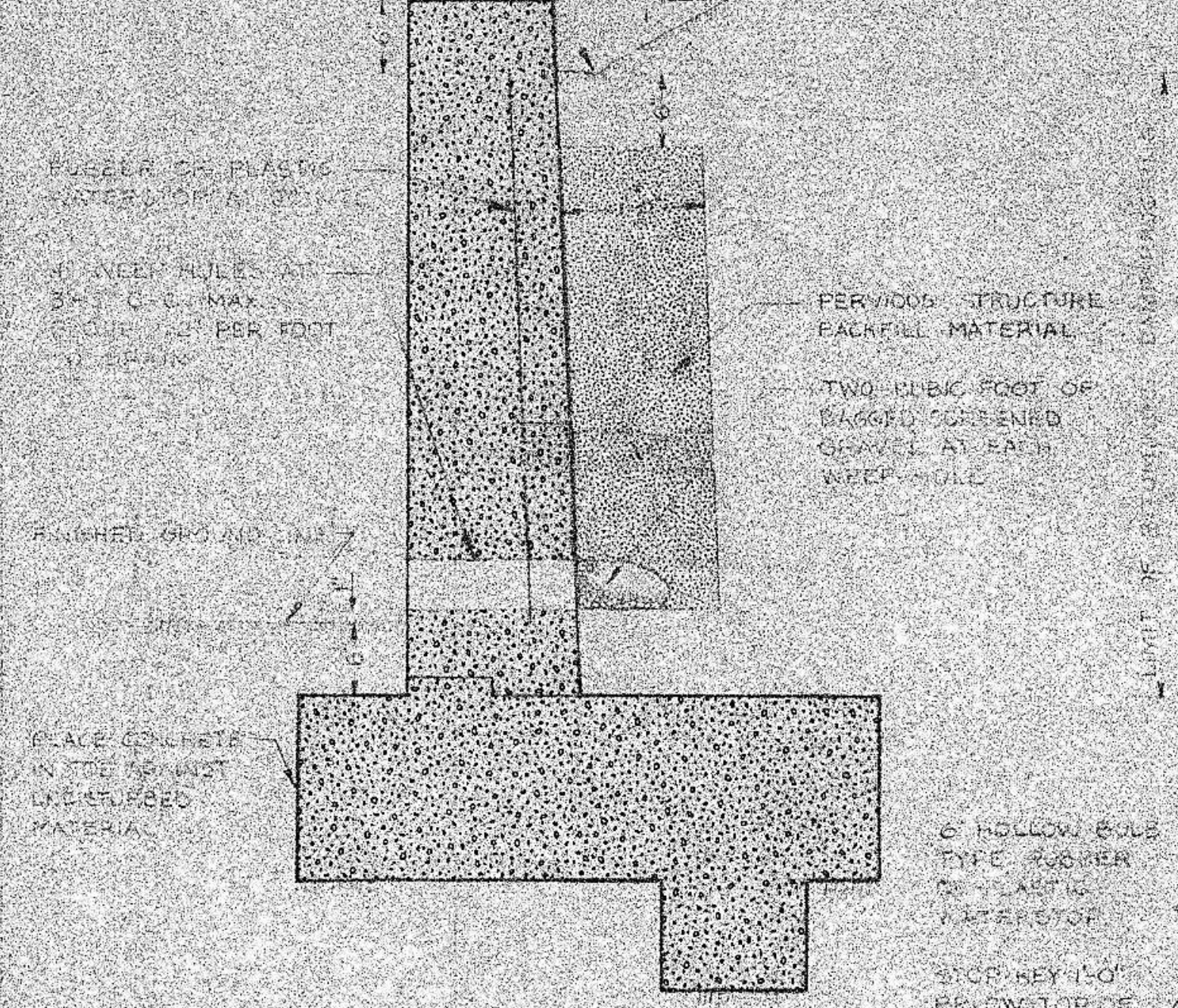
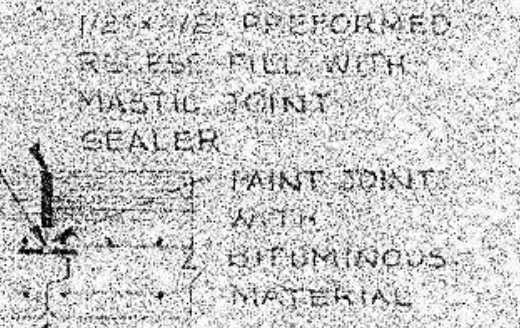


1. MAIN WALL  
2. WALL TO BE  
CONCRETE  
3. WALLS AND VERTICAL  
CURBS

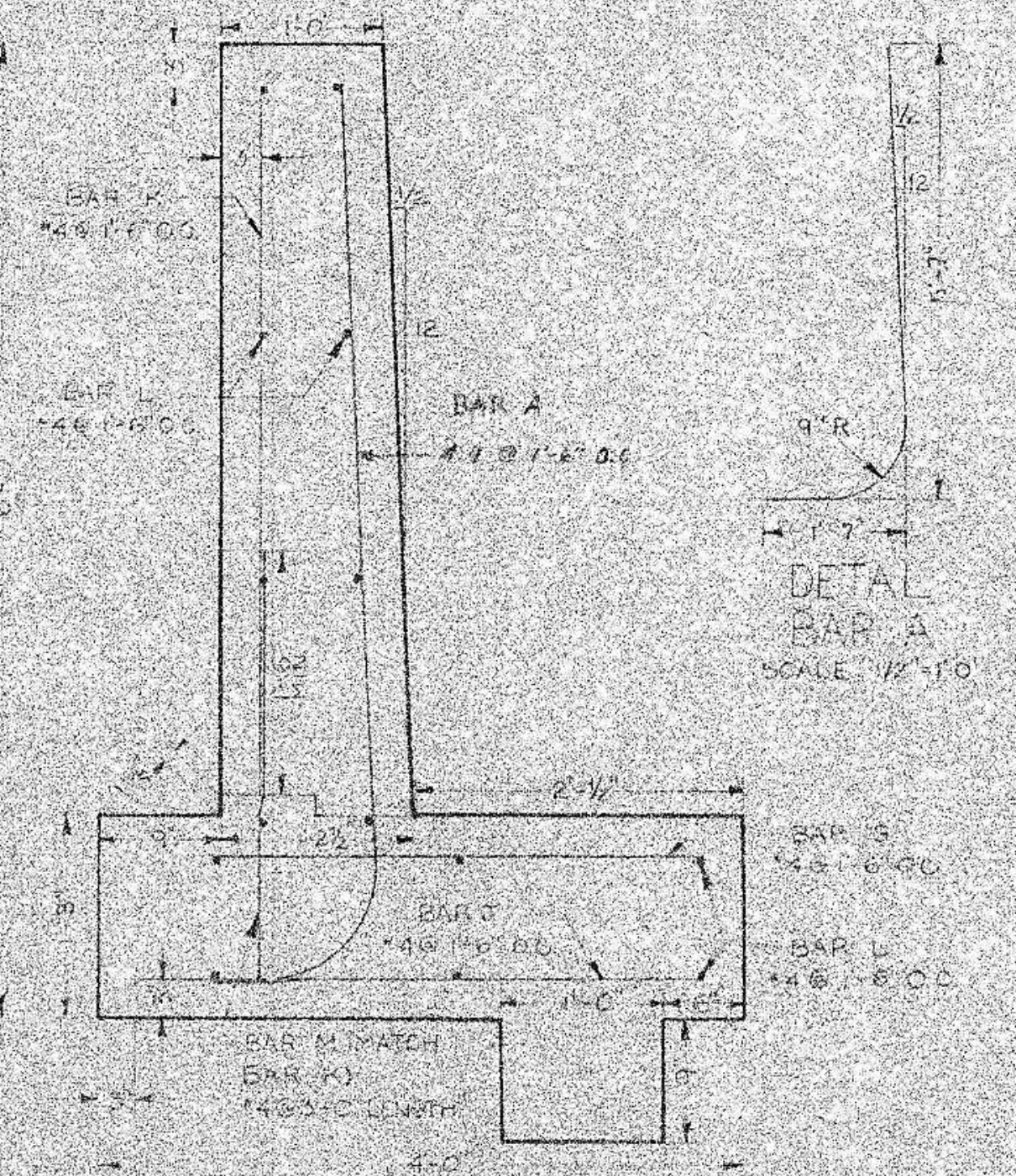
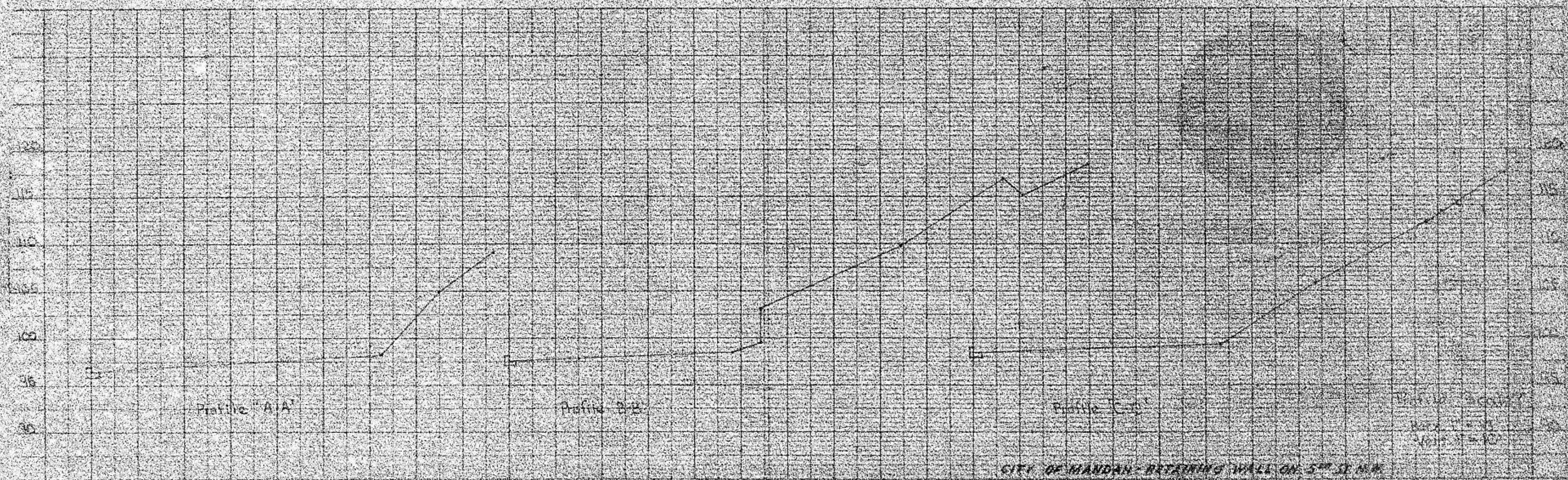
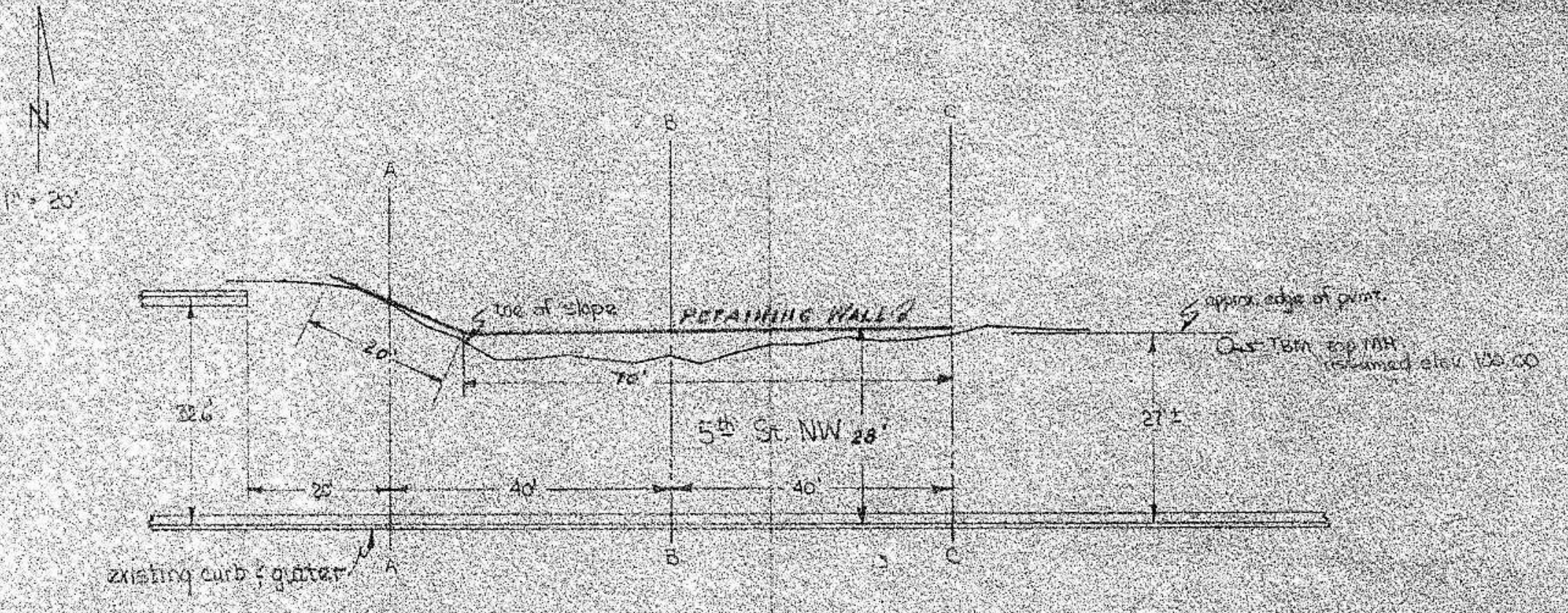


DRAINAGE DETAILS  
SCALE 1/2" = 1'-0"

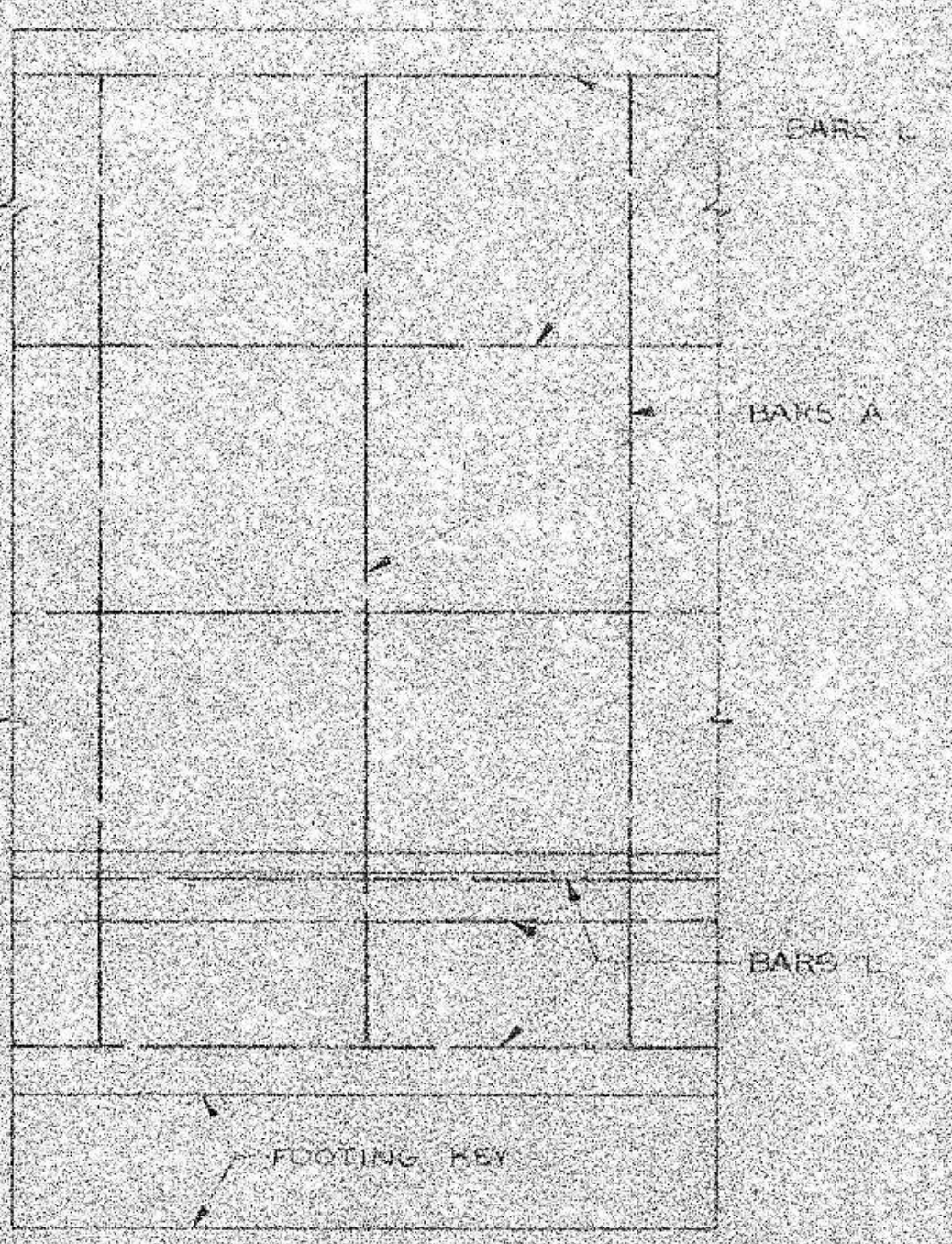
DESIGN DATA: Weight of soil 120 pcf, weight of concrete 150 pcf, Angle of internal friction 33° 41', Earth pressures Rankine's formula.  
 FOR SLIDING: The coefficient of friction between masonry and soil is taken at 0.45 with a safety factor of 1.5 by adding the footing key.  
 FOR OVERTURNING: A minimum safety factor of two is provided against overturning. Resultant of the loads is at or within the middle third of the footing.  
 CONCRETE: All concrete shall be class A with a minimum 28-day compressive strength of 3500 psi. All exposed edges of walls shall be chamfered 3/4" unless otherwise shown.  
 REINFORCING STEEL: Reinforcing steel shall be deformed bars of hard, intermediate, or rail steel grade conforming to ASTM A-15 or A-16. Dimensions relating to spacing of reinforcing steel are from center to center of bars; bending dimensions are from outside of the bars. Minimum cover for reinforcing bars shall be two inches clear unless shown otherwise. Bar laps shall be 30 diameters minimum.  
 FOOTING KEYS: Footing keys shall be placed against undisturbed soil.  
 WALL JOINTS: Expansion joints shall be placed at a maximum distance of 30 feet. Contraction joint spacing shall not be more than 30 feet.  
 WEIGHT OF STRUCTURE: The six foot retaining wall as shown hereon has a bearing pressure of 1.6 kips/sq.ft.



CONTRACTION JOINT DETAIL

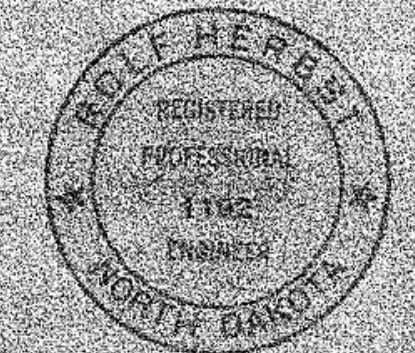


SECTION  
SCALE 1/2" = 1'-0"



ELEVATION  
(FRONT FACE)  
SCALE 1/2" = 1'-0"

BY E.K. DATE JAN 61 SUBJECT RETAINING WALL  
 CHKD BY P.K. DATE DEC 61  
 CITY OF MANDAN, N.D.



Street Improvement District No. 61,  
 SHEET NO. 3 OF 3 SHEETS  
 TEGO NO. 7057  
 CITY NO. 80-7

Torner Engineering Company  
 312 S. Broadway  
 Mandan, N.D. 58542