

DEPARTMENT OF PUBLIC WORKS

EDGAR ROAD WATER PUMPING STATION

PERMIT INFO CHART

SUBDIVISION NAME	EDGAR ROAD WATER PUMPING STATION
SECT/AREA	N/A
PARCEL NO.	269
PLAT NO.	24343
GRID NO.	17
ZONING	NT
TAX MAP	30
ELECTION DISTRICT	2
CENSUS TRACT	602302

ADDRESS CHART

LOT/PARCEL #	STREET ADDRESS
61/0269	4901 EDGAR ROAD, ELLICOTT CITY MD

CONTRACT NO. 44-1917

CAPITAL PROJECT NO. W-8129

GENERAL NOTES

1. THE REDLINE REVISION INCLUDES THE PROPOSED HOWARD COUNTY SMARTMOD FACILITY. THE SMARTMOD FACILITY WILL HOUSE COMPUTER SERVERS.
2. THE ADDITION TO THE SMARTMOD FACILITY DOES NOT REQUIRE PLANNING BOARD APPROVAL SINCE THE PROPOSED CLEARING AND GRADING DOES NOT EXCEED 5,000 SF.
3. THE SMARTMOD FACILITY DOES NOT REQUIRE FULL TIME EMPLOYEE OPERATION.

PART I

GENERAL NOTES

1. 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.
2. ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES.
3. ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATA.
4. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
5. CLEAR ALL UTILITIES BY A MINIMUM OF 6". CLEAR ALL POLES BY 2'-0" MINIMUM OR TUNNEL AS REQUIRED.
6. FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION. THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
7. WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL AT THE LOCATION OF THE TEST PIT. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS AND IN THE SPECIFICATIONS (APPENDIX). EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
8. CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
STATE HIGHWAY ADMINISTRATION - 531-5533
BALTIMORE GAS & ELECTRIC CO. - CONTRACTOR SERVICES 850-4620
BALTIMORE GAS & ELECTRIC CO. UNDER GROUND DAMAGE CONTROL - 859-9004
BALTIMORE GAS & ELECTRIC CO. TROUBLE SHOOTING - 298-9001
MISS UTILITY - 1-800-257-7777
COLONIAL PIPELINE CO. - 795-1390
BUREAU OF UTILITIES, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS - 992-2366
9. TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
10. CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN PRICES BID FOR CONSTRUCTION.

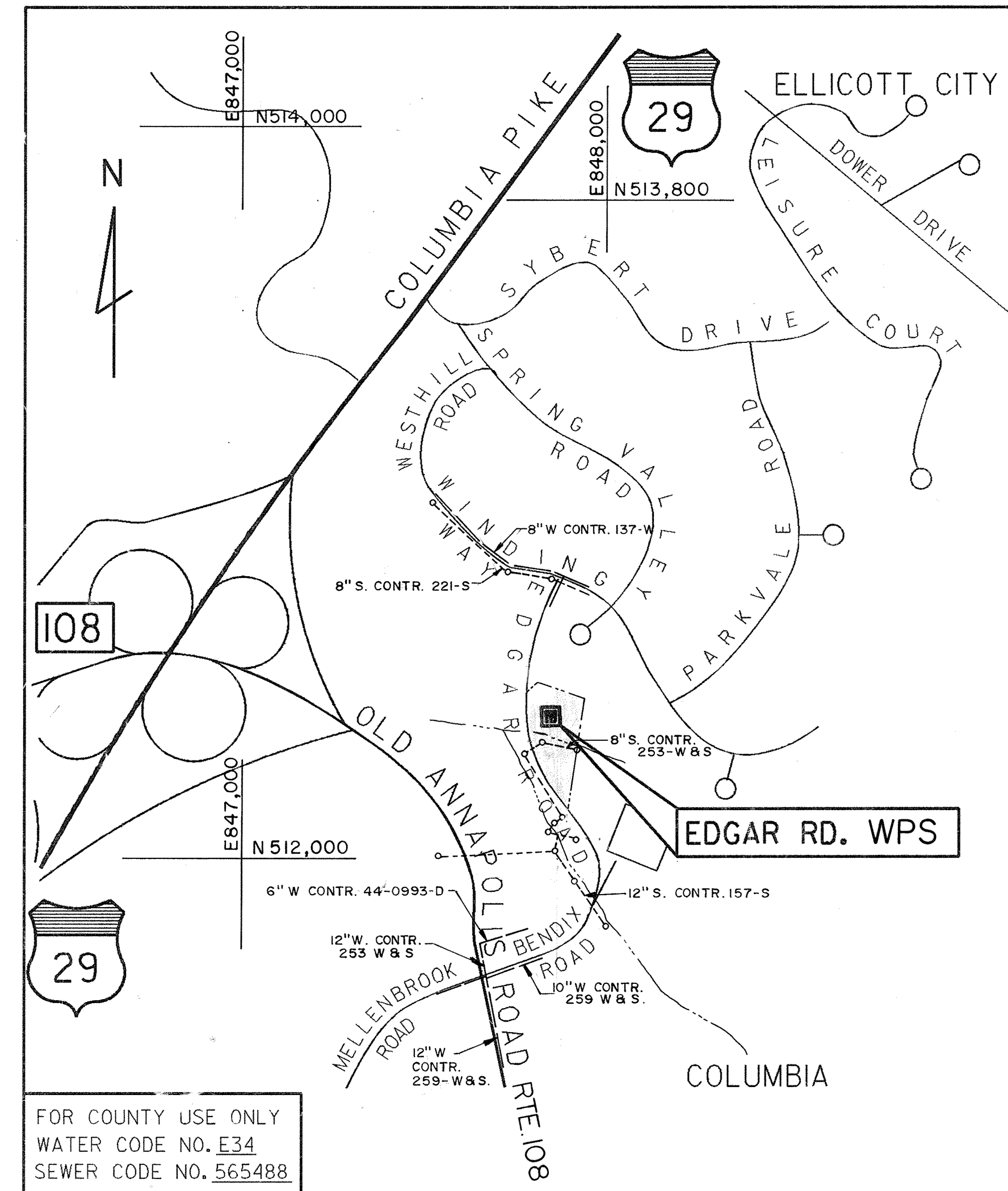
NOTE: REFER TO FDP-36-A FOR SETBACKS AND OTHER REQUIREMENTS IN OAKLAND RIDGE INDUSTRIAL PARK, SECTION 3

PART II - WATER

1. ALL WATER MAINS TO BE D.I.P. CLASS 52 UNLESS OTHERWISE NOTED.
2. TOPS OF ALL WATER MAINS TO HAVE A MINIMUM OF 3-1/2' COVER UNLESS OTHERWISE NOTED.
3. VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
4. ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
5. THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.

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7	ARCHITECTURAL FLOOR PLAN, TYPICAL WALL SECTIONS, REFLECTED CEILING PLAN & NOTES
8	BUILDING ELEVATIONS
9	BUILDING SECTIONS, ROOF FRAMING PLAN & DETAILS
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11	PIPING PLAN & DETAILS
12	MISCELLANEOUS DETAILS
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16	HEATING AND VENTILATING FLOOR PLAN, DETAIL, SECTION AND LEGEND
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18	ELECTRICAL ONE-LINE DIAGRAM AND DETAIL
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LOCATION MAP

SCALE: 1" = 300'

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

[Signature] 1/25/91
COUNTY HEALTH OFFICER DATE

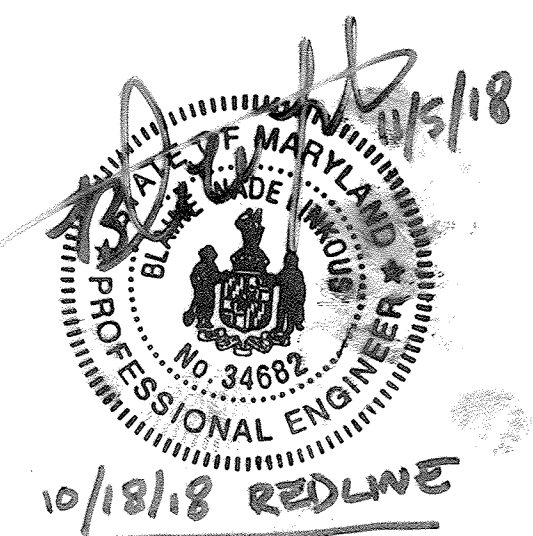
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

[Signature] 1/27/91
DIRECTOR DATE

[Signature] 1/27/91
CHIEF DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED
PLANNING BOARD
OF HOWARD COUNTY

DATE: 8-20-91



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 6-7-91
DIRECTOR OF PUBLIC WORKS DATE

[Signature] 6-6-91
CHIEF, BUREAU OF ENGINEERING DATE

[Signature] 6-6-91
CHIEF, BUREAU OF UTILITIES DATE

BUCHART HORN, INC.
Engineers, Architects, and Planners

Baltimore, MD
Charleston, WV
Frostburg, W. Germany
Lancaster, PA

Minnetonka, MN
Mt. Laurel, NJ
New Orleans, LA
Wilkes-Barre, PA

DES: J. FALK
DRN: A.G.S.
CHK: J. FALK
DATE: 9/25/90

SMARTMOD FACILITY CONSTRUCTION 10/16/18

BY NO. REVISION DATE

TITLE SHEET

600' SCALE MAP NO. 30 BLOCK NO. 10 & 11

EDGAR ROAD WATER PUMPING STATION
CONTRACT NO. 44-1917
CAPITAL PROJECT NO. W-8129
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 1 OF 29

GENERAL STRUCTURAL NOTES

FOUNDATION

1. BEFORE PLACING ANY GRAVEL OR CONCRETE ON SUBGRADE, THE CONTRACTOR SHALL NOTIFY THE ENGINEER.
2. BEARING CAPACITY OF SOIL SHALL BE 3000 PSF OR UNDERCUT, BACKFILL AND COMPACT AS SPECIFIED.
3. ALL EXTERIOR FOOTINGS SHALL EXTEND 3'-0" MINIMUM BELOW FINISHED GRADE.
4. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR WORK TO BE INCORPORATED IN FOUNDATION AND WALLS.
5. ALL EXCAVATIONS SHALL BE KEPT DRY, WATER SHALL NOT BE ALLOWED TO STAND IN EXCAVATIONS.
6. A LAYER OF 6 MIL VAPOR BARRIER SHALL BE PLACED ON 6" OF GRAVEL, UNLESS NOTED OTHERWISE, BEFORE ANY CONCRETE IS POURED.
7. ALL BACKFILLING AND COMPACTION OF SOIL SHALL BE DONE EVENLY AROUND EACH STRUCTURE.
8. THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PREVENT SETTLEMENT OR DAMAGE TO EXISTING FACILITIES, BY PROVIDING ADEQUATE SUPPORT OF EXCAVATION.
9. SOIL BEARING CAPACITY SHALL BE FIELD VERIFIED BY THE CONTRACTOR'S GEOTECHNICAL ENGINEER / INSPECTION AGENCY AND SUBMITTED TO THE ENGINEER.

CONCRETE

1. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE ON DRAWINGS OR SPECIFICATIONS.
2. REINFORCED CONCRETE SHALL BE DETAILED AND CONSTRUCTED IN ACCORDANCE WITH ACI 318-83 STANDARD BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE, AND ACI 350R-83 FOR WATER CONTAINING STRUCTURES.
3. REINFORCING STEEL SHALL CONFORM TO ASTM A-615 GRADE 60.
4. UNLESS OTHERWISE NOTED ON THE DRAWINGS, CONCRETE COVER FOR REINFORCEMENT SHALL BE AS FOLLOWS:
 - a. UNFORMED CONCRETE, BOTTOM BARS IN FOOTINGS AND SLABS ON EARTH, OR GRAVEL 3"
 - b. BEAMS, SLABS, COLUMNS AND WALLS EXPOSED TO GROUND, WEATHER OR PROCESS LIQUID AFTER THE REMOVAL OF FORMS 2"
 - c. BEAMS, COLUMNS AND PIERS NOT EXPOSED TO WEATHER 1/2"
 - d. STRUCTURAL SLABS NOT EXPOSED TO GROUND, WEATHER OR PROCESS LIQUID BUT SUBJECT TO MINOR TRAFFIC.
 - TOP OF SLAB 1"
 - BOTTOM OF SLAB 3/4"
5. ALL EXPOSED CONCRETE EDGES SHALL BE CHAMFERED 3/4" UNLESS OTHERWISE NOTED.
6. REINFORCING STEEL SHALL BE DETAILED IN ACCORDANCE WITH ACI 315-80, MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES EXCEPT WHERE SHOWN OTHERWISE.
7. THE CONTRACTOR SHALL SUBMIT SHOP DETAILS OF REINFORCING STEEL BEFORE PROCEEDING WITH FABRICATION.
8. ALL SPLICES AND EMBEDMENTS FOR REINFORCING BARS NOT DIMENSIONED ON THE DRAWINGS SHALL BE 36 DIAMETERS.
9. CONCRETE SLAB AND WALLS SHALL BE POURED BETWEEN INDICATED JOINTS ALLOWING A MINIMUM PERIOD OF 3 DAYS TO ELAPSE BETWEEN ADJACENT POURS.
10. CONSTRUCTION JOINTS SHALL BE AS DETAILED ON THE DRAWINGS AND NO ADDITIONAL JOINTS SHALL BE USED NOR ANY OMITTED EXCEPT BY WRITTEN AUTHORIZATION OF THE ENGINEER.
11. ALL WATERSTOPS SHALL BE AS NOTED ON DRAWINGS, SEE SPECIFICATIONS FOR OTHER REQUIREMENTS.
12. ANCHOR BOLTS AND EQUIPMENT PEDESTALS SHALL BE SIZED AND LOCATED AS REQUIRED TO SUIT EQUIPMENT FURNISHED.
13. SEE ARCHITECTURAL, CIVIL, MECHANICAL AND ELECTRICAL DRAWINGS FOR ALL EMBEDDED ITEMS SUCH AS SLEEVES, ANCHORS, ELECTRICAL CONDUITS, OPENINGS, ETC., LOCATED IN CONCRETE CONSTRUCTION.
14. REINFORCING BARS AND ACCESSORIES SHALL NOT BE IN CONTACT WITH ANY PIPE FLANGE OR METAL PART EMBEDDED IN CONCRETE. NO EMBEDDED ITEM SHALL BE SUSPENDED FROM, SUPPORTED BY, NOR SPACED IN PLACE FROM THE STRUCTURAL REINFORCEMENT. A MINIMUM OF 2" CLEARANCE SHALL BE PROVIDED IN ALL CASES, UNLESS SHOWN OTHERWISE ON THE DRAWINGS.
15. PROVIDE MINIMUM ACI STEEL REINFORCING IN ALL CONCRETE WALLS, SLABS, AND FOOTINGS WHERE NONE IS SHOWN OR NOTED.

STRUCTURAL STEEL

1. ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM DESIGNATION A-36 AND SHALL BE GALVANIZED.
2. ALL STRUCTURAL STEEL SHALL BE FABRICATED IN ACCORDANCE WITH THE CURRENT AISC SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS.
3. THE CONTRACTOR SHALL SUBMIT ERECTION PLANS AND SHOP DETAILS BEFORE PROCEEDING WITH FABRICATION.

(STRUCTURAL STEEL CONTINUED)

4. ALL SHOP WELDING SHALL BE IN ACCORDANCE WITH AWS CODE. ALL FIELD CONNECTIONS SHALL BE MADE WITH A-325 HIGH STRENGTH BOLTS, EXCEPT WHERE NOTED.
5. EXCEPT WHERE OTHERWISE NOTED ON THE DRAWINGS, CONNECTIONS OF FRAMING MEMBERS SHALL BE CAPABLE OF TRANSFERRING THE FULL STRENGTH OF THE MEMBER USING 3/4" DIAMETER HIGH STRENGTH BOLTS. HIGH STRENGTH BOLTED CONNECTIONS SHALL BE DESIGNED AS FRICTION TYPE CONNECTIONS.
6. MILL BOTTOM OF ALL COLUMNS AND FINISH TOP OF ALL BASE PLATES IN ACCORDANCE WITH AISC SPECIFICATIONS. BASE PLATES SHALL BE WELDED TO BOTTOM OF COLUMNS.
7. 3/8" THICK LEVELING PLATES SHALL BE USED UNDER ALL COLUMNS RESTING ON CONCRETE.
8. ALL GALVANIZED STEEL GRATING SHALL BE CAPABLE OF SUPPORTING A LIVE LOAD OF 150 PSF. ALL EDGES OF GRATING SHALL BE BANDED.

ALUMINUM

1. ALL STRUCTURAL ALUMINUM IS DESIGNED AND SHALL BE FABRICATED IN ACCORDANCE WITH THE CURRENT SPECIFICATION OF THE ALUMINUM ASSOCIATION.
2. STRUCTURAL ALUMINUM SHALL BE ALLOY 6061-T6.
3. ALUMINUM IN CONTACT WITH CONCRETE OF DISSIMILAR METAL SHALL, BEFORE ERECTION, BE HEAVILY COATED WITH BITUMINOUS COATING.

DESIGN LOADS

- DEAD LOADS - ACTUAL WEIGHT OF STRUCTURE AND EQUIPMENT.
- WEIGHT OF SOIL - 120 PCF
- LIVE LOADS - FLOOR - 150 PSF IN AREAS NOT OCCUPIED BY EQUIPMENT.
 - EQUIPMENT - ACTUAL WEIGHT - 150 PSF MINIMUM.
 - WALKWAYS - 150 PSF
 - STAIRWAY - 100 PSF
 - STORAGE AREAS - 300 PSF
 - HANDRAIL - 200 LBS. IN ANY DIRECTION, AT ANY POINT
- EARTH PRESSURE - LATERAL EARTH PRESSURES ARE BASED ON A AN EQUIVALENT LIQUID PRESSURE OF 40 PSF.

NOTE: THE CONTRACTOR SHALL PROVIDE, PRIOR TO ISSUANCE OF OCCUPANCY APPROVAL BY THE PLAN REVIEW DIVISION, A WRITTEN INSPECTION CERTIFICATION FROM A MARYLAND STATE REGISTERED PROFESSIONAL ENGINEER OR CERTIFIED INSPECTION LABORATORY BEARING THE ORIGINAL SEAL AND ORIGINAL SIGNATURE OF A MARYLAND STATE REGISTERED PROFESSIONAL ENGINEER CERTIFYING 100% STEEL ERECTION SHALL BE SUBMITTED TO HOWARD COUNTY DEPT. OF INSPECTIONS, LICENSES & PERMITS. THIS CERTIFICATION SHALL INCLUDE, BUT SHALL NOT BE LIMITED TO, THE FOLLOWING ITEMS:
 (1987 BOCA BUILDING CODE, SECTION 1306.1)
 A. THE PERCENTAGE OF COLUMNS CHECKED FOR PLUMB AND METHOD OF CHECKING.
 B. THE PERCENTAGE OF BOLTS CHECKED FOR TORQUE AND METHOD OF CHECKING.
 C. THE PERCENTAGE OF WELDS INSPECTED AND METHOD OF TESTING.
 D. VERIFICATION OF WELDERS CERTIFICATION.
 E. STATEMENT VERIFYING 100% STEEL ERECTION AND CERTIFICATION.
 F. REFERENCE TO BUILDING PERMIT NUMBER (S) AND/OR EXACT ADDRESS (ES).
 G. ANY OTHER DATA DEVELOPED AS A RESULT OF THE INSPECTION(S).

SEWER NOTES

1. ALL SEWER MAINS SHALL BE C.S.P.X., R.C.S.P., V.C.P.X., OR P.V.C. UNLESS OTHERWISE NOTED.
2. THE CONTRACTOR SHALL PROVIDE A JOINT IN ALL SEWER MAINS WITHIN 2'-0" OF EXTERIOR MANHOLE WALL.
3. ALL MANHOLES SHALL BE 4'-0" INSIDE DIA. UNLESS OTHERWISE NOTED.
4. MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

[Signature] 6-10-91
 DIRECTOR OF PUBLIC WORKS DATE

[Signature] 6-6-91
 CHIEF, BUREAU OF ENGINEERING DATE

[Signature] 6-7-91
 CHIEF, BUREAU OF UTILITIES DATE

[Signature] 6-6-91
 CHIEF, UTILITY DESIGN DIVISION DATE

Baltimore, MD Memphis, TN
 Charleston, WV Mt. Laurel, NJ
 Frankfort, W. Germany New Orleans, LA
 Lancaster, PA
 Lewisburg, PA York, PA

BUCHART HORN, INC.
 Engineers, Architects, and Planners



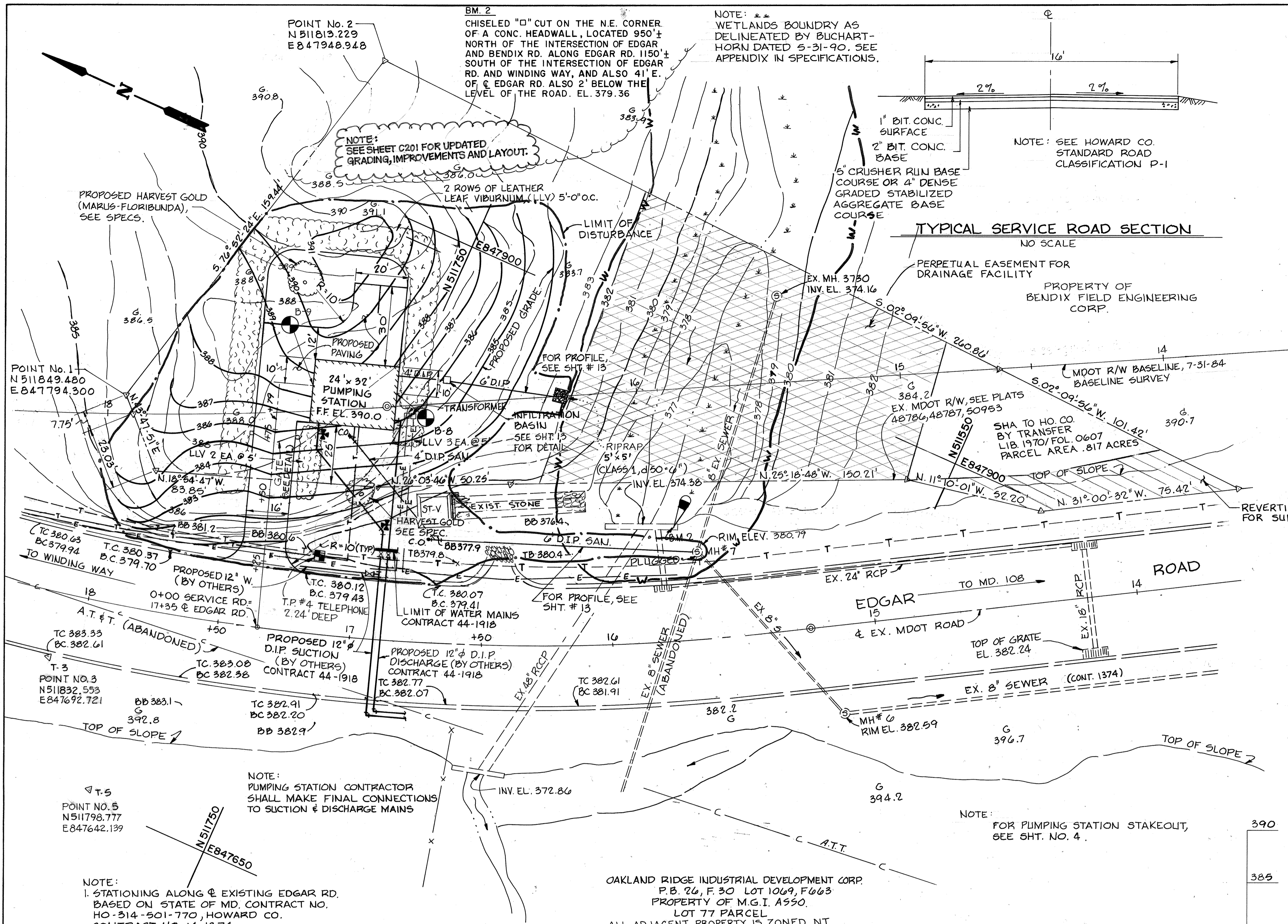
DES:	J. FALK				
DRN:	V. HEWES				
CHK:	J. FALK				
DATE:	9/25/90	BY	NO.	REVISION	DATE

STRUCTURAL NOTES

60' SCALE MAP NO. 30 BLOCK NO. 10 & 11

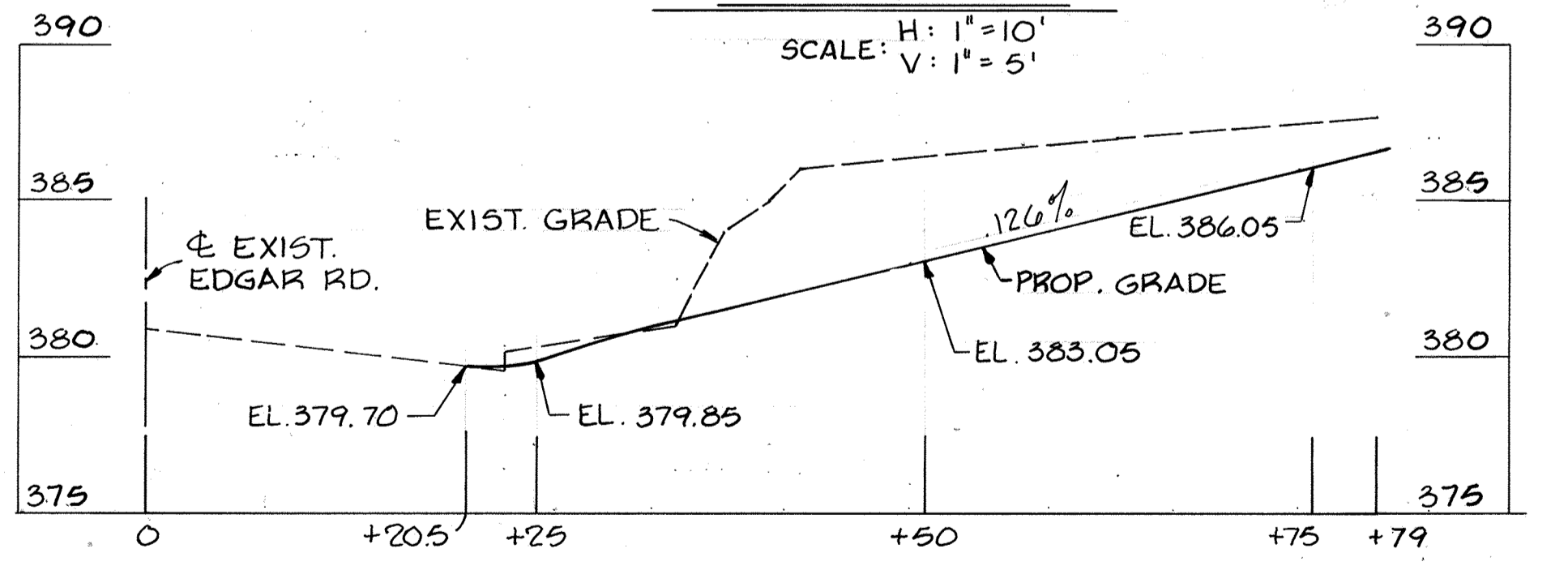
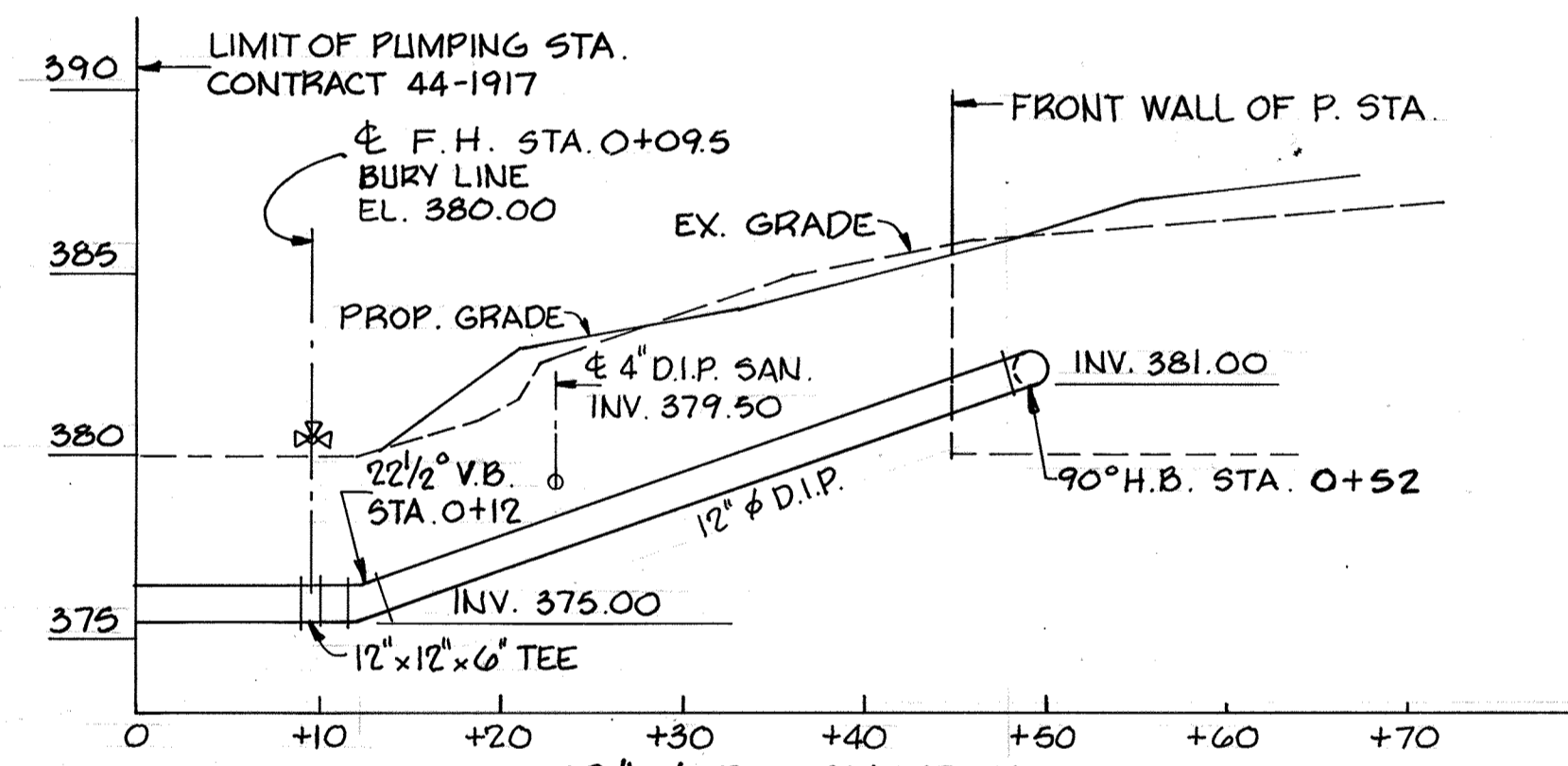
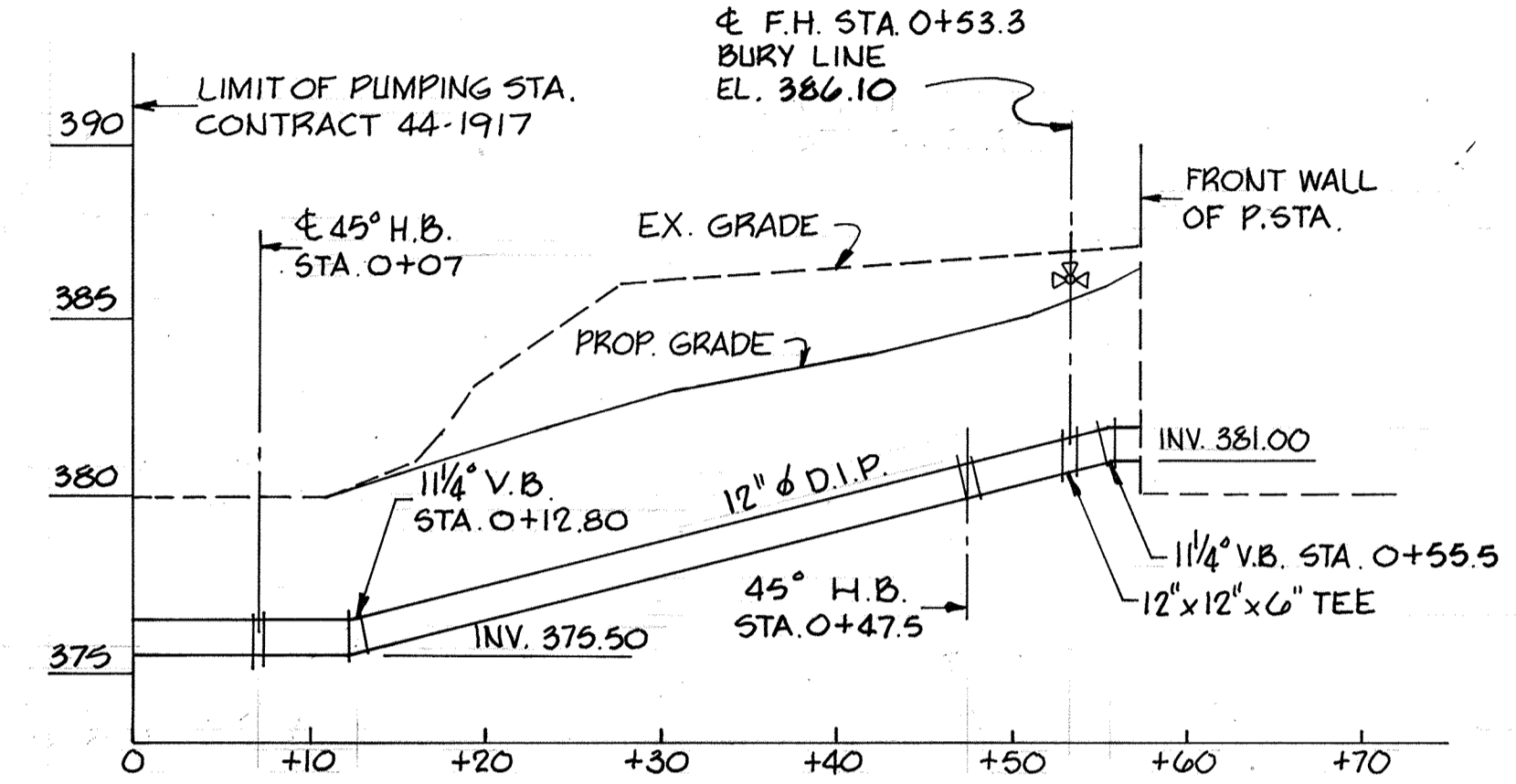
EDGAR ROAD WATER PUMPING STATION
 CONTRACT NO. 44-1917
 CAPITAL PROJECT NO. W-8129
 ELECTION DISTRICT NO. 2
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 2 OF 29



PLANTINGS			
BOTANICAL NAME	COMMON NAME	QUANTITY	SIZE
VIBURNUM RHYTIDOPHYLLUM	LEATHERLEAF VIBURNUM	120	4 TO 5 FT. SPREAD
MARIS FLORIBUNDA	HARVEST GOLD	2	6 TO 8 FT. SPREAD

SEE SPECIFICATIONS SECTION 02800



NOTE:
 1. STATIONING ALONG & EXISTING EDGAR RD. BASED ON STATE OF MD. CONTRACT NO. HO-314-501-770, HOWARD CO. CONTRACT NO. 14-1374 DATED 6-1985
 2. CONTRACTOR-SURVEYOR TO SET PROPERTY MONUMENTS AS INDICATED Δ. SEE DETAIL BELOW.
 3. FOR PROFILE OF PRESSURE RELIEF DRAIN, SEE SHEET NO. 13

ID. CAP PER ANNOTATED CODE OF MD.

CONCRETE MONUMENT (TYP.)

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chas M. Simpson 11/18/91
 CHIEF, LAND DEVELOPMENT DIVISION DATE

Draville W. Welcand 12/2/91
 CHIEF, BUREAU OF HIGHWAY DATE

William E. Ray 6-6-91
 CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

William E. Ray 11/27/91
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED PLANNING BOARD OF HOWARD COUNTY
 DATE 8-20-91

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
James B. Roth
 DIRECTOR DATE 11/27/91

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
 HOWARD COUNTY HEALTH DEPARTMENT
James B. Roth 11-20-91
 COUNTY HEALTH OFFICER DATE

NOTE: SOIL BORINGS
 FOR BORINGS, SEE SPECIFICATIONS (APPENDIX D).
 WATER CODE NUMBER E 34
 SEWER CODE NUMBER 565488
 CENSUS TRACK NUMBER 6023.02

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

James B. Roth 6-6-91
 DIRECTOR OF PUBLIC WORKS DATE

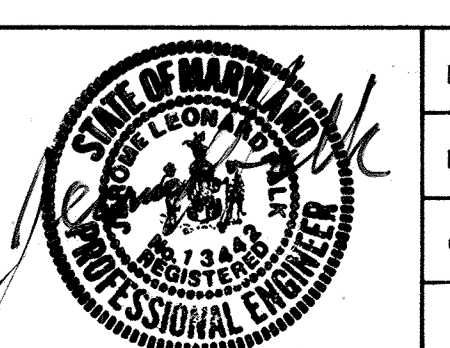
William E. Ray 6-6-91
 CHIEF, BUREAU OF ENGINEERING DATE

Robert Benner 6-7-91
 CHIEF, BUREAU OF UTILITIES DATE

Chas M. Simpson 6-6-91
 CHIEF, UTILITY DESIGN DIVISION DATE

BUCHART HORN, INC.
 Engineers, Architects and Planners

Baltimore, MD Memphis, TN
 Charleston, WV Mt. Laurel, NJ
 Franklin, W. Germany New Orleans, LA
 Lancaster, PA Williamsburg, VA
 Lewisburg, PA York, PA



DESIGNER	DATE	BY	NO.	REVISION	DATE
J. FALK	10/18/90				
A.G.S.					
J. FALK					
J. FALK	9/25/90				

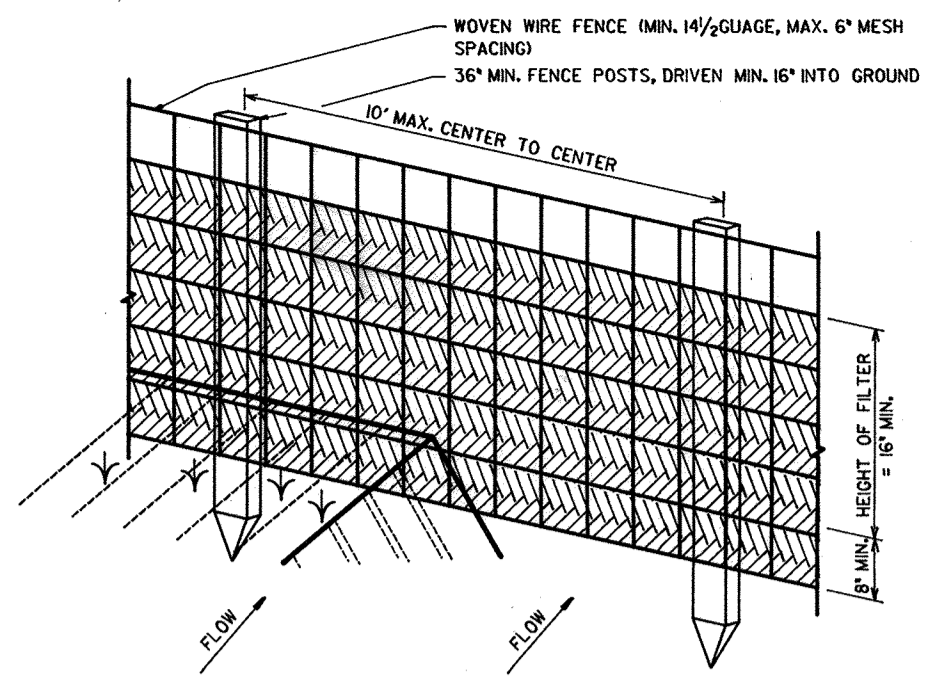
SMARTMOD FACILITY CONSTRUCTION 10/18/90

600' SCALE MAP NO. 30 BLOCK NO. 10 & 11

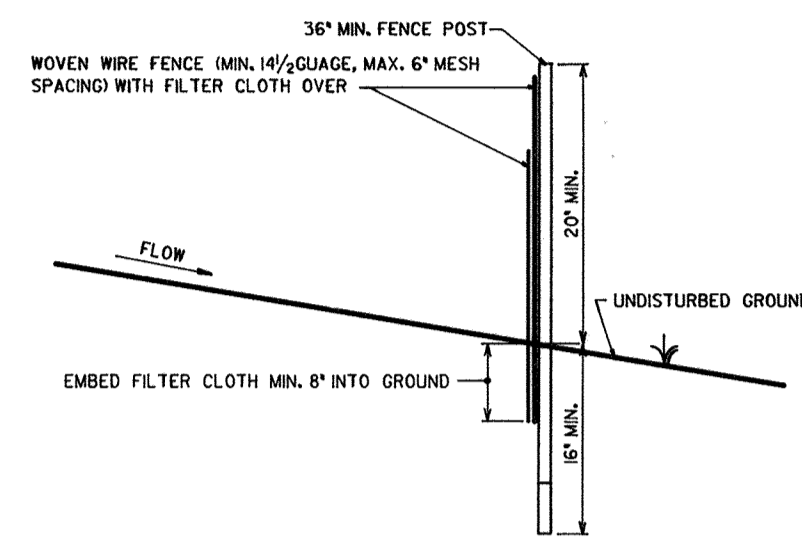
SITE PLAN

EDGAR ROAD WATER PUMPING STATION
 CONTRACT NO. 44-1917
 CAPITAL PROJECT NO. W-8129
 ELECTION DISTRICT NO. 2
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 3 OF 29



PERSPECTIVE VIEW



SECTION

CONSTRUCTION NOTES

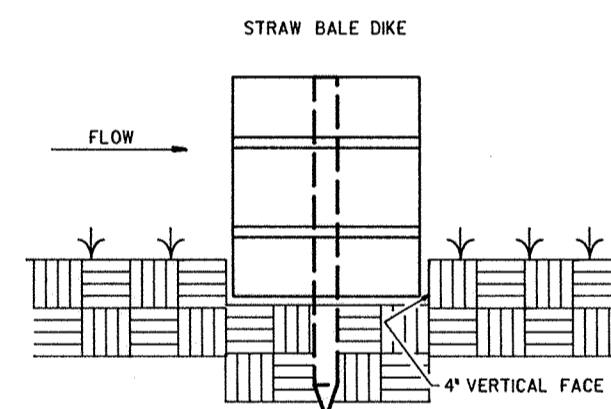
1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID-SECTION.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN 'BULGES' DEVELOP IN THE FILTER FENCE.

CONSTRUCTION MATERIALS

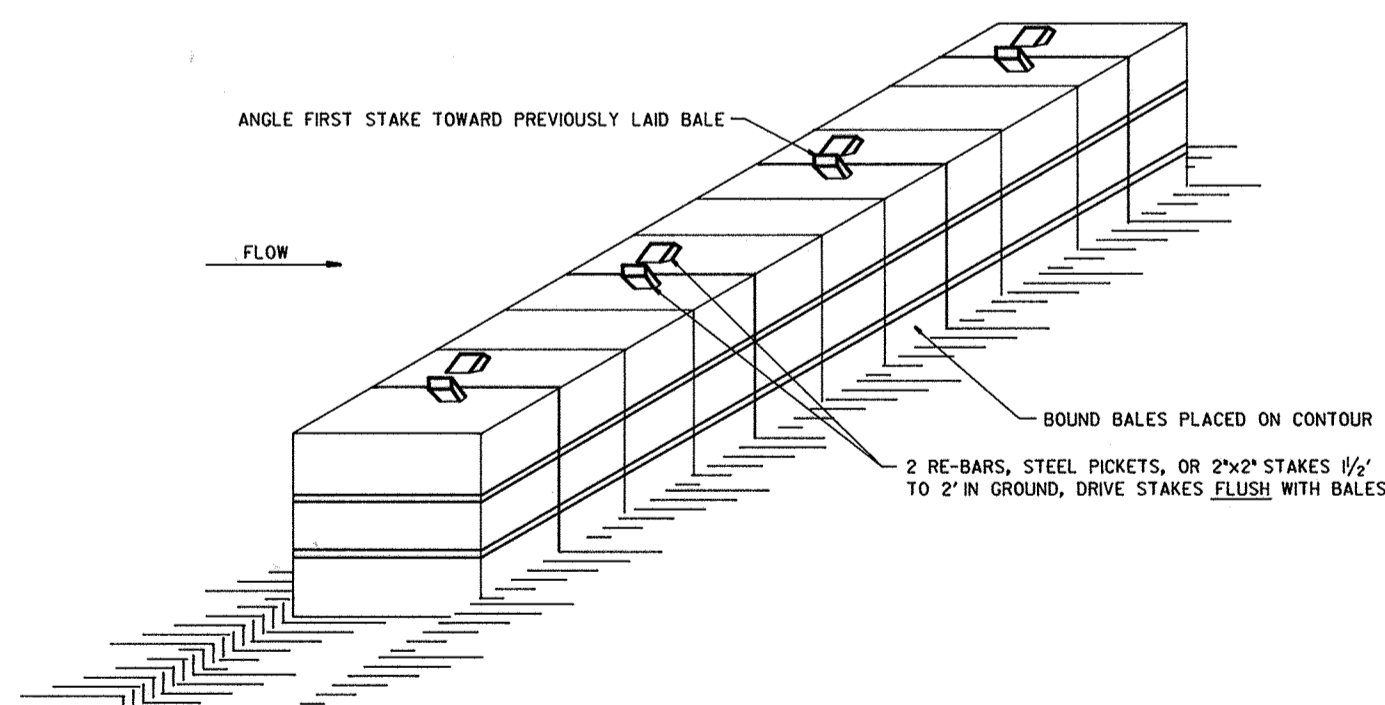
- POSTS: STEEL EITHER 1" OR 1 1/2" TYPE OR 2" HARDWOOD
 FENCE: WOVEN WIRE, 1/2 GA., 6" MAX. MESH OPENING
 FILTER CLOTH: FILTER 'XX', MIRAFIX 100K, STABILINA THOM OR APPROVED EQUAL
 PREFABRICATED UNIT: GEOPAD, ENVIROFENCE, OR APPROVED EQUAL

SLT FENCE

NO SCALE



BEDDING DETAIL



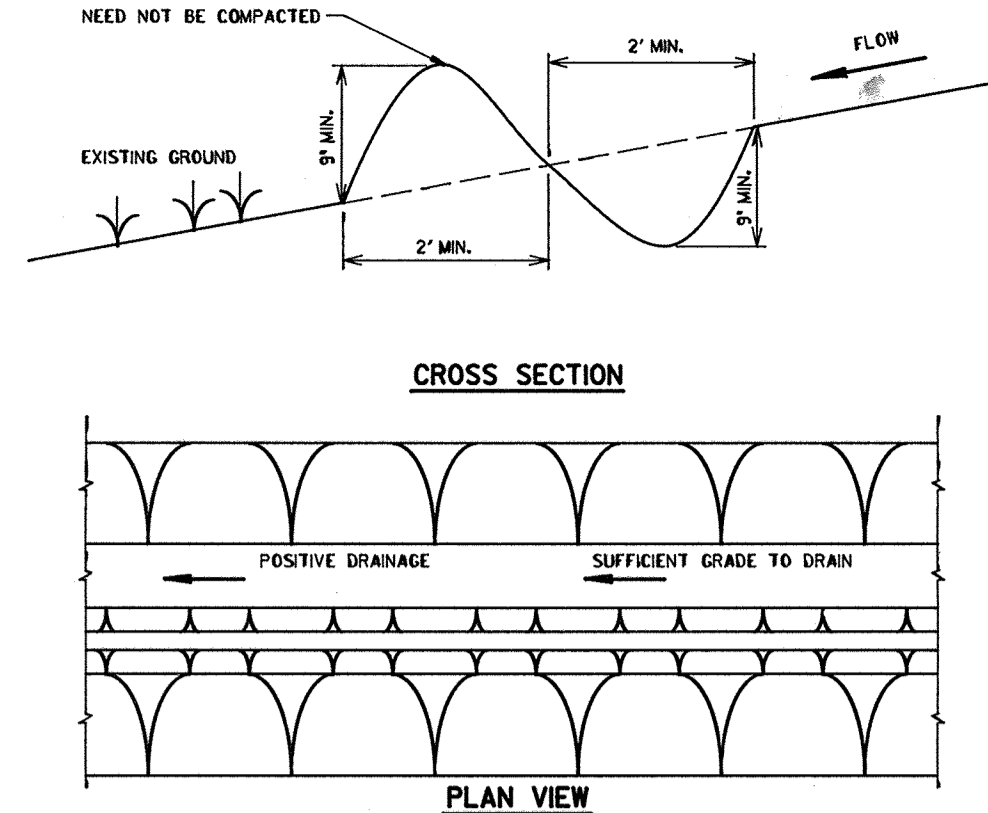
ANCHORING DETAIL

CONSTRUCTION NOTES

1. BALES SHALL BE PLACED AT THE TOE OF A SLOPE OR ON THE CONTOUR AND IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF FOUR (4) INCHES, AND PLACED SO THE BOUNDS ARE HORIZONTAL.
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR RE-BARS DRIVEN THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.
4. INSPECTION SHALL BE FREQUENT AND REPAIR REPLACEMENT SHALL BE PROMPTLY AS NEEDED.
5. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS TO NOT BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

STRAW BALE DIKE

NO SCALE



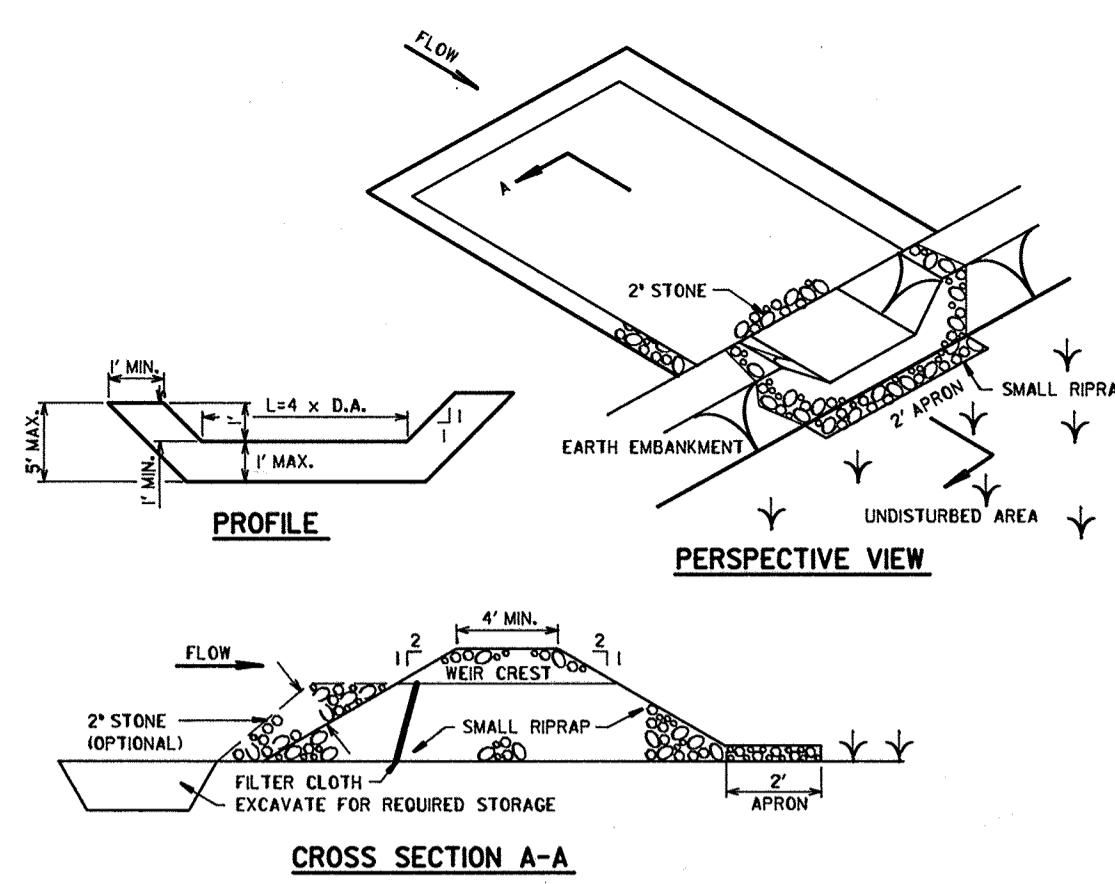
CONSTRUCTION SPECIFICATIONS

1. ALL PERIMETER DIKE/SWALE SHALL HAVE UNINTERRUPTED POSITIVE GRADE TO AN OUTLET.
2. DIVERTED RUNOFF FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE.
3. DIVERTED RUNOFF FROM AN UNDISTURBED AREA SHALL CONVEY INTO AN UNDISTURBED STABILIZED AREA AT NON-EROSION VELOCITY.
4. THE SWALE SHALL BE EXCAVATED OR SHAPED TO LINE, GRADE, AND CROSS SECTION AS REQUIRED TO MEET THE CRITERIA SPECIFIED IN THE STANDARD.
5. STABILIZATION OF THE AREA DISTURBED BY THE DIKE AND SWALE SHALL BE DONE IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SEED AND STRAW MULCH, AND SHALL BE DONE WITHIN 7 DAYS.
6. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.
7. THE SWALE SHALL BE STABILIZED WITH EITHER SOIL STABILIZATION MATTING OR THE APPROPRIATE CLASS OF RIPRAP.
8. MAXIMUM DRAINAGE AREA IS 2 ACRES.

PERIMETER DIKE/SWALE

NO SCALE

DETAIL 4 C.E.L. LIB. AC-SECS



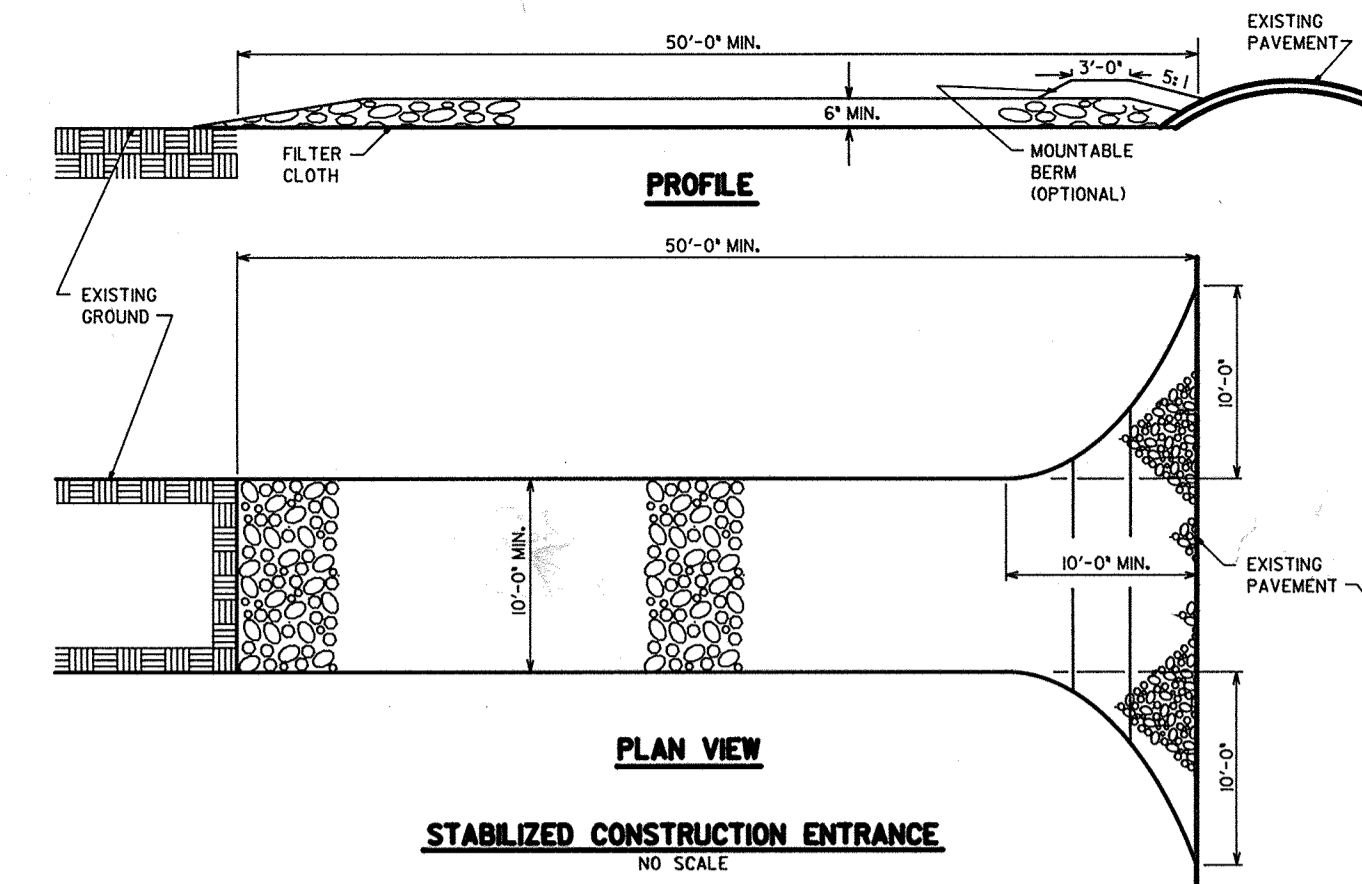
CONSTRUCTION SPECIFICATIONS

1. AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED AND STRIPPED OF ANY VEGETATION AND ROOT MAT. THE POOL AREA SHALL BE CLEARED.
2. THE FILL MATERIAL FOR THE EMBANKMENT SHALL BE FREE OF ROOTS AND OTHER WOODY VEGETATION AS WELL AS OVERSIZED STONES, ROCKS, ORGANIC MATERIAL OR OTHER OBJECTIONABLE MATERIAL. THE EMBANKMENT SHALL BE COMPACTED BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.
3. ALL CUT AND FILL SLOPES SHALL BE 2:1 OR FLATTER.
4. THE STONE USED IN THE OUTLET SHALL BE SMALL RIPRAP 4"-8" ALONG WITH A 1" THICKNESS OF 2" AGGREGATE PLACED ON THE UPRIDGE SIDE ON THE SMALL RIPRAP OR EMBEDDED FILTER CLOTH IN THE RIPRAP.
5. SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP.
6. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
7. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION IS MINIMIZED.
8. THE STRUCTURE SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
9. OPTIONAL ONE (1) FOOT LAYER OF 2" STONE MAY BE PLACED ON THE UPSTREAM SIDE OF THE RIPRAP IN PLACE OF THE EMBEDDED FILTER CLOTH.
10. MAXIMUM DRAINAGE AREA IS 5 ACRES.

STONE OUTLET SEDIMENT TRAP

NO SCALE

DETAIL 4 C.E.L. LIB. AC-SECT



STABILIZED CONSTRUCTION ENTRANCE

NO SCALE

CONSTRUCTION NOTES

1. STONE SIZE - USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - AS REQUIRED, BUT NOT LESS THAN 50 FEET EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY.
3. THICKNESS - NOT LESS THAN 6 INCHES.
4. WIDTH - TEN (10) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
5. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE. FILTER WILL NOT BE REQUIRED ON A SINGLE FAMILY RESIDENCE LOT. CONSTRUCTION ENTRANCES SHALL BE PAVED ACROSS THE ENTRANCE, IF PAVING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PAVED ACROSS THE ENTRANCE, IF PAVING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WASHING - WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

NOTE: SEE SHEET C402 FOR UPDATED NOTES AND DETAILS.

"I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."

Thomas E. Butler 7-22-91
 Thomas E. Butler, Project Manager Date
 Howard County Dept. of Public Works

"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."

Jerome L. Falk, P.E. 7-22-91
 Jerome L. Falk, P.E. Date

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

Dean Papp 11-25-91
 COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

Thomas E. Butler 11/27/91
 DIRECTOR DATE

Thomas E. Butler 11/27/91
 CHIEF DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED
 PLANNING BOARD
 OF HOWARD COUNTY

DATE 8-20-91

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

Approved *Howard S.C.D.* Date *9/24/91*
 Howard S.C.D.

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Thomas E. Butler 6-6-91
 DIRECTOR OF PUBLIC WORKS DATE

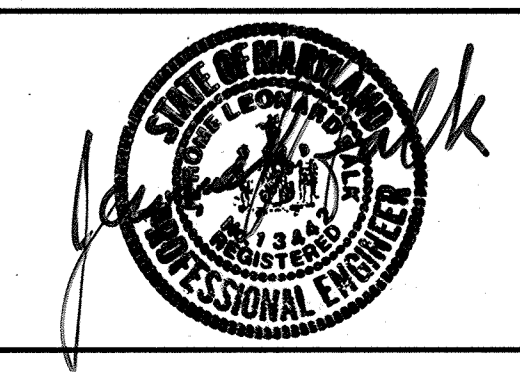
Robert Benjamin 6-7-91
 CHIEF, BUREAU OF UTILITIES DATE

Michael E. Papp 6-6-91
 CHIEF, BUREAU OF ENGINEERING DATE

Orlando J. Papp 6-6-91
 CHIEF, UTILITY DESIGN DIVISION DATE

BUCHART HORN, INC.
 Engineers, Architects, and Planners

Baltimore, MD
 Charleston, WV
 Frankfort, N. Germany
 Lancaster, PA
 Leesburg, VA
 Longwood, PA
 Memphis, TN
 Mt. Laurel, NJ
 New Orleans, LA
 Williamsburg, VA
 York, PA



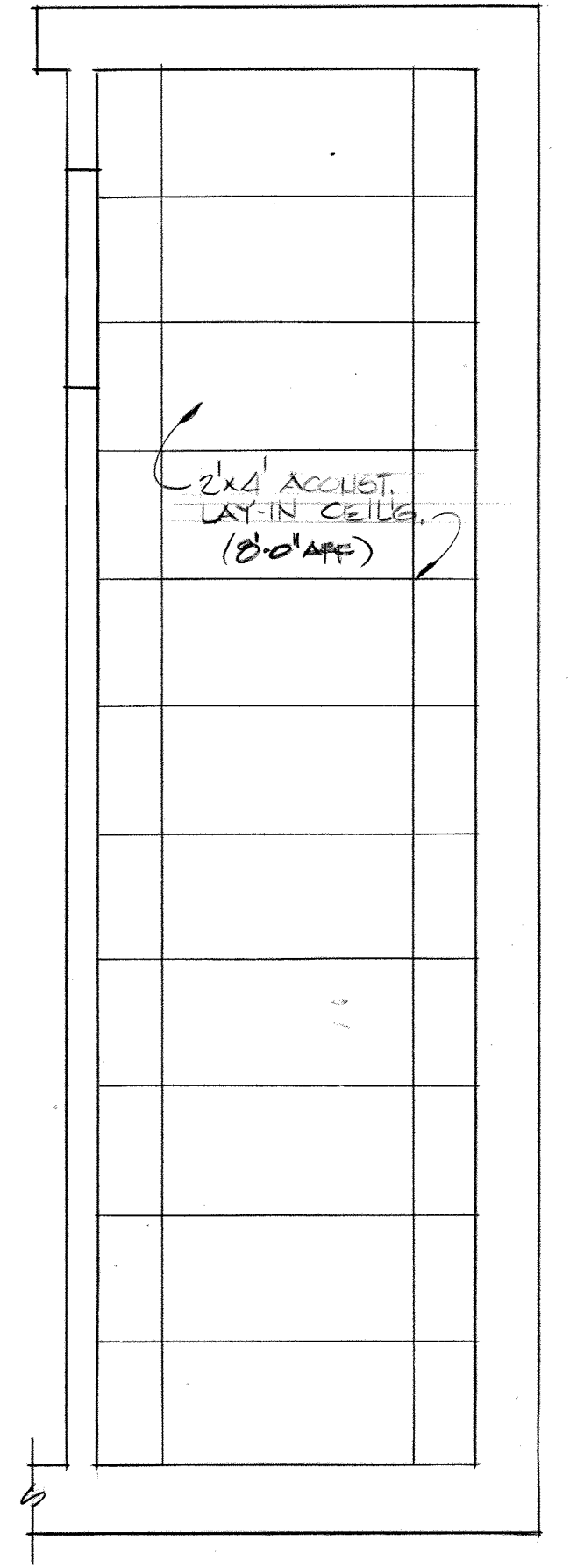
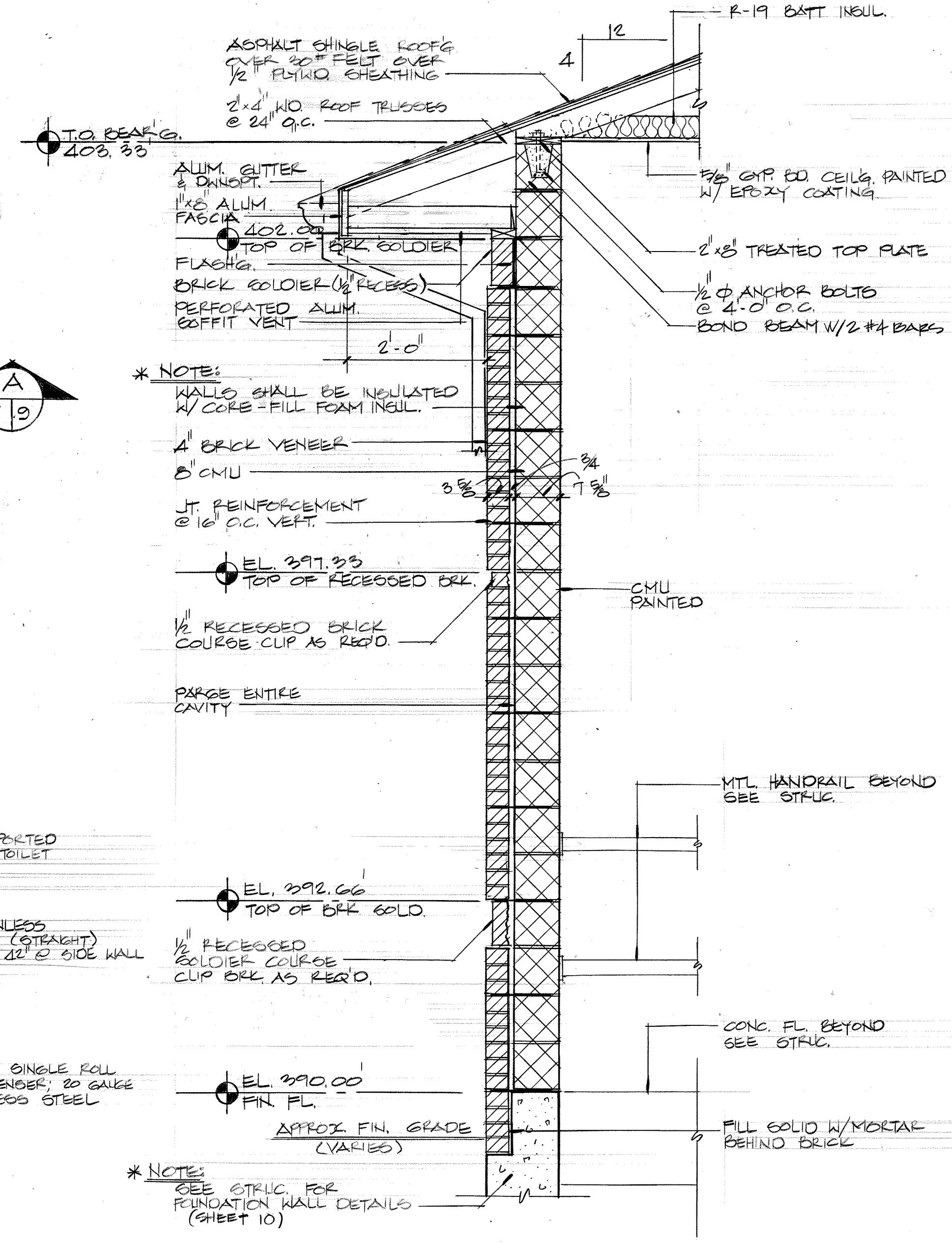
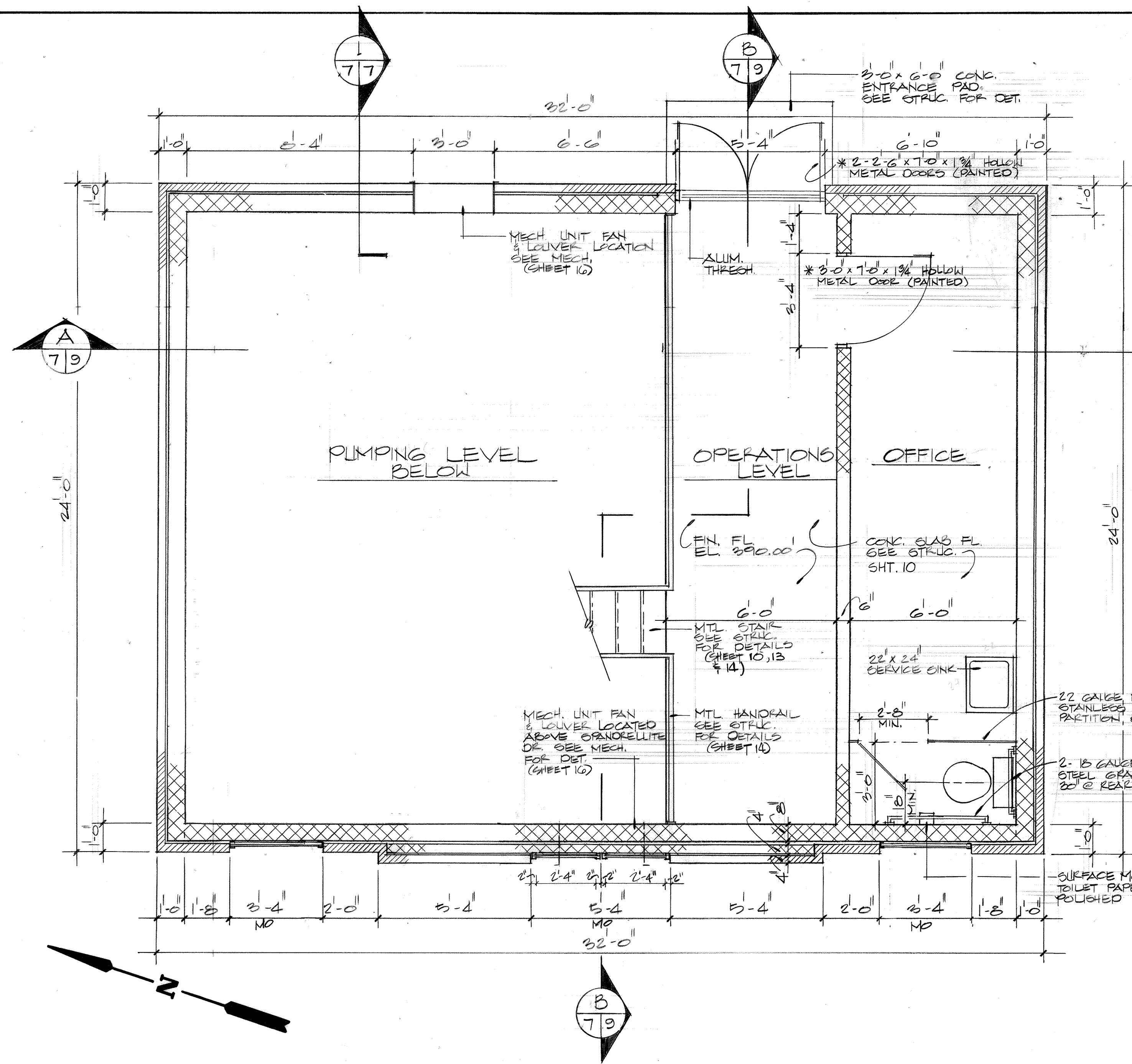
DES: D.C.	SMARTMOD FACILITY CONSTRUCTION	10/18/90
DRN: B.H.		
CHK: J.FALK		
DATE: 9/25/90		
BY NO.	REVISION	DATE

600' SCALE MAP NO. 30 BLOCK NO. 10 & 11

SEDIMENT & EROSION CONTROL DETAILS

EDGAR ROAD WATER PUMPING STATION
 CONTRACT NO. 44-1917
 CAPITAL PROJECT NO. W-8129
 ELECTION DISTRICT NO. 2
 HOWARD COUNTY, MARYLAND

SDP 91-48
 SHEET 4-4 of 4



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *[Signature]* DATE: 6-6-91
Chief, Bureau of Engineering: *[Signature]* DATE: 6-6-91

Chief, Bureau of Utilities: *[Signature]* DATE: 6-7-91
Chief, Utility Design Division: *[Signature]* DATE: 6-6-91

BUCHART HORN, INC.
Engineers, Architects and Planners

Baltimore, MD
Charleston, WV
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Memphis, TN
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Wilmington, VA
York, PA

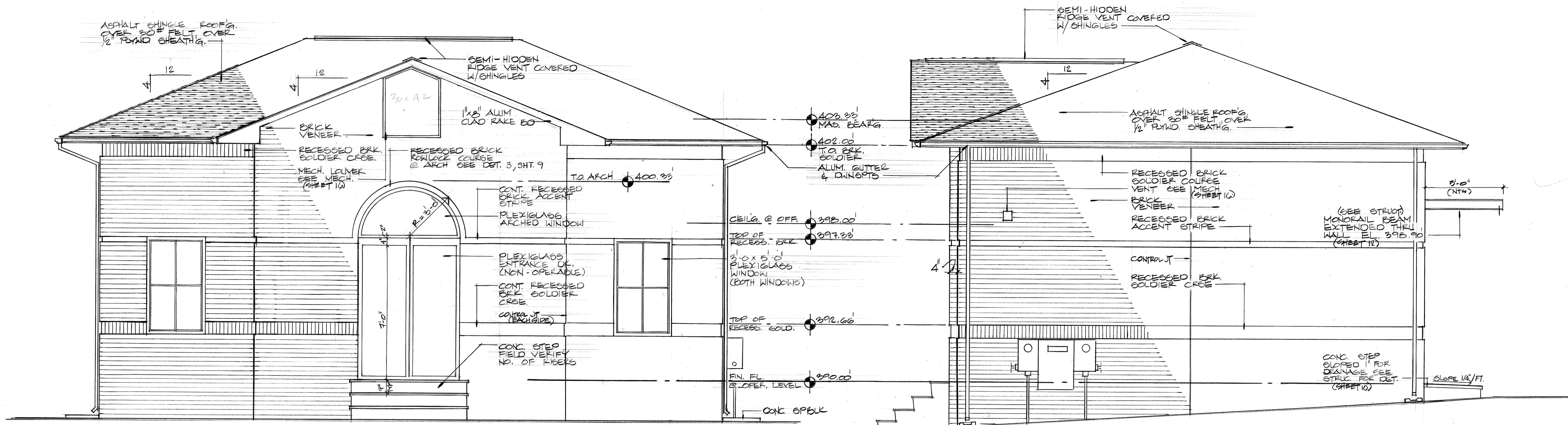


DES: J.COTT.					
DRN: J.COTT.					
CHK: J.FALK					
DATE: 9/25/90	BY: NO.	REVISION	DATE	600' SCALE MAP NO. 30	BLOCK NO. 10 & 11

**FLOOR PLAN
TYP. WALL SECTION
REFLECTED CEILING PLAN
& NOTES**

EDGAR ROAD WATER PUMPING STATION
CONTRACT NO. 44-1917
CAPITAL PROJECT NO. W-8129
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 7 OF 29

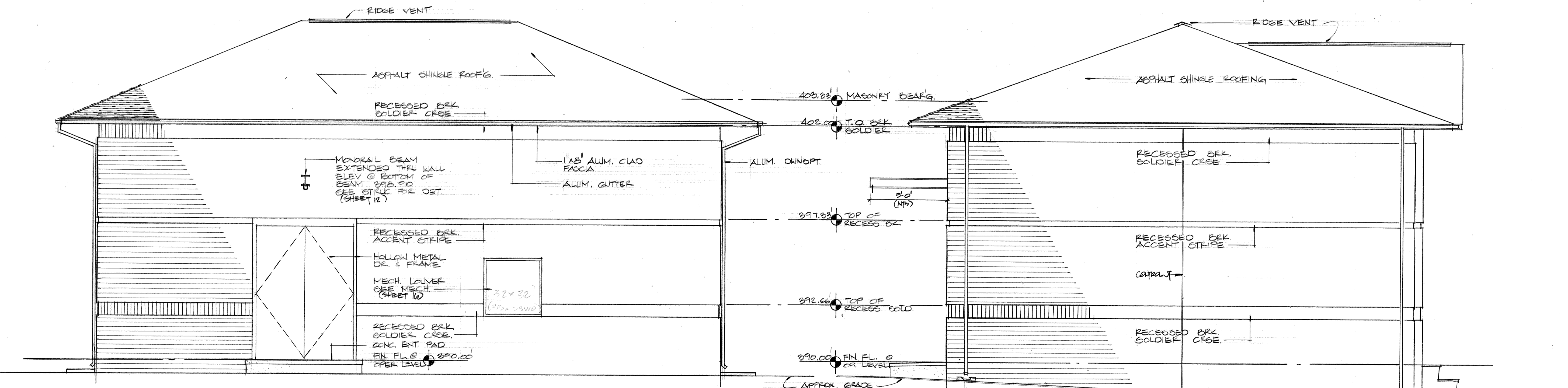


WEST ELEVATION

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

SOUTH ELEVATION

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



EAST ELEVATION

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

NORTH ELEVATION

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

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Robert J. ...
DIRECTOR OF PUBLIC WORKS
DATE: 6-7-91

Robert J. ...
CHIEF, BUREAU OF ENGINEERING
DATE: 6-6-91

Robert J. ...
CHIEF, UTILITY DESIGN DIVISION
DATE: 6-6-91

BUCHART HORN, INC.
Engineers, Architects and Planners



DES: J. COTT
DRN: J. COTT
CHK: J. FALK
DATE: 9/25/90

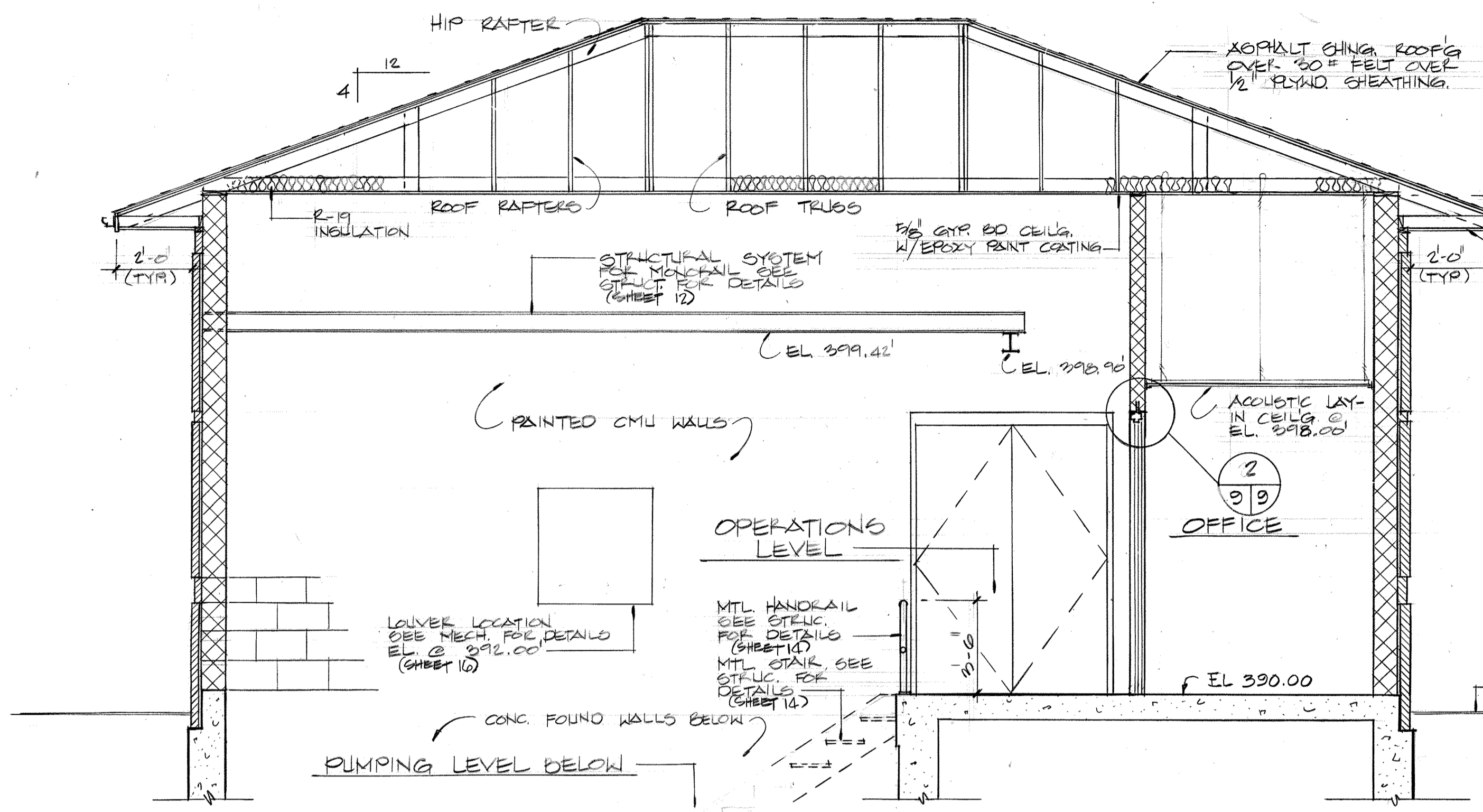
BY	NO.	REVISION	DATE

BUILDING ELEVATIONS

DATE: 600' SCALE MAP NO. 30 BLOCK NO. 10 & 11

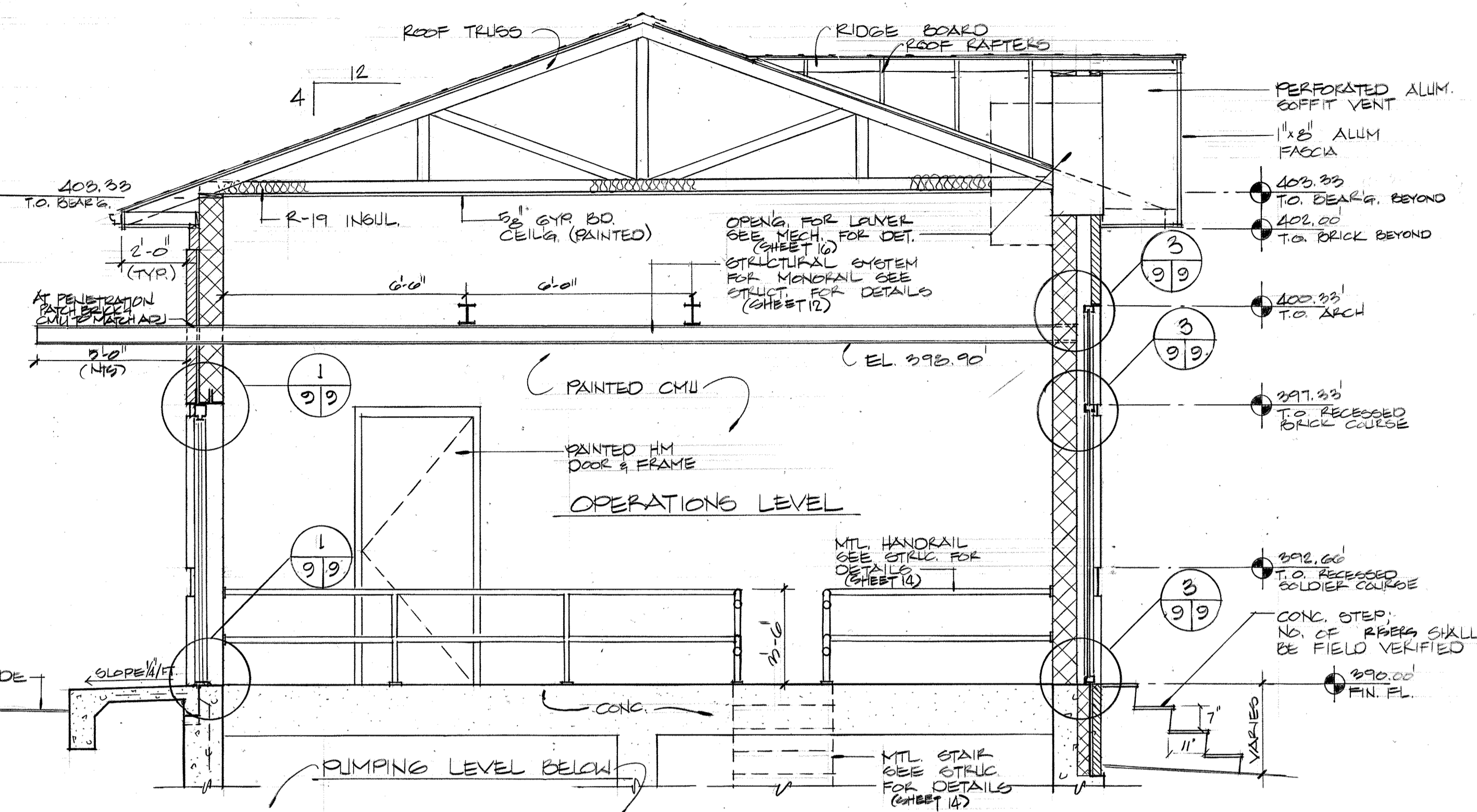
EDGAR ROAD WATER PUMPING STATION
CONTRACT NO. 44-1917
CAPITAL PROJECT NO. W-8129
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 8 OF 29



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

A
7/9

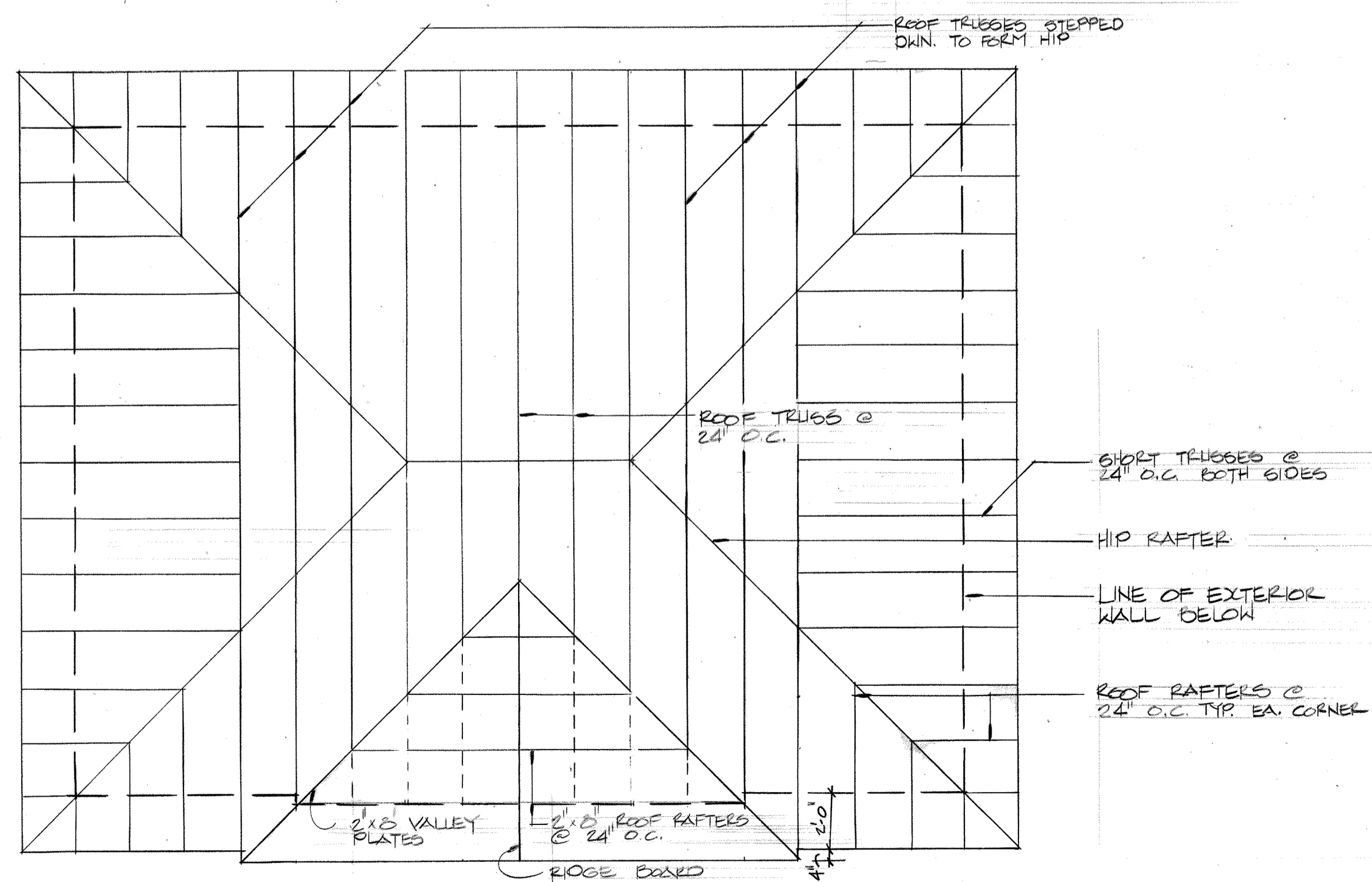


BLDG. SECTION
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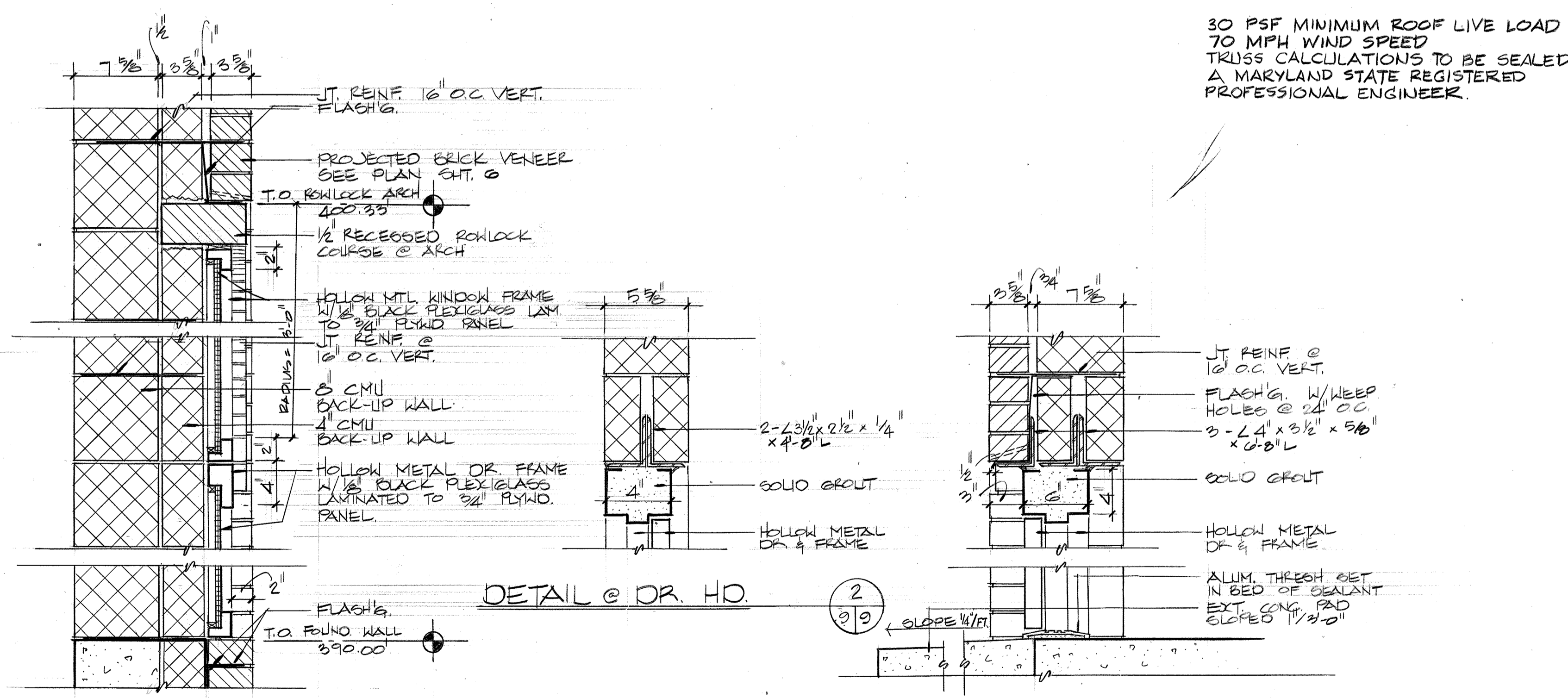
B
7/9

NOTE:
ROOF TRUSS MANUFACTURE SHALL PROVIDE TRUSS DESIGN CALCULATIONS SO AS TO ASCERTAIN COMPLIANCE WITH THE 1987 BOCA CODE, SECTION 1110.2 (AMENDED), CRITERIA AS FOLLOWS:

30 PSF MINIMUM ROOF LIVE LOAD TO MPH WIND SPEED TRUSS CALCULATIONS TO BE SEALED BY A MARYLAND STATE REGISTERED PROFESSIONAL ENGINEER.



ROOF FRAMING PLAN
SCALE: 1/4" = 1'-0"



DETAIL @ SPANDREL DR.
SCALE: 1/2" = 1'-0"

3
9/9

DETAIL @ DOOR HD. & SILL ENTRANCE
SCALE: 1/2" = 1'-0"

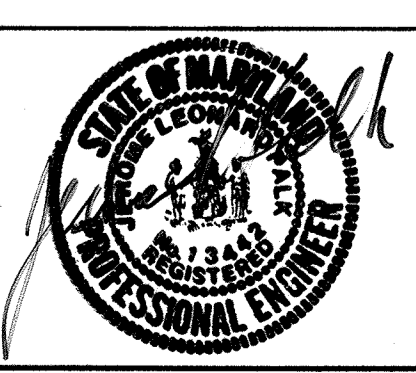
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9/9

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *James P. ...* DATE: 6-6-91
 Chief, Bureau of Engineering: *...* DATE: 6-6-91
 Chief, Bureau of Utilities: *...* DATE: 6-7-91
 Chief, Utility Design Division: *...* DATE: 6-6-91

BUCHART HORN, INC.
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 Franklin, W. Germany
 New Orleans, LA
 Lancaster, PA
 Williamsburg, VA
 Landover, PA
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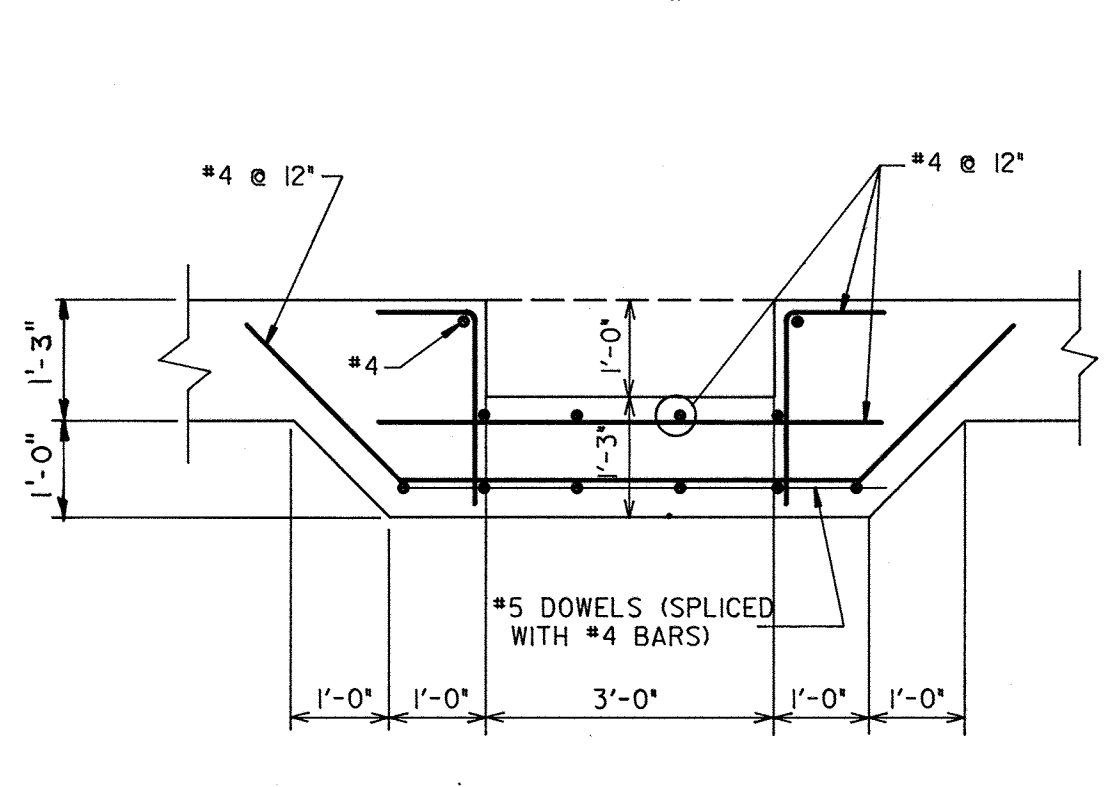
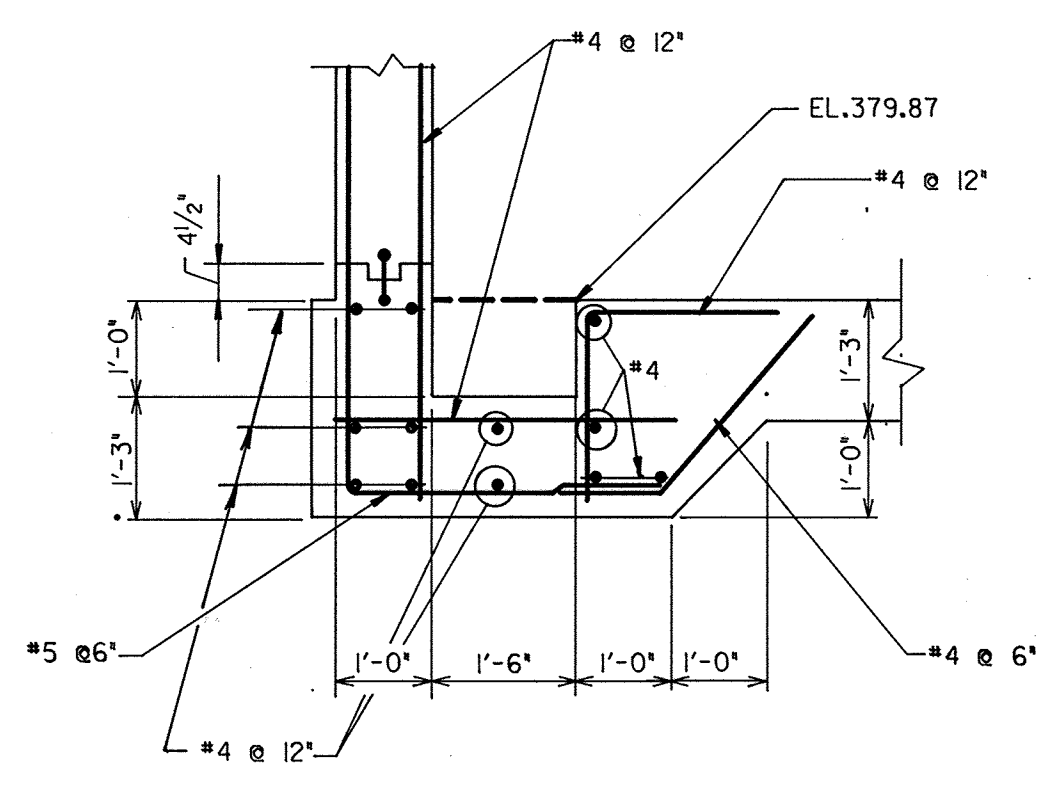
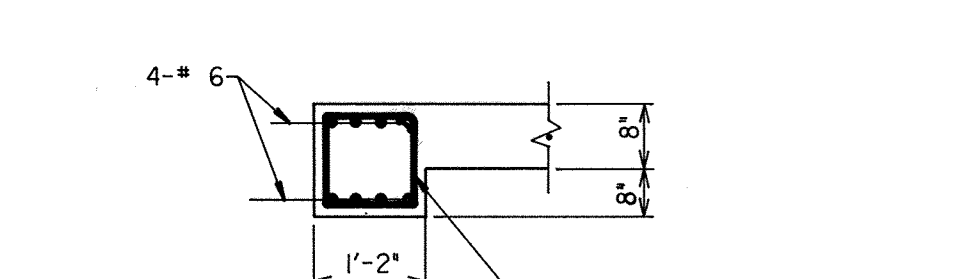
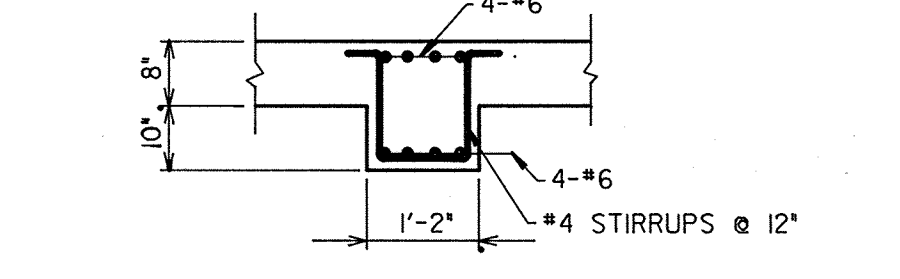
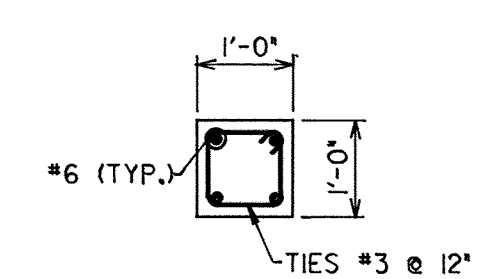
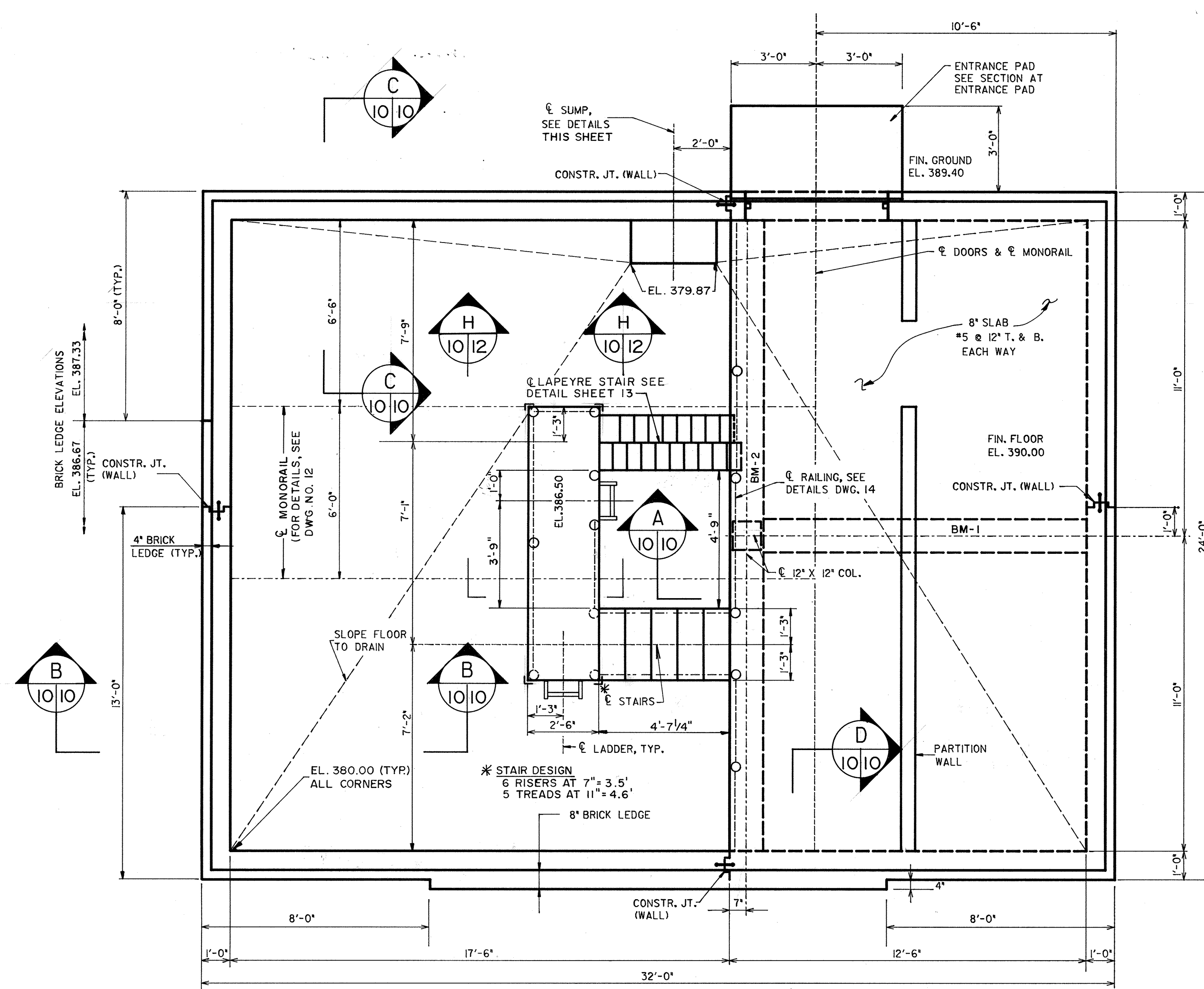
DES: J. COTT			
DRN: J. COTT			
CHK: J. PALK			
DATE: 9/23/90			
BY	N.O.	REVISION	DATE

**BUILDING SECTIONS/
ROOF FRAMING
PLAN & DETAILS**

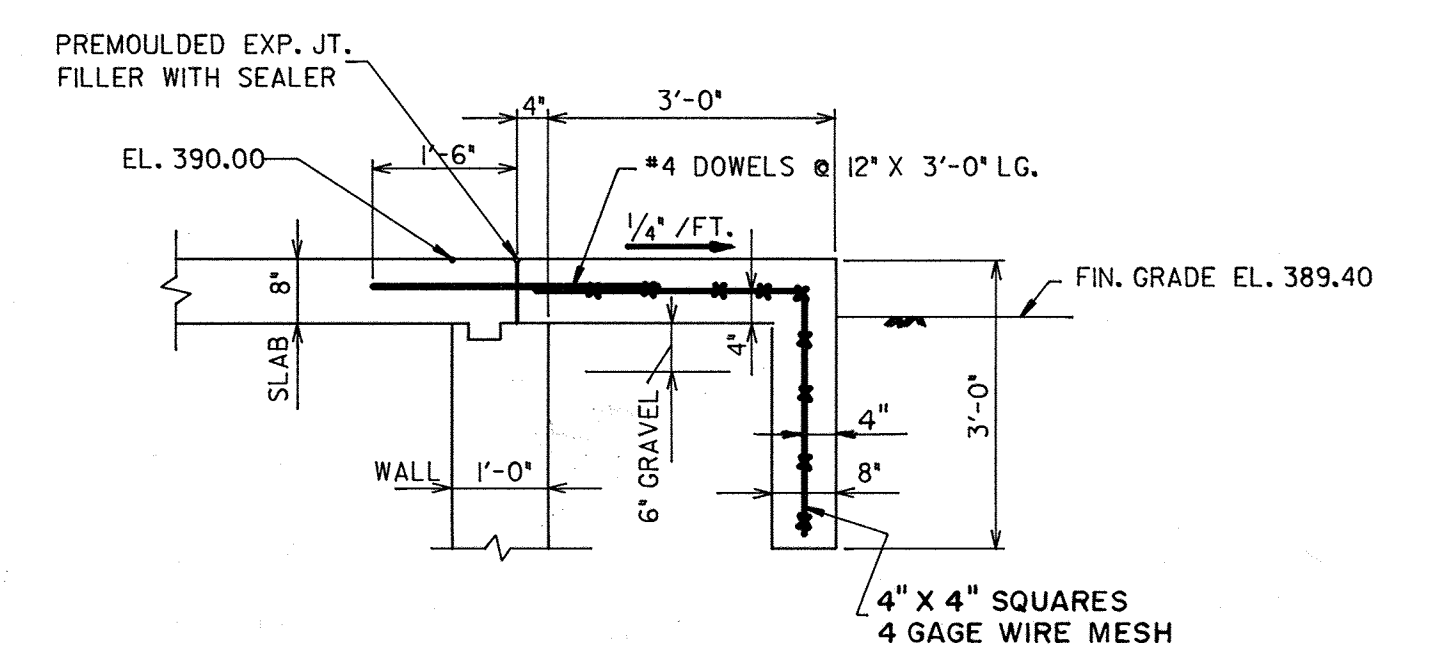
600' SCALE MAP NO. 30 BLOCK NO. 10 & 11

EDGAR ROAD WATER PUMPING STATION
CONTRACT NO. 44-1917
CAPITAL PROJECT NO. W-8129
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 9 OF 29

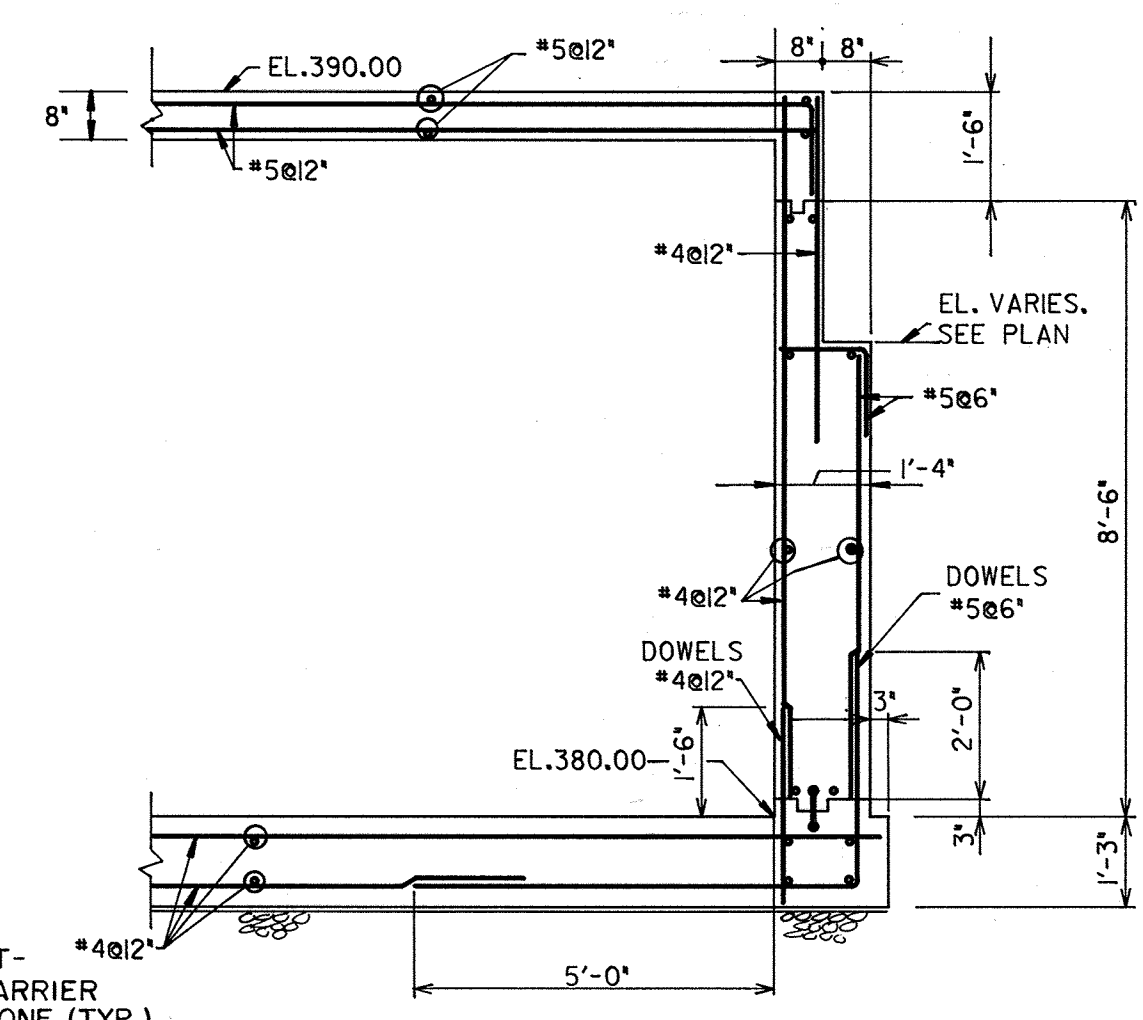
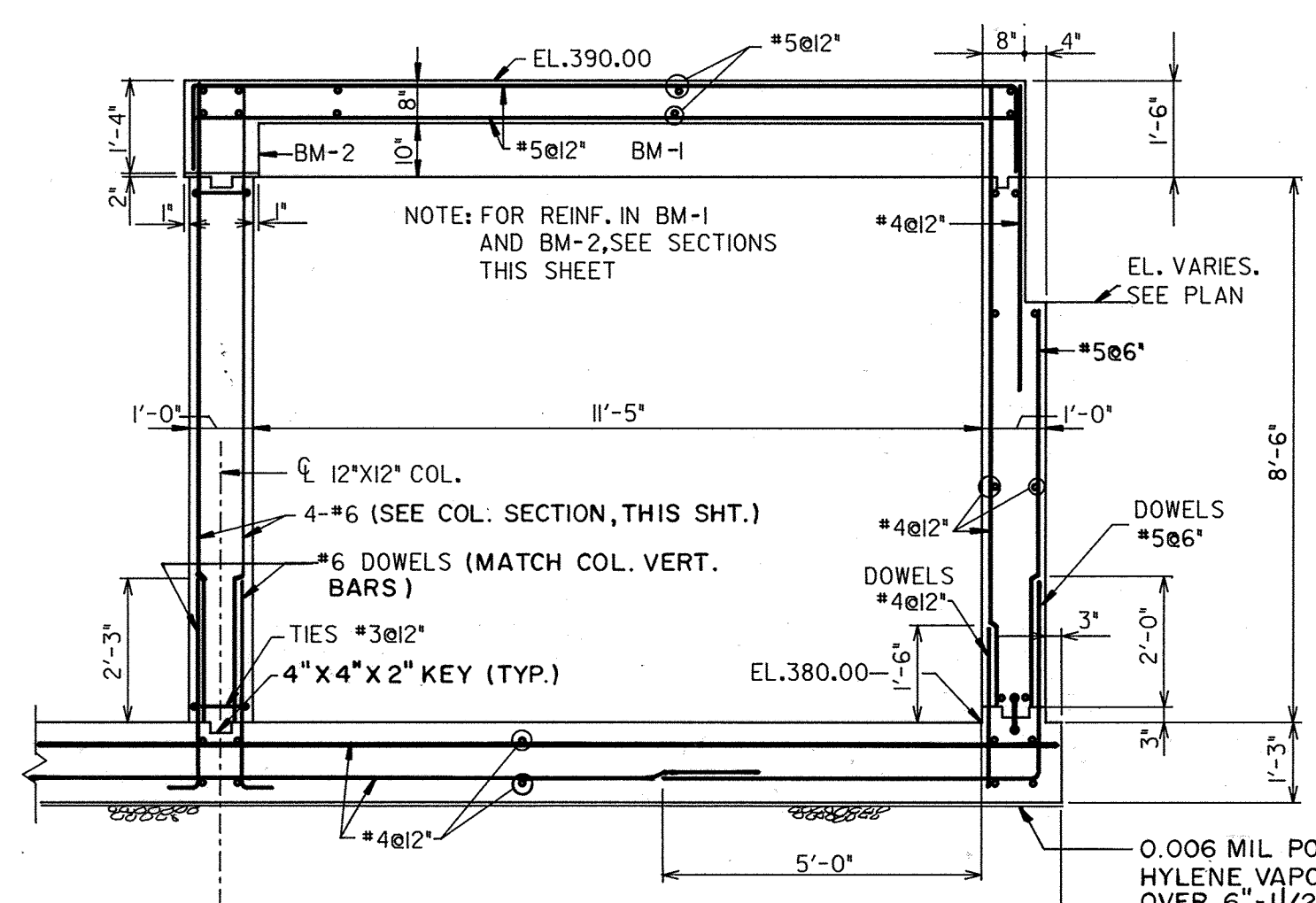
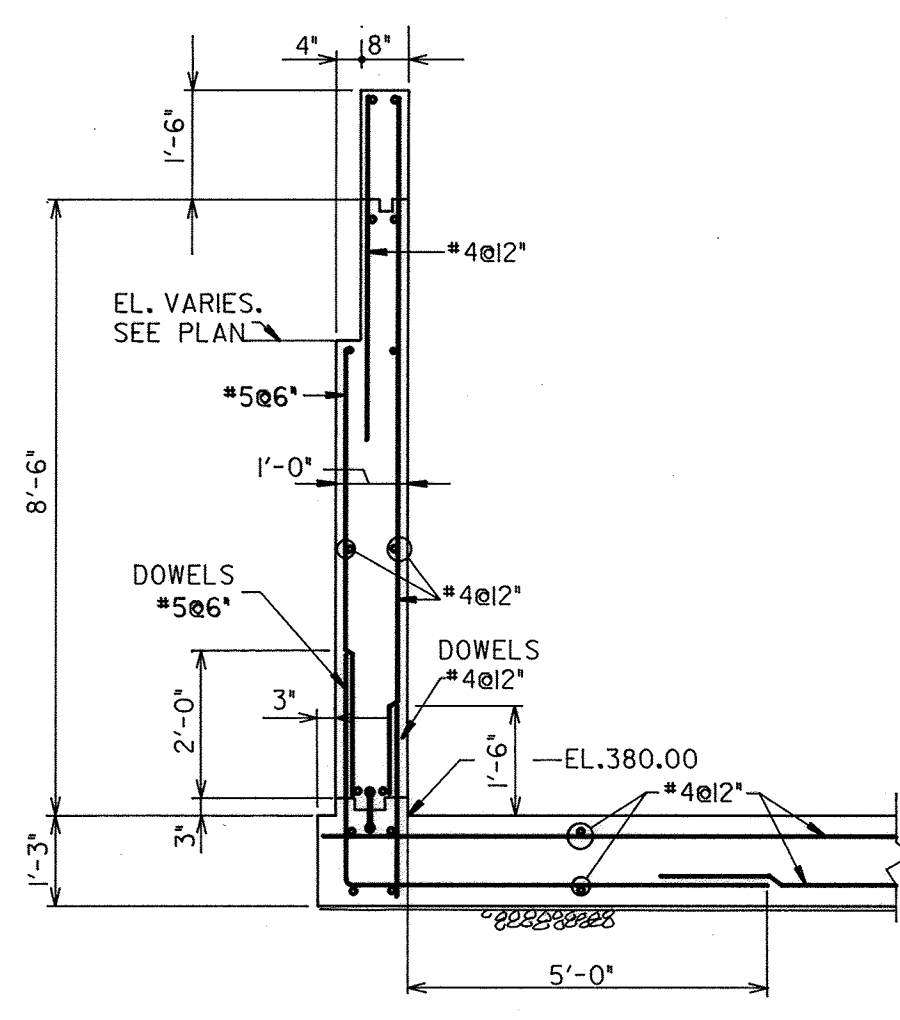


SUMP DETAILS
SCALE: 1/2" = 1'-0"



NOTES:

1. FOR STRUCTURAL NOTES, SEE SHT. 2
2. FOR MECHANICAL DETAILS, SEE SHT. 15 & 16
3. FOR ARCHITECTURAL PLANS AND DETAILS, SEE SHT. 7, 8 & 9
4. FOR MISCELLANEOUS DETAILS, SEE SHT. 12, 13 & 14.



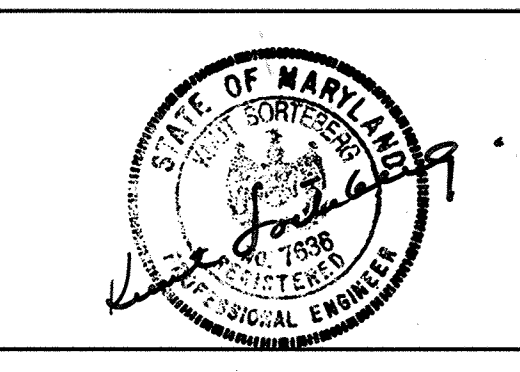
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works
DATE: 6-7-91

Chief, Bureau of Engineering
DATE: 6-6-91

Chief, Utility Design Division
DATE: 6-6-91

BUCHART HORN, INC.
Engineers, Architects, and Planners



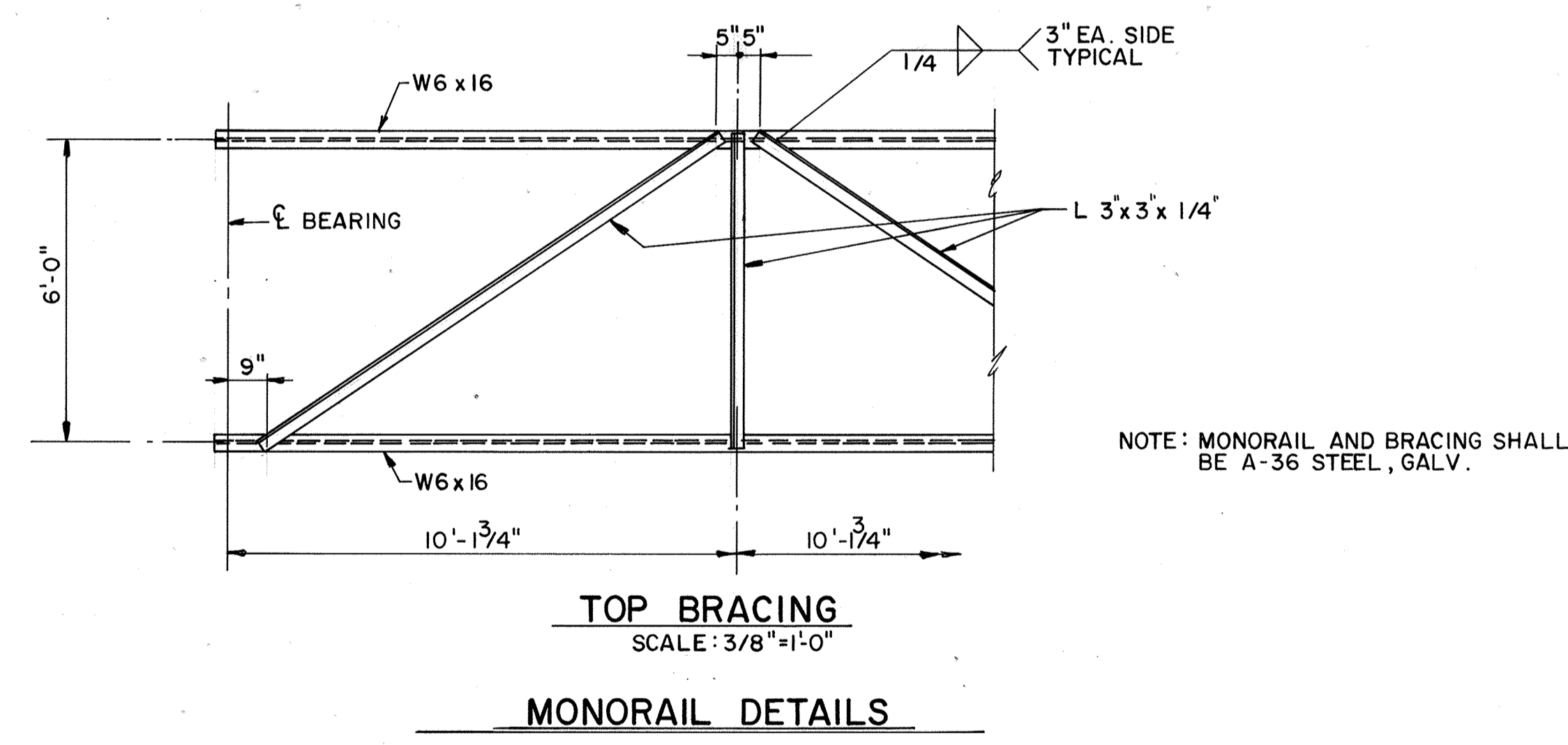
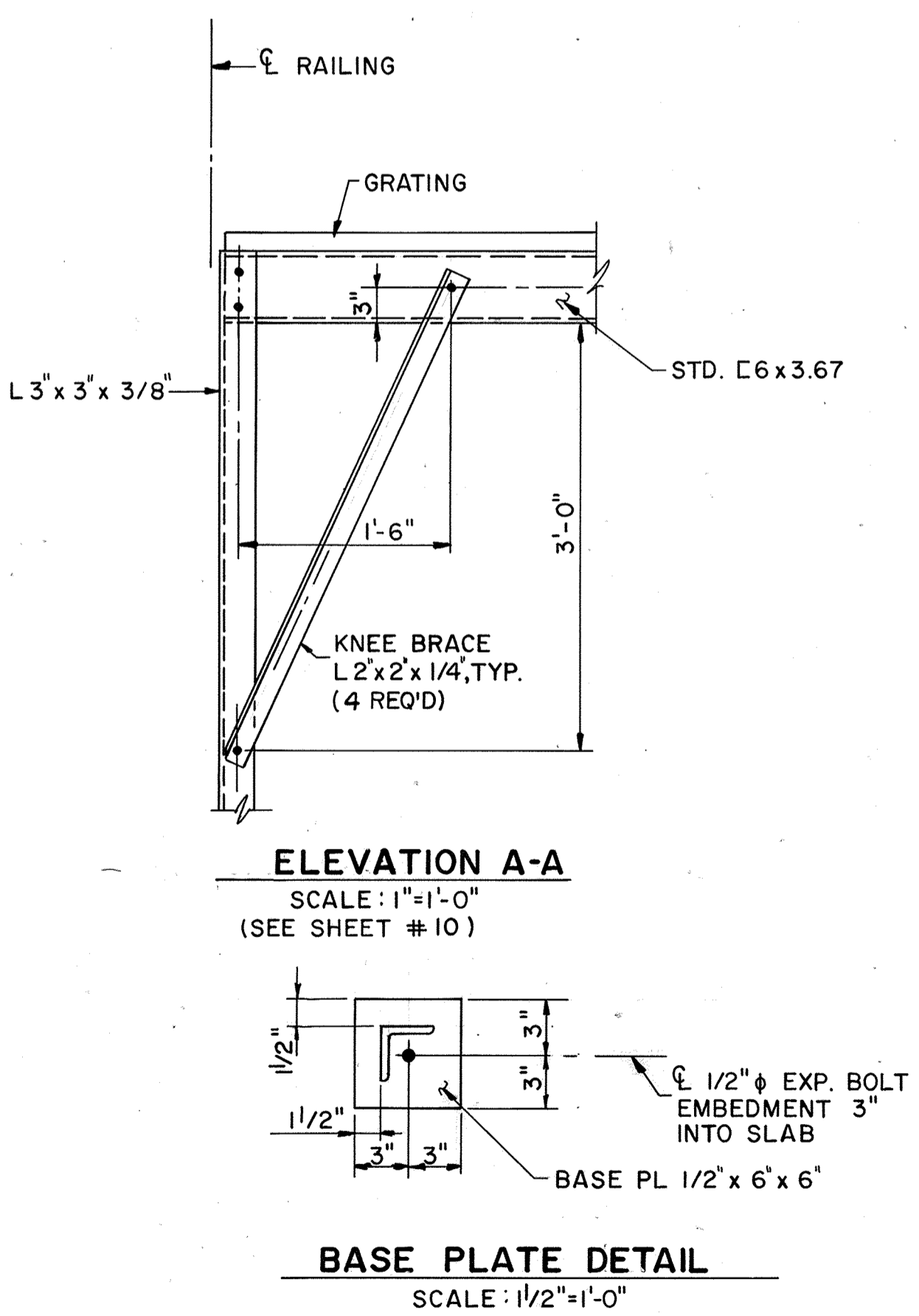
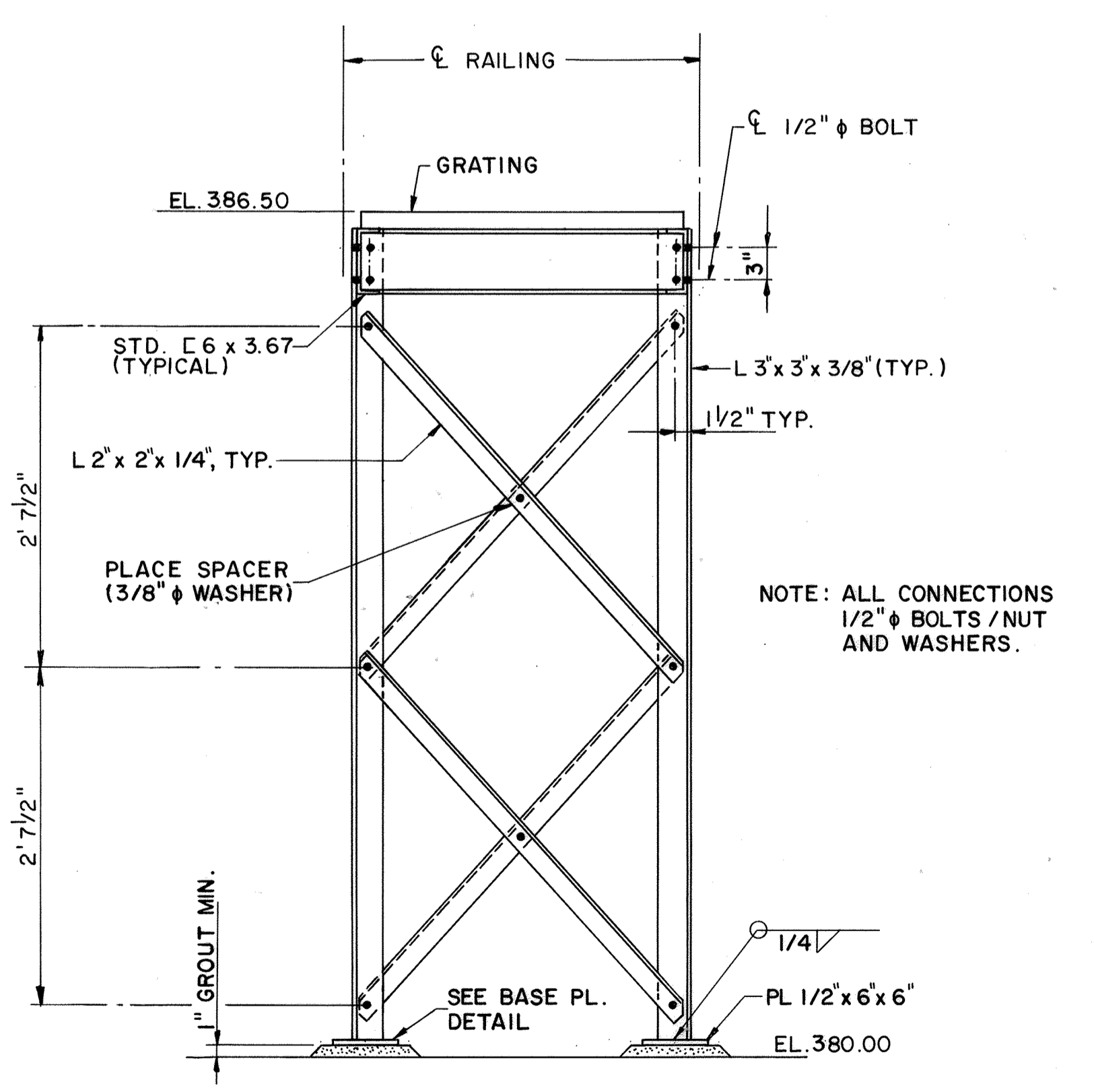
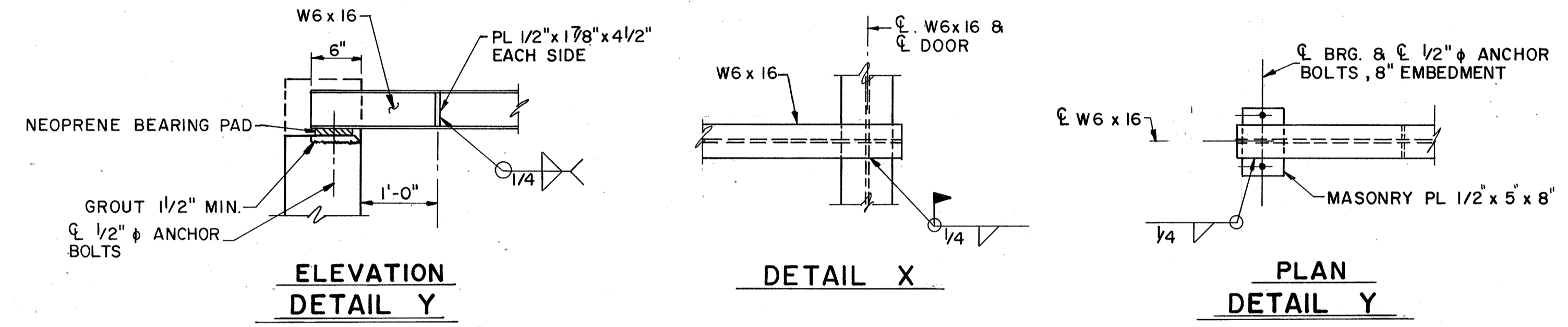
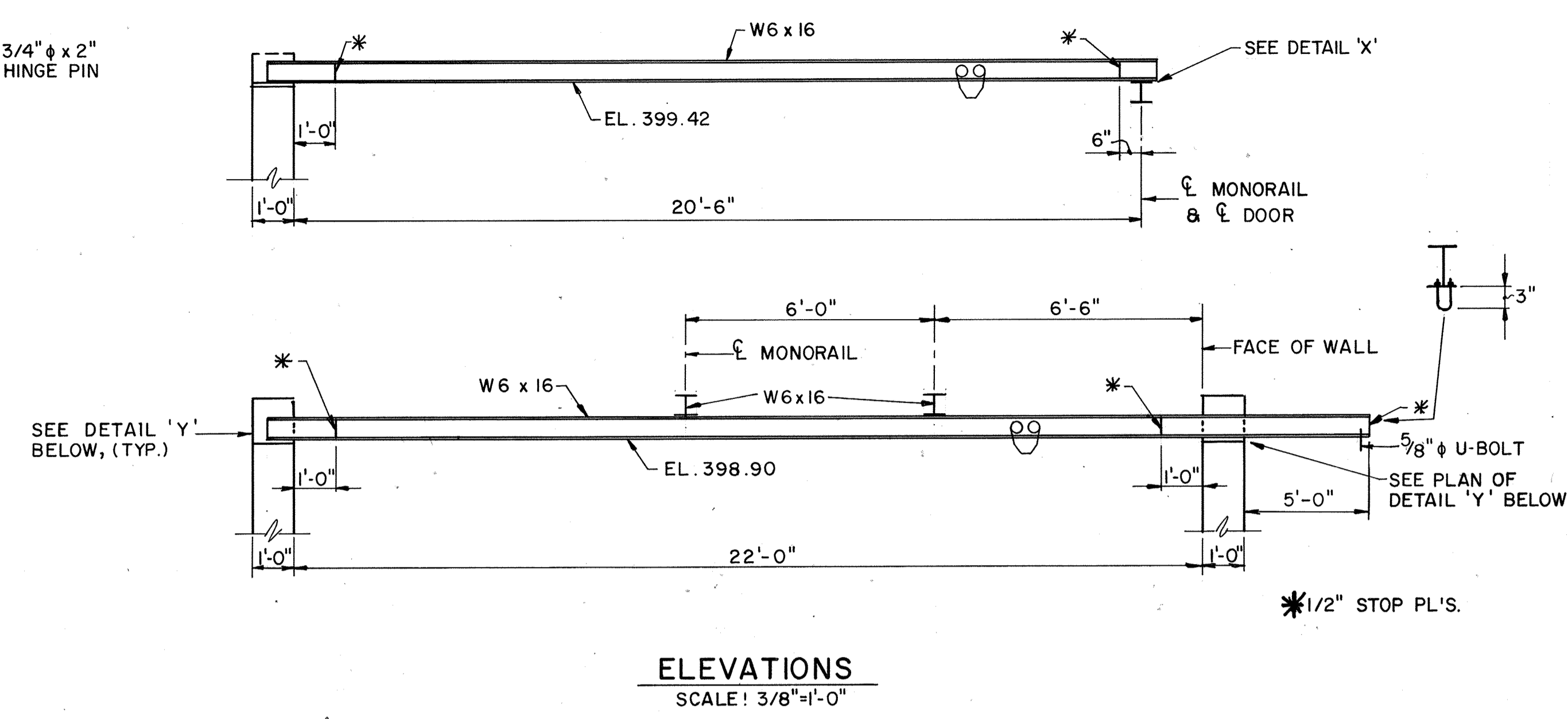
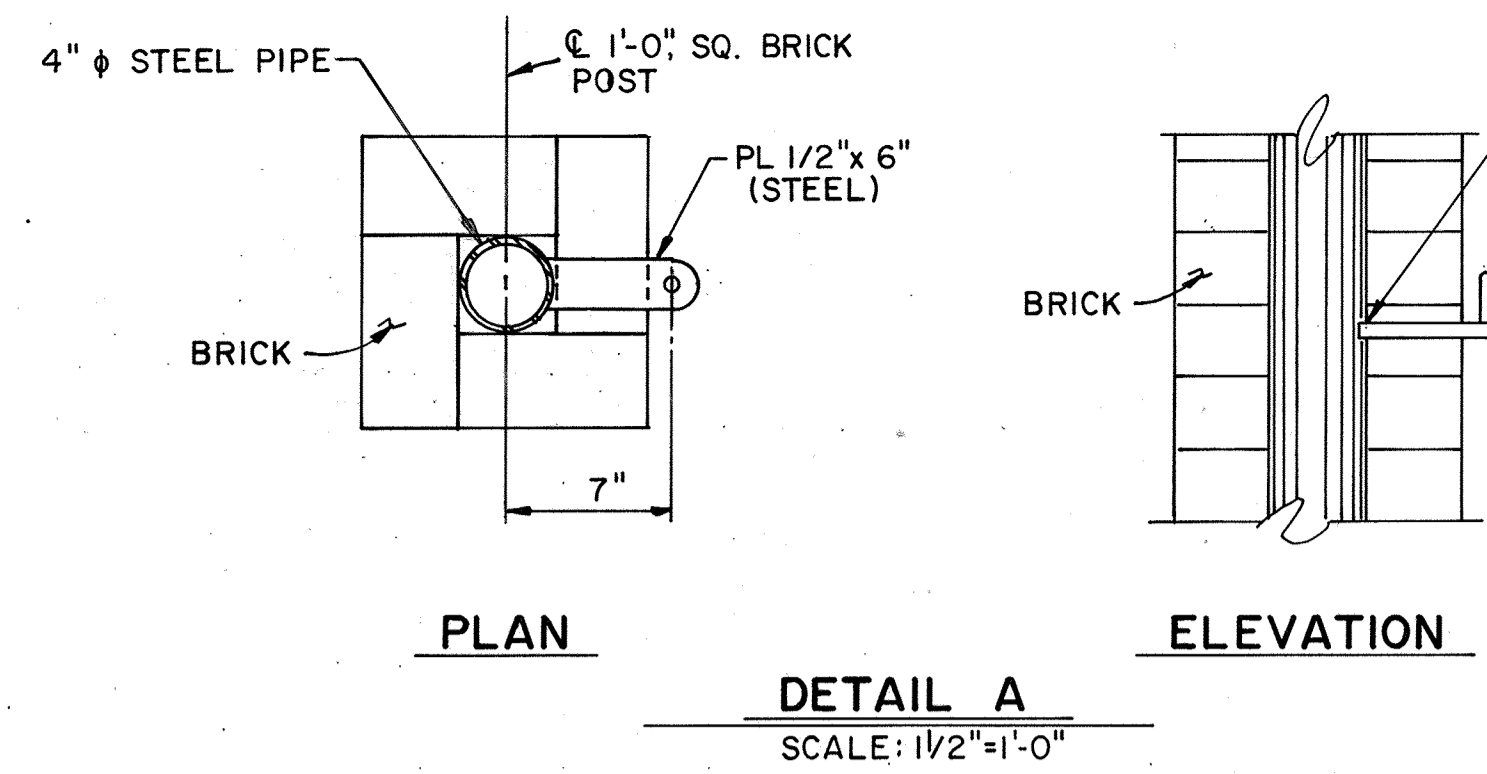
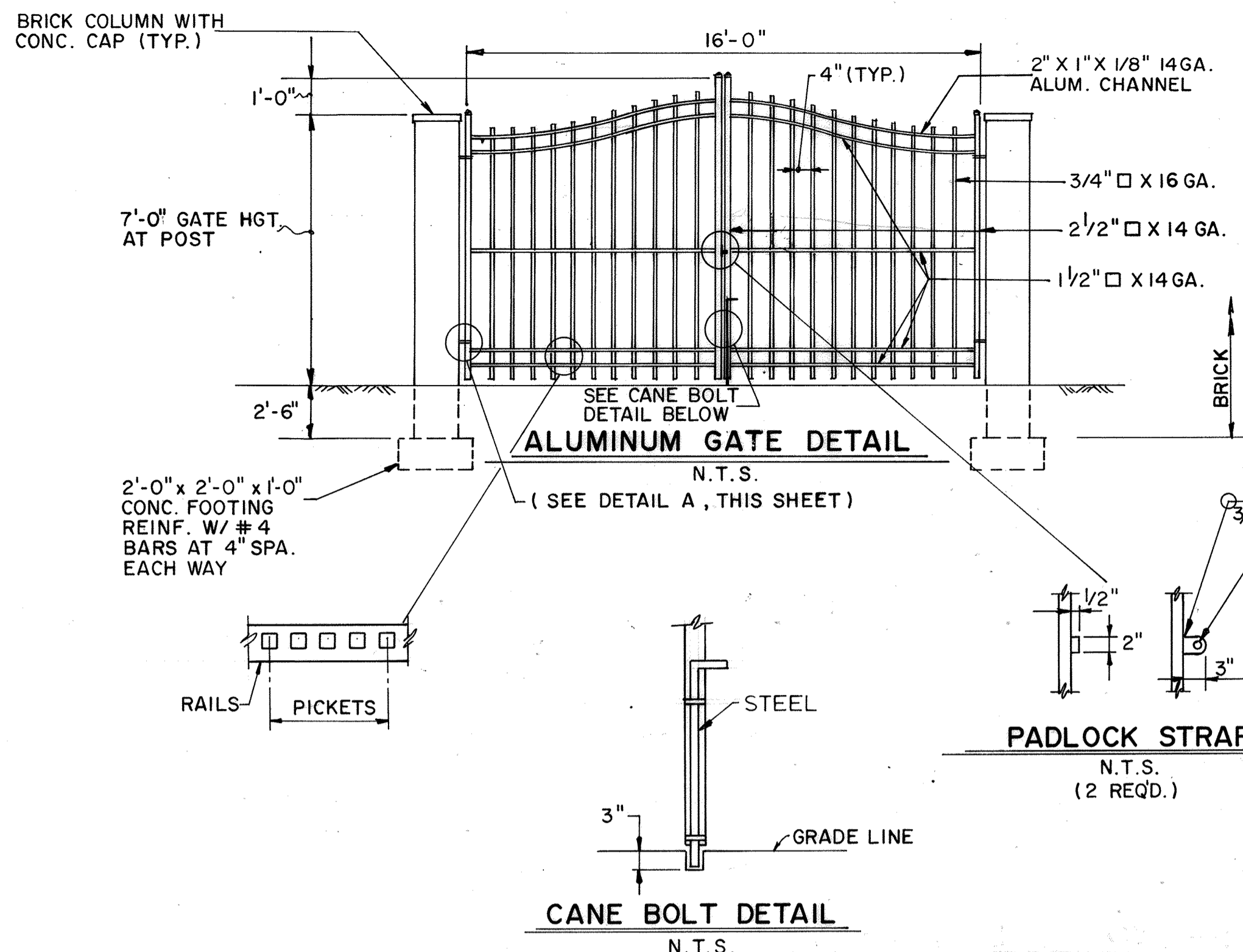
DES:	K. S.
DRN:	A. G. S.
CHK:	K. S.
DATE:	9/25/90
BY:	NO.
REVISION:	

STRUCTURAL PLAN & DETAILS

600' SCALE MAP NO. 30 BLOCK NO. 10 & 11

EDGAR ROAD WATER PUMPING STATION
CONTRACT NO. 44-1917
CAPITAL PROJECT NO. W-8129
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 10 OF 29



NOTES: FOR STRUCTURAL NOTES, SEE SHT. NO. 2.
FOR MONORAIL PLAN, SEE SHT. NO. 10.
FOR WALKWAY PLAN, SEE SHT. NO. 10.

ALUMINUM WALKWAY SUPPORT DETAILS
SCALE AS NOTED

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

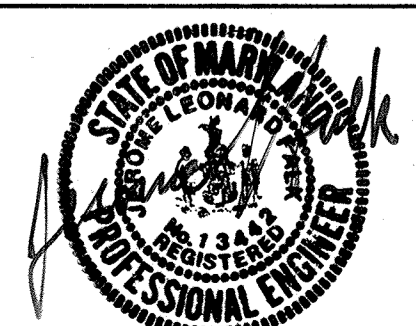
James A. ... 6-6-91
DIRECTOR OF PUBLIC WORKS DATE

Robert ... 6-7-91
CHIEF, BUREAU OF UTILITIES DATE

... .. 6-6-91
CHIEF, UTILITY DESIGN DIVISION DATE

bh
BUCHART HORN, INC.
Engineers, Architects and planners

Baltimore, MD. Memphis, TN.
Charleston, W.V. Mt. Laurel, NJ.
Franklin, W. Germany New Orleans, LA.
Lancaster, Pa. Williamsport, Va.
Lansburg, Pa. York, Pa.



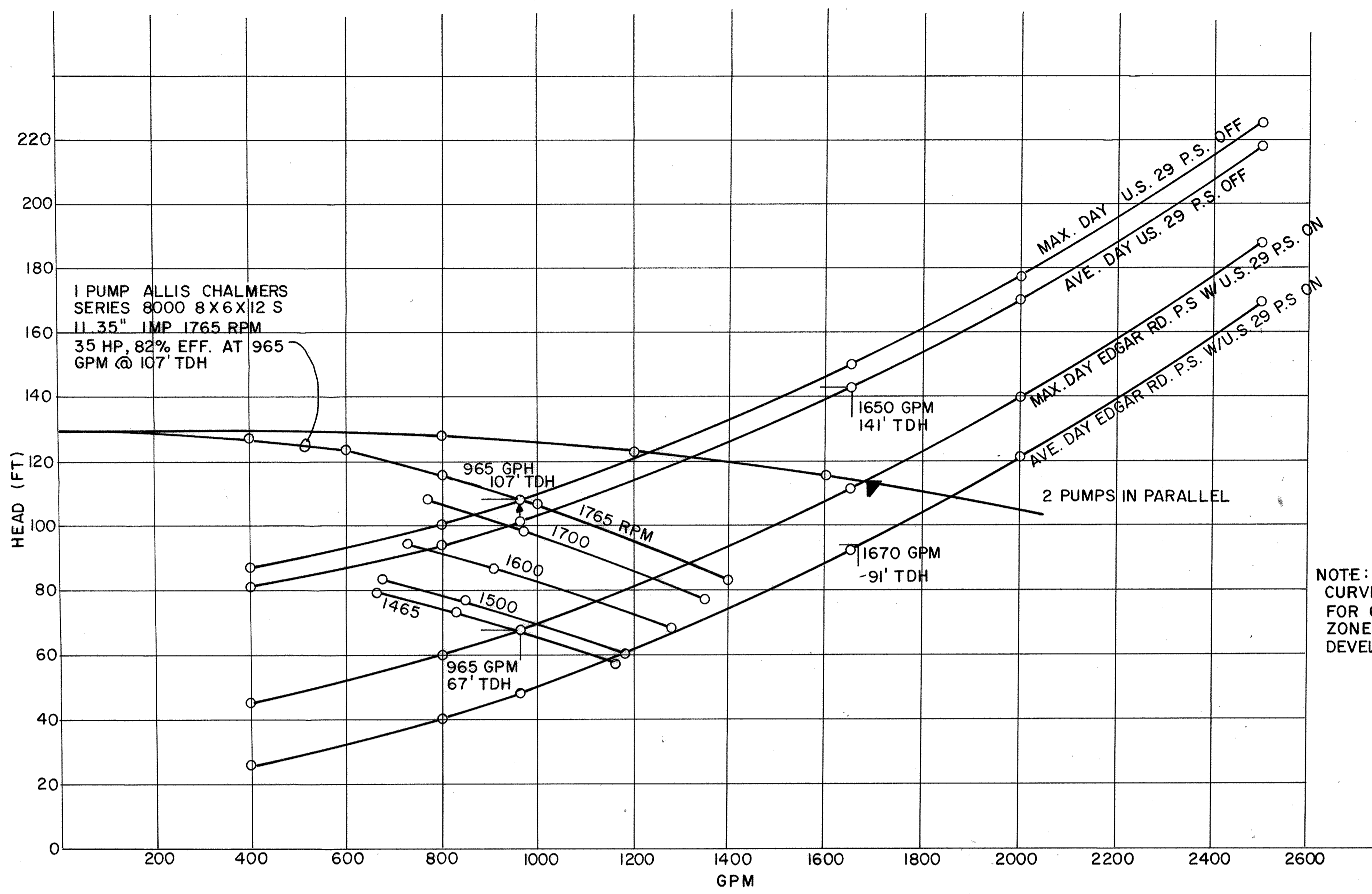
DES: K.S.				
DRN: A.G.S.				
CHK: K.S.				
DATE: 9/25/90	BY	NO.	REVISION	DATE

MISCELLANEOUS DETAILS

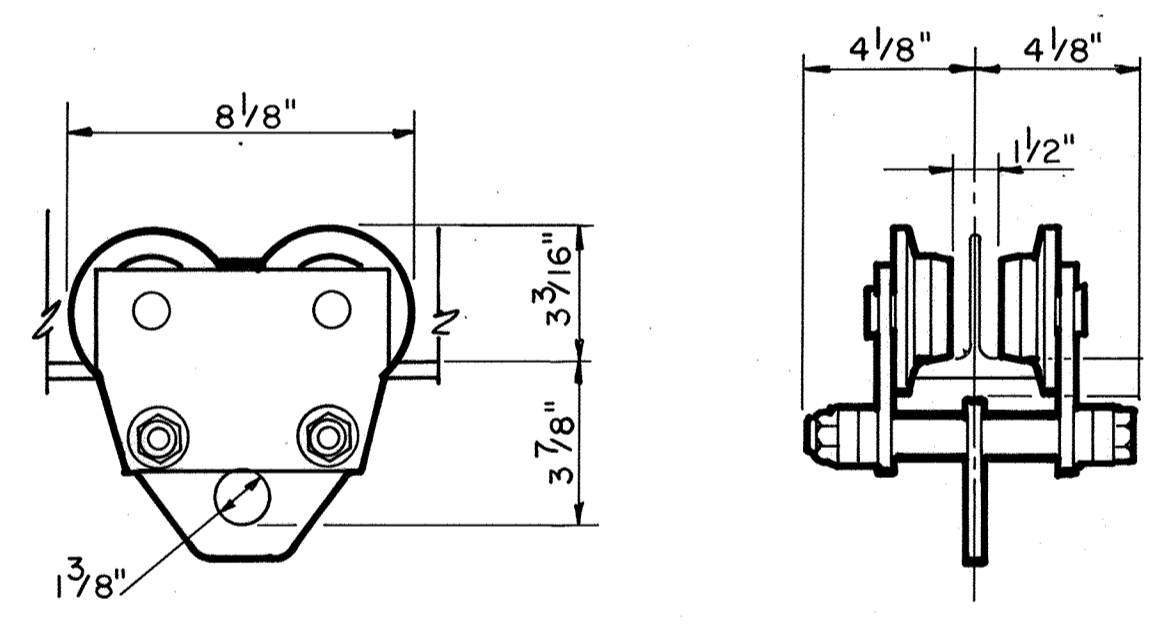
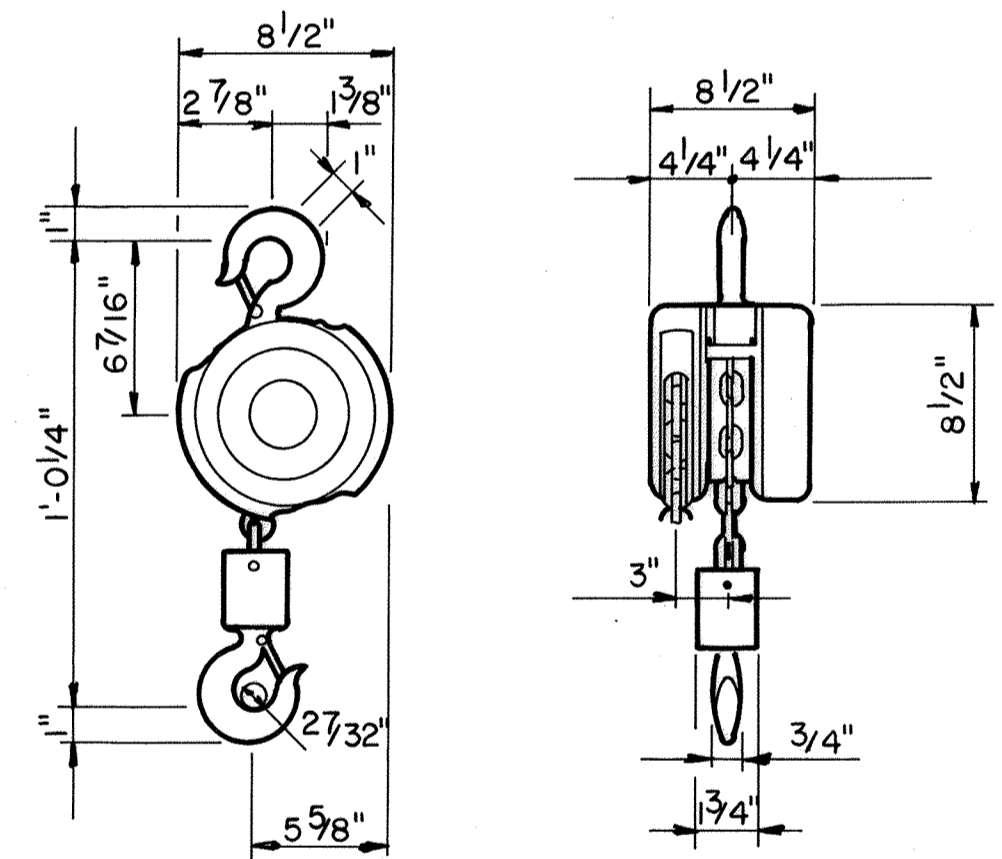
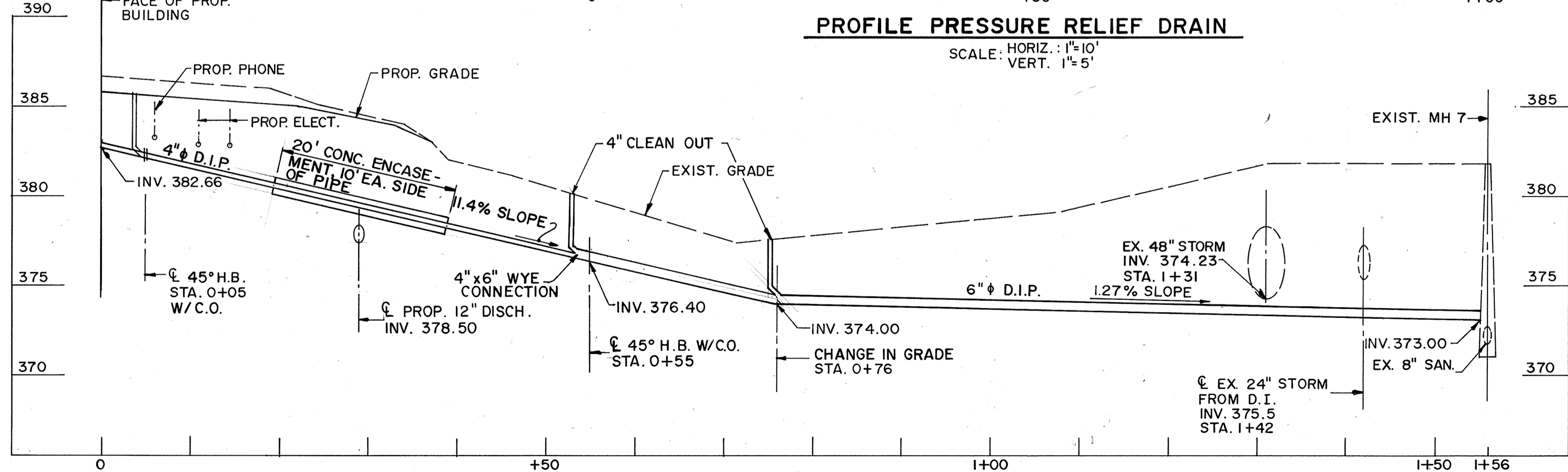
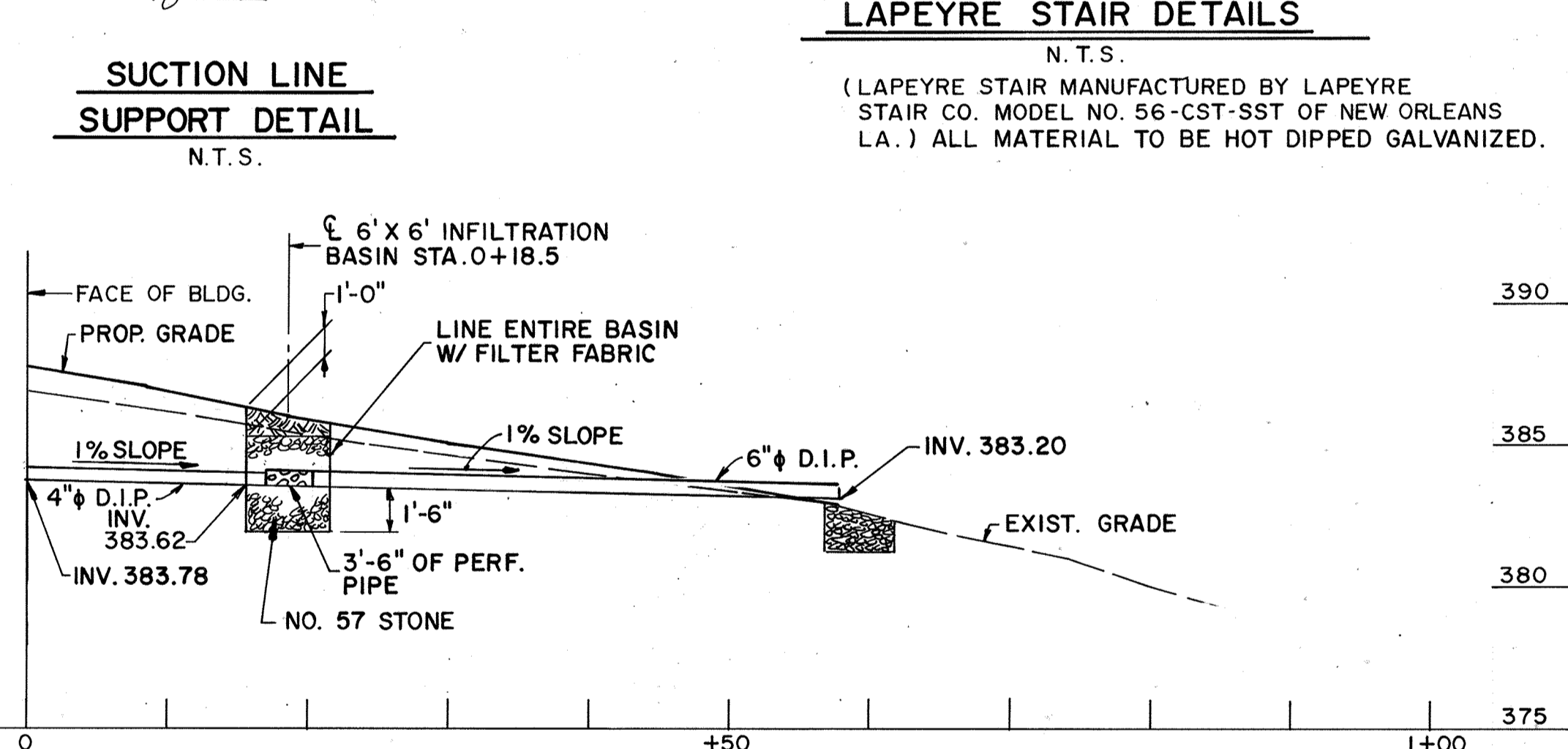
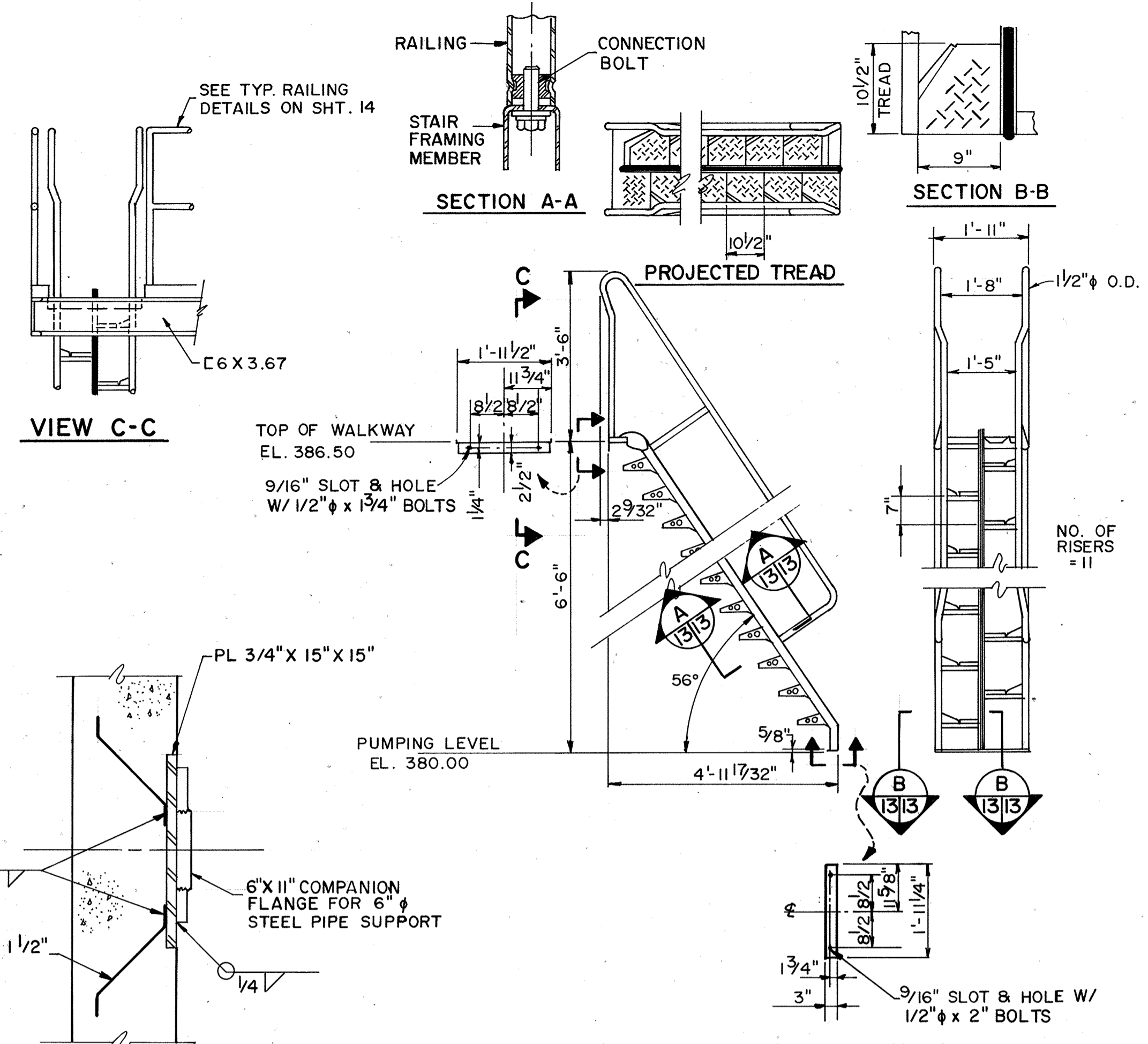
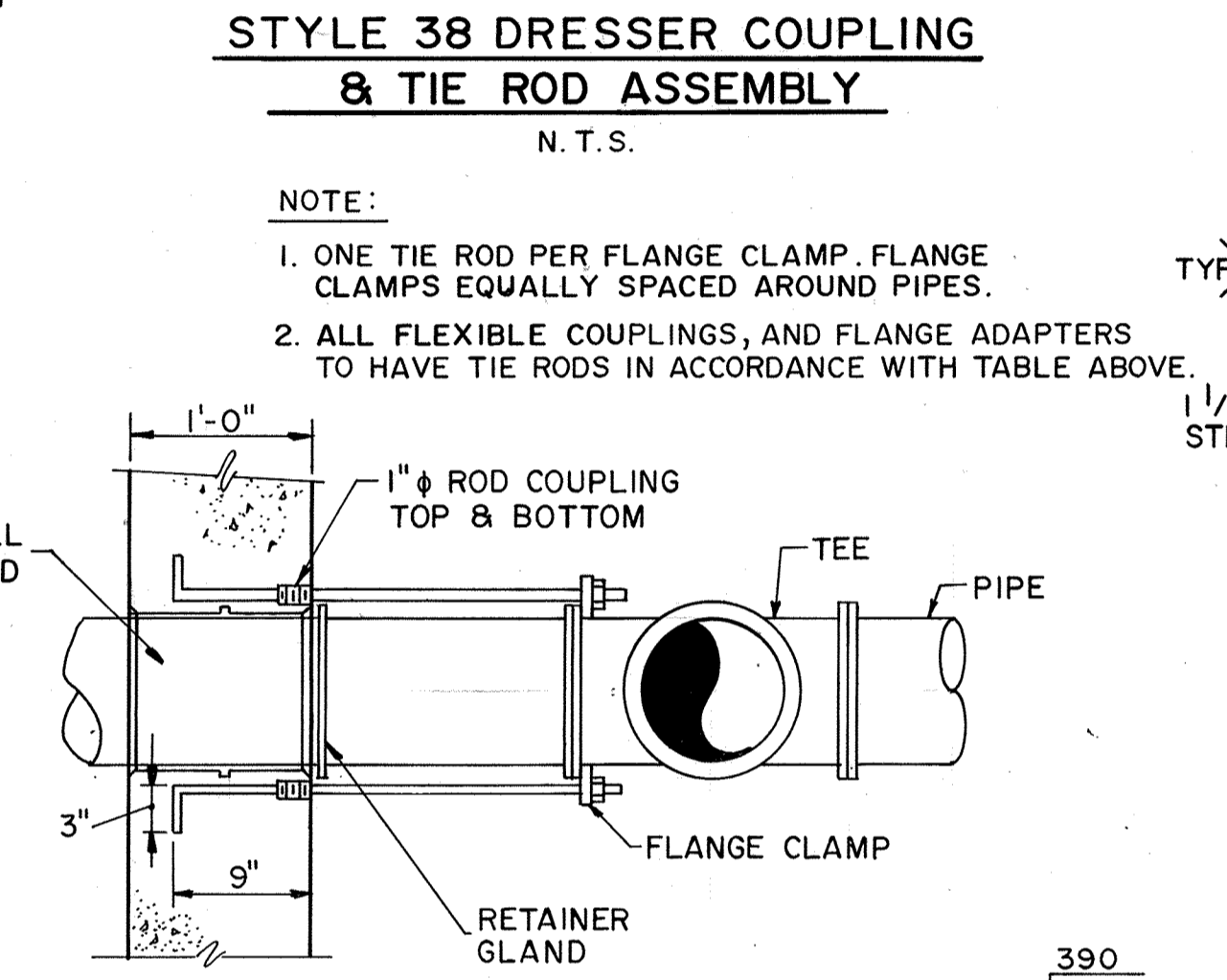
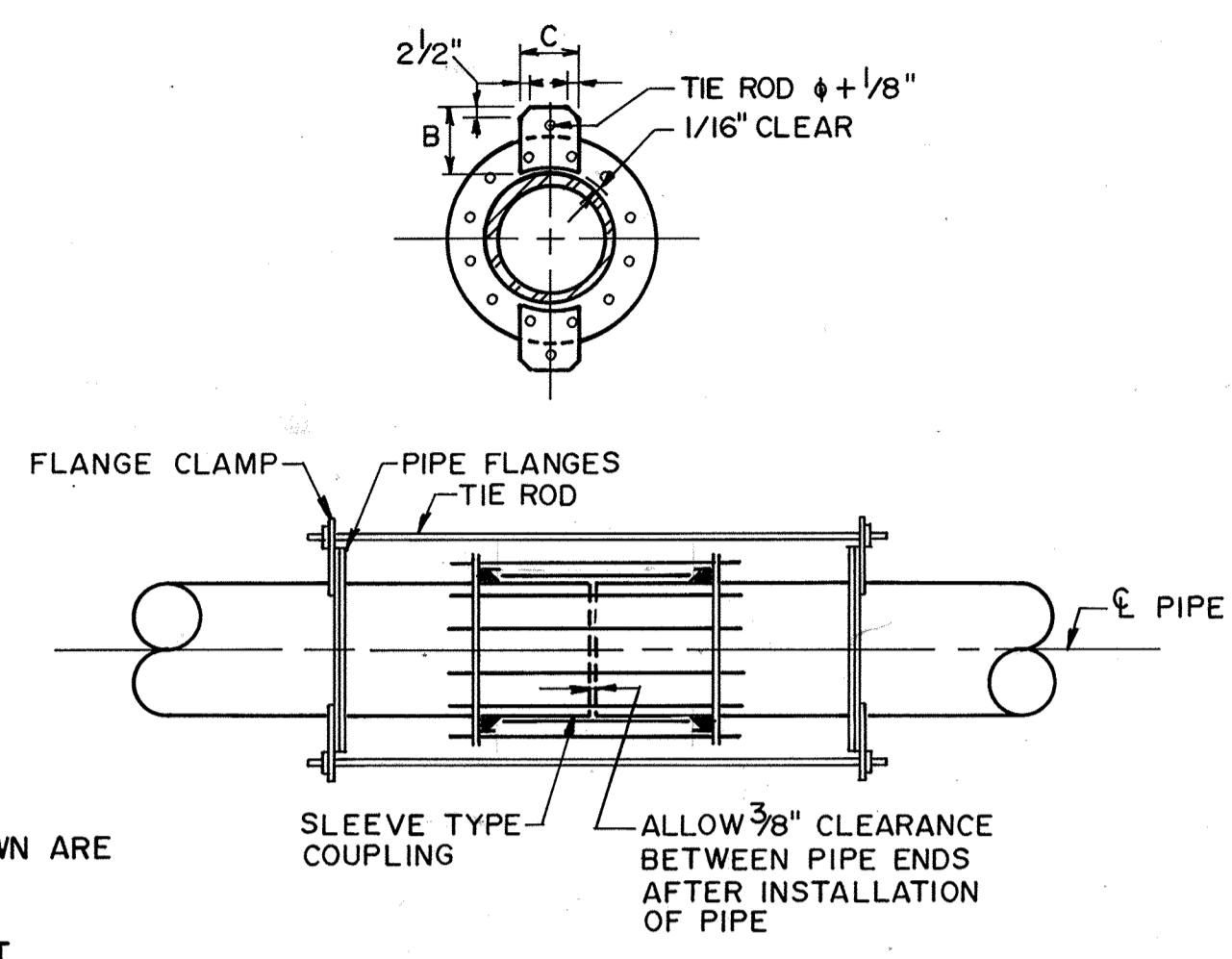
600' SCALE MAP NO. 30 BLOCK NO. 10 & 11

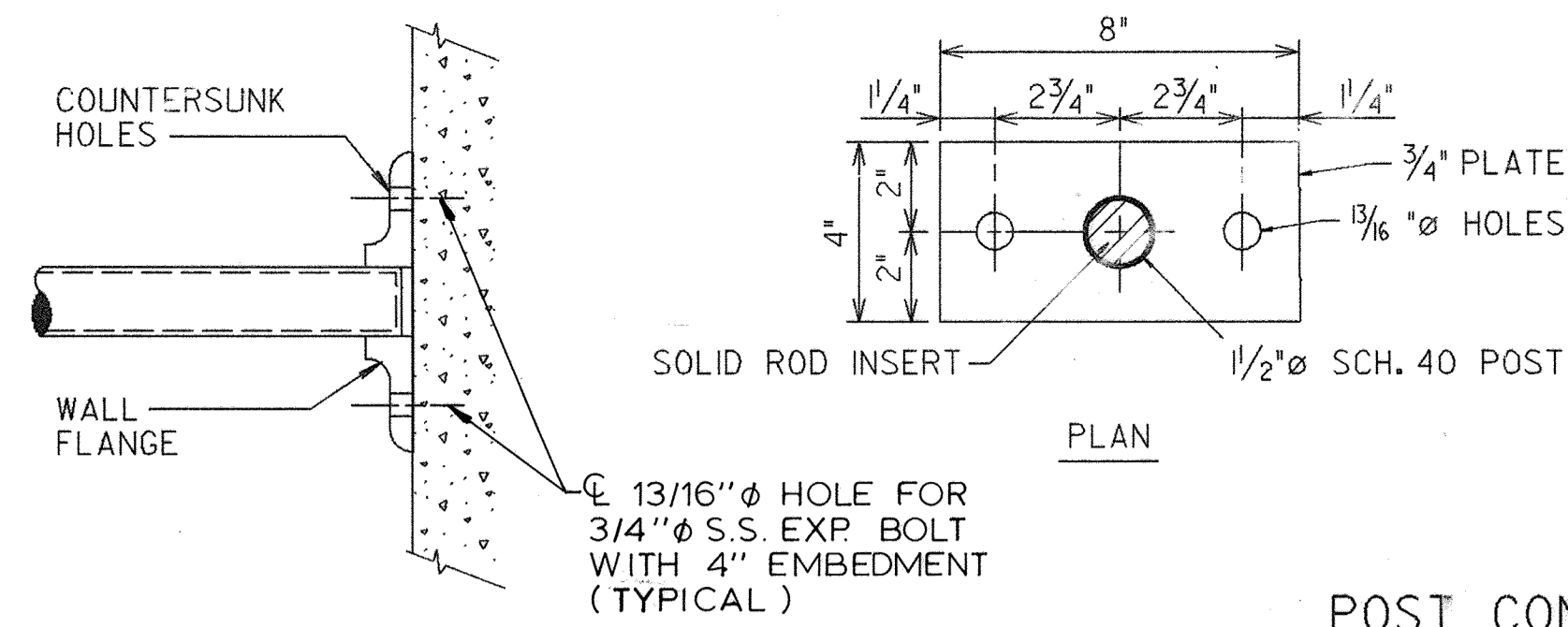
EDGAR ROAD WATER PUMPING STATION
CONTRACT NO. 44-1917
CAPITAL PROJECT NO. W-8129
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 12 OF 29

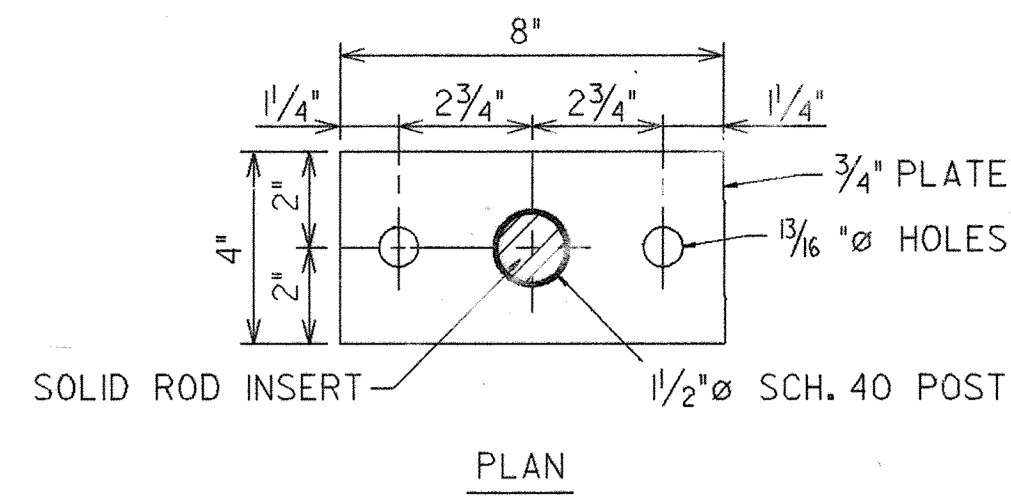


PIPE SIZE	TIE RODS NO.	DIA.	FLANGE CLAMP			NO. OF FLC BOLTS PER CLAMP
			THICK	"B"	"C"	
8"	2	5/8"	1/2"	4 5/8"	8 9/8"	2
10"	2	1"	3/4"	5"	10"	2
12"	2	1"	3/4"	5"	10"	2

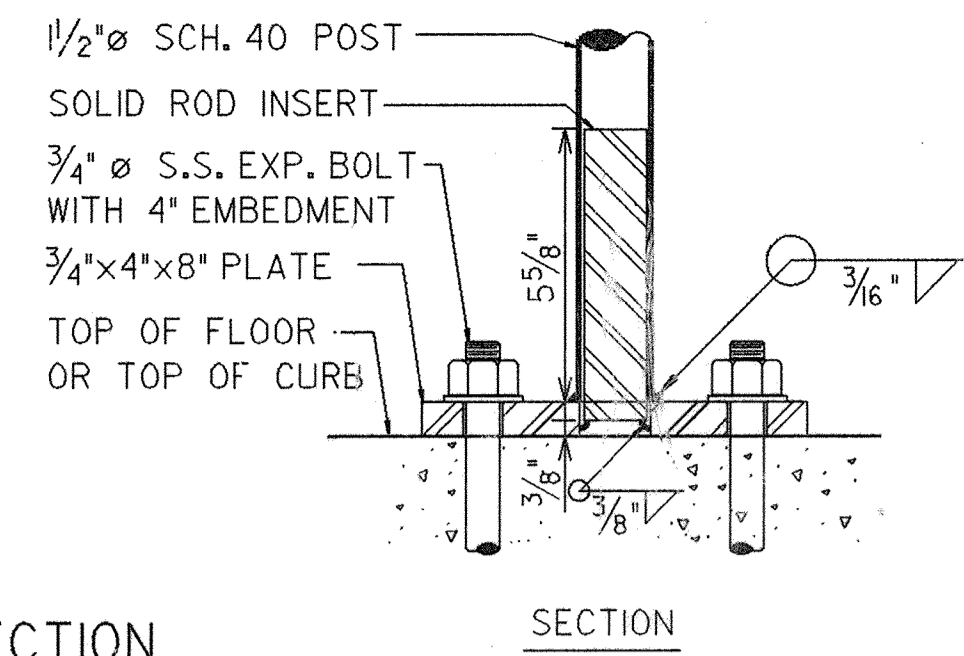




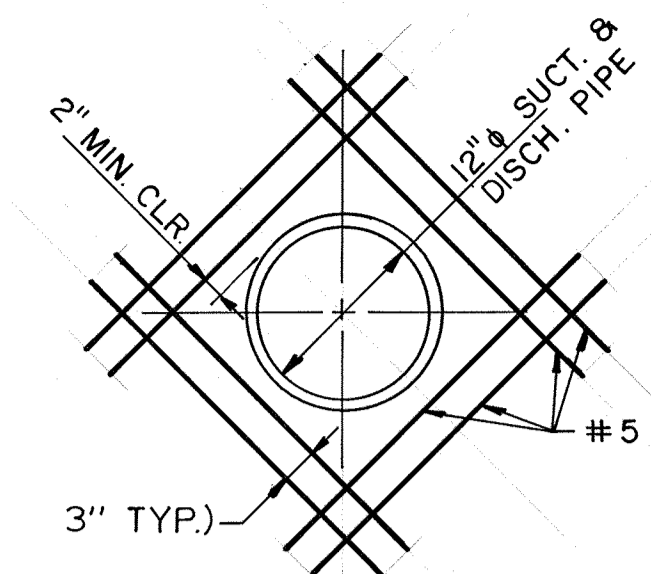
WALL FLANGE DETAIL
SCALE: 3"=1'-0"



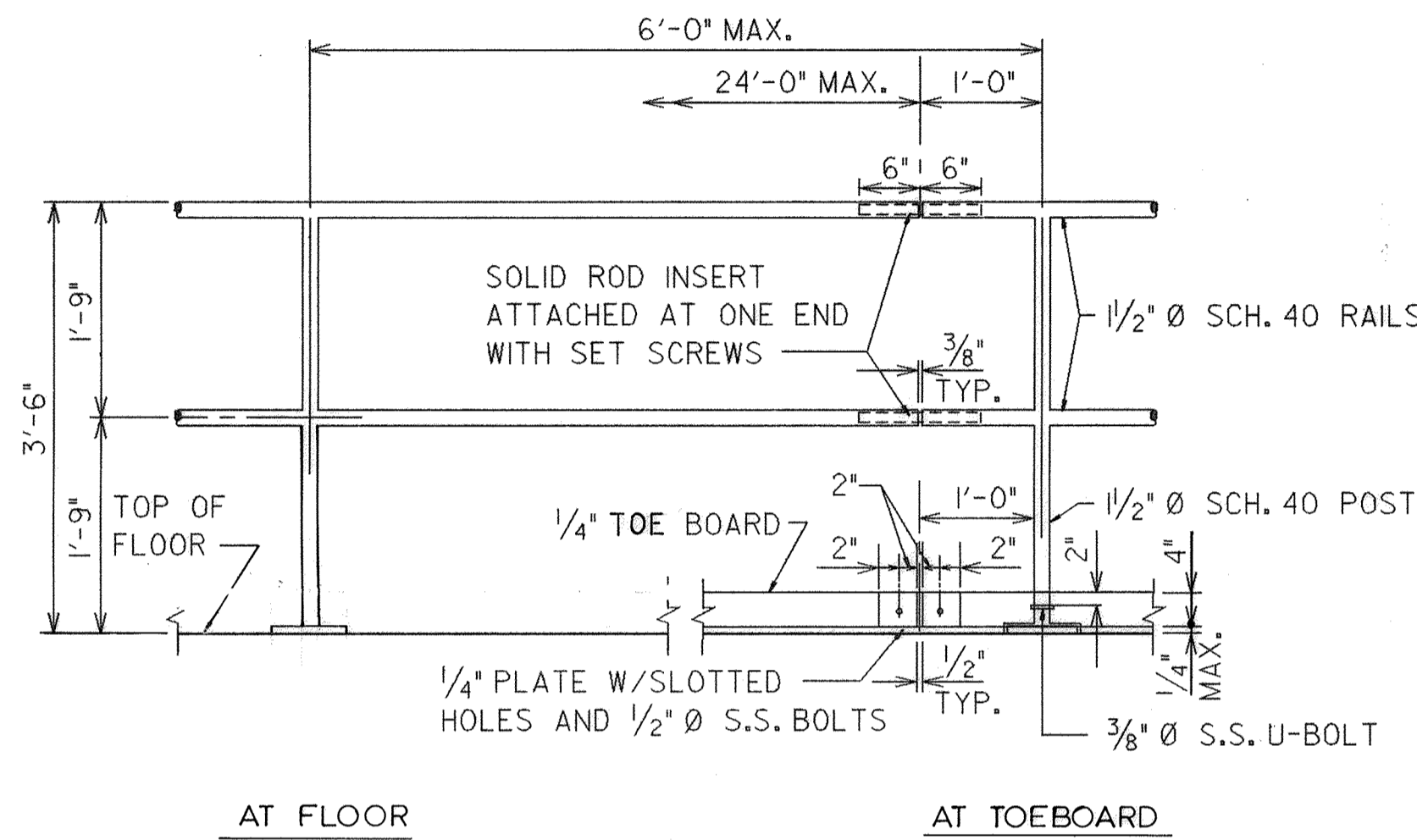
POST CONNECTION
SCALE: 3"=1'-0"



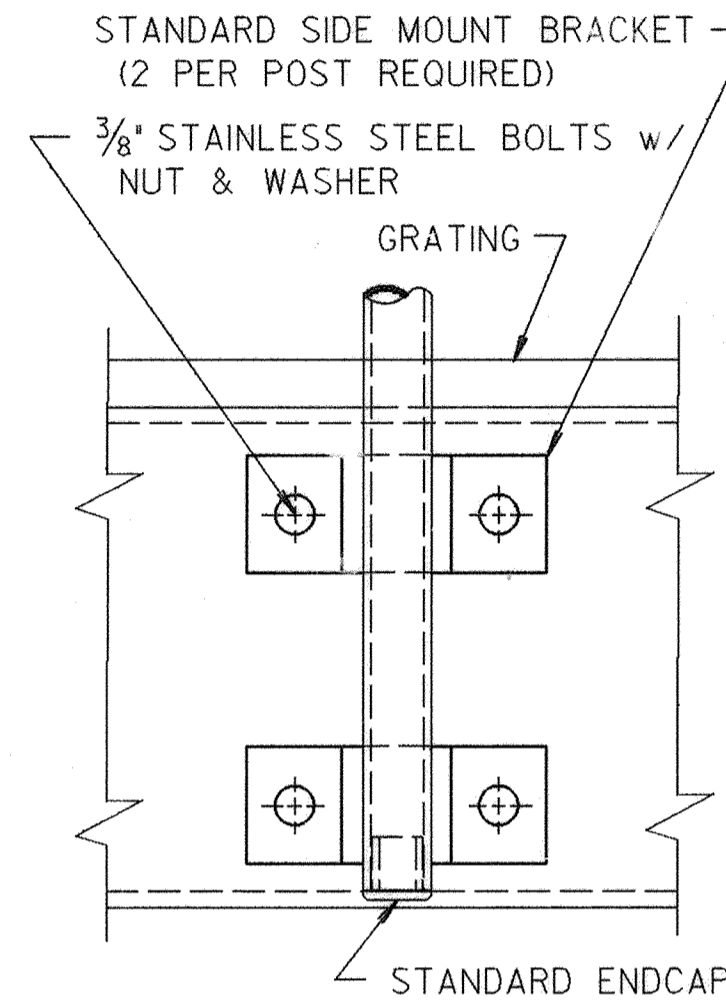
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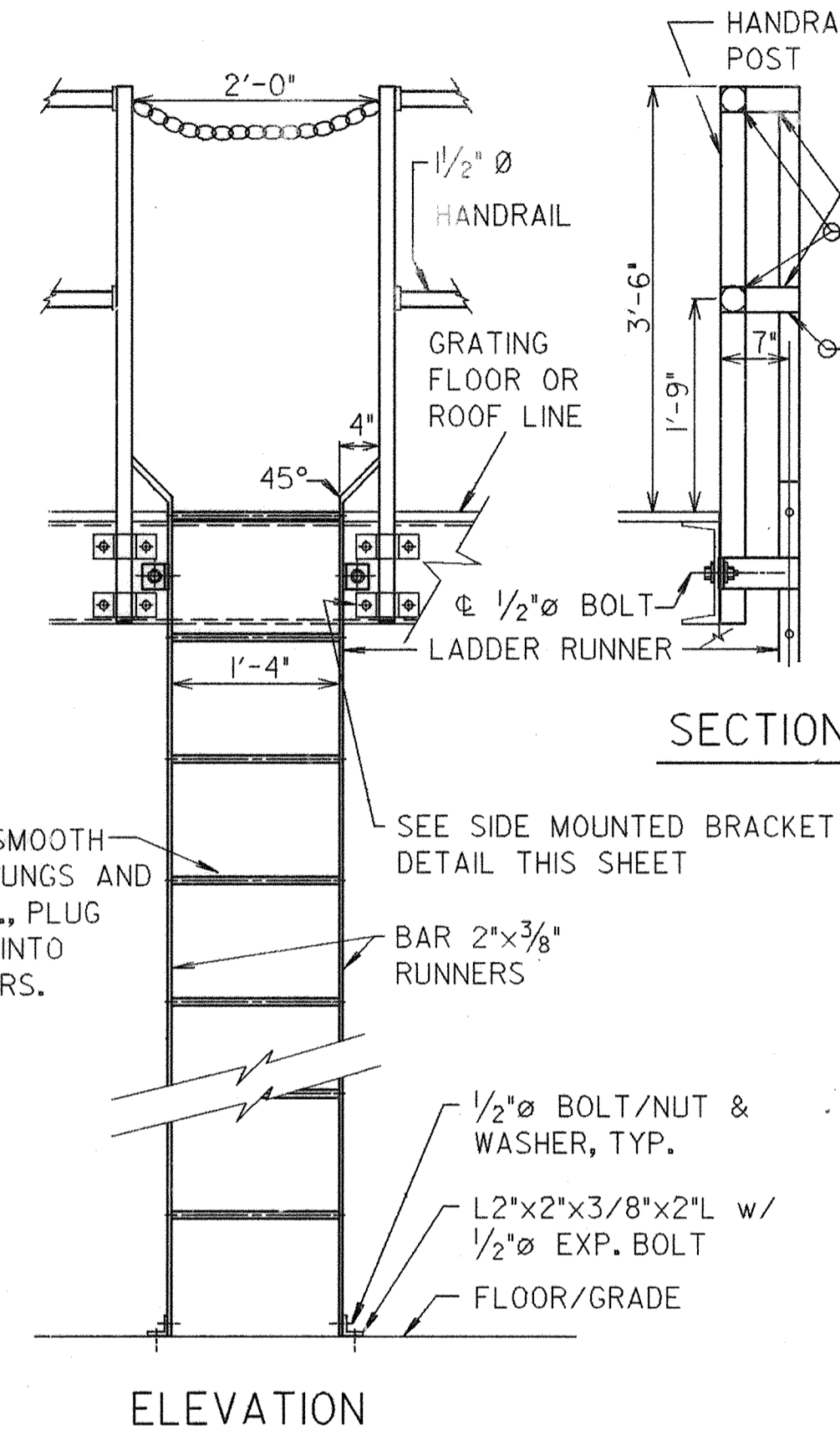
ADDITIONAL REINFORCEMENT AT WALL OPENINGS
NO SCALE



TYPICAL ELEVATION
SCALE: 3/4"=1'-0"

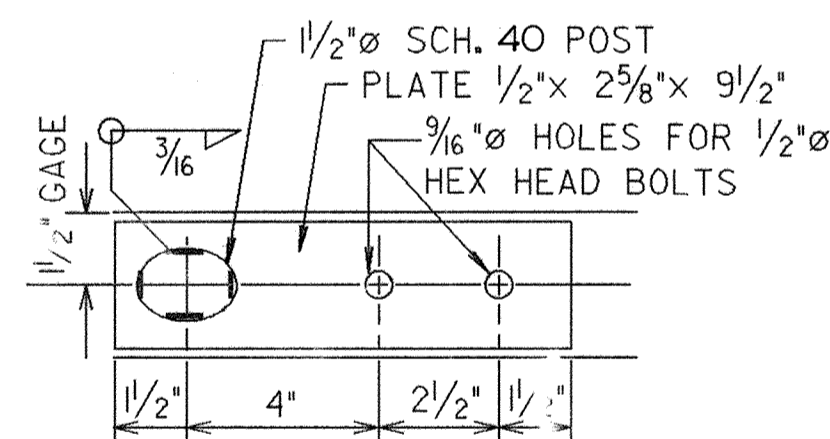


SIDE MOUNTED BRACKET
SCALE: 3"=1'-0"



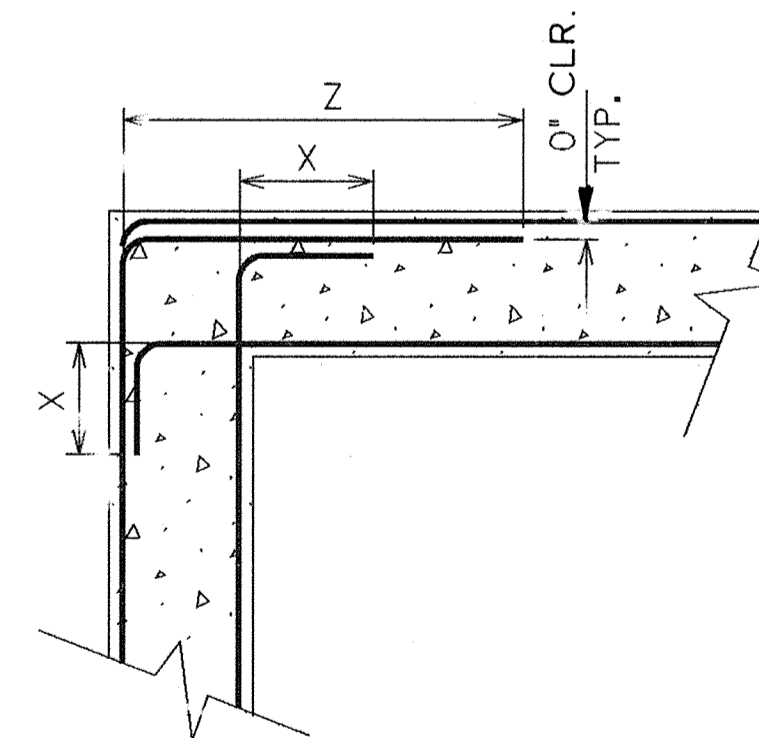
ELEVATION

**ALUMINUM STANDARD LADDER W/
RAILING CONNECTIONS**
SCALE: 3/4"=1'-0"



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

BAR SIZE	90° HOOKS
#3	6"
#4	8"
#5	10"
#6	12"
#7	14"
#8	16"
#9	19"
#10	22"
#11	24"

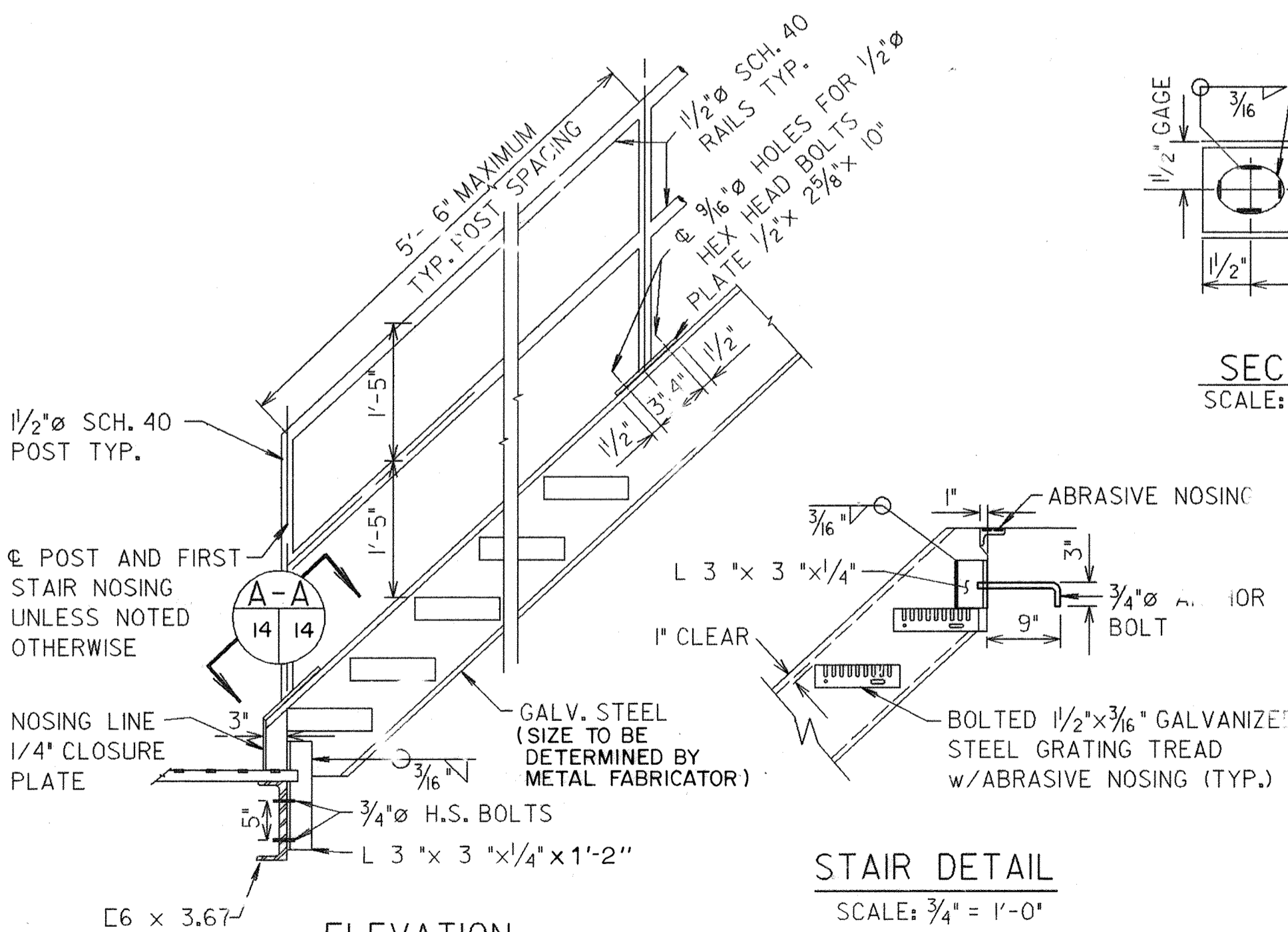


**HORIZONTAL REINFORCEMENT
AT WALL INTERSECTIONS**
SCALE: 3/4"=1'-0"

NOTE:
L, Z" = 36 BAR DIAMETERS. FOR "X" SEE TABLE ABOVE.

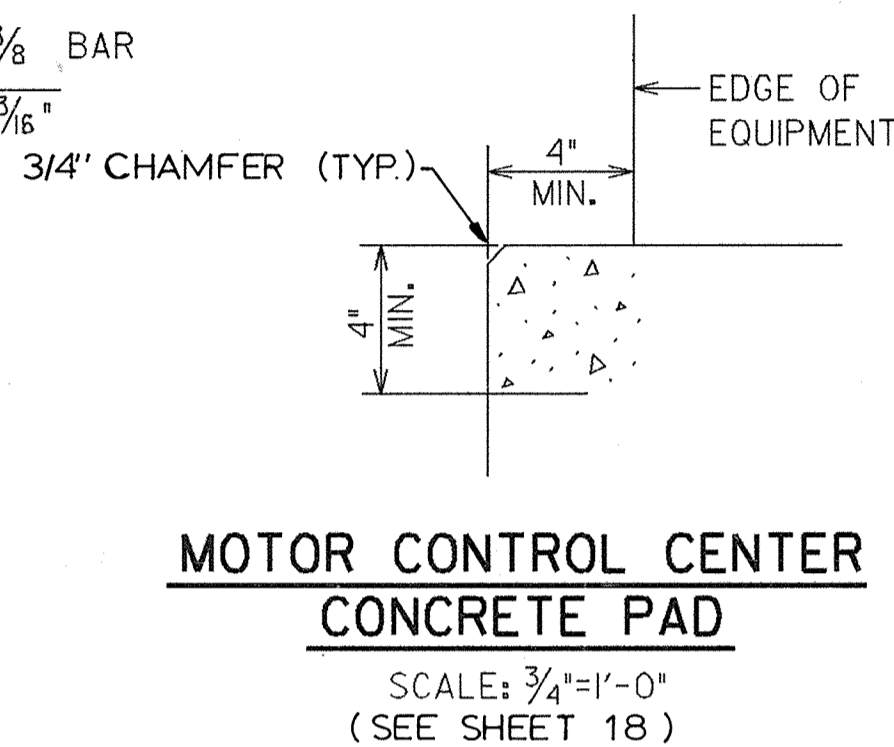
AT FLOOR AT TOEBOARD

ALUMINUM RAILING DETAILS
SCALES AS SHOWN

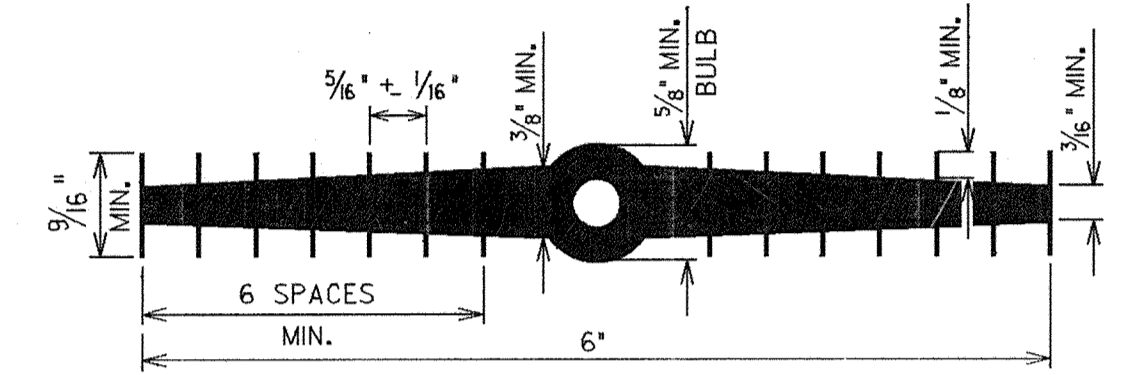


ELEVATION
SCALE: 3/4"=1'-0"

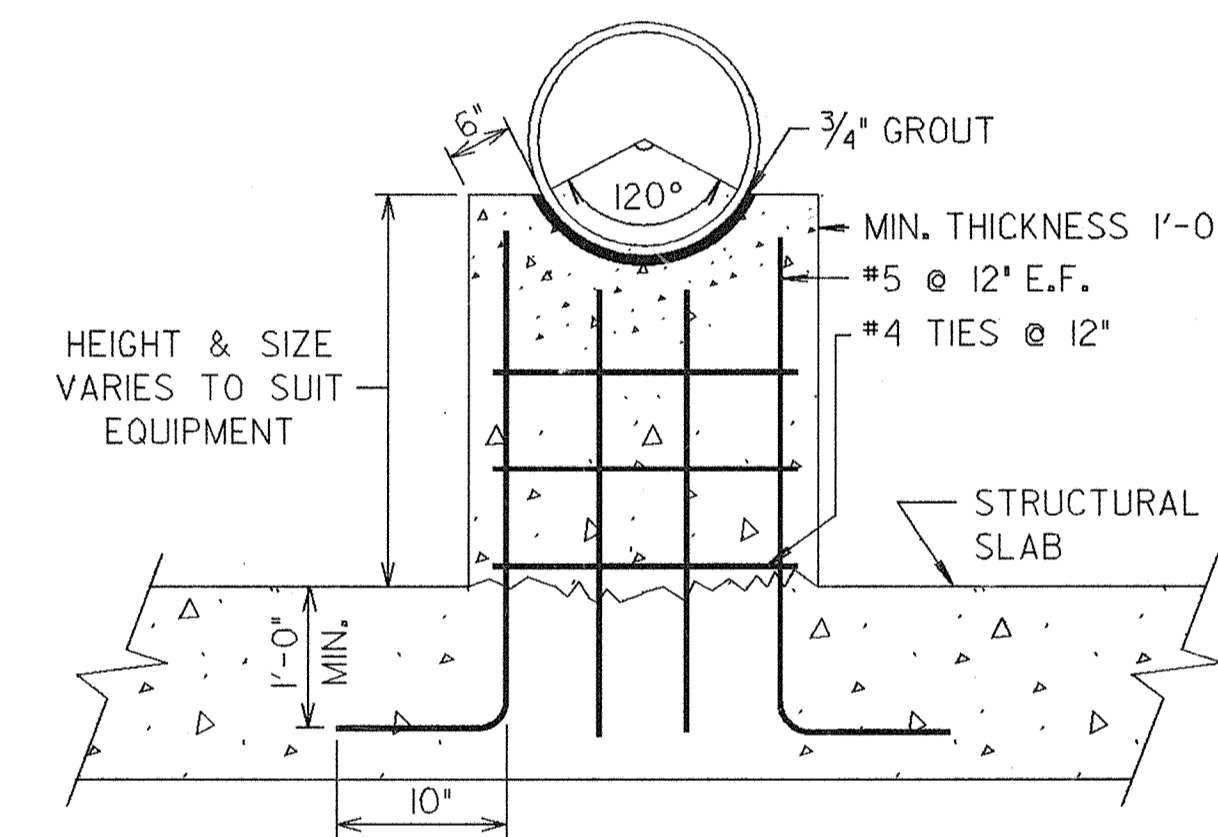
STAIR / RAILING DETAILS
SCALES AS SHOWN



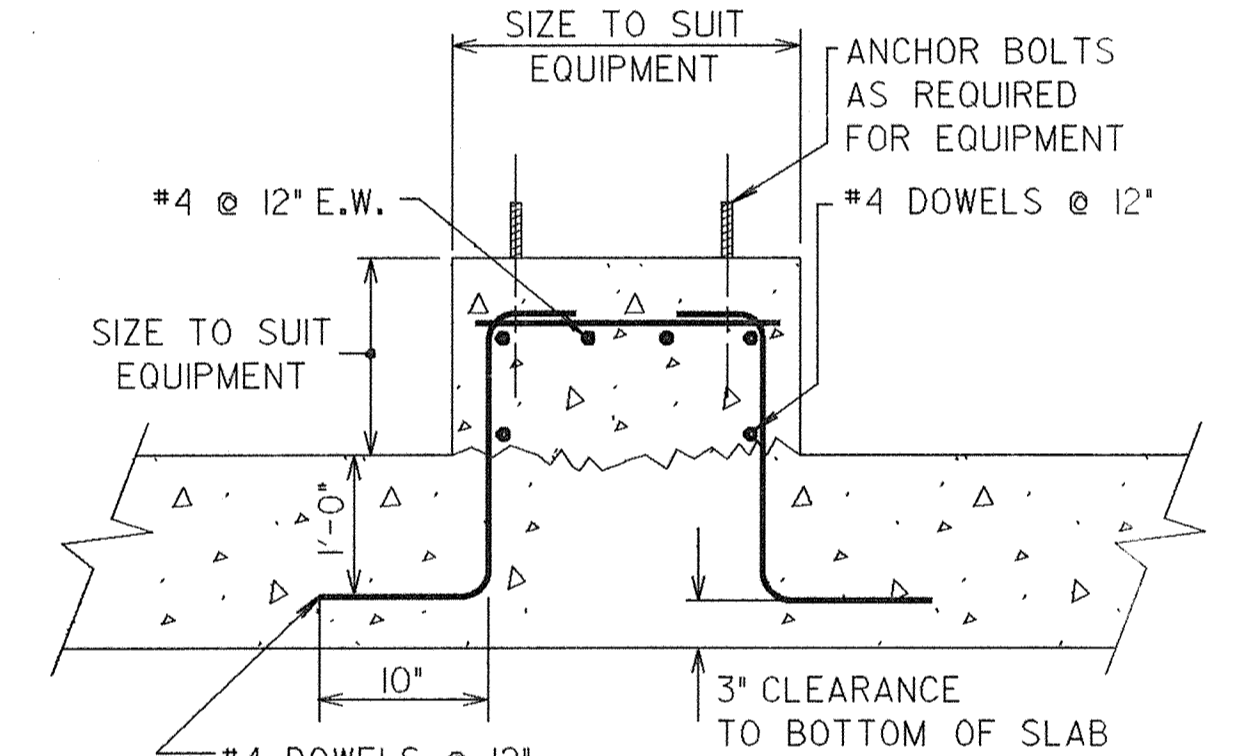
**MOTOR CONTROL CENTER
CONCRETE PAD**
SCALE: 3/4"=1'-0"
(SEE SHEET 18)



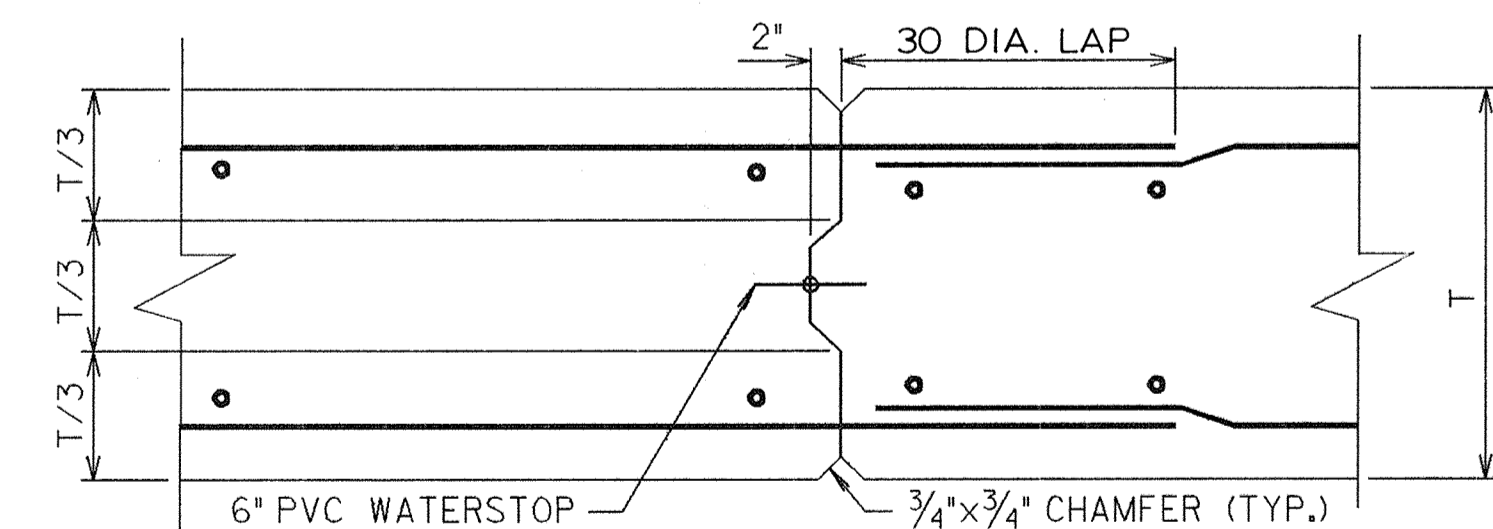
6\"/>



**TYPICAL
PIPE & VALVE SUPPORT**
NO SCALE



**TYPICAL
EQUIPMENT SUPPORT**
NO SCALE



CONSTRUCTION JOINT
NO SCALE

NOTES:
L FOR LAPEYERE STAIR DETAILS, SEE SHEET NO. 13

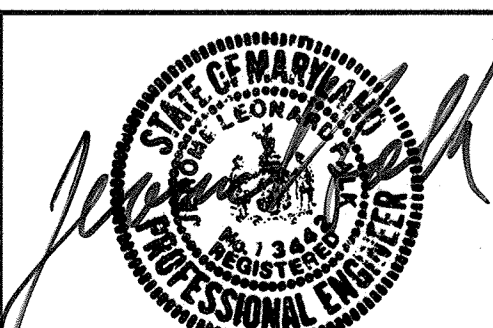
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: [Signature] DATE: 6-6-91
 Chief, Bureau of Engineering: [Signature] DATE: 6-6-91
 Chief, Bureau of Utilities: [Signature] DATE: 6-2-91
 Chief, Utility Design Division: [Signature] DATE: 6-6-91

BUCHART HORNING
Engineers, Architects, and Planners

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York, PA

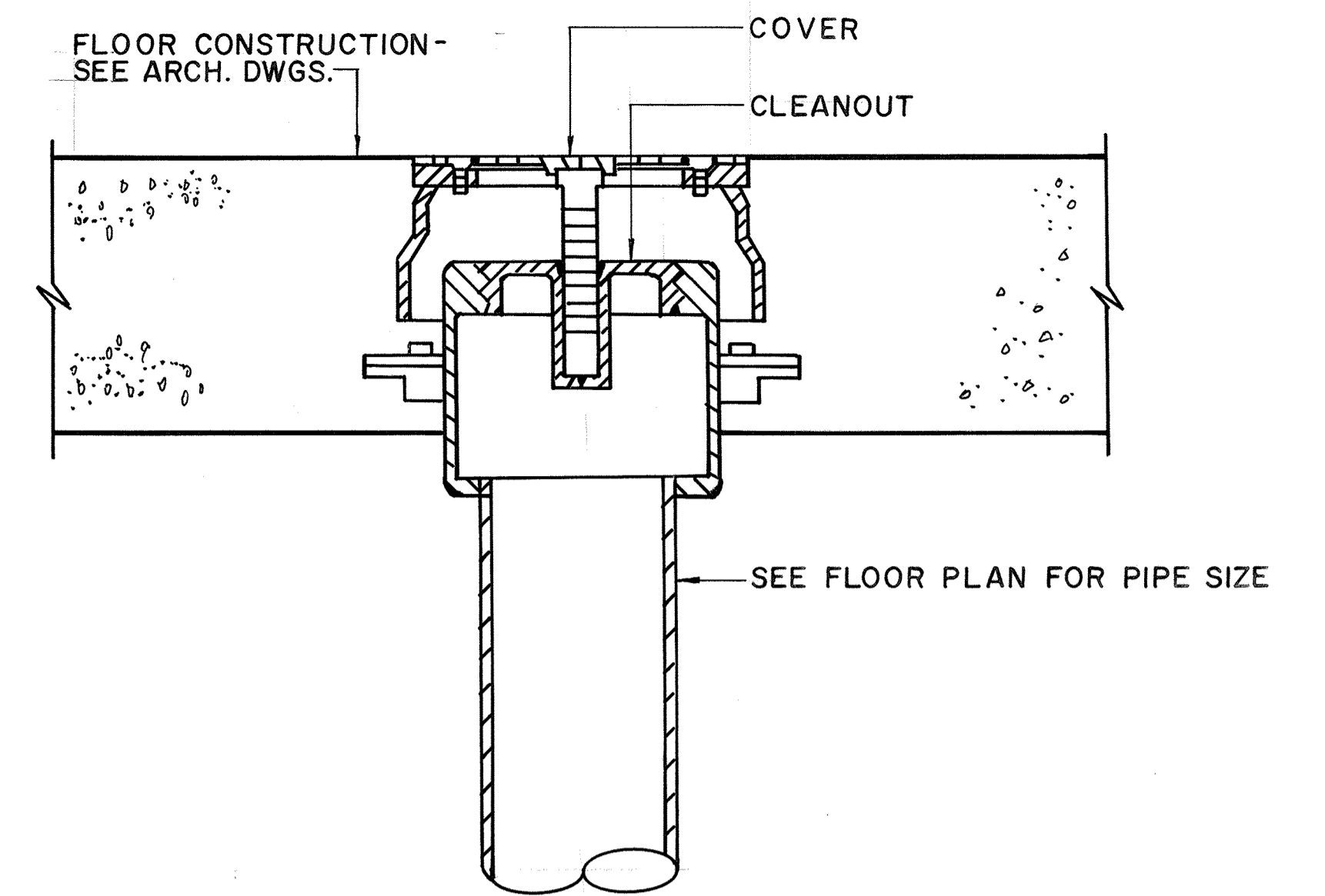
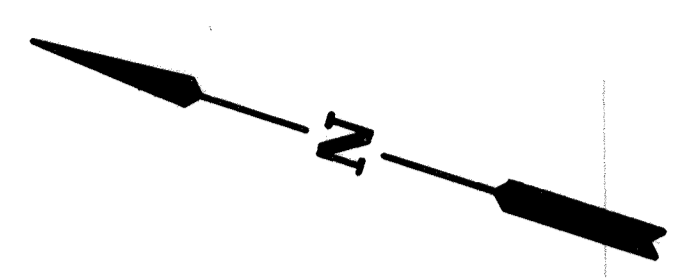


DES:	K.S.
DRN:	V.D.H.
CHK:	K.S.
DATE:	9/25/90
BY:	NO.
REVISION:	
DATE:	

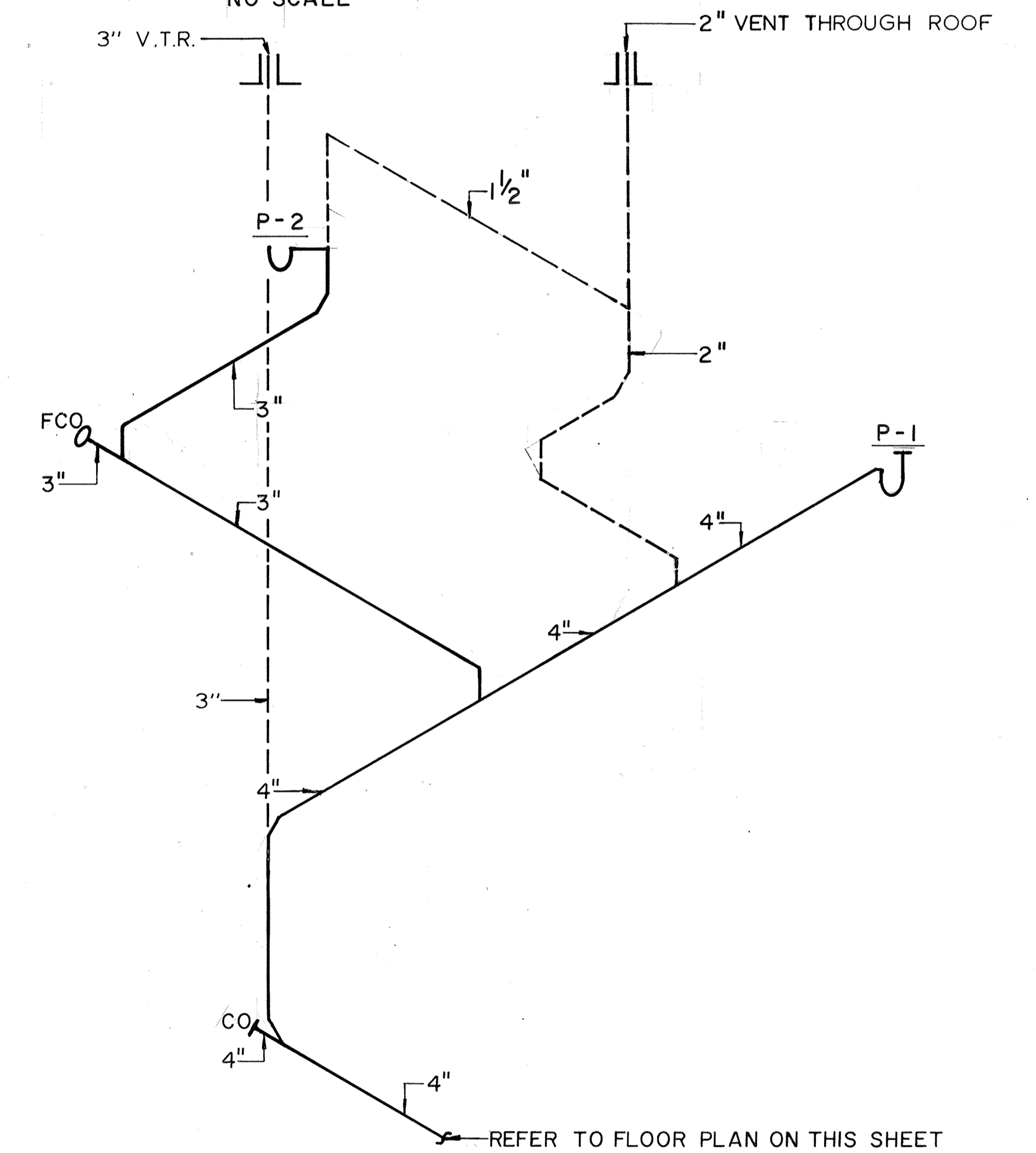
MISCELLANEOUS DETAILS

600' SCALE MAP NO. 30 BLOCK NO. 10 & 11

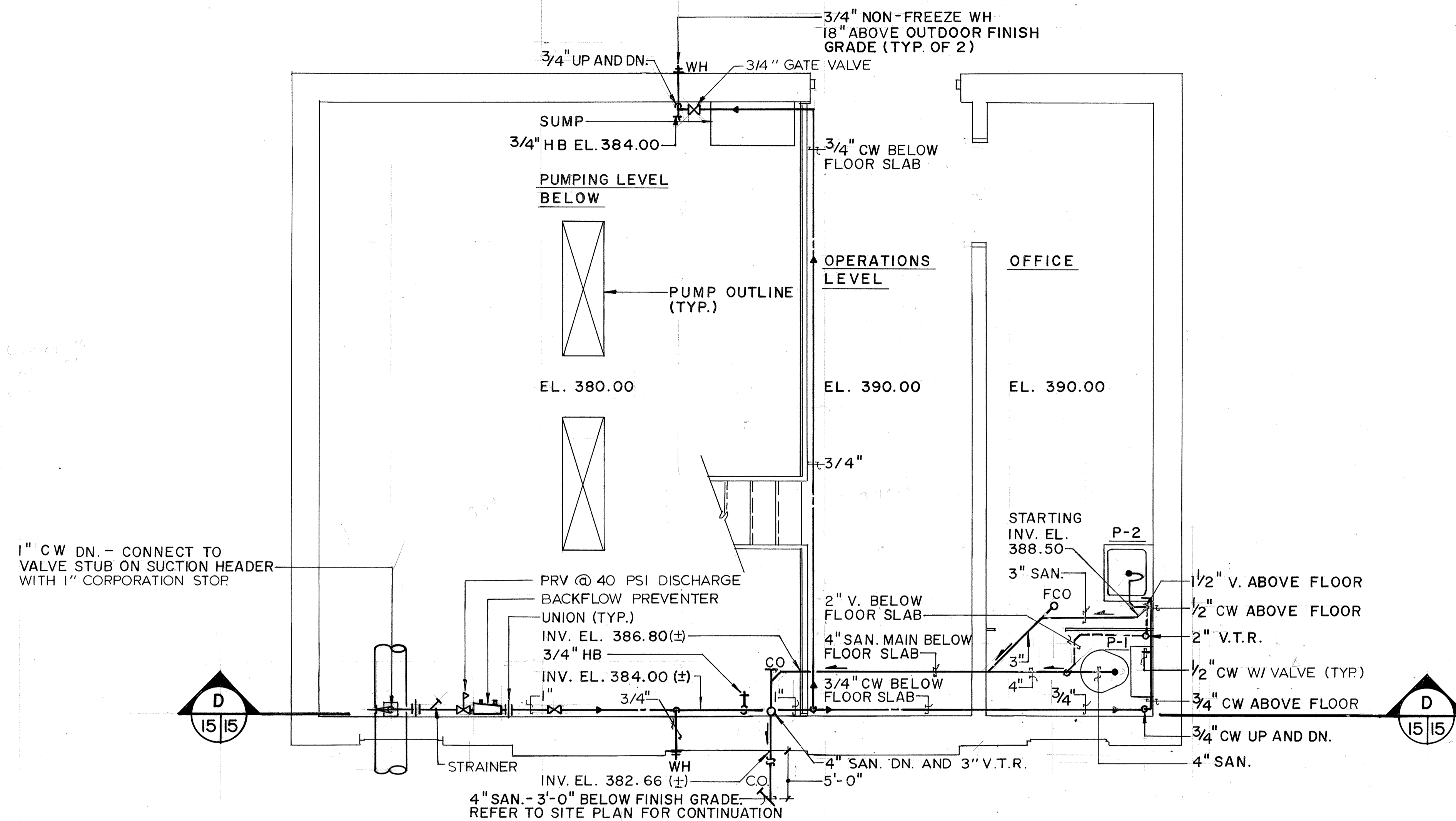
EDGAR ROAD WATER PUMPING STATION
CONTRACT NO. 44-1917
CAPITAL PROJECT NO. W-8129
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND



FLOOR CLEANOUT DETAIL
NO SCALE

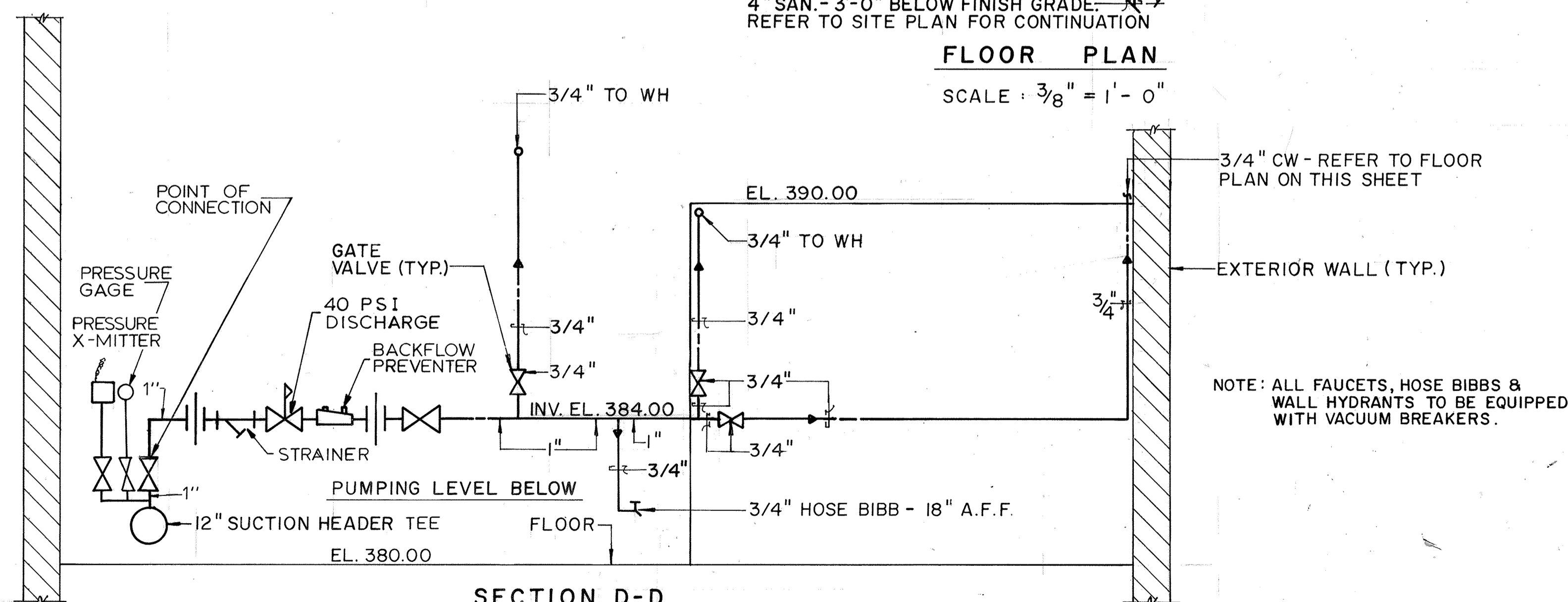


SANITARY RISER DIAGRAM
NO SCALE



FLOOR PLAN

SCALE: $\frac{3}{8}'' = 1' - 0''$



SECTION D-D
SCALE: $\frac{3}{8}'' = 1' - 0''$

NOTE: ALL FAUCETS, HOSE BIBBS & WALL HYDRANTS TO BE EQUIPPED WITH VACUUM BREAKERS.

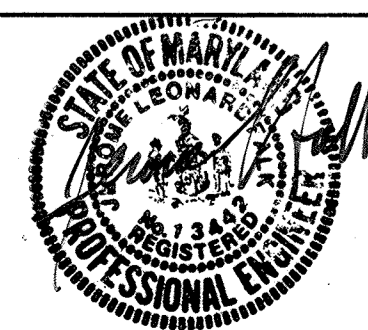
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Robert W. Benjamin
DIRECTOR OF PUBLIC WORKS
DATE: 6-7-91

Michael S. Riley
CHIEF, BUREAU OF ENGINEERING
DATE: 6-6-91

Robert W. Benjamin
CHIEF, UTILITY DESIGN DIVISION
DATE: 6-6-91

BUCHART HORN, INC.
Engineers, Architects and Planners
Baltimore, MD
Charleston, WV
Frederick, W. Germany
Lancaster, PA
Lynchburg, VA
Memphis, TN
Mt. Laurel, NJ
New Orleans, LA
Williamsburg, VA
York, PA



DES: WPS			
DRN: WPS			
CHK: DLS			
DATE: 9/25/90	BY	NO.	REVISION

**PLUMBING FLOOR PLAN,
DETAIL, SECTION AND
DIAGRAM**

DATE: 9/25/90 BY NO. REVISION DATE: 600' SCALE MAP NO. 30 BLOCK NO. 10 & 11

**EDGAR ROAD WATER PUMPING STATION
CONTRACT NO. 44-1917
CAPITAL PROJECT NO. W-8129
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND**

SCALE AS SHOWN
SHEET 15 OF 20

WALL MTD. ELECT. UNIT HEATERS #2 & 3
(TYP. OF 2)
AIR VOLUME - 350 CFM; 18 FT. THROW
CAP. - 5 KW; 15,280 BTUH
FAN MOTOR - 6 WATTS @ 1450 RPM
ELECT. CHAR. : 480V/3PH/60HZ
BERKO MODEL HUH-548-S
MOUNT AT ELEV. 388.0
BOTTOM OF THE UNIT

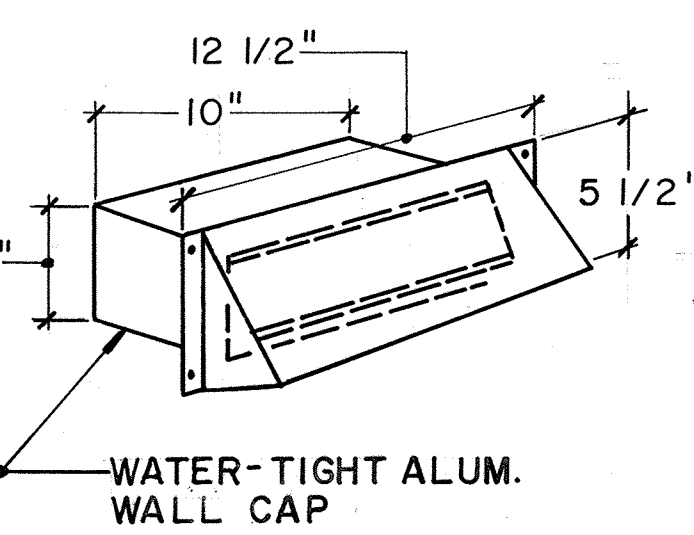
WALL MTD. ELECT. UNIT HEATER #1
AIR VOLUME - 160 CFM; 10 FT. THROW
CAP. - 3.0 KW; 9,600 BTUH
FAN MOTOR - 6.0 WATTS @ 1580 RPM
ELECT. CHAR. : 480V/3PH/60HZ
BERKO MODEL HUH-348-S
MOUNT AT ELEV. 397.5 BOTTOM
OF THE UNIT

WALL MTD. PROP. FAN
WITH AUTO. SHUTTER-
FAN CAP - 2900 CFM
@ 0.25" SP
FAN MOTOR : 0.35 HP
@ 750 RPM
ELECT. CHAR. : 120V/
1PH/60 HZ
PENN VENTILATOR
BREEZE BUILDER
TYPE BBK 24
V-BELT DRIVE
BOTTOM ELEV. 392.00

NOTE:
E.F. AND M.O.D. SHALL BE DEDICATED
AND INTERLOCKED TO THE THERMOSTAT.
ABOVE 90°F, E.F. WILL BE ENERGIZED,
M.O.D. WILL OPEN. BELOW 90°F, E.F.
IS OFF, M.O.D. CLOSED.

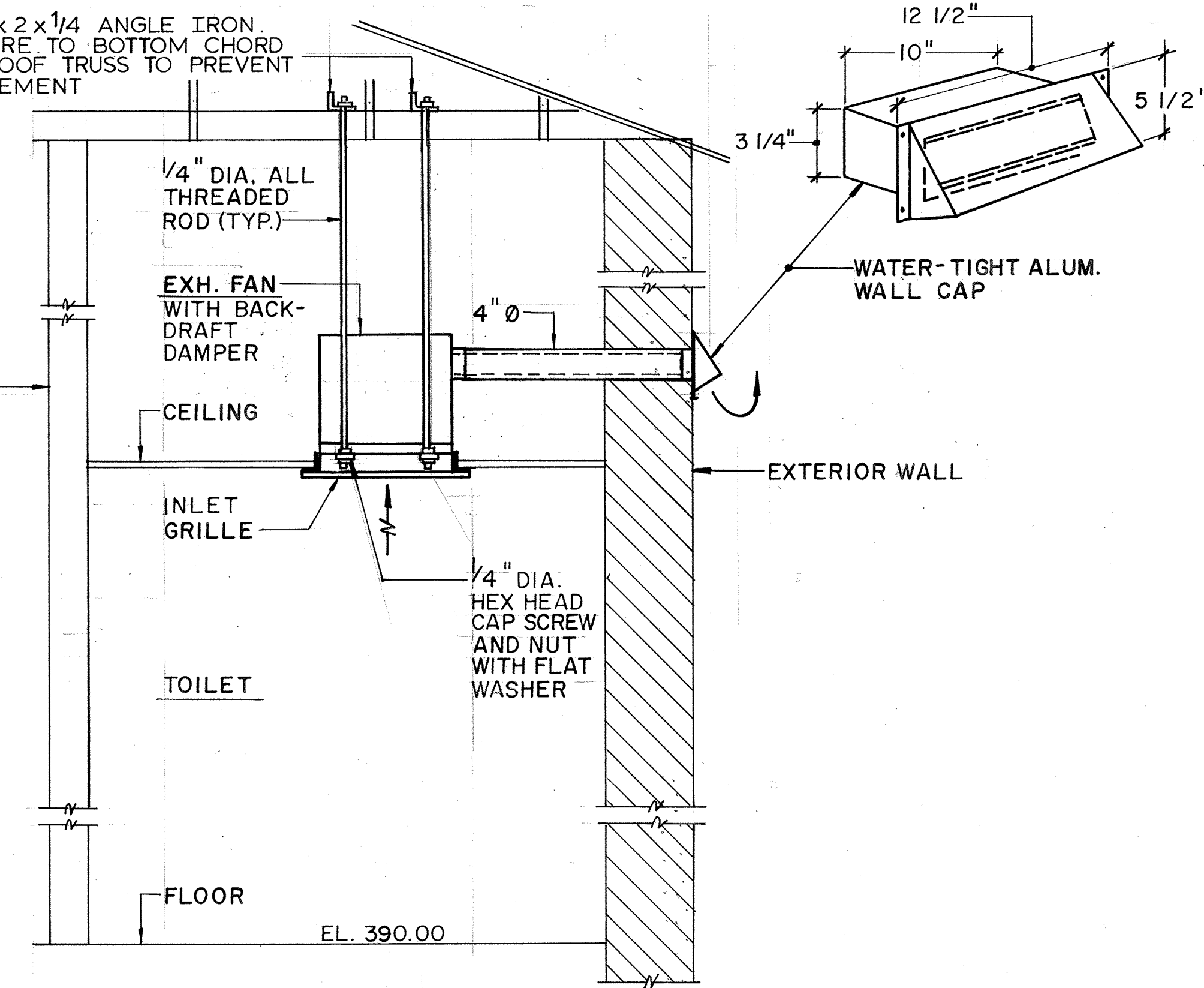
36" W x 42" H INTAKE LOUVER WITH 1/2" MESH BIRDSCREEN AND M.O.D.
@ 2900 CFM. MOUNT AT ELEV. 402.0 AT BOTTOM OF THE LOUVER

L 2 x 2 x 1/4 ANGLE IRON,
SECURE TO BOTTOM CHORD
OF ROOF TRUSS TO PREVENT
MOVEMENT



INTERIOR WALL

EXTERIOR WALL



SECTION B-B

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

OPERATIONS LEVEL

OFFICE

CLG. MTD. TOILET
EXH. FAN -
FAN CAP - 100 CFM
@ 0.050" SP
FAN MOTOR: 50
WATTS @ 1050 RPM
ELECT. CHAR. : 115V/
1PH/60 HZ
PENN VENTILATOR
ZEPHYR MODEL Z-6

WATER-TIGHT
ALUM. CAP

MANUAL SWITCH

4" Ø EXH.
DUCT

EXTERIOR WALL

1/8" x 1" STRAP
HANGER BRACKETS
(2-REQUIRED)

42" H x 36" W
INTAKE LOUVER

EL. 402.00

42" x 36" x 20"
S.A. FIBERGLASS DUCT
PLENUM

MOTOR

DAMPER

12 x 36 S.A.
FIBERGLASS DUCT

1" CW

12 x 36 S.A.
FIBERGLASS DUCT

PUMPING LEVEL
FLOOR

EL. 380.00

1" x 1" x 1/8" ANGLE IRON SUPPORT LEG WITH 3" x 3" BASE PLATE.
PROVIDE 5/16" x 2" LONG ANCHOR BOLTS - 2 PER BASE PLATE.
(4 REQUIRED)

SECTION A-A

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

FLOOR PLAN

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

1/2" MESH BIRDSCREEN

EXTERIOR WALL

1/2" MESH BIRDSCREEN

FAN AND MOTOR ASSEMBLY

EXTERIOR WALL

AUTO SHUTTER

WEATHER-PROOF LOUVER

MOTOR

DAMPER

DUCT PLENUM

NOTE: CAULK AROUND PERIMETER OF
LOUVER AND WALL OPENING.

SECTION C-C

NO SCALE

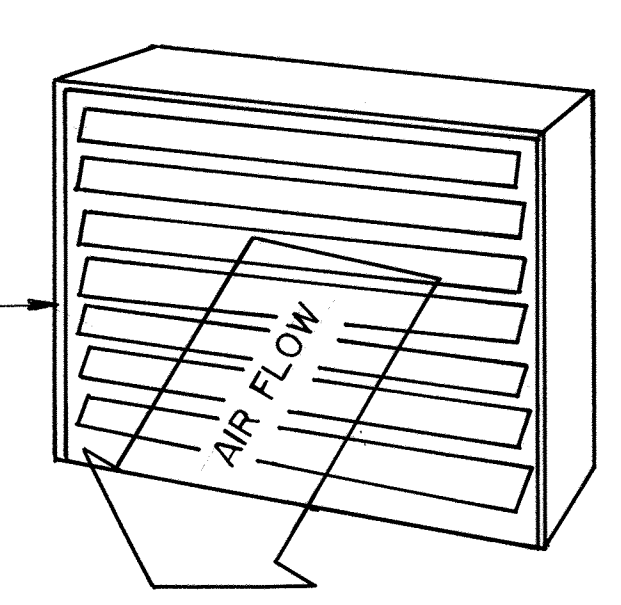
BELT DRIVE CENTRIFUGAL WALL MTD.

PROP. EXH. FAN DETAIL

NO SCALE

LEGEND		
SYMBOL	ABBREV.	DESCRIPTION
	S.A. DN.	SUPPLY AIR DUCT DOWN
	EXH.	EXHAUST AIR DUCT
	A.F.F.	ABOVE FINISHED FLOOR
	ALUM.	ALUMINUM
	AUTO.	AUTOMATIC
	BTUH	BRITISH THERMAL UNIT - HOUR
	CAP.	CAPACITY
	CHAR.	CHARACTERISTICS
	CFM	CUBIC FEET PER MINUTE
	CLG.	CEILING
	ELECT.	ELECTRIC, ELECTRICAL
	FT.	FEET
	HP	HORSEPOWER
	KW	KILOWATTS
	M.O.D.	MOTOR OPERATED DAMPER
	MTD.	MOUNTED
	PROP.	PROPELLER
	RPM	REVOLUTION PER MINUTE
	SP	STATIC PRESSURE
	V/PH/HZ	VOLTS/PHASE/HERTZ
	TYP.	TYPICAL
	W, H	WIDTH, HEIGHT
	WH	WALL HYDRANT
	SAN.	SANITARY
	CW	COLD WATER
	V	VENT
	PRV	PRESSURE REDUCING VALVE
		UNION
	PSI	POUNDS PER SQUARE INCH
	⊕	THERMOSTAT
	E.F.	EXHAUST FAN
	EL.	ELEVATION
	INV.	INVERT
	V.T.R.	VENT THRU ROOF
	F.C.O.	FLOOR CLEANOUT
	ARCH.	ARCHITECTURAL
	DWGS.	DRAWINGS
	P-1	WATER CLOSET
	P-2	SLOP SINK
	Ø	DIAMETER
		GATE VALVE
	HB	HOSE BIBB
	⊙	SWITCH
	EXH.	EXHAUST

UNIT HEATER WITH
FACTORY BUILT-IN
THERMOSTAT



ELECTRIC UNIT HEATER DETAIL

NO SCALE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Robert V. Benner
DIRECTOR OF PUBLIC WORKS
DATE: 6-7-91

Charles J. Riley
CHIEF, BUREAU OF ENGINEERING
DATE: 6-6-91

Charles J. Riley
CHIEF, UTILITY DESIGN DIVISION
DATE: 6-6-91

BUCHART HORN, INC.
Engineers, Architects and Planners

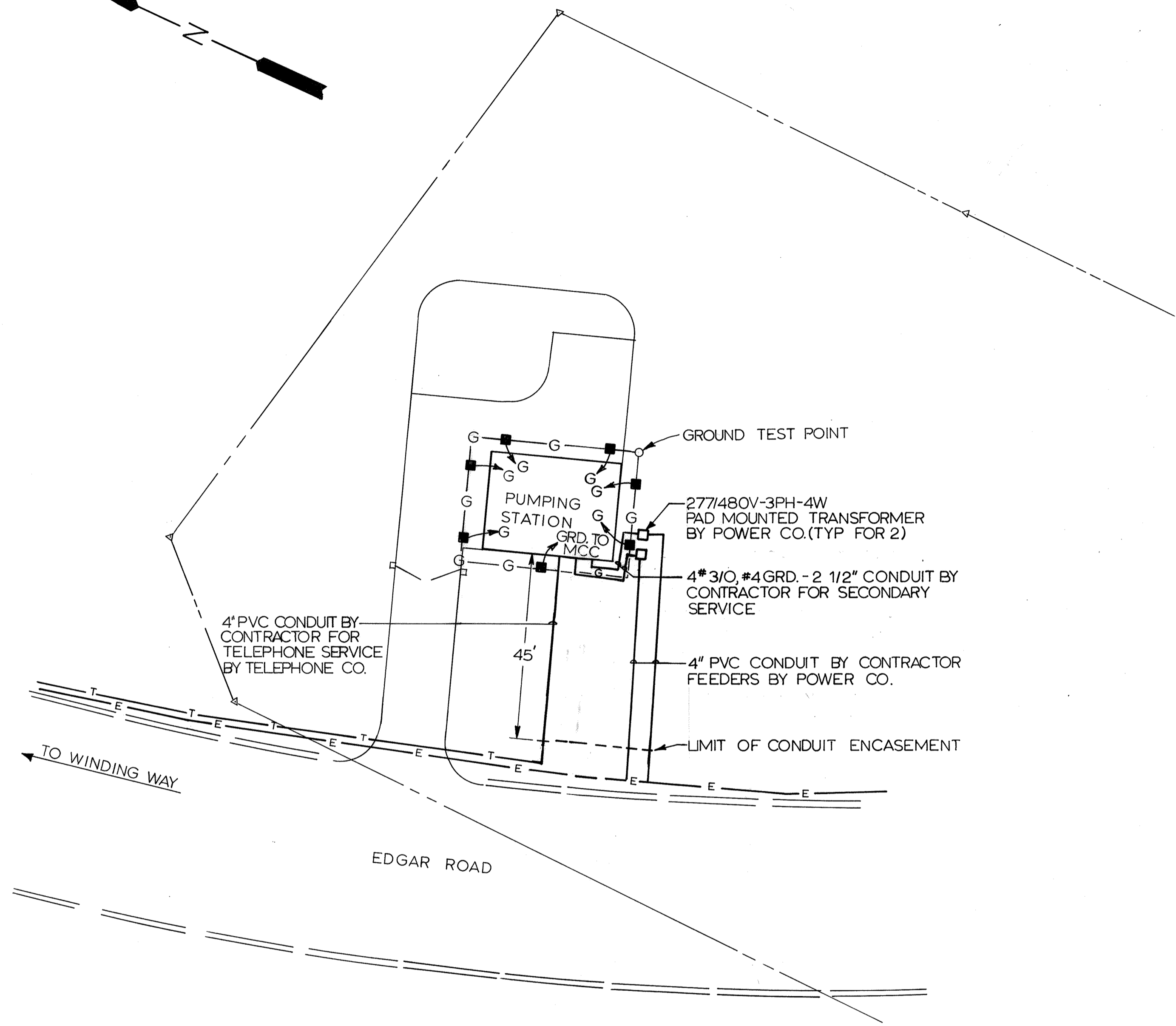
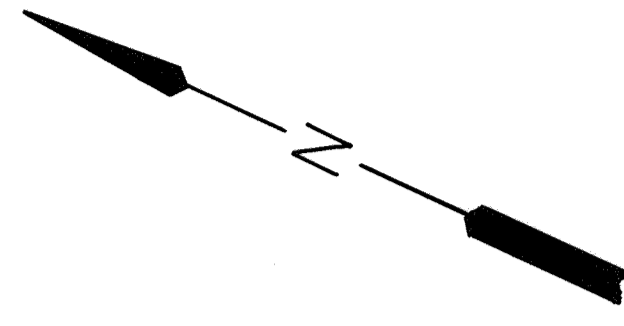


DES: WPS
DRN: WPS
CHK: DLS
DATE: 9/2/90

HEATING AND VENTILATING
FLOOR PLAN, DETAIL,
SECTION AND LEGEND

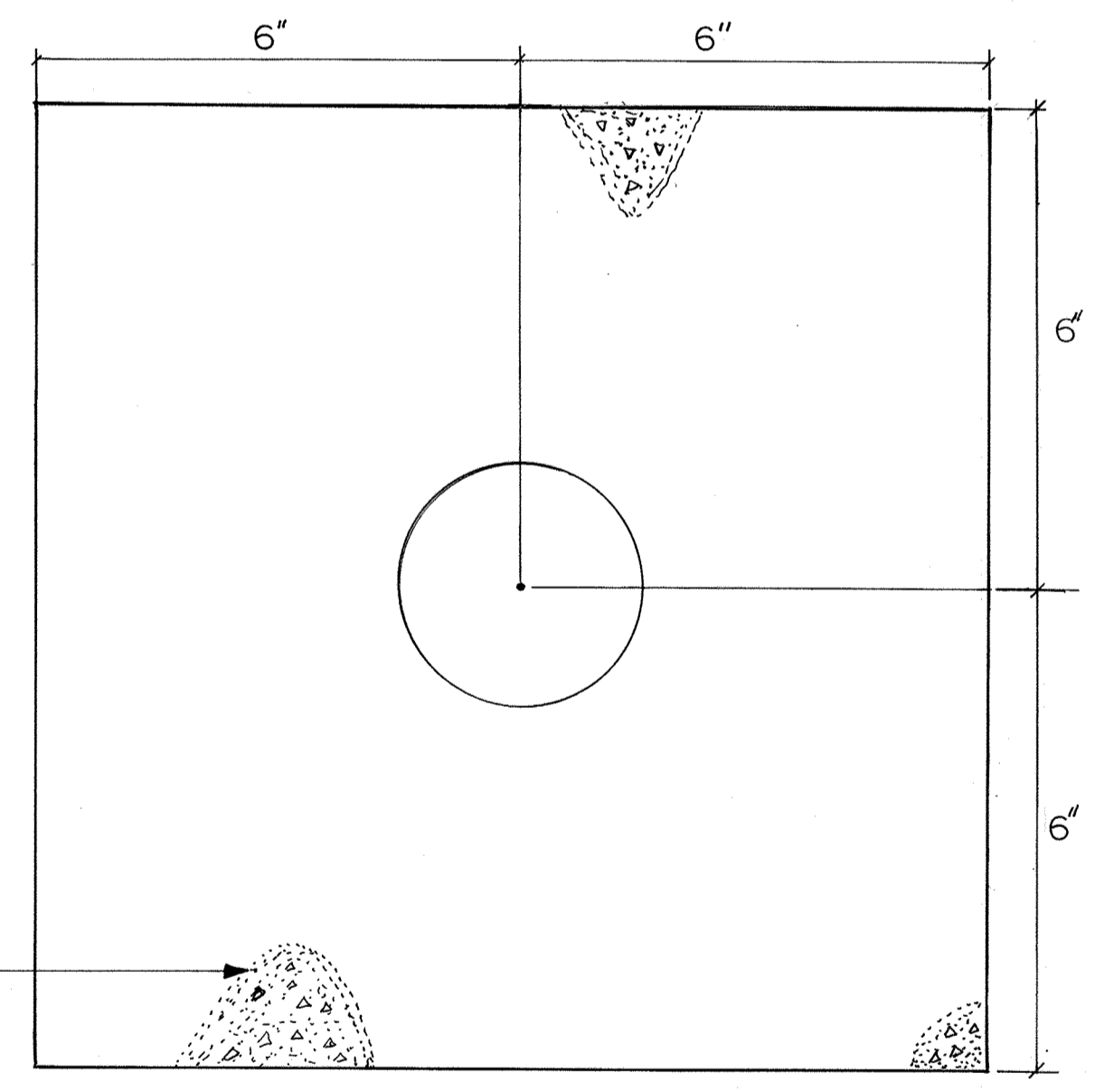
EDGAR ROAD WATER PUMPING STATION
CONTRACT NO. 44-1917
CAPITAL PROJECT NO. W-8129
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 10 OF 29



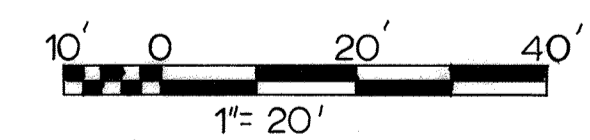
ELECTRICAL SYMBOL SCHEDULE

- ⊙ - MOTOR (SIZE AND TYPE AS NOTED)
- ⊕ - JUNCTION BOX (PVC COATED)
- - HOME RUN TO PANEL
- /// - TICKS INDICATE NUMBER OF WIRE
- ⊕ - 20A-120V-DUPLEX RECEPTACLE
- ⚡ - GROUND WIRE INCLUDED IN HOME RUN
- A - AMPERE
- V - VOLTS
- PH - PHASE
- ⊓ - DISCONNECT SWITCH - SIZE & TYPE AS NOTED
- C - CONDUIT
- KW - KILOWATT
- GRD. - GROUND
- TYP. - TYPICAL
- VFD - VARIABLE FREQUENCY DRIVE
- M.O.D - MOTOR OPERATE DAMPER
- PLC - PROGRAMMABLE LOGIC CONTROLLER
- SHLD - SHIELDED CABLE
- MCC - MOTOR CONTROL CENTER
- A.F.F - ABOVE FINISHED FLOOR
- A.F.G - ABOVE FINISHED GRADE
- RTU - REMOTE TELEMETRY UNIT
- HP - HORSE POWER
- ⊓ - CONTROL PANEL, PUSHBUTTON STATION AS NOTED
- ⊓ - INSTRUMENT AS NOTED
- S - SWITCH
- TM - THERMAL MAGNETIC
- - TELEPHONE HOME RUN
- MCP - MOTOR CIRCUIT PROTECTOR
- CKT - CIRCUIT
- ⊙ - PHOTO ELECTRIC CELL
- ETM - ELAPSED TIME METER
- G - GROUND
- W.P. - WEATHERPROOF
- S_T - THERMAL SWITCH
- G.F.I. - GROUND FAULT INTERRUPTER
- ⊕ - 20A-120V- SINGLE RECEPTACLE
- - EXOTHERMIC WELD



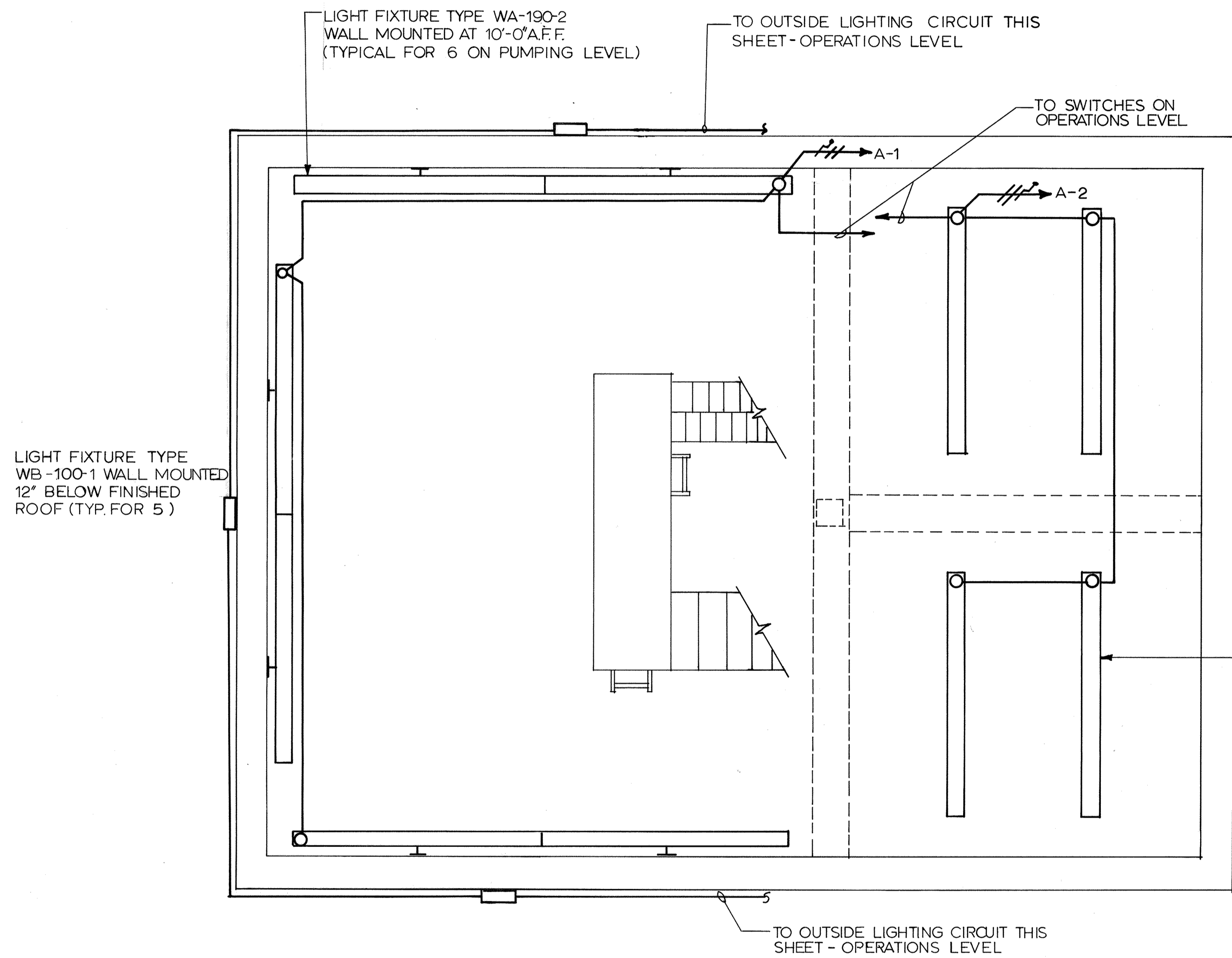
TYPICAL CONDUIT CONCRETE ENCASEMENT DETAIL
NO SCALE

ELECTRICAL SITE PLAN

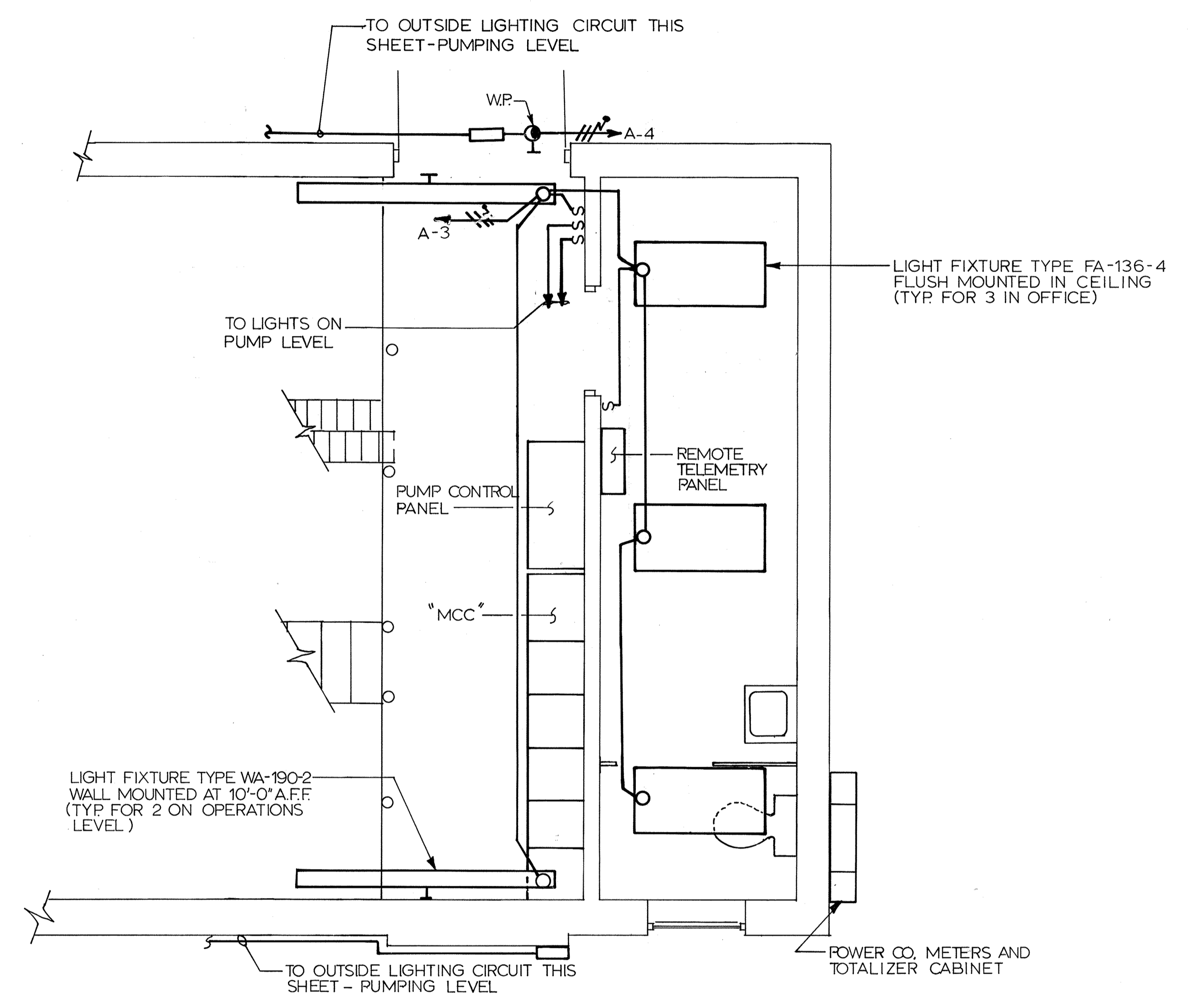
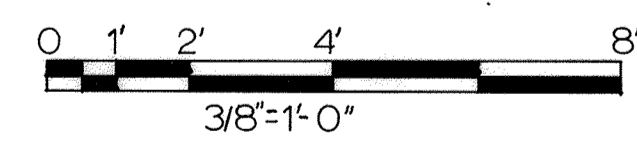


- NOTES:**
1. 4" PVC CONDUIT FOR TELEPHONE SERVICE SHALL BE ENCASED IN A SEPARATE CONCRETE ENVELOPE FROM POWER CO. FEEDERS.
 2. ALL UNDERGROUND CONDUIT SHALL BE ENCASED IN A CONCRETE ENVELOPE TO A DEPTH OF 24". SEE TYPICAL ENCASEMENT DETAIL ON THIS DRAWING.
 3. CONTRACTOR SHALL COORDINATE THE EXACT LOCATION OF ALL UNDERGROUND CONDUITS AND DUCT BANKS TO AVOID INTERFERENCES WITH UNDERGROUND PIPING.

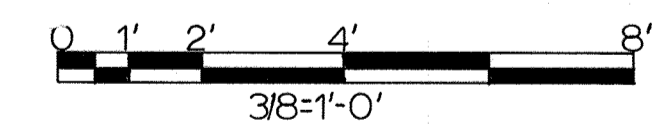
<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p><i>[Signature]</i> DIRECTOR OF PUBLIC WORKS DATE 6-7-91</p> <p><i>[Signature]</i> CHIEF, BUREAU OF UTILITIES DATE 6-7-91</p>	<p>BUCHART HORN, INC. Engineers, Architects and Planners</p> <p>Baltimore, MD Charleston, WV Frankfort, W. Germany Lancaster, PA Levittown, PA</p> <p>Memphis, TN Mt. Laurel, NJ New Orleans, LA Williamsburg, VA York, PA</p>	<p>STATE OF MARYLAND PROFESSIONAL ENGINEER No. 10,393 JAMES S. JONES</p>	<p>DES: P.E.B.</p> <p>DRN: E.O.O.</p> <p>CHK: J.L.S.</p> <p>DATE: 6-15-90</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>BY</th> <th>NO.</th> <th>REVISION</th> <th>DATE</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	BY	NO.	REVISION	DATE					<p>ELECTRICAL SITE PLAN</p> <p>600' SCALE MAP NO. _____ BLOCK NO. _____</p>	<p>EDGAR ROAD WATER PUMPING STATION CONTRACT NO. 44-1917 CAPITAL PROJECT NO. W-8129 ELECTION DISTRICT NO. 2 HOWARD COUNTY, MARYLAND</p>	<p>SCALE AS SHOWN</p> <p>SHEET 17 OF 29</p>
BY	NO.	REVISION	DATE												



PUMPING LEVEL-LIGHTING PLAN



OPERATIONS LEVEL-LIGHTING PLAN



LIGHT FIXTURE LEGEND
 CA - CEILING MOUNTED
 FA - FLUSH MOUNTED
 WA - WALL MOUNTED
 WB - OUTDOOR WALL MOUNTED

NOTE: THE NUMBER FOLLOWING FIXTURE TYPE INDICATES WATTAGE. LAST NUMBER INDICATES NUMBER OF LAMPS PER FIXTURE, I.E., CA-192-2

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

James J. ...
 DIRECTOR OF PUBLIC WORKS
 DATE 6-7-91

Robert ...
 CHIEF, BUREAU OF UTILITIES

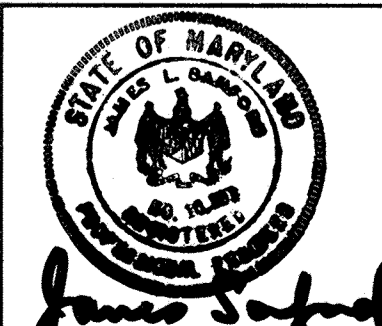
...
 CHIEF, BUREAU OF ENGINEERING
 DATE 6-6-91

...
 CHIEF, UTILITY DESIGN DIVISION
 DATE 6-6-91

BUCHART HORN, INC.
 Engineers, Architects and Planners

Baltimore, MD
 Charleston, WV
 Franklin, W. Germany
 Lancaster, PA
 Levensburg, PA

Memphis, TN
 Mt. Laurel, NJ
 New Orleans, LA
 Williamsburg, VA
 York, PA



DES: P.E. B.				
DRN: E.O.O.				
CHK: J.L.S.				
DATE: 6-15-90	BY	NO.	REVISION	DATE

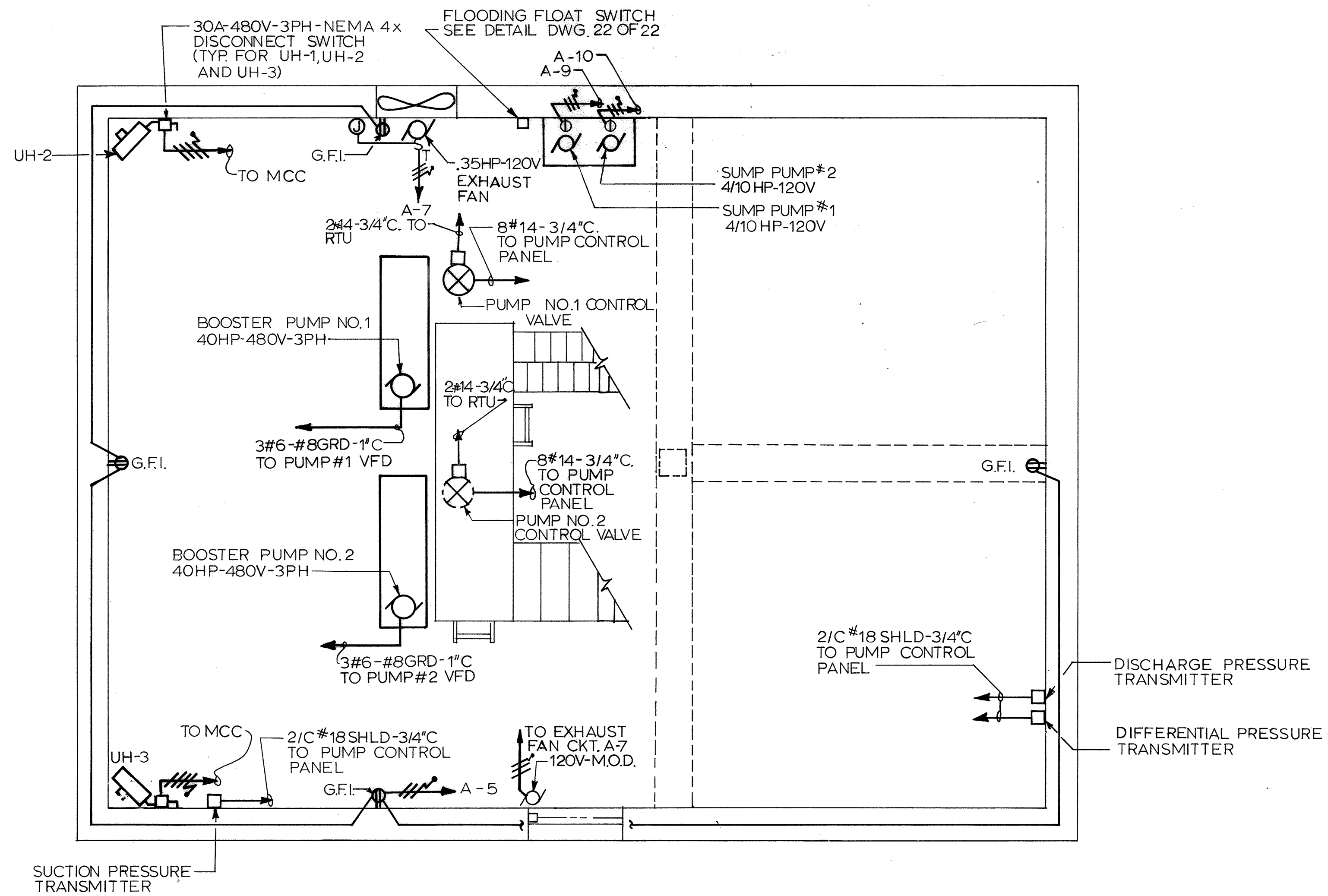
ELECTRICAL LIGHTING PLAN

600' SCALE MAP NO. _____ BLOCK NO. _____

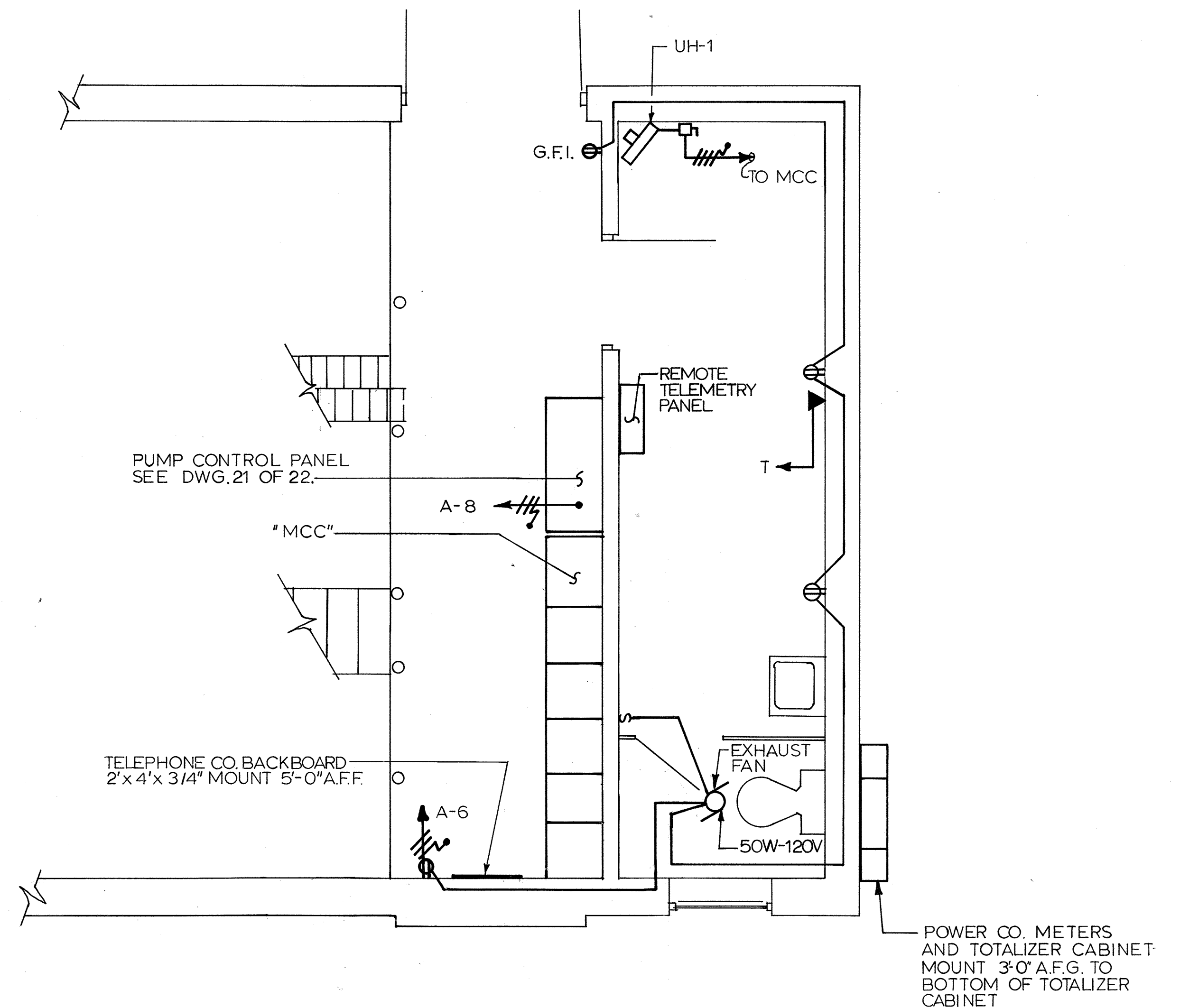
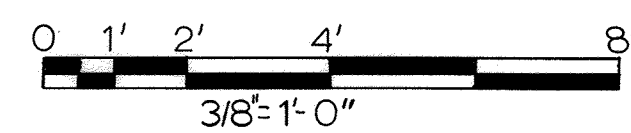
EDGAR ROAD WATER PUMPING STATION
 CONTRACT NO. 44-1917
 CAPITAL PROJECT NO. W-8129
 ELECTION DISTRICT NO. 2
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

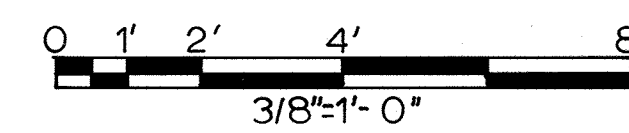
SHEET 19 OF 29



PUMPING LEVEL - POWER PLAN



OPERATIONS LEVEL - POWER PLAN

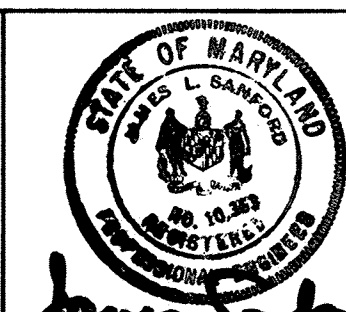


DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Thomas H. ...
DIRECTOR OF PUBLIC WORKS
DATE 6-7-91

William B. ...
CHIEF, BUREAU OF ENGINEERING
DATE 6-6-91

BUCHART HORN, INC.
Engineers, Architects and Planners



DES: P.E.B.
DRN: R.O.
CHK: J.L.S.
DATE: 6-15-90

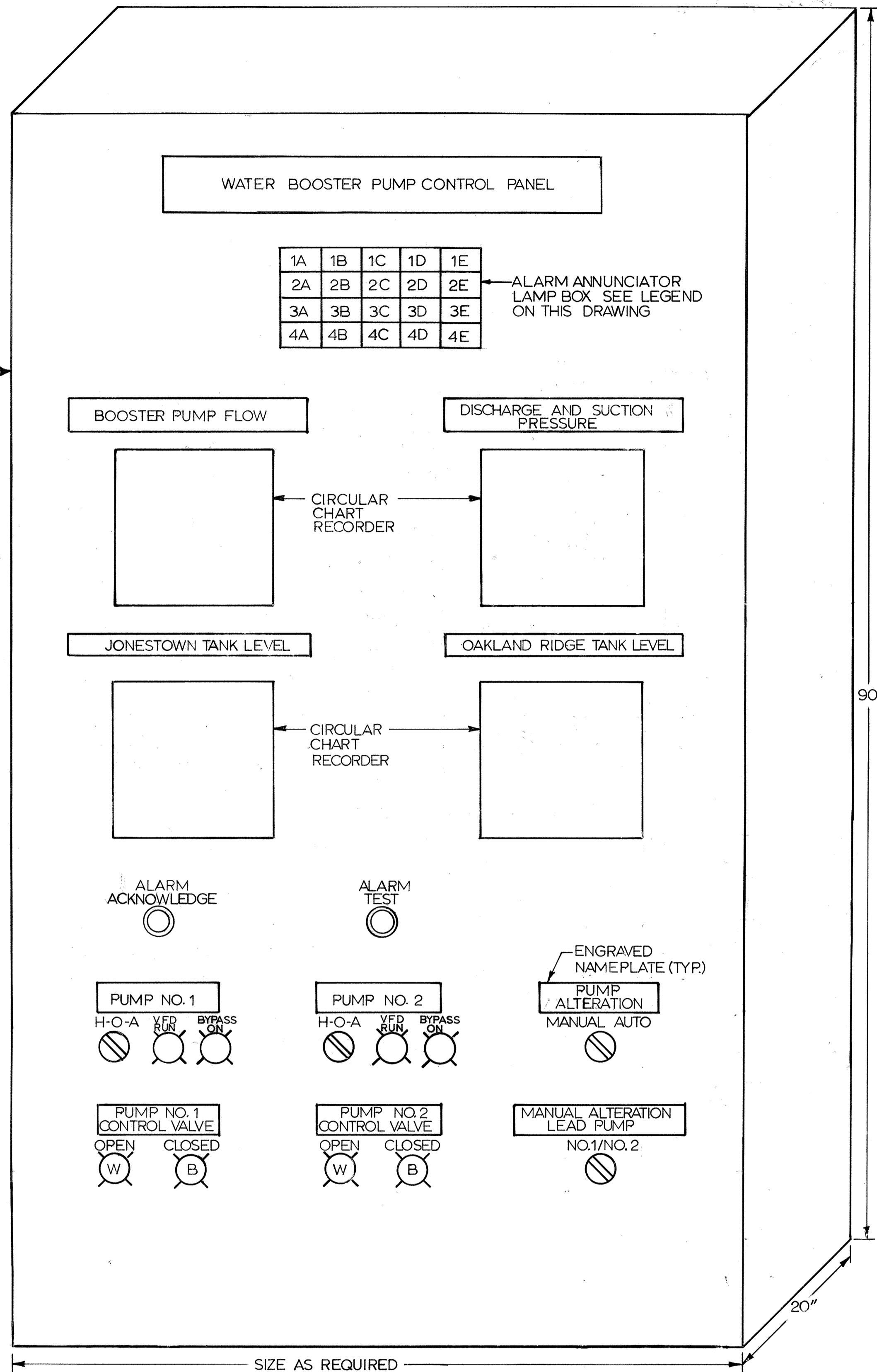
BY	NO.	REVISION	DATE

ELECTRICAL POWER PLAN

600' SCALE MAP NO. _____ BLOCK NO. _____

EDGAR ROAD WATER PUMPING STATION
CONTRACT NO. 44-1917
CAPITAL PROJECT NO. W-8129
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 20 OF 29



ALARM ANNUNCIATOR LAMP BOX LEGEND	
LOCATION	ENGRAVING
1A	PUMP NO.1 FAILURE
1B	PUMP NO.1 VFD FAULT
1C	PUMP NO.1 CONTROL VALVE FAILED TO OPEN
1D	PUMP NO.1 CONTROL VALVE FAILED TO CLOSE
2A	PUMP NO.2 FAILURE
2B	PUMP NO.2 VFD FAULT
2C	PUMP NO.2 CONTROL VALVE FAILED TO OPEN
2D	PUMP NO.2 CONTROL VALVE FAILED TO CLOSE
3A	PUMP STATION FLOODING
3B	NORMAL FEEDER FAILURE
3C	EMERGENCY FEEDER FAILURE
3D	TELEMETRY FAILURE
4A	LOW SUCTION PRESSURE
4B	HIGH DISCHARGE PRESSURE
4C	JONESTOWN TANK HIGH LEVEL
4D	OAKLAND RIDGE TANK HIGH LEVEL
1E	JONESTOWN TANK LOW LEVEL
2E	OAKLAND RIDGE TANK LOW LEVEL
3E	(BLANK)
4E	(BLANK)

NOTE: CONTRACTOR IS TO PROVIDE SCHEMATICS OF REQUIRED TELEMETRY SYSTEM. COORDINATE WITH BUREAU OF UTILITIES.

WATER BOOSTER PUMP CONTROL PANEL
PANEL LAYOUT
 NO SCALE

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

James B. ...
 DIRECTOR OF PUBLIC WORKS
 DATE: 6-7-91

... & ...
 CHIEF, BUREAU OF ENGINEERING
 DATE: 6-6-91

...
 CHIEF, UTILITY DESIGN DIVISION
 DATE: 6-4-91

BUCHART HORN, INC.
 Engineers, Architects and Planners



DES: P.E.B.
 DRN: E.O.Q.
 CHK: D.T.B.
 DATE: 6-15-90

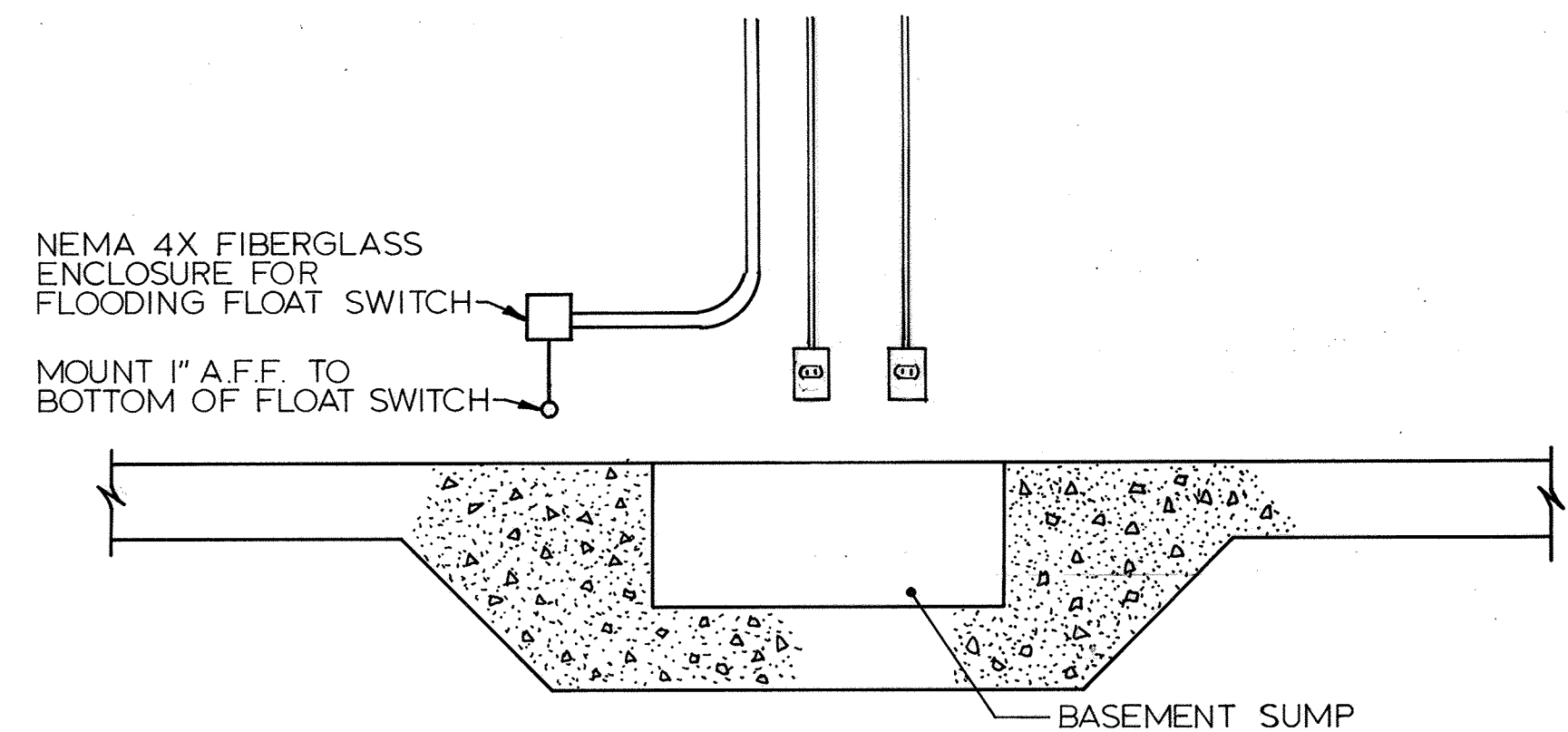
BY	NO.	REVISION	DATE

WATER BOOSTER PUMP
 CONTROL PANEL LAYOUT

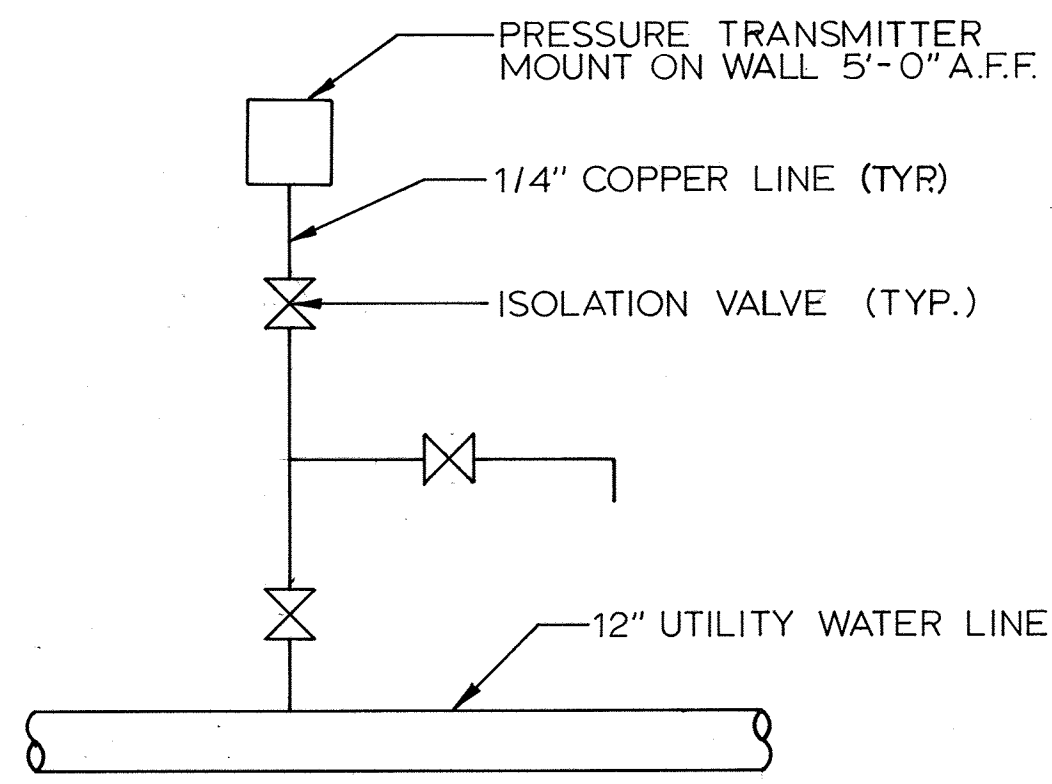
600' SCALE MAP NO. _____ BLOCK NO. _____

EDGAR ROAD WATER PUMPING STATION
 CONTRACT NO. 44-1917
 CAPITAL PROJECT NO. W-8129
 ELECTION DISTRICT NO. 2
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 21 OF 29



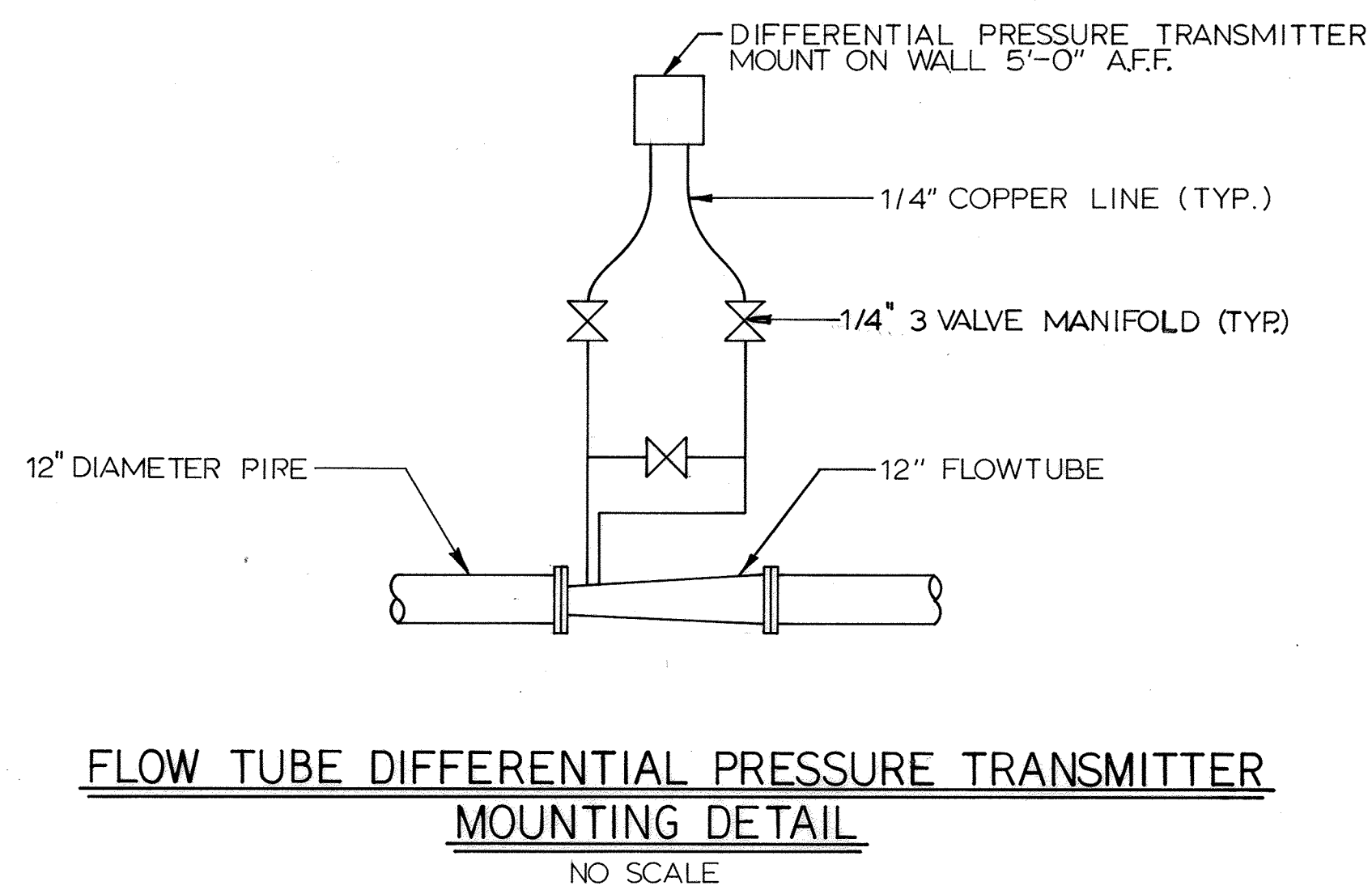
SUMP PUMP RECEPTACLE & FLOODING FLOAT SWITCH DETAIL
NO SCALE



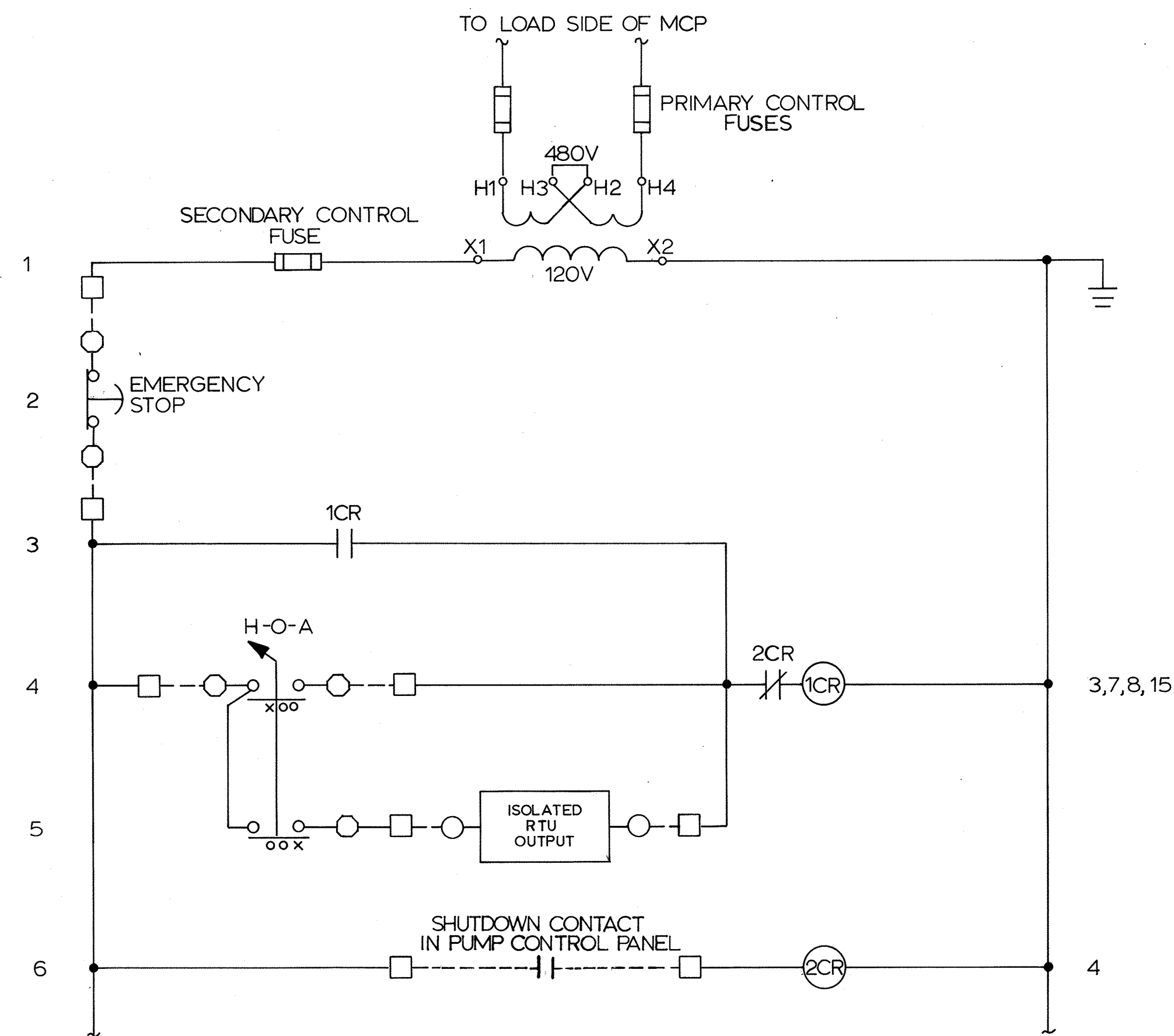
SUCTION AND DISCHARGE PRESSURE TRANSMITTER MOUNTING DETAIL
NO SCALE

PANELBOARD 'A' SCHEDULE LOCATED: MCC PANEL
120/208 VOLT, 3 PHASE + SN, 4 WIRE, "MCC" MOUNTED, CIRCUIT-BREAKER
PANELBOARD WITH 100 AMPERE MAIN BUS BARS AND LUGS. MAIN BREAKER 60A-3P

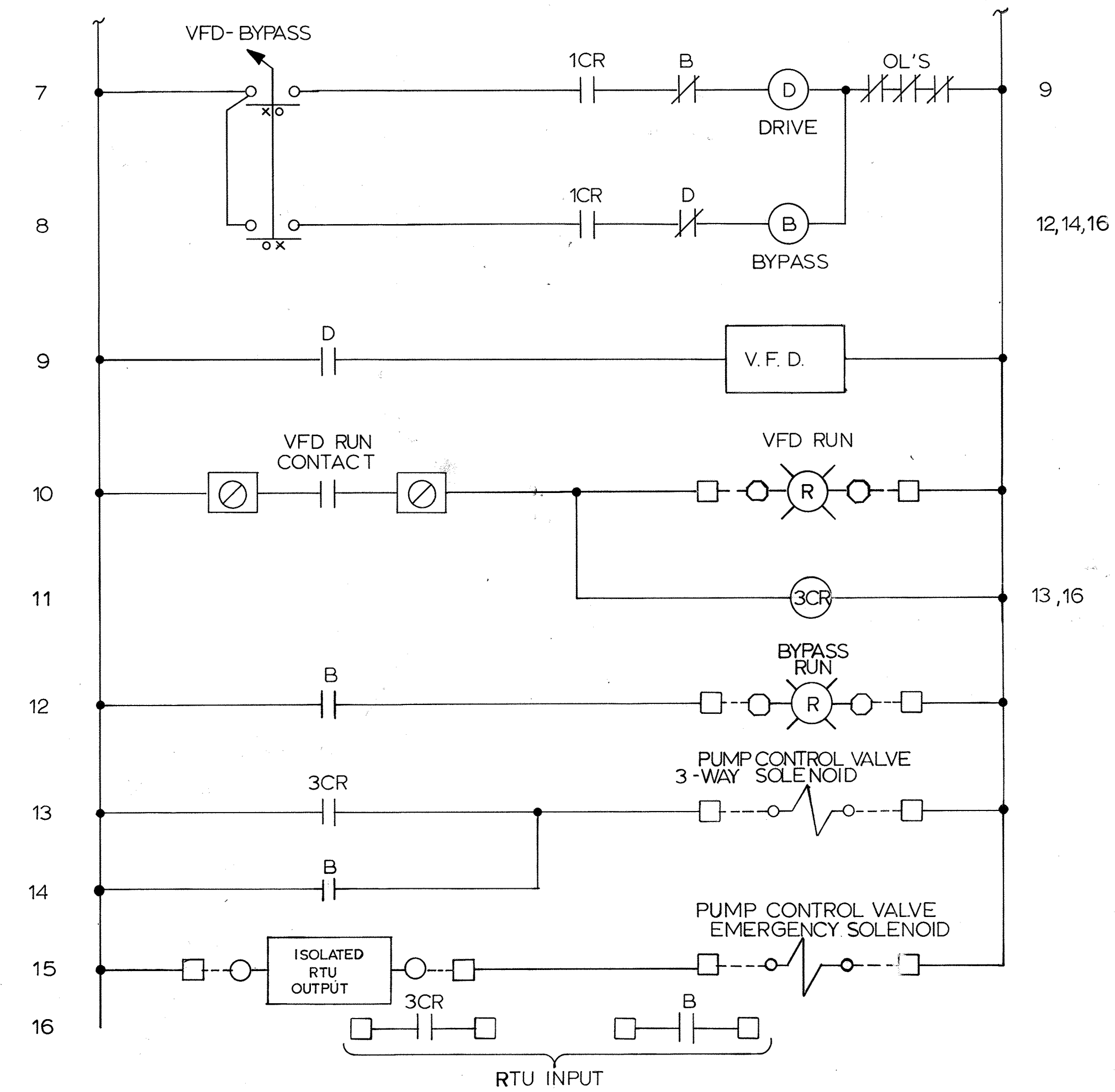
NOTES	H.P.	WATTS	LOCATION	POLE	AMP/TRIP	AMP/TRIP	POLE	LOCATION	WATTS	H.P.	NOTES
LIGHTS		1500	PUMP ROOM	1	20	1	2	PUMP ROOM	1000		LIGHTS
LIGHTS		1100	OPERATION	1	20	3	4	OUT SIDE	625		LIGHTS
RECEPTACLES		800	PUMP ROOM	1	20	5	6	OPERATION	850		RECEPTACLES/FAN
EXHAUST FAN/MOD.	.35		PUMP ROOM	1	20	7	8	OPERATION	1200		PUMP CONTROL PNL
SUMP PUMP #1	4 1/10		PUMP ROOM	1	20	9	10	PUMP ROOM		4 1/10	SUMP PUMP #2
SPARE				1	20	11	12				SPARE
SPARE				1	20	13	14				SPARE
SPARE				1	20	15	16				SPARE
SPACE						17	18				SPACE
SPACE						19	20				SPACE



FLOW TUBE DIFFERENTIAL PRESSURE TRANSMITTER MOUNTING DETAIL
NO SCALE



WATER BOOSTER PUMPS NO. 1 AND NO. 2 VFD AND BYPASS CONTACTOR CONTROL WIRING DIAGRAM



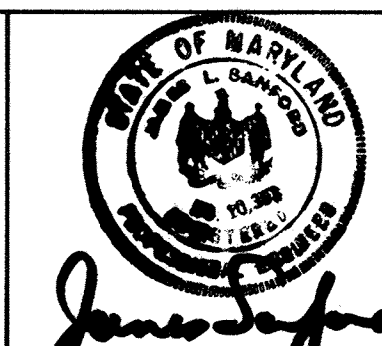
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Thomas J. ...
DIRECTOR OF PUBLIC WORKS DATE 6-7-91

Robert ...
CHIEF, BUREAU OF UTILITIES DATE 6-6-91

Baltimore, MD Memphis, TN
Charleston, WV Mt. Laurel, NJ
Frankfort, W. Germany New Orleans, LA
Lancaster, PA Williamsburg, VA
Lewistown, PA York, PA

BUCHART HORN, INC.
Engineers, Architects and Planners



DES: P.E.B.
DRN: M.R.E.
CHK: J.L.S.
DATE: 6-15-90

BY NO. REVISION DATE 600' SCALE MAP NO. BLOCK NO.

ELECTRICAL DETAILS

EDGAR ROAD WATER PUMPING STATION
CONTRACT NO. 44-1917
CAPITAL PROJECT NO. W-8129
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 22 OF 29



LEGEND

	EXISTING	NEW
BUILDING	—	—
PAVING	EX PAVING	FULL OVERLAY
CONCRETE PAD	EX CONC.	—
PROPERTY LINE	—	—
RIGHT-OF-WAY	—	—
CURB	—	—
FENCE	X	X
CONTOUR	15	15
SPOT ELEVATION	x 14.85	+ 14.85
STORM DRAIN	D	—
SANITARY	SS	—
WATER	W	—
OVERHEAD ELECTRIC	—	—
ELECTRIC	E	—
GAS	G	—
COMMUNICATIONS	T	—
MANHOLE	⊙	⊙
INLET	□	□
CLEANOUT	⊙	⊙
END SECTION	⊙	⊙
ELECTRIC BOX	⊙ E.B.	—
ELECTRIC CONDUIT	⊙ E.C.	—
TRANSFORMER	⊙ HV	—
WATER VALVE	⊙ WV	—
GAS VALVE	⊙ GV	—
FIRE HYDRANT	⊙ HD	—
ROOF DRAIN	⊙ RD	—
DECIDUOUS TREE	⊙	⊙
SHRUB	⊙	⊙
TREELINE	⊙	⊙
WETLAND	W/L	—
WETLAND BUFFER	WB	—
FLOODPLAIN	FP	—
STREAM	GgB	—
SOIL	—	—
SOIL BORING	—	—
LIMIT OF FIELD RUN SURVEY	—	—
A/MDA PROJECT EXTENTS	—	—

- CONSTRUCTION NOTES:**
- N-1 MEET EXISTING CONDITIONS.
 - N-2 NEW CONCRETE FOUNDATION, SEE DETAIL #1 ON DRAWING S-101
 - N-3 NEW 8' CHAIN LINK FENCE, SEE DETAIL #4 ON DRAWING C202.
 - N-4 NEW 3' FENCE GATE, SEE DETAIL #5 ON DRAWING C202.
 - N-5 NEW FULL DEPTH BITUMINOUS CONC. PAVING TRENCH REPAIR, SEE DETAIL #1 ON DRAWING C202.
 - N-6 OVERLAY BITUMINOUS CONCRETE SURFACE, SEE DETAIL #2 ON DRAWING C202.
 - N-7 NEW MICRO-BIORETENTION STORMWATER MANAGEMENT FACILITY, SEE DETAIL ON DRAWING C302.
 - N-8 NEW LEVEL SPREADER, SEE DETAIL ON DRAWING C302.
 - N-9 NEW ELECTRIC LINE, DUCTBANK AND SERVICE EQUIPMENT, SEE ELECTRICAL DRAWING E101.
 - N-10 RESET CONCRETE CURB AND GUTTER.
 - N-11 NEW BOLLARD, SEE DETAIL 9 ON ELECTRICAL DRAWING E802.
 - N-12 NEW EQUIPMENT PAD, SEE DETAIL #2 ON DRAWING S-101.
 - N-13 NEW 4" PVC SOLID PIPE.
 - N-14 NEW 2" X 2" RIP RAP APRON.
 - N-15 NEW 4" THICK CONCRETE SIDEWALK, SEE DETAIL #3 ON DRAWING C202.
 - N-16 NEW FIBER HAND HOLE, SEE ELECTRICAL DRAWINGS.
 - N-17 NEW 6" PVC PERFORATED PIPE.
 - N-18 NEW 6" PVC SOLID PIPE.
 - N-19 NEW 6" PVC SOLID CLEANOUT.

GEOMETRY POINT TABLE

PT #	DESCRIPTION	NORTHING	EASTING
1	CORNER OF CONCRETE FOUNDATION	572561.23	1360288.16
2	CORNER OF CONCRETE FOUNDATION	572507.66	1360304.51
3	CORNER OF CONCRETE PAD	572559.81	1360249.99
4	CORNER OF CONCRETE PAD	572596.53	1360298.76
5	CORNER OF FENCE	572565.52	1360283.48
6	CORNER OF FENCE	572504.76	1360302.15
7	CORNER OF FENCE	572513.26	1360329.71
8	CORNER OF FENCE	572573.84	1360311.41
9	CORNER OF CONCRETE SIDEWALK	572521.72	1360300.22
10	CORNER OF CONCRETE SIDEWALK	572558.28	1360315.48
11	CORNER OF FENCE	572557.84	1360244.68
12	CORNER OF FENCE	572567.83	1360273.56

CAUTION:
IF THIS DRAWING IS A REDUCTION,
USE THE GRAPHIC SCALES.

SITE INFORMATION:
PROPOSED IMPROVEMENTS = SMARTMOD,
AND GENERATOR, AND STORMWATER
FACILITY CONSTRUCTION
SITE AREA = 35,719 SQ.FT. (0.82 AC.)
TOTAL LOD = 8,374 SQ.FT. (0.19 AC.)
TOTAL CUT = 0.00 SQ.FT.
TOTAL FILL = 0.00 SQ.FT.

PLAN
SCALE: 1" = 10'

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineer Division
 Chief, Division of Land Development
 Director

11-21-18
 11-27-18
 11-27-18

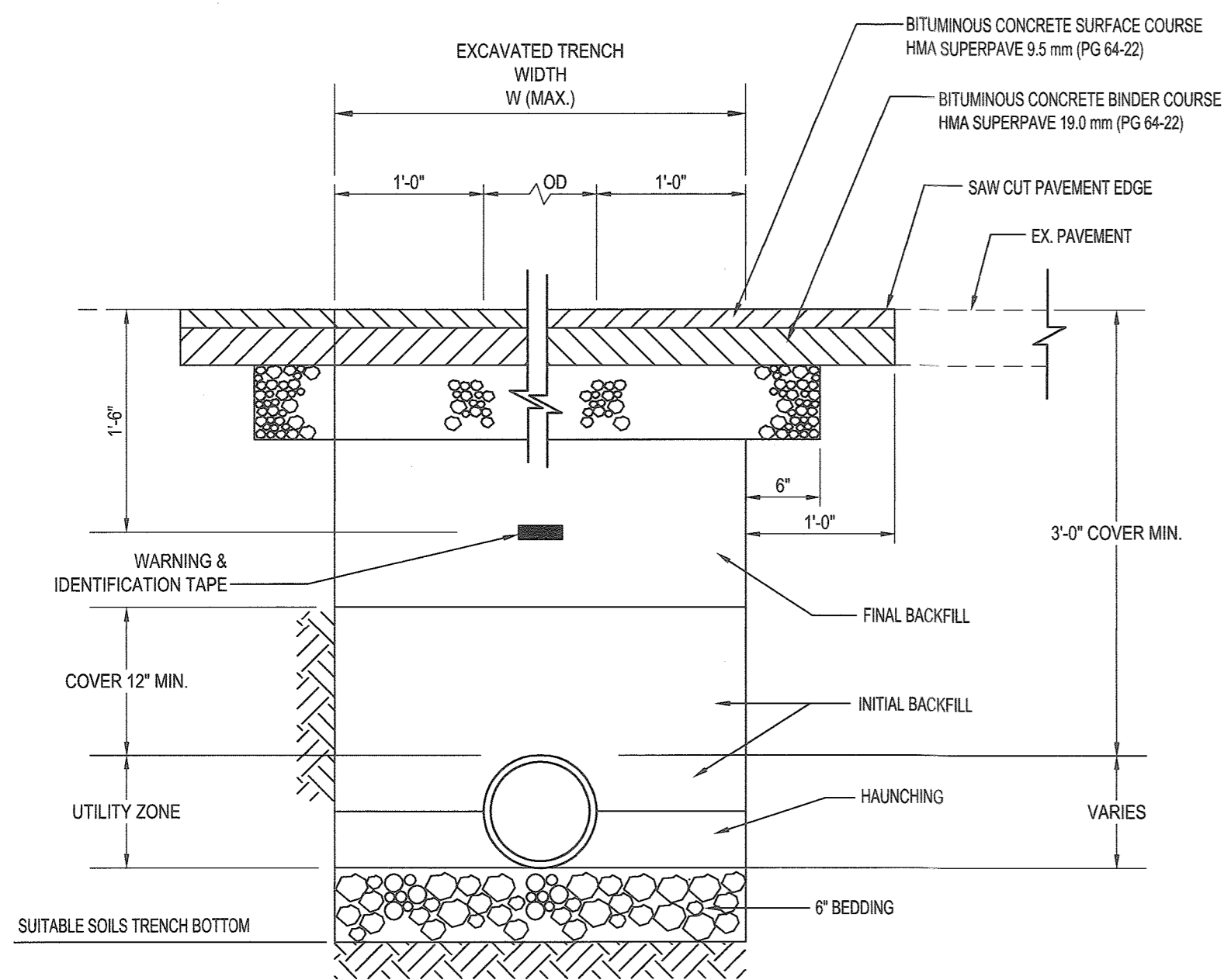
ENGINEER / SURVEYOR
 WHITNEY BAILEY COX & MAGNANI, LLC
 300 East Joppa Road, Suite 200
 Baltimore, MD 21286
 410.512.4500 www.wbcm.com

WBCM
 Designing Infrastructure for Tomorrow®

SEAL
 PROFESSIONAL ENGINEER
 I hereby certify that 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 # 34682 Expiration Date: 07/08/19

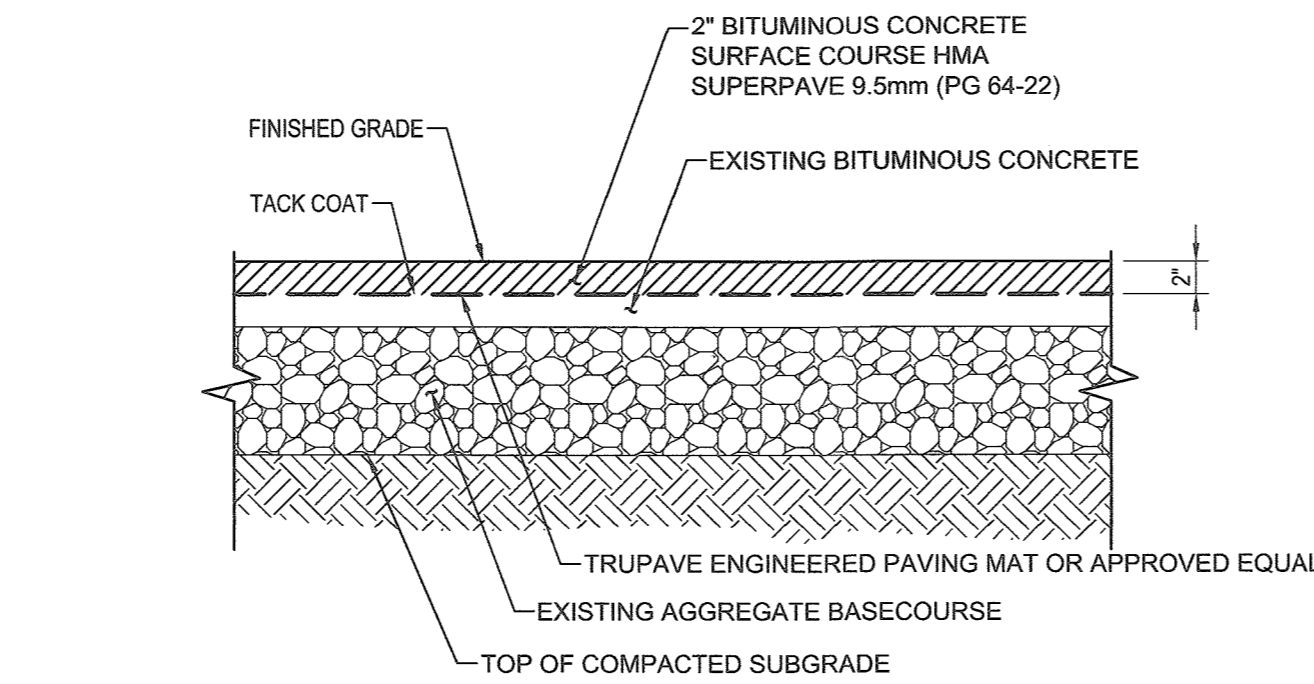
OWNER / DEVELOPER
 HOWARD COUNTY MD DEPARTMENT OF PUBLIC WORKS
 BUREAU OF FACILITIES
 9250 BENDIX ROAD
 COLUMBIA MD 21045
 ATTN: MICHAEL KAMINETZ
 PHONE: 410-313-5781

NO.	DATE	REVISION	BY
EDGAR ROAD WATER PUMPING STATION			
4901 EDGAR ROAD ELLICOTT CITY, MARYLAND 21044-0000 TAX MAP: 30; GRID: 17; PARCEL: 269; ELECTION DISTRICT: 2; ZONING: NT			
REVISED SITE PLAN			
PROJECT #:	2017.1600.00	DESIGNED:	A.S.
SCALE:	1" = 10'	DRAWN:	H.H.
DATE:	10-19-2018	CHECKED:	B.L.
			DRAWING: C201
			23 OF 29



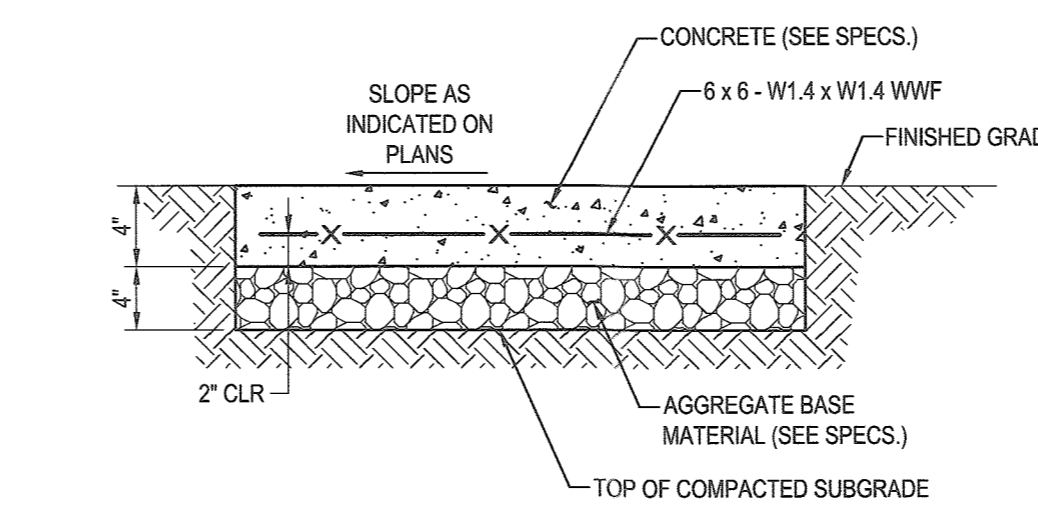
SECTION

1 BITUMINOUS TRENCH REPAIR
SCALE: 1" = 1'-0"



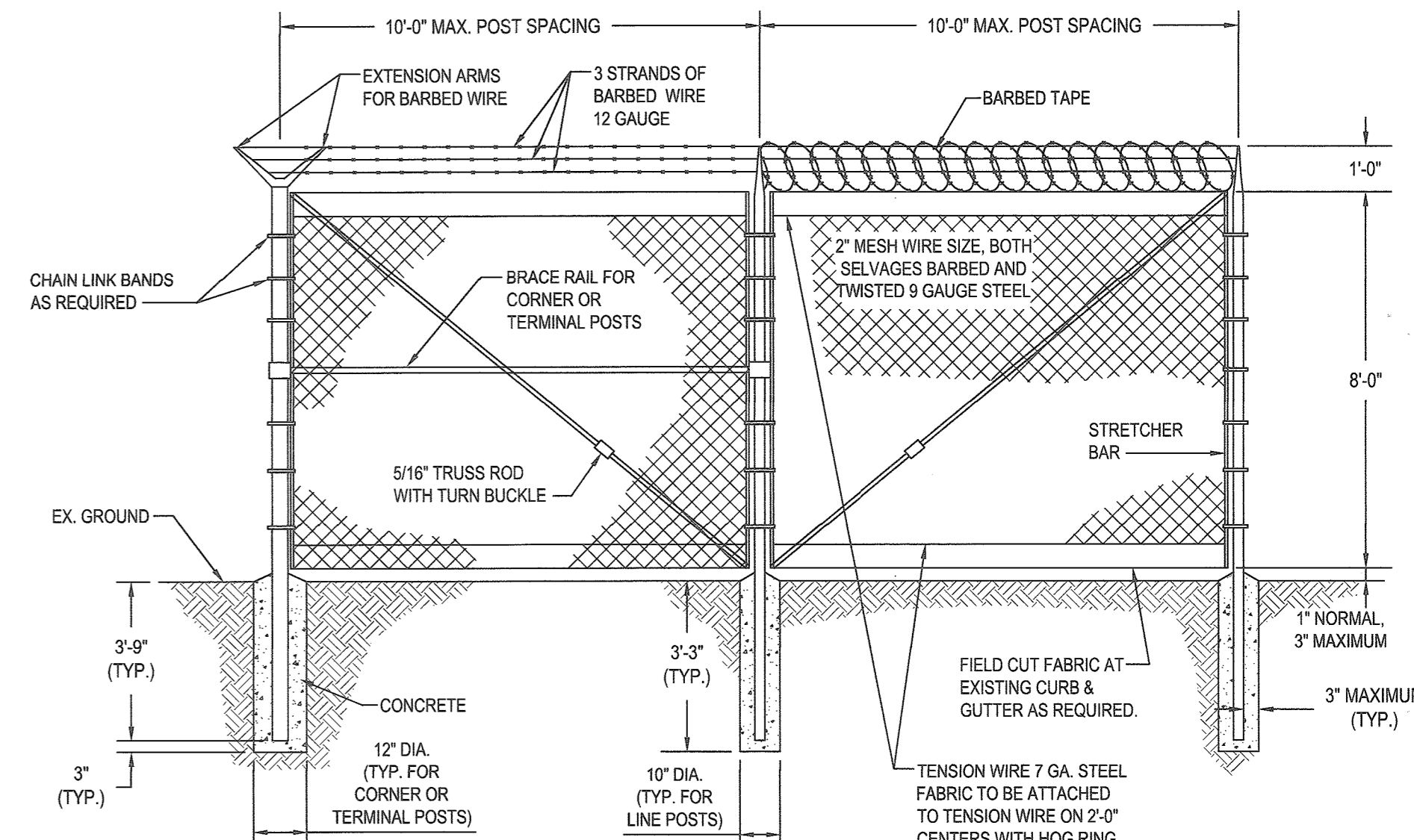
SECTION

2 MILL AND OVERLAY PAVEMENT SECTION
SCALE: 1" = 1'-0"



SECTION

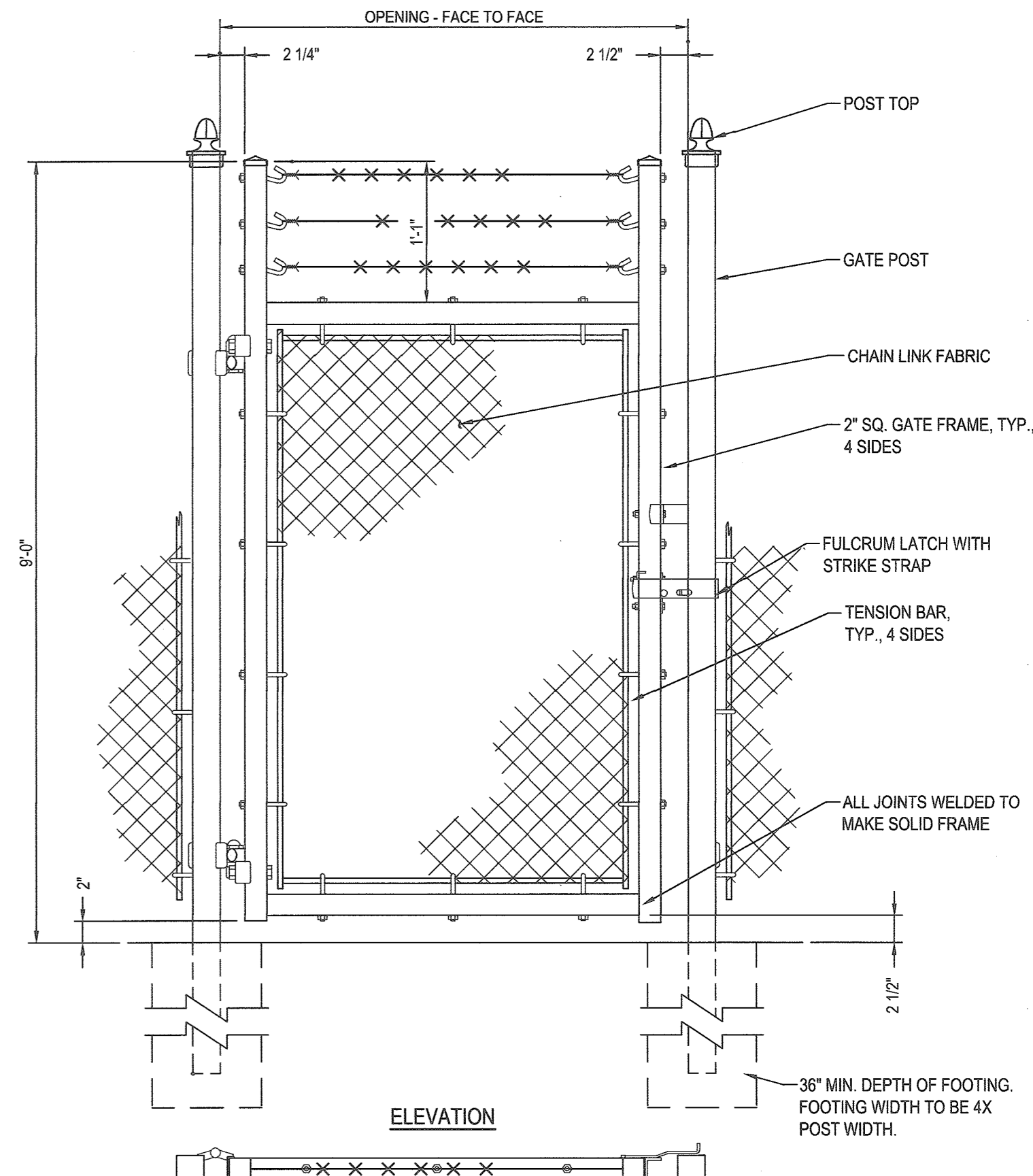
3 CONCRETE WALK
SCALE: NOT TO SCALE



FRONT VIEW

4 8'-HIGH BARBED WIRE CHAIN LINK FENCE
SCALE: NOT TO SCALE

SINGLE LEAF GATES		
OPENING	GATE POSTS	
FACE TO FACE	SQ. & ROUND SIZES	
3'-0" THROUGH	2 1/2" SQ.	
6'-0"	OR	2.875" O.D.



ELEVATION

PLAN

5 8'-HIGH CHAIN LINK SINGLE GATE DETAIL
SCALE: NOT TO SCALE

Schnabel TEST BORING LOG		Project: Howard County Data Center		Boring Number: B-1			
Contractor: Connelly and Associates, Inc. Frederick, Maryland		4808 Edgar Road Columbia, Maryland		Contract Number: 18C14008.00			
Contractor Foreman: J. Leathman		Schnabel Representative: S. Doran		Equipment: CME-55 (Track)			
Method: 3-1/4" I.D. Hollow Stem Auger		Groundwater Observations		Sheet: 1 of 1			
Hammer Type: Auto Hammer (140 lb)		Date		Time			
Dates Started: 4/19/18		4/19		11:15 AM			
Location: See Location Plan		23.0'		---			
Ground Surface Elevation: 389.2 (ft)		Total Depth: 25.0 ft					
DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRA TUM	SAMPLING DATA	TESTS	REMARKS
0.7	Topsoil-8 inches	CL	388.3		5-1 SPT (100%+)	PP = 2.75 tf	Residual
2.5	LEAN CLAY WITH SAND, moist, reddish brown	CL	386.5		5-2 SPT (20-4)	MC = 21.6%	
5	SILT WITH SAND, moist, estimated <5% gravel	ML	381.5		5-3 SPT (20-4)	Resistivity = 8000 Ohm-cm	
7.5	SANDY CLAY WITH ROCK FRAGMENTS, moist, light gray and light pink	CL	379.0		5-4 SPT (20-4)	Redox = 340	SANDY CLAY (USDA)
10.0	SILT SAND WITH ROCK FRAGMENTS, moist, reddish brown	SM	378.0		5-5 SPT (20-4)	Sw = 5.99	
15.0	SANDY SILT WITH ROCK FRAGMENTS, moist, reddish brown	SM	374.0		5-6 SPT (20-4)	PP = 1.25 tf	
25.0	Bottom of Boring at 25.0 ft. Boring backfilled with cuttings upon completion.		364.0		5-7 SPT (20-4)		

Schnabel TEST BORING LOG		Project: Howard County Data Center		Boring Number: B-2			
Contractor: Connelly and Associates, Inc. Frederick, Maryland		4808 Edgar Road Columbia, Maryland		Contract Number: 18C14008.00			
Contractor Foreman: J. Leathman		Schnabel Representative: S. Doran		Equipment: CME-55 (Track)			
Method: 3-1/4" I.D. Hollow Stem Auger		Groundwater Observations		Sheet: 1 of 1			
Hammer Type: Auto Hammer (140 lb)		Date		Time			
Dates Started: 4/19/18		4/19		1:03 PM			
Location: See Location Plan		22.0'		---			
Ground Surface Elevation: 388.1 (ft)		Total Depth: 25.0 ft					
DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRA TUM	SAMPLING DATA	TESTS	REMARKS
0.4	Topsoil-4 inches	CL	387.6		5-1 SPT (100%+)	MC = 19.2%	Residual
2.5	LEAN CLAY WITH ROCK FRAGMENTS, moist, reddish brown	CL	385.5		5-2 SPT (20-4)	PP = 2.00 tf	
5.0	SILT SAND, moist, reddish brown	SM	383.0		5-3 SPT (20-4)	Resistivity = 6200 Ohm-cm	
7.5	CLAYEY SAND, moist, reddish brown	SC	380.0		5-4 SPT (20-4)	Redox = 242	
10.0	SILT SAND, moist, reddish brown	SM	378.0		5-5 SPT (20-4)	Sw = 9.99	
15.0	SANDY SILT WITH ROCK FRAGMENTS, moist, reddish brown	SM	374.0		5-6 SPT (20-4)	LL = 54	
18.5	SANDY SILT, moist, brown	ML	369.5		5-7 SPT (20-4)	PI = 35	
24.0	DISINTEGRATED ROCK, sampled as sandy silt with rock fragments, moist, visible	DR	363.0		5-8 SPT (174+204)	MC = 24.8%	SANDY LOAM (USDA)
25.0	Bottom of Boring at 25.0 ft. Boring backfilled with cuttings upon completion.		363.0		5-9 SPT (20-4)	PP = 1.75 tf	

Schnabel TEST BORING LOG		Project: Howard County Data Center		Boring Number: B-3			
Contractor: Connelly and Associates, Inc. Frederick, Maryland		4808 Edgar Road Columbia, Maryland		Contract Number: 18C14008.00			
Contractor Foreman: J. Leathman		Schnabel Representative: S. Doran		Equipment: CME-55 (Track)			
Method: 3-1/4" I.D. Hollow Stem Auger		Groundwater Observations		Sheet: 1 of 1			
Hammer Type: Auto Hammer (140 lb)		Date		Time			
Dates Started: 4/19/18		4/19		11:30 AM			
Location: See Location Plan		10.0'		---			
Ground Surface Elevation: 387.2 (ft)		Total Depth: 15.0 ft					
DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRA TUM	SAMPLING DATA	TESTS	REMARKS
0.4	Topsoil-4 inches	FIL	386.6		5-1 SPT (100%+)	PP = 2.25 tf	Fill
2.5	FILL, sampled as sandy clay, moist, light reddish brown, estimated <5% gravel	FIL	384.5		5-2 SPT (20-4)	MC = 14.7%	
5.0	CLAYEY SAND, moist, light reddish brown, estimated <5% sand, estimated <5% gravel	SC	382.0		5-3 SPT (20-4)	PP = 1.50 tf	Residual
10.0	SILT SAND, moist, gray and brown	SM	378.5		5-4 SPT (20-4)	LL = 46.6	
15.0	Bottom of Boring at 15.0 ft. Boring backfilled with cuttings upon completion.		372.0		5-5 SPT (20-4)	PI = 17.9	

Schnabel TEST BORING LOG		Project: Howard County Data Center		Boring Number: SWM-1			
Contractor: Connelly and Associates, Inc. Frederick, Maryland		4808 Edgar Road Columbia, Maryland		Contract Number: 18C14008.00			
Contractor Foreman: J. Leathman		Schnabel Representative: S. Doran		Equipment: CME-55 (Track)			
Method: 3-1/4" I.D. Hollow Stem Auger		Groundwater Observations		Sheet: 1 of 1			
Hammer Type: Auto Hammer (140 lb)		Date		Time			
Dates Started: 4/19/18		4/19		2:10 PM			
Location: See Location Plan		11.3'		---			
Ground Surface Elevation: 388.1 (ft)		Total Depth: 15.0 ft					
DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOL	ELEV (ft)	STRA TUM	SAMPLING DATA	TESTS	REMARKS
0.3	Topsoil-3 inches	ML	387.7		5-1 SPT (100%+)	PP = 2.75 tf	Residual
2.5	SANDY SILT, moist, reddish brown	ML	385.5		5-2 SPT (20-4)	MC = 14.7%	
5.0	LEAN CLAY WITH SAND, moist, reddish brown	CL	381.5		5-3 SPT (20-4)	Resistivity = 8000 Ohm-cm	
7.5	SANDY SILT, moist, yellowish brown, estimated <5% sand	ML	380.5		5-4 SPT (20-4)	Redox = 47.0	
13.5	SILT WITH SAND, moist, reddish brown, estimated <5% sand	ML	374.5		5-5 SPT (20-4)	MC = 24.0%	
15.0	Bottom of Boring at 15.0 ft. Boring backfilled with cuttings upon completion.		373.0		5-6 SPT (20-4)	PI = 10	

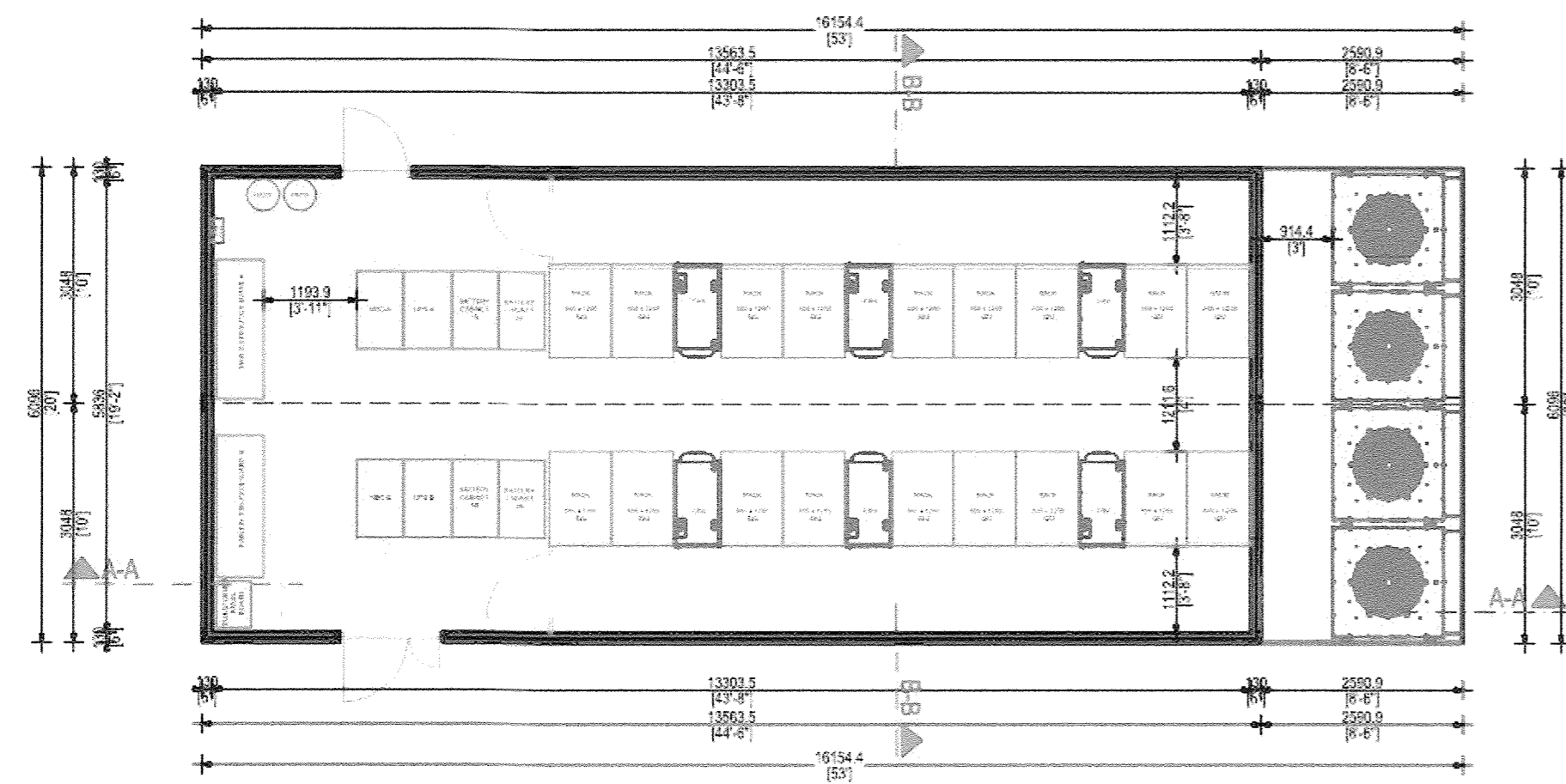
APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineer Division
 Date: 11-21-18
 Date: 11-27-18
 Date: 11-27-18

ENGINEER / SURVEYOR
 WHITNEY BAILEY COX & MAGNANI, LLC
 300 East Joppa Road, Suite 200
 Baltimore, MD 21286
 410.512.4500 www.wbcm.com
WBCM
 Designing Infrastructure for Tomorrow

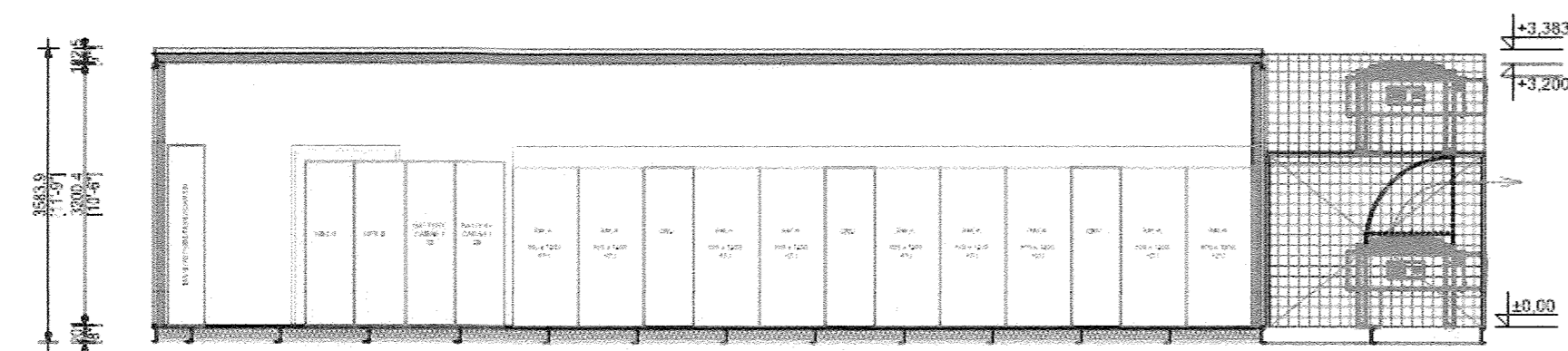
SEAL
 MICHAEL KAMINETZ
 PROFESSIONAL ENGINEER
 License # 34682 Expiration Date: 07/08/19

OWNER / DEVELOPER
 HOWARD COUNTY MD DEPARTMENT OF PUBLIC WORKS
 BUREAU OF FACILITIES
 9250 BENDIX ROAD
 COLUMBIA MD 21045
 ATTN: MICHAEL KAMINETZ
 PHONE: 410-313-5781

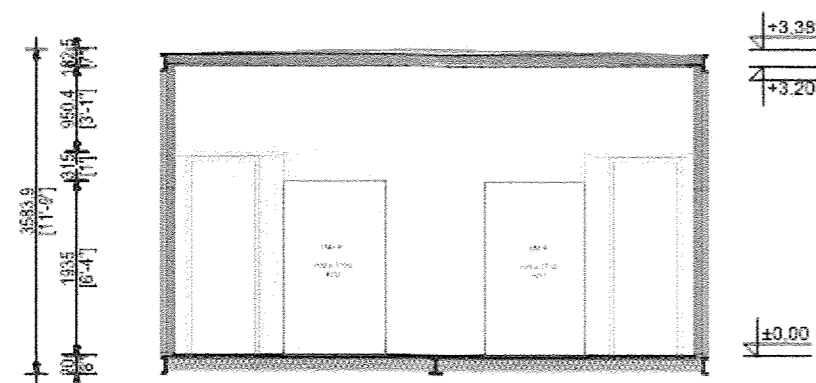
NO.	DATE	REVISION	BY
EDGAR ROAD WATER PUMPING STATION			
4901 EDGAR ROAD ELLICOTT CITY, MARYLAND 21044-0000 TAX MAP: 30; GRID: 17; PARCEL: 269; ELECTION DISTRICT: 2; ZONING: NT			
SITE DETAILS			
PROJECT #:	2017.1600.00	DESIGNED:	A.S.
SCALE:	AS NOTED	DRAWN:	H.H.
DATE:	10-19-2018	CHECKED:	B.L.
		DRAWING:	C202
		24 OF 29	



PLAN VIEW

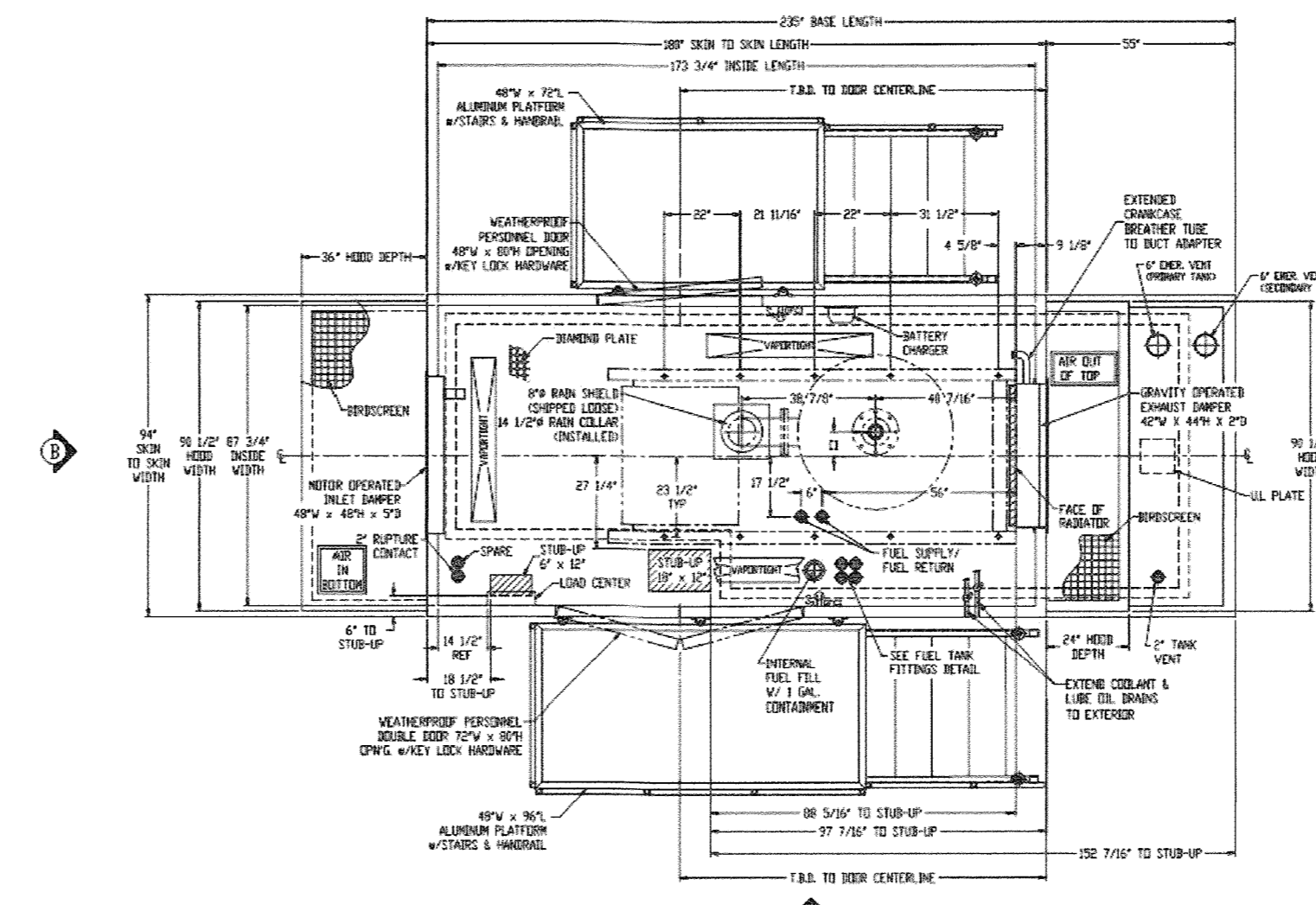


SECTION A-A

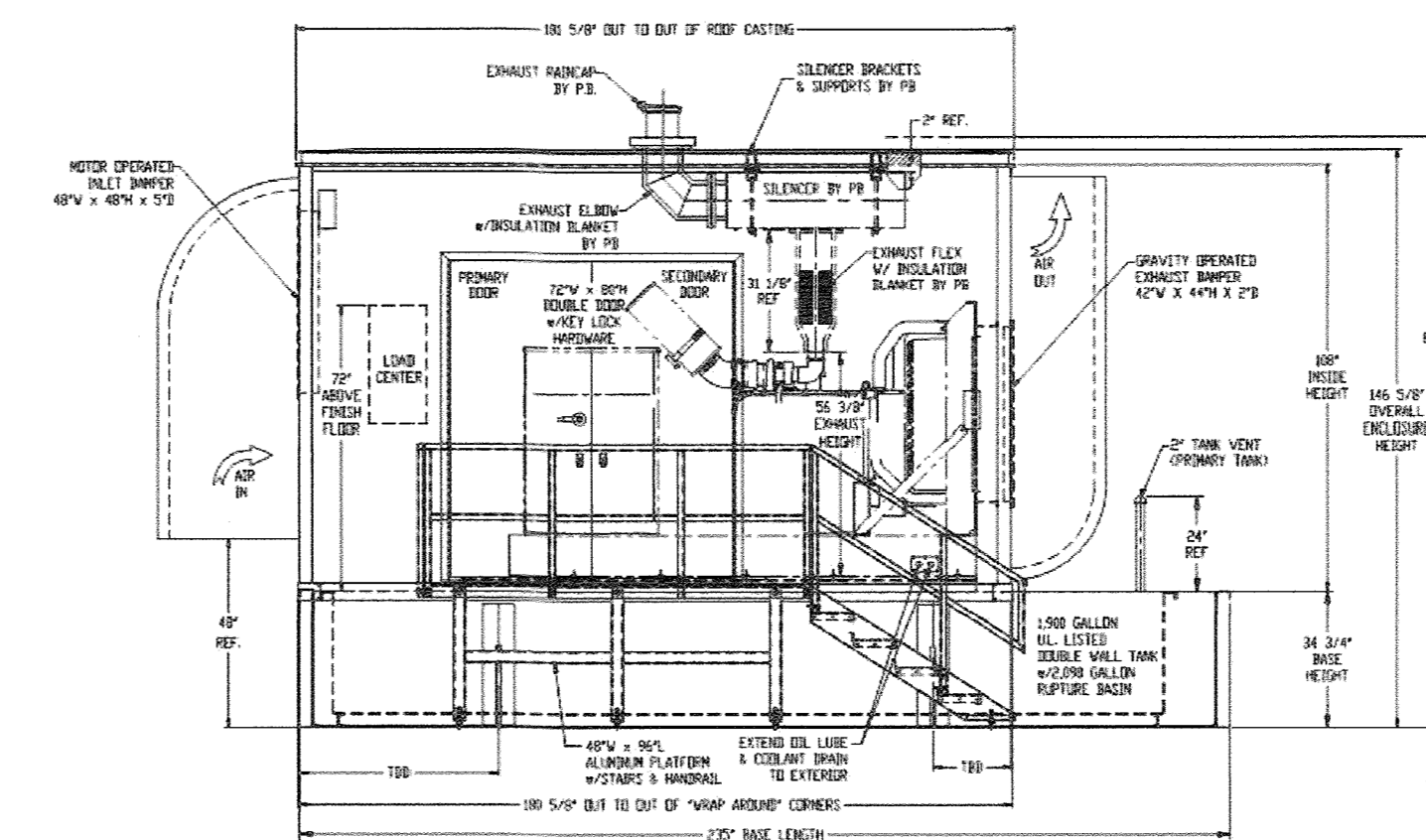


SECTION B-B

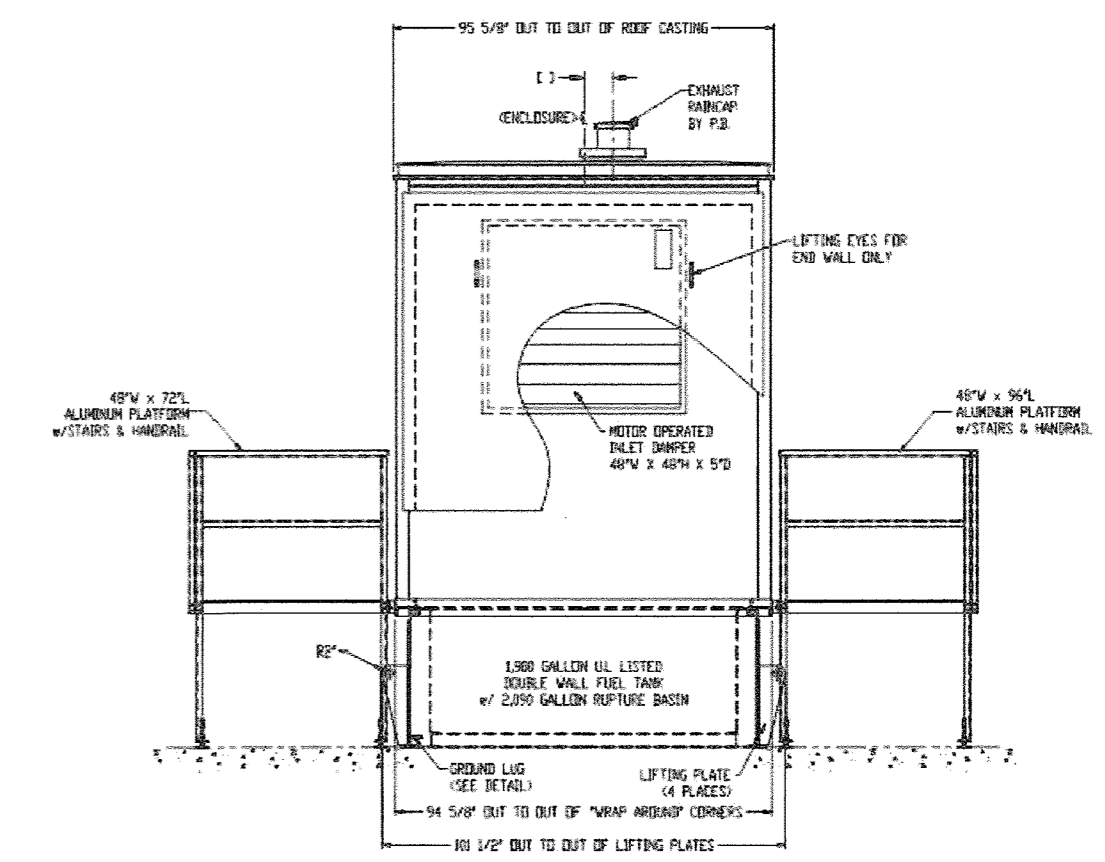
1 COUNTY SMARTMOD #1
C203 NOT TO SCALE



PLAN VIEW



SECTION A-A



SECTION B-B

2 COUNTY SMARTMOD #1
C203 NOT TO SCALE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineer Division 11-21-18
Chief, Division of Land Development 11-27-18
 Director 11-27-18

ENGINEER / SURVEYOR

WHITNEY BAILEY COX & MAGNANI, LLC
 300 East Joppa Road, Suite 200
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11/15/18
 PROFESSIONAL ENGINEER
 License # 34682 Expiration Date: 07/08/19

OWNER / DEVELOPER

HOWARD COUNTY MD DEPARTMENT OF PUBLIC WORKS
 BUREAU OF FACILITIES
 9250 BENDIX ROAD
 COLUMBIA MD 21045
 ATTN: MICHAEL KAMINETZ
 PHONE: 410-313-5781

NO.	DATE	REVISION	BY
EDGAR ROAD WATER PUMPING STATION			
4901 EDGAR ROAD ELLICOTT CITY, MARYLAND 21044-0000 TAX MAP: 30; GRID: 17; PARCEL: 269; ELECTION DISTRICT: 2; ZONING: NT			
SITE DETAILS			
PROJECT #:	2017.1600.00	DESIGNED:	A.S.
SCALE:	AS NOTED	DRAWN:	H.H.
DATE:	10-19-2018	CHECKED:	B.L.
			DRAWING: C203
			25 OF 29

SEQUENCE OF CONSTRUCTION

1. PRIOR TO ANY DISTURBANCE OF SOILS, CLEARING OF TREES, INSTALLING SEDIMENT CONTROLS, OR GRADING, NOTIFY HOWARD SOIL CONSERVATION DISTRICT AT 410-313-0680 FOR THE REQUIRED, ON-SITE PRE-SITE CONSTRUCTION MEETING AT LEAST (7) SEVEN DAYS PRIOR TO COMMENCING ANY LAND DISTURBING ACTIVITIES.
2. THE LIMITS OF DISTURBANCE SHALL BE FIELD MARKED PRIOR TO ANY CLEARING, GRUBBING, GRADING OR SEDIMENT CONTROL INSTALLATION.
3. UPON APPROVAL OF THE HOWARD SEDIMENT CONTROL INSPECTOR, INSTALL STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE, AND TREE PROTECTION.
4. PERFORM CLEARING OF SITE.
5. BEGIN CONSTRUCTION OF SITE IMPROVEMENTS.
 - 5.1. INSTALL CONDUITS AND OTHER UTILITIES.
 - 5.2. INSTALL FOUNDATIONS, BUILDING PAD, AND GENERATOR PAD.
6. GRADE OUT MICRO-BIORETENTION FACILITY.
7. COMPLETE FINE GRADING AND COMPLETE SITE WORK INCLUDING PAVING, TRENCH REPAIR, ETC.
8. COMPLETE LANDSCAPING AND PERMANENTLY STABILIZE ANY REMAINING DISTURBED AREAS.
9. UPON FINAL STABILIZATION WITH A GOOD STAND OF VEGETATIVE COVER, AND WITH PERMISSION OF THE HOWARD INSPECTOR, REMOVE REMAINING SEDIMENT CONTROLS AND PERMANENTLY STABILIZE ANY AREA DISTURBED BY SUCH REMOVAL. **Complete Bioretention Facility.**

AS-BUILT CERTIFICATION

I hereby certify that the facility shown on this plan was constructed as shown on the "as-built" plans and meets the approved plans and specifications.

Signature _____ PE No. _____
Date: _____

OPERATION, MAINTENANCE AND INSPECTION

Inspection of the pond(s) shown hereon shall be performed at least annually, in accordance with the checklist and requirements contained within USDA, NRCS "Standards And Specifications For Ponds" (MD-378). The pond owner(s) and any heirs, successors, or assigns shall be responsible for the safety of the pond and the continued operations, surveillance, inspection, and maintenance thereof. The pond owner(s) shall promptly notify the Soil Conservation District of any unusual observations that may be indications of distress such as excessive seepage, turbid seepage, sliding or slumping.

SEDIMENT CONTROL

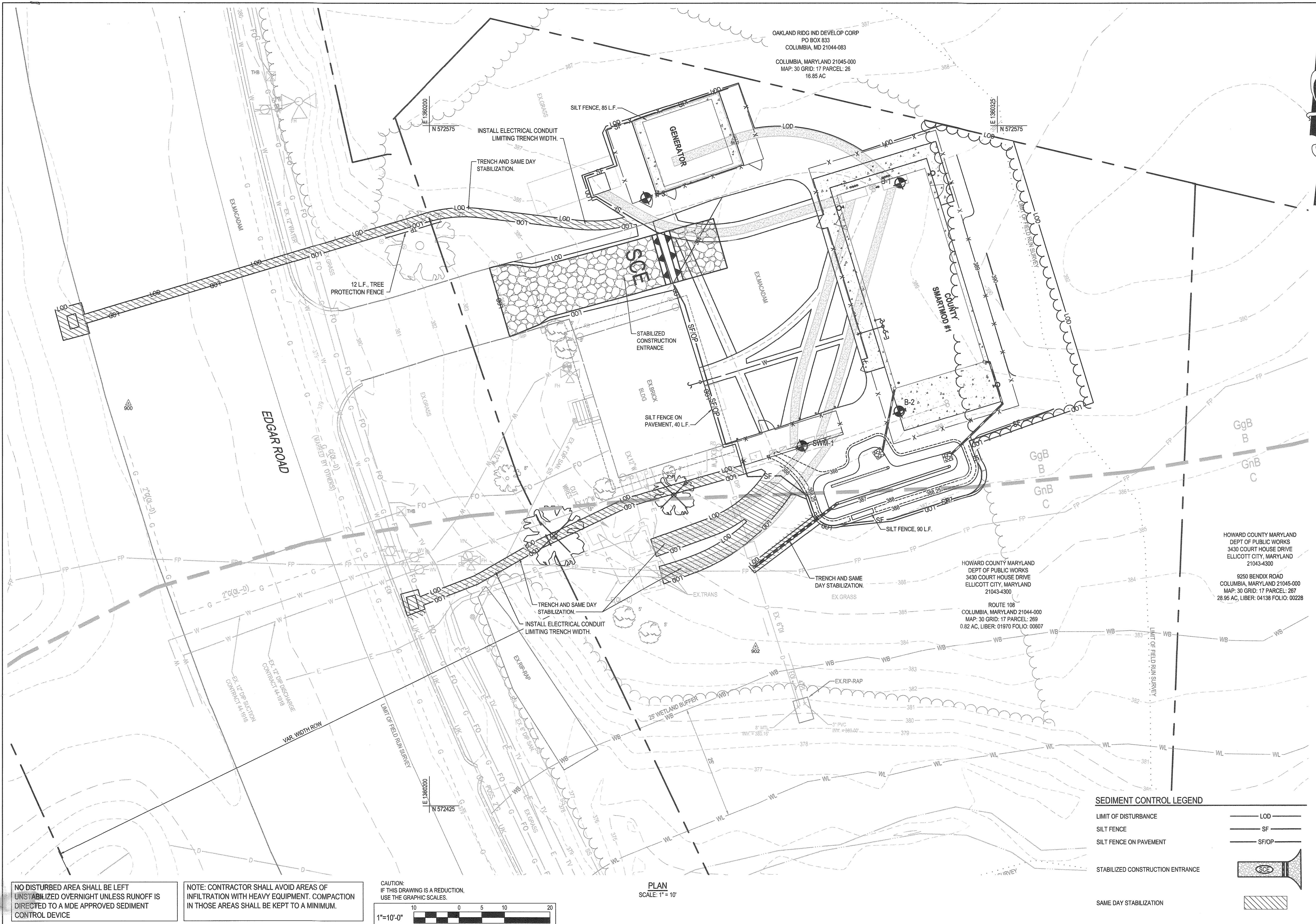
Owners/Developer Certification:
"I hereby certify that any clearing, grading, construction, or development will be done pursuant to this approved erosion and sediment control plan, including inspecting and maintaining controls, and that the responsible personnel involved in the construction project will have a Certificate of Training at a Maryland Department of the Environment (MDE) approved training program for the control on erosion and sediment prior to beginning the project. I certify right-of-entry for periodic on-site evaluation by Howard County, the Howard Soil Conservation District and/or MDE."

Owner's/Developer's Signature: *[Signature]* Date: 11/6/18
Printed Name & Title: **KAREN C. STROKOSHL DIX**
CHIEF BUREAU OF FACILITIES
HOWARD COUNTY DEP

Design Certification:
"I hereby certify that this plan has been designed in accordance with current Maryland erosion and sediment control laws, regulations, and standards, and that it represents a practical and workable plan based on my personal knowledge of the site, and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."
Designer's Signature: *[Signature]* Date: 11/5/18
Printed Name: **BLAINE LINKOUS**
MD Registration No.: **34682**
(P.E., R.L.S., or K.L.A. (circle one))

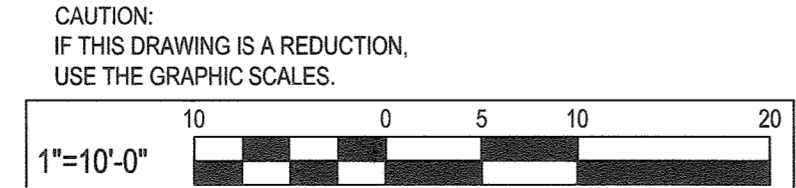
Professional Certification:
"I hereby certify these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No.: **34682** Expiration Date: **7/8/19**
(Title block, certification, seal, and signature shall appear close to each other)

Howard SCD Signature Block:
This plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.
[Signature]
Howard Soil Conservation District Date: _____



NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT UNLESS RUNOFF IS DIRECTED TO A MDE APPROVED SEDIMENT CONTROL DEVICE

NOTE: CONTRACTOR SHALL AVOID AREAS OF INFILTRATION WITH HEAVY EQUIPMENT. COMPACTION IN THOSE AREAS SHALL BE KEPT TO A MINIMUM.



PLAN SCALE: 1"=10'

SEDIMENT CONTROL LEGEND

LIMIT OF DISTURBANCE	---	LOD
SILT FENCE	---	SF
SILT FENCE ON PAVEMENT	---	SF/OP
STABILIZED CONSTRUCTION ENTRANCE	[SCE Symbol]	
SAME DAY STABILIZATION	[Hatched Symbol]	

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[Signature] 11-21-18
Chief, Development Engineer Division Date

[Signature] 11-27-18
Chief, Division of Land Development Date

[Signature] 11-27-18
Director Date

ENGINEER / SURVEYOR

WHITNEY BAILEY COX & MAGNANI, LLC
300 East Joppa Road, Suite 200
Baltimore, MD 21286
410.512.4500 www.wbcm.com

WBCM
Designing Infrastructure for Tomorrow®

SEAL

[Signature] 11/5/18

BLAINE LINKOUS
PROFESSIONAL ENGINEER
No. 34682
I hereby certify that 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 # 34682 Expiration Date: 07/08/19

OWNER / DEVELOPER

HOWARD COUNTY MD DEPARTMENT OF PUBLIC WORKS
BUREAU OF FACILITIES
9250 BENDIX ROAD
COLUMBIA MD 21045
ATTN: MICHAEL KAMINETZ
PHONE: 410-313-5781

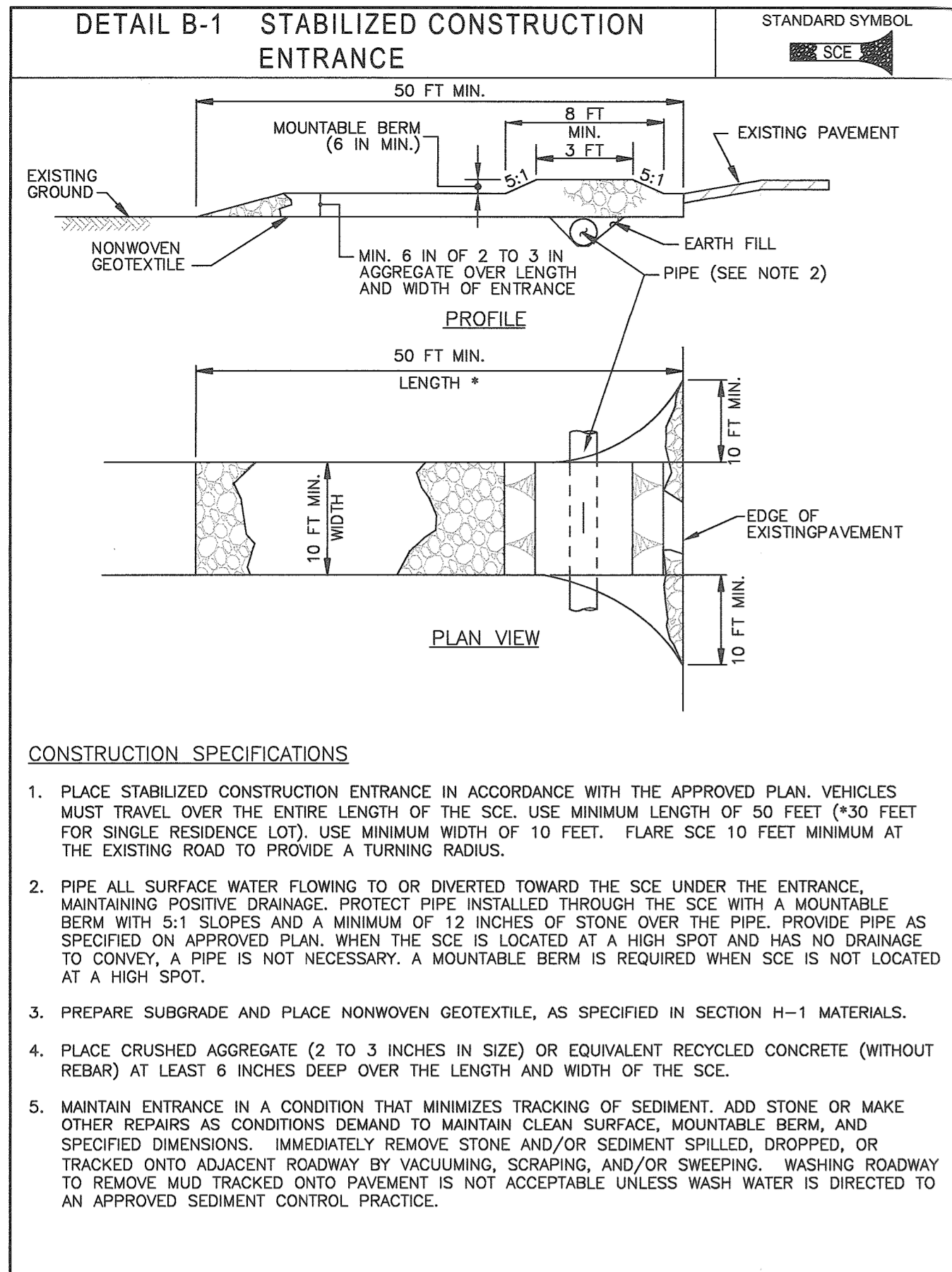
NO.	DATE	REVISION	BY

EDGAR ROAD WATER PUMPING STATION

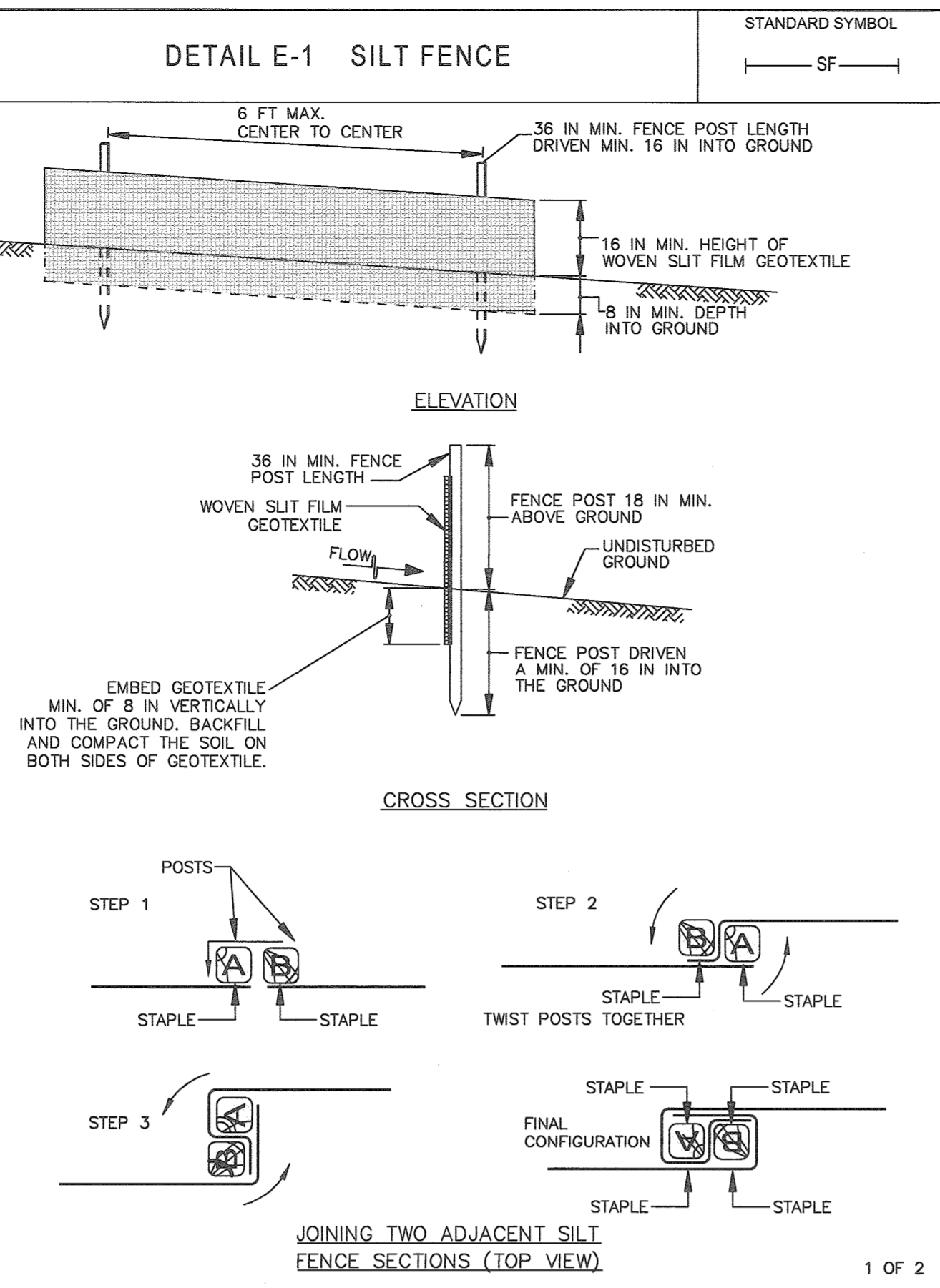
4901 EDGAR ROAD
ELLCOTT CITY, MARYLAND 21044-0000
TAX MAP: 30; GRID: 17; PARCEL: 269;
ELECTION DISTRICT: 2; ZONING: NT

REVISED EROSION AND SEDIMENT CONTROL PLAN

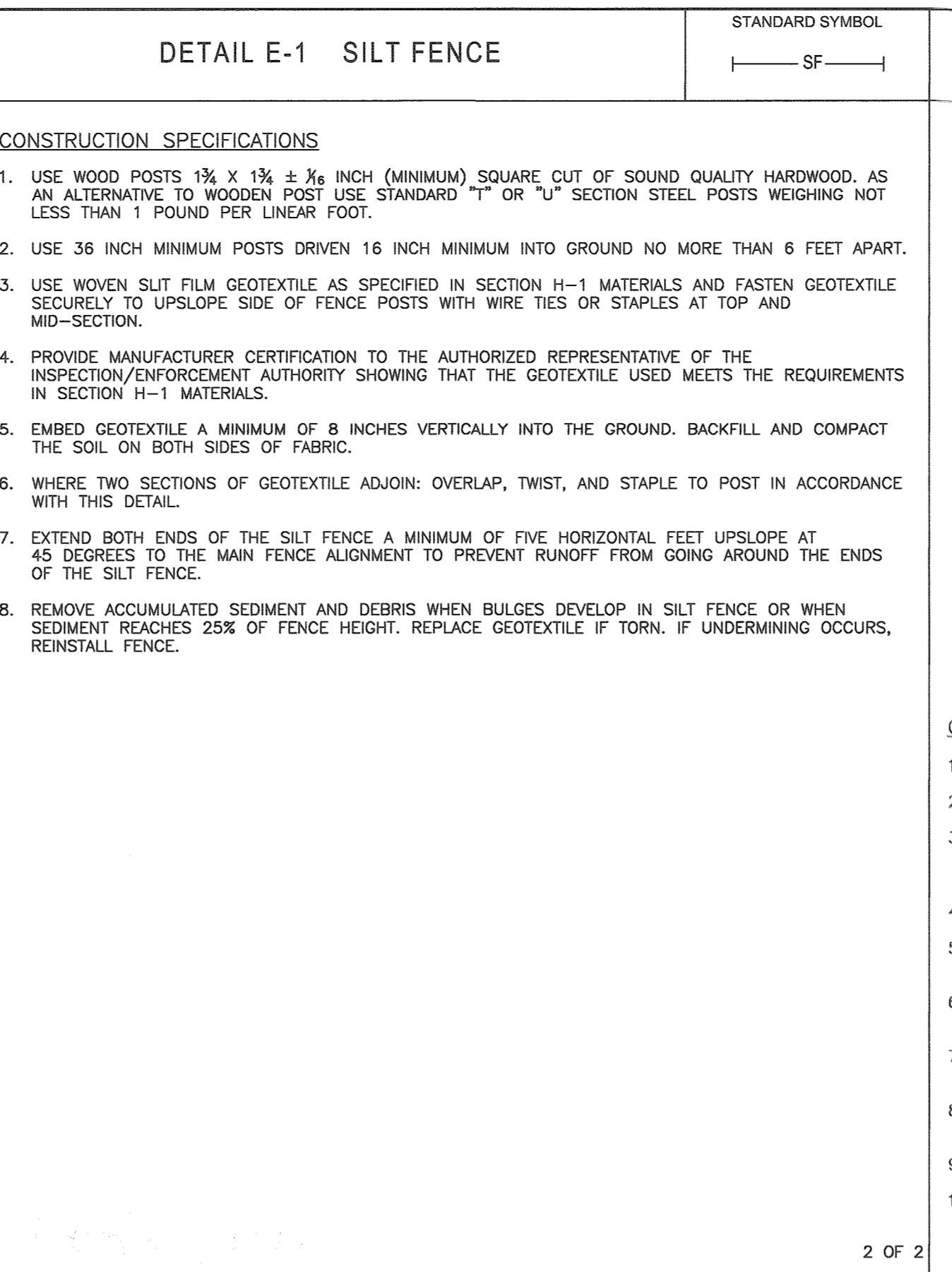
PROJECT #:	2017.1600.00	DESIGNED:	A.S.	DRAWING:	C401
SCALE:	1" = 10'	DRAWN:	H.H.		
DATE:	10-19-2018	CHECKED:	B.L.		26 OF 29



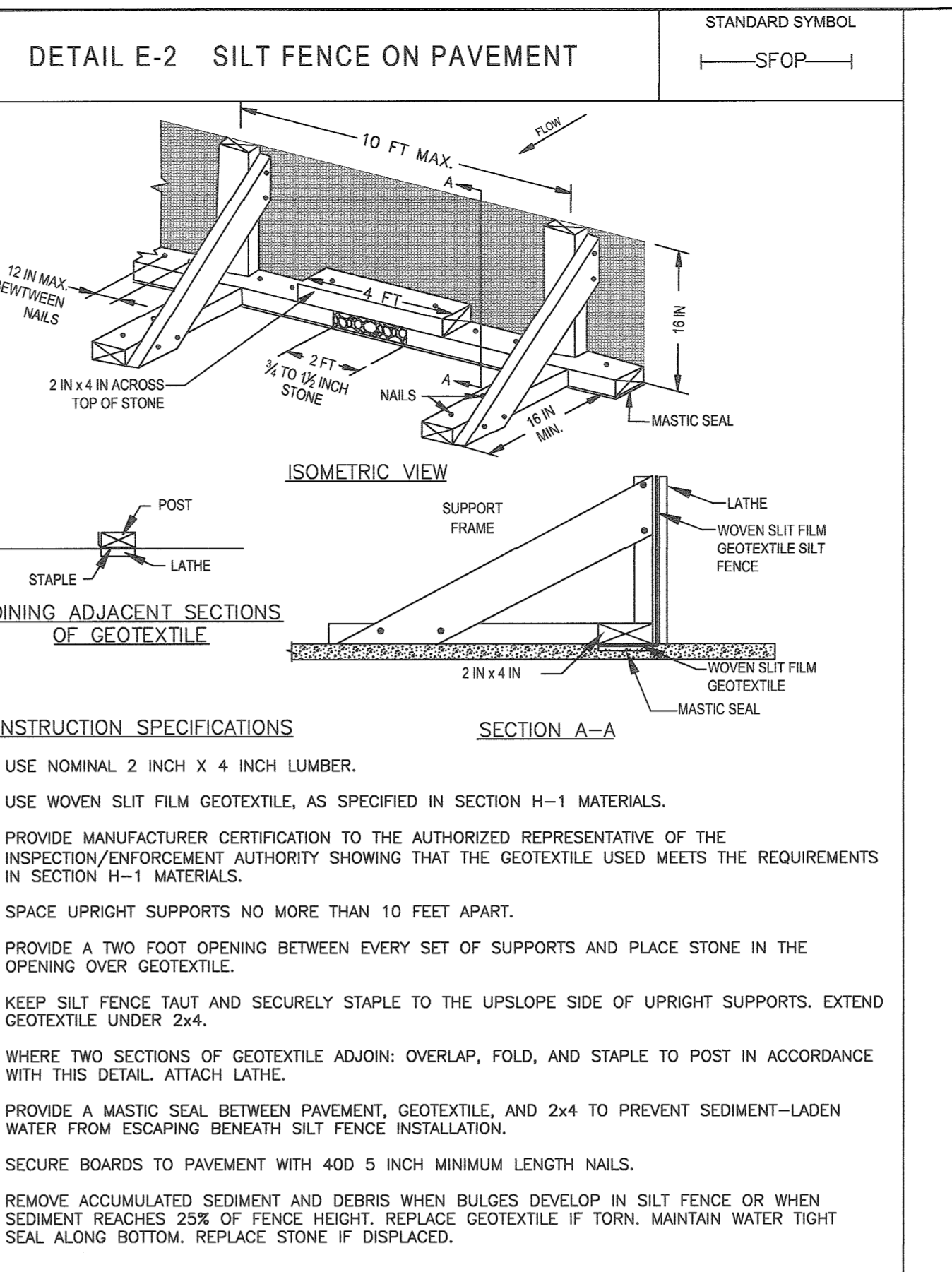
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL		
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL		
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL		
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL		
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTES

- A pre-construction meeting must occur with the Howard County Department of Public Works, Construction Inspection Division (CID), 410-313-1855 after the future LOD and protected areas are marked clearly in the field. A minimum of 48 hour notice to CID must be given at the following stages:
 - Prior to the start of earth disturbance.
 - Prior to the start of another phase of construction or opening of another grading unit.
 - Prior to the removal or modification of sediment control practices.

Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made. Other related state and federal permits shall be referenced, to ensure coordination and to avoid conflicts with this plan.

- All vegetation and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and revisions thereto.
- Following initial soil disturbance or re-disturbance, permanent or temporary stabilization is required within three (3) calendar days to the surface of all permanent controls, dikes, swales, ditches, perimeter slopes, and all slopes steeper than 3 horizontal to 1 vertical (3:1); and sever (7) calendar days as to all other disturbed areas on the project site except for those areas under active grading.
- All disturbed areas must be stabilized within the time period specified above in accordance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, for topsoil (Sec. B-4.2), permanent seeding (Sec. B-4.5), temporary seeding (Sec. B-4.4) and mulching (Sec. B-4.3). Temporary stabilization with mulch alone can only be applied between the fall and spring seeding dates if the ground is frozen. Incremental stabilization (Sec. B-4.1) specifications shall be enforced in areas with >15° of cut and/or fill. Slopes (Sec. B-4.8) in excess of 20 ft. must be berched with stable outlet. All concentrated flow, steep slope, and highly erodible areas shall receive soil stabilization matting (Sec. B-4.6).
- All sediment control structures are to remain in place, and are to be maintained in operative condition until permission for their removal has been obtained from the CID.

Site Analysis:

Total Area of Site:	0.82	Acres
Area Disturbed:	0.19	Acres
Area to be roofed or paved:	0.07	Acres
Area to be vegetatively stabilized:	0.72	Acres
Total Cut:	32	Cu. Yds.
Total Fill:	0	Cu. Yds.
Off-site waste/borrow area location:		

- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- Additional sediment control must be provided, if deemed necessary by the CID. The site and all controls shall be inspected by the contractor weekly; and the next day after each rain event. A written report by the contractor, made available upon request, is part of every inspection and should include:
 - Inspection date
 - Inspection type (routine, pre-storm event, during rain event)
 - Name and title of inspector
 - Weather information (current conditions as well as time and amount of last recorded precipitation)
 - Brief description of project's status (e.g., percent complete) and/or current activities
 - Evidence of sediment discharges
 - Identification of plan deficiencies
 - Identification of sediment controls that require maintenance
 - Identification of missing or improperly installed sediment controls
 - Compliance status regarding the sequence of construction and stabilization requirements
 - Photographs
 - Monitoring/sampling
 - Maintenance and/or corrective action performed
 - Other inspection items as required by the General Permit for Stormwater Associated with Construction Activities (NPDES, MDE).

B-4.4 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

Definition: To stabilize disturbed soils with permanent vegetation.

Purpose: To use long-lived perennial grasses and legumes to establish permanent ground cover on disturbed soils.

Conditions Where Practice Applies: Exposed soils where ground cover is needed for 6 months or more.

Criteria:

- Seed Mixtures
 - General Use
 - Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardiness Zone (from Figure B.3) and based on the site conditions or purpose found on Table B.2. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
 - Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 3-42 - Critical Area Planting.
 - For sites having disturbed areas over 5 acres, use and show the rates recommended by the soil testing agency.
 - For areas receiving low maintenance, apply urea form fertilizer (46-0-0) at 3 1/2 pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary.
 - Turfgrass Mixtures
 - Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.
 - Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan.
 - Kentucky Bluegrass: Full Sun Mixture: For use in areas that receive intensive maintenance. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky Bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
 - Kentucky Bluegrass/Perennial Ryegrass: Full Sun Mixture: For use in flat sun areas where

PERMANENT SEEDING SUMMARY

No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depth	N	Fertilizer Rate (10-20-20)			Lime Rate
						P ₂ O ₅	K ₂ O	CaCO ₃	
				1/4 - 1/2 in	45 pounds per acre	90 lb/ac (10 lb/1000 sf)	90 lb/ac (2 lb/1000 sf)	2 tons/ac (50 lb/1000 sf)	

Notes:

- Soil: To provide quick cover on disturbed areas (2:1 grade or flatter).
- General Specifications
 - Class of turfgrass seed must be Maryland State Certified. Soil labels must be made available to the job foreman and inspector.
 - Soil must be machine cut to a uniform soil thickness of 1/4 inch, plus or minus 1/8 inch, at the time of seeding. Measurement for thickness must exclude top growth and duff. Broken pads and torn or uneven ends will not be acceptable.
 - Standard size sections of sod must be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the section.
 - Sod must not be harvested or transported when moisture content (excessively dry or wet) may adversely affect its survival.
 - Sod must be harvested, delivered, and installed within a period of 36 hours. Sod not transported within this period must be approved by an agronomist or soil scientist prior to its installation.
- Sod Installation
 - During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the sod immediately prior to laying the sod.
 - Lay the first row of sod in a straight line with subsequent rows placed parallel to it and tightly wedged against each other. Stagger lateral joints to promote uniform growth and strength. Ensure that sod is not stretched or overlapped and that all joints are treated tight in order to prevent wind which would cause air cycling over roots.
 - Whenever possible, lay sod with the long edges parallel to the contour and with staggering joints. Roll and tamp, peg or otherwise secure the sod to prevent slippage on slopes. Ensure solid contact exists between sod sections and the underlying soil surface.
 - Water the sod immediately following rolling and tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. Complete the operation of laying, tamping and irrigating for any piece of sod within eight hours.
- Sod Maintenance
 - In the absence of adequate rainfall, water daily during the first week or as often as sufficient to maintain moist soil to a depth of 4 inches. Water sod during the heat of the day to prevent wilting.
 - After the first week, sod watering is required as necessary to maintain adequate moisture content.
 - Do not mow until the sod is firmly rooted. No more than 1/2 of the grass leaf must be removed by the initial cutting or subsequent cuttings. Maintain a grass height of at least 3 inches unless otherwise specified.

B-4.4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

Definition: To stabilize disturbed soils with vegetation for up to 6 months.

Purpose: To use fast growing vegetation that provides cover on disturbed soils.

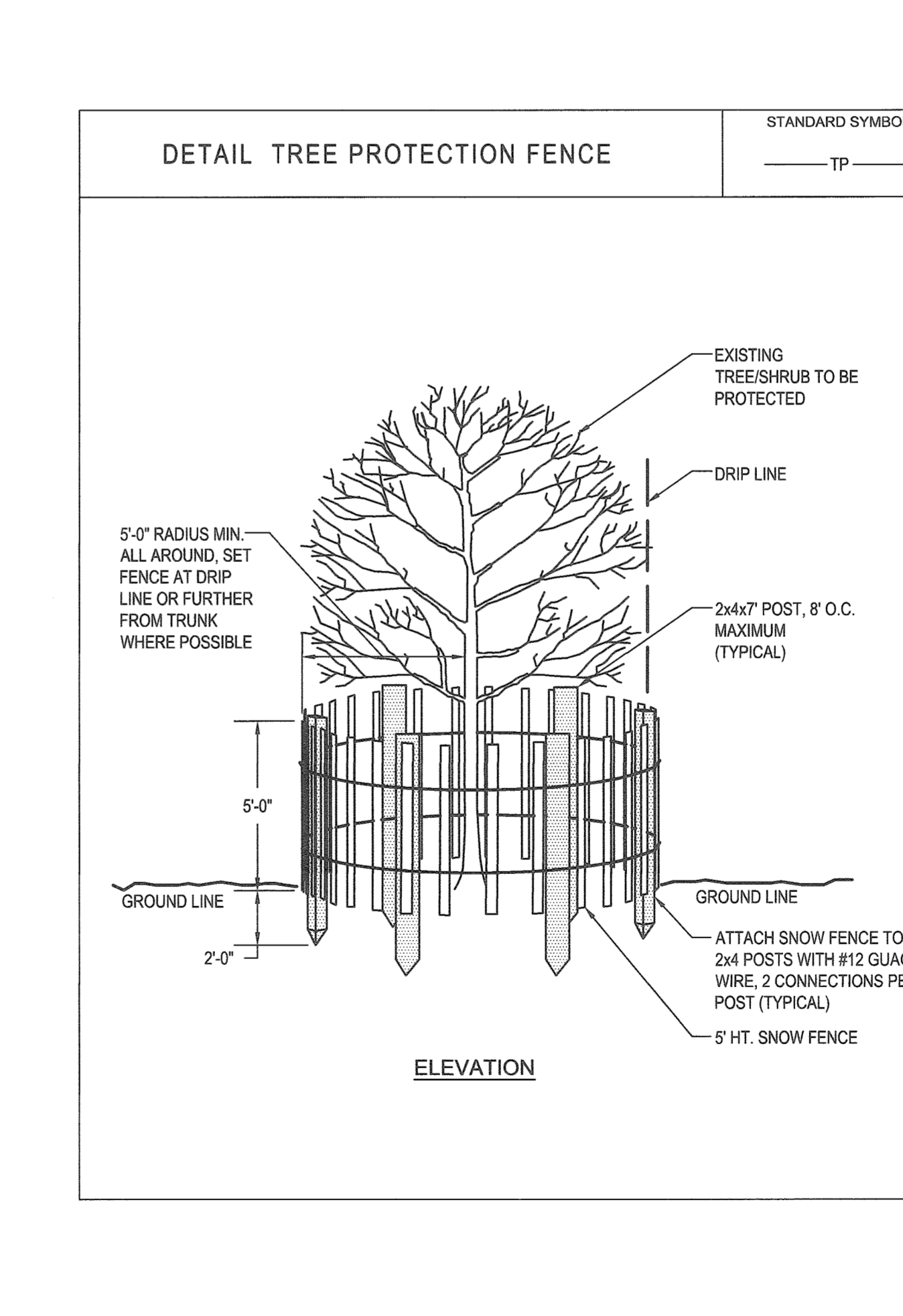
Conditions Where Practice Applies: Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.

Criteria:

- Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardiness Zone (from Figure B.3) and enter them in the Temporary Seeding Summary below along with application rates, seeding dates and seeding depths. If this Summary is not put on the plan and completed, then Table B.1 plus fertilizer and lime rates must be put on the plan.
- For sites having soil tests performed, use and show the recommended rates by the testing agency. Soil tests are not required for Temporary Seeding.
- When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4.3.A.1.E and maintain until the next seeding season.

Temporary Seeding Summary

No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depth	Fertilizer Rate (10-20-20)	Lime Rate



NO.	DATE	REVISION	BY

EDGAR ROAD WATER PUMPING STATION

4901 EDGAR ROAD
ELLCOTT CITY, MARYLAND 21044-0000
TAX MAP: 30; GRID: 17; PARCEL: 269;
ELECTION DISTRICT: 2; ZONING: NT

REVISED EROSION AND SEDIMENT CONTROL DETAILS

PROJECT #: 2017.1600.00	DESIGNED: A.S.	DRAWING: C402
SCALE: AS NOTED	DRAWN: H.H.	
DATE: 10-19-2018	CHECKED: B.L.	27 OF 29

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineer Division *[Signature]* 11-21-18 Date

Chief, Division of Land Development *[Signature]* 11-27-18 Date

Director *[Signature]* 11-27-18 Date

ENGINEER / SURVEYOR

WHITNEY BAILEY COX & MAGNANI, LLC
300 East Joppa Road, Suite 200
Baltimore, MD 21286
410.512.4500 www.wbcm.com

WBCM
Designing Infrastructure for Tomorrow

SEAL

11/15/18

Professional Engineer
No. 34682
Expiration Date: 07/08/19

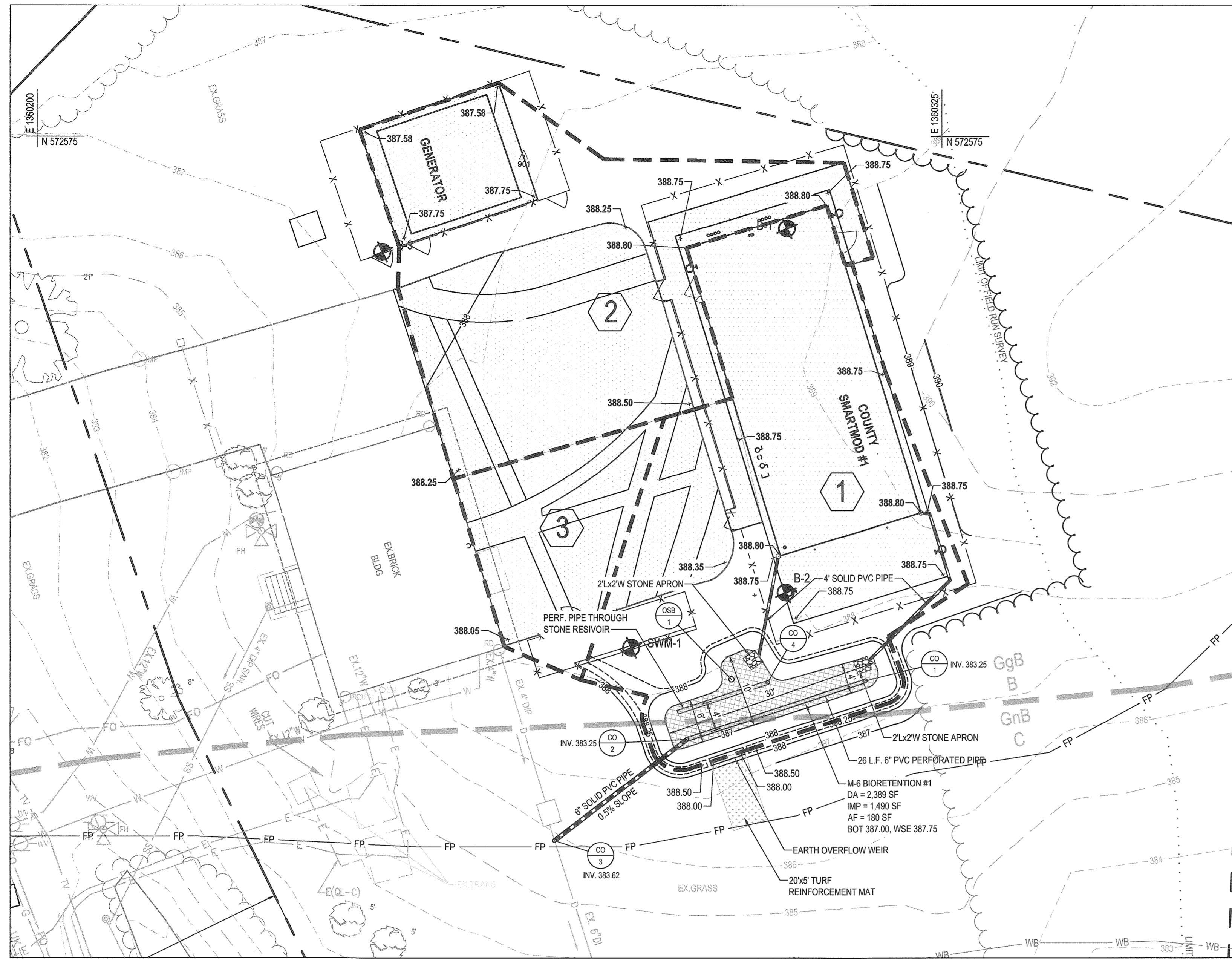
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License # 34682 Expiration Date: 07/08/19

OWNER / DEVELOPER

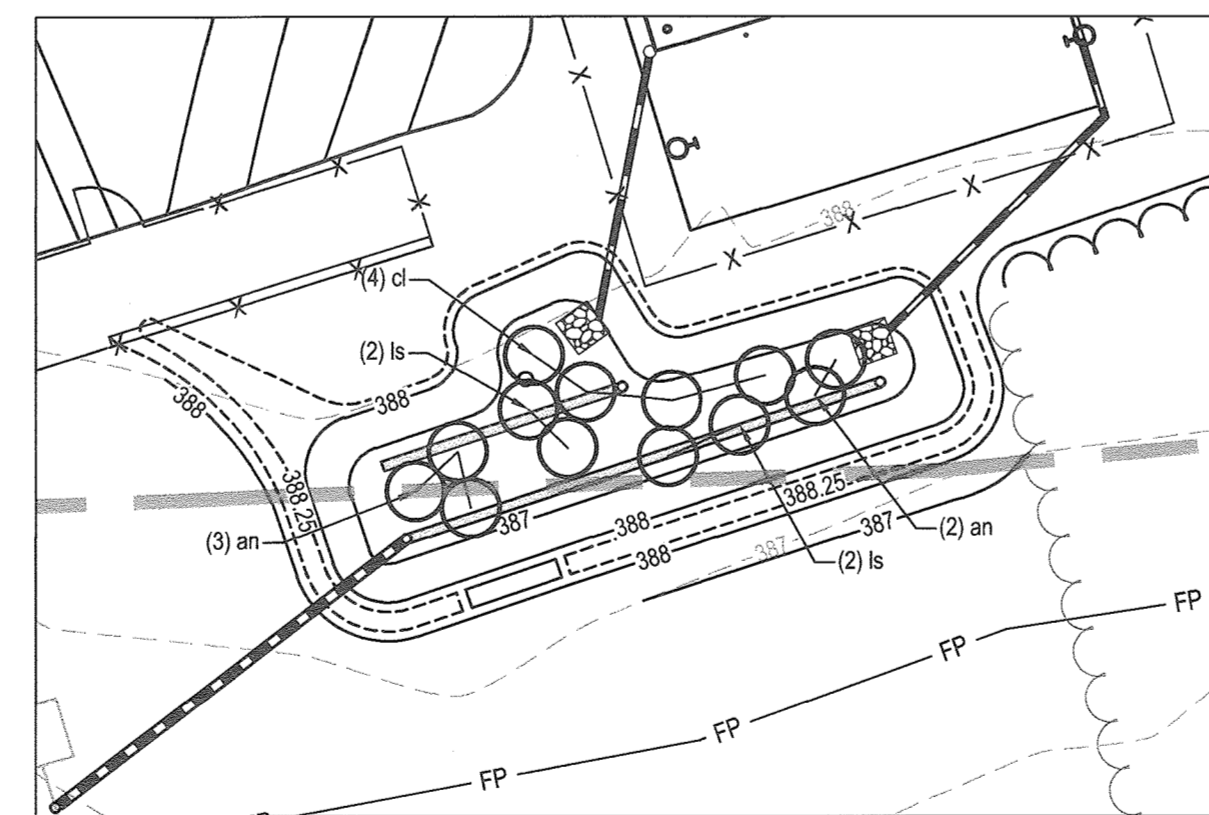
HOWARD COUNTY MD DEPARTMENT OF PUBLIC WORKS
BUREAU OF FACILITIES
9250 BENDIX ROAD
COLUMBIA MD 21045
ATTN: MICHAEL KAMINETZ
PHONE: 410-313-5781

2017.1600.00 (Drawings) (7-SM) (7160000-C402-Section Notes & Details.dwg)

SDP-91-048



M-6 MICRO-BIORETENTION FACILITY #1
SCALE: 1" = 10'



M-6 MICRO-BIORETENTION FACILITY #1 - PLANTING PLAN
SCALE: 1" = 10'

SWM Summary											
ESD Practice Type	ESD Practice	Number	Area of Filter Af (ft ²)	Drainage Area (ft ²)	Impervious Area (ft ²)	%	Rv	Design Pe	Design ESDv (ft ³)	Recharge Volume (ft ³)	ESDv treated (ft ³)
Microscale Practices											
M-6	MICRO-BIORETENTION	1	180	2,423	1,521	63%	0.62	1.8	224	75	323
Nonstructural Practices											
			Sheet Flow Length (ft)	Buffer Length (ft)							
N-3	SHEETFLOW TO CONSERV.	2	44	44	2,050	1,577	77%	0.74	0.6	76	0
N-3	SHEETFLOW TO CONSERV.	3	40	40	655	517	79%	0.76	0.6	25	0
Sub-total Provided Treatment by ESD measures										75	424
Required Treatment by ESD measures										75	418

SWM PLANT SCHEDULE						
Herbaceous Plants						
Key	Qty.	Botanical Name	Common Name	Size (Min.)	Root	Spacing
an	5	Aster novi-belgii	New York Aster	Plug	Cont.	18" on center
cl	4	Carex lurida	Lurid Sedge	Plug	Cont.	18" on center
ls	4	Lobelia siphilitica	Great Blue Lobelia	Plug	Cont.	18" on center
13 Total						

DESIGN / AS - BUILT DATA FOR MICRO-BIORETENTION		
* TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: M-6, MICRO-BIORETENTION	BMP ID: MICRO-BIORETENTION (M-6) FACILITY #1	
FEATURE	DESIGN	*AS-BUILT
FILTER BED DIMENSIONS (L x W)	30' x 10'	
LEFT SIDE SLOPE	3:1	
RIGHT SIDE SLOPE	3:1	
FILTER BED SURFACE ELEVATION (TOP OF MULCH)	387.00	
ESD STORAGE ELEVATION	387.75	
10-YEAR FREEBOARD (FT)	0.25	
OVERFLOW INLET / TOP ELEVATION	N/A	
OUTLET PIPE DIAMETER / TYPE (HDPE, RCP, CMP)	N/A	
OUTLET PIPE INVERT	N/A	
UNDER DRAIN DIAMETER	6"	
TOP OF EMBANKMENT ELEVATION, T _b	388.25	
TOP OF EMBANKMENT WIDTH	3'	
THICKNESS OF MULCH	3"	
THICKNESS OF FILTER MEDIA SHA BSM	24"	
THICKNESS OF COARSE SAND	4"	
THICKNESS OF PEA GRAVEL	4"	
THICKNESS OF UNDERDRAIN GRAVEL	7"	
RECHARGE SECTION THICKNESS, REV	5"	
PLACEMENT OF GEOTEXTILE	SIDES ONLY	
PLANTINGS	SEE THIS SHEET	
OBSERVATION WELL WITH DEPTH TO FILTER BOTTOM INDICATED ON CAP	OBS #1	
DATE AS-BUILT ACCEPTED:		

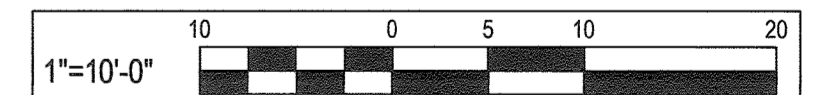
STORMWATER MANAGEMENT LEGEND

- MAPPED SOIL UNIT / HYDROLOGIC SOIL GROUP RATING
- DRAINAGE AREA BOUNDARY
- MICRO-BIORETENTION FACILITY
- TREATED IMPERVIOUS AREA

PLANTING LEGEND

- HERBACEOUS PLUGS

CAUTION:
IF THIS DRAWING IS A REDUCTION,
USE THE GRAPHIC SCALES.



NO.	DATE	REVISION	BY

EDGAR ROAD WATER PUMPING STATION
4901 EDGAR ROAD
ELLCOTT CITY, MARYLAND 21044-0000
TAX MAP: 30; GRID: 17; PARCEL: 269;
ELECTION DISTRICT: 2; ZONING: NT

STORMWATER MANAGEMENT PLAN

PROJECT #: 2017.1600.00	DESIGNED: A.S.	DRAWING: C301
SCALE: 1" = 10'	DRAWN: H.H.	
DATE: 10-19-2018	CHECKED: B.L.	28 OF 29

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief 11-21-18
Chief, Development Engineer Division
Kent Seidman 11-27-18
Chief of Land Development
Valerie Flynn 11-27-18
Director

ENGINEER / SURVEYOR

WHITNEY BAILEY COX & MAGNANI, LLC
300 East Joppa Road, Suite 200
Baltimore, MD 21286
410.512.4500 www.wbcm.com

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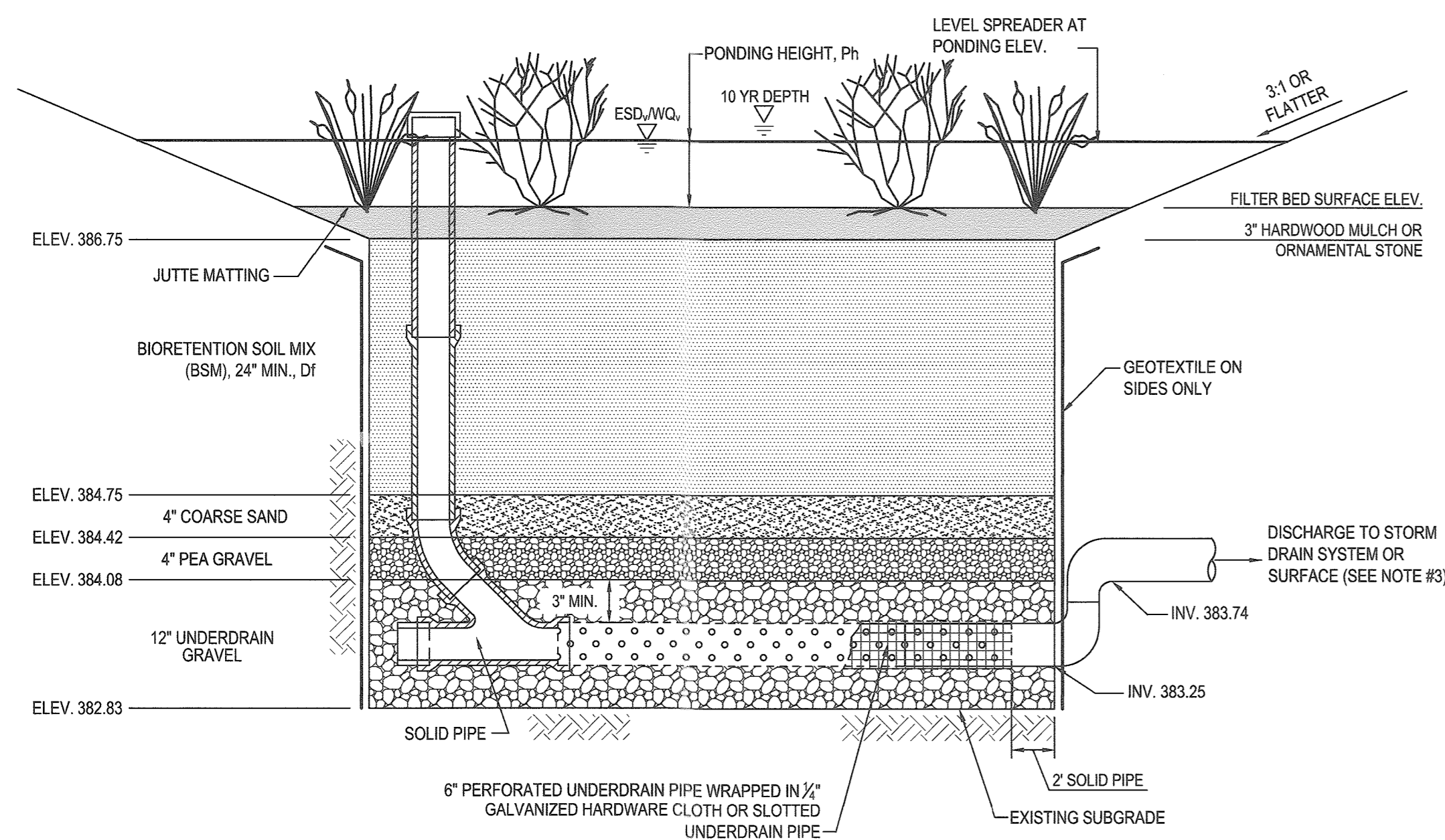
SEAL



I hereby certify that 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 # 34657 Expiration Date: 07/09/19

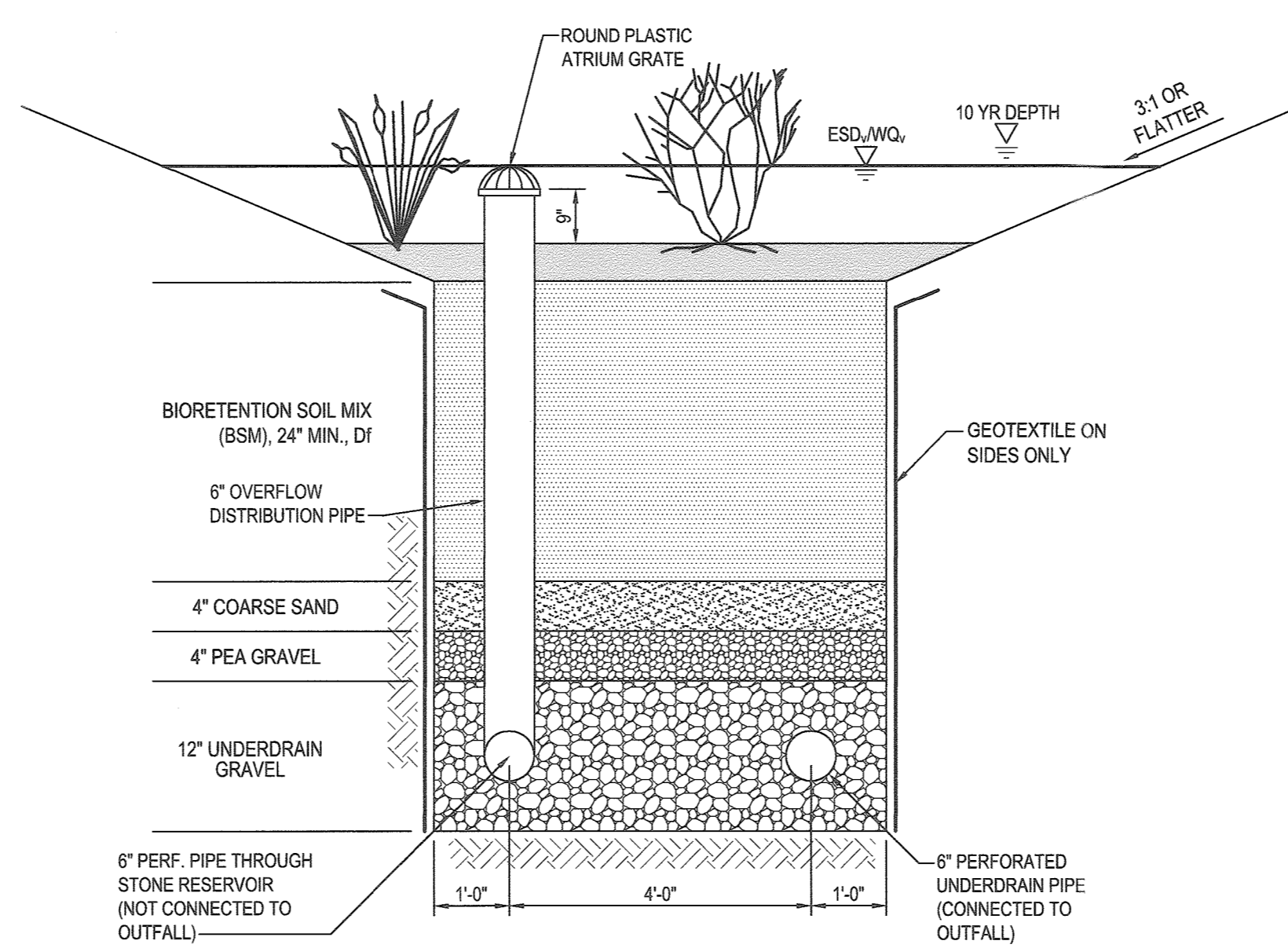
OWNER / DEVELOPER

HOWARD COUNTY MD DEPARTMENT OF PUBLIC WORKS
BUREAU OF FACILITIES
9250 BENDIX ROAD
COLUMBIA MD 21045
ATTN: MICHAEL KAMINETZ
PHONE: 410-313-5781



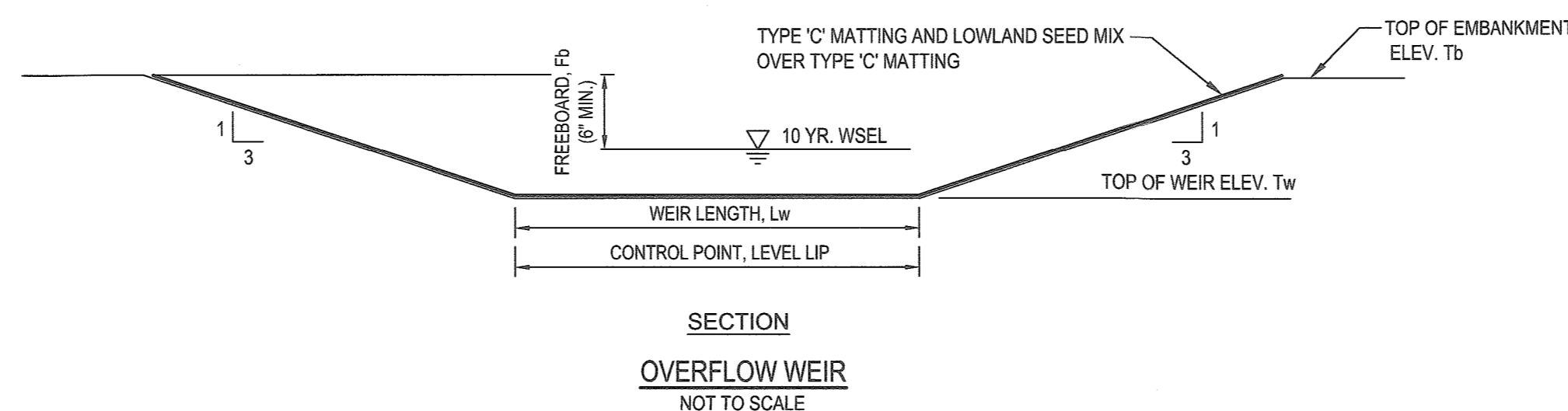
- NOTES:
1. A MINIMUM OF ONE OBSERVATION WELL MUST BE PROVIDED FOR EVERY 1000SF OF FILTER SURFACE AREA.
 2. DO NOT INSTALL GEOTEXTILE ALONG THE TOP, BOTTOM, OR ANY HORIZONTAL LAYER.
 3. DISCHARGE MUST BE TO A STABLE, NON-EROSIVE OUTFALL.

MICRO-BIORETENTION SECTION WITH LEVEL SPREADER
NOT TO SCALE



SECTION

MICRO-BIORETENTION (OVERFLOW)
NOT TO SCALE



SECTION
OVERFLOW WEIR
NOT TO SCALE

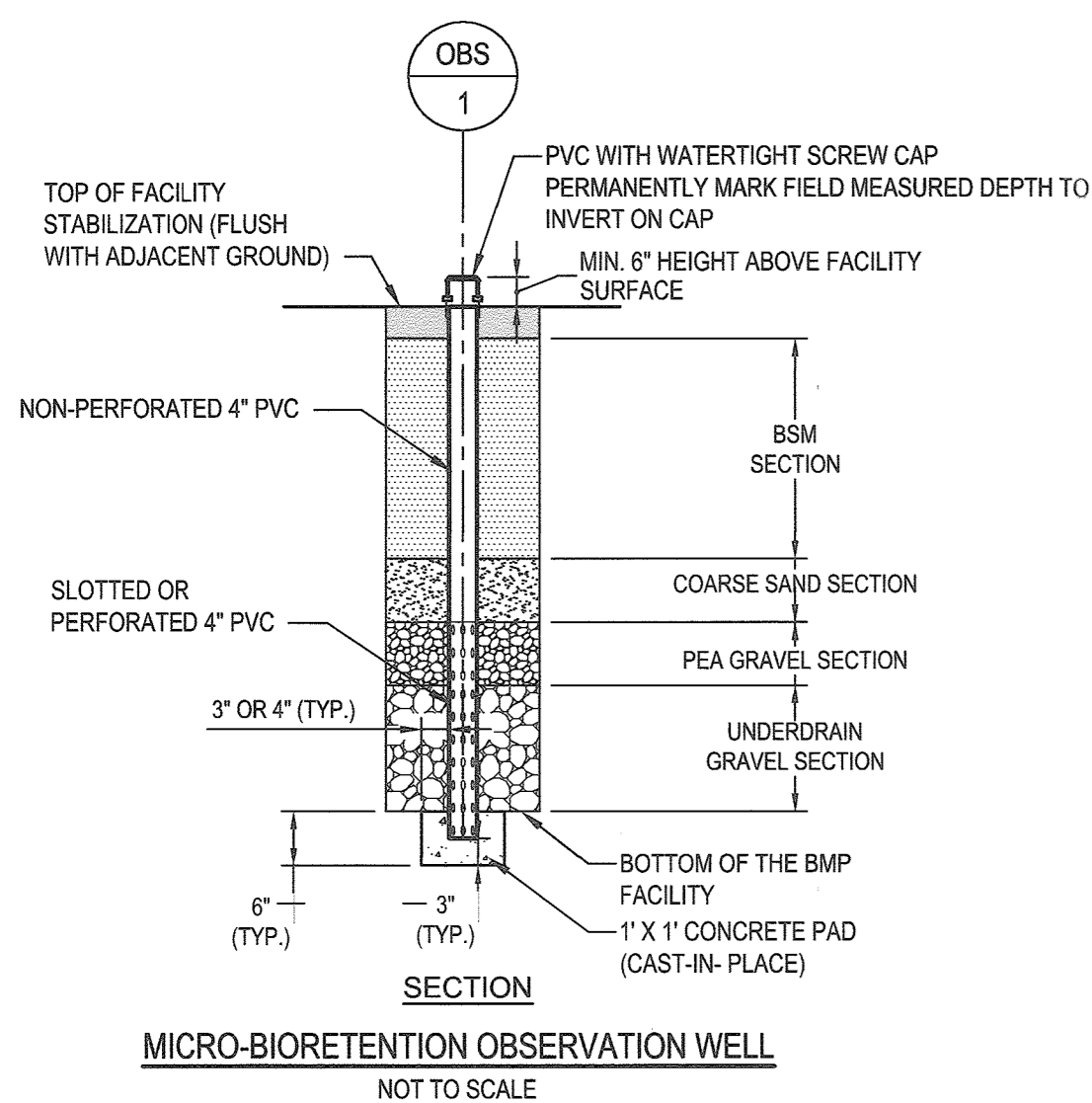
INSPECTION:
REGULAR INSPECTIONS SHALL BE MADE DURING THE FOLLOWING STAGES OF CONSTRUCTION:

- DURING EXCAVATION TO SUBGRADE.
- DURING PLACEMENT AND BACKFILL OF UNDERDRAIN PIPE AND GRAVEL.
- DURING PLACEMENT OF GEOTEXTILE.
- DURING PLACEMENT OF BACKFILL AND PLANTING SOIL.
- DURING PLACEMENT OF MULCH.
- DURING PLACEMENT OF PLANTS.
- UPON COMPLETION OF FINAL GRADING AND ESTABLISHMENT OF PERMANENT STABILIZATION.

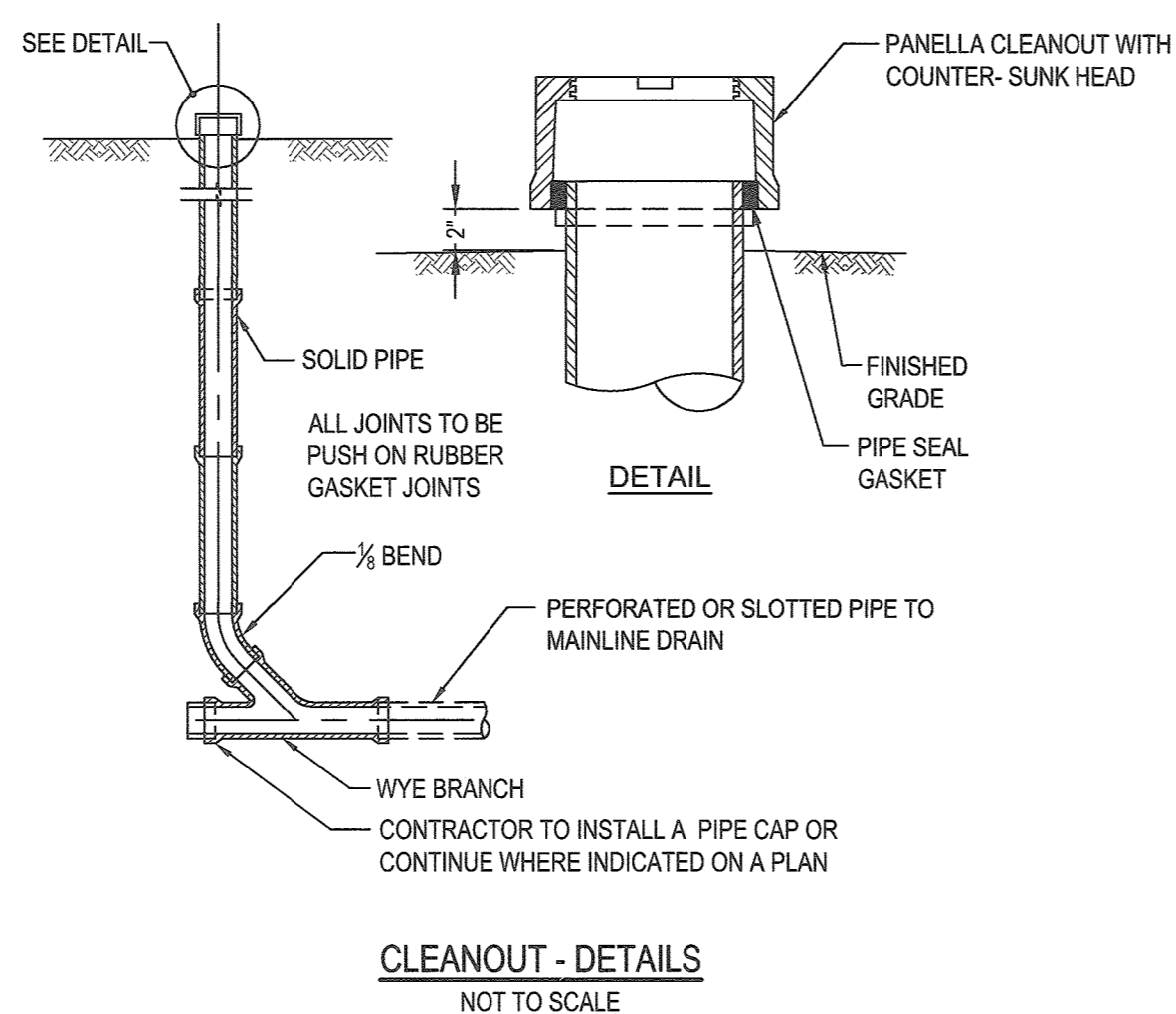
OWNER TO KEEP COPIES OF ALL INSPECTIONS AND MAINTENANCE PERFORMED.

SPECIFICATIONS:

1. SEE CHART BELOW.
2. THE CONTRACTOR SHALL SUBMIT SOIL TEST RESULTS (1 PER 300 CY BSM) TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION. PERFORM SOIL TESTS REQUIRED FOR BOTH IMPORTED SOIL AND RE-USED / AMENDED TOP SOIL. SOIL TEST AND RESULTS SHALL INCLUDE AT A MINIMUM: PHOSPHORUS, ORGANIC MATTER, SOLUBLE SALTS, NUTRIENTS, AND TEXTURAL ANALYSIS.
3. MINIMIZE COMPACTION OF SUBGRADE SOILS IN BIORETENTION AREAS. CONTRACTOR SHALL TILL THE SUBGRADE SOILS TO A DEPTH OF 6\"/>



MICRO-BIORETENTION OBSERVATION WELL
NOT TO SCALE



CLEANOUT - DETAILS
NOT TO SCALE

MATERIAL	SPECIFICATION	SIZE	NOTES
PLANTINGS	SEE PLAN SHEET	N/A	PLANTINGS ARE SITE SPECIFIC
BSM	SHA BIORETENTION SOIL MIX (BSM) SECTION 920.01.05 ORGANIC CONTENT MIN. 5% BY DRY WEIGHT (ASTM D 2974)	N/A	MARYLAND STATE HIGHWAY ADMINISTRATION STANDARDS SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS DATED JULY 2008 INCLUDING AND ADDENDA THERETO. COPY TO BE KEPT ON-SITE
MULCH	SHREDDED HARDWOOD	NO.8 OR NO.9 (1 1/8\"/>	

MAINTENANCE SCHEDULE:
AFTER CONSTRUCTION COMPLETION AND ACCEPTANCE OF THE WORK, INSPECTION AND MAINTENANCE SHALL BE THE RESPONSIBILITY OF HOWARD COUNTY.

INSPECTION ITEM	FREQUENCY OF INSPECTION	INSPECTION REQUIREMENTS	REMEDIAL ACTION
BIORETENTION BASIN	SEASONALLY AND AFTER A MAJOR STORM	STABLE WITH GOOD STAND OF VEGETATION	REPAIR ERODED AREAS AND REPLANT WHERE NECESSARY
VEGETATION	SEASONALLY AND AFTER A MAJOR STORM	FACILITY MUST BE WATER WITHIN 48 HOURS OF RAINFALL. NOTICEABLE COORS, STAINED WATER ON THE FILTER SURFACE OR AT THE OUTFALL, OR THE PRESENCE OF ALGAE OR AQUATIC VEGETATION ARE INDICATORS OF ANAEROBIC CONDITIONS, AND INADEQUATE DEWATERING OF THE FACILITY.	THE TOP THREE INCHES OF SOIL SHOULD BE REMOVED AND REPLACED WITH SOIL MATERIAL AS PER PLAN SPECIFICATIONS. FOLLOW UP INSPECTIONS MUST CONFIRM ADEQUATE DEWATERING. IF THE FACILITY DOES NOT FUNCTION AS INTENDED AFTER THE ABOVE ACTION, THE ENTIRE FILTER AND UNDERDRAIN SYSTEM MAY NEED MAINTENANCE. MDE APPROVAL MAY BE NECESSARY.
MULCH LAYER	SEASONALLY AND AFTER A MAJOR STORM	CHECK MULCH FOR ADEQUATE COVER, SEDIMENT ACCUMULATION, OR DISCOLORATION	REPLACE AND REMOVE OLD MULCH AND EXCESS SEDIMENTS. PROVIDE ADEQUATE MULCH COVER ACCORDING TO APPROVED DESIGN.
VEGETATIVE SURFACES	MONTHLY	HEALTHY COVERAGE	RE-SEED OR RE-PLANT
PLANT COMPOSITION AND HEALTH	MONTHLY	COMPARE PLANT COMPOSITION WITH APPROVED PLANS. CHECK FOR INVASIVE SPECIES OR WEEDS. CHECK FOR DEAD OR DYING VEGETATION.	REMOVE AND REPLACE PLANTS IN ACCORDANCE WITH PLAN SPECIFICATIONS.
VEGETATIVE COVER AND EROSION	MONTHLY	CHECK FOR EVIDENCE OF EROSION, RAINFALL CHANNELING, OR BARE SPOTS.	RE-SEED OR RE-PLANT IN ACCORDANCE WITH APPROVED LANDSCAPING PLANS. RE-GRADING MAY BE REQUIRED WHEN CONCENTRATED FLOW CAUSES RILLS OR GULLING THROUGH THE FACILITY.
DEBRIS AND TRASH CLEANOUT	MONTHLY	CHECK THAT THE FACILITY IS CLEAN OF TRASH AND DEBRIS. INLETS, OUTFALLS, AND CONTRIBUTING AREAS AROUND THE FACILITY MUST BE CHECKED.	TRASH AND DEBRIS MUST BE DISPOSED OF IN AN ACCEPTABLE MANNER ACCORDING TO CURRENT REGULATIONS.
STRUCTURAL COMPONENTS	ANNUALLY	CHECK FOR EVIDENCE OF STRUCTURAL DETERIORATION, SPALLING, OR CRACKING. INLET AND OUTFALL STRUCTURES MUST BE IN GOOD CONDITION.	REPAIR TO GOOD CONDITION ACCORDING TO SPECIFICATIONS ON THE APPROVED PLANS.
OUTLETS	SEASONALLY AND AFTER A MAJOR STORM	CHECK FOR EVIDENCE OF EROSION, RILLS, OR GULLING. REPAIR OUTLET MUST BE MAINTAINED IN GOOD FUNCTIONAL CONDITION.	STABILIZE ALL ERODED AREAS AND GRADE TO PROVIDE STABLE CONVEYANCE. REPAIR ACCORDING TO APPROVED PLAN.
PRETREATMENT	SEASONALLY AND AFTER A MAJOR STORM	CHECK FOR SEDIMENT ACCUMULATION.	WHEN SEDIMENT ACCUMULATIONS TO A DEPTH OF ONE HALF THE DESIGN PONDING DEPTH OR COVERS MORE THAN 10% OF THE DESIGN AREA, SEDIMENT MUST BE REMOVED AND THE FACILITY RESTORED ACCORDING TO THE APPROVED DESIGN.
SEDIMENT ACCUMULATION	SEASONALLY AND AFTER A MAJOR STORM	CHECK FOR SEDIMENT ACCUMULATION.	WHEN SEDIMENT ACCUMULATIONS TO A DEPTH OF ONE HALF THE DESIGN PONDING DEPTH OR COVERS MORE THAN 10% OF THE DESIGN AREA, SEDIMENT MUST BE REMOVED AND THE FACILITY RESTORED ACCORDING TO THE APPROVED DESIGN.
GRASS CHANNEL CONVEYANCE SYSTEMS	SEASONALLY AND AFTER A MAJOR STORM	CHECK FOR EROSION, FLOW BLOCKAGES, AND STABLE CONVEYANCE.	STABILIZE AND GRADE ACCORDING TO APPROVED PLAN.
OVERALL FUNCTION OF THE FACILITY	ANNUALLY	CHECK THAT FLOW SPLITTERS ARE FUNCTIONING AS DESIGNED AND THAT BYPASS IS OPERATING AS DESIGNED.	CONSTRUCTION MUST BE IN ACCORDANCE WITH APPROVED PLANS.

HOWARD COUNTY OPERATION AND MAINTENANCE SCHEDULE FOR LANDSCAPE INFILTRATION (M-3) MICRO-BIORETENTION (M-6), RAIN GARDENS (M-7), BIORETENTION SWALE (M-8), ENHANCED FILTERS (M-9):

1. ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUME II, TABLE A.4.1 AND 2.
2. SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, TREATMENT OF ALL DISEASED TREES AND SHRUBS AND REPLACEMENT OF ALL DEFICIENT STAKES AND WIRES.
3. MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
4. SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[Signature] 11-21-18
Chief, Development Engineer Division Date

[Signature] 11-27-18
Chief, Division of Land Development Date

[Signature] 11-27-18
Director Date

ENGINEER / SURVEYOR

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SEAL

STATE OF MARYLAND
PROFESSIONAL ENGINEER
No. 34682
I hereby certify that 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 # 34682 Expiration Date: 07/08/19

OWNER / DEVELOPER

HOWARD COUNTY MD DEPARTMENT OF PUBLIC WORKS
BUREAU OF FACILITIES
9250 BENDIX ROAD
COLUMBIA MD 21045
ATTN: MICHAEL KAMINETZ
PHONE: 410-313-5781

NO.	DATE	REVISION	BY
EDGAR ROAD WATER PUMPING STATION			
4901 EDGAR ROAD ELLCOTT CITY, MARYLAND 21044-0000 TAX MAP: 30; GRID: 17; PARCEL: 269; ELECTION DISTRICT: 2; ZONING: NT			
STORMWATER MANAGEMENT NOTES & DETAILS			
PROJECT #: 2017.1600.00	DESIGNED: A.S.	DRAWING: C302	
SCALE: AS NOTED	DRAWN: H.H.		
DATE: 10-19-2018	CHECKED: B.L.		29 OF 29