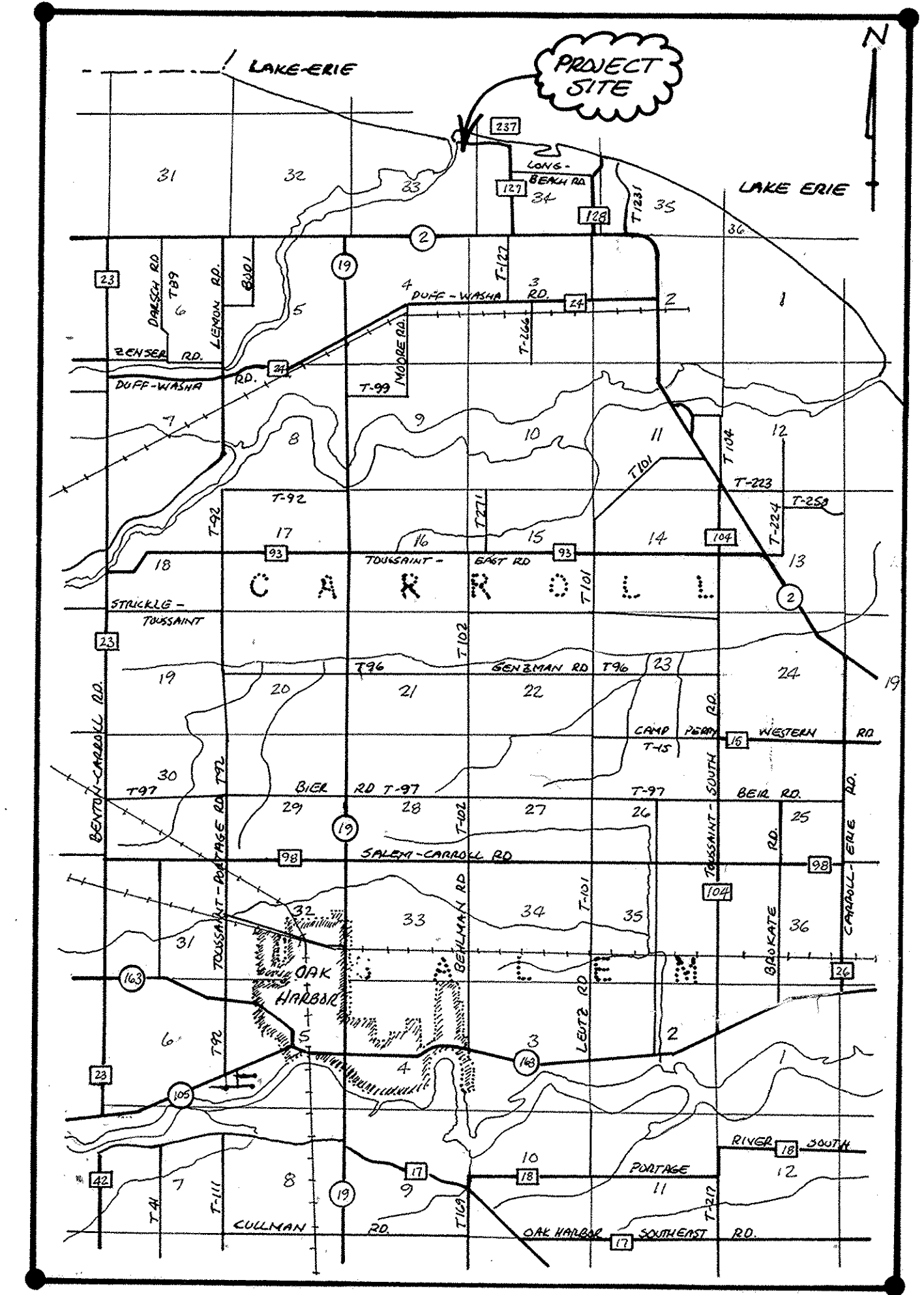
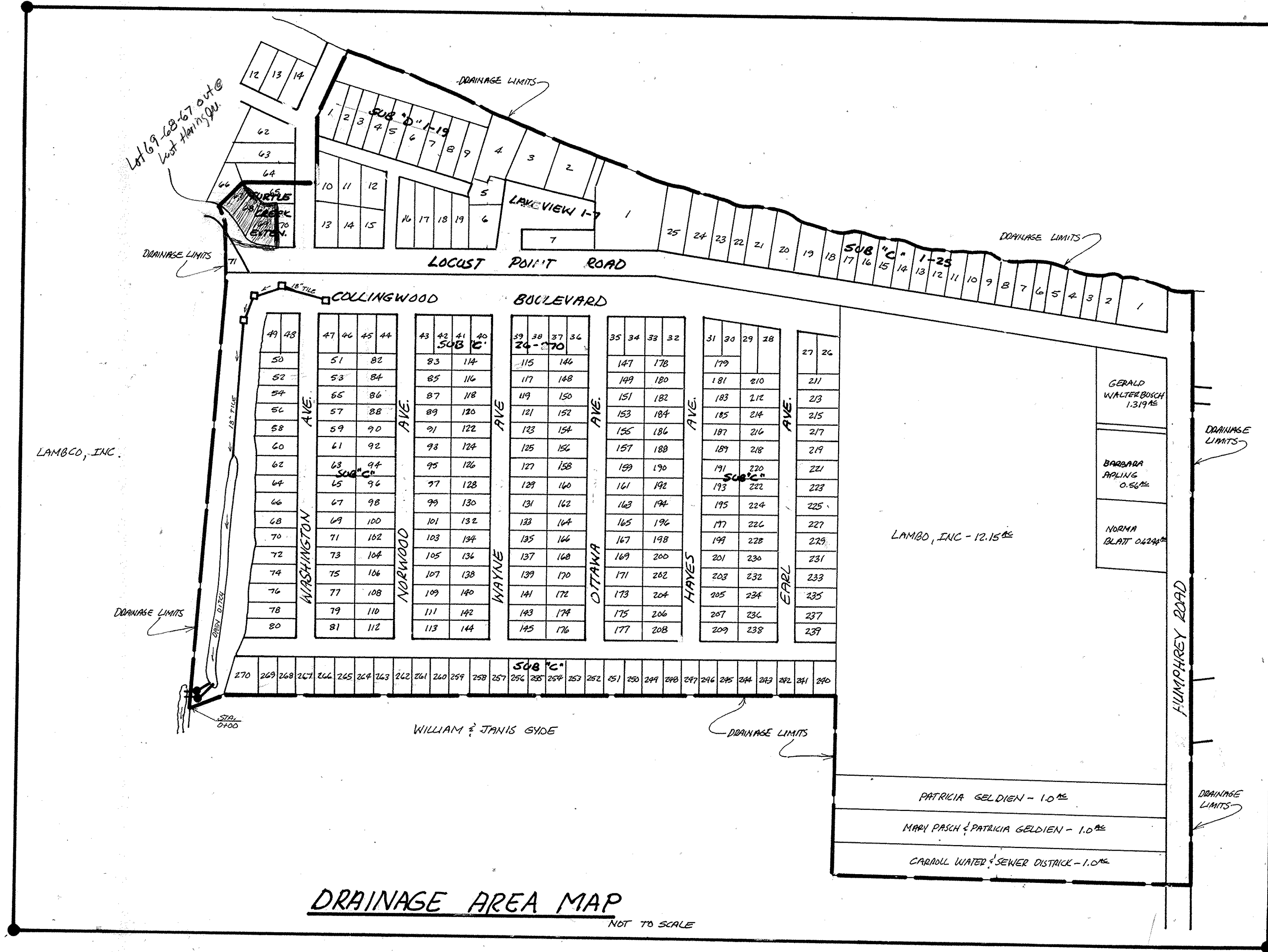


LOCUST POINT PUMP - PROJECT #98

SECTIONS 33 & 34 CARROLL TOWNSHIP - 1999



ALL WORK SHALL CONFORM TO THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, CONSTRUCTION AND MATERIAL SPECIFICATIONS DATED JANUARY 1 1997, AND ANY SUPPLEMENTS THERE TO IN EFFECT 14 CALENDAR DAYS PRIOR TO THE RECEIVING OF BIDS, UNLESS OTHER WISED NOTED OR EXCEPTED.

PUMP AND PUMP CHAMBER:

1. THE PUMPING SYSTEM CONSISTS OF TWO IDENTICAL PUMPS MOUNTED IN SEPARATE CHAMBERS WITH SEPARATE WATER INTAKES AND ALL NECESSARY ELECTRICAL WIRING NEEDED.
2. THE PUMP SYSTEM DESIGN ALLOWS FOR SOME LATITUDE ON CERTAIN ELEVATIONS AND DIMENSIONS. THIS MAY ALLOW THE CONTRACTOR TO USE MANUFACTURED LENGTHS OF PIPE OR STANDARD MATERIALS, THE PUMP DISCHARGE ELEVATION OF 579.00 MUST BE MAINTAINED. THE TOP OF THE FLOOR ELEVATION CAN BE LOWERED, AS LONG AS THE 2.0' MINIMUM DISTANCE IS MAINTAINED BETWEEN THE LOWER PUMP BELL AND THE FLOOR. THE ELEVATION OF THE TOP PUMP CHAMBER CAN BE ADJUSTED TO ACCOMMODATE THE PUMP MOUNTING PLATE.
3. THE PUMPS ARE TO BE AXIAL FLOW, VERTICAL LIFT PUMPS. THE MINIMUM PUMP CAPACITY MUST BE 2400 G.P.M. EACH FROM THE MANUFACTURERS PUBLISHED SPECIFICATIONS. THE ENGINEERING PLANS ARE BASED ON A LOCAL MANUFACTURERS SPECIFICATIONS ON 12" PUMPS WITH 16' OF LIFT AND DRIVEN BY A 20 HP HIGH EFFICIENCY, THREE PHASE, CAST IRON, RIGID BASE MOUNTED, TOTALLY ENCLOSED, FAN COOLED, 115 SERVICE FACTOR, 1770 RPM AND HAVE A "NEMA" DESIGN C HIGH TORQUE RATINGS. VOLTTAGE 208-230/460 60 CYCLE. WEATHER PROTECTED MOTORS. PUMPS TO BE LAKECRAFT MODEL PAMA 12 OR EQUAL.
4. THE CONTRACTOR SHALL FURNISH WITH THE BID, A MANUFACTURERS WARRANTY ON ALL PUMPS AND CONTROL EQUIPMENT.
5. THE PUMP CHAMBERS SHALL BE REINFORCED CONCRETE. A PRECAST BASE WILL BE USED, AND ALL ADDITIONAL SECTIONS SHALL BE FROM THE SAME MANUFACTURER OR BE IDENTICAL IN JOINT CONFIGURATION. THE PIPE SIRE SHALL BE 60" WITH STEPS, AS SHOWN IN PUMP DETAILS.

ELECTRICAL:

1. THIS ITEM SHALL CONSIST OF ALL ELECTRICAL COMPONENTS AND INSTALLATION NECESSARY TO OPERATE THE PUMPS THE CONTRACTOR SHALL VERIFY WITH THE PUMP MANUFACTURER, WHAT IS PROVIDED WITH THE PUMP.
2. ALL WIRING FROM THE SERVICE POLE SHALL BE UNDERGROUND IN SCHEDULE 80 PVC AND THE INSTALLATION SHALL COMPLY WITH THE NEC AND ALL LOCAL BUILDING CODES.
3. THE LOCAL POWER COMPANY WILL PROVIDE THREE PHASE POWER TO THE PUMP SITE.
4. THE PUMPS SHALL HAVE ALTERNATING CONTROLS. EACH PUMP SHALL HAVE A SEPARATE DISCONNECT. CONTROLS SHALL PROVIDE ON/OFF WITH LOW LEVEL CUT OFF AND CONTROLS MUST PREVENT BOTH PUMPS FROM STARTING AT THE SAME TIME. A HIGH LEVEL CONTROL MUST ALLOW BOTH PUMPS TO RUN IF NECESSARY. EACH PUMP SHALL HAVE AN ELAPSED TIME METER. CONTROLS SHALL BE AUTOMATIC WITH MANUAL OVERRIDE. A PROGRAMMABLE TIMING DEVICE SHALL BE PROVIDED TO ALLOW PUMP OPERATION DURING SELECTED HOURS, THE TIMING DEVICE SHALL HAVE MANUAL OVERRIDE CAPABILITIES.
5. SHALL INSTALL 1/4 LIGHTENING ARRESTOR.
6. THERE SHALL BE A MINIMUM OF ONE SINGLE PHASE 120V GFI OUTLET WITH RAIN TIGHT COVER.
7. THE METER, AND PUMP CONTROLS SHALL BE MOUNTED AS SHOWN IN THE DRAWINGS.
8. ALL WIRE TO BE COPPER, AND SURROUNDED PER THE LATEST EDITION OF THE NEC ART. 280.
9. ALL CABLE TO BE SCH. 80 PVC, UNLESS NOTED OTHERWISE AND BURIED PER NEC TABLE 300-5.
10. EACH SERVICE DISCONNECT AND CORRESPONDING PUMP MOTOR MUST REFLECT IDENTICAL I.D.
11. ALL SERVICE ENTRANCE CONSTRUCTION TO BE IN COMPLIANCE WITH TOLEDO EDISON.
12. PROBE WELL AND LEVEL PROBES FURNISHED BY OTHERS & INSTALLED BY CONTRACTOR.
13. ALL WOOD PRODUCTS TO BE CCA PRESSURE TREATED
14. CONTROL CIRCUITS TO BE INSTALLED IN DEDICATED RACEWAY.

GENERAL NOTES

- 15 ALL CONDUCTORS MUST BE COLOR CODED, PER NEC.
- 16 MOUNTING HARDWARE TO BE GALVANIZED OR PLATED.
- 17 INSTALL SEAL TIGHT CONDUIT FOR FINAL CONNECTION TO MOTORS
- 18 PROVIDE COMPRESSION WIRE CONNECTIONS ON ALL WIRE TERMINALS WHERE POSSIBLE.

GENERAL

1. ALL CHANGES IN THESE PLANS MUST BE APPROVED BY THE OTTAWA COUNTY ENGINEER.
2. ANY BARRICADES, LIGHTS, ECT. THAT MAY BE NEEDED ON THIS JOB, ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR, AND SHALL BE INCLUDED IN THE FINAL BID.
3. ALL EXTRAS SHALL BE DONE AT THE UNIT PRICE BID, OR OTHERWISE PRE ARRANGED, BY THE OTTAWA COUNTY ENGINEER OFFICE, IN WRITING.
4. ALL ELECTRICAL PERMITS ARE THE CONTRACTORS RESPONSIBILITY.
- *5. THIS PROJECT IS BEING BID, WITH TWO PUMPS, AND AN WITH ALT. BID FOR ONE PUMP. THE BEST OF THE TWO WILL BE DETERMINED AT THE TIME OF OPENING OF BIDS.

INDEX

- SHEETS 2 & 3: PLAN AND PROFILES
- SHEETS 4 & 5 & 6 & 7: CROSS SECTIONS
- SHEET 8: TYPICAL DETAILS

WE THE BOARD OF COMMISSIONERS OF OTTAWA COUNTY, HEREBY APPROVE THESE PLANS, THE 18th DAY OF April 2000

John J. Papera *Carl Finkel*

OTTAWA COUNTY ENGINEER

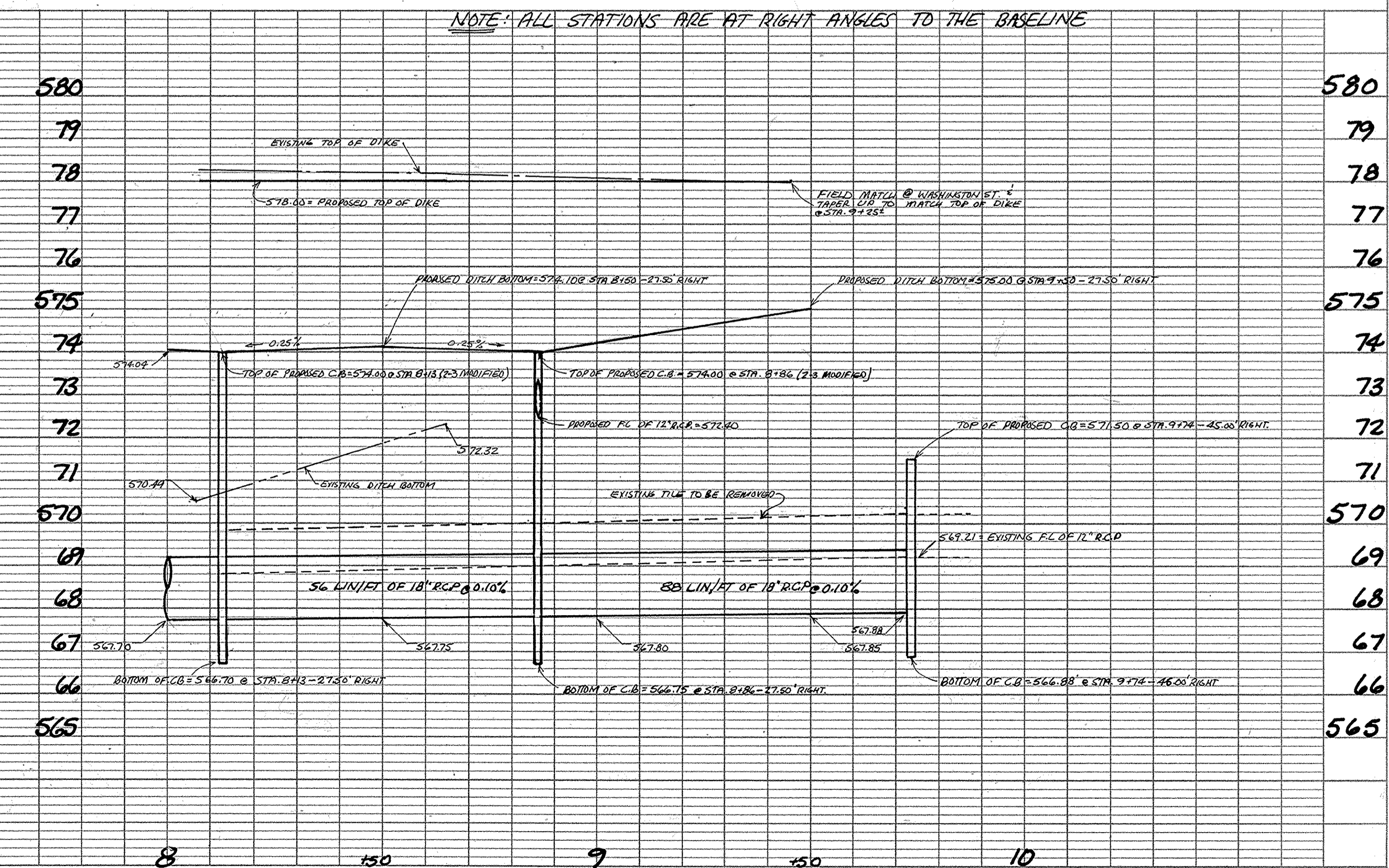
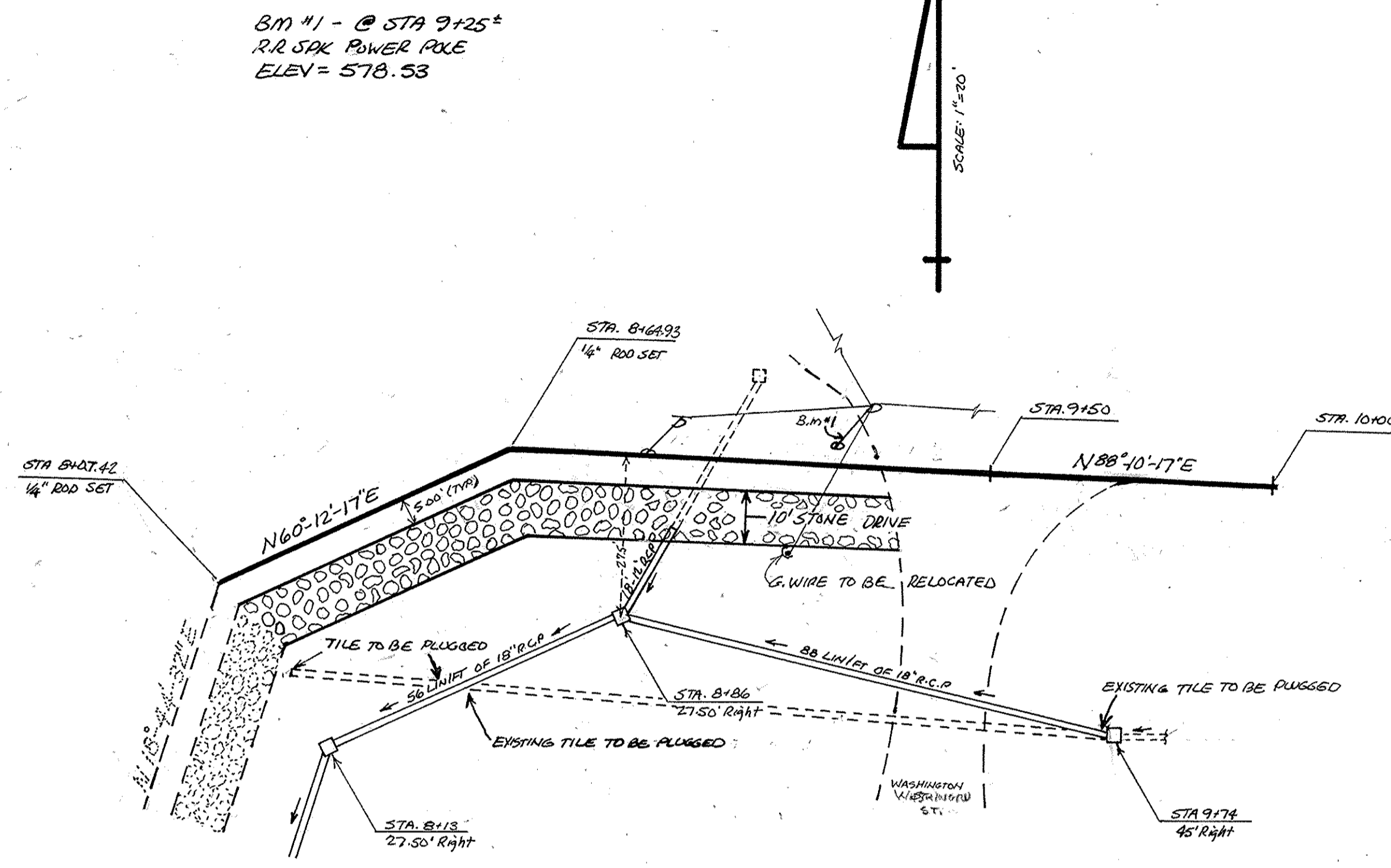
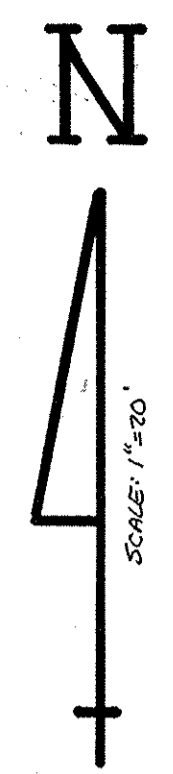
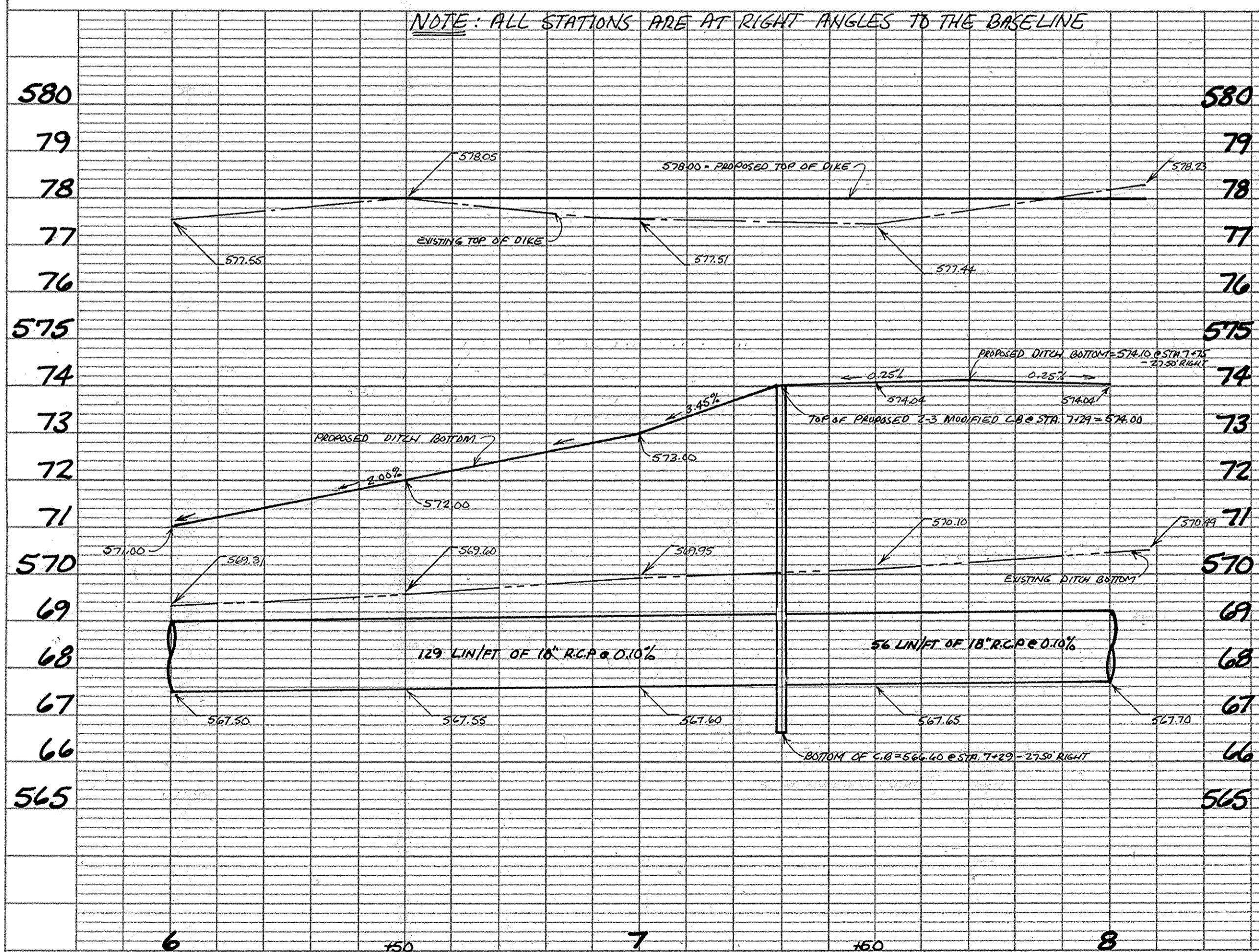
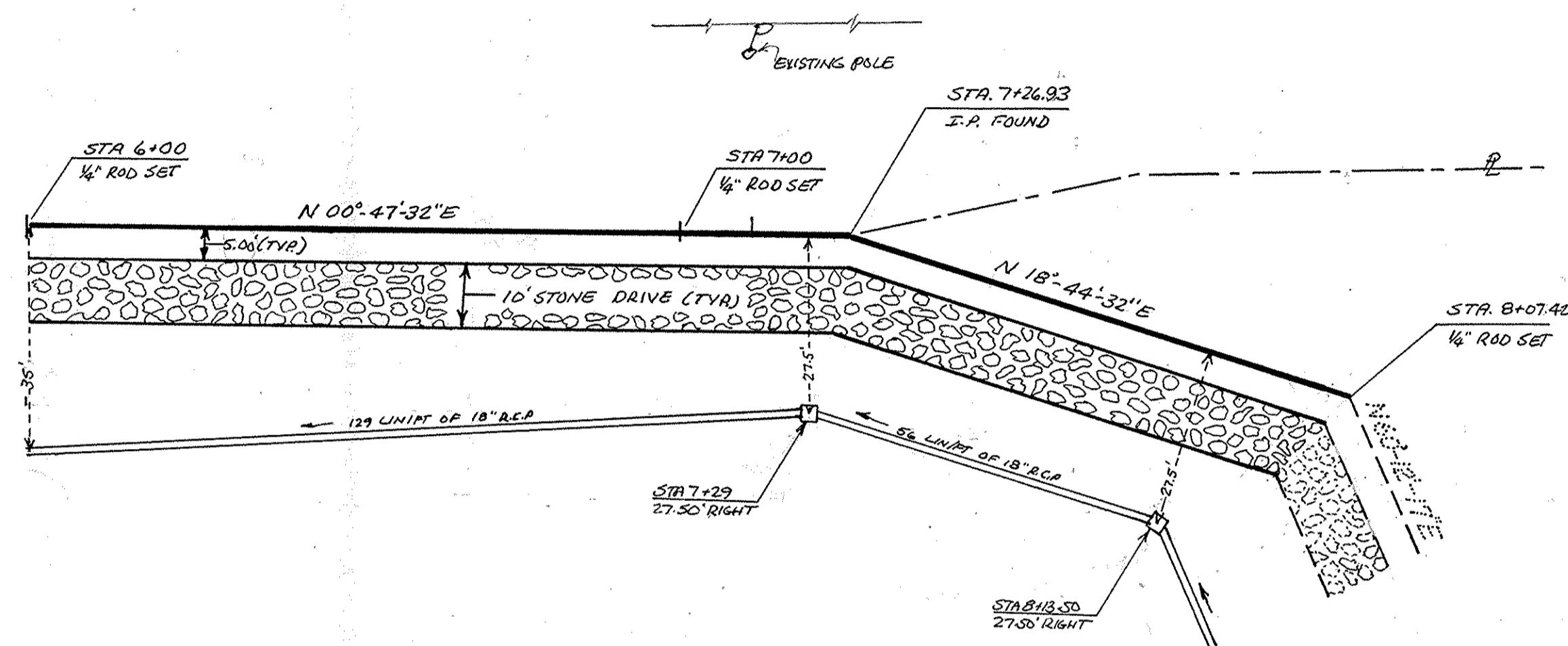
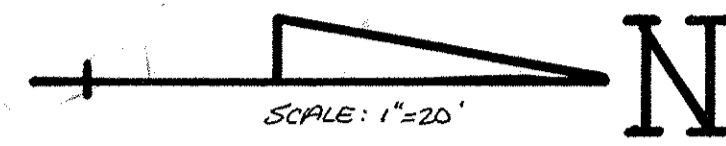
I HEREBY APPROVE THESE PLANS THE _____ DAY OF DECEMBER 1999.

Robert Stummiller
OTTAWA COUNTY ENGINEER

APPROVALS

DATE: _____
 BY: _____
 SURVEYED: _____
 NOTED: _____
 ALIGNED CHECKED: _____
 AT: _____
 PLAN
 NOTE BOOK
 No. _____

DATE: _____
 BY: _____
 SURVEYED: _____
 NOTED: _____
 ALIGNED CHECKED: _____
 AT: _____
 PROFILE
 NOTE BOOK
 No. _____

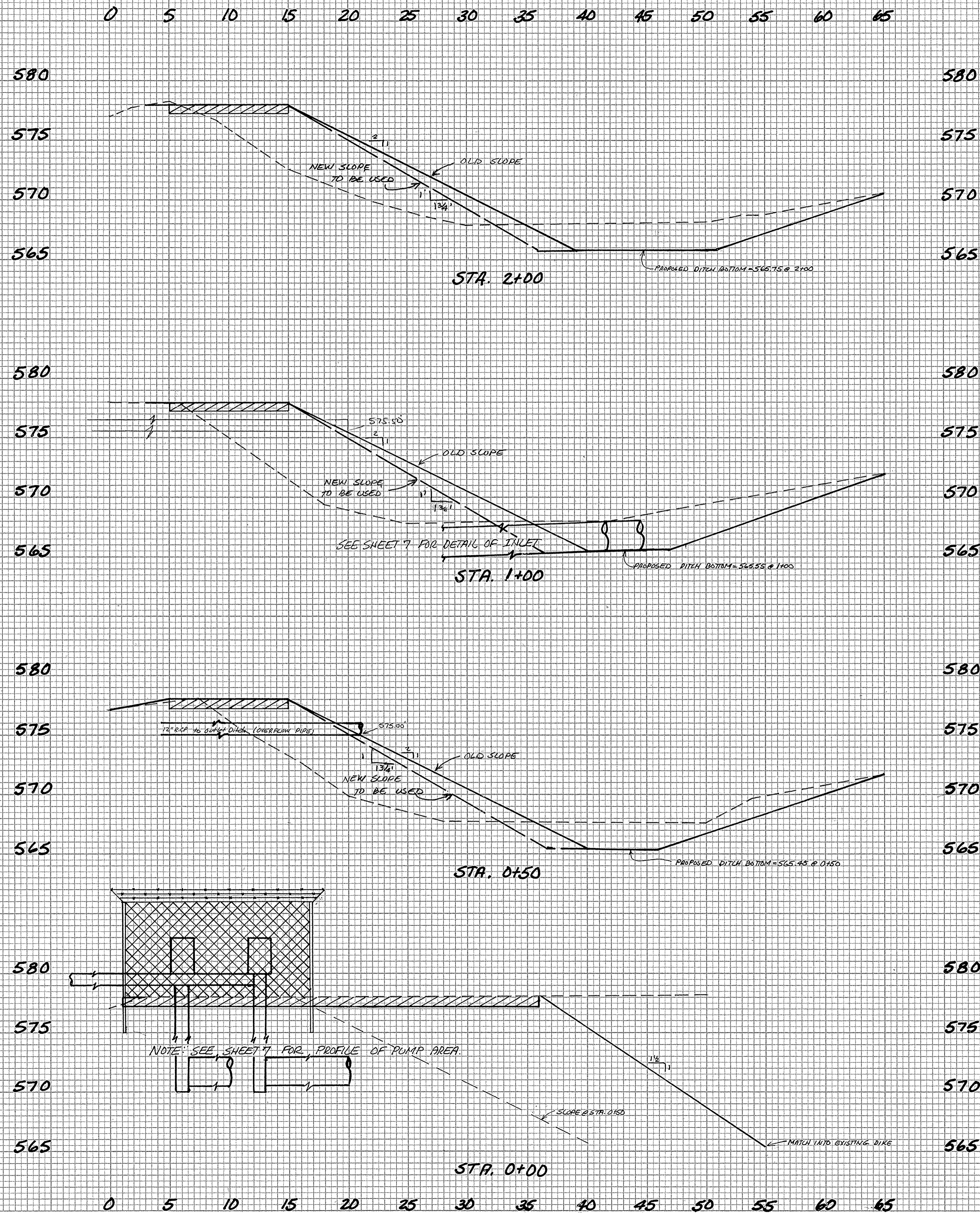


CROSS SECTIONS
FOR LOCUST POINT

4
8

DATE _____
BY _____
FINAL SURVEY SUBMITTED _____
SURVEY PLOTTED _____
NOTE BOOK NO. _____
AREAS CHECKED _____

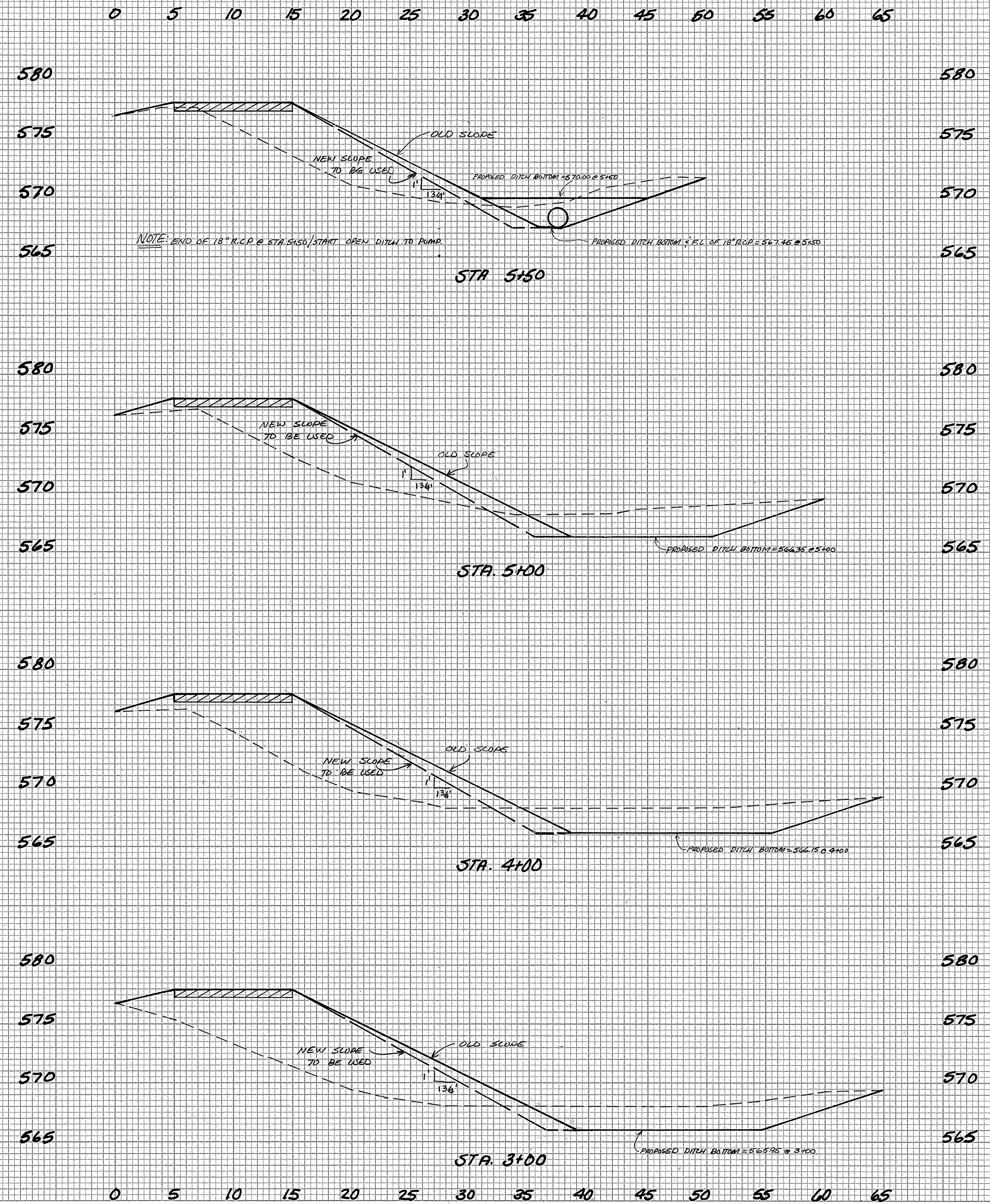
DATE _____
BY _____
ORIGINAL SURVEY SUBMITTED _____
SURVEY PLOTTED _____
NOTE BOOK NO. _____
AREAS CHECKED _____



AREA		VOLUME	
GUT	FILL	CUT	FILL
47.6	80.0		
		181.5	342.6
50.5	105.0		
		168.5	176.9
40.5	86.0		
		37.5	438.0
0.0	182.5		
SHEET TOTAL		387.5	957.5

CROSS SECTIONS FOR LOCUST POINT

5
8



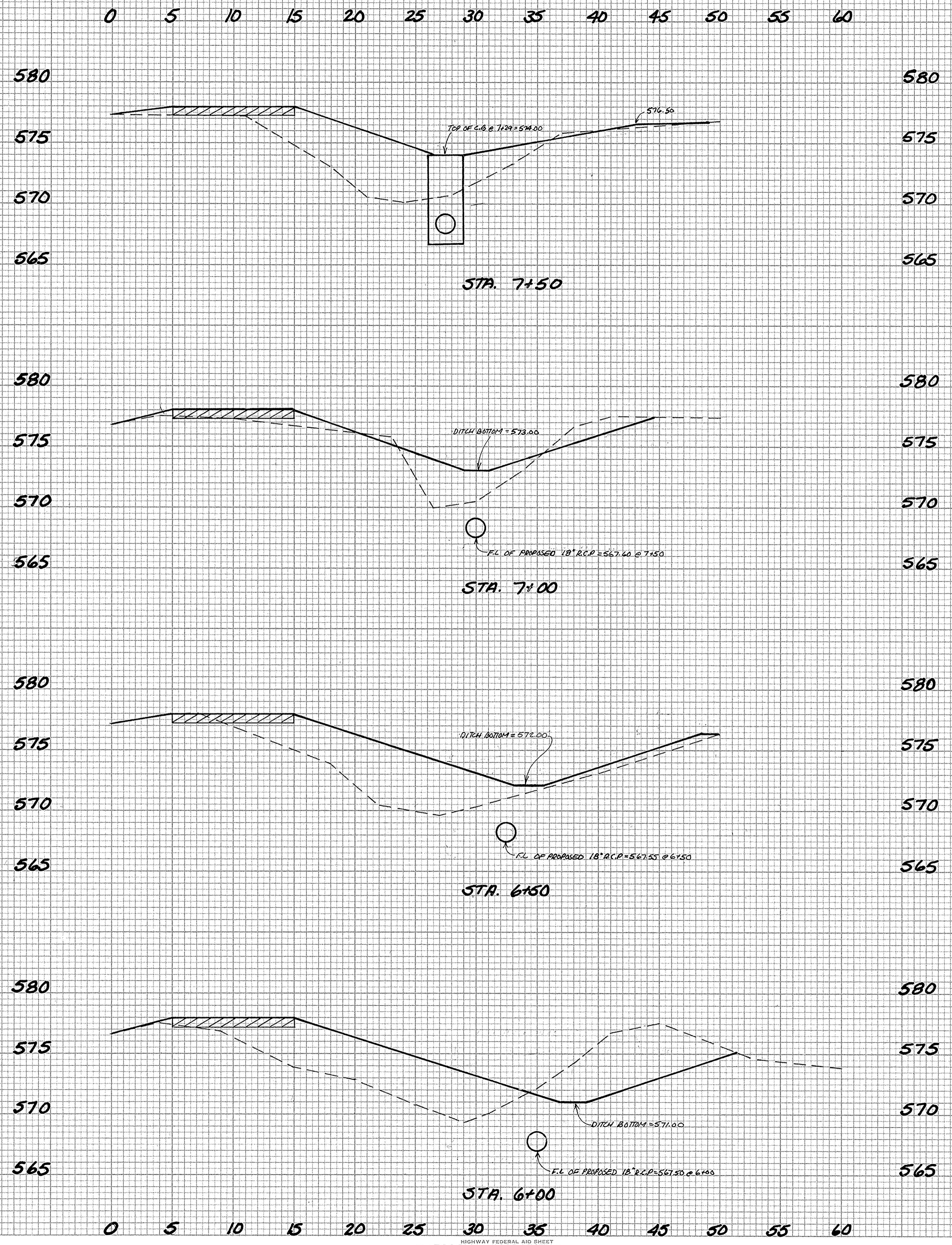
AREA		VOLUME	
CUT	FILL	CUT	FILL
(8.0) 22.5	(45.5) 45.5		
		52.3	222.2
34.0	74.5		
		154.6	325.0
49.5	101.0		
		171.3	385.2
43.0	107.0		
		167.6	346.3
SHEET TOTAL		545.8	1278.7

FINAL SURVEY
DATE
BY
SURVEYED
PLOTTED
NOTE BOOK
NO.
AREAS CHECKED

ORIGIN SURVEY
DATE
BY
SURVEYED
PLOTTED
NOTE BOOK
NO.
AREAS CHECKED

CROSS SECTIONS
FOR LOCUST POINT

6
8



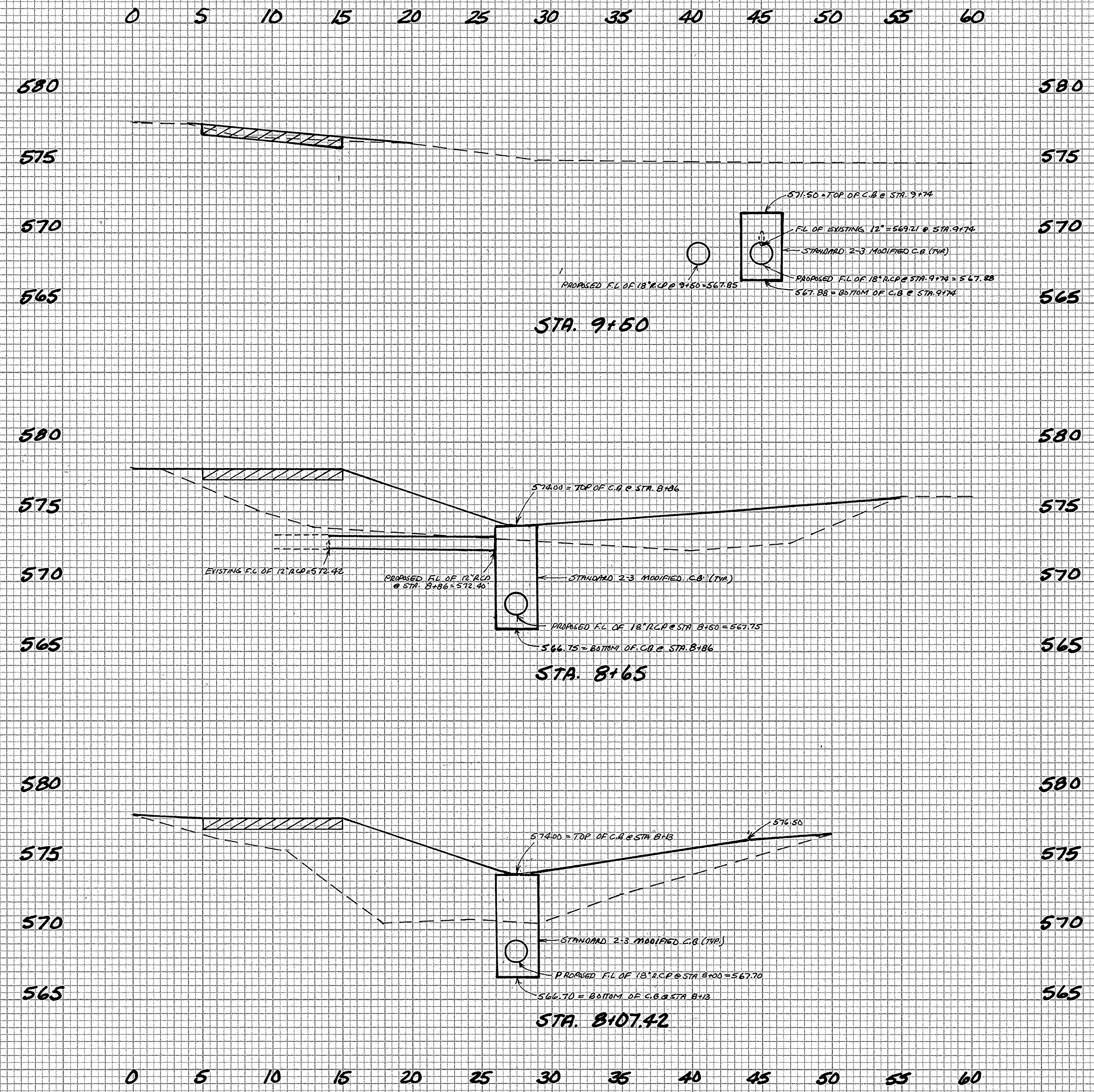
AREA		VOLUME	
CUT	FILL	CUT	FILL
0.5	78.5		
		4.0	95.2
3.5	18.0		
		4.9	90.7
1.5	80.0		
		50.1	153.1
52.5	79.0		
		25.3	121.1
SHEET TOTAL		84.3	460.1

FINAL SURVEY BY DATE
SURVEYED BY DATE
PLOTTED BY DATE
NOTE BOOK NO.
AREAS CHECKED

ORIGIN SURVEY BY DATE
SURVEYED BY DATE
PLOTTED BY DATE
NOTE BOOK NO.
AREAS CHECKED

CROSS SECTIONS FOR LOCUST POINT

7
8

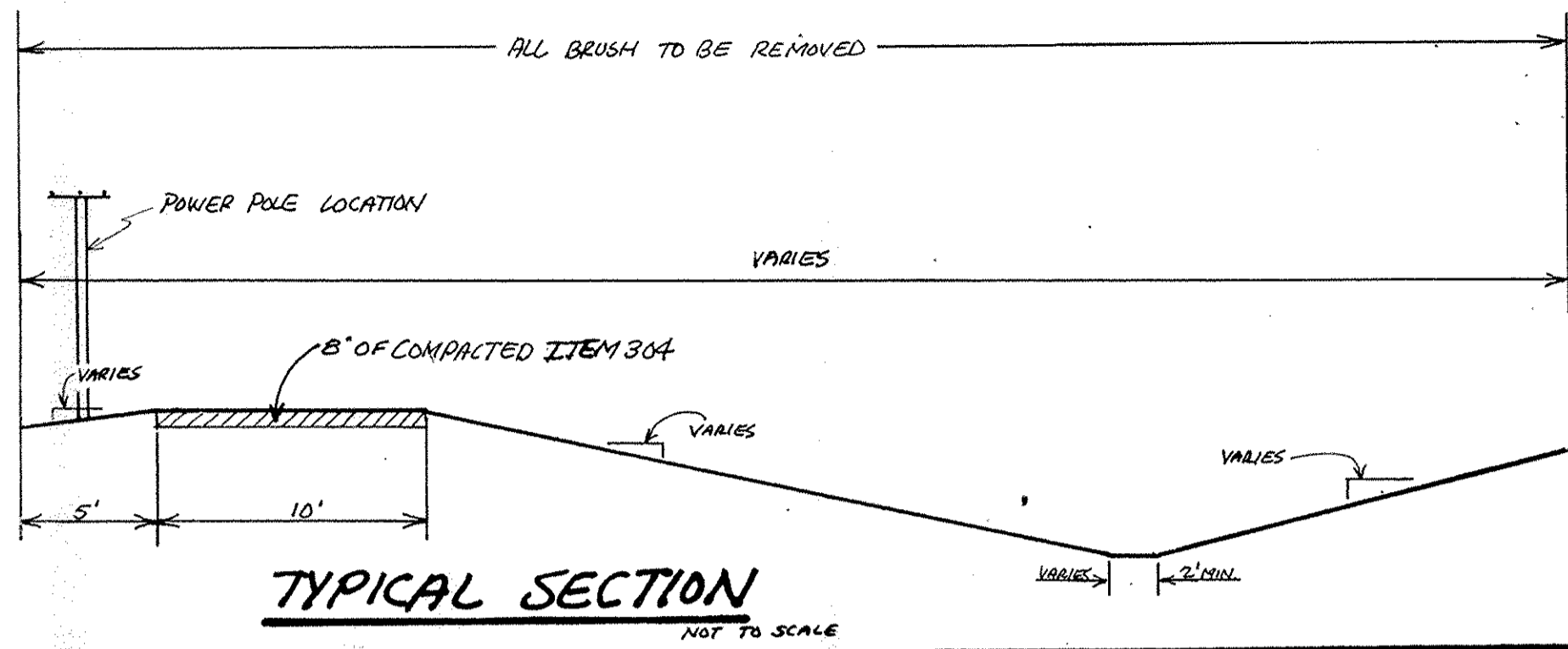


AREA		VOLUME	
CUT	FILL	CUT	FILL
0.0	0.5		
		0.0	197.5
0.0	125.0		
		0.0	277.2
0.0	135.00		
		0.5	227.0
THIS SHEET TOTAL =		0.5	701.7
SHEET #6 TOTALS =		84.3	460.1
SHEET #5 TOTALS =		545.8	1278.7
SHEET #4 TOTALS =		387.5	957.5
GRAND TOTAL =		1018.1	3398

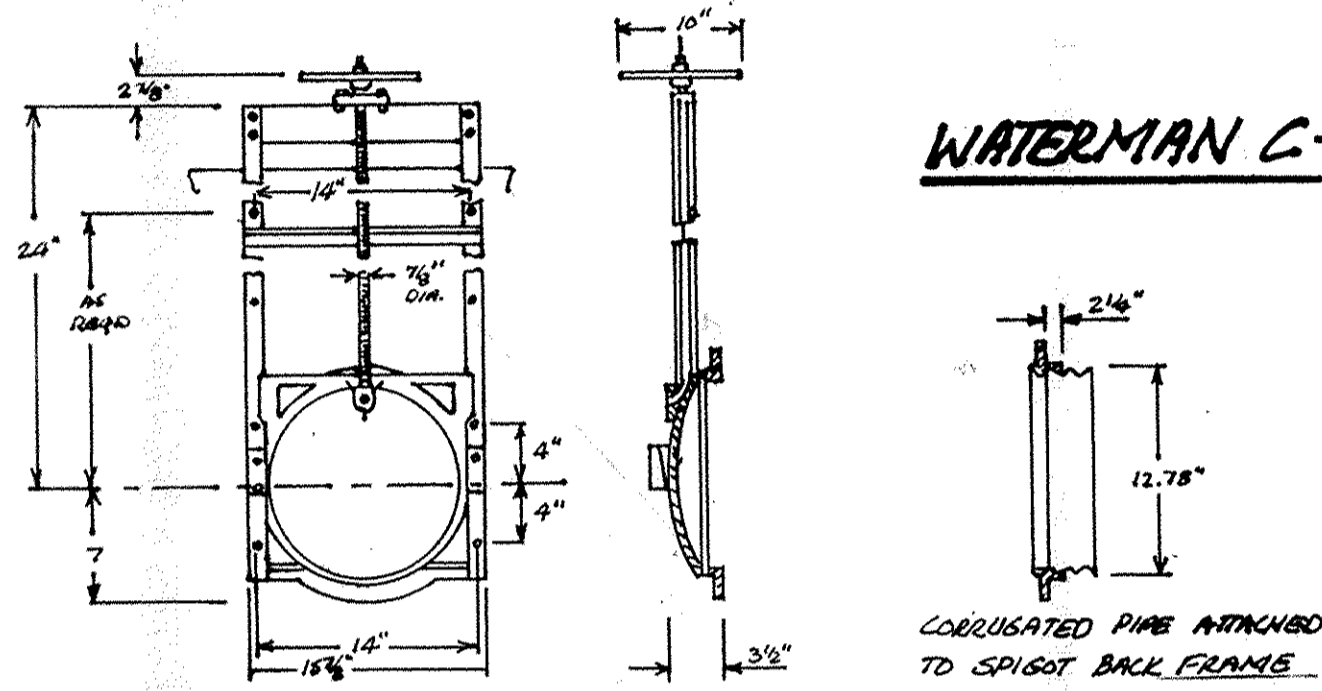
FILL NEED = 3398.0
 -1018.1
 2379.9 cu/yds

FINAL SURVEY BY DATE
 SURVEYED BY
 PLOTTED BY
 NOTE BOOK NO.
 AREAS CHECKED

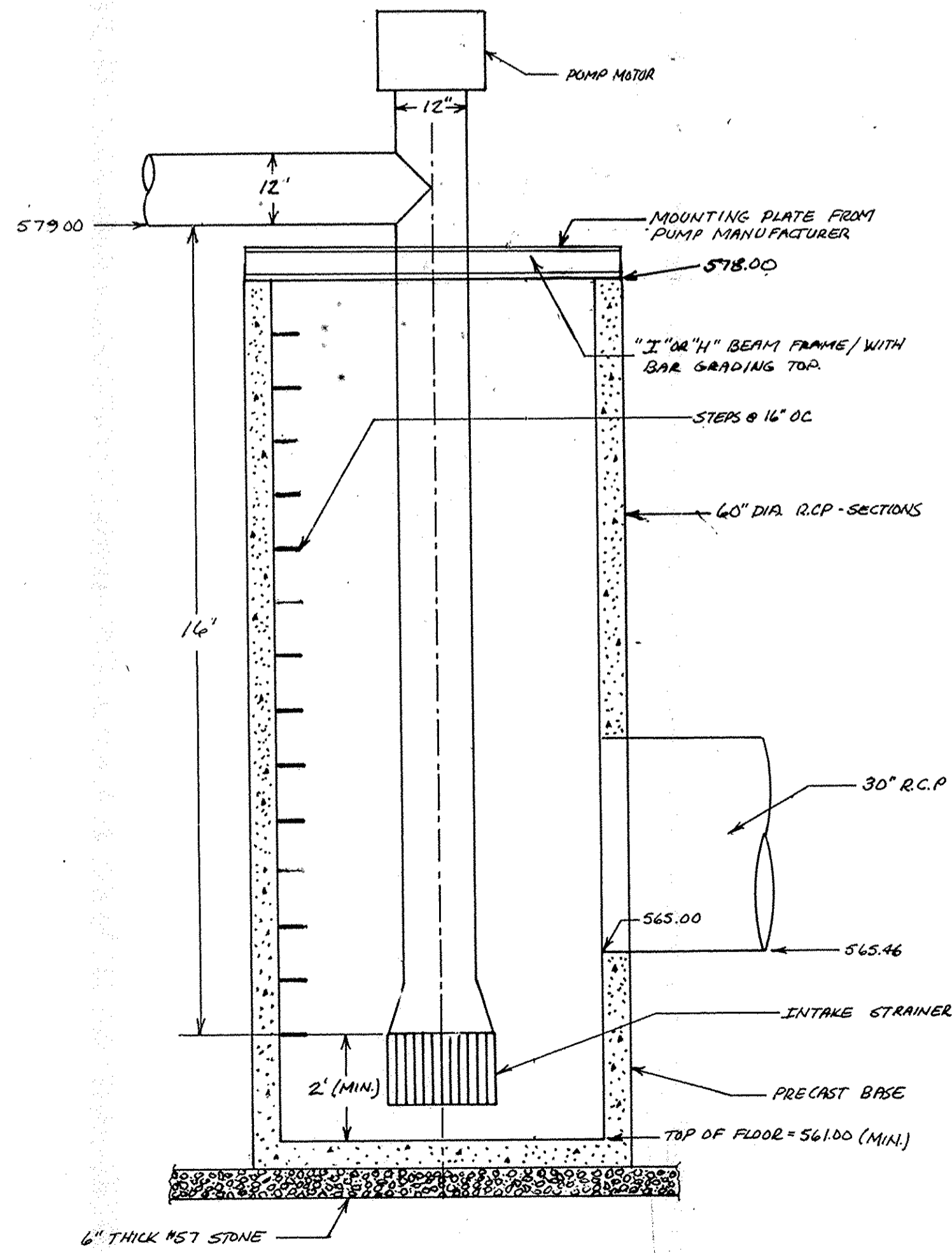
ORIGIN SURVEY BY DATE
 SURVEYED BY
 PLOTTED BY
 NOTE BOOK NO.
 AREAS CHECKED



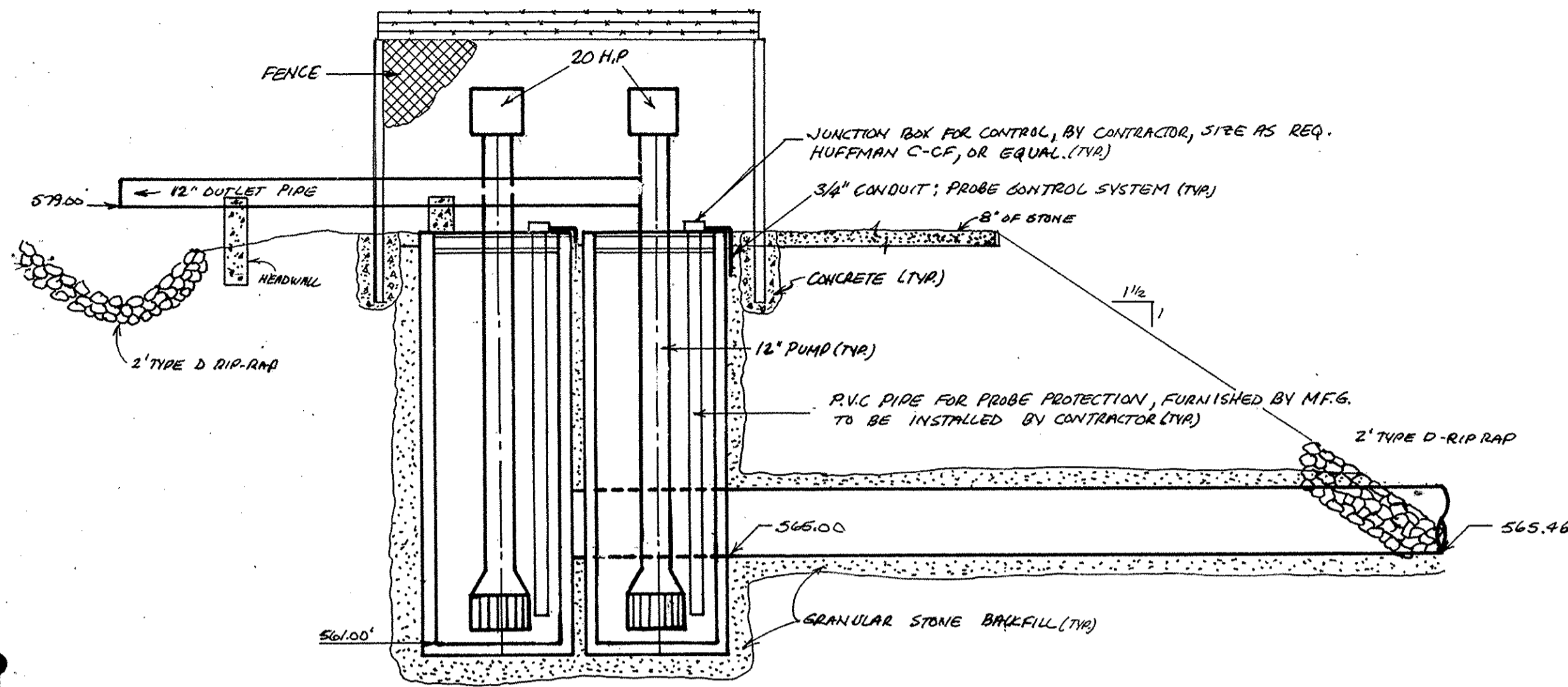
TYPICAL SECTION
NOT TO SCALE



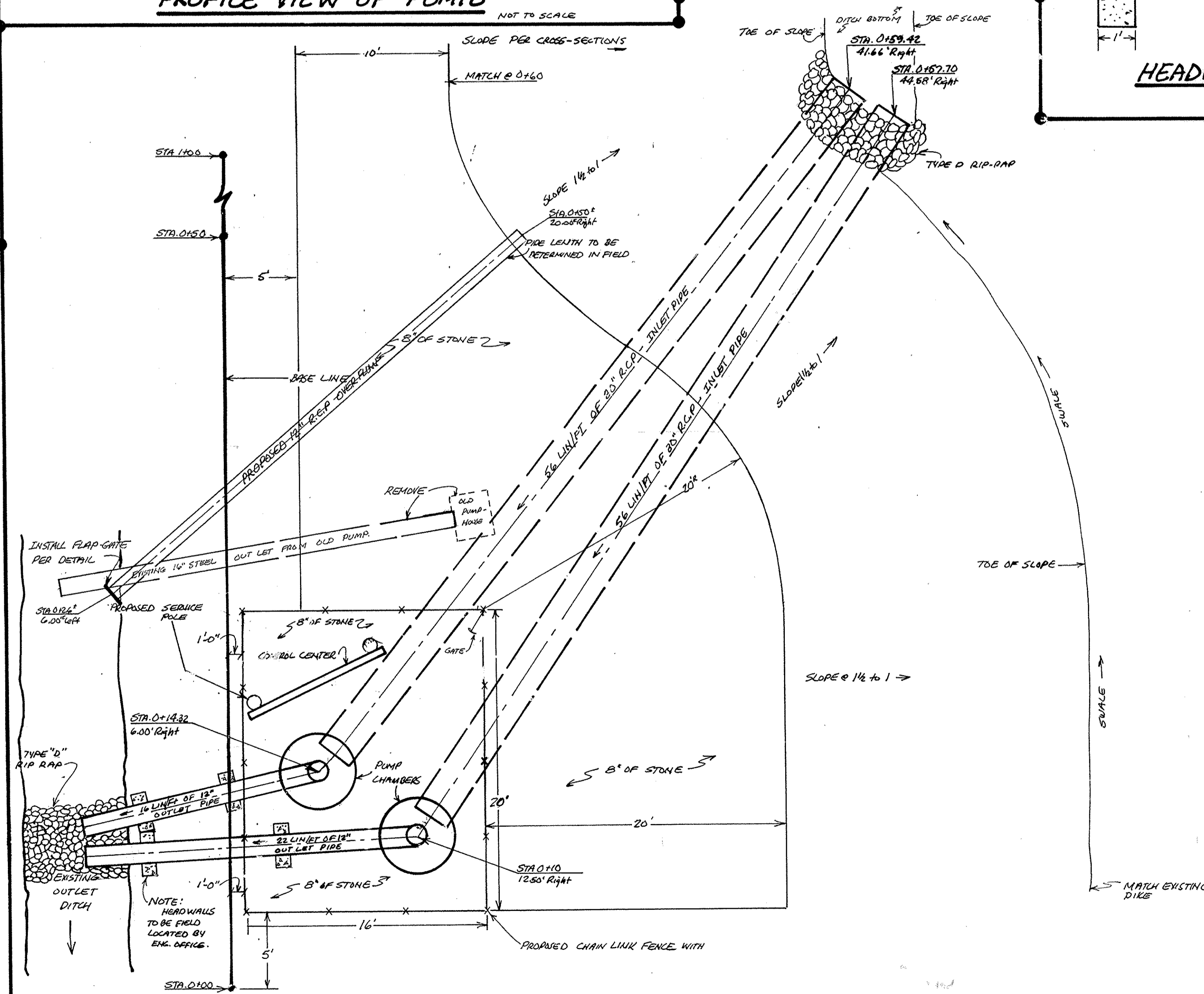
WATERMAN C-10 CANAL GATE DETAIL
NOT TO SCALE



PUMP CHAMBER DETAIL
NOT TO SCALE

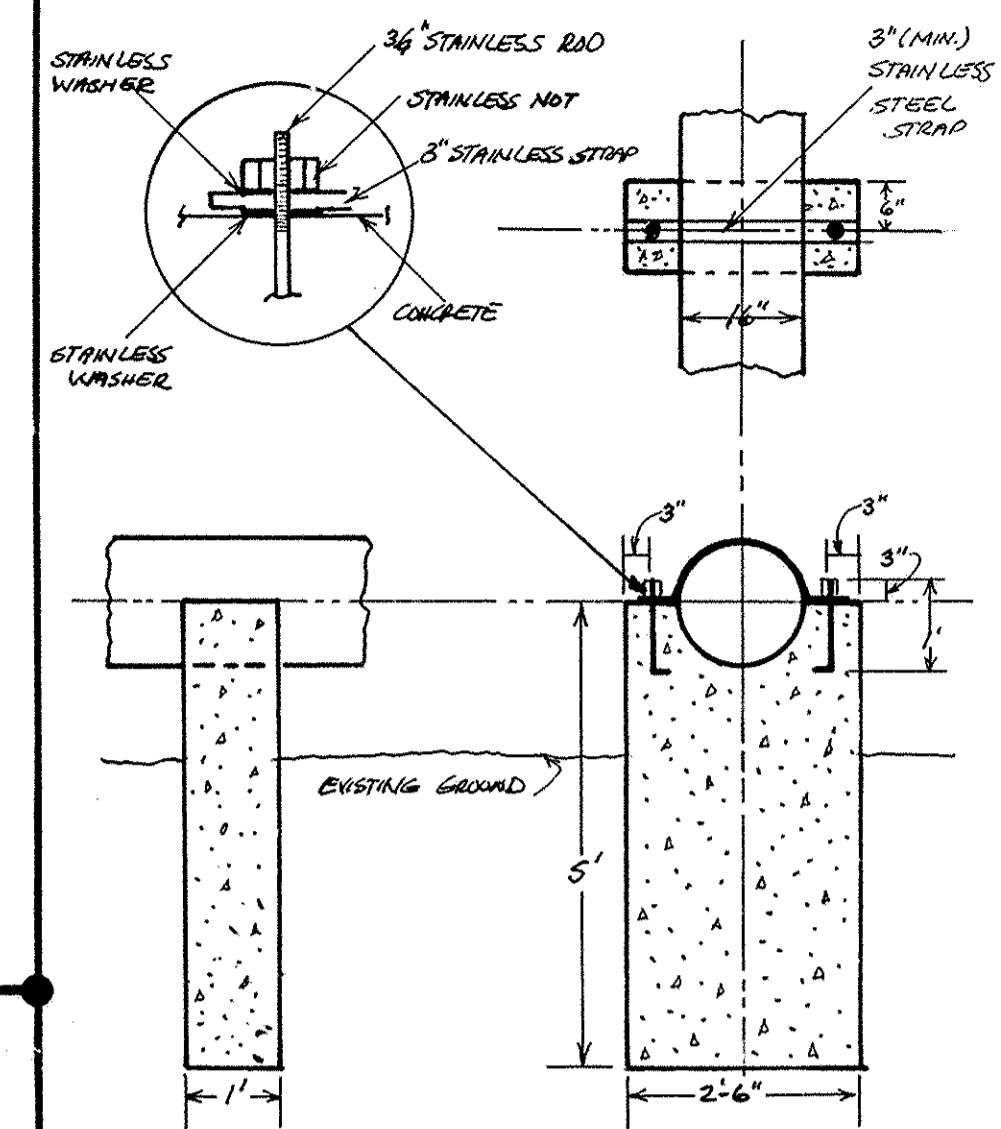


PROFILE VIEW OF PUMPS
NOT TO SCALE



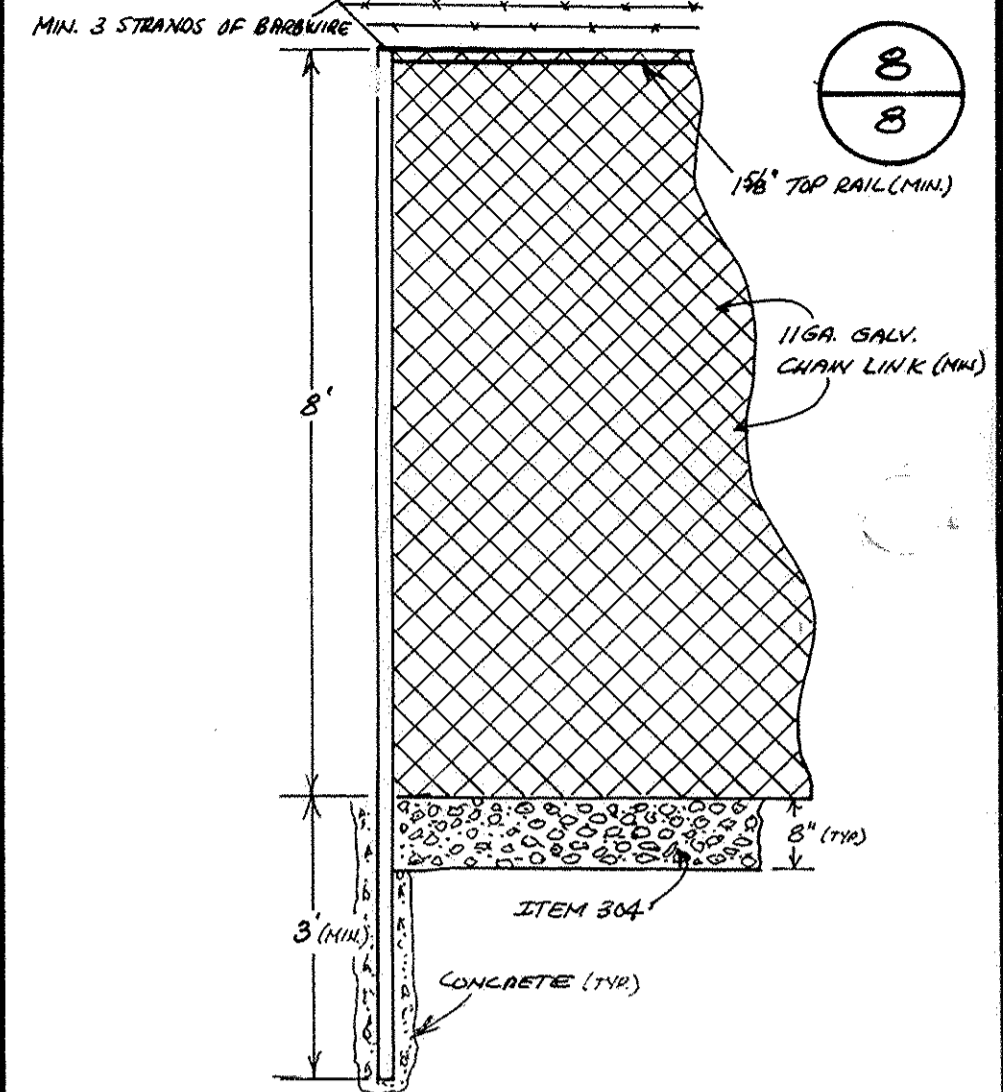
PUMP SITE PLAN DETAIL
SCALE: 1"=5'

NOTE: HEADWALLS TO BE FIELD LOCATED BY ENG. OFFICE.

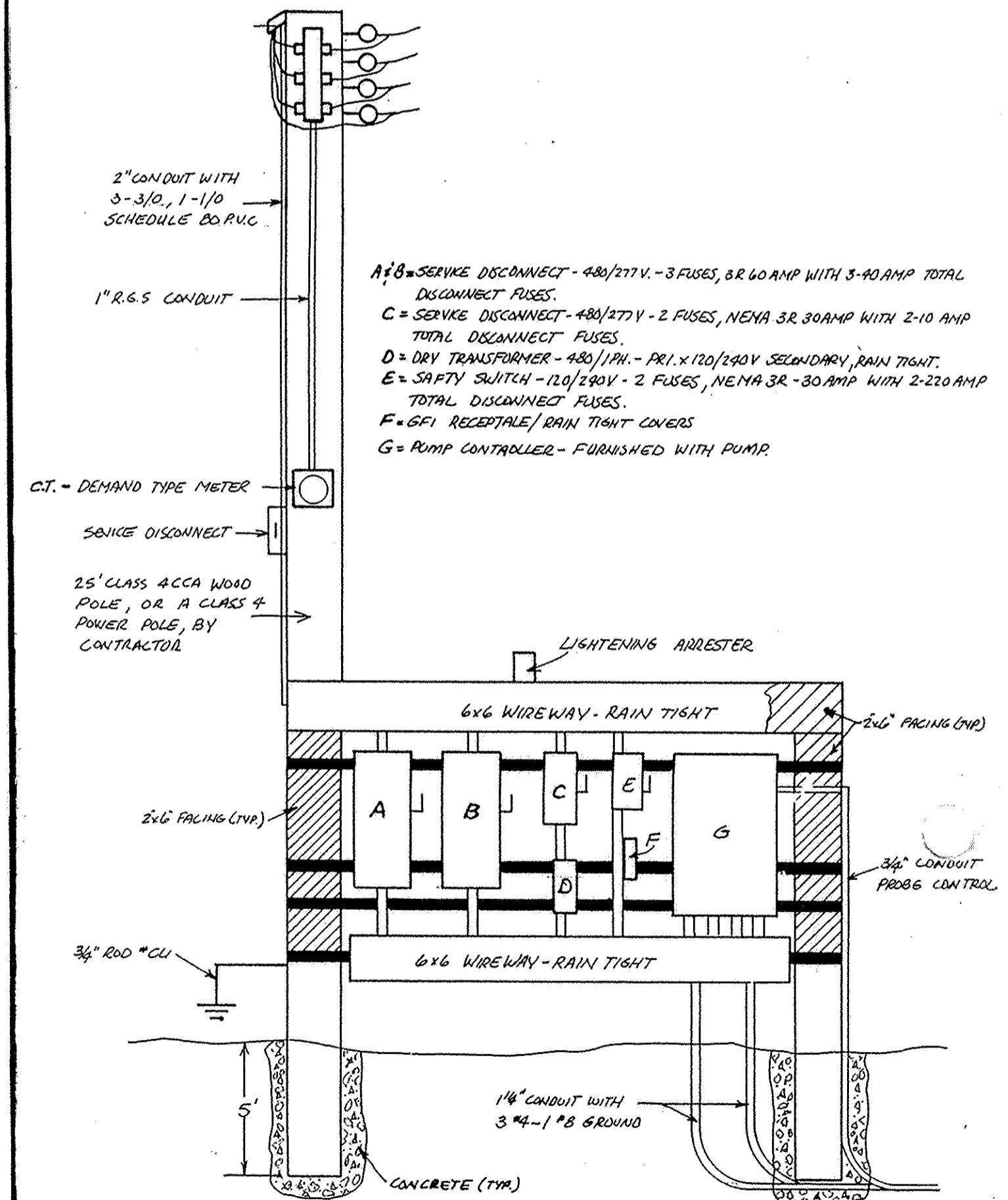


HEADWALL DETAIL
SCALE: 1"=2'

NOTE: FENCING TO INCLUDE @ 1. 3\"/>



FENCE DETAIL
NOT TO SCALE



CONTROL CENTER DETAIL
NOT TO SCALE

* NOTE: ALL ELECTRICAL PERMITS ARE TO BE OBTAINED BY CONTRACTOR.*