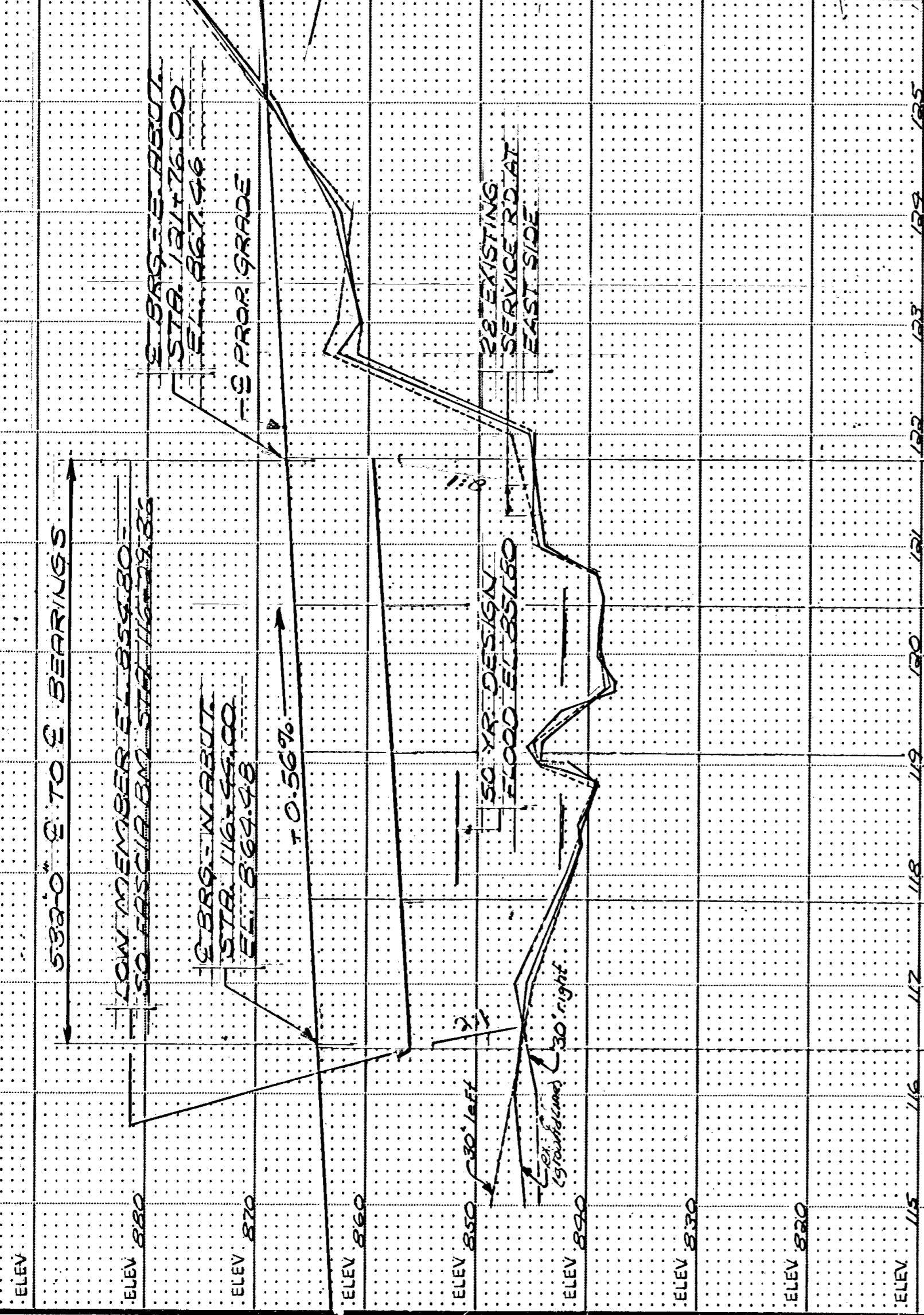


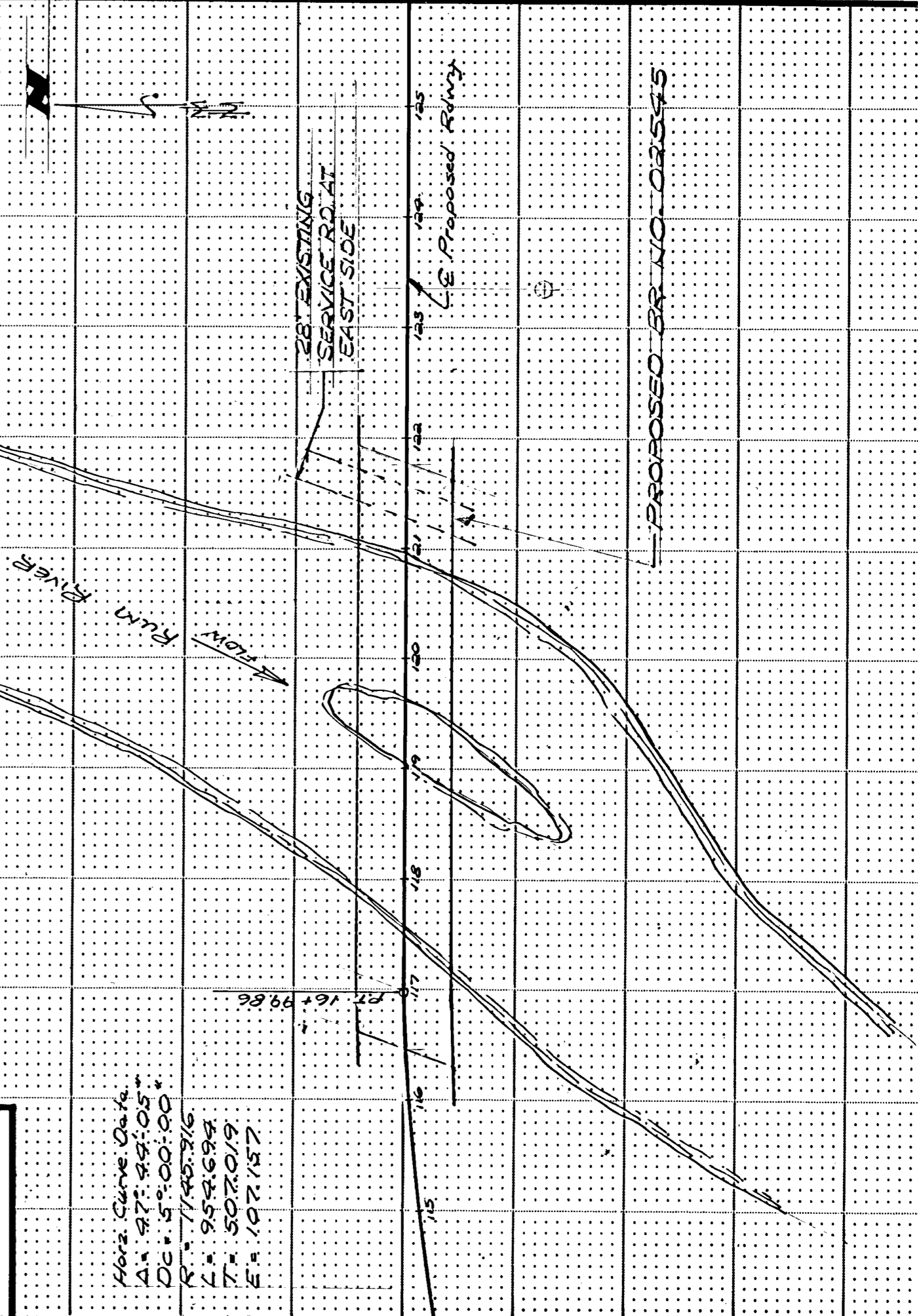
**CONTRACTED PROFILE**

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



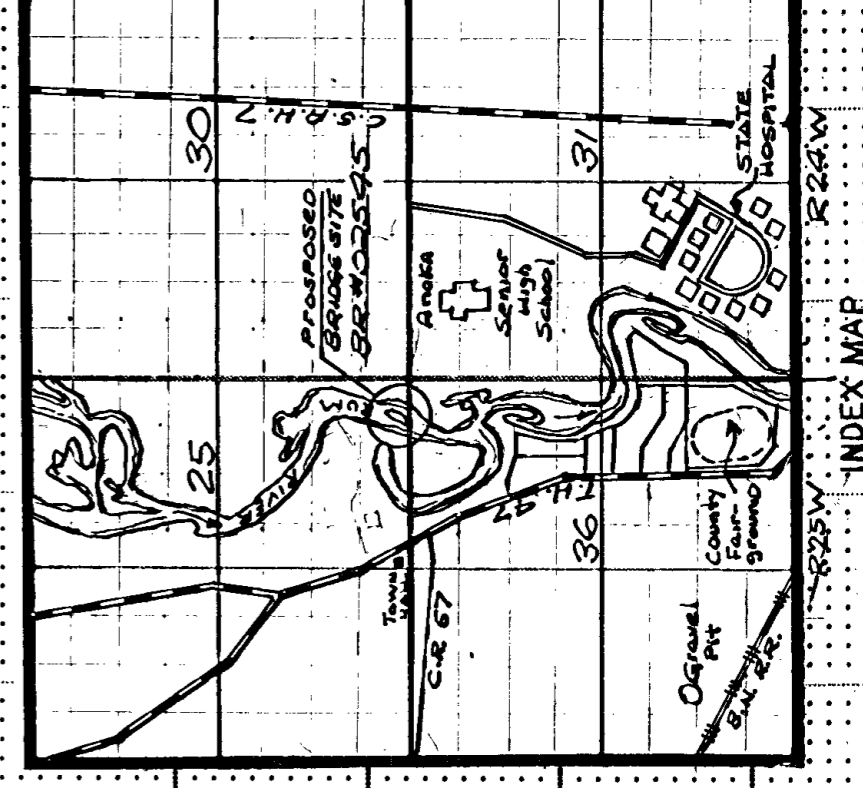
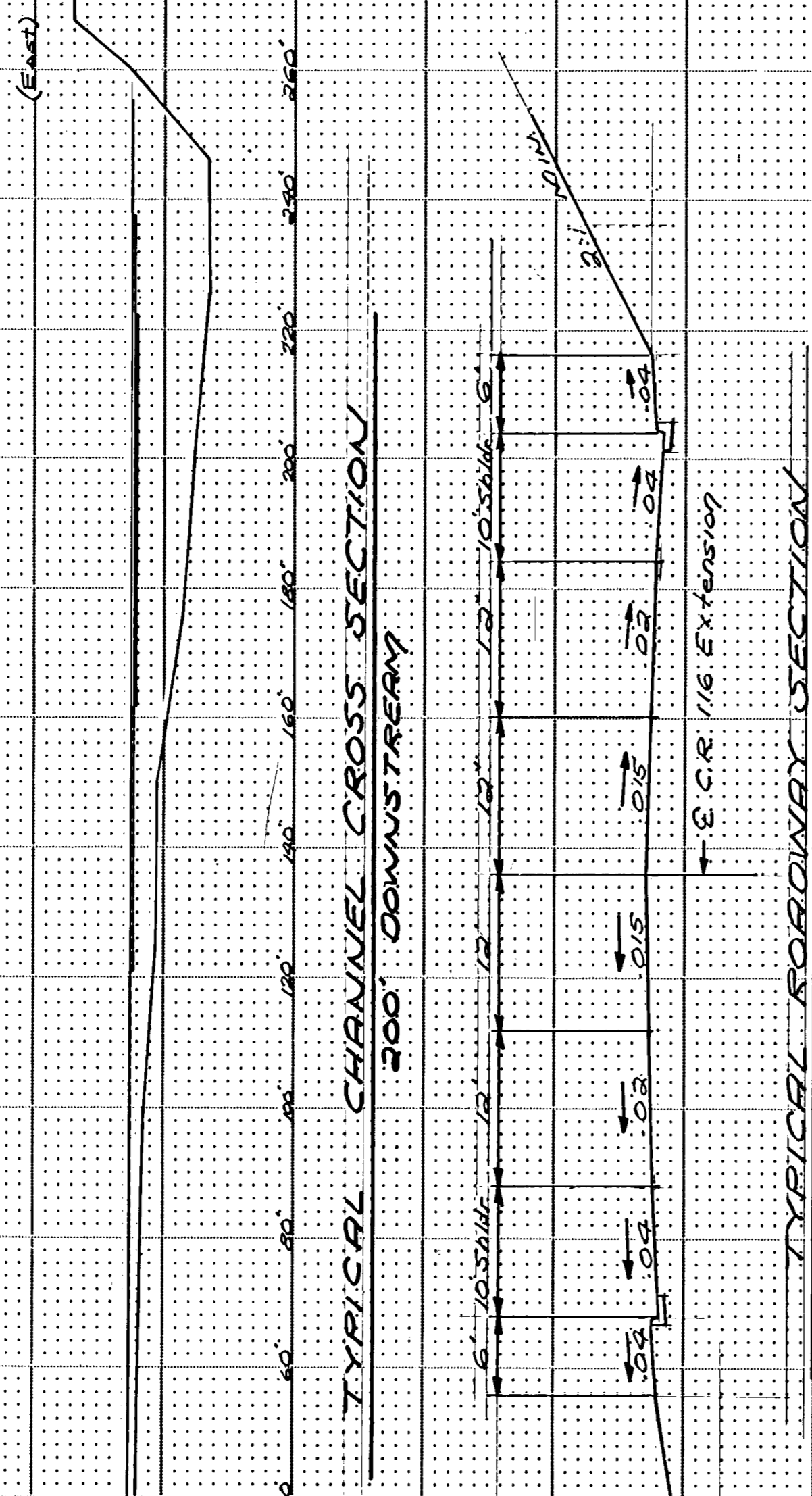
**PLAT**

SCALE: 1" = 50'



**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**

Stream or ditch designation: RUN RIVER  
 Drainage area: 1,500 SQ. MILES  
 Max. flood on record: KNOW (Design flood (100 yr. freq.) is 15,000 C.F.S.)  
 Max. observed highwater elevation: 851.50 Design highwater elevation: 851.50  
 Design mean velocity through structure: 3.2 F.P.S.  
 Low superstructure at or above elevation: 851.50  
 Flowline elevation: 851.50 Skew angle: 80  
 \*Waterway area req'd. below elevation: 5522 sq. Ft. at Rt. angles to channel  
 In the interest of flood plain zoning the regional flood (100 yr. freq.) is..... C.F.S. at stage..... and mean velocity of..... F.P.S. with..... Ft. swellhead.  
 The above recommendation will provide a structure of adequate waterway to pass the regional flood within criteria established by the Dept. of Natural Resources.

**FOUNDATION ENGINEERS RECOMMENDATION**

FOUNDATION ENGINEERS RECOMMENDATION  
 DATE.....  
7-133' PRESTRESSED BEAM SPANS  
5' ROADWAY 8'-10'-0" SHOULDERS  
2'-6.0" SIDEWALKS

Bridge survey sheets made from: SURVEY NOTES  
FROM SURVEY DONE ERICKSON  
ENGINEERING  
 Bench mark elevation: 879.33 (Main 1400+44)  
 Location: S.E. COR. STONEWALL & S.E. COR. ICE ARENA

MINNESOTA  
 DEPARTMENT OF TRANSPORTATION  
**BRIDGE SURVEY**  
 AT MILE POINT..... ON C.R. 116 (EXT)  
 (T.H. C.S.A.H. C.R. etc.)  
 PROPOSED BRIDGE LOCATED ON C.R. 116 Extension  
From C.R. 97 to Ramsey to C.S.A.H. 116  
Arvato  
 SEC. 25 TWP. 32N R. 25 W  
 TOWNSHIP RAMSEY COUNTY ANDORA  
 BRIDGE NO. 02545