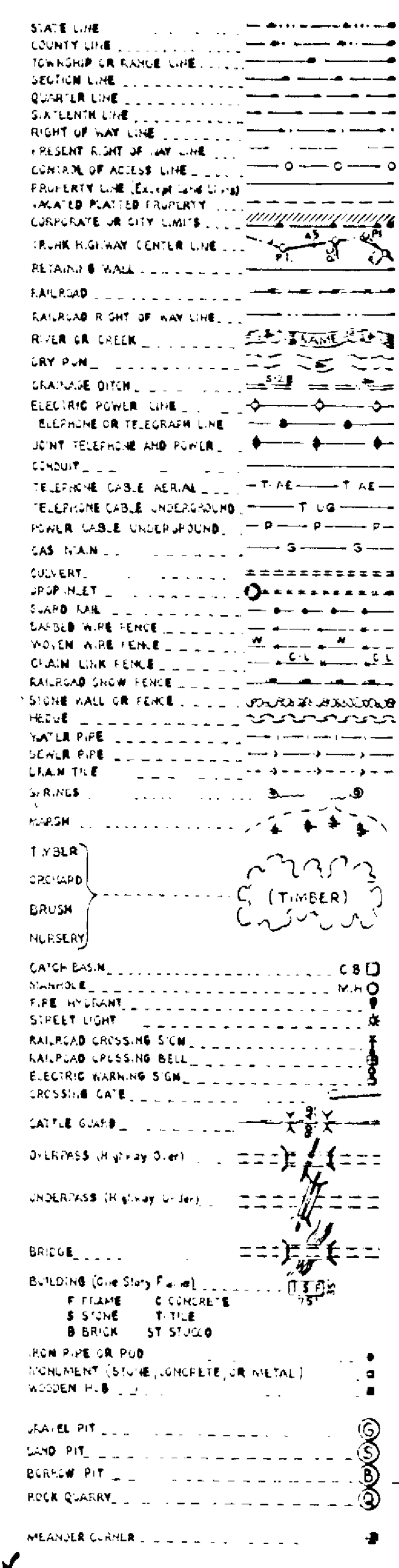
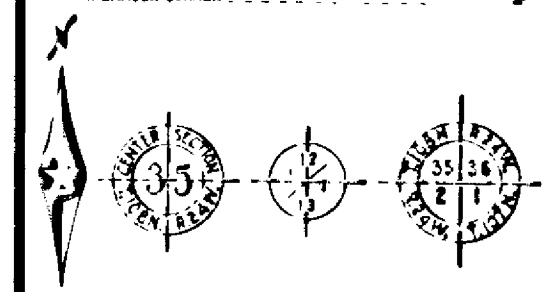
FORM 129 A REV. '64

CONVENTIONAL SIGNS



END PROJECT C.P. 82-09-78
STA. 68+56



SURVEY P.O.T. 59+06.77
LOR P.T. 59+03.67±

BEGIN PROJECT C.P. 82-09-78
STA. 20+16

Fed. Proj. No. ______

STATE OF MINNESOTA

DEPARTMENT OF HIGHWAYS

CONSTRUCTION PLAN FOR GRADING, BASE, BITUMINOUS & STORM SEWER

County State Aid Highway No. 78

Between CSAH # 11 And T.H. # 242

From A PT. APPROX. 575' NO. & 660' WEST OF THE S.E SEC 10, T31N, R24W.

To A PT. APPROX. 360' SO. OF THE N.E. COR. SEC. 10, T 31N, R 24W.

GROSS LENGTH 4,836.57 FEET 0.92 MILES
BRIDGES LENGTH 44' FEET 0.01 MILES
EXCEPTIONS LENGTH ______ FEET ______ MILES
NET LENGTH 4,836.90 FEET 0.92 MILES

INDEX OF SHEETS

Sheet No. 1. Title Sheet & Layout Map
" No 2-3 Est. Quantities
" No. 4 Typical Sections
" No 5 Erosion Control & Median Nose
" No. 6 Storm Sewer
" No 7 Superelevation
" No. 8 Watermain Relocation
" No. 9-12 Plan & Profile
" No. 13-17 Cross Sections
" No. 18-24 Precast Reinforced Concrete Arch

SCALE

INDEX MAP	2 MI.
PLAN & PROFILE	50' HORIZ. 5' VERT.
CROSS SECTION	10'

DESIGN DESIGNATION

ADT (CURRENT YEAR) 8,927
ADT (FUTURE YEAR) 17,854
T (HEAVY COMMERCIAL) 300-600
9 Ton Design SOIL FACTOR A-3, 50%
Design Speed 50 MPH
Design Speed not achieved at:
STA ______ TO STA ______ MPH ______
STA ______ TO STA ______ MPH ______

SPECIFICATIONS

THE "STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION", DATED JAN. 1, 1978, SHALL GOVERN

ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND ORDINANCES WILL BE COMPLIED WITH, IN THE CONSTRUCTION OF THIS PROJECT

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.

Paul K. [illegible] DATE 3/4/83
COUNTY ENGINEER

ANOKA COUNTY REG NO 6549

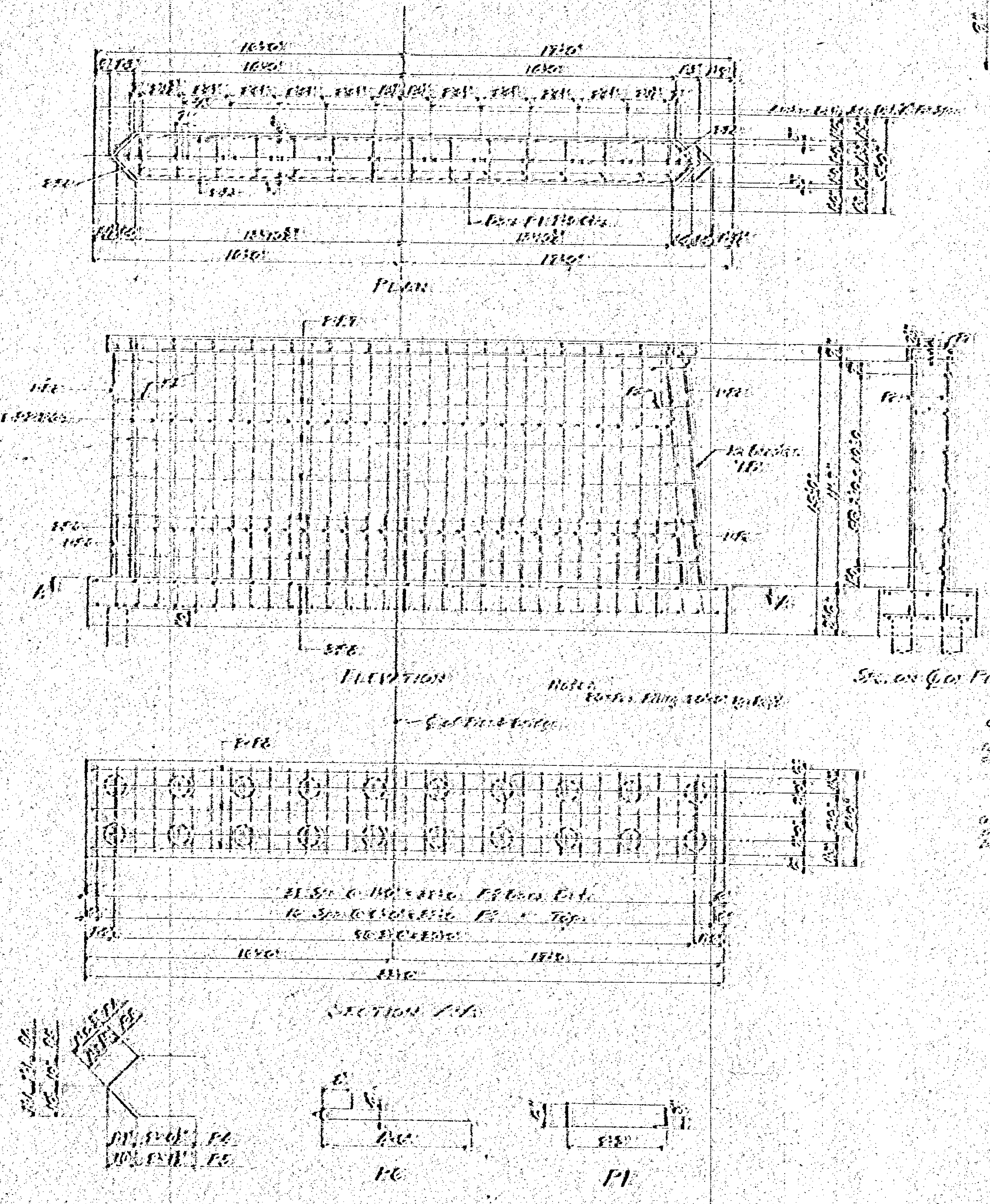
RECOMMENDED FOR APPROVAL ______, 19__
DISTRICT STATE AID ENGINEER

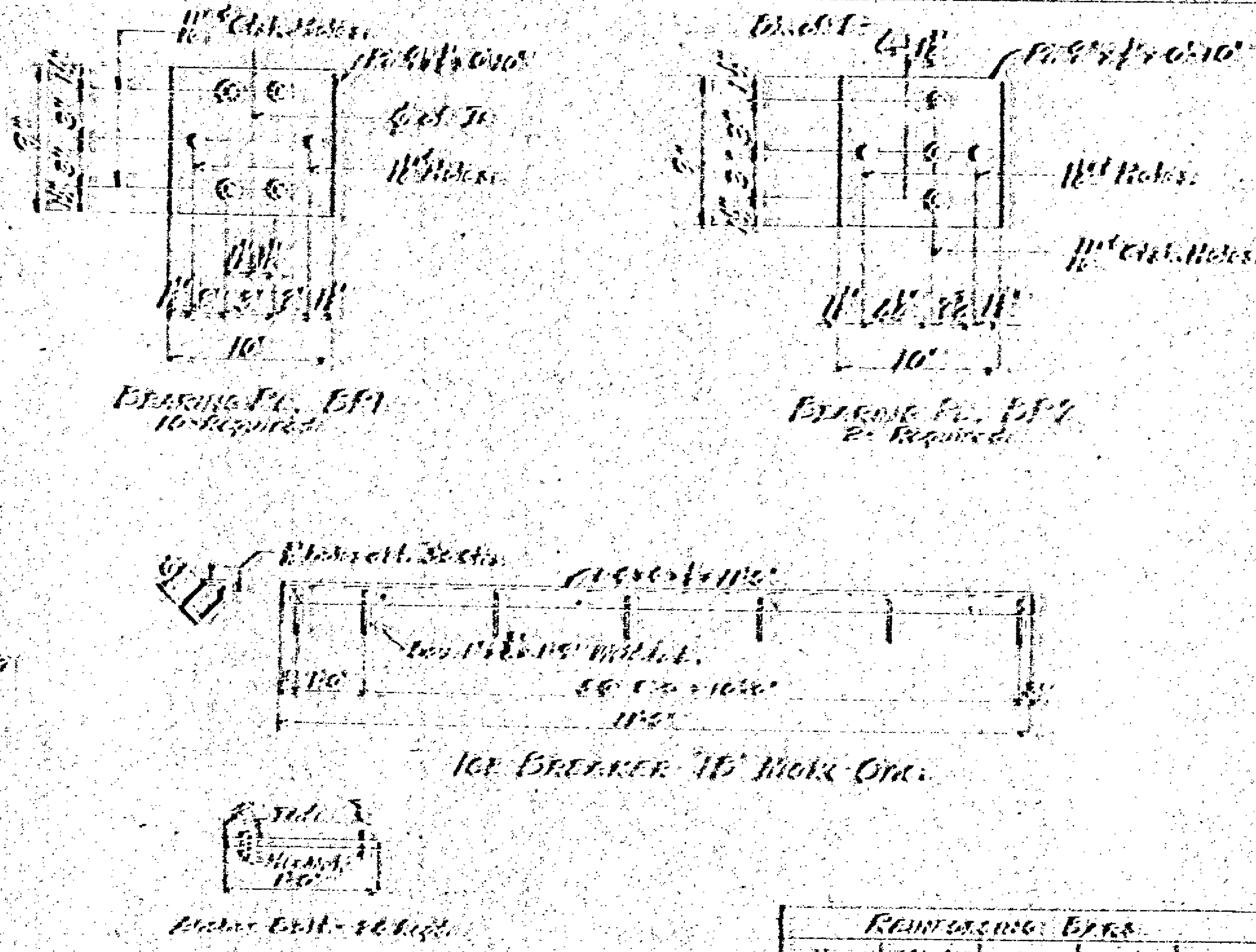
RECOMMENDED FOR APPROVAL ______, 19__

APPROVED ______, 19__ ______
STATE AID ENGINEER

Minn. Proj. No. ______ County Proj. No. 82-09-78
State Proj. No. ______ S.A.P. ______

DAHMS PHOTO PRINT CO
MINNEAPOLIS, MINN





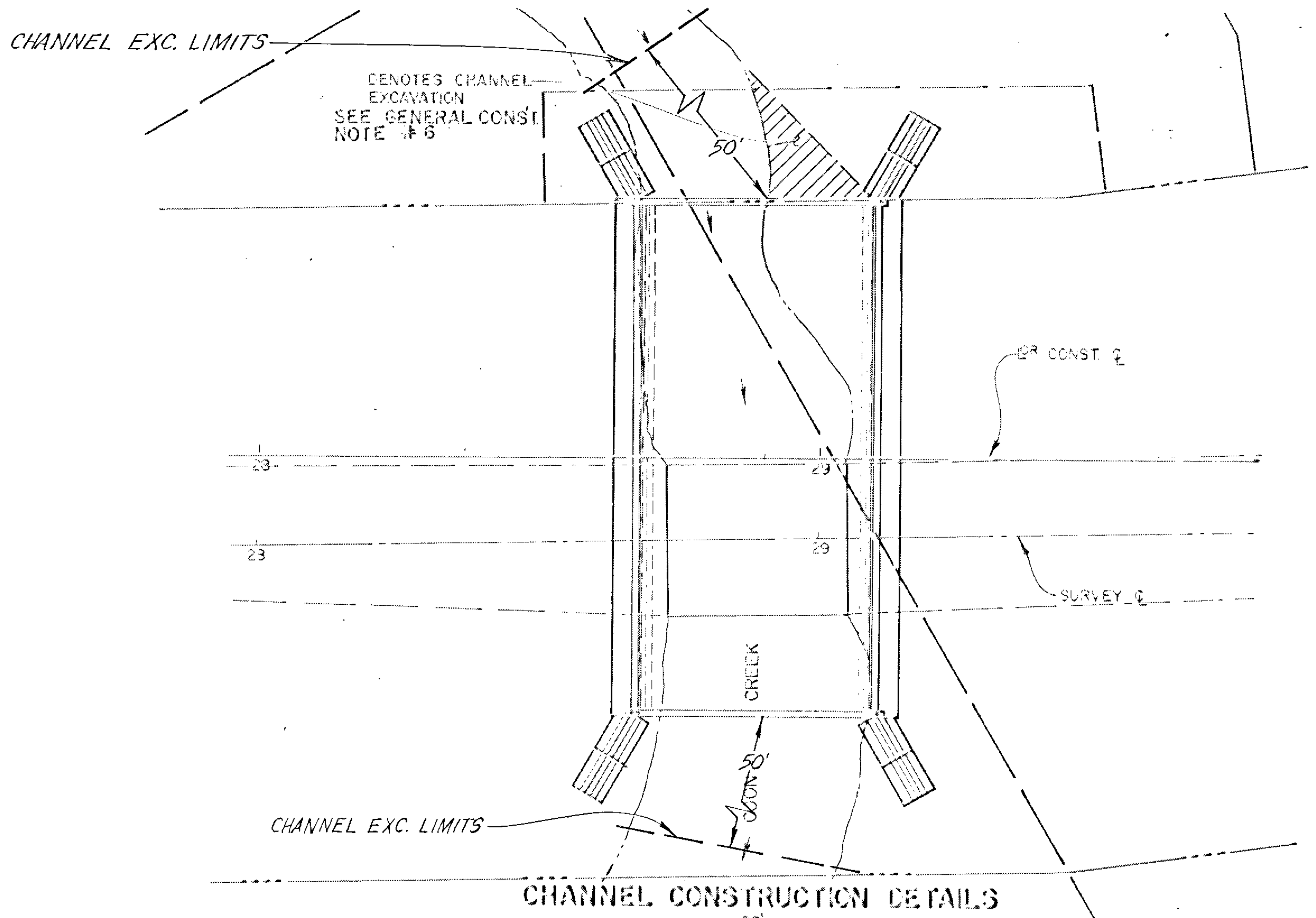
Reinforcing Bars				
No.	Mark	Size	Length	Shape
[illegible]	P1	[illegible]	[illegible]	Bent
[illegible]	P2	[illegible]	[illegible]	Str.
[illegible]	P3	[illegible]	[illegible]	"
[illegible]	P4	[illegible]	[illegible]	Bent
[illegible]	P5	[illegible]	[illegible]	"
[illegible]	P6	[illegible]	[illegible]	"
[illegible]	P7	[illegible]	[illegible]	Str.
[illegible]	P8	[illegible]	[illegible]	"
[illegible]	P9	[illegible]	[illegible]	"
[illegible]	[illegible]			
[illegible]	[illegible]			

CONSTRUCTION NOTES:

[illegible]

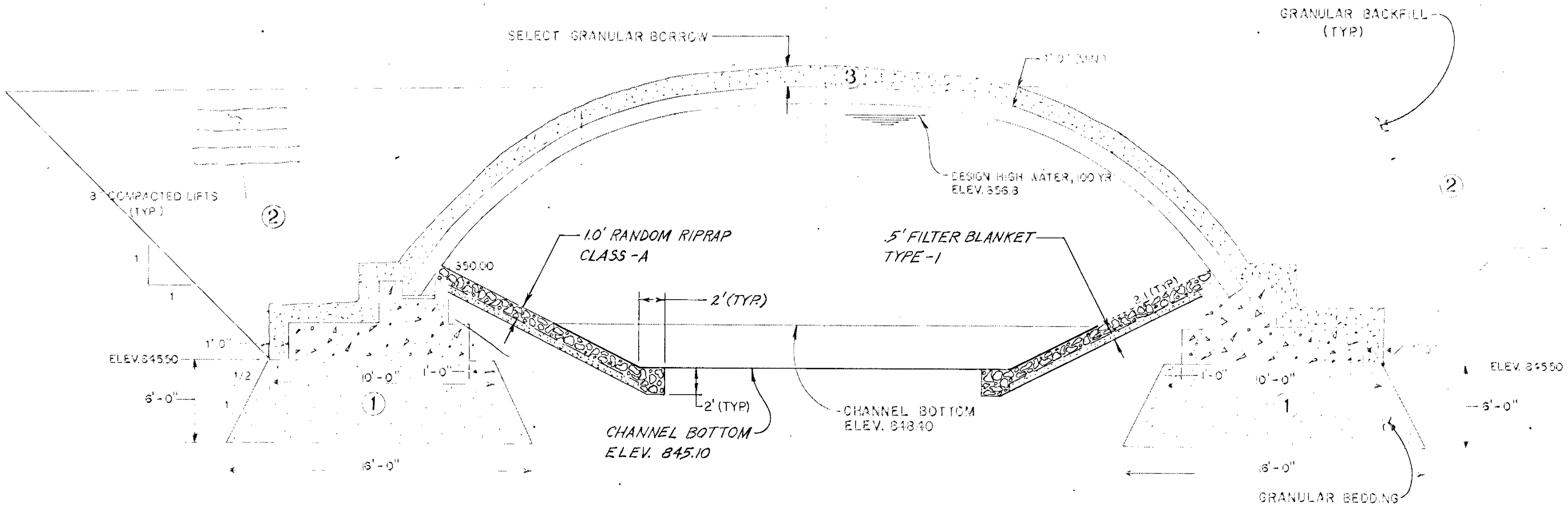
Plan for Remodeling of Bridge.
Pier Details.
Location: [illegible]
[illegible] County Engineer.

#1097-3-19



CHANNEL CONSTRUCTION DETAILS

20' SCALE



FOUNDATION AND BACKFILL DETAILS

NO SCALE

1 All Granular Bedding under footings shall meet or exceed Mn/DOT Specification 3149.2F, Granular Bedding. Placement of this Granular Bedding shall follow Mn./DOT. Spec. 2451.3D and compaction shall be no less than 100% maximum density, as per Mn/DOT Spec. 2105.3F1, Structural Excavation, class - U, shall extend under arch and spandrel wall only.

2 All granular backfill on both sides of the curved element from the outer edge of the footing on a [illegible] slope to the top of the curved element shall be compacted to not less than [illegible] Granular [illegible] Mn/DOT specification 3149.2D [illegible] Granular Backfill [illegible]. All material shall be placed in 8" compacted lifts unless contractor can show he can obtain 95% density with greater lifts. Mn./DOT Spec. 2451.3C and 2451.3D will apply.

The backfill material on both sides of the structure is to be placed so that the difference in elevation on one side is never greater than 2 feet higher than the other side.

3 Hand compaction equipment is required in the area within 1 foot of the curved elements and within 1 foot adjacent to the spandrel walls and wingwalls. All backfill shall be granular backfill as per Mn/DOT Spec. 3149.2D [illegible] to a maximum of 1" [illegible] in the material. Compaction to [illegible] density is required per Mn/DOT Spec. [illegible] (AASHTO T [illegible]).

GENERAL CONSTRUCTION NOTES:

1 To avoid excessive vibration [illegible] the following practice must be followed during the compaction operations.

a) Eccentric rotating weights of vibrating [illegible] shall rotate at least 30 revolutions per second.

b) Vibrating rollers shall not be started or stopped within 6 feet of the structure.

2 Excavate and stockpile suitable topsoils and [illegible] organic [illegible] below proposed [illegible] widenings per Mn/DOT Spec. [illegible], for future use as slope dressing.

3 No fill shall be dumped within 3 feet of the precast elements.

4 Construction equipment heavier than [illegible] tons are not allowed to cross over or adjacent to precast elements until [illegible] feet of cover has been placed and compacted.

5 [illegible] necessary below bottom of footings so excavation, backfill, [illegible] and concrete work is completed [illegible].

6 Channel excavation will be considered as incidental to construction and no additional compensation will be made.

HYDRAULIC DATA

Stream Design Flood & Basic Flood (100 yr. freq. Headwater Elev.)	1,000 C.F.S.
Headwater Elev.	856.8
Overtopping Flood (1.16 X 100 - Yr. Freq.)	1,160 C.F.S.
Headwater Elev.	857.2
Approximate Flowline Elev.	848.4
Waterway Opening of Structure	290 SQ.FT.

NOTE: For Existing Channel Condition

(1) INCLUDES 528 C.Y. FOR SUB-FOOTING EXCAVATION

SCHEDULE OF QUANTITIES REINFORCED CONCRETE ARCH CONSTRUCTION — SUPPLEMENTAL AGREEMENT NO. 1

ITEM NO.	501.603	501.606	501.606	2105.522	2411.501	2411.511	2451.501	2451.503	2451.507	2557.501	2511.501	2511.504	2501.511
ITEM	PRECAST REINFORCED CONCRETE ARCH (30' x 10')	SPANDREL WALLS	PRECAST WINGWALLS	SELECT GRANULAR BORROW (C.V.)	CONCRETE MIX No. 3Y43	REINFORCMENT BARS	STRUCTURE EXCAVATION CLASS-U	GRANULAR BACKFILL (C.V.)	GRANULAR BEDDING (C.V.)	WIRE FENCE DESIGN CHAIN LINK	RANDOM RIPRAP CLASS - A	FILTER BLANKET TYPE - I	COMMON CHANNEL EXCAVATION
UNIT	LIN. FT.	EACH	EACH	C.Y.	C.Y.	POUND	C.Y.	C.Y.	C.Y.	LIN. FT.	C.Y.	C.Y.	C.Y.
QUANTITY	30	2	4	203 (P)	150	7,550	(1) 2,341 (P)	2,553 (P)	741 (P)	150	129 (P)	50(P)	685 (P)

FOUNDATION AND BACKFILL DETAILS

NOTES 6 [illegible]
MISC. 3/21/83
CHANNEL EXC & RIPRAP ADDED 6-2-83

NONE

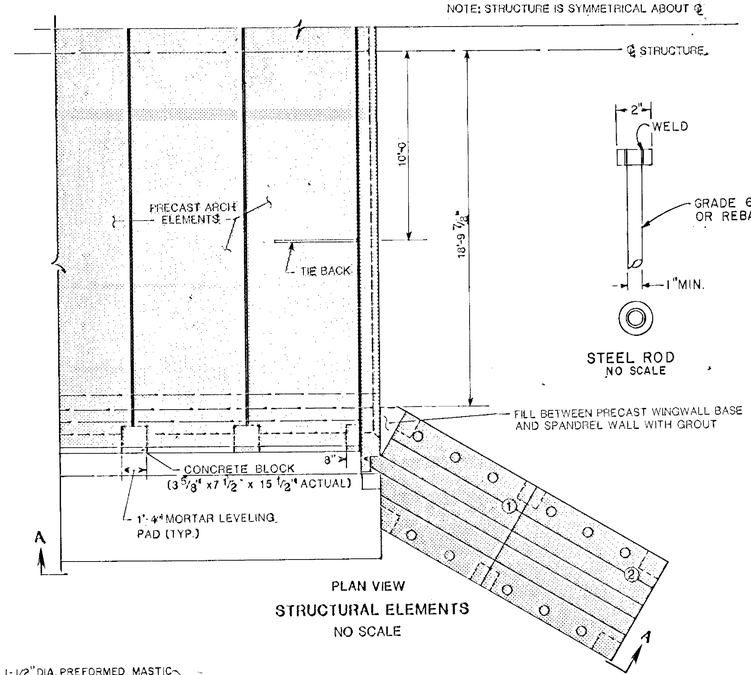
PRECAST REINFORCED CONCRETE ARCH DETAILS

A11/20 - A11/120

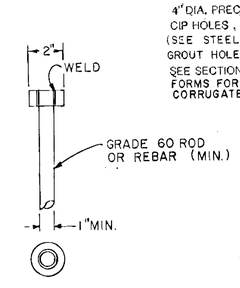
C.R. 82 - 09 - 78

18

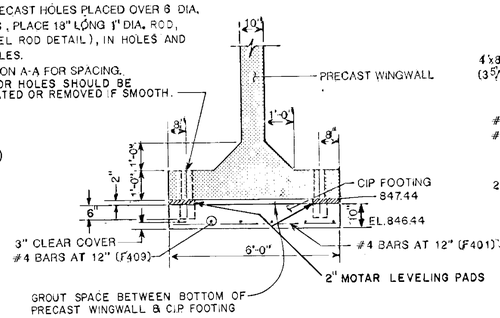
24



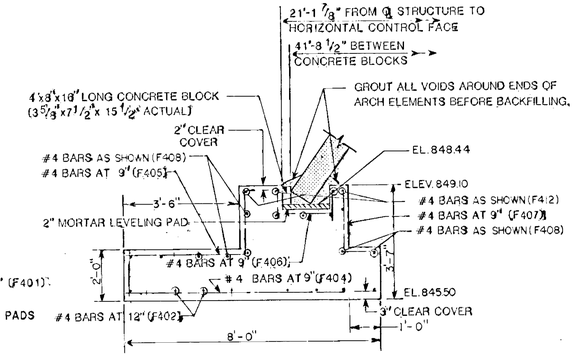
PLAN VIEW
STRUCTURAL ELEMENTS
NO SCALE



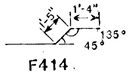
STEEL ROD
NO SCALE



SECTION C-C
WINGWALL FOOTING DETAIL (CIP)
NO SCALE



SECTION B-B
ELEMENT FOOTING DETAIL (CIP)
NO SCALE

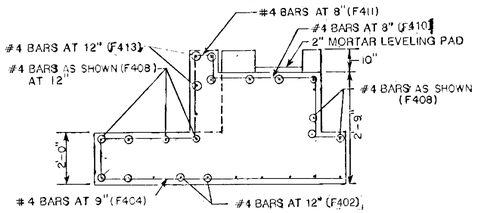


F414

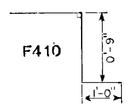
BILL OF REINFORCEMENT OF CIP ELEMENT FOOTING

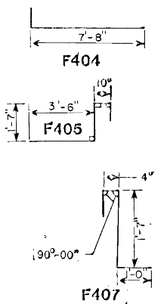
BAR	NUMBER	LENGTH	SHAPE	LOCATION
F401	76	5'-8"	Strt.	Wingwall
F402	18	91'-8"	Strt.	Element
~~F403~~			Strt.	Element
F404	246	8'-8"	Bent	Element
F405	242	7'-1"	Bent	Element
F406	242	2'-4"	Strt.	Element
F407	242	4'-1"	Bent	Element
F408	22	91'-8"	Strt.	Element
F409	28	18'-4"	Strt.	Wingwall
F410	8	5'-6"	Bent	Spandrel
F411	8	5'-10"	Bent	Spandrel
F412	8	89'-8"	Strt.	Element
F413	16	8"	Strt.	Spandrel
R414	56	5'-3"	Bent	Wingwall

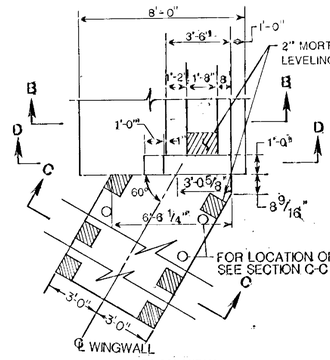
NOTE: SEE SHEET NO. FOR PLAN VIEW OF REINFORCING DETAILS
MINIMUM LAP SPLICE FOR #4 BAR IS 16"



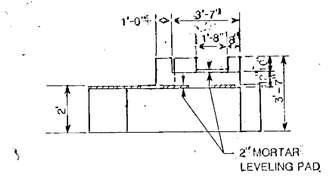
SECTION D-D
SPANDREL WALL SEAT (CIP)
NO SCALE



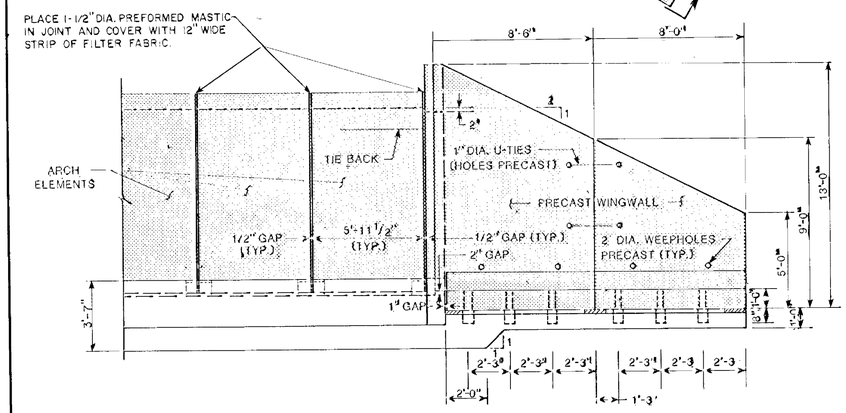




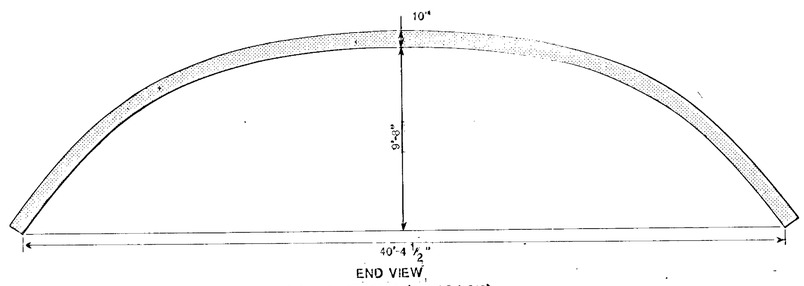
PLAN VIEW



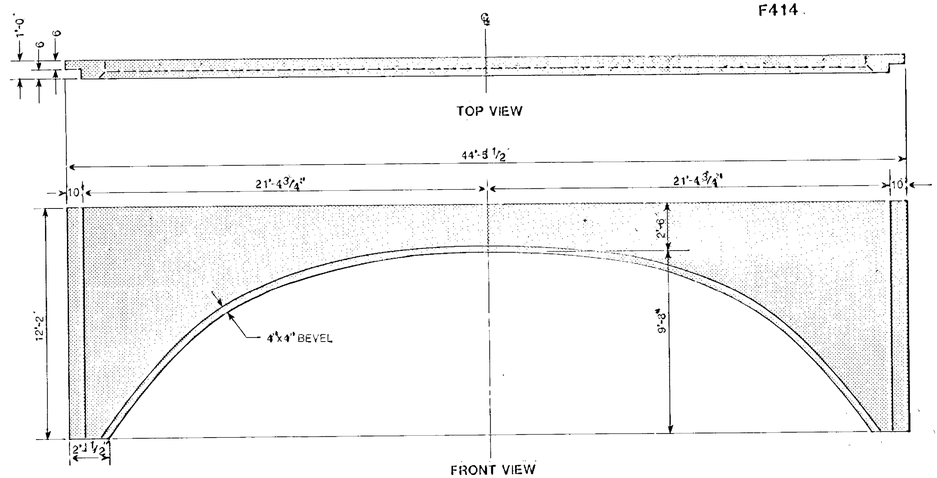
END VIEW
FOOTING DETAIL AT SPANDREL WALL/ WINGWALL JOINT
NO SCALE



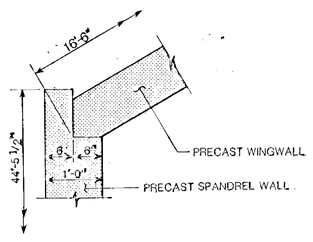
SECTION A-A
WINGWALL INSTALLATION DETAIL
NO SCALE



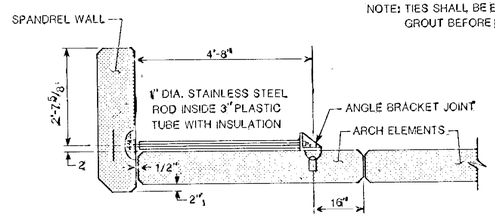
END VIEW
ARCH ELEMENT (PRECAST)
SCALE: 1" = 4'-0"



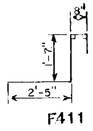
SPANDREL WALL (PRECAST)
NO SCALE



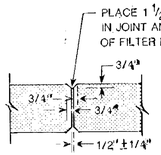
SPANDREL WALL/WINGWALL JOINT
NO SCALE



SPANDREL WALL TIE BACK
SCALE: 1" = 2'-0"



F411



JOINT BETWEEN ARCH ELEMENTS
NO SCALE

LIST OF WEIGHTS

ARCH ELEMENTS	37,170#
SPANDREL WALL	37,700#
WINGWALL ①	19,790#
②	14,880#

NOTES:
SHADED AREAS INDICATE PRECAST SECTIONS.
CLEAR COVER TO REINFORCEMENT FOR ALL C.I.P. CONCRETE SHALL BE 3" FROM BOTTOM AND 2" FROM ALL OTHER SURFACES.
MINIMUM LAP SPLICE FOR #4 BARS IS 16".

FABRICATION: FABRICATION AND CONSTRUCTION OF ARCH STRUCTURE AND APPURTENANCES SHALL BE IN ACCORDANCE WITH FABRICATORS' RECOMMENDATIONS.

I HEREBY CERTIFY THAT THIS DRAWING OR 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
REG. NO.

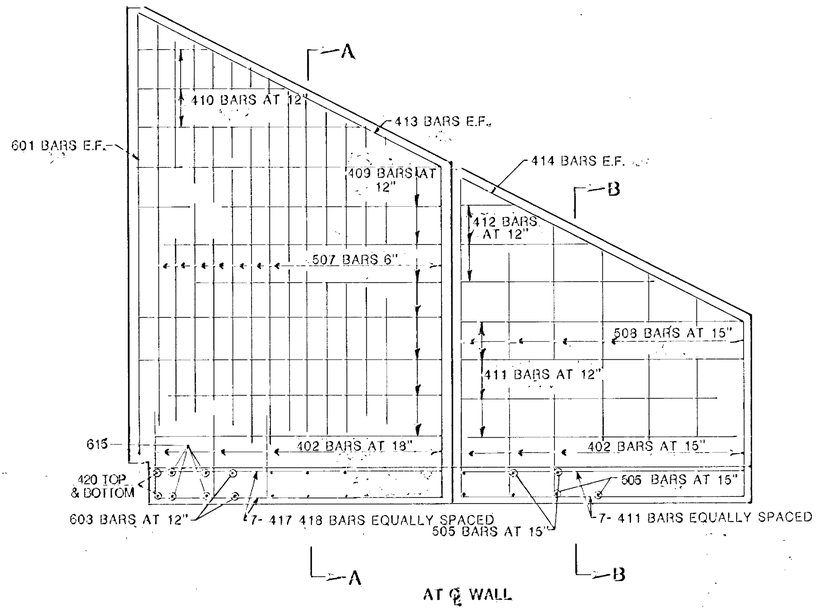
REVISIONS
MISC. 6/30/82
MISC. 7/14/82
MISC. 8/3/31
MISC. 3/24/83

SCALE:
DWN. BY:
DATE: JUNE 23, 1982
DWG. NO.: A41/120

PRECAST REINFORCED CONCRETE ARCH AND FOOTING DETAILS

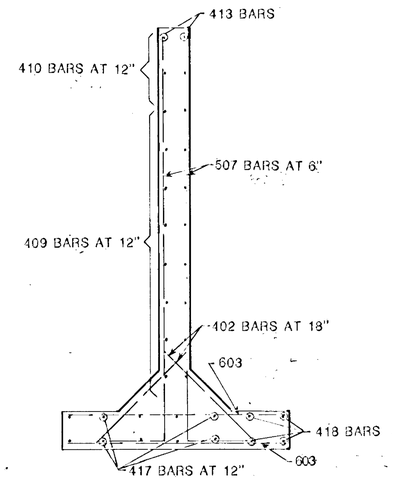
C.P. 82-09-78

SHEET NO. 19 OF 24 SHEETS



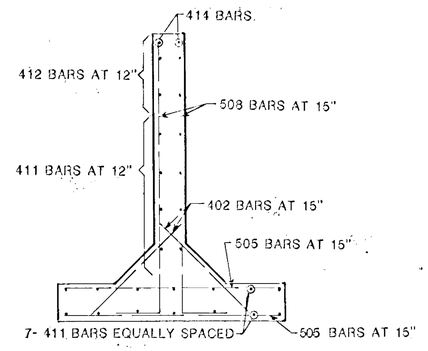
ELEVATION: WINGWALL SECTIONS 1 AND 2

2 0 1



SECTION A-A
WINGWALL SECTION 1

2 0 1



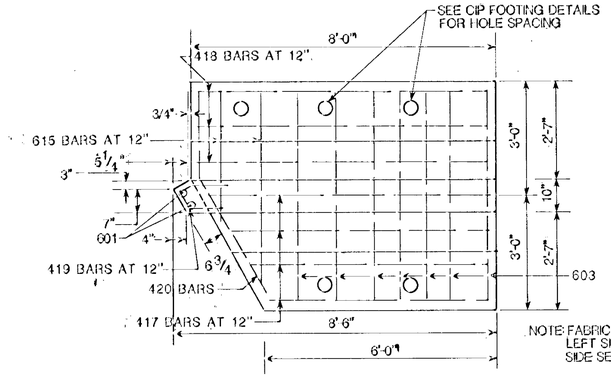
SECTION B-B
WINGWALL SECTION 2

2 0 1

GENERAL NOTES FOR WINGWALL SECTIONS:
fc' = 4200 PSI CONCRETE MIX NO. 3Y46
REINFORCEMENT STEEL ASTM A615 GRADE 60
CONCRETE COVER TO REINFORCEMENT: 2"

FINISH TOP EDGES ONLY WITH 3/4" BEVEL.
STEEL FABRIC CONFORMING TO REQUIREMENTS OF ASTM A185, OF EQUAL OR GREATER AREA, MAY BE USED IN LIEU OF REINFORCING BARS SHOWN

PRECAST WINGWALL SECTIONS MUST BE FABRICATED WITH SUFFICIENT ACCURACY TO PROVIDE A UNIFORM BEARING ALONG THE VERTICAL FACE OF THE JOINT BETWEEN THE SPANDREL WALL AND THE WINGWALL.

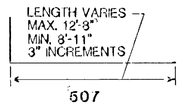


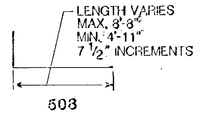
LAYOUT AND REINFORCEMENT DETAILS
120° WINGWALL

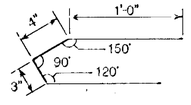
2 0 1

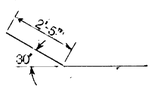
BILL OF REINFORCEMENT FOR ALL PRECAST WINGWALLS

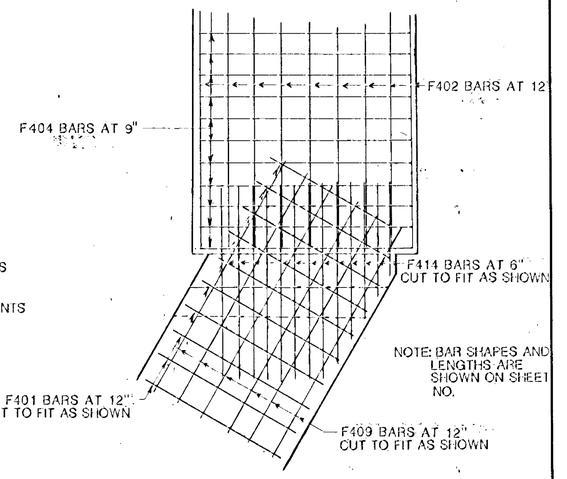
BAR	NUMBER	LENGTH	SHAPE	LOCATION
601	8	11'-8"	Strt.	Section 1
402	104	3'-0"	Strt.	Sections 1 & 2
603	56	5'-8"	Strt.	Section 1
505	56	5'-8"	Strt.	Section 2
507	8 Series of 16	Varies 10'-5" to 14'-2"	Bent	Section 1
508	8 Series of 7	Varies 6'-2" to 9'-11"	Bent	Section 2
409	64	7'-11"	Strt.	Section 1
410	8 Series of 3	Varies 5'-11" to 1'-11"	Strt.	Section 1
411	88	7'-3"	Strt.	Section 2
412	8 Series of 3	Varies 5'-8" to 1'-8"	Strt.	Section 2
413	8	8'-10"	Strt.	Section 1
414	8	8'-5"	Strt.	Section 2
615	8 Series of 2	Varies 5'-6" to 3'-9"	Strt.	Section 1
417	8 Series of 4	Varies 7'-5" to 5'-8"	Strt.	Section 1
418	24	7'-8"	Strt.	Section 1
419	48	2'-7"	Bent	Section 1
420	8	6'-2"	Bent	Section 1











PLAN VIEW
CIP FOOTING REINFORCEMENT
NO SCALE

I HEREBY CERTIFY THAT THIS DRAWING OR 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

REG. NO.

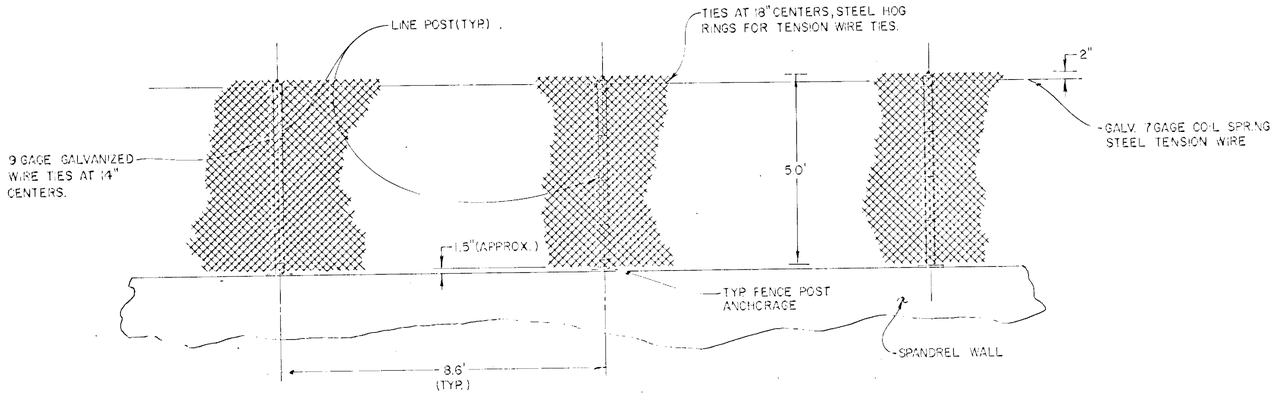
REVISIONS
MISC. 6/30/82
MISC. 7/14/82

SCALE:
DWN. BY:
DATE: JUNE 23, 1982
DWG. NO.: A41/90 120°WW

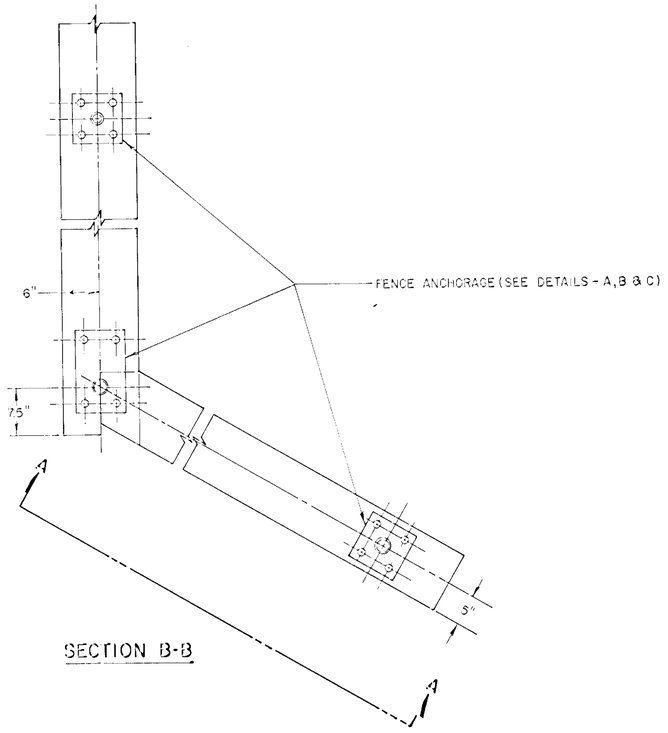
PRECAST REINFORCED CONCRETE ARCH
PRECAST WINGWALL (120° ANGLE)
REINFORCEMENT DETAILS

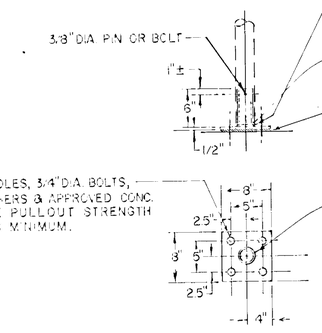
C.P. 82-09-78

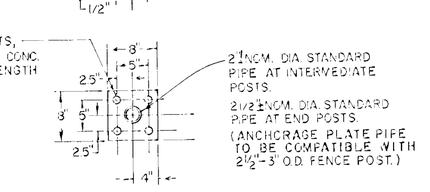
SHEET NO. 20 OF 24 SHEETS



LINE SECTION

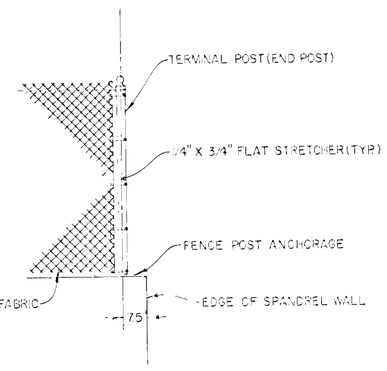




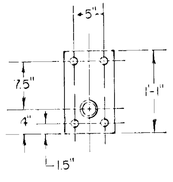


LINE POST ANCHORAGE DETAILS (SPANDREL WALLS)

DETAIL "A"



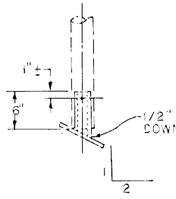
END POST



NOTE: SEE DETAIL "A" FOR DETAILS NOT SHOWN.

TERMINAL POST ANCHORAGE DETAIL (SPANDREL WALL)

DETAIL "B"



NOTE: SEE DETAIL 'A' FOR DETAILS NOT SHOWN

WINGWALL ANCHORAGE DETAIL

DETAIL 'C'

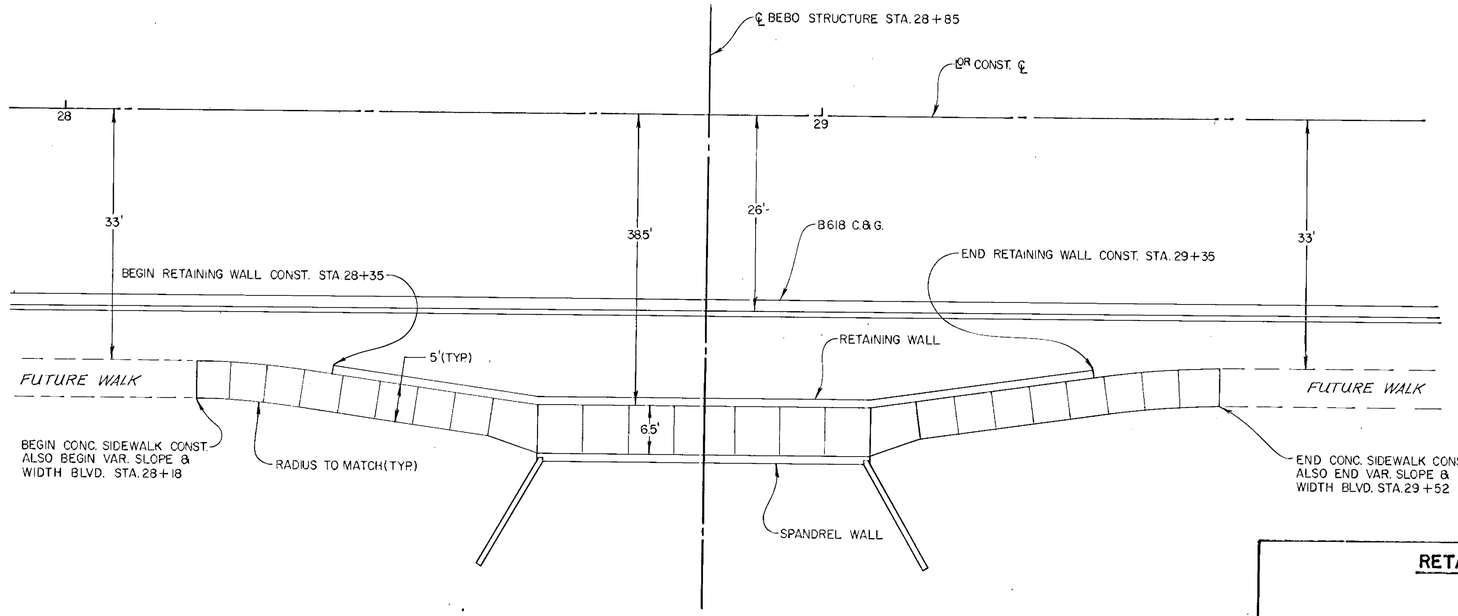
SECTION A-A

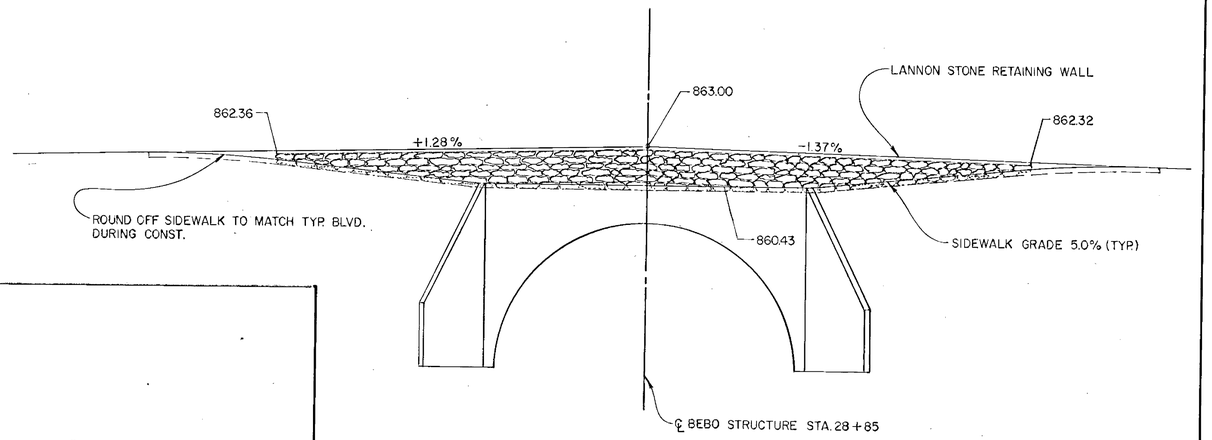
GENERAL NOTES

FENCE MATERIALS & CONSTRUCTION SHALL CONFORM TO SPEC. 2557 AND THE FOLLOWING:

1. TERMINAL POSTS (END, CORNER, OR PULL POSTS) SHALL BE 3" DIA., 7.58#/FT., 5' IN LENGTH & CONFORMING TO SPEC. 2557.2C2 & SPEC. 3406.
2. LINE POSTS SHALL BE 2 1/2" DIA., 5.79#/FT., 5' IN LENGTH AND CONFORMING TO SPEC. 2557.2C2 & SPEC. 3406.
3. HARDWARE & FITTINGS SHALL CONFORM TO SPEC. 2557.2D1 & SPEC. 3406.
4. CHAIN LINK FABRIC, 9 GAGE, 2" MESH, WITH KNUCKLED SELVAGE TOP & BOTTOM, SHALL CONFORM TO REQUIREMENTS OF AASHTO 181 TYPE II, III, OR IV. CHAIN LINK FABRIC SHALL BE INSTALLED AS PER SPEC. 2557.3C1 EXCEPT THAT FABRIC SHALL BE INSTALLED ON THE SIDE OF THE LINE POSTS WHICH IS TOWARDS THE ROAD BED.
5. ALL POSTS SHALL HAVE A MEANS TO SECURELY HOLD THE TOP TENSION WIRE INPLACE & ALLOW FOR REMOVAL AND REPLACEMENT OF A POST WITHOUT DAMAGING THE TOP TENSION WIRE.
6. WIRE TIES MAY BE 9 GAGE GALVANIZED STEEL OR 0.179" MIN. ALUMINUM ALLOY CONFORMING TO ASTM B211, ALLOY 1100 - H18. USE 12 1/2 GAGE GALVANIZED HOG RINGS FOR TENSION WIRE TIES.
7. FENCE POST ANCHORAGE PLATES SHALL BE MANUFACTURED OF STRUCTURAL STEEL CONFORMING TO SPEC. 3306. STRUCTURAL STEEL PIPE CONFORMING TO SPEC. 3362 SHALL BE USED FOR FENCE POST MOUNT. ENTIRE ANCHORAGE PLATE & PINS OR BOLTS SHALL BE GALVANIZED IN ACCORDANCE WITH SPEC. 3394 & 3392.
8. PAYMENT FOR FENCE MATERIALS & CONSTRUCTION WILL BE MADE UNDER SPEC. 2557.5D1 - WIRE FENCE DESIGN CHAIN LINK, LIN. FT. AND SHALL BE CONSIDERED TO INCLUDE POSTS, FABRIC, ANCHORAGE PLATES, AND ALL OTHER MATERIALS NEEDED FOR THE COMPLETE CONSTRUCTION OF THE FENCE AND NO ADDITIONAL COMPENSATION WILL BE MADE.

RETAINING WALL & SIDEWALK CONST. DETAILS

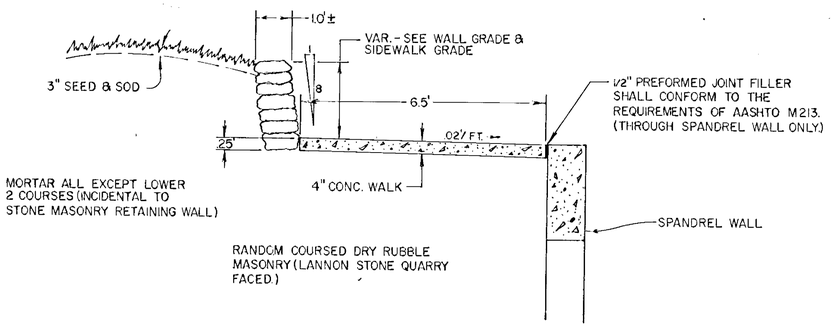




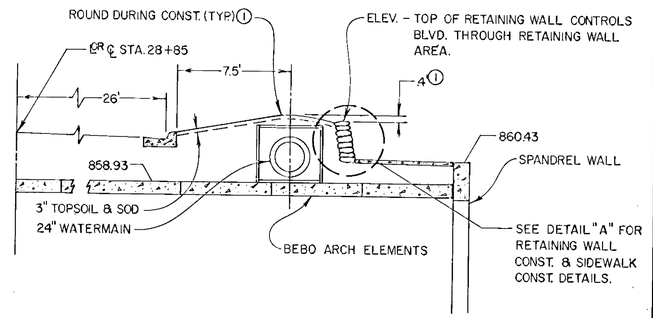
SCALE: VERT. 5' / HORIZ. 10'

DETAIL "A"

STA. 28+35 - STA. 29+35



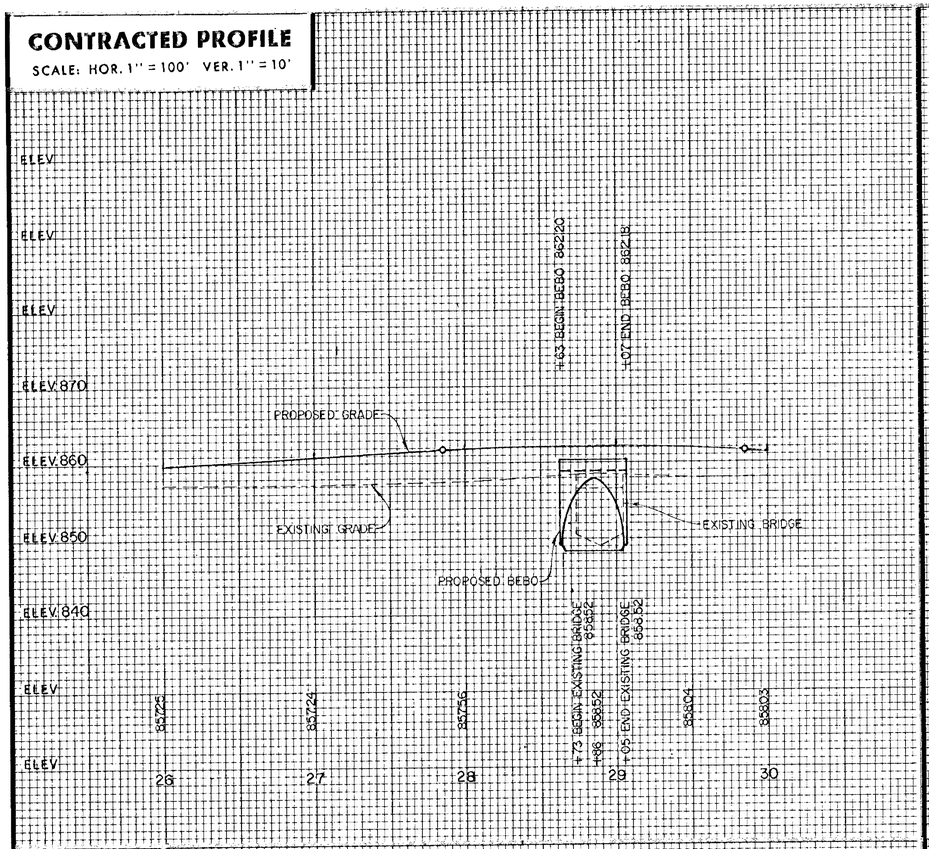
RETAINING WALL TYPICAL SECTION



① ROUNDING ON BLVD. & .4' RISE CONFINED TO AREA BETWEEN STA. 28+63 TO STA. 29+07. REMAINING BLVD. TO BE SLOPED FROM RETAINING WALL TO BACK OF CURB. RETAINING WALL GRADES ARE TO BE CARRIED THROUGH ENTIRE LENGTH OF VARIABLE BLVD. CONST.

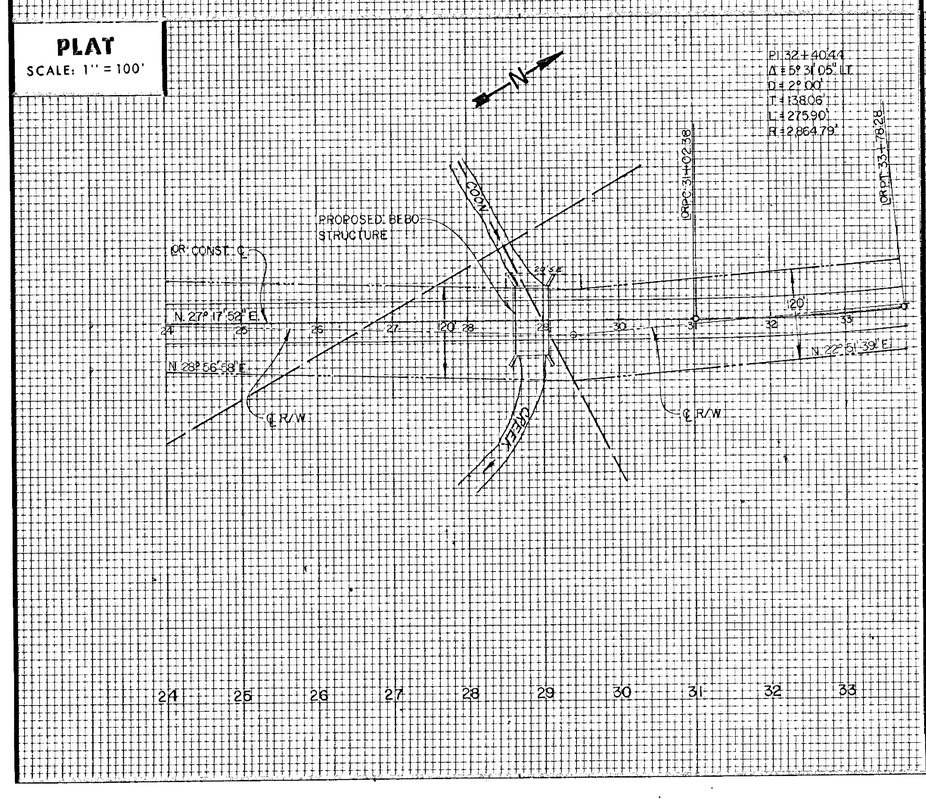
CONTRACTED PROFILE

SCALE: HOR. 1" = 100' VER. 1" = 10'



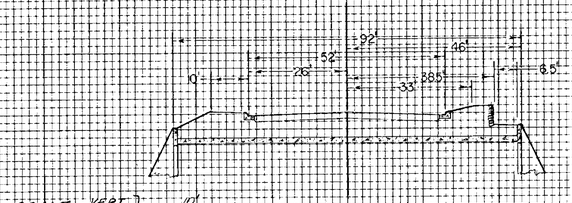
PLAT

SCALE: 1" = 100'

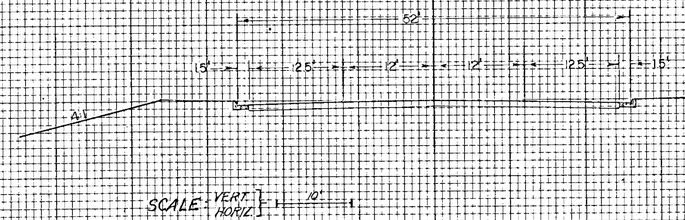


TYPICAL SECTIONS & PERTINENT DATA

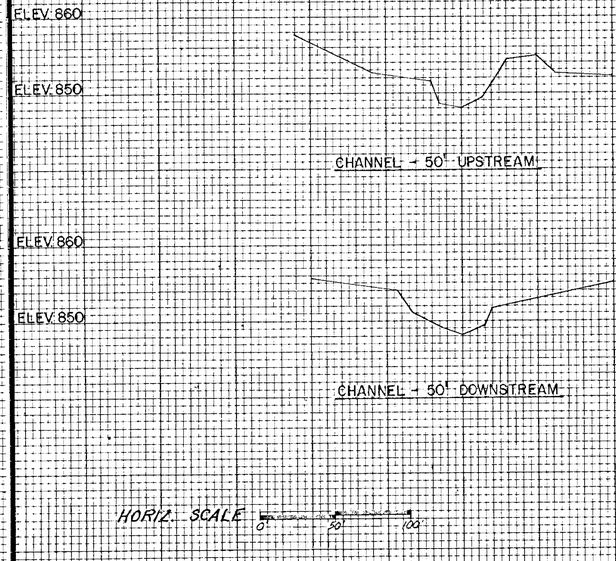
SCALES AS SHOWN



SECTION THRU BEBO



SECTION THRU ROADWAY

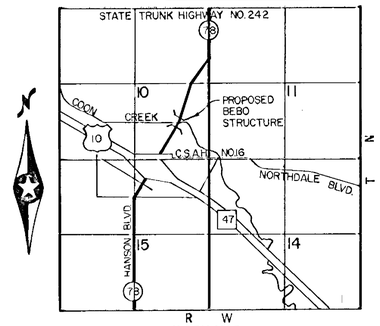


Bench mark elevation 881.59 (M.S.L. 1929 Ad.)
Location: Brass disk on N.W. corner of bridge at Highway 10 & Co. Road 78 (Hanson Blvd.)

SEE SHEET OF SHEETS FOR PLAN AND PROFILE

Area No. **Job No.**

Fed. Proj. No.



INDEX MAP
(FOUR SECTIONS)

FOLLOW SEPARATE "INSTRUCTIONS FOR PREPARATION OF BRIDGE SURVEYS" WHEN MAKING BRIDGE SURVEYS.

DATA

1. Preliminary recommendations of Engineer in charge of Bridge Survey:
   a. Net span length and type of bridge 40' - 4 1/2" - Reinforced Concrete Arch
   b. Width of roadway on bridge 52' Face of Curb to Face of Curb
   c. Number and width of sidewalks, if any
   d. Locate center of bridge at station 28+85
   e. If a skew bridge is recommended, the angle of skew should be
   f. Is piling required? No
2. Special features: Waterfalls, dams, exceptional floods, ice, driftwood, sliding banks, logging, etc.
   None
3. Changes: In height or length from that of old bridge, and reasons why
4. Other bridges in vicinity:
   a. Over same stream (particularly structures which carry high water without overflow of roadway); give location, length, height above water, net cross-sectional area at high water stage and estimated age
   Bridge No. 02530 (131st Ave. NW. over COON CREEK) 75 - Ft. Single - Span, Prestressed conc. beams, 3' - Ft. above high water; Cross - Sectional area = 368 Sq. Ft.
   b. Over or under same highway or railroad; give location, length, horizontal and vertical clearances and estimated age
   c. Reasons why these bridges are, or are not, fair indications of what length the proposed bridge should be
5. If structure is over a drainage ditch, is ditch gradient liable to be altered? Future cleanout proposed to Elev. 845.2 with a 15' bottom width.
6. Navigation clearances required, if any None
7. Information and evidence in regard to high water stages was obtained as follows
8. Must contractor provide for traffic during construction of proposed bridge? No
   If so, by what means?

HYDRAULIC ENGINEERS RECOMMENDATION

Stream or ditch design, COON CREEK. Drainage area, 70 SQ. MILES (APPROX.) Design flood (50 yr. freq.) 820 C.F.S., Design highwater elev. 855.95, Design mean velocity through structure 3.2 F.P.S. Low superstructure at or above elev. 858.10. Flowline elev. 848.40, Skew angle = 0°. Waterway area req'd. below elev. 855.95 = 256 Sq. Ft. at Rt. angles to channel. In interest of flood plane zoning the regional flood (100 yr. freq.) is 1000 C.F.S. at stage 856.80 and mean velocity of 3.6 F.P.S. with 0.1 Ft. swellhead. The above recommendation will provide a structure of adequate waterway to pass the regional flood within criteria established by the Department of Natural Resources.

HIGH AND LOW WATER ELEVATIONS

Data obtained from
reflects highest water elevation in the area of this construction to be and the lowest water elevation to be The above figures are for informational purposes only. The state neither warrants nor represents that these figures for high water and low water are in any way indicative of the high water or low water to be expected or encountered during this construction.

SHIPPING POINT

Proposed Bridge is miles of
* which is the nearest Railroad shipping point.
*(Give name of town, station or siding)

Date Project or County Engineer

Date District Engineer

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

BRIDGE SURVEY

FOR

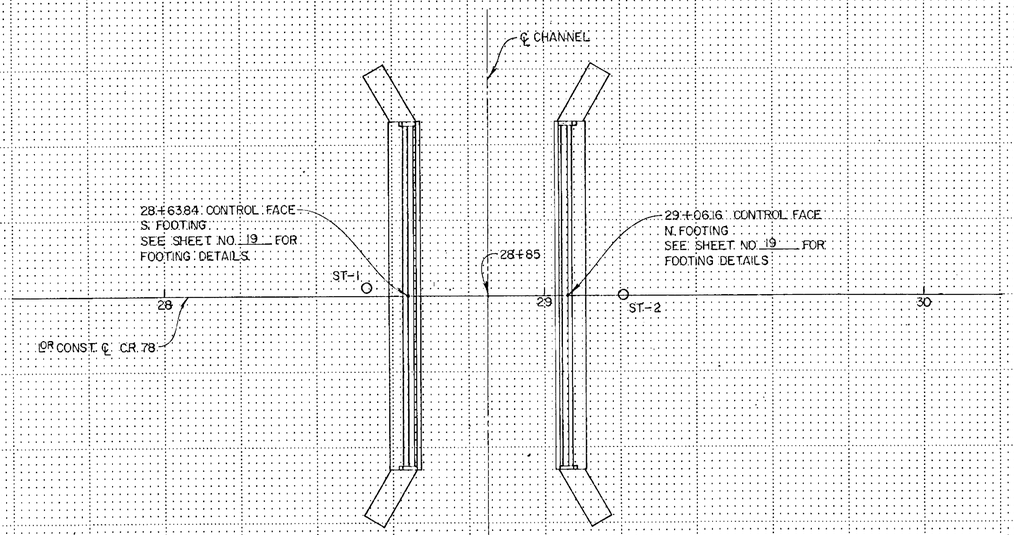
PROPOSED BRIDGE LOCATED MILES OF
(TOWN OR CITY) ON (T.H., C.S.A.H. OR C.A.R. NUMBER)
SEC. TWP. R.
TOWNSHIP COUNTY
SURVEY MADE DURING MONTH OF 19
SURVEY MADE BY
BRIDGE NO.

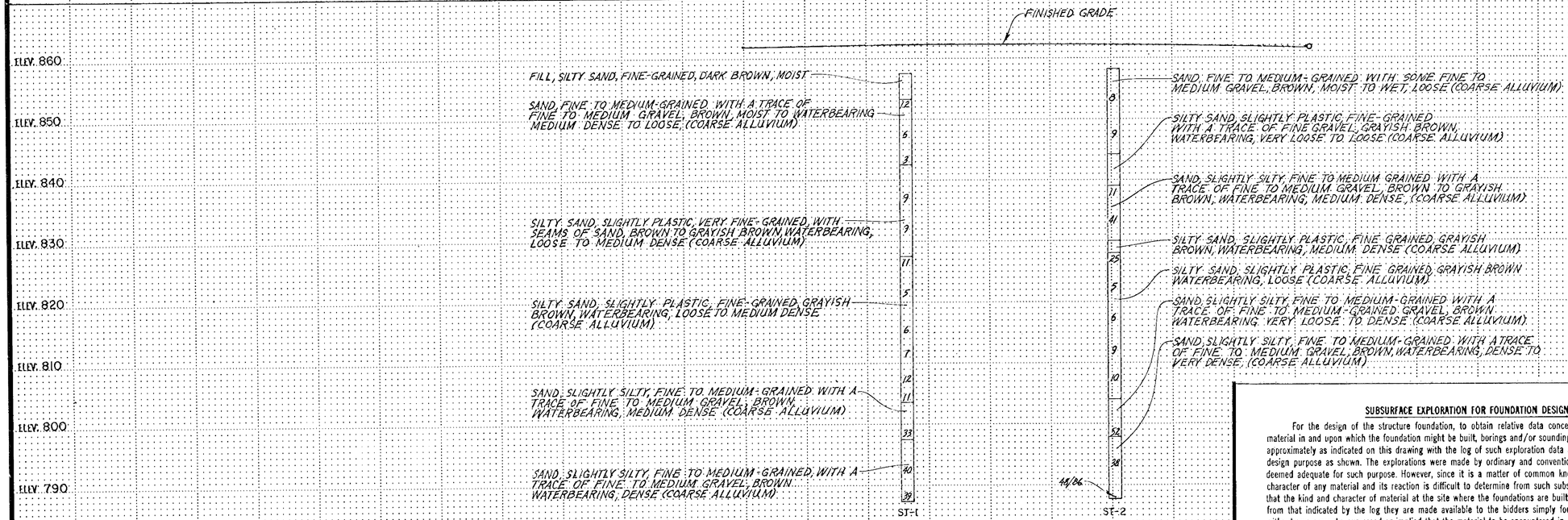
State Proj. No. C.P. 82-09-78 **Sheet No. 23 of 24 Sheets**

Rev 5-24-83 VF

Bridge Survey Sheet (Sheet 1 of 2)

SCALE: 1" = 10'





NOTE: WATER LEVEL DOWN 9' WITH 70' OF HOLLOW STEM AUGER IN THE GROUND.

WATER LEVEL NOT ENCOUNTERED TO CAVEIN DEPTH 7½', ½ HOUR AFTER COMPLETION OF BORING.

NOTE: WATER LEVEL DOWN 13½' WITH 70' OF HOLLOW STEM AUGER IN THE GROUND.

WATER LEVEL DOWN 10'-½ HOUR AFTER COMPLETION OF BORING.

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN

For the design of the structure foundation, to obtain relative data concerning the character of material in and upon which the foundation might be built, borings and/or soundings were made at points approximately as indicated on this drawing with the log of such exploration data as interpreted for such design purpose as shown. The explorations were made by ordinary and conventional methods and care deemed adequate for such purpose. However, since it is a matter of common knowledge that the exact character of any material and its reaction is difficult to determine from such subsurface exploration and that the kind and character of material at the site where the foundations are built may vary substantially from that indicated by the log they are made available to the bidders simply for what they are worth, without any warranty, expressed or implied that the material to be encountered in building the foundation will conform therewith. If the log is used by the contractor in making his bid, it is hereby expressly stipulated that the Highway Department accepts no responsibility for said use.

TRUNK HIGHWAY NO.
STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

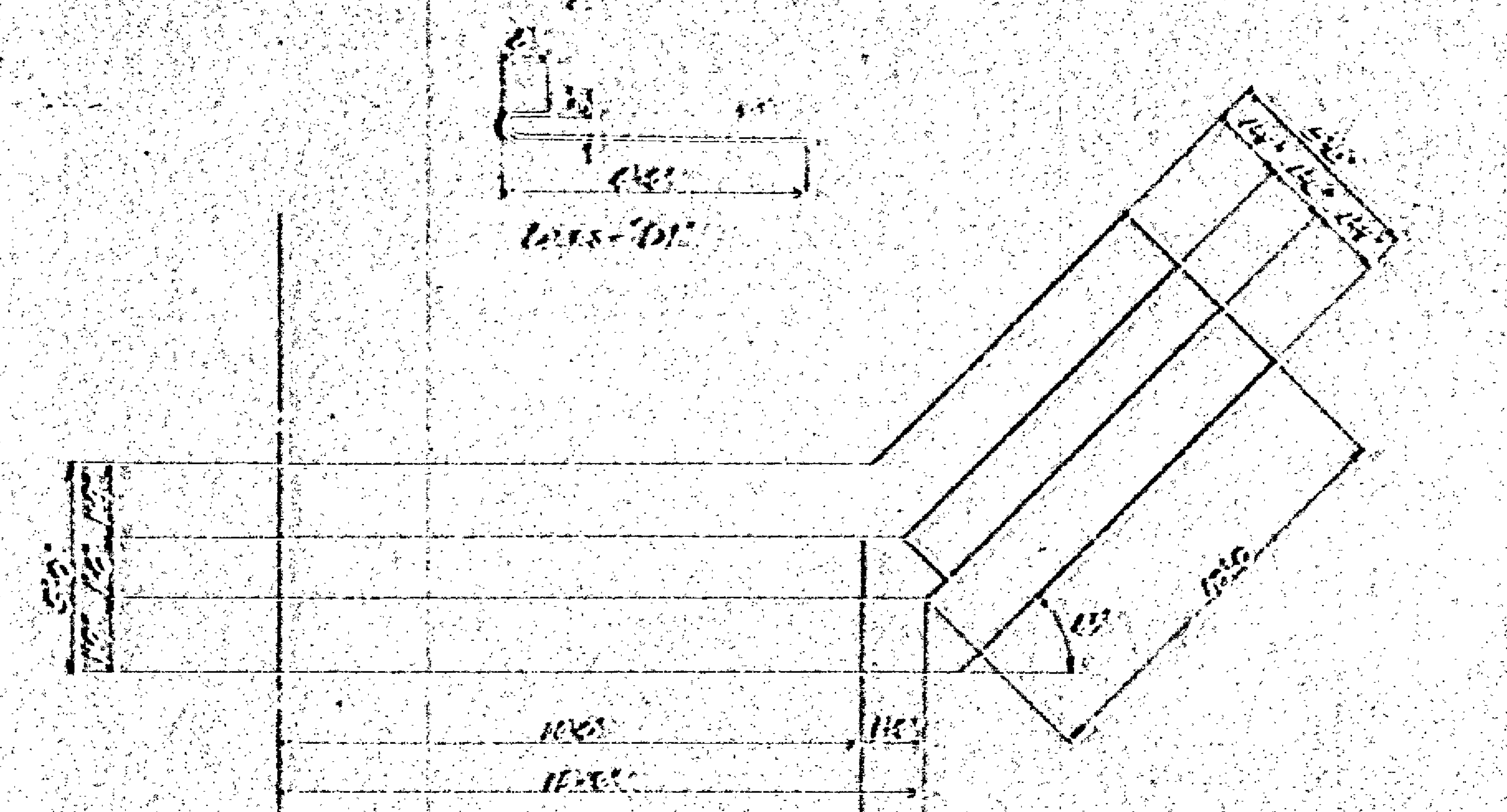
BRIDGE NO.

BRIDGE SURVEY
PLAN AND PROFILE

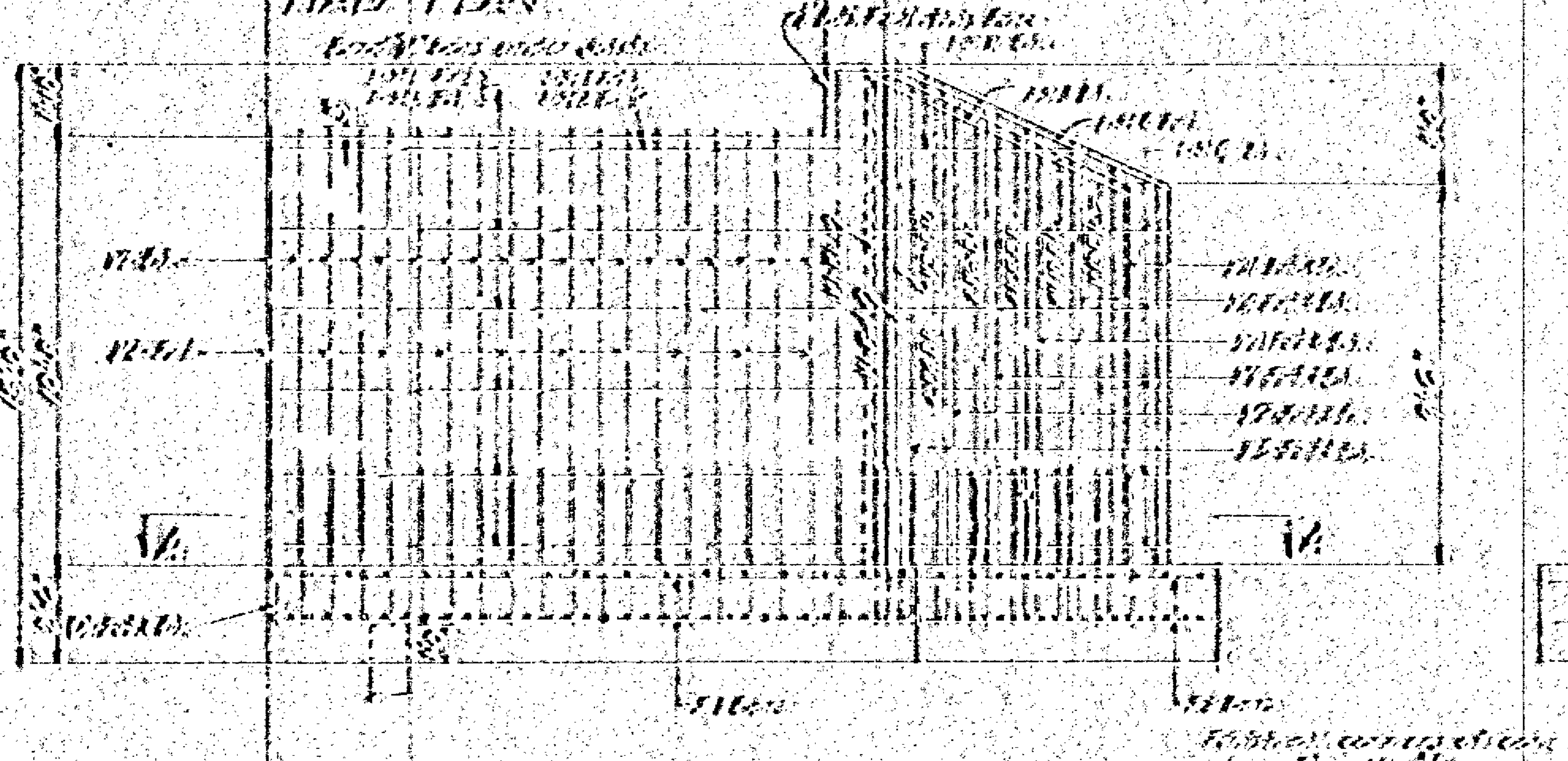
SEE SHEET NO. FOR ADDITIONAL INFORMATION

State Proj. No. C.P. 82-09-78 Sheet No. 24 of 24 Sheets

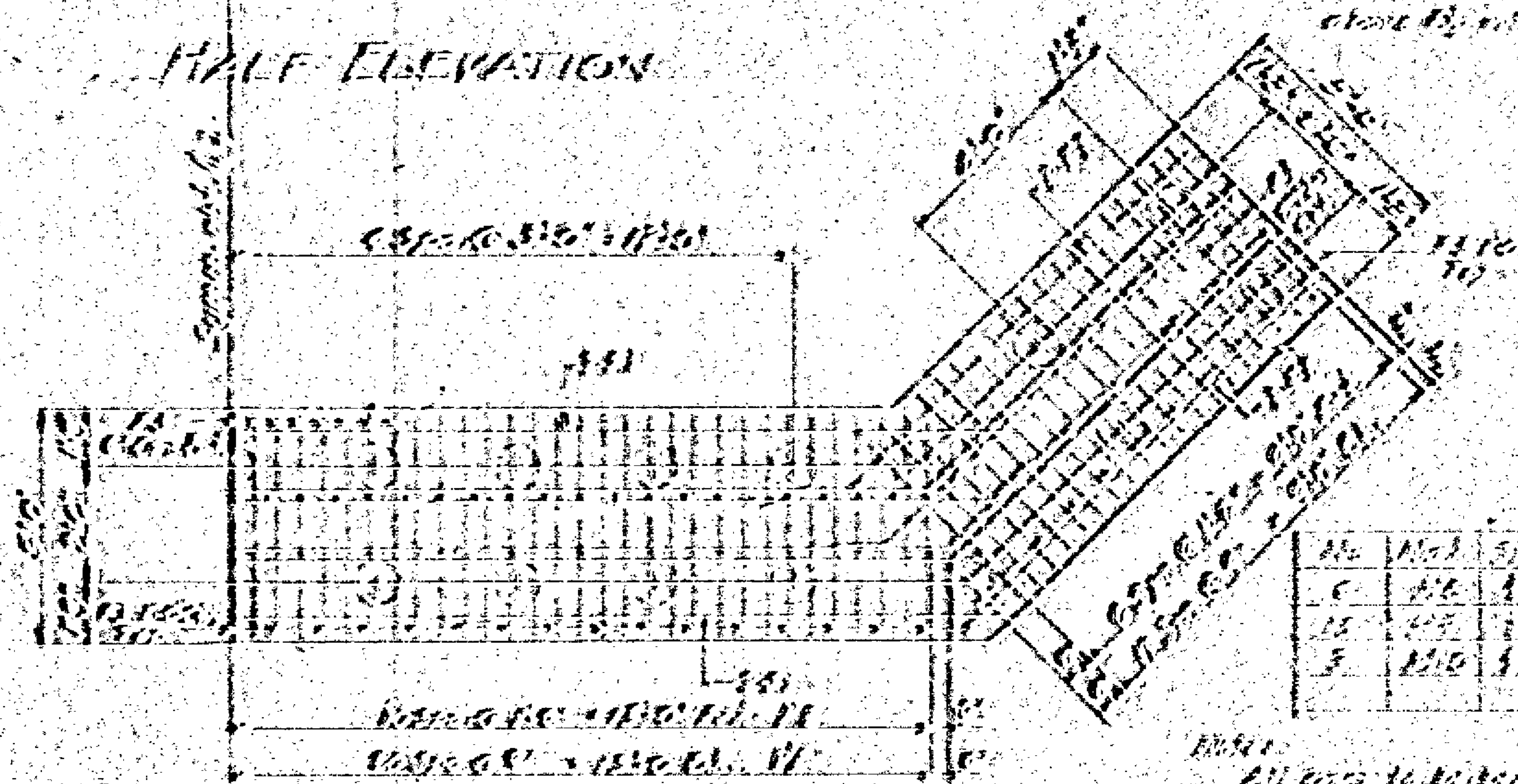
Bridge Survey Sheet (Sheet 2 of 2)



HALF PLAN



HALF ELEVATION

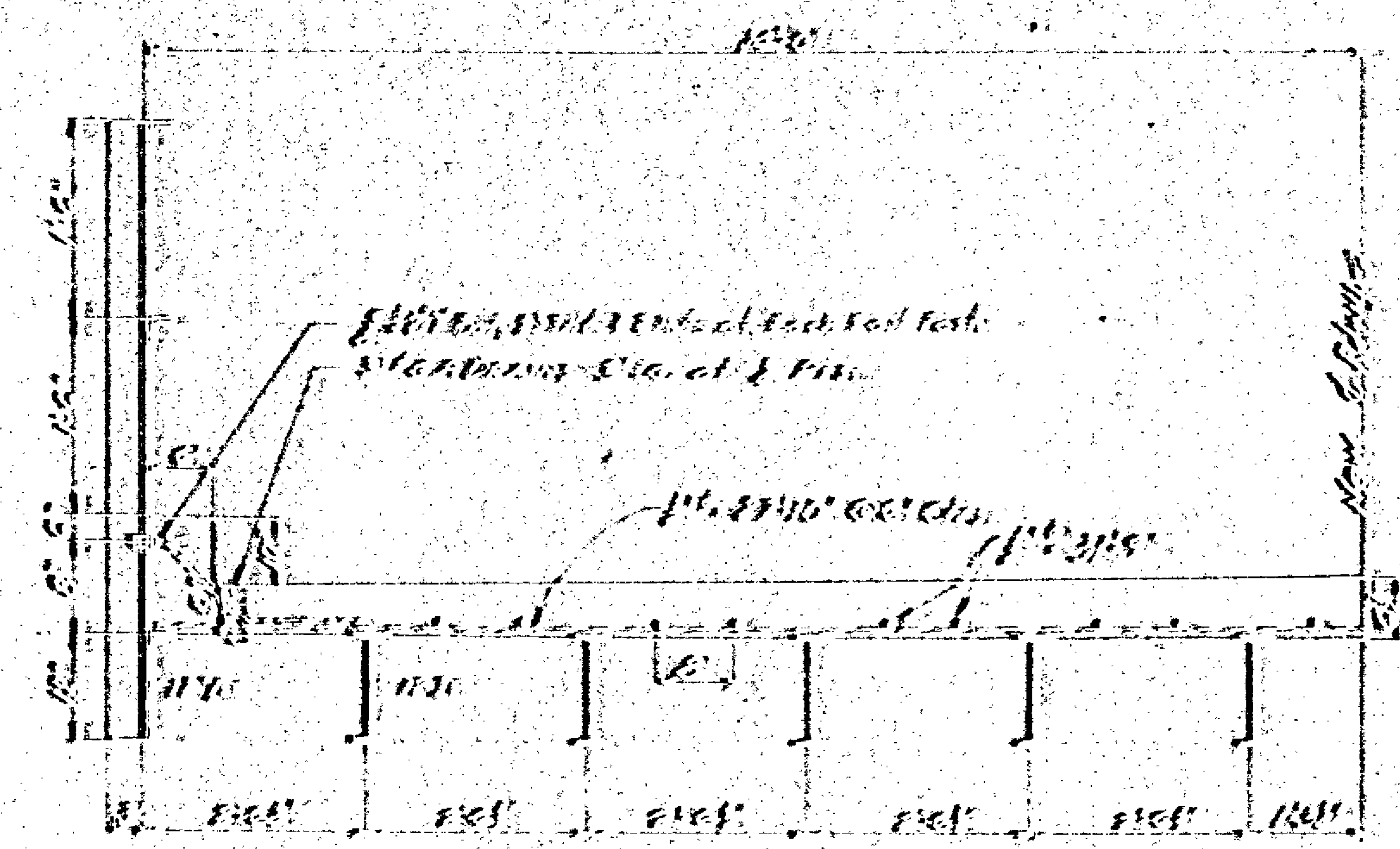


HALF SECTION A-A

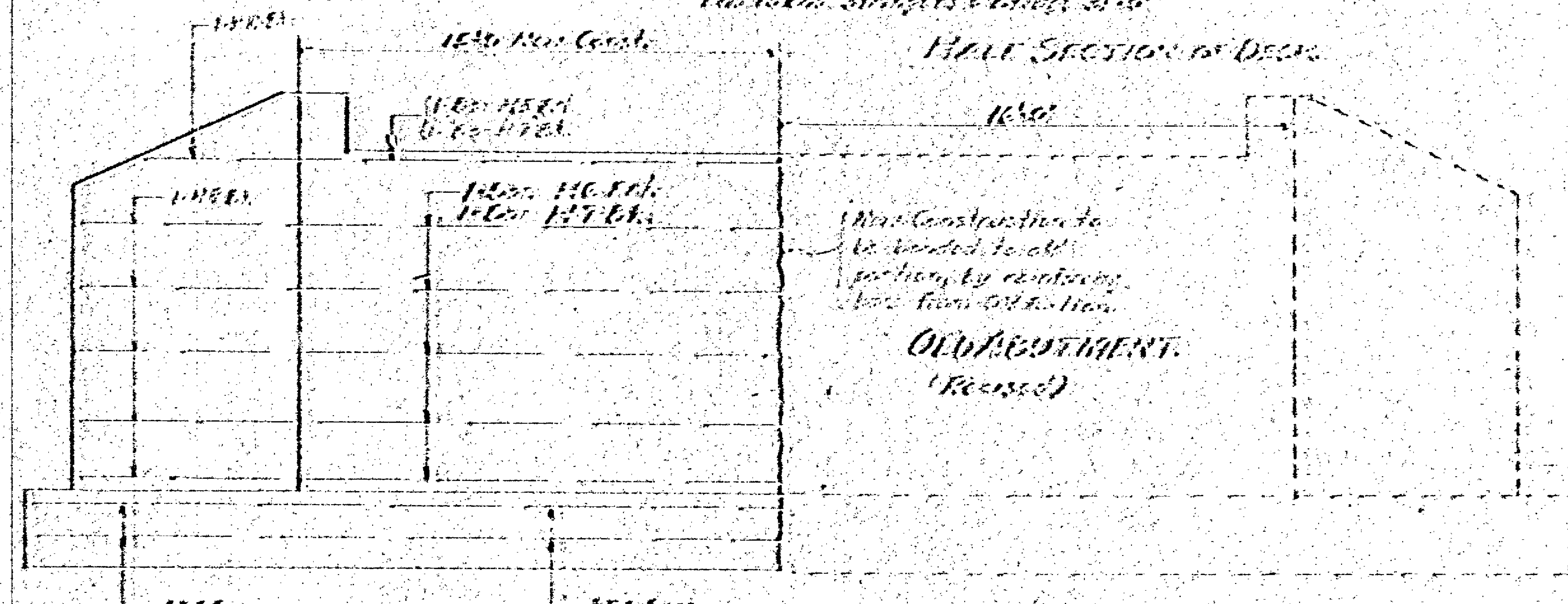
NEW ABUT. REQ'D.

Note:
All bars to be placed as detailed except "W" bars.

Note:



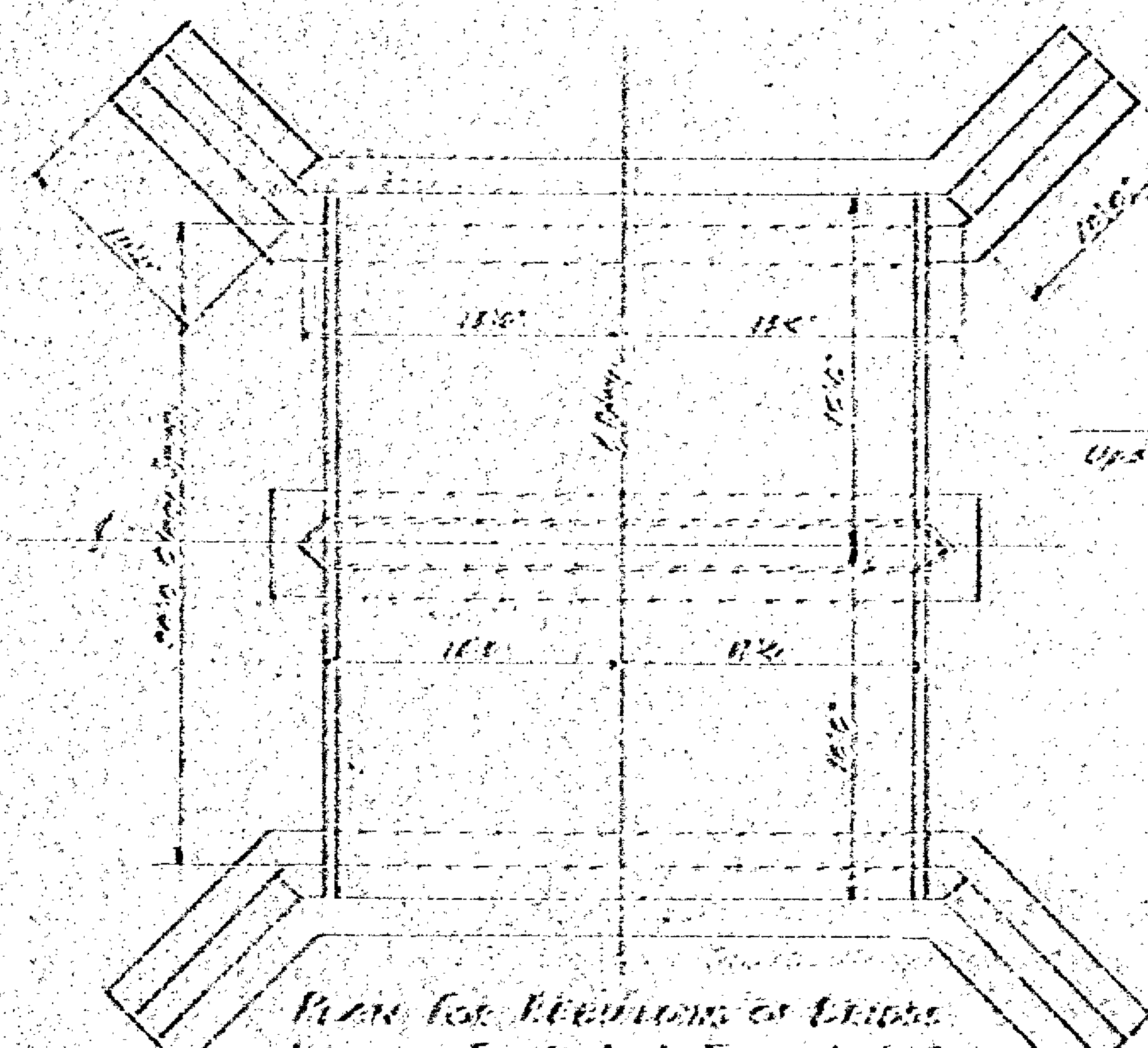
HALF SECTION OF DECK



OLD ABUTMENT.
(Revised)

For bars not shown see Abut. Detail.

Reinforcing Bars.				
No.	Mark	Size	Length	Location
5	F1	5/8"	23'-0"	Top
11	F2	do.	10'-0"	"
133	F3	do.	6'-9"	"
6	F6	do.	15'-0"	"
162	D1	3/4"	5'-5"	Vertical Front
16	V1	3/4"	11'-3"	Old Back
24	V2	do.	10'-3"	[illegible]
3	[illegible]	do.	11'-0"	do.
3	[illegible]	do.	11'-6"	do.
6	[illegible]	do.	11'-9"	do.
3	[illegible]	do.	11'-0"	do.
6	[illegible]	do.	11'-2"	do.
3	[illegible]	do.	10'-6"	do.
6	[illegible]	do.	10'-9"	do.
3	[illegible]	do.	10'-0"	do.
6	[illegible]	do.	[illegible]	do.
6	[illegible]	do.	[illegible]	do.
3	[illegible]	do.	[illegible]	do.
6	[illegible]	do.	[illegible]	do.
5	[illegible]	1/2"	[illegible]	[illegible]
1	[illegible]	do.	[illegible]	do.
3	[illegible]	do.	[illegible]	do.
3	[illegible]	do.	[illegible]	do.
1	[illegible]	do.	[illegible]	do.
5	[illegible]	do.	[illegible]	do.
6	[illegible]	do.	[illegible]	do.
66		3/4"	[illegible]	[illegible]
66		do.	[illegible]	"



Upstream

PLAN FOR ELEVATION OF BRIDGE

H.E. Orvell. County Engineer.

#1097-1-19