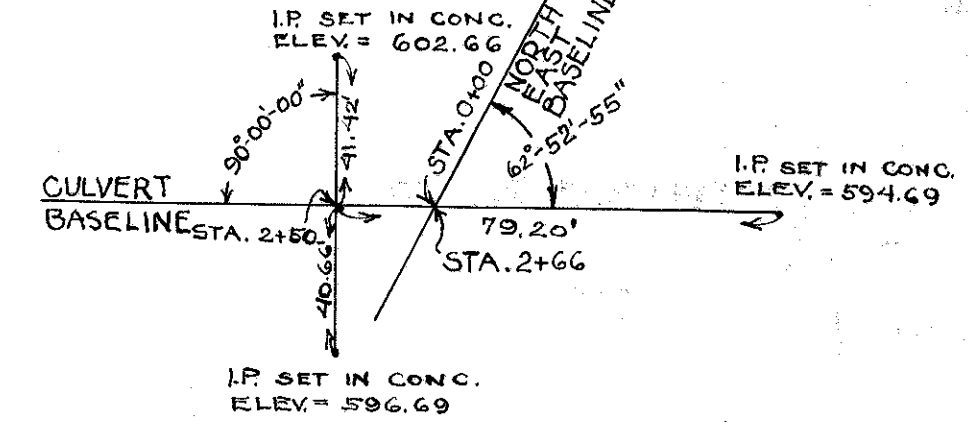


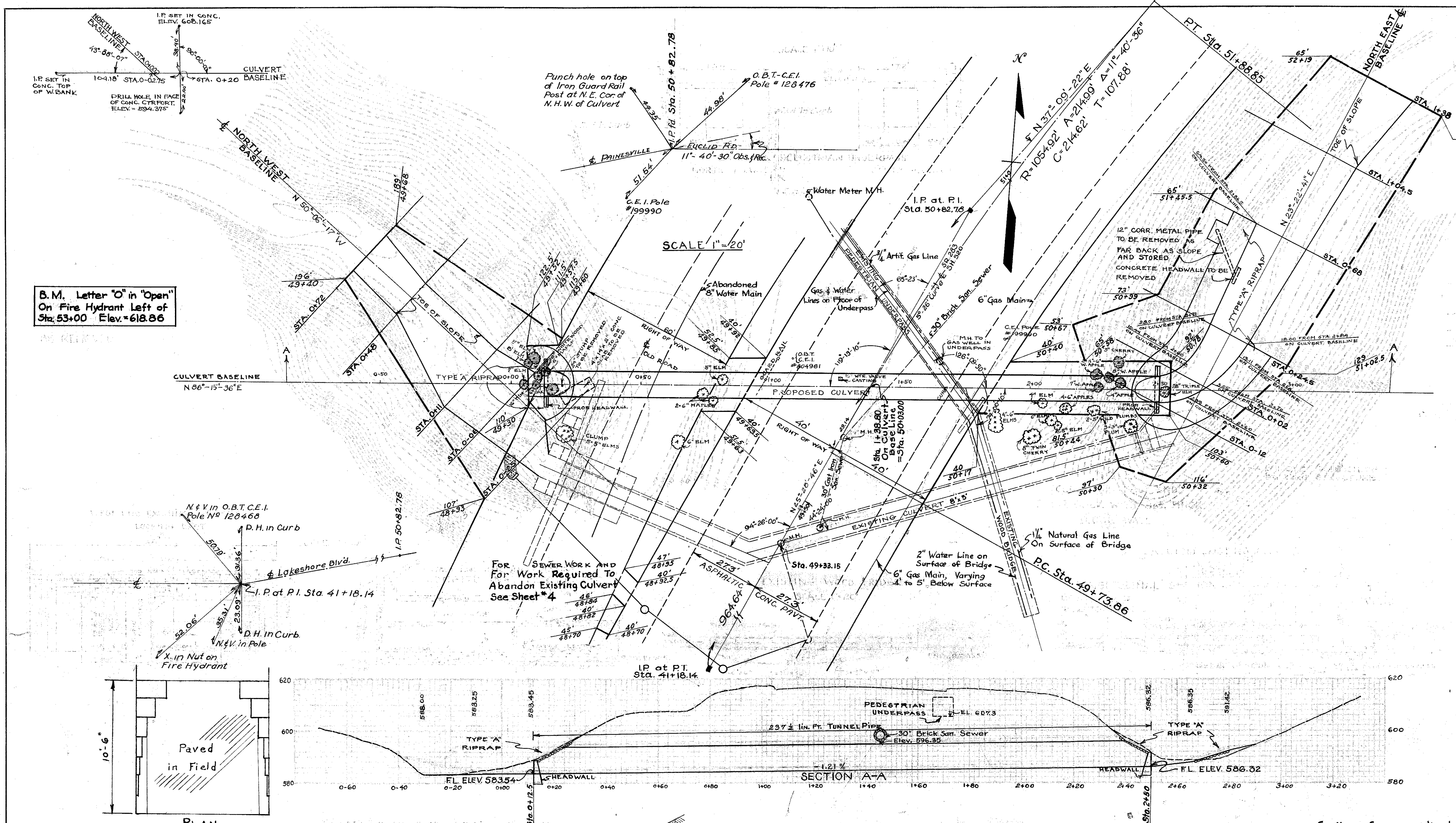
LAKE COUNTY  
LAK-283-078



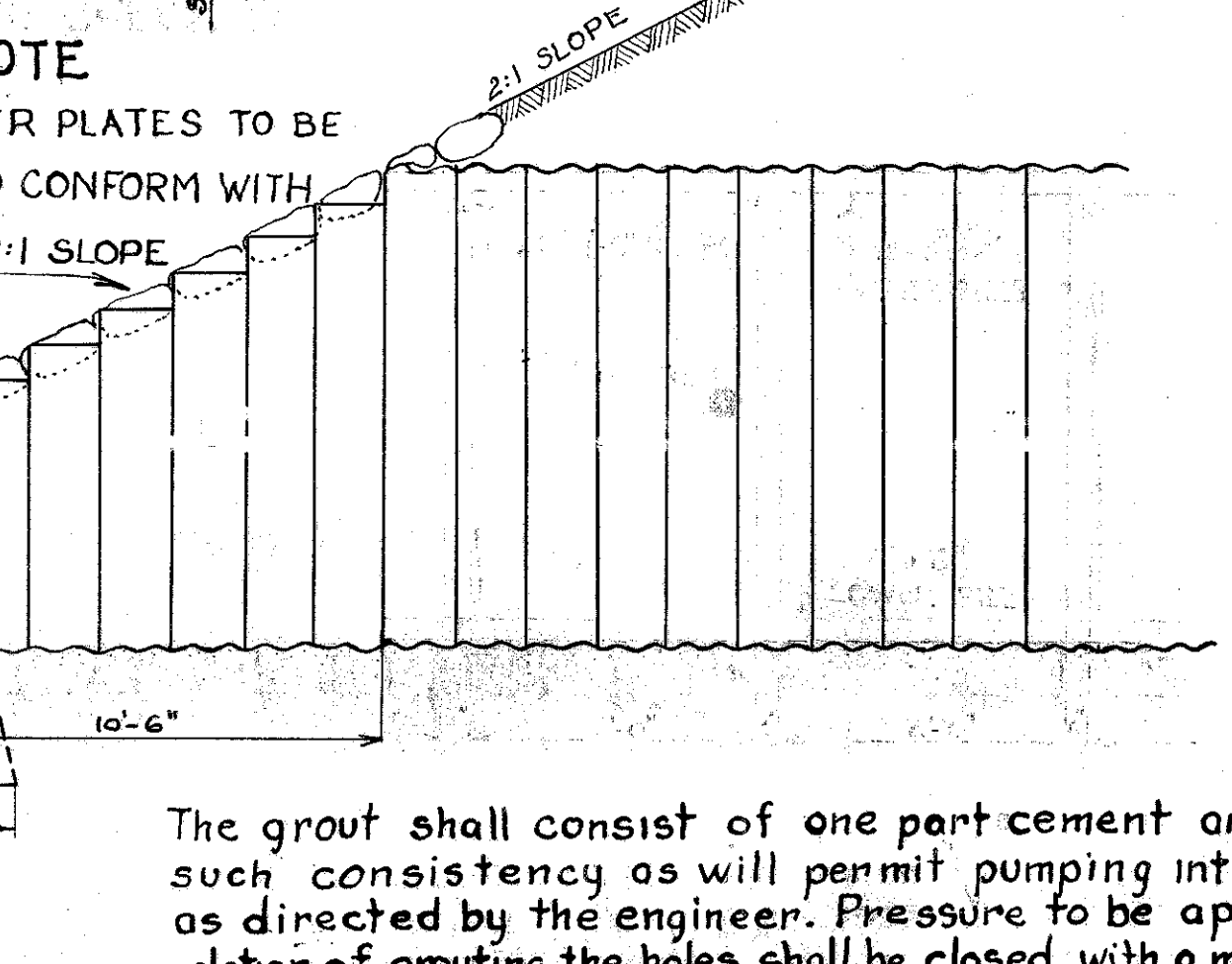
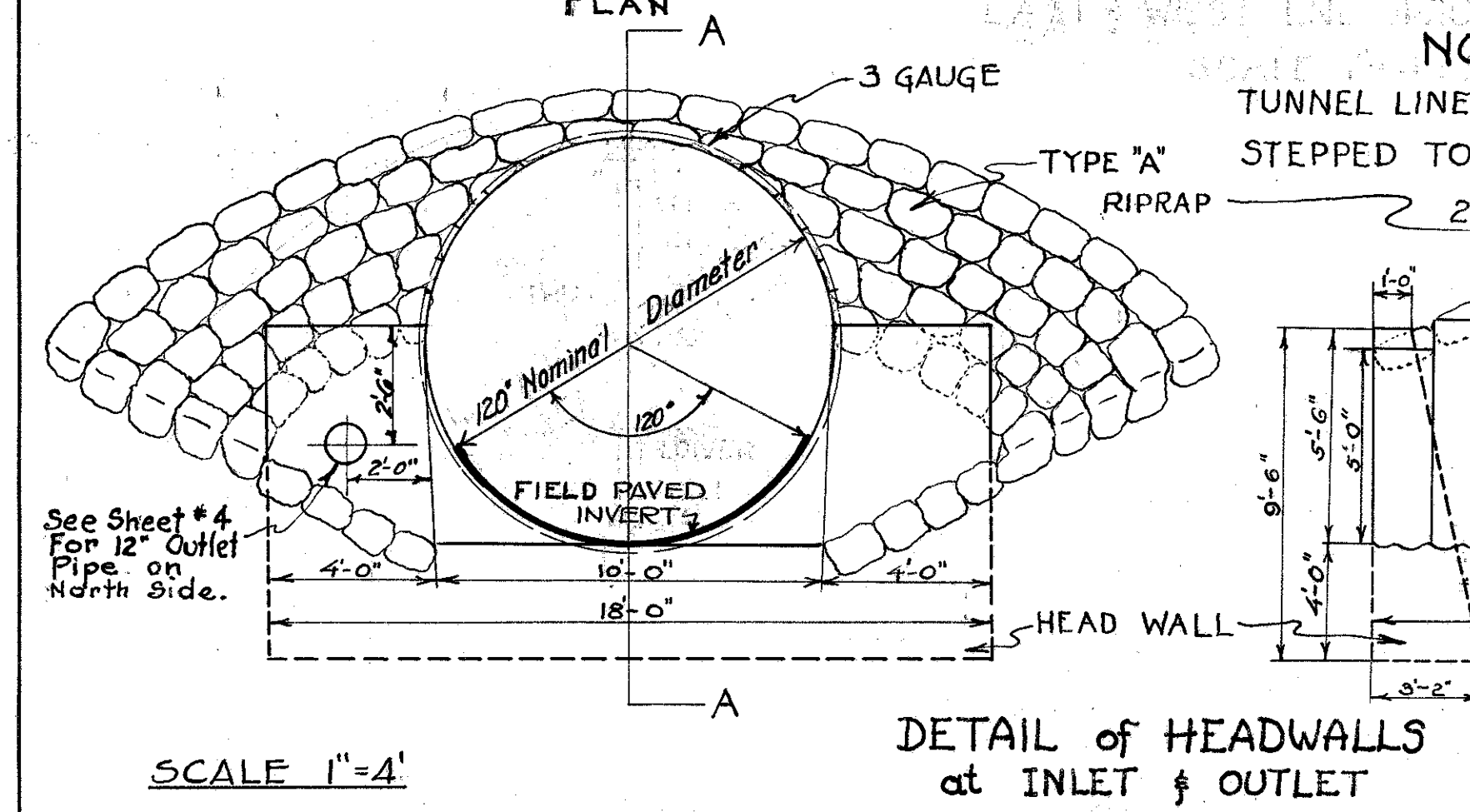
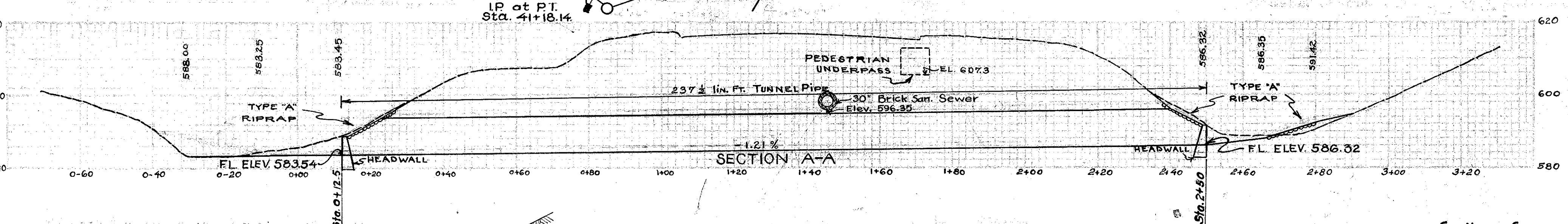
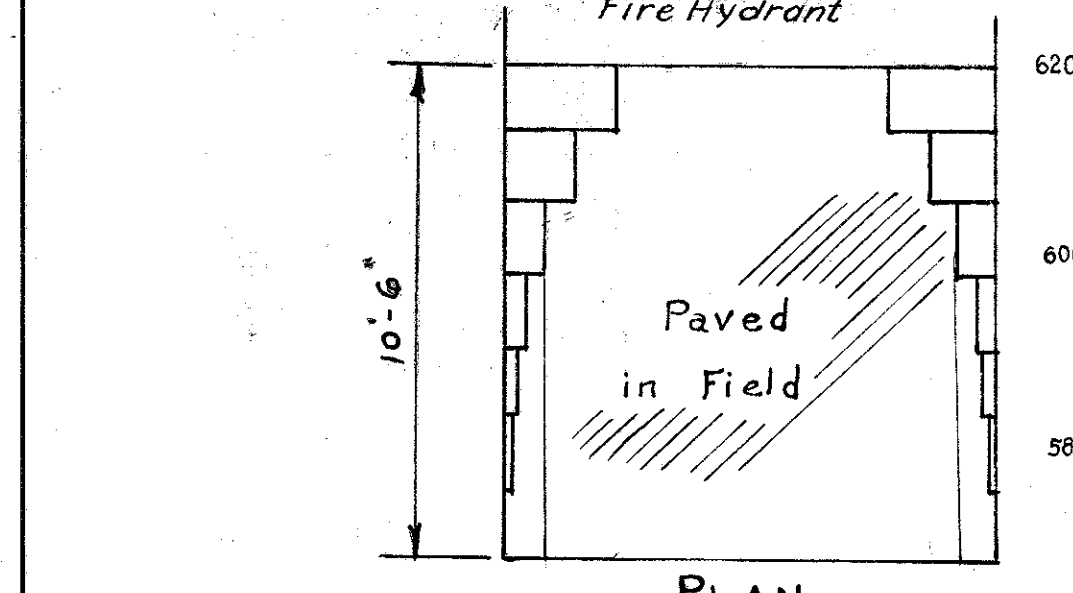
\*Item S-22:  
Work required by this item is that shown on sheet 4, and for removal of all those portions of existing structures which interfere with the installation of new structure.

ESTIMATED QUANTITIES		
ITEM	QUAN.	DESCRIPTION
E-2	735	CU.YDS. EXCAVATION FOR STRUCTURES (TUNNEL)
E-3	597	CU.YDS. CHANNEL EXCAVATION.
SS-38	2375	LN.FT. BITUMINOUS COATED TUNNEL LINER PLATE CULVERT PIPE (NOMINAL DIA. 120")
I-10	205	SQ.YDS. RIPRAP, TYPE "A"
S-22	LUMP SUM	REMOVAL OF PORTIONS OF EXISTING STRUCTURES
S-1	21	CU.YDS. CONCRETE FOR STRUCTURES, CLASS "E"
E-9	4	EA. REMOVAL OF TREES AND STUMPS, AS SHOWN.
E-2	21	CU.YDS. EXCAVATION FOR STRUCTURES.

**CULVERT DATA—**  
**TYPE** Bituminous coated paved invert, tunnel liner plate culvert pipe, 3 gauge.  
**SIZE** 120" nominal diameter by 237'-6" @ 29°-13'-10" Skew  
**WORK REQUIRED—** Build new 120" Tunnel Liner Plate Culvert to be placed by tunneling method. Riprap rt. & lf. ends as shown. Backfill around both ends using excavated material as directed by the Engineer.  
 Build Headwalls as shown and Abandon existing Culvert.



B.M. Letter "O" in "Open" On Fire Hydrant Left of Sta. 53+00 Elev. = 618.86



**NOTES**  
 In lieu of Sec. E-208 of the Material Specifications, Structure Excavation, calculated for the Tunnel Liner Plate Culvert Pipe is the volume based on a 124" outside diameter of the culvert. Back slope around the ends of the 120" pipe shall be back filled to meet existing slope. The necessary quantity shall be obtained from acceptable excavated material from the structure excavation and shall be placed as directed by the Engineer. Backfill shall be placed in accordance with methods set forth in Sec. E-207 of the Specifications. Cost of Backfilling to be included in unit price bid for "Excavation for Structures, As Per Plan".  
 The Contractor shall carefully backfill and seal the space between the outside of Tunnel pipe and earth by method of pressure grout for the entire length. One hole and plug shall be provided in each completed tunnel plate ring, staggered and placed as shown.  
 The grout shall consist of one part cement and two parts mortar sand. Enough water shall be added to bring grout to such consistency as will permit pumping into all voids. Grouting shall be done at all grout holes and shall be continued as directed by the engineer. Pressure to be applied at 80 lbs. and while grout is applied at one hole, the adjacent holes shall remain open. Upon completion of grouting the holes shall be closed with a metal cap or plug. The grouting here in specified shall be included in unit price bid for item SS-38.

Sanitary Sewers: It shall be the contractor's responsibility to support the existing 30" sanitary sewer during tunneling operations. Any damage to the sanitary sewer or other underground installations shall be the responsibility of the contractor. All work and material required for the support of the sanitary sewer shall be included in the unit price bid for Item E-2 "Excavation for Structures, As Per Plan".

Holes & Plugs For Grouting shall be tapped for 1/2" pipe.

STATE OF OHIO DEPARTMENT OF HIGHWAYS					
PLANS & PROFILES CULVERT NO LA-283-09A					
SR. 283 VILLAGE OF WILLOWICK					
LAKE COUNTY					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
J.M.H.	R.P.G.	R.P.G.			

SCALE 1"=4'