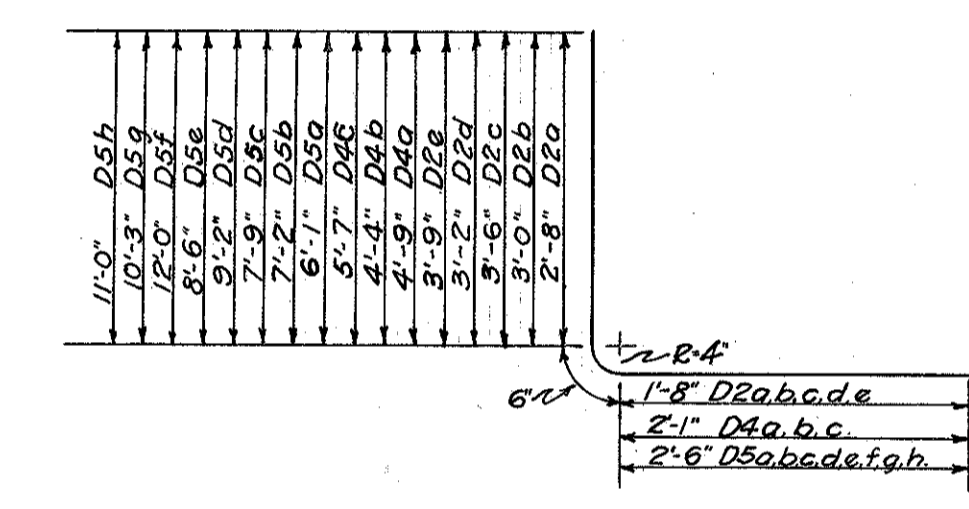
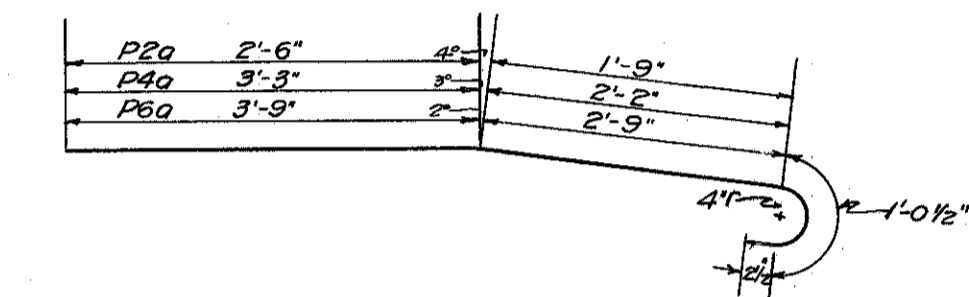
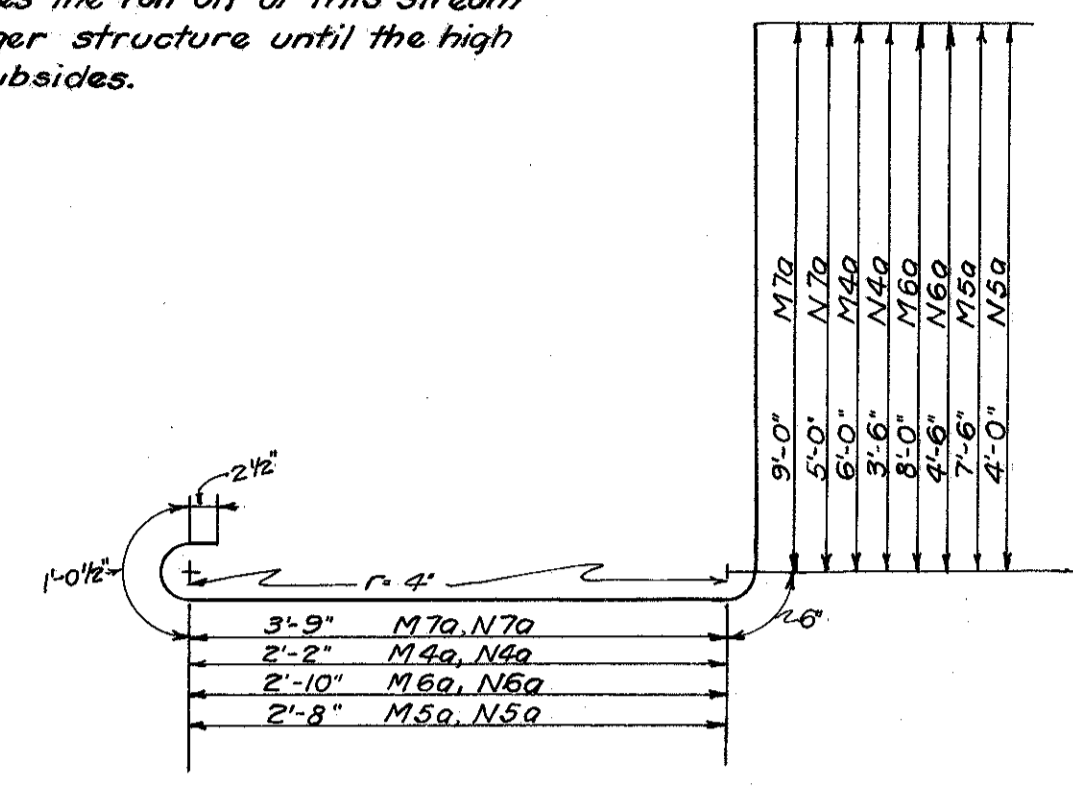
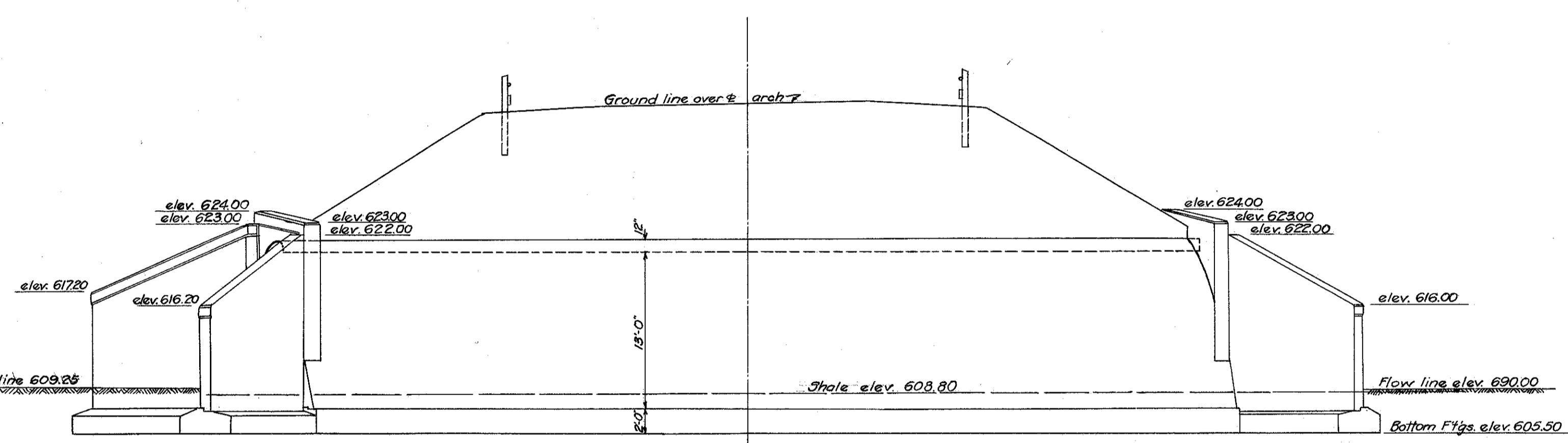
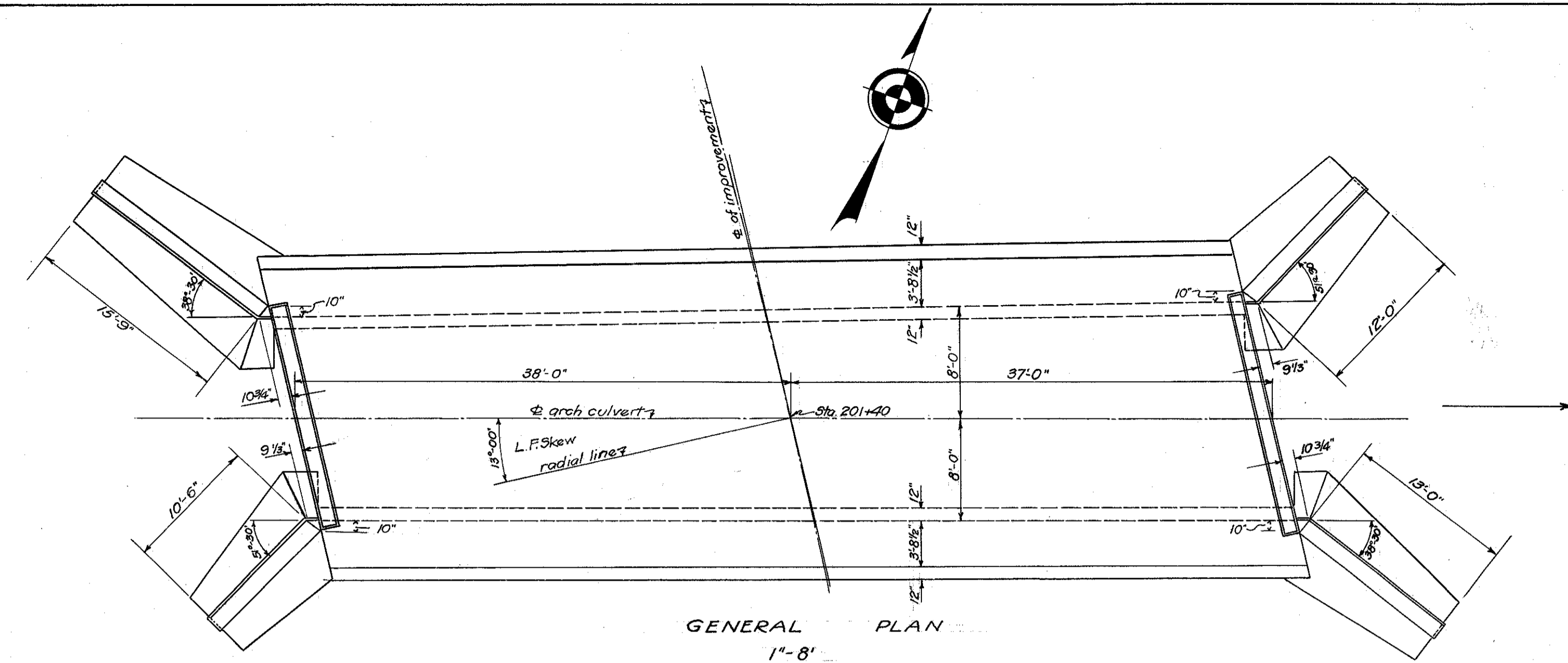


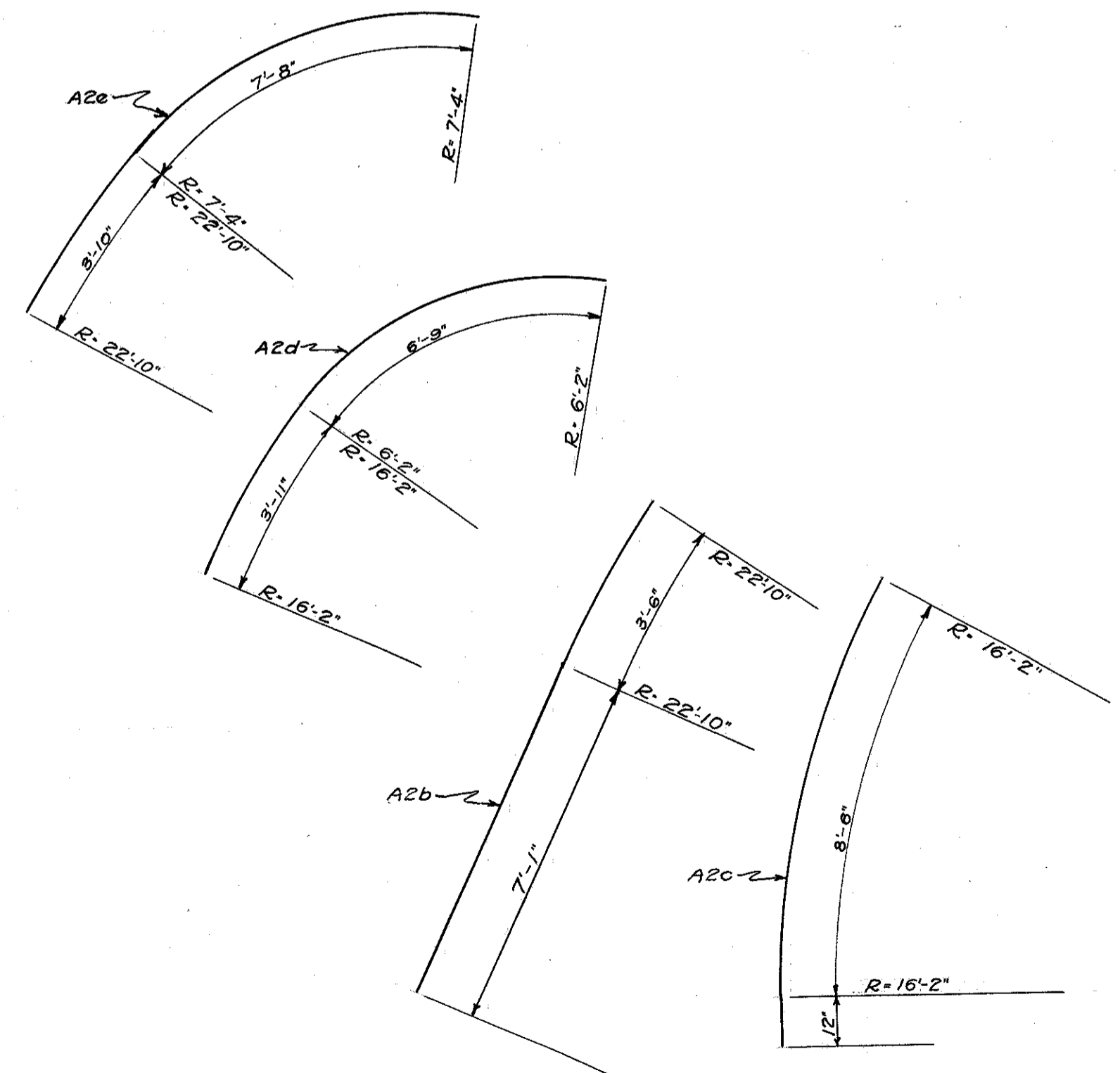
Waterway Note: Old Bridge as follows; stone abutments, plank floor on steel I beams built in 1903. Clear span - 17', clear height 14', waterway of new span 125 square feet.
 This reduction in water way is on account of the high water, Elev. 619.00 of the Chagrin River which in flood times makes the run off of this stream impossible thru any larger structure until the high water of the river subsides.



Sta. 201+40 Build Standard Arch Culvert (Type B) Std. Dwg. No. AC-A. Span 16'-0" Length 75'-0"
Concrete: All concrete shall be 1-5/2 mix with the exception of the Arch Footings which shall be 1-6 1/2 mix.
Excavation & Backfill: Excavation shall be carried to the depth shown on the plans. Channel shall be excavated as shown on sheet using the same filling old channel. Backfill shall be mechanically tamped in horizontal layers not exceeding 6" and shall be carried on simultaneously on both sides of the arch in such a manner that no layer shall be more than 6" above the opposite side.
 If suitable material is not close to the site the contractor will be required to furnish suitable material from some other portion of the job for the backfill.
Construction Joints: Care shall be taken to conceal all construction joints from view. All construction joints above low water shall be covered with a 36" strip of "Type B" waterproofing. No construction joints other than those shown will be permitted with the exception of a vertical joint thru the barrel, in which case the B bars shall be continuous thru the joint and a suitable key shall be provided.
Reinforcing Steel: All reinforcing steel shall be securely fastened in place before placing of concrete.
French Drains: French Drains using No. 3 stone or slag, as backfill shall be constructed for full length of barrel and wing walls with 4" weepholes at 10' centers, set to Elevation 610.50. Payment for French Drains included in price for excavation.

ESTIMATE	QUANTITIES
Shale Excavation	153 Cu.Yds.
Channel Excavation	1181 " "
Earth Excavation	328 " "
Footing Concrete Arch (1-6 1/2 mix)	65.2 " "
Footing Concrete Wings (1-5 1/2 mix)	24.6 " "
Walls & Barrel Concrete (1-5 1/2 mix)	209.6 " "
Reinforcing Steel	12,085 Lbs.
Folded Copper Strip 24oz. 12" wide	61 Lp. Ft.
Waterproofing Type B	68.37 Sq. Yds.

Mark	Size	No	Length	Shape	Location	Weight
A2a	1/2" φ	298	4'-0"	Str't	Barrel	796
A2b	"	149	10'-9"	Bent	"	1,070
A2c	"	149	9'-8"	"	"	963
A2d	"	149	10'-8"	"	"	1,062
A2e	"	149	11'-6"	"	"	1,145
B2a	"	34	39'-6"	Str't	"	2,216
Cxa	1/2" φ	161	1'-11"	Bent	"	52
Cxb	"	29	2'-2"	"	"	11
Cxc	"	29	2'-5"	"	"	12
Cxd	"	29	3'-2"	"	"	15
Cxe	"	29	3'-10"	"	"	19
D2a	1/2" φ	8	4'-10"	Parapet	"	26
D2b	"	2	5'-2"	"	"	7
D2c	"	2	5'-4"	"	"	8
D2d	"	2	5'-4"	"	"	7
D2e	"	2	5'-11"	"	"	8
D2f	"	6	17'-6"	Str't	"	70
D2g	"	4	9'-0"	"	"	24
D4a	3/4" φ	2	7'-4"	Bent	"	15
D4b	"	2	6'-11"	"	"	14
D4c	"	2	8'-2"	"	"	17
D5a	3/4" φ	2	9'-1"	"	"	27
D5b	"	2	10'-2"	"	"	31
D5c	"	2	10'-9"	"	"	32
D5d	"	2	12'-2"	"	"	37
D5e	"	2	11'-6"	"	"	35
D5f	"	4	15'-0"	"	"	90
D5g	"	2	13'-3"	"	"	40
D5h	"	2	14'-0"	"	"	42
M4a	5/8" φ	4	9'-11"	"	Wingwall	42
M5a	3/4" φ	2	11'-11"	"	"	36
M6a	7/8" φ	18	12'-7"	"	"	462
M7a	1" φ	14	14'-6"	"	"	542
N4a	5/8" φ	6	7'-5"	"	"	46
N5a	3/4" φ	2	8'-5"	"	"	25
N6a	7/8" φ	18	9'-1"	"	"	334
N7a	1" φ	15	10'-6"	"	"	420
O2a	1/2" φ	6	8'-0"	Str't	"	34
O4a	5/8" φ	5	11'-0"	"	"	57
O4b	"	8	12'-0"	"	"	100
O4c	"	5	10'-3"	"	"	32
O4d	"	2	9'-0"	"	"	19
O5a	3/4" φ	6	13'-6"	"	"	122
O5b	"	9	14'-0"	"	"	189
P2a	1/2" φ	10	5'-6"	Bent	"	36
P4a	5/8" φ	18	6'-8"	"	"	126
P6a	7/8" φ	20	7'-9"	"	"	316
R4a	5/8" φ	14	12'-8"	Str't	"	186
R4b	"	3	7'-4"	"	"	24
R4c	"	2	2'-6"	"	"	6
R4d	"	6	10'-0"	"	"	63
R4e	"	4	14'-6"	"	"	61
R4f	"	5	10'-4"	"	"	54
R4g	"	11	11'-6"	"	"	132
R4h	"	3	8'-0"	"	"	25
R4i	"	7	15'-6"	"	"	113
R4j	"	1	4'-2"	"	"	4
R4k	"	4	17'-3"	"	"	72
R4l	"	1	11'-0"	"	"	11
R4m	5/8" φ	1	3'-0"	"	"	3
T7a	1" φ	24	7'-6"	"	"	480
Total Steel in lbs.						12,083



LA-174-381
GENERAL PLAN & ELEVATION
CULVERT AT STA. 201+40
CHAGRIN FALLS-WILLOUGHBY RD.
 S.H. NO. 90 SEC. 6 LAKE COUNTY
 Drawn Traced Checked Reviewed
 H.H.C. R.M.P.