

AS-BUILT

WINCHESTER HOMES ASHLEIGH KNOLLS

WASTEWATER COLLECTION, TREATMENT AND DISPOSAL SYSTEM CONTRACT NO. 50-3383-D

PHASE 3

Type of Building	Single Family
No. of Lots/Parcels	123
No. of Water House Connections	0
Total No. of Sewer House Connections	109
No. of Sewer House Connections in Phase 3	42
Drainage Area	Not Applicable
Treatment Plant	Ashleigh Knolls



VICINITY MAP
SCALE: 1" = 600'

PHASE 3				
ITEMS	QUANTITIES ESTIMATED	RECORD		
		QUANTITIES	TYPE	SUPPLIER
2 1/2" PVC	470			
2" PVC	3,252			
1 1/2" CURB VALVE AND RISER	42			
PRESSURE COLLECTION LINE CLEANOUTS	7			
VALVE MANHOLE	1			
1,000-GALLON SEPTIC TANK WITH 500-GALLON PUMP CHAMBER UNIT, PUMPS, CONTROLS AND APPURTENANCES	42			
WASTEWATER DISPOSAL TRENCH	4,576			
NAME OF UTILITY CONTRACTOR:				
SURVEY AND DRAFTING DIVISION AS-BUILT DATE:				

~~SUPPLIED BY OTHERS~~

~~NOTE: INDIVIDUAL SEPTIC TANK AND PUMP UNIT WILL BE CONSTRUCTED AT THE TIME OF BUILDING CONSTRUCTION WITH IN PUBLIC EASEMENT.~~

Reviewed for Howard Soil Conservation District and meets Technical requirements.

Patricia Egle
US Soil Conservation Service Date

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

John Roberts
Howard S.C.D. Date

AS-BUILT 11/19/96

3383 ws/1 Ashleigh Knolls (Ph. III)

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James H. ... 9/29/94
DIRECTOR OF PUBLIC WORKS DATE

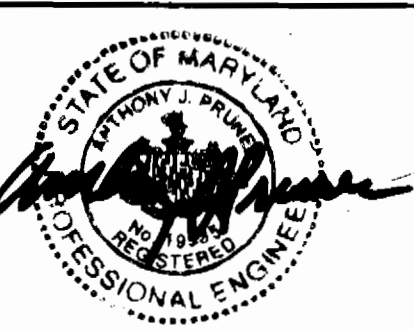
... 9/29/94
CHIEF, BUREAU OF ENGINEERING DATE

... 9/29/94
CHIEF, BUREAU OF UTILITIES DATE

... 9/29/94
CHIEF, LAND DEVELOPMENT DIVISION DATE

DAMES & MOORE

170 JENNIFER ROAD, SUITE 230
ANNAPOLIS, MARYLAND 21401
(410) 224-5640



DES: VRC			
DRN: BGW	BGW	ADD SUPPLIED BY OTHERS TO SEPTIC TANK QUALITY	11-94
CHK: ATP		CREATE PHASED PLANS	7-94
		FINAL SUBMITTAL	8-94
DATE: 12-93	BY NO.	REVISION	DATE

COVER SHEET

600' SCALE MAP NO. 40-41 BLOCK NO. 12

ASHLEIGH KNOLLS
WASTEWATER COLLECTION, TREATMENT
AND DISPOSAL SYSTEM

CONTRACT NO. 50-3383-D

ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 1 OF 25

AS-BUILT

BB83 ws/2 Ashleigh Knolls (ph. III)

GENERAL NOTES

- 1 APPROXIMATE LOCATION ON 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 SIX INCHES. CLEAR ALL POLES BY TWO FEET MINIMUM OR TUNNEL AS REQUIRED. THE OWNER HAS CONTACTED THE UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR BRACING OF POLES AS SHOWN ON THE DRAWINGS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES THE BRACING OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONEY OWED TO THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
- 6 FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAIL FOR CONSTRUCTION (LATEST EDITION). 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. 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
 BG&E CO. CONTRACTOR SERVICES 850-4620
 BG&E CO. UNDER GROUND DAMAGE CONTROL 787-9068
 MISS UTILITY 1-800-257-7777
 COLONIAL PIPELINE CO. 795-1390
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF UTILITIES 313-4900
- 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 THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.
- 11 THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410) 313-2450 AT LEAST FIVE WORKING DAYS BEFORE ANY OPEN CUT OF ANY COUNTY ROAD OR BORING/JACKING OPERATION IN COUNTY ROADS FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.114(A) OF THE HOWARD COUNTY CODE.
- 12 ALL SEWER MAINS SHALL BE DIP CLASS 52, AND P.V.C. UNLESS OTHERWISE NOTED. PROVIDE MARKER TAPE OVER ALL PVC PIPELINES.
- 13 ALL MANHOLES SHALL BE FOUR FEET INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- 14 FORCE MAINS SHALL BE SDR 21 PVC AND DIP CLASS 52 WHERE INDICATED. PROVIDE MARKER TAPE OVER ALL PVC PIPELINES.

- 15 MANHOLES SHOWN WITH TWELVE INCH AND SIXTEEN INCH WALLS ARE FOR BRICK MANHOLES ONLY.
- 16 ALL HOUSES FOR THIS PROJECT DO NOT HAVE CELLAR SERVICE.
- 17 ALL MANHOLES ARE TO BE CONSTRUCTED ON UNDISTURBED EARTH.
- 18 PROVIDE COMPLETE SUPERVISION, DIRECTION, SCHEDULING AND COORDINATION OF ALL WORK UNDER THE CONTRACT, INCLUDING THAT OF SUBCONTRACTORS. BE RESPONSIBLE FOR ALL WORK AND INFORM ALL SUBCONTRACTORS, SUPPLIERS AND MANUFACTURERS OF ALL REQUIREMENTS OF THE CONTRACT.
- 19 ALL SEPTIC TANKS SHALL BE LOCATED OUTSIDE OF DRIVEWAY AND WALKWAY AREAS.

STRUCTURAL NOTES

- 1 SPECIFICATIONS AASHTO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" DATED 1989 FOR DESIGN, INCLUDING ALL INTERIM SPECIFICATIONS.
- 2 CONCRETE DESIGN: SERVICE LOAD DESIGN METHOD. CONCRETE: $f_c = 1,200$ PSI REINFORCING STEEL: $f_s = 24,000$ PSI
- 3 CONCRETE: ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,500 PSI AT 28 DAYS.
- 4 KEYS: ALL KEYS ARE NOMINAL SIZE.
- 5 REINFORCING STEEL: REINFORCING STEEL SHALL CONFORM TO ASTM A-615, GRADE 60. WHERE NOT INDICATED, BAR LAP SPLICES SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATIONS. THE MINIMUM CONCRETE COVER SHALL BE TWO INCHES UNLESS OTHERWISE NOTED. ALL REINFORCING IN TOP SLAB TO BE EPOXY COATED.
- 6 FOUNDATION: PRESUMED SOIL BEARING CAPACITY = 2,500 PSF. THE ENGINEER MUST APPROVE ALL FOUNDATIONS PRIOR TO CONCRETE PLACEMENT. IF UNSUITABLE MATERIAL IS ENCOUNTERED, THE MATERIAL SHALL BE UNDERCUT AND BACKFILLED WITH STRUCTURAL BACKFILL.
- 7 STRUCTURAL BACKFILL: CAST-IN-PLACE CONCRETE STRUCTURES AND PIPE SHALL BE BACKFILLED WITH SELECT GRANULAR BACKFILL MEETING THE REQUIREMENTS OF SRC GP-1 OR DGA. STRUCTURAL BACKFILL SHALL BE PLACED IN LOOSE LIFTS OF APPROXIMATELY SIX INCHES, AND COMPACTED TO 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASHTO T-180. THE STATIC WEIGHT OF COMPACTION EQUIPMENT USED ADJACENT TO WALLS SHALL NOT EXCEED 3,000 POUNDS. NO BACKFILL SHALL BE PLACED AGAINST THE CAST-IN-PLACE WALLS UNTIL THE CONCRETE HAS ATTAINED THE SPECIFIED 28-DAY STRENGTH.
- () DEVELOPERS CERTIFICATE

Ralph E. Bice III
 Signature of Developer
 Ralph E. Bice III
 9/16/94
 Date

() ENGINEER'S CERTIFICATE

"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."

Anthony J. Pruner
 Signature of Engineer
 Anthony J. Pruner
 09/08/94
 Date

LEGEND

- AIR RELEASE VALVE MANHOLE
- AIR RELEASE VALVE W/ PRESSURE CLEANOUT
- CURB VALVE
- DIRECTION OF FLOW
- EXISTING UNDERGROUND TELEPHONE SERVICE
- EXISTING UNDERGROUND ELECTRIC SERVICE
- EXISTING GROUND ELEVATION CONTOUR
- FENCE (ALL TYPES)
- GROUNDWATER MONITORING WELL
- INLINE OR TERMINAL PRESSURE CLEANOUT
- ISOLATION VALVE
- MONITORING PORT
- PRESSURE LATERAL
- PRESSURE SEWER
- PROPERTY LINE
- PROPOSED GROUND ELEVATION CONTOUR
- SEPTIC TANK WITH PUMP CHAMBER
- TEST PIT
- TREE LINE
- TRENCH MARKER
- VALVE MANHOLE
- WELL

PHASE 3 DRAWING INDEX

SHEET NUMBER	SHEET NAME
1	COVER SHEET
2	GENERAL NOTES AND INDEX
3	COLLECTION SYSTEM KEY SHEET
3A	PHASING AND RESERVE AREA LOCATION PLAN
3B	RESERVE AREA DEVELOPMENT PLAN
4	PLAN MOORLAND AND WOLVERTON
5	PROFILE MOORLAND AND WOLVERTON
6	PLAN WOLLINGFORD AND CHARDON
7	PROFILE WOLLINGFORD, CHARDON AND CRABBURY
8	PLAN CRABBURY
9	SEPTIC TANK PLAN AND SECTIONS
10	SEPTIC TANK NOTES
11	SEPTIC TANK ELECTRICAL DETAILS
12	TERMINAL PRESSURE CLEANOUT/INLINE PRESSURE CLEANOUT
13	INLINE THREE-WAY VALVE MANHOLE/INLINE FOUR-WAY VALVE MANHOLE
14	TREATMENT SITE KEY SHEET
15	TREATMENT SITE PLAN (20 SCALE)
16	TREATMENT SITE PLAN (20 SCALE)
17	MANIFOLD PROFILE - CELL NO. 4 & 7
18	MANIFOLD PROFILE - CELL NO. 5 & 8
19	TREATMENT CELL SECTION
20	TREATMENT SITE PIPING DETAILS
21	MISCELLANEOUS DETAILS
22	MISCELLANEOUS DETAILS
23	MISCELLANEOUS DETAILS
24	SEDIMENT AND EROSION CONTROL - PLAN - 50 SCALE
25	SEDIMENT AND EROSION CONTROL - DETAILS

PHASE 3 NOTES

- 1. THESE PLANS ARE ONLY FOR THE CONSTRUCTION OF PHASE 3 OF THE ASHLEIGH KNOLLS WASTEWATER COLLECTION, TREATMENT AND DISPOSAL SYSTEM. SEE CONTRACT NO. 50-3357 FOR PHASE 1 AND CONTRACT NO. 50-3382-D FOR PHASE 2.

AS-BUILT 11/19/96

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Robert M. Bennett 9/29/94
 DIRECTOR OF PUBLIC WORKS DATE

Robert M. Bennett 9/19/94
 CHIEF, BUREAU OF UTILITIES DATE

Robert M. Bennett 9/29/94
 CHIEF, BUREAU OF ENGINEERING DATE

Robert M. Bennett 9/29/94
 CHIEF, LAND DEVELOPMENT DIVISION DATE

DAMES & MOORE

170 JENNIFER ROAD, SUITE 230
 ANNAPOLIS, MARYLAND 21401
 (410) 224-5640

DES: VKC				
DRN: BGMW				
CHK: AJT				
DATE: 12-93	BY	NO.	REVISION	DATE
			CREATE PHASED PLANS	9-74
			FINAL SUBMITTAL	8-94

GENERAL NOTES AND INDEX

600' SCALE MAP NO. 40-91 BLOCK NO. 12

ASHLEIGH KNOLLS
 WASTEWATER COLLECTION, TREATMENT AND DISPOSAL SYSTEM

CONTRACT NO. 50-3383-D

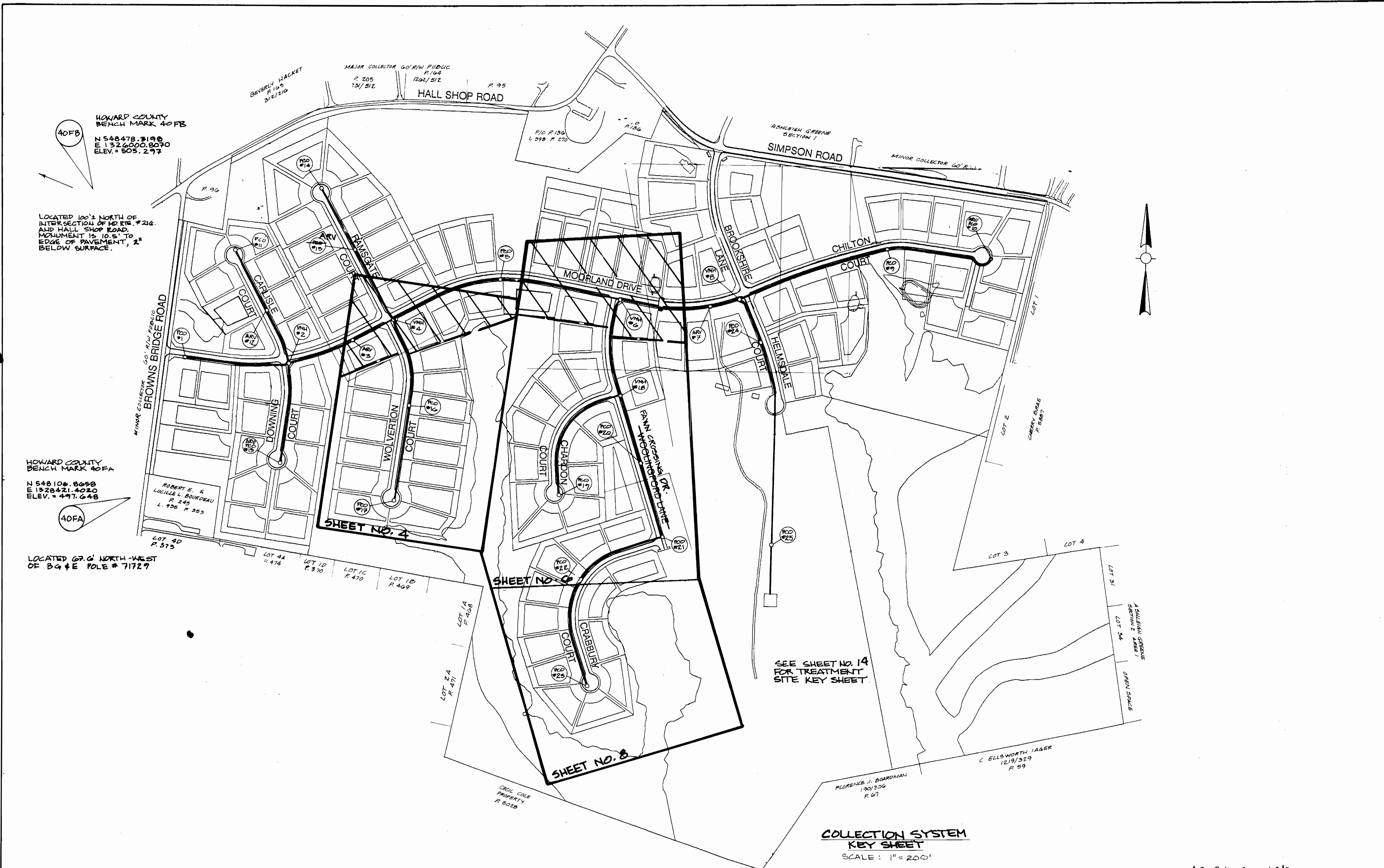
ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 2 OF 25

AS-BUILT

3383 ws/3 Ashleigh Knolls (Ph. III)



AS-BUILT 11/19/96

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Robert M. Bennett 9/29/94
DIRECTOR OF PUBLIC WORKS DATE

Paul H. Sisson 9/29/94
CHIEF, BUREAU OF ENGINEERING DATE

Robert M. Bennett 9-19-94
CHIEF, BUREAU OF UTILITIES DATE

Paul H. Sisson 9/29/94
CHIEF, LAND DEVELOPMENT DIVISION DATE

DAMES & MOORE

170 JENNIFER ROAD, SUITE 230
ANNAPOLIS, MARYLAND 21401
(410) 224-5640



DES: VRC			
DRN: B4W			
CHK: AJP	CREATE PLASSED PLANS	994	
DATE: 12-95	FINAL SUBMITTAL	894	
BY NO.	REVISION	DATE	600' SCALE MAP NO. 4-41 BLOCK NO. 12

COLLECTION SYSTEM KEY SHEET

ASHLEIGH KNOLLS
WASTEWATER COLLECTION, TREATMENT AND DISPOSAL SYSTEM

CONTRACT NO. 50-3383-D

ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 2 OF 25

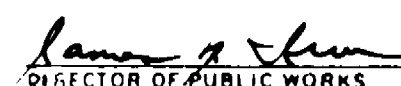
AS-BUILT

3383 ws/3A




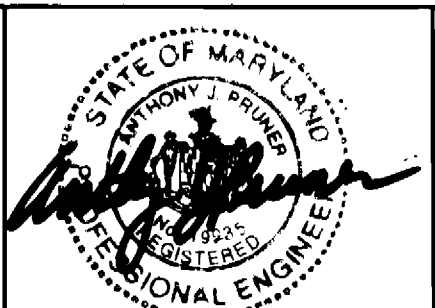
AS-BUILT 11/19/96

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

 9/29/94
 DIRECTOR OF PUBLIC WORKS DATE

 9/29/94
 CHIEF, BUREAU OF ENGINEERING DATE

 DAMES & MOORE
 170 JENNIFER ROAD, SUITE 230
 ANNAPOLIS, MARYLAND 21401
 (410) 224-5640



DES: VRC	
DRN: LCH	
CHK: ATP	CREATE PHASING PLANS 9/94
DATE: 12-93	FINAL SUBMITTAL 8/94
BY NO.	REVISION

**PHASING AND RESERVE AREA
 LOCATION PLAN**
 SCALE: 1" = 200'

600' SCALE MAP NO. 40-41 BLOCK NO. 12

ASHLEIGH KNOLLS
 WASTEWATER COLLECTION, TREATMENT
 AND DISPOSAL SYSTEM

CONTRACT NO. 50-3383-D

ELECTION DISTRICT NO. 5

HOWARD COUNTY, MARYLAND

SCALE
 AS
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 SHEET
 3A OF 25

AS-BUILT

3383 WS/BB



ASHLEIGH KNOLLS
WASTEWATER COLLECTION, TREATMENT, AND DISPOSAL SYSTEM

- RESERVE AREAS DESIGN CRITERIA**
- Assumed Percolation Rate - 30 min/in.
 - Trench Design Criteria:
 - Infiltration surface - bottom area only.
 - Standard stone filled trenches.
 - Trench bottom depth varies to utilize the best perc strata.
 - Wastewater Application Rate: 0.6 gal./ft²/day.
 - Trench Length Calculations:
 - 109 residences.
 - Flow 300 gpd/residence.
 - Total flow 32,700 gpd.
 - Bottom area required 32,700/0.6 = 54,500 ft².
 - Trench width provided - 3 ft.
 - Trench length required - 18,167 ft. per reserve area.
 - Trench spacing 12 ft. center to center.
 - Total reserve trench length required for two(2) areas - 36,333 ft.
 - Number of reserve cells available - 16.
 - Trench reserve length required per cell - 2270 ft. minimum.

PLAN
SCALE: 1"=200'

AS-BUILT 11/19/96

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James W. Brown 9/29/94
DIRECTOR OF PUBLIC WORKS DATE

Robert W. Brown 9-19-94
CHIEF, BUREAU OF UTILITIES DATE

Robert W. Brown 9/29/94
CHIEF, BUREAU OF ENGINEERING DATE

John J. Brown 9/29/94
CHIEF, LAND DEVELOPMENT DIVISION DATE

DAMES & MOORE

170 JENNIFER ROAD, SUITE 230
ANNAPOLIS, MARYLAND 21401
(410) 224-5640

Andy Brown

DES: VRC			
DRN: BGW			
CHK: AJP			
DATE: 8/94			
BY NO.		CREATE PHASED PLANS	7-74
		REVISION	DATE

RESERVE AREA
DEVELOPMENT PLAN

600' SCALE MAP NO. 42-41 BLOCK NO. 12

ASHLEIGH KNOLLS
WASTEWATER COLLECTION, TREATMENT
AND DISPOSAL SYSTEM

CONTRACT NO. 50-3383-D

ELECTION DISTRICT NO. 5

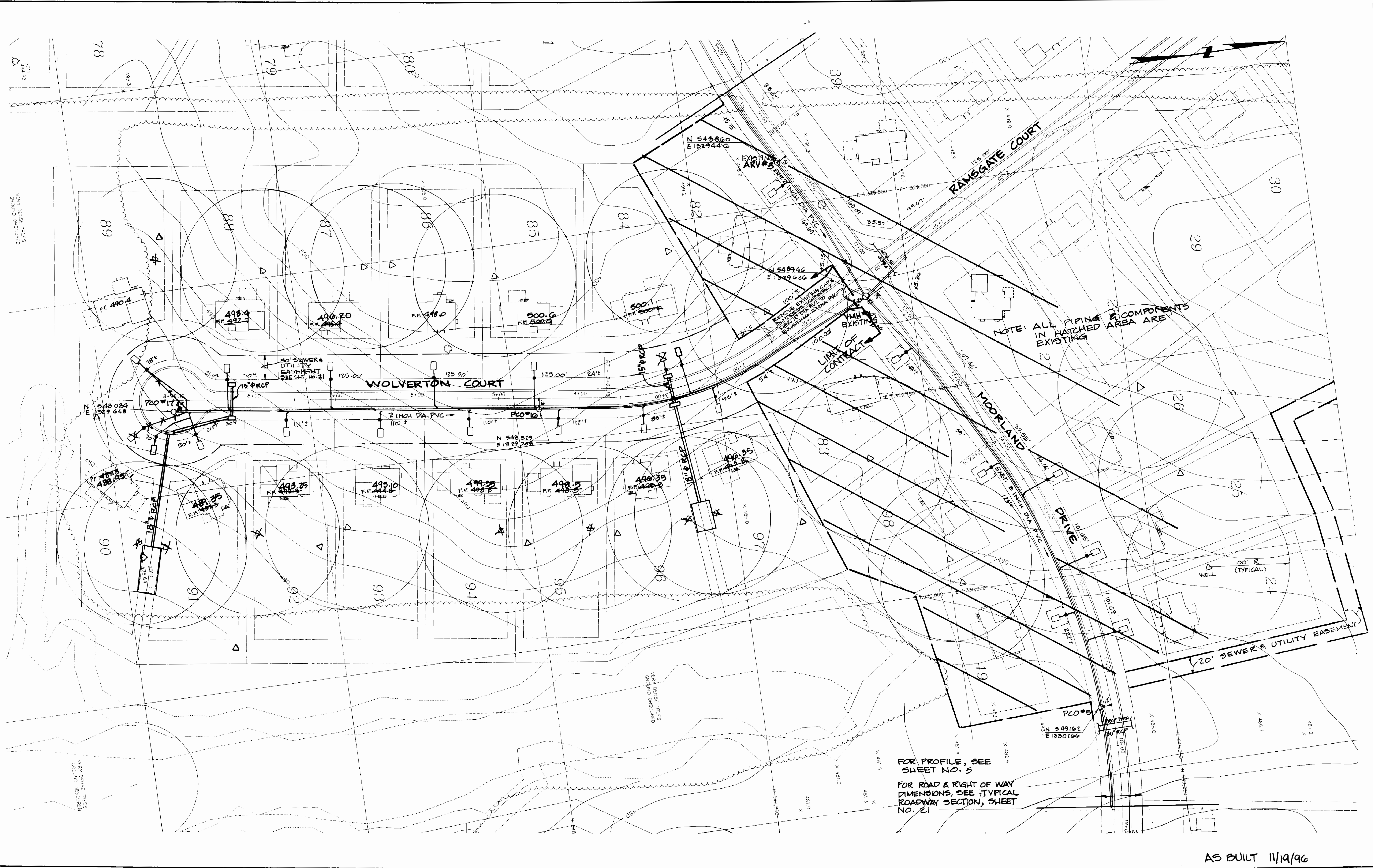
HOWARD COUNTY, MARYLAND

SCALE
AS
SHOWN

SHEET
28 OF 28

AS-BUILT

3383 ws/4



AS BUILT 11/19/96

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James P. Lee 7-23-94
DIRECTOR OF PUBLIC WORKS DATE

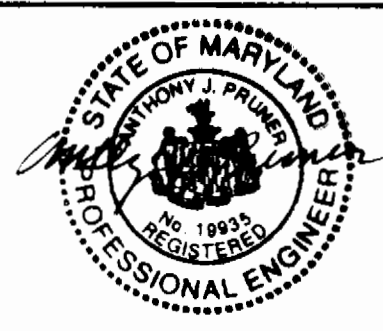
Paul E. Sporn 9/29/94
CHIEF, BUREAU OF ENGINEERING DATE

John J. ... 9-19-94
CHIEF, BUREAU OF UTILITIES DATE

... 9/29/94
CHIEF, LAND DEVELOPMENT DIVISION DATE

DAMES & MOORE

170 JENNIFER ROAD, SUITE 230
ANNAPOLIS, MARYLAND 21401
(410) 224-5640



DES: VRC			
DRN: LCH			
CHK: AJP	CREATE PHASED PLANS	9.44	
DATE: 12-93	FINAL SUBMITTAL	8.44	
BY NO.	REVISION	DATE	

PLAN
MOORLAND AND WOLVERTON

SCALE: 1" = 50'

600' SCALE MAP NO. 40-91, BLOCK NO. 12

ASHLEIGH KNOLLS
WASTEWATER COLLECTION, TREATMENT
AND DISPOSAL SYSTEM

CONTRACT NO. 50-3383-D

ELECTION DISTRICT NO. 5
HOWARD COUNTY, MARYLAND

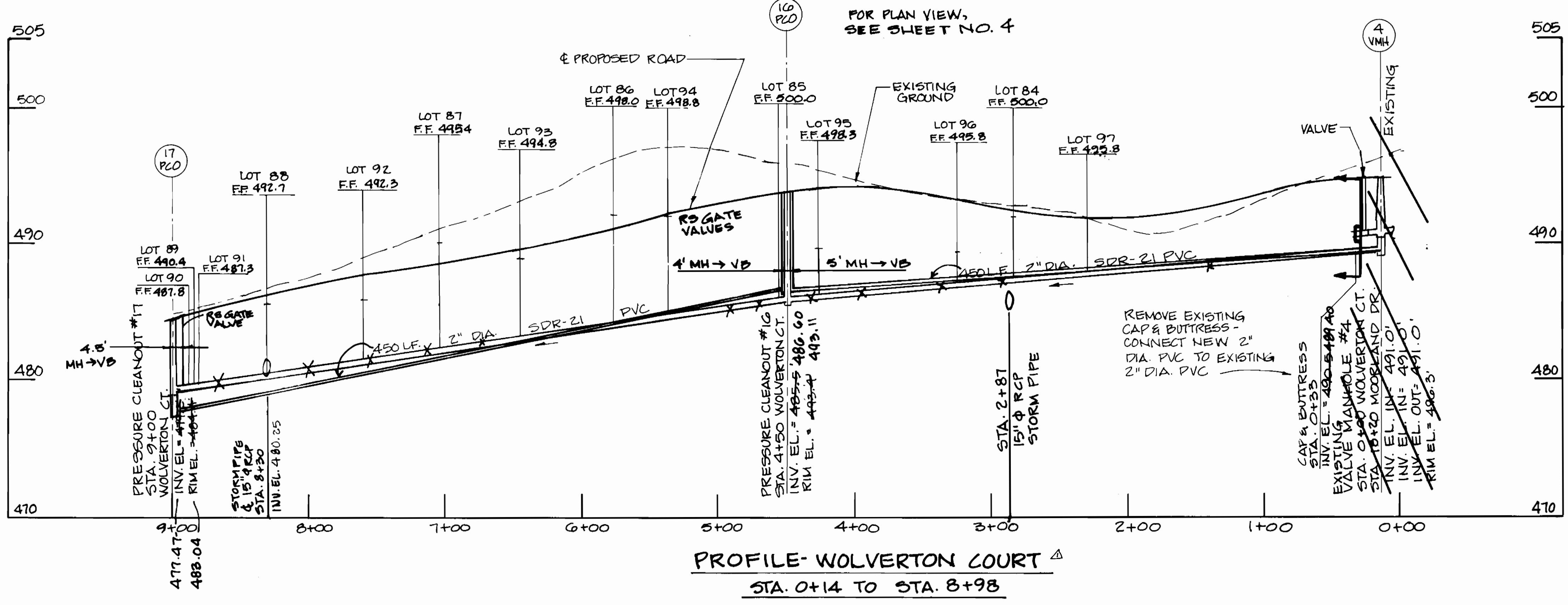
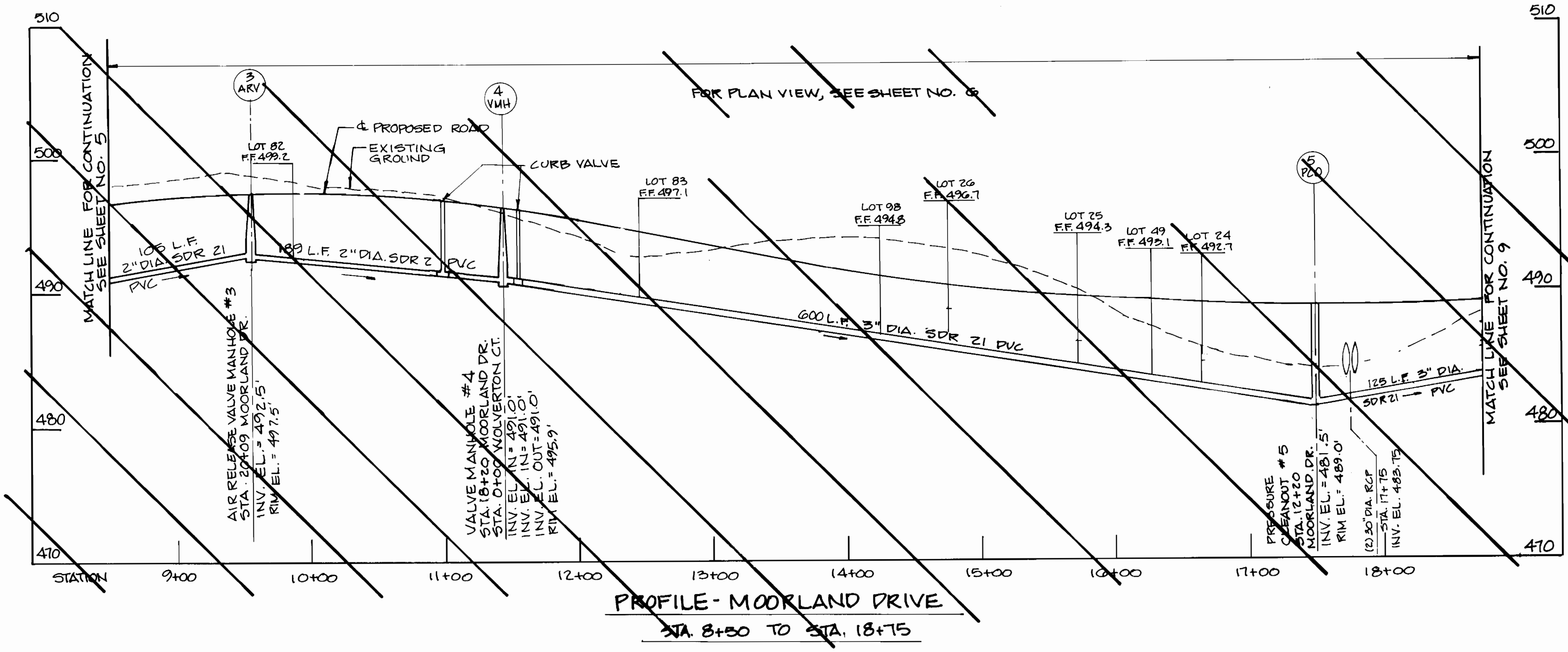
SCALE AS SHOWN

SHEET 4 OF 25

AS-BUILT

ws/5 Ashleigh Knolls

3383



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

AS-BUILT 11/19/96

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Robert W. Berman 9/19/94
DIRECTOR OF PUBLIC WORKS DATE

John J. ... 9/22/94
CHIEF, BUREAU OF ENGINEERING DATE

... 9/24/94
CHIEF, LAND DEVELOPMENT DIVISION DATE

DAMES & MOORE

170 JENNIFER ROAD, SUITE 230
ANNAPOLIS, MARYLAND 21401
(410) 224-5640



DES: VRC			
DRN: L&L			
CHK: AIP			
DATE: 12-93			
BY NO.		REVISION	DATE
		MODIFICATION TO PROFILE - ADJUST ELEV. SEWER MAIN	5-96
		CREATE PHASED PLANS	9-94
		FINAL SUBMITTAL	8-94

**PROFILE
MOORLAND AND WOLVERTON**

600' SCALE MAP NO. 40-41 BLOCK NO. 12

**ASHLEIGH KNOLLS
WASTEWATER COLLECTION, TREATMENT
AND DISPOSAL SYSTEM**

CONTRACT NO. 50-3383-D

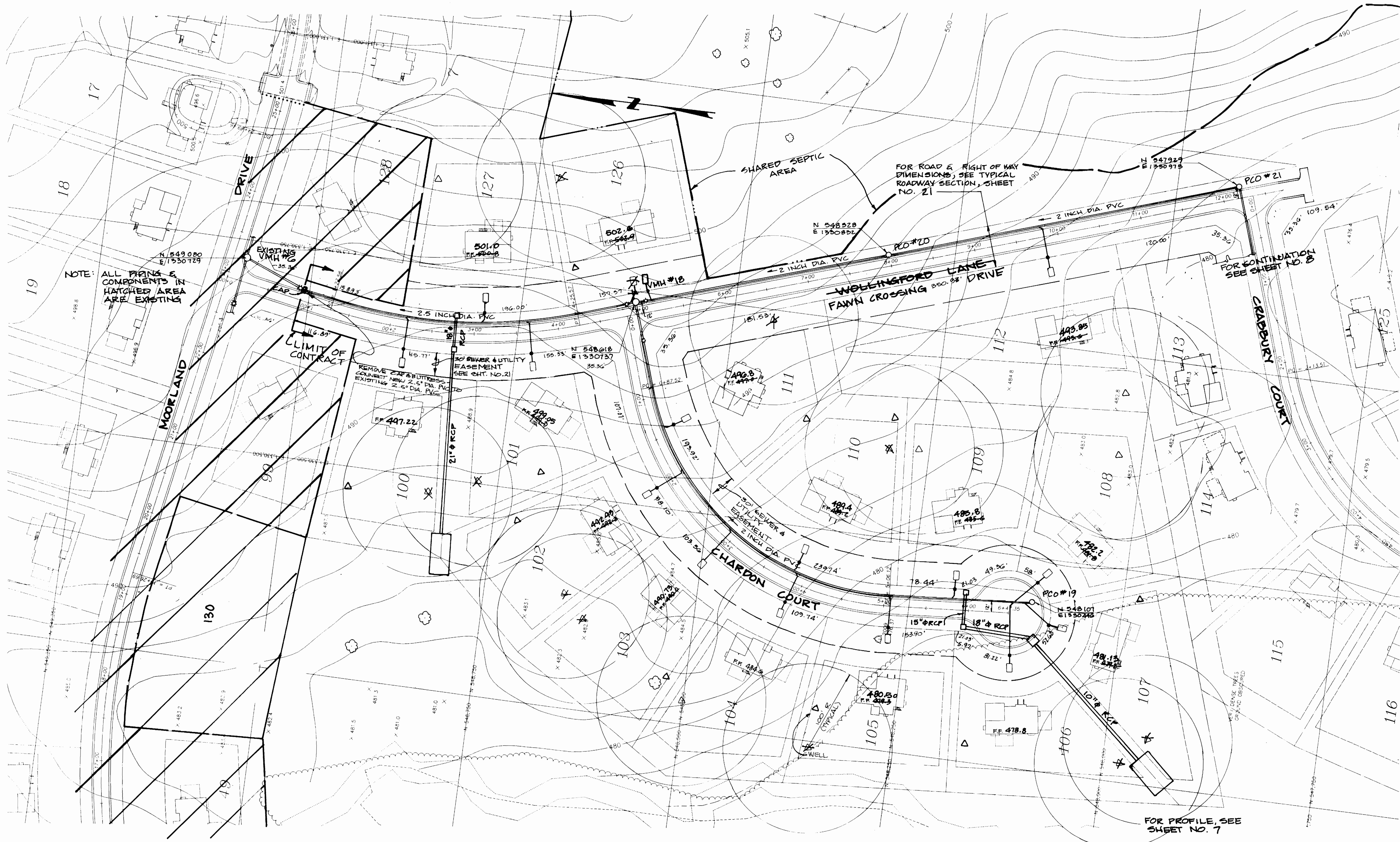
ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 5 OF 25

A.S-BUILT

3383 wsf



FOR PROFILE, SEE SHEET NO. 7

AS-BUILT 11/19/96

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James A. ... 2/22/94
 DIRECTOR OF PUBLIC WORKS DATE
Robert ... 9/19/94
 CHIEF, BUREAU OF UTILITIES DATE

Robert ... 2/29/94
 CHIEF, BUREAU OF ENGINEERING DATE
William ... 9/14/94
 CHIEF, LAND DEVELOPMENT DIVISION DATE

DAMES & MOORE
 170 JENNIFER ROAD, SUITE 230
 ANNAPOLIS, MARYLAND 21401
 (410) 224-5640



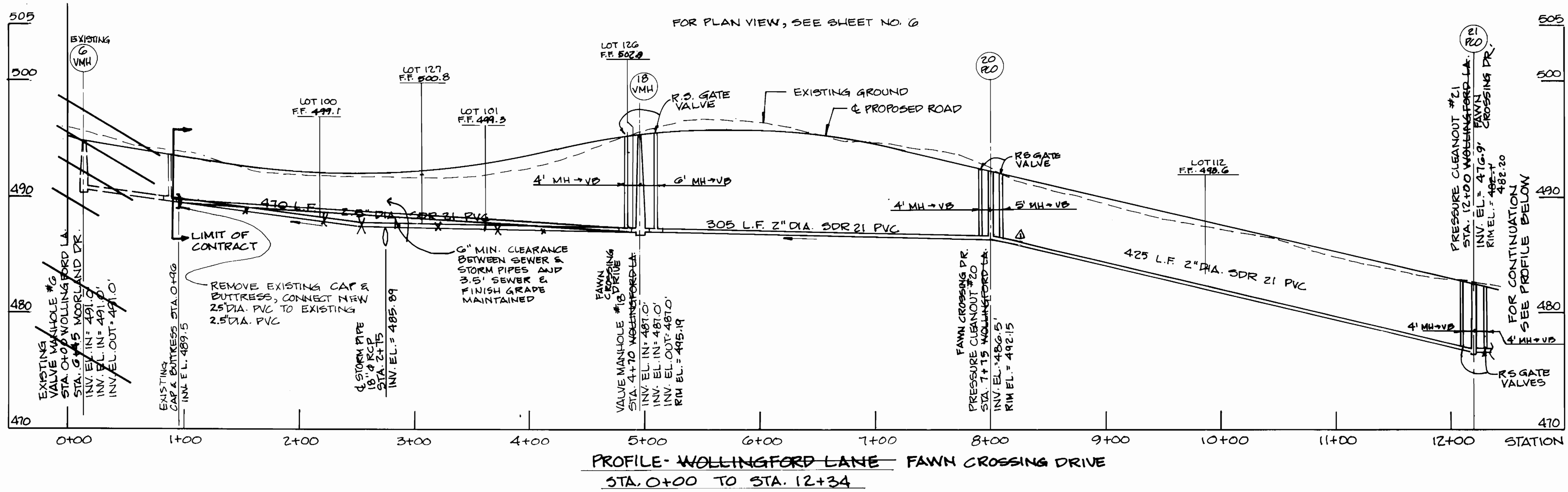
DES: VRC			
DRN: LCH			
CHK: AJP	CREATE PHASED PLANS	9-94	
DATE: 12-93	FINAL SUBMITTAL	8-94	
BY NO.	REVISION	DATE	

PLAN
WOLLINGFORD AND CHARDON
 SCALE: 1" = 50'
 600' SCALE MAP NO. 42-41 BLOCK NO. 12

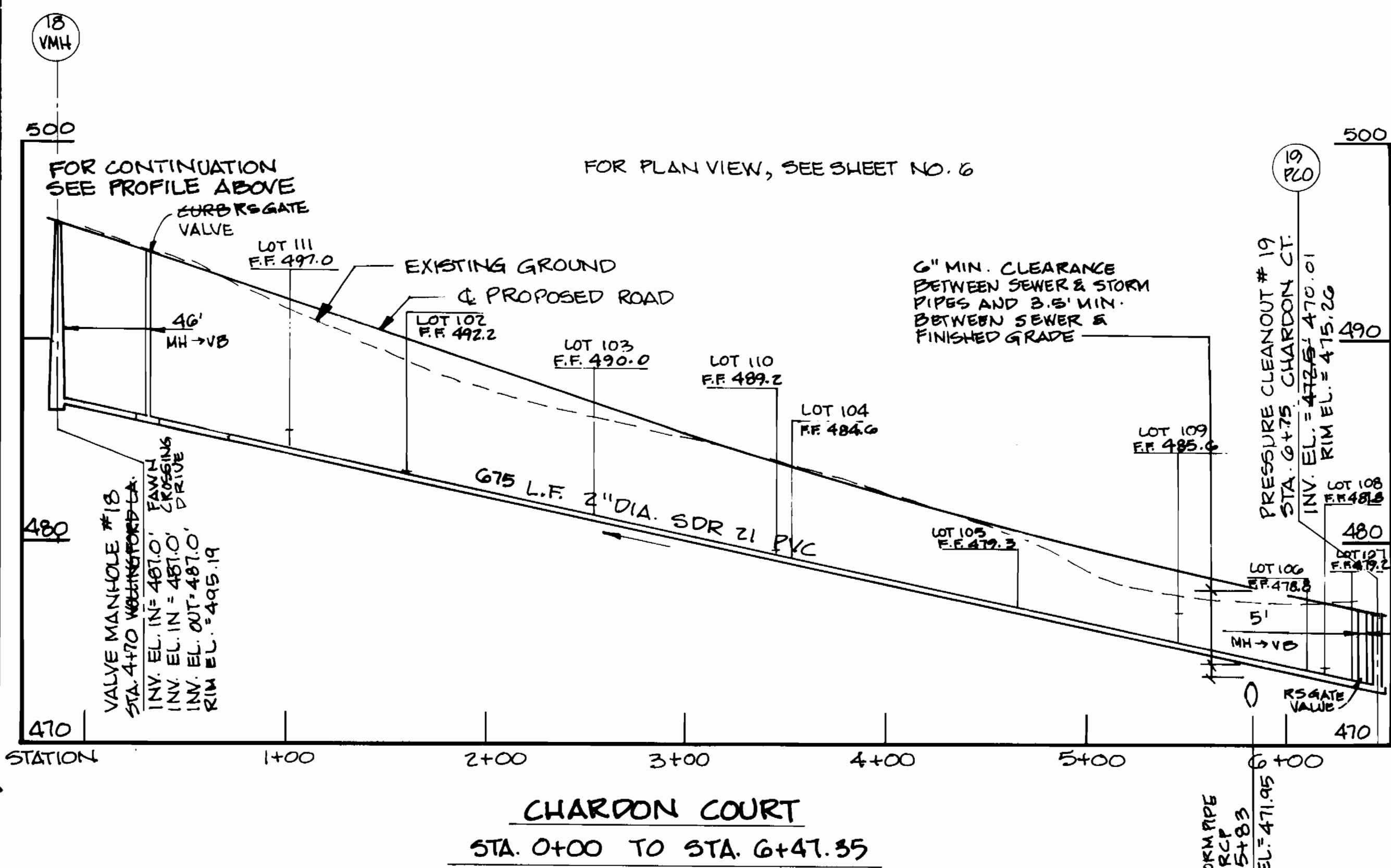
ASHLEIGH KNOLLS
 WASTEWATER COLLECTION, TREATMENT
 AND DISPOSAL SYSTEM
 CONTRACT NO. 50-3383-D
 ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 6 OF 25

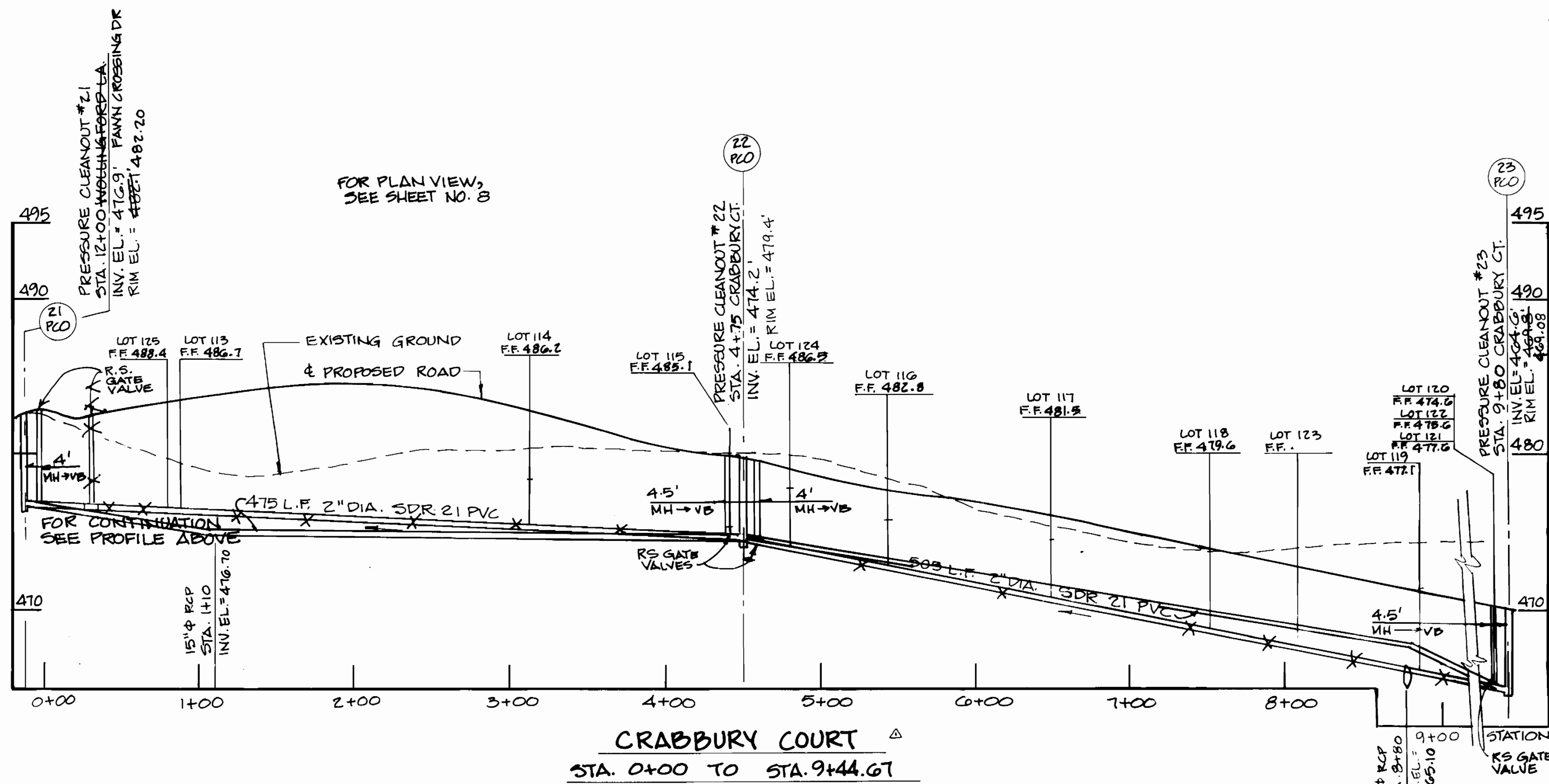
AS-BUILT



PROFILE - WOLLINGSFORD LANE - FAWN CROSSING DRIVE
STA. 0+00 TO STA. 12+34



CHARDON COURT
STA. 0+00 TO STA. 6+47.35



CRABBURY COURT
STA. 0+00 TO STA. 9+44.67

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

AS BUILT 11/19/96

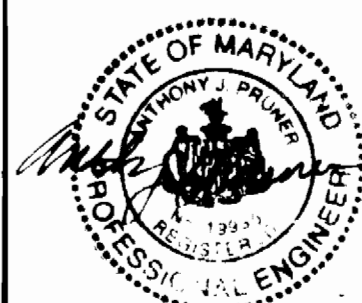
3383 wsf-7

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *Robert H. Sawyer* 9/19/94
Chief, Bureau of Engineering: *Robert H. Sawyer* 9/29/94
Chief, Land Development Division: *Robert H. Sawyer* 9/29/94

DAMES & MOORE

170 JENNIFER ROAD, SUITE 230
ANNAPOLIS, MARYLAND 21401
(410) 224-3640



DES:	VRC		
DRN:	LCH		
CHK:	ASP	MODIFICATION TO PROFILE - ADJUST ELEV. SEWER LINES	5-95
		CREATE PHASED PLANS	9-94
		FINAL SUBMITTAL	8-94
DATE:	12-93		
BY:	NO.	REVISION	DATE

PROFILE WOLLINGSFORD,
CHARDON AND CRABBURY

800' SCALE MAP NO. 40-41 BLOCK NO. 12

ASHLEIGH KNOLLS
WASTEWATER COLLECTION, TREATMENT
AND DISPOSAL SYSTEM

CONTRACT NO. 50-3383-0

ELECTION DISTRICT NO. 5

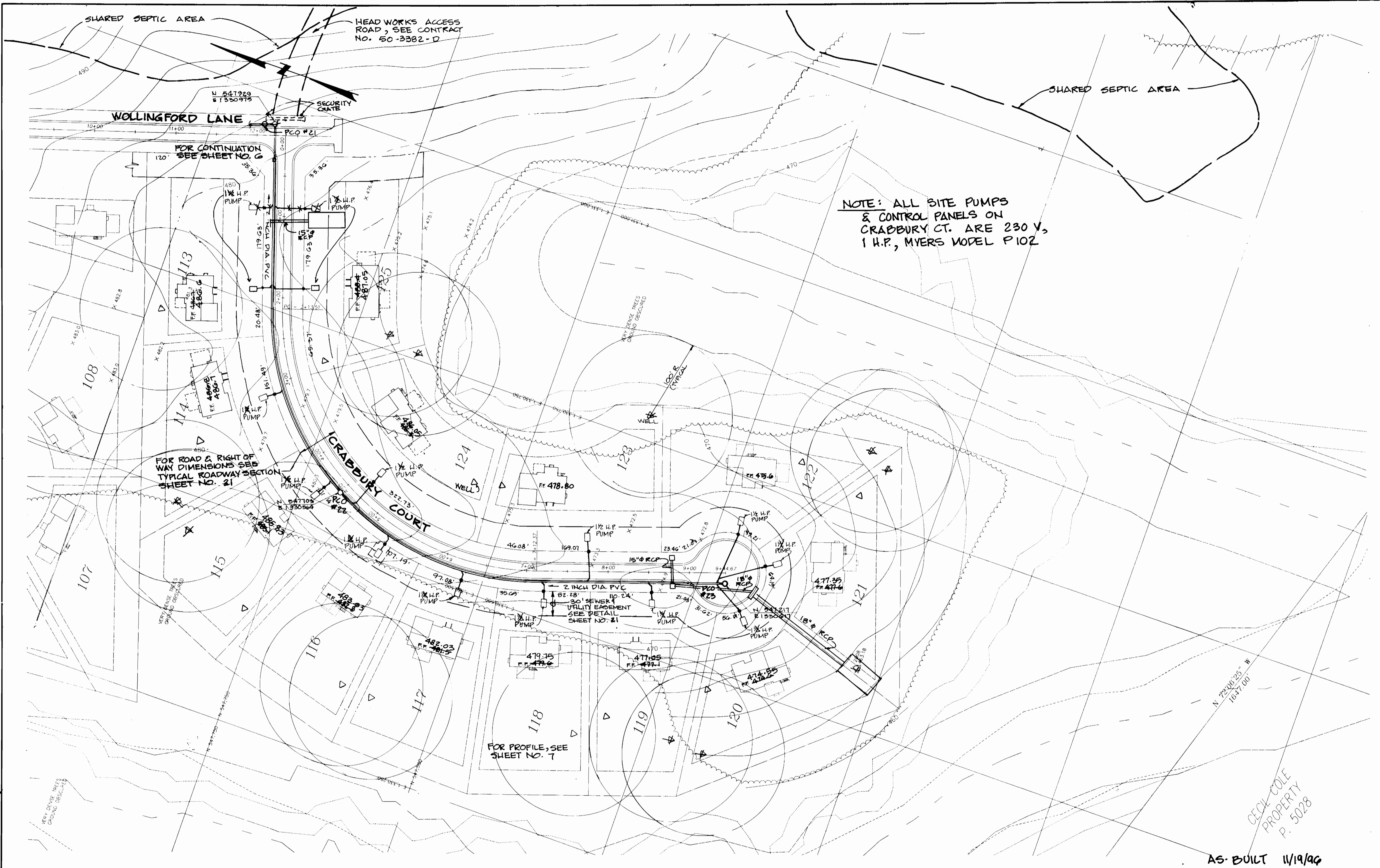
HOWARD COUNTY, MARYLAND

SCALE
AS
SHOWN

SHEET
7 OF 25

AS-BUILT

3383 ws/B



NOTE: ALL SITE PUMPS
& CONTROL PANELS ON
CRABBURY CT. ARE 230 V,
1 H.P., MYERS MODEL P102

AS-BUILT 11/19/96

CECK-COLE
PROPERTY
P. 5028

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James J. ... 9/29/94
DIRECTOR OF PUBLIC WORKS DATE

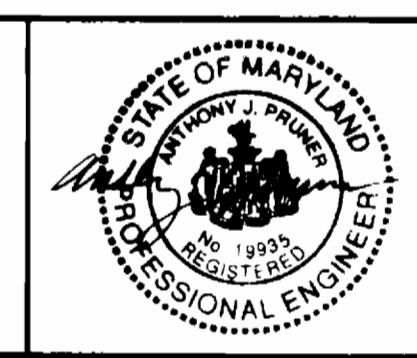
Robert ... 9/19/94
CHIEF, BUREAU OF UTILITIES DATE

... 9/29/94
CHIEF, BUREAU OF ENGINEERING DATE

... 9/19/94
CHIEF, LAND DEVELOPMENT DIVISION DATE

DAMES & MOORE

170 JENNIFER ROAD, SUITE 230
ANNAPOLIS, MARYLAND 21401
(410) 224-5640



DES: VRC			
DRN: LCH			
CHK: AJP	CREATE PHASED PLANS	9-94	
DATE: 12-93	FINAL SUBMITTAL	8-94	
BY	NO.	REVISION	DATE

PLAN CRABBURY

SCALE: 1" = 50'

600' SCALE MAP NO. 42-41 BLOCK NO. 12

ASHLEIGH KNOLLS
WASTEWATER COLLECTION, TREATMENT
AND DISPOSAL SYSTEM

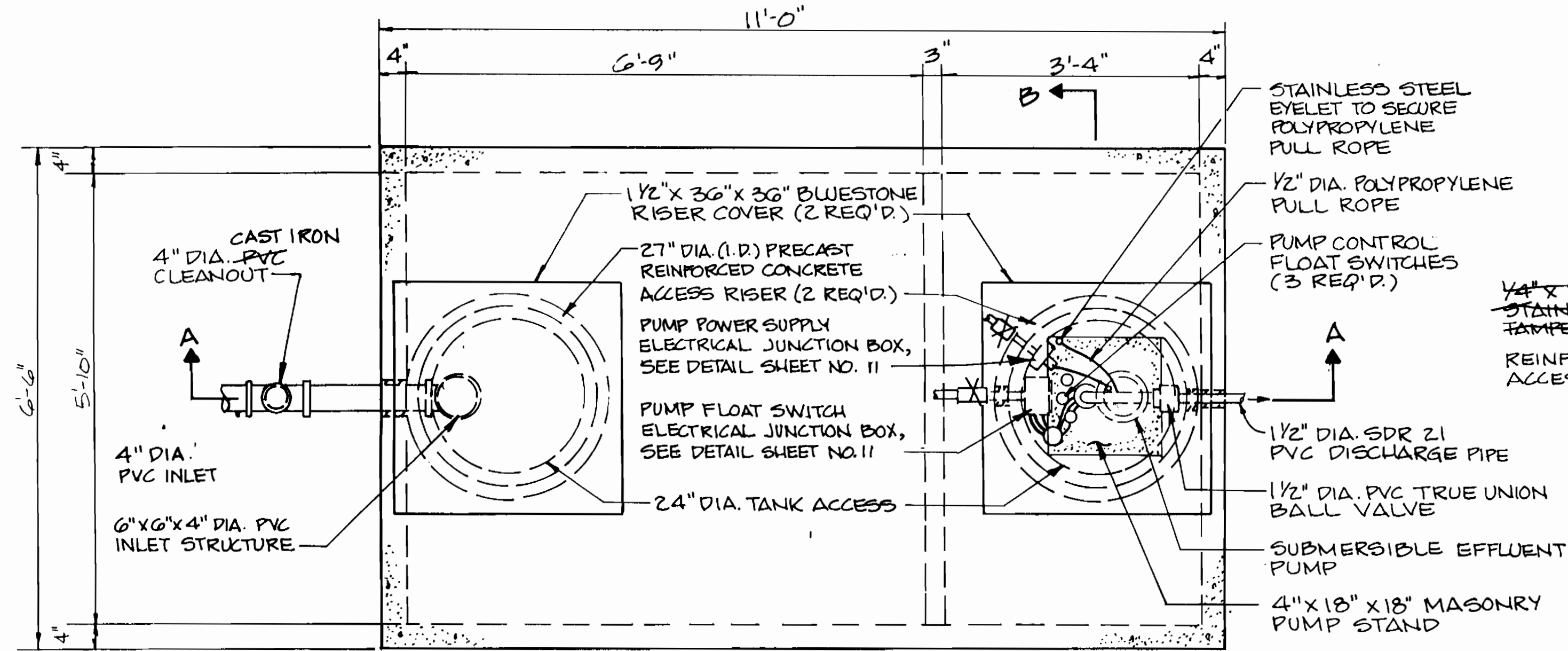
CONTRACT NO. 50-3383-D

ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

SCALE
AS
SHOWN

SHEET
2 OF 25

AS-BUILT



PLAN

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

**DETAIL A
INFLOW COVER/RISER JOINT**

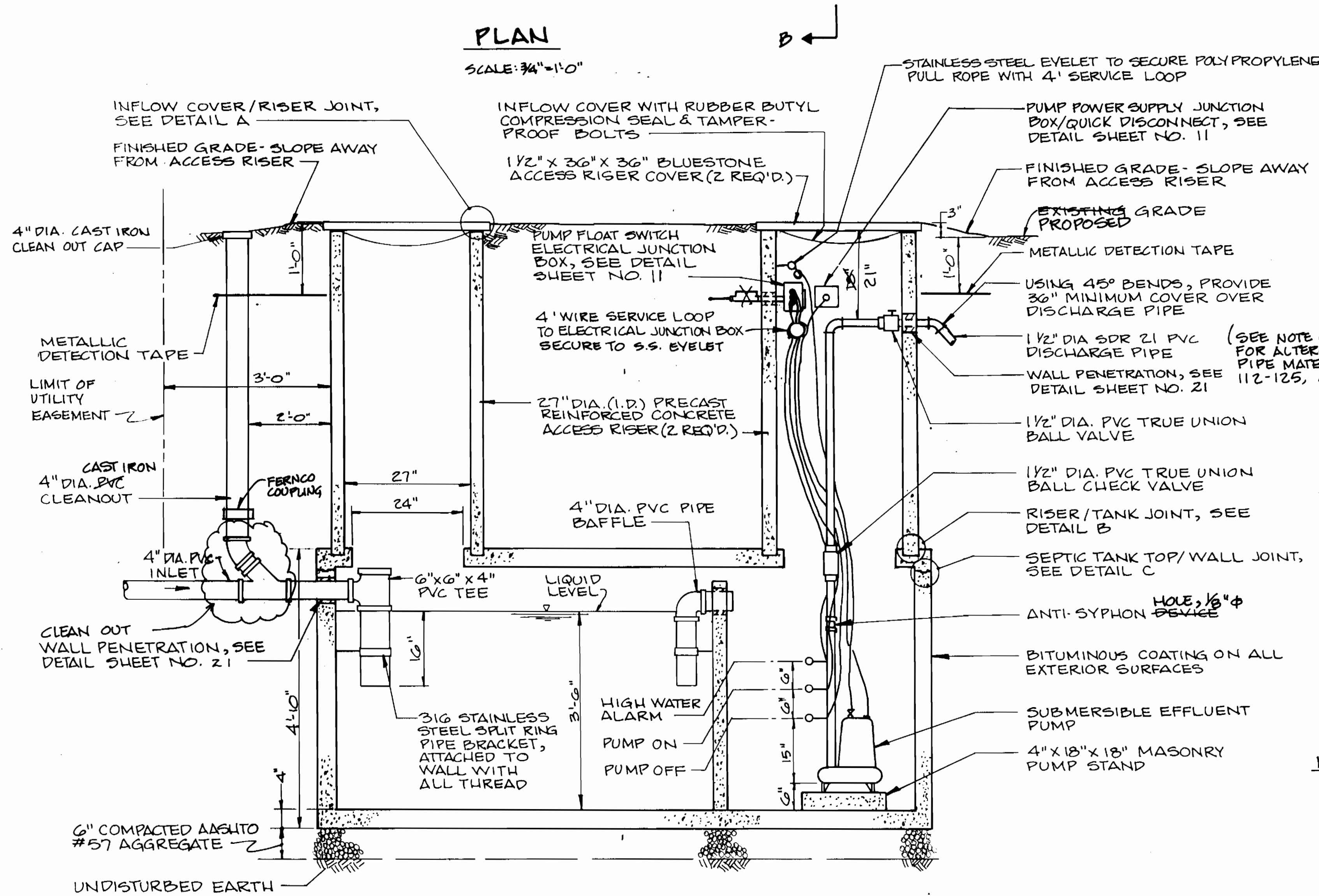
NOT TO SCALE

**DETAIL B
RISER/TANK JOINT**

NOT TO SCALE

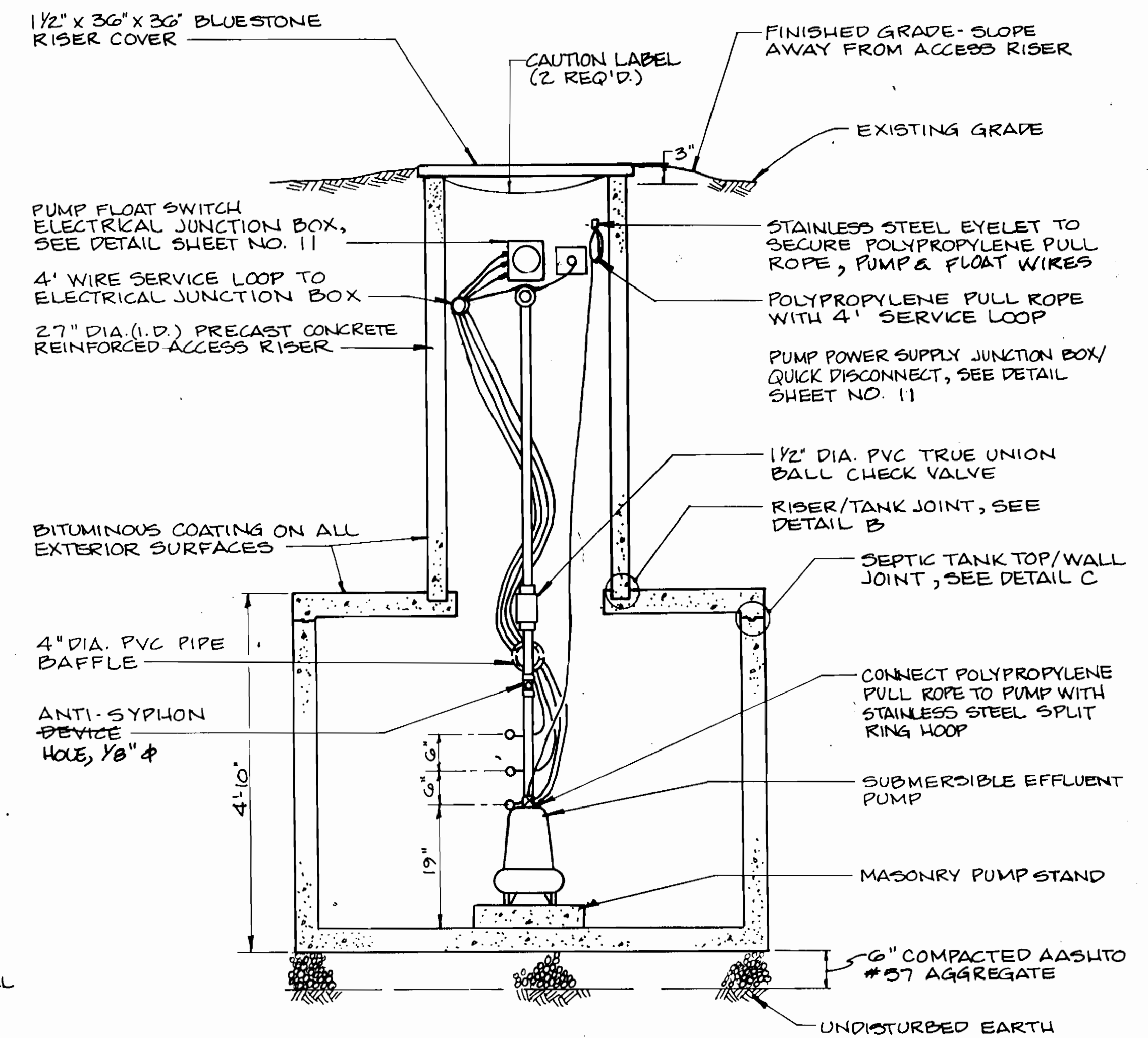
**DETAIL C
SEPTIC TANK TOP/WALL JOINT**

NOT TO SCALE



SECTION A-A

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



SECTION B-B

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

NOTES:

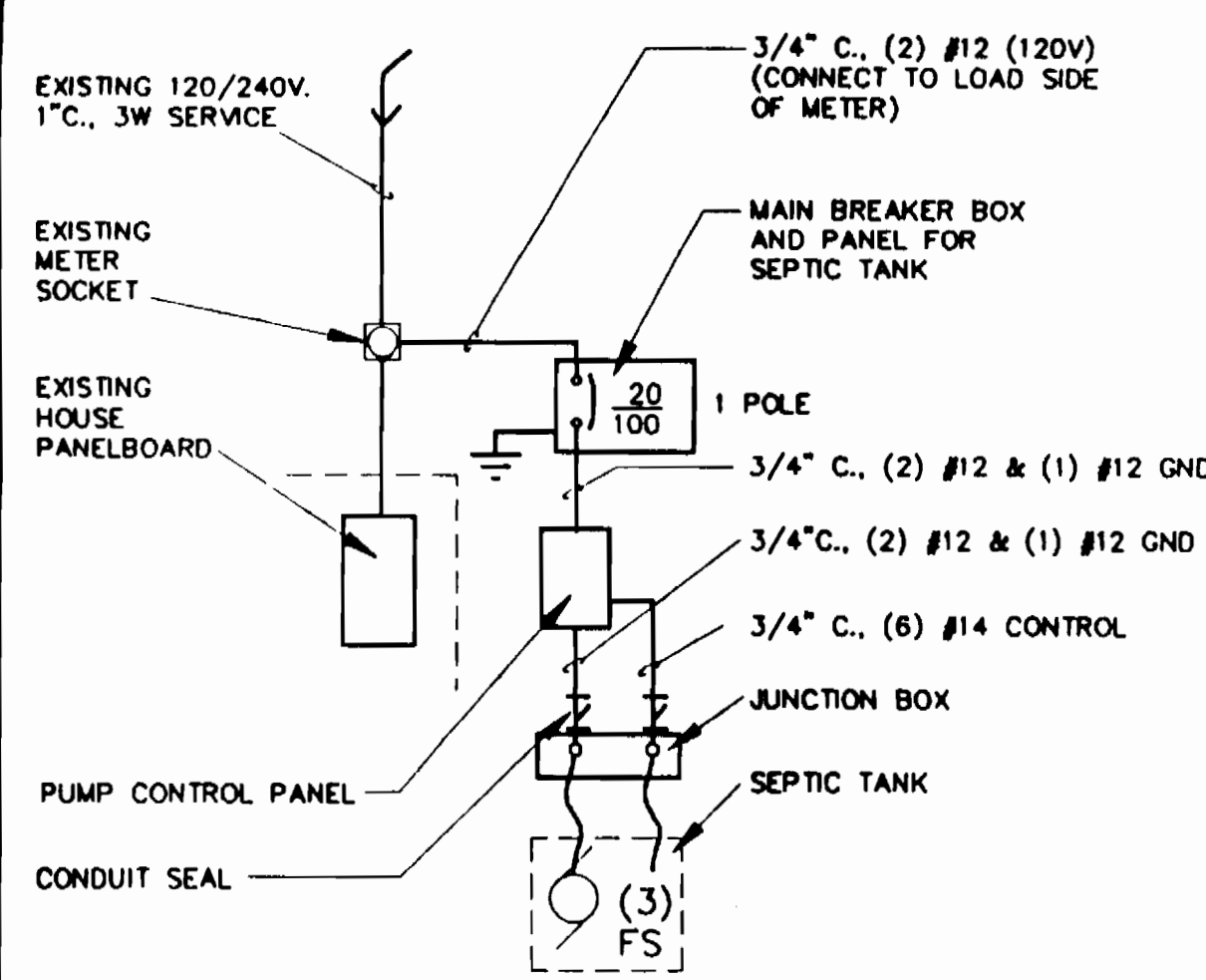
1. SEE SEWER HOUSE CONNECTION DETAIL SHEET NO. 21
2. SEE SHEET NO. 10 FOR GENERAL INSTALLATION NOTES AND MATERIAL SPECIFICATIONS.

3383 ws/9

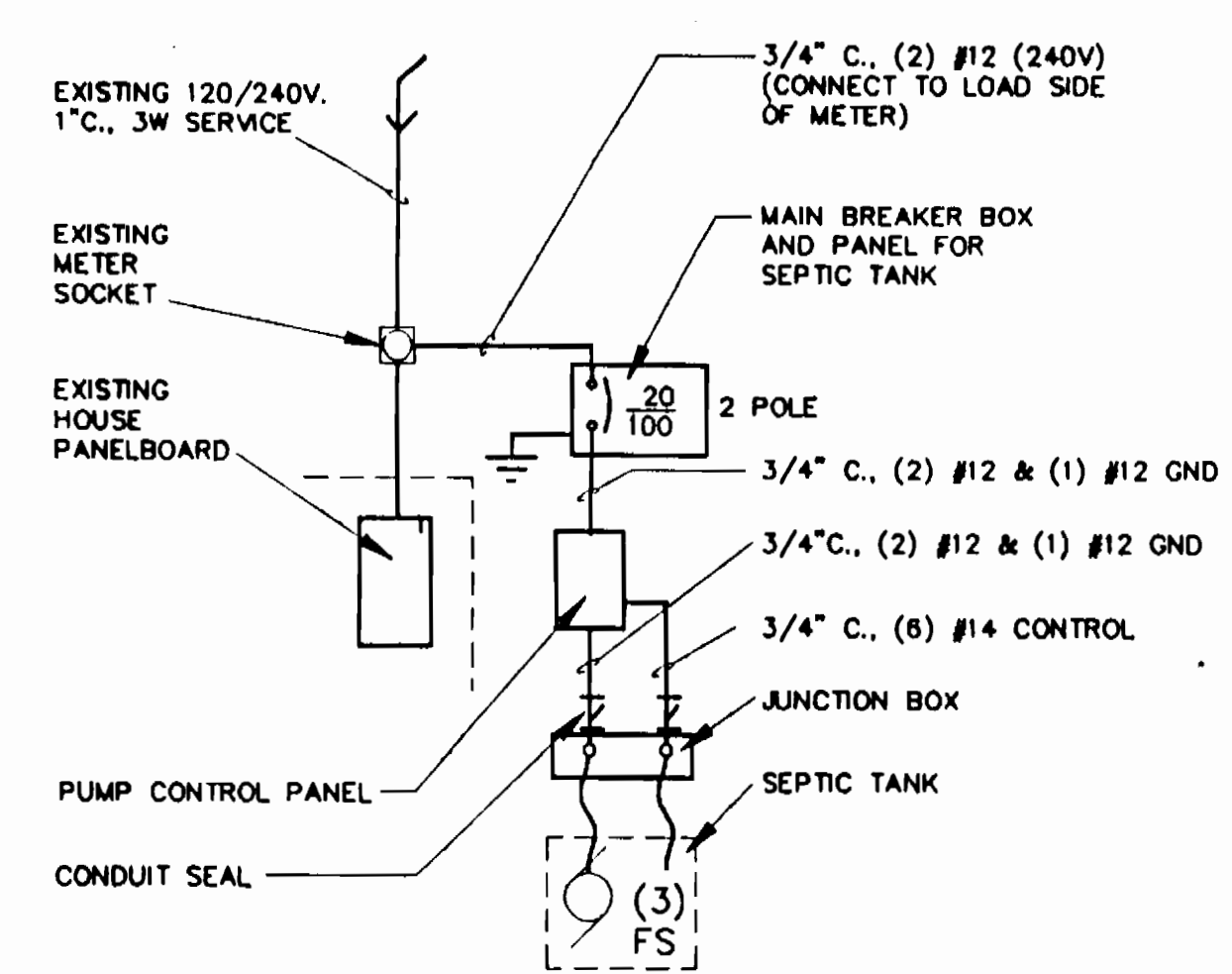
AS-BUILT 11/19/96

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director of Public Works: <i>[Signature]</i> 9/29/94 Chief, Bureau of Engineering: <i>[Signature]</i> 9/29/94 Chief, Bureau of Utilities: <i>[Signature]</i> 9/19/94 Chief, Land Development Division: <i>[Signature]</i> 9/29/94		DAMES & MOORE 170 JENNIFER ROAD, SUITE 230 ANNAPOLIS, MARYLAND 21401 (410) 224-5640		DES: VRC DRN: LCH CHK: AJP DATE: 12-93		CREATE PHASED PLAN 7-94 FINAL SUBMITTAL 8-94		SEPTIC TANK PLAN & SECTIONS 600' SCALE MAP NO. 42-41 BLOCK NO. 12		ASHLEIGH KNOLLS WASTEWATER COLLECTION, TREATMENT AND DISPOSAL SYSTEM CONTRACT NO. 30-3383-D ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND		SCALE AS SHOWN
										SHEET 7 OF 25		

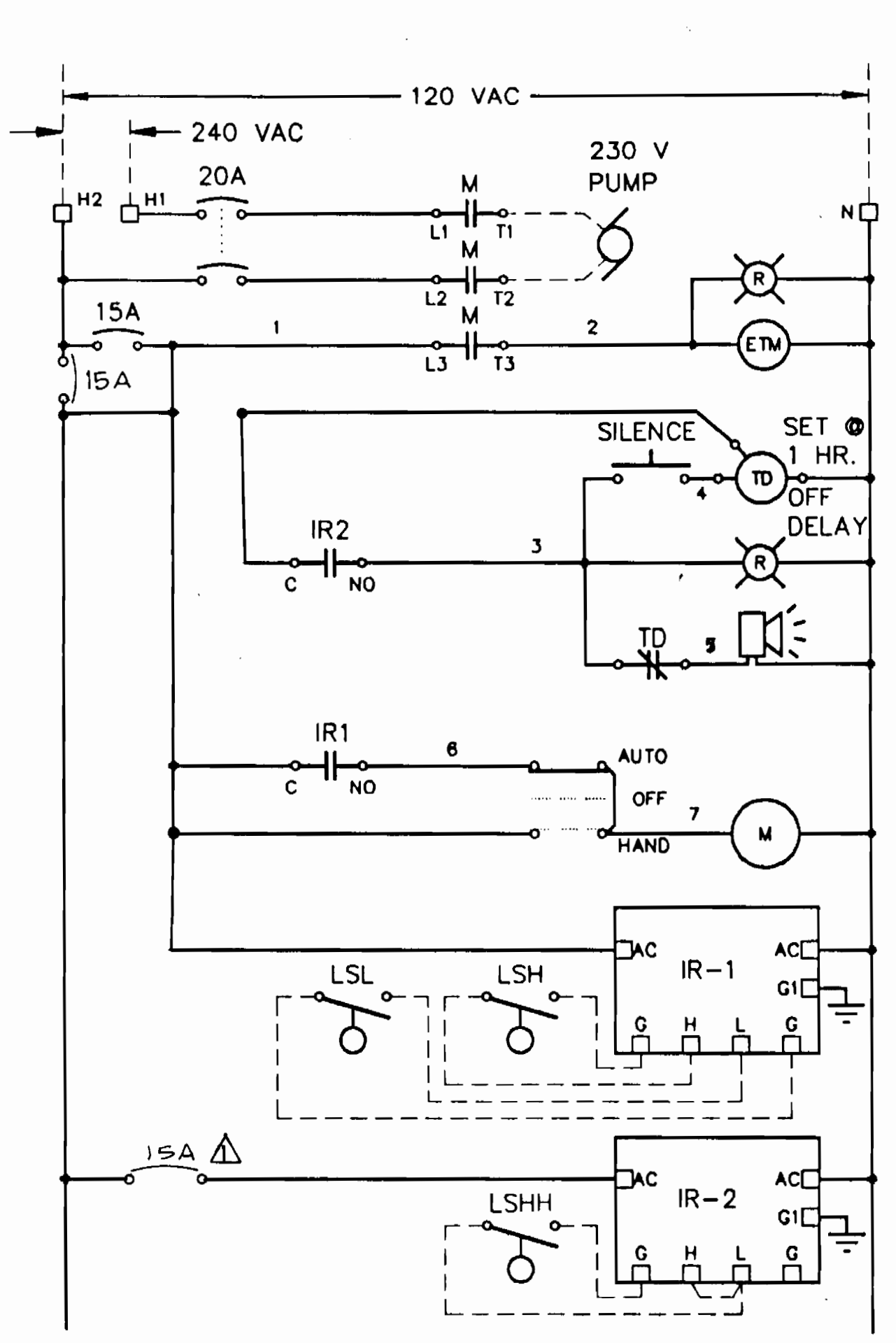
AS BUILT



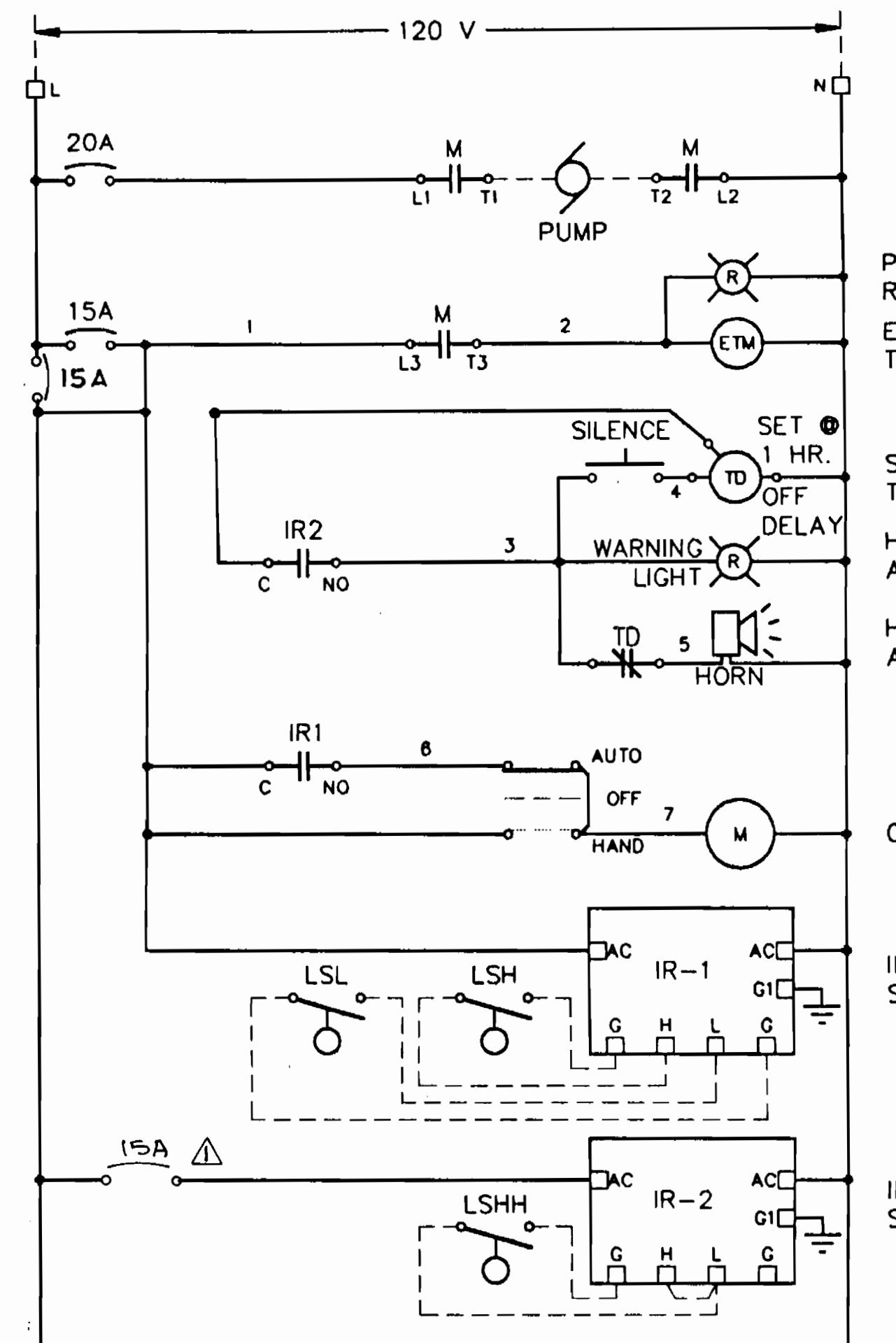
ONE LINE DIAGRAM FOR 1/2 HP PUMPS



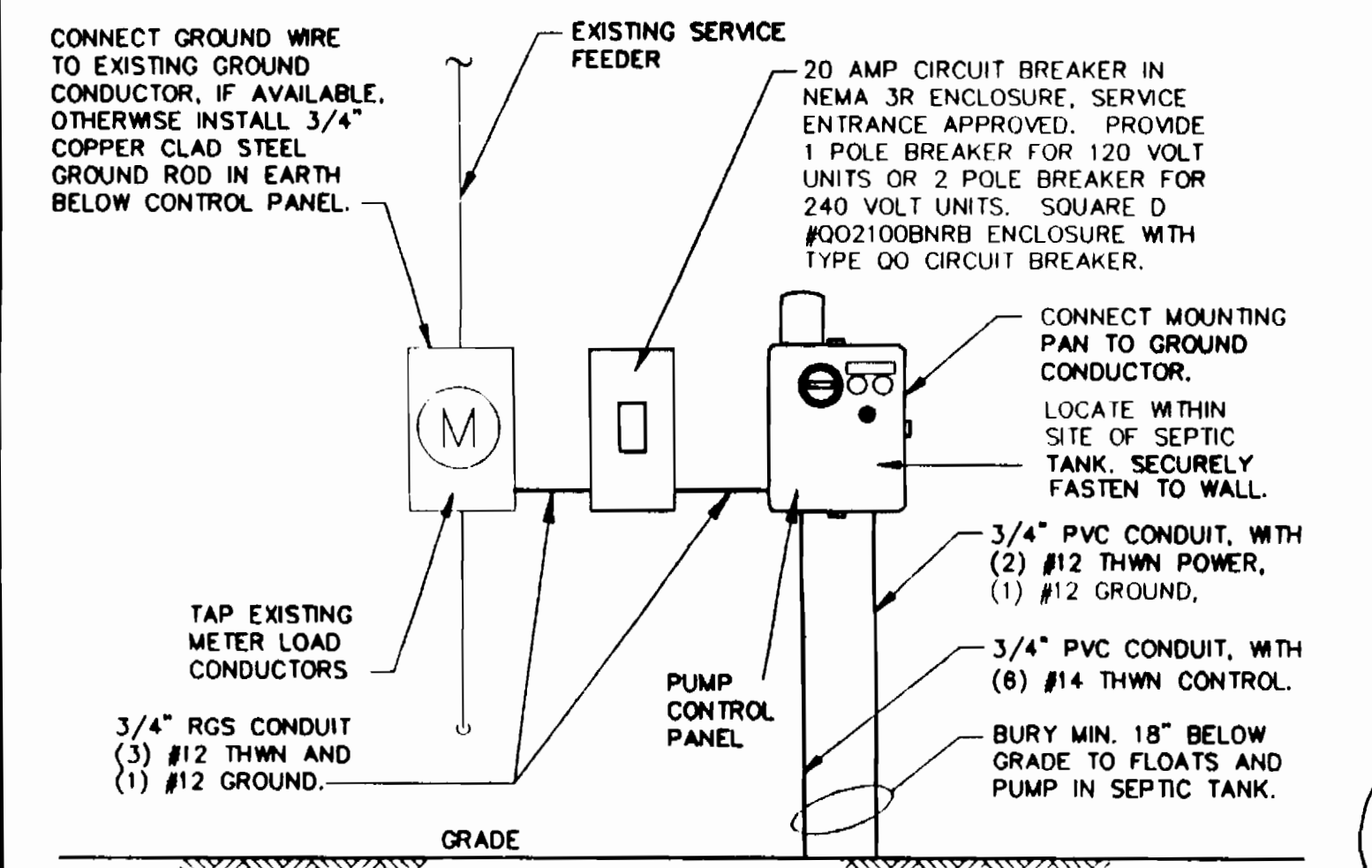
ONE LINE DIAGRAM FOR 1-1/2 HP PUMPS



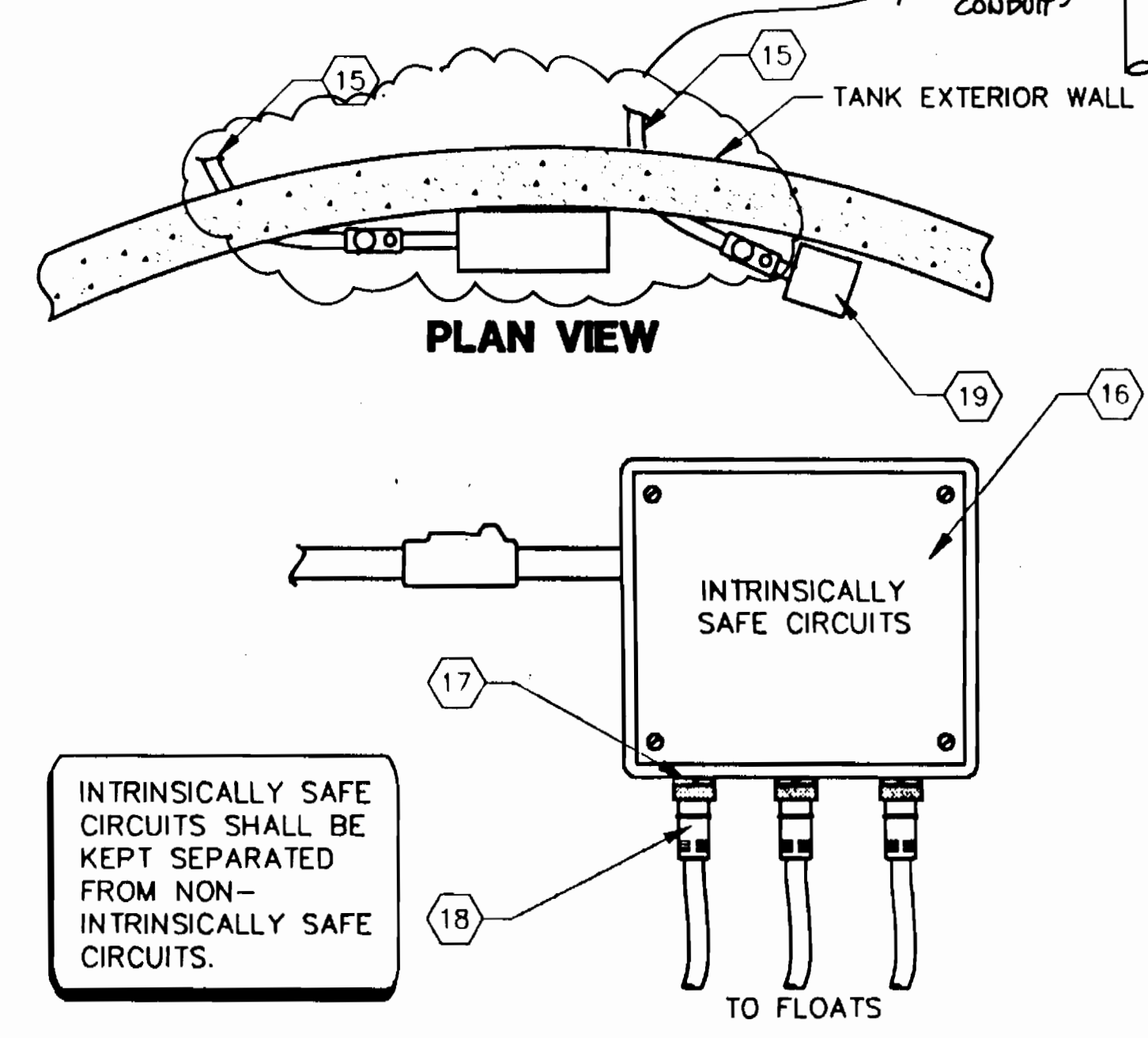
CONTROL SCHEMATIC FOR 1-1/2 HP PUMPS



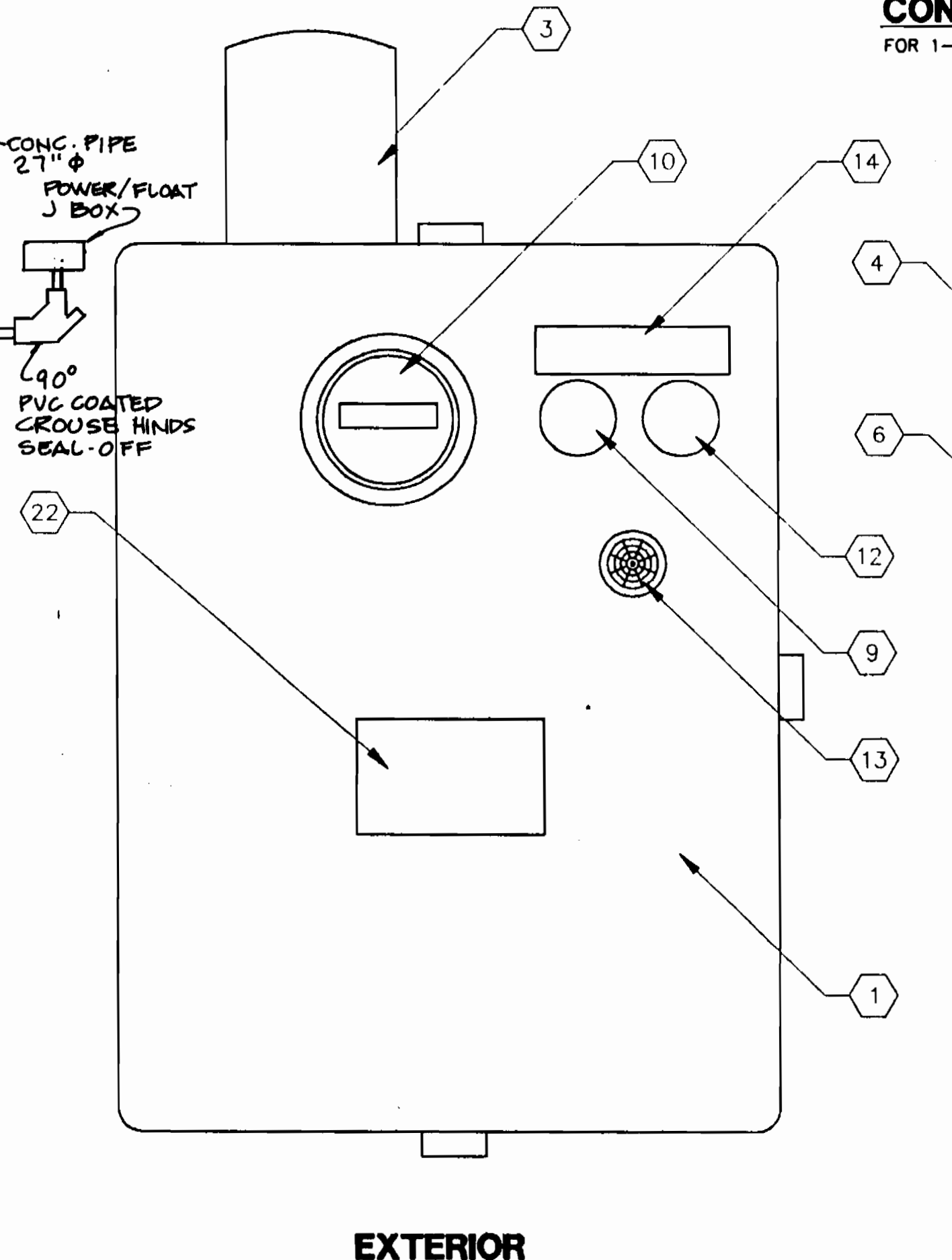
CONTROL SCHEMATIC FOR 1/2 HP PUMPS



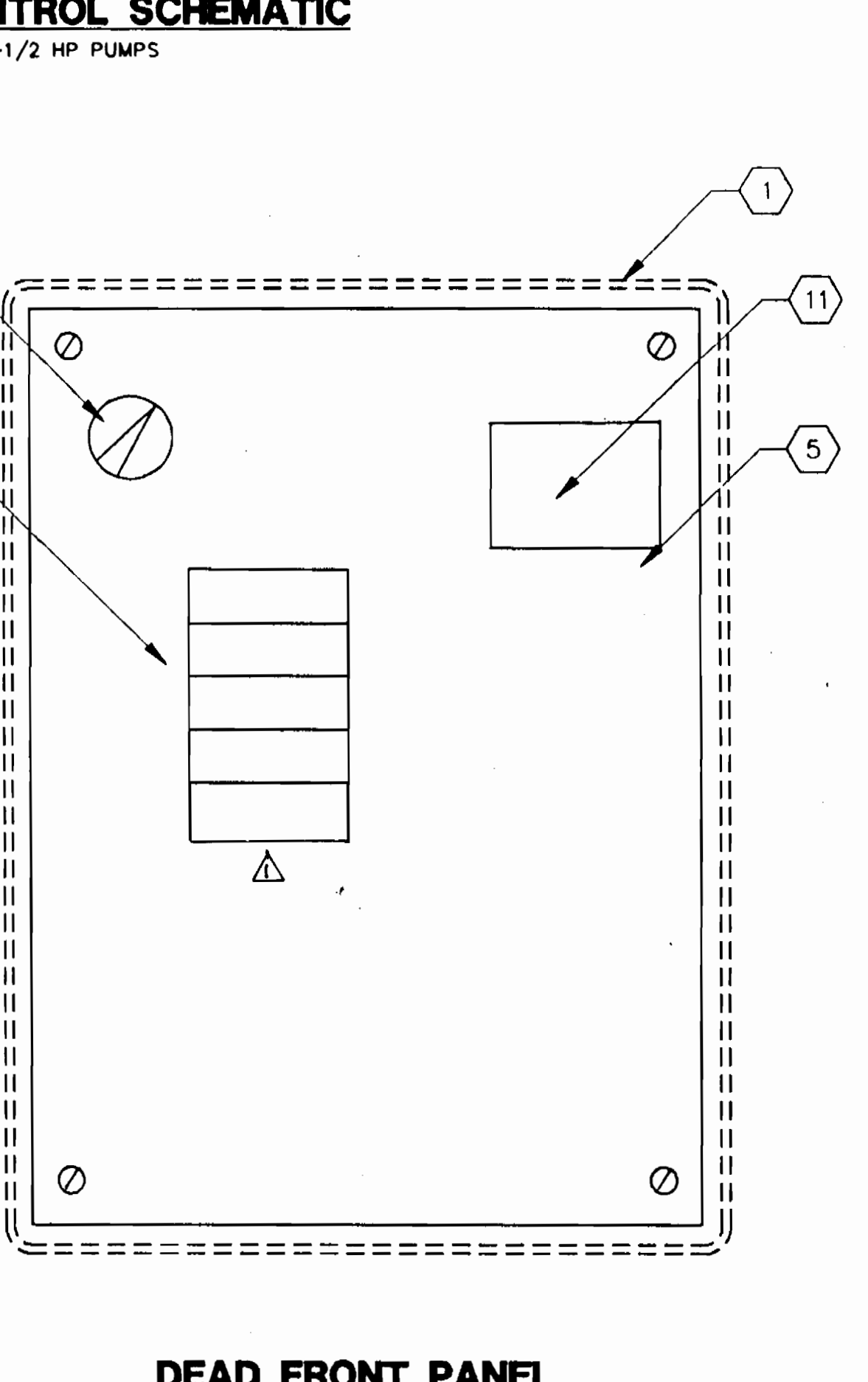
PUMP ELECTRICAL ARRANGEMENT TYPICAL AT RESIDENCE



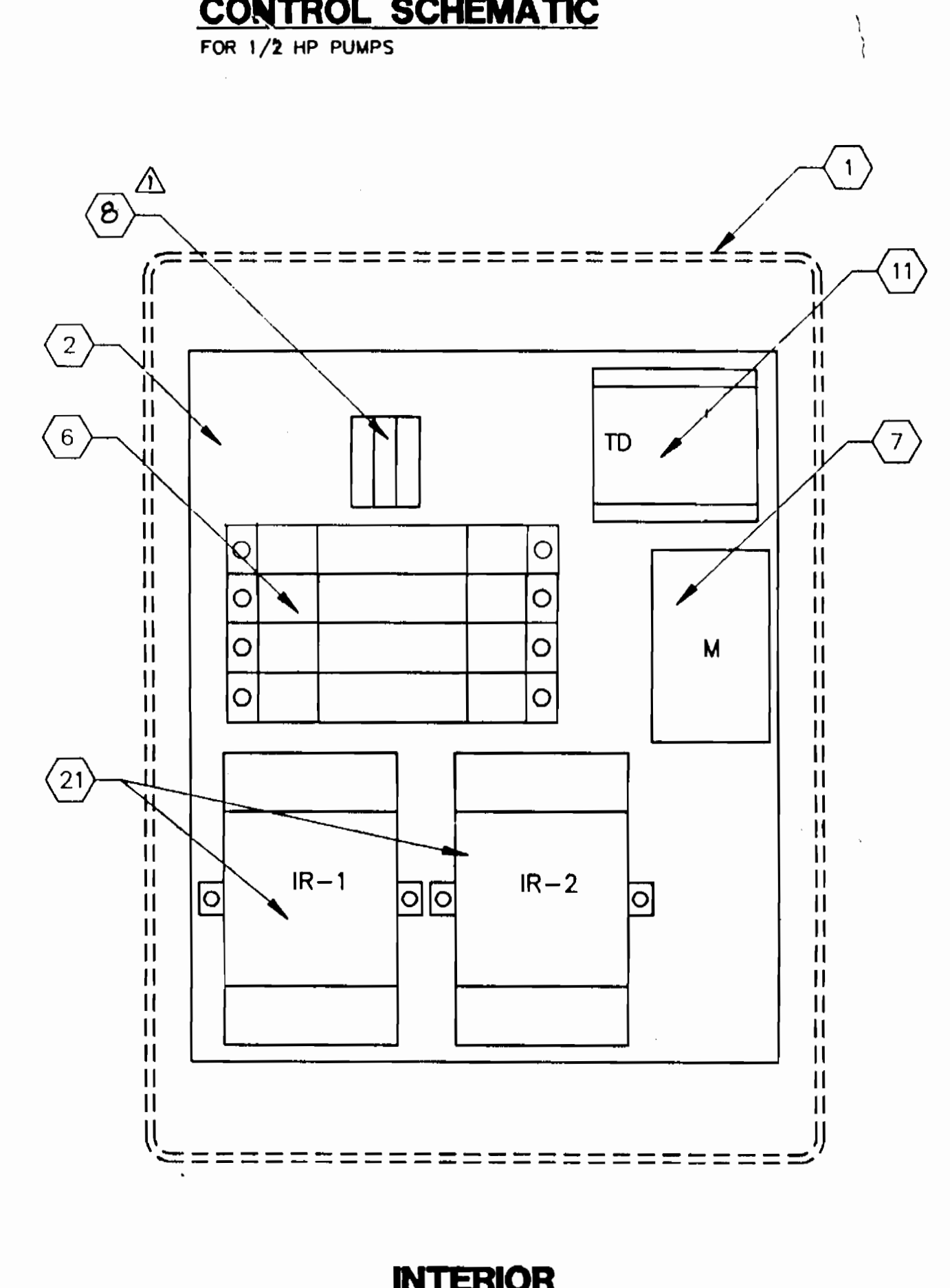
FLOAT SWITCH JUNCTION BOX DETAIL



EXTERIOR



DEAD FRONT PANEL



INTERIOR

- NOTES**
- POLYESTER REINFORCED FIBERGLASS ENCLOSURE, NEMA 4X, 14"x10"x7.5"D, HOFFMAN CAT. #A-14107JFGOR, OR EQUAL.
 - MOUNTING PAN, ALUMINUM, .08" THICK, PROTECTED BY PLASTIC FILM, 10.75"H x 8.88"W, HOFFMAN CAT. #A-12P10AL, OR EQUAL.
 - MINI-ALARM LIGHT, RED ACRYLIC LENS, 120VAC WITH BULB, GASKET, AND FLASHER BUTTON, OHIO ELECTRIC CONTROL, INC. #ML-2, OR EQUAL.
 - MAINTAINED SELECTOR SWITCH, WITH SPDT CONTACT BLOCKS, 120 VOLT, SQUARE D ZB2 B03, OR EQUAL. MOUNT IN ITEM NO. 5.
 - PROVIDE FULL 3/16" BLACK PHENOLIC PLATE TO SERVE AS "DEAD FRONT" SHIELD. PROVIDE THE FOLLOWING ENGRAVING OVER THE SELECTOR SWITCH "HAND-OFF-AUTO" AND LABEL EACH CIRCUIT BREAKER AS TO ITS PROPER SERVICE BY ENGRAVING EITHER "CONTROL" OR "PUMP POWER" AT THE APPROPRIATE LOCATIONS. THE ENGRAVING SHALL BE 1/8" WHITE LETTERS. LOCATE DEAD FRONT PLATE TO PROVIDE NECESSARY WIRING CLEARANCE BEHIND SELECTOR SWITCH AND ADEQUATE CLEARANCE BETWEEN DOOR MOUNTED DEVICES AND PLATE. CUT HOLES IN PLATE FOR MOUNTING SELECTOR SWITCH AND FOR ACCESS TO CIRCUIT BREAKERS AND TIMER AS INDICATED.
 - PROVIDE (8) 15 AMP, 120 VOLT, 1 POLE BREAKERS FOR CONTROL CIRCUITRY. PROVIDE (1) 20 AMP, 240 VOLT 2 POLE BREAKER FOR SYSTEMS USING A 240 VOLT PUMP, OR PROVIDE (1) 20 AMP, 120 VOLT 1 POLE BREAKER FOR SYSTEMS USING A 115 VOLT PUMP. BREAKERS SHALL BE SQUARE D TYPES QOU115 AND QOU215, OR EQUAL. PROVIDE SPACER BETWEEN CIRCUIT BREAKERS AND MOUNTING PAN SO THAT BREAKER OPERATOR PROTRUDES THROUGH DEAD FRONT PANEL.
 - MOTOR CONTACTOR, IEC TYPE, 4 POLE, 18 AMP, 120VAC COIL, SQUARE D #LC1 D18 006G, OR EQUAL.
 - PROVIDE MIN. (3) BOX LUG TYPE TERMINALS COMPLETE WITH MOUNTING RAIL, END BARRIER, AND LABELS, SQUARE D TYPE GK, OR EQUAL.
 - PILOT LIGHT, 120V/6V TRANSFORMER TYPE, NEMA 4X, RED, SQUARE D #ZB2 BV3, OR EQUAL.
 - ELAPSED TIME METER, 2-1/2" ROUND, 120 VOLT, RESETTABLE, 6 DIGIT DIGITAL READOUT TO INCLUDE TENTHS OF HOURS, CROMER #35C H&T, OR EQUAL. FABRICATE NEOPRENE GASKET AND INSTALL BETWEEN METER FLANGE AND ENCLOSURE FACE.
 - UNIVERSAL TIME DELAY RELAY, DPDT, 120 VOLT, CONFIGURED FOR OFF DELAY SERVICE, SSAC #TRUJ WITH MATCHING 11-PIN SOCKET, OR EQUAL.
 - PUSHBUTTON, 120 VOLT, MOMENTARY, WITH N.O. CONTACT BLOCK, SQUARE D #ZB2 B22/ZB2 B2101, OR EQUAL.
 - ALARM HORN, 120 VOLT, WEATHERPROOF, 95 dB @ 2 FEET, FLOYD BELL #AW-09-2010, OR EQUAL.
 - 3/4"x3.5" WHITE ON BLACK ENGRAVED PHENOLIC NAMEPLATE TO READ:

PUMP RUNNING	HORN
SILENCE	SILENCE

 WITH LETTERING CENTERED OVER PILOT LIGHT AND PUSHBUTTON.
 - TRANSITION RIGID GALVANIZED STEEL CONDUIT TO PVC CONDUIT AT END OF 90 DEG. ELBOW. USE RIGID GALVANIZED STEEL CONDUIT THROUGH TANK WALL IN TANK INTERIOR.
 - CORROSION RESISTANT NEMA 4 JUNCTION BOX, AS PROVIDED BY MEYERS.
 - CORROSION RESISTANT, 2-PIN RECEPTACLE TO MATCH FLOAT SWITCH COUPLER. FLOAT SWITCH MANUFACTURER SHALL FURNISH. CROUSE-HINDS, MINI-LINE, OR EQUAL.
 - CORROSION RESISTANT, 2-PIN COUPLER, PRE-MOLDED TO FLOAT SWITCH CABLE. FLOAT SWITCH MANUFACTURER SHALL FURNISH COMPLETE ASSEMBLY. COUPLER SHALL BE CROUSE-HINDS MINI-LINE, OR EQUAL.
 - HAZARDOUS AREA RECEPTACLE, 30A, 120V, 3W, CLASS 1, GROUP D, DIVISION 1, FACTORY SEALED, WITH MATCHING PLUG, CROUSE-HINDS, OR EQUAL, CES 2214, CPHTXXX, VERIFY PLUG CABLE O.D. FOR SEAL FAILURE CIRCUIT.
 - NOT USED
 - DUAL INPUT INTRINSICALLY SAFE BARRIER, 120 VAC, ACCEPTS (1) OR (2) DRY CONTACT INPUTS, AND ONE FORM C CONTACT OUTPUT. WARRICK CONTROLS SERIES 27A1X0, OR EQUAL.
 - CONTROL PANEL SIGN SHALL BE ADHESIVE BACKED, NON-FADING. SIGN SHALL BE 3"x5" AND SHALL READ:
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 SEPTIC TANK EFFLUENT PUMP CONTROLS
 IN CASE OF ALARM, TELEPHONE 313-4990
 DO NOT OPEN PANEL.

AS-BUILT 11/19/96

3383 WS/11

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

James J. Slavin 9/29/94
 DIRECTOR OF PUBLIC WORKS DATE

Robert M. Swanson 9/19/94
 CHIEF, BUREAU OF UTILITIES DATE

Robert M. Swanson 9/29/94
 CHIEF, BUREAU OF ENGINEERING DATE

Michael J. Swanson 9/29/94
 CHIEF, LAND DEVELOPMENT DIVISION DATE

DAMES & MOORE

170 JENNIFER ROAD, SUITE 230
 ANNAPOLIS, MARYLAND 21401
 (410) 224-5640

DES: VRC
 DRN: BGM
 CHK: AJP
 DATE: 12-93

BY	NO.	REVISION	DATE
BGM	1	ADD CIRCUIT BREAKER (HIGH WATER ALARM)	11-94
	2	CREATE PHASED PLANS	9-94
	3	FINAL SUBMITTAL	8-94

SEPTIC TANK
 ELECTRICAL DETAILS

600' SCALE MAP NO. 30-41 BLOCK NO. 12

ASHLEIGH KNOLLS
 WASTEWATER COLLECTION, TREATMENT
 AND DISPOSAL SYSTEM

CONTRACT NO. 50-3382-D

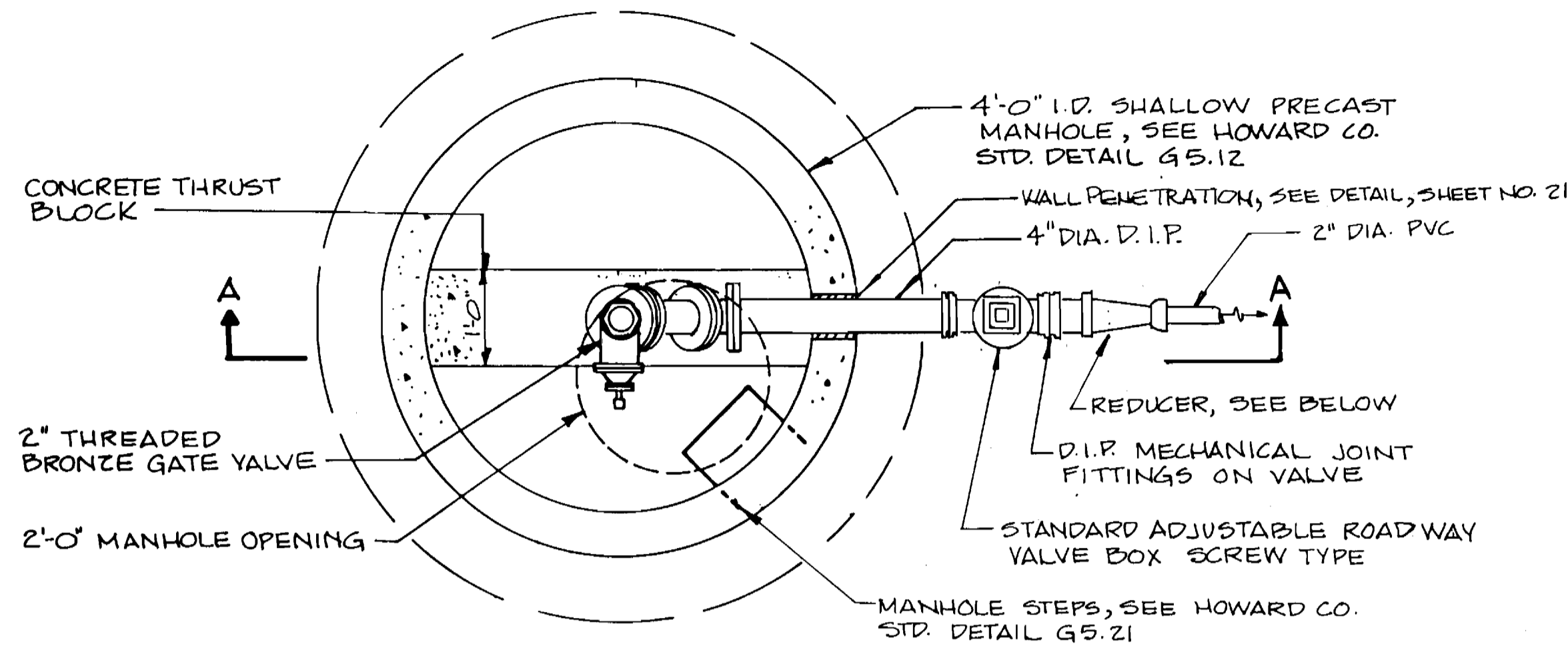
ELECTION DISTRICT NO. 5

HOWARD COUNTY, MARYLAND

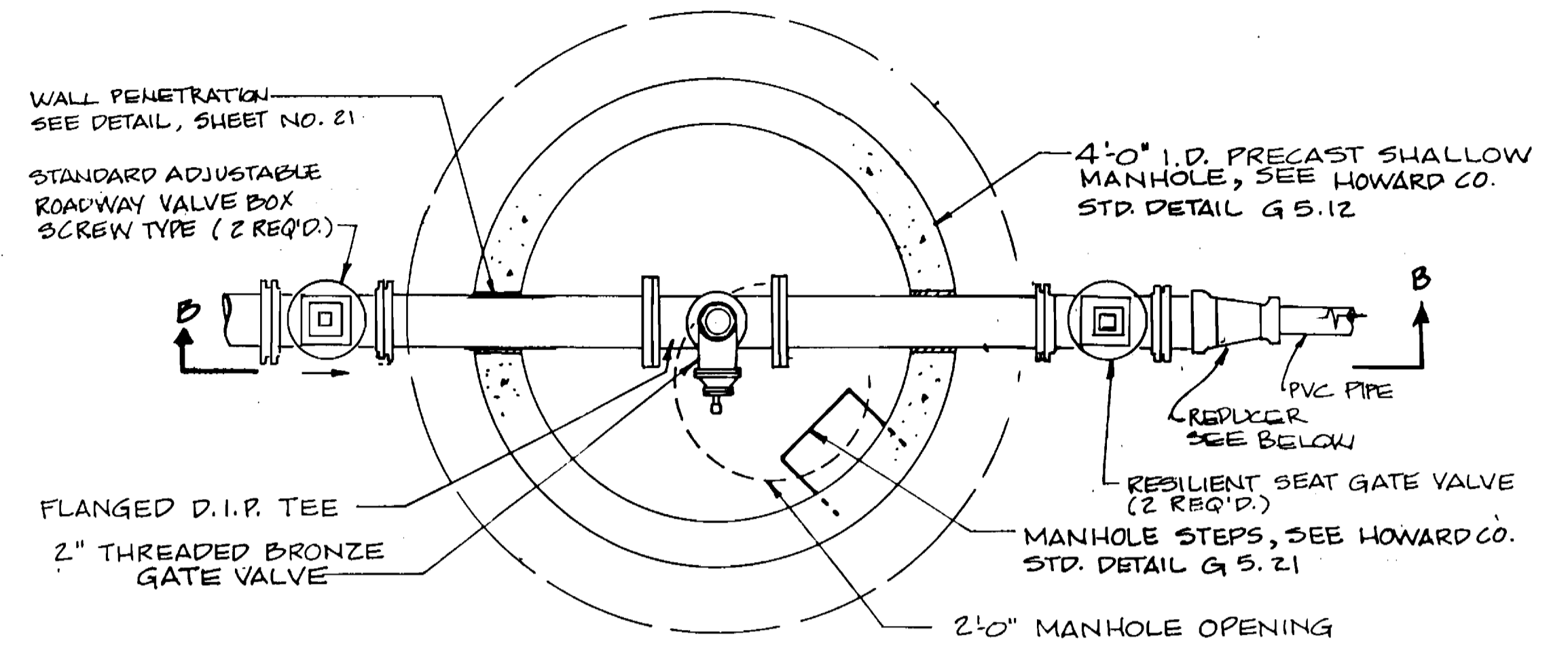
SCALE AS SHOWN

SHEET 11 OF 25

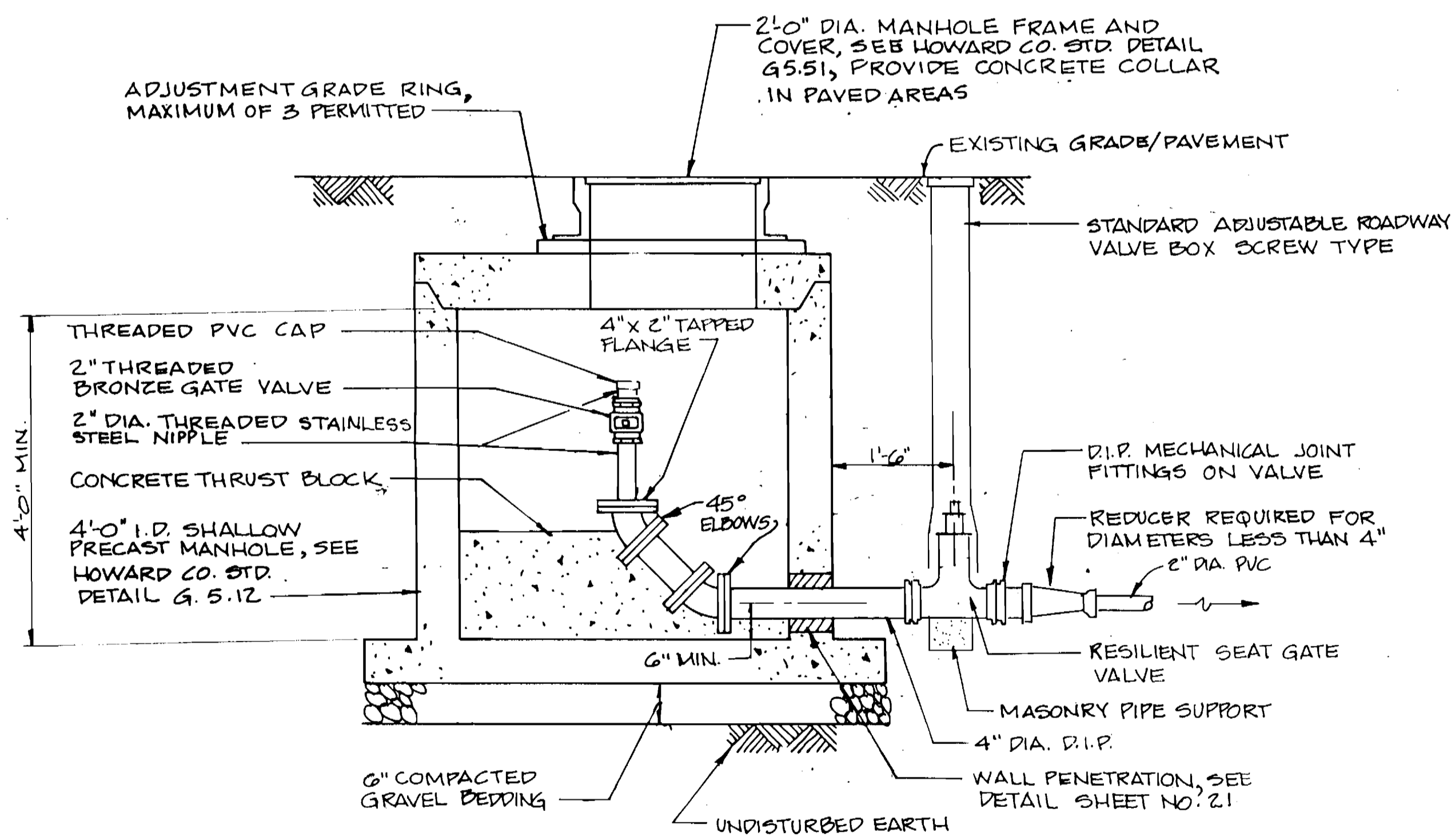
AS-BUILT



PLAN



PLAN

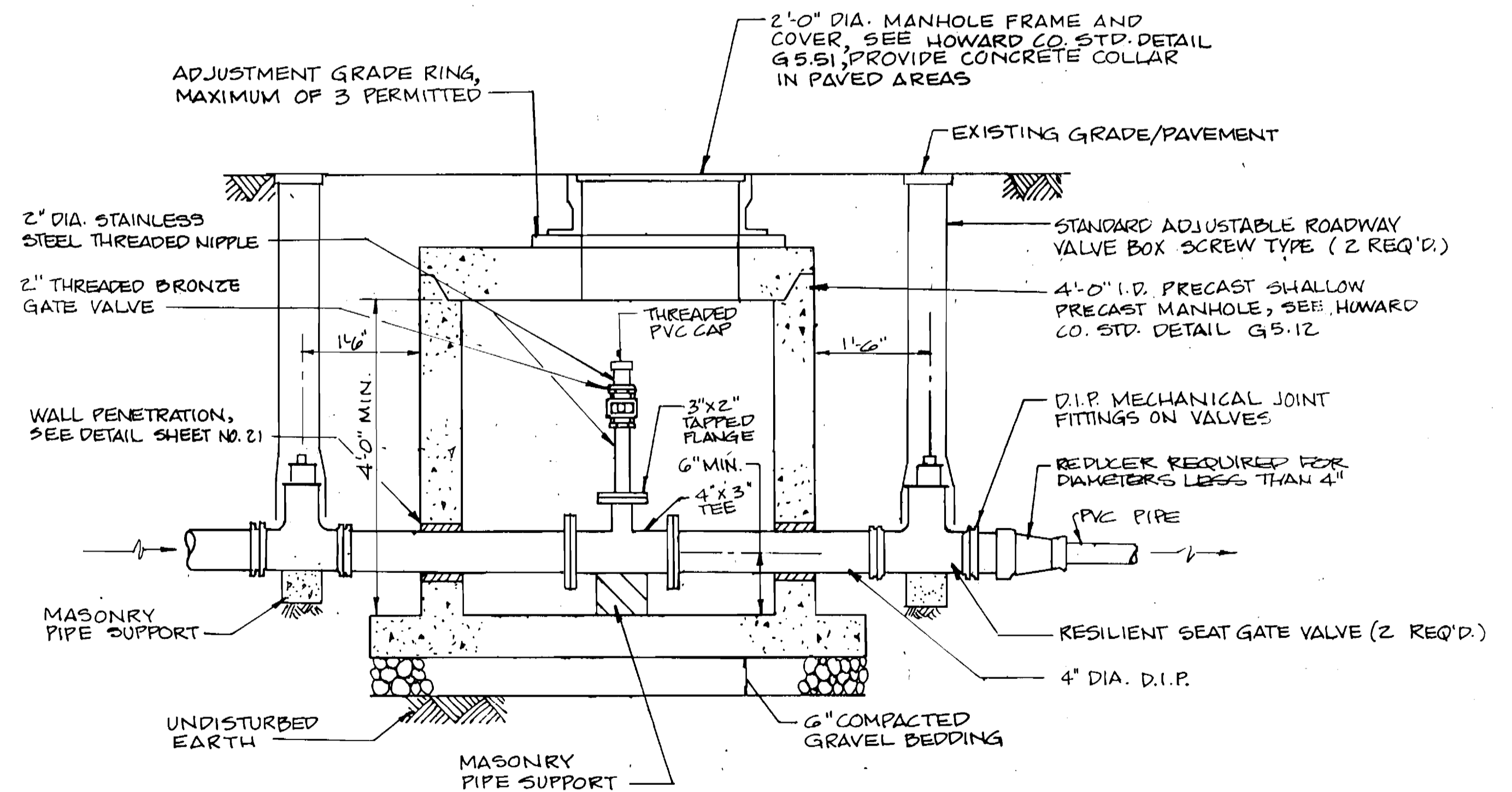


SECTION A-A

TERMINAL PRESSURE CLEANOUT

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

ALL PIPING AND FITTINGS IN THE MANHOLE, EXCLUDING THE VALVE NIPPLE SHALL BE 4 INCH DIA. DUCTILE IRON.



SECTION B-B

INLINE PRESSURE CLEANOUT

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

ALL PIPING, FITTINGS, AND VALVES IN THE MANHOLE, EXCLUDING THE CLEANOUT RISER SHALL BE 4 INCH DIA. DUCTILE IRON.

AS-BUILT 11/19/96

3383 ws/12

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Robert W. Bennett 9/29/94
DIRECTOR OF PUBLIC WORKS DATE

Robert W. Bennett 9/29/94
CHIEF, BUREAU OF ENGINEERING DATE

Robert W. Bennett 9-19-94
CHIEF, BUREAU OF UTILITIES DATE

Robert W. Bennett 9/19/94
CHIEF, LAND DEVELOPMENT DIVISION DATE

DAMES & MOORE

170 JENNIFER ROAD, SUITE 230
ANNAPOLIS, MARYLAND 21401
(410) 224-5640



DES: VRC					
DRN: BSKW					
CHK: AJP					
DATE: 12-93	BY	NO.	REVISION	DATE	
			CREATE PHASED PLANS	9-74	
			FINAL SUBMITTAL	8-94	

**TERMINAL PRESSURE CLEANOUT/
INLINE PRESSURE CLEANOUT**

600' SCALE MAP NO. 40-41 BLOCK NO. 12

ASHLEIGH KNOLLS
WASTEWATER COLLECTION, TREATMENT
AND DISPOSAL SYSTEM

CONTRACT NO. 50-3383-D

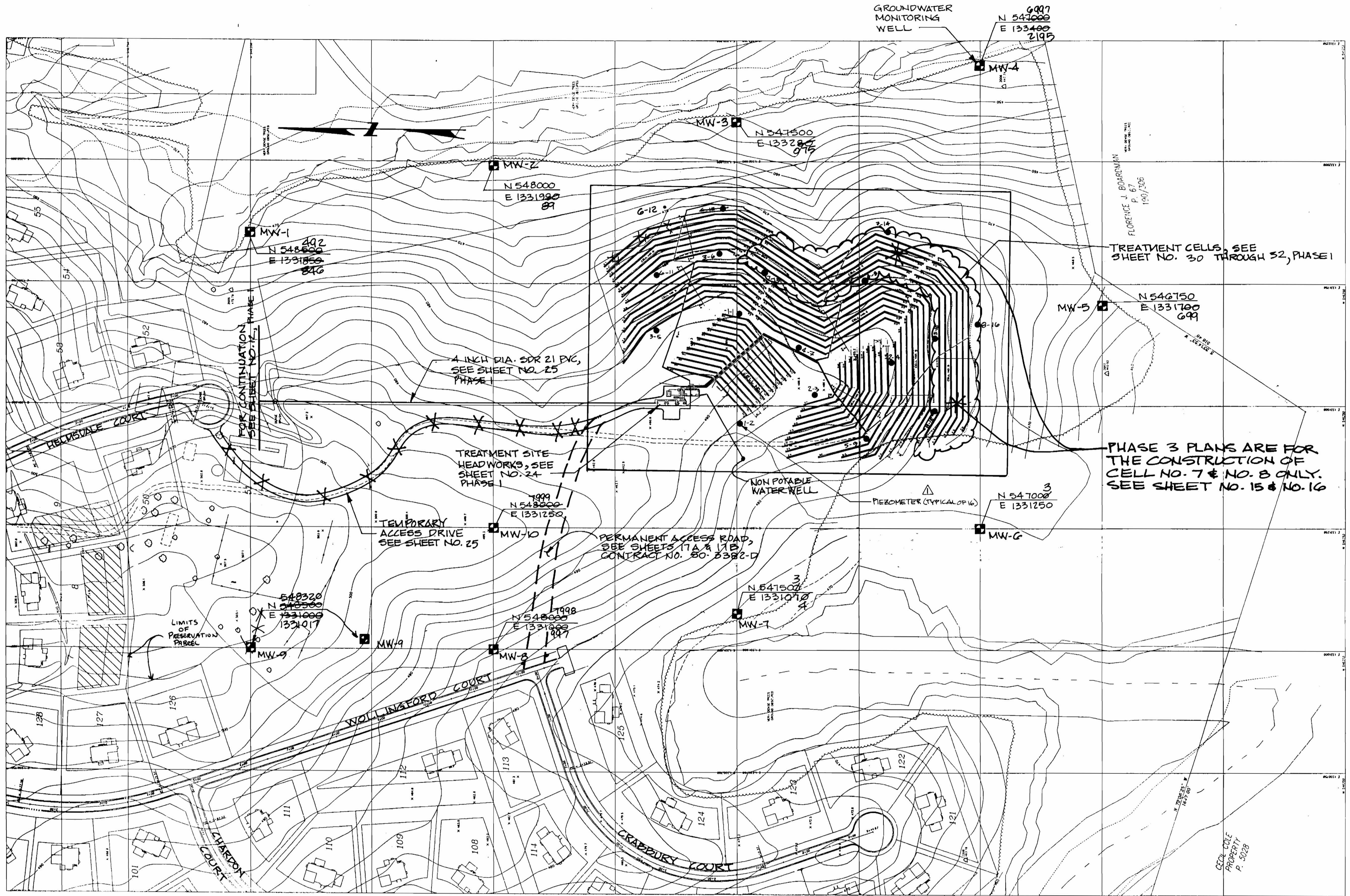
ELECTION DISTRICT NO. 5

HOWARD COUNTY, MARYLAND

SCALE
AS
SHOWN

SHEET
12 OF 22

AS BUILT



TREATMENT CELLS, SEE SHEET NO. 30 THROUGH 52, PHASE I

PHASE 3 PLANS ARE FOR THE CONSTRUCTION OF CELL NO. 7 & NO. 8 ONLY. SEE SHEET NO. 15 & NO. 16

TREATMENT FACILITY KEY SHEET

SCALE: 1"=100'

AS BUILT 11/19/96

3383 ws/14

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Robert M. Damann 9/19/94
DIRECTOR OF PUBLIC WORKS DATE

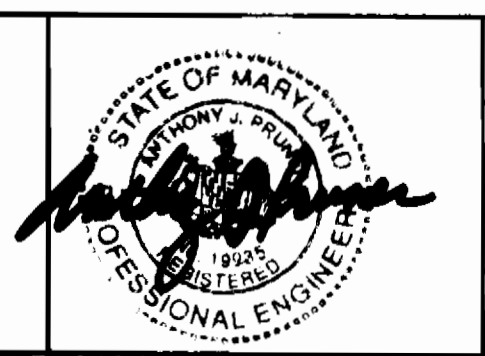
Robert M. Damann 9/19/94
CHIEF, BUREAU OF UTILITIES DATE

Robert M. Damann 9/19/94
CHIEF, BUREAU OF ENGINEERING DATE

Robert M. Damann 9/19/94
CHIEF, LAND DEVELOPMENT DIVISION DATE

DAMES & MOORE

170 JENNIFER ROAD, SUITE 230
ANNAPOLIS, MARYLAND 21401
(410) 224-5640



DES: VRC			
DRN: BGM			
CHK: AJP			
DATE: 12-93			
BY	NO.	REVISION	DATE
BGM	1	ADD PIEZOMETERS	11-94
		CREATE PHASED PLANS	9-94
		FINAL SUBMITTAL	8-94

TREATMENT FACILITY KEY SHEET

600' SCALE MAP NO. 42-41 BLOCK NO. 12

ASHLEIGH KNOLLS
WASTEWATER COLLECTION, TREATMENT AND DISPOSAL SYSTEM

CONTRACT NO. 50-3383-D

ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 14 OF 25

AS BUILT

3383 ws/15 Ashleigh Knolls

3383

SCALE: 1" = 20'



TP-1

FOR PIPING DETAIL, SEE MANIFOLD PIPING DETAIL NO. 3, SHEET NO. 43

TO TREATMENT CELL NO. 8 (100 L.F. 3" Ø) (210 L.F. 3" Ø)

TO TREATMENT CELL NO. 7 (110 L.F. 3" Ø) (352 L.F. 4" Ø)

TO TREATMENT CELL NO. 4 (125 L.F. 3" Ø) (210 L.F. 4" Ø)

MONITORING PORT, SEE DETAIL SHEET NO. 22

REMOVE CAP FROM EXISTING 4" PVC MANIFOLD, CONNECT NEW 4" PVC MANIFOLD, SEE DETAIL SHEET 22 FOR EXISTING ARRANGEMENT.

FOR PIPING DETAIL, SEE MANIFOLD PIPING DETAIL NO. 4, SHEET NO. 20

TRENCH MARKER, SEE DETAIL SHEET NO. 22

LEGEND

- TRENCH MARKER
- ▲ MONITORING PORT
- TP-1 TEST PIT LOCATION
- ↔ SECTION LINE


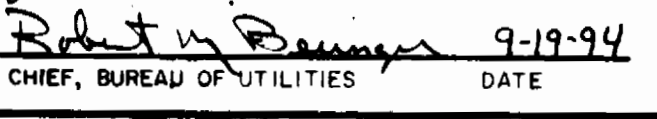
NOTE: DRILL 1/4 INCH DIAMETER HOLES SPACED 8 FT. CENTER TO CENTER STARTING FROM A DISTANCE OF 4 FT. FROM INFILTRATOR END CAP CLOSEST TO MANIFOLD PIPING.


NOTE: THIS PLAN IS FOR CONSTRUCTION OF CELL NO. 7 ONLY, ALL PIPING & COMPONENTS IN HATCHED AREA ARE EXISTING

FOR TREATMENT CELL NO. 8, SEE SHEET NO. 16

AS BUILT 11/19/96

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

 9/29/94
 DIRECTOR OF PUBLIC WORKS DATE
 9-19-94
 CHIEF, BUREAU OF UTILITIES DATE

 DAMES & MOORE
 170 JENNIFER ROAD, SUITE 230 ANNAPOLIS, MARYLAND 21401 (410) 224-8640



DES: VRC			
DRN: LCH			
CHK: AJP	CREATE PHASED PLANS	9-94	
	FINAL SUBMITTAL	8-94	
DATE: 12-93	BY NO.	REVISION	DATE

TREATMENT SITE PLAN SCALE: 1" = 20'

800' SCALE MAP NO. 42-41 BLOCK NO. 12

ASHLEIGH KNOLLS
 WASTEWATER COLLECTION, TREATMENT AND DISPOSAL SYSTEM
 CONTRACT NO. 50-3383-D
 ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN SHEET 12 OF 23

AS BUILT

SCALE: 1" = 20'



N 547250

N 547000

NOTE: THIS PLAN IS FOR THE CONSTRUCTION OF CELL NO. 8 ONLY. ALL PIPING & COMPONENTS IN HATCHED AREA ARE EXISTING

FOR TREATMENT CELL NO. 7 SEE SHEET NO. 15

TRENCH MARKER, SEE DETAIL SHEET NO. 22

TREE LINE CLEARED

CELL NO. 5

CELL NO. 8

MONITORING PORT, SEE DETAIL SHEET NO. 22

TRENCH MARKER, SEE DETAIL SHEET NO. 22

- LEGEND**
- TRENCH MARKER
 - ▲ MONITORING PORT
 - TP-1 ● TEST PIT LOCATION
 - ↑ SECTION LINE

NOTE: DRILL 1/4 INCH DIAMETER HOLES SPACED 8 FT. CENTER TO CENTER STARTING FROM A DISTANCE OF 4 FT. FROM INFILTRATOR END CAP CLOSEST TO MANIFOLD PIPING

3383 ws/16

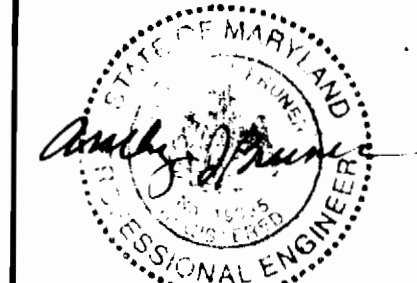
AS-BUILT 11/19/96

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works
Robert W. Rainey
9-19-94

Chief, Bureau of Engineering
Chief, Land Development Division

DAMES & MOORE
170 JENNIFER ROAD, SUITE 230
ANNAPOLIS, MARYLAND 21401
(410) 224-8640



DES: VRC			
DRN: LCH			
CHK: AJP			
DATE: 12-93			
BY NO.			
REVISION			
DATE			

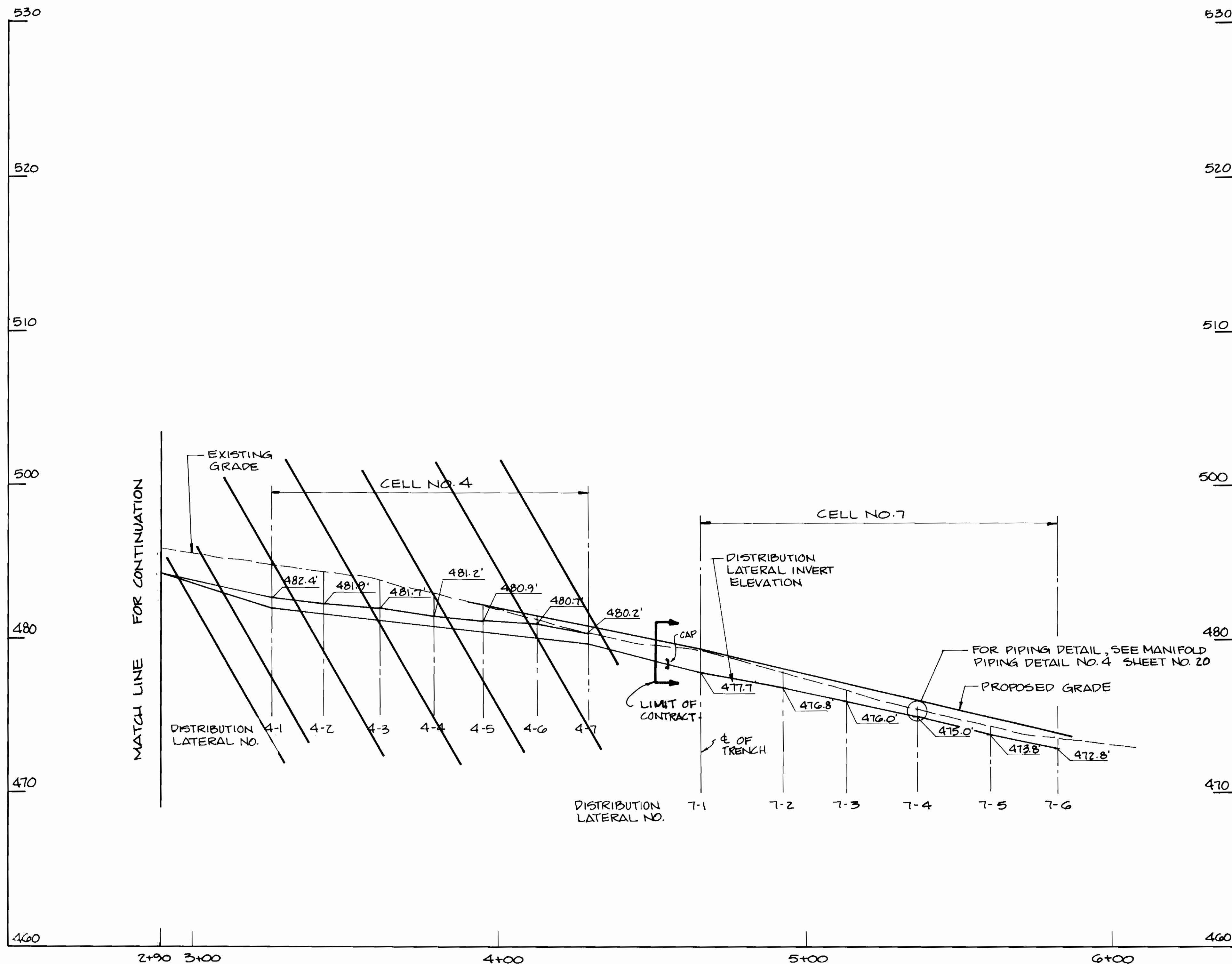
TREATMENT SITE PLAN
SCALE: 1" = 20'

800' SCALE MAP NO. 42-41 BLOCK NO. 12

ASHLEIGH KNOLLS
WASTEWATER COLLECTION, TREATMENT AND DISPOSAL SYSTEM
CONTRACT NO. 50-3383-D
ELECTION DISTRICT NO. 5
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 16 OF 25

AS-BUILT



TREATMENT CELL NO. 7
PROFILE

SCALE: HORIZ. 1" = 20'
VERT. 1" = 4'

AS-BUILT 11/19/96

3383 ws/17

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

SECTION OF PUBLIC WORKS DATE: 2/29/94
CHIEF, BUREAU OF UTILITIES

CHIEF, BUREAU OF ENGINEERING DATE: 2/29/94
CHIEF, LAND DEVELOPMENT DIVISION

DAMES & MOORE

170 JENNIFER ROAD, SUITE 230
ANNAPOLIS, MARYLAND 21401
(410) 224-5640



DES: VRL			
DRN: B64			
CHK: AJP	CREATE PHASED PLANS	9-94	
DATE: 12-93	FINAL SUBMITTAL	8-94	
BY NO.	REVISION	DATE	800' SCALE MAP NO. 40-41 BLOCK NO. 12

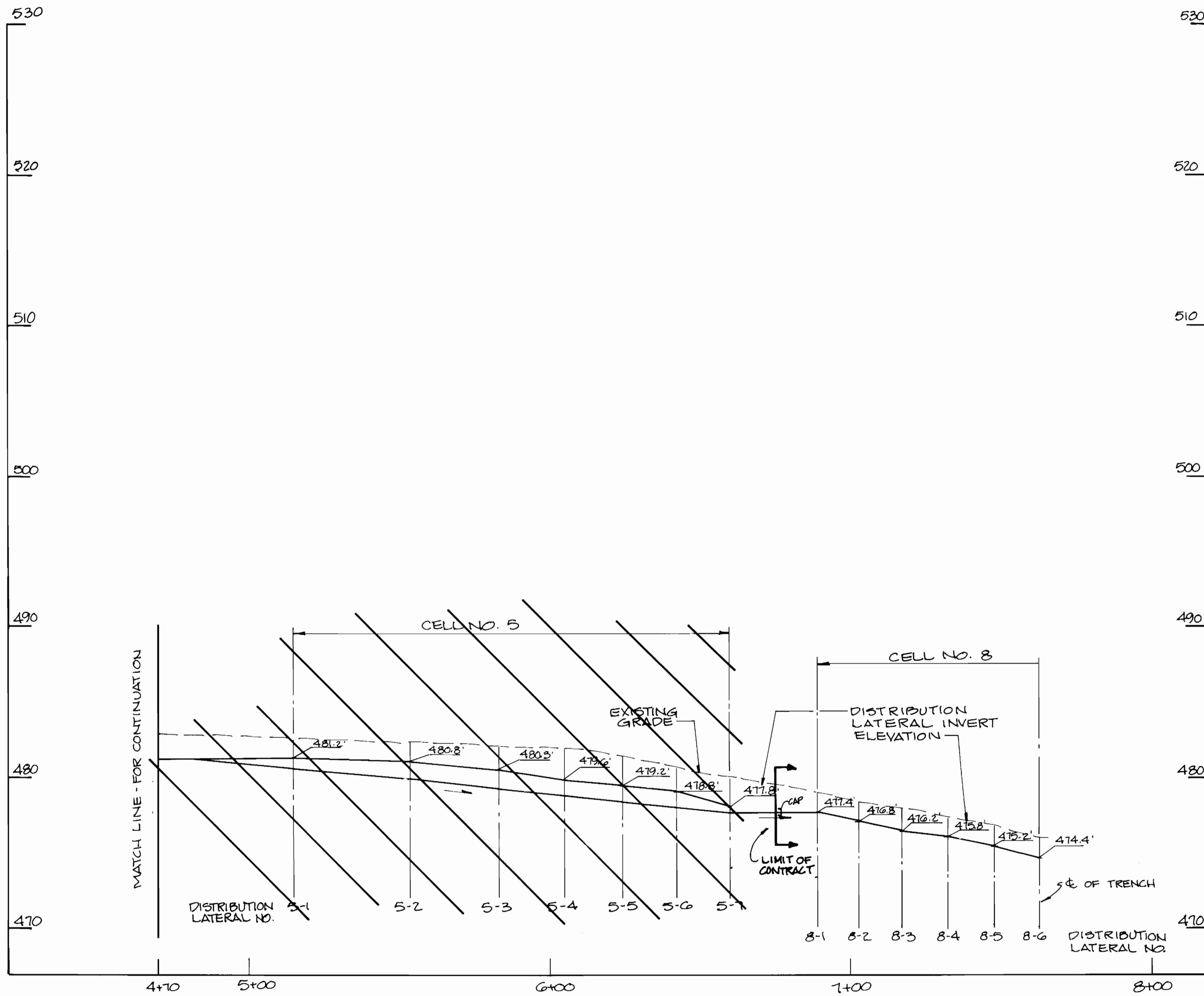
MANIFOLD PROFILE
CELL NO. 7

ASHLEIGH KNOLLS
WASTEWATER COLLECTION, TREATMENT
AND DISPOSAL SYSTEM
CONTRACT NO. 50-3383-D

ELECTION DISTRICT NO. 5
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 11 OF 25

AS-BUILT



TREATMENT CELL NO. 8
PROFILE
SCALE: HORIZ. 1"=20'
VERT. 1"=4'

3383 ws/18

AS-BUILT 11/19/96

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Director of Public Works: Robert W. Brimmer, 9/19/94
Chief, Bureau of Engineering: [Signature], 9/29/94
Chief, Land Development Division: [Signature], 9/29/94

DAMES & MOORE
170 JENNIFER ROAD, SUITE 230
ANNAPOLIS, MARYLAND 21401
(410) 224-5640



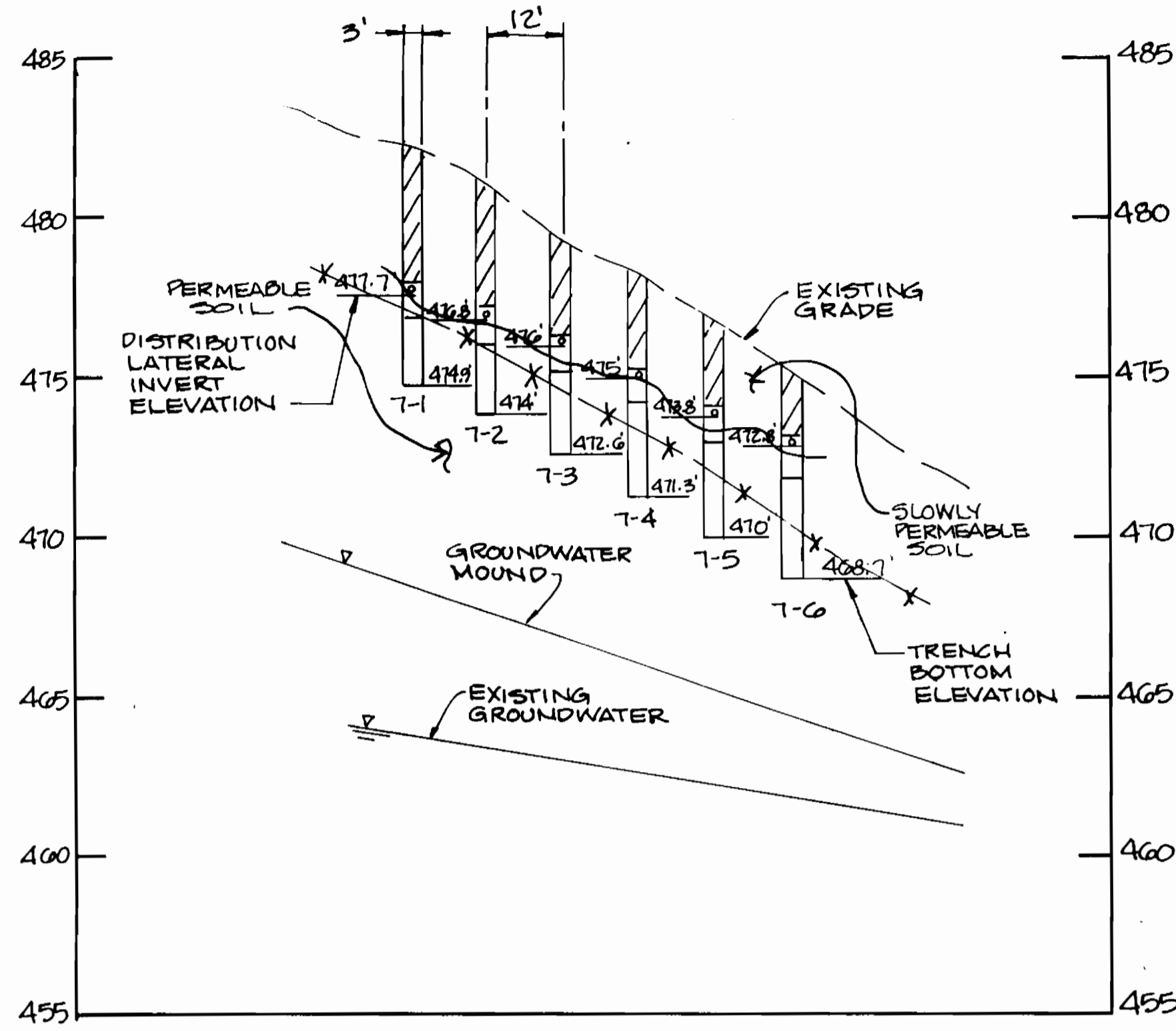
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DRN: BJK			
CHK: RJP			
DATE: 12-93			
BY NO.			
REVISION			
		CREATE PHASED PLANS	9-94
		FINAL SUBMITTAL	8-94

MANIFOLD PROFILE
CELL NO. 8
600' SCALE MAP NO. 40-41 BLOCK NO. 12

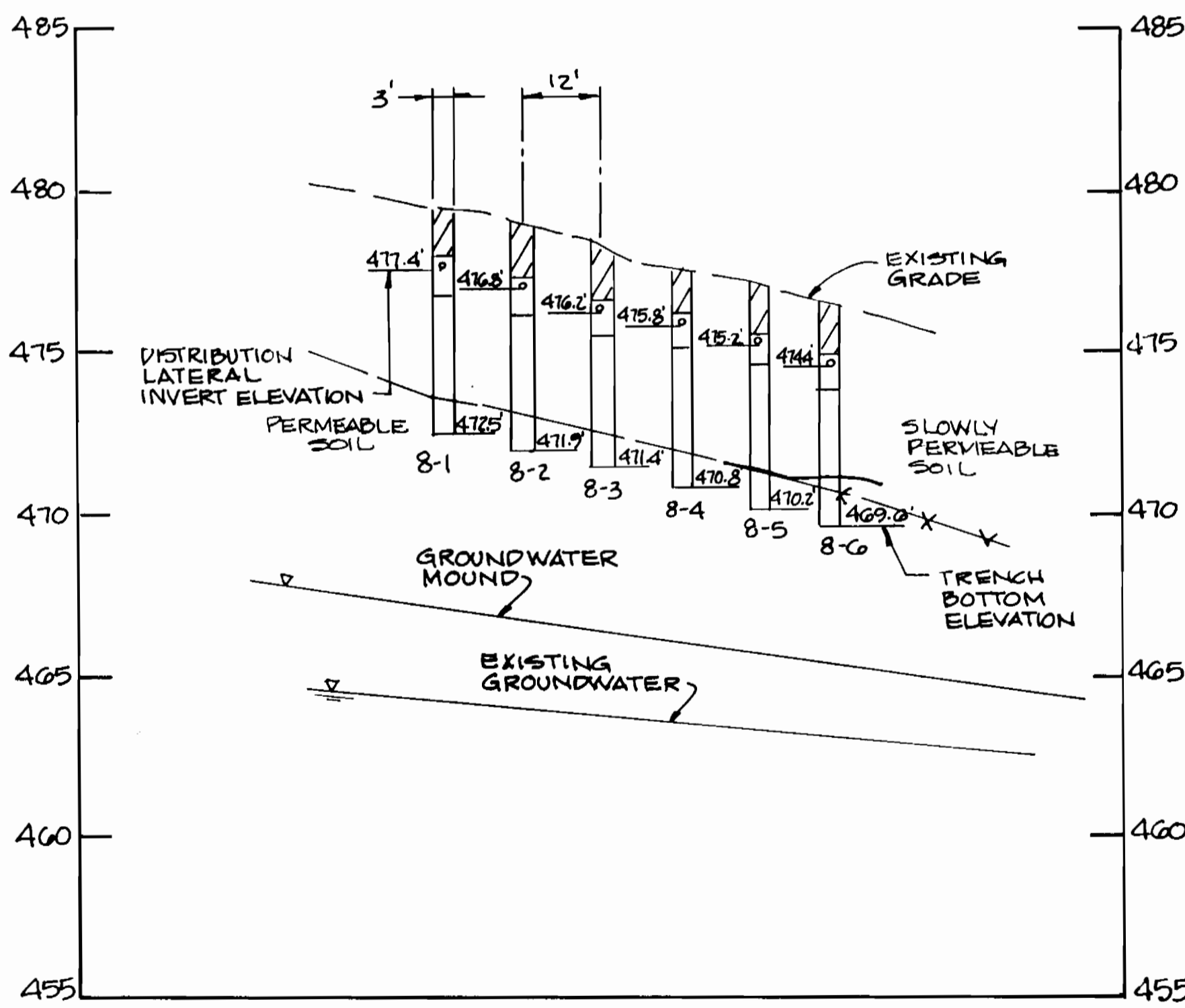
ASHLEIGH KNOLLS
WASTEWATER COLLECTION, TREATMENT
AND DISPOSAL SYSTEM
CONTRACT NO. 50-3383-D
ELECTION DISTRICT NO. 5
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 18 OF 25

AS-BUILT

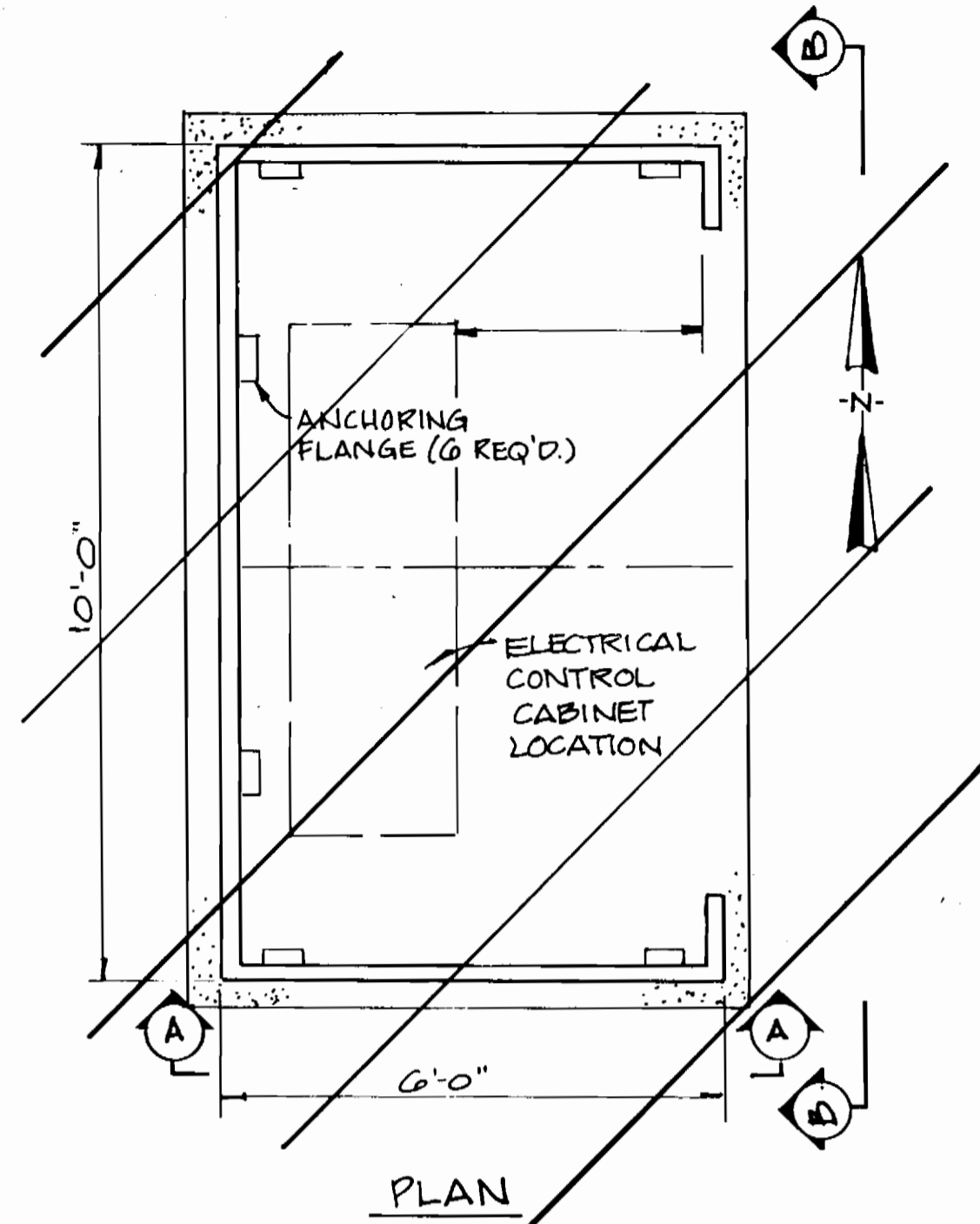


SECTION 7-7

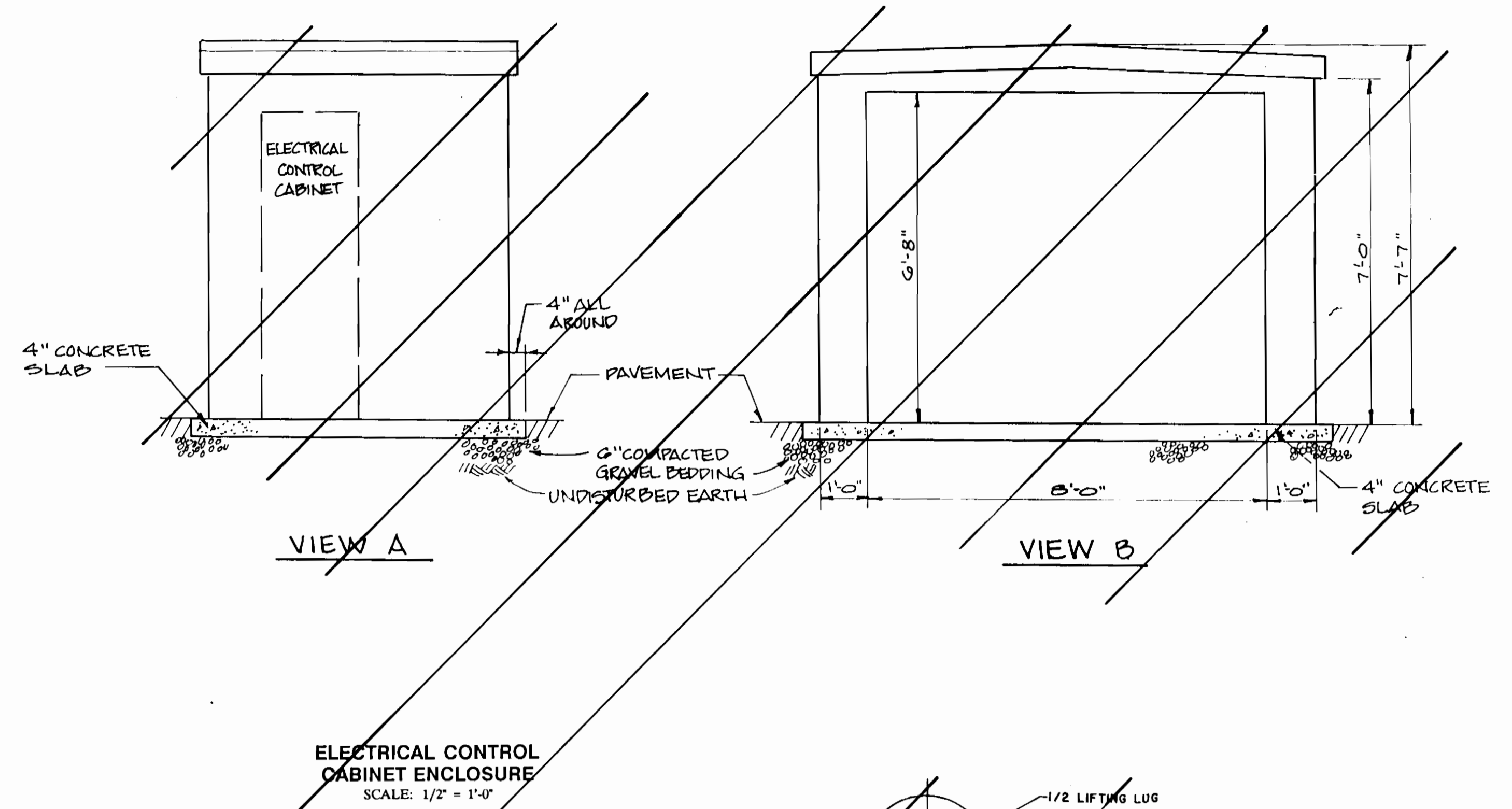


SECTION 8-8

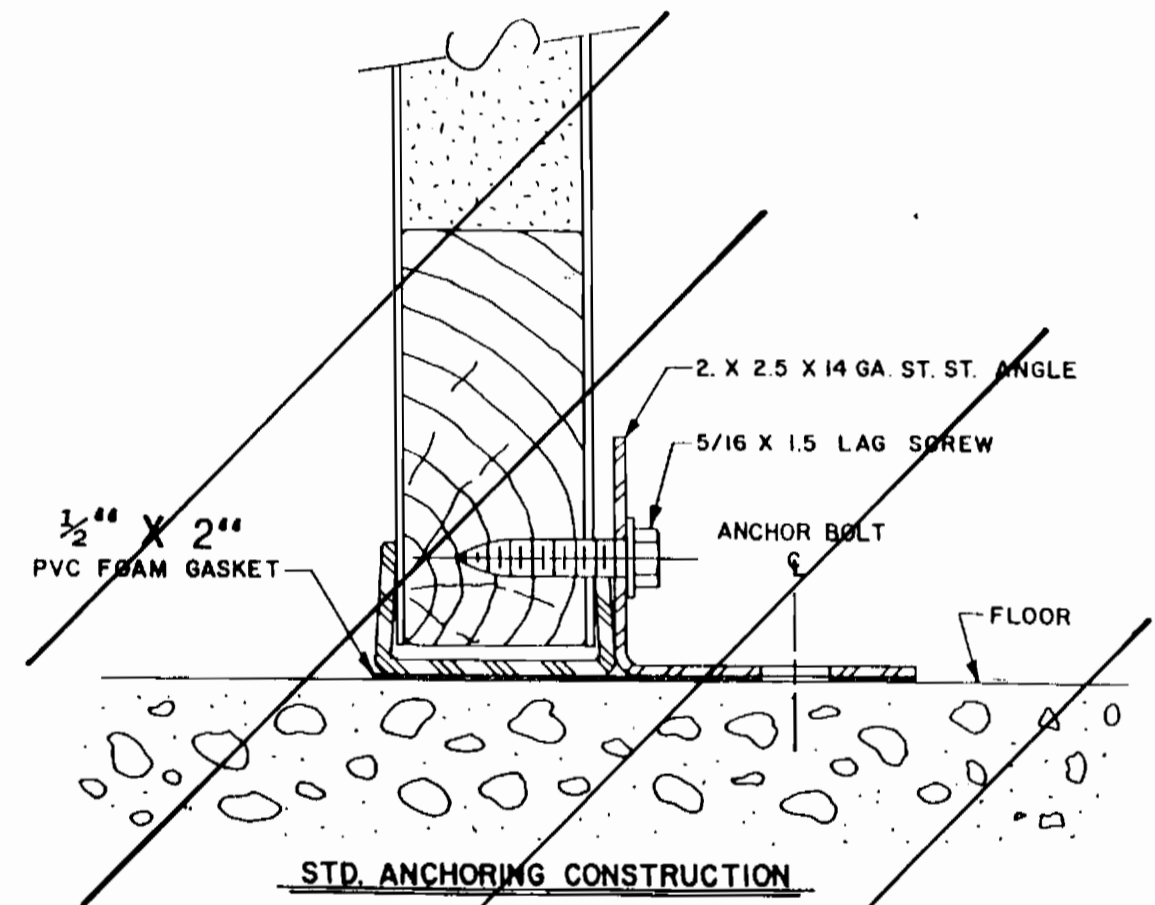
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VERT. 1"=4'



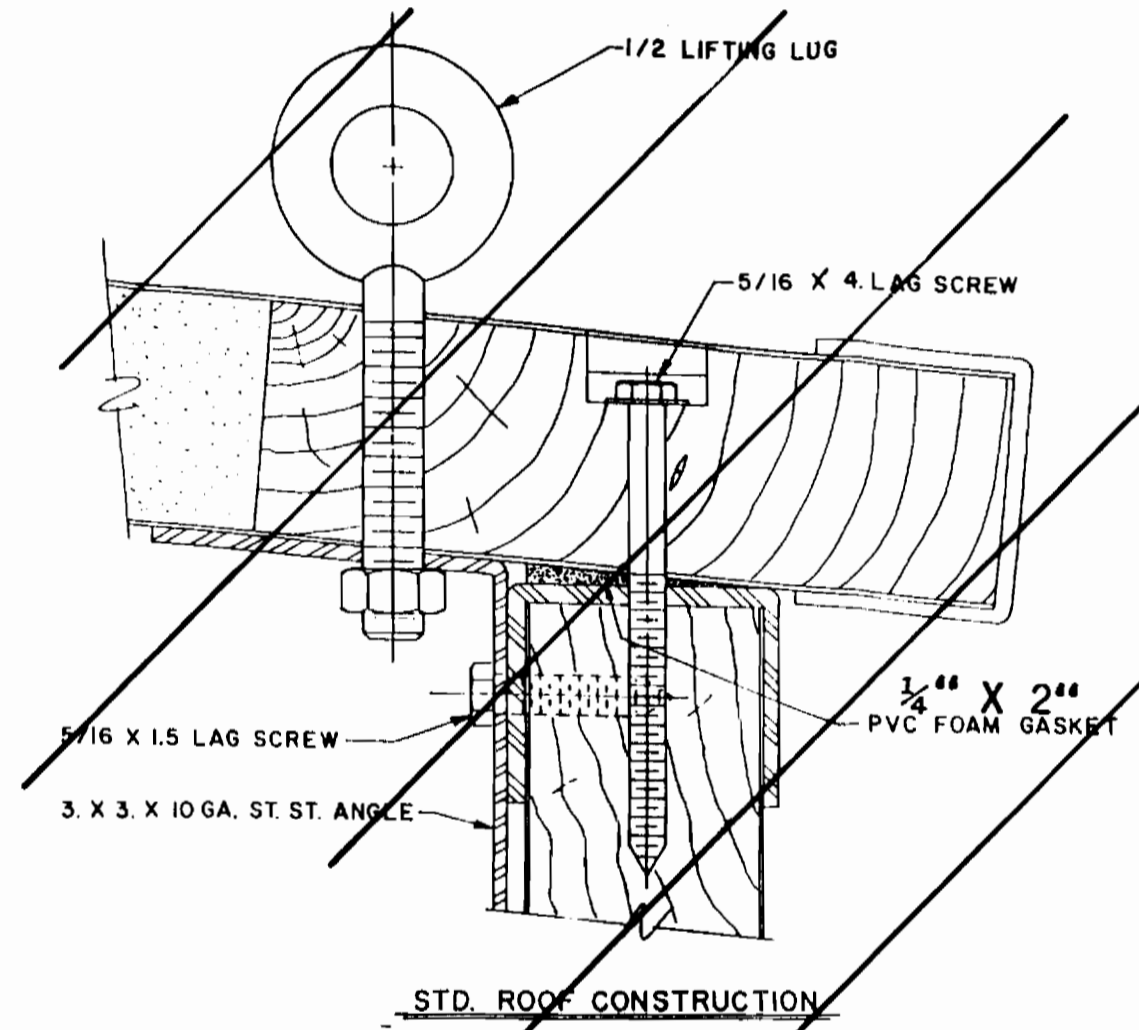
PLAN



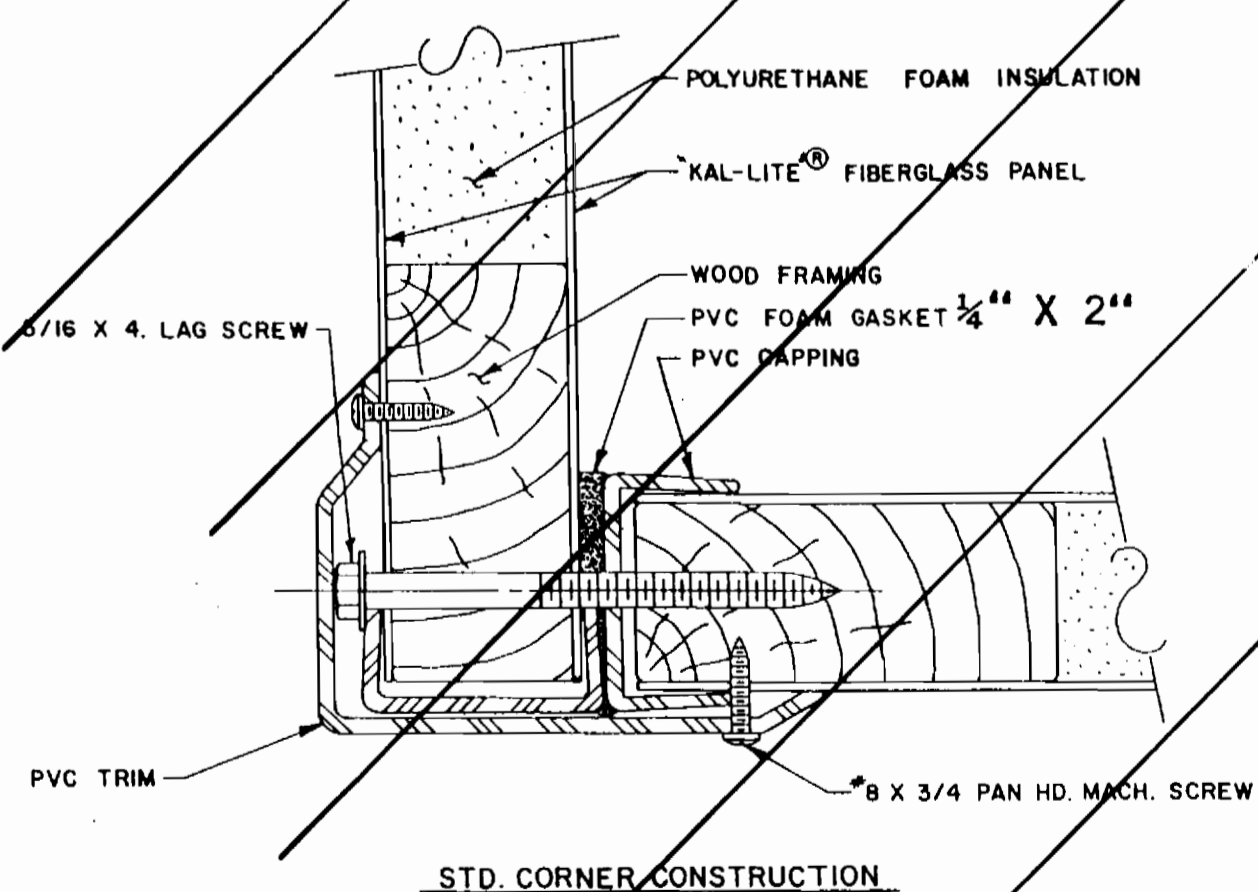
ELECTRICAL CONTROL CABINET ENCLOSURE
SCALE: 1/2" = 1'-0"



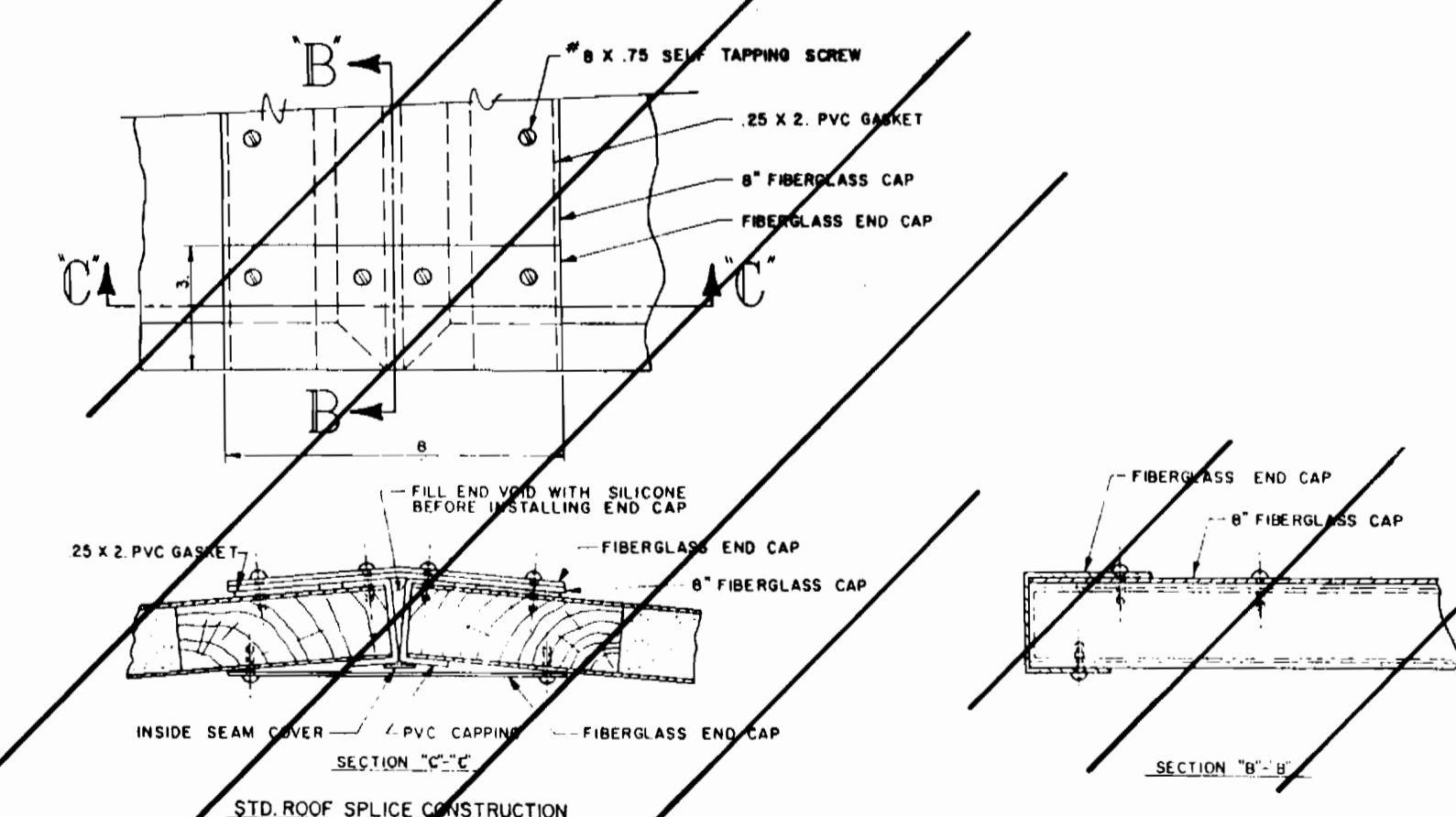
STD. ANCHORING CONSTRUCTION



STD. ROOF CONSTRUCTION



STD. CORNER CONSTRUCTION



STD. ROOF SPLICE CONSTRUCTION

ELECTRICAL CONTROL CABINET ENCLOSURE DETAILS
NOT TO SCALE

AS-BUILT 11/19/96

3383 WS/19

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND		DAMES & MOORE	
Director of Public Works 9/19/94	Chief, Bureau of Engineering 9/29/94	170 JENNIFER ROAD, SUITE 230 ANNAPOLIS, MARYLAND 21401 (410) 224-5640	OF MARYLAND Professional Engineer
Chief, Bureau of Utilities 9/19/94	Chief, Land Development Division 9/29/94		

DES: VRC			
DRN: BGW			
CHK: AJP	CREATE PHASED PLANS	9-94	
DATE: 12-93	FINAL SUBMITTAL	8-94	
BY NO.	REVISION	DATE	800' SCALE MAP NO. 50-31 BLOCK NO. 17

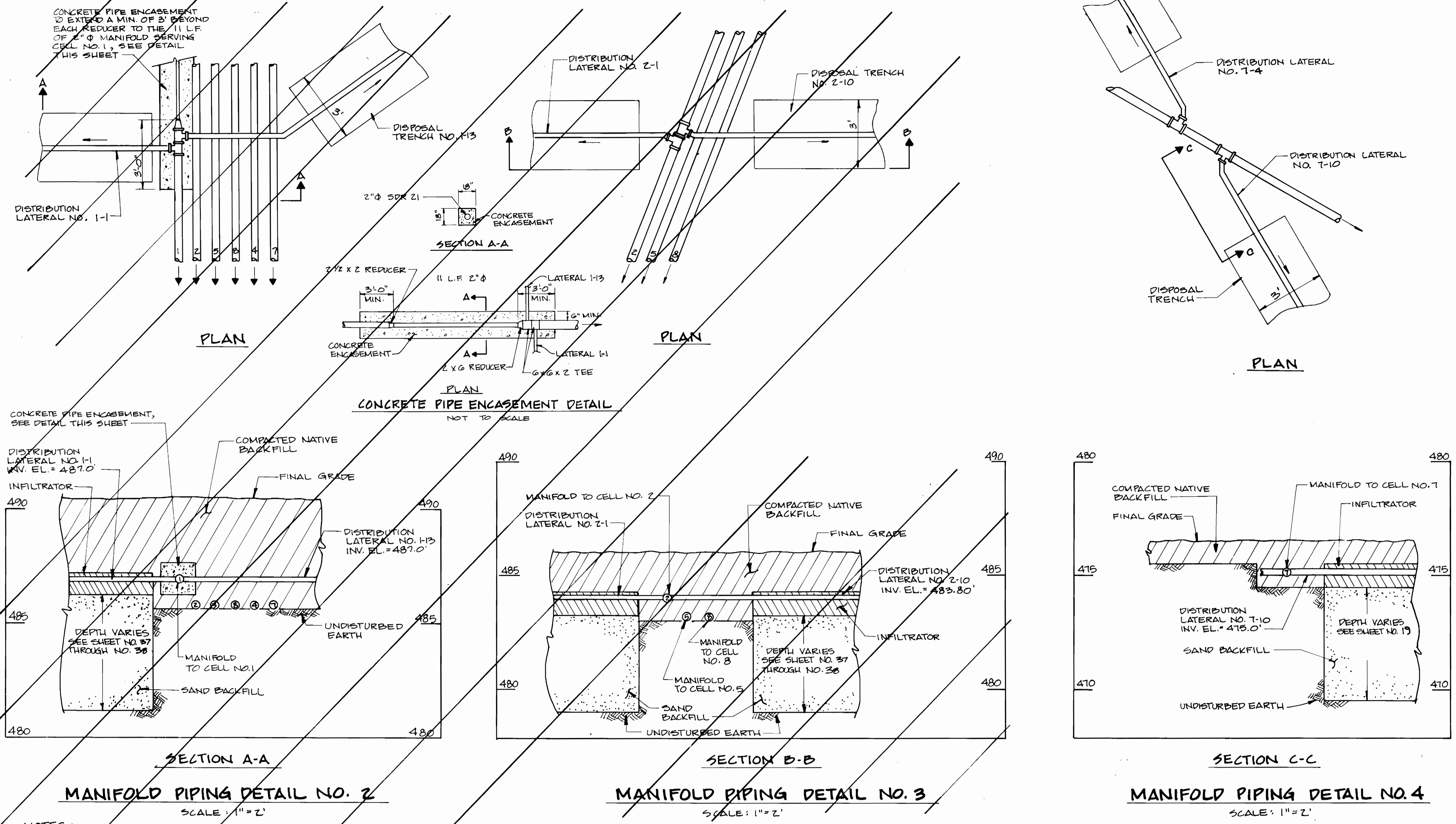
TREATMENT CELL SECTIONS
AND
ELECTRICAL CONTROL
CABINET ENCLOSURE

ASHLEIGH KNOLLS
WASTEWATER COLLECTION, TREATMENT
AND DISPOSAL SYSTEM
CONTRACT NO. 50-3383-D
ELECTION DISTRICT NO. 5
HOWARD COUNTY, MARYLAND

SCALE
AS
SHOWN
SHEET
17 OF 22

3383 ws/20 Ashleigh Knolls

AS-BUILT

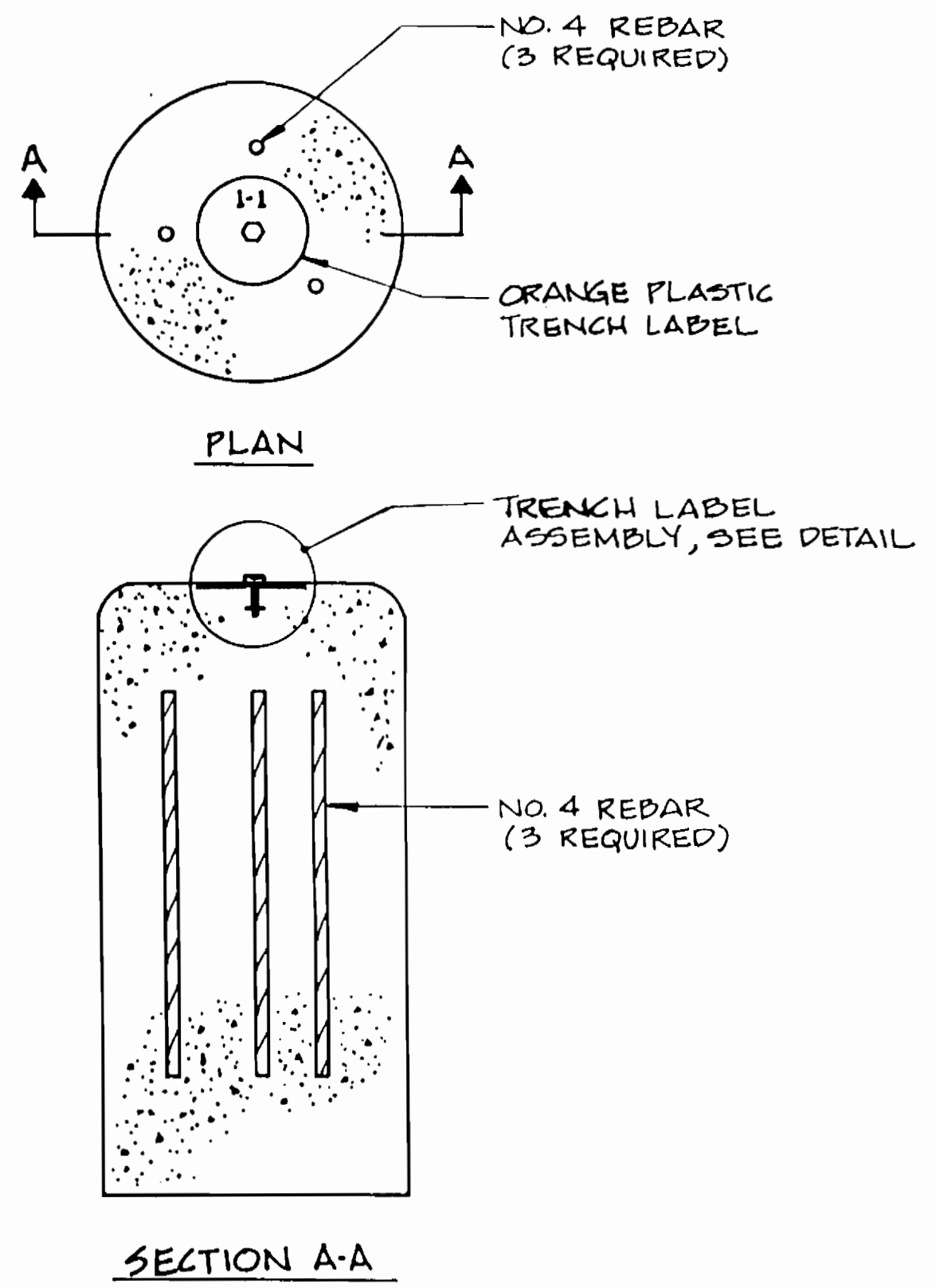


- NOTES:
- FOR PIPE DIAMETERS, SEE SHEET NO. 30, 31 & 32
 - INSTALL PIPE FITTINGS AS NEEDED TO ACHIEVE THE PROPER ALIGNMENT FROM MANIFOLD TO DISTRIBUTION TRENCH.

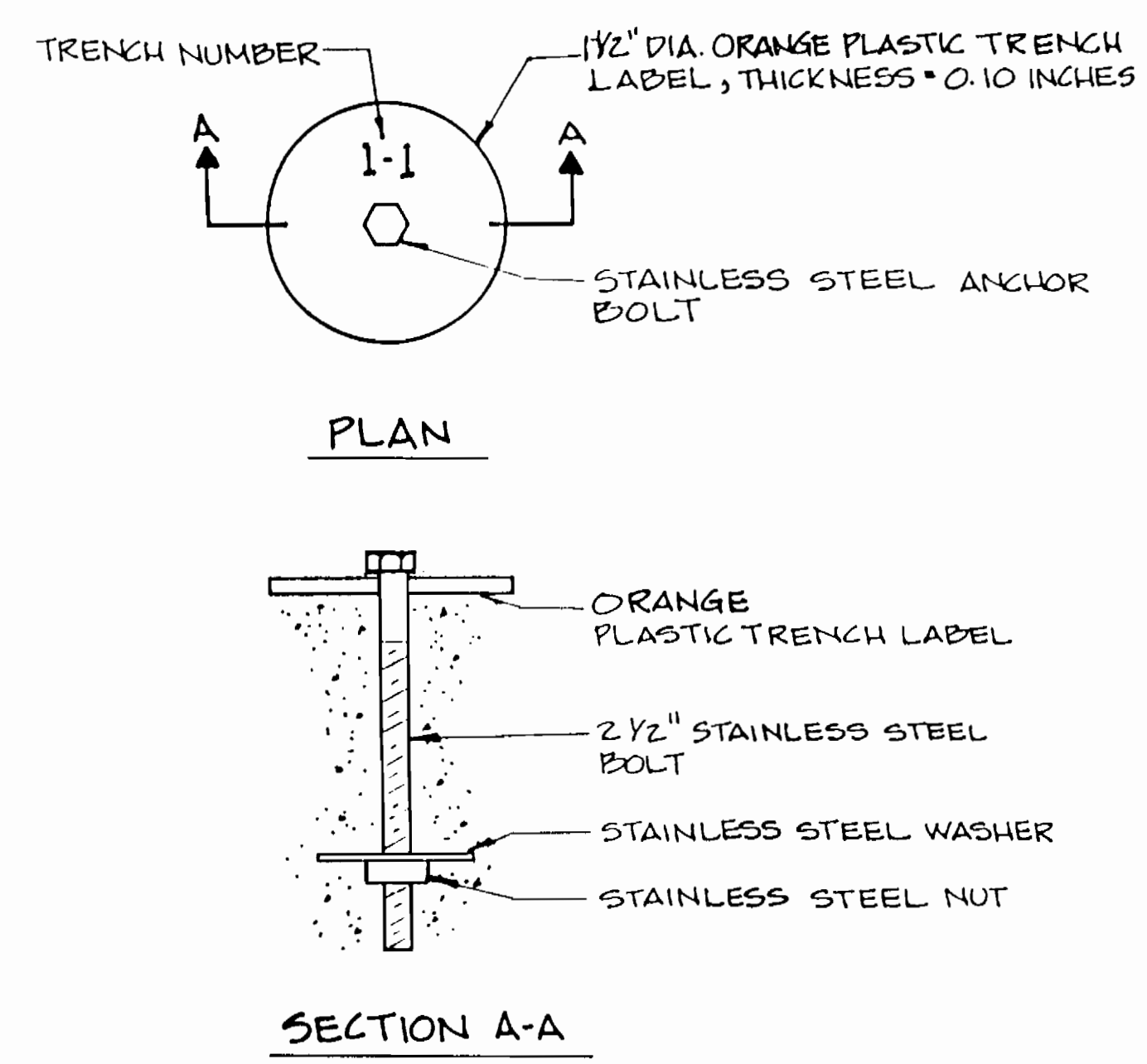
AS-BUILT 11/19/96

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director of Public Works Robert M. Brainerd Chief, Bureau of Utilities	DAMES & MOORE 170 JENNIFER ROAD, SUITE 230 ANNAPOLIS, MARYLAND 21401 (410) 224-5640	DES: VRC DRN: BCK CHK: AJP DATE: 12-93	TREATMENT CELL PIPING DETAILS	ASHLEIGH KNOLLS WASTEWATER COLLECTION, TREATMENT AND DISPOSAL SYSTEM CONTRACT NO. 50-33 ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND	SCALE AS SHOWN SHEET 32 OF 25

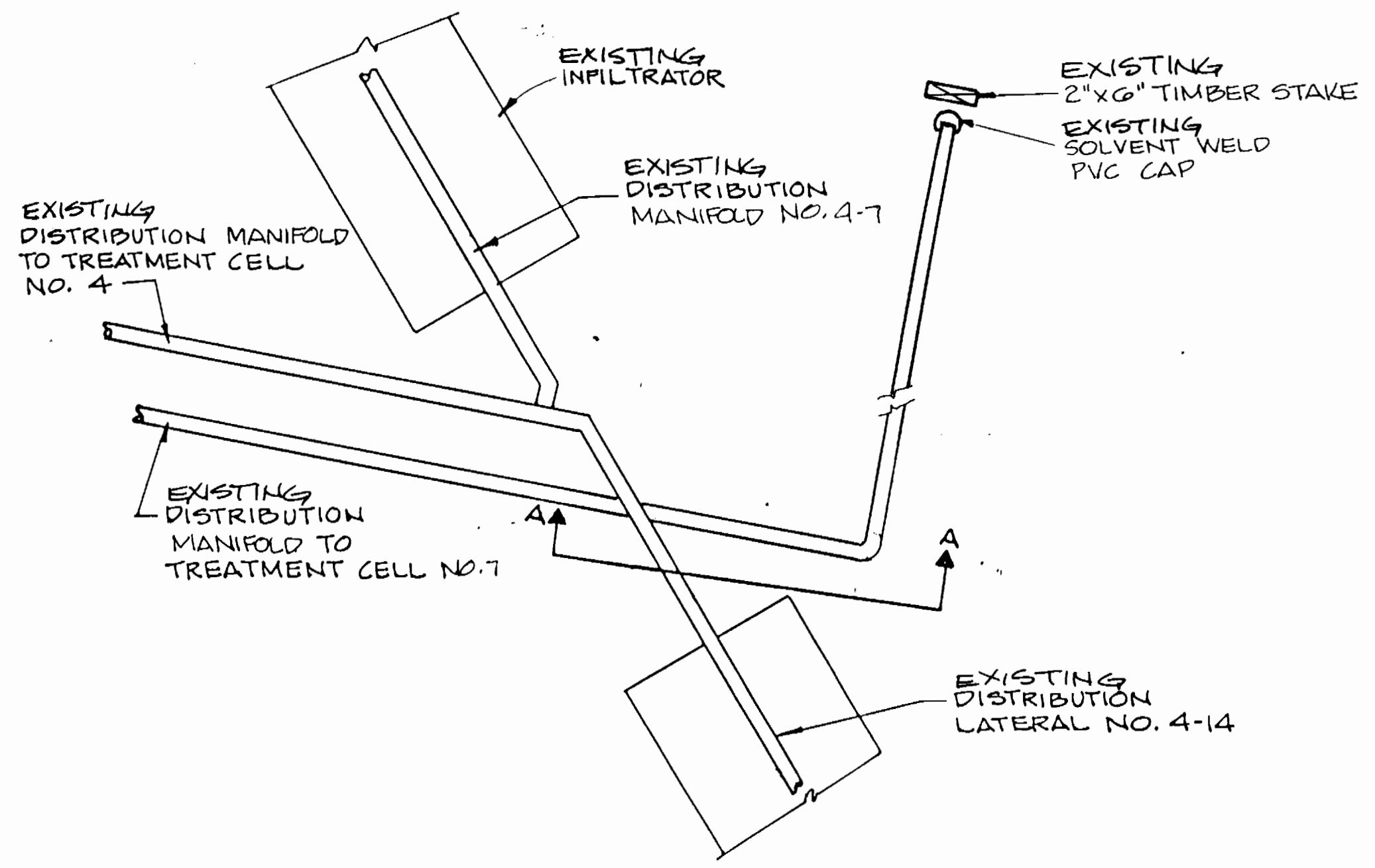
AS-BUILT



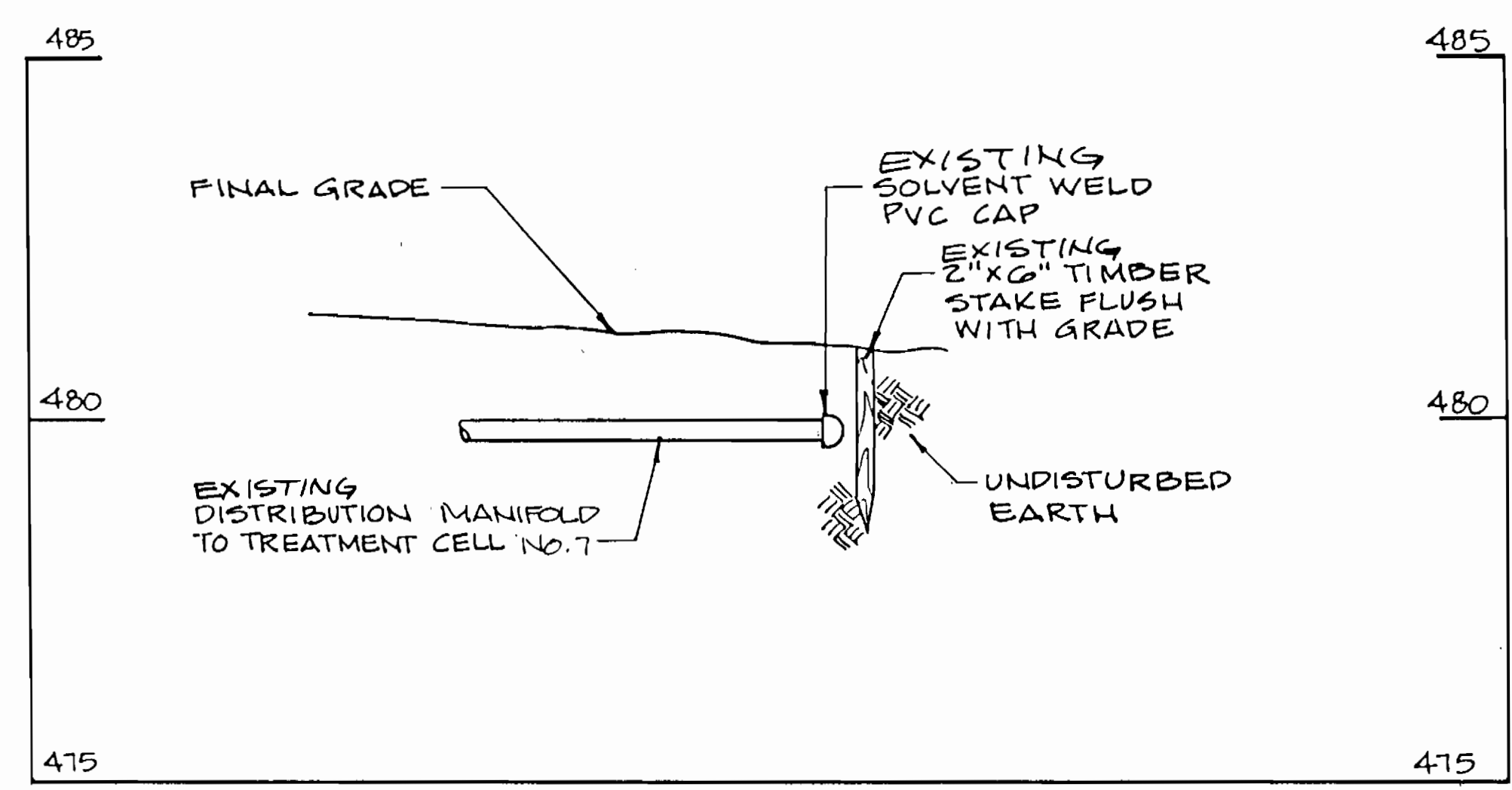
TRENCH MARKER DETAIL
SCALE: 1/2" = 1"



TRENCH LABEL ASSEMBLY
SCALE: 1" = 1"

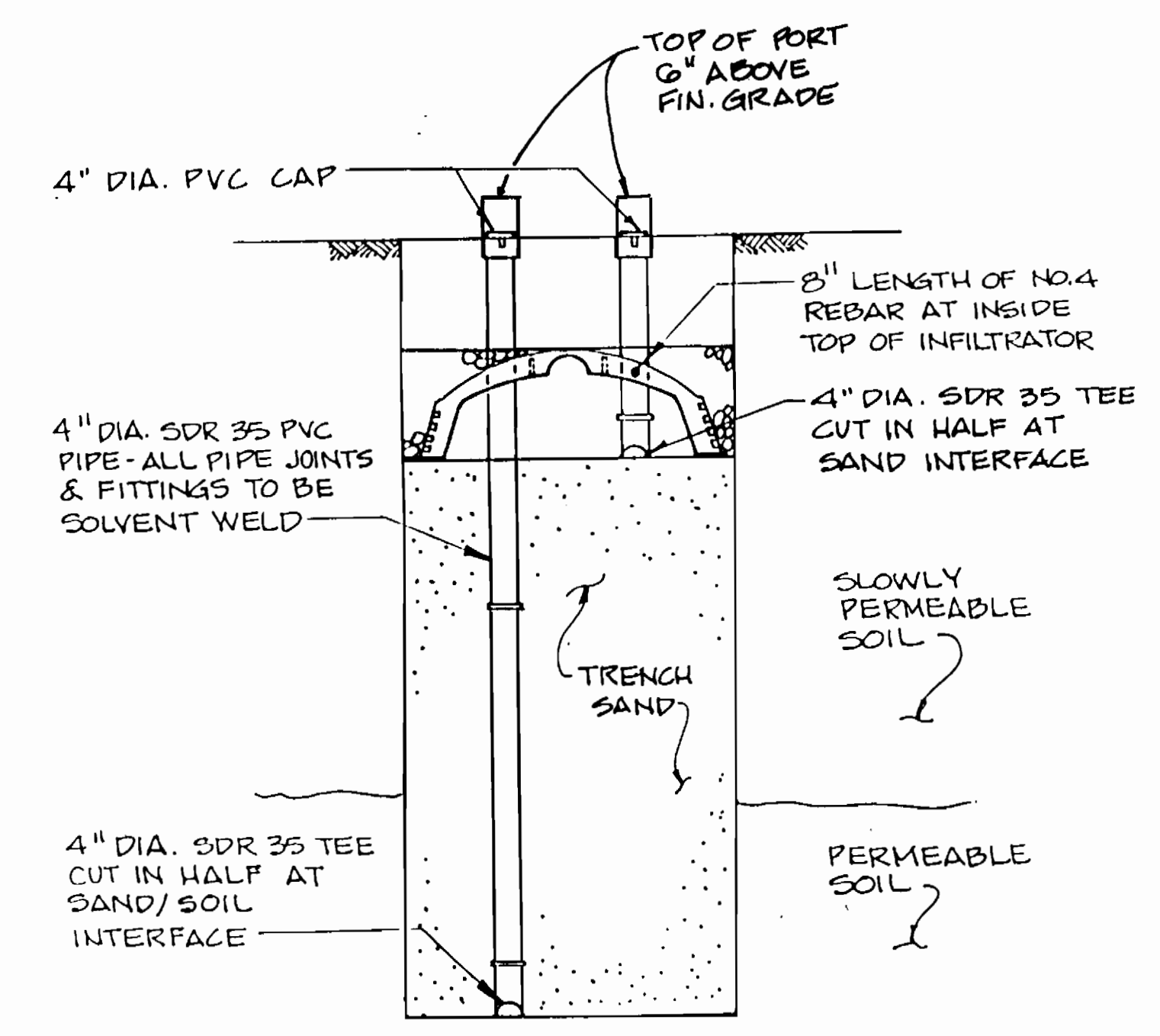


DISTRIBUTION MANIFOLD TERMINATION DETAIL
SCALE: 1" = 2'

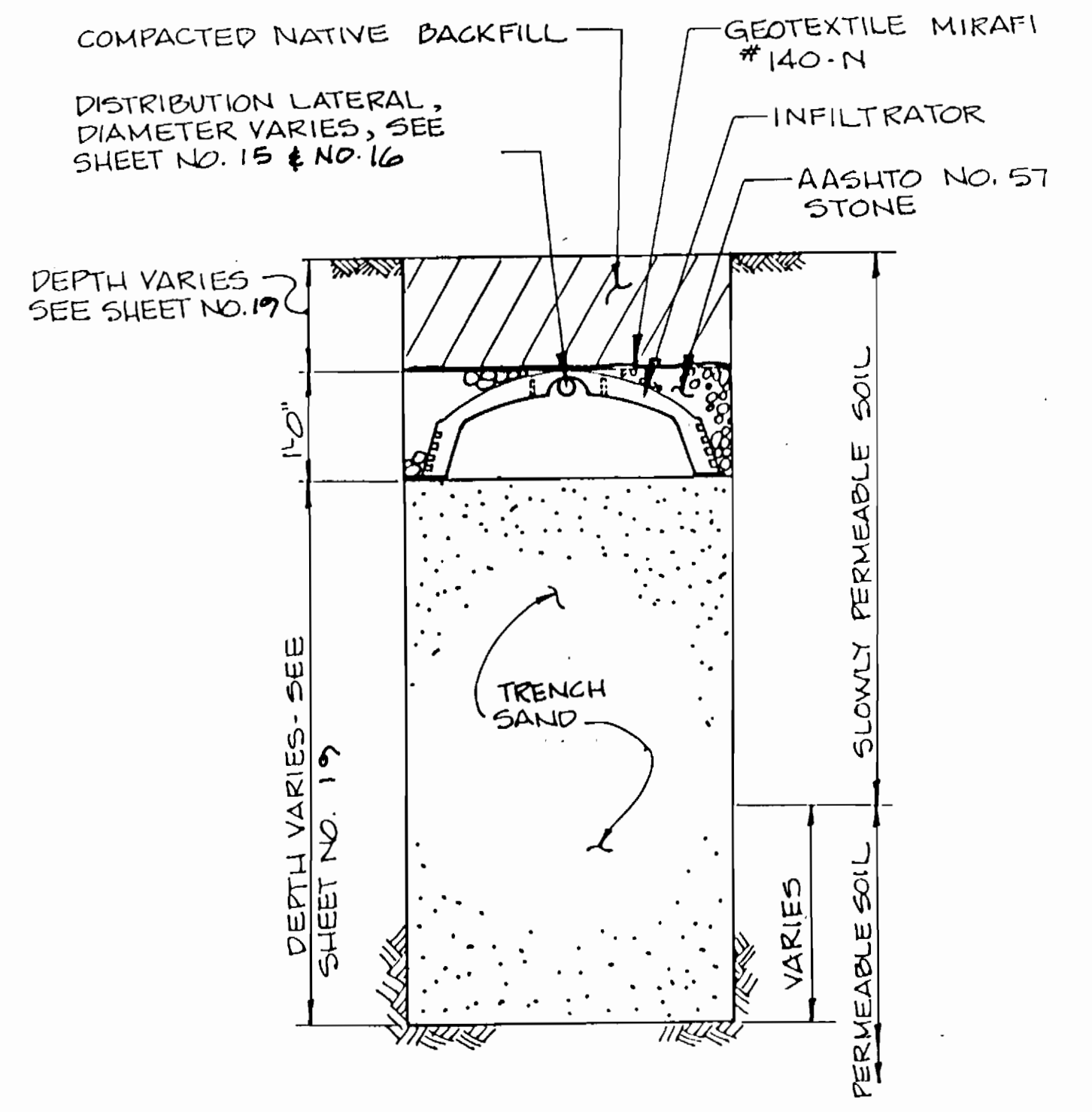


DISTRIBUTION MANIFOLD TERMINATION DETAIL
SCALE: 1" = 2'

NOTE: DISTRIBUTION MANIFOLD TERMINATION DETAIL IS TYPICAL OF CELLS 6, 7, & 8



DISPOSAL TRENCH MONITORING PORT DETAIL
SCALE: 3/4" = 1'-0"



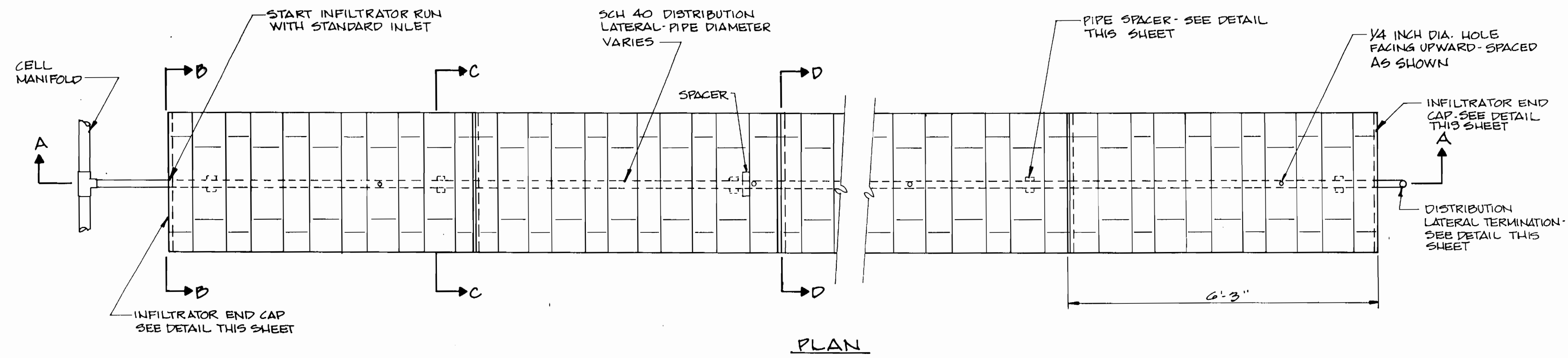
DISPOSAL TRENCH DETAIL
SCALE: 3/4" = 1'-0"

AS-BUILT 11/19/96

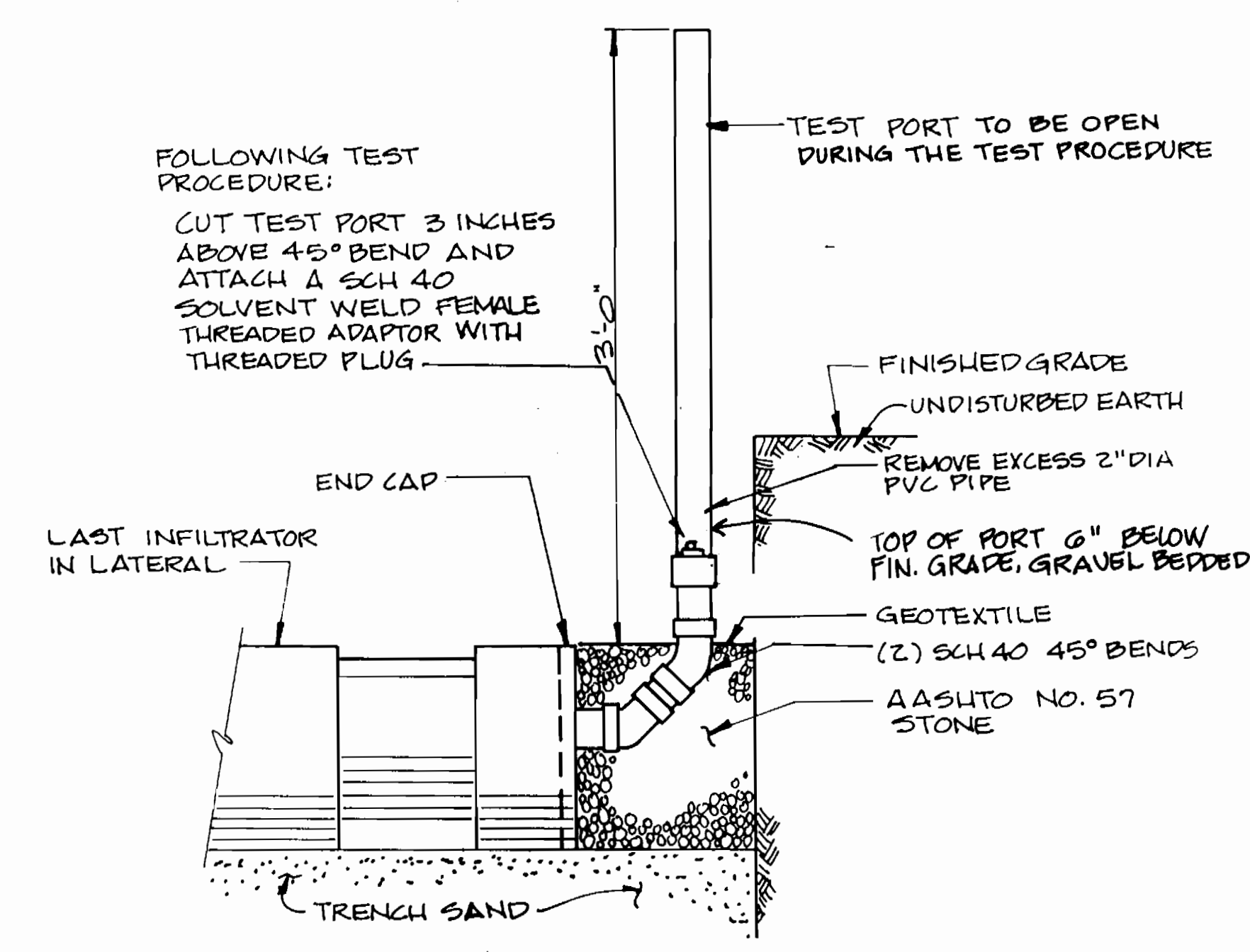
3383 WS/22

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director of Public Works: <i>Robert B. Berman</i> 9/19/94 Chief, Bureau of Engineering: <i>Robert B. Berman</i> 9/29/94 Chief, Land Development Division: <i>Robert B. Berman</i> 9/29/94		DAMES & MOORE 170 JENNIFER ROAD, SUITE 230 ANNAPOLIS, MARYLAND 21401 (410) 224-5640		DES: VRC DRN: B&W CHK: AJP DATE: 12-93		STATE OF MARYLAND PROFESSIONAL ENGINEER <i>[Signature]</i>		CREATE PHASED PLANS 9-94 FINAL SUBMITAL 8-94		MISCELLANEOUS DETAILS 600' SCALE MAP NO. 4e-41 BLOCK NO. 12		ASHLEIGH KNOLLS WASTEWATER COLLECTION, TREATMENT AND DISPOSAL SYSTEM CONTRACT NO. 50-3383-D ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND		SCALE AS SHOWN SHEET 22 OF 28	
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AS-BUILT

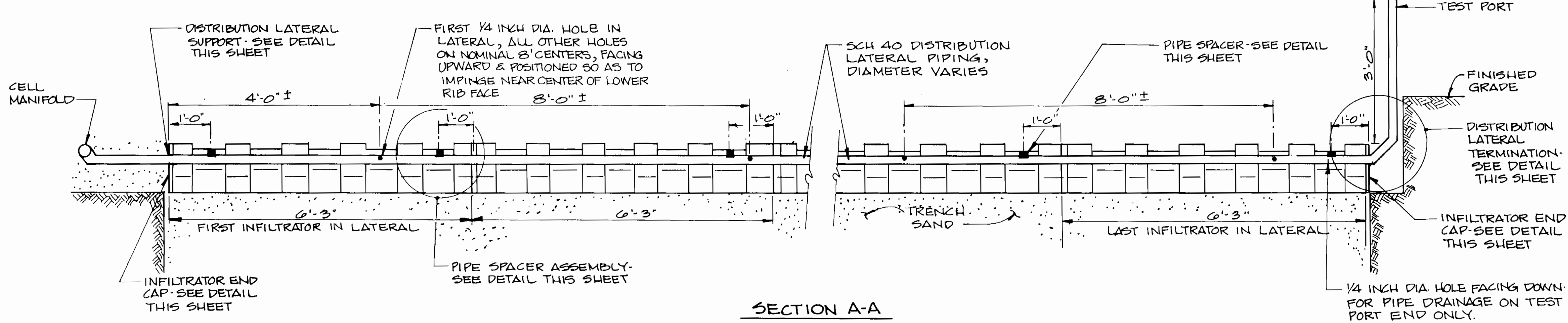


PLAN



DISTRIBUTION LATERAL TERMINATION DETAIL

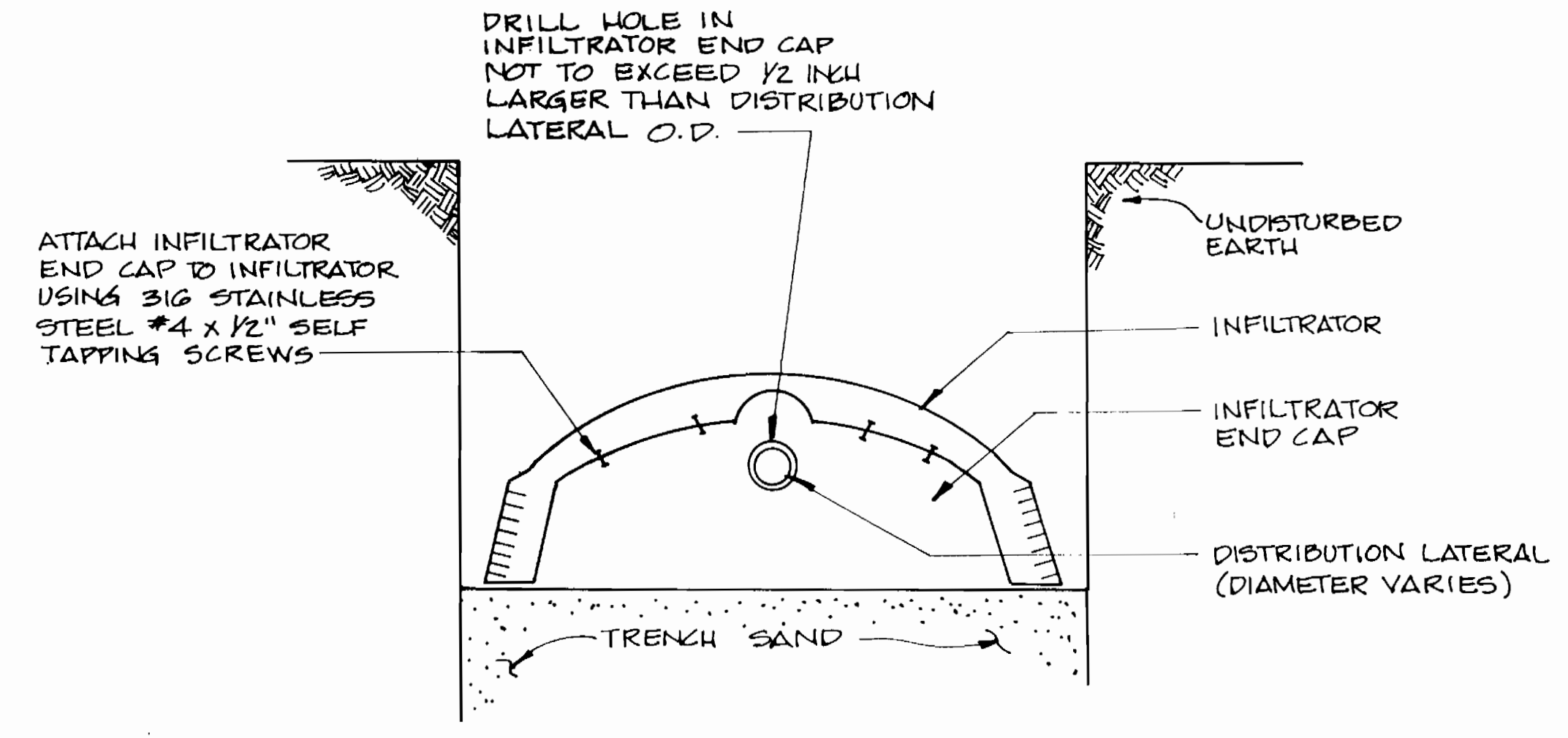
SCALE: 1 1/2" = 1'-0"



SECTION A-A

INFILTRATOR AND LATERAL PIPING ASSEMBLY DETAIL

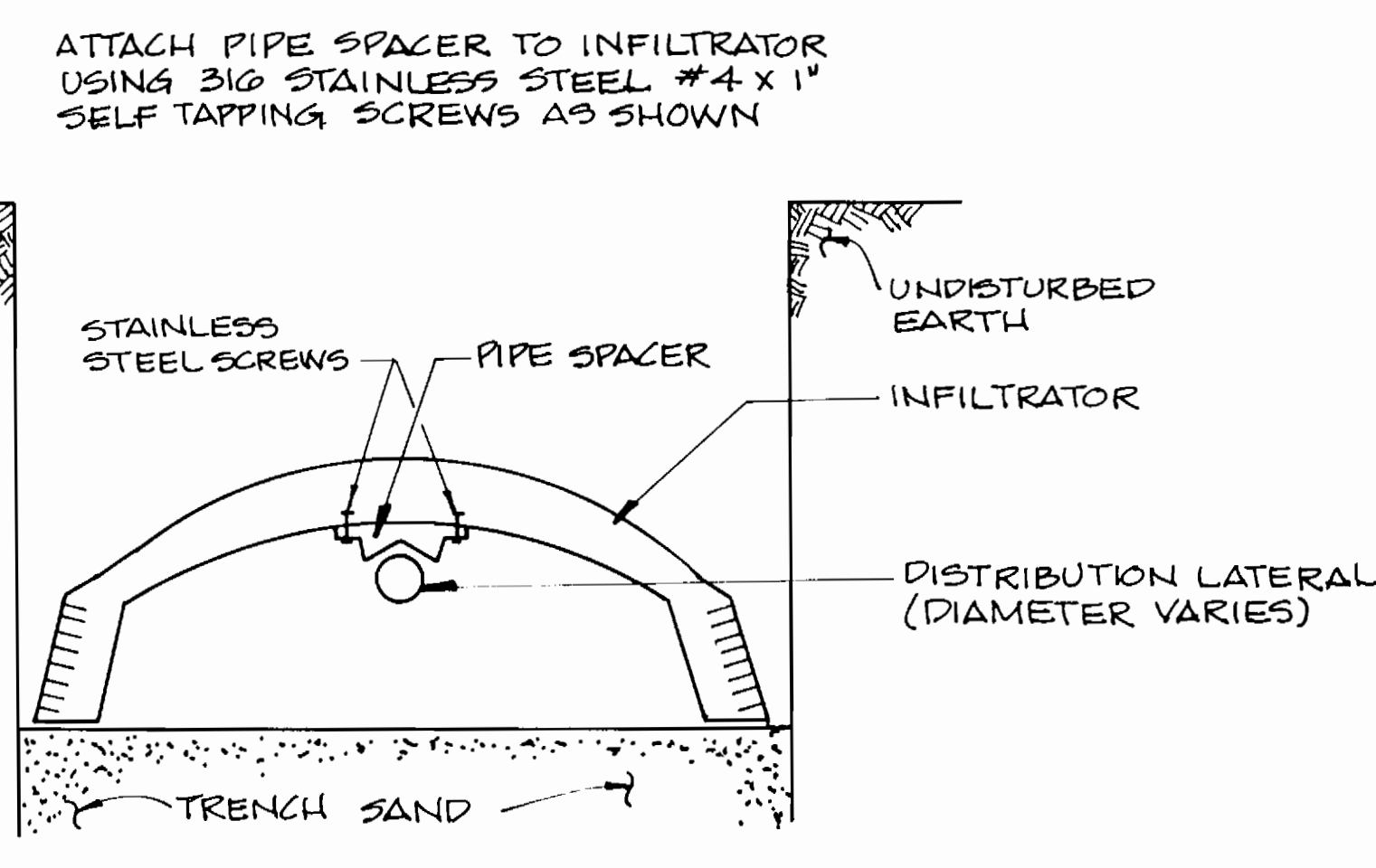
SCALE: 3/4" = 1'-0"



SECTION B-B

INFILTRATOR END CAP DETAIL

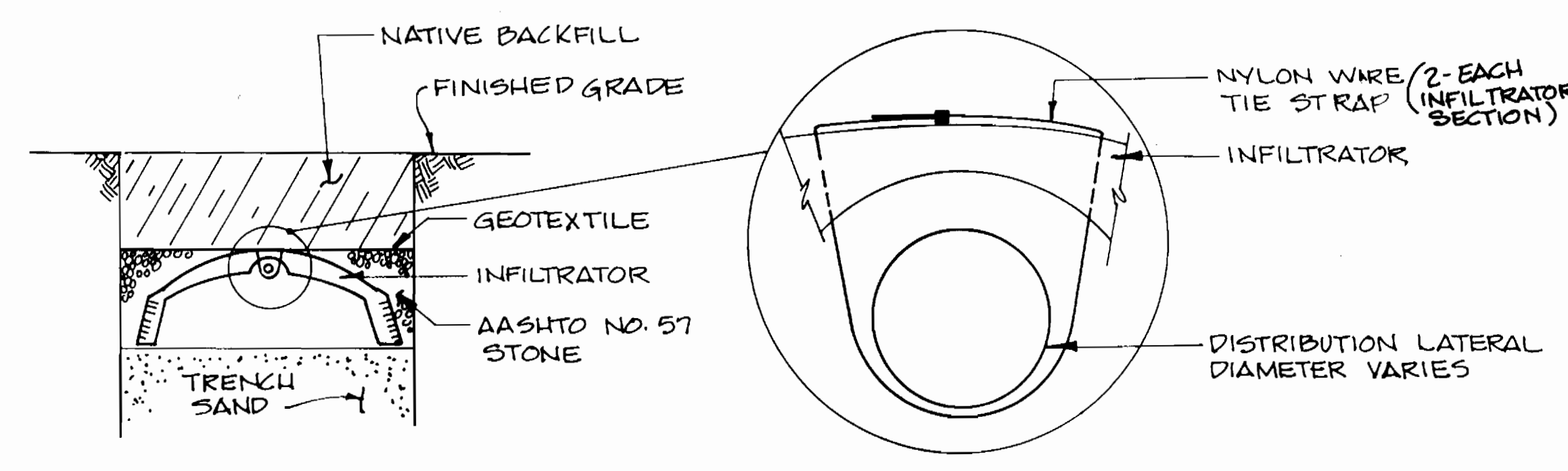
SCALE: 1 1/2" = 1'-0"



SECTION C-C

PIPE SPACER ASSEMBLY DETAIL

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



SECTION D-D

DISTRIBUTION LATERAL SUPPORT DETAIL

NOT TO SCALE

AS-BUILT 11/19/96

3383 ws/29

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James A. Khan 9/29/94
 DIRECTOR OF PUBLIC WORKS DATE
Robert W. Berman 9-19-94
 CHIEF, BUREAU OF UTILITIES DATE
Paul S. Sporn 9/29/94
 CHIEF, BUREAU OF ENGINEERING DATE
Chris Dawson 9/29/94
 CHIEF, LAND DEVELOPMENT DIVISION DATE

DAMES & MOORE
 170 JENNIFER ROAD, SUITE 230
 ANNAPOLIS, MARYLAND 21401
 (410) 224-5640



DES:	VRC			
DRN:	LCH			
CHK:	AJP	CREATE PHASED PLANS	9-76	
		FINAL SUBMITTAL	8-94	
DATE:	12-93	BY:	NO.	REVISION

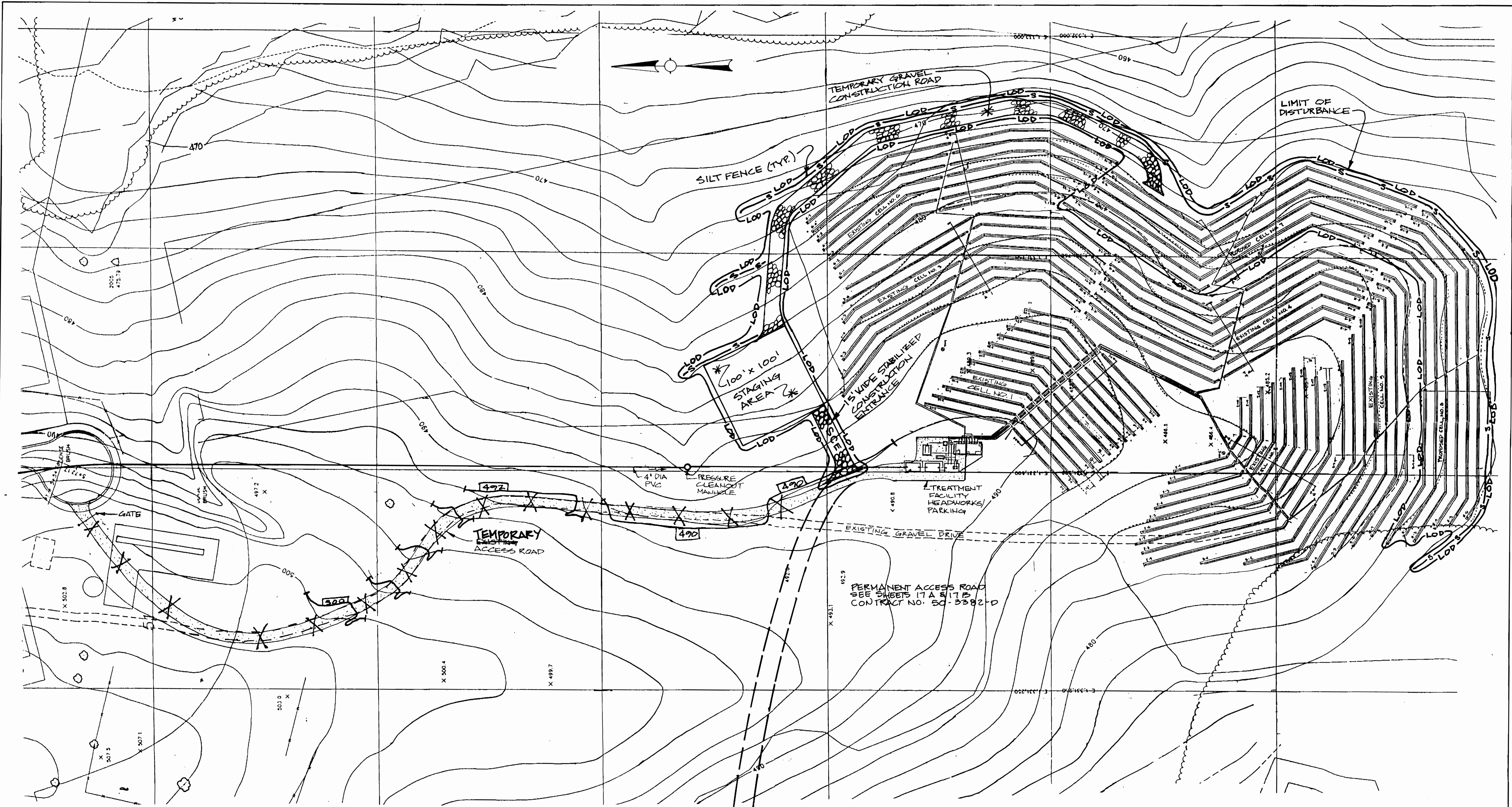
MISCELLANEOUS DETAILS

600' SCALE MAP NO. 32-41 BLOCK NO. 12

ASHLEIGH KNOLLS
 WASTEWATER COLLECTION, TREATMENT
 AND DISPOSAL SYSTEM
 CONTRACT NO. 50-3383-D
 ELECTION DISTRICT NO. 5
 HOWARD COUNTY, MARYLAND

SCALE
 AS
 SHOWN
 SHEET
 23 OF 25

AS-BUILT



PLAN
SCALE: 1" = 50'

- NOTES:
1. SEE HOWARD COUNTY DEPT. OF PLANNING AND ZONING, FILE NOS. F-70-61, F-73-116, AND F-74-78 FOR SEDIMENT AND EROSION CONTROL PLANS FOR ALL WORK SHOWN ON THESE DRAWINGS LOCATED OUTSIDE THE TREATMENT FACILITY AREA SHOWN ON THIS SHEET.
 2. CONTRACTOR IS NOT PERMITTED TO EXCAVATE MORE TRENCH THAN CAN BE BACKFILLED AND STABILIZED IN ONE DAY.
 3. NO STOCKPILING WILL BE PERMITTED AT THE TREATMENT FACILITY SITE.
 4. ALL EXCAVATED MATERIALS ARE TO BE PLACED ON THE UPHILL SIDE OF TRENCHES.
 5. SILT FENCE IS TO BE STAKED AT 3'-5' INTERVALS IN PLACE OF THE STANDARD 10' OFFSET.
 6. THIS PLAN IS FOR THE CONSTRUCTION OF CELL NO. 7 AND NO. 8 ONLY.

AS-BUILT 11/19/96

REVIEW FOR HOWARD S.C.D. AND MEETS) TECHNICAL REQUIREMENTS

[Signature]
U.S. SOIL CONSERVATION SERVICE DATE 11/1/94

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

[Signature]
HOWARD S.C.D. DATE 9/27/94

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 9/27/94
DIRECTOR OF PUBLIC WORKS DATE

[Signature] 2/27/94
CHIEF, BUREAU OF ENGINEERING DATE

[Signature] 9/27/94
CHIEF, BUREAU OF UTILITIES DATE

[Signature] 9/27/94
CHIEF, LAND DEVELOPMENT DIVISION DATE

DAMES & MOORE

170 JENNIFER ROAD, SUITE 230
ANNAPOLIS, MARYLAND 21401
(410) 224-5640



DES: VRC			
DRN: LCH			
CHK: ATP		CREATE PHASED PLANS	9-94
		FINAL SUBMITAL	8-94
DATE: 12-93	BY NO.	REVISION	DATE

SEDIMENT AND EROSION CONTROL PLAN

600' SCALE MAP NO. 40-41 BLOCK NO. 12

ASHLEIGH KNOLLS
WASTEWATER COLLECTION, TREATMENT AND DISPOSAL SYSTEM
CONTRACT NO. 50-3383-D
ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 24 OF 25

3383 ws/24

AS-BUILT

I. STANDARD SEDIMENT CONTROL NOTES

- 1) A minimum of 48 hours notice must be given to the Howard County Department of Inspection Licenses and Permits, Sediment Control Division prior to the start of any construction, (313-1855).
- 2) All vegetative and structural practices are to be installed according to the provisions this plan and are to be in conformance with the most current "MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", and revisions thereto.
- 3) Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, b) 14 days as to all other disturbed or graded areas on the project site.
- 4) All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 12, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
- 5) All disturbed areas must be stabilized within the time period specified above in accordance with the 1991 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding (Sec. 51), sod (Sec. 54), temporary seeding (Sec. 50) and mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
- 6) All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
- 7) Site Analysis:

Total Area of Site	11.80 Acres
Area Disturbed	2.24 Acres
Area to be roofed or paved	0 Acres
Area to be vegetatively stabilized	2.24 Acres
Total Cut	2400 Cu. Yds.
Total Fill	2400 Cu. Yds.
Offsite waste/borrow area location	
- 8) Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- 9) Additional sediment control must be provided, if deemed necessary by the Howard County Sediment Control Inspector.
- 10) On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.
- 11) Trenches for the construction of utilities is limited to three pipe lengths or that which can be back filled and stabilized within one working day, whichever is shorter.

II. PERMANENT SEEDING NOTES

- Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.
- 1) **Seedbed Preparation:** Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.
 - 2) **Soil Amendments:** In lieu of soil test recommendations, use one of the following schedules:
 - a) **Preferred** - Apply 2 tons per acres dolomitic limestone (92 lbs/1000 sq. ft.) and 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil. At time of seeding, apply 400 lbs per acre 30-0-0 ureaform fertilizer (9 lbs/1000 sq. ft.)
 - b) **Acceptable** - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sq. ft.) and 1000 lbs per acre 10-10-10 fertilizer (23 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil.
 - 3) **Seeding** - For the periods March 1 thru April 30, and August 1 thru October 15, seed with 60 lbs per acre (1.4 lbs/1000 sq. ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs per acre (.05 lbs/1000 sq. ft.) of weeping lovegrass. During the period of October 16 thru February 28, protect site by: Option (1) - 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option (2) - Use sod. Option (3) - Seed with 60 lbs/acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.
 - 4) **Mulching** - Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sq. ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq. ft.) for anchoring.
 - 5) **Maintenance** - Inspect all seeding areas and make needed repairs, replacements and reseedings.

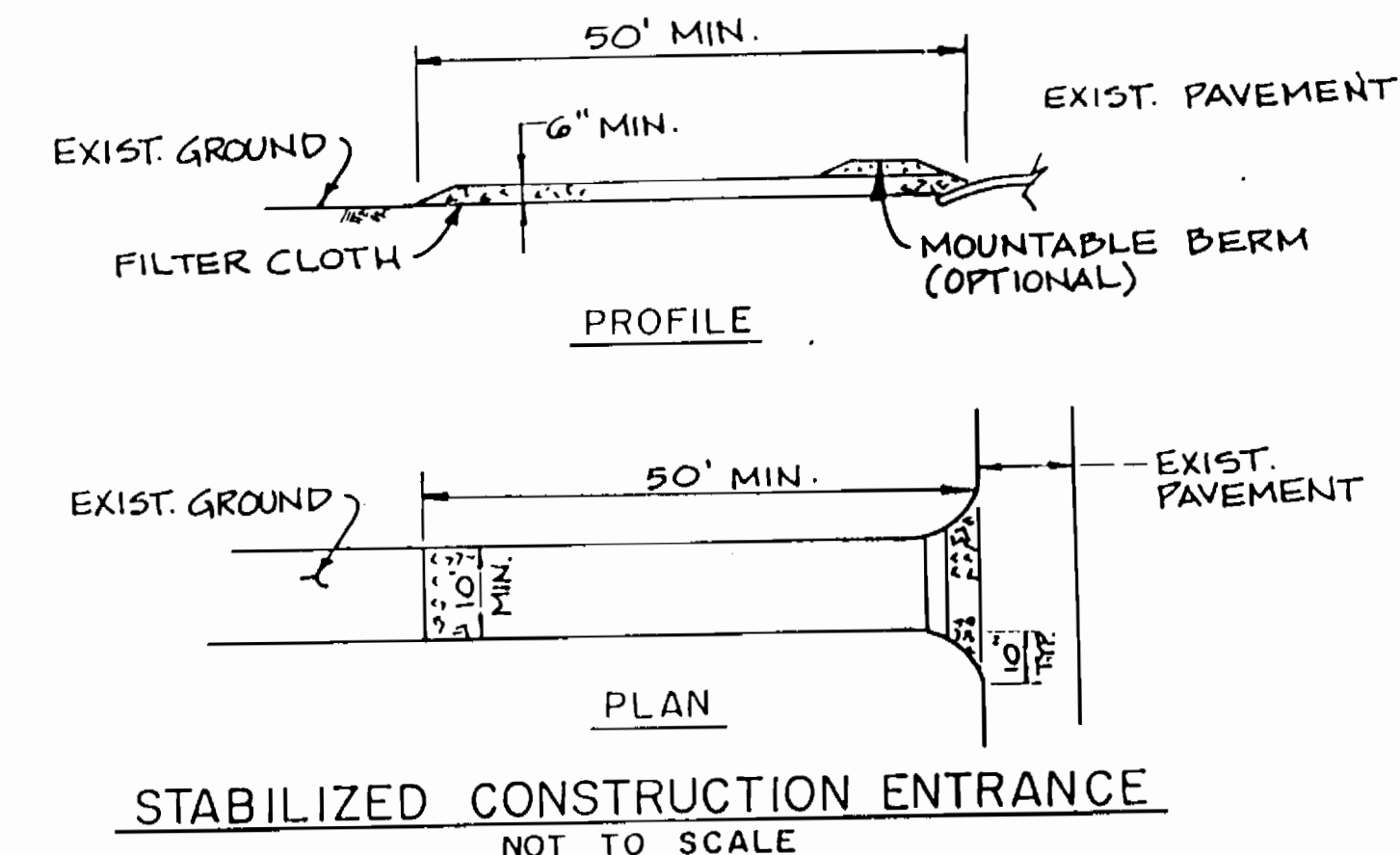
III. TEMPORARY SEEDING NOTES

- Apply to graded or cleared areas likely to be redisturbed where a short-term vegetative cover is needed.
- 1) **Seedbed preparation:** - Loosen upper three inches of soil raking, disking or other acceptable plans before seeding, if not previously loosened.
 - 2) **Soil Amendments:** - Apply 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.).
 - 3) **Seeding:** - For periods March 1 thru April 30 and from August 15 thru October 15, seed with 2-1/2 bushel per acre of annual rye (3.2 lbs/1000 sq. ft.). For the period May 1 thru August 14, seed with 3 lbs per acre of weeping lovegrass (.07 lbs/1000 sq. ft.). For the period November 16 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.
 - 4) **Mulching:** - Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sq. ft.) of unrotted weed free small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slopes 8 ft. or higher, use 348 gal per acre (8 gal/1000 sq. ft.) for anchoring.
 - 5) Refer to the 1983 MARYLAND AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for additional rates and methods not covered.

SEQUENCE OF CONSTRUCTION NOTES

- 1. Obtain a grading permit.
- 2. Notify Inspections and Permits (313-1855) a minimum of 48 hours prior to the start of any construction.
- 3. Install stabilized construction entrance and silt fence as shown and detailed.
- 4. Upon approval of the Howard County Sediment Control Inspector rough grade and construct the temporary gravel construction road and wastewater disposal trenches.
- 5. Permanently stabilize all disturbed areas and remove the temporary gravel construction road.
- 6. Upon approval of the Howard County Sediment Control Inspector remove all sediment control devices.

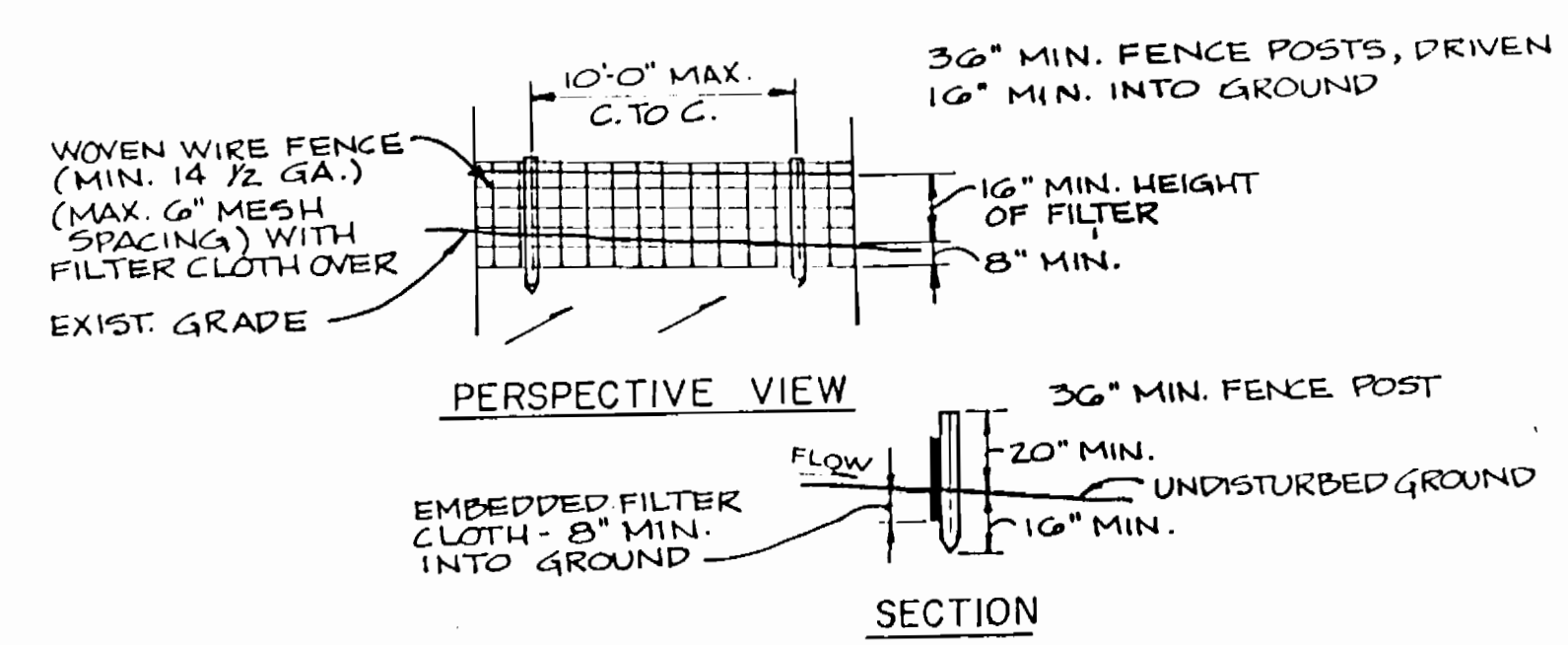
STANDARD SYMBOLS



STABILIZED CONSTRUCTION ENTRANCE NOT TO SCALE

II. CONSTRUCTION SPECIFICATIONS

- 1. STONE SIZE - USE 2" STONE OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
- 2. LENGTH - AS REQUIRED. (FIFTY (50) FOOT MINIMUM)
- 3. THICKNESS - NOT LESS THAN SIX (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.
- 6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING 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 ON TO 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.



SILT FENCE NOT TO SCALE

III. CONSTRUCTION SPECIFICATION

- 1. WOVEN WIRE FENCE TO 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 6" AND FOLDED
 - 4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN BULGES DEVELOP IN THE SILT FENCE
 - 5. SILT FENCE TO BE INSTALLED ONLY PARALLEL TO EXISTING CONTOURS
- | | |
|---------------------|---|
| POSTS: | STEEL, EITHER T OR U TYPE |
| FENCE: | WOVEN WIRE, 14 GA. 6" MAX. MESH OPENING |
| FILTER CLOTH: | FILTER X, HIRAFI 100X, STABILINKA T140N OR APPROVED EQUAL |
| PREFABRICATED UNIT: | GEOFAB ENVIROFENCE OR APPROVED EQUAL |

REVIEW FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS

John E. Roberts 7/27/94
U.S. SOIL CONSERVATION SERVICE DATE

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

John E. Roberts 7/27/94
HOWARD S.C.D. DATE

3383 w/s 25 Ashleigh Knolls

AS-BUILT 11/19/90

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 	 DAMES & MOORE 170 JENNIFER ROAD, SUITE 230 ANNAPOLIS, MARYLAND 21401 (410) 224-5640		DES: VRC			EROSION CONTROL DETAILS ASHLEIGH KNOLLS WASTEWATER COLLECTION, TREATMENT AND DISPOSAL SYSTEM CONTRACT NO. 50-3383-D ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND	SCALE AS SHOWN SHEET 25 OF 25
			DRN: BGN				
			CHK: AJP	CREATE PHASED PLANS	7/24		
			DATE: 3-94	FINAL SUBMITTAL	8/94		