

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

GUE-70-(17.36-17.39)

OHIO

FHWA
REGION 5

1

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I-70-7(64) 194

FEDERAL
PROJECT

I-70-7(64) 194

WATER MAIN-ROADSIDE REST AREA NO. 28

GUE-70-(17.36-17.39)

WILLS TOWNSHIP
GUERNSEY COUNTY

MICROFILMED
JUN 18 1967

CONVENTIONAL SIGNS

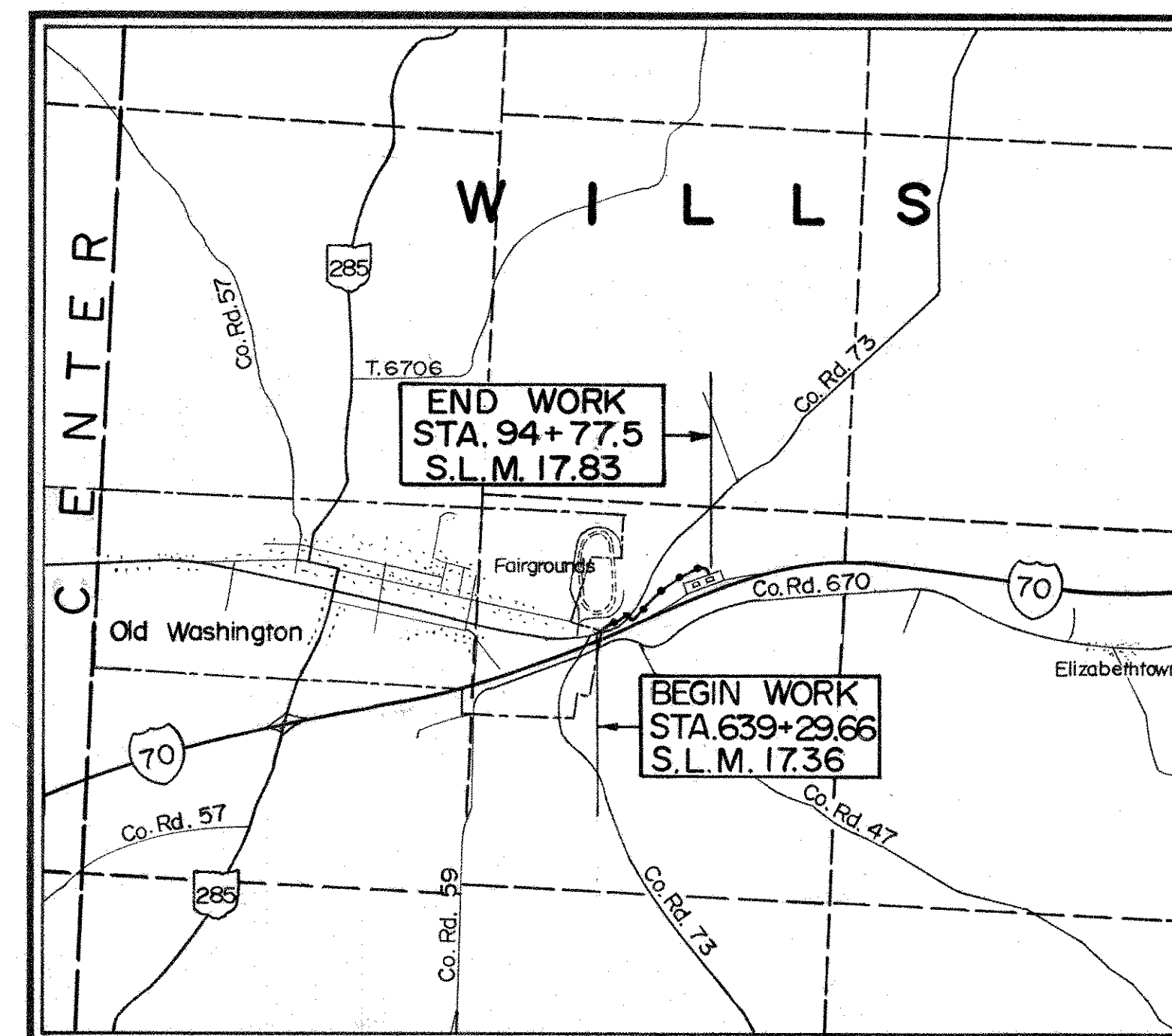
Township Line
Section Line
Corporation Line
Fence Line (existing)
Center Line
Utility Poles: Power

Limited Access (Exist.)
Right of Way (Exist.)
Limited Access & Right of Way (Exist.)
Guardrail (existing)

INDEX OF SHEETS

Title Sheet
General Notes, General Summary
Details
Material List
Plan and Profile

1
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2-4
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6-8



LOCATION MAP

SCALE IN FEET
0 2000 4000 6000 8000

Portion to be improved
State & Federal Routes
Other Roads

SCALES

Plan
Profile: Horizontal Vertical

SUPPLEMENTAL SPECIFICATIONS	
814	1-1-69
803	1-22-76
1001	4-19-76

LINE DATA

BEGIN WORK STA. 639+29.66
(Station Equation) STA. 657+59.78 (B)=STA. 87+82.74 (A)

END WORK STA. 94+77.5

NET LENGTH OF WORK 2524.88 Lin. Ft. or 0.478 Miles

NET LENGTH OF PROJECT 0.00 Lin. Ft. or 0.000 Miles

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS

F-2	5-1-76				
MC-3	6-1-73				
MC-4	7-26-76				
L-1	6-1-73				

1975 SPECIFICATIONS

The standard specifications of the State of Ohio, Department of Transportation, including changes and supplemental specifications listed in the proposal shall govern this improvement.

The right of way for this improvement will be provided by the State of Ohio.

I hereby approve these plans and declare that the making of this improvement will not require the closing to traffic of the highway and that provisions for the maintenance and safety of traffic will be as set forth on the plans and estimates.

Approved Ernest Hillman
Date 7/13/76 District Deputy Director of Transportation

Approved
Date Engineer, Bureau of Bridges

Approved W. J. Cunningham
Date 9-2-76 Engineer, Bureau of Roadway Design

Approved John B. Ellis
Date 9-2-76 Assistant Deputy Director for Highway Design

Approved Lucretia B. Bunting
Date 9/2/76 Assistant Deputy Director for Real Estate

Approved Howard E. Nolan
Date 9/2/76 Assist. Dep. Director for Program Development

Approved Richard C. Cotton
Date 9-2-76 Chief Engineer, Design

Approved
Date Chief Engineer, Construction

Approved Thomas J. Harwood
Date 9-2-76 Chief Engineer, Operations

Approved David L. Ellis
Date 9-2-76 Assist. Director, Department of Transportation

Approved Richard J. Glavin
Date 9-2-76 Director, Department of Transportation

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR

DATE

Project: GUE-70-(17.36-17.39) Guernsey County
Date of Letting 19 Contract No.

CALCULATED BY D. G. DATE 7-12-76
CHECKED BY J. B. DATE 7-13-76

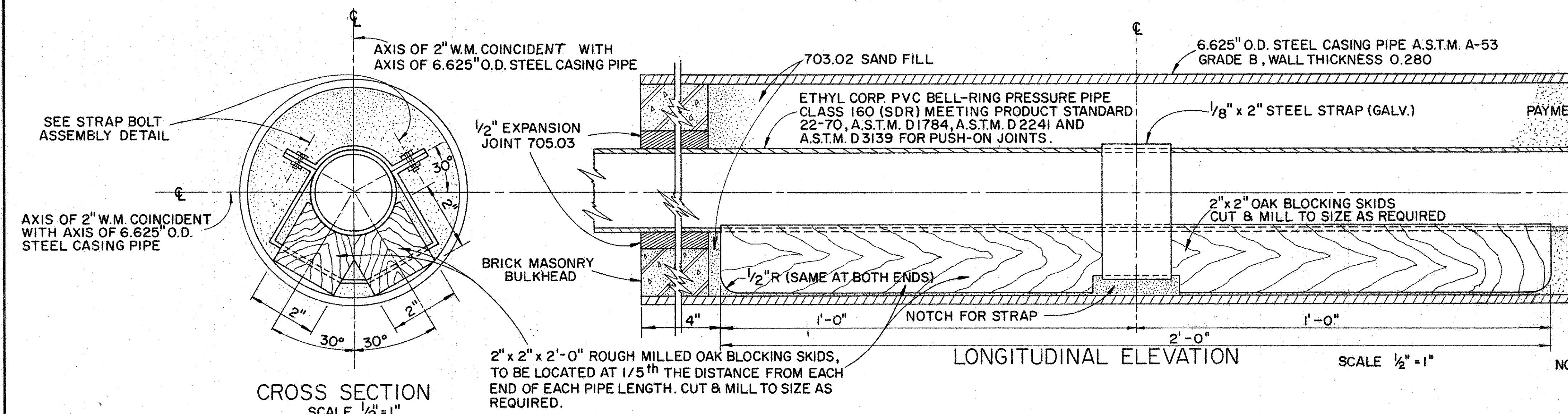
WATER MAIN ENCASEMENT

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PAYMENT: THE 6.625" O.D. A.S.T.M. A-53 GRADE "B" STEEL CASING PIPE, INCLUDING THE ROUGH MILLED OAK BLOCKING; 1/8 INCH STEEL STRAPS WITH BOLTS, NUTS, AND WASHER ASSEMBLIES, MASONRY BULKHEADS, TRENCHING AND 703.02 AGGR. SAND FILL SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID PER LINEAR FOOT FOR "ITEM 603-6.625" O.D.- 0.280" WALL CONDUIT, GRADE "B" STEEL CASING PIPE, 707.08 WHICH PRICE AND PAYMENT SHALL ALSO INCLUDE THE FURNISHING OF ALL LABOR, MATERIALS, SMALL TOOLS, AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK. THE STEEL CASING PIPE SECTIONS SHALL BE JOINED BY BUTT WELDING IN ACCORDANCE WITH 513.17. THE BEDDING REQUIREMENTS SHALL BE CLASS C. PAYMENT WILL BE MADE FOR THE SPECIFIED WATER MAINS INSTALLED IN CONDUIT GRADE "B" STEEL CASING PIPE AT THE CONTRACT UNIT PRICE BID PER LINEAR FOOT FOR ITEM 814 2" NEW WATER MAIN, AS PER PLAN.

NOTE: ALL STRAPS SHALL BE FABRICATED FROM AISI NO. C-1018, COLD FINISHED 1/8-INCH x 2-INCH FLAT BARS, WT. 0.850 LBS. PER FT., AND SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION.

GENERAL NOTES

SCOPE OF WORK:

Work shall consist of constructing a 2" water main, between the existing terminus of the 5" water main of the Sewer District No. 6 near the main entrance to the Guernsey County Fairgrounds, and the existing well house in the Interstate Roadside Rest Area No. 28. The main shall be constructed within the permanent Right of Way of Guernsey County Road No. 73 and Interstate Route No. 70. The main shall be encased where it crosses Guernsey County Road No. 73, and shall also include the installation of a meter pit (with meter), a flush box hydrant and an outdoor bubble font, complete in place, as detailed in the plans and material list and specifications.

Payment for all of the above shall be included in the unit price bid for each specific item.

ITEM 814-2" NEW WATER MAIN, AS PER PLAN:

All new water main construction shall be made in accordance with Supplemental Specification N^o 814 "Water Mains and Service Branches" with the exception of those materials specifically described in the material list included in the plan. Also included in this item for payment is the connection of the new water main to the existing water main as shown on the plans. See additional note on sheet 8.

STORAGE OF EQUIPMENT:

No storage of equipment or materials will be permitted within 30 feet of the mainline or ramp pavement edge of Interstate Route N^o 70 nor 15 feet within the pavement edge of County Road N^o 73.

The use of the Roadside Rest Area for storage shall be limited to those areas away from the service buildings and parking lot as approved by the Engineer.

MAINTAINING TRAFFIC:

INTERSTATE ROUTE NO. 70

Traffic shall be maintained at all times without interruption.

COUNTY ROAD NO. 73

Two-way traffic shall be maintained at all times except that alternate one-way traffic will be permitted for minimum periods of time consistent with the requirements of the specifications and during the installation of the new water main across the road. Any open trench shall be adequately maintained and protected with temporary guide markers or barricades at all times.

FAIRGROUND

One drive to the fairgrounds shall be open to traffic at all times.

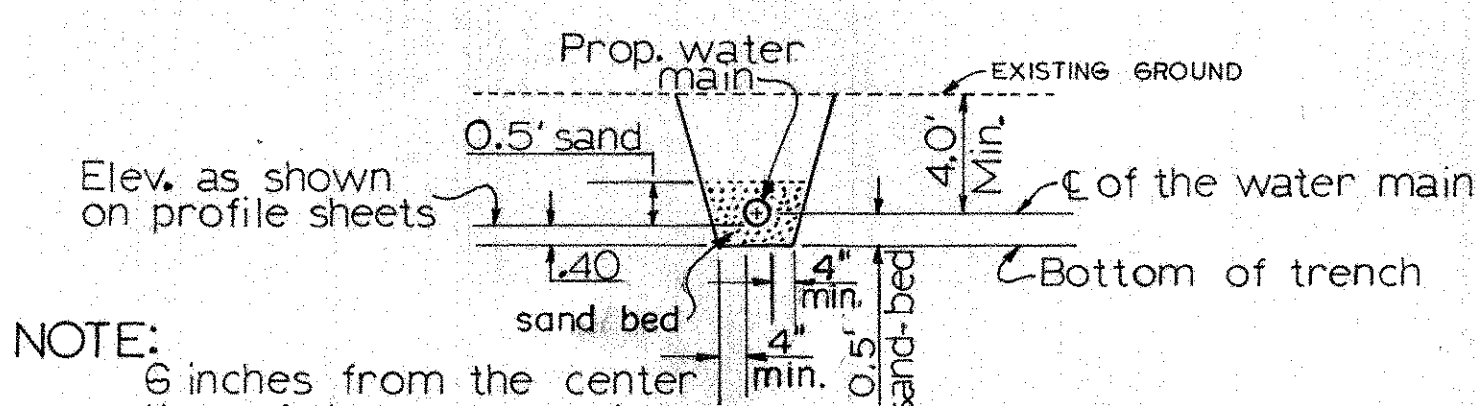
SPECIAL SEEDING PREPARATION AREAS:

The reference in the first paragraph of 659.09 to preparation of the seed bed etc. shall on this project be considered to be particularly applicable to the areas between Station 22+00 and Station 27+26.2.

The following quantities have been included in the General Summary, this sheet, for the purpose of seeding the area damaged by construction of the new water main. Also included is a quantity to seed that area that may be damaged when storing equipment.

CALCULATIONS

2800 Lin. Ft. x 4' ÷ 9 = 1244 sq. yds.
100 Lin. Ft. x 50 ÷ 9 = 556 sq. yds.
659 Seeding and Mulching 1,800 sq. yds.
659 Commercial Fertilizer (12-12-12) 1800sq. yds. x .00009 = 0.16 Ton
659 Agricultural Liming 1800 sq. yds. x .00045 = 0.81 Ton



NOTE:

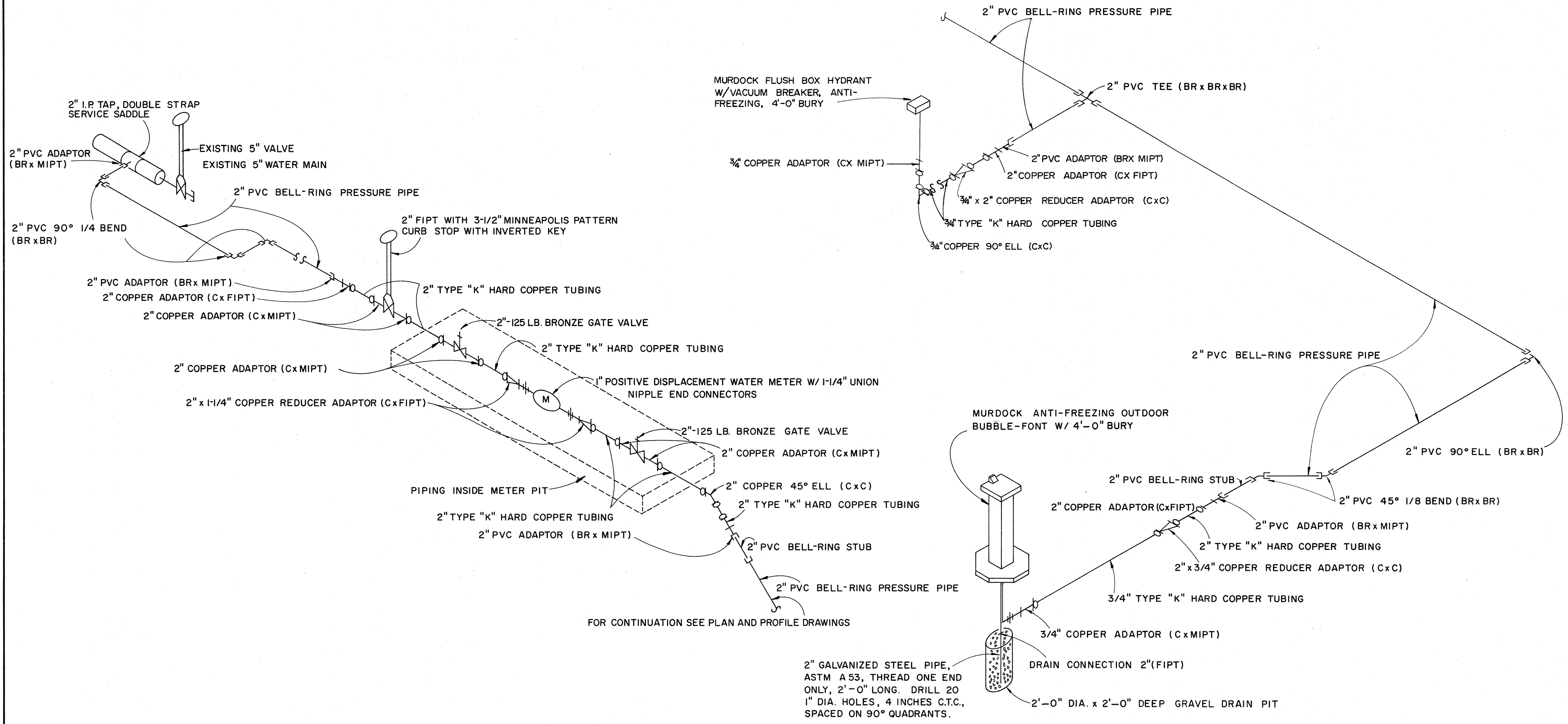
6 inches from the center line of the water main to the bottom of the pipe trench, in regard to excavation, has been allowed for a sand bed. To obtain the elevation of the bottom of the pipe trench .40' of a foot must be deducted from the pipe elevations shown on the profile drawings.

TYPICAL TRENCH DETAILS FOR PROPOSED WATER MAIN

GENERAL SUMMARY

ITEM	TOTALS	UNIT	DESCRIPTION	TYPE CODE Y060
201	Lump		Clearing and Grubbing	
814	2800	Lin.Ft.	2" New Water Main, As Per Plan	
Special	1	Each	Anti Freezing Flush Box Hydrant with Vacuum Breaker	
Special	1	Each	Anti Freezing Outdoor Bubble-font, as per plan	
604	1	Each	Meter Pit, As Per Plan including Meter	
603	166	Lin.Ft.	6.625" O.D.- 0.280" Wall Conduit, Type B, Grade 'B' Steel Casing Pipe 707.08, with Class C Bedding	
301	3	Cu.Yds.	Bituminous Aggregate Base: 702.01, AC-20; or 702.09, RT-11 or RT-12	
304	13	Cu.Yds.	Aggregate Base	
659	1818	Sq.Yds.	Seeding and Mulching	
659	0.16	Ton	Commercial Fertilizer (12-12-12)	
659	0.81	Ton	Agricultural Liming	
614	Lump		Maintaining Traffic	
623	Lump		Construction Layout Stakes	

DETAILS, GENERAL NOTES & GENERAL SUMMAR



ISOMETRIC OF PROPOSED WATER LINE
Not to scale

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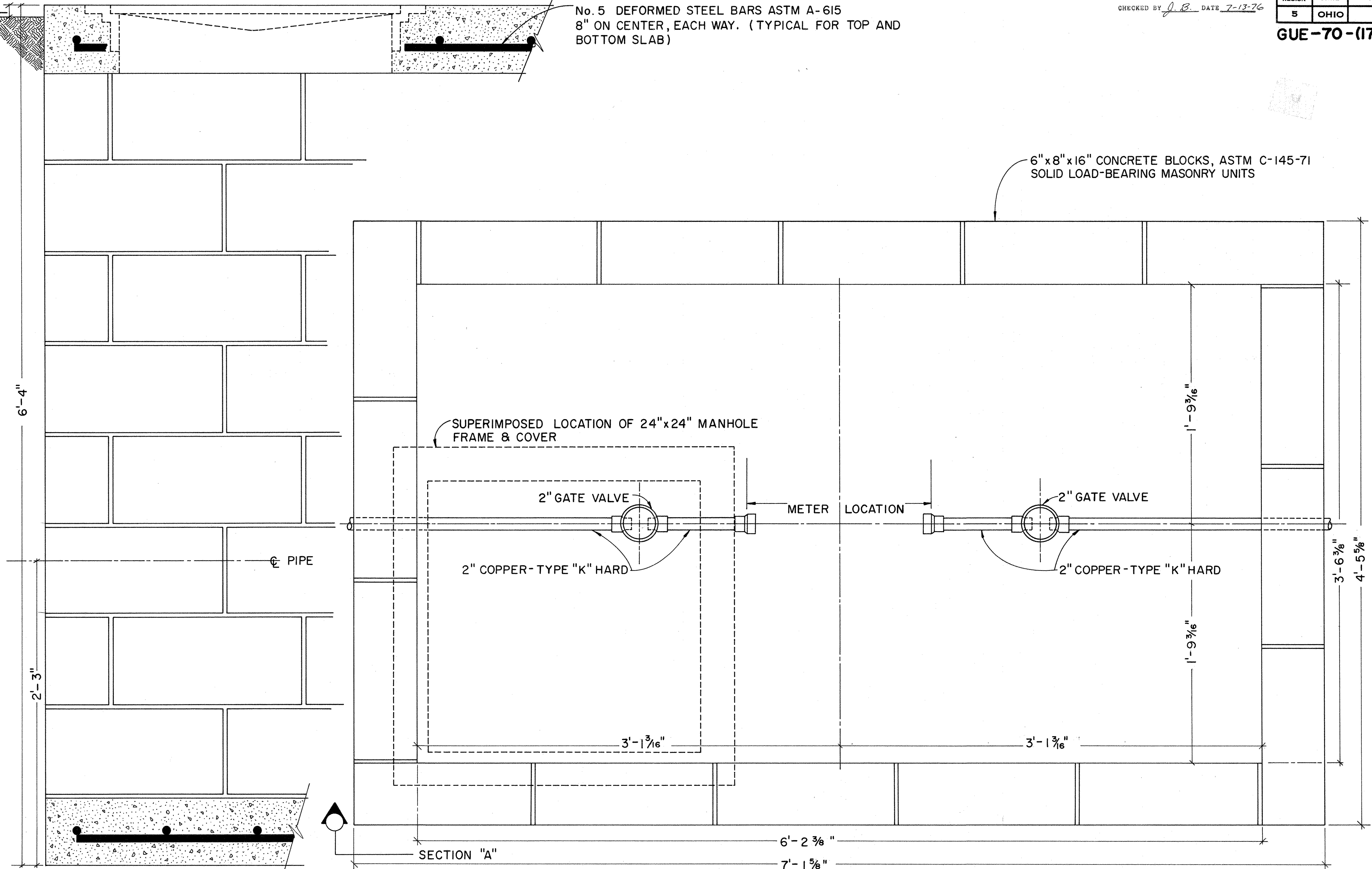
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No. 5 DEFORMED STEEL BARS ASTM A-615
8" ON CENTER, EACH WAY. (TYPICAL FOR TOP AND
BOTTOM SLAB)

6"x8"x16" CONCRETE BLOCKS, ASTM C-145-71
SOLID LOAD-BEARING MASONRY UNITS



SECTION "A"
SCALE - 3" = 1'-0"

ITEM 604 METER PIT, AS PER PLAN
SCALE - 3" = 1'-0"

ITEM 604 METER PIT, AS PER PLAN

MATERIALS LIST

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NOTE: All references to brand names shall include the phrase "or approved equal."

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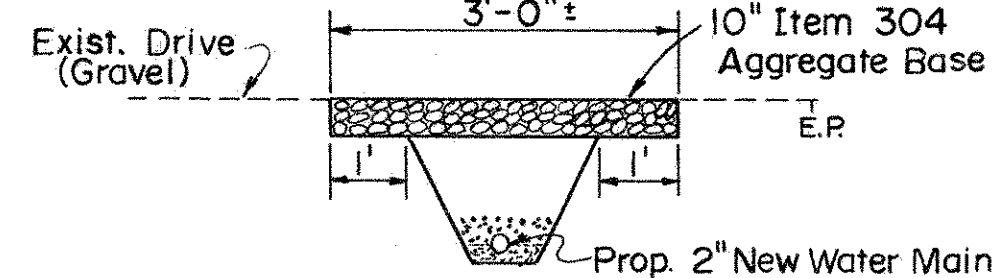
WATER MAIN ENCASEMENT			
AMOUNT	SIZE	DESCRIPTION	
166 Lin.Ft.	6.625" O.D.	Water main encasement piping 6.625" O.D. A.S.T.M. A-53 Grade "B" Steel casing pipe w/0.280 wall thickness, and all accessories, in place.	—
FLUSH BOX HYDRANT			
1 Each	¾" Supply x 4'-0" Bury	The Murdock Manufacturing and Supply Co. 4'-0" depth bury anti-freezing flush box hydrant w/vac. Breaker, brass pipe riser, bronze box and lid w/key, model No. V-477-¾".	*-I
OUTDOOR BUBBLE - FONT, AS PER PLAN			
1 Each	34" standard height from base to top bowl. ¾" inlet 2" female I.P.T. Outlet.	The Murdock manufacturing and Supply Co. Anti-Freezing Outdoor bubble-font, model No. 34, bronze, brass and iron construction, weather and vandal proof, square design, with depth of bury 4'-0" complete with all accessories as required for a complete unit.	
1 Each	2"x2'-0" long	Galvanized Steel Pipe, ASTM A53, w/20-inch Dia. equally spaced drilled holes, threaded one end only.	—
2" NEW WATER MAIN, AS PER PLAN			
2 Each	2"x1¼" (C x F.S.P.S.)	Cast Bronze Adapters (2" copper x 1¼" female I.P.S. Thread).	*-A
6 Each	2"x2" (C x M.S.P.S.)	Cast Bronze Adapters (2" copper x 2" male I.P.S. thread).	*-A
20 Lin. Ft.	2"	Type "K" hard drawn copper tubing ASTM B-88 (20'-0" Lengths).	*-A
2 Each	2" (C x C)	Cast Bronze 45° ells (2" copper x 2" copper).	*-A
3 Each	2"x2" (C x F.S.P.S.)	Cast Bronze Adapters (2" copper x 2" female I.P.S. thread).	*-A
1 Each	4"(474) Thur 5"(563) w/2" I.P. Tap	Rockwell International Smith-Blair, Type 313 double strap service saddle, code catalog No. 313-0525-14.	*-K
4 Each	2"	Ethyl Corp. PVC Bell-Ring male adapter (BR x M1PT), 200 psi rating- Part No. 58-0628.	*-E
13 Each	2"	Ethyl Corp. PVC Bell-Ring 90° quarter bend (BR x BR), 200 psi rating- Part No. 58-0462.	*-E
14 Each	2"	Ethyl Corp. PVC Bell-Ring 45° Eighth Bend (BR x BR), 200 psi rating- Part No. 58-0562.	*-E
2800 Lin.Ft.	2"	Ethyl Corp. PVC Bell-Ring pressure pipe Class 160 (SDR 26) 20'-0" laying lengths, meeting product standard 22-70, ASTM D1784, ASTM D 2241 and ASTM D3139 for push on joints.	*-E
1 Each	2" F.I.P. Threads w/3½" Minneapolis Thread	Mueller Co. curb stop w/inverted key-round way with check, combined cap and tee, Minneapolis pattern Catalog No. H-10207	*-C
1 Each	2" Stop size, 4½ Feet Box Length 6'-0" Long	Curb Box, Extension Type, Minneapolis Pattern Base, Mueller Co. Catalog No. H-10304 complete with lid.	*-C
1 Each		Mueller Co. Curb Box Shut-off rod, Catalog No. H-10321, 6'-0" length.	*-C
1 Each		Mueller Co. Pentagon Key, Steel, Catalog No. H-10325. (For Mueller Curb Box.)	*-C
40 Lin. Ft.	¾"	Type "K" hard drawn copper tubing ASTM B-88 (20'-0" Lengths).	*-A
474 Cu.Yds.	4'-6"± Deep x 1'-0" wide x 2840' Long	Trench excavation and backfill for laying 2" water line and ¾" copper water line.	—
2 Each	¾" x ¾" (C x M.S.P.S.)	Cast bronze adapters (¾" copper x ¾" male I.P.S. Thread.)	*-A
8 Each	¾" (C x C)	Cast bronze 90° ells (¾" copper x ¾" copper).	*-A
6 Each	¾" x ¾" (C x C)	Cast bronze couplings (¾" copper x ¾" copper).	*-A
1 Each	2"x2"x2"	Ethyl Corp. PVC Bell Ring Tee (BR x BR x BR) 200 psi Rating- Part No. 580210.	*-E
10 Each	2"	Ethyl Corp. PVC. Bell-Ring Repair Couplings (BR x BR), 200 psi Rating- Part No. 57-0948.	*-E
1 Each	2"	Ethyl Corp. PVC. Bell-Ring Female Adaptor (BR x FIPT).	*-E
6 Each	2"	Ethyl Corp. PVC. Bell-Ring Studs-200 psi, Part No. 58-0968.	*-E
7 Each		Concrete Thrust Blocks.	—
2 Each	2" x ¾" (C x C)	Wrot Copper Adaptor (2" copper x ¾" copper).	*-A
165 Lump sum	Short Tons	Sand Backfill for Water Lines. Item 703.02 (Natural Sand) 6-inches below centerline pipe and 6-inches above centerline pipe. 1'-0" Deep x 1'-0" Wide x 2840' Long = 2840 cu.ft. = 110 Cu. Yds.	—
226 Each	2"	Ethyl Corp. flexible elastomeric triple throated bell ring gaskets Part No. 55-9002.	*-E
ITEM 604 METER PIT, AS PER PLAN			
1 Each	7'-1½" L x 4'-5½" W x 6'-4" H	Concrete Block Meter Pit.	—
128 Each	6"x8"x16"	Concrete Blocks, ASTM C-145-71, solid loadbearing concrete masonry units.	—
1 Each	24"x24"	Neenah Foundry Co. Light Duty Square Frame and solid cover Catalog No. R-1912-D w/Type "G" streamlined lift handle, weight 190 lbs. w/ the words "Water meter."	*-J
0.59 Cu.Yds.	6"D x 7'-1½" L x 4'-5½" W	Class "C" concrete base slab (reinforced) for meter pit foundation.	—
0.59 Cu.Yds.	6"D x 7'-1½" L x 4'-5½" W	Class "C" concrete top slab (reinforced) for meter pit top.	—
100 Lin.Ft.		Dur-O-Wal Truss masonry wall reinforcement, type (single wythe) standard, selection No. 6 for 6" wall.	*-F

AMOUNT	SIZE	DESCRIPTION	
4 Each		Neenah Foundry Co. Cast Iron Manhole Steps Catalog No. R-1981-G for 8-inch Block Manhole.	*-J
22 pcs.	No. 5's 4'-1" Long	Deformed Steel Reinforcement Bars, ASTM A615.	—
14 pcs.	No. 5's 6'-9" Long	Deformed Steel Reinforcement Bars, ASTM A615	—
3 Each		Grinnell Co. CB-Junior Malleable Iron Body Concrete Inserts, Complete w/ nut for ¾" Dia. Hanger Rod, Fig. No. 279.	*-H
1 Each	Size No. 1	Grinnell Co. Malleable Iron side beam Bracket, Fig. No. 202.	*-H
4 Each	2" Tubing size	Grinnell Co. copper plated adjustable wrought ring hangers Fig. No. CT-97.	*-H
4 Each	¾" Dia. x 6'-0" Long	Grinnell Co. Copper Plated Steel continuous threaded hanger rods (6'-0" lengths).	*-H
6 Each	¾"	Hex-Head Brass Nuts	—
1 Each	4¾" Dia.	Neenal Foundry Co. light duty round drainage grate, flat bar type, Cat. No. R-4380-A1. (Place in Hub of soil pipe.)	*-J
32 Cu.Yds.		Excavation and Backfill for meter pit installation and grading plus meter pit drain line.	—
2 Each	2"	Stockham valves and fittings 125-pound bronze gate valve, rising stem, solid disc. w/ union bonnet, female threaded ends, catalog No. B-105, (125 psi saturated steam 200 psi nonshock cold water, oil, or gas) equals by Powell Crane or Lunkenheimer.	*-G
1 Each	1" x 1¼"	1" Rockwell Sealed Register Magnetic Drive Water Meter complete w/ 1¼" Union Nipple End Connectors.	*-D
25 Lin.Ft.	4" Single Hub	Alabama Pipe Co. Extra-Heavy Cast Iron Soil Pipe, Bell and Spigot, Dual-Tite Gasket Joint, Meeting CS 188 Standard and ASTM C-564-65T Gaskets (5'-0" Lengths).	*-B
5 Lin.Ft.	4" Double Hub	Alabama Pipe Co. Extra-Heavy Cast Iron Soil Pipe, Bell and Spigot, Dual-Tite Gasket Joint Meeting (Same as above) 5'-0" Lengths.	*-B
1 Each	4"	Alabama Pipe Co. Extra-Heavy Cast Iron Soil Pipe Short-Sweep ¼ Bend, Dual-Tite Gasket Joint Meeting (Same as above).	*-B
7 Each		Alabama Pipe Co. Dual-Tite Neoprene Gaskets per ASTM C-564-65T.	*-B

- (* A) Anaconda American Brass Co., Lee Brothers Co., Mueller Brass Co., or Nibco Inc.
- (* B) American Brass & Iron Foundry, American Cast Iron Pipe Co., U.S. Pipe & Foundry Co., or Tyler Pipe
- (* C) Clow Corp., Eddy-Iron Div. Tyler Pipe, Anniston Foundry Co., or American Foundry & Mfg. Co.
- (* D) Hersey Products Inc. Water Meter & Controls Division, Badger Meter Mfg. Co., or Neptune Meter Co.
- (* E) Johns-Manville or Clow Corp.
- (* F) Wire Products Co., Cumberland Corp., or National Wire Products Corp.
- (* G) Nibco Inc., Stockham Valves & Fitting, Powell Co., or Lunkenheimer Co.
- (* H) Elcen Metal Products, Fee & Mason, or Mason Industries Inc.
- (* I) Josam, Zurn or Wade
- (* J) Myers Foundry, East Jordan Iron Works, Kramer Bros. Foundry, or Chase Foundry
- (* K) Dresser, Mueller, or Clow Corp.

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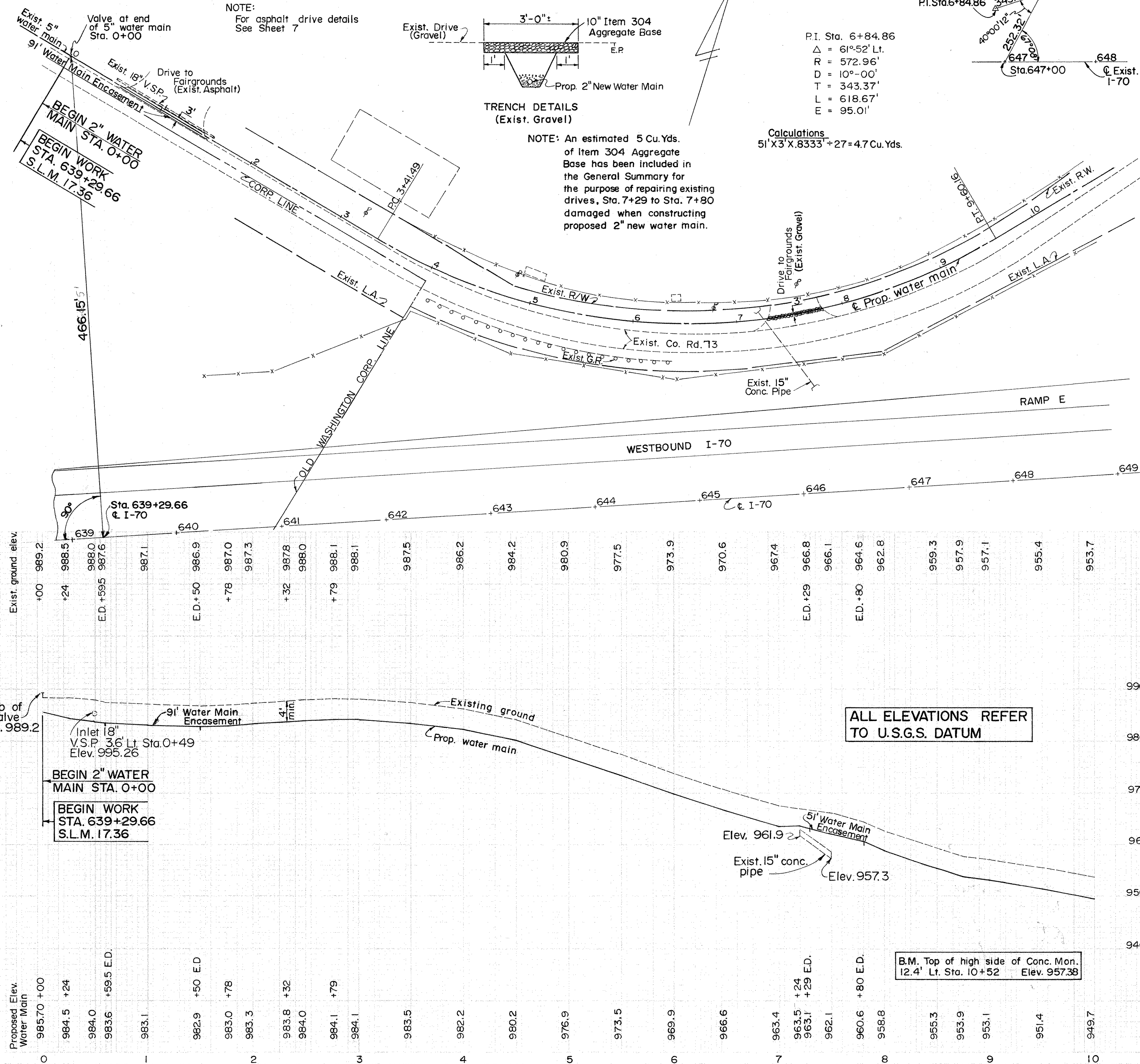
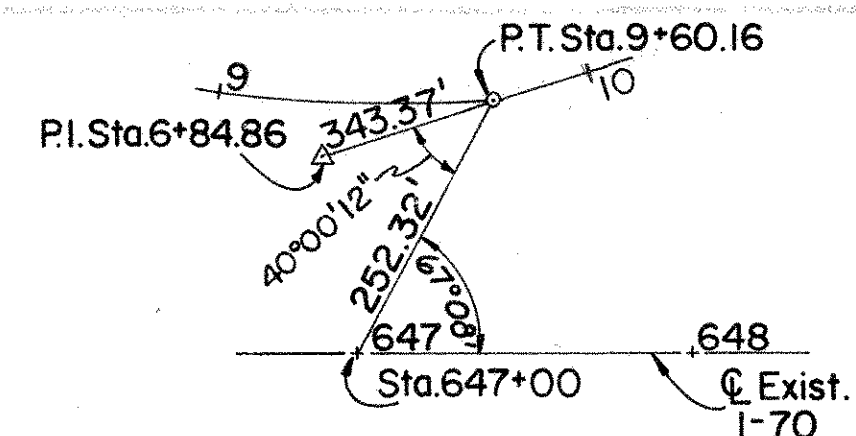
NOTE:
For asphalt drive details
See Sheet 7

TRENCH DETAILS
(Exist. Gravel)

NOTE: An estimated 5 Cu. Yds.
of Item 304 Aggregate
Base has been included in
the General Summary for
the purpose of repairing existing
drives, Sta. 7+29 to Sta. 7+80
damaged when constructing
proposed 2" new water main.

Calculations
51' x 3' x .8333 ÷ 27 = 4.7 Cu. Yds.

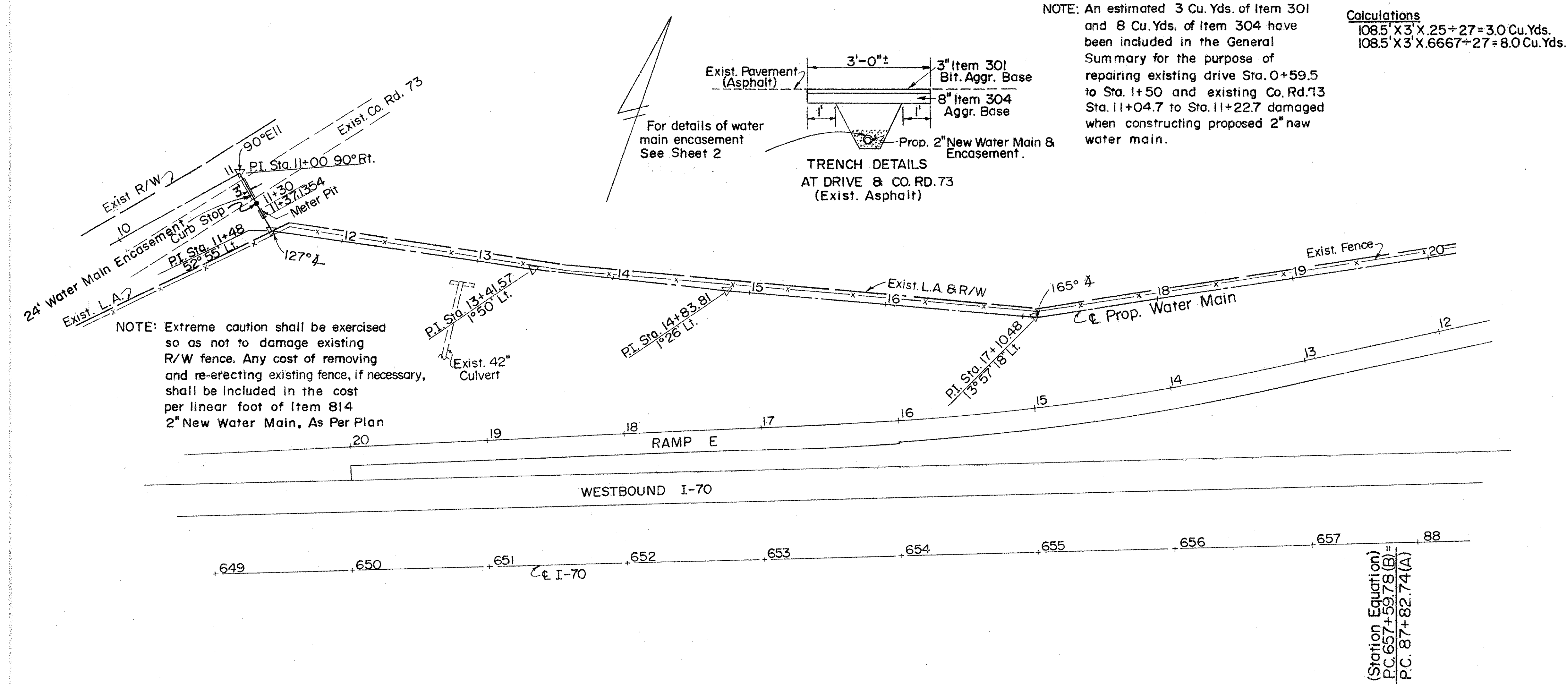
P.I. Sta. 6+84.86
Δ = 61°52' Lt.
R = 572.96'
D = 10°-00'
T = 343.37'
L = 618.67'
E = 95.01'



ALL ELEVATIONS REFER
TO U.S.G.S. DATUM

B.M. Top of high side of Conc. Mon.
12.4' Lt. Sta. 10+52 Elev. 957.38

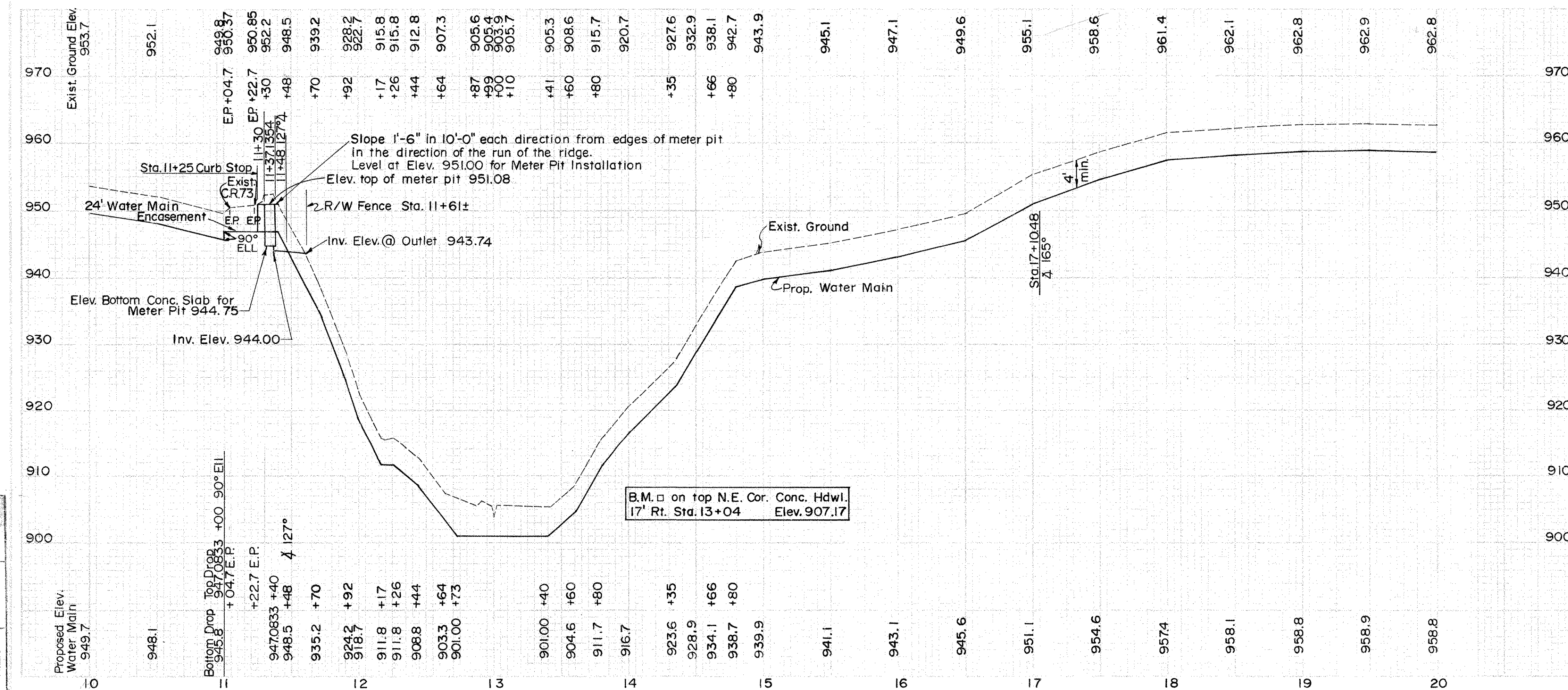
0+00-10+00

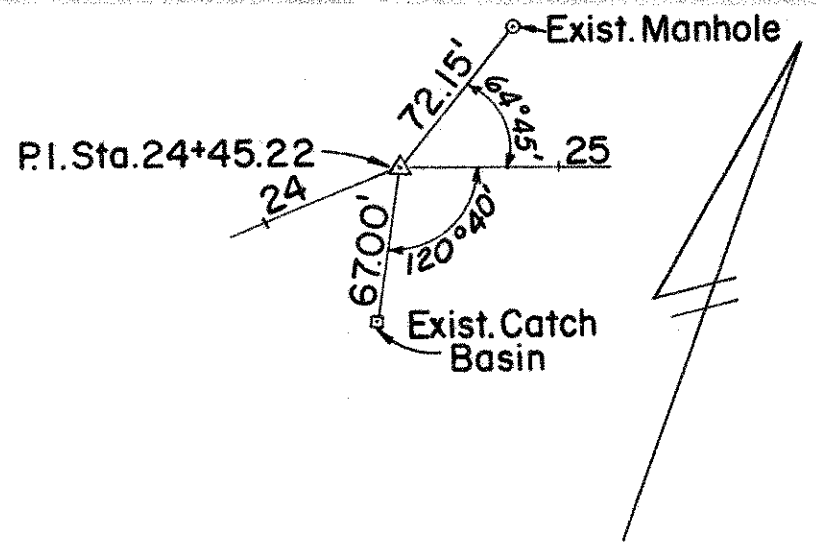


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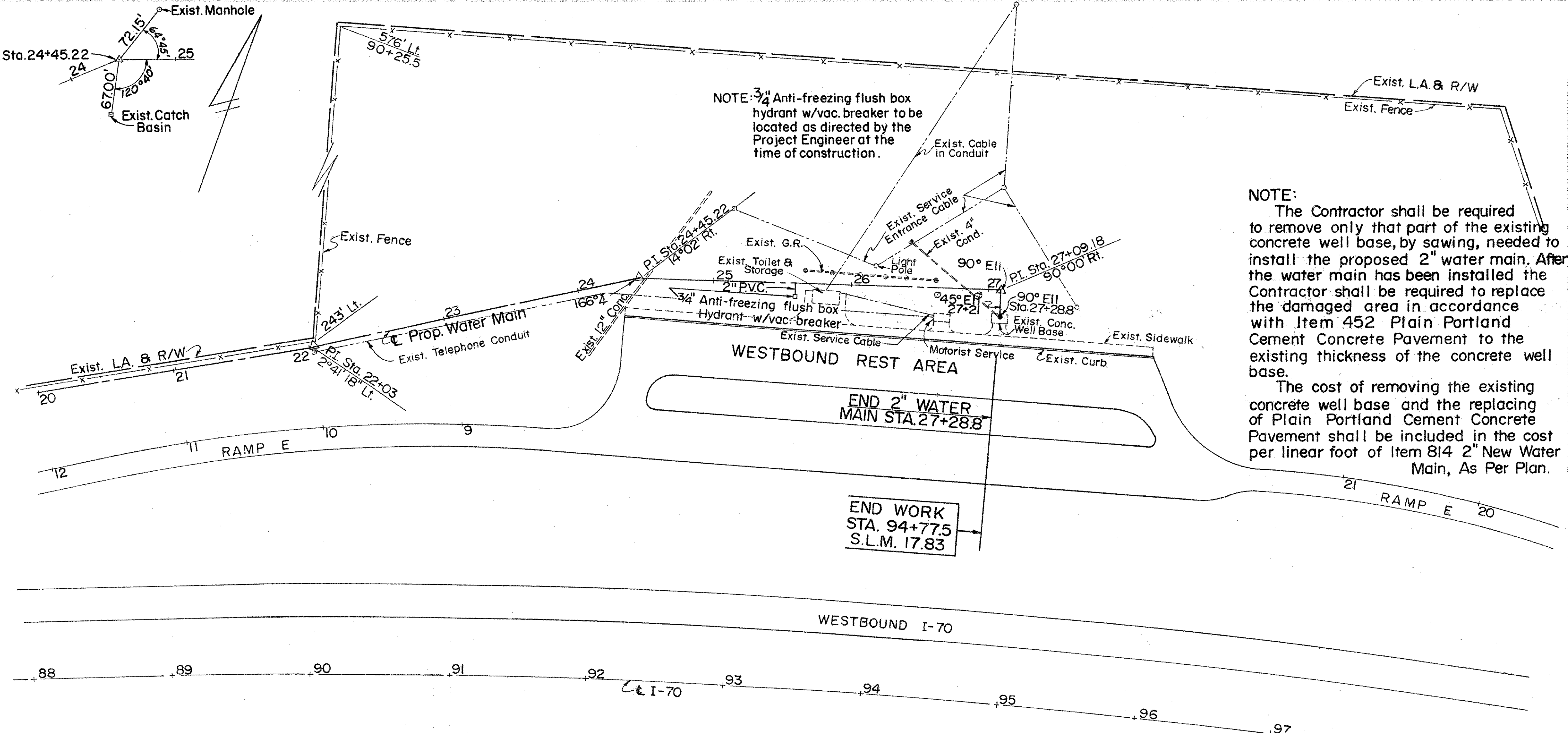
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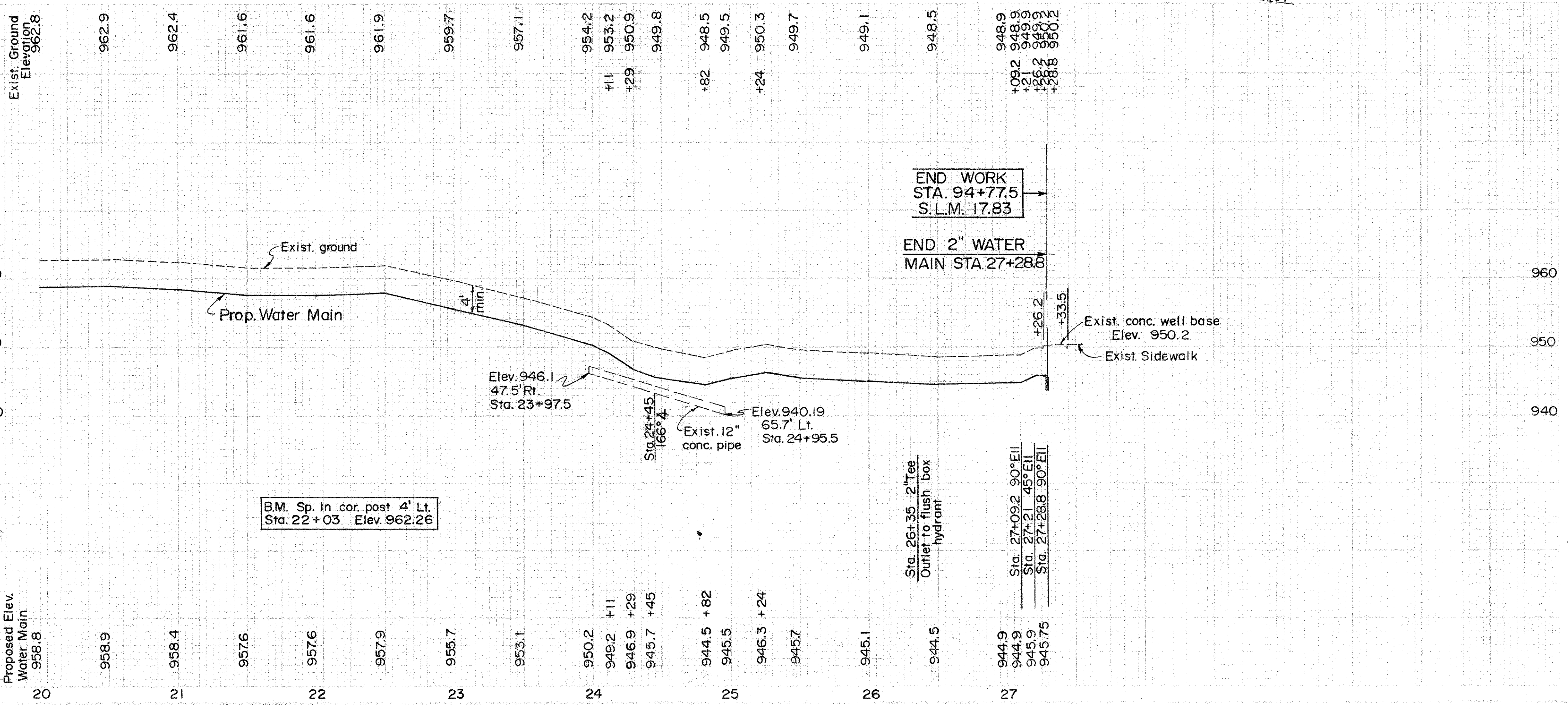


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NOTE:
 The Contractor shall be required to remove only that part of the existing concrete well base, by sawing, needed to install the proposed 2" water main. After the water main has been installed the Contractor shall be required to replace the damaged area in accordance with Item 452 Plain Portland Cement Concrete Pavement to the existing thickness of the concrete well base.
 The cost of removing the existing concrete well base and the replacing of Plain Portland Cement Concrete Pavement shall be included in the cost per linear foot of Item 814 2" New Water Main, As Per Plan.



20+00-27+28.8