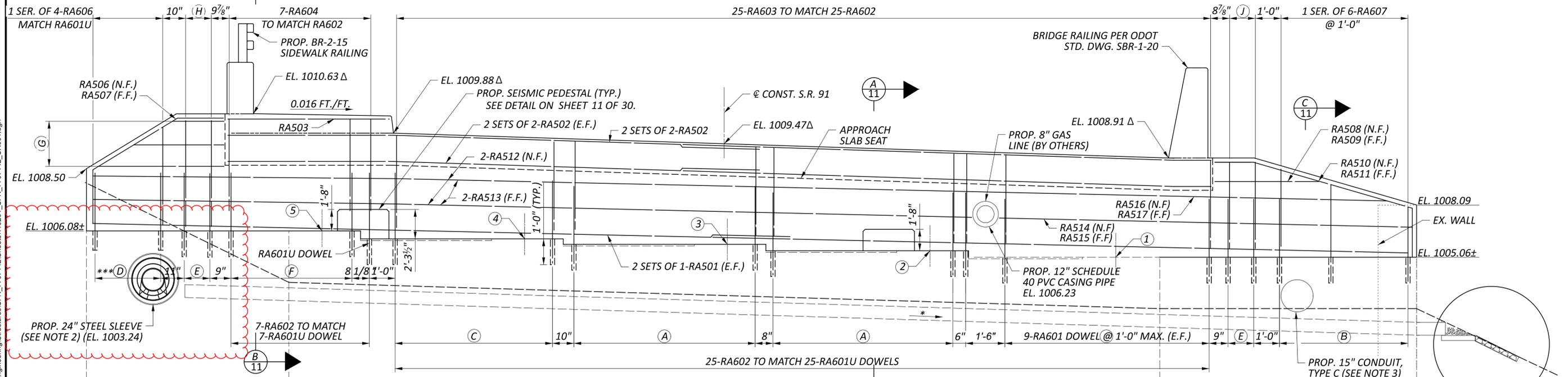


REAR ABUTMENT PLAN



REAR ABUTMENT ELEVATION

**LEGEND:**

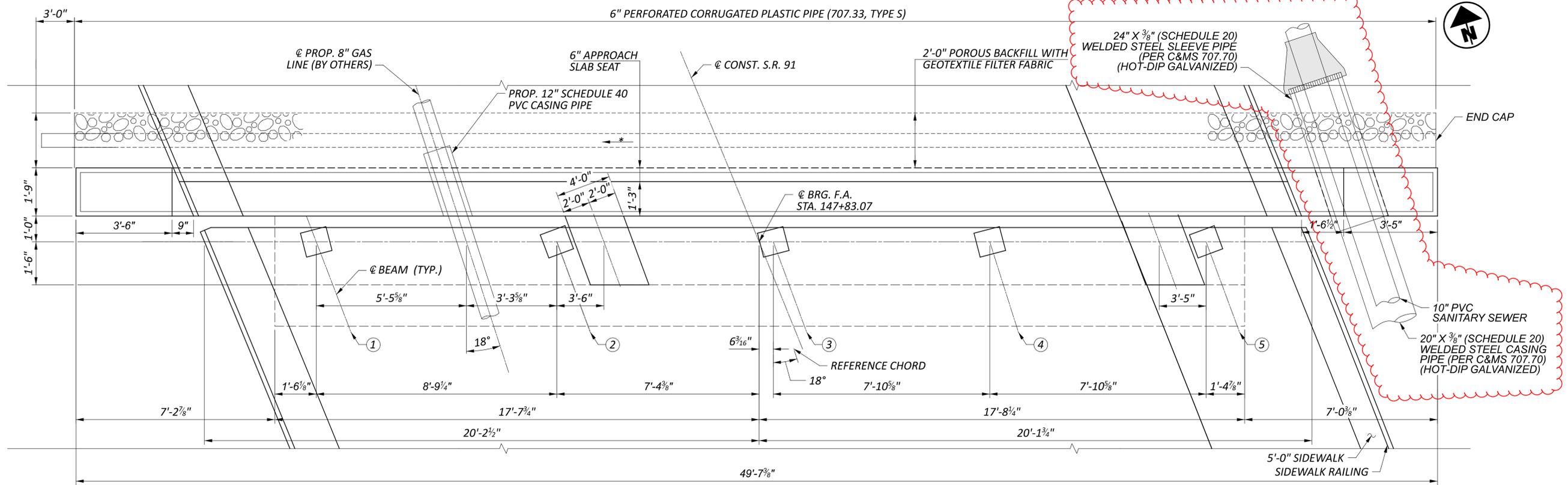
- # - BEAM DESIGNATION
- \* - MINIMUM SLOPE OF PIPE IS 1/8" / FT.
- \*\* - 6" NON-PERFORATED CORRUGATED PLASTIC PIPE INCLUDING SPECIAL (707.33, TYPE S)
- \*\*\* - DOWEL LENGTH SHALL BE LIMITED TO 9"
- △ - ELEVATION ALONG @ BRGS.
- A = 8-RA601 DOWEL @ 1'-0" MAX. (E.F.)
- B = 6-RA601 DOWEL @ 1'-0" MAX. (E.F.)
- C = 7-RA601 DOWEL @ 1'-0" MAX. (E.F.)
- D = 4-RA601 DOWEL @ 10" MIN. (E.F.) \*\*\*
- E = 2-RA601 DOWEL @ 1'-0" MAX. (E.F.)
- F = 6-RA601 DOWEL @ 11" MIN. (E.F.)
- G = 1 SER. OF 3-RA504 (N.F.) & 1 SER. OF 3-RA505 (F.F.) @ 10"
- H = 2-RA605 MATCH RA601U
- J = 2-RA608 MATCH RA601U

**NOTES:**

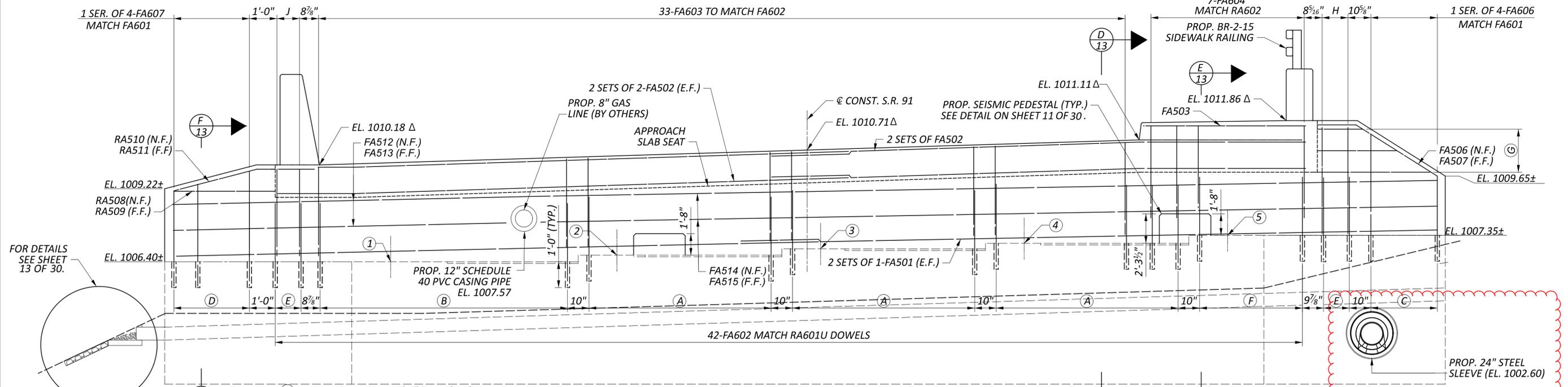
1. DRILL THROUGH THE EXISTING RETAINING WALL TO DRAIN THE PROPOSED 6" PERFORATED PIPE
2. THE EXISTING OPENING IN THE ABUTMENT FOR THE SANITARY LINE SHALL BE UTILIZED FOR THE PROPOSED SANITARY LINE. ADDITIONAL CONCRETE SHALL BE REMOVED AS NECESSARY FOR PROPER FIT-UP OF THE 24" STEEL SLEEVE. THE INVERT FOR THE PROPOSED SANITARY LINE SHALL MATCH THAT OF THE EXISTING LINE. AFTER PLACEMENT OF THE SANITARY LINE THRU THE ABUTMENT CONTRACTOR TO GROUT SPACE BETWEEN THE SANITARY LINE AND THE ABUTMENT IN ITS ENTIRETY INCLUDING BUT NOT LIMITED TO BOTH THE ENTRANCE AND EXIT OF THE SANITARY LINE USING ITEM 510 NON-SHRINKING GROUT. ALL MATERIAL, LABOR, AND EQUIPMENT REQUIRED FOR THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 513 STRUCTURAL STEEL, MISC.: SANITARY SEWER.
3. THE EXISTING OPENING IN THE ABUTMENT FOR THE 12" RCP SHALL BE UTILIZED FOR THE PROPOSED 15" CONDUIT TYPE C. ADDITIONAL CONCRETE SHALL BE REMOVED AS NECESSARY FOR PROPER FIT-UP. THE INVERT FOR THE PROPOSED CONDUIT SHALL MATCH THAT OF THE EXISTING LINE. AFTER PLACEMENT OF THE CONDUIT THRU THE ABUTMENT CONTRACTOR TO GROUT SPACE BETWEEN THE CONDUIT AND THE ABUTMENT IN ITS ENTIRETY INCLUDING BUT NOT LIMITED TO BOTH THE ENTRANCE AND EXIT OF THE PIPE USING ITEM 510 NON-SHRINKING GROUT. ALL MATERIAL, LABOR, AND EQUIPMENT REQUIRED FOR THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 511 CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING, AS PER PLAN.

BEAM SEAT ELEVATIONS @ @ BEARING					
BEAM LINE DESIGNATION	1	2	3	4	5
R.A.	1005.06±	1005.31±	1005.56±	1005.77±	1006.08±

SFN 7707142  
 DESIGN AGENCY  
  
 DESIGNER: RG CHECKER: CCJ  
 REVIEWER: GTB 02-25-25  
 PROJECT ID: 113201  
 SUBSET TOTAL: 10 30  
 SHEET TOTAL: P.42 62



FORWARD ABUTMENT PLAN



FORWARD ABUTMENT ELEVATION (ALONG @ BRGS. F.A.)

LEGEND:

- (#) - BEAM DESIGNATION
- \* - MINIMUM SLOPE OF PIPE IS 1/8" FT.
- \*\* - 6" NON-PERFORATED CORRUGATED PLASTIC PIPE INCLUDING SPECIALS (707.33, TYPE S)
- Δ - ELEVATION ALONG @ BRGS.
- (A) = 8-RA601 DOWEL @ 1'-0" MAX. (E.F.)
- (B) = 11-RA601 DOWEL @ 1'-0" MAX. (E.F.)
- (C) = 4-RA601 DOWEL @ 11" MAX. (E.F.)
- (D) = 4-RA601 DOWEL @ 1'-0" MIN. (E.F.)
- (E) = 2-RA601 DOWEL @ 1'-0" MAX. (E.F.)
- (F) = 5-RA601 DOWEL @ 1'-0" MIN. (E.F.)
- (G) = 1 SER. OF 3-FA504 (N.F.) & 1 SER. OF 3-FA505 (F.F.) @ 10"
- (H) = 2-FA605 MATCH RA601U
- (J) = 2-FA608 MATCH RA601U

BEAM SEAT ELEVATIONS @ @ BEARING

BEAM LINE DESIGNATION	1	2	3	4	5
R.A.	1006.40±	1006.65±	1006.91±	1007.14±	1007.35±

NOTES:

1. THE EXISTING OPENING IN THE ABUTMENT FOR THE SANITARY LINE SHALL BE UTILIZED FOR THE PROPOSED SANITARY LINE. ADDITIONAL CONCRETE SHALL BE REMOVED AS NECESSARY FOR PROPER FIT-UP OF THE 24" STEEL SLEEVE. THE INVERT FOR THE PROPOSED SANITARY LINE SHALL MATCH THAT OF THE EXISTING LINE. AFTER PLACEMENT OF THE SANITARY LINE THRU THE ABUTMENT CONTRACTOR TO GROUT SPACE BETWEEN THE SANITARY LINE AND THE ABUTMENT IN ITS ENTIRETY INCLUDING BUT NOT LIMITED TO BOTH THE ENTRANCE AND EXIT OF THE SANITARY LINE USING ITEM 510 NON-SHRINKING GROUT. ALL MATERIAL, LABOR, AND EQUIPMENT SHALL BE CONSIDERED INCIDENTAL TO ITEM 513 STRUCTURAL STEEL, MISC.: SANITARY SEWER.

FORWARD ABUTMENT PLAN AND ELEVATION  
 BRIDGE NO. SUM-00091-07.880  
 S.R. 91 OVER CUYAHOGA RIVER

SFN 7707142

DESIGN AGENCY

DESIGNER: RG

CHECKER: CCJ

REVIEWER

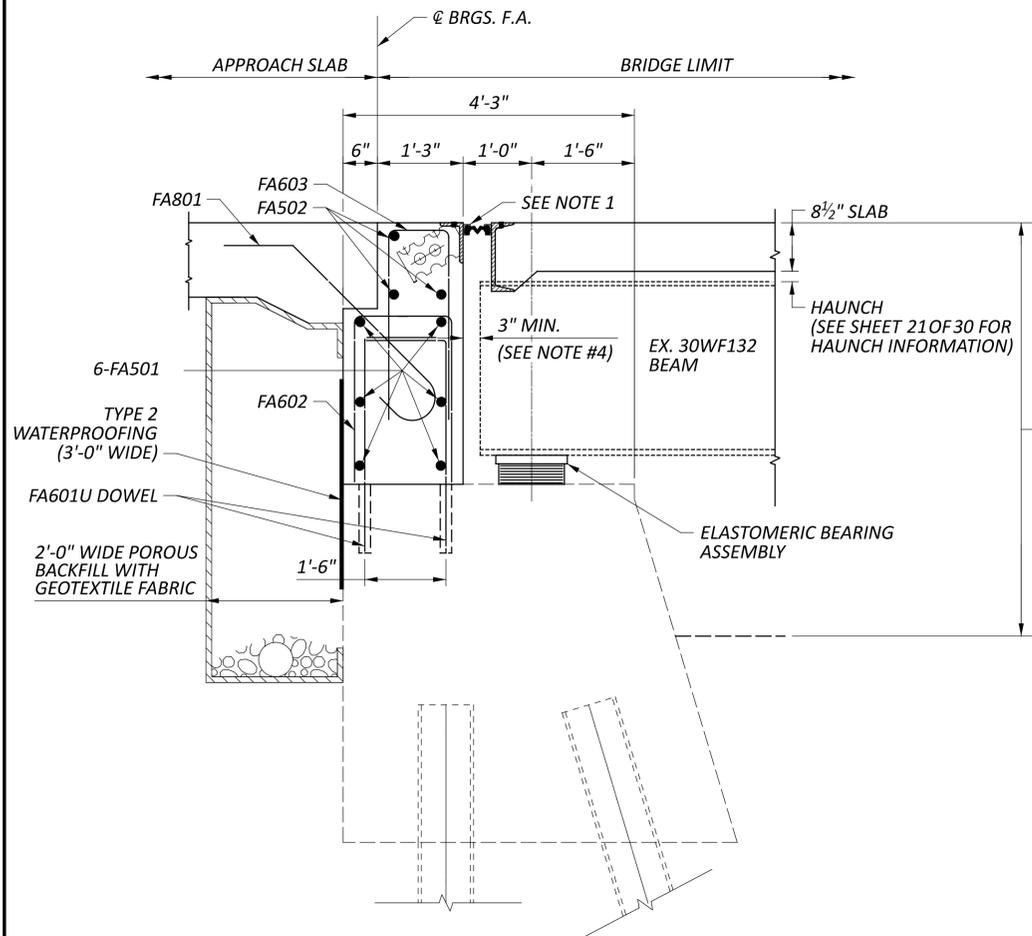
PROJECT ID: 113201

SUBSET: 12

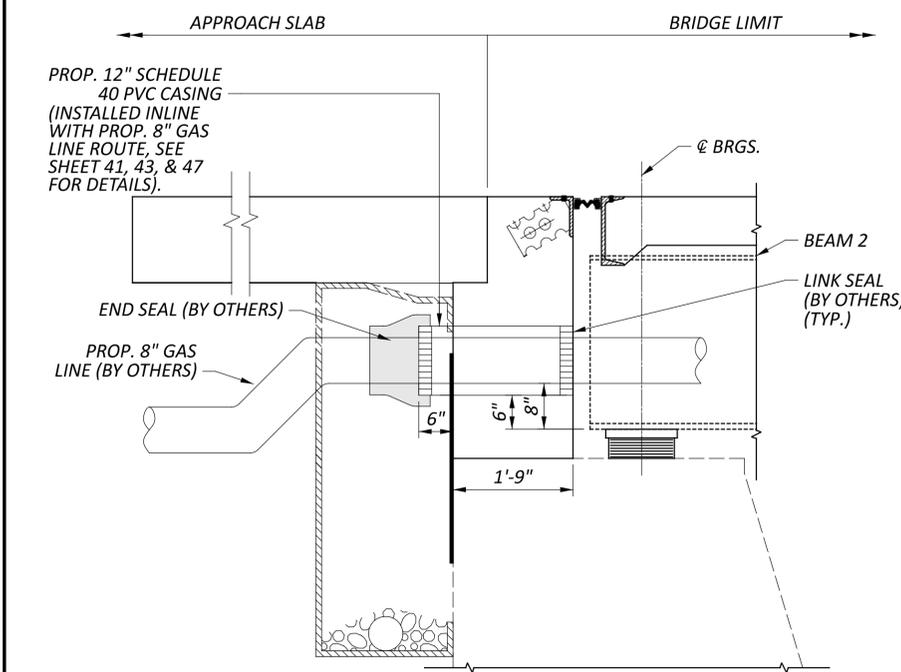
TOTAL: 30

SHEET: R.44

TOTAL: 62

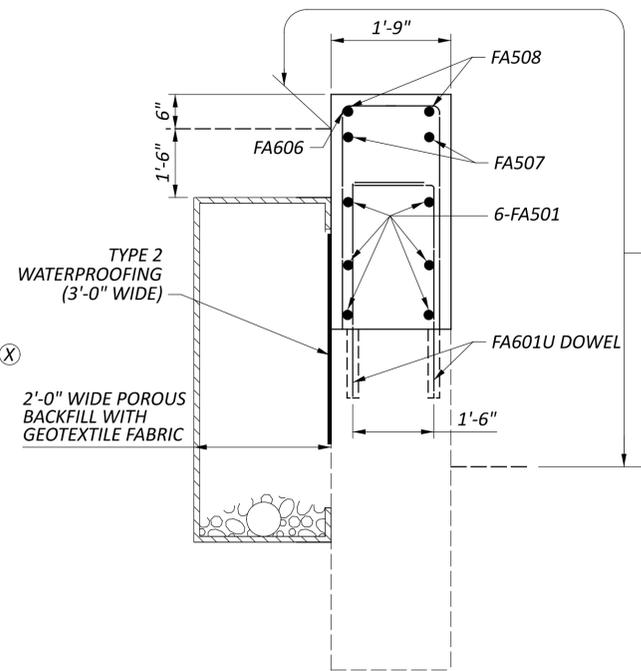


SECTION D

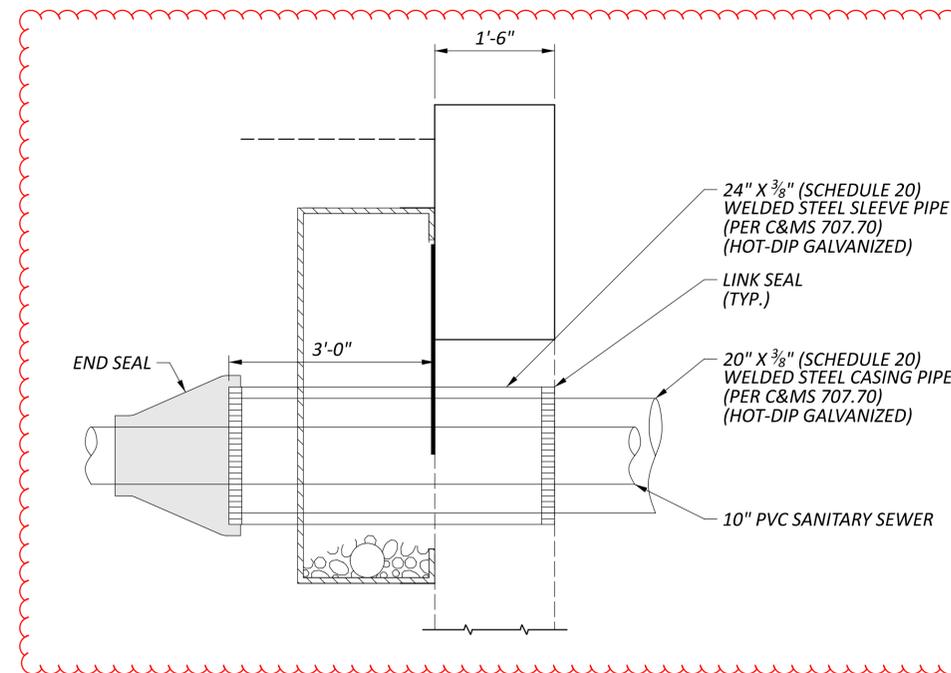


GAS LINE ATTACHMENT AT REAR AND FORWARD ABUTMENTS

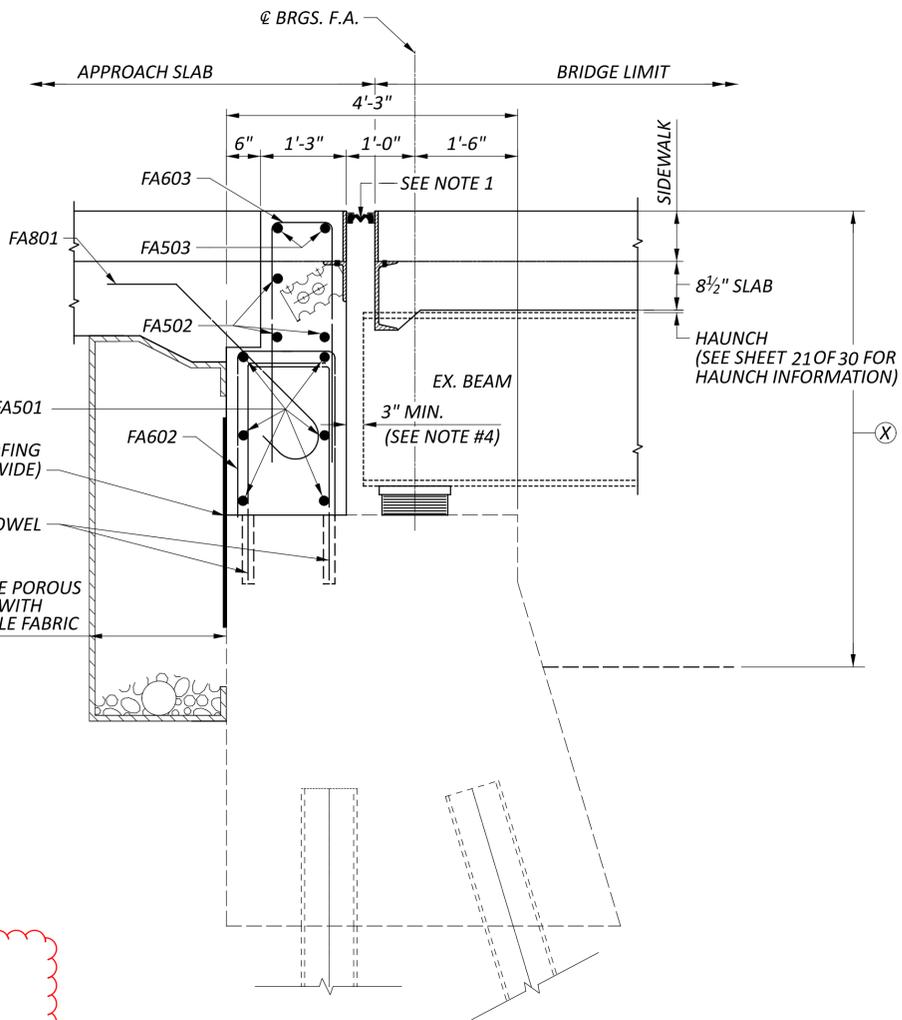
LEGEND:  
 [Symbol] - END SEAL  
 [Symbol] - LINK SEAL



SECTION F

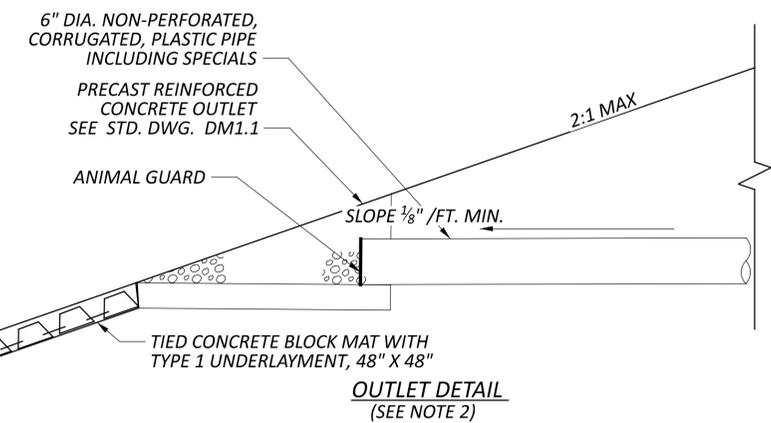


SANITARY LINE ATTACHMENT AT REAR AND FORWARD ABUTMENTS



SECTION E

LEGEND:  
 (X) - SEALING OF CONCRETE SURFACES (EPOXY URETHANE)



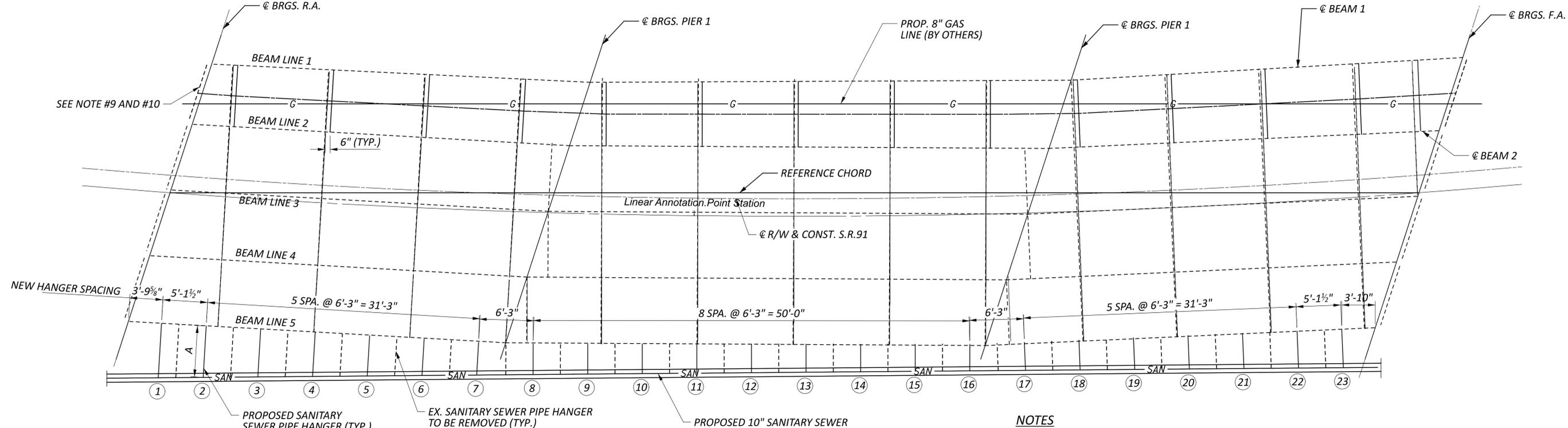
OUTLET DETAIL (SEE NOTE 2)

NOTES:

- REFER TO STD. DWG. EXJ-4-87 FOR DETAILS OF ELASTOMERIC STRIP SEAL.
- PRECAST REINFORCED CONCRETE OUTLET AND TIED CONCRETE BLOCK MAT WITH TYPE 1 UNDERLAYMENT, PER ODOT STD. DWG. DM-1.1, ANIMAL GUARD, AND DRILLING THROUGH EXISTING WALL AT REAR ABUTMENT SHALL BE INCLUDED FOR PAYMENT WITH ITEM 518 - 6" NON-PERFORATED, CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN FOR PAYMENT.
- BEAM ENDS SHALL BE TRIMMED AS NECESSARY TO ENSURE 3" OF CLEARANCE FROM THE PROPOSED BACKWALL. THE BEAM TRIMMING SHALL BE CONSIDERED INCIDENTAL TO ITEM 513-TRIMMING OF BEAM END.

SFN	7707142
DESIGN AGENCY	B.G. ENGINEERING GROUP, INC.
DESIGNER	RG
CHECKER	CCJ
REVIEWER	
GTB	02-25-25
PROJECT ID	113201
SUBSET	13
TOTAL	30
SHEET	P.45
TOTAL	62

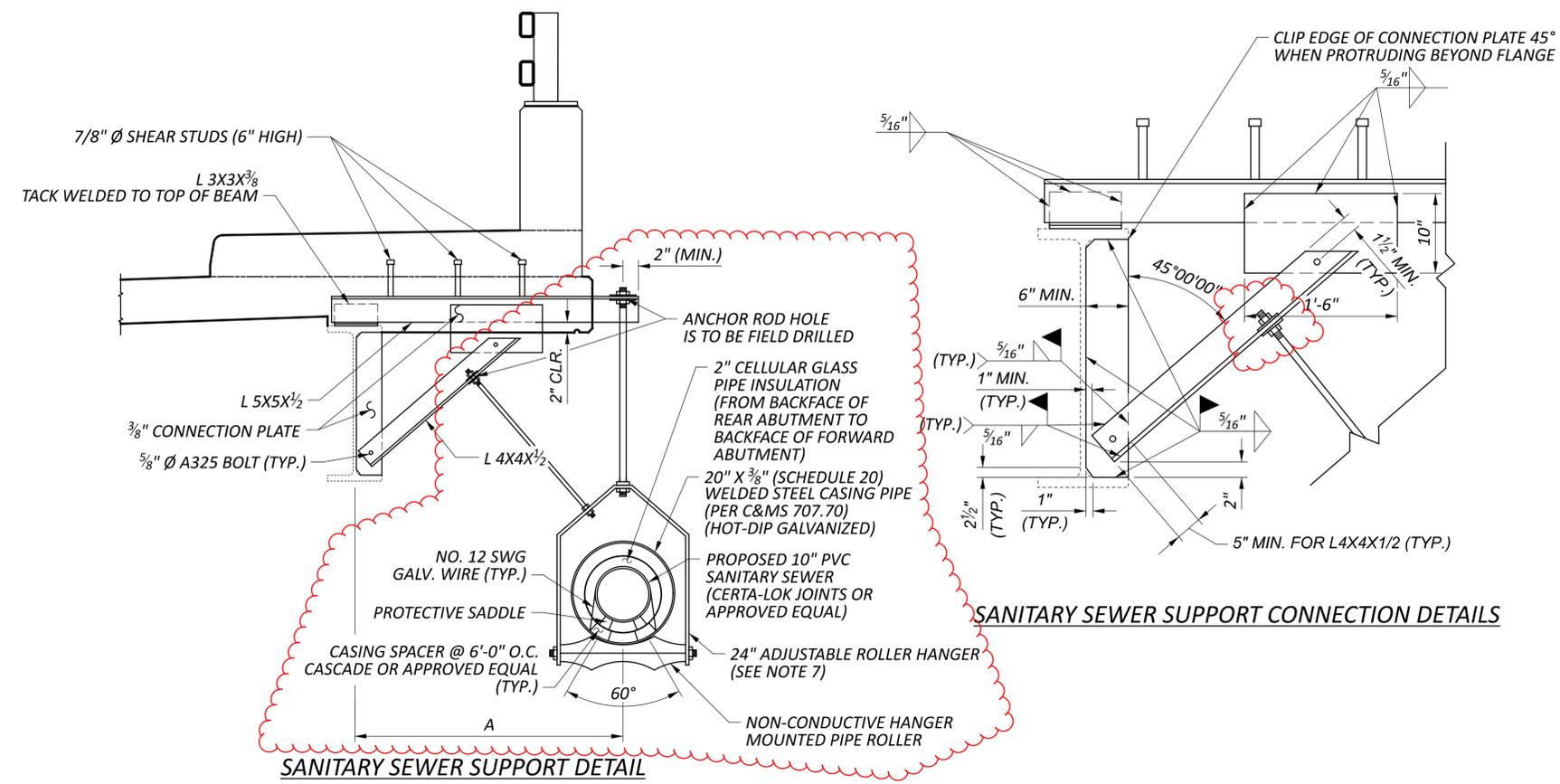
DIMENSION "A" TABLE (FEET)																							
HANGER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
A	±6'-2 1/2"	±5'-10 5/16"	±5'-5 1/4"	±5'-0 1/8"	±4'-7 1/16"	±4'-1 13/16"	±3'-8 3/4"	±3'-5 3/4"	±3'-5 3/16"	±3'-4 7/16"	±3'-3 3/4"	±3'-3"	±3'-2 3/4"	±3'-1 11/16"	±3'-0 15/16"	±3'-0 1/4"	±3'-2 3/8"	±3'-4 13/16"	±3'-7 3/16"	±3'-9 5/8"	±4'-0 1/8"	±4'-2 1/2"	±4'-4 9/16"



UTILITY SUPPORT FRAMING PLAN

NOTES

1. THE EXISTING SANITARY LINE SHALL REMAIN IN SERVICE DURING CONSTRUCTION UTILIZING BYPASS PUMPING BETWEEN THE MANHOLE ON THE NORTH AND SOUTH SIDES OF THE BRIDGE. THE TEMPORARY BYPASS PUMPING LINE SHALL BE SUPPORTED ON THE BRIDGE.
2. ALL FACES OF THE PROPOSED STRUCTURAL SUPPORT SYSTEM (INCLUDING ANGLES AND CONNECTION PLATES) SHALL BE PAINTED UTILIZING THE THREE-COAT PAINT SYSTEM PER C&MS 514.
3. THE CONTRACTOR SHALL REMOVE EXISTING SANITARY LINE, REMOVE EXISTING SANITARY LINE SUPPORT, CONSTRUCT ALL PROPOSED STRUCTURAL SUPPORTS, CONSTRUCT ALL PROPOSED HANGERS, CONSTRUCT THE 10" SANITARY LINE, CONSTRUCT THE 2" CELLULAR GLASS PIPE INSULATION, CONSTRUCT THE 20" STEEL CASING PIPE (INCLUDING GALVANIZATION), AND 24" STEEL SLEEVE (INCLUDING GALVANIZATION, END SEALS AND LINK SEALS). ALL EQUIPMENT, LABOR, AND MATERIAL NECESSARY FOR THIS WORK FROM THE BACKFACE OF THE REAR ABUTMENT TO THE BACKFACE OF THE FORWARD ABUTMENT SHALL BE INCLUDED UNDER ITEM 513-STRUCTURAL STEEL, MISC.: SANITARY SEWER. THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS.
4. ADJUST ELEVATION AND HORIZONTAL POSITION OF THE PIPE TO PROVIDE A CONSTANT SLOPE FROM THE REAR ABUTMENT TO FORWARD ABUTMENT LOCATIONS.
5. ALL PIPE HANGER SUPPORT STEEL, STEEL SLEEVE, AND STEEL CASING PIPE SHALL BE HOT DIPPED GALVANIZED BY THE SUPPLIER PRIOR TO BEING SHIPPED TO THE SITE.
6. ANY DAMAGE TO THE HOT DIPPED GALVANIZED COATING, FIELD CUTS, OR WELDS SHALL BE REPAIRED WITH A COATING OF ZINC RICH PAINT MANUFACTURED BY ZRC, OR APPROVED EQUAL, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS, IN ORDER TO RESTORE FULL INTEGRITY OF THE PROTECTIVE GALVANIZED COATING. THE COST OF THIS WORK SHALL BE AT THE CONTRACTORS EXPENSE.
7. NON-CONDUCTIVE HANGER MOUNTED PIPE ROLLER, ADJUSTABLE ROLLER HANGER AND ALL HARDWARE SHALL BE MANUFACTURED BY THE FOLLOWING OF AN APPROVED EQUAL:  
 LB&A, INC.  
 P.O. BOX 540  
 WESTTOWN, PA, 19395  
 AFTER THE SELECTION OF THE ADJUSTABLE ROLLER HANGER AND HARDWARE AND AFTER THE FIELD VERIFICATION OF THE 'A' DIMENSION, THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS WITH SUFFICIENT DETAIL FOR APPROVAL. ANY HANGER SELECTED SHALL BE CAPABLE OF SUPPORTING A SERVICE LOAD OF 1,400 POUNDS.
8. CONTRACTOR SHALL VERIFY PIPE SIZE PRIOR TO ORDERING MATERIALS.
9. THE CONTRACTOR SHALL OFFSET THE CERTA-LOK (OR APPROVED EQUAL) JOINT BELL ENDS SO AS TO NOT COINCIDE WITH THE ROLLER HANGERS. THE FIRST SET OF SPACERS SHALL BE PLACED WITHIN 2 FEET OF THE ENDS OF THE CASING PIPE.
10. DIMENSION 'A' SHALL BE FIELD VERIFIED PRIOR TO ORDERING MATERIALS.
11. THE FASCIA (SEE SHEET 19/30 ABOVE FOR LIMITS) OF BEAM #5 SHALL BE PAINTED UTILIZING THE THREE-COAT PAINT SYSTEM PER C&MS 514.
12. SEE SHEET P.7/62 FOR SUMMIT COUNTY DEPARTMENT OF SANITARY SEWER DEPARTMENT OF SANITARY SEWER SERVICES FACILITIES NOTES.
13. THE 4X4X1/2 STRUT AND SANITARY SUPPORTS SHALL NOT BE INSTALLED UNTIL AFTER THE DECK IS POURED AND HAS CURED.



SANITARY SEWER SUPPORT CONNECTION DETAILS

SANITARY SEWER SUPPORT DETAIL

PROPOSED SANITARY PIPE AND GAS LINE HANGER DETAILS  
 BRIDGE NO. SUM-00091-07.880  
 S.R. 91 OVER CUYAHOGA RIVER

SFN	7707142
DESIGN AGENCY	B.G. GROUP, INC.
DESIGNER	RG
CHECKER	CCJ
REVIEWER	
GTB	02-25-25
PROJECT ID	113201
SUBSET	17
TOTAL	30
SHEET	P.49
TOTAL	62