



Cardinal Plant
306 County Road 7E
Brilliant, OH 43913

June 8, 2017

**Ohio Environmental Protection Agency
2195 Front Street
Logan, OH 43138
Attn: Eric Hart**

Re: Lead Mapping

Dear Mr. Hart:

Following is the information you had requested for the composition of the drinking water lines.

The water service line material for each PWS at Cardinal is listed below.

Cardinal Operating Company 1 & 2 PWS O H4130912 the material for the well water lines is AEP piping specification P-1. The material for service lines is Type K copper tubing and seamless copper pipe. The pipe joints are soft solder with 95-5 tin-antimony soft solder.

Cardinal Operating Company 3, PWS O H4130812 the material for the well water lines is cast iron. The material for service lines are 3 inch or larger pipe is cast iron and 2.5 inch or below is Type K copper tubing conform to AWWA C-600.

Drawings referenced are 4110, 4212, and 4198. The drawings are attached to the email along with this letter.

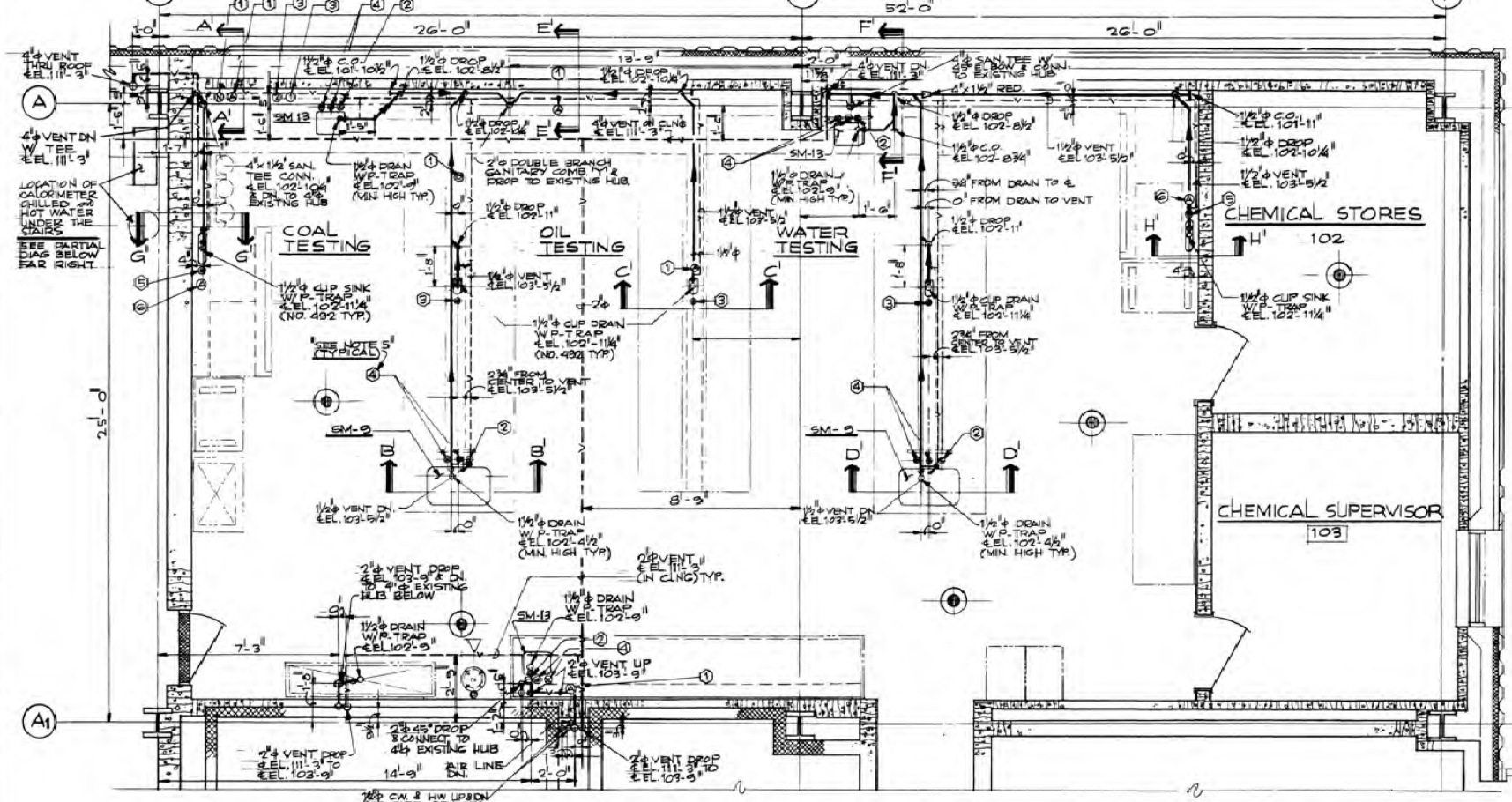
Sincerely,

Melissa Myers
Senior Plant Chemist

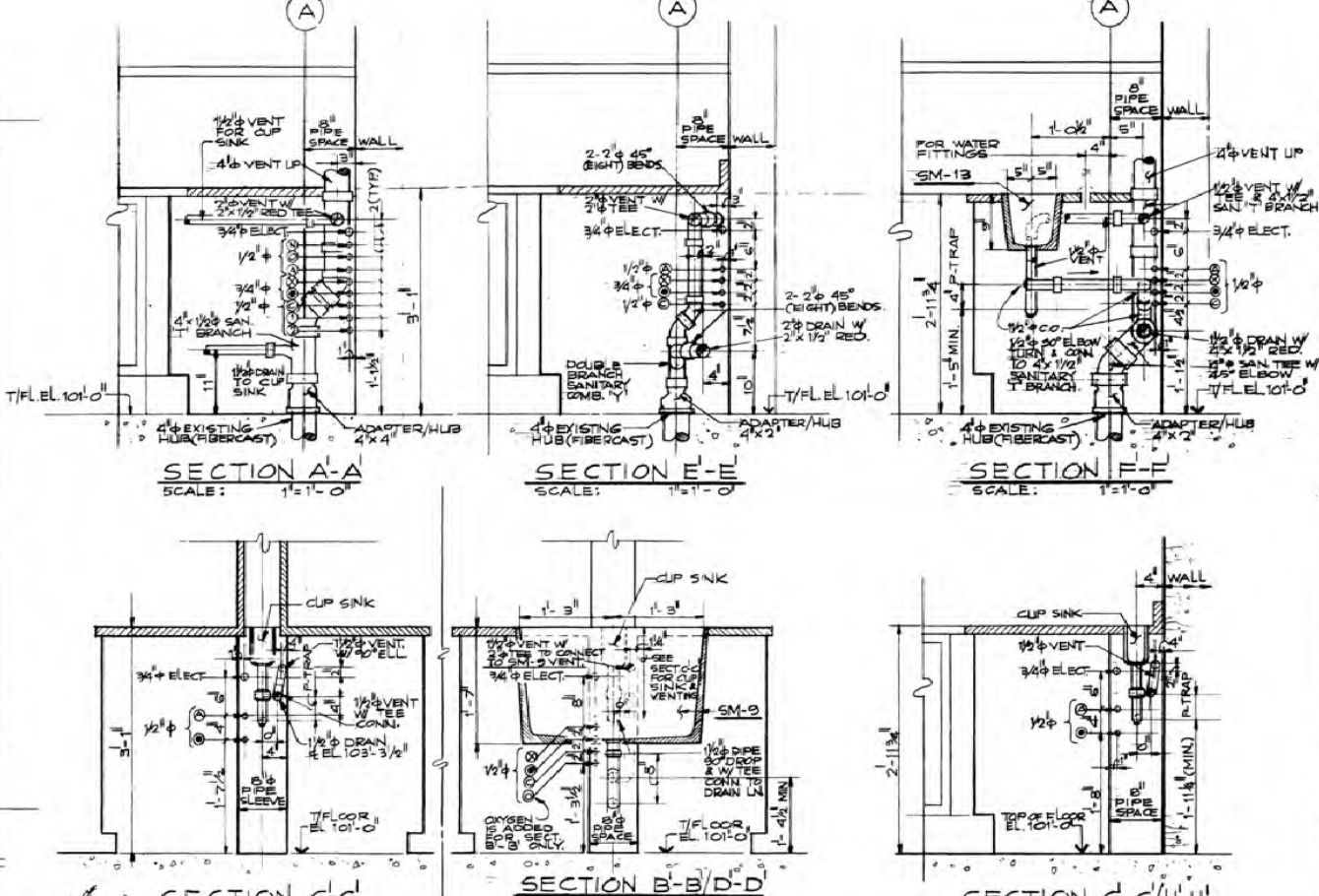
"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of a fine and imprisonment for knowing violations."

Enclosure(s)

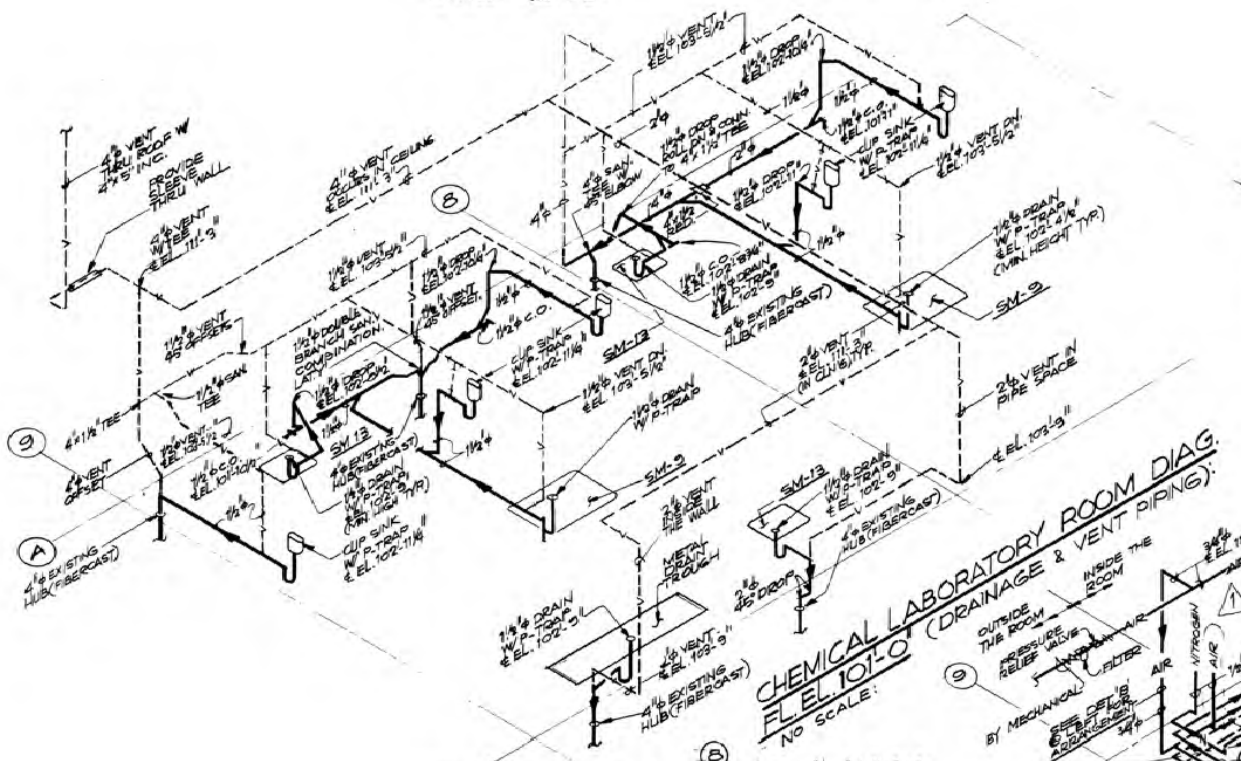
C: File
Chuck George – Plant Manager



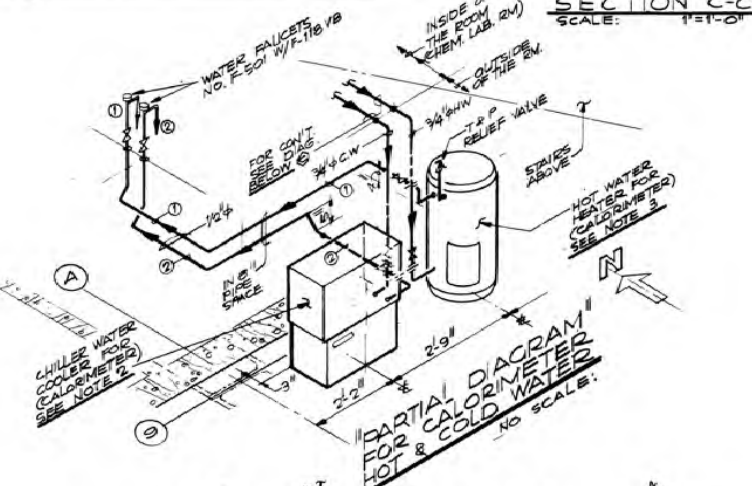
CHEMICAL LABORATORY ROOM PLAN
 FL. EL. 101'-0" (DRAINAGE & VENT PIPING)
 SCALE: 3/8"=1'-0"



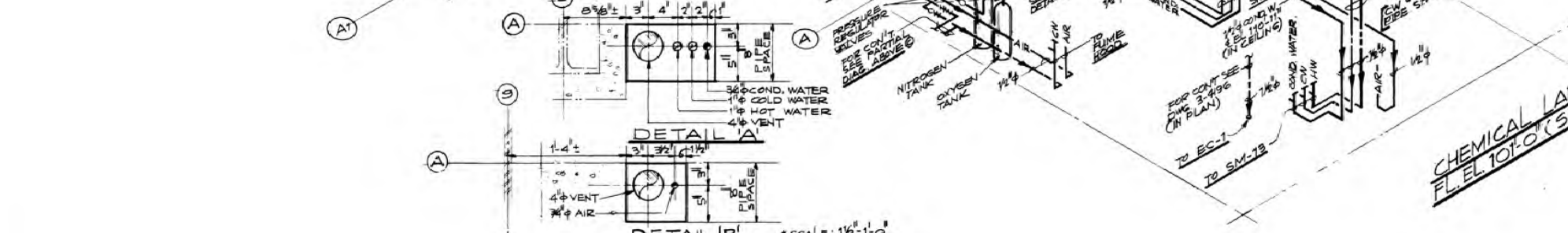
SECTION A-A SCALE: 1"=1'-0"
SECTION E-E SCALE: 1"=1'-0"
SECTION F-F SCALE: 1"=1'-0"
SECTION C-C SCALE: 1"=1'-0"
SECTION B-B/D-D SCALE: 1"=1'-0"
SECTION G-G/H-H SCALE: 1"=1'-0"



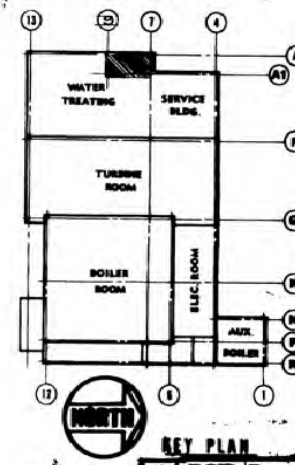
CHEMICAL LABORATORY ROOM DIAG.
 FL. EL. 101'-0" (DRAINAGE & VENT PIPING)
 NO SCALE



PARTIAL DIAGRAM
 FOR CALORIMETER
 HOT & COLD WATER
 NO SCALE



DETAIL A'
 3/8" COND. WATER
 1" COLD WATER
 1" HOT WATER
 4" VENT
 SCALE: 1/2"=1'-0"



KEY PLAN

NOTES

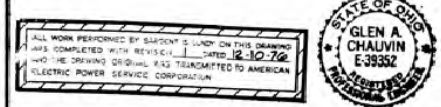
- ALL PLUMBING WORK SHOWN ON THIS DWG. SHALL BE IN STRICT ACCORDANCE W/ S & L STANDARD SPECIFICATION 174G.
- CHILLED WATER COOLER FOR CALORIMETER (HALSEY TAYLOR) - RP. 18 A; CAP. 18 GPM; 120 V; 1 1/2 HP; 60 HZ; 1 1/2" SIZE; 28 3/8" x 23 3/8" x 11 3/4" DEEP W/ 3/8" PIPE CONNECTION.
- HOT WATER HEATER FOR CALORIMETER (LOCHINVAR) JUNIOR ELECT. WATER HEATER MODEL R-12 G; CAP. 12 GAL; 120 VOLTS - 1500 WATTS; 13 AMPS; 60 HZ; 1 1/2" SIZE; 14" DIA. x 28 3/8" HIGH; 3/4" PIPE CONN. W/ TEMP. & PRESS. RELIEF VALVE SIMILAR TO WATTS NO. 10 L.
- ALL PLUMBING FITTINGS & PIPING SHOWN ON THIS DWG. SHALL BE AS FOLLOWS:
 (1) ALL DRAIN & VENT PIPING SHALL BE DURIRON.
 (2) ALL WATER PIPING SHALL BE COPPER.
 (3) ALL AIR PIPING SHALL BE BLACK IRON.
 (4) ALL GAS PIPING & NITROGEN SHALL BE COPPER PIPE (HARD TEMPERED).
 (5) THE FOLLOWING FITTINGS & EQUIPMENT ARE FROM THE METCO SPECIFIC EQUIPMENT CATALOG:
 (6) CUP SINK - 9" x 3" OVAL METCON W/ M-176
 (7) SM-2: 30" x 18" METCON SINK W/ M-176
 (8) SM-13: METCON STEAMER.
 (9) FUSEAL TRAP NO 7225 F.
 (10) NA F-112; (11) NO F-501; (12) NO F-501 W/ F-718VB
 (13) NA F-401 W/ F-718VB; (14) NA F-401 W/ F-718VB; (15) NA F-401 W/ F-718VB

LEGEND

- HOT WATER (H.W.)
- COLD WATER (C.W.)
- CONDENSATE WATER
- AIR
- OXYGEN
- NITROGEN
- CALORIMETER WATER-HEATED
- CALORIMETER WATER-CHILLED
- CUP SINK W/ DRAIN
- DRAIN LINE
- COLD WATER LN.
- HOT WATER LN.
- VENT LINE.

REFERENCE DRAWINGS

- 3-3290 WATER TREATING AREA FRAMING PLAN MEZZANINE FLOOR EL. 114'-4"
- 3-4022 SERVICE BLDG. GROUND FLOOR PLAN SW AREA
- 3-4045 SERVICE BLDG. REFLECTED CEILING PLAN SW AREA
- 3-4045 CHEMICAL LABORATORY EQUIPMENT LAYOUT
- 3-4177 STATION DRAIN TURBINE ROOM GROUND FLOOR PLAN
- 3-480 STATION DRAINAGE TURBINE ROOM GROUND FLOOR DIAGRAM
- 3-4152 MAN HW & CW SUPPLY PLAN & DIAGRAM.



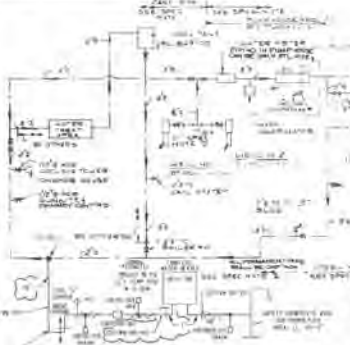
PLUMBING CHEMICAL LABORATORY PLAN, DIAG, SECTIONS & DETAILS
CARDINAL PLANT UNIT 3
BUCKEYE POWER, INC.
BRILLIANT, OHIO

AS SHOWN
 DRAWN BY: O. BATTAD
 CHECKED BY: R. PATTERSON
 ENGINEER: R. PATTERSON
 SARGENT & LUNDY
 CHICAGO
 DRAWING NO. 3-4712-1

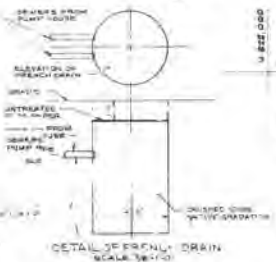


SYMBOLS

	PIPE WITH VALVE
	PIPE WITH ELBOW
	PIPE WITH TEE
	PIPE WITH CROSS
	PIPE WITH FLANGE
	PIPE WITH UNION
	PIPE WITH COUPLING
	PIPE WITH REDUCER
	PIPE WITH CAP
	PIPE WITH PLUG
	PIPE WITH BLANK END
	PIPE WITH OPEN END
	PIPE WITH BREAK
	PIPE WITH CHANGE OF SIZE
	PIPE WITH CHANGE OF MATERIAL
	PIPE WITH CHANGE OF DIRECTION
	PIPE WITH CHANGE OF ELEVATION
	PIPE WITH CHANGE OF SLOPE
	PIPE WITH CHANGE OF DIAMETER
	PIPE WITH CHANGE OF WALL THICKNESS
	PIPE WITH CHANGE OF SCHEDULE
	PIPE WITH CHANGE OF GRADE
	PIPE WITH CHANGE OF ALIGNMENT
	PIPE WITH CHANGE OF ELEVATION (VERTICAL CURVE)
	PIPE WITH CHANGE OF SLOPE (VERTICAL CURVE)
	PIPE WITH CHANGE OF DIAMETER (VERTICAL CURVE)
	PIPE WITH CHANGE OF WALL THICKNESS (VERTICAL CURVE)
	PIPE WITH CHANGE OF SCHEDULE (VERTICAL CURVE)
	PIPE WITH CHANGE OF GRADE (VERTICAL CURVE)
	PIPE WITH CHANGE OF ALIGNMENT (VERTICAL CURVE)
	PIPE WITH CHANGE OF ELEVATION (HORIZONTAL CURVE)
	PIPE WITH CHANGE OF SLOPE (HORIZONTAL CURVE)
	PIPE WITH CHANGE OF DIAMETER (HORIZONTAL CURVE)
	PIPE WITH CHANGE OF WALL THICKNESS (HORIZONTAL CURVE)
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	PIPE WITH CHANGE OF GRADE (HORIZONTAL CURVE)
	PIPE WITH CHANGE OF ALIGNMENT (HORIZONTAL CURVE)
	PIPE WITH CHANGE OF ELEVATION (SPIRAL CURVE)
	PIPE WITH CHANGE OF SLOPE (SPIRAL CURVE)
	PIPE WITH CHANGE OF DIAMETER (SPIRAL CURVE)
	PIPE WITH CHANGE OF WALL THICKNESS (SPIRAL CURVE)
	PIPE WITH CHANGE OF SCHEDULE (SPIRAL CURVE)
	PIPE WITH CHANGE OF GRADE (SPIRAL CURVE)
	PIPE WITH CHANGE OF ALIGNMENT (SPIRAL CURVE)



POTABLE WATER DIAGRAM
 SCALE: AS SHOWN
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**SPECIFICATION
 FIRE PROTECTION SYSTEM
 RELOCATION
 REMOVAL OF EXISTING PIPING**

		PLUMBING UNDERGROUND PIPING SOUTH AREA CARDINAL PLANT UNIT A OHIO	
DATE: 11-27-52 DRAWN BY: [Name] CHECKED BY: [Name]	SCALE: AS SHOWN SHEET NO. 3-4198-11	PROJECT NO. [Number]	DRAWING NO. 3-4198-11