MINNESOTA DEPARTMENT OF TRANSPORTATION

THE COUNTY OF OLMSTED

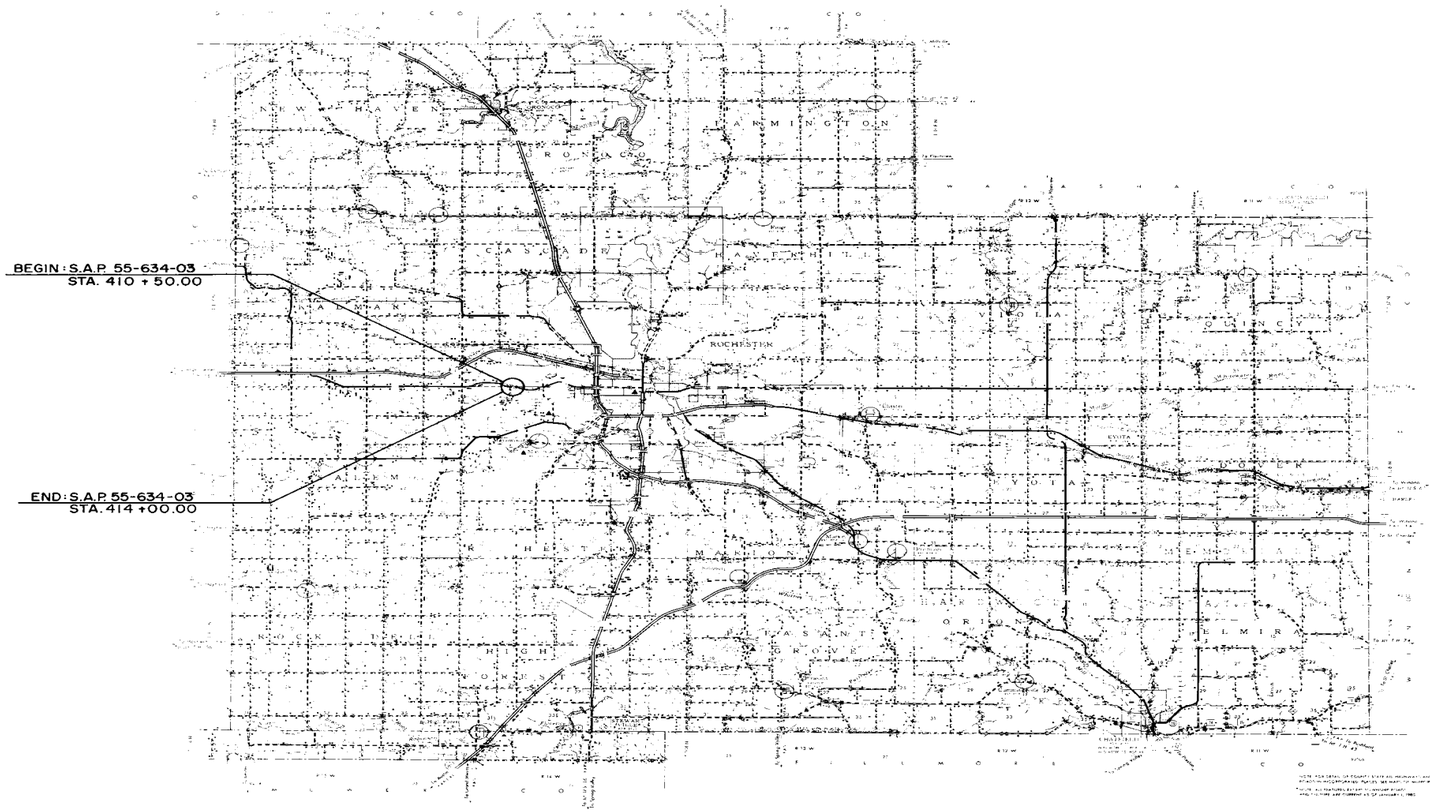
CONSTRUCTION PLAN FOR BRIDGE REPLACEMENT BR. NO. 3853

LOCATED ON C.S.A.H. NO. 34 **BETWEEN** CR. 104 **AND** CR. 122 1.0 MILE WEST OF ROCH. **(GEOGRAPHIC DESCRIPTION)**

FROM 1021.6' W. OF N. 1/4 COR. SEC. 5 T.106N.-R.14W. **TO** 671.6' W. OF N. 1/4 COR. SEC. 5 T.106N.-R.14W. **(LEGAL DESCRIPTION)**

STATE PROJ. NO.					
GROSS LENGTH		FEET		MILES	
BRIDGES-LENGTH		FEET		MILES	
EXCEPTIONS-LENGTH		FEET		MILES	
NET LENGTH		FEET		MILES	

~~**STATE PROJ. NO.**~~ S.A.P. 55-634-03					
GROSS LENGTH	350.00	FEET	0.066	MILES	
BRIDGES-LENGTH	0.00	FEET	0.00	MILES	
EXCEPTIONS-LENGTH	0.00	FEET	0.00	MILES	
NET LENGTH	350.00	FEET	0.066	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 (NOT SURVEYED)
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
RETAINING WALL OR FENCE
HEDGE
RAILROAD CROSSING SIGN
RAILROAD CROSSING GATE
ELECTRIC CROSSING 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 POLES
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
ELECTRIC MANHOLE
BURIED TELEPHONE CABLE
BURIED ELECTRICAL CABLE
AERIAL TELEPHONE CABLE
SEWER (SANITARY OR STORM)
SEWER MANHOLE

A-LAYOUT-1PLS.SAMS

SCALES

PLAN ..... 100'
PROFILE ..... 100' HORIZ. 10' VERT.
INDEX MAP ..... 10,560'
CROSS SECTIONS ..... 10'

MINN. PROJ. NO. .....

GOVERNING SPECIFICATIONS

THE 1988 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION SHALL GOVERN.

INDEX

SHEET NO. 1 TITLE SHEET
SHEET NO. 2 ESTIMATE OF QUANTITIES & TYPICAL SECTIONS
SHEET NO. 3 CHANNEL EXCAVATION X-SECTIONS (BY OTHERS)
SHEET NO. 4 CROSS SECTIONS
SHEET NO. 5-6 BRIDGE SHEETS

DESIGN DESIGNATION

R ..... ESN18(20)

ADT (Current Year)	=	4095 (1990)	Design Speed 55 MPH		
ADT (Future Year)	=	7371 (2010)	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)	=	5 %	STA.	TO STA.	MPH
SOIL FACTOR		130 %	STA.	TO STA.	MPH
SHOULDER WIDTH		8'	STA.	TO STA.	MPH
9 TON DESIGN			STA.	TO STA.	MPH

FUNCTIONAL CLASSIFICATION .....

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 7/26/90 REG. NO. 10397 ENGR. Michael Sheehan

COUNTY Olmsted

Recommended for Approval 7-25 1990
DISTRICT STATE AID ENGINEER

Recommended for Approval 8/14 1990
STATE AID PLANS AND SPECS ENGINEER

Approved 8/14 1990
STATE AID ENGINEER

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED

....
DIVISION ADMINISTRATOR DATE

STATE AID PROJ. NO. 55-634-03
~~**STATE PROJ. NO.**~~ .....

SHEET NO. 1 **OF** 6 **SHEETS**

7/26/90

ESTIMATED QUANTITIES

SPECIFICATION NO.	ITEM	UNIT	NON PARTICIPATING MUNIC.	NON PARTICIPATING RURAL	PARTICIPATING MUNIC.	PARTICIPATING RURAL	TOTAL ESTIMATED QUANTITIES
2104.505	REMOVE CONCRETE & BITUMINOUS PAVEMENT	SQ. YD.			134	135	269
2105.515	UNCLASSIFIED EXCAVATION (P)	CU. YD.			595	288	883
2105.535	SALVAGED TOPSOIL (E.V.) (P)	CU. YD.			115	12	127
2211.501	AGGREGATE BASE CLASS 2	TON			418	417	835
2442.501	REMOVE OLD BRIDGE	LUMP SUM	0.5	0.5			1
2451.507	GRANULAR BEDDING (C.V.) (P)	CU. YD.			87	88	175
2501.521	88" SPAN R.C.P. - ARCH CULVERT CLASS 2A	LIN. FT.			78	78	156
2501.525	88" SPAN R.C.P. - ARCH APRON	EACH			2	2	4
① 2511.501	RANDOM RIPRAP CLASS 2	CU. YD.			6	6	12

20% STATE AID BONDING

① GRANULAR FILTER MATERIAL OR GEOTEXTILE FILTER MATERIAL WILL BE CONSIDERED TO BE INCIDENTIAL TO RIPRAP CONSTRUCTION AND NO DIRECT COMPENSATION WILL BE MADE THEREFOR.

(P) PLAN QUANTITY

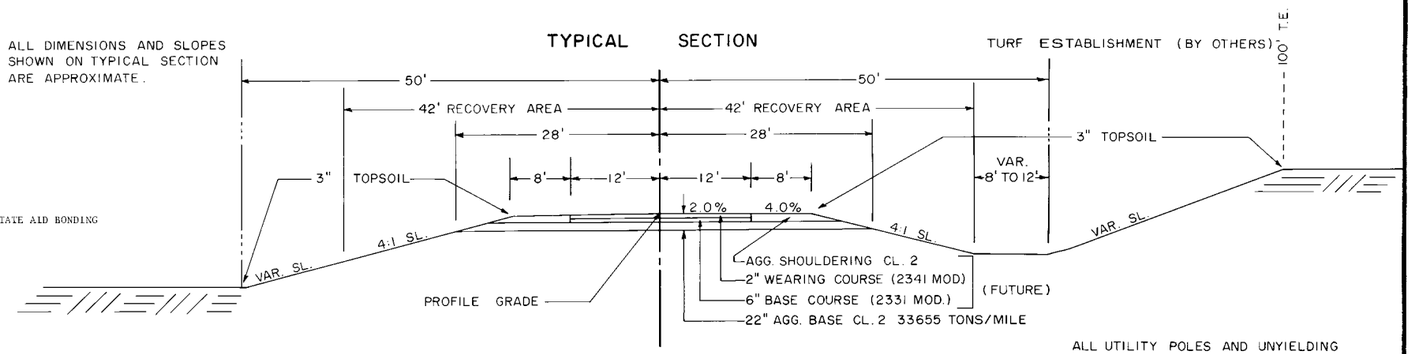
STANDARD PLATES

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

PLATE NO	DESCRIPTION
0005 A	SPECIFICATION REFERENCE TO STANDARD PLATES.
3007 A	SHEAR REINFORCED FOR PRECAST DRAINAGE STRUCTURES.
3014 J	REINFORCED CONCRETE PIPE ARCH DETAIL.
3114 G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE ARCH.
3145 D	CONCRETE PIPE TIES.
8000 I	STANDARD BARRICADES.
8003 B	BREAKAWAY SIGN SUPPORT. (PLASTIC)

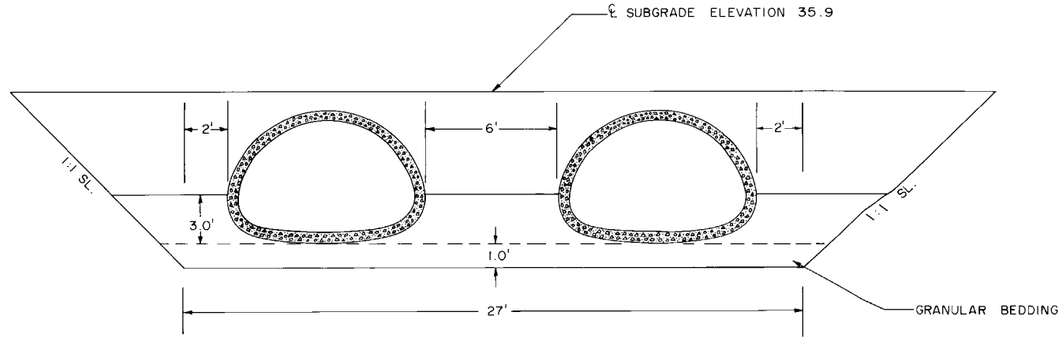
ALL DIMENSIONS AND SLOPES SHOWN ON TYPICAL SECTION ARE APPROXIMATE.

TYPICAL SECTION



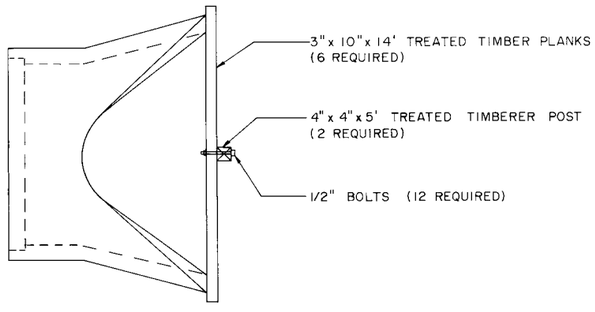
ALL UTILITY POLES AND UNYIELDING OBJECTS WILL BE RELOCATED OUTSIDE 42' RECOVERY AREA. (BY OTHERS)

BEDDING DETAIL

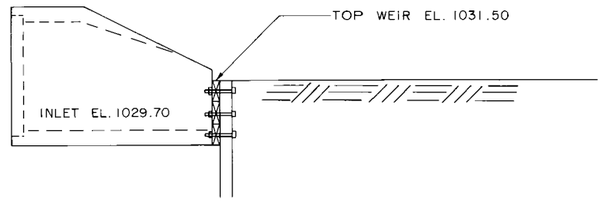


TIMBER WEIR CONSTRUCTION AT INLET OF 88" SPAN R.C.P. ARCH APRONS

TOP VIEW



SIDE VIEW



NOTE: CONSTRUCTION OF TIMBER WEIR WILL BE INCIDENTAL AND INCLUDED FOR PAYMENT UNDER UNIT PRICE FOR R.C.P.-ARCH CULVERTS.

NOTE: EXCAVATION FOR R.C.P.-ARCH CULVERTS WILL BE INCIDENTAL AND INCLUDED FOR PAYMENT UNDER UNIT PRICE FOR R.C.P.-ARCH CULVERTS.

S.A.P. 55-634-03

~~State Proj. No.~~

ALBINSON, INC. MINNEAPOLIS 55403

℄

T.E.

R/W

TWP. RD.

3+00 33.5

DITCH ELEV. 28.1

T.E.

R/W

60' LT. TWP. RD.

TWP. RD.

2+00 34.2

DITCH ELEV. 28.6

T.E.

R/W

TWP. RD.

1+00 35.4

DITCH ELEV. 29.1

T.E.

BEGIN T.E. 100' LT. TWP. RD.

CHANNEL EXCAVATION DOWNSTREAM (BY OTHERS)

0+50

TWP. RD.

0+40 36.8

DITCH ELEV. 29.4

0+00 37.4

C.S.A.H. 34 ℄ STA. 412+82 =
TWP. RD. RT. ℄ STA. 0+00

℄

T.E.

R/W

TWP. RD.

5+08 & 5+19 32.7

℄ CULVERTS SPAN 72" x 40' C.M.P.

DITCH ELEV. 27.1

T.E.

R/W

TWP. RD.

5+00 32.8

DITCH ELEV. 27.1

T.E.

R/W

TWP. RD.

4+00 33.0

DITCH ELEV. 27.6

CHANNEL EXCAVATION DOWNSTREAM (BY OTHERS)

CHANNEL EXCAVATION DOWNSTREAM (BY OTHERS)

~~State Proj. No.~~ S.A.P. 55-634-03

Sheet No. 3 of 6 Sheets

Station ℄ Elevation

EXCAVATION EMBANKMENT

SUB-TOTALS CU. YD. | SUB-TOTALS CU. YD.

100' T.E.

6:1 4:1

DITCH ELEV. 32.4

+93 37.4

E. SHLD. TWP. RD. RT.

106 | 13

T.S. 9

+82 37.3

℄ PROFILE TWP. RD. RT.

411 + 82 BEGIN CONCRETE & BIT. REMOVAL

100' T.E.

6:1 4:1

DITCH ELEV. 32.9

+70 37.3

W. SHLD. TWP. RD. RT.

10 | 13

T.S. 15

100' T.E.

6:1 6:1

DITCH ELEV. 33.2

+55 37.4

DITCH BOTTOM RT.

37 | 31

T.S. 15

BEGIN T.E. 100' LT. 411 + 00

100' T.E.

6:1 6:1

DITCH ELEV. 34.5

411 37.4

BEGIN CONST. STA. 410 + 50

1.5 | 0

T.S. 4

410 37.7

409 38.4

R/W

T.E.

415 37.7

END CONST. STA. 414 + 00

END T.E. 100' LT. 413 + 50

DITCH ELEV. 33.8

414 37.7

UNCLASSIFIED 883 CU. YDS. EMB. 535

SALVAGED TOPSOIL 127 CU. YDS.

226 | 44

T.S. 37

413 + 14 END CONCRETE & BIT. REMOVAL

6:1 4:1 4:1

DITCH ELEV. 32.2

413 37.5

330 | 37

T.S. 21

14:1 14:1

6:1

+50 37.4

37 | 31

DITCH ELEV. 31.5

GRANULAR BEDDING

57 | 83

T.S. 12

6:1 4:1 4:1

+24 37.5

1.5 | 0

T.S. 4

DITCH ELEV. 31.8

FLOWLINE LT. & RT.

54 | 72

T.S. 7

6:1 4:1

412 37.4

DITCH ELEV. 32.2

48 | 4

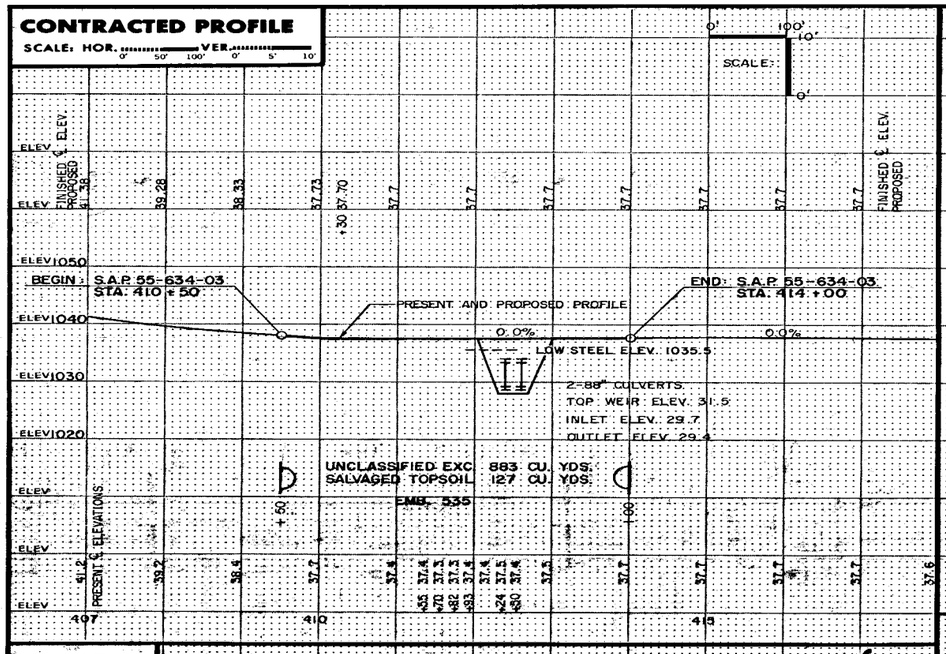
T.S. 7

~~State Proj. No.~~ S.A.P. 55-634-03

Sheet No. 4 of 6 Sheets

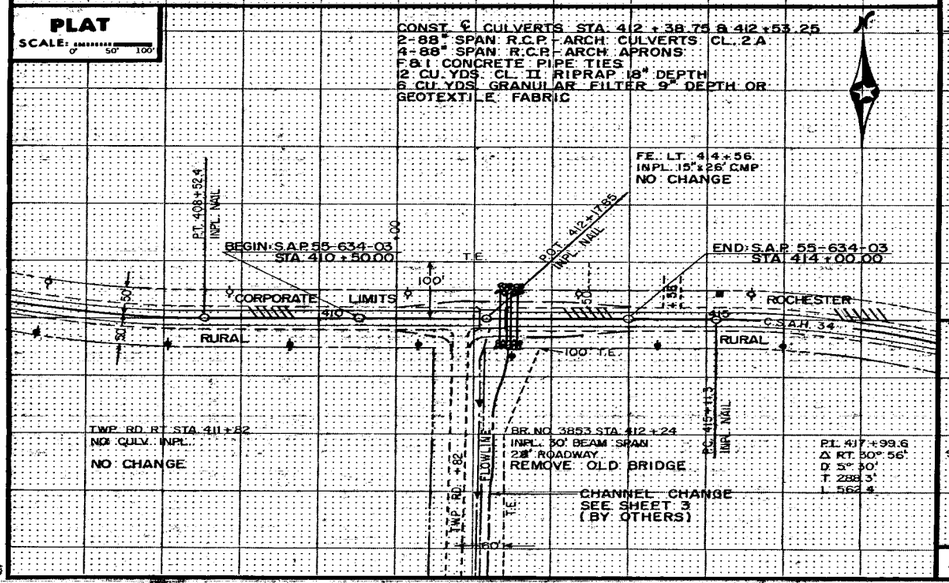
CONTRACTED PROFILE

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



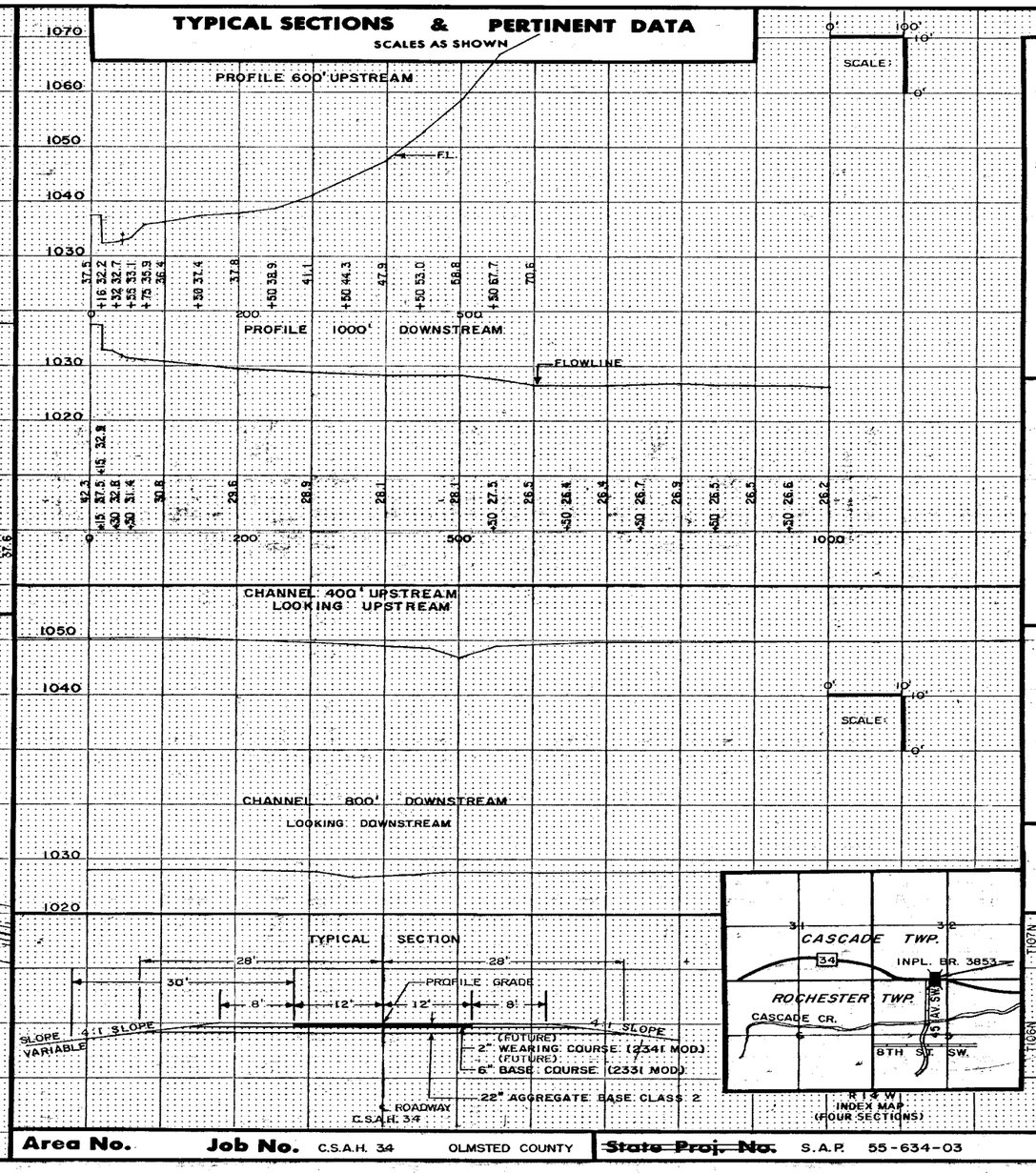
PLAT

SCALE: 0' 50' 100'



TYPICAL SECTIONS & PERTINENT DATA

SCALES AS SHOWN



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 7-13-89

Stream or ditch designation UNNAMED
Drainage area 0.2 SQ. MILES
Max. flood on record, ... Design flood (. . . 50 . . . yr. freq.) . . 320 . . C.F.S.
Max. observed highwater elevation UNKNOWN Design highwater elevation 1037.6
Design mean velocity through structure 6.5 F.P.S MINIMAL STAGE INCRS.
Low superstructure at or above elevation .....
Flowline elevation 1029.7 Skew angle NONE
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 385 C.F.S. at stage 1037.9 and mean velocity of 7.6 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 Dept. of Natural Resources.

FOUNDATION ENGINEERS RECOMMENDATION

DATE .....

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

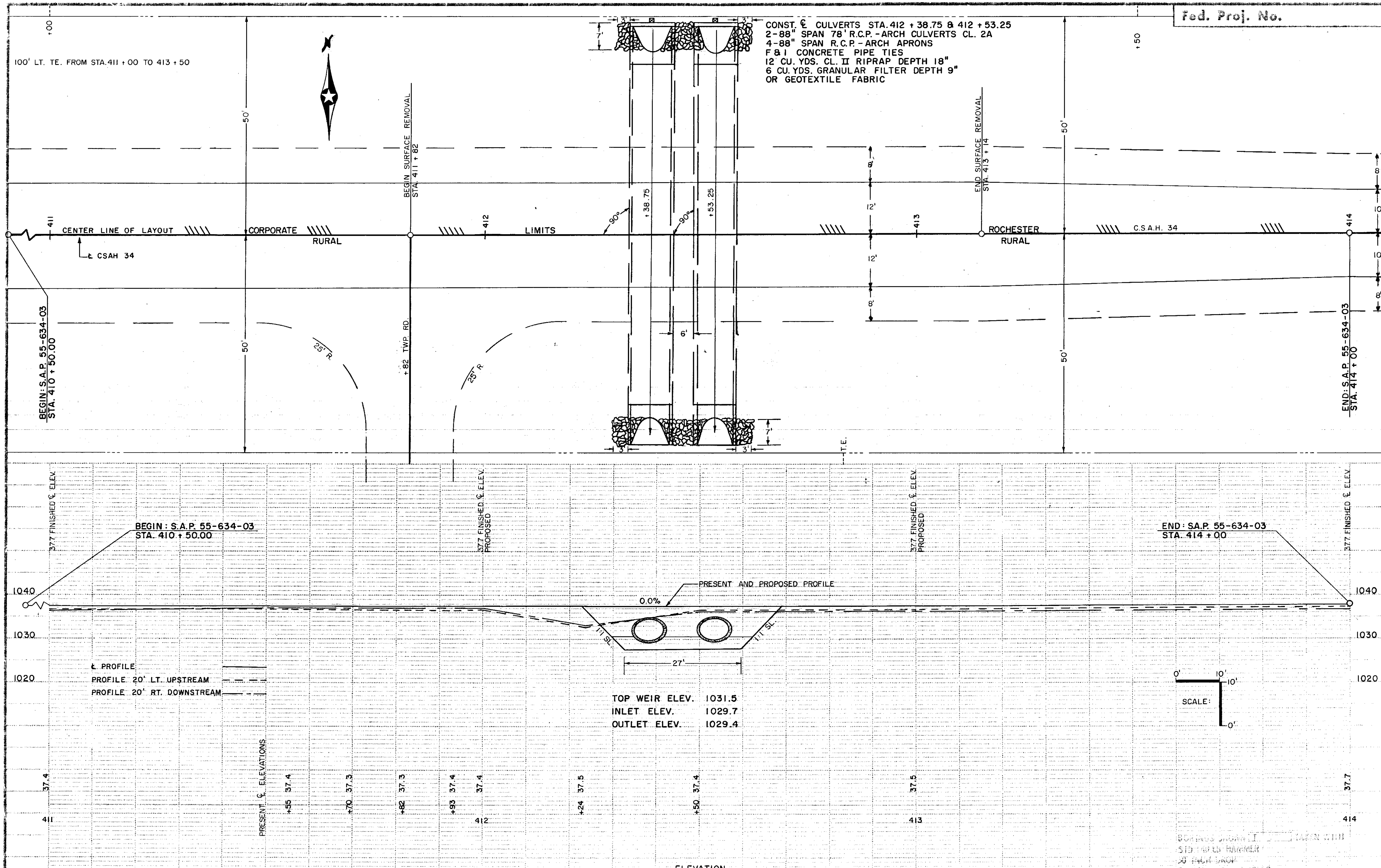
Bench mark elevation 1035.72 (M.S.L. 1929 Adj.)
Location: SPK IN P.P. 45' LT. STA 413+32

MINNESOTA
DEPARTMENT OF TRANSPORTATION

BRIDGE SURVEY

AT MILE POINT 5.5 ON C.S.A.H. 34 (T.H., C.S.A.H., C.R. etc.)
PROPOSED BRIDGE LOCATED 2.0 MILES WEST OF ROCHESTER
SEC. 5 TWP 106 N R 14 W
TOWNSHIP ROCHESTER COUNTY OLMSTED
BRIDGE NO. 3853

Area No. **Job No.** C.S.A.H. 34 OLMSTED COUNTY ~~**State Proj. No.**~~ S.A.P. 55-634-03 **Sheet No.** 5 of 6 **Sheets**



BRIDGE SURVEY PLAN AND PROFILE

DES: | DR: | APPROVED:
CHK: | CHK:

~~State Proj. No.~~ S.A.P. 55-634-03

Sheet No. 6 of 6 Sheets

Bridge No. 3853

C.S.A.H. 34 OLMSTED COUNTY