

**GENERAL NOTES**

1. All construction shall be done in accordance with the standards set forth by the City and the Engineer shall provide construction observation.
2. 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 immediately notify the Engineer of any conflicts and discrepancies.
3. 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 (MUTCD). The fire, police and ambulance departments, school bus companies, and post office shall be notified 48 hours prior to any street blockages.
4. The Contractor shall do all necessary clearing preparatory to excavation for the proposed construction. The Contractor shall not allow the site of the work to become littered with trash and waste material but shall continually maintain same in a neat and orderly condition during the process of the work to completion. The Contractor shall clean-up all dirt from roadways and driveways and not allow same to pack on roadways, driveways or create a traffic nuisance.
5. No area shall be cleared without permission of the Engineer and the property owner unless specified on the plans.
6. All property monuments disturbed during construction are to be replaced at the expense of the Contractor and shall be incidental and subsidiary to other costs.
7. All mailboxes disturbed during construction shall be relocated. Approximately 7 mailboxes will require relocation during construction. Damaged mailboxes and/or posts shall be replaced with material of similar workmanship acceptable to the property owner. The Contractor shall insure that mail service is not interrupted during construction.
8. All water meter covers (+2) and other miscellaneous structures disturbed during construction or requiring adjustment due to conflicts or grade changes as part of this project shall be adjusted or relocated by the Contractor. Payment for relocations or grade adjustments shall be incidental and subsidiary to other costs.
9. Removal, relocation, replacement and grade adjustment of fences, mailboxes and other miscellaneous structures shall be subsidiary to other costs.
10. All water line relocation is to be done by the Contractor and is to be subsidiary to other costs.
11. The Contractor shall erect and maintain such guards, construction signs, lanterns and barricades 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. No excavated material shall be stored on the streets or in a manner that will endanger the work, avoiding obstruction of the streets and driveways.
12. No slope shall be greater than 3:1. All disturbed areas within the subdivision limits shall be seeded following finish grading. All disturbed areas along Line A shall be seeded following finish grading. Seeding and sodding shall be incidental and subsidiary to other costs.
13. All trees shall be protected during construction. Extreme care shall be taken to prevent soil compaction around the roots of existing trees, and no equipment or materials shall be stored within the dripline of trees to be saved.
14. Extreme care shall be taken when excavating near trees and shrubs to be saved. Root damage shall be kept to a minimum, but when it does occur, roots shall be sawcut.
15. Class III reinforced concrete pipe shall be used under pavement.
16. All corrugated steel pipe shall be asphalt, polymer or aluminized coated; 14 gauge shall be installed under pavement. Corrugations shall be 2 2/3" X 1 1/2".
17. All PVC sanitary sewer pipe shall be SDR-35 or equal with crushed stone bedding uniformly graded between 1" and 1 1/4" size. This bedding shall extend from 8" below the pipe to 12" above the top of the pipe.
18. All sanitary sewer trench backfills shall be water jetted. Granular fill shall be used under paved areas.
19. The Engineer shall be notified at least 48 hours prior to construction of sanitary sewers for coordination and inspection.
20. Trench crossings of concrete and asphalt driveways shall be sawcut prior to excavating. Driveway pavement replacement shall consist of 8" non-reinforced concrete or 2" of asphalt surface course on 8" compacted crushed stone base, to match existing driveway type. Driveway removal and replacement shall be incidental and subsidiary to other costs.
21. Driveway culverts which conflict with sewer construction shall be replaced with like material, length and diameter.
22. Existing private water wells shall be protected from damage or disturbances during construction.
23. Water lines, valves, sleeves, meters and etc. shall meet all specifications and installation requirements of Water District No. 2.
24. If any existing fences are disturbed during construction, they shall be restored with like materials and workmanship acceptable to the property owner.
25. All filled places under proposed sanitary sewer lines, and/or paved areas including trench backfills shall be compacted to 95% of maximum density as determined by the Modified A.C.S.H.C. 1-190 Compaction Test (ASTM D-1557). All tests will be verified by a Soils Engineer.
26. The contractor shall acquire a permit from the St. Charles County Highway Department prior to excavating, trenching or boring in any street right-of-way.

**PLANS FOR  
GENERAL CONSTRUCTION OF**

**GREENBRIAR AND  
BRYAN MEADOWS  
SUBDIVISIONS**

**SANITARY SEWERS**

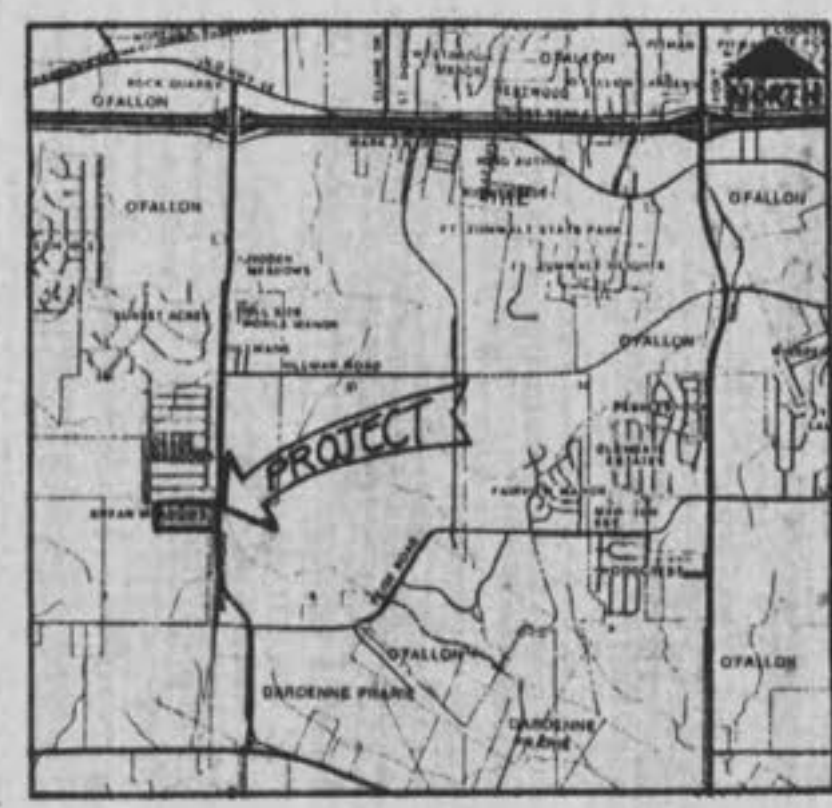
**FOR THE  
CITY OF O'FALLON, MISSOURI**

**UTILITIES**

CUIVRE RIVER ELECTRIC	272-6100
WATER DISTRICT NO. 2	625-3737
CITY OF O'FALLON SEWERS	281-2858
LACLEDE GAS	535-7000
GTE TELEPHONE	1-800-344-7483
TCI CABLEVISION	279-1222

**INDEX TO SHEETS**

TITLE	SHEET NO.
TITLE SHEET	1
PLAN SHEET	2
PROFILE SHEET	3 - 3A
CONSTRUCTION DETAILS	4



**LOCATION MAP**

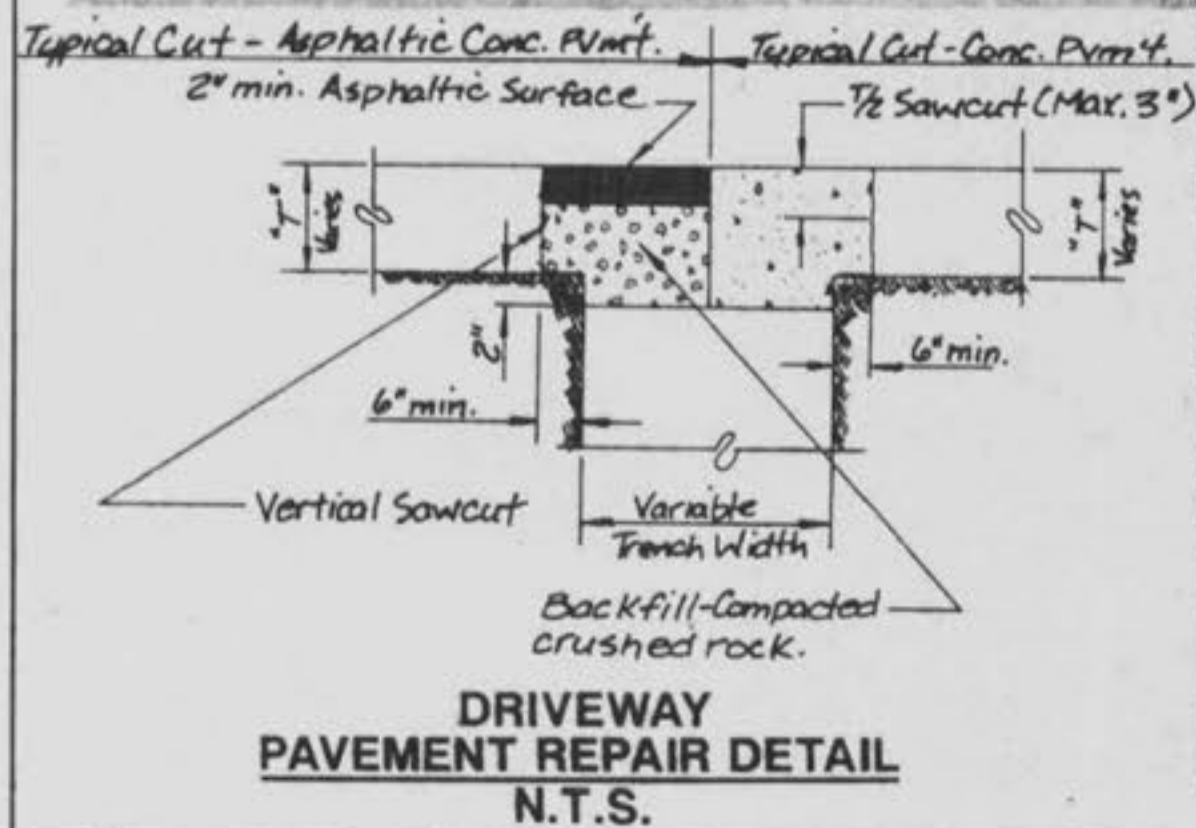
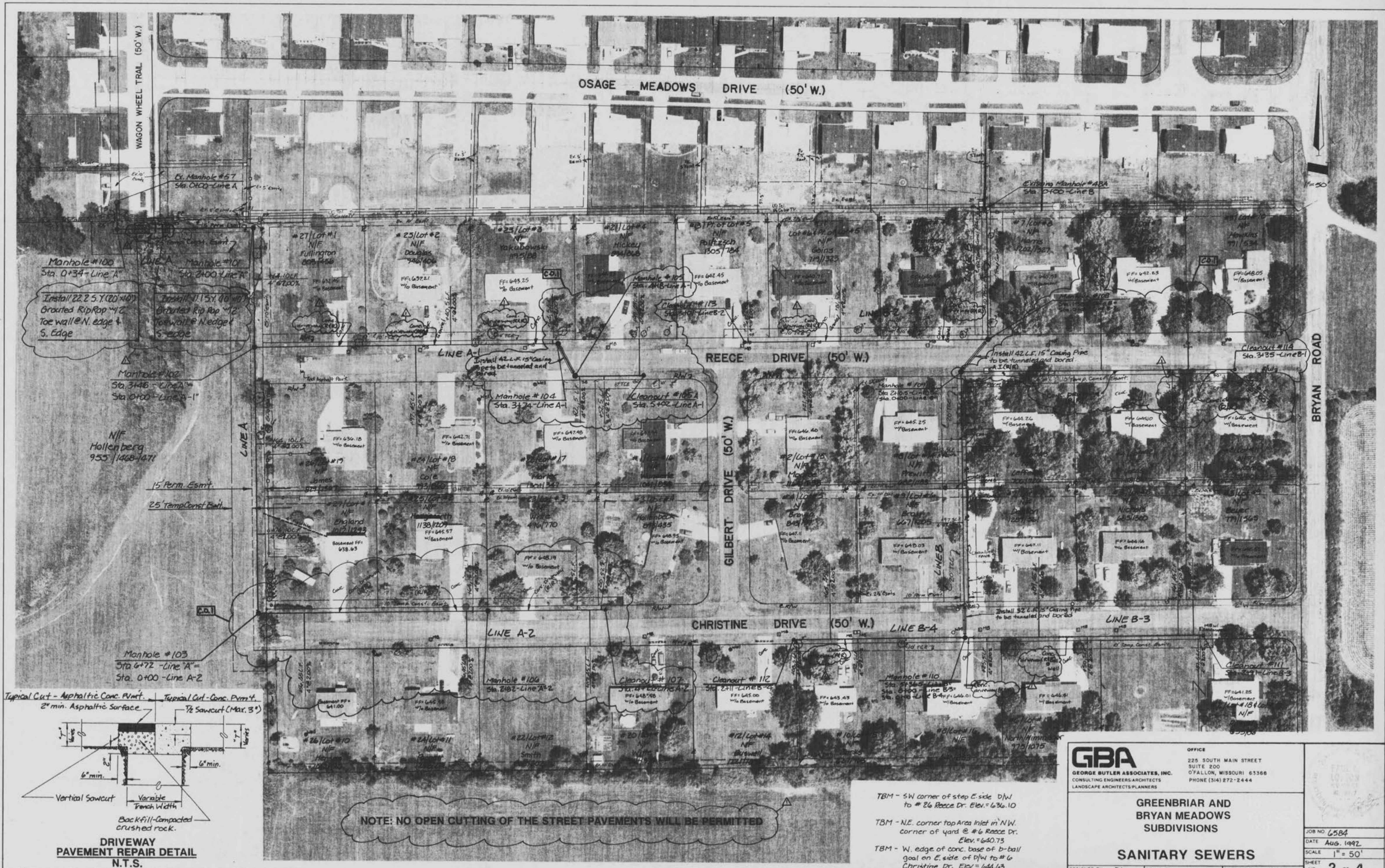
*A5-BUILT, 11-12-93, by J.G.*



**GBA**

**GEORGE BUTLER ASSOCIATES, INC.**  
Engineers / Architects / Landscape Architects / Planners  
Kansas City, Mo. / Lenexa, Ks. / O'Fallon, Mo. / Ames, Ia. / Oklahoma City, Ok.

*Revised 11-6-92 - Change Order #1-J.G. Rev. 9-19-92 - Addendum No. 1 -J.G.*



**NOTE: NO OPEN CUTTING OF THE STREET PAVEMENTS WILL BE PERMITTED**

- TBM - SW corner of step E. side DW to #26 Reece Dr. Elev. = 636.10
- TBM - NE. corner top Area Inlet in N.W. corner of yard @ #6 Reece Dr. Elev. = 640.75
- TBM - W. edge of conc. base of b-ball goal on E. side of DW to #6 Christine Dr. Elev. = 646.63

**GBA**  
 GEORGE BUTLER ASSOCIATES, INC.  
 CONSULTING ENGINEERS/ARCHITECTS  
 LANDSCAPE ARCHITECTS/PLANNERS

OFFICE  
 225 SOUTH MAIN STREET  
 SUITE 200  
 O'FALLON, MISSOURI 63368  
 PHONE (314) 272-2444

**GREENBRIAR AND BRYAN MEADOWS SUBDIVISIONS**

**SANITARY SEWERS**

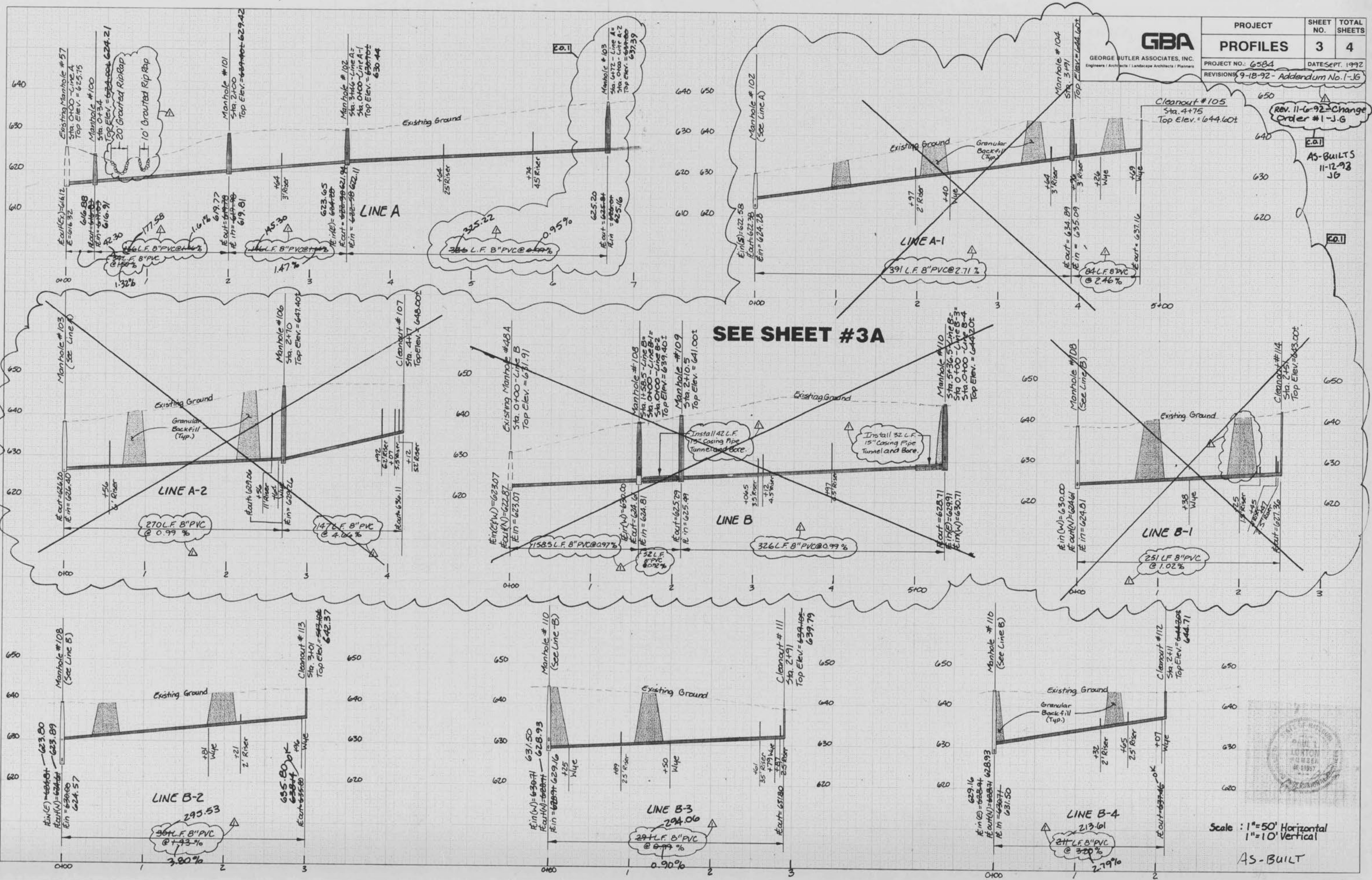
DESIGNED BY PL DRAWN BY JG CHECKED BY GRH

JOB NO. 6584  
 DATE Aug. 1992  
 SCALE 1" = 50'  
 SHEET NO. 2 OF 4



GEORGE BUTLER ASSOCIATES, INC.  
Engineers / Architects / Landscape Architects / Planners

PROJECT	SHEET NO.	TOTAL SHEETS
PROFILES	3	4
PROJECT NO.: 6584	DATE: SEPT. 1992	
REVISIONS: 9-18-92 - Addendum No. 1-JG		



SEE SHEET #3A

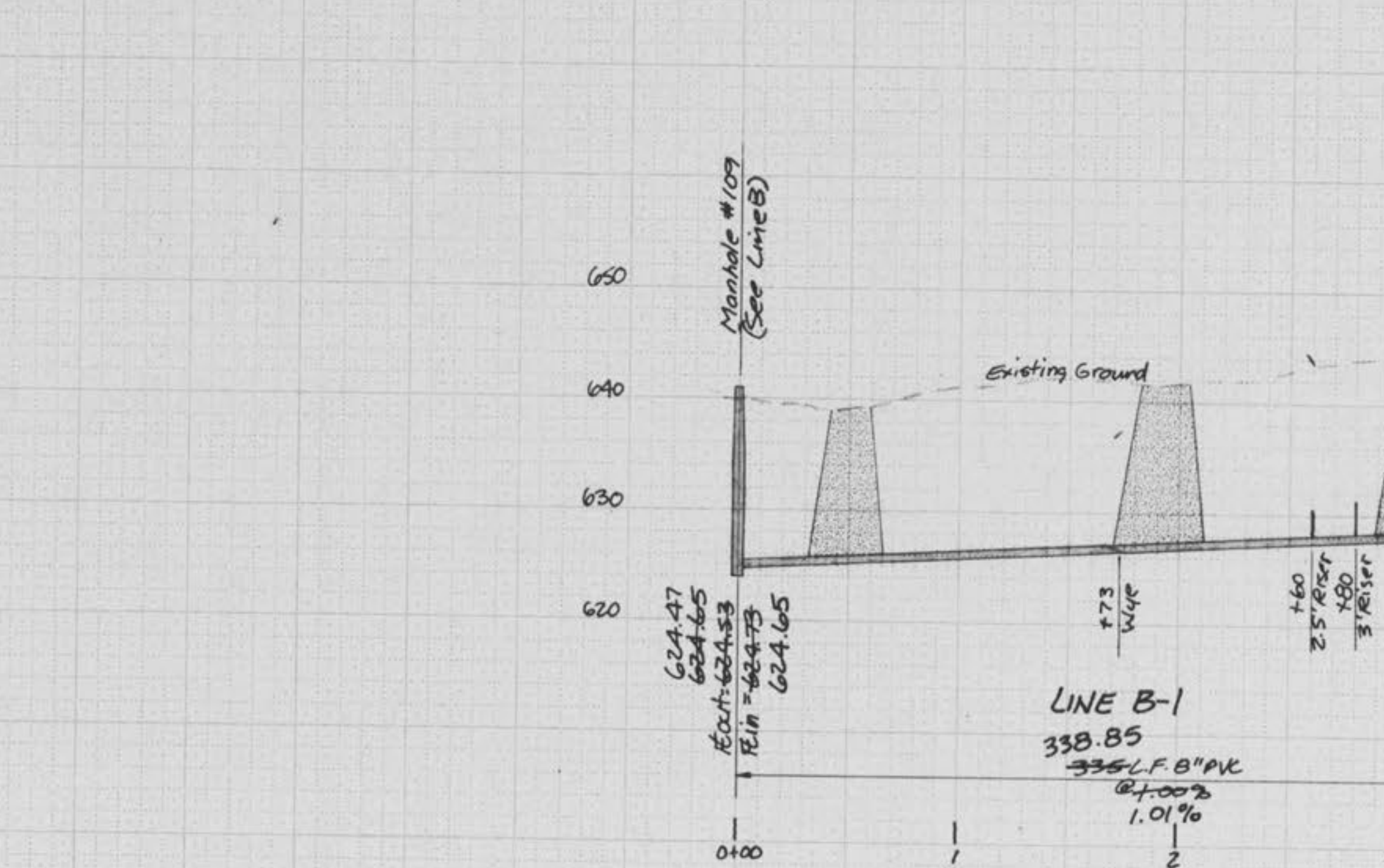
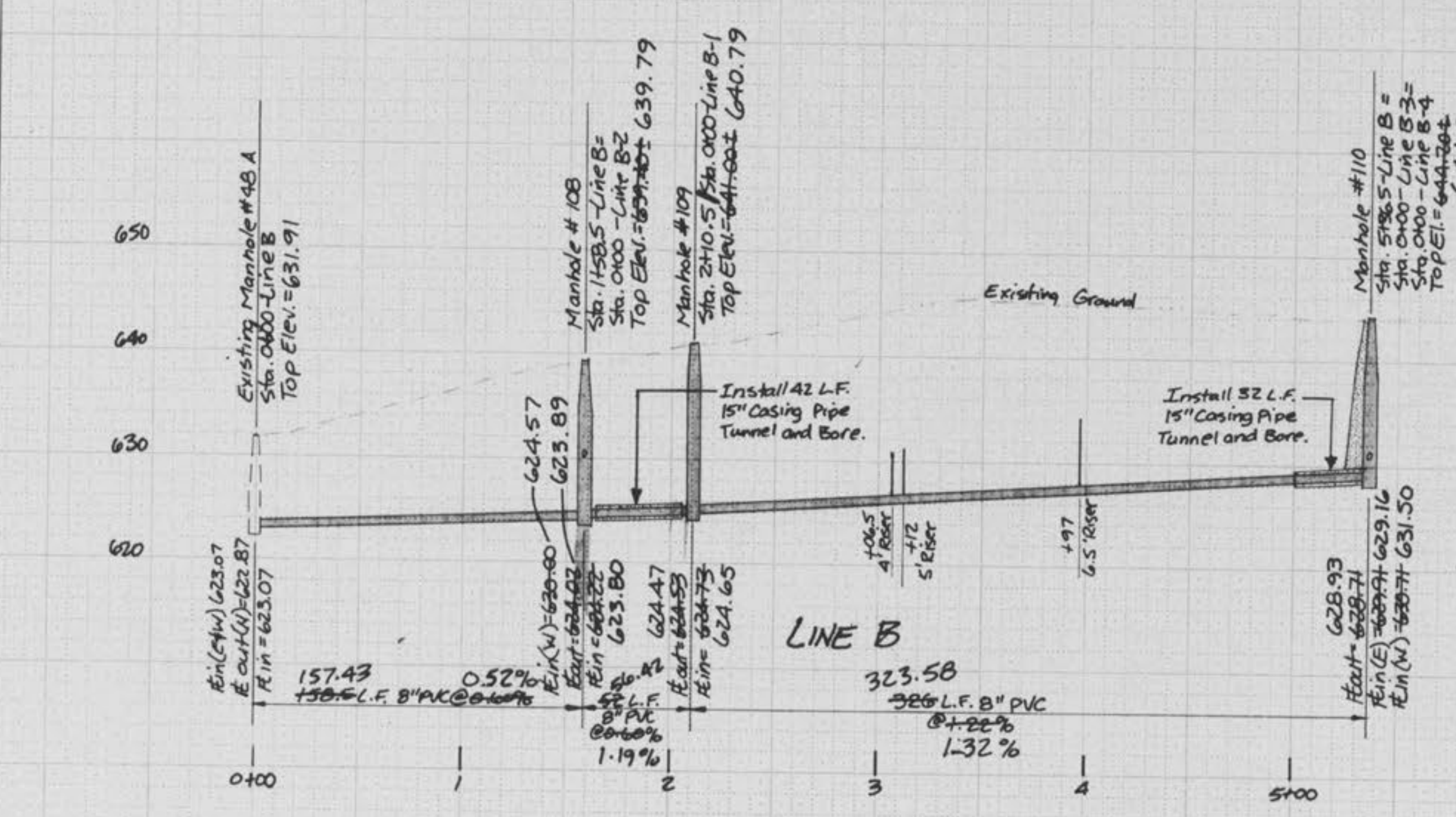
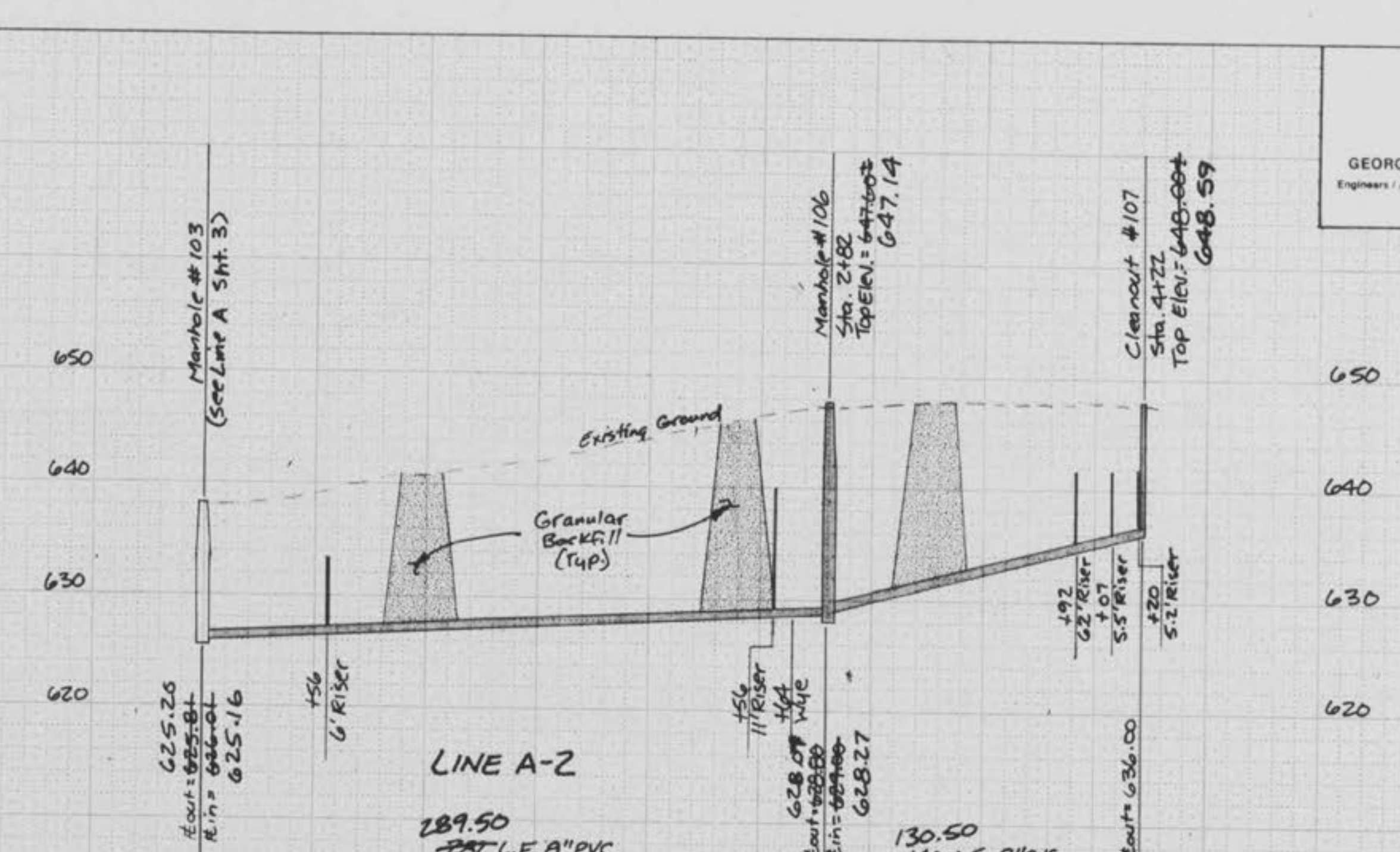
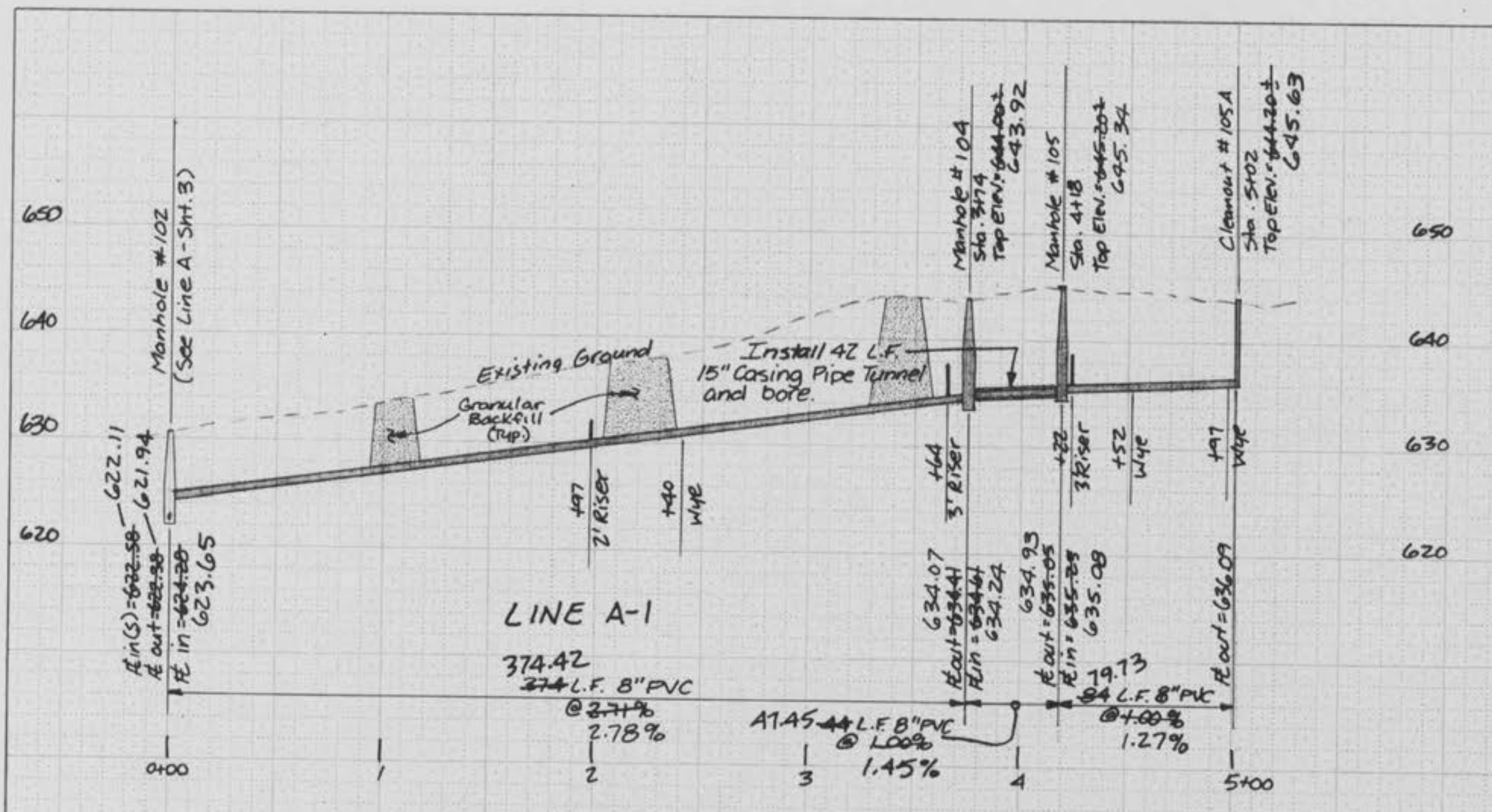
REV. 11-6-92 - Change Order #1-J.G  
AS-BUILTS 11-12-92 JG



Scale: 1"=50' Horizontal  
1"=10' Vertical  
AS-BUILT

<b>GBA</b> GEORGE BUTLER ASSOCIATES, INC. <small>Engineers / Architects / Landscape Architects / Planners</small>	PROJECT	SHEET NO.	TOTAL SHEETS
	PROFILES	3A	
	CHANGE ORDER #1		
	PROJECT NO.:	DATE:	
REVISIONS:			

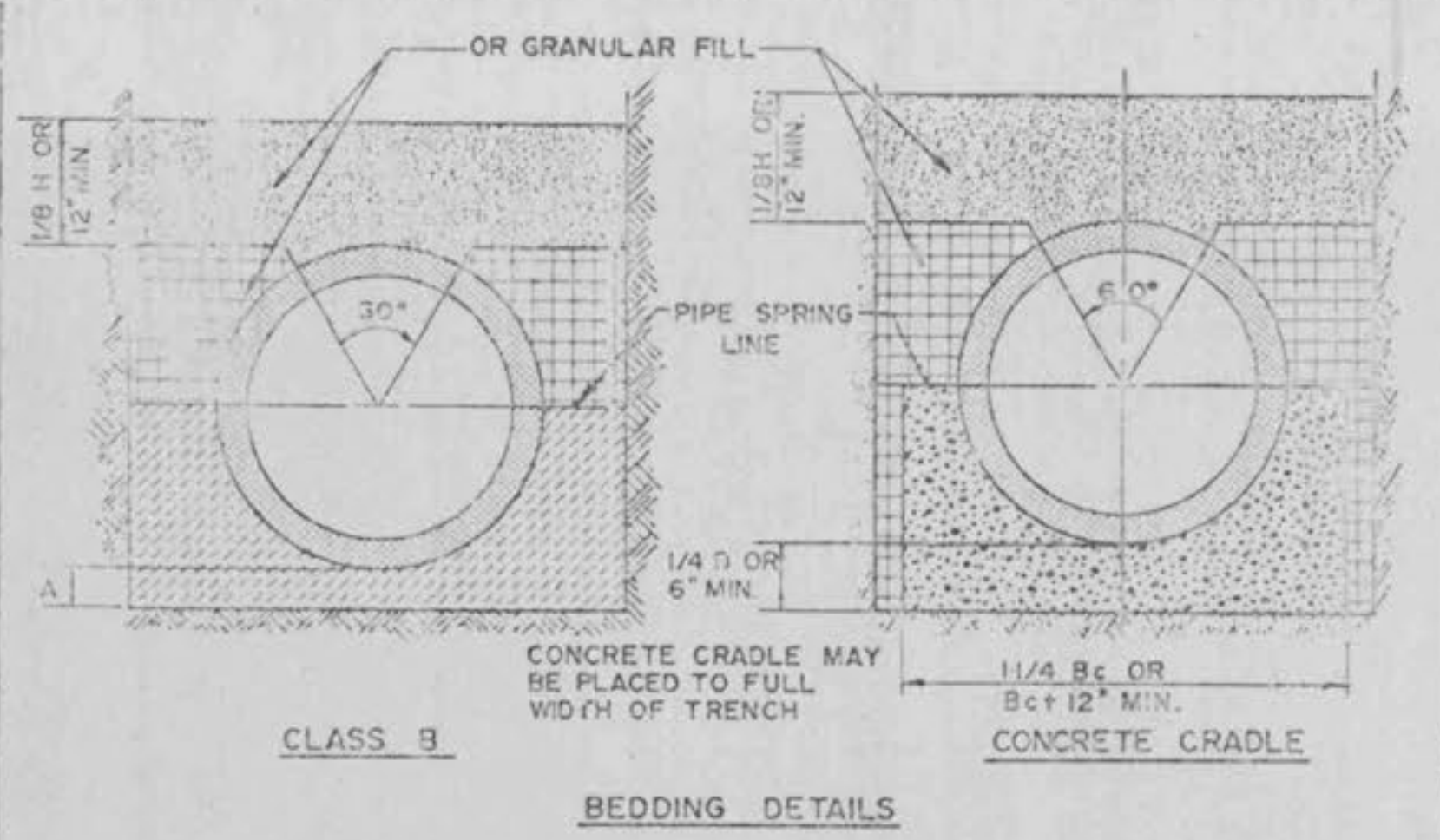
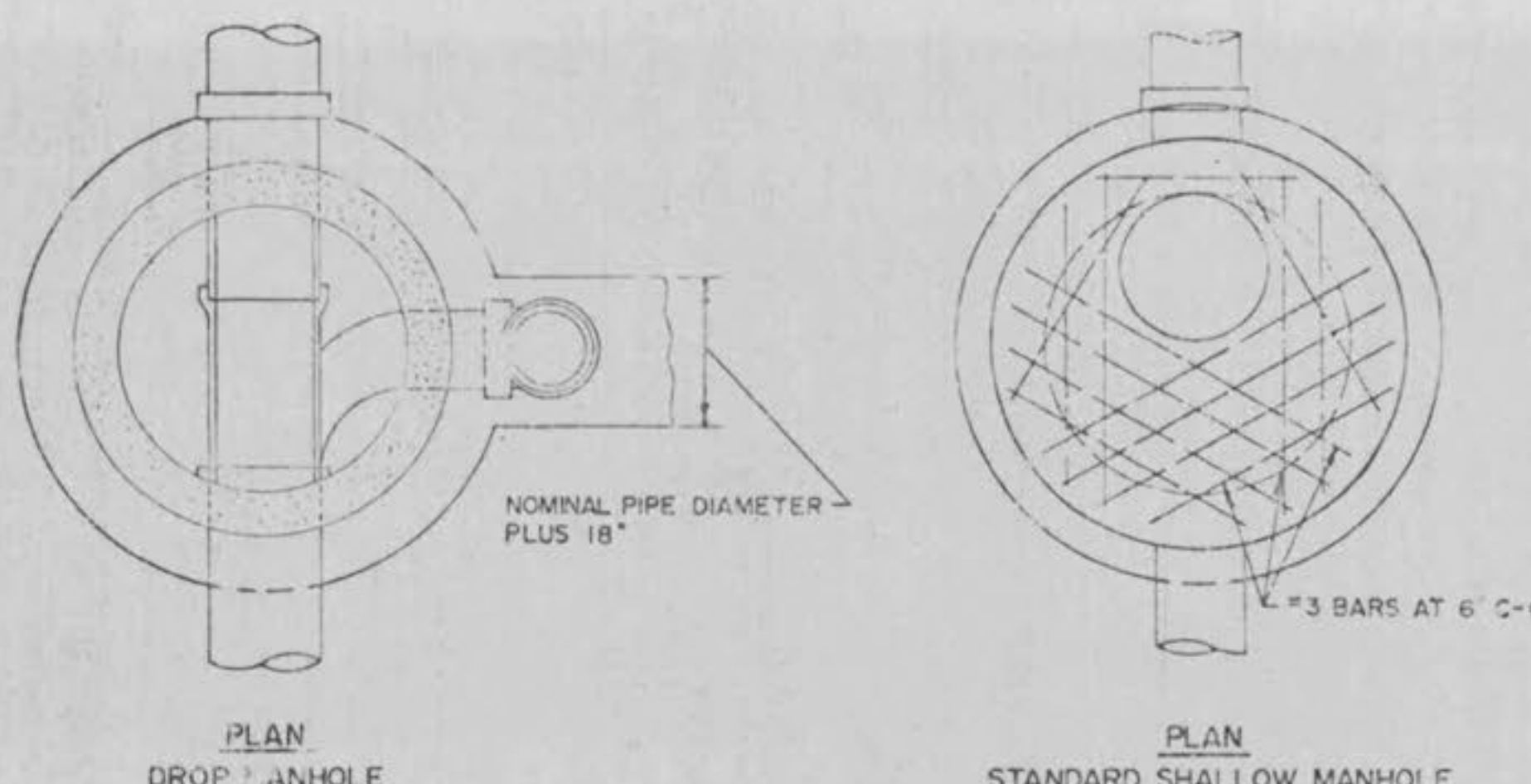
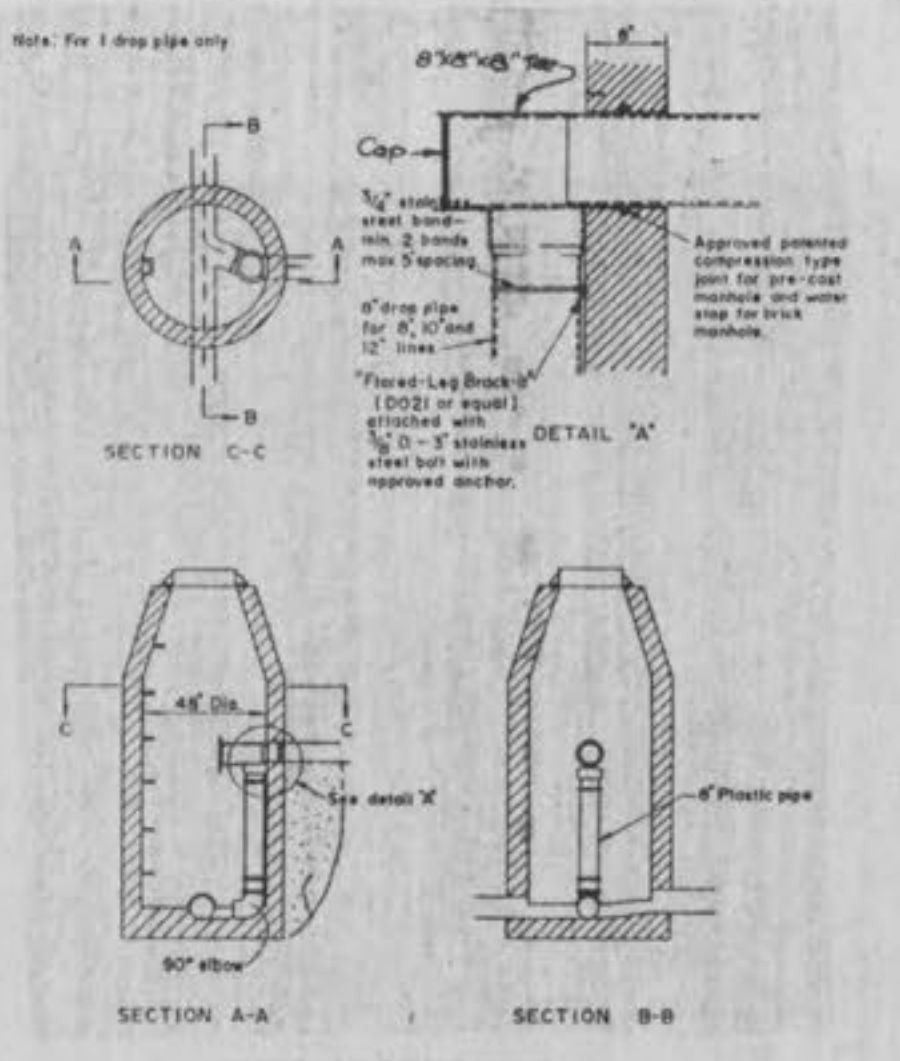
AS-BUILT, #12-93, J.G.



Scale: 1" = 50' Horiz.  
1" = 10' Vert.

AS-BUILT

WALL THICKNESS		MANHOLE BASE THICKNESS	
DIA. M.H.	1" DIM. PRECAST	DEPTH (FEET)	"D" DIM.
48"	5"	0-20	8" w/ #4 BARS @ 12" CTRS. EACH WAY
60"	6"	20-30	8" w/ #4 BARS @ 9" CTRS. EACH WAY
72"	7"	30-40	10" w/ #5 BARS @ 10" CTRS. EACH WAY

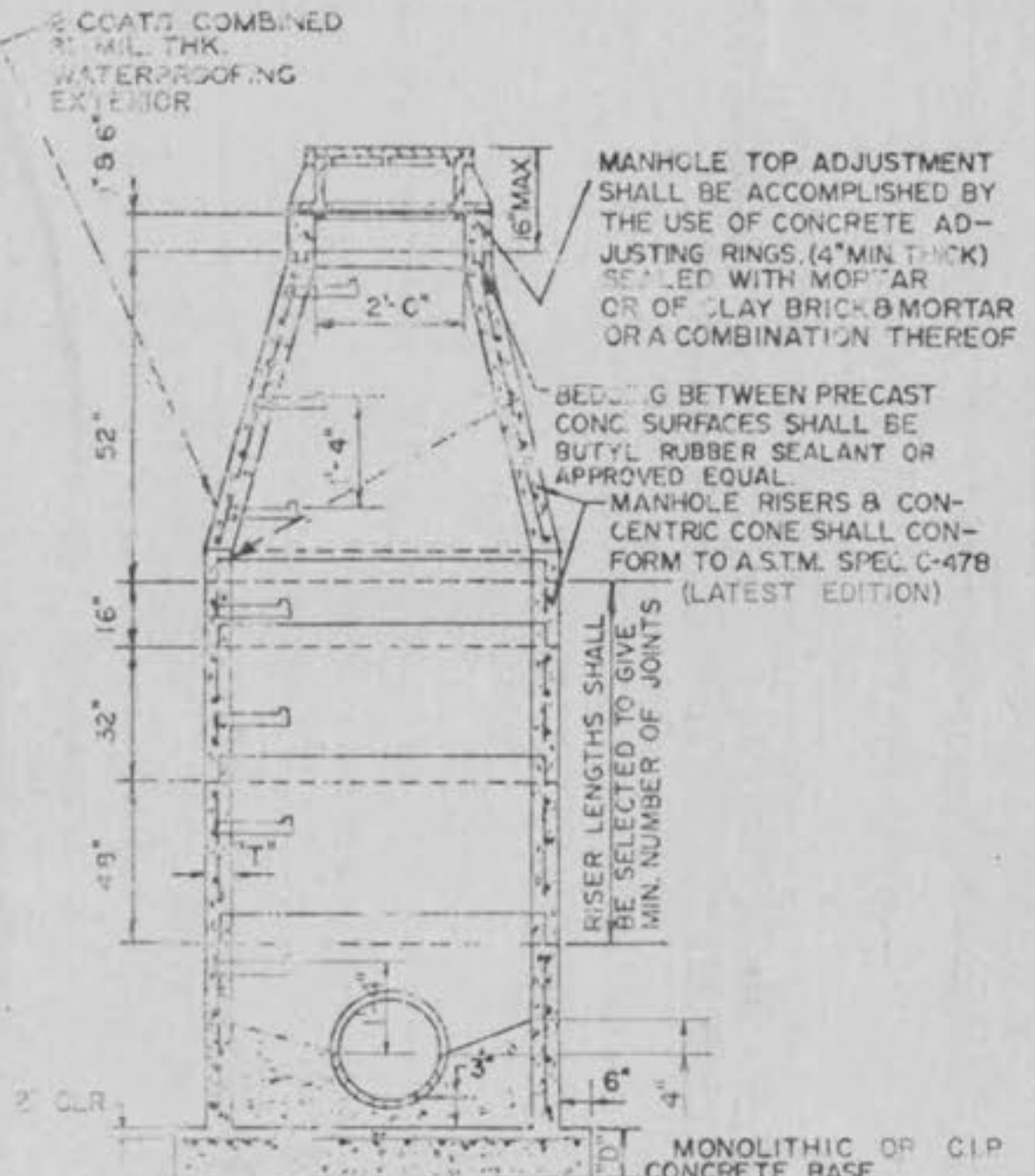


**LEGEND:**

- Bc OUTSIDE DIA. OF PIPE
- H BACKFILL COVER ABOVE TOP OF PIPE
- D NOMINAL PIPE SIZE
- A FILL BELOW PIPE (SEE TABLE BELOW)

**TABLE OF FILL BELOW PIPE**

D	A MIN.
27" & SMALLER	3"
30" TO 60"	4"
66" & LARGER	6"

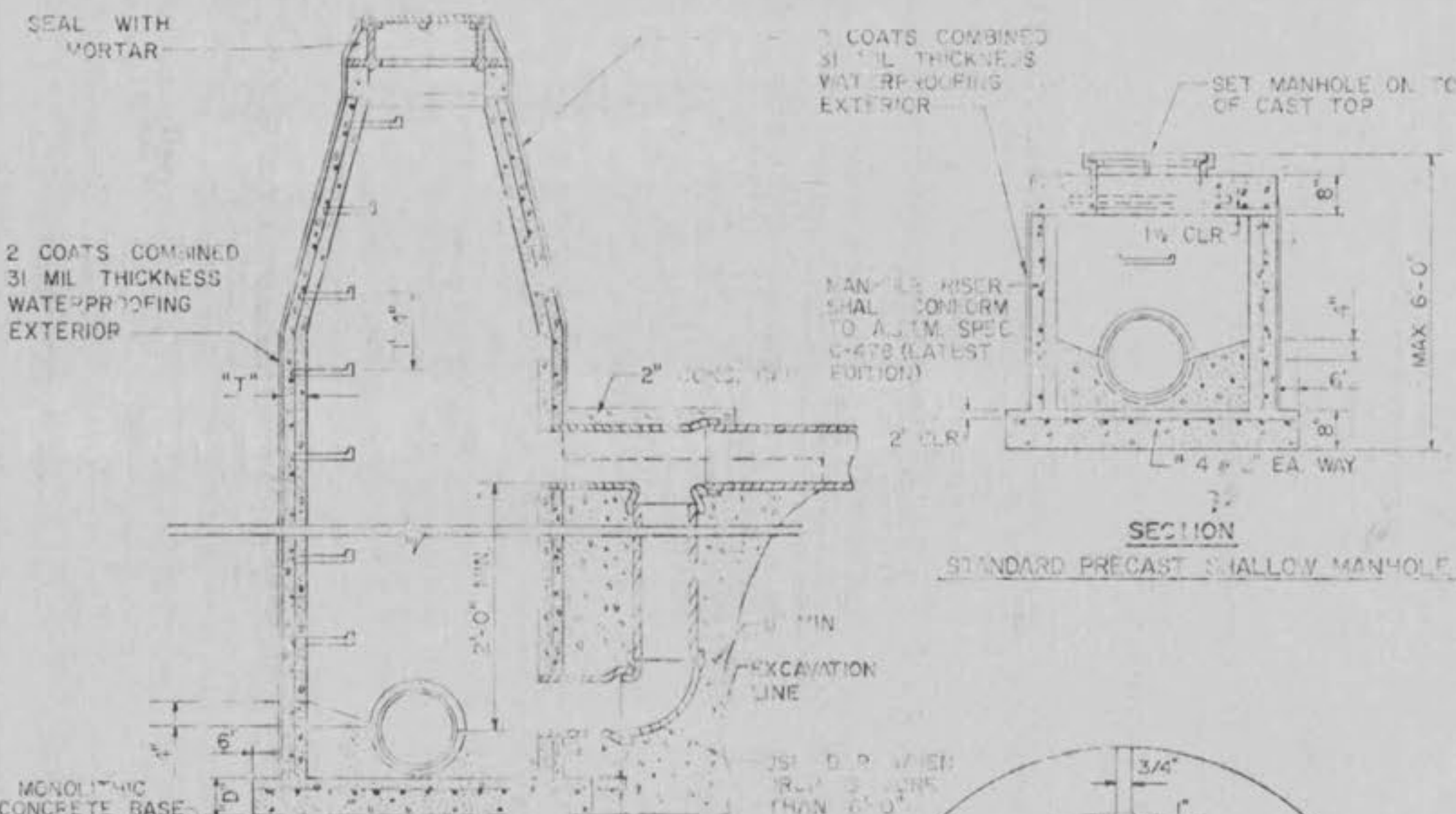


MANHOLE TOP ADJUSTMENT SHALL BE ACCOMPLISHED BY THE USE OF CONCRETE ADJUSTING RINGS (4" MIN. THICK) REINFORCED WITH MORTAR OR OF CLAY BRICK & MORTAR OR A COMBINATION THEREOF.

BEDDING BETWEEN PRECAST CONC. SURFACES SHALL BE BUTYL RUBBER SEALANT OR APPROVED EQUAL.

MANHOLE RISERS & CONCENTRIC CONE SHALL CONFORM TO A.S.T.M. SPEC. C-478 (LATEST EDITION).

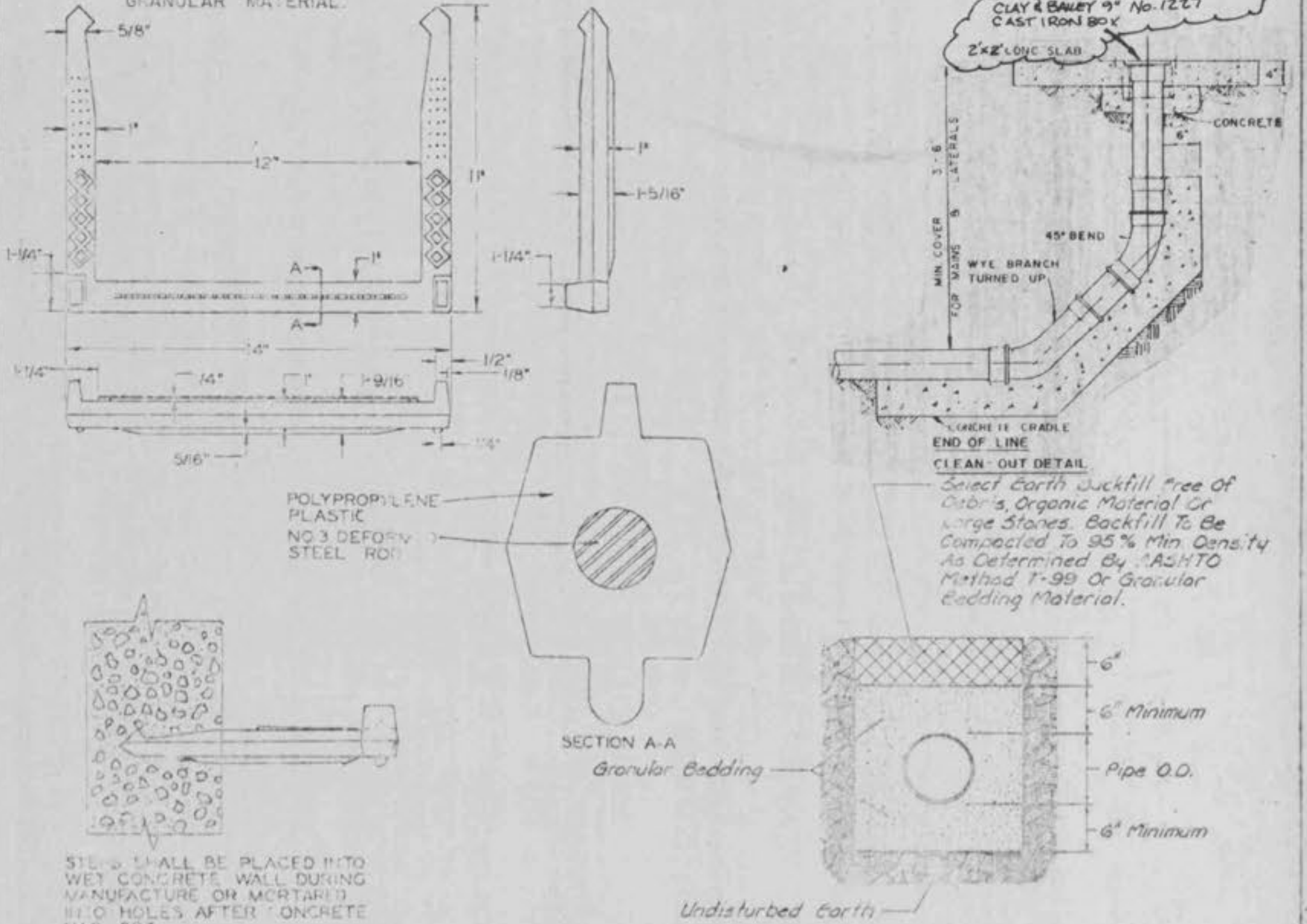
RISER LENGTHS SHALL BE SELECTED TO GIVE MIN. NUMBER OF JOINTS.



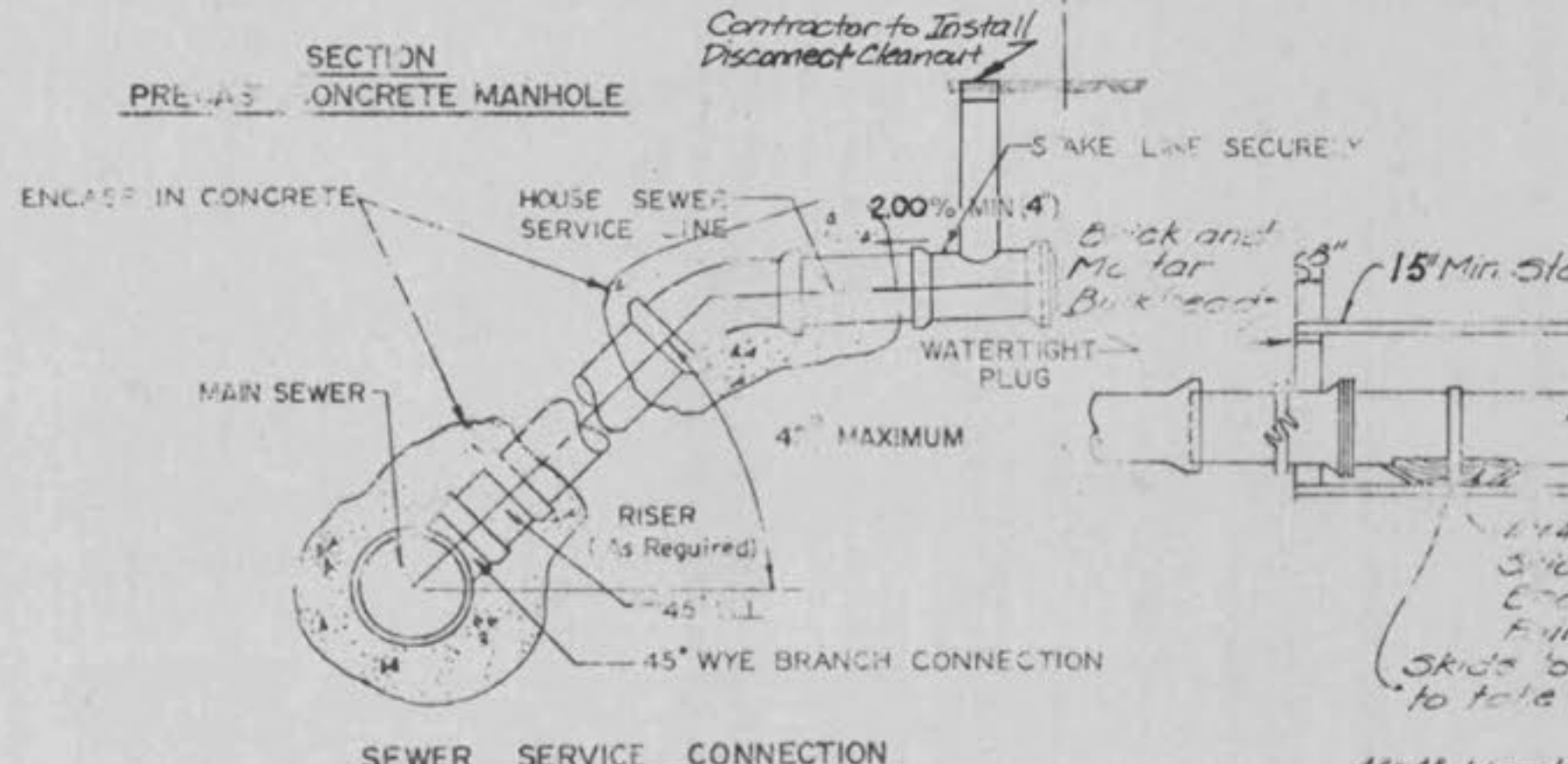
2 COATS COMBINED 31 MIL THICKNESS WATERPROOFING EXTERIOR.

MANHOLE RISER SHALL CONFORM TO A.S.T.M. SPEC. C-478 (LATEST EDITION).

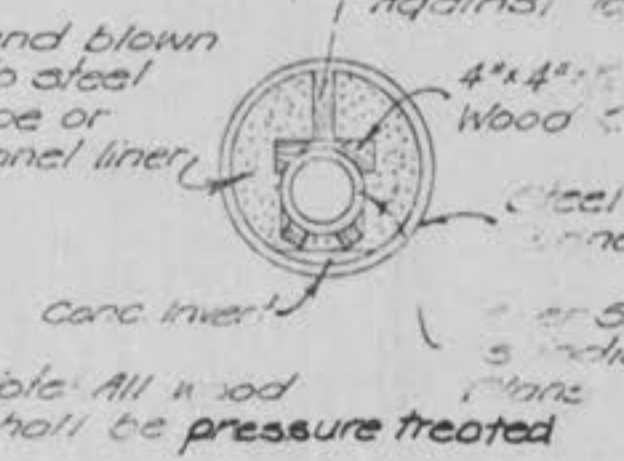
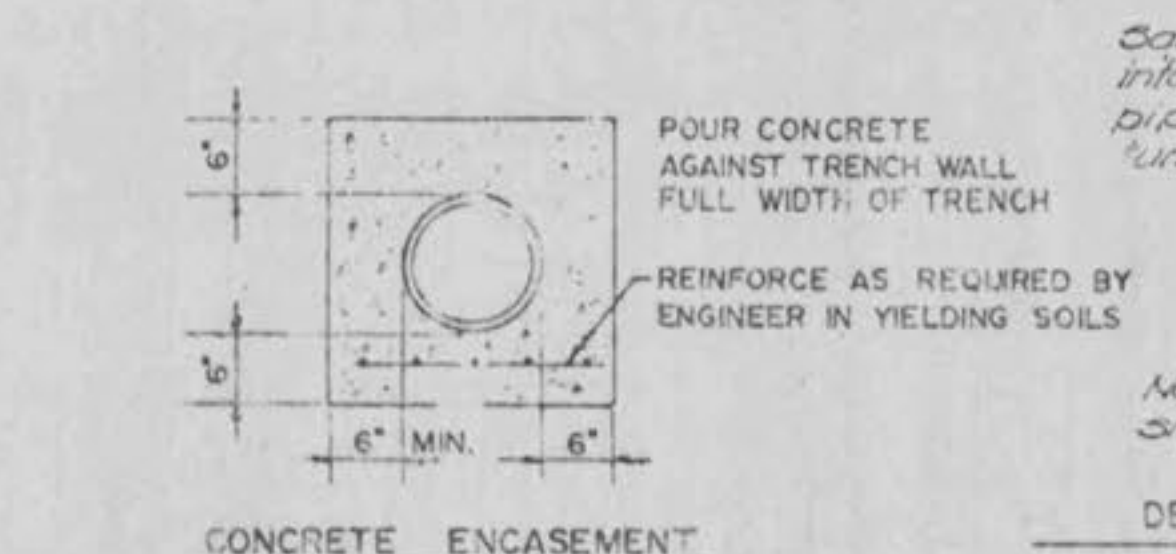
- NOTES:**
- GRANULAR FILL TO BE CRUSHED STONE OR PEA GRAVEL WITH NOT LESS 95% PASSING 1/2" AND NOT LESS THAN 95% TO BE RETAINED ON A #4, TO BE PLACED IN NOT MORE THAN 6" LAYERS AND COMPACTED BY SLIPING WITH A SHOVEL (1/2" & #4 REFERS TO SIEVE SIZE).
  - TAMPED BACKFILL SHALL BE FINELY DIVIDED JOB EXCAVATED MATERIAL FREE FROM DEBRIS, ORGANIC MATERIAL AND STONES, COMPACTED TO 95% MAXIMUM DENSITY AS DETERMINED BY A.S.H.T.O. STANDARD METHOD T-99. GRANULAR FILL MAY BE SUBSTITUTED FOR TAMPED BACKFILL TO TOP OF THE PIPE.
  - TAMPED PLACED BACKFILL SHALL BE FINELY DIVIDED MATERIAL FREE FROM DEBRIS AND STONES.
  - ALL BEDDING DETAILS APPLY TO BUILDING SEWER SERVICE LINES AS WELL AS OTHER SEWERS.
  - CONCRETE CRADLE SHALL BE USED WHEN TRENCH WIDTH EXCEEDS 24" PLUS THE PIPE DIAMETER.
  - PVC PIPE SHALL BE BEDDED IN ACCORDANCE WITH ASTM D 2321 USING CLASS B (3/4" TO 1/4") GRANULAR MATERIAL.



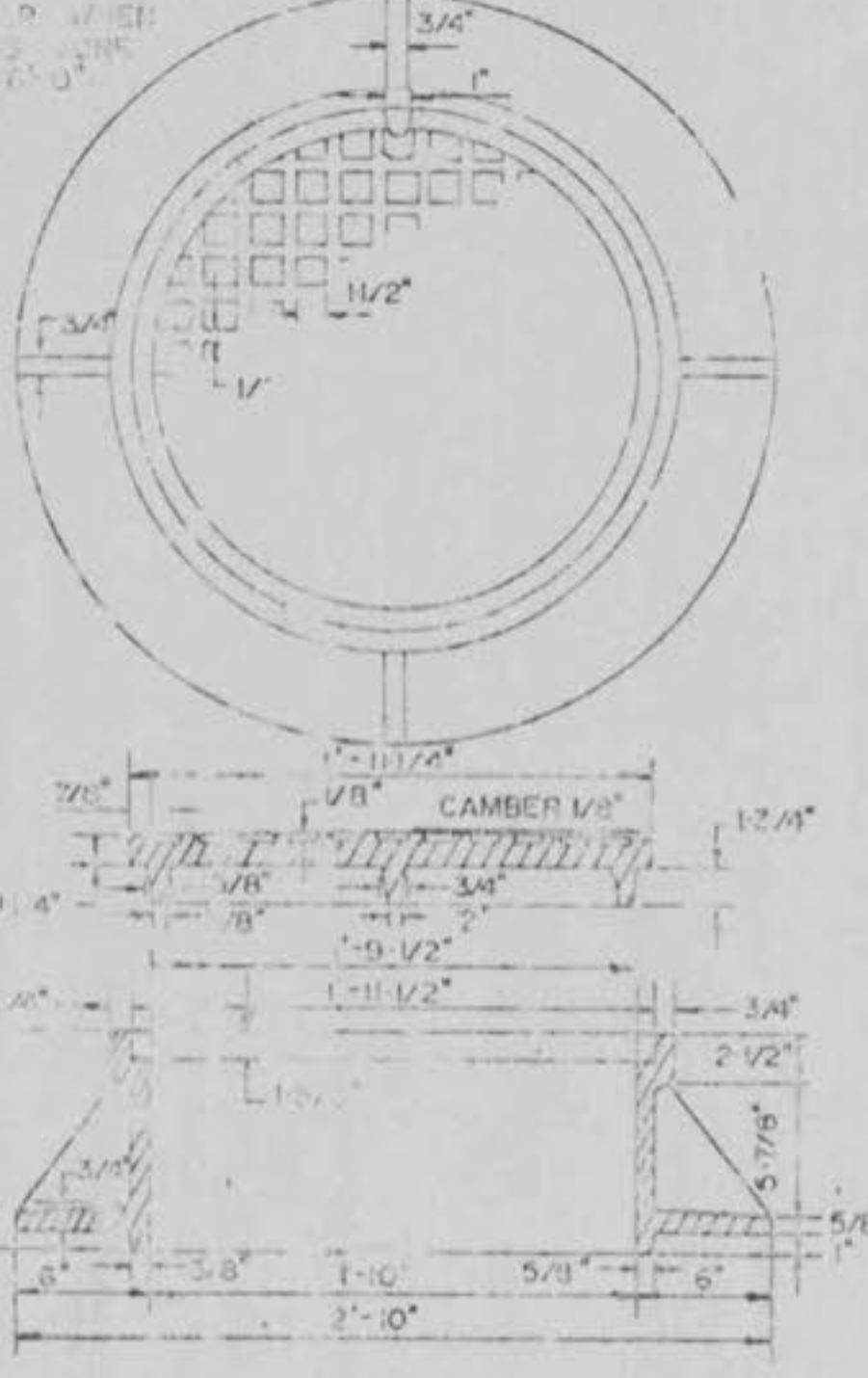
CLEAN-OUT DETAIL: Backfill Earth backfill free of debris, organic material or large stones. Backfill to be compacted to 95% min. density as determined by A.S.H.T.O. Method T-99 or Granular Bedding Material.



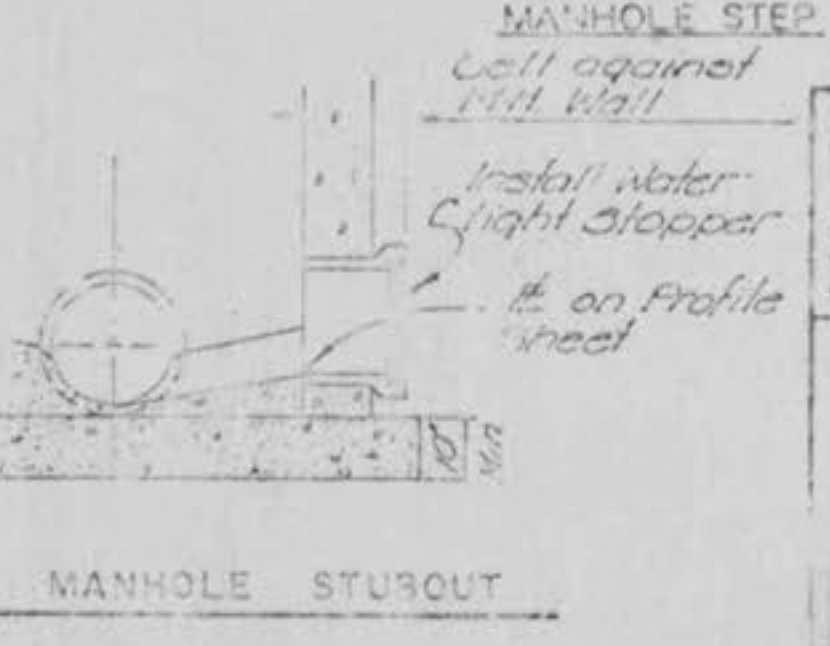
- NOTES:**
- ANY MATERIAL EXCAVATED BENEATH PIPE ENTERING OR LEAVING MANHOLES SHALL BE REPLACED WITH CONCRETE.
  - ALL MANHOLE RINGS AND ADJUSTING RINGS SHALL BE SET IN MORTAR.
  - INSIDE DIAMETER OF MANHOLE TO BE 4" O.D. FOR PIPE 2" & SMALLER, 5" O.D. FOR PIPE 2 1/2" & 3", 6" O.D. FOR PIPE 3" & 4", 8" O.D. FOR PIPE 4" & 6".
  - PLASTERING OF INSIDE OF MANHOLES SHALL BE THE OPTION OF THE CONTRACTOR.
  - ALL SEWERS EXTENDING FROM MANHOLES SHALL BE SUPPORTED WITH CONCRETE TO FIRST JOINT.
  - CONTRACTOR SHALL BE RESPONSIBLE FOR CONCRETE ENCASEMENT AROUND PIPE AS SHOWN IN DETAIL.
  - LAMP LINES, CABLES AND WATER INSTALLATION OF CONCRETE ENCASEMENT.
  - PRECAST MANHOLE SHALL BE WATERPROOFED OUTSIDE.
  - ALL CONCRETE MANHOLES TO HAVE RUBBER GASKET ON ALL PIPE OPENINGS.



DETAIL OF CROSSING IN CONDUIT



STANDARD MANHOLE RING AND COVER  
 CLAY & BAILEY - NO 2008  
 LEVIR - R-1736  
 RILEY - 1315  
 OR EQUAL



MANHOLE STEP  
 CURB AGAINST FILL WALL  
 INSTALL WATER-TIGHT STOPPER AS SHOWN ON PROFILE SHEET

**GREENBRIAR AND BRYAN MEADOWS SUBDIVISIONS**

**CONSTRUCTION DETAILS**

JOB NO. 6584  
 DATE: SEPT 1992  
 SCALE: AS SHOWN  
 SHEET: 4 OF 4

PL DRAWN BY JG  
 REV. 9-18-92 - Addendum No. 1-JB

AS-BUILT, 11-12-93, JG

AS-BUILT