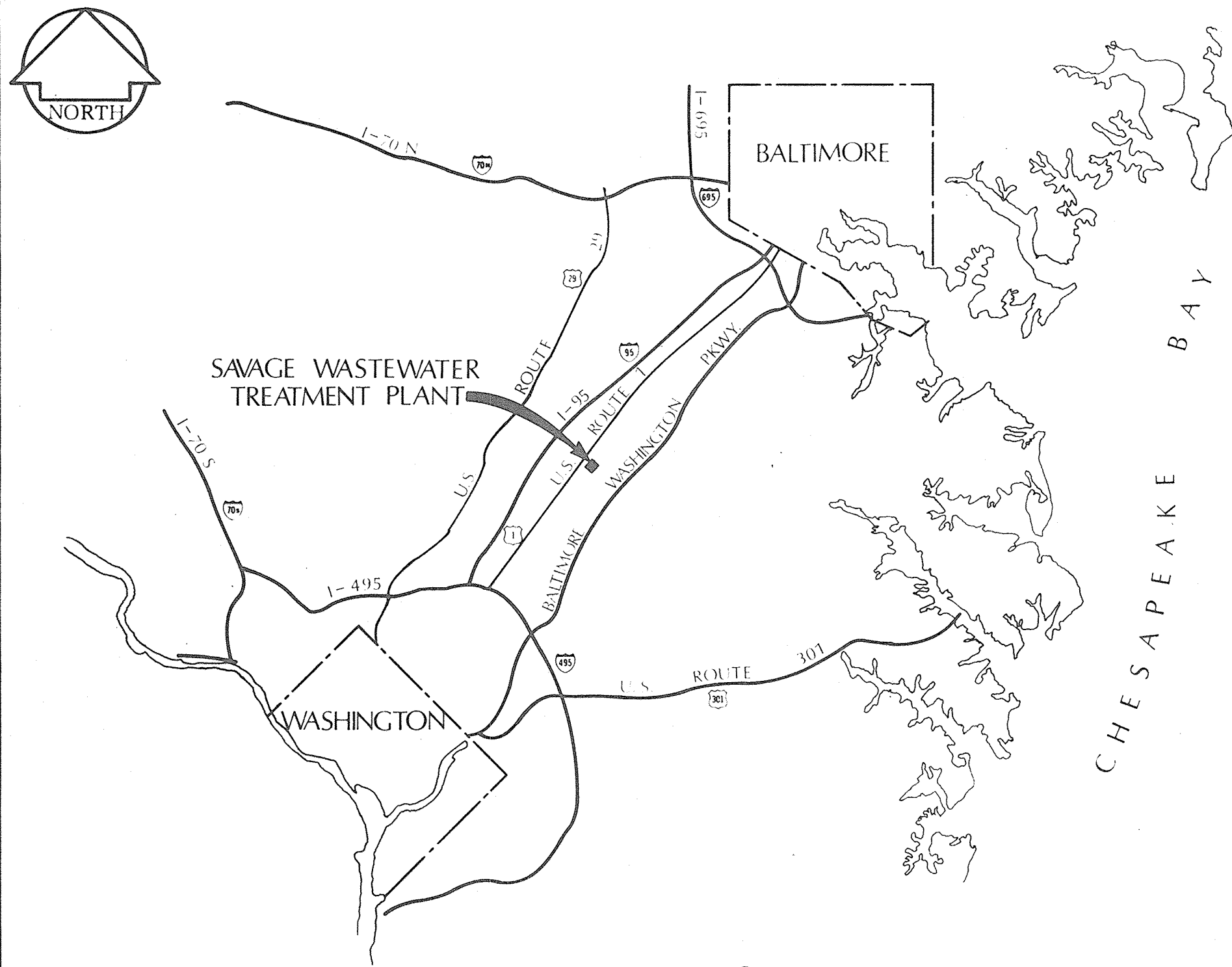
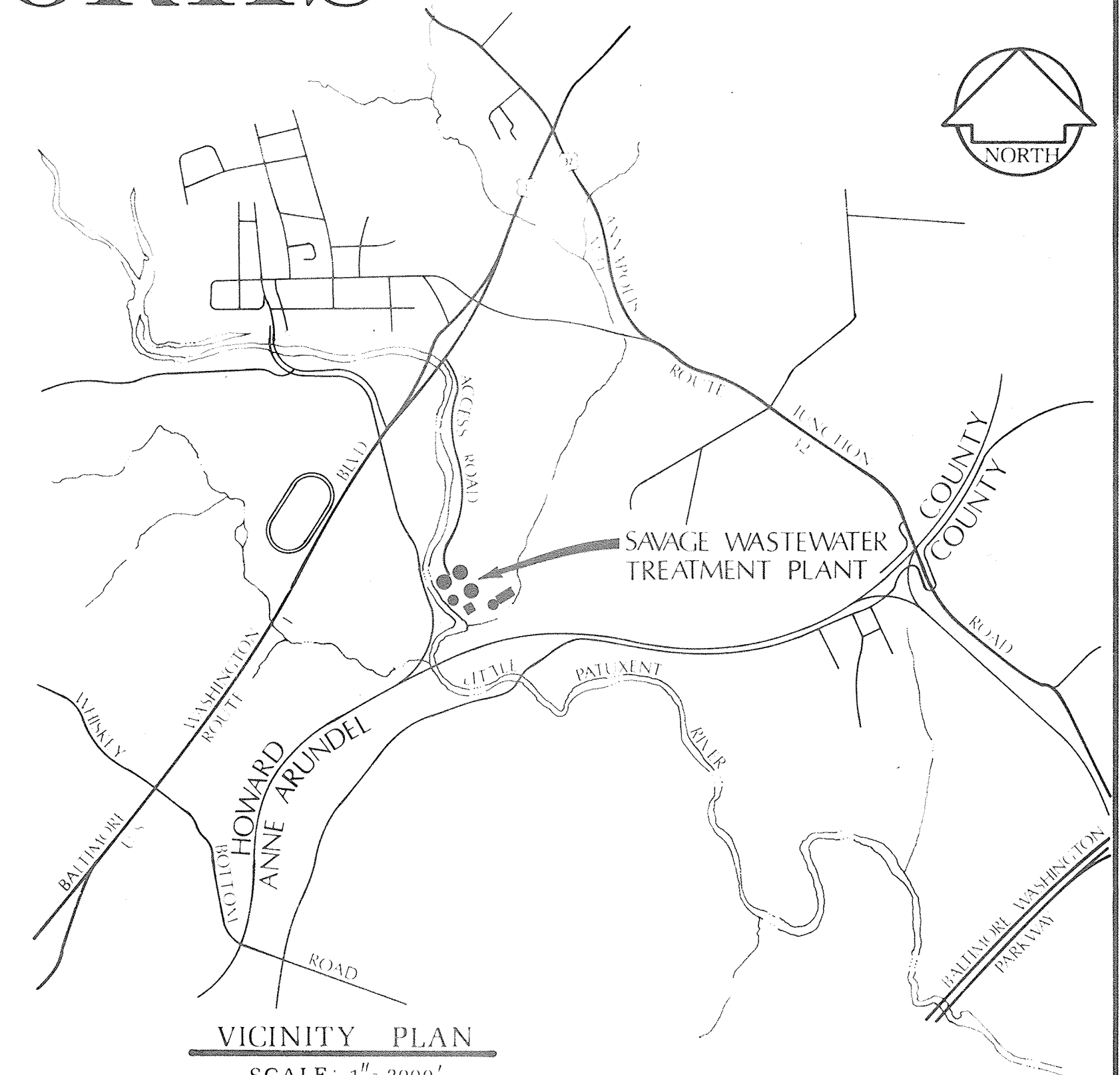
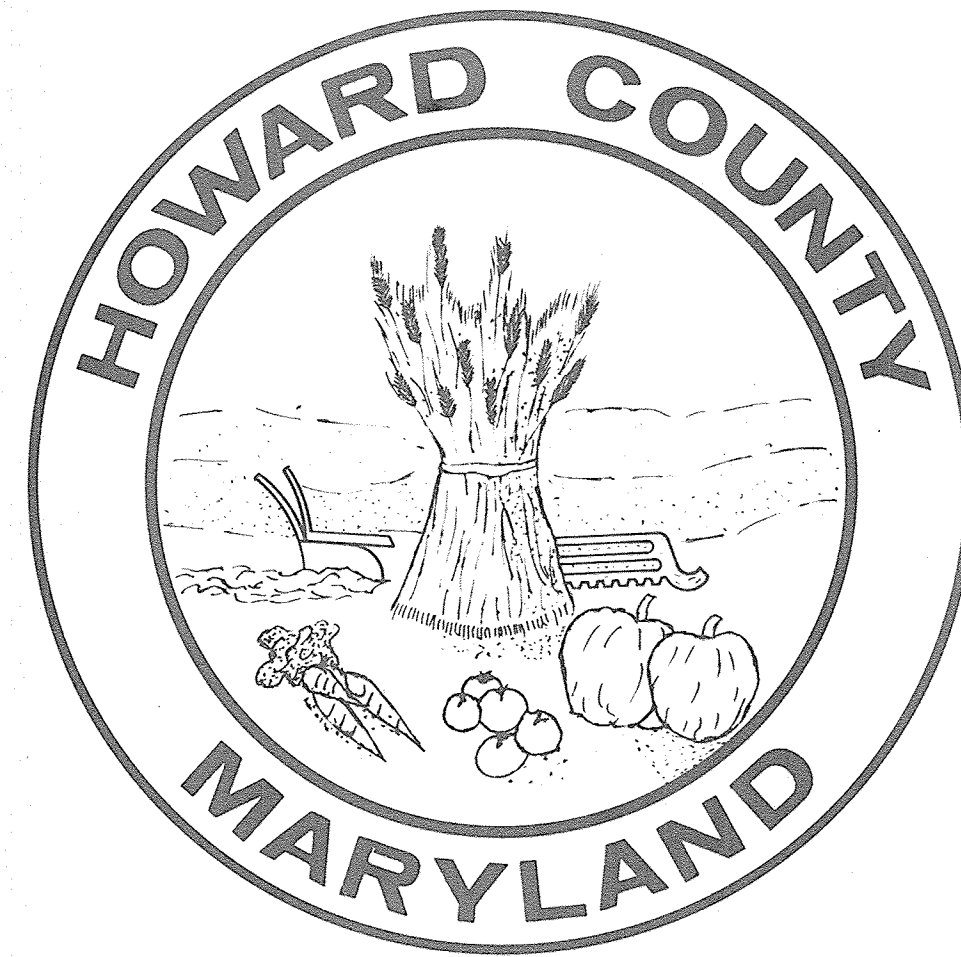


# HOWARD COUNTY, MARYLAND

## DEPARTMENT OF PUBLIC WORKS



LOCATION MAP  
SCALE: 1" = 6 MILES



VICINITY PLAN  
SCALE: 1" = 2000'

# SAVAGE WASTEWATER TREATMENT PLANT

ADDITION NO. 4  
CONTRACT 505-S

HOWARD COUNTY

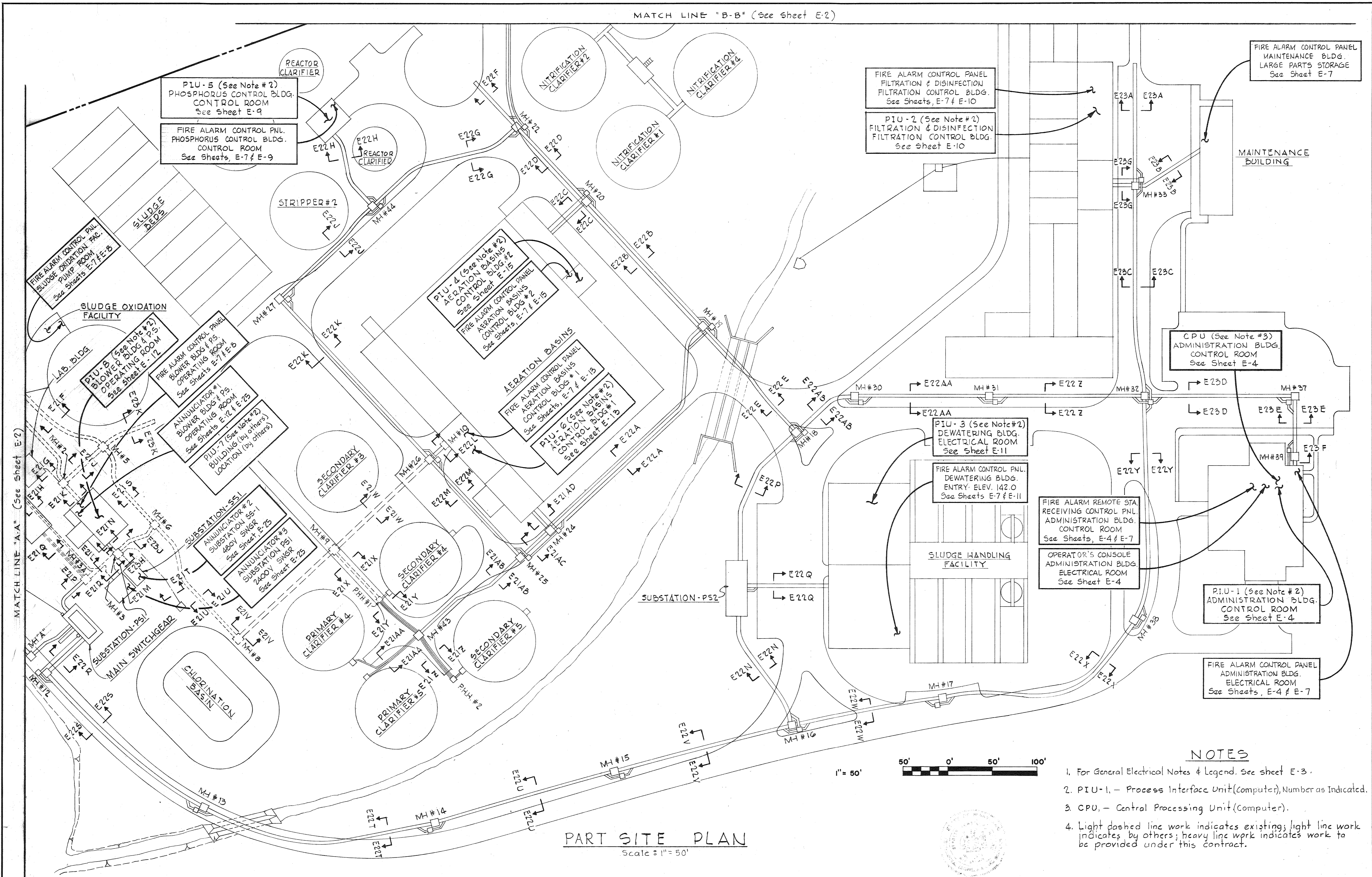
*Thomas J. Regan Jr.* 3/31/78  
THOMAS J. REGAN JR., DIRECTOR-DEPARTMENT OF PUBLIC WORKS

*Richard E. Freudenberger* 3/31/78  
RICHARD FREUDENBERGER-CHIEF-BUREAU OF ENVIRONMENTAL SERVICES

WHITMAN, REQUARDT & ASSOCIATES - ENGINEERS

*Kenneth A. McCord* 3-31-78  
KENNETH A. McCORD

MATCH LINE "B-B" (See Sheet E-2)



PART SITE PLAN  
Scale: 1" = 50'



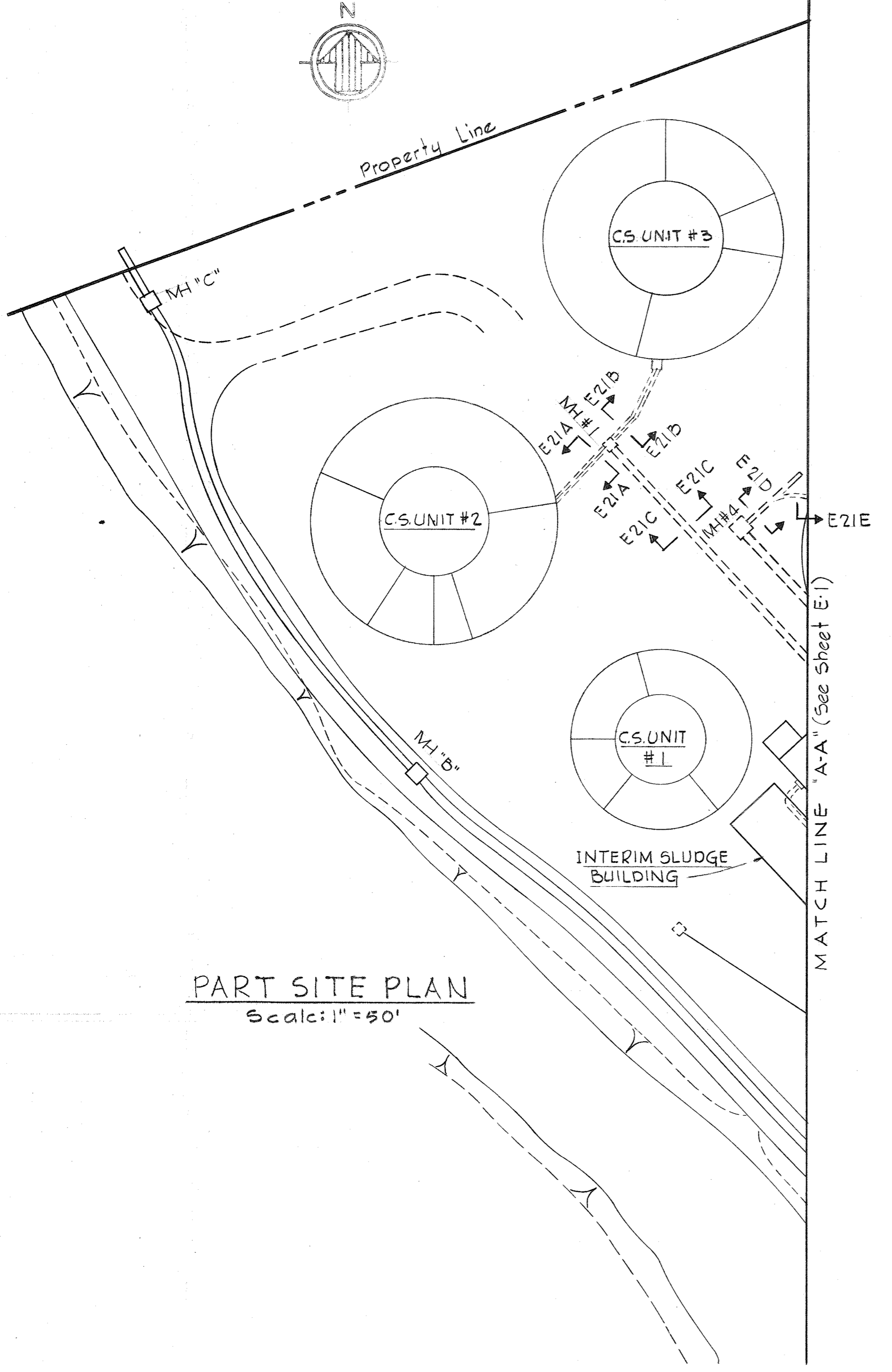
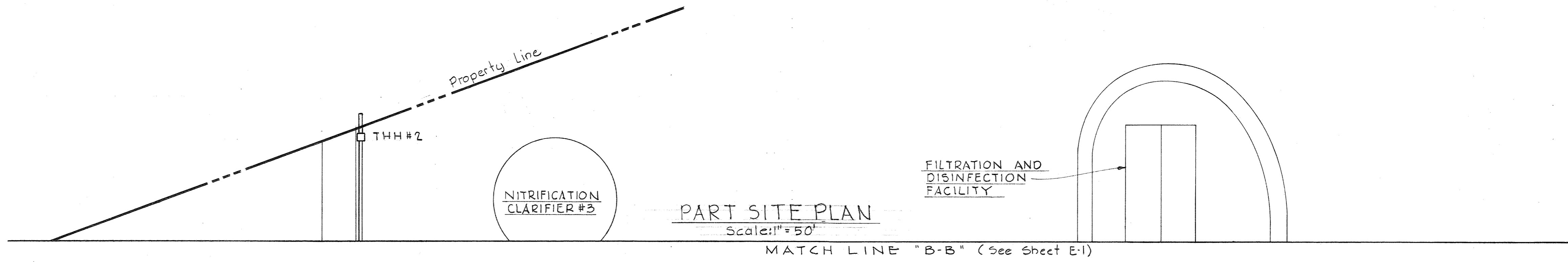
NOTES

1. For General Electrical Notes & Legend. See sheet E-3.
2. PIU-1, - Process Interface Unit (Computer), Number as Indicated.
3. CPU, - Central Processing Unit (Computer).
4. Light dashed line work indicates existing; light line work indicates by others; heavy line work indicates work to be provided under this contract.

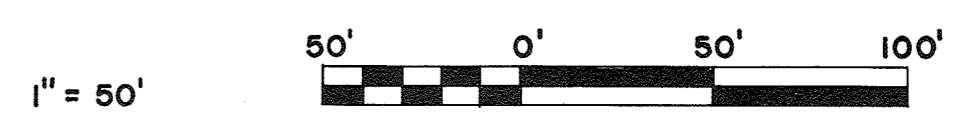
<b>WHITMAN, REQUARDT &amp; ASSOCIATES</b> ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>Richard E. Soudenberg</i> CHIEF BUREAU OF ENVIRONMENTAL SERVICES	CONTRACT NO. <u>505-S</u>	SITE PLAN AND DETAILS	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO.4	DRAWING	SCALE AS SHOWN
					NO. <u>2</u> OF <u>29</u>	

W. O. 7275-2L

SHEET E-1



NOTES:  
 1 For General Electrical Notes & Legend, see Sheet E-3.



WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 3/31/78 DATE <i>Richard E. Leuders</i> CHIEF BUREAU OF ENVIRONMENTAL SERVICES	CONTRACT NO. 505-S	SITE PLAN AND DETAILS	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. 3 OF 29 SCALE AS SHOWN
-----------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------	--------------------	--------------------------	-----------------------------------------------------	------------------------------------------

W.O. 7275-2L

SHEET E-2

INTERIOR

- ○ ○ Outlet-Incandescent - Ceiling, Recessed, Wall
- Ⓢ Ⓢ Ⓢ Outlet-Incandescent - Emergency - Ceiling, Wall
- Ⓢ Ⓢ Ⓢ Outlet-Clock - Single Face - Ceiling, Wall
- Ⓢ Ⓢ Ⓢ Outlet-Clock-Double Face - Ceiling, Wall
- Ⓢ Ⓢ Ⓢ Outlet - Fluorescent - 4 Foot
- Ⓢ Ⓢ Ⓢ Outlet - Fluorescent - 4 Foot with Kindorf Wiring Channel
- Ⓢ Ⓢ Ⓢ Outlet - Fluorescent - 4 Foot with Kindorf support & Conduit
- Ⓢ Ⓢ Ⓢ Outlet - Fluorescent - 2 Foot
- Ⓢ Ⓢ Ⓢ Outlet - Exit Light - Ceiling, Wall - with or without Directional Arrows
- Ⓢ Ⓢ Ⓢ Outlet - Mercury - Ceiling, Wall
- Ⓢ Ⓢ Ⓢ Outlet - Duplex Convenience
- Ⓢ Ⓢ Ⓢ Outlet - Special Purpose, Floor
- Ⓢ Ⓢ Ⓢ Outlet - 20A 250V Receptacle - Polarized
- Ⓢ Ⓢ Ⓢ Outlet - 30A 250V Receptacle & Plug - Polarized
- Ⓢ Ⓢ Ⓢ Outlet - 50A 250V Receptacle - Polarized
- Ⓢ Ⓢ Ⓢ Outlet - Telephone - Wall, Desk, Extension
- Ⓢ Ⓢ Ⓢ Outlet - Intercommunication
- Ⓢ Ⓢ Ⓢ Junction Box
- EXP WP Explosion-proof, Weatherproof - where indicated
- S S<sub>2</sub> S<sub>P</sub> Switch - Single Pole, Double Pole, with Pilot Light
- S<sub>3</sub> S<sub>4</sub> Switch - Three Way, Four Way
- S<sub>K</sub> S<sub>D</sub> Switch - Key Operated, Door Operated
- S<sub>M</sub> S<sub>R</sub> Switch - Momentary Contact, Remote Control
- C-1 Contactor - Number as Indicated
- Ⓢ Ⓢ Ⓢ Thermostat - Heating, Cooling, Freeze-stat
- Ⓢ Ⓢ Ⓢ Aquastat - Generator
- Ⓢ Ⓢ Ⓢ Unit Heater
- Ⓢ Ⓢ Ⓢ Motor - Constant Speed, Variable Speed
- Ⓢ Ⓢ Ⓢ Starter - Manual, Combination
- Ⓢ Ⓢ Ⓢ Starter - Magnetic (FVNR), Magnetic (FVR)
- Ⓢ Ⓢ Ⓢ Starter - Magnetic-[FVNR-2S (Two Speed)]
- Ⓢ Ⓢ Ⓢ Disconnect Switch - Fused, Unfused
- Ⓢ Ⓢ Ⓢ Selector Switch - Two Position
- Ⓢ Ⓢ Ⓢ Secondary Motor Controls
- Ⓢ Ⓢ Ⓢ Pull Box - Size as Indicated
- Ⓢ Ⓢ Ⓢ Telemetering Transmitter - Number as Noted
- Ⓢ Ⓢ Ⓢ Lighting Panel - Power Panel
- Ⓢ Ⓢ Ⓢ Telephone or Control Wiring Cabinet as Noted
- Ⓢ Ⓢ Ⓢ Contactor Cabinet
- Ⓢ Ⓢ Ⓢ Homerun to Panelboard - Number of arrows indicates number of circuits, number of cross lines indicates number of wires. Where, no cross lines appear, two conductors are implied

- Conduit - On Ceiling or Wall
- Conduit - Under Floor
- T — Conduit - Telephone
- PT — Conduit - Private Telephone
- FA — Conduit - Fire Alarm
- C — Conduit - Communication
- — — Conduit - In Wall, Slab or Ceiling
- — — Conduit - Stub Up, Stub Down
- — — Conduit - Seal
- Ⓢ Ⓢ Ⓢ Disconnect - Circuit Breaker
- Ⓢ Ⓢ Ⓢ Outlet - Incandescent - Floodlight
- Ⓢ Ⓢ Ⓢ Pushbutton Station - One, Two & Three Pushbutton
- Ⓢ Ⓢ Ⓢ Horn - Bell
- CC17a-6 Motor Control Center Wire & Cable Run Number
- SI-1 Switchgear Wire & Cable Run Number
- SSI-1 Unit Substation Wire & Cable Run Number
- CC5 Control Cable Wire & Cable Run Number
- Ⓢ Ⓢ Ⓢ Fire Detector
- Ⓢ Ⓢ Ⓢ Fire Alarm Striking Station
- Ⓢ Ⓢ Ⓢ Fire Alarm Bell
- Ⓢ Ⓢ Ⓢ End of line Resistor
- Ⓢ Ⓢ Ⓢ Pressure Switch
- Ⓢ Ⓢ Ⓢ Hydraulic Valve & Limit Switches
- Ⓢ Ⓢ Ⓢ Dimmer - type as specified
- Ⓢ Ⓢ Ⓢ Ground Fault Protected
- \* Conduit Seal

ONE LINE/ELEMENTARY

- Ⓢ Ⓢ Ⓢ Molded Case Circuit Breaker
- Ⓢ Ⓢ Ⓢ Oil Circuit Breaker
- Ⓢ Ⓢ Ⓢ Selector Switch
- Ⓢ Ⓢ Ⓢ Disconnecting Switch
- Ⓢ Ⓢ Ⓢ Interrupter Switch
- Ⓢ Ⓢ Ⓢ Selector Interrupter Switch
- Ⓢ Ⓢ Ⓢ Knife Switch
- Ⓢ Ⓢ Ⓢ Contacts - Normally Open
- Ⓢ Ⓢ Ⓢ Contacts - Normally Closed
- Ⓢ Ⓢ Ⓢ Current Transformer
- Ⓢ Ⓢ Ⓢ Potential Transformer
- Ⓢ Ⓢ Ⓢ Power Transformer
- Ⓢ Ⓢ Ⓢ Ground
- Ⓢ Ⓢ Ⓢ Resistor
- Ⓢ Ⓢ Ⓢ Fuse
- Ⓢ Ⓢ Ⓢ Pothead
- Ⓢ Ⓢ Ⓢ Pushbutton
- Ⓢ Ⓢ Ⓢ Pressure Switch
- Ⓢ Ⓢ Ⓢ Float Switch
- Ⓢ Ⓢ Ⓢ Flow Switch
- Ⓢ Ⓢ Ⓢ Limit Switch
- Ⓢ Ⓢ Ⓢ Thermostat
- Ⓢ Ⓢ Ⓢ Disconnect Link
- Ⓢ Ⓢ Ⓢ Lightning Arrester
- Ⓢ Ⓢ Ⓢ Incoming Line
- Ⓢ Ⓢ Ⓢ Outgoing Line
- Ⓢ Ⓢ Ⓢ Tie Line
- Ⓢ Ⓢ Ⓢ Capacitor
- Ⓢ Ⓢ Ⓢ Rectifier
- Ⓢ Ⓢ Ⓢ Mechanical Interlock
- Ⓢ Ⓢ Ⓢ Electrical Interlock
- Ⓢ Ⓢ Ⓢ Key Interlock
- Ⓢ Ⓢ Ⓢ Overcurrent Trip Thermal Type
- Ⓢ Ⓢ Ⓢ Relay - Instantaneous Overcurrent, Time Overcurrent
- Ⓢ Ⓢ Ⓢ A.C. Power Circuit Breaker
- Ⓢ Ⓢ Ⓢ Motor (Three phase) - Constant Speed, Variable Speed
- Ⓢ Ⓢ Ⓢ Starter - Magnetic (FVNR), Magnetic (FVR), Magnetic [FVNR - 2S (Two Speed)]
- Ⓢ Ⓢ Ⓢ Running Time Meter
- Ⓢ Ⓢ Ⓢ Indicating Light - color as indicated by letter
- Ⓢ Ⓢ Ⓢ Solenoid - Motor (single phase)

GENERAL ELECTRICAL NOTES

1. For PANELBOARD SCHEDULES, see Specifications: DETAILED ELECTRICAL REQUIREMENTS.
2. For explanation of Lighting Fixture Types shown on Dwg's, see Specifications: DETAILED ELECTRICAL REQUIREMENTS.
3. Mounting heights for interior lighting fixtures shall be from finished floor to bottom of fixture unless otherwise noted.
4. Mounting heights for lighting fixtures mounted on exterior walls of buildings shall be from finished floor to centerline of recessed junction box unless otherwise noted.
5. Verify all door swings before installing switch boxes.
6. Receptacles shall be mounted 2'-0" above finished floor unless otherwise noted.
7. All Elementary Control Diagrams are shown de-energized.

LOCATION SYMBOLS FOR ELEMENTARY CONTROL DIAGRAMS

- cc13 Device located in respective Motor Control Center
- ▲ Device located at respective unit
- Device located at respective motor
- Device located in Starter
- Ⓢ Ⓢ Ⓢ Device located in Switchgear
- Ⓢ Ⓢ Ⓢ Device located in Switchboard "SWBD"
- Ⓢ Ⓢ Ⓢ Device located in Instr. Panel Phosphorus Control Bldg.
- ps3 Device located in Substation "PSI"
- Device located in Substation "SSI"
- △ i4c Device located in Instrumentation and Control Panel
- Device located in Control Panel for V.S. Pumping Units

MOTOR CONTROL CENTERS, POWER CENTERS & UNIT SUBSTATIONS AUXILIARY DESCRIPTION

- a Red & Green Indicating Lights
- b Third Overload Relay
- c Running Time Meter
- d Hand-Off-Automatic Selector Switch
- e Start-Stop Pushbutton Station
- f Key Interlock
- g 480-120 Volt Control Transformer
- h Slow-Fast-Stop Pushbutton Station
- j Forward-Reverse-Stop Pushbutton Station
- k Open-Close Control Switch

UNDERGROUND

- 4/W Ductbank - number of ducts as indicated
- 2" c Existing Conduit - size as indicated
- DB 2#4 Existing Direct Buried Cable - number and size as indicated.
- DB 2#4 Direct Buried Cable - number and size as indicated
- c — Conduit - size as indicated
- Ⓢ Ⓢ Ⓢ Crossed duct in ductbank sections denotes existing cables

EXTERIOR

- Ⓢ Ⓢ Ⓢ Mercury Area Light
- Ⓢ Ⓢ Ⓢ Incandescent Area Light
- Ⓢ Ⓢ Ⓢ Existing Pole
- Ⓢ Ⓢ Ⓢ Pole - Length & Class as indicated
- Ⓢ Ⓢ Ⓢ Pole with Down Guy & Anchor - length, class & Lead as indicated
- Ⓢ Ⓢ Ⓢ Pole with Street Light - length & class as indicated
- 4#10 Primary Distribution Line - KV - number & size of wires as indicated
- 4#2 Secondary Distribution Line - 3φ - number & size of wires as indicated
- Ⓢ Ⓢ Ⓢ Service Prop - number & size of wires as indicated
- Ⓢ Ⓢ Ⓢ Weatherhead & Rack

CIRCUIT BREAKER S.I.C. LEGEND

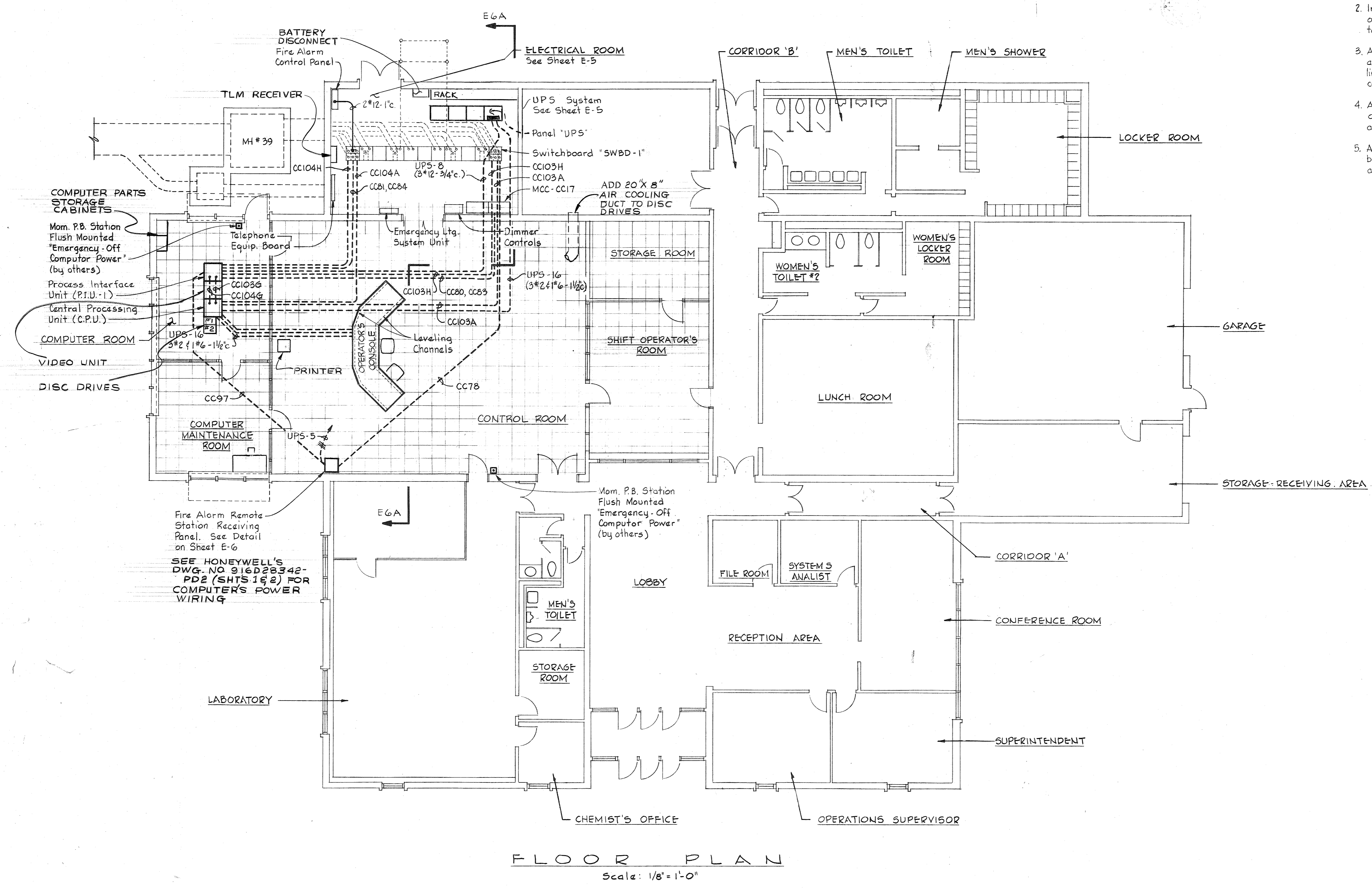
- 10 10,000 Amperes at Operating Voltage
- 14 14,000 Amperes at Operating Voltage
- 22 22,000 Amperes at Operating Voltage
- 30 30,000 Amperes at Operating Voltage
- 50 50,000 Amperes at Operating Voltage
- 60 60,000 Amperes at Operating Voltage
- 65 65,000 Amperes at Operating Voltage



<p>WHITMAN, REQUARDT &amp; ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND</p>	<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 1/12/78 DATE Richard E. Freudenberger CHIEF BUREAU OF ENVIRONMENTAL SERVICES</p>	<p>CONTRACT NO. 505-S</p>	<p>GENERAL ELECTRICAL NOTES AND LEGEND</p>	<p>SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4</p>	<p>DRAWING NO. 4 OF 29</p>	<p>SCALE AS SHOWN</p>
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NOTES:

1. For General Electrical Notes & Legend, see Sheet E-3.
2. In "Floor Plan" light line work indicates by others and heavy line work indicates work to be provided under this contract.
3. All openings made in the raised floor for conduits and cables shall be provided with suitable liners to provide smooth surfaces for the conduits and cables.
4. All conduits and cables passing thru the opening in the raised floor shall be supported above the floor.
5. All conduits run under the raised floor shall be liquid tight flexible conduit with associated fittings unless noted otherwise.



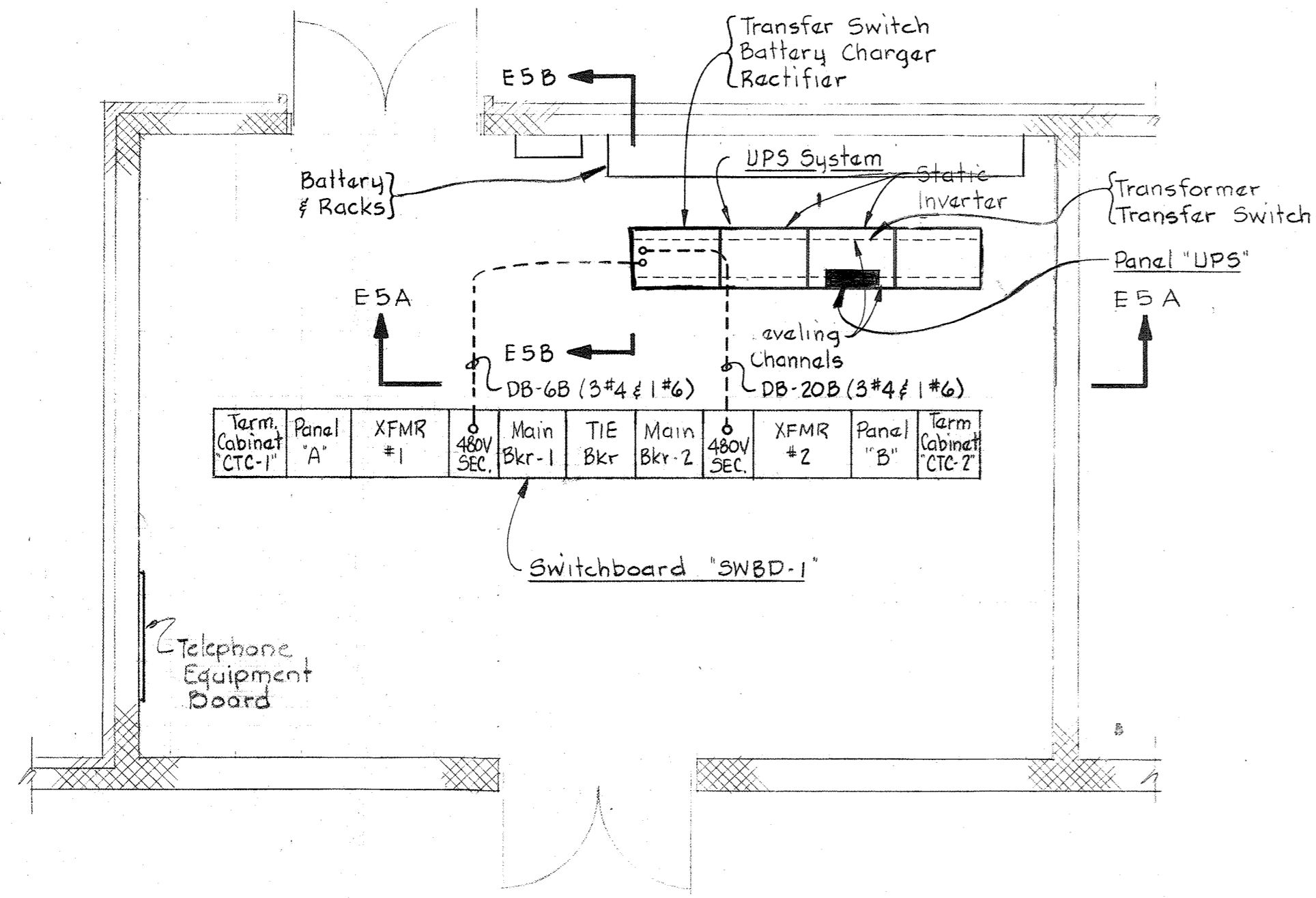
FLOOR PLAN  
Scale: 1/8" = 1'-0"

AS INSTALLED 9 AUG MB

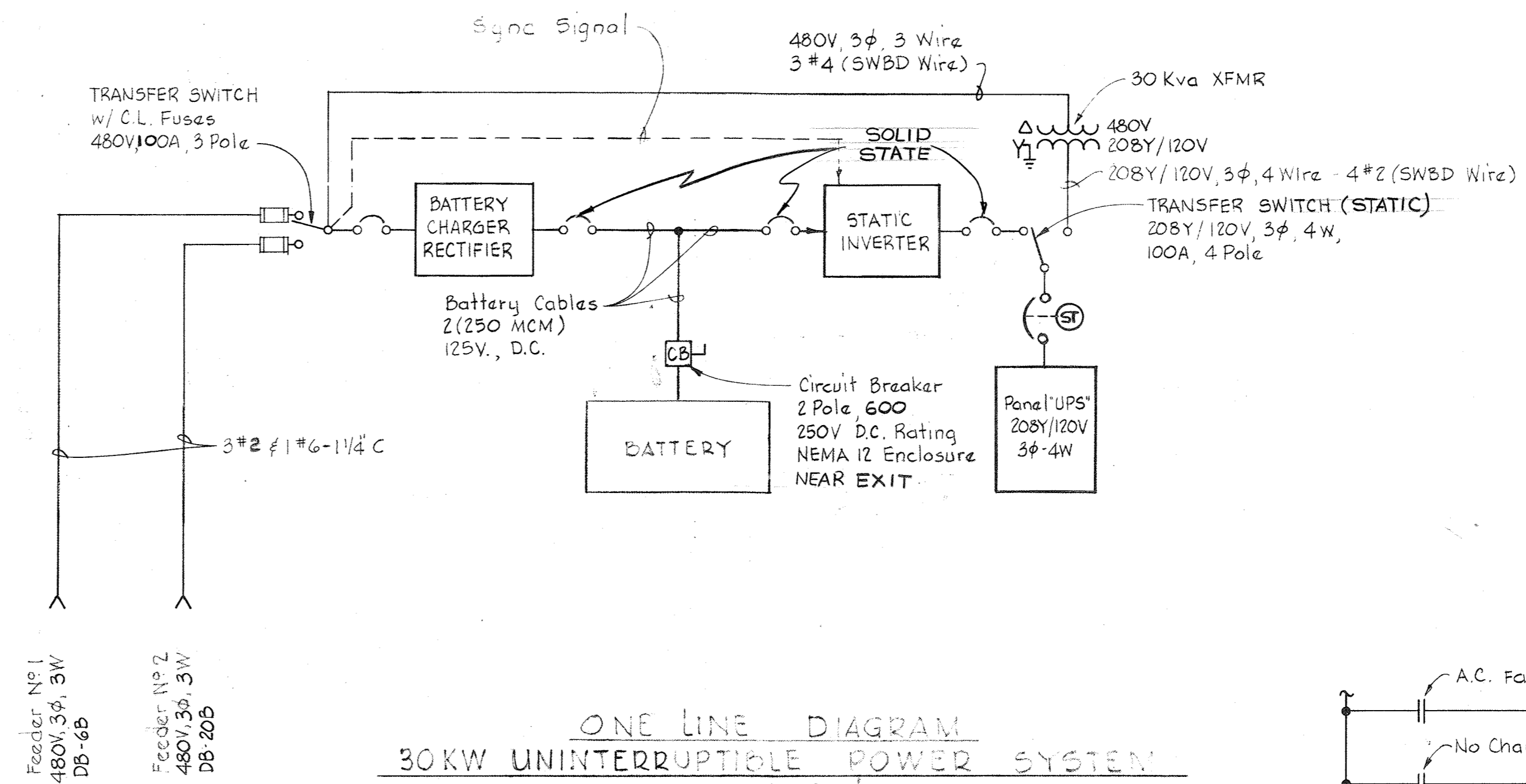


WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 3/31/78 <i>Richard E. Lueders</i> CHIEF BUREAU OF ENVIRONMENTAL SERVICES	CONTRACT NO. 505-S	ADMINISTRATION BUILDING PLAN & DETAILS	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. 5 OF 29 SCALE AS SHOWN
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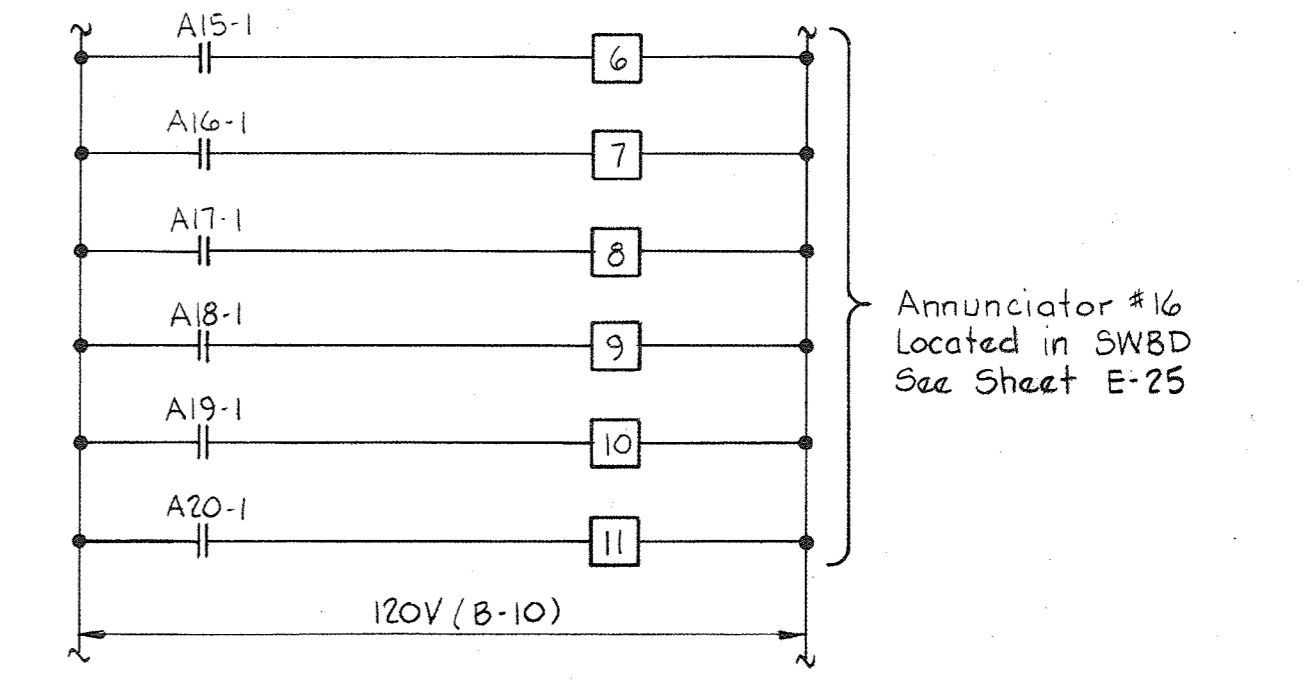
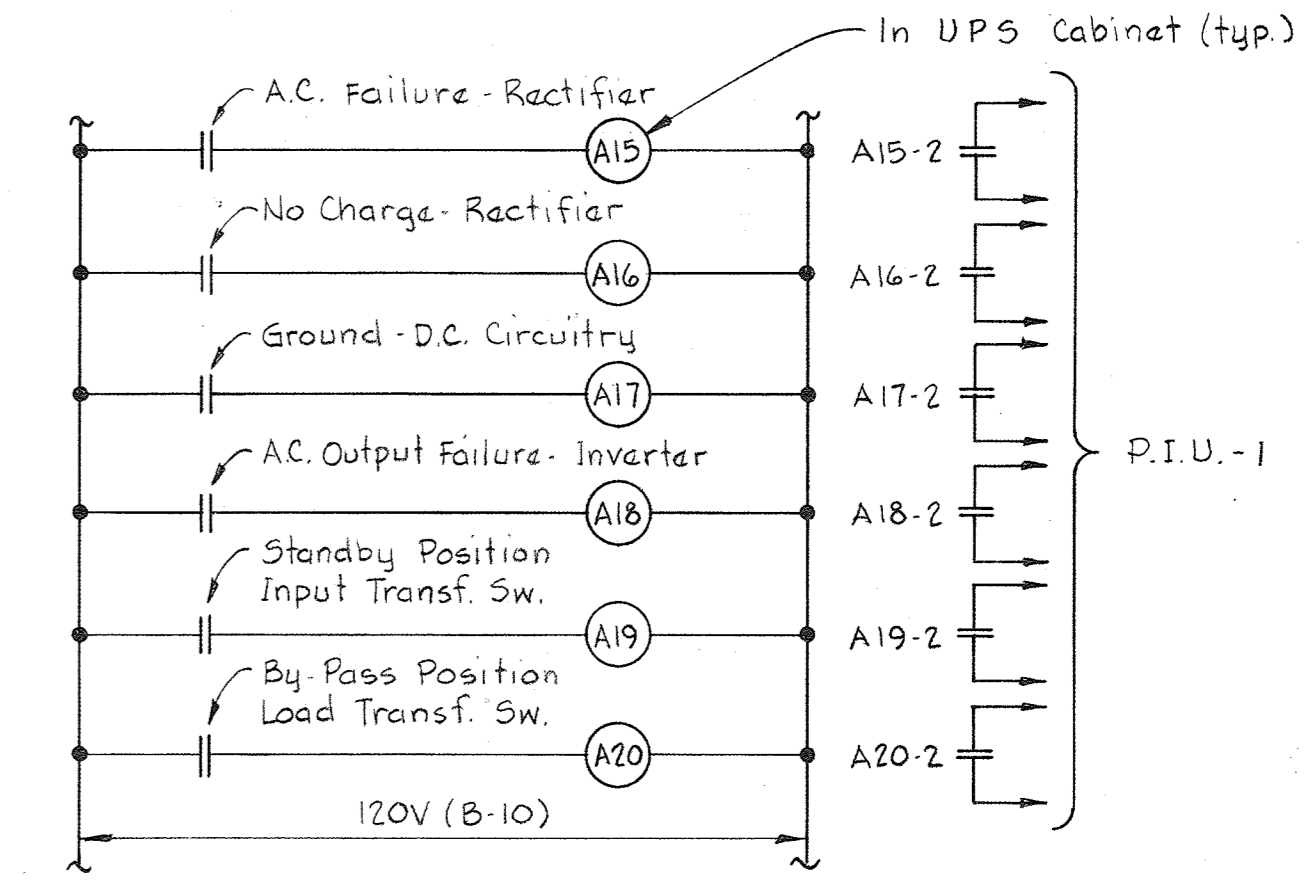
**NOTES**  
 1. For General Electrical Notes and Legend, See sheet E-3.  
 2. In "Plan - Electrical Equipment Room" light line work indicates by others, heavy line work indicates work to be provided in this Contract.



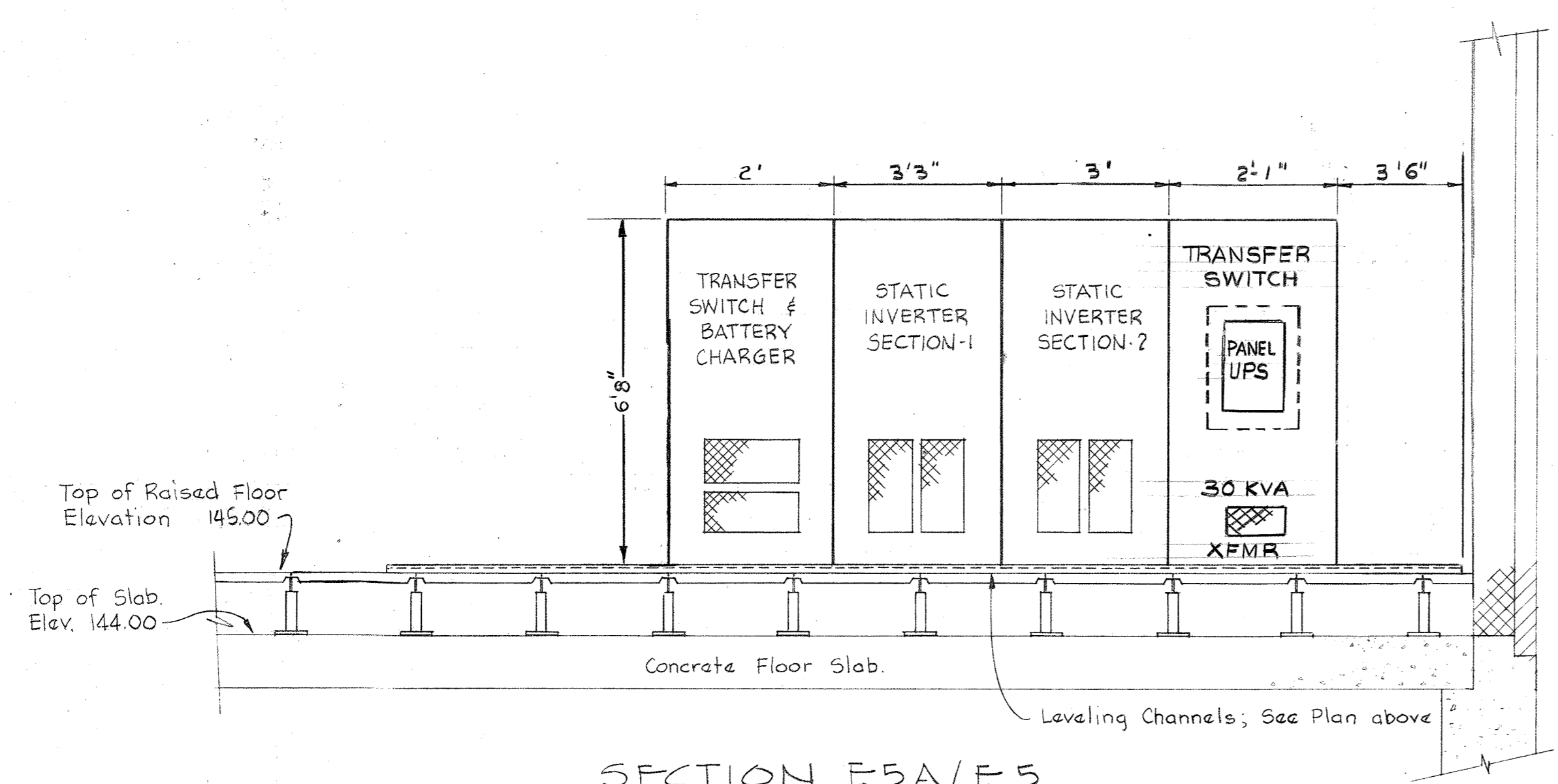
PLAN - ELECTRICAL EQUIPMENT ROOM  
 Scale 1/4"=1'-0"



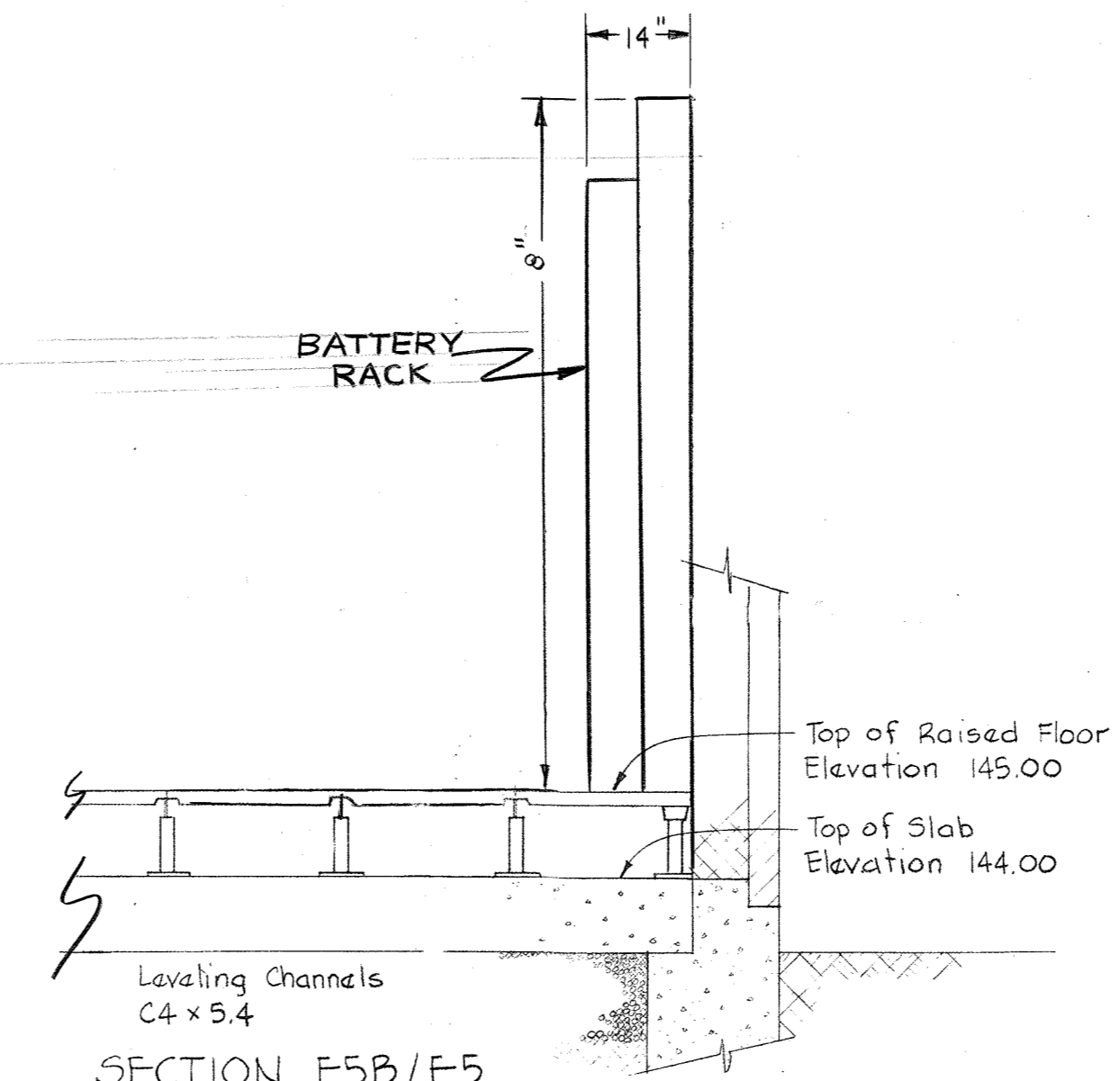
ONE LINE DIAGRAM  
 30KW UNINTERRUPTIBLE POWER SYSTEM  
 No Scale



E.C.D. #11  
 ELEMENTARY CONTROL DIAGRAM  
 ALARMS FOR UNINTERRUPTIBLE POWER SUPPLY (UPS)



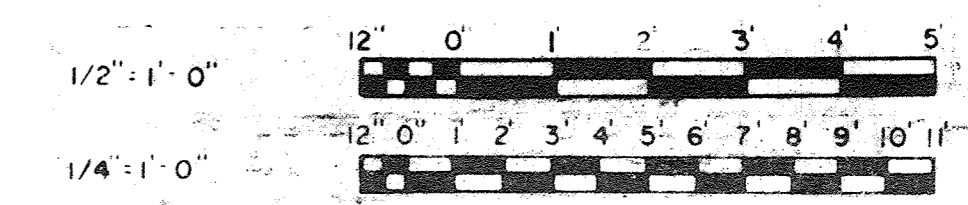
SECTION E5A/E5  
 Scale: 1/2"=1'-0"



SECTION E5B/E5  
 Scale: 1/2"=1'-0"

UNINTERRUPTIBLE POWER SYSTEM

AS INSTALLED 9 AUG MB



WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 3/30/75 DATE	CONTRACT NO. 505-S	ADMINISTRATION BUILDING U.P.S. SYSTEM	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. 6 OF 29	SCALE AS SHOWN
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W.O. 6887-2

SHEET E-5

**NOTES:**

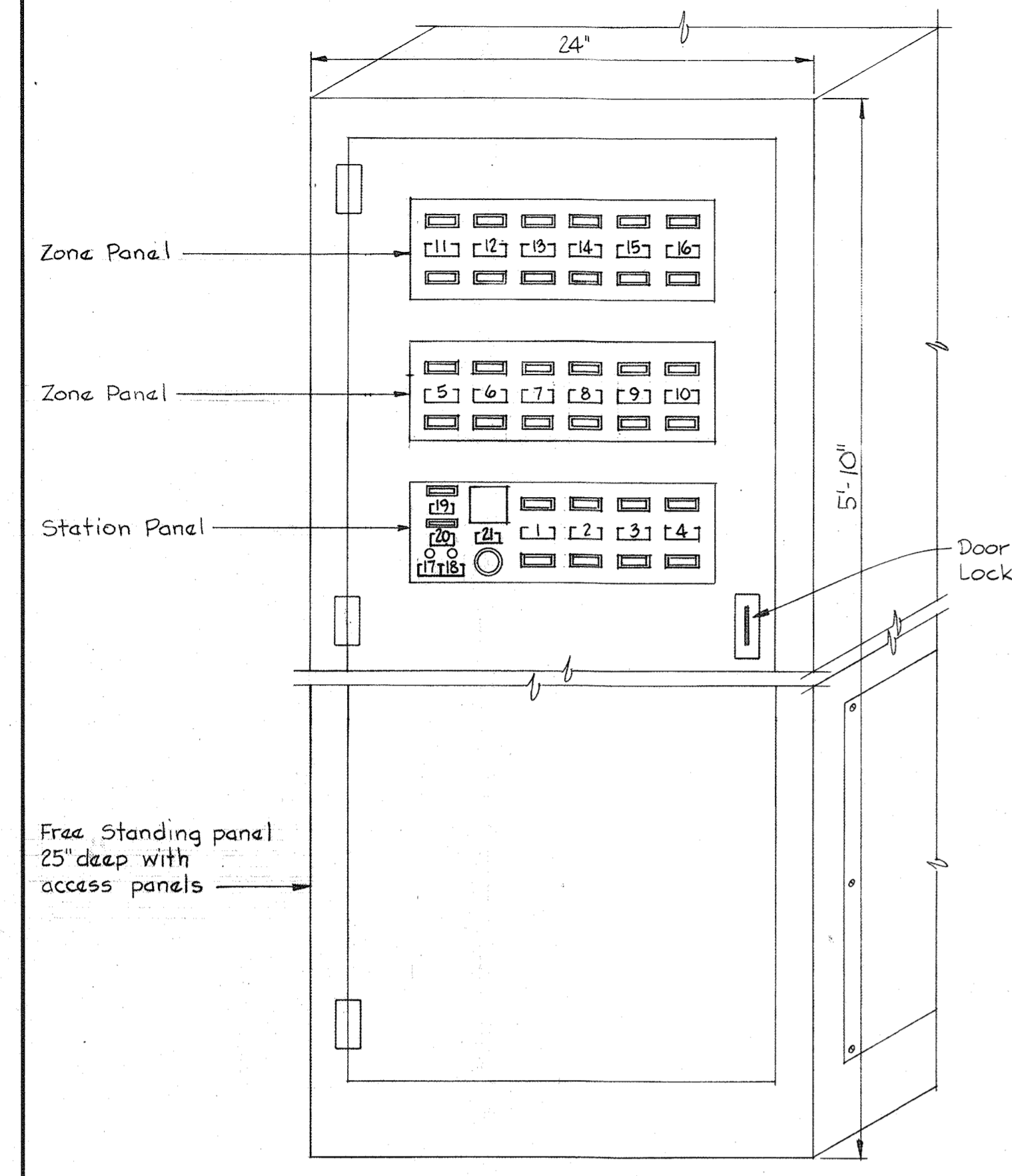
1. For General Electrical Notes & Legend, see Sheet E-3
2. In "SECTION E6A/E4" light line work indicates by others and heavy line work indicates work to be provided under this contract.

**LEGEND:**

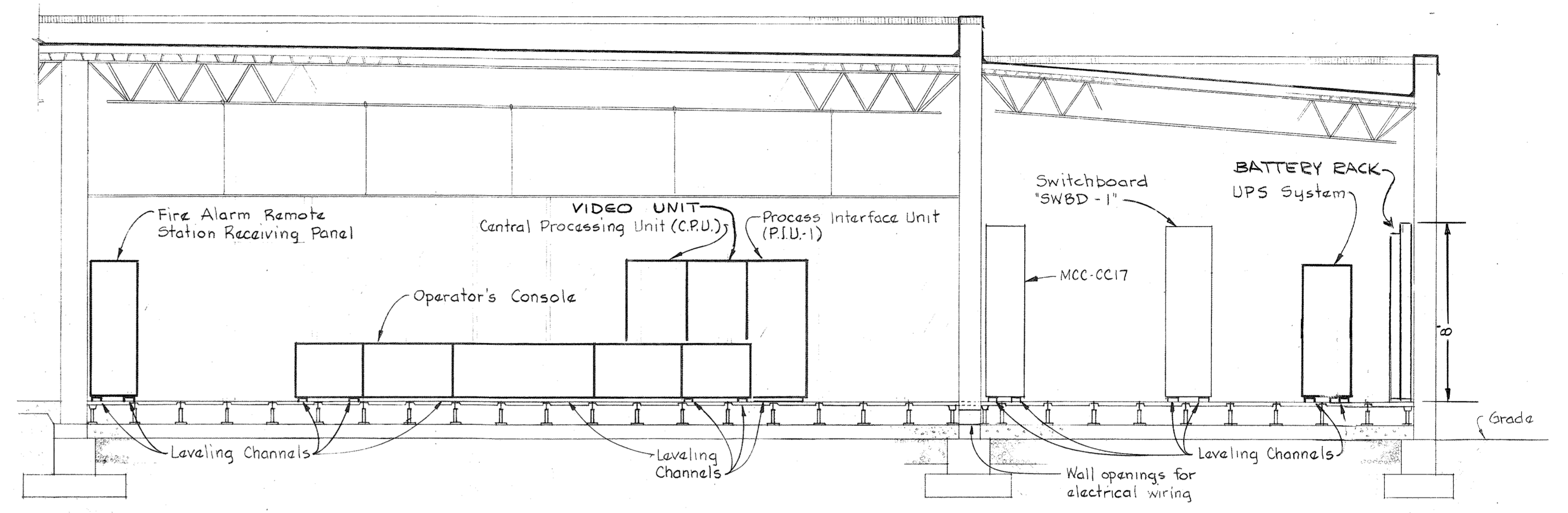
- Indicating Light
- Switch
- Meter
- ⊙ Sonalart

**NAMEPLATES:**

1. BLOWER BLDG. & P.S.
2. SLUDGE OXIDATION BLDG.
3. AERATION BASIN - WEST
4. AERATION BASIN - EAST
5. DEWATERING BLDG.
6. FILTRATION & DISINFECTION BLDGS.
7. MAINTENANCE BLDG.
8. ADMINISTRATION BLDG.
9. PHOSPHORUS BLDG.
10. SPARE (Blank Nameplate)
11. SPARE (Blank Nameplate)
12. SPARE (Blank Nameplate)
13. SPARE (Blank Nameplate)
14. SPARE (Blank Nameplate)
15. SPARE (Blank Nameplate)
16. SPARE (Blank Nameplate)
17. ALARM SILENCE
18. TROUBLE SILENCE
19. NORMAL POWER
20. SPARE (Blank Nameplate)
21. SPARE (Blank Nameplate)



**FIRE ALARM REMOTE STATION RECEIVING CONTROL PANEL**  
No Scale



**SECTION E6A/E4**  
Scale: 1/4" = 1'-0"

AS INSTALLED 9 AUG 1982  
LCE

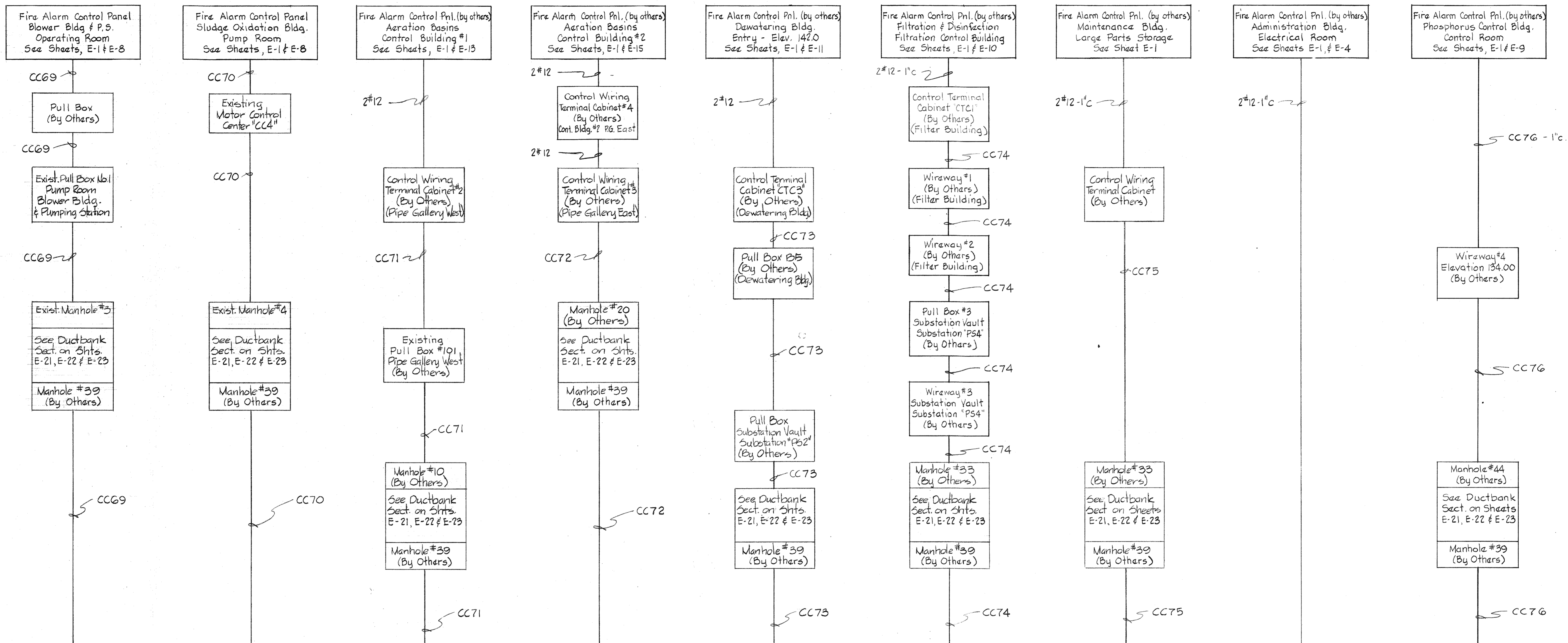


WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 3/25/75 W.O. Robert CHIEF BUREAU OF ENGINEERING	CONTRACT NO. 505-S	ADMINISTRATION BUILDING DETAILS	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. 7 OF 29 SCALE AS SHOWN
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W.O. 6887-2

SHEET E-6

BRUNING 44510 18392



CONTROL WIRING TERMINAL CABINET IN ADMINISTRATION BUILDING ELECTRICAL ROOM  
(By Others)

20c#14 Thru Under Floor Raceway System

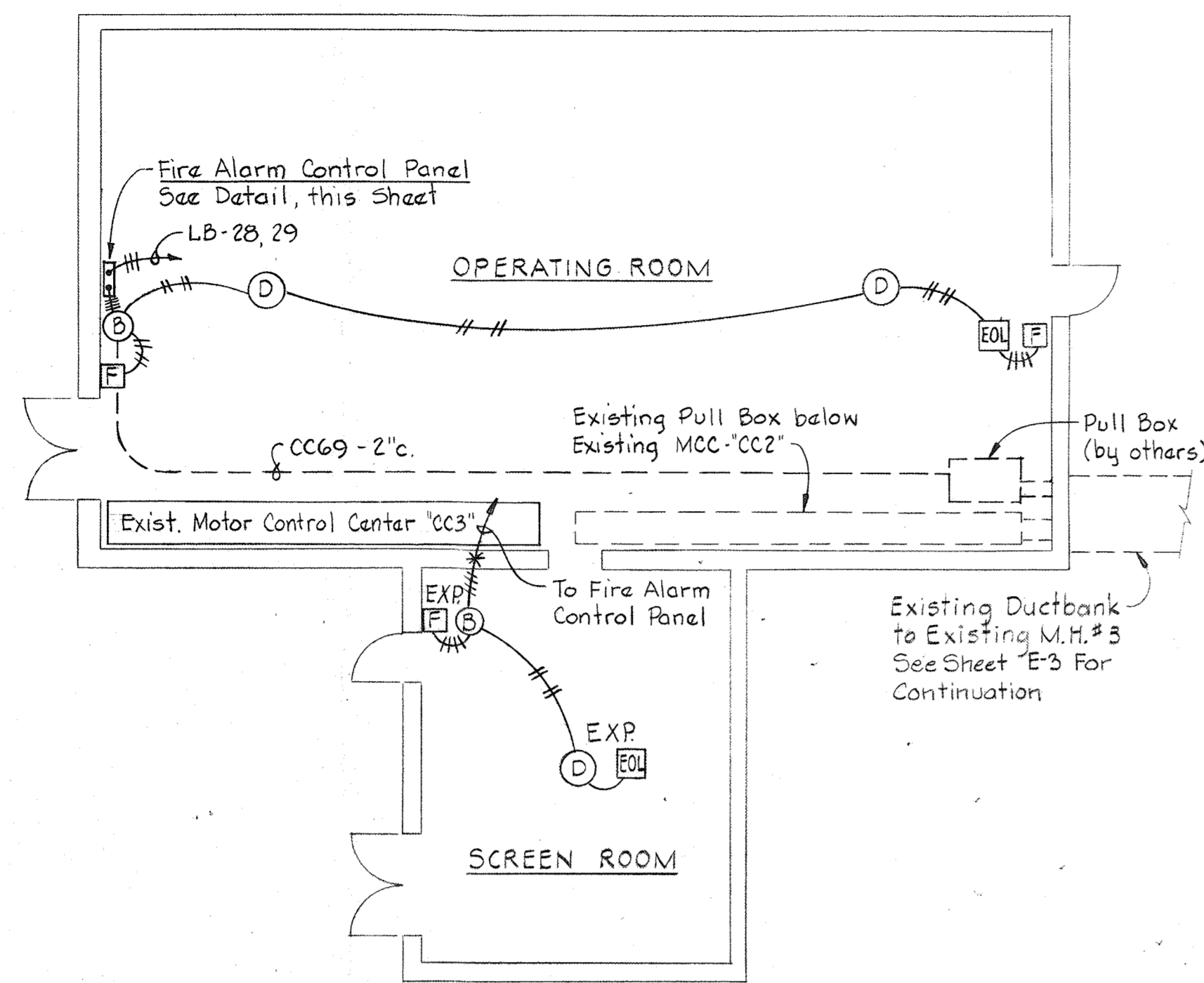
Fire Alarm Remote Station  
Receiving Control Panel  
Administration Building  
Control Room  
See Sheets, E-4 & E-6

- NOTE 5**
1. For General Electrical Notes & Electrical Legend, See Sheet E-3.
  2. For Control Cable Schedule, See Sheet E-17.

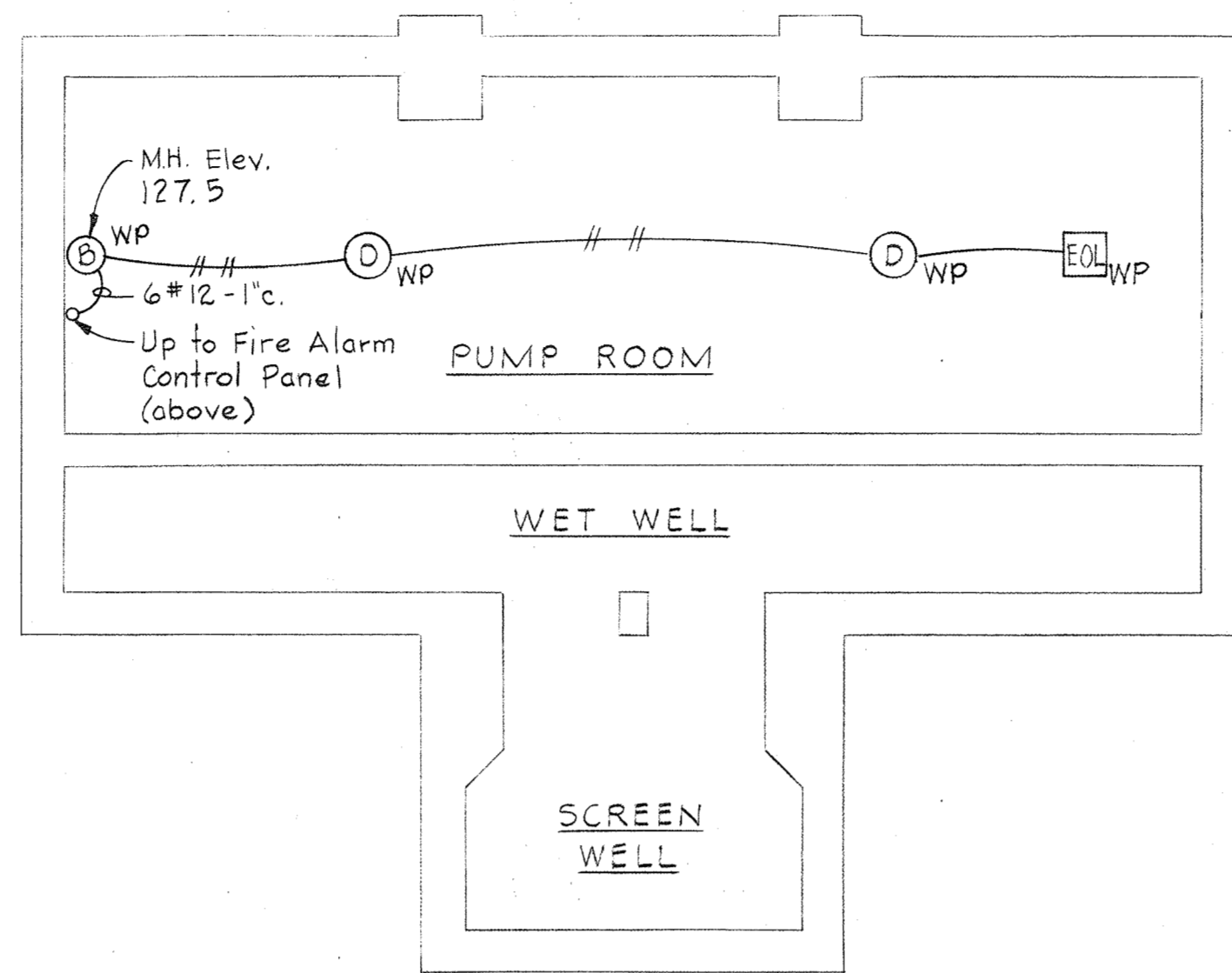
<b>WHITMAN, REQUARDT &amp; ASSOCIATES</b> ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	<b>DEPARTMENT OF PUBLIC WORKS</b> HOWARD COUNTY, MARYLAND <i>3/20/75</i> DATE <i>W. O. Fairbank</i> CHIEF BUREAU OF ENGINEERING	<b>CONTRACT NO. 505-S</b>	<b>FIRE ALARM</b> <b>ROUTING WIRING DIAGRAM</b>	<b>SAVAGE WASTEWATER</b> <b>TREATMENT PLANT ADDITION NO. 4</b>	<b>DRAWING</b> <b>NO. 8</b> <b>OF 29</b>	<b>SCALE</b> <b>NONE</b>
----------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------	----------------------------------------------------	-------------------------------------------------------------------	------------------------------------------------	-----------------------------

BRUNING 44-510 10392

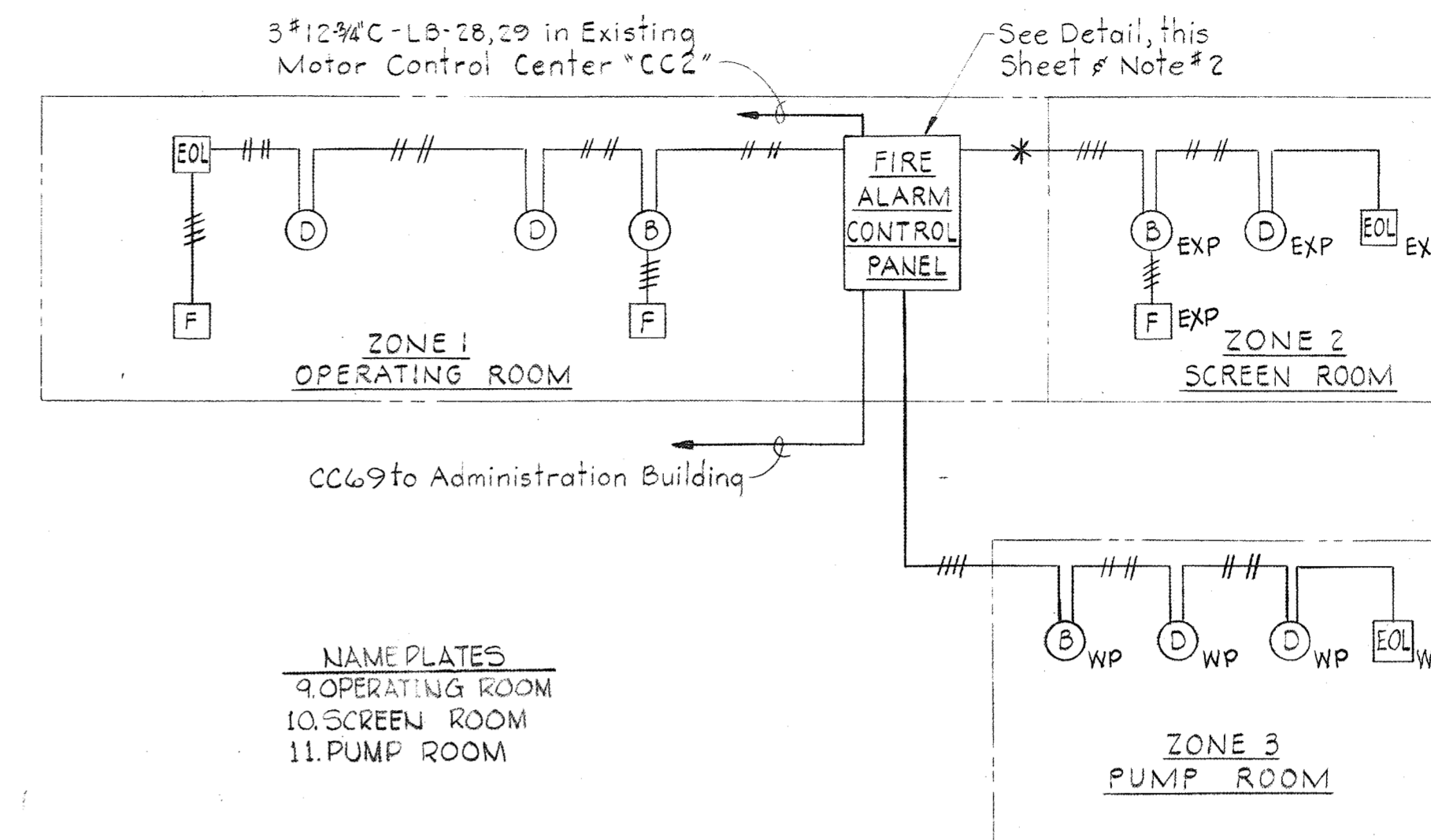




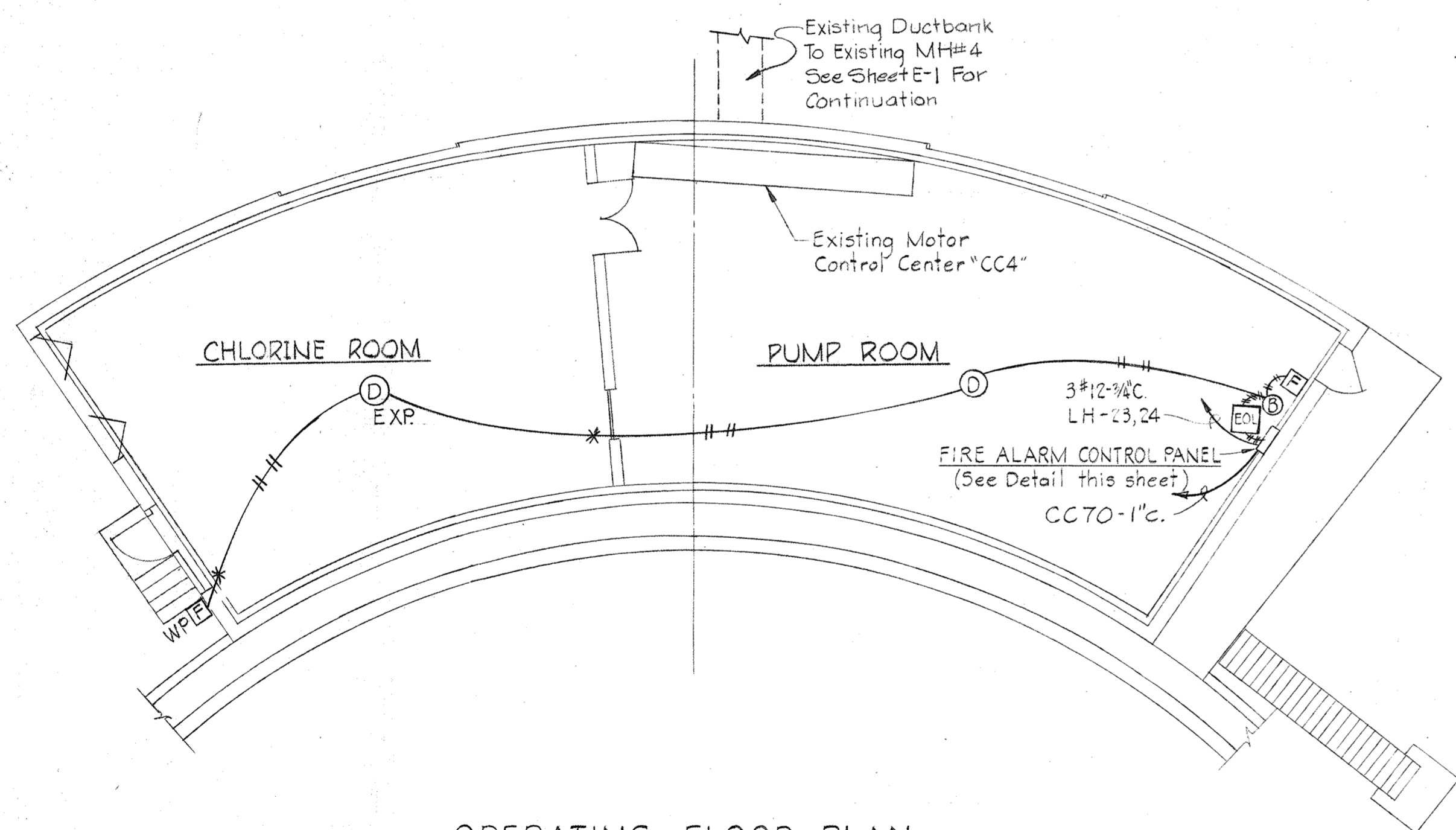
**OPERATING FLOOR PLAN  
EXISTING BLOWER BUILDING & PUMPING STATION**  
Scale: 1/8"=1'-0"



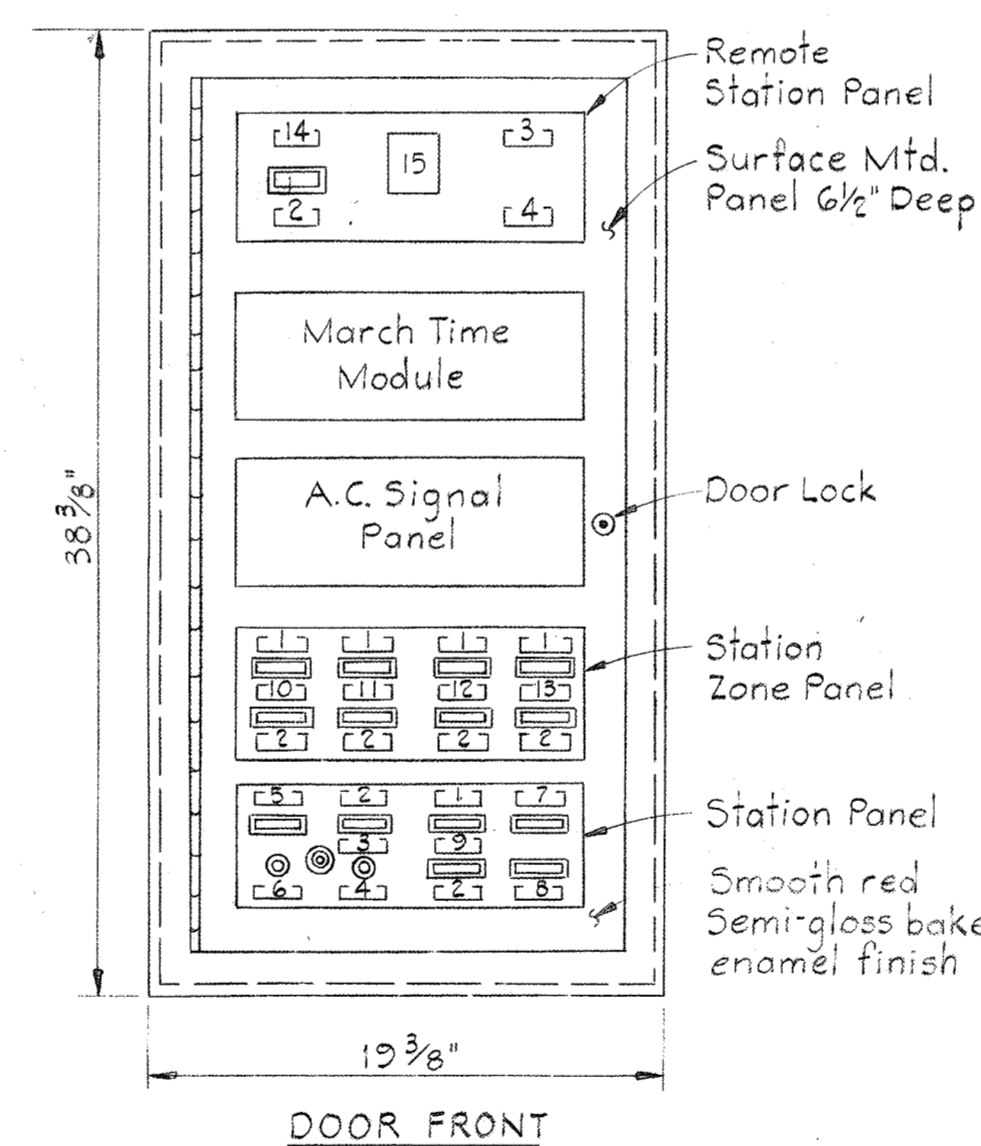
**PLAN - ELEV. 141.5  
EXISTING BLOWER BUILDING & PUMPING STATION**  
Scale: 1/8"=1'-0"



**ONE LINE DIAGRAM  
FIRE ALARM SYSTEM  
EXISTING BLOWER BUILDING**

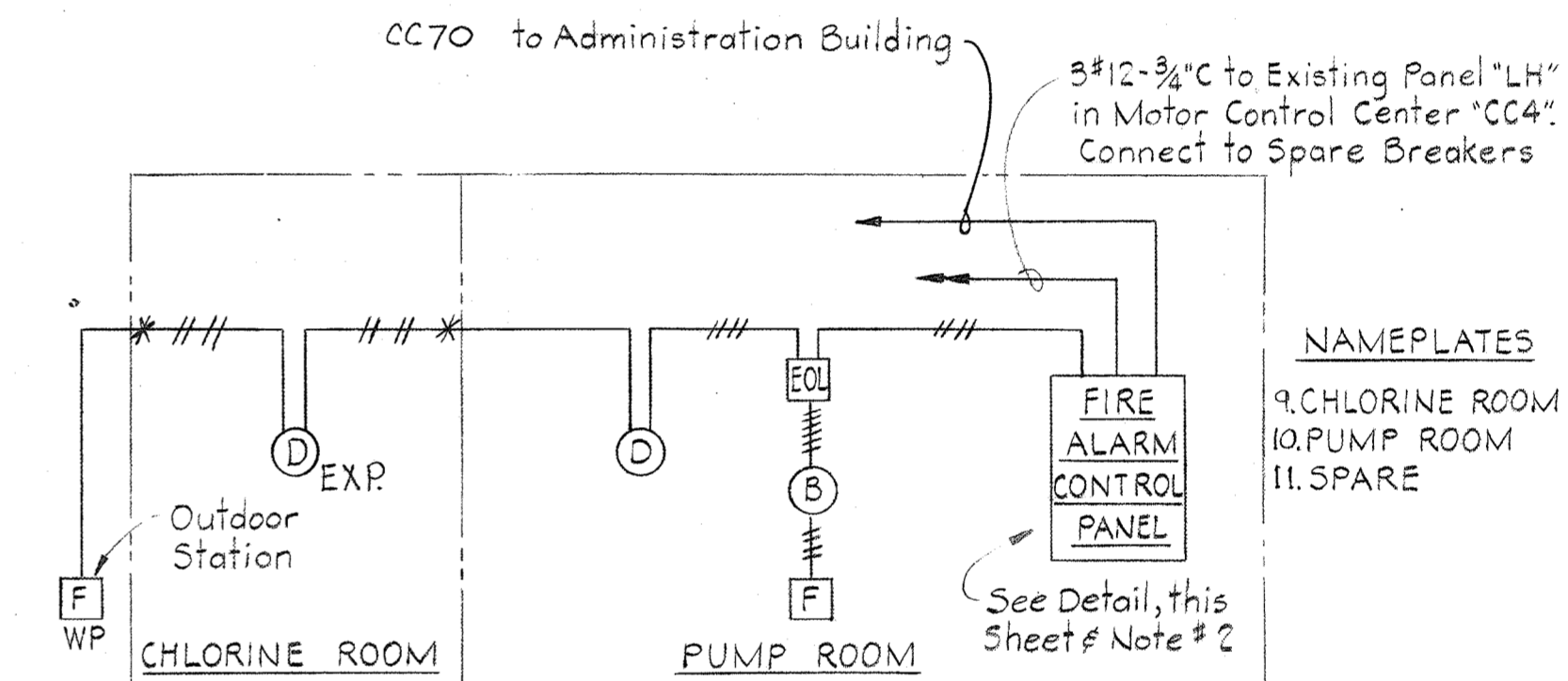


**OPERATING FLOOR PLAN  
EXISTING SLUDGE OXIDATION BLDG.**  
Scale: 1/8"=1'-0"



**FIRE ALARM CONTROL PANEL**  
TYPICAL FOR EXISTING BLOWER BLDG. & EXISTING SLUDGE OXIDATION BLDG.  
Scale: 1/2"=1'-0"

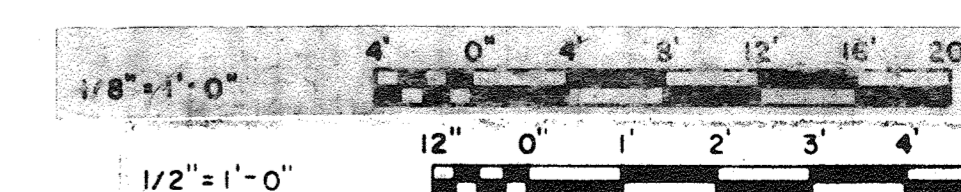
- LEGEND**
- 1-14 Nameplates
  - 15 Millimeter
  - ⊖ Indicating Light
  - ⊙ Switch
  - ⊙ Sonalert
- NAMEPLATES**
- 1. ALARM
  - 2. TROUBLE
  - 3. NORMAL
  - 4. SILENCE
  - 5. NORMAL POWER
  - 6. RESET
  - 7. SUPPLY POWER TROUBLE
  - 8. OPER. POWER TROUBLE
  - 9. See One Line Diagrams for inscription
  - 10. SPARE (Blank Nameplate)
  - 11. SPARE (Blank Nameplate)
  - 12. SPARE (Blank Nameplate)
  - 13. SPARE (Blank Nameplate)
  - 14. REMOTE LINE



**ONE LINE DIAGRAM  
FIRE ALARM SYSTEM  
EXISTING SLUDGE OXIDATION BLDG.**

**NOTES:**

1. For General Electrical Notes & Legend see Sheet E-3.
2. Five Zone Fire Alarm Control Panels shall be connected as shown in One Line Diagrams.
3. All wiring in Fire Alarm System shall be #14 AWG unless otherwise noted.
4. For Cable Schedule, see Sheet E-17.
5. For Cable Routing, see Sheet E-7.



BRUNING 44510 1892

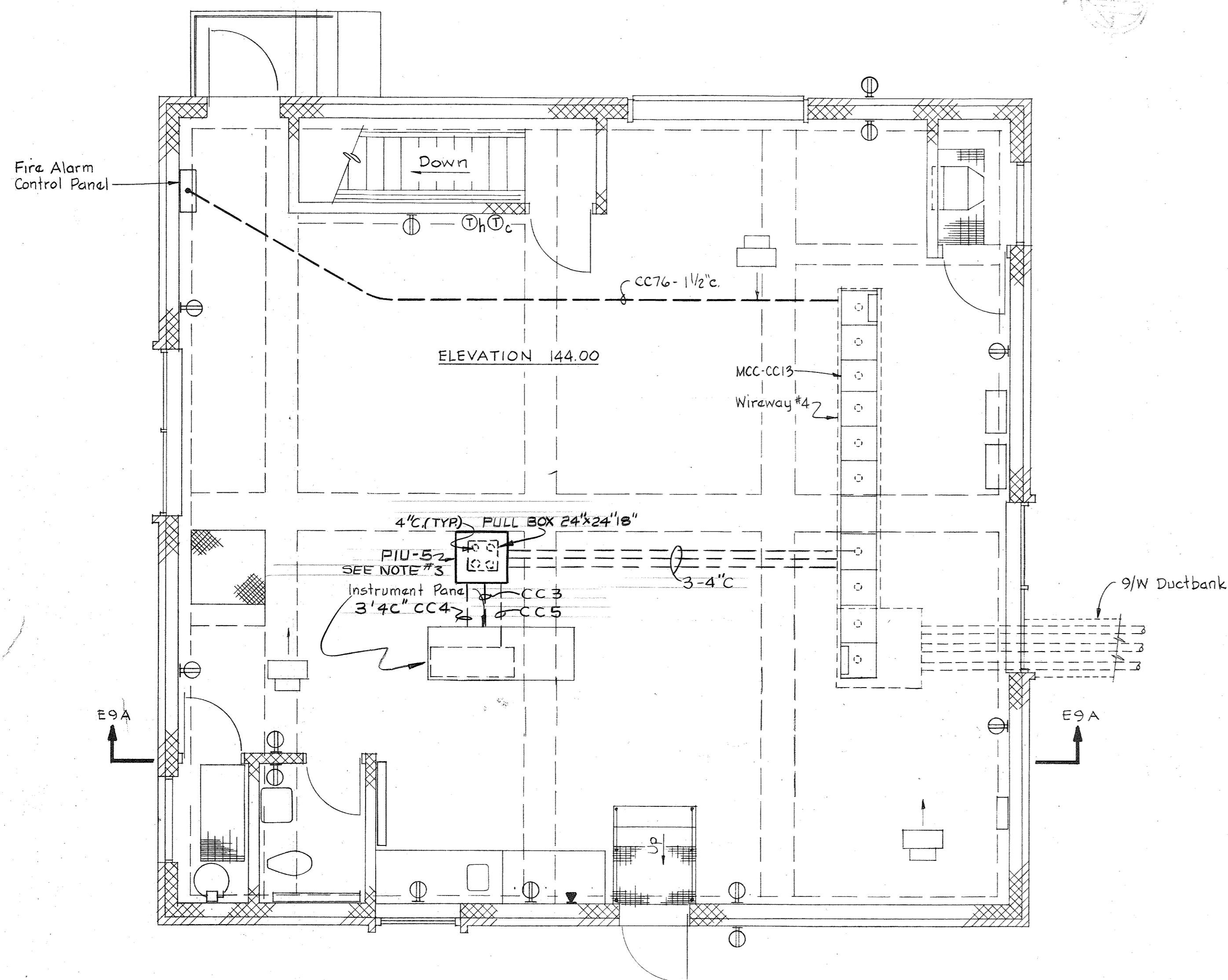
<b>WHITMAN, REQUARDT &amp; ASSOCIATES</b> ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	<b>DEPARTMENT OF PUBLIC WORKS</b> HOWARD COUNTY, MARYLAND 3/20/75 <i>W.O. Lillard</i> CHIEF-BUREAU OF ENGINEERING	<b>CONTRACT NO. 505-S</b>	<b>BLOWER BLDG. &amp; PS. &amp; SLUDGE OXIDATION BLDG. FIRE ALARM DETAILS</b>	<b>SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4</b>	<b>DRAWING NO. 9 OF 29</b> <b>SCALE AS SHOWN</b>
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W.O. 6887-2

SHEET E-8

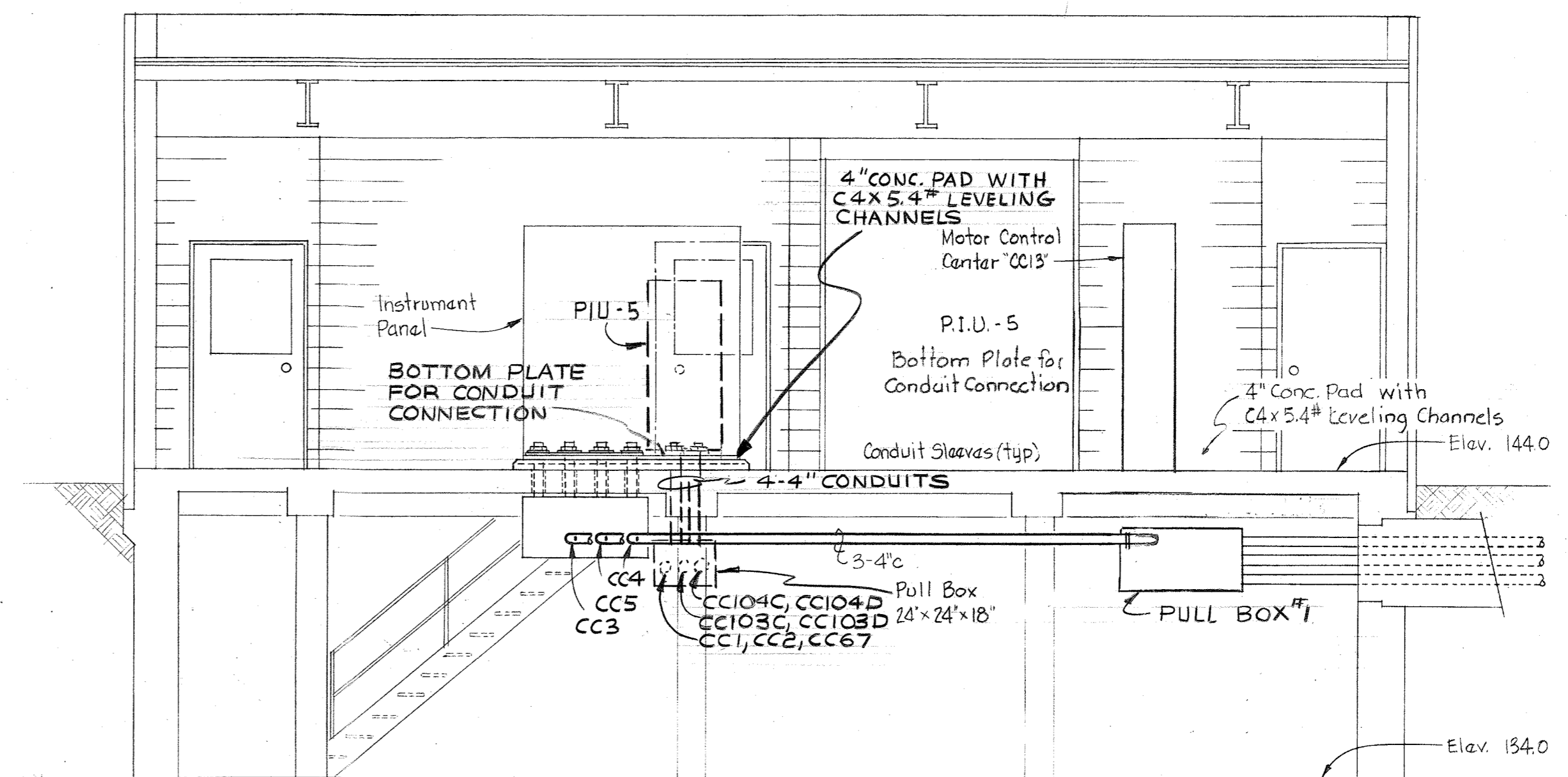
**NOTES:**

1. For General Electrical Notes & Legend, see Sheet E-3.
2. In "Phosphorus Control Bldg Plan" & SECTION E9A/E9, light line work indicates by others and heavy line work indicates work to be provided under this Contract.
3. For P.I.U.-5 (Computer) Routing Wiring Diagram, see Sheet E-20.



**PHOSPHORUS CONTROL BLDG PLAN**

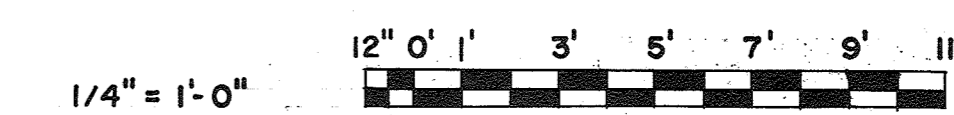
Scale: 1/4" = 1'-0"



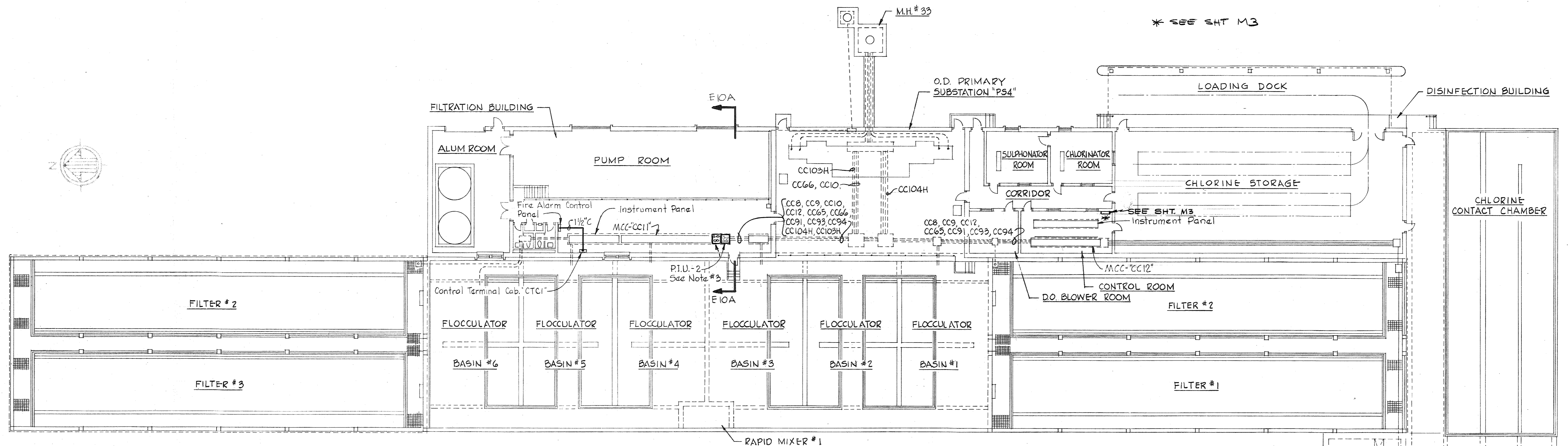
**SECTION E9A/E9**

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

AS INSTALLED 9 AUG MB



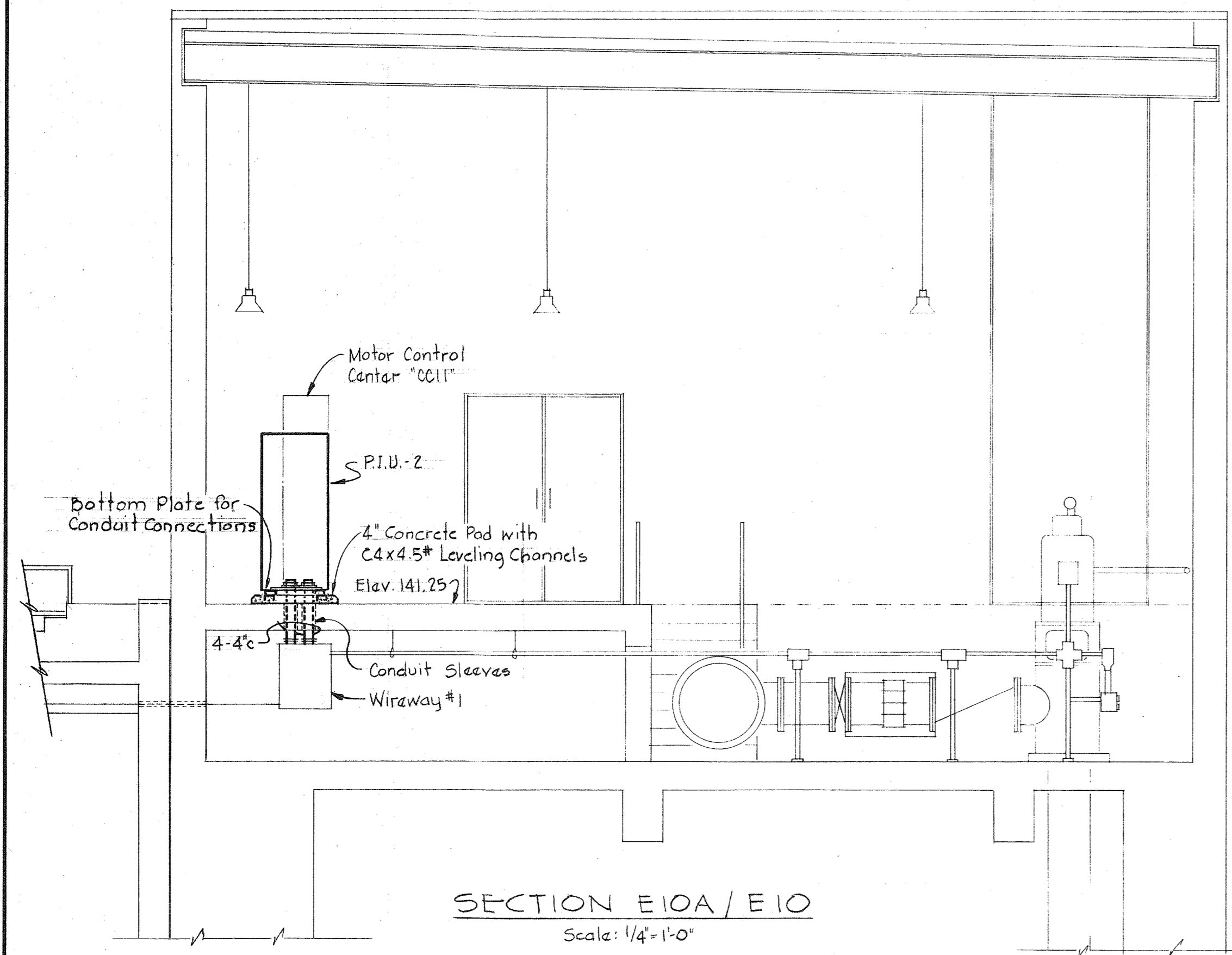
WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DATE: 3/31/78 Richard E. Greudenberg CHIEF BUREAU OF ENVIRONMENTAL SERVICES	CONTRACT NO. 505-S	PHOSPHORUS CONTROL BLDG. PLAN & DETAILS	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. 10 OF 29 SCALE AS SHOWN
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FILTRATION & DISINFECTION FACILITIES PLAN

Scale: 1/16" = 1'-0"

36" METER VAULT



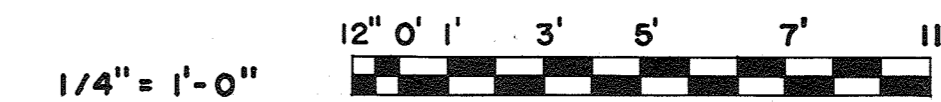
SECTION E10A/E10

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

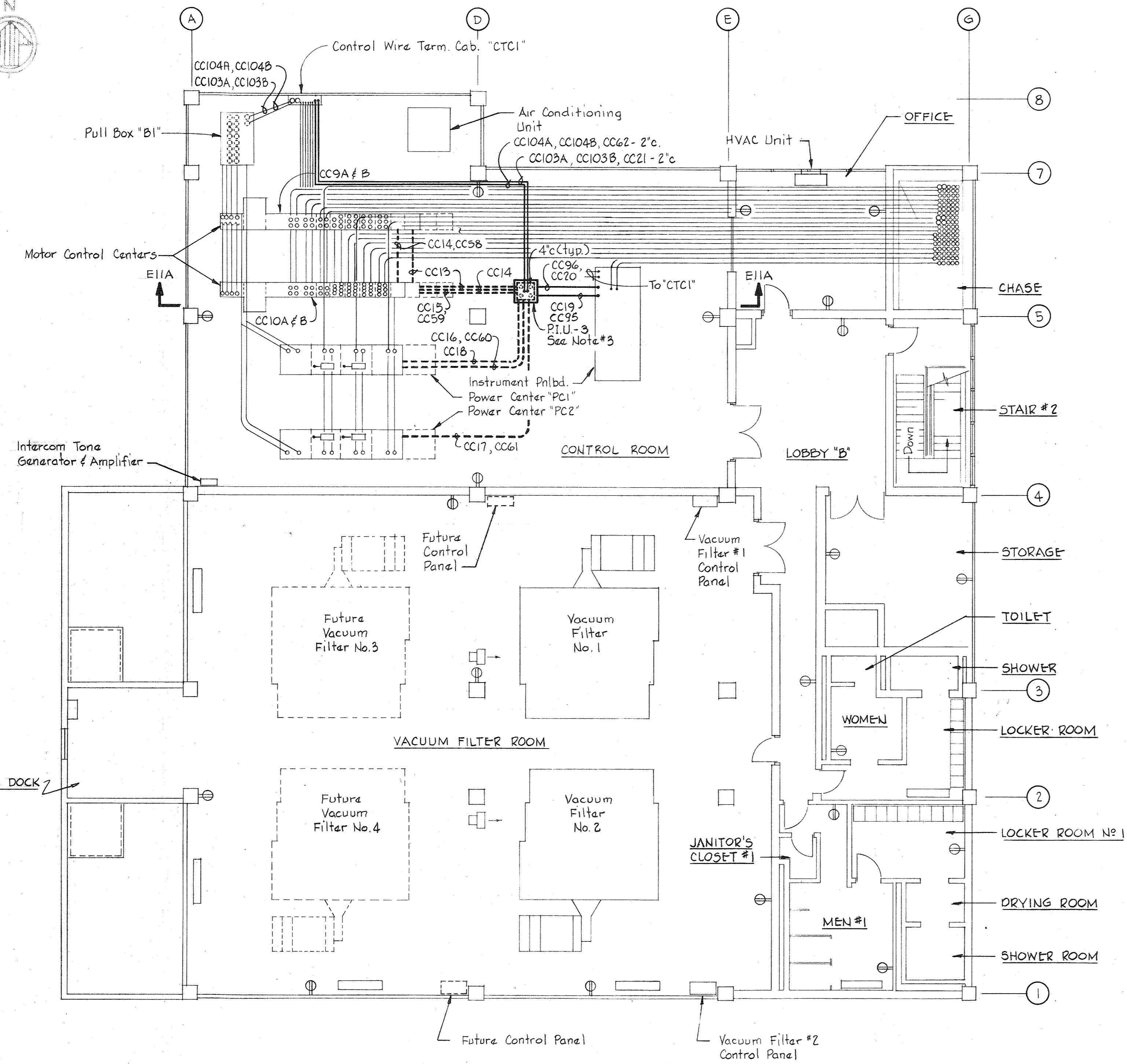
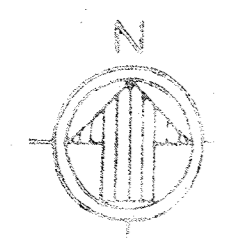
NOTES:

1. For General Electrical Notes & Legend, see Sheet E-3.
2. In "Filtration & Disinfection Facilities Plan" and "SECTION E10A/E10" light line work indicates by others and heavy line work indicates work to be provided under this contract.
3. For P.I.U.-2 (Computer) Routing Wiring Diagram, See Sheet E-19.

AS INSTALLED 9AUG 1982 SCE

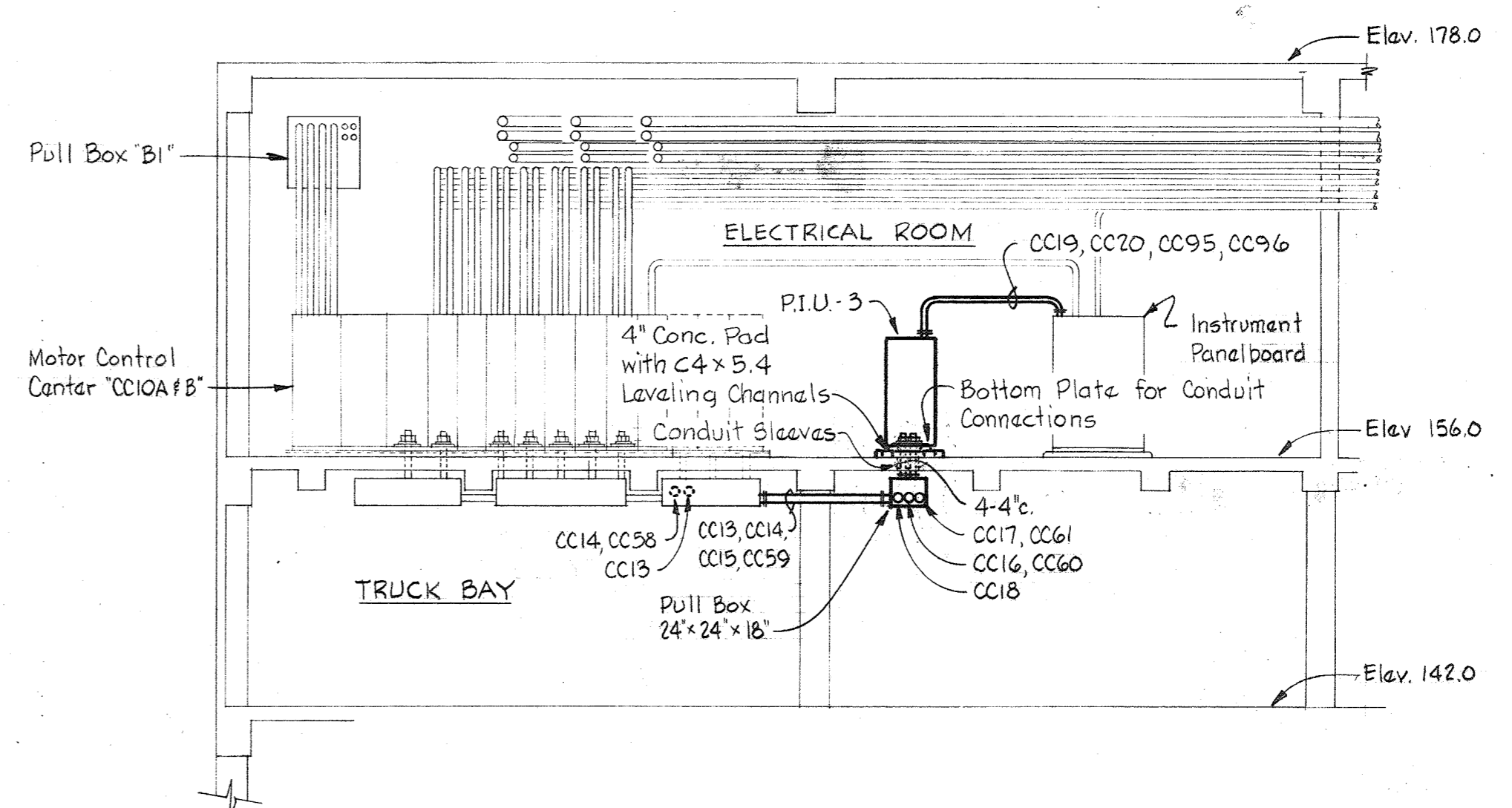


WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 3/31/78 <i>Richard E. Freudenberg</i> CHIEF BUREAU OF ENVIRONMENTAL SERVICES	CONTRACT NO. 505-S	FILTER CONTROL BLDG. PLAN & DETAILS	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. II OF 29 SCALE AS SHOWN
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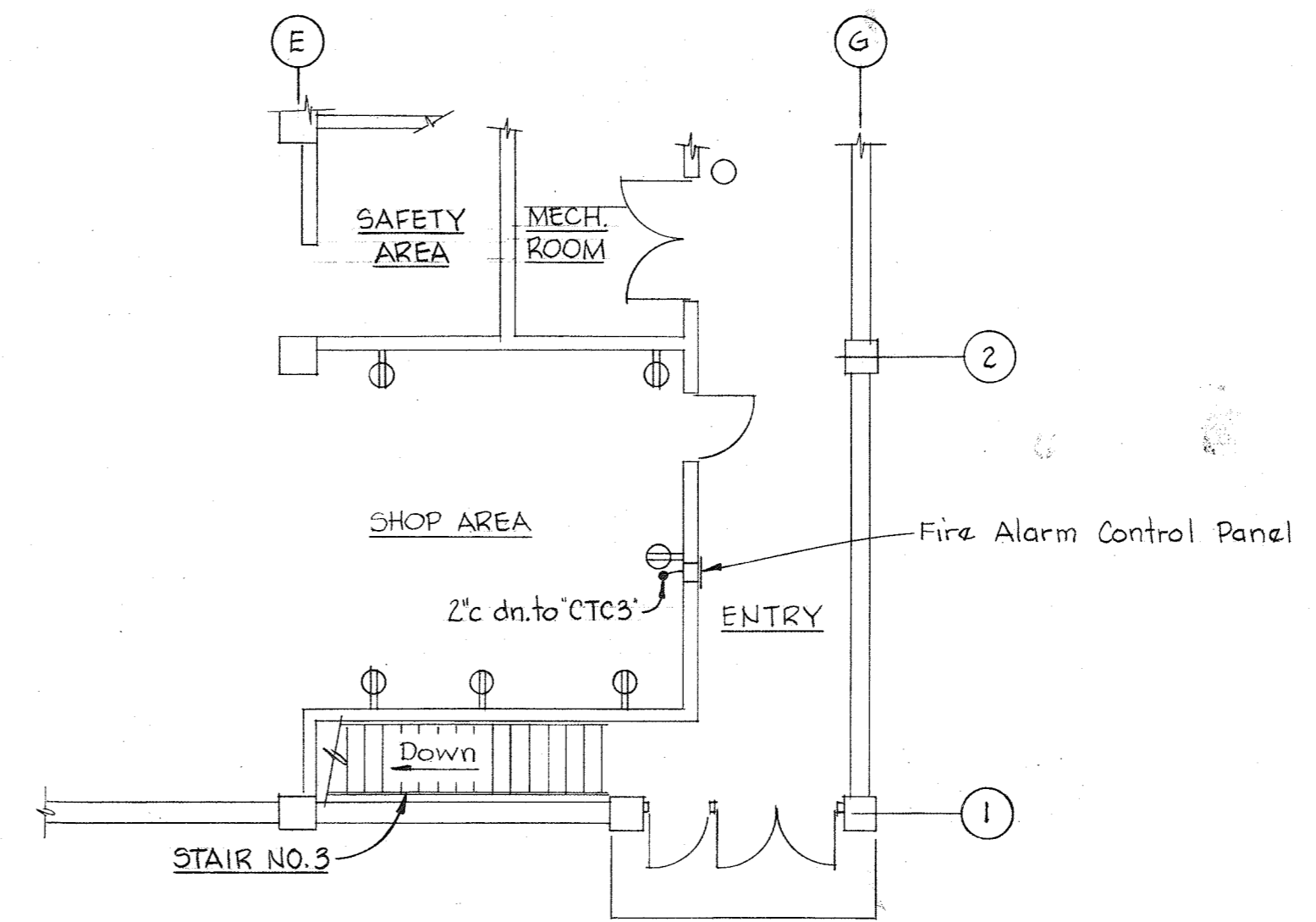


DEWATERING BUILDING PLAN - ELEV. 156  
Scale: 1/8" = 1'-0"

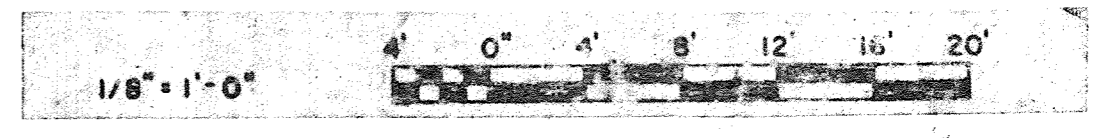
- NOTES:
1. For General Electrical Notes & Legend, see Sheet E-3.
  2. In "Dewatering Building Plan" and "SECTION E11A/E11" light linework indicates by others and heavy linework indicates work to be provided under this contract.
  3. For P.I.U.-3 (Computer) Routing Wiring Diagram, See Sheet E-19.



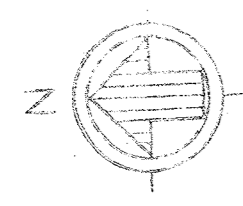
SECTION E11A/E11  
Scale: 1/8" = 1'-0"



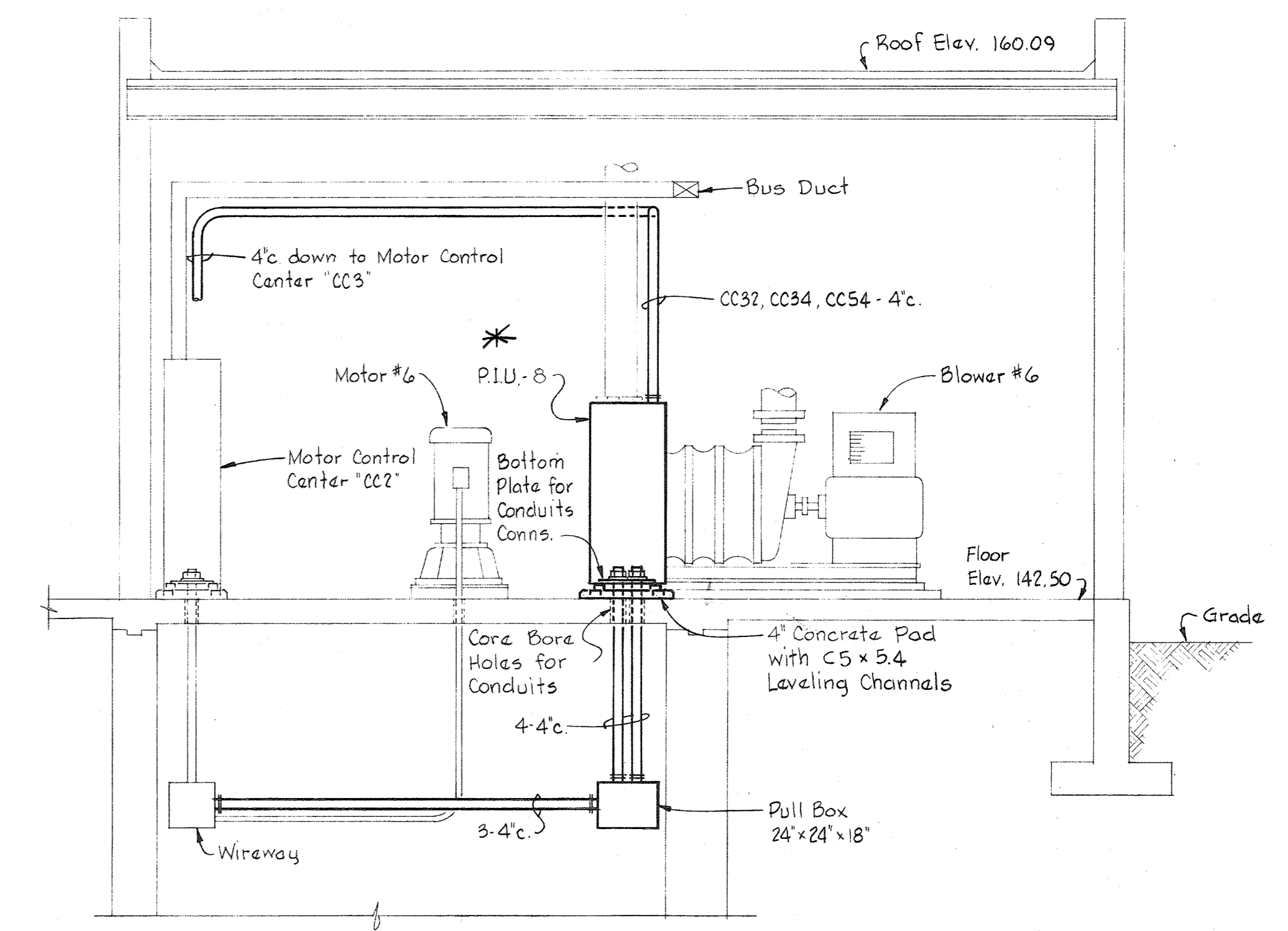
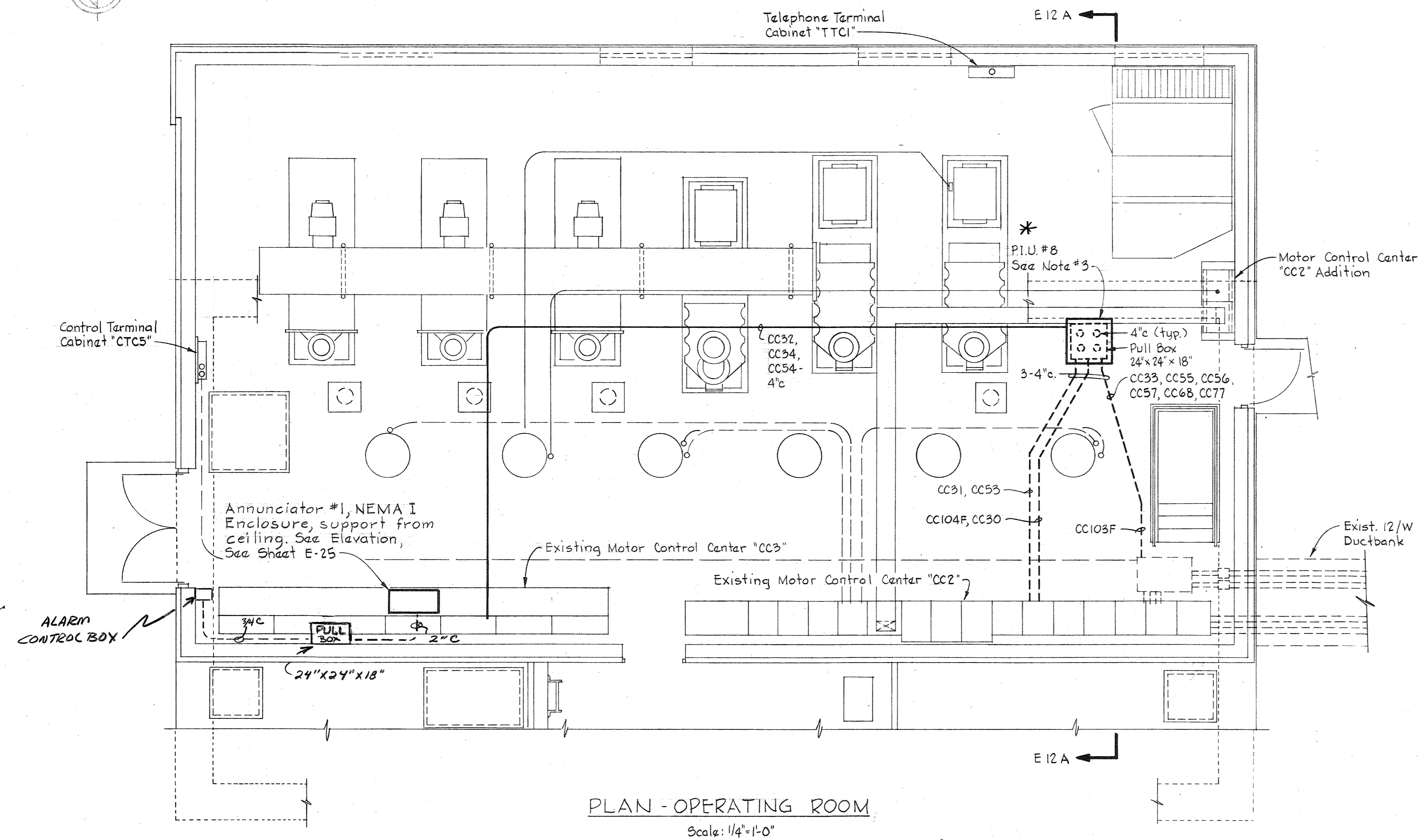
PART PLAN - ELEVATION 142  
Scale: 1/8" = 1'-0"



WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 2/31/78 DATE Richard E. Freudenberger CHIEF BUREAU OF ENVIRONMENTAL SERVICES	CONTRACT NO. 505-S	DEWATERING BLDG. PLAN & DETAILS	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. 12 OF 29 SCALE AS SHOWN
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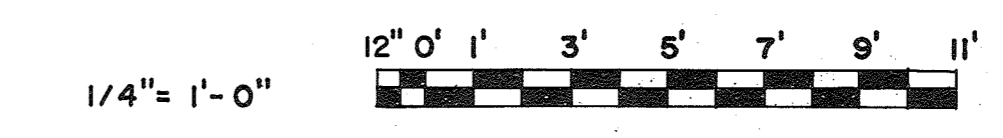


- NOTES:**
1. For General Electrical Notes & Legend, see Sheet E-3.
  2. In "Operating Room Plan" and "Section E12A/E12," light line work indicates by others and heavy line work indicates work to be provided under this Contract.
  3. For P.I.U.-8 (Computer) Routing Wiring Diagram, see Sheet E-20.

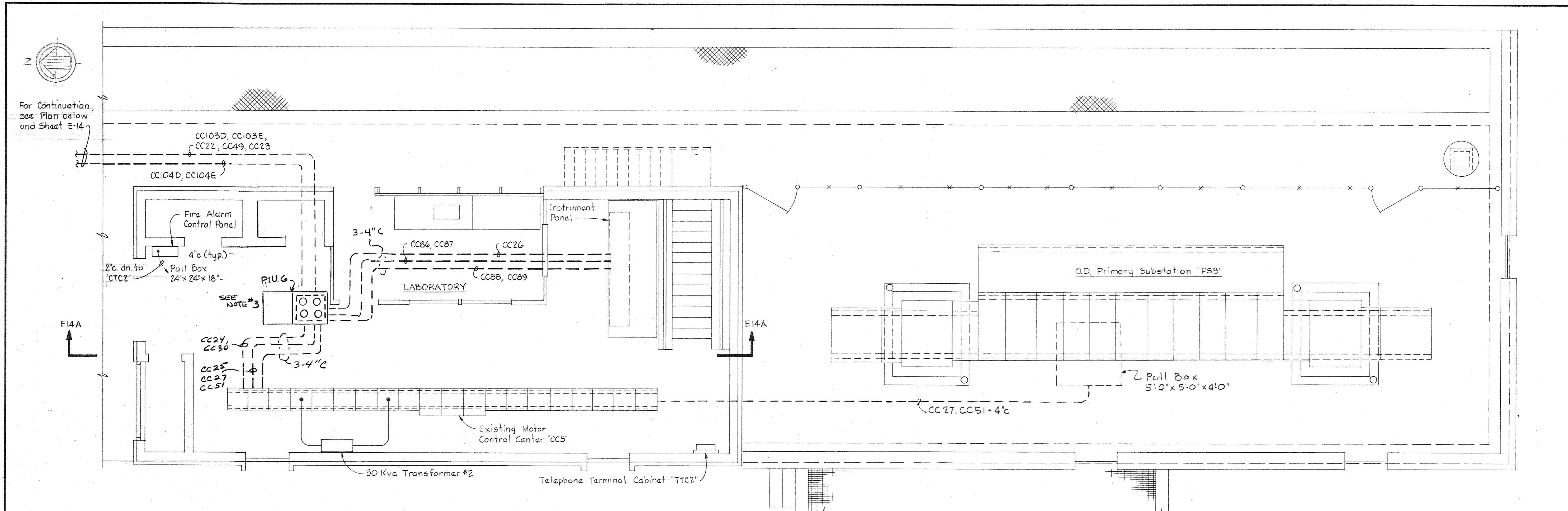


\* P.I.U.-8 WAS RELOCATED UNDER ANOTHER CONTRACT. LOCATION IS NOW OCCUPIED BY A TERMINAL CABINET (SAME SIZE AS P.I.U.)

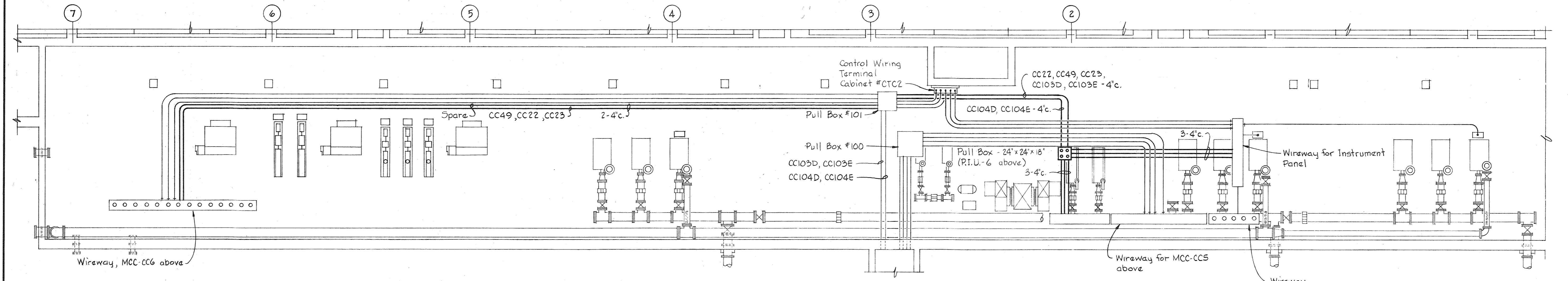
AS INSTALLED 9 AUG 1982 SCE



WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 3/31/78 <i>Richard E. Freudenberg</i> CHIEF BUREAU OF ENVIRONMENTAL SERVICES	CONTRACT NO. 505-S	BLOWER BLDG. & P.S. PLAN & DETAILS	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. 13 OF 29 SCALE AS SHOWN
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CONTROL BUILDING #1 PLAN  
Scale: 1/4" = 1'-0"

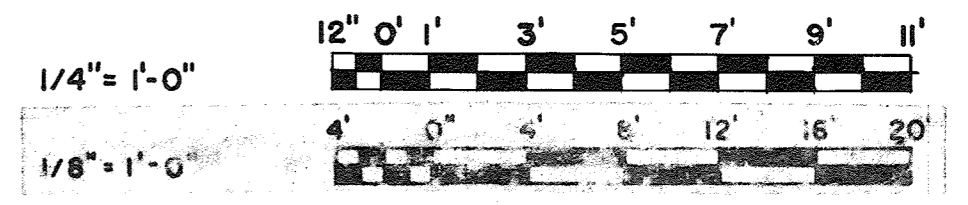


AERATION BASIN PIPE GALLERY WEST PLAN  
Scale: 1/8" = 1'-0"

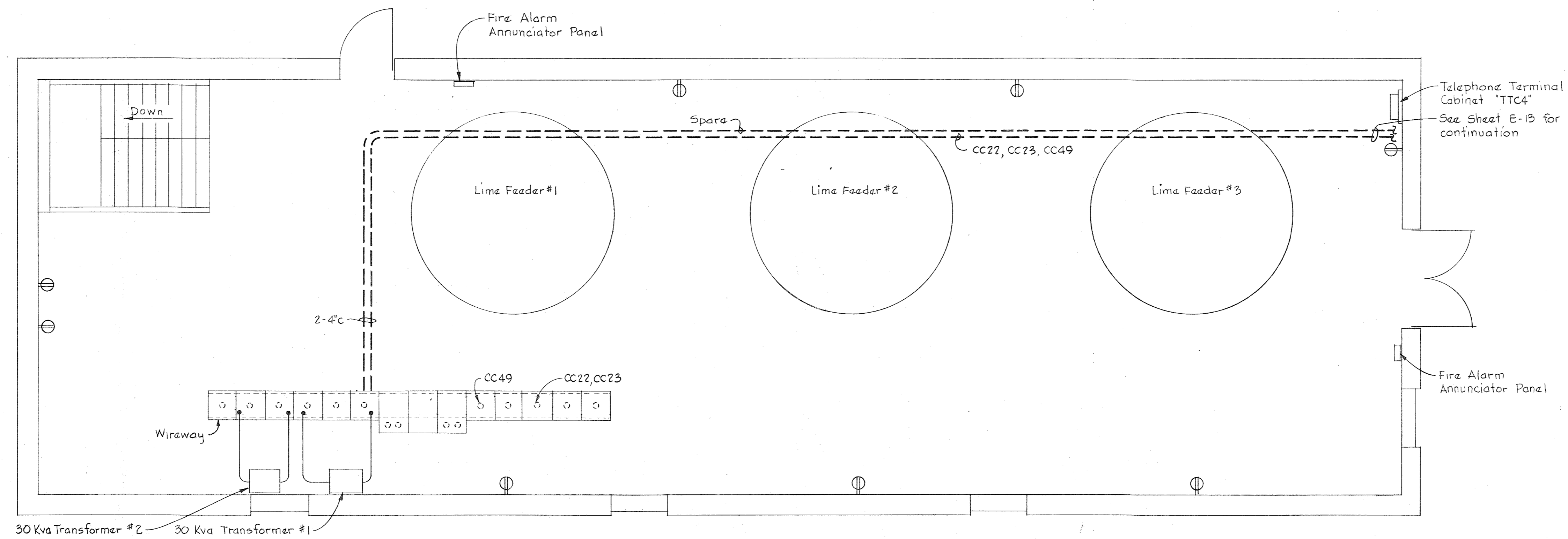
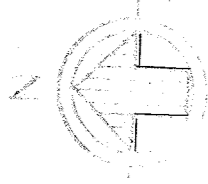
NOTES:

1. For General Electrical Notes & Legend, see Sheet E-3.
2. In "Control Building #1 Plan" and "Aeration Basin Pipe Gallery West Plan" light line work indicates by others and heavy line work indicates work to be provided under this Contract.
3. For P.I.U.-6 (Computer) Routing Wiring Diagram, See Sheet E-19.

AS INSTALLED 9AUG 1982 8C



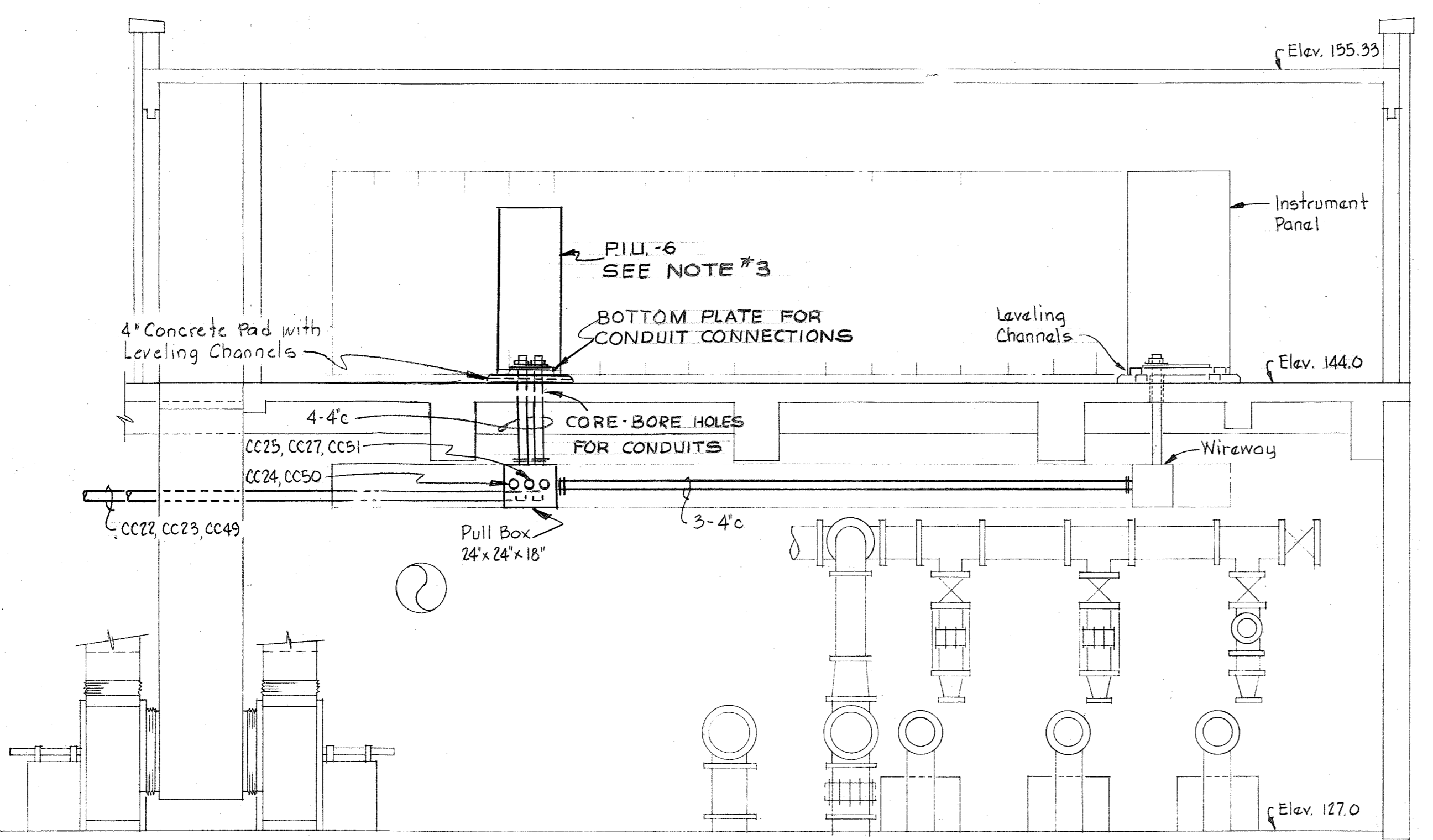
<p>WHITMAN, REQUARDT &amp; ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND</p>	<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 3/31/78 DATE <i>Richard E. Lindenberger</i> CHIEF BUREAU OF ENVIRONMENTAL SERVICES</p>	<p>CONTRACT NO. 505 -S</p>	<p>A.B. CONTROL BLDG. #1 PLAN &amp; DETAILS</p>	<p>SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4</p>	<p>DRAWING NO. 14 OF 29</p>	<p>SCALE AS SHOWN</p>
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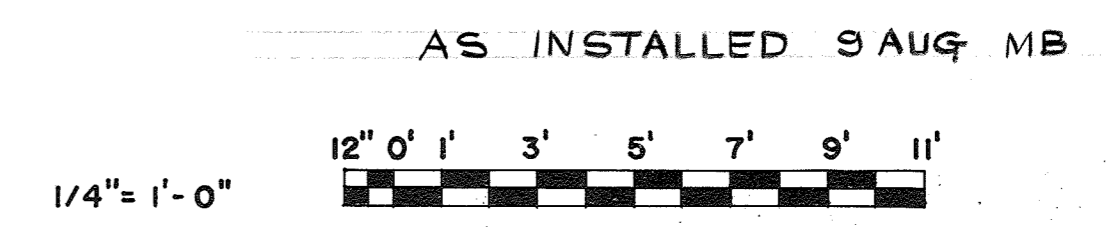
**NOTES:**

1. For General Electrical Notes & Legend, see Sheet E-3.
2. In "Chemical Bldg. Floor Plan" and SECTION E:4A/E:13 light line work indicates work by others and heavy line work indicates work to be provided under this contract.
3. For P.I.U.-6 (Computer) Routing Wiring Diagram, see Sheet E-19.

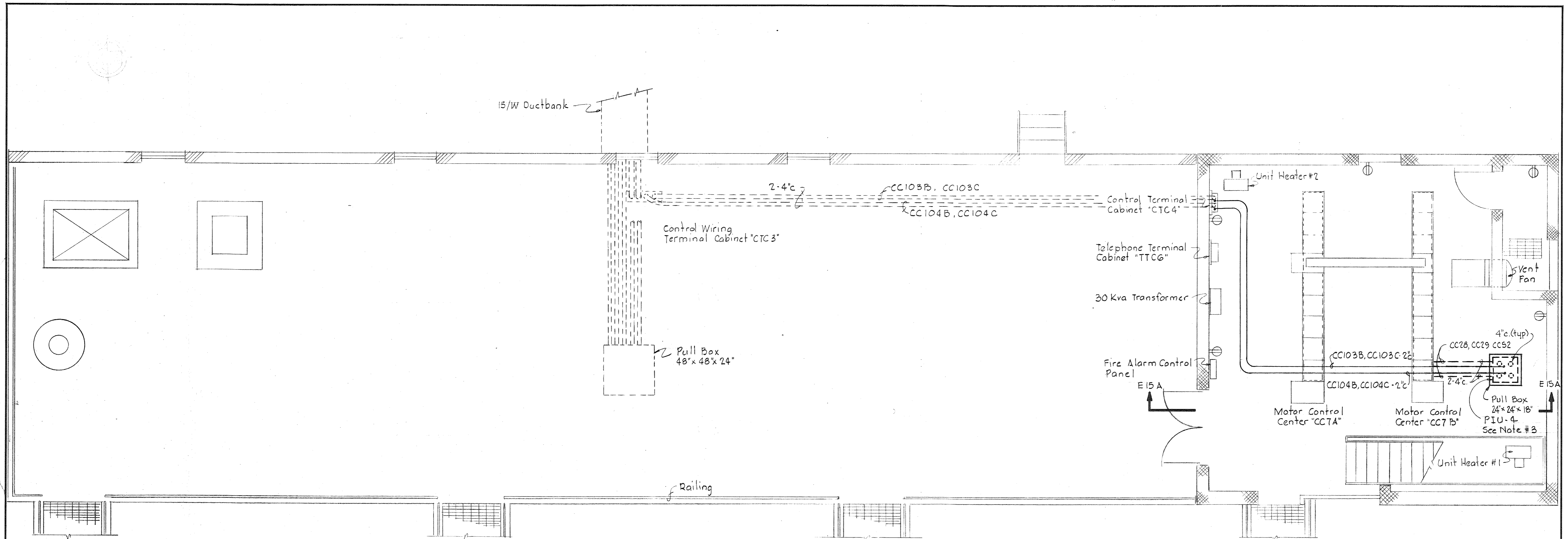
**CHEMICAL BUILDING FLOOR PLAN**  
Scale: 1/4" = 1'-0"



**SECTION E:14A/E:13**  
Scale: 1/4" = 1'-0"

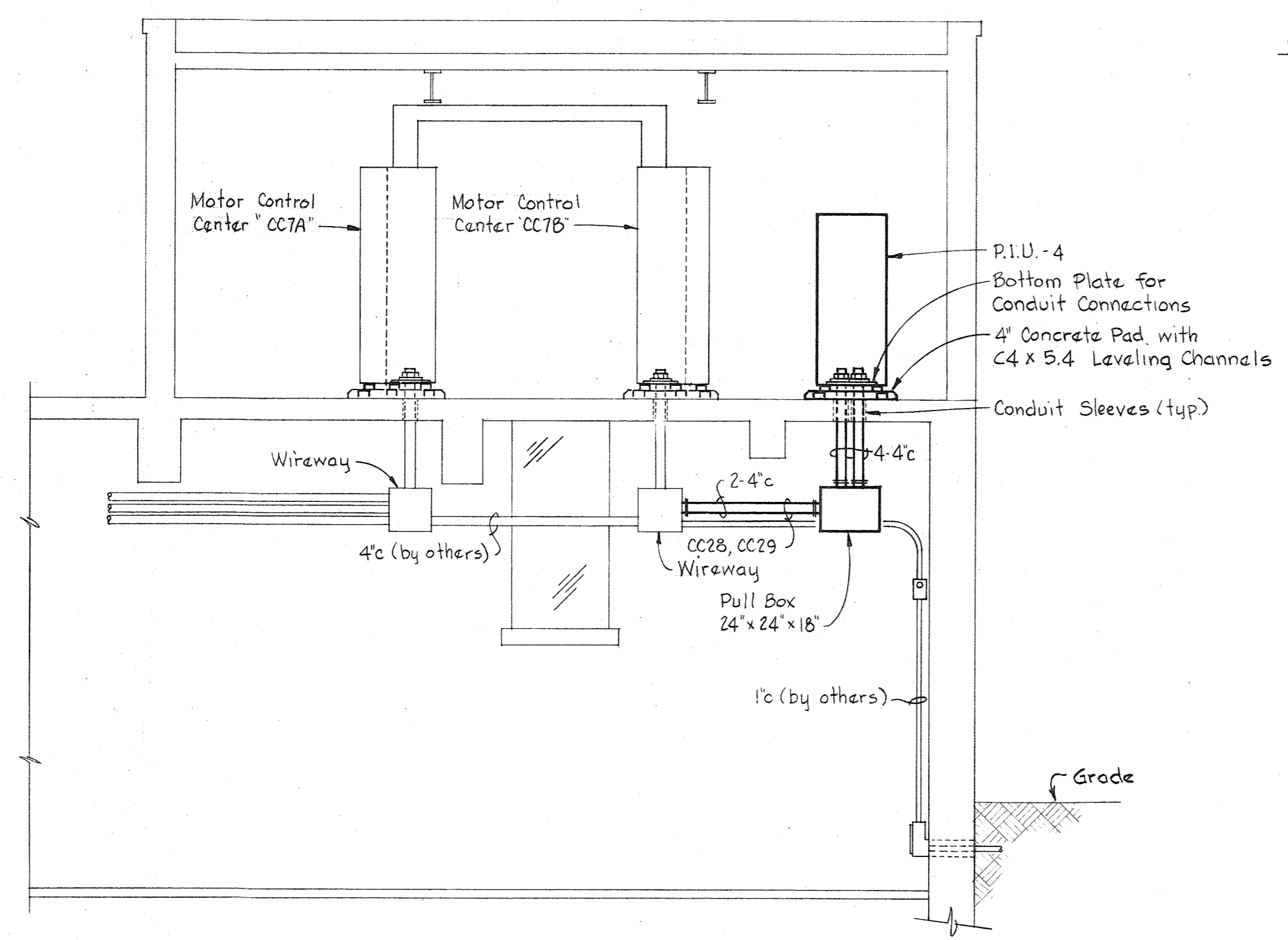


<p><b>WHITMAN, REQUARDT &amp; ASSOCIATES</b> ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND</p>	<p><b>DEPARTMENT OF PUBLIC WORKS</b> HOWARD COUNTY, MARYLAND 3/31/78 Richard E. Freudenberg CHIEF BUREAU OF ENVIRONMENTAL SERVICES</p>	<p>CONTRACT NO. <b>505-S</b></p>	<p><b>CHEMICAL FEED BLDG</b> PLAN &amp; DETAILS</p>	<p><b>SAVAGE WASTEWATER</b> TREATMENT PLANT ADDITION NO. 4</p>	<p>DRAWING NO. <u>15</u> OF <u>29</u></p>	<p>SCALE AS SHOWN</p>
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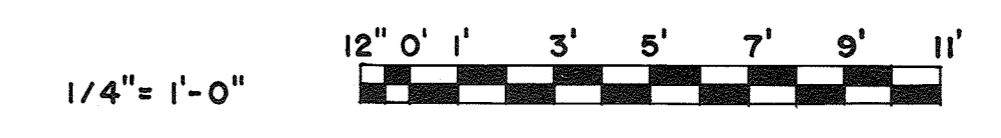
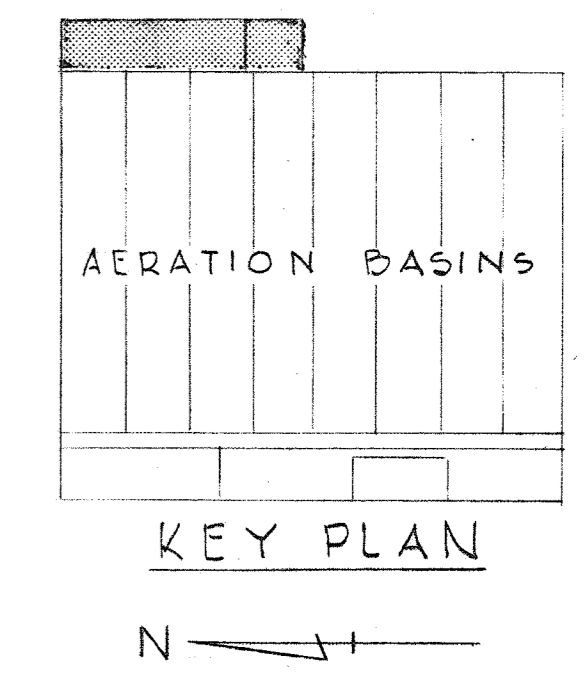


CONTROL BUILDING #2 - PLAN  
Scale 1/4" = 1'-0"

- NOTES:
1. For General Electrical Notes and Legend, see Sheet E-3.
  2. In "Control Building #2 - Plan" and "Section E15A/E15," light linework indicates by others, and heavy linework indicates work provided under this Contract.
  3. For PIU-4 (Computer) routing wiring diagram, see Sheet E-19.



SECTION E15A/E15  
Scale: 1/4" = 1'-0"



WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 3/31/78 DATE <i>Richard E. Breudenberg</i> CHIEF BUREAU OF ENVIRONMENTAL SERVICES	CONTRACT NO. 505-S	A.B. CONTROL BLDG. #2 PLAN & DETAILS	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. 16 OF 29 SCALE AS SHOWN
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CONTROL CABLE SCHEDULE								
RUN No	FROM	TO	FOR	WIRE			CONDUIT RACEWAY	REMARKS
				No.	Size	Type		
CC1	MCC "CC13" Phosphorus Control Bldg.	"PIU.-5" Phosphorus Control Bldg.	Alarm Points Wiring Annunciator #2	2(20/c)	14	See Spec.	See Dwgs.	
CC2	MCC "CC13" Phosphorus Control Bldg.	"PIU.-5" Phosphorus Control Bldg.	Maintenance Points Wiring	2(20/c)	14	See Spec.	See Dwgs.	
CC3	Instrument Panel Phosphorus Control Bldg.	"PIU.-5" Phosphorus Control Bldg.	Alarm Points Wiring Annunciator #1	20/c	14	See Spec.	See Dwgs.	
CC4	Instrument Panel Phosphorus Control Bldg.	"PIU.-5" Phosphorus Control Bldg.	Control & Indication Wiring - Phosph. Sludge Sys.	6(5/P)	16	See Spec.	See Dwgs.	
CC5	Instrument Panel Phosphorus Control Bldg.	"PIU.-5" Phosphorus Control Bldg.	Control & Indication Wiring - Lime Slurry Sys.	5(5/P)	16	See Spec.	See Dwgs.	
CC6	MCC "CC11" Filter Control Building	"PIU.-2" Filter Control Building	Alarm Points Wiring Annunciator #9	20/c	14	See Spec.	See Dwgs.	
CC7	MCC "CC11" Filter Control Building	"PIU.-2" Filter Control Building	Maintenance Points Wiring	4(20/c)	14	See Spec.	See Dwgs.	
CC8	MCC "CC12" Disinfection Control Room	"PIU.-2" Filter Control Building	Alarm Points Wiring Annunciator #11	2(20/c)	14	See Spec.	See Dwgs.	
CC9	MCC "CC12" Disinfection Control Room	"PIU.-2" Filter Control Building	Maintenance Points Wiring	4(20/c)	14	See Spec.	See Dwgs.	
CC10	O.D. Substation "PS4"	"PIU.-2" Filter Control Building	Alarm Points Wiring Annunciator #15	2(20/c)	14	See Spec.	See Dwgs.	
CC11	Instrument Panel Filter Control Building	"PIU.-2" Filter Control Building	Alarm Points Wiring Annunciator #10-1 & #10-2	3(20/c)	14	See Spec.	See Dwgs.	
CC12	Instrument Panel Disinfection Building	"PIU.-2" Filter Control Building	Alarm Points Wiring Annunciator #12	3(20/c)	14	See Spec.	See Dwgs.	
CC13	MCC "CC9A & B" Elect. Rm., Dewatering Bldg.	"PIU.-3" Elect. Rm., Dewatering Bldg.	Maintenance Points Wiring	5(20/c)	14	See Spec.	4"	
CC14	MCC "CC9A & B" Elect. Rm., Dewatering Bldg.	"PIU.-3" Elect. Rm., Dewatering Bldg.	Alarm Points Wiring Annunciator #8-1	20/c	14	See Spec.	2"	
CC15	MCC "CC10A & B" Elect. Rm., Dewatering Bldg.	"PIU.-3" Elect. Rm., Dewatering Bldg.	Maintenance Points Wiring	5(20/c)	14	See Spec.	4"	
CC16	Pwr. Cent. "PC1" Elect. Rm., Dewatering Bldg.	"PIU.-3" Elect. Rm., Dewatering Bldg.	Maintenance Points Wiring	10/c	14	See Spec.	1 1/2"	
CC17	Pwr. Cent. "PC2" Elect. Rm., Dewatering Bldg.	"PIU.-3" Elect. Rm., Dewatering Bldg.	Maintenance Points Wiring	10/c	14	See Spec.	1 1/2"	
CC18	Pwr. Cent. "PC1" Elect. Rm., Dewatering Bldg.	"PIU.-3" Elect. Rm., Dewatering Bldg.	Alarm Points Wiring Annunciator #8-2	10/c	14	See Spec.	1 1/2"	
CC19	Instrument Panel, Elect. Rm., Dewatering Bldg.	"PIU.-3" Elect. Rm., Dewatering Bldg.	Alarm Points Wiring Annunciator #8-3	2(20/c)	14	See Spec.	4"	
CC20	Instrument Panel, Elect. Rm., Dewatering Bldg.	"PIU.-3" Elect. Rm., Dewatering Bldg.	Control & Indication Wiring	4(5/P)	16	See Spec.	4"	
CC21	O.D. Substation "PS2"	"PIU.-3" Elect. Rm., Dewatering Bldg.	Alarm Points Wiring Annunciator #13	2(20/c)	14	See Spec.	4"	
CC22	MCC "CC6" - Chem. Bldg., Aeration Basin West	"PIU.-6" - Control Bldg #1 Aeration Basin West	Maintenance Points Wiring	4(20/c)	14	See Spec.	4"	
CC23	MCC "CC6" - Chem. Bldg., Aeration Basin West	"PIU.-6" - Control Bldg #1 Aeration Basin West	Alarm Points Wiring Annunciator #6	2(20/c)	14	See Spec.	4"	
CC24	MCC "CC5" - Control Bldg #1 Aeration Basin West	"PIU.-6" - Control Bldg #1 Aeration Basin West	Maintenance Points Wiring	5(20/c)	14	See Spec.	4"	
CC25	MCC "CC5" - Control Bldg #1 Aeration Basin West	"PIU.-6" - Control Bldg #1 Aeration Basin West	Alarm Points Wiring Annunciator #4	2(20/c)	14	See Spec.	4"	
CC26	Instrument Panel - Control Bldg #1 Aeration Basin West	"PIU.-6" - Control Bldg #1 Aeration Basin West	Alarm Points Wiring Annunciator #18-1 & #18-2	6(20/c)	14	See Spec.	4"	
CC27	O.D. Substation "PS3"	"PIU.-6" - Control Bldg #1 Aeration Basin West	Alarm Points Wiring Annunciator #14	2(20/c)	14	See Spec.	4"	
CC28	MCC "CC7A & B" - Control Bldg #2, Aerat. Basin East	"PIU.-4" - Control Bldg #2 Aeration Basin East	Maintenance Points Wiring	3(20/c)	14	See Spec.	4"	
CC29	MCC "CC7A & B" - Control Bldg #2, Aerat. Basin East	"PIU.-4" - Control Bldg #2 Aeration Basin East	Alarm Points Wiring Annunciator #7	2(20/c)	14	See Spec.	4"	
CC30	MCC "CC2" - Blower Bldg. & Pumping Station	"PIU.-8" - Blower Bldg. & Pumping Station	Alarm Points Wiring Annunciator #1	20/c	14	See Spec.	See Dwgs.	
CC31	MCC "CC2" - Blower Bldg. & Pumping Station	"PIU.-8" - Blower Bldg. & Pumping Station	Maintenance Points Wiring	4(20/c)	14	See Spec.	See Dwgs.	
CC32	MCC "CC3" - Blower Bldg. & Pumping Station	"PIU.-8" - Blower Bldg. & Pumping Station	Maintenance Points Wiring	20/c	14	See Spec.	See Dwgs.	
CC33	Main O.D. Switchgear	"PIU.-8" - Blower Bldg. & Pumping Station	Alarm Points Wiring Annunciator #2	20/c	14	See Spec.	See Dwgs.	
CC34	MCC "CC3" Blower Bldg. & Pumping Station	"PIU.-8" - Blower Bldg. & Pumping Station	Alarm Points Wiring Annunciator #1	20/c	14	See Spec.	See Dwgs.	

CONTROL CABLE SCHEDULE								
RUN No	FROM	TO	FOR	WIRE			CONDUIT RACEWAY	REMARKS
				No.	Size	Type		
CC35								
CC36								
CC37								
CC38								
CC39								
CC40								
CC41								
CC42								
CC43								
CC44								
CC45								
CC46								
CC47								
CC48								
CC49	MCC "CC6" - Chem. Bldg., Aeration Basin West	"PIU.-6" - Control Bldg #1 Aeration Basin West	Wattmeter, Feeder #1 & #2, Wiring	2/P	16	See Spec.	See Dwgs.	
CC50	MCC "CC5" - Control Bldg #1 Aeration Basin West	"PIU.-6" - Control Bldg #1 Aeration Basin West	Wattmeter, Feeder #1 & #2, Wiring	2/P	16	See Spec.	See Dwgs.	
CC51	O.D. Substation "PS3"	"PIU.-6" - Control Bldg #1 Aeration Basin West	Wattmeter, Feeder #1 & #2, Wiring	2/P	16	See Spec.	See Dwgs.	
CC52	MCC "CC7A & B" Control Bldg #2, Aerat. Basin East	"PIU.-4" - Control Bldg #2 Aeration Basin East	Wattmeter, Feeder #1 & #2, Wiring	2/P	16	See Spec.	See Dwgs.	
CC53	MCC "CC2" Blower Bldg. & Pumping Station	"PIU.-8" - Blower Bldg. & Pumping Station	Wattmeter, Feeder #1 & #2, Wiring	2/P	16	See Spec.	See Dwgs.	
CC54	MCC "CC3" Blower Bldg. & Pumping Station	"PIU.-8" - Blower Bldg. & Pumping Station	Wattmeter, Feeder #1 & #2, Wiring	2/P	16	See Spec.	See Dwgs.	
CC55	O.D. Substation "PS1"	"PIU.-8" - Blower Bldg. & Pumping Station	Wattmeter, Feeder #1 & #2, Wiring	2/P	16	See Spec.	See Dwgs.	
CC56	O.D. Substation "SS1"	"PIU.-8" - Blower Bldg. & Pumping Station	Wattmeter, Feeder #1 & #2, Wiring	2/P	16	See Spec.	See Dwgs.	
CC57	Main O.D. Switchgear	"PIU.-8" - Blower Bldg. & Pumping Station	Wattmeter, Feeder #1 & #2, Wiring	2/P	16	See Spec.	See Dwgs.	
CC58	MCC "CC9A & B" Elect. Rm., Dewatering Bldg.	"PIU.-3" Elect. Rm., Dewatering Bldg.	Wattmeter, Feeder #1, Wiring	1/P	16	See Spec.	See Dwgs.	
CC59	MCC "CC10A & B" Elect. Rm., Dewatering Bldg.	"PIU.-3" Elect. Rm., Dewatering Bldg.	Wattmeter, Feeder #2, Wiring	1/P	16	See Spec.	See Dwgs.	
CC60	Pwr. Cent. "PC1" Elect. Rm., Dewatering Bldg.	"PIU.-3" Elect. Rm., Dewatering Bldg.	Wattmeter, Feeder & Blowers, Wiring	5/P	16	See Spec.	See Dwgs.	
CC61	Pwr. Cent. "PC2" Elect. Rm., Dewatering Bldg.	"PIU.-3" Elect. Rm., Dewatering Bldg.	Wattmeter, Feeder & Blowers, Wiring	5/P	16	See Spec.	See Dwgs.	
CC62	O.D. Substation "PS2"	"PIU.-3" Elect. Rm., Dewatering Bldg.	Wattmeter, Feeder #1 & #2, Wiring	2/P	16	See Spec.	See Dwgs.	
CC63	MCC "CC11" Filter Control Building	"PIU.-2" Filter Control Building	Wattmeter, Feeder #1 & #2, Wiring	2/P	16	See Spec.	See Dwgs.	
CC64	MCC "CC11" Filter Control Building	"PIU.-2" Filter Control Building	Wattmeter, Effluent Pumps, Wiring	5/P	16	See Spec.	See Dwgs.	
CC65	MCC "CC12" Control Rm., Disinfection Building	"PIU.-2" Filter Control Building	Wattmeter, Feeder #1 & #2, Wiring	2/P	16	See Spec.	See Dwgs.	
CC66	O.D. Substation "PS4"	"PIU.-2" Filter Control Building	Wattmeter, Feeder #1 & #2, Wiring	2/P	16	See Spec.	See Dwgs.	
CC67	MCC "CC13" Phosphorus Control Bldg.	"PIU.-5" Phosphorus Control Bldg.	Wattmeter, Feeder #1 & #2, Wiring	2/P	16	See Spec.	See Dwgs.	
CC68	O.D. Substation "SS1"	"PIU.-8" - Blower Bldg. & Pumping Station	Alarm Points Wiring Annunciator #2	20/c	14	See Spec.	See Dwgs.	

NOTE-5:  
1. For General Electrical Notes & Legend, see Sheet E-3.

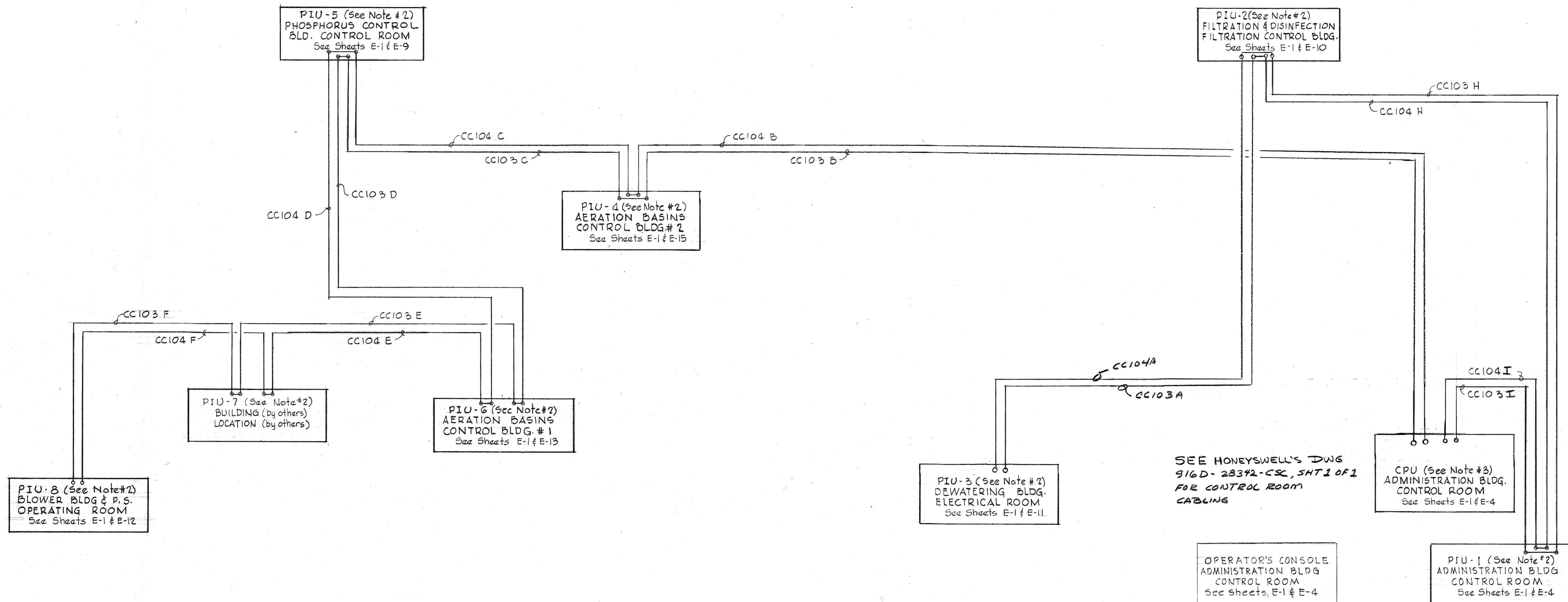
WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 3/31/78 <i>Richard E. Grunderberg</i> CHIEF BUREAU OF ENVIRONMENTAL SERVICES	CONTRACT NO. 505-S	CABLE SCHEDULE	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO.4	DRAWING NO. 17	SCALE AS SHOWN
					OF 29	

RUN N°	FROM	TO	FOR	WIRE			CONDUIT RACEWAY	REMARKS
				No	Size	Type		
CC69	Existing Blower Bldg # P.S. Fire Alarm Control Pnl.	Administration Bldg. Terminal Cabinet #1	Fire Alarm Indication	4/c	14	See Spec.	See Dwgs. E-7	
CC70	Existing Sludge Oxidation Building Fire Alarm Panel	Administration Bldg. Terminal Cabinet #1	Fire Alarm Indication	4/c	14	See Spec.	See Dwgs. E-7	
CC71	Aeration Basin - West Control Bldg #1 - "CTC2"	Administration Bldg. Terminal Cabinet #1	Fire Alarm Indication	4/c	14	See Spec.	See Dwgs. E-7	
CC72	Aeration Basin - East Control Bldg #2 - "CTC3"	Administration Bldg. Terminal Cabinet #1	Fire Alarm Indication	4/c	14	See Spec.	See Dwgs. E-7	
CC73	Dewatering Building Terminal Cabinet "CTC3"	Administration Bldg. Terminal Cabinet #1	Fire Alarm Indication	4/c	14	See Spec.	See Dwgs. E-7	
CC74	Filtration Building Terminal Cabinet "CTC1"	Administration Bldg. Terminal Cabinet #1	Fire Alarm Indication	4/c	14	See Spec.	See Dwgs. E-7	
CC75	Maintenance Bldg. Terminal Cabinet	Administration Bldg. Terminal Cabinet #1	Fire Alarm Indication	4/c	14	See Spec.	See Dwgs. E-7	
CC76	Phosphorus Control Bldg. Fire Alarm Panel	Administration Bldg. Terminal Cabinet #1	Fire Alarm Indication	4/c	14	See Spec.	See Dwgs. E-7	
CC77	O.D. Substation "PSI"	P.I.U. - 8 Blower Bldg. # Pumping Station	Alarm Point Wiring Annunciator #3	20/c	14	See Spec.	See Dwgs.	
CC78	F.A. Remote Sta. Rec. Control Panel - Administration Bldg	Administration Bldg. Terminal Cabinet #1	Fire Alarm Indication	20/c	14	See Spec.	See Dwgs. E-4	
CC79						See Spec.	See Dwgs.	
CC80	MCC-CC17 - Elect. Rm. Administration Bldg.	P.I.U. - 1 - Control Rm. Administration Bldg.	Maintenance Point Wiring	20/c	14	See Spec.	See Dwgs.	
CC81	Switchboard "SWBD-1" Elect. Rm., Adm. Bldg.	P.I.U. - 1 - Control Rm. Administration Bldg.	Alarm Point Wiring Annunciator #16	2(20/c)	14	See Spec.	See Dwgs.	
CC82	MCC-CC8 - Elect. Rm., Maintenance Bldg.	P.I.U. - 2 - Filter Control Bldg.	Maintenance Point Wiring	2(20/c)	14	See Spec.	See Dwgs.	
CC83	MCC-CC17 - Elect. Rm., Administration Bldg	P.I.U. - 1 - Control Rm. Administration Bldg.	Wattmeter, Feeder, Wiring	1/P	16	See Spec.	See Dwgs.	
CC84	Switchboard "SWBD-1" Elect. Rm., Adm. Bldg	P.I.U. - 1 - Control Rm. Administration Bldg.	Wattmeter, Feeder #1/#2 Wiring	2/P	16	See Spec.	See Dwgs.	
CC85	MCC-CC8 - Elect. Rm., Maintenance Bldg.	P.I.U. - 2 - Filter Control Bldg.	Wattmeter, Feeder, Wiring	2/P	16	See Spec.	See Dwgs.	
CC86	Instrument Panel Cont. Bldg #1 - A.B. West	P.I.U. - 6 - Control Bldg #1 Aeration Basin West	Control # Indication Wiring RAS System	5(5/P)	16	See Spec.	See Dwgs.	
CC87	Instrument Panel Cont. Bldg #1 - A.B. West	P.I.U. - 6 - Control Bldg #1 Aeration Basin West	D.O. Indication Wiring	2(7/P)	16	See Spec.	See Dwgs.	
CC88	Instrument Panel Cont. Bldg #1 - A.B. West	P.I.U. - 6 - Control Bldg #1 Aeration Basin West	Control # Indication Wiring WAS, WNS Systems	2(5/P)	16	See Spec.	See Dwgs.	
CC89	Instrument Panel Cont. Bldg #1 - A.B. West	P.I.U. - 6 - Control Bldg #1 Aeration Basin West	Control # Indication Wiring RNS System	6(5/P)	16	See Spec.	See Dwgs.	
CC90	Instrument Panel Filter Control Building	P.I.U. - 2 Filter Control Building	Control # Indication Wiring, Filters	3(5/P)	16	See Spec.	See Dwgs.	
CC91	Instrument Panel Disinfection Building	P.I.U. - 2 Filter Control Building	Control # Indication Wiring, CL2 & D.O.	6(5/P)	16	See Spec.	See Dwgs.	
CC92	Instrument Panel Filter Building	P.I.U. - 2 Filter Control Building	Indication Wiring Flocculation # Filters	6(5/P)	16	See Spec.	See Dwgs.	
CC93	Instrument Panel Disinfection Building	P.I.U. - 2 Filter Control Building	Indication Wiring - CL2 Chamber Low Level # D.O.	2/P	16	See Spec.	See Dwgs.	
CC94	Instrument Panel Disinfection Building	P.I.U. - 2 Filter Control Bldg.	Indication Wiring Gas Flow	5/P	16	See Spec.	See Dwgs.	
CC95	Instrument Panel Elect. Rm., DeWat. Bldg.	P.I.U. - 3 - Elect. Room, Dewatering Building	Indication # Control Wiring, Thick # Digest. Sludge	4(5/P)	16	See Spec.	See Dwgs.	
CC96	Instrument Panel Elect. Rm., DeWat. Bldg.	P.I.U. - 3 - Elect. Room, Dewatering Building	Indication Wiring Primary sludge - Airflow	2(5/P)	16	See Spec.	See Dwgs.	
CC97	Fire Alarm Remote Sta. Rec. Panel - Adm. Bldg.	P.I.U. - 1 - Control Room, Administration Building	Indication Wiring Fire Alarm System	20/c	14	See Spec.	See Dwgs.	
CC98								
CC99								
CC100								
CC101								
CC102								

RUN N°	FROM	TO	FOR	WIRE			CONDUIT RACEWAY	REMARKS
				No	Size	Type		
CC103A	CPU Administration Bldg.	PIU-3 Dewatering Bldg. Electrical Rm.	Signal Cable	1/c	See Spec.	See Spec.	See Dwgs.	
CC103B	PIU-3 Dewatering Bldg. Electrical Rm.	PIU-4 Aeration Basins Control Bldg #2	Signal Cable	1/c	See Spec.	See Spec.	See Dwgs.	
CC103C	PIU-4 Aeration Basins Control Bldg #2	PIU-5 Phosphorus Control Bldg. Control Rm.	Signal Cable	1/c	See Spec.	See Spec.	See Dwgs.	
CC103D	PIU-5 Phosphorus Control Bldg. Control Rm.	PIU-6 Aeration Basins Control Bldg. #1	Signal Cable	1/c	See Spec.	See Spec.	See Dwgs.	
CC103E	PIU-6 Aeration Basins Control Bldg. #1	PIU-7	Signal Cable	1/c	See Spec.	See Spec.	See Dwgs.	
CC103F	PIU-7	PIU-8 Blower Bldg # P.S. Operating Rm.	Signal Cable	1/c	See Spec.	See Spec.	See Dwgs.	
CC103G	CPU Administration Bldg.	PIU-1 Administration Bldg.	Signal Cable	1/c	See Spec.	See Spec.	See Dwgs.	
CC103H	PIU-1 Administration Bldg.	PIU-2 Filtration & Disinf. Filtration Control Bldg.	Signal Cable	1/c	See Spec.	See Spec.	See Dwgs.	
CC103I	CPU Administration Bldg.	Control Console Administration Bldg.	Signal Cable	1/c	See Spec.	See Spec.	See Dwgs.	
CC104A	CPU Administration Bldg.	PIU-3 Dewatering Bldg. Electrical Rm.	Signal Cable	1/c	See Spec.	See Spec.	See Dwgs.	
CC104B	PIU-3 Dewatering Bldg. Electrical Rm.	PIU-4 Aeration Basins Control Bldg. #2	Signal Cable	1/c	See Spec.	See Spec.	See Dwgs.	
CC104C	PIU-4 Aeration Basins Control Bldg. #2	PIU-5 Phosphorus Control Bldg. Control Rm.	Signal Cable	1/c	See Spec.	See Spec.	See Dwgs.	
CC104D	PIU-5 Phosphorus Control Bldg. Control Rm.	PIU-6 Aeration Basins Control Bldg #1	Signal Cable	1/c	See Spec.	See Spec.	See Dwgs.	
CC104E	PIU-6 Aeration Basins Control Bldg. #1	PIU-7	Signal Cable	1/c	See Spec.	See Spec.	See Dwgs.	
CC104F	PIU-7	PIU-8 Blower Bldg # P.S. Operating Rm.	Signal Cable	1/c	See Spec.	See Spec.	See Dwgs.	
CC104G	CPU Administration Bldg.	PIU-1 Administration Bldg.	Signal Cable	1/c	See Spec.	See Spec.	See Dwgs.	
CC104H	PIU-1 Administration Bldg.	PIU-2 Filtration & Disinf. Filtration Control Bldg.	Signal Cable	1/c	See Spec.	See Spec.	See Dwgs.	
CC104I	CPU Administration Bldg.	Control Console Administration Bldg.	Signal Cable	1/c	See Spec.	See Spec.	See Dwgs.	

NOTE 5:  
1. For General Electrical Notes & Legend, see Sheet E-3.

WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 3/31/78 <i>Richard E. Freudenberger</i> CHIEF BUREAU OF ENVIRONMENTAL SERVICES	CONTRACT NO. 505-S	CABLE SCHEDULE	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. 18 OF 29	SCALE AS SHOWN
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ONE LINE BLOCK DIAGRAM FOR COMPUTER

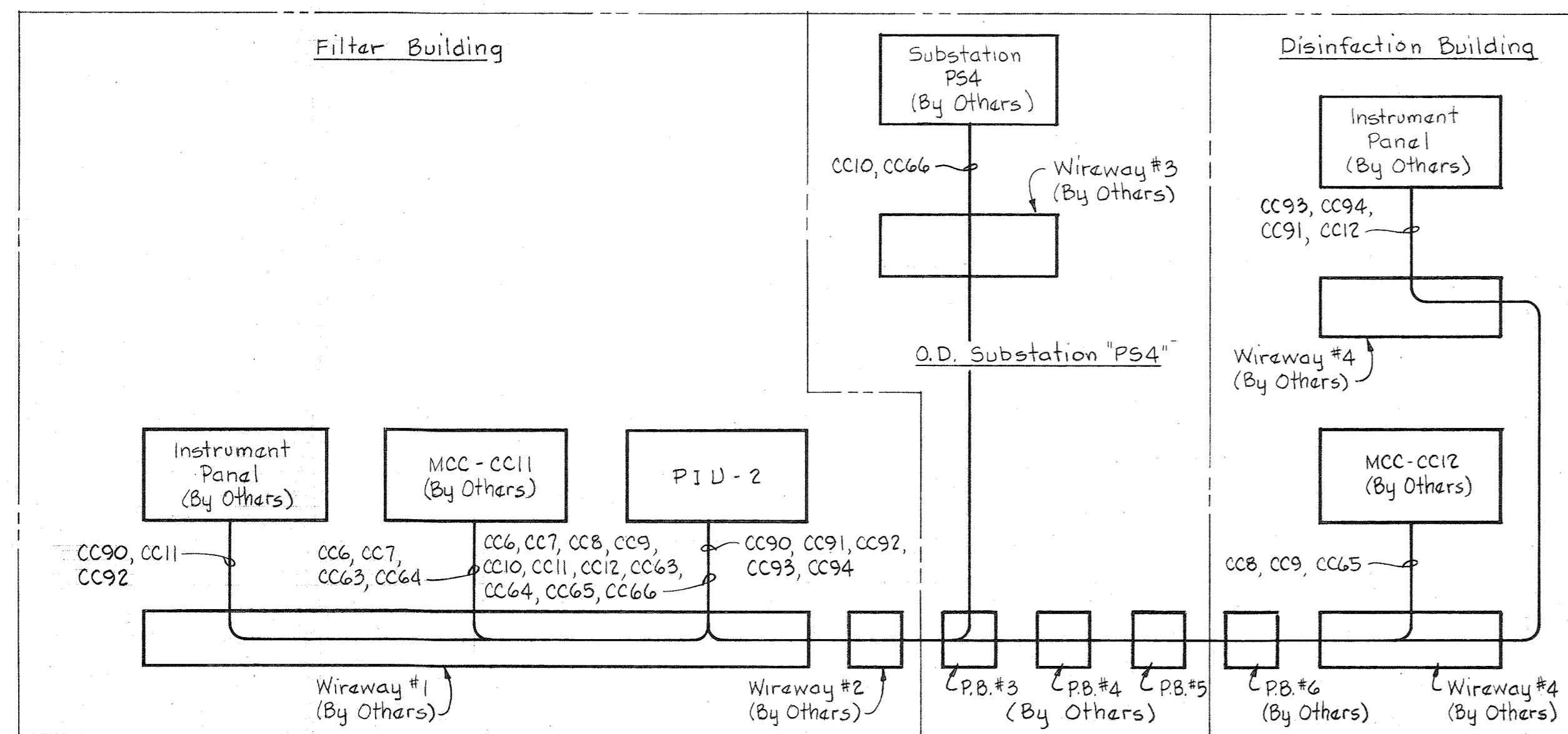
See Notes #2 & #3

NOTES

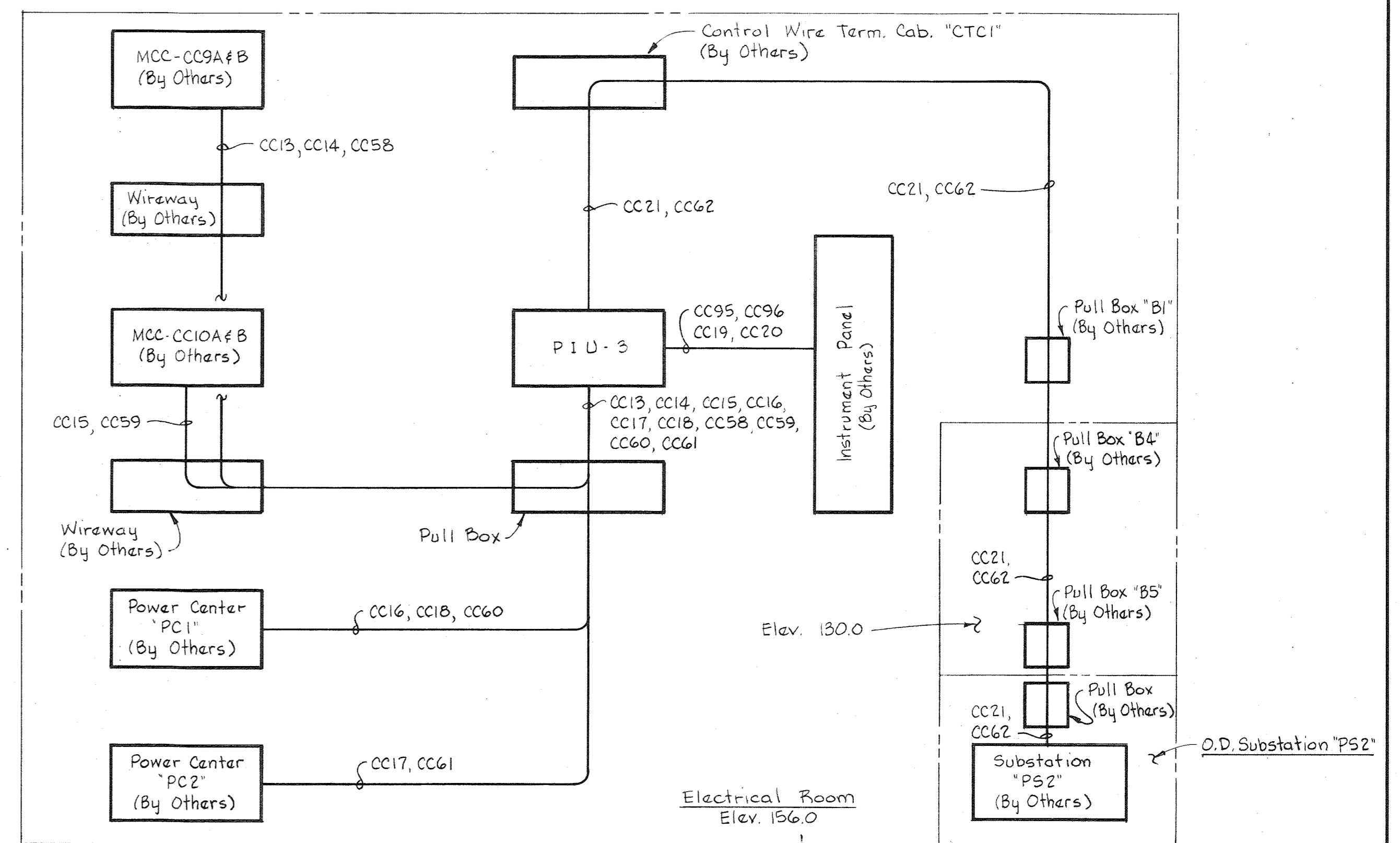
1. For General Electrical Notes & Legend, See Sheet E-3.
2. PIU-1-Process Interface Unit (Computer), Numbers as indicated
3. CPU-Central Processing Unit (Computer).

AS INSTALLED AUG. 9, 1982  
SCE

WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 3/31/78 DATE <i>Richard E. Freudenberger</i> CHIEF BUREAU OF ENVIRONMENTAL SERVICES	CONTRACT NO. <u>505-S</u>	COMPUTER ROUTING WIRING DIAGRAM	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO.4	DRAWING NO. <u>19</u> OF <u>29</u>	SCALE NONE
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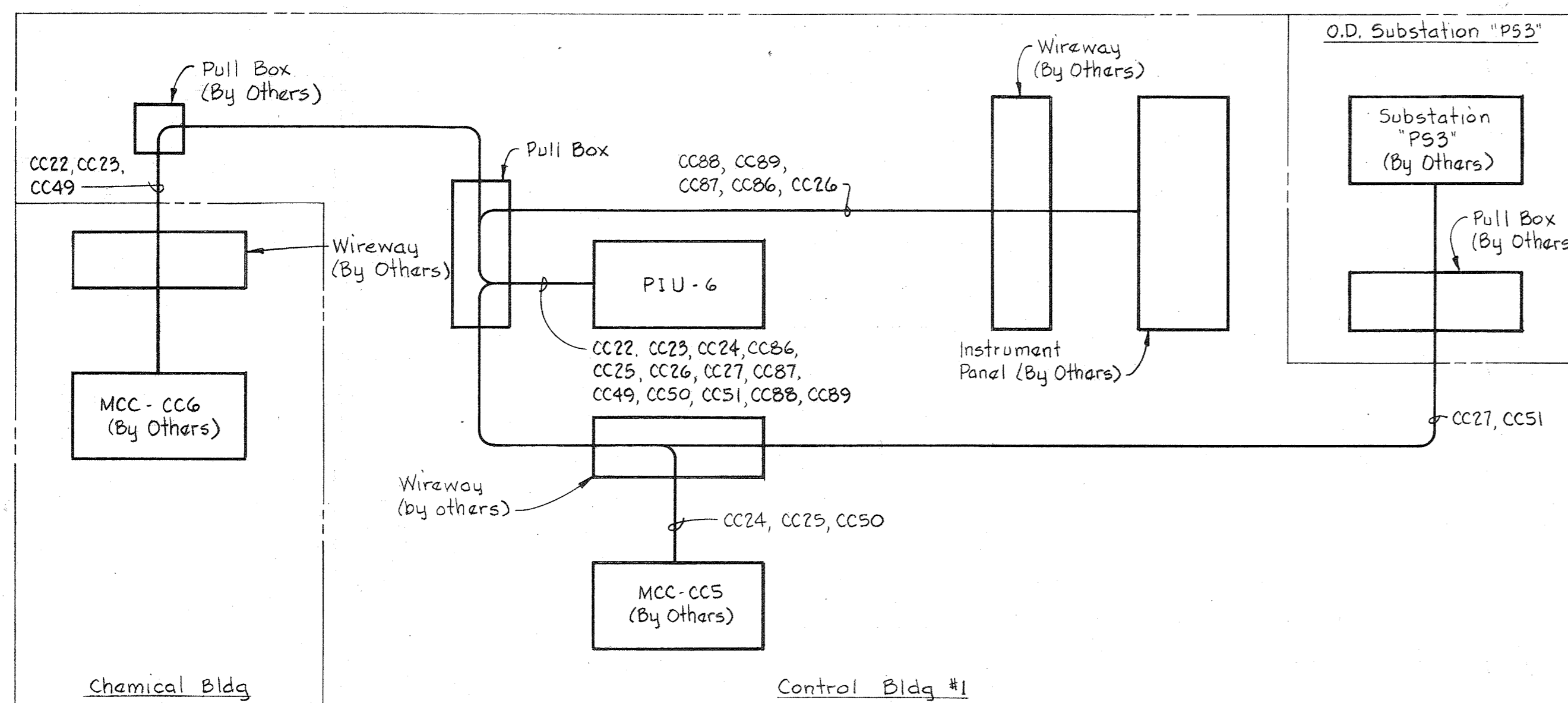
FILTRATION & DISINFECTION  
(502-S)



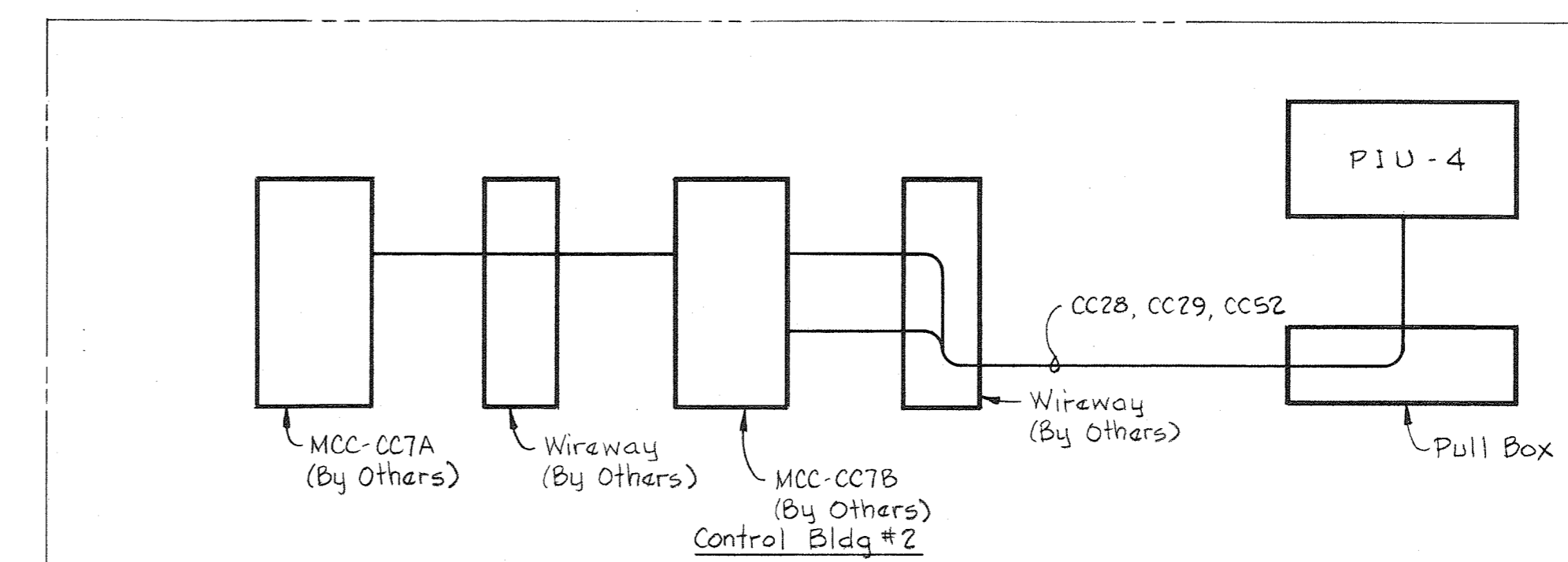
DEWATERING BUILDING  
(501-S)

NOTES:

1. For General Electrical Notes & Legend, see Sheet E-3.
2. For Cable Schedule, see Sheets E-16 & E-17.



AERATION BASIN - WEST  
(500-S)



AERATION BASIN - EAST  
(500-S)

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ENGINEERS  
1304 ST. PAUL ST.  
BALTIMORE, MARYLAND

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

3/31/78  
DATE

*Richard E. Lundenberg*  
CHIEF BUREAU OF ENVIRONMENTAL SERVICES

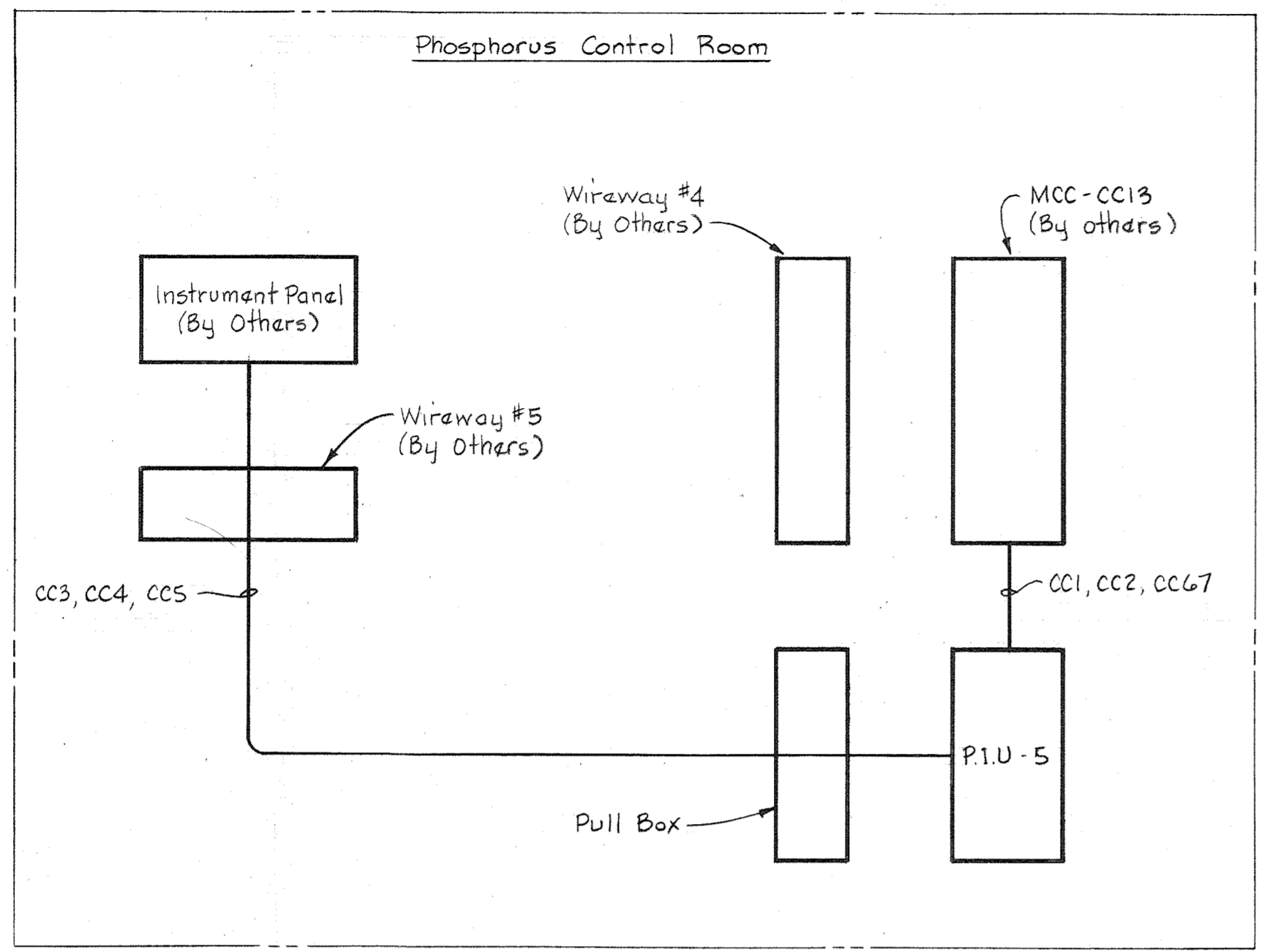
CONTRACT NO. 505-S

COMPUTER  
ROUTING WIRING DIAGRAM

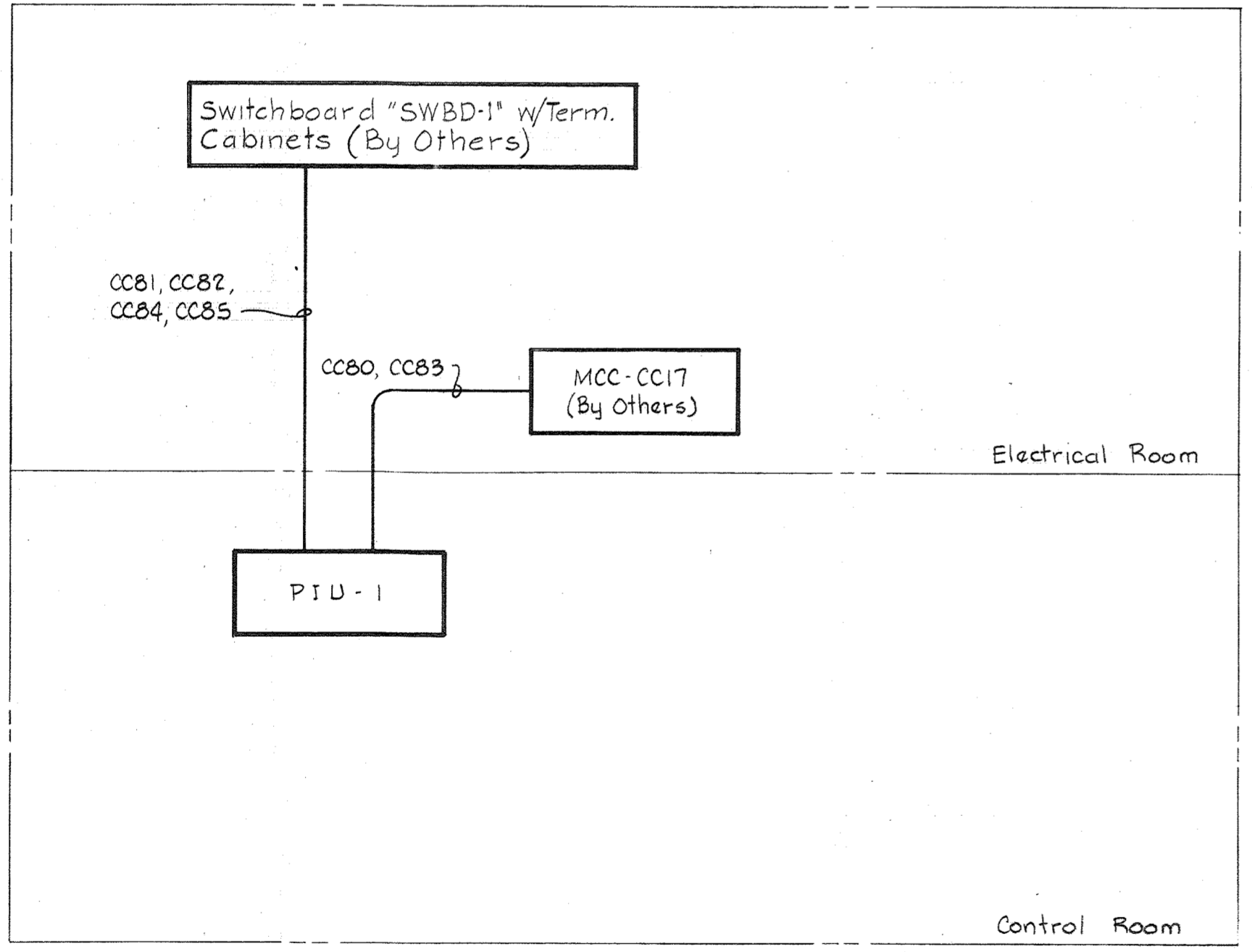
SAVAGE WASTEWATER  
TREATMENT PLANT ADDITION NO. 4

DRAWING  
NO. 20  
OF 29

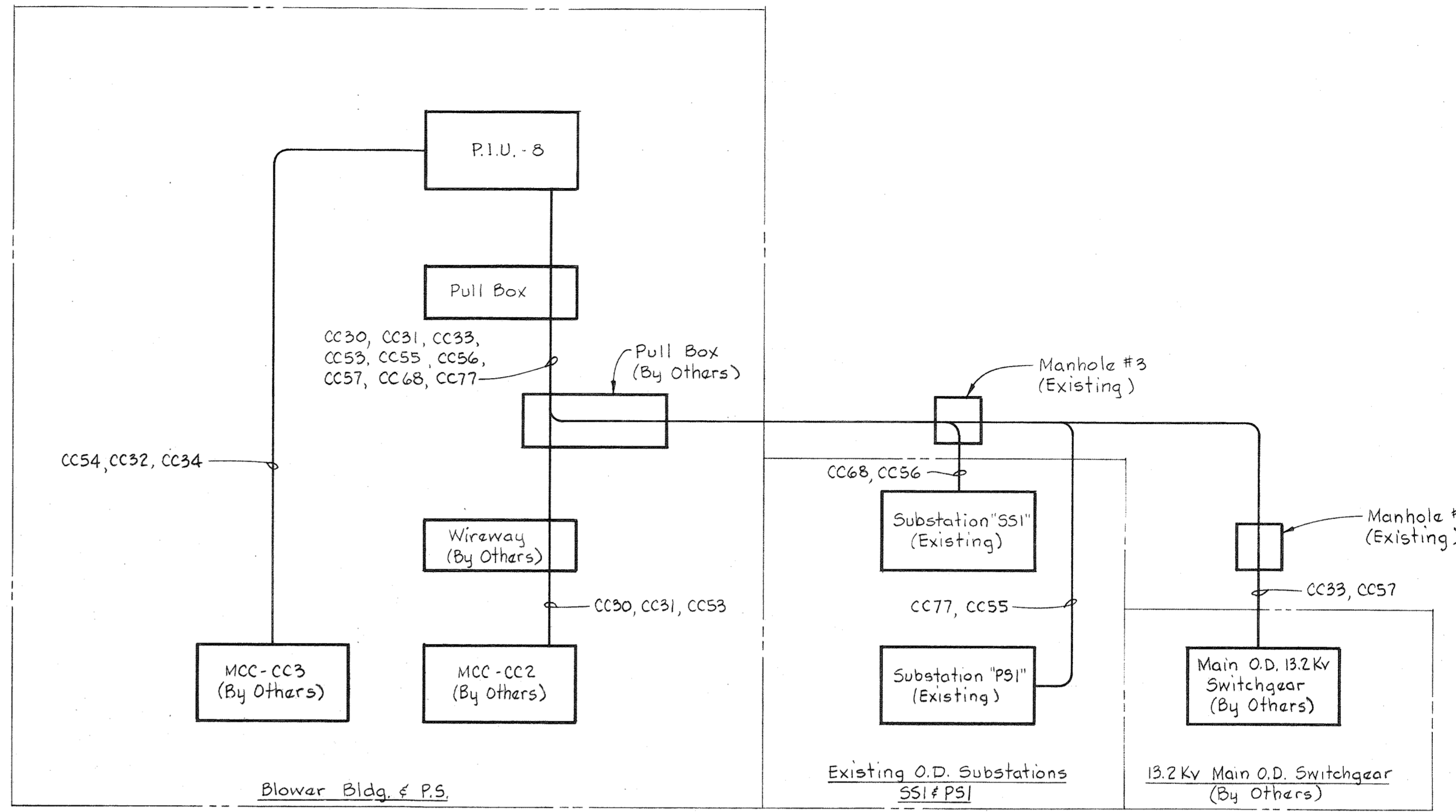
SCALE  
AS  
SHOWN



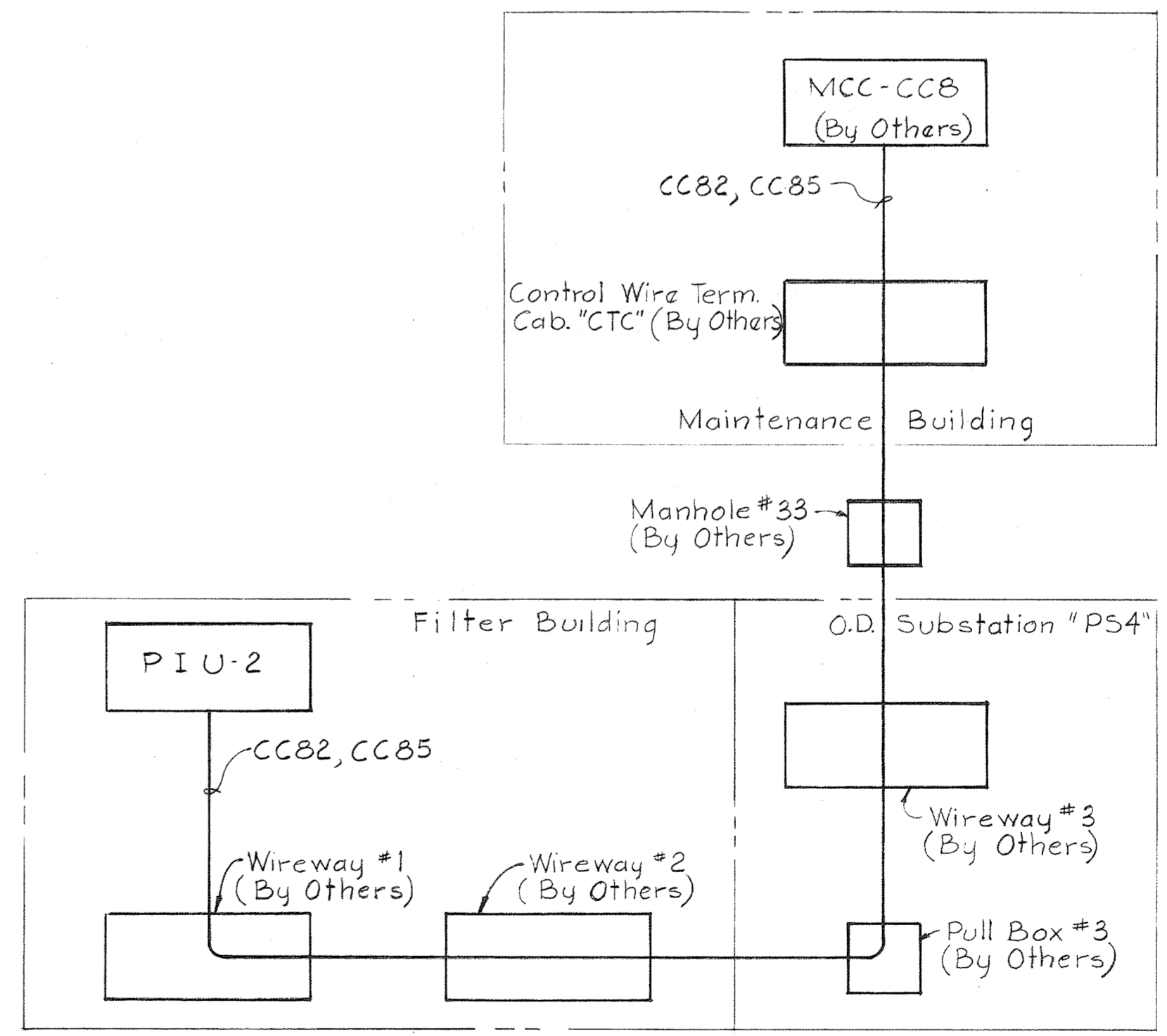
**PHOSPHORUS BUILDING**  
(760-S)



**ADMINISTRATION BUILDING**  
(503-S)



**BLOWER BUILDING & PUMPING STATION**  
(500-S)



**MAINTENANCE BUILDING**  
(503-S)

- NOTES:**
1. For General Electrical Notes & Legend, see Sheet E-3.
  2. For Cable Schedule, see Sheets E-16 & E-17.

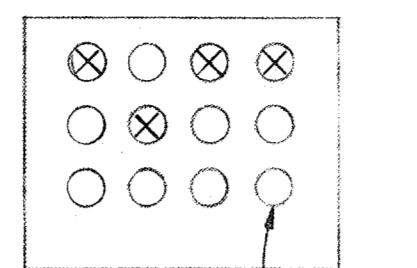
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**NOTES:**

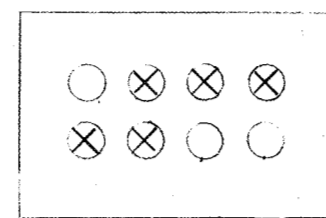
1. For General Electrical Notes and Legend, see sheet E-3.
2. Symbol ⊗ indicates that raceways in ductbank is or will be occupied with wiring by others.



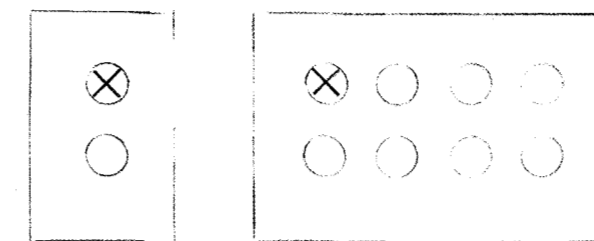
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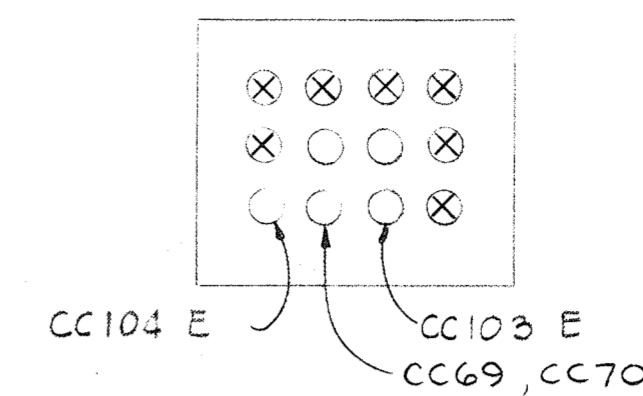
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SECTION E21L/E1



SECTION E21R/E1



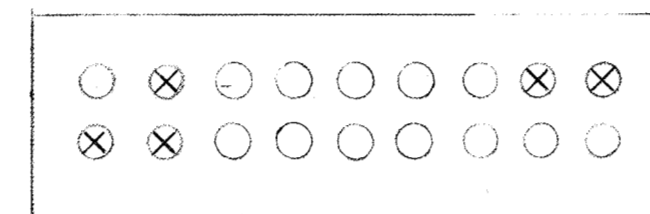
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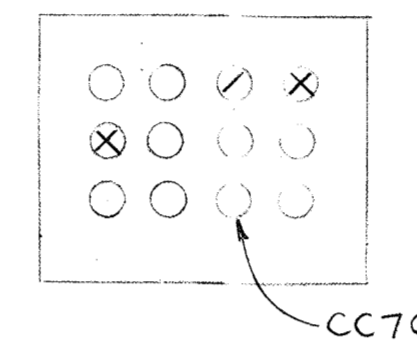
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SECTION E21G/E1



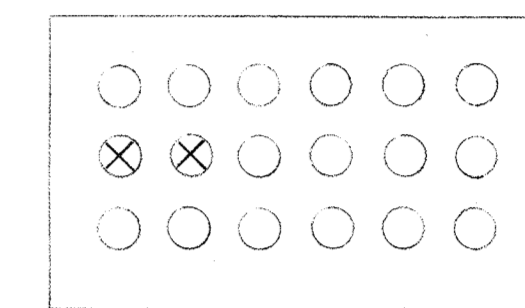
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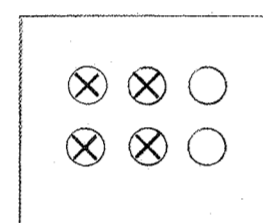
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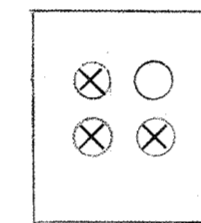
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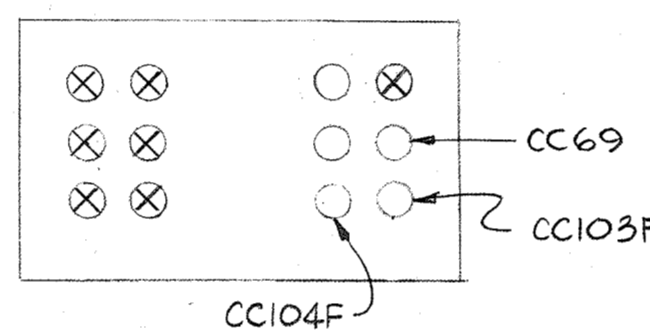
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SECTION E21C/E2



SECTION E21H/E1



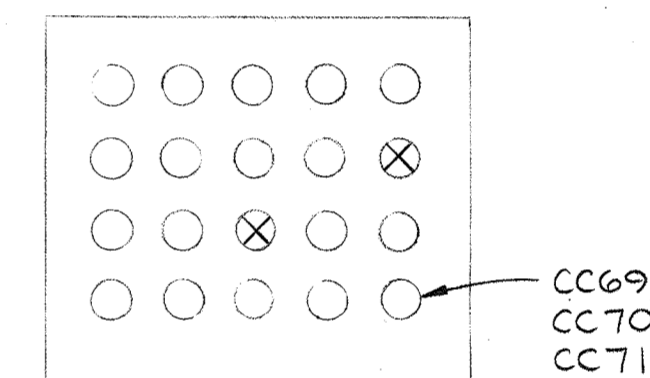
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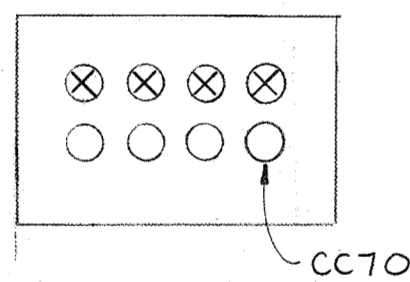
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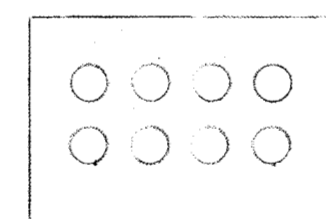
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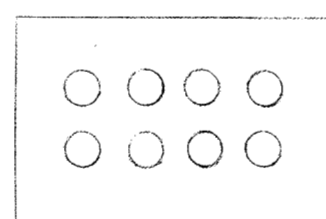
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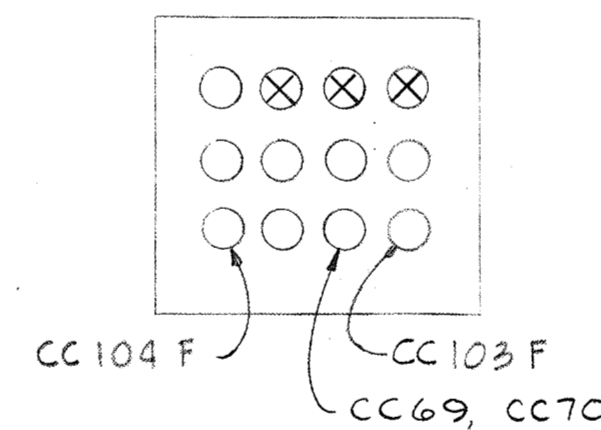
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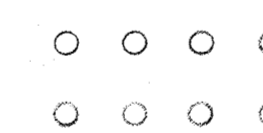
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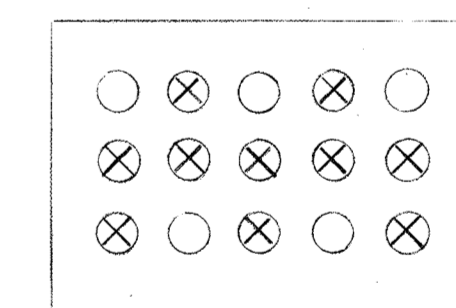
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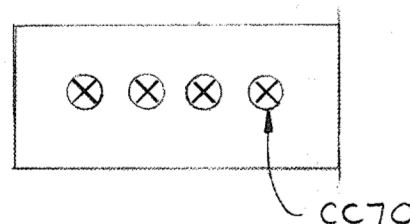
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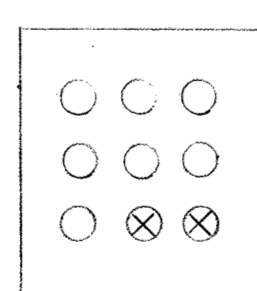
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SECTION E21AD/E1



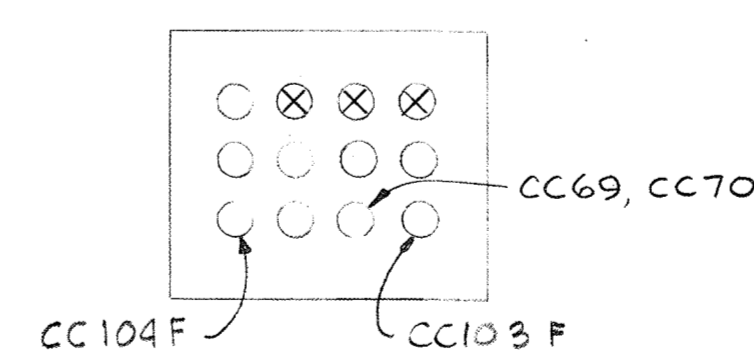
SECTION E21E/E2



SECTION E21K/E1



SECTION E21Q/E1



SECTION E21V/E1



SECTION E21AA/E1

WHITMAN, REQUARDT & ASSOCIATES  
ENGINEERS  
1304 ST. PAUL ST.  
BALTIMORE, MARYLAND

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
3/20/25  
DATE  
W. O. F. Whitman  
CHIEF-BUREAU OF ENGINEERING

CONTRACT NO. 505-S

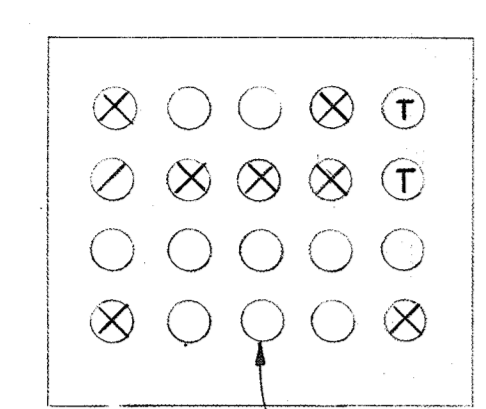
UNDERGROUND  
DUCTBANK SECTIONS

SAVAGE WASTEWATER  
TREATMENT PLANT ADDITION NO. 4

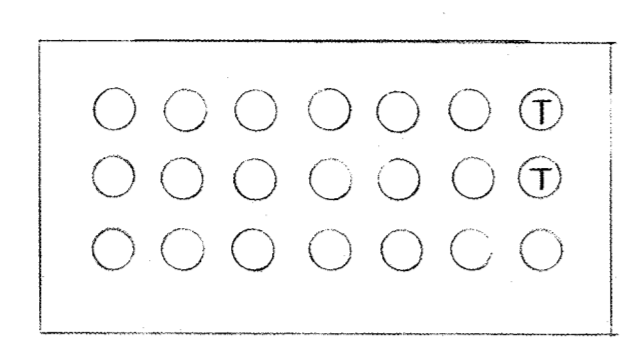
DRAWING  
NO. 22  
OF 29

SCALE  
NONE

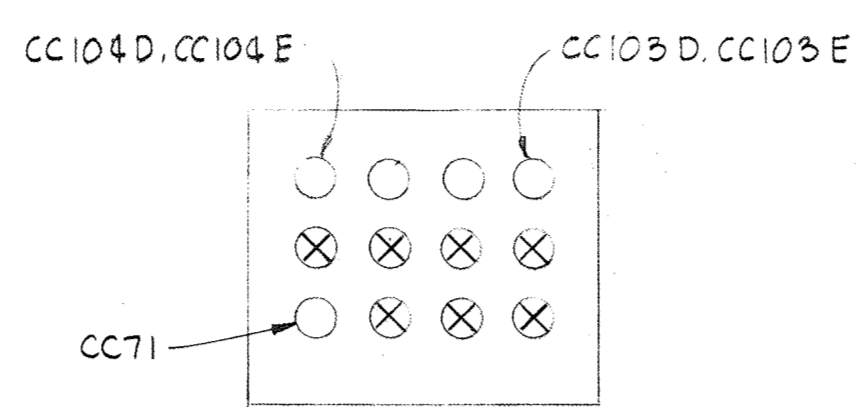
- NOTES:**
- For General Electrical Notes & Legend see sheet E-3.
  - Symbol ⊗ indicates that raceways in ductbanks is or will be occupied with wiring by others.



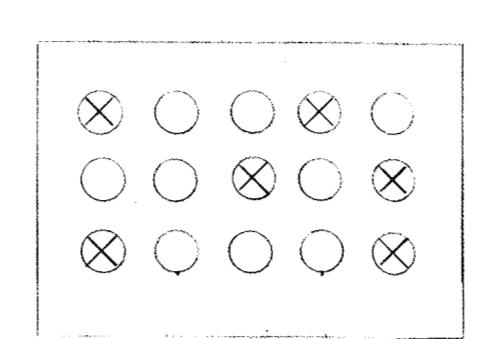
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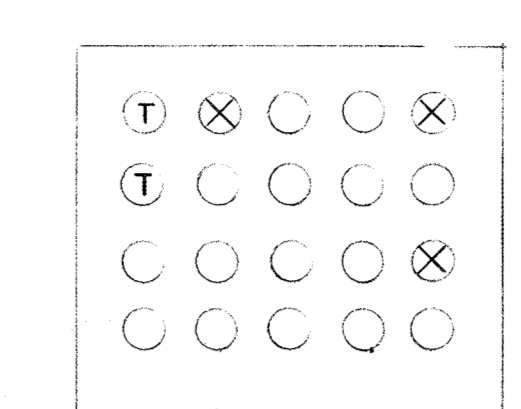
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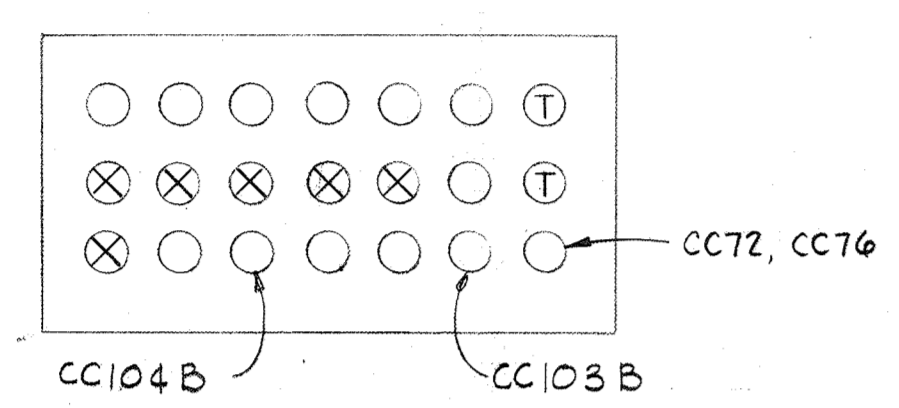
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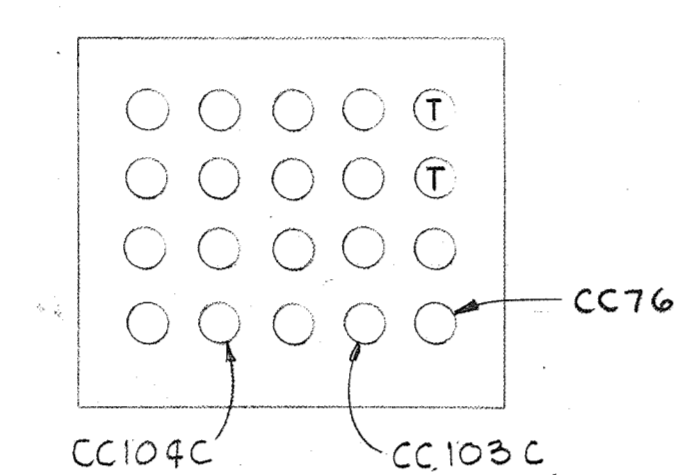
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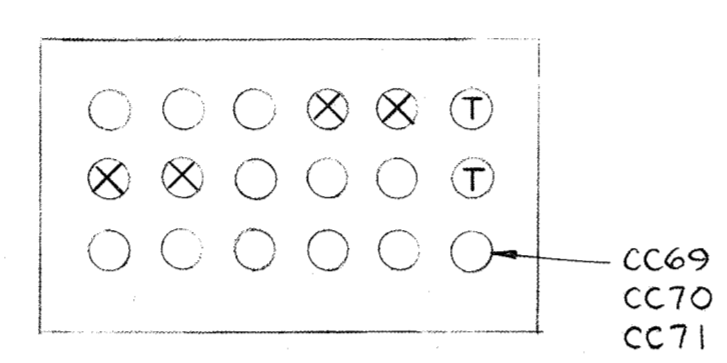
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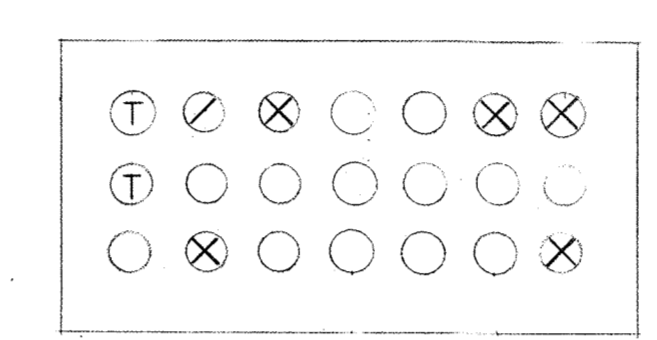
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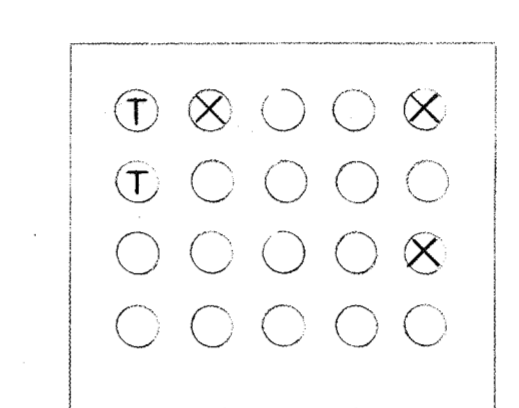
SECTION E 22G/E1



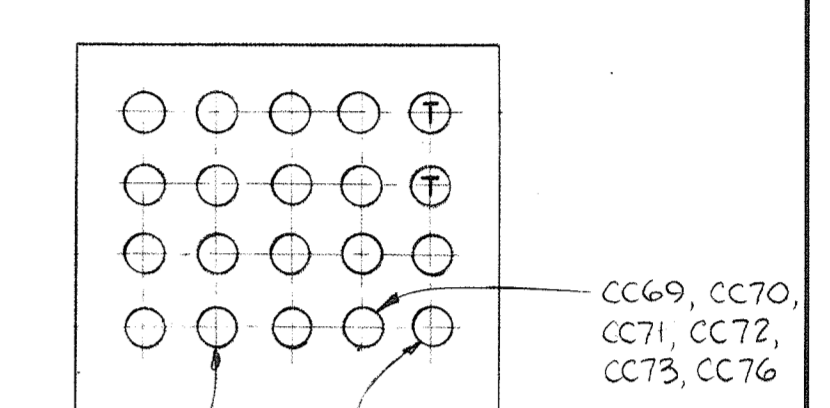
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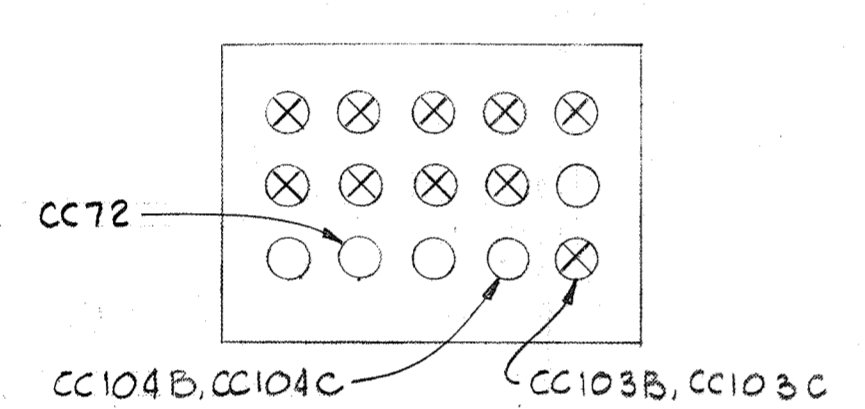
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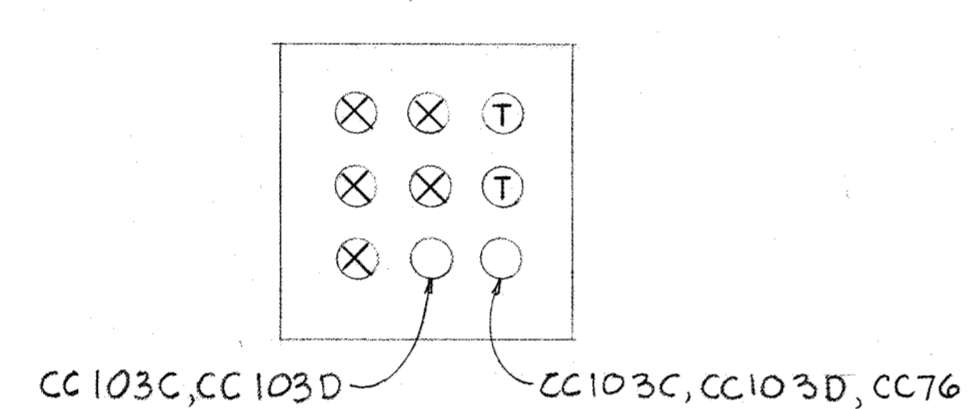
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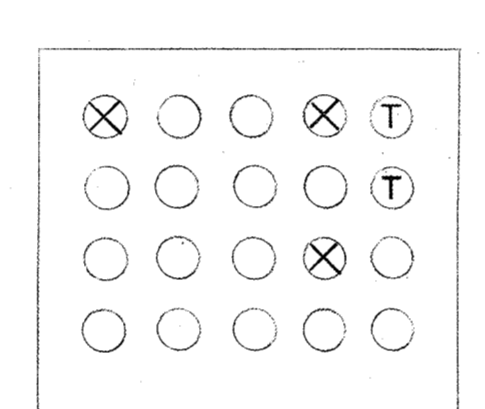
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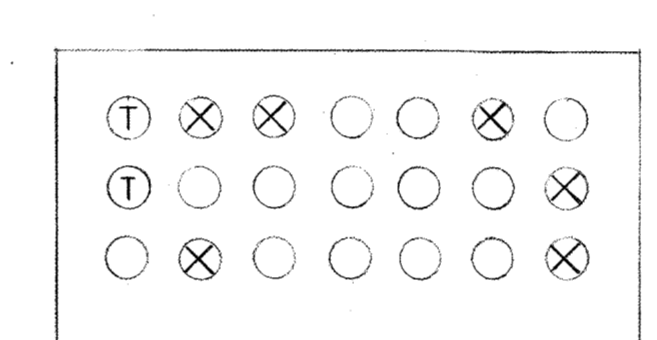
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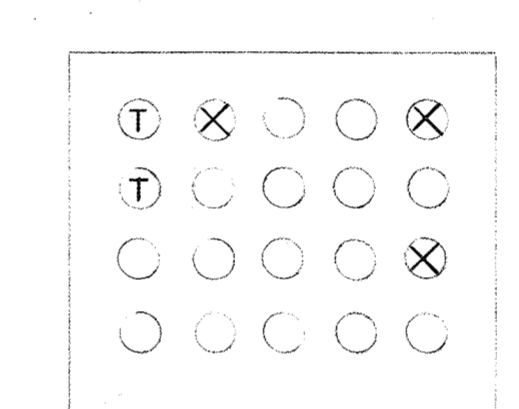
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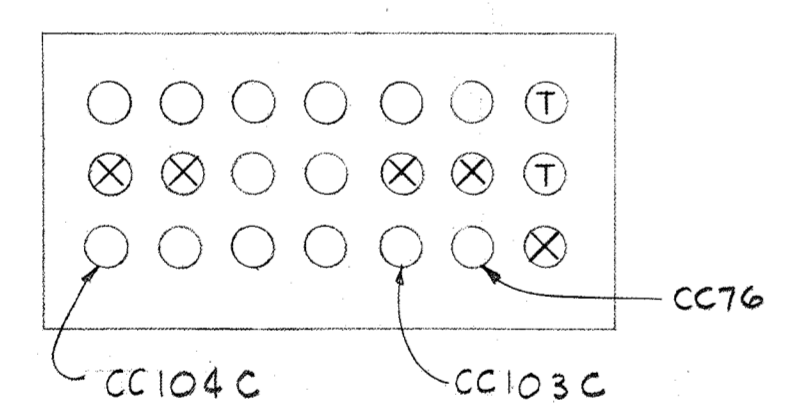
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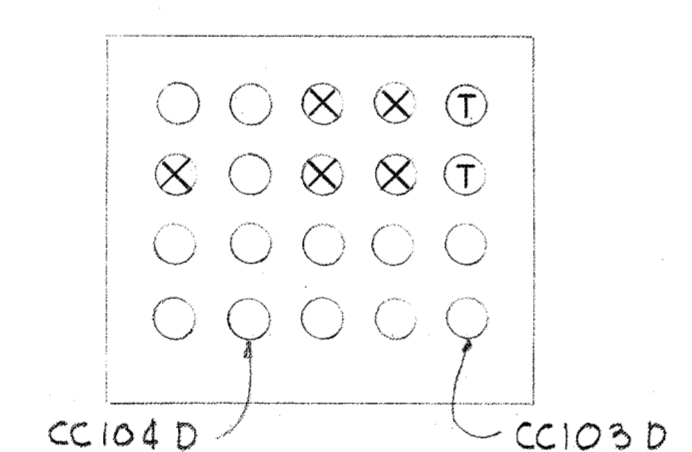
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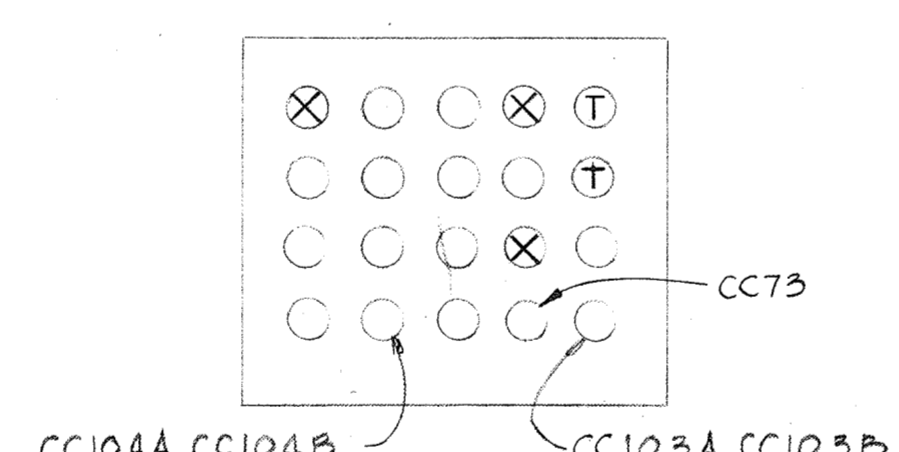
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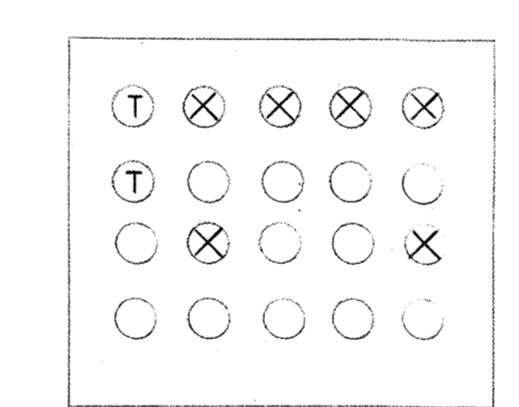
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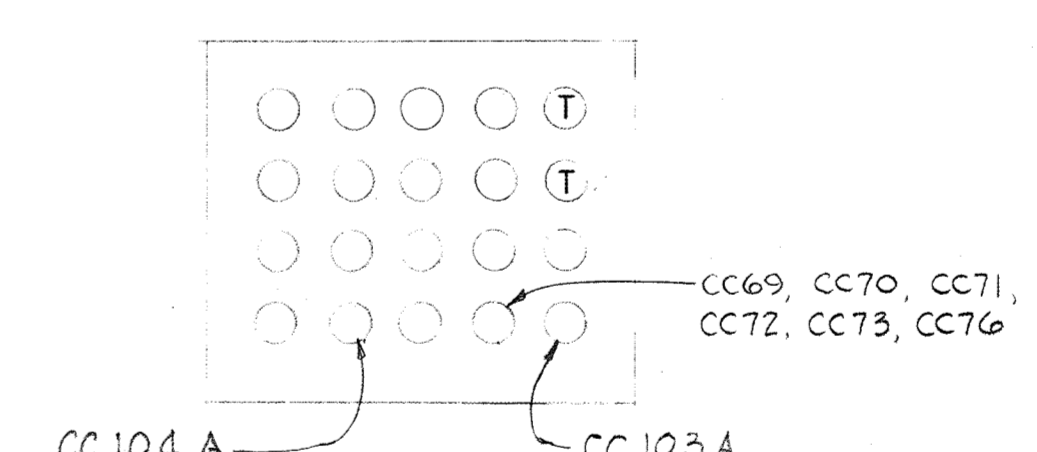
SECTION E 22J/E1



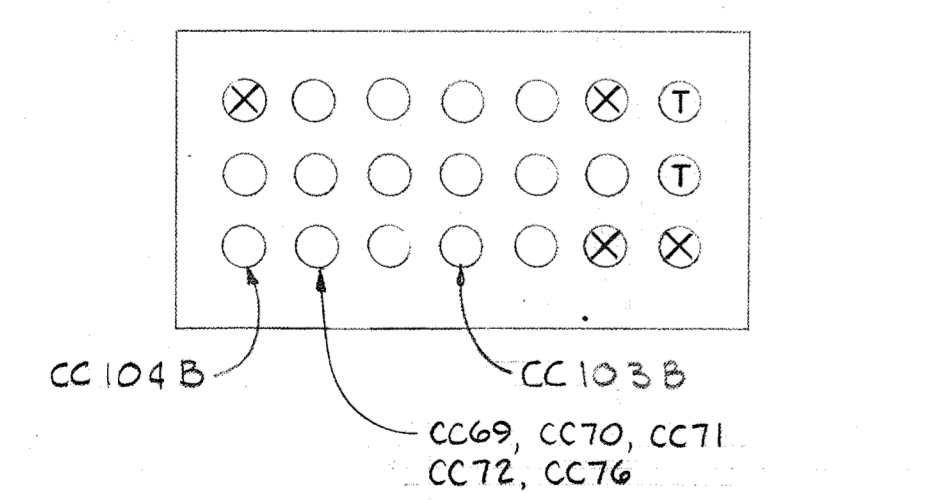
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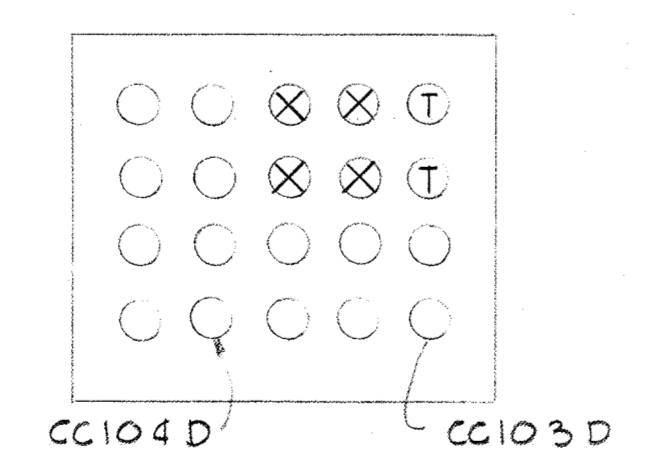
SECTION E 22U/E1



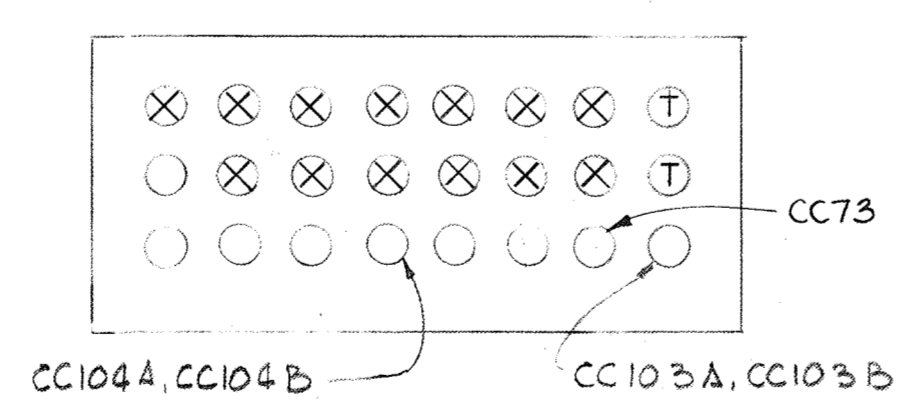
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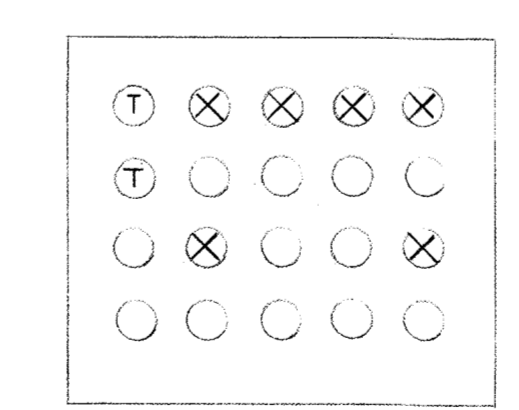
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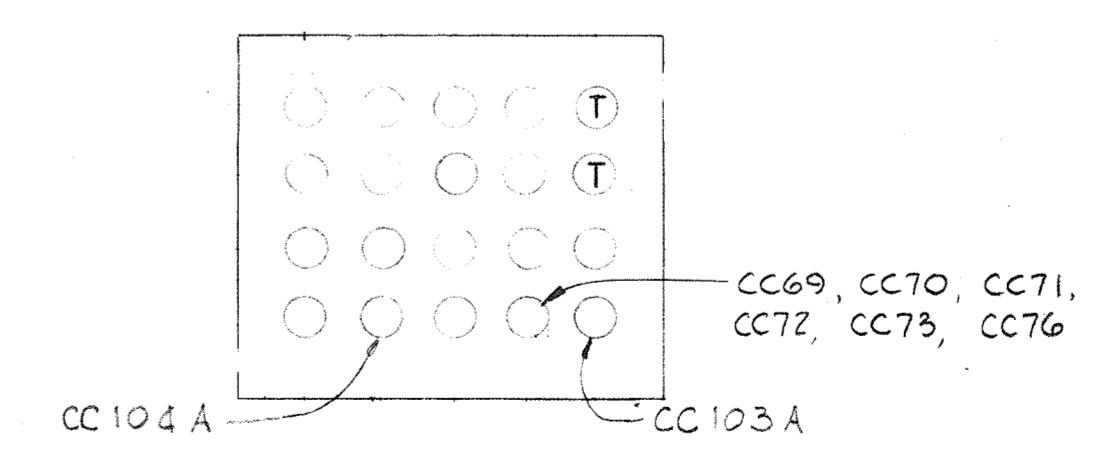
SECTION E 22K/E1



SECTION E 22Q/E1



SECTION E 22V/E1



SECTION E 22AA/E1

BRUNING 44510 1832

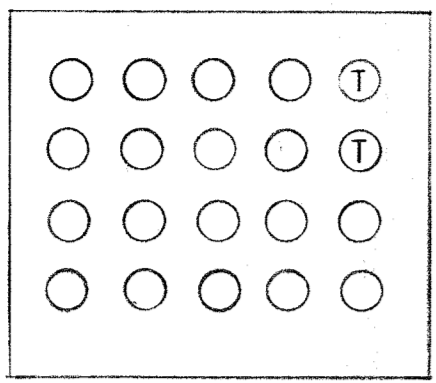
WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 3/30/75 DATE  CHIEF BUREAU OF ENGINEERING	CONTRACT NO. 505-S	UNDERGROUND DUCTBANK SECTIONS	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. 23 OF 29 SCALE NONE
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W.O. 6887-2

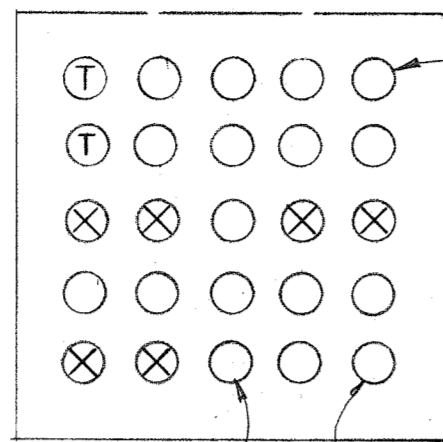
SHEET E-22

NOTES:

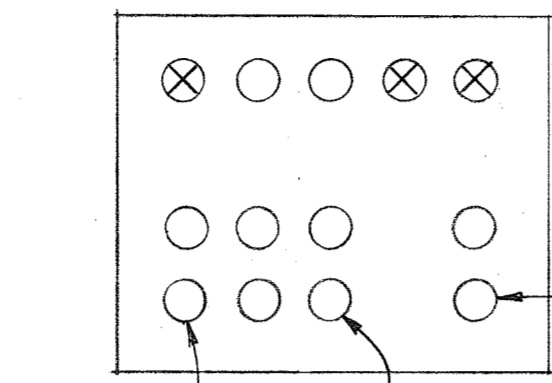
1. For General Electrical Notes & Legend, see Sheet E-3.
2. Symbol ⊗ indicates that raceways in ductbanks is or will be occupied with wiring by others.



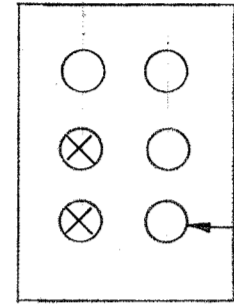
SECTION E 23 A/EI



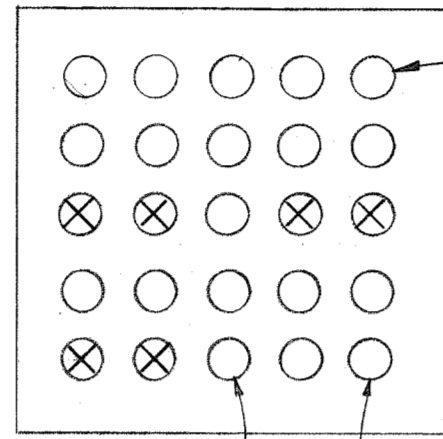
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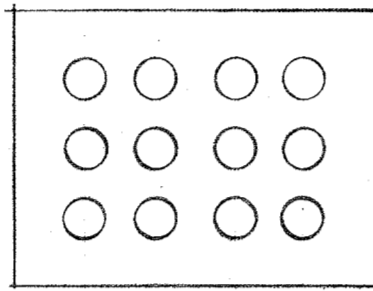
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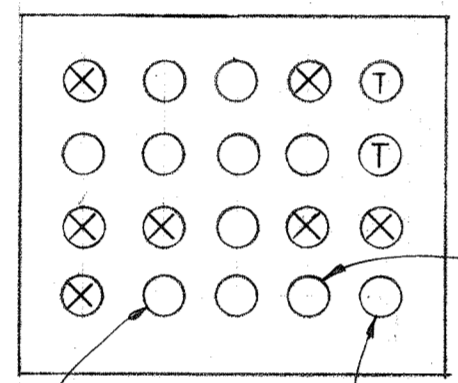
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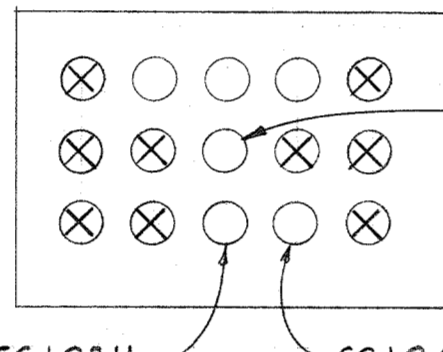
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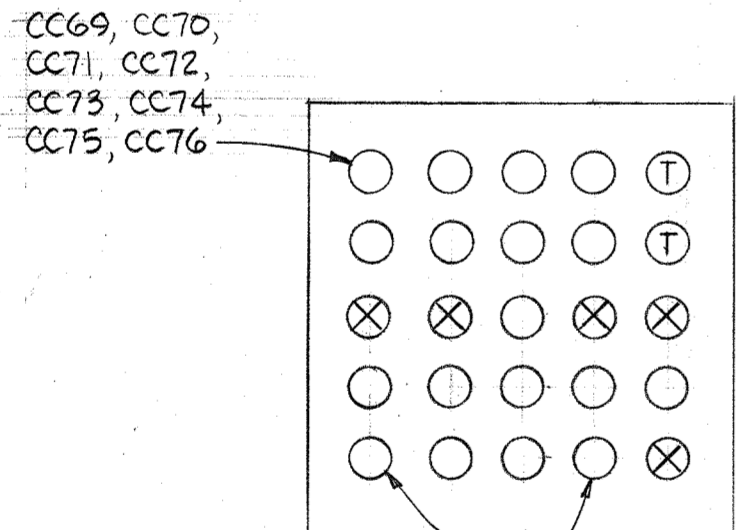
SECTION E 23 K/EI



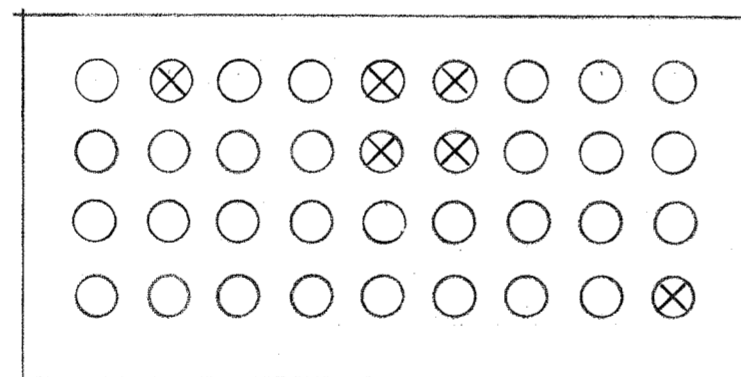
SECTION E 23 C/EI



SECTION E 23 G/EI



SECTION E 23 D/EI



SECTION E 23 H/EI

CC69, CC70,  
CC71, CC72,  
CC73, CC74,  
CC75, CC76

CC104 A, CC104 G, CC103 A, CC103 G  
CC104 H, CC103 H

CC69, CC70, CC71,  
CC72, CC73, CC74,  
CC75, CC76

CC69  
CC103 F, CC104 F

CC69, CC70, CC71,  
CC72, CC73, CC74,  
CC75, CC76

CC104 A, CC104 G, CC103 A, CC103 G  
CC104 H, CC103 H

CC74, CC82, CC85

CC103 H, CC104 H

CC74, CC75  
CC104 H, CC103 H

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BALTIMORE, MARYLAND

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
3/31/78  
Richard E. Sandenberg  
CHIEF BUREAU OF ENVIRONMENTAL SERVICES

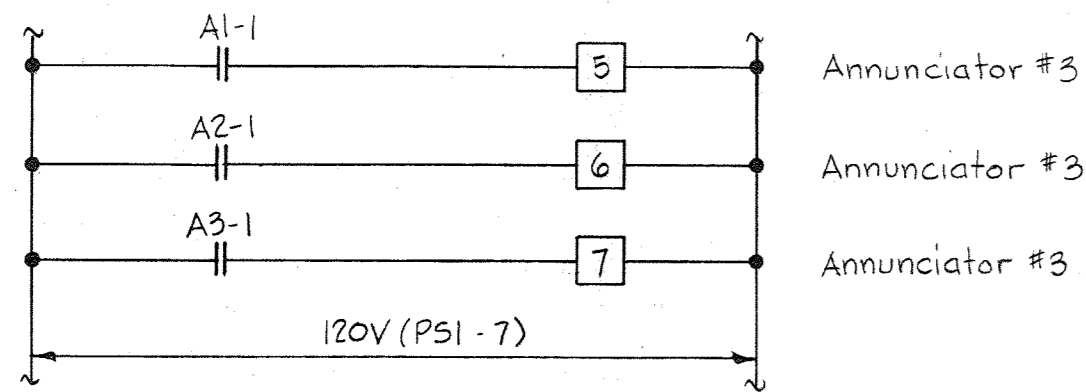
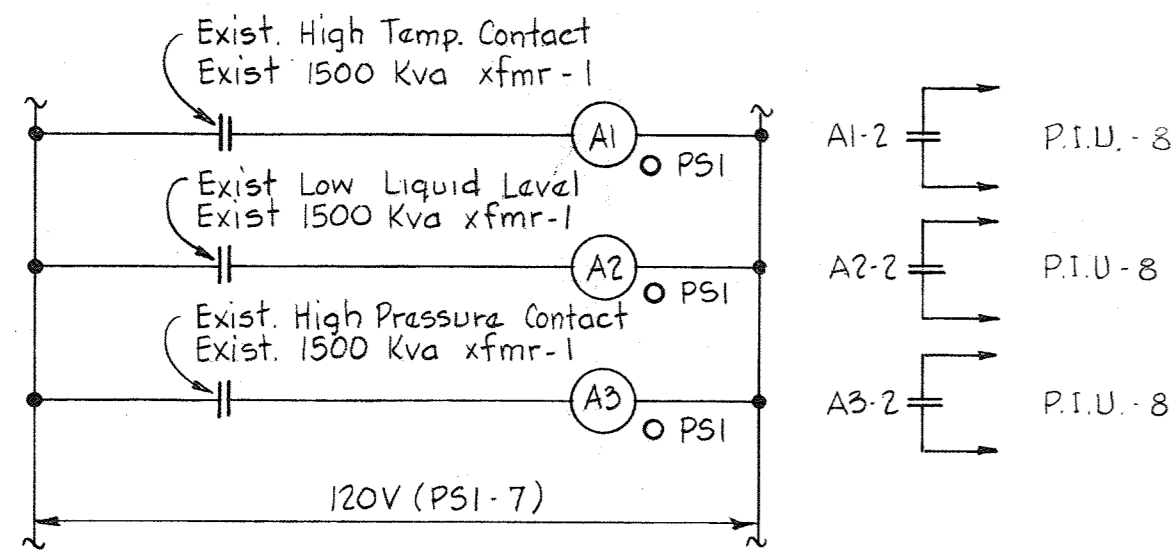
CONTRACT NO. 505-S

UNDERGROUND  
DUCTBANK SECTIONS

SAVAGE WASTEWATER  
TREATMENT PLANT ADDITION NO. 4

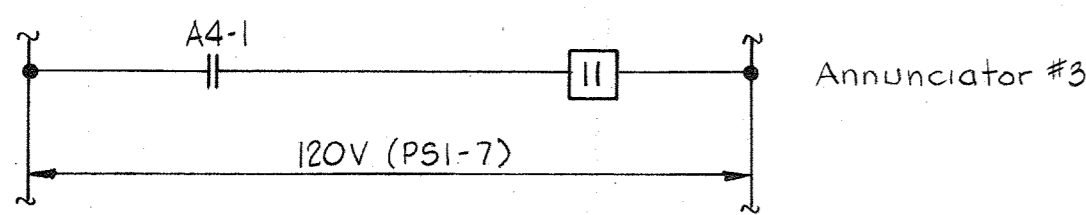
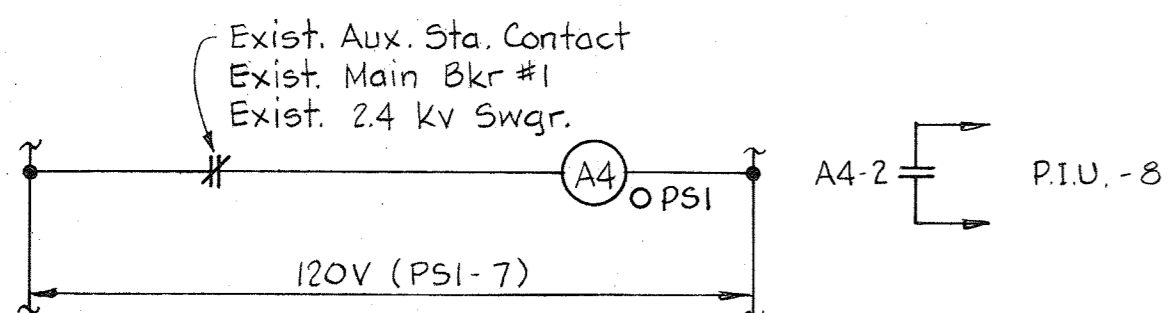
DRAWING NO. 24  
OF 29  
SCALE NONE





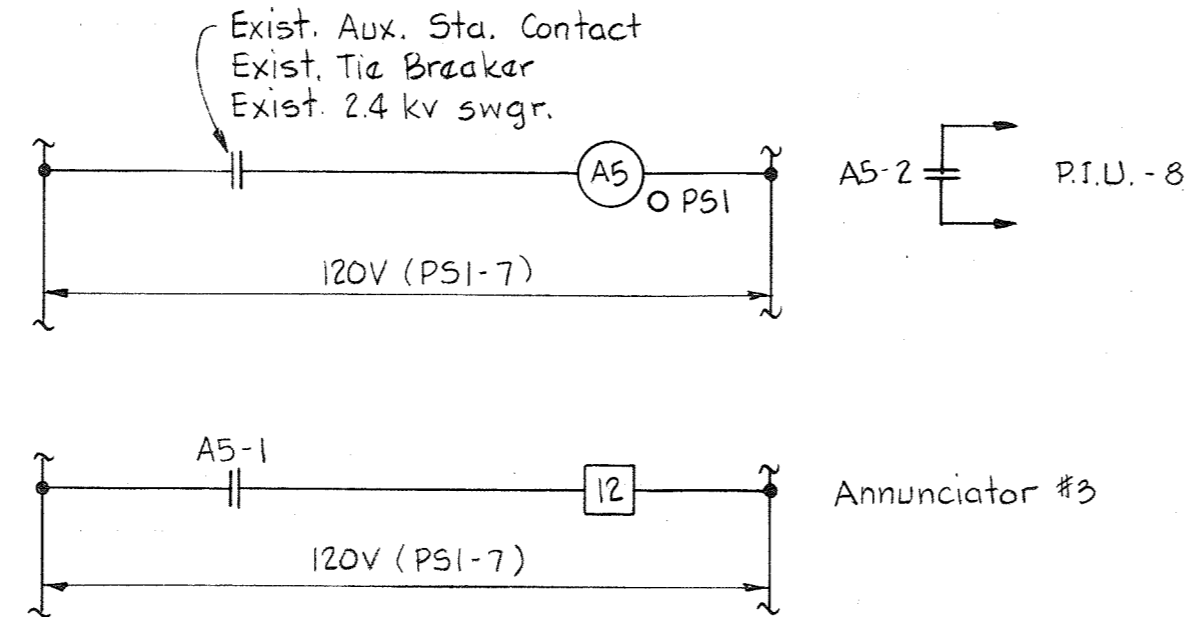
**E.C.D.#1**  
ELEMENTARY CONTROL DIAGRAM  
ALARMS FOR EXISTING  
1500 KVA XFMR-1-PSI

Typical for the following Units:  
1. Existing 1500 Kva xfmr - 2 - PSI - Annun.#3  
2. Existing 500 Kva xfmr - 1 - SSI - Annun.#2  
3. Existing 500 Kva xfmr - 2 - SSI - Annun.#2

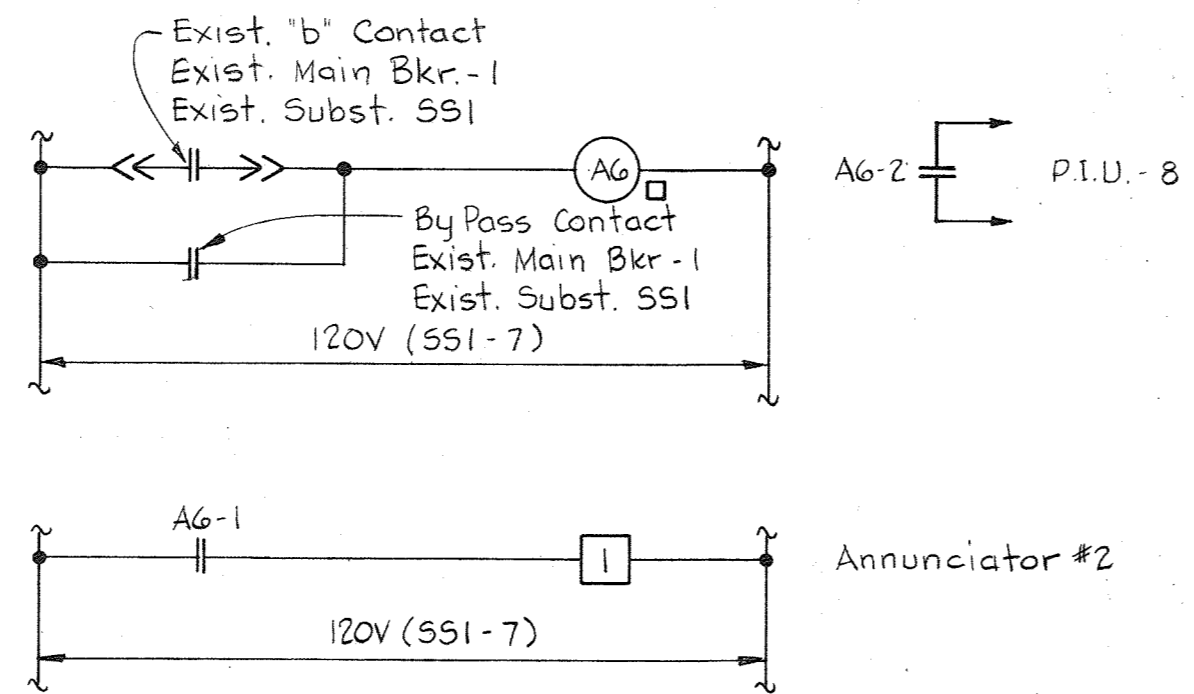


**E.C.D.#2**  
ELEMENTARY CONTROL DIAGRAM  
POSITION INDICATION FOR EXIST. MAIN BKR #1  
2.4 KV SWGR. - SUBST. PSI

Typical for the following Units:  
1. Exist. Main Bkr #2 - 2.4 kv Swgr. - PSI - Annun.#3

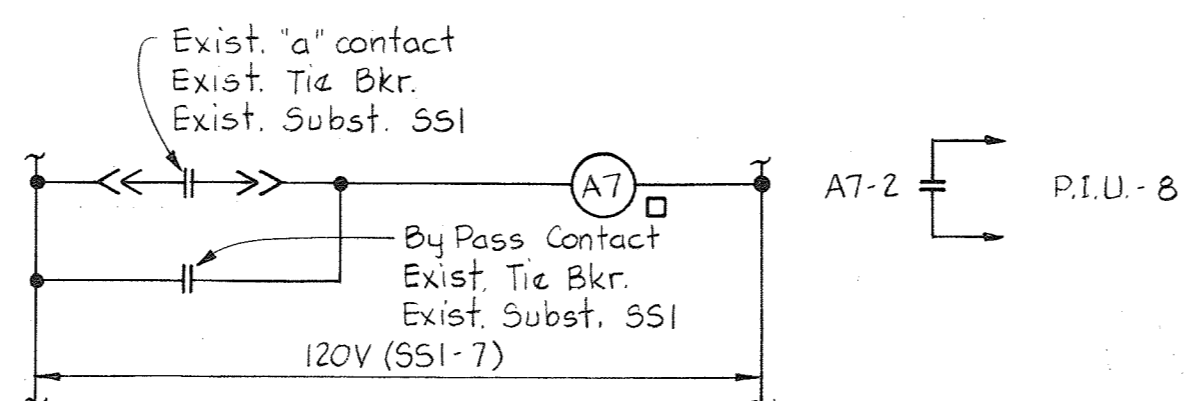


**E.C.D.#3**  
ELEMENTARY CONTROL DIAGRAM  
POSITION INDICATION FOR EXIST. TIE BKR.  
2.4 KV SWGR. - SUBST. PSI

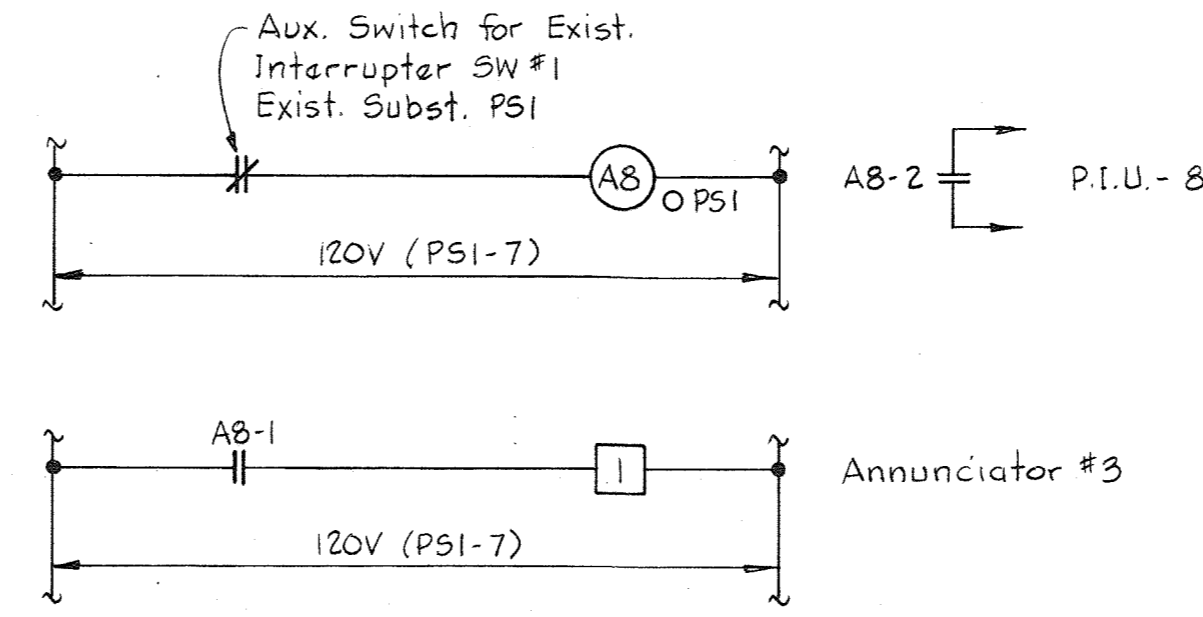


**E.C.D.#4**  
ELEMENTARY CONTROL DIAGRAM  
POSITION INDICATION FOR EXIST. MAIN BKR #1  
480V SWGR. - SUBST. SSI

Typical for the following Unit  
1. Exist. Main Bkr #2 - 480V Swgr - SSI

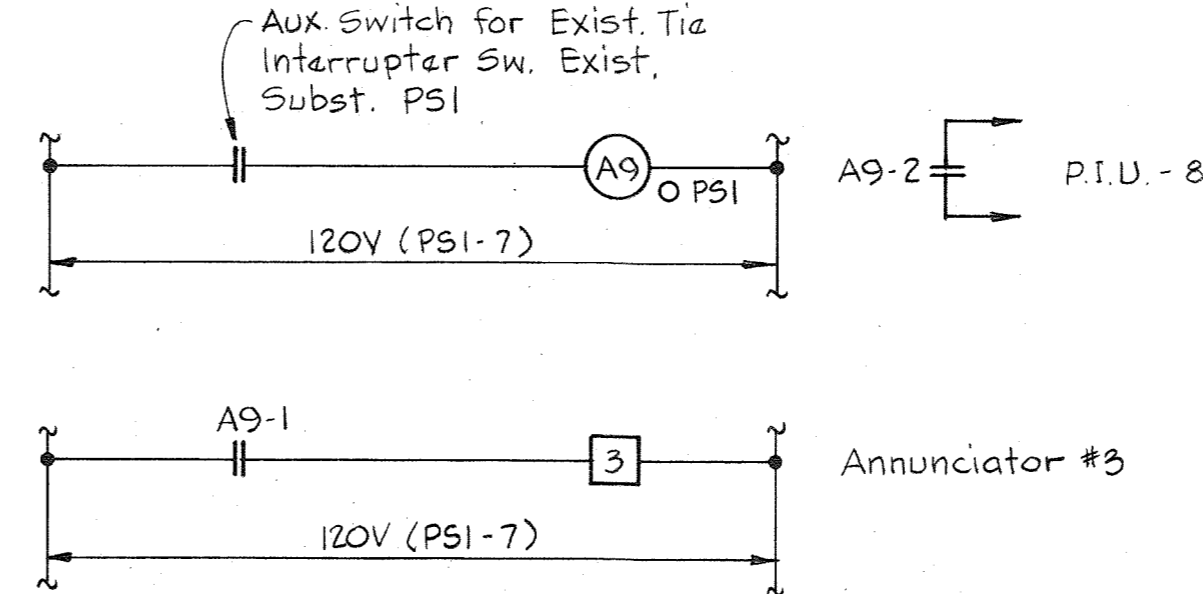


**E.C.D.#5**  
ELEMENTARY CONTROL DIAGRAM  
POSITION INDICATION FOR EXIST. TIE BKR.  
480V SWGR - SUBST. SSI



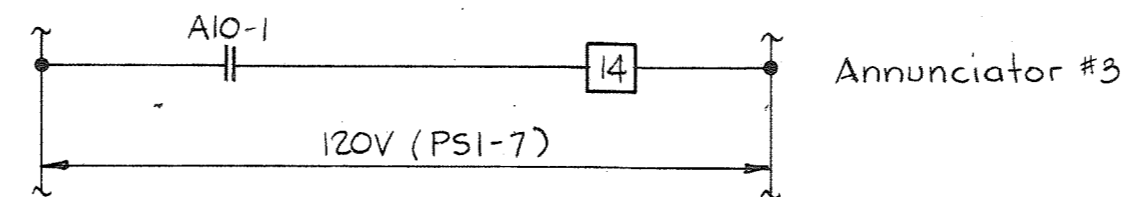
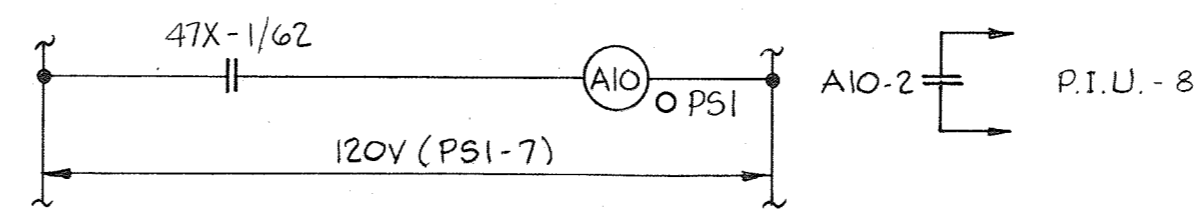
**E.C.D.#6**  
ELEMENTARY CONTROL DIAGRAM  
POSITION INDICATION FOR EXIST. INTERRUPTER  
SW #1, SUBSTATION PSI

Typical for the following Units:  
1. Exist. Interrupter SW #2 - PSI - Annun.#3  
2. Exist. Maintenance Interrupter SW - PSI - Annun.#3  
3. Exist. Interrupter SW #1 #2 - CC3 - Annun.#1



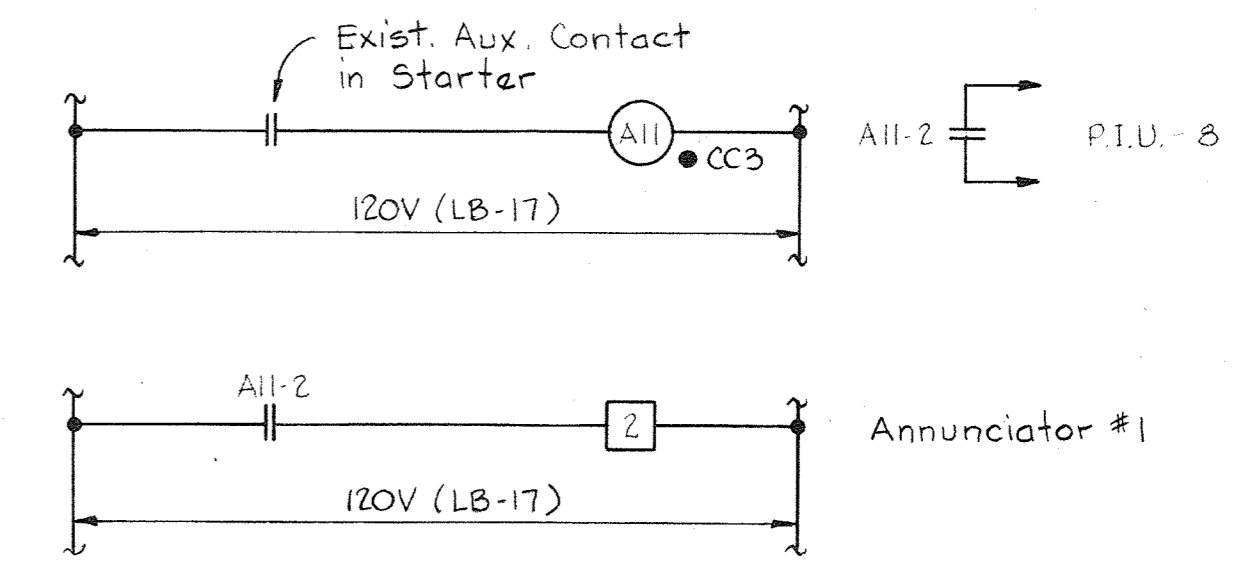
**E.C.D.#7**  
ELEMENTARY CONTROL DIAGRAM  
POSITION INDICATION FOR EXISTING TIE  
INTERRUPTER SW, SUBSTATION - PSI

Typical for the following Units  
1. Exist. Tie Interrupter SW - CC3 - Annun.#1



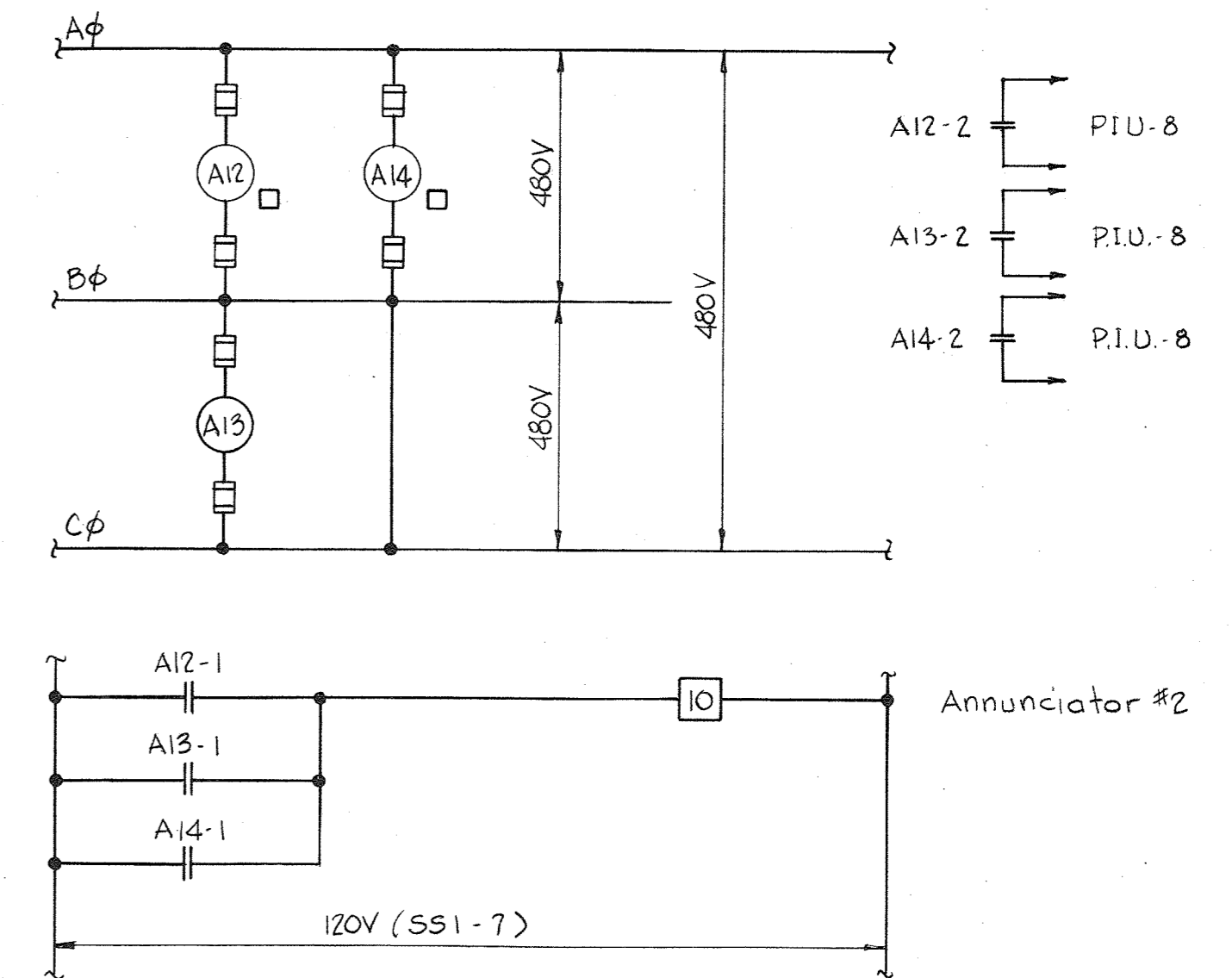
**E.C.D.#8**  
ELEMENTARY CONTROL DIAGRAM  
NO VOLTAGE - SERVICE #1 - 2.4 kv SWGR. - PSI

Typical for the following Units  
1. No Voltage - Service #2 - 2.4 kv Swgr. - PSI - Annun.#3



**E.C.D.#9**  
ELEMENTARY CONTROL DIAGRAM  
AIR SURG - BLOWER #2 - CC3

Typical for the following Units  
1. Blower #3 - CC3 - Annun.#1  
2. Blower #4 - CC3 - Annun.#1  
3. Blower #5 - CC3 - Annun.#1  
4. Blower #6 - CC3 - Annun.#1



**E.C.D.#10**  
ELEMENTARY CONTROL DIAGRAM  
NO VOLTAGE - SERVICE #1 - 480V SWGR - SSI

Typical for the following Units:  
1. No Voltage - Service #2 - 480V Swgr - SSI - Annun.#2

**NOTES:**

1. For General Electrical Notes & Legend, see Sheet E-3.
2. For window inscriptions for Annunciator see Sheet E-25.

WHITMAN, REQUARDT & ASSOCIATES  
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DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

3/31/78  
DATE

Richard E. Brendenbecker  
CHIEF BUREAU OF ENVIRONMENTAL SERVICES

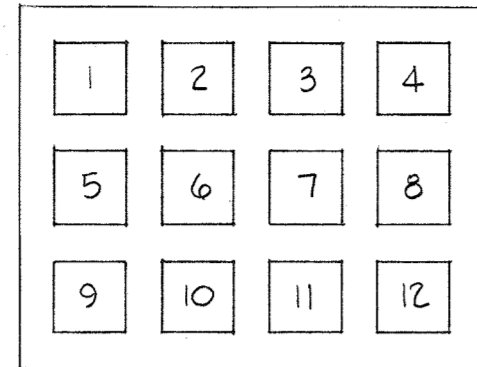
CONTRACT NO. 505-S

WIRING DIAGRAMS

SAVAGE WASTEWATER  
TREATMENT PLANT ADDITION NO. 4

DRAWING  
NO. 25  
OF 29

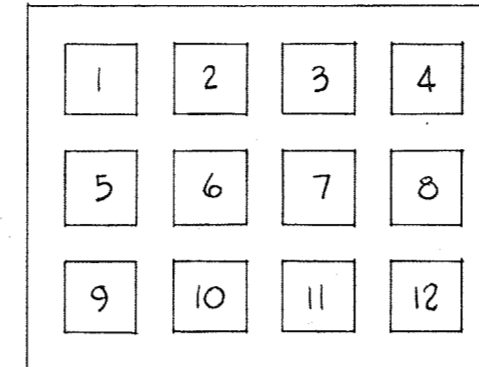
SCALE  
AS  
SHOWN



ANNUNCIATOR #1  
MCC "CC3"  
BLOWER BLDG. & P.S.

POINT NO.	WINDOW INSCRIPTION			E.C.D. NO. & SHEET NO.
	FIRST LINE	SECOND LINE	THIRD LINE	
1	AIR SURGE	BLOWER UNIT - 1	BLOWER BLDG. P.S.	9/ E-24
2	AIR SURGE	BLOWER UNIT - 2	BLOWER BLDG. P.S.	9/ E-24
3	AIR SURGE	BLOWER UNIT - 3	BLOWER BLDG. P.S.	9/ E-24
4	AIR SURGE	BLOWER UNIT - 4	BLOWER BLDG. P.S.	9/ E-24
5	AIR SURGE	BLOWER UNIT - 5	BLOWER BLDG. P.S.	9/ E-24
6	AIR SURGE	BLOWER UNIT - 6	BLOWER BLDG. P.S.	9/ E-24
7	AIR SURGE	BLOWER UNIT - 7	BLOWER BLDG. P.S.	9/ E-24
8	MAIN SW.-1 OPEN	2.4 KV - MCC-CC3	BLOWER BLDG. P.S.	6/ E-24
9	MAIN SW.-2 OPEN	2.4 KV - MCC-CC3	BLOWER BLDG. P.S.	6/ E-24
10	TIE SW OPEN	2.4 KV - MCC-CC3	BLOWER BLDG. P.S.	7/ E-24
11	—	—	—	—
12	—	—	—	—

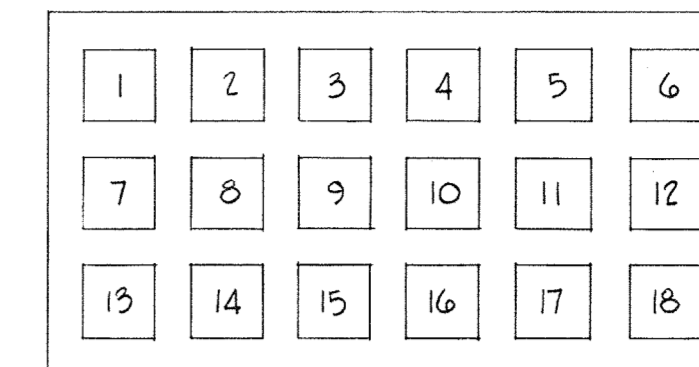
ANNUNCIATOR #1 FOR MCC "CC3" - BLOWER BLDG & P.S.



ANNUNCIATOR #2  
SUBSTATION SSI

POINT NO.	WINDOW INSCRIPTION			E.C.D. NO. & SHEET NO.
	FIRST LINE	SECOND LINE	THIRD LINE	
1	MAIN BKR.-1 OPEN	480V SWGR.	SUBSTATION SSI	4/ E-24
2	TIE BKR CLOSED	480V SWGR.	SUBSTATION SSI	5/ E-24
3	MAIN BKR.-2 OPEN	480V SWGR.	SUBSTATION SSI	4/ E-24
4	HIGH TEMPERATURE	500 KVA XFMR-1	SUBSTATION SSI	1/ E-24
5	LOW LIQUID LEVEL	500 KVA XFMR-1	SUBSTATION SSI	1/ E-24
6	HIGH PRESSURE	500 KVA XFMR-1	SUBSTATION SSI	1/ E-24
7	HIGH TEMPERATURE	500 KVA XFMR-2	SUBSTATION SSI	1/ E-24
8	LOW LIQUID LEVEL	500 KVA XFMR-2	SUBSTATION SSI	1/ E-24
9	HIGH PRESSURE	500 KVA XFMR-2	SUBSTATION SSI	1/ E-24
10	NO VOLTAGE	480V SWGR.	SUBSTATION SSI	10/ E-24
11	NO VOLTAGE	480V SWGR.	SUBSTATION SSI	10/ E-24
12	—	—	—	—

ANNUNCIATOR #2 FOR 480V SWGR. - SUBSTATION "SSI"



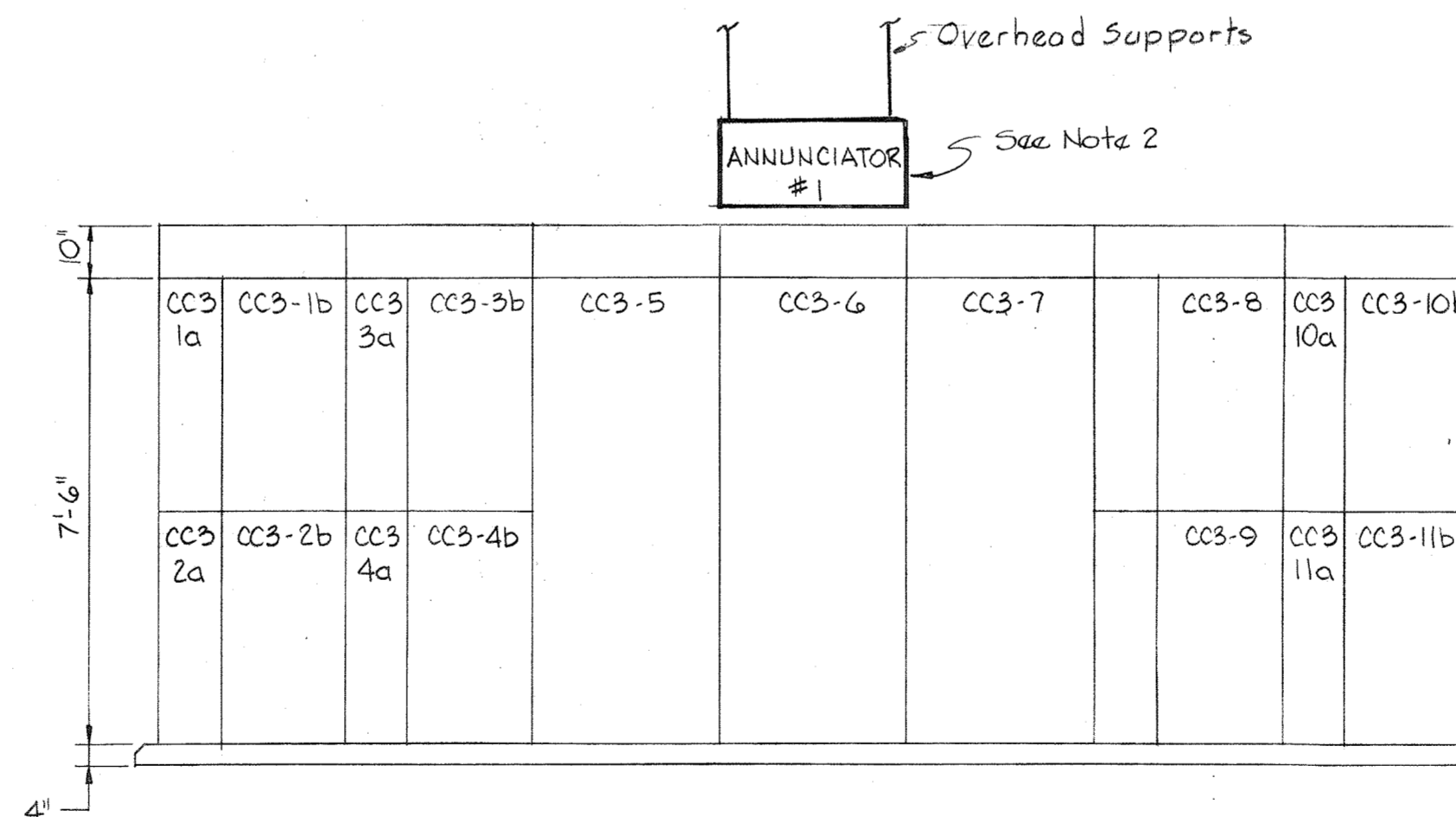
ANNUNCIATOR #3  
SUBSTATION PS-1

POINT NO.	WINDOW INSCRIPTION			E.C.D. NO. & SHEET NO.
	FIRST LINE	SECOND LINE	THIRD LINE	
1	XFMR SW.-1 OPEN	13.2 KV O.D. STRUCTURE	SUBSTATION PS1	6/ E-24
2	XFMR SW.-2 OPEN	13.2 KV O.D. STRUCTURE	SUBSTATION PS1	6/ E-24
3	TIE SW. CLOSED	13.2 KV O.D. STRUCTURE	SUBSTATION PS1	7/ E-24
4	MAINT. SW. OPEN	13.2 KV O.D. STRUCTURE	SUBSTATION PS1	6/ E-24
5	HIGH TEMPERATURE	1500 KVA XFMR-1	SUBSTATION PS1	1/ E-24
6	LOW LIQUID LEVEL	1500 KVA XFMR-1	SUBSTATION PS1	1/ E-24
7	HIGH PRESSURE	1500 KVA XFMR-1	SUBSTATION PS1	1/ E-24
8	HIGH TEMPERATURE	1500 KVA XFMR-2	SUBSTATION PS1	1/ E-24
9	LOW LIQUID LEVEL	1500 KVA XFMR-2	SUBSTATION PS1	1/ E-24
10	HIGH PRESSURE	1500 KVA XFMR-2	SUBSTATION PS1	1/ E-24
11	MAIN BKR.-1 OPEN	2.4 KV SWGR.	SUBSTATION PS1	2/ E-24
12	TIE BKR. CLOSED	2.4 KV SWGR.	SUBSTATION PS1	3/ E-24
13	MAIN BKR.-1 OPEN	2.4 KV SWGR.	SUBSTATION PS1	2/ E-24
14	NO VOLTAGE SER. FDR.-1	2.4 KV SWGR.	SUBSTATION PS1	8/ E-24
15	NO VOLTAGE SER. FDR.-2	2.4 KV SWGR.	SUBSTATION PS1	8/ E-24
16	—	—	—	—
17	—	—	—	—
18	—	—	—	—

ANNUNCIATOR #3 FOR SUBSTATION "PS1"

POINT NO.	WINDOW INSCRIPTION			E.C.D. NO. & SHEET NO.
	FIRST LINE	SECOND LINE	THIRD LINE	
6	AC FAILURE	RECTIFIER	UPS SYSTEM	11/ E-5
7	NO CHARGE	RECTIFIER	UPS SYSTEM	11/ E-5
8	GROUND	D.C. CIRCUITRY	UPS SYSTEM	11/ E-5
9	AC OUTPUT FAILURE	INVERTER	UPS SYSTEM	11/ E-5
10	STANDBY POSITION	INPUT TRANSFER SW.	UPS SYSTEM	11/ E-5
11	BYPASS POSITION	LOAD TRANSFER SW.	UPS SYSTEM	11/ E-5
12	—	—	—	—

ADDITIONAL POINTS FOR ANNUN. #16  
IN SWITCHBOARD - ADMINISTRATION BLDG.



FRONT ELEVATION  
EXISTING 2400 VOLT MOTOR CONTROL CENTER "CC3"  
BLOWER BUILDING & P.S.

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

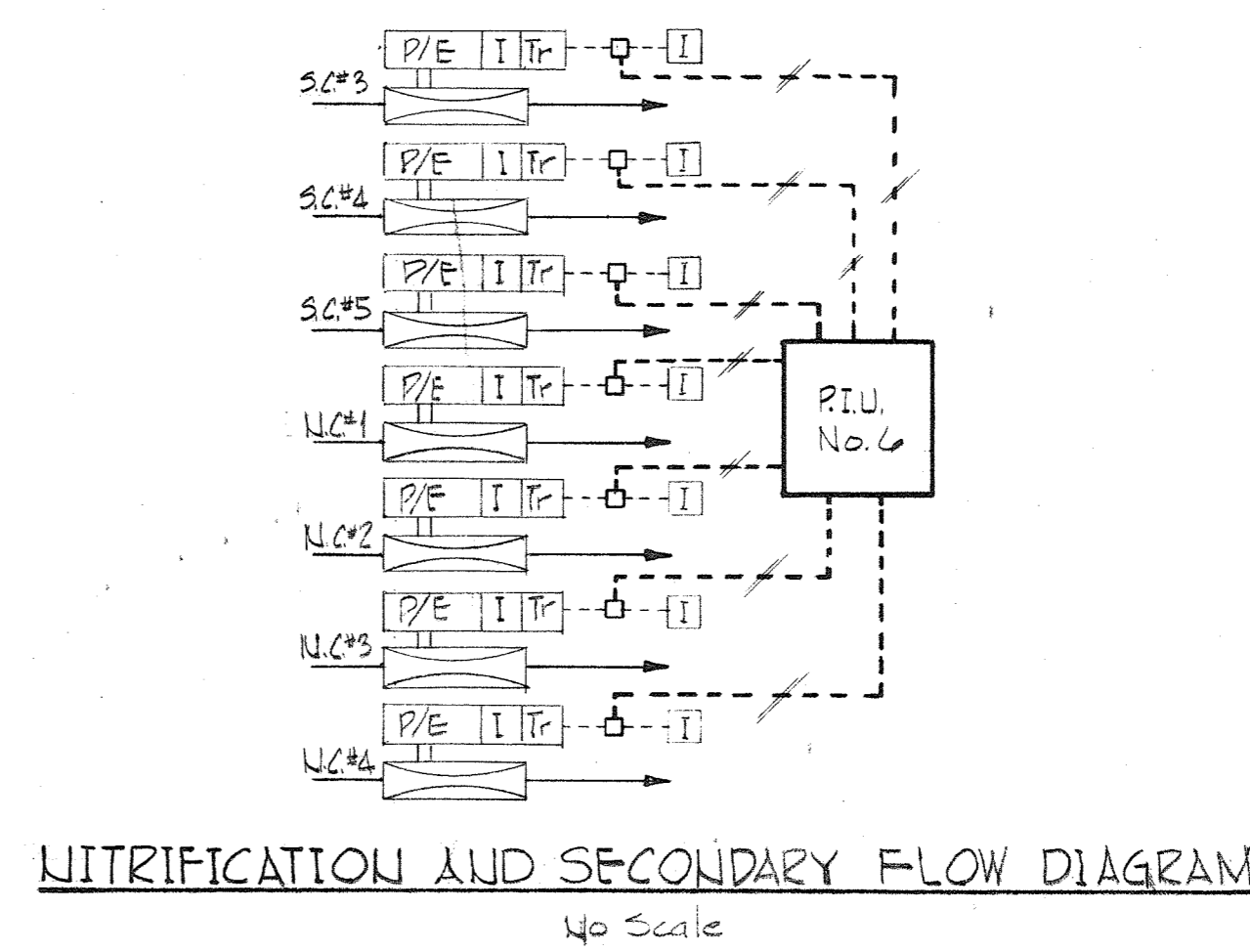
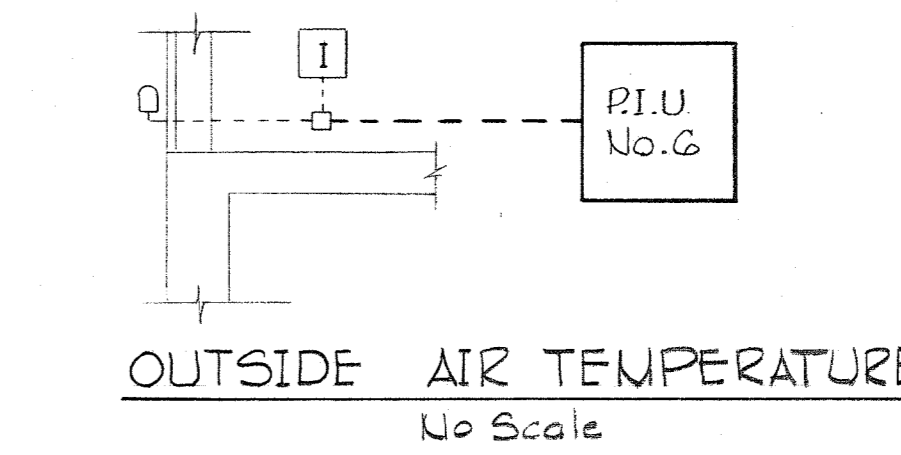
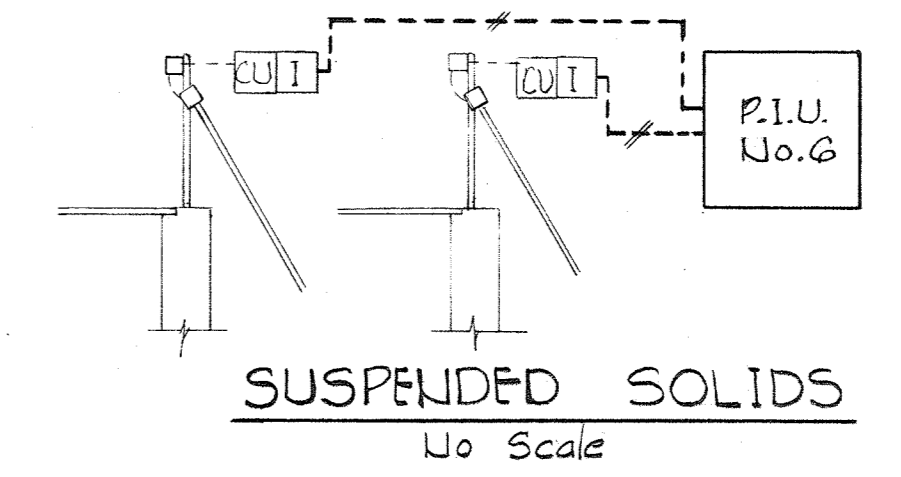
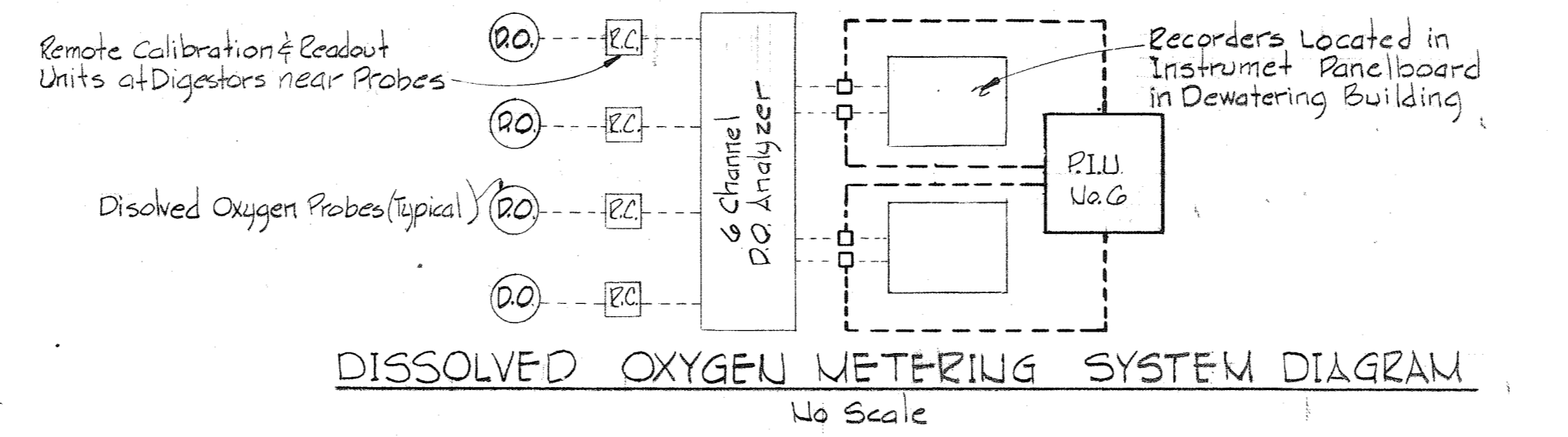
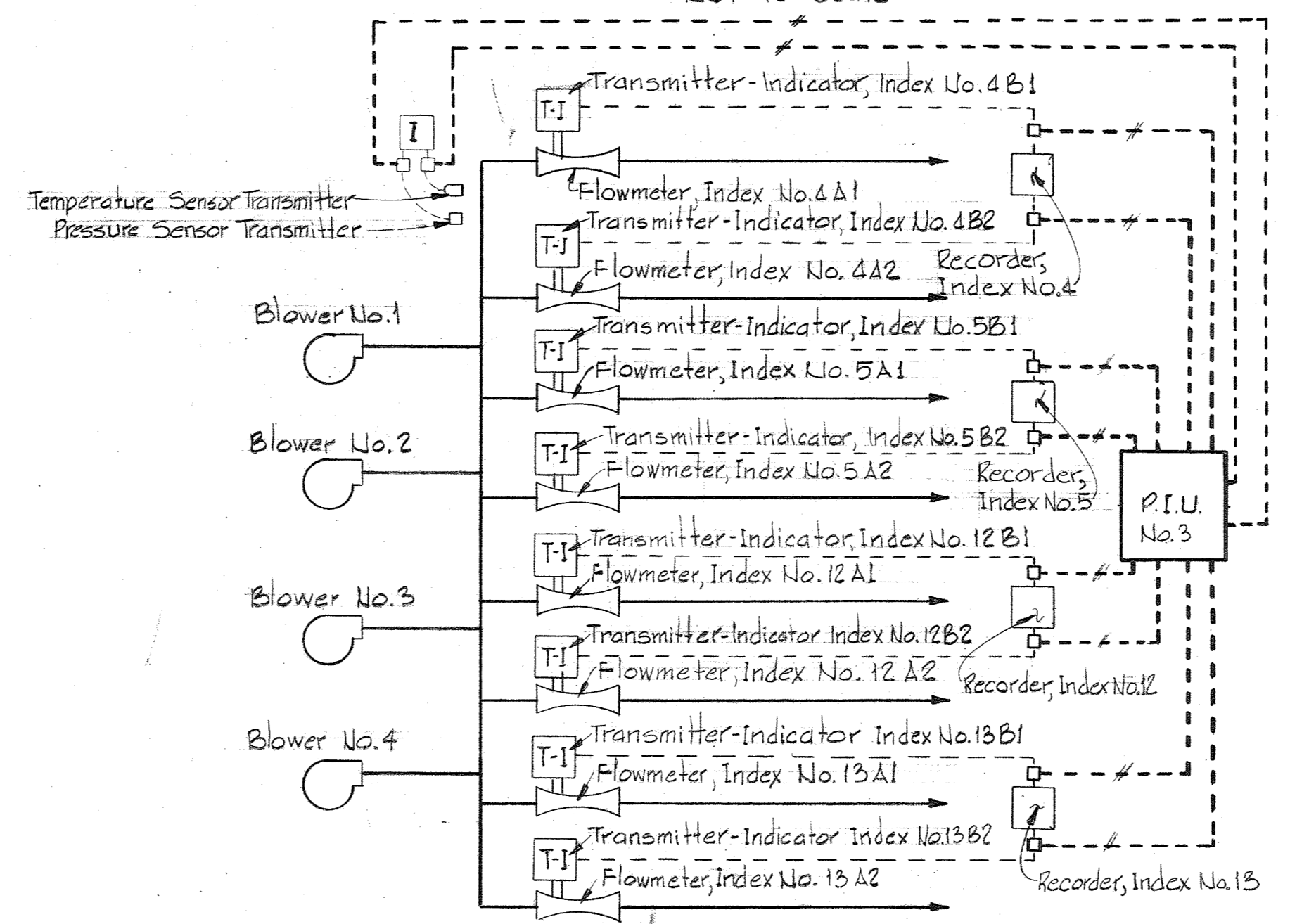
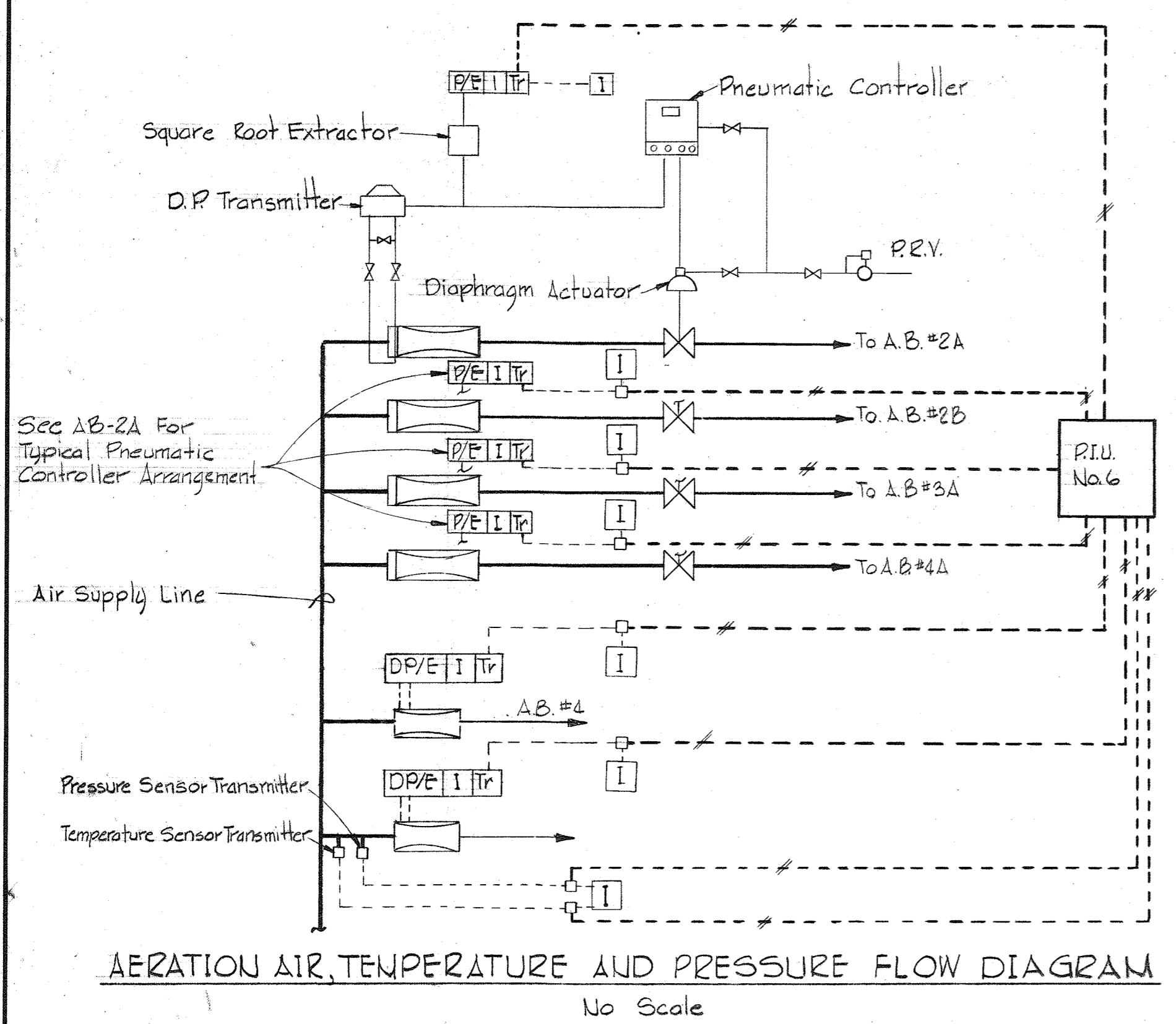
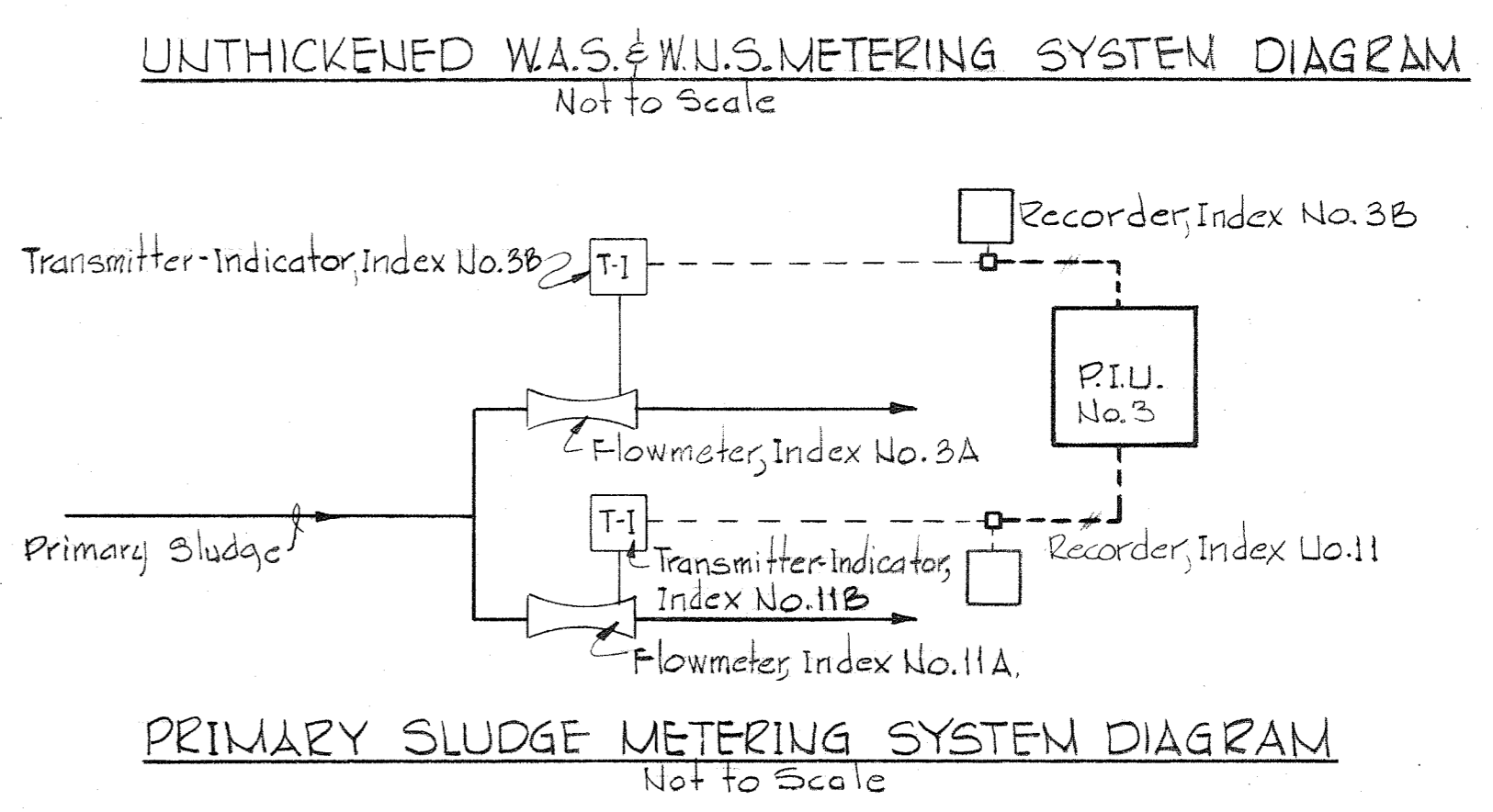
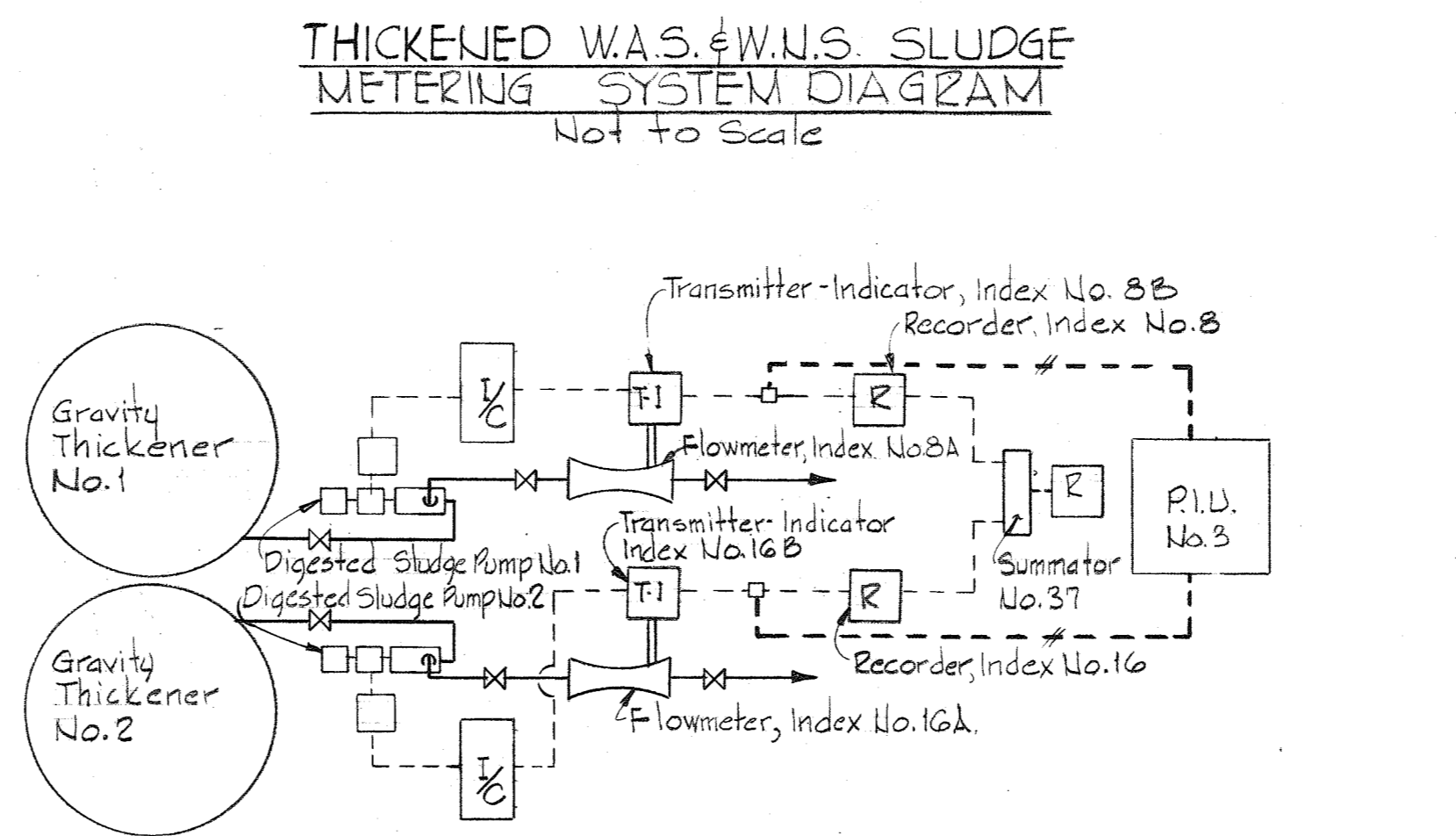
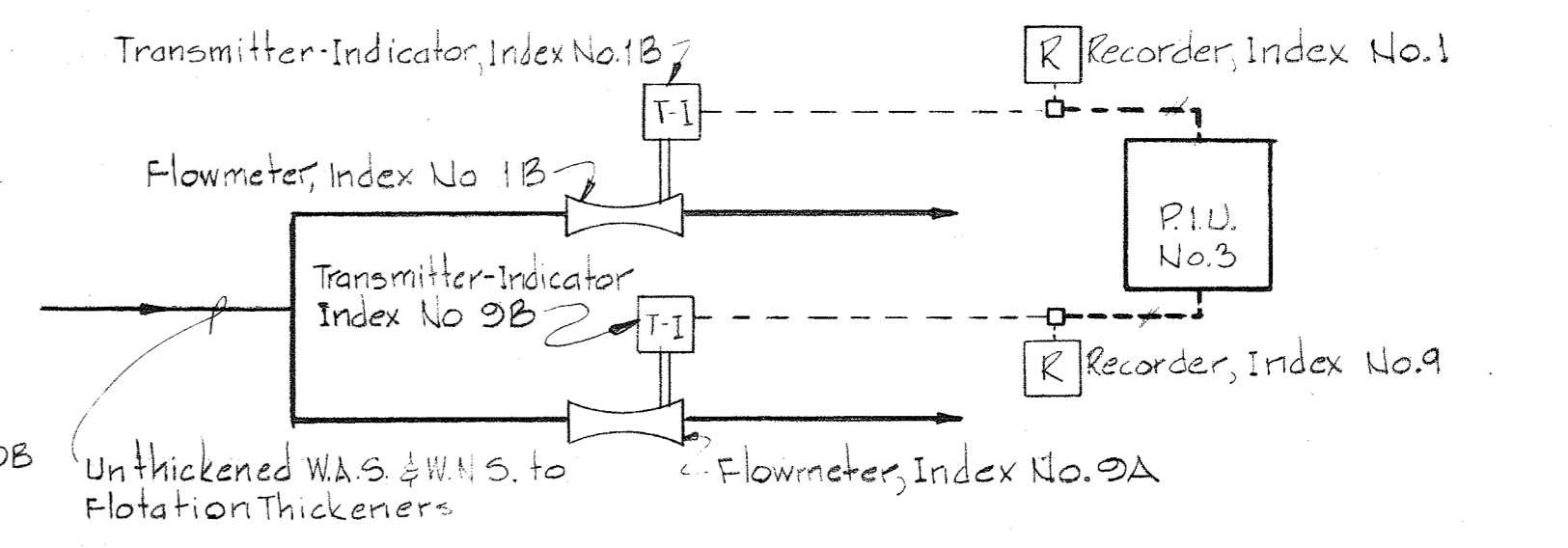
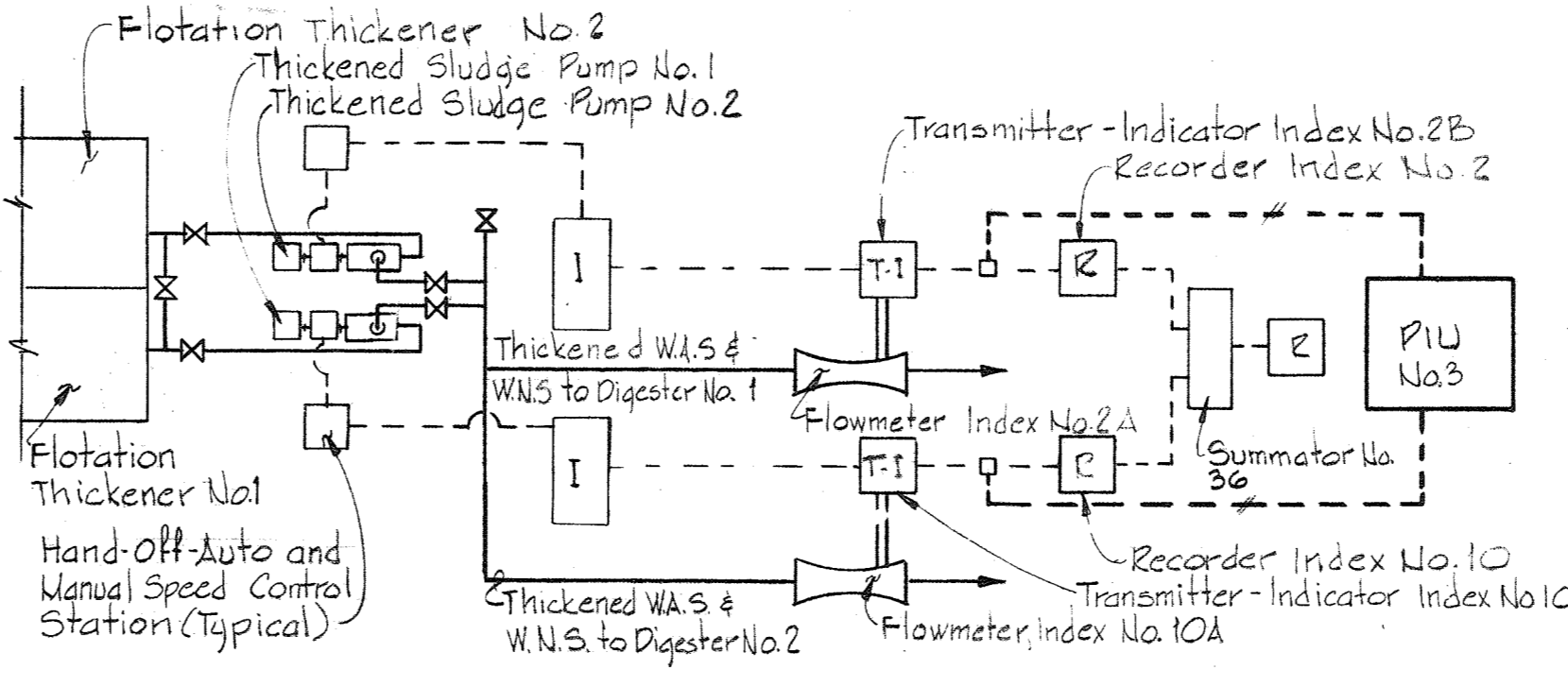
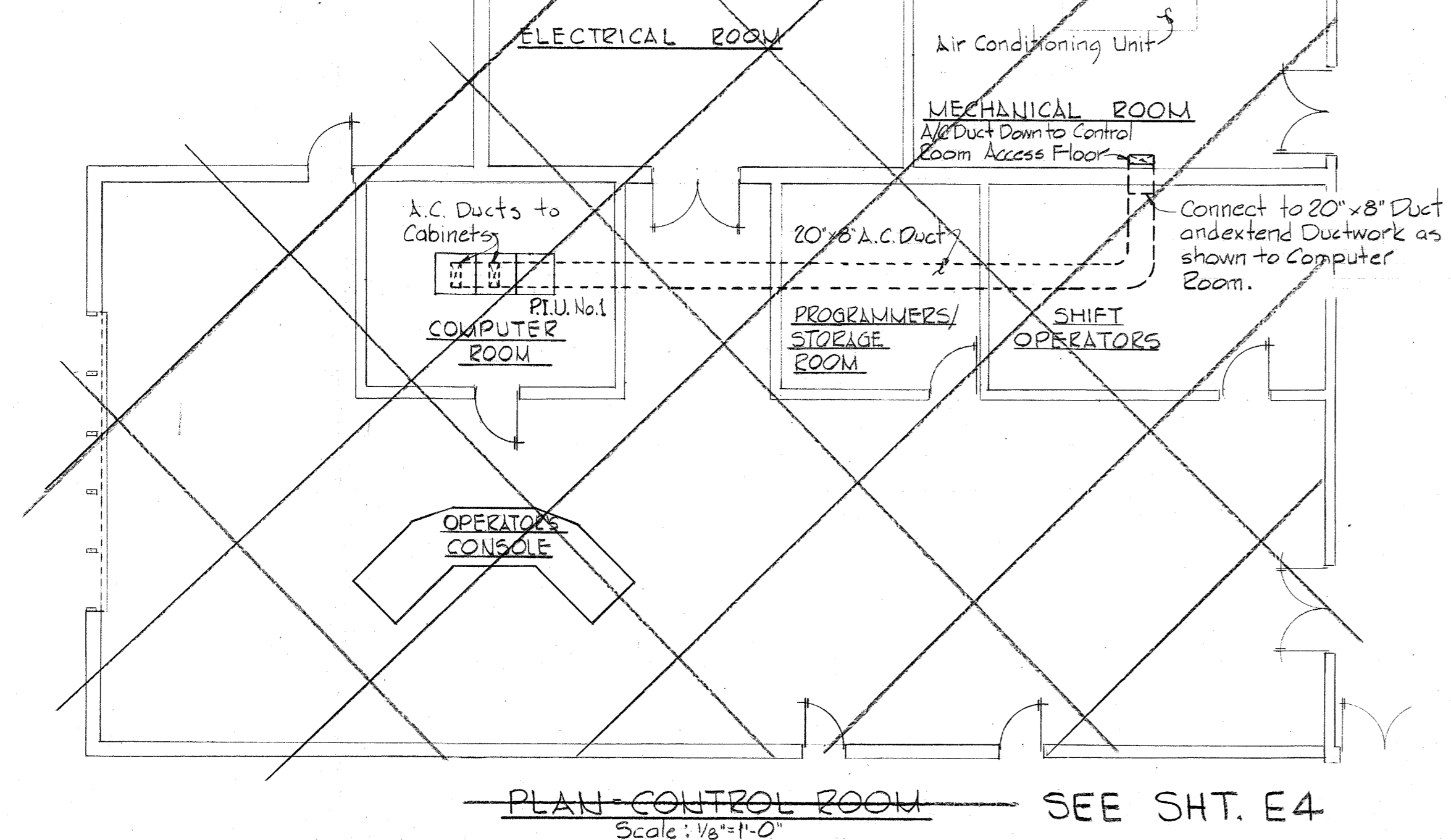
NOTES:

- For General Electrical Notes & Legend, see Sheet E-3.
- Mount Annunciator so that windows tilt 15° down for easy viewing.
- For ECD Diagrams associated with Annunciators #1, #2 & #3 see sheet E-24.
- For ECD Diagrams associated with Annunciator #16, see sheet E-5.

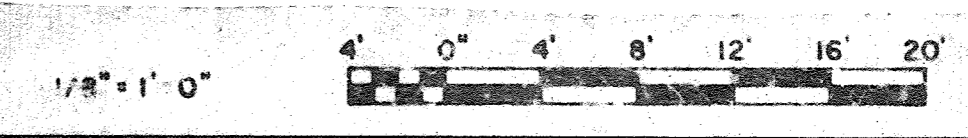
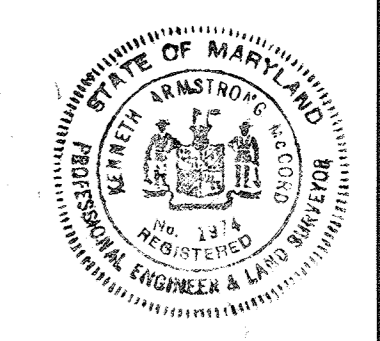
3/8"=1'-0"

WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 3/31/78 <i>Richard E. Freudenberger</i> CHIEF BUREAU OF ENVIRONMENTAL SERVICES	CONTRACT NO. 505-S	ANNUNCIATOR DETAILS	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. 26	SCALE
					OF 29	

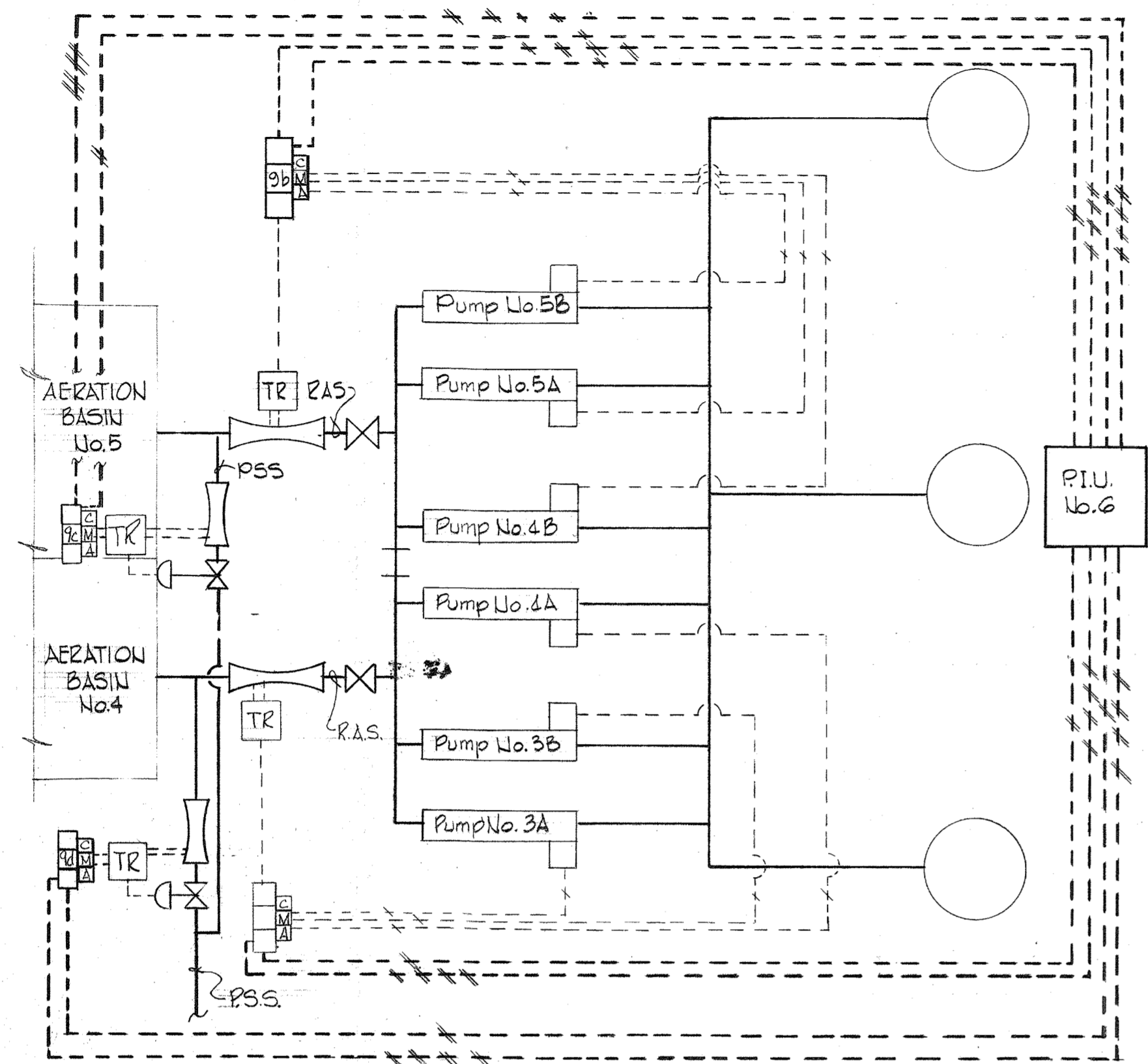
NOTES:  
 1) Heavy dashed lines terminating at P.I.U. Units indicate Signal Routing under this Contract  
 2) See Sheet M-3 for Legend.  
 3) For Process Alarm and other Contact Closure P.I.U. Input Functions. See Electrical Drawings.



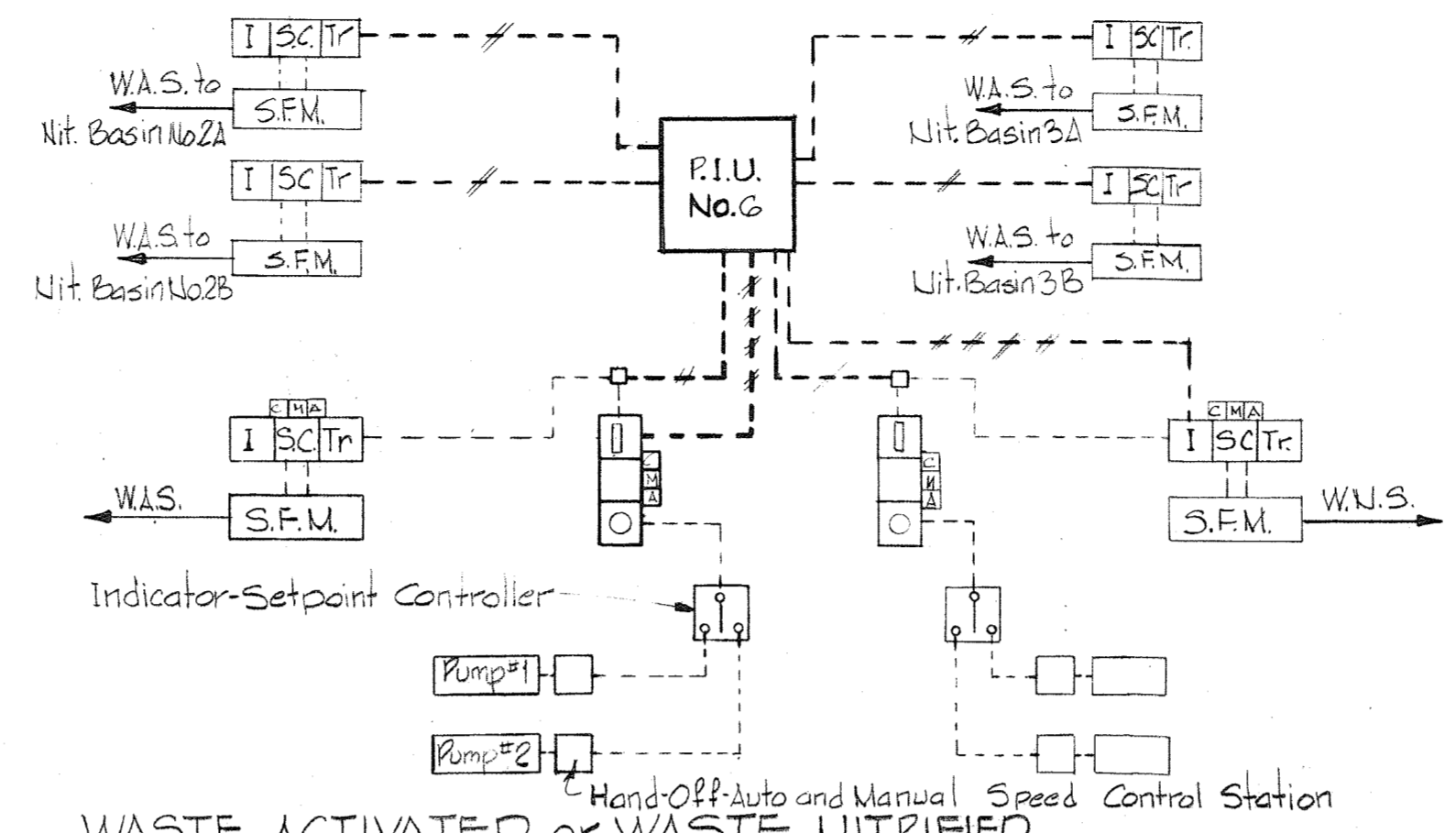
AS INSTALLED  
 AUG 9, 1982 DE



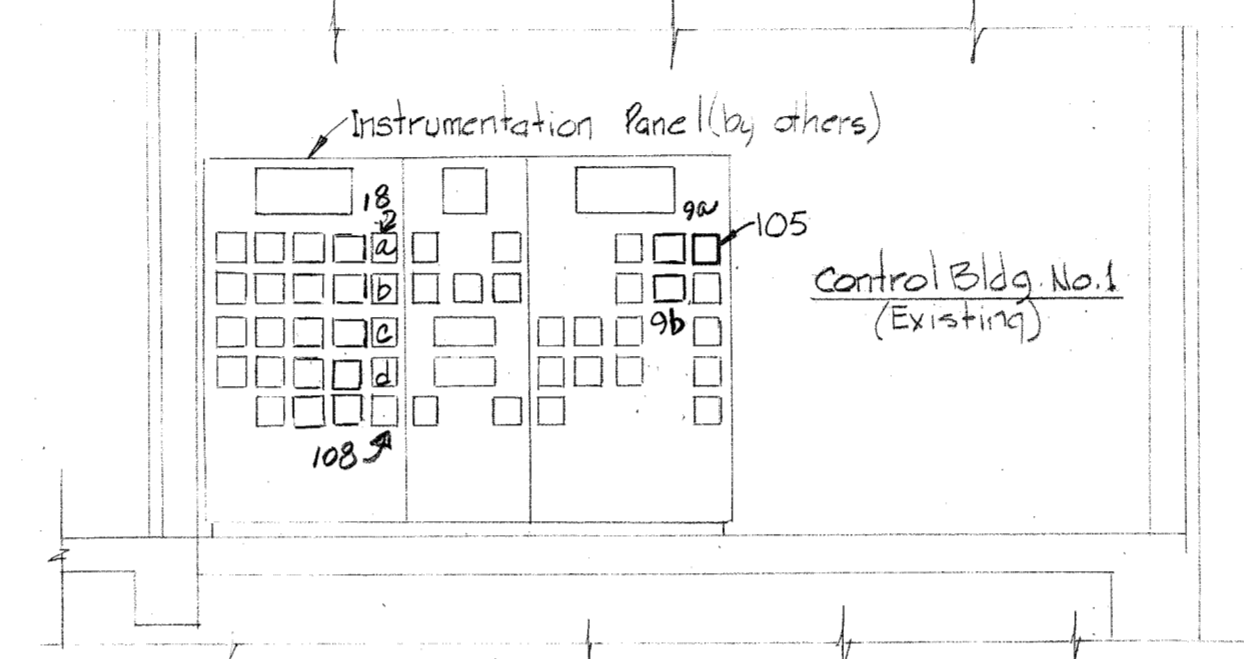
WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 4/25/78 DATE Richard E. Gruendler CHIEF BUREAU OF ENVIRONMENTAL SERVICES	CONTRACT NO. 505-S	PLAN-CONTROL ROOM AND PROCESS INSTRUMENTATION AND CONTROL DIAGRAMS	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. 27 OF 29	SCALE AS SHOWN
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RETURN ACTIVATED SLUDGE FLOW DIAGRAM  
No Scale

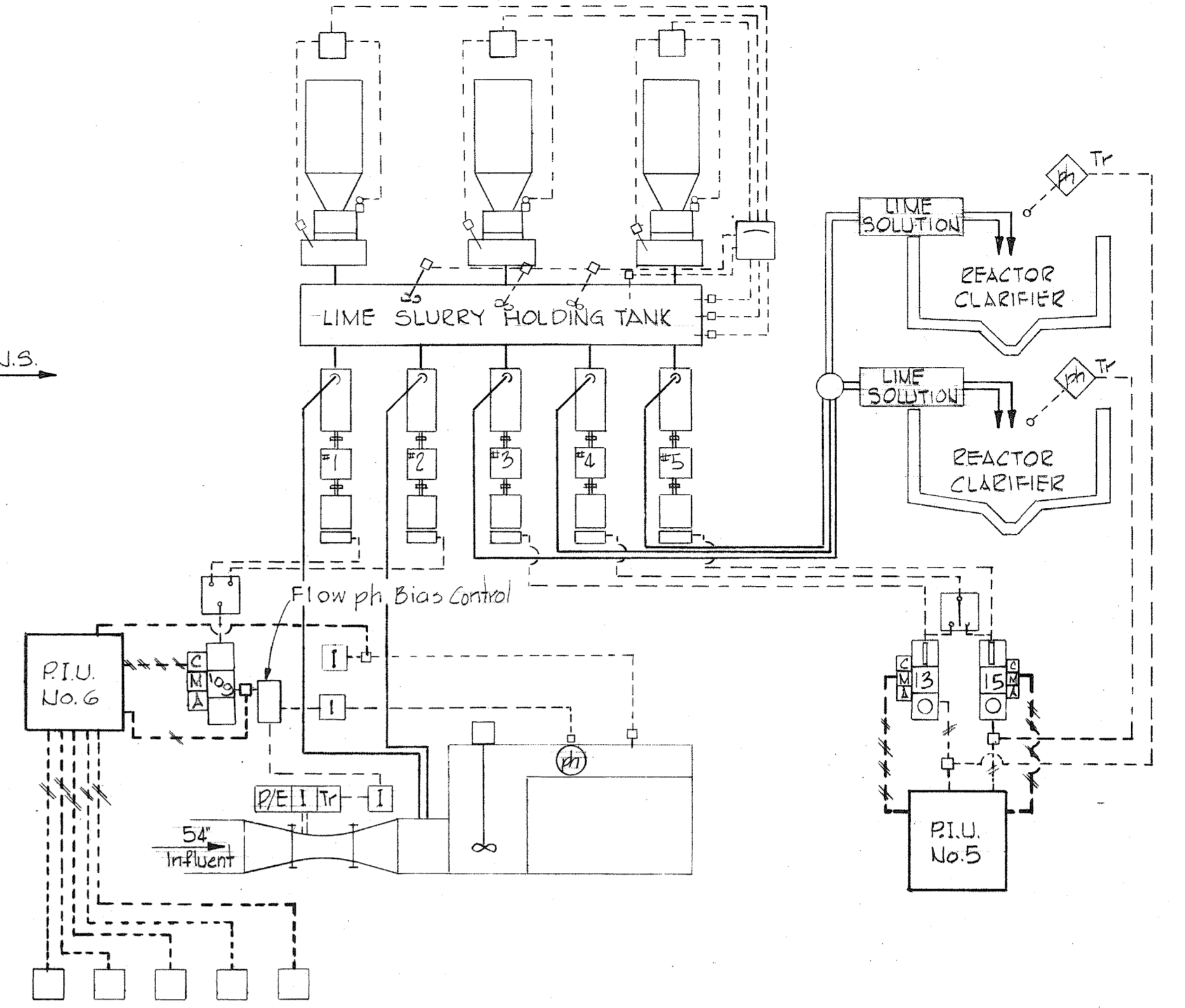


WASTE ACTIVATED or WASTE NITRIIFIED  
SLUDGE FLOW DIAGRAM  
No Scale

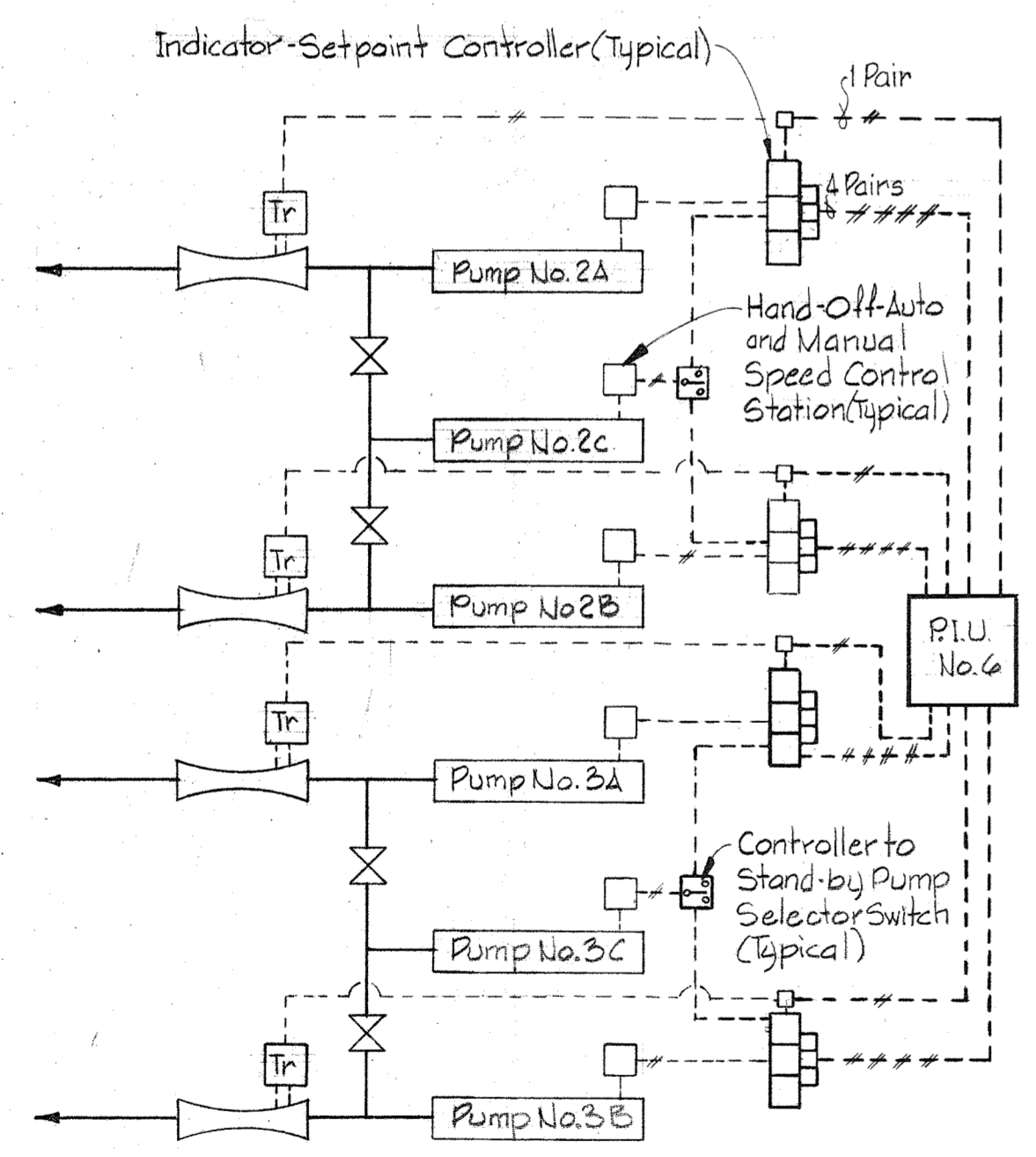


DETAIL-INSTRUMENTATION PANEL ADDITIONS  
CONTROL BUILDING NO.1  
No Scale

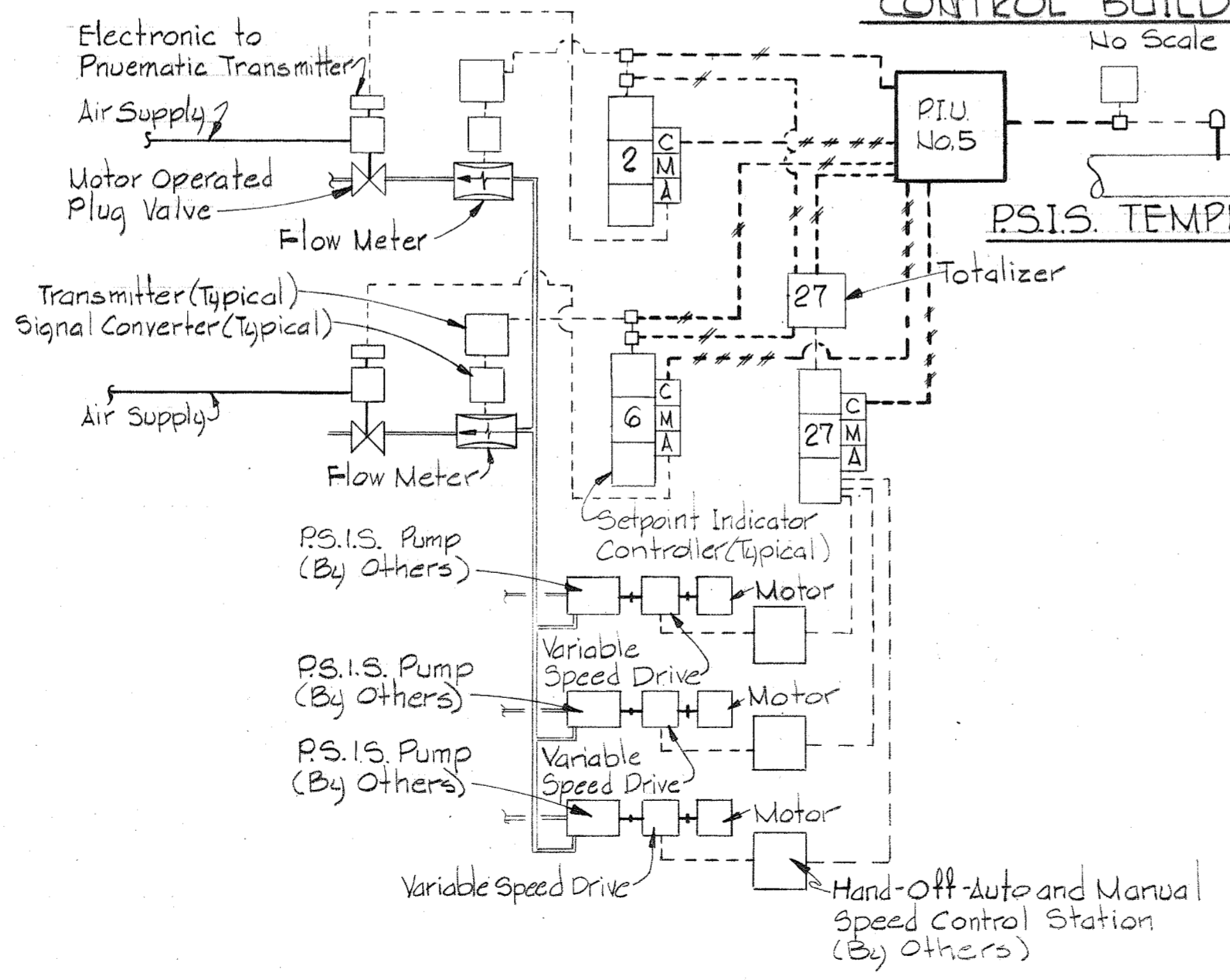
LEGEND (for Controller Additions)  
 9a R.A.S. Aeration Basin No. 4  
 9b R.A.S. Aeration Basin No. 5  
 18a R.N.S. Aeration Basin No. 2a  
 18b R.N.S. Aeration Basin No. 2b  
 18c R.N.S. Aeration Basin No. 3a  
 18d R.N.S. Aeration Basin No. 3b  
 105 W.A.S.  
 109 W.N.S.



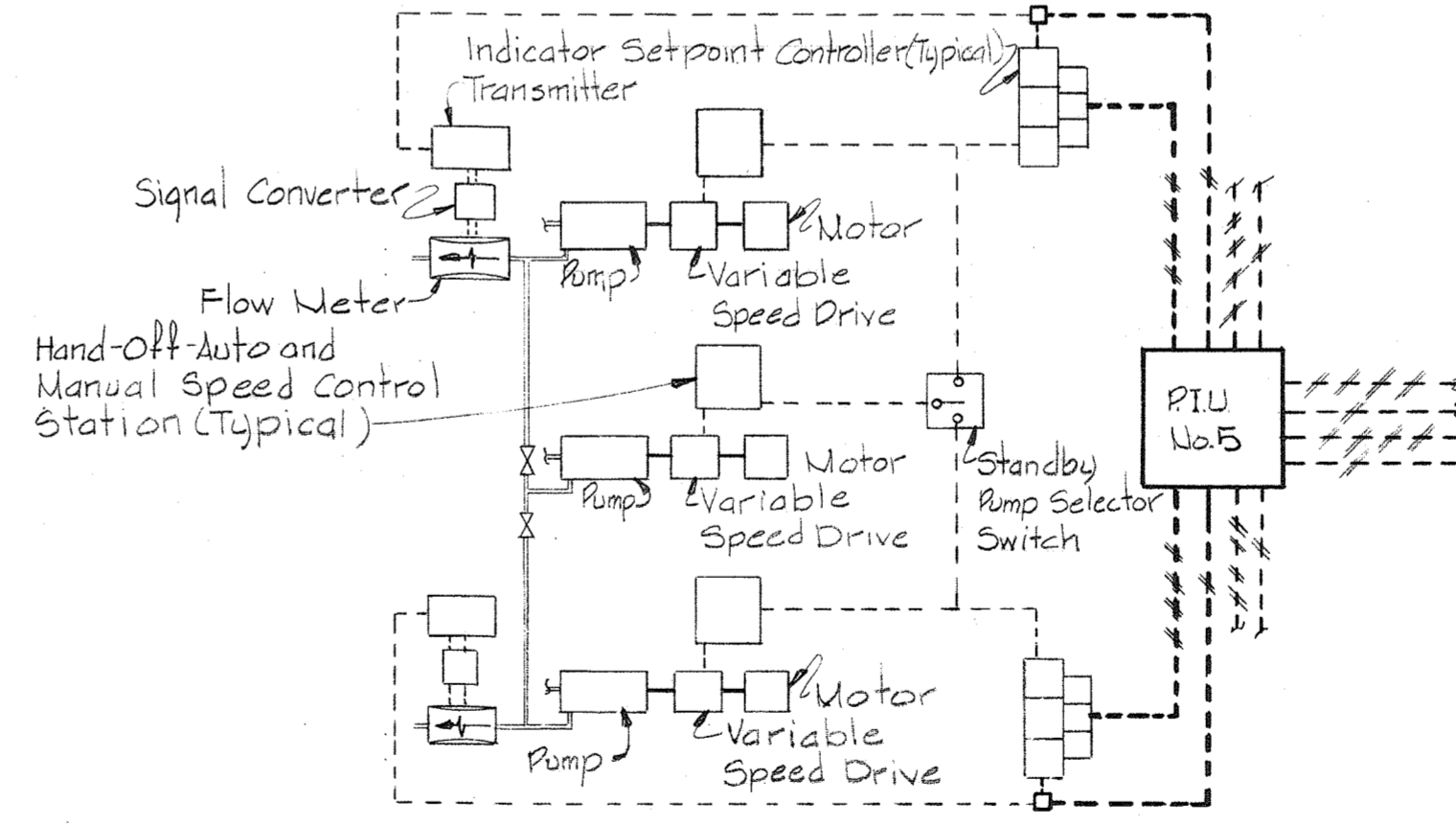
NITRIFICATION INFLUENT FLOW AND  
PH CONTROL DIAGRAM  
No Scale



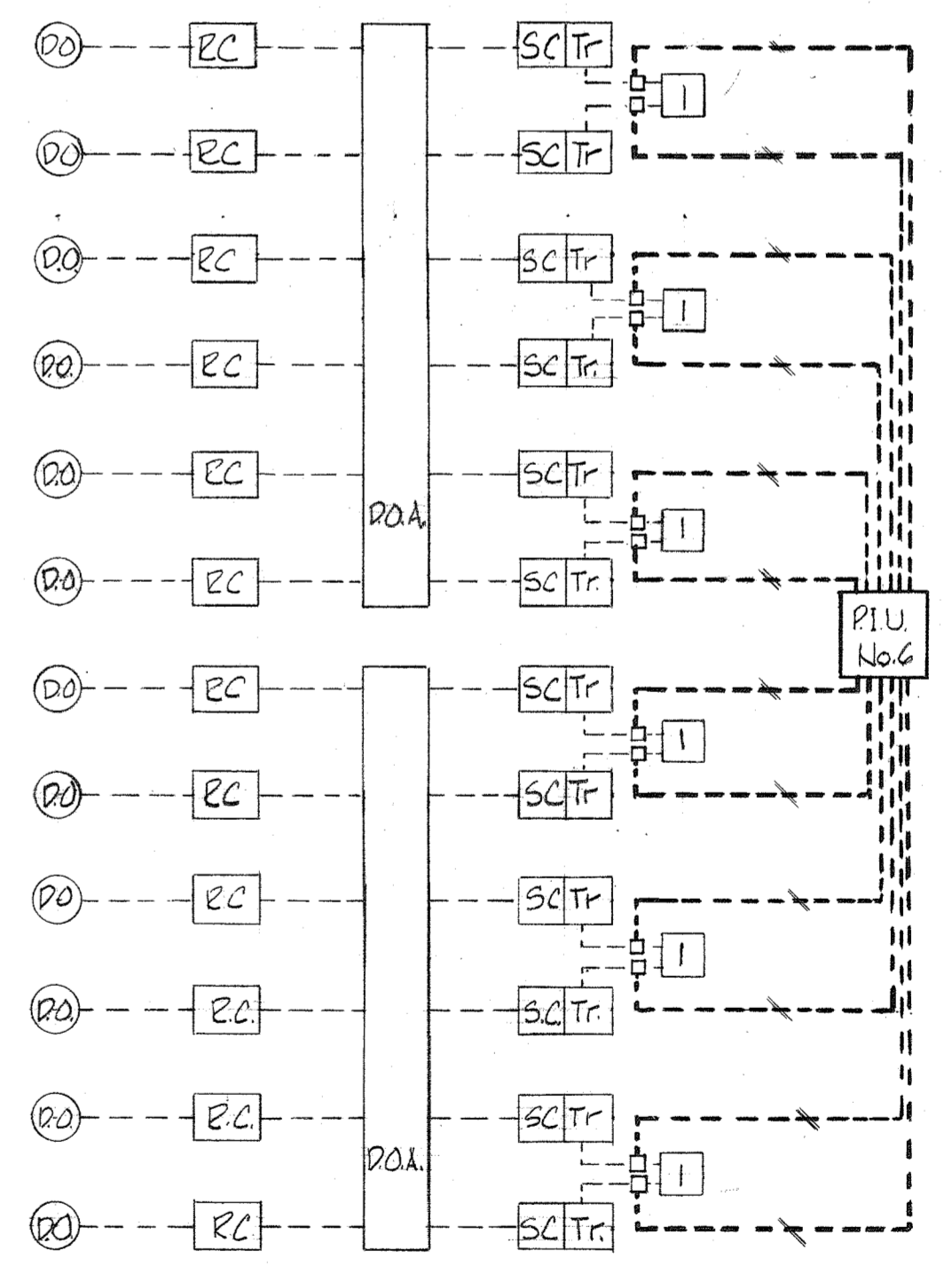
RETURN NITRIIFIED SLUDGE FLOW DIAGRAM  
No Scale



PHOSPHORUS STRIPPER INFLUENT  
SLUDGE CONTROL DIAGRAM  
No Scale



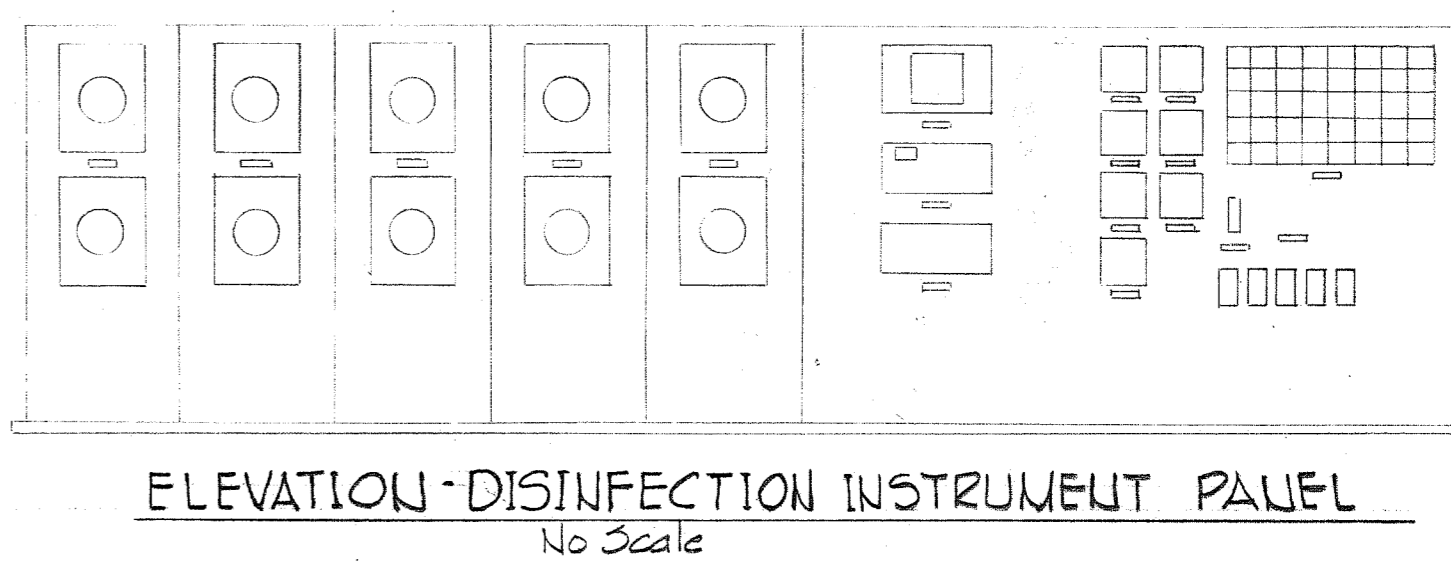
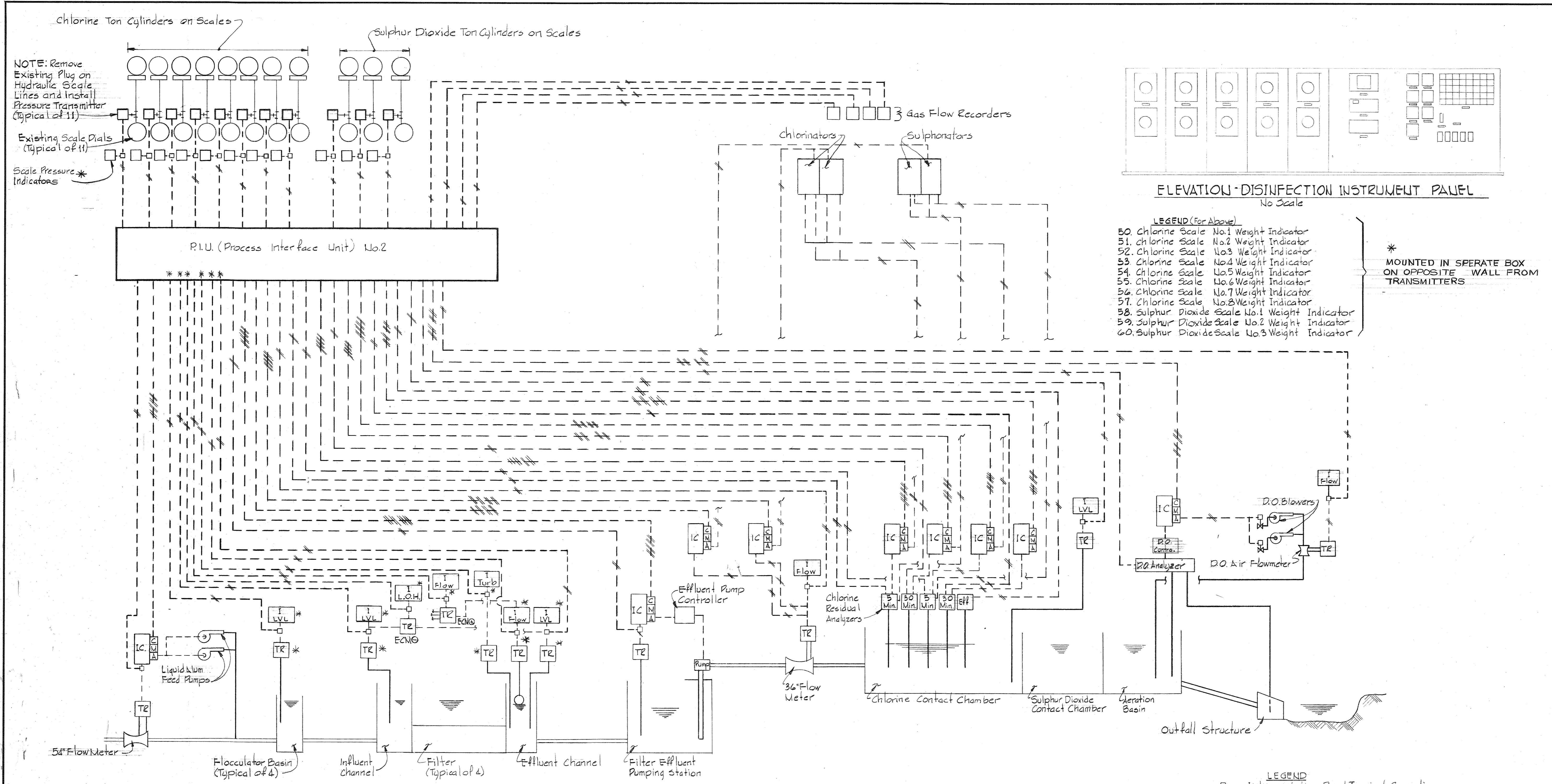
WASTE CHEMICAL SLUDGE  
PHOSPHORUS STRIPPED SLUDGE or  
STRIPPER ELUTRIANT SUPPLY CONTROL DIAGRAM  
No Scale



DISSOLVED OXYGEN  
SECONDARY & NITRIFICATION  
CONTROL DIAGRAM  
No Scale

AS INSTALLED AUG 9, 1982  
SCE

WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 3/31/78 DATE Richard E. Brendenberger CHIEF BUREAU OF ENVIRONMENTAL SERVICES	CONTRACT NO. 505-S	PROCESS INSTRUMENTATION AND CONTROL DIAGRAMS AND DETAILS	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. 28 OF 29 SCALE AS SHOWN
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- LEGEND (For Above)**
- 50. Chlorine Scale No.1 Weight Indicator
  - 51. Chlorine Scale No.2 Weight Indicator
  - 52. Chlorine Scale No.3 Weight Indicator
  - 53. Chlorine Scale No.4 Weight Indicator
  - 54. Chlorine Scale No.5 Weight Indicator
  - 55. Chlorine Scale No.6 Weight Indicator
  - 56. Chlorine Scale No.7 Weight Indicator
  - 57. Chlorine Scale No.8 Weight Indicator
  - 58. Sulphur Dioxide Scale No.1 Weight Indicator
  - 59. Sulphur Dioxide Scale No.2 Weight Indicator
  - 60. Sulphur Dioxide Scale No.3 Weight Indicator

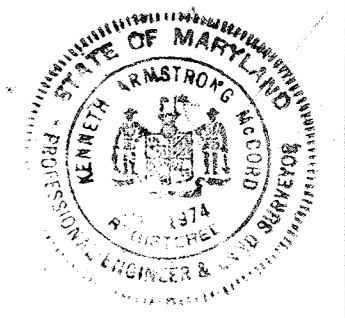
\* MOUNTED IN SEPARATE BOX ON OPPOSITE WALL FROM TRANSMITTERS

**FILTRATION AND DISINFECTION CONTROL SCHEMATIC DIAGRAM**  
Not To Scale

NOTE: Standby Manual Loading Station Not Shown in Chlorination Controls.

- LEGEND**
- Instrumentation Panel Terminal Connection
  - I Indicator 4/20 ma
  - TZ Transmitter 4/20 ma
  - IC CMA Indicator Controller
  - Turb Turbidity
  - LVL Level
  - D.O. Dissolved Oxygen
  - Min. Minutes
  - Eff Plant Effluent
  - L.O.H. Loss of Head
  - ECM⊖ Subtracting Electronic Computing and Transmitting Module
  - ECM⊕ Adding Electronic Computing and Transmitting Module
  - 2 Signal Wires (Pair)
  - 4 Signal/Control Wires (Pair)
  - P.I.U. Process Interface Unit
  - PE Pneumatic to Electric Signal Converter

AS INSTALLED 9 AUG MB



WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 4/25/78 DATE Richard E. Freudenberger CHIEF BUREAU OF ENVIRONMENTAL SERVICES	CONTRACT NO. 505-S	PROCESS INSTRUMENTATION AND CONTROL DIAGRAMS	SAVAGE WASTEWATER TREATMENT PLANT ADDITION NO. 4	DRAWING NO. 29 OF 29 SCALE AS SHOWN
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