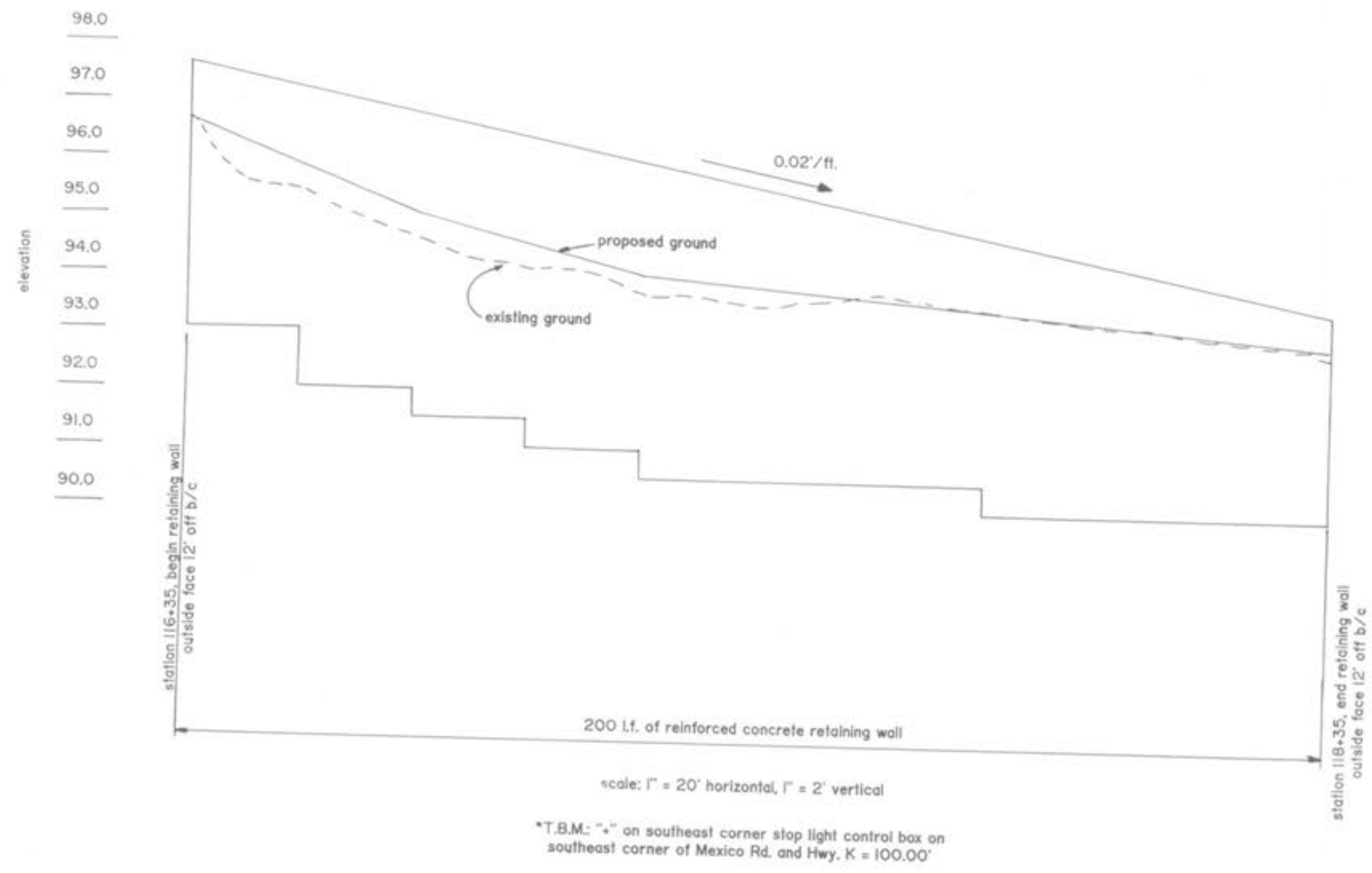
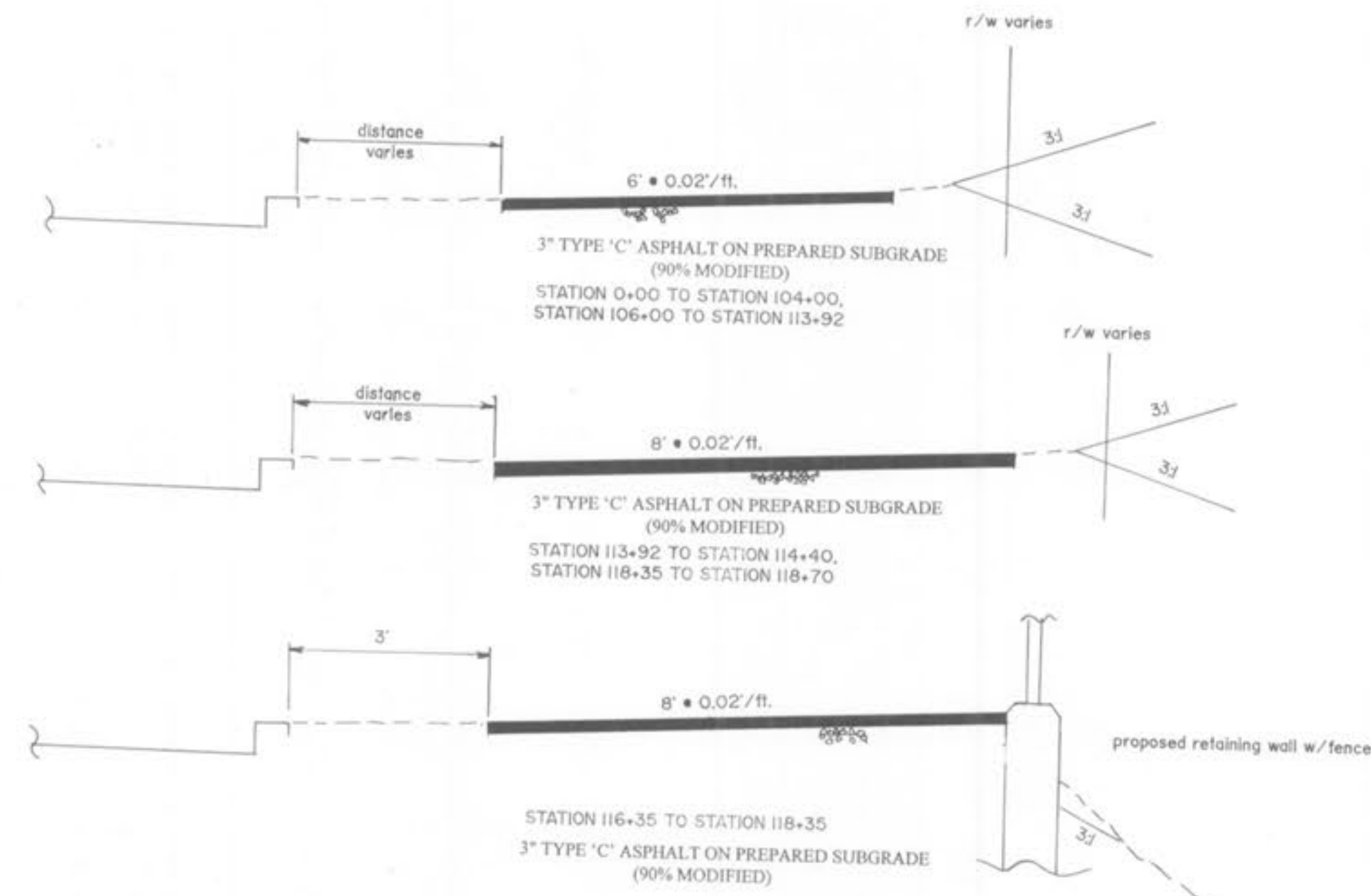


CONCRETE RETAINING WALL PROFILE



TYPICAL PEDESTRIAN TRAIL SECTIONS

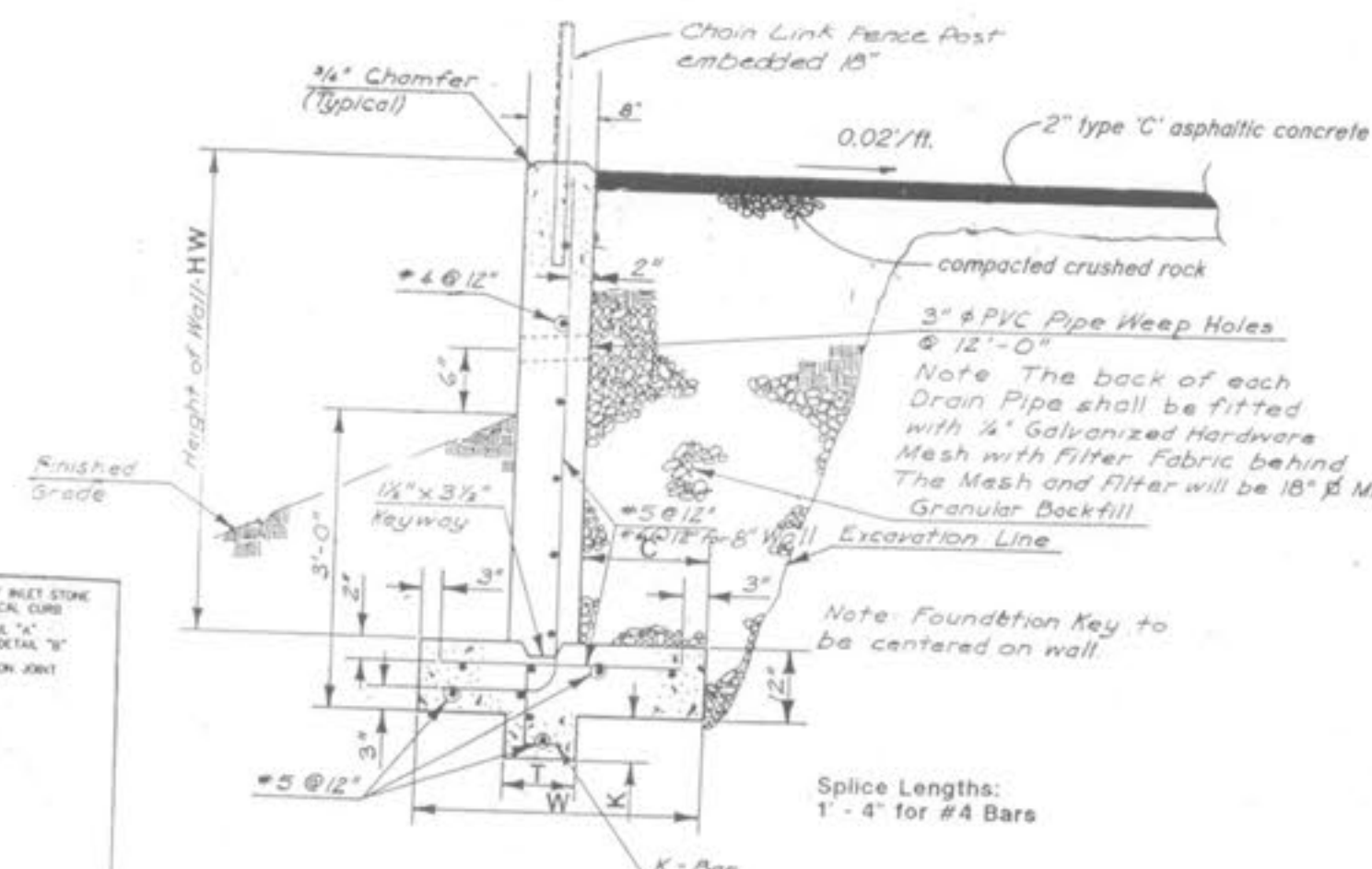


GBA GEORGE BUTLER ASSOCIATES, INC. Engineers / Architects / Landscape Architects / Planners Kansas City, Mo. / Lincoln, Mo. / O'Fallon, Mo. / Ames, Ia. / Oklahoma City, Ok.		DATE: MAY 1996
DESIGN BY: BAH		
DRAWN BY: BAH		
PROJECT NO.: 7136.01		
SHEET NO.		TOTAL SHEETS
9		9
REVISIONS		BY DATE

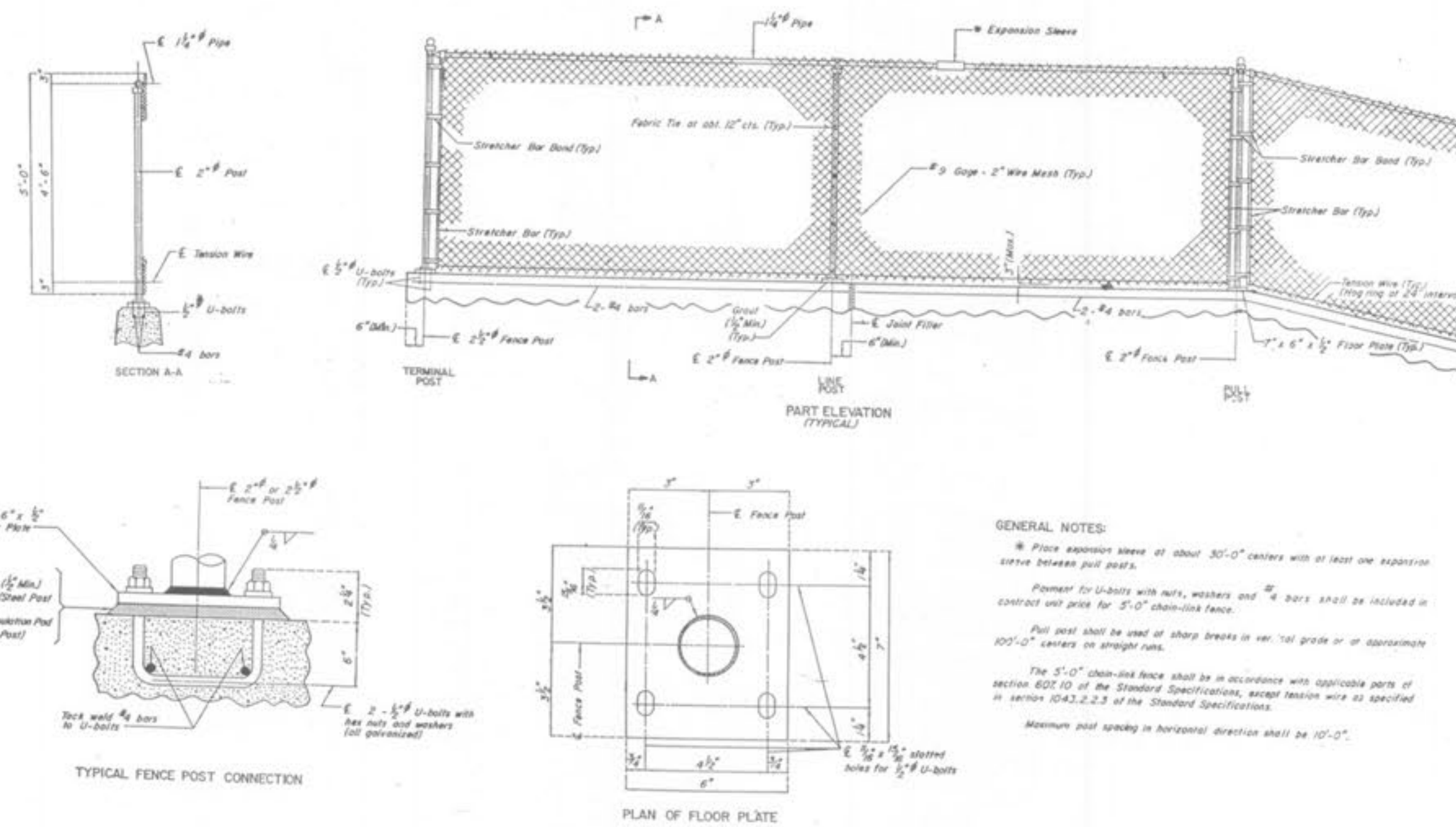
GENERAL NOTES

- All construction shall be in accordance with ADA requirements and the standards set forth by the City and construction shall be done under the supervision of the Engineer.
- All utility service lines shall be kept in service and protected during construction operations. The drawings indicate the location of known existing utility service lines as could best be determined. However, such locations are not guaranteed and the plans may not show the location of all existing utility service lines. It shall be the Contractor's responsibility to verify and locate all existing utility service lines, and notify the Engineer of any conflicts and discrepancies immediately.
- During construction, access shall be maintained for emergency vehicles and local traffic. All construction signs and traffic controls shall be in accordance with the "Manual on Uniform Traffic Control Devices" (DOT-FHWA). The fire, police and ambulance departments, school bus companies, and post office are to be notified 48 hours prior to any street blockage.
- The contractor shall do all necessary clearing preparatory to excavation for the proposed construction. The contractor shall not allow the site to become littered with trash and waste material but shall continually maintain the same in a neat and orderly condition during the process of the work to completion. The contractor shall not place any excavated material on the roadway and shall clean up all dirt from roadways and driveways and not allow the same to pack on roadways, driveways or create a traffic nuisance.
- No area shall be cleared without permission of the Engineer and the property owner unless specified on the plans.
- All property monuments disturbed during construction are to be replaced at the expense of the Contractor.
- Removal of excavated material and other miscellaneous structures shall be subsidiary to these costs.
- The Contractor shall erect and maintain such barricades, construction signs, lanterns, and guards as may be required to protect persons from injury and to avoid property damage during the construction period and until it is safe for vehicles and persons to use the facilities. All excavated material shall not be stored on the road and shall be piled in a manner that will not endanger the work and that will avoid obstructing neighboring roadways.
- All finished grades shall be within 0.2 feet of those shown on the plans. No slope shall be greater than 3:1. All disturbed soil shall be sodded on developed lots and seeded on undeveloped lots. The cost shall be subsidiary to other costs.
- All filled areas shall be compacted to 90% maximum density as determined by the "Modified AASHTO Compaction Test", (A.S.T.M. D-1557). The cost of all fill shall be subsidiary to other costs.
- Ponding water will not be permitted in any area disturbed by the construction of this project.
- The pedestrian trail shall be 3" Type 'C' asphaltic concrete on prepared subgrade.
- One set of concrete cylinders (3) shall be taken from the retaining wall by a certified laboratory approved by the Engineer. Seven (7) and twenty-eight (28) day breaks will be required. The cost shall be subsidiary to other costs.
- Concrete retaining wall shall be Class A with a minimum compressive strength of 4000 psi.
- Proper compaction techniques shall be required on the pedestrian trail subgrade to obtain 90% maximum density as determined by the "Modified AASHTO Compaction Test", (A.S.T.M. - D-1557). No compaction testing will be required, however, if the Engineer feels the subgrade has been improperly compacted he may request compaction testing. The cost for compacting and testing shall be subsidiary to other costs.
- All existing concrete to be removed must be sawcut.
- Contractor must adjust to new trail grade all pull boxes, signal boxes, water meters, valve boxes, manholes and other miscellaneous items throughout the length and width of the pedestrian trail and as required by the proposed grading. The cost shall be subsidiary to other costs.
- This project requires no excavating or filling except for what is shown on the typical sections or by the grading limits (GL) on the plan sheets. All slopes are to match the existing ground at a slope of 3:1. The cost for earthwork shall be subsidiary to other costs.
- Contractor must obtain State Highway permit.
- The asphalt pedestrian trail shall match flush to the top of all curb inlets. In no case shall the trail be paved over the top of the curb inlet unless authorized by the Engineer.
- The asphalt pedestrian trail shall match flush into the existing concrete approaches and roadways as shown on the plans. On the East side of Highway K (at all locations) and at several locations on the West side (as noted on the plan sheets), the curbs will need to be removed and the top surface of the removed curb shall match that of the existing surface. The cost in removing the curbing and restoring the finished surface shall be included in Bid Item No. 4.

CONCRETE RETAINING WALL DETAIL



RETAINING WALL FENCE DETAIL

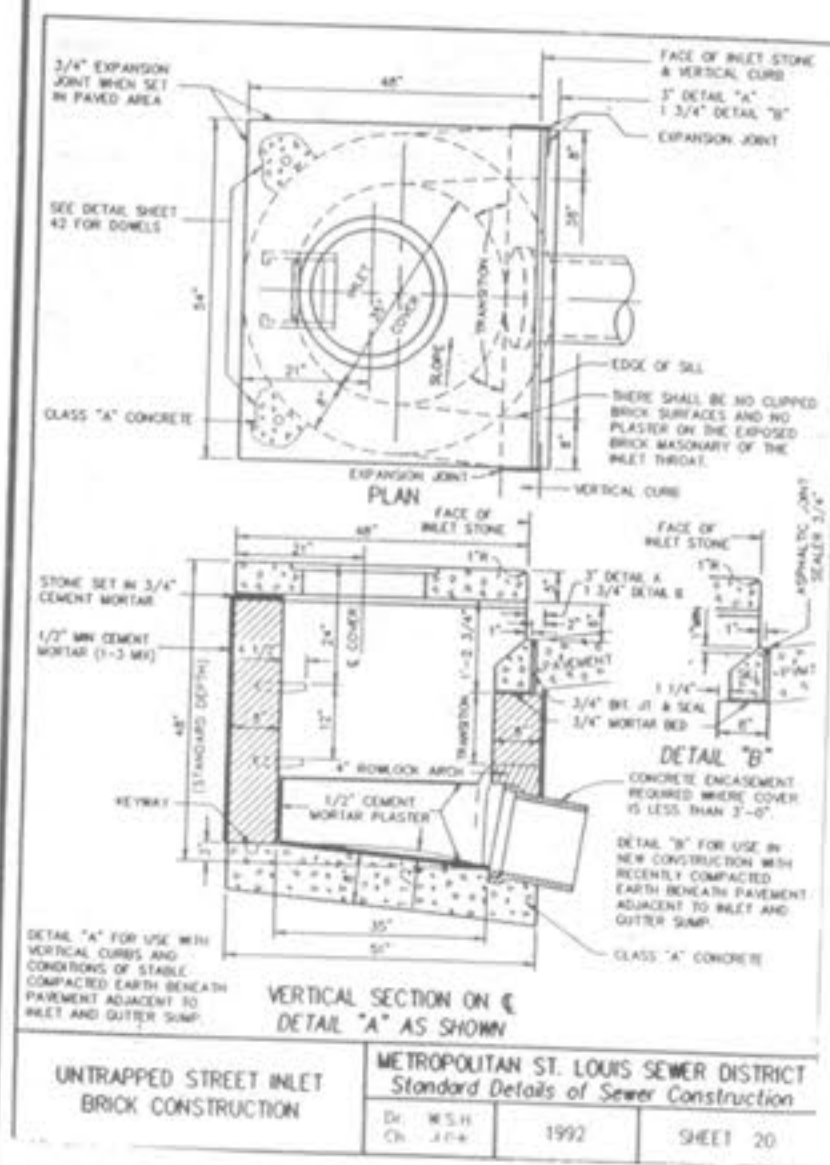


TYPICAL ROADWAY CONCRETE RETAINING WALL

N.T.S.

Height Above Base (HW)	Heel (C)	Width Of Base (W)	Key (T x K)	K - Bars Into Key (K)
3	1' - 5"	2' - 8"	in. - in.	NONE
4	2' - 0"	3' - 5"	NONE	NONE
5	2' - 6"	4' - 6"	12" x 6"	NONE
6	2' - 11"	5' - 4"	12" x 6"	NONE
7	3' - 5"	6' - 3"	12" x 12"	#4 @ 18"
8	4' - 0"	7' - 0"	12" x 12"	#4 @ 18"

SCHEDULE FOR 8" WALL THICKNESS



8/2/95