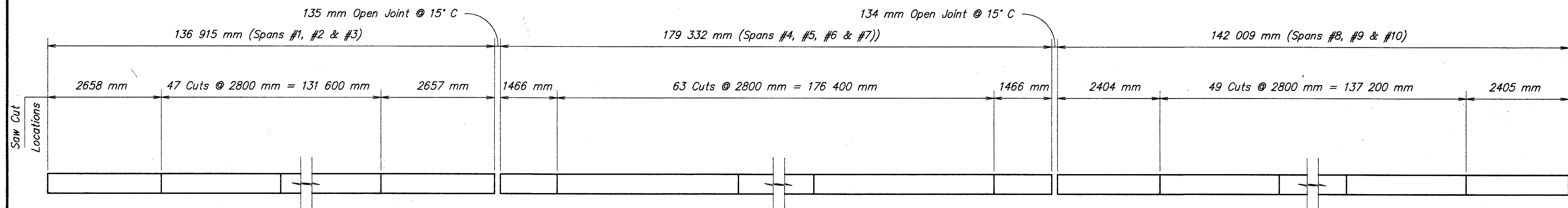
PREPARED BY: JANSSEN & SPAANS ENGINEERING, INC. 2825 E. 56TH STREET INDIANAPOLIS, IN 46220	
DATE 11-7-97	REVIEWED LS
DESIGNED DAT	CHECKED MJH
DRAWN TMD	REVIS 1-13-98
STRUCTURE FILE NUMBER 7303017	
DECK POUR SEQUENCE BRIDGE NO. SCI-73-41268 S.R. 73 OVER SCIOTO RIVER	
SCI-73-41.268	
35g/47	
58g/80	



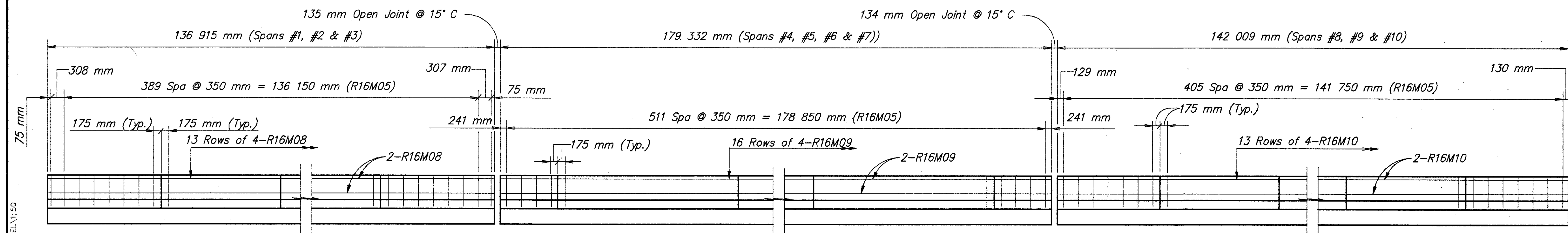
PLAN OF LEFT PARAPET PANEL CUT JOINTS



ELEVATION OF LEFT PARAPET PANELS
(LOOKING AT INSIDE FACE)



PLAN OF RIGHT RAILING PANEL CUT JOINTS



ELEVATION OF RIGHT RAILING PANELS
(LOOKING AT OUTSIDE FACE)

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2825 E. 56TH STREET
INDIANAPOLIS, IN 46220

DATE: 11-7-97
REVIEWED: LS
STRUCTURE FILE NUMBER: 7303107

DRAWN: TMD
DESIGNED: DAT
CHECKED: MJH

RAILING & PARAPET DETAILS
BRIDGE NO. SCI-73-41276
S.R. 73 OVER SCIOTO RIVER

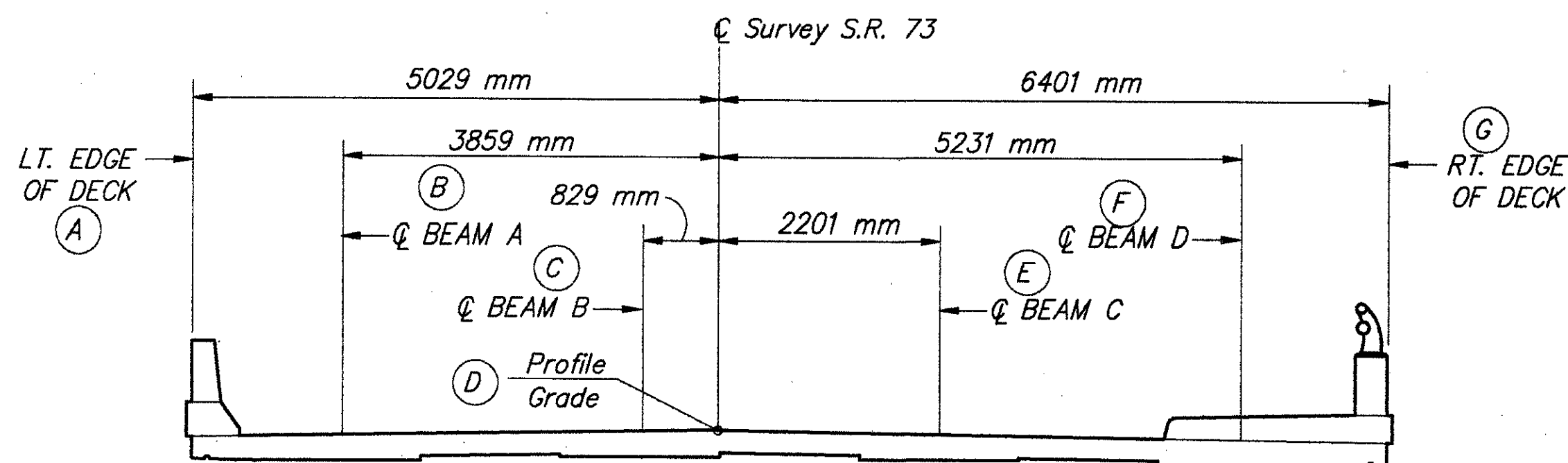
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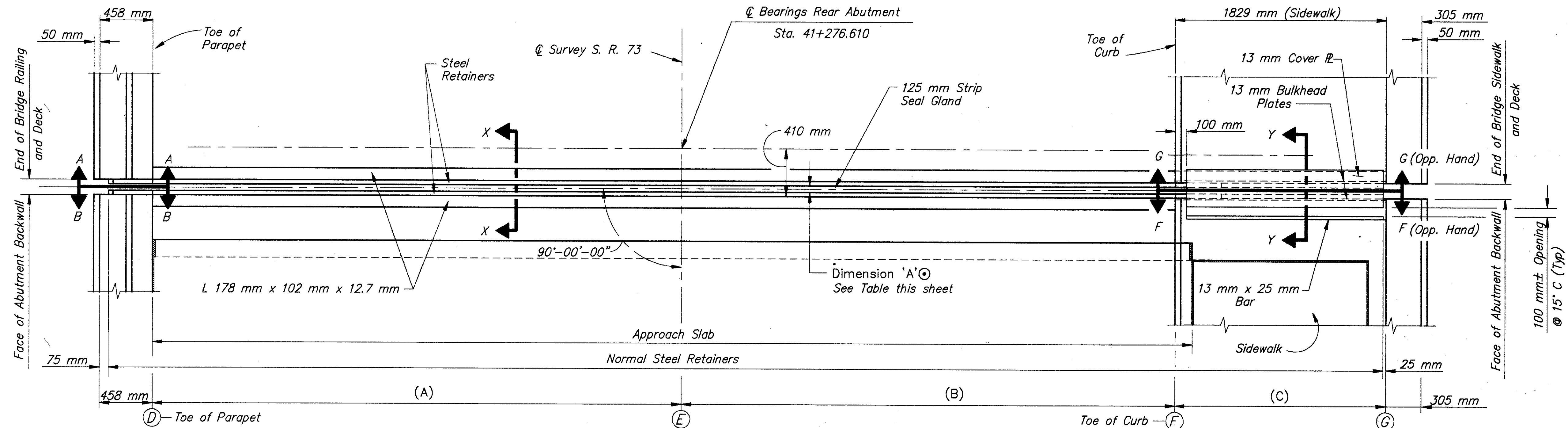
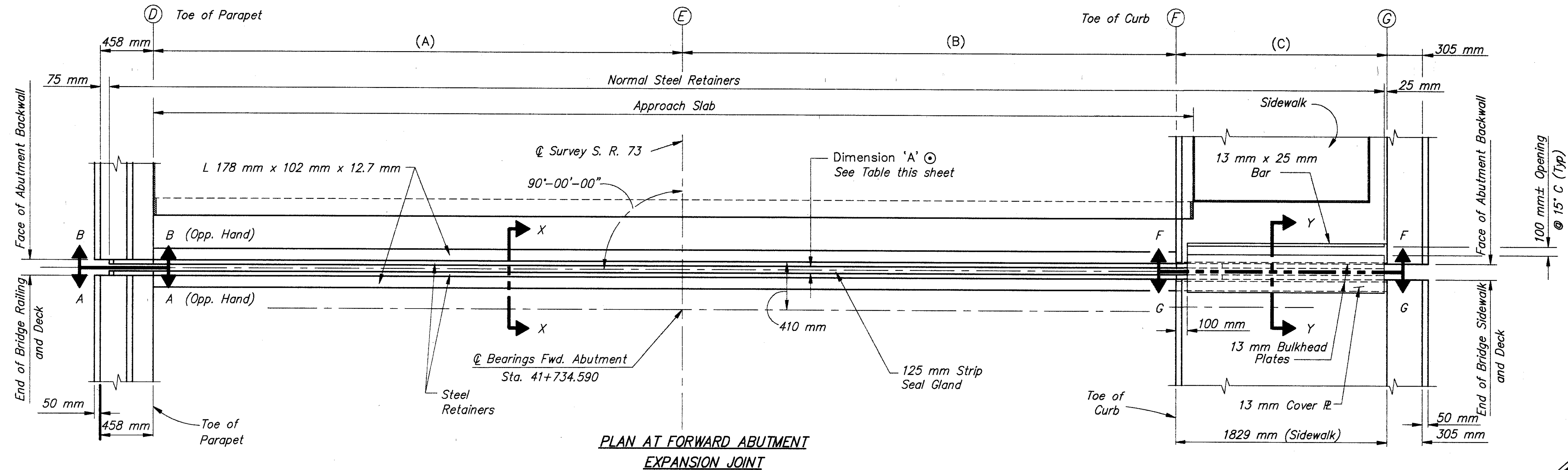
36/47
59/80

TOP OF SLAB ELEVATIONS (SCREED ELEVATIONS)								
PT.	STATION	A	B	C	D	E	F	G
		ELEVATION	ELEVATION	ELEVATION	ELEVATION	ELEVATION	ELEVATION	ELEVATION
SPAN #1	BRG.	41+276.500	161.704	161.722	161.770	161.783	161.748	161.701
	1/6 Pt.	41+284.348	161.786	161.804	161.852	161.865	161.830	161.783
	2/6 Pt.	41+292.197	161.851	161.869	161.917	161.930	161.895	161.848
	3/6 Pt.	41+300.045	161.899	161.917	161.965	161.978	161.943	161.896
	4/6 Pt.	41+307.893	161.930	161.948	161.995	162.008	161.974	161.927
	5/6 Pt.	41+315.742	161.943	161.961	162.009	162.022	161.987	161.940
SPAN #2	CL PIER 1	41+3223.590	161.939	161.958	162.005	162.018	161.984	161.936
	1/6 Pt.	41+331.492	162.020	162.038	162.085	162.097	162.064	162.017
	2/6 Pt.	41+339.393	162.084	162.102	162.149	162.162	162.128	162.081
	3/6 Pt.	41+347.295	162.132	162.150	162.197	162.210	162.176	162.128
	4/6 Pt.	41+355.197	162.163	162.181	162.228	162.241	162.207	162.160
	5/6 Pt.	41+363.098	162.178	162.196	162.243	162.256	162.222	162.175
SPAN #3	CL PIER 2	41+371.000	162.177	162.195	162.242	162.255	162.221	162.173
	1/6 Pt.	41+378.053	162.238	162.257	162.304	162.317	162.282	162.235
	2/6 Pt.	41+385.107	162.289	162.308	162.355	162.368	162.333	162.286
	3/6 Pt.	41+392.160	162.330	162.348	162.395	162.408	162.374	162.326
	4/6 Pt.	41+399.213	162.359	162.377	162.424	162.437	162.403	162.356
	5/6 Pt.	41+406.267	162.377	162.396	162.443	162.456	162.422	162.374
SPAN #4	CL PIER 3	41+413.320	162.385	162.403	162.451	162.464	162.429	162.382
	1/6 Pt.	41+420.373	162.439	162.458	162.505	162.518	162.484	162.436
	2/6 Pt.	41+427.427	162.483	162.501	162.548	162.561	162.527	162.480
	3/6 Pt.	41+434.480	162.515	162.534	162.581	162.594	162.560	162.512
	4/6 Pt.	41+441.533	162.537	162.555	162.603	162.616	162.581	162.534
	5/6 Pt.	41+448.587	162.548	162.566	162.614	162.626	162.592	162.545
SPAN #5	CL PIER 4	41+455.640	162.548	162.566	162.613	162.626	162.592	162.545
	1/6 Pt.	41+462.693	162.591	162.609	162.657	162.670	162.635	162.588
	2/6 Pt.	41+469.747	162.624	162.642	162.689	162.702	162.668	162.621
	3/6 Pt.	41+476.800	162.646	162.664	162.712	162.725	162.690	162.643
	4/6 Pt.	41+483.853	162.658	162.676	162.724	162.737	162.702	162.655
	5/6 Pt.	41+490.907	162.660	162.678	162.725	162.738	162.704	162.656
SPAN #6	CL PIER 5	41+497.960	162.651	162.669	162.716	162.729	162.695	162.648
	1/6 Pt.	41+505.862	162.699	162.718	162.765	162.778	162.744	162.696
	2/6 Pt.	41+513.763	162.732	162.750	162.797	162.810	162.776	162.728
	3/6 Pt.	41+521.665	162.747	162.766	162.813	162.826	162.791	162.744
	4/6 Pt.	41+529.567	162.746	162.765	162.812	162.825	162.790	162.743
	5/6 Pt.	41+537.468	162.729	162.747	162.794	162.807	162.773	162.726
SPAN #7	CL PIER 6	41+545.370	162.695	162.713	162.760	162.773	162.739	162.692
	1/6 Pt.	41+553.273	162.733	162.751	162.798	162.811	162.777	162.729
	2/6 Pt.	41+561.177	162.753	162.771	162.819	162.832	162.797	162.750
	3/6 Pt.	41+569.080	162.757	162.775	162.822	162.835	162.801	162.753
	4/6 Pt.	41+576.983	162.743	162.761	162.808	162.821	162.787	162.740

TOP OF SLAB ELEVATIONS (SCREED ELEVATIONS)								
PT.	STATION	A	B	C	D	E	F	G
		ELEVATION	ELEVATION	ELEVATION	ELEVATION	ELEVATION	ELEVATION	ELEVATION
SPAN #8	CL PIER 7	41+592.790	162.664	162.682	162.729	162.742	162.708	162.661
	1/6 Pt.	41+600.692	162.689	162.707	162.755	162.768	162.733	162.686
	2/6 Pt.	41+608.593	162.697	162.715	162.763	162.776	162.741	162.694
	3/6 Pt.	41+616.495	162.688	162.706	162.754	162.767	162.732	162.685
	4/6 Pt.	41+624.397	162.662	162.680	162.727	162.740	162.706	162.659
	5/6 Pt.	41+632.298	162.618	162.636	162.684	162.697	162.662	162.615
SPAN #9	CL PIER 8	41+640.200	162.557	162.576	162.623	162.636	162.601	162.554
	1/6 Pt.	41+648.102	162.568	162.586	162.633	162.646	162.612	162.565
	2/6 Pt.	41+656.003	162.562	162.580	162.627	162.640	162.606	162.559
	3/6 Pt.	41+663.905	162.540	162.558	162.605	162.618	162.584	162.537
	4/6 Pt.	41+671.807	162.501	162.520	162.567	162.580	162.546	162.498
	5/6 Pt.	41+679.708	162.447	162.465	162.512	162.525	162.491	162.444
SPAN #10	CL PIER 9	41+687.610	162.376	162.394	162.441	162.454	162.420	162.373
	1/6 Pt.	41+695.458	162.380	162.398	162.445	162.458	162.424	162.377
	2/6 Pt.	41+703.307	162.366	162.385	162.432	162.445	162.411	162.363
	3/6 Pt.	41+711.155	162.336	162.354	162.401	162.414	162.380	162.333
	4/6 Pt.	41+719.003	162.288	162.306	162.354	162.367	162.332	162.285
	5/6 Pt.	41+726.852	162.223	162.242	162.289	162.302	162.267	162.220
SPAN #10	BRG	41+734.700	162.141	162.159	162.207	162.220	162.185	162.138

SCREED ELEVATIONS shown are for the deck slab surface prior to concrete placement. Allowance has been made for anticipated calculated dead load deflections.





PLAN AT REAR ABUTMENT
EXPANSION JOINT

Note : Dimensions and elevations given are at the top of the joint along face of abutment backwall.

LOCATION	DIMENSION			ELEVATION			
	(A)	(B)	(C)	(D)	(E)	(F)	(G)
REAR ABUTMENT	4571 mm	4267 mm	1829 mm	161.710 m	161.781 m	161.714 m	161.952 m
FWD. ABUTMENT	4571 mm	4267 mm	1829 mm	162.154 m	162.225 m	162.158 m	162.396 m

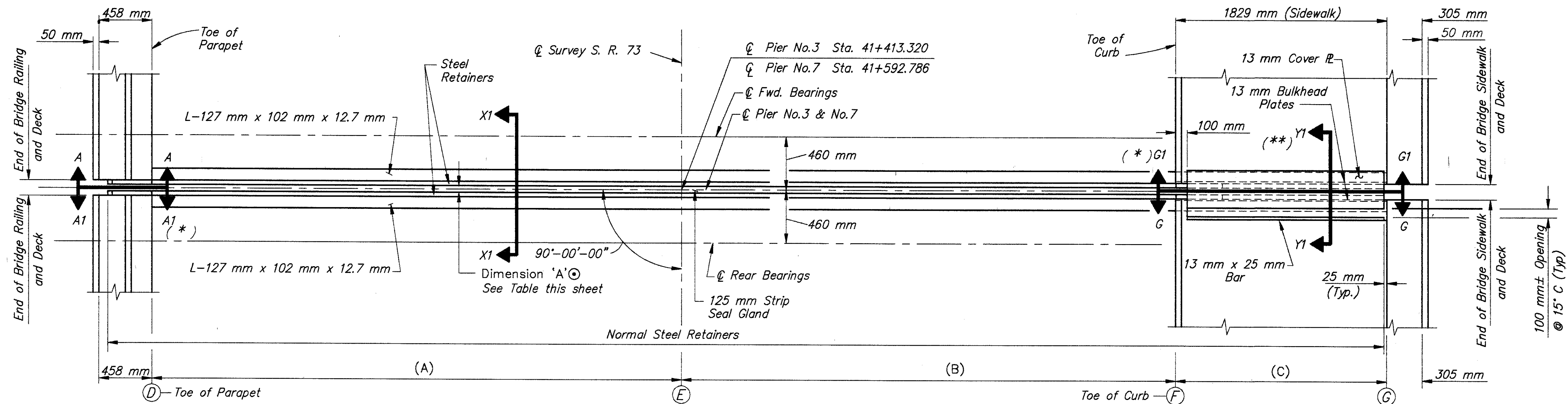
DIMENSION 'A' @		
TEMP. °C	125 mm STRIP SEAL GLAND	
	REAR ABUT.	FWD. ABUT.
0	76 mm	76 mm
5	71 mm	75 mm
10	66 mm	66 mm
15	62 mm	62 mm
20	57 mm	57 mm
25	52 mm	52 mm
30	48 mm	48 mm
35	43 mm	43 mm

Dimension 'A' @ measured normal to centerline of Bearings.

Opp. Hand refers to opposite as shown on Std. Dwg. EXJ-6-95M details.

For Sections A-A, B-B, F-F, G-G, X-X and Y-Y See Std. Dwg. EXJ-6-95M.

For Notes and Installation procedures See Std. Dwg. EXJ-6-95M, sheet 5 of 5 and General Notes on sheet 7/47



PLAN AT PIER NO. 3 & 7 INTERMEDIATE JOINTS

Notes :
The joint assembly shall be placed so that the L-178x102x12.7 Angles remain parallel to each other and perpendicular to the roadway gradient.

Joint details are symmetrical about $\odot$ of Pier No. 3 and Pier No. 7.

For Additional Details not shown or noted, See Section X-X on St'd Dwg. EXJ-6-95M.

(*) Section A1-A1 & G1-G1 are opposite hand of Sections A-A & G-G respectively.

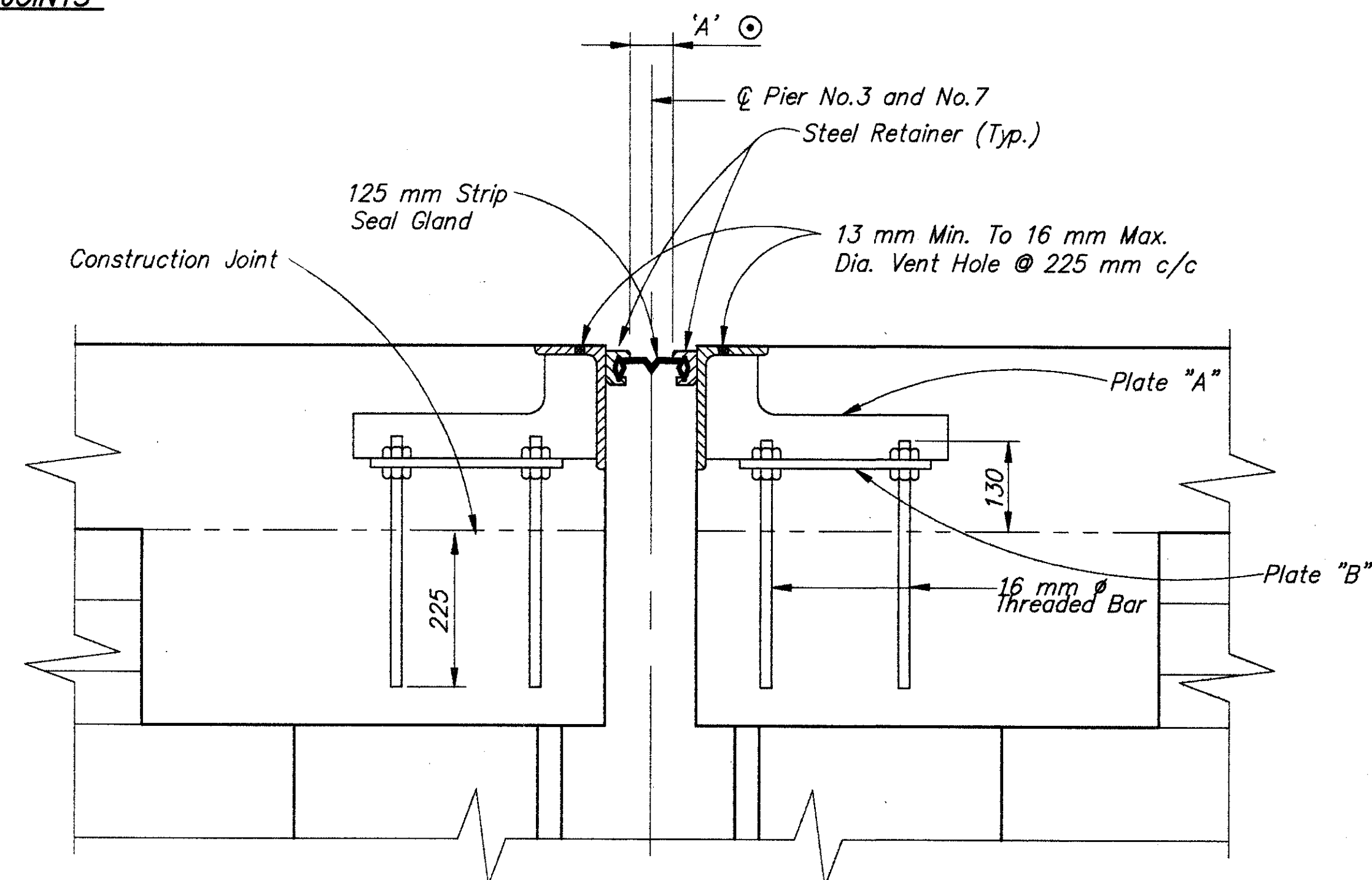
(**) Section Y1-Y1 is as shown in Section Y-Y on St'd Dwg. EXJ-6-95M, except that an L-178x102x12.7 Angle is to be used on both sides of the joint.

DIMENSION 'A' $\odot$		
TEMP. °C	125 mm STRIP SEAL GLAND	
	PIER NO.3	PIER NO.7
0	78 mm	79 mm
5	72 mm	72 mm
10	66 mm	65 mm
15	59 mm	58 mm
20	53 mm	51 mm
25	47 mm	44 mm
30	40 mm	37 mm
35	34 mm	30 mm

Dimension 'A' $\odot$ measured normal to centerline of Bearings.

Note : Dimensions and elevations given are at the top of the deck at centerline of Pier No. 3 and No. 7 for the intermediate joints.

LOCATION POINT	DIMENSION			ELEVATION			
	(A)	(B)	(C)	(D)	(E)	(F)	(G)
PIER NO.3	4571 mm	4267 mm	1829 mm	162.390 m	162.461 m	162.394 m	162.632 m
PIER NO.7	4571 mm	4267 mm	1829 mm	162.671 m	162.742 m	162.675 m	162.913 m



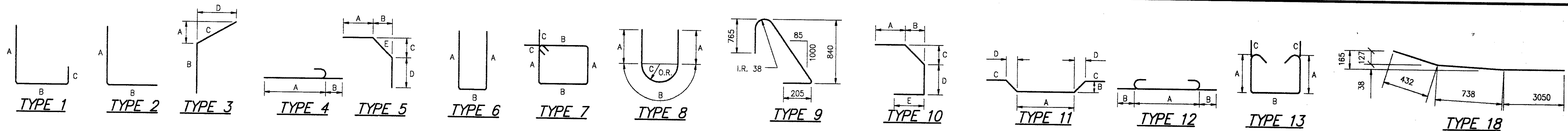
SECTION X1-X1

For additional Details not shown or noted, See Section X-X on Std. Dwg. EXJ-6-95M.

For Plate 'A' & Plate 'B' Details See Section X-X on Std. Dwg. EXJ-6-95M.

For Sections A-A, G-G, X-X and Y-Y See Std. Dwg. EXJ-6-95M.

For Notes and Installation procedures See Std. Dwg. EXJ-6-95M, sheet 5 of 5 and General Notes on sheet 7147.



ABUTMENTS											
MARK	TYPE	A	B	C	D	E	NUMBER		TOTAL	LENGTH	WEIGHT
							REAR	FORWARD	No.	mm	kg
A29M01	ST						5	5	10	11 930	604
A29M02	ST						6	6	12	5300	322
A29M03	ST						6	6	12	4720	287
A29M04	2	725	500				12	12	24	1135	138
A29M05	ST						4	4	8	1110	45
A29M06	ST						5	5	10	11 330	573
A25M01	20	790	280	430			20	20	40	1490	234
A25M02	6	3055	350				24	24	48	6460	1232
A25M03	ST						2	2	4	1960	31
A22M01	ST						26	26	52	2960	468
A22M02	ST				Length Varies By 240		Series of 2 9	Series of 2 9	Series of 4 9	860 to 2780	199
A22M03	ST						22	22	44	2680	359
A22M04	ST				Length Varies By 210		Series of 2 9	Series of 2 9	Series of 4 9	850 to 2530	185
A19M01	1	3465	1640	790			24	24	48	5895	632
A19M02	6	2970	440				6	6	12	6380	171
A19M03	6	1830	440				36	36	72	4100	660
A19M04	6	840	290				30	30	60	1870	251
A19M05	6	2250	440				30	30	60	4940	662
A19M06	NOT USED										
A19M07	NOT USED										
A19M08	NOT USED										
A19M09	NOT USED										
A19M10	NOT USED										
A19M11	ST						5	5	10	865	19
A19M12	NOT USED										
A19M13	ST						18	18	36	1375	111
A19M14	5	205	152	216	685	264	17	17	34	1135	86
A19M15	2	725	450				12	12	24	1125	60
A19M16	6	725	570				6	6	12	1920	52
A16M01	6	260	1640				24	24	48	2080	155
A16M02	2	2000	260				24	24	48	2220	165
A16M03	6	1020	1110				24	24	48	3150	235
A16M04	ST						25	25	50	11 330	879
A16M05	2	480	480				27	27	54	920	77
A16M06	ST						2	2	4	1880	12
A16M07	ST						5	5	10	2030	32
A16M08	ST						2	2	4	2180	14
A16M09	7	715	900	140			26	26	52	3390	274
A16M10	ST						1	1	2	2965	9
A16M11	ST						2	2	4	2685	17
A16M12	ST						8	8	16	4625	115

ABUTMENTS (CONTINUED)											
MARK	TYPE	A	B	C	D	E	NUMBER		TOTAL	LENGTH	WEIGHT
							REAR	FORWARD	No.	mm	kg
A16M13	ST				Length Varies By 340		2 Series of 7	2 Series of 7	4 Series of 7	4075 to 6115	221
A16M14	ST						6	6	12	6300	117
A16M15	3	330	3072	480	349		2	2	4	3552	22
A16M16	ST						8	8	16	4050	101
A16M17	ST				Length Varies By 385		2 Series of 6	2 Series of 6	4 Series of 6	3525 to 5450	167
A16M18	ST						10	10	20	5720	178
A16M19	3	306	2906	480	370		2	2	4	3386	21
A16M20	12	1650	180				22	22	44	2010	137
A16M21	ST						2	2	4	4220	26
A16M22	4	740	180				12	12	24	920	34
A16M23	9	See Detail					5	5	10	1825	28
A16M24	18	See Detail					2	2	4	4220	26
A16M25	6	1585	265				60	60	120	3435	640
A16M26	ST						18	18	36	2740	153
A16M27	ST						12	12	24	1825	68
A16M28	7	430	470	200			37	37	74	2200	253
A16M29	ST						8	8	16	11 330	281
A16M30	1	1230	575	600			6	6	12	2405	45
A16M31	ST						6	6	12	8655	161
A16M32	ST						8	8	16	2120	53
A16M33	ST						4	4	8	1470	18
#19 Threaded Dowel Bars							24	24	48	775	83
R16M01	19	457	165				4	4	8	1000	*
R16M02	21			See Detail			2	2	4	2010	*
R16M03	1	1067	1422	180			2	2	4	2590	*
R16M04	13	1070	200	140			4	4	8	2540	*
R16M05	13	736	203	140			14	14	28	1875	82
R16M06	ST						2	2	4	1420	*
R16M07	ST						4	4	8	6300	*
ABUTMENTS TOTAL									12 281		

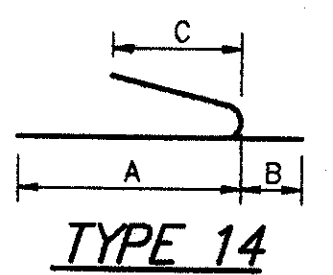
NOTES

THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST TWO DIGITS INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, A16M01 IS A 16M BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED. R INDICATES INSIDE RADIUS. UNLESS OTHERWISE NOTED. "STD." WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF THE BAR.

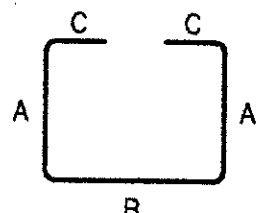
ALL REINFORCING STEEL TO BE EPOXY COATED.

ST ~ DENOTES STRAIGHT BARS

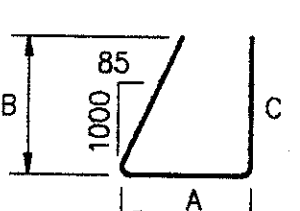
* INCLUDED WITH ITEM 517 RAILING FOR PAYMENT.



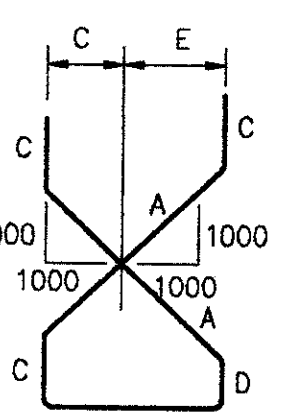
TYPE 14



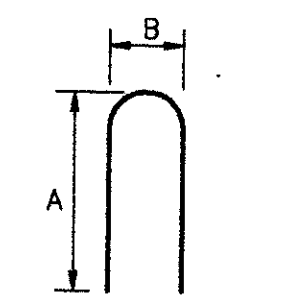
TYPE 15



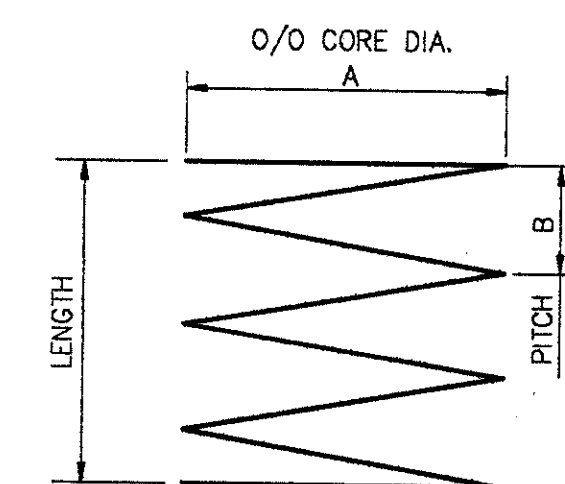
TYPE 16



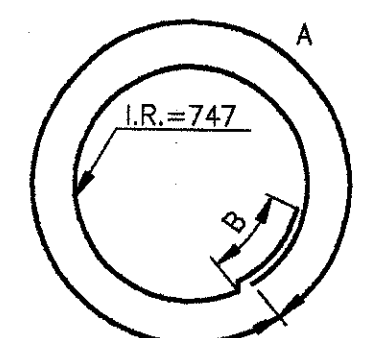
TYPE 17



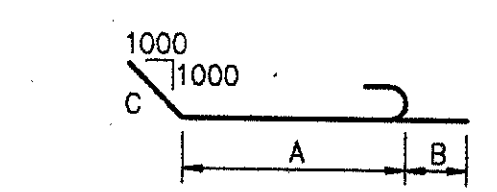
TYPE 19



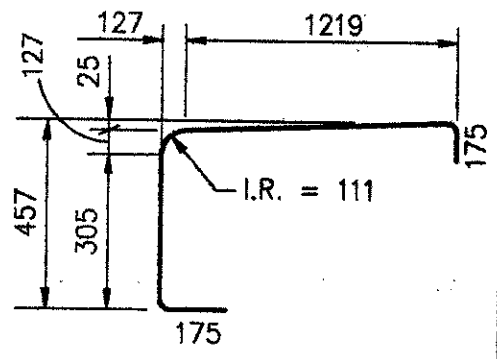
TYPE 22



TYPE 23



TYPE 20



TYPE 21

PIERS																	
MARK	TYPE	A	B	C	D	NUMBER									TOTAL	LENGTH	WEIGHT
						PIER NO.1	PIER NO.2	PIER NO.3	PIER NO.4	PIER NO.5	PIER NO.6	PIER NO.7	PIER NO.8	PIER NO.9	No.	mm	kg
PIER CAP																	
P36M01	6	760	16880			24	24	24	24	24	24	24	24	24	216	18400	31 426
P36M02	6	760	16730			5	5	5	5	5	5	5	5	5	45	18250	6493
P22M01	7	1730	1010	318		136	136	136	136	136	136	136	136	136	1224	6116	22 773
P22M02	ST					8	8	8	8	8	8	8	8	8	72	16880	3697
P19M01	6	830	2024			5	5	5	5	5	5	5	5	5	45	3684	371
P19M02	6	830	1526			8	8	8	8	8	8	8	8	8	72	3186	513
P13M01	NOT USED																
P13M02	6	375	1576			24	24	24	24	24	24	24	24	24	216	2326	499
P13M03	6	375	593			12	12	12	12	12	12	12	12	12	108	1343	144
P13M04	6	180	1576			17	17	17	17	17	17	17	17	17	153	1936	294
COLUMNS																	
P36M12	4	8065	460			99									99	8525	6673
P36M13	4	7095	460				99								99	7555	5914
P36M14	4	7260	460					66							66	7720	4029
P36M15	4	7760	460						66						66	8220	4290
P36M16	4	6369	460							99					99	6829	5346
P36M17	4	11 355	460								99	66			165	11 815	15 415
P36M18	4	11 286	460										126		126	11 746	11 702
P36M19	4	9206	460											126	126	9666	9630
P36M20	NOT USED																
P36M21	NOT USED																
P36M22	ST												18		18	9506	1353
P36M23	ST													18	18	7426	1057
SP16M01	22	1526	75			3									3	6285	1934
SP16M02	22	1526	75				3								3	5315	1639
SP16M03	22	1526	75					3							3	5480	1689
SP16M04	22	1526	75						3						3	5980	1841
SP16M05	22	1526	75							3					3	4589	1419
SP16M06	22	1526	75								3				3	9642	2955
SP16M07	22	1526	75									3			3	9575	2934
SP16M08	22	1526	75										3		3	9506	2914
SP16M09	22	1526	75											3	3	7426	2281
														PIERS	TOTAL	152 988	
DRILLED SHAFTS																	
DS36M01	ST					99	198	132	132	198	99	66	144	288	1356	12 750	136 704
DS36M02	ST					99									99	11 750	9198
DS36M03	ST									99					99	4750	3718
DS36M04	ST										99				99	8750	6849
DS36M05	ST											66	144		210	9950	16 522
DS16M01	23	4794	305			183	195	192	192	201	156	159	171	192	1641	5099	12 986
															DRILLED SHAFT	TOTAL	** 185 977

NOTES:
** Included with Items Special
Drilled Shafts, Misc.: For Payment
For Bar Bending Diagram
See Sheet 40/47

REINFORCING BAR SCHEDULE 2
BRIDGE NO. SCI-73-41276
S.R. 73 OVER SCIOTO RIVER

SCI-73-41.268

41/47
64
80

PREPARED BY: JANSSEN & SPAANS ENGINEERING, INC.
2826 E. 56TH STREET
INDIANAPOLIS, IN 46220

DATE: 11-7-97
REVIEWED: LS
DRAWN: TMD
DESIGNED: DAT
CHECKED: M.J.H.

SUPERSTRUCTURE											
MARK	TYPE	A	B	C	D	E		NUMBER	TOTAL	LENGTH	WEIGHT
									No.	mm	kg
DECK (PARAPET & SIDEWALK INCLUDED)											
S22M01	ST								1428	12 000	52 128
S19M01	2	470	280						1530	700	2394
S19M02	10	230	152	216	215	125			1530	765	2616
S19M03	ST								2411	11 330	61 053
S16M01	ST								1365	11 345	24 035
S16M02	ST								2411	11 330	42 395
S16M03	ST								1680	12 036	31 383
S16M04	6	260	310						1207	750	1405
S16M05	6	100	1980						1207	2100	3934
S16M06	ST								1365	11 738	24 866
S16M07	9	See Detail							1530	1825	4334
S16M08	NOT USED										
S16M09	NOT USED										
S16M10	NOT USED										
S16M11	NOT USED										
S16M12	6	260	390						1207	830	1555
S16M13	NOT USED										
RAILING											
R16M05	13	736	203	140					1312	1875	3818
R16M08	ST								52	11 345	*
R16M09	ST								64	12 036	*
R16M10	ST								52	11 738	*
R16M11	NOT USED										
PIER DIAPHRAGMS											
S16M14	6	1590	820						420	4000	2607
S16M15	ST								324	2740	1378
S16M16	ST								216	1825	612
S16M17	ST								130	2280	460
S16M18	6	2460	140						42	5060	330
S16M19	2	360	400						224	760	264
S16M20	6	1585	250						240	3420	1274
S16M21	7	430	560	200					148	2380	547
S16M22	ST								40	11 330	703
S16M23	1	1230	575	600					24	2405	90
S16M24	ST								24	8655	322
#19 THREADED DOWEL BARS									216	775	374
									SUPERSTRUCTURE TOTAL 264 877		

NOTES:
* Included with Item 517 Railing For Payment
For Bar Bending Diagrams
See Sheet 40/47

REINFORCING BAR SCHEDULE 3
BRIDGE NO. SCI-73-41276
S.R. 73 OVER SCIOTO RIVER

SCI-73-41.268

42/47

65/80

DESIGNED
DAT

DRAWN
TMD

REVIEWED
LS

DATE
11-7-97

CHECKED
MJH

REVISD

STRUCTURE FILE NUMBER
7303017

PREPARED BY
JANSSEN & SPAANS ENGINEERING, INC.
2825 E. 56TH STREET
INDIANAPOLIS, IN 46220

ITEM SPECIAL – DRILLED SHAFTS

DESCRIPTION

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING DRILLED SHAFTS OF THE TYPE AND SIZE SPECIFIED IN THE PLANS. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIAL AND APPURTENANCES REQUIRED TO COMPLETE THE WORK AS SPECIFIED. THE LENGTHS OF THE DRILLED SHAFTS SHOWN IN THESE PLANS HAS BEEN ESTIMATED FROM AVAILABLE SUBSURFACE INFORMATION. THE CONTRACTOR IS EXPECTED TO FURNISH THE PROPOSED DRILLED SHAFTS AS PER THESE PLAN REQUIREMENTS, WITH THE UNDERSTANDING THAT THE ACTUAL LENGTH REQUIRED BASED ON CONDITIONS ENCOUNTERED DURING CONSTRUCTION MAY DIFFER FROM THE ESTIMATED LENGTH SHOWN IN THE PLANS.

THE LIMITS OF EACH DRILLED SHAFT SHALL BE DEFINED AT THE TOP BY THE PLAN ELEVATION AND AT THE BOTTOM BY THE ELEVATION OF THE BOTTOM OF THE BEDROCK SOCKET AS APPROVED BY THE ENGINEER.

A CASING WILL BE NECESSARY FOR THE CONSTRUCTION OF EACH PIER DRILLED SHAFT LOCATED WITHIN THE LIMITS OF THE WATERWAY, AND THE CASINGS SHALL BE LEFT IN PLACE.

A CASING MAY BE NECESSARY FOR THE CONSTRUCTION OF EACH DRILLED SHAFT LOCATED OUTSIDE THE LIMITS OF THE WATERWAY. THESE DRILLED SHAFT CASINGS MAY BE REMOVED PROVIDED ALL PLAN REQUIREMENTS ARE SATISFIED.

CONTRACTOR QUALIFICATION

THE CONTRACTOR SHALL SUBMIT INFORMATION TO THE ENGINEER TO DOCUMENT THAT HIS PERSONNEL IS EXPERIENCED IN THE CONSTRUCTION OF DRILLED SHAFTS OF THE TYPE AND SIZE SPECIFIED ON THE PLANS. THIS INFORMATION SHALL BE SUBMITTED AT THE PRECONSTRUCTION CONFERENCE. THE PROJECT ENGINEER IS REQUESTED TO INFORM BUREAU OF BRIDGES, ATTENTION: FOUNDATION ENGINEER (TEL.614-466-2399) OF THE DATES WHEN THE CONTRACTOR WILL BE CONSTRUCTING THE DRILLED SHAFTS.

CASING

THE CASING SHALL BE MADE OF STEEL, SHALL BE WATER TIGHT AND SHALL BE OF AMPLE STRENGTH TO WITHSTAND HANDLING STRESSES AND EXTERNAL SUBSURFACE PRESSURES. THE CASING SHALL BE SEATED INTO THE BEDROCK, THUS ATTEMPTING TO SEAL OUT INCOMING WATER. THE CASING LENGTH SHALL BE AS NECESSARY TO CONSTRUCT EACH DRILLED SHAFT. THE DIAMETER OF THE CASING SHALL BE NO LESS THAN THE DIAMETER OF THE DRILLED SHAFT BEING CONSTRUCTED.

THE DIAMETER OF THE FURNISHED CASINGS SHALL BE LARGE ENOUGH TO ALLOW THE CONSTRUCTION OF A BEDROCK SOCKET WITH DIAMETER EQUAL TO OR GREATER THAN THE PLAN DIAMETER.

TEMPORARY CASING

ALL SUBSURFACE CASINGS SHALL BE CONSIDERED TEMPORARY UNLESS THE CASING IS REQUIRED TO BE LEFT IN PLACE. THE CONTRACTOR MAY REMOVE ANY CASING CONSIDERED TEMPORARY. IF THE CASING IS TO BE REMOVED IT SHALL BE REMOVED WHILE THE CONCRETE IS STILL IN A PLASTIC STATE (BEFORE THE CONCRETE ATTAINS INITIAL SET). DURING REMOVAL OF THE CASING, THE LEVEL OF FRESH CONCRETE IN THE CASING SHALL MAINTAIN A 1500 mm MINIMUM CLEARANCE ABOVE THE BOTTOM OF THE CASING. AS THE CASING IS WITHDRAWN CARE SHALL BE TAKEN TO MAINTAIN AN ADEQUATE LEVEL OF CONCRETE WITHIN THE CASING SO THAT FLUID TRAPPED BEHIND THE CASING IS DISPLACED UPWARD AND DISCHARGED AT THE GROUND SURFACE WITHOUT CONTAMINATING OR DISPLACING THE SHAFT CONCRETE.

DRILLED SHAFT NOTES 1

EXCAVATION

WHEN OBJECTS SUCH AS LARGE BOULDERS ARE ENCOUNTERED, THEY SHALL BE REMOVED. BLASTING METHODS MAY BE USED AND WHEN USED, SHALL BE CONDUCTED SO AS TO AVOID DISTURBANCE TO THE BEDROCK FORMATION BELOW AND OUTSIDE THE LIMITS OF THE PROPOSED DRILLED SHAFT EXCAVATION. THE DRILLED SHAFTS SHALL PENETRATE INTO BEDROCK TO A DEPTH THAT PROVIDES A BEDROCK SOCKET LENGTH THAT IS NOT LESS THAN THE BEDROCK SOCKET SHOWN IN THE PLANS. WHEN A CASING WHICH EXTENDS DOWN TO BEDROCK IS USED, THE BEDROCK SOCKET SHALL BE MEASURED FROM THE BOTTOM OF THE CASING TO THE BOTTOM OF THE DRILLED BEDROCK EXCAVATION. WHEN THE ENGINEER IS ASSURED THAT A PORTION OF THE METAL CASING IS EMBEDDED IN BEDROCK, UPON THE ENGINEER'S CONCURRENCE, THE EMBEDDED DISTANCE MAY BE INCLUDED AS PART OF THE BEDROCK SOCKET.

DEWATERING

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTROLLING ANY INCOMING WATER TO THE EXTENT THAT THE SHAFT EXCAVATION IS MAINTAINED DRY ENOUGH FOR PERFORMANCE OF THE REQUIRED INSPECTION OPERATION. THE PREFERRED METHOD OF CONSTRUCTION IS TO PLACE THE CONCRETE IN A CLEAN, DRY EXCAVATION. THE CONTRACTOR IS EXPECTED TO MAKE A REASONABLE ATTEMPT TO SEAL WATER OUT OF THE DRILLED SHAFT EXCAVATION.

BOTTOM CLEAN OUT

THE BOTTOM OF THE DRILLED SHAFT EXCAVATION SHALL BE AS CLEAN AS PRACTICABLE (NO MORE THAN 25 mm OF LOOSE MATERIAL ON THE BOTTOM). PRIOR TO CONCRETE PLACEMENT, DRILLING SPOILS THAT ADHERE TO THE VERTICAL SIDES OF THE BEDROCK SOCKETS ARE TO BE REMOVED.

APPROVAL BEFORE CONCRETE PLACEMENT

THE CONTRACTOR SHALL SUBMIT TO THE PROJECT ENGINEER FOR APPROVAL A WRITTEN PLAN OF STEPS AND PROCEDURES HE PROPOSES TO FOLLOW WHEN PLACING THE CONCRETE AND MONITORING THE CONCRETE PLACEMENT. CONCRETE SHALL NOT BE PLACED IN ANY DRILLED SHAFT EXCAVATION WITHOUT PRIOR APPROVAL FROM THE ENGINEER. THE DRILLED SHAFT EXCAVATION SHALL BE INSPECTED IMMEDIATELY BEFORE THE CONCRETE IS PLACED. A LIGHT POWERFUL ENOUGH TO THOROUGHLY INSPECT THE SIDES, BOTTOM AND REINFORCING STEEL CAGE OF THE DRILLED SHAFT IS REQUIRED.

CONCRETE PLACEMENT

THE CONCRETE FOR THE DRILLED SHAFT SHALL BE PLACED AS PER ITEM 511 EXCEPT AS MODIFIED BY THE PLANS. IF THE DRILLED SHAFT HAS A BEDROCK SOCKET, THE CONCRETE FOR THE BEDROCK SOCKET SHALL BE PLACED AGAINST THE IN-SITU BEDROCK. THE CONCRETE FOR THE DRILLED SHAFT SHALL BE PLACED PROMPTLY AFTER THE FINAL INSPECTION OF THE SHAFT. IF PRACTICABLE, THE CONCRETE SHALL BE PLACED IN A CLEAN DRY EXCAVATION, HOWEVER, NO MORE THAN 50 mm OF STANDING WATER WILL BE PERMITTED. THE DRY CONSTRUCTION METHOD CAN ONLY BE USED WHEN LESS THAN 300 mm OF WATER ACCUMULATES ABOVE THE BASE OF THE HOLE DURING A ONE HOUR PERIOD WHEN NO PUMPING IS PERMITTED. CARE SHALL BE TAKEN TO ENSURE THAT CONCRETE IS NOT BEING PLACED IN MOVING WATER. THE CONCRETE MAY BE PLACED IN A DRY DRILLED SHAFT EXCAVATION BY THE FREE FALL METHOD PROVIDED THE CONCRETE FALLS TO ITS FINAL POSITION THROUGH AIR WITHOUT STRIKING THE SIDES OF THE HOLE, THE REINFORCING STEEL CAGE OR ANY OTHER OBSTRUCTION. THE FREE FALL METHOD ALLOWS THE CONCRETE TO BE DROPPED FROM THE TOP THROUGH A CENTERING CHUTE TO THE CONCRETE'S FINAL POSITION. USE FREE FALL PLACEMENT WITH A 7600 mm MAXIMUM HEIGHT OF FREE FALL. SUPPORT THE DROP CHUTE SO THAT THE MAXIMUM HEIGHT OF FREE FALL OF THE CONCRETE MEASURED FROM THE BOTTOM OF THE CHUTE IS 7600 mm.

IF THE ENGINEER DETERMINES THAT DEWATERING IS NOT PRACTICABLE THE ENGINEER SHALL REQUIRE THAT THE CONCRETE BE PLACED UNDER WATER BY MEANS OF A CONCRETE PUMP. PAYMENT FOR PUMPING THE CONCRETE WILL BE MADE UNDER ITEM SPECIAL "CONCRETE, MISC.: CONCRETE PUMPING".

TOLERANCES

THE CONTRACTOR SHALL LOCATE AND CONSTRUCT THE TOP CENTER OF THE PIER DRILLED SHAFTS WITHIN A 50 mm RADIUS OF THE POSITION INDICATED BY THE PLANS. THE SHAFTS ARE TO BE INSTALLED VERTICALLY AND MUST BE WITHIN 1.0 PERCENT OF PLUMB FOR THE TOTAL LENGTH OF THE DRILLED SHAFT.

CONCRETE

CONCRETE FOR ALL DRILLED SHAFTS SHALL BE CLASS S CONCRETE AND SHALL BE IN ACCORDANCE WITH ITEM 511 EXCEPT AS MODIFIED AND SUPPLEMENTED HEREIN. THE REQUIRED SLUMP IS 150 mm, PLUS OR MINUS 25 mm. THE MAXIMUM WATER TO CEMENT RATIO SHALL BE 0.50. IF CONCRETE IS PLACED UNDER WATER, THE REQUIREMENTS OF ADDING 10 PERCENT MORE CEMENT TO THE CONCRETE MIX SHALL BE WAIVED. THE TOP 1000 TO 1600 mm OF CONCRETE IN THE DRILLED SHAFTS ARE REQUIRED TO BE VIBRATED. ONLY A MINIMAL VIBRATORY EFFORT IS NECESSARY. SPECIAL CARE SHALL BE TAKEN NOT TO OVER-VIBRATE THE DRILLED SHAFT CONCRETE. NOTE: IF THE CASING IS REMOVED USING A VIBRATORY HAMMER, NO OTHER VIBRATORY EFFORT IS NEEDED.

IF THE CASINGS FOR THE DRILLED SHAFTS ARE TO BE WITHDRAWN, THE CONCRETE SHALL NOT BE VIBRATED UNTIL THE CASING IS COMPLETELY REMOVED AND THE SHAFT TOP IS FORMED TO THE PLAN CROSS-SECTION. CARE SHALL BE TAKEN WHEN REMOVING THE CASING SO THAT THE REINFORCING STEEL CAGE IS NOT DEFORMED BY THE FORCE OF THE DOWNWARD FLOWING CONCRETE. THE CONTRACTOR SHALL FURNISH A PRECONSTRUCTED TOP FORM FOR USE IN ACCURATELY CONFINING THE CONCRETE AT THE TOP OF THE DRILLED SHAFT WHEN THE CASING IS REMOVED. THE TOP FORM SHALL BE NOT LESS THAN 1000 mm LONG.

REINFORCING STEEL

ALL REINFORCING STEEL SHALL BE EPOXY COATED AND SHALL MEET THE REQUIREMENTS OF ITEM 509. THE REINFORCING STEEL SHALL BE GRADE 400. THE HOOP STEEL MAY BE PLAIN BARS ASTM A82 OR A615. THE REINFORCING STEEL CAGE SHALL BE COMPLETELY ASSEMBLED PRIOR TO PLACEMENT AND THE LENGTH SHALL BE AS NECESSARY TO CONSTRUCT EACH DRILLED SHAFT. SEE PLAN SHEETS FOR DETAILS OF REINFORCING STEEL. NOTE THAT THE LENGTHS PROVIDED IN THE REINFORCING STEEL LIST ARE ESTIMATED LENGTHS. THE REINFORCING STEEL SHALL BE PLACED AT PLAN LOCATION.

BOTTOM SUPPORTS

CYLINDRICAL CONCRETE FEET (BOTTOM SUPPORTS) SHALL BE PROVIDED TO INSURE THAT THE BOTTOM OF THE CAGE IS MAINTAINED THE PROPER DISTANCE ABOVE THE BASE.

DRILLED SHAFT NOTES 1

BRIDGE NO. SCI-73-41276
S.R. 73 OVER SCIOTO RIVER

SCI-73-41.268

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PREPARED BY: JANSSEN & SPAANS ENGINEERING, INC.
2825 E. 56TH STREET
INDIANAPOLIS, IN 46220

DATE: 11-7-97

REVIEWED: LS

DRAWN: TMD

DESIGNED: DAT

STRUCTURE FILE NUMBER: 7303017

REVISION: MJH

DRILLED SHAFT NOTES 2

ITEM SPECIAL - CONCRETE, MISC.: CONCRETE PUMPING

INSPECTION

AN INSPECTION RECORD CHART HAS BEEN INCLUDED WITH THE PLANS ON SHEET 45/47 THRU 47/47 AND SHOULD BE COMPLETED BY THE ENGINEER. MEASUREMENTS SHOULD BE OBTAINED PRIOR TO PLACING CONCRETE. THE CONTRACTOR SHOULD PROVIDE ALL NECESSARY EQUIPMENT NEEDED TO OBTAIN MEASUREMENTS FOR COMPLETING THE CHART. THE CONTRACTOR SHALL ASSIST THE ENGINEER IN OBTAINING THESE MEASUREMENTS. WHEN THE INSPECTION RECORD CHART IS COMPLETED, THE PROJECT ENGINEER SHOULD SUBMIT A COPY TO THE BUREAU OF BRIDGES AND STRUCTURAL DESIGN: ATTENTION: FOUNDATION ENGINEER.

METHOD OF MEASUREMENT

THE TOTAL PAY LENGTH OF EACH DRILLED SHAFT SHALL BE THE COMPLETED AND ACCEPTED LENGTH MEASURED ALONG THE AXIS OF THE DRILLED SHAFT FROM THE BOTTOM OF THE BEDROCK SOCKET TO THE PROPOSED TOP ELEVATION, AS PER PLAN. THE REINFORCING STEEL THAT PROJECTS FROM THE DRILLED SHAFT INTO THE PIER COLUMN AS SPECIFIED BY THE PLANS IS INCLUDED WITH THE DRILLED SHAFT FOR PAYMENT BUT SHALL NOT BE INCLUDED IN THE MEASURED LENGTH OF THE DRILLED SHAFT.

THE TOTAL LENGTH OF EACH DRILLED SHAFT SHALL BE DIVIDED INTO TWO SEGMENTS. THE LENGTH OF THE LOWER SEGMENT IS THE LENGTH OF THE BEDROCK SOCKET AND THE LENGTH OF THE UPPER SEGMENT IS THE LENGTH OF THE DRILLED SHAFT ABOVE THE BEDROCK SOCKET.

BASIS OF PAYMENT

PAYMENT FOR FURNISHING AND INSTALLING DRILLED SHAFTS WILL BE MADE AT THE CONTRACT UNIT PRICE PER METER OF ACCEPTED SHAFT LENGTH AS PER ITEM SPECIAL - "DRILLED SHAFTS, MISC.: 1829 mm DIAMETER, ABOVE BEDROCK" AND ITEM SPECIAL - "DRILLED SHAFTS, MISC.: 1676 mm DIAMETER, INTO BEDROCK", WHICH SHALL INCLUDE ALL MATERIALS, LABOR AND EQUIPMENT NECESSARY TO COMPLETE THE ITEMS AS SPECIFIED.

DESIGN PARAMETERS

THE DESIGN LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS 8060 kN WHICH IS ASSUMED TO BE RESISTED BY SHAFT ADHESION WITHIN A PORTION OF THE BEDROCK SOCKET AND ALSO BY SHAFT END BEARING PRESSURE. THE ALLOWABLE BEDROCK SOCKET ADHESION IS 100 kPa WHICH IS ASSUMED TO ACT ALONG THE BOTTOM 2750 mm OF THE BEDROCK SOCKET. THE ALLOWABLE END BEARING PRESSURE IS 3000 kPa.

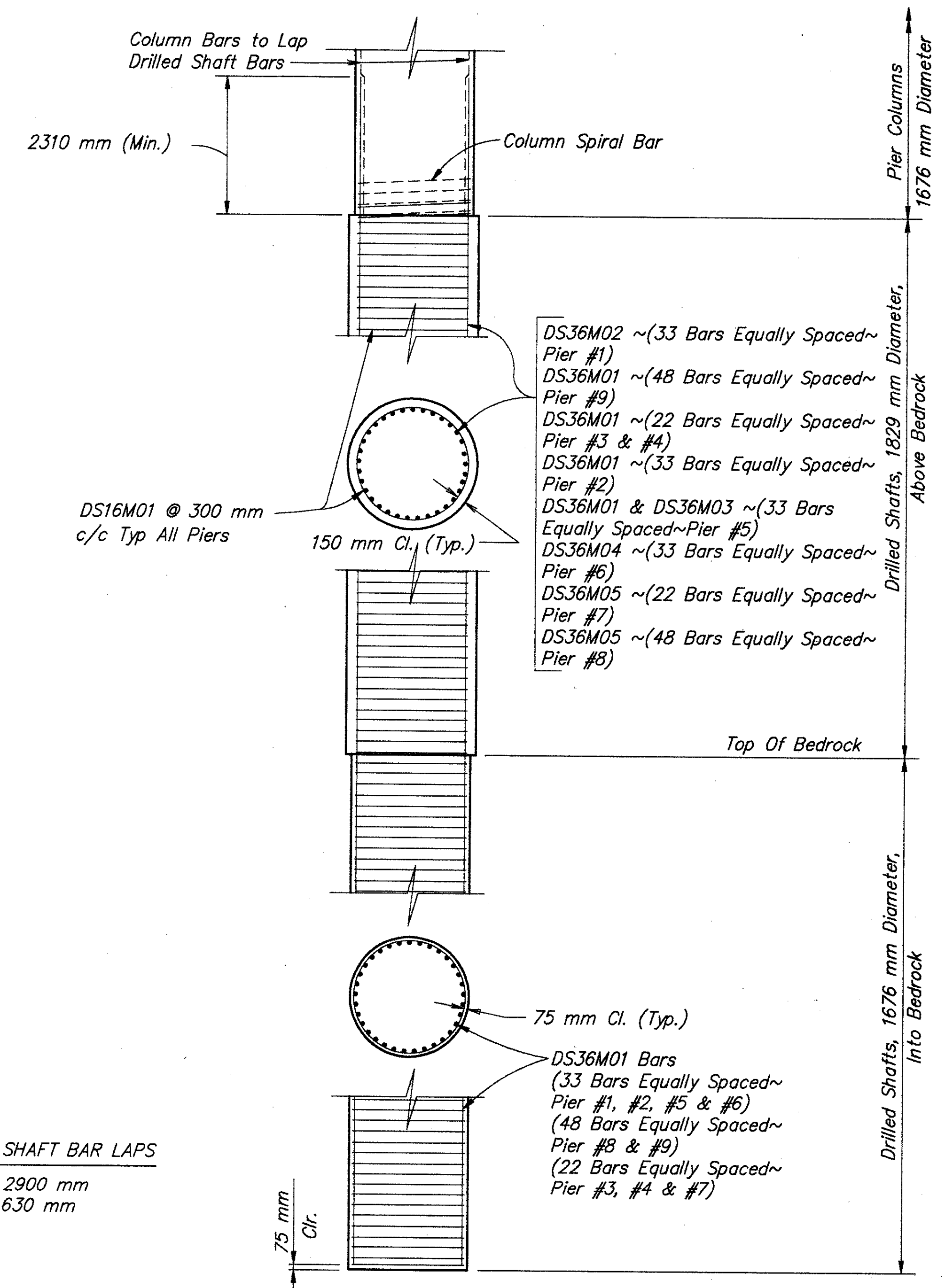
DESCRIPTION

THE DRILLED SHAFT EXCAVATION SHALL BE FILLED WITH WATER TO SUCH A DEPTH THAT ALL WATER MOTION HAS CEASED. THE CONCRETE SHALL THEN BE PLACED BY MEANS OF A CONCRETE PUMP. THE CONCRETE PUMP PIPE SHALL HAVE A DIAMETER THAT IS NOT LESS THAN 100 mm. THE CONCRETE PUMP EQUIPMENT SHALL BE SO ARRANGED THAT NO VIBRATIONS RESULT WHICH MIGHT DAMAGE FRESH CONCRETE. PIPES CARRYING CONCRETE FROM THE PUMP TO THE SHAFT SHOULD BE ARRANGED WITH A MINIMUM NUMBER OF BENDS. THE PIPE USED TO CONVEY THE CONCRETE TO THE BOTTOM OF THE DRILLED SHAFT EXCAVATION SHALL BE ANCHORED TO THE STEEL CASING TO PREVENT THE PIPE FROM UNDULATING DURING THE INITIAL PLACEMENT OF THE CONCRETE.

THE PUMPING EQUIPMENT SHALL BE SUITABLE IN KIND AND ADEQUATE IN CAPACITY FOR THE WORK REQUIRED. THE USE OF ALUMINUM PIPE AS A CONVEYANCE FOR THE CONCRETE WILL NOT BE PERMITTED. AN ADEQUATE QUANTITY OF GROUT, MORTAR OR CONCRETE WITH COARSE AGGREGATE OMITTED SHALL BE PUMPED THROUGH THE EQUIPMENT AHEAD OF THE SPECIFICATION CONCRETE TO PROVIDE LUBRICATION TO THE PUMPING SYSTEM. THE CONCRETE USED FOR LUBRICATION SHALL NOT BE PLACED IN THE SHAFT. THE LUBRICATION PROCESS WILL NOT BE REPEATED AS LONG AS THE PUMPING OPERATIONS ARE CONTINUOUS. THE OPERATION OF THE PUMP SHALL BE SUCH THAT A CONTINUOUS STREAM OF CONCRETE WITHOUT AIR POCKETS IS PRODUCED. IN ORDER TO PREVENT THE CONTAMINATION OF THE CONCRETE PLACED INITIALLY AT THE BOTTOM OF THE SHAFT, THE OUTLET END OF THE PUMPING PIPE SHALL BE SEALED WITH A DIAPHRAGM OR PLUG THAT IS FLUSHED OUT WHEN THE HYDROSTATIC PRESSURE FROM THE COLUMN OF CONCRETE EXCEEDS THAT OF THE WATER IN THE SHAFT. THE INITIAL RATE OF CONCRETE PLACEMENT MUST BE CAREFULLY CONTROLLED SO AS NOT TO LIFT OR DISPLACE THE CAGE OF REINFORCING STEEL. THE CONVEYING SYSTEM SHALL BE WATER TIGHT AND THE OUTLET END SHALL ALWAYS REMAIN WELL BELOW THE TOP OF THE FRESHLY PLACED CONCRETE. THE PREFERRED CONCRETE PLACEMENT PROCEDURE IS TO MAINTAIN THE OUTLET END OF THE PUMPING SYSTEM AT APPROXIMATELY 3000 mm BELOW THE TOP OF THE FRESH CONCRETE. WHEN THE CONCRETE REACHES THE TOP OF THE DRILLED SHAFT COLUMN ALL LAITANCE SHALL BE REMOVED.

BASIS OF PAYMENT

PAYMENT FOR PUMPING CONCRETE WILL BE MADE AT CONTRACT UNIT PRICE PER METER OF ACCEPTED SHAFT LENGTH PUMPED AS PER ITEM SPECIAL - "CONCRETE, MISC.: CONCRETE PUMPING".



TYPICAL DRILLED SHAFT REINFORCING

ELEVATION

For Top Of Bedrock Elevations, Socket Notes and Estimated Depths, See Sheets 1/47 & 2/47

For Pier Column Reinforcing, See Sheet 19/47

PREPARED BY: JANSSEN & SPAANS ENGINEERING, INC.
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DATE: 11-7-97
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DESIGNED: DAT
CHECKED: M/JH

DRILLED SHAFT NOTES 2
BRIDGE NO. SCI-73-41276
S.R. 73 OVER SCIOTO RIVER

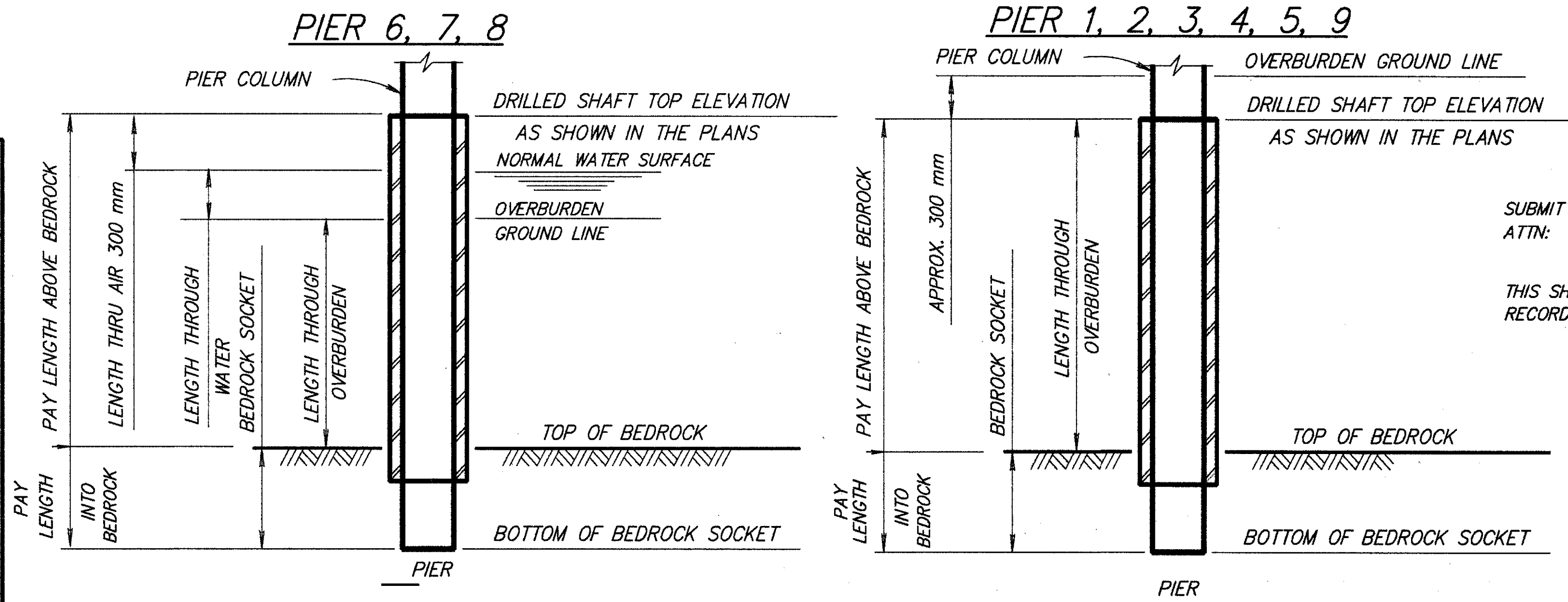
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INSPECTION RECORD FOR DRILLED SHAFTS 1				
PROJECT NO.	GENERAL CONTRACTOR _____	TYPE & MODEL OF DRILLING MACHINERY _____	TYPE OF CONCRETE PUMP _____	COST PER METER _____
	DRILLING CONTRACTOR _____	MAX. CONTINUOUS TORQUE _____ N-m	HOSE DIAMETER _____ mm	ABOVE THE BEDROCK SOCKET _____
	PROJECT ENGINEER _____	CROWD (MAX. CONTINUOUS DOWNWARD FORCE) _____ N	CAPACITY _____ m ³ /MIN.	IN BEDROCK SOCKET _____
				TYPE OF ROCK _____

[illegible]

1. LOCATION AND EXTENT OF CAVITIES
2. PROCEDURES FOR CONTROLLING WATER
3. WERE UNEXPECTED SUBSURFACE CONDITIONS ENCOUNTERED
4. ANY SUGGESTIONS FOR IMPROVING THE PLANS



PREPARED BY:
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CHECKED	REVISED	STRUCTURE FILE NUMBER	
MJH		7303017	

BRIDGE NO. SCI-73-41276
S.R. 73 OVER SCIOTO RIVER

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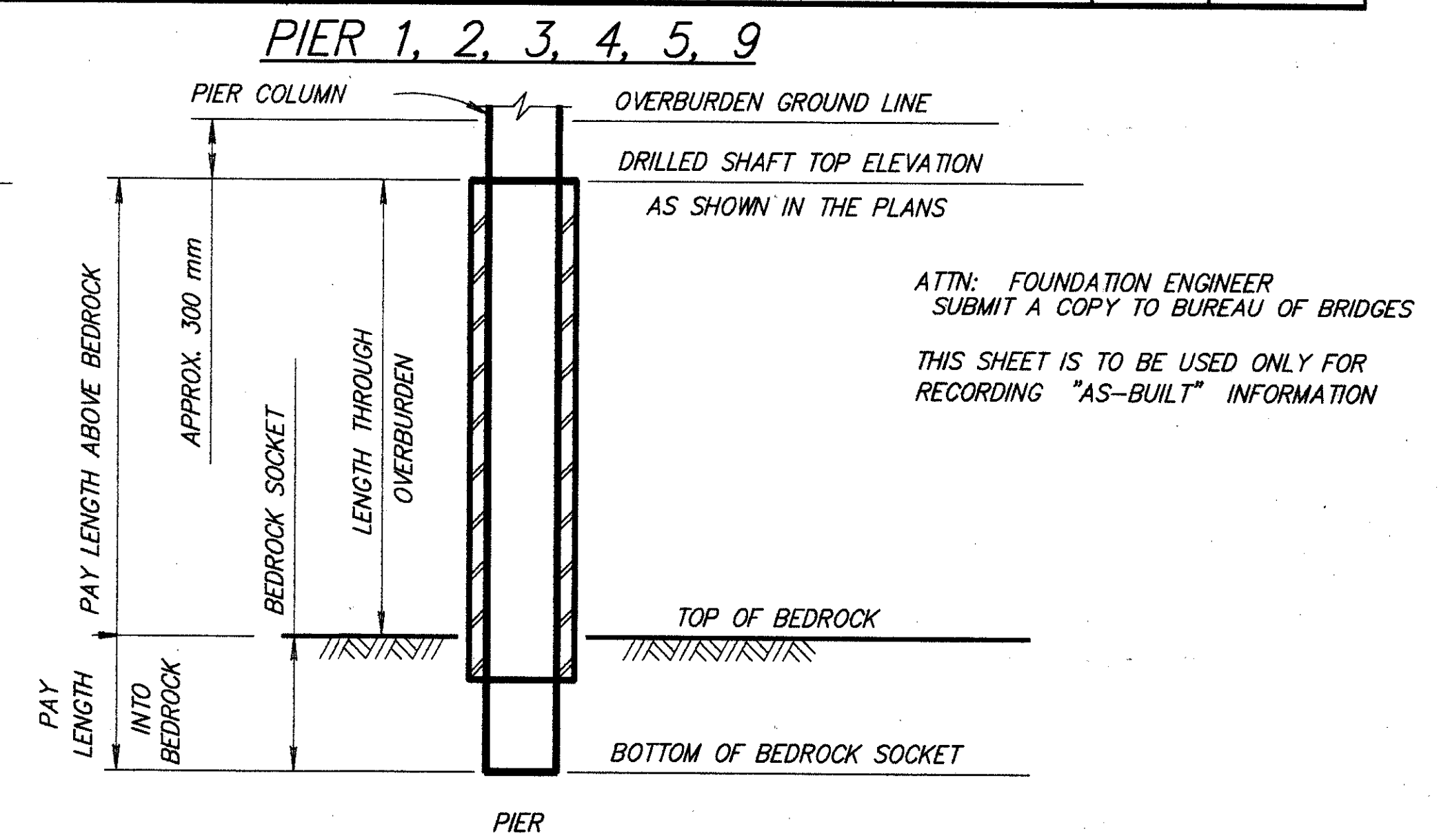
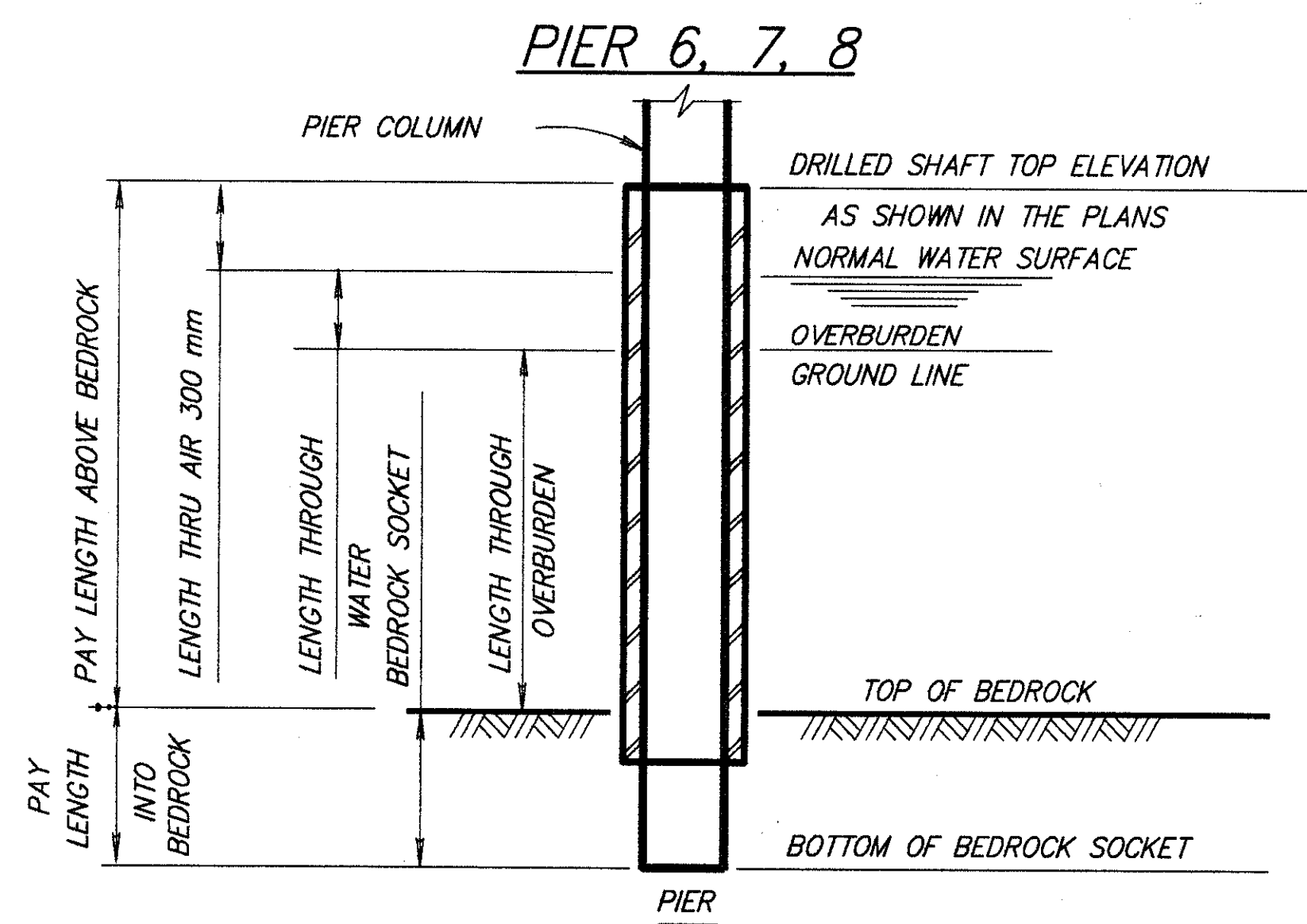
INSPECTION RECORD FOR DRILLED SHAFTS 2

PROJECT NO.	GENERAL CONTRACTOR	TYPE & MODEL OF DRILLING MACHINERY	TYPE OF CONCRETE PUMP	COST PER METER
	DRILLING CONTRACTOR	MAX. CONTINUOUS TORQUE $N-m$	HOSE DIAMETER mm	ABOVE THE BEDROCK SOCKET
	PROJECT ENGINEER	CROWD (MAX. CONTINUOUS DOWNWARD FORCE) N	CAPACITY $m^3/MIN.$	IN BEDROCK SOCKET
				TYPE OF ROCK

[illegible]

PROJECT ENGINEER COMMENTS

1. LOCATION AND EXTENT OF CAVITIES
2. PROCEDURES FOR CONTROLLING WATER
3. WERE UNEXPECTED SUBSURFACE CONDITIONS ENCOUNTERED
4. ANY SUGGESTIONS FOR IMPROVING THE PLANS



JANSSEN & SPAANS ENGINEERING, INC.
2825 E. 56TH STREET
INDIANAPOLIS, IN 46220

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SHAF-1 INSPECTION RECORD 2
BRIDGE NO. SCI-73-41276
S.R. 73 OVER SCIOTO RIVER

SCI--73-41.268

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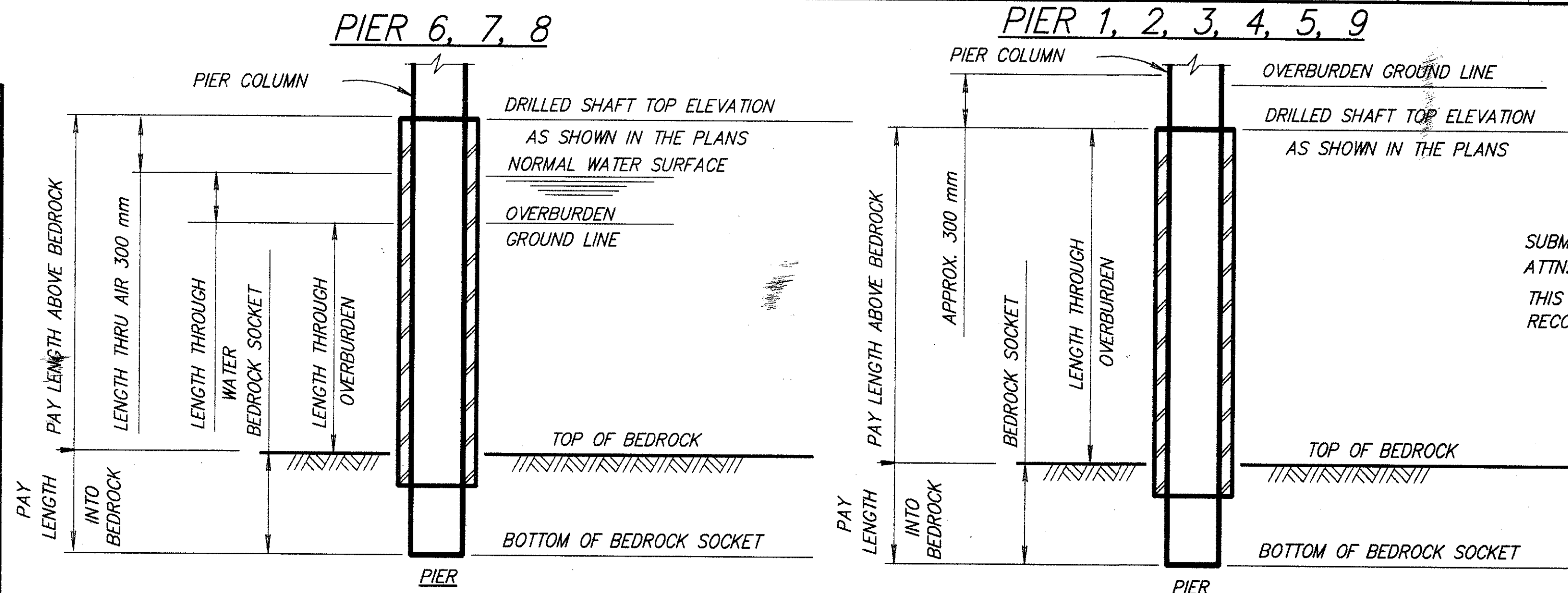
INSPECTION RECORD FOR DRILLED SHAFTS 3

PROJECT NO.	GENERAL CONTRACTOR	TYPE & MODEL OF DRILLING MACHINERY	TYPE OF CONCRETE PUMP	COST PER METER
	DRILLING CONTRACTOR	MAX. CONTINUOUS TORQUE N-m	HOSE DIAMETER mm	ABOVE THE BEDROCK SOCKET
	PROJECT ENGINEER	CROWD (MAX. CONTINUOUS DOWNWARD FORCE) N	CAPACITY m /MIN.	IN BEDROCK SOCKET
				TYPE ³ OF ROCK

[illegible]

PROJECT ENGINEER COMMENTS

1. LOCATION AND EXTENT OF CAVITIES
2. PROCEDURES FOR CONTROLLING WATER
3. WERE UNEXPECTED SUBSURFACE CONDITIONS ENCOUNTERED
4. ANY SUGGESTIONS FOR IMPROVING THE PLANS



SUBMIT A COPY TO BUREAU OF BRIDGES
ATTN: FOUNDATION ENGINEER
THIS SHEET IS TO BE USED ONLY FOR
RECORDING "AS-BUILT" INFORMATION