MINNESOTA DEPARTMENT OF TRANSPORTATION

THE COUNTY OF OLMSTED

CONSTRUCTION PLAN FOR GRADING, AGGREGATE BASE & BRIDGE NO. 55545

LOCATED ON C.R. 115 **BETWEEN** T.H. 30 **AND** C.S.A.H. 6 **(GEOGRAPHIC DESCRIPTION)**

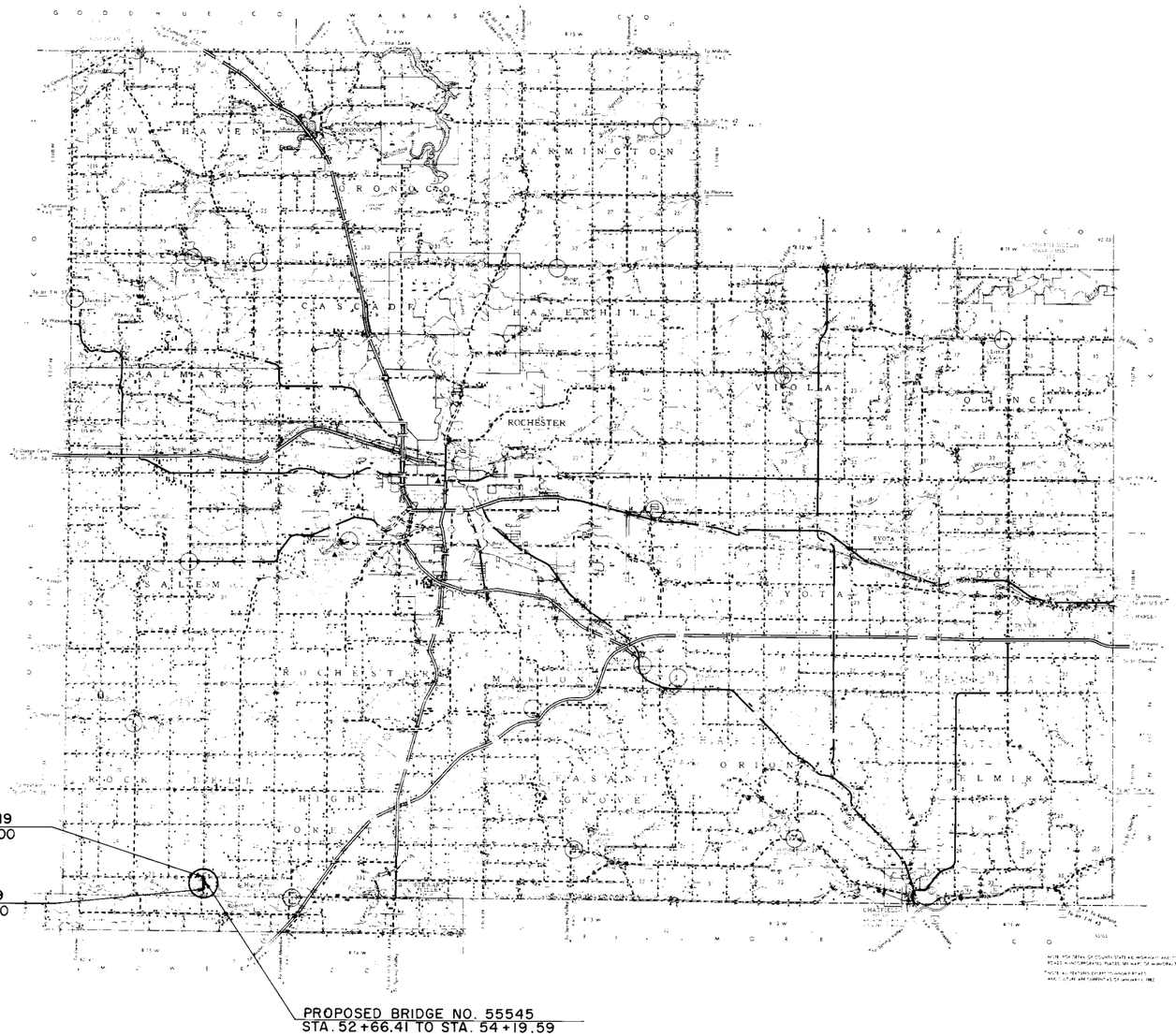
FROM APPROX. 1200' S. 1/4 COR. SEC. 34-35 T105N R15W **TO** APPROX. 1/4 COR. SEC. 34-35 T105N-R15W **(LEGAL DESCRIPTION)**

STATE PROJ. NO. 55-598-19

GROSS LENGTH	1200.00	FEET	0.227 MILES
BRIDGES-LENGTH	153.18	FEET	0.029 MILES
EXCEPTIONS-LENGTH	0	FEET	0 MILES
NET LENGTH	1200.00	FEET	0.227 MILES

STATE PROJ. NO. _____

GROSS LENGTH		FEET	MILES
BRIDGES-LENGTH		FEET	MILES
EXCEPTIONS-LENGTH		FEET	MILES
NET LENGTH		FEET	MILES



PLANS SYMBOLS

STATE LINE
COUNTY LINE
TOWNSHIP OR RANGE LINE
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
RIGHT OF WAY LINE
PRESENT RIGHT OF WAY LINE
CONTROL OF ACCESS LINE
PROPERTY LINE (Across Land Lines)
VACATED PLATTED PROPERTY
CORPORATE OR CITY LIMITS
TRUNK HIGHWAY CENTER LINE
RETAINING WALL
RAILROAD
RAILROAD RIGHT OF WAY LINE
RIVER OR CREEK
DRY RUN
DRAINAGE DITCH
DRAIN TILE
CULVERT
DROP INLET
GUARD RAIL
BARBED WIRE FENCE
WOVEN WIRE FENCE
CHAIN LINK FENCE
RAILROAD SNOW FENCE
STONE WALL OR FENCE
HEDGE
RAILROAD CROSSING SIGN
RAILROAD CROSSING BELL
ELECTRIC CAMMING SIGN
CROSSING GATE
MEANDER CORNER
SPRINGS
MARSH
TIMBER
ORCHARD
BRUSH
NURSERY
CATCH BASIN
FIRE HYDRANT
CATTLE GUARD
OVERPASS (Highway Over)
UNDERPASS (Highway Under)
BRIDGE
BUILDING (One Story Frame)
F-FRAME C-CONCRETE
S-STONE T-TILE
B-BRICK ST-STUCCO
IRON PIPE OR ROD
MONUMENT (STONE, CONCRETE, OR METAL)
WOODEN HUB
GRAVEL PIT
SAND PIT
BORROW PIT
ROCK QUARRY
SLOPE EASEMENT

UTILITIES SYMBOLS

POWER POLE LINE
TELEPHONE OR TELEGRAPH POLE LINE
JOINT TELEPHONE AND POWER OR POWER POLES
OR TELEPHONE POLES
ANCHOR
STEEL TOWER
STREET LIGHT
PEDESTAL TELEPHONE CABLE TERMINAL
GAS MAIN
WATER MAIN
CONDUIT
TELEPHONE CABLE IN CONDUIT
ELECTRICAL CABLE IN CONDUIT
TELEPHONE MANHOLE
ELECTRIC MANHOLE
BURIED TELEPHONE CABLE
BURIED ELECTRICAL CABLE
AERIAL TELEPHONE CABLE
SEWER (SANITARY OR STORM)
SEWER MANHOLE

SCALES

PLAN 0 100'
PROFILE 0 100' HOR. 0 10' VERT.
INDEX MAP 0 2 MILES
CROSS SECTIONS 0 10'

ALLINSON MPLS 55405
72065

MINN. PROJ. NO. BROS 9055 (011)
MINN. PROJ. NO. CRP 0088 (039)

GOVERNING SPECIFICATIONS

THE 1983 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

INDEX

SHEET NO. 1 TITLE SHEET & LAYOUT MAP
SHEET NO. 2 ESTIMATE OF QUANTITIES & TYPICAL SECTIONS
SHEET NO. 3 PLAN & PROFILE
SHEET NO. 4-6 CROSS SECTIONS
SHEET NO. 7-18 BRIDGE SHEETS

DESIGN DESIGNATION

R
ΣN18(20)
ADT (Current Year) = 57 (1988) Design Speed 55 MPH
ADT (Future Year) = 103 (2008) Based on STOPPING Sight Distance
DHV (Design Hr. Vol.) = Height of eye 3.5' Height of object 0.5'
D (Directional Distr.) = % Design Speed not achieved at:
T (Heavy Commercial) = % STA. TO STA. MPH
SOIL FACTOR 130% STA. TO STA. MPH
SHOULDER WIDTH 3' STA. TO STA. MPH
9 TON DESIGN

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.

DATE 2/10/88 REG. NO. 10397 ENGR. Michael Sheehan
COUNTY Olmsted

Recommended for Approval _____ 19__
DISTRICT STATE AID ENGINEER

Recommended for Approval for Kay L. Hanson 5-18 1988
STATE AID PLANS AND SPECS ENGINEER

Approved 5/16 1988 Gordon M. Gray
STATE AID ENGINEER

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED
_____ DIVISION ADMINISTRATOR _____ DATE

~~STATE AID PROJ. NO.~~

STATE PROJ. NO. 55-598-19 OLMSTED COUNTY C.R. 115 **SHEET NO.** 1 **OF** 18 **SHEETS**

ESTIMATED QUANTITIES

	SPECIFICATION NO.	ITEM	UNIT	PARTICIPATING	NON PARTICIPATING	TOTAL ESTIMATED QUANTITIES	
	2105.515	UNCLASSIFIED EXCAVATION	CU. YD.		5263 (P)	5263 (P)	
	2105.535	SALVAGED TOPSOIL (EV)	CU. YD.		498 (P)	498 (P)	
(1)	2211.501	AGGREGATE BASE CLASS 2	TON		2630	2630	
	2501.511	18" C.S. PIPE CULVERT	LIN. FT.		76	76	
(8)	0501.602	18" C.S. SAFETY APRONS	EACH		4	4	
	2575.501	ROADSIDE SEEDING	ACRE		2 (P)	2 (P)	
(2)	2575.502	SEED MIXTURE 2	POUND		200	200	
(3)	2575.502	SEED MIXTURE 5 MOD.	POUND		100	100	
(4)	2575.511	MULCH MATERIAL TYPE 1	TON		4	4	
	2575.519	DISC ANCHORING	ACRE		2 (P)	2 (P)	
(5)	2575.532	COMMERCIAL FERTILIZER ANALYSIS 12-12-12	POUND		400	400	
	2401.501	STRUCTURE CONCRETE (1A43)	CU. YD.	36 (P)		36 (P)	✓
	2401.501	STRUCTURE CONCRETE (3Y43)	CU. YD.	141 (P)		141 (P)	✓
	2401.501	STRUCTURE CONCRETE (3X33)	CU. YD.	360 (P)		360 (P)	✓
	2401.513	TYPE J RAILING CONC. (3X46A)	LIN. FT.	306 (P)		306 (P)	✓
	0401.601	STRUCTURE EXCAVATION	LUMP SUM	1		1	✓
	2401.541	REINF. BARS	POUND	23 798 (P)		23 798 (P)	✓
	2401.541	REINF. BARS-EPOXY COATED	POUND	64 105 (P)		64 105 (P)	✓
	2402.521	STRUCTURAL STEEL (3306)	POUND	388 (P)		388 (P)	✓
(6)	0452.602	PILE TIP PROTECTION 10"	EACH	10		10	✓
(7)	2442.501	REMOVE OLD BRIDGE	LUMP SUM	1		1	✓
	2452.520	STEEL H-TEST PILE 35' LONG 10"	EACH	2		2	✓
	2452.511	STEEL H-PILING DELIVERED 10"	LIN. FT.	240		240	✓
	2452.510	STEEL H-PILING DRIVEN 10"	LIN. FT.	240		240	✓
	2511.501	RANDOM RIP RAP CL III	CU. YD.	180		180	✓
	2511.511	GRANULAR FILTER	CU. YD.	50		50	✓
	0401.601	SLOPE PREPARATION	LUMP SUM	1		1	✓
	2451.501	STRUCTURE EXCAVATION CLASS R	CU. YD.	135		135	✓
	0401.601	FOUNDATION PREPARATION PIER 1	LUMP SUM	1		1	✓
	0401.601	FOUNDATION PREPARATION PIER 2	LUMP SUM	1		1	✓
	2021.501	MOBILIZATION	LUMP SUM	1		1	✓

(1) ITEM 2211.501 AGGREGATE BASE CLASS 2 INCLUDES 20 TONS FOR 1 APPROACH & 1273 TONS FOR TAPERS.
(2) APPLICATION RATE OF 100 POUNDS PER ACRE.
(3) APPLICATION RATE OF 50 POUNDS PER ACRE.
(4) APPLICATION RATE OF 2 TONS PER ACRE.
(5) APPLICATION RATE OF 200 POUNDS PER ACRE
(6) INCLUDES THE TWO TEST PILES.
(7) STA. 53+50.
(8) GRATES NOT REQUIRED

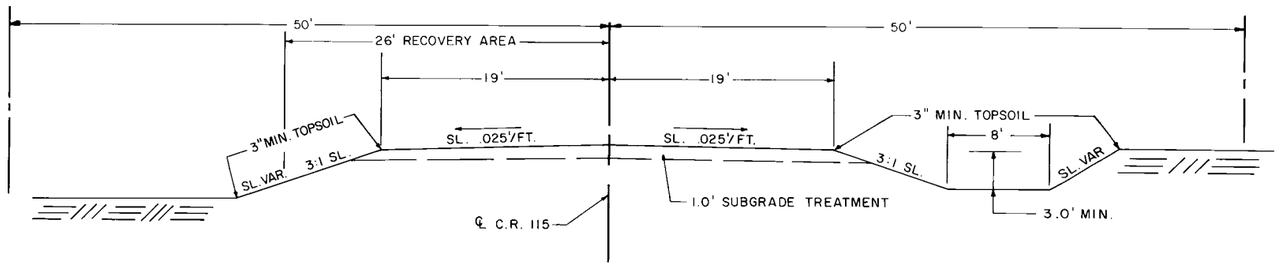
STANDARD PLATES

THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION, SHALL APPLY ON THIS PROJECT.

PLATE NO	DESCRIPTION
0004 A	SPECIFICATION REFERENCE TO STANDARD PLATES.
3040 F	CORRUGATED METAL PIPE CULVERT.
3128 D	SAFETY APRON.
3221 C	CORRUGATED STEEL PIPE COUPLING BAND.
8000 I	STANDARD BARRICADES
8003 B	BREAKAWAY SIGN SUPPORT (PLASTIC).
9000 B	APPROACHES AND ENTRANCES.
3124 B	METAL APRON CONNECTION

TYPICAL GRADING SECTION

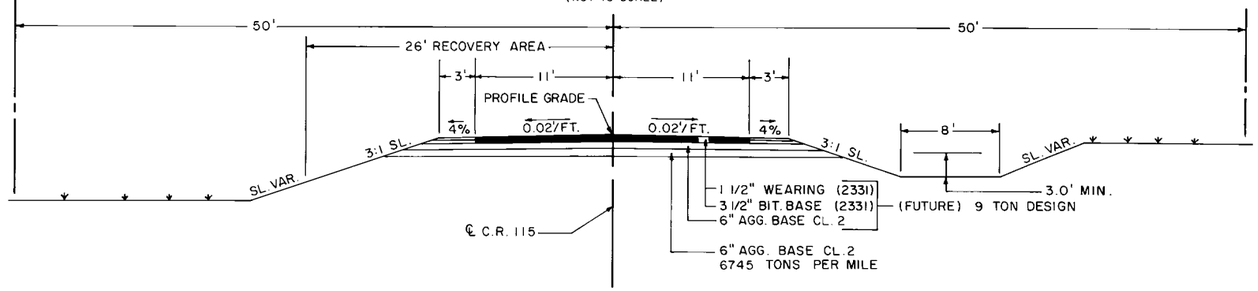
(NOT TO SCALE)



STA. 45+00 TO STA. 52+66.41
STA. 54+19.59 TO STA. 57+00

TYPICAL SURFACING SECTION

(NOT TO SCALE)



STA. 45+00 TO STA. 52+66.41
STA. 54+19.59 TO STA. 57+00

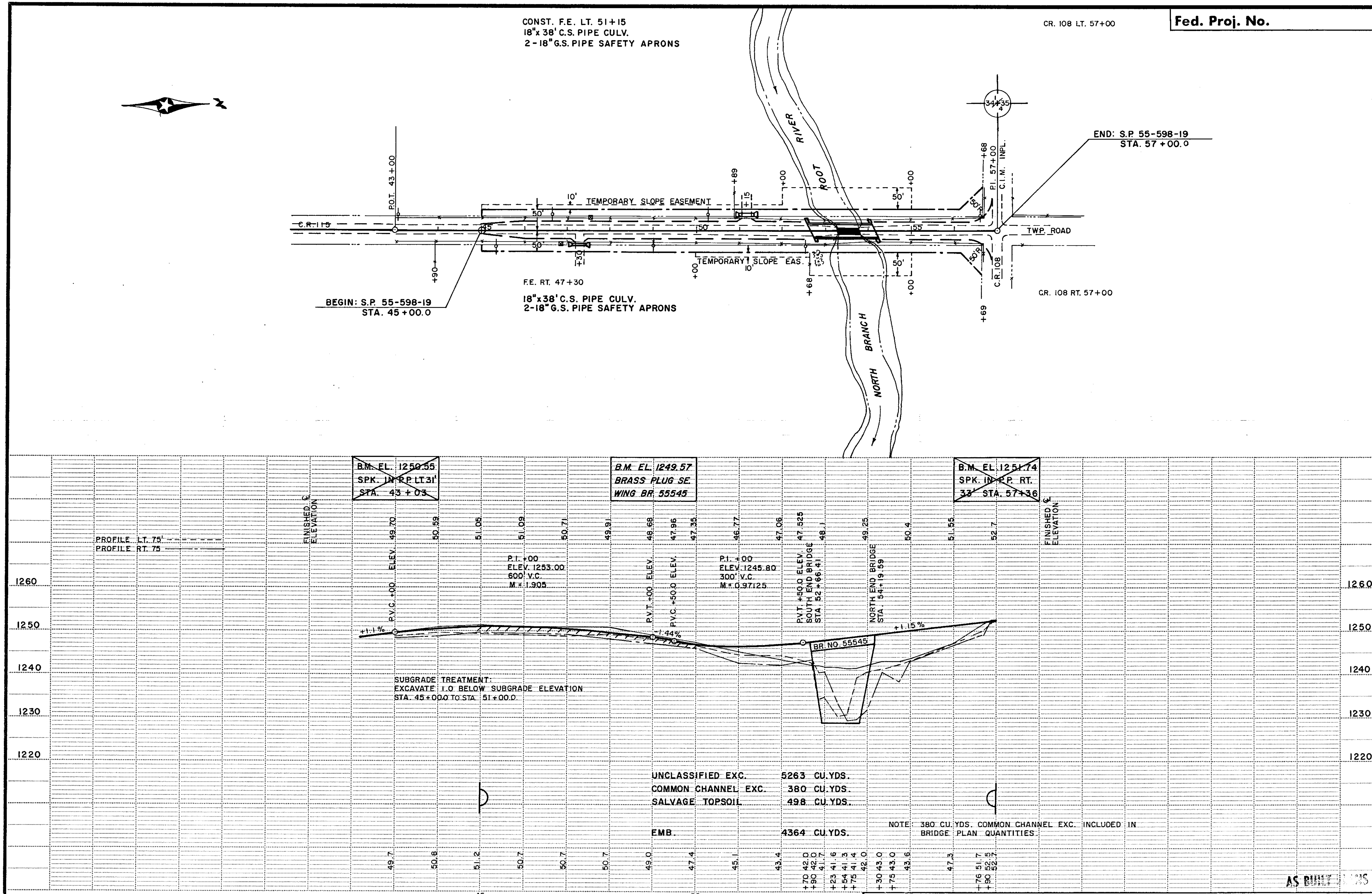
NOTE: ALL DIMENSIONS AND SLOPES SHOWN ON TYPICAL SECTIONS ARE APPROXIMATE.

NOTE: SALVAGED TOPSOIL SHALL BE PLACED ON SLOPES AS SHOWN ON PLANS AND AS DIRECTED BY THE ENGINEER.

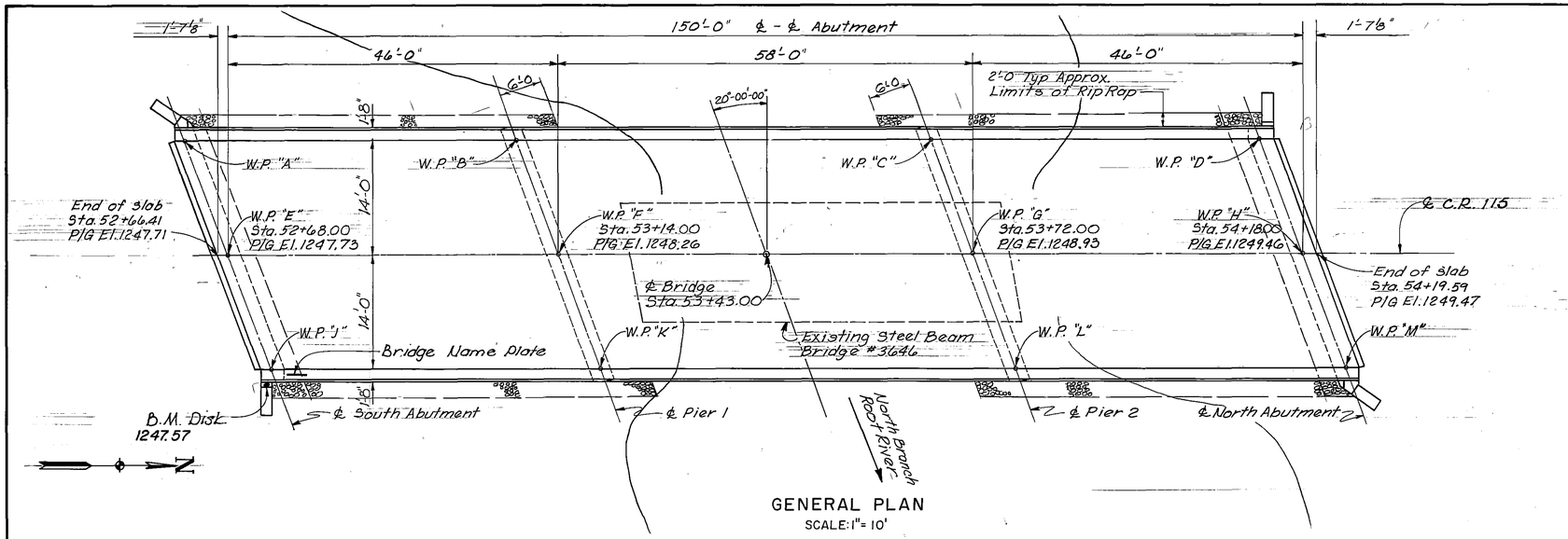
NOTE: ALL UTILITY POLES AND UNYIELDING OBJECTS SHALL BE REMOVED AND RELOCATED OUTSIDE THE 26' RECOVERY AREA.

LEBARON INC MINNEAPOLIS 55425

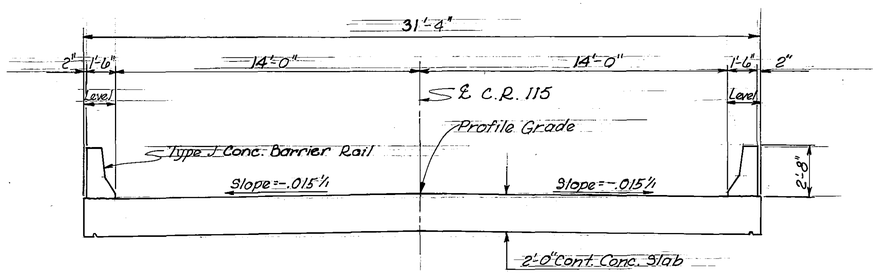
Fed. Proj. No.



AS BUILT PLANS



GENERAL PLAN
SCALE: 1" = 10'



TRANSVERSE SECTION
SCALE: 1/4" = 1'-0"

ELEVATION
SCALE: 1" = 10'

EXISTING BRIDGE #3646 IS A 53'x16' TWO-SPAN STEEL BEAM BRIDGE WITH A CONCRETE DECK AND A REINFORCED CONCRETE PIER AND ABUTMENTS. THE CONTRACTOR SHALL REMOVE THE EXISTING BRIDGE IN ACCORDANCE WITH MN/DOT 2442 EXCEPT THAT ALL MATERIALS REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF BY HIM IN AREAS OUTSIDE OF PROJECT RIGHT-OF-WAY.

THE CHANNEL SHALL BE EXCAVATED BY THE CONTRACTOR TO THE CROSS SECTION SHOWN AT THE BRIDGE FOR A DISTANCE OF 30 FEET USPTREAM AND DOWNSTREAM OF AND NORMAL TO CENTERLINE OF THE PROPOSED ROADWAY. A SMOOTH TRANSITION SHALL BE PROVIDED BETWEEN THE ABOVE EXCAVATION LIMITS AND THE NATURAL STREAM BOUNDARIES AS DIRECTED BY THE ENGINEER. SUITABLE MATERIALS, AS DETERMINED BY THE ENGINEER, SHALL BE PLACED IN THE APPROACH FILLS IN ACCORDANCE WITH MN/DOT 2105 USING THE "ORDINARY COMPACTION METHOD". UNSUITABLE MATERIALS SHALL BE DISPOSED OF IN THE SIDE SLOPES OF THE APPROACH FILLS OR AS DIRECTED BY THE ENGINEER. THE ABOVE WORK SHALL BE PAID FOR AS "SLOPE PREPARATION".

THE CONTRACTOR SHALL DRESS THE ABUTMENT SLOPES AND PLACE RIP RAP AND FILTER BLANKET IN THE APPROXIMATE AREAS SHOWN AND AS DIRECTED BY THE ENGINEER. RIP RAP SHALL BE CLASS III WITH A THICKNESS OF 1'-6".

CONSTRUCTION OF EACH ABUTMENT SHALL NOT BE STARTED UNTIL THE APPROACH FILL AT THAT ABUTMENT HAS BEEN CONSTRUCTED TO THE FULL HEIGHT AND CROSS SECTION.

DESIGN DATA

DESIGN FOR THIS BRIDGE IS IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 1983, AND INTERIM SPECIFICATIONS. LOAD FACTOR DESIGN METHOD WAS USED.

DESIGN STRESSES:

CONCRETE- f'_c = 4000 psi n = 8

REINFORCING STEEL- f_y = 60,000 psi (GRADE 60)

STRUCTURAL STEEL – f_y = 36,000 psi SPEC. 3306

LOADING:

DEAD – BRIDGE DEAD LOAD PLUS 17 PSF FOR FUTURE WEARING COURSE MODIFICATIONS.

LIVE – HS20-44

DECK AREA = 4800 S.F.

CURRENT ADT = 82 (1987)

CONSTRUCTION NOTES

THE MINNESOTA D.O.T.'S STANDARD SPECIFICATION FOR CONSTRUCTION, 1983 EDITION, PLUS CURRENT SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS SHALL APPLY TO CONSTRUCTION WORK ON THIS PROJECT.

THE FIRST DIGIT OR TWO DIGITS OF EACH REINFORCING BAR MARK INDICATES THE BAR SIZE. AN "E" SUFFIX TO A REINFORCING BAR MARK INDICATES THAT BARS ARE TO BE EPOXY COATED.

MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR SHALL BE 2" UNLESS OTHERWISE SHOWN. REINFORCING, OTHER THAN SPIRAL ROD, SHALL BE DEFORMED BILLET STEEL BARS CONFORMING TO AASHTO M31, GRADE 60. BEVEL ALL EXPOSED CORNERS 90° OR SHARPER WITH A 3/4" DRESSED AND BEVELED STRIP.

BENCH MARK: ELEV. 1243.47 (1929 Adj. M.S.L.)
SPK. IN POWER POLE, 32' RT., STA. 52+57

APPROVED:

3-30-88 Michael D. Sheehan
DATE COUNTY ENGINEER

CO. RD. 115 COUNTY OF OLMSTED

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

I hereby certify that this plan, specification or report was prepared by me or under my direct personal supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Duane E. Hultgren
Date 10-13-87 Reg. No. 8586

BRIDGE NO. 55545

ON COUNTY RD. 115 OVER N. BRANCH ROOT RIVER
5.6 MILES WEST OF STEWARTVILLE

46-58-46 CONTINUOUS CONCRETE SLAB
IDENT. NO. 209

20° SKEW 28' RDWY. TYPE J RAILING

GENERAL PLAN & ELEVATION

SECTION 35 T 105N R 15 W
ROCK DELL TOWNSHIP OLMSTED COUNTY

L. H. Vegeland 5/13/88
BRIDGE ENGINEER DATE

SHEET NO. 7 OF 18 SHEETS 55545

AS BUILT PLANS

WHKS
WALLACE HOLLAND KASTLER SCHMITZ & CO.
ENGINEERS PLANNERS SURVEYORS LANDSCAPE ARCHITECTS
Mason City, IA Rochester, MN Dubuque, IA

Mn. DNR Permit No. 81-5154
Dated June 30, 1981
Ext. Exp. Date 11-30-1990

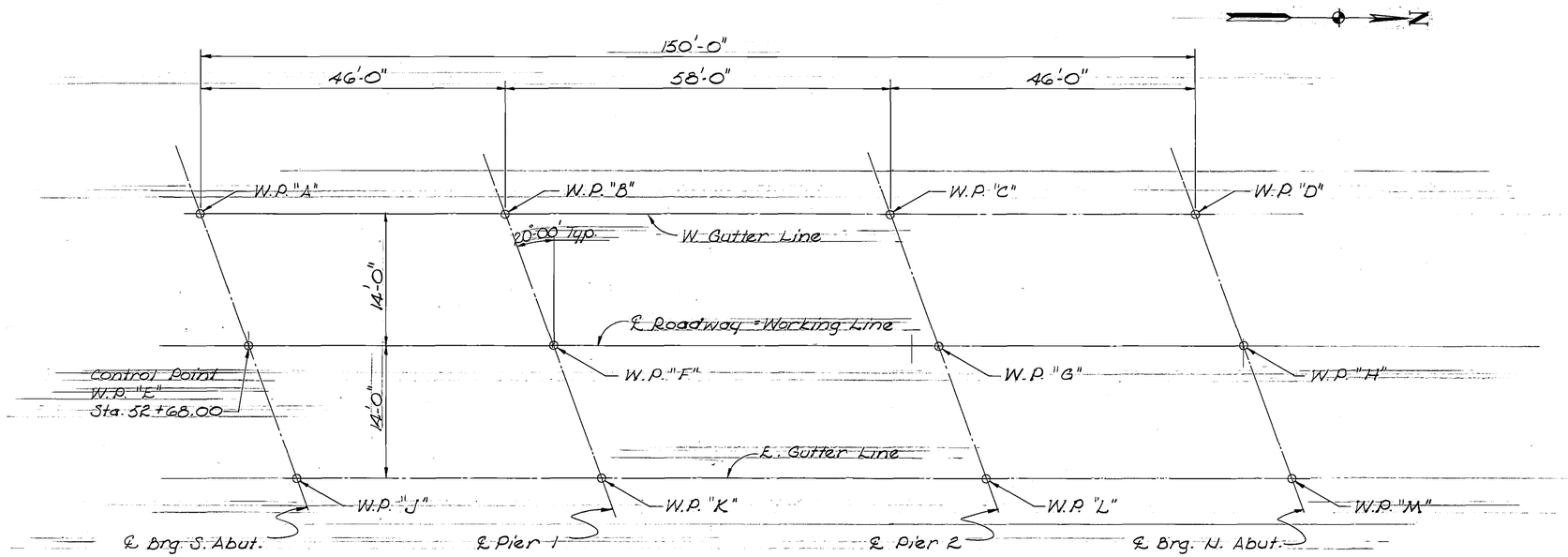
① Sta. 53+50

② Includes the two test piles.

S.P. 55-598-19

SCHEDULE OF QUANTITIES ENTIRE BRIDGE

Item No.	2401.501	2401.501	2401.501	2401.513	0401.601	2401.541	2401.541	2402.521	0452.602	2442.501	2452.520	2452.511	2452.510	2511.501	2511.511	0401.601	2451.501	0407.607	0401.601	2021.501
Item	Structure Concrete (1A43)	Structure Concrete (3Y43)	Structure Concrete (3X33)	Type J Railing Conc. (3x46A)	Structure Excavation	Reinf. Bars	Reinf. Bars-Epoxy Coated	Structural Steel (3306)	Pile Tip Protection ② 10"	Remove Old Bridge ①	Steel H-Test Piles 35' Long 10"	Steel H-Piling Delivered 10"	Steel H-Piling Driven 10"	Random Rip Rap Class III	Granular Filter	Slope Preparation	Structure Excavation Class R	Foundation Preparation Pier 1	Foundation Preparation Pier 2	Mobilization
Unit	Cu. Yd.	Cu. Yd.	Cu. Yd.	Lin. Ft.	Lump Sum	Pound	Pound	Pound	Each	Lump Sum	Each	Lin. Ft.	Lin. Ft.	Cu. Yd.	Cu. Yd.	Lump Sum	Cu. Yd.	LUMP SUM	LUMP SUM	LUMP SUM
Quantity	36 (P)	141 (P)	360 (P)	306 (P)	One	23,798 (P)	64,105 (P)	388 (P)	10	One	2	240	240	180	50	1	135	1	1	1



WORKING POINT LAYOUT

Add 1200 to Elevations below.

POINT	STATION	DIMENSIONS BETWEEN WORKING POINTS A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	ELEVATIONS TOP OF SLAB	TOP OF SLAB TO BR. SEAT	BRIDGE SEAT	POINT
A	52+62.90		46.00			14.90	52.98				62.79	117.58						47.46	2.07'	45.39	A
B	53+08.90			58.00			14.90	64.63		45.45		73.72						47.99	2.11'	45.88	B
C	53+66.90				46.00		54.72	14.90	52.98		55.40		62.79					48.66	2.11'	46.55	C
D	54+12.90								14.90		97.90	45.45						49.19	2.09'	47.10	D
E	52+68.00		43.23				46.00			14.90	52.98							47.73	2.34'	45.39	E
F	53+14.00			54.72				58.00		43.23	14.90	64.63						48.26	2.38'	45.88	F
G	53+72.00				43.23				46.00		54.72	14.90						48.93	2.38'	46.55	G
H	54+18.00												14.90					49.46	2.36'	47.10	H
J	52+73.10										46.00							47.58	2.19	45.39	J
K	53+19.10											58.00						48.11	2.23	45.88	K
L	53+77.10								43.23				46.00					48.78	2.23	46.55	L
M	54+23.10																	49.31	2.21	47.10	M
N																					N
P																					P
Q																					Q
R																					R

Job No. 3349

WHKS
WALLACE HOLLAND KASTLER SCHMITZ & CO.
ENGINEERS PLANNERS ARCHITECTS LAND SURVEYORS LANDSCAPE ARCHITECTS
Mason City, IA Rochester, MN Dubuque, IA

S.P. 55-598-19

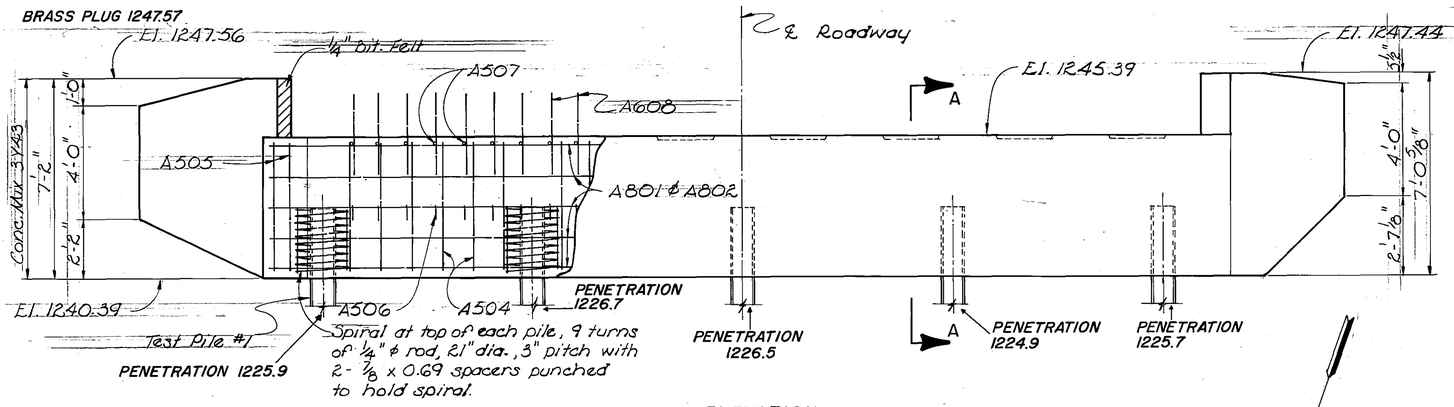
BRIDGE LAYOUT

DES: G.E.G. | DRAWN: L.M.G. | APPROVED:
CHECK: C.E.W. | CHECK: G.E.G.

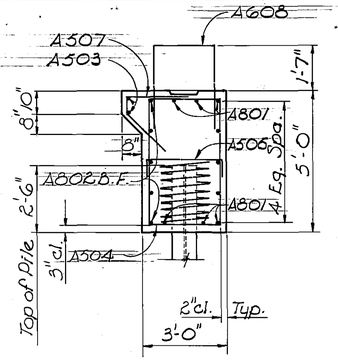
SHEET NO. 8 OF 18 SHEETS

BRIDGE NO. 55545

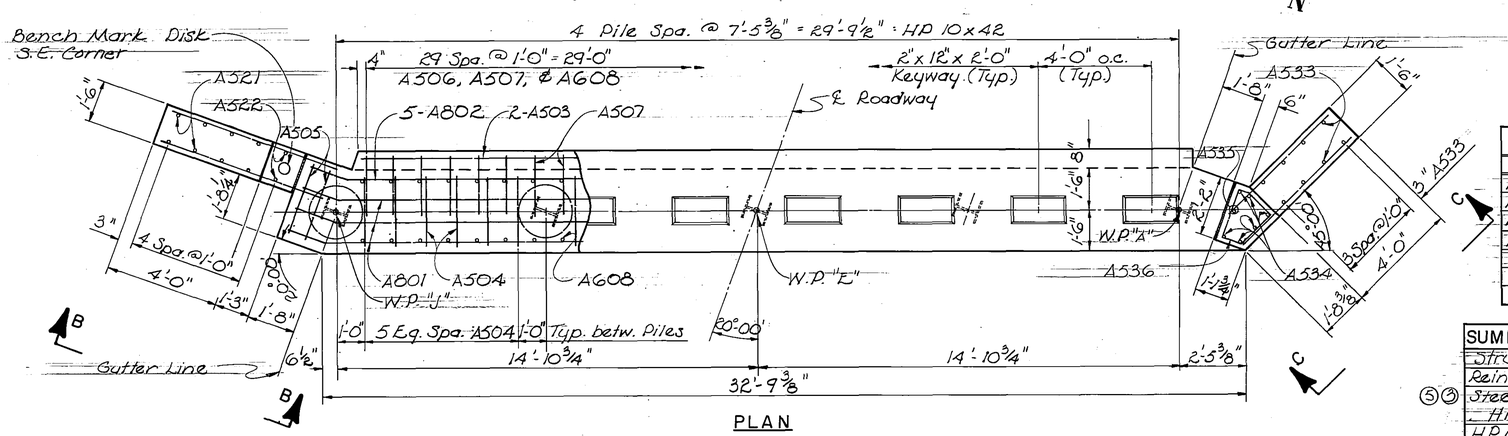
AS BUILT PLANS



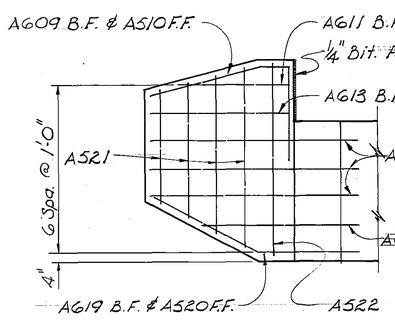
ELEVATION



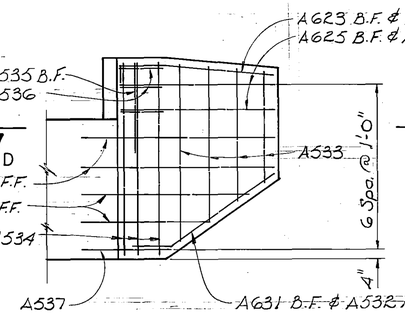
SECTION A-A



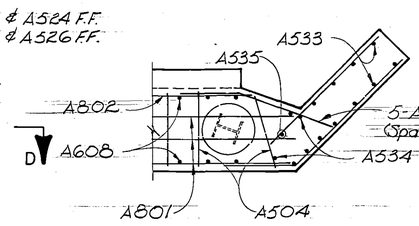
PLAN



VIEW B-B



VIEW C-C



SECTION D-D

COMPUTED PILE LOADS - TONS/PILE	
DEAD LOAD	32.9
LIVE LOAD	10.9
TOTAL	43.8

LIST OF PREFORMED BIT. JOINT FILLER

1 Pc. 2'-2" x 1/4" x 2'-2"
1 Pc. 2'-2" x 1/4" x 2'-0 5/8"

VARIABLE BARS

NO.	LENGTHS	SETS
A521	3'-10" to 6'-3"	2 Sets of 4
A629	3'-4" to 4'-11"	1 Set of 2
A530	5'-0" to 6'-7"	1 Set of 2
A533	3'-10" to 6'-1"	2 Sets of 4

SUMMARY OF QUANTITIES - S. ABUTMENT

Structure Concrete (3Y43)		23 C.Y.
Reinforcement Bars		2909 lb.
⑤③ Steel Piling	Delivered	120 L.F.
HP10x42	Driven	120 L.F.
HP10x42 Test Pile (35 Ft. long)		1
② Bench Mark Disk		One Unit
Structure Excavation		Lump Sum
① Pile Tip Protection		5

① Includes the test pile.
② County will furnish the disk. Payment for placing to be included in price bid for other items. See Standard Plate No. 9301 for placing disk in concrete.
③ Four Piles - estimated length 30'.
④ Included in the weight of reinforcing bars.
⑤ Does not include the test pile

Note
B.F. = Back Face
F.F. = Front Face
E.F. = Each Face

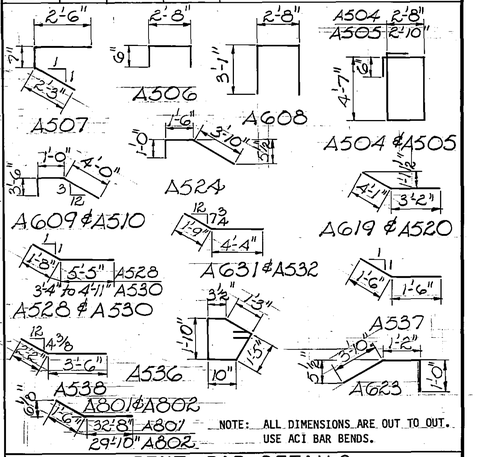
ABUTMENT NOTES:

ALL PILES SHALL BE HP10X42 STEEL BEARING PILES DRIVEN TO NOT LESS THAN 44 TONS PER PILE. PILE SPACING SHOWN IS AT BOTTOM OF FOOTING.

COST OF PREFORMED BIT. JOINT FILLER SHALL BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS.

BILL OF REINFORCING SOUTH ABUTMENT

BAR	NO.	LENGTH	SHAPE	LOCATION
A801	9	34'-2"		Cap, Horiz., Top - Bott. F.F.
A802	5	31'-4"		Cap, Horiz., B.F.
A503	2	29'-4"		Paving Support, Horiz.
A504	23	15'-6"		Cap Hoop, Vert.
A505	2	15'-10"		Cap Hoop, Vert., E. End
A506	30	3'-8"		Cap Ties, Horiz.
A507	30	5'-4"		Paving Support, Vert.
A608	30	8'-10"		Cap Dowel, Vert.
	5	49'-6"		Spirals @ Piles - 1/4" ϕ Rod
④	10	2'-4"		Spacers C 1/8 x 0.69
A609	1	8'-6"		Wing Horiz. B.F.
A510	1	8'-6"		Wing Horiz. F.F.
A611	1	3'-9"		Wing Horiz. B.F.
A512	1	3'-9"		Wing Horiz. F.F.
A613	1	4'-11"		Wing Horiz. B.F.
A514	1	4'-11"		Wing Horiz. F.F.
A615	3	6'-9"		Wing Horiz. B.F.
A516	3	6'-4"		Wing Horiz. F.F.
A617	1	3'-1"		Wing Horiz. B.F.
A518	1	4'-7"		Wing Horiz. F.F.
A619	1	7'-3"		Wing Horiz. B.F.
A520	1	7'-3"		Wing Horiz. F.F.
A521	8	Var.		Wing Vert. E.F.
A522	2	6'-10"		Wing Vert. E.F.
A623	1	6'-0"		Wing Horiz. B.F.
A524	1	6'-4"		Wing Horiz. F.F.
A625	2	5'-0"		Wing Horiz. B.F.
A526	2	5'-4"		Wing Horiz. F.F.
A627	2	5'-5"		Wing Horiz. B.F.
A528	2	7'-1"		Wing Horiz. F.F.
A629	2	Var.		Wing Horiz. B.F.
A530	2	Var.		Wing Horiz. F.F.
A631	1	6'-1"		Wing Horiz. B.F.
A532	1	6'-1"		Wing Horiz. F.F.
A533	8	Var.		Wing Vert. E.F.
A534	6	6'-8"		Wing Vert.
A535	1	3'-4"		Wing Vert. B.F.
A536	3	7'-0"		Wing Horiz., Top
A537	1	3'-0"		Wing Horiz., Bott.
A538	5	5'-8"		Cap Horiz., B.F.



NOTE: ALL DIMENSIONS ARE OUT TO OUT. USE ACI BAR BENDS.

BENT BAR DETAILS

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S.P. 55-598-19

SOUTH ABUTMENT DETAILS

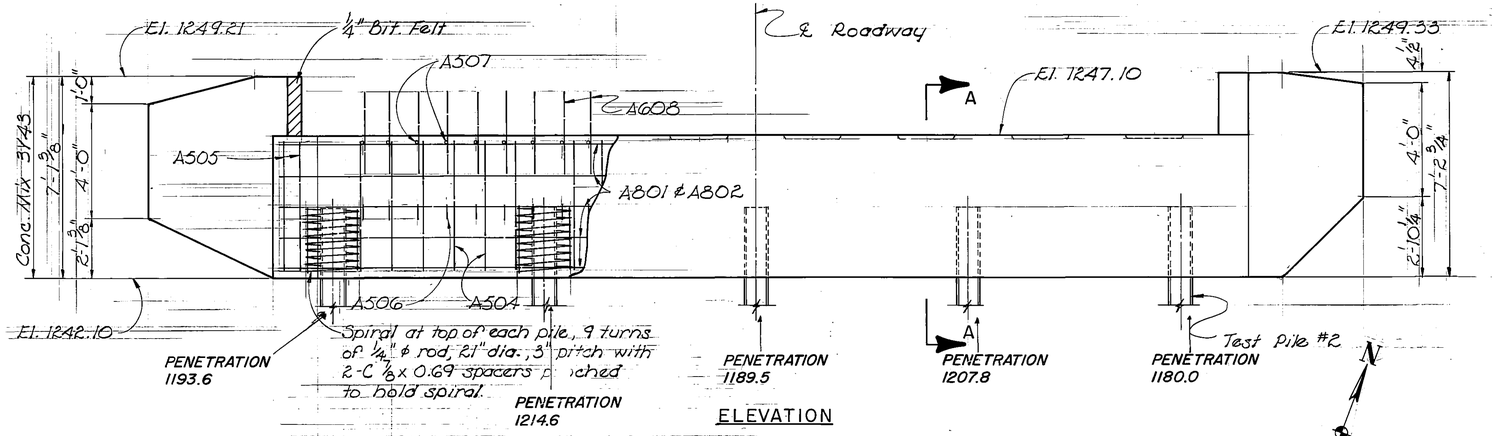
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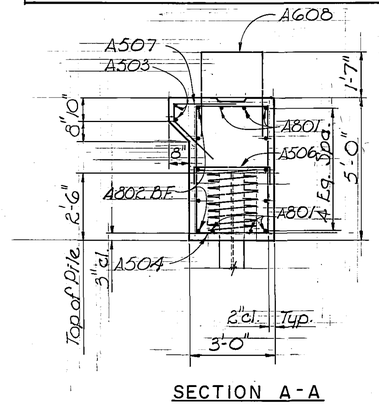
SHEET NO. 9 OF 18 SHEETS

BRIDGE NO. 55545

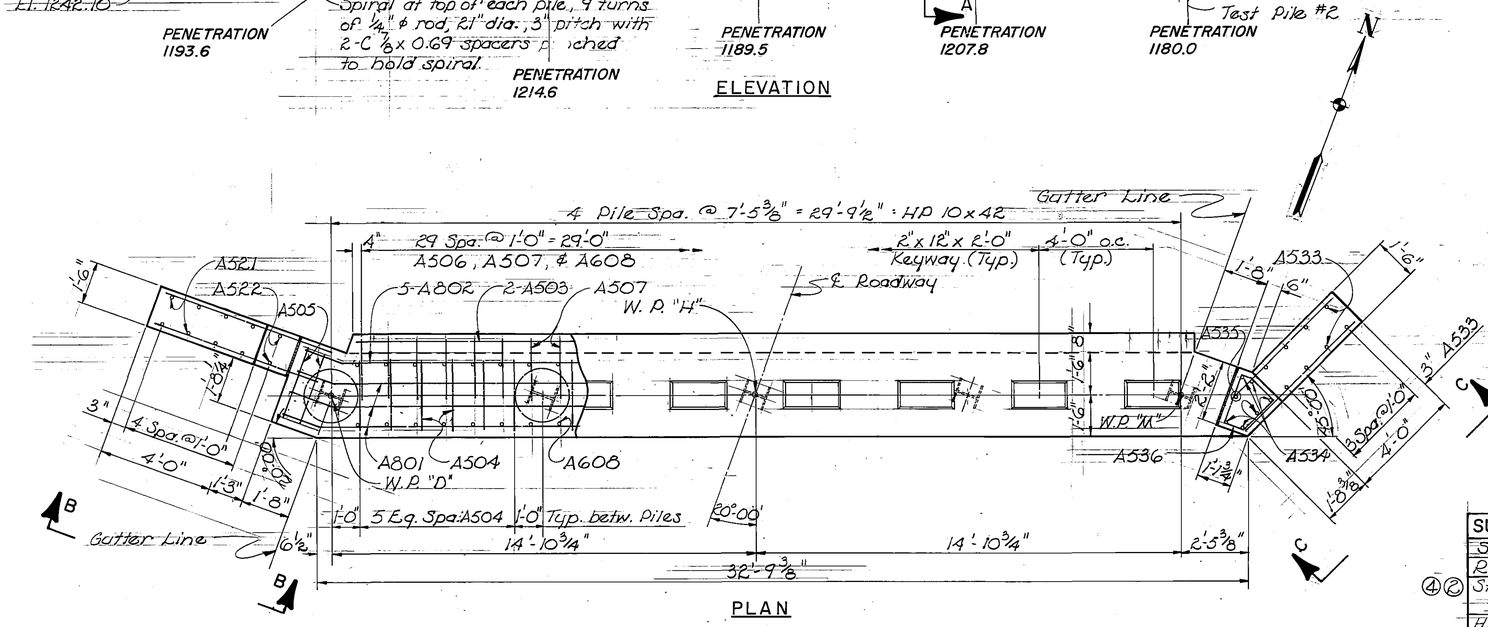
AS BUILT PLANS

Job No. 3349

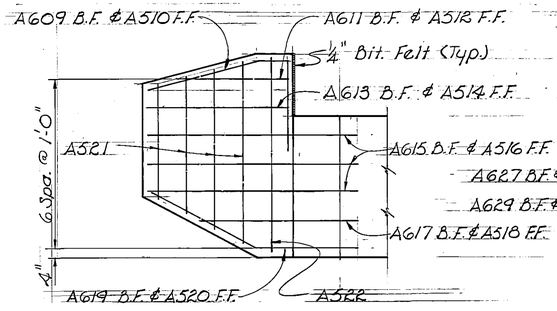




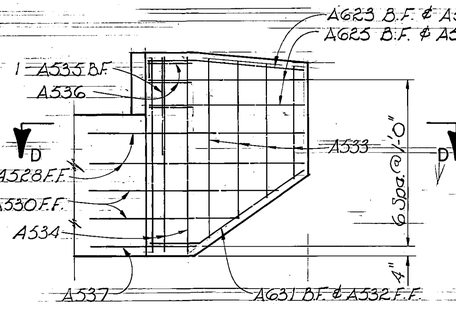
SECTION A-A



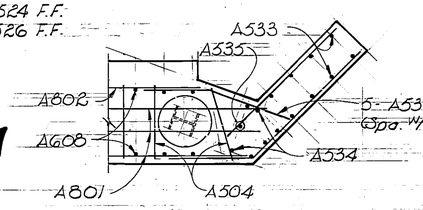
PLAN



VIEW B-B



VIEW C-C



SECTION D-D

COMPUTED PILE LOADS - TONS/PILE	
DEAD LOAD	32.9
LIVE LOAD	10.9
TOTAL	43.8

LIST OF PREFORMED BIT. JOINT FILLER

1 Pc. 2'-2" x ¼" x 2'-1⅜"
1 Pc. 2'-2" x ¼" x 2'-2¾"

VARIABLE BARS

NO.	LENGTHS	SETS
A521	3'-10" to 6'-2½"	2 Sets of 4
A629	3'-4" to 4'-11"	1 Set of 2
A530	5'-0" to 6'-7"	1 Set of 2
A533	3'-10" to 6'-3"	2 Sets of 4

SUMMARY OF QUANTITIES - N. ABUTMENT

Structure Concrete (3Y43)		23 C.Y.
Reinforcement Bars		2911 lb.
④② Steel Piling	Delivered	120 L.F.
HP10x42	Driven	120 L.F.
HP 10x42 Test Pile (55Ft. long)		1
① Pile Tip Protection		5
Structure Excavation		Lump Sum

① Includes the test pile.
② Four piles - estimated length 30'.
③ Included in the weight of reinforcing bars.
④ Does not include test piles

ABUTMENT NOTES:

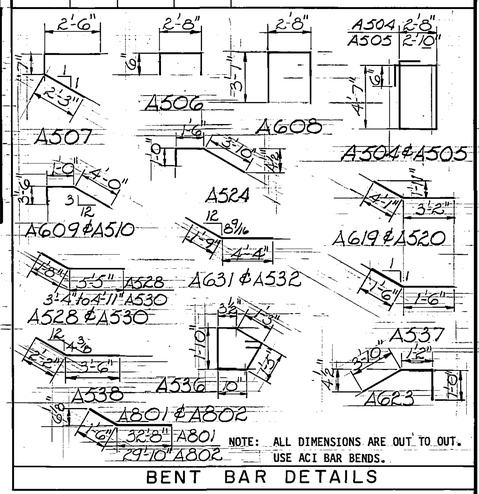
ALL PILES SHALL BE HP10X42 STEEL BEARING PILES DRIVEN TO NOT LESS THAN 44 TONS PER PILE. PILE SPACING SHOWN IS AT BOTTOM OF FOOTING.

COST OF PREFORMED BIT. JOINT FILLER SHALL BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS.

Note:
B.F. = Back Face
F.F. = Front Face
E.F. = Each Face

BILL OF REINFORCING NORTH ABUTMENT

	BAR	NO.	LENGTH	SHAPE	LOCATION
	A801	9	34'-2"		Cap, Horiz., Top - Bott.- F.F.
	A802	5	31'-4"		Cap, Horiz., B.F.
	A503	2	29'-4"		Paving Support, Horiz.
	A504	25	15'-6"		Cap Hoop, Vert.
	A505	2	15'-10"		Cap Hoop, Vert., W. End.
	A506	30	3'-8"		Cap Ties Horiz.
	A507	30	5'-4"		Paving Support, Vert.
	A608	30	8'-10"		Cap Dowel Vert.
		5	49'-6"		Spirals @ Piles - ¼" ϕ Rod
③		10	2'-4"		Spacers C ⅞ x 0.69
	A609	1	8'-6"		Wing Horiz. B.F.
	A510	1	8'-6"		Wing Horiz. F.F.
	A611	1	3'-9"		Wing Horiz. B.F.
	A512	1	3'-9"		Wing Horiz. F.F.
	A613	1	4'-11"		Wing Horiz. B.F.
	A514	1	4'-11"		Wing Horiz. F.F.
	A615	3	6'-9"		Wing Horiz. B.F.
	A516	3	6'-4"		Wing Horiz. F.F.
	A617	1	5'-1"		Wing Horiz. B.F.
	A518	1	4'-7"		Wing Horiz. F.F.
	A619	1	7'-3"		Wing Horiz. B.F.
	A520	1	7'-3"		Wing Horiz. F.F.
	A521	8	Var.		Wing Vert. E.F.
	A522	2	6'-9"		Wing Vert. E.F.
	A623	1	6'-0"		Wing Horiz. B.F.
	A524	1	6'-4"		Wing Horiz. F.F.
	A625	2	5'-0"		Wing Horiz. B.F.
	A526	2	5'-4"		Wing Horiz. F.F.
	A627	2	3'-5"		Wing Horiz. B.F.
	A528	2	7'-1"		Wing Horiz. F.F.
	A629	2	Var.		Wing Horiz. B.F.
	A530	2	Var.		Wing Horiz. F.F.
	A631	1	6'-1"		Wing Horiz. B.F.
	A532	1	6'-1"		Wing Horiz. F.F.
	A533	8	Var.		Wing Vert. E.F.
	A534	6	6'-10"		Wing Vert.
	A535	1	3'-4"		Wing Vert. B.F.
	A536	3	7'-0"		Wing Horiz., Top
	A537	1	3'-0"		Wing Horiz., Bott.
	A538	5	5'-8"		Cap Horiz., B.F.



BENT BAR DETAILS

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NORTH ABUTMENT DETAILS

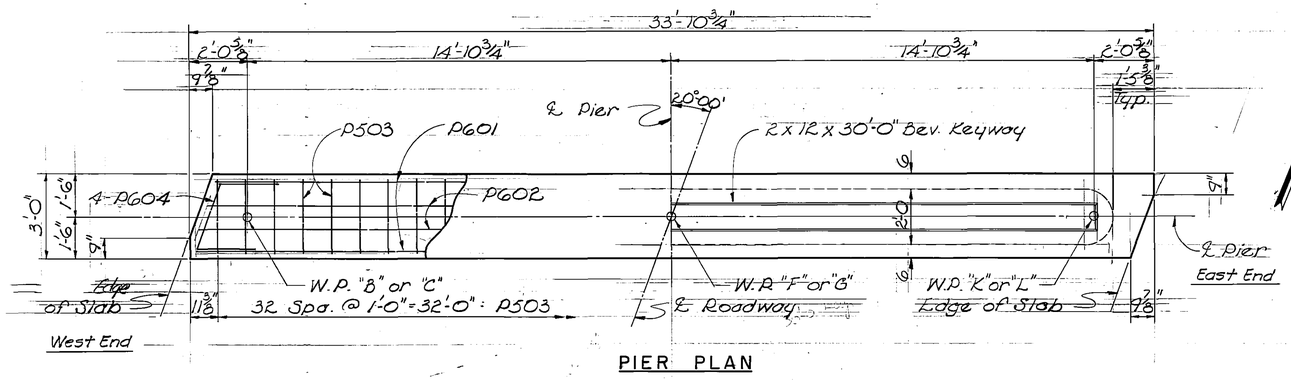
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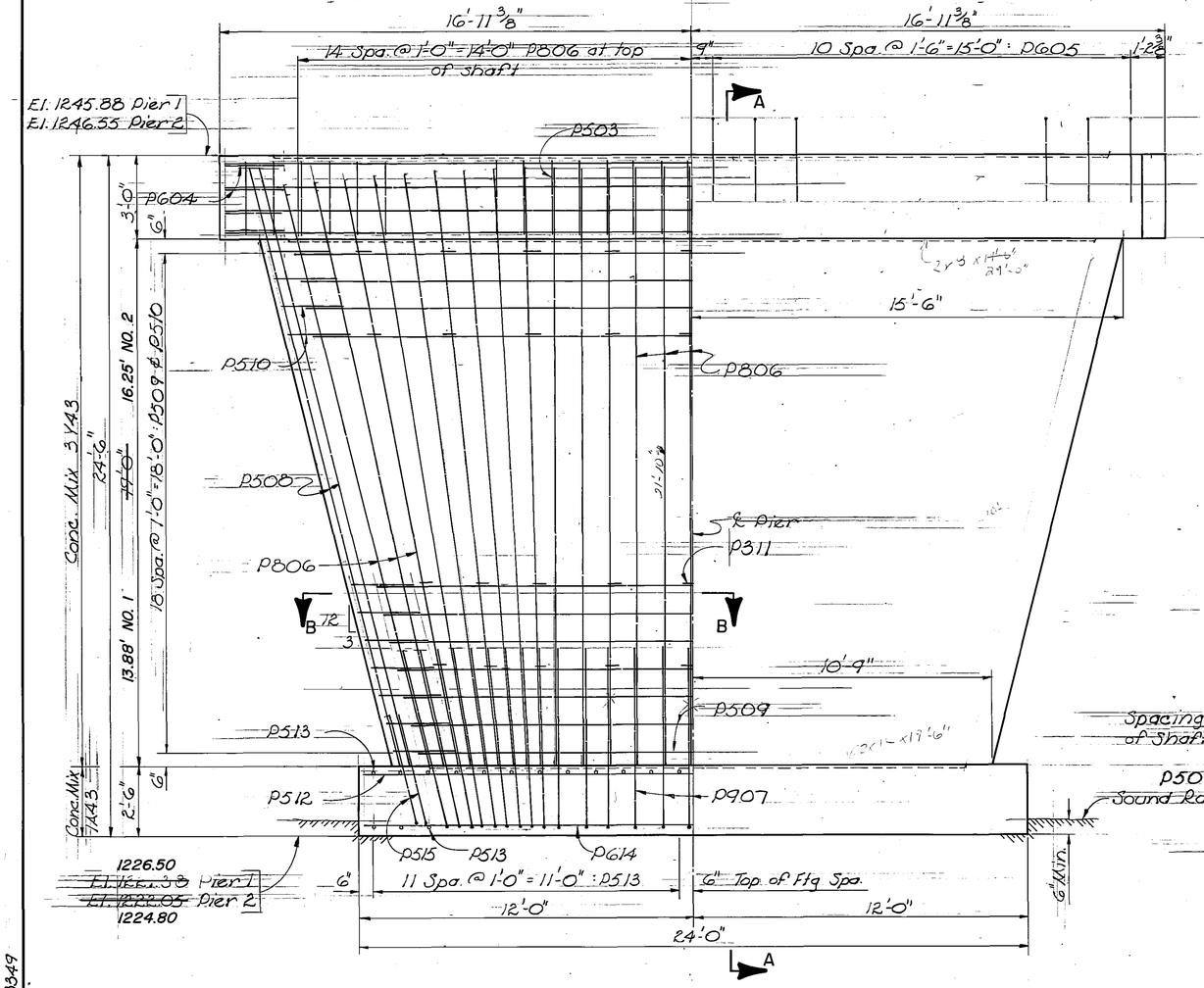
BRIDGE NO. 55545

AS BUILT PLANS

Job No. 3349



PIER PLAN



PIER ELEVATION

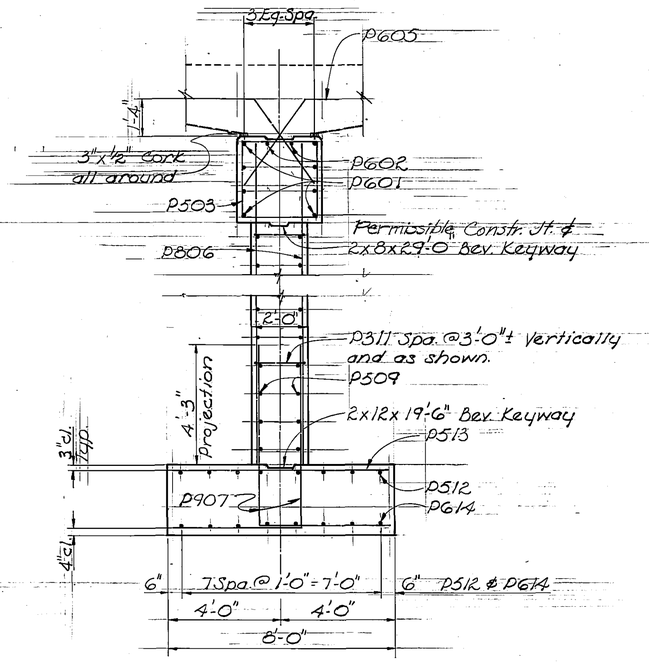


CONCRETE PLACEMENT - EACH PIER	
Footing	17.8
Shaft	36.3
Cap	11.1
Total	65.2 Cu. Yds.

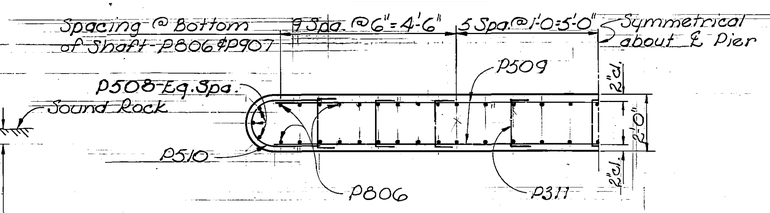
② LIST OF PREFORMED CORK JOINT FILLER

4 Pc. 3 x 1/2" x 32'-11 3/8"
4 Pc. 3 x 1/2" x 0'-0 1/4"
4 Pc. 3 x 1/2" x 2'-5"

② Cost to be included in the price bid for other items.

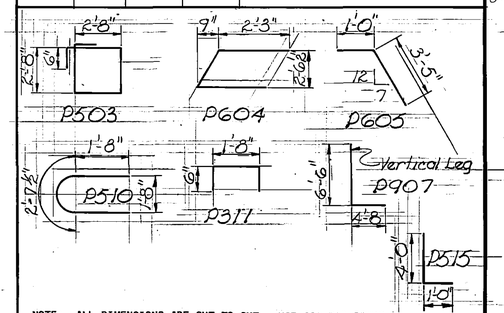


SECTION A-A



SECTION B-B

BILL OF REINFORCING - ONE PIER				
BAR	NO.	LENGTH	SHAPE	LOCATION
P601	8	32'-9"		Cap, Longitudinal
P602	2	33'-0"		Cap, Longitudinal
P503	33	11'-8"		Cap Hoops
P604	8	7'-2"		Cap, Ends
P605	44	4'-3"		Cap to Slab Dowels
P806	58	21'-9"		Shaft, Vertical
P907	58	11'-2"		Shaft to Ftg. Dowels
P508	6	22'-5"		Shaft, Vertical - Ends
① P509	38	Var.		Shaft, Horizontal
P510	38	6'-0"		Shaft, Ends
P311	54	2'-8"		Shaft Ties
P512	8	23'-8"		Footing, Longit. - Top
P513	30	7'-8"		Footing, Transv. - Top & Bott.
P614	8	23'-8"		Footing, Longit. - Bottom
P515	6	5'-0"		Shaft to Ftg. Dowels @ Ends



NOTE: ALL DIMENSIONS ARE OUT TO OUT. USE ACI BAR BENDS.

BENT BAR DETAILS

① Length varies 19'-9" to 28'-9", 2 sets of 19 bars.

SUMMARY OF QUANTITIES - TWO PIERS	
Structure Concrete (TA43)	36 C.Y.
Structure Concrete (3Y43)	95 C.Y.
Reinforcement Bars	17,978 lb.
Class R Excavation	135 C.Y.
Foundation Preparation Pier 1	1 LUMP SUM
Foundation Preparation Pier 2	1 LUMP SUM

PIER NOTES:

PIER FOOTINGS SHALL BE KEYED INTO SOUND ROCK AS SHOWN AND AS DIRECTED BY THE ENGINEER. SHAFT REINFORCEMENT SHALL NOT BE ORDERED UNTIL THE EXACT BOTTOM OF FOOTING ELEVATION HAS BEEN DETERMINED BY THE ENGINEER IN THE FIELD.

MAXIMUM DESIGN FOOTING PRESSURE IS 3.75 TONS/SQ.FT.

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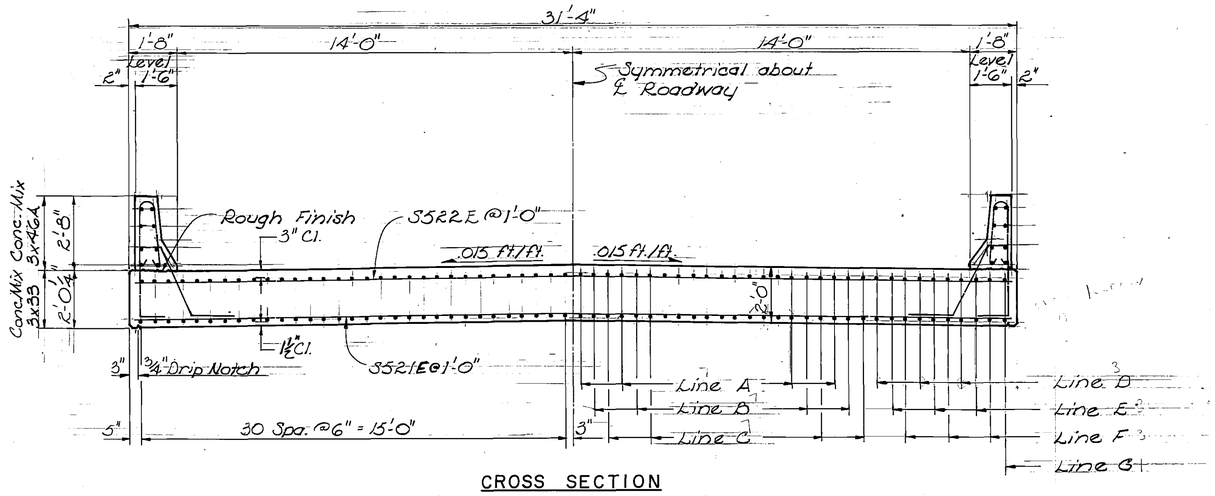
S.P. 55-598-19

PIER DETAILS

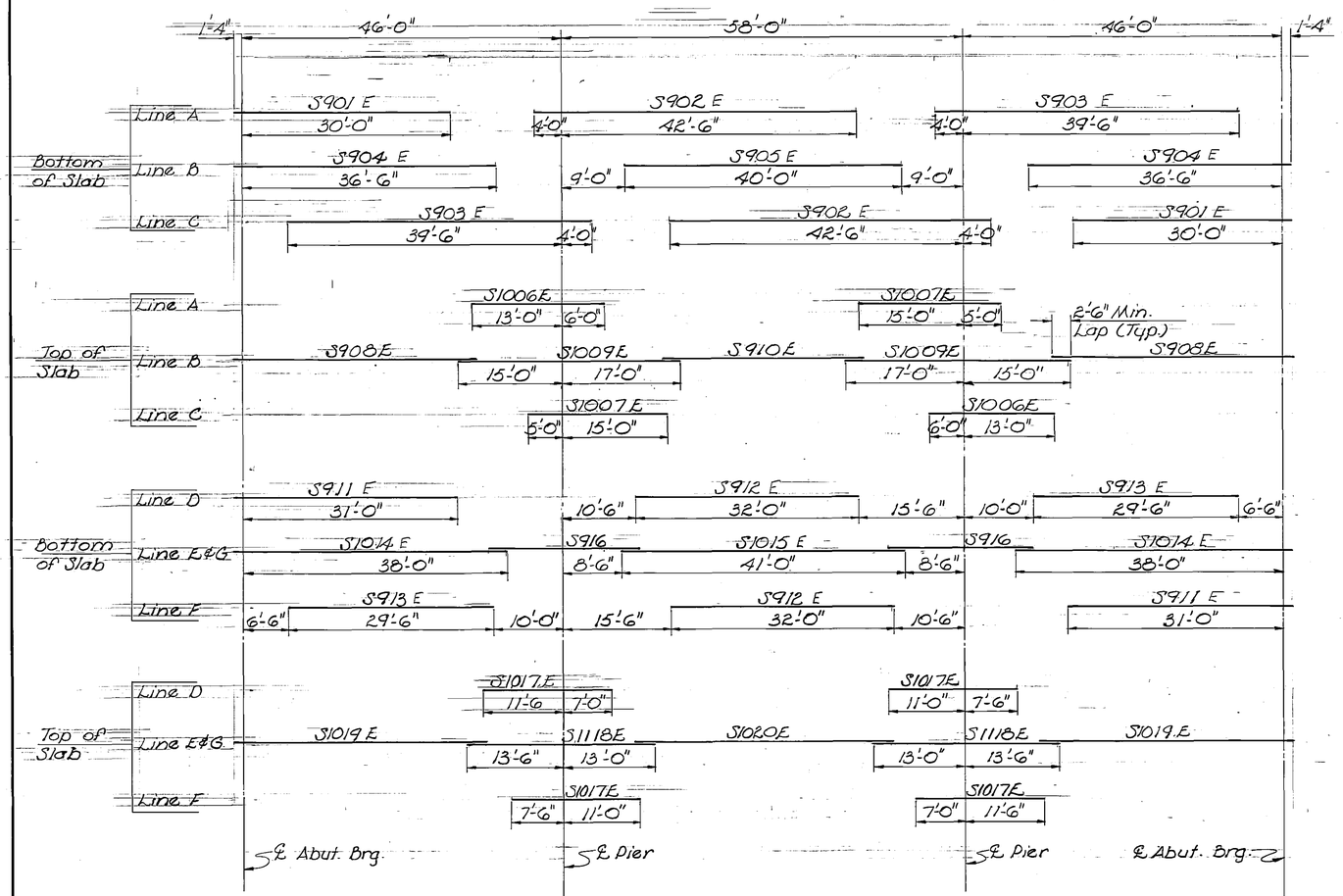
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SHEET NO. 11 OF 18 SHEETS			

Job No. 3349

AS BUILT PLANS



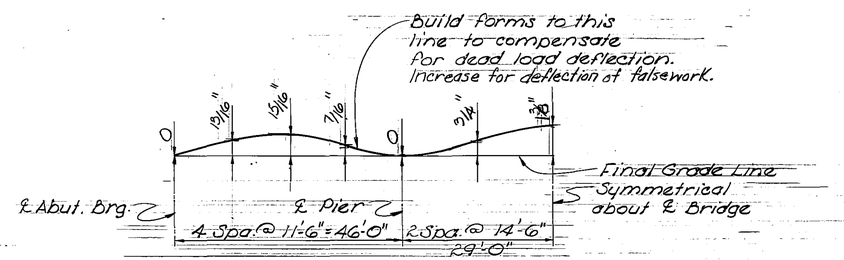
CROSS SECTION



LONGITUDINAL REINFORCEMENT PLACEMENT

VARIABLE BARS		
NO.	LENGTHS	SETS
S523E	2'-8" to 27'-4"	2 Sets of 10
S524E	2'-8" to 27'-4"	2 Sets of 10

BILL OF REINFORCING - SUPERSTRUCTURE				
BAR	NO.	LENGTH	SHAPE	LOCATION
S901E	28	31'-4"	——	Bottom Slab, Longit.
S902E	28	46'-6"	——	Bottom Slab, Longit.
S903E	28	43'-6"	——	Bottom Slab, Longit.
S904E	28	37'-0"	——	Bottom Slab, Longit.
S905E	14	40'-0"	——	Bottom Slab, Longit.
S1006E	28	19'-0"	——	Top Slab, Longit.
S1007E	28	20'-0"	——	Top Slab, Longit.
S908E	28	34'-10"	——	Top Slab, Longit.
S1009E	28	32'-0"	——	Top Slab, Longit.
S910E	14	29'-0"	——	Top Slab, Longit.
S911E	12	32'-4"	——	Bottom Edge Beam, Longit.
S912E	12	32'-0"	——	Bottom Edge Beam, Longit.
S913E	12	29'-6"	——	Bottom Edge Beam, Longit.
S1014E	16	39'-4"	——	Bottom Edge Beam, Longit.
S1015E	8	41'-0"	——	Bottom Edge Beam, Longit.
S916E	16	21'-6"	——	Bottom Edge Beam, Longit.
S1017E	24	18'-6"	——	Top Edge Beam, Longit.
S1118E	16	26'-6"	——	Top Edge Beam, Longit.
S1019E	16	36'-4"	——	Top Edge Beam, Longit.
S1020E	8	37'-0"	——	Top Edge Beam, Longit.
S521E	143	31'-0"	——	Bottom Slab, Transverse
S522E	143	31'-0"	——	Top Slab, Transverse
S523E	20	Var.	——	Bott. Slab, Transv. @ Abuts.
S524E	20	Var.	——	Top Slab, Transv. @ Abuts.
S625E	4	33'-0"	——	Bottom Slab @ Abuts.
S626E	4	33'-0"	——	Top Slab, @ Abuts.
S627E	2	31'-3"	——	Bottom Slab @ Abuts.
S628E	2	31'-3"	——	Top Slab, @ Abuts.



This diagram shows the camber required for the anticipated ultimate dead load deflection and includes plastic flow. These figures do not include any allowance for settlement of forms.

CAMBER DIAGRAM

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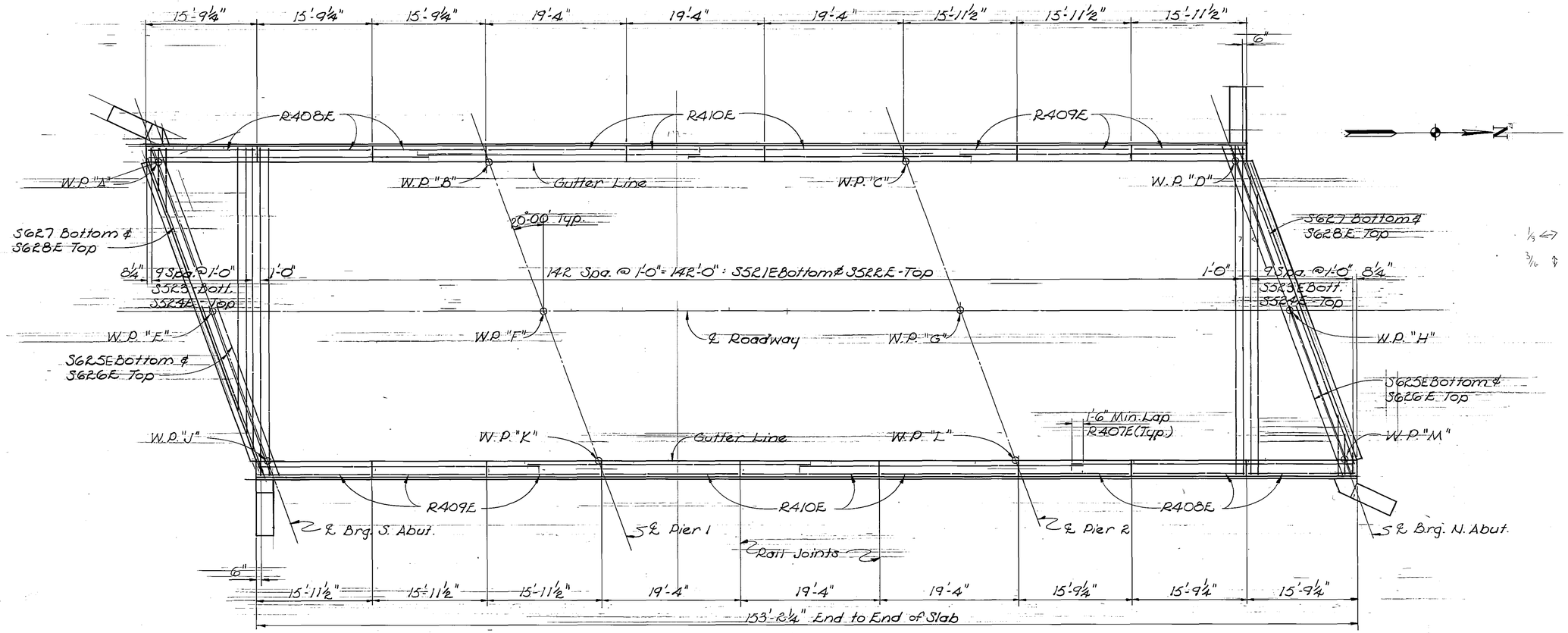
SUPERSTRUCTURE REINFORCING

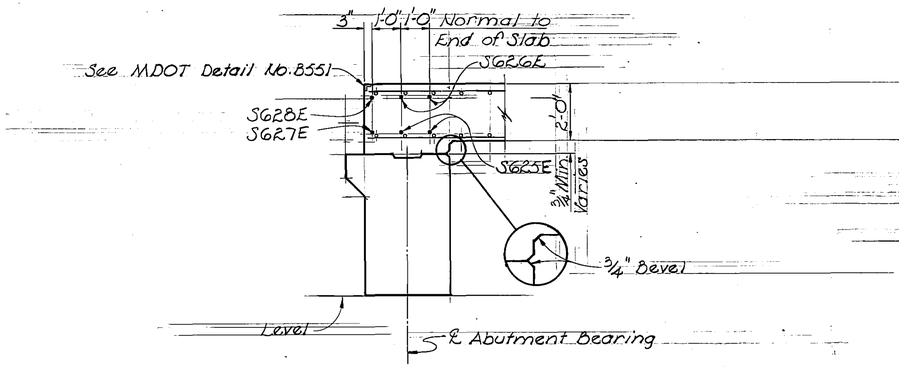
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SHEET NO. 12 OF 18 SHEETS

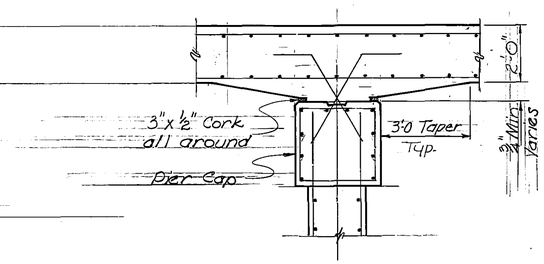
BRIDGE NO. 55545

AS BUILT PLANS





TYPICAL SECTION AT ABUTMENT



TYPICAL SECTION AT PIERS

SUMMARY OF QUANTITIES - SUPERSTRUCTURE	
Structure Concrete (3X33)	360 C.Y.
① Reinforcement Bars - Epoxy Coated	64,105 lb.
Structural Steel (3S06)	388 lb.
③ Type J Railing Concrete (3X46A)	306 L.F.
② Bridge Name Plate	One Unit

① Includes rail reinforcing.
② Cost to be included in price bid for other items.
③ Approximate volume is 31 cu. yds.

WHKS
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LAND SURVEYORS and LANDSCAPE ARCHITECTS
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S.P. 55-598-19

SUPERSTRUCTURE DETAILS

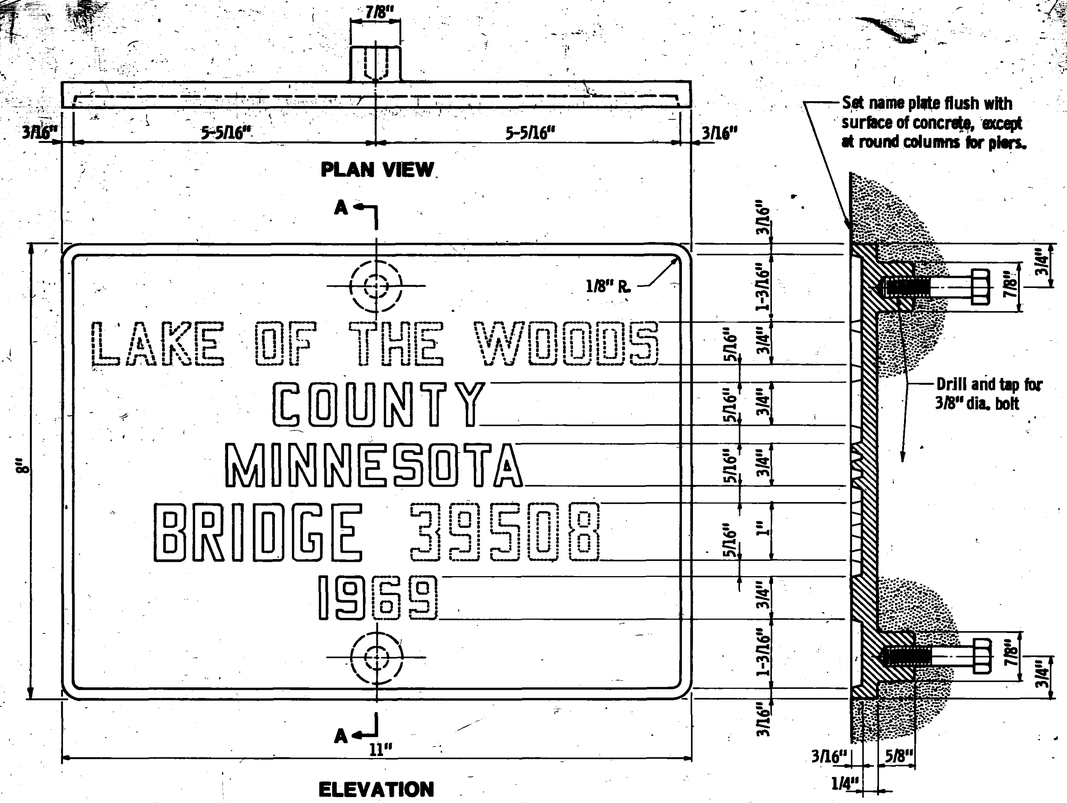
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SHEET NO. 13 OF 18 SHEETS

BRIDGE NO. 55545

AS BUILT PLANS

3349



ELEVATION

SECTION A-A

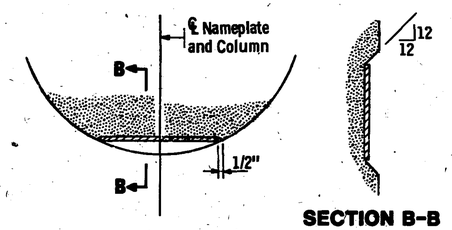
The dotted letters & numbers shown above are for illustration.
Data to be shown on name plate is as follows:

COUNTY OLMSTED
BRIDGE 55545
YEAR 1988

1234567890 3/16" 1"

ABCDEFGHIJKLMNOPQRSTUVWXYZ 3/16" 1"

LETTERS & NUMBERS FOR NAMEPLATES



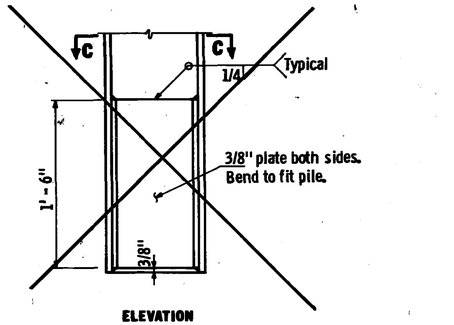
NAMEPLATE PLACEMENT
(Round Concrete Pier Columns)

SECTION B-B

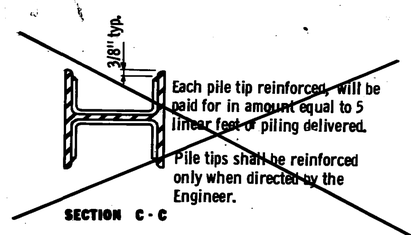
NOTES:

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

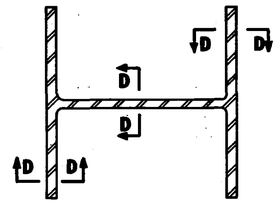


ELEVATION

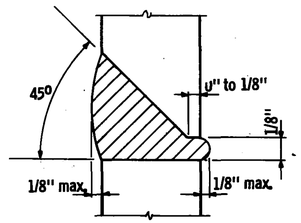


SECTION C - C

~~**DETAIL OF PILE TIP REINFORCEMENT**~~



SECTION AT JOINT



SECTION D - D

100% BUTT WELDED PILE SPLICE

NOTES:

A. W. S. Type E7016 or E7018 (low-hydrogen) electrodes shall be used for 100% butt welded splices.

A. W. S. Type E6010, E6011 electrodes, or E7016 or E7018 (low-hydrogen) electrodes, shall be used for the alternate plate type pile splice.

Low-hydrogen electrodes shall be supplied in hermetically (air-tight) sealed containers.

Low-hydrogen electrooes 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.

Any type electrode which has become wet, soiled, or damaged shall not be used.

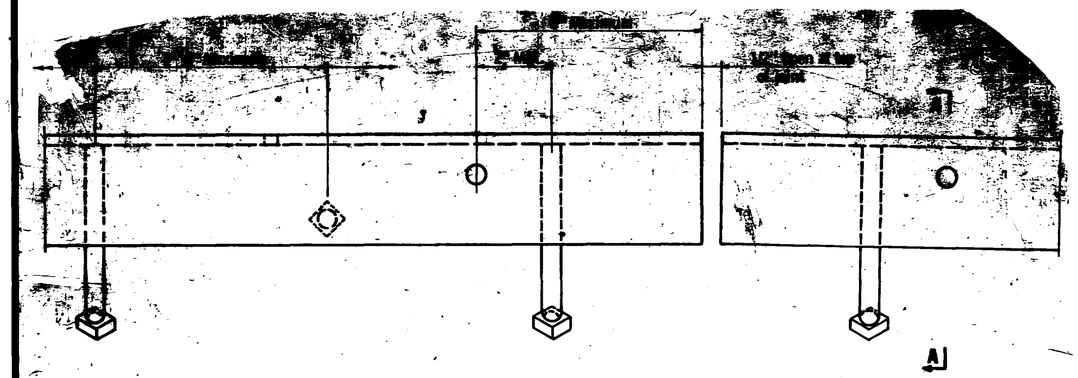
Welding shall not be done when the ambient temperature is lower than 0° F. or when the pile is wet or exposed to falling rain or snow. When the pile metal temperature is below 32° F., the pile metal in the area of the weld shall be heated to a minimum temperature of 70° F. and maintained at this temperature during welding.

APPROVED: November 5, 1979 Developed by: BRIDGE STANDARDS & BRIDGE AND STRUCTURES SECTION Issued by: ENGINEERING STANDARDS SECTION	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION PILE SPLICE **STEEL H BEARING PILES 10" TO 14"**		DETAIL NO. **B202**

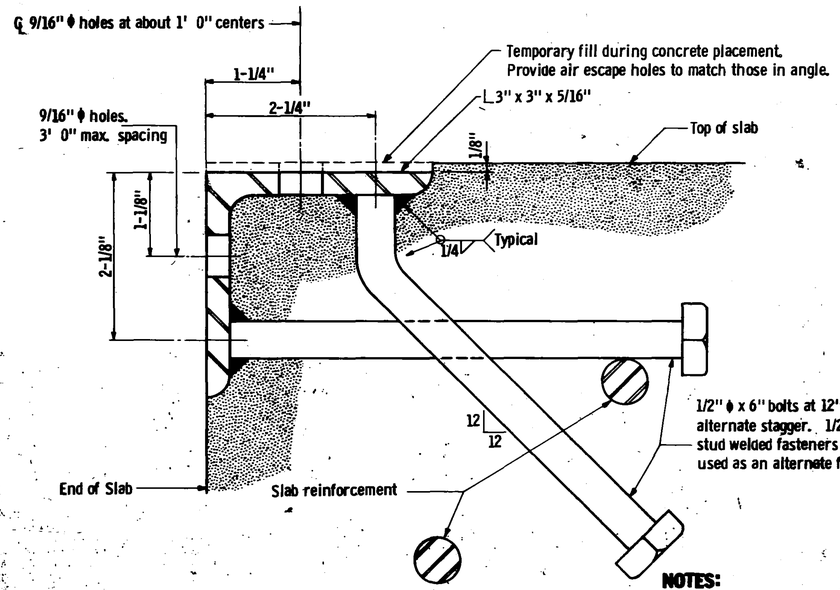
S.P. 55-598-19

TITLE: NAME PLATE AND PILE DETAILS	DES: ——	DR: ——	APPROVED: 5-13-88	Bridge No. 55545
	CHK: ——	CHK: G.E.G.		
	Sheet No. 14 of 18 Sheets			

AS BUILT PLANS



ELEVATION
(Concrete not shown)



SECTION A - A

NOTES:

Angles shall extend full width of roadway between curbs with a 1/2" open joint at each break in crown profile. Maximum length 22 feet.

Angles shall be straightened to a tolerance of 1/16" in 10 feet after galvanizing.

Material: Structural steel per M. H. D. 3306. Galvanize after fabrication per MN/DOT 3394.

Set angle to proper grade and crown.

Material will be paid for as structural steel MN/DOT 3306.

APPROVED May 26, 1972
Engineering Standards Engineer
RESEARCH AND STANDARDS DIVISION

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

DETAIL NO. B551

S.P. 55-598-19

PROTECTION ANGLE DETAILS

DES: —— DRAWN: —— APPROVED: 5-13-88
CHECK: —— CHECK: G.E.G.

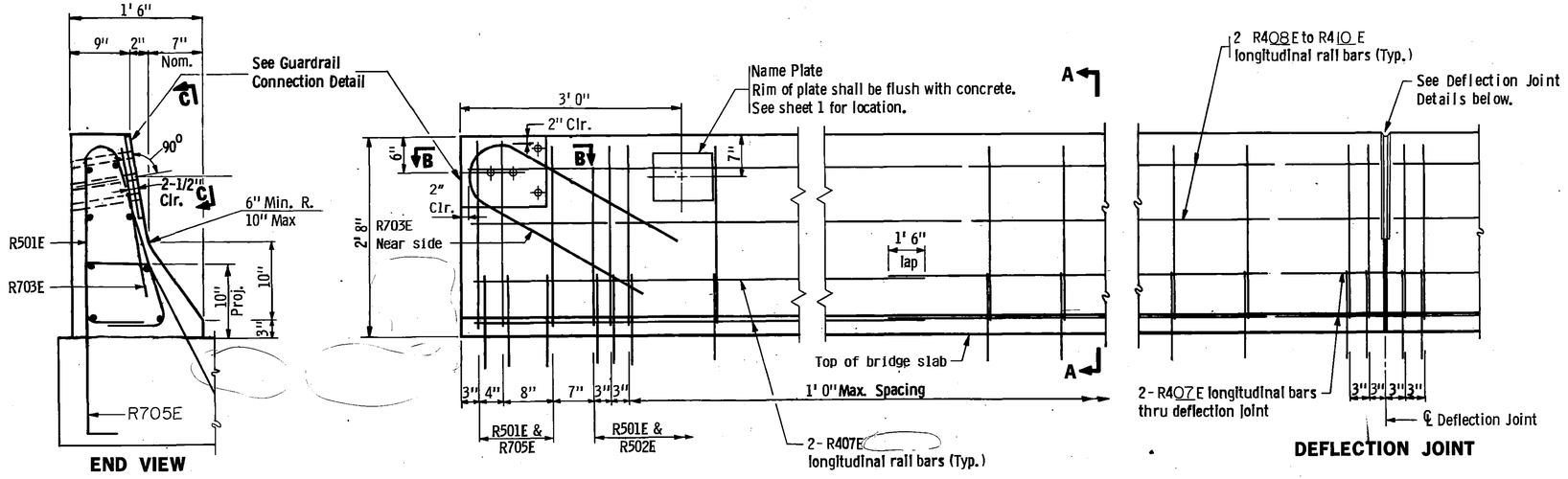
SHEET NO. 15 OF 18 SHEETS

BRIDGE NO. 55545

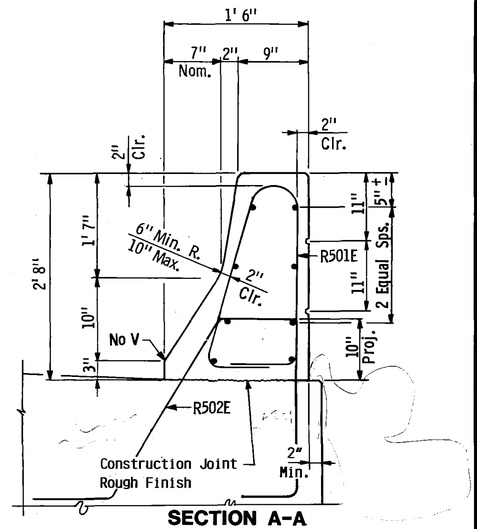
WHKS
WALLACE HOLLAND KASTLER SCHMITZ & CO.
ENGINEERS PLANNERS ARCHITECTS LAND SURVEYORS LANDSCAPE ARCHITECTS
Mason City, IA Rochester, MN Dubuque, IA

3349

AS-BUILT PLANS

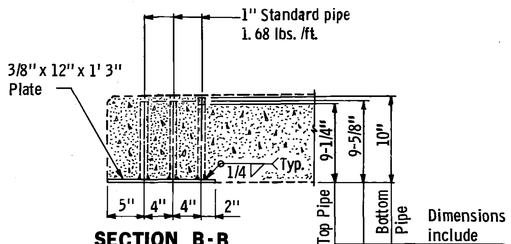


INSIDE ELEVATION OF RAILING

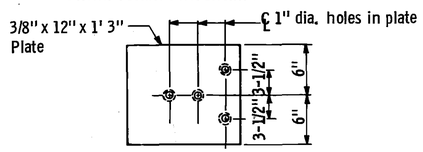


SECTION A-A

BILL OF REINFORCEMENT FOR RAILING				
BAR	NO.	LENGTH	SHAPE	LOCATION
R501E	356	6' 1"	Bent	Rail Vertical
R502E	344	8' 3"	Bent	Rail Vertical
R703E	4	6' 6"	Bent	End Post
R705E	12	8' 3"	Bent	End Post
R407E	32	39' 4"	Str't.	Rail Long.
R408E	24	15' 4"	Str't.	Rail Long.
R409E	24	15' 7"	Str't.	Rail Long.
R410E	24	18' 11"	Str't.	Rail Long.

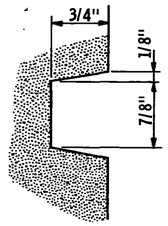


SECTION B-B
(Reinforcement not shown)

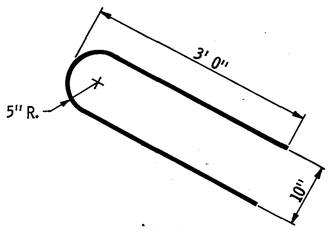


VIEW C-C

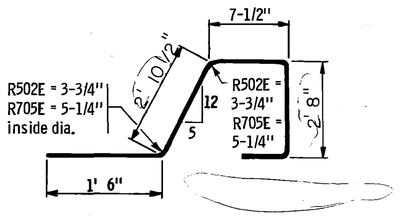
GUARDRAIL CONNECTION DETAIL
Galvanize after fabrication per Spec. 3394
Estimated Weight = 24 lbs.



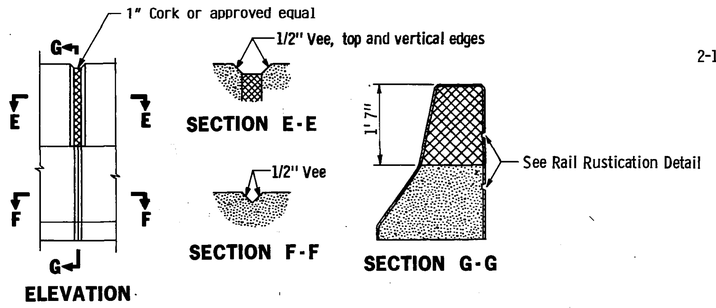
RAIL RUSTICATION



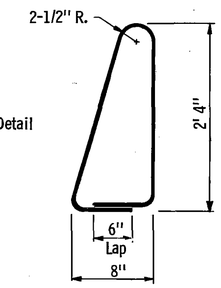
R703E



R502E & R705E



DEFLECTION JOINT DETAILS



R501E

GENERAL NOTES:

Bars marked with the suffix 'E" shall be epoxy coated in accordance with Spec. 3301

Concrete Railing = 405 lbs. /ft.
Concrete Railing = .100 cu. yds. /ft.

Rail to be Concrete Mix No. 3X46A

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.

Maximum spacing of concrete deflection joints shall be 20' 0"

Guardrail connection to be included in price bid for other items.

Rail quantities are included in summary of quantities for superstructure.

Length of railing concrete to be measured for payment between outside faces of railing.

S.P. 55-598-19

REVISED:	APPROVED: Nov. 26, 1985	FIG. 5-397.115

TITLE: **CONCRETE RAILING (TYPE J)**
WITH INTEGRAL END POST
(Without Wearing Course)

DES: G.E.G.	DR: L.M.G.	APPROVED: 5-13-86	Bridge No.
CHK: C.E.W.	CHK: G.E.G.		55545

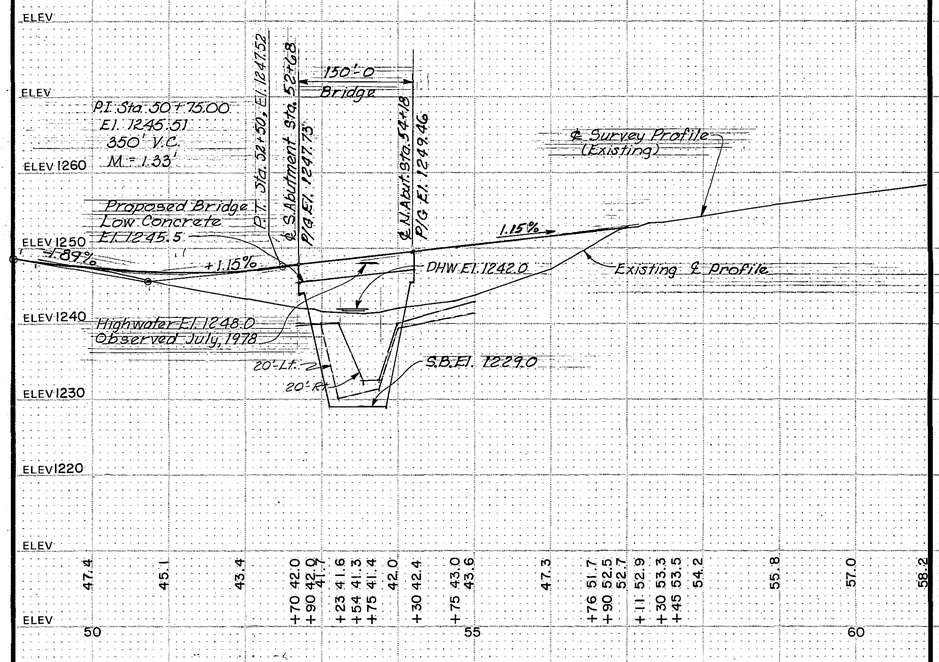
Sheet No. 16 **of** 18 **Sheets**

3349

AS BUILT PLANS

CONTRACTED PROFILE

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

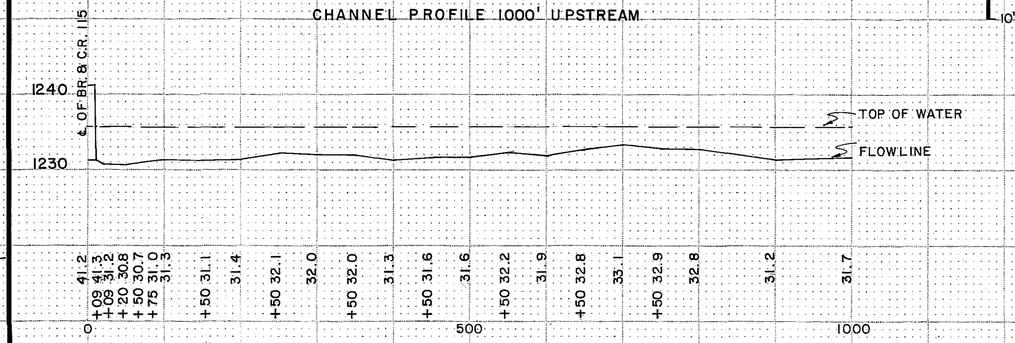


TYPICAL SECTIONS & PERTINENT DATA

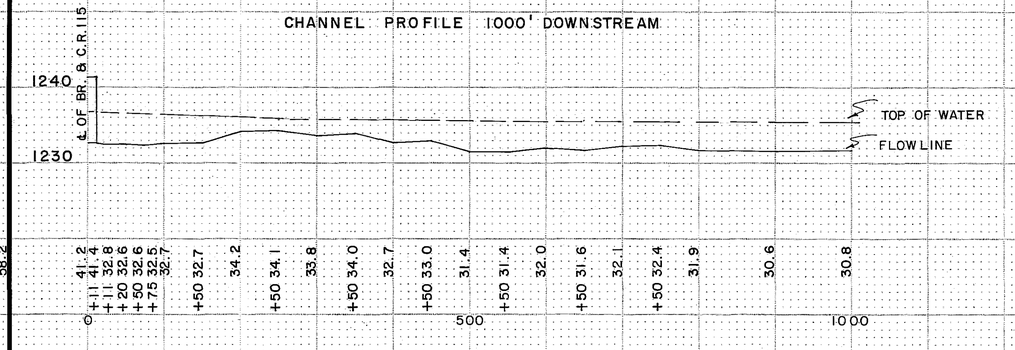
SCALES AS SHOWN

SCALE: 0 100' 0 10'

CHANNEL PROFILE 1000' UPSTREAM



CHANNEL PROFILE 1000' DOWNSTREAM



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

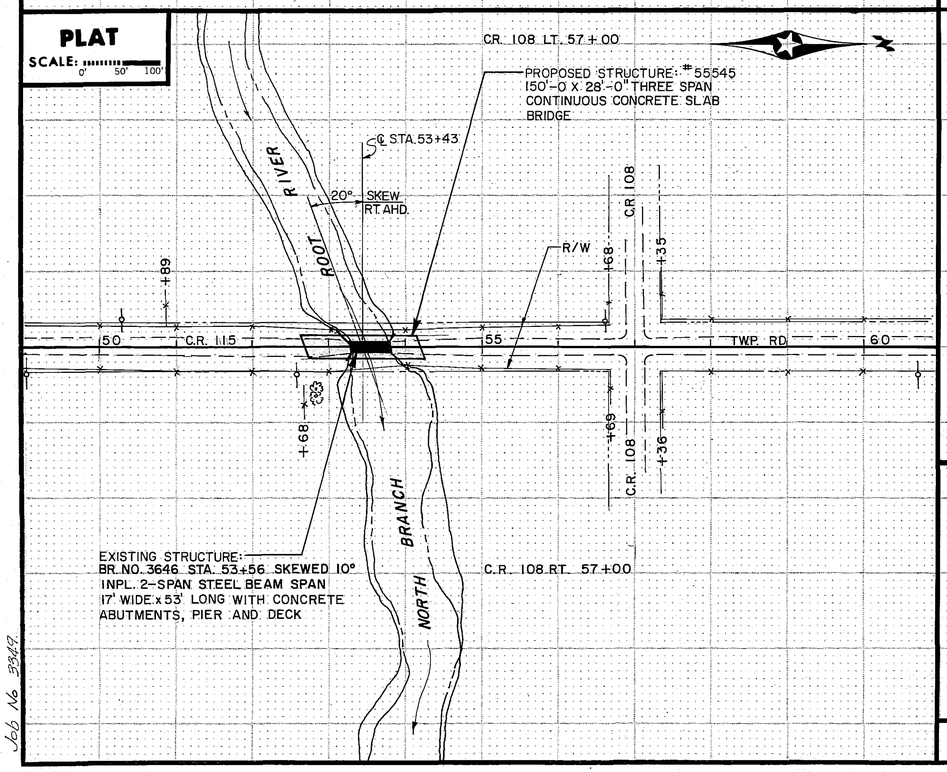
DATE 7-6-81

Stream or ditch designation N. BRANCH OF ROOT RIVER
Drainage area 66 SQ. MILES
Max. flood on record. N/A ....Design flood (..50.... yr. freq.) 7700 C.F.S.
Max. observed highwater elevation 1248.0 Design highwater elevation 1242.0
Design mean velocity through structure 6.3 F.P.S.
Low superstructure at or above elevation 1245.5
Flowline elevation 1229 Skew angle 20° RT AHD
Waterway area req'd. below elevation 1242.0= 1230 Sq. Ft. at Rt. angles to channel

In the interest of flood plain zoning the regional flood (100 yr. freq.) is 9240 C.F.S. at stage 1242.9 and mean velocity of 6.9 F.P.S. with 0.6 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.

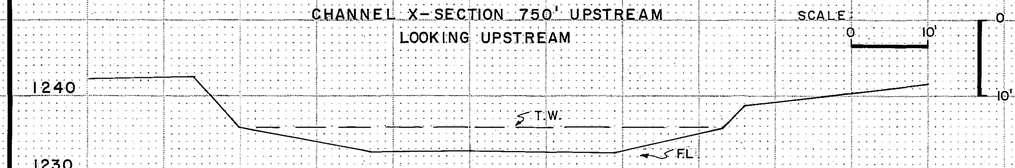
PLAT

SCALE: 0' 50' 100'

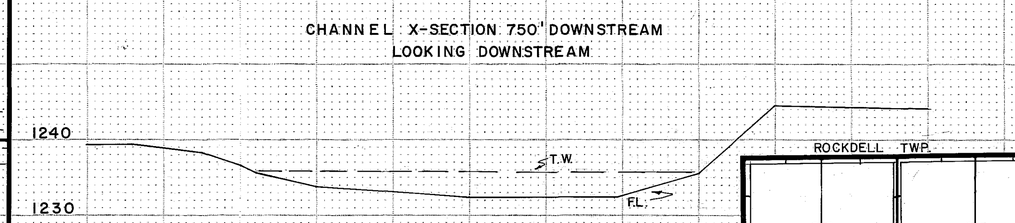


CHANNEL X-SECTION 750' UPSTREAM
LOOKING UPSTREAM

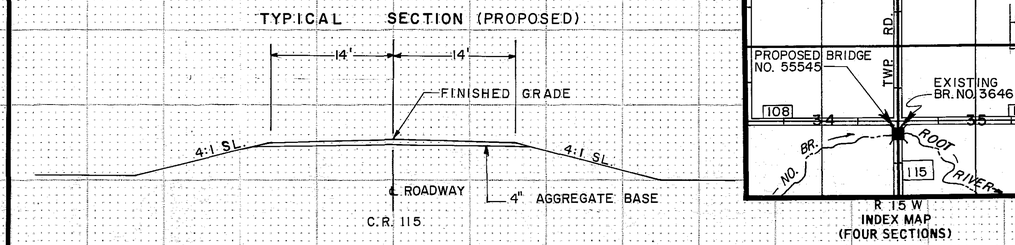
SCALE: 0 10' 0 10'



CHANNEL X-SECTION 750' DOWNSTREAM
LOOKING DOWNSTREAM



TYPICAL SECTION (PROPOSED)



* FOUNDATION ENGINEERS RECOMMENDATION

DATE 8-7-81

Abutments - Steel H-piles driven to 40 ton capacity. Piers - Spread footing system. Bottom of footing should be set at elevation 1225. Footing bearing pressures of up to 5 tons per square foot can be utilized on the dense sandstone.

* Summarized from Braun Engineering Testing, Inc. foundation investigation 381-47.

Bridge survey sheets made from: BRIDGE SURVEY CONDUCTED BY OLMSTED COUNTY.

Bench mark elevation...1243.47.... (M.S.L. 1929 Adj.)
Location: SPK. IN P. POLE 32' RIGHT STA. 52+57.

ROCKDELL TWP.

MINNESOTA
DEPARTMENT OF TRANSPORTATION

BRIDGE SURVEY

AT MILE POINT 1.0 ON C.R. 115 (T.H., C.S.A.H., C.R. etc.)
PROPOSED BRIDGE LOCATED 5.6 MILES WEST OF STEWARTVILLE
SEC. 34 TWP 105 N R 15W
TOWNSHIP ROCK DELL COUNTY OLMSTED
BRIDGE NO. 55545
APR. 5-13-88

Job No. 3947

Area No. Job No.

State Proj. No. S.P. 55-598-19

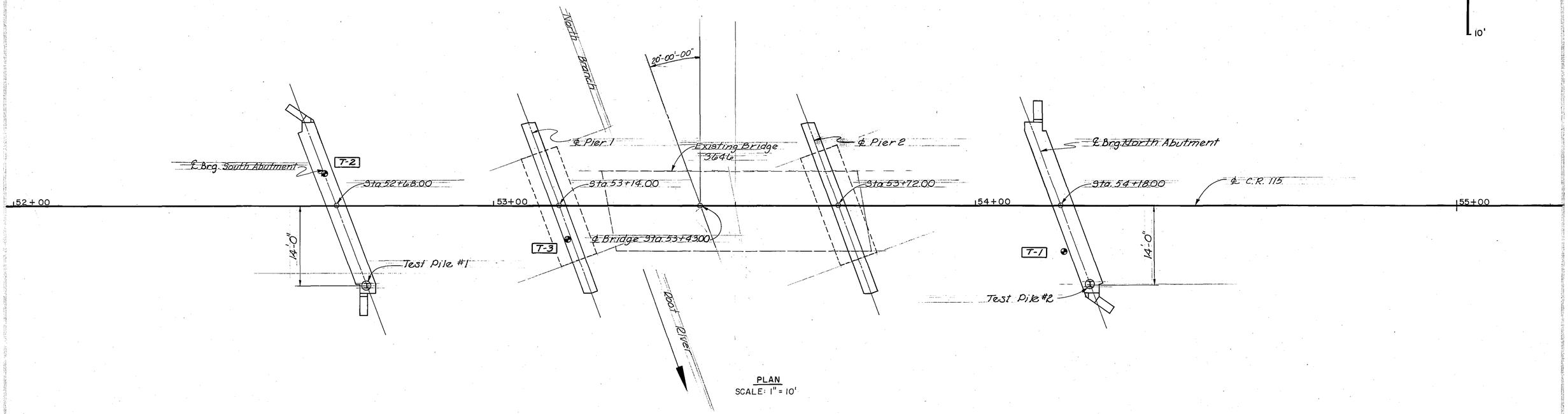
Sheet No. 17 of 18 Sheets

AS BUILT PLANS

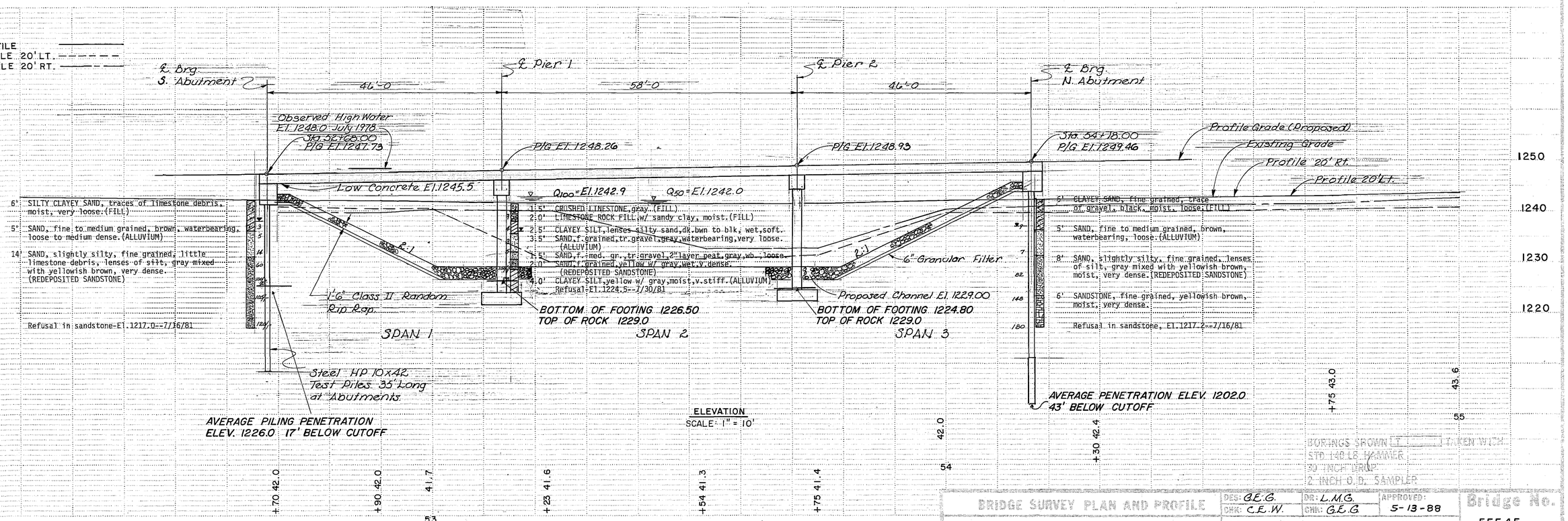
Fed. Proj. No.

SCALE: 0 10'

0
10'



PLAN
SCALE: 1" = 10'



ELEVATION
SCALE: 1" = 10'

BORINGS SHOWN [illegible] TAKEN WITH STD. 140 LB. HAMMER 30 INCH DROP 2 INCH O.D. SAMPLER

BRIDGE SURVEY PLAN AND PROFILE	DES: G.E.G.	DR: L.M.G.	APPROVED: 5-13-88	Bridge No. 55545
State Proj. No. 55-598-19	CHK: C.E.W.	CHK: G.E.G.	Sheet No. 18 of 18 Sheets	

Job No. 3349

AS BUILT PLANS