MINNESOTA DEPARTMENT OF TRANSPORTATION

THE COUNTY OF OLMSTED

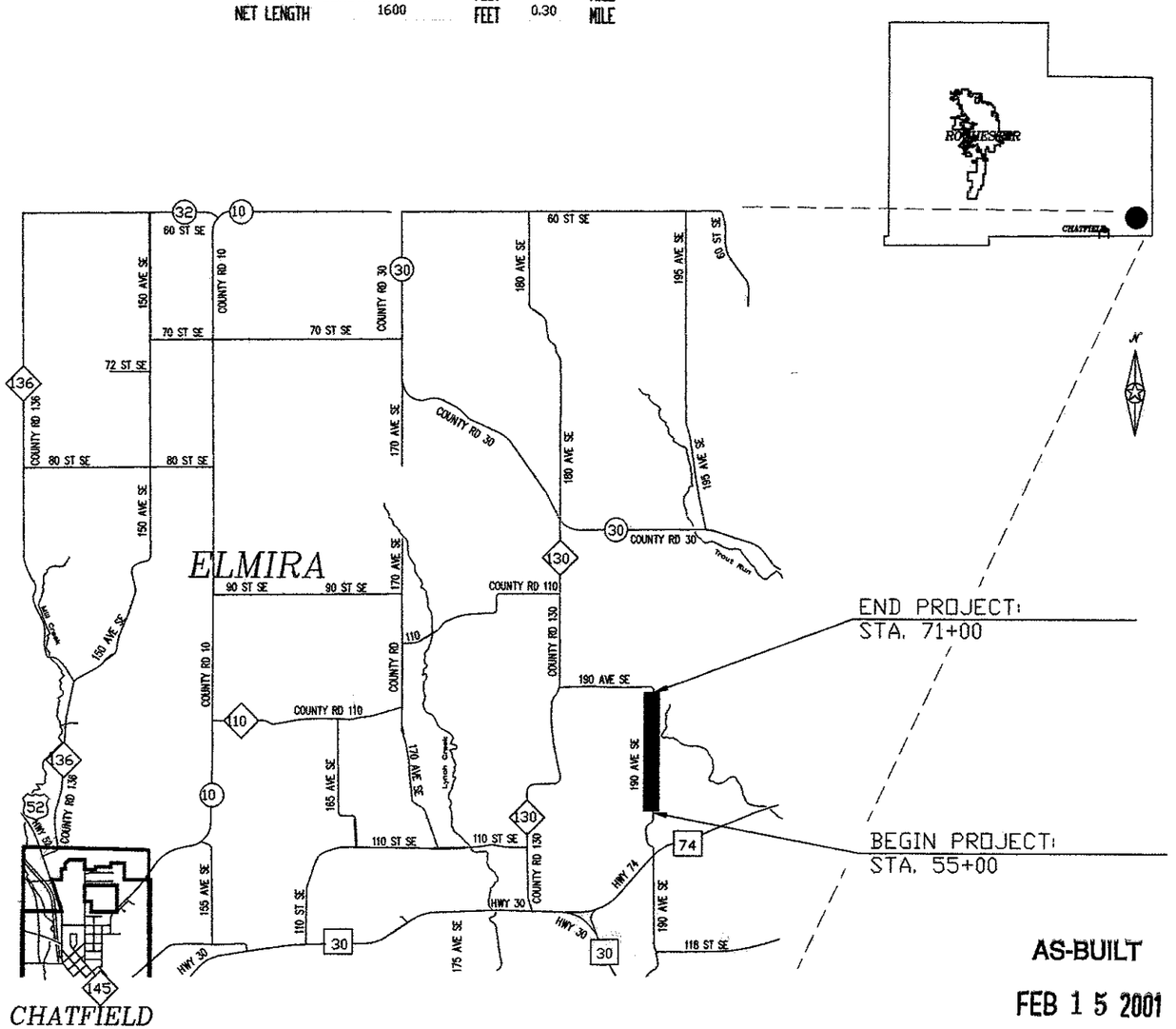
CONSTRUCTION PLAN FOR GRADING & CONC. ARCH-PIPE (BRIDGE NO. 55J13)

LOCATED ON 190th AVE. S.E. BETWEEN 1.0 MI. N. T.H. 74 AND 1 MI. E. C.R. 130 (GEOGRAPHIC DESCRIPTION)

FROM QUARTER SECTION 25& 26 T 105 N - R 11 W TO 0.5 MI. N. SEC. 23 & 24 T 105 N - R 11 W (LEGAL DESCRIPTION)

S.A.P. NO. **55-599-42**

GROSS LENGTH	1600	FEET	0.30	MILE
BRIDGE-LENGTH		FEET		MILE
EXCEPTIONS-LENGTH		FEET		MILE
NET LENGTH	1600	FEET	0.30	MILE



AS-BUILT

FEB 1 5 2001

ENGINEERING

E.R.

MINN. PROJ. NO.

GOVERNING SPECIFICATIONS

THE 1988 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION 'STANDARD SPECIFICATIONS FOR CONSTRUCTION' AS AMENDED BY 'SUPPLEMENTAL SPECIFICATION' DATED MAY 2,1994 SHALL GOVERN.

INDEX

SHEET NO. 1	TITLE SHEET
SHEET NO. 2	TYPICAL SECTION & ESTIMATE OF QUANTITIES
SHEET NO. 3	PLAN AND PROFILE
SHEET NO. 4 - 5	CROSS SECTIONS
SHEET NO. 6	BRIDGE SHEET
SHEET NO. 7	TRAFFIC SHEET

THIS PLAN CONTAINS 7 SHEETS.

DESIGN DESIGNATION: S.A.P.

R = IN18 (20)
ADT (Current Year) = (50 (1999) Design Speed 25 * MPH
ADT (Future Year) = (50(2019) Based on STOPPING Sight Distance
DHV (Design Hr. Vol.) = Height of eye 3.5 ft Height of object 0.5 ft
D (Directional Distr.) = Design Speed not achieved at
T (Heavy Commercial) = STA. TO STA. mph
SUBGRADE = STA. TO STA. mph
LANE WIDTH 11 ft
SHOULDER WIDTH 1 ft

FUNCTIONAL CLASSIFICATION:
SOIL FACTOR = 130%

A VARIANCE TO MN RULE 8820.9920 TO ALLOW A DESIGN SPEED LESS THAN THE REQUIRED 50 KM/H MINIMUM WAS APPROVED BY THE COMMISSIONER OF TRANSPORTATION ON 9-7-99

TOWNSHIP APPROVAL:

Gary J Pederson 7-16-99

APPROVED: TOWNSHIP CHAIRPERSON DATE

DESIGN ENGINEER: 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 7/15/99 REGISTRATION NUMBER 19917

Kaye M Bierniek

APPROVED: COUNTY DESIGN ENGINEER

DATE 7/19/99 REGISTRATION NUMBER 10397

Michael Thelen

APPROVED: OLMSTED COUNTY ENGINEER

STATE AID APPROVALS:

Andy Schmidt DATE: 8-19-99

DISTRICT STATE AID ENGINEER: REVIEWED FOR COMPLIANCE WITH STATE AID RULES/POLICY

K B Schultz DATE: 9/8/99

APPROVED FOR STATE AID FUNDING
STATE AID ENGINEER

for

PLAN 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 (Except Land Lines)
VACATED PLATTED PROPERTY
CORPORATE OR CITY LIMITS
TRUNK HIGHWAY CENTER LINE
RETAINING WALL
RAILROAD
RAILROAD RIGHT-OF-WAY
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 WARNING 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 ON POWER POLE
ON 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
ELECTRICAL MANHOLE
BURIED TELEPHONE CABLE
BURIED ELECTRICAL CABLE
AERIAL TELEPHONE CABLE
SEWER (SANITARY OR SEWER)
SEWER MANHOLE

EROSION CONTROL SYMBOLS

TEMPORARY SILT FENCE
RIP RAP DITCH CHECKS

ESTIMATED QUANTITIES

	SPECIFICATION NO.	ITEM	UNIT	NON PARTICIPATING	PARTICIPATING	TOTAL ESTIMATED QUANTITIES
	2101.511	CLEARING AND GRUBBING	LUMP SUM	1		1
	2105.515	UNCLASSIFIED EXCAVATION (P)	CU. YD.	~~6791~~	~~290~~	7081
①	2442.501	REMOVE OLD BRIDGE	LUMP SUM	1		1
	2451.507	GRANULAR BEDDING (CV) (P)	CU. YD.		36	36
	2501.511	24" C.S. PIPE CULVERT	LIN. FT.	~~66~~ 70		~~66~~ 78
	2501.515	24" G.S. PIPE APRON	EACH	4		4
	2501.521	169" SPAN R.C. PIPE-ARCH CULVERT CL. III	LIN. FT.		38	38
	2501.525	169" SPAN R.C. PIPE-ARCH APRON	EACH		2	2
②	2511.501	RANDOM RIPRAP CLASS III	CU. YDS.		~~93~~ 157	~~93~~ 157

① BRIDGE NO. L6170

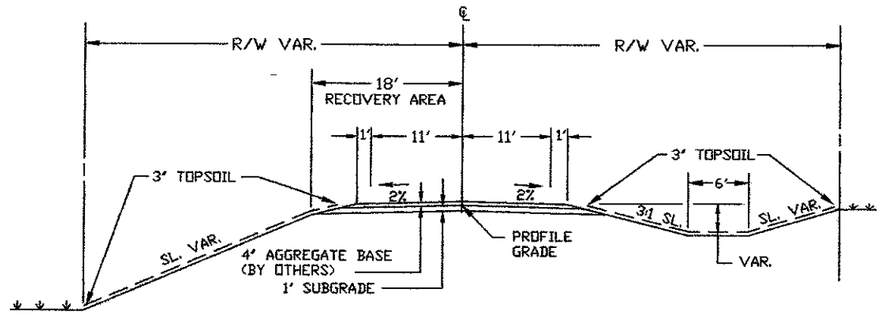
② PLACE RIPRAP ON 9" GRANULAR FILTER OR GEOTEXTILE FILTER MATERIAL. WHICH SHALL BE CONSIDERED INCIDENTAL AND NO DIRECT COMPENSATION WILL BE MADE THEREFOR.

STANDARD PLATES

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

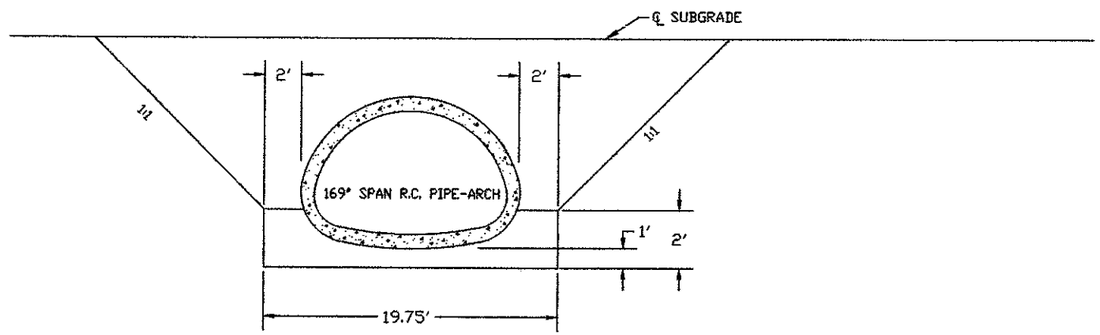
PLATE NO.	DESCRIPTION
~~0025 A~~	~~SPECIFICATION REFERENCE FOR STANDARD PLATES~~
3007 B	SHEAR REINFORCEMENT FOR PRECAST STRUCTURES
3014 J	REINFORCED CONCRETE PIPE-ARCH
3041 D	CORRUGATED METAL PIPE
3114 H	S.C. APRON FOR REINFORCED CONC. PIPE-ARCH
3123 J	METAL APRON FOR C.S. PIPE
3124 B	METAL APRON CONNECTION
3145 E	CONCRETE PIPE TIES (EYE BOLT TIES)
3221 C	CORRUGATED STEEL PIPE COUPLING BAND
8000 I	STANDARD BARRICADES
9000 C	APPROACHES AND ENTRANCES

TYPICAL SECTION



NOTES:
1. ALL UTILITY POLES AND UNYIELDING OBJECTS WILL BE RELOCATED OUTSIDE THE 18' RECOVERY AREA (BY OTHERS).
2. TURF ESTABLISHMENT BY OTHER.

BEDDING DETAIL



NOTES:
1. CULVERT EXCAVATION WILL BE CONSIDERED INCIDENTAL AND WILL BE INCLUDED FOR PAYMENT UNDER UNIT PRICE FOR ITEM NO. 2501.521 AND ITEM NO. 2501.525.
2. CULVERT TO BE BACKFILLED WITH EXCAVATION MATERIAL AND WILL BE CONSIDERED INCIDENTAL TO UNCLASSIFIED EXCAVATION AND NO DIRECT COMPENSATION WILL BE MADE.
3. ALL DIMENSIONS AND SLOPES SHOWN ON TYPICAL SECTION ARE APPROXIMATE
4. GRANULAR BEDDING TO BE PLACED UNDER BARREL SECTIONS ONLY.

AS-BUILT

FEB 15 2001

ENGINEERING

CERTIFIED BY Karl M Brenner PROFESSIONAL ENGINEER REG. NO. 19917 7/15 1999

S.A.P. 55-599-42 ELMIRA TWP.

SHEET NO. 2 OF 7 SHEETS

DOUBLE F.E. STA. 58+93 LT
NO CULV. INPL.

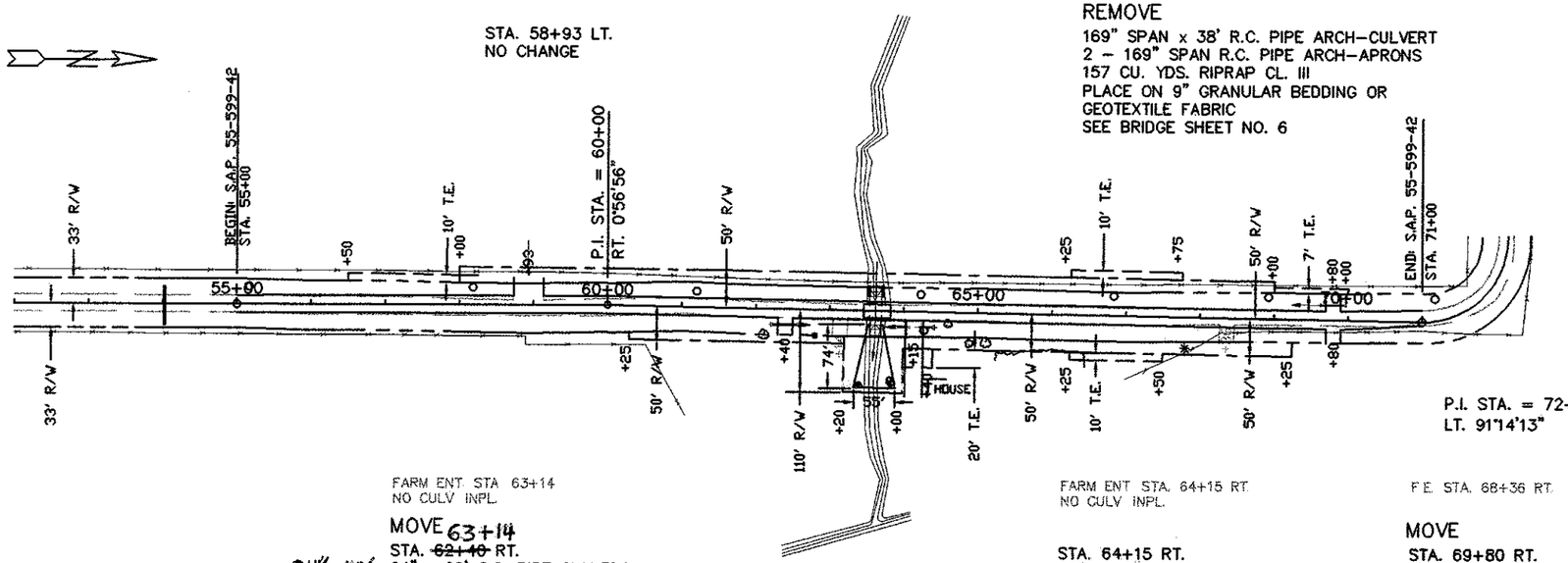
STA. 58+93 LT.
NO CHANGE

EXIST. BRIDGE NO. L6170 STA. 63+62
INPL. 14' SPAN x 10' RISE x 21' MASONRY ARCH
WITH ABUTMENTS

REMOVE
169" SPAN x 38' R.C. PIPE ARCH-CULVERT
2 - 169" SPAN R.C. PIPE ARCH-APRONS
157 CU. YDS. RIPRAP CL. III
PLACE ON 9" GRANULAR BEDDING OR
GEOTEXTILE FABRIC
SEE BRIDGE SHEET NO. 6

F.E. STA. 69+80 LT.
NO CULV. INPL.

STA. 69+80 LT.
NO CHANGE



P.I. STA. = 72+17.05
LT. 91°14'13"

FARM ENT. STA. 63+14
NO CULV. INPL.

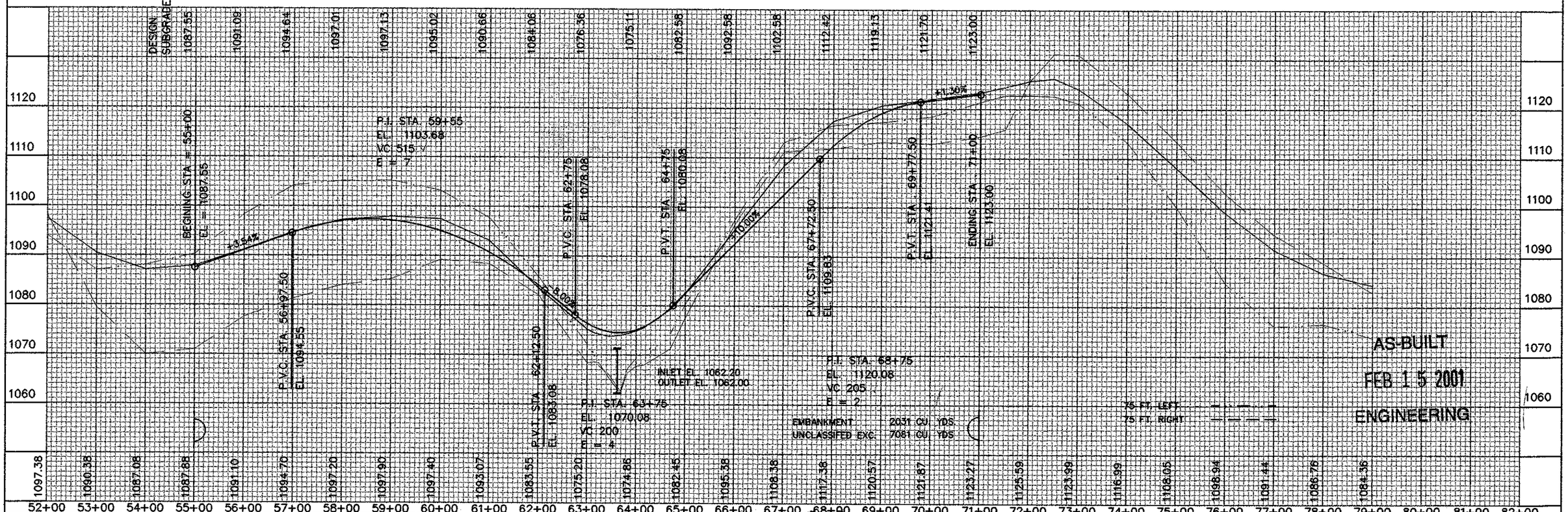
MOVE 63+14
STA. ~~62+14~~ RT.
24"x40' ~~24" x 28'~~ C.S. PIPE CULVERT
2 - 24 " G.S. PIPE APRONS

FARM ENT. STA. 64+15 RT.
NO CULV. INPL.

STA. 64+15 RT.
24" x 38' C.S. PIPE CULVERT
2 - 24 " G.S. PIPE APRONS

F.E. STA. 68+36 RT.

MOVE
STA. 69+80 RT.
NO CULV. REQ'D



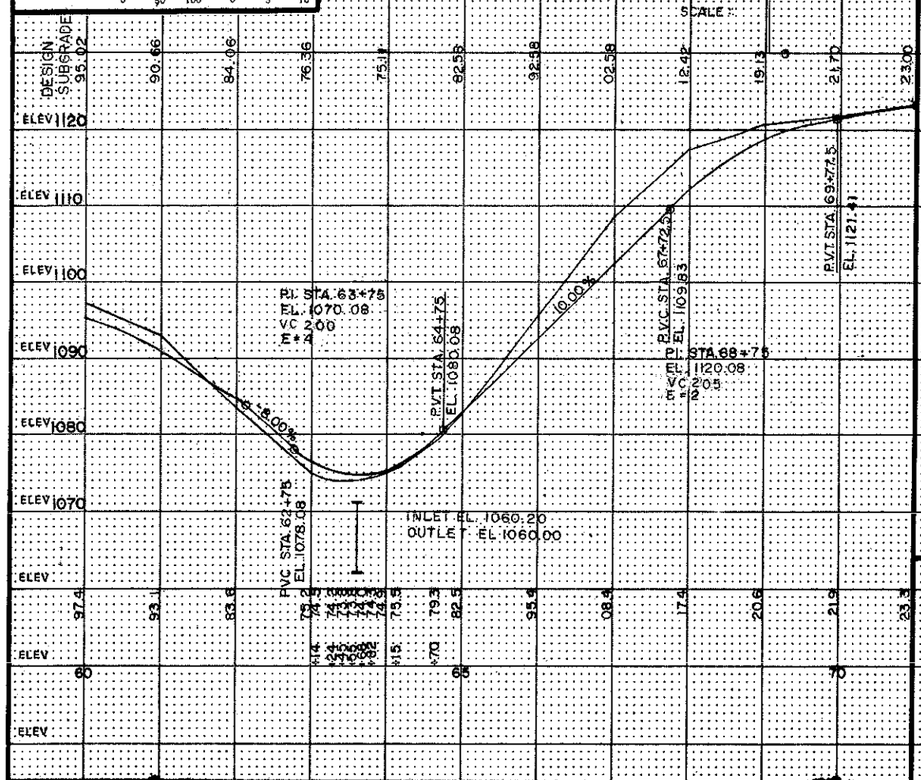
AS-BUILT
FEB 15 2001
ENGINEERING

CERTIFIED BY _____ REG. NO. 19917 7/15 1999
PROFESSIONAL ENGINEER

S.A.P. 55-599-42 | SHEET 3 OF 7 SHEETS

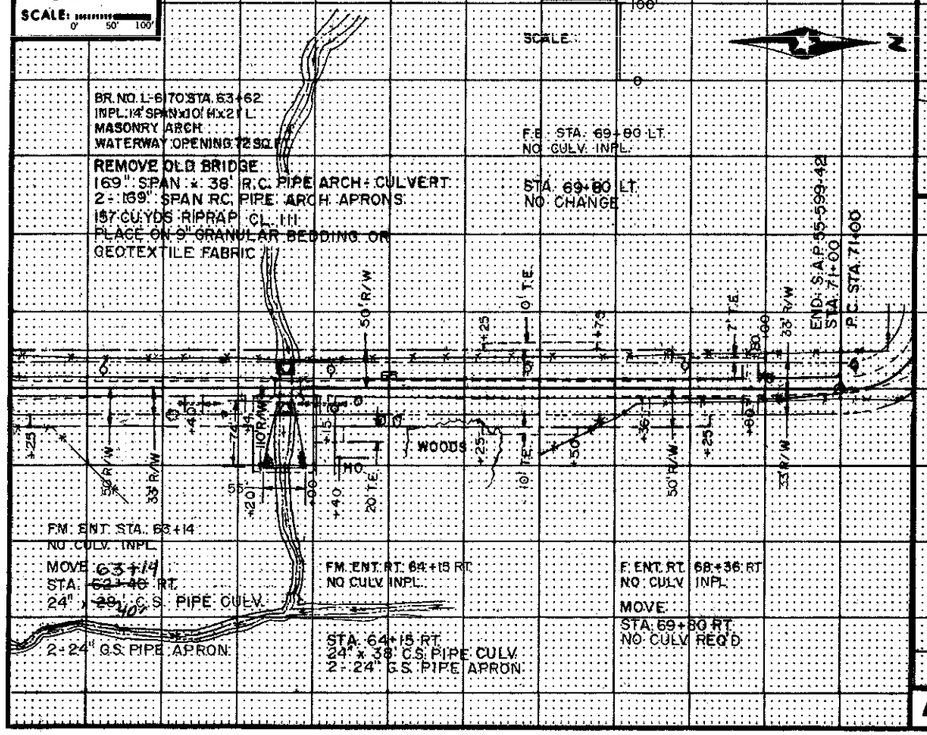
CONTRACTED PROFILE

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



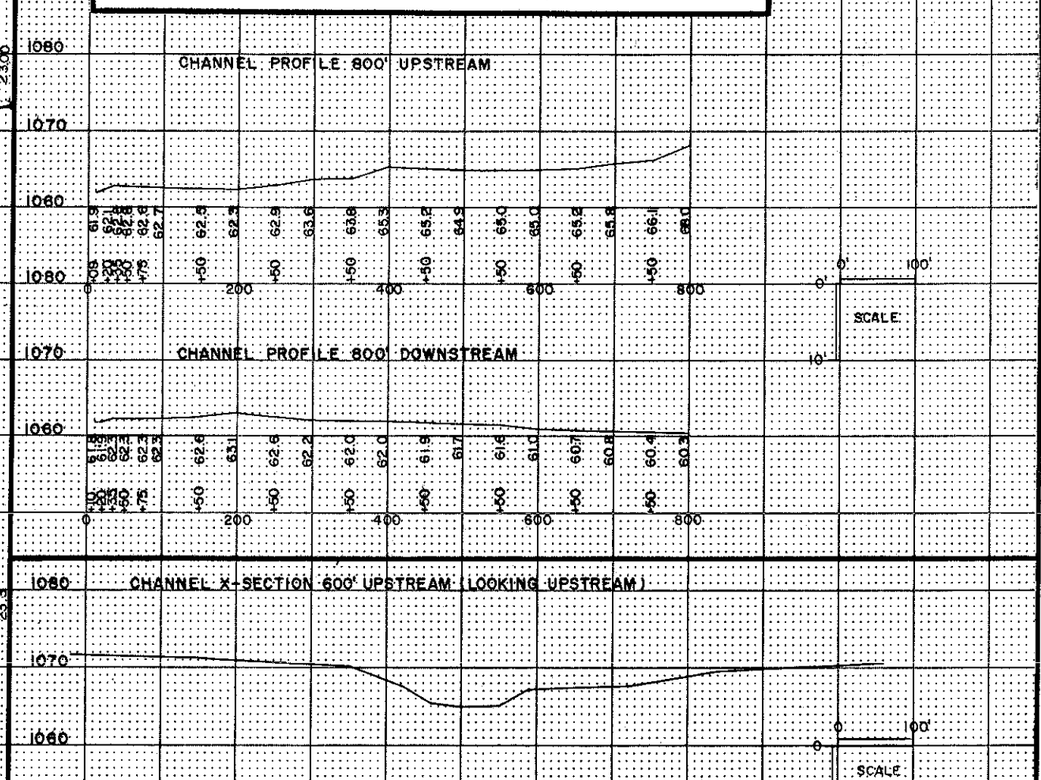
PLAT

SCALE: 0' 50' 100'

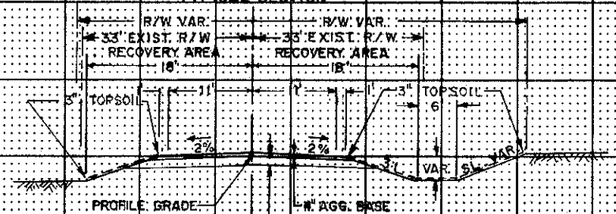


TYPICAL SECTIONS & PERTINENT DATA

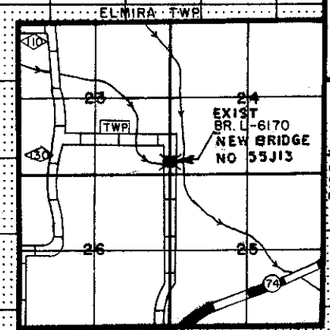
SCALES AS SHOWN



TYPICAL SECTION



NOTE: ALL UTILITY POLES AND UNYIELDING OBJECTS WILL BE RELOCATED OUTSIDE THE 18' RECOVERY AREA (BY OTHERS).
TURF ESTABLISHMENT BY OTHERS.



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FEB 15 2001

ENGINEERING

CERTIFIED BY [signature] REG. NO. 19917 7/15 19 99
PROFESSIONAL ENGINEER

Area No. **Job No.**

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 UNNAMED
Drainage area 2.2 sq mi
Max. flood on record UNKNOWN Design flood (100 yr. freq.) 850 C.F.S.
Max. observed highwater elevation ..... Design highwater elevation.....
Design mean velocity through structure 11.3 F.P.S.
Low superstructure at or above elevation N.A.
Flowline elevation 1062.0 Skew angle —
Waterway area req'd. below elevation ..... = ... Sq. Ft. at Rt. angles to channel

In the interest of flood plain zoning the regional flood (100 yr freq.) is 11.3 C.F.S. at stage 1067.9 and mean velocity of 6.4 F.P.S. with 2.8 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 .....

Bridge survey sheets made from: SURVEY CONDUCTED BY OLMSTED COUNTY

Bench mark elevation 1074.22 (M.S.L. 1929 Adj.)
Location: SPK IN PP 2761 60' N.W. OF BR. L-6170

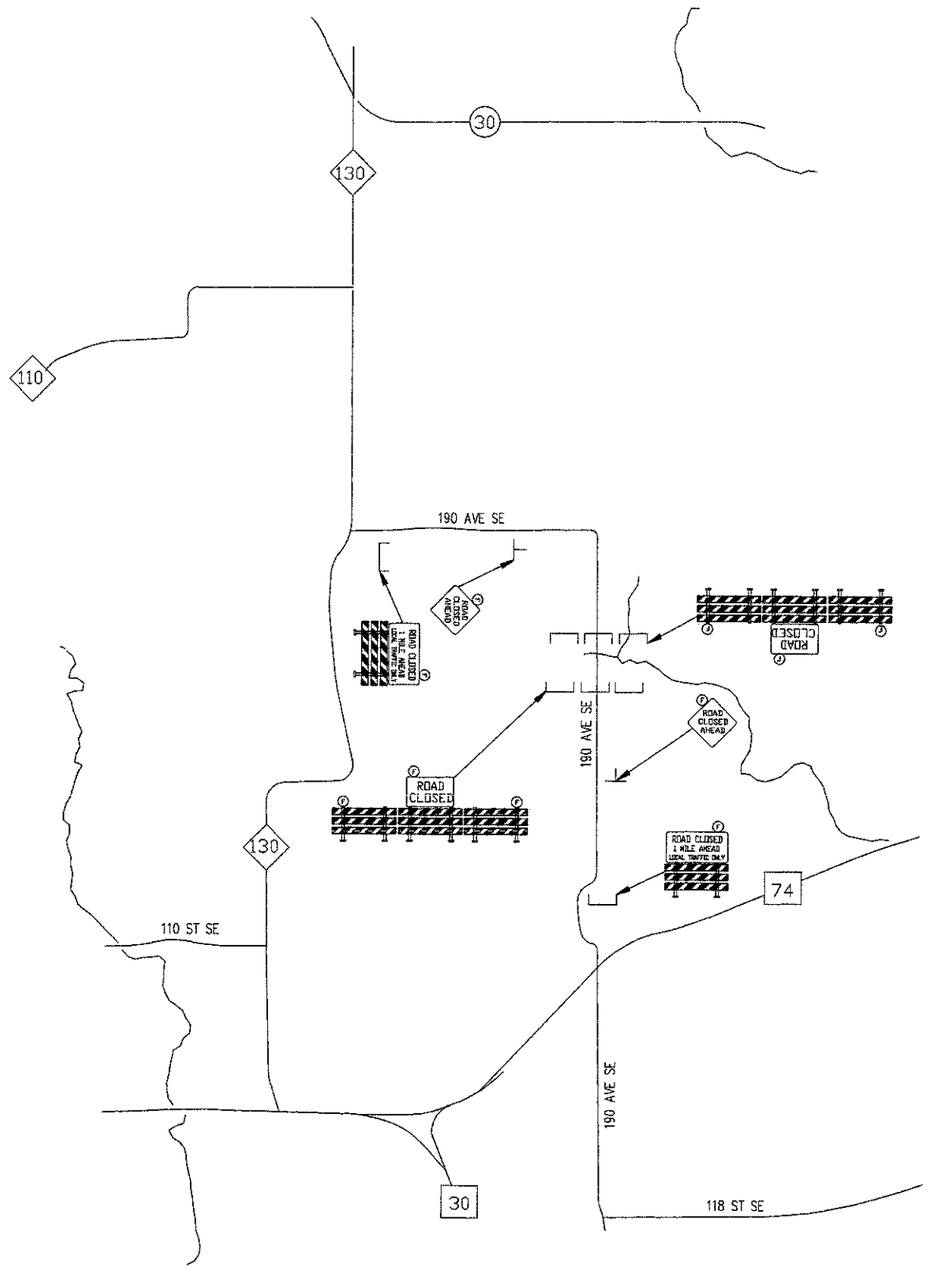
MINNESOTA
DEPARTMENT OF TRANSPORTATION

BRIDGE SURVEY

AT MILE POINT 1.2 ON TWNS. 53 (T.H., C.S.A.H., C.R. etc.)
PROPOSED BRIDGE LOCATED 1.2 MILES NO. OF T.H. 74
SEC. 23,24 TWP 105 N R 11 W
TOWNSHIP ELMIRA COUNTY OLMSTED
BRIDGE NO. 55J13

~~State Proj. No.~~ S.A.P. 55-599-42

Sheet No. 6 of 7 Sheets



ESTIMATE OF TRAFFIC CONTROL DEVICES

DEVICE	NUMBER	SIZE	COLOR	QUANTITY	DEVICE	NUMBER	SIZE	COLOR	QUANTITY
ROAD CLOSED	R11-2	48 x 30	BLK/WH	2		TYPE III	MIN. 6'	OR & BLK	8
ROAD CLOSED 1 MILE AHEAD LOCAL TRAFFIC ONLY	R11-3	60 x 30	BLK/WH	2	(F)	TYPE A	FLASHING LAMP	AMBER	10
ROAD CLOSED AHEAD	W20-3	48 x 48	BLK/OR	2					

TRAFFIC CONTROL LEGEND

⊥ POST OR STAND MOUNTED SIGN

└┘ TYPE III BARRICADE

(F) TYPE "A" AMBER FLASHING LAMP

AS-BUILT

FEB 1 5 2001

ENGINEERING

TRAFFIC CONTROL NOTES

1. THE LOCATION OF SIGNS AND DEVICES WILL BE STAKED BY THE ENGINEER IN THE FIELD.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRAFFIC CONTROL ON THIS PROJECT.
3. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES INCLUDING THE TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS FIELD MANUAL DATED JANUARY 1998.
4. CONSTRUCTION ZONE SIGNING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND WILL INCLUDE, BUT NOT BE LIMITED TO SIGNS FOR LANE CLOSURE, MACHINERY AHEAD, BUMP, DIP, LOOSE GRAVEL, ETC. THE NUMBER AND LOCATION WILL BE DETERMINED BY THE CONTRACTORS OPERATION.
5. ALL BARRICADES ON THIS PROJECT SHALL BE REFLECTORIZED ON BOTH SIDES.

CERTIFIED BY Kevin M Steinich PROFESSIONAL ENGINEER REG. NO. 19917 7/15 1999

S.A.P. 55-599-42 ELMIRA TWP.

SHEET 7 OF 7 SHEETS