



Ugum Reservoir No. 2 Construction
GWA Project No. W14-007-BND
IFB-06-ENG-2023
GWA RFI Response No. 1 to Contractor Inquiries

This Addendum and/or Response to Request for Information (RFI) is issued to modify the previously issued bid documents and/or given for informational purposes and to the extent the responses below modify the bid documents, please treat them as an amendment to the IFB. The following responses are in response to RFIs received.

	DATE	QUESTION/INQUIRY AS SUBMITTED:	GWA RESPONSE:
1	02/07/2023	Due to the specialized materials for this bid, pricing from our suppliers requesting are more time. May we request 3 – 4 weeks extension of the bid due date.	<p>Bid acceptance deadline has been extended to March 31, 2023 at 10 a.m. ChST.</p> <p>See Addendum No. 2.</p>
2	02/07/2023	Please confirm that the period of performance application duration due to lengthy process and that the NTP will be issue after obtaining the required permits.	<p>The permit application process is part of the period of performance. Should permit process be delayed for an extended period at no fault of the Contractor, extension shall be considered.</p>
3	02/07/2023	Please clarify the extent of GWA participation for the utility outages.	<p>See Section 011000, D, Utility Outages and Shutdown.</p> <p>Additional Information: Once a complete outage request has been submitted by the Contractor, GWA operations and engineering will review the request and approve or reject the request.</p> <p>If an outage has been approved, GWA, in general, will</p> <ul style="list-style-type: none">• GWA will issue a public outage notice.• GWA operations will perform necessary work to shut down the system for the Contractor to perform the

			<p>work. There may be instances where Contractor will need to assist GWA operations, i.e. installing a saddle for pressure monitoring, uncovering bury valves.</p> <ul style="list-style-type: none"> GWA engineering and Construction Manager will monitor and inspect the outage work. This includes pre-inspection of the site and material prior to the outage. <p>After Contractor has completed the work, GWA operations will place the system back online. Typically, restoration will take several hours and the Contractor is expected to stay onsite to correct any work deficiencies that may occur during restoration.</p>
4	02/07/2023	Kindly provide drawings/plans for the existing Inarajan Water Reservoir.	<p>See Attachments:</p> <ul style="list-style-type: none"> Inarajan Reservoir Record Drawing
5	02/07/2023	Please clarify that for water and electrical utilities, contractor would be able to temporarily tapped into the existing Ugum Water Treatment Plant?	See Section 015000, 1.5 Temporary Electricity and 1.8 Temporary Water Service.
6	02/07/2023	As mentioned in the pre-bid conference, please confirm that the only material under buy American is the reservoir's reinforcement bars.	<p>See Section 0160000, 1.2, D, Buy American Requirements.</p> <p>Buy American requirements apply to all reinforcement steel used under this Contract.</p> <p>Plan and Specifications – Revision A is forthcoming in an Addendum.</p>
7	02/07/2023	Due to the lack of information, kindly specify or identify the type of pipe material for each water utility profile for better pricing.	Yard and Site Water piping is specified in Section 331113, Part 2. Pipe within structures is specified in Section 400501, Part 2, and 400525, Part 2, and as indicated on M-Drawings.
8	02/07/2023	Reference drawing I-202, please provide a Diagram for the IP-1 Panel Layout.	<p>Contractor shall refer to remaining I&C drawings for IP-1 Panel power supply and I/O signals requirements.</p> <p>Contractor shall submit detailed shop drawings for review and approval by CM and GWA before start of work.</p>
9	02/13/2023	Section 033140: Please confirm whether pipe and miscellaneous metals for the prestressed tank are required to be Buy American?	See Section 0160000, 1.2, D, Buy American Requirements.

10	02/13/2023	Section 031000-3.2.4.: Indicates forms shall not be removed for at least 36 hrs with an ambient temperature above 50°F. Please have the Project Engineer review and confirm that the wall forms may be removed after 36 hours or a minimum compression strength of 2500 psi is achieved, whichever occurs first.	Conform to Specification's requirements.
11	02/13/2023	Section 03300 3.5.a, 033010 3.3.H and 033010 3.5.A: Provide varied guidance on the required cure time prior to casting adjacent units in hydraulic structures. Please note that it is standard prestressed tank industry practice to a wall section back against a previous wall section after the wall has experienced 36 hours of cumulative curing time above 50°F. The prestressed tank wall is supported on neoprene bearing pads that allow curing to occur without restraint. Please have the Project Engineer review and confirm that a 36 hour pour-back time between adjacent wall sections is acceptable for use on this project in accordance with Section 033010 3.3.H.	36 hour pour-back time is acceptable. Plan and Specifications – Revision A is forthcoming in an Addendum.
12	02/13/2023	Section 31 62 13 20 discusses precast concrete piles and specification 31 63 29 discusses cast-in-drilled hole (CIDH) concrete piles. Drawing S102 and S103 have additional guidance on finished pile details. Section 31 63 29 discusses the horizontal tolerance for the drilled hole / pile placement and the center-to-center spacing of these 2' diameter CIDH concrete piles being +/- 3" horizontally. Please confirm the allowable vertical tolerance (concrete and rebar) for CIDH concrete piles per section 31 63 29 and please confirm the horizontal and vertical tolerance (concrete and rebar) for pre-cast piles per section 31 62 13 20.	Piles are 18" and not 24". Construct piles per tolerances indicated in the Specifications.
13	02/13/2023	Sheet S101: Please confirm whether additional piles will be required under the reservoir pipe encasements.	No additional piles will be required under the pipe encasements.
14	02/13/2023	Sheet S10: Indicates that the 24" diameter column starter bars are to be aligned with the rebar protruding from an 18" diameter CIDH pile. However, the pile has an allowable horizontal tolerance of +/- 3", greater than the allowable deviation for a column per ACI 117. Please clarify that if a shifted-within-tolerance pile scenario occurs, is it the intent for tank contractor to shift column such that it is located on top of CIDH pile or to modify geometry of column starters such that the column is located per design.	Column location should not be changed based on the pile tolerance. Rebar interference should be adjusted in the field as required.

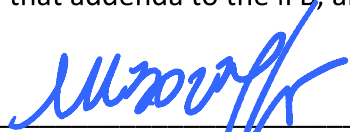
15	02/13/2023	Sheet S102: Indicates that the 24" diameter column starter bars are to be aligned with the rebar protruding from an 18" diameter CIDH pile. Please note that square pre-cast piles are also an option, in which the 24" diameter column starters will not fit over the protruding rebar from the pre-cast pile. Please clarify if the intent is for the tank contractor to modify geometry of column starter bars such that they fit over the square pre-cast pile rebar.	Column geometry should not be modified. Any bar interference from the mat foundation into the column should be field adjusted.
16	02/13/2023	Sheet S120 – Detail 1: Indicates clearance requirements of 2" to the outside face of the corewall. Similar to previous GWA projects, please confirm if this can be modified to 1" clear in accordance with AWWA D110?	1" clearance is acceptable. Plan and Specifications – Revision A is forthcoming in an Addendum.
17	02/13/2023	Sheet S125 – Section A: Rebar in pipe encasement is shown in section A. Is it intended that rebar from pipe encasement tie into the Pile Cap / Mat Slab?	Pipe encasement rebar should be tied into the mat slab by extending #4 bars.
18	02/13/2023	Section 013000 page 3 paragraph 1.5 D Progress meeting minimum agenda. a. UXO: Please clarify if UXO is part of the scope of work of the contractor and identify specific scope. b. Archaeological: Please clarify if archaeological work is required for the project.	a. UXO is not part of the scope of work. b. For Archaeological, see Specification Section 011000, 1.9, A, B, and C. Plan and Specifications – Revision A is forthcoming in an Addendum.
19	02/13/2023	Drawing sheet C010 shows the "Stabilize Construction Entrance" along an existing road. During the site visit this area is properly provided with a "PRIVATE PROPERTY SIGN" and a site walk through was not conducted in this area. a. Please clarify if this area is a public road or private property b. Confirm that getting access to this area will be the responsibility of GWA. c. Please provide limits of construction.	a. 50' wide public and utility easement. b. Access is the responsibility of the Contractor. See Section 00700 General Conditions, 5.01, C. c. Limits of construction shall be within Lots, 3, 4 and 5, Block 4, Tract 3521 and the public and utility easements.
20	02/13/2023	Specification section 316329 requires the use of Cast-in-drilled hole concrete piles (CIDH) following ADSC construction procedures and design methods. a. Due to size of the project, it may be difficult to bring an off-island company. Will the government consider a precast driven pile foundation? b. If the government accepts precast driven piles, please provide alternate design and specifications for bidding.	Precast pile alternative was provided with Section 316213.20.

21	02/13/2023	To provide the government with a competitive bid, we are requesting a six (6) weeks of time extension of bid date from March 3, 2023 to April 14, 2023. With the current ongoing military bids our company is committed to and sourcing an off-island company for the pile foundation work, it will be difficult to bid on the current deadline.	<p>Bid acceptance deadline has been extended to March 31, 2023 at 10 a.m. ChST.</p> <p>See Addendum No. 2.</p>
22	02/13/2023	Specification section 011000 paragraph 1.4 B project Milestones: Requires the Ugum Reservoir No.2 to be completed or substantially completed no later than 345 calendar days from NTP. How did the government come up with the 345 calendar days? Based on the previous bids, completed tank projects and on going tank projects the construction period is much longer than 345 calendar days not including a pile foundation. This project is supported by a pile foundation and up to 3-feet thick of flowable fill as soil replacement. Please consider revising the construction.	<p>Section 011000 is being replaced in its entirety in a forthcoming Addendum and provides a revised schedule for Substantial Completion.</p> <p>Plan and Specifications – Revision A is forthcoming in an Addendum.</p>
23	02/13/2023	Please provide and identify the location of staging area the government can provide for free. The main sub contractor DN tank alone is looking for a 100' x 75' laydown area. If the intent of the government is to use a private lot kindly identify the lot and the contact information of the lot owner.	<p>See Section 00700 General Conditions, 5.01, C.</p> <p>“Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.”</p>
24	02/13/2023	Please clarify if cathodic protection is required and if required it will be requested as separate change order.	No requirements for cathodic protection, except as provided for in contract documents.
25	02/13/2023	In order to get competitive prices from mainland and subs we would like to request a 3-week extension for bid submission from March 3, 2023 to March 20, 2023.	<p>Bid acceptance deadline has been extended to March 31, 2023 at 10 a.m. ChST.</p> <p>See Addendum No. 2.</p>
26	02/28/2023	<p>Section 03 30 10, Para. 2.1D.3.b.2</p> <p>Subject: Two of the Sieve sizes indicated in the Table #50 and #100, we cannot meet</p> <p>Hawaiian Rock Products’ fine aggregate meet requirements of ASTM C33. Can we use the requirements of ASTM C33 for Fine Aggregate.</p>	<p>Fine aggregates meeting the requirements in ASTM C33 will be acceptable.</p> <p>Plan and Specifications – Revision A is forthcoming in an Addendum.</p>
27	02/28/2023	<p>Section 32 12 16 – Asphalt Paving, Para. 2.1A2/3 – Prime and Tack Coat</p> <p>Subject: Requires SS-1 or SS-1h conforming to ASTM D977, for both</p>	<p>Section 32 12 16 paragraph 2.1A2/3 revised.</p> <p>Plan and Specifications – Revision A is forthcoming in an Addendum.</p>

		<p>Prime and Tack Coat</p> <p>In Guam we cannot use these types of emulsified asphalt because of a polarity problem between our water and the emulsified asphalt. CSS-1h emulsified asphalt conforming to ASTM D2397 is the emulsified asphalt that will dilute with the water here and can be used on Guam.</p>	
28	02/28/2023	<p>Section 32 12 16 – Asphalt Paving, Para. 2.1.A1 – Asphalt Binder</p> <p>Subject: Requires AASHTO M320, Performance Grade 70-20</p> <p>This type of Binder is not available in Guam. We use binder that meets AASHTO M226, Viscosity Graded Asphalt Cement AR16000.</p>	<p>Section 32 12 16 paragraph 2.1.A1 revised.</p> <p>Plan and Specifications – Revision A is forthcoming in an Addendum.</p>
29	02/28/2023	<p>Section 32 12 16 – Asphalt Paving, Para. 2.1B.4</p> <p>Subject: Requires “Combination of aggregates having a history of polishing shall not be used in surface courses.” Also, Gradation “B” and “D” are required.</p> <p>Local aggregates (Limestone) polishes, and in order to meet specs requirement, we have to import basalt aggregate, which makes the material cost expensive.</p> <p>For the intended use, that of a Parking Lot, we propose to use locally available limestone material that meets Gradation “C” of the FHWA FP-03 specification.</p>	<p>Section 32 12 16 paragraph 2.1.B.4 revised.</p> <p>Plan and Specifications – Revision A is forthcoming in an Addendum.</p>
30	02/28/2023	<p>Reference: Section 03 30 10, Para. 2.1D.3.b.2</p> <p>Subject: Two of the Sieves sizes indicated in the Table, #50 and #100 cannot be met.</p> <p>Question: Hawaiian Rock Products’ fine aggregate meet requirements ASTM C33. Can we use the requirements of ASTM C33 for fine Aggregate?</p>	<p>Fine aggregates meeting the requirements in ASTM C33 will be acceptable.</p> <p>Plan and Specifications – Revision A is forthcoming in an Addendum.</p>
31	02/28/2023	<p>Reference: Section 32 12 16, Asphalt Paving, Para. 2.1A2/3 – Prime and Tack Coat</p> <p>Subject: Requires SS-1 or SS-1h confirming to ASTM D977, for both</p>	<p>Section 32 12 16 paragraph 2.1A2/3 revised.</p> <p>Plan and Specifications – Revision A is forthcoming in an Addendum.</p>

		<p>Prime and Tack Coat.</p> <p>Question: Per Hawaiian Rock Products, in Guam we cannot use these types of emulsified asphalt because of a polarity problem between our water and the emulsified asphalt. CSS-1h emulsified asphalt conforming to ASTM D2397 is the emulsified asphalt that will dilute with the water here and can be used in Guam. Please confirm.</p>	
32	02/28/2023	<p>Reference: Section 32 12 16 – Asphalt Paving, Para. 2.1.A1 – Asphalt Binder</p> <p>Subject: Requires AASHTO M320, Performance Grade 70 – 20.</p> <p>Question: This type of binder is not available in Guam, Hawaiian Rock Products uses binder that meets AASHTO M226, Viscosity Graded Asphalt Cement AR8000. Please confirm if allowed.</p>	<p>Section 32 12 16 paragraph 2.1.A1 revised.</p> <p>Plan and Specifications – Revision A is forthcoming in an Addendum.</p>
33	02/28/2023	<p>Reference: Section 32 12 16 – Asphalt Paving, Para. 2.1B.4</p> <p>Subject: Requires “Combination of aggregates having a history of polishing shall not be used in surface course.” Also, Gradat “B” and “D” are required.</p> <p>Question: Local aggregates (limestone) polishes, and in order to meet the specs requirement, Hawaiian Rock Products will have to import basalt aggregates, which makes the material cost more expensive.</p> <p>For the intended use, that of a parking lot, we propose to use locally available limestone material that meets Gradatio "C" of the FHWA FP-03 specification. Please confirm</p>	<p>Section 32 12 16 paragraph 2.1.B.4 revised.</p> <p>Plan and Specifications – Revision A is forthcoming in an Addendum.</p>

Bidders are also notified to visit GWA website: www.guamwaterworks.org/bids to ensure that addenda to the IFB, answers to questions, and reminders are communicated to all bidders throughout the solicitation process.


 MIGUEL C. BORDALLO, P.E.
 General Manager

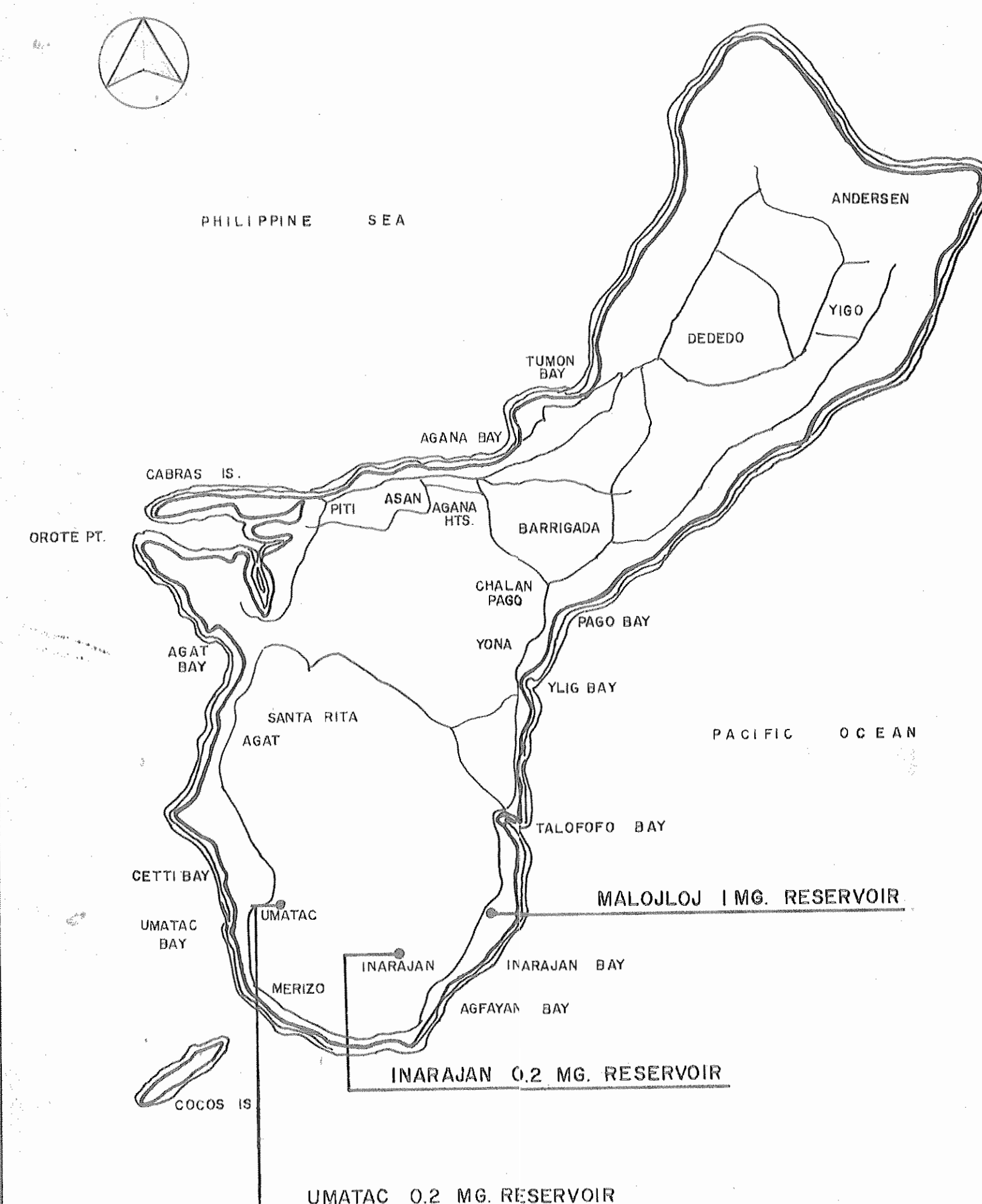
MMcD

MCB; gy

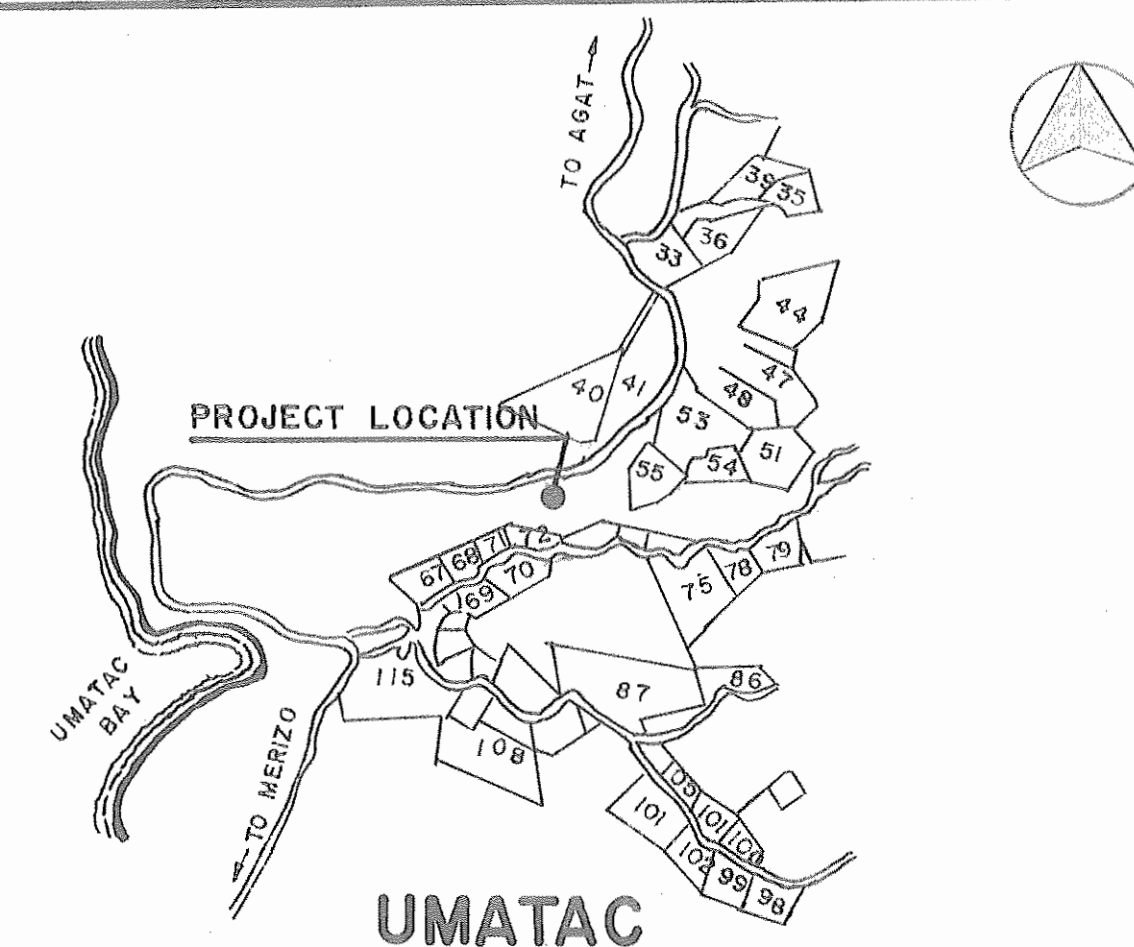
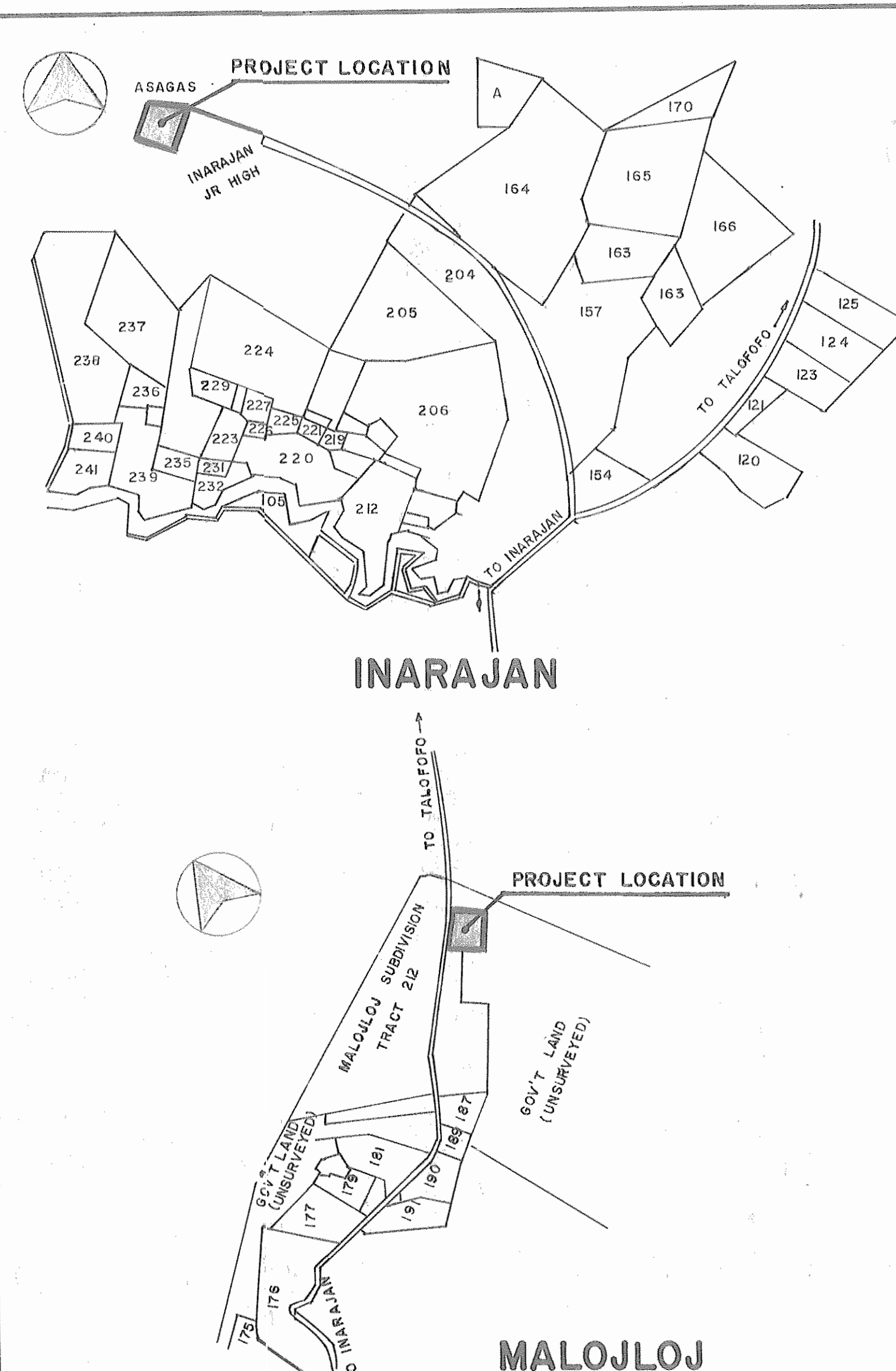
INARAJAN - MERIZO - UMATAC WATER SYSTEM SUPPORT FACILITIES

PROJECT NO. 110-1006L-TER

LOCATION MAP



VICINITY MAPS



INDEX OF DRAWINGS

SHEET NO.	DWG. No.	TITLE OF DRAWINGS
1 OF 8	T-1	LOCATION & VICINITY MAPS.
2 OF 8	C-1	MALUJLOJ 1MG RESERVOIR SITE & GRADING PLAN.
3 OF 8	C-2	INARAJAN 0.2 MG. RESERVOIR SITE & GRADING PLAN.
4 OF 8	C-3	UMATAC 0.2 MG. RESERVOIR SITE & GRADING PLAN.
5 OF 8	S-1	FOUNDATION PLANS & DETAILS.
6 OF 8	M-1	RESERVOIR PIPING SYSTEMS.
7 OF 8	ST-1	STANDARD DETAILS.
8 OF 8	ST-2	STANDARD DETAILS.

APPROVALS

APPROVED BY:

[Signature]
CHIEF OFFICER OF
PUBLIC UTILITY AGENCY OF GUAM

10-27-77
DATE

APPROVED BY:

ADMINISTRATOR
GUAM ENVIRONMENTAL PROTECTION AGENCY

DATE

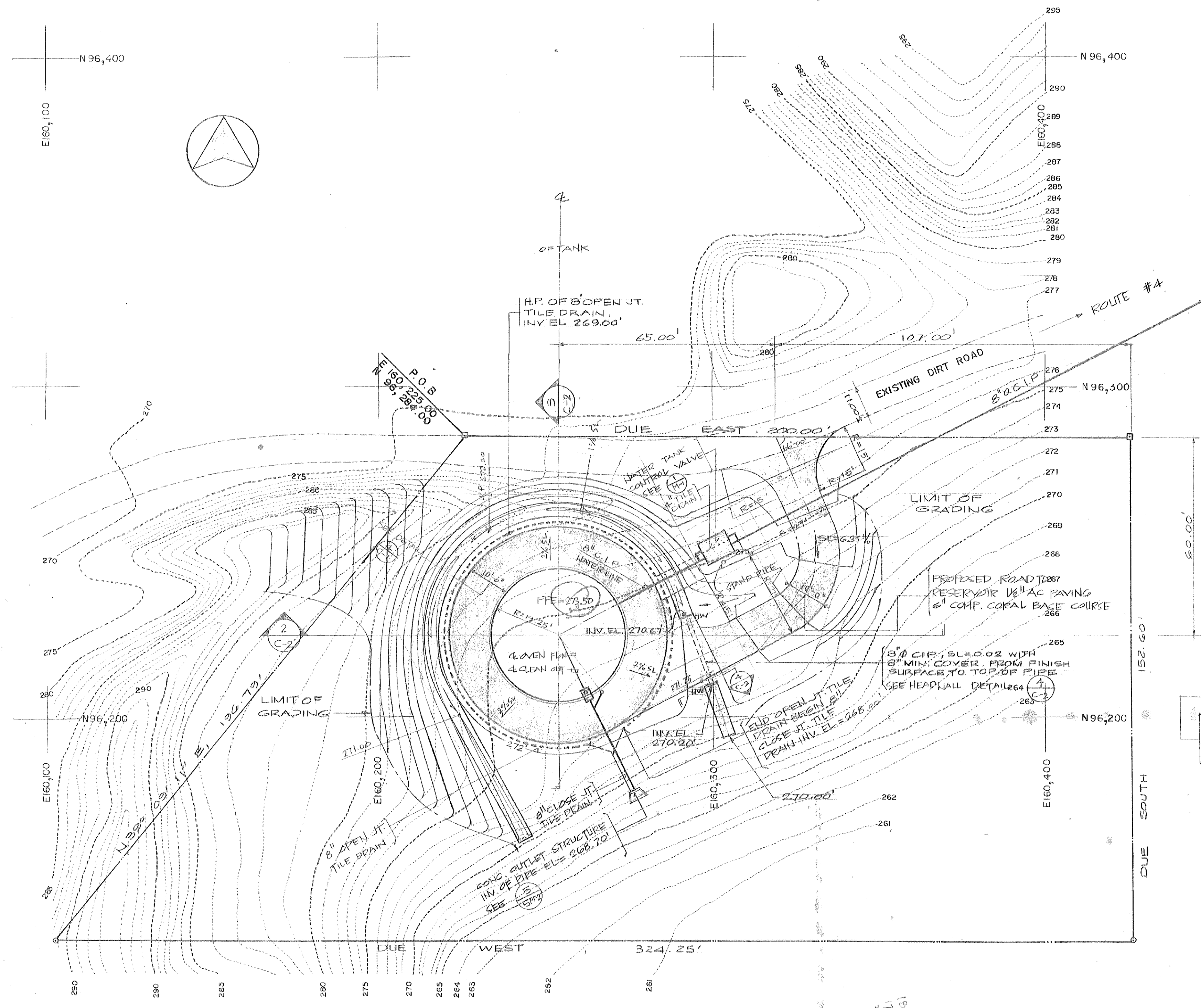
APPROVED BY:

[Signature]
DIRECTOR OF PUBLIC WORKS

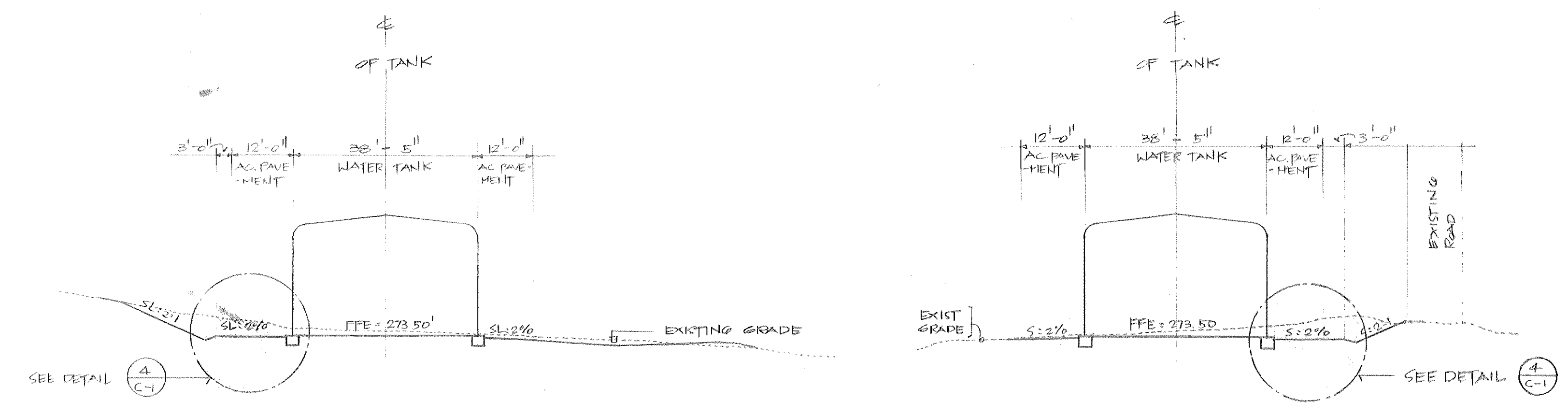
Oct 25, 1977
DATE

GEORGE CHEN & SONS, INC.
ENGINEERING ARCHITECTURAL PLANNING

REVISION	DATE	BY	DESCRIPTION	APPROVED
PROJECT NO: 110-1006L-TER				
DESIGNED BY: EMC				
DRAWN BY: CPS				
CHECKED BY: EMC				
SUPV. BY: EMC				
PROJECT MANAGER				
RECOMMENDED BY:				
CHIEF ENGINEER				
DRAWER NO.				
GEORGE CHEN & SONS, INC.				
ENGINEERING ARCHITECTURAL PLANNING				
10 SEE BUILDING, MAITE, GUAM				
SHEET 1 OF 8				

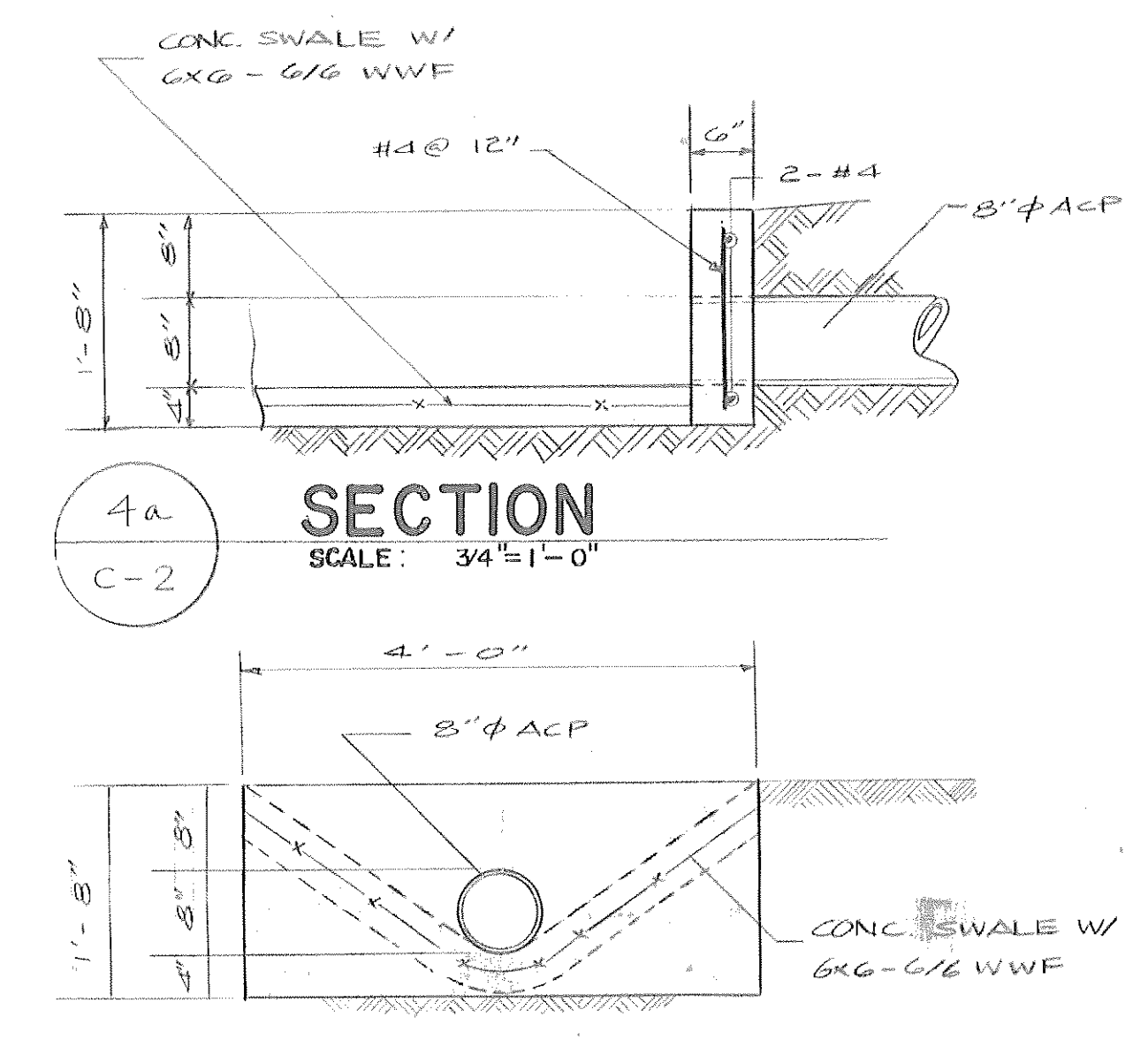


1 SITE & GRADING PLAN
SCALE: 1"=20'-0"

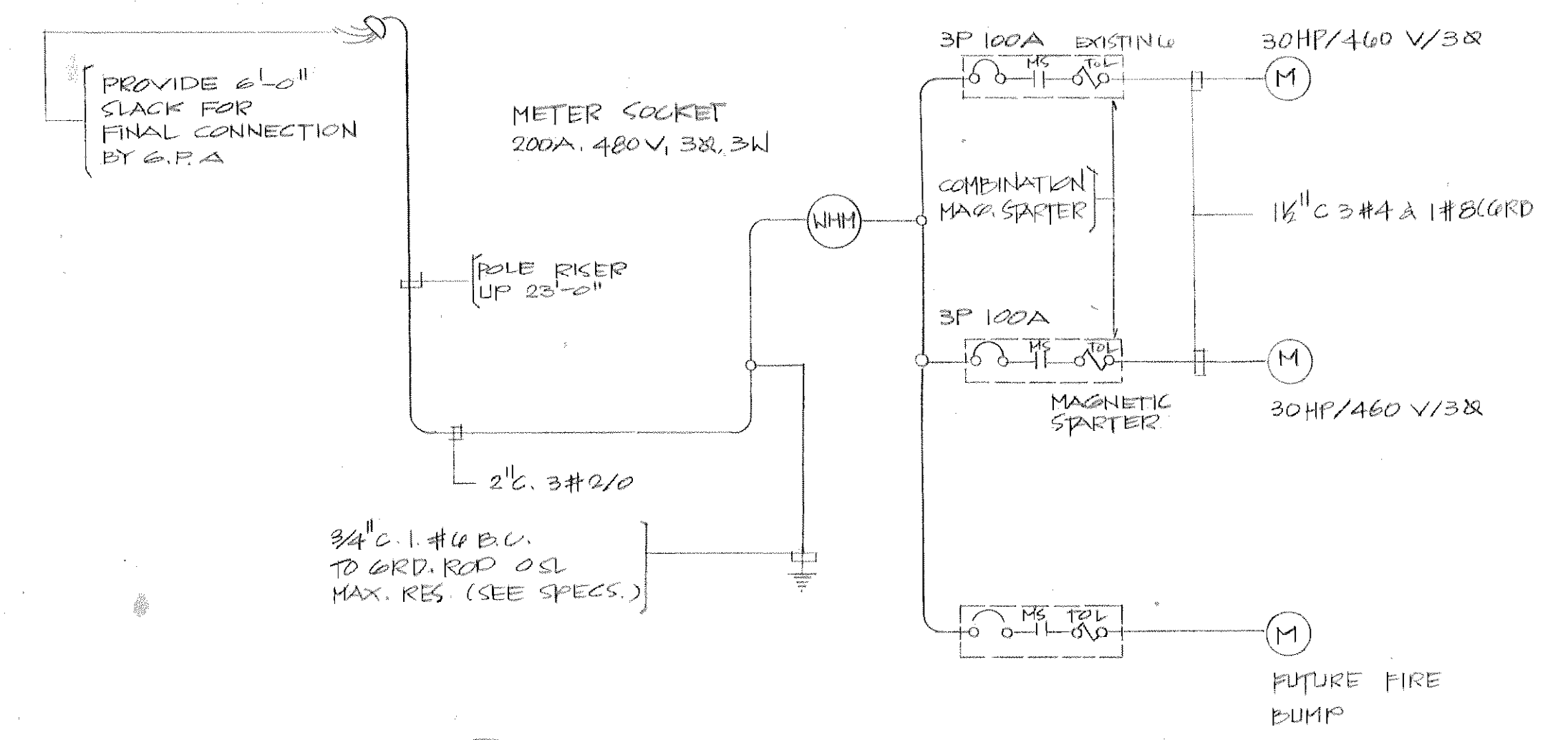


2 SECTION
SCALE: 1"=20'-0"

3 SECTION
SCALE: 1"=20'-0"



4 HEADWALL DETAIL
SCALE: 3/4"=1'-0"



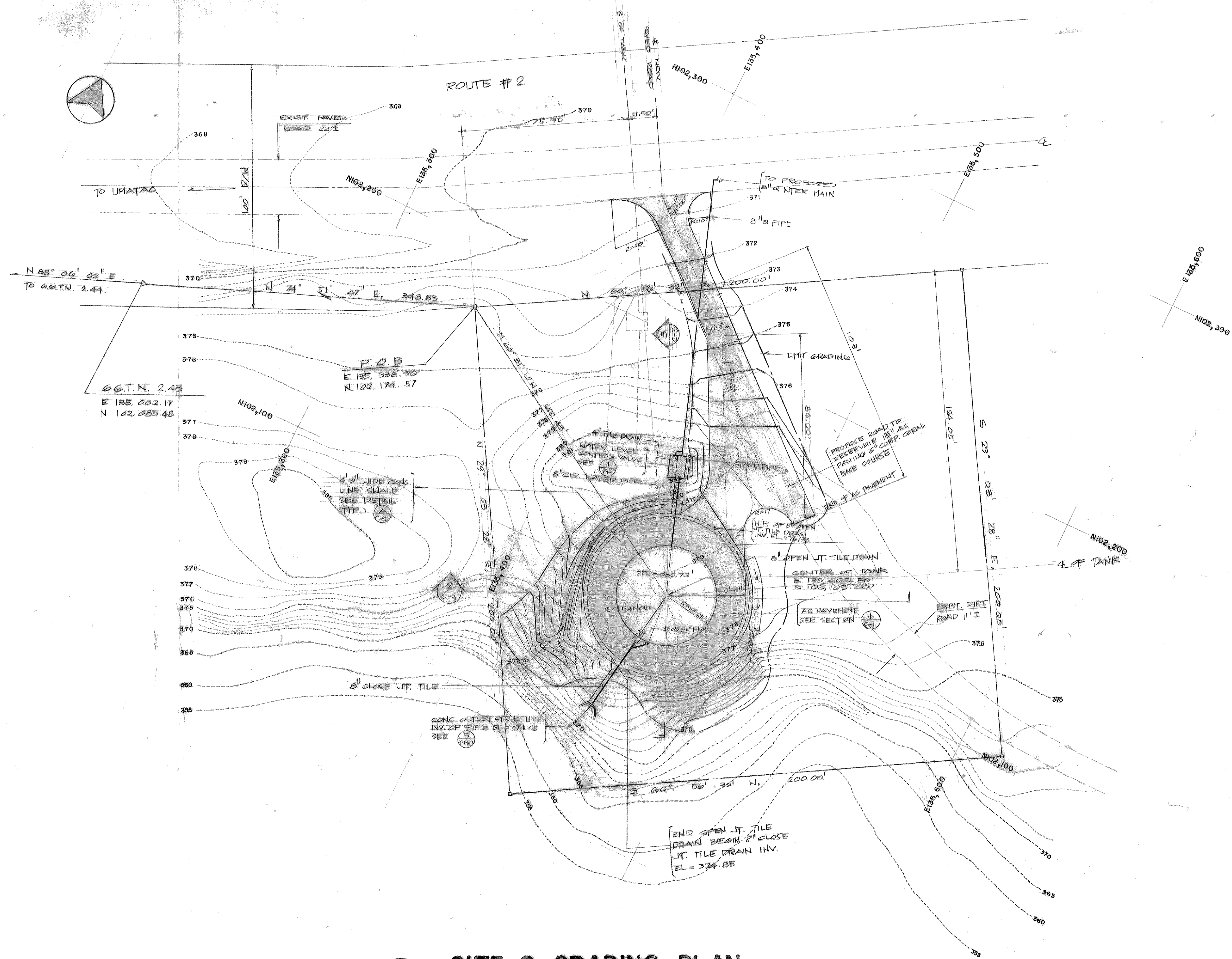
5 ONE LINE DIAGRAM
NOT TO SCALE

ABBREVIATIONS:

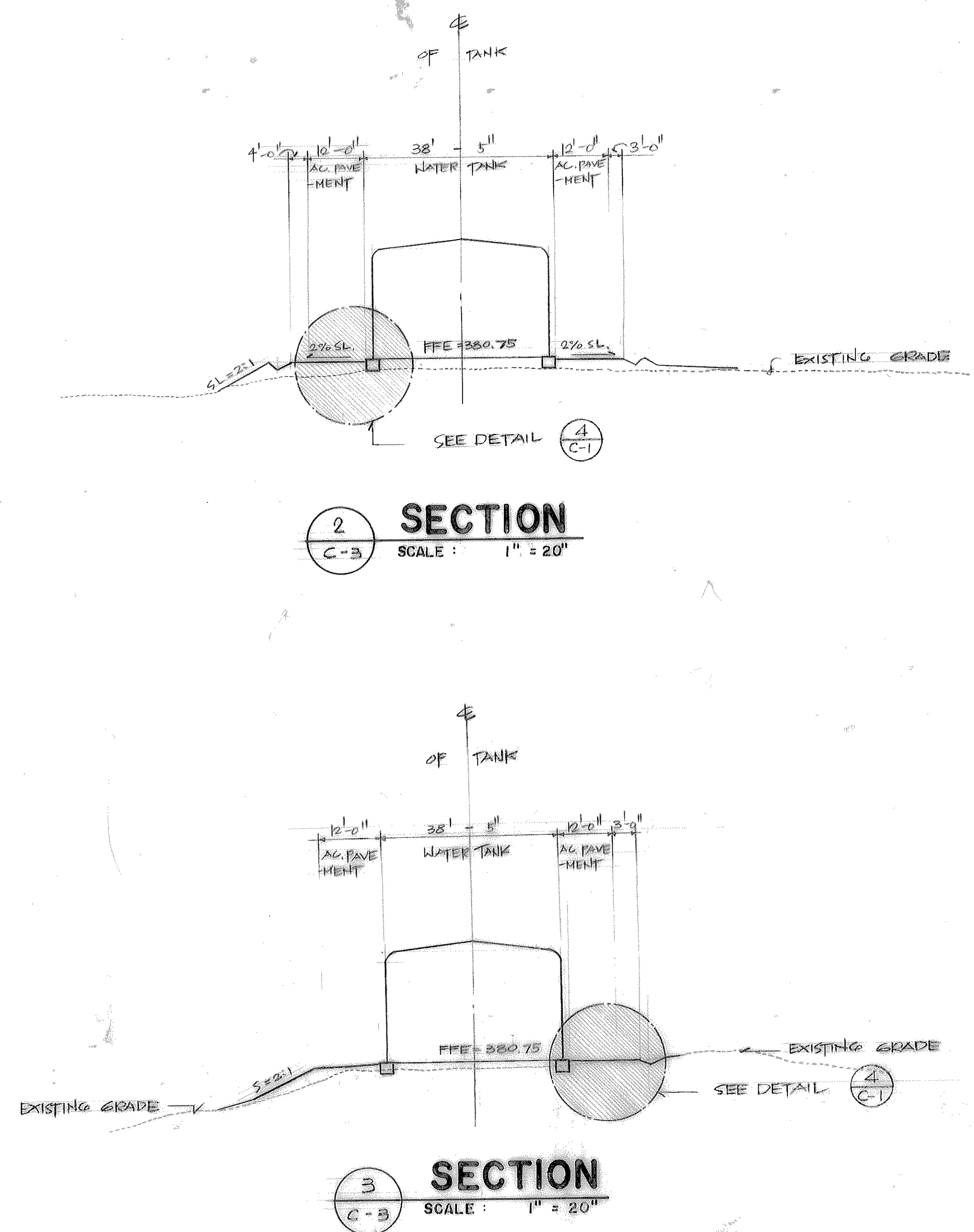
2	AND	PE	PLAIN
4	ANGLE	FL	FLAT
AC	ASPHALTIC CONCRETE	PSI	POUND
ACP	ASBESTOS CEMENT PIPE	ROR RAD	RADIUS
CI	CAST IRON	R/N	ROUND
CL	CLASS	R/P	REINFORCE
CMU	CONCRETE MASONRY UNIT	RENF	REINFORCE
COMP	COMPACTED	REQ'D	REQUIRED
CONC	CONCRETE	R/N	RIGHT OF
CONT	CONTINUOUS	SL OR S	SLOPE
DET	DETAIL	SQ	SQUARE
E	CENTER LINE	SR	SHORT RADIUS
E OR DIA	DIAMETER	STA	STATION
DWG	DRAWING	STL	STEEL
ELEV OR EL	ELEVATION	STHM	SYNTHETICAL
EW	EACHWAY	THKRL	THICK
EXIST	EXISTING	TYP	TYPICAL
FE	FLANGED END	VERT	VERTICAL
FFE	FINISHED FLOOR ELEVATION	W/	WITH
FIN	FINISH	W/L	WELDED
FIR	FLOOR	HEX	HEXAGON
GALV	GALVANIZED	SCH	SCHEDULE
GPM	GALLONS PER MINUTE	EFT	EFFECTED
GV	GATE VALVE	WS	WROUGHT STEEL
GS	GALVANIZED STEEL		
HORIZ	HORIZONTAL		
HP	HIGH POINT		
ID	INSIDE DIAMETER		
INV	INVERT		
JT	JOINT		
MAX	MAXIMUM		
MIN	MINIMUM		
MJ	MECHANICAL JOINT		
MH	MANHOLE		
MG	MILLION GALLON		

- NOTES:
1. THE CORNERS OF THE PROPERTY BOUNDARY ARE ESTABLISHED BY GEORGE CHEN & SONS, INC. RLS. #42
 2. THE TOPOGRAPHY WAS FURNISHED BY DEPARTMENT OF PUBLIC WORKS.
 3. ALL DISTANCES & ELEVATIONS ARE IN FEET.
 4. MINIMUM COVER FOR WATER LINES SHALL BE 3FT UNDER PAVED AREAS & 2FT UNDER UNPAVED AREAS.
 5. FOR BORING LOGS, SEE FOUNDATION & SOIL REPORT INVESTIGATIONS PREPARED BY GEO-ENGINEERING & TESTING.
 6. ROUGH GRADING SHALL BE 2" LOWER THAN FINISH GRADE SHOWN TO ALLOW FOR TOPSOIL.

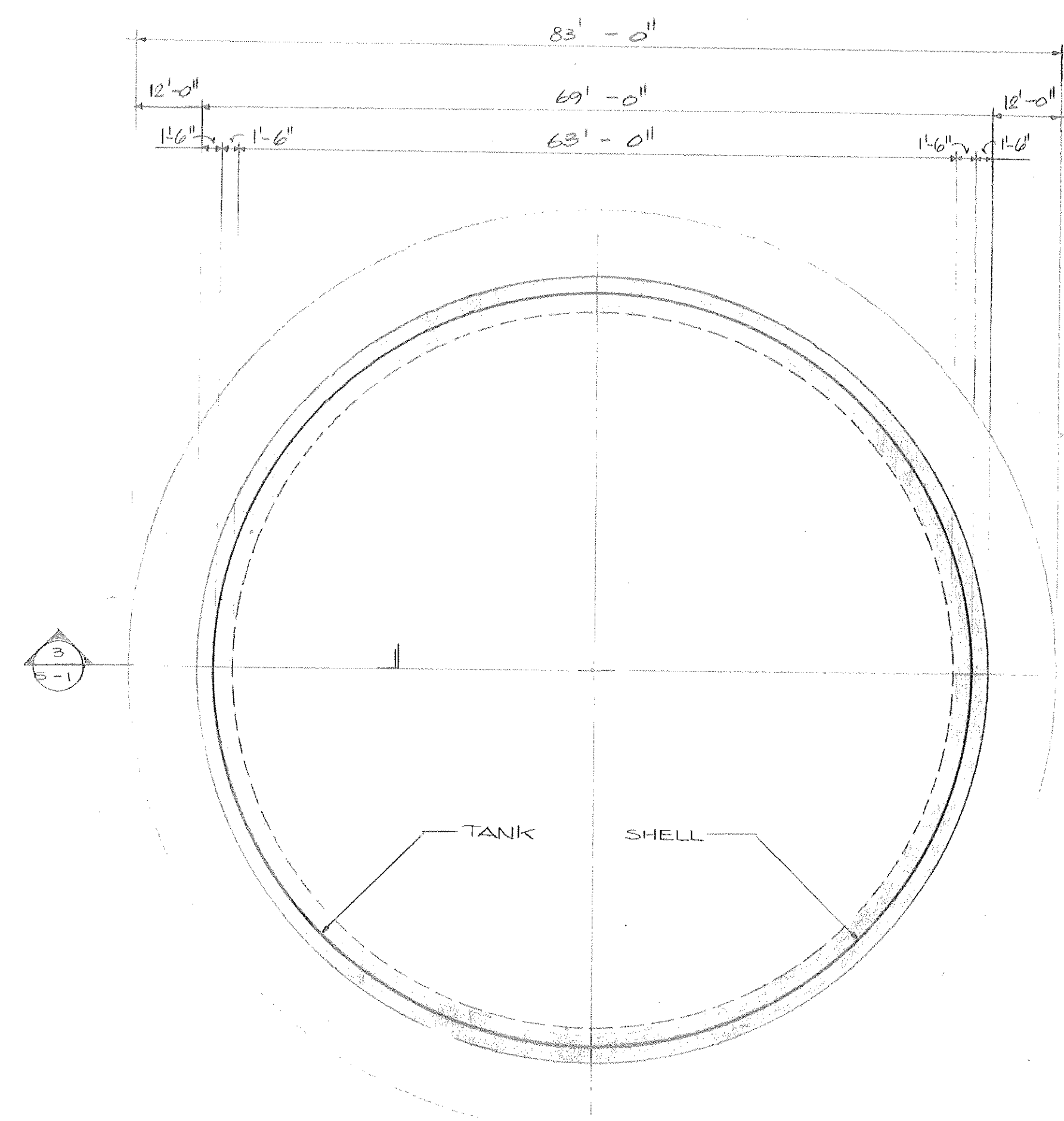
REVISION	DATE	BY	DESCRIPTION	APPROVED
PROJECT NO: 110-1006L- TER GOVERNMENT OF GUAM DEPARTMENT OF PUBLIC WORKS INARAJAN-MERIZO-UMATAC WATER SYSTEM SUPPORT FACILITIES INARAJAN 0.2 MG RESERVOIR SITE & GRADING PLAN				
DESIGNED BY: EMC	RECOMMENDED BY: <i>[Signature]</i> DATE: 9/20/17			
DRAWN BY: MJK	CHIEF ENGINEER			
CHECKED BY: EMC	DATE: 9/20/17			
SUPV. BY: EMC	DRAWING NO. 110-1006L- TER			
PROJECT MANAGER: <i>[Signature]</i>	DRAFTER: <i>[Signature]</i>			
CHIEF PROJ. MGR. DATE: 9/20/17	DRAWING NUMBER: 110-1006L- TER			
PRINCIPAL ENGR. DATE: 9/20/17	SHEET 3 OF 3			



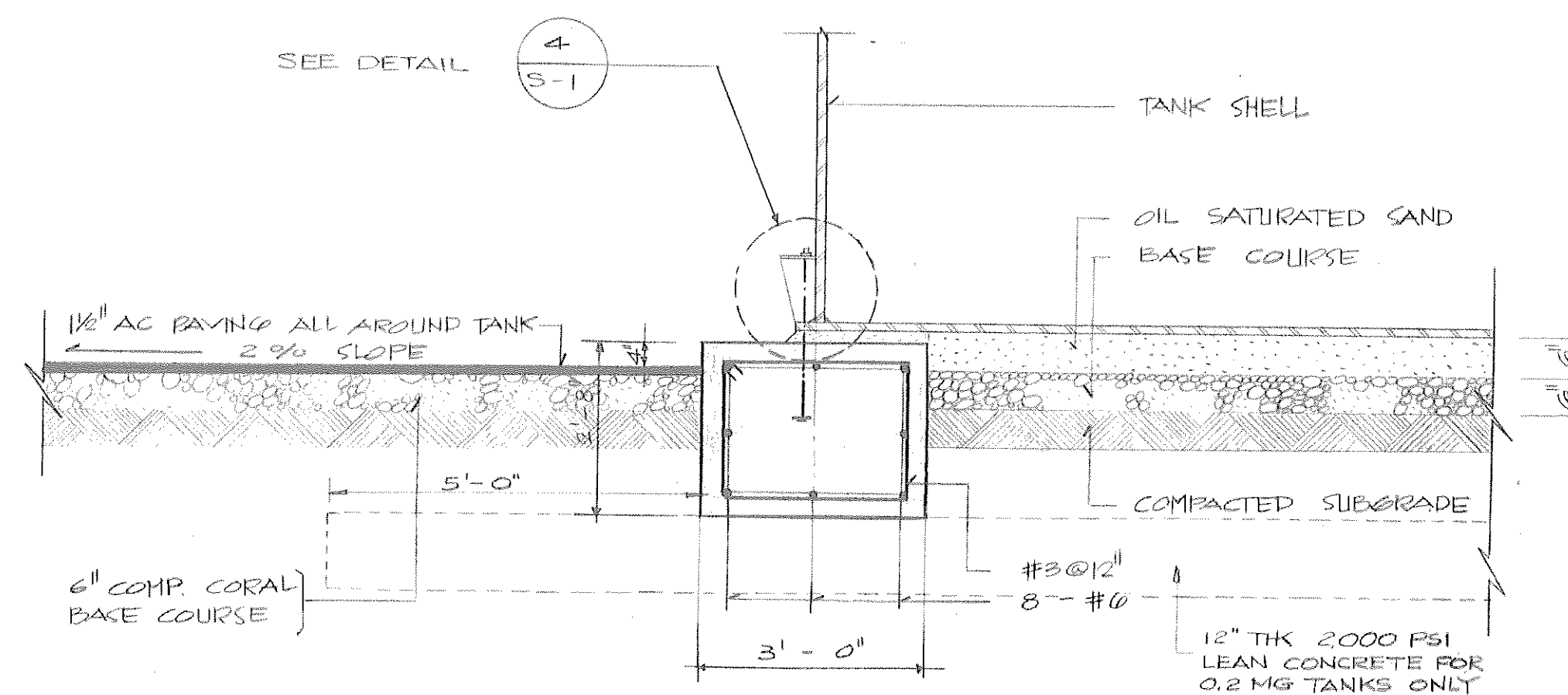
1 SITE & GRADING PLAN
C-3 SCALE: 1" = 20'



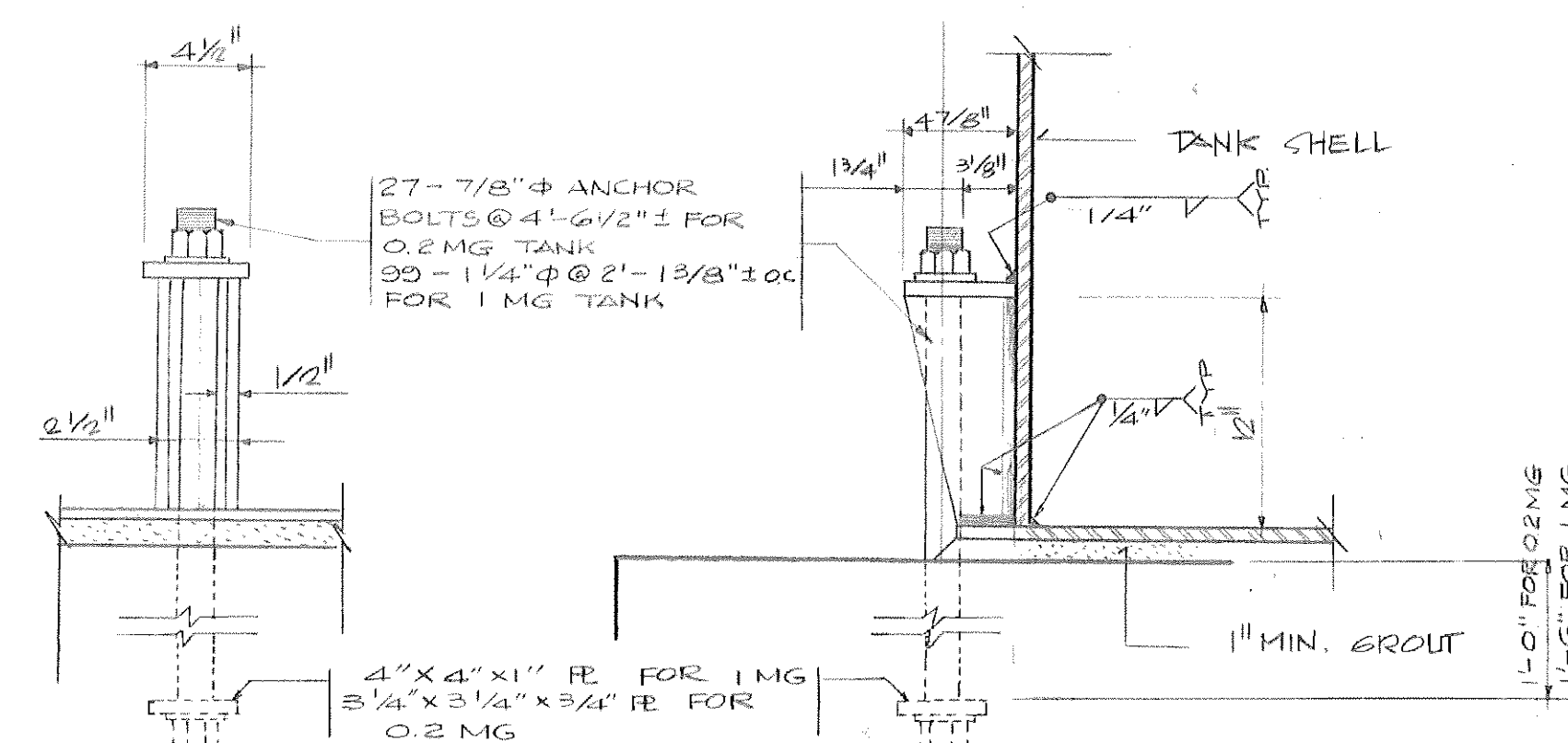
REVISION	DATE	BY	DESCRIPTION	APPROVED
PROJECT NO:			GOVERNMENT OF GUAM DEPARTMENT OF PUBLIC WORKS	
DESIGNED BY: EMC			INARAJAN - MERIZO - UMATAC	
DRAWN BY: MJK			WATER SYSTEM SUPPORT FACILITIES	
CHECKED BY: EMC			UMATAC 0.2 MG RESERVOIR	
SUPV. BY: EMC			SITE & GRADING PLAN	
PROJECT MANAGER	DATE		RECOMMENDED BY: <i>[Signature]</i> DATE: 10/17	
CHIEF PROJ. MGR.	DATE		CHIEF ENGINEER	
PRINCIPAL ENGR.	DATE		GEORGE CHEN & SONS, INC.	
			ENGINEERING ARCHITECTURAL PLANNING	
			NO SEE BUILDING, MAITE, GUAM.	
			DRAWING NUMBER 0-3	
			SHEET 4 OF 8	



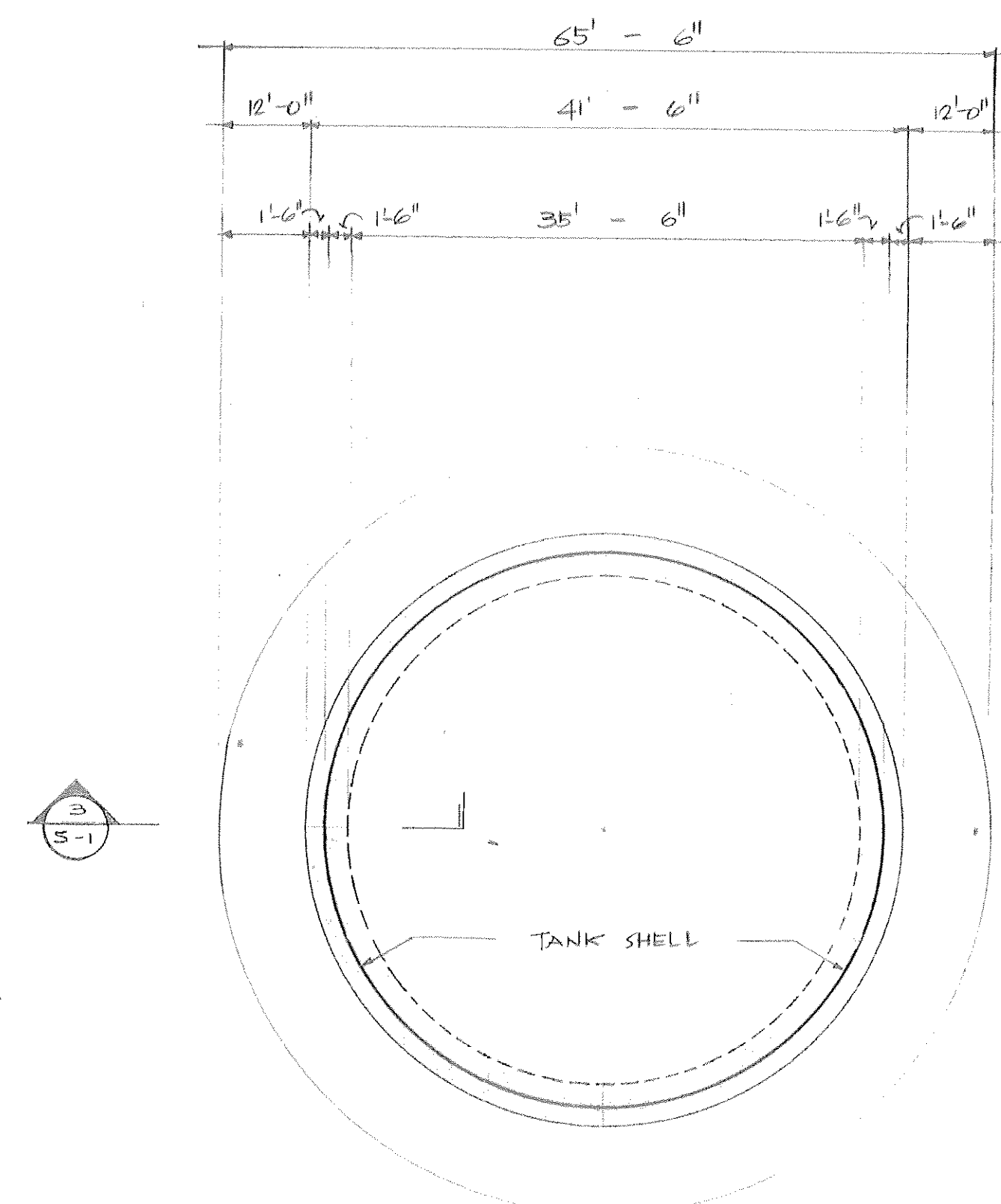
1 MALOJLOJ 1 MG. FOUNDATION PLAN
SCALE: 1" = 20' - 0"



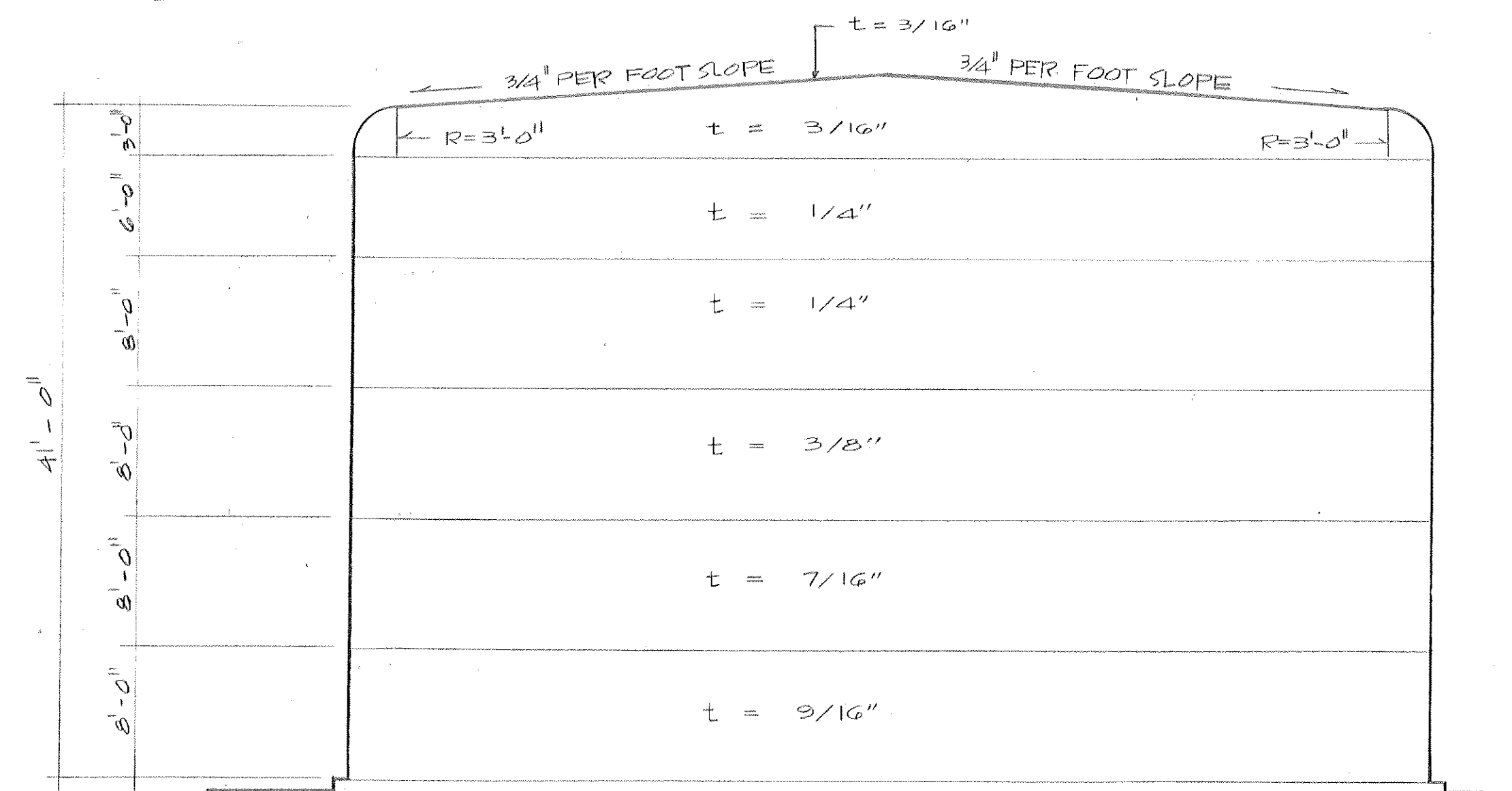
3 FOUNDATION & APRON SECTION
SCALE: 1/2" = 1' - 0"



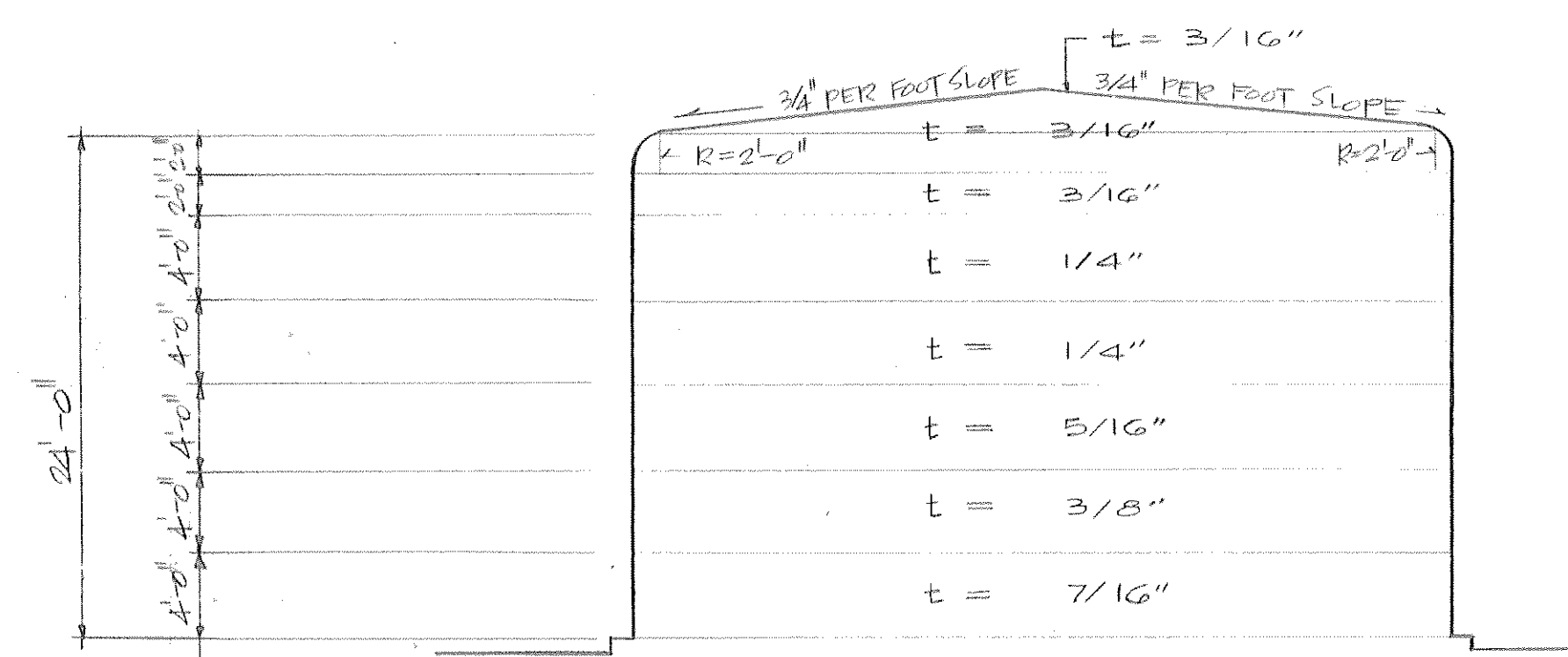
4 ANCHOR BOLT DETAILS
SCALE: 1/2" = 1' - 0"



2 0.2 MG. FOUNDATION PLAN (FOR UMATAC & INARAJAN)
SCALE: 1" = 2' - 0"



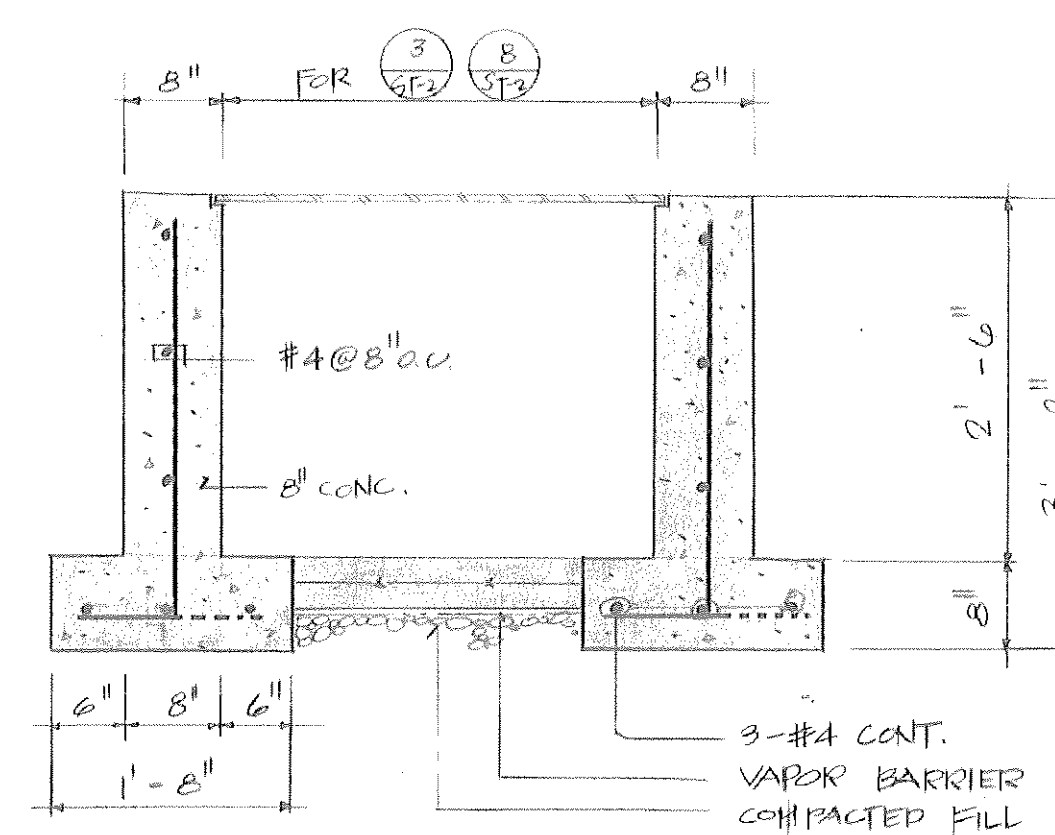
5 RESERVOIR ELEVATION & SHELL THICKNESS (FOR 1 MG.)
NOT TO SCALE



6 RESERVOIR ELEVATION & SHELL THICKNESS (FOR 0.2 MG.)
NOT TO SCALE

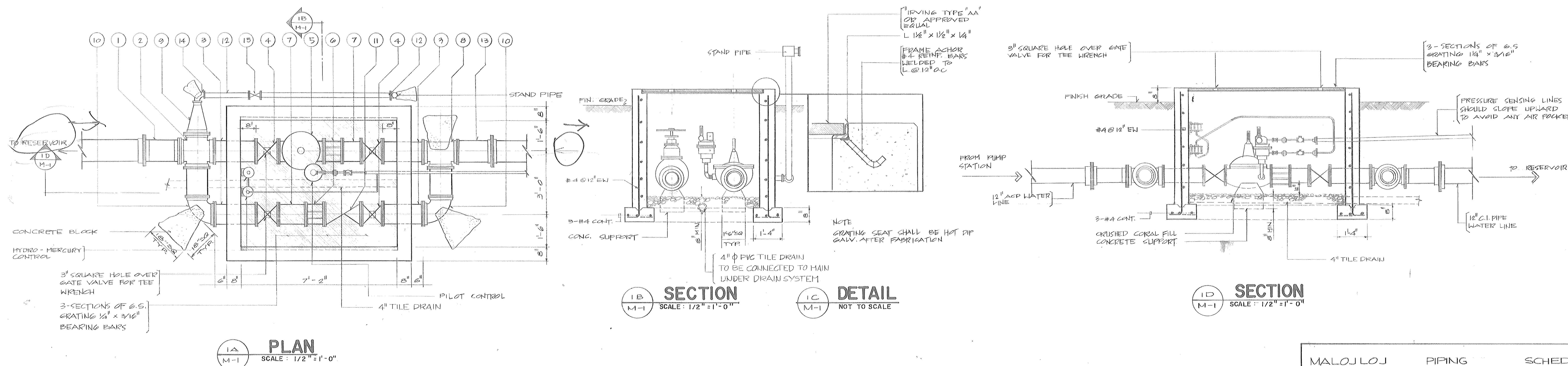
GENERAL NOTES:

- DESIGN CRITERIA & CODES.
UNIFORM BUILDING CODES 1976 EDITION
ACI STANDARD BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE, ACI 318-71
AISC DESIGN MANUAL, AISC STRUCTURAL STEEL DETAILING SECOND EDITION.
- DESIGN LOAD.
WIND LOAD: VELOCITY $V = 155$ MPH (PEAK GUST).
 $F = 0.00256 V^2 \times C_h \times C_s$
HEIGHT FACTOR $C_h = 1.0$
SHAPE FACTOR $C_s = 0.6$
SEISMIC LOAD: $F_p = ZIC_pSW_p$ $2 = 3/4$ FOR ZONE 3.
 $C_p = 0.12$ $I = 1.0$ $S = 1.5$
- UNIT STRESS.
MINIMUM ULTIMATE COMPRESSIVE STRENGTH AT 28 DAYS.
 $f'_c = 3,000$ psi FOR ALL CONCRETE ITEMS.
REINFORCING STEEL:
CONFORMING TO ASTM A-615 GRADE 40, MINIMUM YIELD STRENGTH $F_y = 40,000$ psi.
- THE DISTANCE OF CONCRETE COVER OVER STEEL REINFORCEMENTS SHALL BE AS STATED BELOW UNLESS NOTED OTHERWISE ON THE DWG.
CONC. FOOTING WALL $2 1/2$ " EACH SIDES.
3" BOTTOM.
- ALLOWABLE SOIL BEARING CAPACITY.
MALOJLOJ 4,000 psf.
UMATAC 2,000 psf.
INARAJAN 2,000 psf.

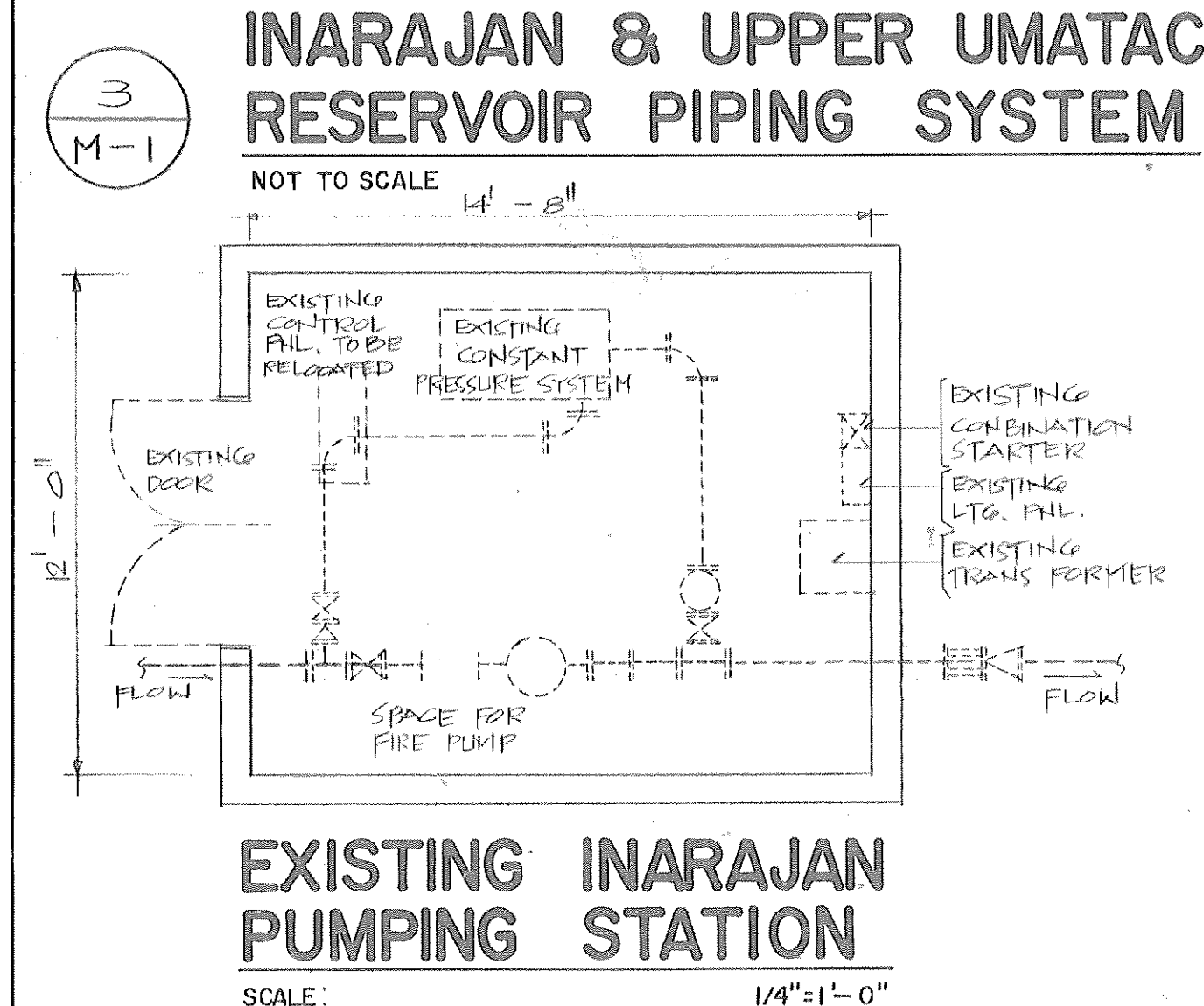
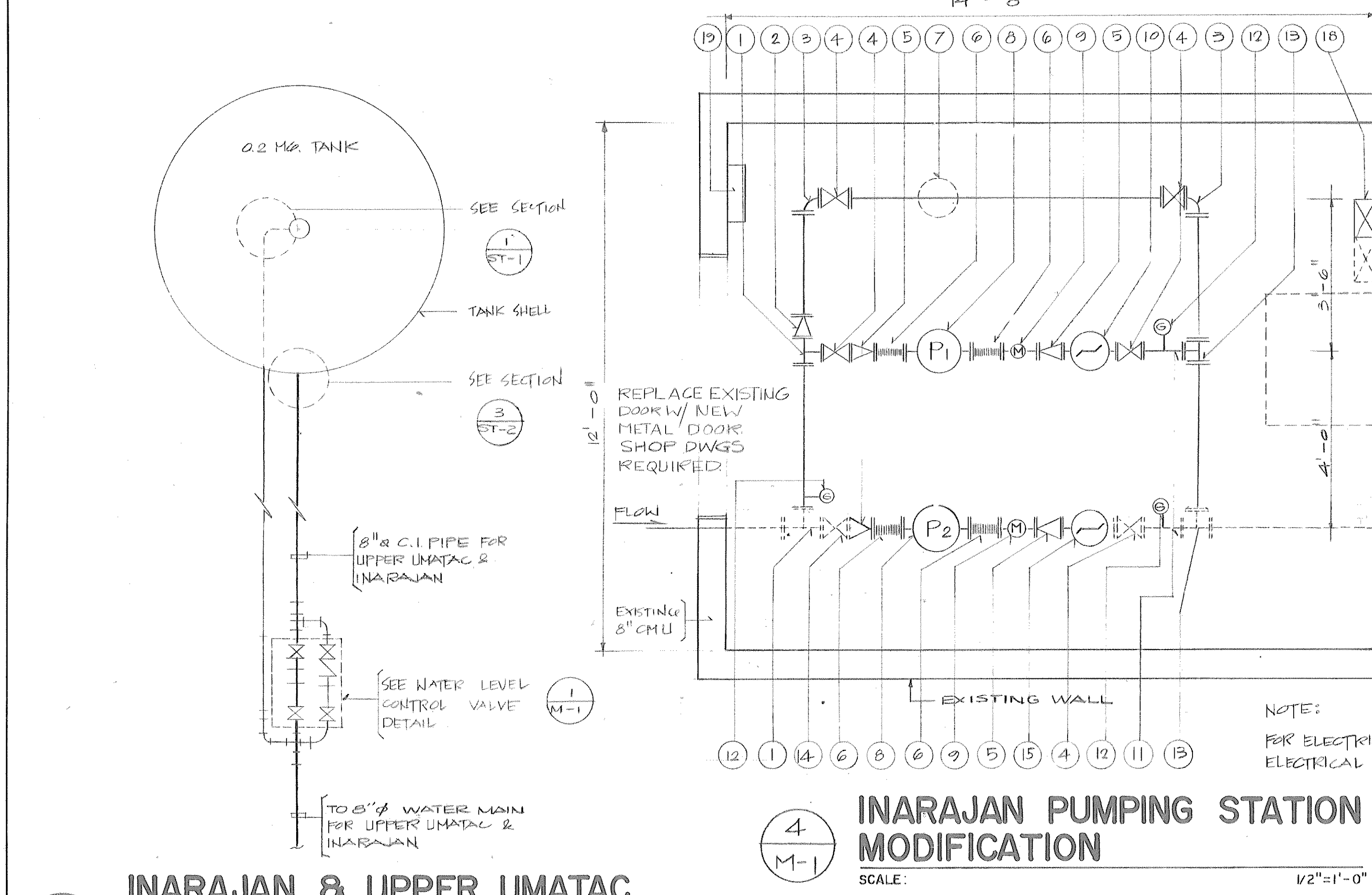
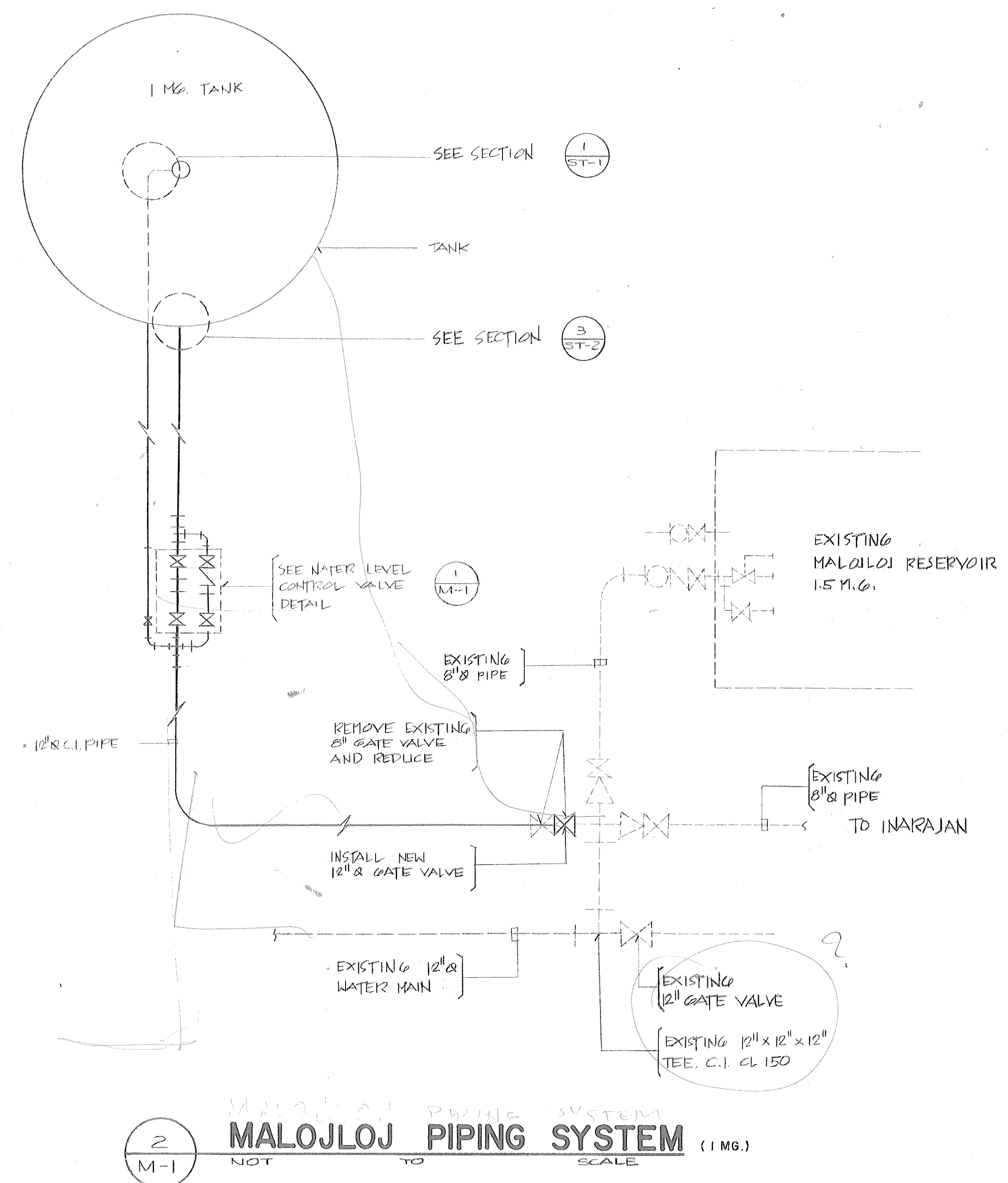


7 SECTION
SCALE: 1/2" = 1' - 0"

REV	DATE	BY	DESCRIPTION	APPROVED
PROJECT NO:	110-1006L-TER			
DESIGNED	EMC		GOVERNMENT OF GUAM	
DRAWN	MJK		DEPARTMENT OF PUBLIC WORKS	
CHECKED	EMC		INARAJAN-MERIZO-UMATAC WATER	
SUPV	EMC		SYSTEM SUPPORT FACILITIES	
PUBLIC WORKS			FOUNDATION PLAN & DETAILS	
RECOMMENDED BY:		DATE		
PROJECT MANAGER			CHIEF ENGINEER	
PRINCIPAL ENGINEER			GEORGE CHEN & SONS, INC.	
SCALE: AS SHOWN			ENGINEERING - ARCHITECTURAL - PLANNING	
			HO SEE BUILDING MAITE, GUAM	
			DRAWING NUMBER	5-1
			SHEET 5 OF 8	



WATER LEVEL CONTROL VALVE PIT DETAILS

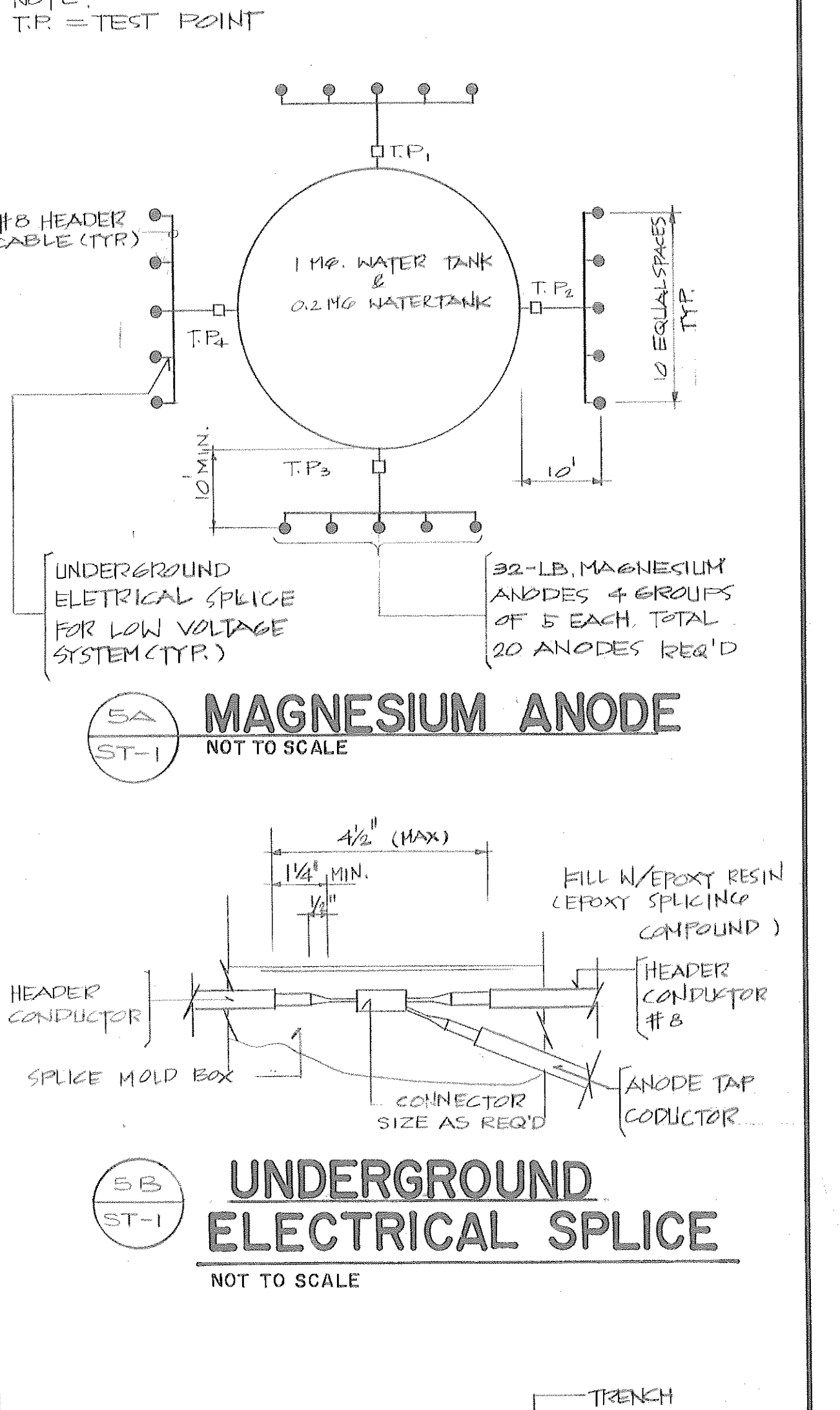
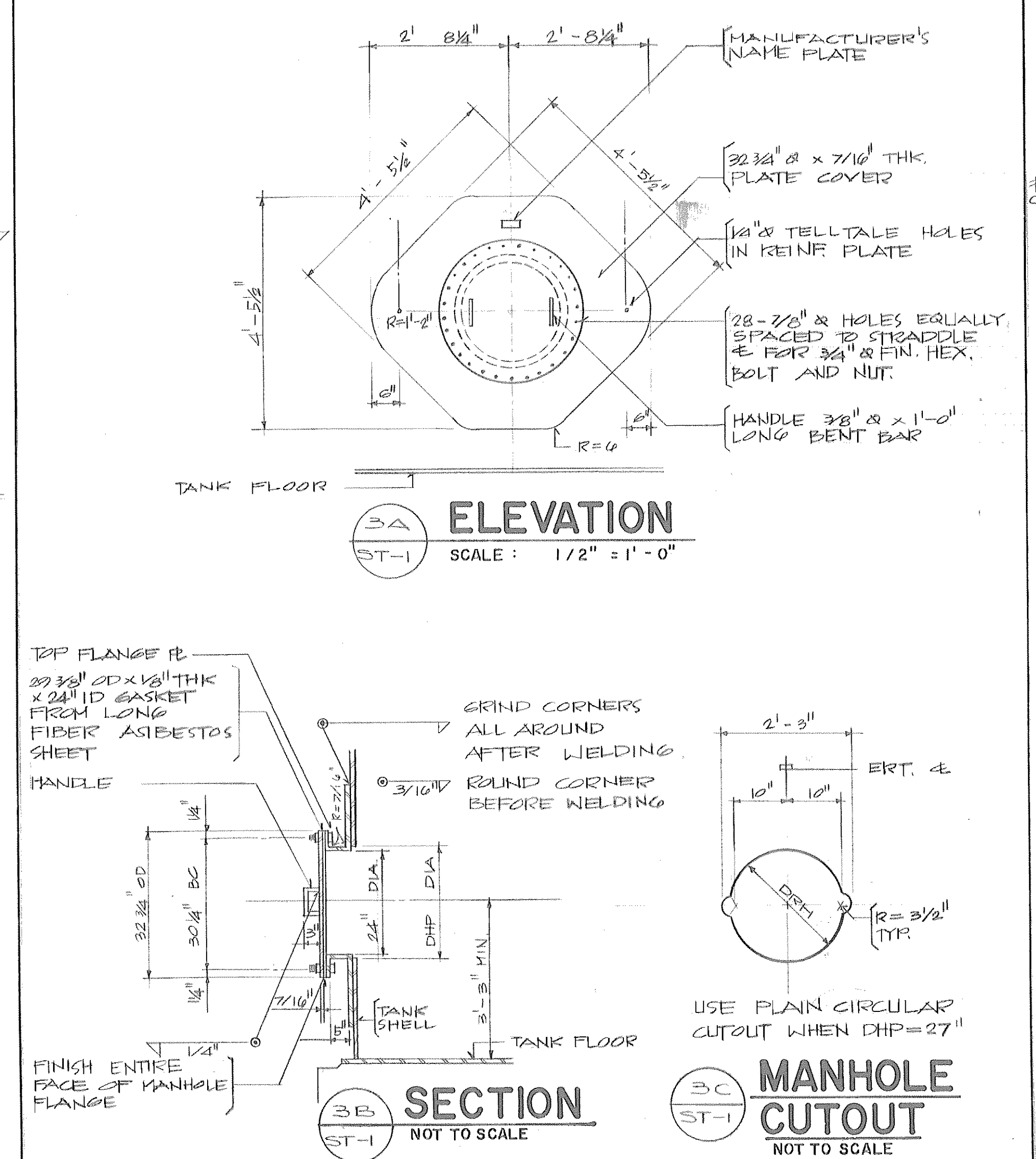
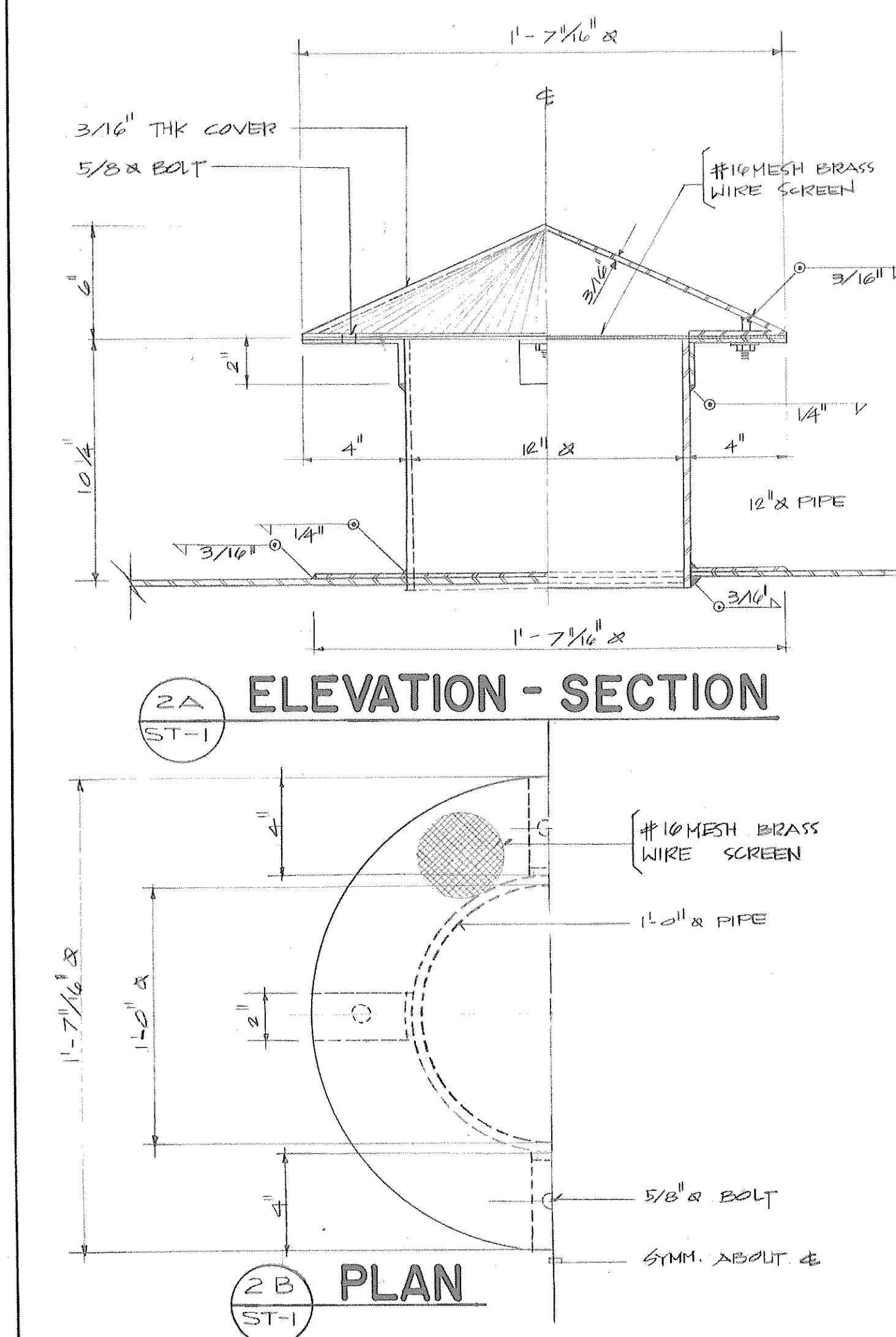
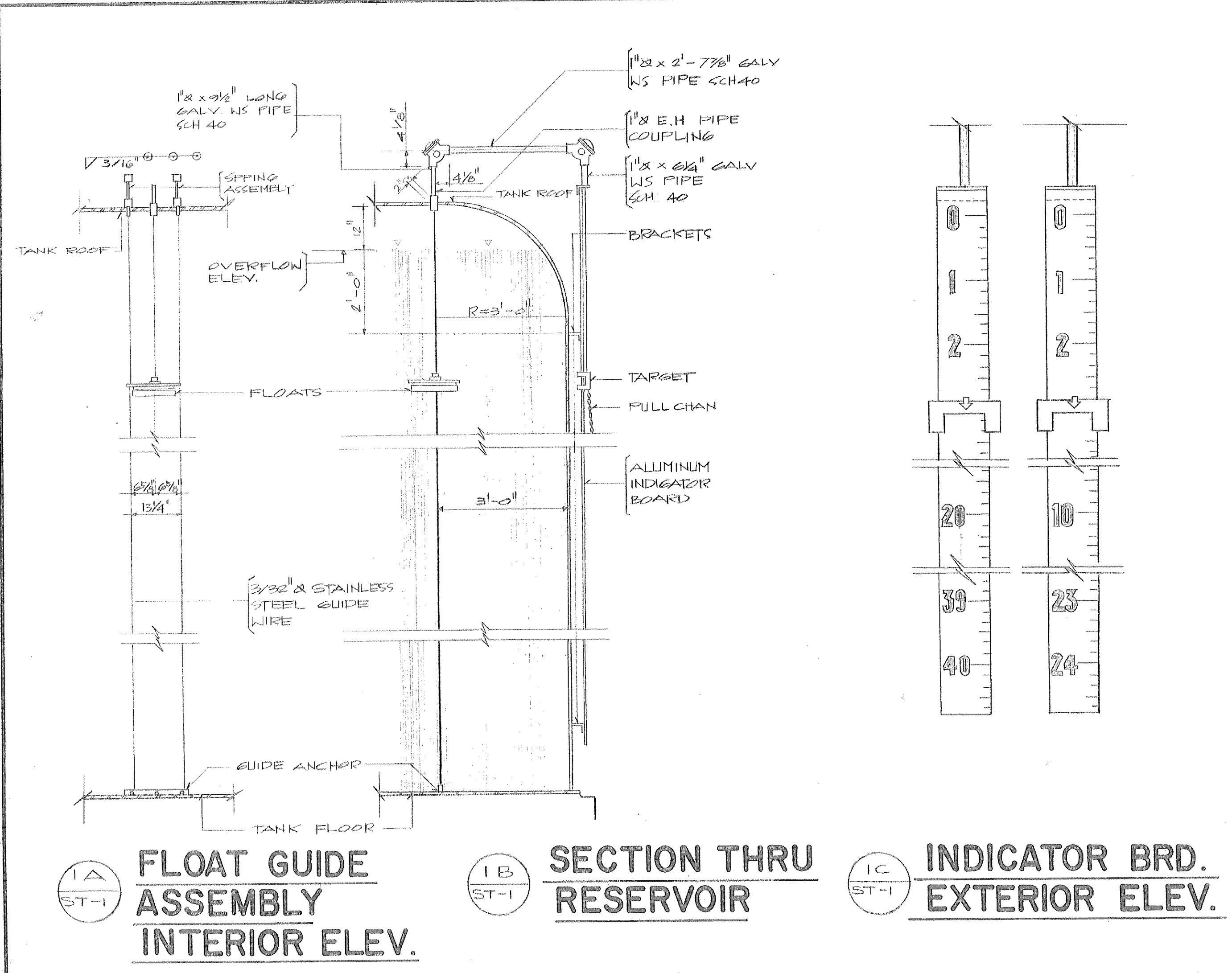


MODIFICATION SCHEDULE - INARAJAN PUMPING STATION		
NO.	DESCRIPTION	QTY
1	5" TEE FE X FE	2
2	8" X 6" REDUCER	1
3	6" ELBOW S.R.	2
4	6" GATE VALVE FE X FE	2
5	REDUCER (CHECK PUMP MANUFACTURER FOR EXACT SIZE)	3
6	FLEXIBLE CONNECTOR (VIBROFLEX OR EQUAL) FOR EXACT SIZE	4
7	600 GPM FUTURE FIRE PUMP	1
8	300 GPM PUMP (SEE SPECIFICATION)	2
9	METER, 100-600 GPM RANGE	2
10	6" BAILEY NON-SLAM CHECK VALVE (USE EXISTING)	1
11	6" SPOL (FIELD FABRICATED)	2
12	4" PRESSURE GAGE 0-200 PSI STAINLESS STEEL	2
13	6" TEE FE X FE	2
14	8" GATE VALVE EXISTING	1
15	8" CLAYTON NON-SLAM CHECK VALVE (EXISTING)	1
16	6" PIPE CONNECTOR (EXISTING)	1
17	8" X 6" REDUCER (EXISTING)	1
18	NEW COMBINATION STARTER	1
19	CONTROL PANEL RELOCATED	1

MALOJLOJ PIPING SCHEDULE		
NO.	DESCRIPTION	QTY
1	12" NIPPLE FE X FE	1
2	CROSS TEE 12" X 12" X 12" FE X FE X FE X FE	1
3	12" NIPPLE 2'-0" LONG FE X FE	4
4	12" GATE VALVE FE X FE & 150	4
5	ALTITUDE VALVE 12" FE X FE (CLAYTON 206 TYPE III CLASS 125)	1
6	12" FLANGE COUPLING ADAPTER	2
7	12" NIPPLE FE X FE	2
8	12" TEE FE X FE	1
9	12" X 3" CONCENTRIC REDUCER FE	1
10	ELBOW S.R. 12" FE X FE	2
11	12" CHECK VALVE IN C.I. VALVE BOX FE	1
12	8" C.I. PIPE CUT LENGTH TO SUIT	2
13	12" NIPPLE FE X FE	1
14	3" X 90° ELBOW FE	1
15	3" GATE VALVE FE, CLASS 125 IN C.I. VALVE BOX	1

INARAJAN & UPPER UMATAC PIPING SCHEDULE		
NO.	DESCRIPTION	QTY
1	5" NIPPLE FE X FE	1
2	CROSS TEE 5" X 5" X 5" FE X FE X FE X FE	1
3	5" NIPPLE 2'-0" LONG FE X FE	4
4	5" GATE VALVE FE X FE & 150	4
5	ALTITUDE VALVE 5" FE (CLAYTON 206 TYPE III CLASS 125)	1
6	5" FLANGE COUPLING ADAPTER	2
7	5" NIPPLE FE X FE	2
8	5" TEE FE X FE	1
9	5" X 3" CONCENTRIC REDUCER FE	1
10	ELBOW S.R. 5" FE X FE	2
11	5" CHECK VALVE IN C.I. VALVE BOX FE	1
12	3" C.I. PIPE CUT LENGTH TO SUIT	2
13	5" NIPPLE FE X FE	1
14	3" X 90° ELBOW FE	1
15	3" GATE VALVE FE CLASS 125 IN C.I. VALVE BOX	1

REV	DATE	BY	DESCRIPTION	APPROVED
PROJECT NO: 110-1006L-TER				
DESIGNED MKC				
DRAWN CPS				
CHECKED EMC				
SUPV EMC				
PUBLIC WORKS				
RECOMMENDED BY: DATE				
PROJECT MANAGER				
CHIEF ENGINEER				
PRINCIPAL ENGINEER				
ENGINEERING ARCHITECTURAL PLANNING				
NO SEE BUILDING MAINT. GUAM				
DRAWER NO: M-1				
SHEET 6 OF 8				

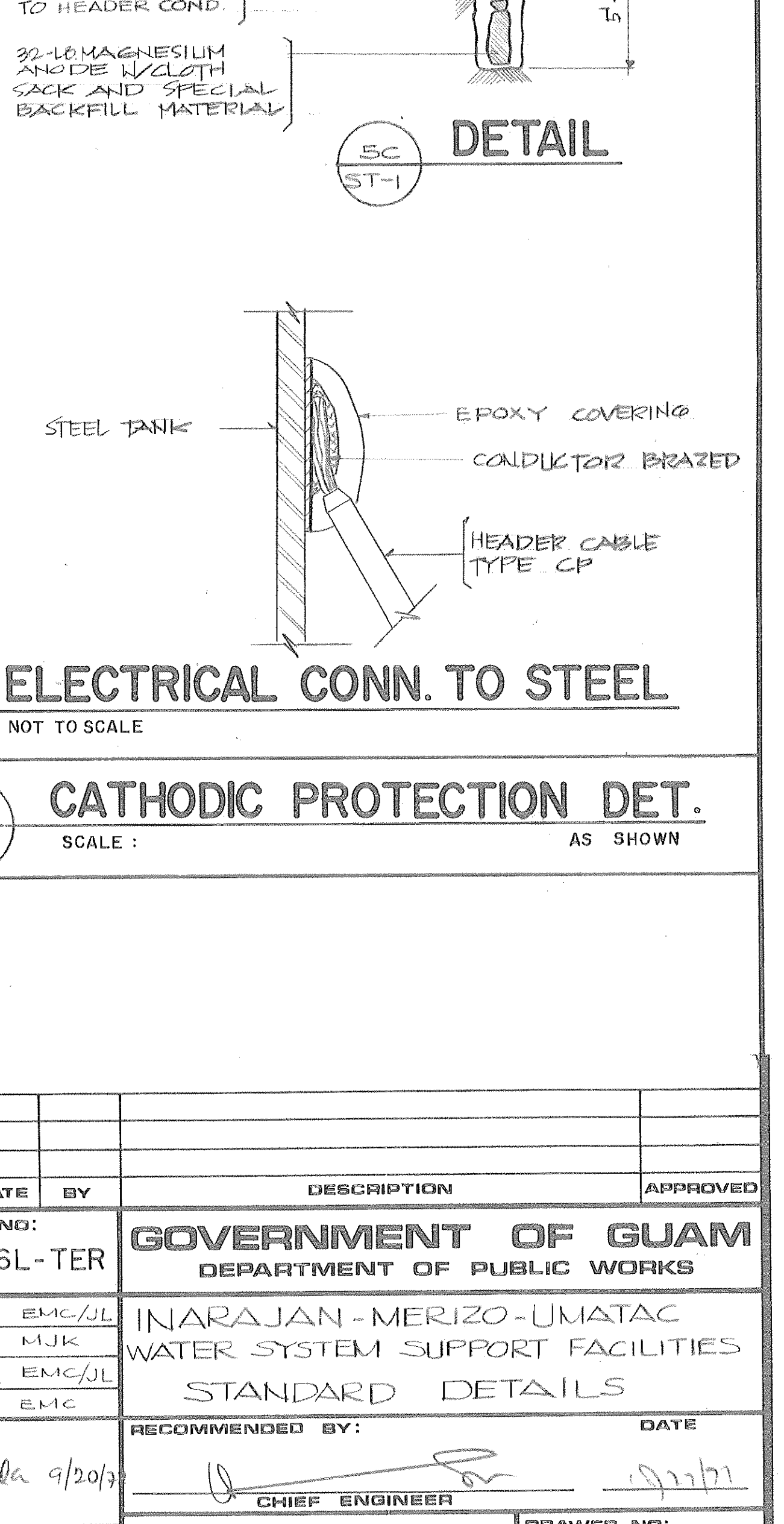
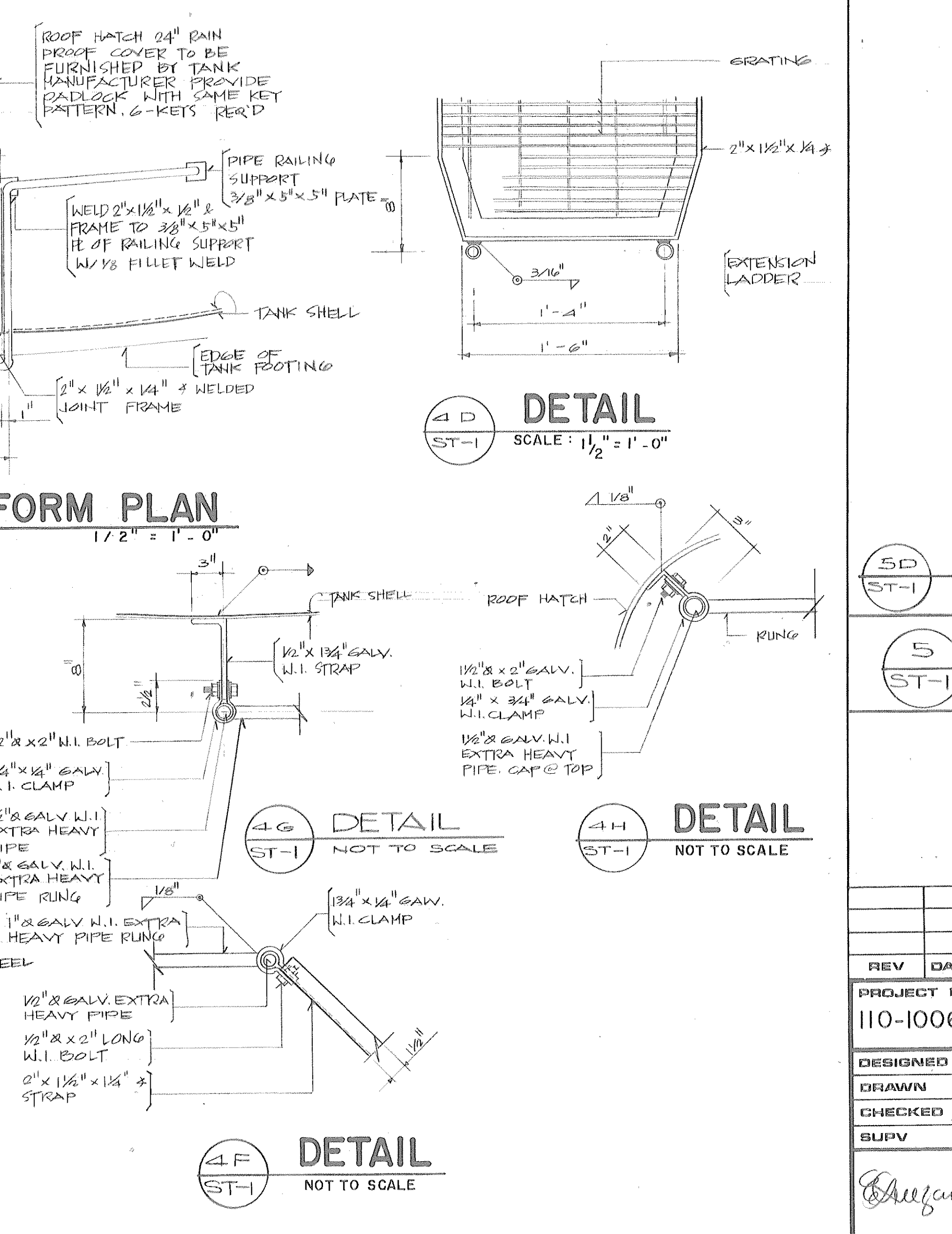
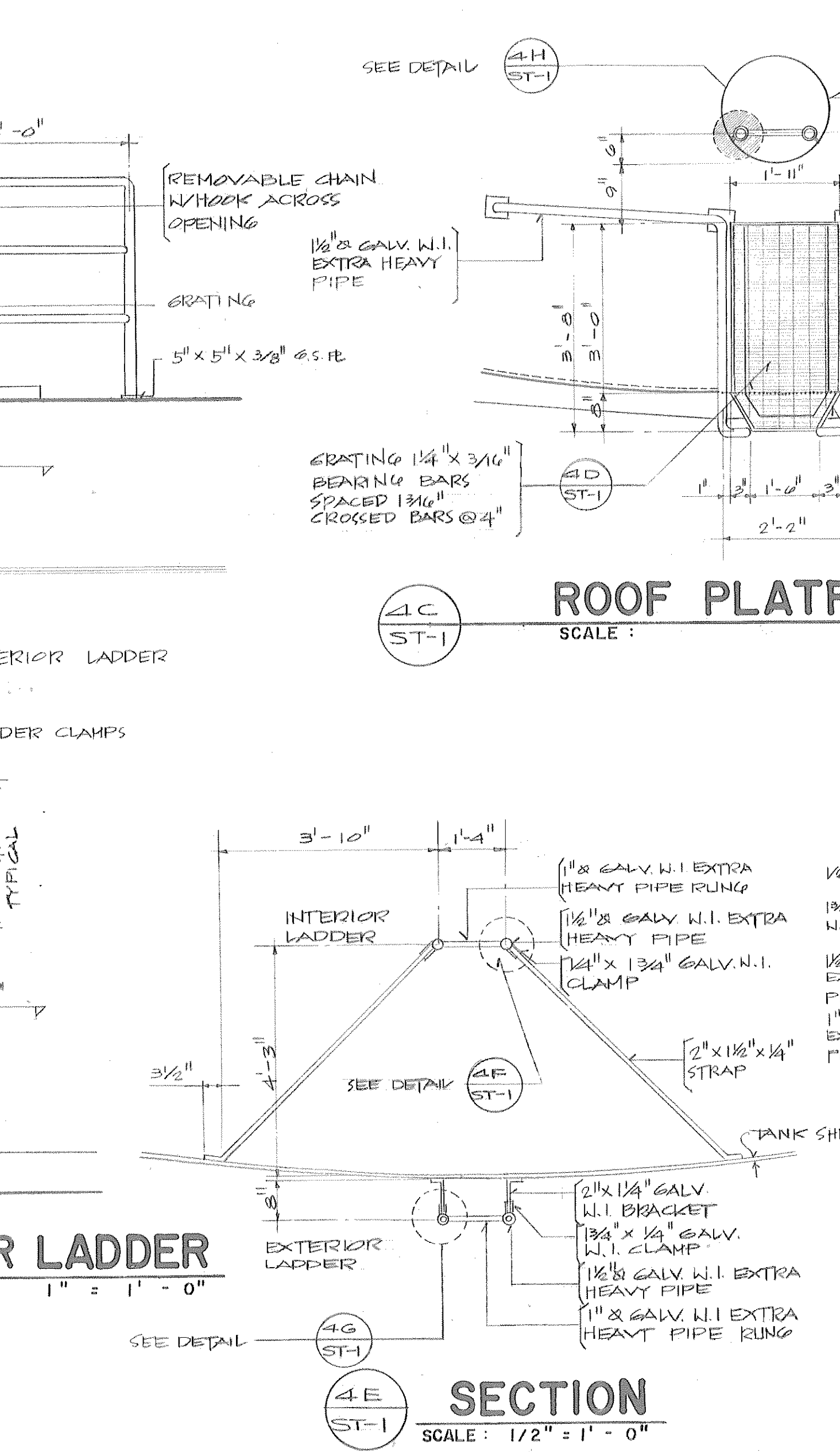
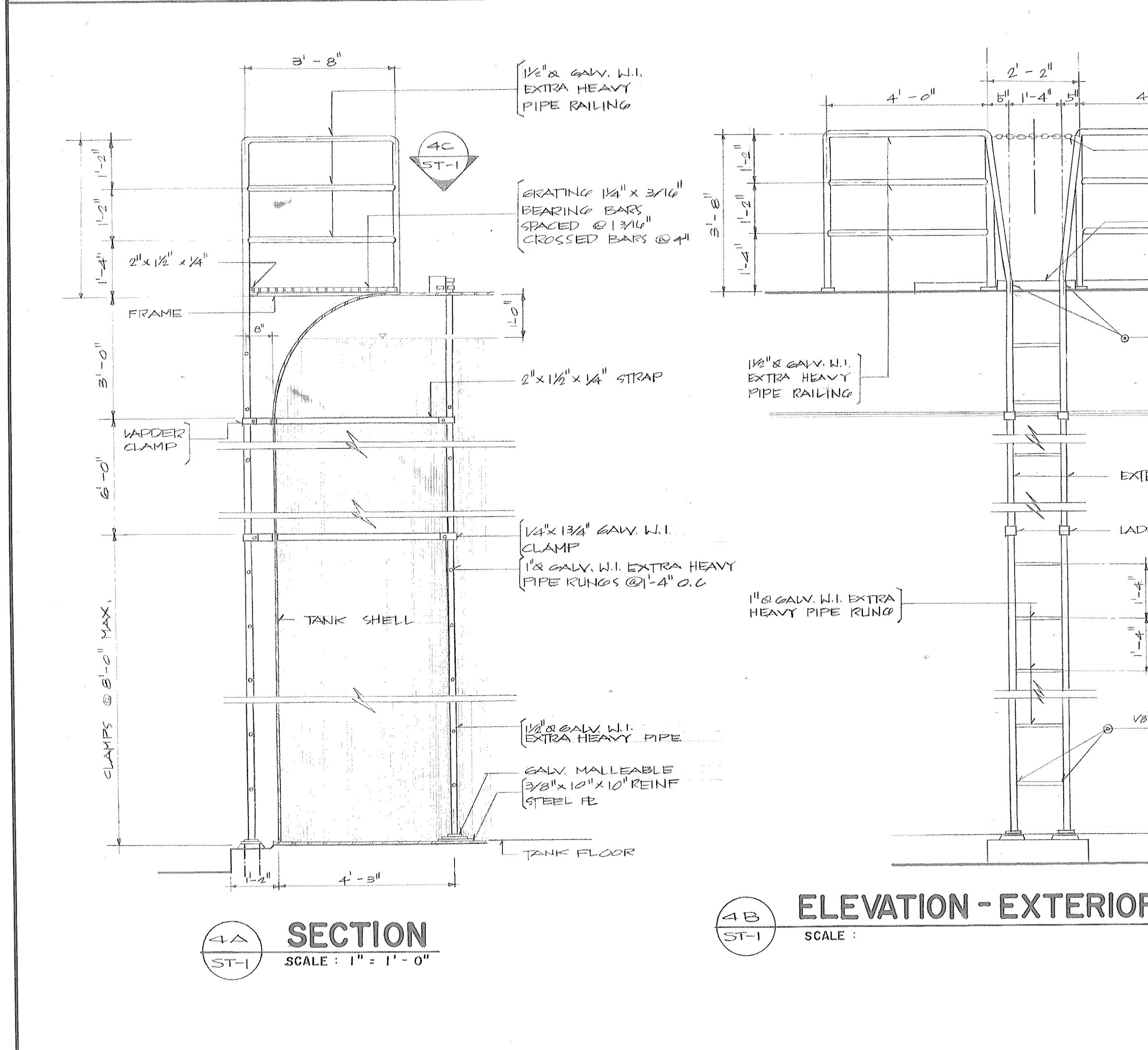


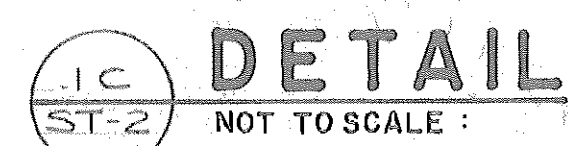
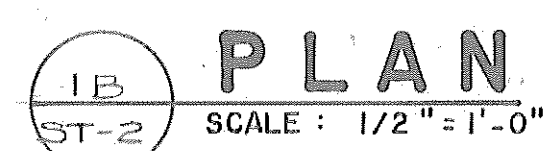
1 LIQUID LEVEL INDICATOR DETAILS
SCALE: 1/2" = 1' - 0"

2 ROOF VENT DETAILS
SCALE: NOT TO SCALE

3 SHELL MANHOLE DETAILS
SCALE: AS SHOWN

5C DETAIL
SCALE: NOT TO SCALE

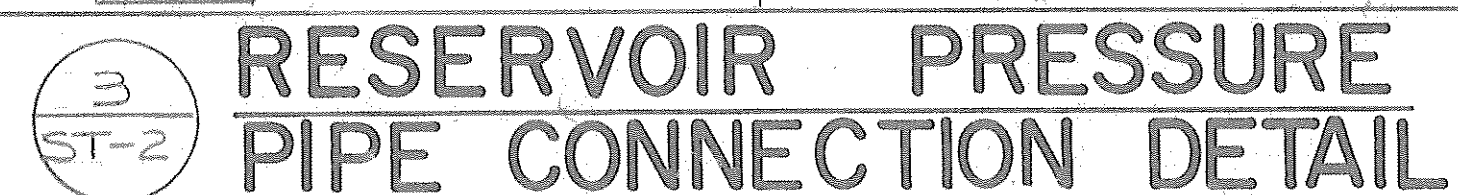




2
ST-2

REMOVABLE SILT STOP

NOT TO SCALE



SCALE: 1/2" = 1' 0"






6
ST-2

OVERFLOW WEIR DETAILS

NOT TO SCALE



REV	DATE	BY	DESCRIPTION	APPROVAL
PROJECT NO: 110-1006L-TER			GOVERNMENT OF GUAM DEPARTMENT OF PUBLIC WORKS	
DESIGNED EMC			INARAJAN - MERIZO - UMATAK	
DRAWN MJK			WATER SYSTEM SUPPORT FACILITIES	
CHECKED EMC			STANDARD DETAILS	
SUPV EMC				
PUBLIC WORKS			RECOMMENDED BY:	DATE
 PROJECT MANAGER			 CHIEF ENGINEER	 (9/27/79)
PRINCIPAL ENGINEER SCALE: AS SHOWN			DRAWER NO: DRAWING NUMBER ST-7	
GEORGE CHEN & SONS, INC.			SHEET 3 OF 3	
ENGINEERING - ARCHITECTURAL - PLANNING				
NO SEE BUILDING			MAITE, GUAM	



4
ST-2

DETAIL OF COVER PLATE
BEFORE PRESSING

NOT TO SCALE



5 ST-2 CONCRETE OUTLET STRUCTURE DETAILS SCALE : 3/8" = 1'-0"

[illegible]