

CHAMBERLEA PUMPING STATION 2018 UPGRADES

HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS

CAPITAL PROJECT NO. S6264

CONTRACT NO. 742-S

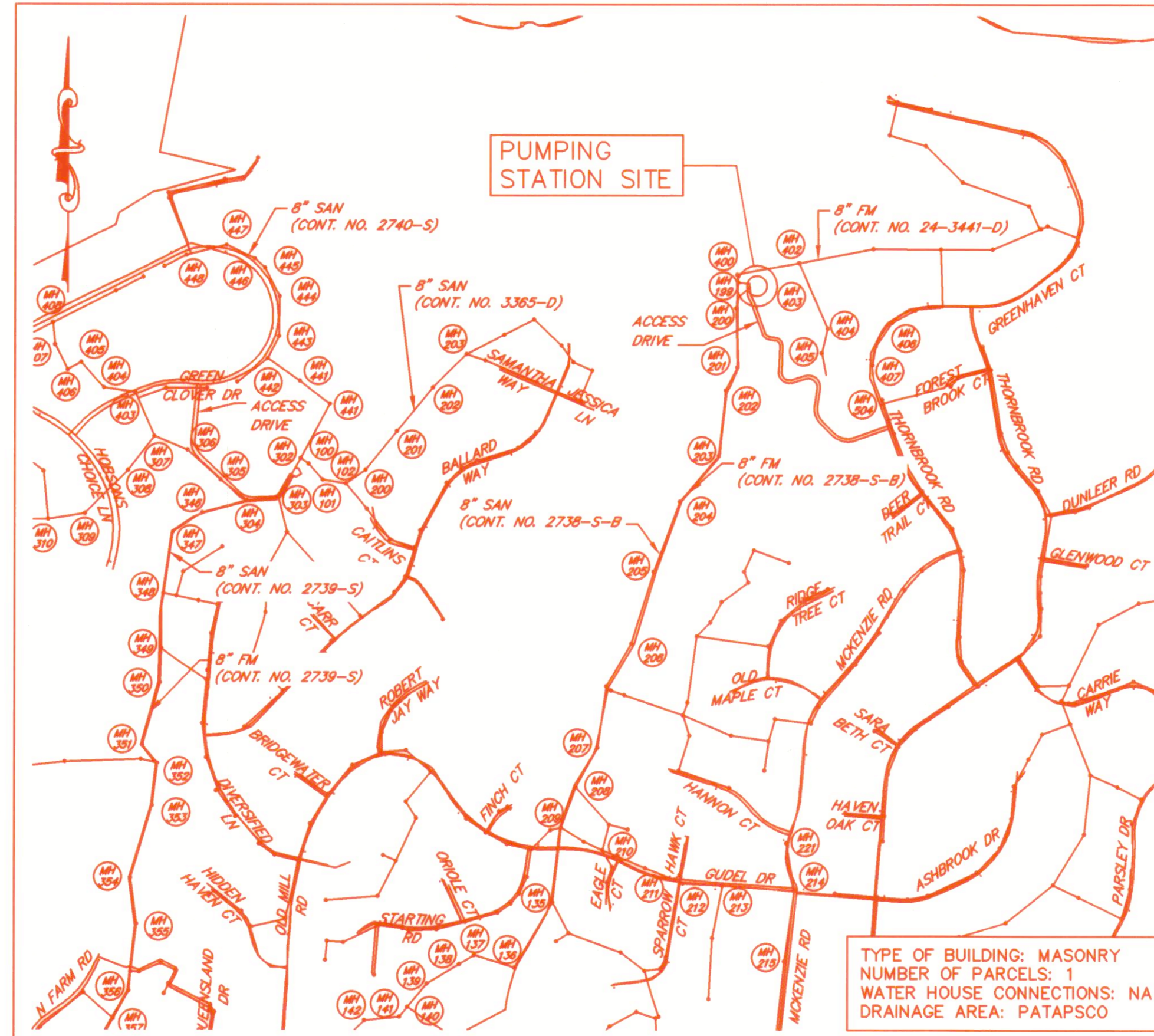
GENERAL NOTES:

- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL BE LIABLE FOR ALL SEWAGE OVERFLOW AND/OR SPILL CLEAN UP COSTS INCURRED BY THE OWNER AND/OR STATE OF MARYLAND AND ALSO SHALL BE LIABLE FOR ANY CIVIL AND/OR CRIMINAL PENALTIES ASSOCIATED WITH SUCH OVERFLOWS AND/OR SPILLS.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
- FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS NOT SPECIFIED, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB SITE.
- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:

AT&T	800-252-1133
BGE (CONSTRUCTION SERVICES)	410-637-8713
BGE (EMERGENCY)	410-685-0123
BUREAU OF UTILITIES	410-313-4900
COLONIAL PIPELINE CO.	410-795-1390
MISS UTILITY	800-257-7777
STATE HIGHWAY ADMINISTRATION	410-531-5533
VERIZON	800-743-0033
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS NECESSARY FOR CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE OWNER AND ENGINEER OF ANY CHANGES OR CONDITIONS REQUIRED BY ANY PERMIT.
- THESE DRAWINGS WERE PREPARED BASED ON AS-BUILT AND OTHER CONSTRUCTION DOCUMENTS, WHICH MAY OR MAY NOT BE COMPLETELY ACCURATE. SCALING OF THESE DRAWINGS SHALL BE FOR ESTIMATING PURPOSES ONLY AND ALL DIMENSIONS SCALED SHALL BE CONSIDERED APPROXIMATE AND SHALL BE FIELD VERIFIED.
- CONSTRUCTION SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES, REGULATIONS, STANDARDS, SPECIFICATIONS AND REQUIREMENTS.
- THE EXISTING BUILDING ELEVATIONS SHOWN ON THE ARCHITECTURAL, STRUCTURAL AND MECHANICAL DRAWINGS ARE BASED ON ORIGINAL CONSTRUCTION PLANS ENTITLED "CHAMBERLEA SANITARY SEWERS, CHAMBERLEA PUMPING STATION" DATED 8/28/81, AS PROVIDED BY HOWARD COUNTY AND ARE BASED ON THE U.S.G.S. DATUM.
- CONTRACTOR SHALL ASSUME THAT ALL CAULK, FLANGE GASKETS, ROOFING MATERIALS, ETC. ARE ASBESTOS-CONTAINING MATERIALS (ACM). ANY DISTURBANCE OR REMOVAL OF THESE MATERIALS SHALL BE DONE IN ACCORDANCE WITH OSHA 29CFR1926.1101 FOR CLASS II WORK. CONTRACTOR SHALL REMOVE AND DISPOSE OF ACM PRIOR TO RENOVATION ACTIVITIES THAT MAY MAKE THEM EPA REGULATED.
- CONTRACTOR SHALL ASSUME THAT ALL EXISTING PAINT IS LEAD-BASED PAINT (LBP). THIS PAINT MUST BE HANDLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EPA AND THE OSHA LEAD IN CONSTRUCTION STANDARD WITH MARYLAND AMENDMENTS (29CFR1926.62). IF COMPONENTS ARE TO BE REMOVED AND DISPOSED OF, CONTRACTOR SHALL FOLLOW THE REQUIREMENTS OF THE RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) 40CFR261 AND ANY OTHER APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS. PROHIBITED METHODS OF LEAD PAINT REMOVAL INCLUDE: SANDING (EXCEPT WITH EQUIPMENT FITTED WITH HEPA FILTERS), BURNING WITH AN OPEN FLAME TORCH, OR ANY METHODS WHICH PRODUCE UNCONTROLLED DUST OR FUMES. WHENEVER RENOVATION OR DEMOLITION IS PERFORMED ON PAINTED COMPONENTS, CONTRACTOR SHALL CONTROL DUST. NON-REGULATED PAINT HAS THE ABILITY TO PRODUCE LEAD DUST WHEN IT IS DISTURBED.
- A FULL PUMPING STATION DEMONSTRATION TEST SHALL BE COMPLETED BEFORE THE CONTRACTOR CAN START THE THIRTY DAY OPERATIONAL PERIOD. THE ABOVE SHALL BE WITNESSED AND ACCEPTED BY THE COUNTY. THE CONTRACTOR SHALL NOTIFY THE COUNTY AT LEAST SEVEN DAYS PRIOR TO CONDUCTING ANY TESTING SO THE PROPER PERSONNEL CAN BE SCHEDULED TO WITNESS THE TESTING.
- EXISTING FEATURES DENOTED BY SLANTED TEXT.
- CONTRACTOR SHALL SUBMIT A PROPOSED SEQUENCE OF CONSTRUCTION FOR REVIEW PRIOR TO COMMENCEMENT OF ANY WORK. SEQUENCE OF CONSTRUCTION SHALL INCLUDE TEMPORARY BYPASS PUMPING AND ALL PROPOSED WORK, INCLUDING HOW THE WORK BETWEEN THE CHAMBERLEA AND ALLENFORD PUMPING STATIONS WILL BE SEQUENCED.
- THE SCOPE OF WORK TO BE DONE UNDER THIS CONTRACT CONSISTS OF THE FURNISHING OF ALL MATERIALS AND THE CONSTRUCTION, COMPLETE IN PLACE, FOR THE 2018 UPGRADES TO THE CHAMBERLEA SEWAGE PUMPING STATION, INCLUDING BUT NOT LIMITED TO: PUMPS, VALVES, FLOWMETER, HVAC, PLUMBING, ELECTRICAL DISTRIBUTION, INSTRUMENTATION AND CONTROL, MASONRY, ROOFING AND MISCELLANEOUS APPURTENANCES AND INCIDENTAL ITEMS.
- THE EXISTING PUMPING STATION CAPACITY OF 415 GPM MUST REMAIN AVAILABLE FOR THE DURATION OF THE PROJECT, WITH THE EXCEPTION OF THE TEMPORARY STATION SHUTDOWN PERIOD AS DESCRIBED IN SPECIFICATION 02750. PROVIDE TEMPORARY BYPASS PUMPING, AS NECESSARY, TO ENSURE THAT THE PUMPING STATION HAS A PRIMARY AND BACKUP PUMP OPERATIONAL AT ALL TIMES.
- PUMPING STATION ADDRESS: 2855 THORNBROOK RD.
ELLICOTT CITY, MD 21042

PURPOSE STATEMENT:

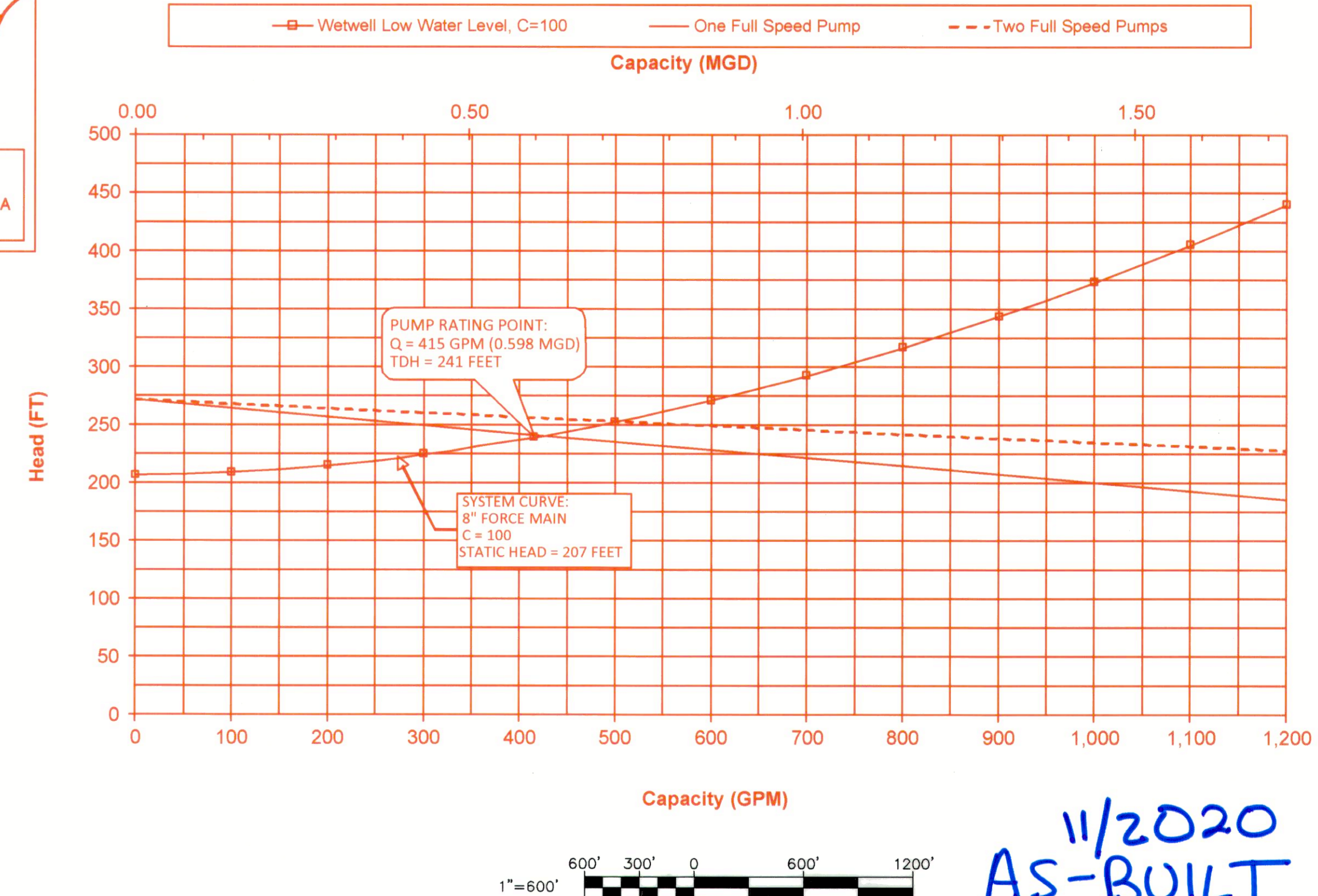
A PROJECT TO UPGRADE VARIOUS COMPONENTS OF THE EXISTING CHAMBERLEA SEWAGE PUMPING STATION, INCLUDING BUT NOT LIMITED TO: PUMPS, VALVES, FLOWMETERS, PIPING, HVAC, PLUMBING, ELECTRICAL DISTRIBUTION, INSTRUMENTATION AND CONTROLS, AND MISCELLANEOUS APPURTENANCES.



LOCATION MAP
SCALE: 1"=600'

ABBREVIATIONS

ATS	AUTOMATIC TRANSFER SWITCH	LR	LONG RADIUS
ALUM	ALUMINUM	MCC	MOTOR CONTROL CENTER
CIP	CAST IRON PIPE	MJ	MECHANICAL JOINT
CISP	CAST IRON SOIL PIPE	MOD	MOTOR OPERATED DAMPER
CLR	CLEAR	P	PUMP
CMU	CONCRETE MASONRY UNIT	PE	PLAIN END
CONC	CONCRETE	PV	PLUG VALVE
CV	CHECK VALVE	PVC	POLYVINYL CHLORIDE
D	DOOR	RED	REDUCER
DA	DAMPER	RET	RETAINER
DIP	DUCTILE IRON PIPE	RTU	REMOTE TELEMETRY UNIT
ECC	ECCENTRIC	S	SEAT SIDE (PLUG VALVE)
EF	EXHAUST FAN	SF	SUPPLY FAN
ELL	ELBOW	SS	STAINLESS STEEL
EXT	EXTENSION	TYP	TYPICAL
FLG	FLANGE	UH	UNIT HEATER
FRP	FIBERGLASS REINFORCED PLASTIC	W/	WITH
GV	GATE VALVE		
HM	HOLLOW METAL		



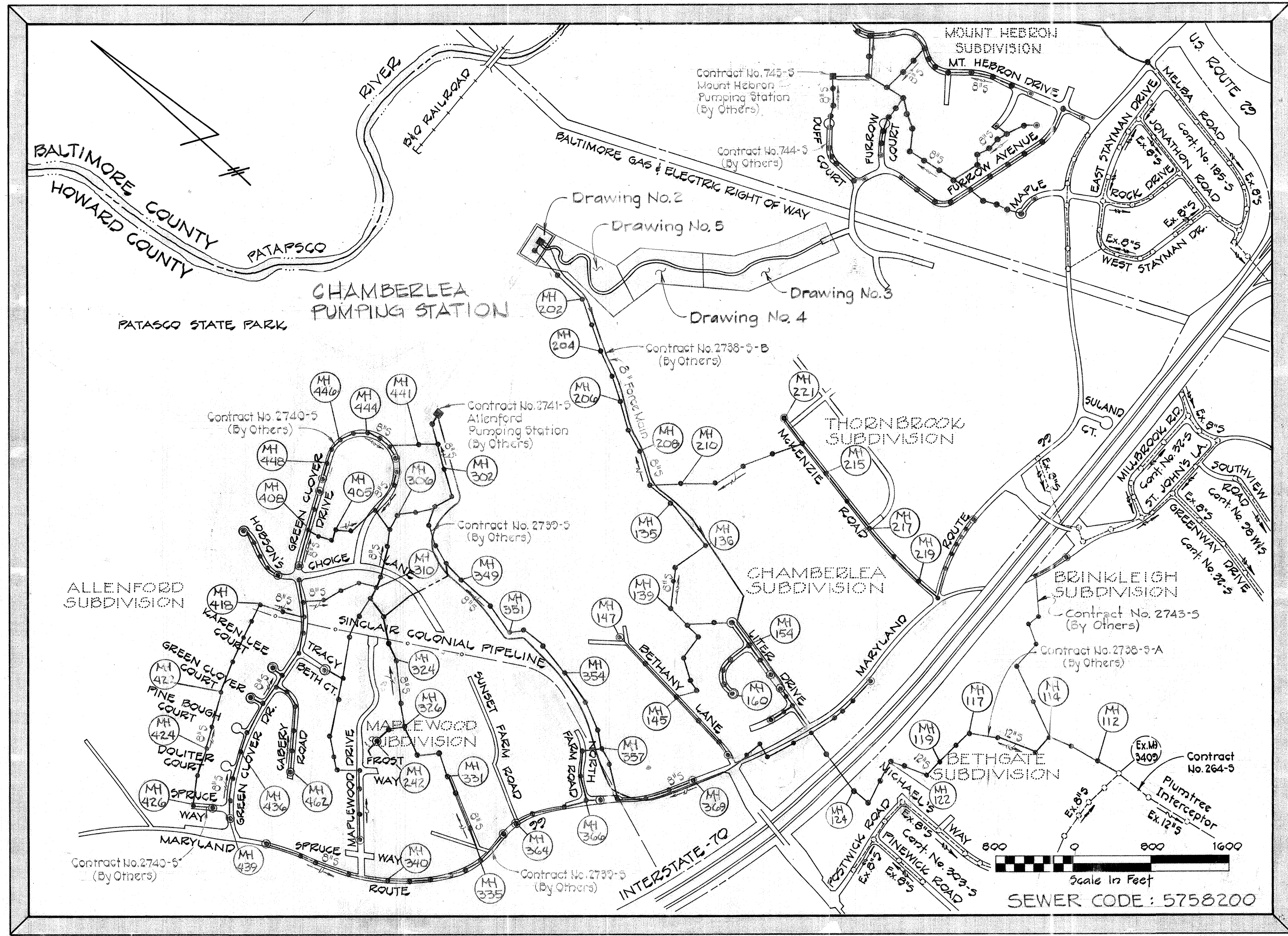
INDEX OF DRAWINGS	
NO.	DESCRIPTION
1A	TITLE SHEET - 2018 UPGRADES
1	TITLE SHEET
2	SITE DEVELOPMENT PLAN
3	SITE DEVELOPMENT PLAN ACCESS DRIVE
4	SITE DEVELOPMENT PLAN ACCESS DRIVE
5	SITE DEVELOPMENT PLAN ACCESS DRIVE
6	SITE DEVELOPMENT PLAN ACCESS DRIVE
7A	ARCHITECTURAL DETAILS - 2018 UPGRADES
7	ARCHITECTURAL DETAILS
8	STRUCTURAL PLANS
9	STRUCTURAL SECTIONS
10A	STRUCTURAL DETAILS & GENERAL NOTES - 2018 UPGRADES
10B	STRUCTURAL DETAILS - 2018 UPGRADES
10	STRUCTURAL DETAILS
11A	DEMOLITION PLANS - 2018 UPGRADES
11B	IMPROVEMENT PLANS - 2018 UPGRADES
11	MECHANICAL PLANS
12A	DEMOLITION SECTIONS - 2018 UPGRADES
12B	IMPROVEMENT SECTIONS - 2018 UPGRADES
12	MECHANICAL SECTIONS
13A	MECHANICAL DETAILS - 2018 UPGRADES
13	MECHANICAL DETAILS
14	MECHANICAL DETAILS
15	MISCELLANEOUS DETAILS
16	ELECTRICAL PLANS
17A	ELECTRICAL DETAILS - 2018 UPGRADES
17B	ELECTRICAL DETAILS - 2018 UPGRADES
17C	MCC SCHEDULE, ELEVATION & ONE-LINE DIAGRAM - 2018 UPGRADES
17	ELECTRICAL DETAILS

8/21/2018 - K:\projects\2017\17154-146260A\Task 9 - Miscellaneous Pumping Stations\Chamberlea PS\Cad\Photos\Processed\17154\018-001-00-14.dwg Apr 12, 2018 - 11:54am Plot Scale: 1:1

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT REVISIONS INCLUDED IN THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 28472 EXPIRATION DATE 9/15/2019		DES: DAO DRN: TJS CHK: RAL DATE: 3/30/18	AS-BUILT 17/20	TITLE SHEET - 2018 UPGRADES	CHAMBERLEA PUMPING STATION 2018 UPGRADES CAPITAL PROJECT NO. S6264 CONTRACT NO. 742-S	SCALE AS SHOWN SHEET 1A OF 29
DIRECTOR OF PUBLIC WORKS 	CHIEF, BUREAU OF ENGINEERING 	CHIEF, BUREAU OF UTILITIES 	RUMMEL, KLEPPER & KAHL, LLP 700 EAST PRATT STREET SUITE 600 BALTIMORE, MARYLAND 21202	17/20	MAP NO. 17 BLOCK NO. 8	ELECTION DISTRICT NO. 2 HOWARD COUNTY, MARYLAND	

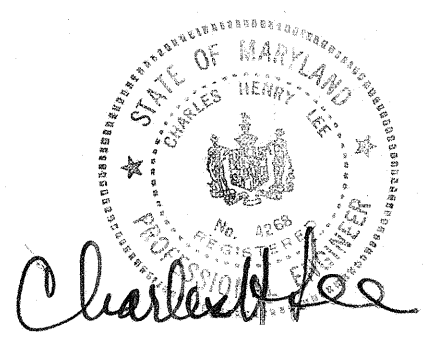
11/2020 AS-BUILT

INDEX OF DRAWINGS	
NO.	DESCRIPTION
1	Vicinity Map
2	Site Development Plan
3	Site Development Plan
4	Site Development Plan
5	Site Development Plan
6	Site Development Plan
7	Architectural Details
8	Structural Plans
9	Structural Sections
10	Structural Details
11	Mechanical Plans
12	Mechanical Sections
13	Mechanical Details
14	Mechanical Details
15	Miscellaneous Details
16	Electrical Plans
17	Electrical Details



- GENERAL NOTES
- Approximate location of existing mains are shown. The Contractor shall take all necessary precautions to protect existing mains and services and maintain uninterrupted supply. Any damage incurred shall be repaired immediately to the satisfaction of the Engineer, at the Contractor's expense.
 - All horizontal controls are based on Maryland State Coordinates.
 - All vertical controls are based on U.S.G.S. Datum.
 - All pipe elevations shown are invert elevations.
 - Clear all utilities by a minimum of 6". Clear all poles by 2'-0" minimum or tunnel as required. Any cost incurred to the Contractor for tunneling or bracing at poles shall be included in unit prices bid for excavation and backfill.
 - For details not shown on the drawings use Howard County Standard Details.
 - For materials and construction methods use Howard County Standard Specifications.
 - Contractor shall locate existing utilities a minimum of two (2) weeks in advance of construction operations in the vicinity of proposed utilities at his own expense.
 - Contractor shall notify the following utilities or agencies at least five (5) working days before starting work shown on these plans;
 - State Highway Administration: 531-5533
 - Baltimore Gas & Electric Company - Underground Electric Distribution Customer Service: 685-0123
 - Baltimore Gas & Electric Company - Underground Gas Distribution Customer Service: 685-0123
 - Engineering "Damage Control": 234-5621
 - "Miss Utility": 1-559-0100
 - Chesapeake & Potomac (C&P) Telephone Company: 725-9976
 - American Telephone and Telegraph - Cable Location Division: 393-3553
 - Colonial Pipeline Company: 781-4641
 - Bureau of Utilities - Howard County: 992-2366
 - Trees are to be protected from damage to maximum extent. Trees located within the construction strip are not to be removed or damaged by the Contractor.
 - Contractor shall remove trees, stumps and roots along line of excavation as directed by Engineer. Payment for such removal shall be included in the unit price bid for excavation and backfill.
 - Place regulation "Men Working" and warning signs as required to comply with Maryland State Highway Administration Manual of Traffic Control for Highway Construction and Maintenance Operations.
 - Top of all force mains to have a minimum of 3'-1/2' cover unless otherwise noted.
 - Block all force main fittings with concrete.
 - All sewer mains shall be C.S.P.X., V.C.P.X. or A.C.P. Class 2400 unless otherwise noted.
 - Contractor shall provide a joint in all sewer mains within 2'-0" of exterior manhole wall.
 - All manholes shall be 4'-0" inside diameter, unless otherwise noted.
 - Force mains shall be D.I.P. Class 54.
 - Manholes shown with 12" and 16" walls are brick manholes only.
 - Manholes designated W.T. in plan and profile shall have watertight frame and covers, Standard Detail S-12 (RCR-63A). Where watertight manhole frame and cover is used, set top of frame 1'-6" above finished grade.

CONTRACT NO. 2742-S
CHAMBERLEA SANITARY SEWERS
CHAMBERLEA PUMPING STATION
HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS



DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Director of Public Works: *Robert F. Nalley* 8-28-81
 Chief Bureau of Engineering: *Richard J. Kelly* 8/28/81
 Chief Bureau of Utilities: *Richard J. Kelly* 8/28/81

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

CONTRACT NO. 2742-S
 CAPITAL PROJECT NO. S-4-6067

VICINITY MAP

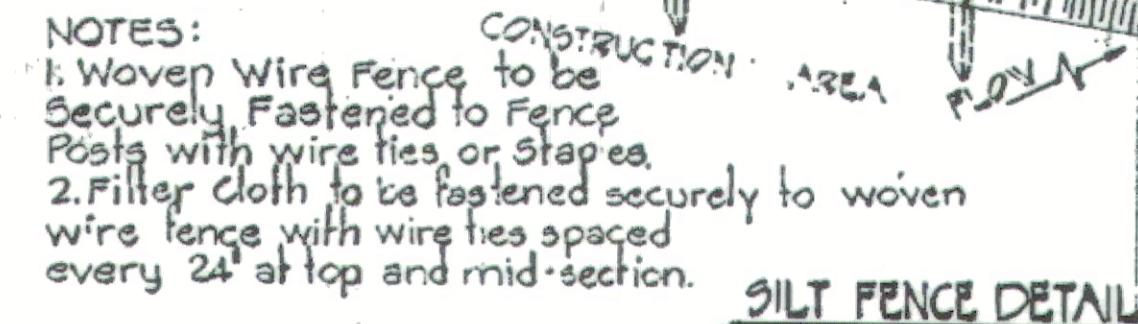
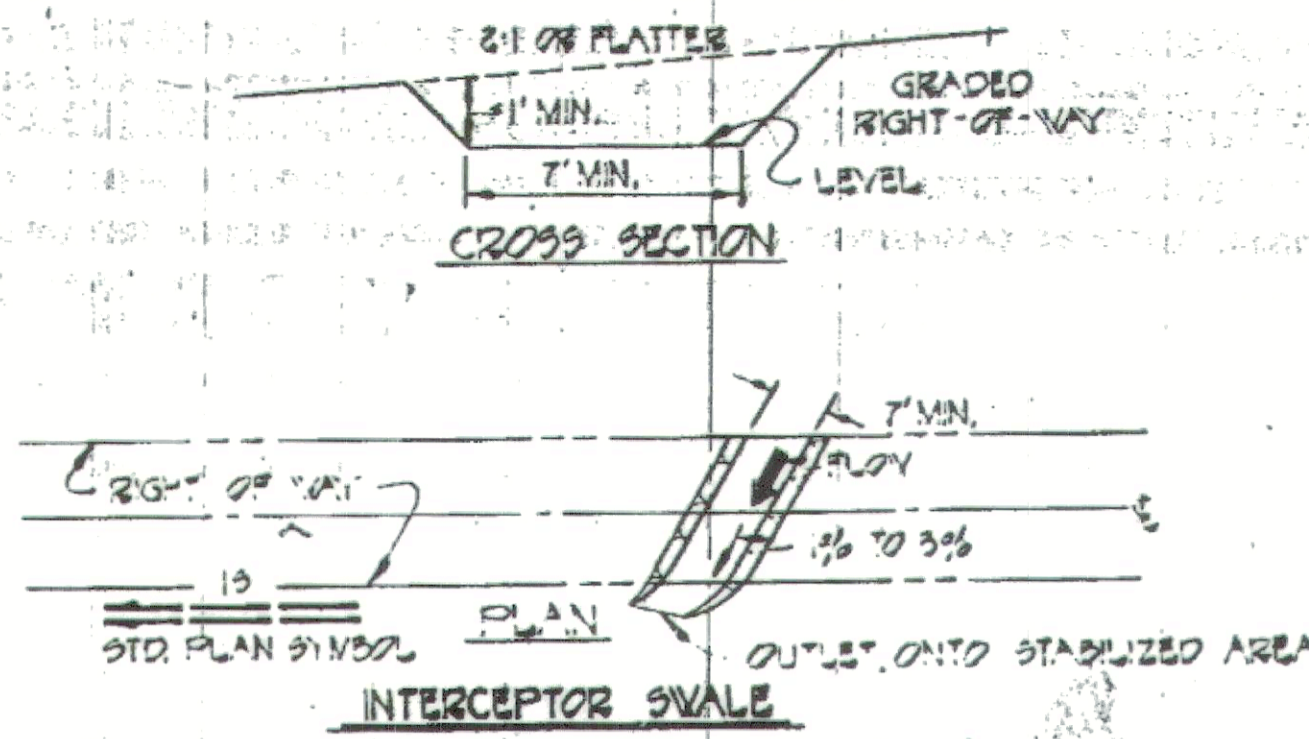
CHAMBERLEA SANITARY SEWERS
 CHAMBERLEA PUMPING STATION
 ELECTION DISTRICT NO. 2

DRAWING NO.	SCALE
OF 17	1" = 800'

EPA NO. C-240594-01 (14)
 CONTRACT NO. 2742-S
 CAPITAL PROJECT NO. S-4-6067
 CHAMBERLEA SANITARY SEWERS
 CHAMBERLEA PUMPING STATION

SEDIMENT CONTROL NOTES

1. Specifications for the Sediment Control Details shown herein are included in the U.S.D.A. Soil Conservation Service "Standards and Specifications for soil erosion and sediment control in developing areas."
2. The developer shall notify the Howard County Office of Inspection and Permits at least 24 hours prior to beginning any construction shown herein (992-2435 or 992-2436).
3. All sediment control structures to remain in place until permission for their removal has been obtained from the Howard County Office of Inspection and Permits (992-2435 or 992-2436).
4. All graded areas shall be stabilized in accordance with the following requirements:
- Site Preparation:
 - Mow or disc the areas to be seeded with the following materials at the specified rate to a depth of 3":
 - Pulverized limestone at 1 1/2 tons/acre.
 - Commercial fertilizer 10-10-10 at 3/4 tons/acre.
 - Super phosphate at 800 lbs./acre.
 - Seed:
 - Sow the following seed mixture at the specified rate with a mechanical spreader:
 - Temporary - Italian or Perennial Ryegrass. (1lb./1000 sq. ft.)
 - Permanent - (Slender Flatter than 3:1) - Common Kentucky Bluegrass 40%
Wheat Bluegrass-40%, Red Fescue 20% (3 lbs./1000 sq. ft.)
 - Slopes steeper than 3:1 - Ground Cover
 - The seeded area shall be raked with a York Rake (minimum of 2 passes), covered and compacted with a cultipacker or other approved method.
 - Mulching:
 - Seeded areas shall be uniformly mulched immediately after seeding with unweathered small grain straw at the rate of 1 1/2 to 2 tons/acre.
 - Tie mulch down with liquid asphalt at 0.1 gal./sq. y. or emulsified asphalt at 0.04 gal./sq. y.
 - Seeding:
 - Apply 10-10-10 fertilizer at 1000 lbs./acre. (25 lbs./1000 s.f.)
 - Apply ground agricultural limestone at 2000 lbs./acre. (50 lbs./1000 s.f.)
 - Incorporate both lime and fertilizer into soil by disking. Firm up after incorporation.
 - Lay sod to a tight fit. Roll to insure contact with underlying soil. Water as necessary for first two weeks (in summer) to insure establishment.
 - Ground Cover:
 - Crown vetch (Inoculated) at 15 lbs./acre, and Kentucky 31 Tall Fescue (certified) at 40 lbs./acre. (2:1 maximum slope)
5. The contractor shall place plywood braced with sand bags at the inlet end of unfinished drain pipes at the end of each work day.
6. All stockpiles shall be protected with straw bale dikes, silt fences, or other approved sediment control devices.



NOTES:
 1. Woven Wire Fence to be Securely Fastened to Fence Posts with wire ties or Staples.
 2. Filter Cloth to be fastened to woven wire fence with wire ties spaced every 24" at top and mid-section.

LOOSE-LAID RIPRAP DETAIL
 Riprap to consist of dense rock of random shapes and sizes, resistant to the action of air, water, and suitable for bank protection. All rocks shall weigh a minimum of 150 lbs.

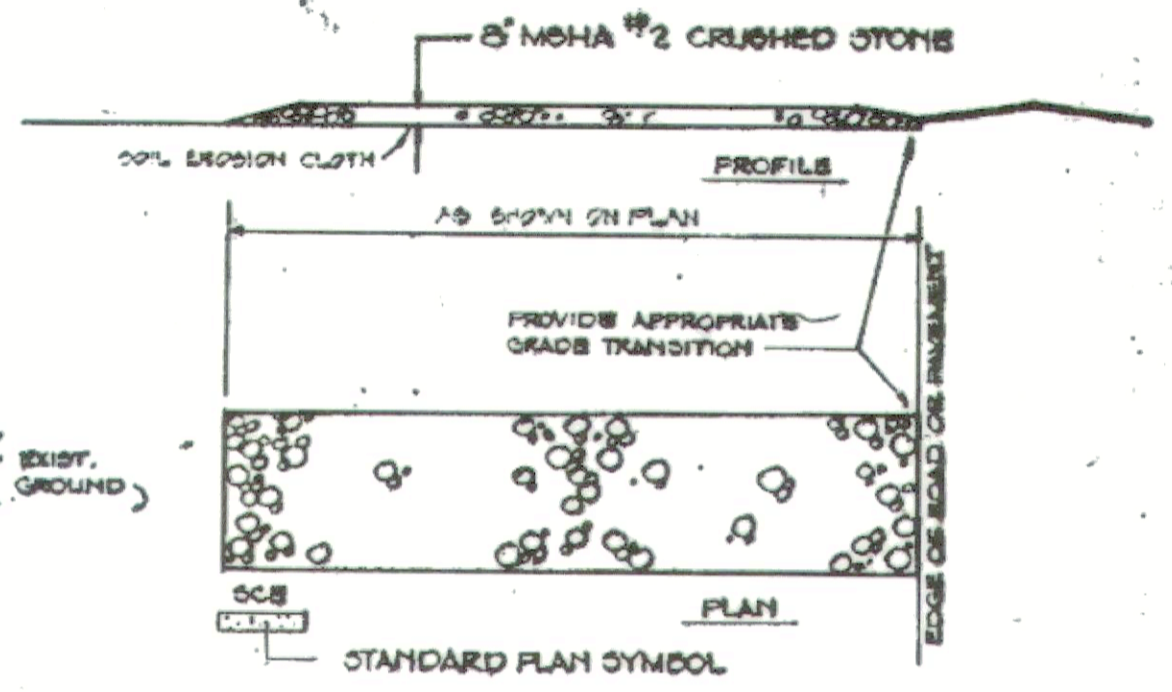
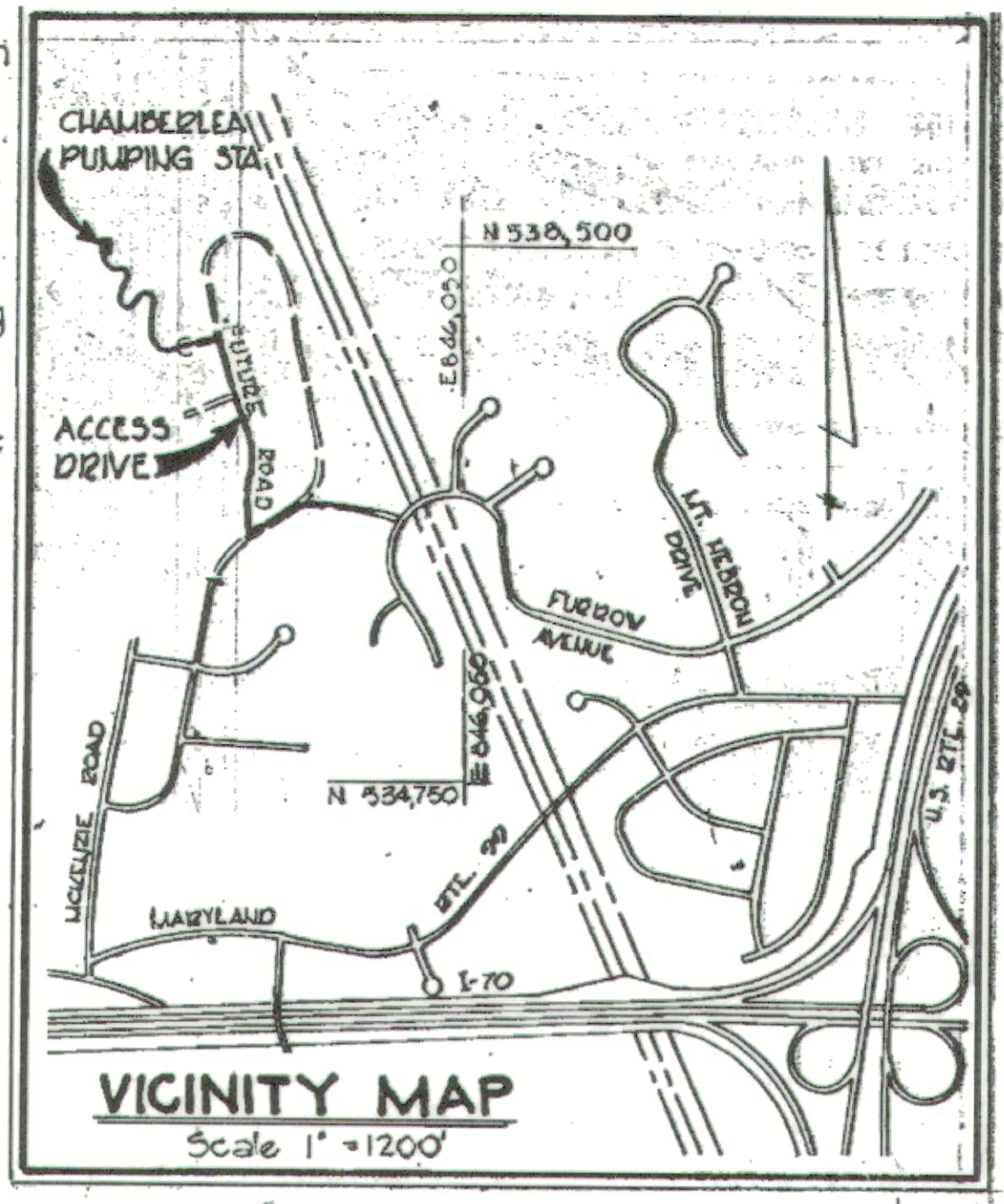
STABILIZED CONSTRUCTION ENTRANCE
 Stone size - MSHA No. 2 or AASHTO designation M43 size No. 2. Place stone on soil erosion cloth for its entire width and length. When necessary, wheels shall be washed to remove sediment prior to entering public road.

VILE ANALYSIS

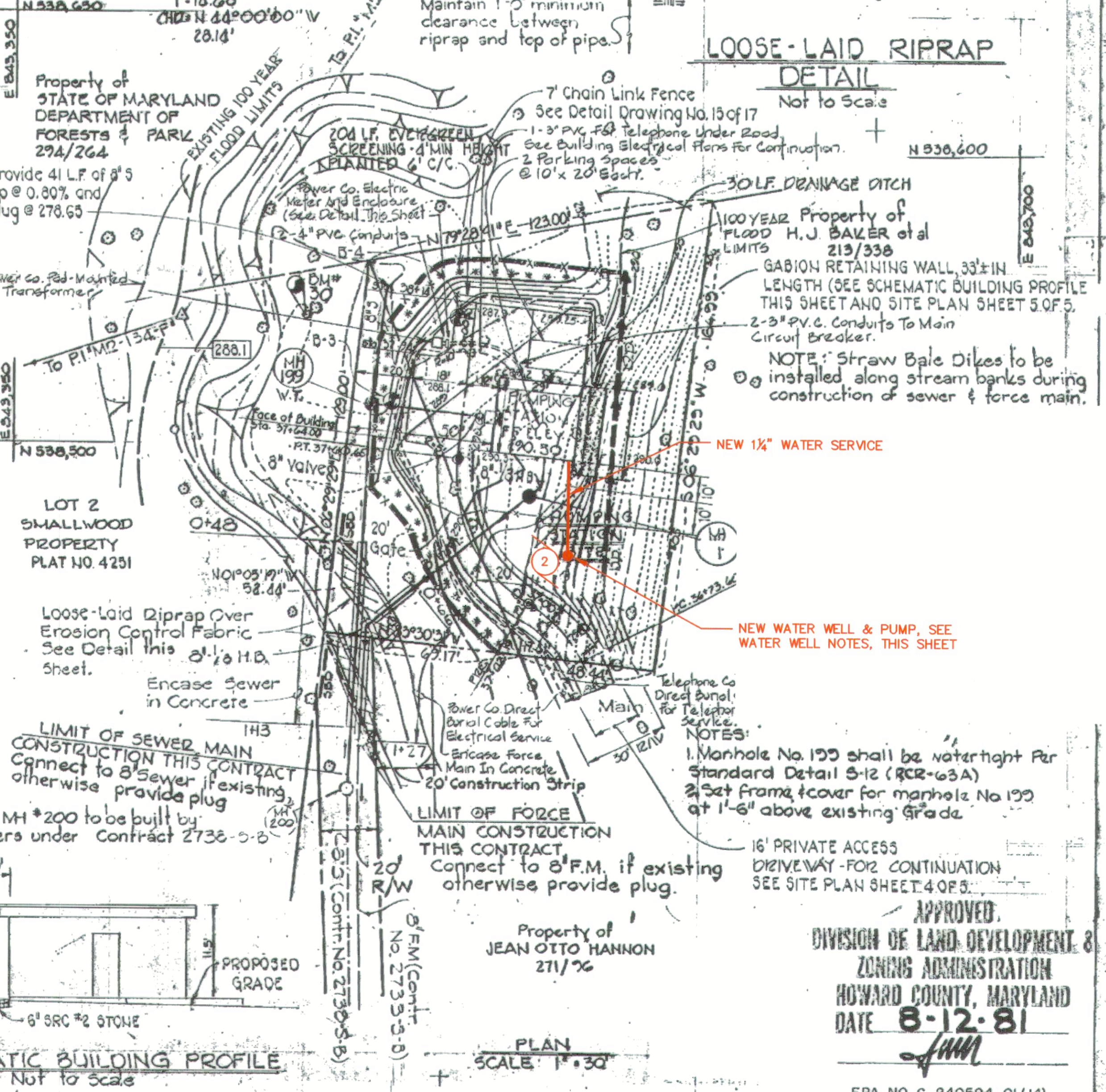
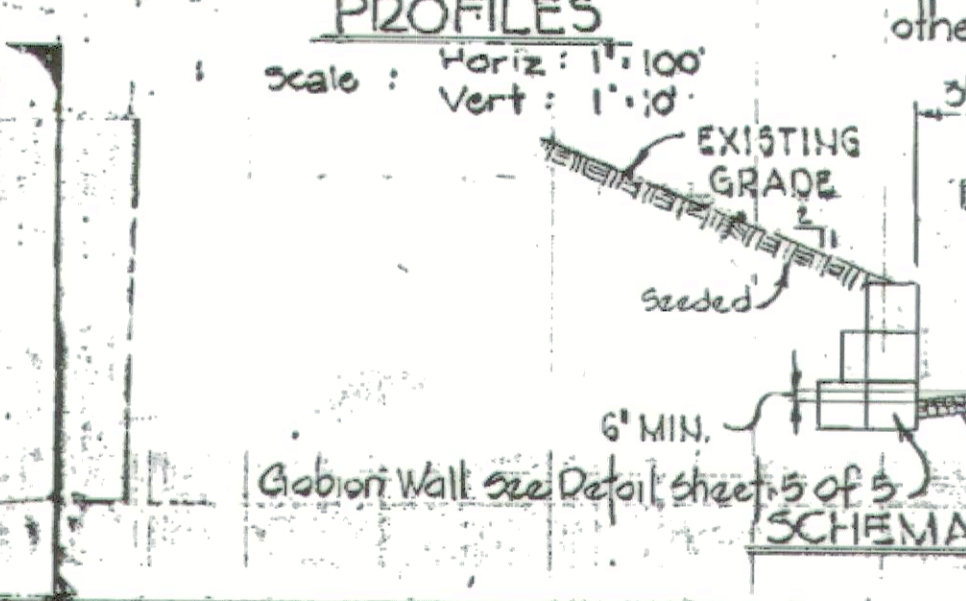
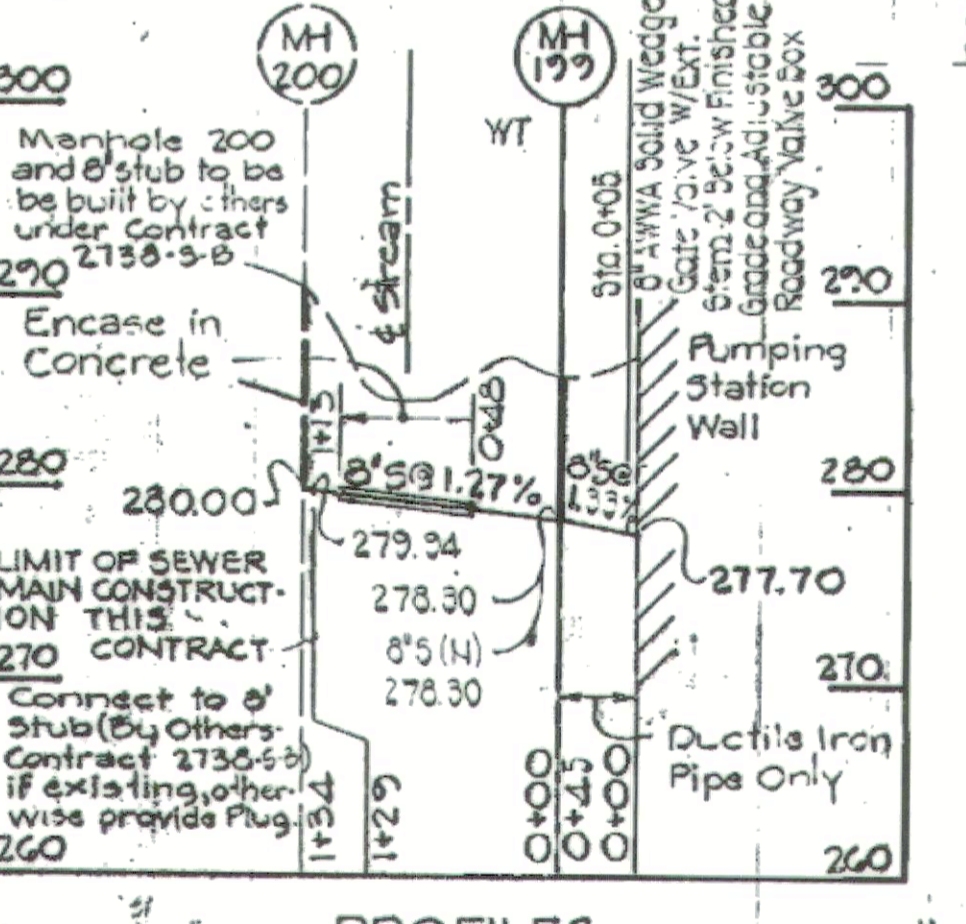
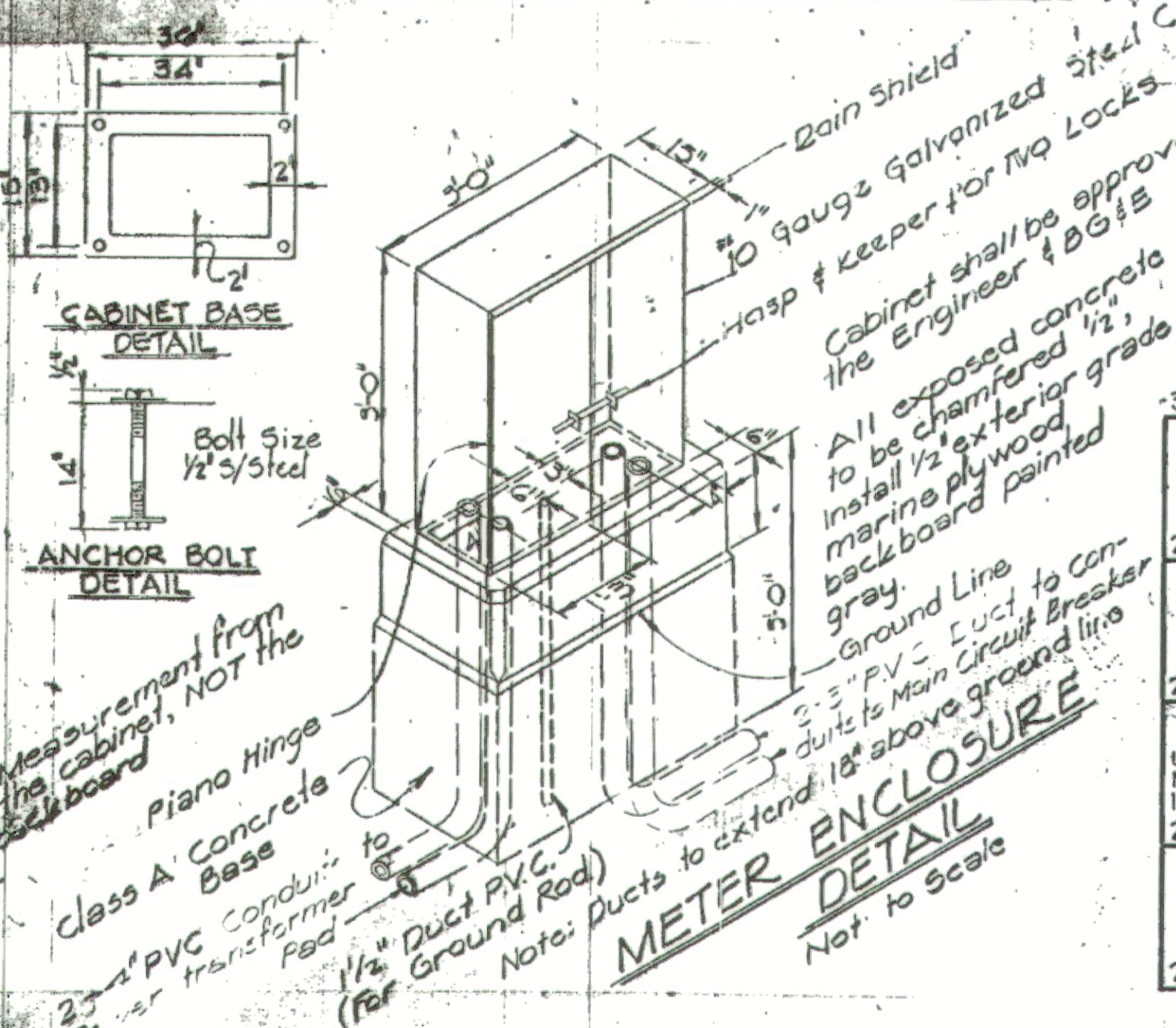
Total Area of Pumping Station Site	0.997Ac.
Total Area Disturbed	0.236Ac.
Total Area Paved	0.076Ac.
Present Zoning	R-20
Proposed Use	Pumping Station

PARKING ANALYSIS

Maximum Number of Service Vehicles	2
Required Parking Spaces	2
Parking Spaces Provided	2



- WATER WELL NOTES:**
- FINAL LOCATION OF WATER WELL TO BE COORDINATED WITH THE COUNTY AND DETERMINED IN THE FIELD.
 - INSTALL 3P, 30A, NEMA 4X NON-FUSED DISCONNECT DIRECTLY ADJACENT TO NEW WELL, SEE MOUNTING DETAIL ON SHEET 17B.
 - POWER TO THE DISCONNECT SHALL BE 3-#10 & 1-#10 GRD IN 1" PVC COATED RIGID CONDUIT DIRECT BURIED, ROUTED FROM THE WELL PUMP CONTROL PANEL LOCATED IN THE CONTROL ROOM.
1. Manhole No. 199 shall be watertight Per Standard Detail S-12 (RCR-63A)
 2. Set frame & cover for manhole No. 199 at 1'-6" above existing grade.



APPROVED
 DIVISION OF LAND DEVELOPMENT & ZONING ADMINISTRATION
 HOWARD COUNTY, MARYLAND
 DATE 8-12-81
 JMM



REV.	DATE	DESCRIPTION
3-18	2018 UPGRADE	

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.
 J. M. [Signature] 8-28-81

HOWARD SOIL CONSERVATION DISTRICT
 REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS
 [Signature] 8-28-81

PURDUM & JESCHKE
 CONSULTING ENGINEERS
 LAND SURVEYORS
 1023 North Calvert Street
 Baltimore, Maryland 21202 301/837-0194

APPROVED FOR PUBLIC WATER, PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND ROADS, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 [Signature] 8-28-81

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
 [Signature] 8-28-81

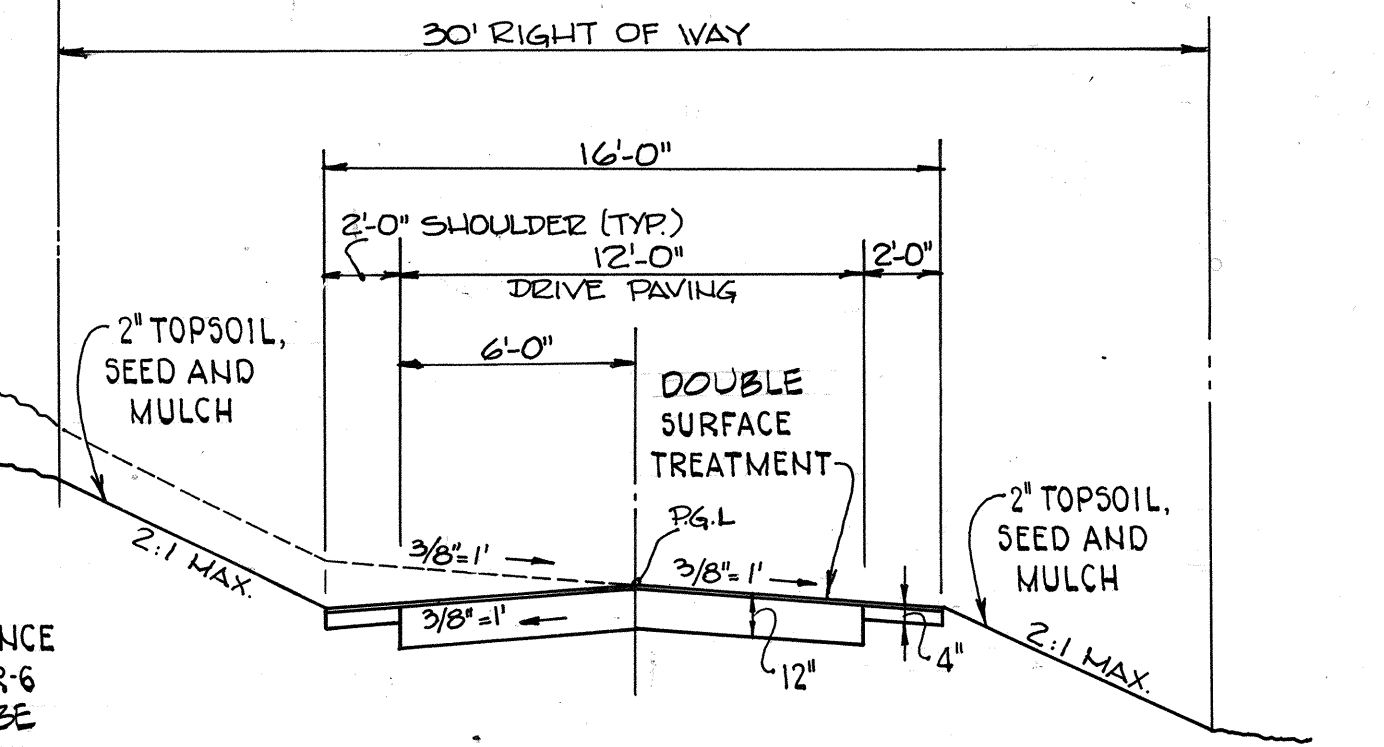
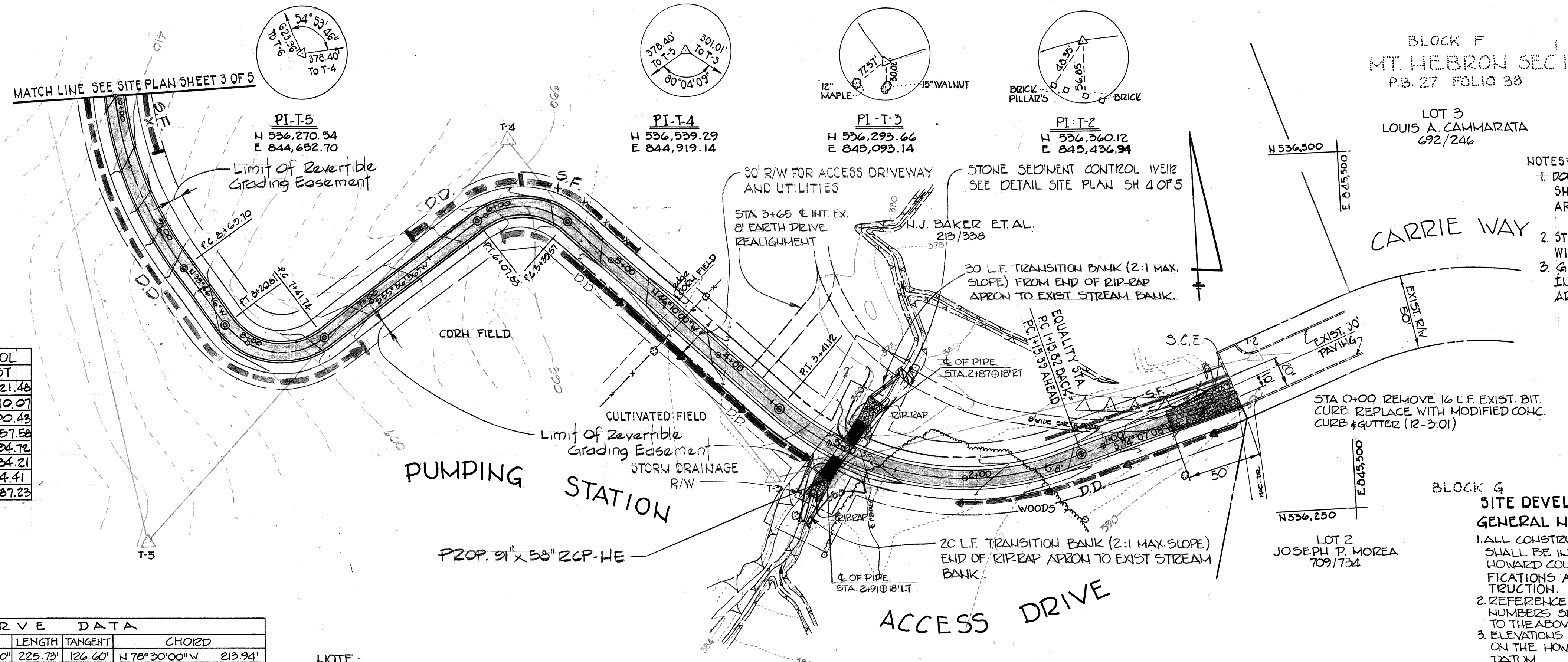
DEVELOPER
 I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL, AND I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD COUNTY CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS DEEMED NECESSARY. DEVIATION FROM THIS PLAN WILL NOT BE MADE UNLESS AUTHORIZED BY THE HOWARD SOIL CONSERVATION DISTRICT.
 [Signature] 8-28-81

PROFESSIONAL ENGINEER
 I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 [Signature] 8/27/80



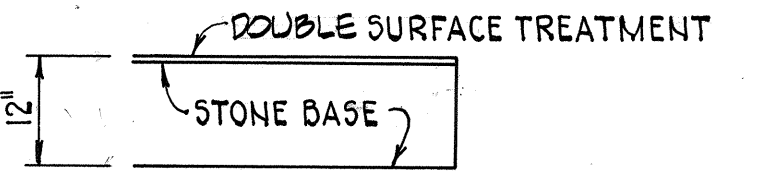
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 PROJECT NO. S-4-6067
 CONTRACT NO. 2042-S
CHAMBERLEA SEWERS
CHAMBERLEA PUMPING STATION
SITE DEVELOPMENT PLAN
 ELECTION DISTRICT NO. 2
 TAX MAP 17
 HOWARD COUNTY, MD.
 PARCEL
 SCALE: AS SHOWN
 Designed: P.W.K.
 Drawn: P.W.R.
 Checked: P.W.K.
 DWG. NO. 2 OF 17
 SITE PLAN SH. 1 OF 5
 8/28/81 SDF-81-174

AS-BUILT REPLACEMENT SHEET 17-20

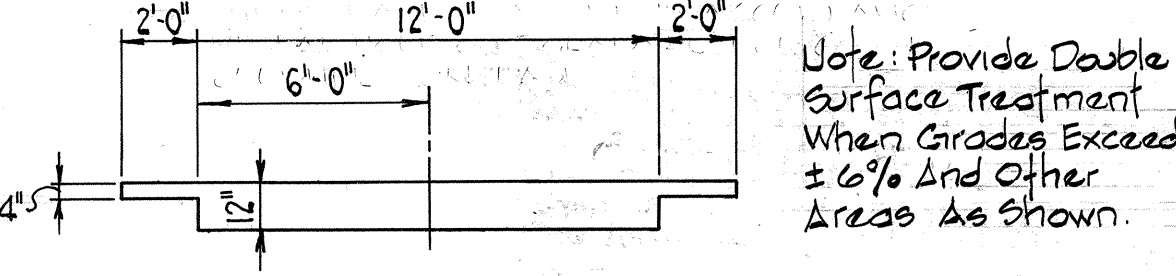


NOTE: DASHED LINE INDICATES FULL CROSS SLOPE IN DIRECTION OF NATURAL DRAINAGE AS SHOWN IN PLANS. USE 50' TRANSITIONS BETWEEN CHANGE IN CROSS SECTION.

TYPICAL DRIVE SECTION - STA. 26+15.63 TO 37+60
NOT TO SCALE



TYPICAL ON-SITE PAVEMENT SECTION
NOT TO SCALE



TYPICAL GRAVEL SURFACED ACCESS DRIVE
STA. 0+00 TO 25+12.57
NOT TO SCALE

STA	NORTH	EAST
0+00	536,270.54	844,214.46
1+15.82	536,297.47	845,310.07
3+41.55	536,310.33	845,100.43
5+39.51	536,477.47	844,957.58
6+07.89	536,492.66	844,894.78
7+41.74	536,407.04	844,784.21
8+20.81	536,420.51	844,714.41
8+69.70	536,461.15	844,687.23

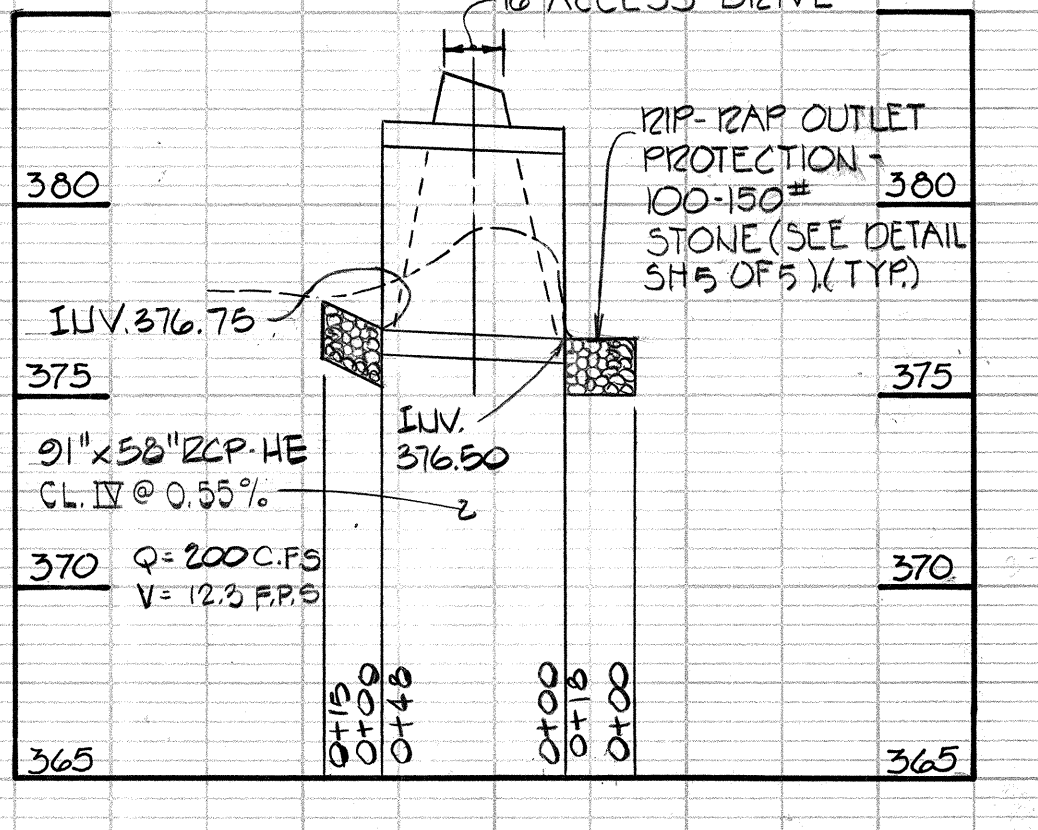
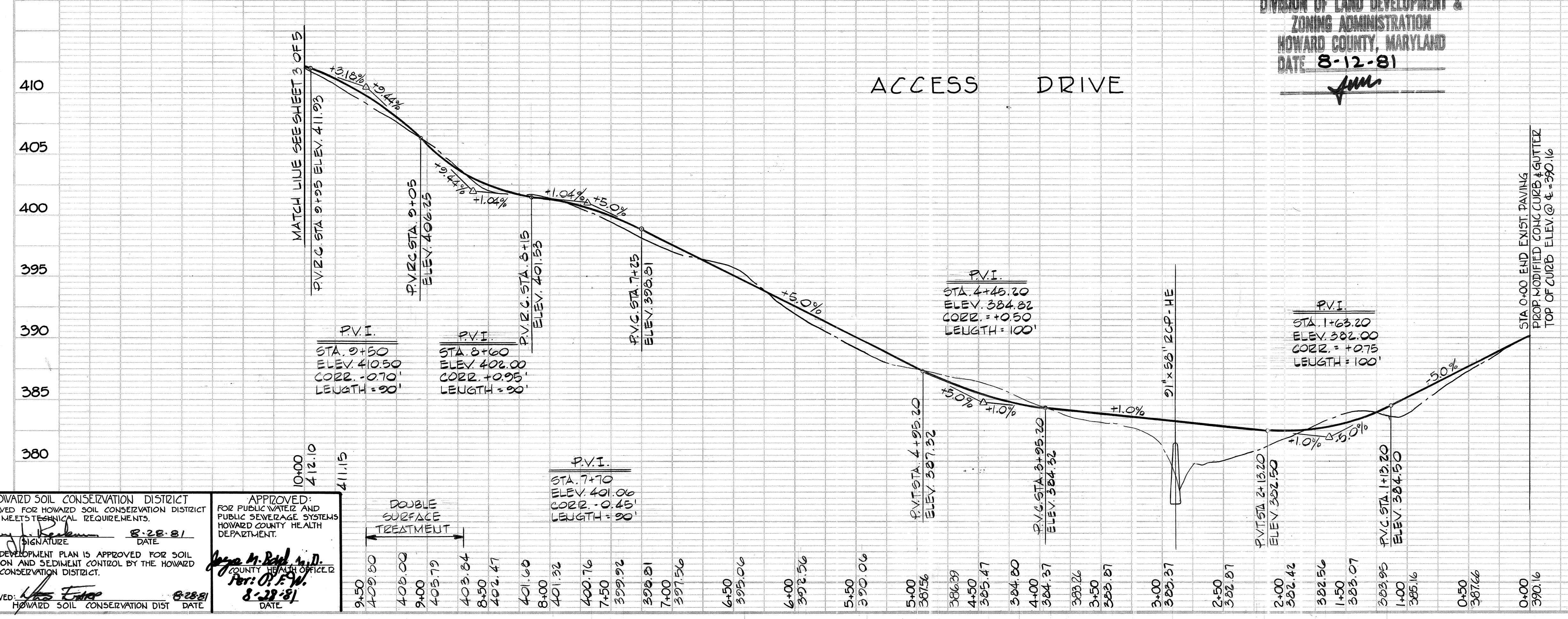
STA	STA	RADIUS	Δ	LENGTH	TANGENT	CHORD
1+15.82	3+41.55	200.00'	47°40'00"	225.73'	126.60'	147°30'00"W 219.94'
3+41.55	5+39.51	50.00'	78°15'00"	63.26'	40.65'	118°51'32"W 63.08'
5+39.51	6+07.89	50.00'	80°36'46"	79.07'	50.53'	117°02'40"W 71.09'
6+07.89	8+20.81	250.00'	38°29'22"	167.94'	87.23'	114°31'35"W 164.50'

NOTE: STRAW BALE DIKES MAY BE SUBSTITUTED FOR SILT FENCE SHOWN ON THIS SHEET.

PLAN
SCALE 1" = 50'

APPROVED
DIVISION OF LAND DEVELOPMENT &
ZONING ADMINISTRATION
HOWARD COUNTY, MARYLAND
DATE 8-12-81

ACCESS DRIVE



PROFILE CULVERT STA. 2+89
NOTE: Provide Granular Bedding, 6" Min. Below Bottom of Pipe and Extending Up to Spring Line of Pipe.

PROFILES
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'

HOWARD SOIL CONSERVATION DISTRICT
APPROVED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.
DATE 8-28-81

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS AND ROADS HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
DATE 8-28-81

9+50	409.80	406.00	9+00	405.79	403.84	8+50	402.47	401.60	8+00	401.32	400.76	7+50	399.92	399.21	7+00	397.56	6+50	395.06	6+00	392.56	5+50	390.06	5+00	387.56	4+50	386.29	4+00	385.47	3+50	384.80	3+00	384.37	2+50	383.26	2+00	382.56	1+50	383.07	1+00	383.95	0+50	385.16	0+00	387.66	0+00	390.16
------	--------	--------	------	--------	--------	------	--------	--------	------	--------	--------	------	--------	--------	------	--------	------	--------	------	--------	------	--------	------	--------	------	--------	------	--------	------	--------	------	--------	------	--------	------	--------	------	--------	------	--------	------	--------	------	--------	------	--------

REVISION 5

PURDUM & JESCHKE
CONSULTING ENGINEERS
LAND SURVEYORS
1023 North Calvert Street
Baltimore, Maryland 21202
301/837-0194

APPROVED FOR PUBLIC WATER, PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND ROADS HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
DATE 8-28-81

APPROVED HOWARD COUNTY OFFICE OF PLANNING AND ZONING.
DATE 8-28-81

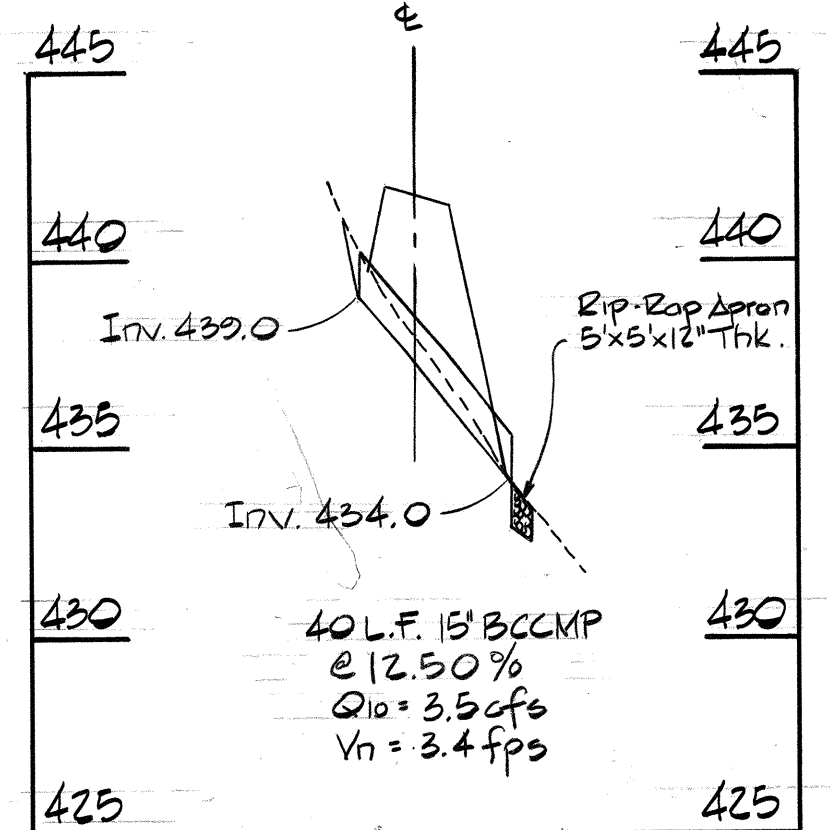
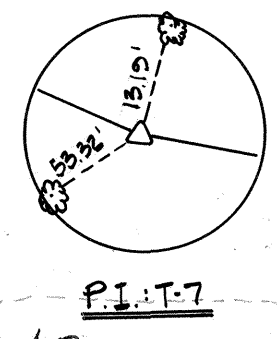
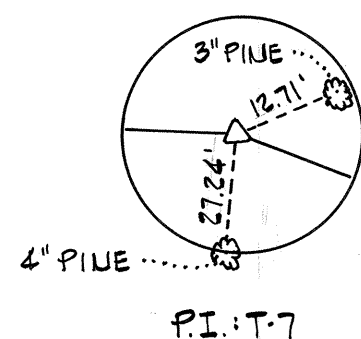
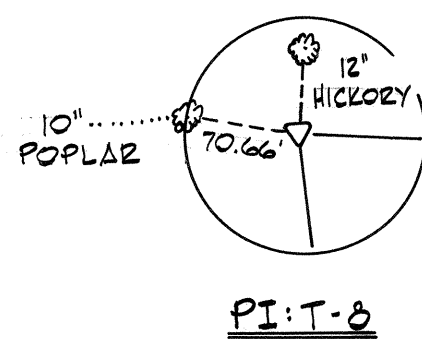
DEVELOPER:
I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS DEEMED NECESSARY. DEVIATION FROM THIS PLAN WILL NOT BE MADE UNLESS AUTHORIZED BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.
DATE 8-28-81

PROFESSIONAL ENGINEER:
I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND VARIABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.
DATE 2/3/81

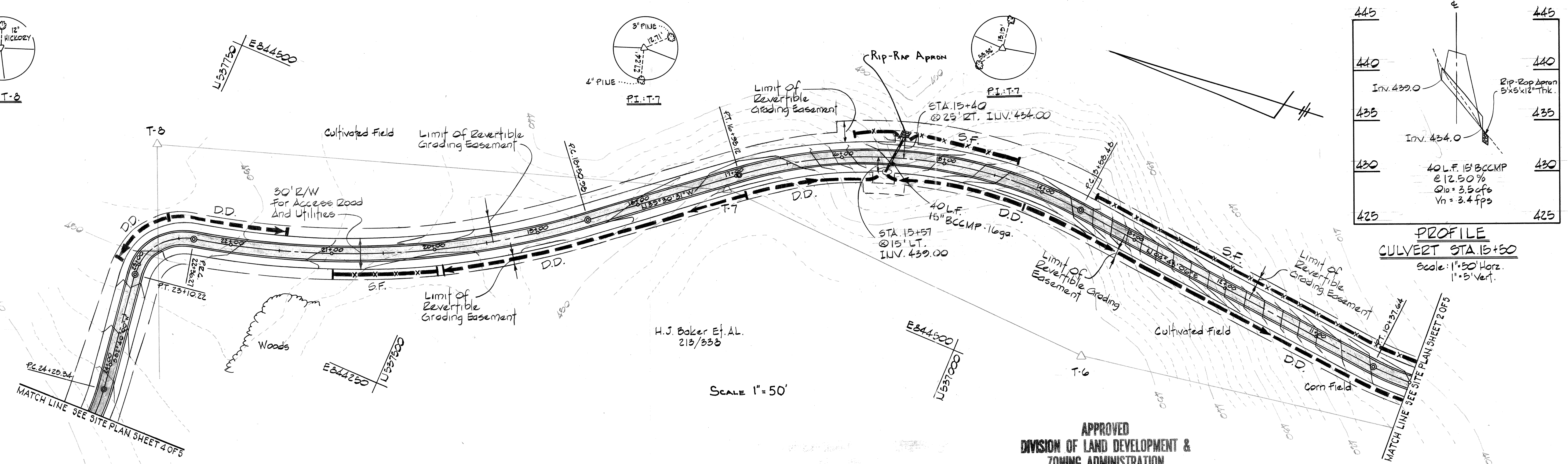


HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT 5-4-6067
CONTRACT #721-5
CHAMBERLEA PUMPING STATION
SITE DEVELOPMENT PLAN
ACCESS DRIVE
ELECTION DISTRICT NO. 2
TAX MAP 17
HOWARD COUNTY, MD.
PARCEL

DESIGNED: E.T.
DRAWN: C.O.P.
CHECKED: E.T.
DRAWING NO. 3 OF 17
SITE PLAN SH.20F.5
SCALE: AS SHOWN



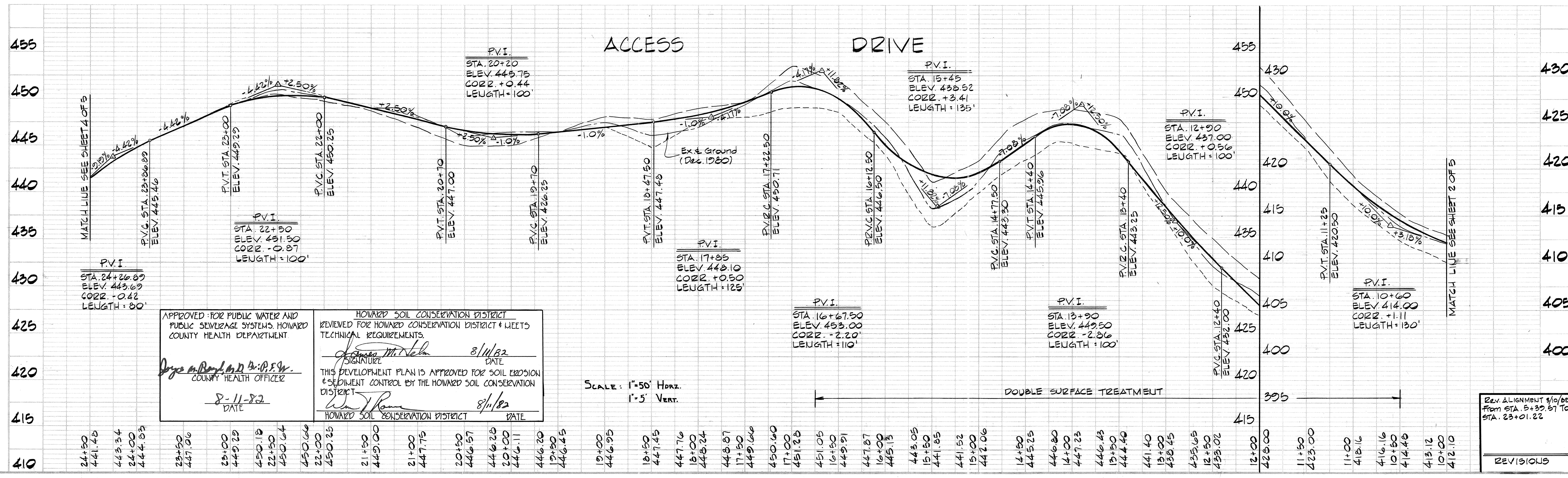
STA.	NORTH	EAST
10+37.64	536620.69	844645.89
15+58.48	536940.45	844672.28
16+28.12	537256.56	844578.25
18+50.98	537374.50	844476.00
22+36.27	537117.48	844308.36
23+10.22	537756.18	844253.18
24+25.34	537761.46	844159.00



STA.	STA.	RADIUS	Δ	L	T	CHORD
15+58.48	16+28.12	440.00	44.18-37	339.64	178.79	N 17° 23' 42" W 331.27'
18+50.98	22+36.27	820.00	26-55-18	335.29	196.27	N 26° 02' 52" W 381.76'
22+36.27	23+10.22	500.00	24-44-41	78.95	48.61	N 64° 57' 36" W 67.89'

APPROVED
DIVISION OF LAND DEVELOPMENT &
ZONING ADMINISTRATION
HOWARD COUNTY, MARYLAND
DATE 8-12-81

SCALE 1" = 50'



APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT
Doyle M. Boyd, D.D. & P.E.
COUNTY HEALTH OFFICER
8-11-82 DATE

HOWARD SOIL CONSERVATION DISTRICT REVIEWED FOR HOWARD CONSERVATION DISTRICT MEETS TECHNICAL REQUIREMENTS.
James M. Nelson
SIGNATURE DATE 8/11/82
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION & SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
Walter J. Roman
SIGNATURE DATE 8/11/82
HOWARD SOIL CONSERVATION DISTRICT DATE

SCALE: 1"=50' Horiz.
1"=5' Vert.

REVISIONS
REV. ALIGNMENT 8/10/82 From STA. 5+39.57 To STA. 23+01.22

PURDUM & JESCHKE
CONSULTING ENGINEERS
LAND SURVEYORS
1023 North Calvert Street
Baltimore, Maryland 21202 301/837-0184

APPROVED FOR PUBLIC WATER PUBLIC SEWERAGE STORM DRAINAGE SYSTEMS AND ROADS, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
Walter J. Roman
DIRECTOR DATE 8-11-82
Walter J. Roman
CHIEF, BUREAU OF ENGINEERING DATE 8-11-82

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING.
William J. Marston
PLANNING DIRECTOR DATE 8-11-82
William J. Marston
CHIEF, DIV. OF LAND DEV. & ZONING ADMIN. DATE 8-11-82

DEVELOPER: I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND DRAINAGE FOR EROSION AND SEDIMENT CONTROL AND I ALSO AUTHORIZED PERIODIC ON SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS DEEMED NECESSARY. DEVIATION FROM THIS PLAN WILL NOT BE MADE UNLESS AUTHORIZED BY THE HOWARD SOIL CONSERVATION DISTRICT.
Doyle M. Boyd
SIGNATURE DATE 8-11-82

PROFESSIONAL ENGINEER: I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
William G. Jeschke II
SIGNATURE DATE 8/3/82
WILLIAM G. JESCHKE II REG. NO. 4575 DATE

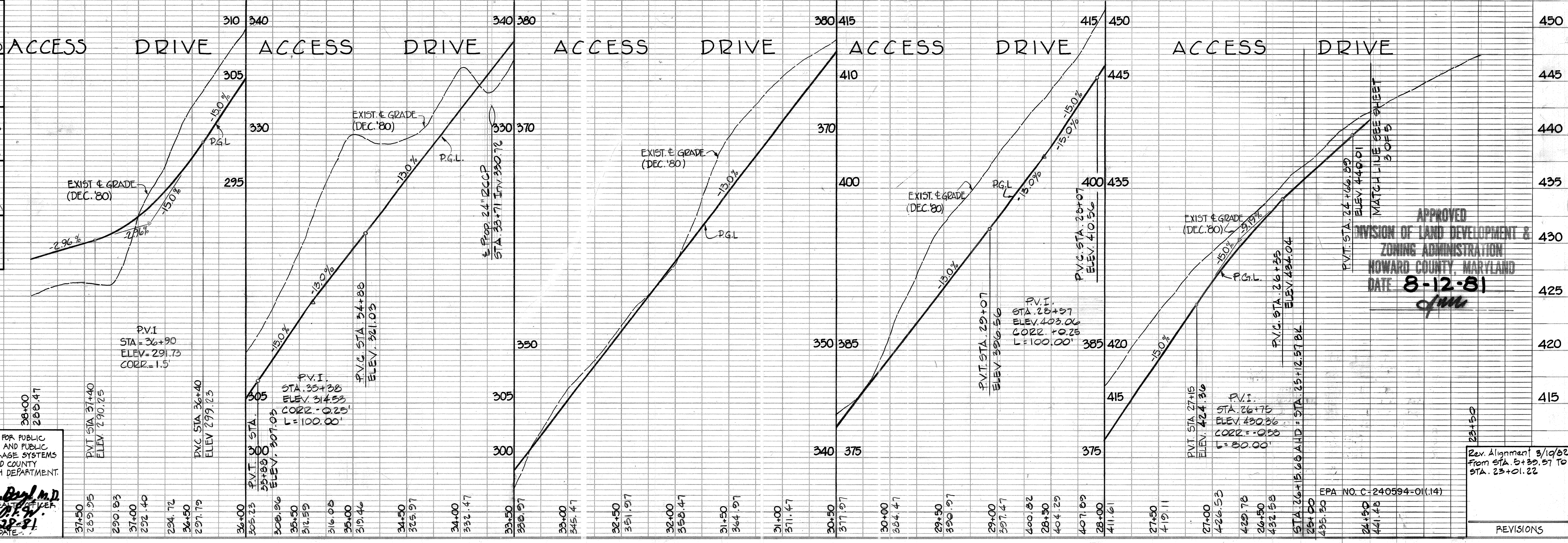
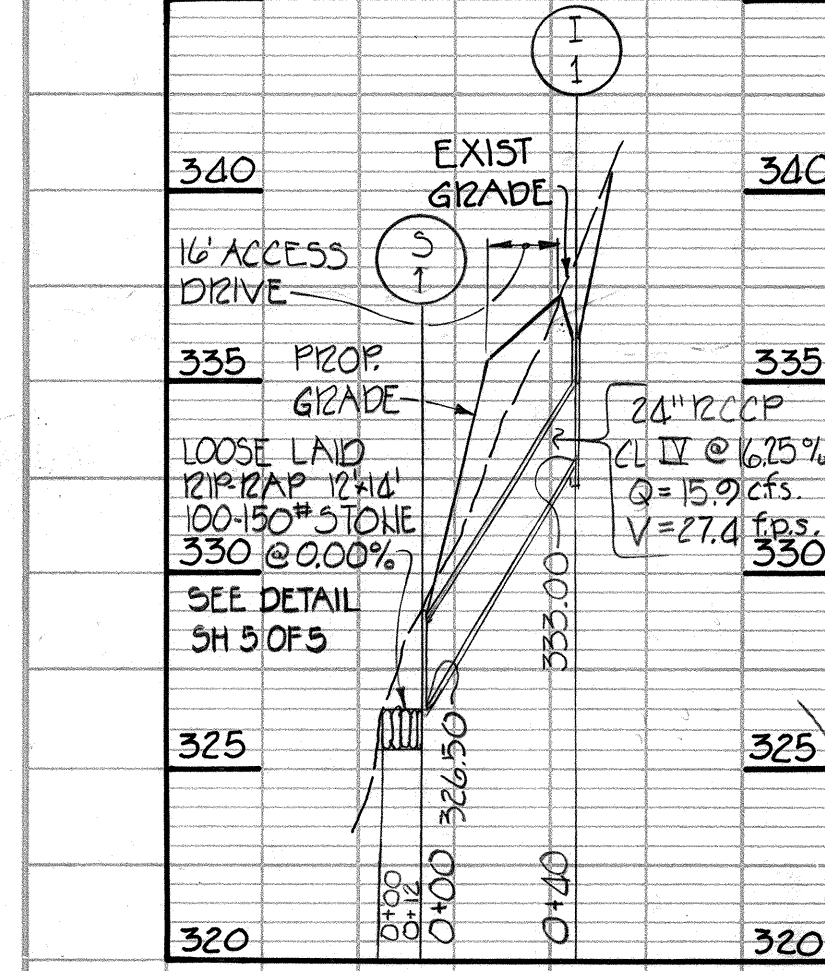
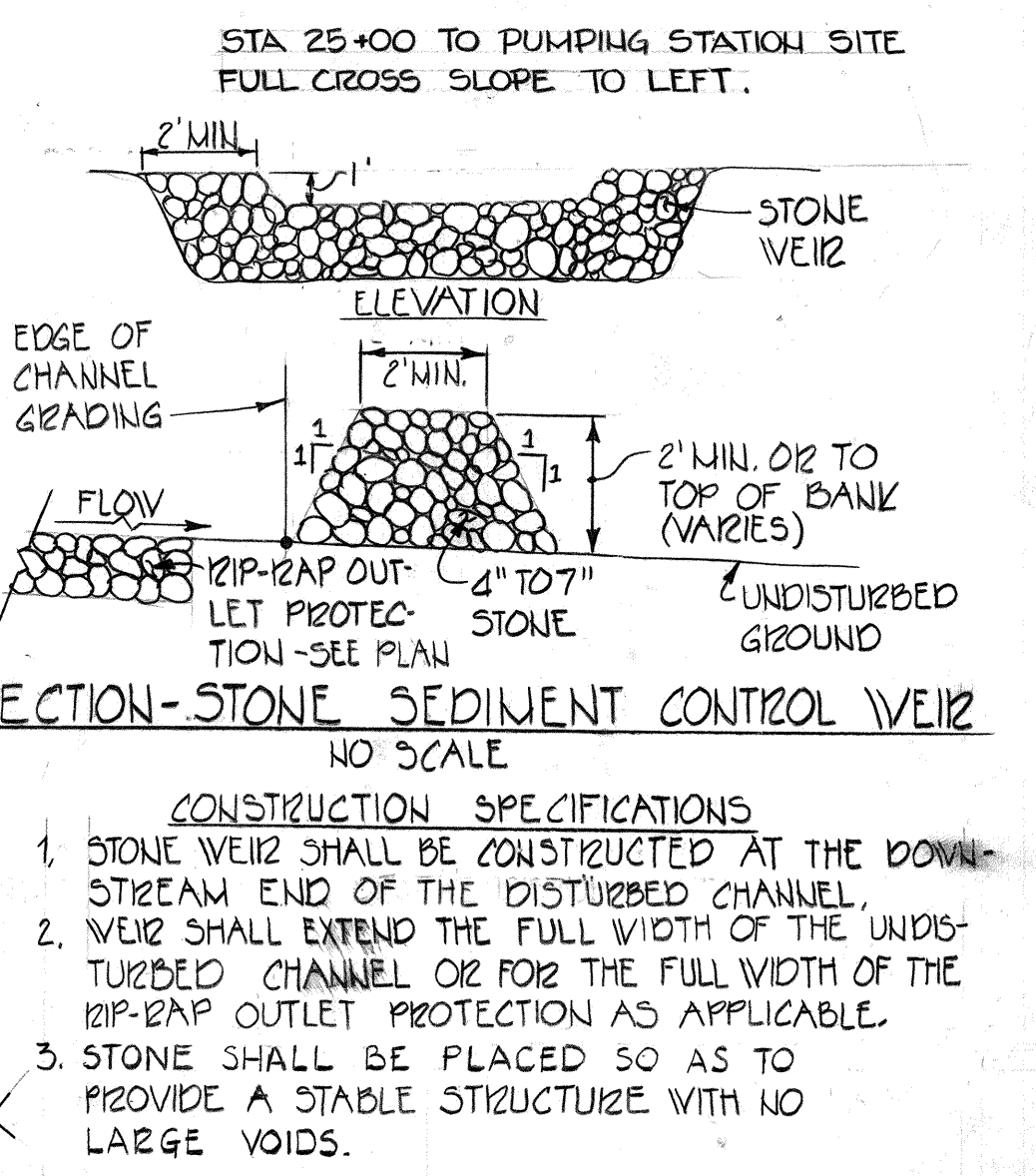
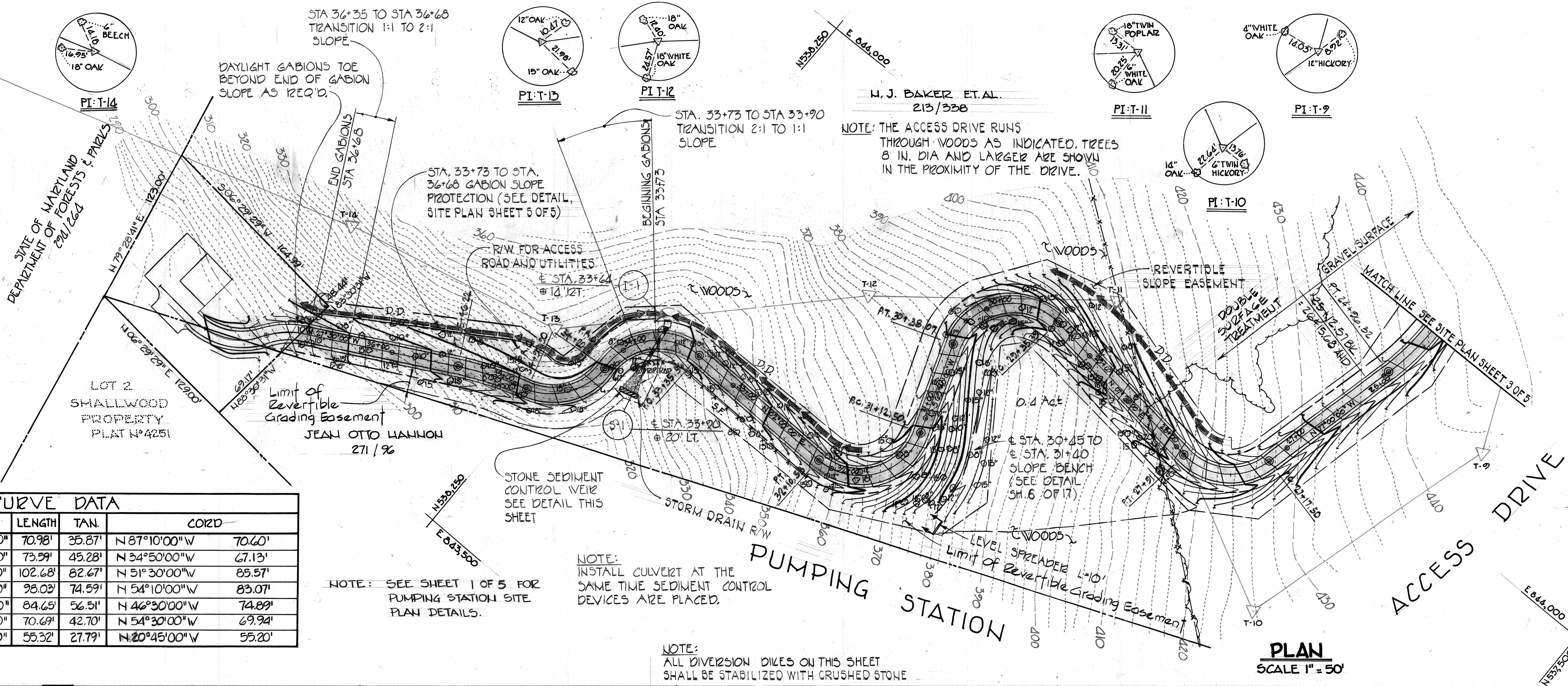


HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT 9-4-6061
CONTRACT 8742-S
CHAMBERLEA SEWERS
CHAMBERLEA PUMPING STATION
SITE DEVELOPMENT PLAN
ACCESS DRIVE
ELECTION DISTRICT NO. 2 HOWARD COUNTY, MD.
TAX MAP 17 PARCEL

DESIGNED: DRAWN: CHECKED: DENG. NO. 4 OF 17 SITE PLAN SH. 3 OF 5 SCALE: AS SHOWN

STA.	NORTH	EAST
24+26.32	537744.97	844068.48
27+17.50	537771.53	843953.44
27+91.09	537826.63	843915.09
29+35.39	537769.75	843933.51
30+38.07	538023.02	843866.55
31+12.50	537997.16	843796.75
32+10.53	538045.79	843729.41
33+35.56	538170.74	843733.77
34+20.21	538222.30	843679.44
34+90.90	538260.01	843626.57
35+46.22	538311.63	843607.01
36+73.60	538424.61	843548.70

STA.	STA.	RAD.	Δ	LENGTH	TAN.	CORD
24+26.32	27+17.50	200.00'	20°20'00"	70.98'	35.87'	N 87°10'00"W 70.60'
27+17.50	27+91.09	50.00'	84°20'00"	73.59'	45.28'	N 34°50'00"W 67.13'
27+91.09	30+38.07	50.00'	117°40'00"	102.68'	82.67'	N 51°30'00"W 85.57'
30+38.07	31+12.50	50.00'	112°20'00"	98.03'	74.59'	N 54°10'00"W 83.07'
31+12.50	33+35.56	50.00'	97°00'00"	84.65'	56.51'	N 46°30'00"W 74.89'
33+35.56	34+20.21	50.00'	81°00'00"	70.69'	42.70'	N 54°30'00"W 69.94'
34+20.21	35+46.22	234.80'	13°30'00"	55.32'	27.79'	N 80°45'00"W 55.20'



HOWARD SOIL CONSERVATION DISTRICT:
 REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.
 APPROVED: *[Signature]* 8-28-81
 DATE: 8-28-81

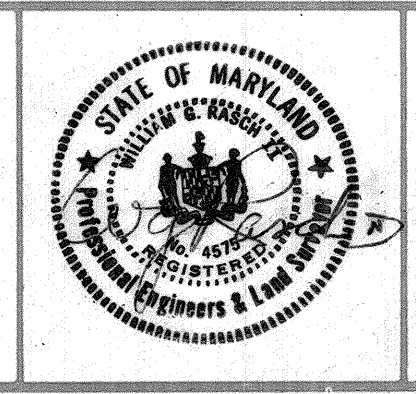
APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS AND ROADS
 HOWARD COUNTY DEPARTMENT OF HEALTH DEPARTMENT.
 APPROVED: *[Signature]* 8-28-81
 DATE: 8-28-81

APPROVED FOR PUBLIC WATER, PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND ROADS
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
 APPROVED: *[Signature]* 8-28-81
 DATE: 8-28-81

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
 APPROVED: *[Signature]* 8-28-81
 DATE: 8-28-81

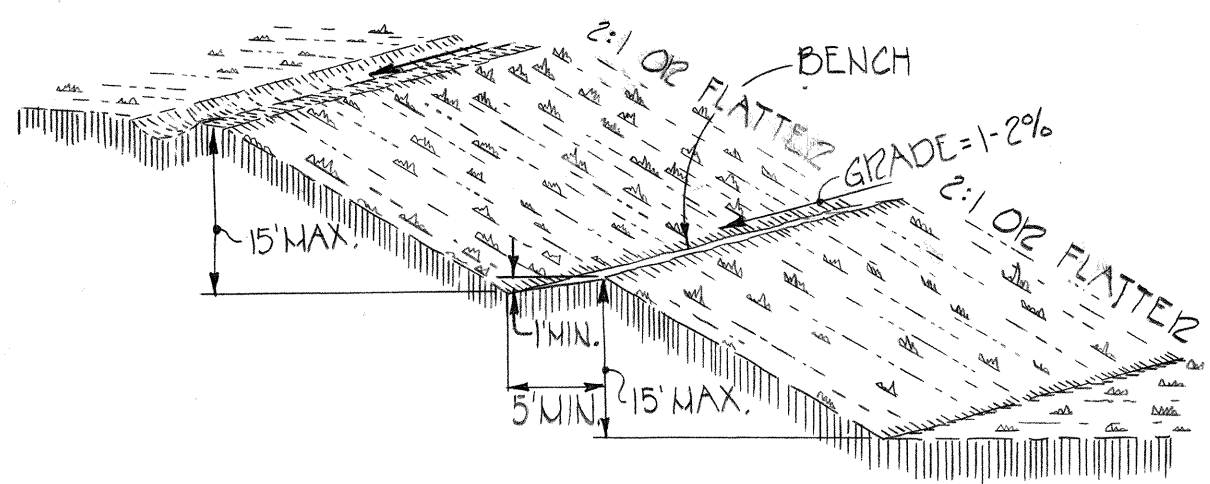
DEVELOPER:
 I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS DEEMED NECESSARY. DEVIATION FROM THIS PLAN WILL NOT BE MADE UNLESS AUTHORIZED BY THE HOWARD SOIL CONSERVATION DISTRICT.
 APPROVED: *[Signature]* 8-28-81
 DATE: 8-28-81

PROFESSIONAL ENGINEER:
 I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 APPROVED: *[Signature]* 8/28/81
 DATE: 8/28/81



HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 CAPITAL PROJECT 3-4-6007
 CONTRACT 8742-5
 CHAMBERLEA SEWERS
 CHAMBERLEA PUMPING STATION
SITE DEVELOPMENT PLAN
ACCESS DRIVE
 ELECTION DISTRICT NO. 2 HOWARD COUNTY, MD.
 TAX MAP 17 PARCEL

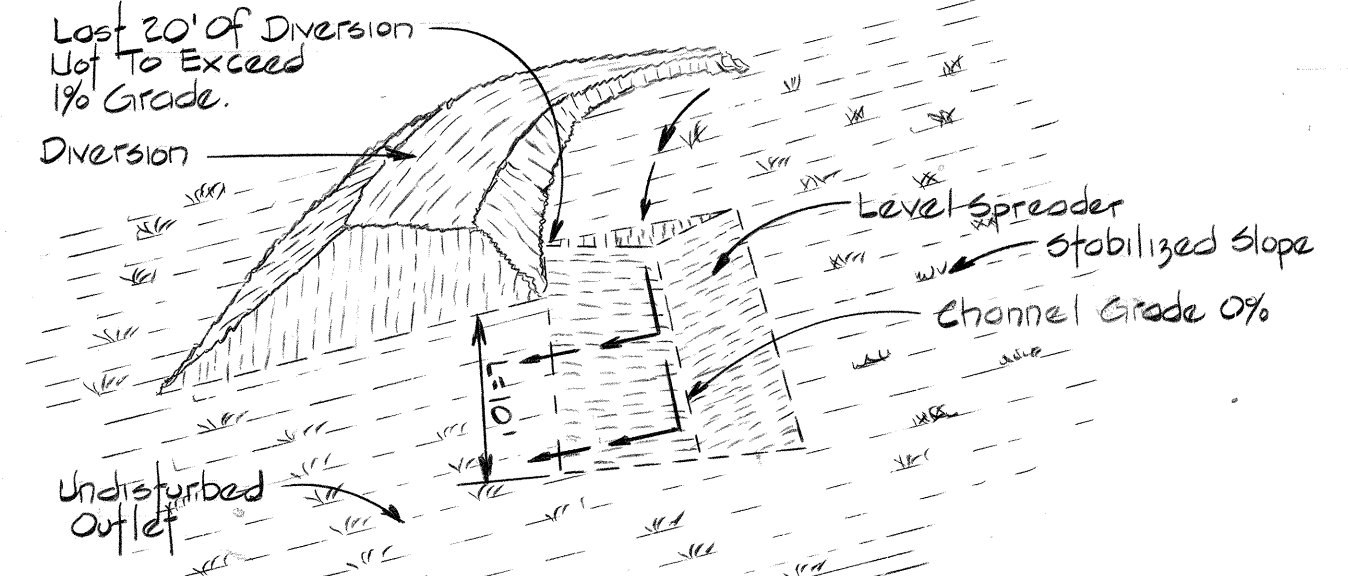
DESIGNED: R.T.
 DRAWN: C.O.P.
 CHECKED: R.T.
 DRAWG. NO. 5 OF 17
 SITE PLAN SH. 4 OF 5
 SCALE: AS SHOWN



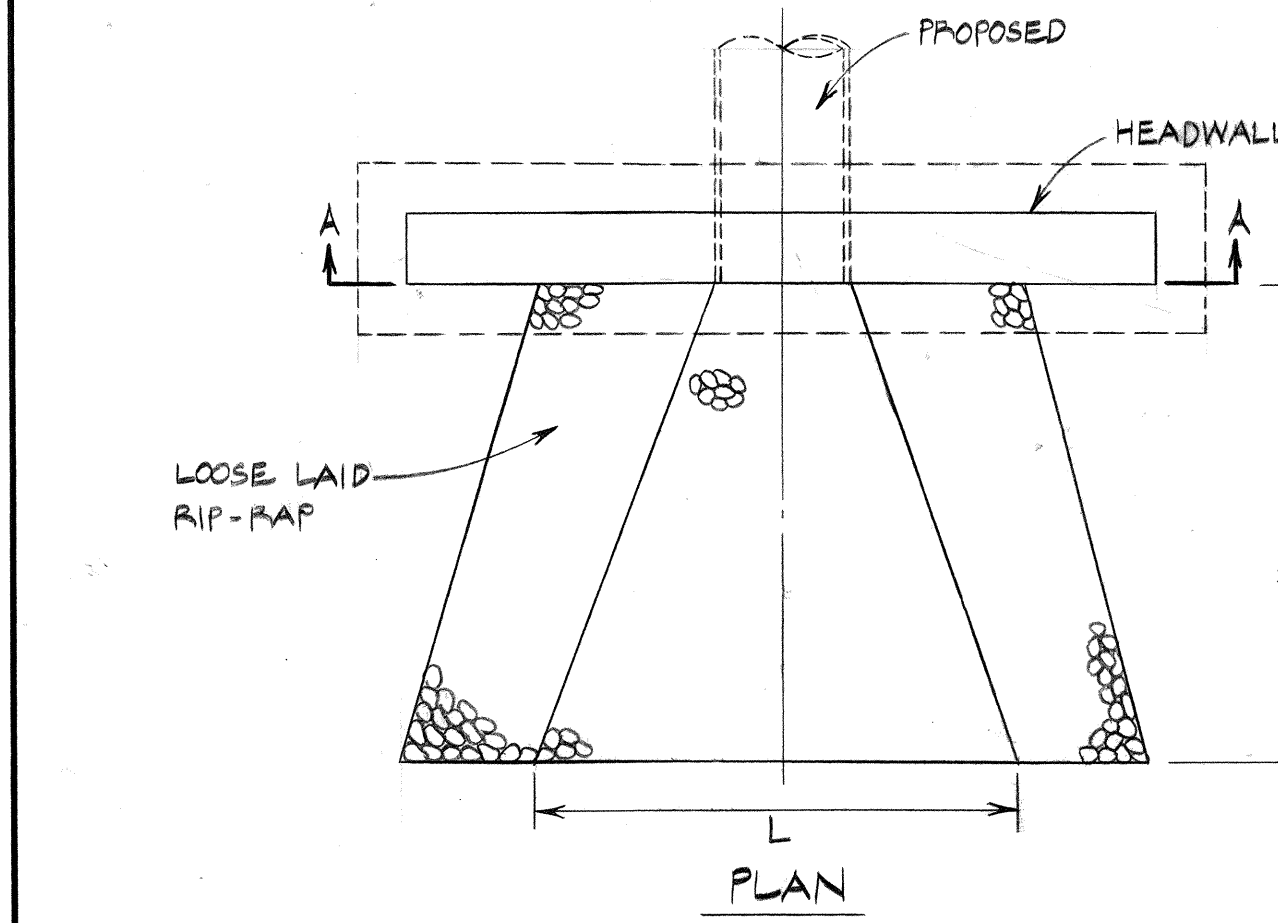
SLOPE BENCH DETAIL
NO SCALE

- NOTES**
1. ALL GRADED OR DISTURBED AREAS INCLUDING SLOPES SHALL BE PROTECTED DURING CLEANING AND CONSTRUCTION IN ACCORDANCE WITH THE APPROVED SEDIMENT CONTROL PLAN UNTIL THEY ARE PERMANENTLY STABILIZED.
 2. ALL BENCHES SHALL BE KEPT FREE OF SEDIMENT DURING ALL PHASES OF DEVELOPMENT.
 3. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS FOR SUBSURFACE DRAIN OR OTHER APPROVED METHOD.

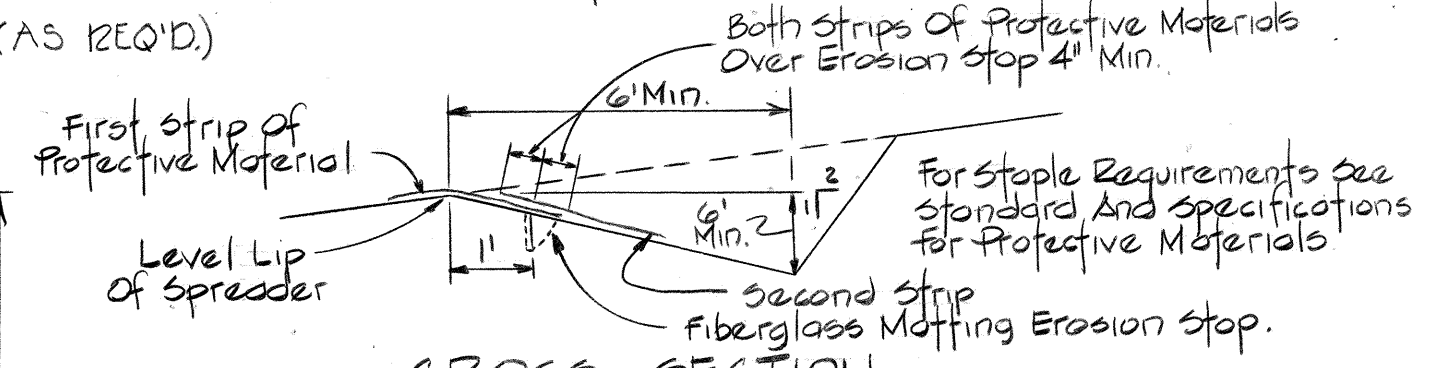
STRUCTURE SCHEDULE					
NO	TYPE	INV. ELEV.	TOP ELEV.	DETAIL NO	RIP-RAP & PROJ
I-1	L	332.50	336.00	D-93 Pg. 148	-
S-1	C	326.50		D-52 Pg. 107	12'L x 14' W @ 00%



LEVEL SPREADER
Not To Scale

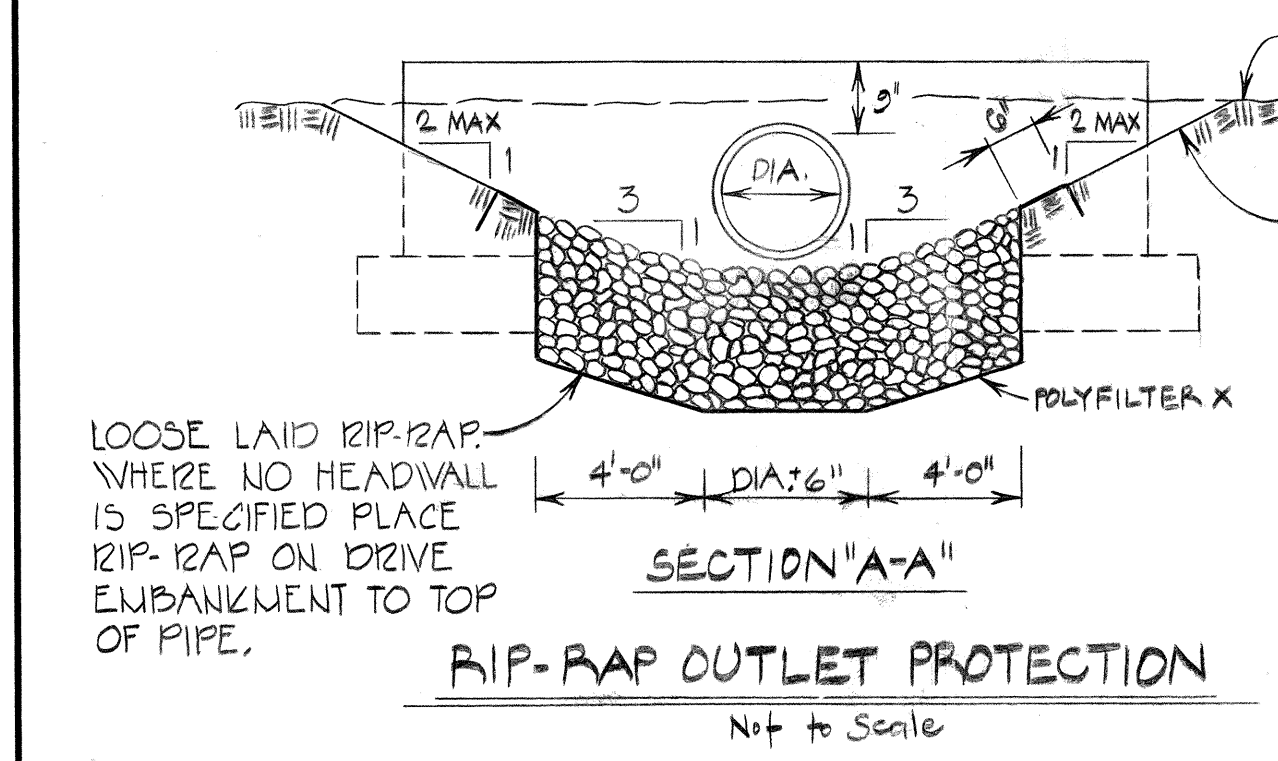


PLAN



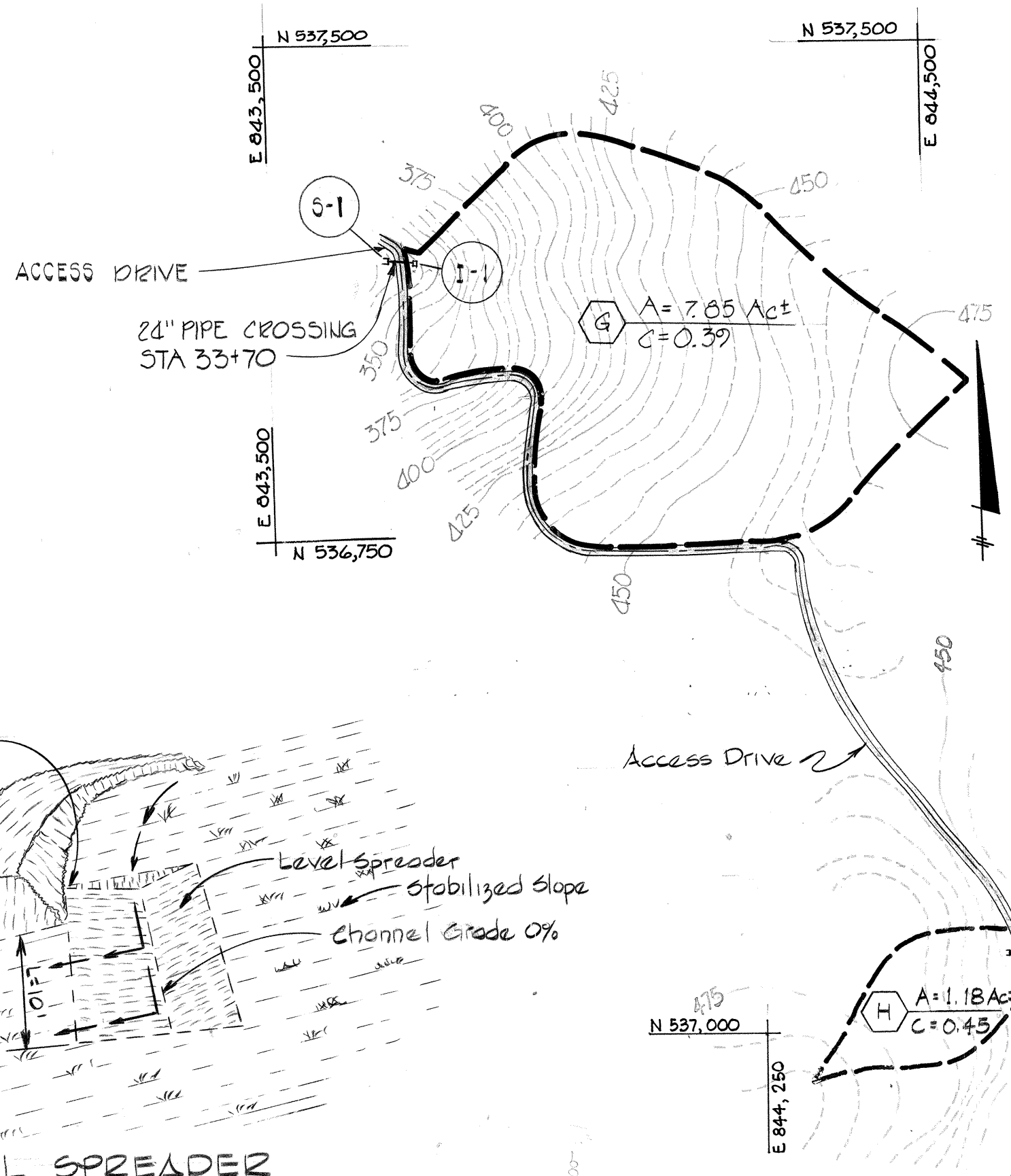
CROSS-SECTION

- 1) Construct Level Lip on zero Percent Grade To insure Uniform Spreading of Sediment Free Runoff (Converting Channel Flow To sheet flow).
- 2) A Fiberglass Matting Erosion stop shall be vertically and at least six inches deep in a 6" trench one foot back of the level lip and parallel with the lip. This Erosion stop shall extend the entire length of the level lip and shall be trimmed after backfilling with tamped soil so that the upper edge is flush with the soil surface.
- 3) The entire level lip area shall be protected by placing two strips of Jute or Excelsior protective material as shown.



SECTION "A-A"

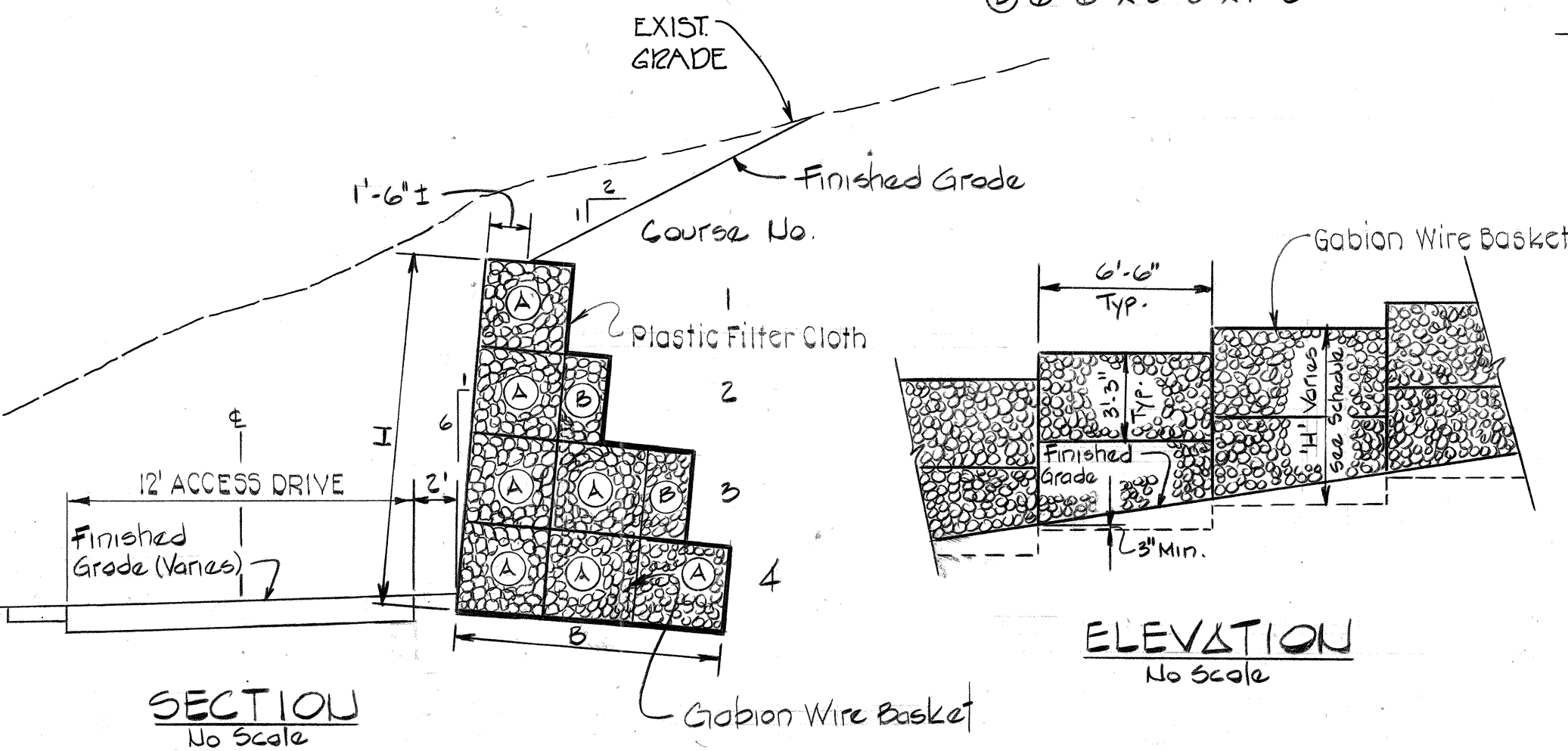
RIP-RAP OUTLET PROTECTION
Not to Scale



DRAINAGE AREA MAP
SCALE: 1"=200'

GABIION WALL SCHEDULE					
STA. TO	STA.	NO. OF COURSES	H	B	
33+73	33+80.50	1	3'-3"	3'-3"	
33+80.50	34+35	2	6'-6"	4'-11"	
34+35	34+80.50	3	9'-9"	6'-6"	
34+80.50	35+32.50	4	13'-0"	12'-9"	
35+32.50	36+17	3	9'-9"	6'-6"	
36+17	36+43	2	6'-6"	4'-11"	
36+43	36+69	1	3'-3"	3'-3"	
Pumping station site					

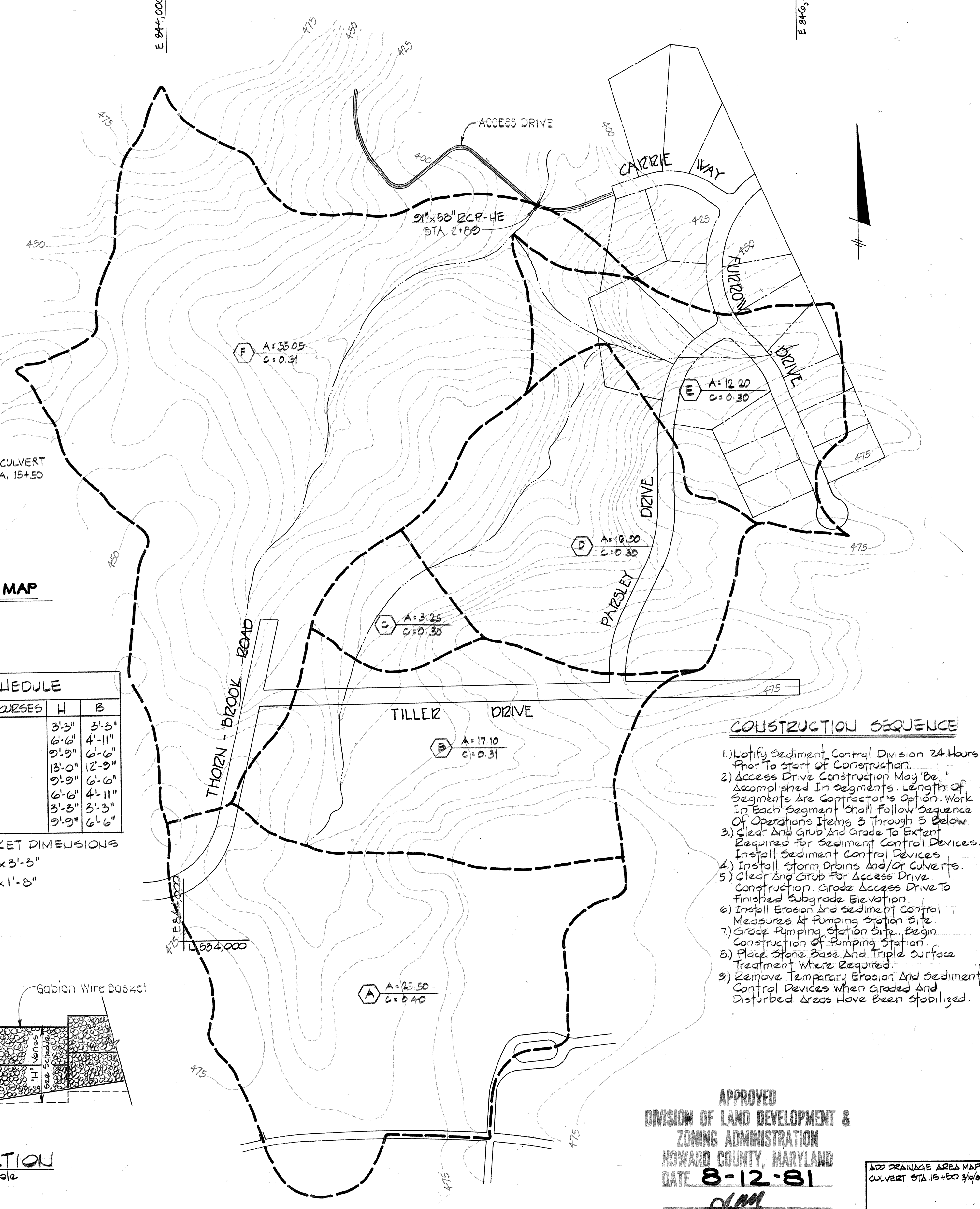
APPROXIMATE GABIION BASKET DIMENSIONS
 A) 6'-6" x 3'-3" x 3'-3"
 B) 6'-6" x 3'-3" x 1'-8"



SECTION
No Scale

GABIION RETAINING WALL
No Scale

ELEVATION
No Scale



DRAINAGE AREA MAP
FOR CULVERT CROSSING AT STA 2+85
SCALE: 1"=200'

CONSTRUCTION SEQUENCE

- 1) Notify Sediment Control Division 24 Hours Prior To start of Construction.
- 2) Access Drive Construction May be Accomplished in Segments. Length of Segments are Contractor's Option. Work in Each Segment shall Follow Sequence of Operations Items 3 through 5 Below.
- 3) Clear and Grub and Grade to extent Required for Sediment Control Devices. Install Sediment Control Devices.
- 4) Install storm Drains and/or Culverts.
- 5) Clear and Grub for Access Drive Construction. Grade Access Drive to Finished Subgrade Elevation.
- 6) Install Erosion and sediment Control Measures At Pumping station site.
- 7) Grade Pumping station site. Begin construction of Pumping station.
- 8) Place Stone Base and Triple surface Treatment Where Required.
- 9) Remove Temporary Erosion and sediment Control Devices when Graded and Disturbed Areas Have been stabilized.

APPROVED
 DIVISION OF LAND DEVELOPMENT &
 ZONING ADMINISTRATION
 HOWARD COUNTY, MARYLAND
 DATE 8-12-81
 JLM

EPA NO. C-240594-01 (14)

ADD DRAINAGE AREA MAP
 CULVERT STA. 15+50 3/6/82

REVISIONS

HOWARD SOIL CONSERVATION DISTRICT:
 REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.
 Signature: [Signature] DATE: 8-28-81
 THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 APPROVED: [Signature] DATE: 8-28-81
 HOWARD SOIL CONSERVATION DIST.

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
 HOWARD COUNTY HEALTH DEPARTMENT
 Signature: [Signature] DATE: 8-28-81

APPROVED FOR PUBLIC WATER, PUBLIC SEWERAGE STORM DRAINAGE SYSTEMS AND ROADS
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Signature: [Signature] DATE: 8-28-81
 Signature: [Signature] DATE: 8-28-81
 CHIEF BUREAU OF ENGINEERING

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
 Signature: [Signature] DATE: 8-28-81
 PLANNING DIRECTOR
 CHIEF DIVISION OF LAND DEVELOPMENT & ZONING ADMIN.

DEVELOPER:
 I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND I ALSO AUTHORIZE PERIODIC ON SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS AT DEEMED NECESSARY DEVIATION FROM THIS PLAN WILL NOT BE MADE UNLESS AUTHORIZED BY THE HOWARD SOIL CONSERVATION DISTRICT.
 Signature: [Signature] DATE: 8-28-81

PROFESSIONAL ENGINEER:
 I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 Signature: [Signature] DATE: 2/3/81
 WILLIAM G. JESCHKE REG. NO. 4575



HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 CAPITAL PROJECT 5-4-0007
 CONTRACT #742-5
 CHAMBERLEA SEWERS
 CHAMBERLEA PUMPING STATION
SITE DEVELOPMENT PLAN
ACCESS DRIVE
 ELECTION DISTRICT NO. 2 HOWARD COUNTY, MD
 TAX MAP 17 PARCEL

DESIGNED: RT.
 DRAWN: SJRB.
 CHECKED: KZT.
 DRAWG. NO. 6 OF 17
 SITE PLAN SH. 5 OF 5
 SCALE: AS SHOWN

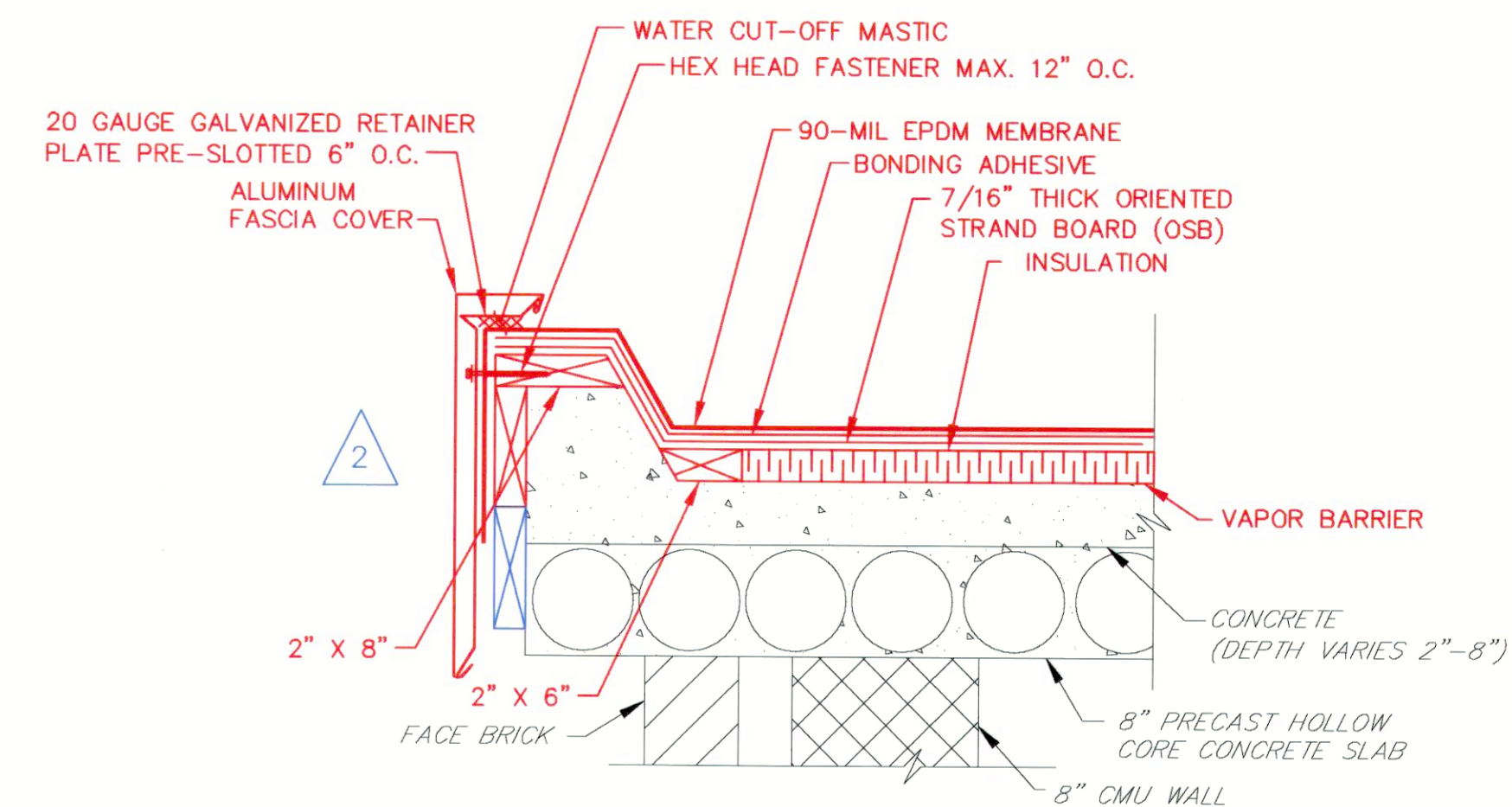
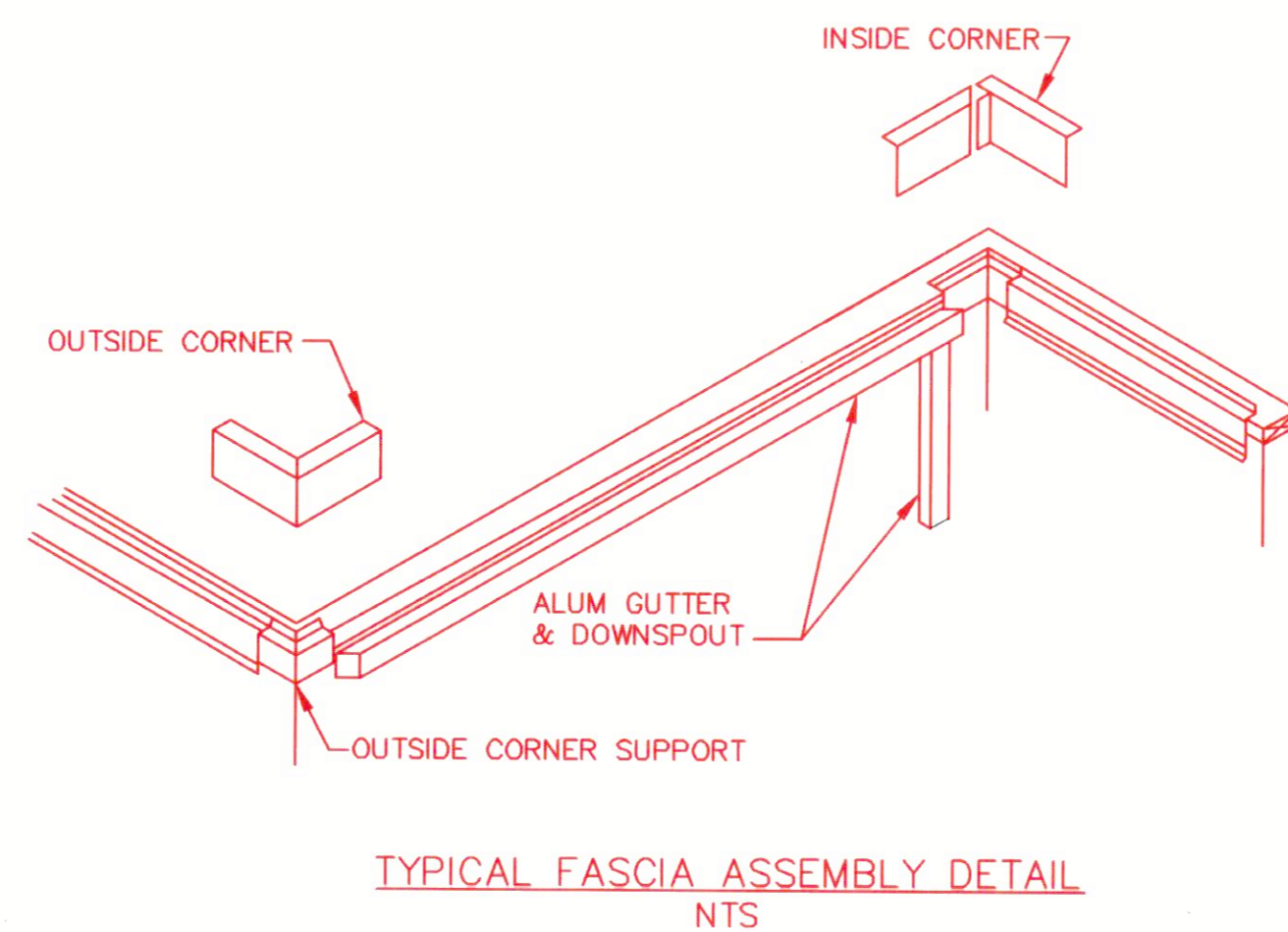
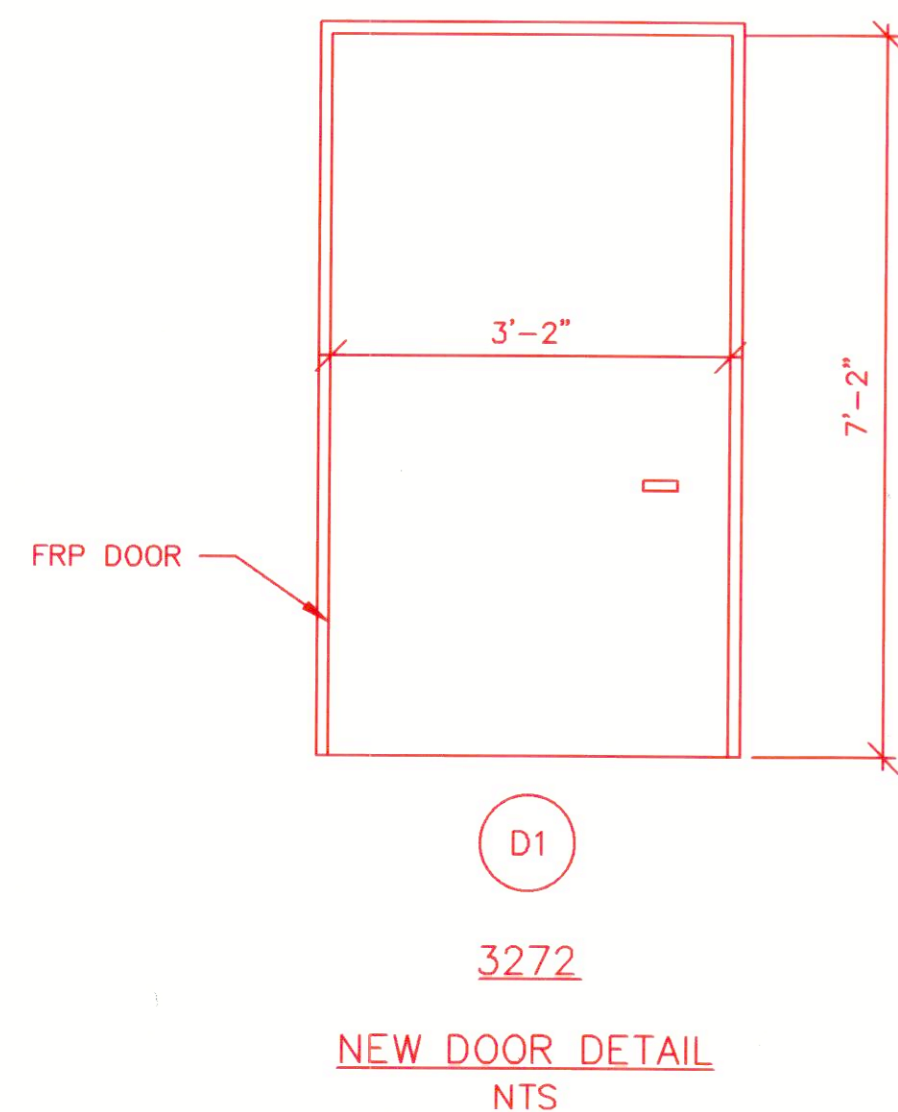
PURDUM & JESCHKE
CONSULTING ENGINEERS
LAND SURVEYORS
 1023 North Calvert Street
 Baltimore, Maryland 21202 301/837-0194

NOTES:

1. ALL EXISTING FEATURES DENOTED BY SLANTED TEXT.
2. ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE.

DOOR SCHEDULE								
ID.	DOOR SIZES *	MASONRY OPENING * (±)	DOOR MATERIAL	FRAME (TYPE)	HARDWARE	ACCESSORIES	ACTIVE LEAF	REMARKS
D1	3'-2" X 7'-2"	3'-6" X 7'-4"	FRP	F-3	3,4,6,7,9	5,6,8	RHR	NEW 3272 DOOR
HARDWARE: 1. LOCKS (ENTRANCE) 3. HINGES 5. BOLTS 7. DOOR STOP 9. PANIC DEVICE 2. PRIVACY LOCKS 4. CLOSER 6. KICKPLATE 8. PUSH/PULL								
ACCESSORIES: 1. WINDOW 3. TRANSOM 5. THRESHOLD 7. ASTRAGAL 2. LOUVER 4. CUTOFF 6. WEATHERSTRIP 8. DOOR SWEEP								

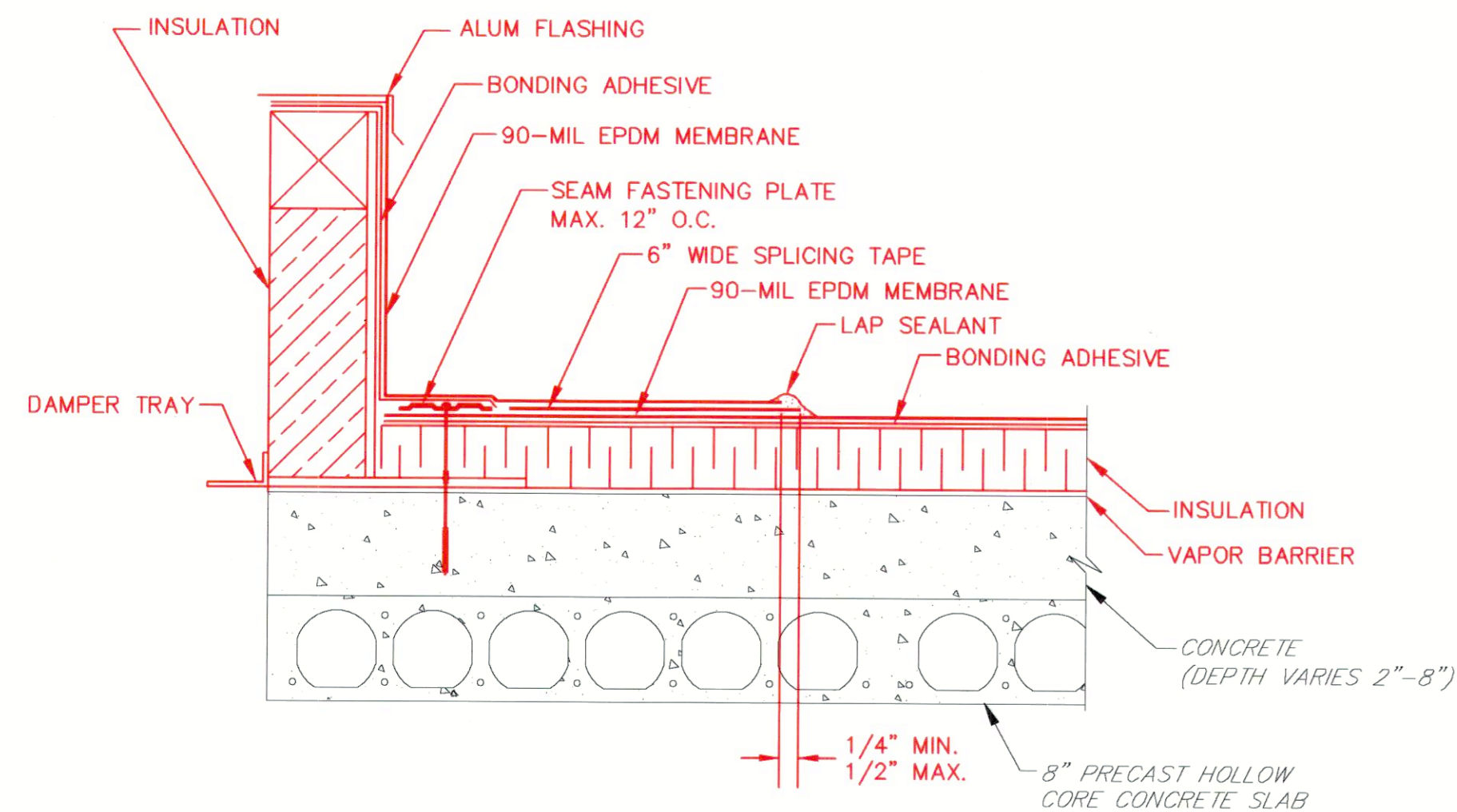
* CONTRACTOR SHALL FIELD VERIFY THE DIMENSIONS OF THE EXISTING MASONRY OPENING PRIOR TO SUBMITTING UPON THE NEW FRP DOOR.



NOTES:

1. BUILT-UP ROOFING INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

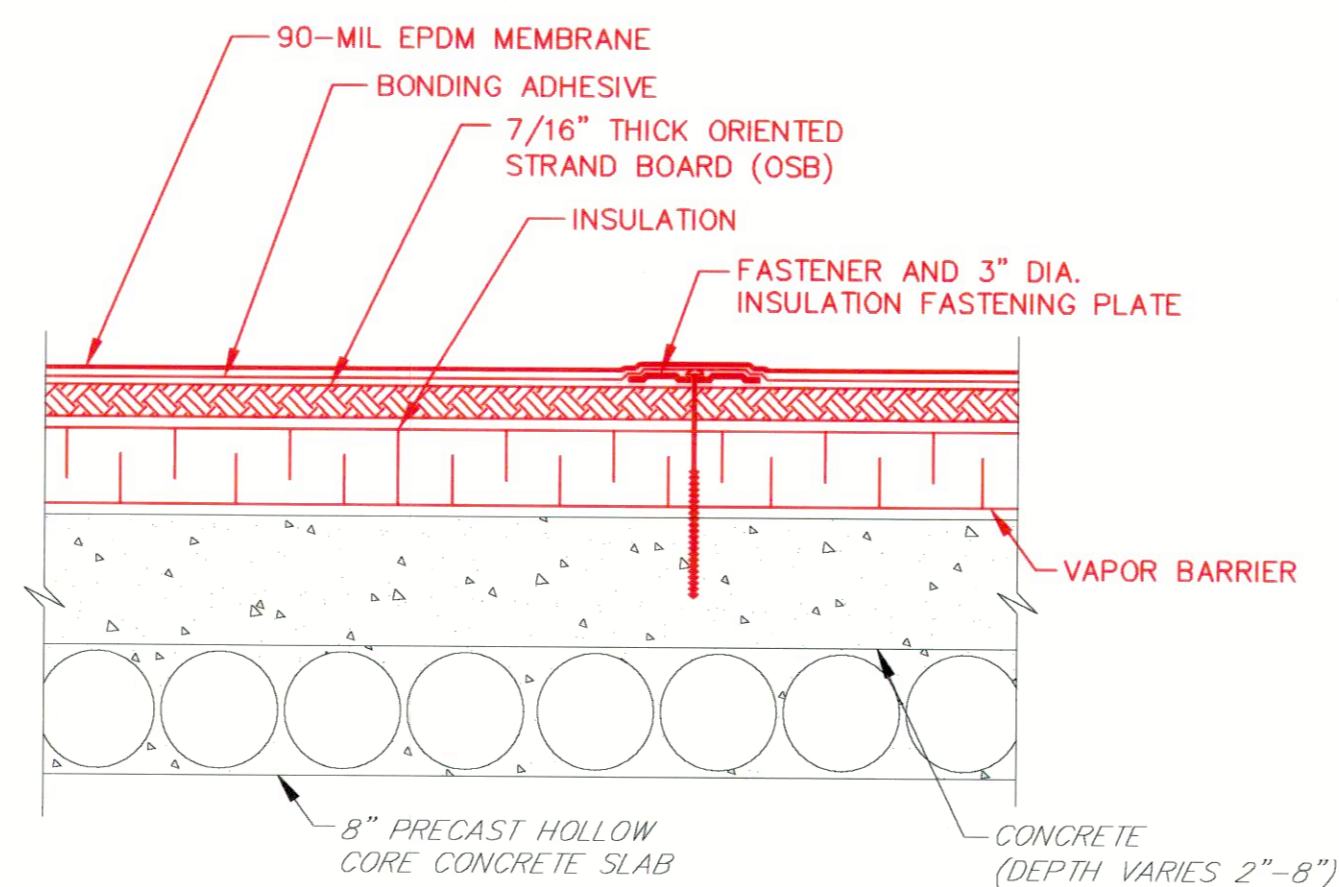
EPDM ROOFING TERMINATION/FASCIA DETAIL
NTS



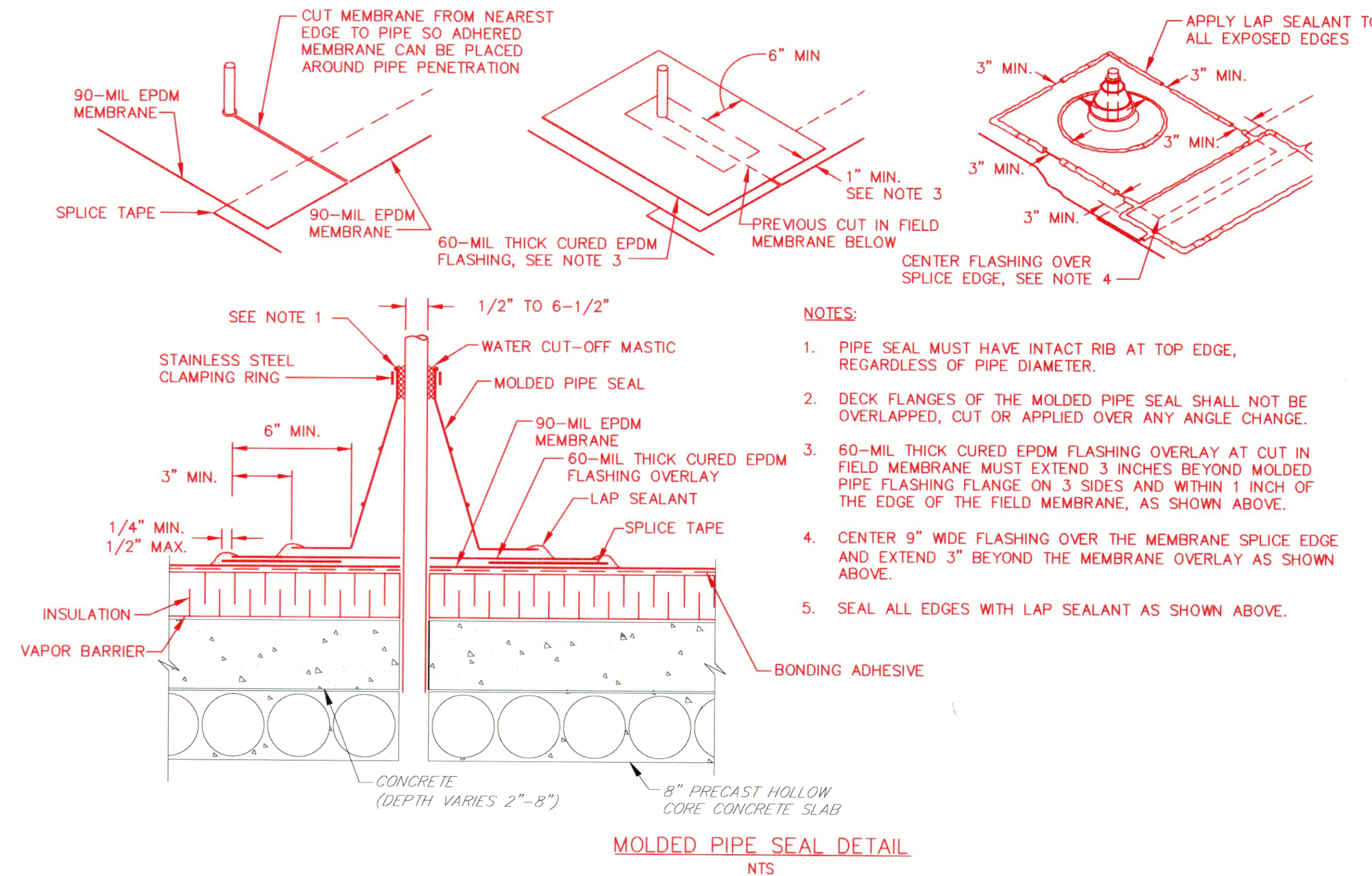
NOTES:

1. IF VERTICAL SPLICE IS NOT LOCATED AT CORNER, A 4.5" X 6" AND A 9" X 12" PIECE OF FLASHING MUST BE CENTERED OVER FIELD SPLICE AT ANGLE CHANGES.
2. APPLY PRIMER PRIOR TO INSTALLING SPLICING TAPE.
3. APPLY LAP SEALANT ALONG THE EDGE OF THE CURB FLASHING FLANGES EXTENDING 2" MINIMUM FROM THE CORNER OF THE CURB.
4. LAP SEALANT IS REQUIRED ON ALL EXPOSED FLASHING EDGES.

ROOF CURB DETAIL
NTS



EPDM ROOFING DETAIL
NTS



NOTES:

1. PIPE SEAL MUST HAVE INTACT RIB AT TOP EDGE, REGARDLESS OF PIPE DIAMETER.
2. DECK FLANGES OF THE MOLDED PIPE SEAL SHALL NOT BE OVERLAPPED, CUT OR APPLIED OVER ANY ANGLE CHANGE.
3. 60-MIL THICK CURED EPDM FLASHING OVERLAY AT CUT IN FIELD MEMBRANE MUST EXTEND 3 INCHES BEYOND MOLDED PIPE FLASHING FLANGE ON 3 SIDES AND WITHIN 1 INCH OF THE EDGE OF THE FIELD MEMBRANE, AS SHOWN ABOVE.
4. CENTER 9" WIDE FLASHING OVER THE MEMBRANE SPLICE EDGE AND EXTEND 3" BEYOND THE MEMBRANE OVERLAY AS SHOWN ABOVE.
5. SEAL ALL EDGES WITH LAP SEALANT AS SHOWN ABOVE.

MOLDED PIPE SEAL DETAIL
NTS

AS-BUILT REPLACEMENT SHEET 11/2020

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signatures]
 DIRECTOR OF PUBLIC WORKS DATE CHIEF, BUREAU OF ENGINEERING DATE
 CHIEF, BUREAU OF UTILITIES DATE CHIEF, UTILITY DIVISION DATE

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT REDLINE REVISIONS INCLUDED IN THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

LICENSE NO. 23393 EXPIRATION DATE 8/25/18

ALBRECHT ENGINEERING INC

STATE OF MARYLAND
 RACHEL LYNN ALBRECHT
 No. 23393
 PROFESSIONAL ENGINEER

DES:	RCC				
DRN:	TJS				
CHK:	RLA	RK&K	2	REVISED PER CONTRACTOR - AS-BUILT	11/20
DATE:	3/30/18	RK&K	1	2018 UPGRADES - ADD SHEET 7A	3/18
BY:	NO.			REVISIONS	DATE

MAP NO.	17	BLOCK NO.	8
---------	----	-----------	---

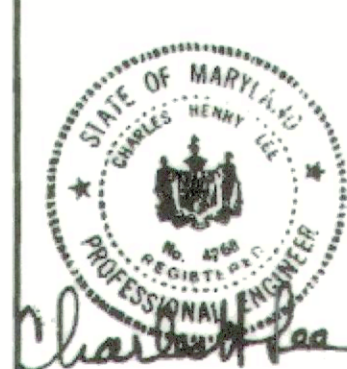
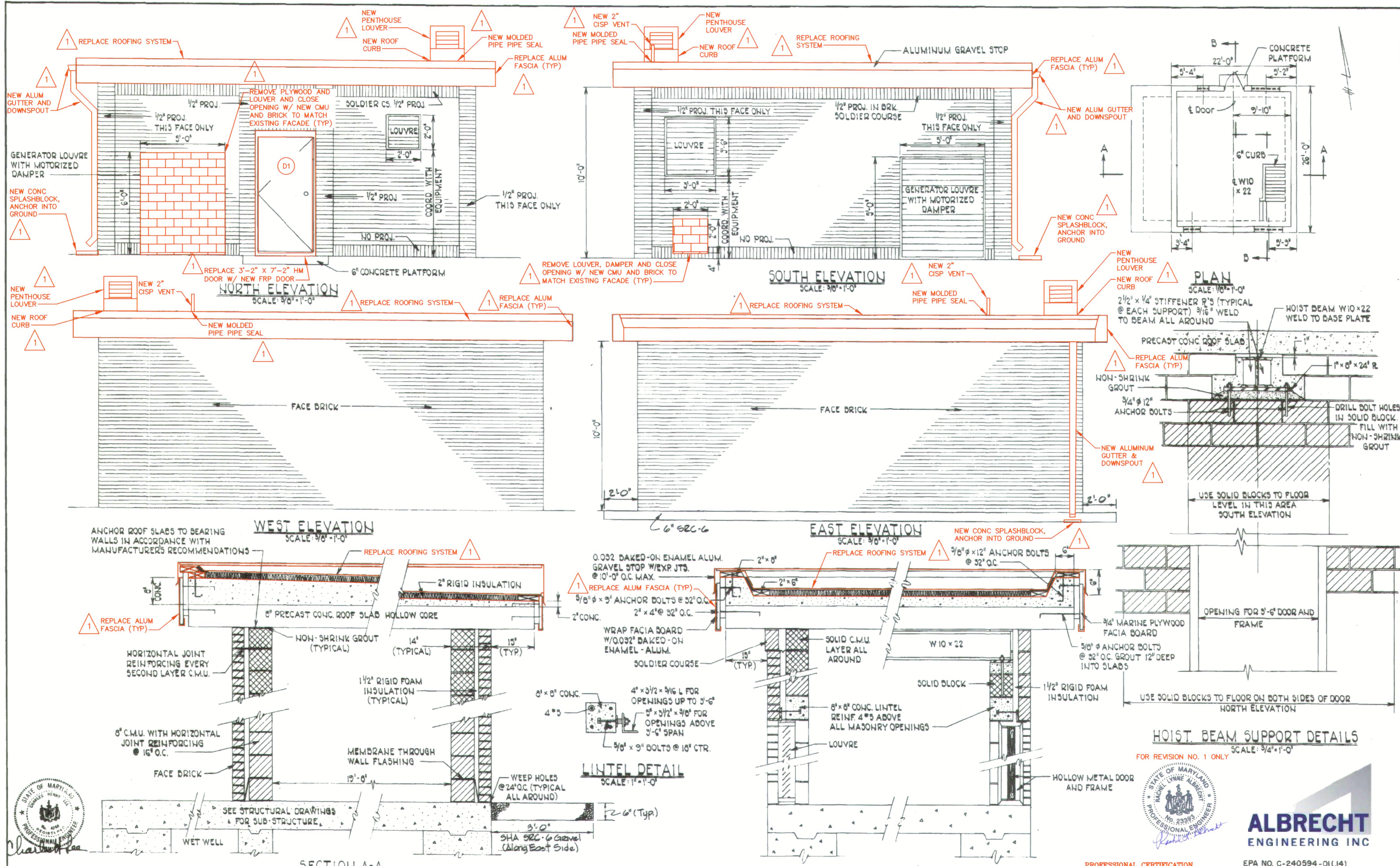
ARCHITECTURAL DETAILS - 2018 UPGRADES

CHAMBERLEA PUMPING STATION
 2018 UPGRADES
 CAPITAL PROJECT NO. S6264
 CONTRACT NO. 742-S

ELECTION DISTRICT NO. 2 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 7A OF 29

WS 742 S/7



ALBRECHT ENGINEERING INC

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THE CHANGES ASSOCIATED WITH REVISION #1 ONLY WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
 LICENSE NO. 23993, EXPIRATION DATE 2/26/18

EPA NO. C-240594-01(14)
 CONTRACT NO. 2742-S
 CAPITAL PROJECT NO. S-4-6067
 CHAMBERLEA SANITARY SEWERS
 CHAMBERLEA PUMPING STATION

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Director of Public Works: *Charles F. Nimm* 8-28-21
 Chief Bureau of Engineering: *Charles F. Nimm* 8-28-21
 Chief Bureau of Utilities: *Charles F. Nimm* 8-28-21
 Chief Utility Division: *Charles F. Nimm* 8-28-21

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

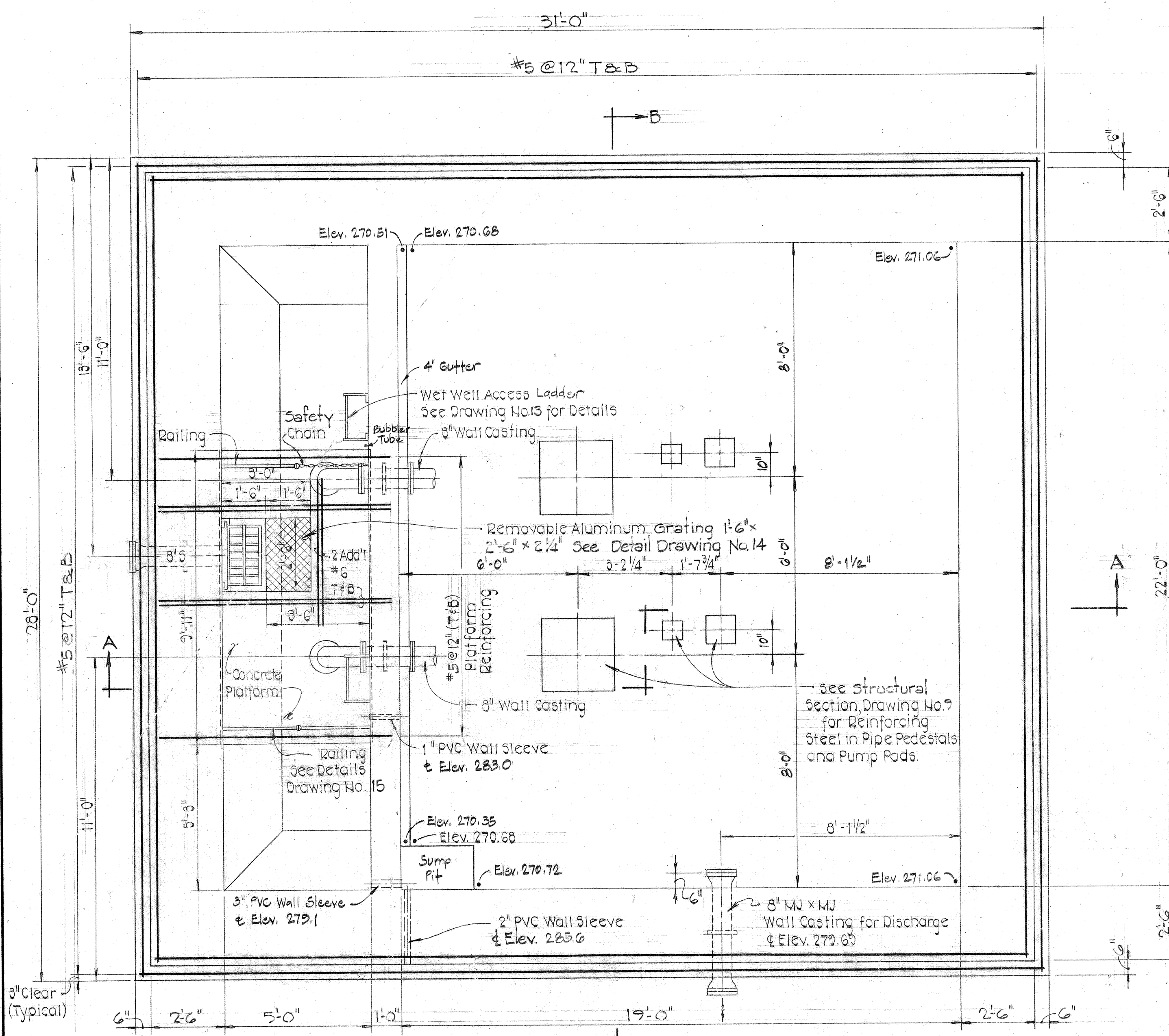
REV.	DATE	DESCRIPTION
3-18	2018 UPGRADE	

CONTRACT NO. 742-S
 CAPITAL PROJECT NO. S-4-6067

ARCHITECTURAL DETAILS
 CHAMBERLEA SANITARY SEWERS
 CHAMBERLEA PUMPING STATION
 ELECTION DISTRICT NO. 2

DRAWING NO. 7 OF 17
 SCALE AS SHOWN
 Designed: H.B.S.
 Drafted: P.W.R.
 Checked: H.B.S.

AS-BUILT
 11/2020

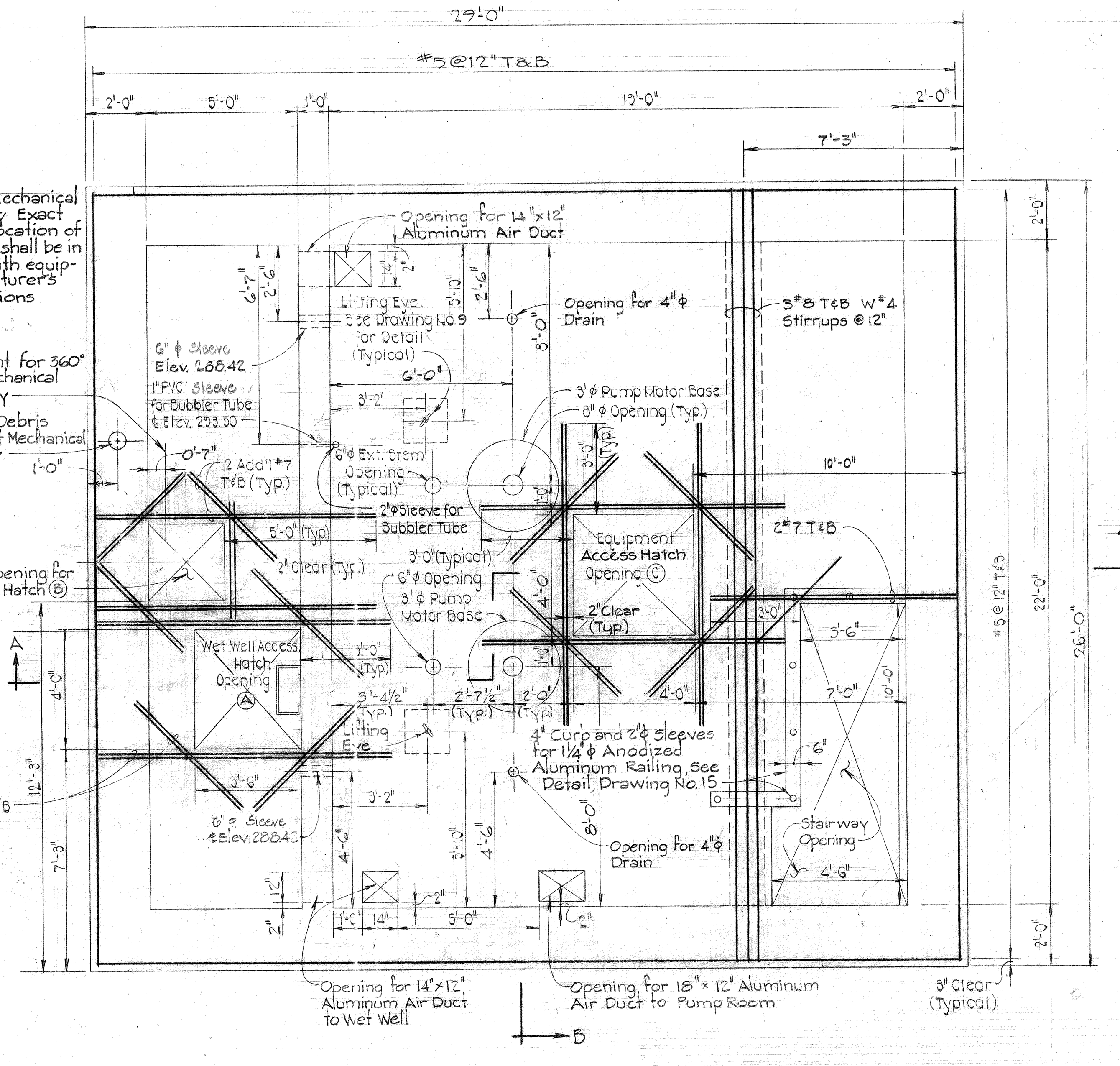


PUMP ROOM SLAB REINFORCING
Scale: 3/8" = 1'-0"

NOTE:
Mast Well for Mechanical Winch Assembly Exact Dimension & Location of the Mast Well shall be in Accordance with equipment Manufacturer's Recommendations

Center Lift point for 360° Rotation of Mechanical Winch Assembly

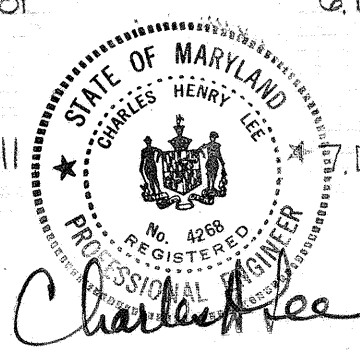
Mast Well for Debris Screening Basket Mechanical Hoist Assembly



TOP SLAB REINFORCING
Scale: 3/8" = 1'-0"

GENERAL STRUCTURAL NOTES

- DESIGN LIVE LOADS:** Precast Concrete Roof Panels 50 PSF, Slabs 100 PSF, Concentrated Equipment Loads, Grating 100 PSF.
- CONCRETE:** All concrete work, both plain and reinforced shall be in accordance with the latest A.C.I. Specifications. All Structural Concrete shall have a minimum 28 day strength of 3,500 P.S.I. Class "C" shall have a minimum 28 day strength of 2,000 P.S.I. Reinforcing steel shall conform to A.S.T.M. A-615 Grade 40. All exposed corners shall be chamfered 1"x1" unless otherwise noted. All Pipe Sleeves, Conduit, Floor Boxes, Frames, etc. shall be placed before concrete is poured. All openings thru concrete shall be watertight. See Mechanical and Electrical Drawings for openings not shown or located on Structural Plans.
- EARTHWORK:** All excavation for structures shall be kept free of water until backfill is properly tamped in place to finished grade. Backfill shall be placed in 6" layers and adequately compacted to 95% of maximum density in accordance with A.A.S.H.T.O. designation T-180 Method-C. Contractor shall adequately protect all walls during backfill operations.
- METAL WORK:** All Structural Steel shall be A.S.T.M. A-36. All bolts except anchor bolts shall be A.S.T.M. A-325 High Strength Bolts. All Anchor Bolts shall be A.S.T.M. A-307. All Structural Aluminum shall be Alloy 6061-T6. Bolts in contact with aluminum shall be Stainless Steel. Anchor bolts, nuts and washers shall be Alloy No. 300.
- FLOATATION:** The entire structure, complete in place, is required to offset uplift due to hydrostatic pressure.
- MISCELLANEOUS:** All Aluminum Surfaces in contact with concrete or steel shall be coated prior to erection. See Specifications. There shall be no contact between dissimilar metals or aluminum and concrete.
- REINFORCING STEEL:** Reinforcing steel shall be free from mud, oil, or other non-metallic coatings that adversely affect bonding capacity. Bars are to be securely tied to prevent displacement during the concreting operation and all dowels are to be wired in place before depositing concrete. All splicing of bars, placing tolerances and bar spacings shall conform to A.C.I. 318-71.



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *William F. Nimm* 8-28-81
 Chief Bureau of Engineering: *William D. Kelly* 8-28-81
 Chief Bureau of Utilities: *William D. Kelly* 8-28-81
 Chief Utility Division: *Kevin J. Harris* 8-28-81

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

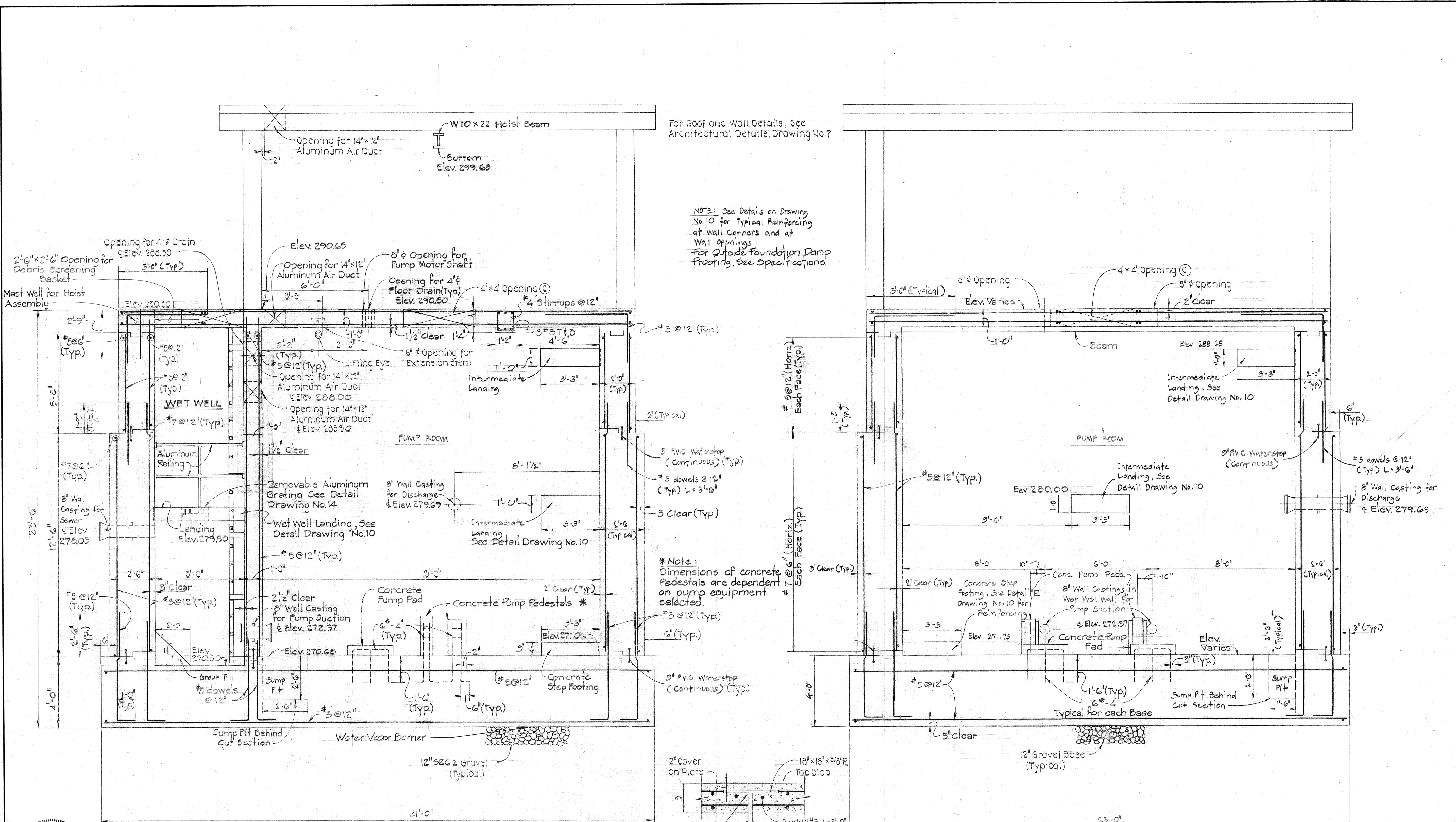
CONTRACT NO. 2742-S
CAPITAL PROJECT NO. S-4-6067

STRUCTURAL PLANS

CHAMBERLEA SANITARY SEWERS
CHAMBERLEA PUMPING STATION
ELECTION DISTRICT NO. 2

DRAWING NO. 8 OF 17
SCALE AS SHOWN
Designed: BCC
Drafted: PWR
Checked: REP

EPA NO. C-240594-01(14)
CONTRACT NO. 2742-S
CAPITAL PROJECT NO. S-4-6067
CHAMBERLEA SANITARY SEWERS
CHAMBERLEA PUMPING STATION



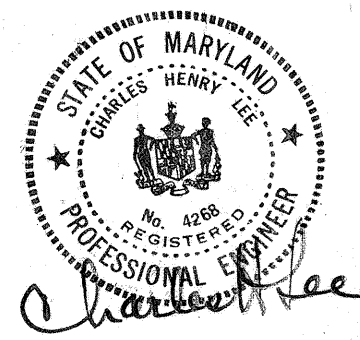
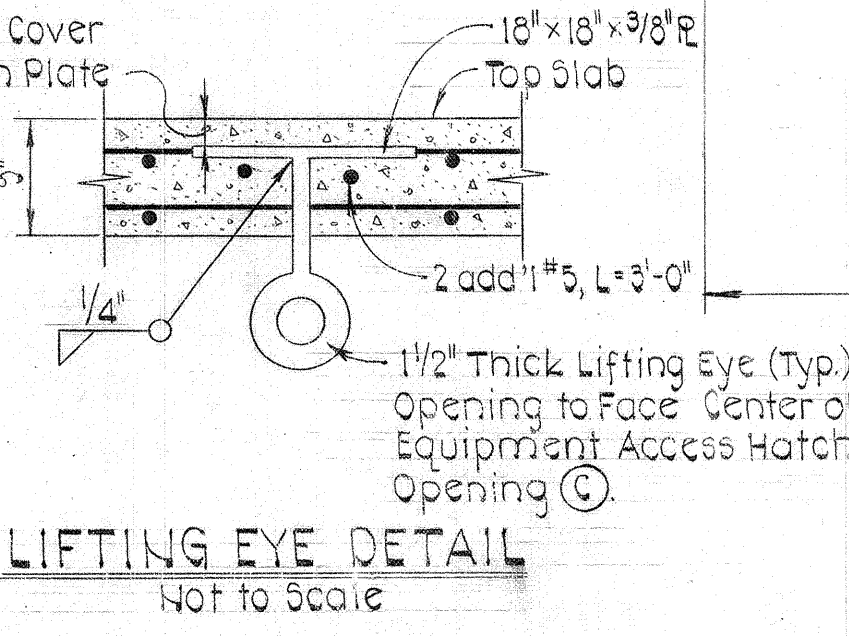
For Roof and Wall Details, See Architectural Details, Drawing No.7

NOTE: See Details on Drawing No.10 for Typical Reinforcing at Wall Corners and at Wall Openings. For Outside Foundation Ramp Footing, See Specifications.

*Note: Dimensions of concrete Pedestals are dependent on pump equipment selected.

SECTION "A-A"
Scale: 3/8" = 1'-0"

SECTION "B-B"
Scale: 3/8" = 1'-0"



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
DIRECTOR OF PUBLIC WORKS: [Signature] DATE: 8/28/81
CHIEF BUREAU OF UTILITIES: [Signature] DATE: 8/28/81
CHIEF BUREAU OF ENGINEERING: [Signature] DATE: 8/28/81
CHIEF UTILITY DIVISION: [Signature] DATE: 8/28/81

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

CONTRACT NO. 2742-S
CAPITAL PROJECT NO. S-4-6067

STRUCTURAL SECTIONS

CHAMBERLEA SANITARY SEWERS
CHAMBERLEA PUMPING STATION
ELECTION DISTRICT NO. 2

DRAWING NO. 9 OF 17
SCALE AS SHOWN
Designed: BCC
Drafted: PWR
Checked: REP

EPA NO. C-240594-01(14)
CONTRACT NO. 2742-S
CAPITAL PROJECT NO. S-4-6067
CHAMBERLEA SANITARY SEWERS
CHAMBERLEA PUMPING STATION

DESIGN CRITERIA

- A. STRUCTURAL DESIGN SHALL BE IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF THE FOLLOWING CODE, STANDARDS AND SPECIFICATIONS:
 1. INTERNATIONAL BUILDING CODE (IBC) 2015
 2. ASCE 7-10 MIN. DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES.
 3. ACI 318-14 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE.
 4. ACI 350-06 CODE REQUIREMENTS FOR ENVIRONMENTAL CONCRETE STRUCTURES.
 5. ACI 530-11 BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES.
 6. AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, A.S.D., 14TH EDITION
 7. AWS D1.1 "STRUCTURAL WELDING CODE - STEEL"
 8. AWS D1.6 "STRUCTURAL WELDING CODE - STAINLESS STEEL"

EXISTING CONSTRUCTION

- A. ALL MEMBER SIZES AND DIMENSIONS AND ELEVATIONS OF EXISTING STRUCTURES SHOWN ON THE DRAWINGS ARE OBTAINED FROM AVAILABLE SOURCES, AND ARE NOT GUARANTEED TO BE TRUE AND EXACT. THE CONTRACTOR SHALL VERIFY THESE DIMENSIONS AND ELEVATIONS BY ACTUAL FIELD MEASUREMENTS PRIOR TO FABRICATION OF ANY MATERIALS AND START OF WORK, AND REPORT ANY DISCREPANCIES TO THE ARCHITECT/ENGINEER.
- B. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY SHORING, SUPPORT, NEEDLING AND BRACING AS REQUIRED TO SUPPORT THE EXISTING STRUCTURE. THE CONTRACTOR SHALL EXAMINE THE EXISTING STRUCTURE TO DETERMINE THE EXTENT OF THE NECESSARY SHORING/NEEDLING. THE CAPACITY AND METHOD FOR SHORING AND NEEDLING SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

DEMOLITION

- A. REMOVE EXISTING CONSTRUCTION AS SHOWN ON 2018 UPGRADE PLANS. SEE PLANS, SECTIONS, AND DETAILS FOR EXTENT OF STRUCTURE TO BE REMOVED.
- B. EXISTING STRUCTURAL FRAMING SHALL REMAIN UNLESS SPECIFICALLY NOTED ON PLAN TO BE REMOVED.
- C. IF FIELD CONDITIONS DIFFER FROM THOSE SHOWN ON DRAWINGS, NOTIFY ENGINEER BEFORE PROCEEDING.
- D. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO EXAMINE THE EXISTING BUILDING DURING THE COURSE OF CONSTRUCTION AND IMMEDIATELY NOTIFY THE ENGINEER OF ANY AREAS WHERE THE STRUCTURE EXHIBITS DISTRESS OR FAILURE.
- E. 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.

MASONRY

- A. DESIGN CRITERIA: ACI 530-11/ASCE 5-11
- B. CONCRETE MASONRY UNITS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 1900 PSI ON THE NET AREA AND SHALL CONFORM TO THE LATEST EDITION OF ASTM C90.
- C. TYPE "M" MORTAR SHALL BE USED FOR ALL MASONRY CONSTRUCTION, TYPE "S" ABOVE GRADE.
- D. GROUT: ASTM C476, MIN. 3,000 PSI @ 28 DAYS, 3/8" AGGREGATE MAX., 8"-10" SLUMP.
- E. REINFORCEMENT:
 1. HORIZONTAL JOINTS: STD. DUR-O-WALL @ 16" OC, USE PREFABRICATED CORNERS AND TEES @ WALL INTERSECTIONS, OVERLAP DISCONTINUED ENDS AND EXTEND INTO COLUMNS 6" MIN.
 2. VERTICAL AND HORIZONTAL REINFORCEMENT: ASTM 615, GRADE 60, EPOXY COATED, PROVIDE MIN. #4 BARS TYP @ WALL INTERSECTIONS, EACH SIDE OF OPENINGS, AND @ WALL ENDS, HOOK TOP OF ALL DISCONTINUED BARS, LAP CONT. REINF 48 BAR DIA. UNO.
 3. USE BAR SPACERS IN EVERY 4TH COURSE WHERE CELLS ARE TO BE GROUTED.
 4. PROVIDE CLEANOUT OPENINGS FOR EACH GROUTED CELL.
 5. ALL BRICK SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,400 PSI ON THE NET AREA.

CAST-IN-PLACE REINFORCED CONCRETE

- A. ALL CONCRETE WORK SHALL CONFORM TO ACI-350-06 CODE REQUIREMENTS FOR ENVIRONMENTAL CONCRETE STRUCTURES.
- B. MINIMUM 28 DAY COMPRESSIVE STRENGTH, MAX WATER TO CEMENTITIOUS MATERIAL RATIOS & AGGREGATE SIZE:
 - PADS & SLABS: 4,500 PSI, NORMAL WEIGHT, W/C=0.42, #57 AGGREGATE, UNLESS OTHERWISE NOTED.
- C. SLUMP 3" MAX FOR CONCRETE PADS, UNLESS OTHERWISE NOTED.
- D. REINFORCING STEEL SHALL CONFORM TO ASTM A-615, GRADE 60, EPOXY COATED.
- E. CHAMFER ALL EDGES OF BEAMS, COLUMNS, HAUNCHES, WALLS EQUIPMENT PADS AND SLABS EXPOSED TO VIEW 3/4" UNLESS OTHERWISE NOTED.

REINFORCEMENT

- A. ALL DEVELOPMENT AND SPLICES OF REINFORCEMENT SHALL CONFORM TO THE PROVISIONS OF ACI BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318-LATEST EDITION).
- B. REINFORCING STEEL SHALL BE DEFORMED BARS OF INTERMEDIATE GRADE NEW BILLET STEEL CONFORMING TO CURRENT REQUIREMENTS OF ASTM A615 GRADE 60, EPOXY COATED EXCEPT TIES MAY BE GRADE 40. ALL HOOKS SHALL BE STANDARD HOOKS, UNLESS OTHERWISE NOTED.
- C. REINFORCING BAR SUPPORTS AND SPACERS SHALL CONFORM TO ACI 315-(LATEST EDITION) DETAILING MANUAL.
- D. SHOP DRAWINGS SHOWING ALL NECESSARY SECTIONS AND DETAILS FOR THE PROPER POSITIONING OF ALL REINFORCING STEEL SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW BEFORE FABRICATION OR PLACEMENT OF THE STEEL.
- E. ALL REINFORCEMENT SHALL HAVE 3" COVER UNLESS OTHERWISE NOTED.

STRUCTURAL STEEL

- A. ALL STRUCTURAL STEEL SHALL CONFORM TO THE AISC SPECIFICATIONS FOR THE DESIGN FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS.
- B. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM DESIGNATIONS:
 - STRUCTURAL STEEL W-SHAPES: A992 HAVING A MINIMUM YIELD STRENGTH OF 50 KSI.
 - STRUCTURAL STEEL ANGLES: A36 HAVING A MINIMUM YIELD STRENGTH OF 36 KSI.
 - SQUARE AND RECTANGULAR TUBING: A500, GRADE B HAVING MINIMUM YIELD STRENGTH OF 48 KSI.
 - ROUND PIPE: A53, GRADE B HAVING A MINIMUM YIELD STRENGTH OF 35 KSI.
- C. APPROVAL OF THE ENGINEER SHALL BE MANDATORY FOR THE USE OF CUTTING TORCH IN THE FIELD.
- D. ALL GROUT UNDER STEEL PLATES (LINTELS) SHALL BE NON-SHRINK "PRE-MIX" TYPE AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 8,500 PSI, UNLESS OTHERWISE NOTED.
- E. STRUCTURAL STEEL SHALL BE INSPECTED IN THE FIELD BY AN INDEPENDENT TESTING AGENCY APPROVED BY THE ENGINEER AND PAID FOR BY THE CONTRACTOR.

ALUMINUM STRUCTURAL SHAPES

- A. ALUMINUM STRUCTURAL SHAPES SHALL BE ASTM B-308, 6061.T6.
- B. ALLOWABLE TOLERANCES FOR MILLED ALUMINUM STANDARD STRUCTURAL SHAPES SHALL BE IN ACCORDANCE WITH ANSI H35.2. COMPLY WITH THE ALUMINUM DESIGN MANUAL (ADM-1) LATEST EDITION.
- C. ALUMINUM SURFACES IN CONTACT WITH CONCRETE AND ANY OTHER MATERIAL SHALL BE GIVEN A HEAVY COAT OF ALKALI RESISTANT BITUMINOUS PAINT OR OTHER COATING PROVIDING EQUIVALENT PROTECTION BEFORE INSTALLATION.

MISCELLANEOUS

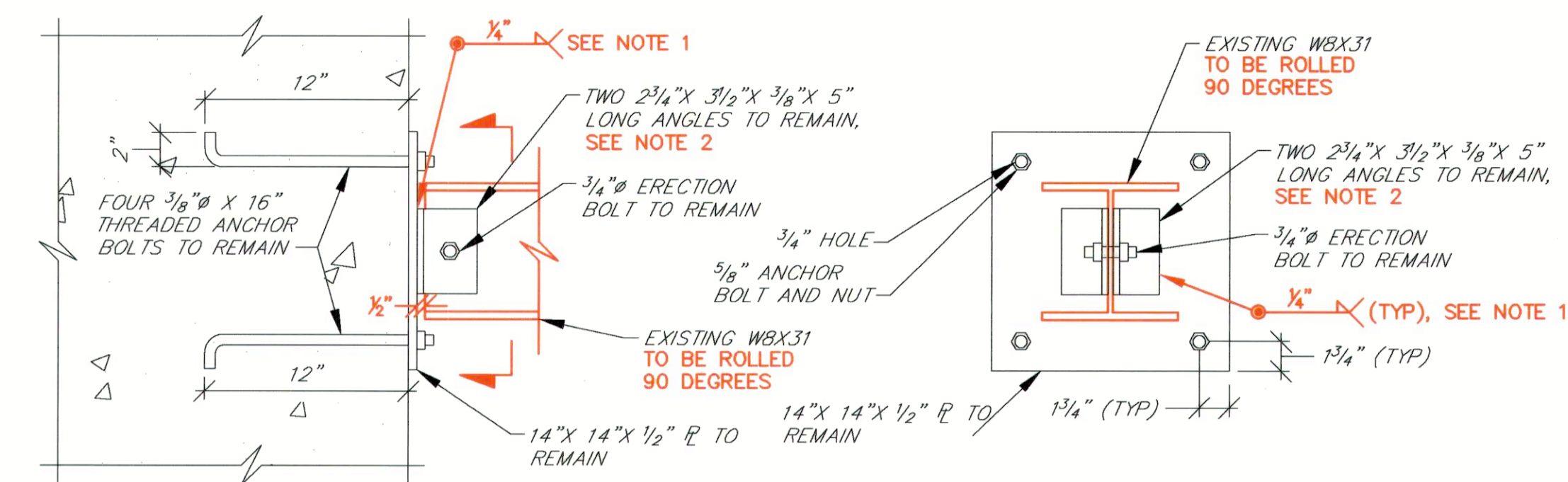
- A. ALL EXISTING FEATURES DENOTED BY SLANTED TEXT.
- B. ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE.
- C. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND TRANSPORTATION INTACT OF ALL DEMOLISHED EQUIPMENT.
- D. ALL OPENINGS THRU CONCRETE SHALL BE WATERTIGHT.
- E. CONTRACTOR SHALL COORDINATE ALL REQUIRED OPENINGS WITH MEP DRAWINGS.
- F. CONTRACTOR SHALL COORDINATE FINAL SIZES AND LOCATIONS OF ALL OPENINGS WITH THE ACTUAL FIELD.

SPECIAL INSPECTION

- A. SPECIAL INSPECTIONS IBC 1704.2
- B. STEEL CONSTRUCTION IBC 1705.2
- C. CONCRETE CONSTRUCTION IBC 1705.3
- D. MASONRY CONSTRUCTION IBC 1705.4

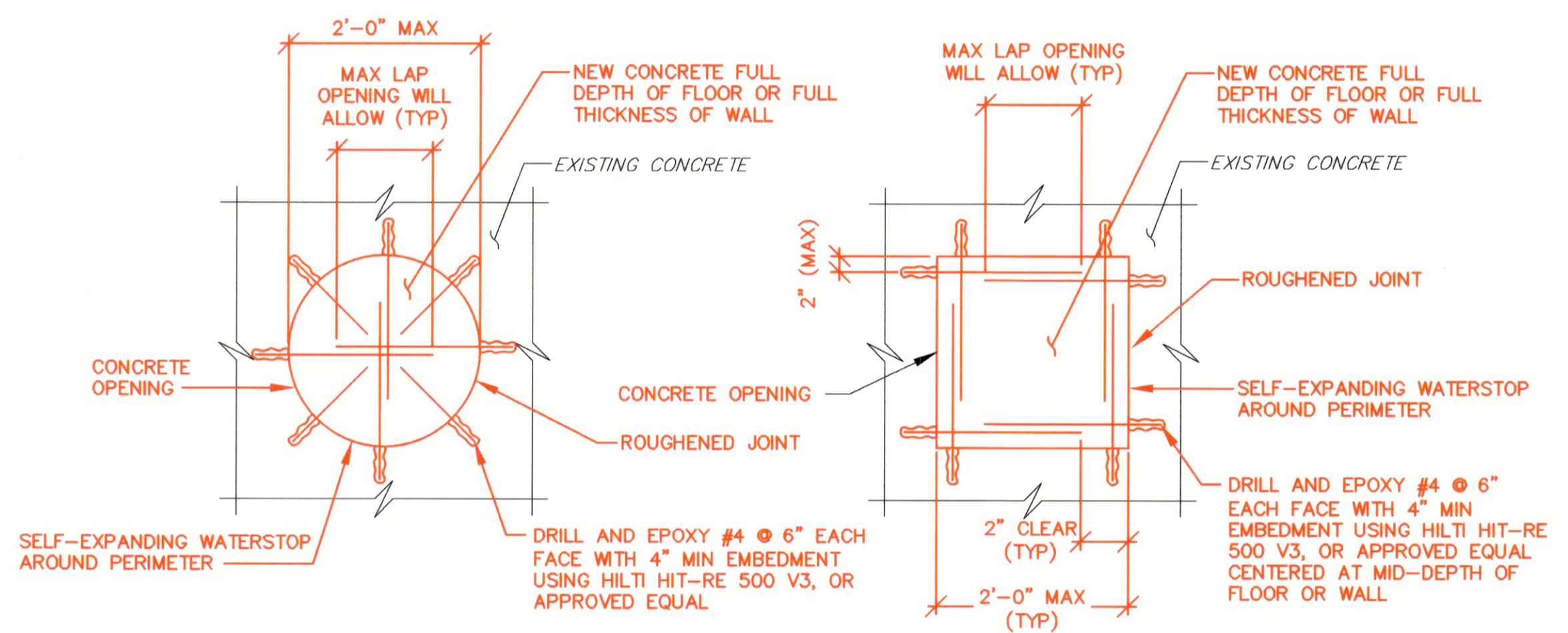
STAINLESS STEEL SPECIFICATIONS

- A. ALL STRUCTURAL STEEL SHALL BE AS FOLLOWS:
 1. STRUCTURAL STEEL SHAPES SHALL BE ASTM 276, TYPE 316L WITH A MINIMUM YIELD OF 42 KSI.
 2. STAINLESS STEEL PLATES SHALL BE ASTM A666, TYPE 316L.
 3. ALL BOLTS SHALL BE ASTM F593 STAINLESS STEEL TYPE 316, GRADE B8, ALL NUTS SHALL BE ASTM F594 STAINLESS STEEL GRADE B8, AND ALL WASHERS SHALL BE ASTM F352 STAINLESS STEEL.
- B. ALL STAINLESS STEEL SHALL BE #4 INDUSTRIAL FINISH.
- C. CONTRACTOR SHALL COMPLY WITH THE FOLLOWING:
 1. "AMERICAN WELDING SOCIETY" (AWS) D1.1 "STRUCTURAL" WELDING CODE - STEEL, LATEST EDITION.
 2. AWS D1.6 "STRUCTURAL WELDING CODE - STAINLESS STEEL", LATEST EDITION



- NOTES:**
1. GRIND WELDS ATTACHING THE 2 1/4"x3 1/2"x3/16" ANGLES TO THE 14"x14" ANCHOR PLATE, THEN ROLL THE STEEL BEAM 90 DEGREES AND REWELD THE ANGLES TO THE ANCHOR PLATE AS SHOWN.
 2. IF ANGLES ARE DAMAGED DURING REMOVAL, PROVIDE A 5"x5"x3/16" THICK PLATE WELDED WITH A 1/4" FILLET WELD TO EXISTING PLATE AROUND AND AT 3 SIDES OF BEAM'S WEB.

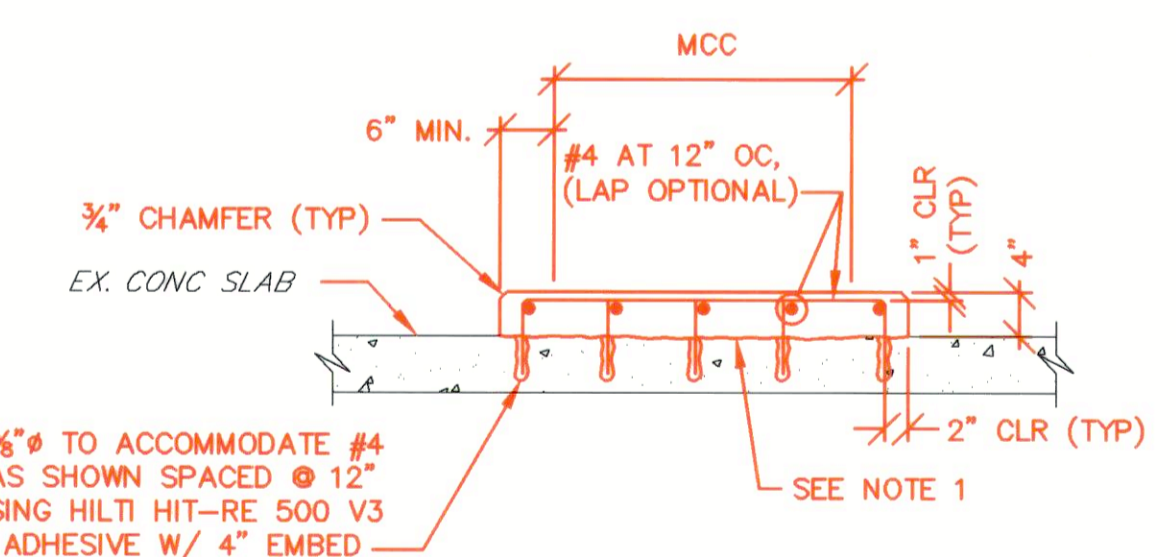
STEADY BEARING BEAM WALL CONNECTION DETAIL
SCALE: 1 1/2" = 1'-0"



CIRCULAR PATCH **SQUARE/RECTANGULAR PATCH**

- NOTES:**
1. SURFACE OF EXISTING CONCRETE SHALL BE ROUGHENED TO A FULL AMPLITUDE OF 1/4" AND SCRUBBED WITH A COARSE WIRE BRUSH TO REMOVE ALL LAITANCE AND TO PROVIDE A ROUGHENED SURFACE FOR BONDING NEW CONCRETE TO EXISTING CONCRETE. APPLY BONDING COMPOUND IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. EPOXY BONDING AGENT SHALL BE "SIKADUR 32, HI MOD" OR APPROVED EQUAL.
 2. COMPRESSIVE STRENGTH OF THE CONCRETE SHALL BE 4,500 PSI AT 28 DAYS.

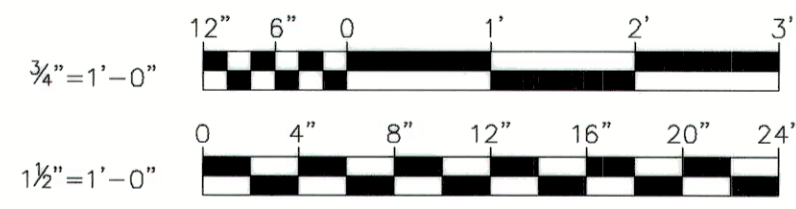
CONCRETE PATCH DETAIL
SCALE: 3/4" = 1'-0"



- NOTES:**
1. SURFACE OF EXISTING CONCRETE SHALL BE ROUGHENED TO A FULL AMPLITUDE OF 1/4" AND SCRUBBED WITH A COARSE WIRE BRUSH TO REMOVE ALL LAITANCE AND TO PROVIDE A ROUGHENED SURFACE FOR BONDING NEW CONCRETE TO EXISTING CONCRETE. APPLY BONDING COMPOUND IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. EPOXY BONDING AGENT SHALL BE FX-752 BY SIMPSON STRONG-TIE COMPANY, OR APPROVED EQUAL.
 2. COMPRESSIVE STRENGTH OF CONCRETE SHALL BE 4,500 psi AT 28 DAYS.

CONCRETE PAD DETAIL
NTS

AS-BUILT
11/2020

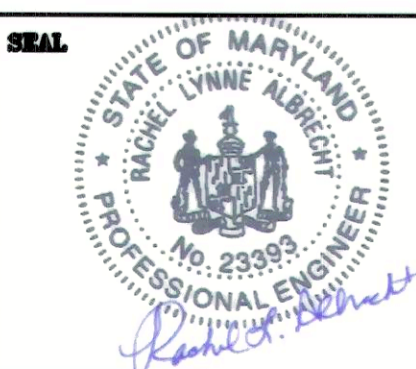


R:\21\SPS - k:\projects\2018\2154_Hoc\BDA\Task 9 - Miscellaneous Pumping Stations\Chamberlea PS\Drawings\2154CHFS-010A-SR-10A.dwg Apr 12, 2018 - 12:06pm Plot Scale 1:1

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *[Signature]* 4/15/18
 Chief, Bureau of Engineering: *[Signature]* 4/15/18
 Chief, Bureau of Utilities: *[Signature]* 4/15/18
 Chief, Utility Division: *[Signature]* 4/15/18

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT REVISIONS INCLUDED IN THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
 LICENSE NO. 23383 EXPIRATION DATE 8/25/18
ALBRECHT ENGINEERING INC



DES:	RCC				
DRN:	TJS				
CHK:	RLA				
DATE:	3/30/18	RK&K	1	2018 UPGRADES -- ADD SHEET 10A	3/18
BY:	NO.	REVISIONS			DATE

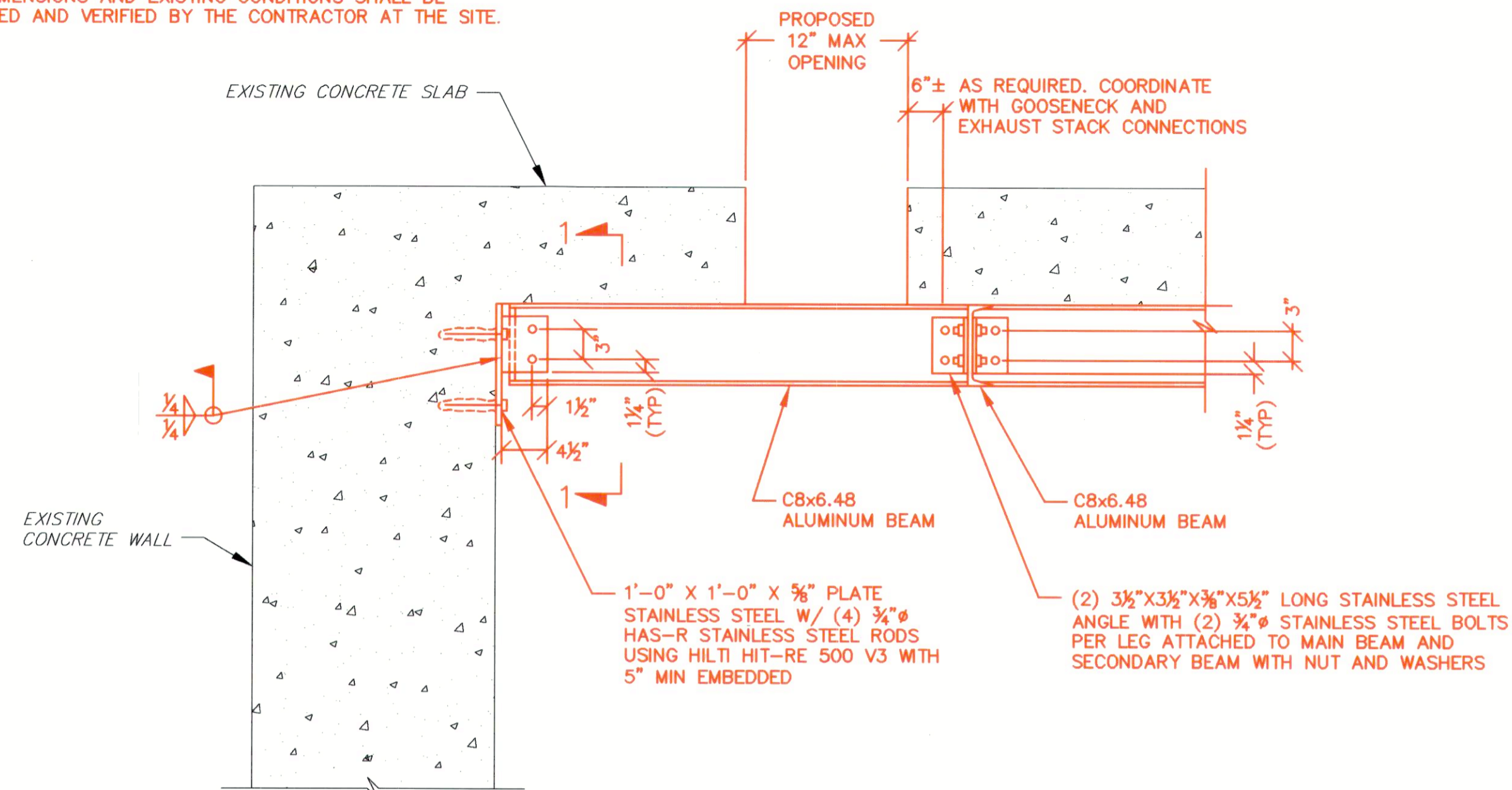
STRUCTURAL DETAILS & GENERAL NOTES - 2018 UPGRADES
 MAP NO. 17 BLOCK NO. 8
 DATE: 3/30/18

CHAMBERLEA PUMPING STATION
 2018 UPGRADES
 CAPITAL PROJECT NO. S6264
 CONTRACT NO. 742-S
 ELECTION DISTRICT NO. 2 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 10A OF 29

NOTES:

1. ALL EXISTING FEATURES DENOTED BY SLANTED TEXT.
2. ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE.

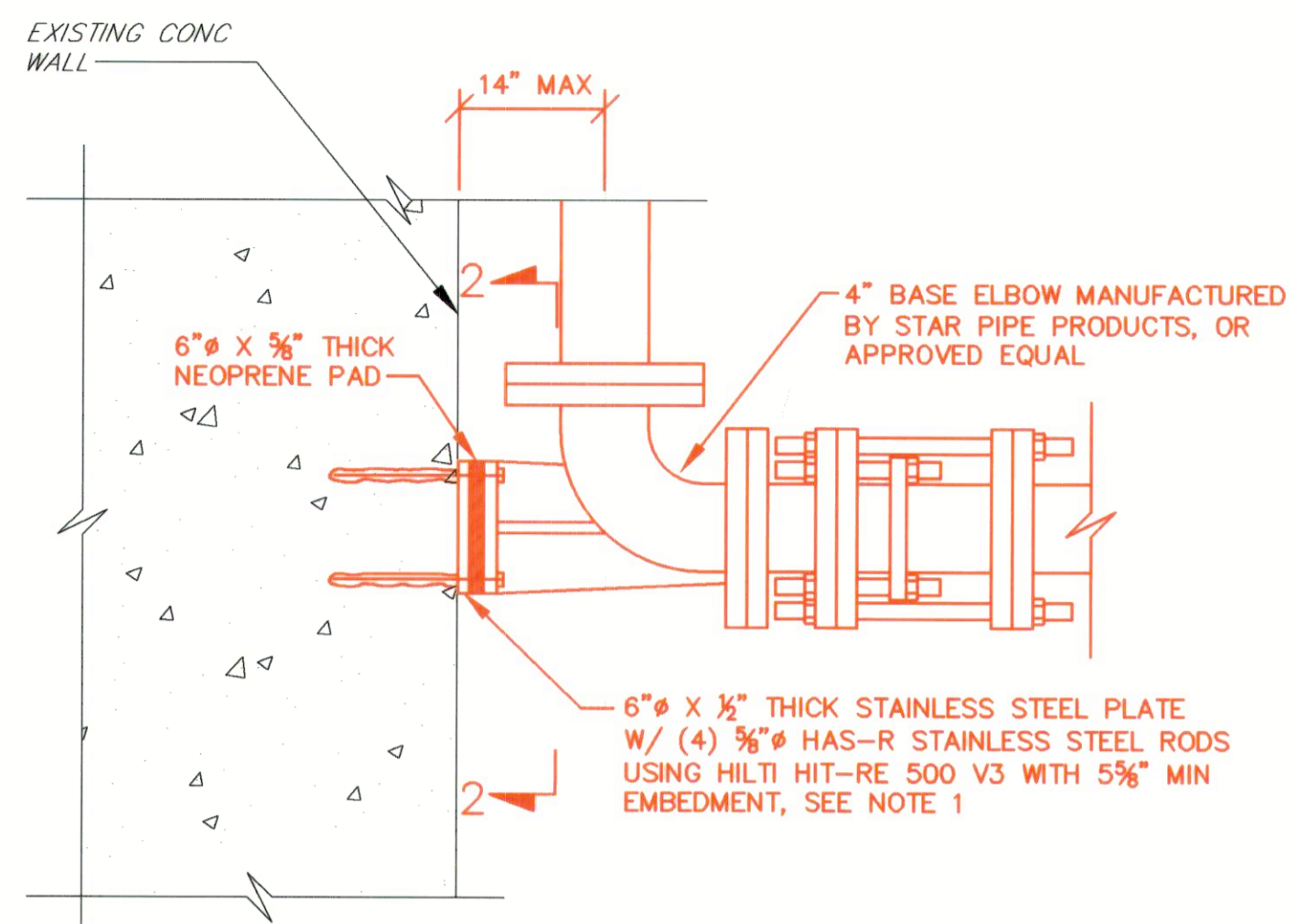


NOTES:

1. SEE CONTROL ROOM PLAN, SHEET 11B, FOR INSTALLATION LOCATION.
2. USE PLASTIC OR RUBBER WASHERS, SLEEVES, NEOPRENE PADS AND/OR BITUMINOUS PAINT, AS NECESSARY, TO CREATE A BARRIER BETWEEN DISSIMILAR METALS.
3. CONTRACTOR SHALL SHIM C8X8.46 ALUMINUM BEAM TIGHT TO BOTTOM OF CONCRETE SLAB WITH ALUMINUM SHIMS (AS REQUIRED). WELD SHIMS TO TOP FLANGE OF BEAM.
4. COPE FLANGES OF C8X6.48 ALUMINUM BEAMS THAT RUN IN THE NORTH/SOUTH DIRECTION AS REQUIRED TO MAKE CONNECTION TO C8X6.48 BEAMS IN EAST/WEST DIRECTION.

WETWELL TOP SLAB OPENING SUPPORT BEAM DETAIL

SCALE: 1" = 1'-0"

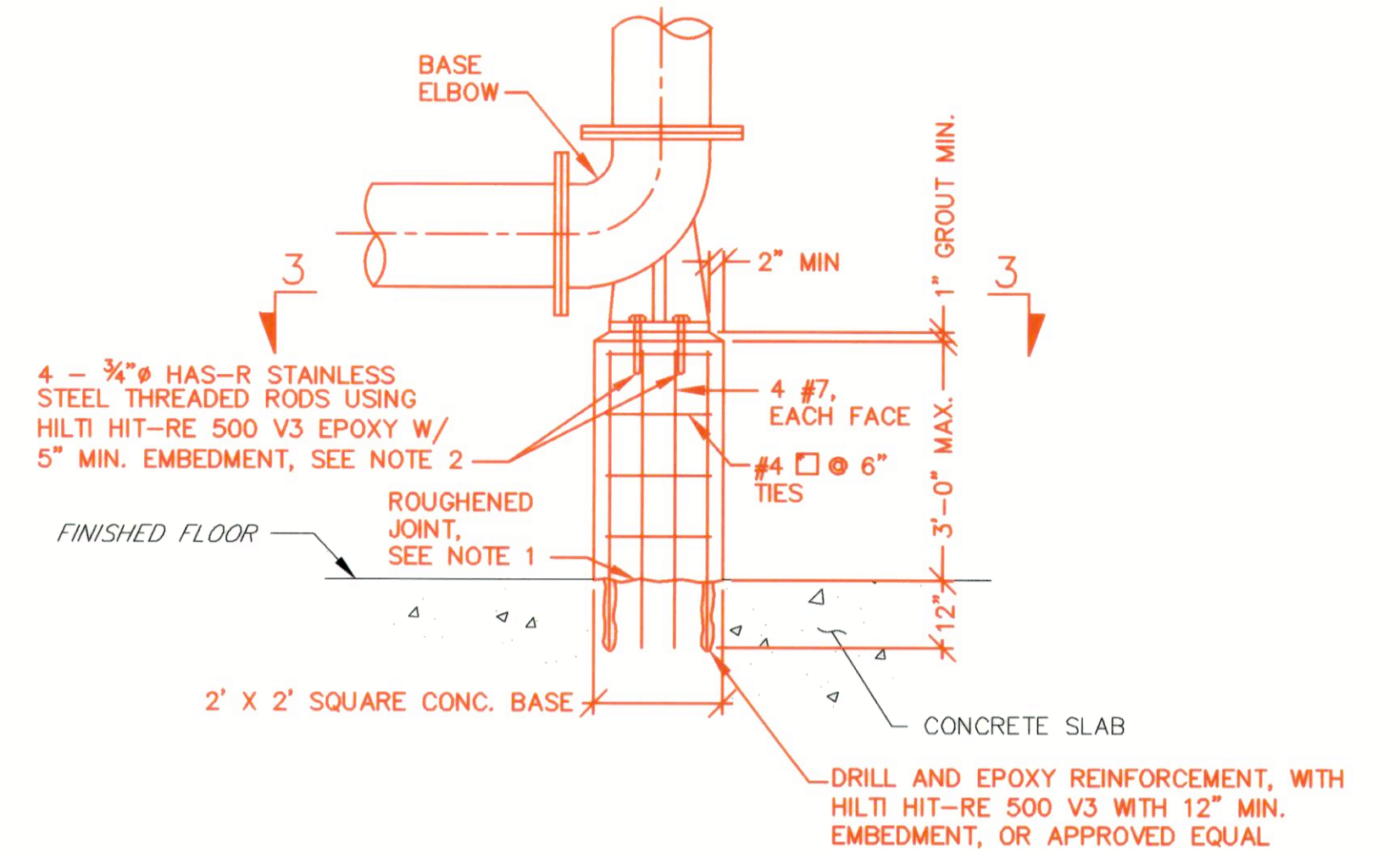


NOTES:

1. SEE PUMP ROOM PLAN, SHEET 11B, FOR INSTALLATION LOCATION.
2. COORDINATE BOLT HOLE LOCATIONS WITH THE BASE ELBOW PROVIDED.
3. USE A NON-CONDUCTIVE PLASTIC WASHER AND SLEEVE TO FIT ON THE SHAFT OF THE ANCHOR, OR BITUMINOUS PAINT TO CREATE A BARRIER BETWEEN DISSIMILAR METALS

BASE ELBOW THRUST SUPPORT DETAIL

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

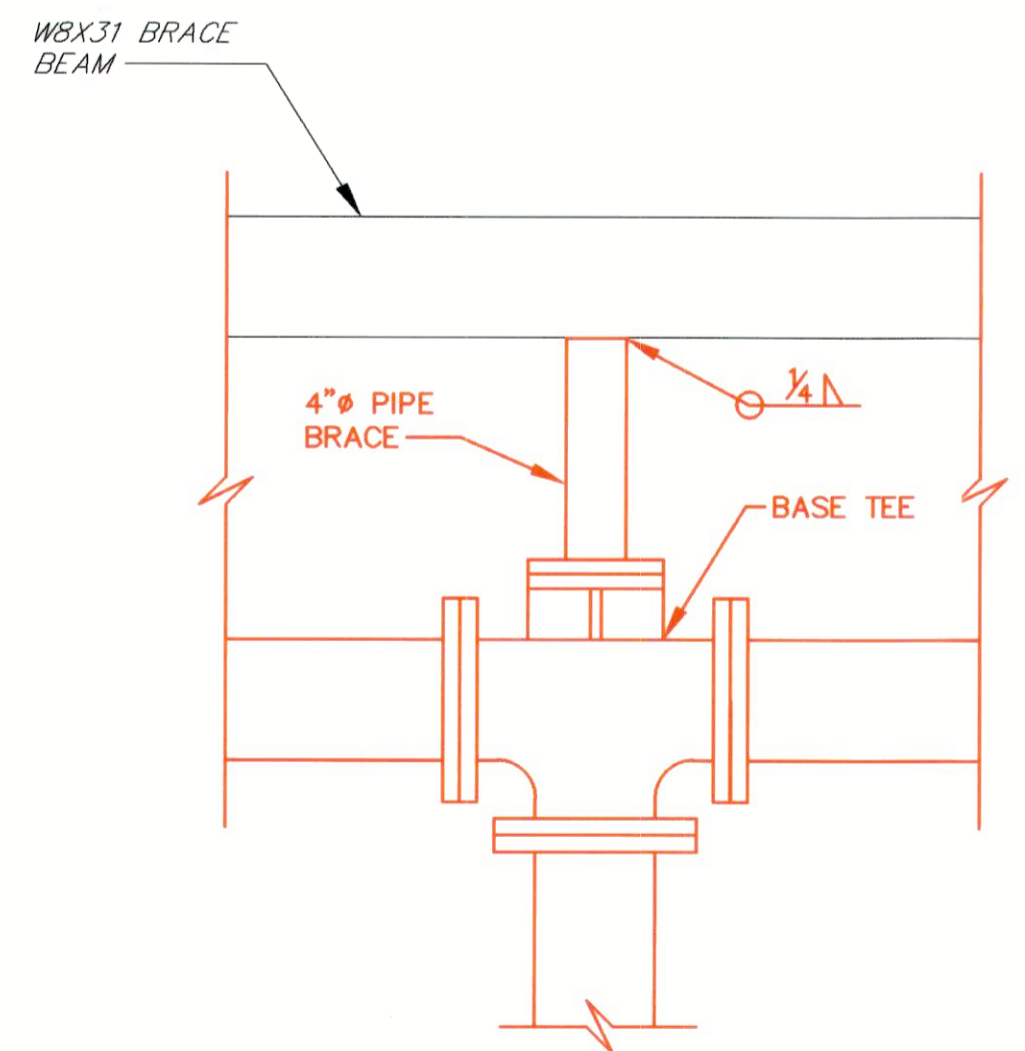


NOTES:

1. SEE IMPROVEMENT SECTION 1, SHEET 12B, FOR INSTALLATION LOCATION.
2. SURFACE OF EXISTING CONCRETE SHALL BE ROUGHENED TO A FULL AMPLITUDE OF 1/4" AND SCRUBBED WITH A COARSE WIRE BRUSH TO REMOVE ALL LAITANCE AND TO PROVIDE A ROUGHENED SURFACE FOR BONDING NEW CONCRETE TO EXISTING CONCRETE. APPLY BONDING COMPOUND IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. EPOXY BONDING AGENT SHALL BE "SIKADUR 32, HI-MOD", OR APPROVED EQUAL.
3. USE A NON-CONDUCTIVE PLASTIC WASHER AND SLEEVE TO FIT ON THE SHAFT OF THE ANCHOR, OR BITUMINOUS PAINT TO CREATE A BARRIER BETWEEN DISSIMILAR METALS

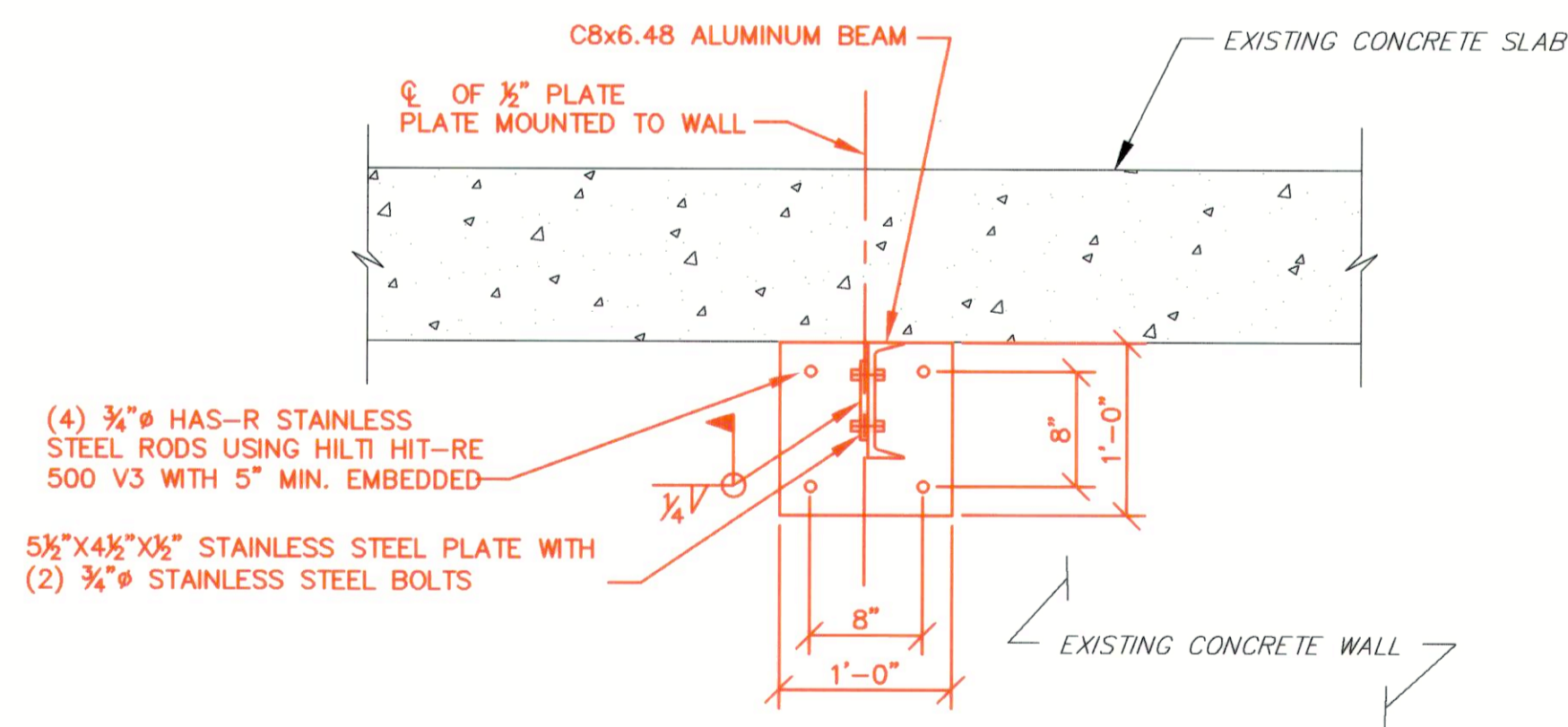
BASE ELBOW SUPPORT DETAIL

NTS



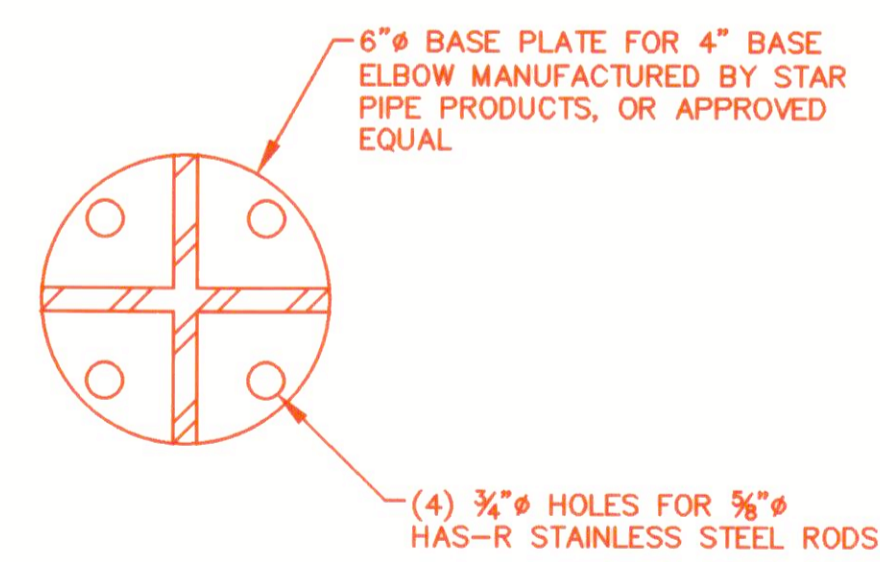
BASE TEE PIPE BRACE CONNECTION DETAIL

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



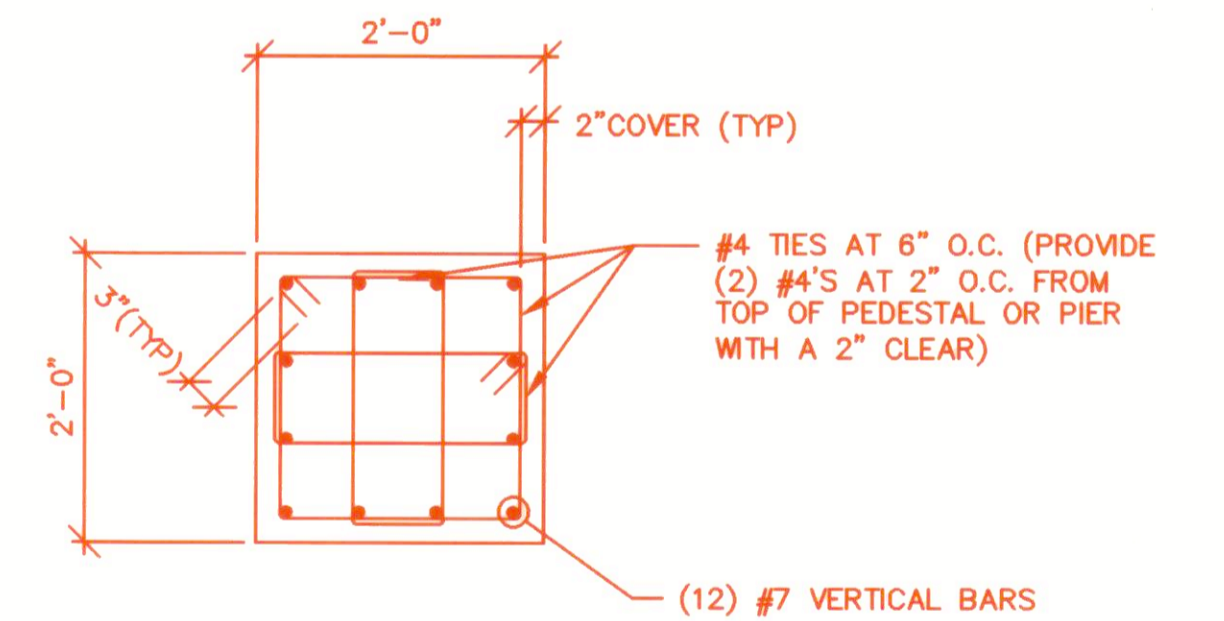
SECTION 1

SCALE: 1" = 1'-0"



SECTION 2

SCALE: 3" = 1'-0"



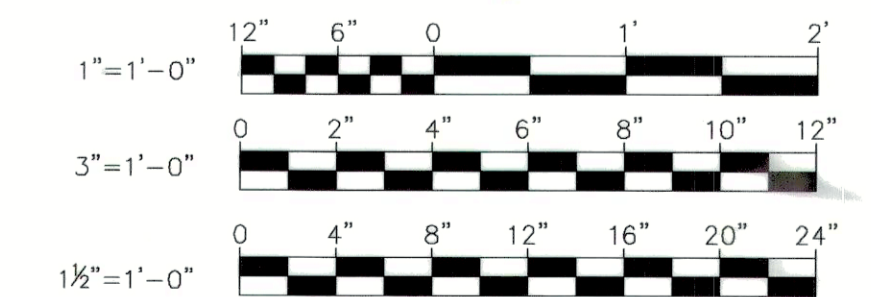
NOTE:

1. COMPRESSIVE STRENGTH OF CONCRETE SHALL BE f'c=4,500 psi.

SECTION 3

NTS

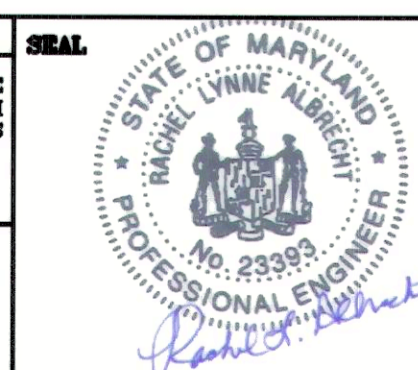
AS-BUILT
11/2020



R021315 - K:\projects\2021\154_H06080A\Task 9 - Miscellaneous Pumping Stations\Chamberlea_Pumping Station\Drawings\1540808-0108-SP-108.dwg Apr 12, 2018 - 12:09pm Plot Scale: 1:1

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	
Director of Public Works <i>[Signature]</i> DATE: 4/12/18	Chief, Bureau of Engineering <i>[Signature]</i> DATE: 4/13/18
Chief, Bureau of Utilities <i>[Signature]</i> DATE: 4/13/18	Chief, Utility Division <i>[Signature]</i> DATE: 4/13/18

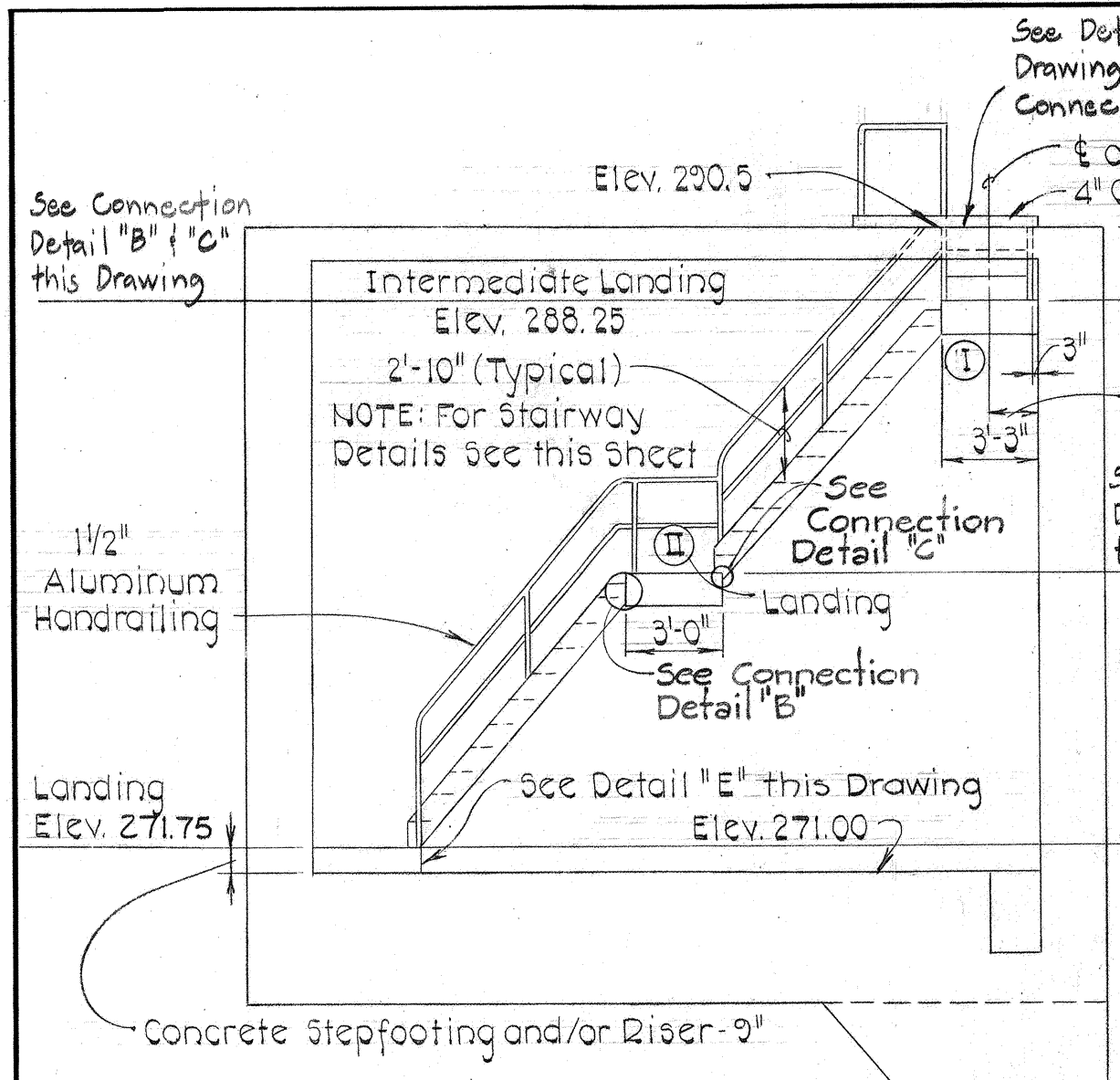
PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT REVISIONS INCLUDED IN THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 23393. EXPIRATION DATE 8/25/18	
ALBRECHT ENGINEERING INC	



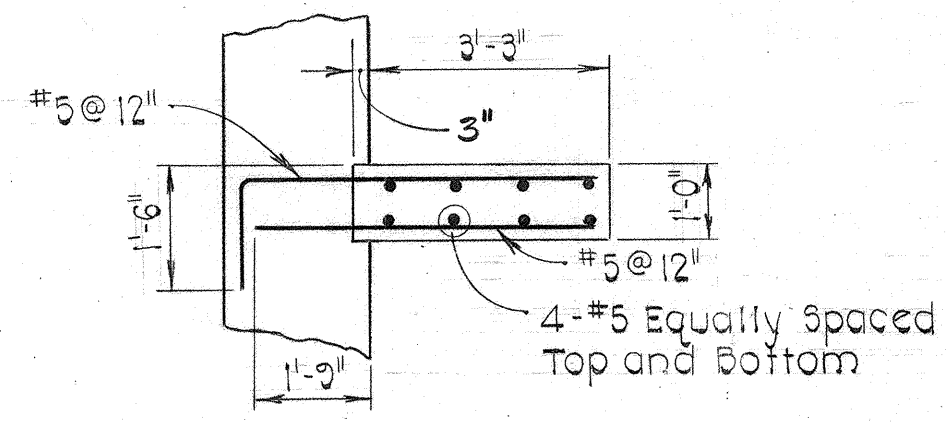
DES:	RCC
DRN:	TJS
CHK:	RLA
DATE:	3/30/18
BY:	RK&K
NO.:	1
REVISIONS:	2018 UPGRADES - ADD SHEET 10B
DATE:	3/18

MAP NO.:	17
BLOCK NO.:	8

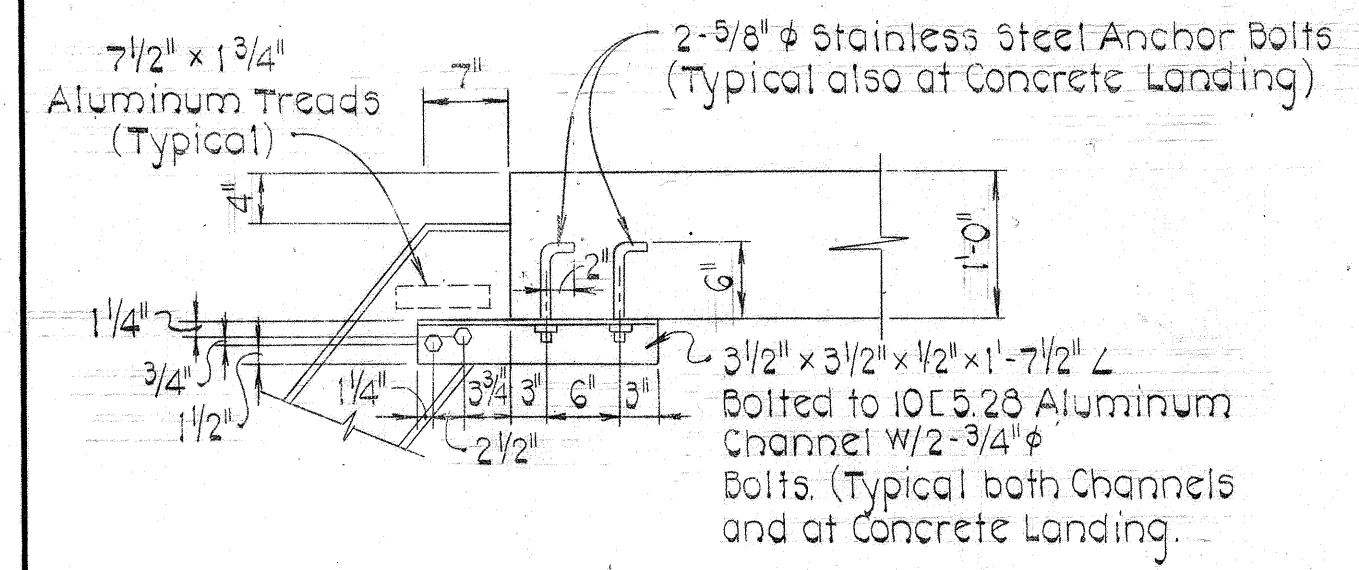
CHAMBERLEA PUMPING STATION 2018 UPGRADES CAPITAL PROJECT NO. S6264 CONTRACT NO. 742-S	
ELECTION DISTRICT NO. 2	HOWARD COUNTY, MARYLAND
SCALE AS SHOWN	SHEET 10B OF 29



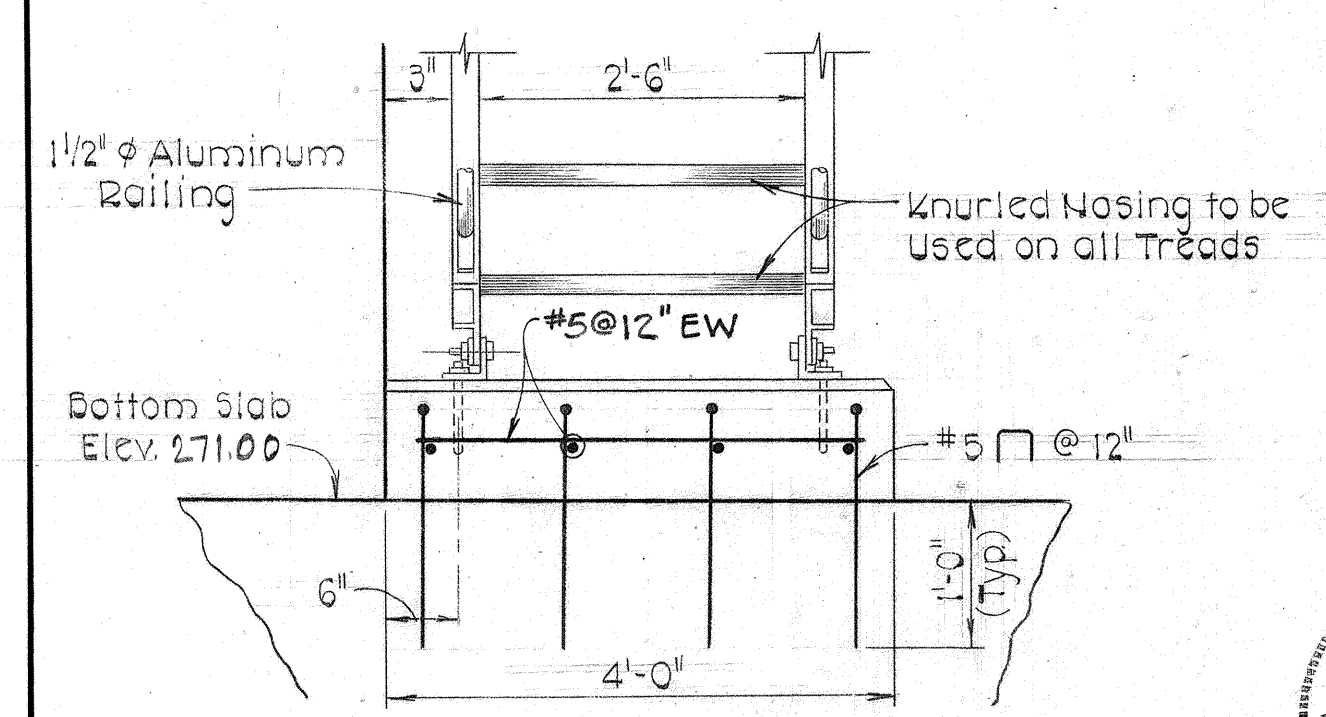
PUMP ROOM STAIRWAY
Scale: 3/16" = 1'-0"



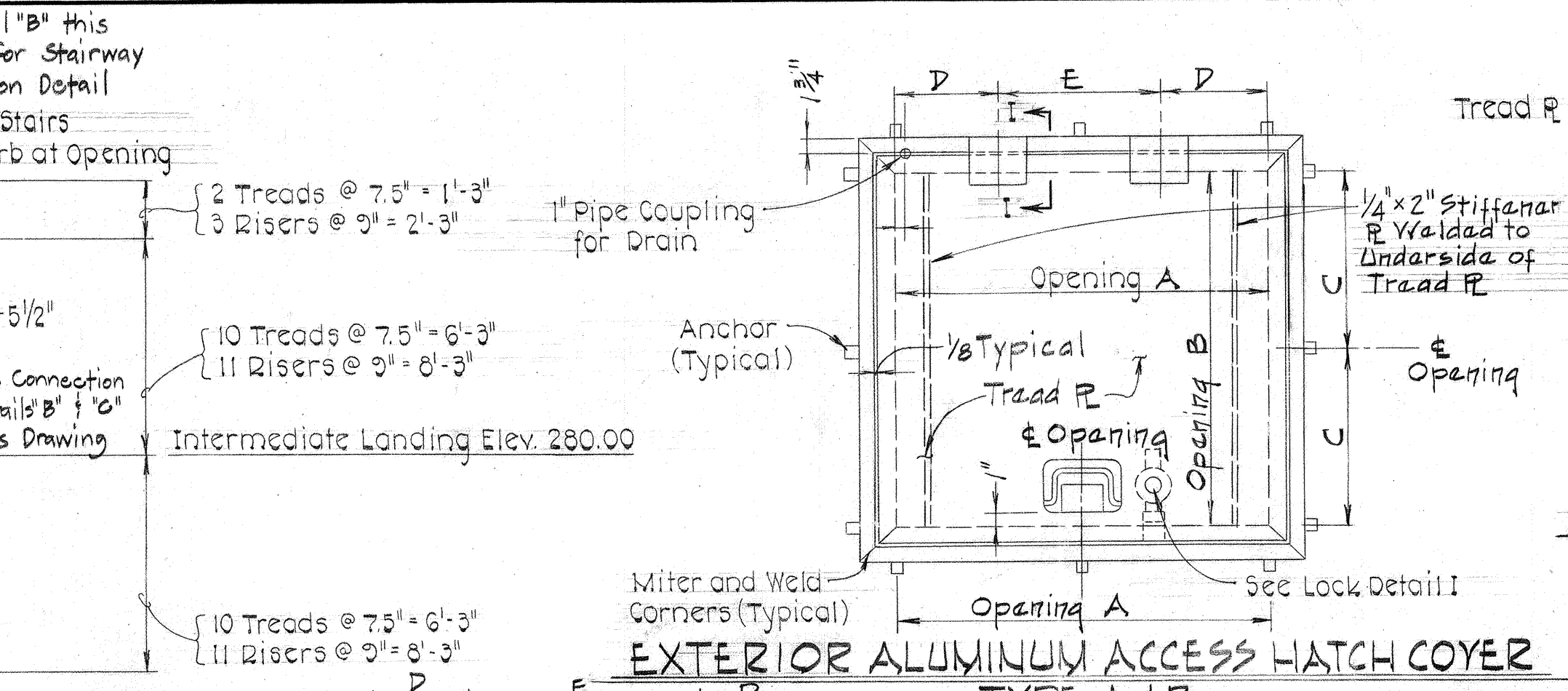
LANDING DETAIL
Scale: 3/8" = 1'-0"



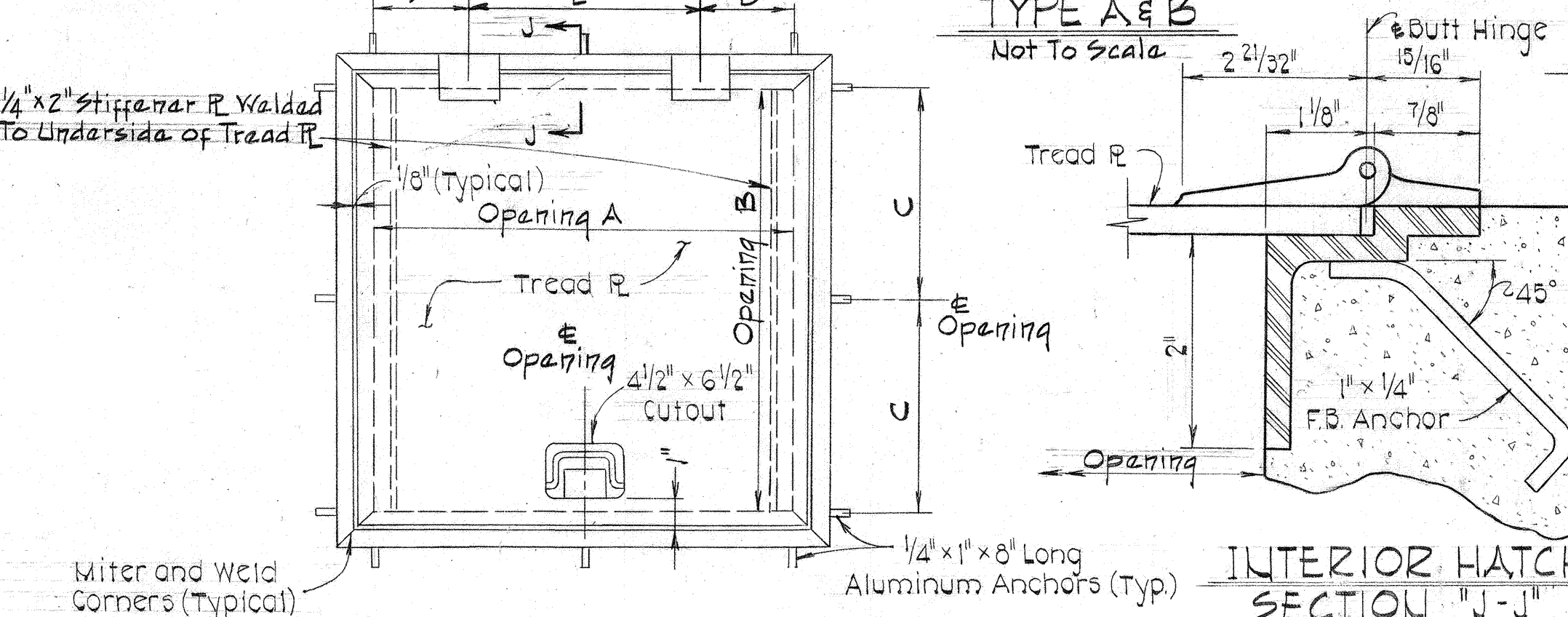
DETAIL "B"



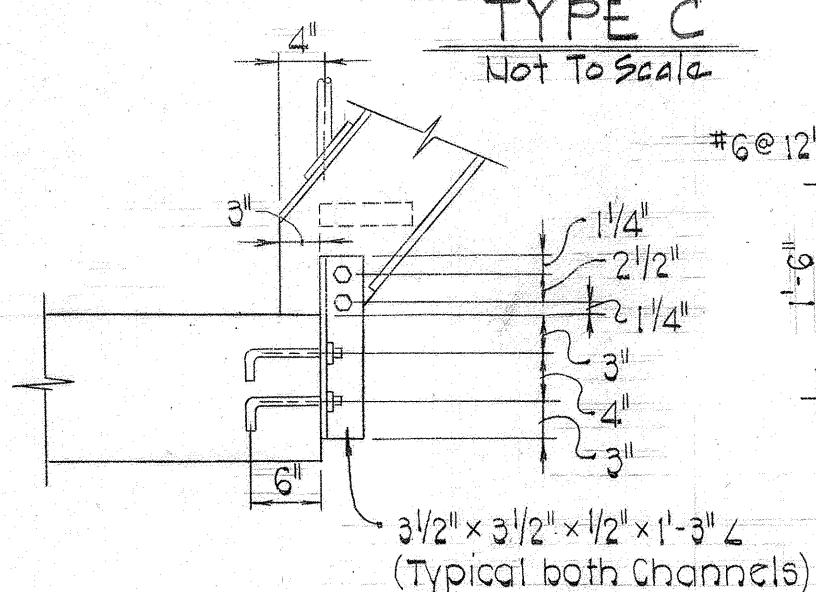
DETAIL "E"
Not to Scale



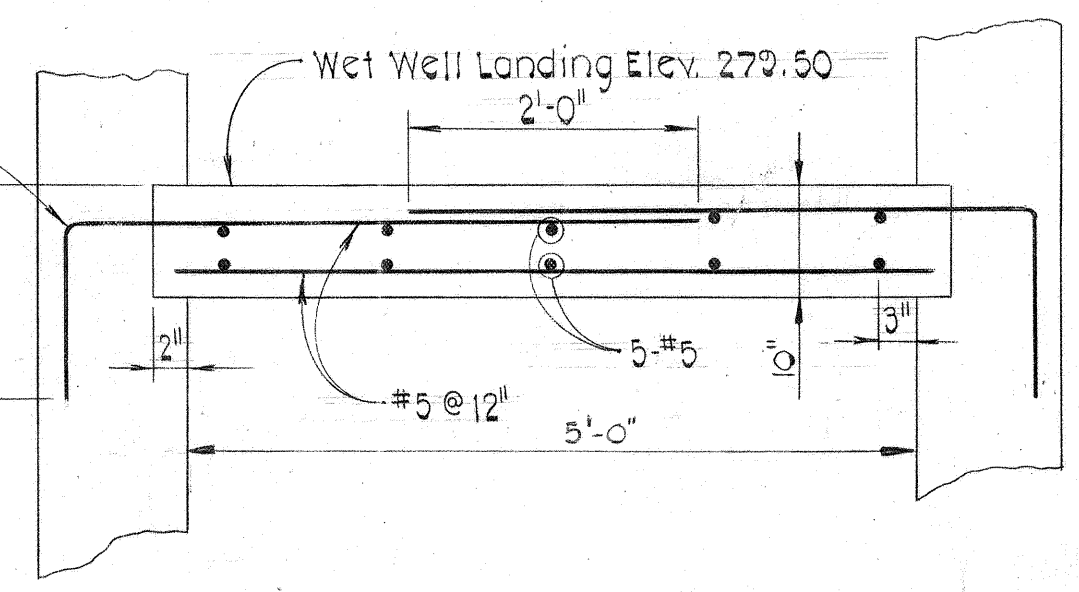
EXTERIOR ALUMINUM ACCESS HATCH COVER
TYPE A & B
Not to Scale



ALUMINUM ACCESS HATCH COVER (INTERIOR)
TYPE C
Not to Scale

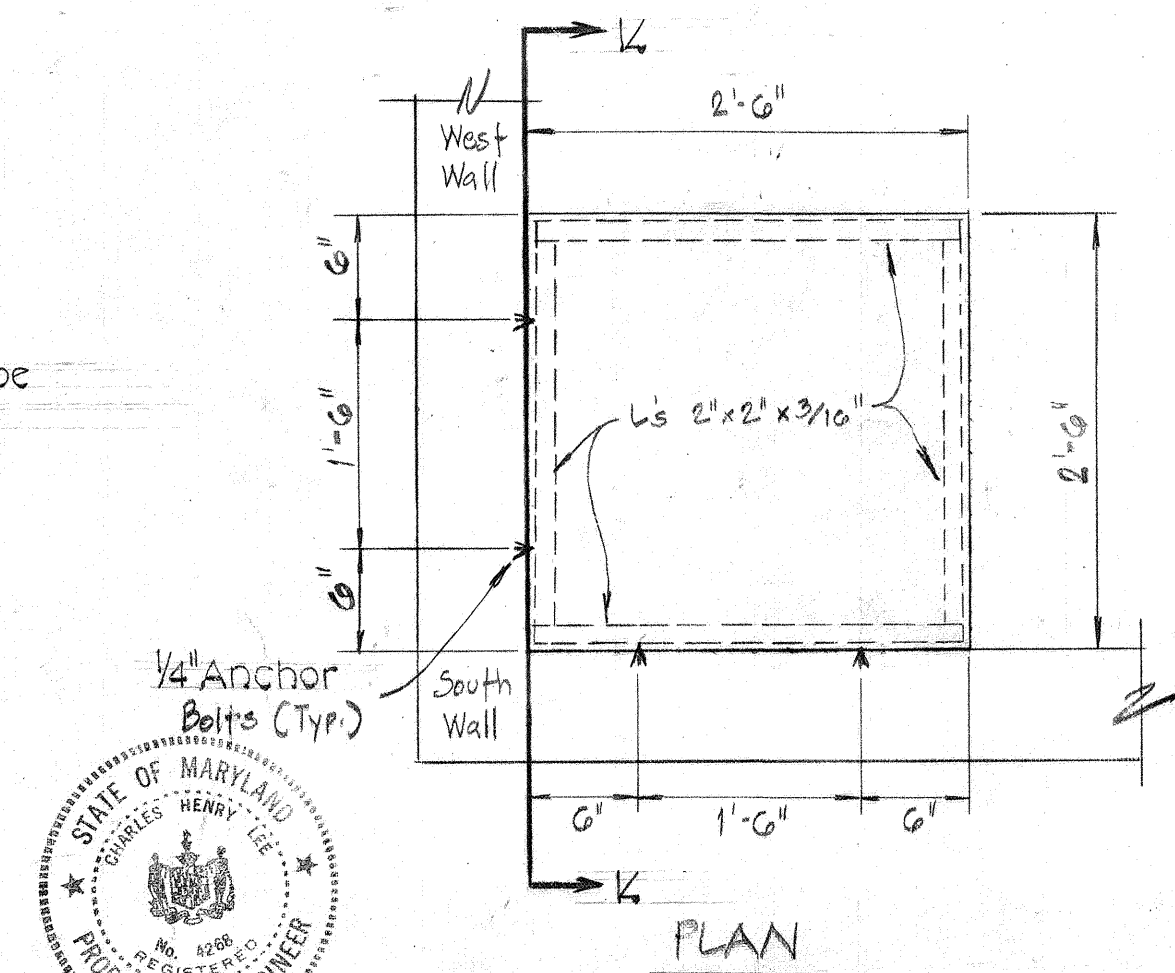


DETAIL "C"

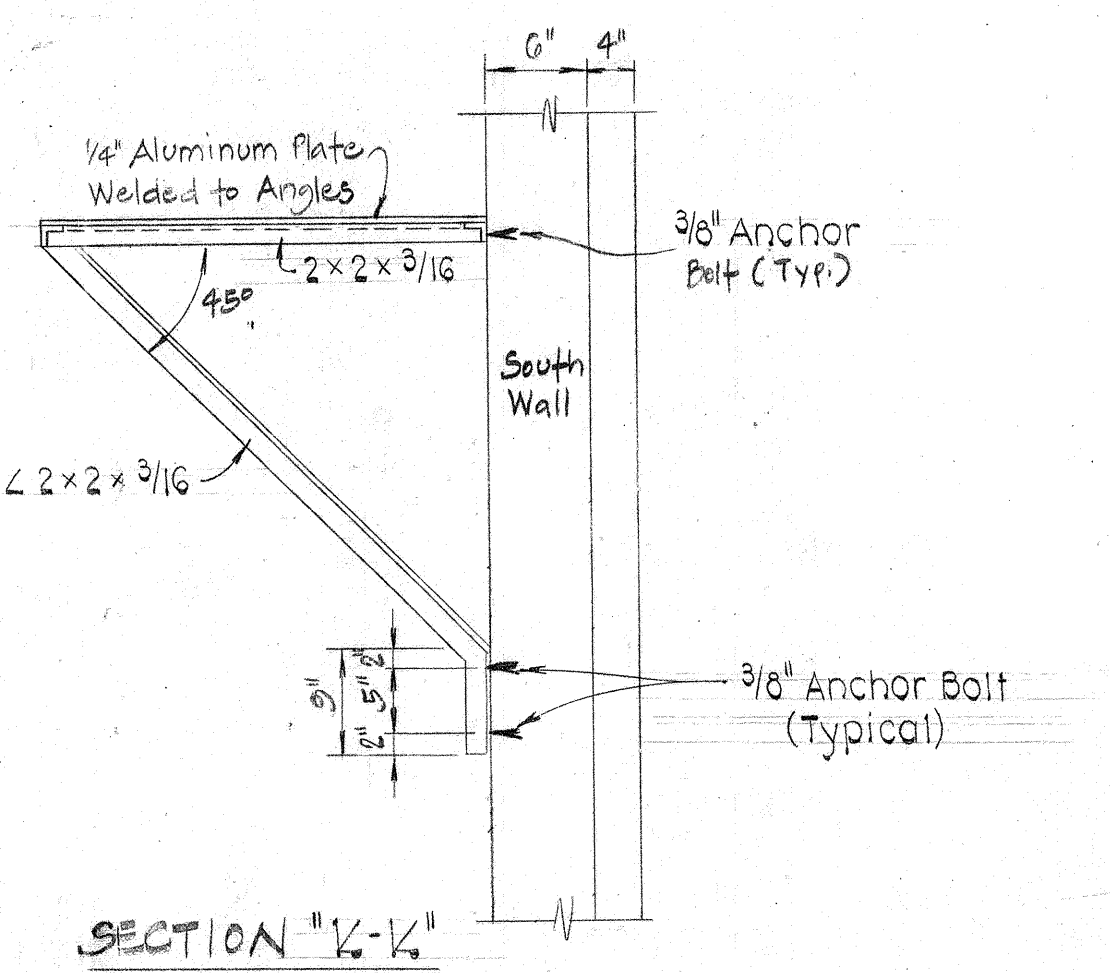


WET WELL LANDING DETAIL
Scale: 3/4" = 1'-0"

For Detail @ Removable Aluminum Grate See Drawing No. 14

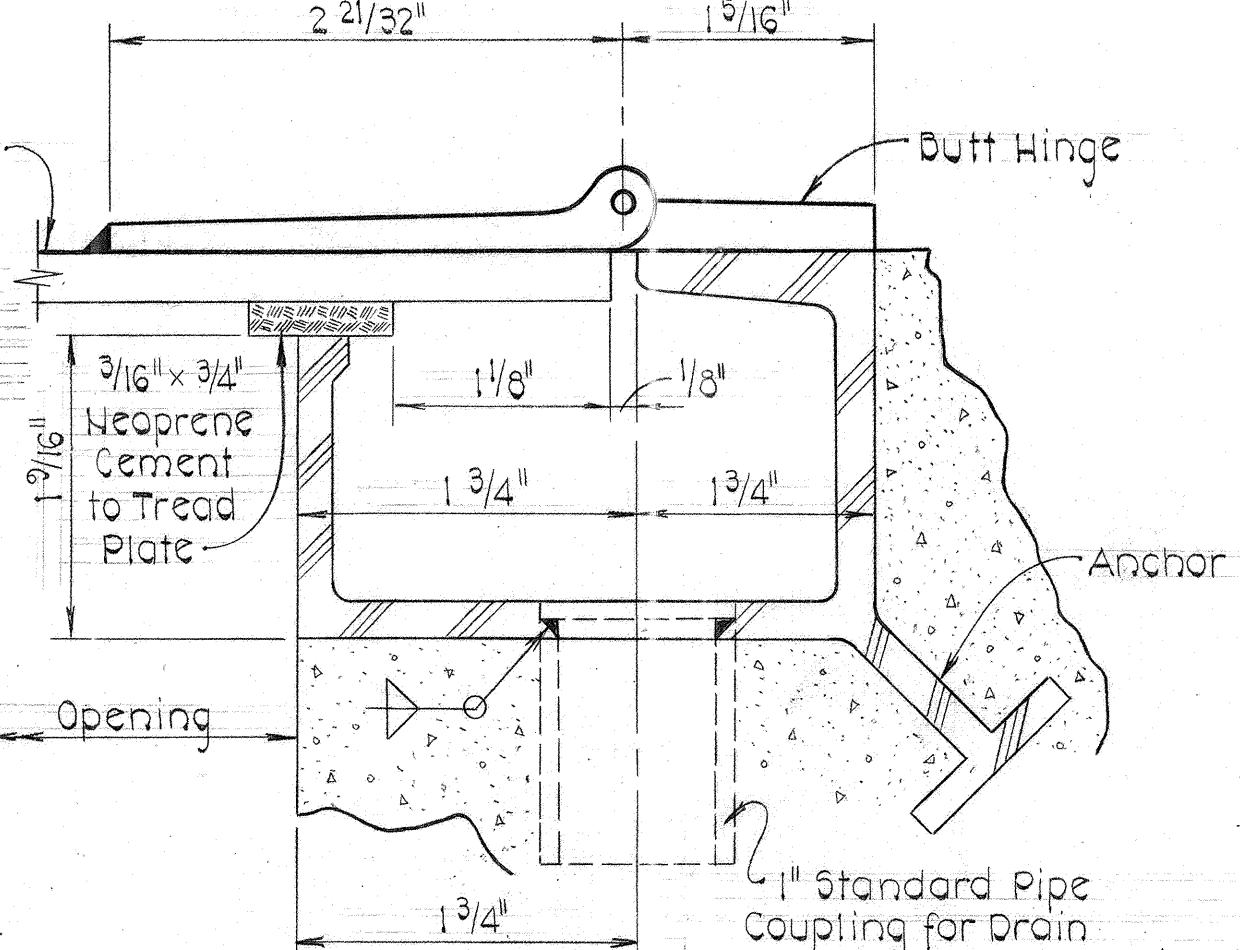


PLAN



SECTION "K-K"

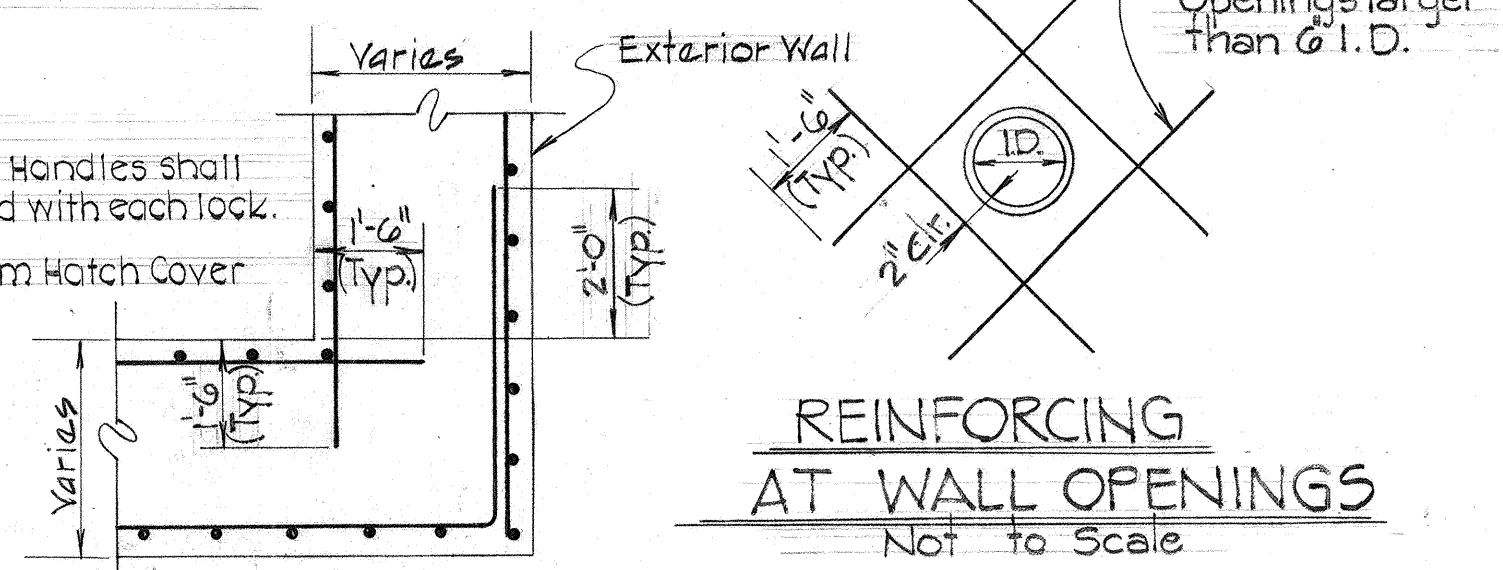
BLOWER PLATFORM DETAILS
Not to Scale



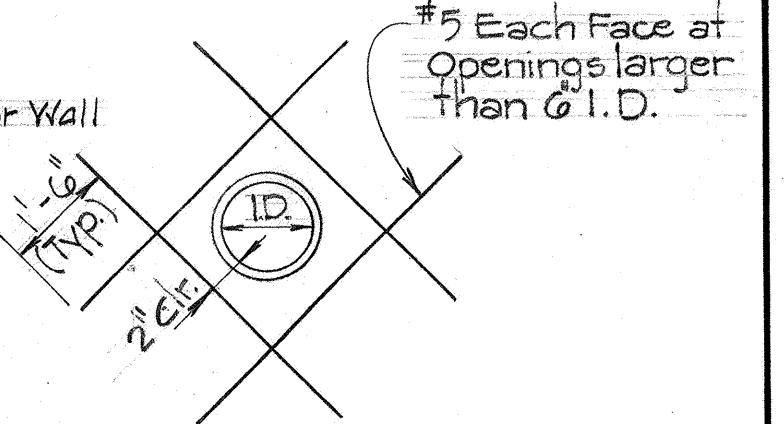
EXTERIOR HATCH AT HINGE
SECTION "I-I"

Scale: Actual
Removable Key-Handle
1 1/2" x 1" x 3/16" L 2" Long
Welded to Aluminum Frame

LOCK DETAIL - I
Not to Scale



TYPICAL REINFORCING DETAIL AT WALL CORNERS
Not to Scale

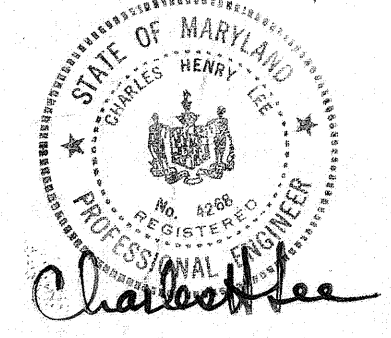


REINFORCING AT WALL OPENINGS
Not to Scale

ACCESS HATCH DESIGNATION	ACCESS HATCH LOCATION	ACCESS HATCH FUNCTION	ACCESS HATCH DIMENSIONS-IN.					TREAD PLATE	ADDITIONAL APPLICABLE REQUIREMENTS
			A	B	C	D	E		
A	Top Slab of Wet Well	Personnel Access to Wet Well	4'-0"	3'-6"	1'-9"	1'-0"	2'-0"	3/8"	Exterior, Watertight Hatch See Section I-I & Lock Detail
B	Top Slab of Wet Well	Operation of Debris Basin	2'-6"	2'-6"	1'-3"	0'-10"	0'-10"	1/4"	Exterior, Watertight Hatch See Section I-I & Lock Detail
C	Control Room Slab	Equipment Access to Pump Room	4'-0"	4'-0"	2'-0"	1'-6"	2'-0"	3/8"	Interior Hatch See Section J-J

ACCESS HATCH SCHEDULE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Director of Public Works
Chief Bureau of Engineering
Chief Bureau of Utilities
Date: 8/21/81
Date: 8/28/81
Date: 8/28/81



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

CONTRACT NO. 2742-S
CAPITAL PROJECT NO. S-4-6067

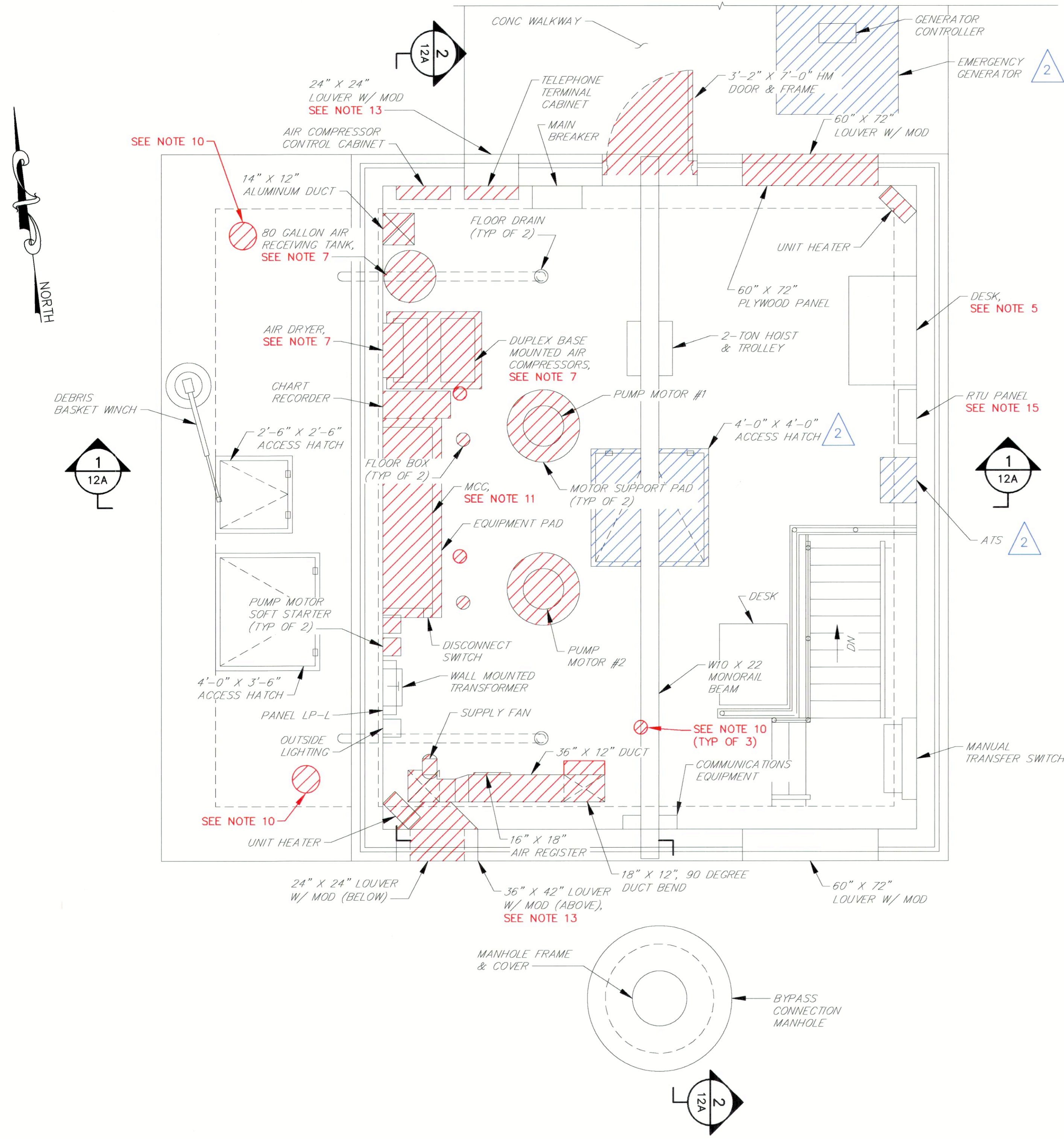
STRUCTURAL DETAILS

CHAMBERLEA SANITARY SEWERS
CHAMBERLEA PUMPING STATION
ELECTION DISTRICT NO. 2

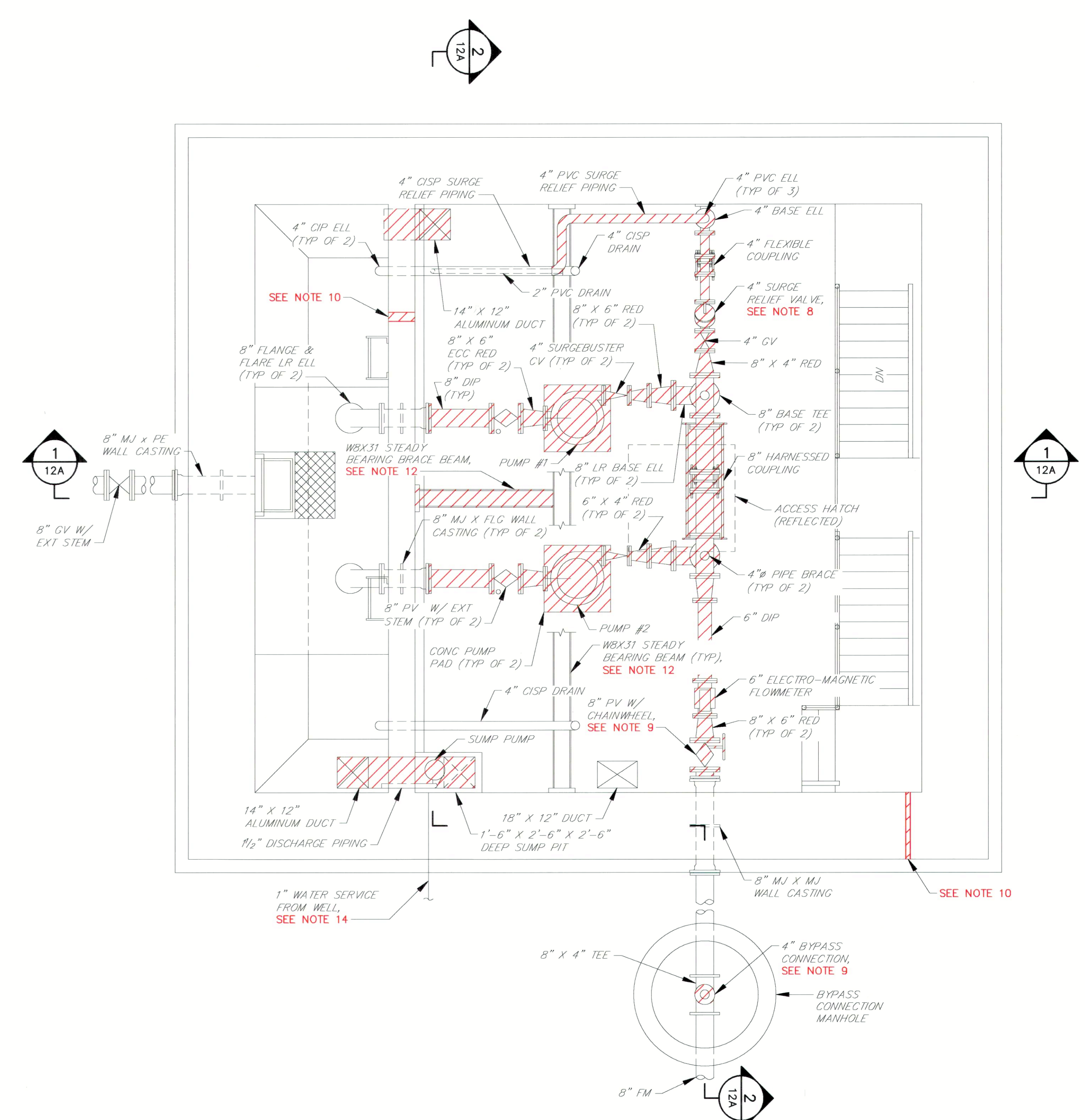
DRAWING NO. 10 OF 17
SCALE AS SHOWN
Designed: DJD
Drafted: ARZ
Checked: REP

NOTES:

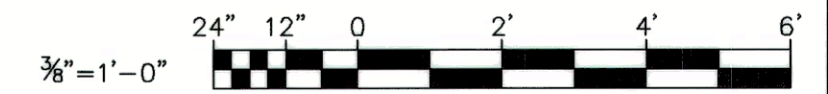
- ALL EXISTING FEATURES DENOTED BY SLANTED TEXT.
- ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE.
- PATCH ALL EXISTING HOLES IN CONCRETE FLOOR SLABS AND WALLS THAT ARE NOT USED IN THE NEW WORK WITH MIN. 9000 PSI COMPRESSIVE STRENGTH NON-SHRINKING GROUT. THE GROUT SHALL BE MIXED AND PLACED IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS FOR THIS APPLICATION. GROUT SHALL BE KAUFMAN PRODUCTS SURE GROUT, OR APPROVED EQUAL. HOLES THAT CONTAIN EXISTING WALL SLEEVES SHALL BE PATCHED BY FIRST INSTALLING A CAST IRON OR DUCTILE IRON PLUG AND FILLING THE REMAINING OPENING WITH NON-SHRINK GROUT.
- REMOVE CONCRETE EQUIPMENT PADS AND VALVE SUPPORTS FOR ALL REMOVED EQUIPMENT AND PIPING, AND RESTORE CONCRETE FLOOR TO MATCH EXISTING.
- DESK SHALL BE RELOCATED TO THE WEST WALL ONCE ALL EQUIPMENT IS REMOVED.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND TRANSPORTATION, INTACT OF ALL DEMOLISHED EQUIPMENT DESIGNATED BY THE COUNTY TO BE SALVAGED, TO THE COUNTY'S LITTLE PATUXENT WATER RECLAMATION PLANT (LPWRP) MAINTENANCE SHOP, LOCATED AT 8900 GREENWOOD PLACE, 410-313-1200. CONTRACTOR SHALL PROVIDE THE COUNTY WITH FIVE (5) DAYS ADVANCE NOTICE PRIOR TO DELIVERY OF EQUIPMENT. CONTRACTOR SHALL DISPOSE OF ALL NON-SALVAGED EQUIPMENT AND MATERIAL DEMOLISHED.
- REMOVE AIR COMPRESSORS, RECEIVING TANK, AIR DRYER, EQUIPMENT PAD AND ALL ASSOCIATED CONTROLS, PIPING AND OTHER APPURTENANCES.
- REMOVE SURGE RELIEF VALVE AND ALL ASSOCIATED PNEUMATIC CONTROLS, PIPING AND OTHER APPURTENANCES.
- CONTRACTOR SHALL TEMPORARILY SHUT DOWN THE PUMPING STATION TO REMOVE AND REPLACE THE 8" STATION ISOLATION PLUG VALVE AND 4" BYPASS CONNECTION AND ASSOCIATED PIPING. REFER TO SPECIFICATION 02750 FOR TEMPORARY SHUT DOWN REQUIREMENTS.
- CORE DRILL HOLES IN CONCRETE WALLS AND FLOOR SLABS TO ACCOMMODATE NEW VALVE BOXES, EXHAUST FAN, GOOSENECK VENT AND WATER AND DRAIN PIPES. INSTALL FRAMING AROUND HOLES IN WETWELL TOP SLAB AS SHOWN ON SHEET 11B.
- EXISTING POWER AND CONTROL EQUIPMENT SHALL REMAIN IN SERVICE TO SUPPORT PUMPING OPERATIONS UNTIL ALL NEW SYSTEMS ARE INSTALLED AND FULLY OPERATIONAL AND APPROVAL IS GRANTED BY OWNER AND ENGINEER. REMOVAL OF EQUIPMENT SHALL INCLUDE ALL CONDUIT AND WIRING ASSOCIATED WITH EQUIPMENT TO BE REMOVED.
- REMOVE THE UPPER STEADY BEARING BEAM FROM THE WALLS AND PREPARE IT TO BE ROLLED 90 DEGREES AND REINSTALLED. REMOVE THE LOWER STEADY BEARING BEAM AND THE UPPER AND LOWER STEADY BEARING BRACE BEAMS ENTIRELY.
- REMOVE DAMPER ACTUATOR AND PREPARE DAMPER FOR INSTALLATION OF NEW ACTUATOR.
- ABANDON THE EXISTING WATER WELL AND REMOVE THE ENTIRE POTABLE WATER PIPING SYSTEM, SEE WATER SUPPLY DIAGRAM ON DRAWING NO. 14 FOR EXISTING PIPING LAYOUT.
- EXISTING RTU PANEL TO REMAIN IN SERVICE. PANEL CONTAINS THE EXISTING LC150 PRIMARY PUMP CONTROLLER, WHICH IS ALSO TO REMAIN IN SERVICE, TO GENERATE THE PRIMARY PUMP CONTROLS BY THE SYSTEM INTEGRATOR IN THE PROPOSED PCP. REFER TO WIRING SCHEMATICS PROVIDED.



CONTROL ROOM PLAN
SCALE: 3/8"=1'-0"



PUMP ROOM PLAN
SCALE: 3/8"=1'-0"



AS-BUILT REPLACEMENT SHEET 11/2020

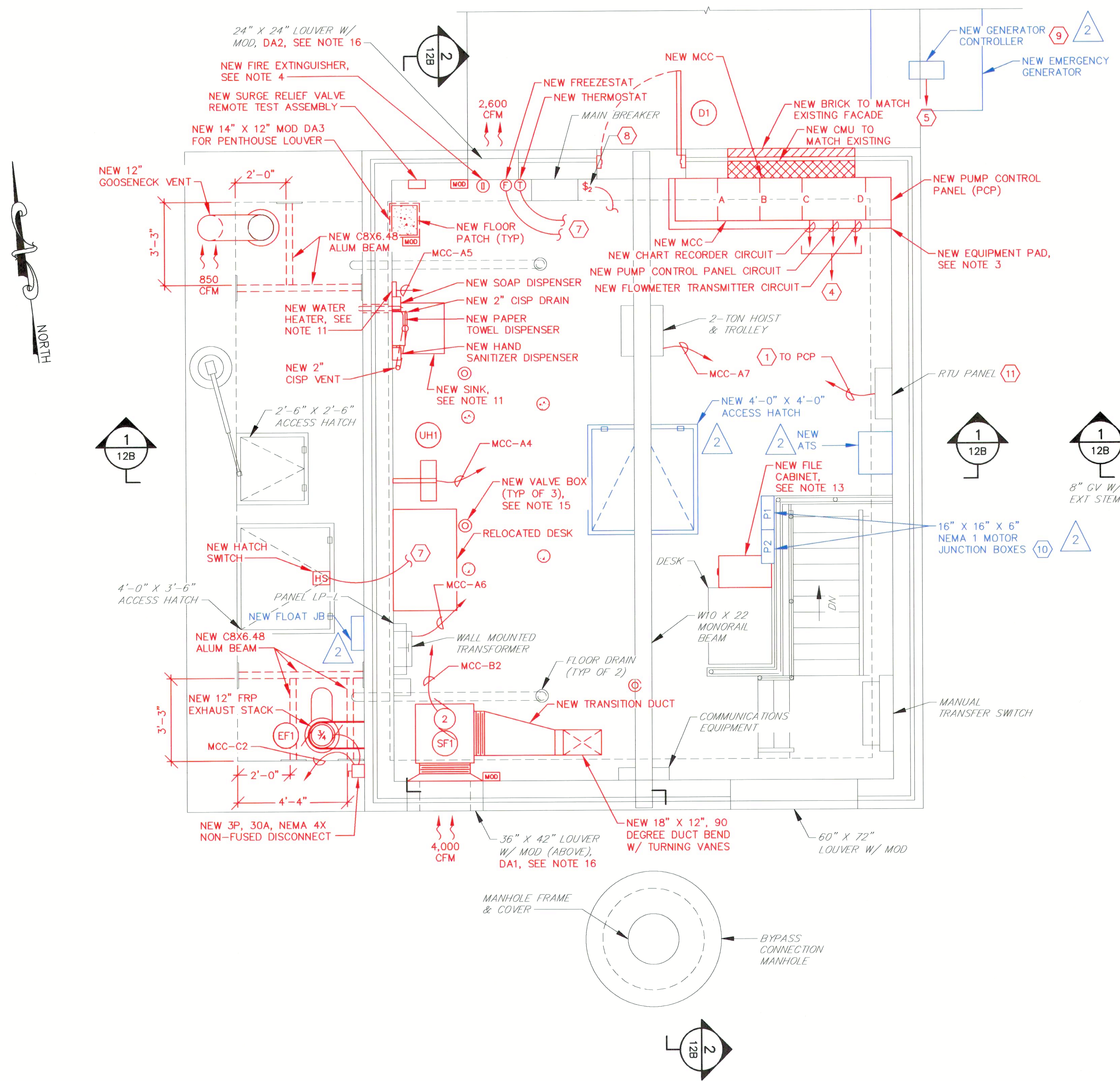
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND				PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT REVISIONS INCLUDED IN THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 28472 EXPIRATION DATE 2/15/2019 RK&K RUMMEL, KLEPPER & KAHL, LLP 700 EAST PRATT STREET SUITE 500 BALTIMORE, MARYLAND 21202				DES: DAO DRN: TJS CHK: RAL DATE: 3/30/18				DEMOLITION PLANS - 2018 UPGRADES RK&K 2 REVISED PER CONTRACTOR - AS-BUILT 11/20 RK&K 1 2018 UPGRADES - ADD SHEET 11A 3/18				CHAMBERLEA PUMPING STATION 2018 UPGRADES CAPITAL PROJECT NO. S6264 CONTRACT NO. 742-S				SCALE: 3/8"=1'-0" SHEET 11A OF 29	
[Signatures and Dates for Director of Public Works, Chief, Bureau of Engineering, Chief, Bureau of Utilities, Chief, Utility Division]				[Professional Engineer Seal]				MAP NO. 17 BLOCK NO. 8				ELECTION DISTRICT NO. 2 HOWARD COUNTY, MARYLAND									

NOTES:

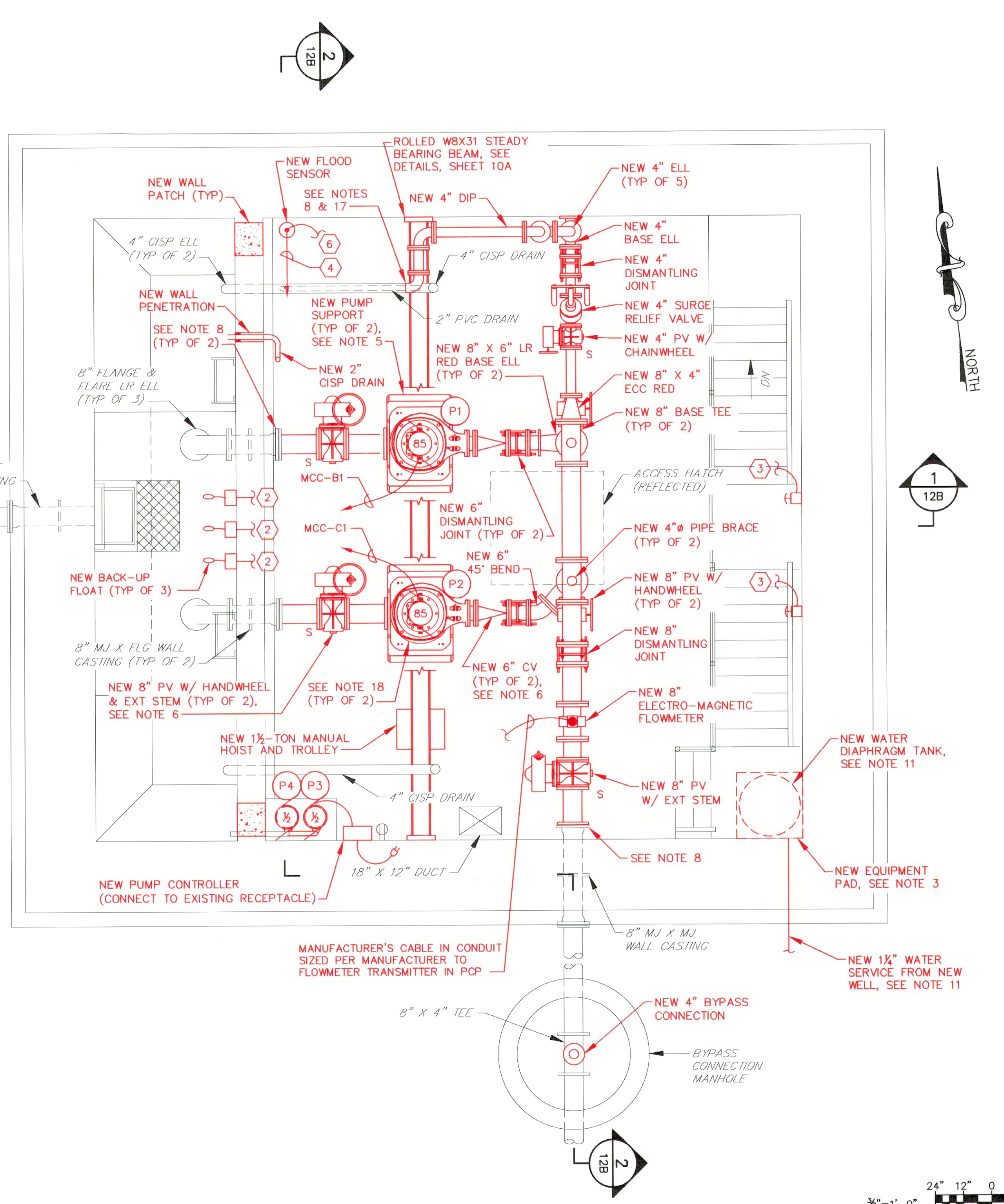
- ALL EXISTING FEATURES DENOTED BY SLANTED TEXT.
- ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE.
- INSTALL CONCRETE EQUIPMENT PADS FOR ALL FLOOR MOUNTED EQUIPMENT.
- INSTALL FIRE EXTINGUISHERS IN ACCORDANCE WITH NFPA REQUIREMENTS.
- PUMP SUPPORTS SHOWN ARE FOR ILLUSTRATIVE PURPOSES ONLY. CONTRACTOR SHALL HAVE PUMP SUPPORTS DESIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF MARYLAND FOR PUMPS FURNISHED.
- SUPPORT CHECK VALVES AND PUMP SUCTION PLUG VALVES WITH ADJUSTABLE FLOOR MOUNTED PIPE SUPPORTS, INSTALLED SO AS NOT TO INTERFERE WITH THE OPERATION OF THE VALVES.
- NO ATTEMPT HAS BEEN MADE TO SHOW ALL REQUIRED PIPE SUPPORTS. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A COMPLETE PIPING SUPPORT SYSTEM COMPLYING WITH MSS SP-58, ANSI/MSS SP-69, FEDERAL SPECIFICATION WW-H171, AND SPECIFICATION SECTION 15060.
- FURNISH AND INSTALL ALL GLANDS, RETAINERS, GASKETS, BOLTS AND OTHER MISCELLANEOUS MATERIALS AS NECESSARY TO CONNECT NEW PIPING TO EXISTING PIPING.
- NEW PUMP SUCTION AND DISCHARGE PIPING, VALVE AND FITTING ARRANGEMENT IS DEPENDENT ON ACTUAL PUMP EQUIPMENT FURNISHED. CONTRACTOR SHALL COORDINATE WITH MANUFACTURER OF PUMP EQUIPMENT FURNISHED, TAKE ACCURATE FIELD MEASUREMENTS, AND PREPARE AND SUBMIT LAYOUT DRAWINGS FOR APPROVAL PRIOR TO PURCHASING ANY EQUIPMENT OR FABRICATING ANY PIPING.
- PUMP CABLES SHALL BE SUPPORTED BY THE DRYWELL WALLS OR CEILING USING STAINLESS STEEL KELLUM GRIPS, AT INTERVALS AS NECESSARY TO SUPPORT THE ENTIRE WEIGHT OF THE CABLES, IN ACCESSIBLE LOCATIONS WHICH SHALL BE APPROVED BY THE COUNTY. SLACK IN CABLES SHALL NOT BE COILED. CONTRACTOR SHALL SUBMIT PUMP CABLE ROUTING PLANS TO THE ENGINEER FOR REVIEW PRIOR TO ORDERING PUMPS.
- SEE POTABLE WATER RISER DIAGRAM ON SHEET 13A.
- CONTRACTOR SHALL COORDINATE W/ MANUFACTURER OF VENTILATION FANS FURNISHED, TAKE ACCURATE FIELD MEASUREMENTS AND SUBMIT DRAWINGS SHOWING DUCT LAYOUTS AND METHOD OF FAN SUPPORT TO THE ENGINEER FOR REVIEW. FANS SHALL NOT BE SUPPORTED BY DUCTWORK.
- FURNISH 2-DRAWER FILE CABINET FOR O&M MANUALS.
- CLEAN AND PAINT EXPOSED FERROUS METALS (EXCEPT PIPE FLANGES AND FASTENERS), NEW CMU AND NEW CONCRETE IN ACCORDANCE WITH SPECIFICATION SECTION 09900.
- COORDINATE LOCATION OF VALVE BOXES WITH EXT STEMS FOR VALVES FURNISHED. ENSURE THAT VALVE BOXES PERMIT FULL ACCESS AND OPERATION OF THE VALVE. USE UNIVERSAL JOINTS, RIGHT ANGLE GEARS AND ADAPTERS ON EXT STEMS, AS NECESSARY. NEW VALVE BOXES SHALL BE CAST FLUSH INTO EXISTING CONCRETE SLABS.
- PROVIDE NEW ACTUATOR SIZED TO OPERATE EXISTING DAMPER.
- CONNECT NEW 4" DIP TO EXISTING 4" CISP.
- PUMPS SHALL BE LOCATED DIRECTLY BELOW THE ROLLED STEADY BEARING BEAM.
- SEE DWG. 13A FOR ALL MECHANICAL SCHEDULES.

ELECTRICAL NOTES:

- PROVIDE 1" CONDUIT TO PCP FOR CONTROL AND MONITORING I/O SIGNALS. SEE ELECTRICAL DETAILS SHEET FOR WIRING REQUIREMENTS.
- FLOAT SWITCH CABLE TO PUMP CONTROL PANEL IN 3/4" CONDUIT OR AS REQUIRED BY FLOAT MANUFACTURER.
- 2-#14 FROM THE E-STOP TO THE RVSS IN 3/4" CONDUIT.
- PROVIDE 3-#12 IN 3/4" CONDUIT TO EXISTING PANELBOARD. CONTRACTOR SHALL SUPPLY 20AMP BREAKER TO MATCH EXISTING PANELBOARD TYPE.
- 1 1/2" CONDUIT FOR SIGNALS WITH 16-#14 CONDUCTORS TO PUMP CONTROL PANEL.
- 2-#14 TO PUMP CONTROL PANEL IN 3/4" CONDUIT.
- 2-#14 IN 3/4" CONDUIT TO VENTILATION CONTROLS IN MCC.
- PROVIDE 2-POLE LIGHT SWITCH TO REPLACE EXISTING SWITCH.
- CONTRACTOR SHALL HIRE GENERATOR MANUFACTURER TO PROVIDE RELAY OUTPUTS FOR ALARMS SHOWN ON SHEET 17A.
- PROVIDE APPROPRIATELY SIZED LUGS FOR TERMINATION OF ALL MANUFACTURER SUPPLIED POWER AND ALARM CONDUCTORS FROM PUMP MOTOR. CONTINUATION OF CONDUCTORS SHALL BE WITH STANDARD BUILDING WIRE FROM JUNCTION BOXES TO MCC.
- EXISTING RTU PANEL TO REMAIN IN SERVICE. PANEL CONTAINS THE EXISTING LC150 PRIMARY PUMP CONTROLLER, WHICH IS ALSO TO REMAIN IN SERVICE, TO GENERATE THE PRIMARY PUMP CONTROLS BY THE SYSTEM INTEGRATOR IN THE PROPOSED PCP. REFER TO WIRING SCHEMATICS PROVIDED.

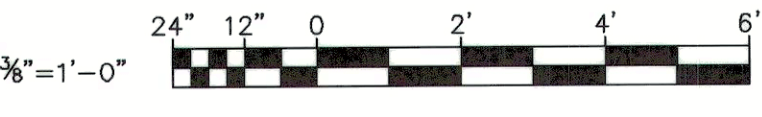


CONTROL ROOM PLAN
SCALE: 3/8"=1'-0"



PUMP ROOM PLAN
SCALE: 3/8"=1'-0"

AS-BUILT REPLACEMENT SHEET 11/2020

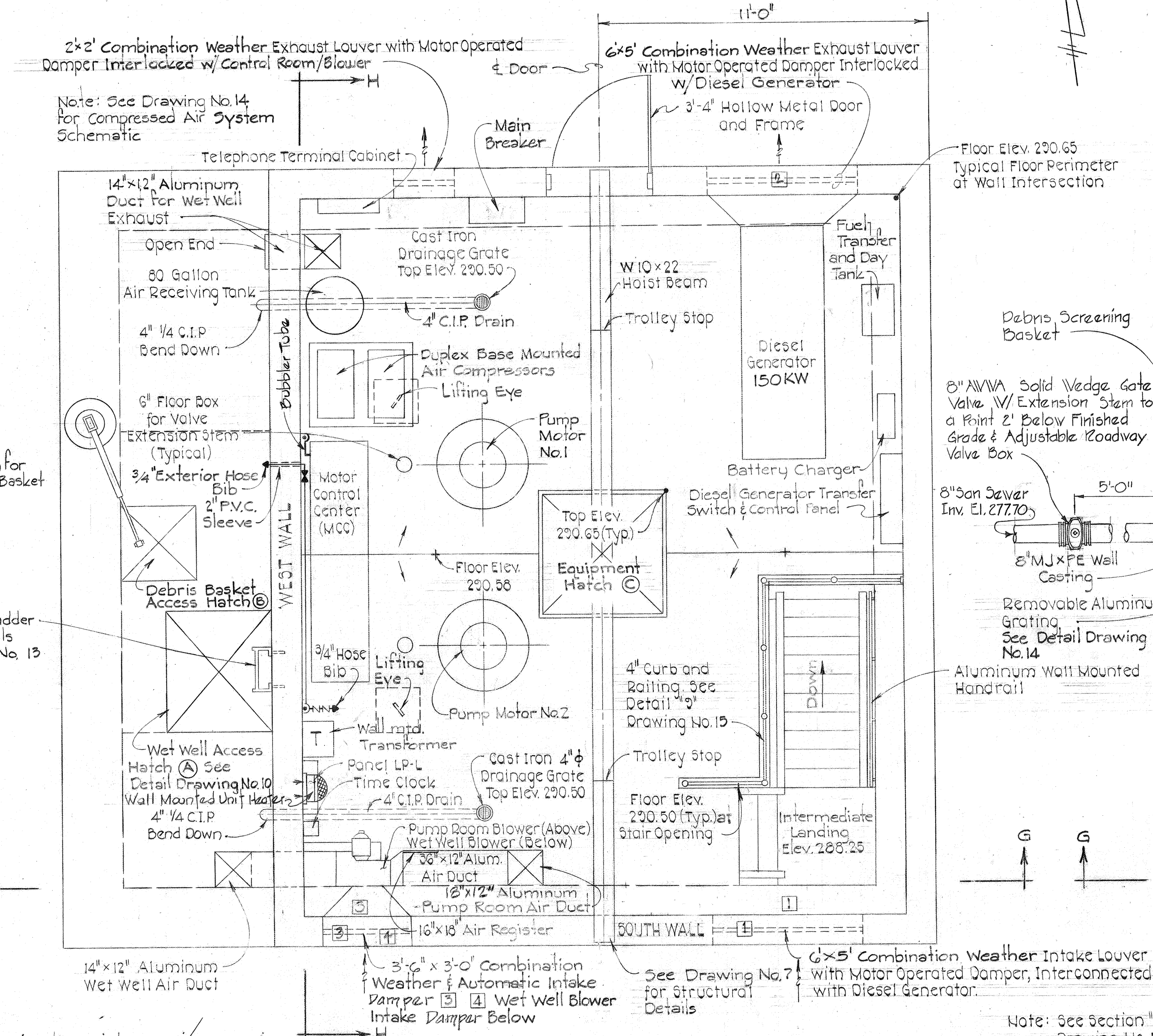


DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	
DIRECTOR OF PUBLIC WORKS <i>[Signature]</i>	CHIEF, BUREAU OF ENGINEERING DATE: 4/13/18
CHIEF, BUREAU OF UTILITIES DATE: 4/12/18	CHIEF, UTILITY DIVISION DATE: 4/13/18

PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT REVISIONS INCLUDED IN THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 89472, EXPIRATION DATE 9/16/2019	
RUMMEL, KLEPPER & KAHL, LLP 700 EAST PRATT STREET SUITE 600 BALTIMORE, MARYLAND 21202	SEAL <i>[Professional Engineer Seal]</i>

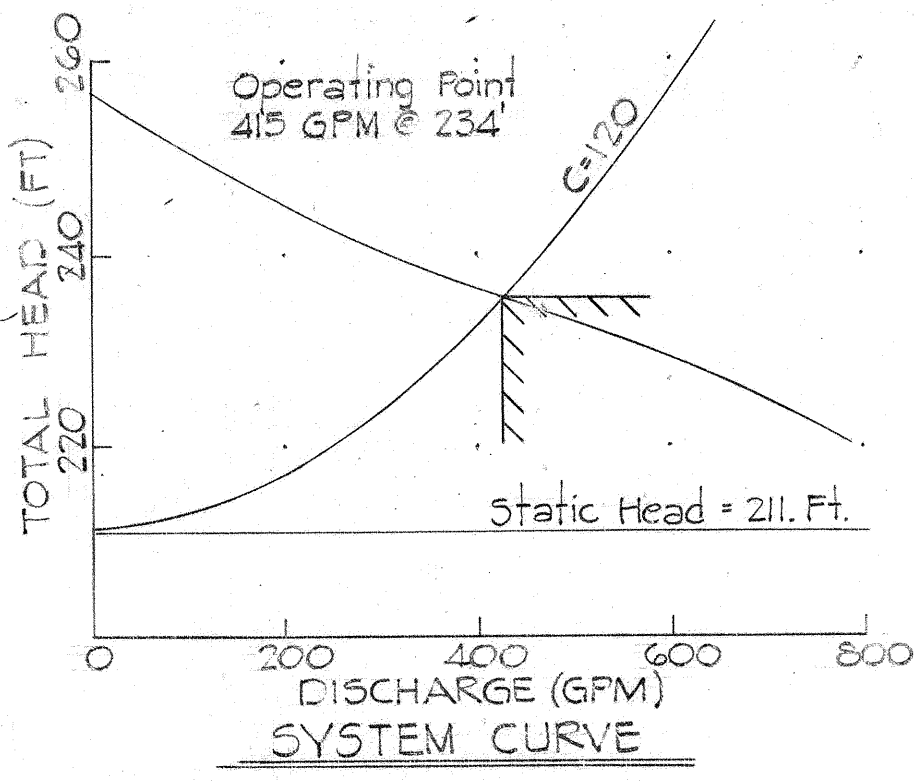
DES: DAO			
DRN: TJS			
CHK: RAL	RK&K 2	REVISED BY CONTRACTOR - AS-BUILT	11/20
DATE: 3/30/18	RK&K 1	2018 UPGRADES - ADD SHEET 11B	3/18
BY NO.		REVISIONS	DATE

IMPROVEMENT PLANS - 2018 UPGRADES		CHAMBERLEA PUMPING STATION 2018 UPGRADES CAPITAL PROJECT NO. S6264 CONTRACT NO. 742-S	SCALE 3/8"=1'-0" SHEET 11B OF 29
MAP NO. 17	BLOCK NO. 8	ELECTION DISTRICT NO. 2	HOWARD COUNTY, MARYLAND

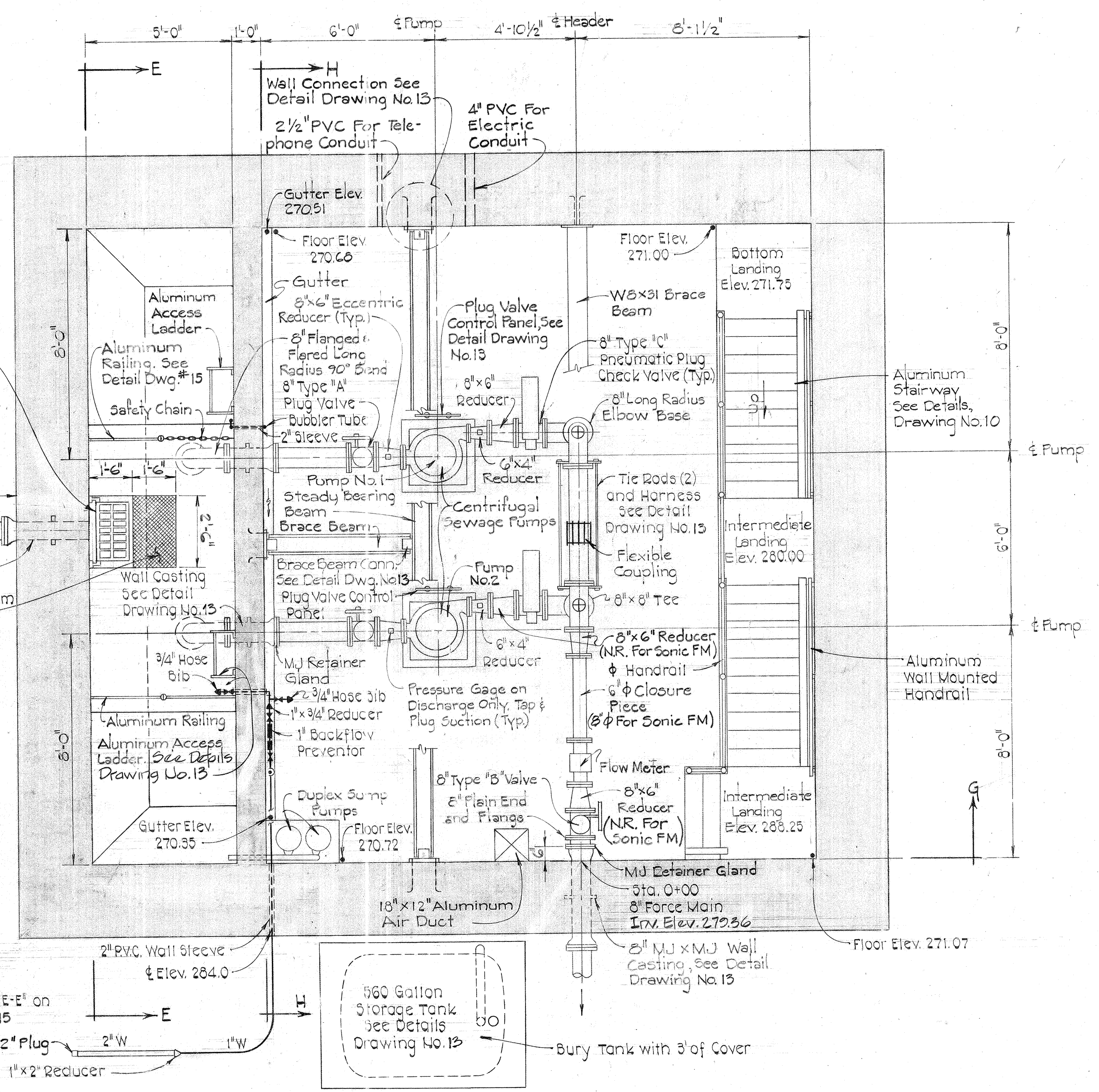


Mechanical Winch for Debris Screening Basket

Debris Screening Basket
 8" ANVA Solid Wedge Gate Valve w/ Extension Stem to a Point 2' Below Finished Grade & Adjustable 12" roadway Valve Box
 8" San Sewer Inv. El. 277.70
 8" MJ x PE Well Casting



CONTROL ROOM PLAN
 Scale: 3/8" = 1'-0"



PUMP ROOM PLAN
 Scale: 3/8" = 1'-0"



DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Director: F. N. [Signature] DATE: 8/28/81
 Chief Bureau of Engineering: [Signature] DATE: 8/28/81
 Chief Bureau of Utilities: [Signature] DATE: 8/28/81

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

CONTRACT NO. 2742-S
 CAPITAL PROJECT NO. S-4-6067

MECHANICAL PLANS

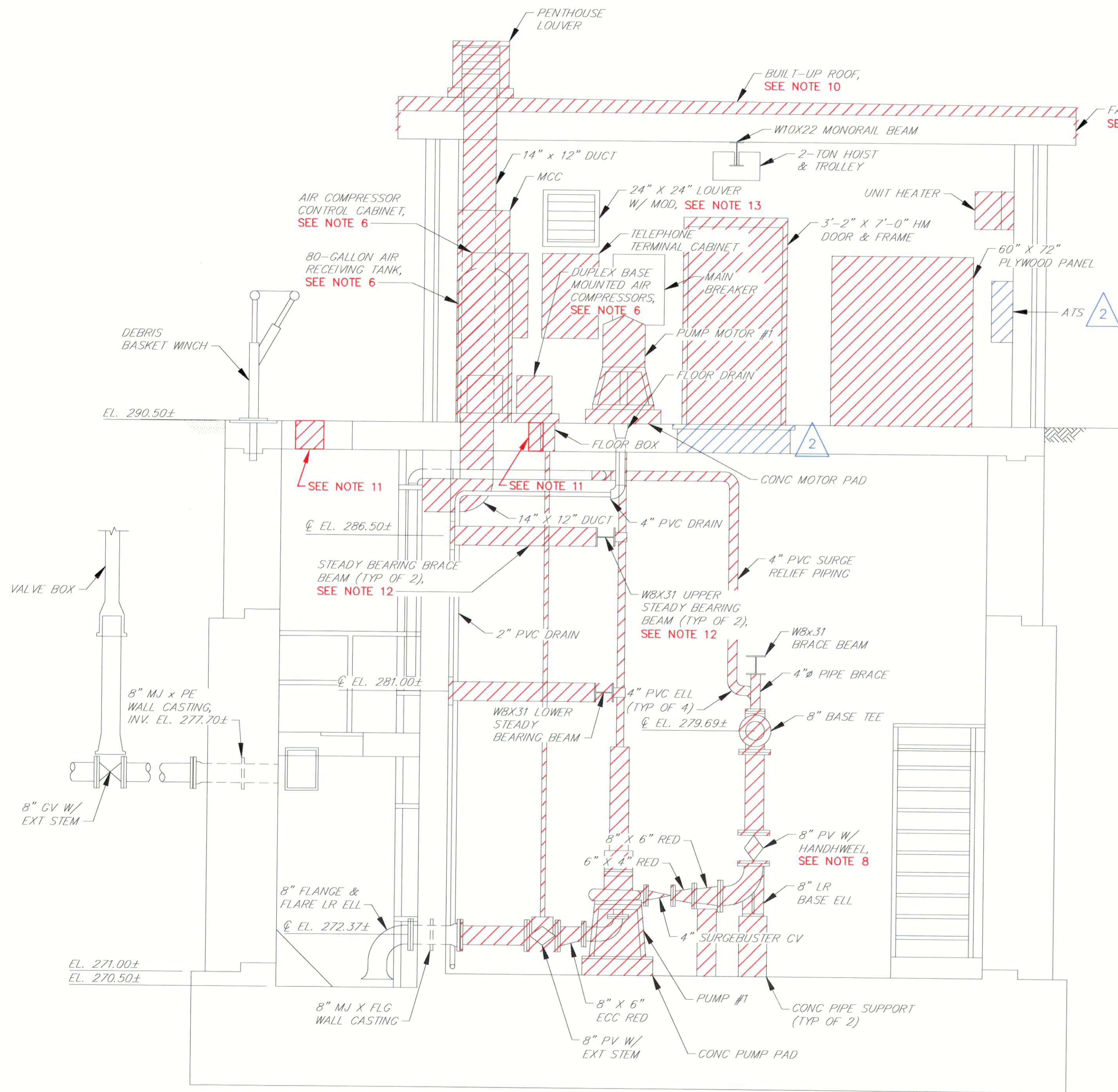
CHAMBERLEA SANITARY SEWERS
 CHAMBERLEA PUMPING STATION
 ELECTION DISTRICT NO. 2

DRAWING NO. 11 OF 17	SCALE AS SHOWN	Designed: DJD Drafted: ARZ Checked: REP
-----------------------------------	--------------------------	---

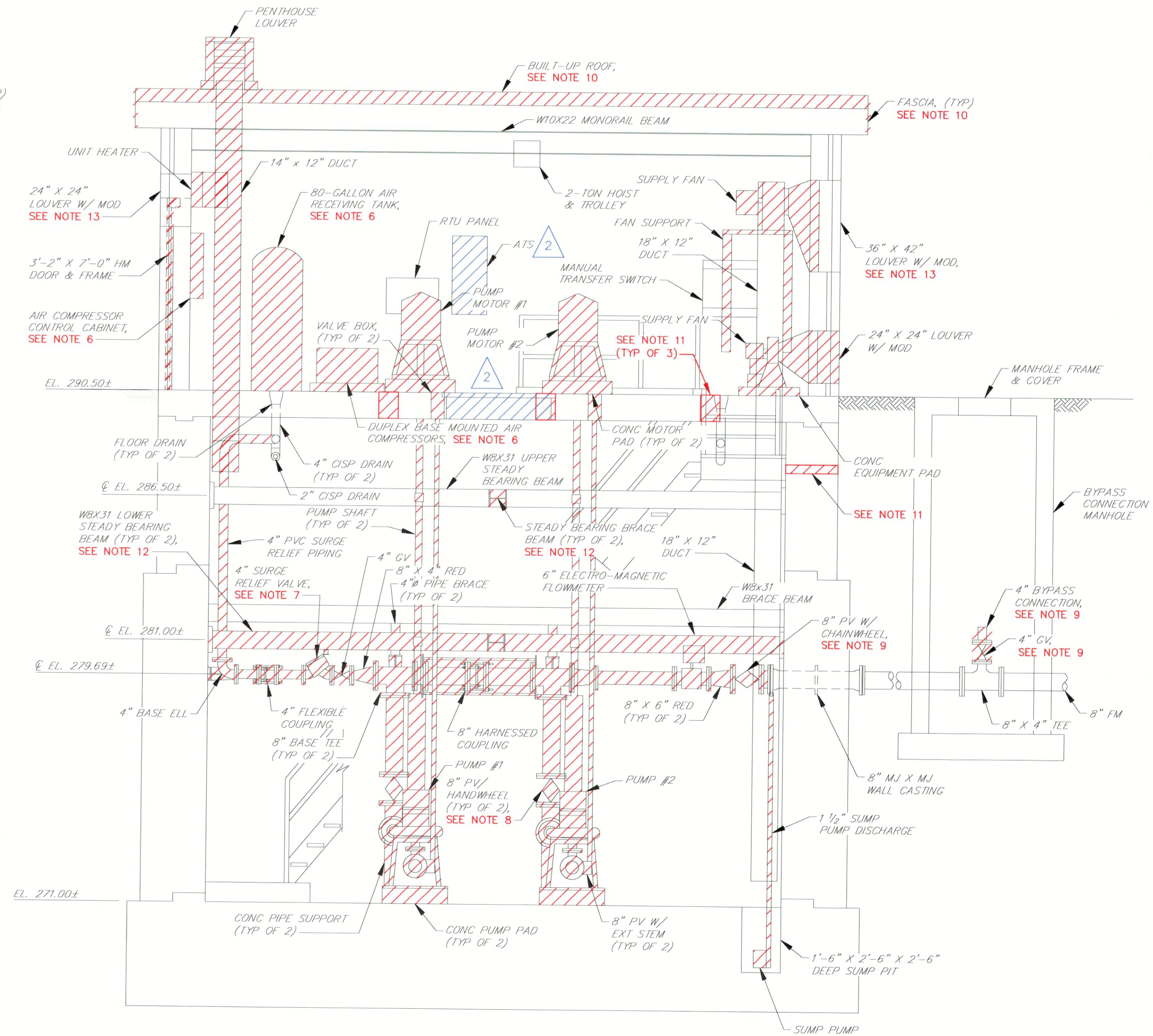
EPA NO. C-240594-01(114)
 CONTRACT NO. 2742-S
 CAPITAL PROJECT NO. S-4-6067
 CHAMBERLEA SANITARY SEWERS
 CHAMBERLEA PUMPING STATION

NOTES:

1. ALL EXISTING FEATURES DENOTED BY SLANTED TEXT.
2. ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE.
3. PATCH ALL EXISTING HOLES IN CONCRETE FLOOR SLABS AND WALLS THAT ARE NOT USED IN THE NEW WORK WITH MIN. 9000 PSI COMPRESSIVE STRENGTH NON-SHRINKING GROUT. THE GROUT SHALL BE MIXED AND PLACED IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS FOR THIS APPLICATION. GROUT SHALL BE KAUFMAN PRODUCTS SURE GROUT, OR APPROVED EQUAL HOLES THAT CONTAIN EXISTING WALL SLEEVES SHALL BE PATCHED BY FIRST INSTALLING A CAST IRON OR DUCTILE IRON PLUG AND FILLING THE REMAINING OPENING WITH NON-SHRINK GROUT.
4. REMOVE CONCRETE EQUIPMENT PADS AND VALVE SUPPORTS FOR ALL REMOVED EQUIPMENT AND PIPING, AND RESTORE CONCRETE FLOOR TO MATCH EXISTING.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND TRANSPORTATION, INTACT OF ALL DEMOLISHED EQUIPMENT TO BE SALVAGED, TO THE COUNTY'S LITTLE PATUXENT WATER RECLAMATION PLANT (LPWRP) MAINTENANCE SHOP, LOCATED AT 8900 GREENWOOD PLACE, 410-313-1200. CONTRACTOR SHALL PROVIDE THE COUNTY WITH FIVE (5) DAYS ADVANCE NOTICE PRIOR TO DELIVERY OF EQUIPMENT.
6. REMOVE AIR COMPRESSORS, RECEIVING TANK, EQUIPMENT PAD AND ALL ASSOCIATED CONTROLS, PIPING AND OTHER APPURTENANCES.
7. REMOVE SURGE RELIEF VALVE AND ALL ASSOCIATED PNEUMATIC CONTROLS, PIPING AND OTHER APPURTENANCES.
8. REMOVE PNEUMATIC PIPING AND ELECTRICAL CONDUIT FROM THE ORIGINAL PLUG VALVE CONTROL SYSTEM.
9. CONTRACTOR SHALL TEMPORARILY SHUT DOWN THE PUMPING STATION TO REMOVE AND REPLACE THE 8" STATION ISOLATION PLUG VALVE AND 4" BYPASS CONNECTION AND ASSOCIATED PIPING. REFER TO SPECIFICATION 02750 FOR TEMPORARY SHUT DOWN REQUIREMENTS.
10. REMOVE BUILT-UP ROOFING, FASCIA AND ALL ASSOCIATED ROOFING COMPONENTS AND PREPARE CONCRETE ROOF SLAB FOR INSTALLATION OF NEW EPDM ROOFING.
11. CORE DRILL HOLES IN CONCRETE WALLS AND FLOOR SLABS TO ACCOMMODATE NEW VALVE BOXES, EXHAUST FAN, GOOSENECK VENT AND WATER AND DRAIN PIPES.
12. REMOVE THE UPPER STEADY BEARING BEAM FROM THE WALLS AND PREPARE IT TO BE ROLLED 90 DEGREES AND REINSTALLED. REMOVE THE LOWER STEADY BEARING BEAM AND THE STEADY BEARING BRACE BEAMS ENTIRELY.
13. REMOVE DAMPER ACTUATOR AND PREPARE DAMPER FOR INSTALLATION OF NEW ACTUATOR.



SECTION 1
SCALE: 3/8"=1'-0"



SECTION 2
SCALE: 3/8"=1'-0"

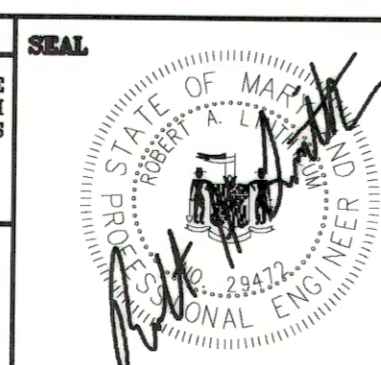


AS-BUILT REPLACEMENT SHEET 11/2020

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS: [Signature] DATE: 4/12/18
CHIEF, BUREAU OF ENGINEERING: [Signature] DATE: 4/12/18
CHIEF, BUREAU OF UTILITIES: [Signature] DATE: 4/12/18

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT REDLINE REVISIONS INCLUDED IN THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 28472. EXPIRATION DATE: 9/16/2019
RK&K RUMMEL, KLEPPER & KAHL, LLP
700 EAST PRATT STREET
SUITE 500
BALTIMORE, MARYLAND 21202



DES:	DAO			
DRN:	TJS			
CHK:	RAL	RK&K 2	REVISED BY CONTRACTOR - AS-BUILT	11/20
DATE:	3/30/18	RK&K 1	2018 UPGRADES - ADD SHEET 12A	3/18
BY:	NO.		REVISIONS	DATE

DEMOLITION SECTIONS - 2018 UPGRADES

CHAMBERLEA PUMPING STATION
2018 UPGRADES

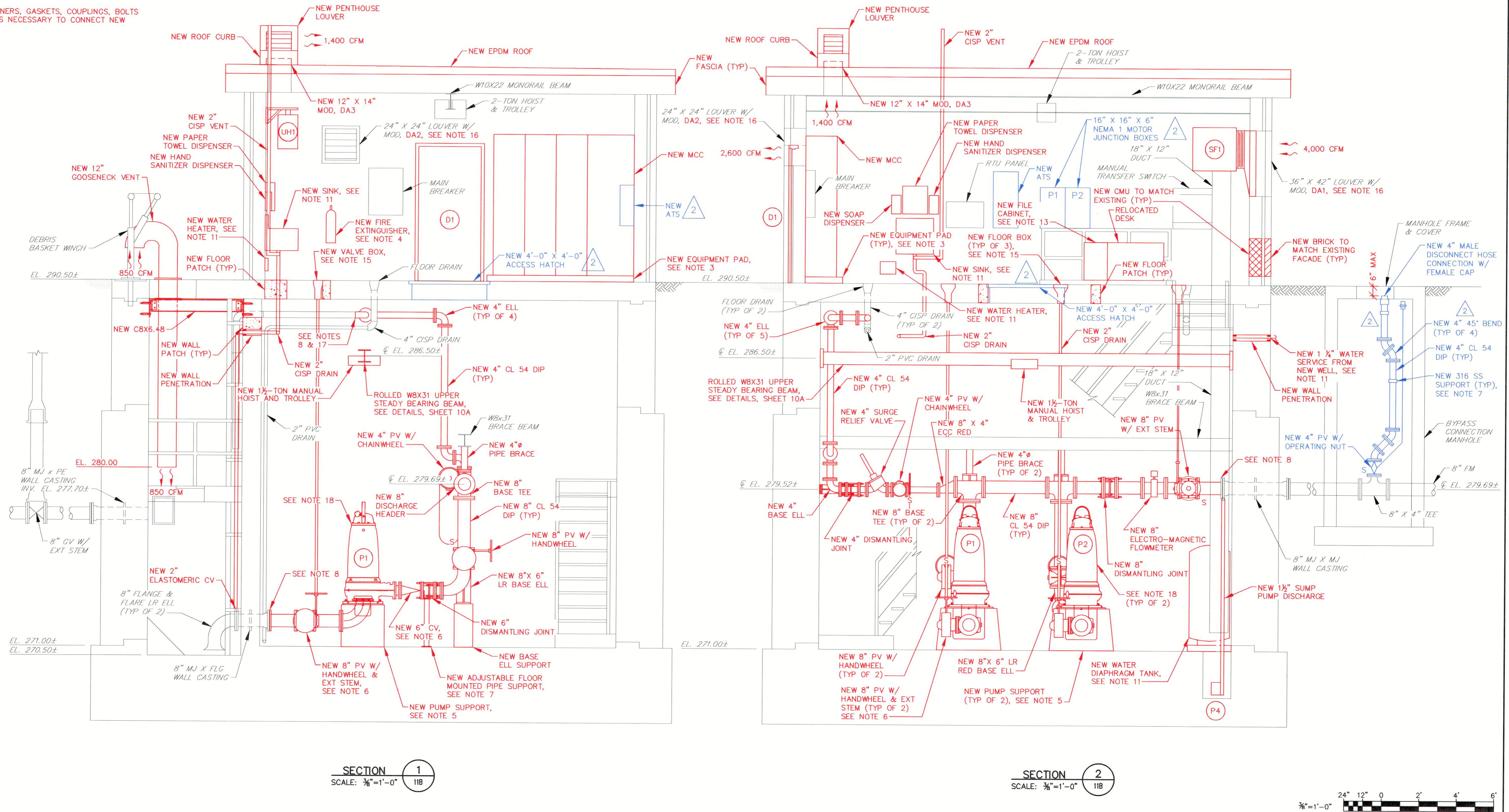
CAPITAL PROJECT NO. S6264
CONTRACT NO. 742-S

ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND

SCALE: 3/8"=1'-0"
SHEET 12A OF 29

NOTES:

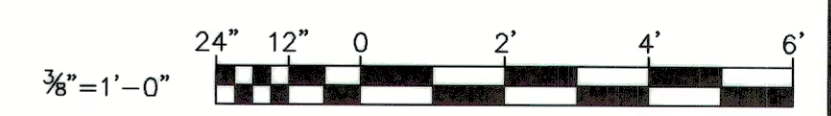
- ALL EXISTING FEATURES DENOTED BY SLANTED TEXT.
- ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE.
- INSTALL CONCRETE EQUIPMENT PADS FOR ALL FLOOR MOUNTED EQUIPMENT.
- INSTALL FIRE EXTINGUISHERS IN ACCORDANCE WITH NFPA REQUIREMENTS.
- PUMP SUPPORTS SHOWN ARE FOR ILLUSTRATIVE PURPOSES ONLY. CONTRACTOR SHALL HAVE PUMP SUPPORTS DESIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF MARYLAND FOR PUMPS FURNISHED.
- SUPPORT ALL CHECK VALVES AND PUMP SUCTION PLUG VALVES WITH ADJUSTABLE FLOOR MOUNTED PIPE SUPPORTS, INSTALLED SO AS NOT TO INTERFERE WITH THE OPERATION OF THE VALVES.
- NO ATTEMPT HAS BEEN MADE TO SHOW ALL REQUIRED PIPE SUPPORTS. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A COMPLETE PIPING SUPPORT SYSTEM COMPLYING WITH MSS SP-58, ANSI/MSS SP-69, FEDERAL SPECIFICATION WW-H171, AND SPECIFICATION SECTION 15060.
- FURNISH AND INSTALL ALL GLANDS, RETAINERS, GASKETS, COUPLINGS, BOLTS AND OTHER MISCELLANEOUS MATERIALS AS NECESSARY TO CONNECT NEW PIPING TO EXISTING PIPING.
- NEW PUMP SUCTION AND DISCHARGE PIPING, VALVE AND FITTING ARRANGEMENT IS DEPENDENT ON ACTUAL PUMP EQUIPMENT FURNISHED. CONTRACTOR SHALL COORDINATE WITH MANUFACTURER OF PUMP EQUIPMENT FURNISHED, TAKE ACCURATE FIELD MEASUREMENTS, AND PREPARE AND SUBMIT LAYOUT DRAWINGS FOR APPROVAL PRIOR TO PURCHASING ANY EQUIPMENT OR FABRICATING ANY PIPING.
- PUMP CABLES SHALL BE SUPPORTED BY THE DRYWELL WALLS OR CEILING USING STAINLESS STEEL KELLUM GRIPS, AT INTERVALS AS NECESSARY TO SUPPORT THE ENTIRE WEIGHT OF THE CABLES, IN ACCESSIBLE LOCATIONS WHICH SHALL BE APPROVED BY THE COUNTY. SLACK IN CABLES SHALL NOT BE COILED. CONTRACTOR SHALL SUBMIT PUMP CABLE ROUTING PLANS TO THE ENGINEER FOR REVIEW PRIOR TO ORDERING PUMPS.
- SEE POTABLE WATER RISER DIAGRAM ON SHEET 13A.
- CONTRACTOR SHALL COORDINATE W/ MANUFACTURER OF VENTILATION FANS FURNISHED, TAKE ACCURATE FIELD MEASUREMENTS AND SUBMIT DRAWINGS SHOWING DUCT LAYOUTS AND METHOD OF FAN SUPPORT TO THE ENGINEER FOR REVIEW. FANS SHALL NOT BE SUPPORTED BY DUCTWORK.
- FURNISH 2-DRAWER FILE CABINET FOR O&M MANUALS.
- CLEAN AND PAINT ALL EXPOSED FERROUS METALS (EXCEPT PIPE FLANGES AND FASTENERS), NEW CMU AND NEW CONCRETE IN ACCORDANCE WITH SPECIFICATION SECTION 09900.
- COORDINATE LOCATION OF VALVE BOXES WITH EXT STEMS FOR VALVES FURNISHED. ENSURE THAT VALVE BOXES PERMIT FULL ACCESS AND OPERATION OF THE VALVE. USE UNIVERSAL JOINTS, RIGHT ANGLE GEARS AND ADAPTERS ON EXT STEMS, AS NECESSARY. NEW VALVE BOXES SHALL BE CAST FLUSH INTO EXISTING CONCRETE SLABS.
- PROVIDE NEW ACTUATOR SIZED TO OPERATE EXISTING DAMPER.
- CONNECT NEW 4" DIP TO EXISTING 4" CISP.
- PUMPS SHALL BE LOCATED DIRECTLY BELOW THE RELOCATED STEADY BEARING BEAM.
- SEE DWG. 13A FOR ALL MECHANICAL SCHEDULES.



PUMP CONTROL SYSTEM LEVELS	
HWA	EL. 278.50
LAG PUMP ON	EL. 278.00
LEAD PUMP ON	EL. 277.50
LAG PUMP OFF	EL. 275.50
LEAD PUMP OFF	EL. 275.00
LWA	EL. 274.50

SECTION 1
SCALE: 3/8"=1'-0" 1/16"

SECTION 2
SCALE: 3/8"=1'-0" 1/16"



AS-BUILT REPLACEMENT SHEET 11/2020

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signatures]
DIRECTOR OF PUBLIC WORKS DATE
CHIEF, BUREAU OF UTILITIES DATE

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT REVISIONS INCLUDED IN THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

LICENSE NO. 28472. EXPIRATION DATE 9/16/2019

RK&K
RUMMEL, KLEPPER & KAHL, LLP
700 EAST PRATT STREET
SUITE 500
BALTIMORE, MARYLAND 21202

DES:	DAO			
DRN:	TJS			
CHK:	RAL	RK&K 2	REVISED BY CONTRACTOR - AS-BUILT	11/20
DATE:	3/30/18	RK&K 1	2018 UPGRADES - ADD SHEET 12B	3/18
BY:	NO.	REVISIONS		DATE

IMPROVEMENT SECTIONS -
2018 UPGRADES

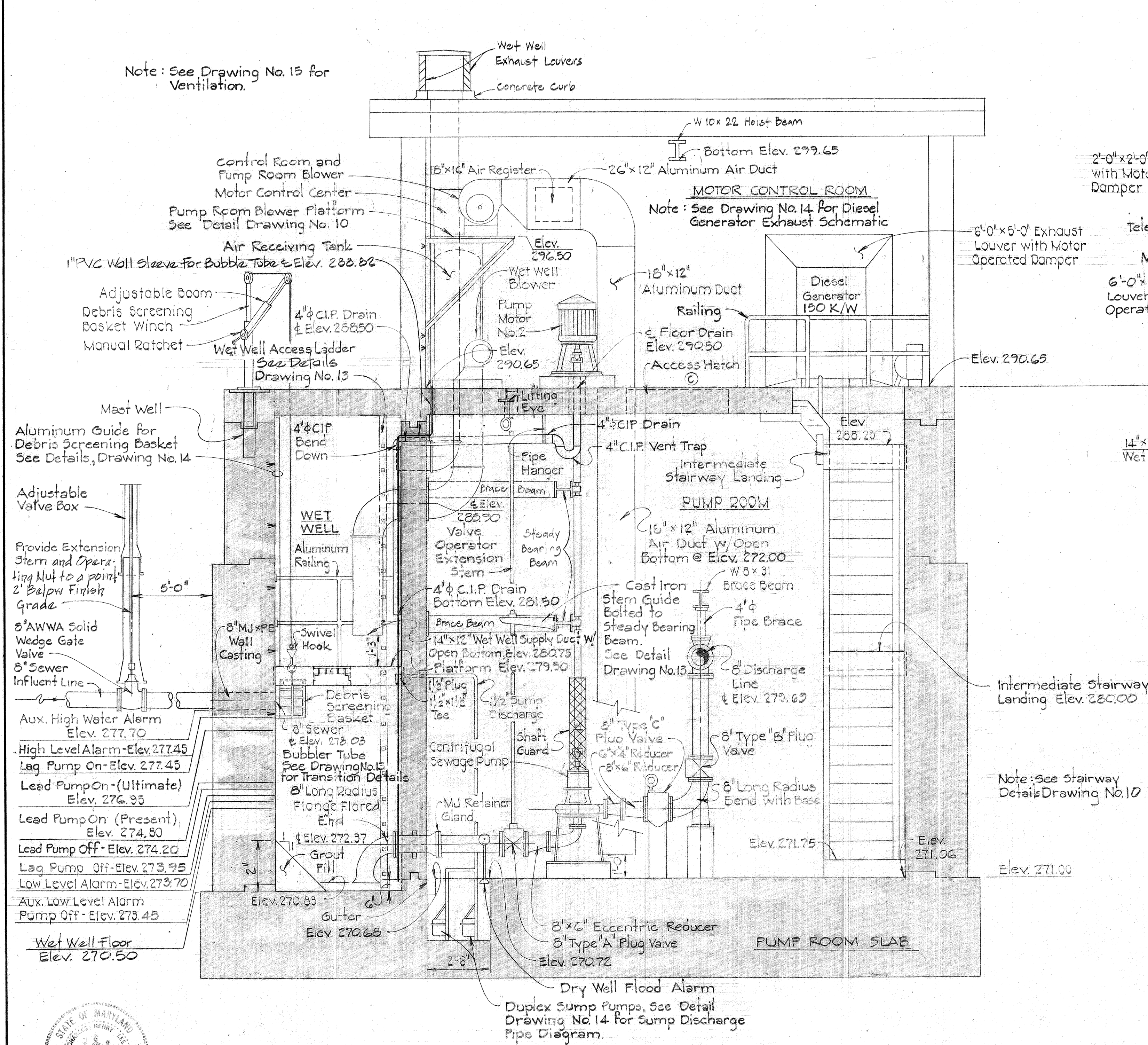
MAP NO. 17 BLOCK NO. 8

CHAMBERLEA PUMPING STATION
2018 UPGRADES
CAPITAL PROJECT NO. S6264
CONTRACT NO. 742-S

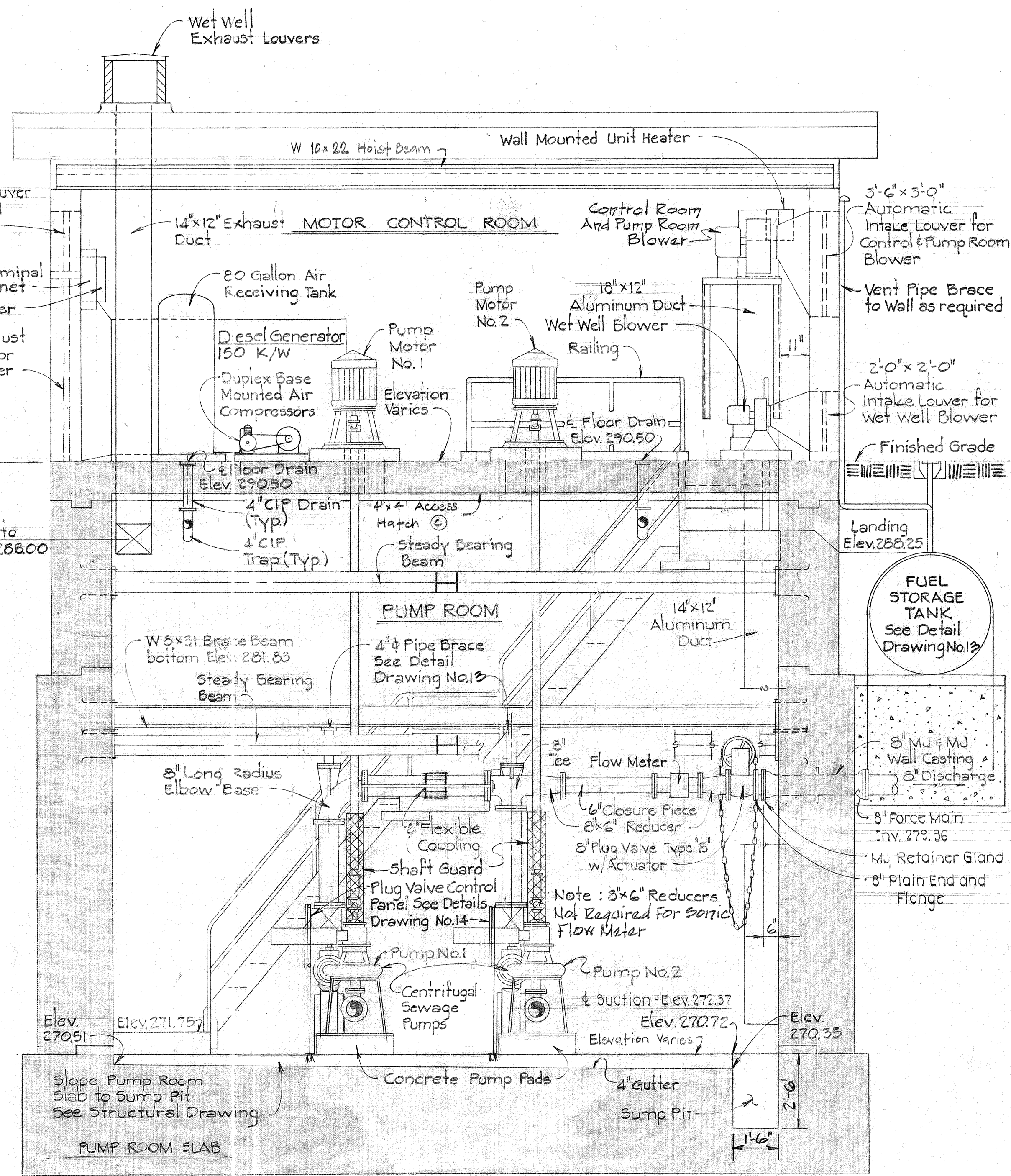
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND

SCALE
3/8"=1'-0"
SHEET
12B OF 29

Note: See Drawing No. 15 for Ventilation.



SECTION "G-G"
Scale: 3/8"=1'-0"



SECTION "H-H"
Scale: 3/8"=1'-0"



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
DIRECTOR OF PUBLIC WORKS: [Signature] DATE: 8/28/81
CHIEF BUREAU OF ENGINEERING: [Signature] DATE: 8/28/81
CHIEF BUREAU OF UTILITIES: [Signature] DATE: 8/28/81

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

CONTRACT NO. 2742-S
CAPITAL PROJECT NO. S-4-6067

MECHANICAL SECTIONS

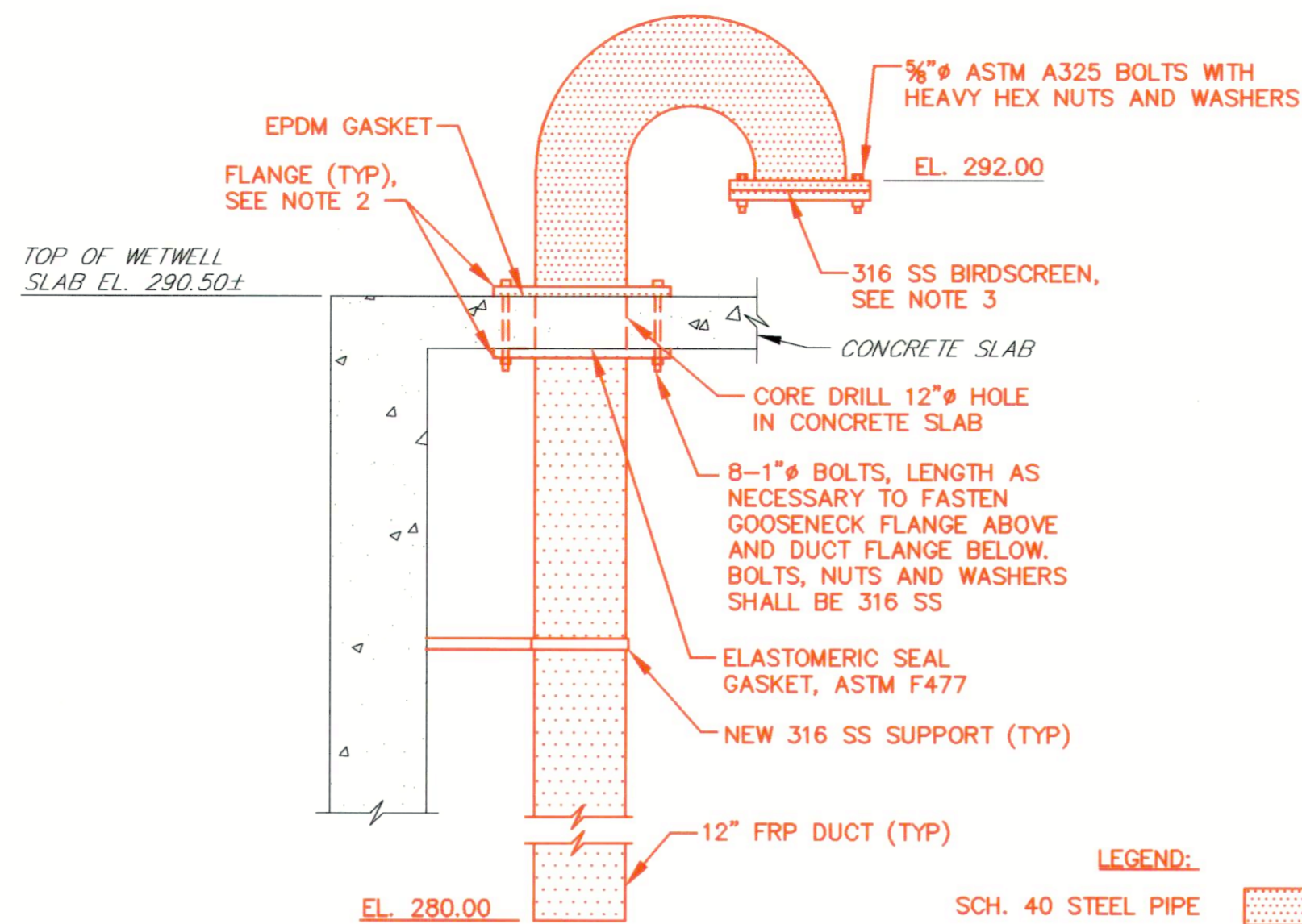
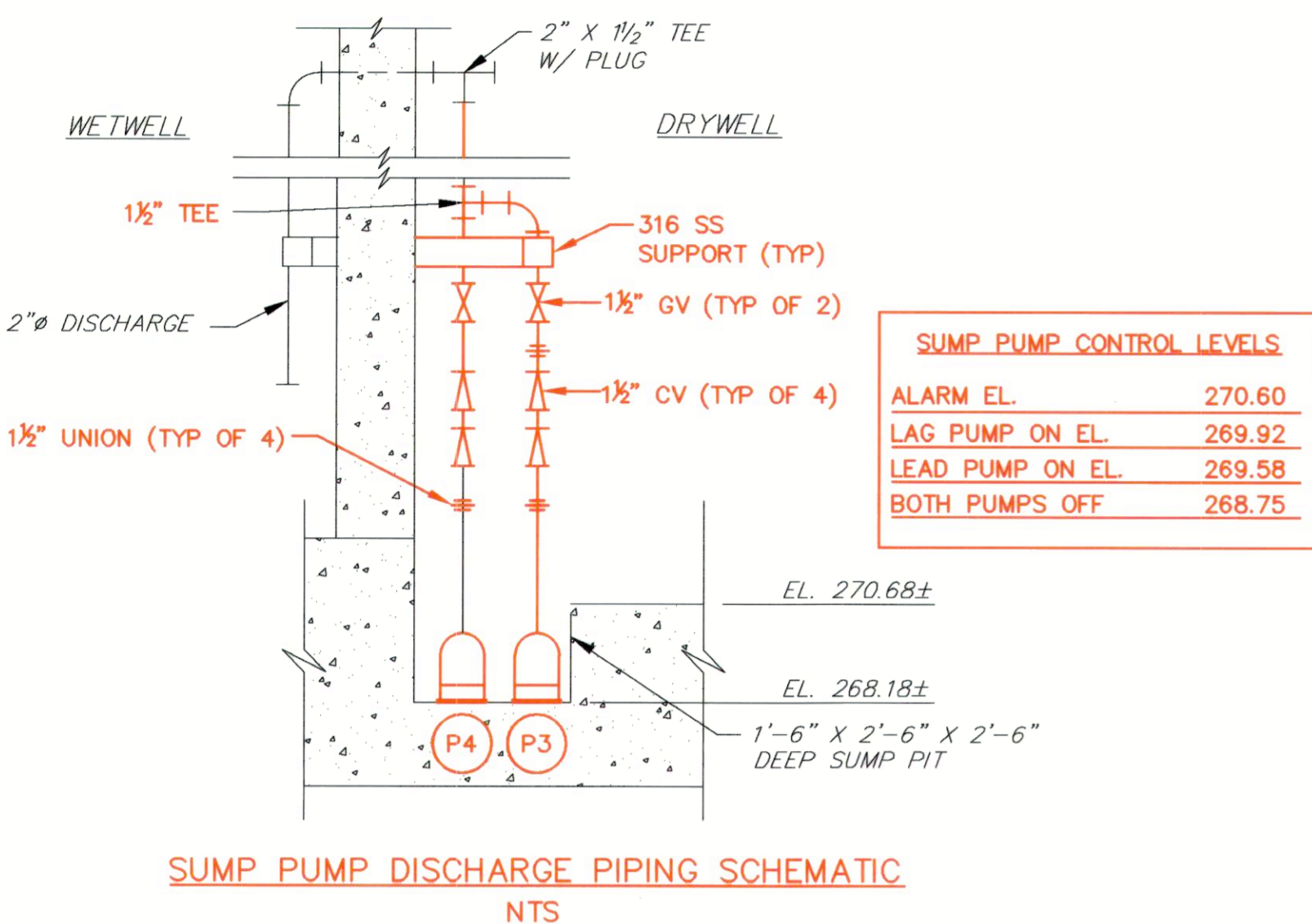
CHAMBERLEA SANITARY SEWERS
CHAMBERLEA PUMPING STATION
ELECTION DISTRICT NO. 2

DRAWING NO. 12 OF 17
SCALE AS SHOWN
Designed: DJD
Drafted: ARZ
Checked: REP

EPA NO. C-240594-01(14)
CONTRACT NO. 2742-S
CAPITAL PROJECT NO. S-4-6067
CHAMBERLEA SANITARY SEWERS
CHAMBERLEA PUMPING STATION

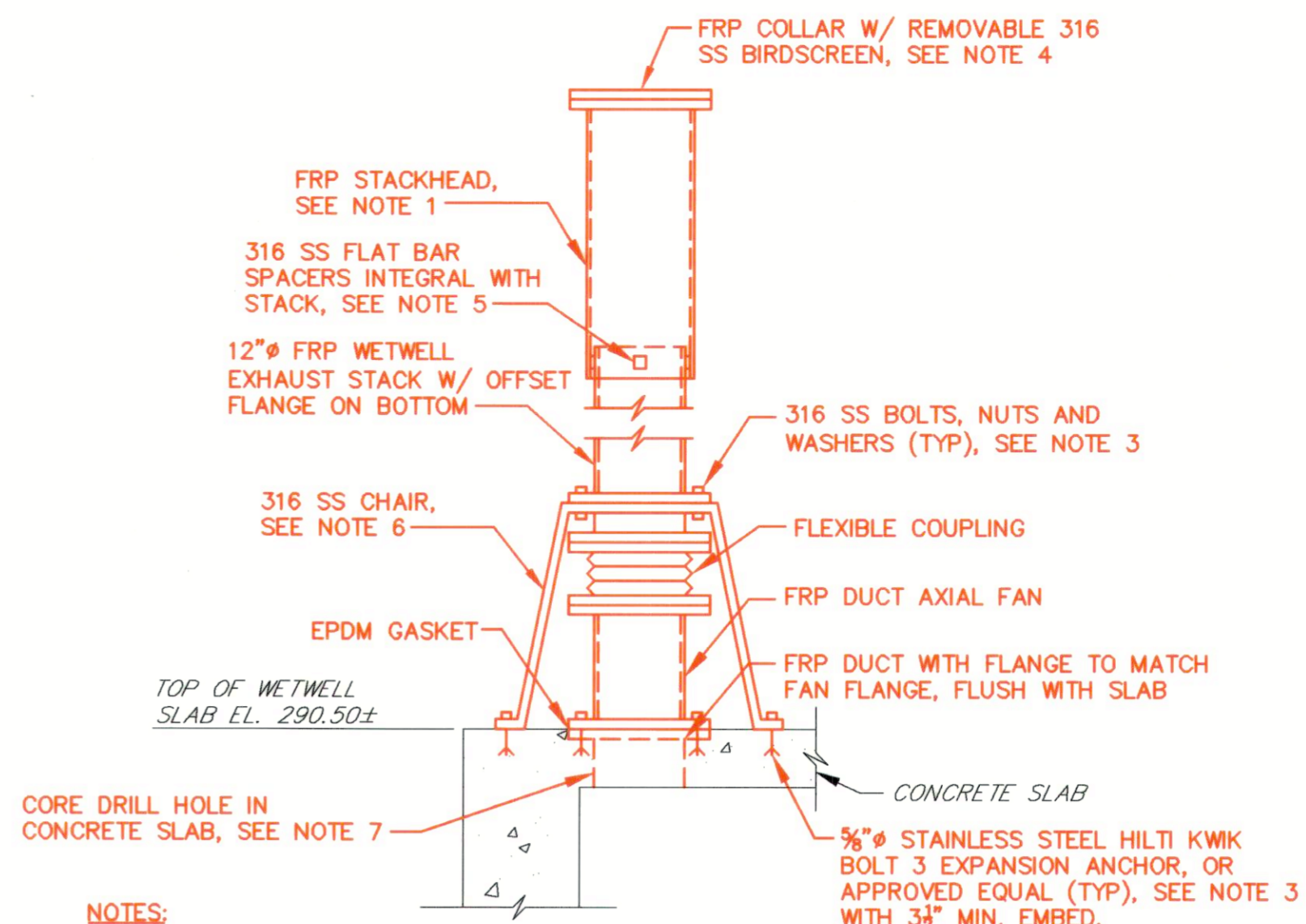
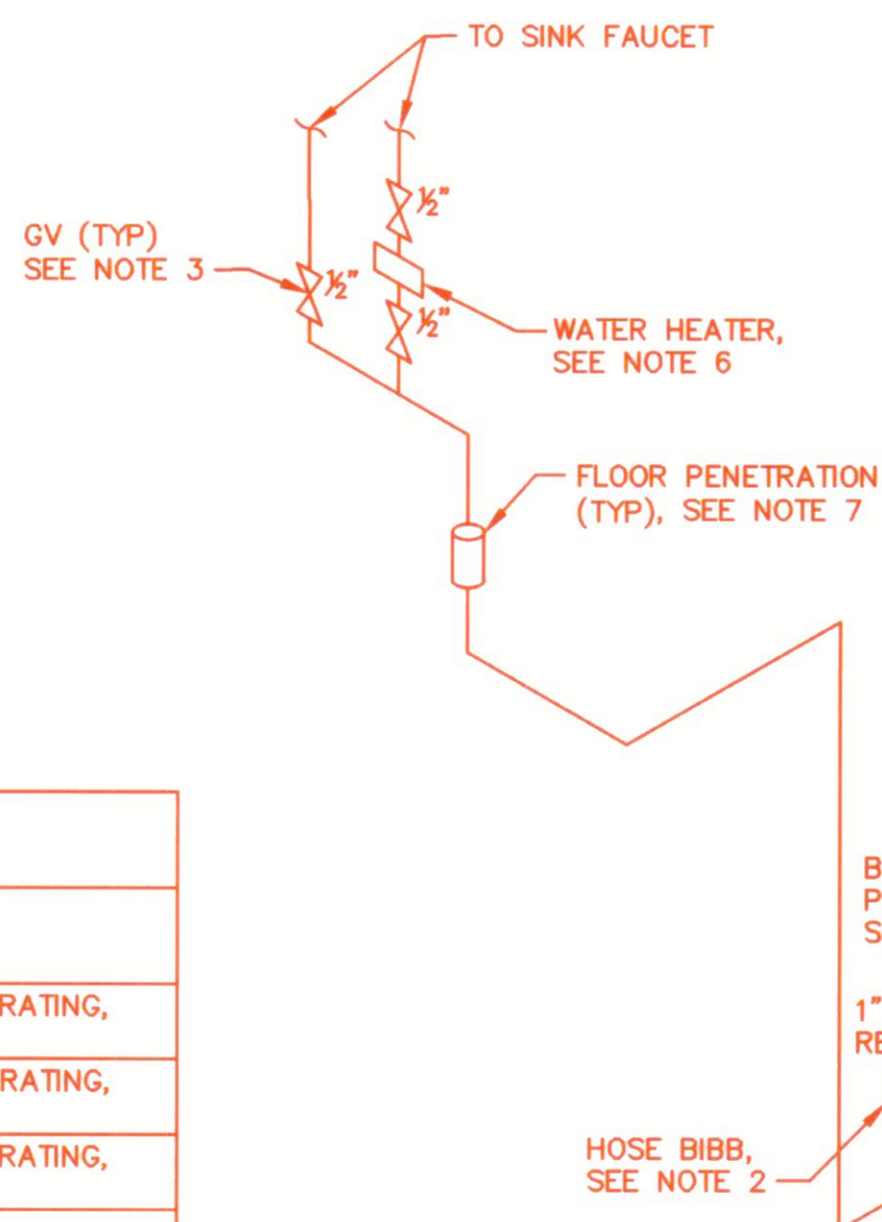
NOTE:

1. ALL EXISTING FEATURES DENOTED BY SLANTED TEXT.
2. ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE.



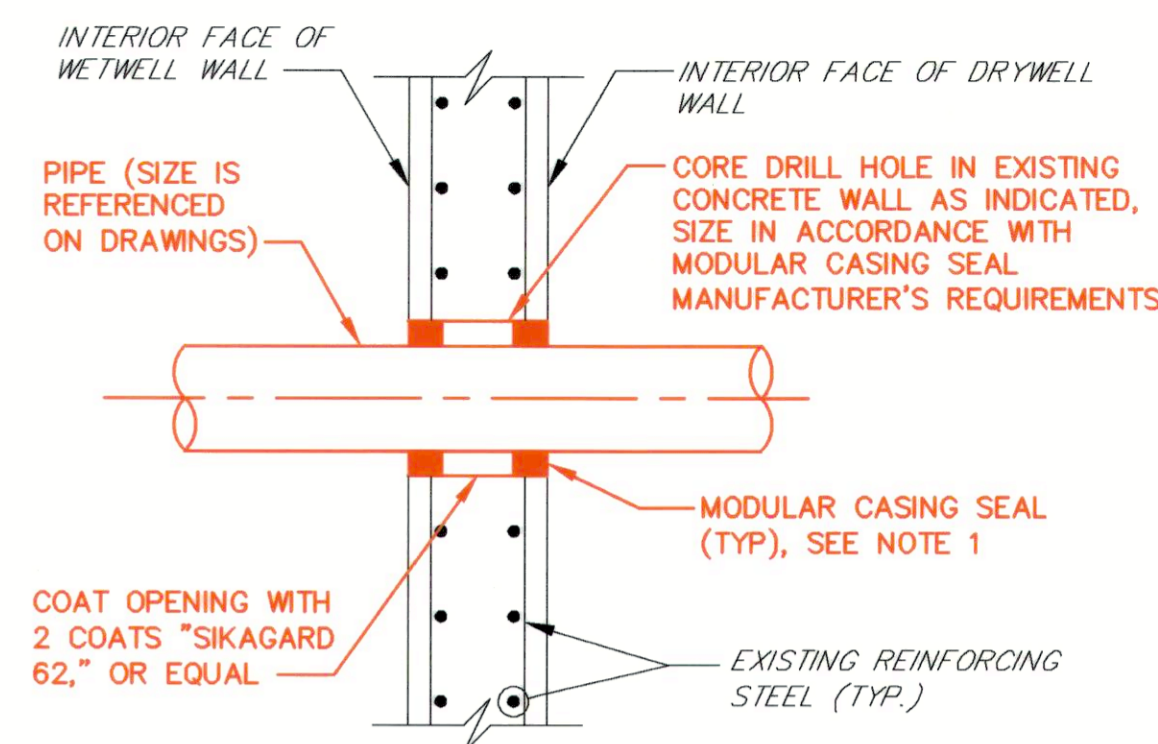
- NOTES:**
1. GOOSENECK VENT ABOVE SLAB SHALL BE SCH 40 STEEL PIPE, HOT DIP GALVANIZED AFTER FABRICATION.
 2. PROVIDE OVERSIZED FLANGES SO THAT THE BOLT HOLES ARE A MINIMUM OF 3" FROM THE DUCT OPENING IN THE CONCRETE SLAB.
 3. BIRDSCREEN SHALL BE 1/2" SQ. MESH X 0.047" WIRE.

12" GOOSENECK VENT DETAIL
NTS



- NOTES:**
1. INTERIOR DIAMETER OF STACKHEAD SHALL BE 1-INCH LARGER THAN THE OUTSIDE DIAMETER OF THE STACK.
 2. STACK AND STACKHEAD SHALL BE FREE STANDING, MEETING THE REQUIREMENTS SPECIFIED.
 3. BOLTS SHALL BE OF SUFFICIENT NUMBER, LENGTH, AND DIAMETER TO TRANSFER APPLIED LOADS TO THE STRUCTURE, AND MEET ALL OF THE REQUIREMENTS SPECIFIED.
 4. BIRDSCREEN SHALL BE 1/2" MESH WELDED SS T316 - 0.063 WIRE DIAMETER AS MANUFACTURED BY TWP INC., OR APPROVED EQUAL.
 5. FLAT BAR SPACERS SHALL BE OF SUFFICIENT SIZE AND NUMBER TO TRANSFER ALL STACKHEAD LOADS TO THE STACK, WITHOUT IMPEDING DRAINAGE.
 6. CHAIR SHALL BE OF SUFFICIENT SIZE AND STRENGTH TO SUPPORT THE LOADS APPLIED BY THE FRP STACK, AND SHALL ALLOW THE REMOVAL/INSTALLATION OF FAN WITHOUT REMOVING THE STACK.
 7. COORDINATE SIZE OF HOLE IN CONCRETE SLAB WITH MANUFACTURER OF FAN FURNISHED.

12" FRP EXHAUST STACK DETAIL
NTS



- NOTES:**
1. MODULAR CASING SEAL SHALL BE LINKSEAL, OR APPROVED EQUAL.
 2. PIPE AT MODULAR CASING SEAL LOCATION SHALL BE LEVEL.
 3. ON EXTERIOR WALLS WHERE PIPING IS BURIED, ONLY ONE MODULAR CASING SEAL IS REQUIRED, ON INTERIOR SIDE.

CONCRETE WALL PENETRATION DETAIL
NTS

UNIT HEATER SCHEDULE

ID	SIZE (H X W X D)	KW	MOUNTING HEIGHT	NOTES	MANUFACTURER & MODEL NO.
UH1	21 3/4" X 19" X 12 3/4"	20	7'-0" AFF	1,2,3,4	QMARK MODEL MUH-20

NOTES:

1. PROVIDE INTEGRAL THERMOSTAT
2. MOUNTING HEIGHT IS TO BOTTOM OF UNIT
3. PROVIDE INTEGRAL DISCONNECT
4. SEE ELECTRICAL DETAILS FOR CONNECTION REQUIREMENTS

PUMP SCHEDULE

ID	DESCRIPTION	LOCATION	Q (GPM)	TDH (FT)	RPM (MAX)	REMARKS
P1	PUMP #1	DRYWELL	415	241	1800	NEW DRY-PIT SUBMERSIBLE
P2	PUMP #2	DRYWELL	415	241	1800	NEW DRY-PIT SUBMERSIBLE
P3	SUMP PUMP #1	DRYWELL	48	23	3,450	NEW SUMP PUMP
P4	SUMP PUMP #2	DRYWELL	48	23	3,450	NEW SUMP PUMP

DAMPER SCHEDULE

ID	SIZE (INCHES)	DEPTH (INCHES)	MATERIAL	NOTES	TYPE	REMARKS
DA1	24" x 24"	NA	NA	3	EXISTING	OPEN WHEN SUPPLY FAN SF1 IS OPERATING, OTHERWISE CLOSED
DA2	36" x 42"	NA	NA	3	EXISTING	OPEN WHEN SUPPLY FAN SF2 IS OPERATING, OTHERWISE CLOSED
DA3	12" x 14"	4	ALUMINUM	1,3,4,7,9	THIN LINE CONTROL DAMPER	OPEN WHEN SUPPLY FAN SF1 IS OPERATING, OTHERWISE CLOSED

NOTES:

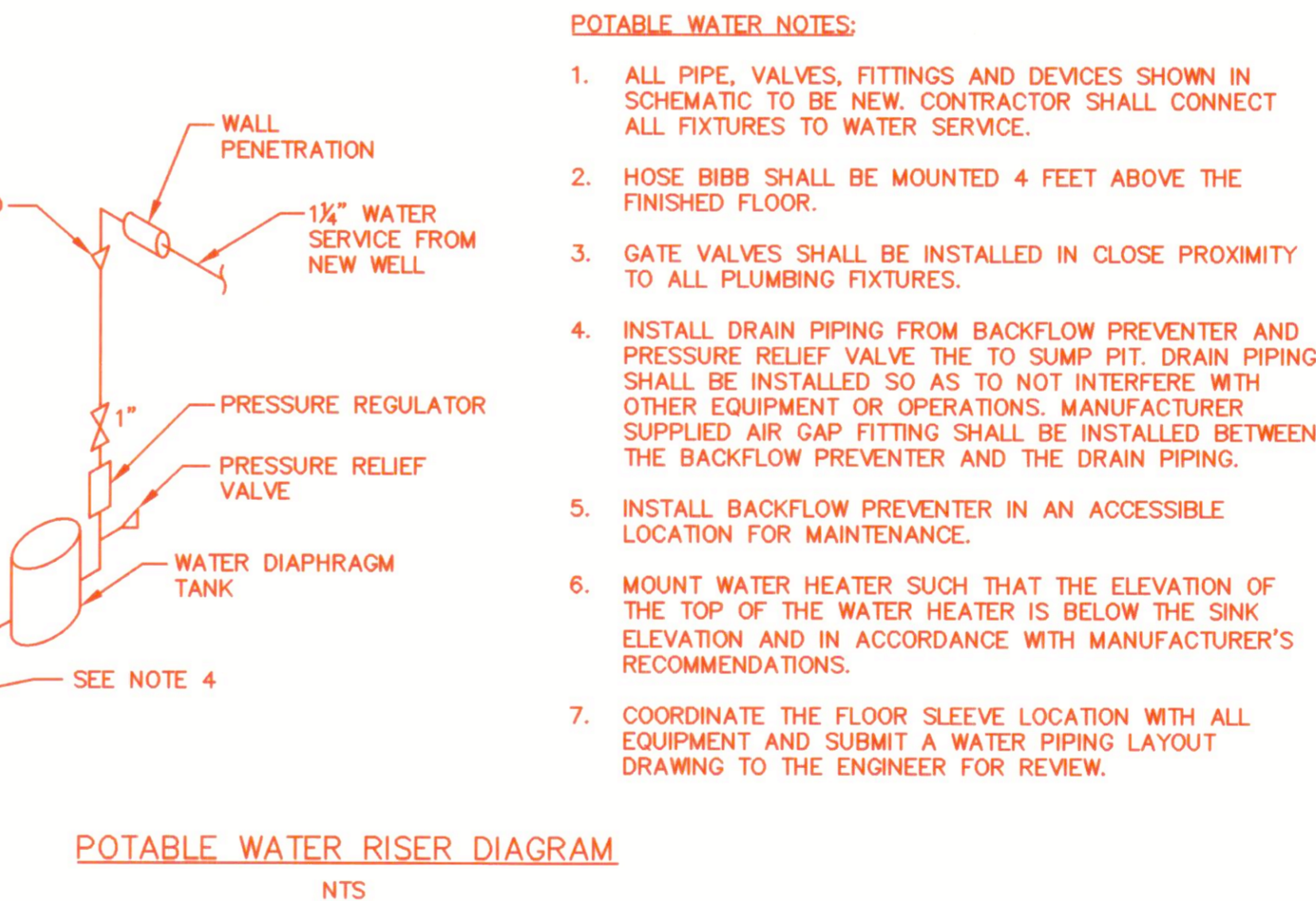
1. CLEAR ANODIZED FINISH
2. PNEUMATIC ACTUATOR
3. ELECTRIC ACTUATOR
4. ACTUATOR MOUNTING BRACKET
5. SWITCH PACKAGE
6. FRONT FLANGE FRAME
7. REAR FLANGE FRAME
8. SPRING LOADED OPEN
9. SPRING LOADED CLOSED

CENTRIFUGAL SQUARE INLINE FAN SCHEDULE

ID	SERVICE	LOCATION	DRIVE	CFM	S.P. (IN W.G.)	FAN RPM	MOTOR HP	VOLTAGE/PHASE	SOUND (MAX AT 5 FEET)	NOTES	MANUFACTURER & MODEL NO.
SF1	SUPPLY	OPERATING ROOM	BELT	4,000	1.25	1429	2.0	460/3	73 dBA	4,7,12,13,17,19,21,25,26,27,28	LOREN COOK MODEL NO. 180SQN-B, OR APPROVED EQUAL

NOTES:

1. NEMA 4 DISCONNECT
2. GRAVITY BACKDRAFT DAMPER
3. MOTORIZED BACKDRAFT DAMPER
4. SIDE DISCHARGE PACKAGE
5. DUEL SIDE DISCHARGE PACKAGE
6. BELT GUARD
7. OSHA GUARD/MOTOR COVER
8. INSULATED HOUSING
9. INLET GUARD
10. OUTLET GUARD
11. INLET FLEXIBLE CONNECTOR
12. OUTLET FLEXIBLE CONNECTOR
13. FLANGED INLET CONNECTION WITH COMPANION FLANGE
14. FLANGED OUTLET CONNECTION WITH COMPANION FLANGE
15. CEILING MOUNTED RUBBER-IN-SHEAR INSULATORS
16. FLOOR MOUNTED RUBBER-IN-SHEAR INSULATORS
17. CEILING MOUNTED SPRING ISOLATORS
18. FLOOR MOUNTED SPRING ISOLATORS
19. LORENZONIZED COATING
20. EPOXY POWDER COATING
21. REINFORCED WHEEL
22. EXTERNAL INLET VANE DAMPER - ALUMINUM
23. FILTER BOX WITH ALUMINUM FILTER
24. FILTER BOX WITH 30% ALUMINUM FILTER
25. EXTENDED LUBE LINES
26. SPARE BELT KIT
27. BELT TENSIONER-ROTARY
28. THERMOSTATICALLY CONTROLLED

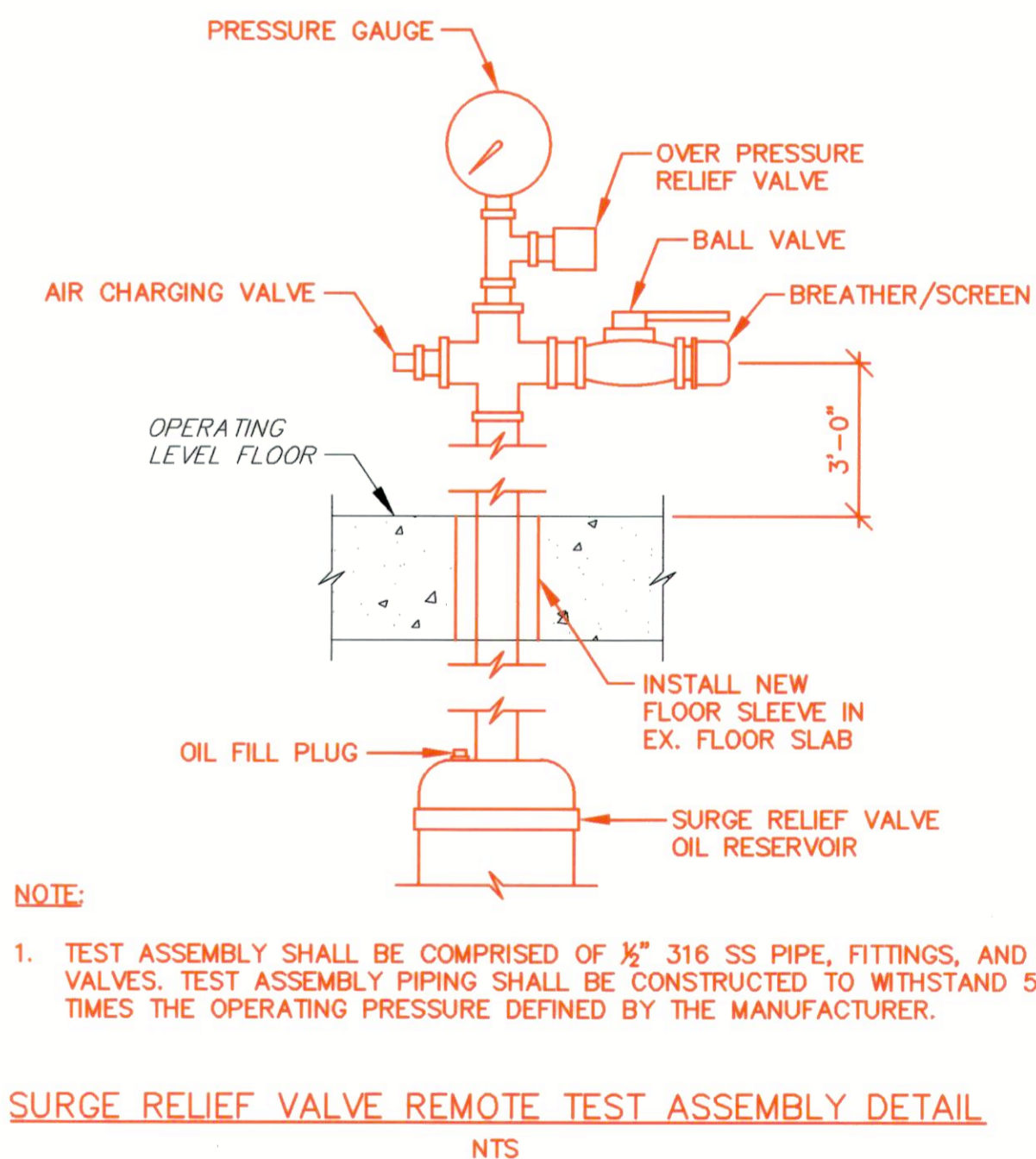


FIBERGLASS DUCT AXIAL FAN SCHEDULE

ID	SERVICE	LOCATION	DRIVE	CFM	S.P. (IN W.G.)	FAN RPM	MOTOR HP	VOLTAGE/PHASE	SOUND (MAX AT 5 FEET)	NOTES	MANUFACTURER & MODEL NO.
EF1	EXHAUST	WETWELL TOP SLAB	BELT	850	0.75	2599	3/4	460/3	73 dBA	3,4,5,6,7,10,11,18,19	HARTZELL FAN INC. FRP DUCT AXIAL MODEL NO. A35-126E, OR APPROVED EQUAL

NOTES:

1. DISCONNECT SWITCH
2. VANE SECTION
3. 316 SS HARDWARE AND SHAFT
4. ACCESS DOOR
5. STATIC GROUNDING - CARBON/GRAPHITE IMPREGNATION
6. ALL VINYL ESTER CONSTRUCTION
7. SURFACE VEIL
8. FRP ROOF CURB
9. ROOF MOUNT
10. DUCT MOUNT
11. FIBERGLASS MOTOR COVER
12. HORIZONTAL MOUNTING ANGLES FOR SUSPENDED MOUNTING
13. VERTICAL MOUNTING FEET/ANGLES (FLOOR/CEILING MOUNTING)
14. HORIZONTAL BASE FOR FLOOR MOUNTING
15. VIBRATION ISOLATOR
16. INLET BELL
17. 316 SS INLET GUARD
18. EXPLOSION PROOF
19. INVERTER DUTY MOTOR



- NOTE:**
1. TEST ASSEMBLY SHALL BE COMPRISED OF 1/2" 316 SS PIPE, FITTINGS, AND VALVES. TEST ASSEMBLY PIPING SHALL BE CONSTRUCTED TO WITHSTAND 5 TIMES THE OPERATING PRESSURE DEFINED BY THE MANUFACTURER.

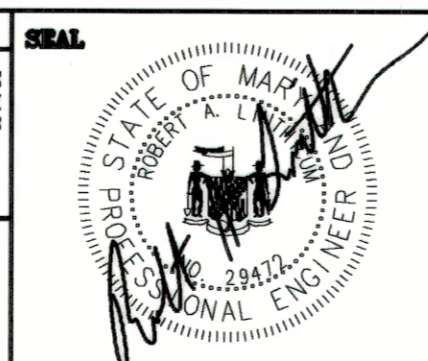
AS-BUILT 11/2020

R02/21/2018 - K:\Projects\2018\11154_Howard\DWG\11154-UPG-13A.dwg Apr 12, 2018 - 12:09pm Proj. Scale 1:1

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

John J. ... 4/10/18
DIRECTOR OF PUBLIC WORKS DATE
Thomas J. ... 4/10/18
CHIEF, BUREAU OF ENGINEERING DATE
... 11/20/18
CHIEF, BUREAU OF UTILITIES DATE
... 4/10/18
CHIEF, UTILITY DIVISION DATE

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT REVISIONS INCLUDED IN THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 28472 EXPIRATION DATE 9/16/2019
RUMMEL, KLEPPER & KAHL, LLP
700 EAST PRATT STREET
SUITE 600
BALTIMORE, MARYLAND 21202



DES:	DAO				
DRN:	TJS				
CHK:	RAL				
DATE:	3/30/18	RK&K	1	2018 UPGRADES - ADD SHEET 13A	3/18
BY:	NO.			REVISIONS	DATE

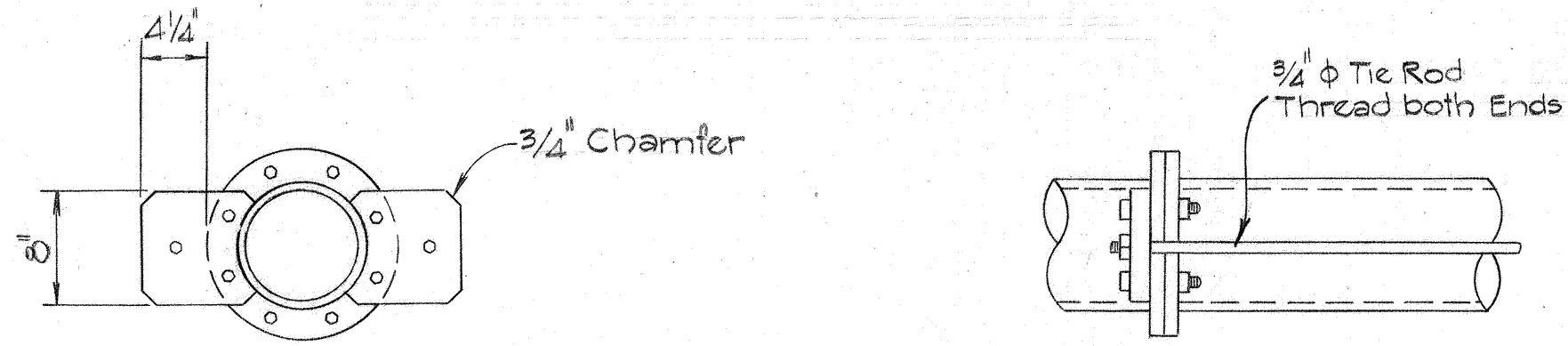
MECHANICAL DETAILS -
2018 UPGRADES

CHAMBERLEA PUMPING STATION
2018 UPGRADES
CAPITAL PROJECT NO. S6264
CONTRACT NO. 742-S

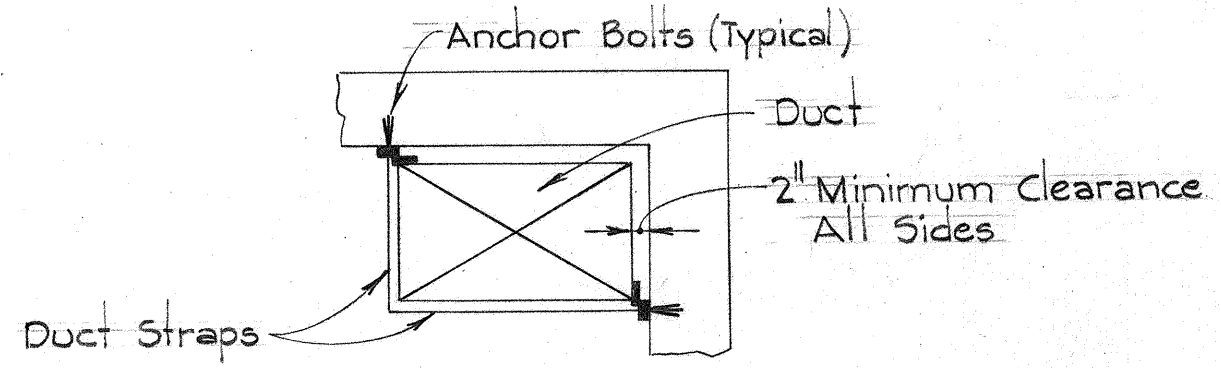
ELECTION DISTRICT NO. 2 HOWARD COUNTY, MARYLAND

SCALE
AS SHOWN
SHEET
13A OF 29

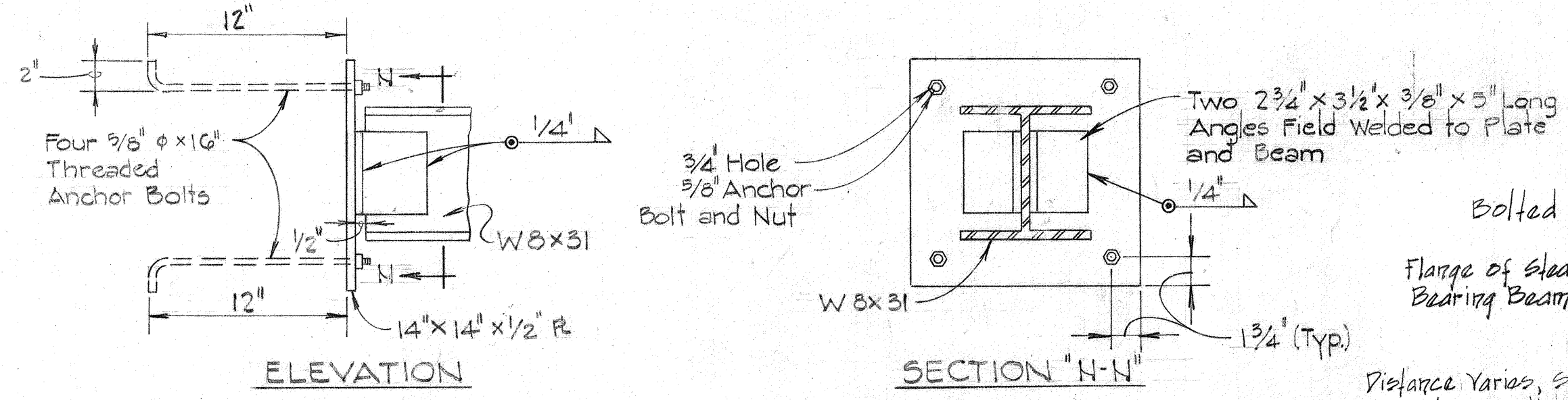
NOTES:
 1. Two Tie Rods Required for each Coupling.
 2. Thread bolt ends for Hex Head Nuts.



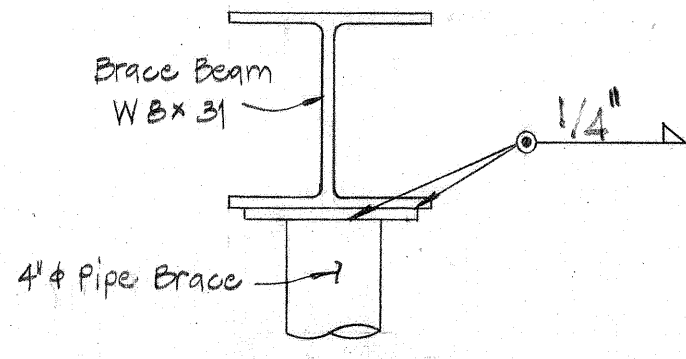
PIPE HARNESS DETAILS
 Not to Scale



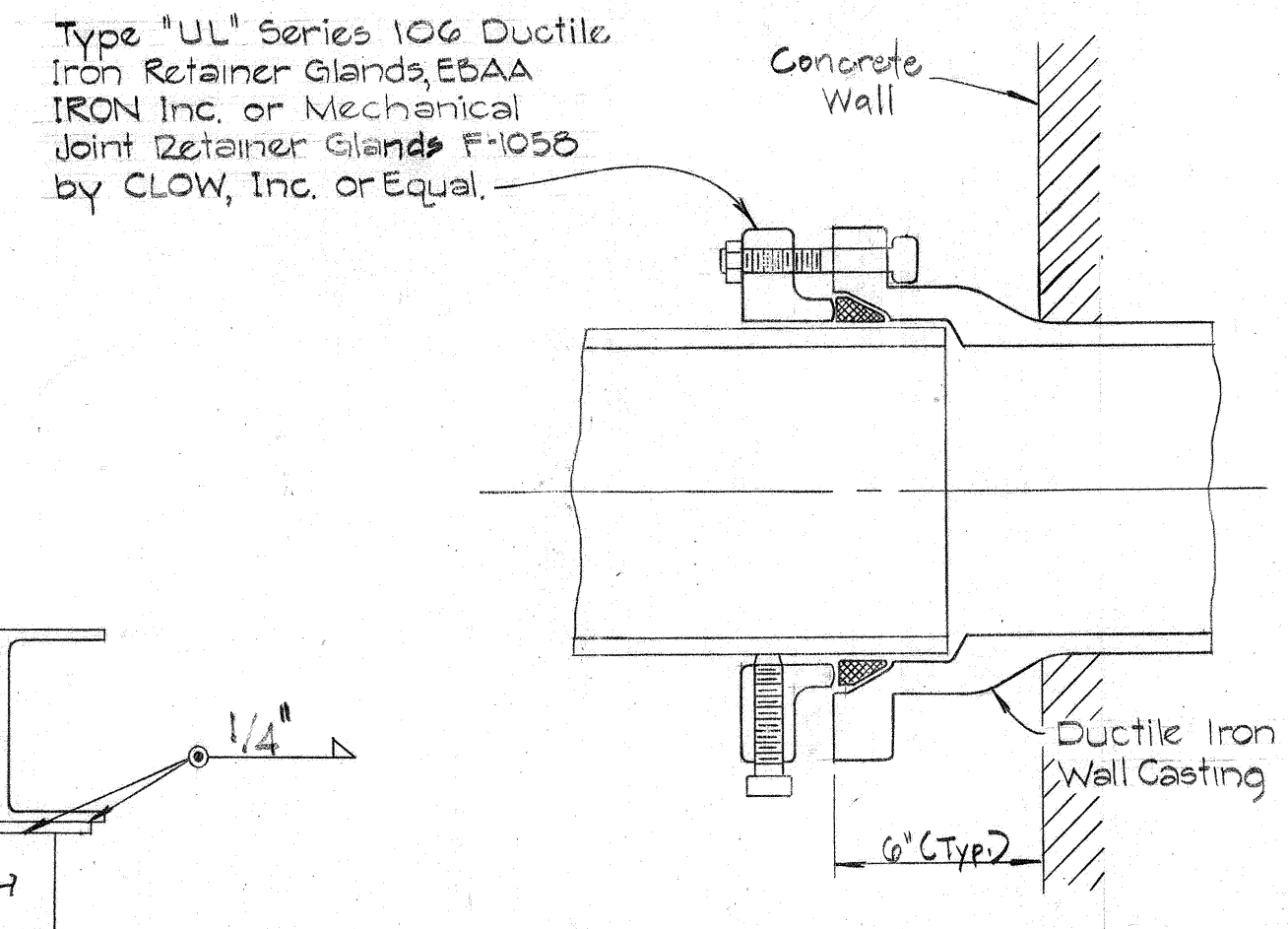
TYPICAL DUCT INSTALLATION
 Not to Scale



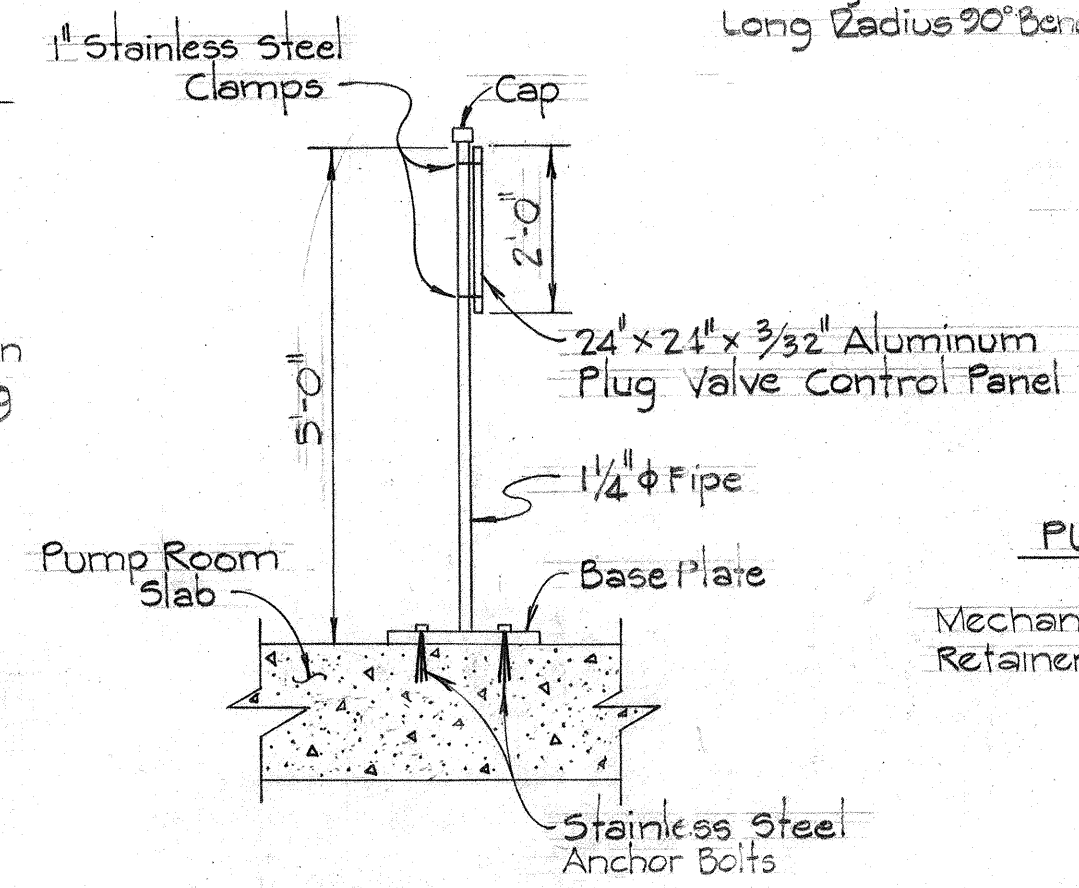
STEADY BEARING BEAM & BRACE BEAM WALL CONNECTION DETAILS
 Scale: 1/2" = 1'-0"



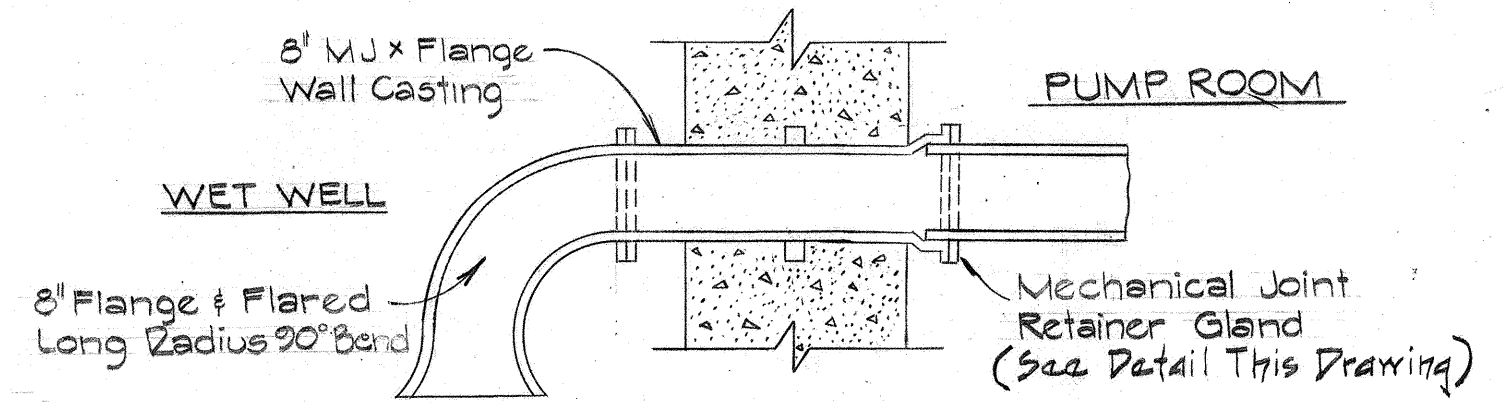
PIPE BRACE CONNECTION
 Not to Scale



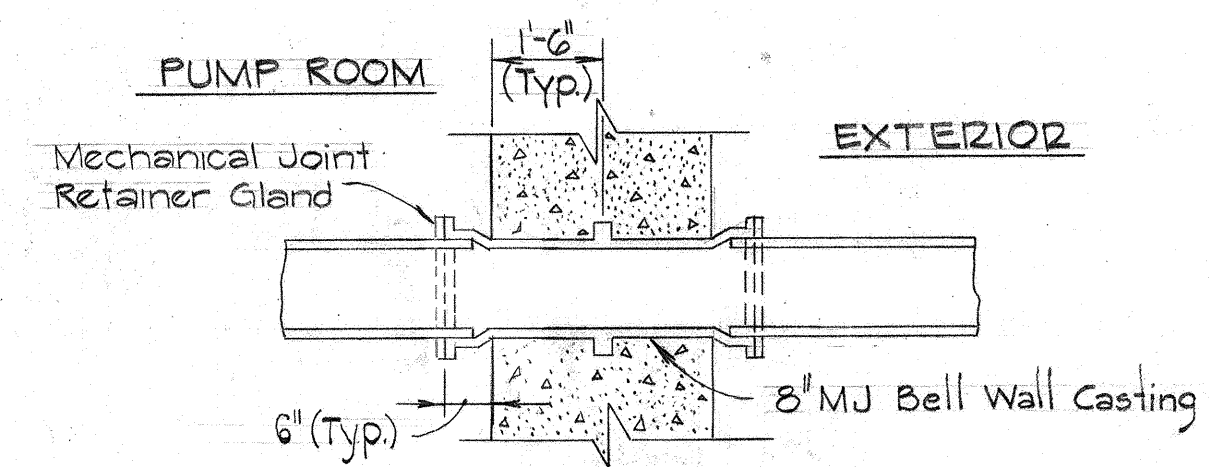
MJ RETAINER GLAND DETAIL
 Not to Scale



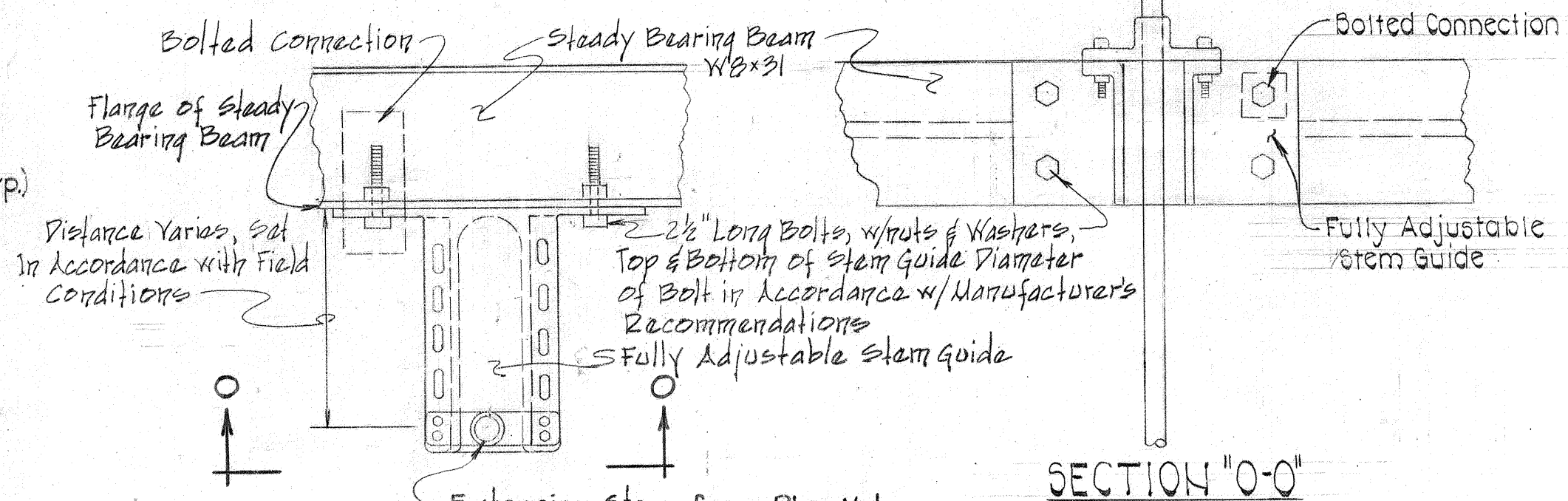
PLUG VALVE CONTROL PANEL STAND
 Not to Scale



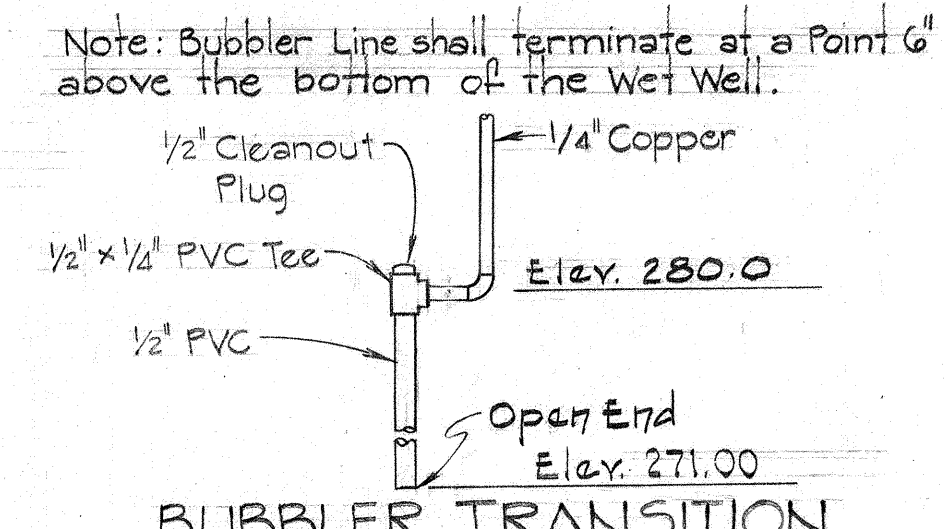
WET WELL WALL CASTING DETAIL
 Not to Scale



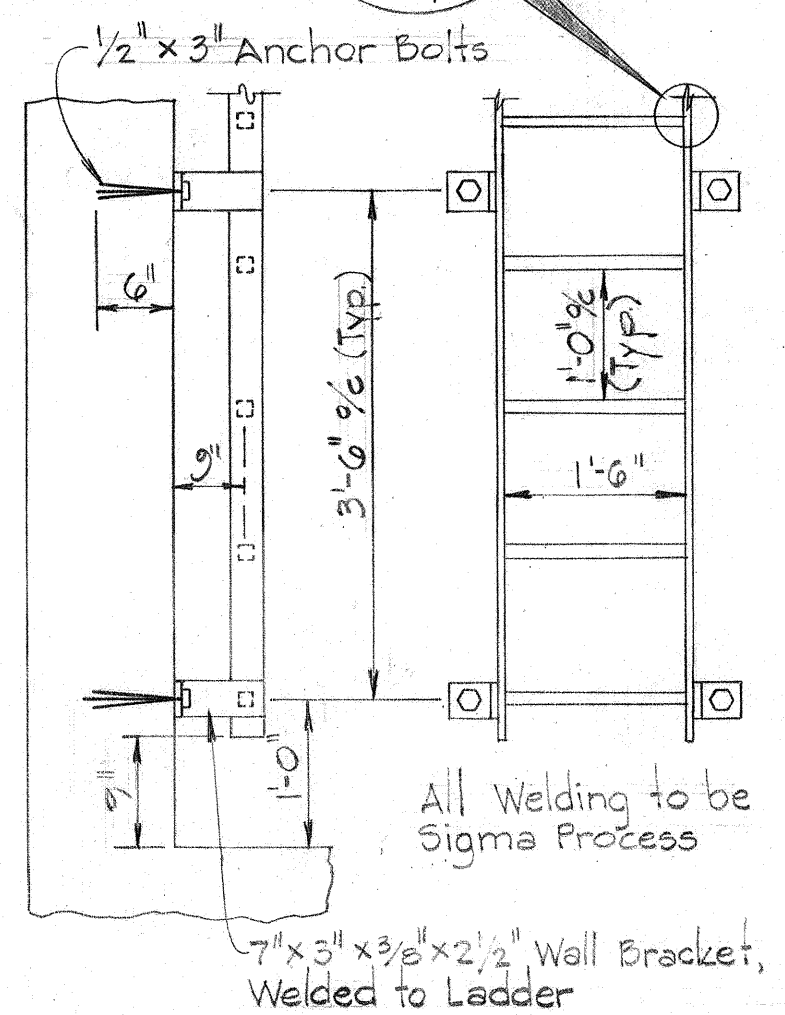
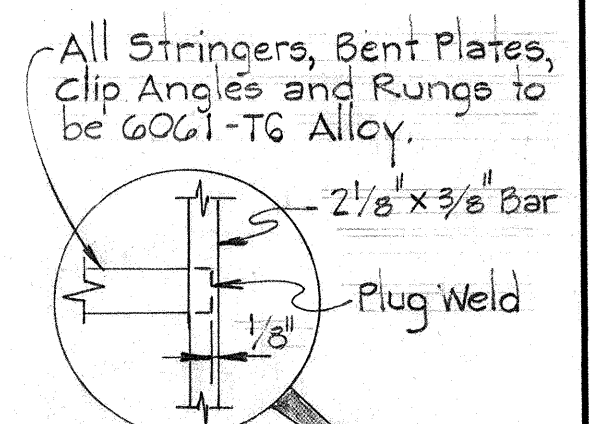
FORCE MAIN WALL CASTING DETAIL
 Not to Scale



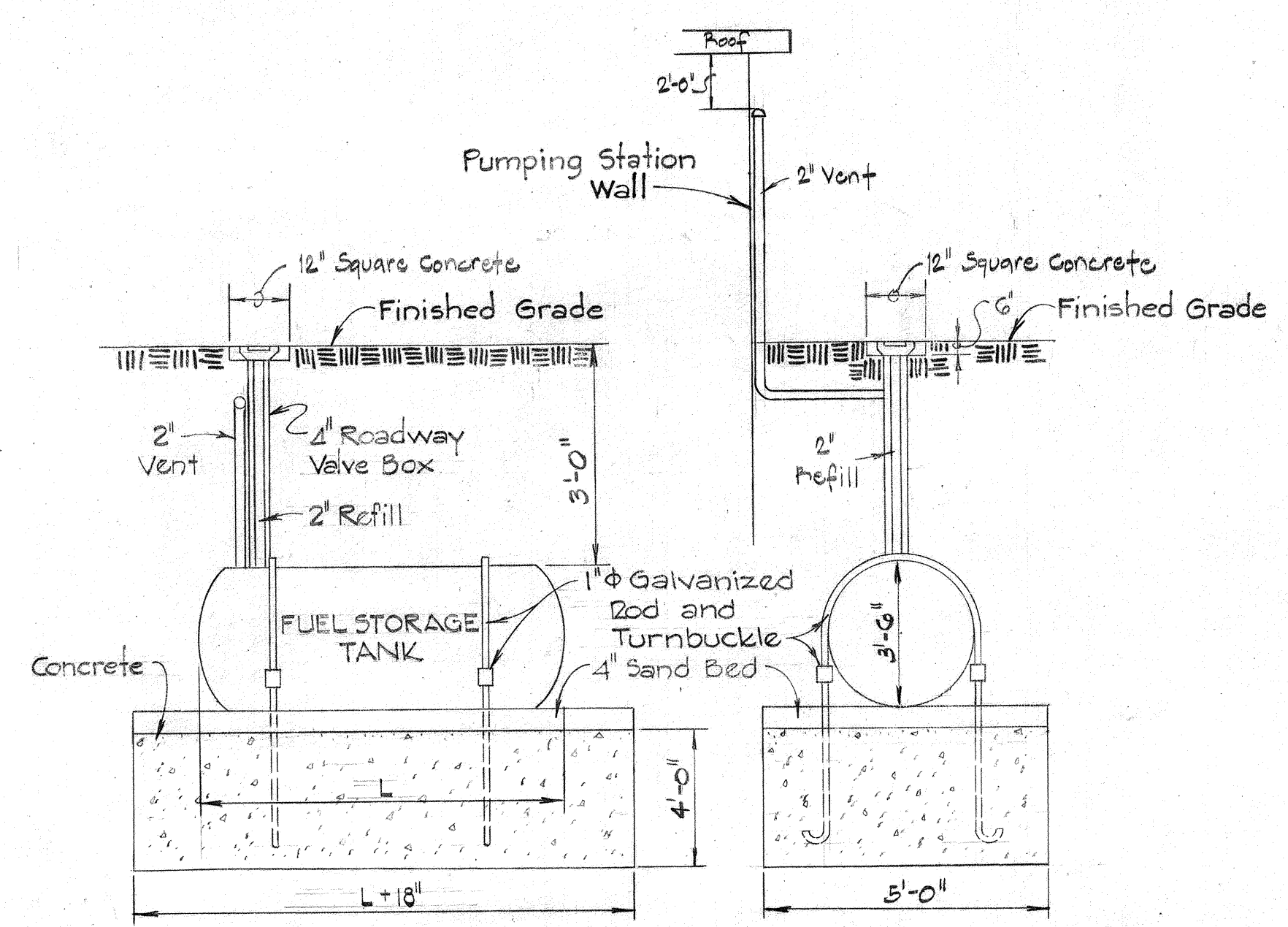
STEM GUIDE CONNECTION DETAIL
 Not to Scale



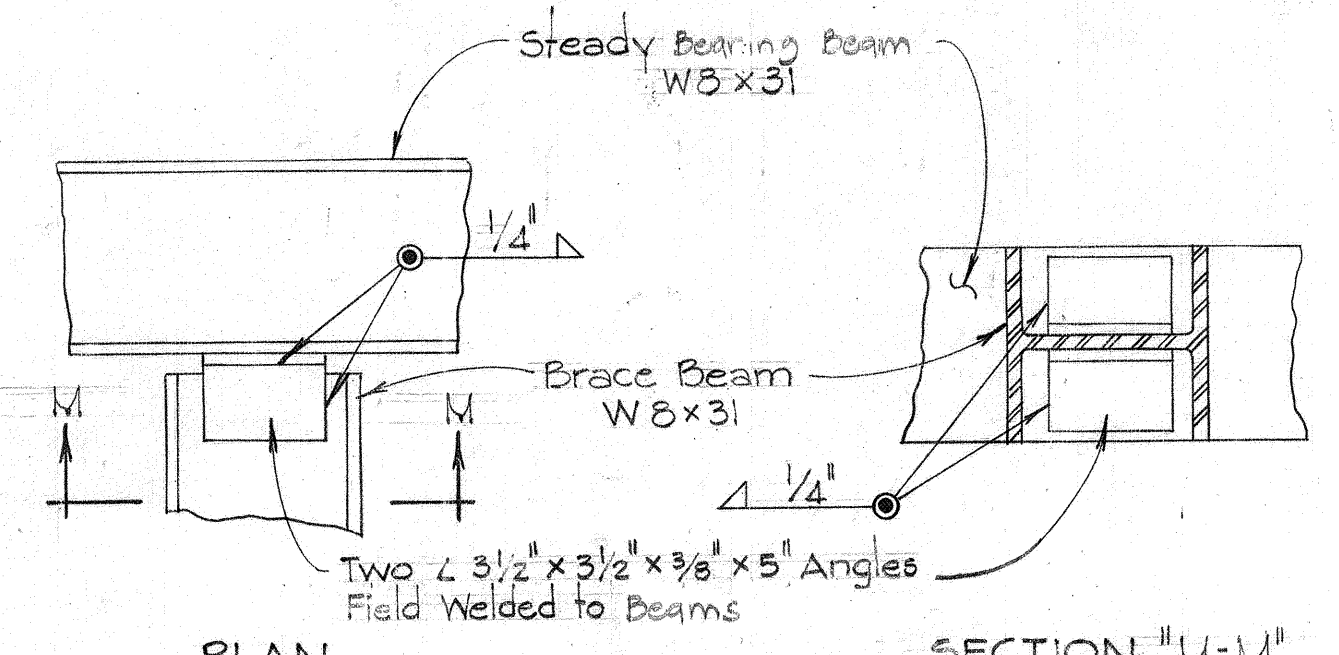
BUBBLER TRANSITION DETAIL
 Not to Scale



ALUMINUM ACCESS LADDER DETAILS
 Scale: 3/4" = 1'-0"



UNDERGROUND FUEL STORAGE TANK DETAILS
 Not to Scale



BRACE BEAM CONNECTION DETAILS
 Scale: 1/2" = 1'-0"



DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Director of Public Works: [Signature]
 Chief Bureau of Engineering: [Signature]
 Chief Bureau of Utilities: [Signature]

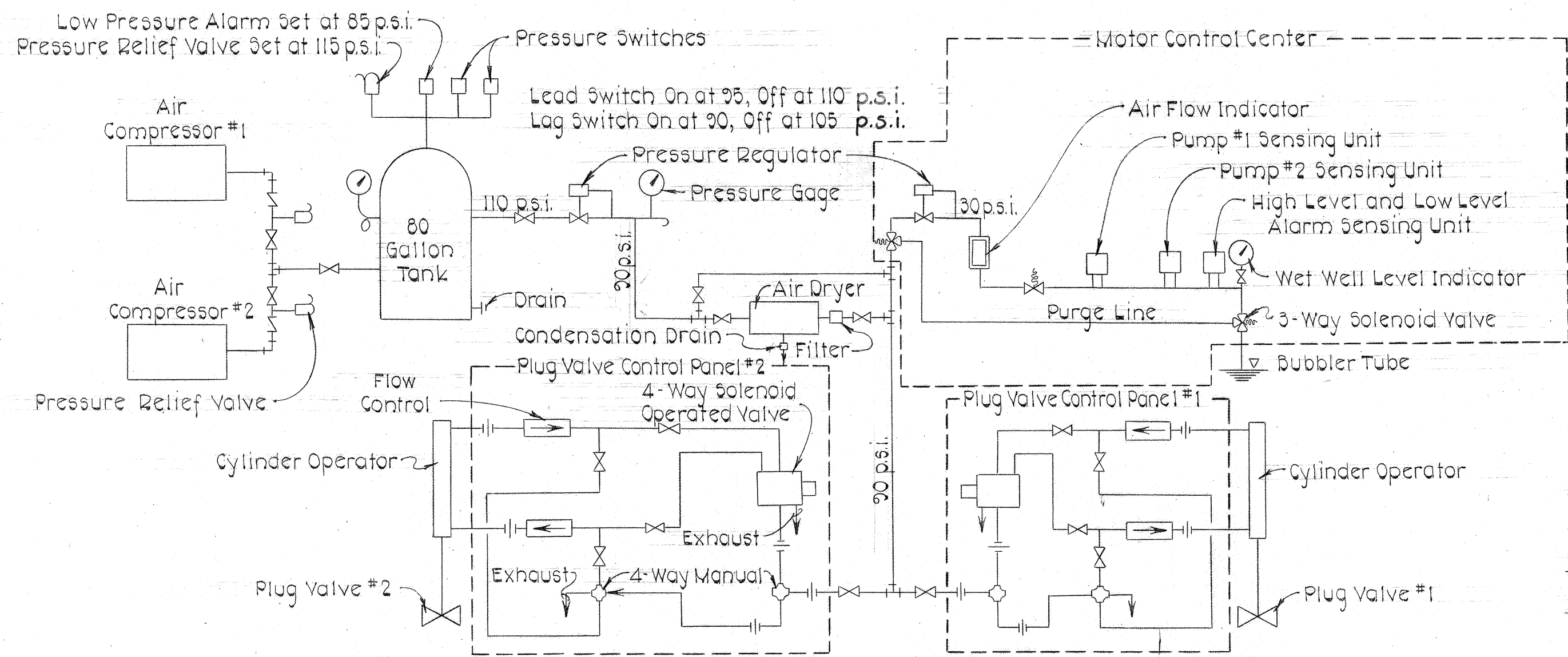
PURDUM & JESCHKE
 ENGINEERS
 1023 N. CALVERT ST.
 BALTIMORE, MARYLAND

CONTRACT NO. 2742-S
 CAPITAL PROJECT NO. S-4-6067

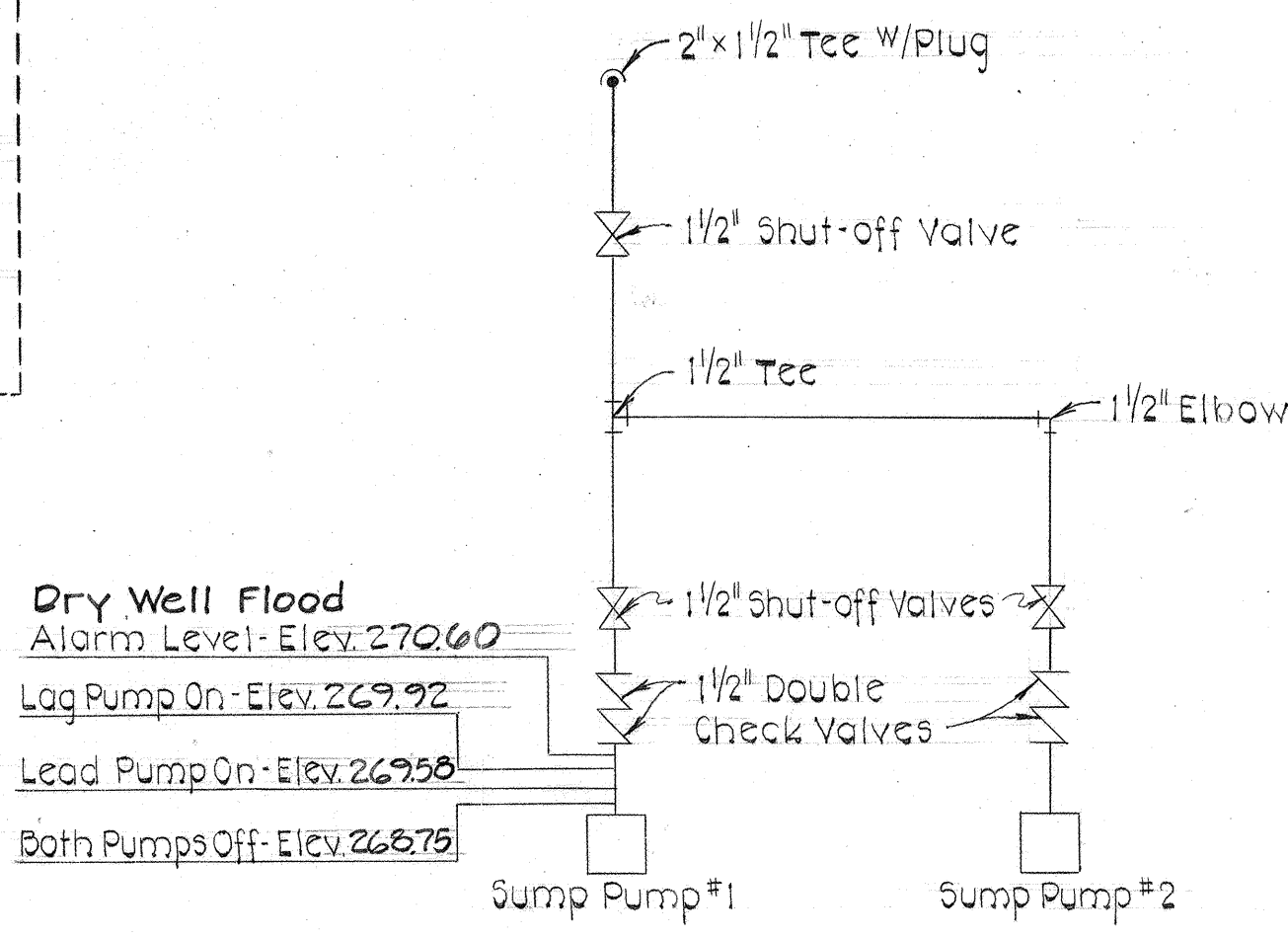
MECHANICAL DETAILS

CHAMBERLEA SANITARY SEWERS
 CHAMBERLEA PUMPING STATION
 ELECTION DISTRICT NO. 2

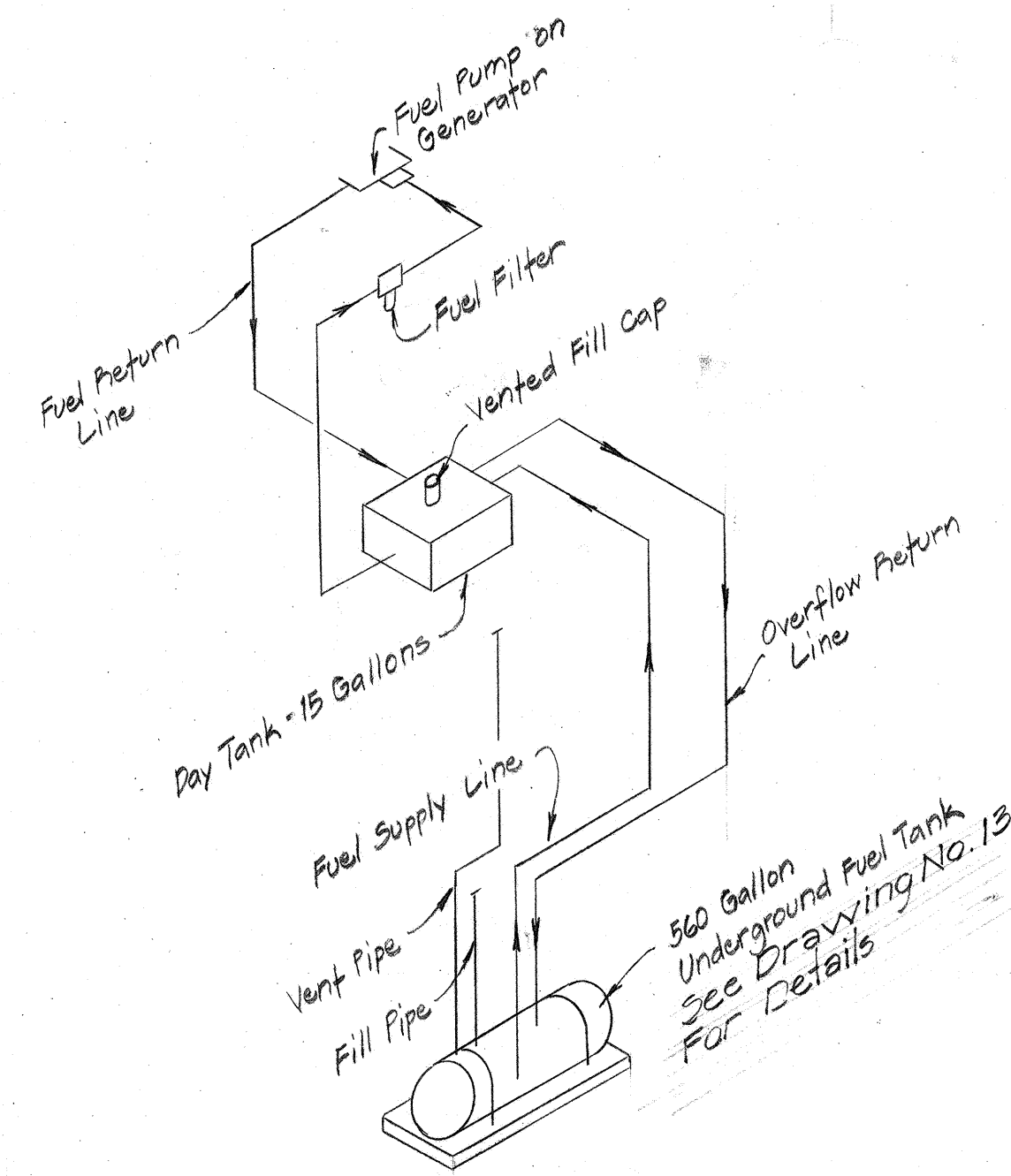
DRAWING NO. 13 OF 17
 SCALE AS SHOWN
 Designed: DJD
 Drafted: PWR
 Checked: REP



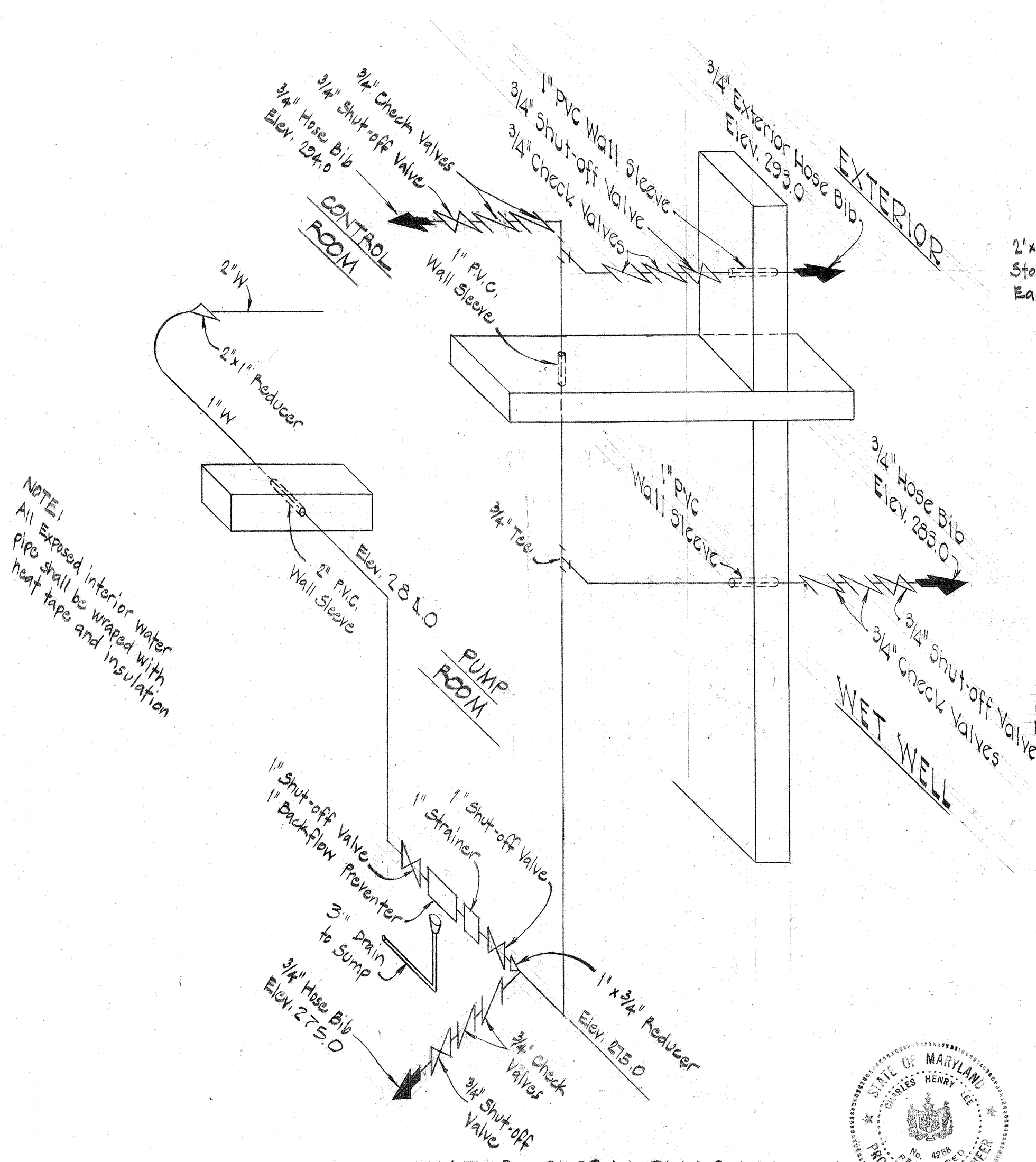
COMPRESSED AIR SYSTEM DIAGRAM
Not to Scale



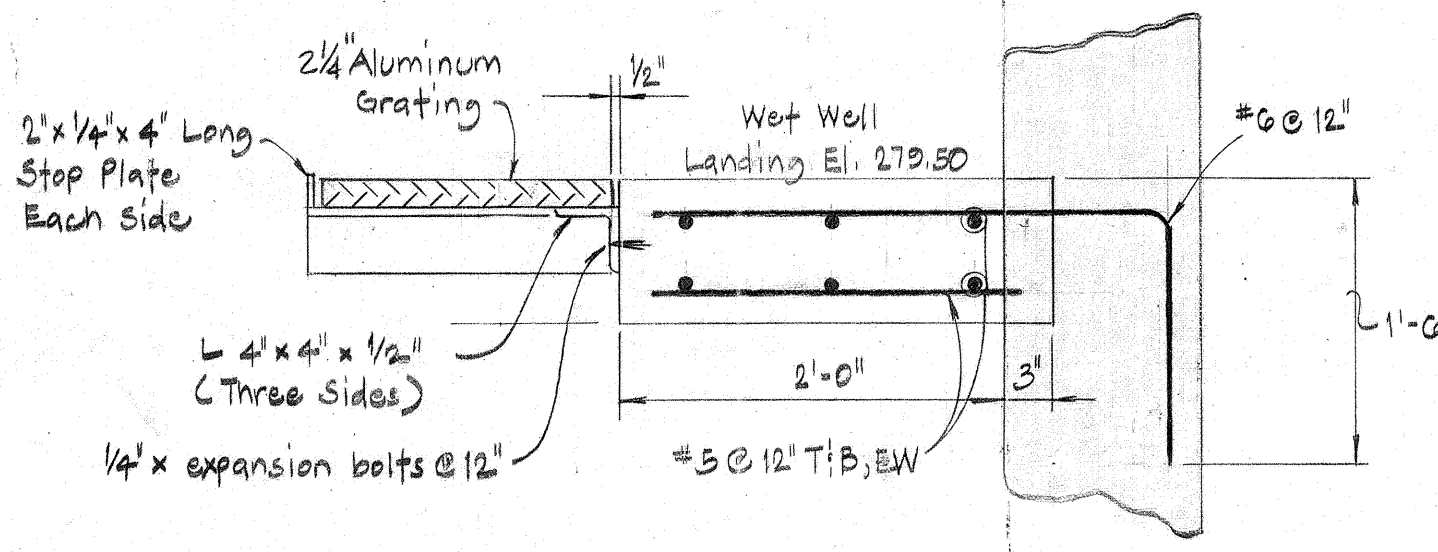
SUMP PUMP DISCHARGE PIPING DIAGRAM
Not to Scale



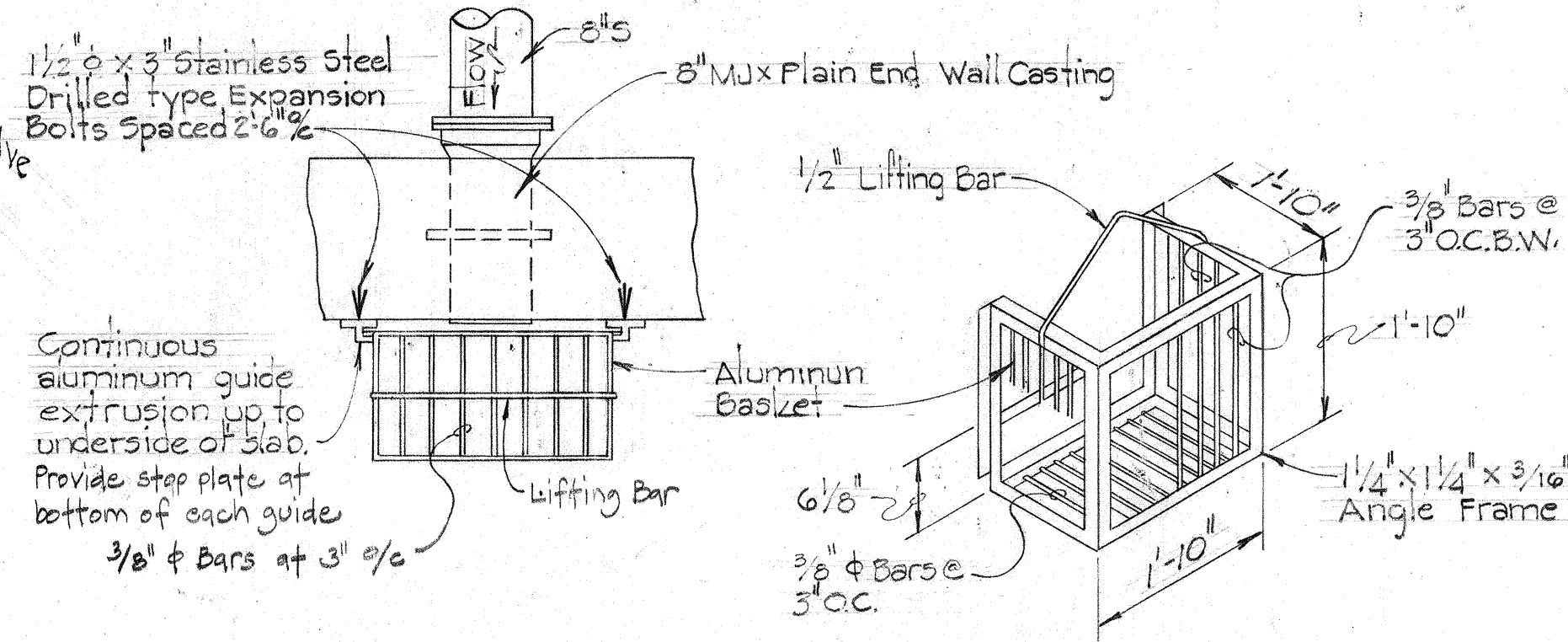
SCHEMATIC - FUEL SUPPLY LINES FOR DIESEL POWER GENERATOR SET
Not to Scale



WATER SUPPLY DIAGRAM
Not to Scale

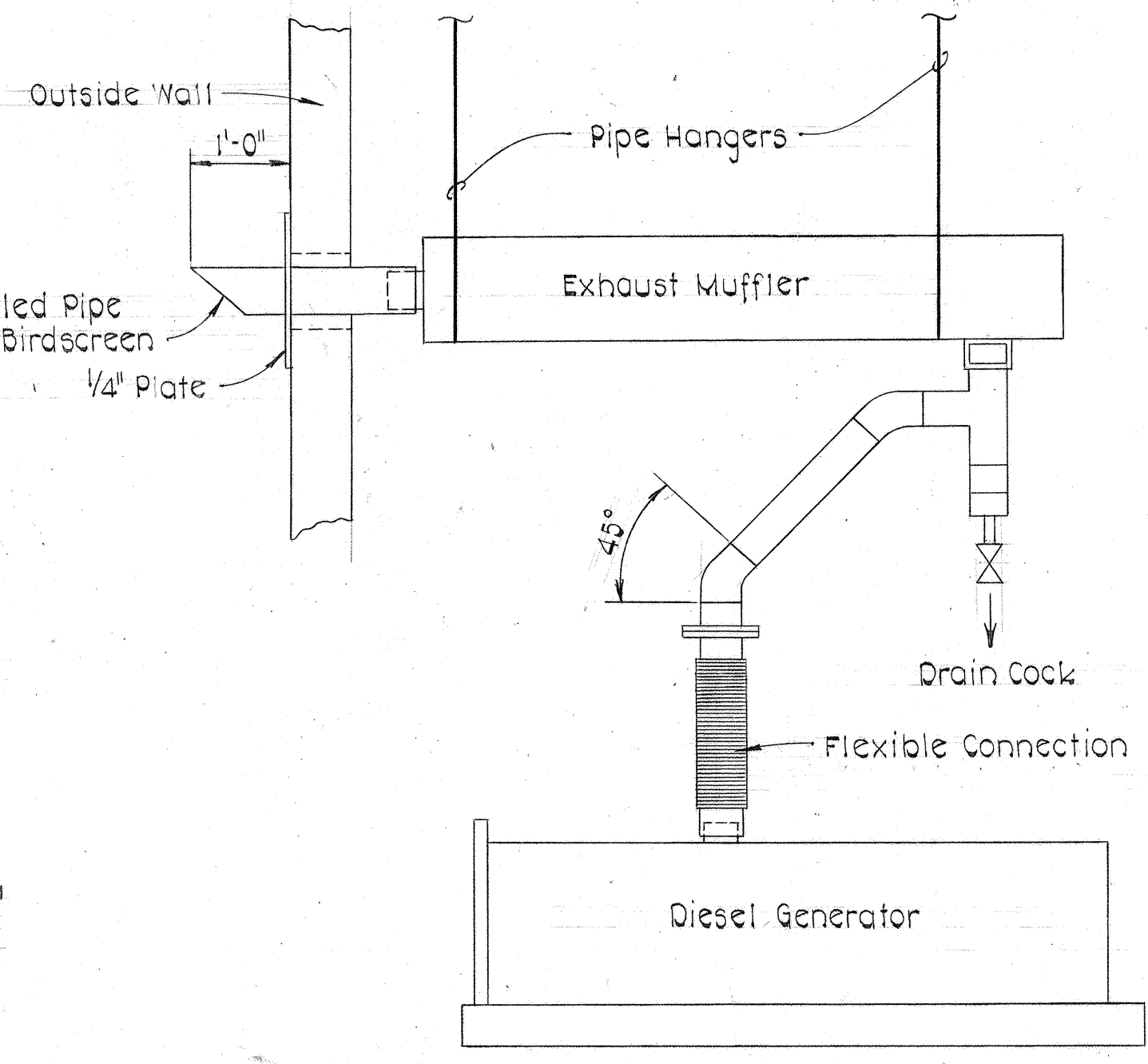


REMOVABLE ALUMINUM WET WELL GRATING
Scale: 1" = 1'-0"



PLAN DEBRIS SCREENING BASKET
Not to Scale

ISOMETRIC DEBRIS SCREENING BASKET DETAIL



GENERATOR EXHAUST SCHEMATIC
Not to Scale



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Director of Public Works: *William E. Newmyer* 8/28/81
Chief Bureau of Engineering: *Kevin J. Kreis* 8/28/81
Chief Bureau of Utilities: *Kevin J. Kreis* 8/28/81

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

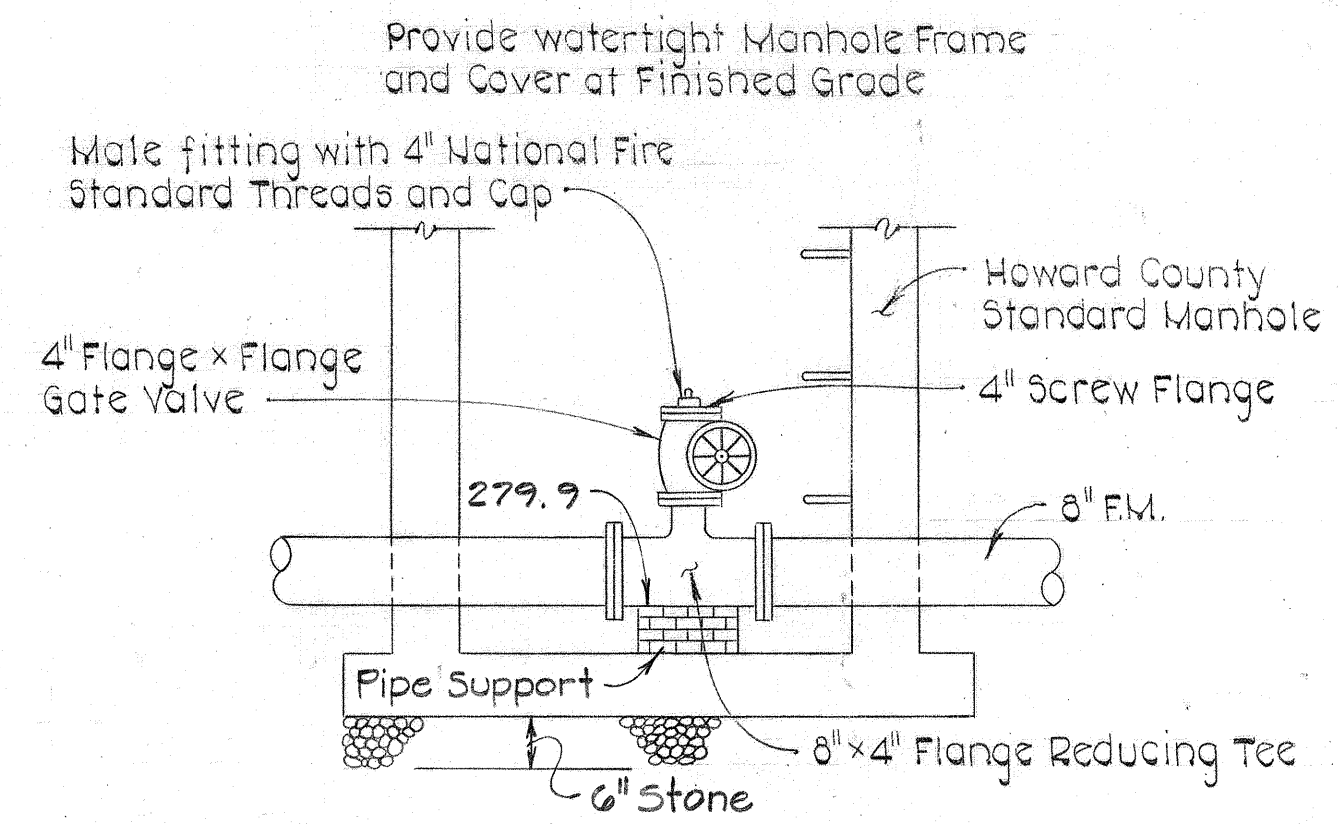
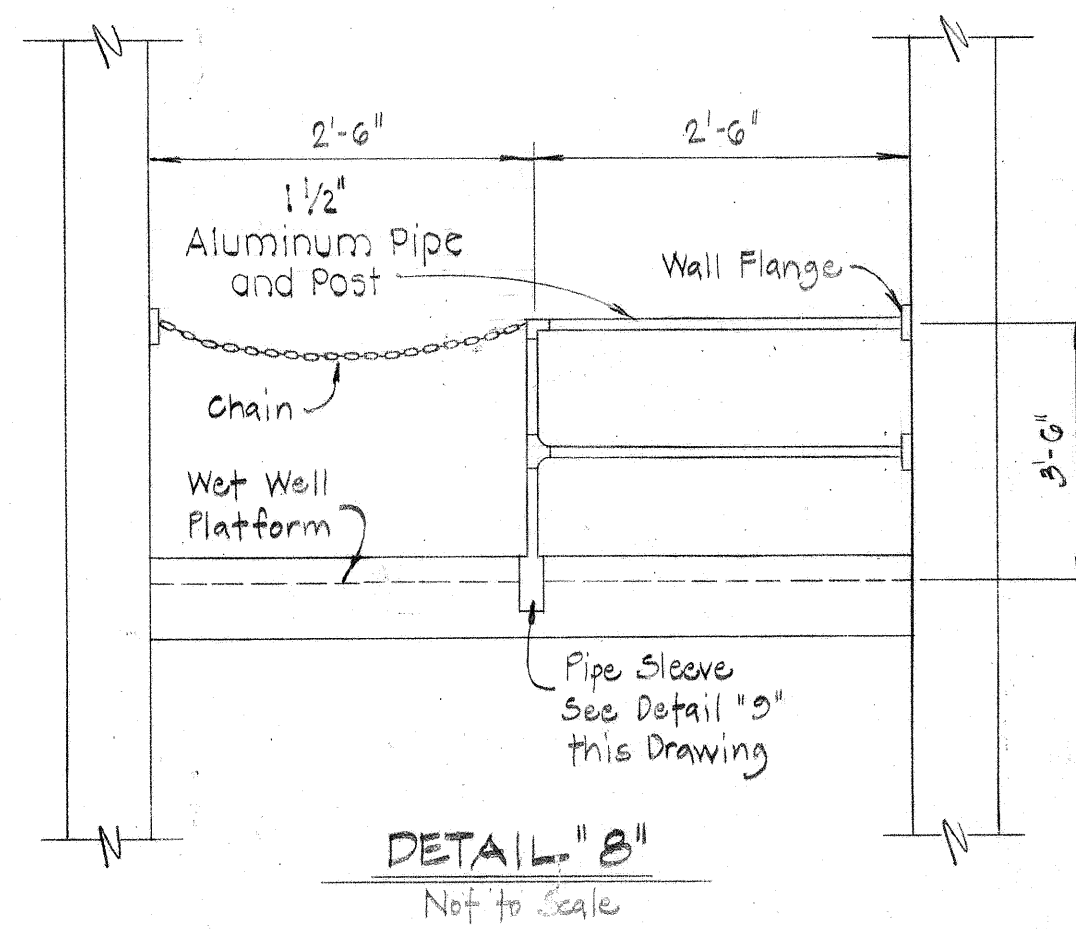
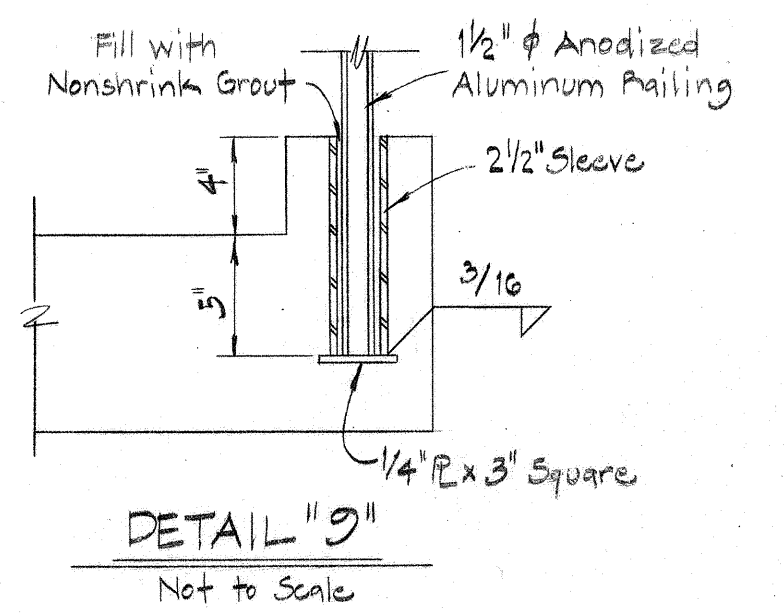
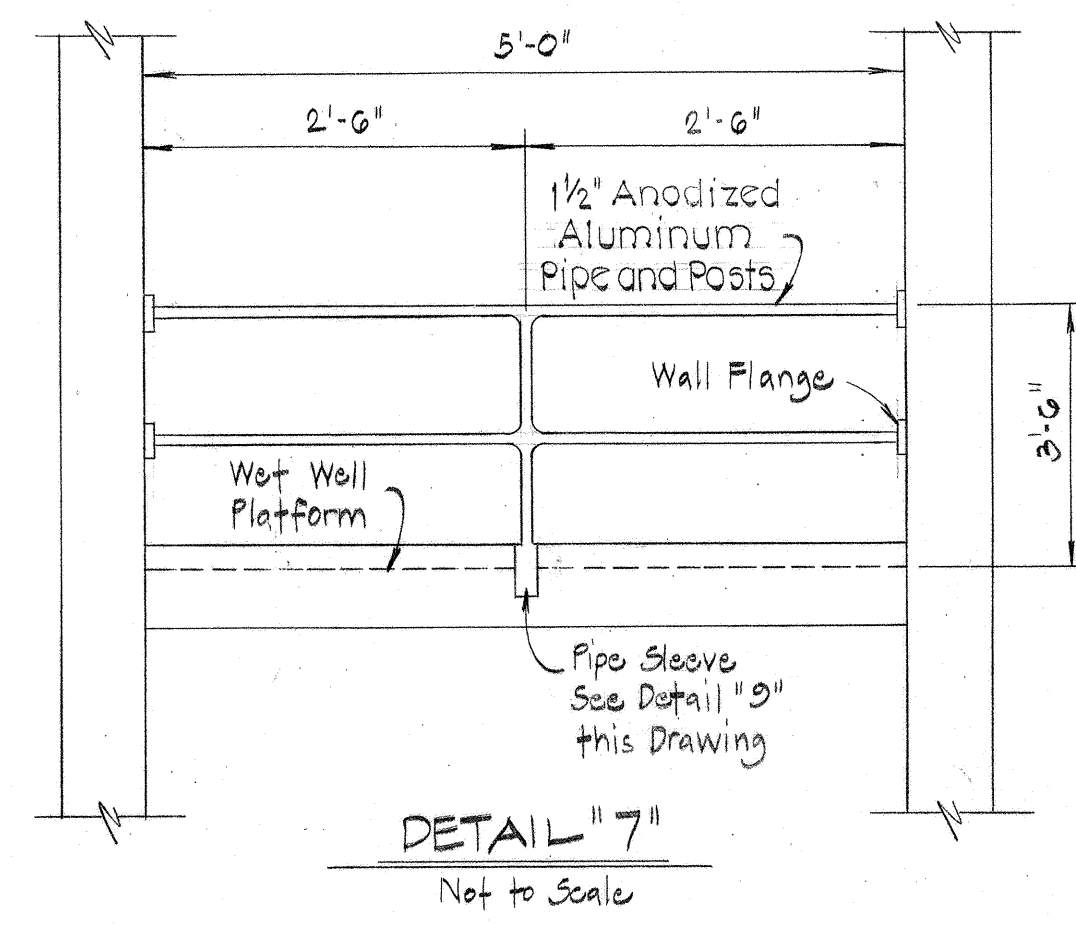
CONTRACT NO. 2742-S
CAPITAL PROJECT NO. S-4-6067

MECHANICAL DETAILS

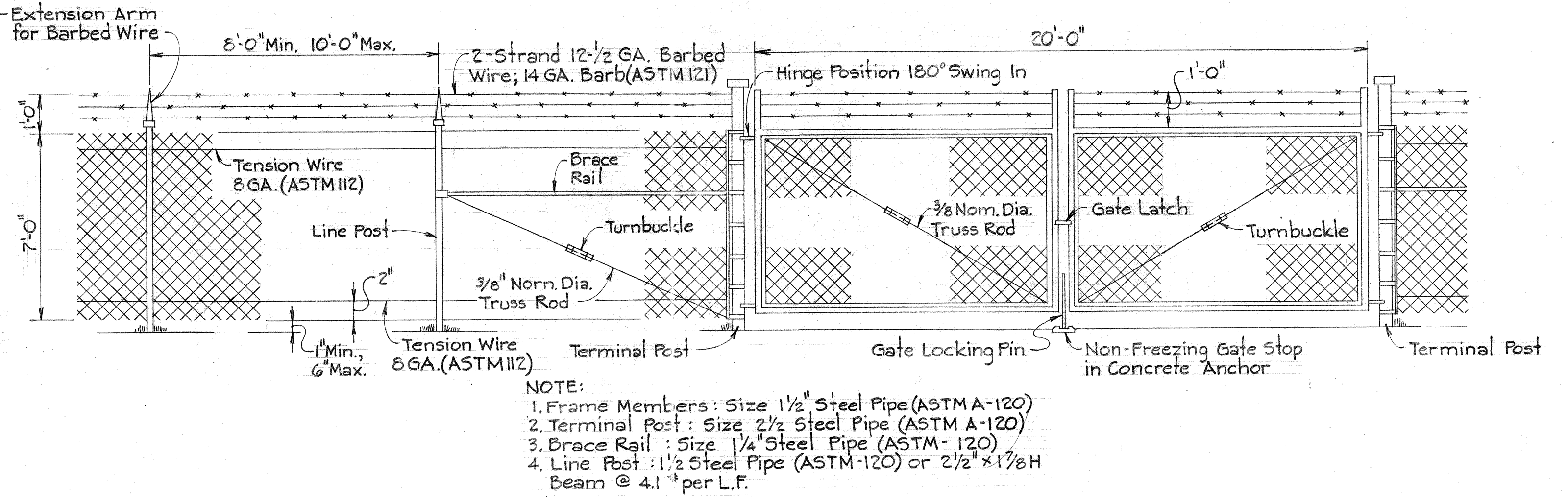
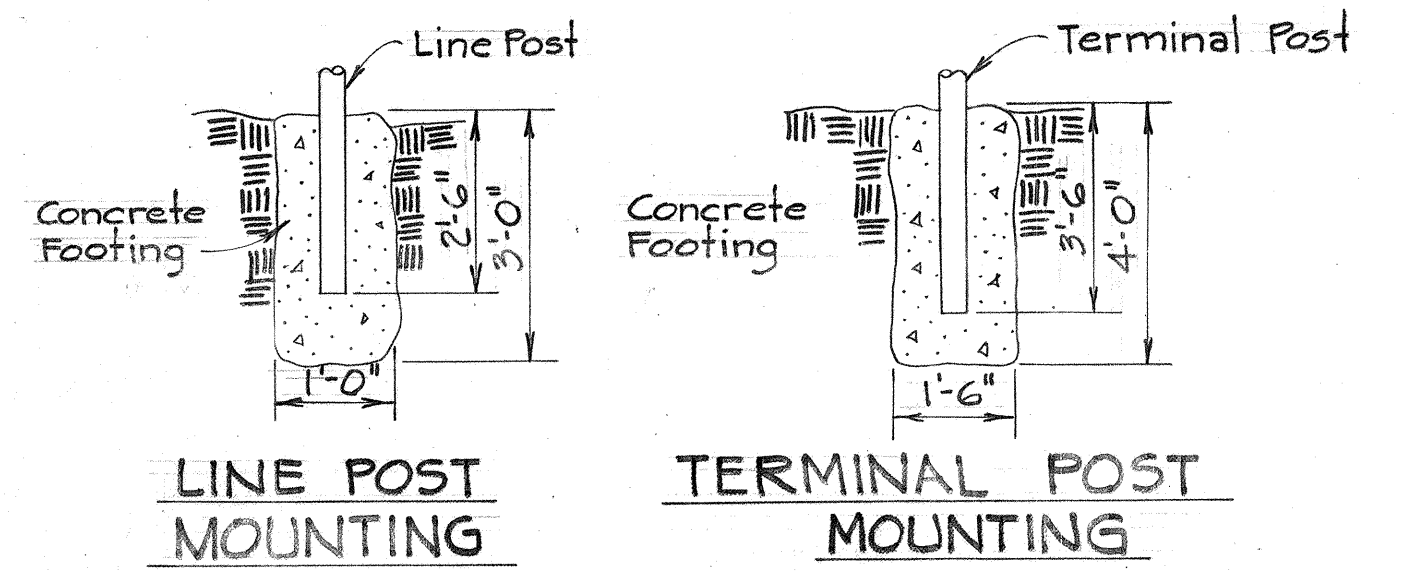
CHAMBERLEA SANITARY SEWERS
CHAMBERLEA PUMPING STATION
ELECTION DISTRICT NO. 2

DRAWING NO. 14 OF 17
SCALE AS SHOWN

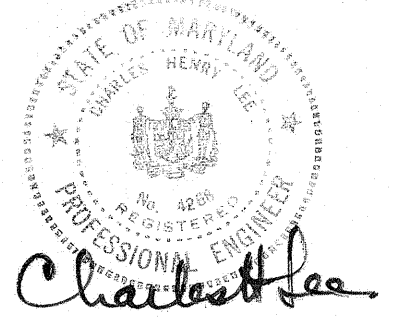
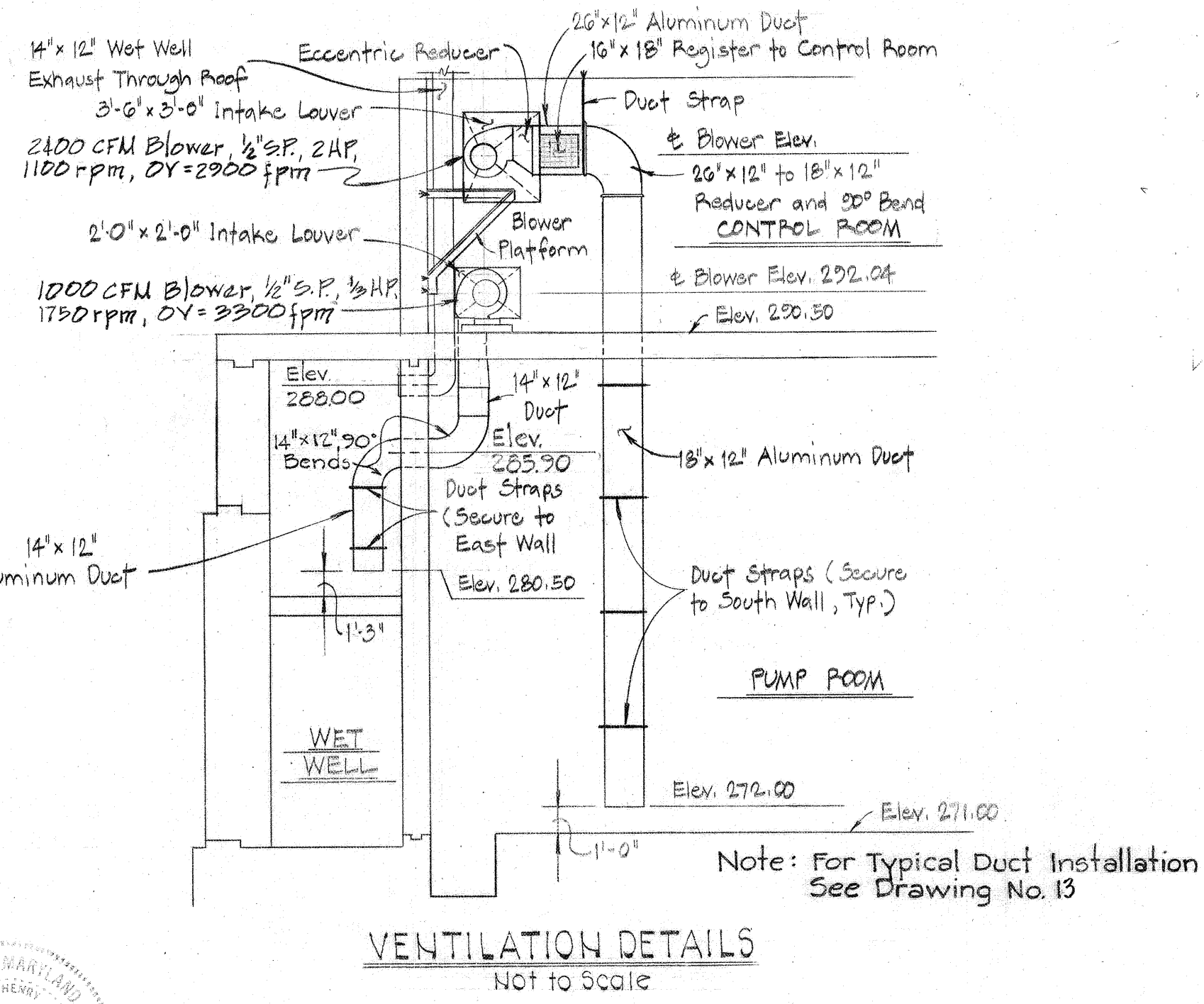
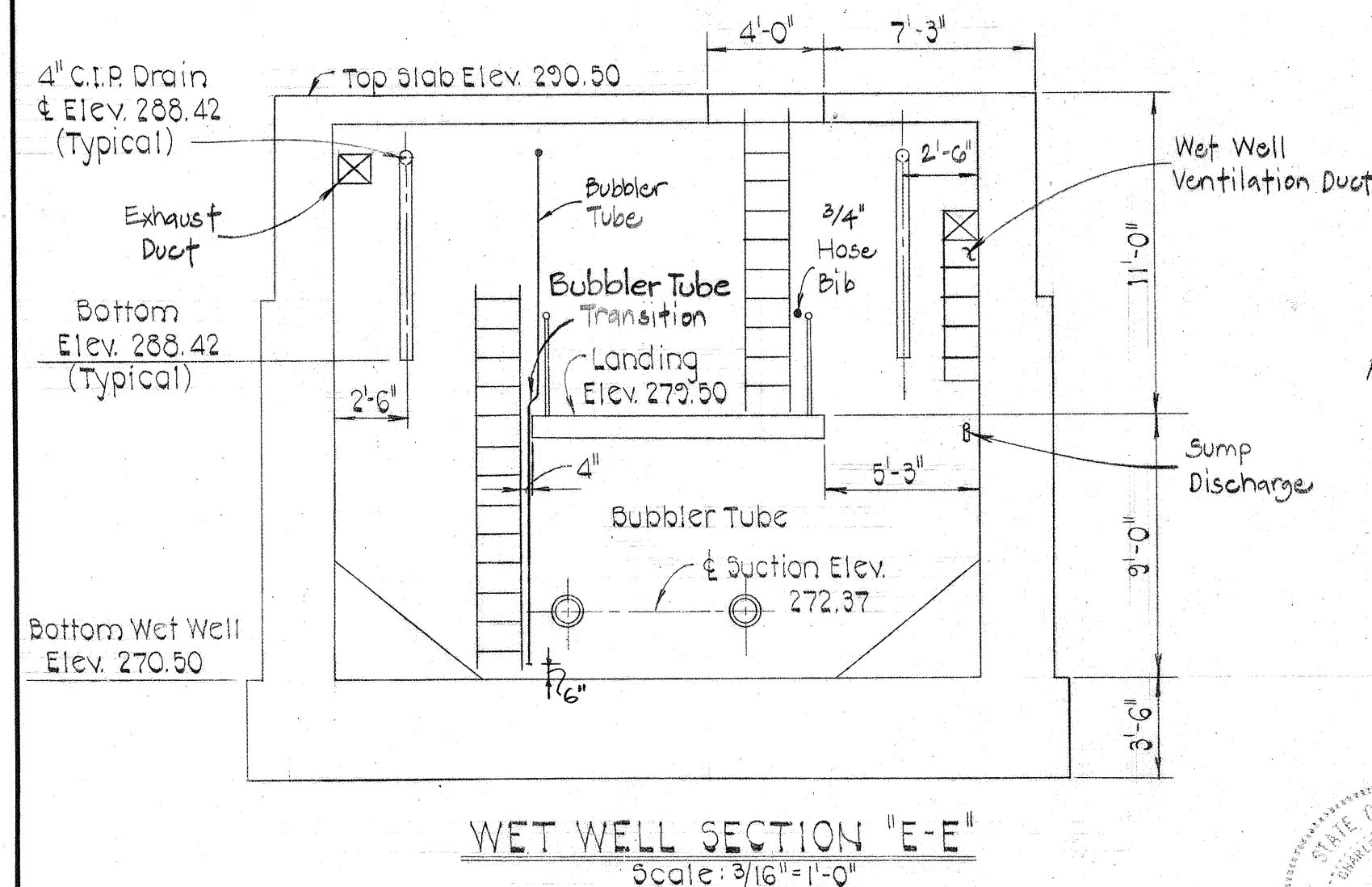
Designed: DJD
Drafted: ARZ
Checked: REP



LOUVER SCHEDULE			
NO.	LOCATION	TYPE	SIZE (H x W)
1	Generator Intake	COMB. WEATHER / MOTORIZED PALPEL	6'-0" x 5'-0"
2	Generator Exhaust	COMB. WEATHER / MOTORIZED PALPEL	6'-0" x 5'-0"
3	Control Room, Pump Room, Blower Intake	COMB. WEATHER / AUTOMATIC	3'-6" x 3'-0"
4	Wet Well Blower Intake	COMB. WEATHER / AUTOMATIC	2'-0" x 2'-0"
5	Control Room Exhaust	COMB. WEATHER / MOTORIZED PALPEL	2'-0" x 2'-0"
6	Wet Well Exhaust Vent	Fixed Weatherproof	1'-2" x 1'-2"



- NOTE:
1. Frame Members: Size 1 1/2" Steel Pipe (ASTM A-120)
 2. Terminal Post: Size 2 1/2" Steel Pipe (ASTM A-120)
 3. Brace Rail: Size 1 1/4" Steel Pipe (ASTM A-120)
 4. Line Post: 1 1/2" Steel Pipe (ASTM A-120) or 2 1/2" x 1 1/8" H Beam @ 4.1' per L.F.



DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Director of Public Works: [Signature] 8-23-81
 Chief Bureau of Engineering: [Signature] 8/23/81
 Chief Bureau of Utilities: [Signature] 8-23-81
 Chief Utility Division: [Signature] 8/23/81

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

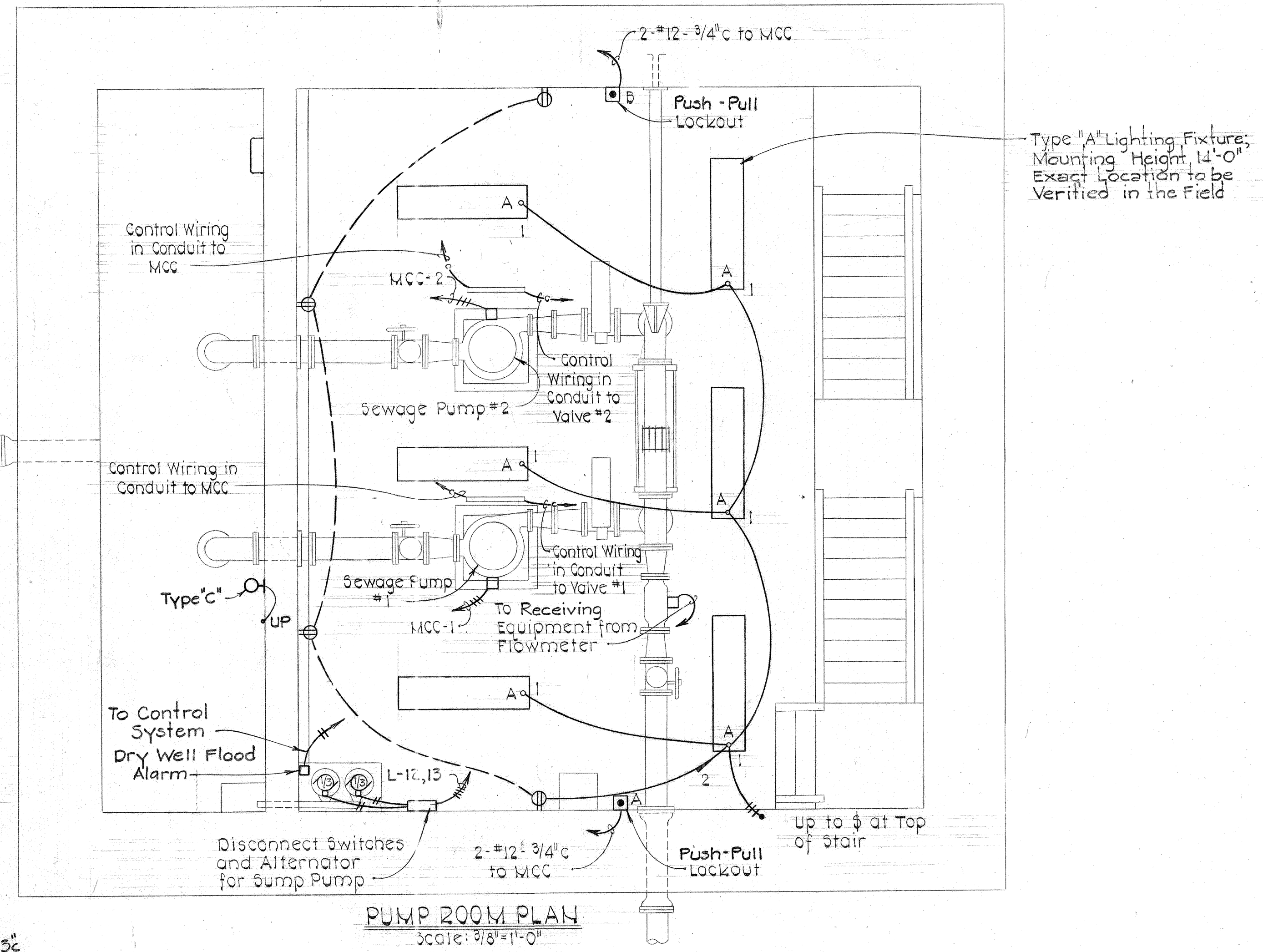
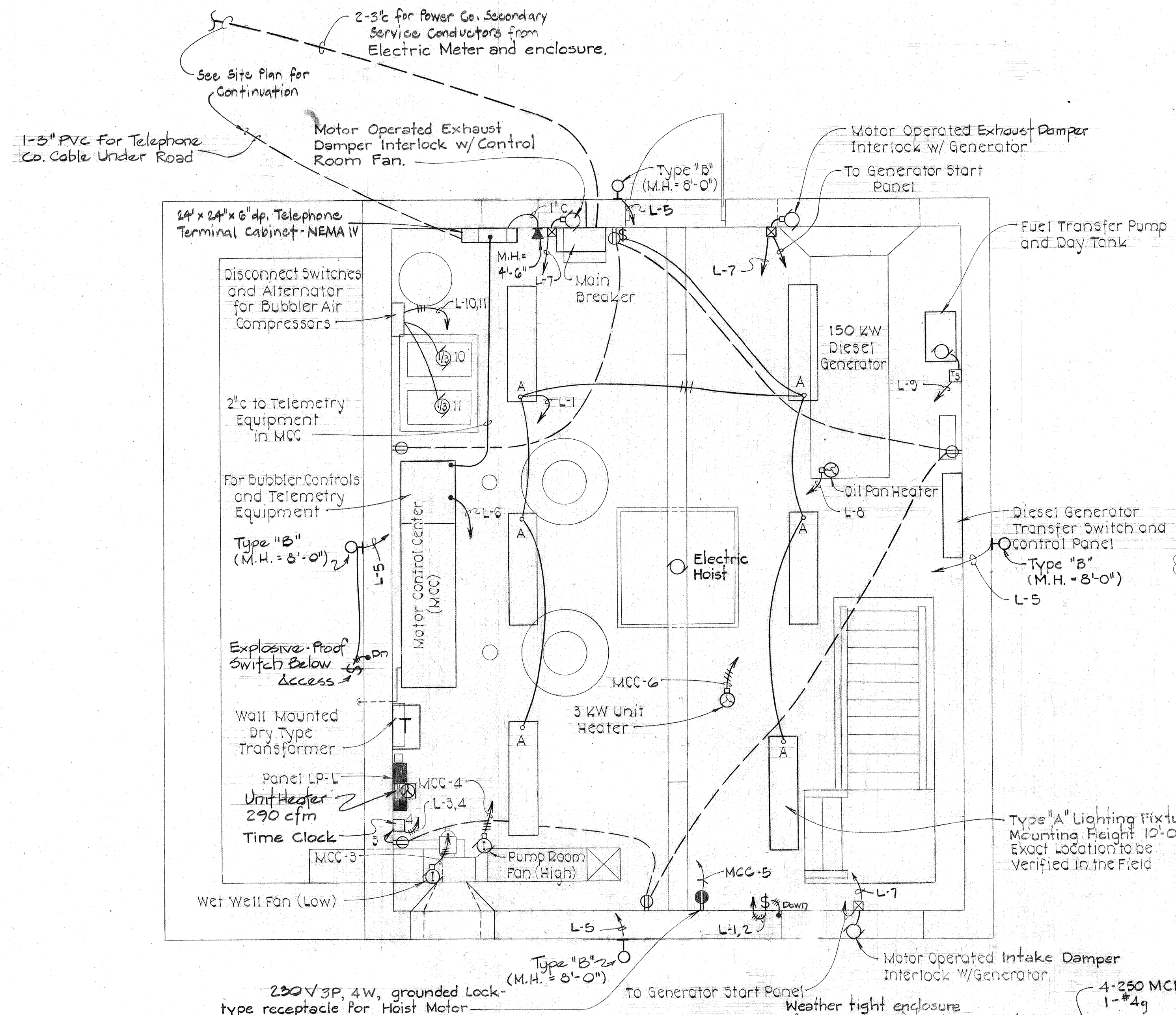
CONTRACT NO. 2742-S
 CAPITAL PROJECT NO. S-4-6067

MISCELLANEOUS
 DETAILS

CHAMBERLEA SANITARY SEWERS
 CHAMBERLEA PUMPING STATION
 ELECTION DISTRICT NO. 2

DRAWING NO. 15 OF 17
 SCALE AS SHOWN
 Designed: DJD
 Drafted: REC
 Checked: REP

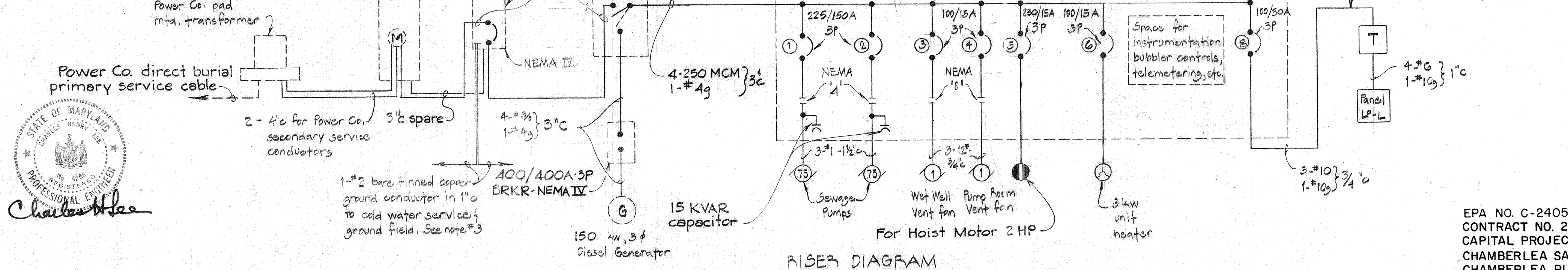
EPA NO. C-240594-01(14)
 CONTRACT NO. 2742-S
 CAPITAL PROJECT NO. S-4-6067
 CHAMBERLEA SANITARY SEWERS
 CHAMBERLEA PUMPING STATION



- NOTES:**
1. Starter size shall be as indicated in MCC; All starters shall be Combination Circuit Breaker Type. All starters shall be complete with H.O.A. switches, Fused Control Transformers for 120 Volts, Red (running) Indicator Light and Green (stopped) Indicator Light.
 2. Starter for Sewage Pumps shall be complete with Control Relay similar to Bulletin 700, Type B, Allen-Bradley for Motor Alternation.
 3. Ground Field shall consist of 4-3/4" ϕ x 10'-0" Copperweld Ground Rods in a square pattern near the Pad Mounted Transformer. Top of Rods shall be 2'-0" below Grade and interconnected with 1-1/2" Bare Tinned Copper Ground Conductor.

CONTROL ROOM PLAN
Scale: 3/8" = 1'-0"

PUMP ROOM PLAN
Scale: 3/8" = 1'-0"



RISER DIAGRAM
No Scale



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *William F. Naiman* 8/28/81
Chief Bureau of Engineering: *William E. Rade* 8/28/81
Chief Bureau of Utilities: *Robert J. Smith* 8/28/81
Chief Development Utility Division: *James J. Nease* 8/28/81

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

CONTRACT NO. 2742-S
CAPITAL PROJECT NO. S-4-6067

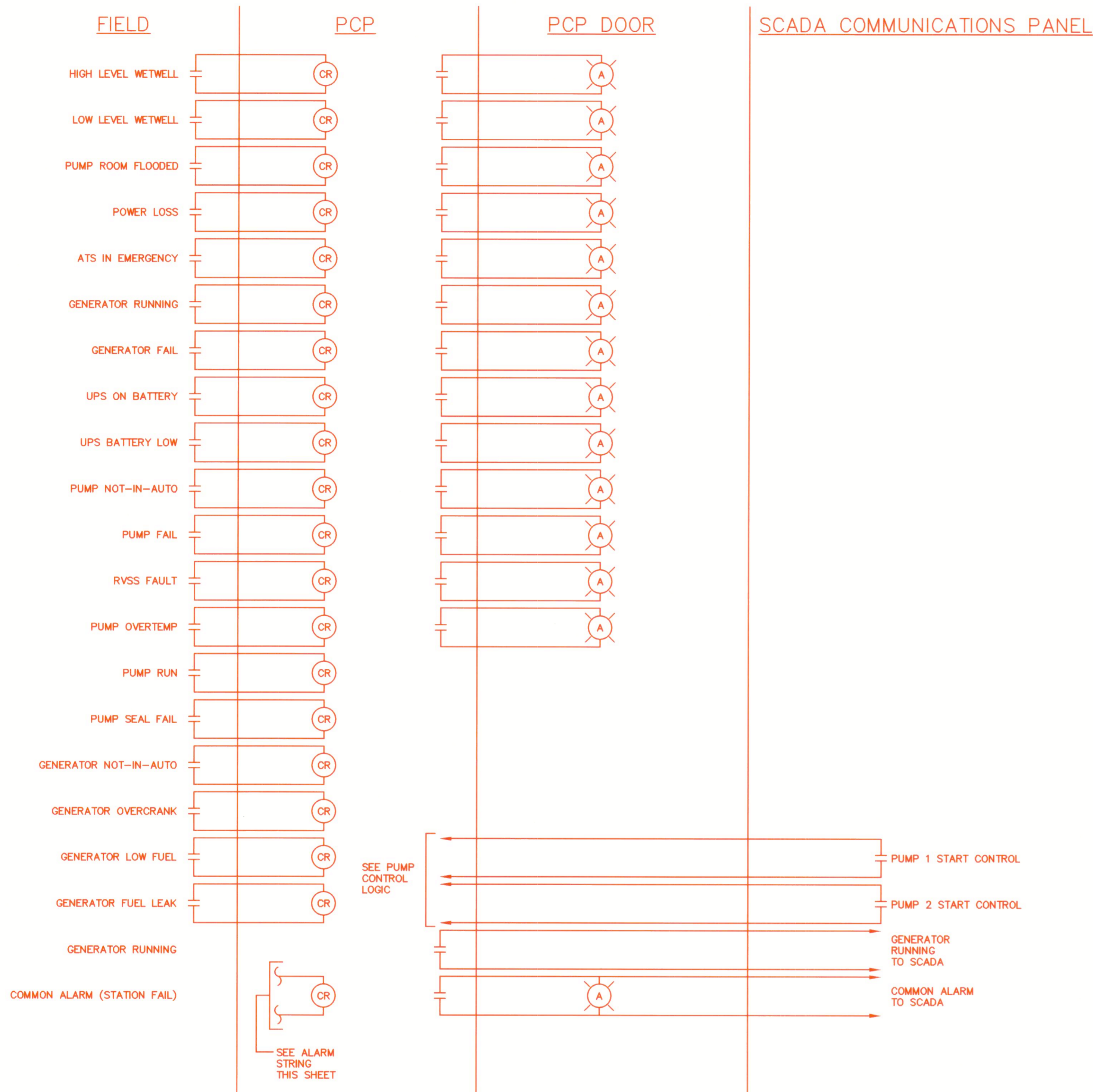
ELECTRICAL PLANS

CHAMBERLEA SANITARY SEWERS
CHAMBERLEA PUMPING STATION
ELECTION DISTRICT NO. 2

DRAWING NO. 16 OF 17
SCALE AS SHOWN
Designed: JH
Drafted: JH
Checked: REP

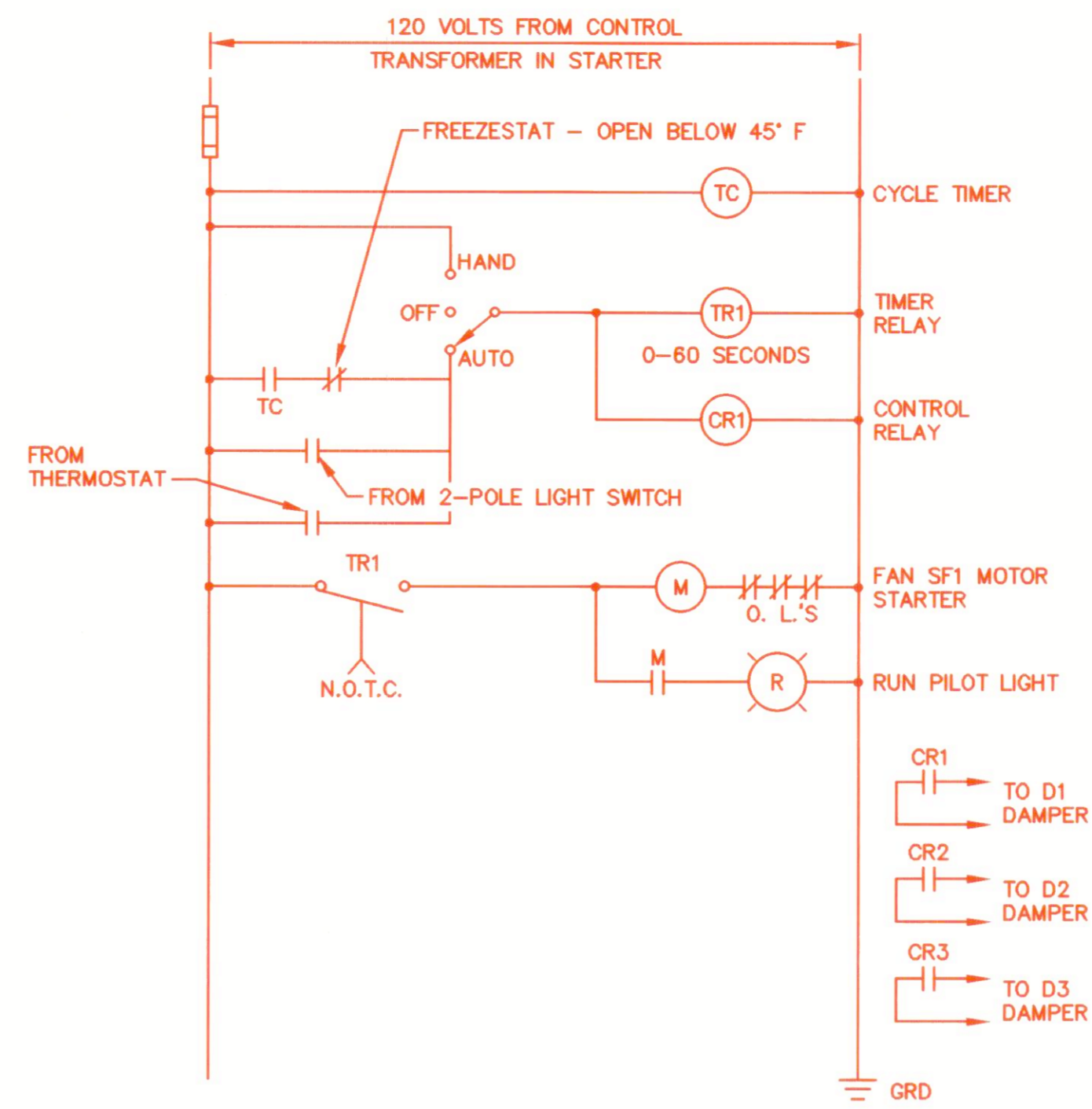
EPA NO. C-240594-01(14)
CONTRACT NO. 2742-S
CAPITAL PROJECT NO. S-4-6067
CHAMBERLEA SANITARY SEWERS
CHAMBERLEA PUMPING STATION

R00213135 - K:\projects\2017\171354-1450800A\Title 9 - Microelectronic Pumping Stations\Documents\PS\Control\Panel\171354-074-EP-17A.dwg Apr 12, 2018 - 11:47am Plot Scale: 1:1

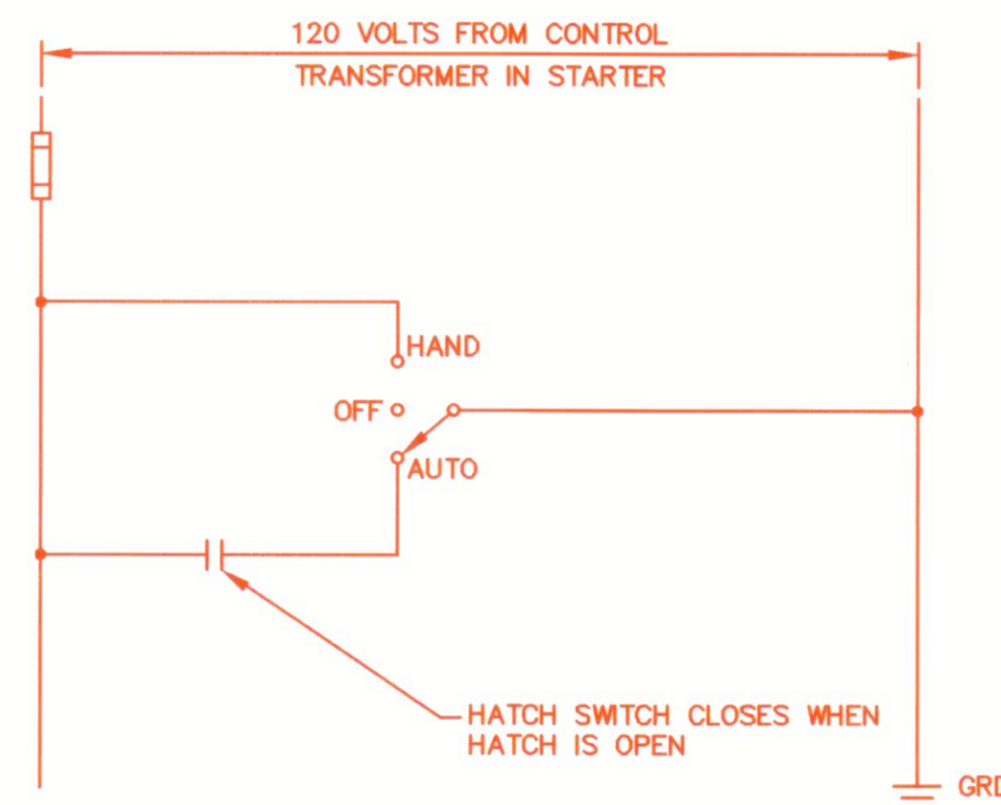


TYPICAL STATUS AND ALARM DIAGRAMS
NTS

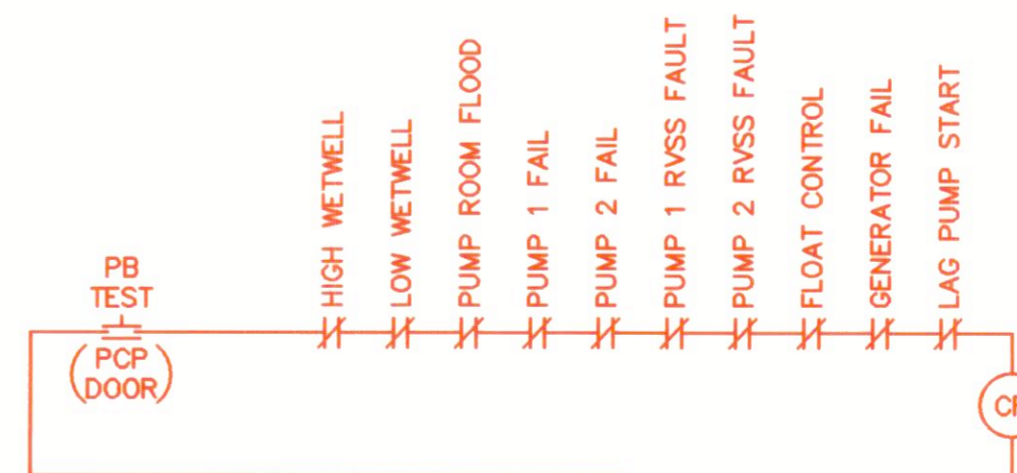
- NOTES:
- PUMP RELATED SIGNALS ARE TYPICAL FOR BOTH PUMPS.
 - CONTRACTOR SHALL PROVIDE 2-#14 IN CONDUIT TO PCP FOR EACH SIGNAL (OR INTERNAL TO MCC) AND TERMINATE ON TERMINAL STRIP PRIOR TO EXTENDING TO RELAY.
 - ALL RELAYS SHALL BE 4-POLE.
 - DRY CONTACTS (NORMALLY OPEN) SHALL FEED ALARM SIGNALS TO SCADA COMMUNICATIONS PANEL.
 - PROVIDE A MINIMUM OF SIX 4-POLE RELAYS MOUNTED IN PCP AS SPARES.



CONTROL SCHEMATIC - SUPPLY FAN SF1
NTS



CONTROL SCHEMATIC - EXHAUST FAN EF1
NTS

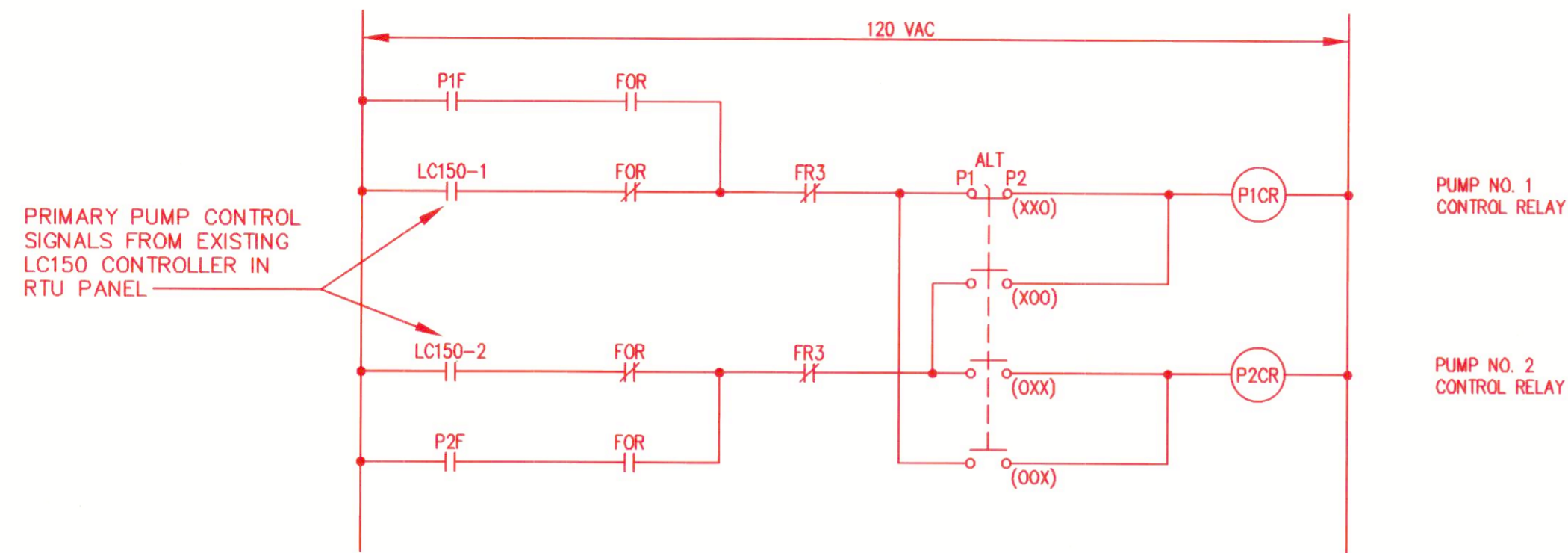


COMMON ALARM STRING (STATION FAILURE)
NTS

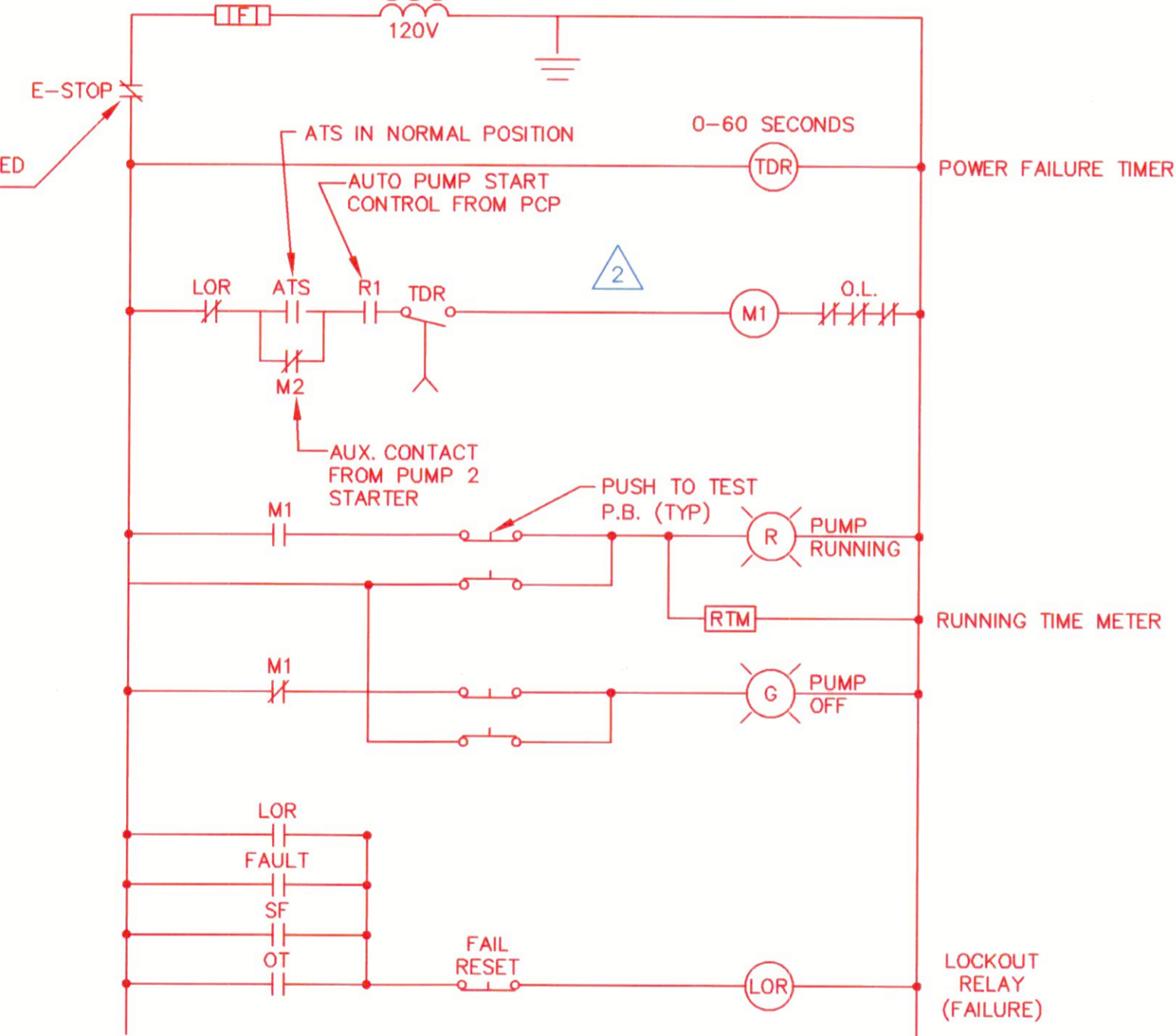
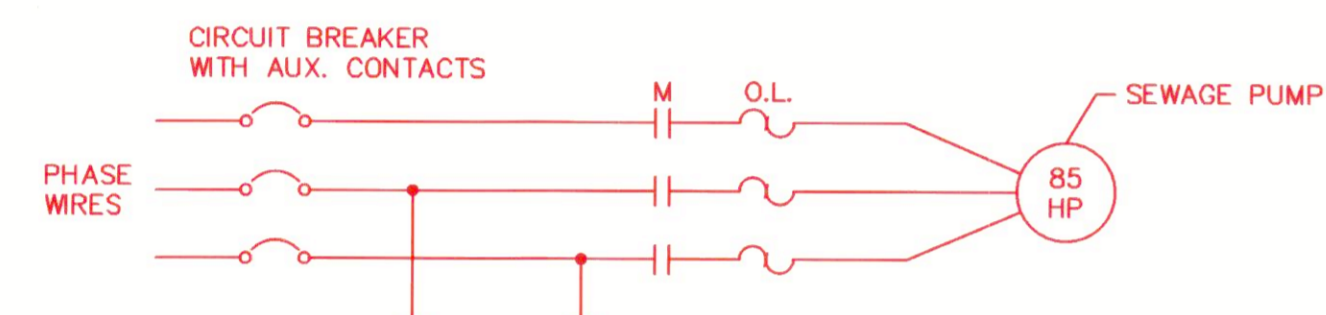
- NOTES:
- CONTRACTOR TO PROVIDE ALL NECESSARY RELAYS TO ACCOMPLISH CONTROLS AS SHOWN, AND PROVIDE A MINIMUM OF TWO SPARE OUTPUTS PER FAN.
 - ALL MOTOR STARTERS SHALL HAVE PHASE MONITORS (NOT SHOWN) FOR SINGLE PHASE PROTECTION (SEE SPECIFICATION).
 - MOTOR OPERATED DAMPERS SHALL BE ENERGIZED PRIOR TO FAN MOTORS BASED ON PRESET TIME DELAY WHERE SHOWN.
 - REFER TO MECHANICAL SPECIFICATIONS FOR VENTILATION OPERATION DESCRIPTIONS.

AS-BUILT 11/2020

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND		PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT REVISIONS INCLUDED IN THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. S1024 EXPIRATION DATE 10/17/2018				DES: JDM DRN: TJS CHK: JDM DATE: 3/30/18		RK&K 1 2018 UPGRADES - ADD SHEET 17A 3/18		ELECTRICAL DETAILS - 2018 UPGRADES		CHAMBERLEA PUMPING STATION 2018 UPGRADES CAPITAL PROJECT NO. S6264 CONTRACT NO. 742-S		SCALE NTS	
DIRECTOR OF PUBLIC WORKS DATE 4/20/18		CHIEF, BUREAU OF ENGINEERING DATE 4/13/18		CHIEF, BUREAU OF UTILITIES DATE 4/13/18		CHIEF, UTILITY DIVISION DATE 4/13/18		BY NO. REVISIONS DATE		MAP NO. 17 BLOCK NO. 8		ELECTION DISTRICT NO. 2 HOWARD COUNTY, MARYLAND		SHEET 17A OF 29	



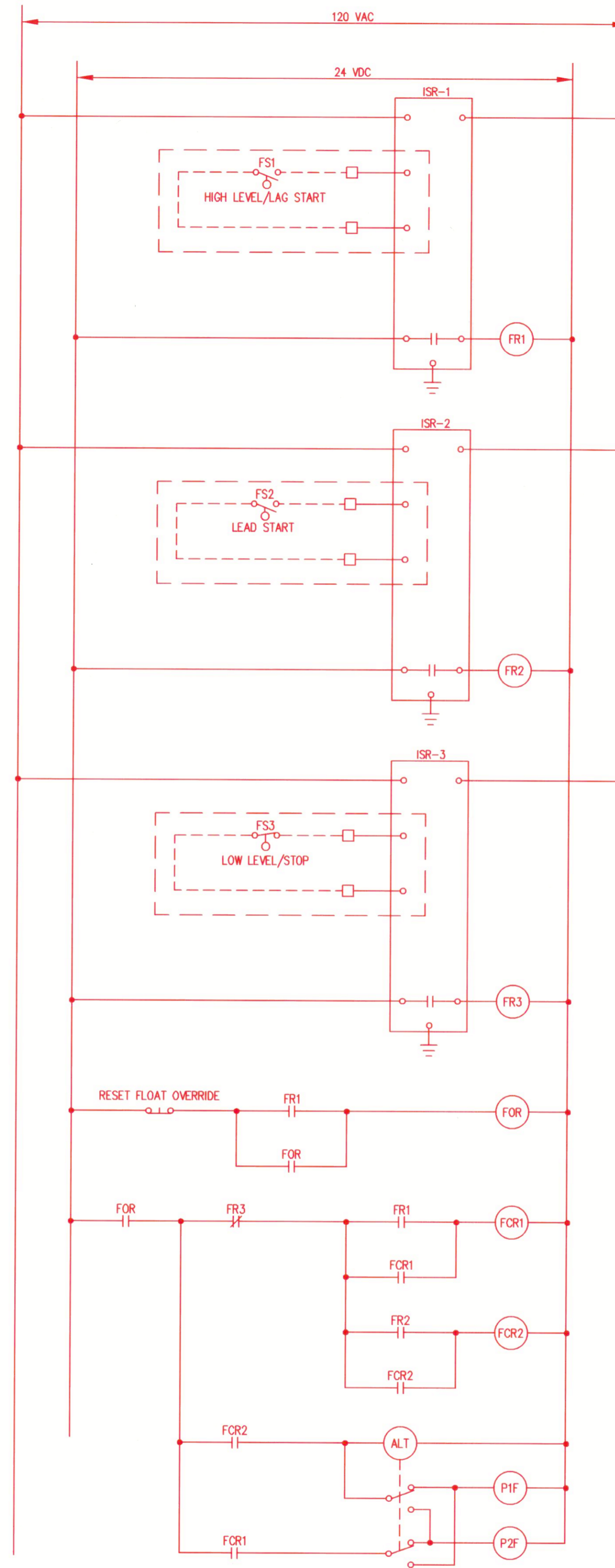
PRIMARY AND SECONDARY PUMP CONTROL AND ALTERNATION SELECTION
NTS



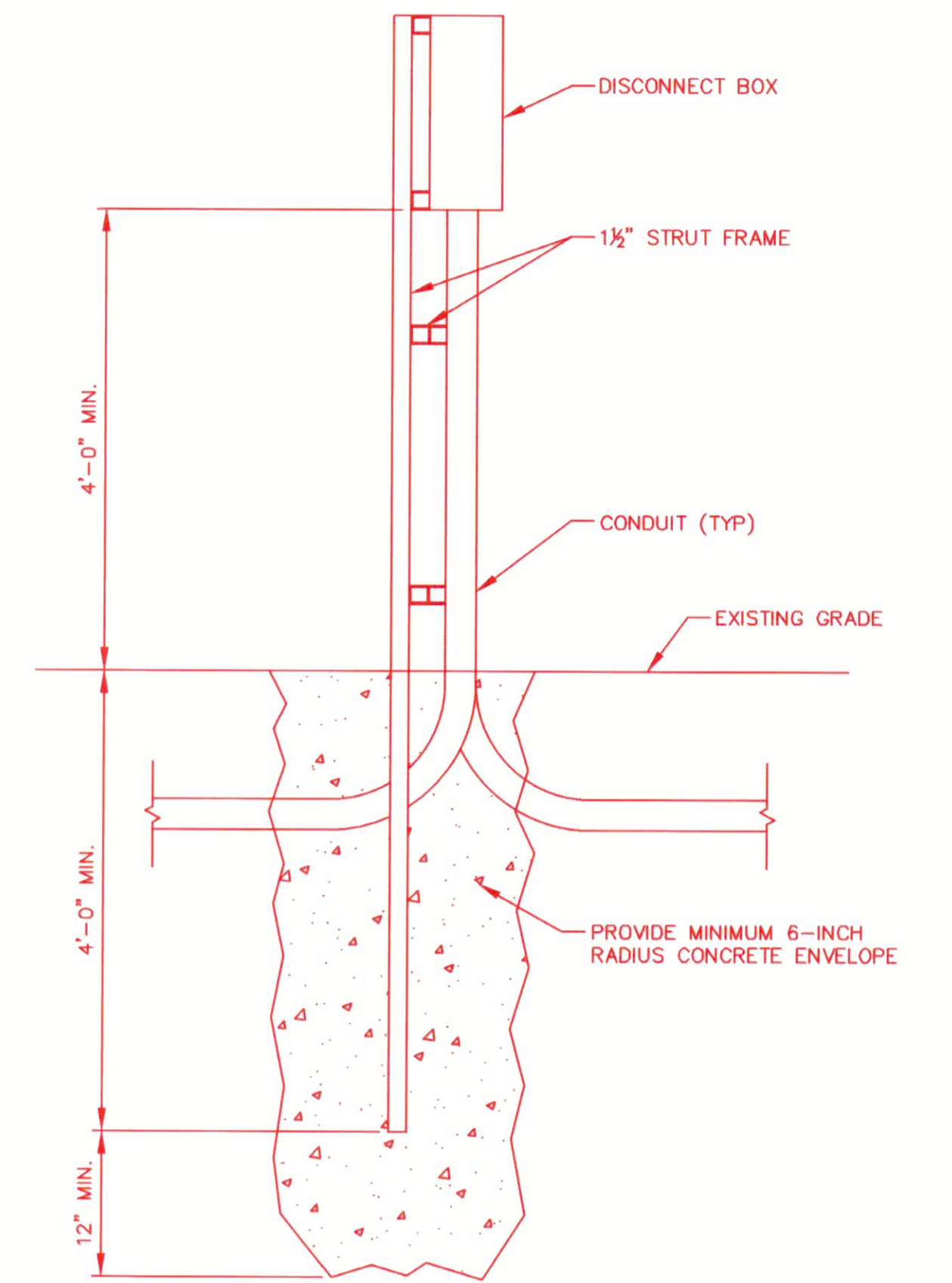
SEWAGE PUMP #1

NTS
(SEWAGE PUMP #2 SIMILAR EXCEPT R1 WILL BE R2, M1 WILL BE M2, AND M2 WILL BE M1)

NOTE:
1. PROVIDE ADDITIONAL ALARM PILOT LIGHTS ON RVSS DOOR FOR FAILURE, NOT-IN-AUTO, OVERTEMP AND SEAL FAIL. TRANSMIT THOSE SIGNALS TO PCP AS WELL, EXCEPT SEAL FAIL SHALL ONLY BE ANNUNCIATED ON RVSS DOOR.



BACKUP FLOAT CONTROLS
NTS



TYPICAL DISCONNECT MOUNTING DETAIL
NOT TO SCALE

AS-BUILT REPLACEMENT SHEET 11/2020

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] DATE *4/18/18*
DIRECTOR OF PUBLIC WORKS

[Signature] DATE *4/18/18*
CHIEF, BUREAU OF ENGINEERING

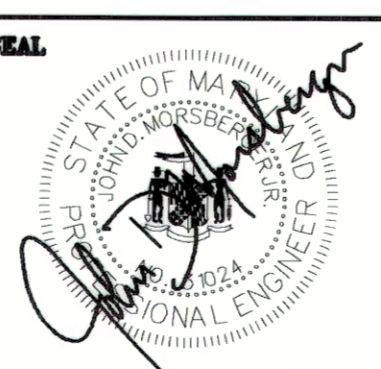
[Signature] DATE *4/18/18*
CHIEF, BUREAU OF UTILITIES

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT HEADLINE REVISIONS INCLUDED IN THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

LICENSE NO. 31024 EXPIRATION DATE 10/17/2018

RK&K RUMMEL, KLEPPER & KAHL, LLP
700 EAST PRATT STREET
SUITE 500
BALTIMORE, MARYLAND 21202



DES:	JDM			
DRN:	TJS			
CHK:	JDM	RK&K 2	REVISED BY CONTRACTOR - AS-BUILT	11/20
DATE:	3/30/18	RK&K 1	2018 UPGRADES - ADD SHEET 17B	3/18
BY:	NO.		REVISIONS	DATE

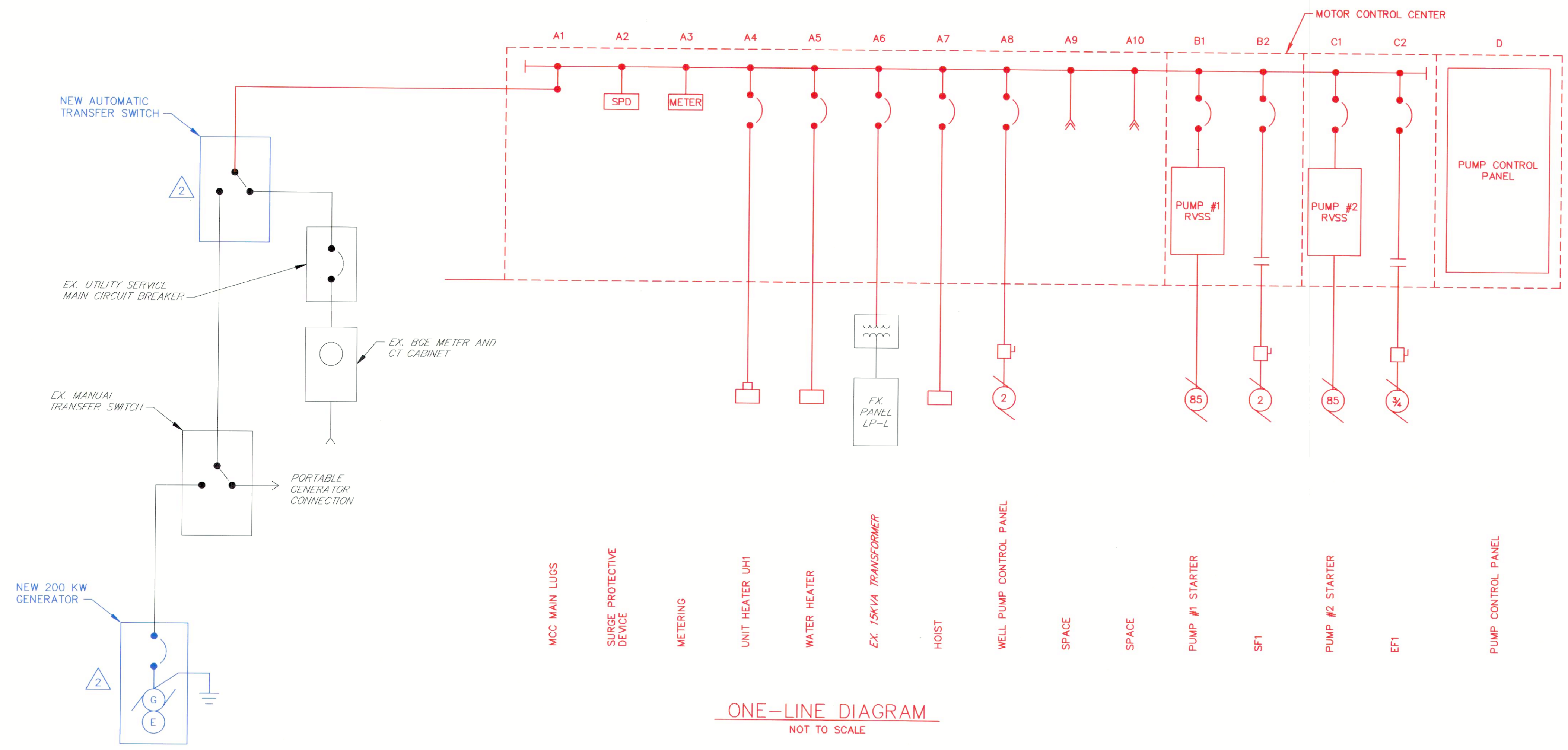
ELECTRICAL DETAILS -
2018 UPGRADES

MAP NO. 17 BLOCK NO. 8

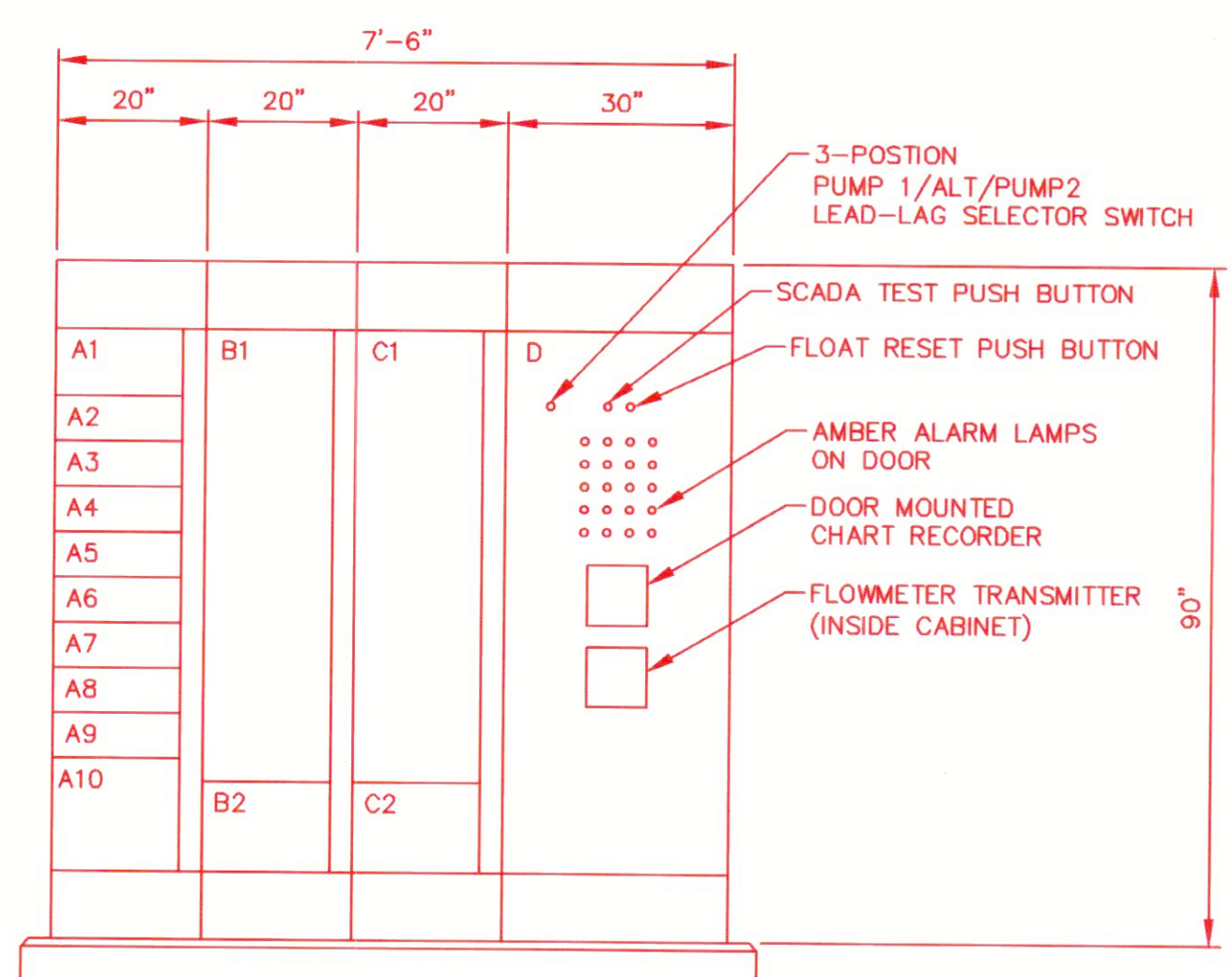
CHAMBERLEA PUMPING STATION
2018 UPGRADES
CAPITAL PROJECT NO. S6264
CONTRACT NO. 742-S
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND

SCALE
NTS

SHEET
17B OF 29



ONE-LINE DIAGRAM
NOT TO SCALE



MCC ELEVATION
NOT TO SCALE

- ALARM LAMP LEGEND**
- 1. HIGH LEVEL WETWELL
 - 2. LOW LEVEL WETWELL
 - 3. PUMP ROOM FLOODED
 - 4. STATION LOSS OF POWER
 - 5. ATS IN EMERGENCY
 - 6. GENERATOR RUNNING
 - 7. GENERATOR FAILURE
 - 8. UPS ON BATTERY
 - 9. UPS BATTERY LOW
 - 10. PUMP 1 NOT IN AUTO
 - 11. PUMP 2 NOT IN AUTO
 - 12. PUMP 1 FAIL
 - 13. PUMP 2 FAIL
 - 14. PUMP 1 RVSS FAULT
 - 15. PUMP 2 RVSS FAULT
 - 16. PUMP 1 OVERTEMP
 - 17. PUMP 2 OVERTEMP
 - 18. COMMON ALARM
 - 19. SPARE
 - 20. SPARE

MCC SCHEDULE												
480/277 VOLTS, 3 PHASE, 4 WIRE, 600 AMP BUS												
ITEM	DESCRIPTION	BRKR SIZE		FEEDER			STARTER			AUX. DES.	REMARKS	
		AMP	POLE	WIRE	QUAN	GRD	COND	TYPE	SIZE			HP
A1	MCC MAIN LUGS	-	-	350	4	3	4"	-	-	-	-	---
A2	SPD	-	-	-	-	-	-	-	-	-	-	---
A3	METERING	-	-	-	-	-	-	-	-	-	-	---
A4	UNIT HEATER UH1	30	3	10	3	10	3/4"	-	-	-	-	---
A5	WATER HEATER	30	3	10	3	10	3/4"	-	-	-	-	---
A6	EX. 15KVA TRANSFORMER	30	3	10	3	10	3/4"	-	-	-	-	---
A7	HOIST	20	3	12	3	12	3/4"	-	-	-	-	---
A8	WELL PUMP CONTROL PANEL	20	3	10	3	10	1"	-	-	-	-	---
A9	SPACE	-	-	-	-	-	-	-	-	-	-	---
A10	SPACE	-	-	-	-	-	-	-	-	-	-	---
B1	PUMP MOTOR #1	200	3	1	3	6	2"	RVSS	-	100	-	1,2,3,4,5 SEE NOTES 2 & 3
B2	SF1	20	3	12	3	12	3/4"	FVNR	1	2	120	1,2,3,5 SEE SCHEMATIC

MCC SCHEDULE (CONTINUED)												
480/277 VOLTS, 3 PHASE, 4 WIRE, 600 AMP BUS												
ITEM	DESCRIPTION	BRKR SIZE		FEEDER			STARTER			AUX. DES.	REMARKS	
		AMP	POLE	WIRE	QUAN	GRD	COND	TYPE	SIZE			HP
C1	PUMP MOTOR #2	200	3	1	3	6	2"	RVSS	-	100	-	1,2,3,4,5 SEE NOTES 2 & 3
C2	EF1	20	3	12	3	12	3/4"	FVNR	1	3/4	120	1,2,3,5 SEE SCHEMATIC
D	PUMP CONTROL PANEL	-	-	-	-	-	-	-	-	-	-	SEE NOTE 1

- NOTES:**
1. PROVIDE EMPTY MOTOR CONTROL CENTER SECTION FOR FABRICATION BY SYSTEM SUPPLIER.
 2. CONDUIT SHOWN IS MINIMUM SIZE. MOTORS ARE CONNECTED WITH CABLES PROVIDED BY THE PUMP MANUFACTURER. PROVIDE QUANTITY AND SIZE OF CONDUITS PER MANUFACTURER'S RECOMMENDATIONS. TERMINATE CONDUITS WITH BUSHING, IN LOCATION AS DIRECTED IN THE FIELD AND SUSPEND CABLES USING 316 STAINLESS STEEL HOOKS AND CABLE GRIPS.
 3. EQUIPMENT SHALL BE RATED FOR A MINIMUM OF 95 FULL LOAD AMPERES, BUT NOT LESS THAN STANDARD HORSEPOWER SHOWN.

AUXILIARIES FOR MOTOR CONTROL CENTER

1. HAND-OFF-AUTOMATIC SWITCH
2. INDICATING LIGHTS
3. 120 VOLTS CONTROL POWER TRANSFORMER
4. RUNNING TIME METERS AND START COUNTERS
5. AUXILIARY RELAYS/CONTACTS

AS-BUILT REPLACEMENT SHEET 11/2020

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

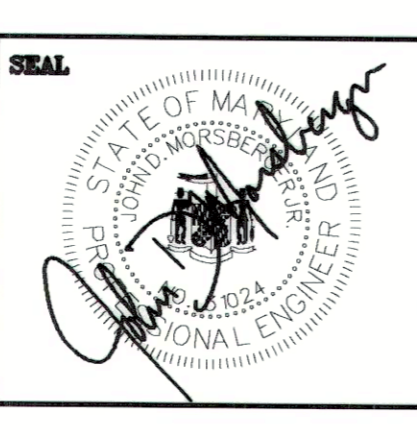
DIRECTOR OF PUBLIC WORKS: *[Signature]* DATE: 4/12/18
CHIEF, BUREAU OF UTILITIES: *[Signature]* DATE: 4/12/18

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT REDLINE REVISIONS INCLUDED IN THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

LICENSE NO. 31024... EXPIRATION DATE 10/17/2018

RK&K RUMMEL, KLEPPER & KAHL, LLP
700 EAST PRATT STREET
SUITE 500
BALTIMORE, MARYLAND 21202



DES:	JDM			
DRN:	TJS			
CHK:	JDM	RK&K 2	REVISED BY CONTRACTOR - AS-BUILT	11/20
DATE:	3/30/18	RK&K 1	2018 UPGRADES - ADD SHEET 17C	3/18
BY	NO.	REVISIONS		DATE

MCC SCHEDULE, ELEVATION & ONE-LINE DIAGRAM - 2018 UPGRADES

MAP NO. 17 BLOCK NO. 8

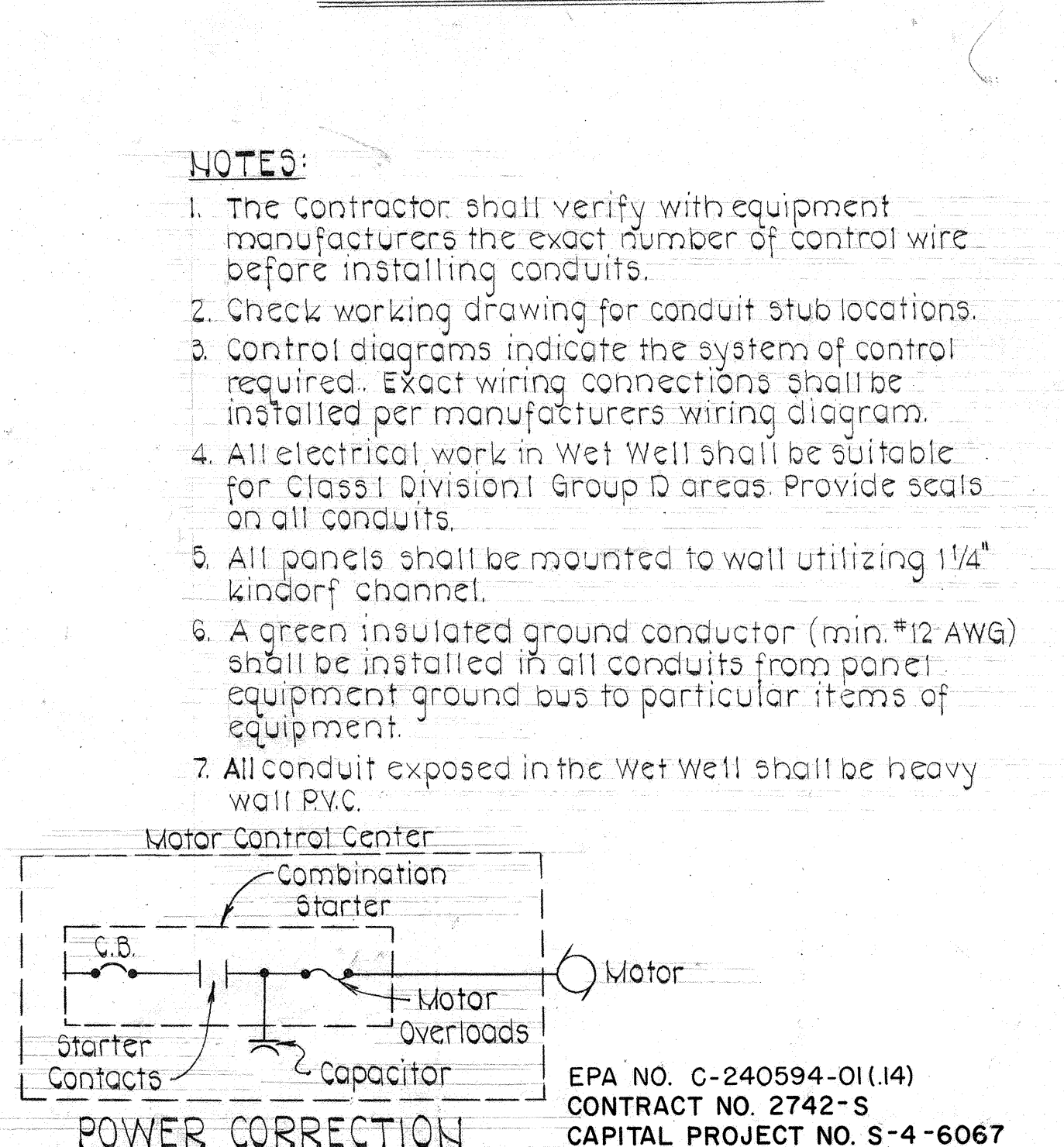
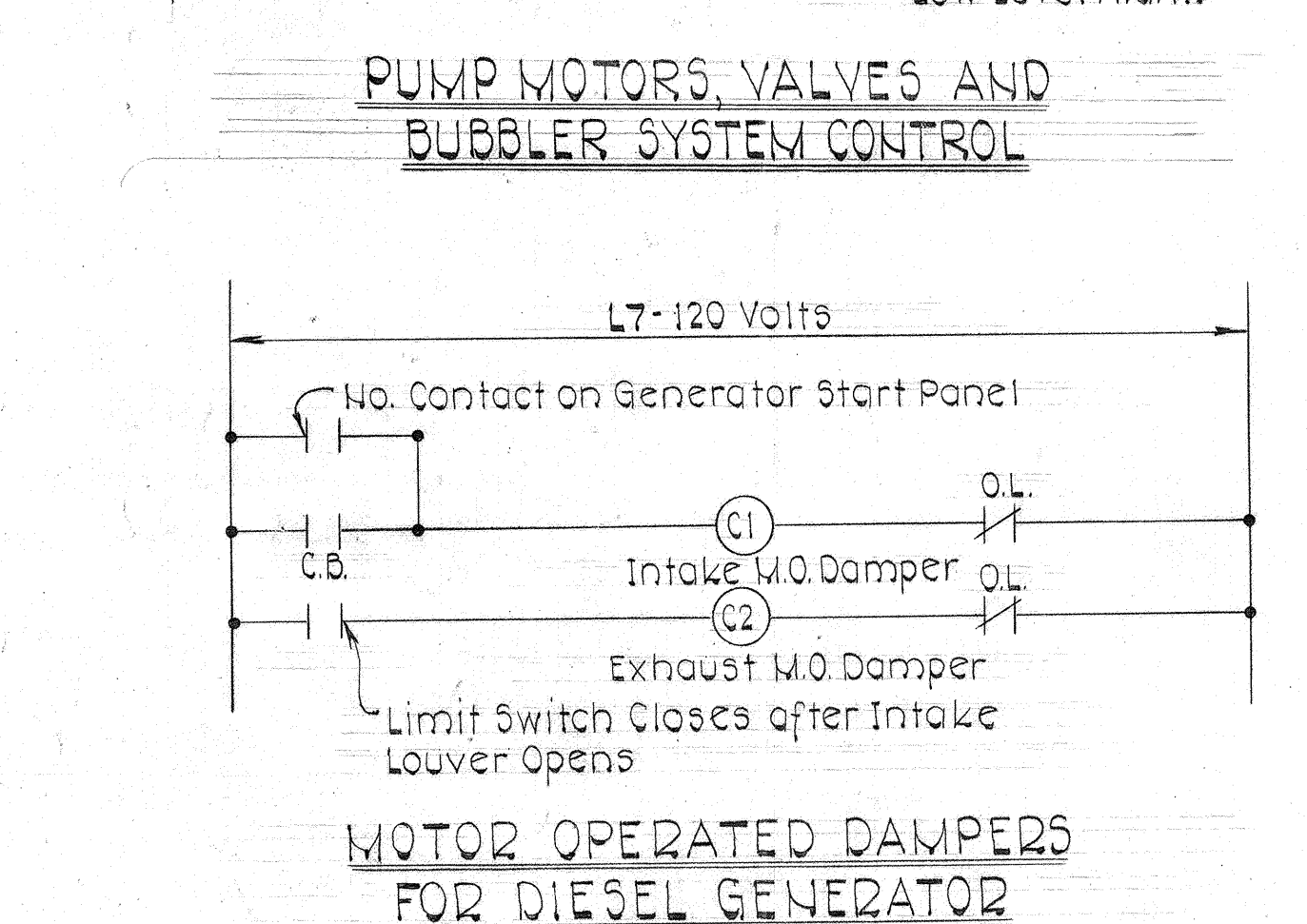
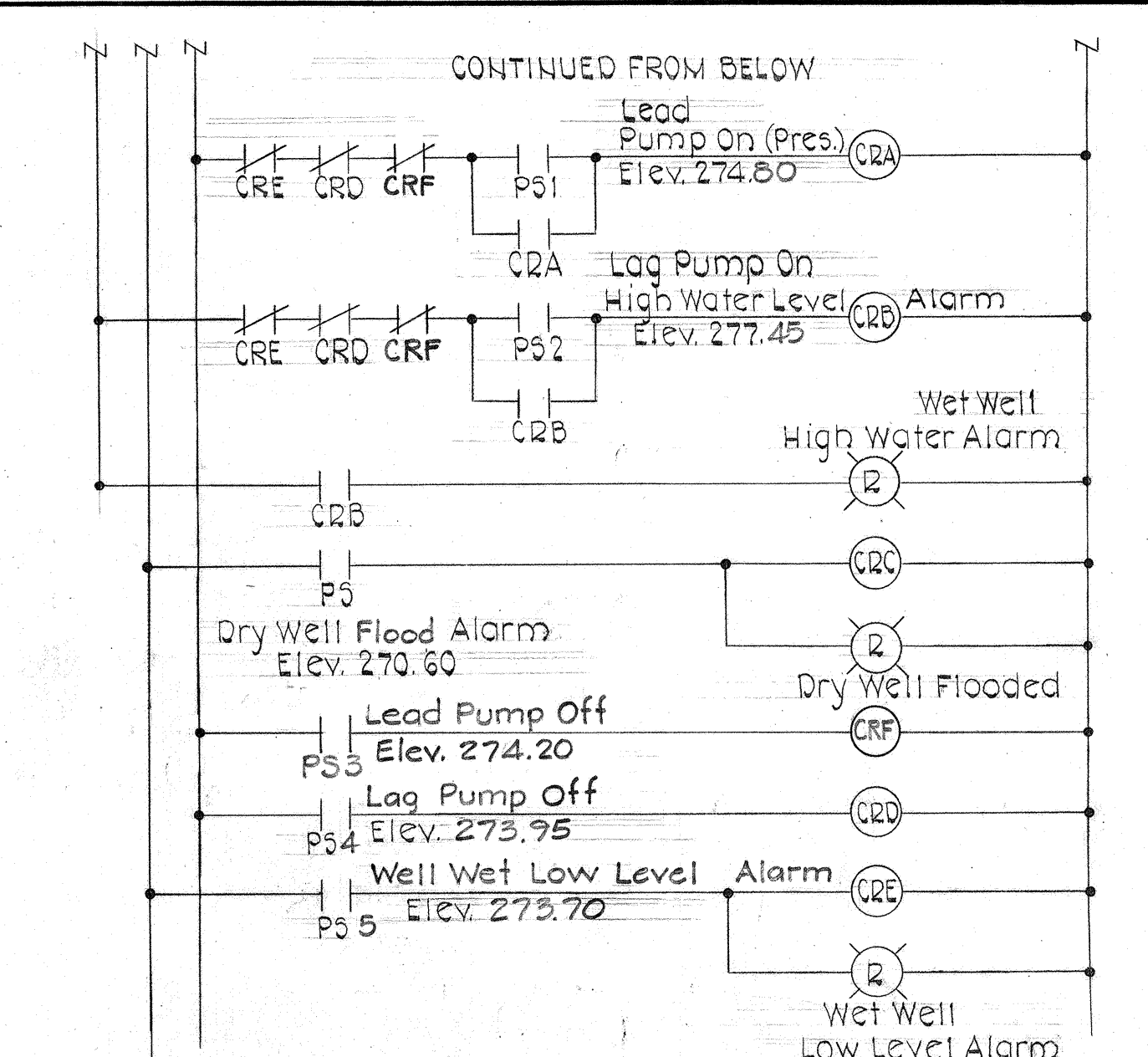
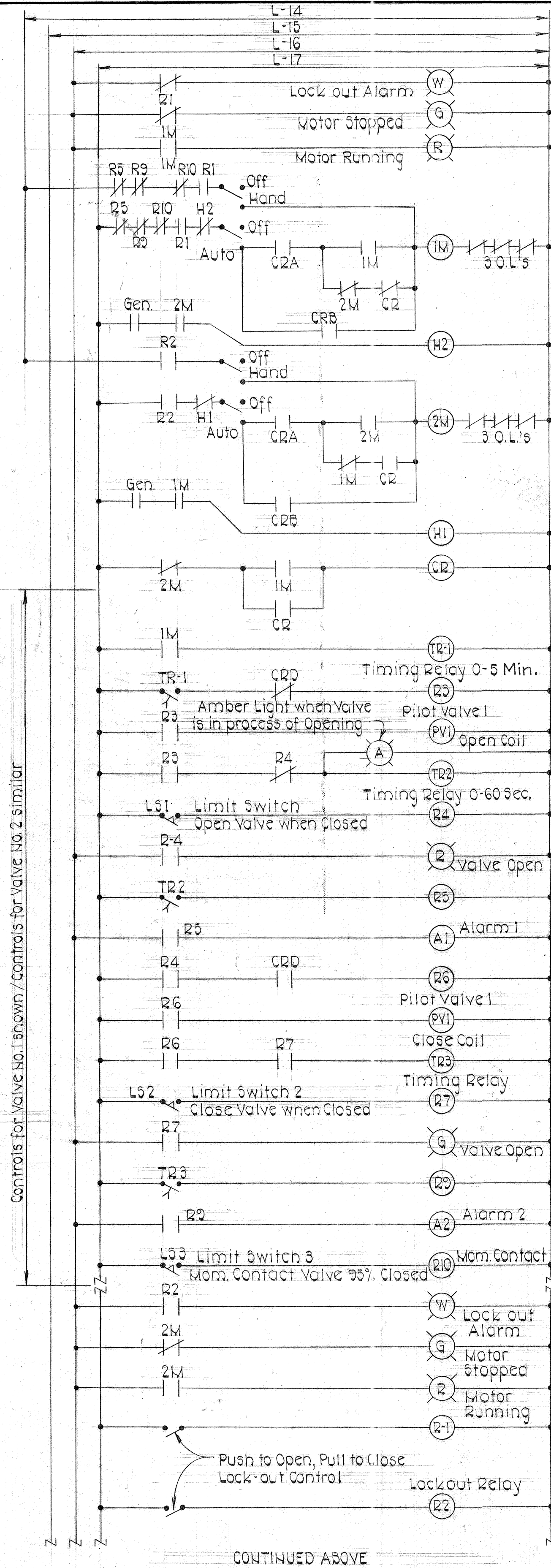
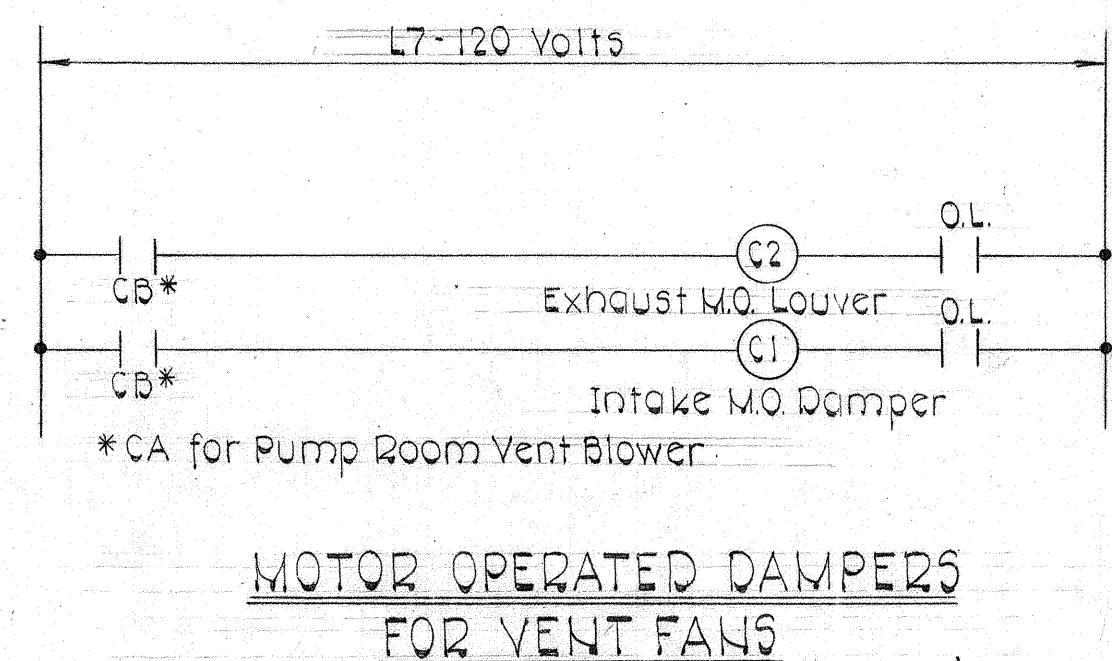
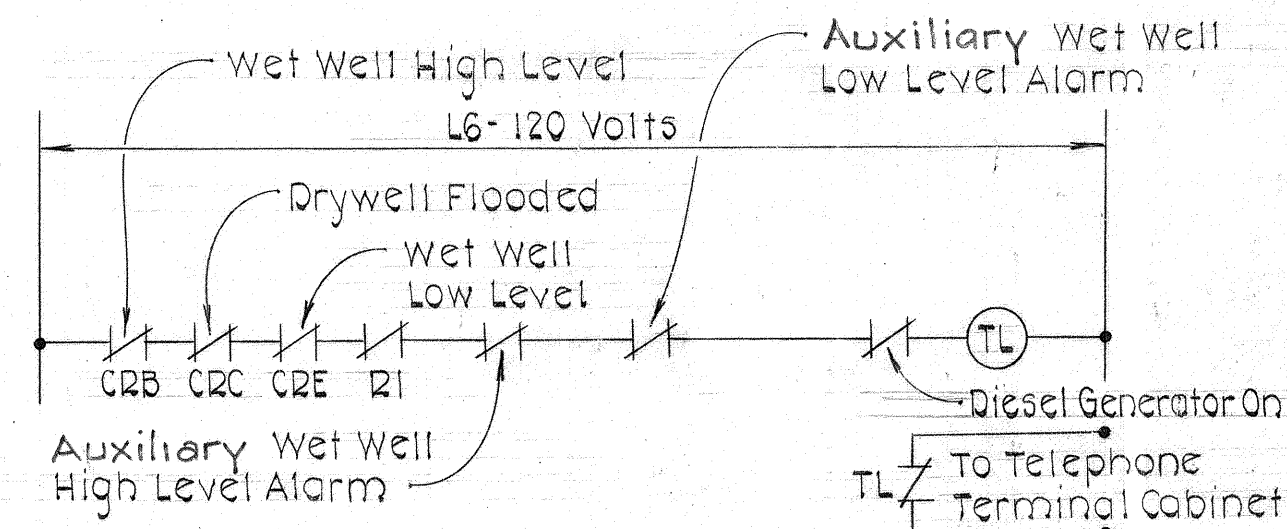
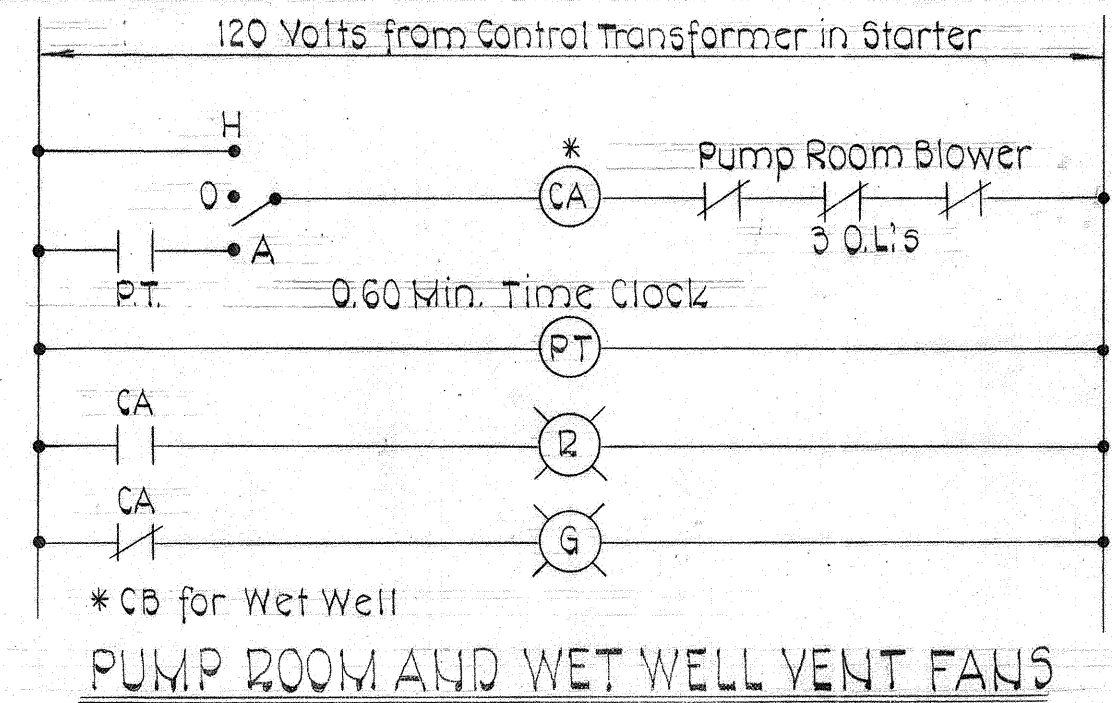
CHAMBERLEA PUMPING STATION
2018 UPGRADES
CAPITAL PROJECT NO. S6264
CONTRACT NO. 742-S

ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND

SCALE
3/8"=1'-0"
SHEET
17C OF 29

ELECTRICAL LEGEND	
SYMBOL	DESCRIPTION
	Fixture, Fluorescent
	Fixture, Incandescent - Ceiling Wall Bracket
S, Sa	Switch - Single Pole - M.H. 4'-0" Subscript Denotes Outlets Controlled
	Receptacle - 20A, 125 V. - Duplex - M.H. 3'-0" Pump Room M.H. 5'-0"
	Receptacle - 20A, 125 V. - Single - M.H. 3'-0"
	Receptacle - Clock Hanger 15 A., 125 V., M.H. 7'-6"
	Junction Box
	Motor - Horsepower as Indicated
	Thermostat - M.H. 5'-0"
	Percentage Timer
	Time Clock - M.H. 5'-6" to Top
	Control Device as Indicated on Plans
	Electrical Convector w/Integral Thermostat
	Panelboard - M.H. 6'-6" to Top
	Unfused Disconnect Switch - M.H. 5'-6" to Top
	Thermal Manual Motor Starter w/Hand-Off-Auto Selector Switch - M.H. 5'-0"
	Conduit - In or On Ceiling or Wall 2" 1/2, 3/4" C. Unless Otherwise Noted
	Conduit - In or Under Floor
	Home-run to Panel. No. of Arrows Indicate No. of Circuits and No. of Crosslines Indicate No. of Conductors.
	Mounting Height to Center of Outlet Unless Otherwise Indicated
	Weatherproof
	Explosion-Proof
	Outlet, Telephone, Wall M.H. 1'-0" Above Floor w/1" C to T.T.C.
	Ground Rod, 3/4" x 10'-0" Copperclad
	Exothermically Welded Connection
	Solenoid Valve
	Fixture - Mercury Vapor
	Combination Magnetic Starter (MCC)
	Contactors
	Starter Call (One Line Diagram)
	Indicating Light - Red - Heavy Duty Type
	Timer Relay Contact (One Line Diagram)
	Time Delay Relay
	Overload Relay in Starter
	Aux. Contact Normally Open
	Aux. Contact Normally Closed

SCHEDULE OF PANEL LP-L					
208/120 VOLTS, 3 PHASE, 4 WIRE, 60A MAIN BREAKER W/EQUIPMENT GROUND BUS					
CKT. NO.	DESCRIPTION	CIRCUIT BREAKER			REMARKS
		POLES	TRIP	FRAME	
1	Lights Pump Room and Control Room	1	20A	100A	Ground Fault Breakers
2	Pump Room Receptacles	1	20A	100A	
3	Control Room Receptacles	1	20A	100A	
4	Time Clock	1	20A	100A	
5	Exterior Lights	1	20A	100A	
6	Telemetry/Bubbler Controls	1	20A	100A	
7	Motor Operated Dampers	1	20A	100A	
8	Oil Pan Heater	1	20A	100A	
9	Fuel Transfer Pump	1	15A	100A	
10	Air Compressor	1	15A	100A	
11	Air Compressor	1	15A	100A	
12	Sump Pump	1	15A	100A	
13	Sump Pump	1	15A	100A	
14-17	Controls	1	20A	100A	
18-21	Spares	1	20A	100A	
22-24	Spares	1	15A	100A	



LIGHTING FIXTURE SCHEDULE				
TYPE	DESCRIPTION	LAMP	MOUNTING	CATALOG NO.
A	4' Fluorescent U.L. Listed Enclosed and Gasketed with Clear Acrylic Diffuser and O'F Ballast	2-40W T-12 Cool White	stem	Benjamin FA-2224-4R Daybrite TR-41241 or equal.
B	M.V.-proof Wall Bracket Cast Al., Prismatic Reflector.	1-100W Hg.	Wall	Holophane 412-120 McPhlben 22A2241JB or equal.
C	Incandescent Explosion-proof	1-200W A-23	Wall	Benjamin 7604-BX Appleton AN15150 or equal.

NOTES:

- Type "A" Fixtures shall be complete with Swivel Alignment Hangers. Stems and Hangers shall be painted.
- Type "B" Fixtures shall be complete with Tamperproof Hardware.

STATE OF MARYLAND
 CHARLES H. LEE
 PROFESSIONAL ENGINEER
 No. 12345

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Director of Public Works: Howard County
 Chief Bureau of Engineering: [Signature]
 Chief Bureau of Utilities: [Signature]

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

CONTRACT NO. 2742-S
 CAPITAL PROJECT NO. S-4-6067

ELECTRICAL DETAILS

CHAMBERLEA SANITARY SEWERS
 CHAMBERLEA PUMPING STATION
 ELECTION DISTRICT NO. 2

DRAWING NO. 17 OF 17
 SCALE AS SHOWN
 Designed: JH
 Drafted: ARZ
 Checked: REP