

12-17-93

LEXINGTON AVENUE - C.S.A.H. 51

THE CITY OF SHOREVIEW

RAMSEY COUNTY

CONSTRUCTION PLAN FOR BRIDGE NO. 62566

GEOGRAPHIC DESCRIPTION: OVER RICE CREEK IN SHOREVIEW

LEGAL DESCRIPTION: FROM A POINT IN THE NORTHWEST QUARTER OF SECTION 3, TOWNSHIP 30 NORTH, RANGE 23 WEST, WITH COORDINATES OF 220,241.139 N, 556,303.514 E, ON LEXINGTON AVENUE TO A POINT IN THE NORTHWEST QUARTER OF SECTION 3, TOWNSHIP 30 NORTH, RANGE 23 WEST, WITH COORDINATES OF 220,280.427 N, 556,291.970 E, ON LEXINGTON AVENUE.

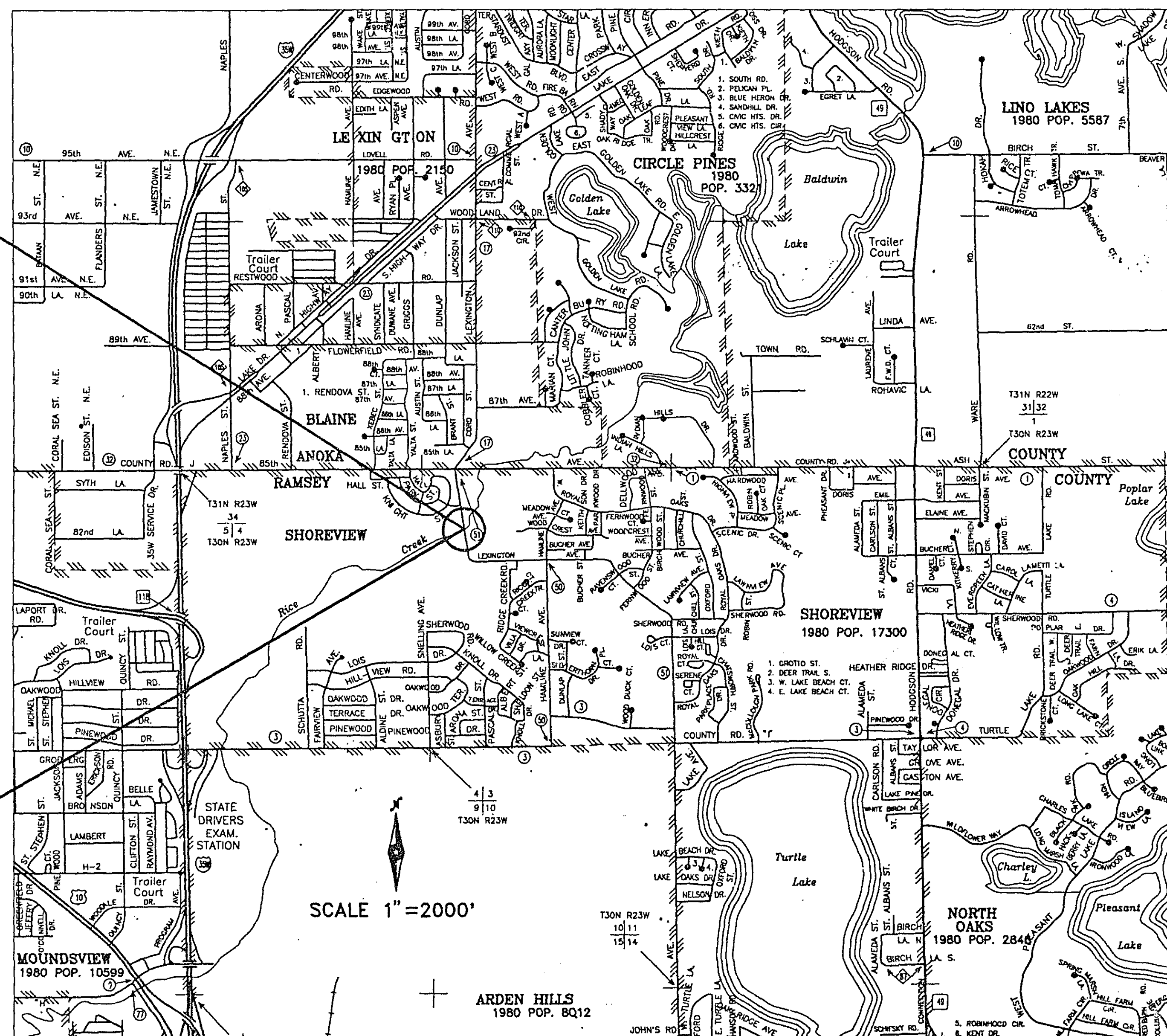
STATE PROJ. NO. 62-651-27

BRIDGE-LENGTH 41 FEET .008 MILES
EXCEPTIONS-LENGTH 0 FEET 0 MILES
NET LENGTH 41 FEET .008 MILES

PROJECT LENGTH IS BASED ON C.S.A.H. 51
ALIGNMENT STATIONING.

END S.P. NO.
STA. 504+01.50

BEGIN S.P. NO.
STA. 503+62.50



SCALES

PLAN 100
PROFILE 100

PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY

C.S.A.H. 51 DESIGN DESIGNATION

Functional Classification: MINOR ARTERIAL
No. of Traffic Lanes: 4
ADT (Current Year) 1991: 4550
ADT (Future Year) 2011: 9100
DHV (Design Hr. Vol.): 910
D (Directional Distr.): 50 %
T (Heavy Commercial): 5 %
R-Value: 70
N20 Factor: 1,358,000
Design Load: 10 TON
No. of Parking Lanes: 0
Design Speed: 45 MPH
Based on STOPPING Sight Distance
Height of eye 3.5' Height of Object 0.5'
Design Speed not achieved at N.A.
% STA. N.A. TO STA. N.A. MPH N.A.

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: SJB
DATE: 12-17-93

PROJECT LOCATION
RAMSEY COUNTY
METRO
OAKDALE DISTRICT

STATE PROJ. NO. 62-651-27

Minn. Proj. No. BRM 5015 (003)

GOVERNING SPECIFICATIONS

THE 1988 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" AND "SUPPLEMENTAL SPECIFICATIONS TO THE 1988 STANDARD SPECIFICATIONS FOR CONSTRUCTION", DATED JANUARY 2, 1991, SHALL GOVERN.

INDEX

(SEE SHEET NO. 1 "GENERAL PLAN AND ELEVATION" FOR SHEET INDEX)



PLANNING
TRANSPORTATION
ENGINEERING
URBAN DESIGN
(612) 370-0700
BRW INC. 700 THIRD STREET SOUTH, MINNEAPOLIS, MN 55415

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

BRW, INC.

DATE 3/6/92 REG. NO. 020496

ENGINEER MARK MAVES *Mark Maves*

RECOMMENDED FOR APPROVAL DES DATE 2/21/92
TRAFFIC ENGR.

RECOMMENDED FOR APPROVAL HMR DATE 2/21/92
ENV. ENGR.

RECOMMENDED FOR APPROVAL JST DATE 2-24-92
MAINT. ENGR.

RECOMMENDED FOR APPROVAL RWR DATE 2-21-92
CONST. ENGR.

RECOMMENDED FOR APPROVAL JLR DATE 2-21-92
DESIGN ENGR.

RECOMMENDED FOR APPROVAL JAO DATE 2-21-92
R.O.W. ENGR.

RECOMMENDED FOR APPROVAL JWR DATE 2-21-92
COORDINATING ENGINEER

RECOMMENDED FOR APPROVAL JWR DATE 2/24/92
PROGRAM ENGINEER

Approved 5-19 1992 *B.A. Wengard*
CHAIR OF RAMSEY COUNTY BOARD

Approved FEB 12 1992 *R. J. ...*
CITY OF SHOREVIEW

Recommended For Approval *Paul K. ...* 3/24 1992
RAMSEY COUNTY ENGINEER

Recommended For Approval *...* 3/11 1992
DISTRICT STATE AID ENGINEER

Recommended For Approval *...* 12-7 1992
STATE BRIDGE ENGINEER

Approved 12/8 1992 *Julius Skellman*
ASST. STATE AID ENGINEER

Recommended For Approval *...* 12-8-92
State Aid Plans & Specs Engr. Date

I HEREBY CERTIFY THAT THE FINAL FIELD REVISIONS, IF ANY, OF THIS PLAN WERE MADE BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE REG. NO.

28125

COVER SHEET



THE 1988 EDITION OF THE MINNESOTA
DEPARTMENT OF TRANSPORTATION "STANDARD
SPECIFICATIONS FOR CONSTRUCTION", AS
AMENDED BY THE JAN. 2,1991 SUPPLEMENTAL
SPECIFICATION SHALL GOVERN.

BARS MARKED WITH THE SUFFIX "E" SHALL BE EPOXY COATED.

CONTRACTOR SHALL NOT BACKFILL BEHIND ABUTMENTS
PRIOR TO BRIDGE SLAB BEING POURED.

GRANULAR BACKFILL BEHIND ABUTMENTS AND
RETAINING WALLS TO BE INCLUDED IN GRADING
PORTION OF THE CONTRACT.

DONE BY: *DJE*
DATE: 12-17-93

Paul K. Hines
RANGEY COURT

RAMSEY COUNTY ENGINEER

DATE: 2/24/92



- 1 INCLUDES LOW SLUMP OVERLAY ON APPROACH
PANELS. 2261 PARTICIPATING,
2212 NON-PARTICIPATING
- 2 NON-PARTICIPATING
- 3 65 CU. YDS. NON-PARTICIPATING
- 4 159 CU. YDS. NON-PARTICIPATING

NOTE: OLD BRIDGE TO REMAIN INPLACE

ITEM NO.	2021501	0401601	2401512	2401513	2401541	2451505	0401603	2404501	2401501	2452507	2452508	2452519	2557501	2401501	2511507	2411.507	2411.507	2411.507	2402505	0401601	2545509
ITEM	MOBILIZATION	STRUCTURE EXCAVATION	BRIDGE SLAB CONCRETE (3Y36)	TYPE J RAILING CONCRETE (3Y46)	REINFORCEMENT BARS (EPOXY COATED)	AGGREGATE BACKFILL (CV)	REVERSE BATTEN SURFACE TREATMENT	CONCRETE OVERLAY TYPE SPECIAL ①	STRUCTURE CONCRETE (3Y43)	CAST-IN-PLACE CONCRETE PILING 12" DELIVERED	CAST-IN-PLACE CONCRETE PILING 12" DRIVEN	CAST-IN-PLACE CONCRETE TEST PILE 12" 60 LONG	WIRE FENCE DESIGN (S-1)	STRUCTURE CONCRETE (1A43)	GROUTED RIPRAP ③	CONC. RETAINING WALL #1 ②	CONC. RETAINING WALL #2 ②	CONC. RETAINING WALL #3 ②	PIPE RAILING ②	SLOPE PREPARATION	CONDUIT SYSTEM (POWER) ②
UNIT	LUMP SUM	LUMP SUM	SQ. FT.	LIN. FT.	POUND	CU. YD.	SQ. FT.	SQ. FT.	CU. YD.	LIN. FT.	LIN. FT.	EACH	LIN. FT.	CU. YD.	CU. YD.	EACH	EACH	EACH	LIN. FT.	LUMP SUM	LUMP SUM
QUANTITY	1	1	2742 (P)	83 (P)	18684 (P)	26	335	4473 (P)	183 (P)	1600	1600	2	72 (P)	125 (P)	240	1	1	1	186	1	1

[illegible]

BRW INC. 700 THIRD STREET SOUTH, MINNEAPOLIS, MN 55415

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNED: Mark Mares
DATE: 2/19/92 REG. NO.: 20496

C.S.A.H. 51 CITY OF SHOREVIEW
MINNESOTA DEPARTMENT
OF TRANSPORTATION

0.2 MI. SO. OF JCT. C.S.A.H. 32 ON
C.S.A.H. 51 IN THE CITY OF SHOREVIEW
OVER RICE CREEK

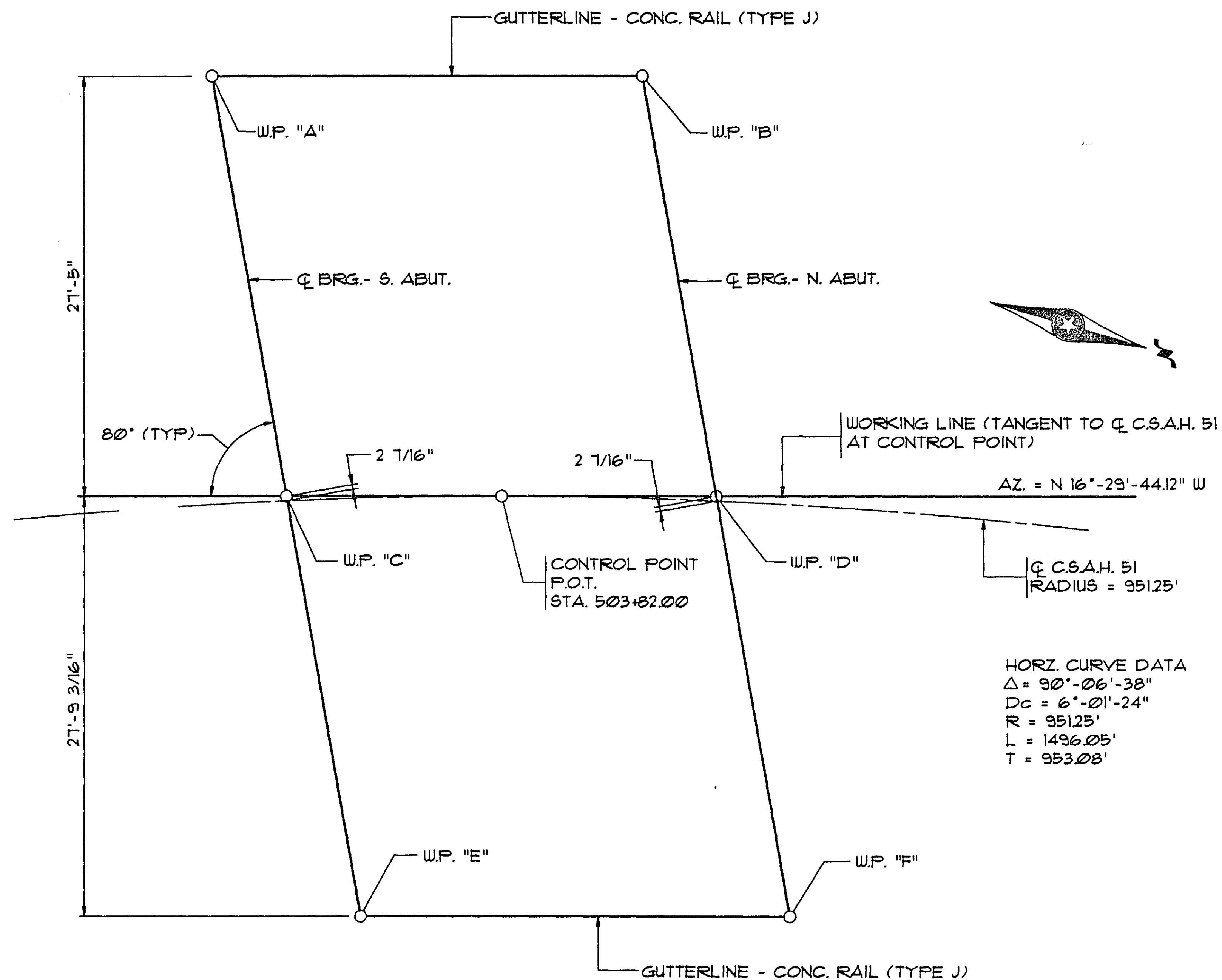
41'-0" SPAN REINF. CONC. RIGID FRAME
54'-10" ROADWAY, 8'-0" SIDEWALK
SPAN IDENT. NO. 108 10° SKEW

SEC 3 T30N R23W

DATED 12-7-92 28-125
APPROVED: Donald H. Manning
STATE BRIDGE ENGINEER

DES: MKM	DRW: DJV	62566
CHK: SA	CHK: MKM	

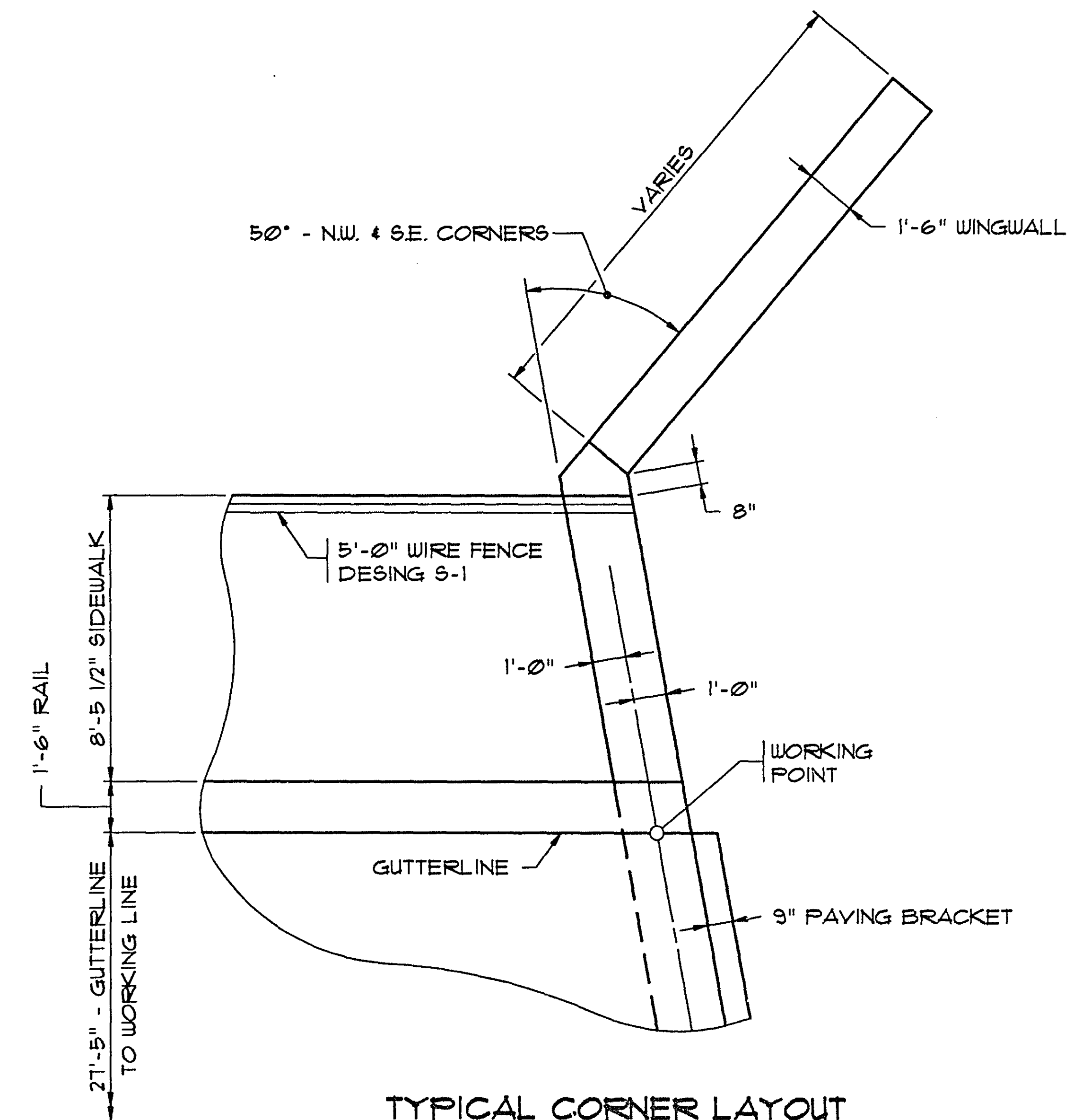
SHEET NO. 1 OF 22 SHEETS



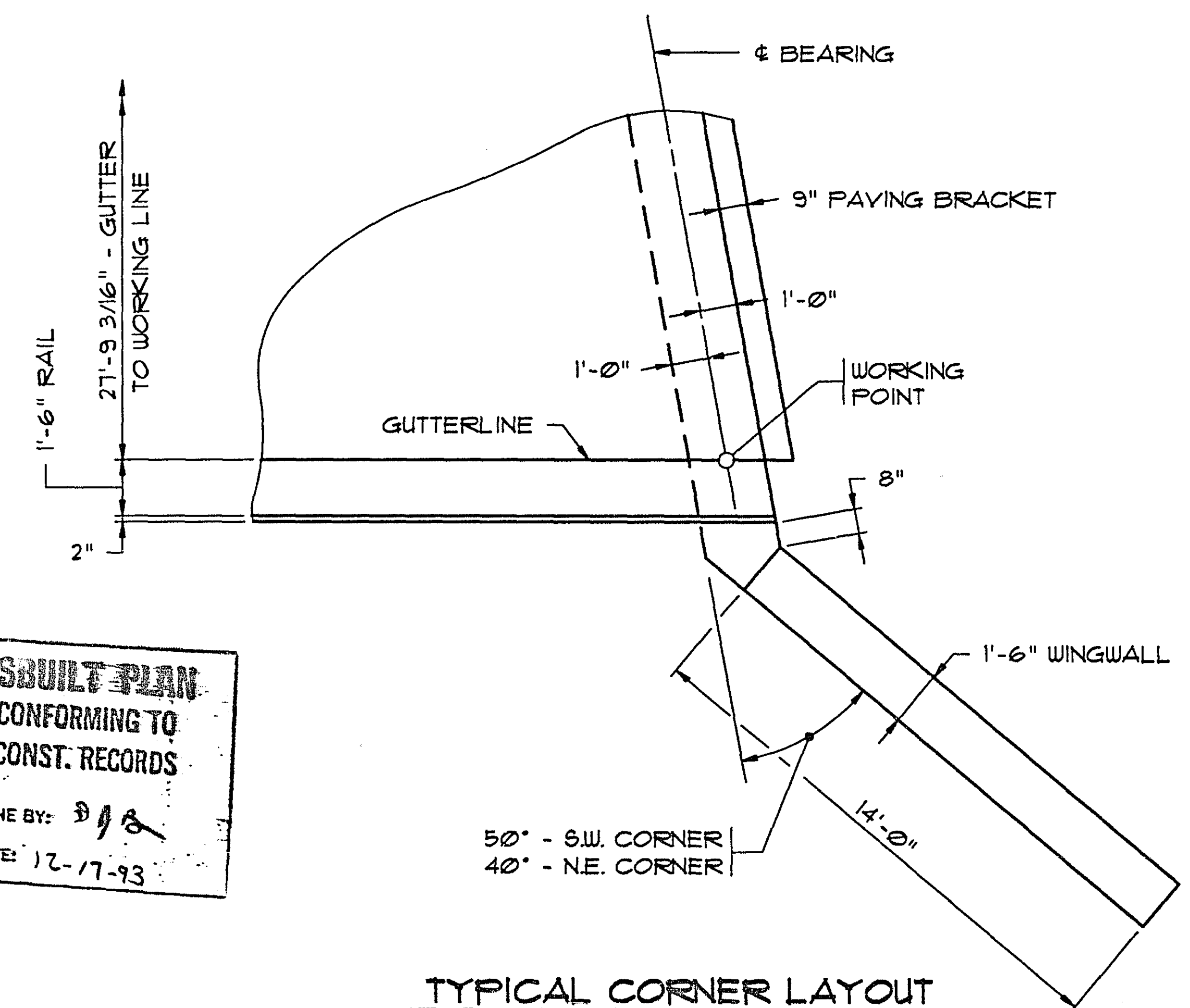
WORKING POINT LAYOUT

TOP OF ROADWAY TO BRIDGE SEAT		
	NORTH ABUTMENT	SOUTH ABUTMENT
SLAB THICKNESS	16"	16"
WEARING COURSE	2"	2"
TOTAL	150'	150'

DIMENSIONS BETWEEN WORKING POINTS						COORDINATES		ELEVATIONS			
POINT	STATION	A	B	C	D	E	F	POINT	N-COORD.	E-COORD.	POINT
A	503+58.32		39.00'	27.84'	51.70'		73.62'	A			
B	503+96.22			43.81'	27.84'	62.47'		B			
C	503+62.50				39.00'	28.19'	51.94'	C			
D	504+01.50					43.98'	28.19'	D			
E	503+66.96						39.00'	E			
F	504+07.13							F			



TYPICAL CORNER LAYOUT
(N.W. & S.E. CORNERS SIMILAR)



TYPICAL CORNER LAYOUT
(N.E. & S.W. CORNERS SIMILAR)

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *8/8*
DATE: 12-17-93

28-125

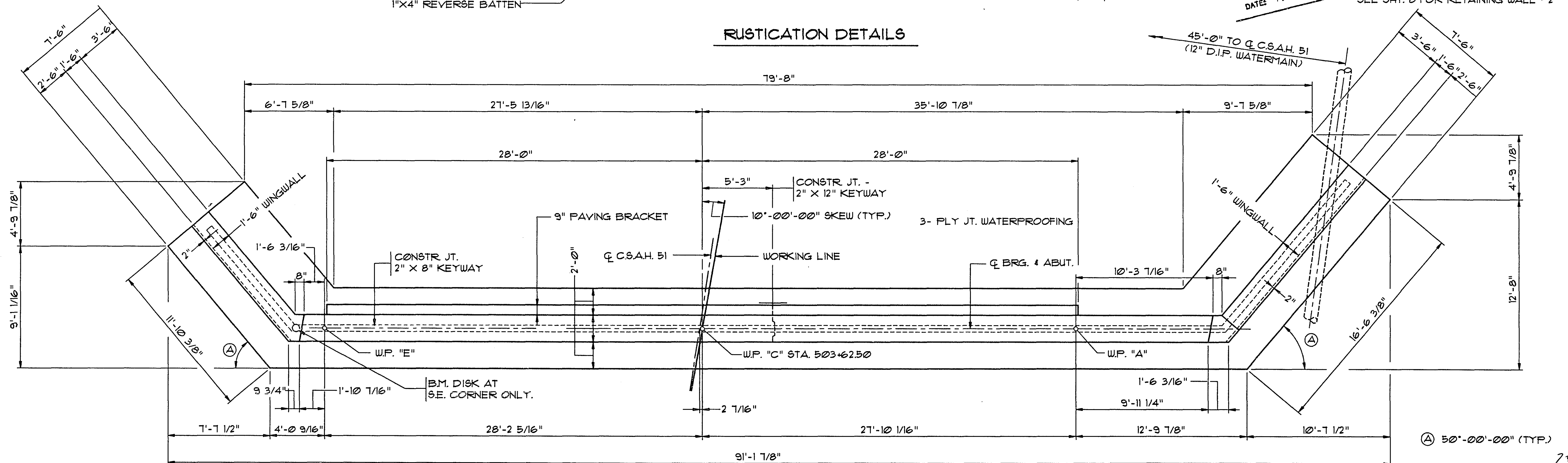
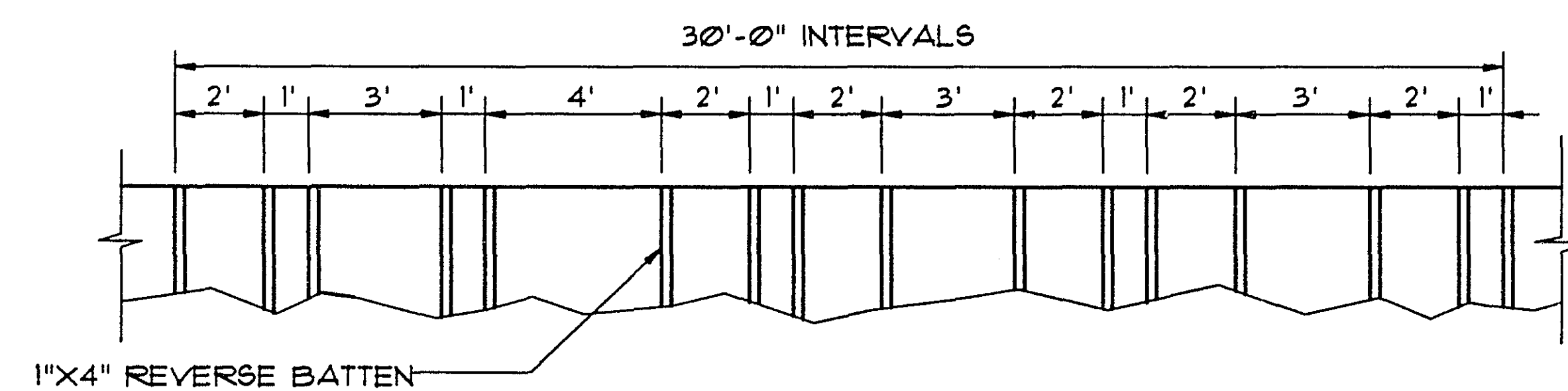
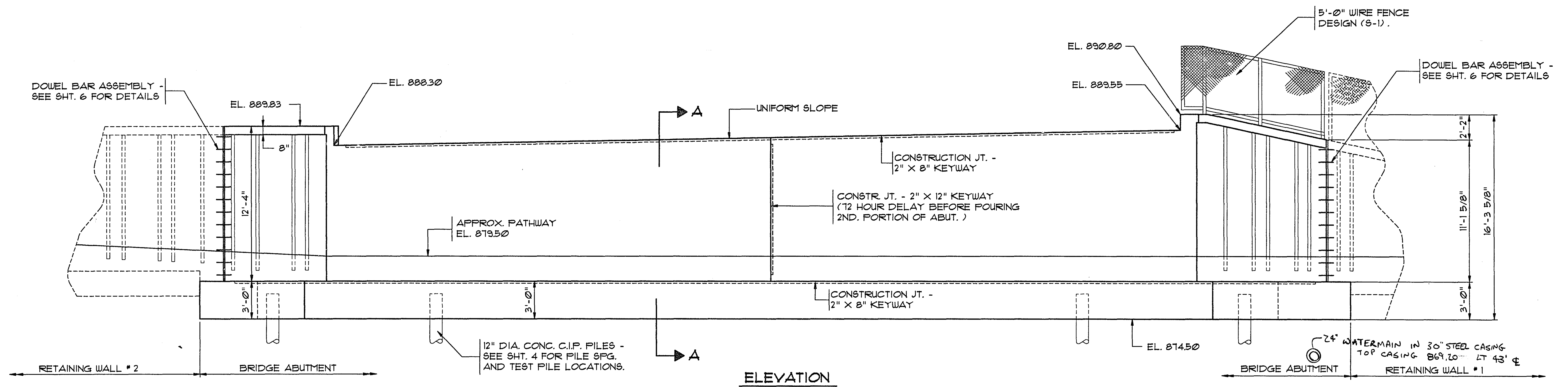
S.P. 62-651-27

B R W
ENGINEERING
TRANSPORTATION
PLANNING
URBAN DESIGN
BRW INC. 700 THIRD STREET SOUTH, MINNEAPOLIS, MN 55415

BRIDGE LAYOUT

DES: DJV	DRW: JAS	APPROVED: 12-7-92	BRIDGE NO. 62566
CHK: MKM	CHK: DJV		

SHEET NO. 2 OF 22 SHEETS



NOTES:
SEE SHT. 6 FOR SECTION A-A
REVERSE BATTEN RUSTICATION
ON WINGWALLS AND RETAINING WALLS
ONLY.
CONTRACTOR SHALL VERIFY EXACT LOCATION
AND ELEVATION OF 12" D.I.P. WATERMAIN PRIOR
TO STRUCTURE EXCAVATION AND PILE DRIVING
OPERATIONS.
SEE SUPERSTR. SHT. 15 FOR PIPE RAILING
ANCHORAGE SFG. AT S.W. WINGWALL.
SEE SHT. 7 FOR RETAINING WALL # 1
SEE SHT. 8 FOR RETAINING WALL # 2

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *[Signature]*
DATE: 12-17-93

PLAN



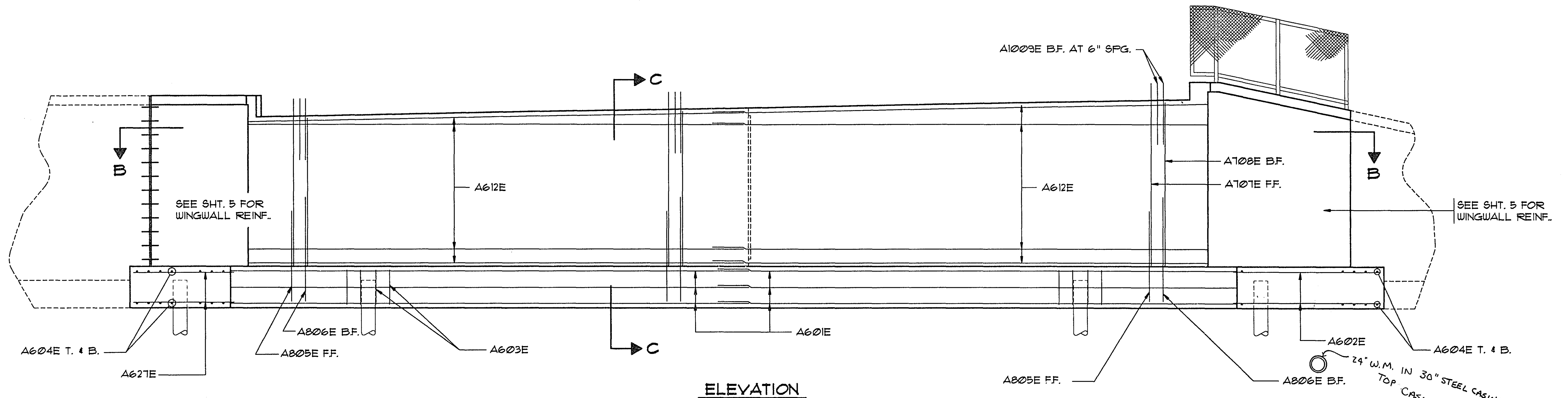
ENGINEERING
TRANSPORTATION
PLANNING
URBAN DESIGN

SOUTH ABUTMENT DETAILS

DES: MKM	DRW: DJV	APPROVED:	BRIDGE NO. 62566
CHK: SA	CHK: MKM	12-7-92	
SHEET NO. 3 OF 22 SHEETS			

DRAWING NAME: SABUT-1.DWG

PLOT DATE: 02-12-92



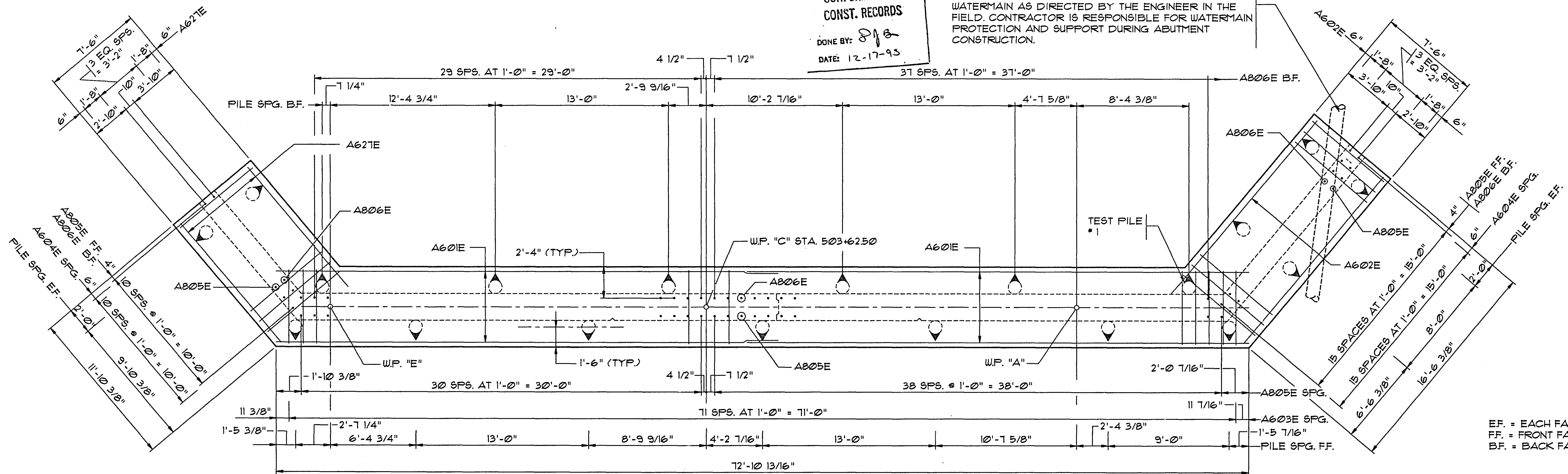
ELEVATION

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS

DONE BY: *[Signature]*
DATE: 12-17-95

12" D.I.P. WATERMAIN LOCATION AND ELEVATION SHALL BE VERIFIED BY THE CONTRACTOR. PILE LOCATIONS MAY BE ADJUSTED SLIGHTLY TO MISS WATERMAIN AS DIRECTED BY THE ENGINEER IN THE FIELD. CONTRACTOR IS RESPONSIBLE FOR WATERMAIN PROTECTION AND SUPPORT DURING ABUTMENT CONSTRUCTION.

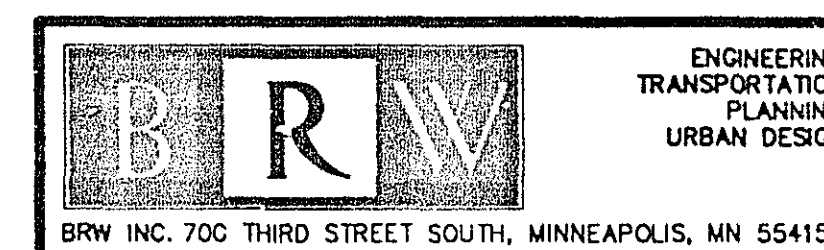
NOTE:
SEE SHEET 5 FOR SECTION B-B.
SEE SHEET 6 FOR SECTION C-C.



FOOTING PLAN

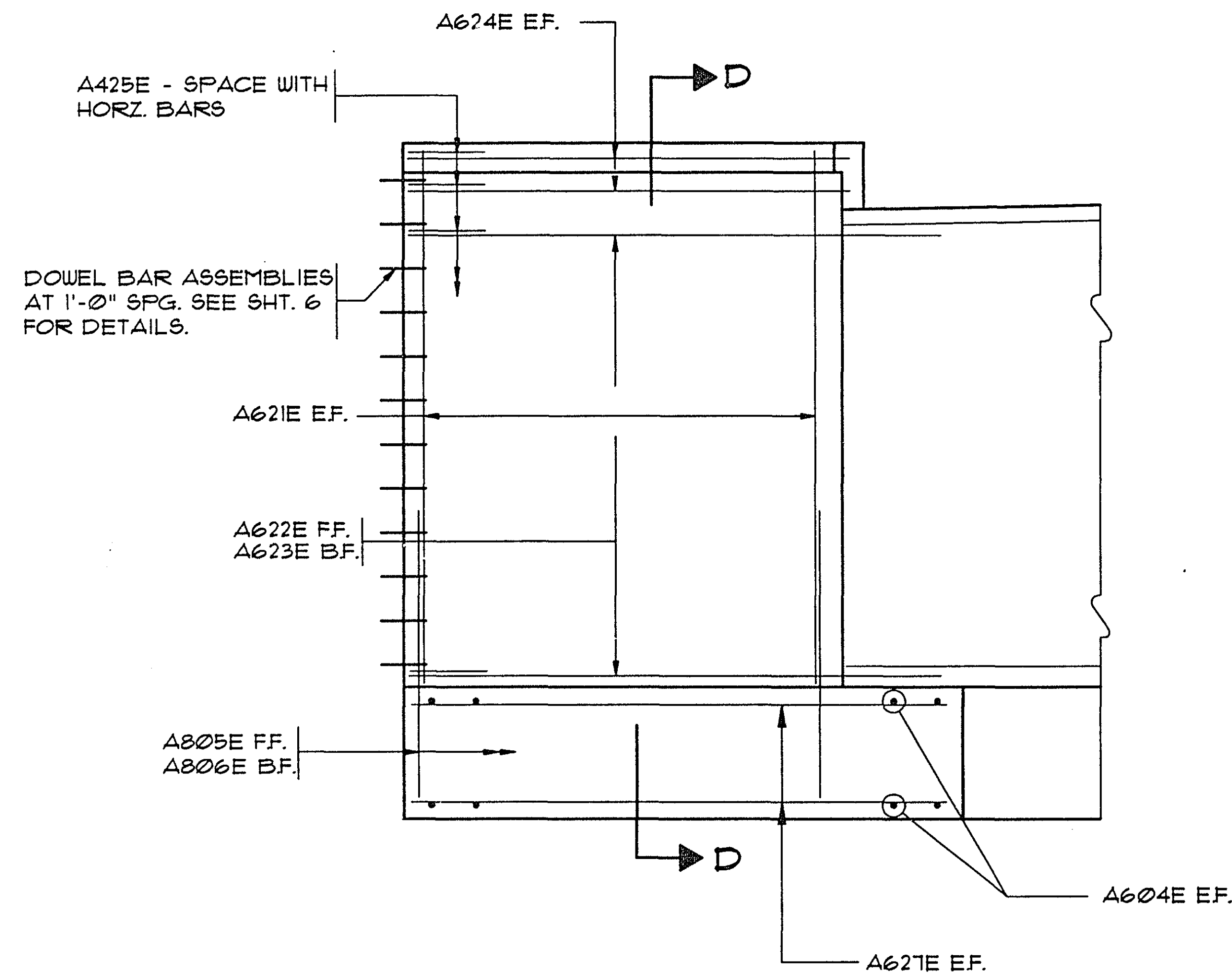
28-125

S.F. 62-651-27

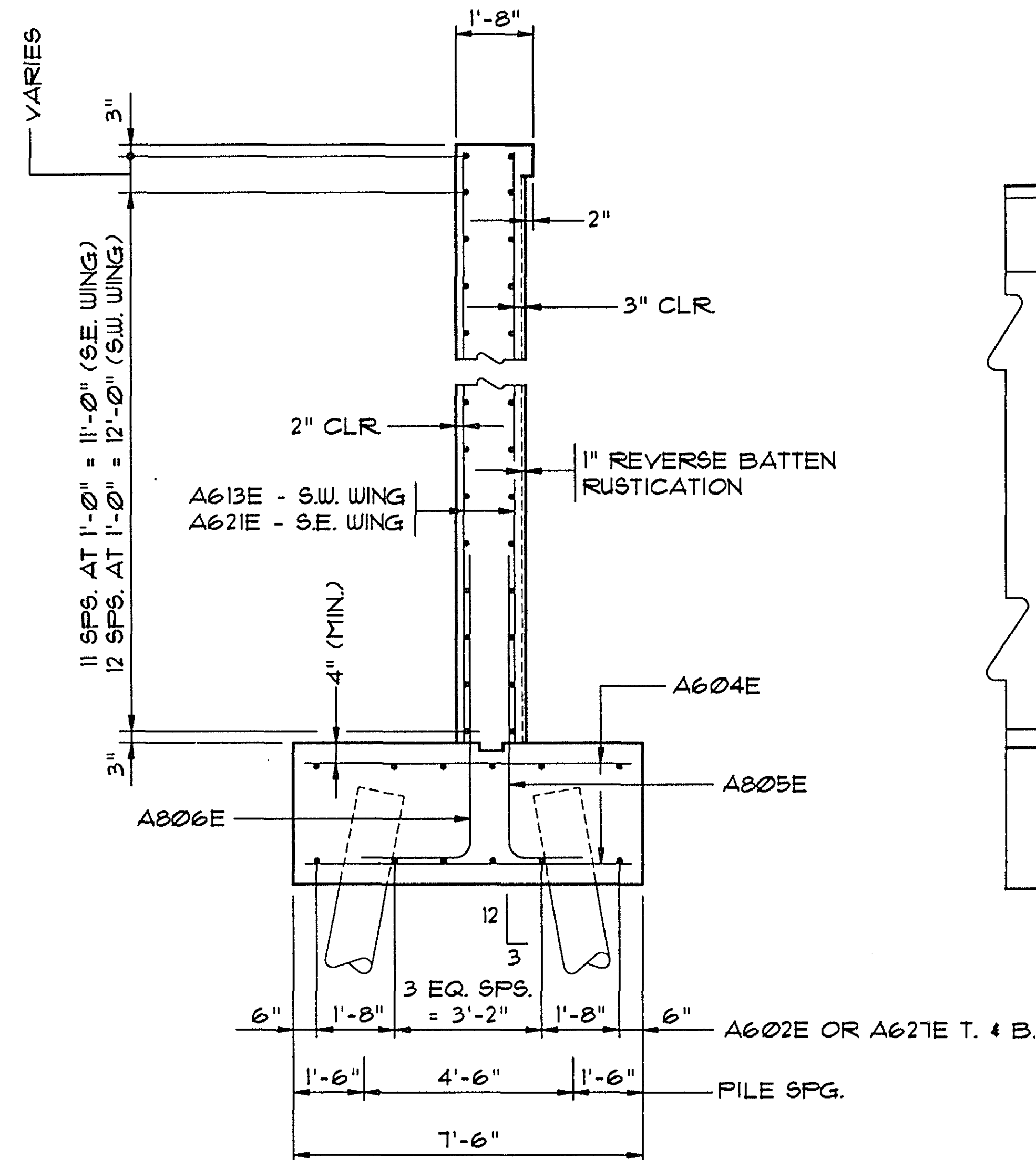


SOUTH ABUTMENT
REINFORCEMENT

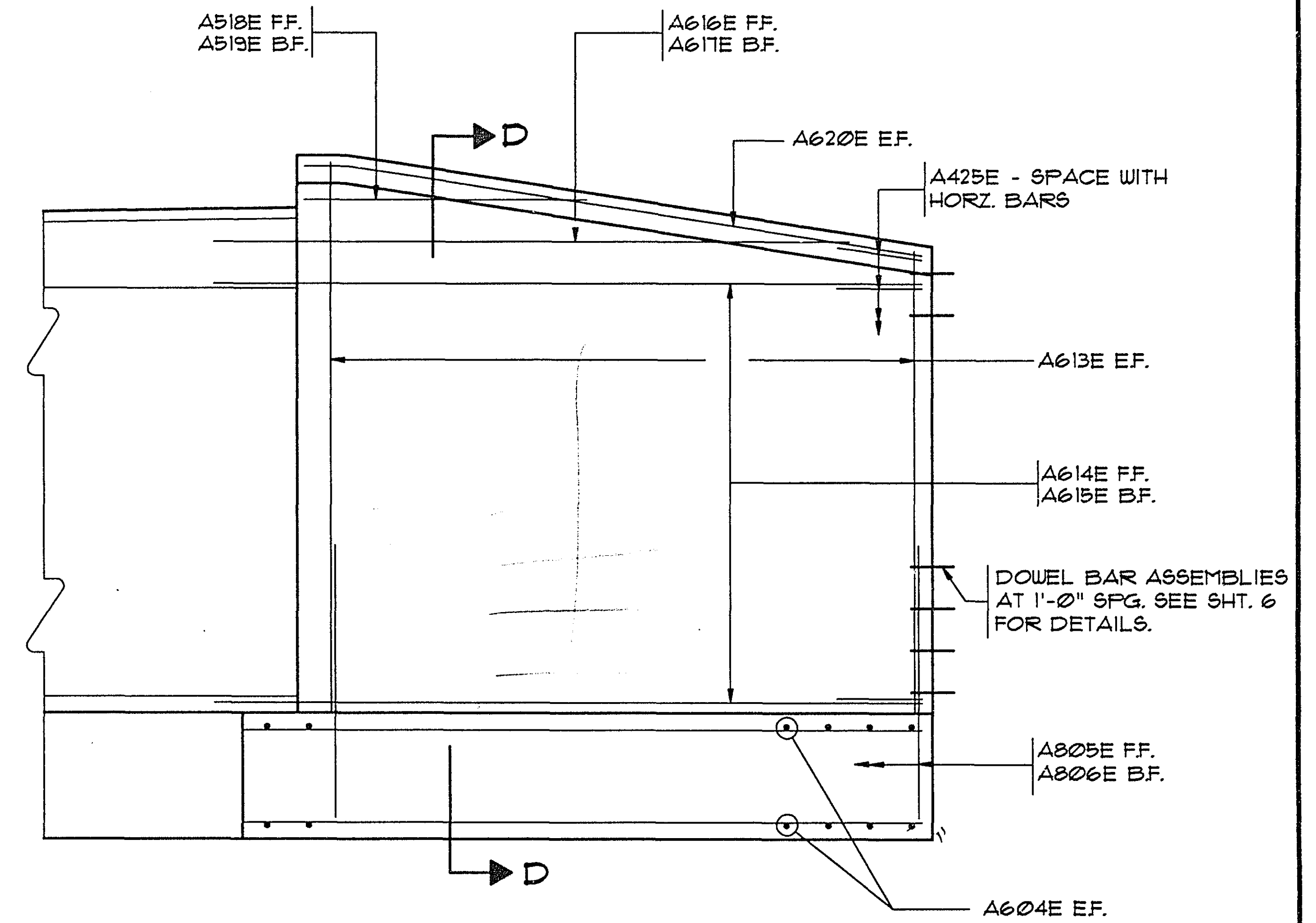
DES: MKM	DRW: DJV	APPROVED: 12-7-92	BRIDGE NO. 62566
CHK: SA	CHK: MKM		
SHEET NO. 4 OF 22 SHEETS			



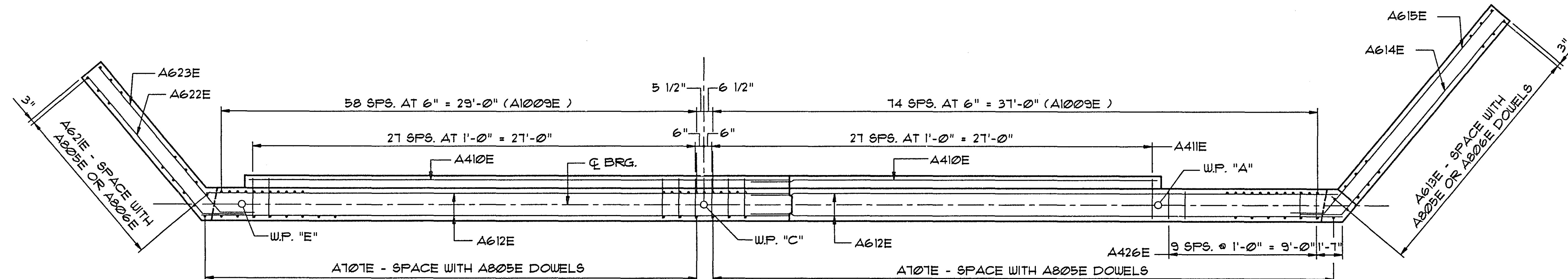
SOUTHEAST WINGWALL



SECTION D-D



SOUTHWEST WINGWALL



SECTION B-B

NOTE:
HORIZONTAL LEG OF A1009E SHALL
BE PLACED PARALLEL TO WORKING LINE.

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *Dyk*
DATE: 12-17-93

Z8-125

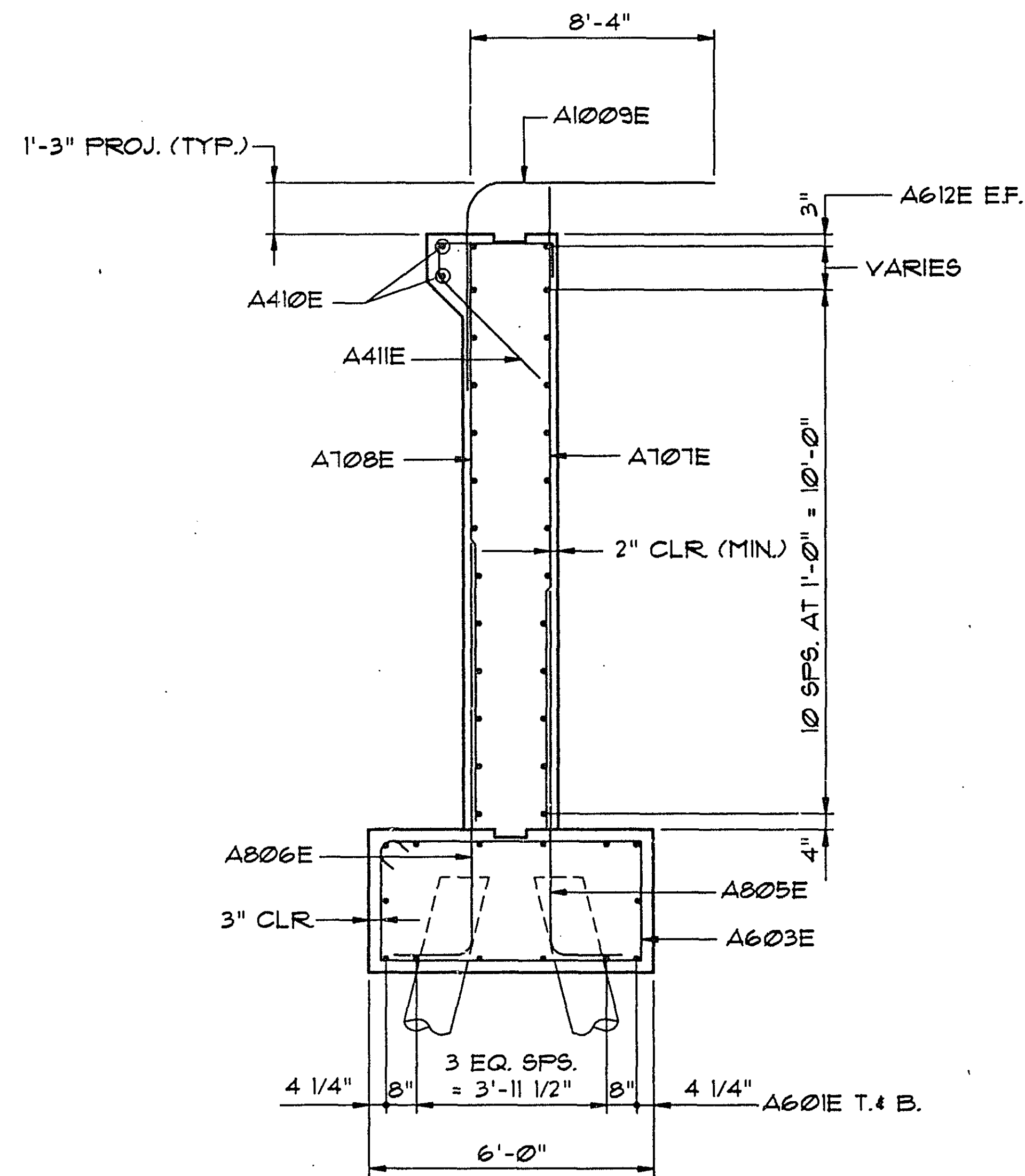
S.P. 62-651-27



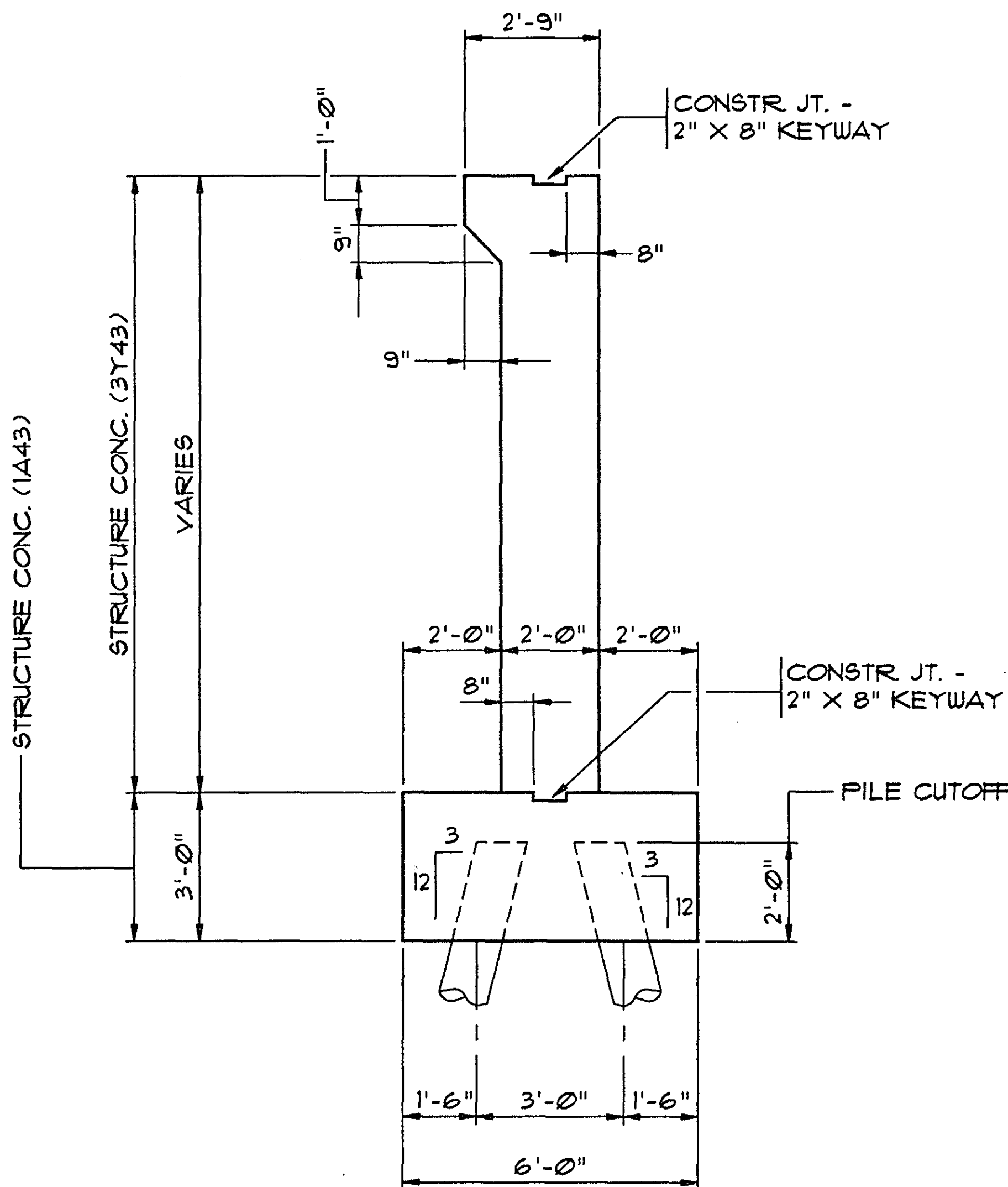
**SOUTH ABUTMENT
REINFORCEMENT**

DES: MKM DRW: DJV APPROVED: 12-7-92
CHK: SA CHK: MKM
SHEET NO. 5 OF 22 SHEETS

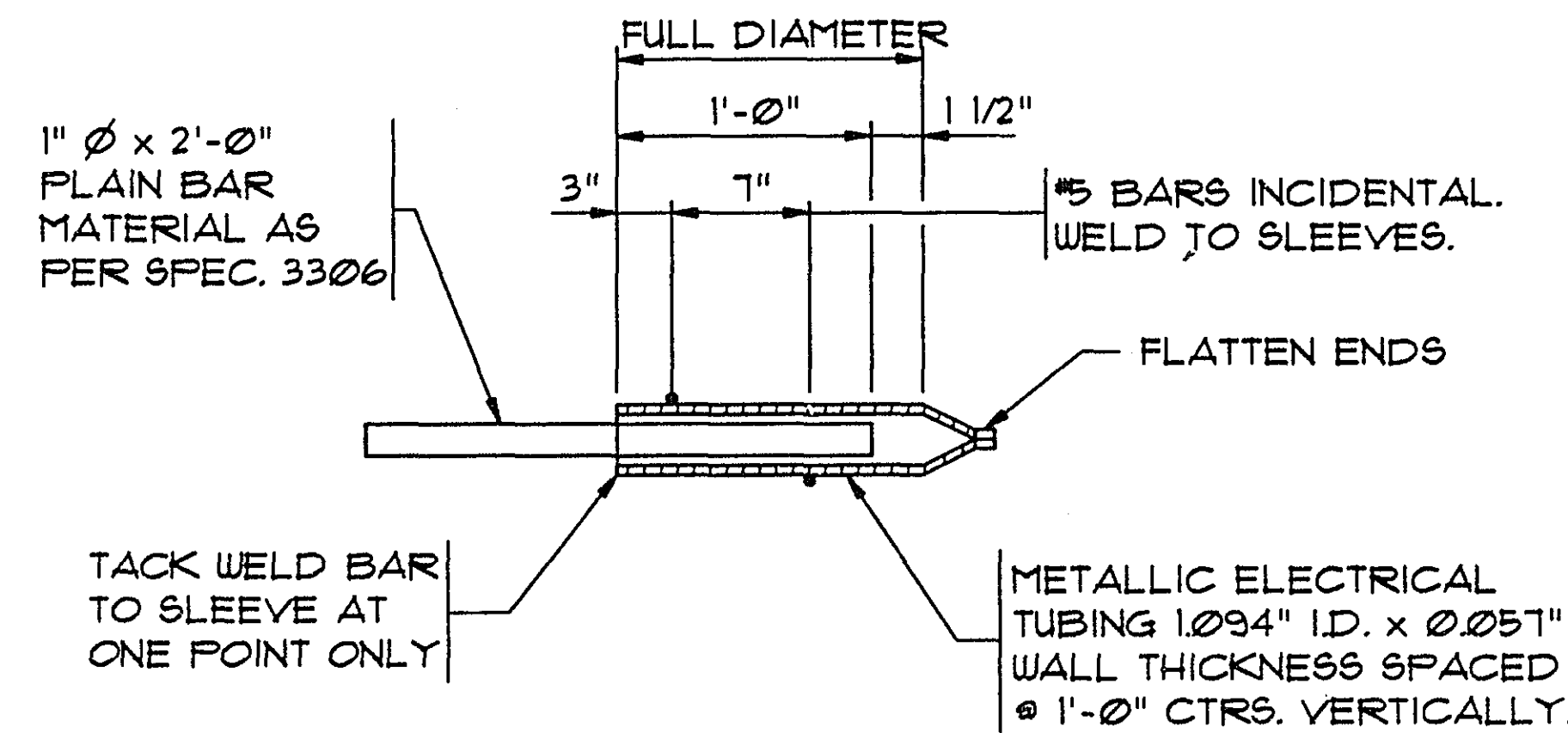
**BRIDGE NO.
62566**



SECTION C-C

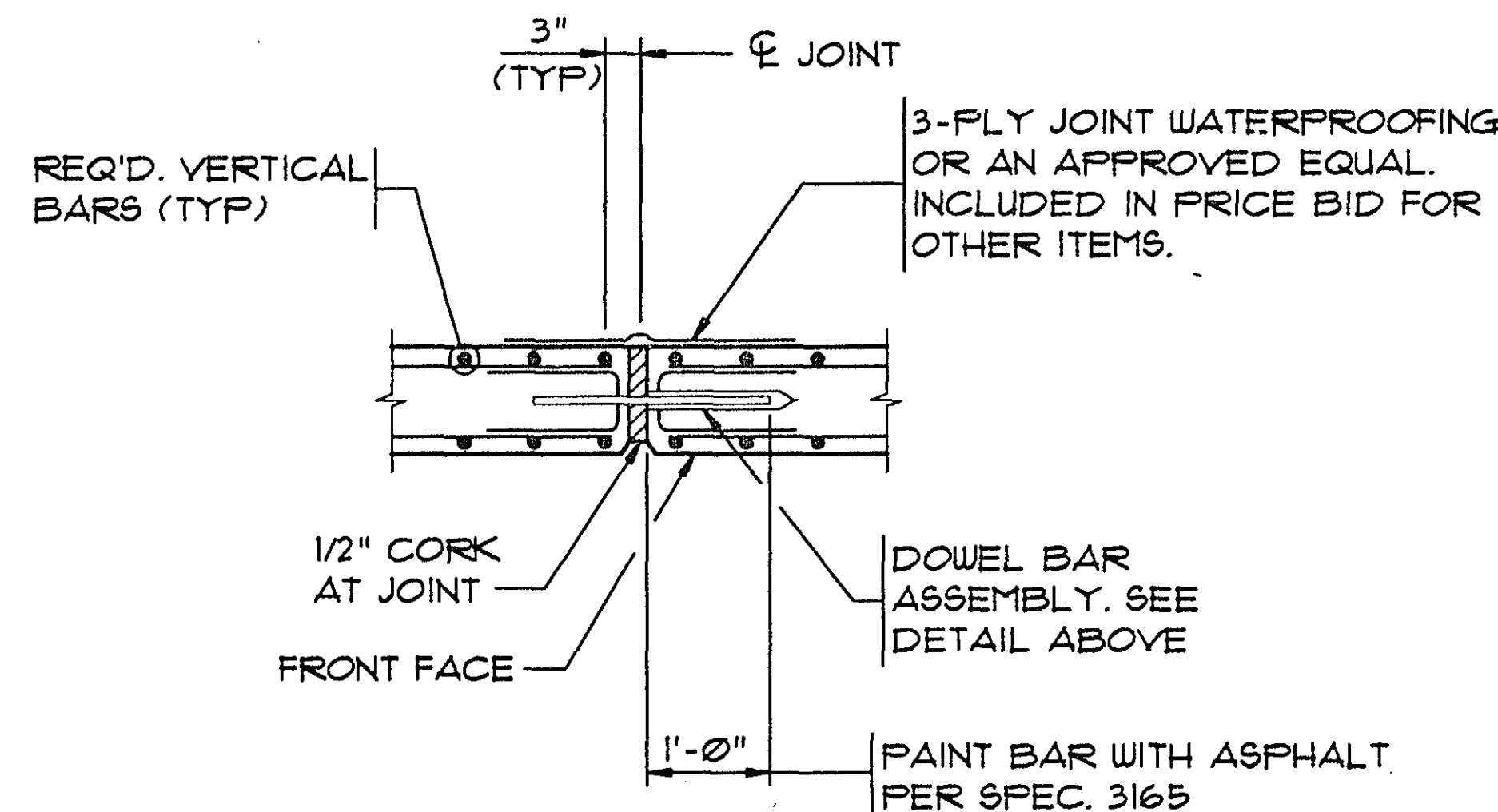


SECTION A-A



DOWEL BAR ASSEMBLY

MATERIAL AND PLACING TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS



TYPICAL SECTION THRU CORK AND DOWEL JOINT

CORK SHALL COMPLY WITH SPEC. 3102. SECURE CORK WITH 2 1/2" LONG 11 GA. COPPER NAILS ABOUT 18" CTRS. CORK AND NAILS INCLUDED IN PRICE BID FOR OTHER ITEMS.

REQUIRED FILES
SOUTH ABUTMENT

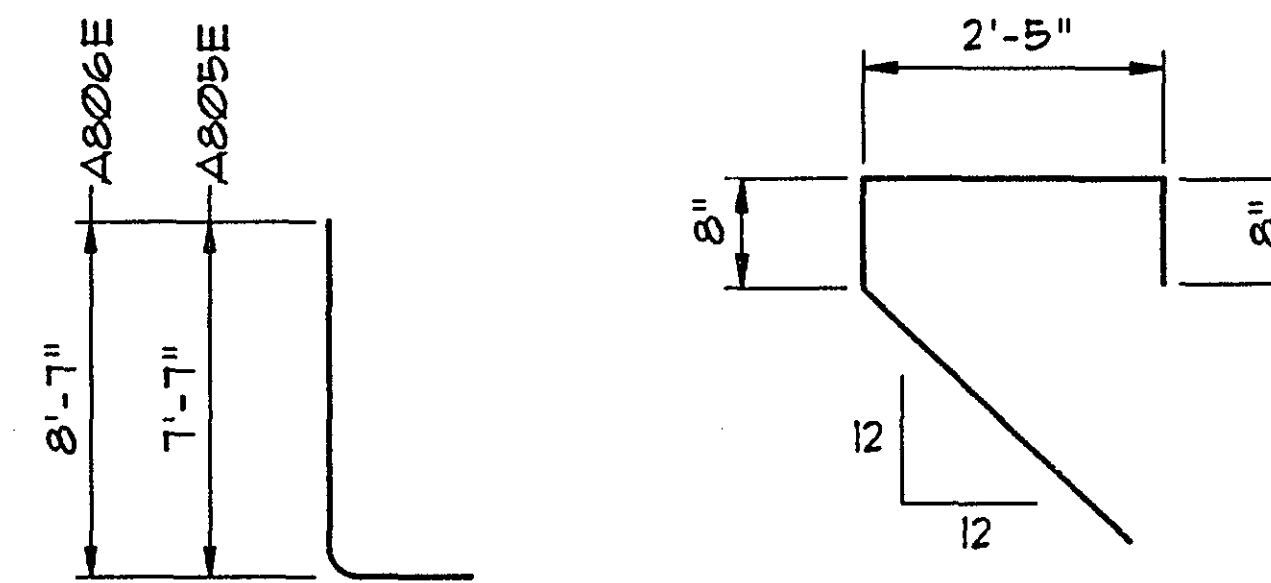
- 1 - CAST-IN-PLACE CONCRETE TEST PILE 60 FT. LONG.
- 18 - CAST-IN-PLACE CONCRETE PILES, EST. LENGTH 50 FT.

19 - CAST-IN-PLACE CONCRETE PILES REQUIRED FOR 1 ABUTMENT

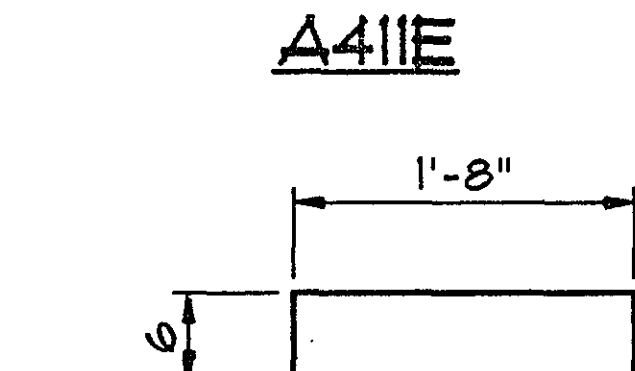
FILE NOTES :

- 1) FILE SPACING SHOWN IS AT BOTTOM OF FOOTING.
- 2) PILES MARKED THUS $\oplus$ MUST BE BATTERED 3" PER FOOT IN DIRECTION SHOWN.
- 3) ALL PILES TO BE CAST-IN-PLACE CONCRETE PILES.
- 4) PILES ARE TO HAVE A NOMINAL DIAMETER OF 12".
- 5) FOR FILE SPLICE SEE SHEET NO. 20

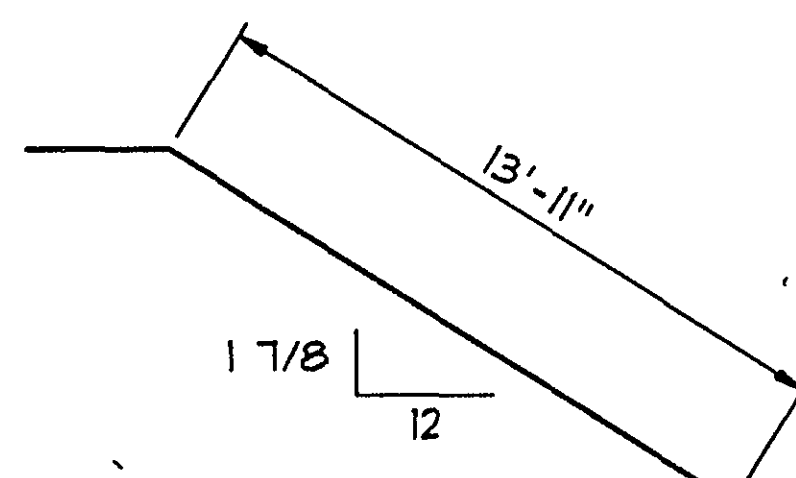
ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: S/B
DATE: 12-17-93



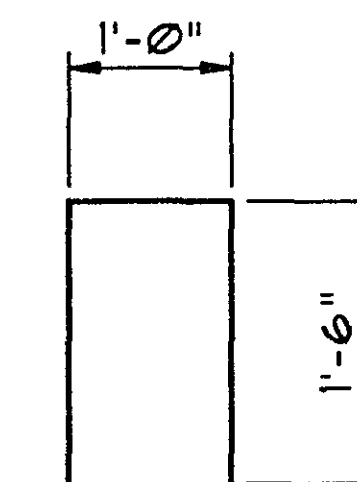
A805E & A806E



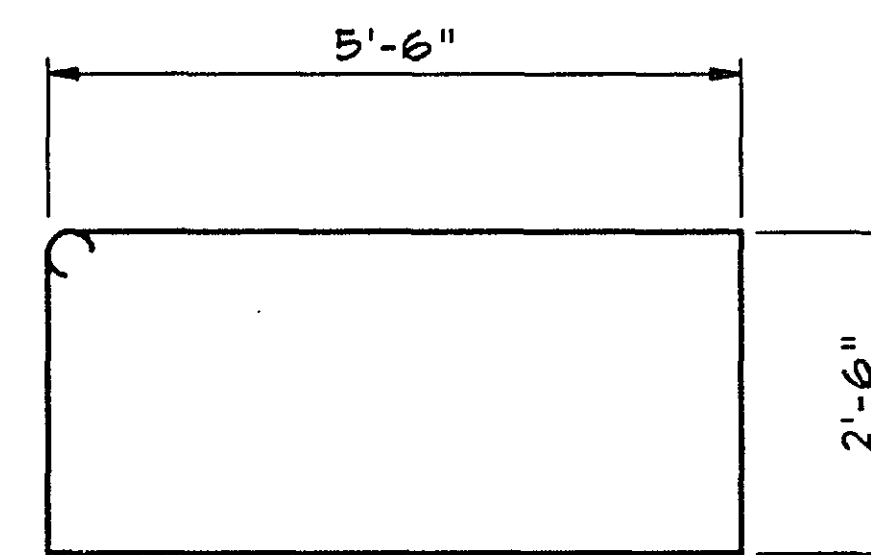
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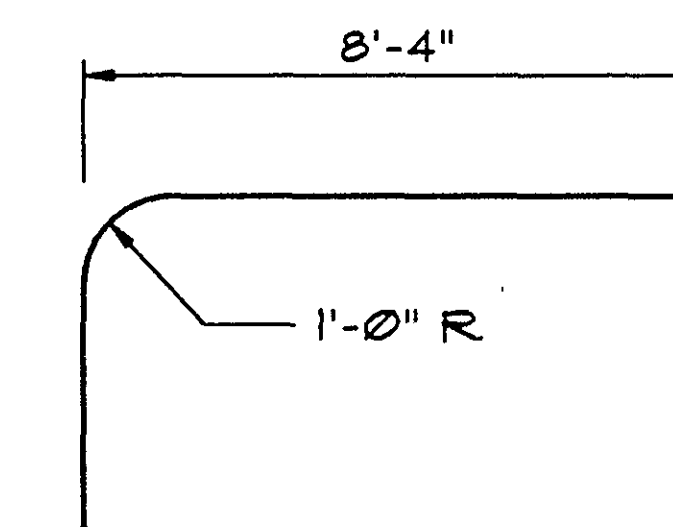
A620E



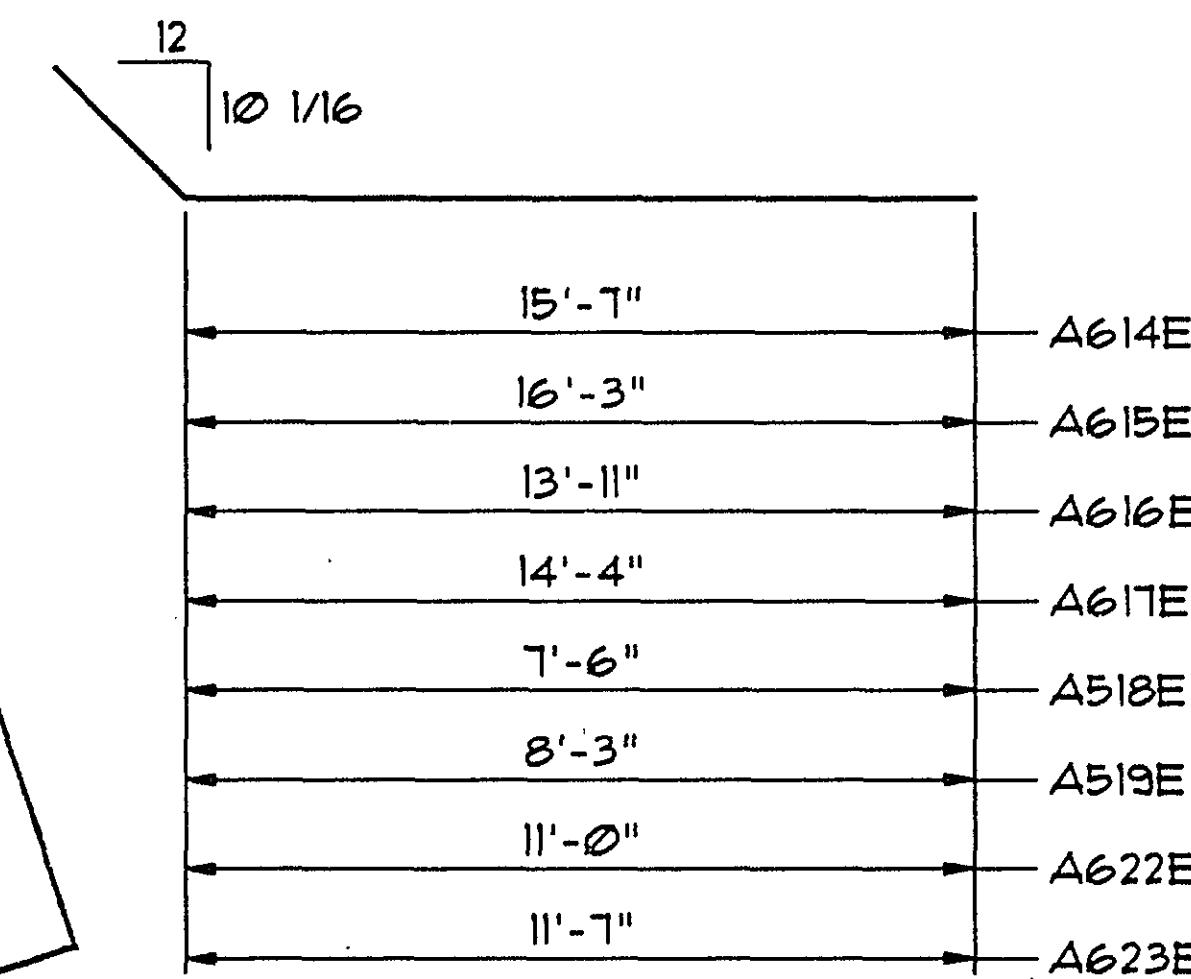
A425E



A603E



A1009E



A614E - A617E
A518E & A519E
A622E & A623E

BILL OF REINFORCEMENTS - S. ABUTMENT

MARK	NO.	LENGTH	SHAPE	LOCATION
A601E	28	31'-8"	STR	FOOTING - LONGIT.
A602E	12	16'-6"	STR	FOOTING - LONGIT.
A603E	72	17'-1"	BENT	FOOTING - TIES
A604E	54	7'-0"	STR	FOOTING - TRANSV.
A805E	97	8'-11"	BENT	FOOTING - DOWELS
A806E	95	10'-2"	BENT	FOOTING - DOWELS
A107E	10	(1)	STR	STEM - VERT.
A108E	69	(2)	STR	STEM - VERT.
A1009E	135	13'-0"	BENT	STEM TO SLAB - B.F.
A410E	4	28'-6"	STR	PAVING BRACKET
A411E	56	6'-9"	BENT	PAVING BRACKET
A612E	48	36'-0"	STR	STEM - HORZ.
A613E	32	(3)	STR	S.W. WINGWALL - VERT.
A614E	11	17'-10"	BENT	S.W. WINGWALL - HORZ.
A615E	11	18'-6"	BENT	S.W. WINGWALL - HORZ.
A616E	1	16'-2"	BENT	S.W. WINGWALL - HORZ.
A617E	1	16'-7"	BENT	S.W. WINGWALL - HORZ.
A518E	1	9'-9"	BENT	S.W. WINGWALL - HORZ.
A519E	1	10'-6"	BENT	S.W. WINGWALL - HORZ.
A620E	2	14'-11"	BENT	S.W. WINGWALL - HORZ.
A621E	22	12'-1"	STR	S.E. WINGWALL - VERT.
A622E	11	13'-3"	BENT	S.E. WINGWALL - HORZ.
A623E	11	13'-10"	BENT	S.E. WINGWALL - HORZ.
A624E	4	10'-8"	STR	S.E. WINGWALL - HORZ.
A425E	25	4'-0"	BENT	WINGWALLS - HORZ. TIES
A426E	10	2'-8"	BENT	STEM - TIES
A627E	12	11'-6"	STR	FOOTING - LONGIT.

- ① 1 SER OF 70 BARS (12'-0" TO 13'-3")
- ② 1 SER OF 69 BARS (10'-6" TO 11'-9")
- ③ 2 SER OF 16 BARS (10'-11" TO 13'-0")

SUMMARY OF QUANTITIES - SOUTH ABUTMENT

ITEM	UNIT	QUANTITY
STRUCTURE CONCRETE (1A43)	CU. YD.	69
STRUCTURE CONCRETE (3Y43)	CU. YD.	80
REINFORCEMENT BARS (EPOXY COATED)	LB.	25530
3-PLY JOINT WATERPROOFING	LIN. FT.	25
C.I.P. CONCRETE TEST PILE 60 FT. LONG (12" DIA.)	EACH	1
C.I.P. CONCRETE PILING DELIVERED (12" DIA.)	LIN. FT.	300
C.I.P. CONCRETE PILING DRIVEN (12" DIA.)	LIN. FT.	300
STRUCTURE EXCAVATION	LUMP SUM	1
BENCHMARK	EACH	1
DOWEL BAR ASSEMBLIES	EACH	23

- ① COMPUTED QUANTITY = 220 CU. YD. FOR INFORMATIONAL PURPOSES ONLY. SEE SPECIAL PROVISIONS.
- ② SEE SPECIAL PROVISIONS.
- ③ TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS.
- ④ STATE WILL FURNISH DISK. PAYMENT FOR PLACING TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS. SEE STANDARD PLATE NO. 9301B FOR PLACING OF DISK IN CONCRETE.

COMPUTED PILE LOAD (TONS PER PILE)

LOCATION	DEAD LOAD + EARTH PRESSURE	LIVE LOAD	TOTAL
ABUTMENTS	20.0	36.0	56.0

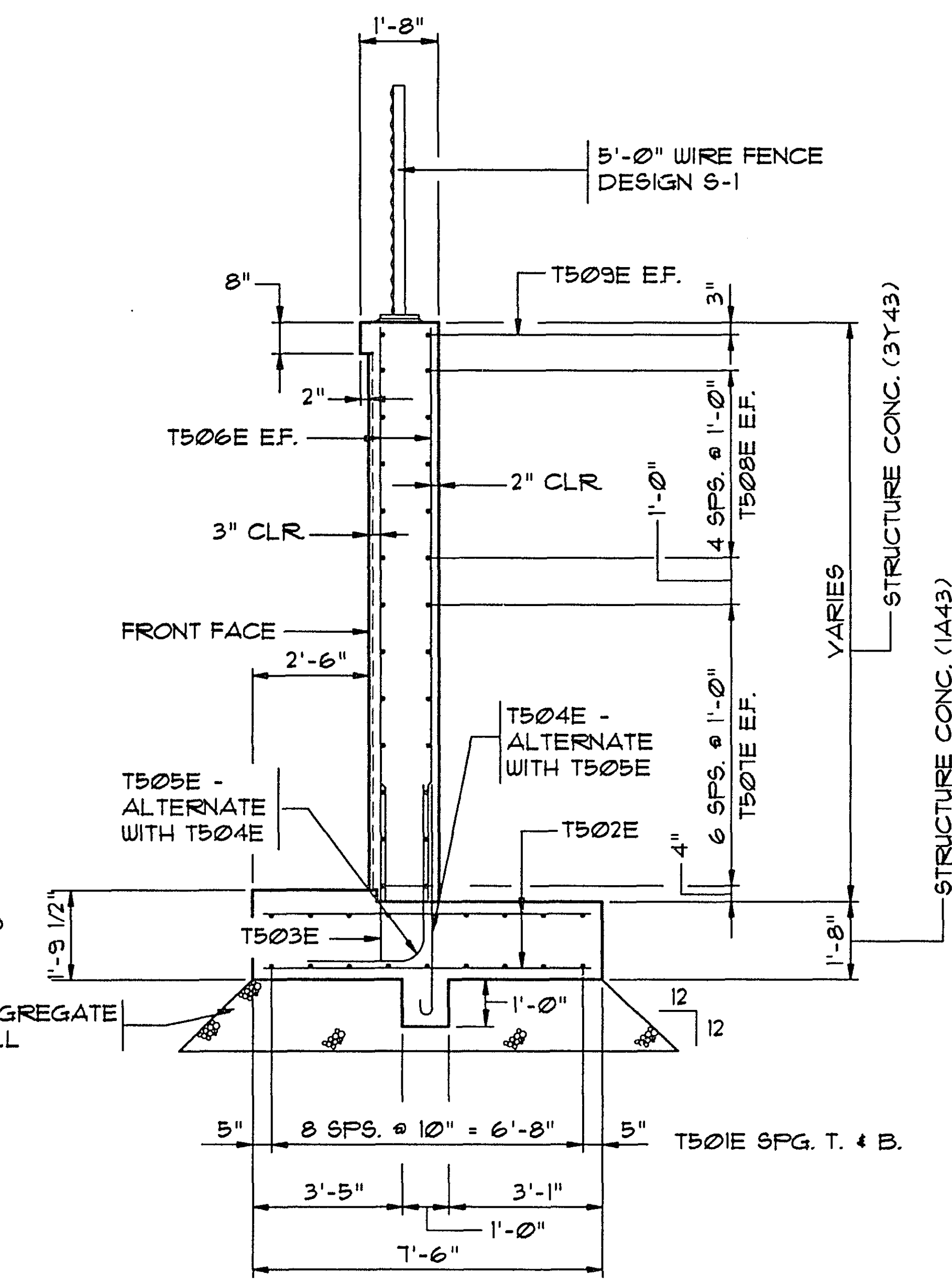
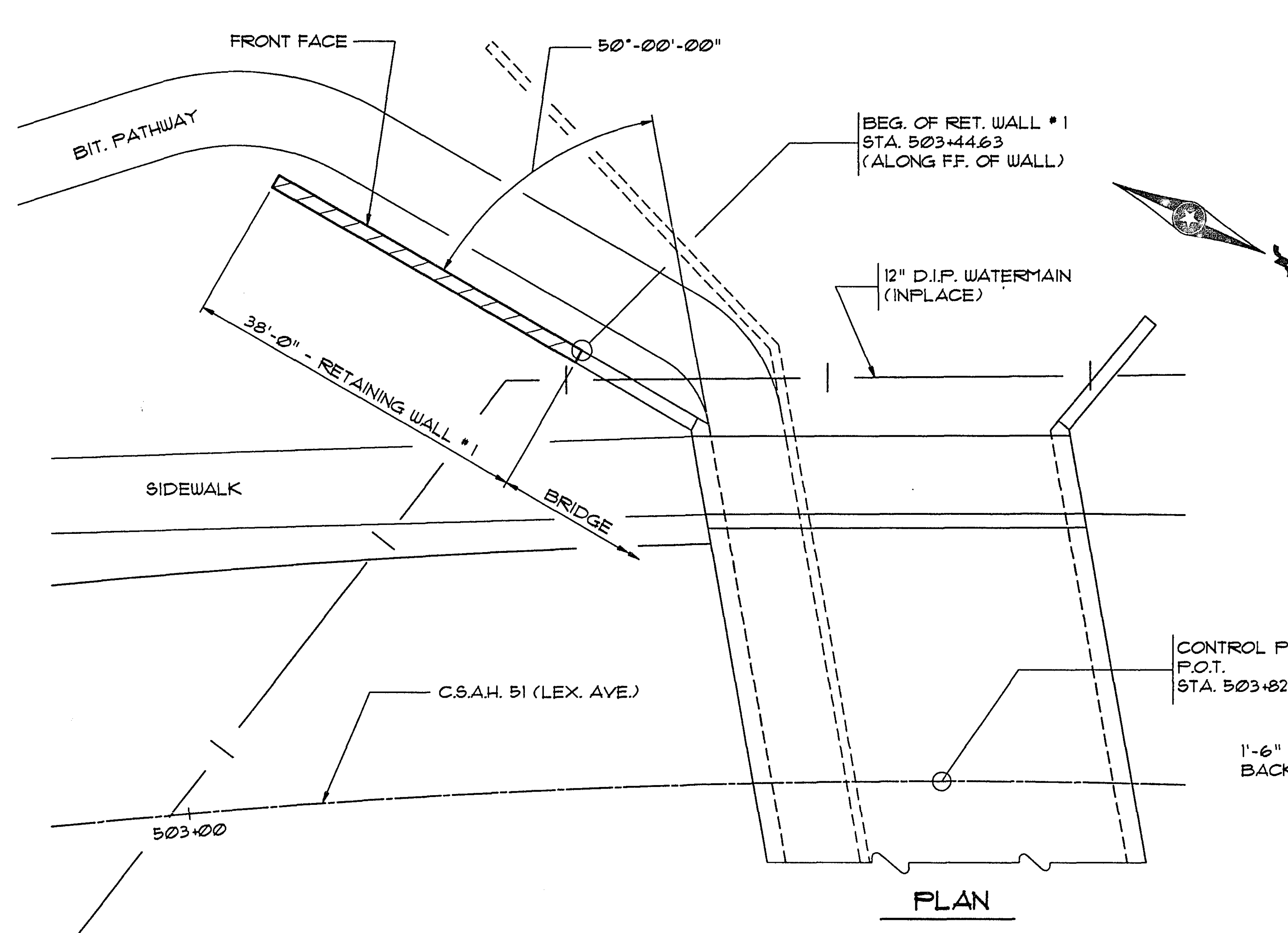
28-125

S.P. 62-651-27



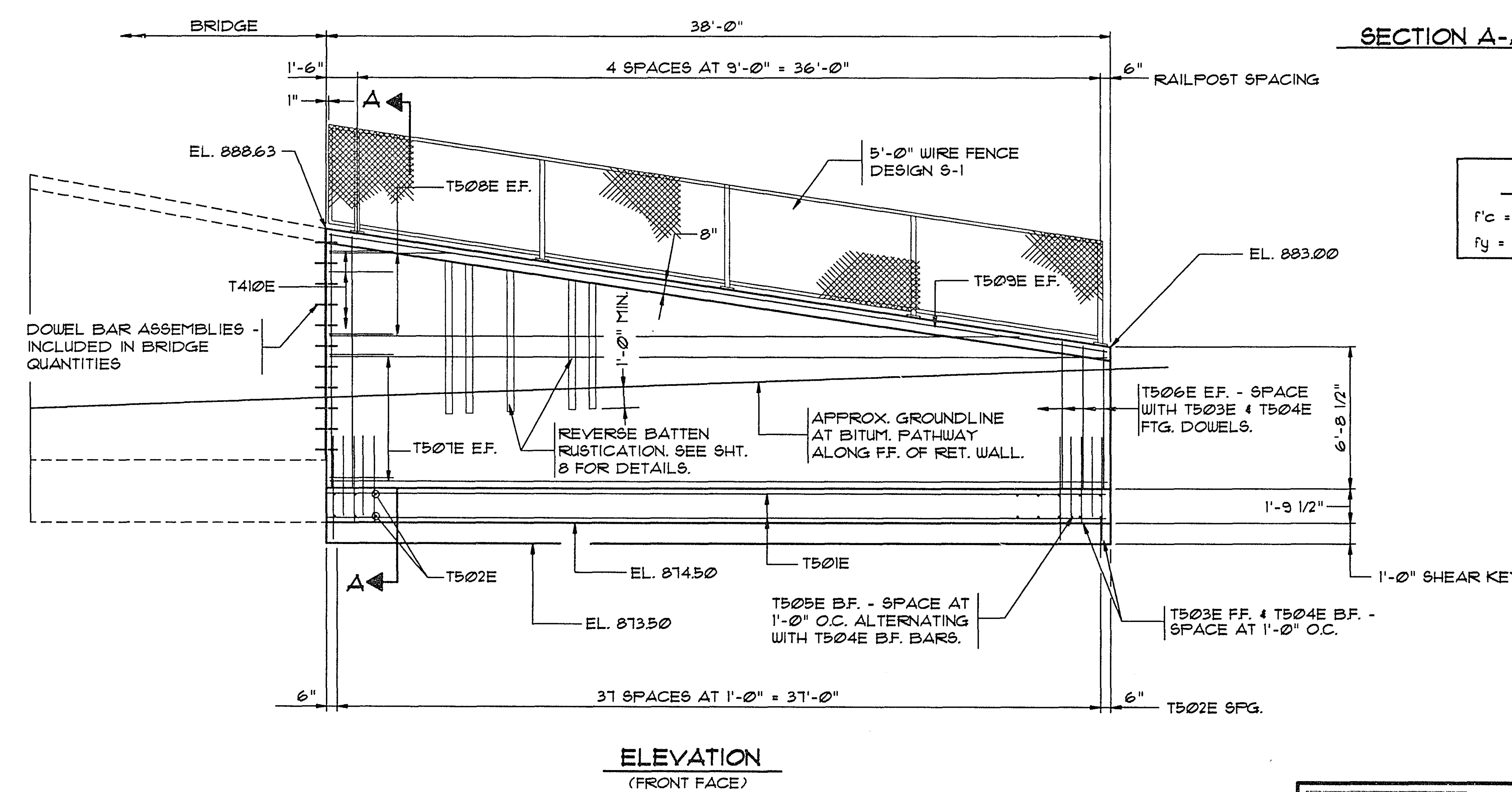
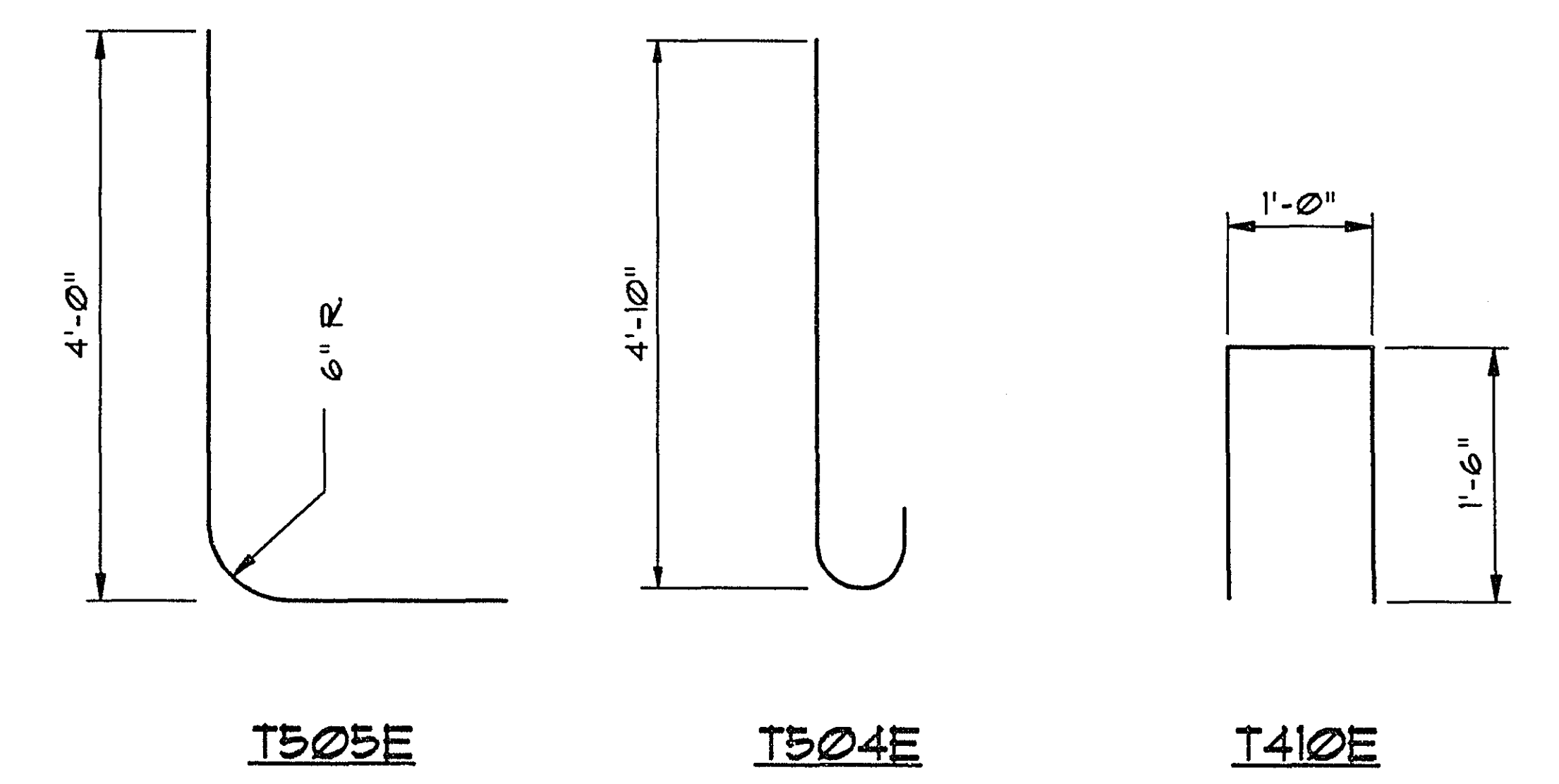
SOUTH ABUTMENT
REINFORCEMENT

DES: MKM	DRW: DJV	APPROVED: 12-7-92	BRIDGE NO. 62566
CHK: SA	CHK: MKM		
SHEET NO. 6 OF 22 SHEETS			



BILL OF REINFORCEMENTS - RET. WALL # 1				
MARK	NO.	LENGTH	SHAPE	LOCATION
T501E	18	37'-6"	STR	FOOTING - LONGIT.
T502E	16	7'-0"	STR	FOOTING - TRANSVERSE
T503E	38	4'-0"	STR	FOOTING - DOWELS
T504E	38	5'-5"	BENT	FOOTING - DOWELS
T505E	37	7'-0"	BENT.	FOOTING - DOWELS
T506E	16	(1)	STR	STEM - VERT.
T507E	14	37'-8"	STR	STEM - HORZ.
T508E	10	(2)	STR	STEM - HORZ.
T509E	2	38'-0"	STR	STEM - HORZ.
T410E	13	4'-0"	BENT	STEM - HORZ.

- (1) 2 SER. OF 38 BARS (6'-6" TO 12'-2")
 (2) 2 SER. OF 5 BARS (6'-0" TO 33'-5")



DESIGN DATA
 $f'_c = 4000$ P.S.I. $N = 8$
 $f_y = 60,000$ P.S.I. REINFORCEMENT

ASBUILT PLAN
 CONFORMING TO
 CONST. RECORDS
 DONE BY: *[Signature]*
 DATE: 12-17-93

SUMMARY OF QUANTITIES - RET. WALL # 1		
ITEM	UNIT	QUANTITY
STRUCTURE CONCRETE (1A43)	CU. YD.	20
STRUCTURE CONCRETE (3Y43)	CU. YD.	21
REINFORCEMENT BARS (EPOXY COATED)	LB.	3515
3-PLY JOINT WATERPROOFING	LIN. FT.	15
STRUCTURE EXCAVATION	LUMP SUM	1
AGGREGATE BACKFILL (C.V.)	CU. YD.	18
5'-0" WIRE FENCE DESIGN S-1	LIN. FT.	38

(3) QUANTITIES SHOWN HERE ARE FOR INFORMATIONAL PURPOSES ONLY.

CONSTRUCTION NOTES

THE 1988 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" AS AMENDED BY THE JAN. 2, 1991 SUPPLEMENTAL SPECIFICATIONS SHALL GOVERN.

THE FIRST DIGIT OR THE FIRST TWO DIGITS OF EACH BAR MARK INDICATE THE BAR SIZE.

BAR MARKED WITH THE SUFFIX "E" SHALL BE EPOXY COATED.

REINFORCEMENT BARS SHALL BE DEFORMED BILLET STEEL BARS CONFORMING TO ASTM A615 GRADE 60.

CONSTRUCTION TO BE IN ACCORDANCE WITH SPEC. 2411, EXCEPT AS NOTED OTHERWISE.

INPLACE SOILS SHALL BE REQUIRED TO SUPPORT A BASE PRESSURE OF 3000 POUNDS PER SQ. FT. UNDER FOOTING. 1'-6" MIN. AGGREGATE BACKFILL REQUIRED UNDER FOOTING.

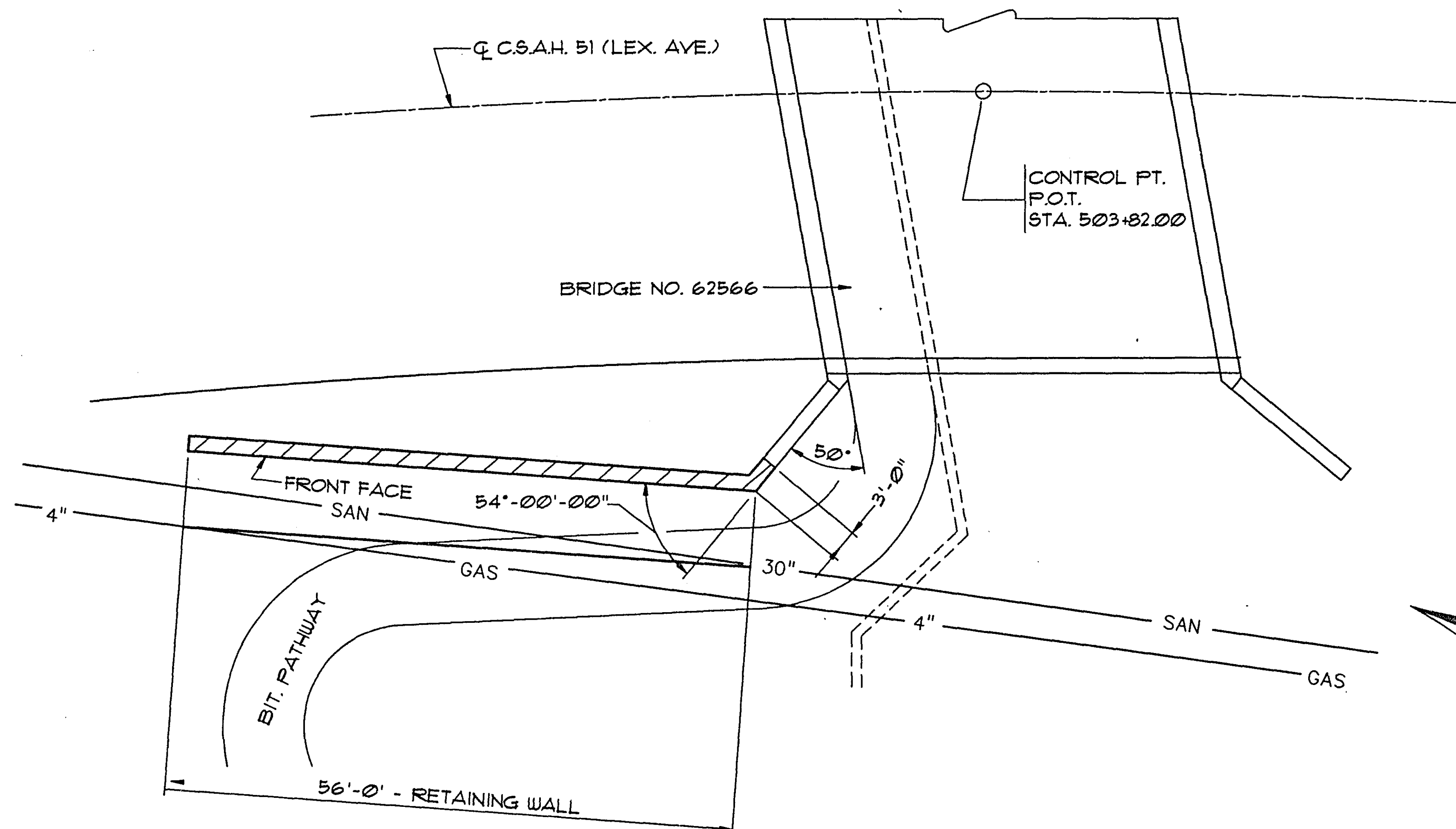
28-125

S.P. 62-651-27

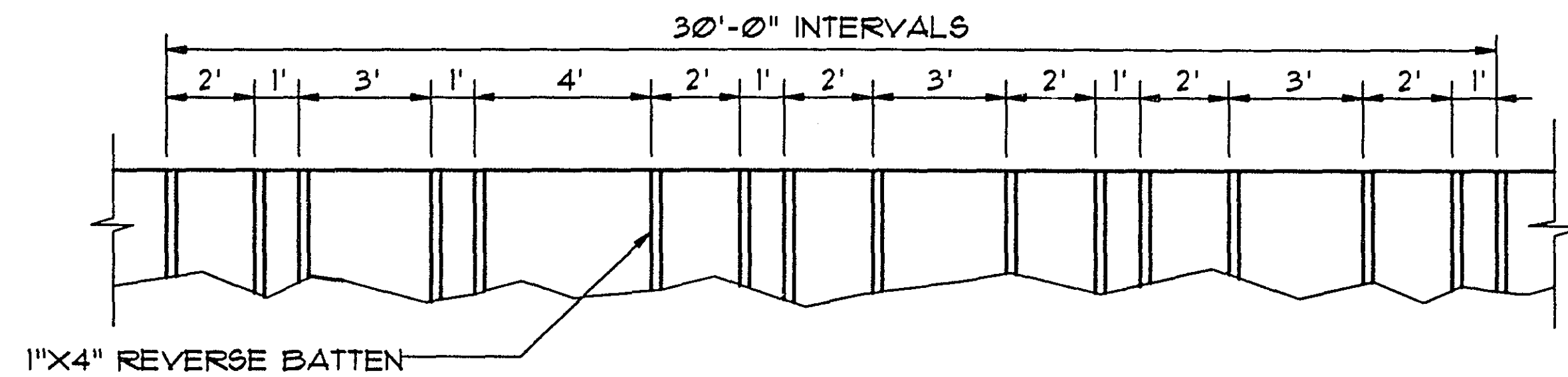
BRW
 ENGINEERING
 TRANSPORTATION
 PLANNING
 URBAN DESIGN
 BRW INC. 700 THIRD STREET SOUTH, MINNEAPOLIS, MN 55415

RETAINING WALL #1
DETAILS & REINF.

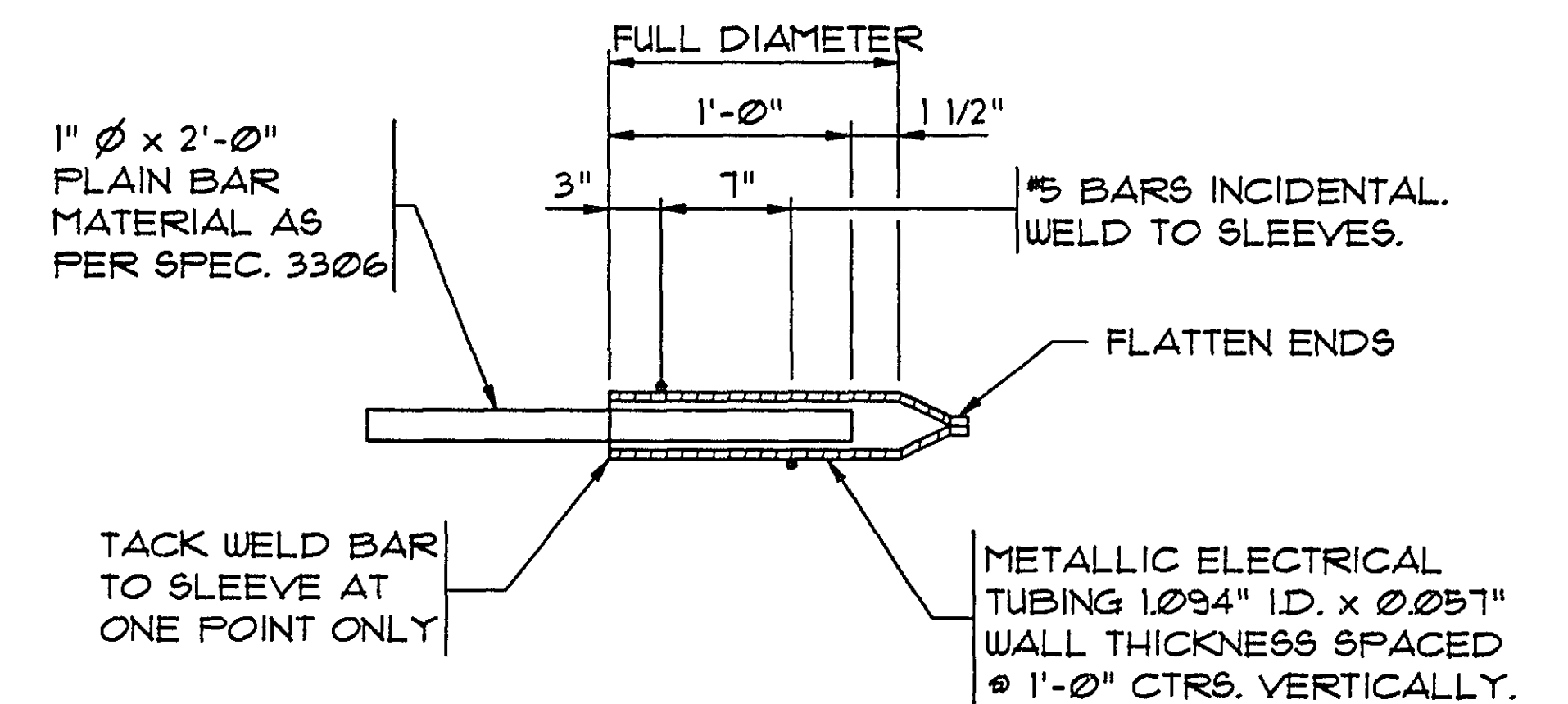
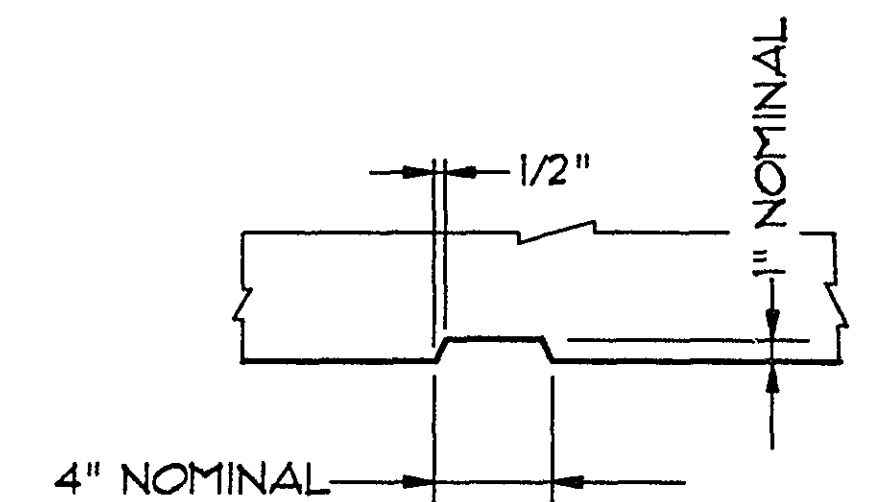
DES: DJV	DRW: DJV	APPROVED:
CHK: MKM	CHK: MKM	12-7-92
SHEET NO. 1 OF 22 SHEETS		



PLAN

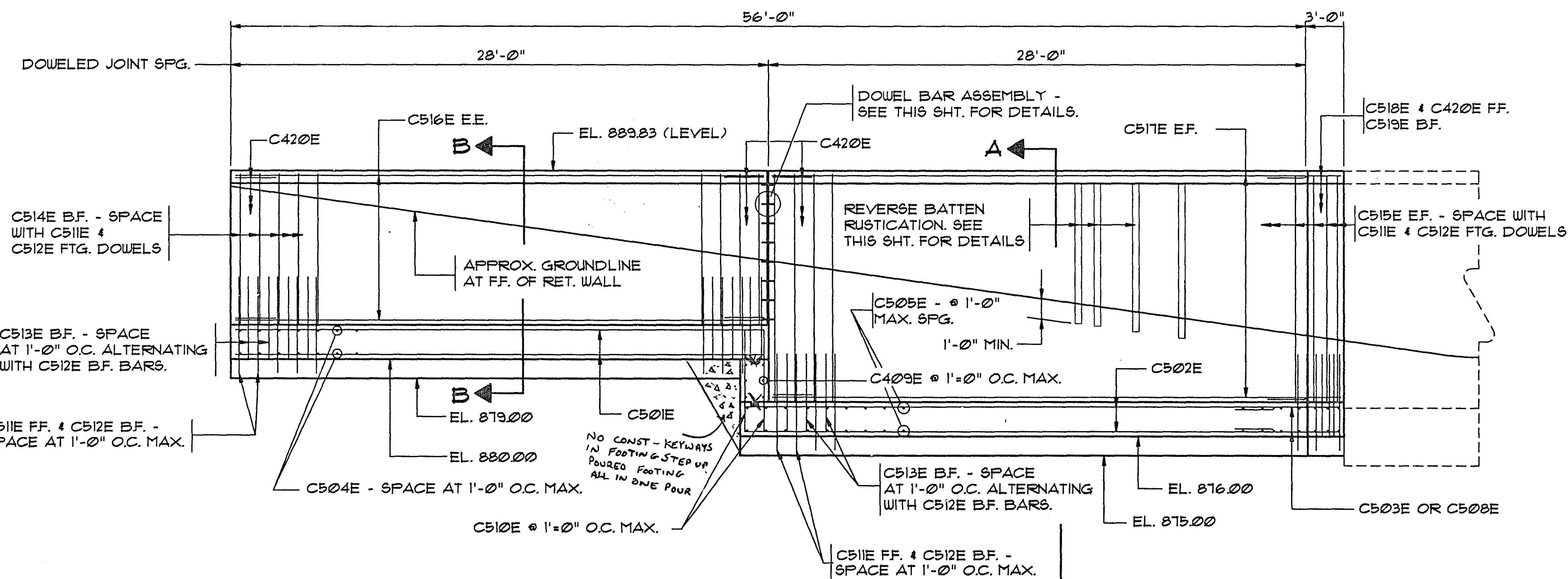


RUSTICATION DETAILS

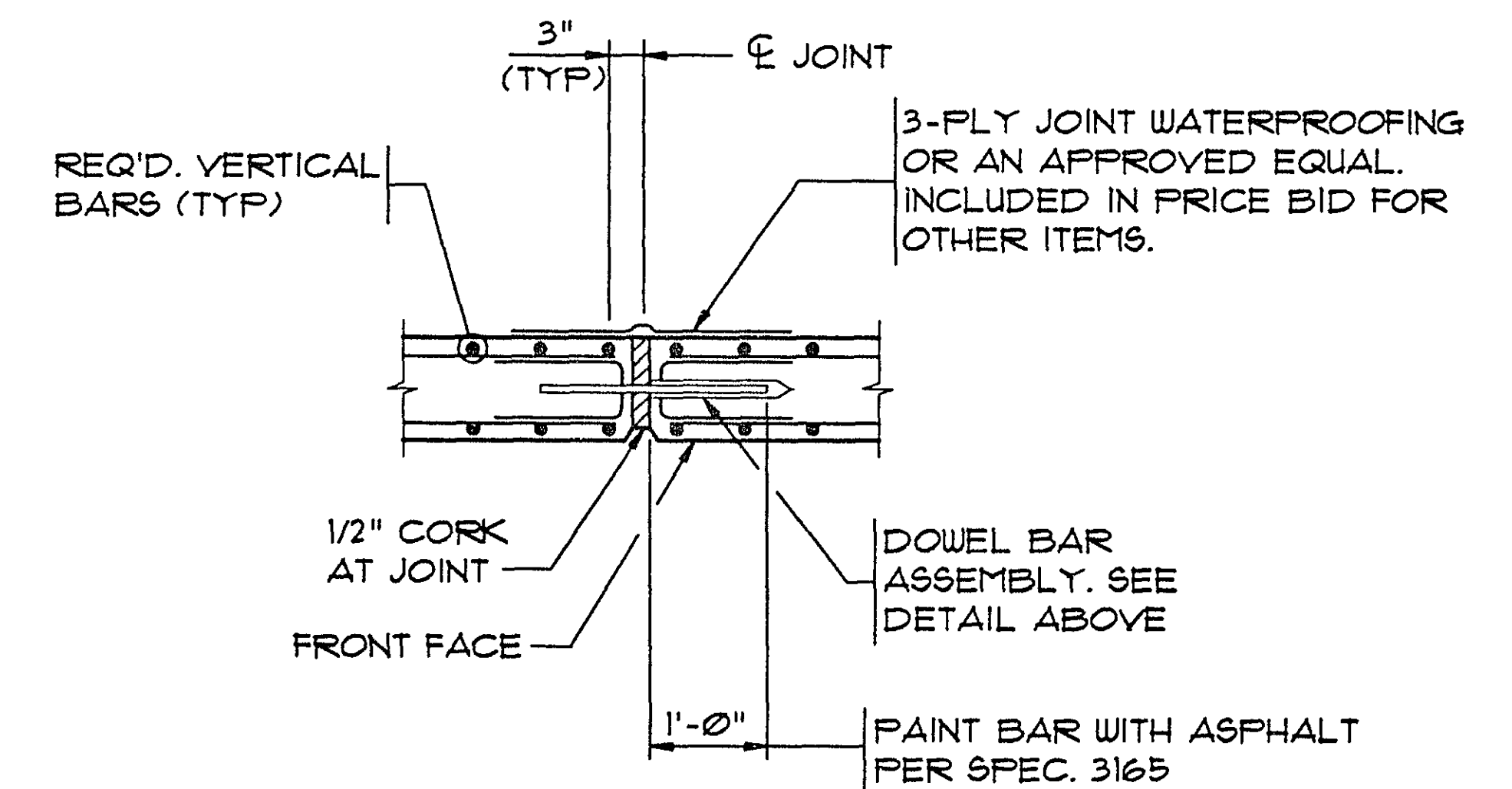


DOWEL BAR ASSEMBLY

MATERIAL AND PLACING TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS



ELEVATION
(FRONT FACE)



CORK SHALL COMPLY WITH SPEC. 3702. SECURE CORK WITH 2 1/2" LONG 11 GA. COPPER NAILS ABOUT 18" CTRS. CORK AND NAILS INCLUDED IN PRICE BID FOR OTHER ITEMS.

TYPICAL SECTION THRU
CORK AND DOWEL JOINT

NOTE:
SEE SHT. 9 FOR SECTIONS A-A & B-B
AND REINFORCEMENT DETAILS.

28-125

S.P. 62-651-27



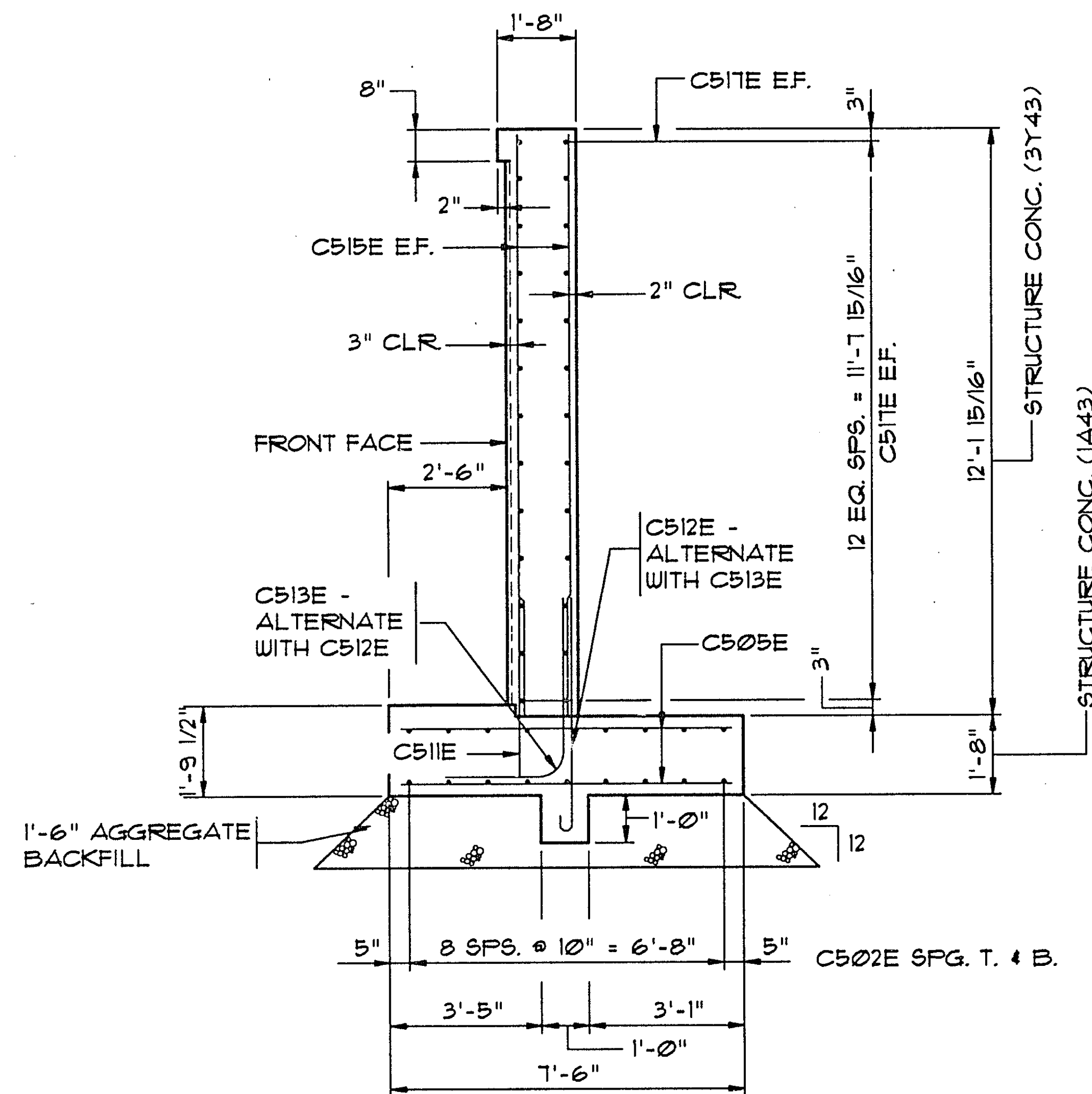
RETAINING WALL # 2
DETAILS

DES: DJV	DRW: DJV	APPROVED: 12-7-92
CHK: MKM	CHK: MKM	
SHEET NO. 8 OF 22 SHEETS		

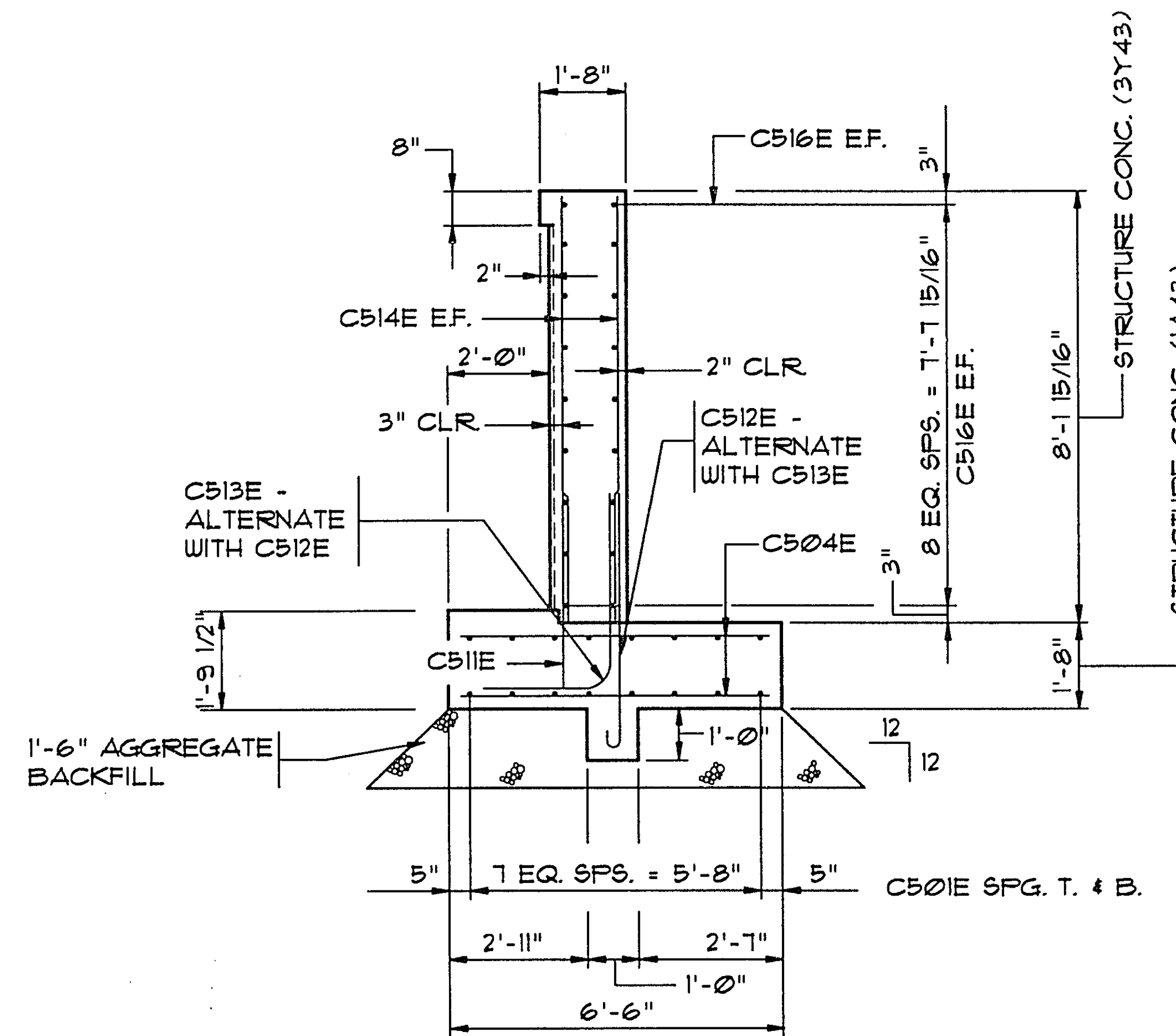
BRIDGE NO.

BILL OF REINFORCEMENTS - RET. WALL # 2

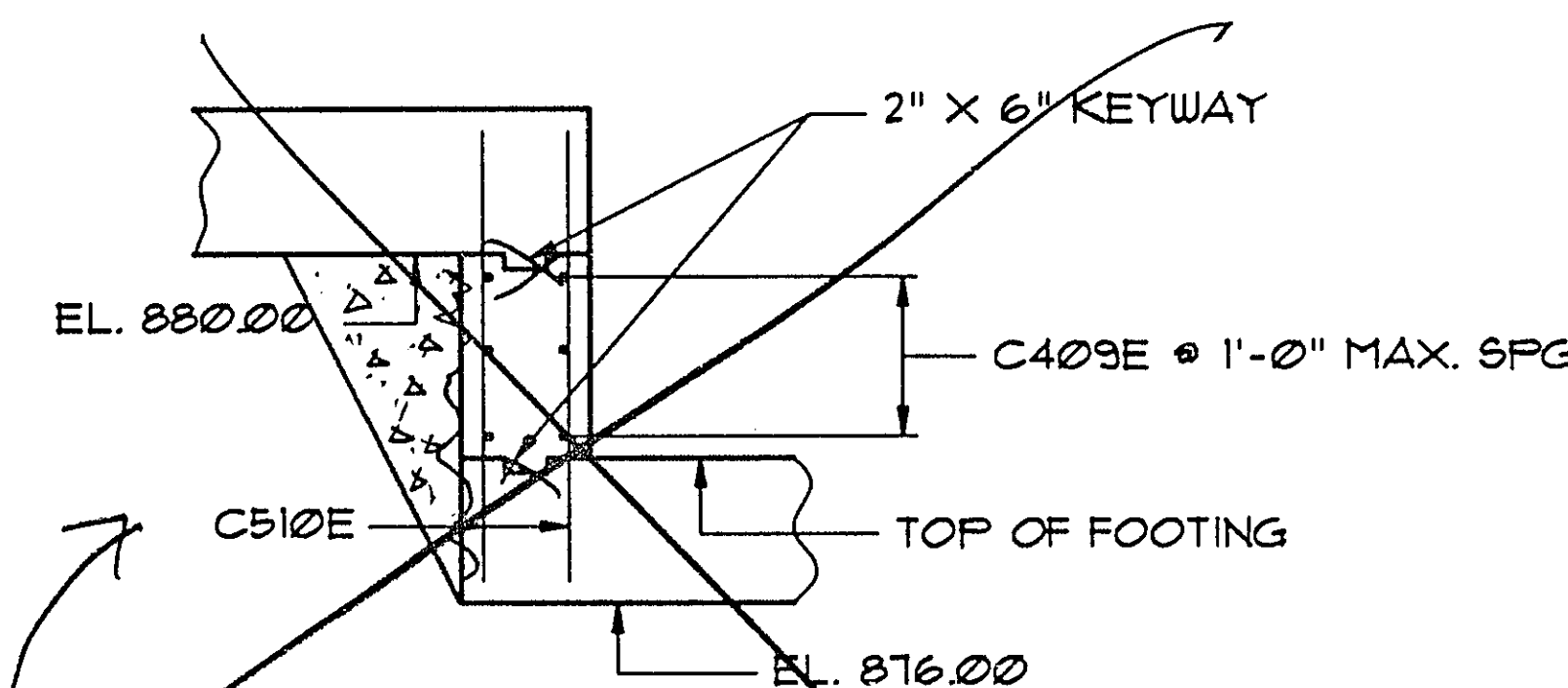
MARK	NO.	LENGTH	SHAPE	LOCATION
C501E	16	27'-6"	STR	FOOTING - LONGIT.
C502E	18	27'-9"	STR	FOOTING - LONGIT.
C503E	2	8'-9"	BENT	FOOTING - LONGIT.
C504E	56	6'-0"	STR	FOOTING - TRANSV.
C505E	58	7'-0"	STR	FOOTING - TRANSV.
C506E	4	7'-2"	STR	FOOTING - TRANSV.
C507E	4	7'-7"	STR	FOOTING - TRANSV.
C508E	14	7'-0"	STR	FOOTING - LONGIT. @ ENDS
C409E	6	6'-0"	STR	FOOTING - @ STEP
C510E	14	5'-0"	STR	FOOTING - @ STEP
C511E	59	4'-0"	STR	FOOTING - DOWELS
C512E	59	5'-5"	BENT	FOOTING - DOWELS
C513E	58	7'-0"	BENT	FOOTING - DOWELS
C514E	56	7'-11"	STR	STEM - VERTICAL
C515E	62	11'-11"	STR	STEM - VERTICAL
C516E	18	27'-8"	STR	STEM - HORZ.
C517E	26	27'-10"	STR	STEM - HORZ.
C518E	13	5'-10"	BENT	STEM - HORZ.
C519E	13	6'-6"	BENT	STEM - HORZ.
C420E	44	4'-0"	BENT	STEM - HORZ.



SECTION A-A

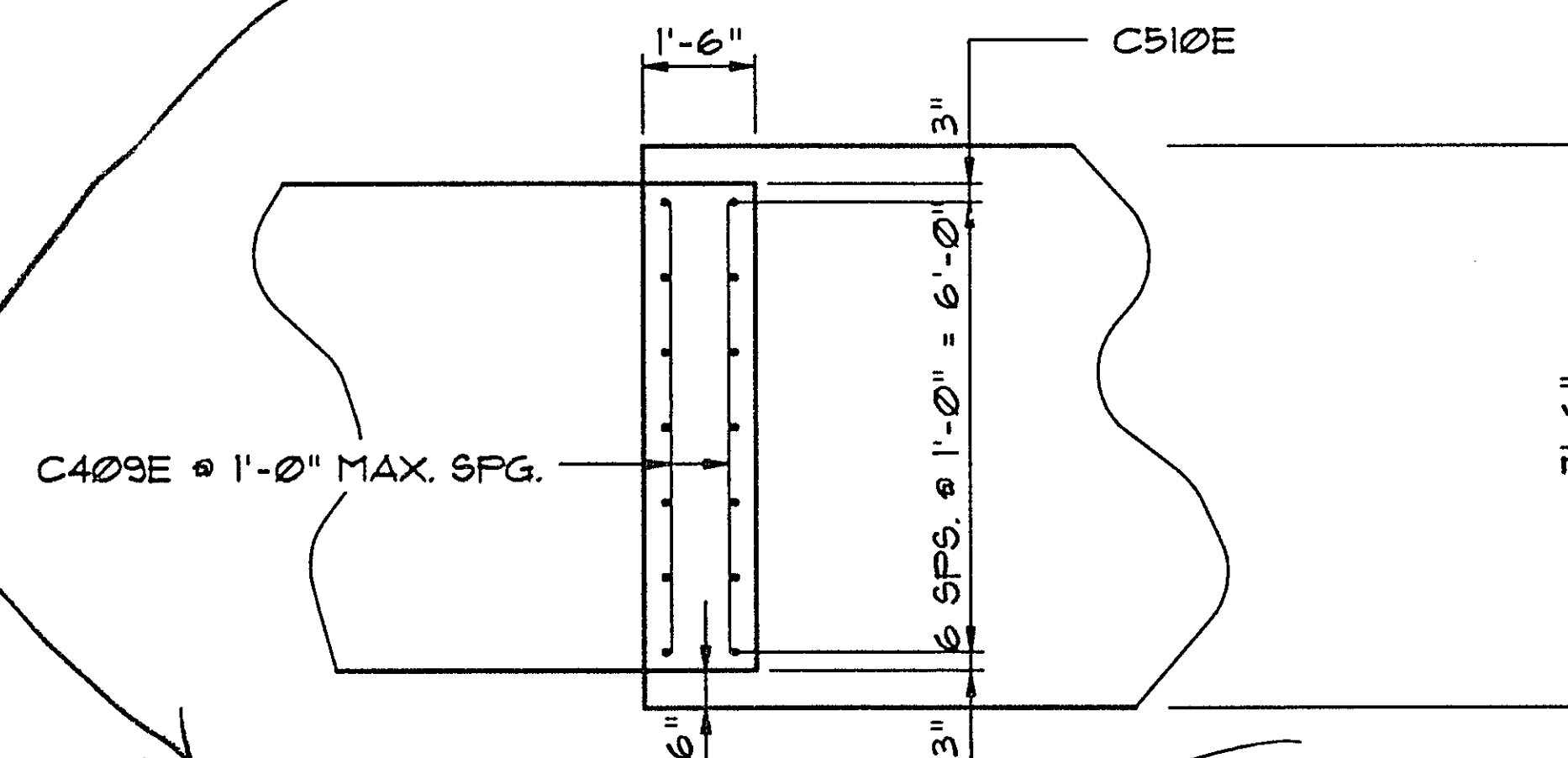


SECTION B-B



ELEVATION OF FOOTING STEP

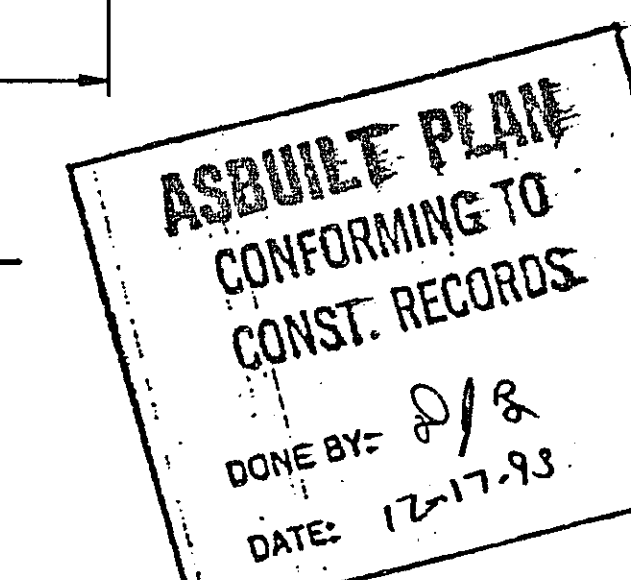
POURED ALL IN ONE POUR (RE-BAR STILL AS PLANNED)



PLAN VIEW OF FOOTING STEP

DESIGN DATA

$f'_c = 4000$ P.S.I. $N = 8$
 $f_y = 60,000$ P.S.I. REINFORCEMENT



SUMMARY OF QUANTITIES - RET. WALL # 2

ITEM	UNIT	QUANTITY
STRUCTURE CONCRETE (1A43)	CU. YD.	30
STRUCTURE CONCRETE (3Y43)	CU. YD.	34
REINFORCEMENT BARS (EPOXY COATED)	LB.	5830
3-PLY JOINT WATERPROOFING	LIN. FT.	25
STRUCTURE EXCAVATION	LUMP SUM	1
AGGREGATE BACKFILL (C.V.)	CU. YD.	30
DOWEL BAR ASSEMBLIES	EACH	8

③ QUANTITIES SHOWN HERE ARE FOR INFORMATIONAL PURPOSES ONLY.

CONSTRUCTION NOTES

THE 1988 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" AS AMENDED BY THE JAN. 2,1991 SUPPLEMENTAL SPECIFICATIONS SHALL GOVERN.

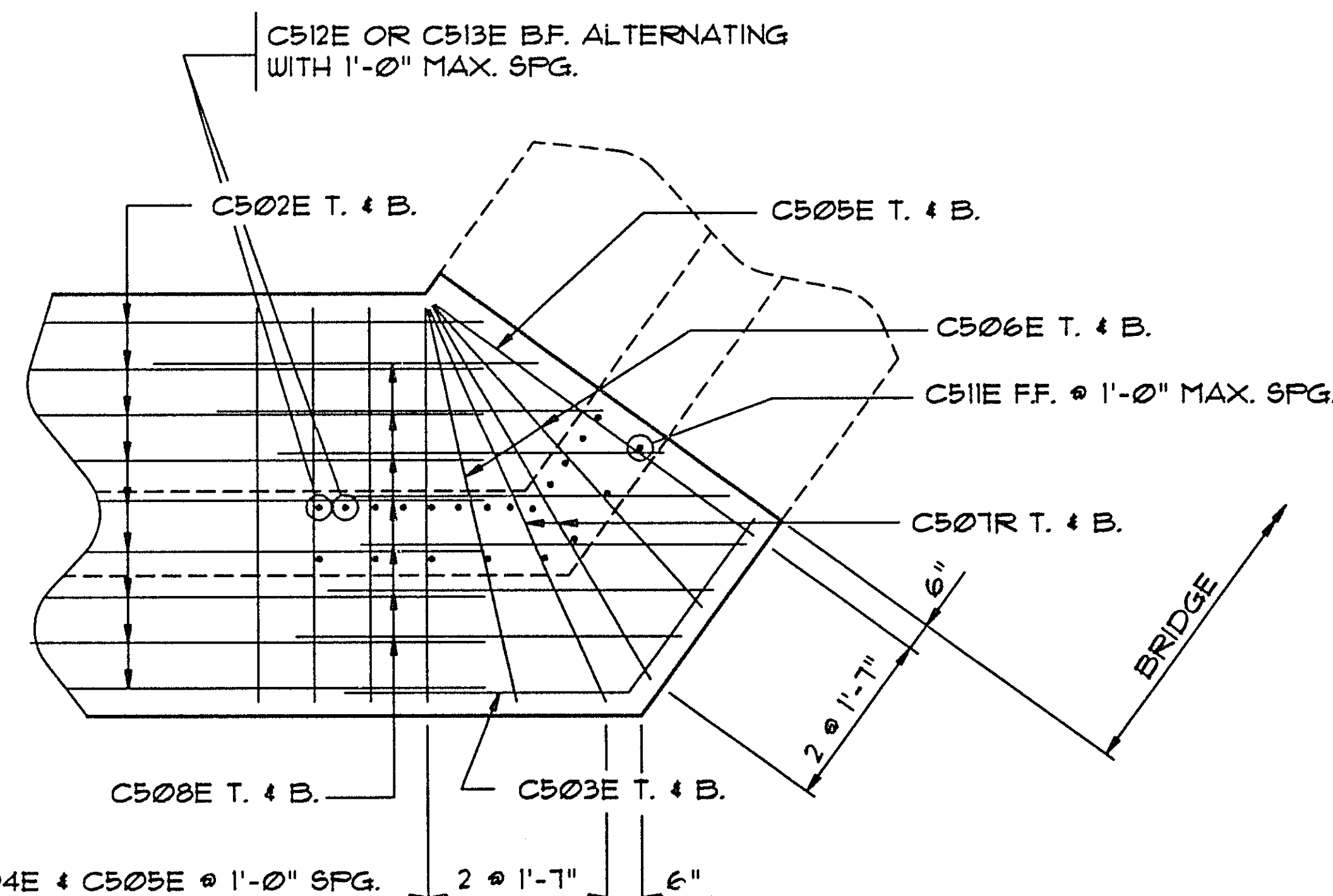
THE FIRST DIGIT OR THE FIRST TWO DIGITS OF EACH BAR MARK INDICATE THE BAR SIZE.

BARs MARKED WITH THE SUFFIX "E" SHALL BE EPOXY COATED.

REINFORCEMENT BARS SHALL BE DEFORMED BILLET STEEL BARS CONFORMING TO ASTM A615 GRADE 60.

CONSTRUCTION TO BE IN ACCORDANCE WITH SPEC. 2411, EXCEPT AS NOTED OTHERWISE.

INPLACE SOILS SHALL BE REQUIRED TO SUPPORT A BASE PRESSURE OF 3000 POUNDS PER SQ. FT. UNDER FOOTING. 1'-6" MIN. AGGREGATE BACKFILL REQUIRED UNDER FOOTING.



FOOTING CORNER REINFORCEMENT

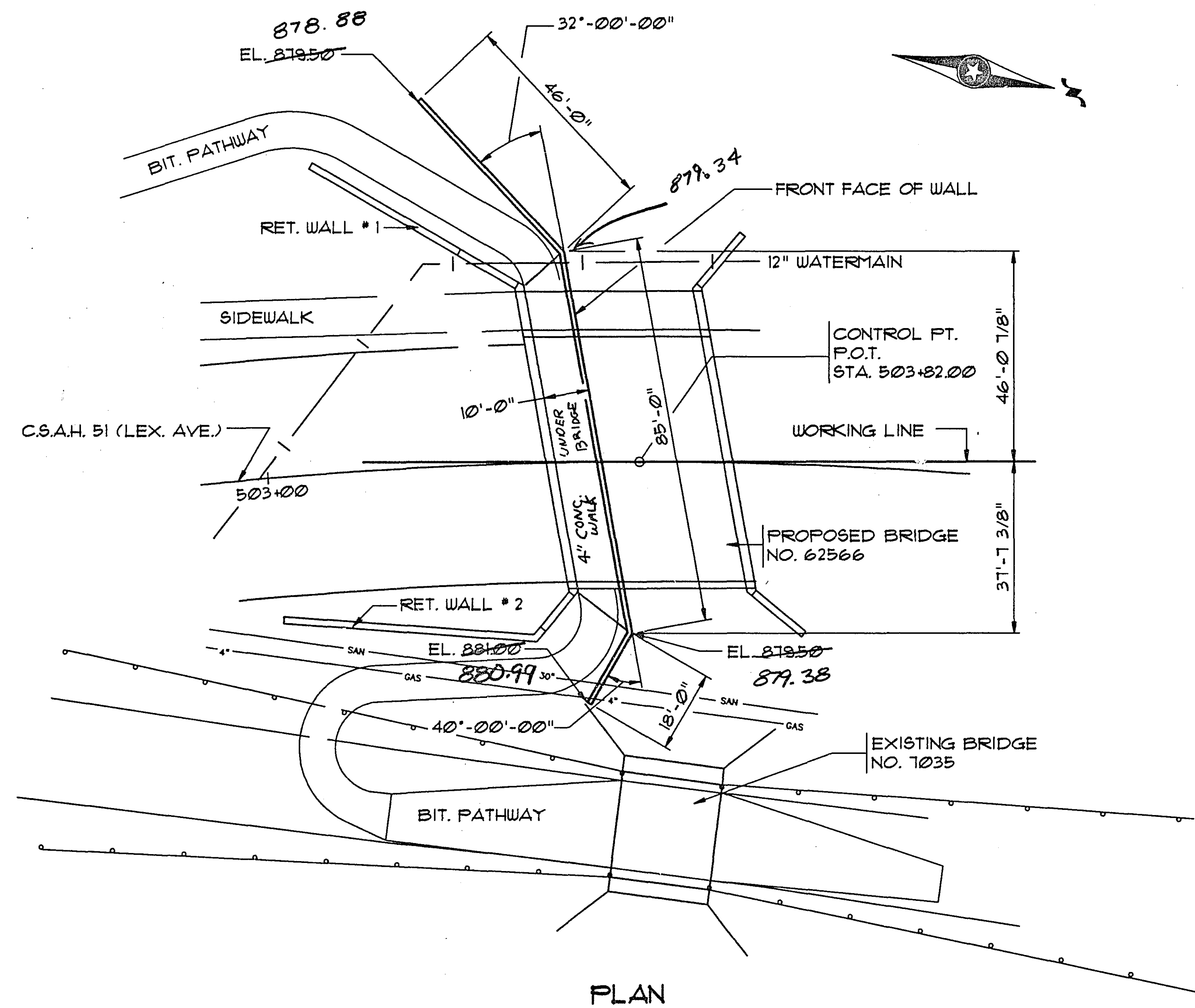


ENGINEERING
TRANSPORTATION
PLANNING
URBAN DESIGN

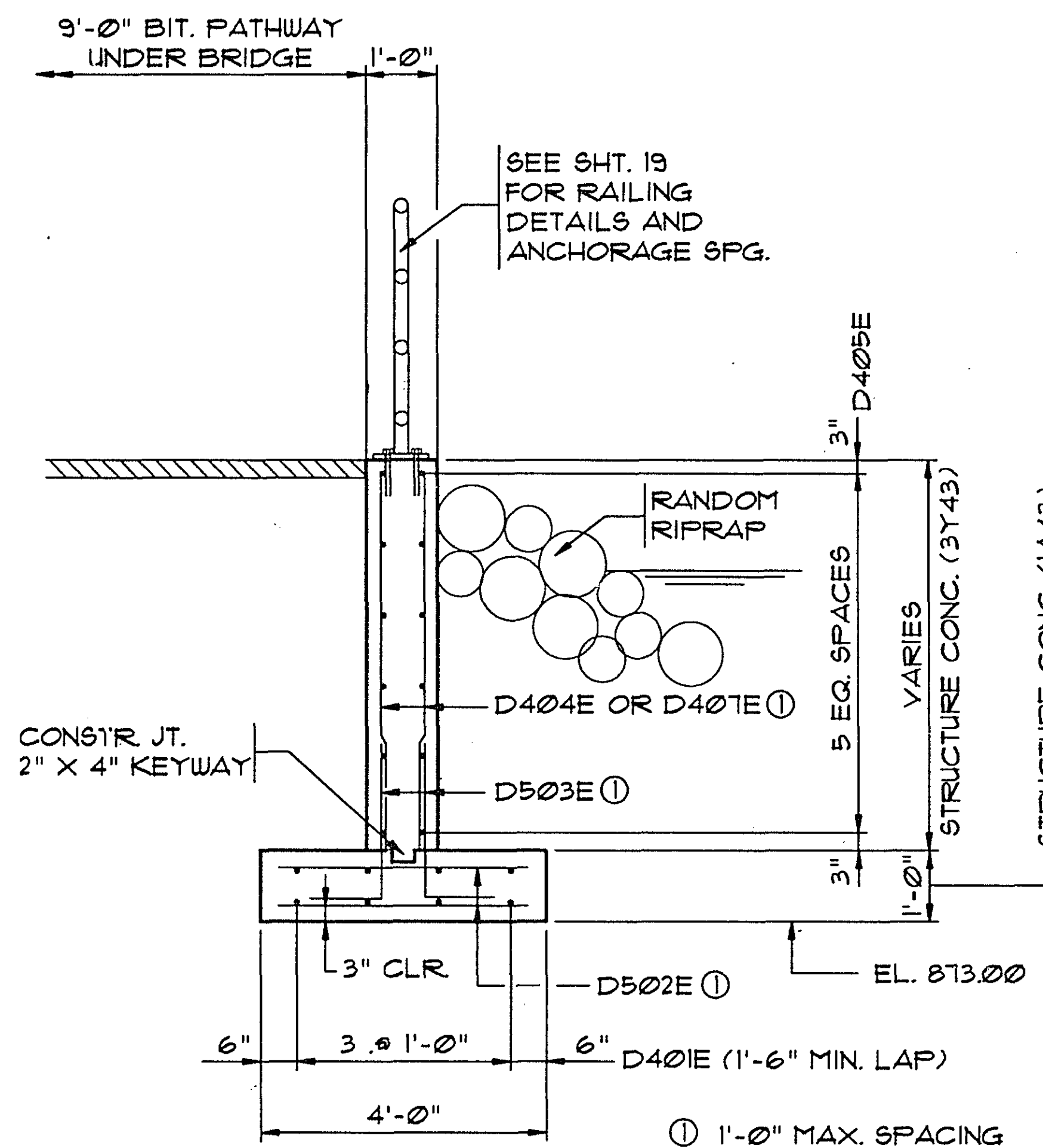
BRW INC. 700 THIRD STREET SOUTH, MINNEAPOLIS, MN 55415

RETAINING WALL # 2 REINFORCEMENT

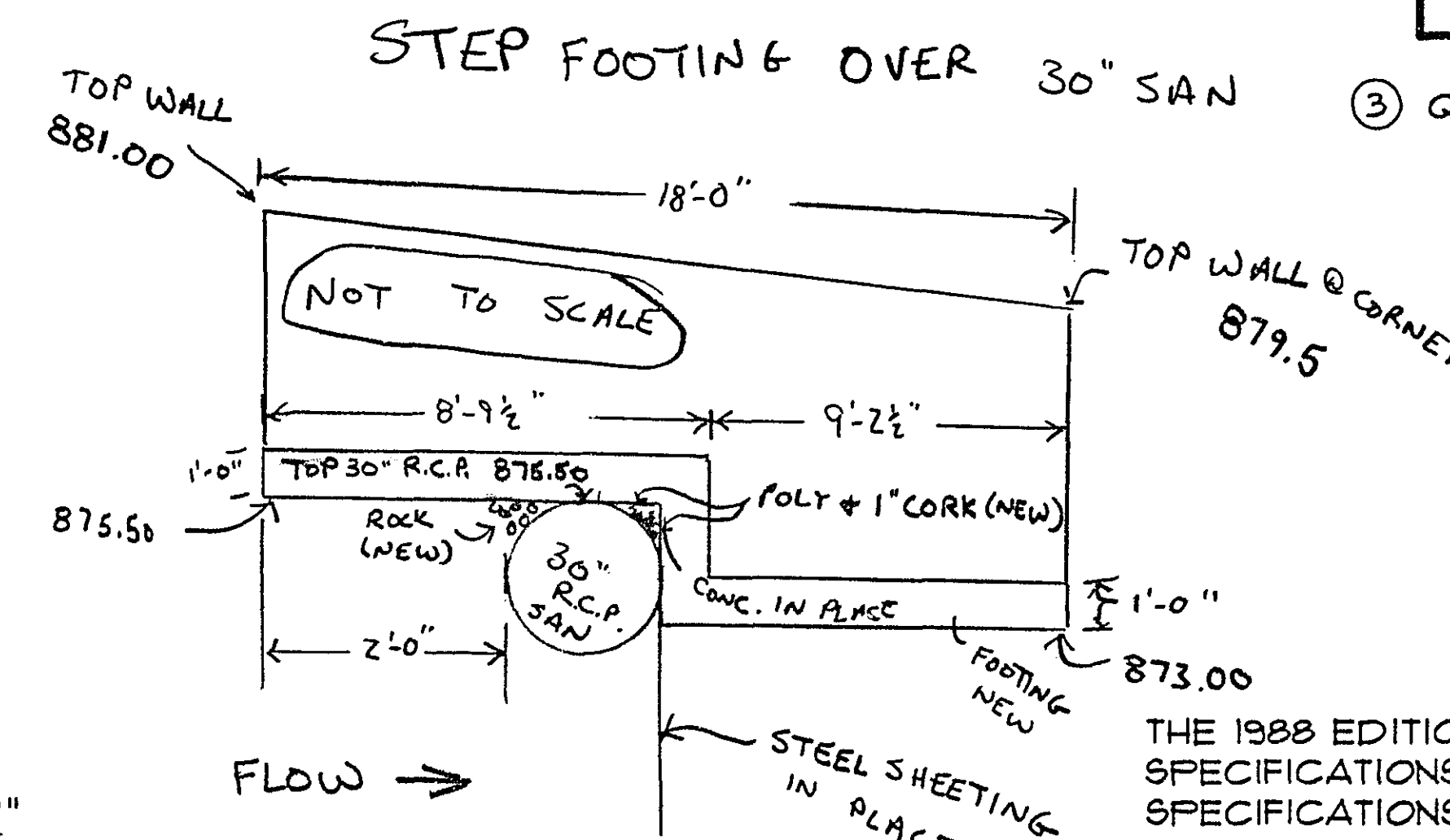
DES: DJV	DRW: DJV	APPROVED: 12-7-92
CHK: MKM	CHK: MKM	
SHEET NO. 9 OF 22 SHEETS		



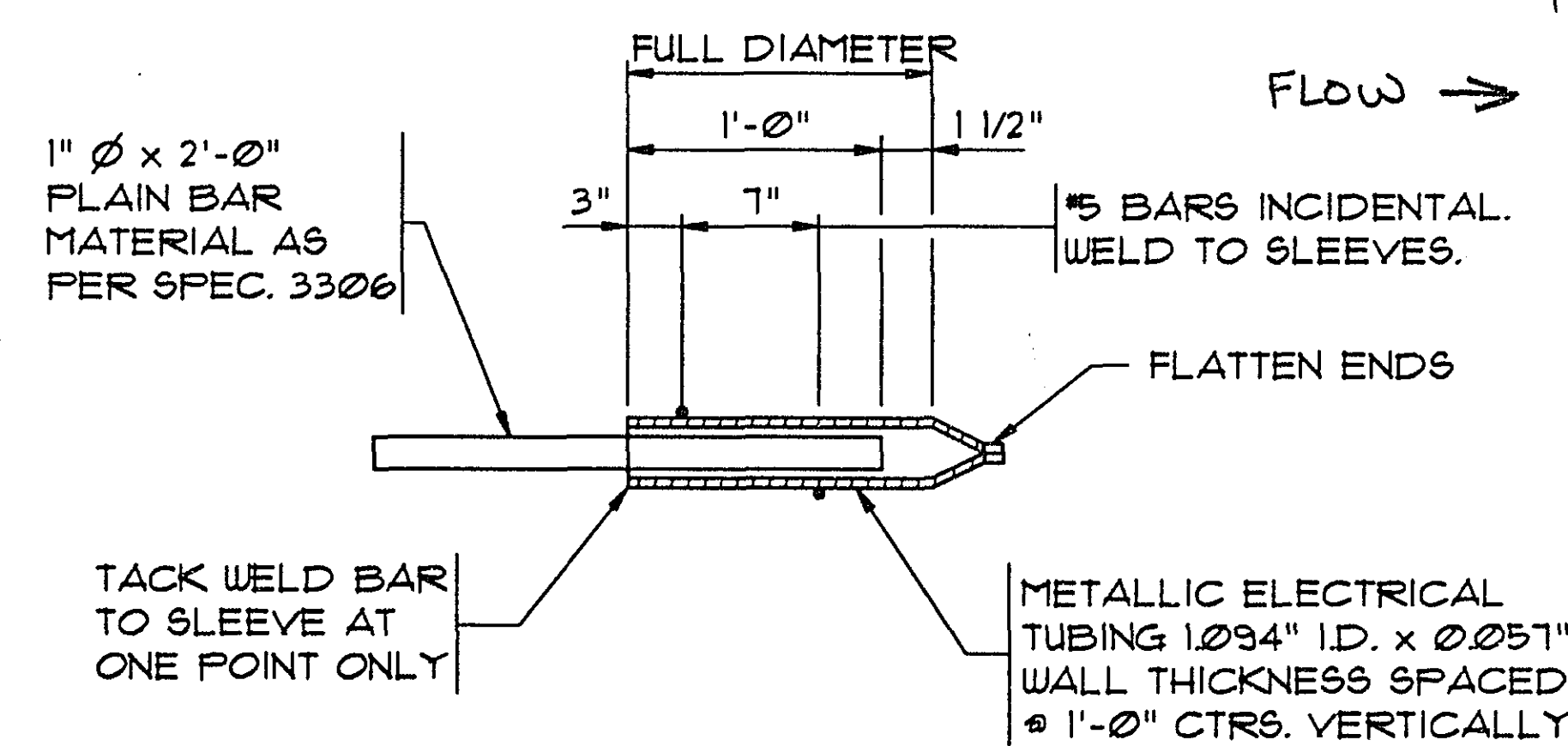
PLAN



TYPICAL SECTION THRU RETAINING WALL



FLOW →



DOWEL BAR ASSEMBLY

MATERIAL AND PLACING TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS

BILL OF REINFORCEMENT - RET. WALL # 3

MARK	NO.	LENGTH	SHAPE	LOCATION
D401E	32	38'-6"	STR	FOOTING - LONGIT.
D502E	300	3'-6"	STR	FOOTING - TRANSVERSE
D503E	300	2'-10"	BENT	FOOTING - DOWELS
D404E	262	5'-3"	STR	STEM - VERT.
D405E	60	29'-6"	STR	STEM - HORZ.
D406E	48	4'-0"	BENT	STEM - HORZ. AT JOINTS
D407E	38	(2)	STR	STEM - VERT.

② 2 SETS OF 19 BARS (5'-3" TO 6'-9")



D503E

D406E

SUMMARY OF QUANTITIES - RET. WALL # 3

ITEM	UNIT	QUANTITY
STRUCTURE CONCRETE (1A43)	CU. YD.	23
STRUCTURE CONCRETE (3Y43)	CU. YD.	31
REINFORCEMENT BARS (EPOXY COATED)	LB.	5190
3-PLY JOINT WATERPROOFING	LIN. FT.	25
STRUCTURE EXCAVATION	LUMP SUM	1
METAL PIPE RAILING	LIN. FT.	186
DOWEL BAR ASSEMBLIES	EACH	24

③ QUANTITIES SHOWN HERE ARE FOR INFORMATIONAL PURPOSES ONLY.

DESIGN DATA

f'c = 4000 P.S.I. N = 8
fy = 60,000 P.S.I. REINFORCEMENT

CONSTRUCTION NOTES

THE 1988 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" AS AMENDED BY THE JAN. 2, 1991 SUPPLEMENTAL SPECIFICATIONS SHALL GOVERN.

THE FIRST DIGIT OR THE FIRST TWO DIGITS OF EACH BAR MARK INDICATE THE BAR SIZE.

BAR MARKED WITH THE SUFFIX "E" SHALL BE EPOXY COATED.

REINFORCEMENT BARS SHALL BE DEFORMED BILLET STEEL BARS CONFORMING TO ASTM A615 GRADE 60.

CONSTRUCTION TO BE IN ACCORDANCE WITH SPEC. 2411, EXCEPT AS NOTED OTHERWISE.

INPLACE SOILS SHALL BE REQUIRED TO SUPPORT A BASE PRESSURE OF 1000 POUNDS PER SQ. FT. UNDER FOOTING.

DOWELED STEM JOINTS SHALL BE SPACED OUT EQUALLY ALONG RETAINING WALL. JOINTS SHALL NOT EXCEED 32'-0" SPACING. REINFORCEMENT SHALL NOT EXTEND THRU JOINTS.

METAL RAILING SHALL ALSO EXTEND UP EXISTING BRIDGE WINGWALL AND ACROSS BRIDGE DECK. SEE RAILING SHT. 19 FOR DETAILS AND POST SPACING. THIS SHALL BE INCLUDED IN PRICE BID FOR RETAINING WALL # 3.

CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING EXISTING UTILITIES. MINOR ADJUSTMENTS TO RETAINING WALLS MAY BE NECESSARY AT THESE LOCATIONS. THESE ADJUSTMENTS SHALL BE MADE AS DIRECTED BY THE ENGINEER IN THE FIELD.

CORK SHALL COMPLY WITH SPEC. 3702. SECURE CORK WITH 2 1/2" LONG 11 GA. COPPER NAILS ABOUT 18" CTRS. CORK AND NAILS INCLUDED IN PRICE BID FOR OTHER ITEMS.

TYPICAL SECTION THRU CORK AND DOWEL JOINT

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *[Signature]*
DATE: 12-17-93

28-125

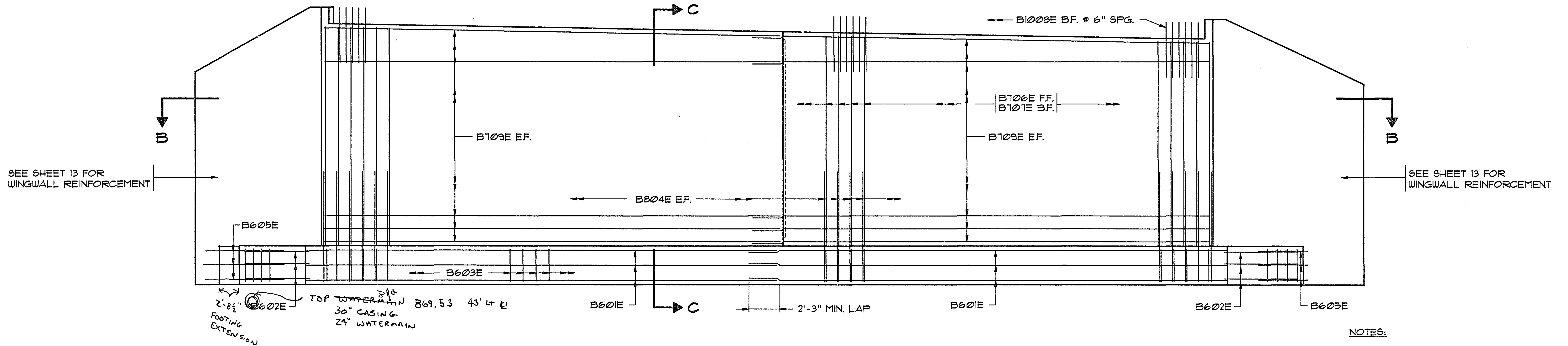
S.P. 62-651-27



RETAINING WALL # 3 DETAILS AND REINF.

DES: DJV	DRW: DJV	APPROVED: 12-7-92
CHK: MKM	CHK: MKM	

SHEET NO. 10 OF 22 SHEETS



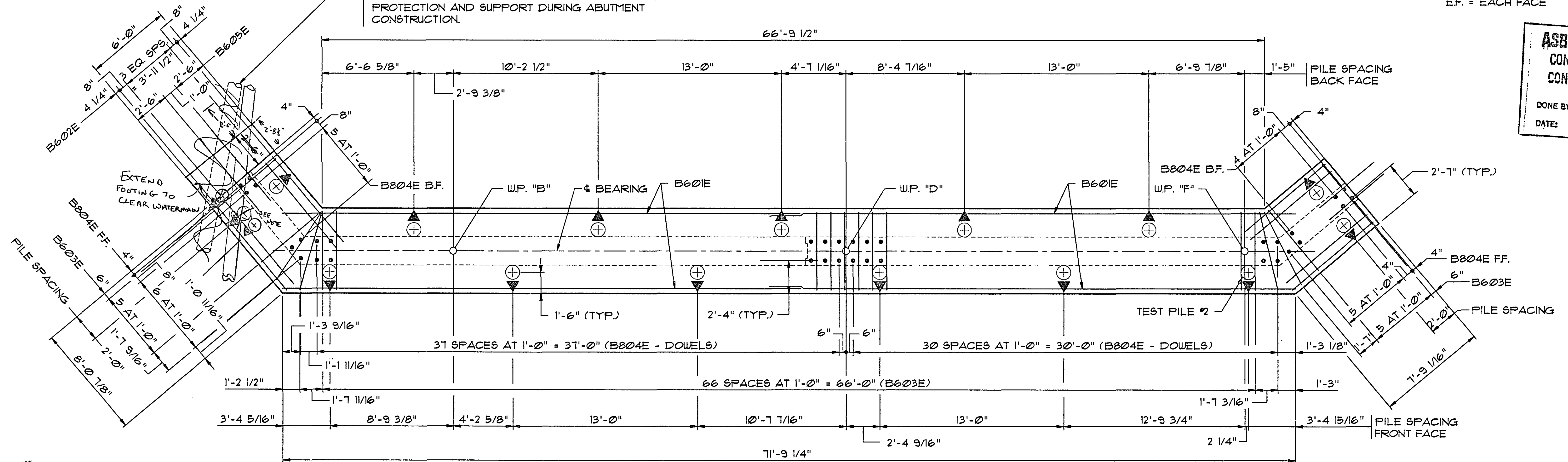
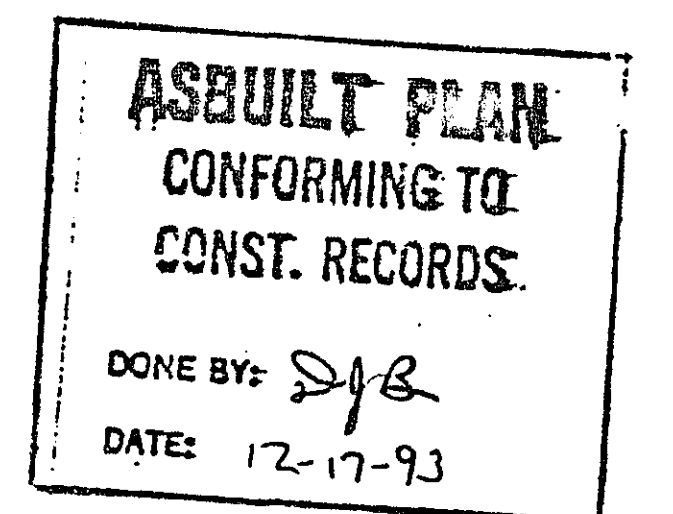
ELEVATION

12" D.I.P. WATERMAIN LOCATION AND ELEVATION SHALL BE VERIFIED BY THE CONTRACTOR. PILE LOCATIONS MAY BE ADJUSTED SLIGHTLY TO MISS WATERMAIN AS DIRECTED BY THE ENGINEER IN THE FIELD. CONTRACTOR IS RESPONSIBLE FOR WATERMAIN PROTECTION AND SUPPORT DURING ABUTMENT CONSTRUCTION.

NOTES:

SEE SHEET 13 FOR SECTION B-B.
SEE SHEET 14 FOR SECTION C-C.
SEE SHEET 14 FOR PILE NOTES
AND LOADING COMPUTATIONS.

FF. = FRONT FACE
BF. = BACK FACE
EF. = EACH FACE



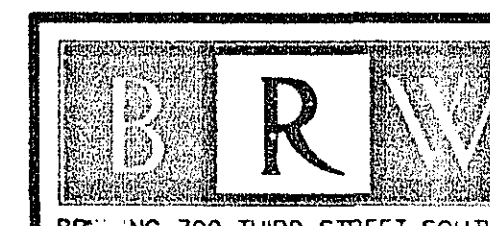
FOOTING PLAN

* ADJUSTED PILE TO S.E. 2' ± +
ADDED PILE UNDER FOOTING EXTENSION
TO STRATTLER WATERMAIN

WATERMAIN 43' LT ±

ZB-125

S.P. 62-651-27

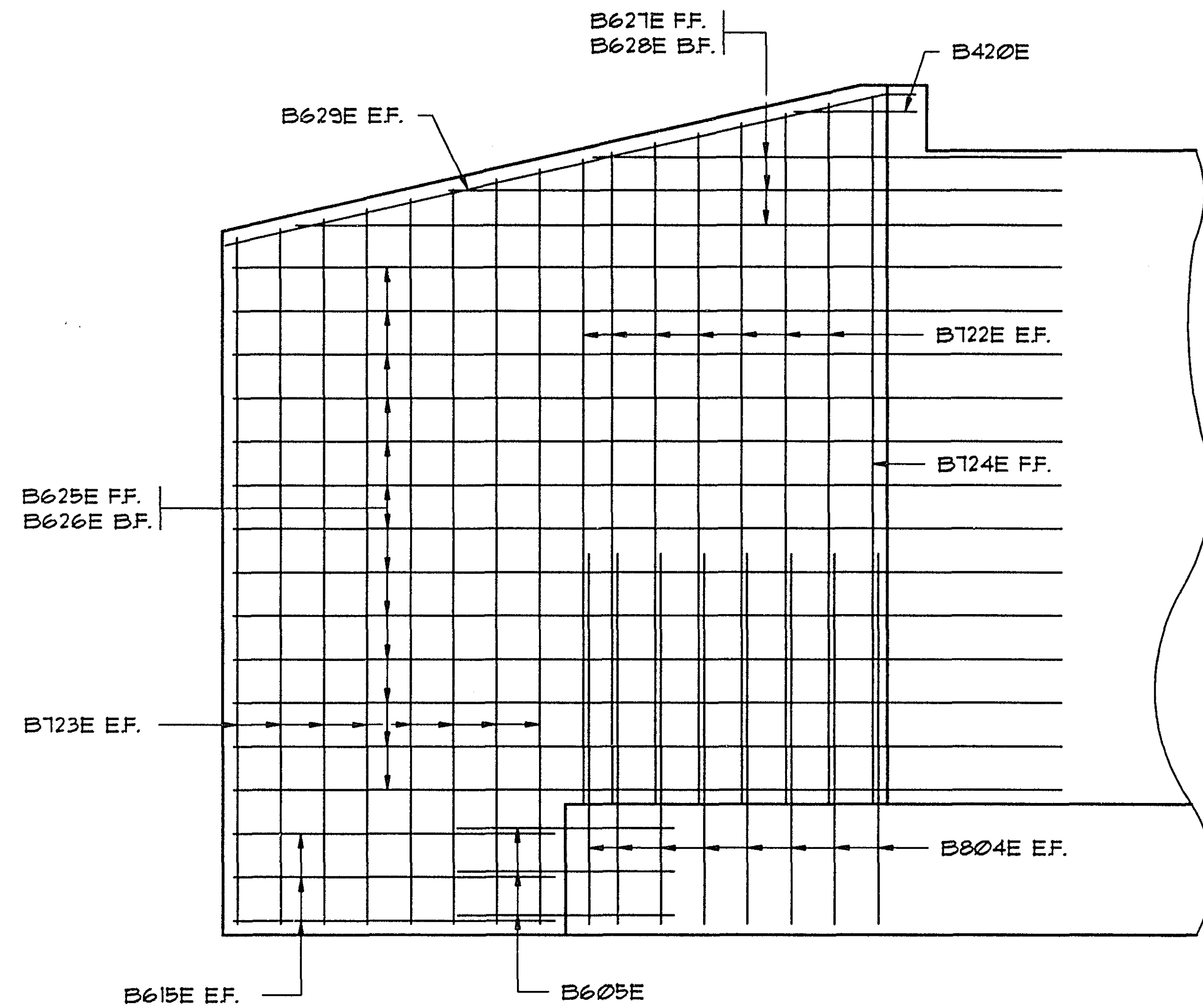


ENGINEERING
TRANSPORTATION
PLANNING
URBAN DESIGN

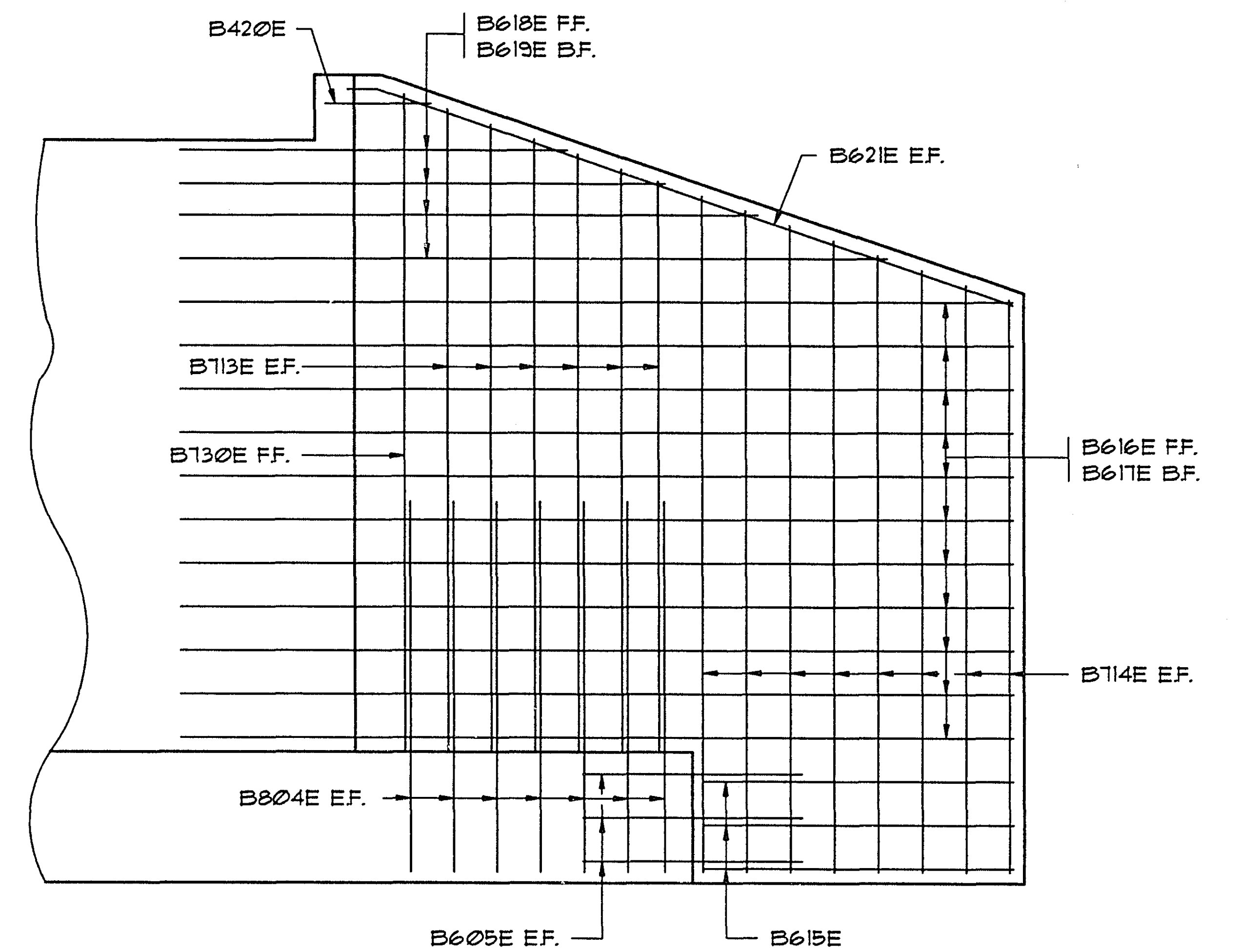
NORTH ABUTMENT
REINFORCEMENT

DES: MKM
CHK: SA
DRW: JAS
CHK: DJV
APPROVED:
12-7-92
SHEET NO. 12 OF 22 SHEETS

BRIDGE NO.
62566

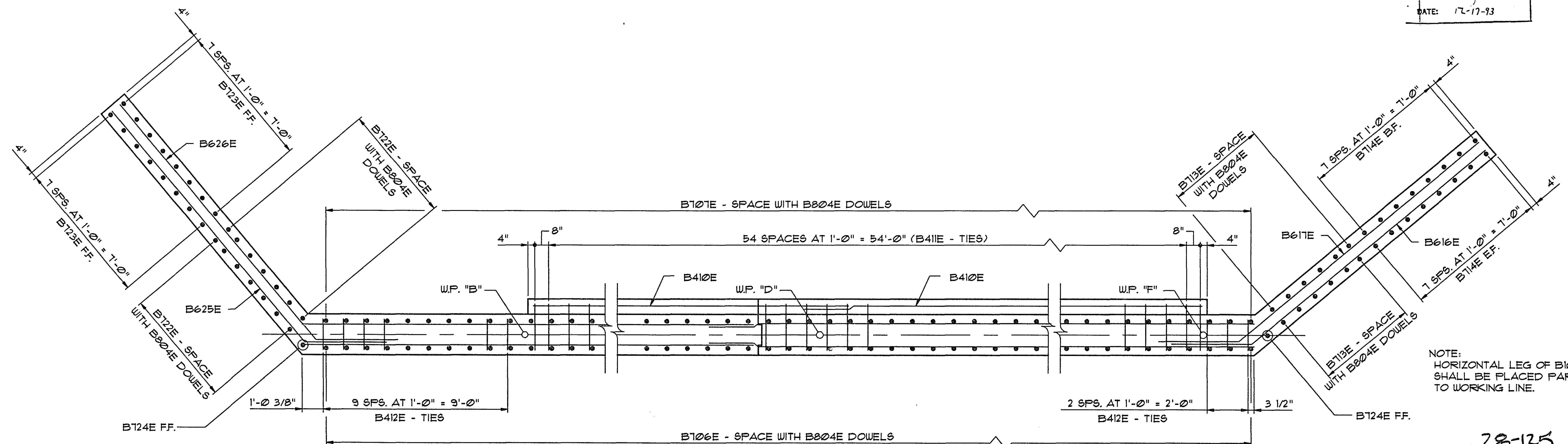


NORTHWEST WINGWALL REINFORCEMENT



NORTHEAST WINGWALL REINFORCEMENT

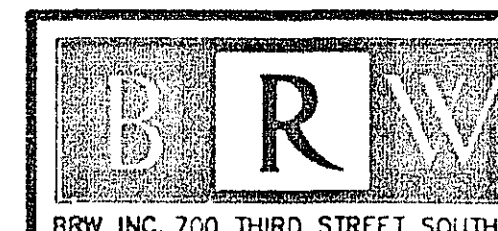
ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *DJR*
DATE: 12-17-93



NOTE:
HORIZONTAL LEG OF B1008E
SHALL BE PLACED PARALLEL
TO WORKING LINE.

28-125

SECTION B-B

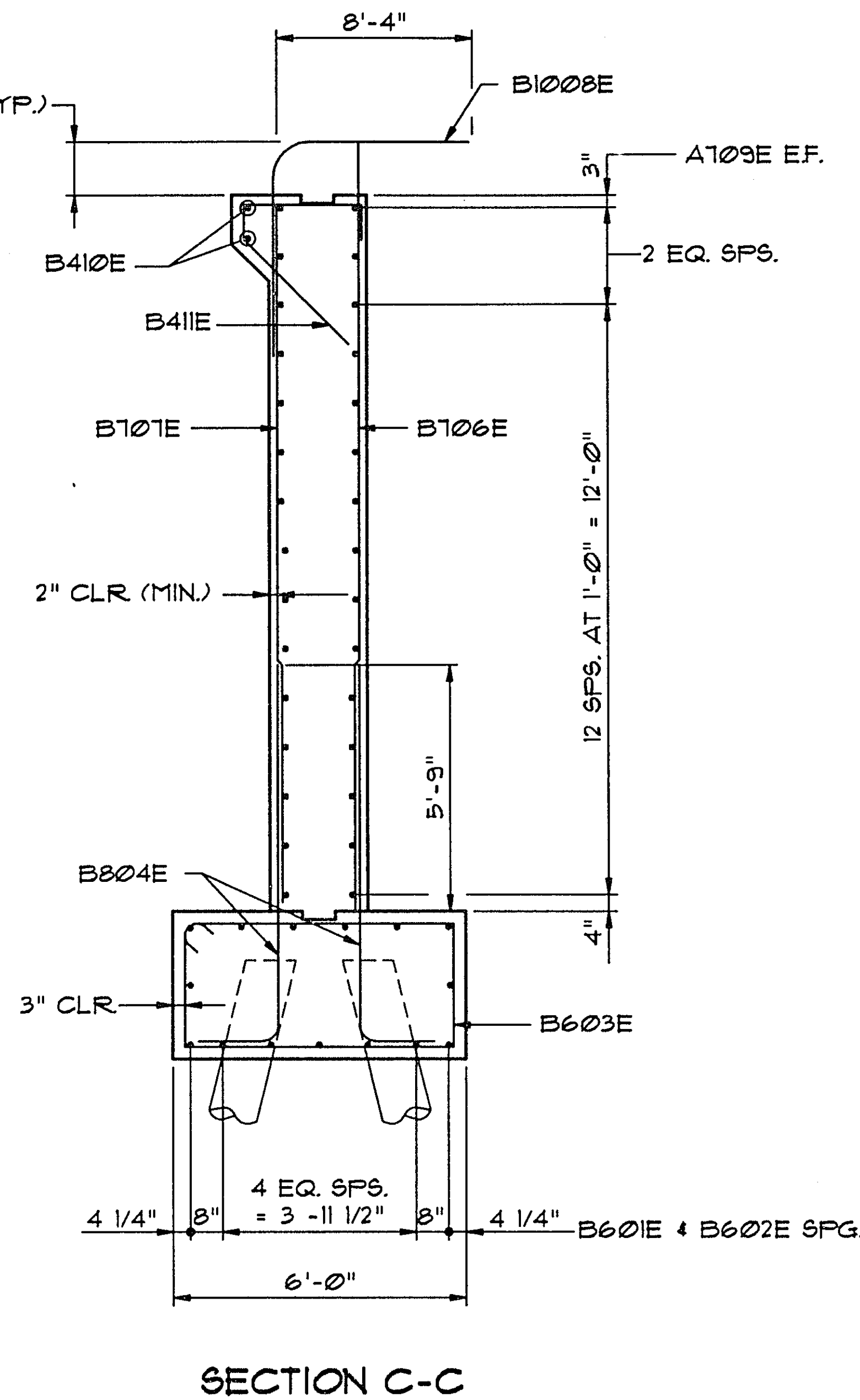
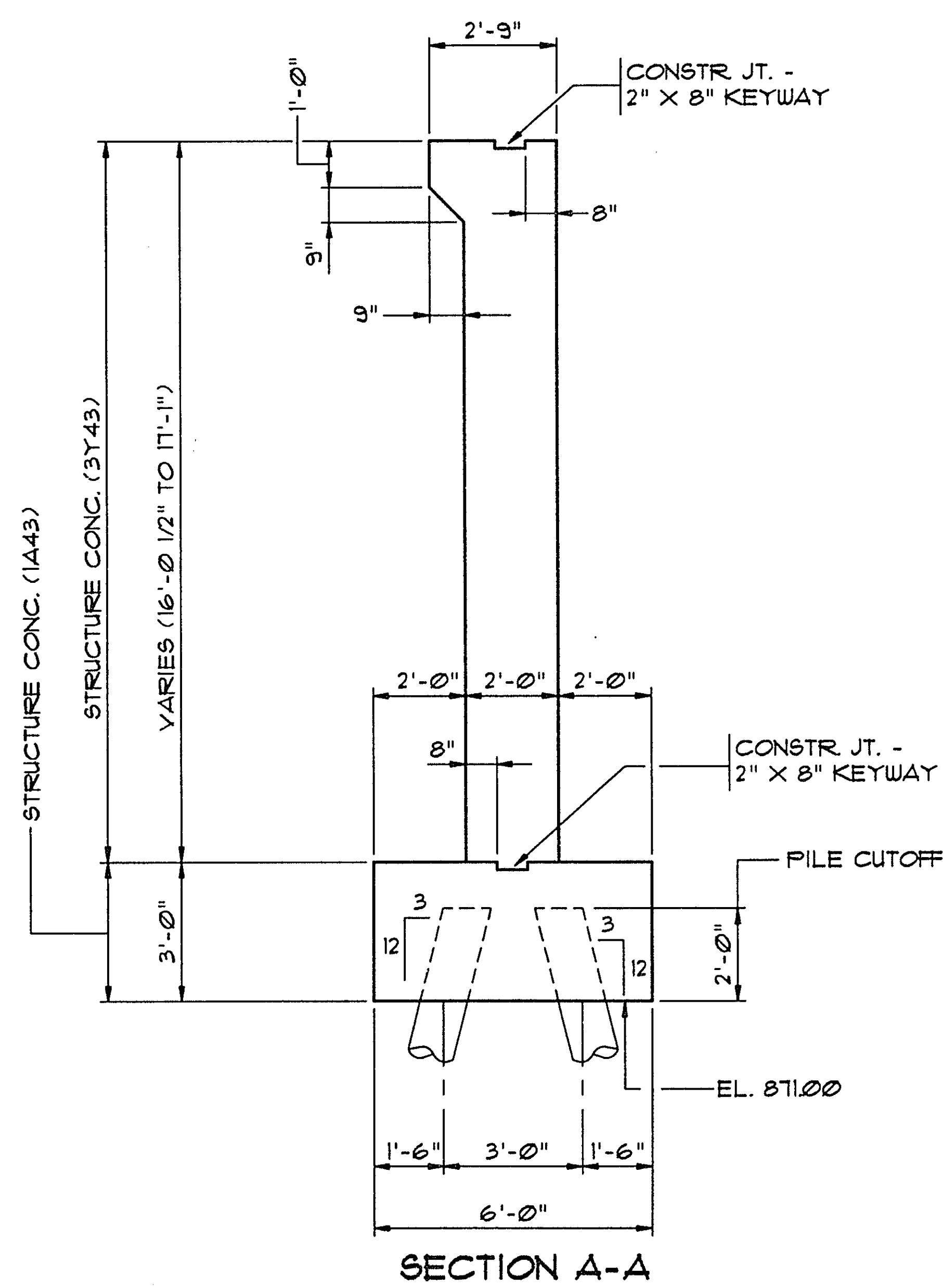


ENGINEERING
TRANSPORTATION
PLANNING
URBAN DESIGN

NORTH ABUTMENT
REINFORCEMENT

DES: MKM
CHK: SA
DRW: JAS
CHK: DJV
APPROVED:
12-7-92
SHEET NO. 13 OF 22 SHEETS

BRIDGE NO.
62566



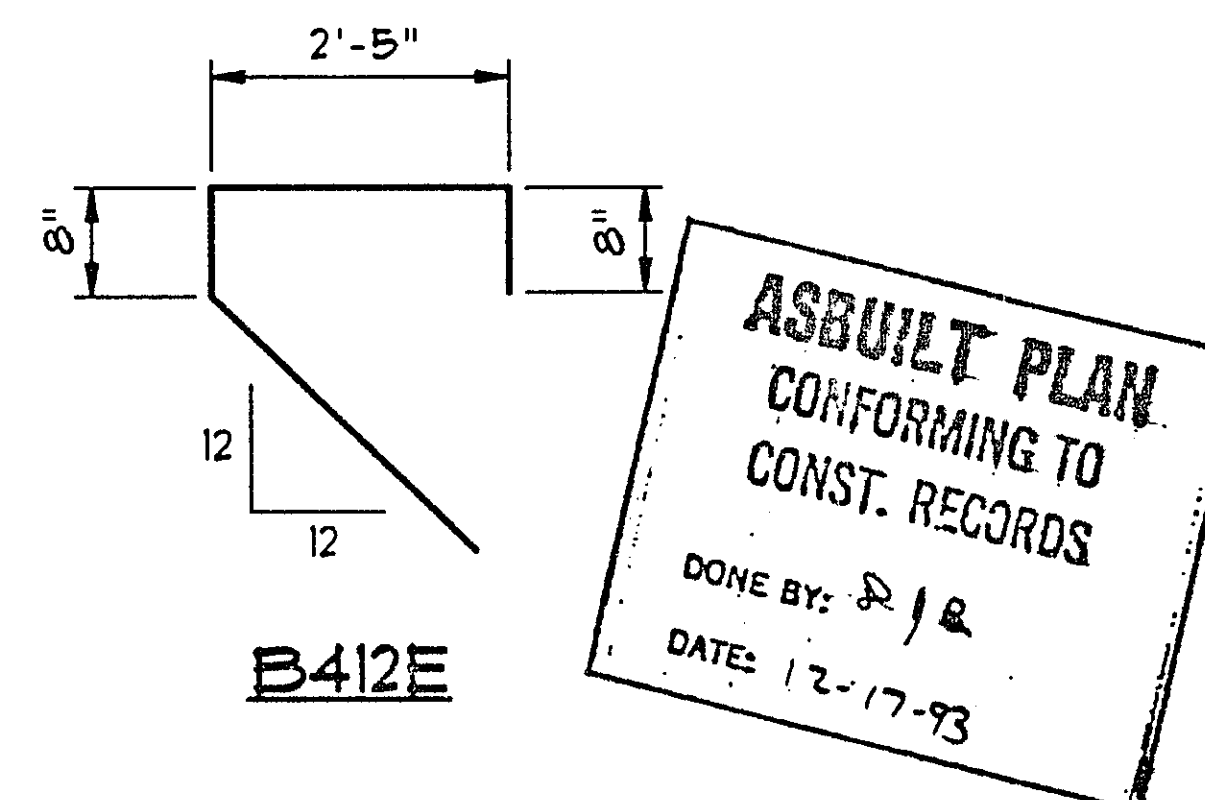
REQUIRED PILES
 1 - CAST-IN-PLACE CONCRETE TEST PILES 60 FT. LONG.
 15 - CAST-IN-PLACE CONCRETE PILES, EST. LENGTH 50 FT.
 16 - CAST-IN-PLACE CONCRETE PILES REQUIRED
 ADDED 1 PILE FOR FOOTING EXTENSION TO CLEAR WATERMAIN LT.

PILE NOTES :

- 1) PILE SPACING SHOWN IS AT BOTTOM OF FOOTING.
- 2) PILES MARKED THIS $\oplus$ MUST BE BATTERED 3" PER FOOT IN DIRECTION SHOWN.
- 3) ALL PILES TO BE CAST-IN-PLACE CONCRETE PILES.
- 4) PILES ARE TO HAVE A NOMINAL DIAMETER OF 12".
- 5) FOR PILE SPLICE SEE SHEET NO. 20

COMPUTED PILE LOAD (TONS PER PILE)

LOCATION	DEAD LOAD + EARTH PRESSURE	LIVE LOAD	TOTAL
NORTH ABUTMENT	20.0	36.0	56.0



BILL OF REINFORCEMENTS - NORTH ABUTMENT

MARK	NO.	LENGTH	SHAPE	LOCATION
B601E	28	31'-3"	STR	FOOTING - LONGITUDINAL
B602E	28	7'-9"	STR	FOOTING - LONGITUDINAL
B603E	83	17'-1"	BENT	FOOTING - TIES
B804E	166	9'-10"	BENT	FOOTING - DOUELS
B605E	12	5'-0"	STR	FOOTING - WING DOUELS
B106E	69	(1)	STR	STEM - VERTICAL
B107E	69	(2)	STR	STEM - VERTICAL
B1008E	137	13'-0"	BENT	STEM TO SLAB - B.F.
B109E	68	35'-9"	STR	STEM - HORIZONTAL
B410E	4	28'-11"	STR	PAVING BRACKET - LONGIT.
B411E	57	6'-9"	BENT	PAVING BRACKET - TIES
B412E	13	2'-8"	BENT	BR SEAT - TIES
B113E	12	(3)	STR	EAST WINGWALL - VERTICAL
B114E	16	(4)	STR	EAST WINGWALL - VERTICAL
B615E	12	7'-6"	STR	EAST WINGWALL - HORIZONTAL
B616E	13	17'-3"	BENT	EAST WINGWALL - HORIZONTAL
B617E	13	17'-10"	BENT	EAST WINGWALL - HORIZONTAL
B618E	4	(5)	BENT	EAST WINGWALL - HORIZONTAL
B619E	4	(6)	BENT	EAST WINGWALL - HORIZONTAL
B420E	2	5'-6"	BENT	WINGWALLS - HORIZONTAL
B621E	2	15'-4"	BENT	WEST WINGWALL - HORIZONTAL
B122E	14	(7)	STR	WEST WINGWALL - VERTICAL
B123E	16	(8)	STR	WEST WINGWALL - VERTICAL
B924E	1	16'-1"	STR	WEST WINGWALL - VERTICAL
B625E	15	17'-2"	BENT	WEST WINGWALL - HORIZONTAL
B626E	15	17'-9"	BENT	WEST WINGWALL - HORIZONTAL
B627E	2	(9)	BENT	WEST WINGWALL - HORIZONTAL
B628E	2	(10)	BENT	WEST WINGWALL - HORIZONTAL
B629E	2	15'-1"	BENT	WEST WINGWALL - HORIZONTAL
B130E	1	15'-3"	STR	WEST WINGWALL - VERTICAL

- 1 SET OF 69 BARS (15'-3" TO 16'-4")
- 1 SET OF 69 BARS (13'-10" TO 14'-11")
- 2 SETS OF 6 BARS (13'-1" TO 15'-1")
- 2 SETS OF 8 BARS (13'-2" TO 15'-8")
- 1 SET OF 4 BARS (8'-3" TO 14'-9")
- 1 SET OF 4 BARS (8'-3" TO 14'-9")
- 2 SETS OF 7 BARS (14'-9" TO 16'-3")
- 2 SETS OF 8 BARS (15'-9" TO 17'-4")
- 1 SET OF 2 BARS (10'-2" TO 14'-0")
- 1 SET OF 2 BARS (10'-5" TO 15'-3")

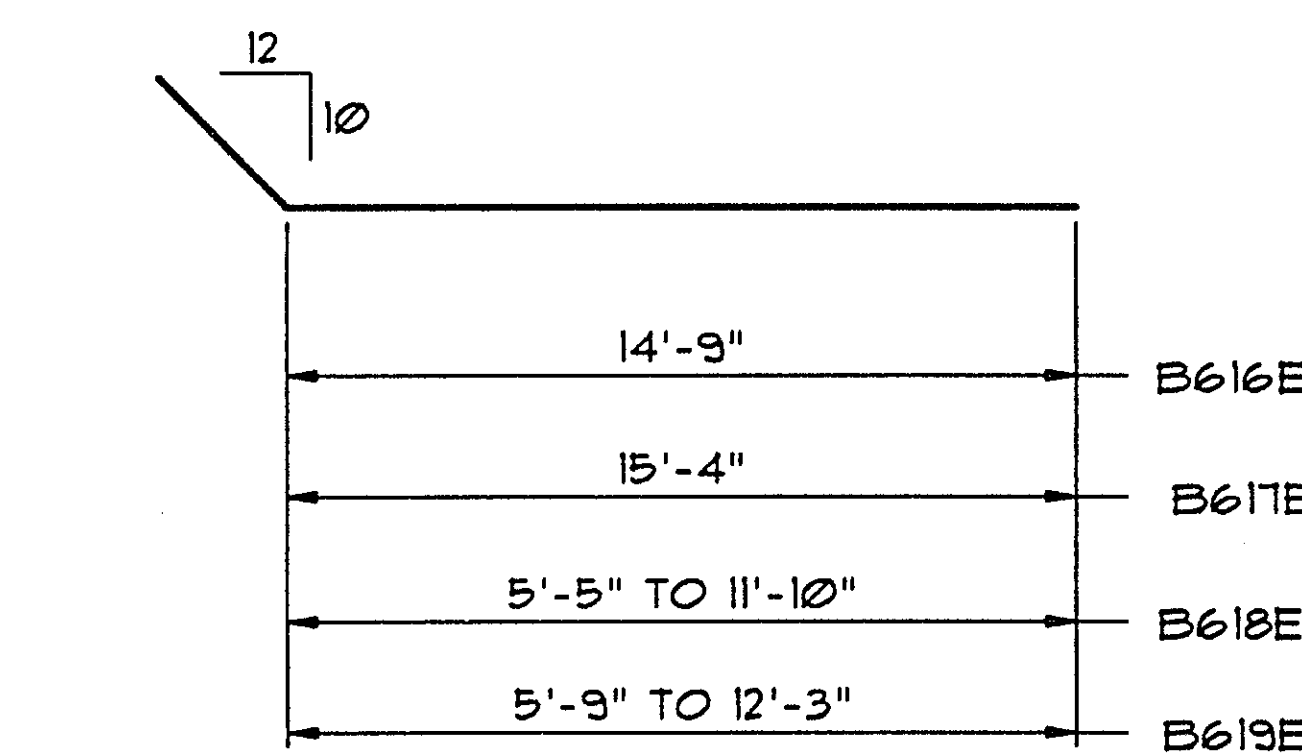
SUMMARY OF QUANTITIES - NORTH ABUTMENT

ITEM	UNIT	QUANTITY
STRUCTURE CONCRETE (1A43)	CU. YD.	56
STRUCTURE CONCRETE (3Y43)	CU. YD.	103
REINFORCEMENT BARS (EPOXY COATED)	LB.	29,465
3-PLY JOINT WATERPROOFING	LIN. FT.	30
C.I.P. CONCRETE TEST PILE 60 FT. LONG (12" DIA.)	EACH	1
C.I.P. CONCRETE PILING DELIVERED (12" DIA.)	LIN. FT.	100
C.I.P. CONCRETE PILING DRIVEN (12" DIA.)	LIN. FT.	100
STRUCTURE EXCAVATION	LUMP SUM	1

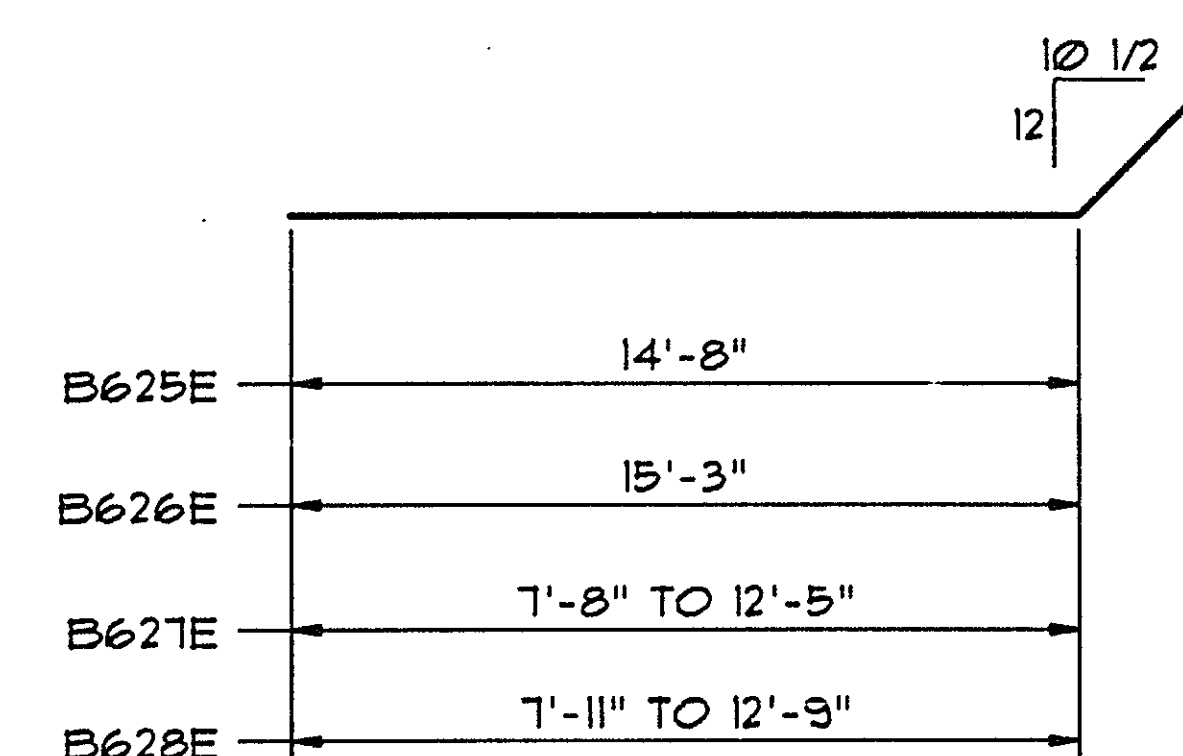
- 1) COMPUTED QUANTITY = 270 CU. YD. FOR INFORMATIONAL PURPOSES ONLY SEE SPECIAL PROVISIONS.
- 2) SEE SPECIAL PROVISIONS.
- 3) TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS.

28-125

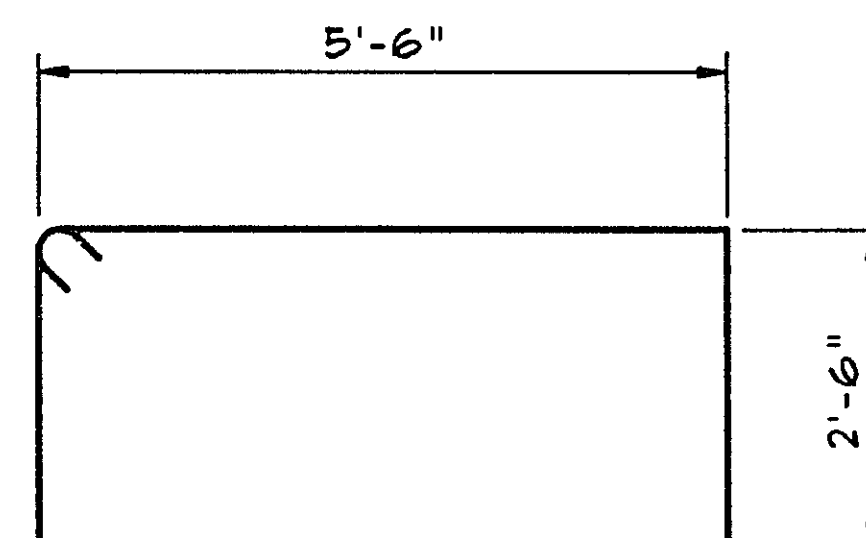
S.P. 62-651-27



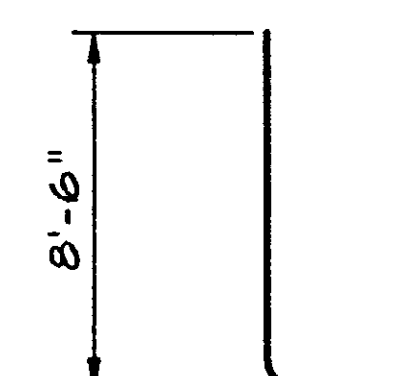
B625E TO B628E



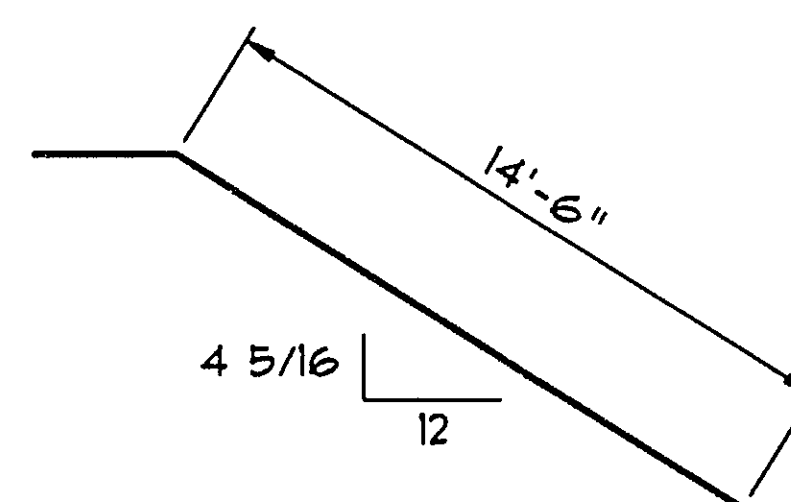
B625E TO B628E



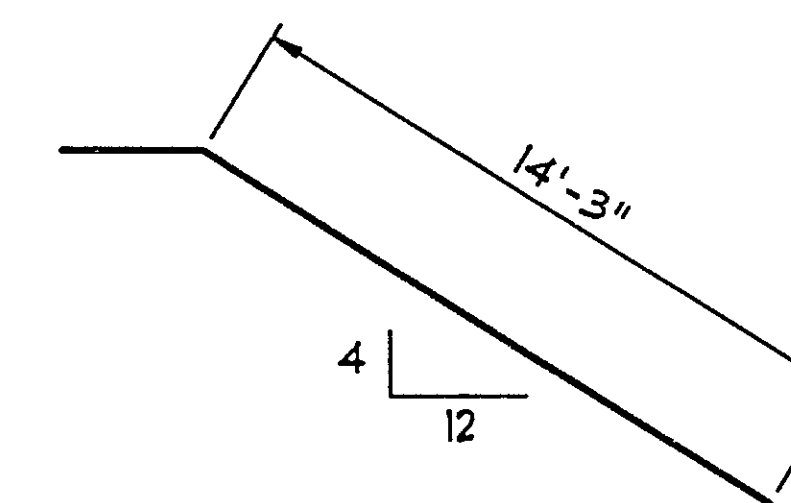
B603E



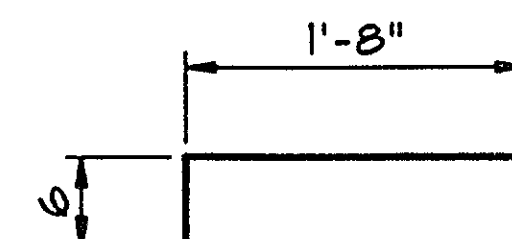
B804E



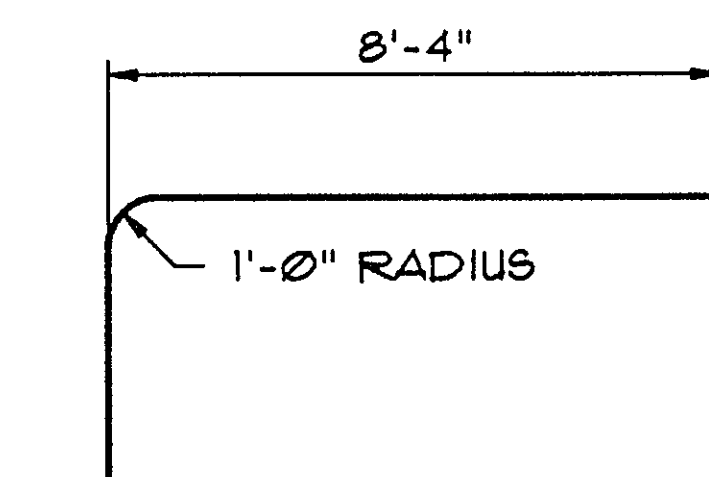
B621E



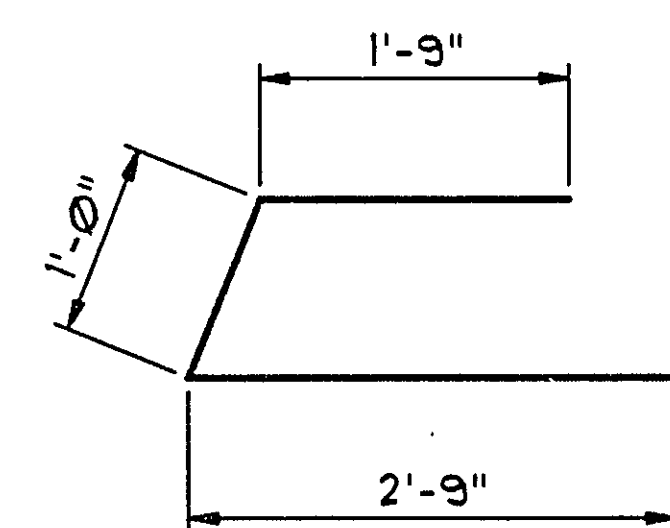
B629E



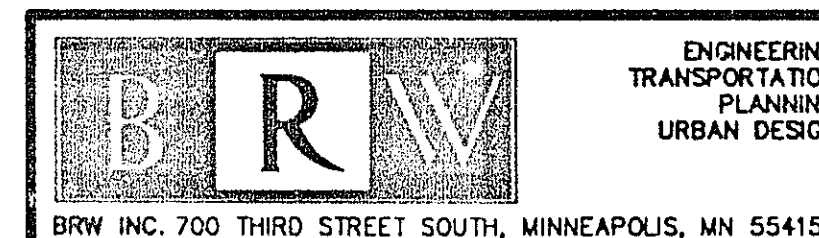
B412E



B1008E



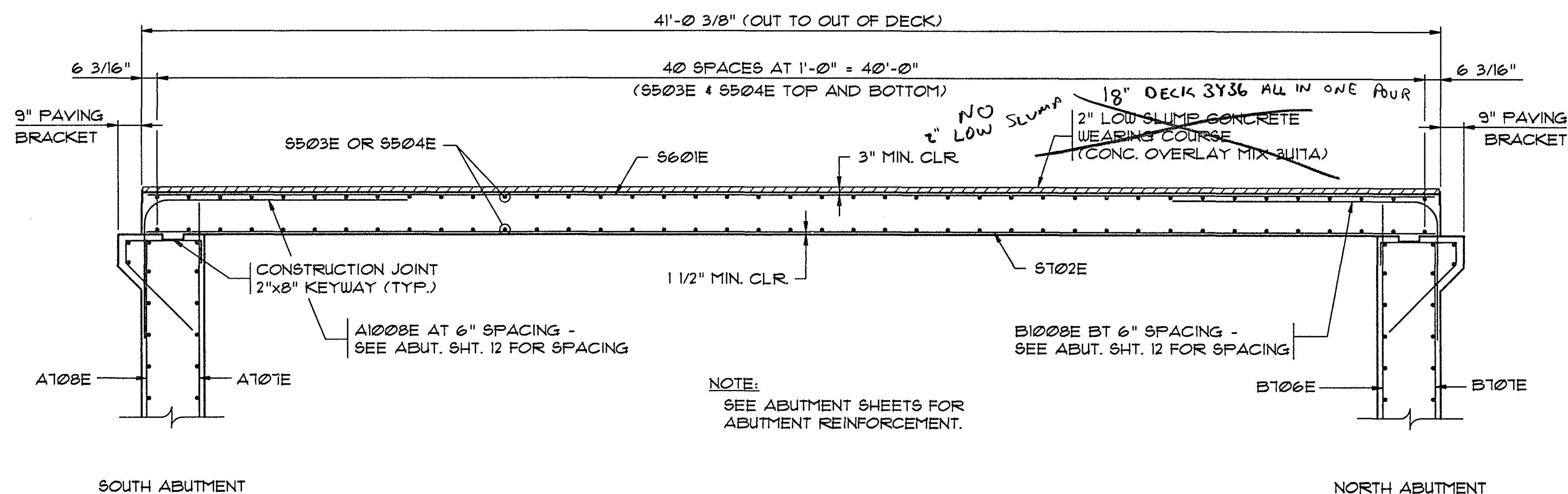
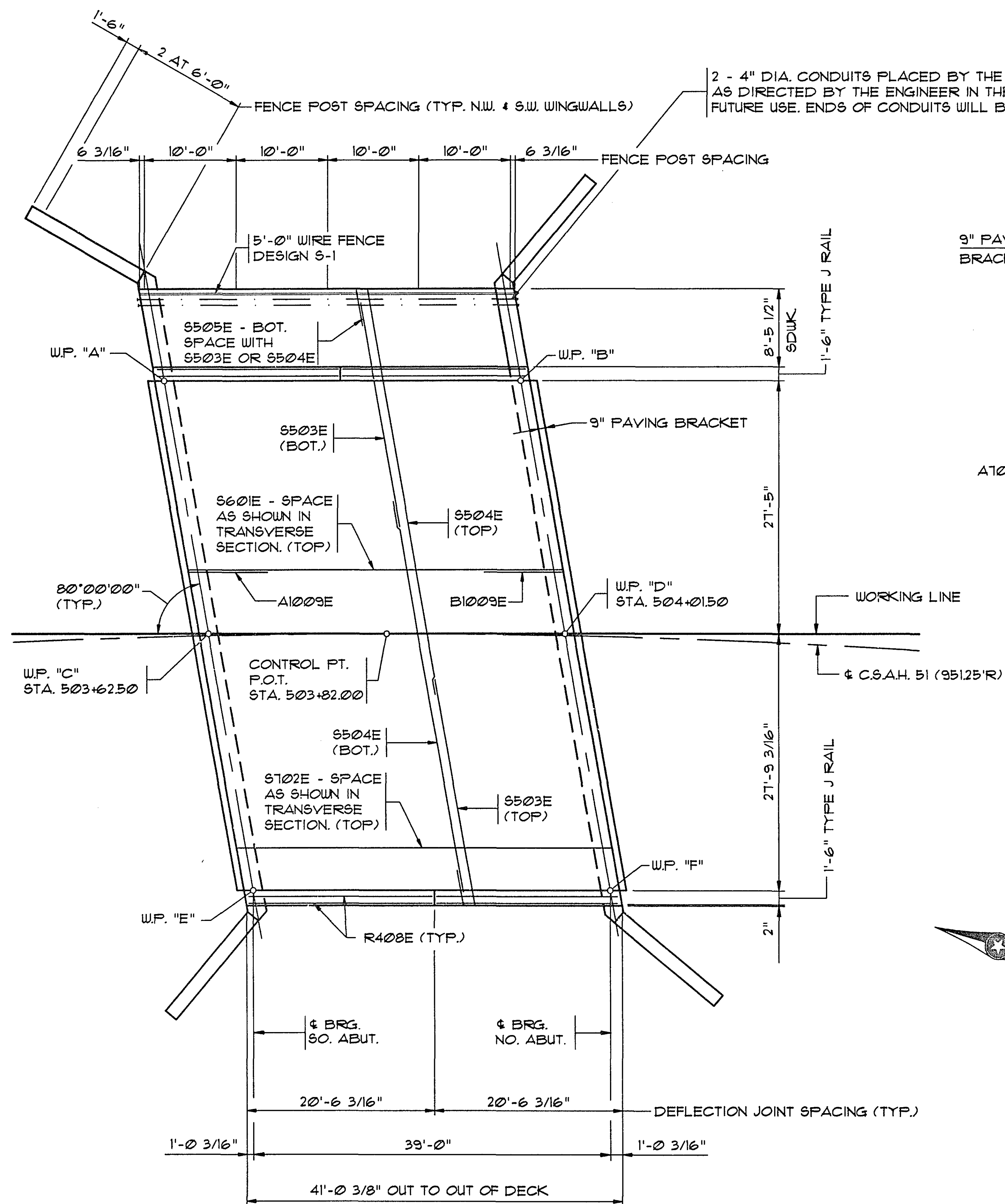
B420E



NORTH ABUTMENT REINFORCEMENT

DES: MKM	DRW: JAS	APPROVED: 12-7-92	BRIDGE NO. 62566
CHK: SA	CHK: DJV		

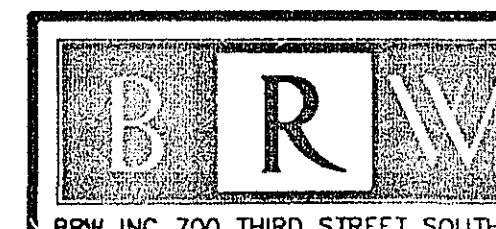
SHEET NO. 14 OF 22 SHEETS



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: SJS
DATE: 12-17-93

28-125

S.P. 62-651-27



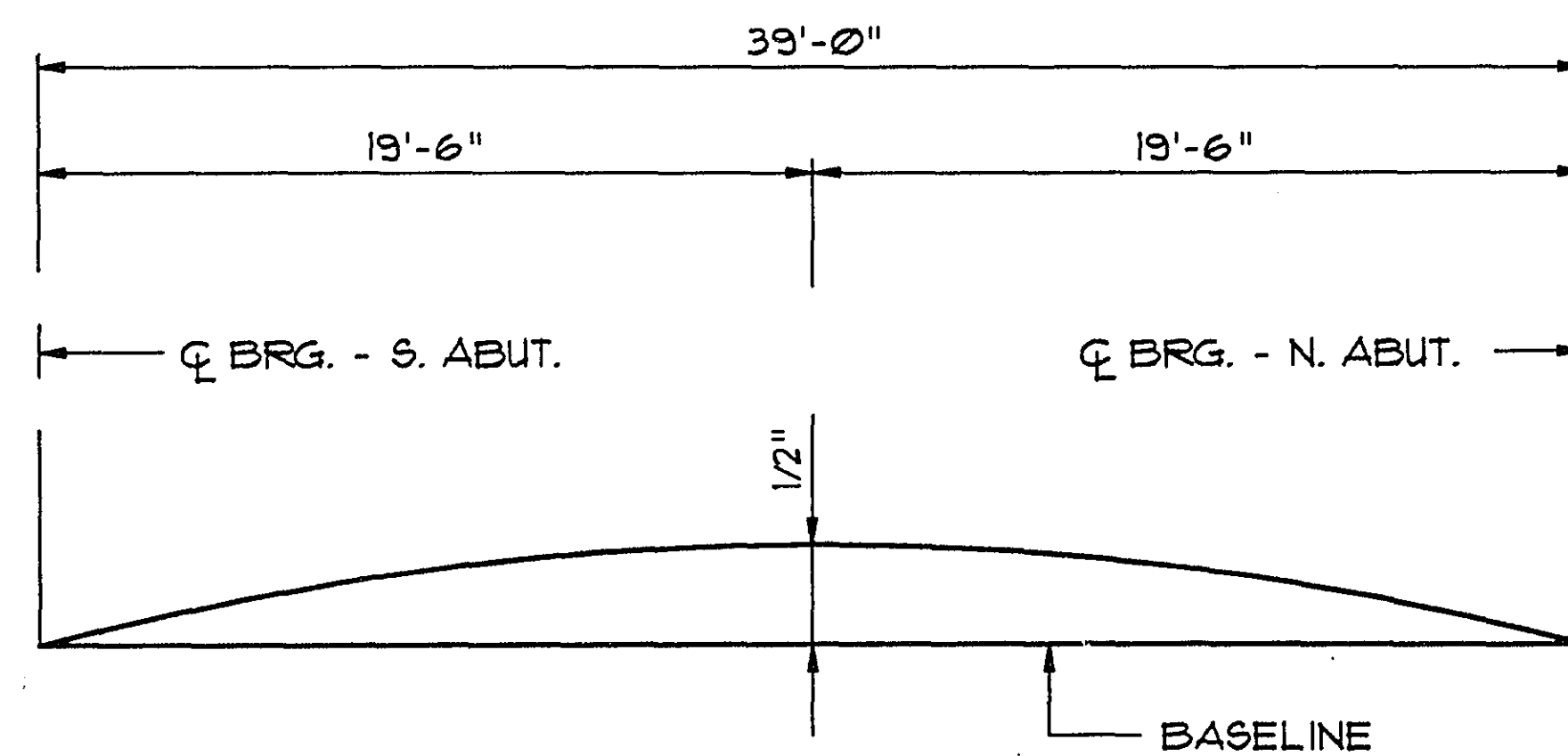
ENGINEERING
TRANSPORTATION
PLANNING
URBAN DESIGN

BRW INC. 700 THIRD STREET SOUTH, MINNEAPOLIS, MN 55415

**SUPERSTRUCTURE
DETAILS & REINF.**

DES: MKM	DRW: JAS	APPROVED:
CHK: SA	CHK: DJV	12-7-92
SHEET NO. 15 OF 22 SHEETS		

BRIDGE NO.
62566



CAMBER DIAGRAM

BASELINE IS PROFILE GRADE.
THE CAMBER DIAGRAM SHOWS THE
CAMBER REQUIRED FOR THE ANTICIPATED
ULTIMATE DEAD LOAD DEFLECTION. THESE
FIGURES DO NOT INCLUDE ANY ALLOWANCE
FOR SETTLEMENT OF FORMS OR RESIDUAL
CAMBER.

SUMMARY OF QUANTITIES

ITEM	UNIT	QUANTITY
BRIDGE SLAB CONCRETE (3Y36)	SQ. FT.	2742
TYPE J RAILING CONCRETE (3Y46)	LIN. FT.	83
REINFORCEMENT BARS (EPOXY COATED)	LB.	23374
CONCRETE OVERLAY TYPE SPECIAL	SQ. FT.	4473
BRIDGE NAMEPLATE (SEE DETAIL B101)	EACH	1
WIRE FENCE DESIGN S-1	LIN. FT.	57
CONDUIT SYSTEM (POWER)	LUMP SUM	1

- ① APPROX. VOLUME OF BRIDGE SLAB CONCRETE (3Y36) = 136 CU. YDS.
APPROX. VOLUME OF TYPE J RAIL CONC. (3Y46) = 9 CU. YD.
APPROX. VOLUME OF 2" LOW SLUMP WEARING COURSE = 28 CU. YDS.
- ② SEE SPECIAL PROVISIONS.
- ③ INCLUDED IN PRICE BID FOR OTHER ITEMS.
- ④ INCLUDES RAILING QUANTITIES.
- ⑤ QUANTITY INCLUDES APPROACH PANELS.

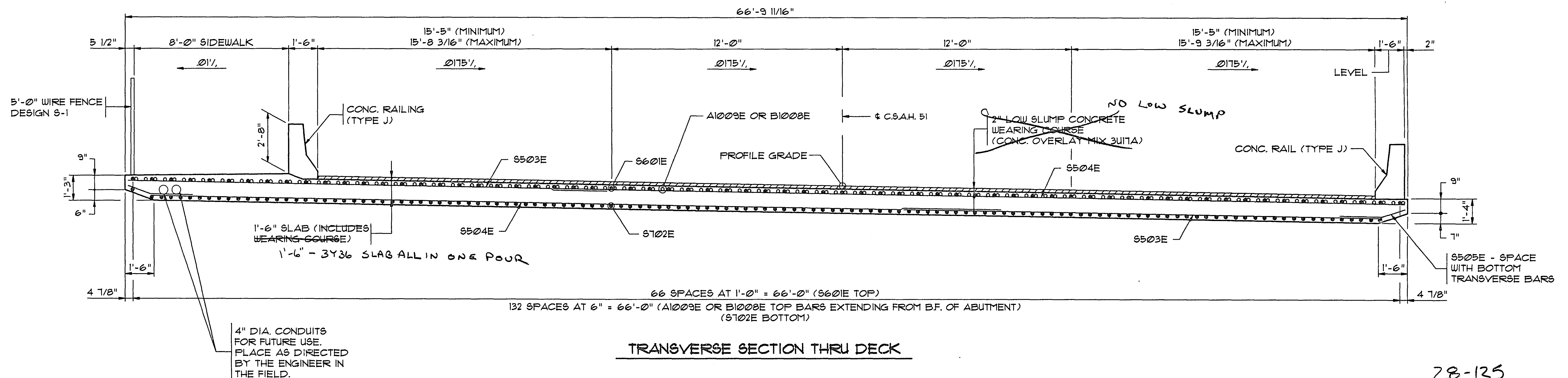
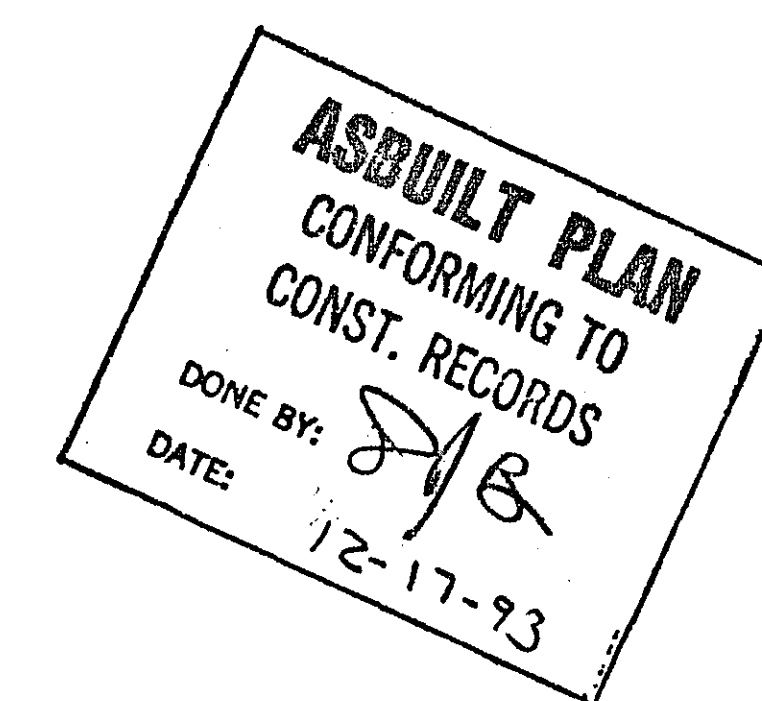
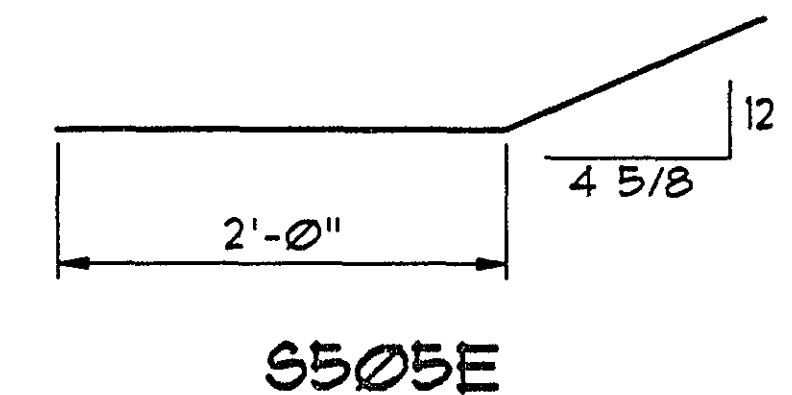
CONDUIT SYSTEM (POWER)

4" DIA. CONDUIT	86	LIN. FT.
END CAPS	4	EACH

ALL MATERIALS LISTED ABOVE SHALL BE SUPPLIED
AND PLACED BY THE CONTRACTOR AND IS INCLUDED
IN PRICE BID FOR CONDUIT SYSTEM (POWER).

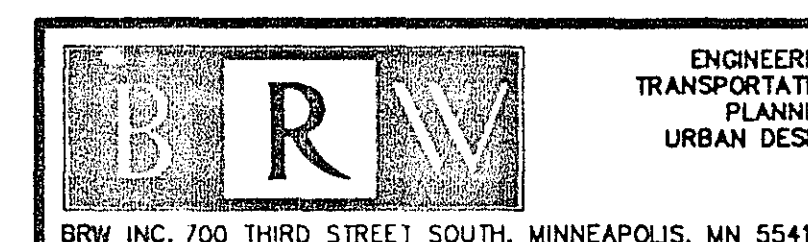
BILL OF REINFORCEMENT - SUPERSTRUCTURE

MARK	NO.	LENGTH	SHAPE	LOCATION
S601E	67	40'-8"	STR.	SLAB - TOP LONGIT.
S702E	134	40'-8"	STR.	SLAB - BOTTOM LONGIT.
S503E	82	25'-0"	STR.	SLAB - TOP & BOTTOM TRANSVERSE
S504E	82	44'-5"	STR.	SLAB - TOP & BOTTOM TRANSVERSE
S505E	82	3'-10"	BENT	SLAB - BOTTOM TRANSVERSE



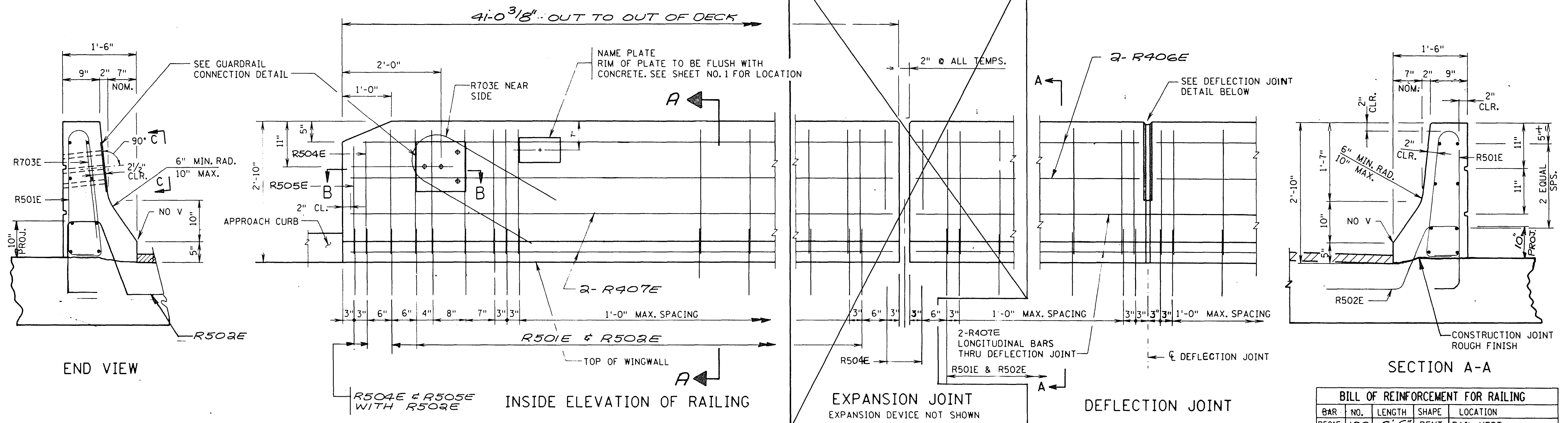
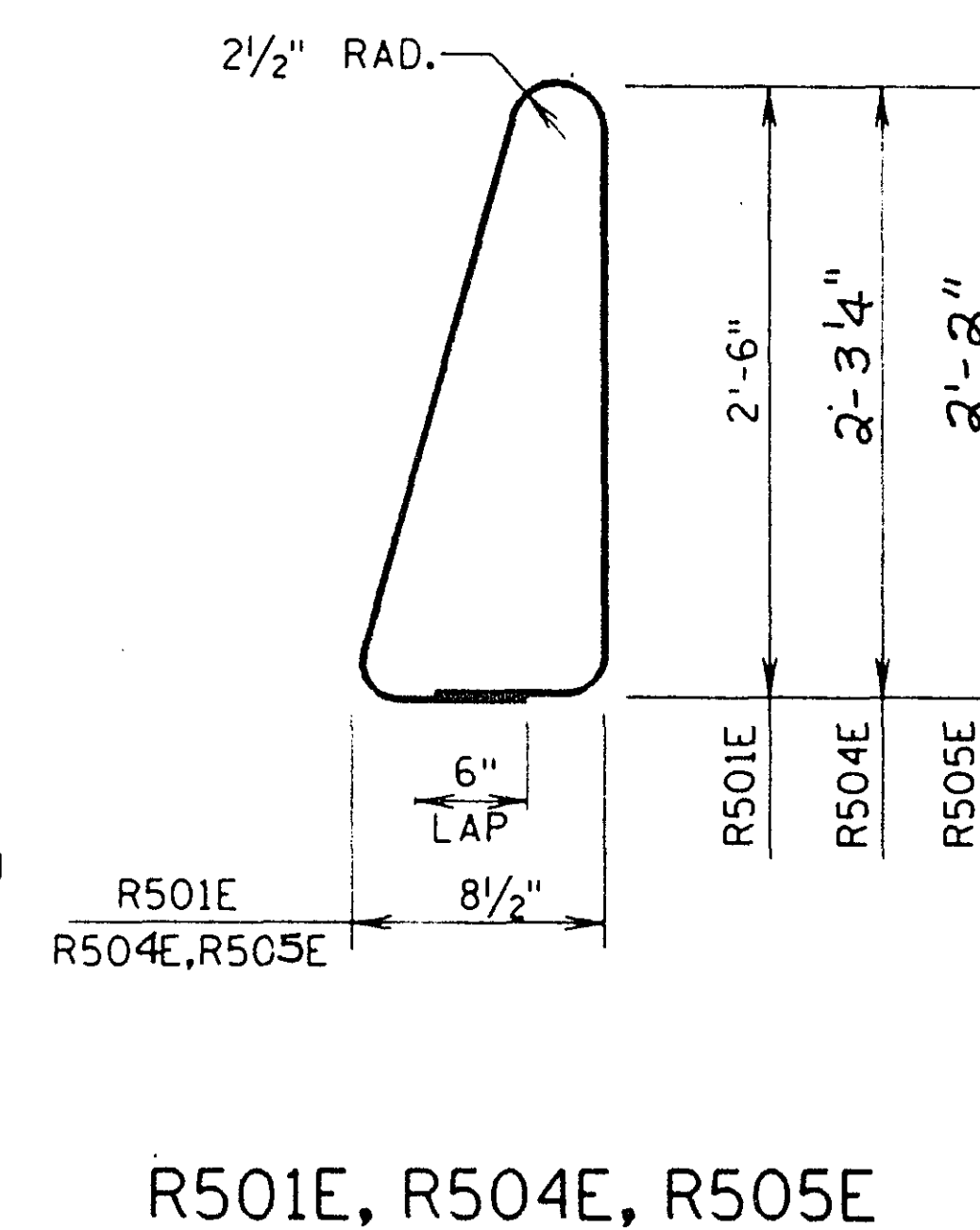
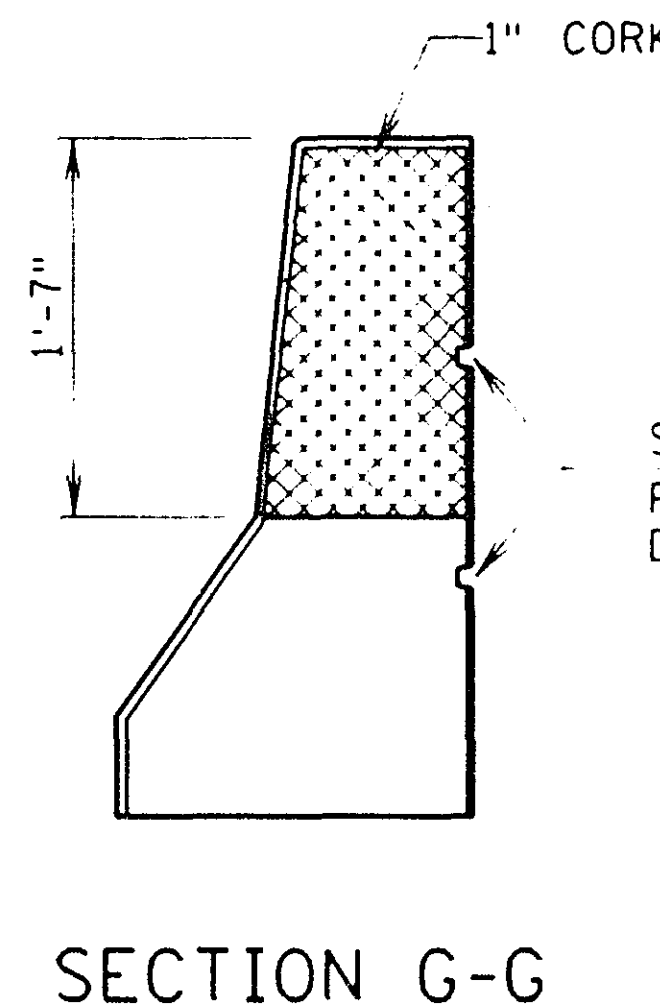
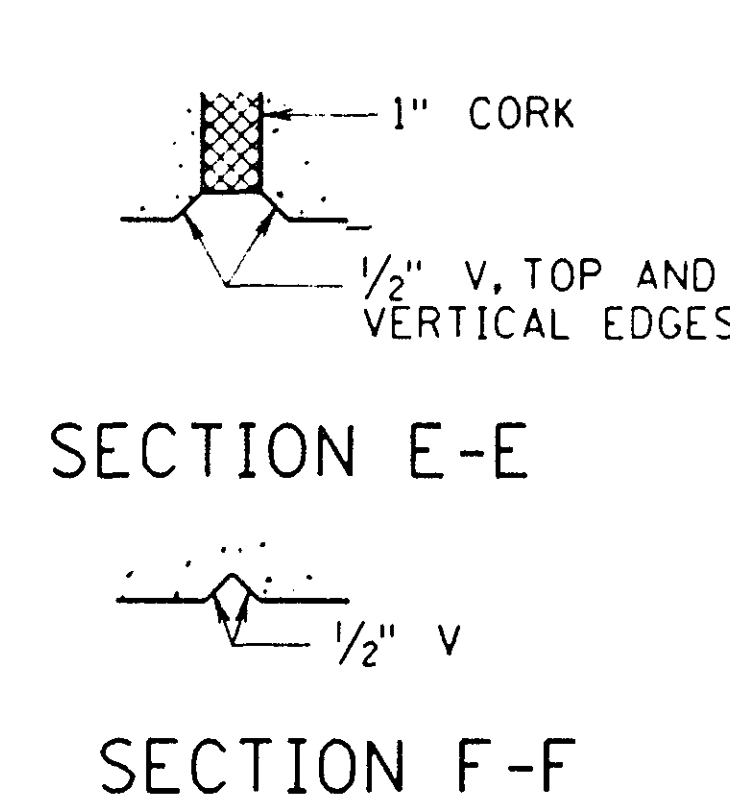
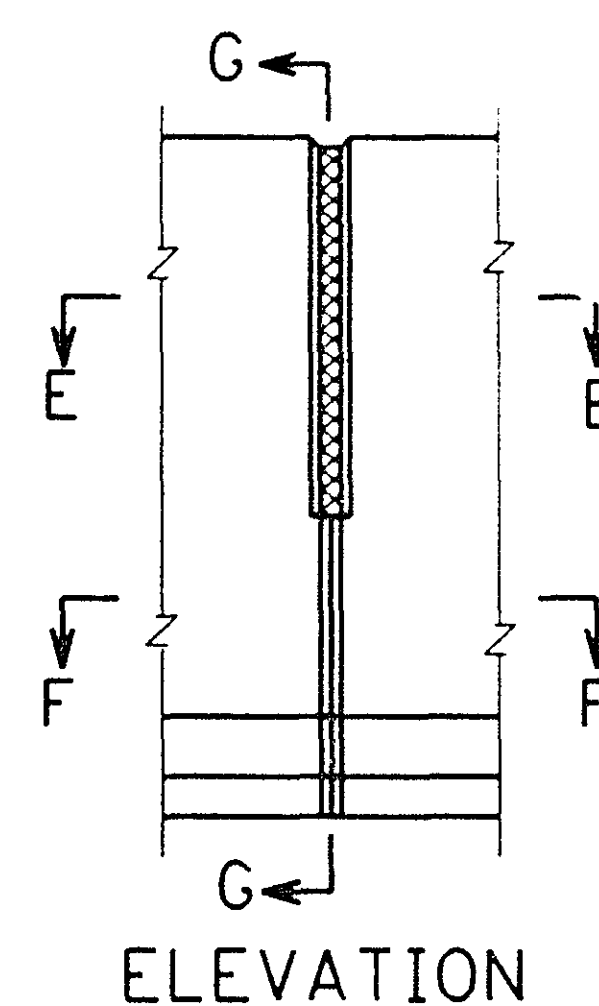
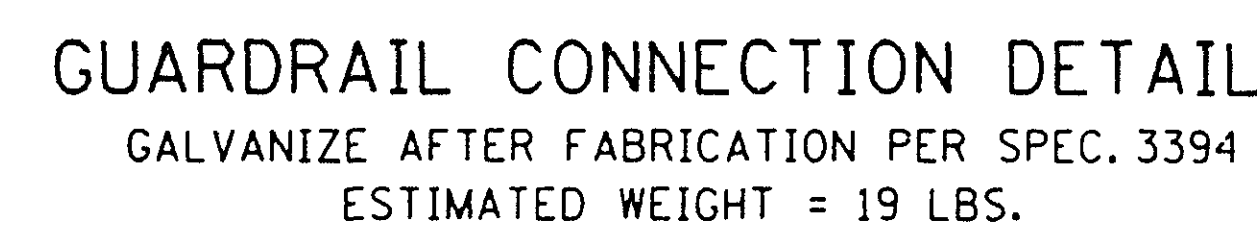
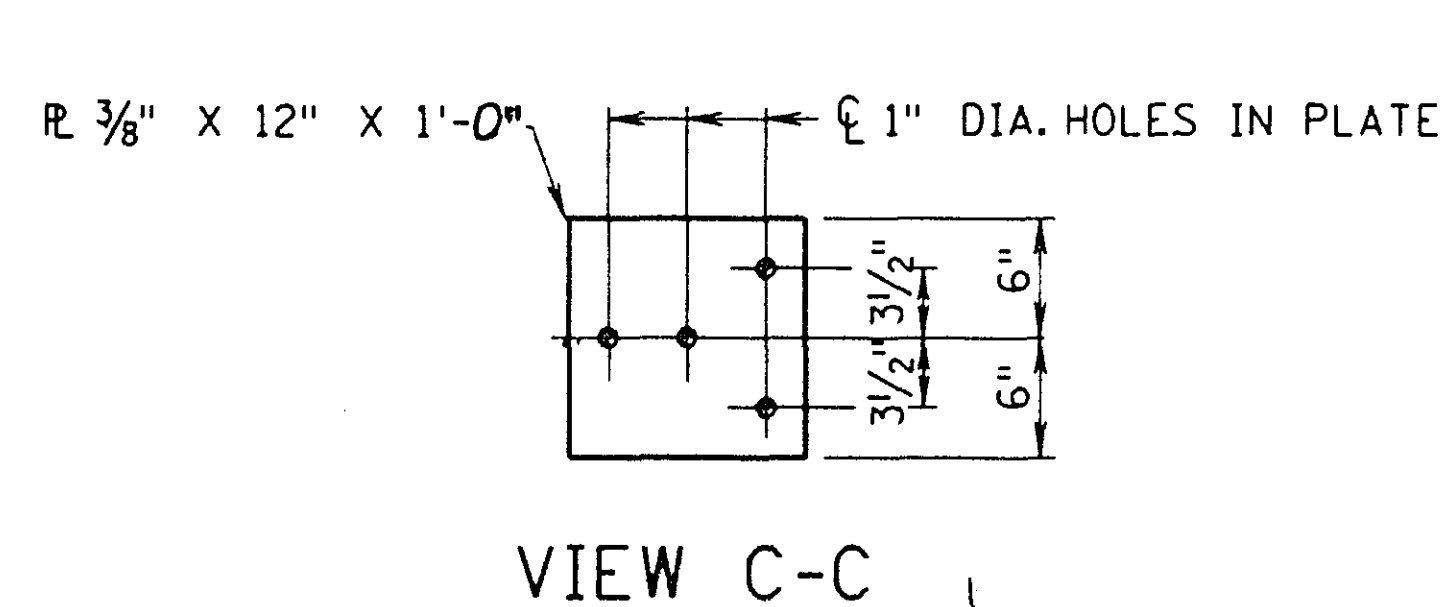
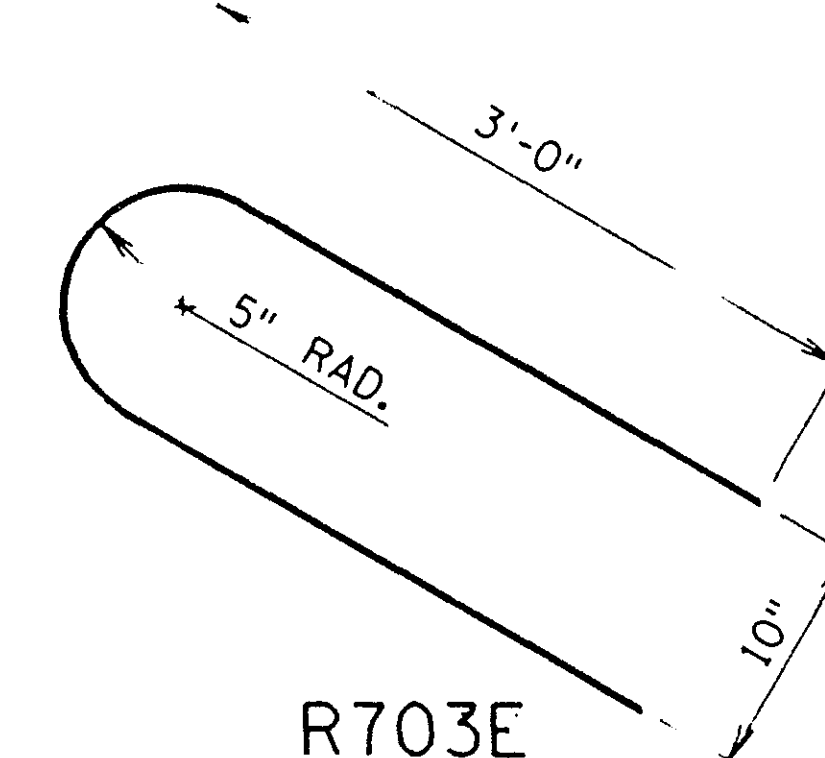
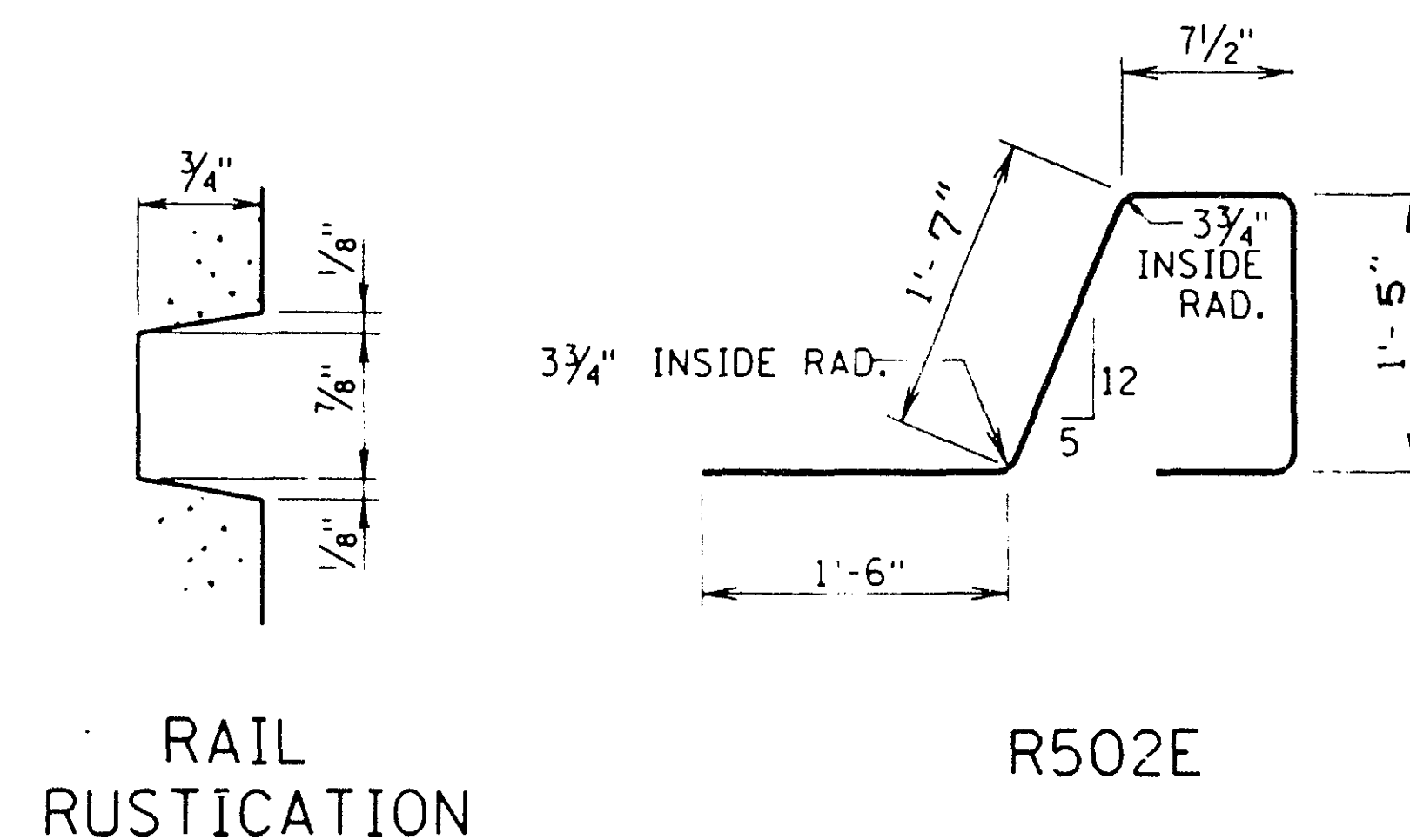
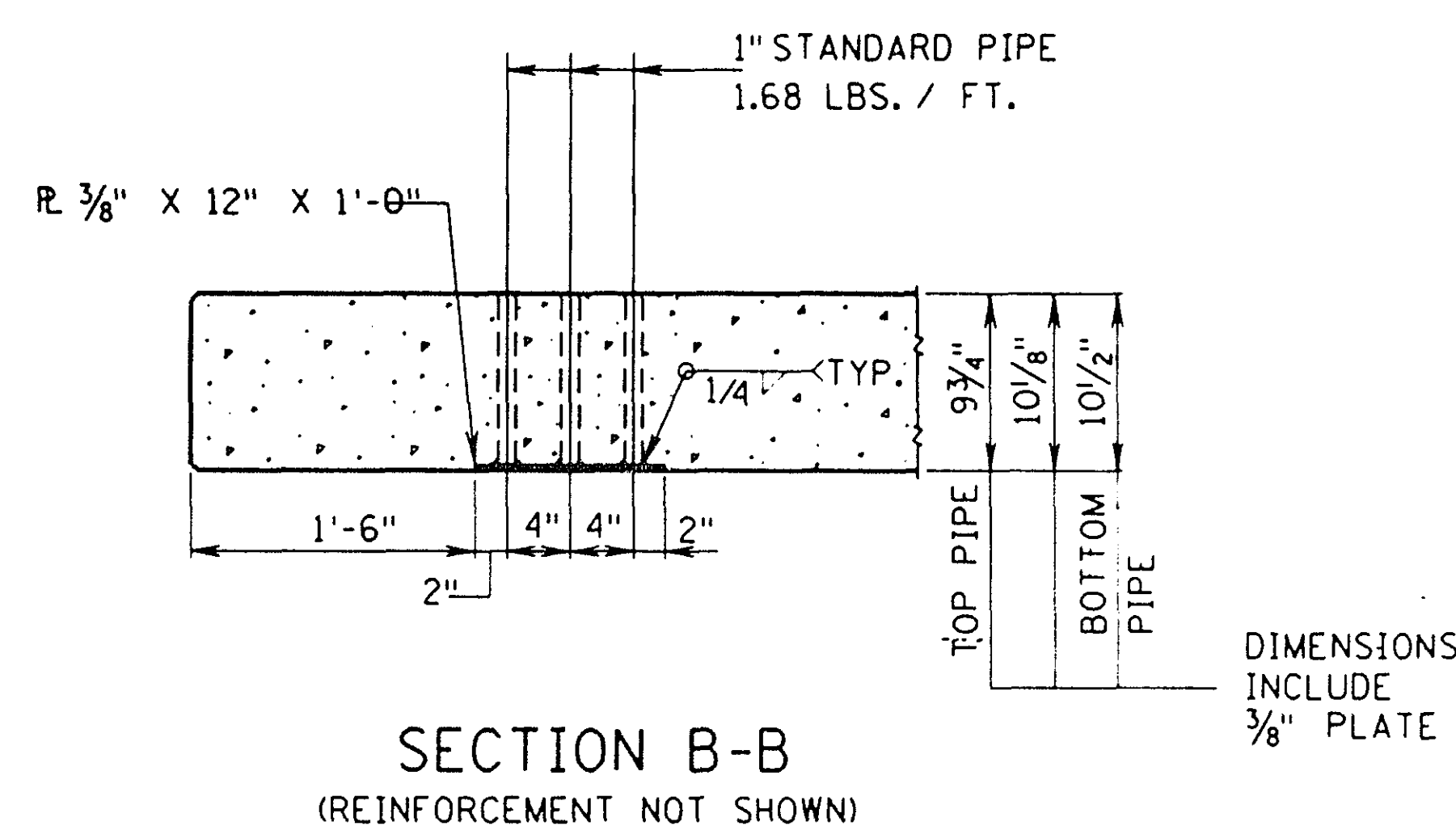
28-125

62-651-27



**SUPERSTRUCTURE
DETAILS & REINF.**

DES: MKM	DRW: JAS	APPROVED:	BRIDGE NO. 62566
CHK: SA	CHK: DJV	12-7-92	
SHEET NO. 16 OF 22 SHEETS			

[illegible]

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS

DONE BY: *DJZ*
DATE: 12-17-93

GENERAL NOTES:

ALL BARS TO BE EPOXY COATED.

CONCRETE RAILING = 440 LBS./FT.

CONCRETE RAILING = .109 CU. YDS./FT.

RAIL TO BE CONCRETE 3Y46.

GUARDRAIL CONNECTION TO BE STRUCTURAL STEEL, SPEC. 3306.

FINISH ALL EDGES OF RAIL WITH 1/2" VEE, EXCEPT WHERE OTHERWISE NOTED.

SEE SUPERSTRUCTURE SHEET FOR JOINT SPACING.

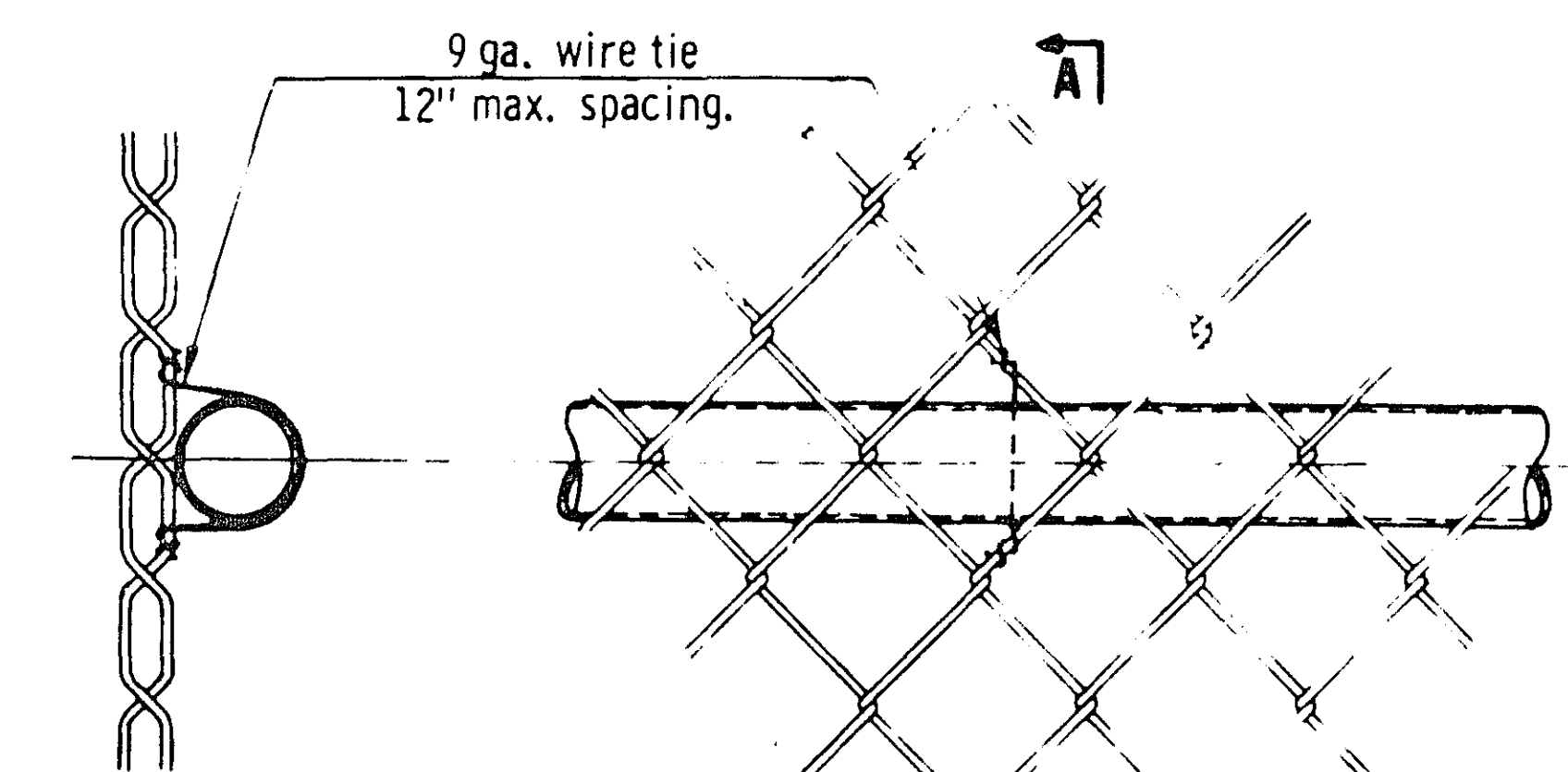
LENGTH OF RAILING CONCRETE TO BE MEASURED FOR PAYMENT BETWEEN OUTSIDE FACES OF RAIL.

GUARDRAIL CONNECTION TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS.

RAIL QUANTITIES ARE INCLUDED IN SUMMARY OF QUANTITIES FOR SUPERSTRUCTURE.

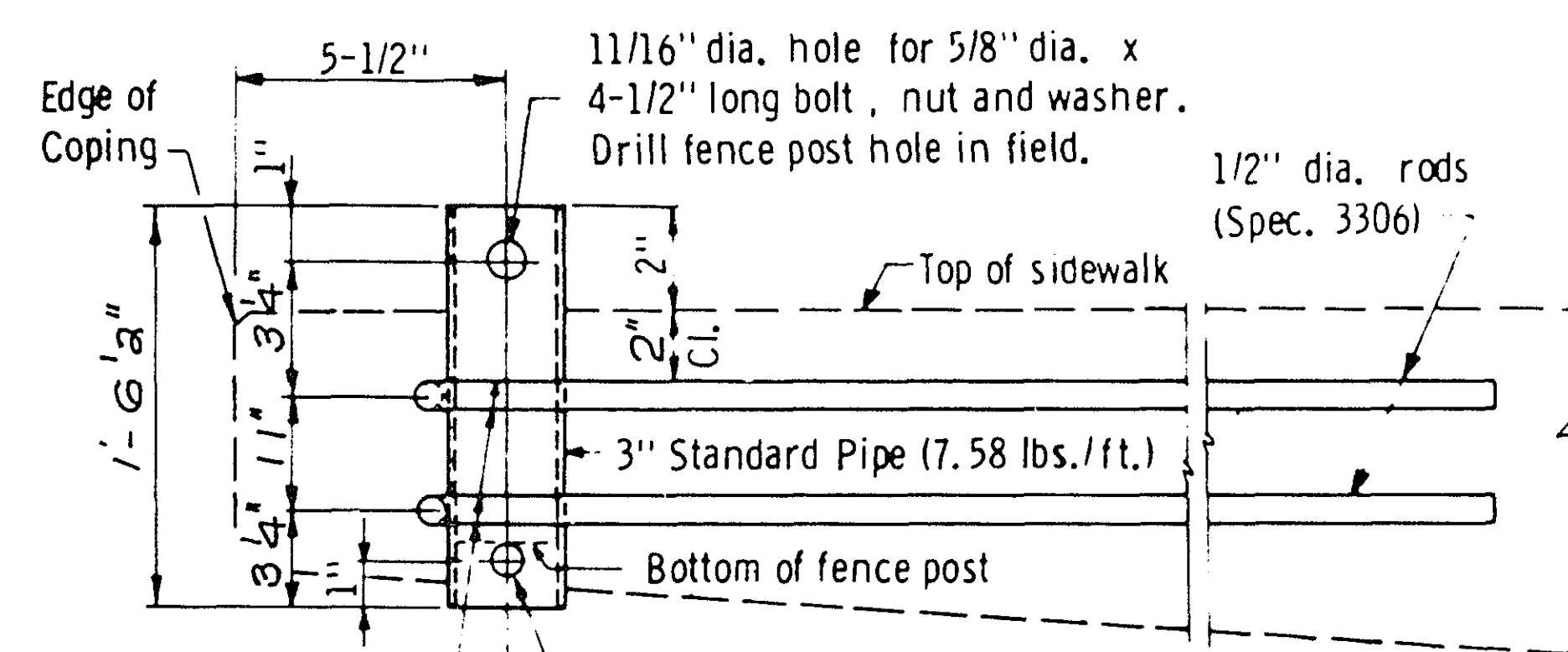
MAXIMUM SPACING OF CONCRETE DEFLECTION JOINTS SHALL BE 21'-0".

28-125

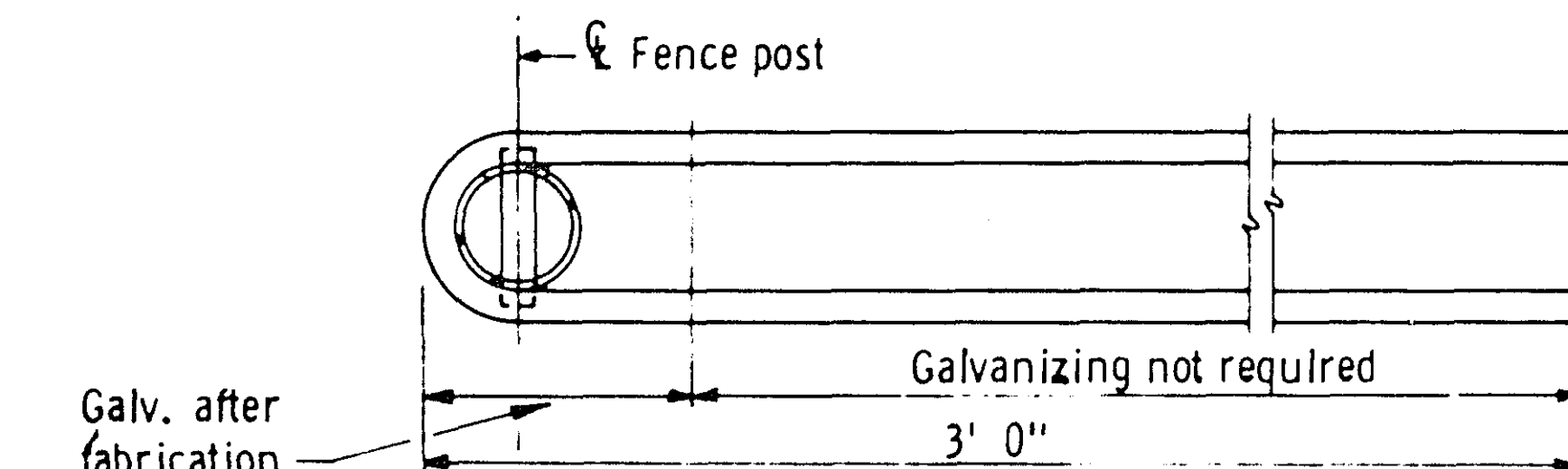


SECTION A-A

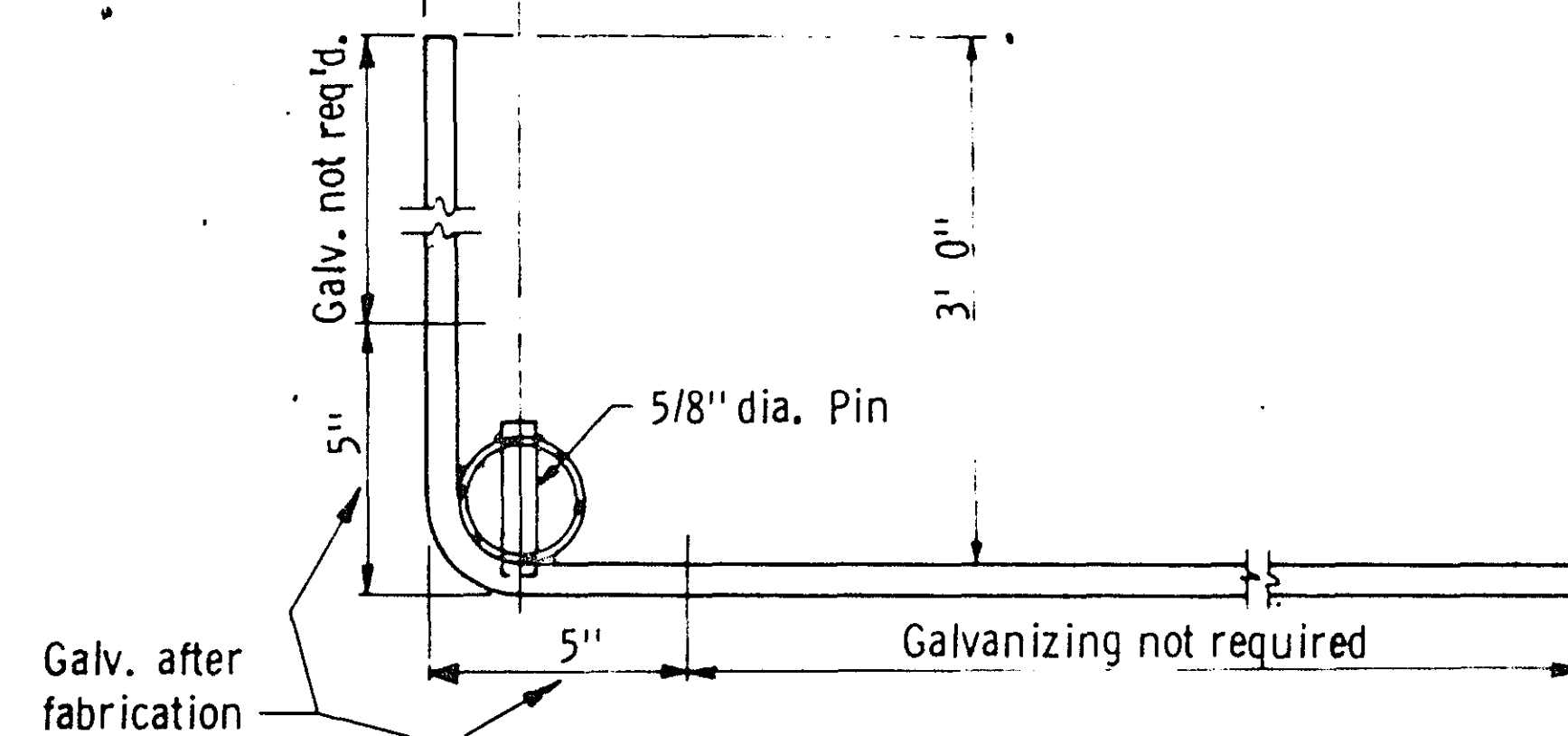
FABRIC TIE



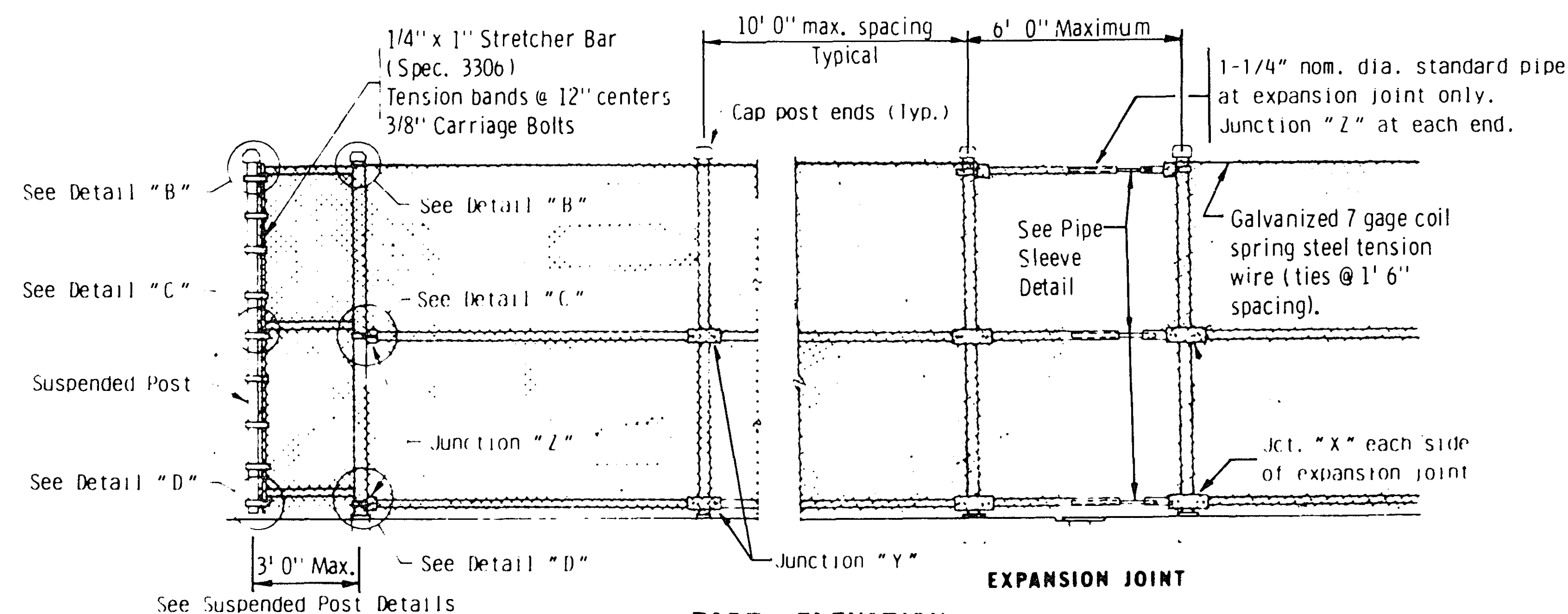
ELEVATION



PLAN VIEW FOR REGULAR FENCE POSTS



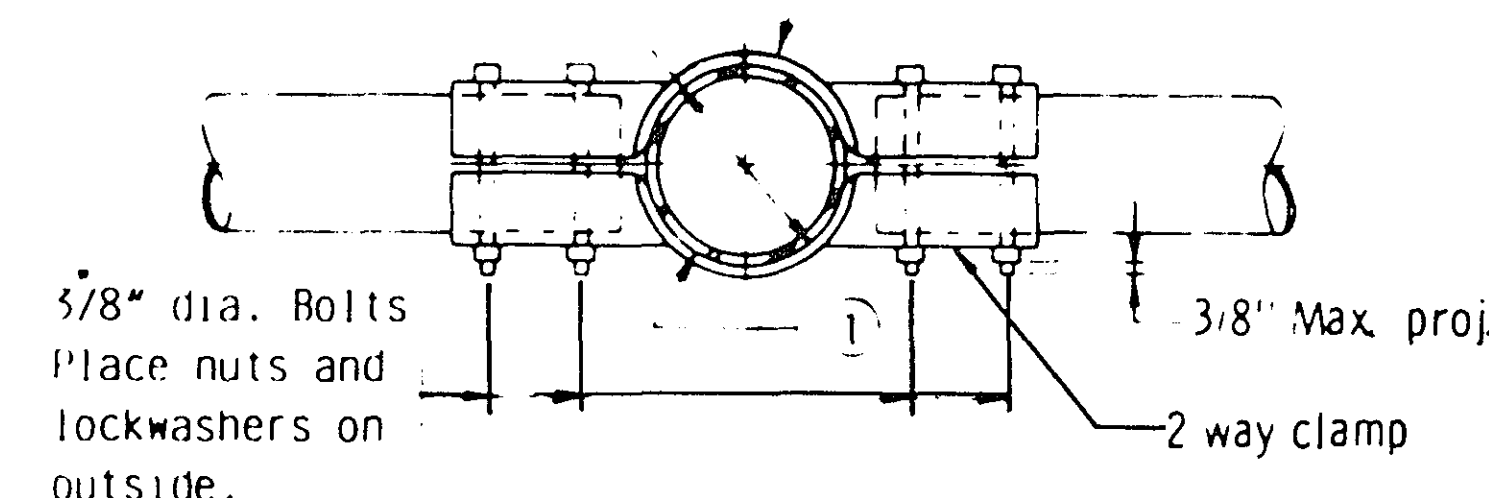
PIPE ANCHORAGE FOR FENCE POSTS
TYPE 1



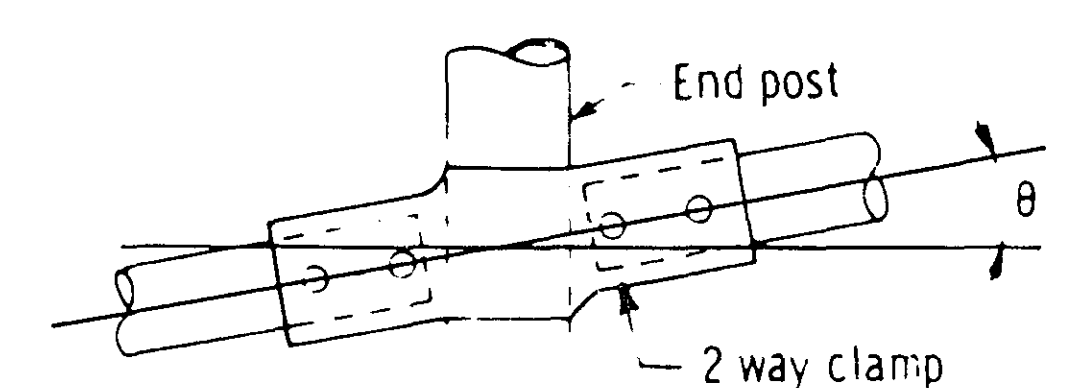
PART ELEVATION

See Suspended Post Details

Fence Post - Inside face of fence



PLAN VIEW



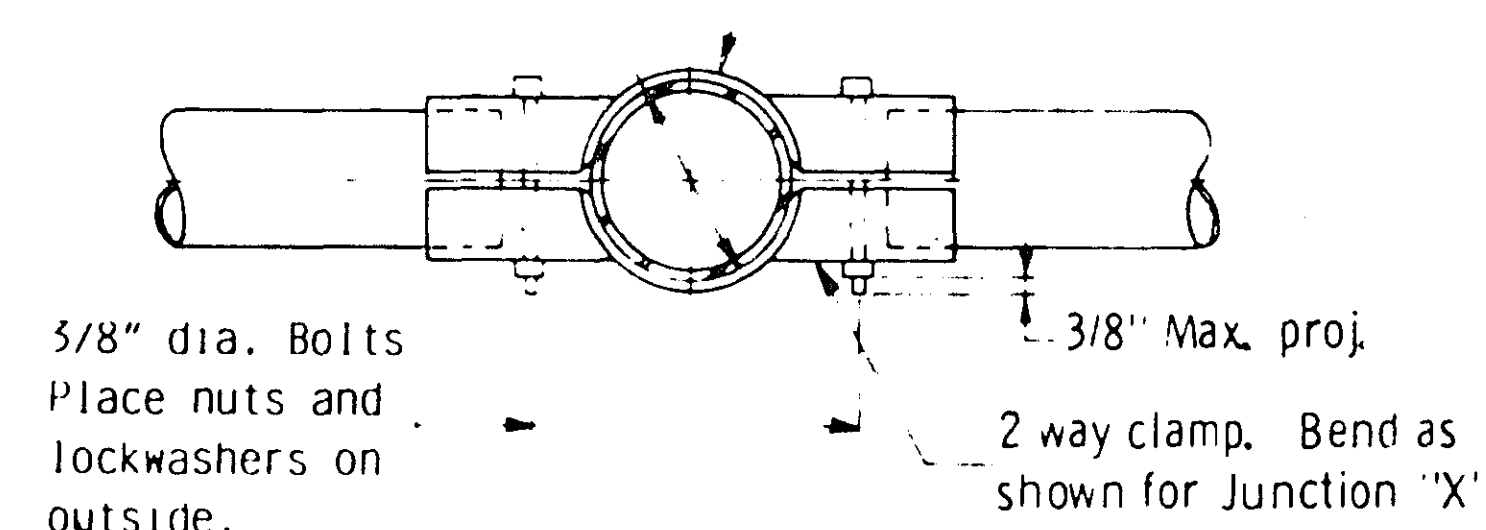
ELEVATION

JUNCTION "X"

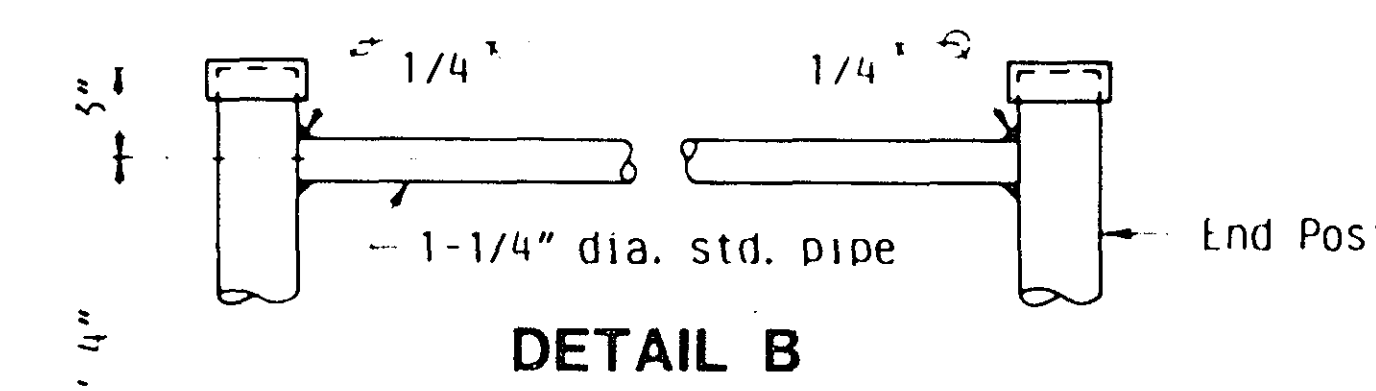
2-WAY CLAMP
BENDING TABLE

GRADE OF FENCE	θ
0° to 2°	0°
2° to 6°	4°
6° to 10°	8°

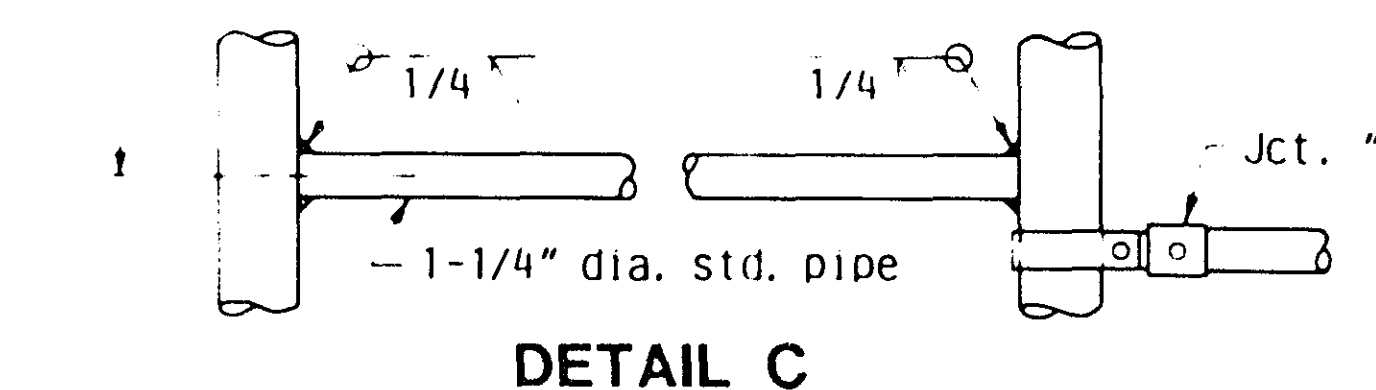
Fence Post - Inside face of fence



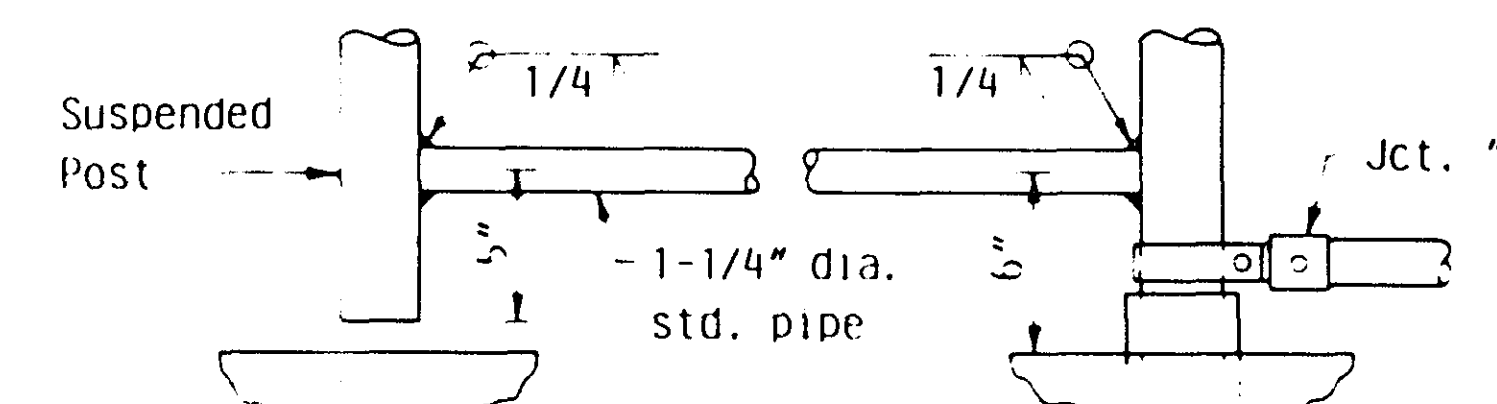
JUNCTION "Y"



DETAIL B

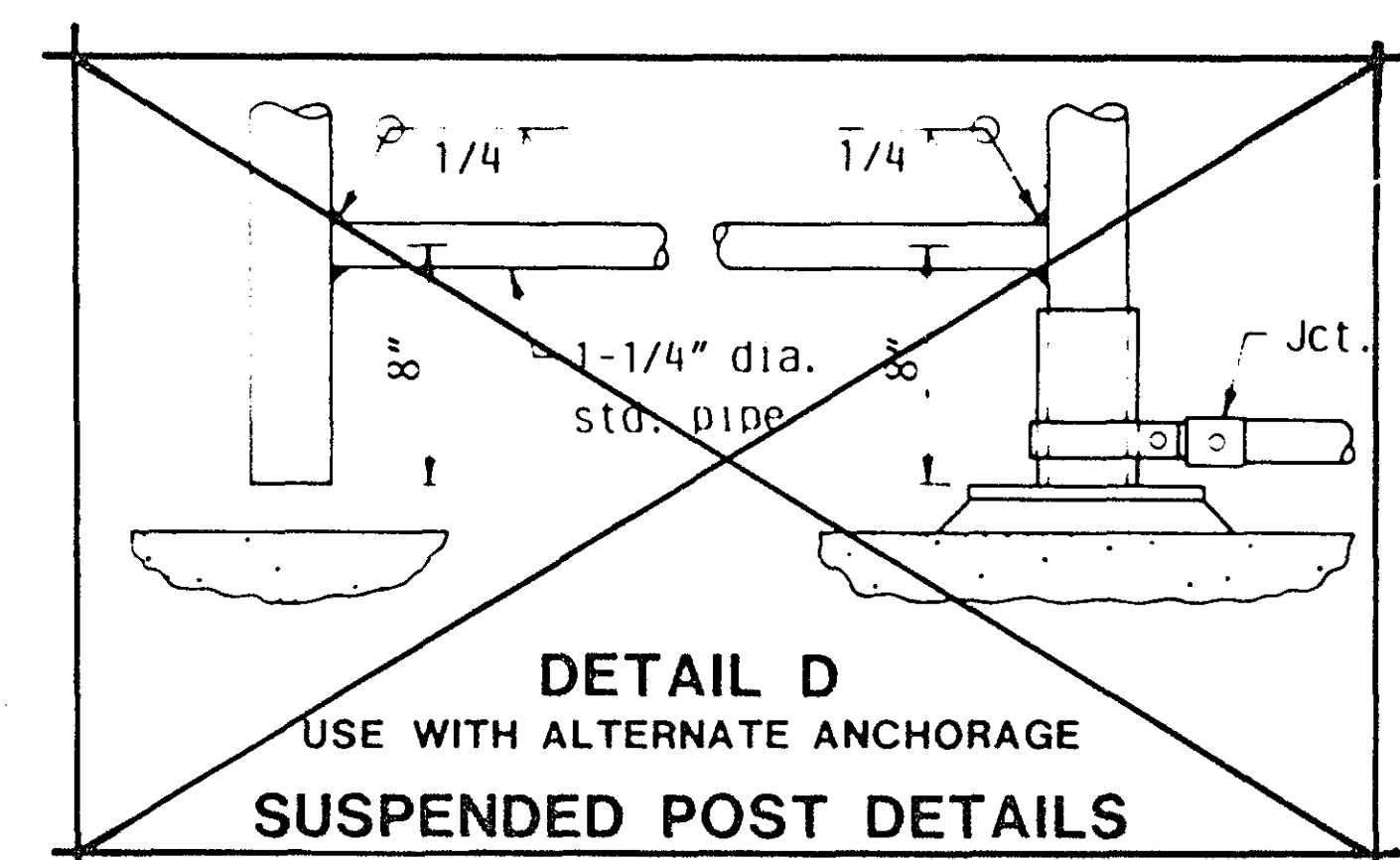


DETAIL C



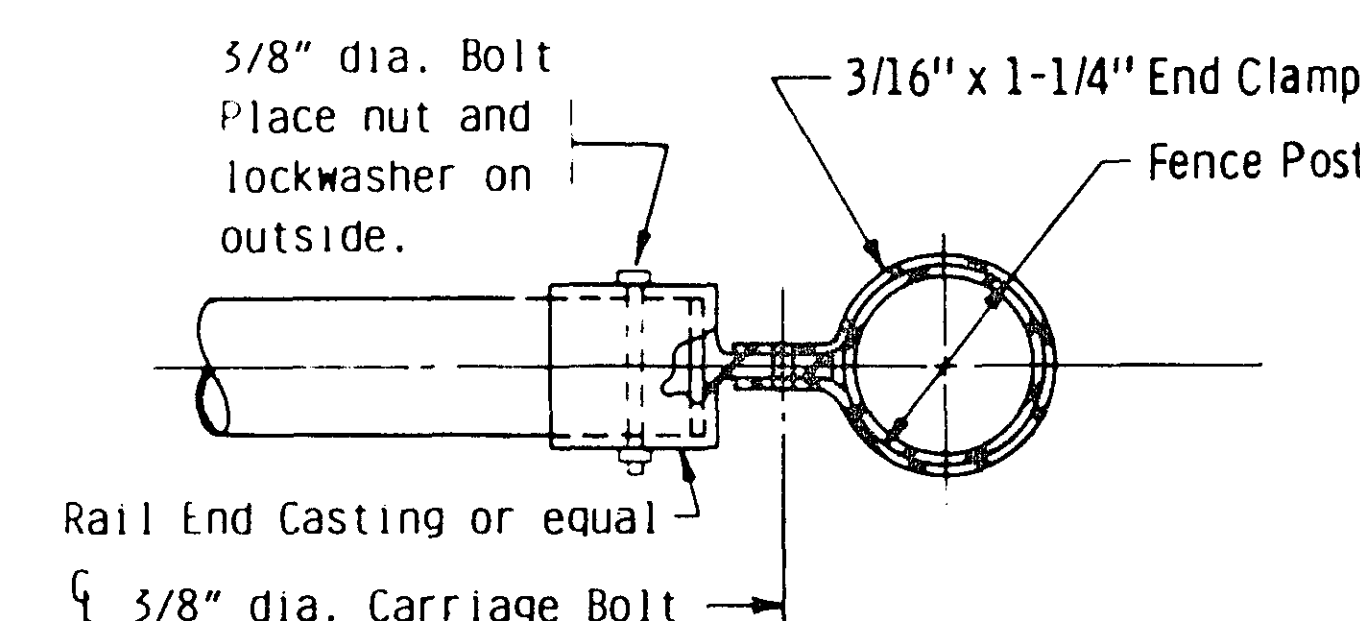
DETAIL D

USE WITH TYPE 1 ANCHORAGE

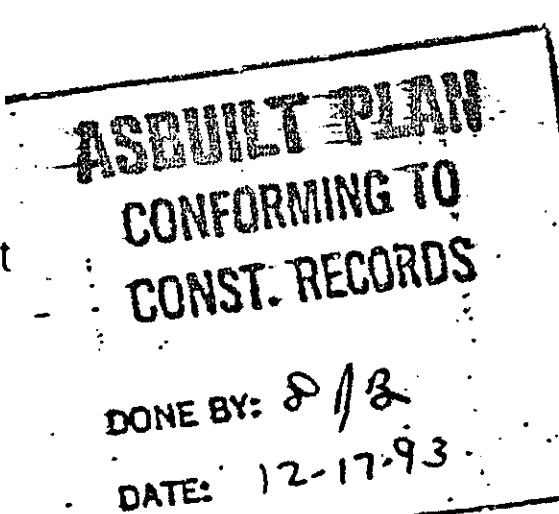


DETAIL D

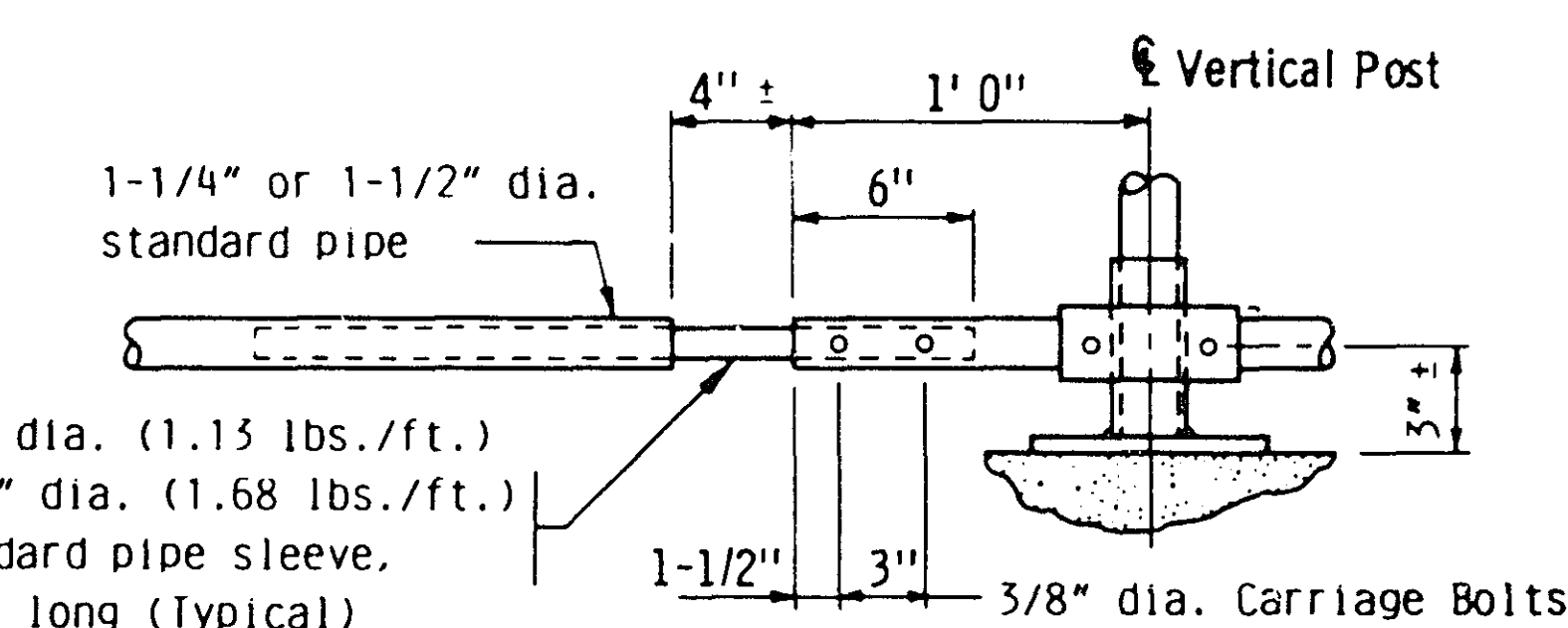
USE WITH ALTERNATE ANCHORAGE
SUSPENDED POST DETAILS



JUNCTION "Z"



TYPICAL SECTION THRU FENCE



PIPE SLEEVE DETAIL
For 4" maximum bridge expansion

GENERAL NOTES:

For post spacing, location, type of anchorages & other details, see sheet no. 15

Maximum spacing for 2-1/2" standard pipe posts = 10' 0". Post spacings of 10' 0" are desired for efficient use of standard pipe lengths.

Fence posts and anchorages shall be set vertical, unless otherwise noted.

See special provisions for requirements not included on this sheet and for basis of payment.

All posts shall have a means to securely hold the top tension wire in position and allow for the removal and replacement of a post without damaging the top wire.

Wire ties may be 9 gage galvanized steel or 0.179" minimum aluminum alloy conforming to ASTM B211, Alloy 1100-H18. Use 12-1/2 gage galvanized hog rings for tension wire ties.

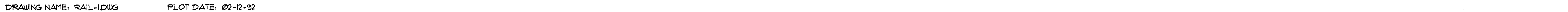
℄ of fence post anchorage to be a minimum of 6" from joints.

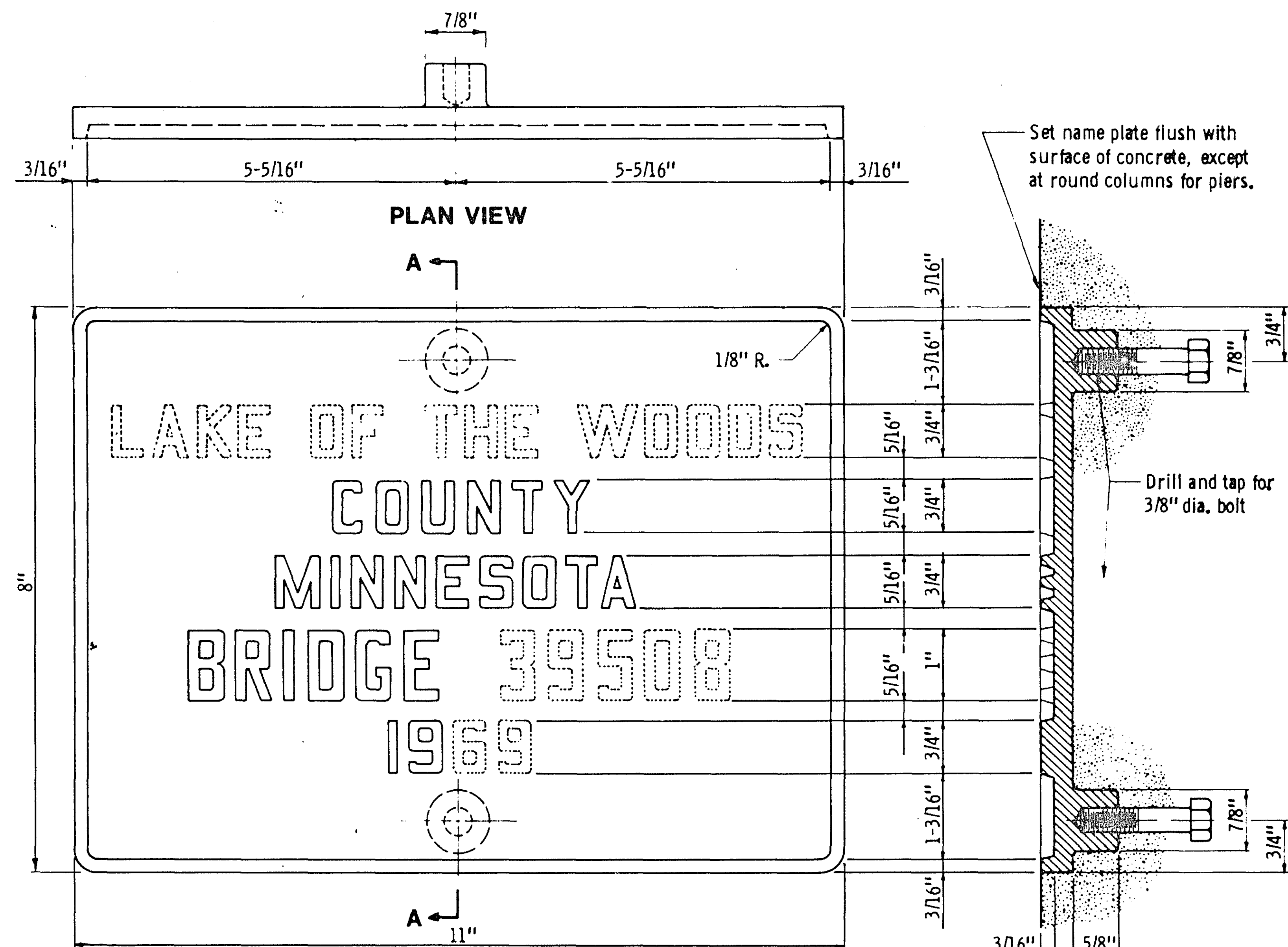
SEE SPECIAL PROVISIONS FOR FINAL FINISH ON FENCE.

28-125

(MODIFIED)
TITLE: 5 FT. WIRE FENCE
FOR PEDESTRIAN WALKS
(USE WITH TYPE J RAILING)

REVISED: Nov. 26, 1985
APPROVED: Nov. 26, 1985
FIG. 5-397.205
Bridge No. 62566
Sheet No. 18 of 22 Sheets





ELEVATION

The dotted letters & numbers shown above are for illustration. Data to be shown on name plate is as follows:

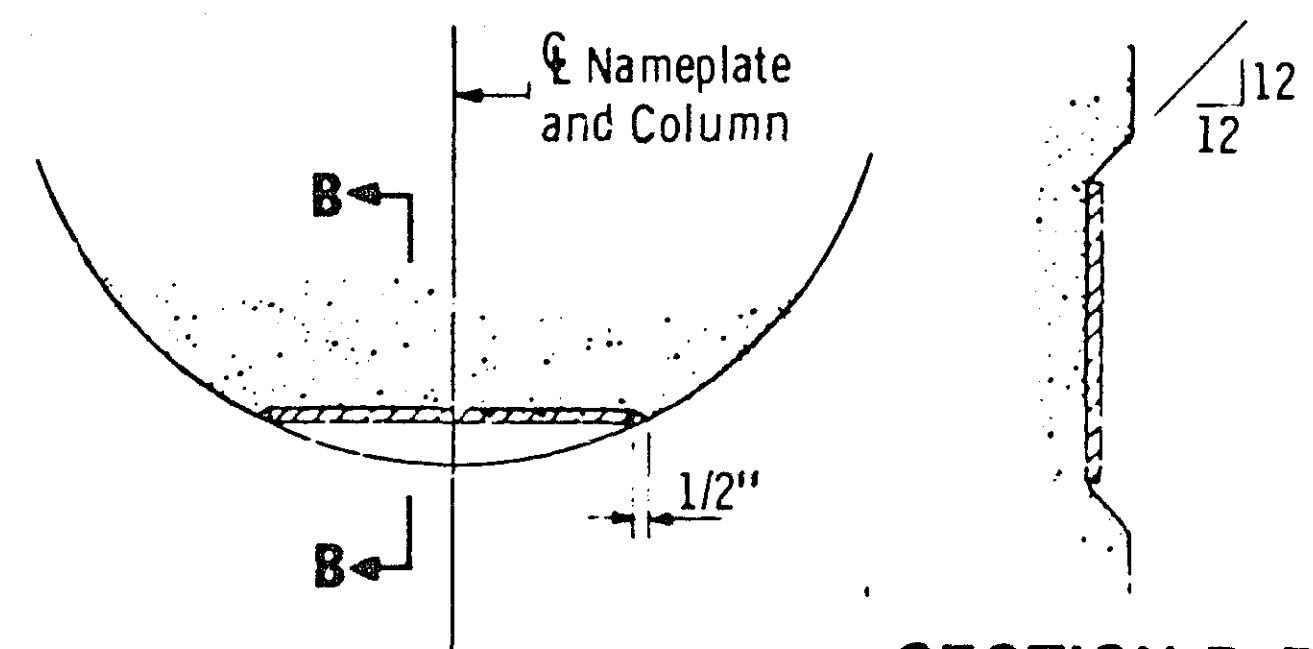
COUNTY RAMSEY
BRIDGE 62566
YEAR 1992

SECTION A-A

1234567890

ABCDEFGHIJKLMNOPQRSTUVWXYZ

LETTERS & NUMBERS FOR NAMEPLATES

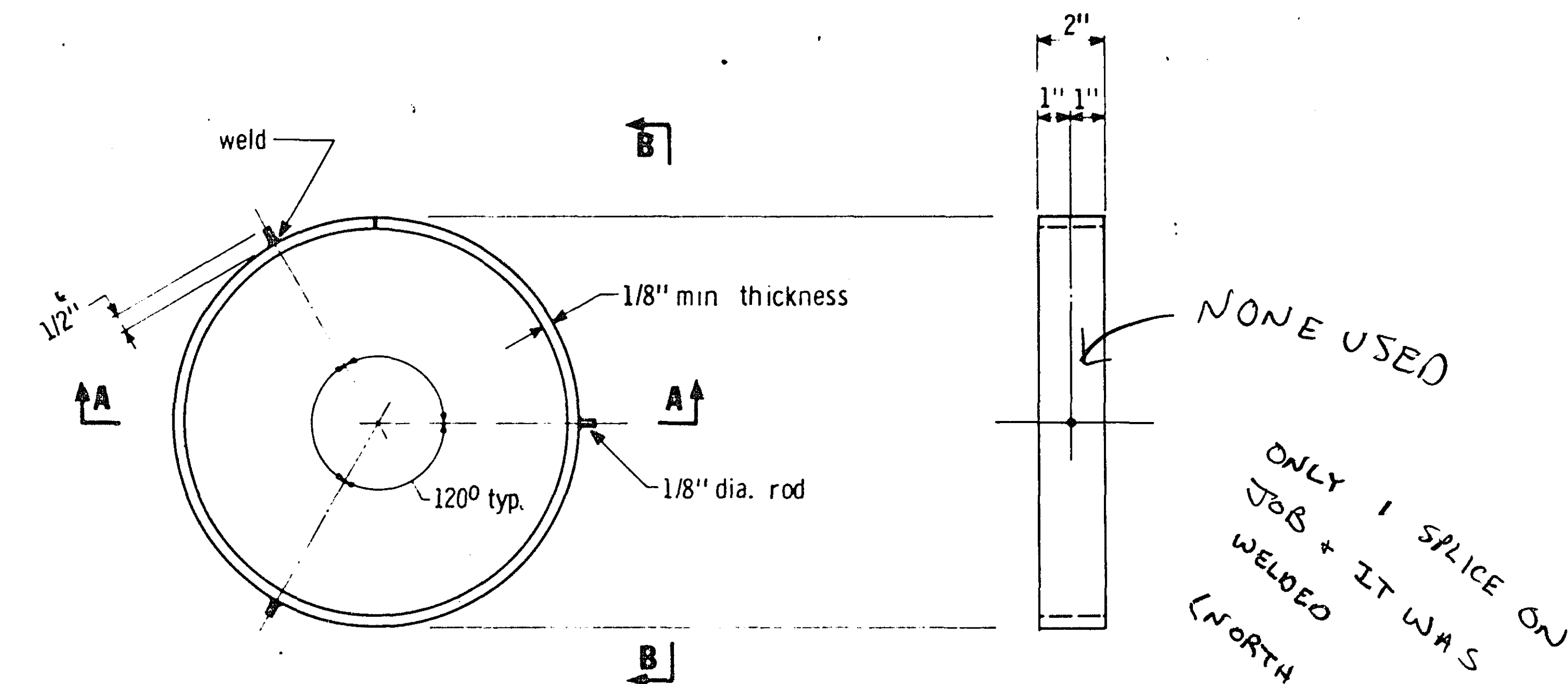


NAMEPLATE PLACEMENT
(Round Concrete Pier Columns)

NOTES:

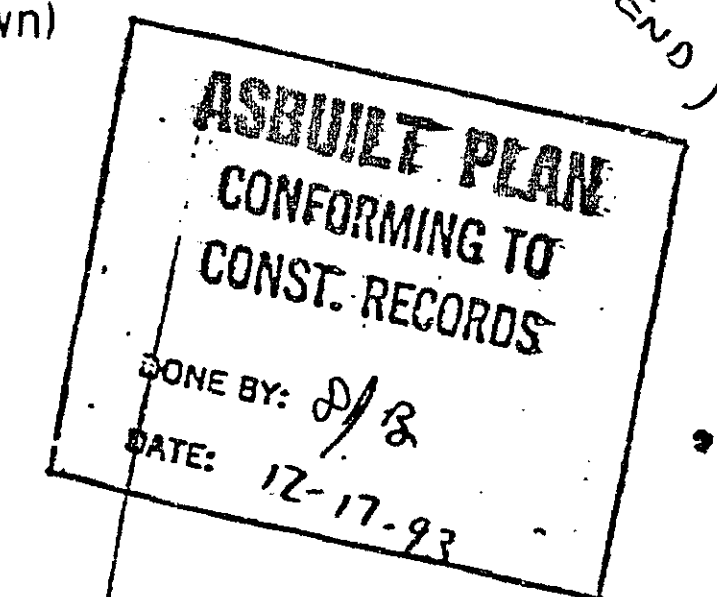
No shop drawing required.
Material shall comply with Spec. 3327.
Letters and numbers shall conform to those shown.
Draft on letters and numbers shall not be more than 3" in 12".
Horizontal spacing of letters and numbers shall produce a balanced layout in proportion to spacing shown.
Top surface of letters, numbers and frames shall be burnished.
Furnish 2 steel bolts 3/8" dia. x 3" long with each plate.
All dimensions for 3/4" high letters and numbers shall be in direct proportion to those shown for the 1" high letters and numbers.

APPROVED: May 1, 1985	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	REVISION	DETAIL NO.
Developed by: ENGINEERING STANDARDS & BRIDGES AND STRUCTURES OFFICES	BRIDGE NAMEPLATE COUNTY BRIDGES		B103
Issued by: OFFICE OF ENGINEERING STANDARDS			



PLAN VIEW
(Pile not shown)

SECTION B-B
(Pile not shown)



NOTES:

Approved commercial pile splice back-up ring may be used in lieu of the type detailed. Back-up ring shall have a tight fit.
Welding electrodes shall be A. W. S. Type E7016 or E7018 (low-hydrogen)
Low-hydrogen electrodes shall be supplied in hermetically (air-tight) sealed containers.
Low-hydrogen electrodes shall be stored in holding ovens at a temperature of not less than 250° F.
Low-hydrogen electrodes shall be placed in a holding oven for at least 8 hours, after having been exposed to the atmosphere for more than 2 hours.
Electrodes which have become wet, soiled or damaged shall not be used.
Welding shall not be done when the ambient temperature is lower than 0° F. or when the pile is wet or exposed to falling rain or snow. When the pile metal temperature is below 32° F., the pile metal in the area of the weld shall be heated to a minimum temperature of 70° F. and maintained at this temperature during welding.

Full butt weld all around

Splice back-up ring

Pile shell

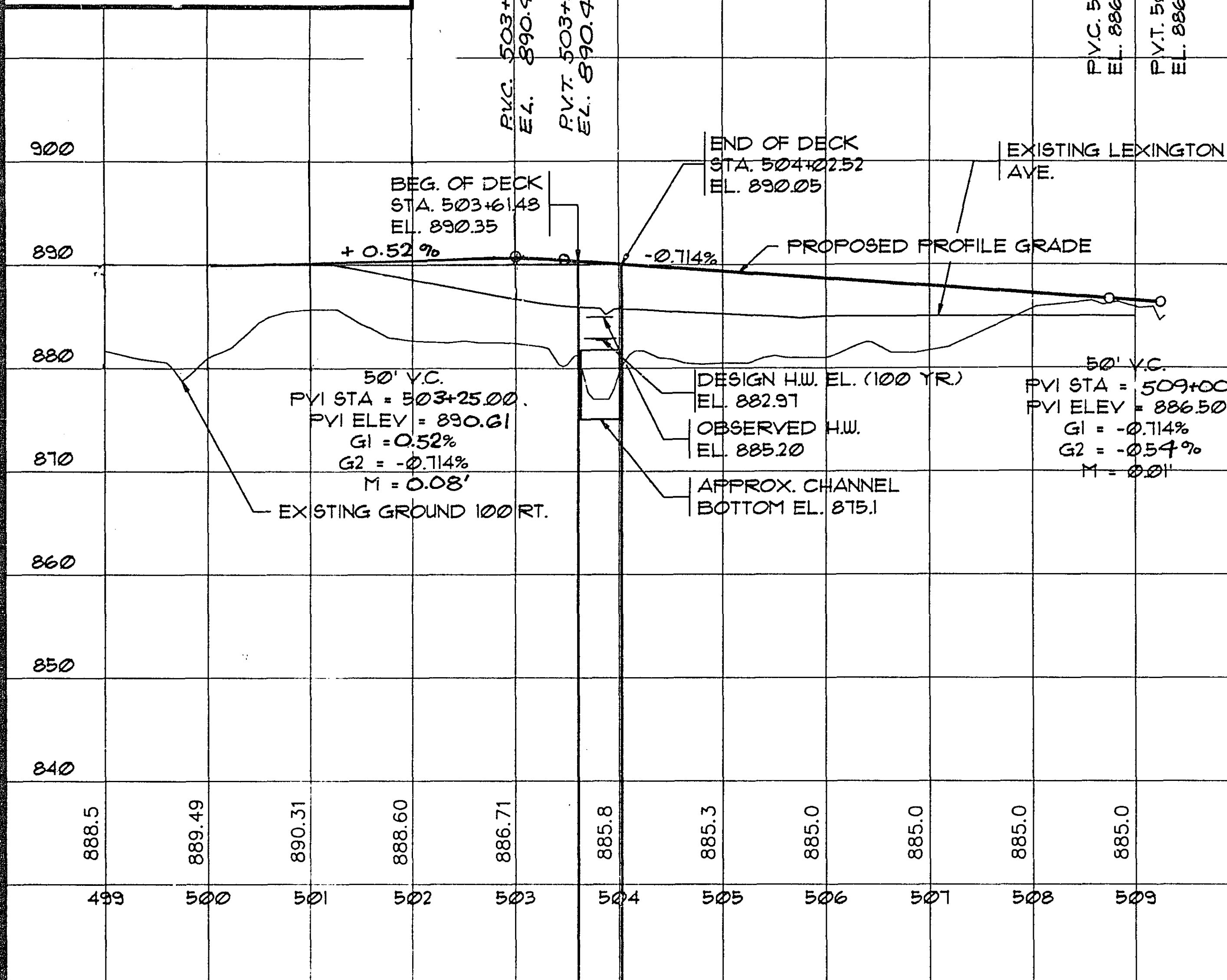
SECTION A-A

APPROVED: July 21, 1972	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	REVISION	DETAIL NO.
Engineering Standards & Research Division	PILE SPLICE CAST-IN-PLACE CONCRETE PILES		B201
			ZB-125

TITLE	DES	DR	APPROVED	Bridge No.
DETAILS	CHK	CHK	12-7-92	62566
			Sheet No. 20 of 22 Sheets	

CONTRACTED PROFILE

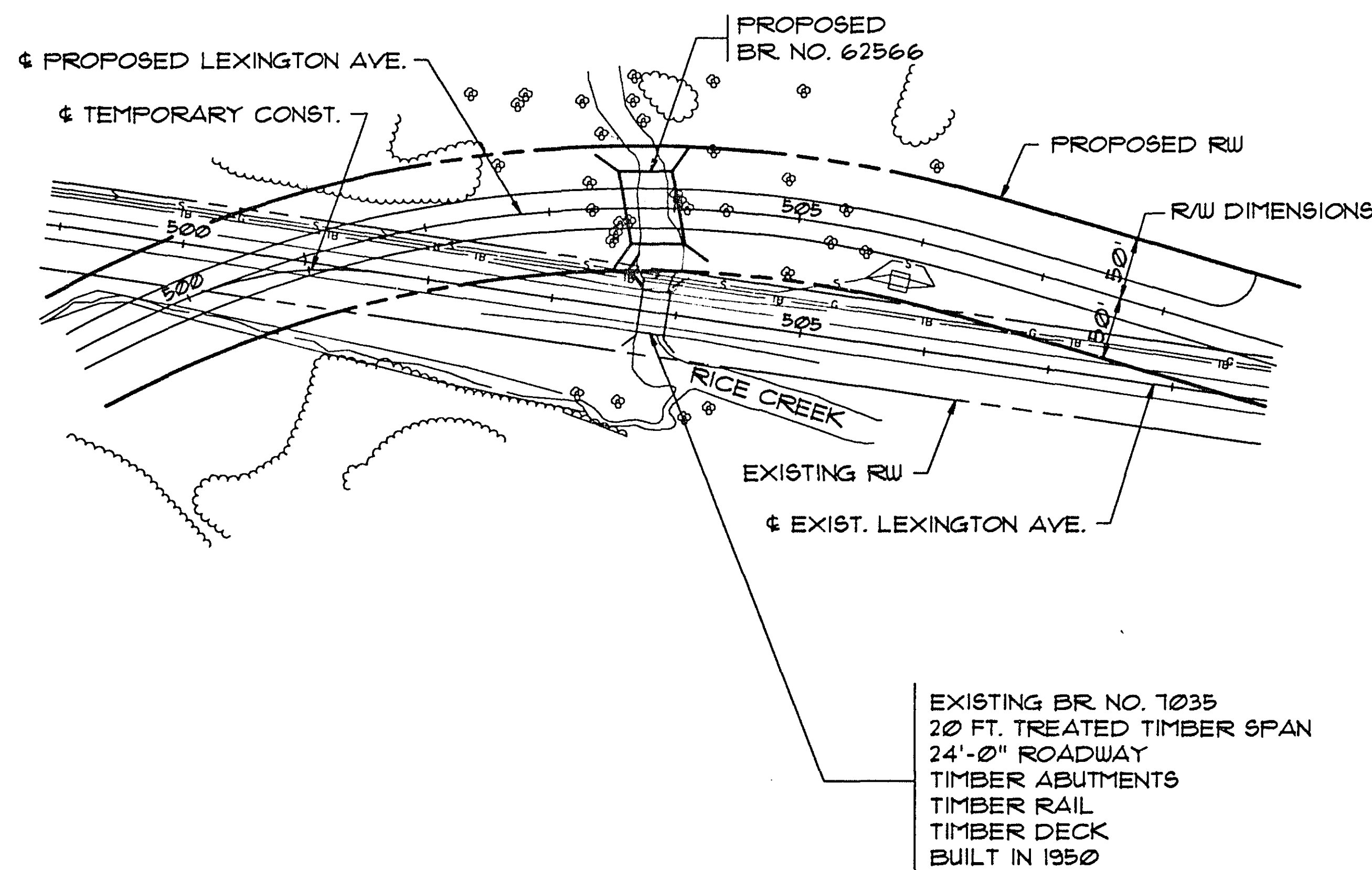
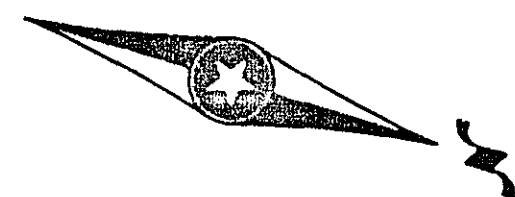
SCALE: HOR. 0 50 100' VER. 0 5 10'



PLAT

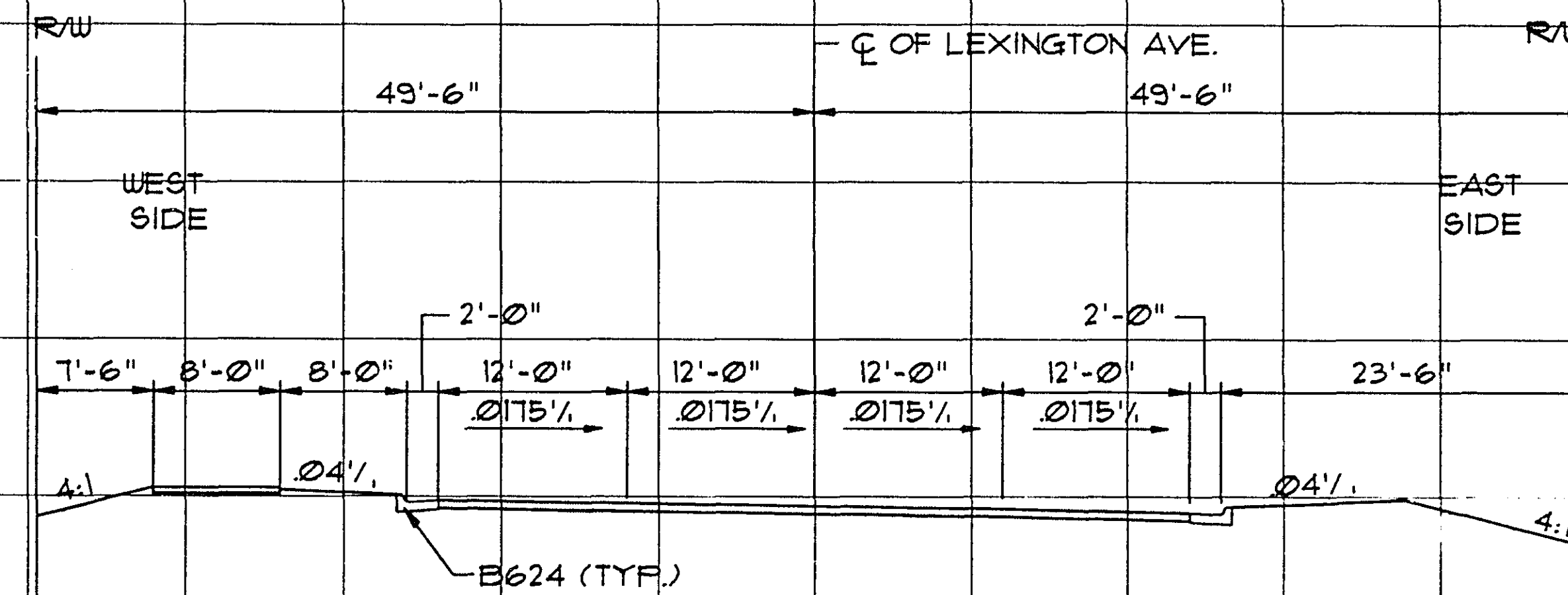
SCALE: 0 50 100'

CURVE DATA
 $\Delta = 90^\circ 06' 38''$
 $DC = 6^\circ 01' 24''$
 $R = 951.25'$
 $L = 1496.05'$
 $T = 953.08'$

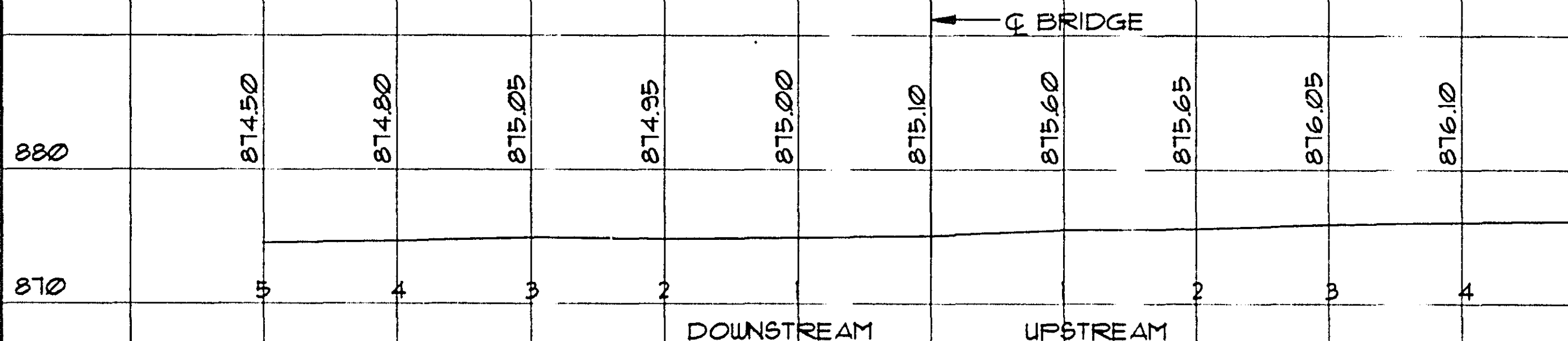


TYPICAL SECTION & PERTINENT DATA

SCALES AS SHOWN



TYPICAL APPROACH ROADWAY 4 LANE



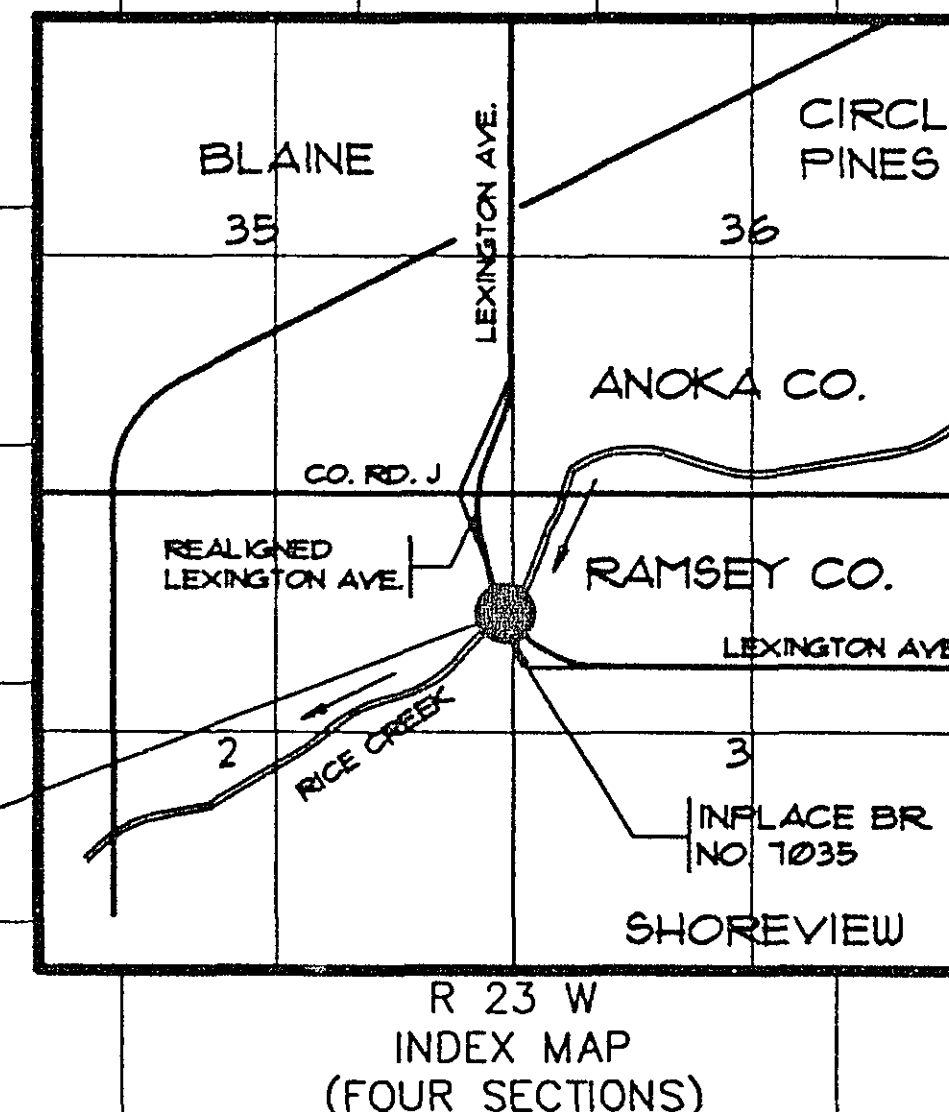
CHANNEL BOTTOM PROFILE

TYPICAL CHANNEL CROSS SECTION (100' UPSTREAM)

SCALE: 1" = 10'-0" HORZ.
 1" = 10'-0" VERT.

ASBUILT PLAN
 CONFORMING TO
 CONST. RECORDS
 DONE BY: D/A
 DATE: 12-17-93

PROPOSED
 BR. NO. 62566



Fed. Proj. No.

LOCATION ENGINEER'S OBSERVATIONS AT BRIDGE SITE

1. Special Features: Waterfalls, dams, floods, ice, debris, sliding banks, recreational boating.

2. Other bridges or culverts over the same stream (particularly structures which carry high water without overflow of roadway): Given location, type, length, height above high water, cross-sectional area etc.

3. Apparent highwater elevation. Obtained from

4. Other data: Approx. velocity of water at time of survey

HYDRAULIC ENGINEERS RECOMMENDATION DATE

Stream or ditch designation. RICE CREEK
 Drainage area 146 SQ. MILES
 Max. flood on record. Design flood (yr. freq.) C.F.S.
 Max. observed highwater elev. 885.20 Design highwater elev. 882.91
 Design mean velocity through structure F.P.S.
 Low superstructure at or above elev. 886.20
 Flowline elev. 875.10 Skew angle 10'

Waterway area req'd below elev. * = 162 Sq. Ft. at Rt. angles to channel
 * WATERWAY AREA RESTRICTED TO MATCH EXISTING CONDITION

In the interest of flood plain zoning the regional flood (100 yr. freq.) is 1492 C.F.S. at stage 882.91 and mean of velocity of 5.16

F.P.S. with Ft. swellhead.

The above recommendation will provide a structure of adequate waterway to pass the regional flood within criteria established by the Dept. of Natural Resources.

FOUNDATION ENGINEERS RECOMMENDATION DATE 7/20/90

REPORT NO. 4220-90-934 (TWIN CITY TESTING)

Bridge survey sheets made from: BRW FIELD SURVEY NOTES

Bench mark elevation 885.10 (M.S.L. 1929 Adj.)
 Location: BRASS DISK IN S.E. COR WINGWALL ON EXISTING BR. NO. 90123 OVER RICE CREEK

MINNESOTA
 DEPARTMENT OF TRANSPORTATION

28-125 BRIDGE SURVEY

AT MILE POINT. ON C.S.A.H. 51

PROPOSED BRIDGE LOCATED 0.2 MILES SOUTH OF

JCT. OF C.S.A.H. 32 IN THE CITY OF SHOREVIEW

SEC. 03 TWP. 30N R. 23W

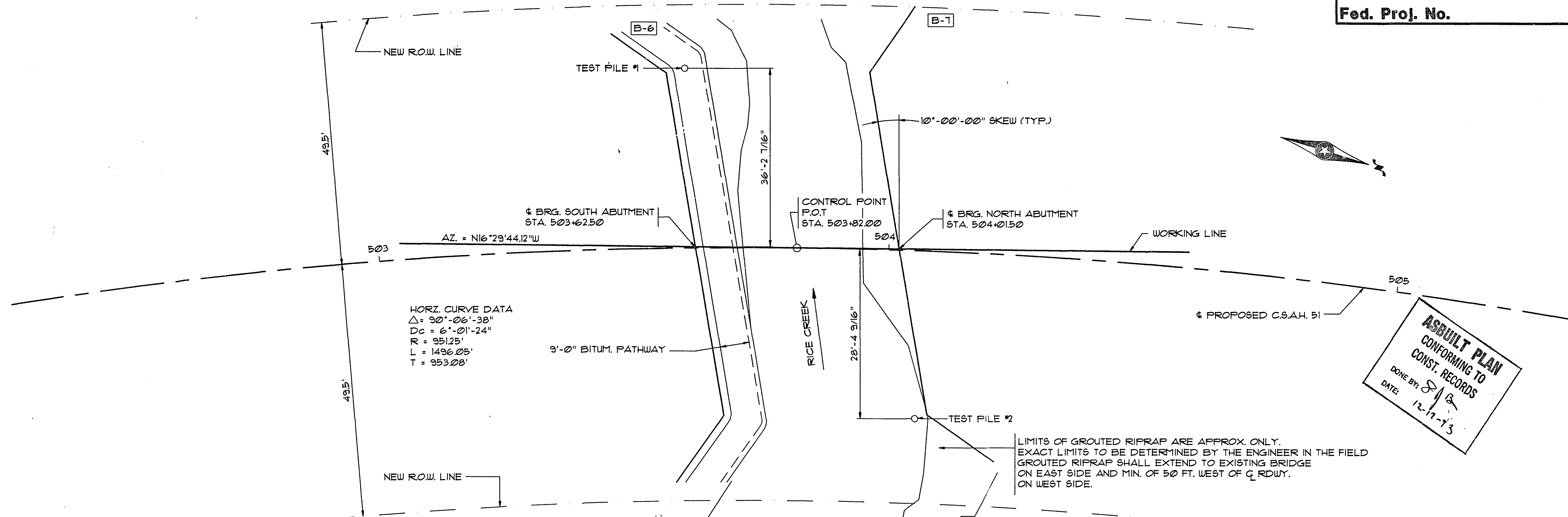
CITY SHOREVIEW COUNTY RAMSEY

BRIDGE NO. 62566

12-7-92

State Proj. No. S.P. 62-651-27

Sheet No. 21 of 22 Sheets



APPROACH GRADING - SEPARATE CONTRACT

GRANULAR FILTER IS INCLUDED IN PRICE
BID FOR GROUTED RIPRAP. APPROX.
QUANTITY = 80 CU. YD.

