

PINE ORCHARD

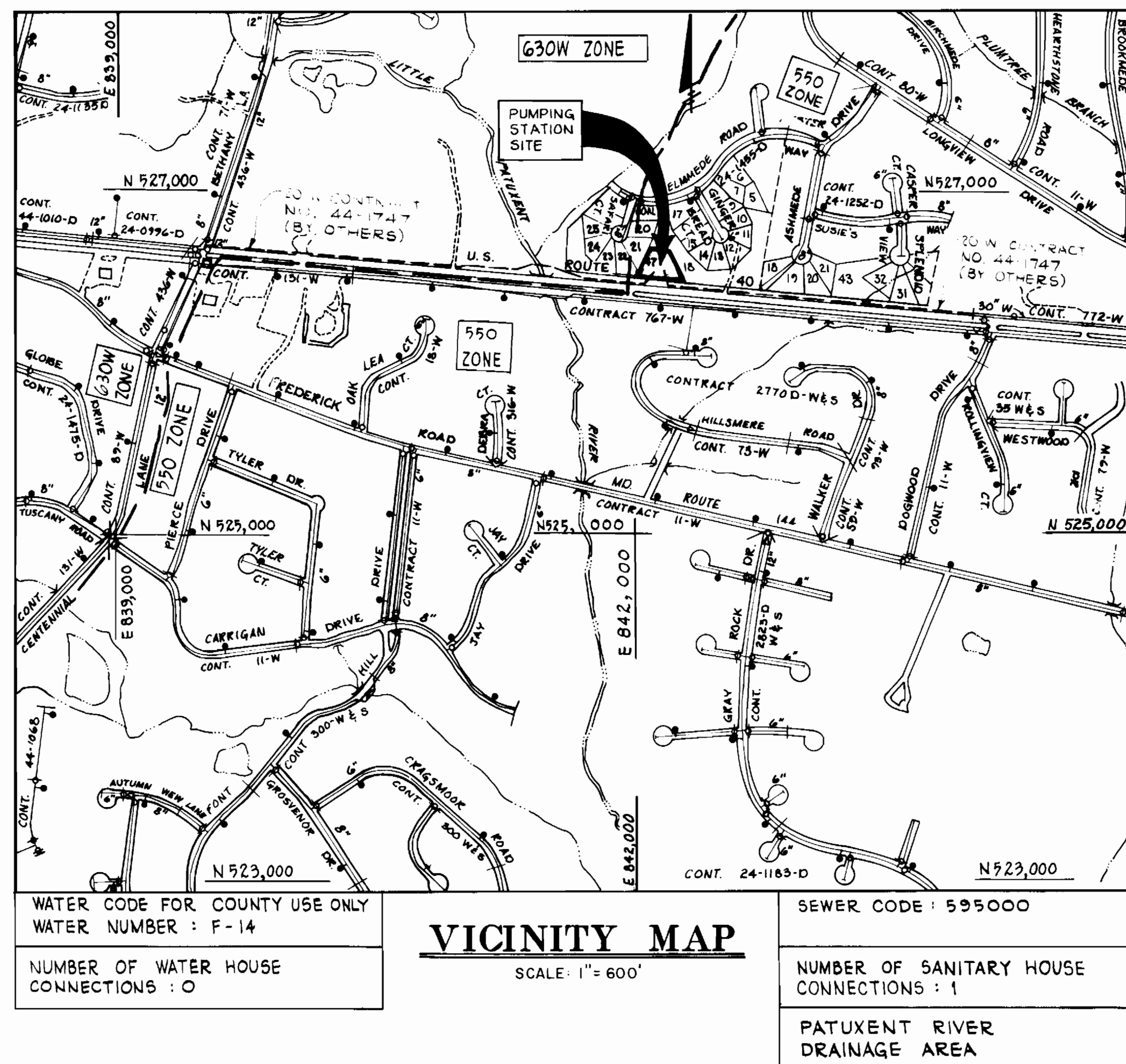
WATER PUMPING STATION

CAPITAL PROJECT W-8133

CONTRACT NO. 44-1748

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WATER CODE FOR COUNTY USE ONLY
WATER NUMBER : F-14

NUMBER OF WATER HOUSE CONNECTIONS : 0

SEWER CODE : 595000

NUMBER OF SANITARY HOUSE CONNECTIONS : 1

PATUXENT RIVER DRAINAGE AREA

GENERAL NOTES

- THE APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES AND SERVICES AND MAINTAIN UNINTERRUPTED SUPPLY. ANY DAMAGES INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES.
- ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATA.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 6".
- FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION. THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB SITE.
- WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL AT THE LOCATION OF THE TEST PIT. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE VERIFIED BY THE CONTRACTOR TO HIS OWN SATISFACTION. ANY DAMAGE TO EXISTING FACILITIES DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
 - STATE HIGHWAY ADMINISTRATION - 531-9933
 - BALTIMORE GAS & ELECTRIC CO. - CONTRACTOR SERVICES - 890-4620
 - BALTIMORE GAS & ELECTRIC CO. - UNDER GROUND DAMAGE CONTROL - 857-9004
 - BALTIMORE GAS & ELECTRIC CO. - TROUBLE SHOOTING - 298-9001
 - MIGS UTILITY - 1-800-297-7777
 - BUREAU OF UTILITIES, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS - 792-2366
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
- CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG LINES OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR CONSTRUCTION OF THE PROJECT.
- TOPS OF ALL WATER MAINS TO HAVE A MINIMUM OF 3/4' COVER UNLESS OTHERWISE NOTED.
- VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
- ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
- FIRE HYDRANTS SHALL BE SET TO BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE STRAPPED AND BUTTRESSED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS. SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1007 THE STANDARD SPECIFICATION.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
- A PLANTING SCHEDULE HAS BEEN PROVIDED ON THE PLANS AS A DESCRIPTION OF HOW THE SURFACES ARE TO BE IMPROVED. THE SCHEDULE IS INTENDED TO ADDRESS SPECIFIC ITEMS TO BE INSTALLED. IN GENERAL, SURFACE FEATURES SHALL BE REPLACED OR RESTORED AS SPECIFIED OR DIRECTED BY THE ENGINEER.
- ALL EXTERIOR WATER MAINS SHALL BE DUCTILE IRON PIPE CLASS 52.
- FOR BORING DATA, SEE SPECIFICATIONS.
- SECTION MARK DEFINITION: $\frac{1}{5-6}$ ← SECTION/DETAIL NUMBER
← 5-6 ← WHERE SHOWN

NOTE:
"SEDIMENT CONTROL TO BE IMPLEMENTED IN ACCORDANCE WITH VOL. 4, SECTION 219 OF THE HOWARD COUNTY DESIGN MANUAL AND THESE PLANS."

Reviewed for Howard County S.C.D. and meets technical requirements.

James M. Palmer Date: 9-18-89
U.S. SOIL CONSERVATION SERVICE

This development plan is approved for soil erosion and sediment control by The Howard County Soil Conservation District.

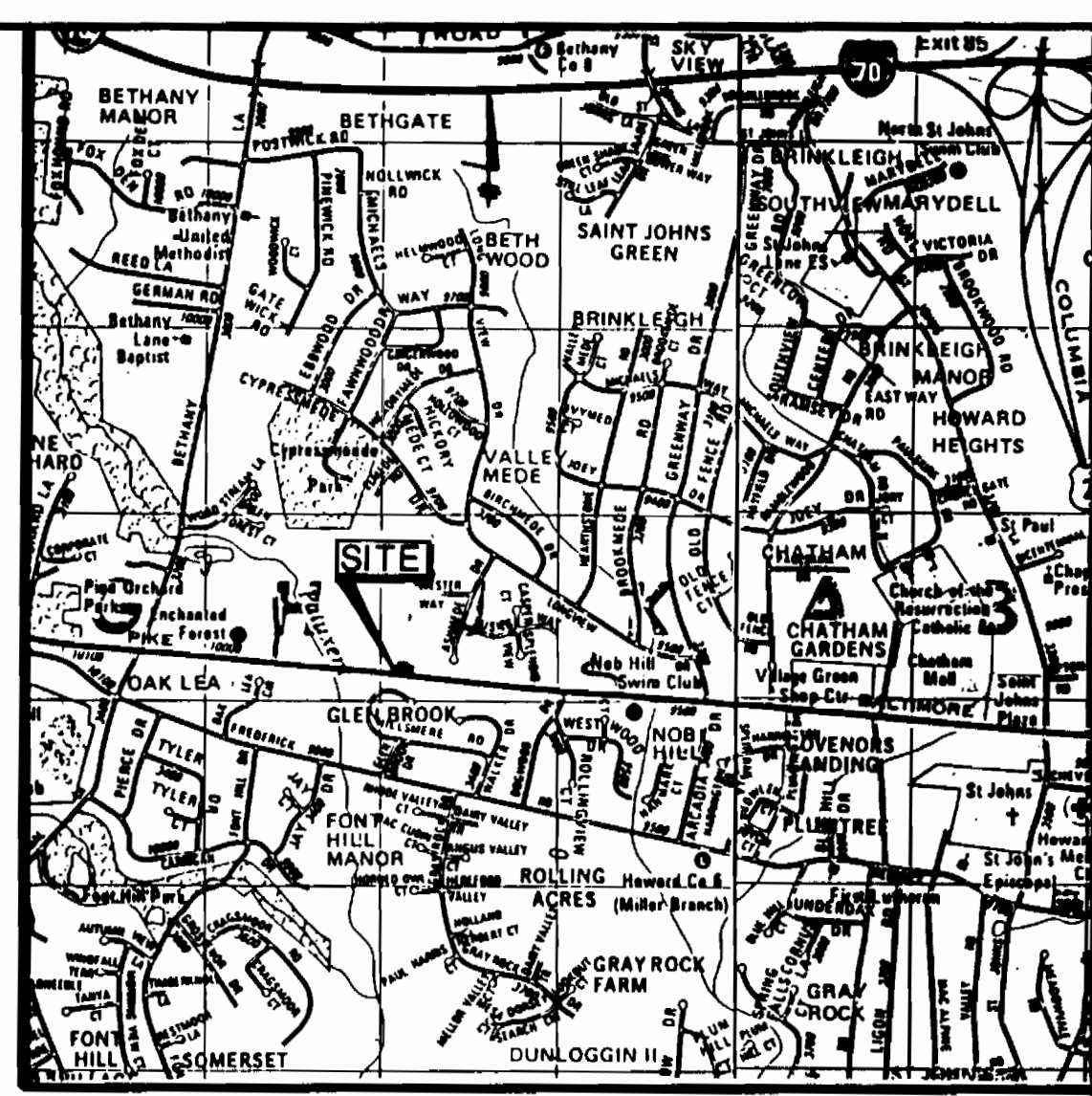
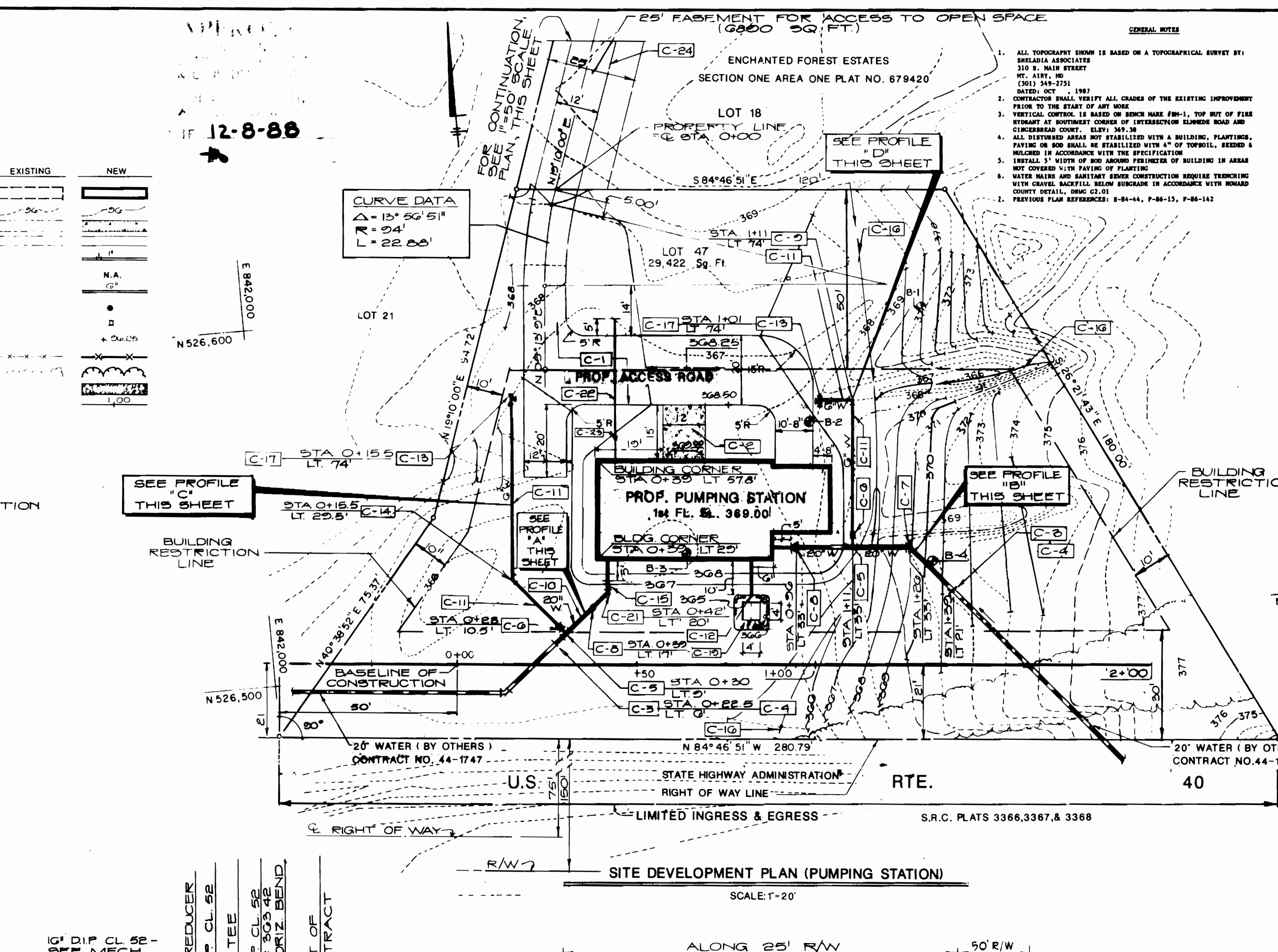
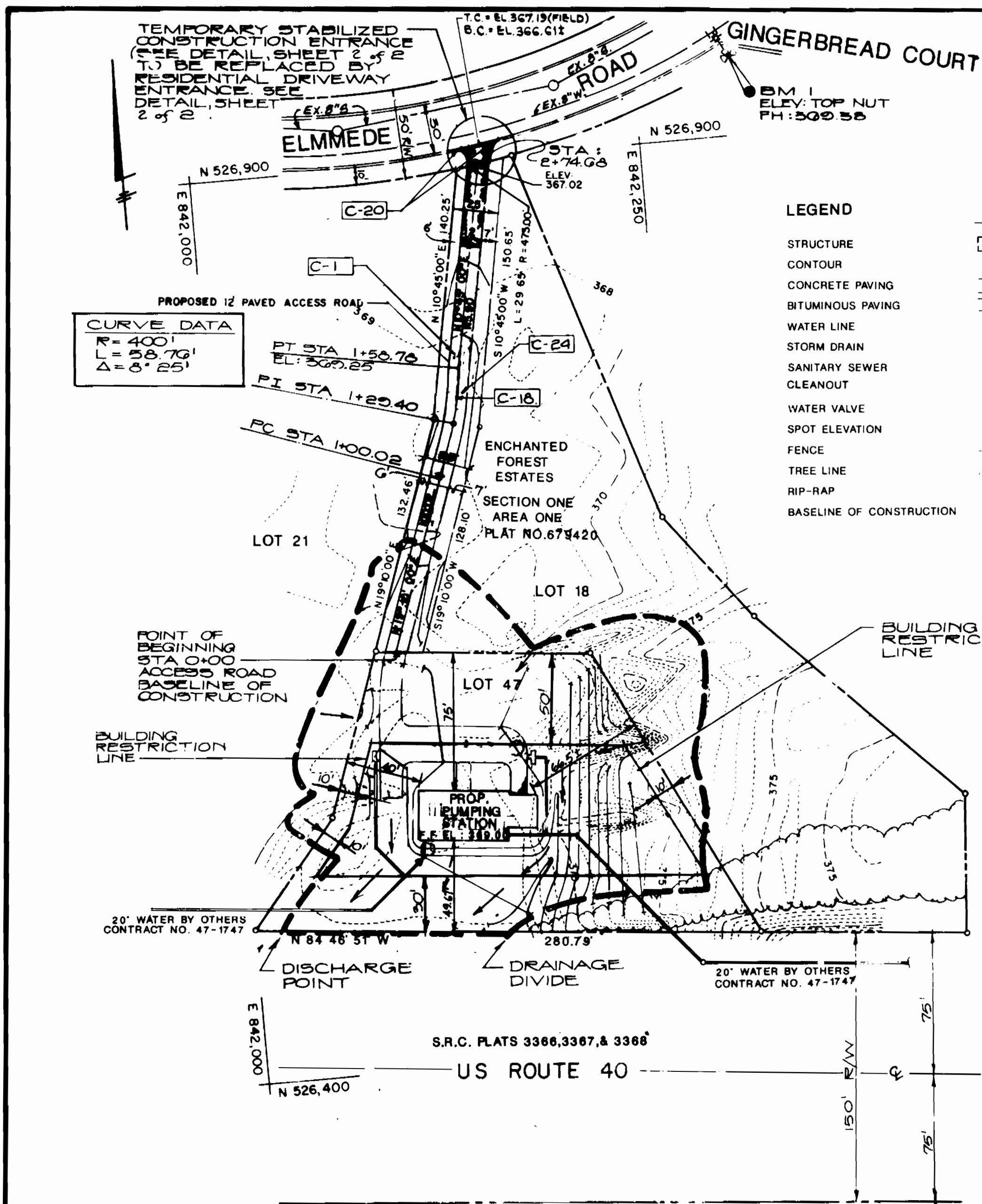
Approved: *Stephen R. Palmer* Date: 9-18-89
HOWARD COUNTY S.C.D.

ENGINEER'S CERTIFICATION

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 County Soil Conservation District.

James M. Palmer Date: 9-11-89
WHITNEY, BAILEY, COX & MAGNANI
CONSULTING ENGINEERS
1850 YORK ROAD
TIMONIUM, MD. 21093

<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p><i>James M. Palmer</i> 9-21-89 DIRECTOR OF PUBLIC WORKS DATE</p> <p><i>Robert W. Reinger</i> 9-21-89 CHIEF, BUREAU OF UTILITIES DATE</p>	<p>WHITNEY, BAILEY, COX & MAGNANI CONSULTING ENGINEERS 1850 YORK ROAD TIMONIUM, MD. 21093 301-252-6060</p>	<p>DES: R.J.H.</p> <p>DRN: S.R.B.</p> <p>CHK: J.P.</p> <p>DATE: 10-5-89</p>	<p>BY NO. REVISION DATE</p>	<p>TITLE SHEET</p> <p>600' SCALE MAP NO. 24 BLOCK NO. 2 B 3</p>	<p style="text-align: center;">PINE ORCHARD WATER PUMPING STATION CAPITAL PROJECT W-8133 CONTRACT NO 44-1748 ELECTION DISTRICT NO. 2 HOWARD COUNTY, MARYLAND</p>	<p>G-1</p> <p>SCALE AS SHOWN</p> <p>SHEET 1 OF 24</p>
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DRAINAGE AREA MAP & SITE DEVELOPMENT PLAN (PUMPING STATION & ACCESS ROAD)
SCALE: 1" = 50'

SITE DEVELOPMENT PLAN (PUMPING STATION)
SCALE: 1" = 20'

ENGINEER'S CERTIFICATE

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL, WORKABLE PLAN BASED ON PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY EROSION AND SEDIMENT CONTROL SECTION.

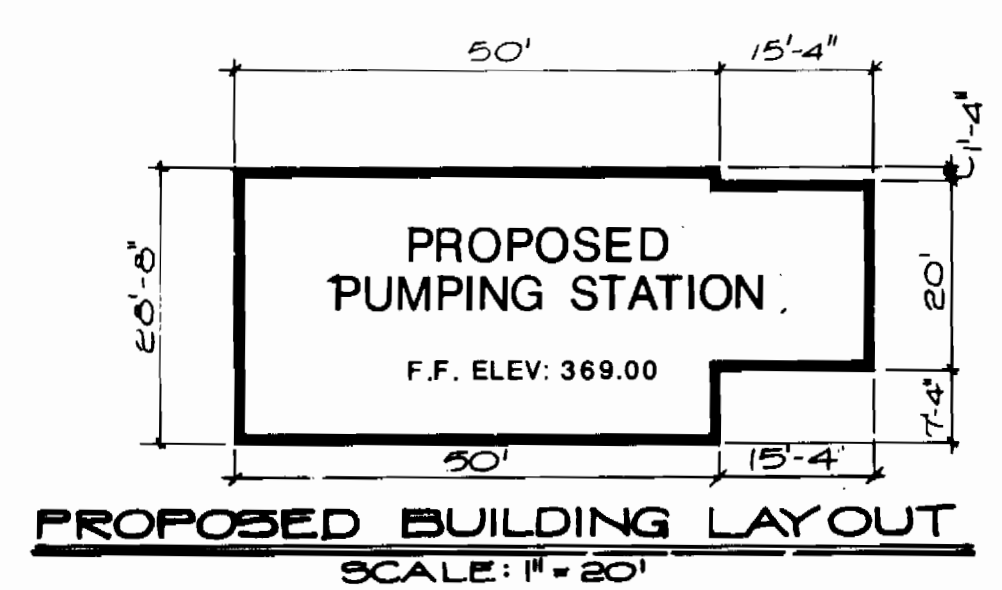
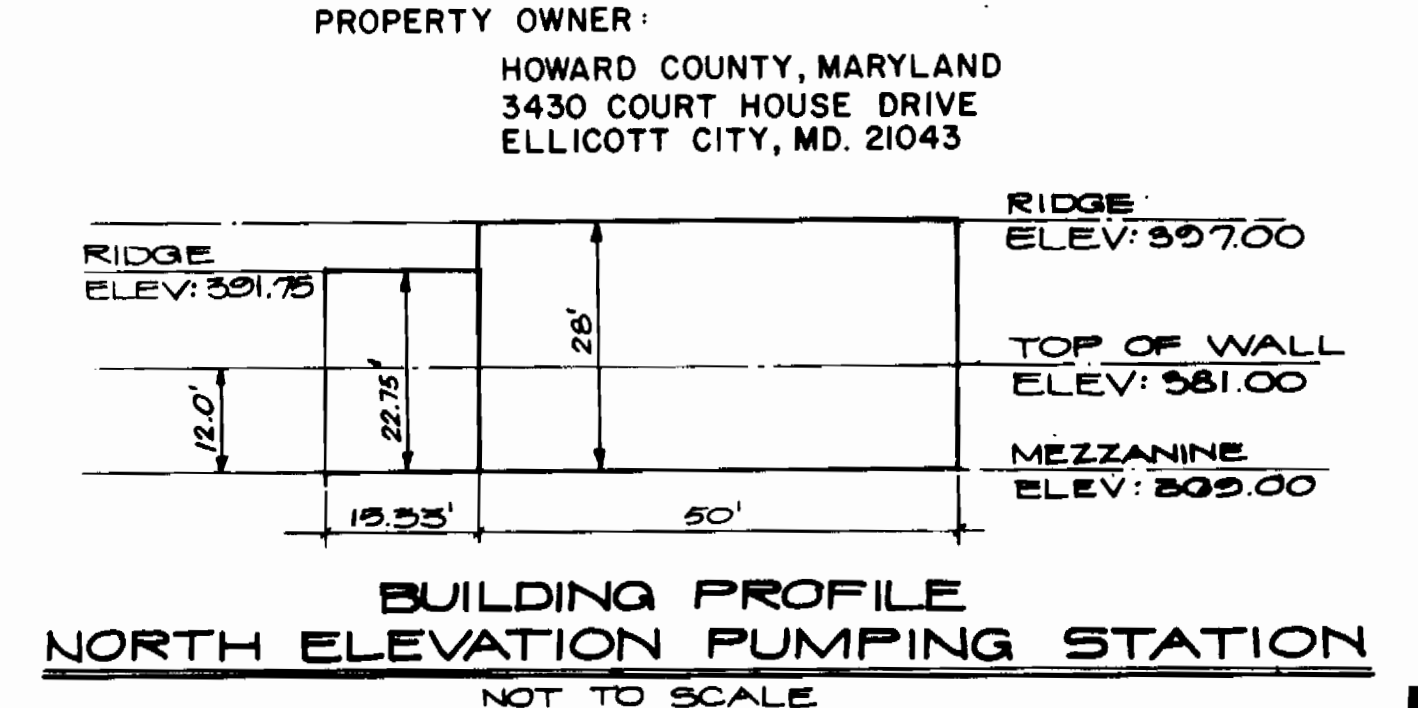
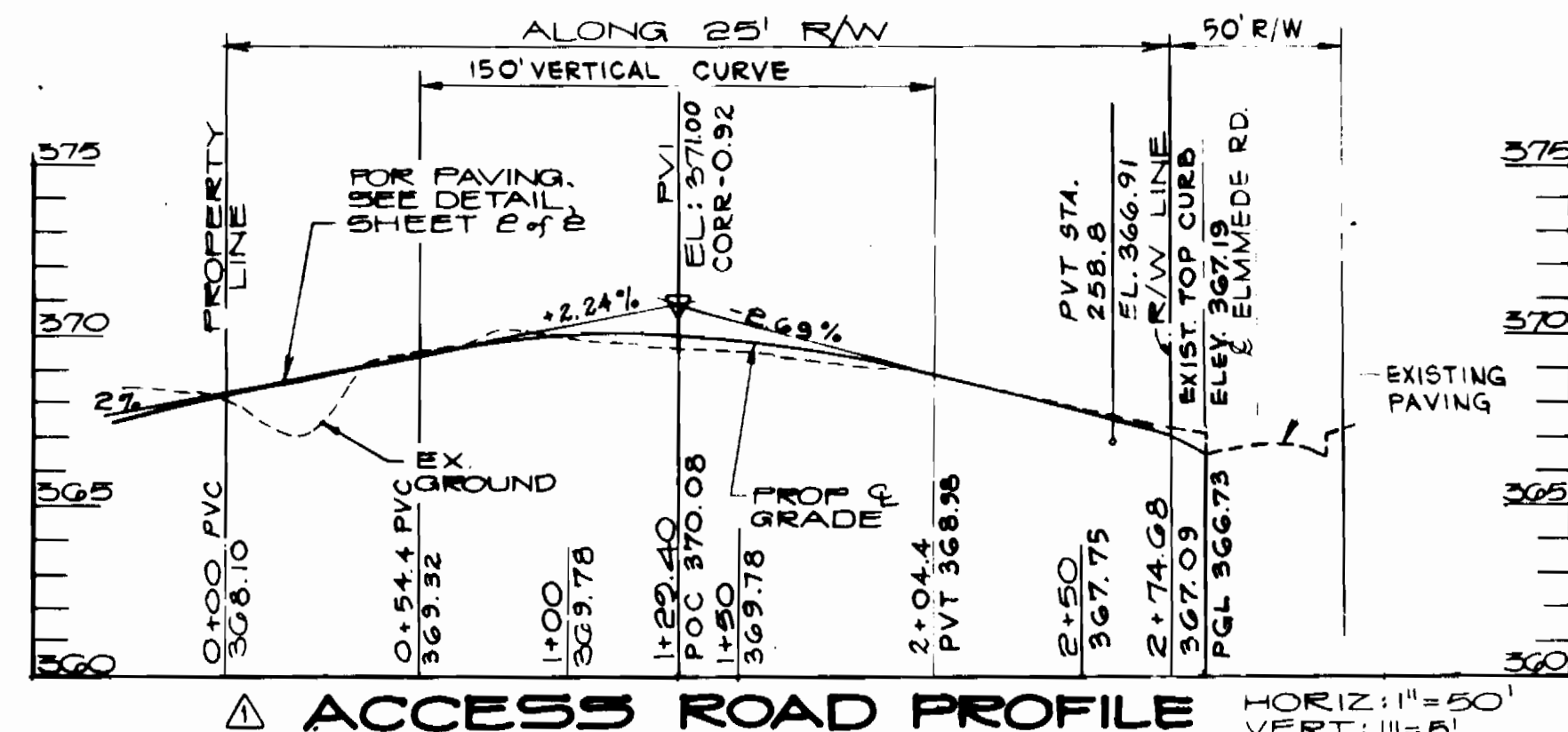
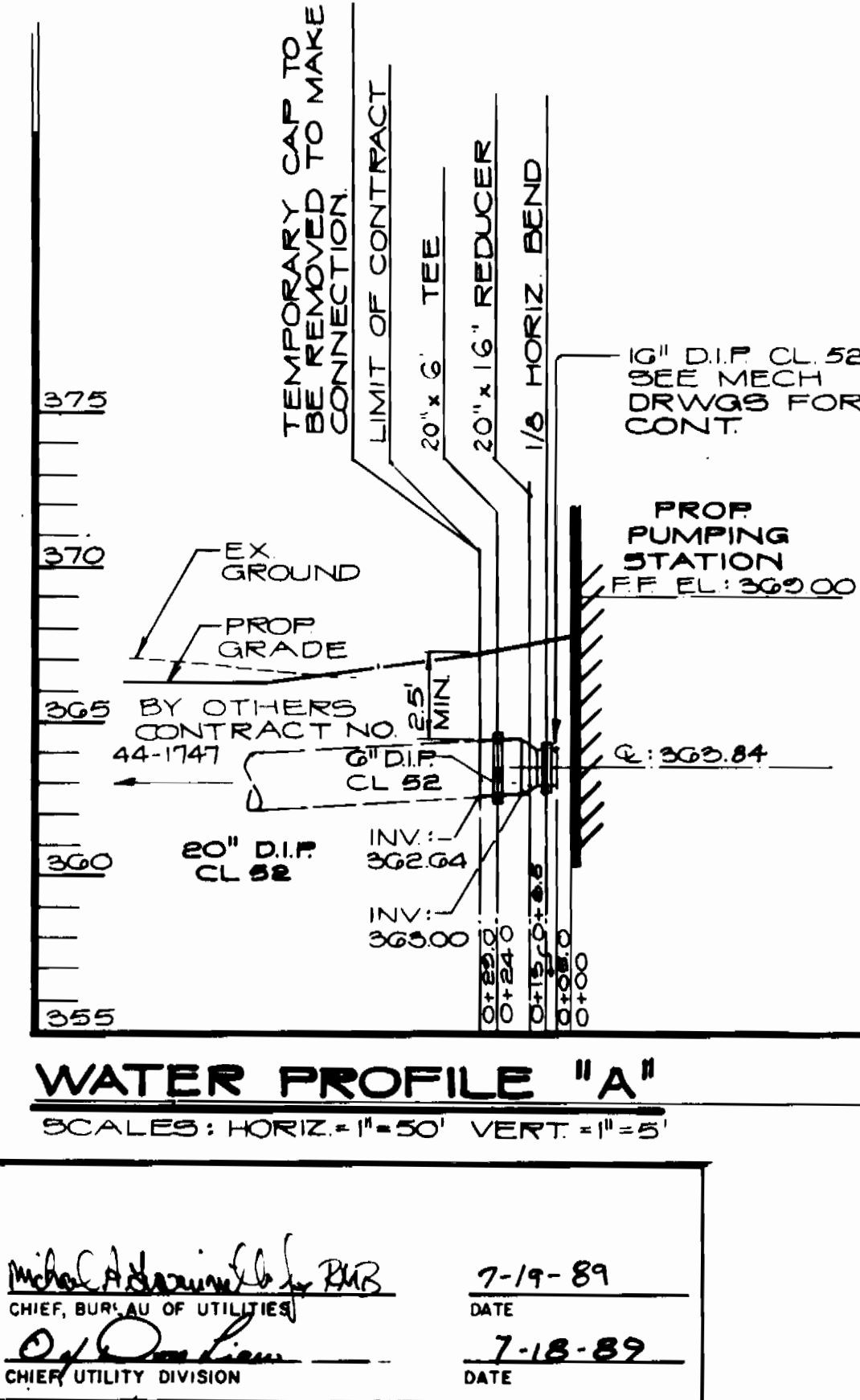
WHITNEY, BAILEY, COX & MAGNANI
1850 YORK ROAD, TIMONIUM, MD 21093
PHONE: (301) 252-6888

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
3430 COURTHOUSE DRIVE, ELLICOTT CITY, MD 21043
PHONE: (410) 882-2870

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT
DATE: 5-30-89

APPROVED FOR HOWARD COUNTY DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT
DATE: 6-16-89

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
DATE: 5-25-89



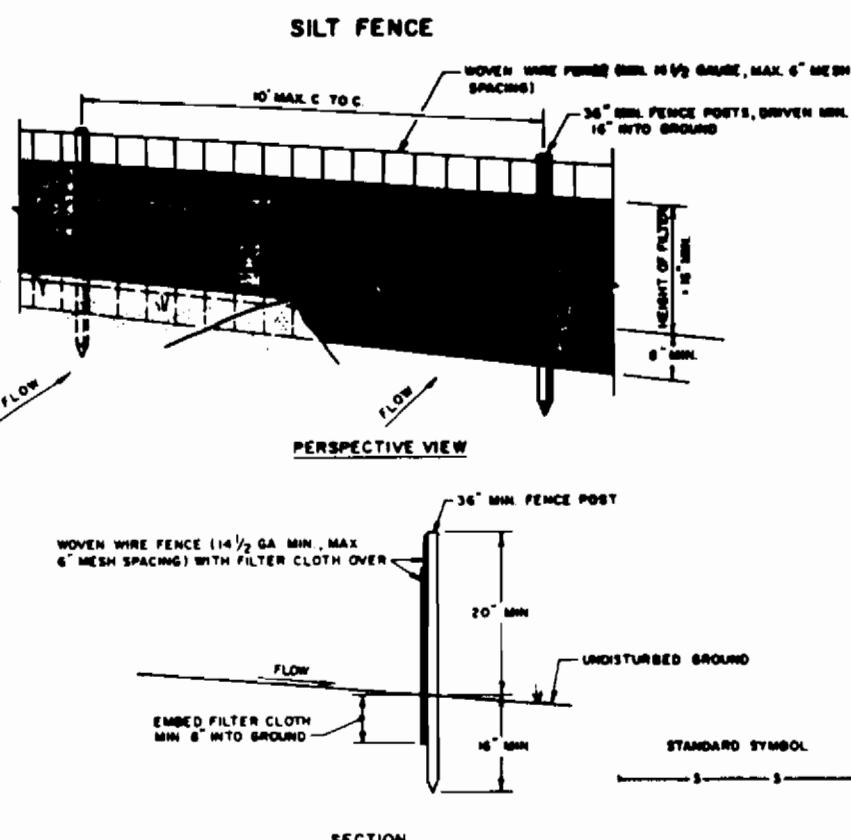
LOT NUMBER	STREET ADDRESS	SECT./AREA	LOT/PARCEL		
47	3250 ELMMEDE ROAD	I/I	LOT 47		
PLAT #	BLOCK #	ZONE	TAX/ZONE MAP	ELEC. DIST.	CENSUS TR.
6794	3	R-20	24	2ND	6022
WATER CODE F14		SEWER CODE 595000			

SITE DEVELOPMENT PLAN & DRAINAGE AREA MAP

PROJECT:
CAPITAL PROJECT NO. W-8133
SEWER CODE 595000 WATER CODE F14
PINE ORCHARD PUMPING STATION
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SECTION 1, AREA 1, PARCEL 47

ENGINEERS: WHITNEY, BAILEY, COX & MAGNANI
CONSULTING ENGINEERS
1850 YORK ROAD
TIMONIUM, MD 21093
(301) 252-6888

DESIGNED: D.H.
DRAWN: G.G./M.S.
CHECKED: J.P.
DATE: OCT. 5, 1989
SCALE: AS SHOWN
DRAWING NO: 2 of 24



- CONSTRUCTION NOTES FOR FABRICATED SILT FENCE**
1. WHEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
 2. FILTER CLOTH TO BE FASTENED SECURELY TO WIRE FENCE WITH TIES PLACED EVERY 24 INCHES AT TOP AND MID SECTION.
 3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
 4. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO REMOVE MULCH WHICH ACCUMULATES ON TOP OF SILT FENCE.

SILT FENCE NOT TO SCALE

SEDIMENT CONTROL NOTES:

1. A MINIMUM OF 72 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF INSPECTION AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION. (192-2417)
2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN 45 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, 8:1 14 DAYS FOR ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS (SEC. 51) AND (SEC. 52), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMITS FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
7. **SITE ANALYSIS:**
TOTAL AREA OF SITE: 0.83 ACRES
AREA DISTURBED: 0.57 ACRES
AREA TO BE ROOFED OR PAVED: 0.18 ACRES
AREA TO BE VEGETATIVELY STABILIZED: 0.35 ACRES
TOTAL CITY: CU.YDS.
TOTAL FILL: CU.YDS.
OFFSITE WASTE/BORROW AREA LOCATION: SEE PLAN
8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.

STABILIZED CONSTRUCTION ENTRANCE NOT TO SCALE

PERMANENT SEEDING NOTES:

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.

SEEDING PREPARATION: LOOSEN UPPER THREE-INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING.

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULE.

1. PREFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQUARE FT.) AND 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE-INCHES OF SOIL.
2. ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ.FT.) AND 1000 LBS PER ACRE 10-10-10 FERTILIZER (23 LBS/1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE-INCHES OF SOIL.

SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS PER ACRE (1.4 LBS/1000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS PER ACRE (.05 LBS/1000 SQ.FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY: OPTION (1) 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USE SOO. OPTION (3) SEED WITH 60 LBS/ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.

MULCHING: APPLY 14 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ.FT.) FOR ANCHORING.

MAINTENANCE: INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

TEMPORARY SEEDING NOTES:

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

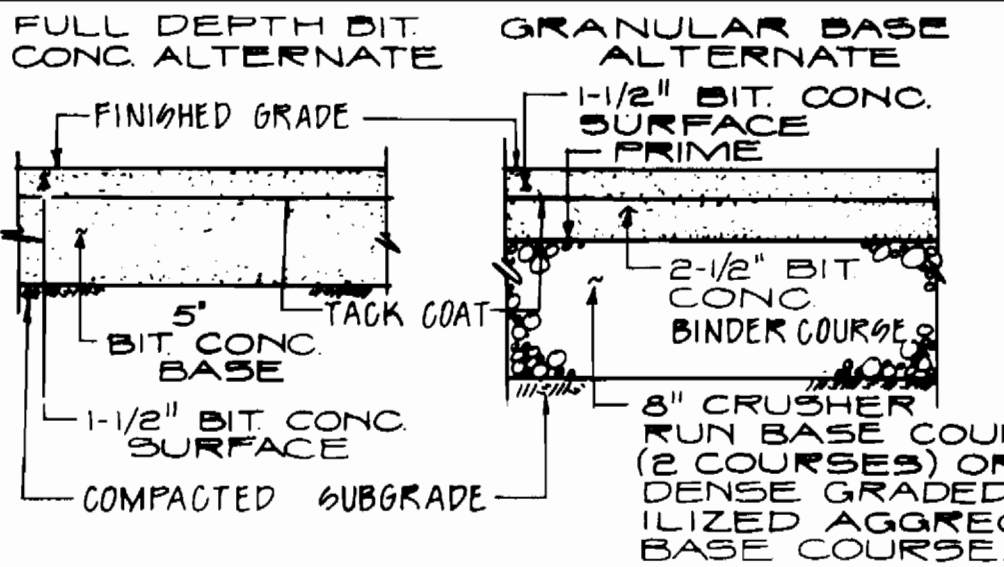
SEEDING PREPARATION: LOOSEN UPPER THREE-INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING.

SOIL AMENDMENTS: APPLY 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ.FT.)

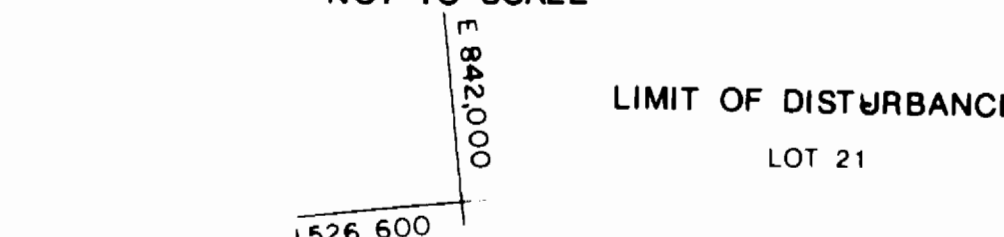
SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30, AND FROM AUGUST 15 THRU NOVEMBER 15, SEED WITH 75 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ.FT.). FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS PER ACRE OF WEEPING LOVEGRASS (.07 LBS/1000 SQ.FT.). FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOO.

MULCHING: APPLY 14 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL PER ACRE (5 GAL/1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPES, 8 FT. OR HIGHER, USE 348 GAL PER ACRE (8 GAL/1000 SQ.FT.) FOR ANCHORING.

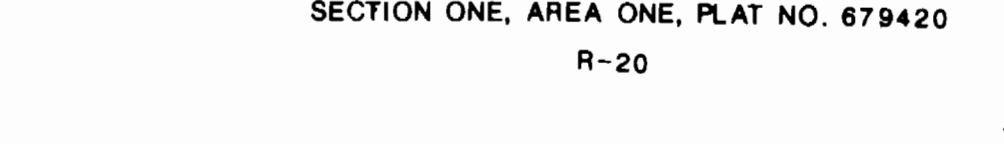
REFER TO THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.



BITUMINOUS PAVING SECTION P-2 NOT TO SCALE



STABILIZED CONSTRUCTION ENTRANCE NOT TO SCALE



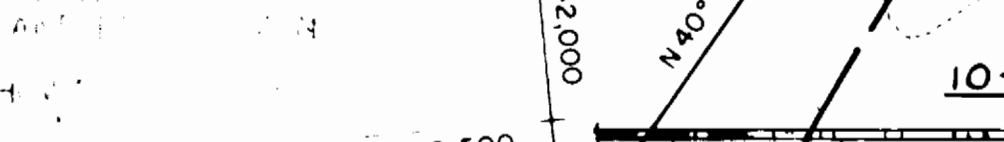
SANITARY SEWER PROFILE



SURGE RELIEF DRAIN PIPE PROFILE



CONCRETE PAVING FOR SIDEWALK NOT TO SCALE



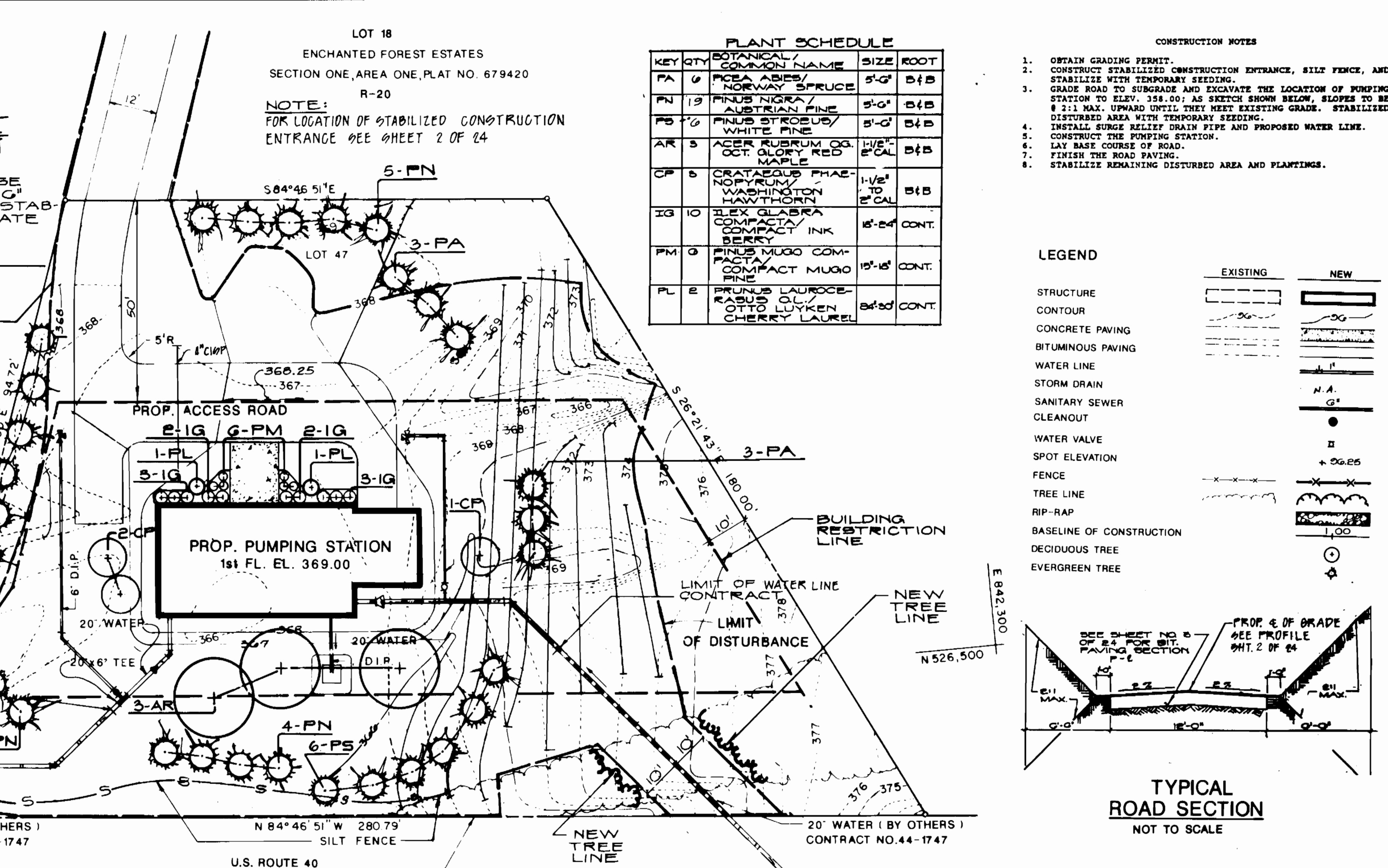
EVERGREEN TREE PLANTING NOT TO SCALE



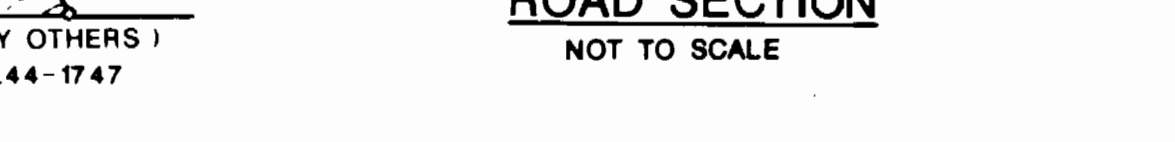
1/8 BEND BUTRESS NOT TO SCALE



1/4 BEND BUTRESS NOT TO SCALE



TYPICAL ROAD SECTION NOT TO SCALE



ENGINEER'S CERTIFICATE

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND FEASIBLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

DATE: 7-20-89

DEVELOPER'S CERTIFICATE

I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT THE DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERMITS BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS AS DEEMED NECESSARY.

DATE: 7-20-89

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS. HOWARD COUNTY HEALTH DEPARTMENT

DATE: 5-30-89

APPROVED: FOR HOWARD COUNTY DIVISION OF COMMUNITY PLANNING AND DEVELOPMENT

DATE: 6-26-89

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE. STORM DRAINAGE SYSTEMS AND PUBLIC ROADS. HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

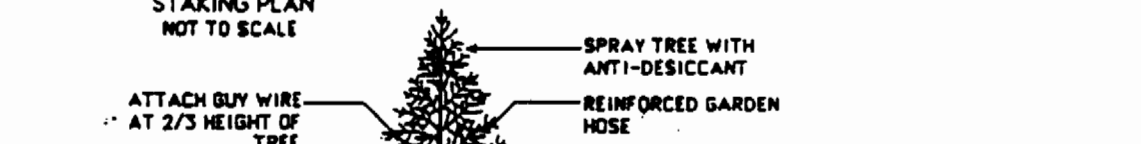
DATE: 7-19-89

DATE: 7-18-89

MINIMUM DIMENSIONS OF BUTRESS FOR HORIZONTAL BENDS

BEND	A	B	C
1/8	1'-5"	1'-8"	1'-2"
1/4	1'-5"	1'-8"	1'-2"
1/2	1'-5"	1'-8"	1'-2"

BUTRESS FOR HORIZONTAL BENDS



BUTRESS FOR HORIZONTAL BENDS



BUTRESS FOR HORIZONTAL BENDS

NOTE
BUTRESS DIMENSIONS ARE BASED ON A WATER TEST PRESSURE OF 150 PSI, AND A MINIMUM SOIL BEARING PRESSURE OF 2000 PSF. WHEN ACTUAL FIELD CONDITIONS ARE DIFFERENT THE AREA OF BEARING SHALL BE INCREASED AS DETERMINED BY THE ENGINEER.

REVISIONS

DATE	NO.	REVISION
9-11-89	1	REVISED ACCESS ROAD PROFILE & MISC.

SEDIMENT CONTROL PLAN, CONSTRUCTION NOTES AND DETAILS SANITARY SEWER PROFILE

PROJECT: CAPITAL PROJECT NO W-8133
SEWER CODE 595000 WATER CODE F14

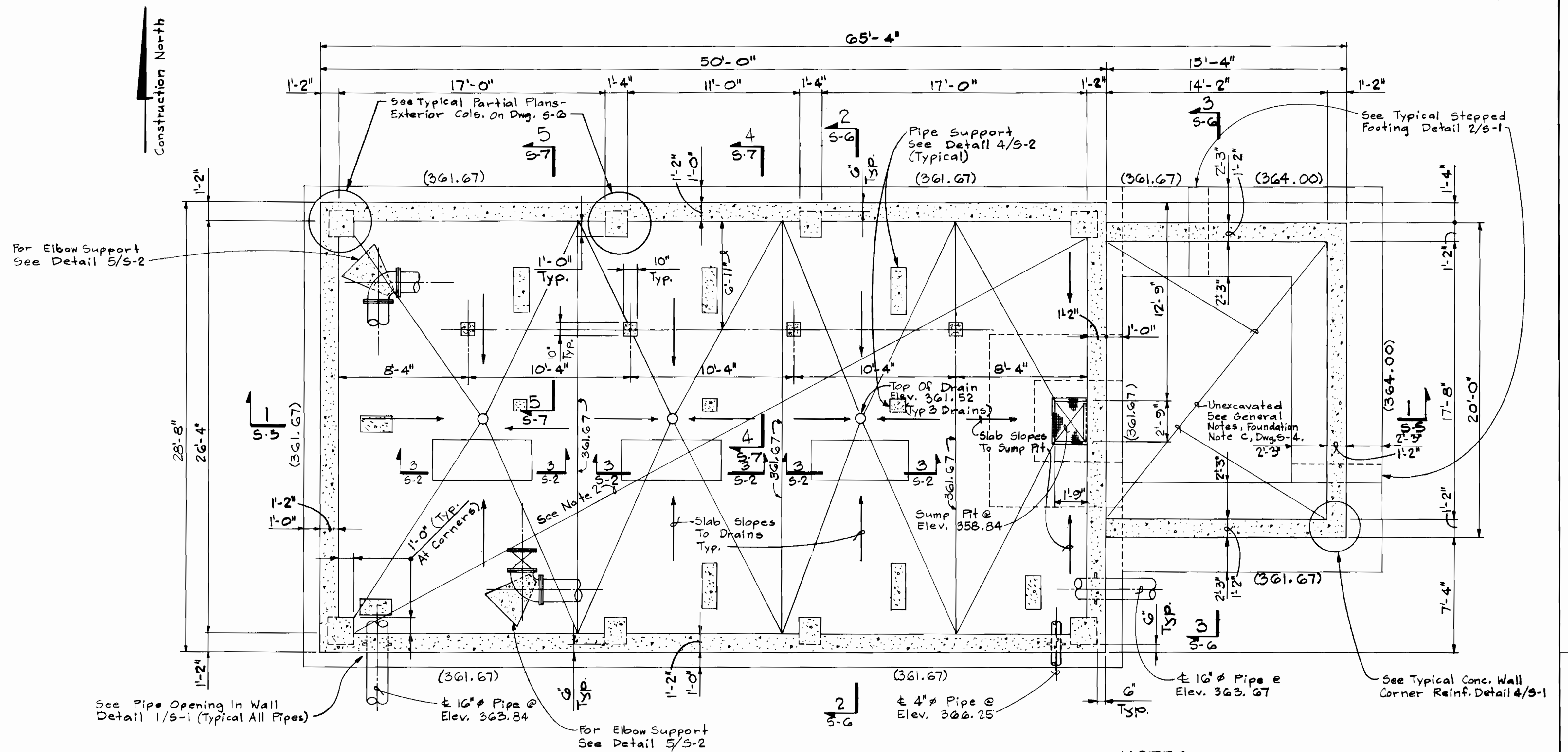
PINE ORCHARD PUMPING STATION

2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SECTION 1, AREA 1, LOT 47

ENGINEERS: WHITNEY, BAILEY, COX & MAGNANI
CONSULTING ENGINEERS
1850 YORK ROAD
TIMONIUM, MD. 21093
(301) 252-6060

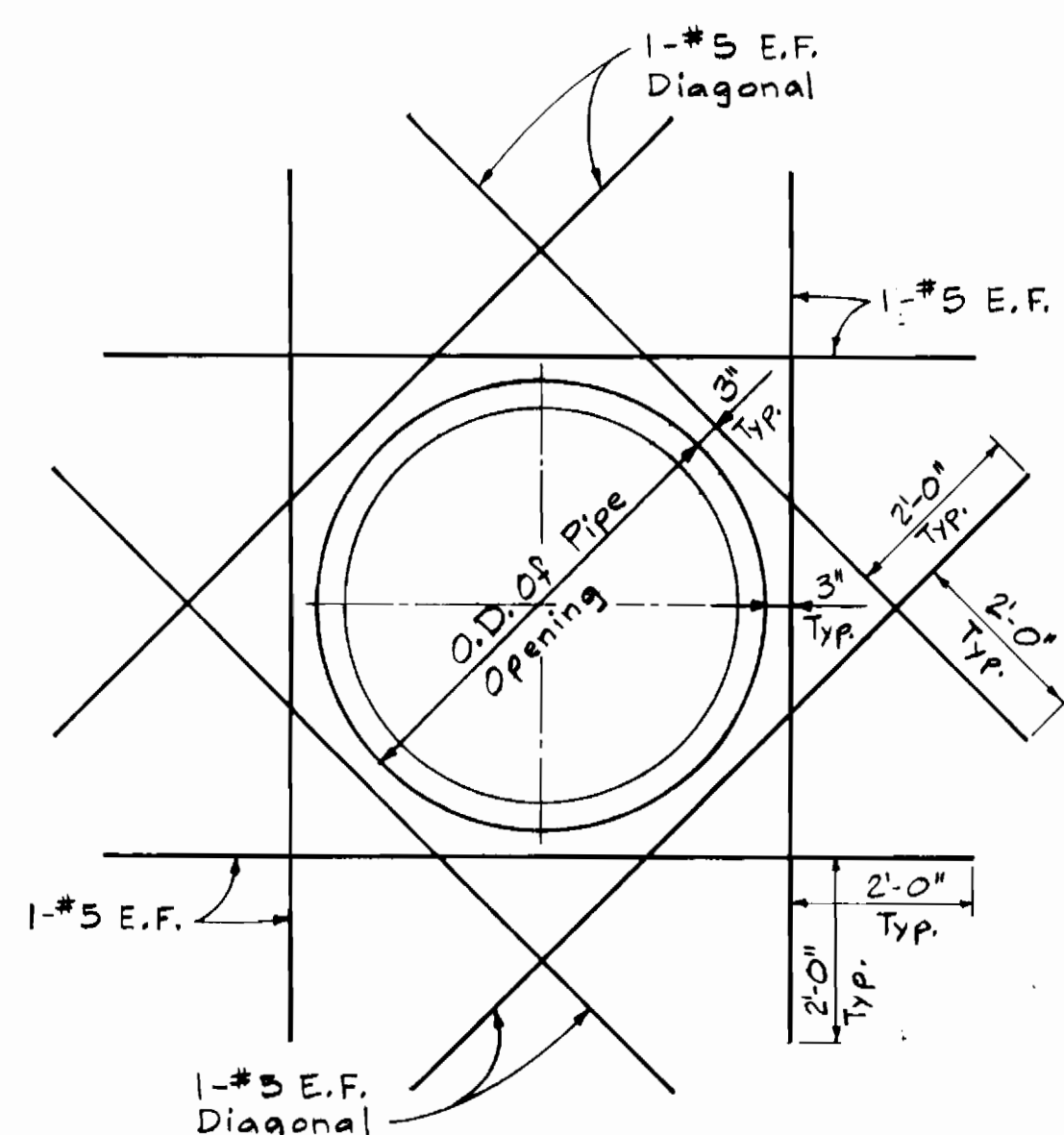
DESIGNED: D.H.
DRAWN: G.G./M.D.
CHECKED: J.P.
DATE: OCT 5, 1989
SCALE: AS SHOWN
DRAWING NO: C-2

3 OF 24



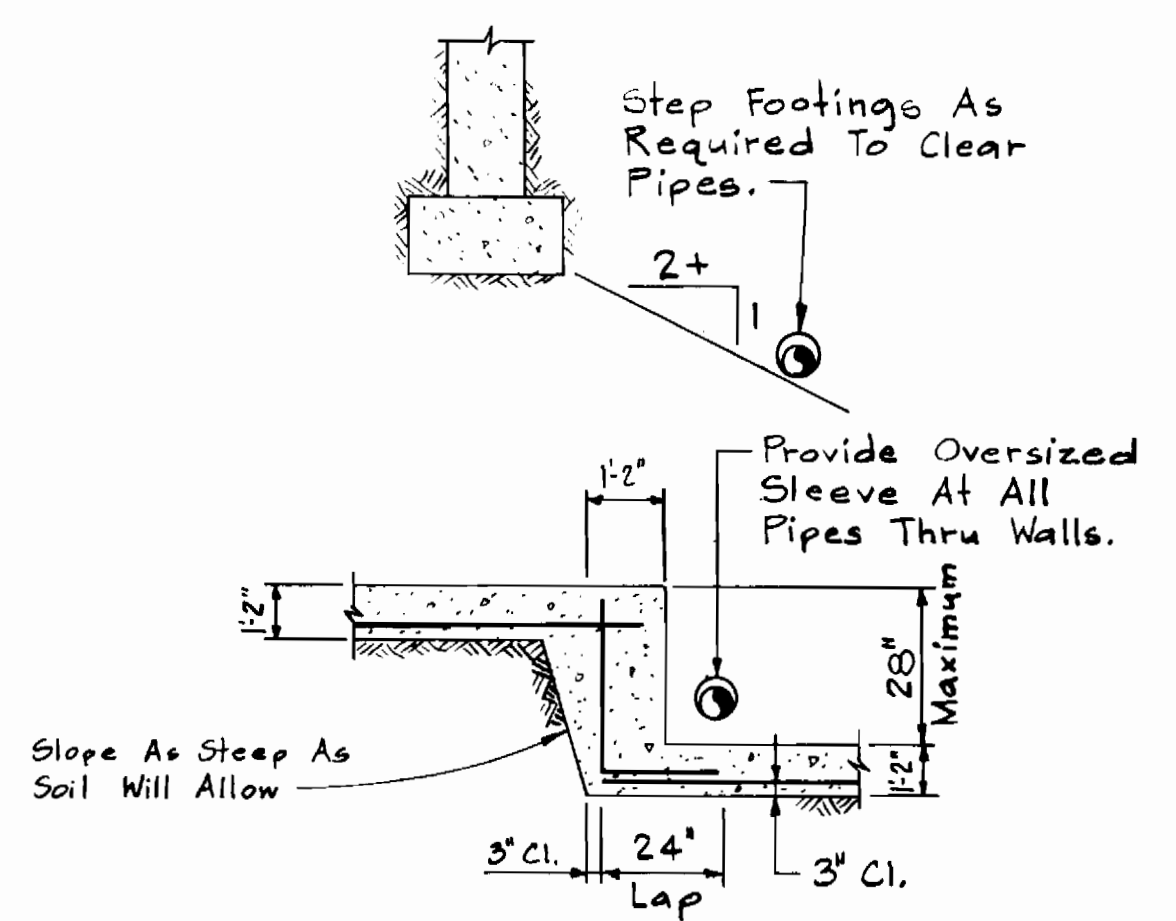
LOWER LEVEL AND FOUNDATION PLAN
Scale: 1/4" = 1'-0"

- NOTES:**
- Elevation Top Of Conc. Mat Slab & Footings Noted On Foundation Plan Thus (-----).
 - Finished Floor (Top Of Conc. Mat Slab) Slopes 1/8" Per Foot Minimum To Floor Drains And Sump Pit. Top Of Conc. Mat Slab High Points At Elevation 361.67 (Top Of Drains At Elevation 361.52) Place Conc. Mat On 6 Mil. Polyethylene.
 - For General Notes See Dwg. S-4.
 - Concrete Pads And Supports For Equipment See Typical Details And Sections On Dwg. S-2. See Mech. Dwg. For Equipment, Pipes And Appurtenances To Be Supported. All Supports Not Shown On Structural Dwg.



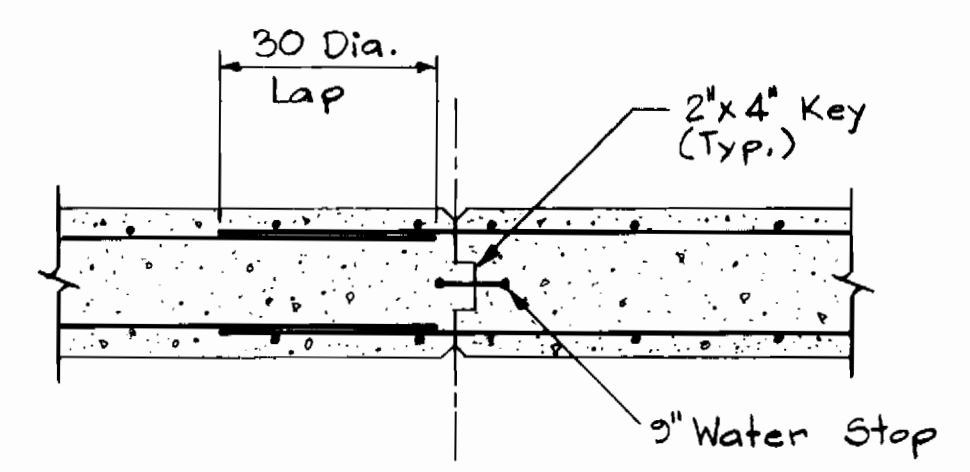
ADDITIONAL REINF. AROUND PIPE OPENINGS IN WALL

DETAIL 1/S-1
Not To Scale



TYPICAL STEPPED FOOTING

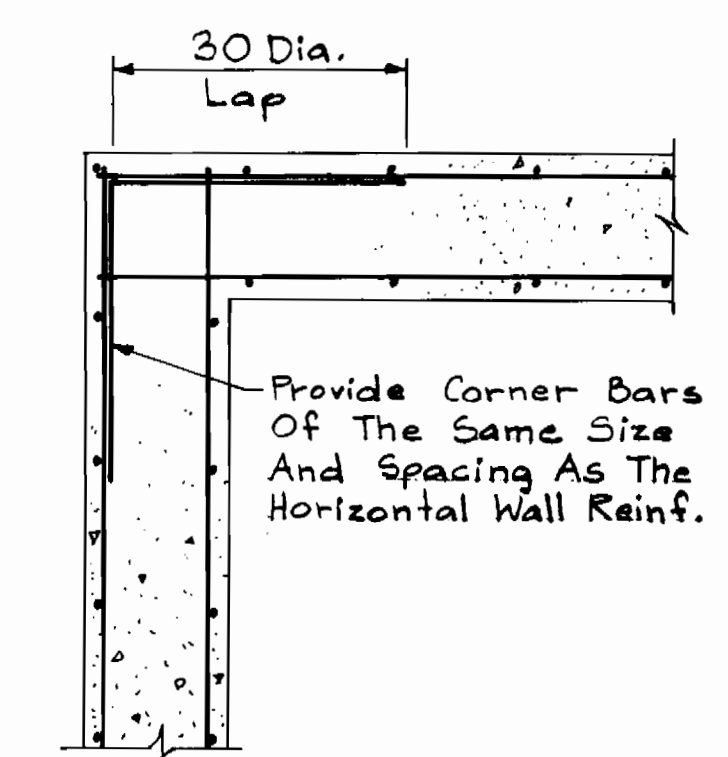
DETAIL 2/S-1
Not To Scale



CONSTRUCTION JOINT

TYPICAL CONCRETE WALL JOINT

DETAIL 3/S-1
Not To Scale



PLAN

TYPICAL CONCRETE WALL CORNER REINFORCING

DETAIL 4/S-1, & S-6
Not To Scale

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
9/22/89
9-21-89

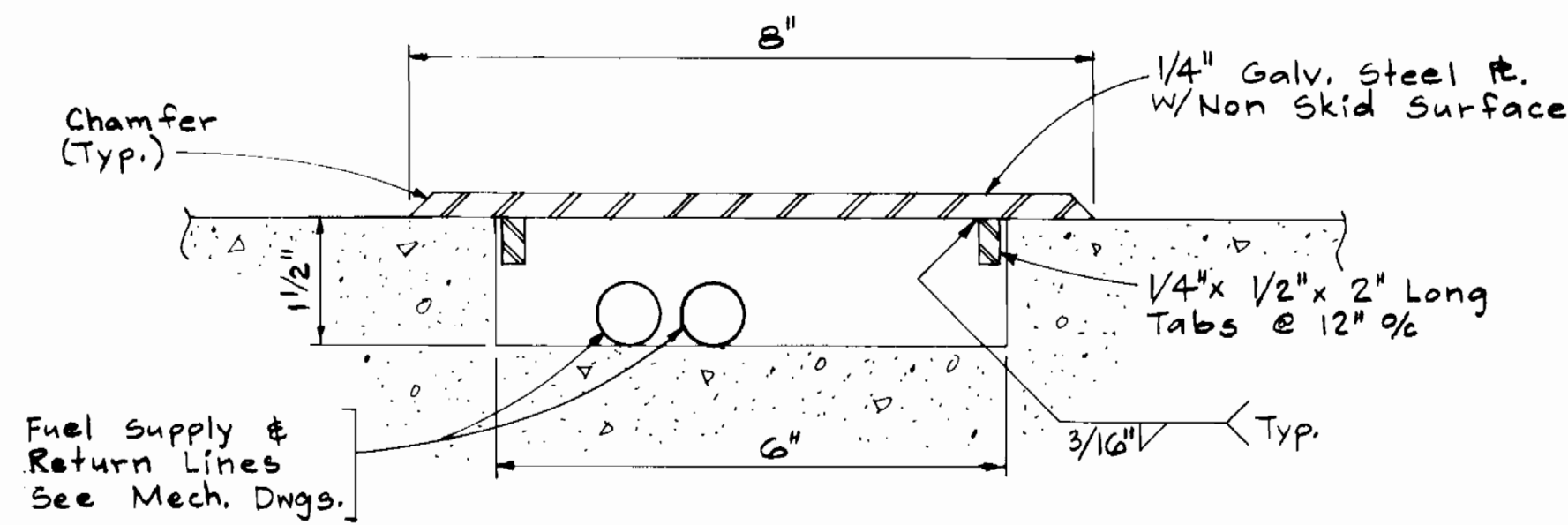
WHITNEY BAILEY COX MAGNANI
CONSULTING ENGINEERS
1850 YORK ROAD
TIMONIUM, MD. 21093
301-252-8080

DES: M.T.L.	DATE: 10-5-89
DRN: G.A.P.	BY: NO.
CHK: B.E.H.	REVISION

STRUCTURAL
LOWER LEVEL AND FOUNDATION PLAN
SECTIONS AND DETAILS.

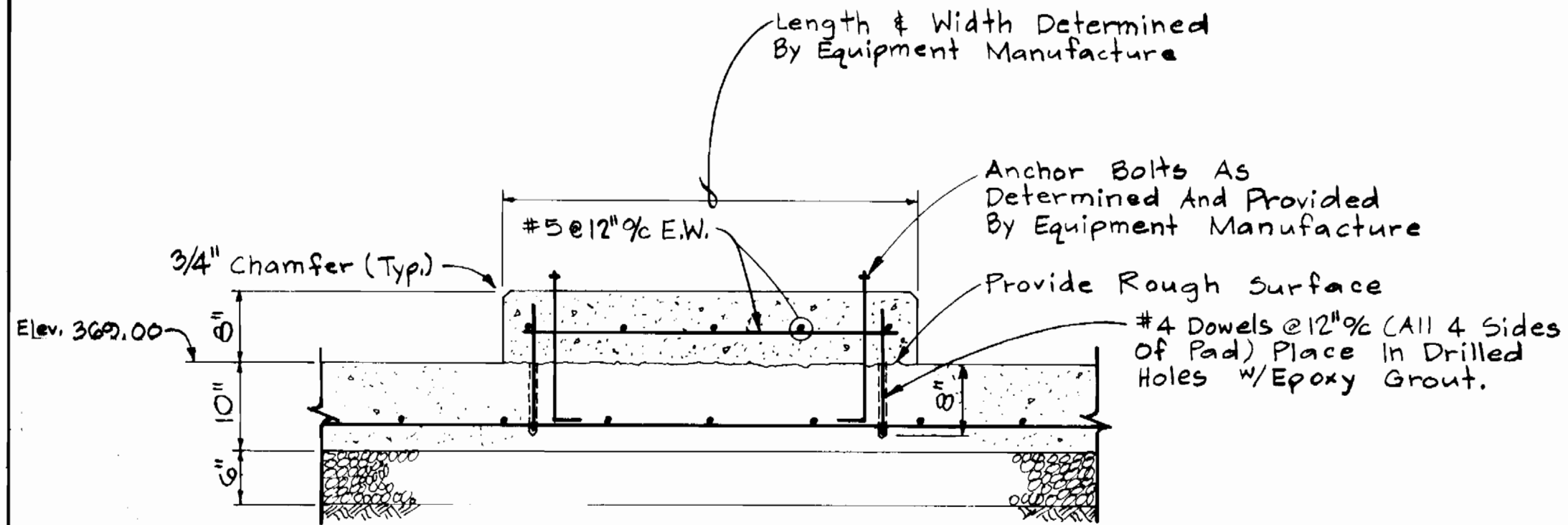
PINE ORCHARD WATER PUMPING STATION
CAPITAL PROJECT W-8133
CONTRACT NO. 44-1748
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND

S-1
SCALE AS SHOWN
SHEET 4 OF 24



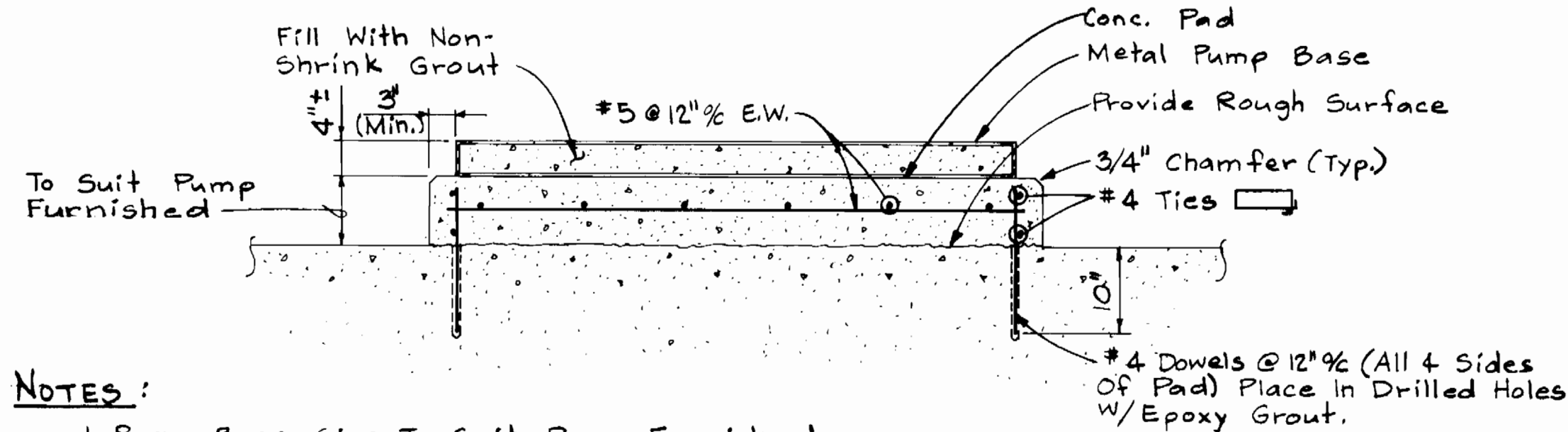
PIPE TRENCH
SECTION 1/S-2
Scale: 1/2" = 1'

Length & Width Determined By Equipment Manufacture

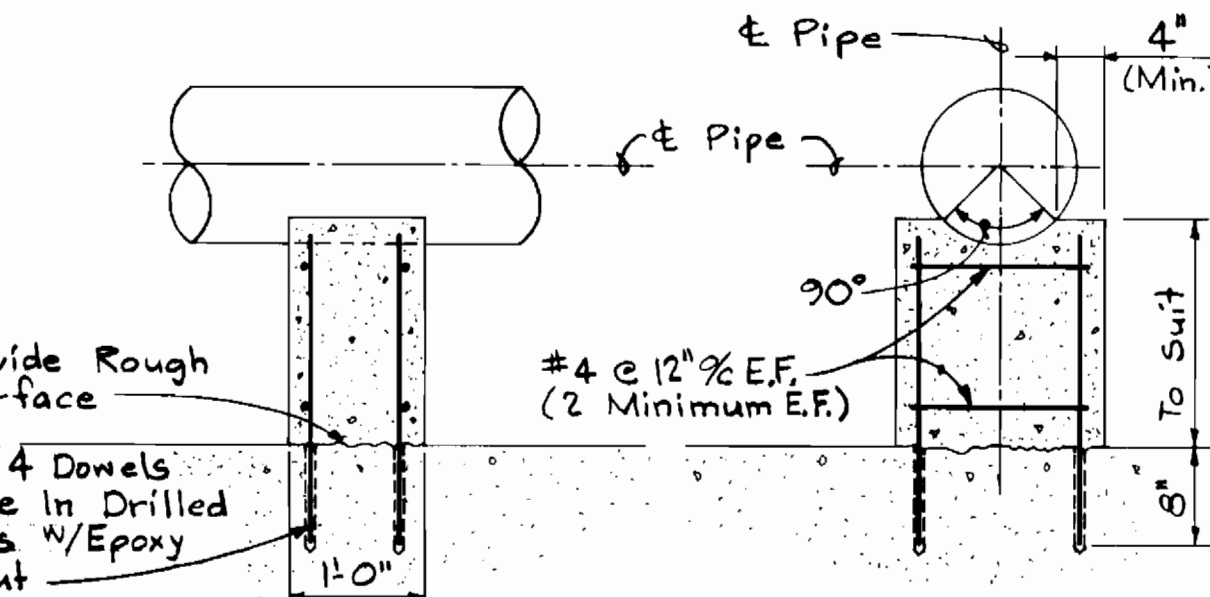


GENERATOR PAD
SEE MEZZANINE PLAN THIS SHEET
SECTION 2/S-2
Scale: 3/4" = 1'-0"

NOTES:
1. All Hardware furnished By Equipment Manufacturer Shall Be Set With Templates.

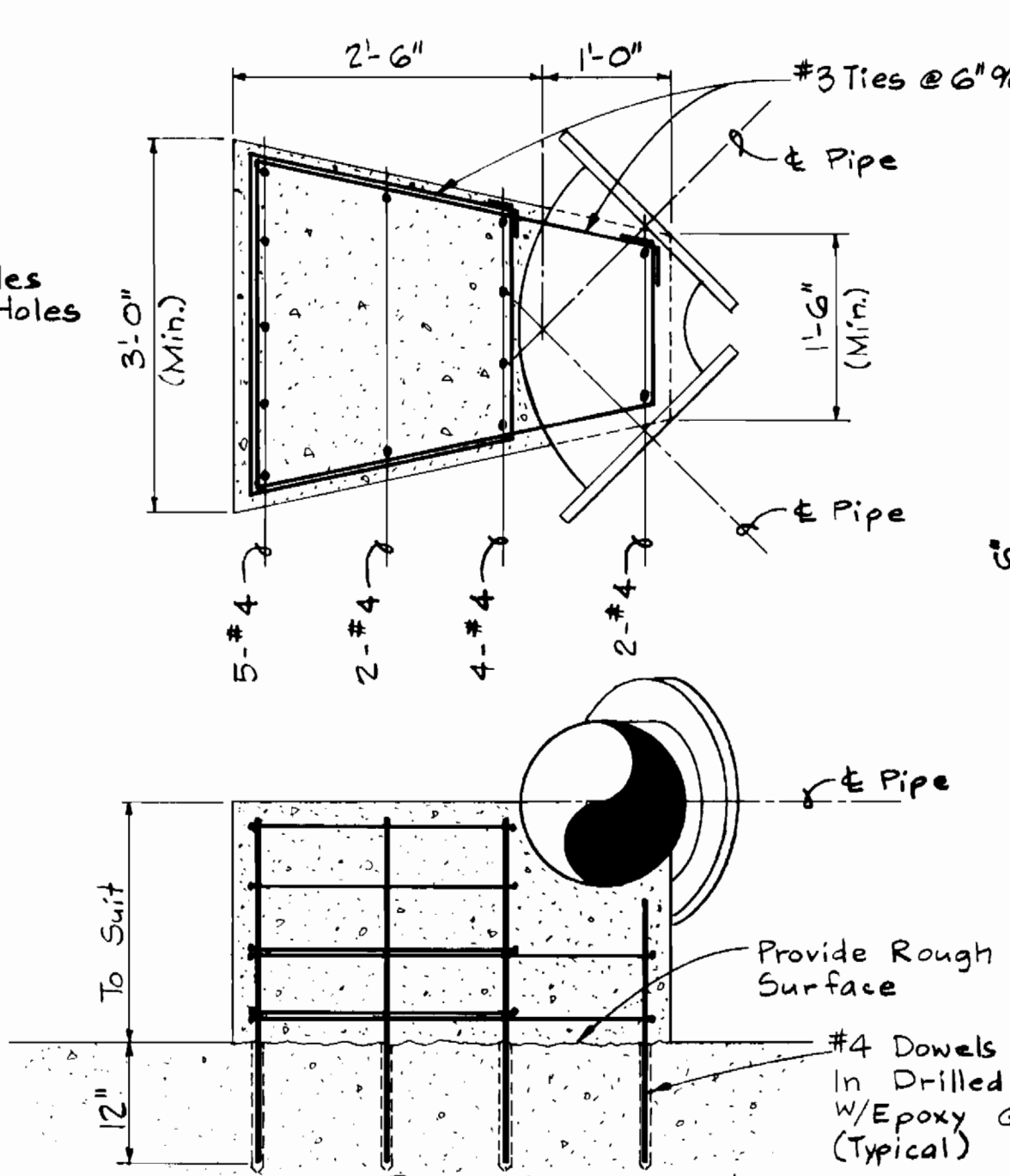


PUMP PAD
SECTION 3/S-1
Scale: 3/4" = 1'-0"



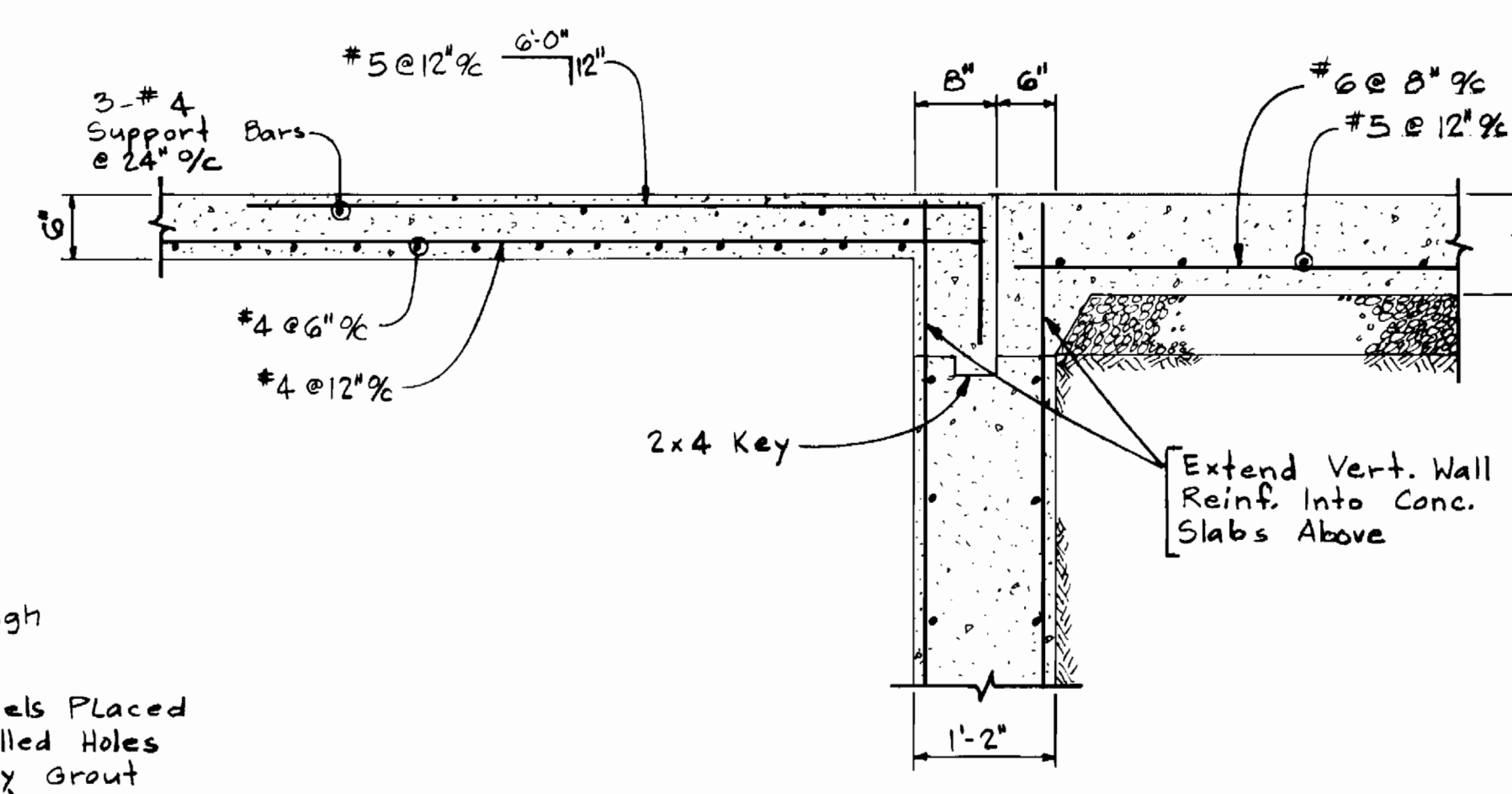
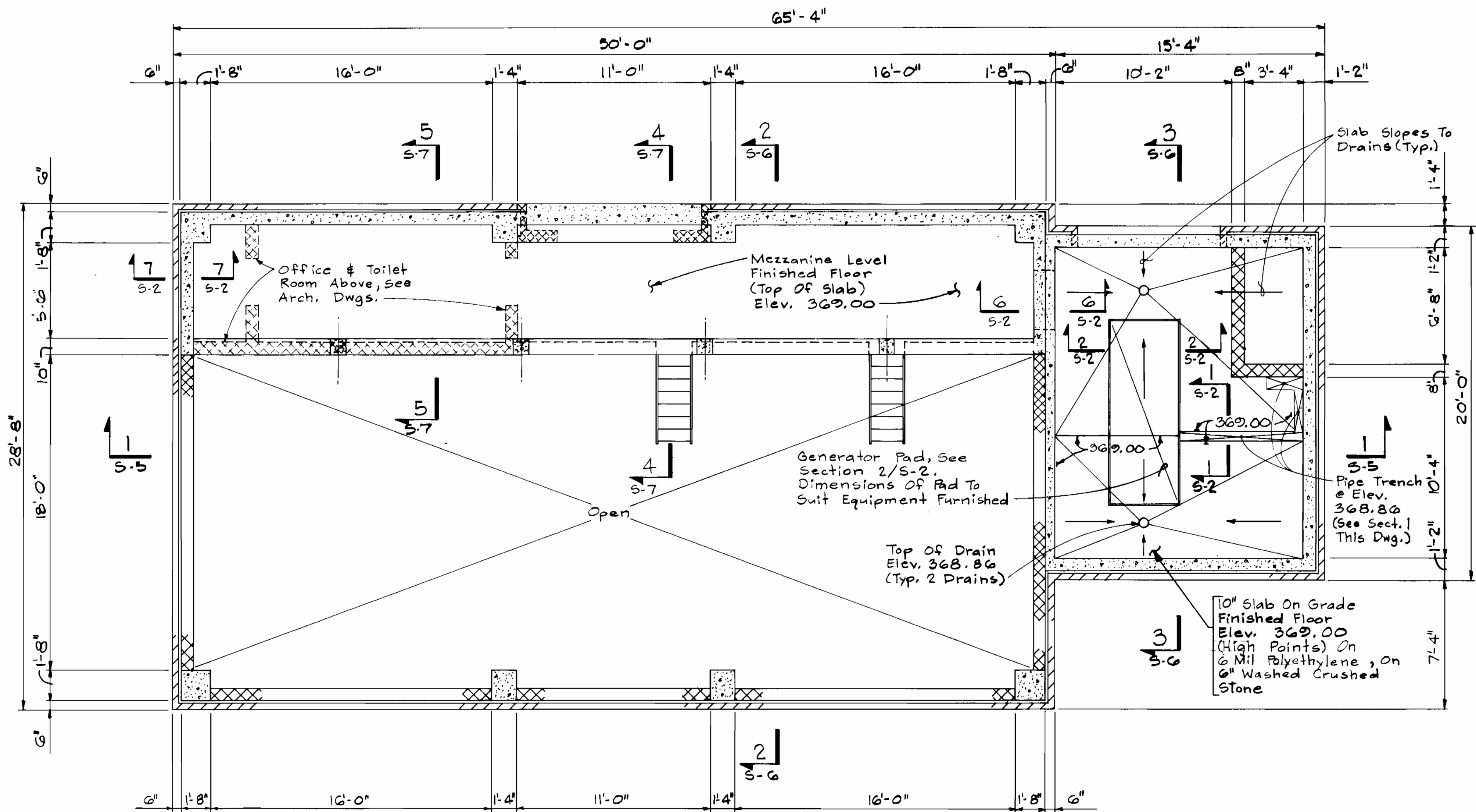
TYPICAL PIPE SUPPORT
DETAIL 4/S-1
Not To Scale

NOTE:
Equipment Supports Similar To Pipe Support But Width And Length To Suit Equipment.

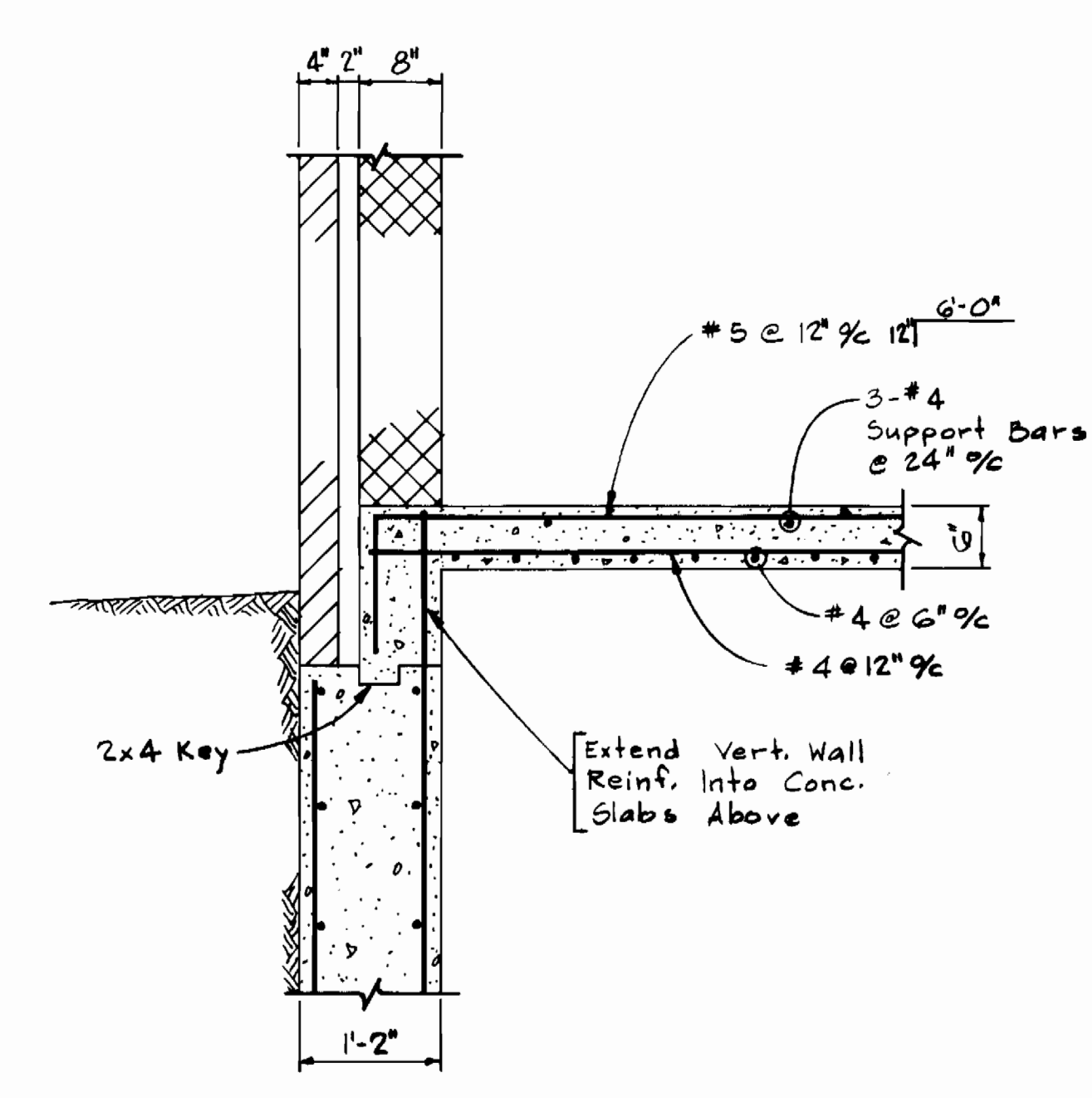


TYPICAL PIPE SUPPORT AT ELBOW
DETAIL 5/S-1
Not To Scale

MEZZANINE LEVEL FRAMING PLAN
Scale: 1/4" = 1'-0"



SECTION 6/S-2
Scale: 3/4" = 1'-0"



SECTION 7/S-2
Scale: 3/4" = 1'-0"

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James J. [Signature] 9/22/89
DIRECTOR OF PUBLIC WORKS DATE
Robert W. [Signature] 9/21/89
CHIEF, BUREAU OF UTILITIES DATE

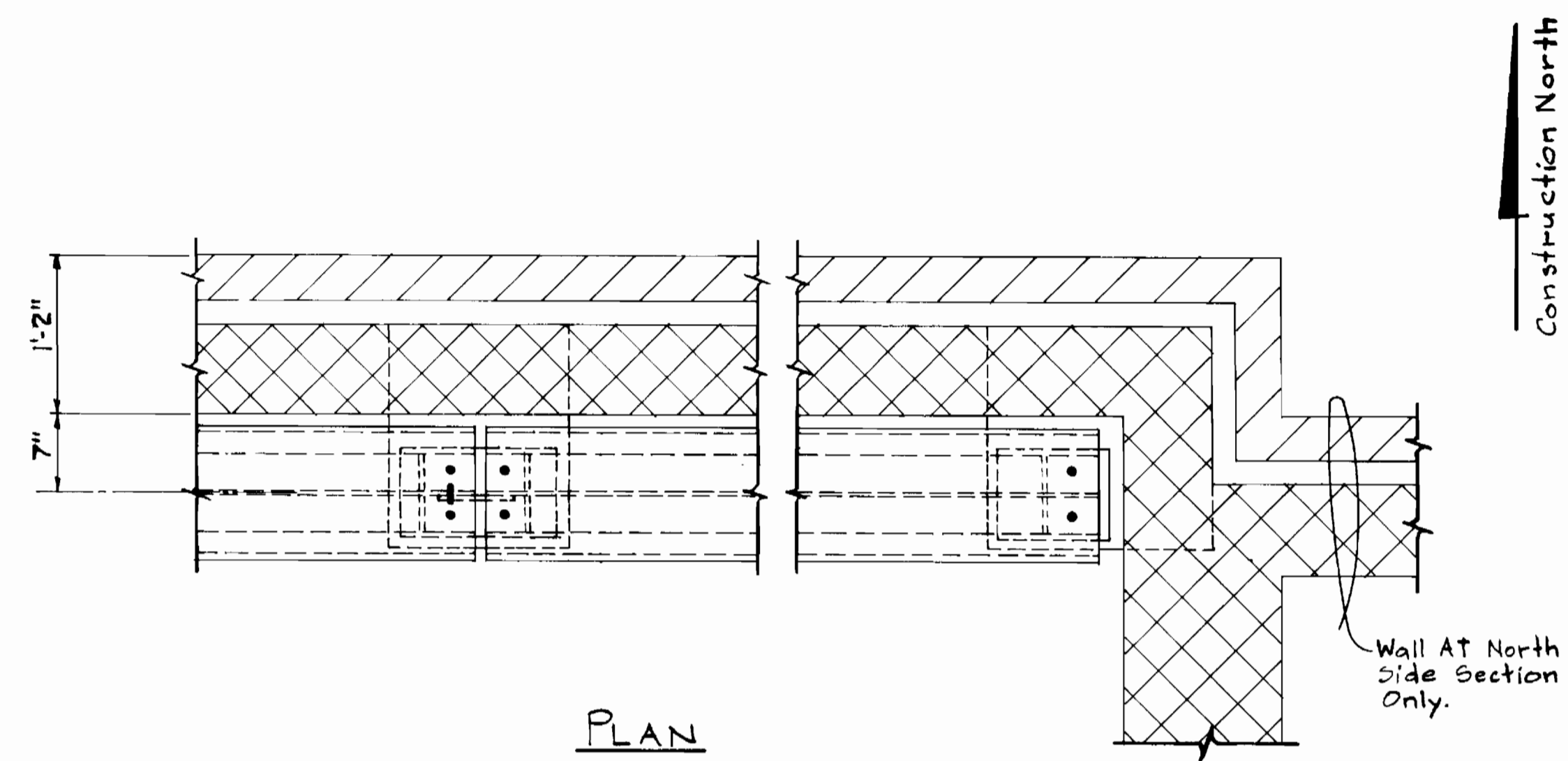
WHITNEY BAILEY
COX MAGNANI
CONSULTING ENGINEERS
1850 YORK ROAD
TIMONIUM, MD. 21093
301-252-6060

DES: M.T.L.
DRN: G.A.P.
CHK: B.E.H.
DATE: 10-5-89

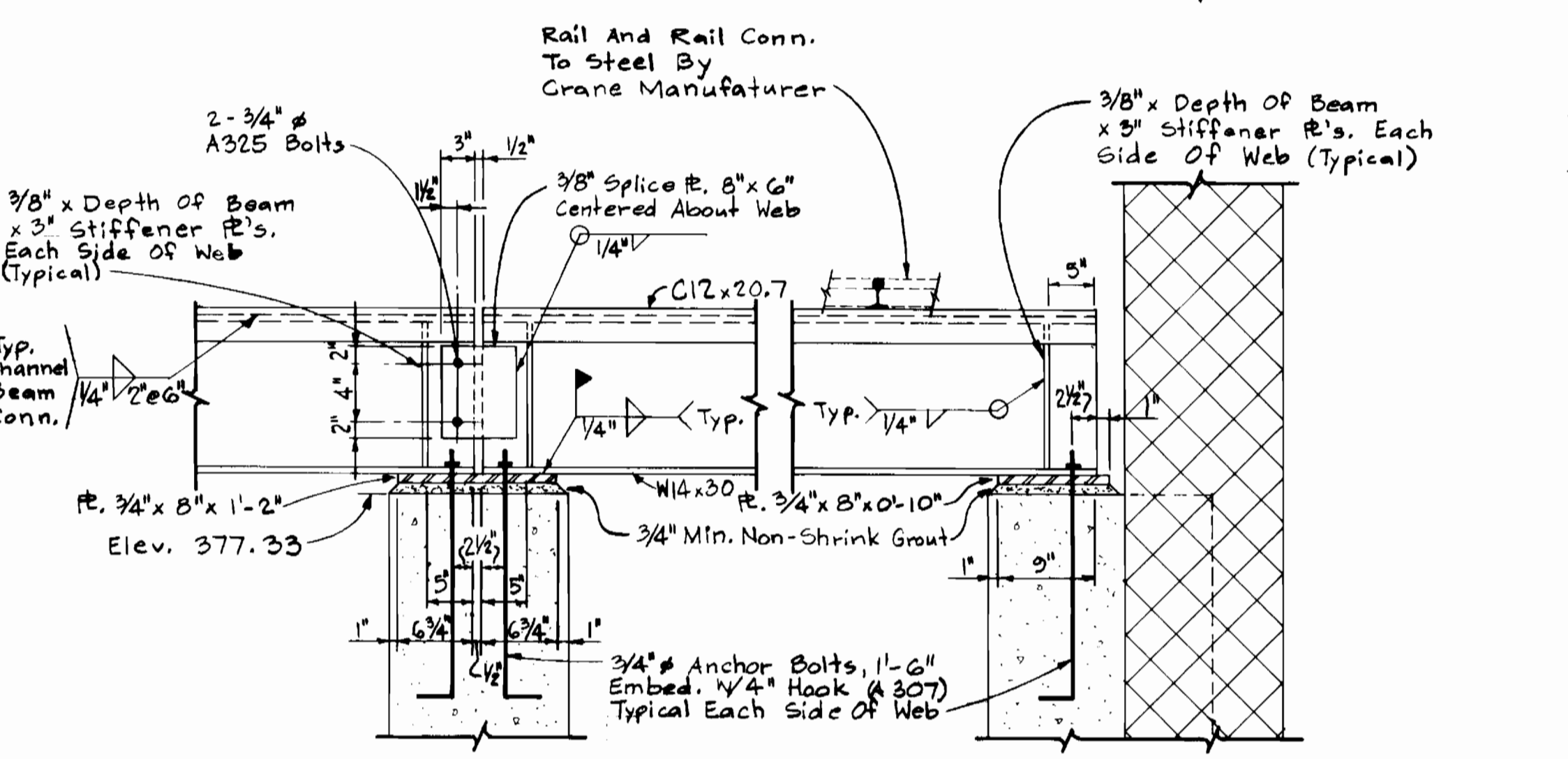
STRUCTURAL
MEZZANINE LEVEL
FRAMING PLAN.
SECTIONS AND DETAILS.

PINE ORCHARD
WATER PUMPING STATION
CAPITAL PROJECT W-8133
CONTRACT NO. 41-1748
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND

S-2
SCALE AS SHOWN
SHEET 5 OF 24



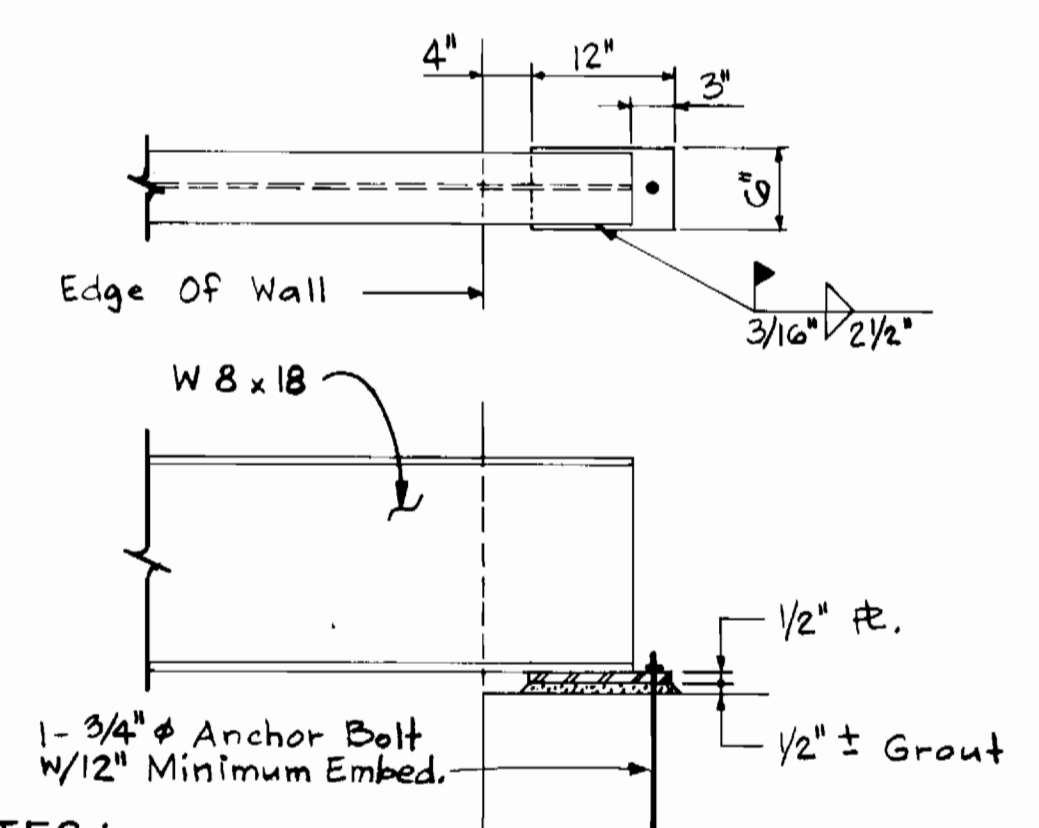
PLAN



SECTION 1/5-3
Scale: 1" = 1'-0"

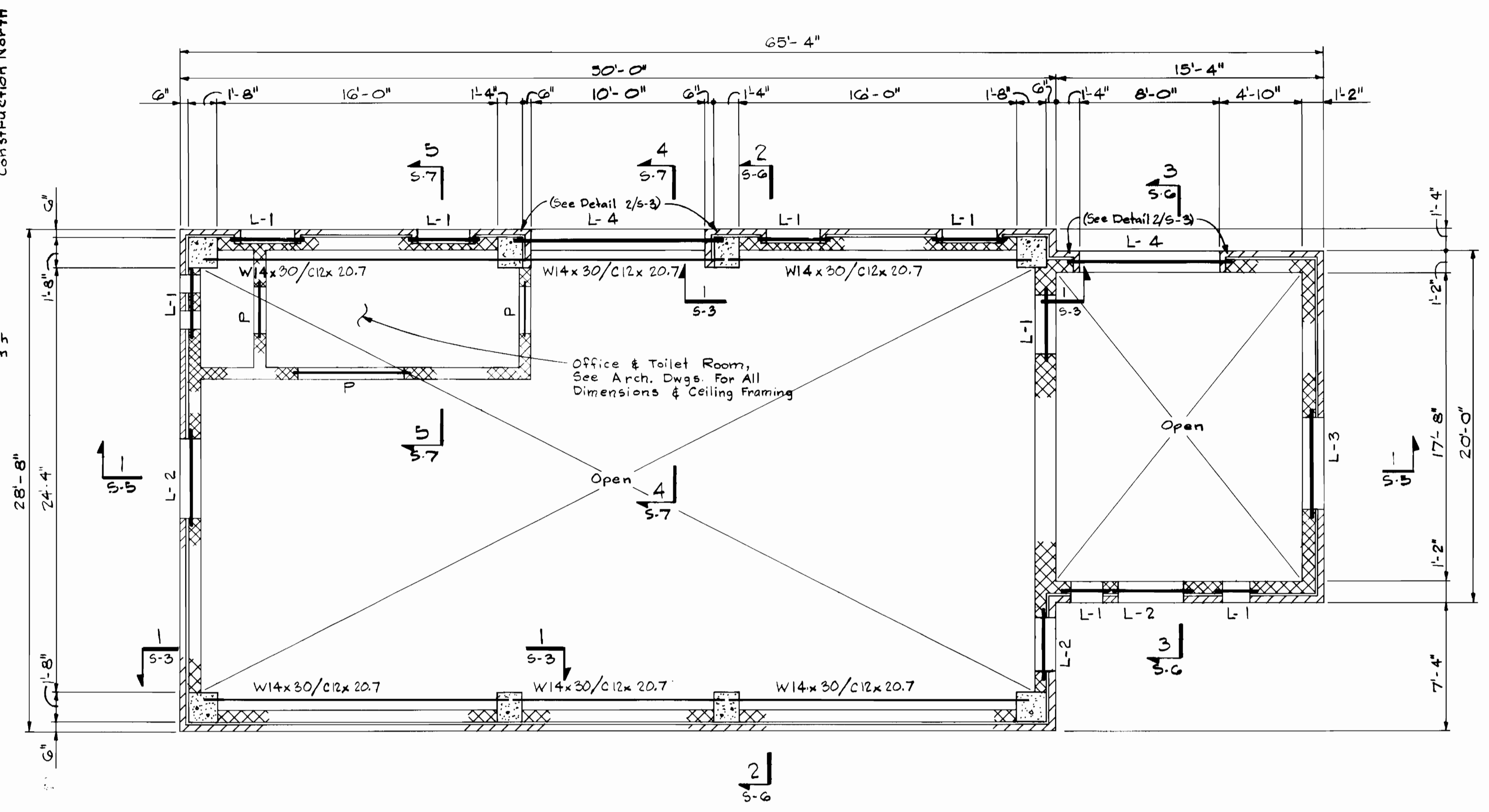
MARK	SIZE	SPAN	REMARKS
P	8" DEEP PRECAST REINFORCED CONCRETE LINTEL WITH 1-#4 TOP AND BOTTOM FOR EACH 4" OF WALL THICKNESS.	UP TO 5'-0" CLEAR	AT 6" THICK WALLS PROVIDE 1-#5 TOP & BOTTOM
L-1	1-L 4"x3-1/2"x5/16"	UP TO 4'-0" CLEAR	1-L FOR EACH 4" THICKNESS OF MASONRY
L-2	1-L 5"x3-1/2"x5/16"	4'-0" TO 6'-0" CLEAR	1-L FOR EACH 4" THICKNESS OF MASONRY
L-3	1-L 6"x3-1/2"x5/16"	6'-0" TO 8'-0" CLEAR	1-L FOR EACH 4" THICKNESS OF MASONRY
L-4	W 8x18 + SUSPENDED PLATE	SEE PLAN	SEE NOTE 5 THIS DRAWING

- NOTES:
- ALL LINTELS SHALL HAVE 6" MINIMUM BEARING AT EACH END.
 - PROVIDE LINTELS OVER ALL OPENINGS PER ABOVE, INCLUDING DOORS, WINDOWS, DUCTS, LOUVERS, RECESSES, AND OTHER OPENINGS, UNLESS SHOWN OR NOTED OTHERWISE ON STRUCTURAL OR ARCHITECTURAL DRAWINGS.
 - FOR DIMENSIONS AND LOCATION OF OPENINGS, SEE ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS.
 - WRAP END OF LINTELS IN BUILDING PAPER AT CONTROL JOINTS.
 - SUSPENDED PLATES SHALL BE 5/16"x1" LESS THAN NOMINAL WALL THICKNESS. HANGER PLATES SHALL BE 1/4"x8" LESS THAN NOMINAL WALL THICKNESS OR 4" MINIMUM AND SHALL BE SPACED @ 32" MAXIMUM ON CENTER AND 8" MAXIMUM FROM JAMB. STOP SUSPENDED PLATE 1/2" FROM MASONRY JAMBS.
 - L-4 BEARING PLATE, SEE DETAIL 2 THIS SHEET.
 - ALL EXTERIOR LINTELS SHALL BE HOT DIPPED GALVANIZED.



NOTES:
Provide 16" Minimum Deep Solid Bearing Below All Bearing Plates On Masonry. Solid Bearing Shall Be Twice The Largest Plate Dimension In Length. The Solid Bearing Shall Be Hollow Block Filled Solid With Grout Or Solid Brick Where Not Exposed In The Finished Building.

TYPICAL BEAM BEARING PLATE FOR LINTEL L-4
Not To Scale



CRANERAIL FRAMING PLAN
Scale: 1/4" = 1'-0"

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *[Signature]* 9/22/89
Chief, Bureau of Engineering: *[Signature]* 9-21-89

Chief, Bureau of Utilities: *[Signature]* 9-21-89
Chief, Utility Design Division: *[Signature]* 9-14-89

WHITNEY BAILEY COX MAGNANI
CONSULTING ENGINEERS
1850 YORK ROAD
TIMONIUM, MD. 21092
301-252-6060

DES: M.T.L.
DRN: G.A.P.
CHK: B.E.H.
DATE: 10-5-89

STRUCTURAL
CRANE RAIL FRAMING PLAN.
SECTIONS AND DETAILS.

PINE ORCHARD WATER PUMPING STATION
CAPITAL PROJECT W-8133
CONTRACT NO. 44-1748
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND

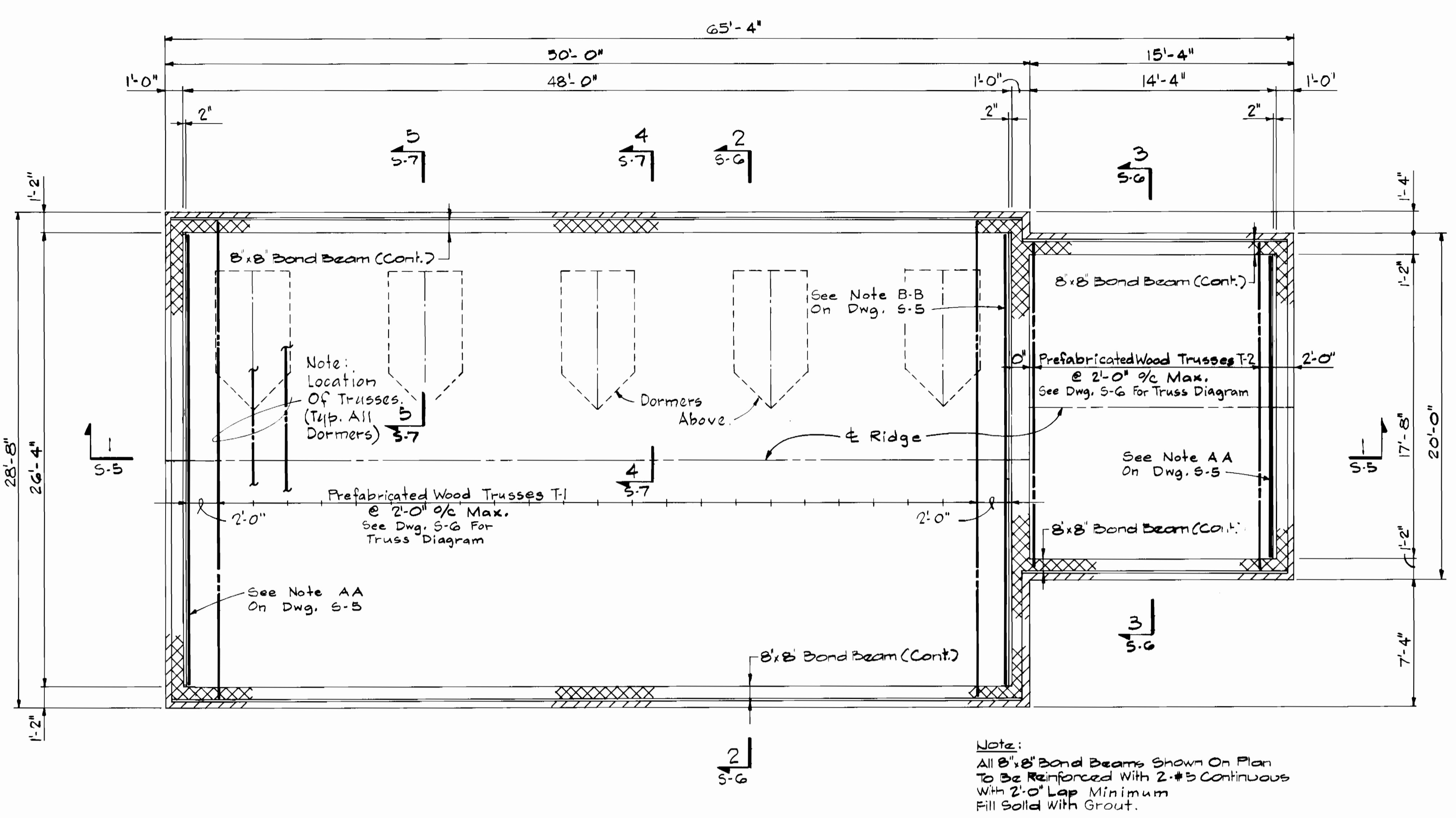
S-3
SCALE AS SHOWN
SHEET 6 OF 24

GENERAL NOTES

1. **CODE**
 - A. ALL CONSTRUCTION SHALL CONFORM WITH THE PROVISIONS OF THE BOCA BASIC BUILDING CODE/1987 AND ITS SUPPLEMENTS.
 - B. FOR DIMENSIONS NOT SHOWN ON STRUCTURAL DRAWINGS SEE ARCHITECTURAL AND MECHANICAL DRAWINGS.
2. **DESIGN LIVE LOADS**
 - A. THE MINIMUM DESIGN LIVE LOADS FOR ALL NEW FRAMING IS AS FOLLOWS:

ROOF	-	30 PSF
FRAMED FLOORS	-	100 PSF
STAIRS	-	100 PSF
BASIC WIND VELOCITY	-	80 MPH
3. **FOUNDATIONS**
 - A. ALL FOOTINGS HAVE BEEN DESIGNED FOR AN ALLOWABLE NET SOIL BEARING PRESSURE OF 2000 PSF. SOIL BEARING PRESSURES SHALL BE VERIFIED BY A GEOTECHNICAL ENGINEER/INSPECTION AGENCY. SHOULD THE SOIL BEARING PRESSURE BE FOUND TO BE LESS THAN 2000 PSF THE ENGINEER SHALL BE NOTIFIED.
 - B. ALL EXTERIOR FOOTINGS SHALL BE A MINIMUM OF 2'-6" BELOW FINISH GRADE.
 - C. ALL FILL UNDER FOOTINGS AND SLABS SHALL BE COMPACTED TO A DRY DENSITY OF AT LEAST 95 PERCENT OF MAXIMUM DRY DENSITY AS DETERMINED BY ASTM T-180.
 - D. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SATISFY HIMSELF AS TO THE LOCATION OF ANY UTILITIES IN THE IMMEDIATE VICINITY OF CONSTRUCTION SO AS TO PREVENT DAMAGE TO THEM. SHOULD ANY DAMAGE TO SUCH UTILITIES OCCUR THE CONTRACTOR SHALL BE REQUIRED TO REPAIR SUCH DAMAGE AT HIS OWN EXPENSE AND TO THE SATISFACTION OF THE OWNER.
4. **CAST IN PLACE CONCRETE**
 - A. ALL CONCRETE WORK SHALL CONFORM TO ALL PROVISIONS OF THE "SPECIFICATION FOR STRUCTURAL CONCRETE FOR BUILDINGS" (ACI 301), AND TO THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318-87).
 - B. ADDITIONALLY THE CONCRETE SHALL CONFORM TO ALL PROVISIONS OF THE FOLLOWING PUBLICATIONS:
 1. ACI 305-77 (82) RECOMMENDED PRACTICE FOR HOT WEATHER CONCRETING.
 2. ACI 306-78 (83) RECOMMENDED PRACTICE FOR COLD WEATHER CONCRETING.
 3. ACI 347-78 RECOMMENDED PRACTICE FOR CONCRETE FORMWORK.
 - C. ALL CONCRETE UNLESS OTHERWISE NOTED, SHALL BE STONE AGGREGATE CONCRETE HAVING A MINIMUM COMPRESSIVE STRENGTH OF 4500 PSI AT 28 DAYS. ALL SLABS AND CONCRETE EXPOSED TO WEATHER SHALL HAVE AN AIR ENTRAINMENT OF 5% ± 1%. NO ADMIXTURES CONTAINING CALCIUM CHLORIDE SHALL BE PERMITTED. MAXIMUM AGGREGATE SIZE FOR CONCRETE SHALL BE 1", AND MAXIMUM SLUMP SHALL BE 4", UNLESS OTHERWISE NOTED. ALL CONCRETE EXCEPT FOOTINGS SHALL CONTAIN A WATER REDUCER.
 - D. ALL REINFORCING BARS SHALL CONFORM TO ASTM-615 GRADE 60. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185.
 - E. FLOOR SLABS SHALL BE PLACED TO A CLASS 'A' TOLERANCE, THAT IS, HAVING A MAXIMUM AMPLITUDE OF 1/8" IN 10 FEET IN ANY DIRECTION. ALL FLOOR SLABS SHALL BE SCREED, FLOATED AND STEEL TROWELED TO A SMOOTH, DENSE AND PLANE SURFACE.
5. **STRUCTURAL AND MISCELLANEOUS STEEL**
 - A. ALL STRUCTURAL AND MISCELLANEOUS STEEL SHALL CONFORM TO THE EIGHTH EDITION OF THE AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS" AND ALL ITS SUPPLEMENTS, AND TO THE AISC "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES".
 - B. ALL STRUCTURAL AND MISCELLANEOUS STEEL SHALL CONFORM TO ASTM A-36 HAVING A MINIMUM YIELD STRENGTH OF 36,000 PSI.
 - C. ALL WELDED CONNECTIONS SHALL BE DONE WITH E70XX ELECTRODES. ALL BOLTED CONNECTIONS SHALL USE 3/4" DIA. ASTM A325M HIGH STRENGTH BOLTS. ALL BEAM CONNECTIONS SHALL DEVELOP THE FULL UNIFORM LOAD CAPACITY THE MEMBER CAN CARRY WITH DUE CONSIDERATION TO CONCENTRATED LOADS AT THE ENDS OF THE MEMBER. NO CONNECTION SHALL BE MADE USING LESS THAN TWO BOLTS. ALL ANCHOR BOLTS SHALL BE ASTM A-307.
 - D. SHOP AND FIELD WELDS SHALL BE MADE BY APPROVED CERTIFIED WELDERS AND SHALL CONFORM TO THE AMERICAN WELDING SOCIETY CODE FOR BUILDINGS AWS D1.1. WELDS SHALL DEVELOP THE FULL STRENGTH OF MATERIALS BEING WELDED, UNLESS OTHERWISE NOTED.
 - E. THE USE OF A GAS-CUTTING TORCH IN THE FIELD FOR CUTTING HOLES OR FOR CORRECTING FABRICATION ERRORS WILL NOT BE PERMITTED ON NEW STRUCTURAL FRAMING MEMBERS EXCEPT WITH THE WRITTEN APPROVAL OF THE ENGINEER FOR EACH SPECIFIC CONDITION.
 - F. ALL STRUCTURAL STEEL SHALL BE SHOP PAINTED WITH AN APPROVED CORROSION RESISTANT PRIMER SUCH AS "INTEC PRIMER 10-99". ALL STEEL SHALL BE PAINTED IN STRICT ACCORDANCE WITH THE AISC SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS. PRIOR TO PAINTING, ALL STEEL SURFACES SHALL BE PREPARED IN ACCORDANCE WITH SSPC-SP3. ALL PAINTS SHALL BE APPROVED BY THE ENGINEER PRIOR TO THEIR USE.
6. **MASONRY**
 - A. ALL EXTERIOR WALLS AND ALL WALLS SUPPORTING LOADS OTHER THAN THEIR OWN WEIGHT SHALL BE CONSTRUCTED OF LOAD BEARING UNITS.
 - B. HOLLOW LOAD BEARING BLOCKS SHALL CONFORM TO ASTM C-90, TYPE N-1.
 - C. ALL WALLS SHALL BE LAID UP WITH TYPE S MORTAR.
 - D. PROVIDE 16" MINIMUM DEPTH OF 100% SOLID MASONRY OR HOLLOW BLOCK FILLED SOLID WITH GROUT BELOW ALL LINTELS.
 - E. SOLID LOAD BEARING BLOCK SHALL CONFORM TO ASTM C-145, TYPE N-1.
 - F. ALL MASONRY WALLS SHALL BE REINFORCED WITH TRUSS TYPE DUR-O-WAL SPACED VERTICALLY AT 16" O/C UNLESS OTHERWISE NOTED. PROVIDE CORNER AND TEE PIECES AT ALL INTERSECTIONS. LAP ALL DUR-O-WAL 6" MINIMUM.
 - G. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL CONCRETE MASONRY ASSOCIATION.
 - H. BRACE AND SHORE ALL MASONRY WALLS AS REQUIRED UNTIL ROOF DECK HAS BEEN COMPLETELY INSTALLED.
 - I. PROVIDE SOLID BLOCK OR FILL WALL SOLID WITH GROUT DIRECTLY BELOW OR ABOVE ALL CHANGES IN WALL THICKNESS OR CONSTRUCTION AS REQUIRED TO PROVIDE CONTINUOUS BEARING FOR ALL FACE SHELLS OF BLOCK.
 - J. ALL FILL FOR MASONRY WALLS SHALL BE GROUT CONFORMING TO ASTM C476. FILL SHALL BE PLACED IN 5" MAXIMUM LIFTS.
 - K. LAP ALL VERTICAL REINFORCING 30 BAR DIAMETERS MINIMUM.
 - L. USE A ONE CUBIC FOOT CONTAINER FOR MEASUREMENT OF ALL COMPONENTS IN MORTAR MIX.
 - M. EXCEPT WHERE OTHERWISE INDICATED, ANCHOR ALL WOOD PLATES AT TOP OF MASONRY WALLS WITH 1/2" DIA. x 1'-3" ANCHOR BOLTS WITH 2" HOOKS AT 32" ON CENTER.

Construction North



ROOF FRAMING PLAN

Scale: 1/4" = 1'-0"

7. **WOOD FRAMING**
 - A. ALL WOOD, FABRICATION AND ERECTION SHALL CONFORM TO THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION'S "CODE OF STANDARD PRACTICE" (AITC 106-77) AND THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION LATEST EDITION AS PUBLISHED BY THE NATIONAL FOREST PRODUCTS ASSOCIATION.
 - B. ALL WOOD FRAMING SHALL BE HEM-FIR NO. 2 (15% MAXIMUM MOISTURE CONTENT IN USE) OR BETTER.
 - C. ALL PLYWOOD SHALL MEET THE REQUIREMENTS OF THE PLYWOOD DESIGN SPECIFICATION AS PUBLISHED BY THE AMERICAN PLYWOOD ASSOCIATION.
 - D. PROVIDE PLY CLIPS AT CENTERLINE OF PLYWOOD SPAN AT ALL EDGES PARALLEL TO SPAN.
 - E. NAILING OF ALL FRAMING SHALL MEET THE RECOMMENDED NAILING SCHEDULE CONTAINED IN APPENDIX C OF THE 1987 BOCA CODE.
 - F. ALL WOOD PLATES BEARING ON MASONRY OR CONCRETE WALLS SHALL BE WOLMANIZED PRESSURE TREATED LUMBER AS MANUFACTURED BY KOPPERS COMPANY OR AN APPROVED ALTERNATE.
8. **WOOD TRUSSES**
 - A. WOOD TRUSSES SHALL BE DESIGNED AND ERECTED IN ACCORDANCE WITH THE DESIGN SPECIFICATIONS FOR LIGHT METAL PLATE CONNECTED WOOD TRUSSES TPI-74 AND BRACING OF WOOD TRUSSES: COMMENTARY AND RECOMMENDATIONS BWT-76 AS PUBLISHED BY THE TRUSS PLATE INSTITUTE AND IN ACCORDANCE WITH THE 1986 EDITION OF THE "NATIONAL DESIGN SPECIFICATION FOR CONSTRUCTION".
 - B. ALL TRUSSES SHALL BE DESIGNED FOR THE LOADS SHOWN ON THE DRAWINGS - WEB CONFIGURATION SHALL BE THE RESPONSIBILITY OF THE MANUFACTURER.
 - C. ALL LUMBER FOR USE IN THE TRUSSES SHALL BE SOUTHERN PINE #2 (19 PERCENT MAXIMUM MOISTURE CONTENT IN USE) OR BETTER.
 - D. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS COMPLETE WITH ERECTION PLANS. SHOP DRAWINGS SHALL INDICATE THE SIZE AND CAPACITY OF ALL CONNECTOR PLATES. SHOP DRAWINGS SHALL ALSO INDICATE WOOD GRADE, MEMBER SIZE AND WEB CONFIGURATION OF ALL TRUSSES. SHOP DRAWINGS SHALL BE SIGNED AND SEALED BY AN ENGINEER REGISTERED IN THE STATE OF MARYLAND.
 - E. SHOP DRAWINGS SHALL SHOW THE SIZE AND LOCATION OF ALL BRACING.
 - F. TRUSSES SHALL BE ANCHORED AT EACH BEARING POINT WITH TWO TECO TRIP-L-GRIP FRAMING ANCHORS OR APPROVED EQUAL.
 - G. MANUFACTURER OF CONNECTORS SHALL BE A MEMBER OF THE TRUSS PLATE INSTITUTE, WITH IN PLANT INSPECTION PROGRAM LICENSE.

BRUNING

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	
James P. ... 9/26/89 DIRECTOR OF PUBLIC WORKS DATE	... 9-21-89 CHIEF, BUREAU OF ENGINEERING DATE
Robert ... 9-21-89 CHIEF, BUREAU OF UTILITIES DATE	... 9-14-89 CHIEF, UTILITY DESIGN DIVISION DATE

WHITNEY BAILEY COX MAGNANI
 CONSULTING ENGINEERS
 1850 YORK ROAD
 TIMONIUM, MD 21093
 301-252-6060

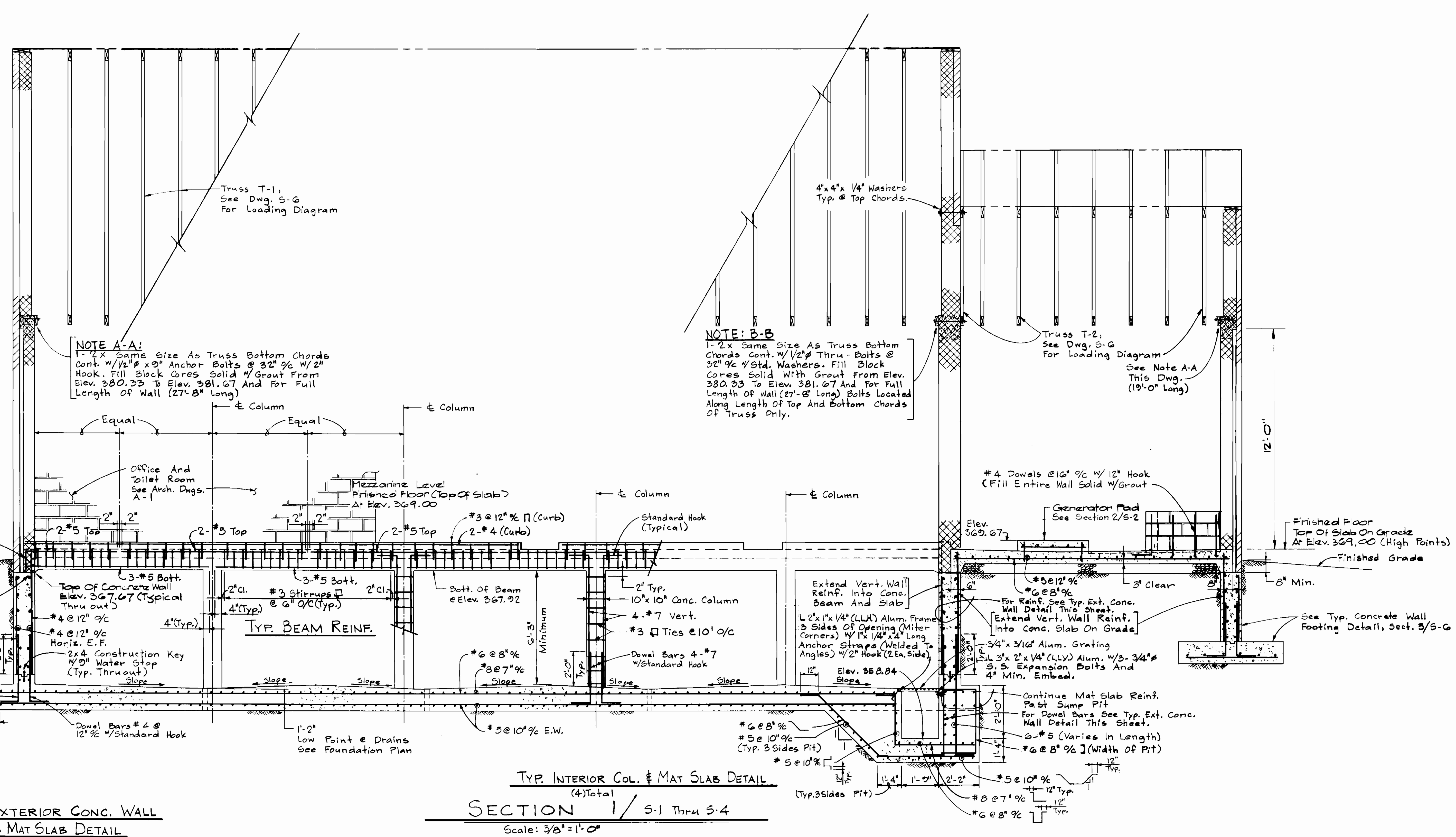
DES: M.T.L.
 DRN: G.A.P.
 CHK: B.E.H.
 DATE: 10-5-89

DATE	BY	NO.	REVISION	DATE	600' SCALE MAP NO. 24	BLOCK NO. 2 & 3
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STRUCTURAL
ROOF FRAMING PLAN.
& GENERAL NOTES.

PINE ORCHARD
 WATER PUMPING STATION
 CAPITAL PROJECT W-8133
 CONTRACT NO. 44-1748
 ELECTION DISTRICT NO. 2
 HOWARD COUNTY, MARYLAND

S-4
 SCALE AS SHOWN
 SHEET 7 OF 24



BRUNING 68150

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

James P. Lane 9/22/89
 DIRECTOR OF PUBLIC WORKS DATE

Robert S. Lewis 9-21-89
 CHIEF, BUREAU OF UTILITIES DATE

Richard M. Bailey 9-21-89
 CHIEF, BUREAU OF ENGINEERING DATE

John J. DeLeon 9-14-89
 CHIEF, UTILITY DESIGN DIVISION DATE

WHITNEY BAILEY COX MAGNANI

CONSULTING ENGINEERS
 1850 YORK ROAD
 TIMONIUM, MD. 21093
 301-252-6060

DES: M.T.L.			
DRN: G.A.P.			
CHK: B.E.H.			
DATE: 10-5-89	BY NO.	REVISION	DATE

STRUCTURAL

LONGITUDINAL CROSS SECTION.

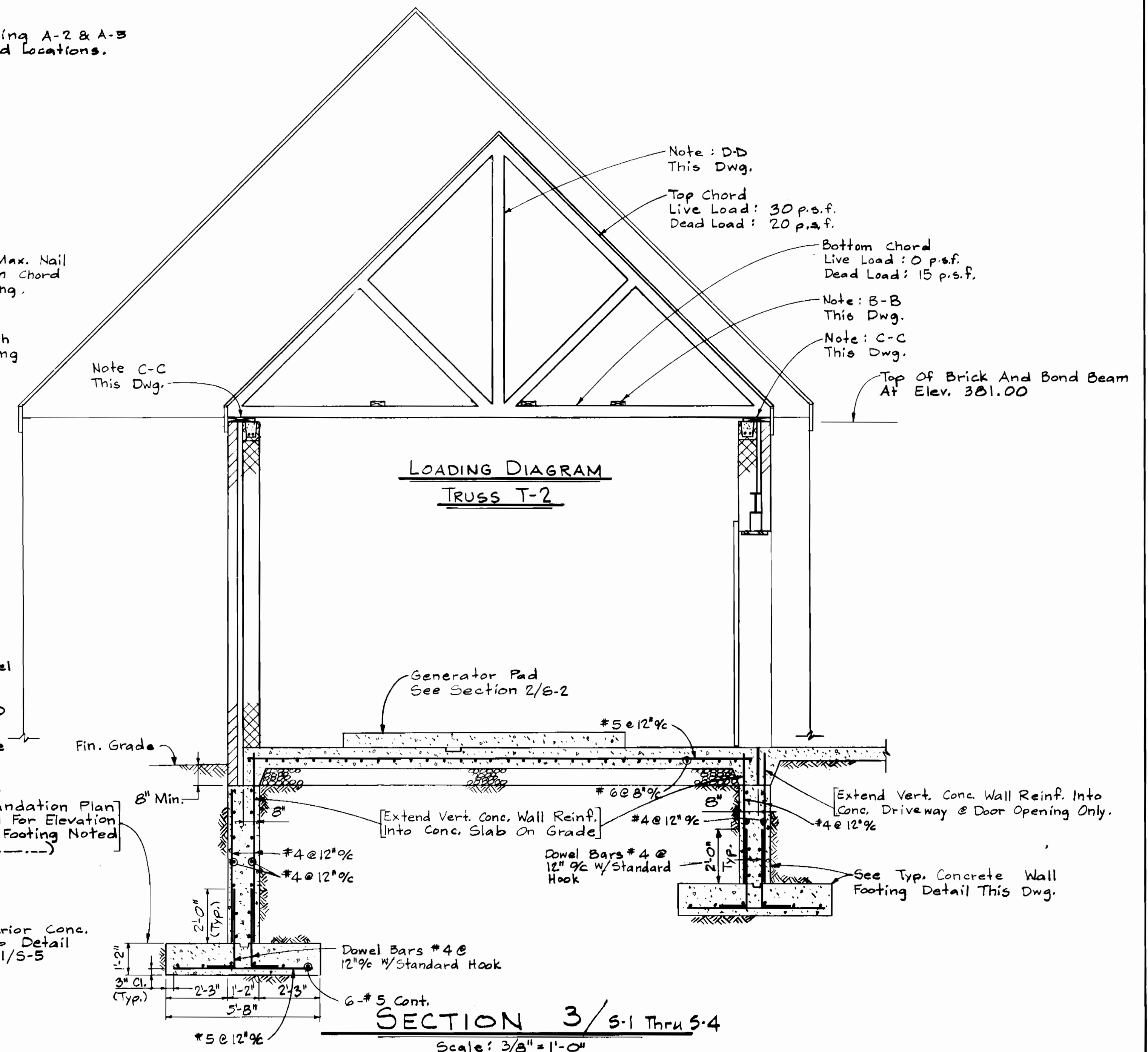
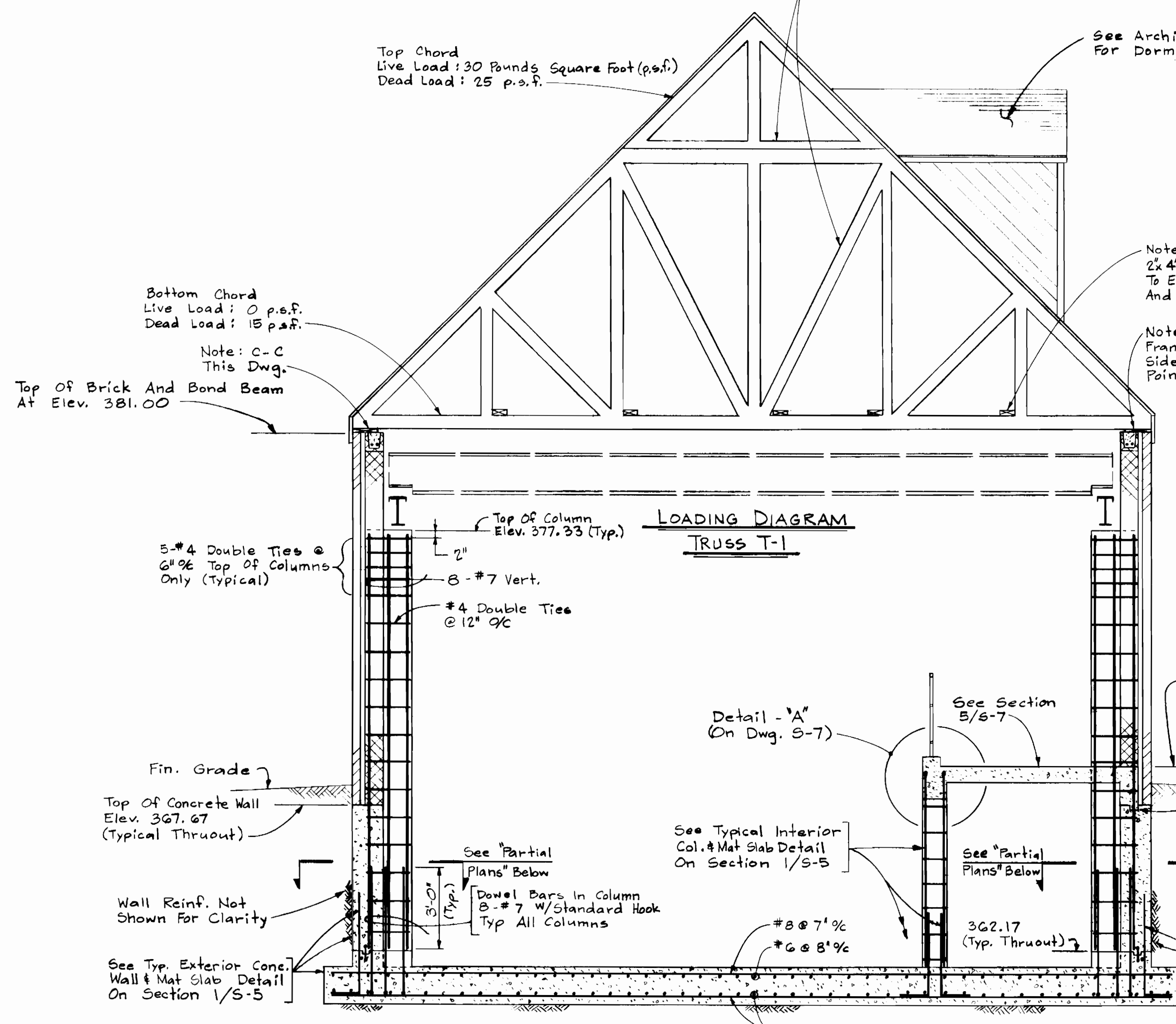
600' SCALE MAP NO. 24 BLOCK NO. 283

PINE ORCHARD WATER PUMPING STATION
 CAPITAL PROJECT W-8133
 CONTRACT NO. 44-1748
 ELECTION DISTRICT NO. 2
 HOWARD COUNTY, MARYLAND

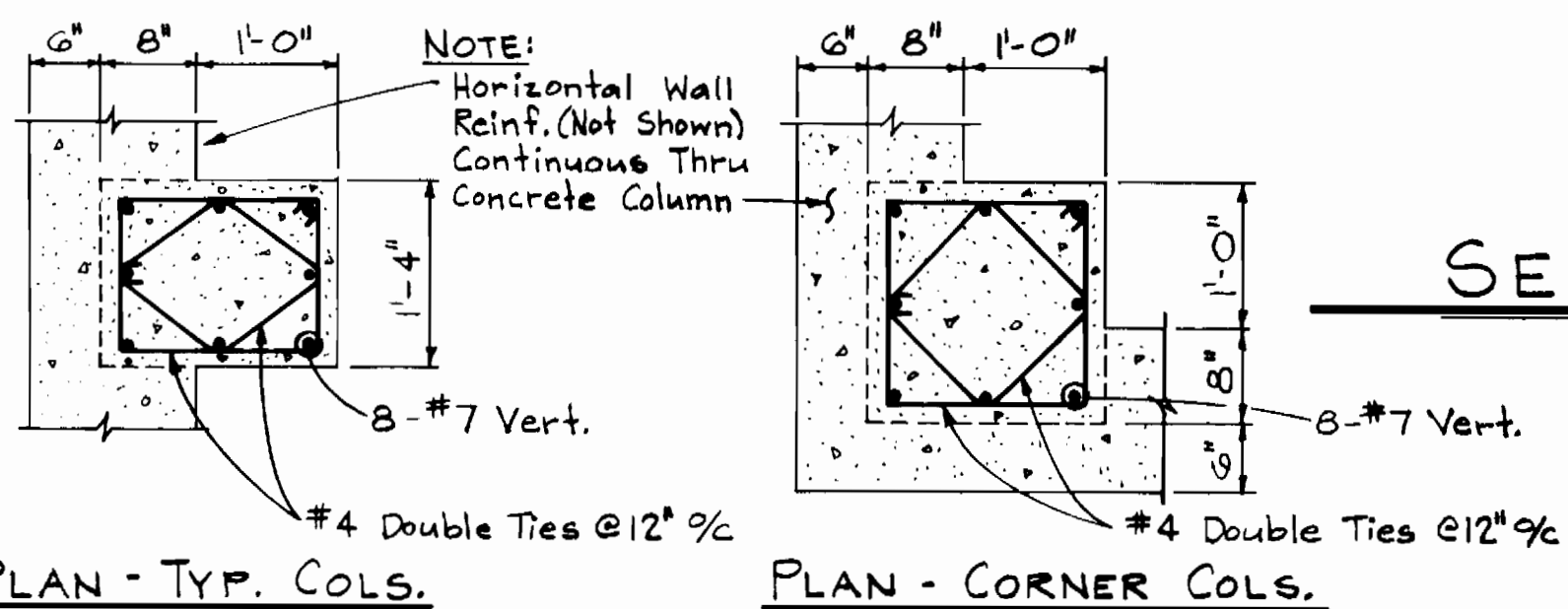
S-5
SCALE AS SHOWN
SHEET 8 OF 24

Note: D-D
Web Configuration Shown For
Picture Clarity Only. Web
Configuration And Bridging Shall
Be The Responsibility Of The
Truss Manufacturer.

See Architectural Drawing A-2 & A-3
For Dormer Framing And Locations.



TYPICAL EXTERIOR CONCRETE COLUMNS



SECTION 2/S-1 Thru S-4
Scale: 3/8" = 1'-0"

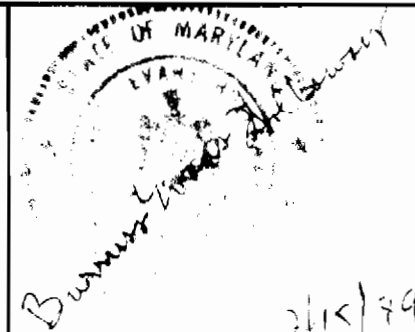
TYPICAL CONCRETE
WALL FOOTING

PARTIAL PLANS - EXTERIOR COLS.
Scale: 3/4" = 1'-0"

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

WHITNEY
BAILEY
COX
MAGNANI

CONSULTING
ENGINEERS
1850 YORK ROAD
TIMONIUM, MD. 21093
301-252-6080

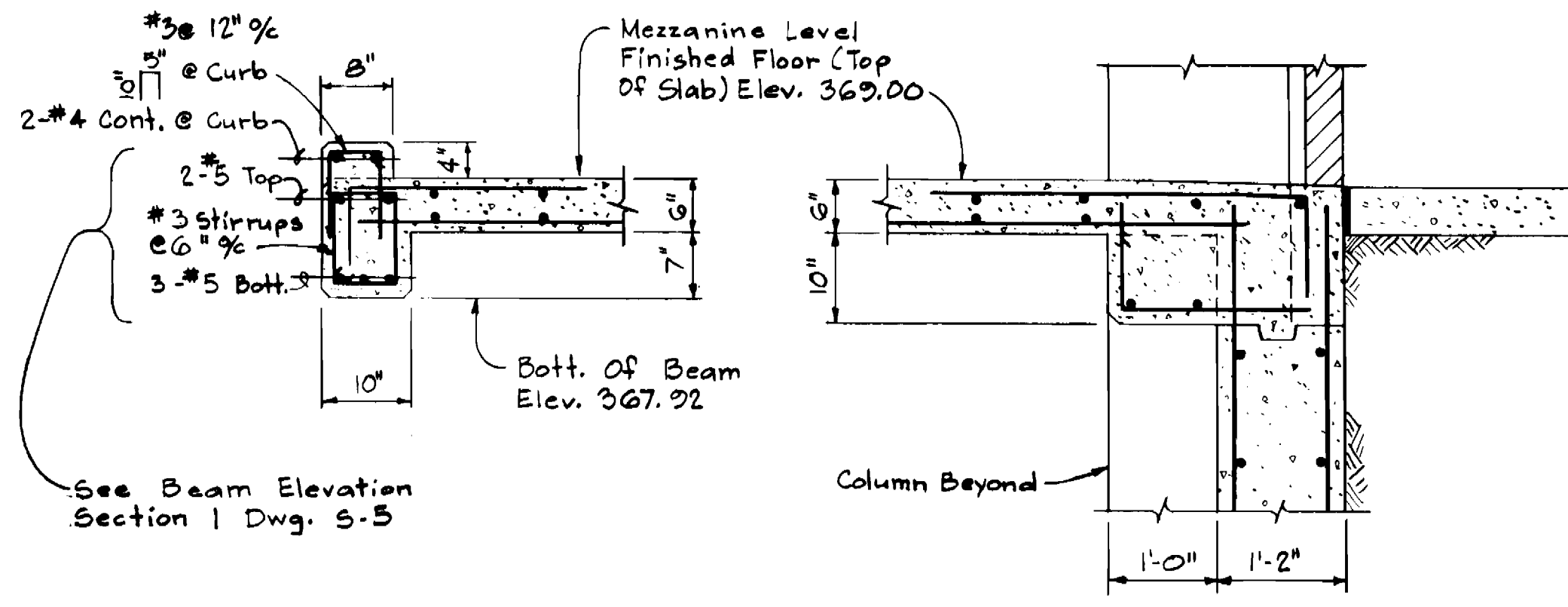


DES: M.T.L.			
DRN: G.A.P.			
CHK: B.E.H.			
DATE: 10-5-89	BY: NO.	REVISION	DATE

STRUCTURAL
CROSS SECTIONS.

PINE ORCHARD
WATER PUMPING STATION
CAPITAL PROJECT W-8133
CONTRACT NO. 44-1748
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND

S-6
SCALE
AS
SHOWN
SHEET
9 OF 24

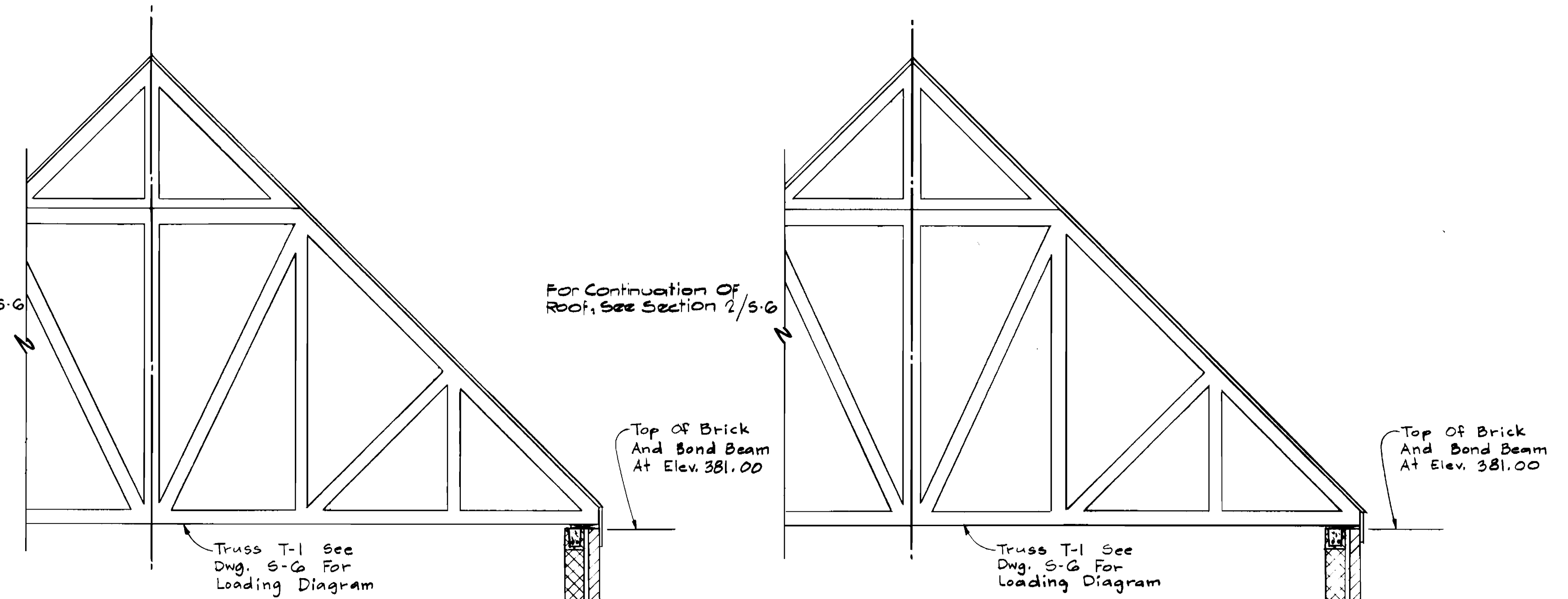


DETAIL "A"
Scale: 3/4" = 1'-0"

DETAIL "B"
Scale: 3/4" = 1'-0"

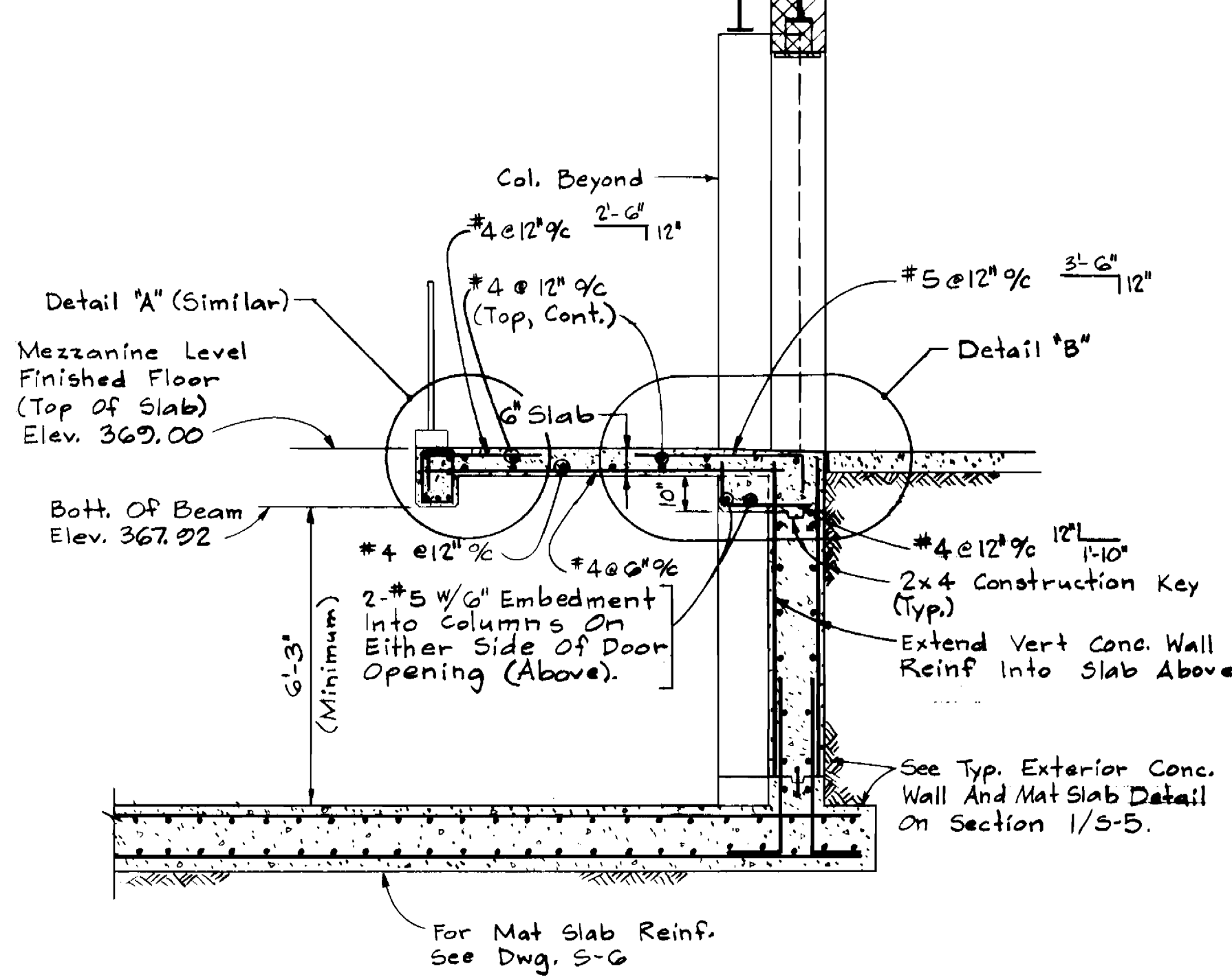
For Continuation Of
Roof, See Section 2/S-G

For Continuation Of
Roof, See Section 2/S-G

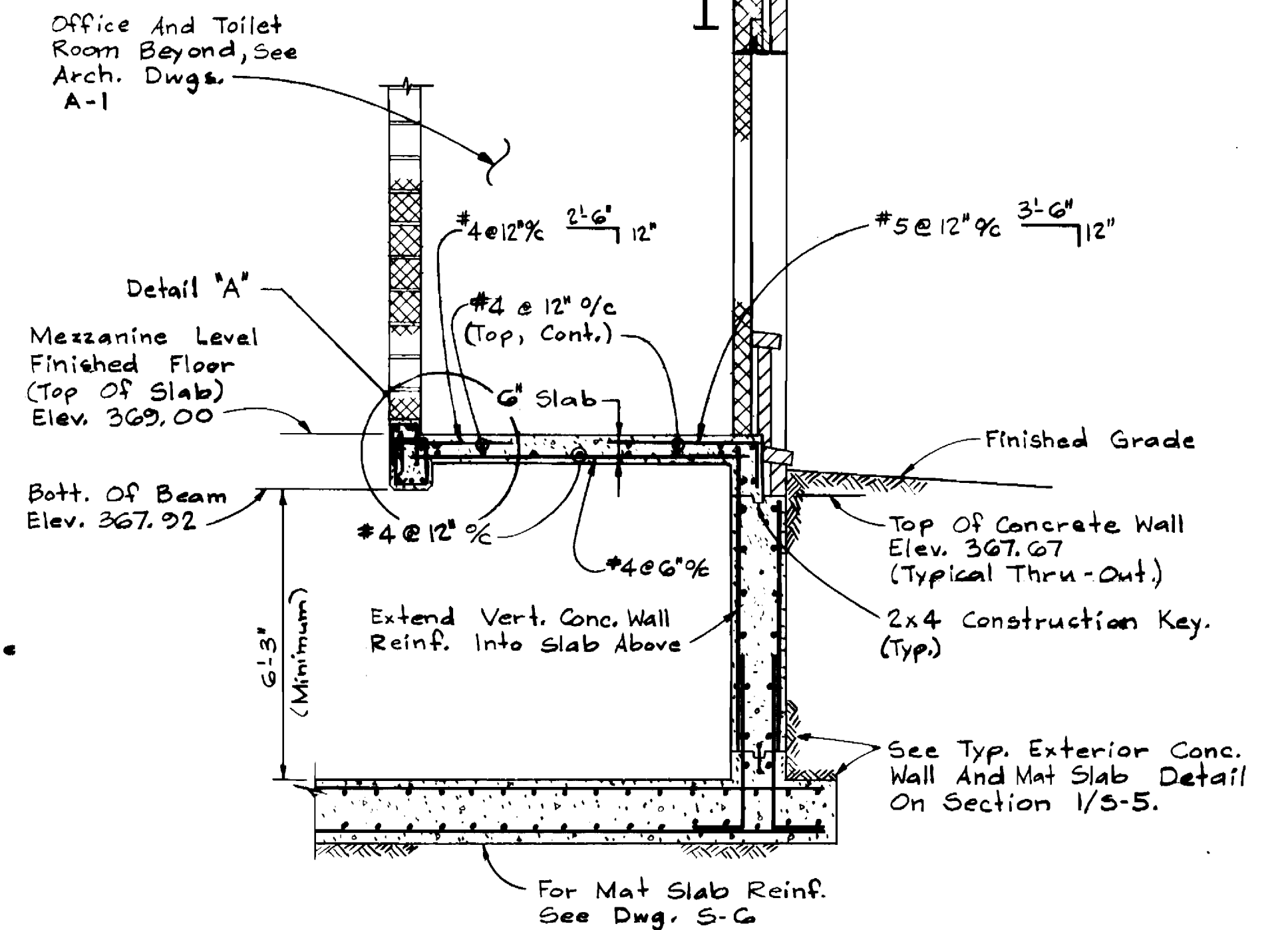


Top Of Brick
And Bond Beam
At Elev. 381.00

Top Of Brick
And Bond Beam
At Elev. 381.00



SECTION 4/S-1 Thru S-4
Scale: 3/8" = 1'-0"



SECTION 5/S-1 Thru S-4
Scale: 3/8" = 1'-0"

S-7

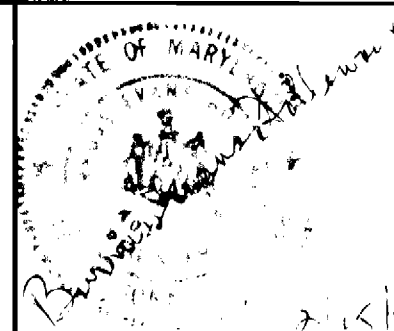
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James J. Linn 9/22/89
DIRECTOR OF PUBLIC WORKS DATE

Richard B. Bailey 9-21-89
CHIEF, BUREAU OF ENGINEERING DATE

**WHITNEY
BAILEY**
COX
MAGNANI

CONSULTING
ENGINEERS
1850 YORK ROAD
TIMONIUM, MD. 21093
301-252-6060



DES: M.T.L.

DRN: G.A.P.

CHK: B.E.H.

DATE: 10-5-89

BY NO. REVISION

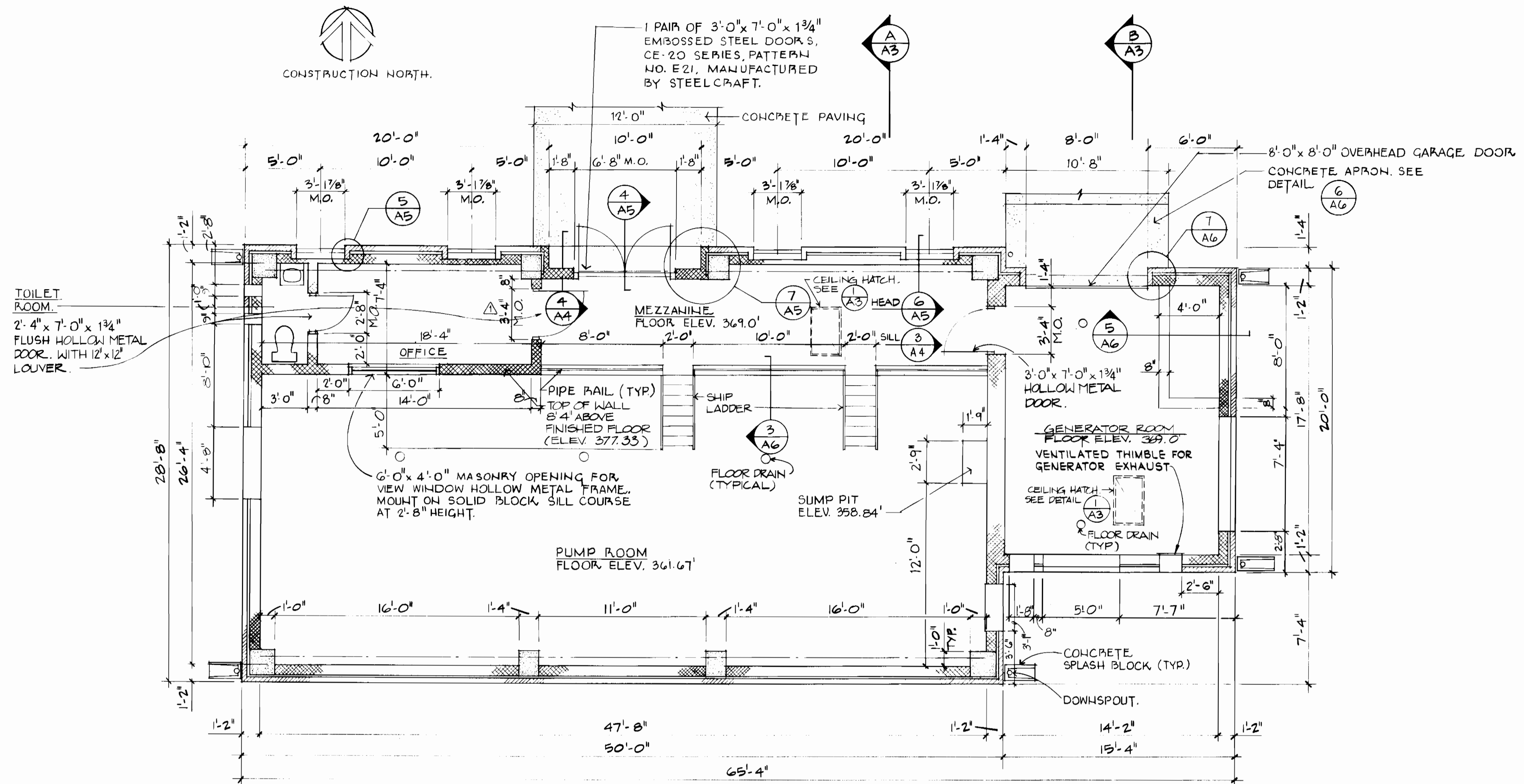
DATE 600' SCALE MAP NO. 24 BLOCK NO. 2 B 3

STRUCTURAL
WALL SECTIONS.
SECTIONS AND DETAILS.

PINE ORCHARD
WATER PUMPING STATION
CAPITAL PROJECT W-8133
CONTRACT NO. 44-1748
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND

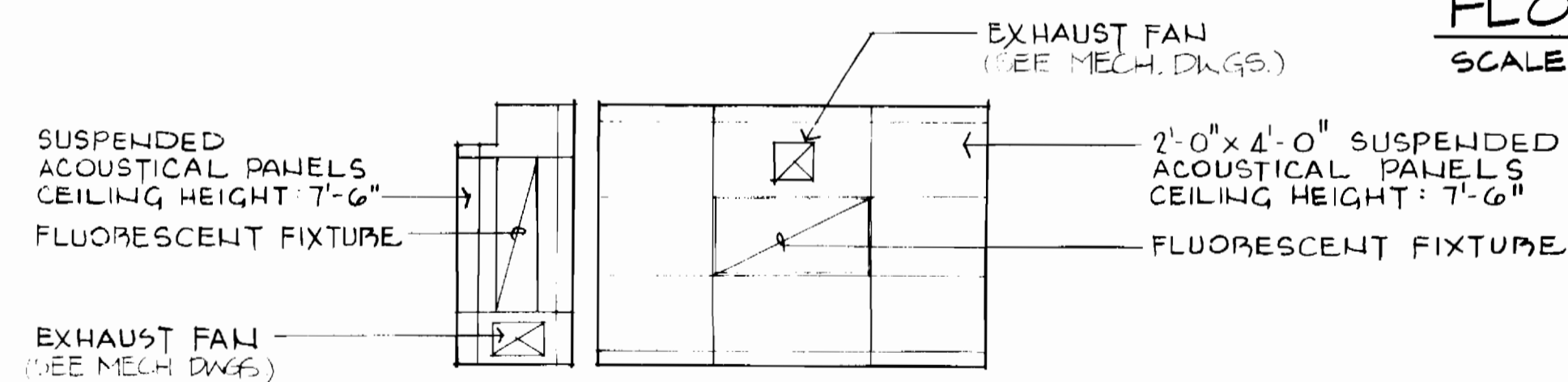
SCALE
AS
SHOWN

SHEET
10 OF 24

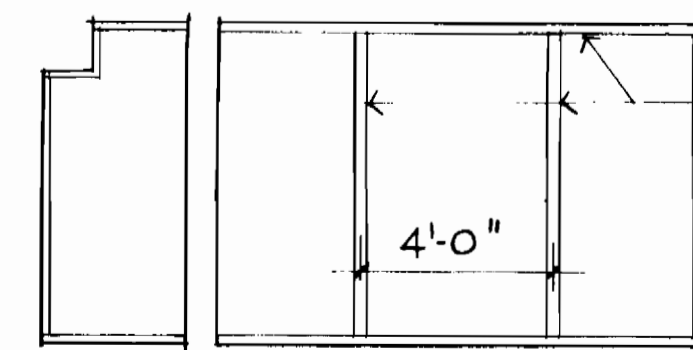


FLOOR PLAN

SCALE: 1/4" = 1'-0"



REFLECTED CEILING PLAN
OVER TOILET AND OFFICE



FRAMING FOR CEILING

NOTES:

1. SEE DRAWINGS S-1 & S-2 FOR LOCATION OF GENERATOR PAD, PUMP PADS AND PIPE SUPPORTS.
2. PAINT ALL CMU WALLS, CONCRETE PILASTERS AND WALLS, CONCRETE COLUMNS, GYPSUM BOARD CEILING, DOORS AND FRAMES.
3. PAINT ALL STRUCTURAL STEEL.
4. SEAL CONCRETE SLABS.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND



WHITNEY
BAILEY
COX
MAGNANI
CONSULTING
ENGINEERS
1850 YORK ROAD
TIMONIUM, MD. 21093
301-252-6060



DES: B.G.	RDH	REVISED OFFICE DOOR M.O. TO 3'-4"	2/190
DRN: D.H.			
CHK: H.G.			
DATE: 10-5-89	BY NO.	REVISION	DATE

ARCHITECTURAL
FLOOR PLAN

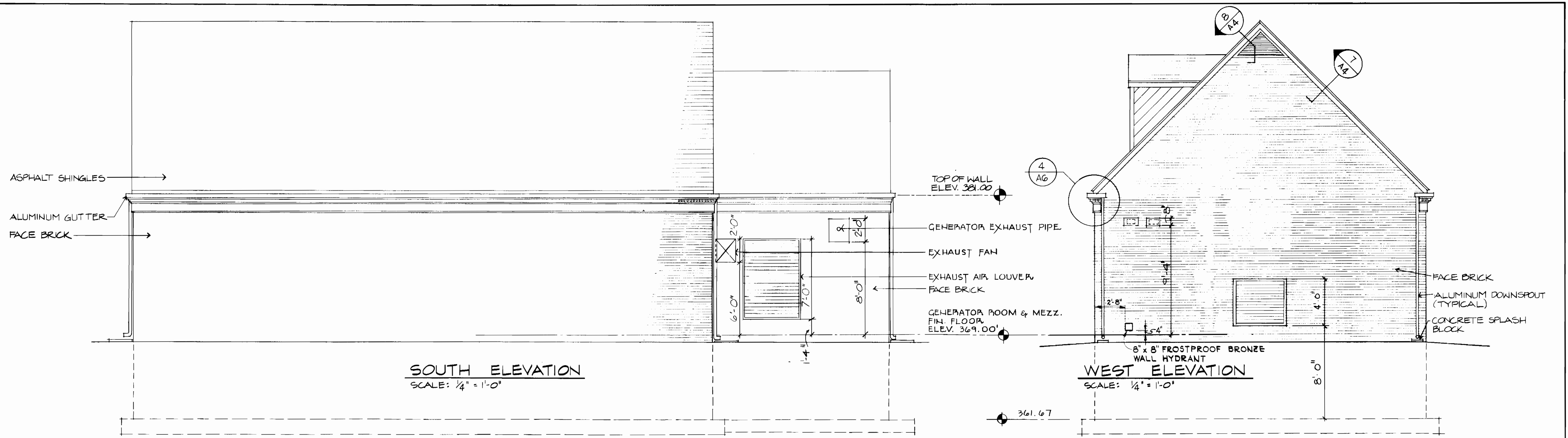
PINE ORCHARD
WATER PUMPING STATION
CAPITAL PROJECT W-8133
CONTRACT NO. 44-1748
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND

A-1

SCALE
AS
SHOWN

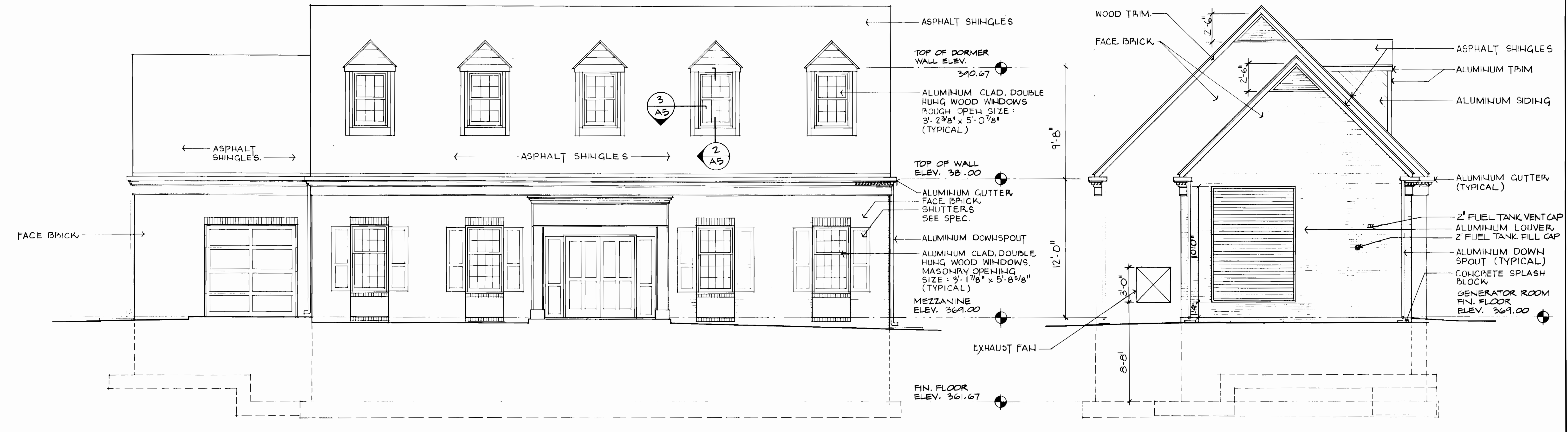
SHEET
11 OF 24

BRUNING 68150



SOUTH ELEVATION
SCALE: 1/4" = 1'-0"

WEST ELEVATION
SCALE: 1/4" = 1'-0"



NORTH ELEVATION
SCALE: 1/4" = 1'-0"

EAST ELEVATION
SCALE: 1/4" = 1'-0"

NOTE: CENTERLINE OF DORMERS SHALL VERTICALLY ALIGN WITH CENTERLINE OF WINDOWS AND ENTRANCE DOOR BELOW.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James J. Kim 9-22-89
DIRECTOR OF PUBLIC WORKS DATE

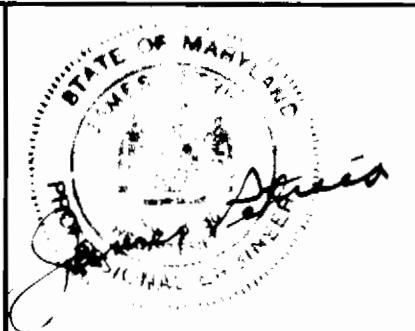
Michael R. Rely 9-21-89
CHIEF, BUREAU OF ENGINEERING DATE

Robert Switzer 9-21-89
CHIEF, BUREAU OF UTILITIES DATE

Don Lau 9-14-89
CHIEF, UTILITY DESIGN DIVISION DATE

WHITNEY BAILEY COX MAGNANI

CONSULTING ENGINEERS
1850 YORK ROAD
TIMONIUM, MD. 21093
301-252-8060



DES: B.G.			
DRN: D.H.			
CHK: H.G.			
DATE: 10-5-89	BY: NO.	REVISION	DATE

ARCHITECTURAL ELEVATIONS

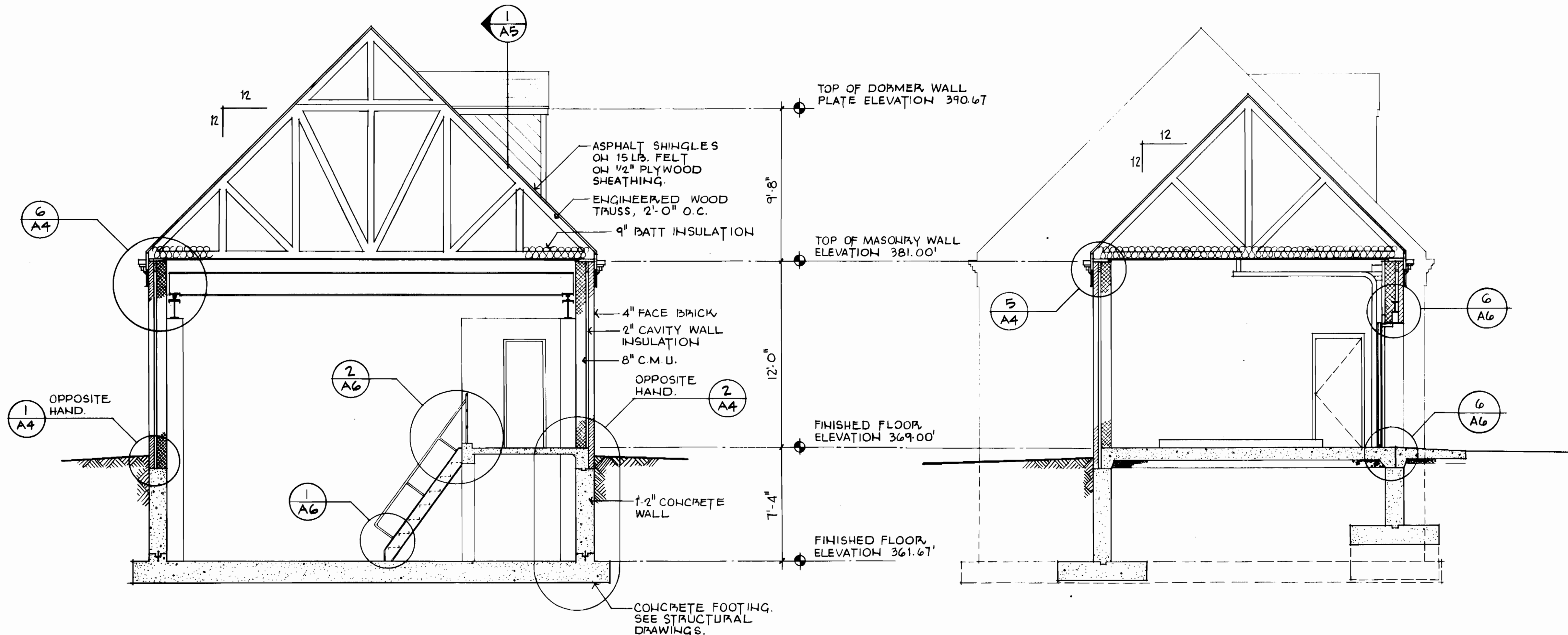
600' SCALE MAP NO. 24 BLOCK NO. 2 & 3

PINE ORCHARD WATER PUMPING STATION
CAPITAL PROJECT W-8133
CONTRACT NO. 44-1748
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND

A-2

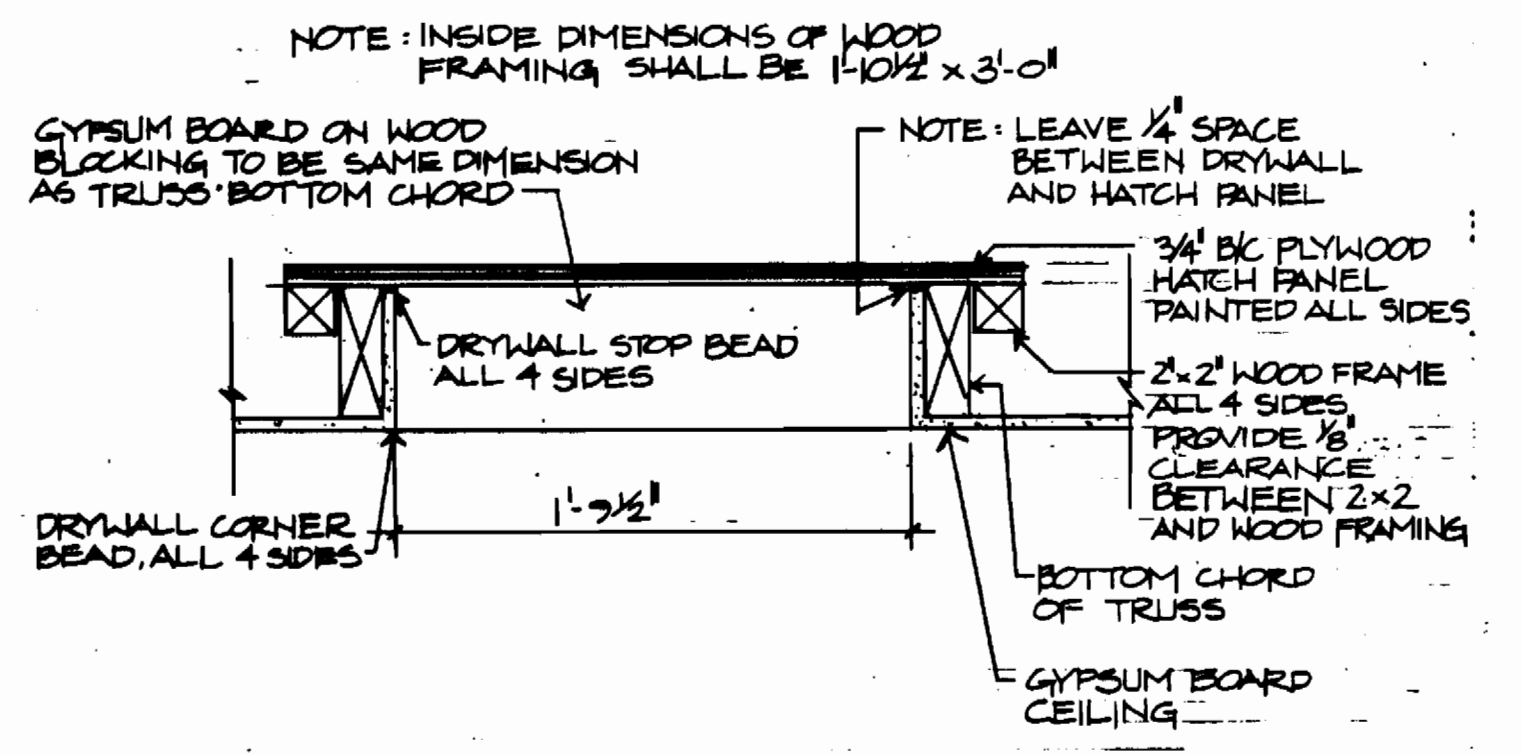
SCALE AS SHOWN

SHEET 12 OF 24



BUILDING SECTION A/A-1
SCALE: 1/4" = 1'-0"

BUILDING SECTION B/A-1
SCALE: 1/4" = 1'-0"



1/4" DETAIL SECTION OF CEILING ACCESS PANEL - 1/2" = 1'-0"

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

WHITNEY BAILEY
CONSULTING ENGINEERS
1850 YORK ROAD
TIMONIUM, MD. 21093
301-252-6080

James Pittman

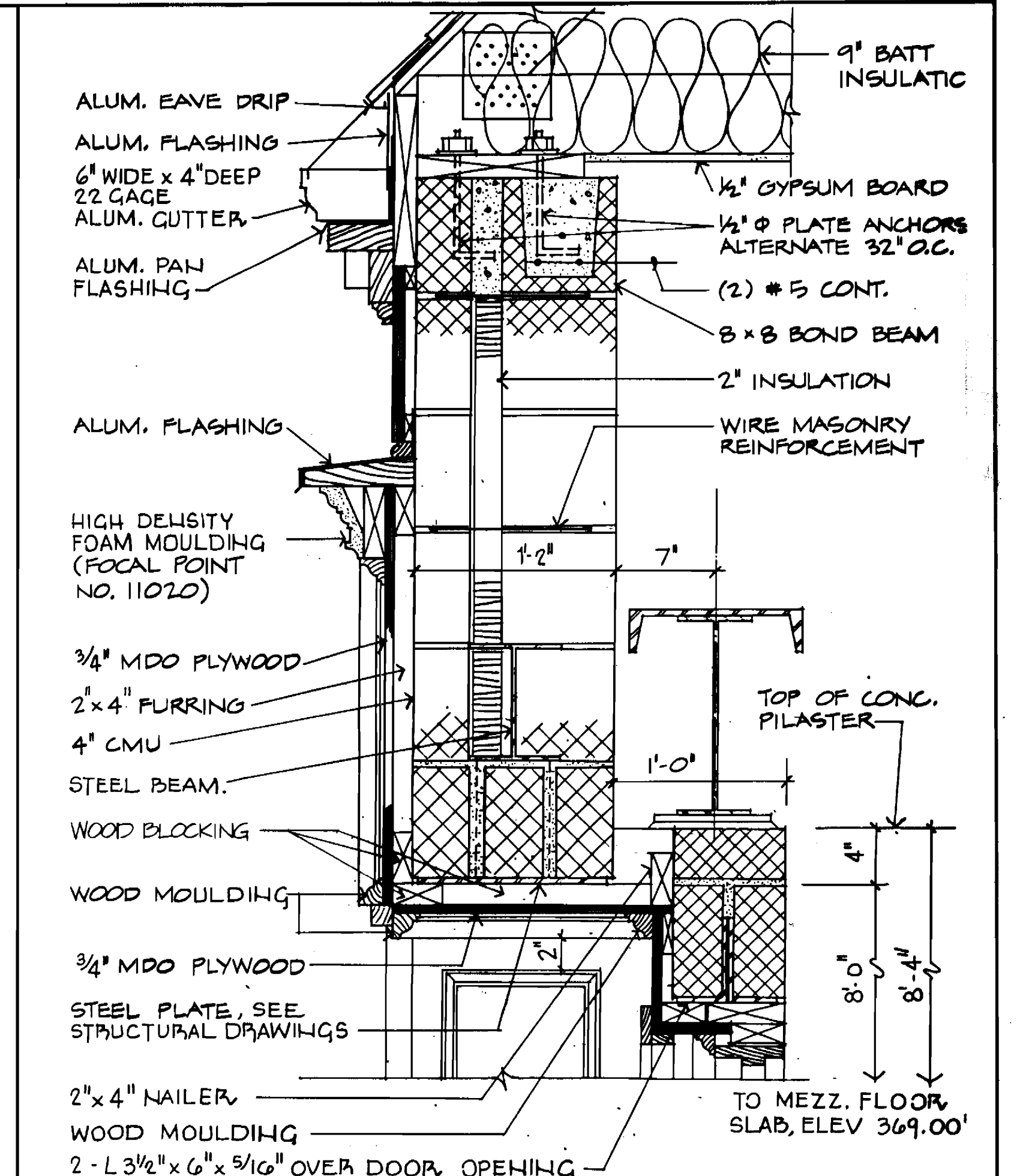
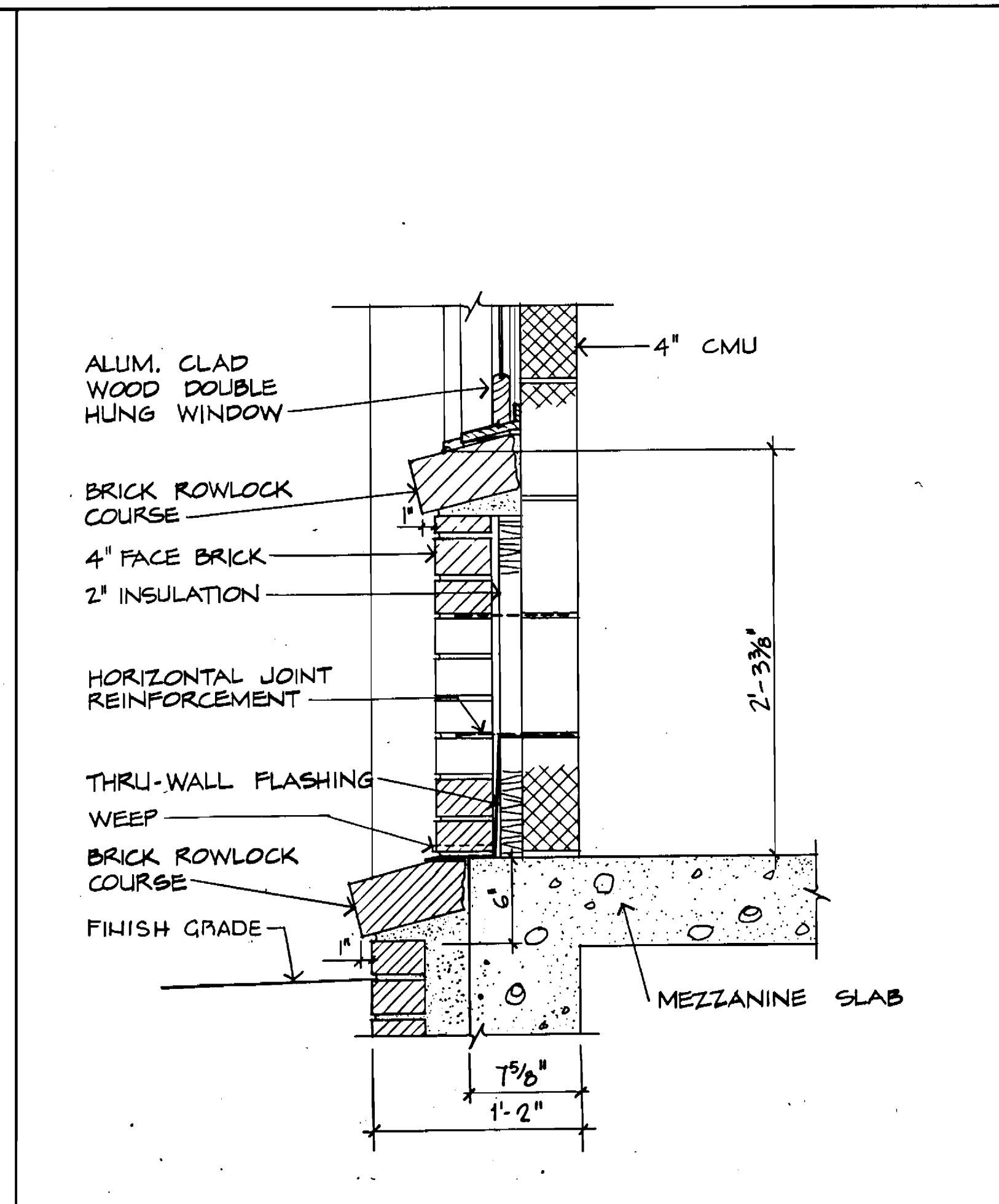
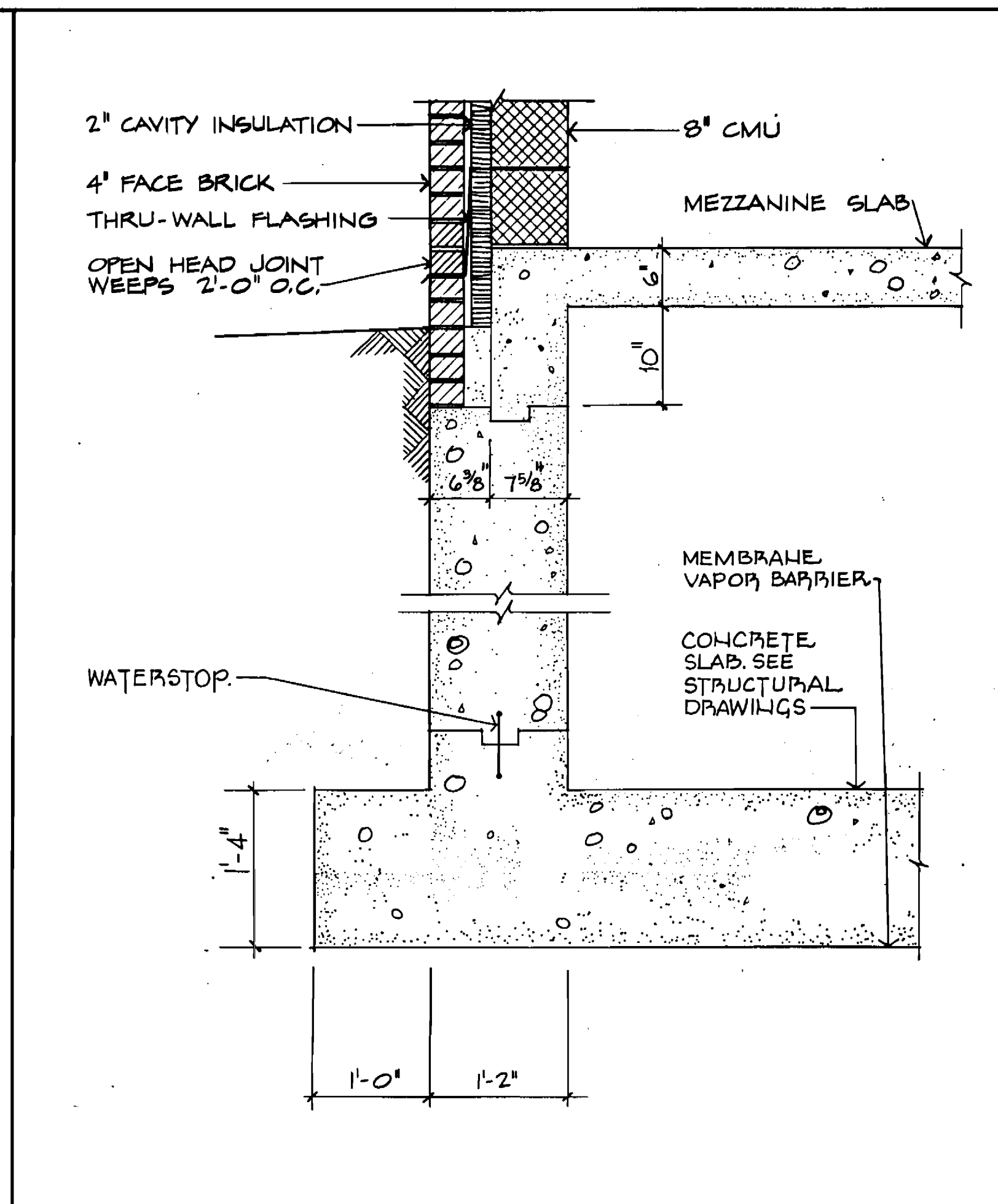
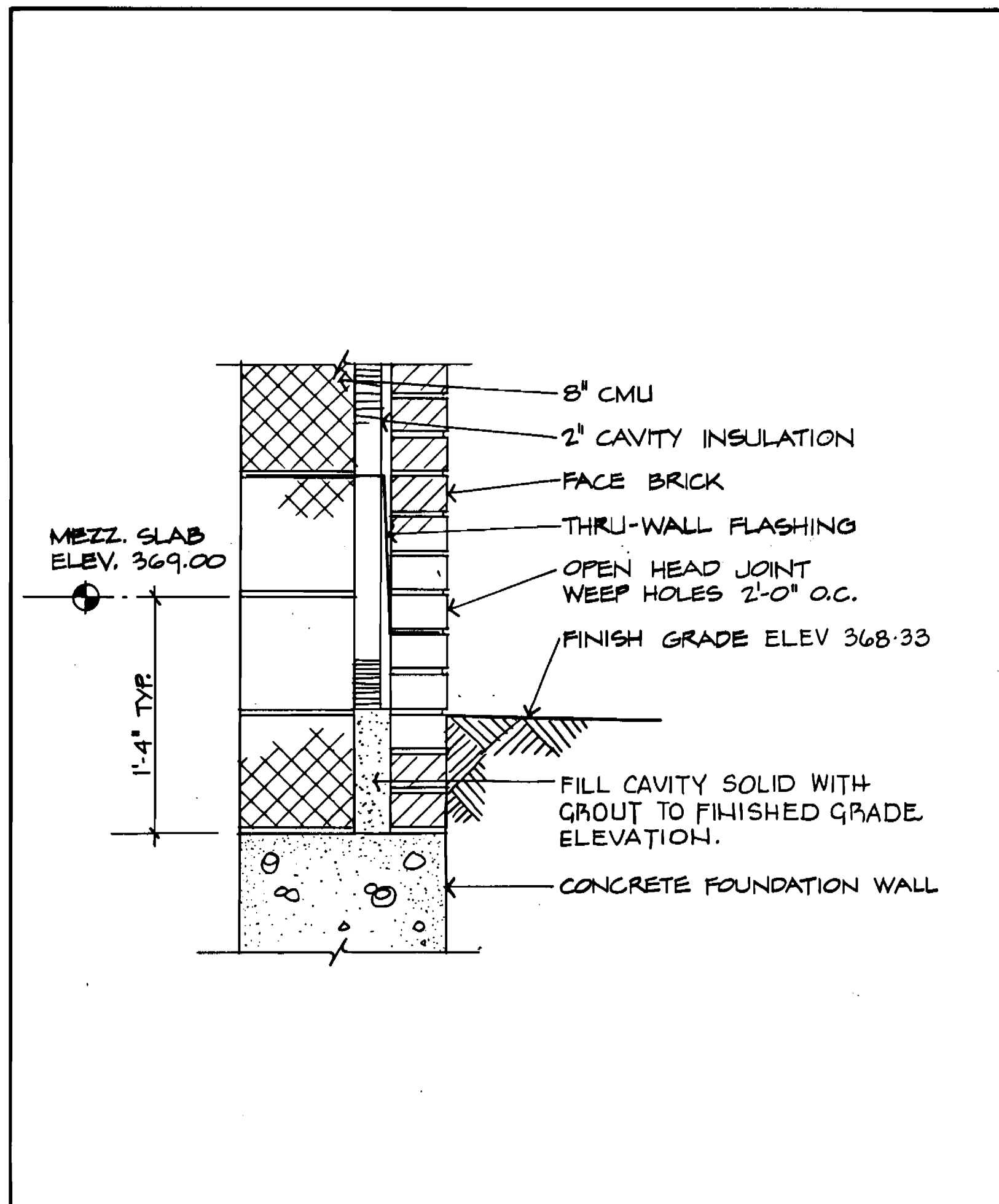
DES: B.G.			
DRN: D.H.			
CHK: H.G.			
DATE: 10-5-89	BY	NO.	REVISION

ARCHITECTURAL
BUILDING SECTIONS

PINE ORCHARD
WATER PUMPING STATION
CAPITAL PROJECT W-8133
CONTRACT NO. 44-1748
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND

A-3
SCALE AS SHOWN
SHEET 13 OF 24

69130

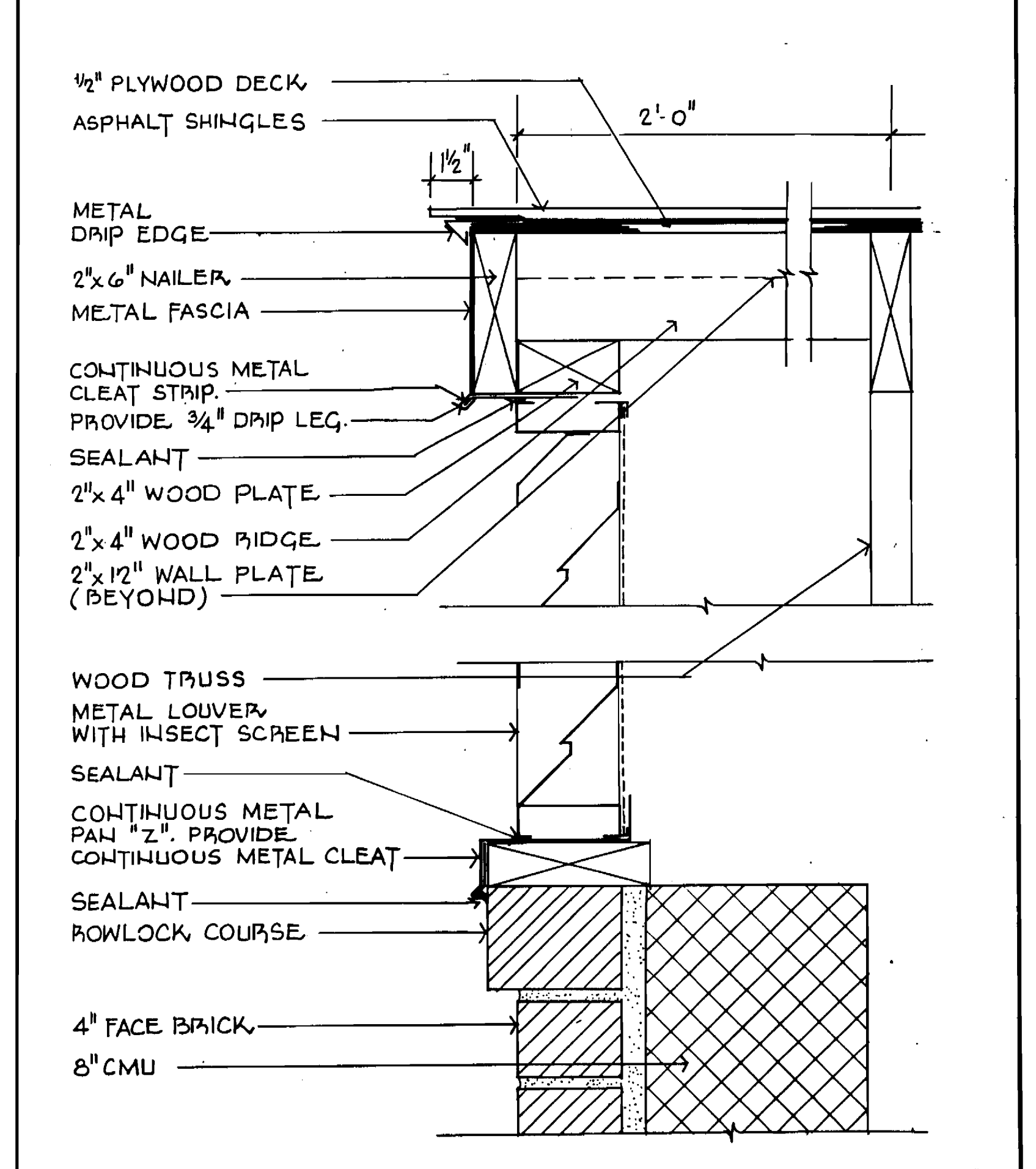
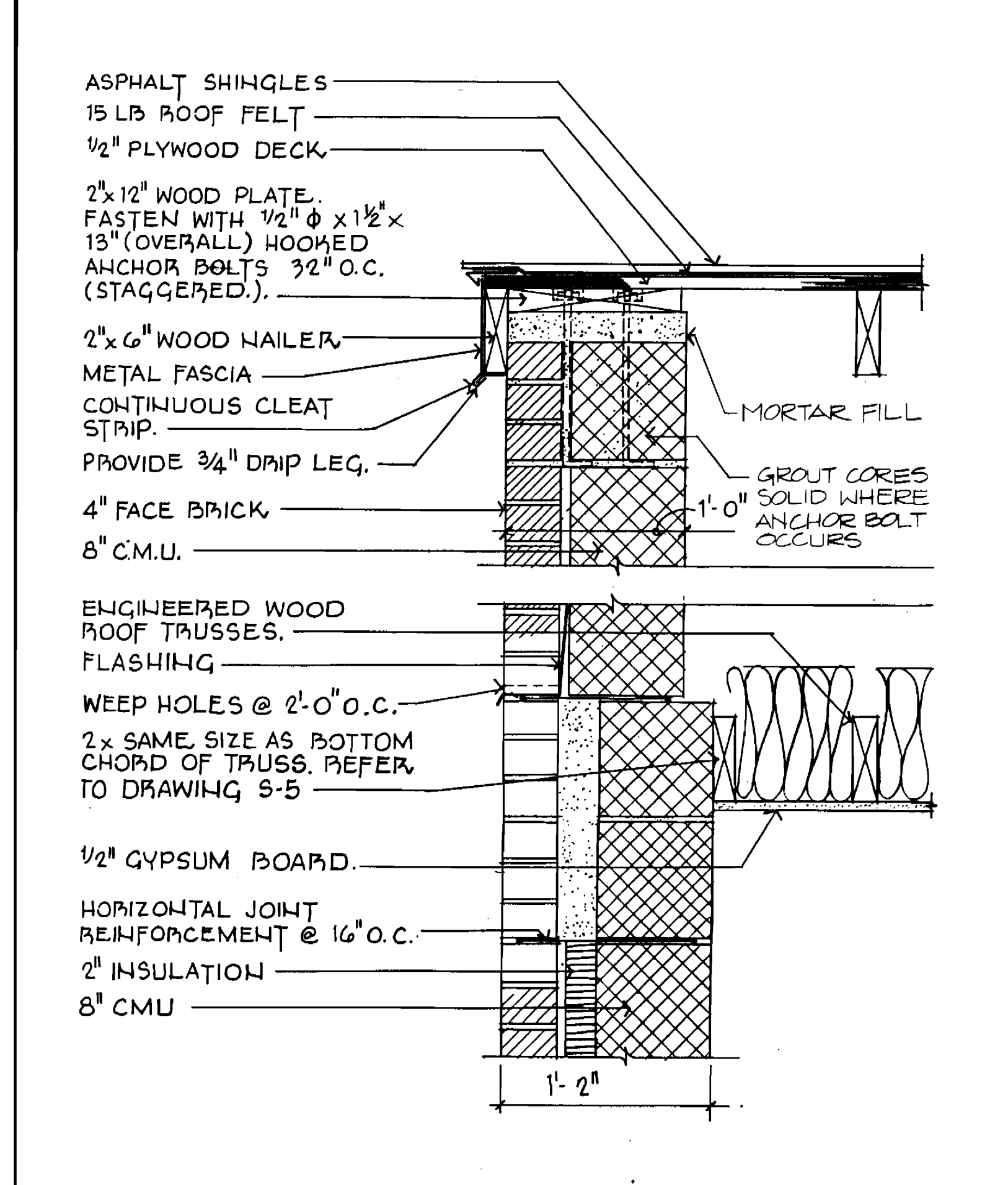
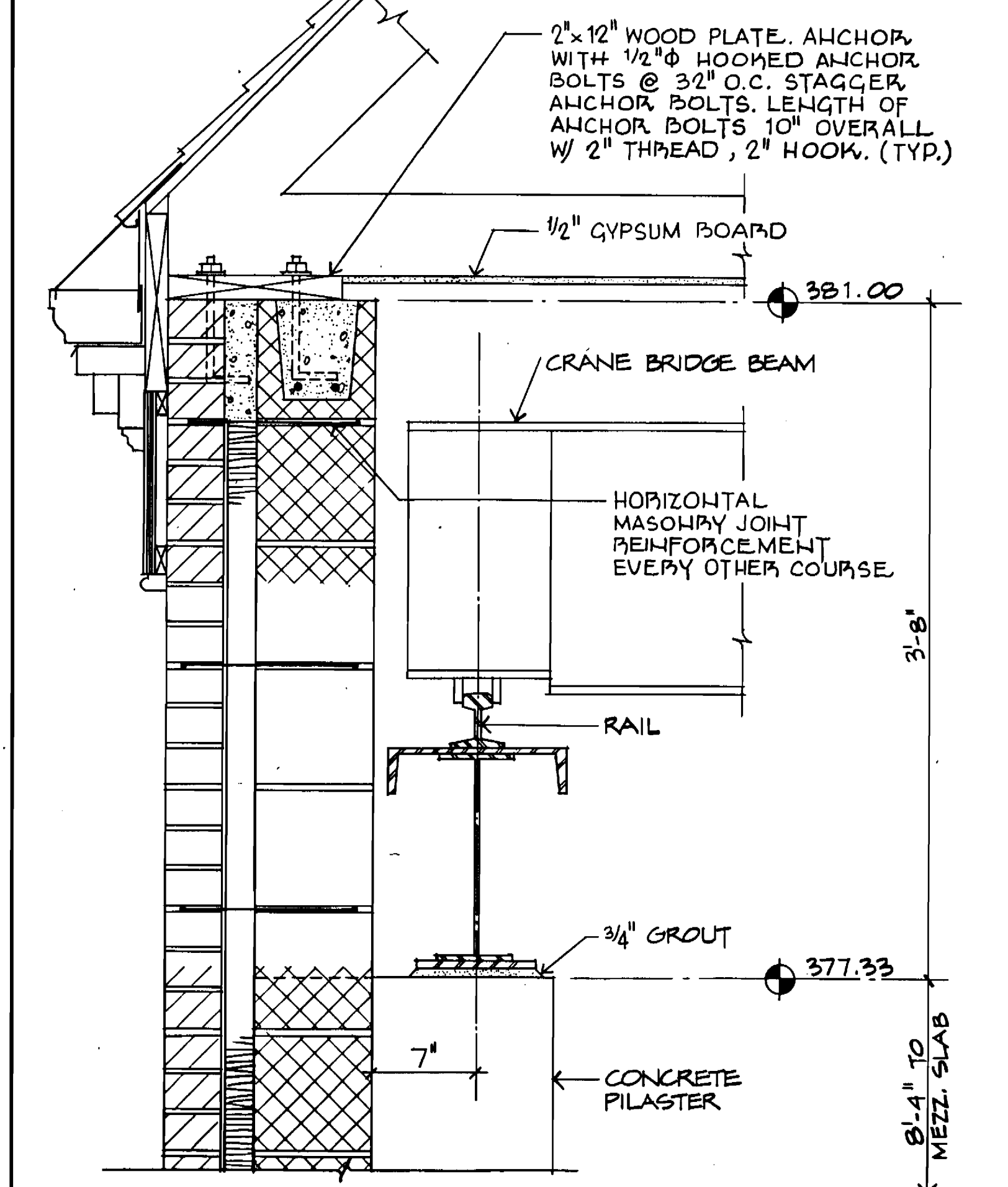
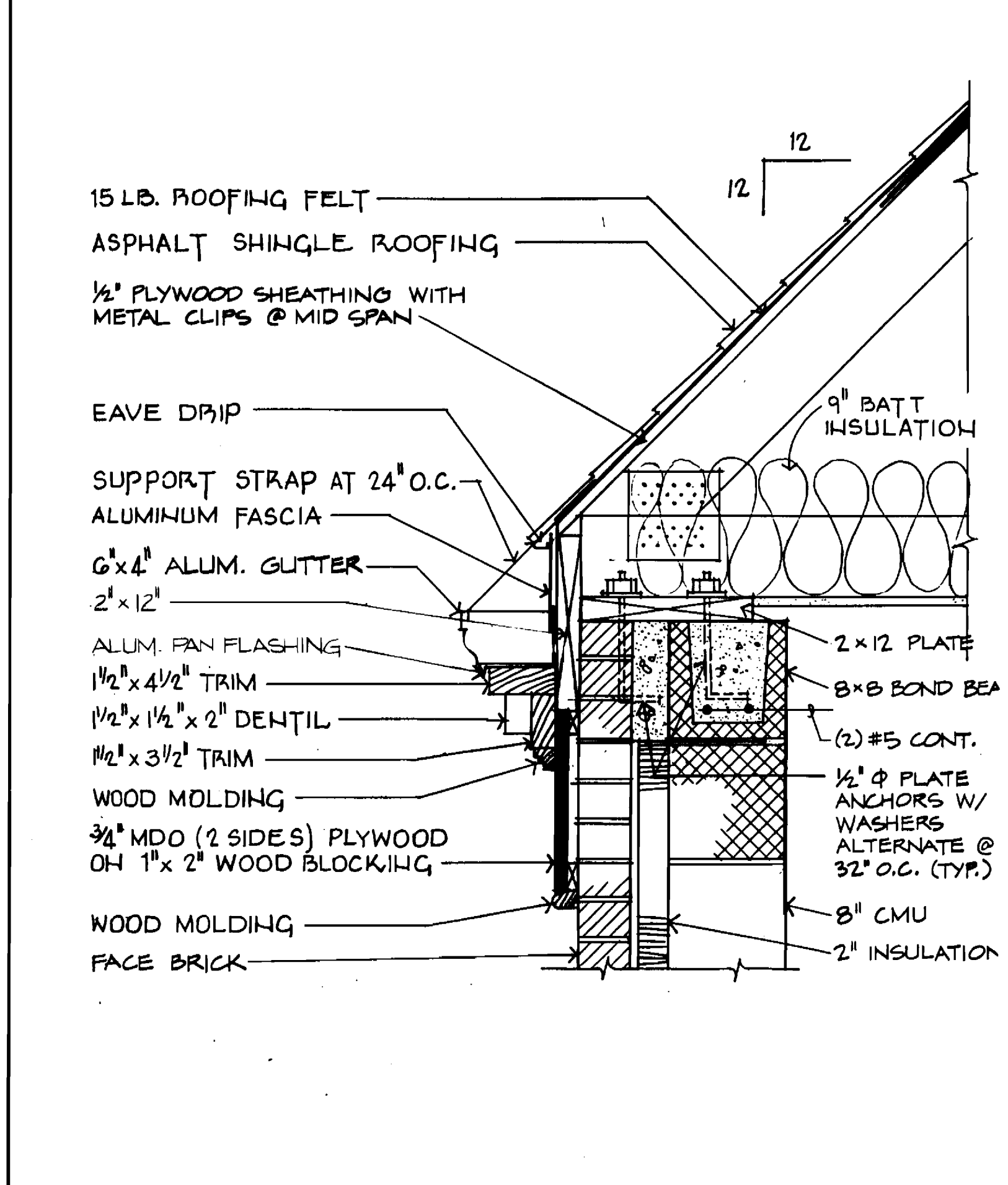


1/A3 TYPICAL WALL SECTION 1 1/2" = 1'-0"

2/A3 WALL SECTION AT MEZZANINE 1" = 1'-0"

3/A1 SECTION - TYPICAL WINDOW SILL 1/2" = 1'-0"

4/A1 WALL SECTION AT ENTRANCE 1 1/2" = 1'-0"



5/A3 WALL SECTION AT EAVE 1 1/2" = 1'-0"

6/A3 WALL SECTION AT PILASTER 1 1/2" = 1'-0"

7/A2 SECTION AT GABLE RAKE 1 1/2" = 1'-0"

8/A2 SECTION AT GABLE LOUVER 3" = 1'-0"

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James P. Bailey 9/22/89
DIRECTOR OF PUBLIC WORKS DATE

Robert Bainger 9-21-89
CHIEF, BUREAU OF UTILITIES DATE

Whitney Bailey 9-21-89
CHIEF, BUREAU OF ENGINEERING DATE

Debra Lynn 9-14-89
CHIEF, UTILITY DESIGN DIVISION DATE

WHITNEY BAILEY
CONSULTING ENGINEERS
1850 YORK ROAD
TIMONIUM, MD. 21093
301-292-6060

DES: B.G.
DRN: D.H.
CHK: H.G.
DATE: 10-5-89

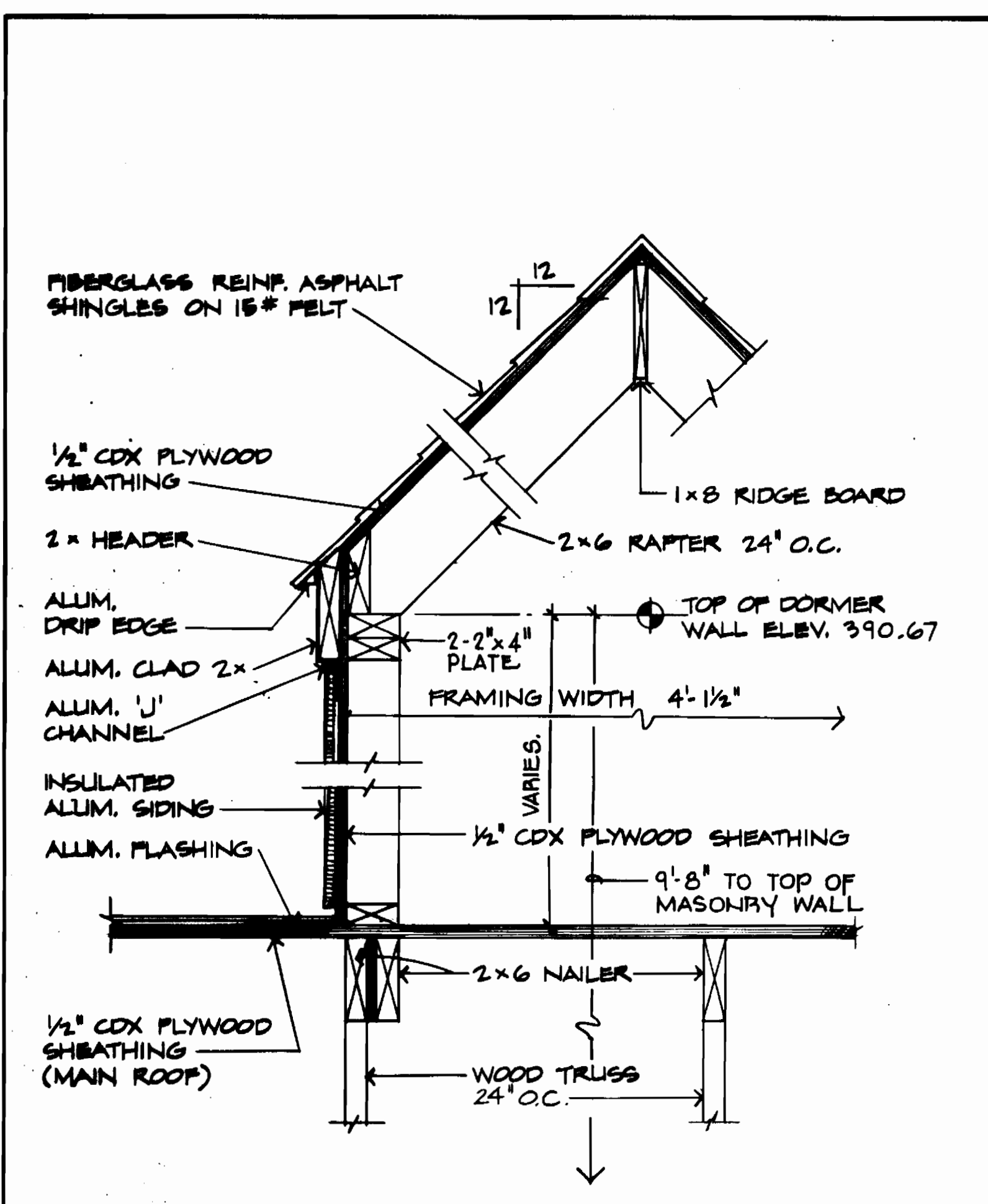
ARCHITECTURAL
SECTIONS AND DETAILS

DATE: 10-5-89 BY: NO. REVISION DATE: 600' SCALE MAP NO. 24 BLOCK NO. 2 B 3

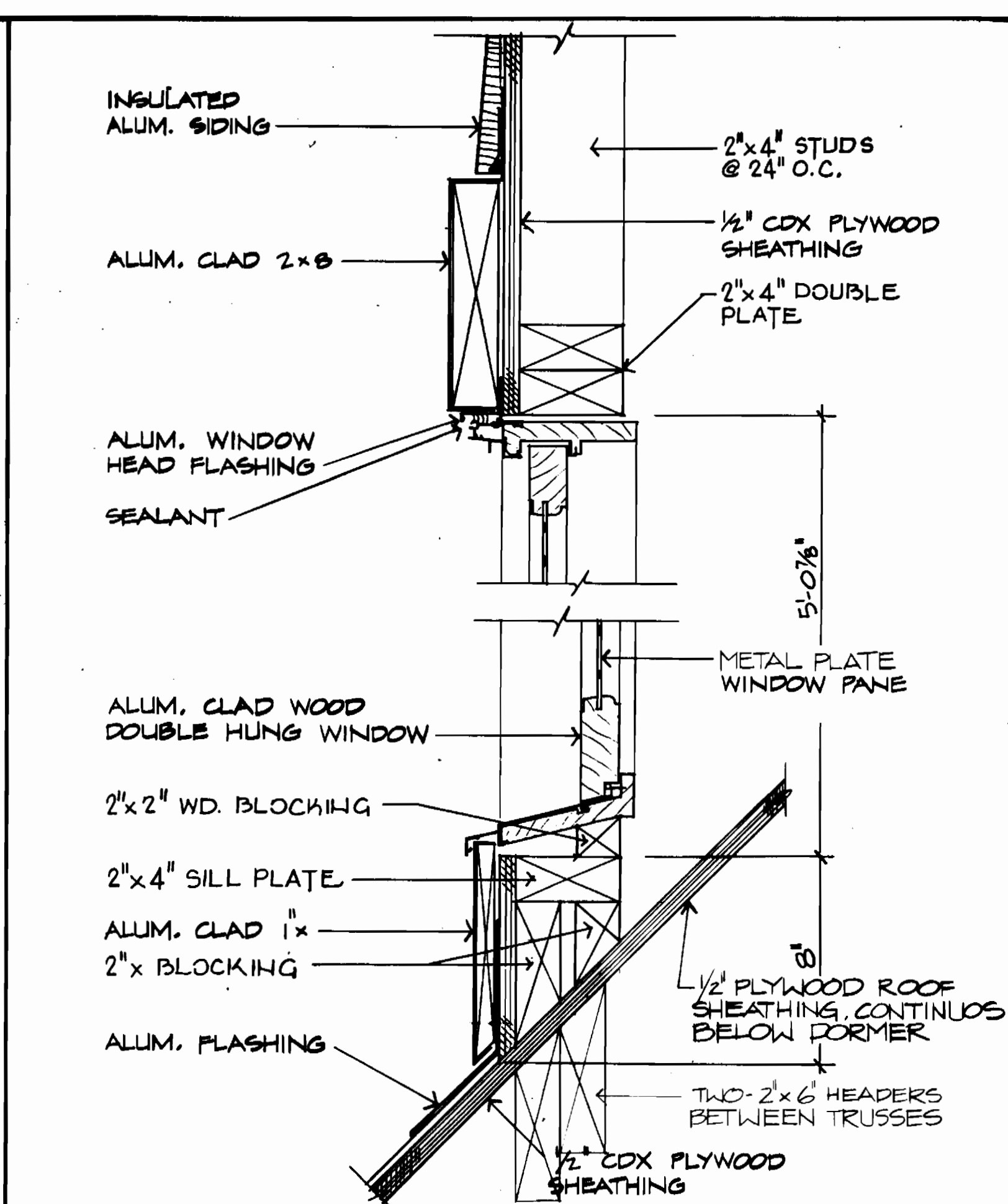
PINE ORCHARD
WATER PUMPING STATION
CAPITAL PROJECT W-8133
CONTRACT NO. 44-1748
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 14 OF 24

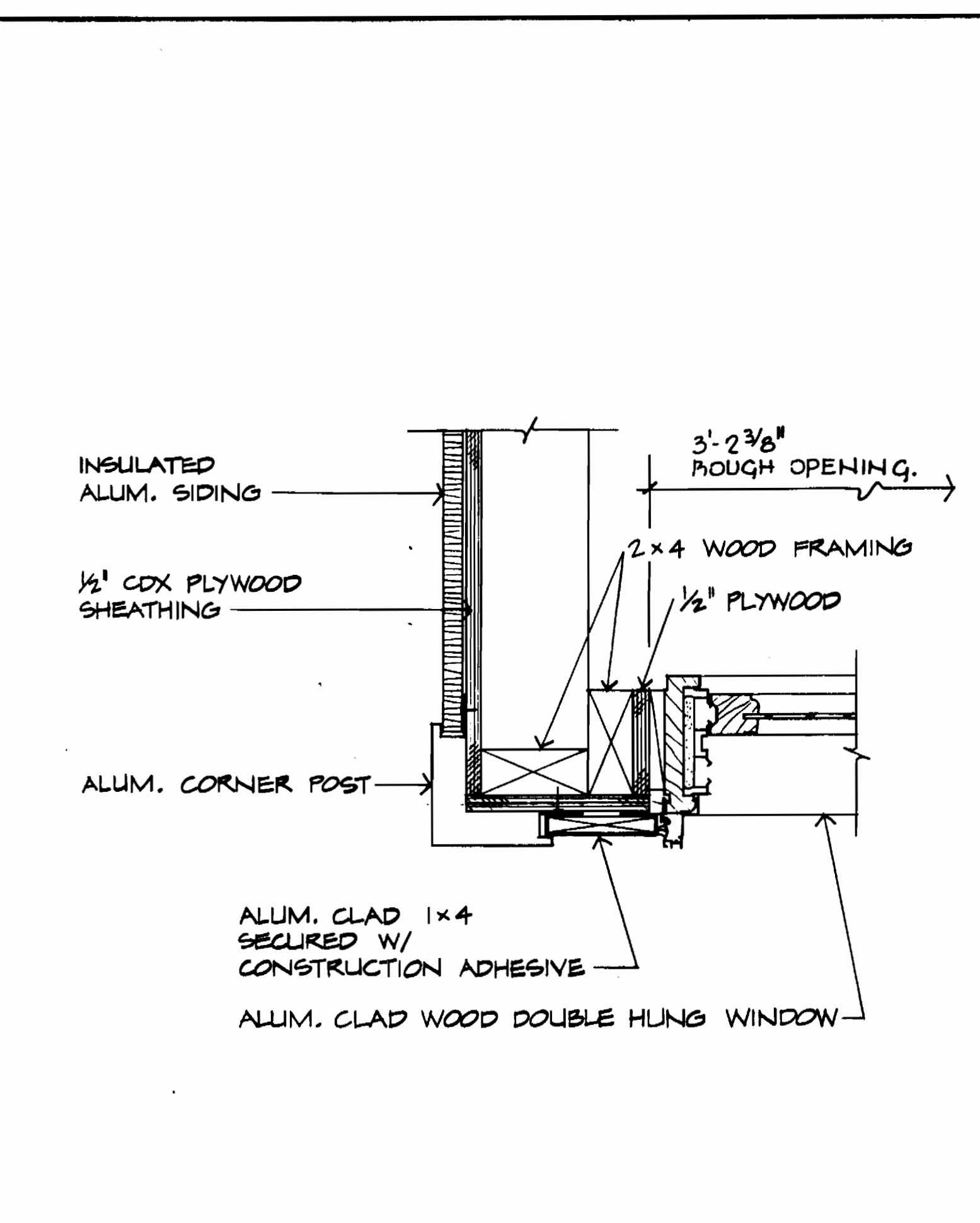
BRUNING 69150



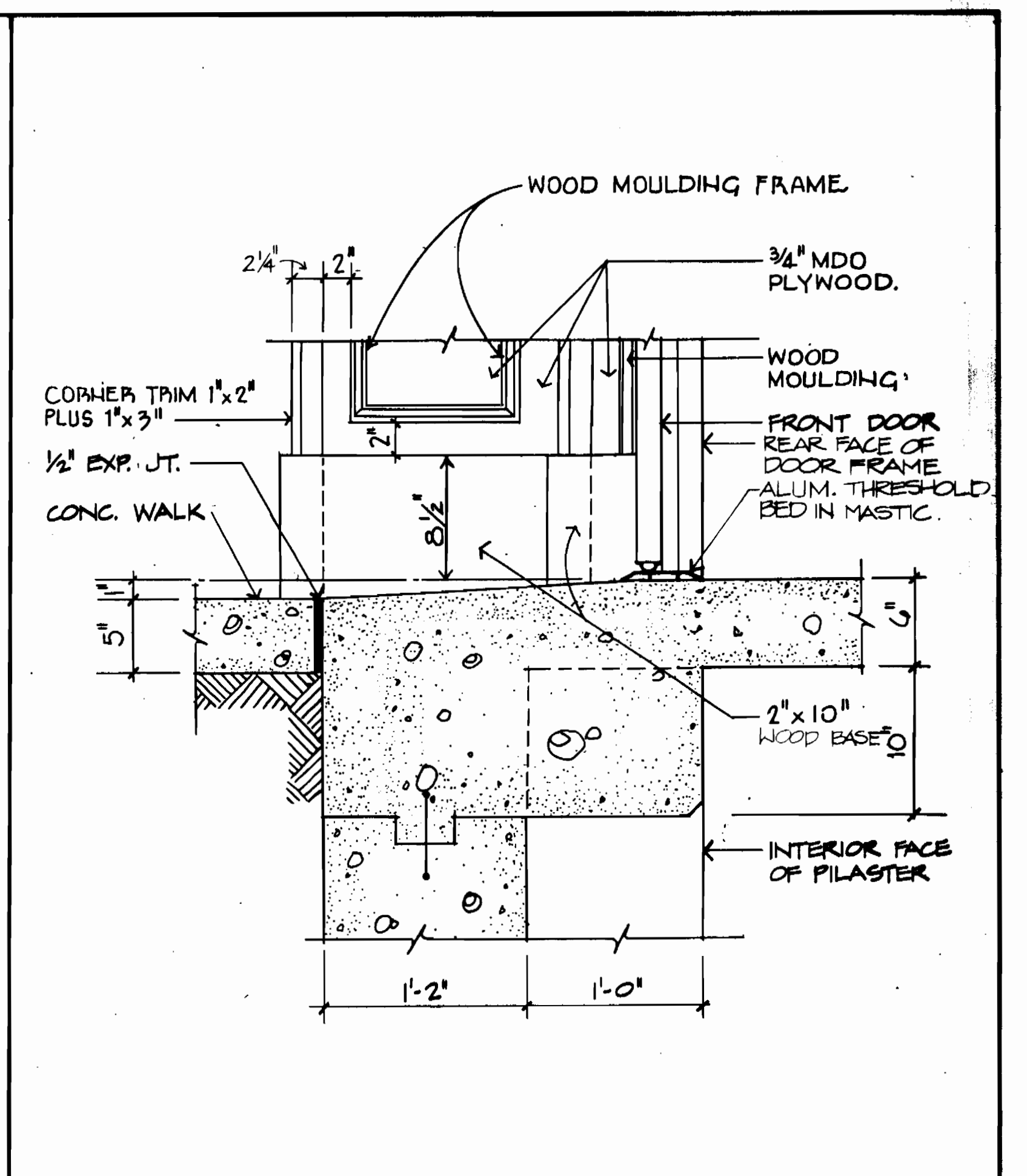
1/A3 SECTION THRU DORMER 1/2" = 1'-0"



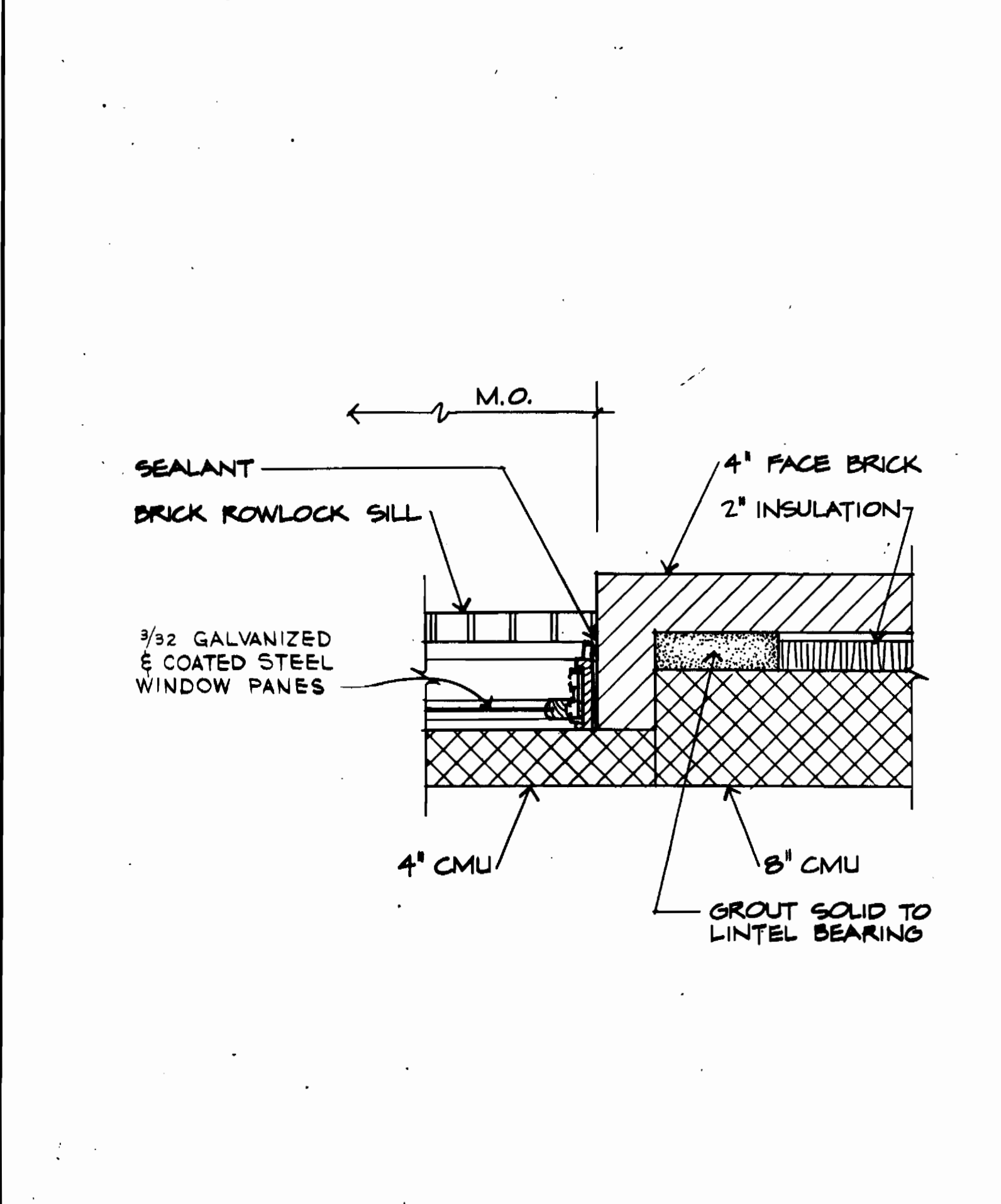
2/A2 DORMER WINDOW HEAD AND SILL 3/8" = 1'-0"



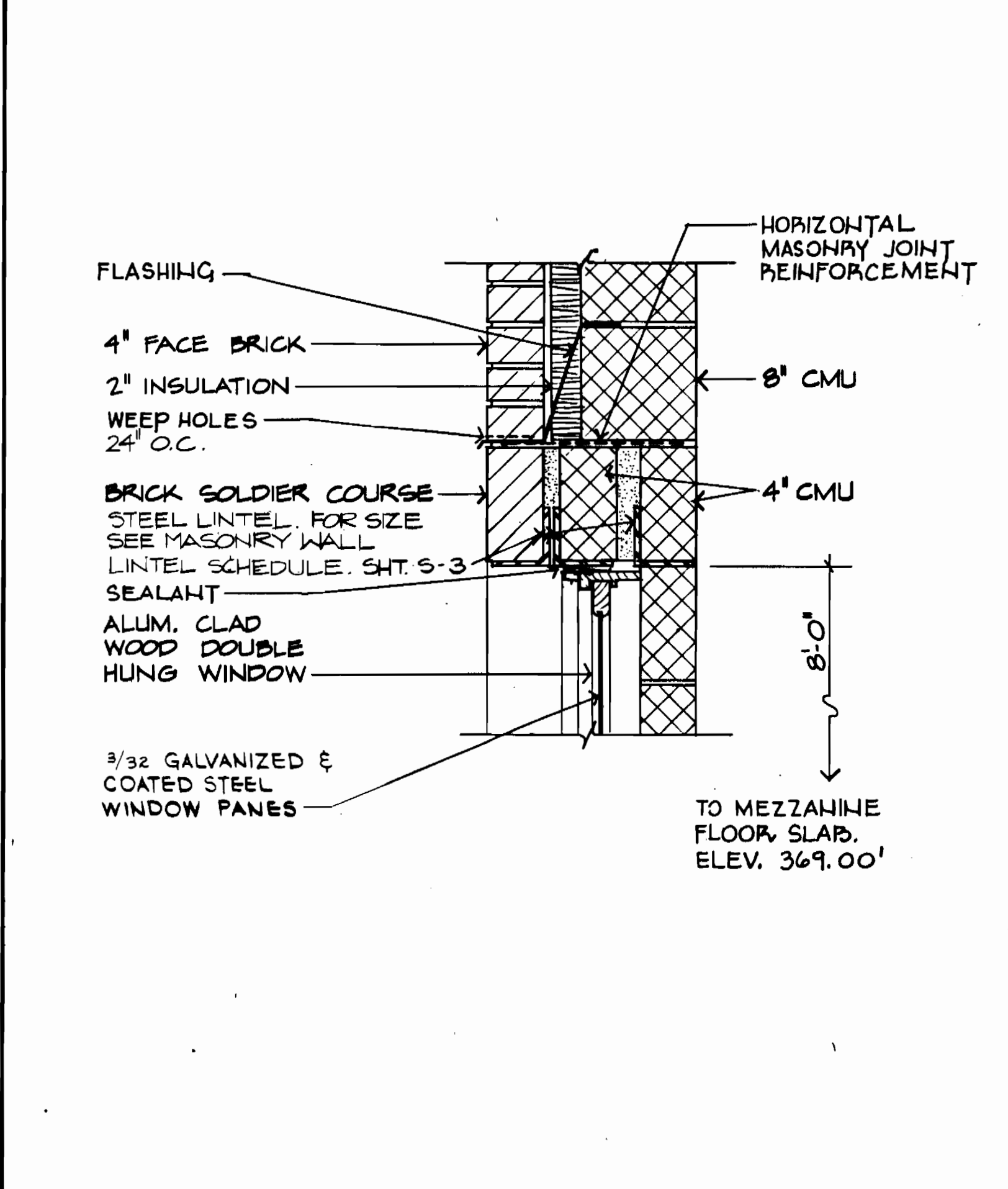
3/A2 DORMER WINDOW JAMB DETAIL 3/8" = 1'-0"



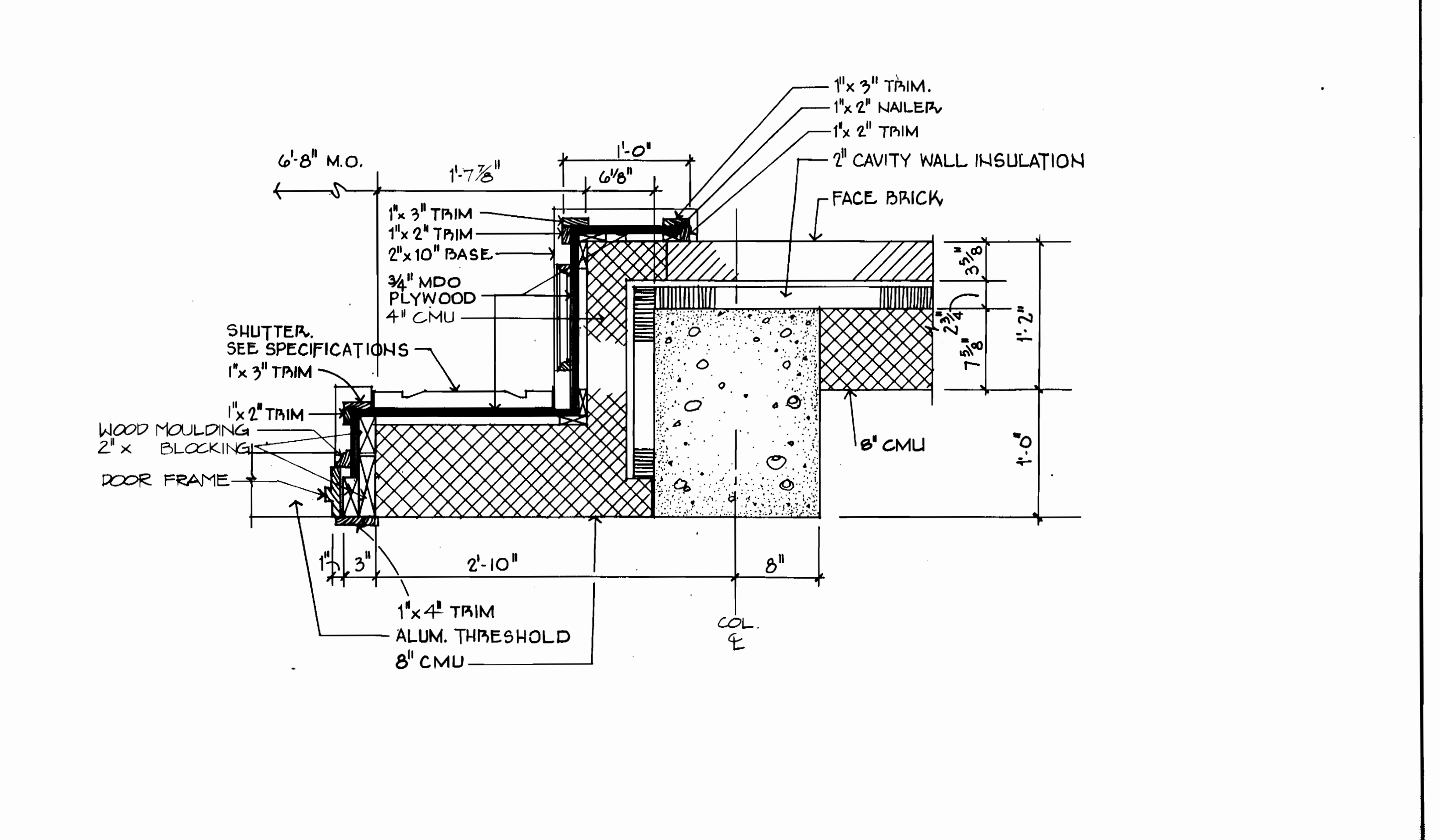
4/A1 SECTION AT ENTRANCE 1/2" = 1'-0"



5/A1 JAMB DETAIL - TYPICAL WINDOW 1/2" = 1'-0"



6/A1 HEAD DETAIL - TYPICAL WINDOW 1/2" = 1'-0"



7/A1 PLAN DETAIL AT MAIN ENTRANCE 1/2" = 1'-0"

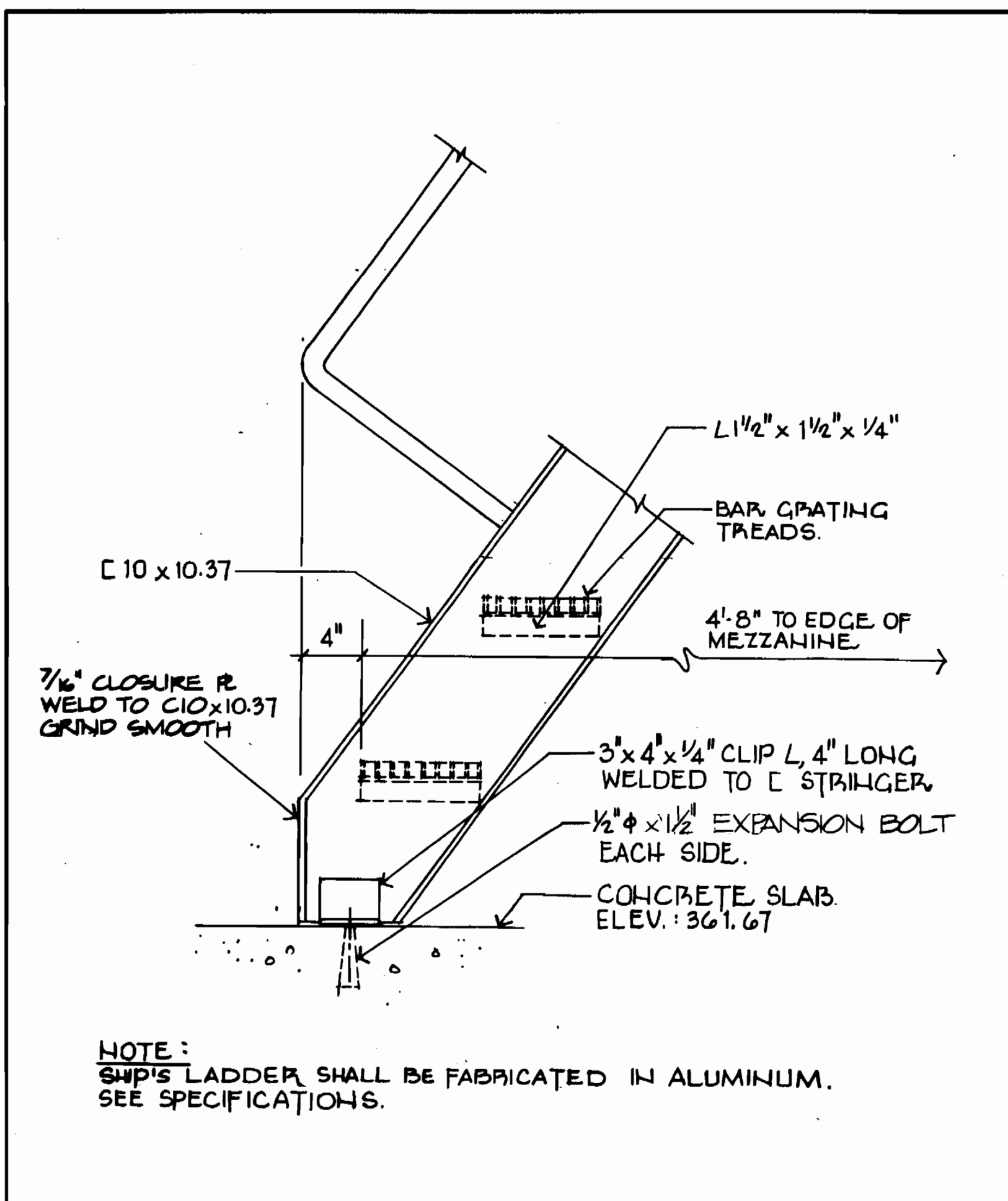
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
James R. ... 9/21/89
DIRECTOR OF PUBLIC WORKS
DATE

Whitney Bailey
CONSULTING ENGINEERS
1850 YORK ROAD
TIMONIUM, MD. 21093
301-252-6080
James ...
DATE: 10-5-89

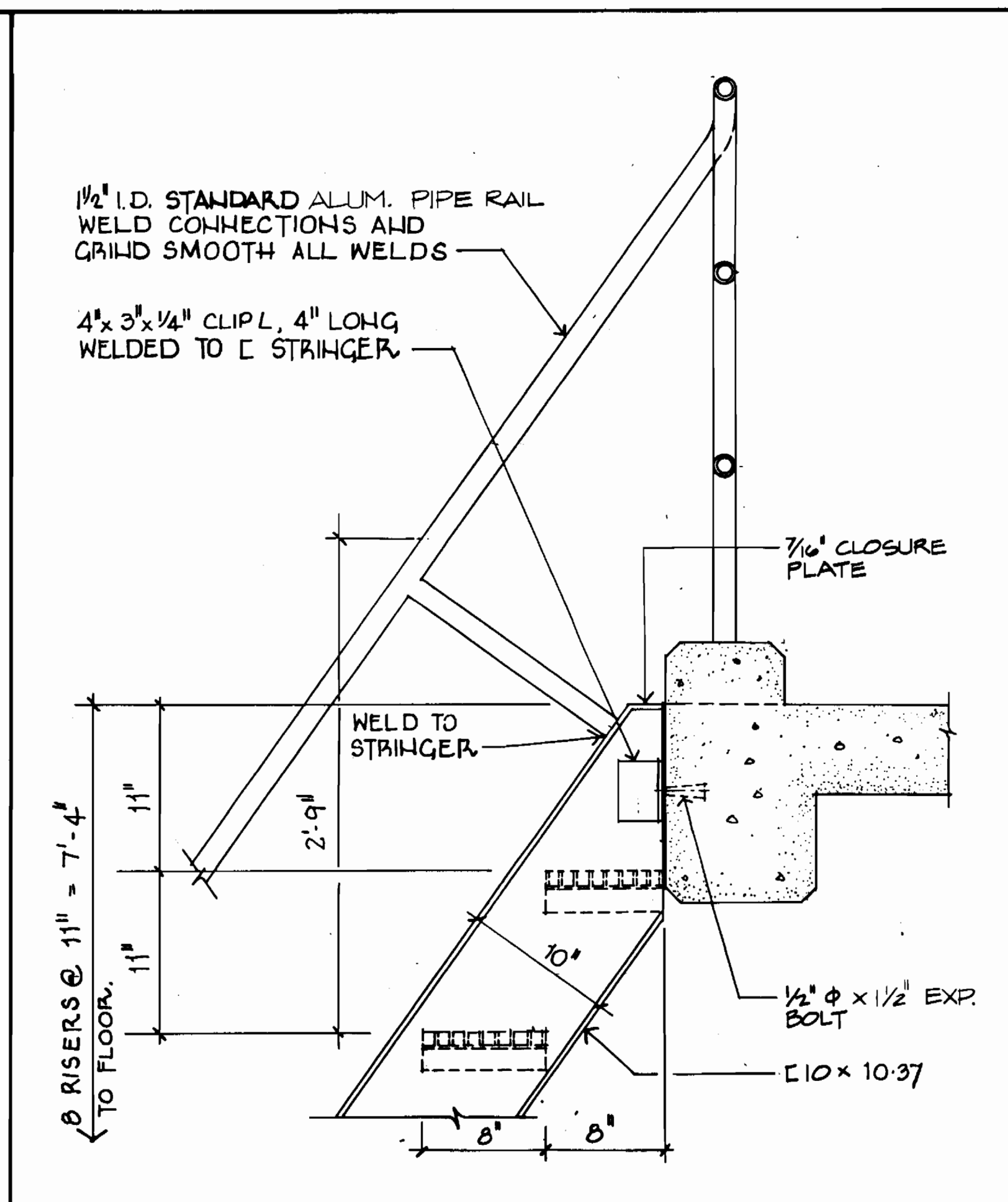
WHITNEY BAILEY
CONSULTING ENGINEERS
1850 YORK ROAD
TIMONIUM, MD. 21093
301-252-6080
James ...
DATE: 10-5-89

ARCHITECTURAL
SECTIONS AND DETAILS
DATE: 10-5-89
BY: NO.
REVISION
DATE: 600' SCALE MAP NO. 24 BLOCK NO. 2 B 3

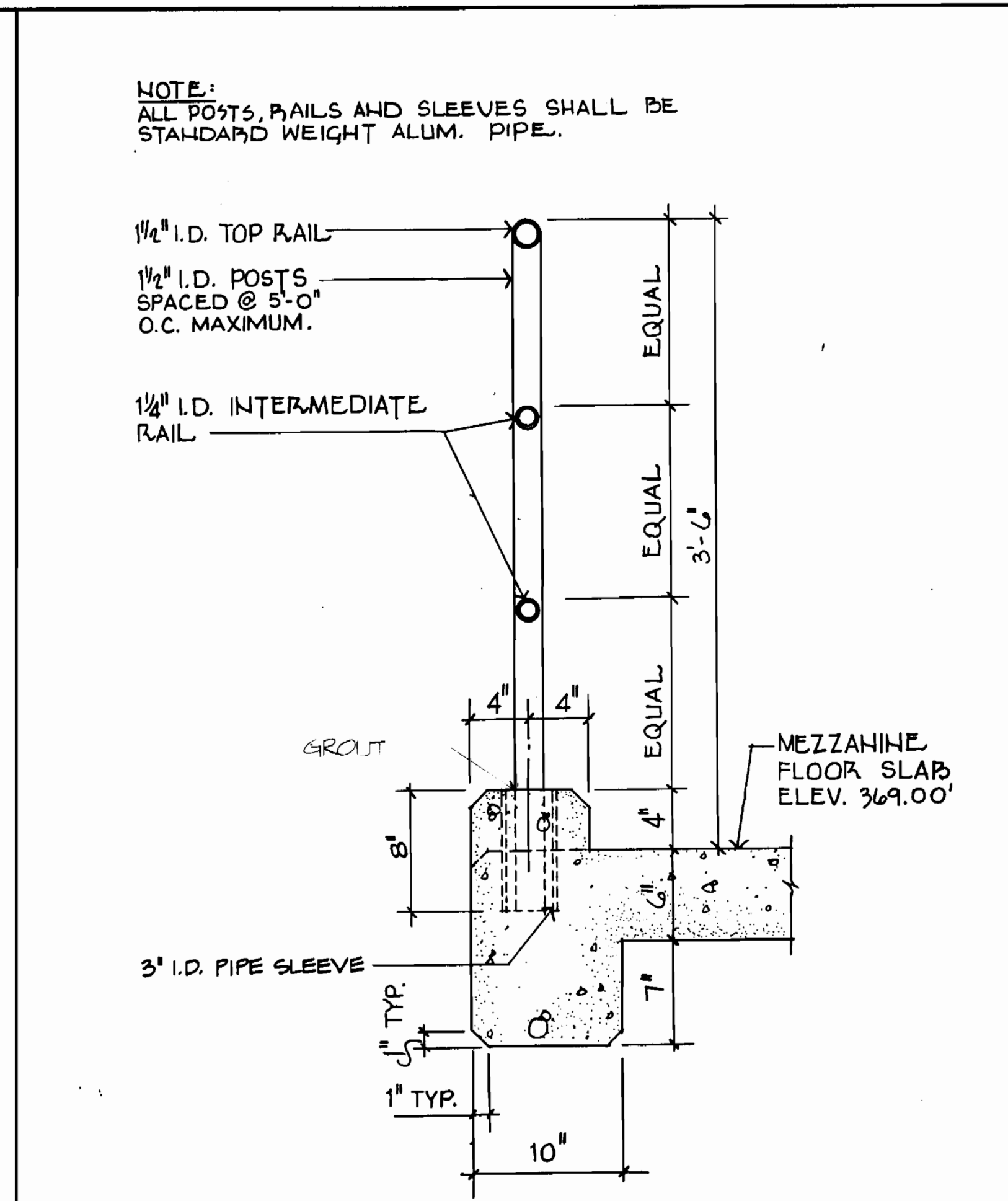
PINE ORCHARD
WATER PUMPING STATION
CAPITAL PROJECT W-8133
CONTRACT NO. 44-1748
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND
SCALE AS SHOWN
SHEET 15 OF 24



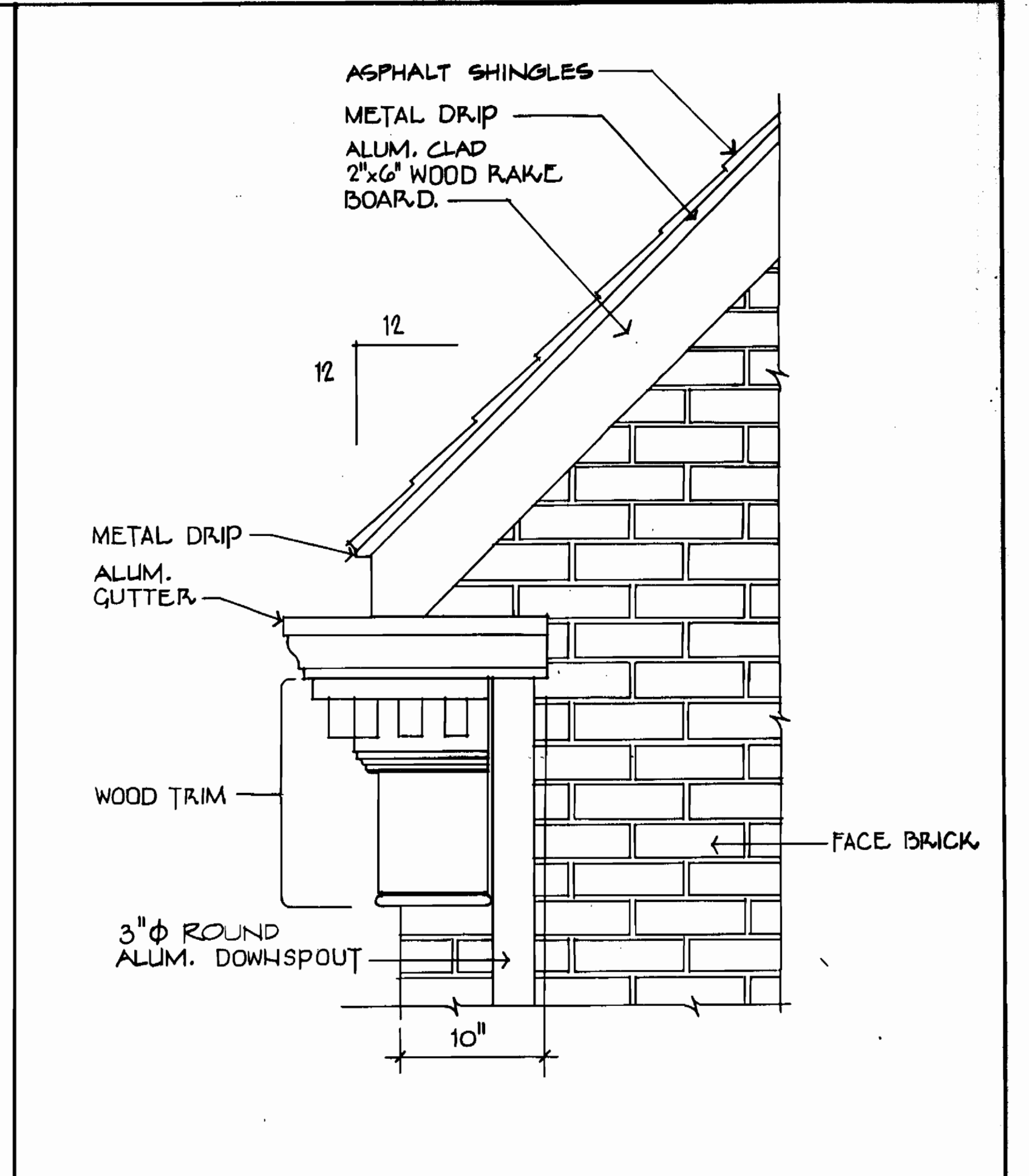
1/A3 DETAIL - LADDER AT FLOOR 1/2" = 1'-0"



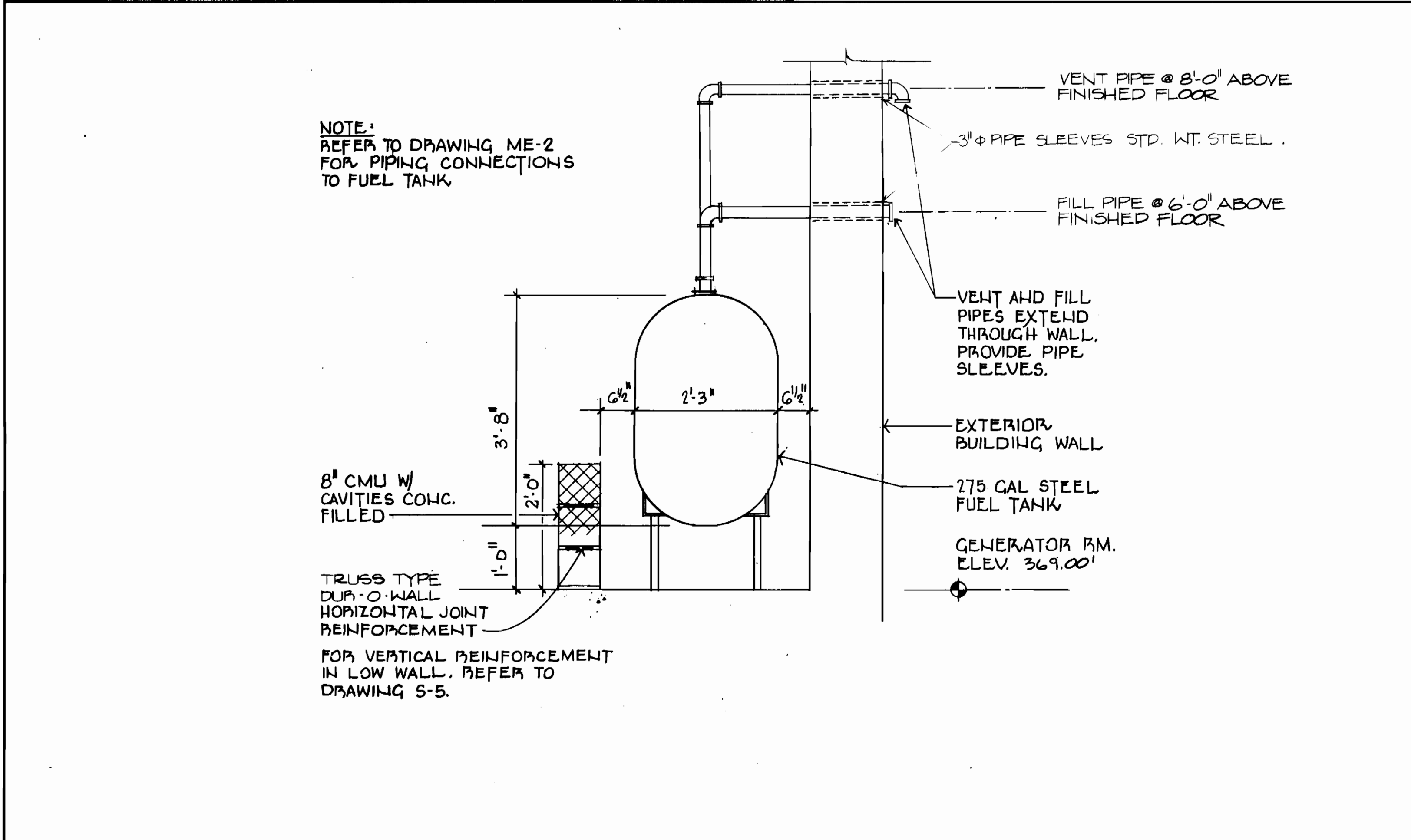
2/A3 DETAIL - LADDER AT MEZZANINE 1/2" = 1'-0"



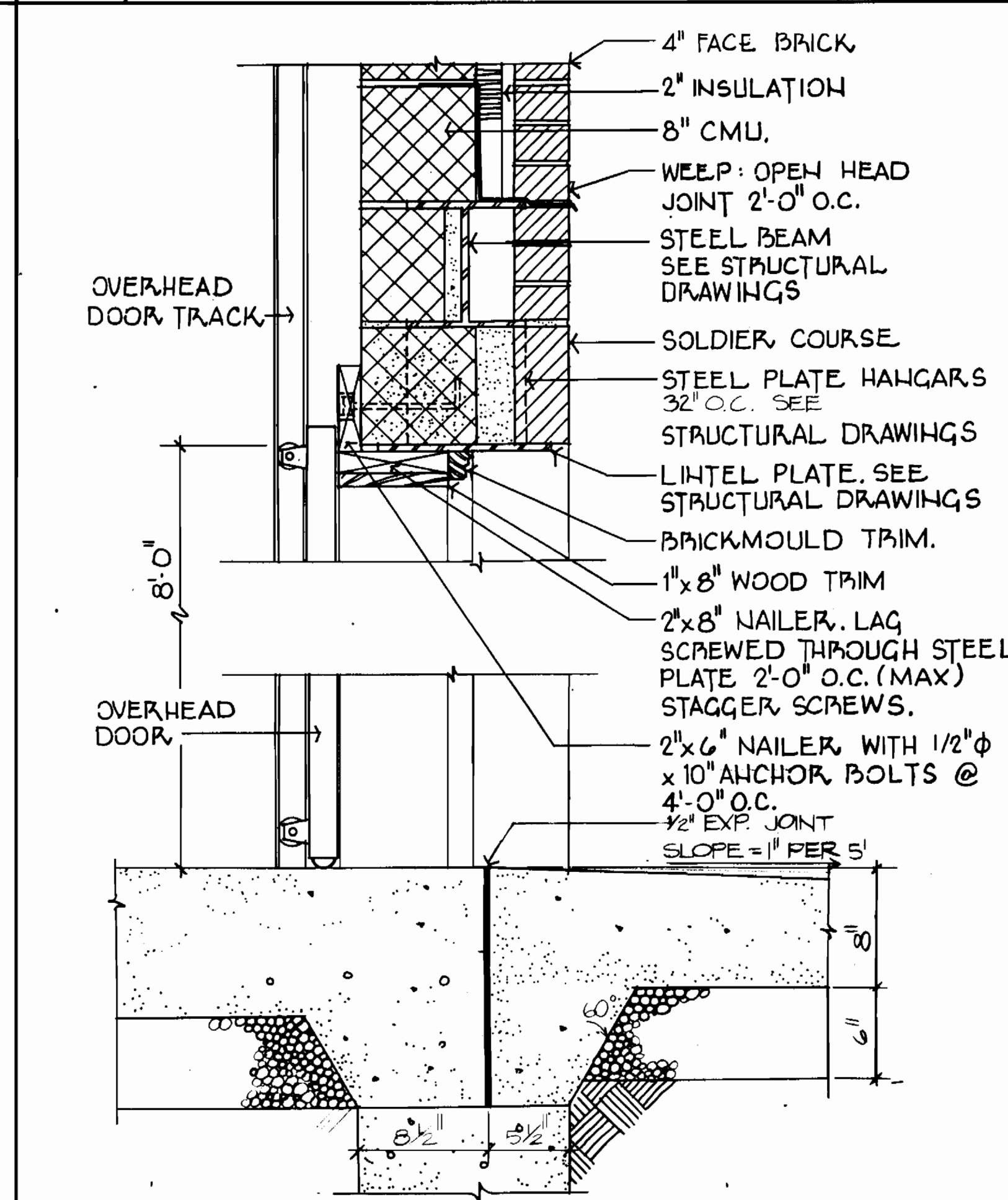
3/A1 DETAIL OF MEZZANINE RAILING 1/2" = 1'-0"



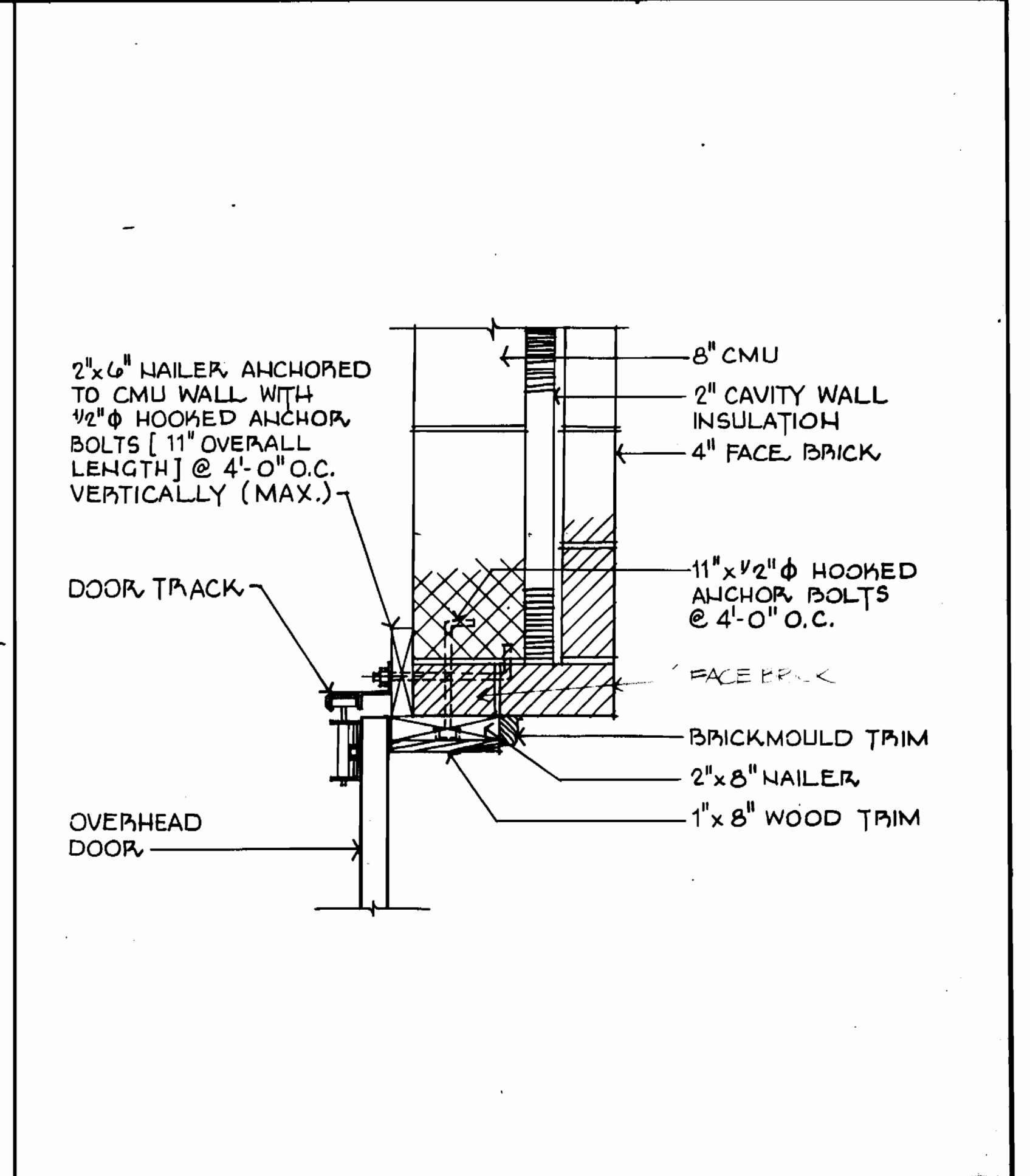
4/A2 DETAIL ELEVATION - CORNICE END 1/2" = 1'-0"



5/A1 SECTION - OIL TANK RETENTION DIKE 3/4" = 1'-0"



6/A1 GARAGE DOOR DETAILS 1/2" = 1'-0"



7/A1 GARAGE DOOR JAMB DETAIL 1/2" = 1'-0"

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James M. ... 9-21-89
DIRECTOR OF PUBLIC WORKS DATE

... 9-21-89
CHIEF, BUREAU OF ENGINEERING DATE

... 9-21-89
CHIEF, UTILITY DESIGN DIVISION DATE

WHITNEY
BAILEY
COX
MAGNANI

CONSULTING
ENGINEERS
1850 YORK ROAD
TIMONIUM, MD. 21093
301-232-6060

DES: B.G.
DRN: D.H.
CHK: H.G.
DATE: 10-5-89

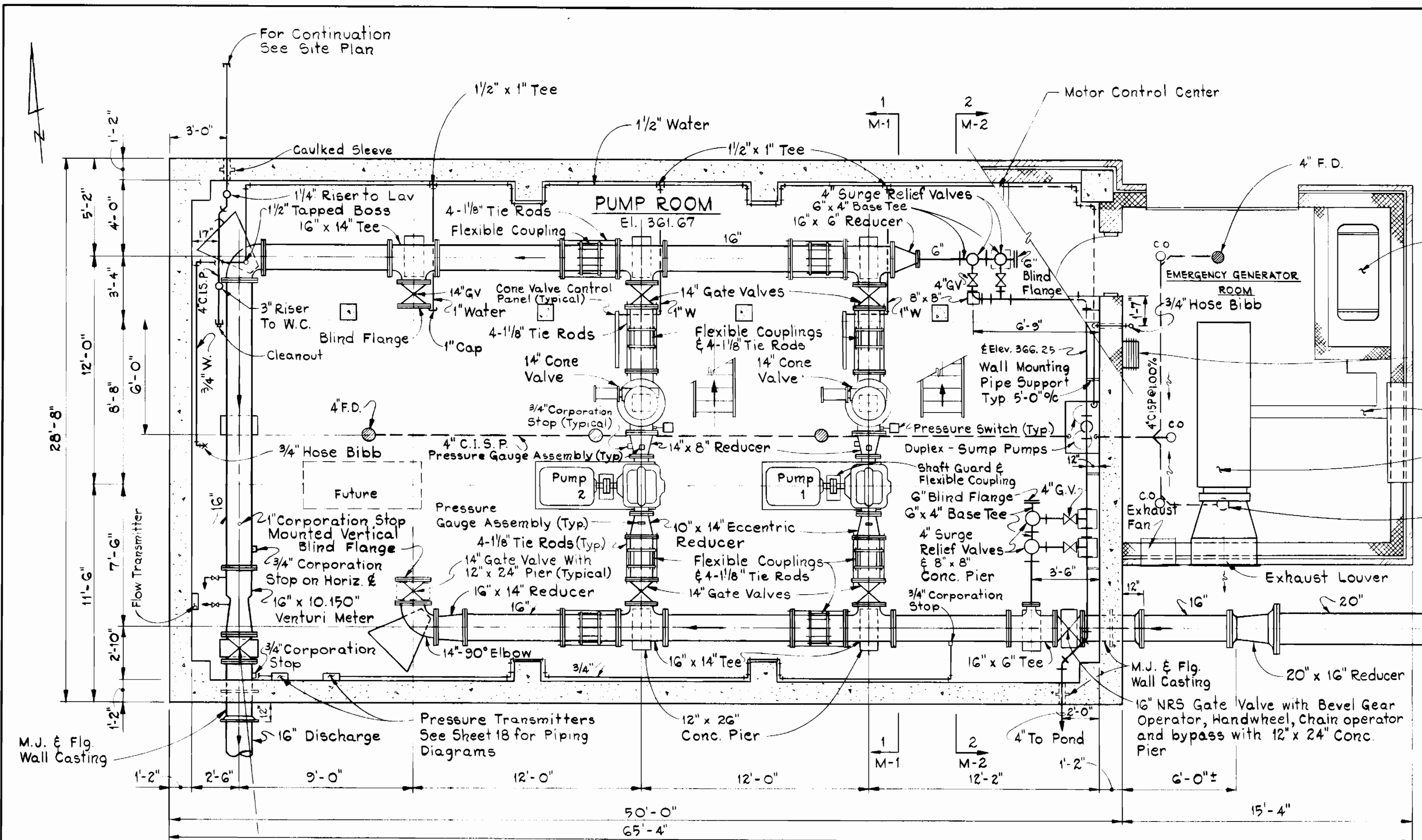
ARCHITECTURAL
SECTIONS AND DETAILS

600' SCALE MAP NO. 24 BLOCK NO. 2 & 3

PINE ORCHARD
WATER PUMPING STATION
CAPITAL PROJECT W-8133
CONTRACT NO. 44-1748
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND

SCALE
AS
SHOWN

SHEET
18 OF 24

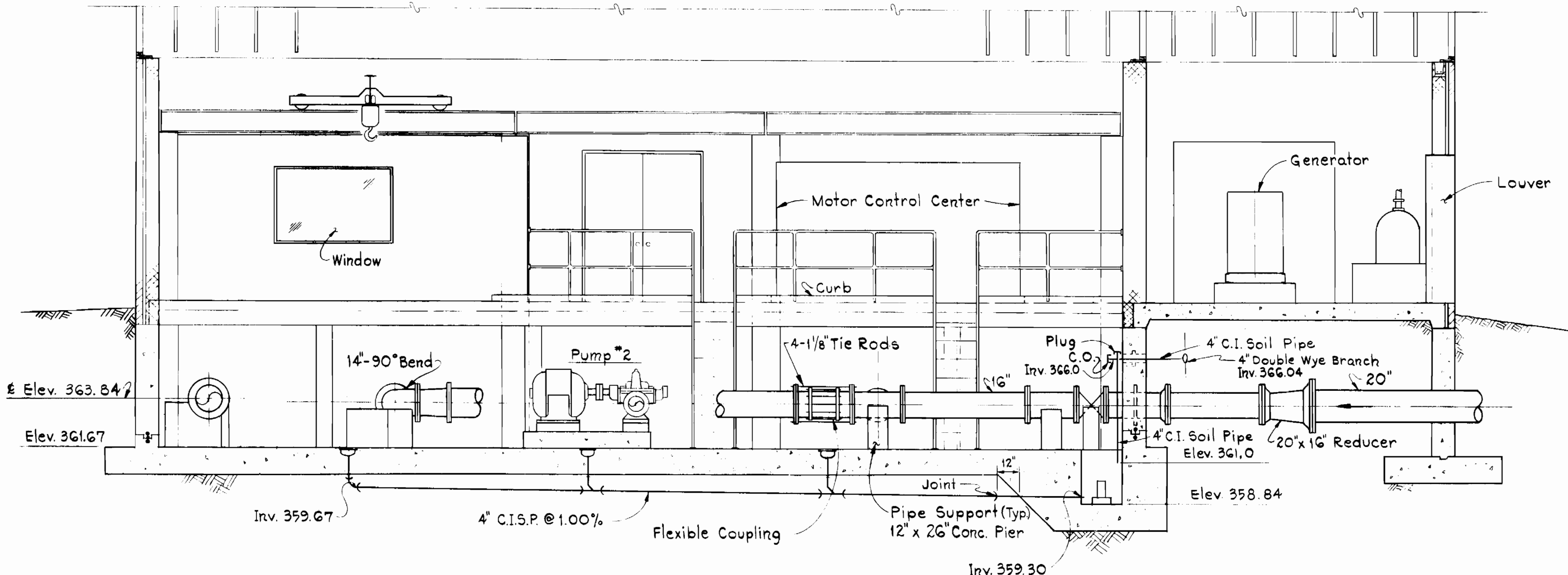


LOWER LEVEL PLAN

Scale: 1/4" = 1'-0"

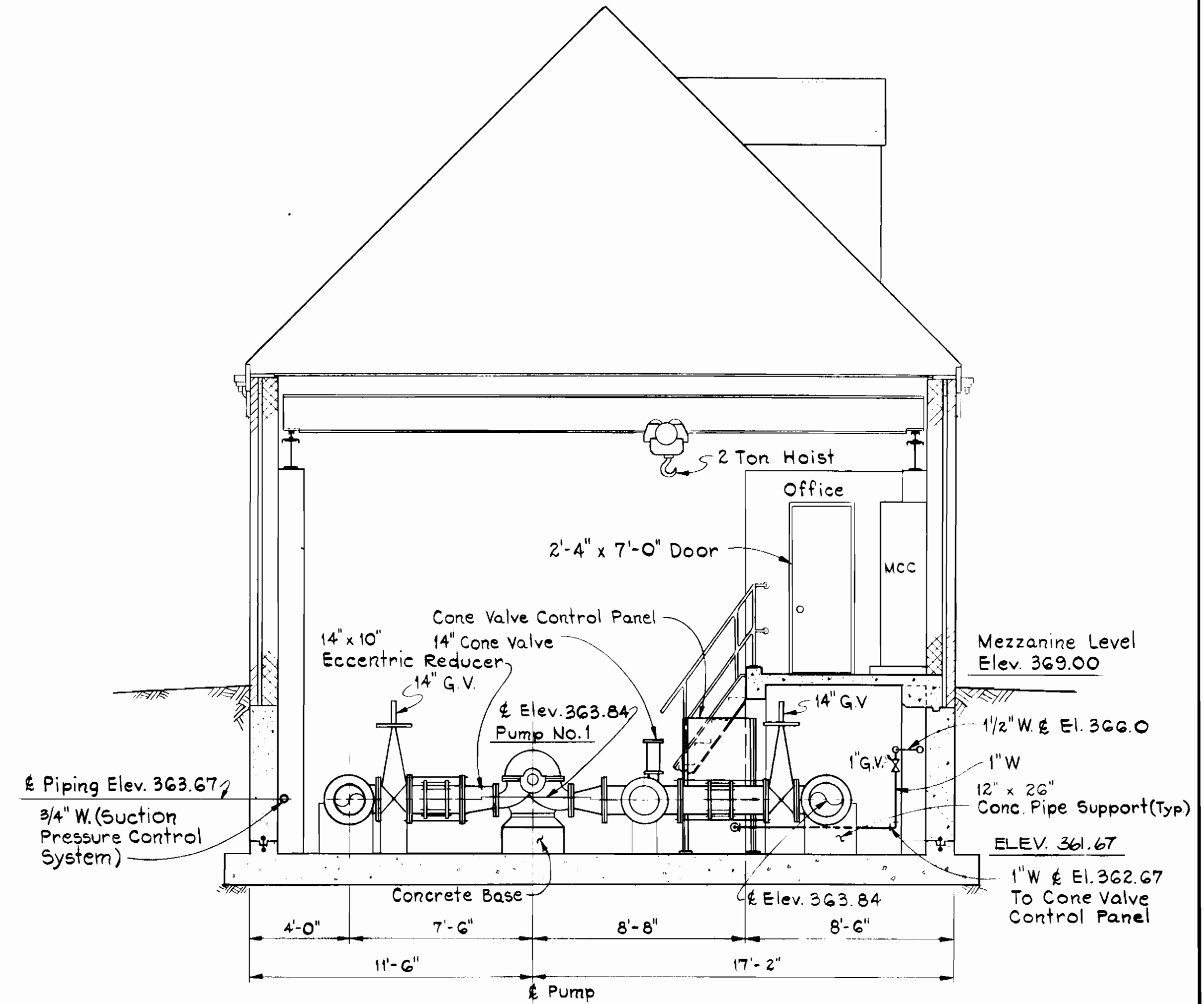
16" NRS Gate Valve with Bevel Gear Operator, Handwheel, Chain Operator and Bypass with 12" x 24" Conc. Pier

- Notes:**
1. For Water Service and Hydraulic Instrumentation Connections, See Sheet 18 of 24
 2. Provide Standoff Brackets for Service Water and Hydraulic Instrumentation Connections At 8 Feet on Center and at all Directional Changes.
 3. See Structural Drawings for Concrete Pier, Pad and Buttress Details.
 4. Provide Strap Hangers for 4" San. Below Mezzanine Floor.



ELEVATION

Scale: 1/4" = 1'-0"



SECTION M-1

Scale: 1/4" = 1'-0"

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James P. ... 9/22/89
DIRECTOR OF PUBLIC WORKS DATE

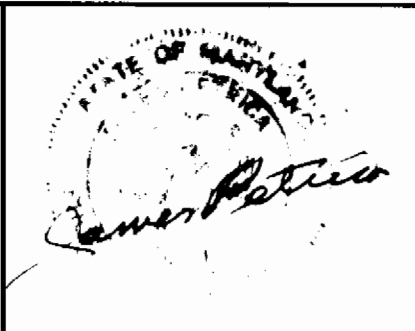
Chieftain ... 9-21-89
CHIEF, BUREAU OF ENGINEERING DATE

Robert ... 9-21-89
CHIEF, BUREAU OF UTILITIES DATE

Op ... 9-14-89
CHIEF, UTILITY DESIGN DIVISION DATE

WHITNEY BAILEY COX MAGNANI

CONSULTING ENGINEERS
1850 YORK ROAD
TIMONUM, MD 21093
301-252-6060



DES: J.H.			
DRN: R.D.H.			
CHK: J.P.			
DATE: 10-5-89	BY: NO.	REVISION	DATE

MECHANICAL PLAN

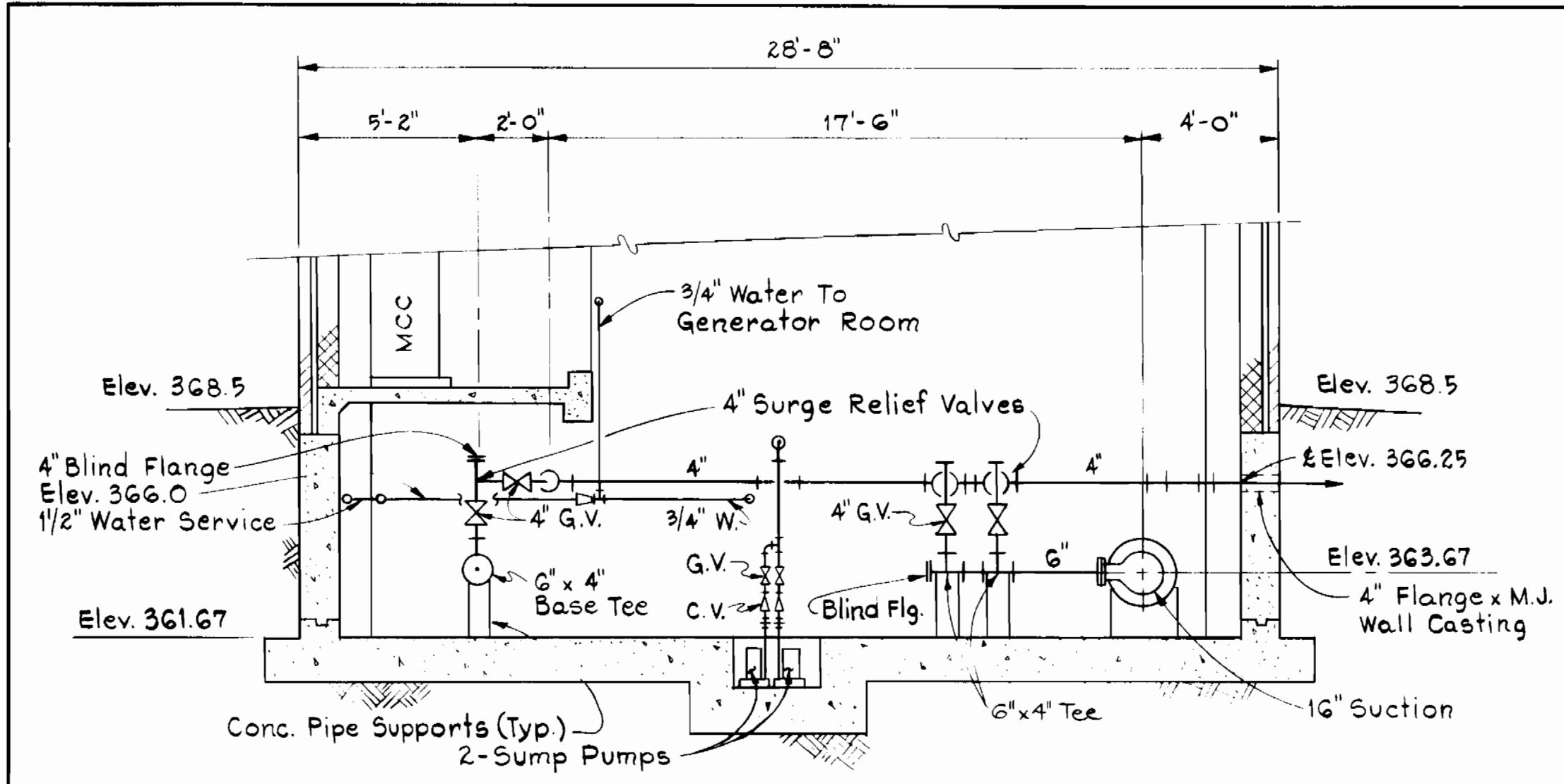
600' SCALE MAP NO. 24 BLOCK NO. 2 & 3

PINE ORCHARD WATER PUMPING STATION
CAPITAL PROJECT W-8133
CONTRACT NO. 44-1748
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND

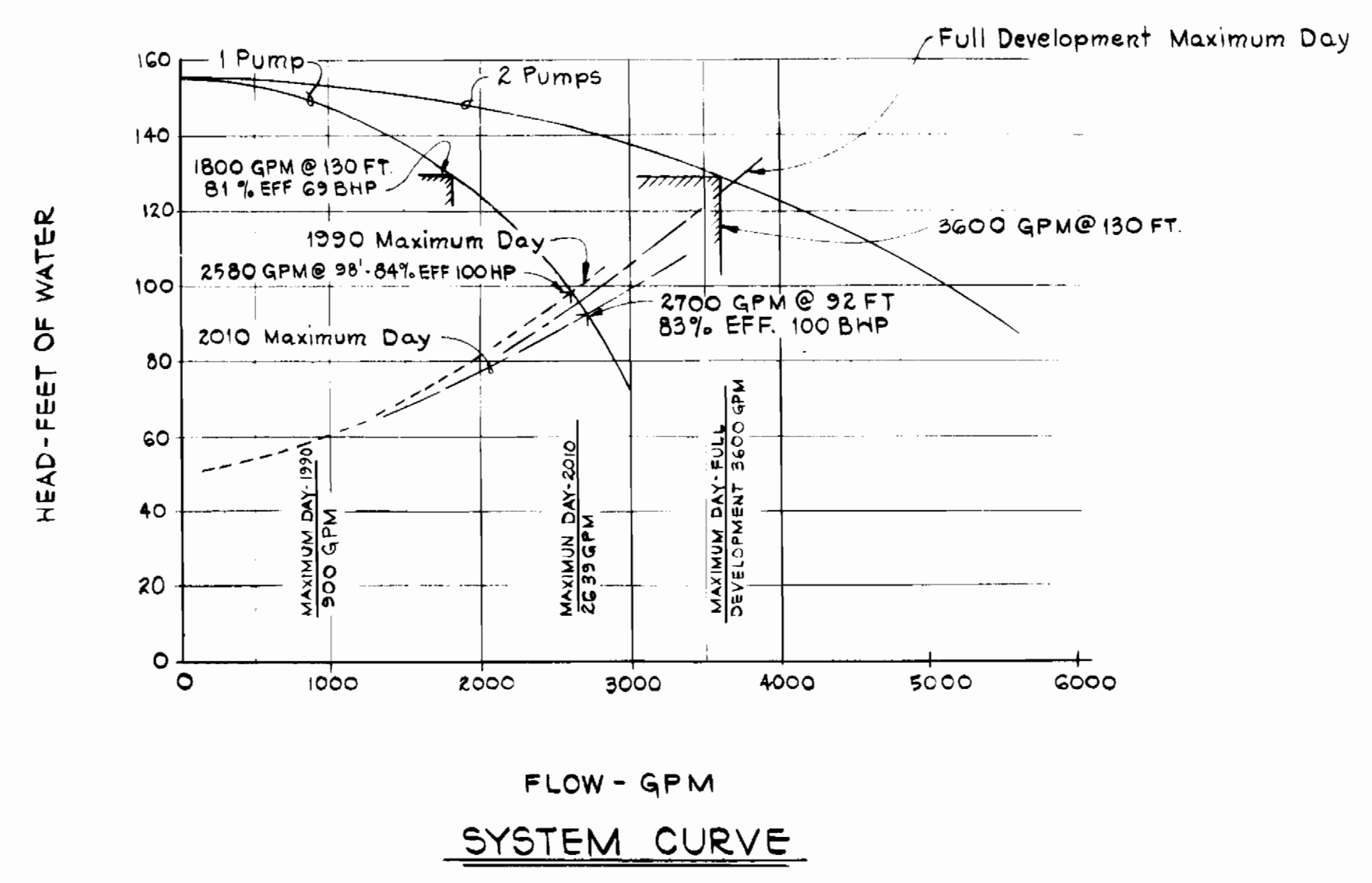
M-1

SCALE AS SHOWN

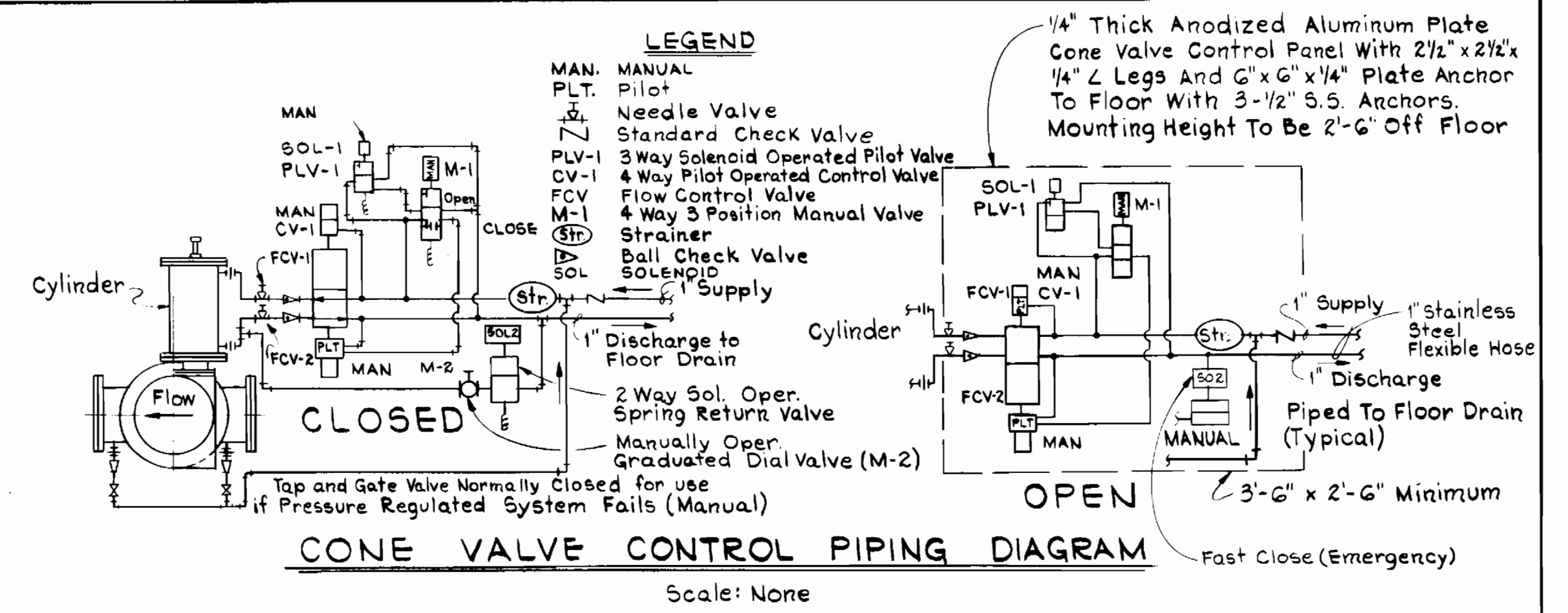
SHEET 17 OF 24



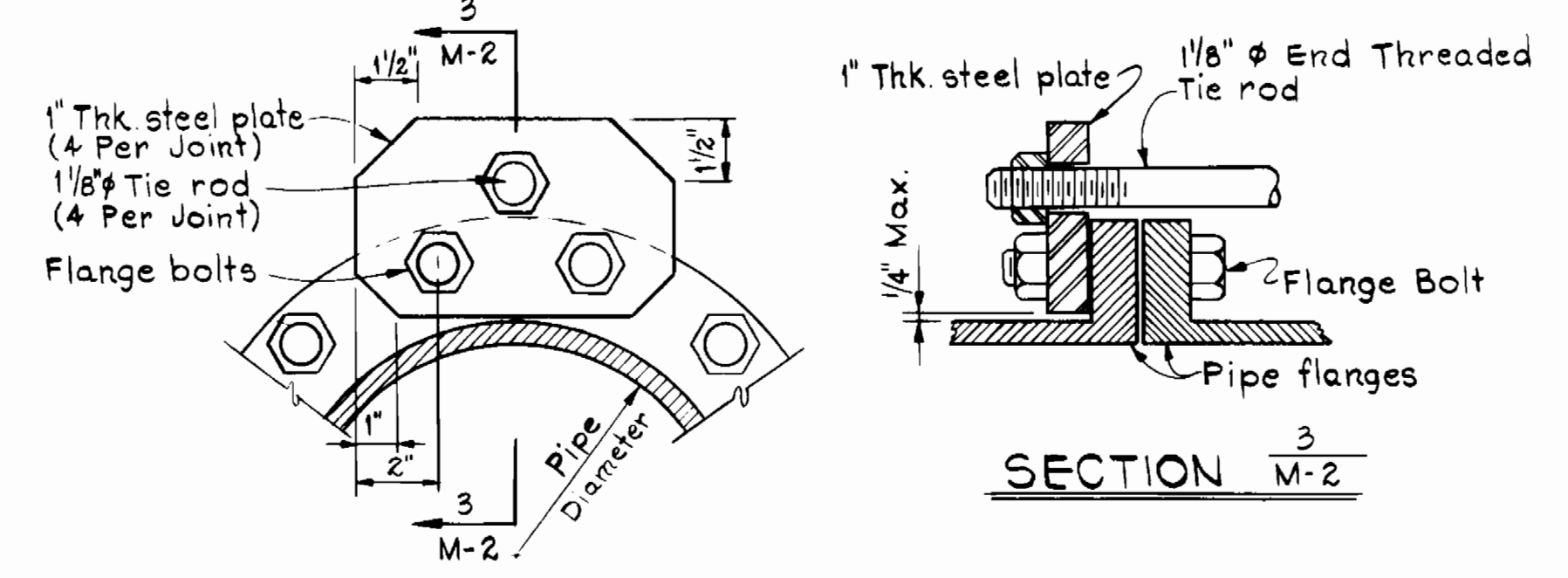
SECTION 2
Scale: 1/4" = 1'-0"



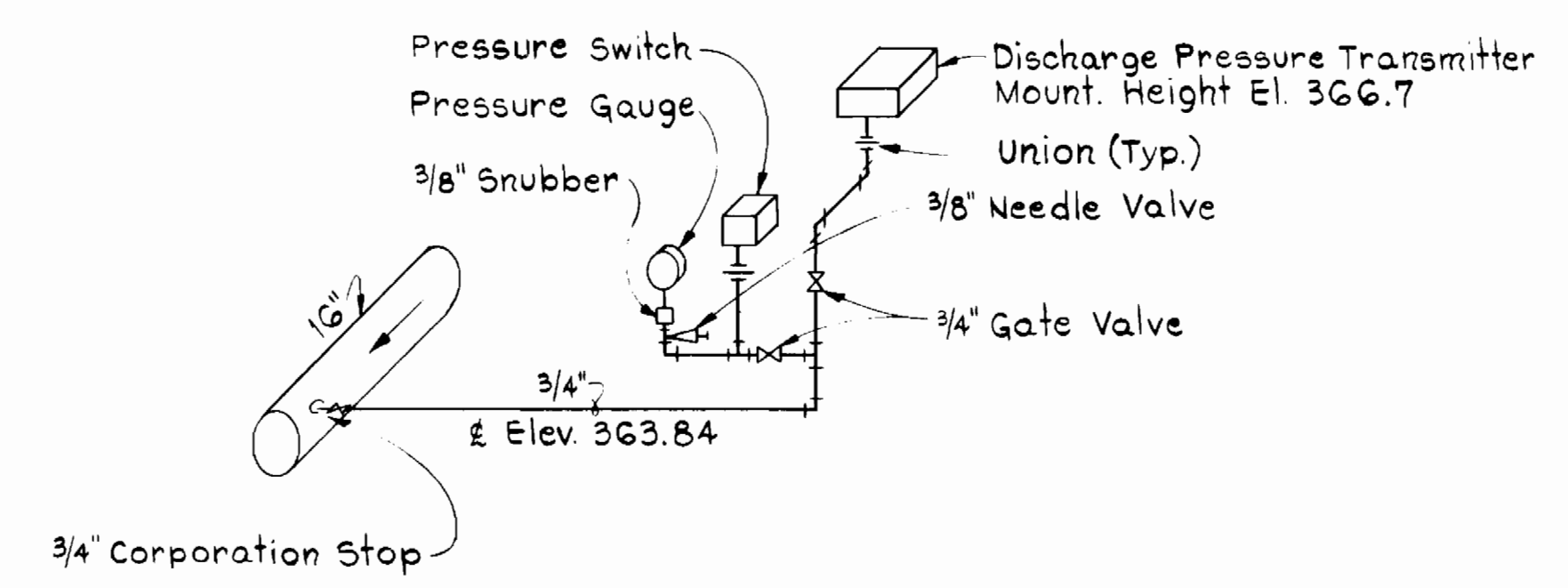
SYSTEM CURVE



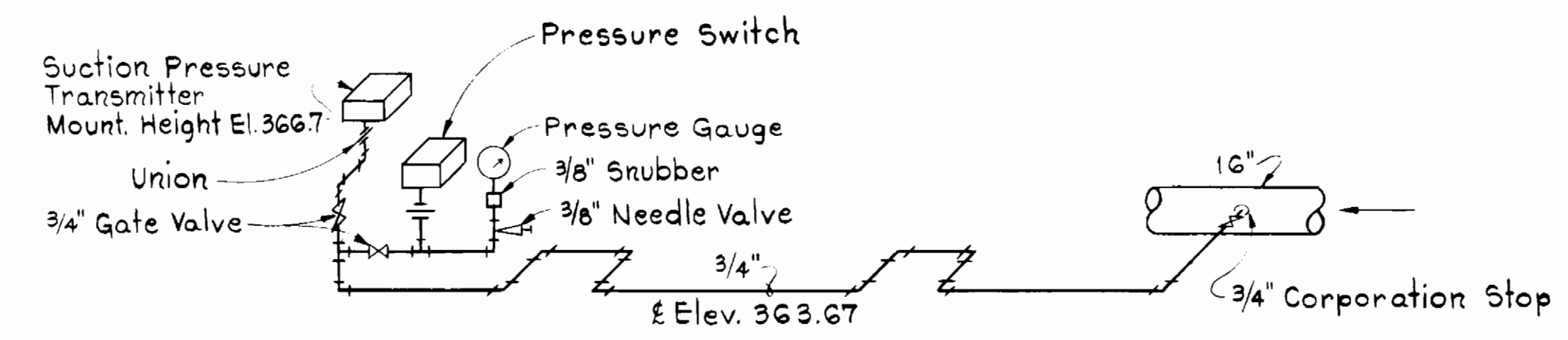
CONE VALVE CONTROL PIPING DIAGRAM
Scale: None



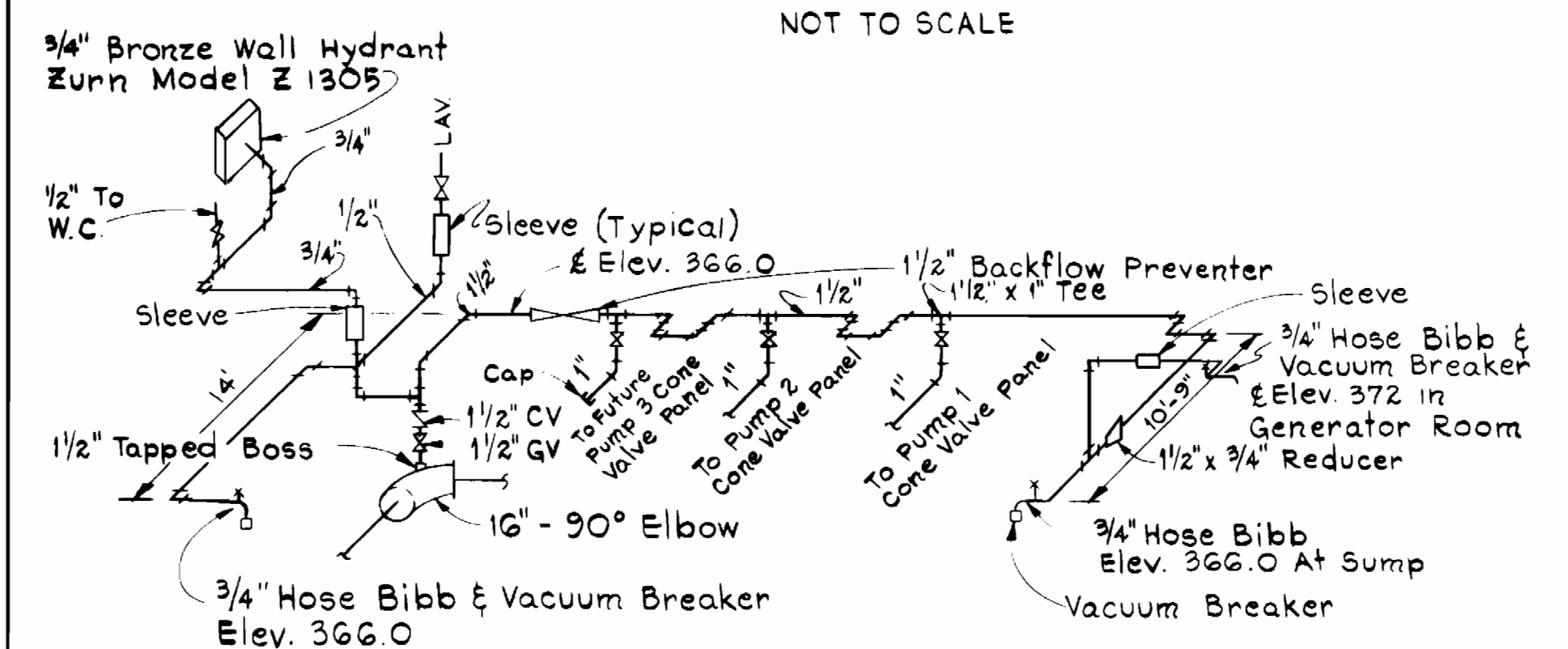
DETAIL OF TIE RODS
Scale: 3" = 1'-0"



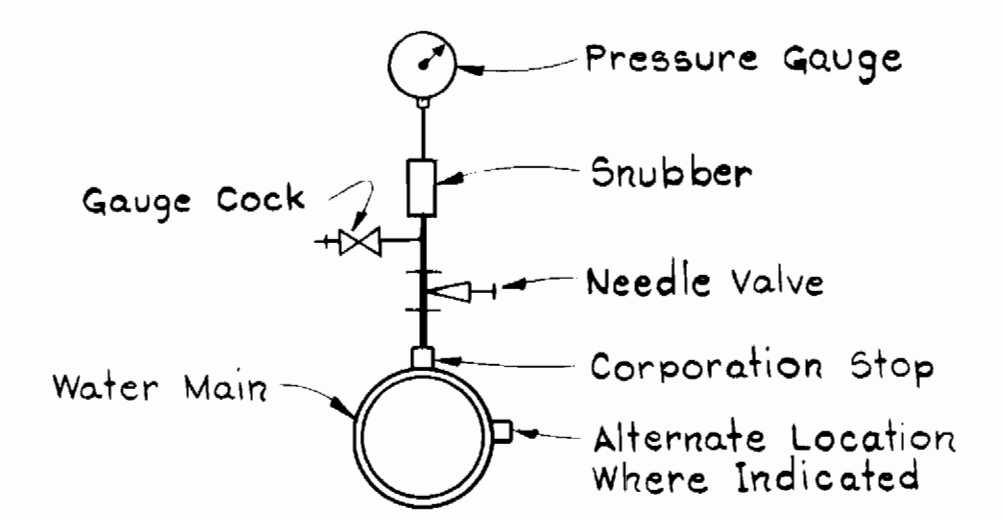
SCHEMATIC DISCHARGE PRESSURE CONTROL OVERRIDE SYSTEM
NOT TO SCALE



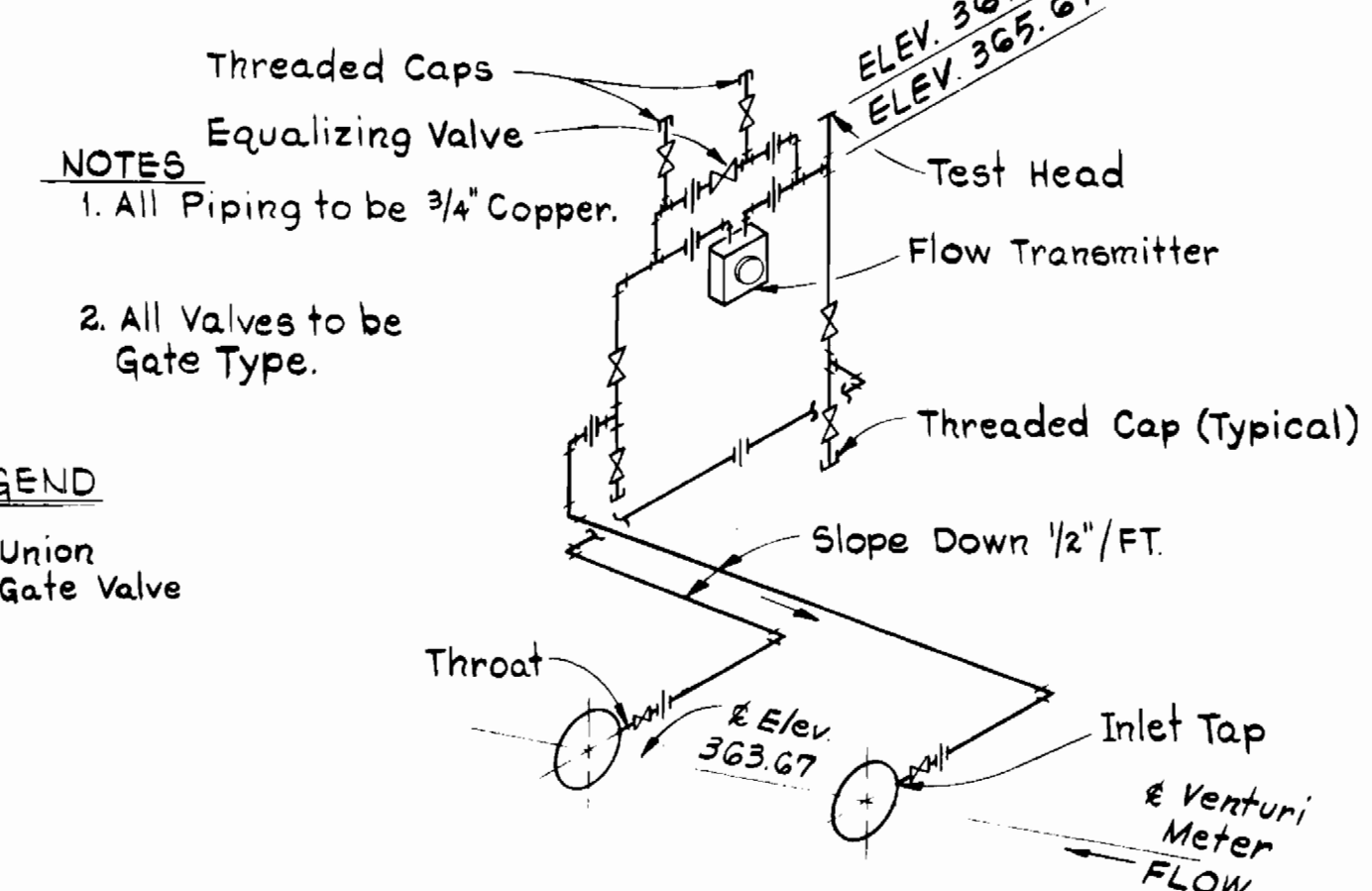
SCHEMATIC SUCTION PRESSURE CONTROL OVERRIDE SYSTEM
NOT TO SCALE



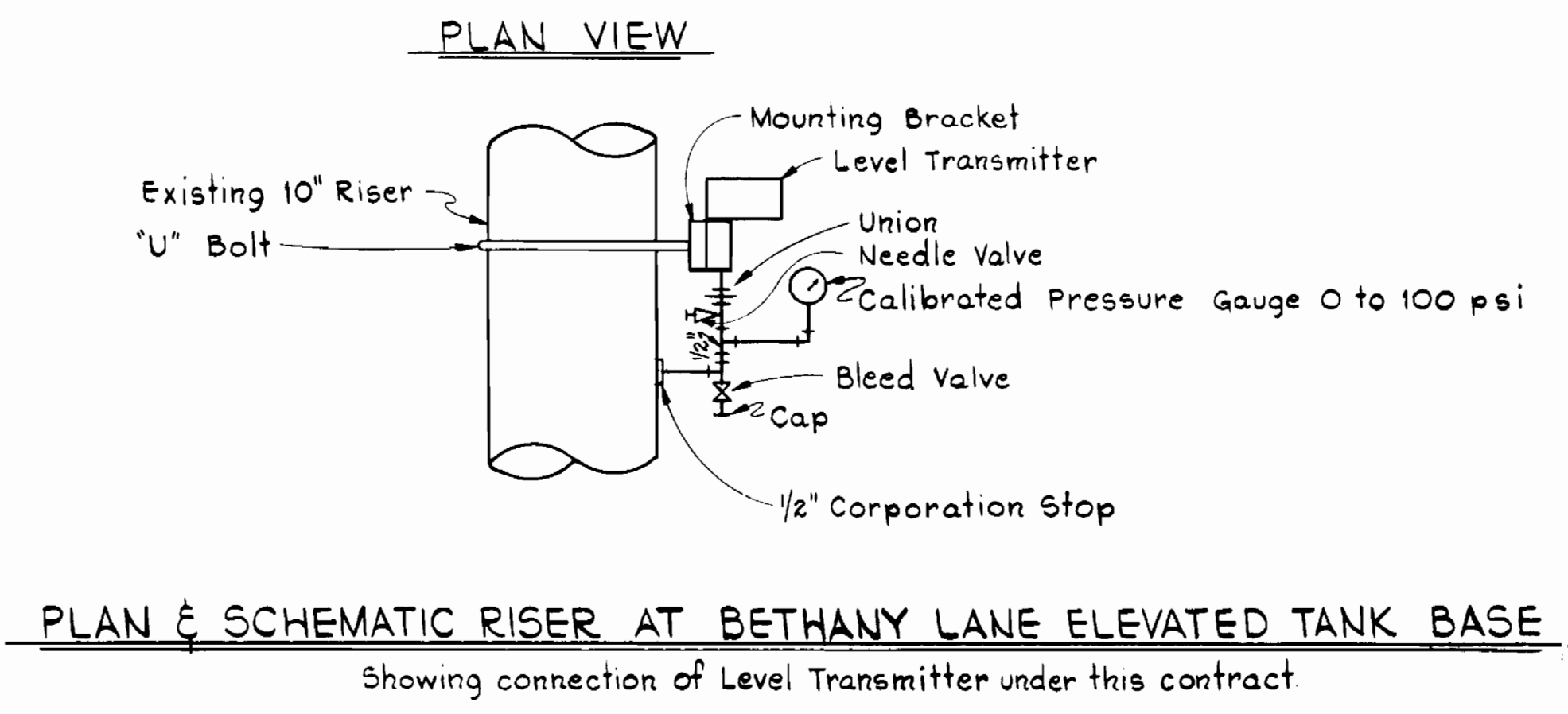
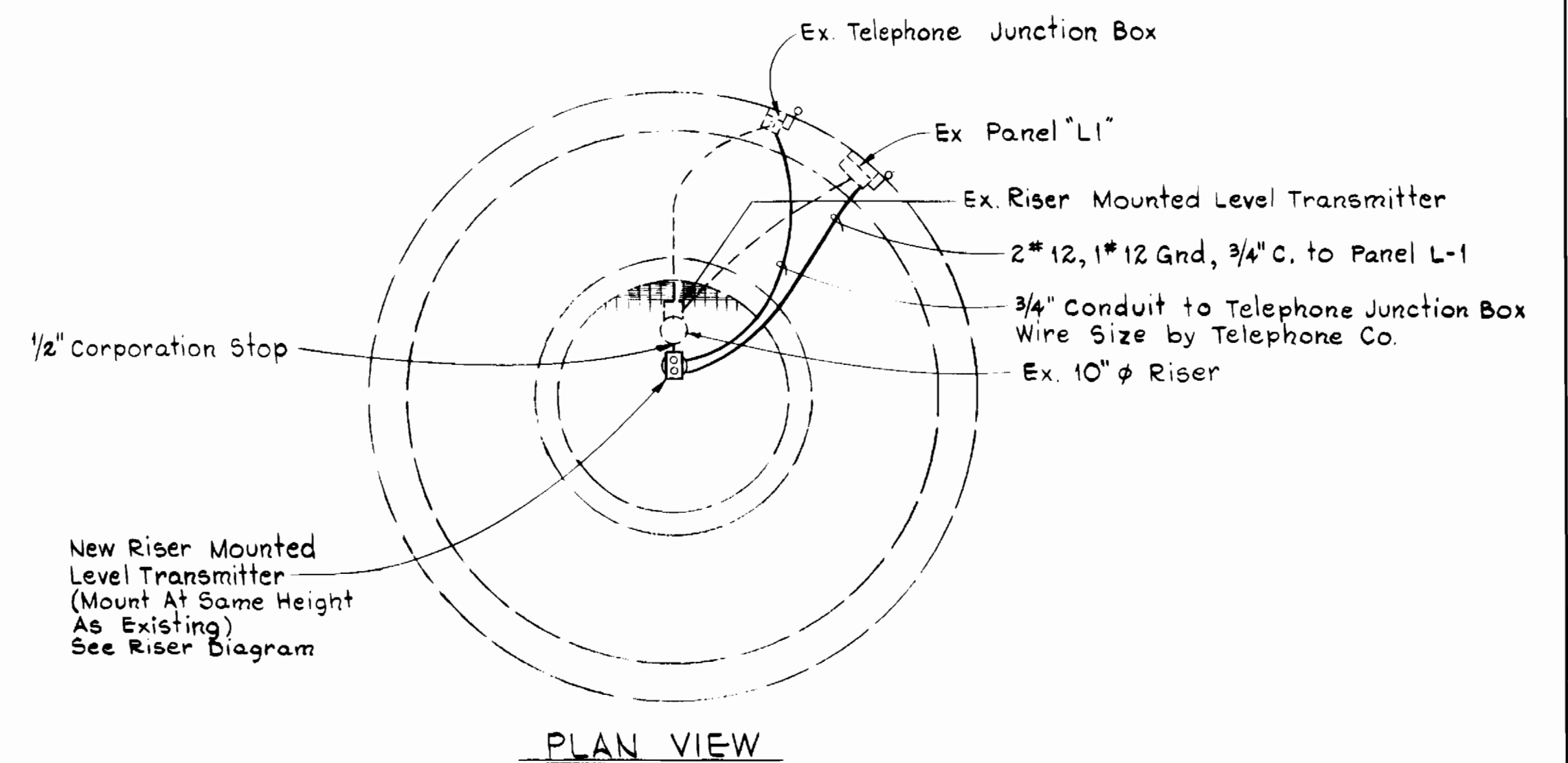
SCHEMATIC DIAGRAM SERVICE WATER
NOT TO SCALE



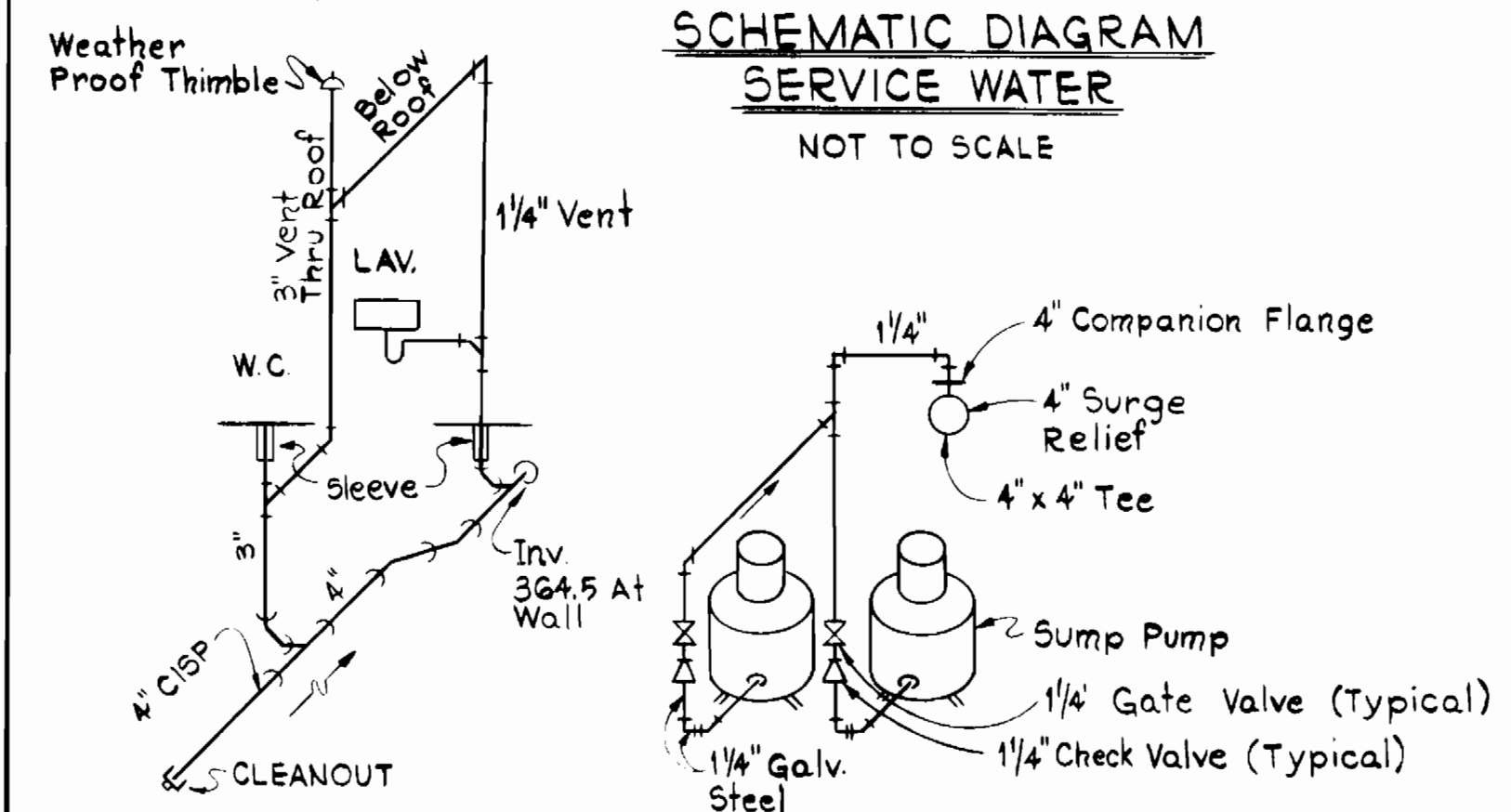
PRESSURE GAUGE INSTALLATION
NOT TO SCALE



DETAIL-VENTURI METER PRESSURE PIPING
NOT TO SCALE



PLAN & SCHEMATIC RISER AT BETHANY LANE ELEVATED TANK BASE
Showing connection of Level Transmitter under this contract.



SCHEMATIC SANITARY WASTE PIPING
NOT TO SCALE



SCHEMATIC SUMP PUMP DISCHARGE
NOT TO SCALE

BRUNING 69150

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director of Public Works: James J. Shaw 9/22/89 Chief, Bureau of Utilities: Robert Deinger 9-21-89		WHITNEY BAILEY COX MAGNANI CONSULTING ENGINEERS 1850 YORK ROAD TIMONIUM, MD. 21093 301-252-6060	
Chief, Bureau of Engineering: William R. R. 9-21-89 Chief, Utility Design Division: [Signature] 9-14-89			

DES: J.H.	RDH	REVISED SAN. WASTE PIPING SCHEMATIC	2/1/90
DRN: R.D.H.			
CHK: J.P.			
DATE: 10-5-89	BY NO.	REVISION	DATE
MECHANICAL DETAILS			
600'SCALE MAP NO. 24 BLOCK NO. 2 & 3			

PINE ORCHARD
WATER PUMPING STATION
CAPITAL PROJECT W-8133
CONTRACT NO. 44-1748
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND

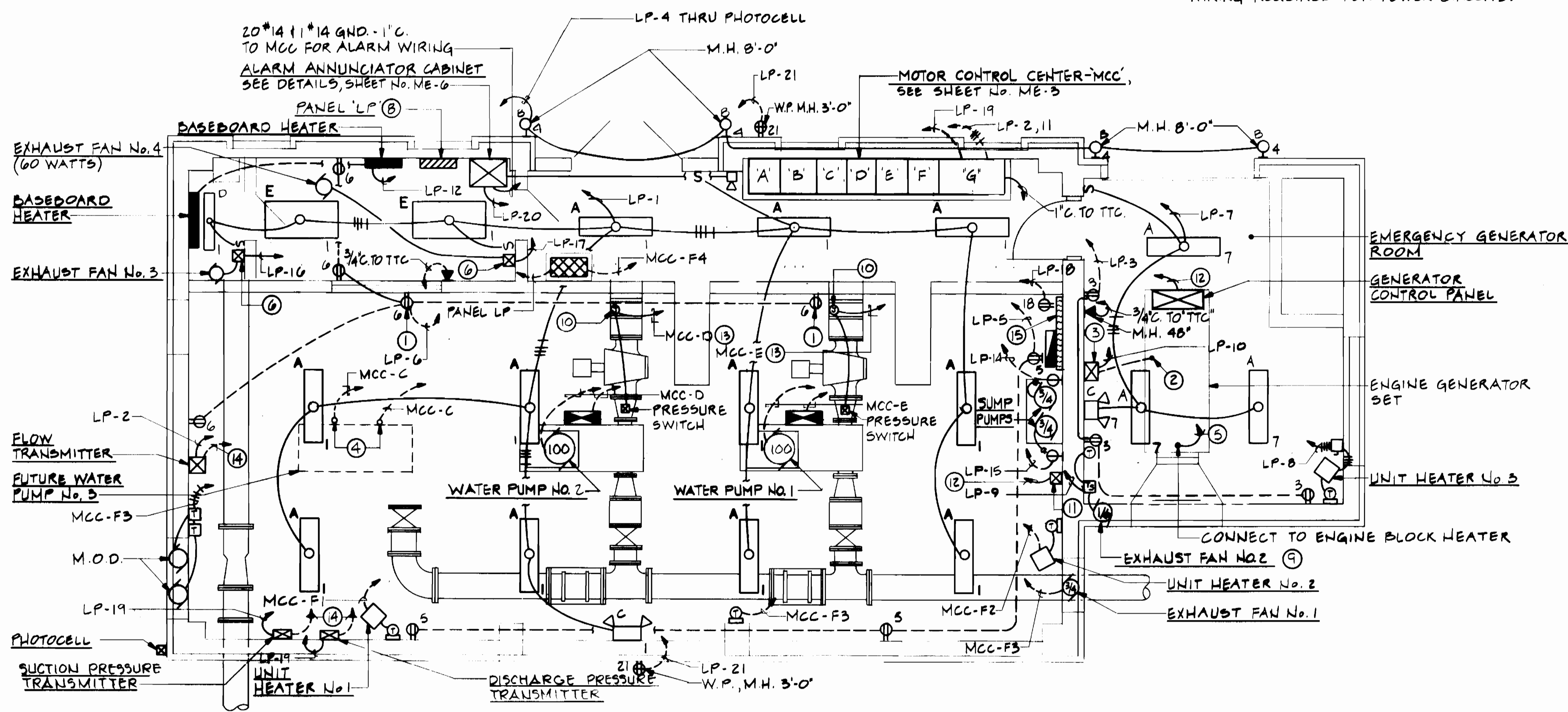
M-2
 SCALE AS SHOWN
 SHEET 18 OF 24

GENERAL NOTES

- SEE MECHANICAL DRAWING, SHEET No. ME-2, FOR SIZE & ELECTRICAL CHARACTERISTICS OF HEATERS, FANS & A/C UNIT.
- SEE MCC SCHEDULE, SHEET No. ME-3, FOR CONDUIT & WIRING REQUIRED FOR POWER CIRCUITS.

ELECTRICAL LEGEND

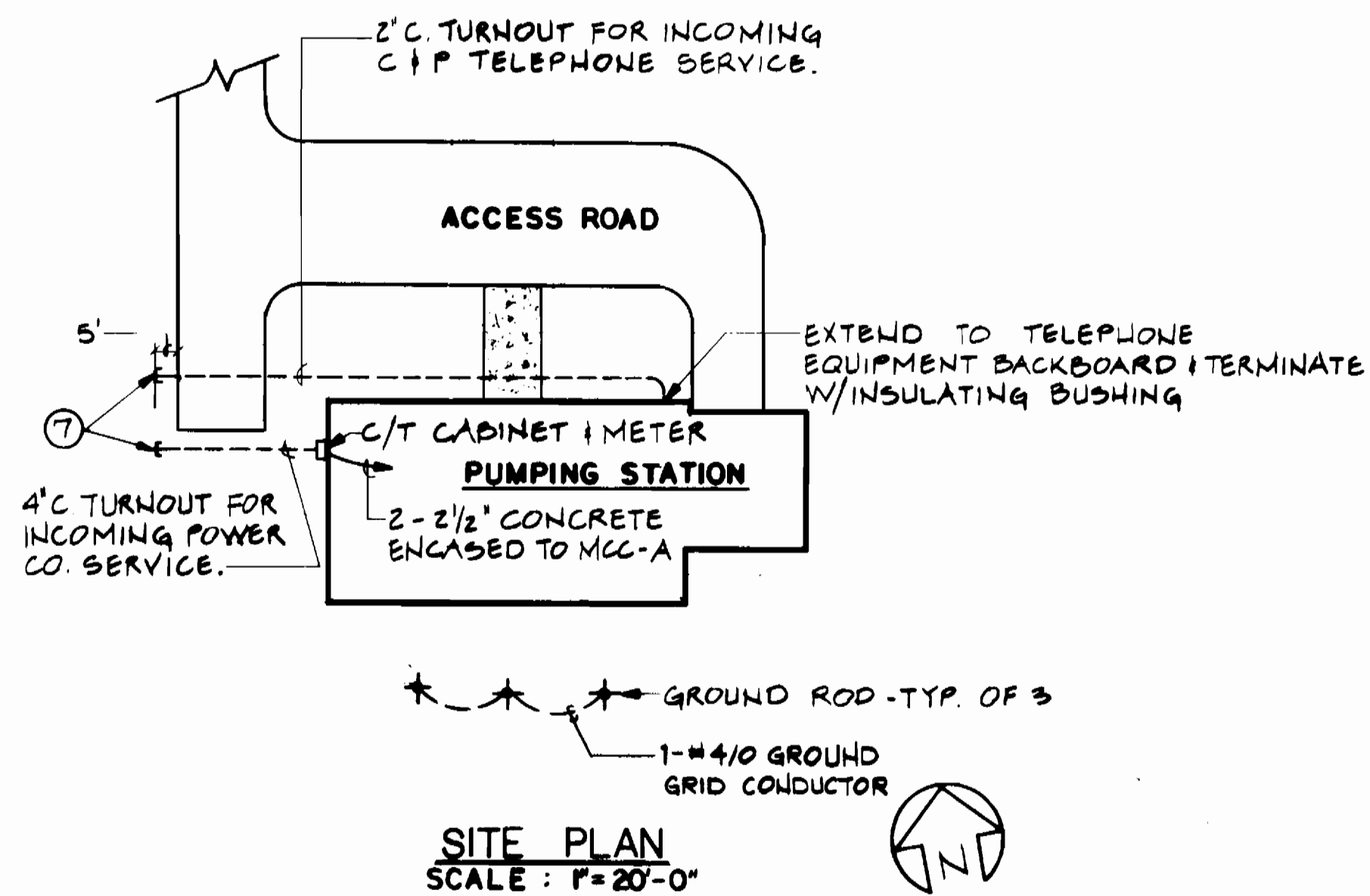
- FIXTURE - FLUORESCENT - SURFACE OR STEM SUSPENDED.
- I FIXTURE - INCANDESCENT - WALL MOUNTED.
- S SWITCH - SINGLE POLE - M.H. 4'-0"
- ⊕-⊕ RECEPTACLE - 20A, 125V - DUPLEX, G.P.I. TYPE, SIMPLEX - M.H. 1'-6"
- ⊕ THERMOSTAT - M.H. 4'-0"
- ▭ CAPACITOR (POWER FACTOR CORRECTION) - FLOOR STAND MOUNTED
- CONDUIT - IN OR ON CEILING OR WALLS
- CONDUIT - IN FLOOR OR UNDERGROUND
- HOMERUN TO PANEL - NO. OF ARROWS INDICATE HQ. OF CIRCUITS AND NO. OF CROSSLINES INDICATES NO. OF #12 CONDUCTORS.
- ⊕, ⊕ THERMAL MANUAL MOTOR STARTING SWITCH WITH H.O.A. SELECTOR SWITCH - M.H. 4'-6"
- DISCONNECT SWITCH, NON FUSED - M.H. 5'-6" TO TOP.
- ⊕, J.B. JUNCTION BOX
- ⊕ MOTOR - NO. DENOTES HORSEPOWER
- ⊕, ⊕ SPECIAL DEVICE OR EQUIPMENT AS SHOWN
- ⊕ DENOTES REFERENCE TO DRAWING NOTE
- ▭ PANELBOARD - M.H. 6'-6" TO TOP
- ⊕ EMERGENCY LIGHTING BATTERY UNIT - M.H. 7'-6" TO BOTTOM UNLESS OTHERWISE NOTED.
- ⊕ ALARM HORN - M.H. 8'-0"
- ▭ DRY TYPE TRANSFORMER - PAD MOUNTED.
- ▭ TELEPHONE TERMINAL CABINET 'TTC' - M.H. 6'-0" TO TOP.
- U.G. UNDERGROUND
- V VOLT OR VOLTS
- A AMPS OR AMPERES
- ∅ PHASE
- GND. GROUND
- C. CONDUIT
- M.H. MOUNTING HEIGHT - TO CENTER OF DEVICE OR EQUIPMENT UNLESS OTHERWISE NOTED
- W.P. WEATHERPROOF
- P. POLE OR POLES
- MOD MOTOR OPERATED DAMPER
- G.F.I. GROUND FAULT INTERRUPTER
- C/T CURRENT TRANSFORMER
- ▽ TELEPHONE OUTLET - M.H. 1'-6" UNLESS OTHERWISE INDICATED.



FLOOR PLAN
SCALE: 1/4" = 1'-0"

DRAWING NOTES

- MOUNT ON VERTICAL COLUMN.
- 3/4" C. FOR CONNECTION TO BATTERIES. FURNISH & INSTALL REQUIRED WIRING AS DIRECTED BY MANUFACTURER.
- BATTERY CHARGER.
- STUB UP 6" ABOVE FINISHED FLOOR AND CAP.
- LP-15 THRU ON-OFF SWITCH IN GENERATOR CONTROL PANEL.
- FAN VARIABLE SPEED CONTROLLER. FURNISHED BY FAN MANUFACTURER - INSTALLED BY CONTRACTOR. TERMINATE WITH INSULATING BUSHING.
- SEE SCHEDULE, SHEET No. ME-3.
- SEE CONTROL DIAGRAM, SHEET No. ME-4.
- INSTALL JUNCTION BOX ON CONE VALVE CONTROL PANEL & MAKE CONNECTION TO EACH VALVE CONTROL DEVICE (I.E. PUSHED ON, SOLENOID VALVES, LIMIT SWITCHES, ETC.) WITH 3" x 1/2" x 1/2" GND. #14 FLEXIBLE (SEALTIGHT) CONDUIT.
- PUMP ROOM FLOODING SENSOR - SEE DETAIL, SHEET No. ME-6.
- TO ALARM ANNUNCIATOR CABINET.
- 10" x 14" x 1/2" GND. - 3/4" C.
- MCC-G, 2" x 1/2" SHIELDED CABLE - 3/4" C.
- 4' x 8' x 3/4" MARINE PLYWOOD BACKBOARD FOR TELEPHONE CO. EQUIPMENT. MOUNT AT 6" TO BOTTOM ABOVE FLOOR.
- SEE SHEET No. ME-3 FOR SINGLE LINE DIAGRAM.



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

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James J. Lewis 9-22-89
DIRECTOR OF PUBLIC WORKS DATE

Robert B. Bennett 9-21-89
CHIEF, BUREAU OF UTILITIES DATE

Richard E. Kelly 9-21-89
CHIEF, BUREAU OF ENGINEERING DATE

Orlando J. ... 9-11-89
CHIEF, UTILITY DESIGN DIVISION DATE

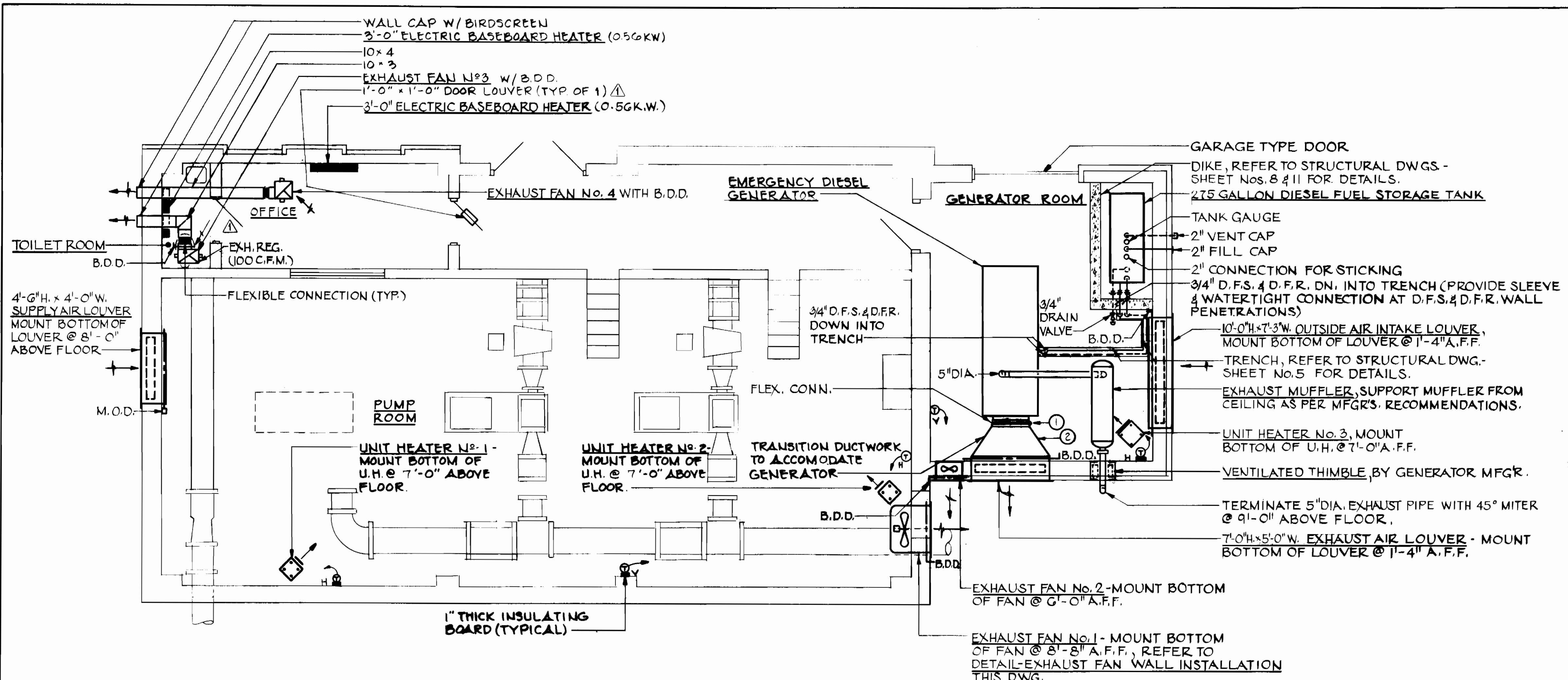
Gipe Associates
CONSULTANTS
BALTIMORE — EASTON
MARYLAND

DES: GDK
DRN: LTH
CHK: DKJ
DATE: 10-5-89

ELECTRICAL
PLANS & LEGEND

PINE ORCHARD
WATER PUMPING STATION
CAPITAL PROJECT W-8133
CONTRACT NO. 44-1748
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND

ME-1
SCALE AS SHOWN
SHEET 19 OF 24



FLOOR PLAN
SCALE: 1/4" = 1'-0"

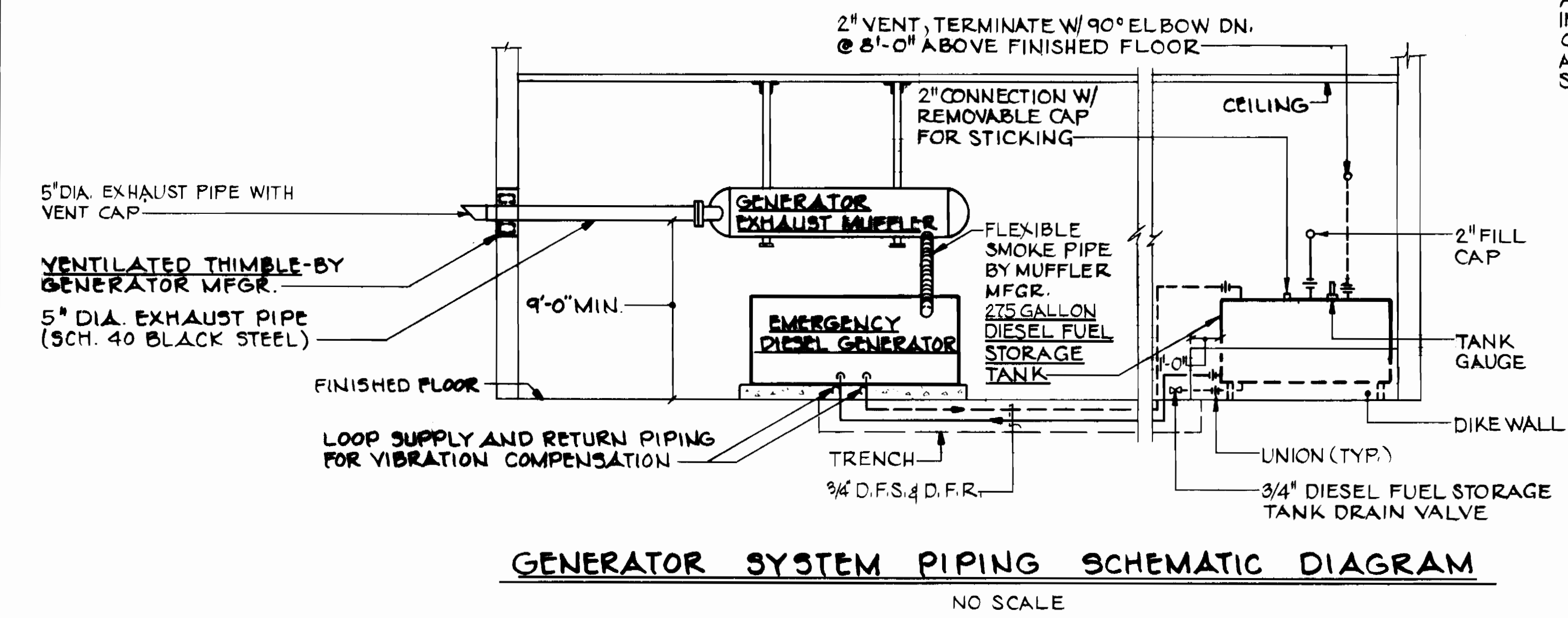
MECHANICAL LEGEND		
SYMBOL	ABBREV	DESCRIPTION
	B.D.D.	BACKDRAFT DAMPER
	M.O.D.	MOTOR OPERATED DAMPER
	—	THERMOSTAT, H-HEATING, W/ 1" THICK INSUL. BOARD
	—	THERMOSTAT, V-VENTILATING, W/ 1" THICK INSUL. BOARD
	—	AT
	W/	WITH
	DIA.	DIAMETER
	U.H.	UNIT HEATER
	N#	NUMBER
	MIN.	MINIMUM
	KW.	KILOWATT
	(TYP)	TYPICAL
	A.F.F.	ABOVE FINISHED FLOOR
	C.F.M.	CUBIC FEET PER MINUTE
	—	FLEXIBLE CONNECTION
	D.F.S.	DIESEL FUEL SUPPLY
	D.F.R.	DIESEL FUEL RETURN
	MFG.	MANUFACTURER
	NFPA.	NATIONAL FIRE PROTECTION AGENCY
	EXH.	EXHAUST
	REG.	REGISTER
	W.	WIDTH
	H.	HEIGHT
	E.S.P.	EXTERNAL STATIC PRESSURE
	D.B.	DRY BULB
	W.B.	WET BULB

- DRAWING NOTES**
- 1 FLEXIBLE CONNECTION SHALL BE NEOPRENE OR OTHER N.F.P.A. APPROVED NONFLAMMABLE FABRIC.
 - 2 DUCTWORK SHALL BE FABRICATED OF GALVANIZED SHEET STEEL CONFORMING TO COMMERCIAL DESIGNATION 3003 TEMPER H-14 AND DUCT SHEET. DUCT GAGES, JOINTING, AND REINFORCEMENT SHALL CONFORM TO TABLES 4, 5, G AND 7 AS APPLICABLE, CHAPTER I OF 1975 ASHRAE GUIDE AND DATA BOOK. IN ADDITION ALL CONSTRUCTION DETAILS SHALL CONFORM TO SECTION I AND II OF DUCT MANUAL AND SHEET METAL CONSTRUCTION FOR VENTILATION AND AIR CONDITIONING SYSTEMS. JOINTS SHALL BE SEALED WITH "HARD CAST" SEALING SYSTEM, OR APPROVED EQUAL.

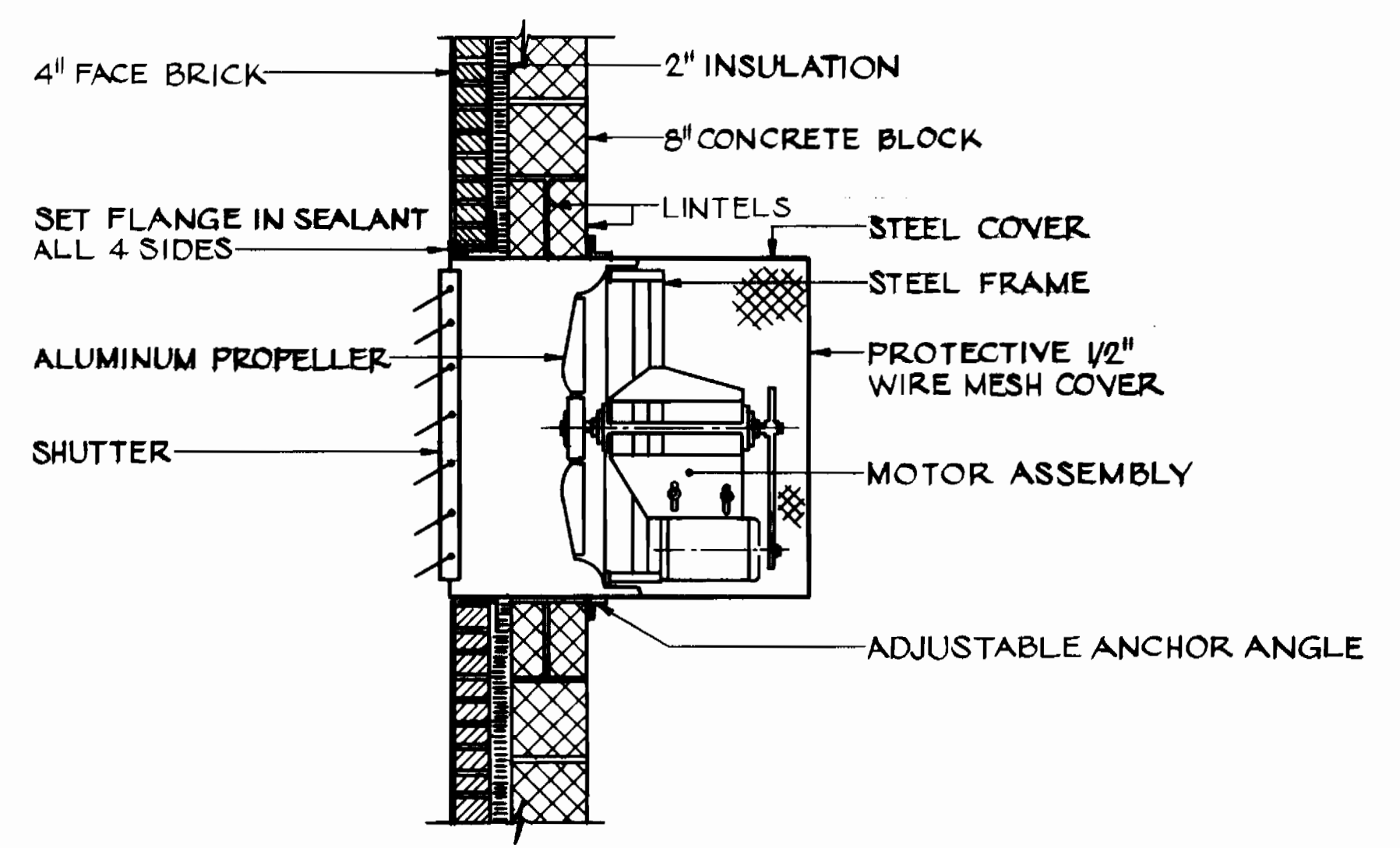
GENERAL NOTES
1. REFER TO ELECTRICAL DRAWINGS FOR CONTROL OF FANS AND UNIT HEATERS.

MECHANICAL EQUIPMENT LIST

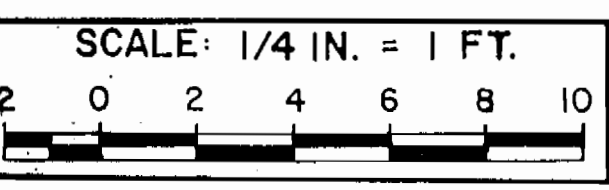
- ELECTRIC UNIT HEATERS:**
 No. 1 3 K.W., 1/50 H.P., 315 C.F.M., 480V./3Ø/60HZ.
 No. 2 3 K.W., 1/50 H.P., 315 C.F.M., 480V./3Ø/60HZ.
 No. 3 2.2 K.W., 1/50 H.P., 315 C.F.M., 208V./1Ø/60HZ.
- EXHAUST FANS:**
 No. 1 - 4,000 C.F.M., 1/4" STATIC PRESSURE, 3/4 H.P., 737 R.P.M., 480V./3Ø/60HZ.
 No. 2 - 500 C.F.M., 1/4" STATIC PRESSURE, 1/8 H.P., 1,050 R.P.M., 115V./1Ø/60HZ.
 No. 3 - 100 C.F.M., 1/4" STATIC PRESSURE, 115 WATTS, 1500 R.P.M., 115V./1Ø/60HZ.
 No. 4 - 155 C.F.M., 1/4" STATIC PRESSURE, 60 WATTS, 1200 R.P.M., 115V./1Ø/60HZ.



GENERATOR SYSTEM PIPING SCHEMATIC DIAGRAM
NO SCALE



DETAIL - EXHAUST FAN WALL INSTALLATION
NO SCALE
NOTE: 1. REFER TO ARCHITECTURAL DWGS. FOR WALL OPENING SIZE.



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James M. Lee 9-22-87
DIRECTOR OF PUBLIC WORKS DATE

Michael S. Raley 9-21-87
CHIEF, BUREAU OF ENGINEERING DATE

Robert S. Seay 9-21-87
CHIEF, BUREAU OF UTILITIES DATE

John J. ... 9-11-89
CHIEF, UTILITY DESIGN DIVISION DATE

Gipe Associates
CONSULTANTS
BALTIMORE — EASTON
MARYLAND

DES: D J G	RDH	REMOVED TOILET ROOM DOOR LOUVER	2/1/90
DRN: C D R			
CHK: P E A			
DATE: 10-9-89	BY NO.	REVISION	DATE

HEATING AND VENTILATION
PLAN AND DETAILS

600' SCALE MAP NO. 24 BLOCK NO. 2 & 3

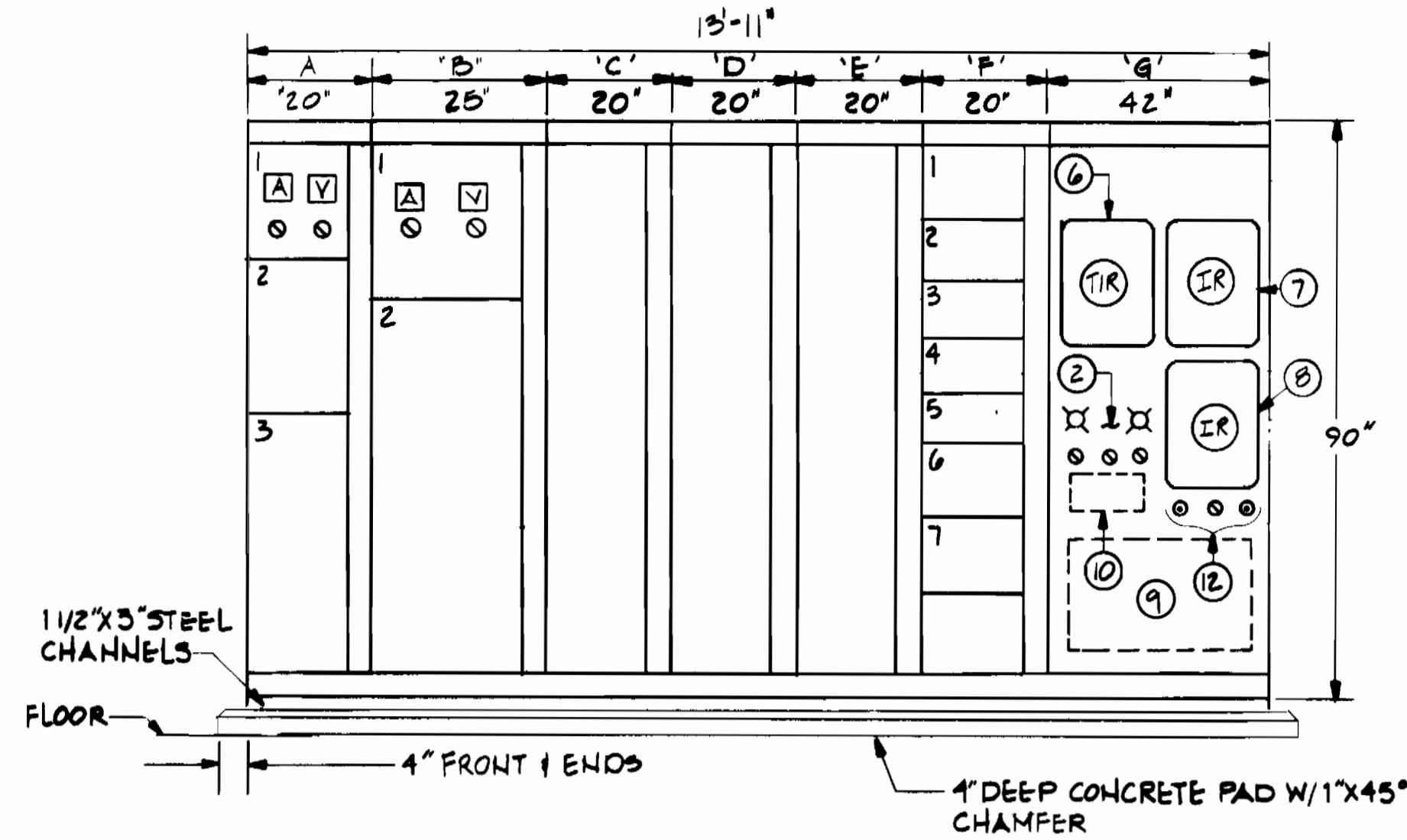
PINE ORCHARD
WATER PUMPING STATION
CAPITAL PROJECT W-8133
CONTRACT NO. 44-1748
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND

ME-2
SCALE AS SHOWN
SHEET 20 OF 24

SCHEDULE OF MOTOR CONTROL CENTER—MCC

480/277V, 3 Ø, 4W-600A. BUS CAPACITY

UNIT NO.	EQUIPMENT SERVED	LOAD	CIRC. BREAKER			NEMA START. SIZE	AUXILIARIES	WIRING	COND.	REMARKS
			POLES	TRIP	FRAME					
A2	GENERATOR SERVICE DISCONNECT		3		600			①	①	MOLDED CASE SWITCH
A3	UTILITY SERVICE BRKR.		3	450	600			①	①	
A1	UTILITY METERING									③
B1	MCC METERING									④
B2	AUTO. TRANSFER SWITCH							①	①	5P, 600A.
F1	UNIT HEATER NO.1	3.0KW	3	20	100			5*12#1#12 GND.	3/4"	
C	WATER PUMP NO.3	100HP	3	200	400	④	A,B,C,D,E,F,G,H,I		2"	FUTURE PUMP UNIT ⑤
F2	UNIT HEATER NO.2	3.0KW	3	20	100			5*12#1#12 GND.	3/4"	
D	WATER PUMP NO.2	100HP	3	200	400	④	A,B,C,D,E,F,G,H,I	3*2/0#1#3 GND.	2"	⑤
F3	EXHAUST FAN NO.1	3/4HP	3	④	100	1	A,B,C,D	5*12#1#12	3/4"	⑤
E	WATER PUMP NO.1	100HP	3	200	400	④	A,B,C,D,E,F,G,H,I	3*2/0#1#3 GND.	2"	⑤
F4	LTG. PANEL TRANS. FDR. BREAKER	30KVA	3	60	100				①	①
F5	MCC-G CPT FEEDER BREAKER		2	20	100			2*12#1#12 GND.		
F6	SPACE # BUS									
G	CONTROL/INSTRUMENTATION PANEL									⑪
F7	SPACE # BUS									



FRONT ELEVATION OF MOTOR CONTROL CENTER
NO SCALE

DRAWING NOTES:

- ① SEE DISTRIBUTION SYSTEM SINGLE LINE DIAGRAM, THIS SHEET.
- ② SELECTOR SWITCHES S51, S52, S53 + PILOT LIGHTS PL1, PL2.
- ③ REDUCED VOLTAGE AUTO TRANSFORMER TYPE STARTER.
- ④ ADJUSTABLE INSTANTANEOUS TRIP MAGNETIC ONLY-TRIP SETTING SHALL BE SET BY CONTRACTOR BASED ON FULL LOAD AMPERES OF ACTUAL MOTOR FURNISHED.
- ⑤ SEE CONTROL DIAGRAM, SHEET No. ME-4.
- ⑥ STATION FLOW TOTALIZER/INDICATOR/RECORDER.
- ⑦ STATION PRESSURES TWO PIN INDICATOR/RECORDER.
- ⑧ BETHANY TANK LEVEL INDICATOR/RECORDER.
- ⑨ TELEMETRY EQUIPMENT.
- ⑩ MANUAL TRANSFER PLUGS COMPARTMENT.
- ⑪ SEE DIAGRAMS SHEET No. ME-5.
- ⑫ RESET PUSHBUTTONS P51, P52 + SELECTOR SWITCH S54.
- ⑬ CONNECT METERS BETWEEN UTILITY SERVICE BREAKER + NORMAL SIDE OF TRANSFER SWITCH.
- ⑭ CONNECT METERS BETWEEN LOADSIDE OF TRANSFER SWITCH + MCC. MAIN BUS.

LIGHTING FIXTURE SCHEDULE

FIXTURE DESIGNATION	DESCRIPTION
A	FOUR FOOT, TWO LAMP (40 WATT EACH) SURFACE OR STEM SUSPENDED INDUSTRIAL FLUORESCENT WITH STEEL BAKED ENAMEL CHANNEL AND REFLECTOR HAVING 10 PERCENT UPLIGHT COMPONENT. FURNISH BENJAMIN CATALOG No. FLB-1124-4U, OR APPROVED EQUAL.
B	EXTERIOR WALL MOUNTED INCANDESCENT DECORATIVE LANTERN TYPE FIXTURE WITH TWO-40 WATT LAMPS AND SOLID POLISHED BRASS CONSTRUCTION. FURNISH LIGHTOLIER CATALOG No. 3718, OR APPROVED EQUAL.
C	MAINTENANCE FREE (NICKEL CADMIUM) 6 VOLT TWO LAMP EMERGENCY BATTERY LIGHTING UNIT WITH AUTOMATIC CHARGER, 120/277 DUAL INPUT VOLTAGE, BROWNOUT PROTECTION, CHARGE MONITOR LIGHT PUSH-TO-TEST SWITCH, AC POWER ON-OFF SWITCH AND TWO-25 WATT SEALED BEAM LAMPS. FURNISH CHLORIDE CATALOG No. CNK50-L-2-ACP, OR APPROVED EQUAL.
D	FOUR FOOT, TWO LAMP (40 WATT EACH) SURFACE WALL MOUNTED COMMERCIAL FLUORESCENT FIXTURE WITH INJECTION-MOLDED CLEAR ACRYLIC LENS. FURNISH BENJAMIN CATALOG No. 22X-2224-4, OR APPROVED EQUAL.
E	FOUR FOOT BY TWO FOOT, FOUR LAMP (40 WATT EACH) SURFACE MOUNTED FLUORESCENT FIXTURE. FURNISH BENJAMIN CATALOG No. CMS-7244-4, OR APPROVED EQUAL.

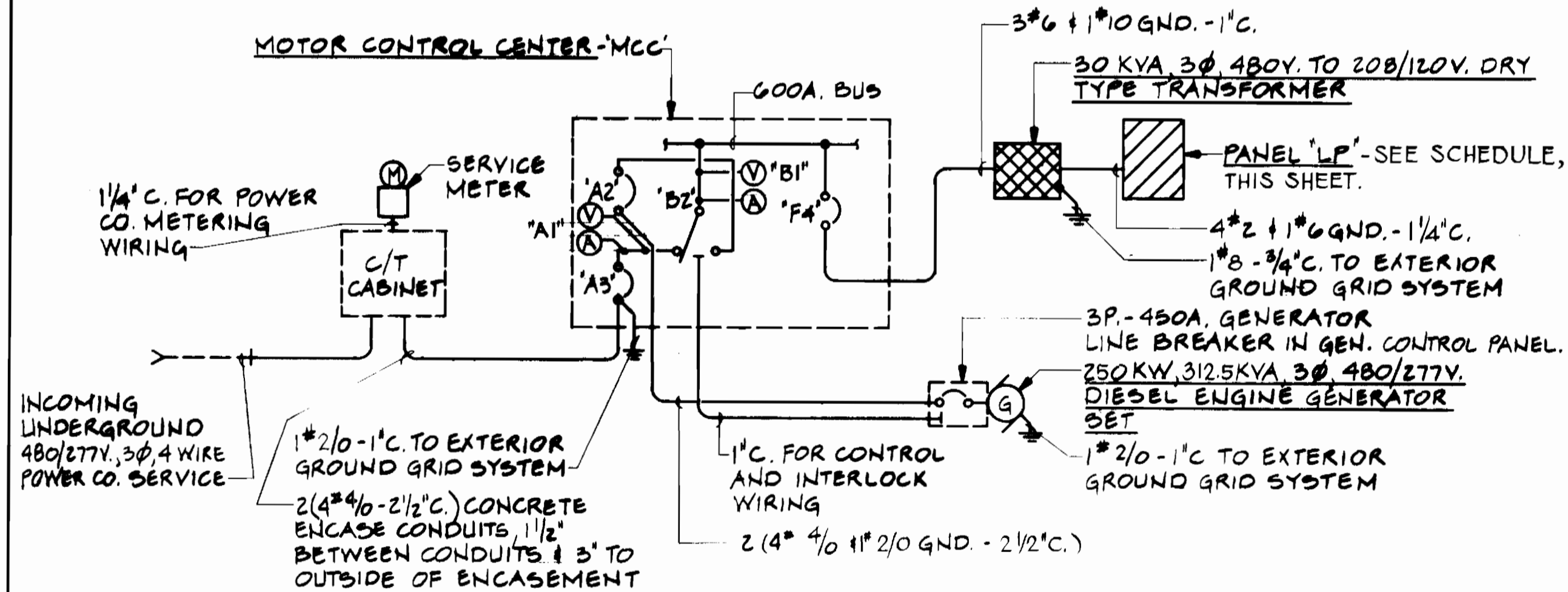
MCC AUXILIARIES:

- A— 480V TO 120V CONTROL POWER TRANSFORMER
- B— RED (ON) INDICATING LIGHT
- C— GREEN (OFF) INDICATING LIGHT
- D— HAND/OFF/AUTOMATIC SELECTOR SWITCH
- E— RUNNING TIME METER
- F— VALVE POSITION INDICATING LIGHTS - GREEN (CLOSED); RED (OPEN); AMBER (FAILURE)
- G— ALARM RESET PUSHBUTTON(S)-MOMENTARY CONTACT TYPE.
- H— AUXILIARY CONTROL/TIMING RELAY(S)
- I— TACHOMETER

SCHEDULE OF PANEL LP

208/120V, 3 Ø, 4 WIRE - 225A. BUS CAP W/100A. MAIN BRKR.

CIRC. NO.	EQUIPMENT SERVED	CIRC. BRKR.	
		POLES	TRIP FRAME
1	LIGHTS - PUMP RM. + OFFICE	1	20 100
2	FLOW METERING SYSTEM	1	20 100
3	RECEPT. - GEN. RM.	1	20 100
4	EXT. BLDG. LIGHTS	1	20 100
5	RECEPT. PUMP RM.	1	20 100
6	RECEPT. - PUMP RM. + OFFICE	1	20 100
7	LIGHTS - GEN. RM.	1	20 100
8	U.H. #3 - GEN. RM.	2	20 100
9	EXH. FAN #2 - GEN. RM.	1	15 100
10	GEN. BATTERY CHARGER	1	20 100
11	TELEMETERING EQUIPMENT	1	20 100
12	OFFICE HEATERS	1	20 100
13	GEN. ENGINE BLOCK HEATER	2	20 100
14	SUMP PUMP	1	25 100
15	SUMP PUMP	1	25 100
16	EXH. FAN #3	1	15 100
17	EXH. FAN #4	1	15 100
18	TELEPHONE EQUIPMENT OUTLET	1	20 100
19	PRESSURE METERING SYS.	1	20 100
20	ALARM ANNUNCIATOR	1	20 100
21	RECEPT. - EXTERIOR	1	20 100
22	SPARE	1	20 100
23	SPARE	1	20 100
24	SPARE	1	20 100
25-30	SPACE W/BUS	1	



DISTRIBUTION SYSTEM SINGLE LINE DIAGRAM

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James M. Smith 9-22-89
DIRECTOR OF PUBLIC WORKS DATE

Richard S. Smith 9-21-89
CHIEF, BUREAU OF UTILITIES DATE

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CHIEF, BUREAU OF UTILITIES DATE

Gipe Associates
CONSULTANTS
BALTIMORE — EASTON
MARYLAND

DES: GDK
DRN: LTH
CHK: DKJ
DATE: 10-5-89

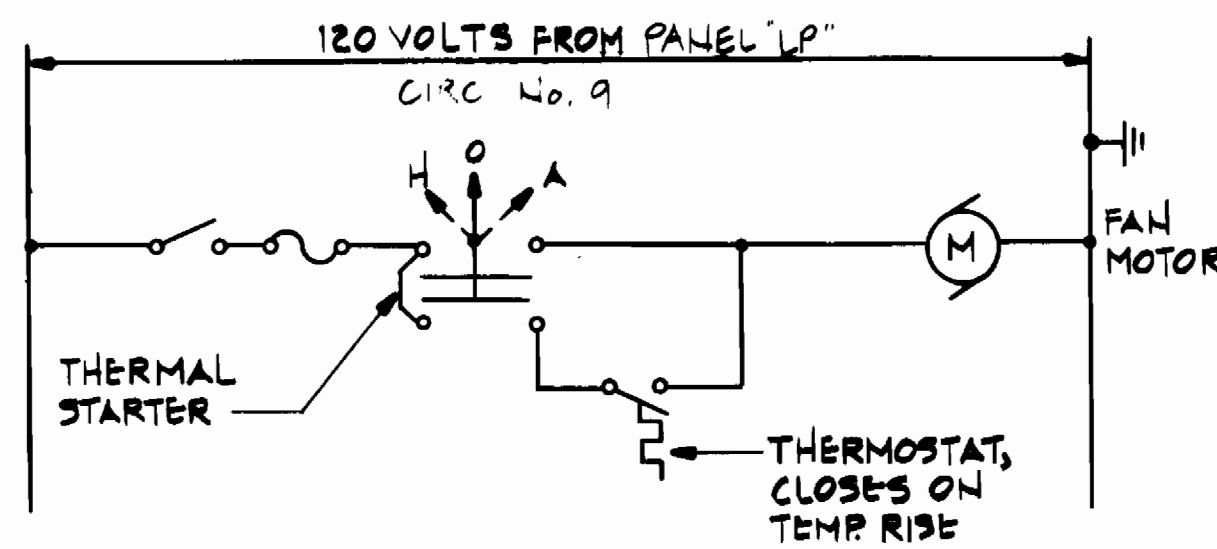
ELECTRICAL
MOTOR CONTROL CENTER
DETAILS

PINE ORCHARD
WATER PUMPING STATION
CAPITAL PROJECT W-8133
CONTRACT NO. 44-1748
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND

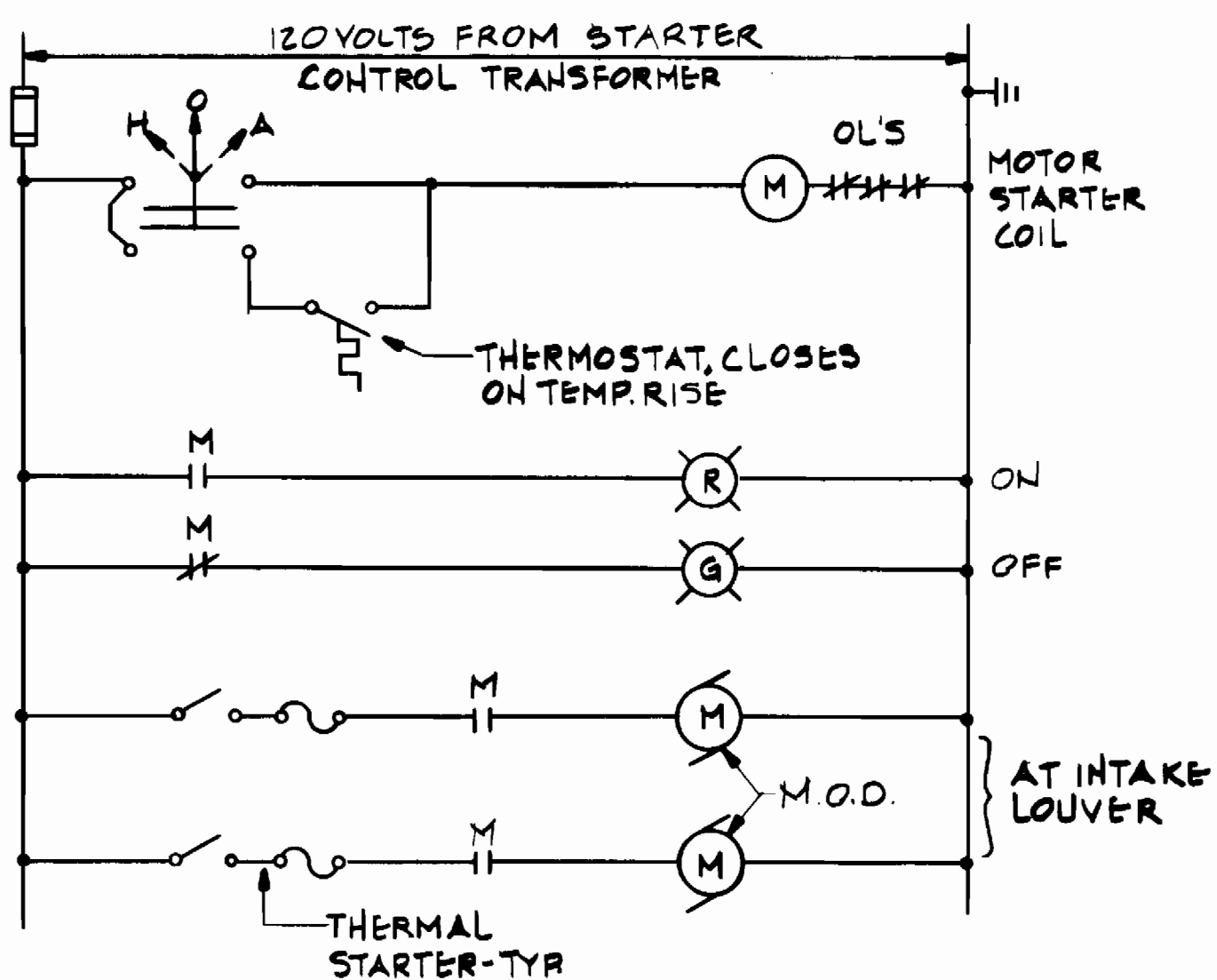
ME-3

SCALE AS SHOWN

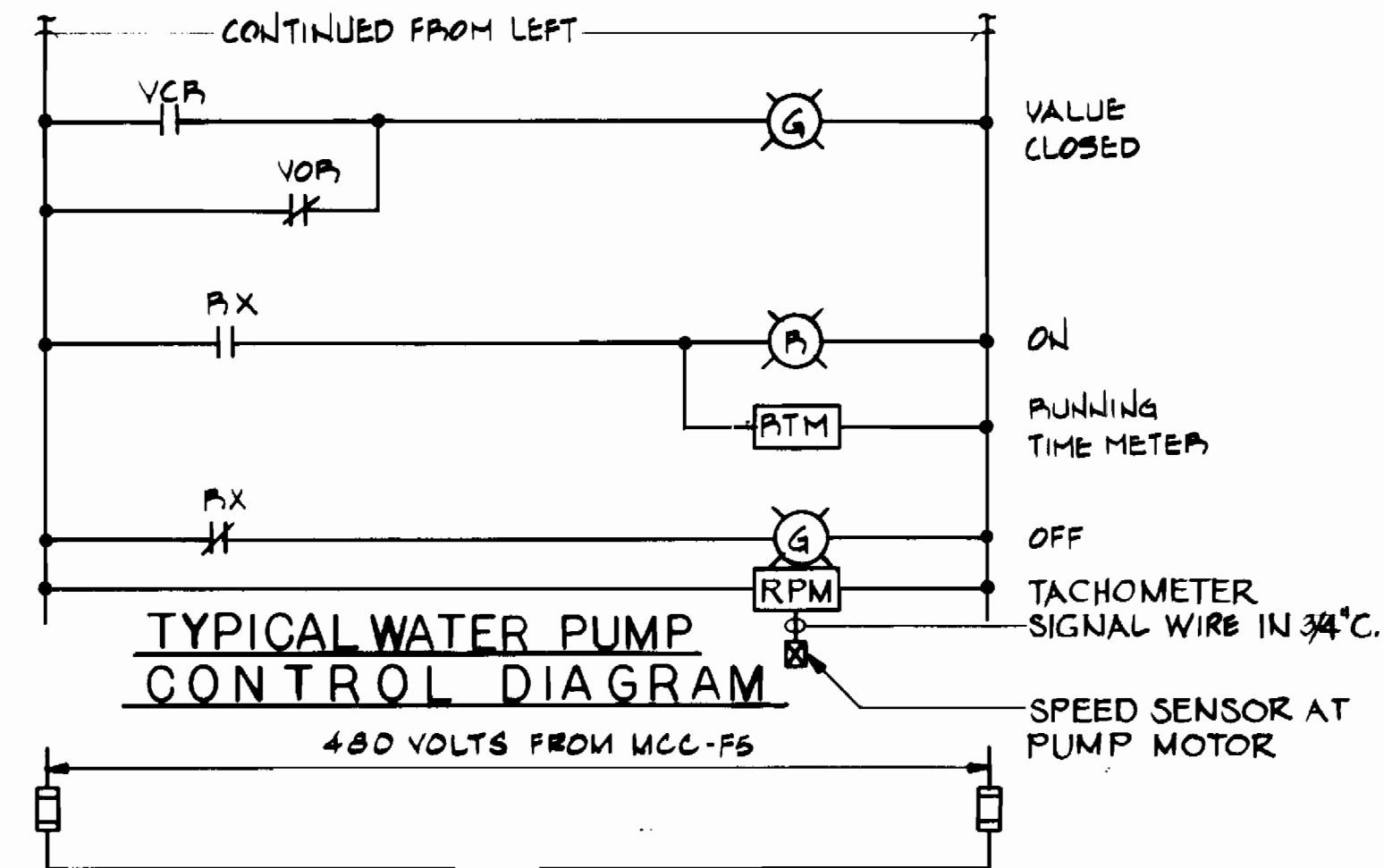
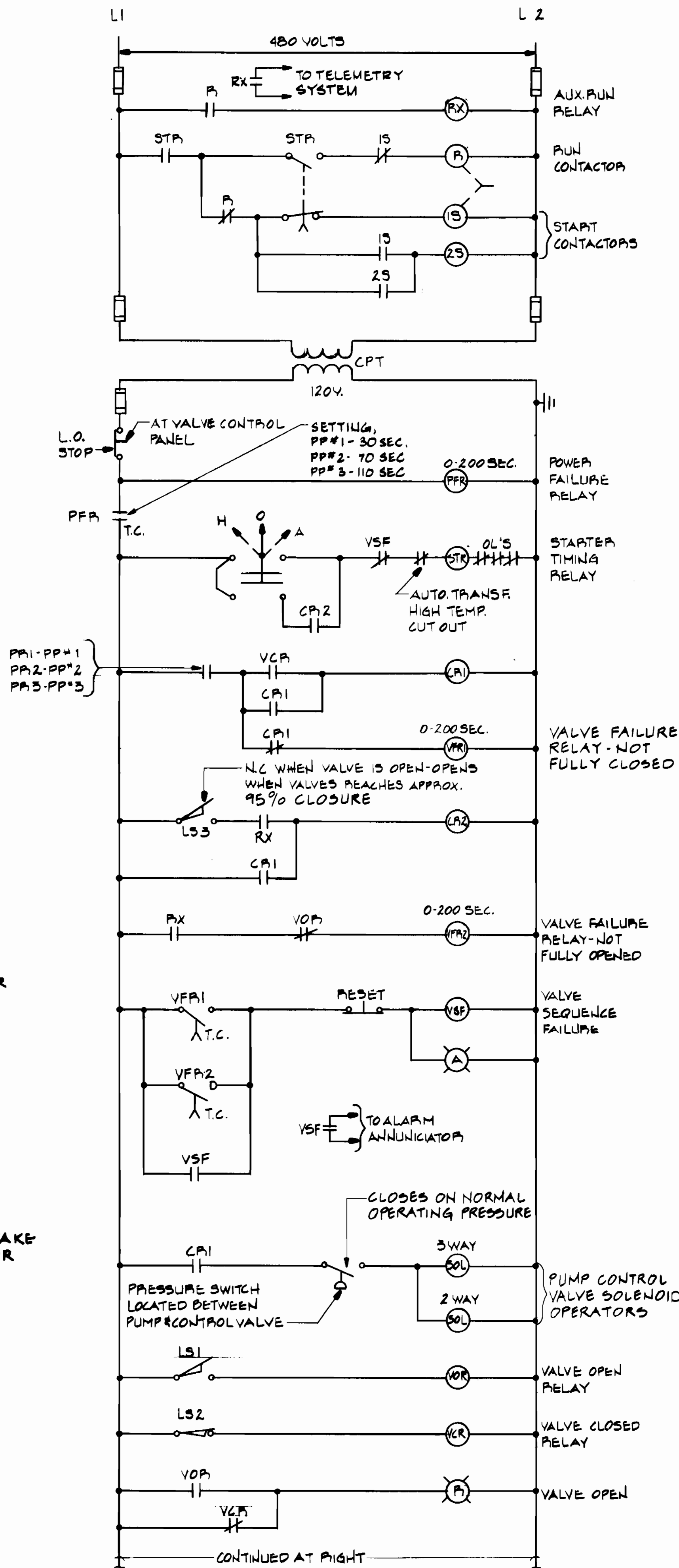
SHEET 21 OF 24



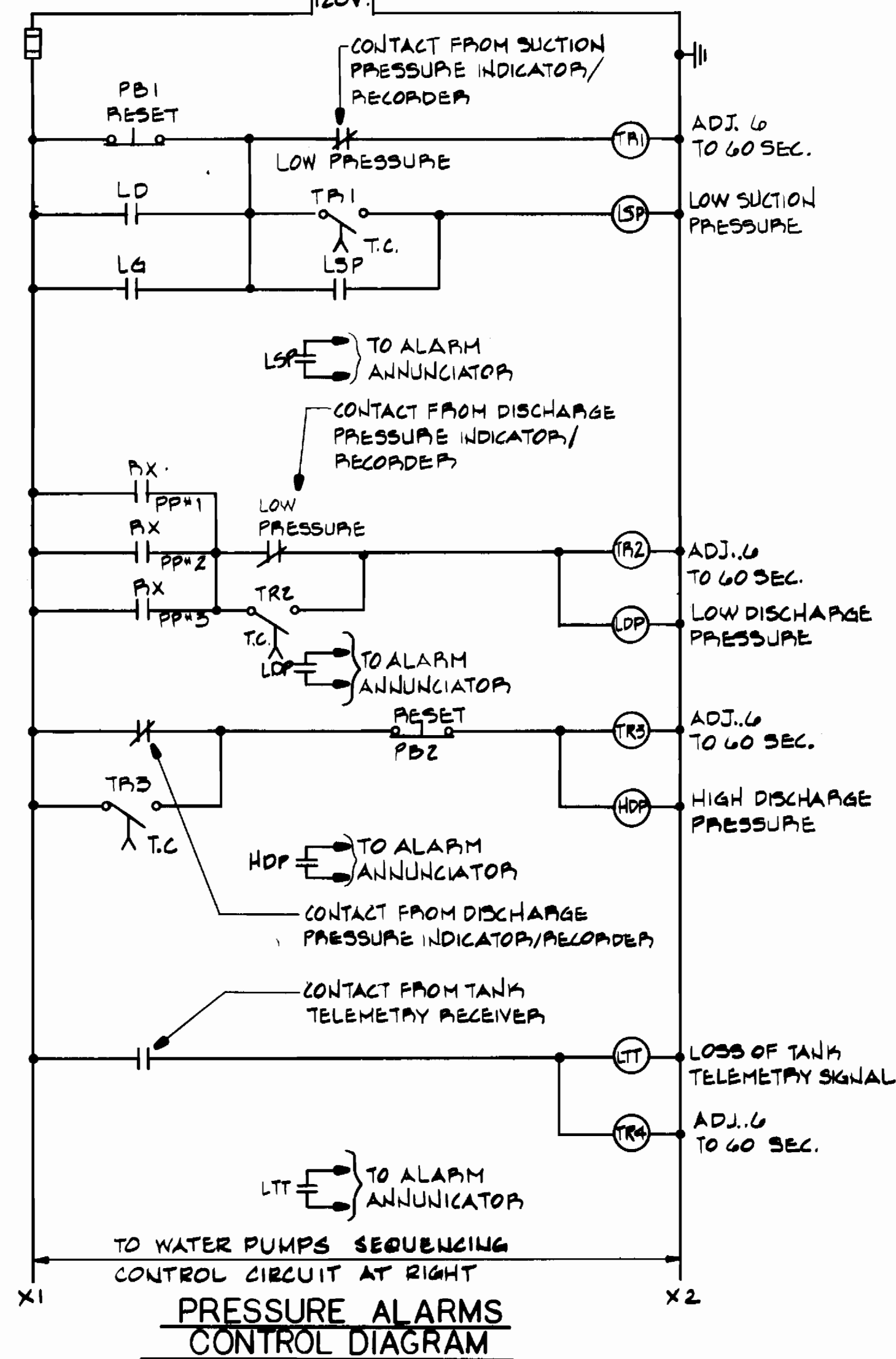
GENERATOR ROOM EXHAUST FAN NO. 2 CONTROL DIAGRAM



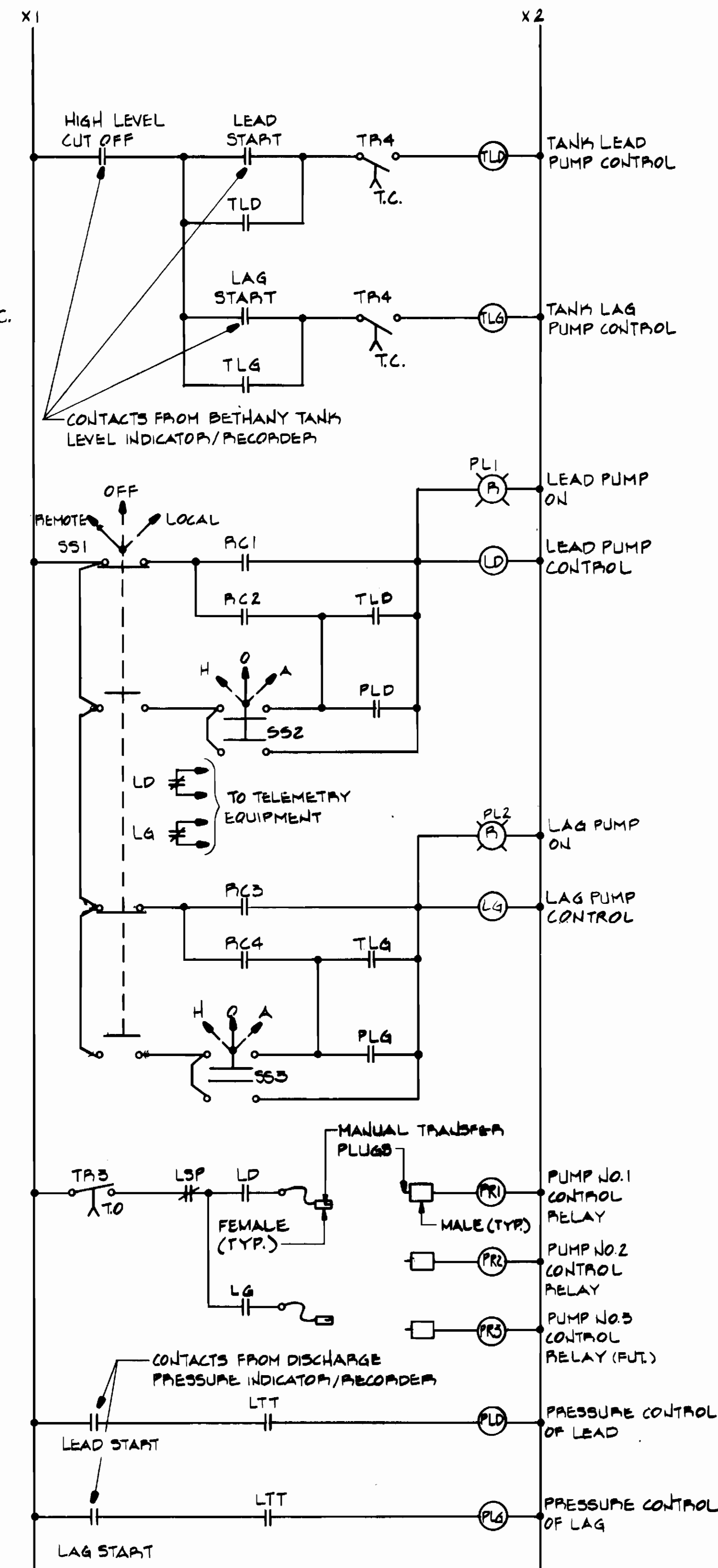
PUMP ROOM EXHAUST FAN NO. 1 CONTROL DIAGRAM



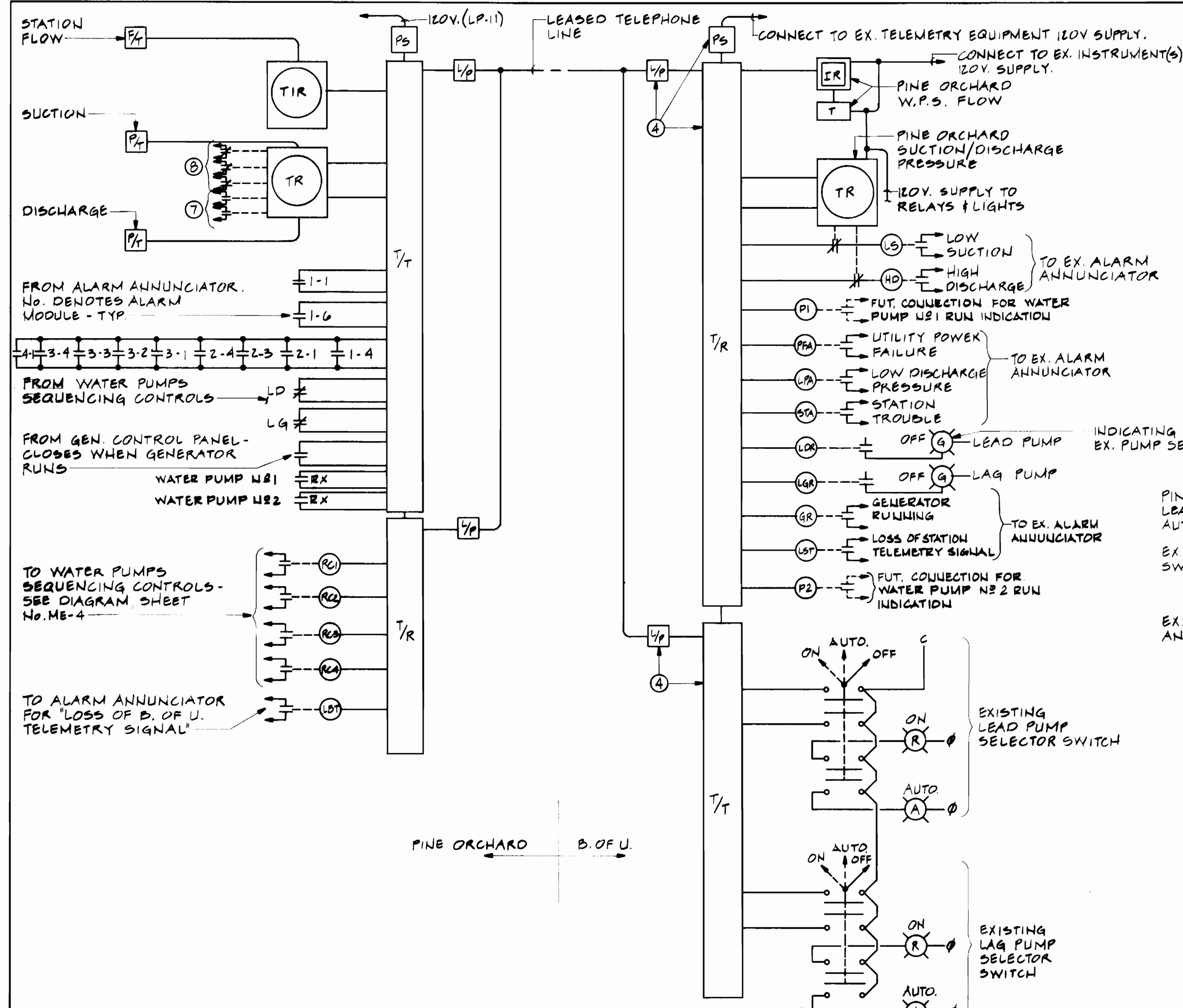
TYPICAL WATER PUMP CONTROL DIAGRAM



PRESSURE ALARMS CONTROL DIAGRAM



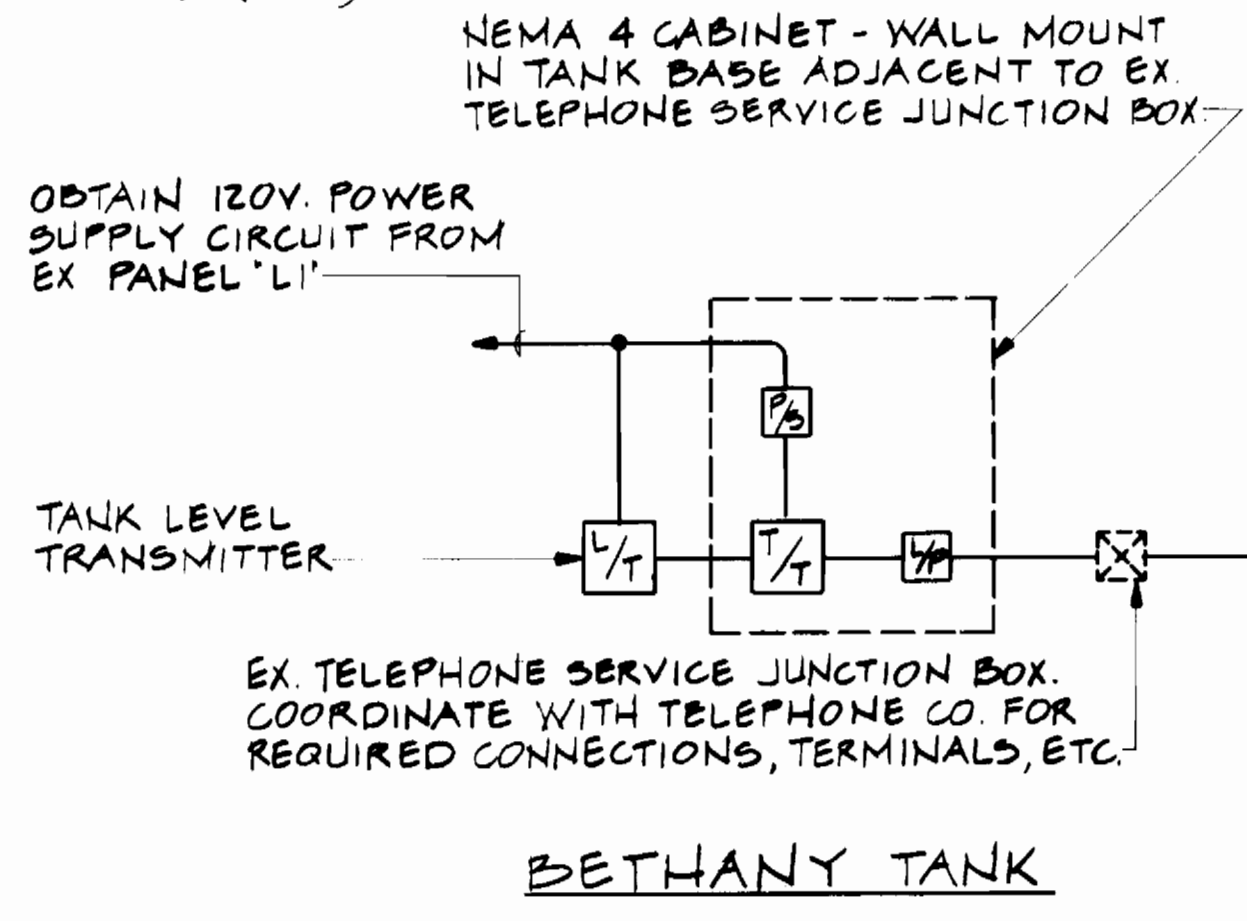
WATER PUMPS SEQUENCING CONTROL DIAGRAM



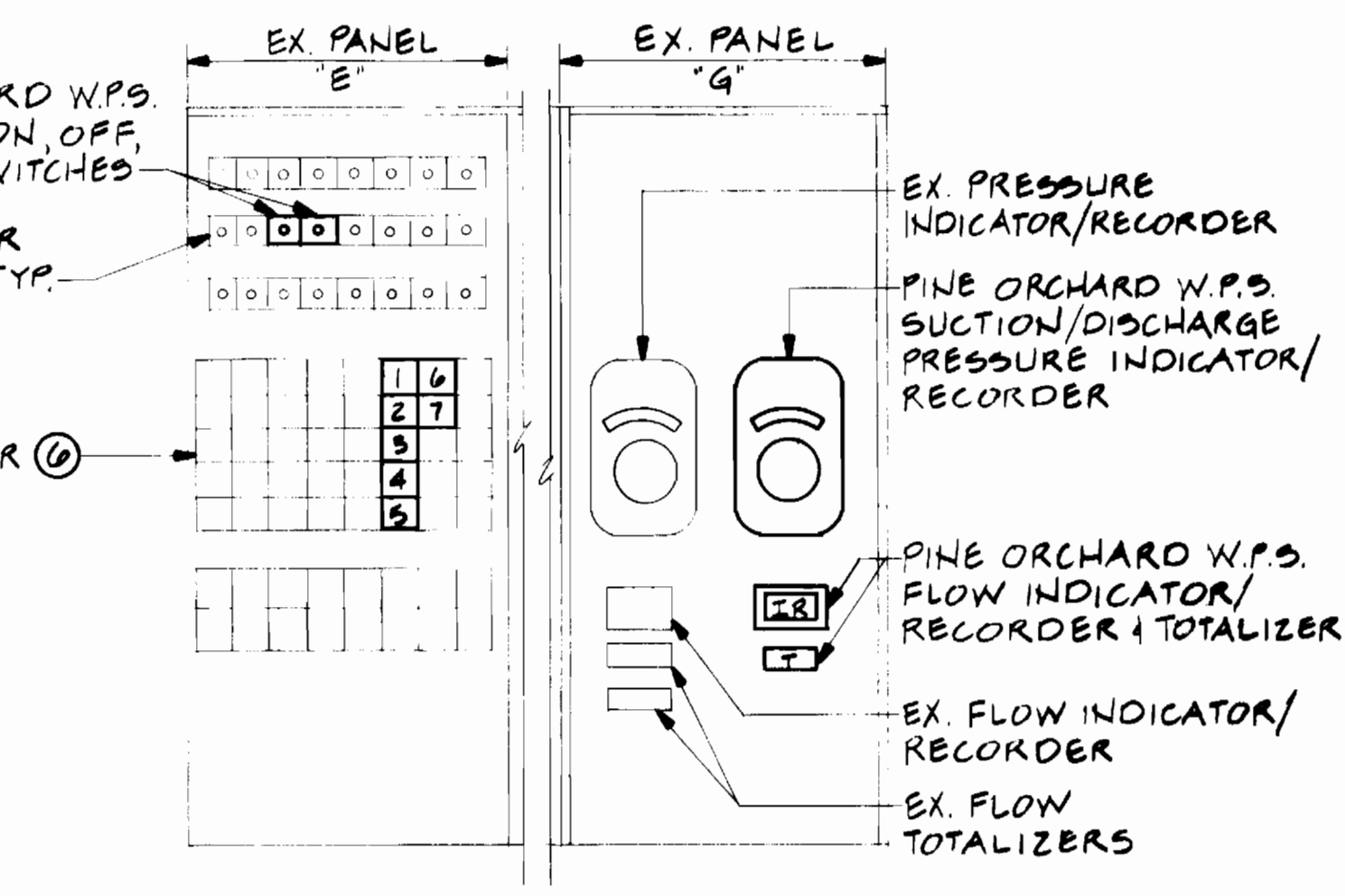
TELEMETRY DIAGRAM - PRESSURE/FLOW/ALARM + CONTROL BETWEEN PINE ORCHARD & B. OF U.

SCHEDULE OF ALARM ANNUNCIATOR - OPERATIONS BLDG.

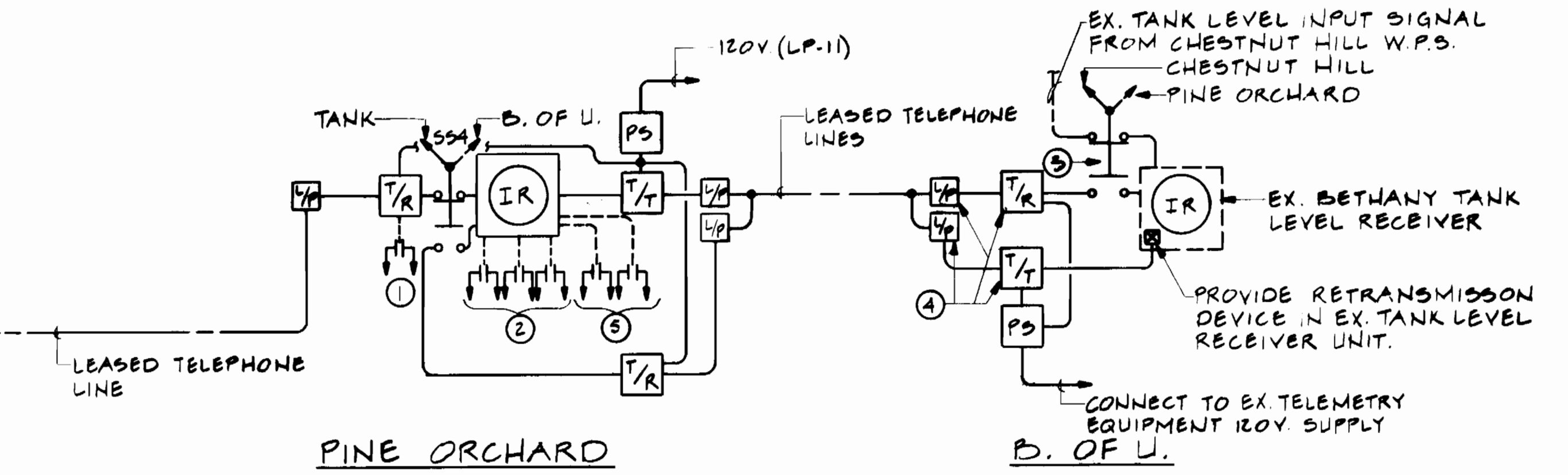
- 1 - PINE ORCHARD W.P.S. UTILITY POWER FAILURE
- 2 - PINE ORCHARD W.P.S. TELEMETRY FAILURE
- 3 - PINE ORCHARD W.P.S. GENERATOR RUNNING
- 4 - PINE ORCHARD W.P.S. LOW DISCHARGE PRESSURE
- 5 - PINE ORCHARD W.P.S. HIGH DISCHARGE PRESSURE
- 6 - PINE ORCHARD W.P.S. LOW SUCTION PRESSURE
- 7 - PINE ORCHARD W.P.S. STATION TROUBLE



BETHANY TANK



PART FRONT ELEVATION OPERATIONS BLDG. SUPERVISORY CONTROL CENTER NO SCALE



TELEMETRY DIAGRAM - TANK LEVEL TO PINE ORCHARD & B. OF U.

INSTRUMENTATION/TELEMETRY LEGEND

- CIRCULAR CHART RECEIVER - 'IR' TOTALIZER, INDICATOR, RECORDER; 'IR' INDICATOR, RECORDER
- STRIP CHART INDICATOR/RECORDER
- TOTALIZER
- FLOW TRANSMITTER
- PRESSURE TRANSMITTER
- TELEMETRY TRANSMITTER
- TELEMETRY RECEIVER
- LINE SURGE PROTECTOR
- POWER SUPPLY
- LEVEL TRANSMITTER
- B. OF U. BUREAU OF UTILITIES

DRAWING NOTES:

- 1 TO RELAY 'LLT' FOR 'LOSS OF TANK TELEMETRY SIGNAL' - SEE 'PRESSURE ALARMS CONTROL DIAGRAM, SHEET No. ME-4.
- 2 TO WATER PUMPS SEQUENCING CONTROLS FOR HIGH LEVEL, LEAD START & LAG START CONTROL, SEE CONTROL DIAGRAM, SHEET No. ME-4.
- 3 INSTALL SELECTOR SWITCH IN EXISTING SUPERVISORY CONTROL CENTER BELOW TANK LEVEL RECEIVER.
- 4 INSTALL IN EXISTING TELEMETRY EQUIPMENT CABINET.
- 5 TO ALARM ANNUNCIATOR FOR 'TANK LOW & HIGH LEVEL ALARMS'.
- 6 UTILIZE EX SPARE LIGHT MODULE UNITS DESIGNATED No. 1 THRU No. 7 FOR PINE ORCHARD W.P.S. ALARMS AS SCHEDULED ON THIS SHEET. PROVIDE ENGRAVING OF EX. BLANK LENS. STYLE & SIZE TO MATCH EXISTING UNITS.
- 7 TO WATER PUMP SEQUENCING CONTROLS FOR LEAD & LAG PRESSURE BACKUP CONTROL - SEE CONTROL DIAGRAM, SHEET No. ME-4.
- 8 TO PRESSURE ALARM(S) RELAYS FOR LOW SUCTION, LOW DISCHARGE & HIGH DISCHARGE PRESSURE ALARMS - SEE CONTROL DIAGRAM, SHEET No. ME-4.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James M. Lane 9/22/89
DIRECTOR OF PUBLIC WORKS DATE

William J. Rainey 9-21-89
CHIEF, BUREAU OF ENGINEERING DATE

Robert Reinger 9-21-89
CHIEF, BUREAU OF UTILITIES DATE

Clayton L. Lewis 9-14-89
CHIEF, UTILITY DESIGN DIVISION DATE

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MARYLAND



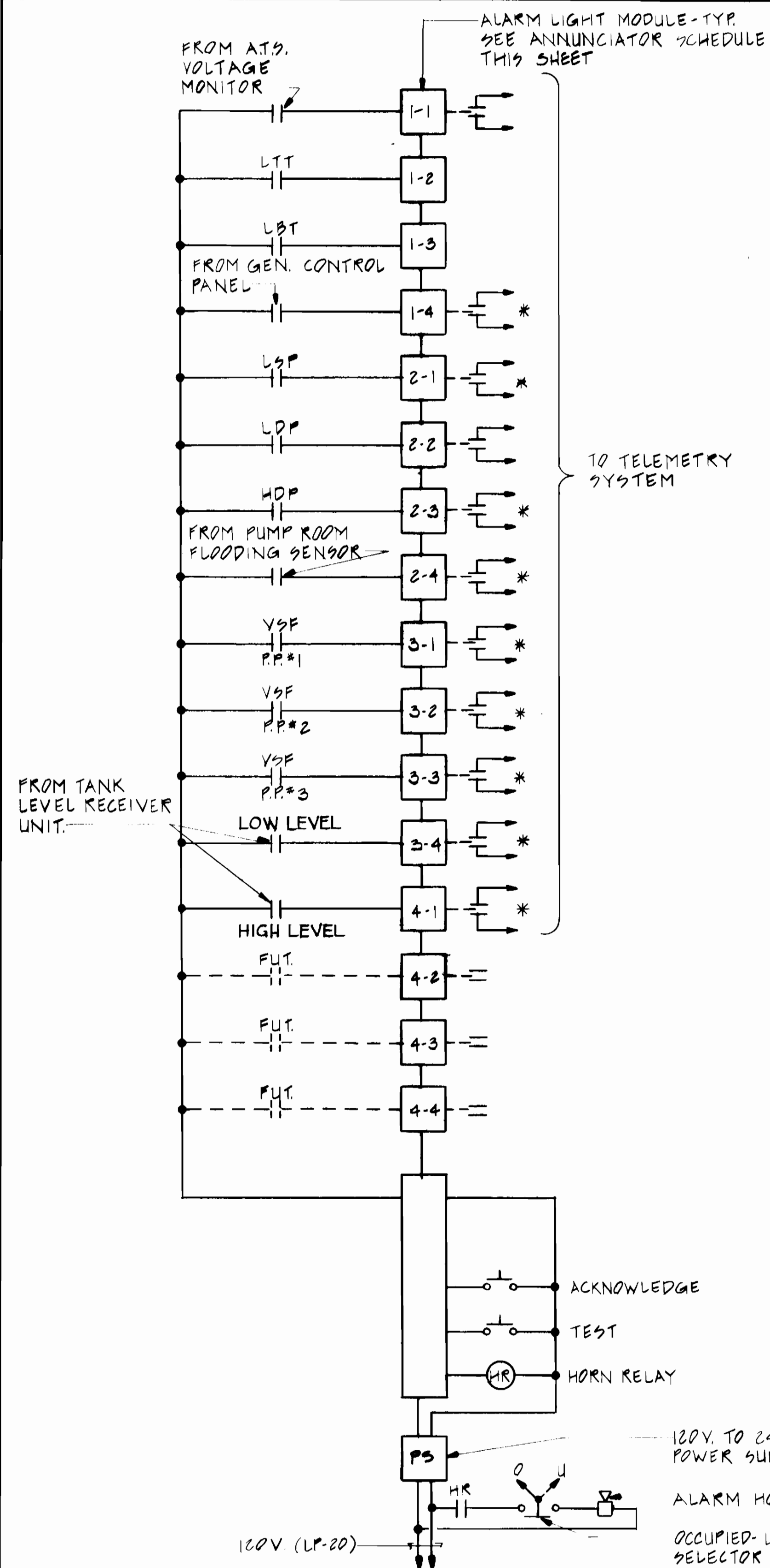
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DRN: KEC			
CHK: DKJ			
DATE: 10-5-89	BY NO.	REVISION	DATE

ELECTRICAL TELEMETRY DIAGRAMS & DETAILS

600' SCALE MAP NO. 24 BLOCK NO. 2 & 3

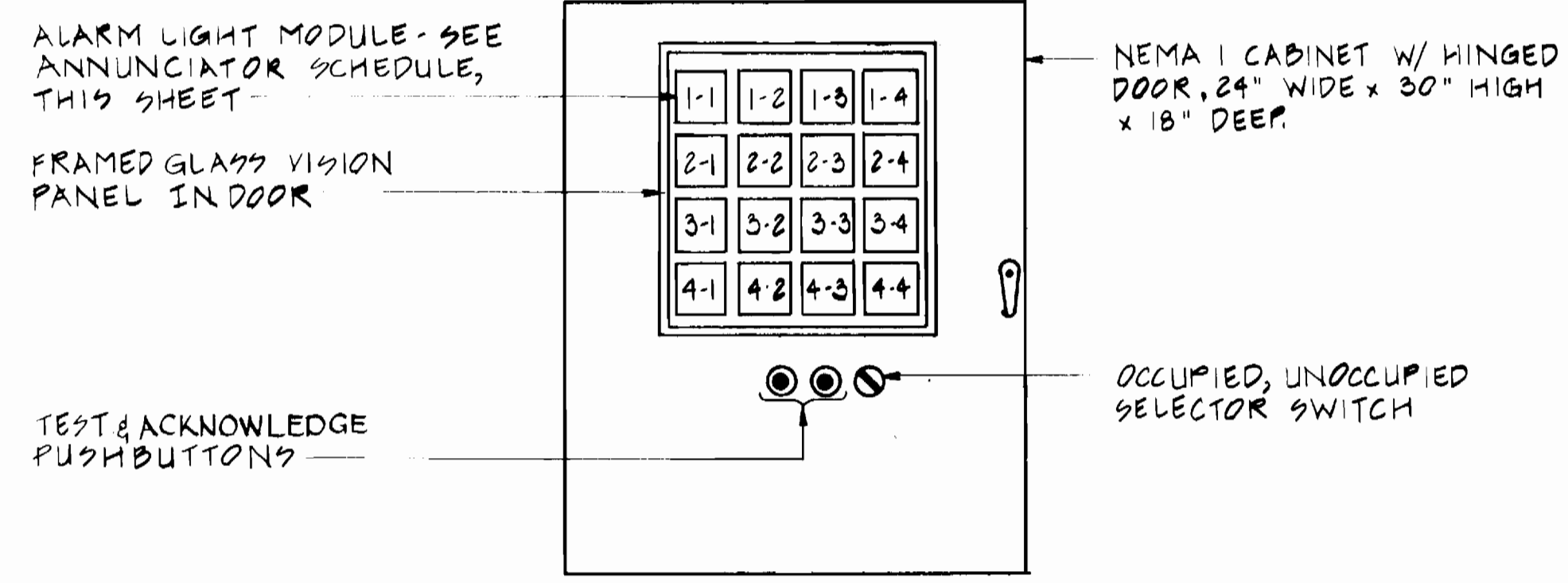
PINE ORCHARD WATER PUMPING STATION
CAPITAL PROJECT W-8133
CONTRACT NO. 44-1748
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND

ME-5
SCALE AS SHOWN
SHEET 23 OF 24



ALARM ANNUNCIATOR CONNECTION DIAGRAM

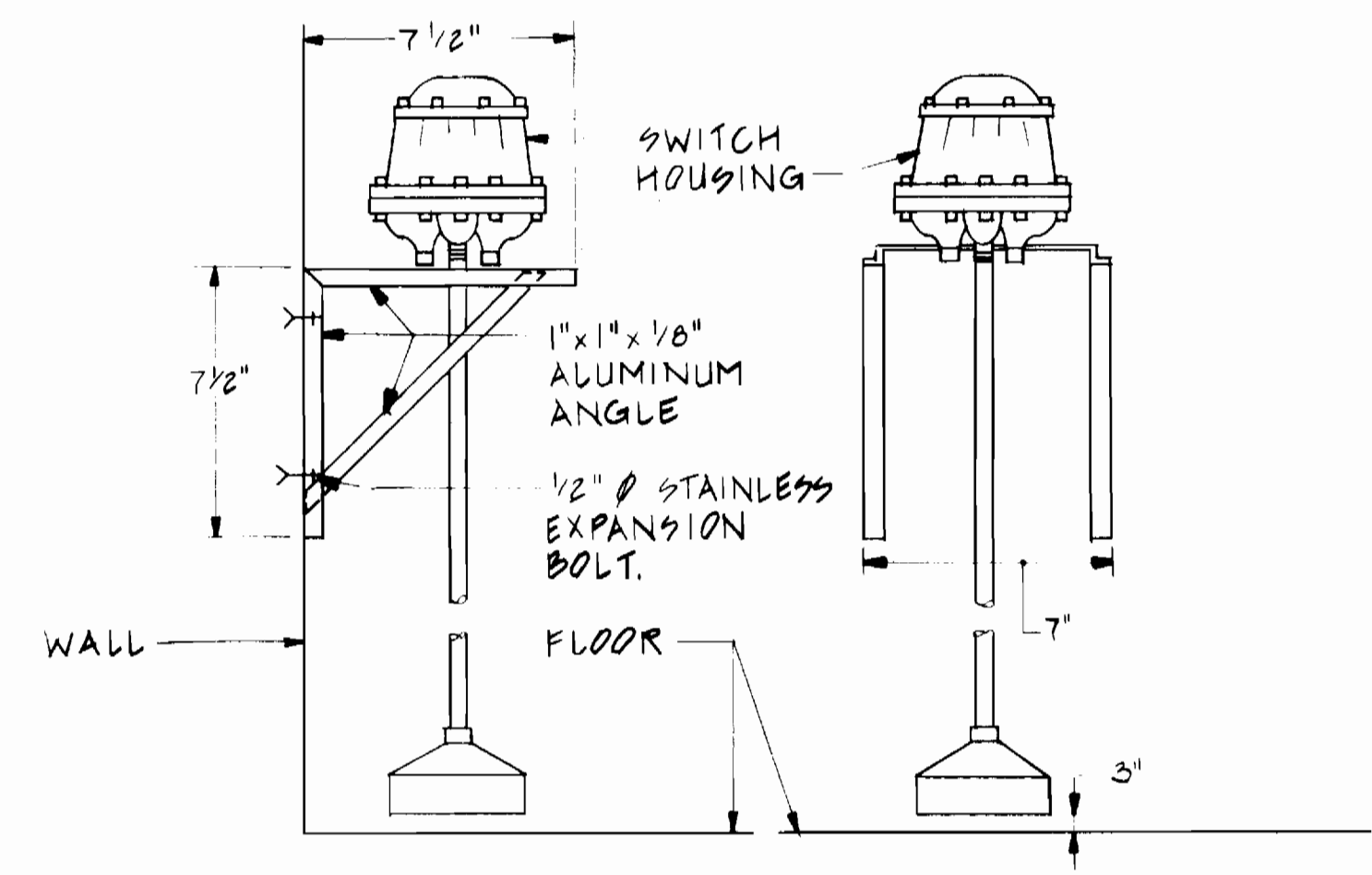
* - COMBINE FOR COMMON STATION TROUBLE ALARM



DETAIL - ALARM ANNUNCIATOR CABINET
NO SCALE

ALARM ANNUNCIATOR SCHEDULE

NO.	NOMENCLATURE
1-1	UTILITY POWER FAILURE.
1-2	TELEMETRY FAILURE - BETHANY TANK SIGNAL.
1-3	TELEMETRY FAILURE - B. OF U. SIGNAL.
1-4	GENERATOR TROUBLE.
2-1	LOW SUCTION PRESSURE.
2-2	LOW DISCHARGE PRESSURE.
2-3	HIGH DISCHARGE PRESSURE.
2-4	PUMP ROOM FLOODING.
3-1	PUMP No. 1 VALVE SEQUENCE FAILURE.
3-2	PUMP No. 2 VALVE SEQUENCE FAILURE.
3-3	PUMP No. 3 VALVE SEQUENCE FAILURE.
3-4	BETHANY TANK LOW LEVEL.
4-1	BETHANY TANK HIGH LEVEL.
4-2	SPARE MODULE W/ BLANK LENS.
4-3	SPARE MODULE W/ BLANK LENS.
4-4	SPARE MODULE W/ BLANK LENS.



PUMP ROOM FLOODING SENSOR MOUNTING DETAIL
NO SCALE

BRUNING 69150

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James W. Curran 9/22/89
DIRECTOR OF PUBLIC WORKS DATE

Richard S. Reilly 9/21/89
CHIEF, BUREAU OF ENGINEERING DATE

Robert S. Reilly 9/21/89
CHIEF, BUREAU OF UTILITIES DATE

Clayton S. Reilly 9/14/89
CHIEF, UTILITY DESIGN DIVISION DATE

Gipe Associates
CONSULTANTS
BALTIMORE — EASTON
MARYLAND



DES: GDK			
DRN: MMV			
CHK: DKJ			
DATE: 10-5-89	BY	NO.	REVISION

ELECTRICAL
DIAGRAMS & DETAILS

600' SCALE MAP NO. 24 BLOCK NO. 2 & 3

PINE ORCHARD
WATER PUMPING STATION
CAPITAL PROJECT W-8133
CONTRACT NO. 44-174-
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND

ME-6
SCALE AS SHOWN
SHEET 24 OF 24