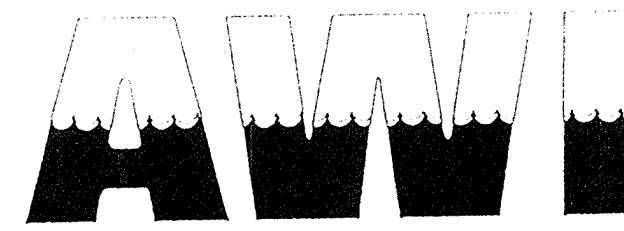


TARTAN FIELDS GOLF CLUB

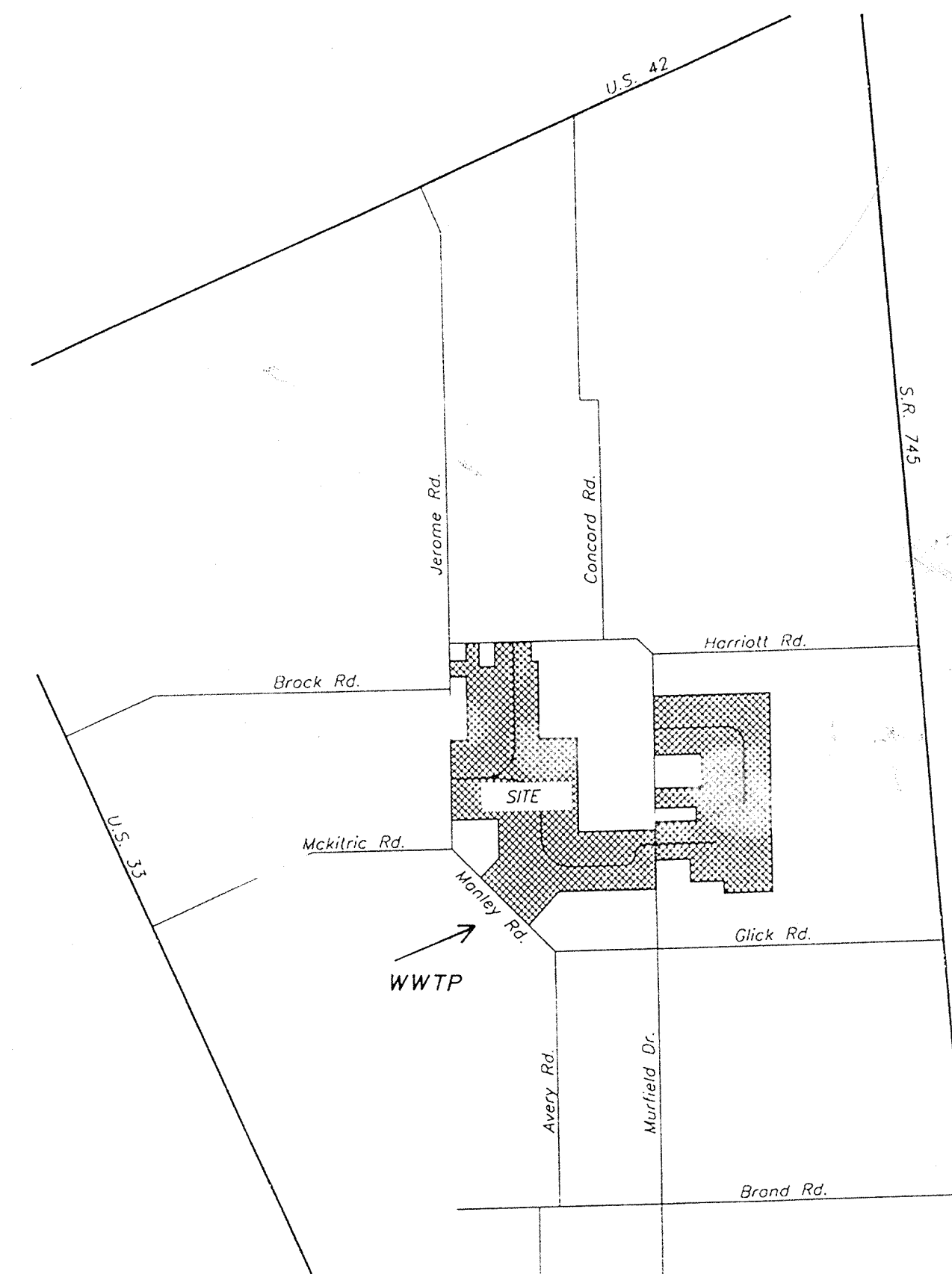
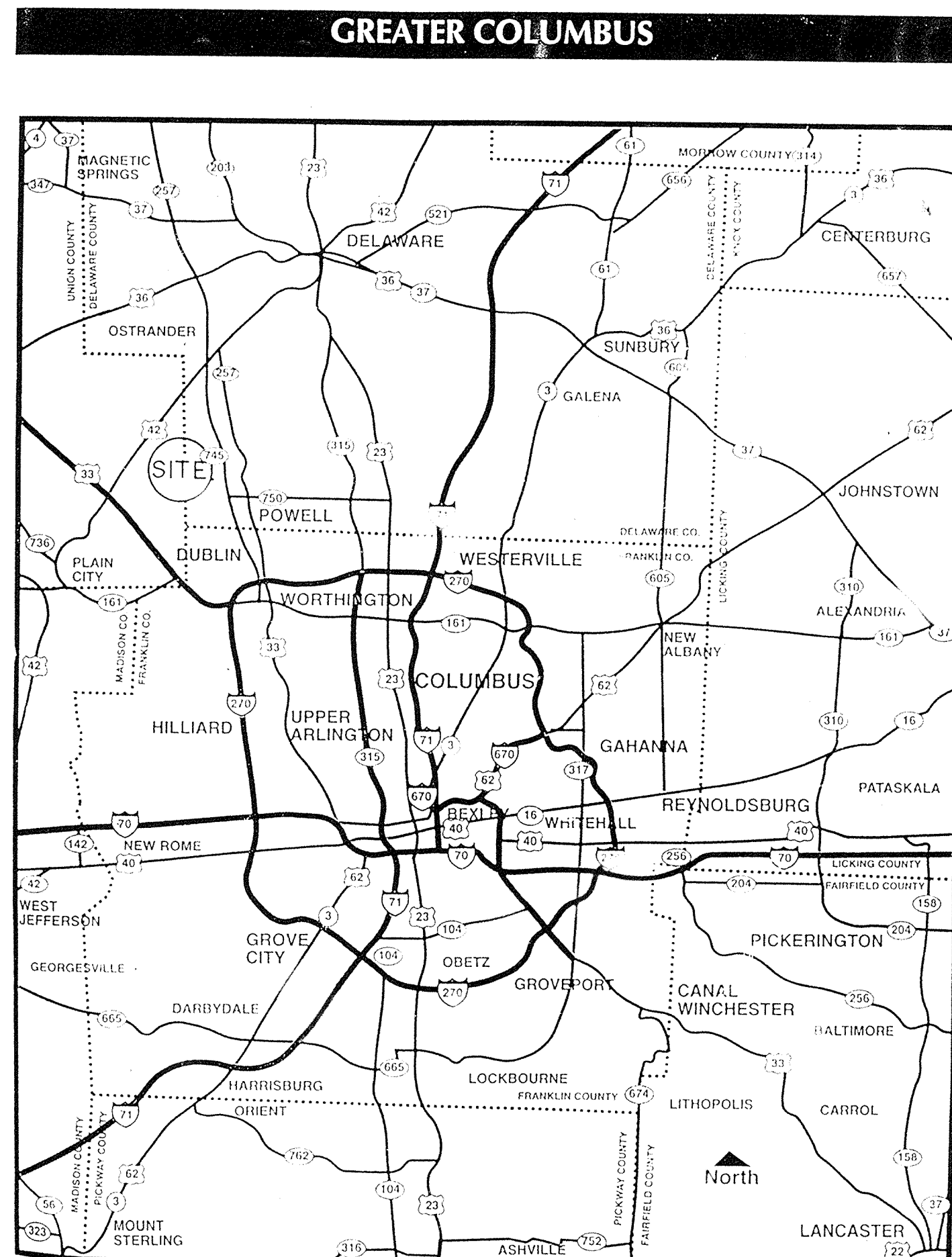
WASTEWATER TREATMENT PLANT AND PUMP STATION



AMERICAN WASTEWATER INDUSTRIES

• 9060 Sutton Place • Hamilton, Ohio 45011 •
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2/5/97



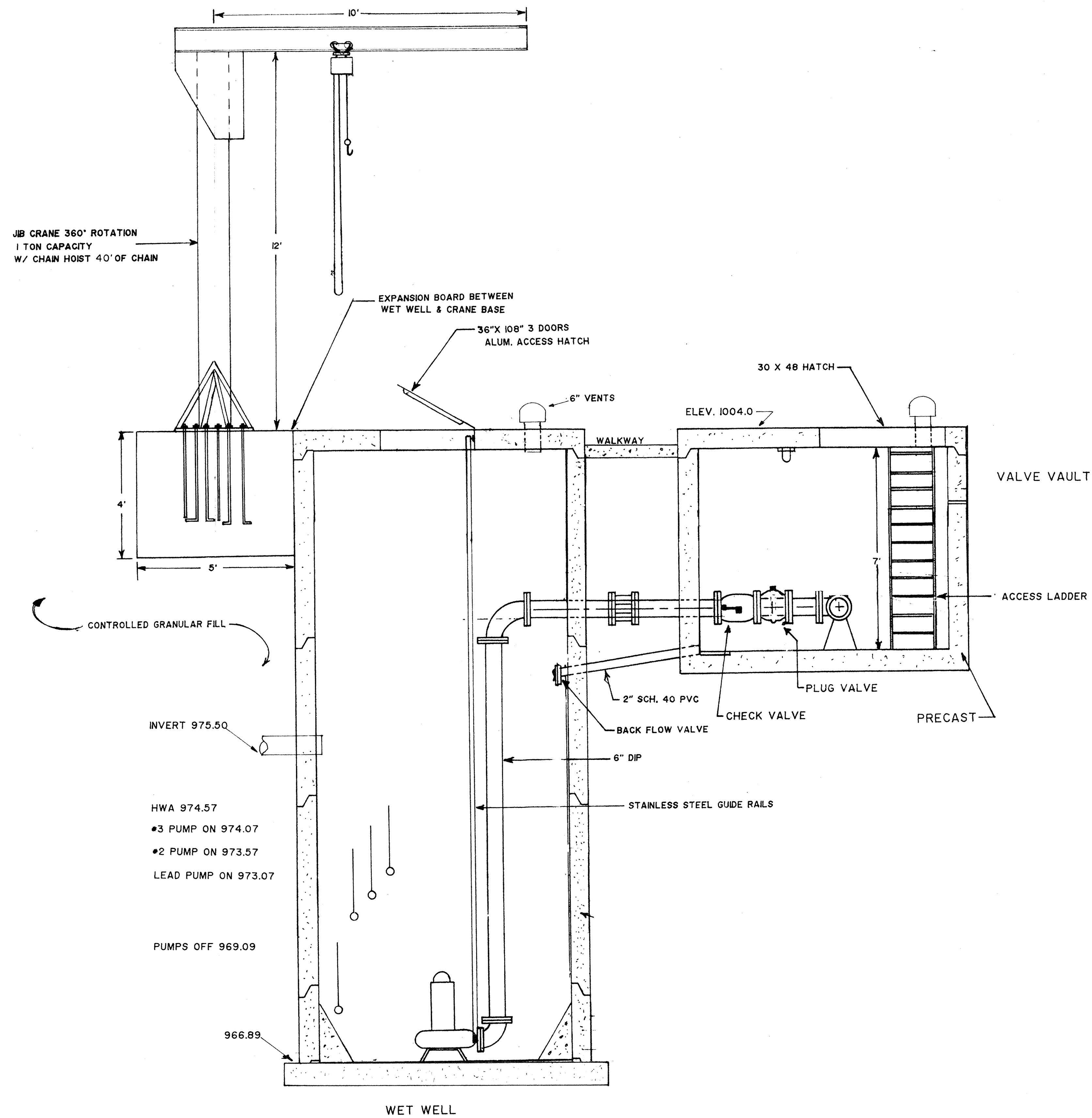
SITE LOCATION MAP

OWNER: NHG Development Group Ltd.
941 Chatham Lane Suite 100
Columbus, Ohio 43221

WWTP DESIGN: AWI
American Wastewater Industries, Inc.
9060 Sutton Place
Hamilton, Ohio 45011
(513) 874-7877 Phone
(513) 874-7962 Fax

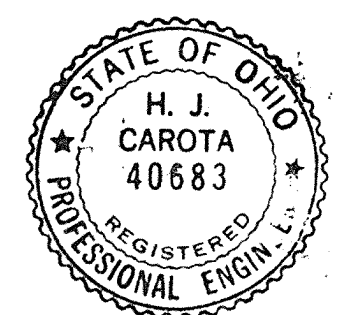
SITE ENGINEER: R. D. Zande and Associates
1237 Dublin Rd.
Columbus, Ohio 43215
(614) 486-4383 Phone
(614) 486-4387 Fax

Handwritten signature: R. D. Zande



LIFT STATION DESIGN

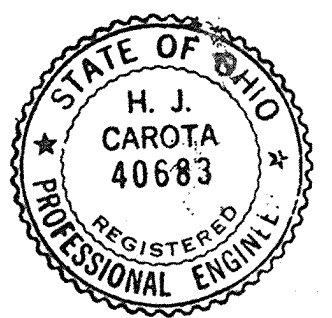
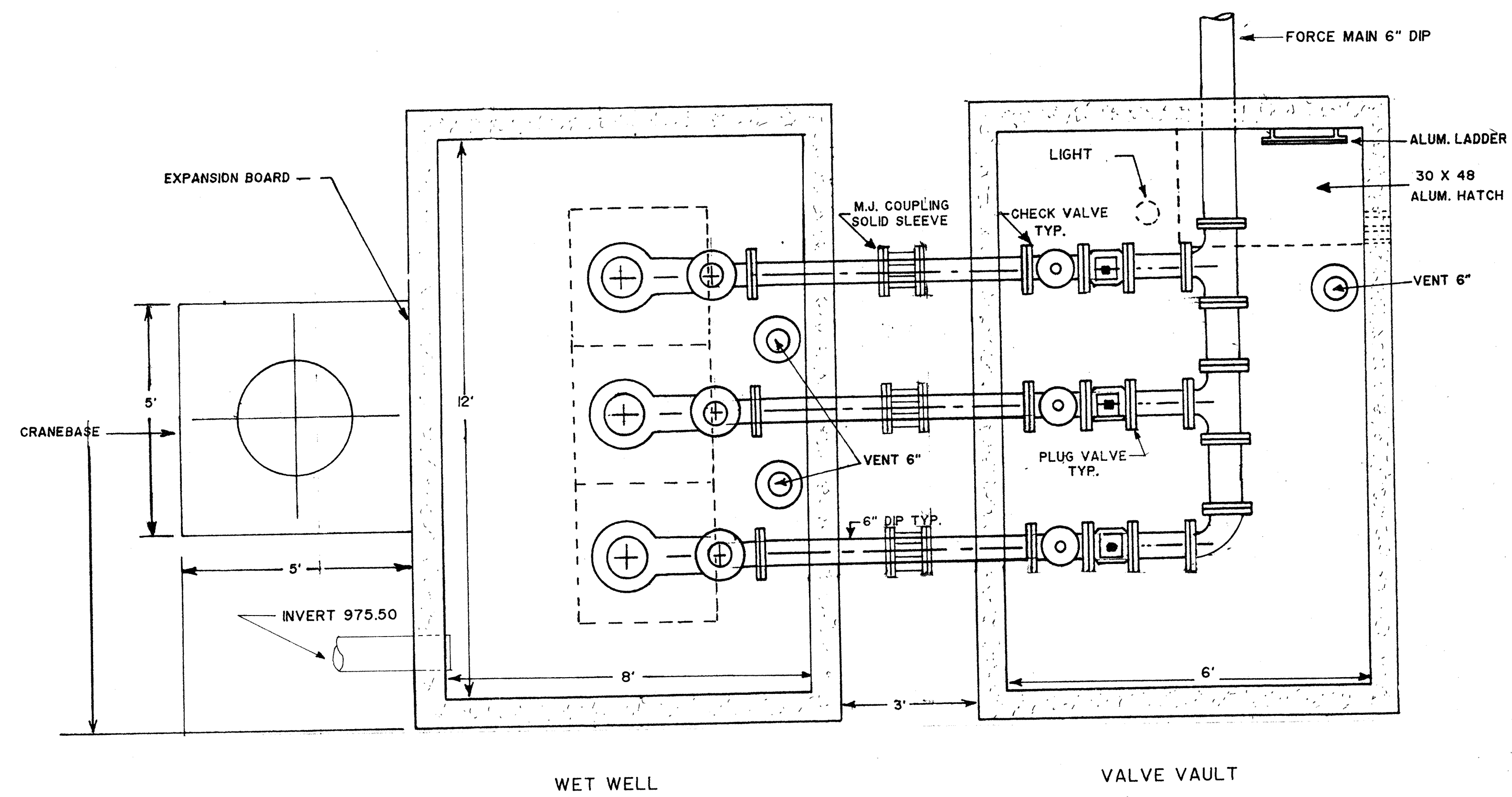
SANITARY FLOW -	250,000 gpd ADDF
PEAK SANITARY FLOW -	250,000 X 3.5 (peaking factor) = 875,000 GPD Peak Flow
CONCENTRATION -	875,000 GPD = 608 GPM 1,440
TOTAL PEAK FLOW -	608 GPM
WET WELL REQ. CAPACITY -	608 GPM X 15 MIN. 2,280 GAL. 4 STARTS
8' X 12' FT. I.D. WET WELL	3.18 MINIMUM DRAWDOWN
STATIC HEAD 1009.0 - 969.89	39.11
DYNAMIC HEAD 39.11 + 3.5 STATIC HEAD =	42.61 HD. LOSS
PUMP SELECTED WILL OPERATE AT	608 GPM @ 45' TDH WITH 2 PUMPS RUNNING



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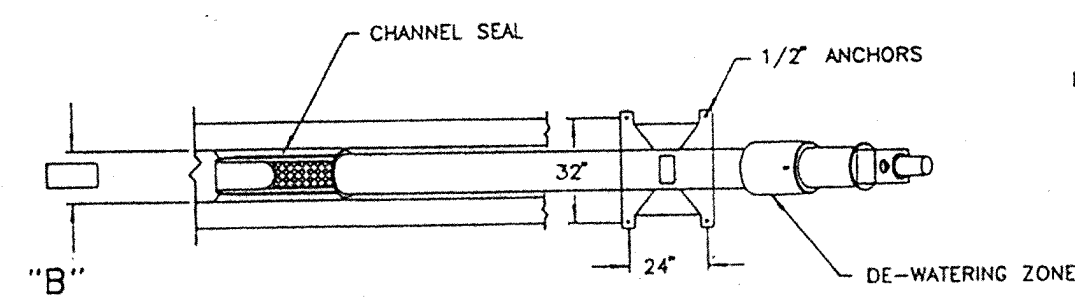
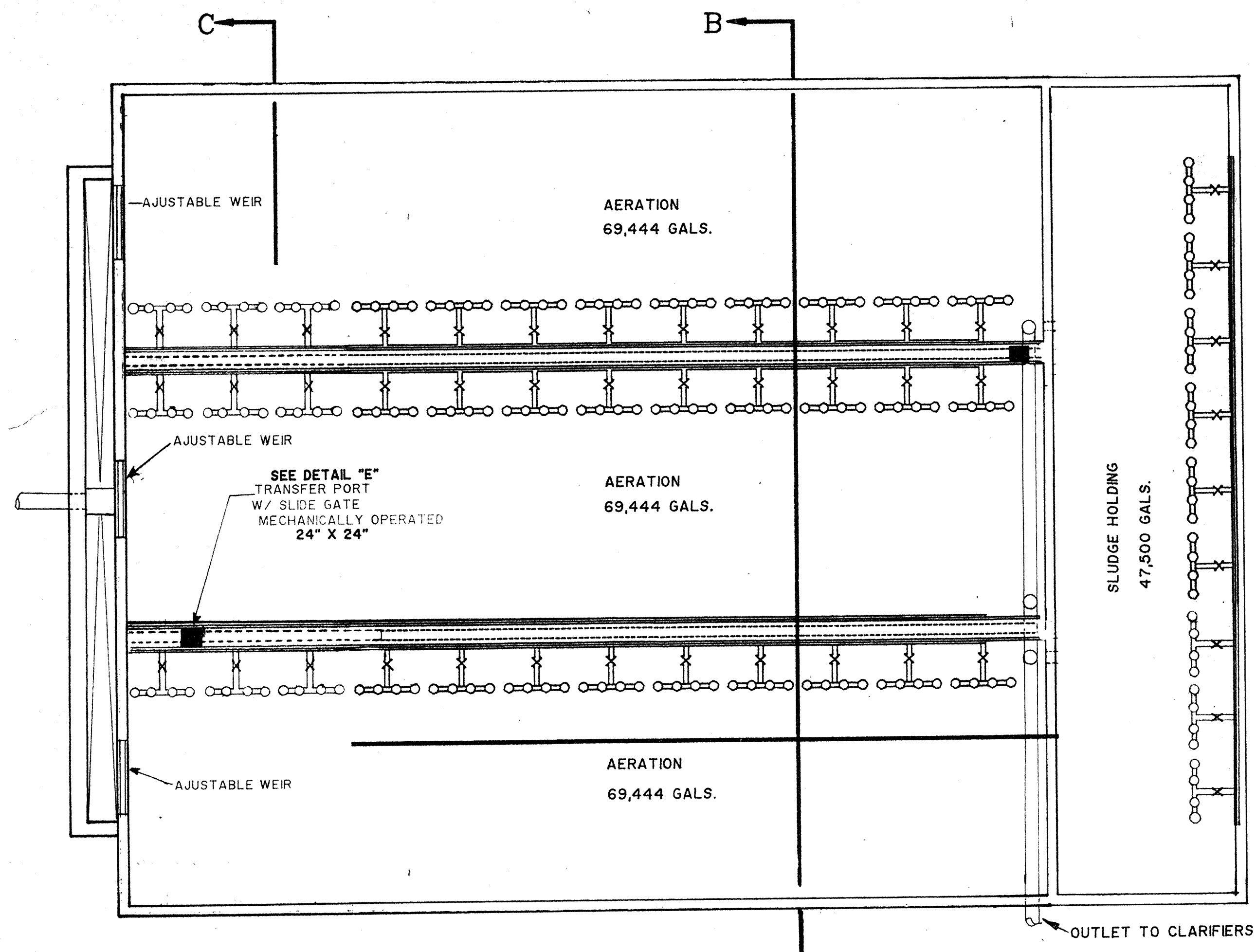
TARTAN FIELDS GOLF CLUB
TRIPLEX PUMP STATION
ELEVATION VIEW NTS 2/6/97



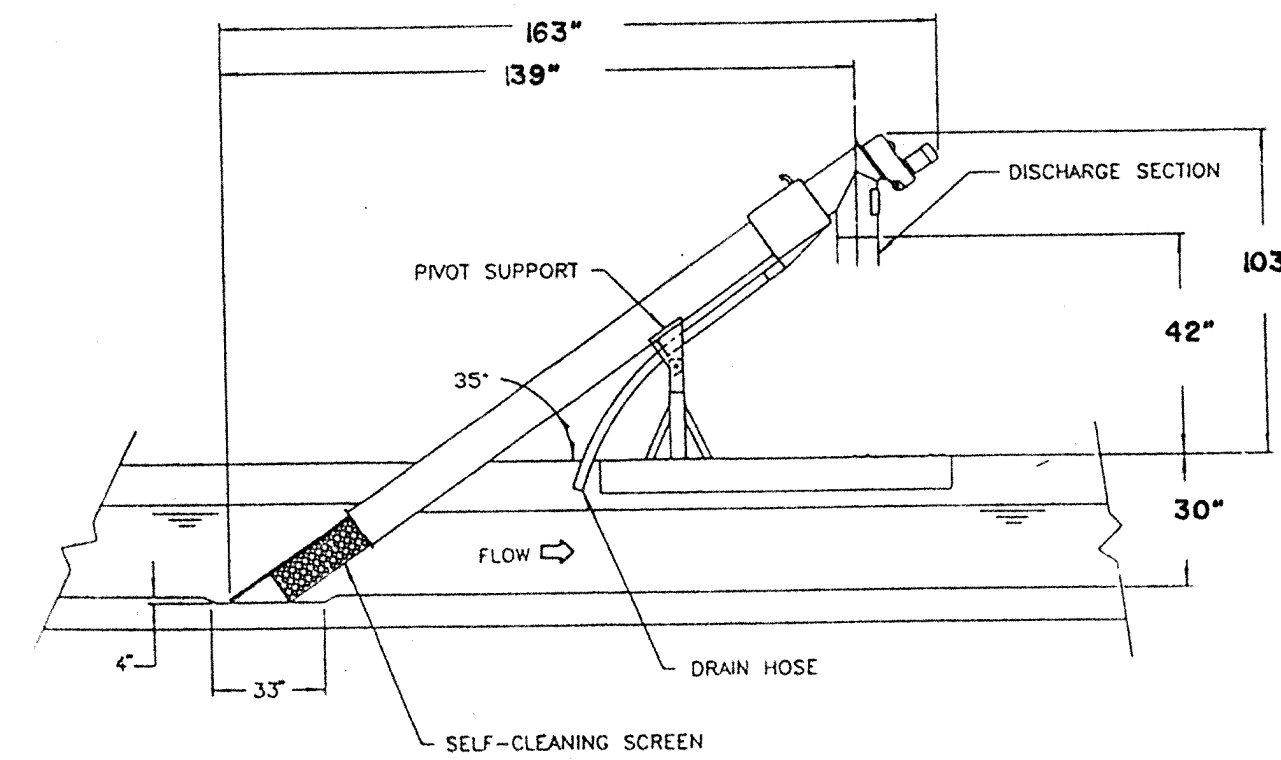
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TARTAN FIELDS GOLF CLUB
TRIPLEX PUMP STATION
PLAN VIEW NTS 2/6/97

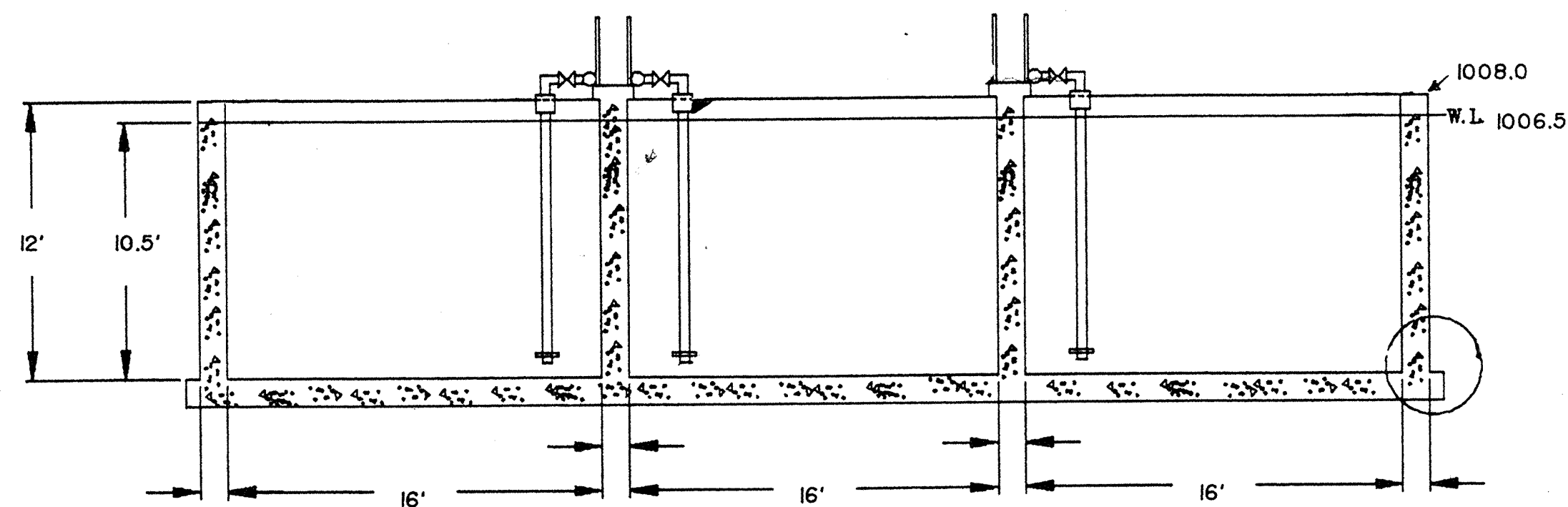
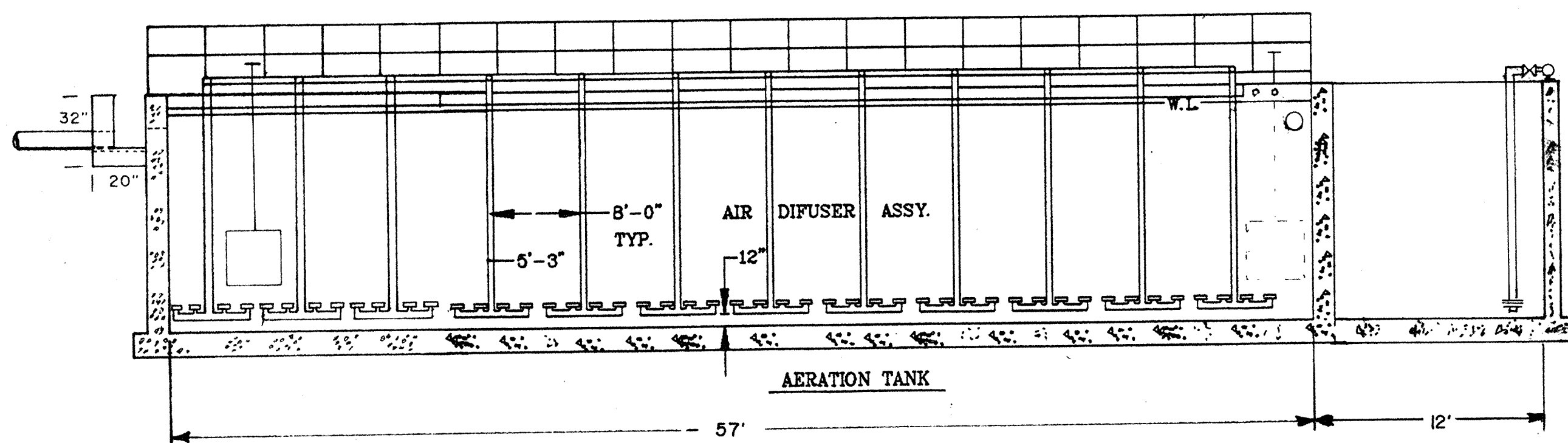
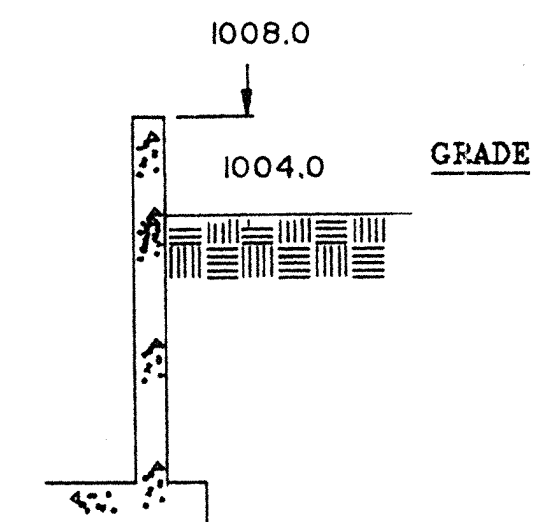
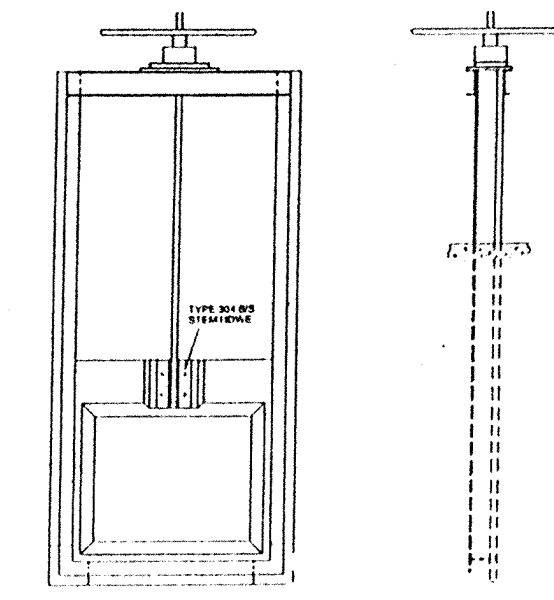


- NOTES:
- 1) ALL STAINLESS STEEL CONSTRUCTION EXCEPT FOR SPIRAL MOTOR AND REDUCER.
 - 2) DRIVE SYSTEM
 - A. MOTOR - HORSEPOWER (SEE TABLE), 1800 RPM, 230/460 V. 3 PH. 60 HZ. 1FC
 - B. REDUCER: PARALLEL (HELICAL) GEAR REDUCTION UNIT COUPLED TO THE DRIVE SHAFT, 8 RPM OUTPUT.
 - 3) SCREEN OPENING
 - 4) RECOMMENDED CLEARANCE AROUND UNIT, TOP AND SIDES: 12" MINIMUM.

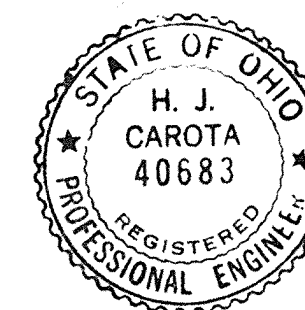


CHANNEL WIDTH MIN.	HELISIEVE MODEL		
	300	400	500
MAX. FLOW RATE	2.0 MGD	3.5 MGD	5.3 MGD
MOTOR H.P.	1.0 H.P.	1.0 H.P.	1.5 H.P.

DETAIL E
TYP. TRANSFER PORT



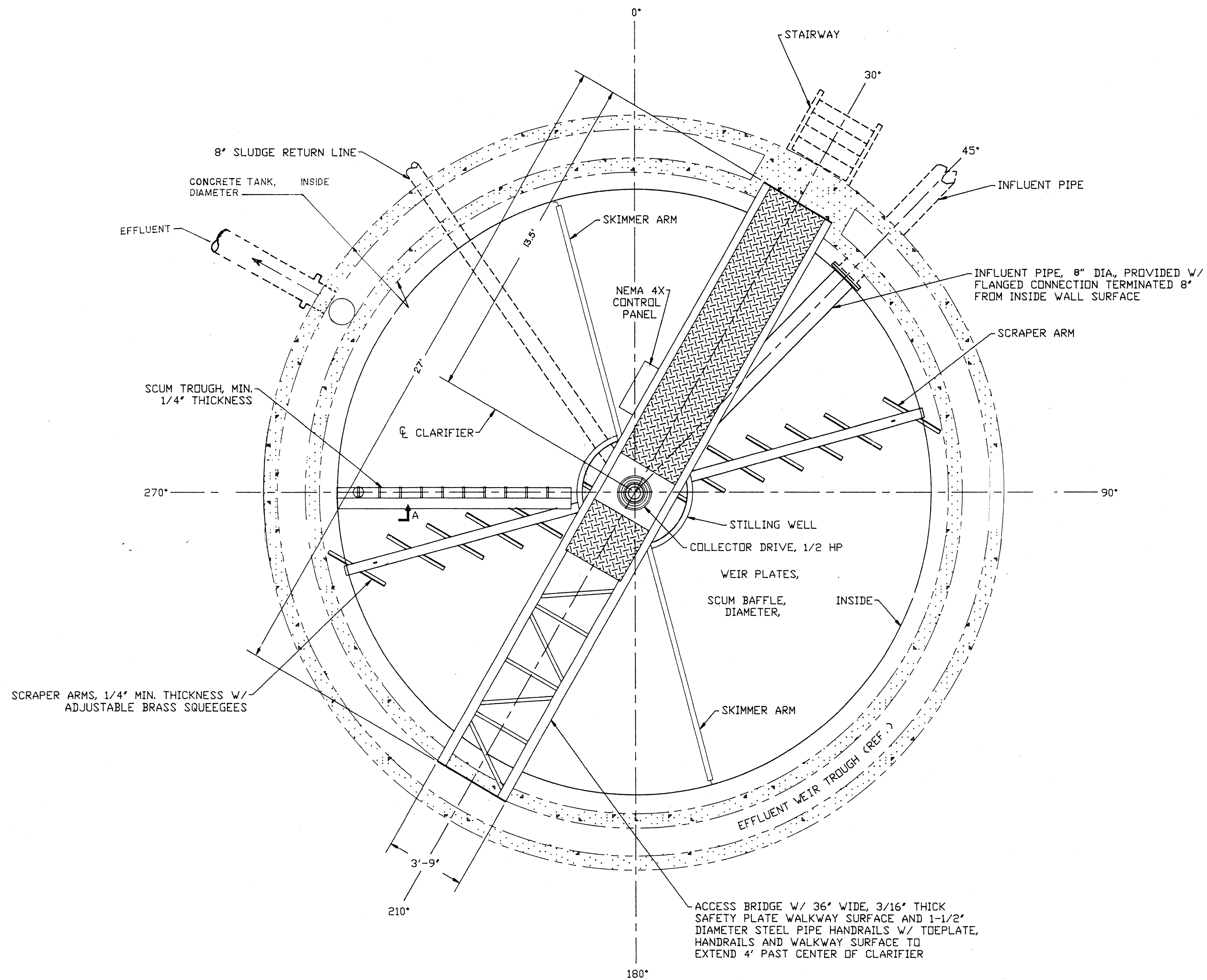
SECTION BB



AWI

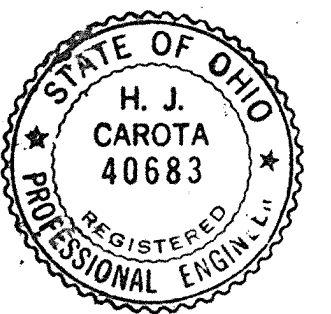
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TARTAN FIELDS GOLF CLUB
 WASTEWATER TREATMENT PLANT
 AERATION NTS 2/6/97



PLAN VIEW

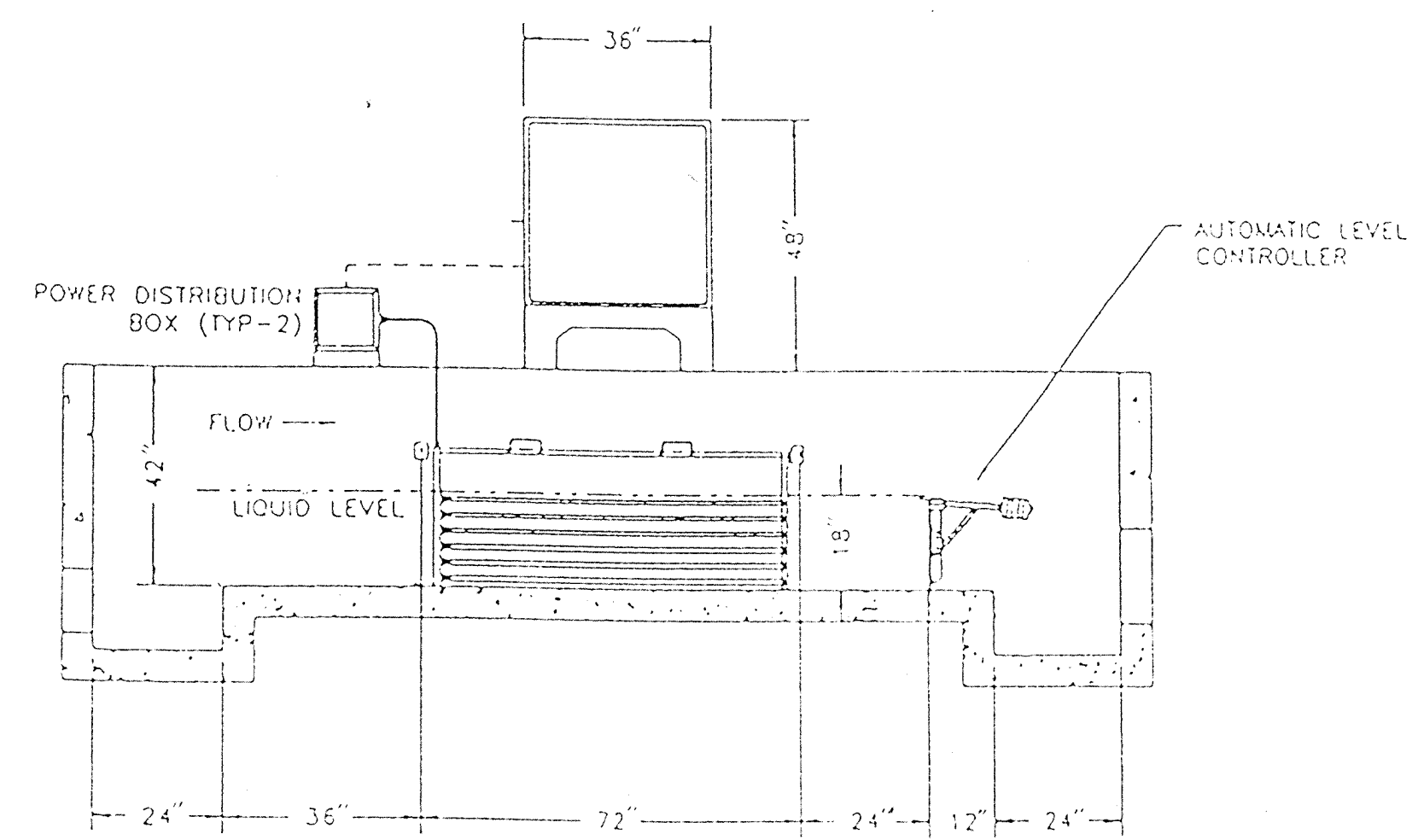
N.T.S.



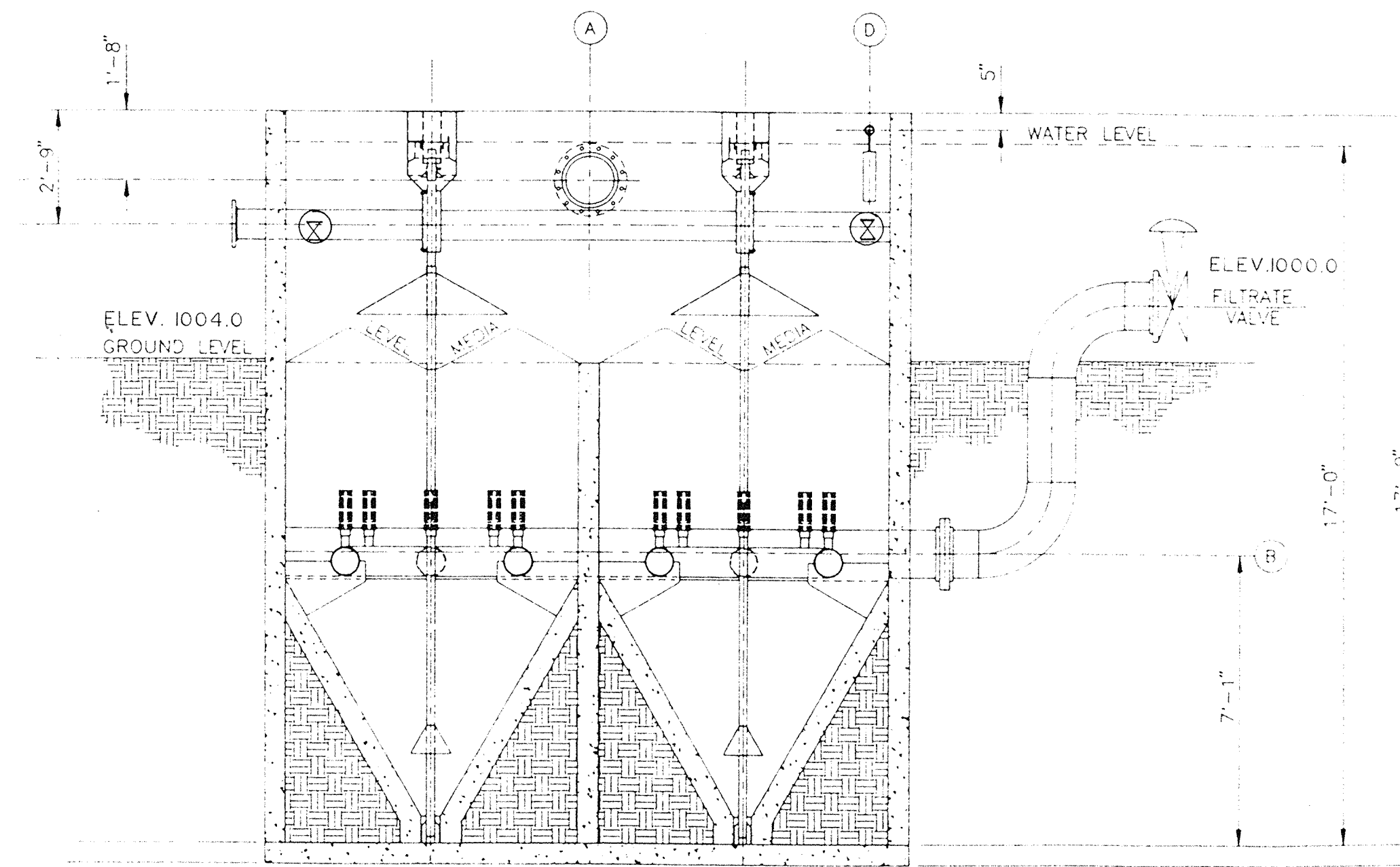
AWI

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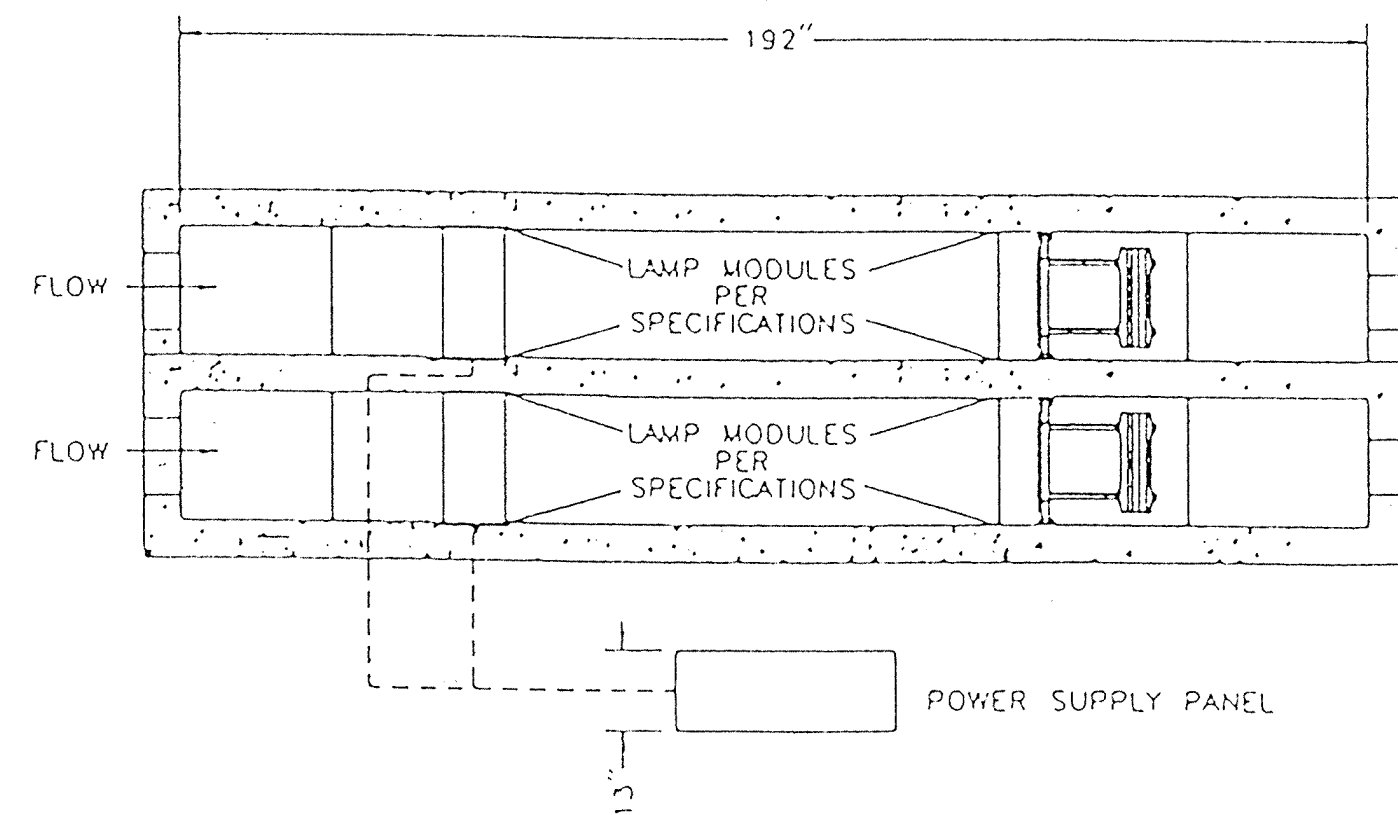
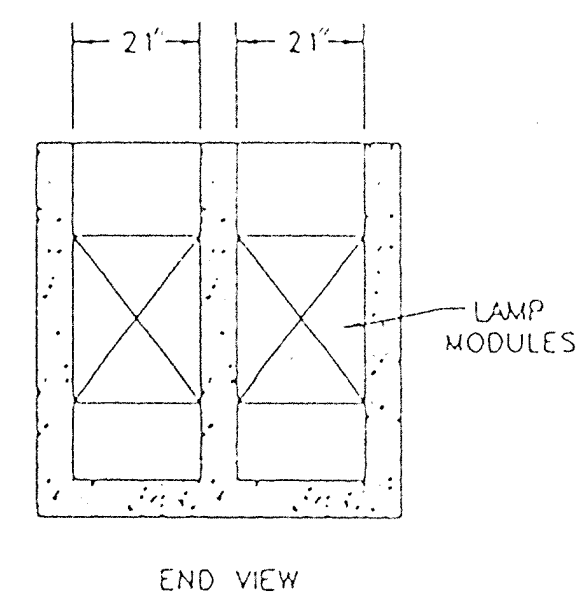
TARTAN FIELDS GOLF CLUB
 CLARIFIER PLAN VIEW
 NTS 2/6/97



ELEVATION VIEW

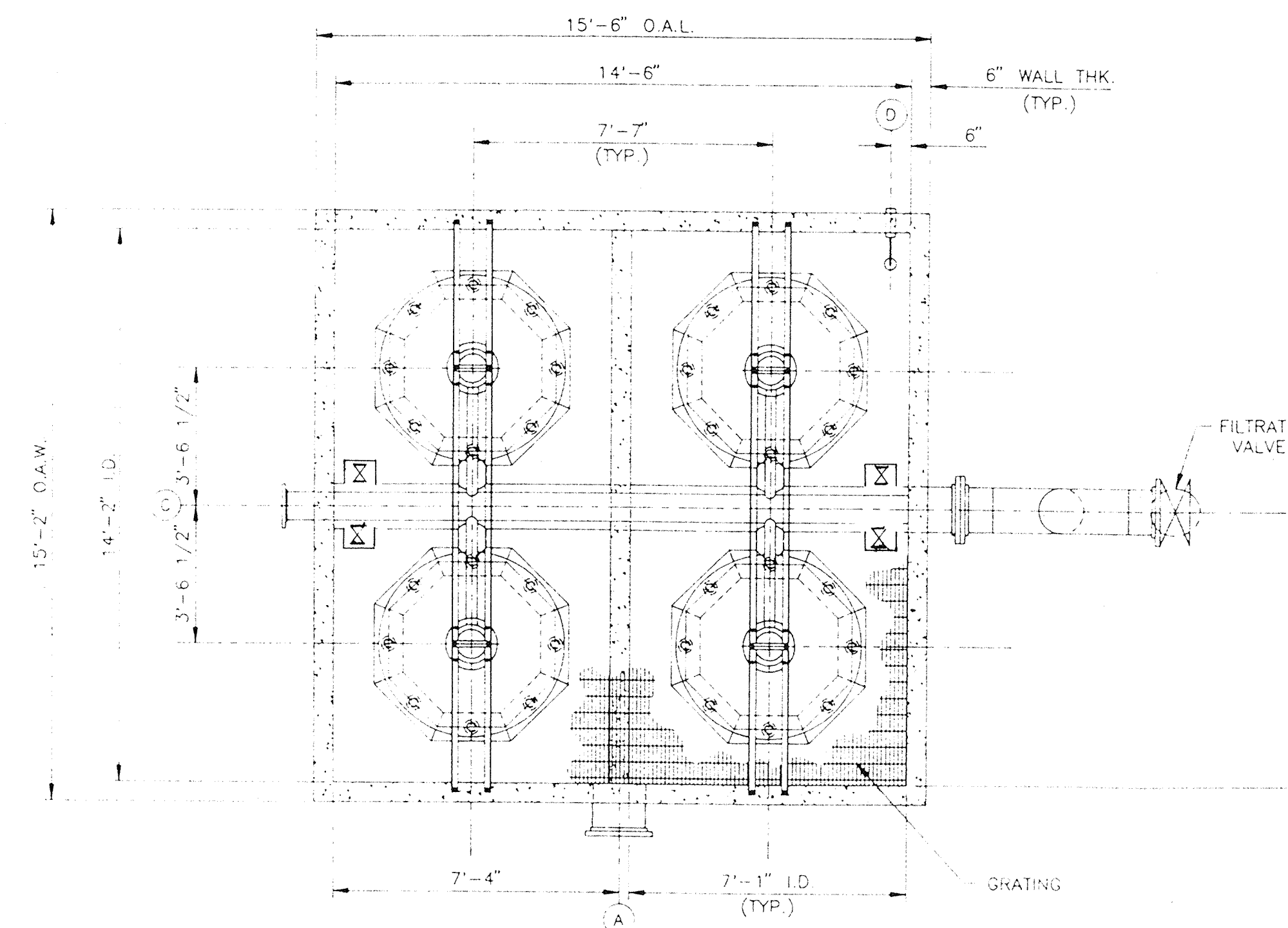


SECTIONAL ELEVATION VIEW

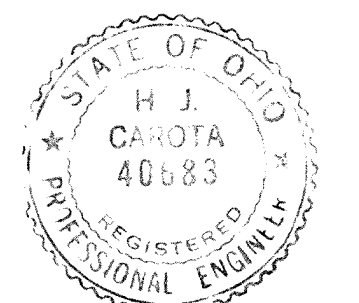


PLAN VIEW

U.V. DISENFECTION



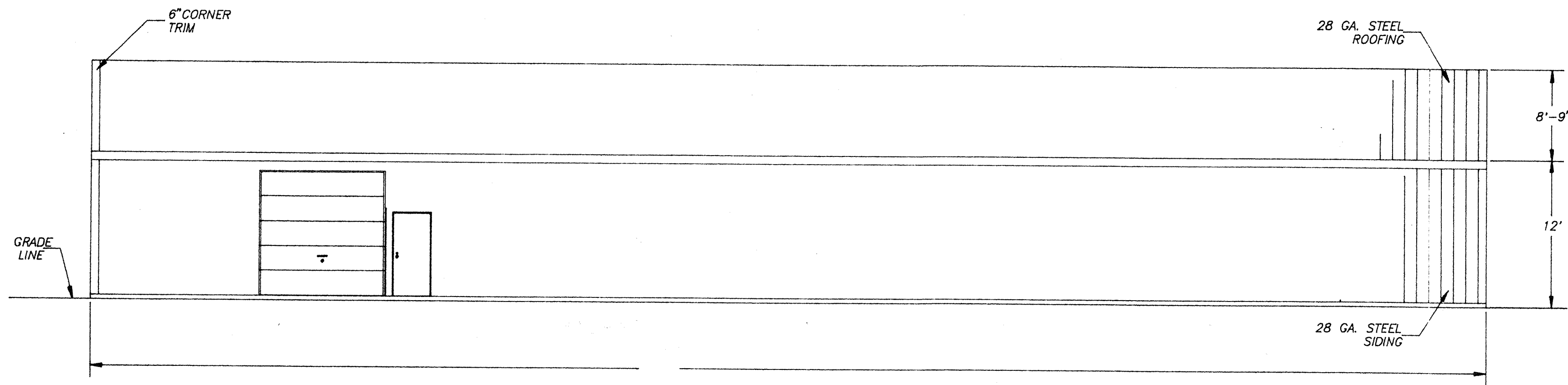
ORIENTATION VIEW
TERTIARY FILTERS



AWI

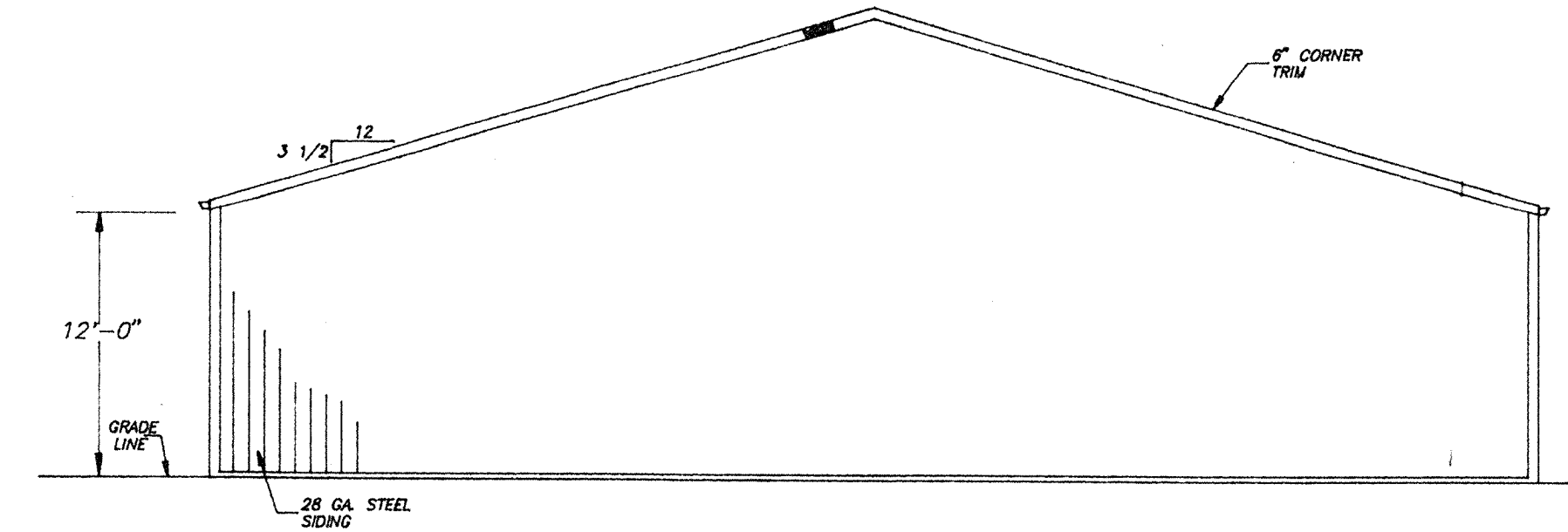
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TARTAN FIELDS GOLF CLUB
 TERTIARY FILTER DETAILS
 ULTRA-VIOLET DISENFECTION DETAILS
 NTS 2/17/97



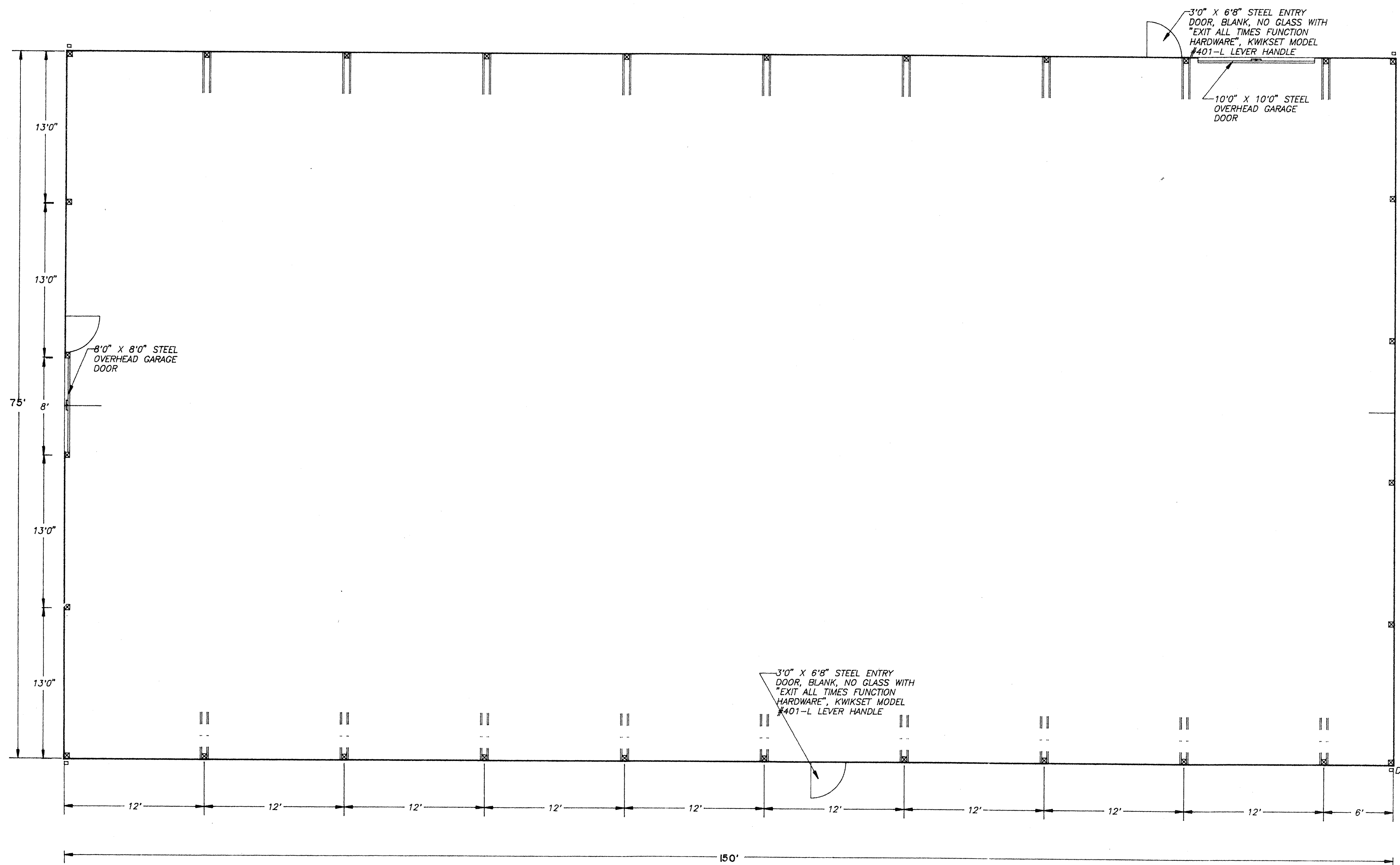
SIDE ELEVATIONS

SCALE 3/16" = 1'



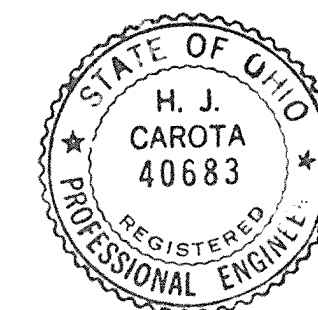
END ELEVATIONS

SCALE 3/16" = 1'



FLOORPLAN

SCALE 3/16" = 1'



AWI

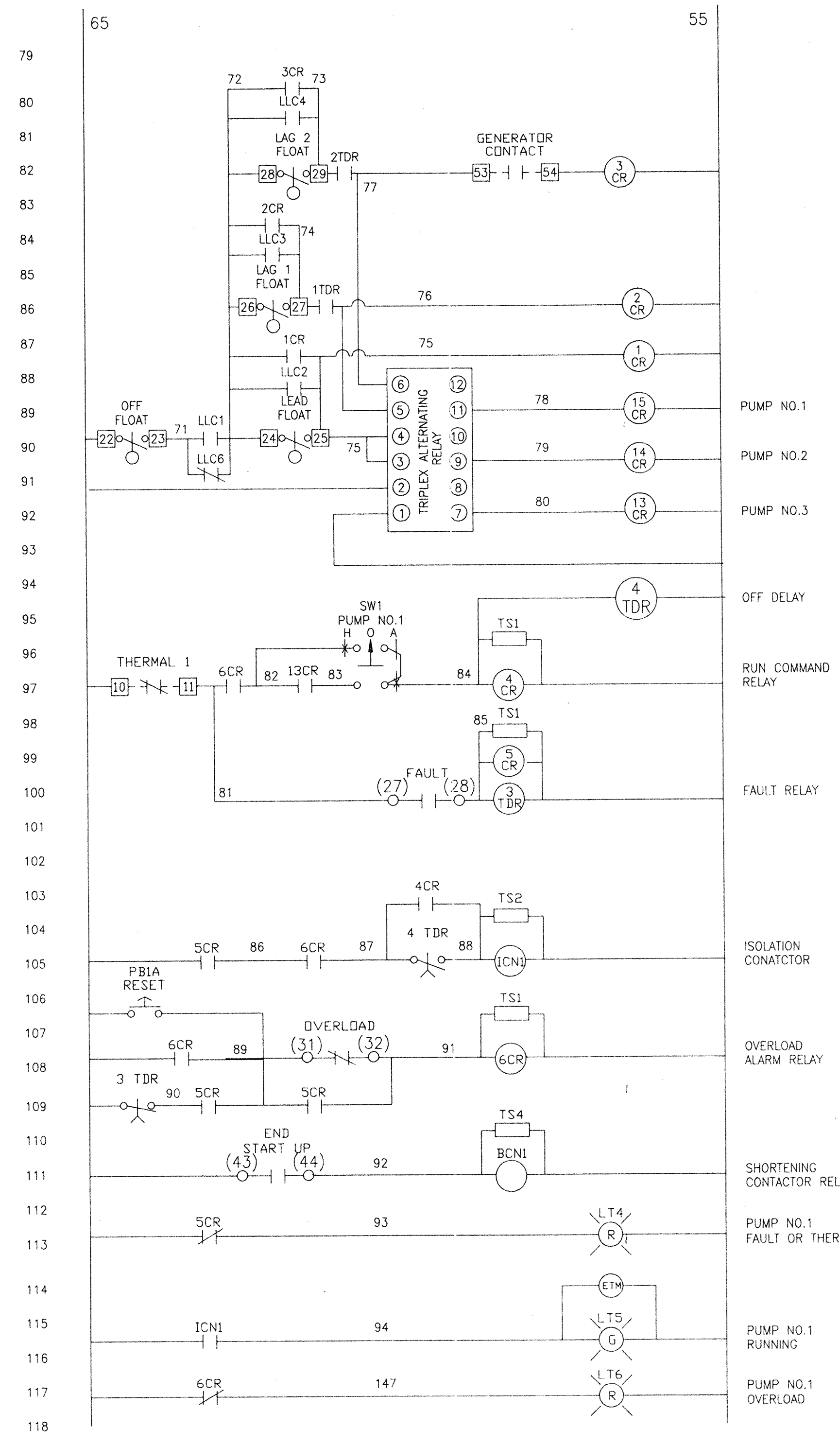
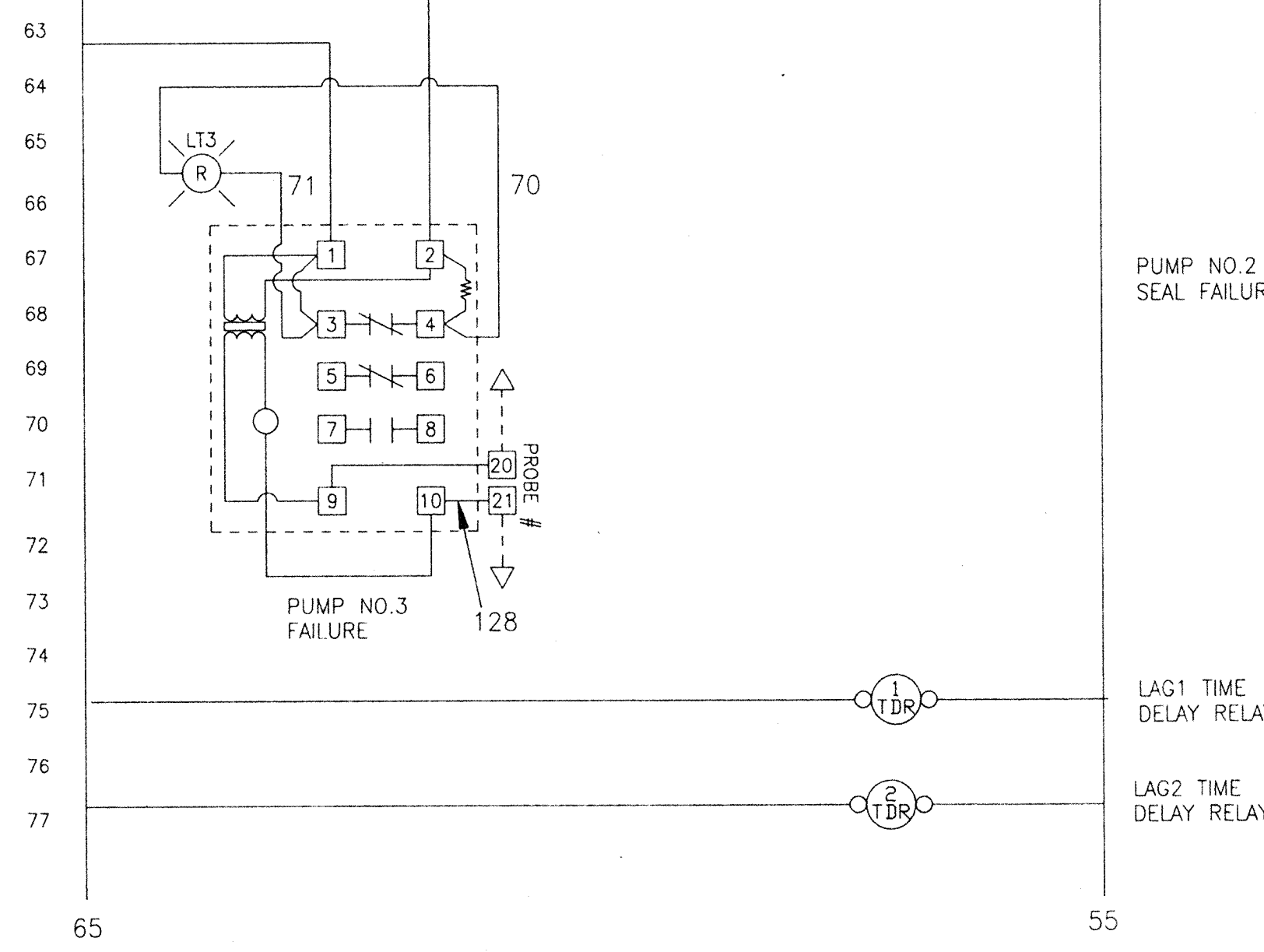
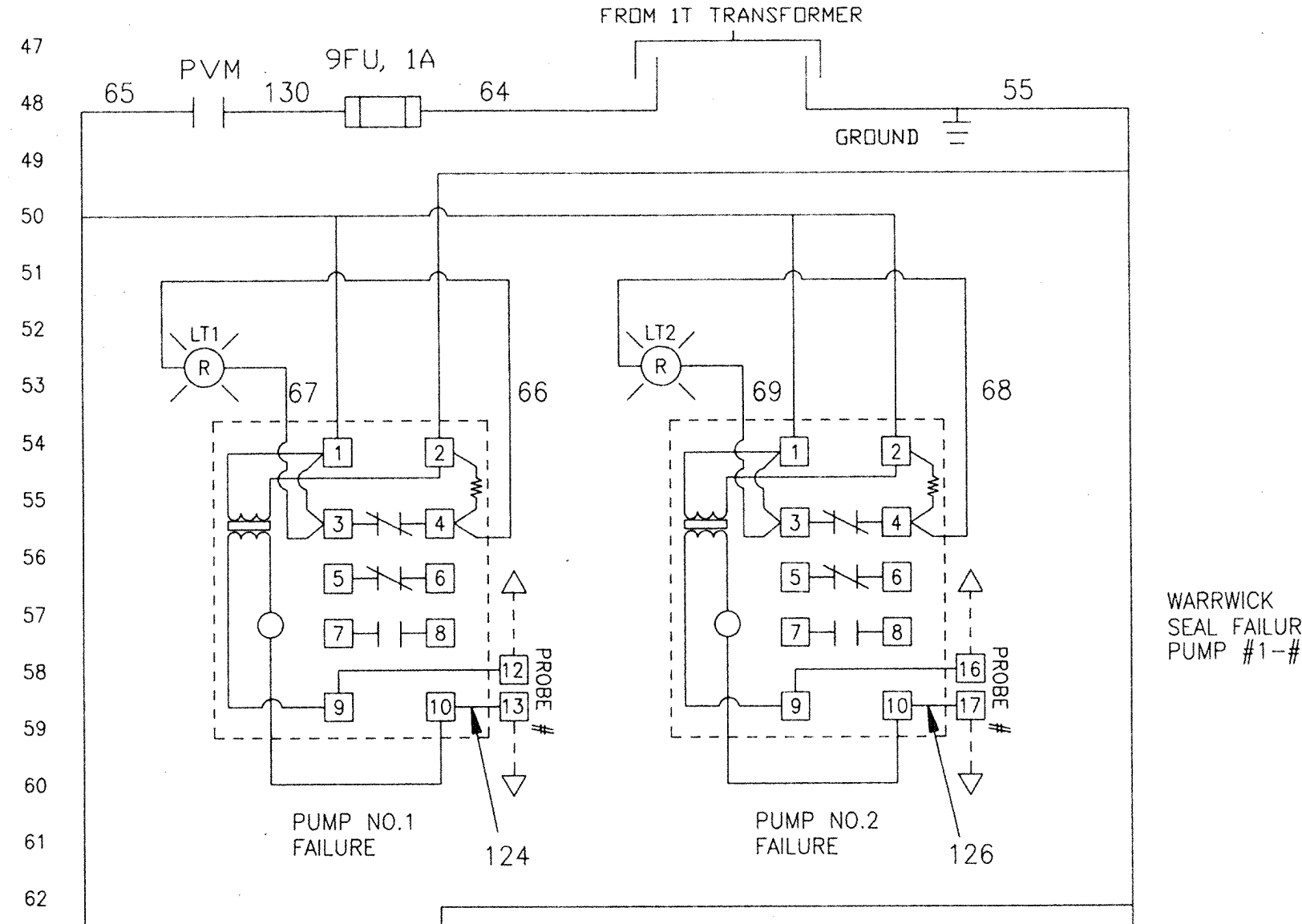
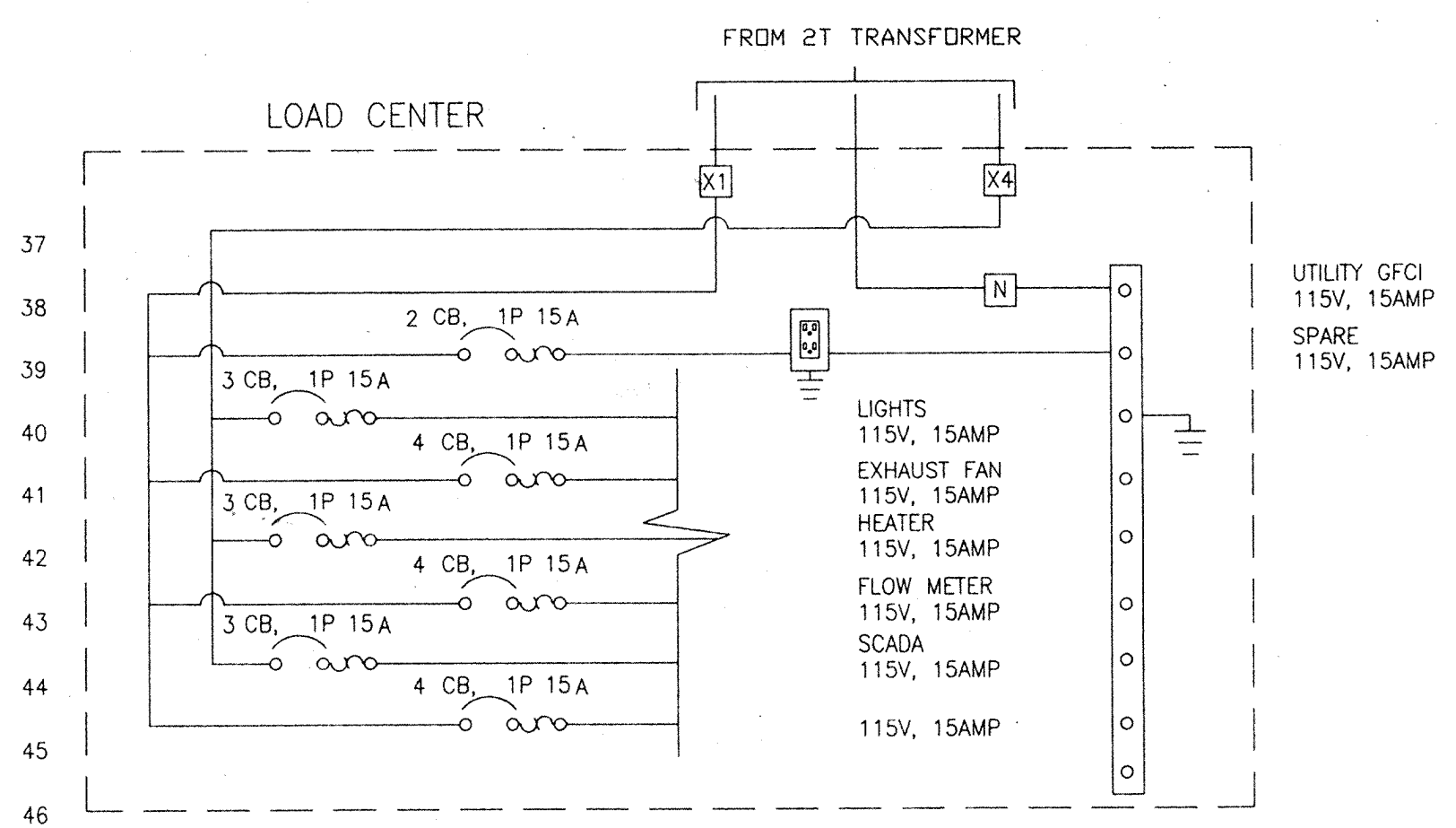
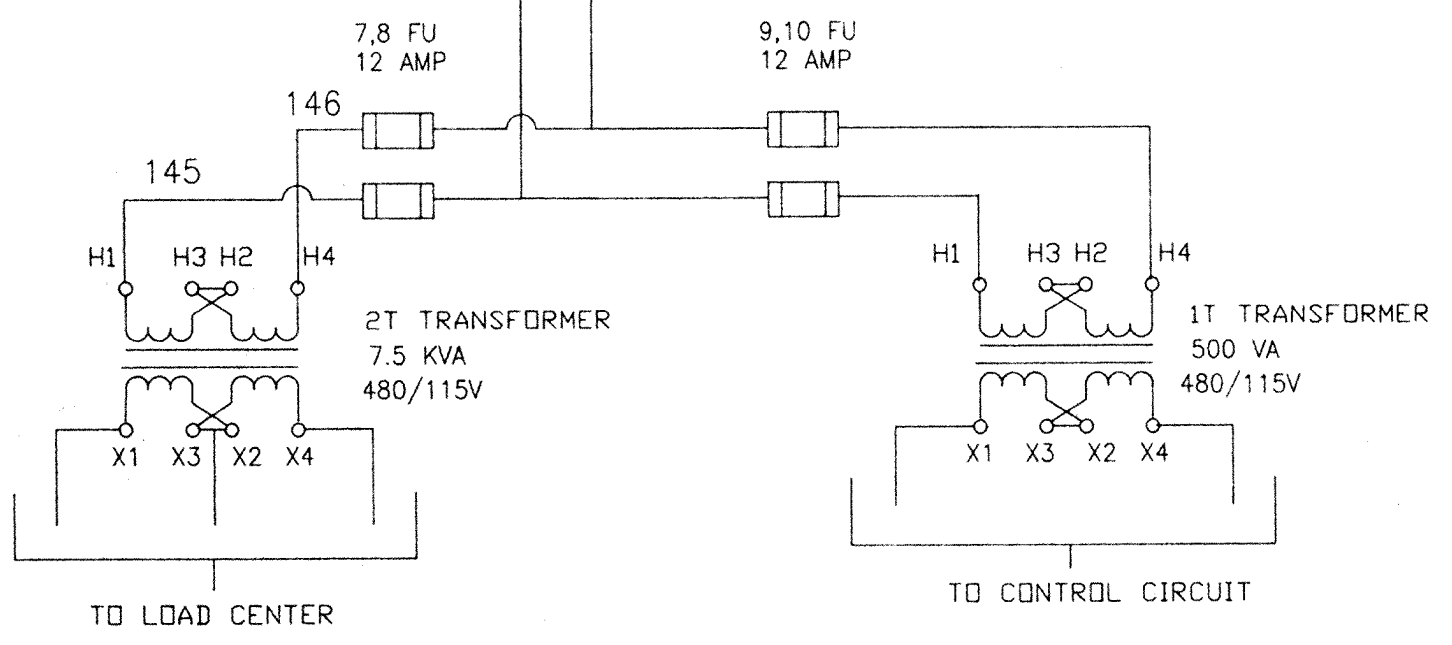
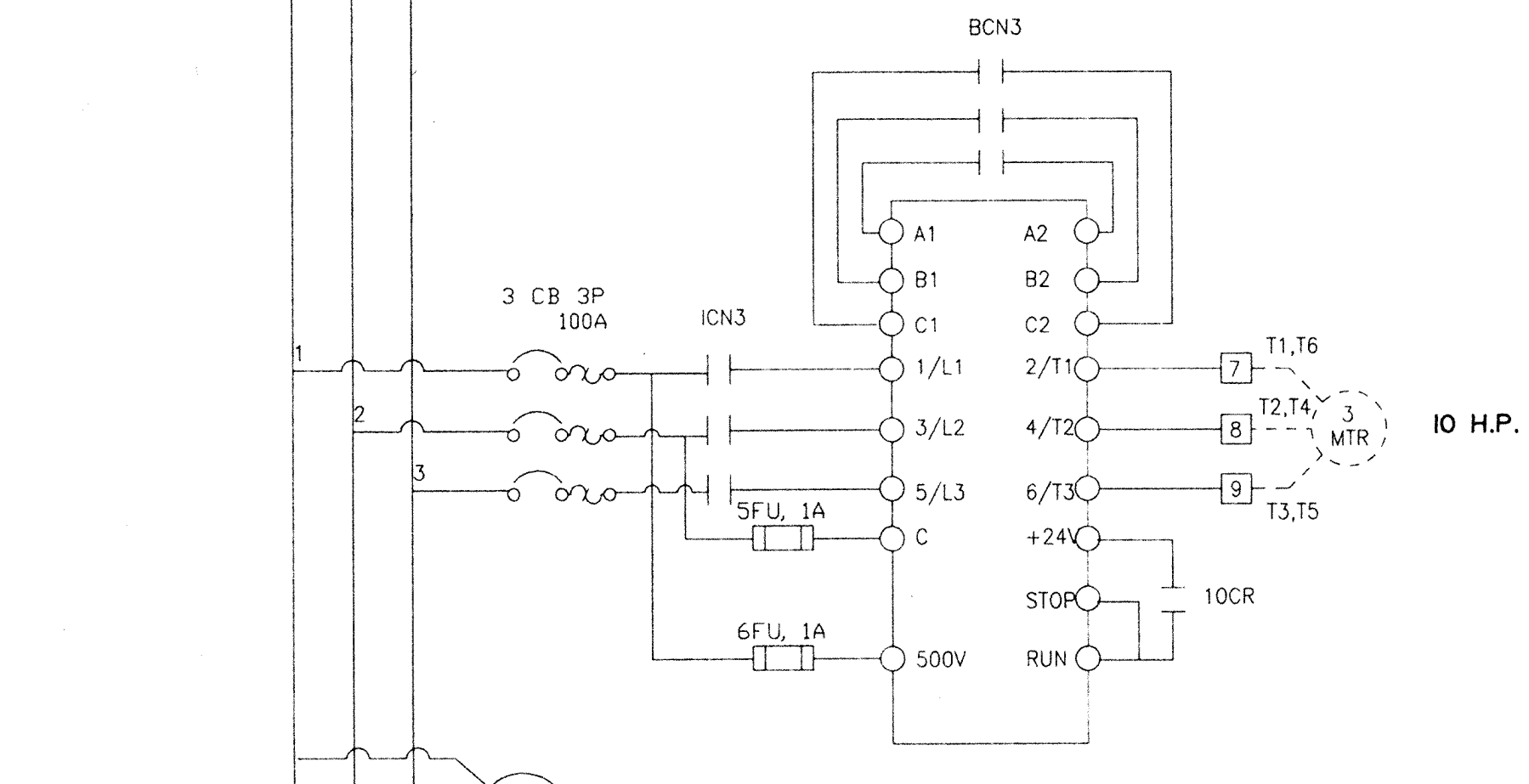
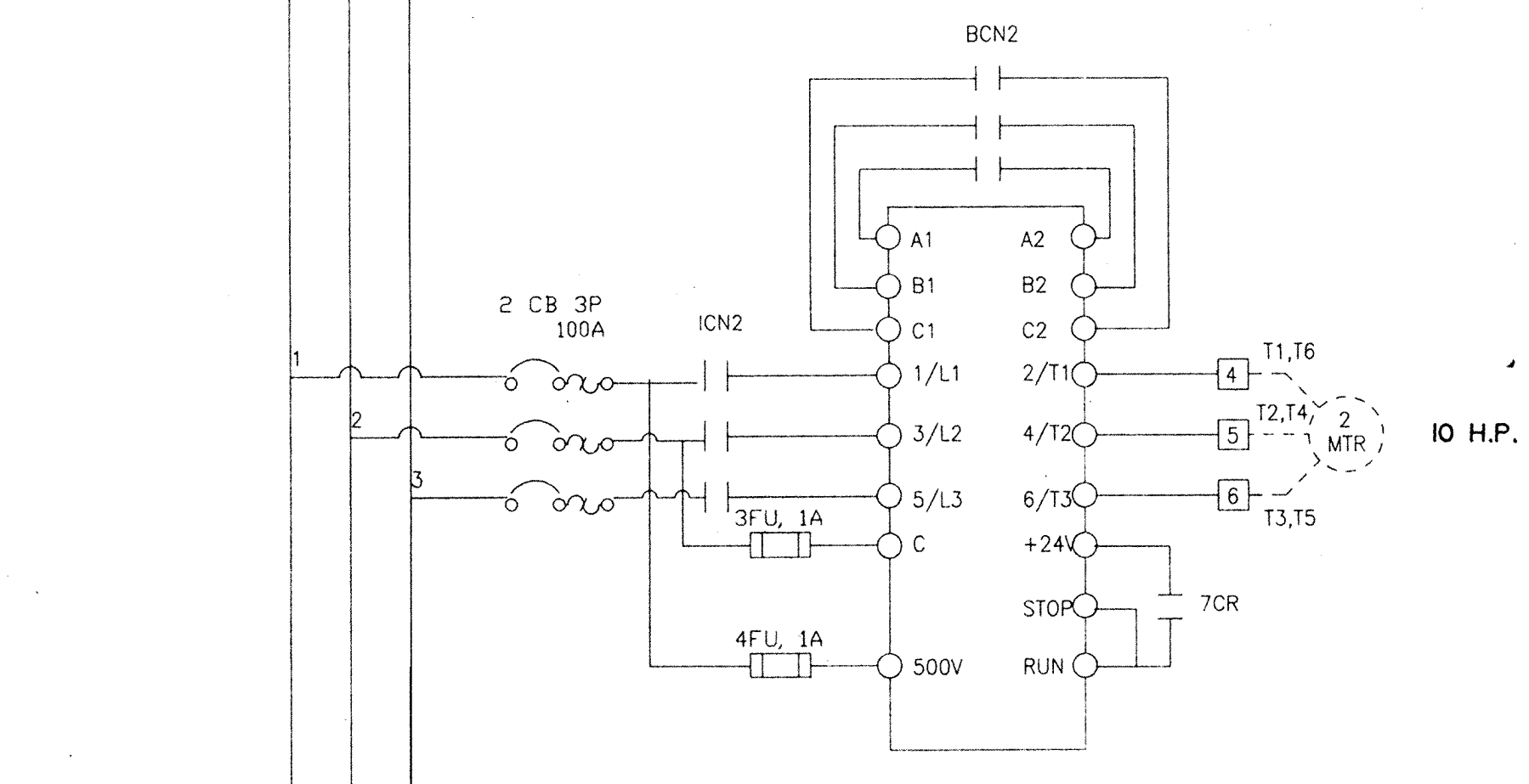
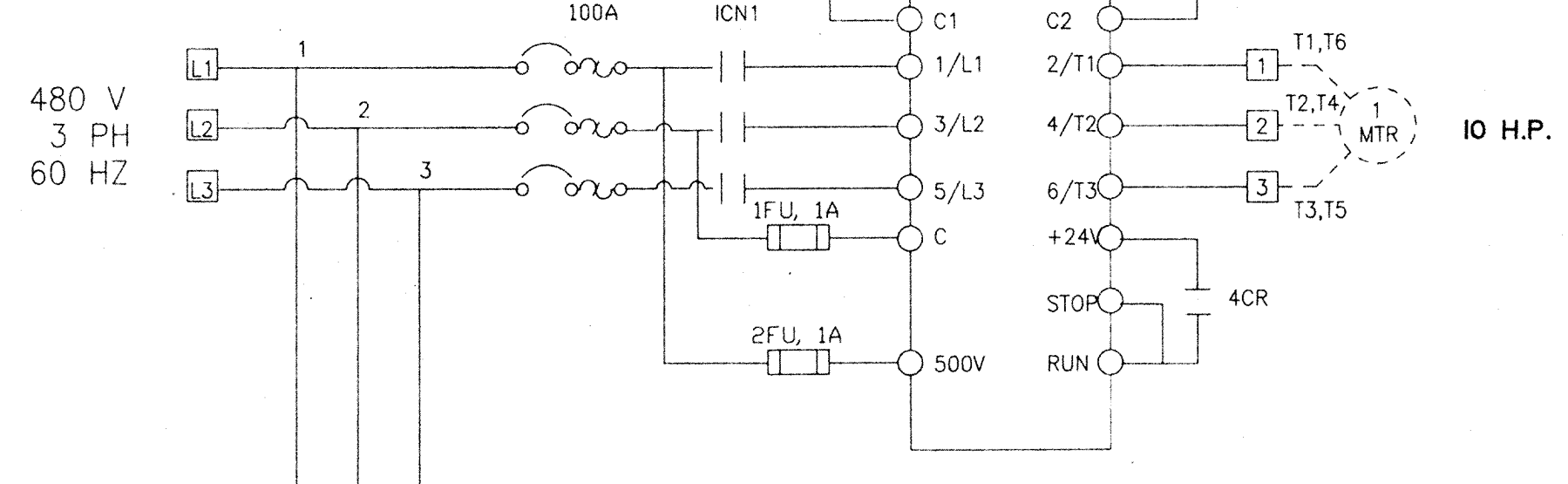
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TARTAN FIELDS GOLF CLUB
 WWTP BUILDING NTS
 PLAN VIEW NTS 2/6/97

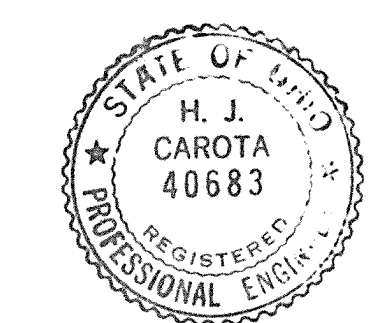
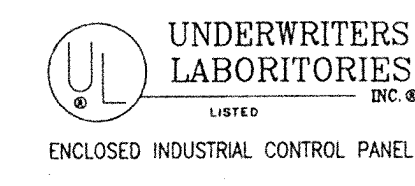
MAIN DISCONNECT

INSTALLER MUST PROVIDE A MAIN DISCONNECT AND A SINGLE PROTECTIVE DEVICE OR A SINGLE SET OF FUSES IN ACCORDANCE WITH NEC REQUIREMENTS.

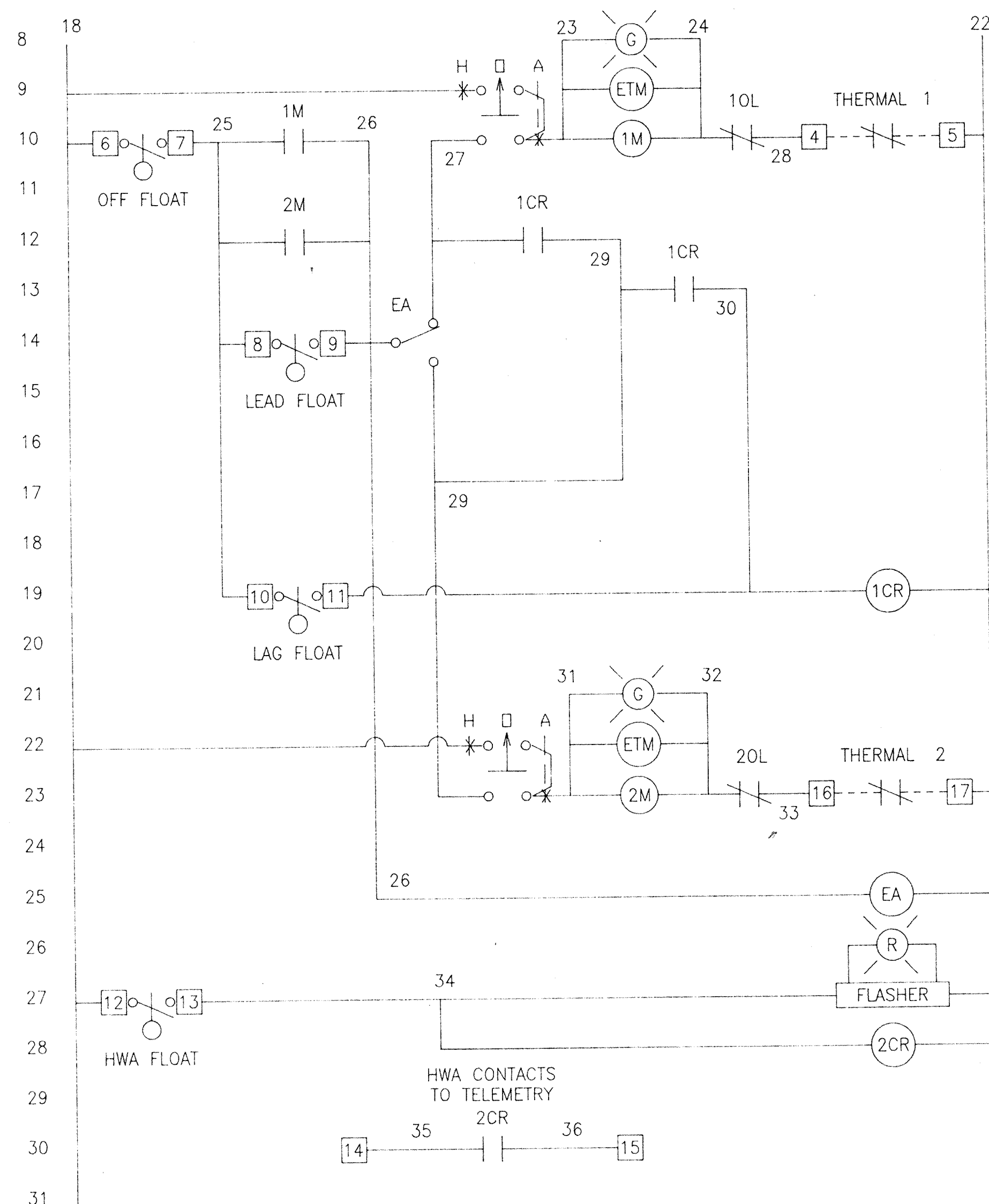
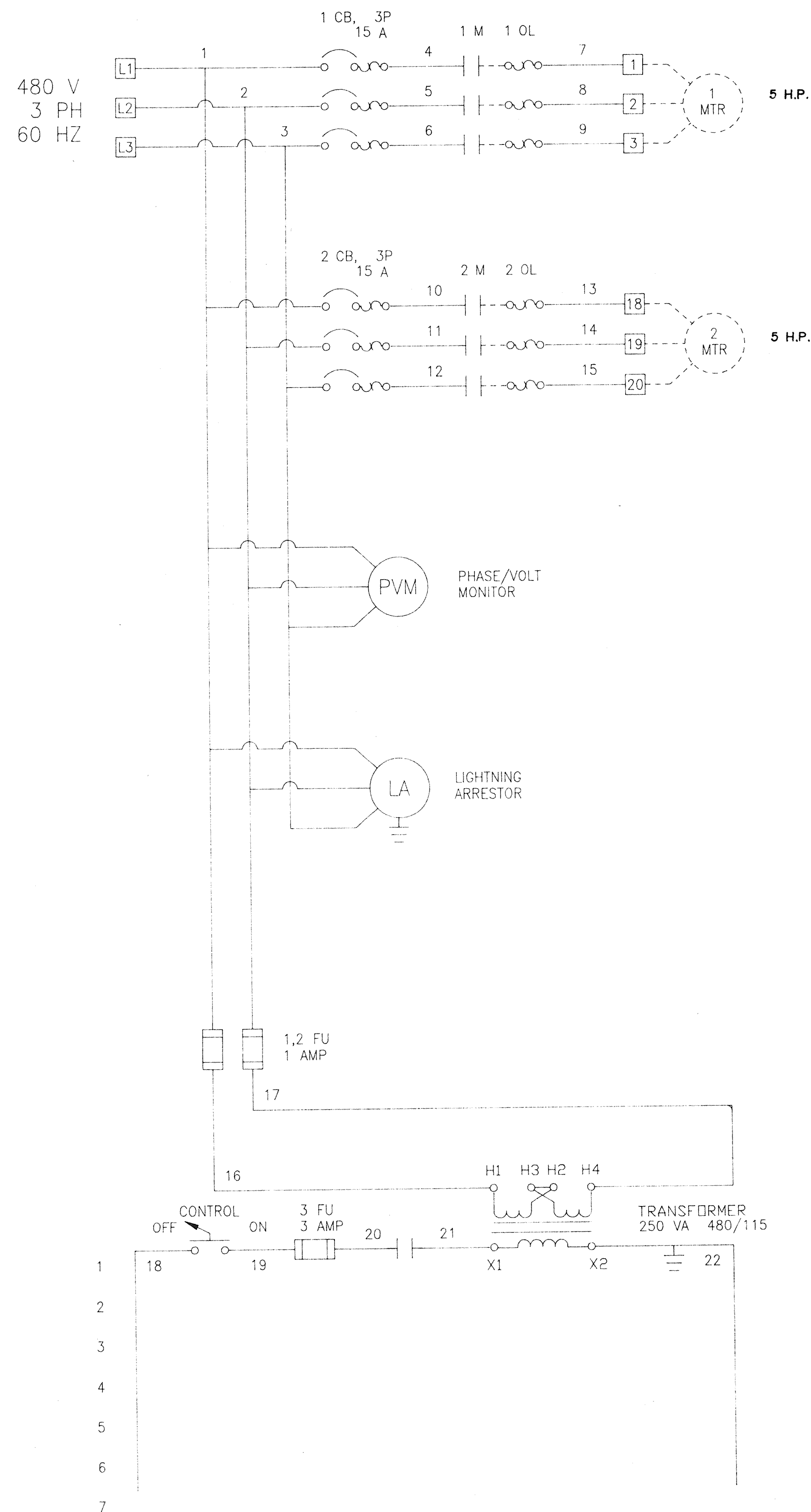
RECOMMENDED 100 AMPS.



NOTE: 1. DASHED LINES (-----) INDICATE REMOTE MOUNTED EQUIPMENT.
2. □ - INDICATES FIELD WIRING TERMINALS FOR CONNECTIONS MADE BY INSTALLER



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TARTAN FIELDS GOLF CLUB
TRIPLEX PUMP CONTROLS
1 OF 2 2/6/97



PUMP NO.1
RUNNING

PUMP NO.1
ELAPSED TIME METER

PUMP NO.1
START

10

12, 13

PUMP NO.2
RUNNING

PUMP NO.2
ELAPSED TIME METER

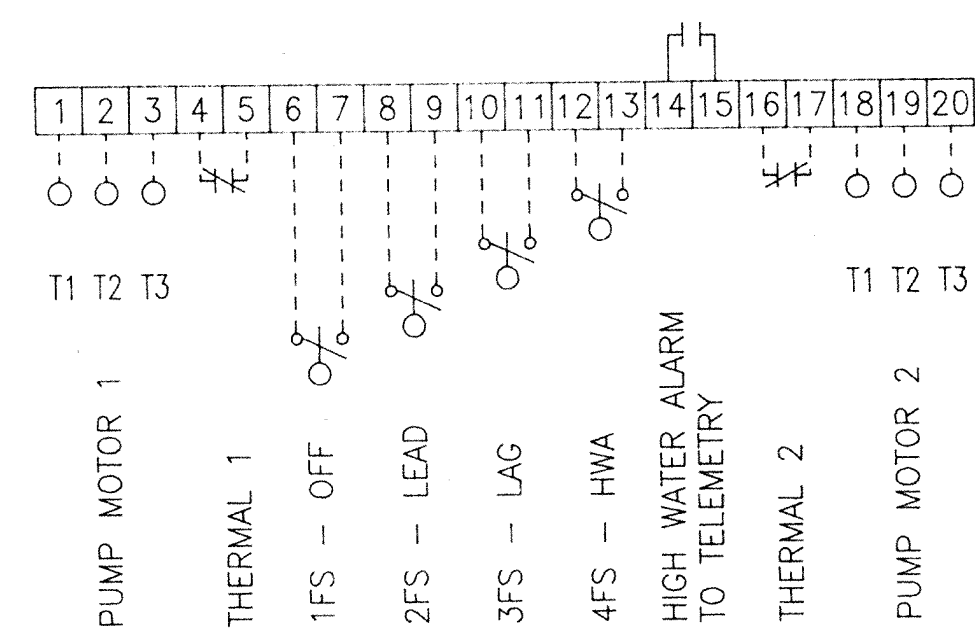
PUMP NO.3
START

12

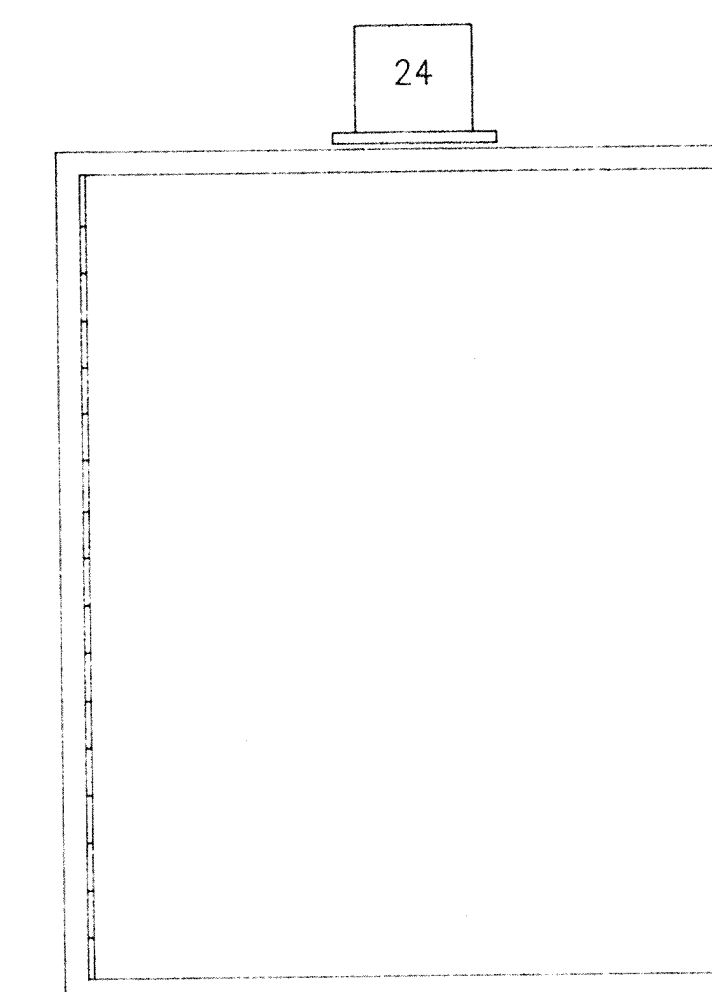
ALTERNATOR
14

HIGH WATER
ALARM LIGHT

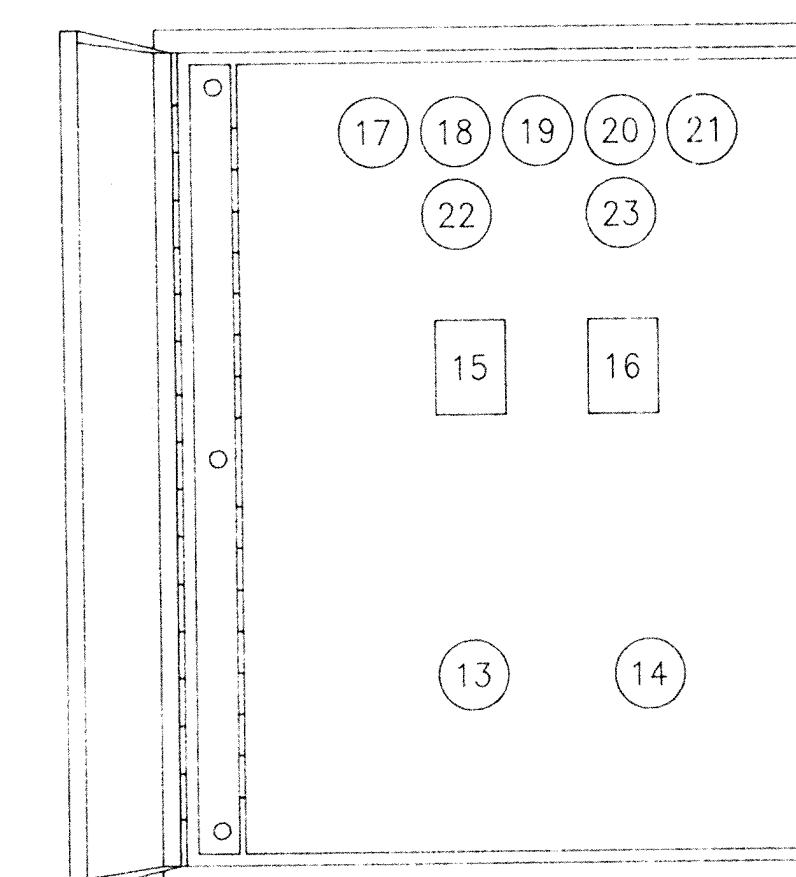
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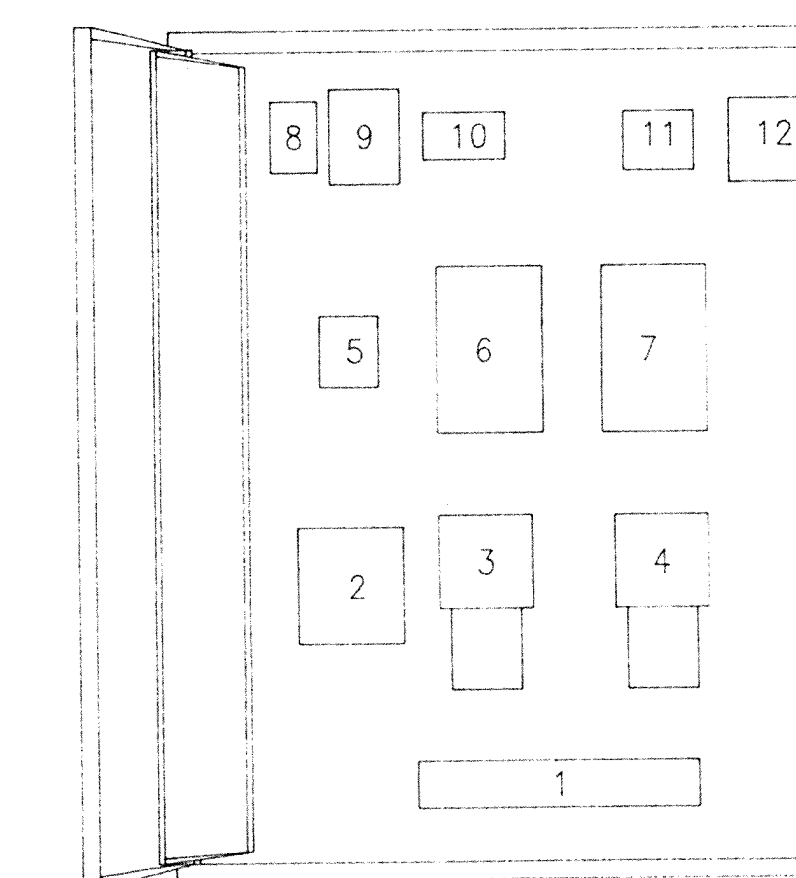
TERMINAL STRIP LAYOUT



ENCLOSURE LAYOUT

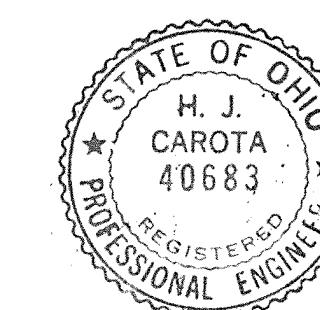


INNER DOOR LAYOUT



SUB PANEL LAYOUT

43	
42	
41	
40	
39	
38	
37	
36	
35	
34	
33	
32	
31	
30	
29	
28	
27	
26	
25	
24	FLASHING HIGH WATER ALARM LIGHT
23	LIGHT PUMP NO.2 RUNNING
22	LIGHT PUMP NO.1 RUNNING
21	ETM PUMP NO.2
20	H O A PUMP NO.2
19	OFF/ON CONTROL
18	H O A PUMP NO.1
17	ETM PUMP NO.1
16	BREAKER CUTOOUT PUMP NO.2
15	BREAKER CUTOOUT PUMP NO.1
14	RESET PUMP NO.2
13	RESET PUMP NO.1
12	DISTRIBUTION BLOCK
11	PHASE/VOLT MONITOR
10	CONTROL RELAYS
9	ALTERNATOR
8	FLASHER
7	CIRCUIT BREAKER PUMP NO.2
6	CIRCUIT BREAKER PUMP NO.1
5	TRNASFOMER FUSING
4	STARTER PUMP NO.2
3	STARTER PUMP NO.1
2	CONTROL TRANSFORMER
1	TERMINAL STRIP



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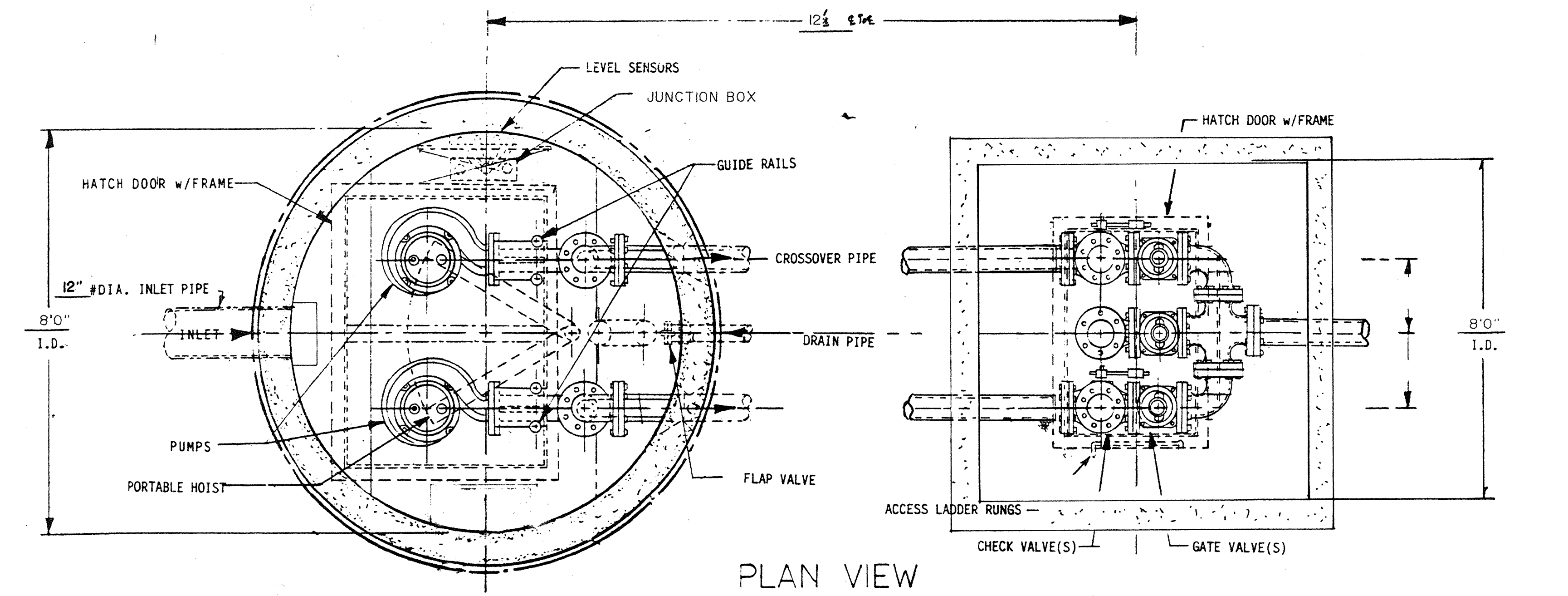
TARTAN FIELDS GOLF CLUB
RAS/WAS CONTROL PANEL
2/6/97

1330
 JB-1
 TARTAN
 PUMP
 STATION

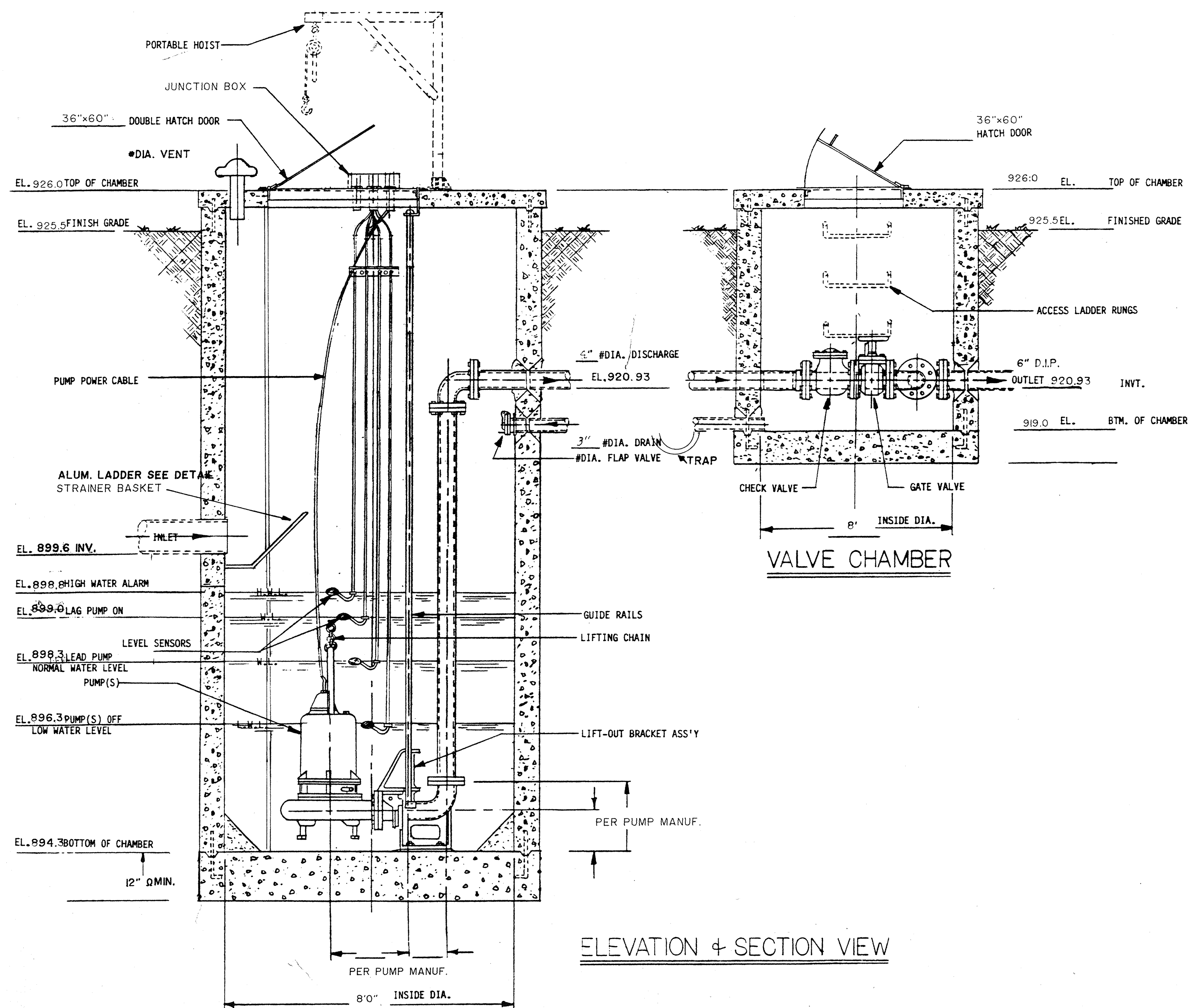
LIFT STATION DESIGN - CONCORD RD PUMP STATION

PROPOSED UNITS - 357 LOTS
 SANITARY FLOW - 357 X 330 gpd/UNIT 117,810 gpd ADDF or 81.8 gpm
 PEAK SANITARY FLOW - 117,810 X 2.5 (peaking factor) = 294,525 GPD PEAK FLOW
 CONCENTRATION - $\frac{294,525 \text{ GPD} + 204.5 \text{ GPM} \times 24}{1,440 \text{ minutes}} = 204.5 \text{ GPM PF}$
 TOTAL PEAK FLOW - 204.5 GPM
 WET WELL REQ. CAPACITY - $204.5 \text{ GPM} \times 15 \text{ MIN.} = 766.88 \text{ GAL. NEEDED}$
 4 STARTS
 8 FT. I.D. WET WELL - 2.04' MINIMUM DRAWDOWN = 1014.66 GALS. SUPPLIED
 STATIC HEAD - 980.50 - 896.3 = 84.2'
 FRICTION LOSS - 4300' OF 6" PVC = 26.58' with station loss
 DYNAMIC HEAD - 84.20' STATIC HEAD + 26.58' FRICTION LOSS = 108.98' TDH
 PUMP WILL OPERATE AT 204.5 GPM @ 110.0' TDH

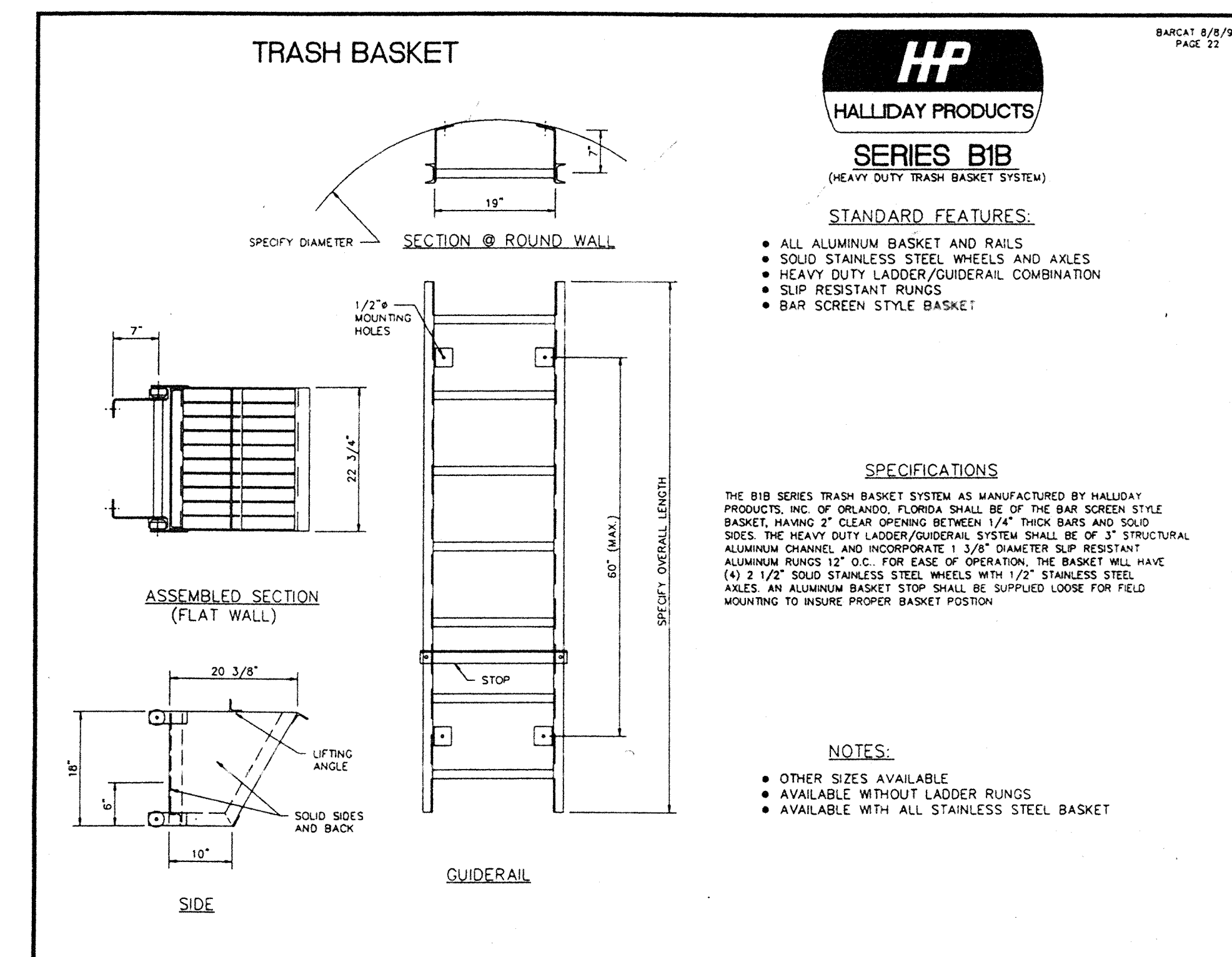
Revised 06/26/97



PLAN VIEW



ELEVATION + SECTION VIEW



- STANDARD FEATURES:**
- ALL ALUMINUM BASKET AND RAILS
 - SOLID STAINLESS STEEL WHEELS AND AXLES
 - HEAVY DUTY LADDER/GUIDERAIL COMBINATION
 - SLIP RESISTANT RUNGS
 - BAR SCREEN STYLE BASKET

SPECIFICATIONS
 THE B18 SERIES TRASH BASKET SYSTEM AS MANUFACTURED BY HALLIDAY PRODUCTS, INC. OF ORLANDO, FLORIDA SHALL BE OF THE BAR SCREEN STYLE BASKET, HAVING 2" CLEAR OPENING BETWEEN 1/4" THICK BARS AND SOLID SIDES. THE HEAVY DUTY LADDER/GUIDERAIL SYSTEM SHALL BE OF 3" STRUCTURAL ALUMINUM CHANNEL AND INCORPORATE 1 3/8" DIAMETER SLIP RESISTANT ALUMINUM RUNGS 12" O.C. FOR EASE OF OPERATION. THE BASKET WILL HAVE (4) 2 1/2" SOLID STAINLESS STEEL WHEELS WITH 1/2" STAINLESS STEEL AXLES. AN ALUMINUM BASKET STOP SHALL BE SUPPLIED LOOSE FOR FIELD MOUNTING TO INSURE PROPER BASKET POSITION.

- NOTES:**
- OTHER SIZES AVAILABLE
 - AVAILABLE WITHOUT LADDER RUNGS
 - AVAILABLE WITH ALL STAINLESS STEEL BASKET

SHT. II OF 12

CONCORD RD.



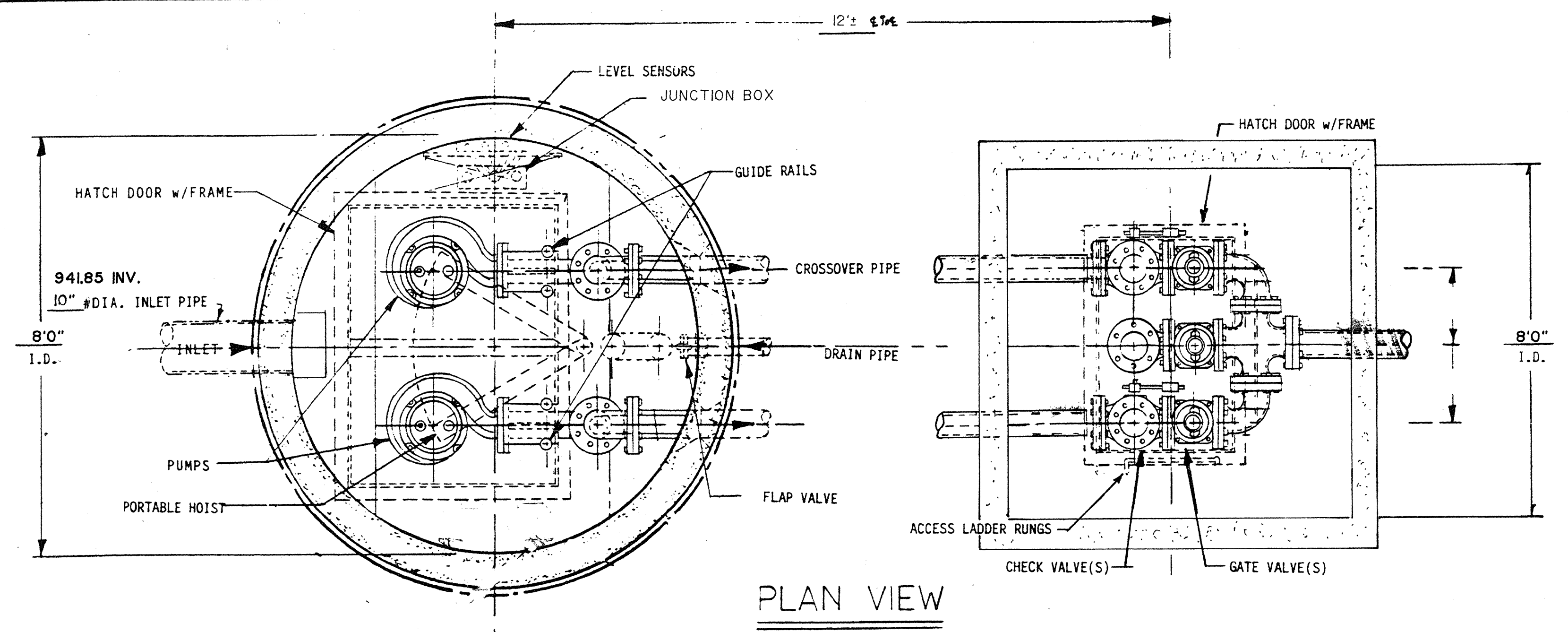
REV. 6/26/97

REV. 5/29/97

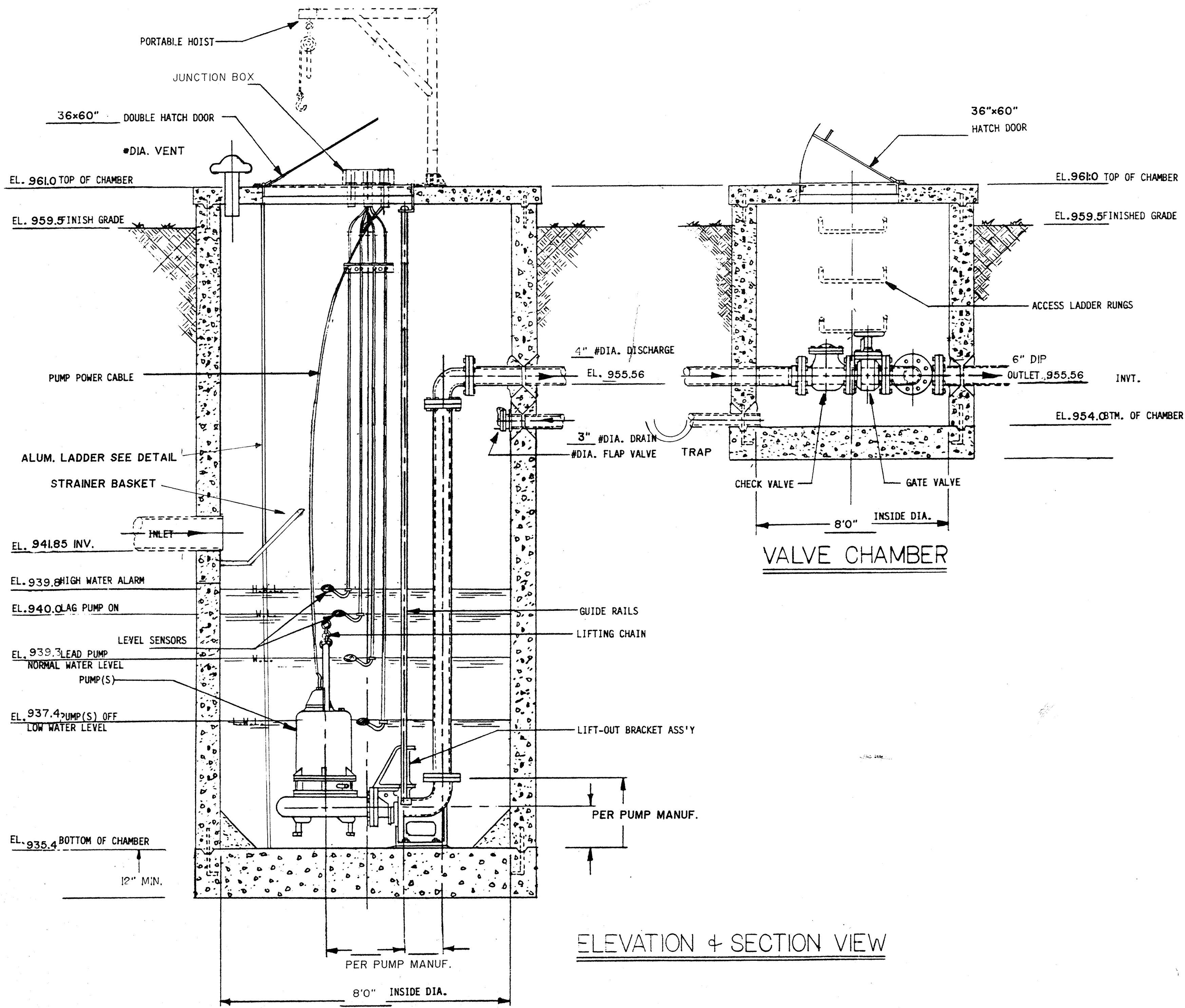
REV. 6/5/97

REV. 6/19/97

American Wastewater Industries, Inc.
 • 106 Arndt Court • Fairfield, Ohio 45014
 (513) 858-6690-Phone • (513) 858-6692-Fax
 Tartan Fields Golf Club
 Pump Station



PLAN VIEW



ELEVATION + SECTION VIEW

LIFT STATION DESIGN - TILLINGHAST DR PUMP STATION

PROPOSED UNITS - 333 LOTS
 SANITARY FLOW - 333 X 330 gpd/UNIT 109,890 gpd ADDF or 76.3 gpm
 PEAK SANITARY FLOW - 109,890 X 2.5 (peaking factor) = 274,725 GPD PEAK FLOW
 CONCENTRATION - 274,725 GPD = 190.78 GPM x 24 = 190.78 GPM PF
 1,440 minutes 24
 TOTAL PEAK FLOW - 190.78 GPM
 WET WELL REQ. CAPACITY - 190.78 GPM X 15 MIN. = 715.43 GAL. NEEDED
 4 STARTS
 8 FT. I.D. WET WELL - 1.9' MINIMUM DRAWDOWN = 977.08 GALS. SUPPLIED
 STATIC HEAD - 980.19 - 937.4 = 42.79'
 FRICTION LOSS - 2700' OF 6" PVC @c-100=14.86'
 DYNAMIC HEAD - 42.8' STATIC HEAD + 5.0' STATION LOSS + 14.86' FRICTION LOSS = 63.1'TDH
 PUMP WILL OPERATE AT 200 GPM @ 62' TDH

Revised 06/26/97

TRASH BASKET

HP
HALLIDAY PRODUCTS

SERIES B1B
(HEAVY DUTY TRASH BASKET SYSTEM)

STANDARD FEATURES:

- ALL ALUMINUM BASKET AND RAILS
- SOLID STAINLESS STEEL WHEELS AND AXLES
- HEAVY DUTY LADDER/GUIDERAIL COMBINATION
- SLIP RESISTANT RUNGS
- BAR SCREEN STYLE BASKET

SPECIFICATIONS

THE B1B SERIES TRASH BASKET SYSTEM AS MANUFACTURED BY HALLIDAY PRODUCTS, INC. OF ORLANDO, FLORIDA SHALL BE OF THE BAR SCREEN STYLE BASKET HAVING 2" CLEAR OPENING BETWEEN 1/4" THICK BARS AND SOLID SIDES. THE HEAVY DUTY LADDER/GUIDERAIL SYSTEM SHALL BE OF 3" STRUCTURAL ALUMINUM CHANNEL AND INCORPORATE 1 3/8" DIAMETER SLIP RESISTANT ALUMINUM RUNGS 12" O.C. FOR EASE OF OPERATION, THE BASKET WILL HAVE (4) 2 1/2" SOLID STAINLESS STEEL WHEELS WITH 1/2" STAINLESS STEEL AXLES. AN ALUMINUM BASKET STOP SHALL BE SUPPLIED LOOSE FOR FIELD MOUNTING TO INSURE PROPER BASKET POSITION.

NOTES:

- OTHER SIZES AVAILABLE
- AVAILABLE WITHOUT LADDER RUNGS
- AVAILABLE WITH ALL STAINLESS STEEL BASKET

SHT. 12 OF 12

TILLINGHAST DR.

REV. 6/26/97

REV. 5/29/97

REV. 6/5/97

REV. 6/19/97

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Tartan Fields Golf Club
 Pump Station