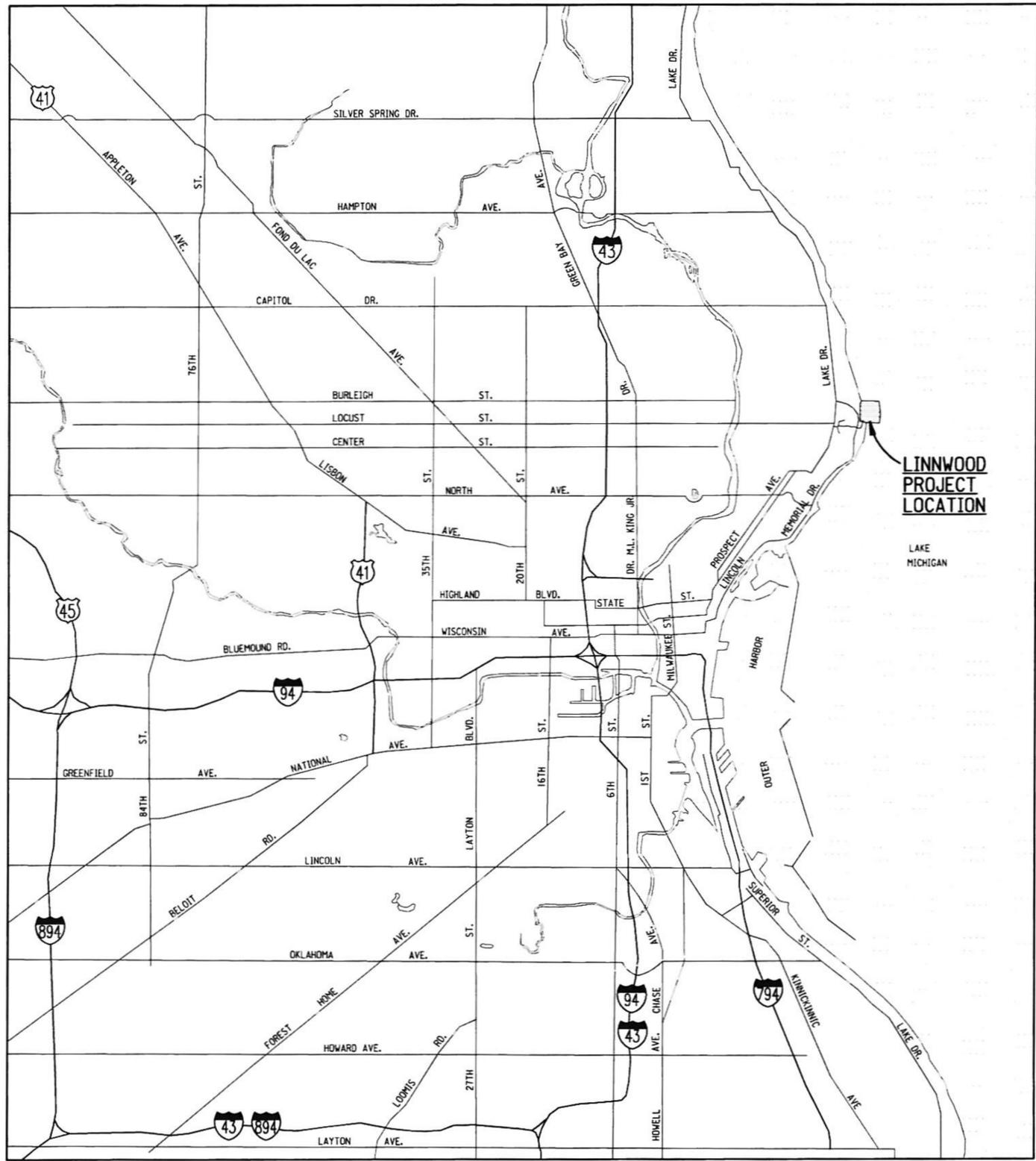


Doc: 09.2010 - 11:57pm - Peter Plewa  
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MILWAUKEE, WISCONSIN  
 LOCATION MAP

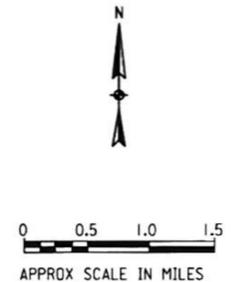
# Milwaukee Water Works

## LINNWOOD PURIFICATION PLANT

### WP-306: OZONE COOLING WATER BOOSTER PUMP SYSTEM REPLACEMENT

#### DRAWING INDEX

DRAWING NO.	TITLE
WP-306-01	TITLE SHEET AND DRAWING INDEX
WP-306-02	PROCESS AND INSTRUMENTATION DIAGRAM
WP-306-03	REMOVAL/DEMOLITION - PLAN AND DETAILS
WP-306-04	MECHANICAL - PLAN AND DETAILS
WP-306-05	MECHANICAL - OZONE OPERATIONS BUILDING - PARTIAL PLAN
WP-306-06	ELECTRICAL - PLAN



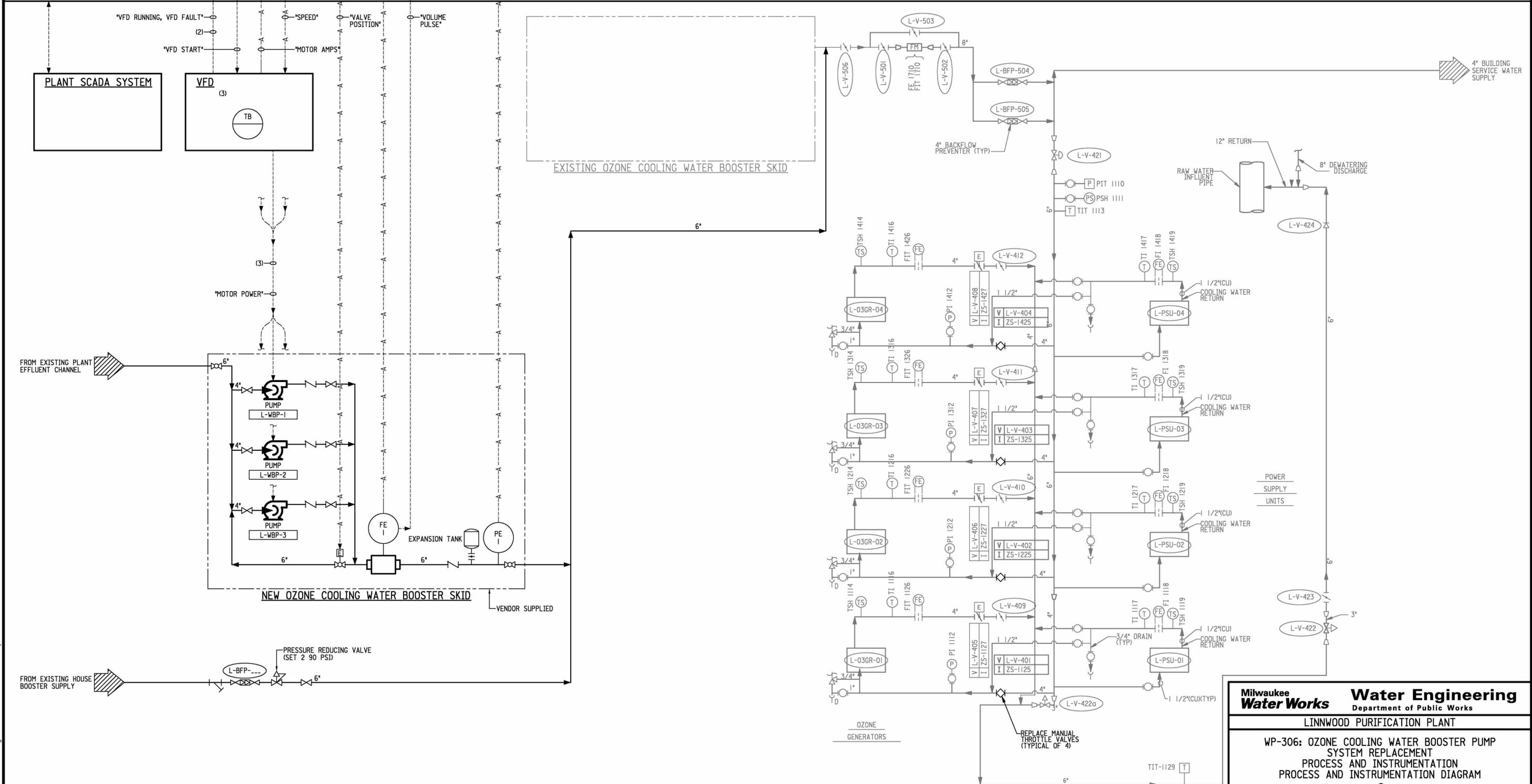
<b>Milwaukee Water Works</b>		<b>Water Engineering</b>	
Department of Public Works		Department of Public Works	
LINNWOOD PURIFICATION PLANT			
WP-306: OZONE COOLING WATER BOOSTER PUMP SYSTEM REPLACEMENT			
TITLE SHEET AND DRAWING INDEX			
DESIGNED BY	K.THOMAS	APPROVED	DATE
DRAWN BY	P.PLEWA	<i>Patrick W. Carnahan</i>	12/23/2011
CHECKED BY	P.CARNAHAN	<i>Patrick W. Carnahan</i>	12/23/2011
DATE	DECEMBER 2010	<i>Patrick W. Carnahan</i>	12/25/2011
SCALE	NONE	<i>Patrick W. Carnahan</i>	12/25/2011
WORK ORDER	WT450082200	SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS	
OFFICIAL NOTICE			
FILE NO.	WP-306	DRAWING NO. WP-306-01	


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NO.	BY	REVISION	DATE

**MCP**  
(OZONE COOLING WATER BOOSTER PUMP SYSTEM MAIN CONTROL PANEL)

**PLC**



COOLING WATER PRESSURE REDUCING AND RELIEF VALVES				
VALVE NO.	L-V-421	L-V-422	L-V-422a	
MAX INLET PRESSURE, PSIG	30	90	60	
MIN INLET PRESSURE, PSIG	70	50	40	
OUTLET PRESSURE SETTING, PSIG	50	-	-	
RELIEF PRESSURE SETTING, PSIG	-	50	55	
MAX FLOW, GPM	470	470	470	
NORMAL FLOW, GPM	160	160	160	
MIN FLOW, GPM	25	0	0	

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**Milwaukee Water Works** Water Engineering  
Department of Public Works

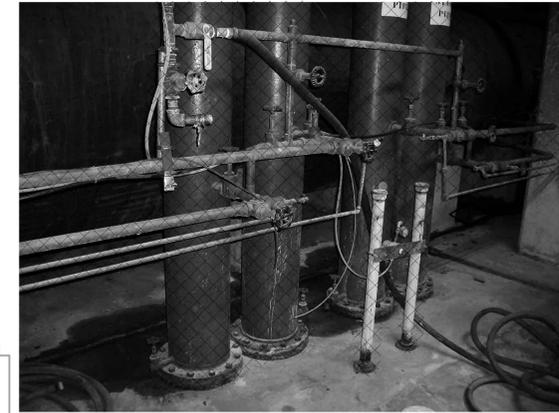
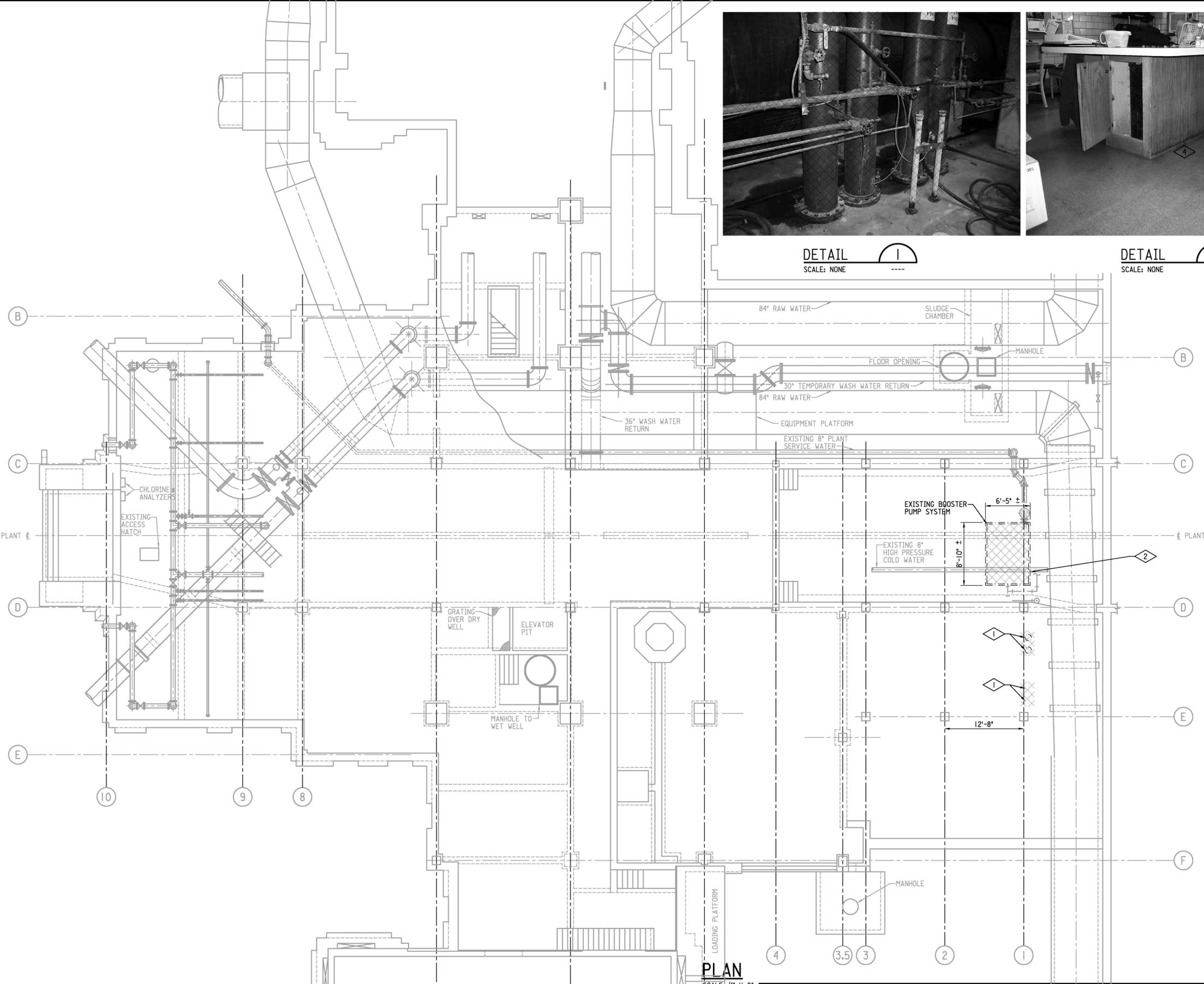
**LINNWOOD PURIFICATION PLANT**

**WP-306: OZONE COOLING WATER BOOSTER PUMP SYSTEM REPLACEMENT PROCESS AND INSTRUMENTATION DIAGRAM**

DESIGNED BY	K.THOMAS	DATE	1/25/2011
DRAWN BY	P.PLEWA	PROJECT ENGINEER	
CHECKED BY	P.CARNAHAN	DATE	1/25/2011
SCALE	NONE	DATE	1/25/11
WORK ORDER	WT450082200	SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS	
OFFICIAL NOTICE		DRAWING NO.	WP-306-02

Dec 09, 2010 - 2:40 pm Peter.Plewa  
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Dec 09, 2010 - 2:06pm Peter.Plew  
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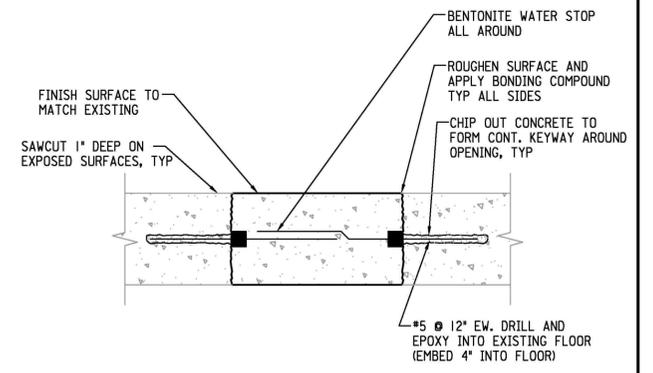


**DETAIL 1**  
SCALE: NONE



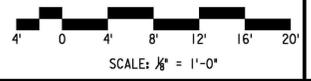
**DETAIL 2**  
SCALE: NONE

- GENERAL NOTES:**
- ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE SPECIFICATIONS, UNLESS OTHERWISE NOTED.
  - INFORMATION REGARDING EXISTING CONDITIONS HAS BEEN OBTAINED FROM EXISTING CONDITIONS. DIMENSIONS AND ELEVATIONS SHOWN ON THESE DRAWINGS, THEREFORE, SHOULD BE CONSIDERED APPROXIMATE ONLY. INFORMATION DESIGNATED THUS (±) ON THE DRAWINGS MUST BE FIELD VERIFIED BY THE CONTRACTOR.
  - COORDINATION OF REMOVAL AND INSTALLATION OF EQUIPMENT AND CONTROLS SHALL BE REQUIRED TO MINIMIZE DISRUPTIONS TO SYSTEM OPERATION. VERIFY CORRECT SEQUENCING OF REMOVAL AND INSTALLATION.
- KEYED NOTES:**
- DRAIN, DISCONNECT, AND REMOVE EXISTING RAW WATER STANDPIPES. FOR FLOOR OPENING FILL, SEE DETAIL 3
  - REMOVE EXISTING BOOSTER PUMP SKID AND ASSOCIATED PAD, PIPING, ELECTRICAL AND CONTROL WIRING AFTER INSTALLATION OF HOUSE WATER CONNECTION. SUCTION HEADER TO BE REPLACED WITH NEW PIPE FOR USE WITH EXISTING EQUIPMENT AND NEW BOOSTER PUMP SKID. SEE SPECIFICATION 01011 FOR COMPLETE SEQUENCING DETAILS.
  - REMOVE CONNECTING PIPES TO SOURCE. CAP OR BLIND FLANGE AT SOURCE CONNECTION. COORDINATE FINAL LOCATIONS WITH PLANT STUFF.
  - CABINET AND COUNTERTOP ABOVE STAND PIPES TO BE REMOVED BY OTHERS. FLOOR AT THIS LEVEL TO BE FILLED PER DETAIL 3



**FLOOR OPENING FILL**  
**DETAIL 3**  
SCALE: NONE

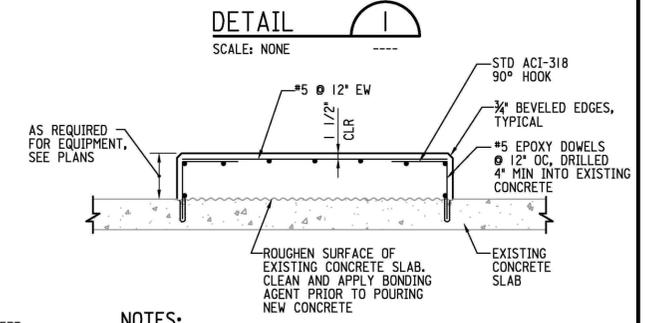
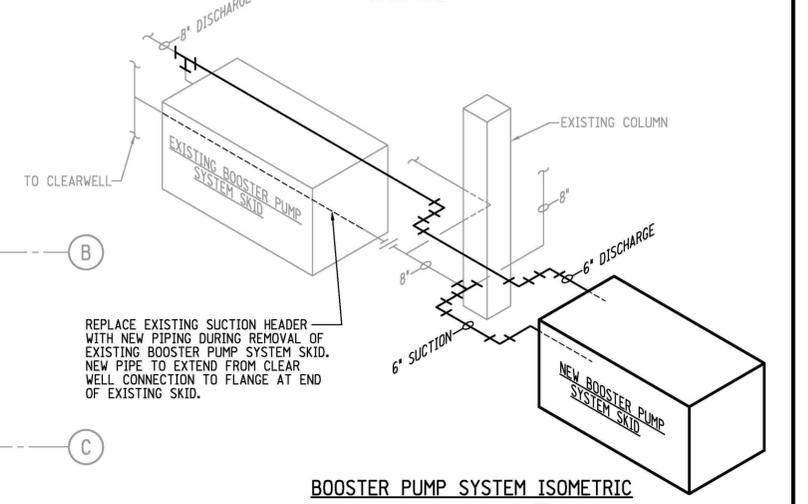
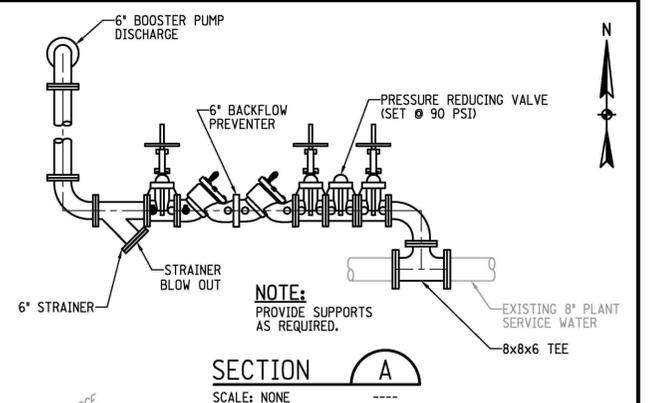
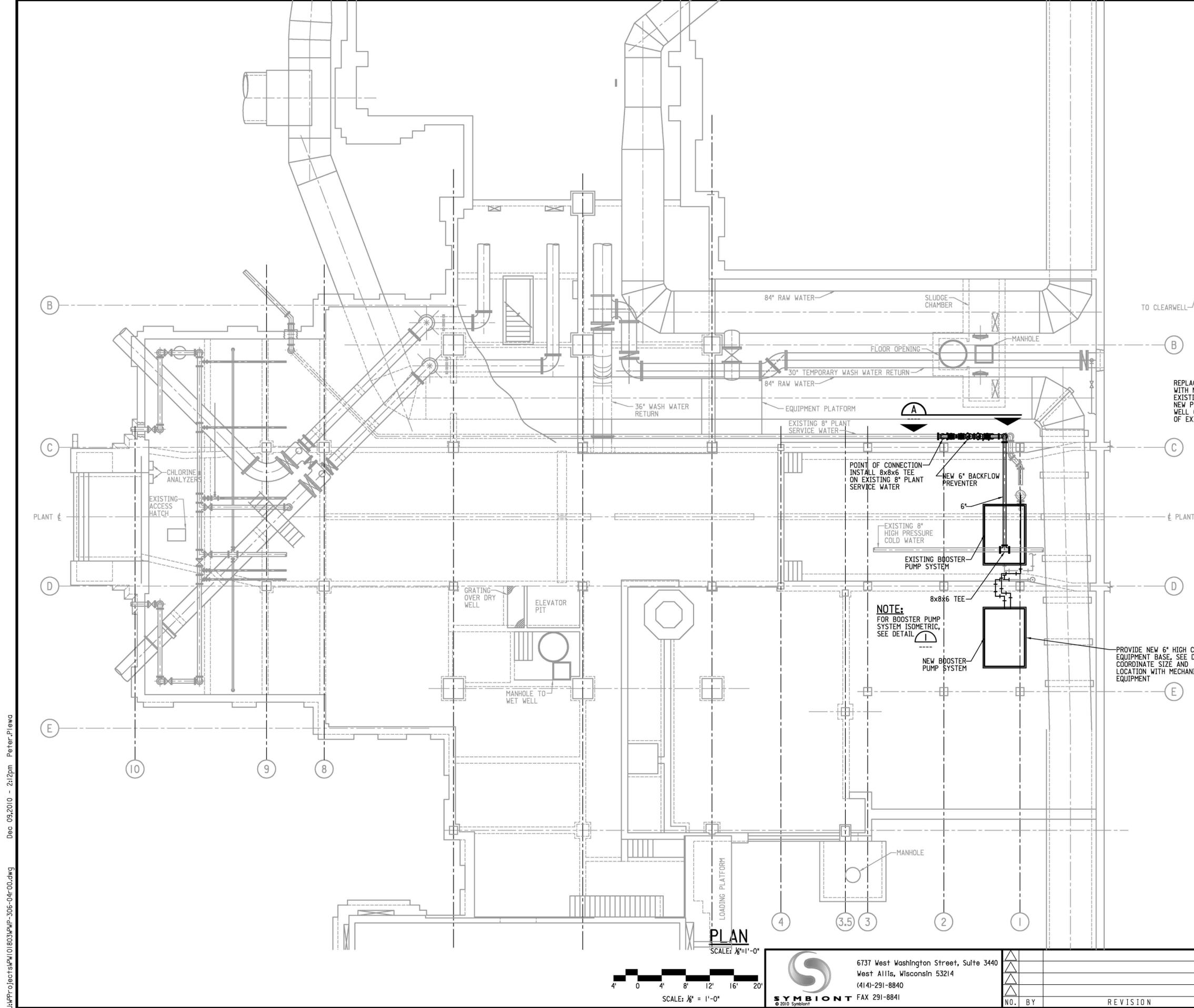
**PLAN**  
SCALE: 1/8" = 1'-0"



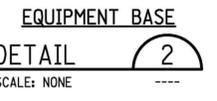
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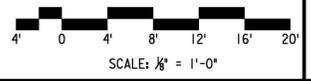
<b>Milwaukee Water Works</b> Department of Public Works		<b>Water Engineering</b> Department of Public Works	
<b>LINWOOD PURIFICATION PLANT</b>			
<b>WP-306: OZONE COOLING WATER BOOSTER PUMP SYSTEM REPLACEMENT REMOVAL/DEMOLITION PLAN AND DETAILS</b>			
DESIGNED BY	K.THOMAS	APPROVED	DATE
DRAWN BY	P.PLEWA	<i>Peter Plewa</i>	1/25/2011
CHECKED BY	P.CARNAHAN	<i>Paul Carnahan</i>	1/25/2011
DATE	DECEMBER 2010	<i>Chris G. ...</i>	1/25/2011
SCALE	AS SHOWN	<i>Chris G. ...</i>	1/25/2011
WORK ORDER	WT450082200	SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS	
OFFICIAL NOTICE		DRAWING NO. WP-306-03	
FILE NO.	WP-306		



- NOTES:**
1. CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4000 PSI
  2. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60
  3. BONDING AGENT-TYPE AS RECOMMENDED FOR THIS APPLICATION, AS MANUFACTURED BY W.R. GRACE CO., SIKKA CHEMICAL CORPORATION, OR EQUAL.
  4. EPOXY DOWELING SYSTEM SHALL BE FOIL-FAST EPOXY INJECTION SYSTEM BY RAWL ANCHOR-IT FASTENING SYSTEMS BY ADHESIVES TECHNOLOGY CORP., OR EQUAL. GLASS CAPSULE EPOXY ANCHORING SYSTEMS ARE NOT ACCEPTABLE.
  5. EQUIPMENT BASE SHALL BE INSTALLED LEVEL.



**PLAN**  
SCALE: 1/8" = 1'-0"



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Department of Public Works

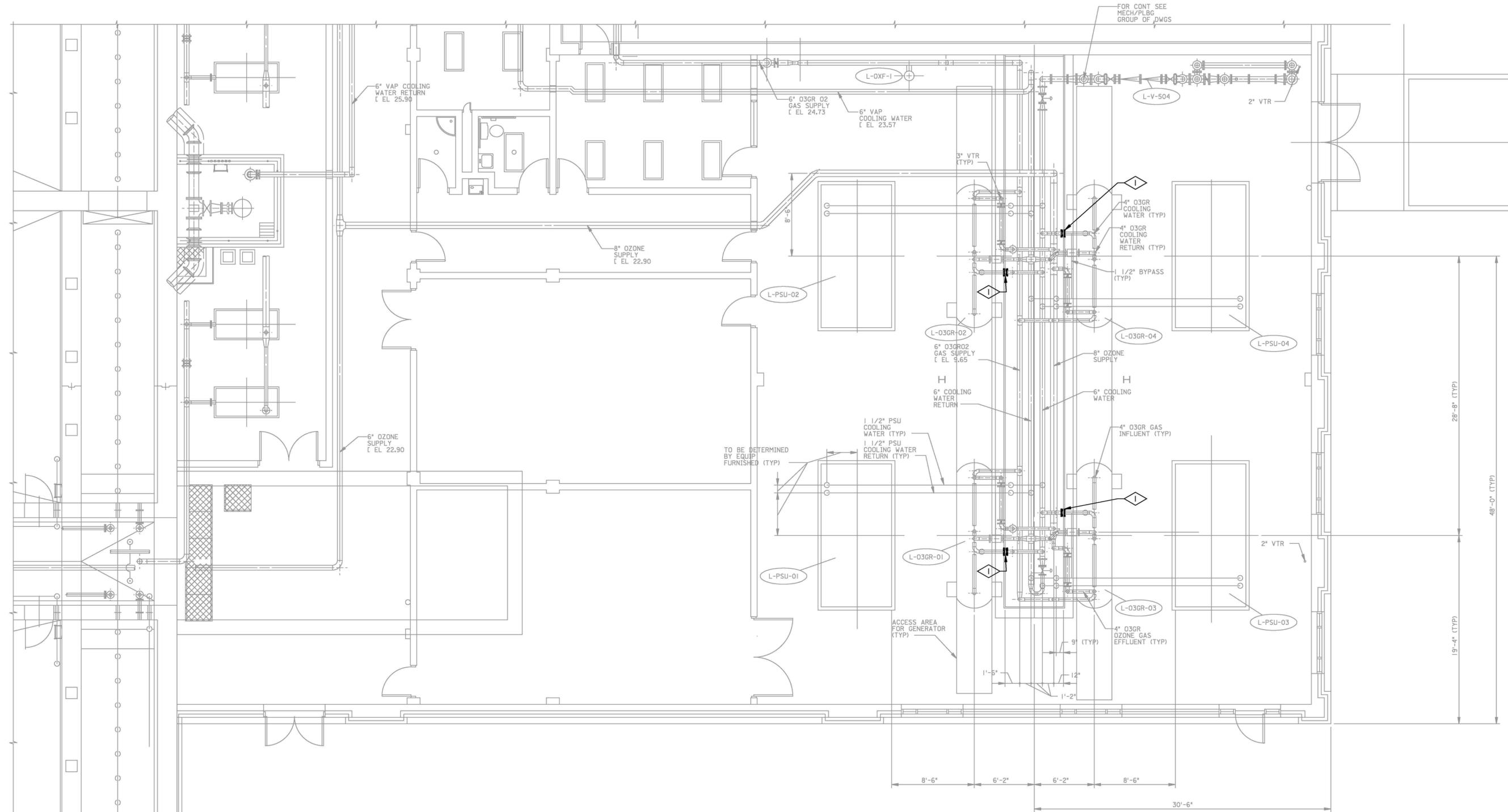
**LINWOOD PURIFICATION PLANT**

**WP-306: OZONE COOLING WATER BOOSTER PUMP SYSTEM REPLACEMENT MECHANICAL PLAN AND DETAILS**

DESIGNED BY	K.THOMAS	APPROVED	<i>[Signature]</i>	DATE	12/25/2011
DRAWN BY	P.PLEWA	PLANT'S PROJECT ENGINEER			
CHECKED BY	P.CARNAHAN				
DATE	DECEMBER 2010	CHIEF DESIGN ENGINEER	<i>[Signature]</i>	DATE	1/25/11
SCALE	AS SHOWN				
WORK ORDER	WT450082200	SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS	<i>[Signature]</i>		
OFFICIAL NOTICE					

DRAWING NO. WP-306-04

Dec 09, 2010 - 2:12pm Peter.Plewa  
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NOTES:  
 1. NOT ALL VALVING & EQUIPMENT IS SHOWN. REFER TO THE SCHEMATIC DRAWINGS.

**OPERATING FLOOR PARTIAL PLAN**  
 3/16" = 1'-0"

**GENERAL NOTES:**

1. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE SPECIFICATIONS, UNLESS OTHERWISE NOTED.
2. INFORMATION REGARDING EXISTING CONDITIONS HAS BEEN OBTAINED FROM EXISTING CONDITIONS. DIMENSIONS AND ELEVATIONS SHOWN ON THESE DRAWINGS, THEREFORE, SHOULD BE CONSIDERED APPROXIMATE ONLY. INFORMATION DESIGNATED THUS (±) ON THE DRAWINGS MUST BE FIELD VERIFIED BY THE CONTRACTOR.

**KEYED NOTES:**

- ◊ REPLACE EXISTING 4" BUTTERFLY VALVE WITH 4" BALANCING PLUG VALVE.

FOR CONT SEE MECH/PLBG GROUP OF DWGS

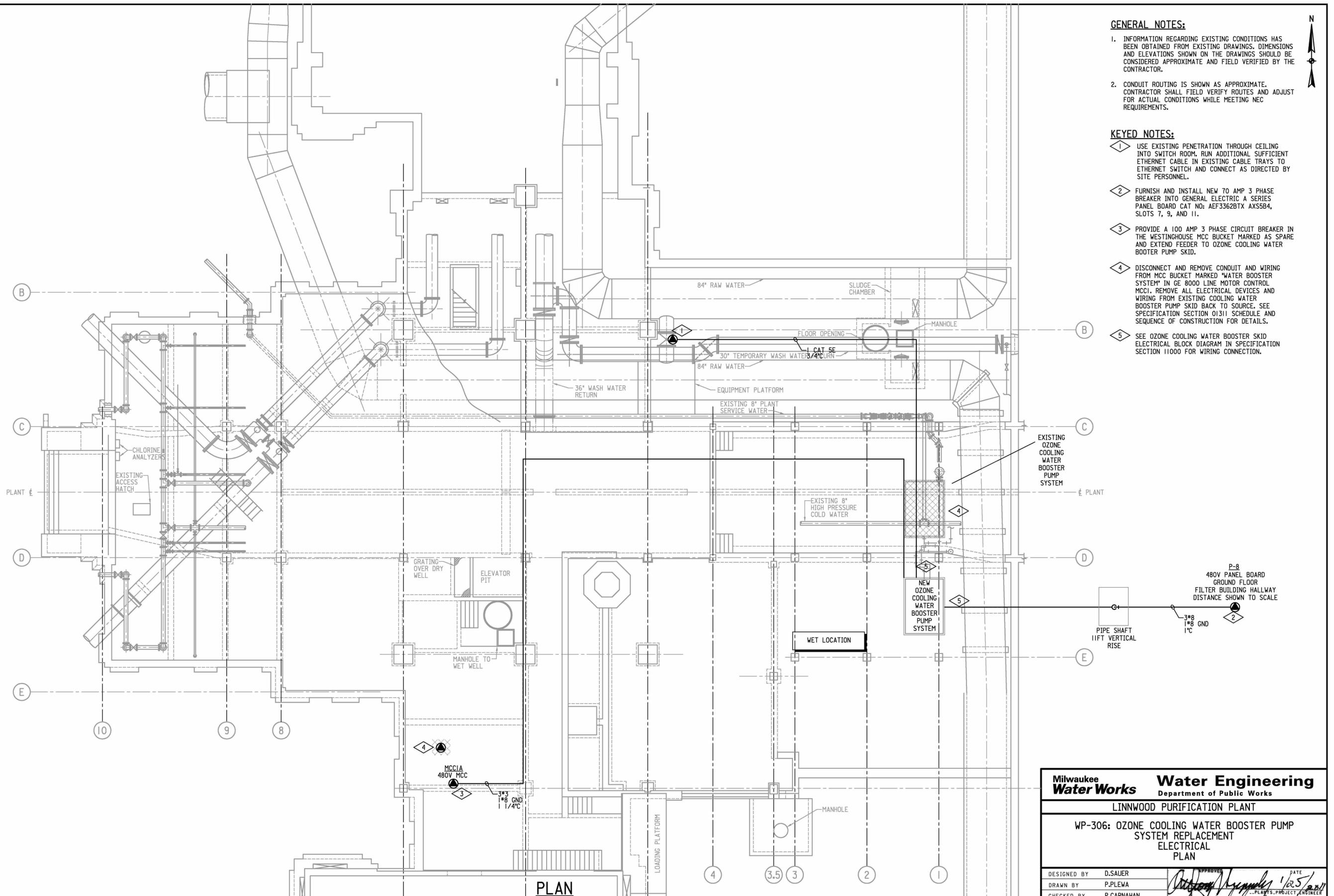
Dec 09, 2010 - 2:14pm Peter.Plewa  
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<b>Milwaukee Water Works</b> Department of Public Works		<b>Water Engineering</b> Department of Public Works	
<b>LINWOOD PURIFICATION PLANT</b>			
<b>WP-306: OZONE COOLING WATER BOOSTER PUMP SYSTEM REPLACEMENT MECHANICAL OZONE OPERATIONS BUILDING - PARTIAL PLAN</b>			
DESIGNED BY	K.THOMAS	APPROVED	DATE
DRAWN BY	P.PLEWA	<i>Anthony Appandis</i>	1/25/2011
CHECKED BY	P.CARNAHAN	<i>Paul S. Bent</i>	1/25/2011
DATE	DECEMBER 2010	<i>Michael J. ...</i>	1/25/2011
SCALE	AS SHOWN	<i>...</i>	1/25/2011
WORK ORDER	WT450082200	SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS	
OFFICIAL NOTICE		DRAWING NO. WP-306-05	
FILE NO.	WP-306		

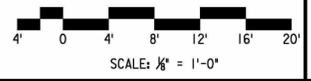
Dec 09, 2010 - 2:18pm Peter\_Plewa  
 J:\Projects\PL\0803\WP-306-06-00.dwg



- GENERAL NOTES:**
1. INFORMATION REGARDING EXISTING CONDITIONS HAS BEEN OBTAINED FROM EXISTING DRAWINGS, DIMENSIONS AND ELEVATIONS SHOWN ON THE DRAWINGS SHOULD BE CONSIDERED APPROXIMATE AND FIELD VERIFIED BY THE CONTRACTOR.
  2. CONDUIT ROUTING IS SHOWN AS APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY ROUTES AND ADJUST FOR ACTUAL CONDITIONS WHILE MEETING NEC REQUIREMENTS.

- KEYED NOTES:**
- 1 USE EXISTING PENETRATION THROUGH CEILING INTO SWITCH ROOM. RUN ADDITIONAL SUFFICIENT ETHERNET CABLE IN EXISTING CABLE TRAYS TO ETHERNET SWITCH AND CONNECT AS DIRECTED BY SITE PERSONNEL.
  - 2 FURNISH AND INSTALL NEW 70 AMP 3 PHASE BREAKER INTO GENERAL ELECTRIC A SERIES PANEL BOARD CAT NO: AEF3362BTX AXS5B4, SLOTS 7, 9, AND 11.
  - 3 PROVIDE A 100 AMP 3 PHASE CIRCUIT BREAKER IN THE WESTINGHOUSE MCC BUCKET MARKED AS SPARE AND EXTEND FEEDER TO OZONE COOLING WATER BOOSTER PUMP SKID.
  - 4 DISCONNECT AND REMOVE CONDUIT AND WIRING FROM MCC BUCKET MARKED "WATER BOOSTER SYSTEM" IN GE 8000 LINE MOTOR CONTROL MCC1. REMOVE ALL ELECTRICAL DEVICES AND WIRING FROM EXISTING COOLING WATER BOOSTER PUMP SKID BACK TO SOURCE. SEE SPECIFICATION SECTION 01311 SCHEDULE AND SEQUENCE OF CONSTRUCTION FOR DETAILS.
  - 5 SEE OZONE COOLING WATER BOOSTER SKID ELECTRICAL BLOCK DIAGRAM IN SPECIFICATION SECTION 11000 FOR WIRING CONNECTION.

**PLAN**  
SCALE: 1/8" = 1'-0"



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<b>Milwaukee Water Works</b> Department of Public Works	
<b>Water Engineering</b> Department of Public Works	
LINNWOOD PURIFICATION PLANT	
WP-306: OZONE COOLING WATER BOOSTER PUMP SYSTEM REPLACEMENT ELECTRICAL PLAN	
DESIGNED BY D.SAUER DRAWN BY P.PLEWA CHECKED BY P.CARNAHAN DATE DECEMBER 2010 SCALE AS SHOWN WORK ORDER WT450082200 OFFICIAL NOTICE	APPROVED <i>[Signature]</i> 1/25/11 PLANTS PROJECT ENGINEER <i>[Signature]</i> 1/25/11 CHIEF DESIGN ENGINEER SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS DRAWING NO. WP-306-06