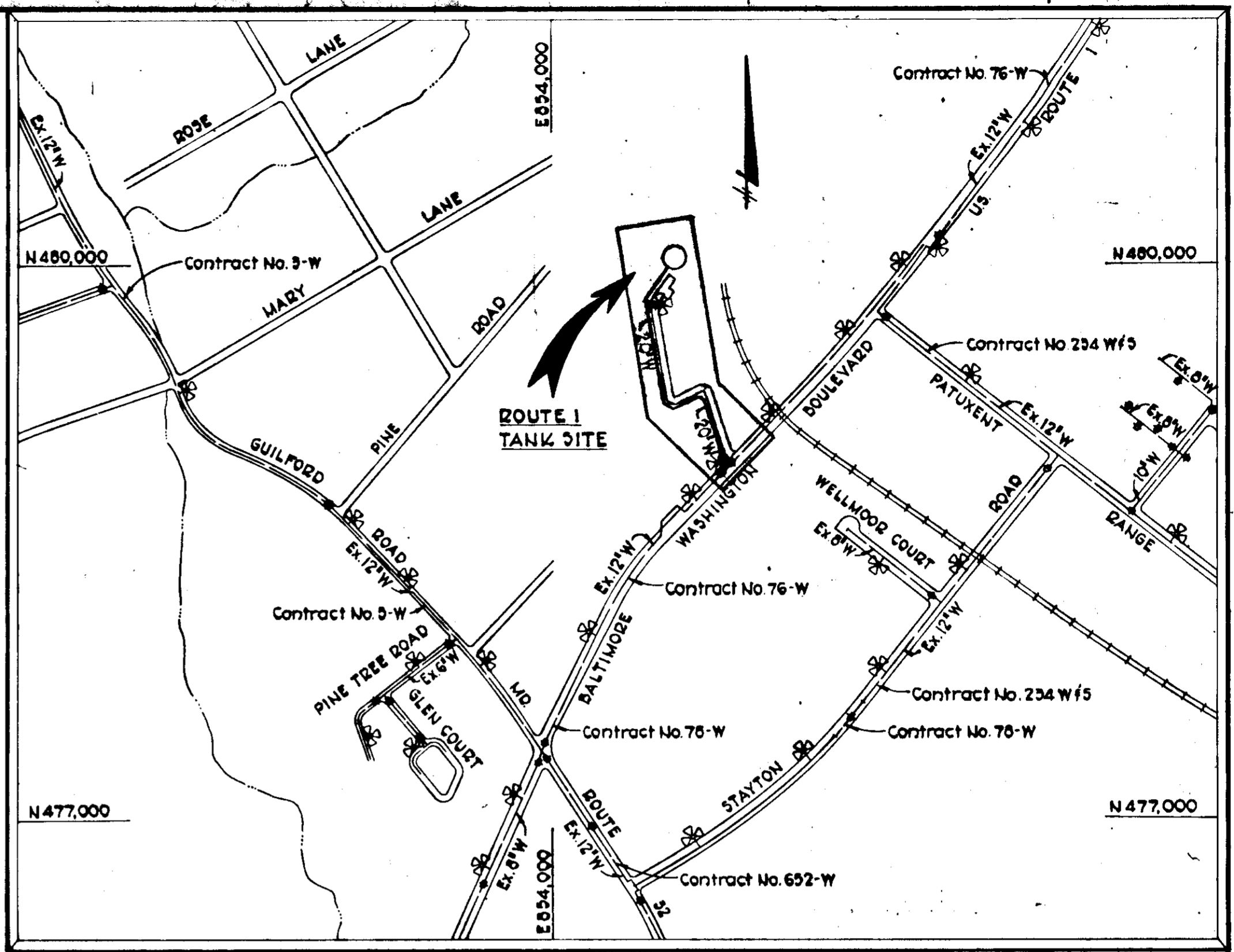


BENCH MARKS
 B.M.#3 Elev. 327.26
 Railroad Spike in 12" Oak 25' NE of P.I. #M-5
 B.M.#4 Elev. 327.02
 Railroad Spike in 15" Oak 30' SE of P.I. #M-4

INDEX OF DRAWINGS	
DRAWING NO.	TITLE
1	GENERAL LOCATION Plan
2	Private Drive Profile and Details
3	Sediment Control Plan
4	Site and Grading Plan and Water Main Profiles
5	Fencing and Landscaping Plan and Details
6	Altitude Valve Vault Plan and Sections
7	Check Valve Vault Plan and Sections

QUANTITIES			
ITEM	ESTIMATED	AS-BUILT	SUPPLIER
20" Water	1252 L.F.		
6" Water	50 L.F.		
Fire Hydrants	2 Each		

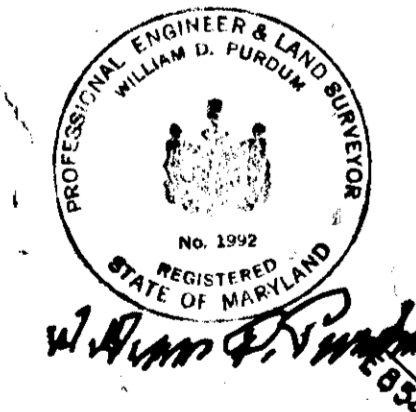


VICINITY MAP
 SCALE: 1" = 600'

- GENERAL NOTES**
- Approximate locations of existing mains are shown. The Contractor shall take all necessary precautions to protect existing mains and services and maintain uninterrupted supply. Any damage incurred shall be repaired immediately to the satisfaction of the engineer by the contractor at the contractor's expense.
 - All pipe elevations shown are invert elevations.
 - Clear all utilities by a minimum of 6" vertically. Clear all poles 2'-0" minimum or tunnel as required.
 - For standard Water Main Details see Howard County Standards.
 - Contractor shall locate existing utilities in advance of construction operations in the vicinity of proposed utilities. Cost shall be included in the unit price bid for excavation.
 - Contractor shall notify the following utilities or agencies at least five (5) days before starting work shown on these plans:
 Baltimore Gas and Electric Company - Underground Electric Distribution Engineering - "Damage Control" - 234-5881
 Baltimore Gas and Electric Company - Underground Gas Distribution Engineering - 539-0100
 Chesapeake and Potomac Telephone Company - 725-9976
 Miss Utility - 550-0100
 - Buttress or anchor all water main fittings with concrete. All valves shall be strapped to tees in accordance with standard details.
 - All water mains to have a minimum of 3'-6" cover unless otherwise noted.
 - All fire hydrants shall be strapped to the tee and shall be buttressed with concrete in accordance with the standard details. Cost of strapping fire hydrants and valves to be included in the unit price bid for furnishing and installing fire hydrants. Soil around the fire hydrant to be compacted in accordance with Section 5-15 of the Howard County Standard Specifications.
 - Bury line elevations on fire hydrants shall be set to the elevations shown on the plans.
 - Horizontal control is based on the Maryland State Grid Coordinate System.
 - Test borings logs are available at Howard County Department of Public Works - Capital Project and Contracts Division.
 - All vertical controls are based on U.S.C. & G.S. Datum.
 - Trees are to be protected from damage to maximum extent. Trees located outside the limits of clearing are not to be removed or damaged by the contractor.
 - Contractor shall remove trees, stumps and roots along line of excavation as directed by the Engineer. Payment for such removal shall be included in the unit price bid for excavation and backfill for water mains.
 - Place regulation "Men Working" and warning signs as required to comply with Maryland State Highway Administration Manual of Traffic Control for Highway Construction and Maintenance Operations.
 - All water mains to be 4" P.P. or R.C. P.P. unless otherwise noted.

SITE INFORMATION
 TOTAL AREA 2.46 Ac ±
 STRUCTURE AREA 0.18 Ac ±
 ZONING R2A
 TAX MAP 43
 PARCEL NUMBER P/O 235
 LIBER/FOLIO 930/447
 PARKING SPACES AVAILABLE 3
 VARIANCE PETITION NO. 73 -45

CURVE DATA
 CURVES 2 & 3
 R = 611'
 L = 68'
 Δ = 63° 52' 02"
 T = 36'



PURDUM & JESCHKE
 ENGINEERS
 1023 N. CALVERT ST.
 BALTIMORE, MARYLAND 21202

APPROVED: For Public Water, Storm Drainage Systems, and Public Roads
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 DATE 11-2-79
 CHIEF BUREAU OF ENGINEERING

CONTRACT NO. 828-W
 CAPITAL PROJECT NO. W-6-8091

GENERAL LOCATION
PLAN

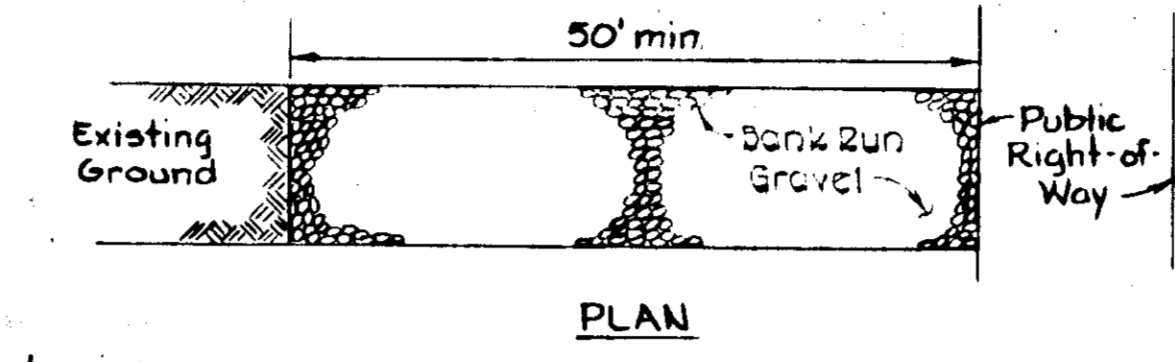
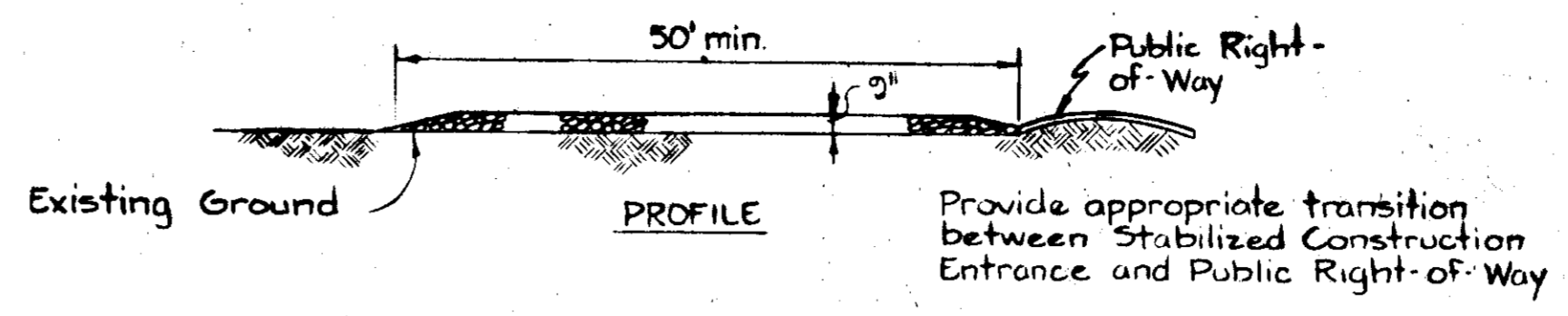
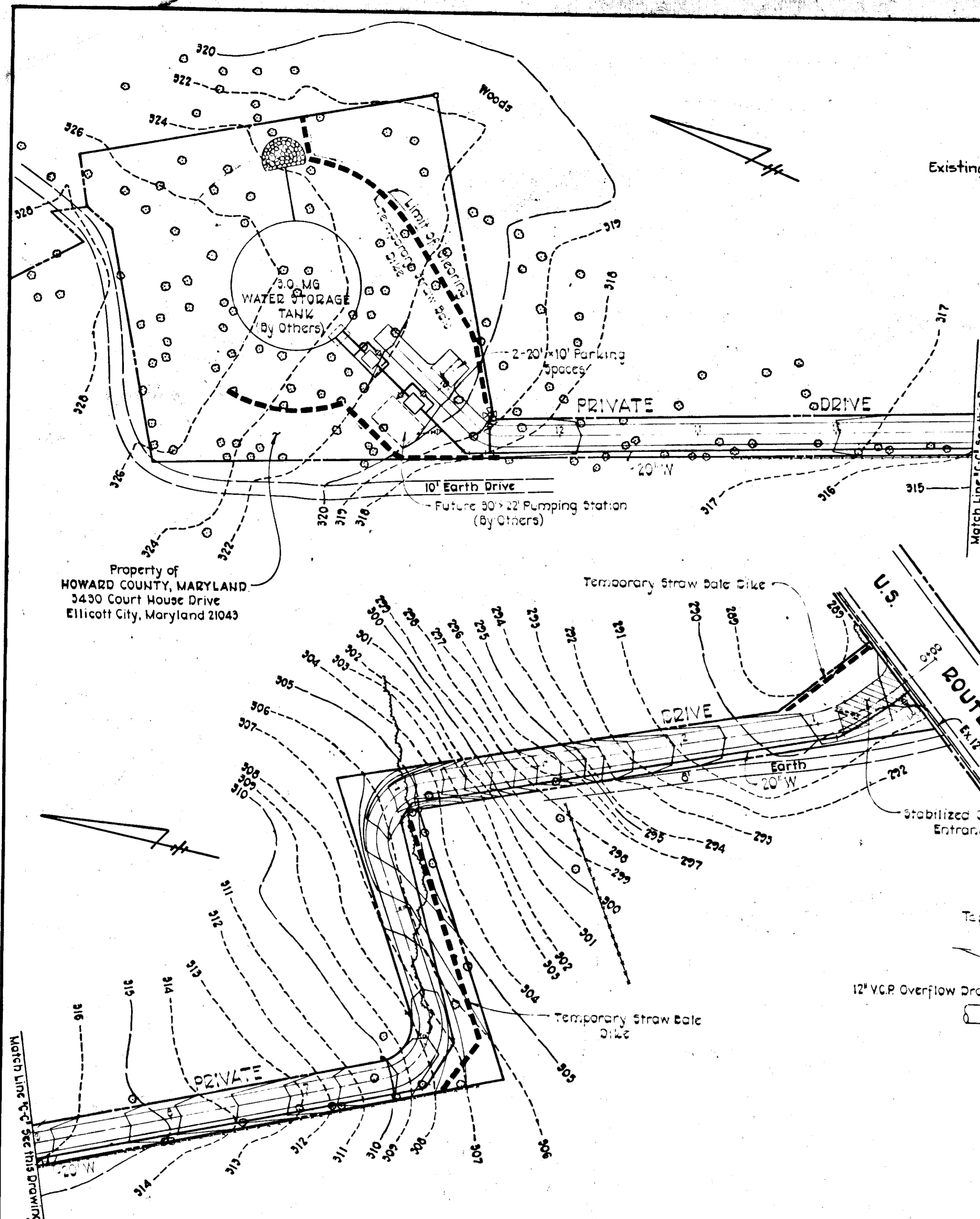
ROUTE 1 STORAGE FACILITY
ELECTION DISTRICT GUILFORD NO. 6
 TAX MAP 43 LIBER/FOLIO 930/447

APPROVED: DIVISION OF LAND DEVELOPMENT
 HOWARD COUNTY, MARYLAND
 DATE 10-1-79
 CONTRACT NO. 828-W
 CAPITAL PROJECT W-6-8091
 ROUTE 1 STORAGE FACILITY

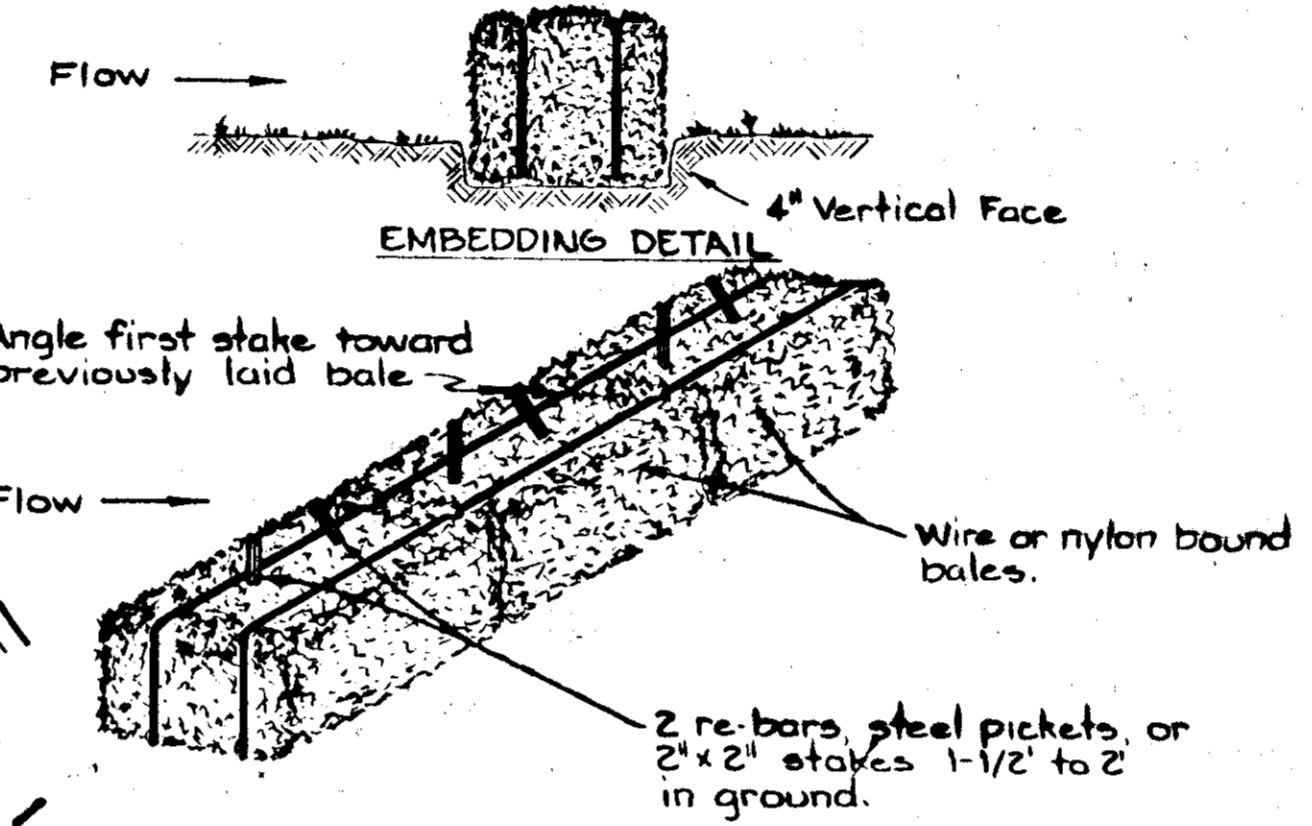
W.O. 3408

SDP-79-126

DESIGNED: TAF
 DRAFTED: ARZ
 CHECKED: RMB
 DATE:

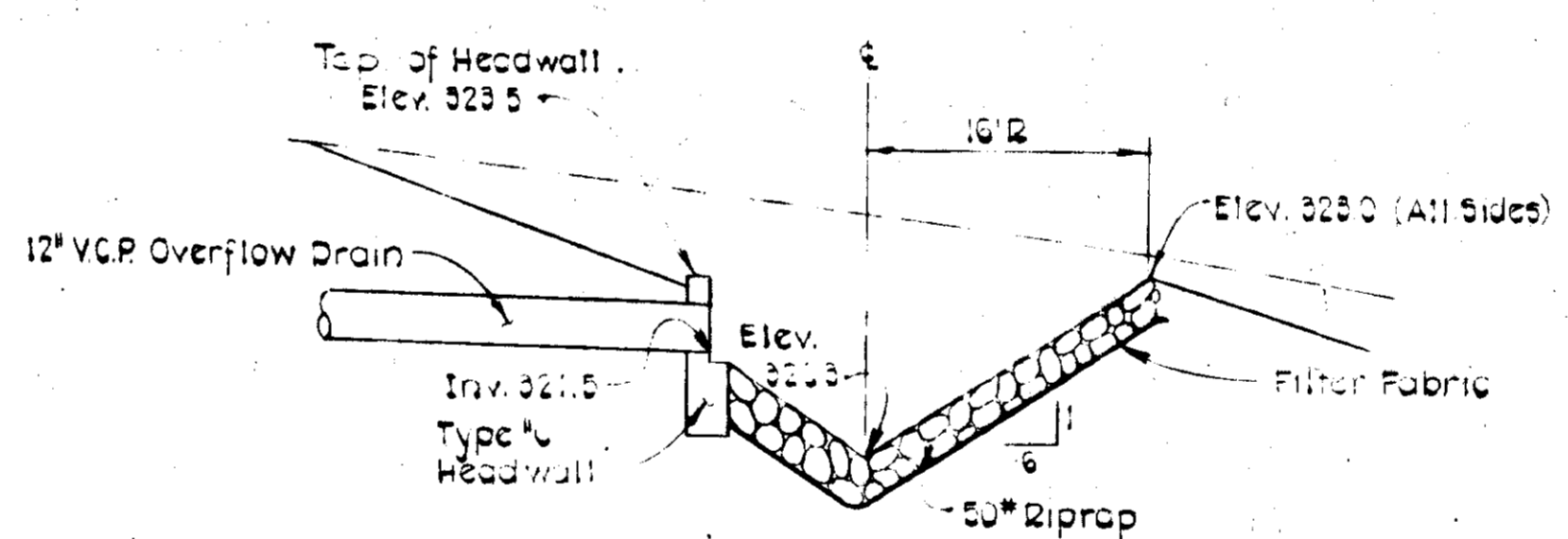


STABILIZED CONSTRUCTION ENTRANCE
(Not to Scale)



ANCHORING DETAIL

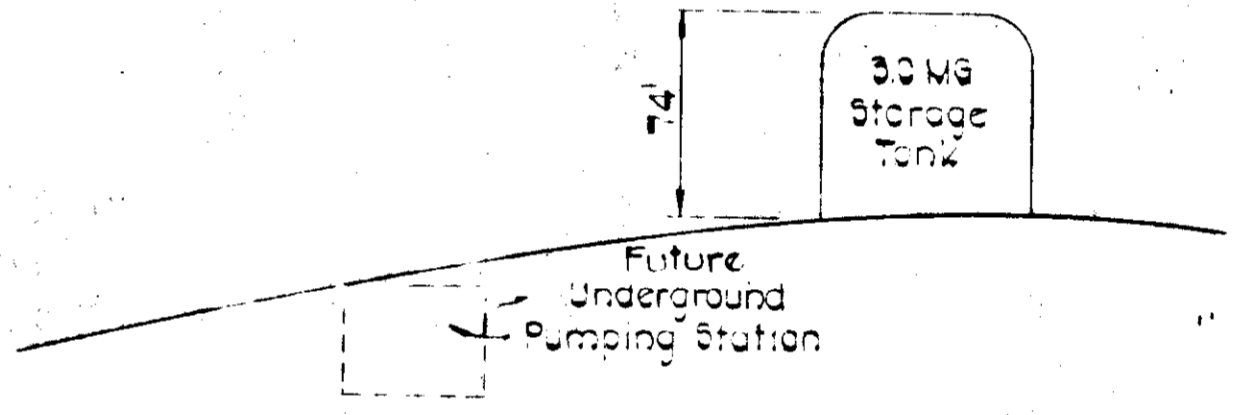
STRAW BALE DIKE
(Not to Scale)



OVERFLOW STILLING BASIN DETAIL
(Not to Scale)

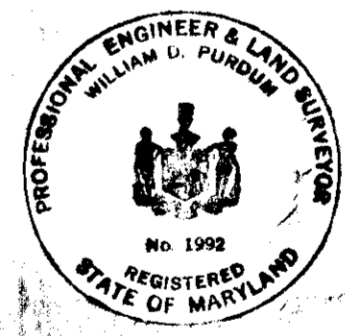
SEDIMENT CONTROL NOTES

1. The developer shall notify the Ho. Co. Office of Inspections and Permits at least 24 hours prior to beginning any construction shown hereon (987-2433 Ext. 365).
2. Dikes, sediment traps, etc., to be constructed prior to any onsite grading or disturbance to any existing surface material, and are to be stabilized as soon as constructed.
3. All sediment structures to remain in place until permission for their removal has been obtained from the Ho. Co. Office of Inspections and Permits (987-2433 Ext. 365).
4. All graded areas shall be stabilized by seeding and mulching in accordance with the following:
 1. Site Preparation:
 - A. Harrow or disc in areas proposed to be seeded with the following materials at the specified rate, to a depth of 3"
 1. Pulverized limestone at 1-1.2 tons/acre
 2. Commercial fertilizer 10-10-10 at 3 tons/acre
 3. Super phosphate of 600 lbs/acre
 2. Seeding:
 - A. Sow the following seed mixture at the rate of 200 lbs./acre with a mechanical spreader
 1. Temporary: Italian or Perennial Rye Grass
 2. Permanent: 40% Marion Blue Grass, 40% South Dakota Blue Grass & 20% Penn Lawn Creeping Red Fescue
 - B. The seeded area shall then be raked with a York Rake (minimum of 2 passes), covered and compacted with Cultipacker or other approved method.
 3. Mulching:
 - A. Seeded areas shall be uniformly mulched immediately after seeding with unweathered small grain straw at the rate of 1-1.2 to 2 tons/acre
 - B. Tie-mulch sown with liquid asphalt at 0.1 gal. s.y. or emulsified asphalt at 0.04 gal. s.y. on mulch netting.
 4. Access Road shall be gravel surfaced immediately after grading to prevent soil erosion.
 5. All areas disturbed by grading shall be seeded and mulched with temporary seed mixture.



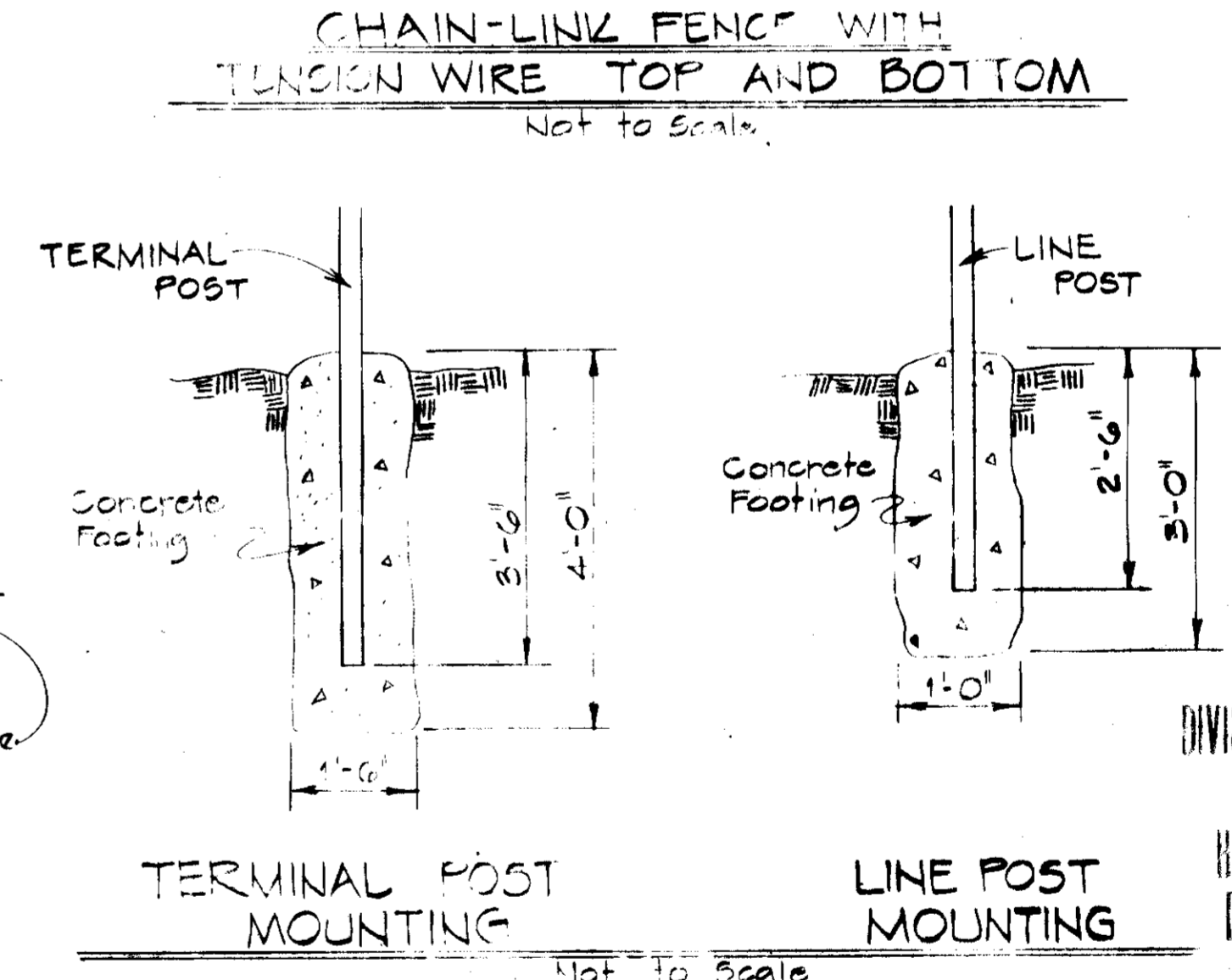
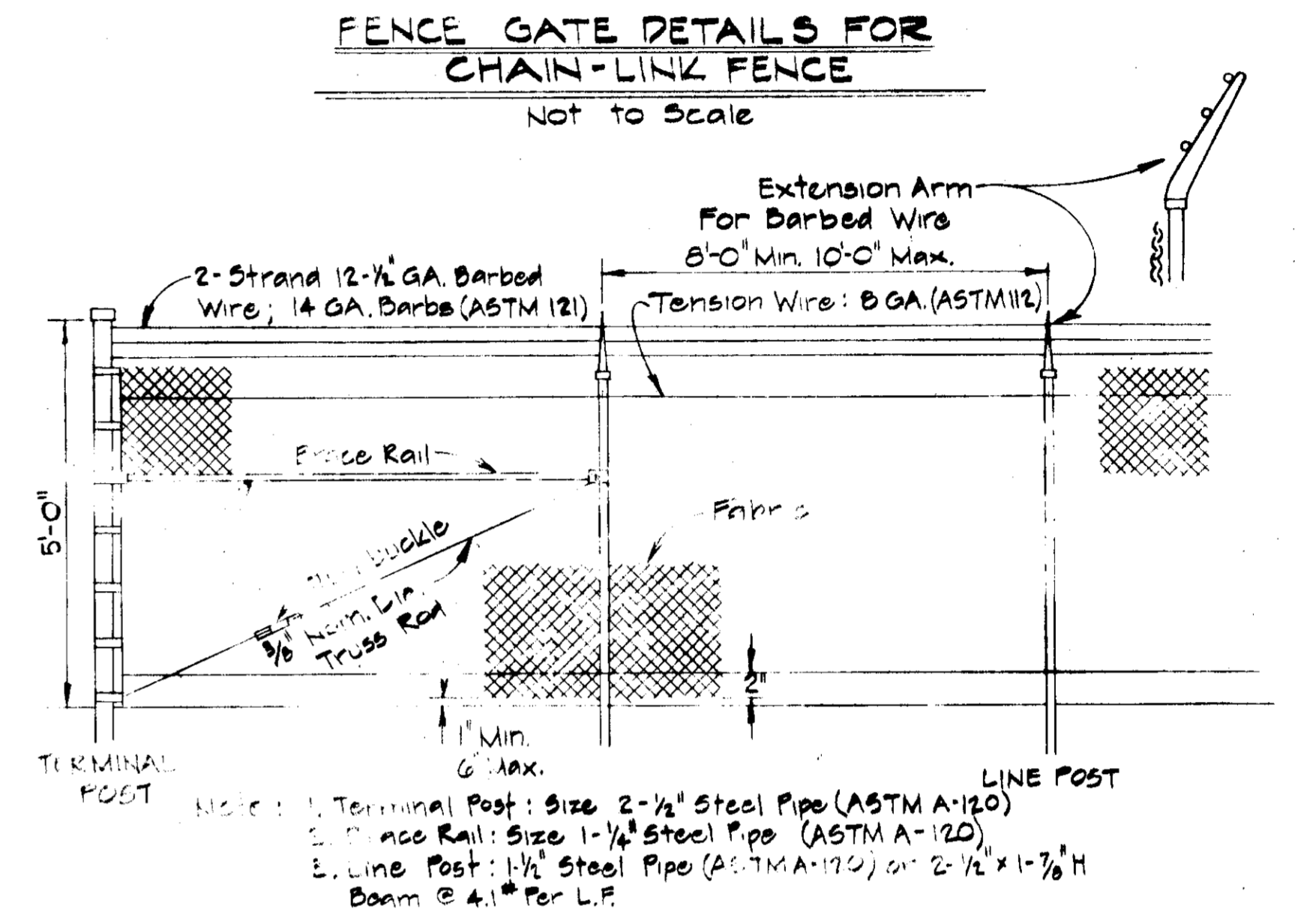
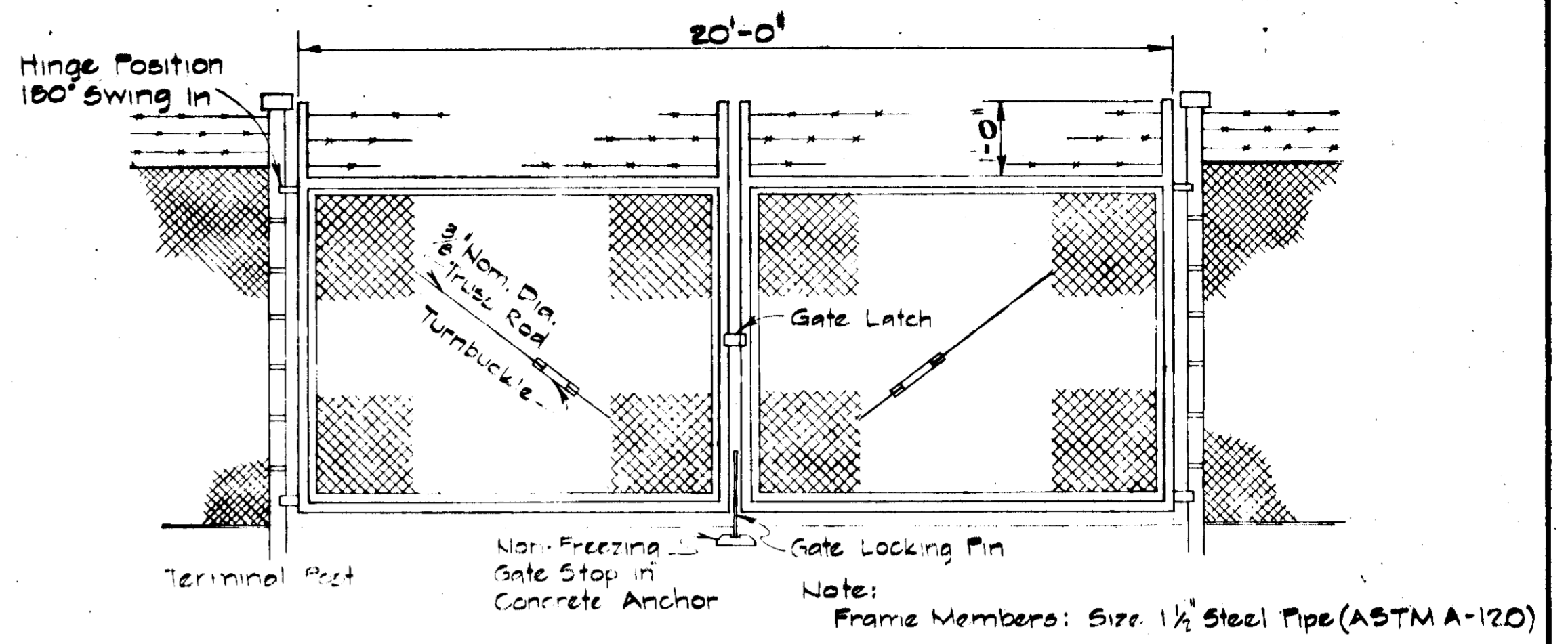
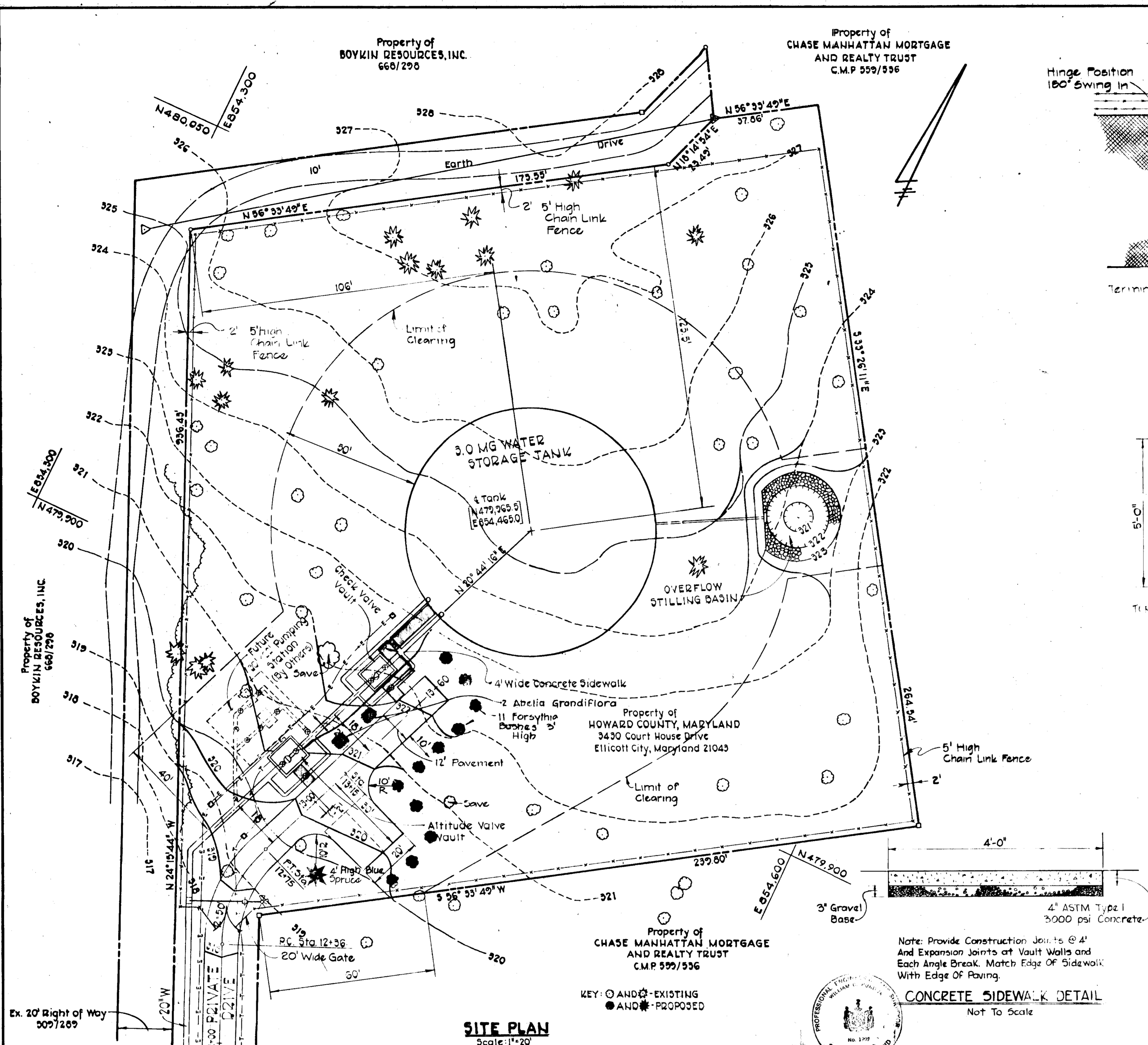
SCHEMATIC PROFILE
(Not to Scale)

APPROVED
DIVISION OF LAND DEVELOPMENT
HOWARD COUNTY, MARYLAND
DATE 10-1-79
AWM



APPROVED: FOR PUBLIC WATER DRAINAGE SYSTEMS AND ROADS, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS. <i>Wayne F. Nimmis</i> 11-2-79 DIRECTOR	APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING <i>Thomas G. Davis</i> 11-5-79 PLANNING DIRECTOR	APPROVED: FOR PUBLIC WATER, HOWARD COUNTY HEALTH DEPARTMENT <i>Joseph M. Ford</i> 10-31-79 COUNTY HEALTH OFFICER	HOWARD SOIL CONSERVATION DISTRICT REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS. <i>James Helms</i> 11-2-79 SIGNATURE THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT. APPROVED: <i>Wayne F. Nimmis</i> 11-2-79 HOWARD SOIL CONSERVATION DISTRICT DATE	DEVELOPER I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL, AND I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OF THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY. DEVIATION FROM THIS PLAN WILL NOT BE MADE UNLESS AUTHORIZED BY THE HOWARD SOIL CONSERVATION DISTRICT. <i>Wayne F. Nimmis</i> 10-31-79 SIGNATURE	PROFESSIONAL ENGINEER I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. <i>William D. Purdum</i> 10-29-79 REG. NO. 1992 DATE	CONTRACT NO. 828-W CAPITAL PROJECT NO. W-6-8091
PURDUM & JESCHKE ENGINEERS 1023 N. CALVERT ST. BALTIMORE, MARYLAND 21202		APPROVED: For Public Water, Storm Drainage Systems, and Public Roads HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS <i>Wayne F. Nimmis</i> 11-2-79 DIRECTOR OF PUBLIC WORKS DATE		CONTRACT NO. 828-W CAPITAL PROJECT NO. W-6-8091		SEDIMENT CONTROL PLAN
ROUTE I STORAGE FACILITY ELECTION DISTRICT GUILFORD NO.6 TAX MAP 43 LIBER/FOLIO 930/447				DRAWING NO. 3 OF 7	SCALE 1"=50' Designed: RHB Drafted: LJP Checked: CHL Date:	

W.O. 3408



CONCRETE SIDEWALK DETAIL
Not To Scale

APPROVED
DIVISION OF LAND DEVELOPMENT
HOWARD COUNTY, MARYLAND
DATE 10-1-79
Jum

SITE PLAN
Scale: 1"=20'

APPROVED: For Public Water System
HOWARD COUNTY HEALTH DEPARTMENT
COUNTY HEALTH OFFICER
DATE 10-31-79

APPROVED: Howard County Office of Planning and Zoning
PLANNING DIRECTOR
DATE 11-5-79

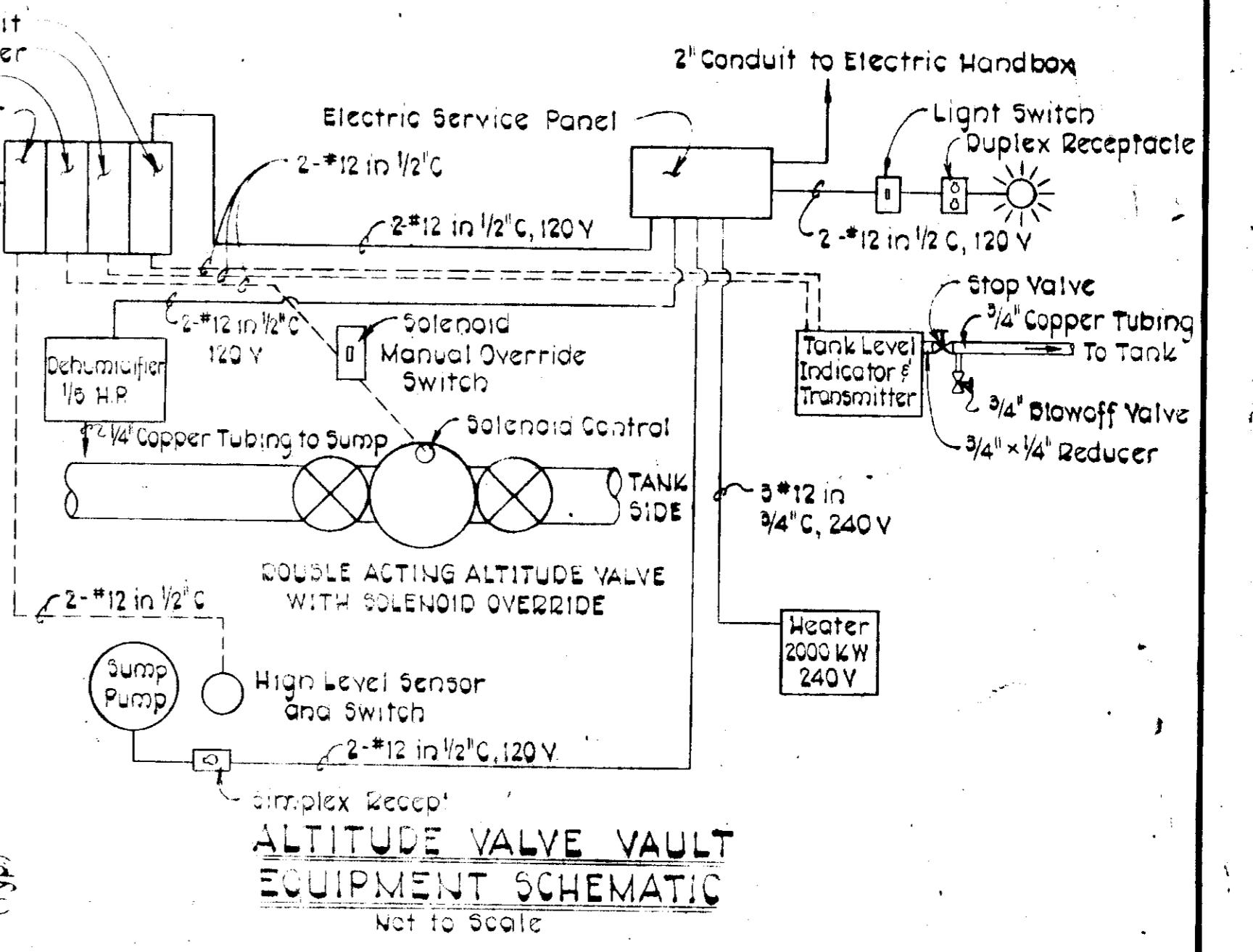
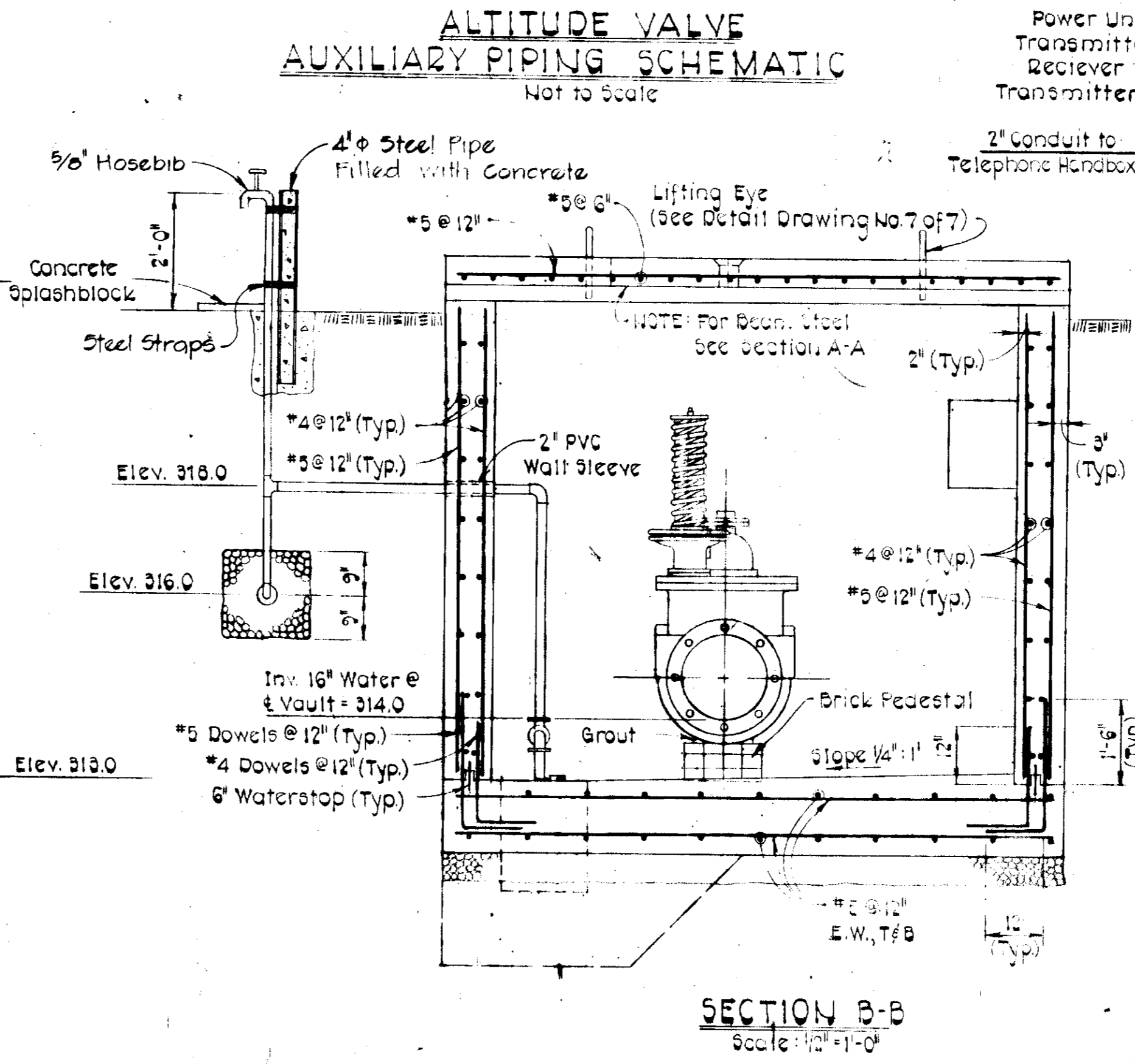
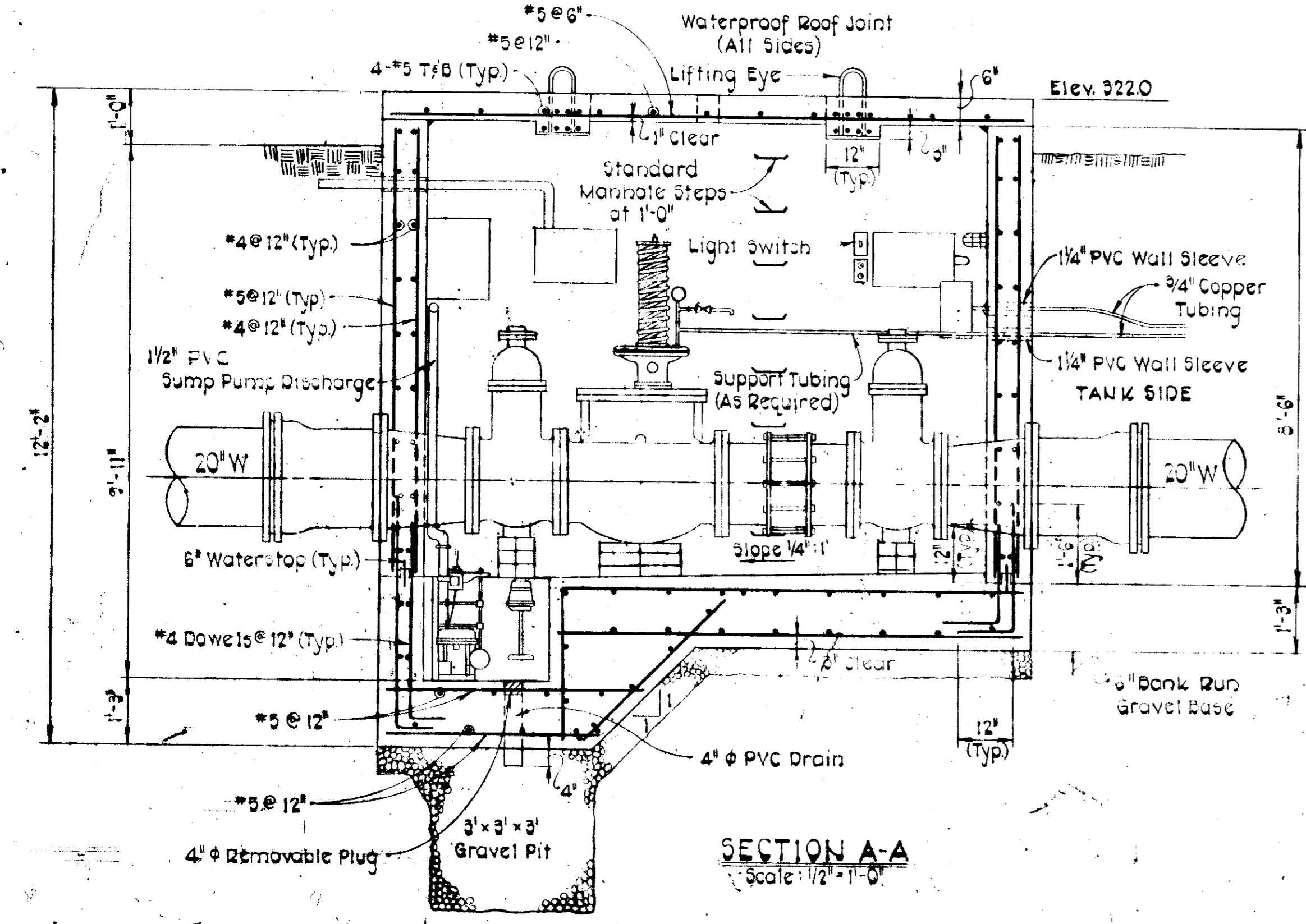
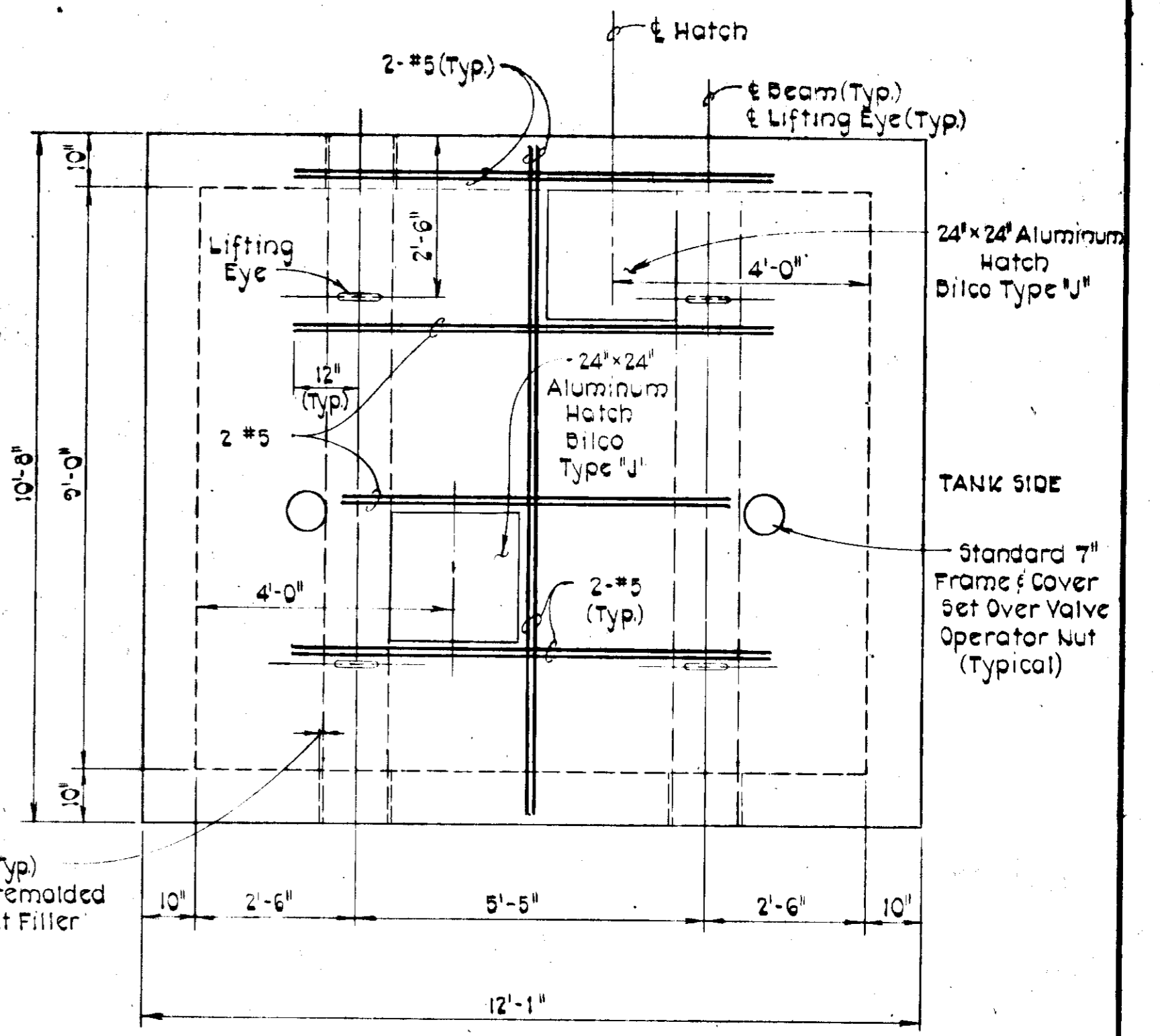
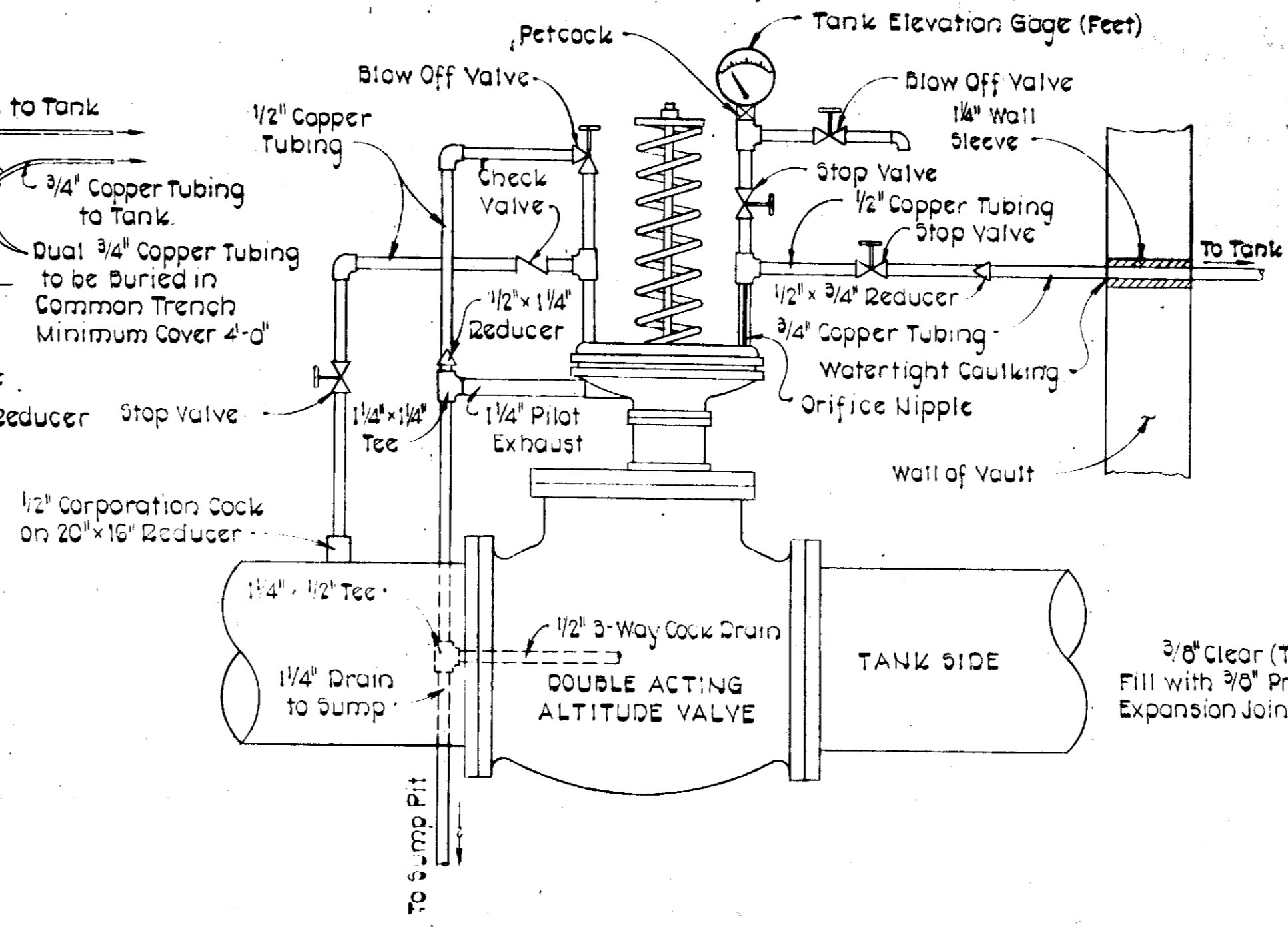
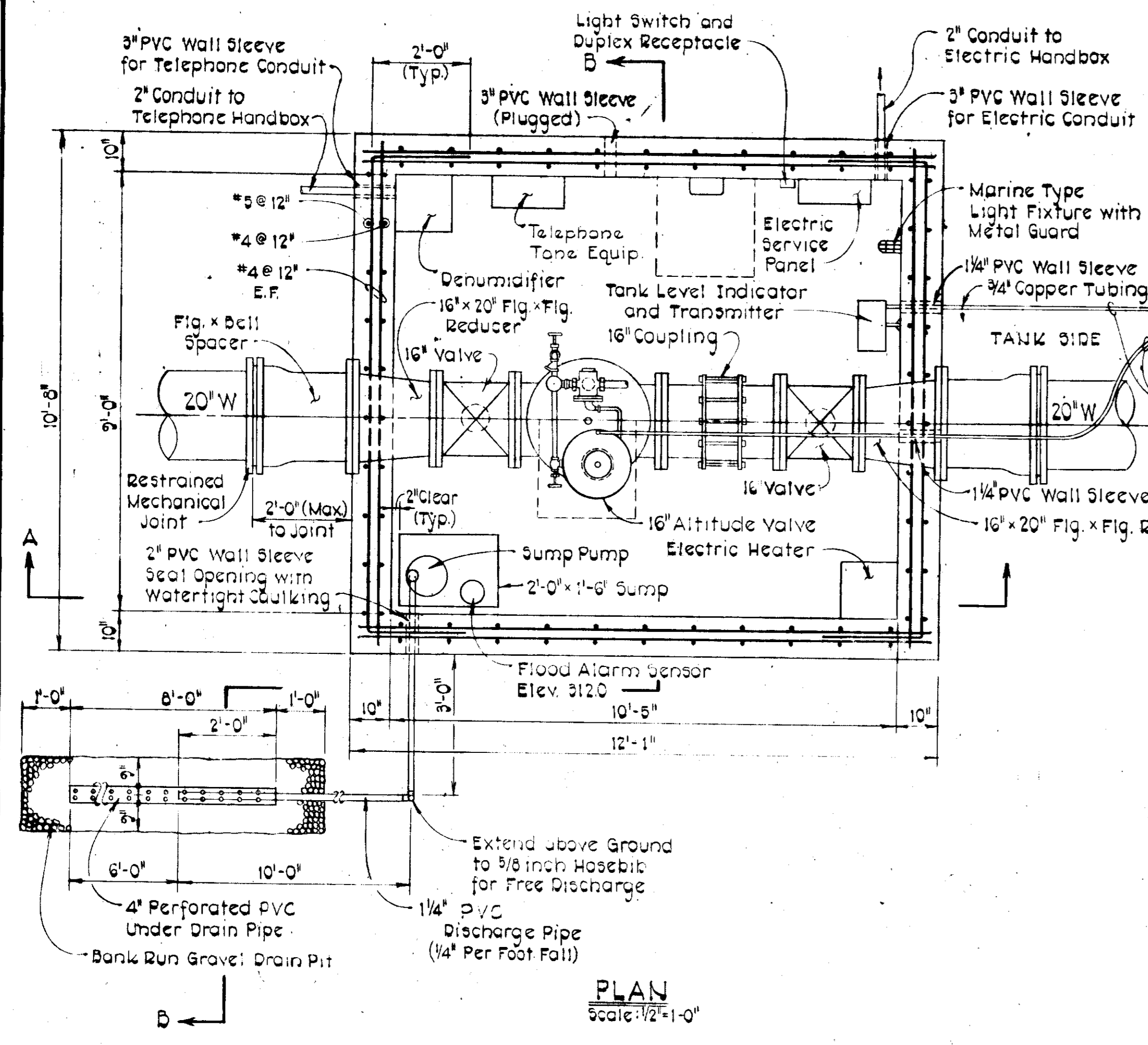
APPROVED: CHIEF, DIVISION OF LAND DEVELOPMENT
DATE 11-5-79



PROFILES
Scale: Horiz. 1"=100'
Vert. 1"=10'

CONTRACT NO. 828-W
CAPITAL PROJECT W-6-8091
ROUTE 1 STORAGE FACILITY

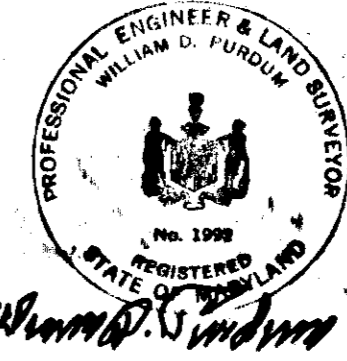
PURDUM & JESCHKE ENGINEERS 1023 N. CALVERT ST. BALTIMORE, MARYLAND 21202	APPROVED: For Public Water, Storm Drainage Systems, and Public Roads HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS DIRECTOR OF PUBLIC WORKS DATE 11-2-79	CONTRACT NO. 828-W CAPITAL PROJECT NO. W-6-8091	FENCING AND LANDSCAPING PLAN AND DETAILS	ROUTE 1 STORAGE FACILITY ELECTION DISTRICT GUILFORD NO. 6 TAX MAP 43 LIBER/FOLIO 930/447	DRAWING NO. 5 OF 7 SCALE AS SHOWN	Designed: RMB Drafted: ARZ Checked: CHL Date:
	SDP-79-126					



NOTE:
See Drawing No. 7 of 7 for Typical Reinforcement at Wall Opening.

APPROVED
DIVISION OF LAND DEVELOPMENT

HOWARD COUNTY, MARYLAND
DATE 10-1-79
[Signature]



CONTRACT NO. 828-W
CAPITAL PROJECT W-6-8091
ROUTE 1 STORAGE FACILITY

APPROVED: For Public Water System
HOWARD COUNTY DEPARTMENT
HEALTH OFFICER
[Signature]

APPROVED: Howard County Office of Planning and Zoning
PLANNING DIRECTOR
DATE 11-5-79
DATE 11-5-79

PURDUM & JESCHKE
ENGINEERS
1023 N. CALVERT ST.
BALTIMORE, MARYLAND 21202

APPROVED: For Public Water, Storm Drainage Systems, and Public Roads
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
DATE 10-1-79
DATE 10-1-79

CONTRACT NO. 828-W
CAPITAL PROJECT NO. W-6-8091

ALTITUDE VALVE VAULT
PLAN AND SECTIONS

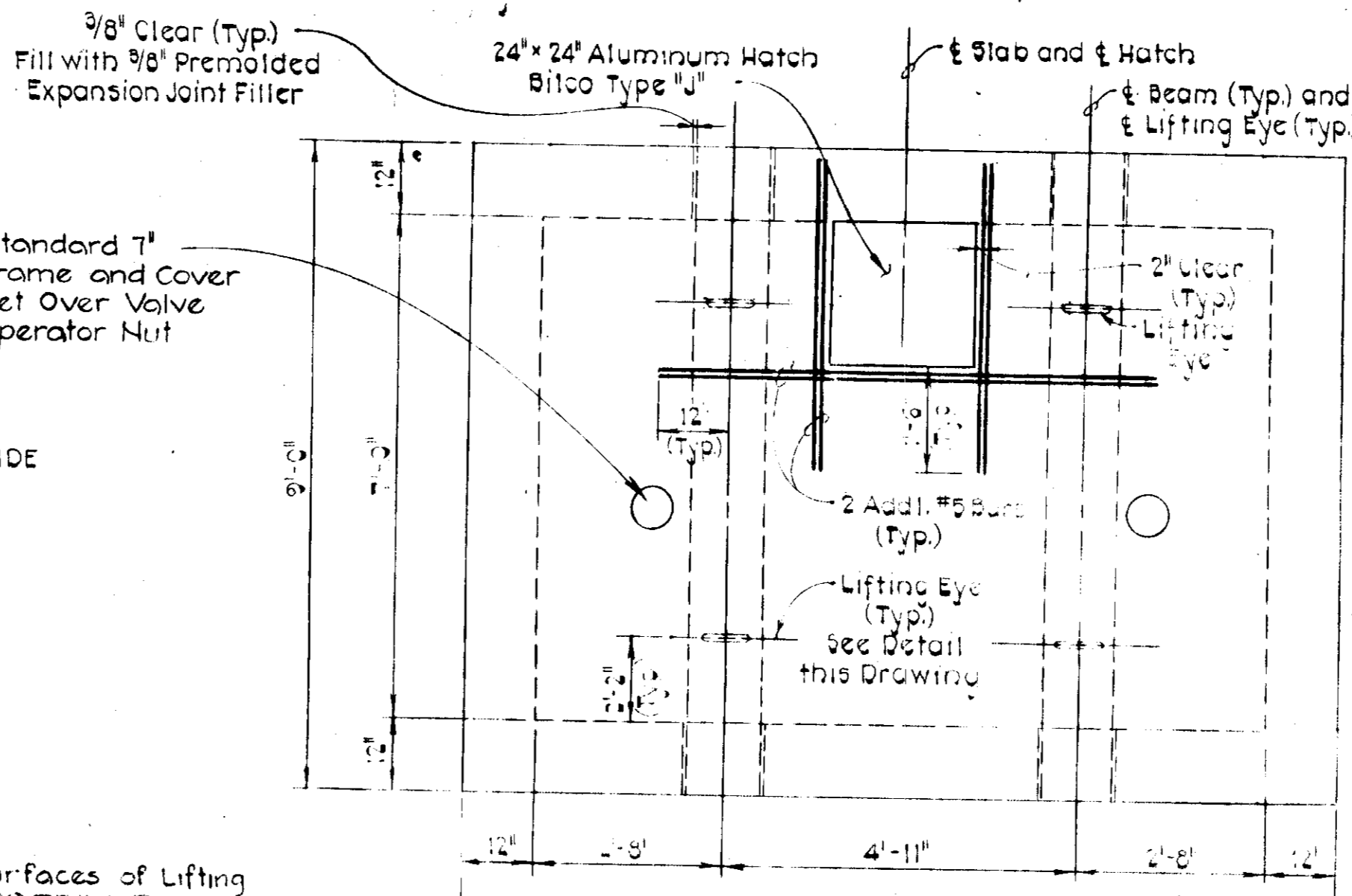
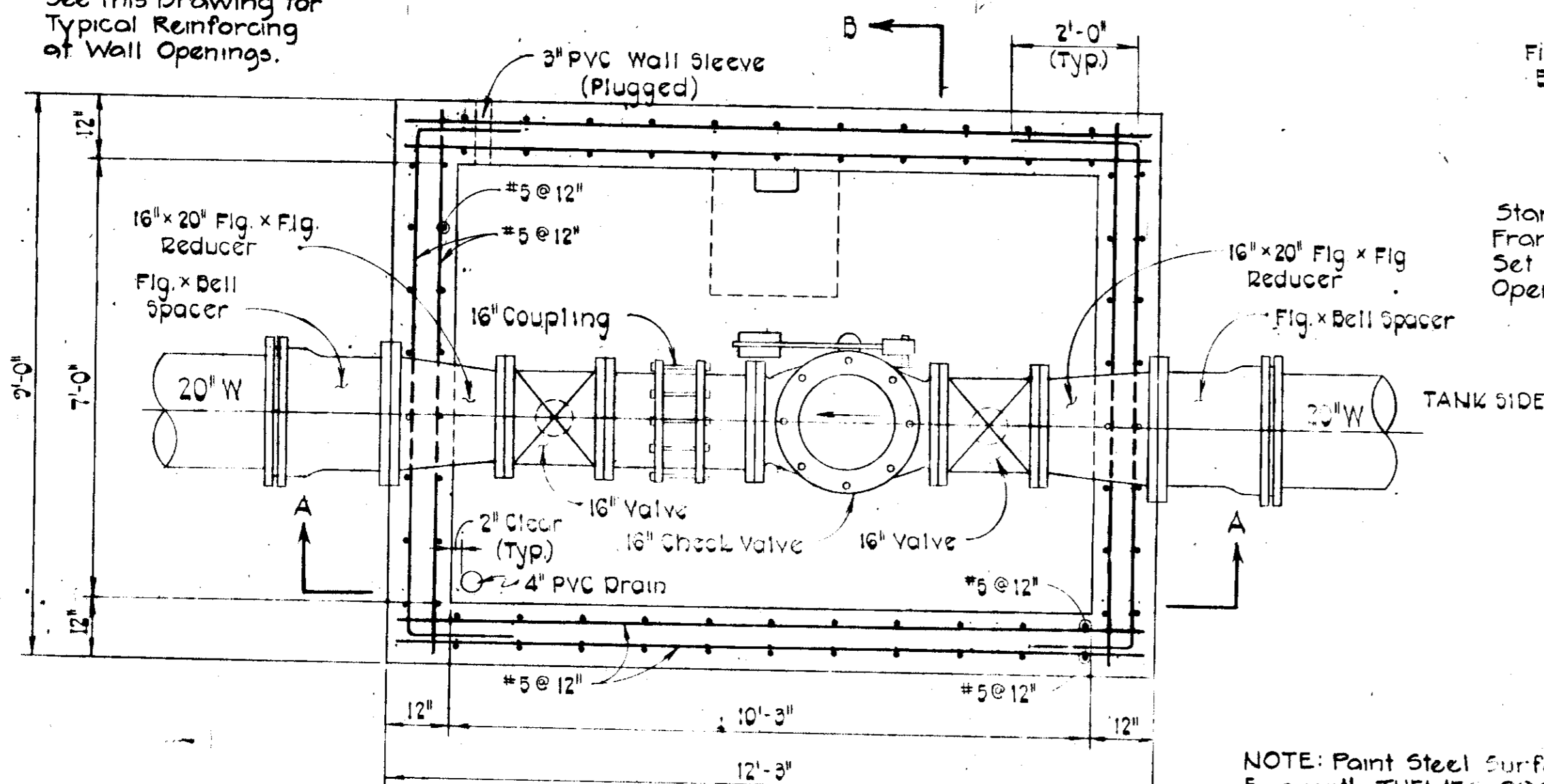
ROUTE 1 STORAGE FACILITY
ELECTION DISTRICT GUILFORD NO. 6
TAX MAP 43 LIBER/FOLIO 930/447

DRAWING NO. 6 OF 7
SCALE AS SHOWN
Designed: RMB
Drafted: ARZ
Checked: JNL
Date:

W.O. 3408

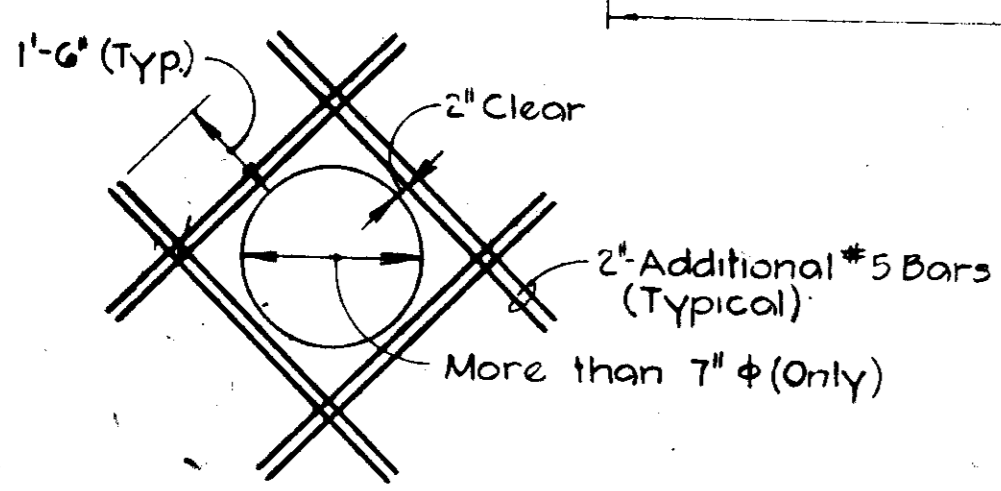
SDP-79-126 K&E BALTIMORE 17-043 PHOENIX MC 3341

NOTE:
See this Drawing for
Typical Reinforcing
of Wall Openings.

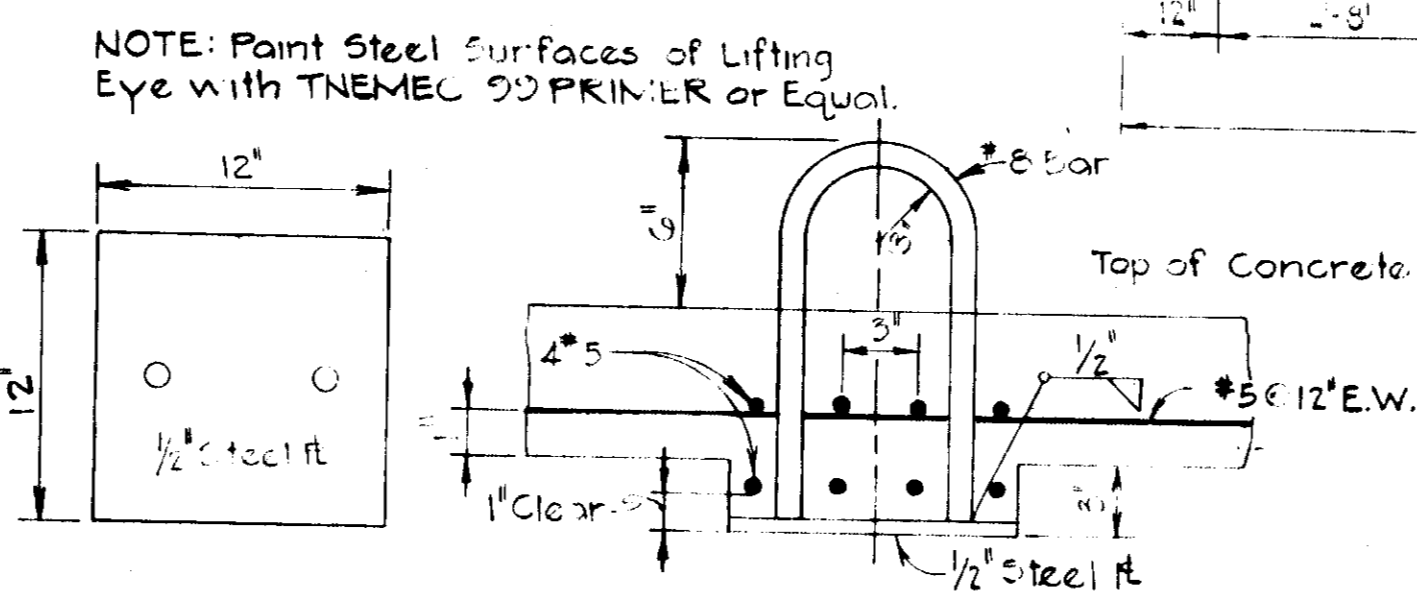


**ALTITUDE VALVE AND CHECK VALVE
VAULT NOTES**

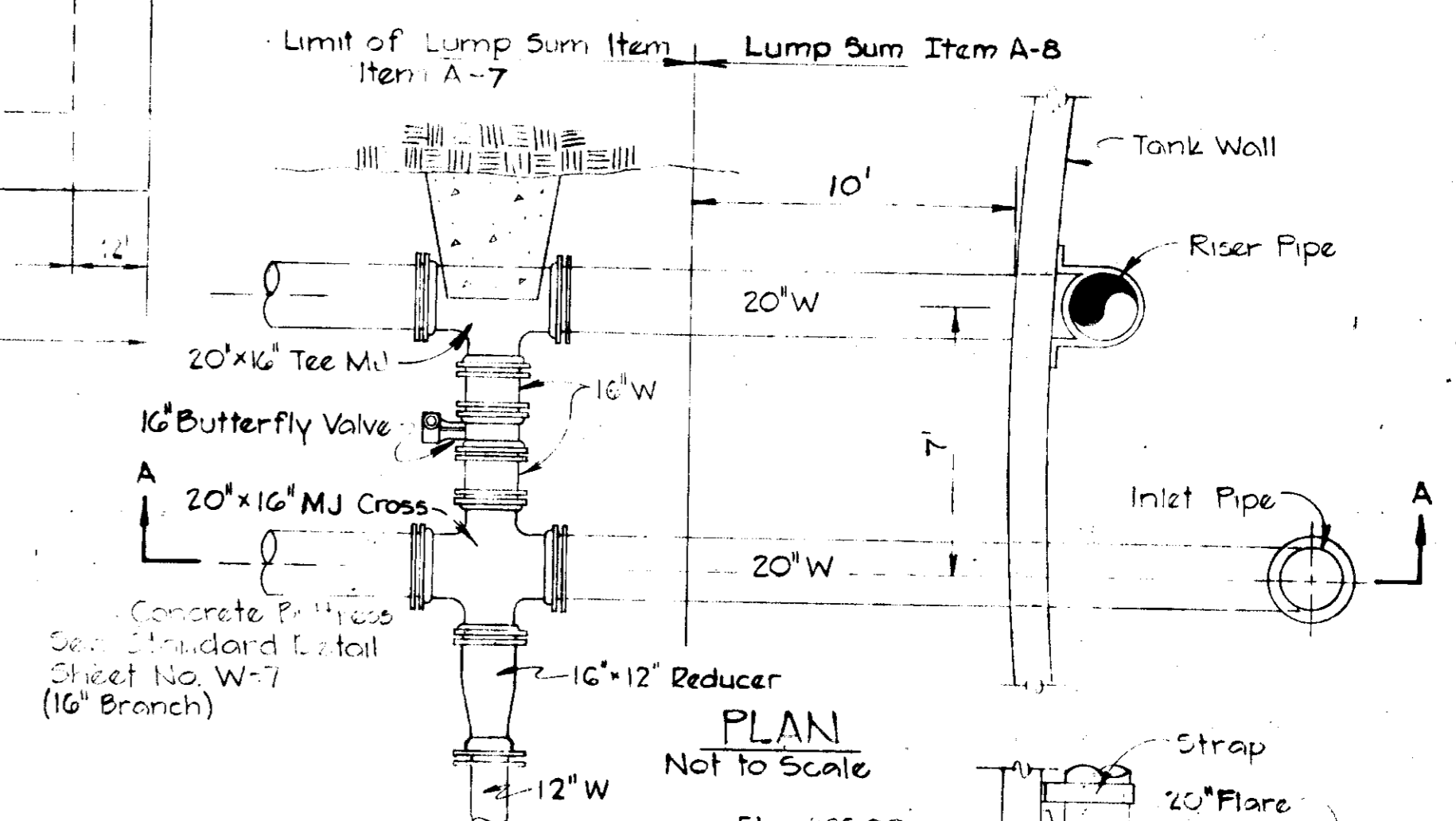
- Limits of Lump Sum item for Altitude Valve and Check Valve, vaults bypass piping, fittings and valves, telemetry equipment and recording devices, and other equipment including excavation and backfill, labor, and all materials are shown on the plan.
- Concrete for the vault shall be Class A - 3500 psi, air entrained with a maximum slump of 5 inches in accordance with Section 6 of the Specifications.
- Reinforcing steel shall be in accordance with the latest revisions of ASTM A-615 Grade 40 for Deformed Bars.
- Flanged pipe and fittings shall be Ductile Iron Pipe CI 52 with Class 125 flanges conforming to ANSI-A21-6 and A21-8 Specifications.
- Contractor shall use Flange x Plain End (PE) template and coupling when casting pipe in vault walls to guarantee alignment of pipe and bolt holes for later installation of Altitude Valve and Check Valve.
- Concrete for thrust blocking shall have a minimum strength of 3000 psi at 28 days.
- Concrete thrust block bearing surfaces shall be extended to undisturbed earth or firm subgrade.
- Concrete thrust blocks have been designed to resist test pressures of 100 psi.



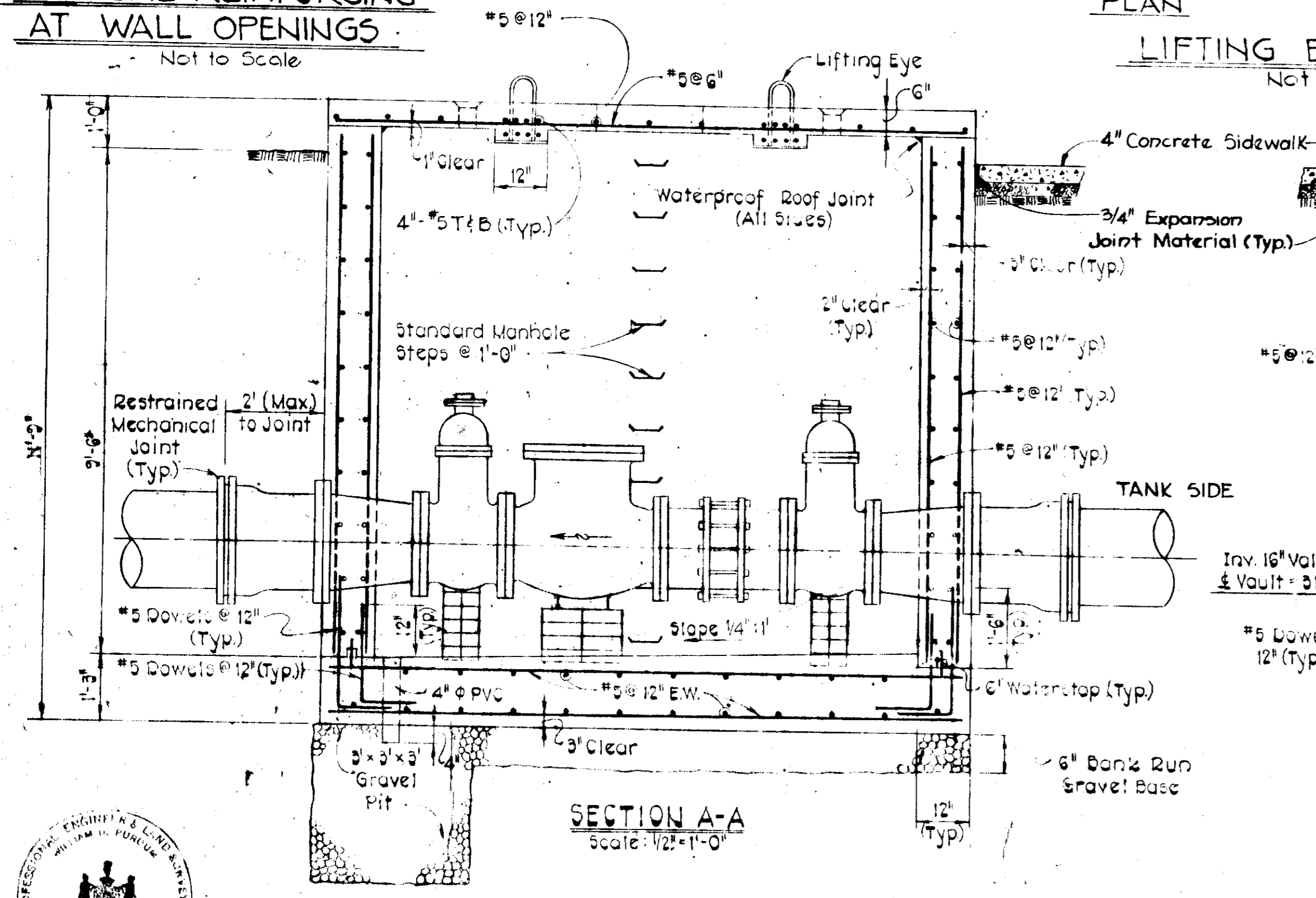
**TYPICAL REINFORCING
AT WALL OPENINGS**
Not to Scale



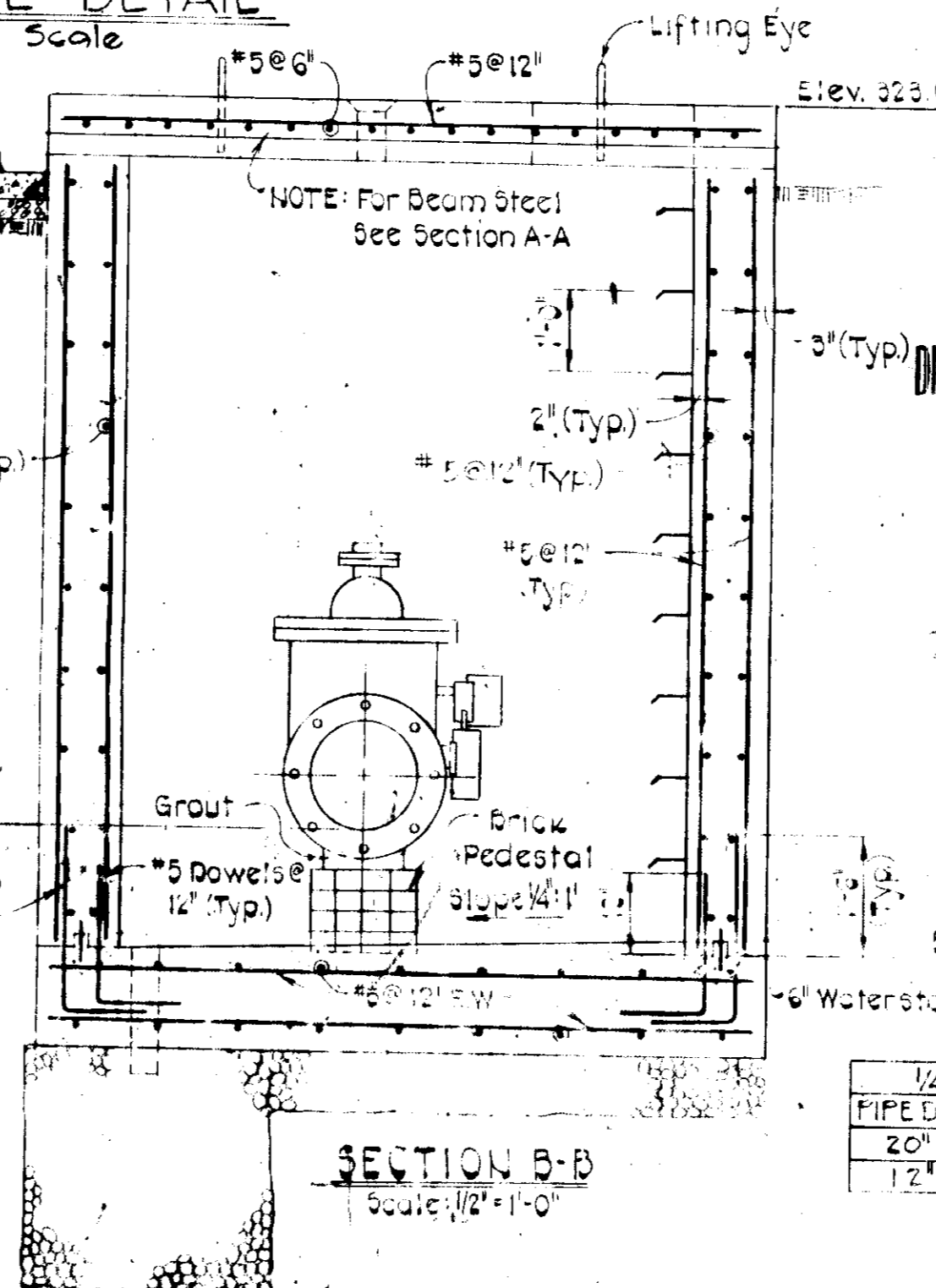
LIFTING EYE DETAIL
Not to Scale



SECTION A-A
Not to Scale

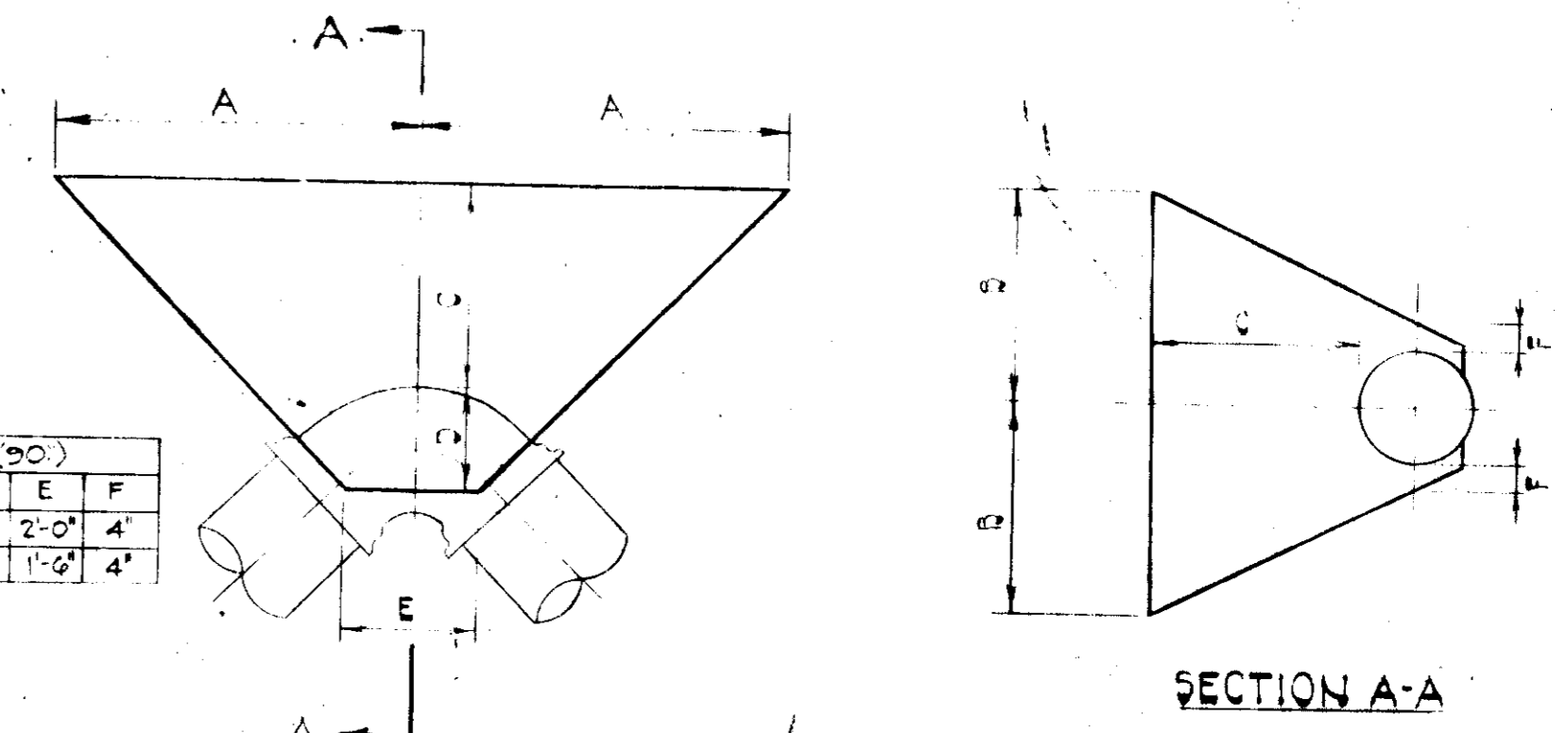


SECTION A-A
Scale: 1/2\"/>



SECTION B-B
Scale: 1/2\"/>

APPROVED
DIVISION OF LAND DEVELOPMENT
HOWARD COUNTY, MARYLAND
DATE 10-1-79
JWM



HORIZONTAL BEND THRUST BLOCK DETAILS
Not to Scale

CONTRACT NO. 828-W
CAPITAL PROJECT W-6-8091
ROUTE 1 STORAGE FACILITY



APPROVED: For Public Water System
HOWARD COUNTY HEALTH DEPARTMENT
COUNTY HEALTH OFFICER

APPROVED: Howard County Office of Planning and Zoning
PLANNING DIRECTOR
CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: For Public Water, Storm Drain Systems, and Public Roads
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
DIRECTOR OF PUBLIC WORKS

CONTRACT NO. 828-W
CAPITAL PROJECT NO. W-6-8091

CHECK VALVE VAULT
PLAN AND SECTIONS

ROUTE 1 STORAGE FACILITY
ELECTION DISTRICT GUILFORD NO. 6
TAX MAP 43 LIBER/FOLI/O 930/447

DRAWING NO. 7 OF 7 SCALE AS SHOWN
Designed: RHB
Drafted: ARZ
Checked: CHL
Date: