

CITY OF FLINT DEPARTMENT OF PUBLIC WORKS NORTHWEST PUMP STATION IMPROVEMENTS

Project Location:
Township of Flint
Section 4 of T7N, R6E,
Geographic Township of Flint
Genesee County, Michigan 48532

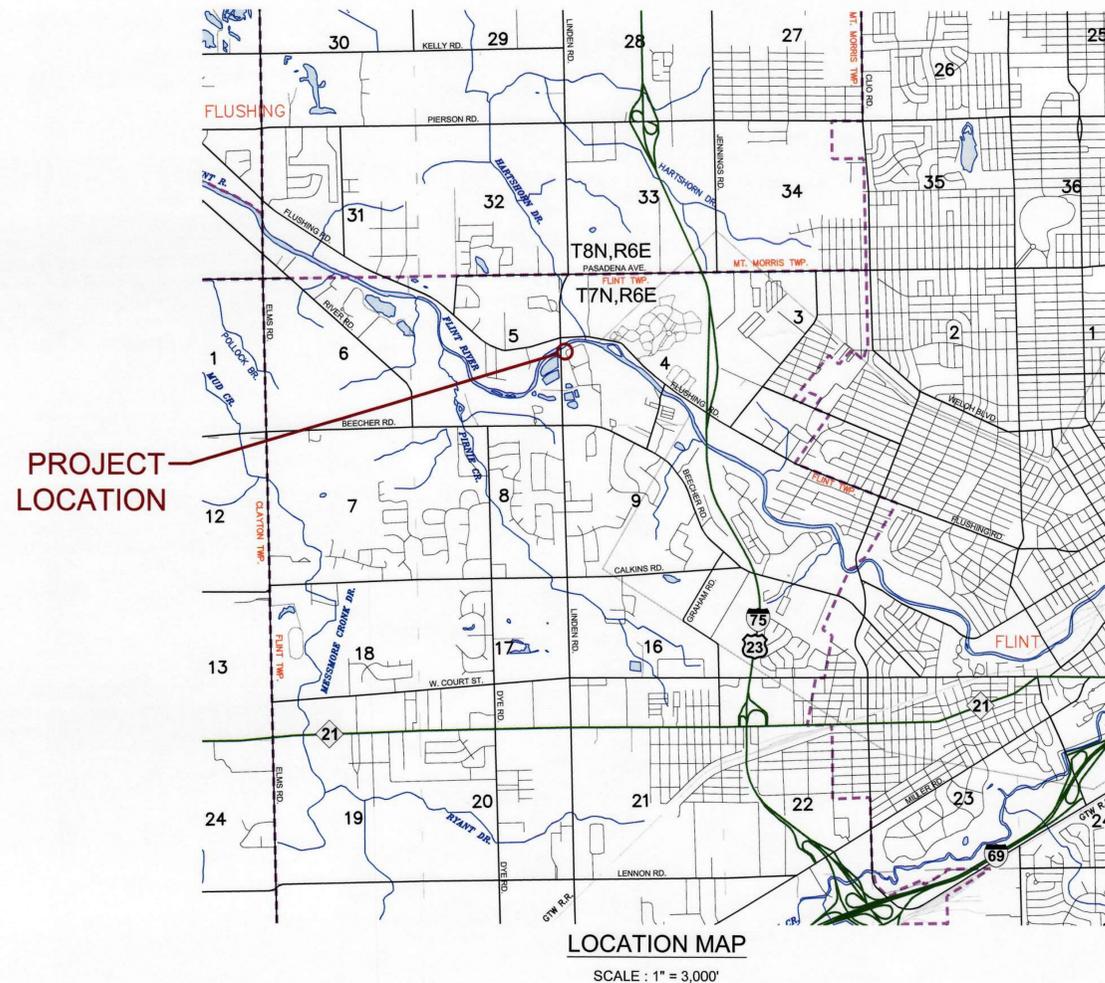


PROJECT NUMBER: SRF-5696-01

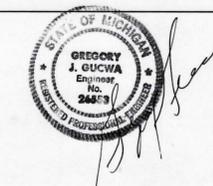
CITY OF FLINT OFFICIALS

SHELDON NEELEY ERIC MAYS MAURICE DAVIS SANTINO J. GUERRA KATE FIELDS JERRI WINFREY-CARTER HERBERT WINFREY MONICA GALLOWAY ALLAN GRIGGS EVA WORTHING	MAYOR CITY COUNCIL 1ST WARD CITY COUNCIL 2ND WARD CITY COUNCIL 3RD WARD CITY COUNCIL 4TH WARD CITY COUNCIL 5TH WARD CITY COUNCIL 6TH WARD CITY COUNCIL 7TH WARD CITY COUNCIL 8TH WARD CITY COUNCIL 9TH WARD
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APPROVED BY THE CITY OF FLINT				
_____ DIRECTOR OF DEPARTMENT OF PUBLIC WORKS				
PROJECT DESCRIPTION: NORTHWEST PUMPING STATION IMPROVEMENTS				
PREPARED UNDER THE SUPERVISION OF				
<table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">GREG J. GUCWA REGISTERED PROFESSIONAL ENGINEER</td> <td style="width: 50%;">026553 REGISTRATION NO.</td> </tr> <tr> <td colspan="2">DLZ COMPANY ORGANIZATION</td> </tr> </table>	GREG J. GUCWA REGISTERED PROFESSIONAL ENGINEER	026553 REGISTRATION NO.	DLZ COMPANY ORGANIZATION	
GREG J. GUCWA REGISTERED PROFESSIONAL ENGINEER	026553 REGISTRATION NO.			
DLZ COMPANY ORGANIZATION				



GENERAL NOTES

THE CONTRACTOR SHALL CALL "MISS DIG" (1-800-482-7171) THREE WORKING DAYS, EXCEPT SATURDAY, SUNDAY, AND HOLIDAYS PRIOR TO COMMENCEMENT OF ANY WORK.

ALL UTILITIES SHOWN ARE APPROXIMATE LOCATIONS DERIVED FROM ACTUAL MEASUREMENTS AND AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE THE EXACT LOCATION NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THE AREA.

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE CITY OF FLINT CODE OF ORDINANCES.



INNOVATIVE IDEAS
EXCEPTIONAL DESIGN
UNMATCHED CLIENT SERVICE

PROJECT No.
1849-0706-00
SHEET 1 OF 16

DATE ISSUED: 2/14/2020
DATE FINAL: 3/2/2020

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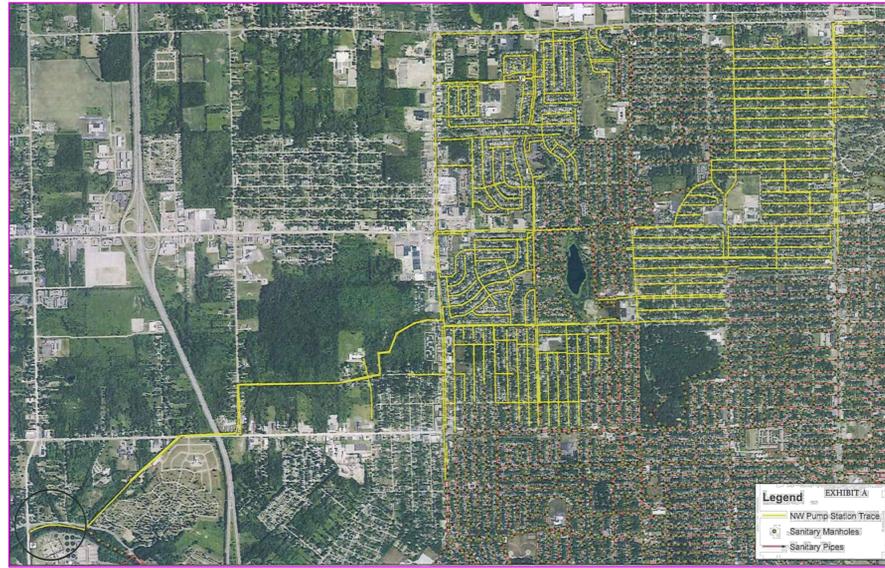
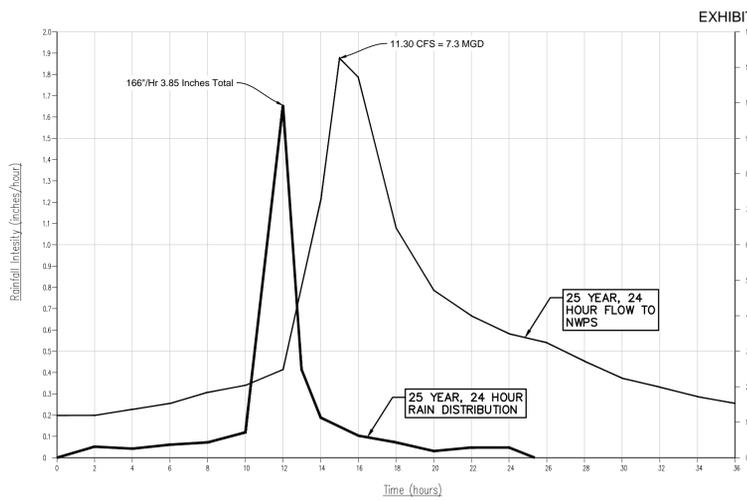


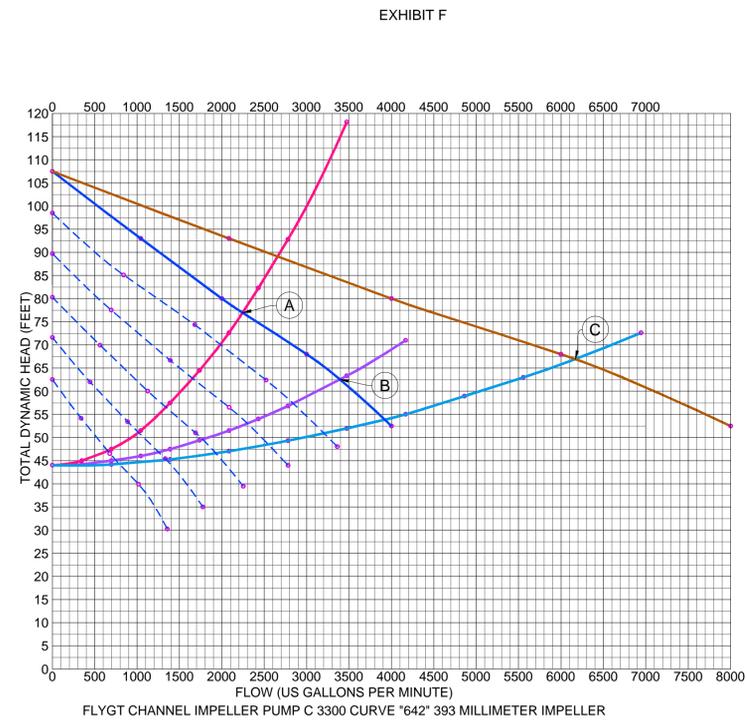
EXHIBIT C

CITY OF FLINT NORTHWEST PUMP STATION
24 hr/24yr flow model results

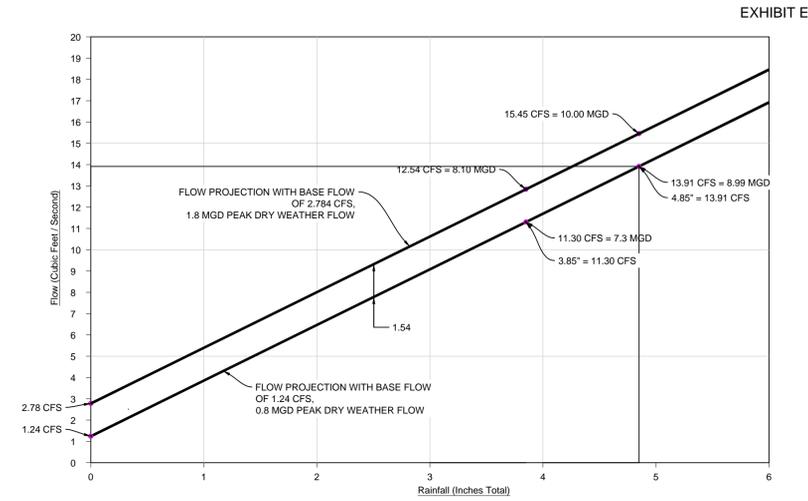
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Flow (cfs)	Flow (cfs)								
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SCALE: VERT. -
HORIZ. 1" = 4"



- LEGEND**
- SYSTEM CURVE 14" HDPE F.M. - 1 PUMP
 - SYSTEM CURVE 24" DIP F.M. - 1 PUMP
 - SYSTEM CURVE 24" DIP F.M. - 2 PUMPS
 - 60 HZ 1185 RPM - 1 PUMP
 - 60 HZ 1185 RPM - 2 PUMPS
- (A)** 2272 GPM - 3.27 MGD
77 TDH 1 PUMP ON DISCHARGE THROUGH 14" HDPE F.M.
- (B)** 3421 GPM - 4.9 MGD
62 TDH 1 PUMP ON DISCHARGE THROUGH 24" DIP F.M.
- (C)** 6000 GPM - 8.6 MGD
68 TDH 2 PUMPS ON DISCHARGE THROUGH 24" DIP F.M.
- 1** 1 PUMP TO 14" HDPE F.M. & 1 PUMP TO 24" DIP F.M. = 3.27 MGD + 4.9 MGD = 8.17 MGD
- 2** 2 PUMPS TO 24" DIP F.M. = 8.6 MGD
- STATION CAPACITY:
A = 3.27 MGD
B = 4.90 MGD
A+B = 8.17 MGD
A+C = 11.87 MGD



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WARNING
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City of Flint
 1101 S. Saginaw Street
 Flint, Michigan 48502

Northwest Pump Station Improvements
 Sewer District Map and Design Calcs

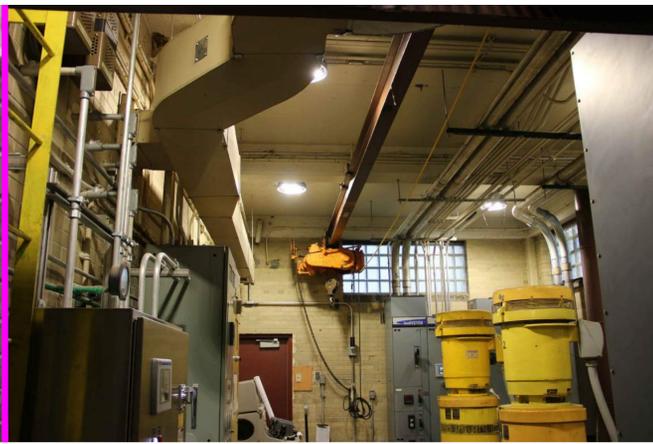
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MARK	ISSUED FOR	DATE

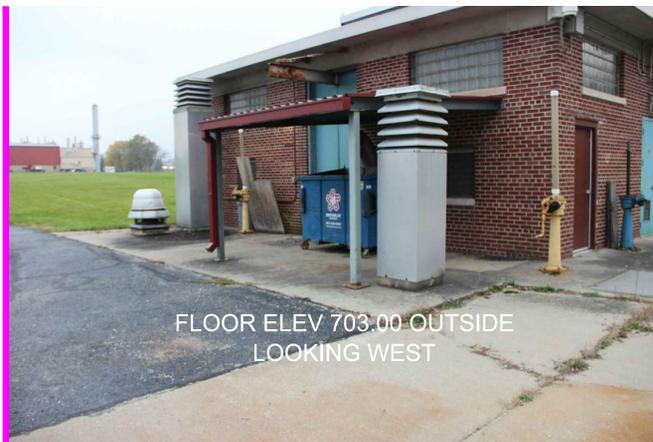
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 DESIGN BY: GJG
 CHECKED BY: GJG

DLZ JOB NUMBER: 1849-0706-00

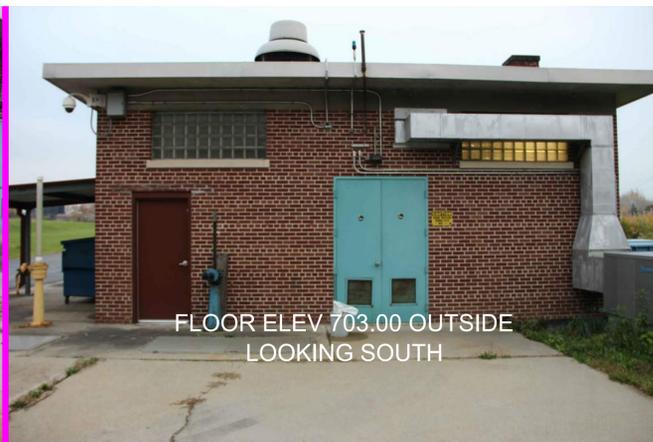
SHEET NO. **G-002**



FLOOR ELEV 703.00 OUTSIDE
LOOKING SOUTHWEST



FLOOR ELEV 703.00 OUTSIDE
LOOKING WEST



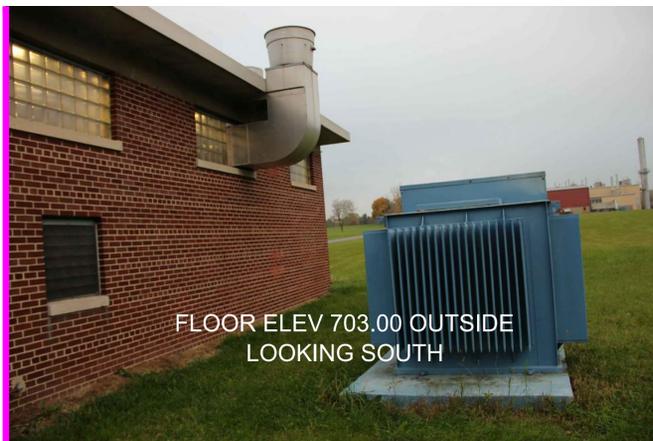
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LOOKING SOUTH



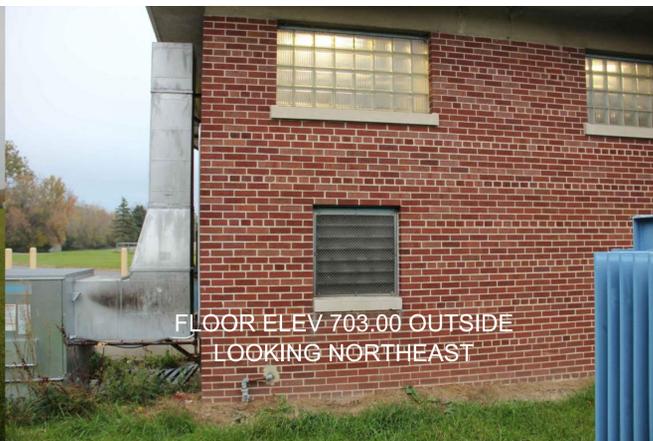
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LOOKING ---



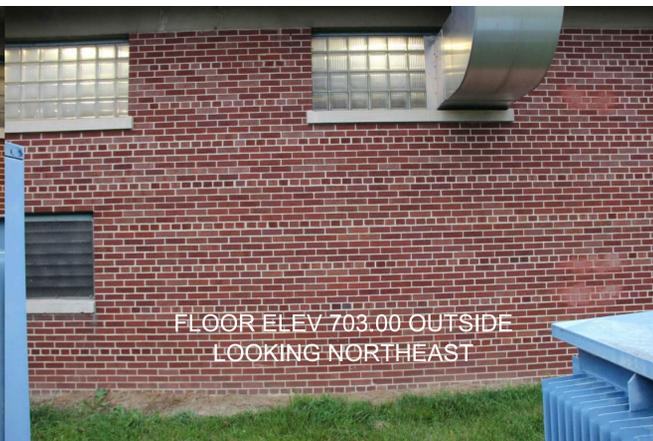
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LOOKING ---



FLOOR ELEV 703.00 OUTSIDE
LOOKING SOUTH



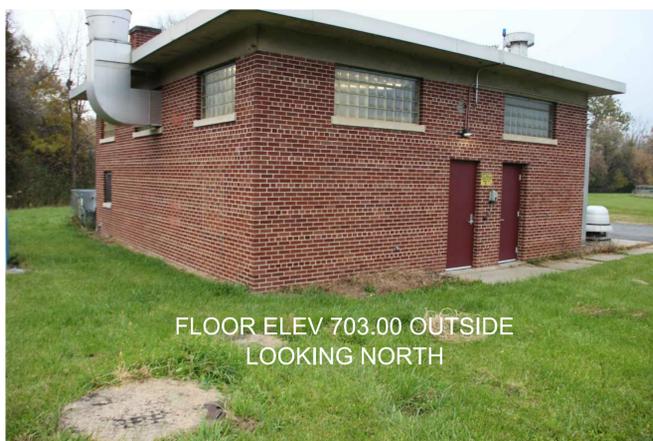
FLOOR ELEV 703.00 OUTSIDE
LOOKING NORTHEAST



FLOOR ELEV 703.00 OUTSIDE
LOOKING NORTHEAST



FLOOR ELEV 703.00 OUTSIDE
LOOKING NORTHEAST



FLOOR ELEV 703.00 OUTSIDE
LOOKING NORTH



FLOOR ELEV 703.00 OUTSIDE
LOOKING NORTHWEST



FLOOR ELEV 703.00 OUTSIDE
LOOKING WEST



FLOOR ELEV 703.00 OUTSIDE
LOOKING SOUTHWEST

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EXCEPTIONAL DESIGN
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WARNING
UTILITY LOCATIONS ARE NOT
CONFIRMED. THOSE SHOWN
ON THESE PLANS ARE THE
UTILITY OWNERS OR PLANS
THREE FULL WORKING DAYS
BEFORE YOU DIG CALL
THE CONTRACTOR SHALL
NOTIFY UTILITY OWNERS TO
HAVE AN AREA STAKED
AND RELOCATED, AS NOTED
IN THE SPECIFICATIONS. ALL
INTERFERENCE WITH
CONSTRUCTION



City of Flint
1101 S. Saginaw Street
Flint, Michigan 48502

Northwest Pump Station Improvements
Existing Photos

NOT TO SCALE

MARK	ISSUED FOR	DATE
-	EAGLE SUBMITTAL	2/14/2020
-	-	-
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DRAWN BY: DLZ
DESIGN BY: GJG
CHECKED BY: GJG

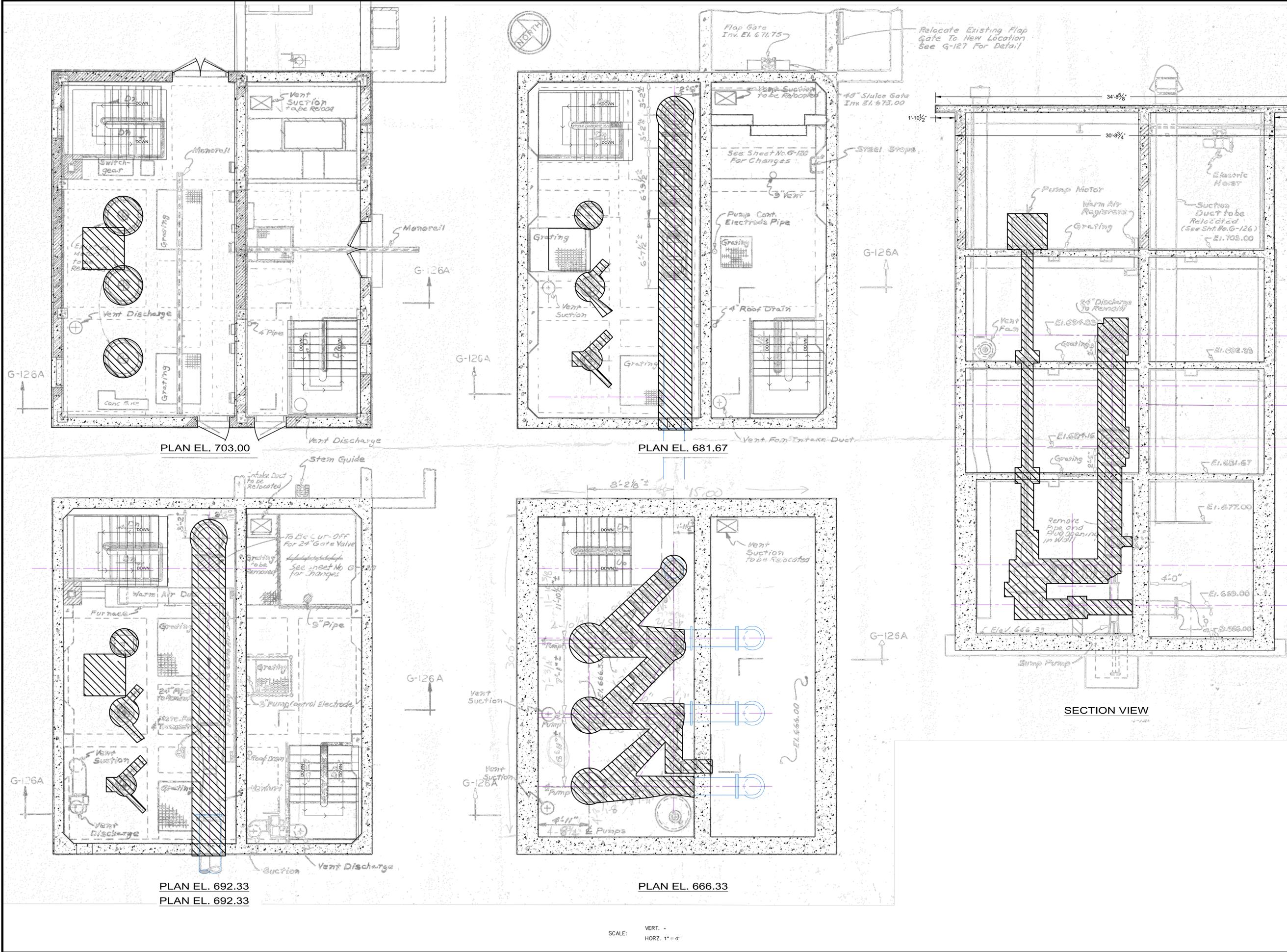
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SHEET NO.

V-105

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 UNMATCHED CLIENT SERVICE

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 UTILITY LOCATIONS ARE NOT CONFIRMED. THOSE SHOWN WERE OBTAINED FROM FIELD SURVEY. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO BEGINNING WORK. THE CONTRACTOR SHALL HAVE WORK AREA STAKED AND HE SHALL PROTECT OR HAVE RELOCATED, AS NOTED IN THE SPECIFICATIONS. ALL INTERFERENCE WITH CONSTRUCTION



City of Flint
 1101 S. Saginaw Street
 Flint, Michigan 48502

Northwest Pump Station Improvements
 Demolition Plan

SCALE
 0 4 8

MARK	ISSUED FOR	DATE
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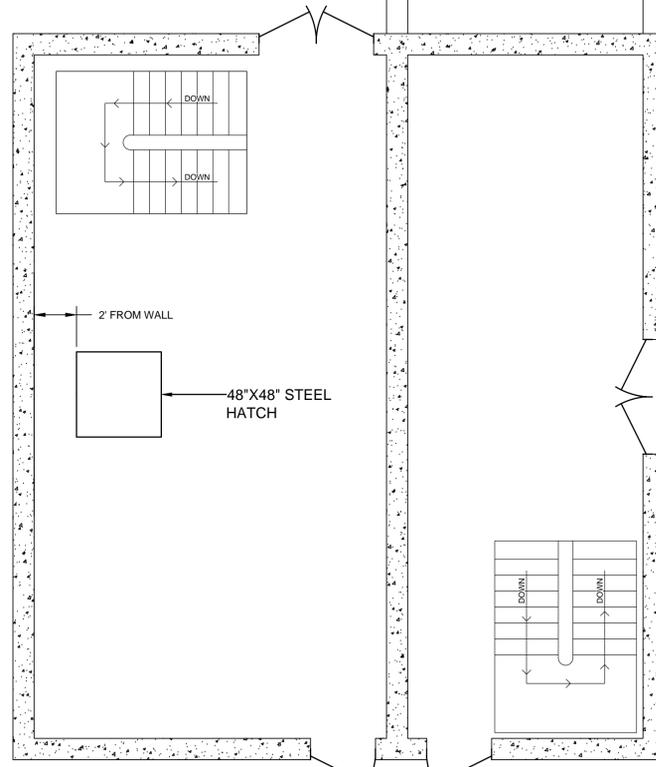
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 DESIGN BY: GJG
 CHECKED BY: GJG

DLZ JOB NUMBER: 1849-0706-00

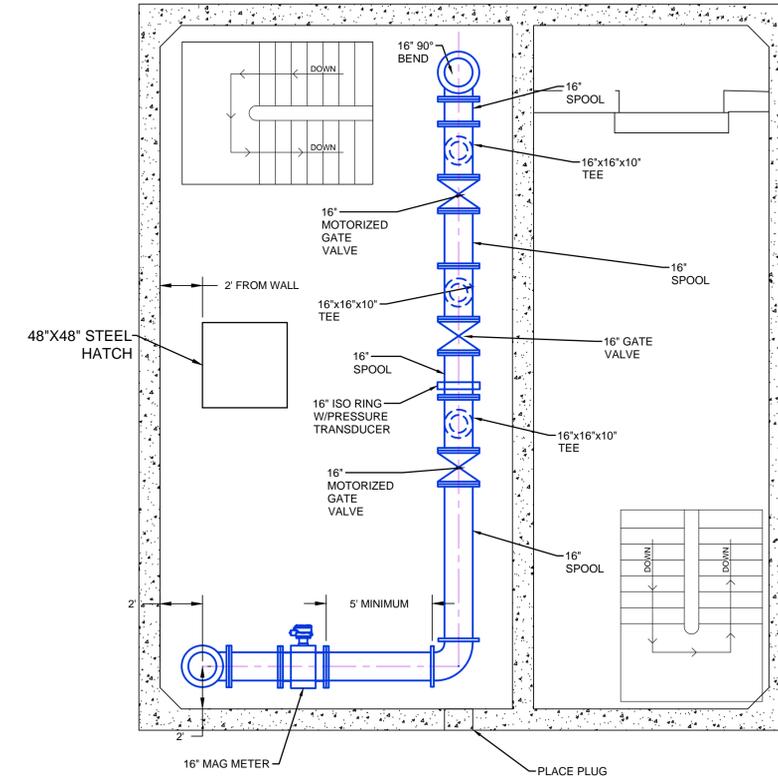
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C-101

SCALE:
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 HORZ. 1" = 4'

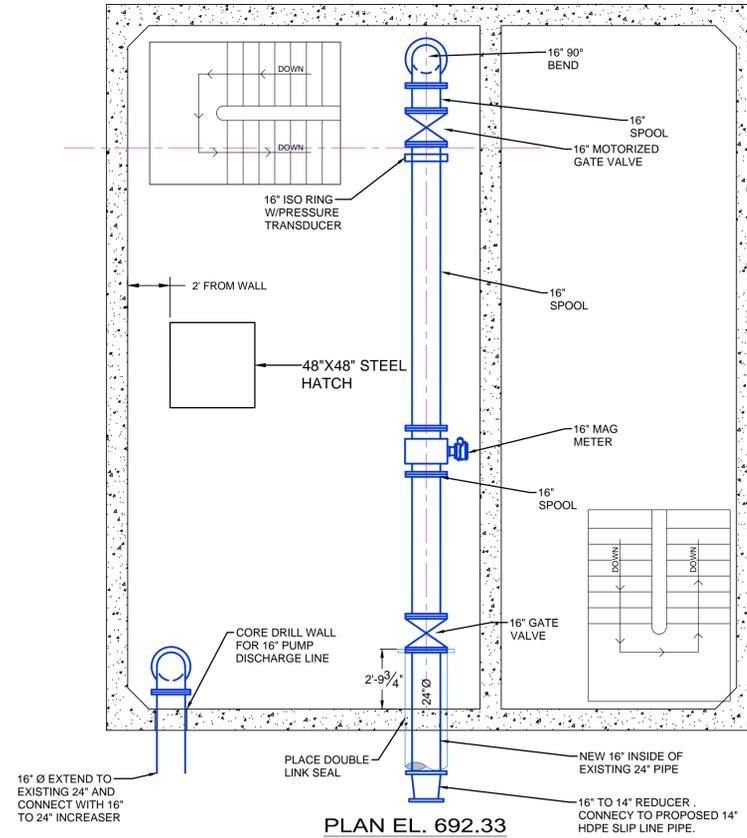
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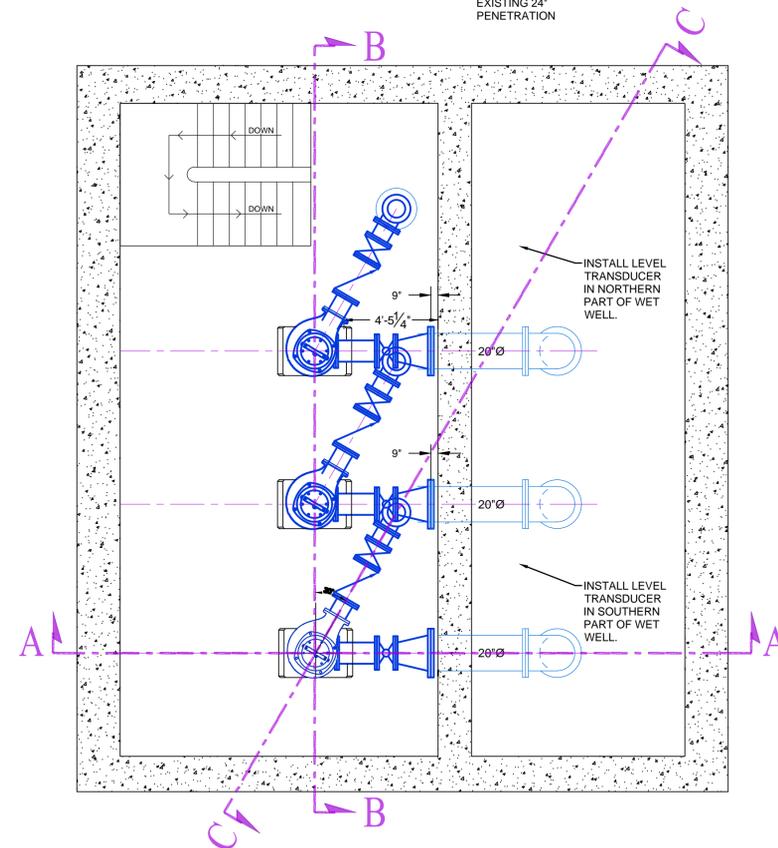


PLAN EL. 666.33



PLAN EL. 692.33

SCALE: VERT. -
 HORZ. 1" = 4'



PLAN EL. 666.33

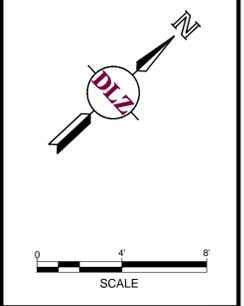
1'-11"

WARNING
 UTILITY LOCATIONS ARE NOT CONFIRMED. THOSE SHOWN WERE OBTAINED FROM THE CITY OF FLINT RECORDS. PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES AND HE SHALL PROTECT OR HAVE RELOCATED, AS NOTED IN THE SPECIFICATIONS. ALL INTERFERENCE WITH CONSTRUCTION



City of Flint
 1101 S. Saginaw Street
 Flint, Michigan 48502

Northwest Pump Station Improvements
 Proposed Pump Station Plan Views



MARK	ISSUED FOR	DATE
-	EAGLE SUBMITTAL	2/14/2020
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-		
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DRAWN BY: DLZ
 DESIGN BY: GJG
 CHECKED BY: GJG

DLZ JOB NUMBER: 1849-0706-00

SHEET NO.

C-102

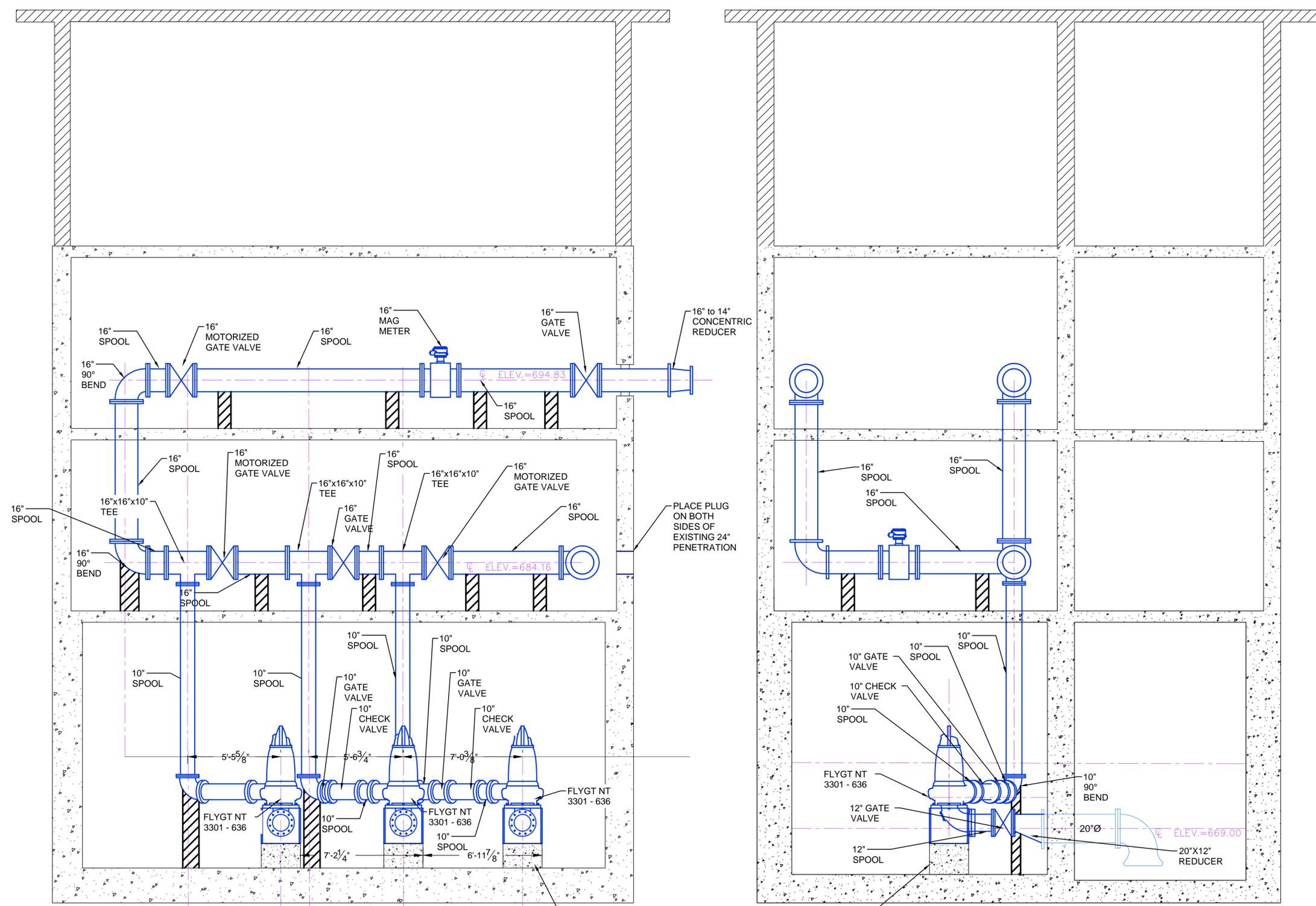
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INNOVATIVE IDEAS
 EXCEPTIONAL DESIGN
 UNMATCHED CLIENT SERVICE

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TYPICAL CONCRETE PIPE SUPPORT



Section B-B, West Looking East

CONCRETE PUMP BASE (TYP)

CONCRETE PUMP BASE (TYP)

Section A-A, South Looking North

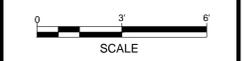
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 HORZ. 1" = 3'

WARNING
 UTILITY LOCATIONS ARE NOT CONFIRMED. THOSE SHOWN WERE OBTAINED FROM CITY RECORDS. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO BEGINNING WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL UTILITIES AND SHALL BE RESPONSIBLE FOR RELOCATING OR REPAIRING ANY UTILITIES THAT INTERFERE WITH CONSTRUCTION.



City of Flint
 1101 S. Saginaw Street
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Northwest Pump Station Improvements
 Proposed Pump Station Section Views A-A and B-B



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 DESIGN BY: GJG
 CHECKED BY: GJG

DLZ JOB NUMBER: 1849-0706-00

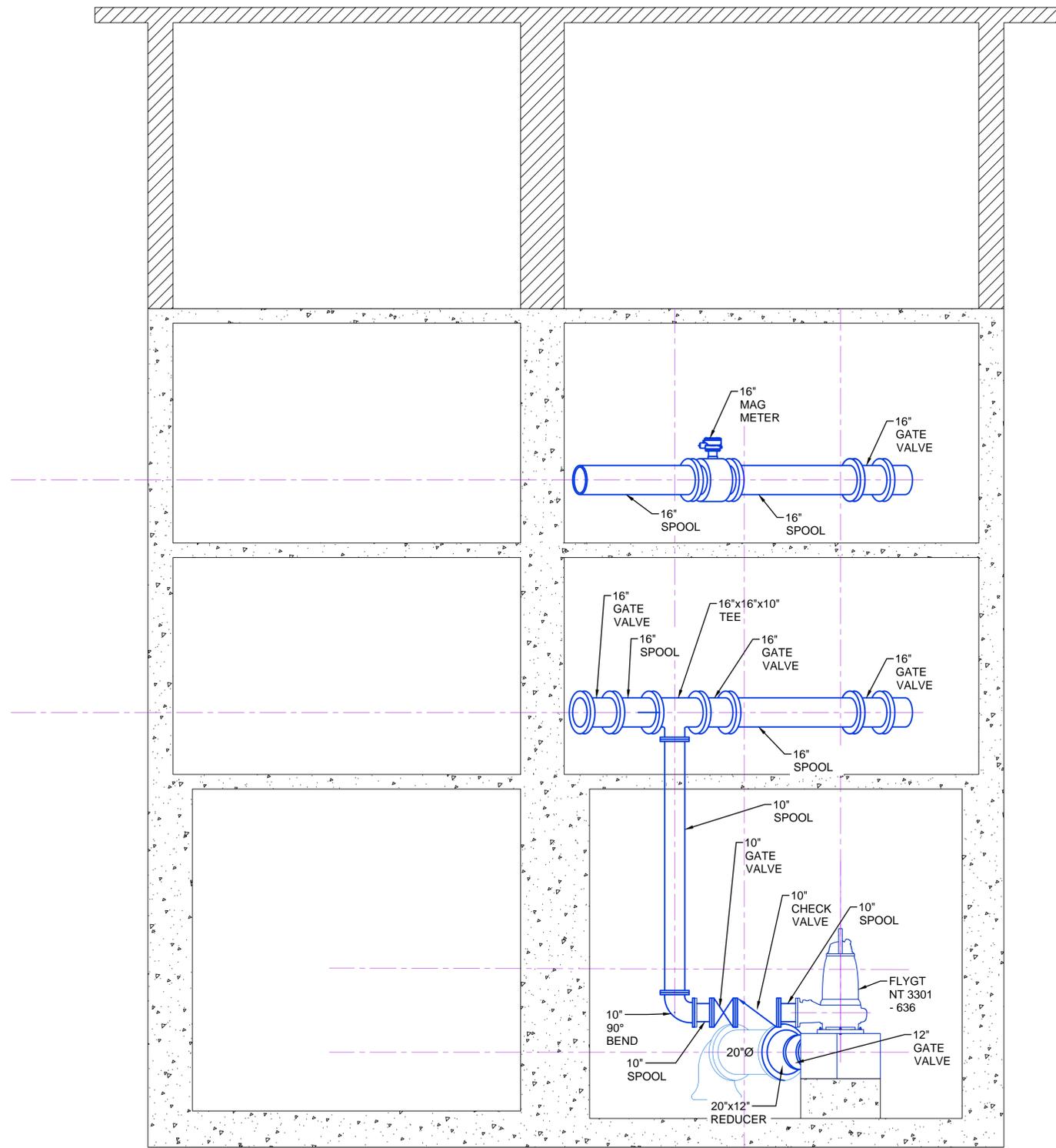
SHEET NO. C-103

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Layout = C-104
 PLOT DATE: 2/14/2020 1:25:53 PM
 SHEET DATE: 2/14/2020 1:25:02 PM
 BRENDAN WROBEL X:\Projects\Waterford\18500\18706 City of Flint Pump Station Rehab.dwg\18706 ELEVATIONS & SECTIONS.dwg



Section C-C, West Looking East

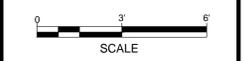
SCALE: VERT. -
 HORZ. 1" = 3'

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Northwest Pump Station Improvements
 Proposed Pump Station Section View C-C



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 DESIGN BY: GJG
 CHECKED BY: GJG

DLZ JOB NUMBER: 1849-0706-00

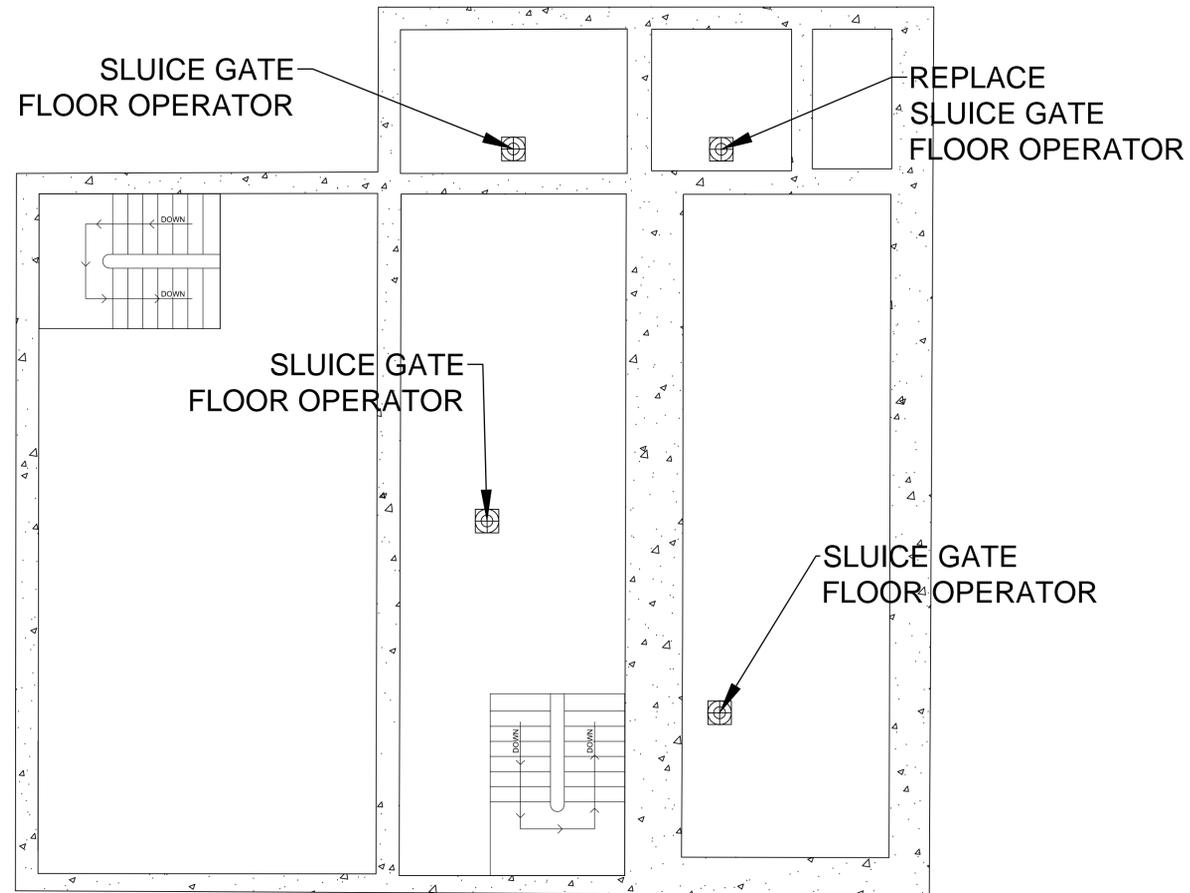
SHEET NO.
 C-104

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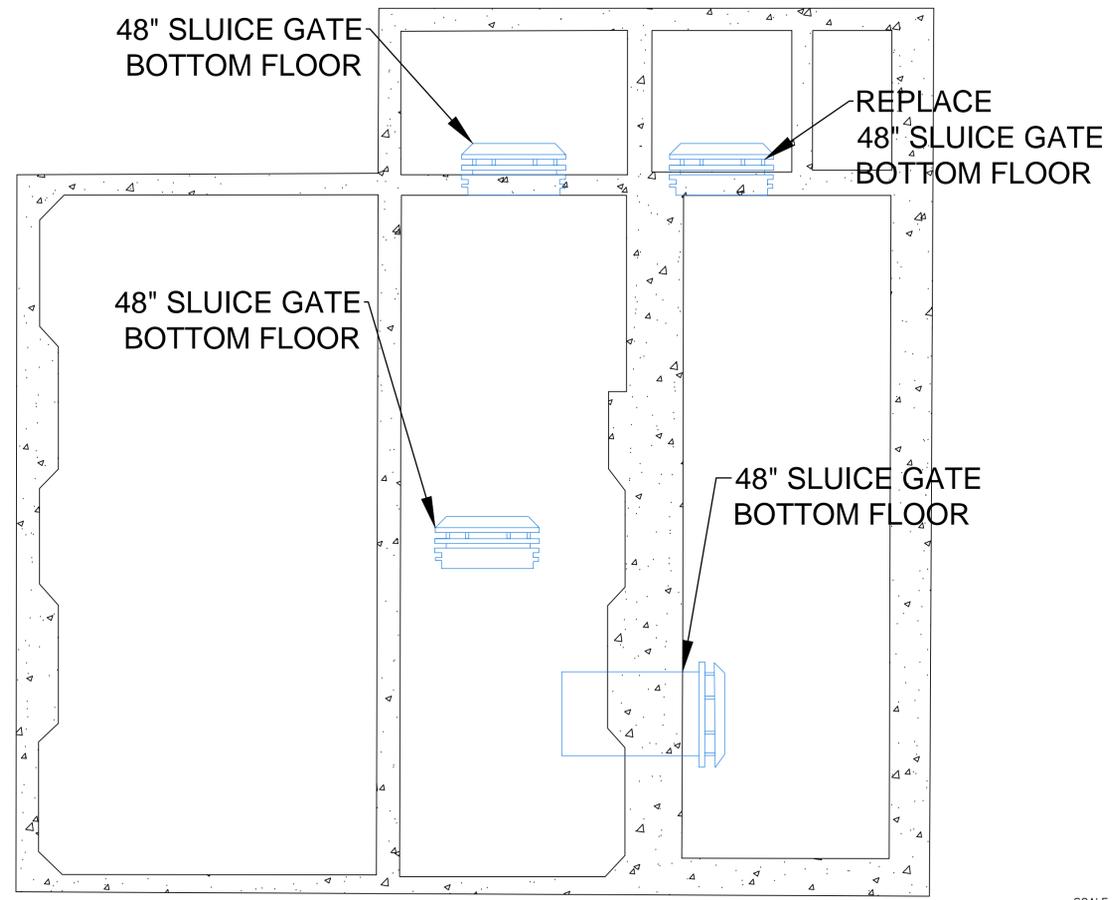
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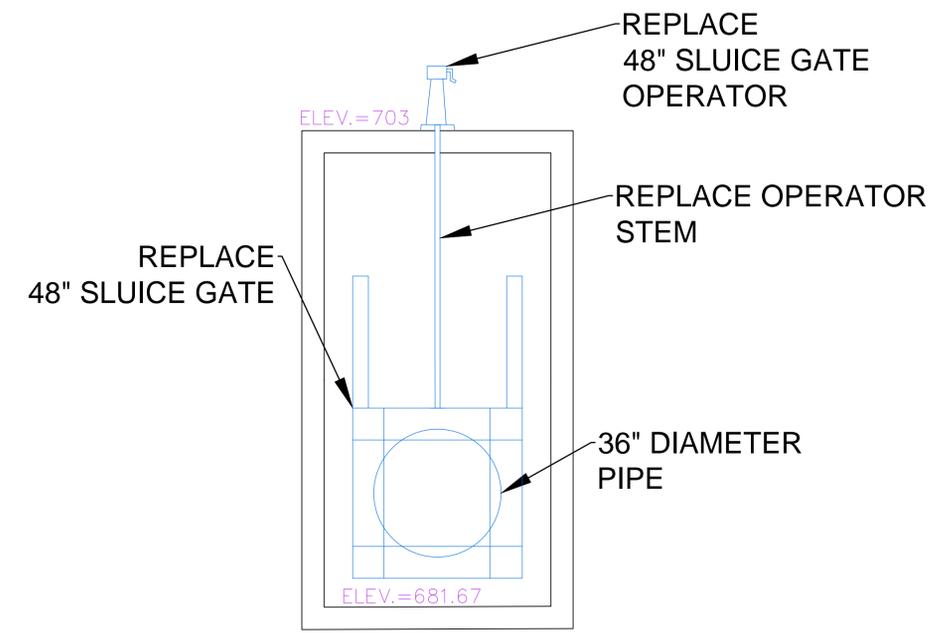


FIRST FLOOR OF BUILDING



SLUICE GATE PLAN VIEW

SCALE: VERT. -
 HORZ. 1" = 4'



SLUICE GATE SECTION VIEW

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 HAVE WORK AREA STAKED
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Northwest Pump Station Improvements
 Proposed Sludge Gate Plans



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 CHECKED BY: GJG

DLZ JOB NUMBER: 1849-0706-00

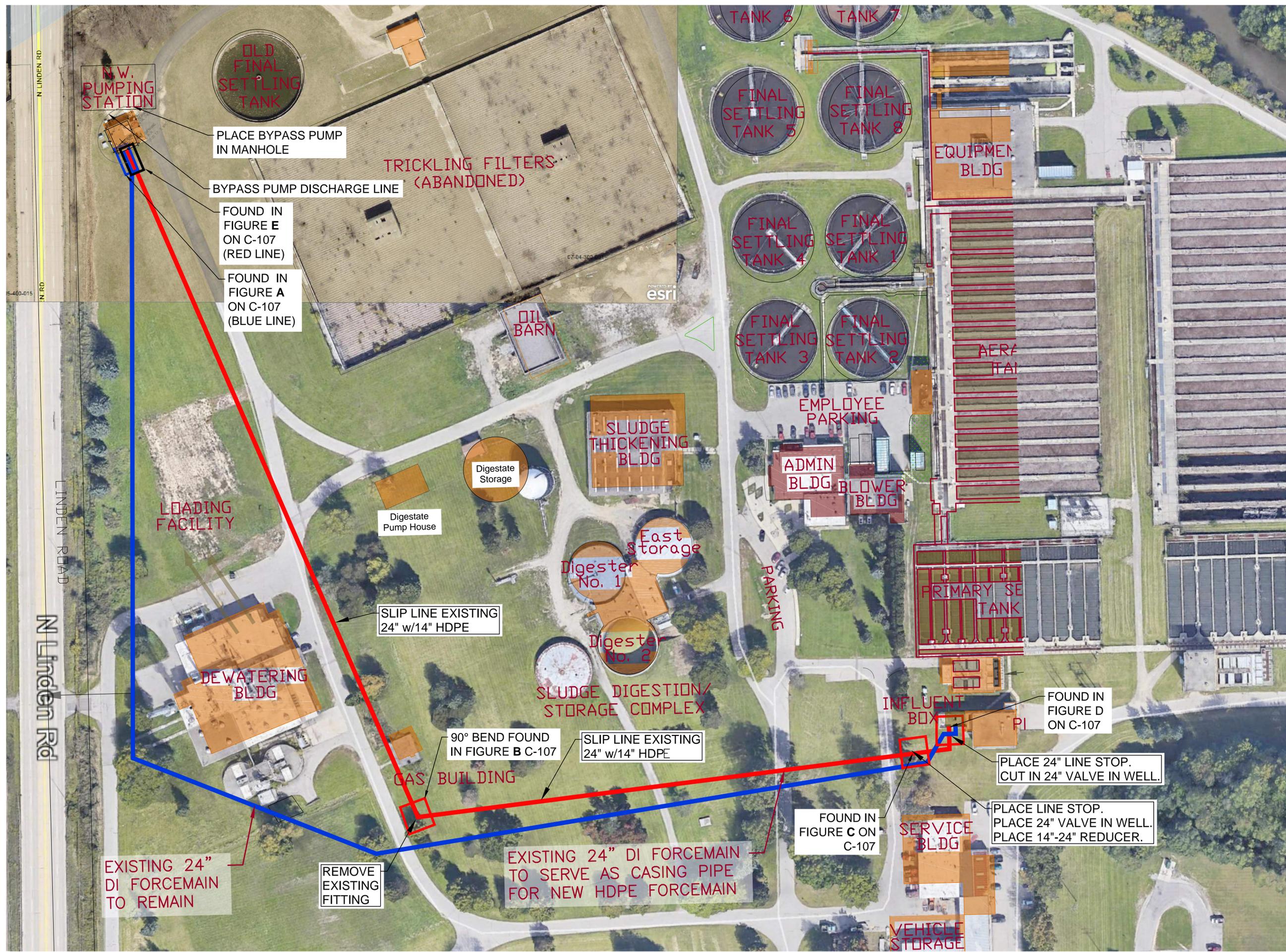
SHEET NO.
 C-105

Sheet - C-106

BRENDAN WROBEL X:\Projects\Waterford\18500\19206 City of Flint Pump Station Rehab.dwg\18706 NW Pumping Sta Improvements.dwg

SME DATE: 2/14/2020 1:46:19 PM

ROOT DATE: 2/14/2020 1:53:08 PM



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 HAVE WORK AREA STAGED
 AND TO BE RELOCATED AS NOTED
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City of Flint
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Northwest Pump Station Improvements
 Proposed Forcemain Work



NOT TO SCALE

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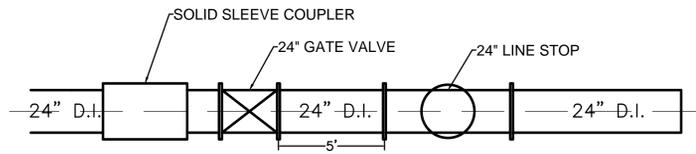


Figure A

Scale: 1"=4'

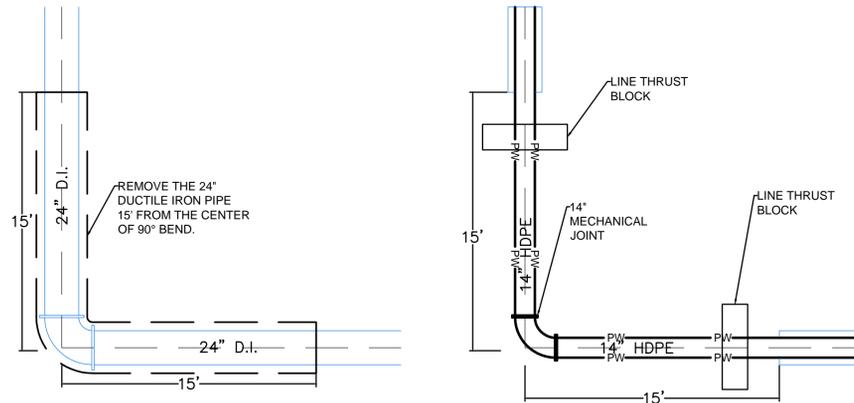


Figure B

Scale: 1"=4'

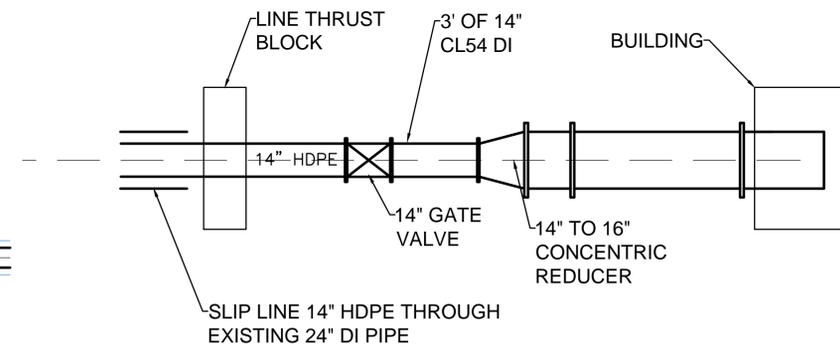


Figure C

Scale: 1"=3'

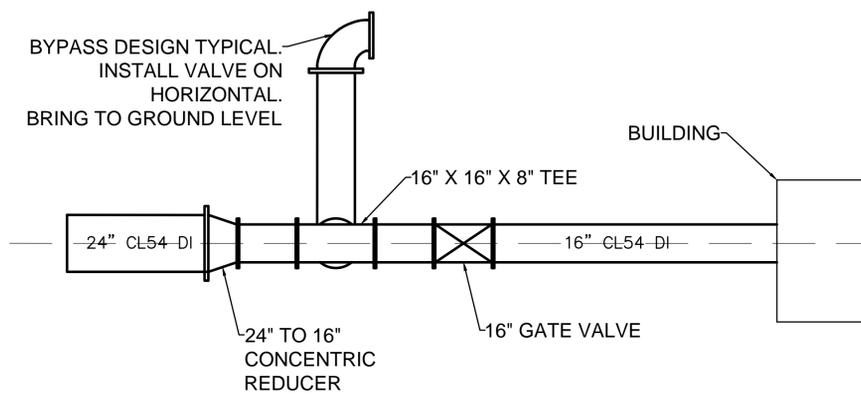


Figure D

Scale: 1"=4'

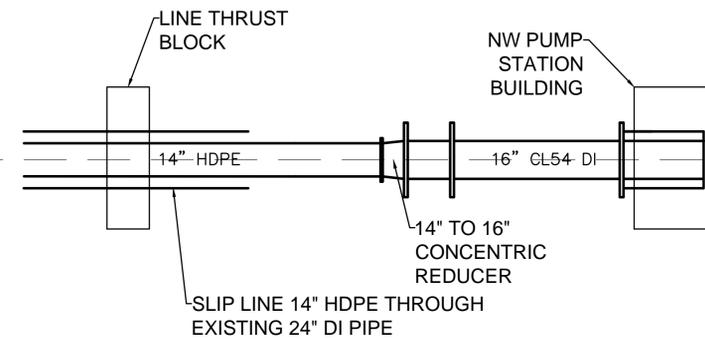


Figure E

Scale: 1"=3'

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Northwest Pump Station Improvements
 Proposed Forcemain Work

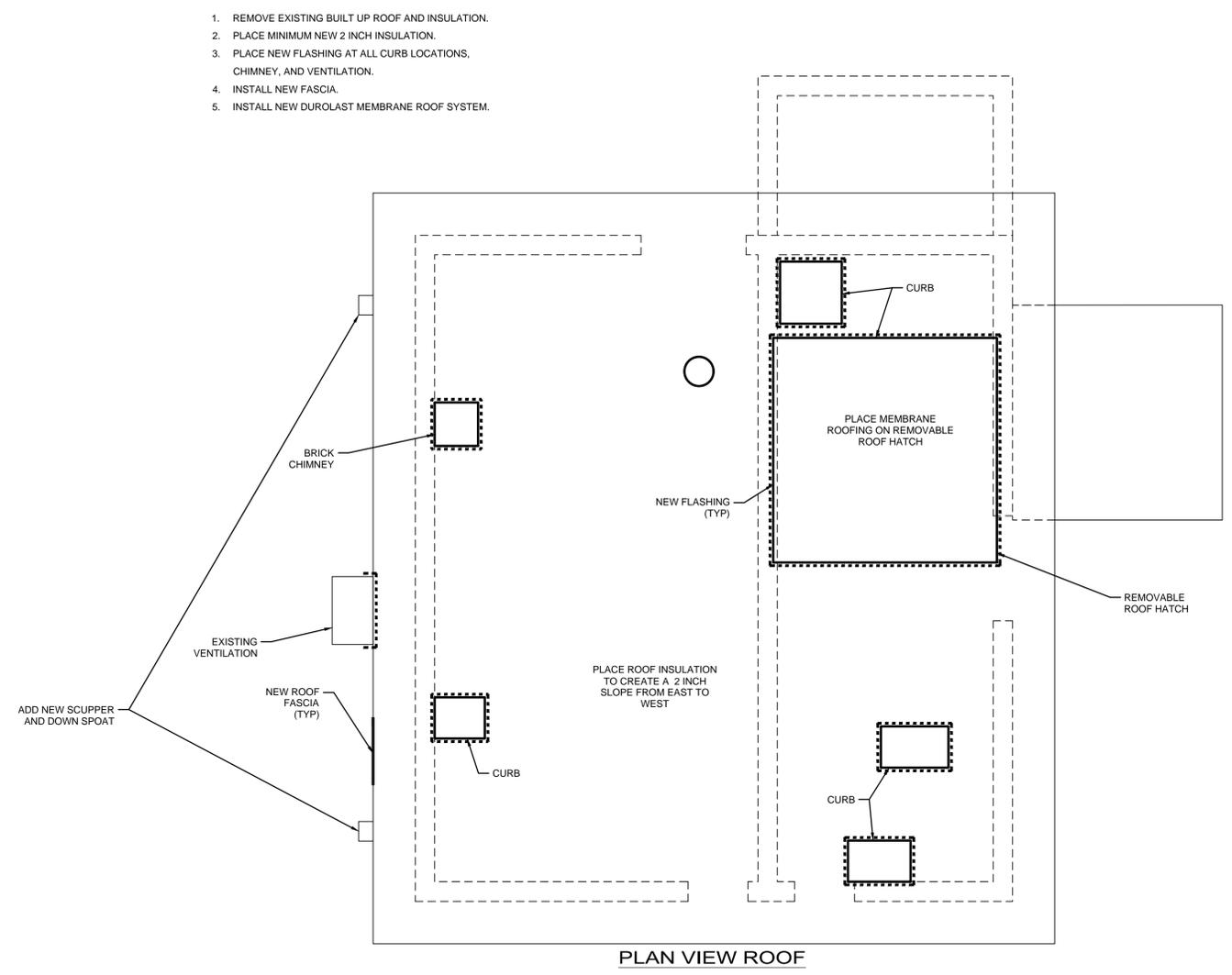
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DLZ JOB NUMBER: 1849-0706-00

SHEET NO.
C-107



1. REMOVE EXISTING BUILT UP ROOF AND INSULATION.
2. PLACE MINIMUM NEW 2 INCH INSULATION.
3. PLACE NEW FLASHING AT ALL CURB LOCATIONS, CHIMNEY, AND VENTILATION.
4. INSTALL NEW FASCIA.
5. INSTALL NEW DURALAST MEMBRANE ROOF SYSTEM.

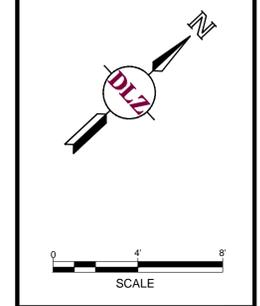
SCALE: VERT. -
 HORZ. 1" = 4'

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Northwest Pump Station Improvements
 Proposed Roof Plan



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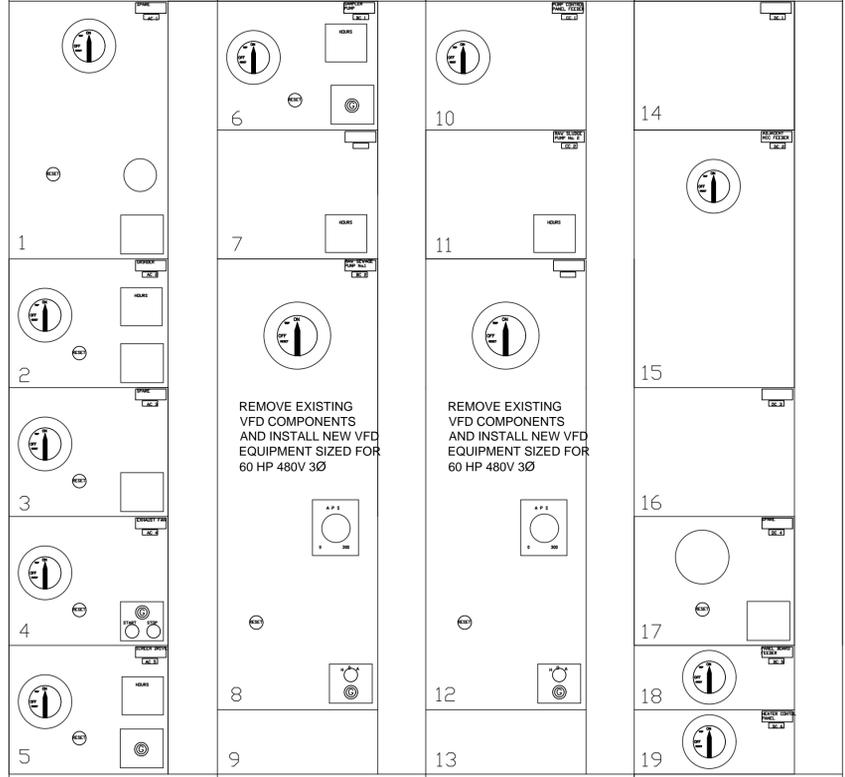
SHEET NO.
 C-108

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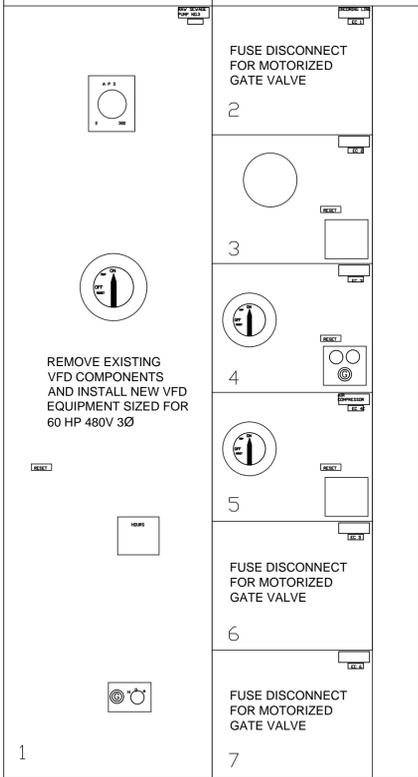


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 SWE DATE: 2/14/2020 1:42:46 PM
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GENERAL ELECTRIC
 MOTOR CONTROL CENTER

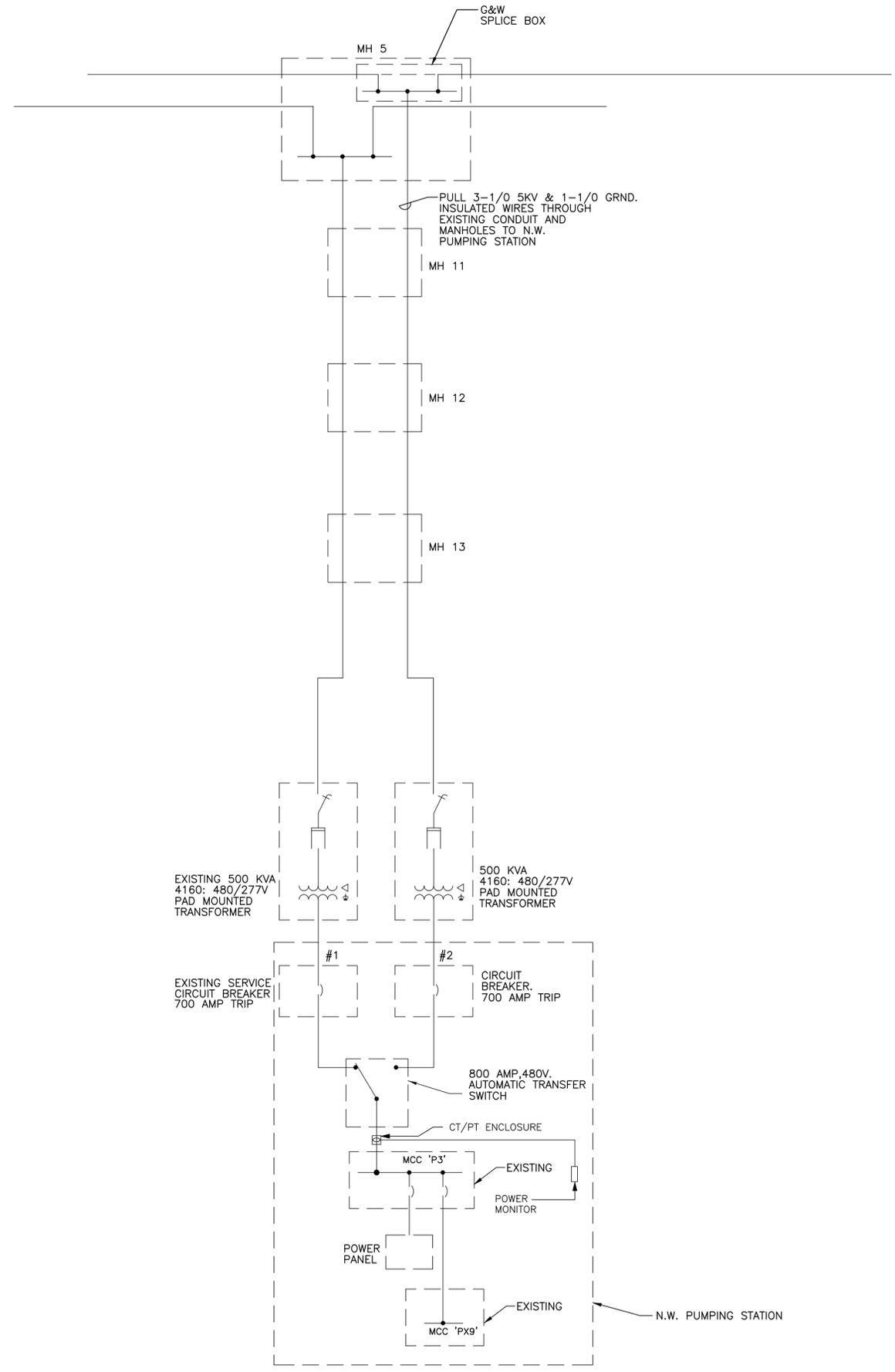


MCC P3



MCC PX9

SCALE: VERT. -
 HORZ.



EXISTING ELECTRICAL DISTRIBUTION SYSTEM

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Northwest Pump Station Improvements
 Electrical Design

NOT TO SCALE

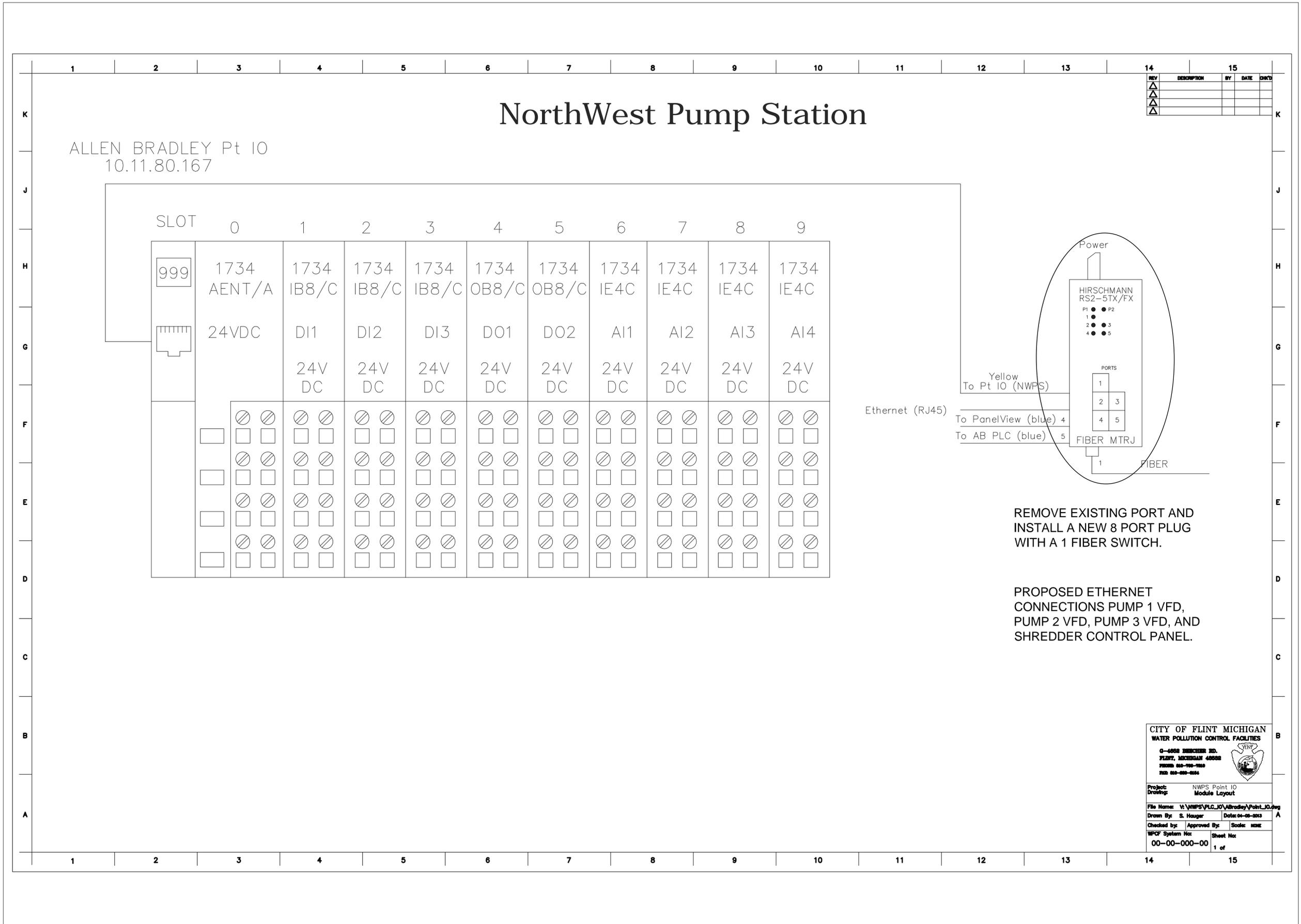
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SHEET NO.
E-101

Layout = E-102
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REV	DESCRIPTION	BY	DATE	CHKD

CITY OF FLINT MICHIGAN
WATER POLLUTION CONTROL FACILITIES

0-4000 SHERWOOD RD.
 FLINT, MICHIGAN 48908
 PHONE: 810-750-7500
 FAX: 810-820-0104

Project: NWPS Point IO
 Drawing: Module Layout

File Name: Y:\NWPS\PLC_IO\ABradley\Point_IO.dwg
 Drawn By: S. Hauger Date: 06-09-2013
 Checked by: Approved By: Scale: NMT
 WPCF System No: 00-00-000-00 Sheet No: 1 of

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Northwest Pump Station Improvements
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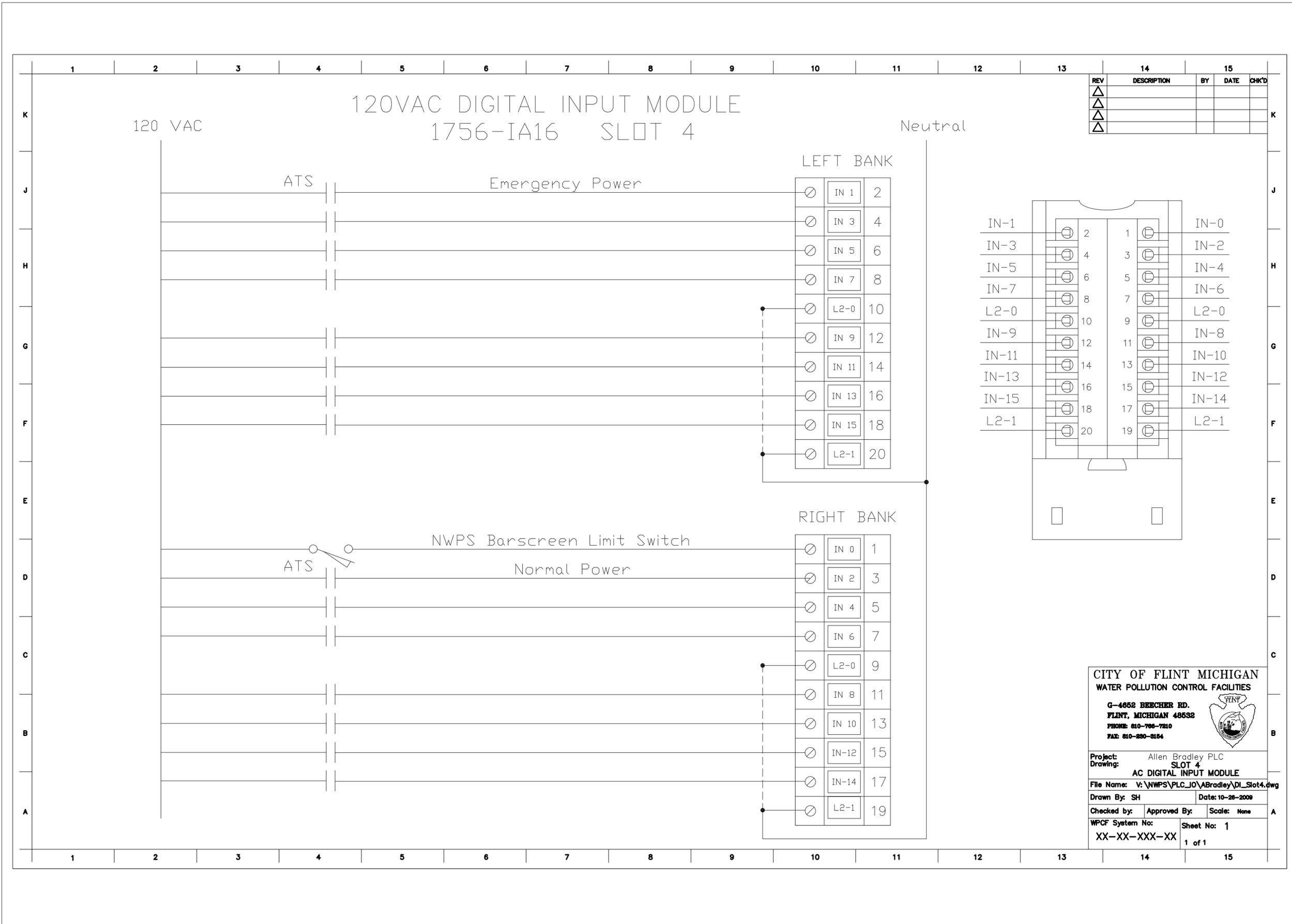
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 DESIGN BY: GJG
 CHECKED BY: GJG

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SHEET NO. E-102

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**CITY OF FLINT MICHIGAN
WATER POLLUTION CONTROL FACILITIES**

G-4852 BEECHER RD.
FLINT, MICHIGAN 48632
PHONE: 810-786-7210
FAX: 810-830-8154

Project: Allen Bradley PLC
 Drawing: SLOT 4
 AC DIGITAL INPUT MODULE
 File Name: V:\NWPS\PLC_I0\ABradley\DI_Slot4.dwg
 Drawn By: SH Date: 10-28-2009
 Checked by: Approved By: Scale: None
 WPCF System No: XX-XX-XXX-XX Sheet No: 1
 1 of 1

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Northwest Pump Station Improvements
 Electrical Design

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 CHECKED BY: GJG

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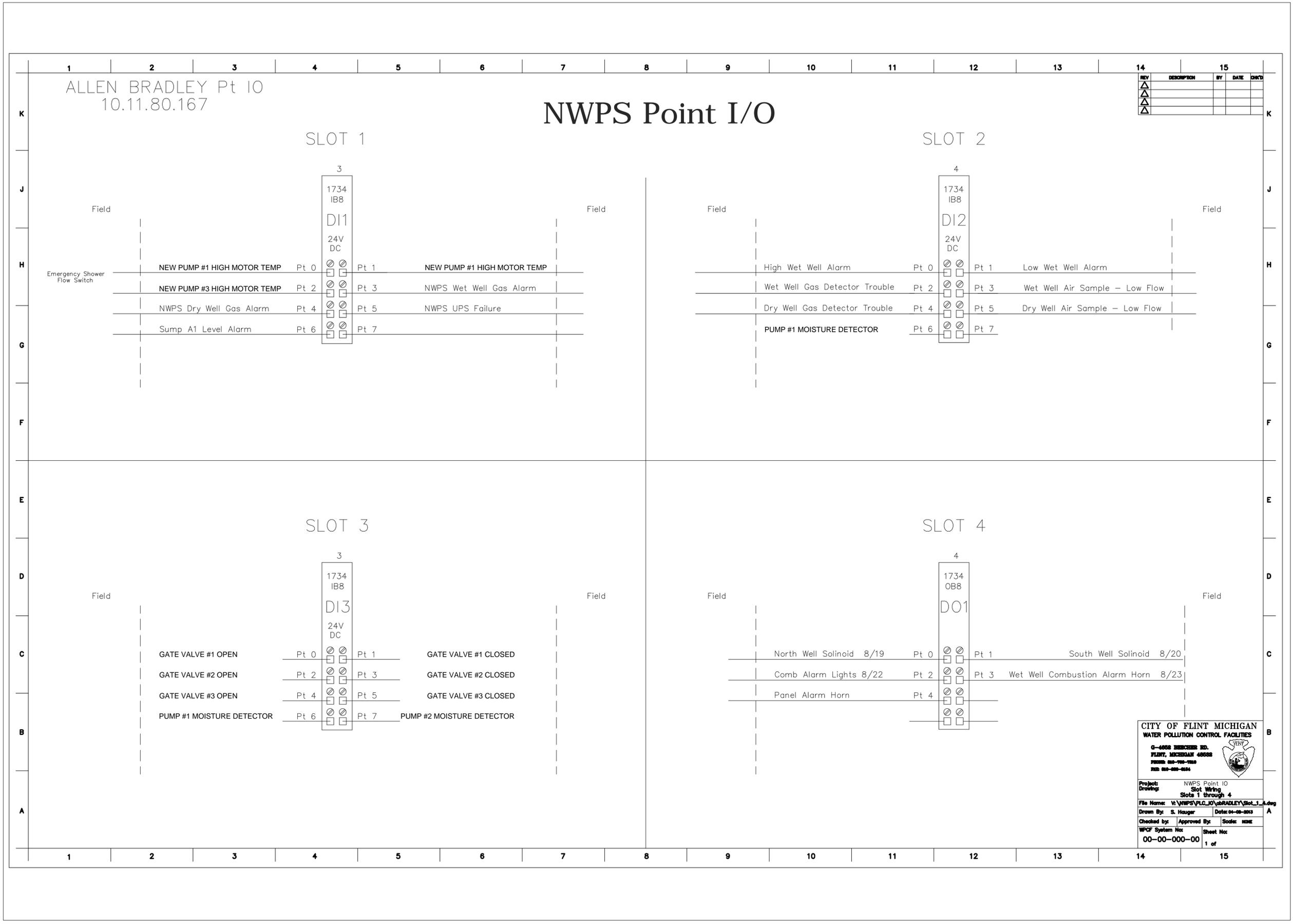
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REV	DESCRIPTION	BY	DATE	CHKD

CITY OF FLINT MICHIGAN
WATER POLLUTION CONTROL FACILITIES

G-4608 SUBSISTERS RD.
FLINT, MICHIGAN 48908
PHONE: 810-798-7200
FAX: 810-798-2884

Project: NWPS Point IO
 Drawing: Slot Wiring
 Slots 1 through 4
 File Name: W:\NWPS\PLC_IO\ALLENBRADLEY\Slot_1.dwg
 Drawn By: S. Hauger Date: 01-08-2020
 Checked by: Approved By: Scale: NONE
 WPCF System No: 00-00-000-00 Sheet No: 1 of 1

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 CHECKED BY: GJG

DLZ JOB NUMBER: 1849-0706-00

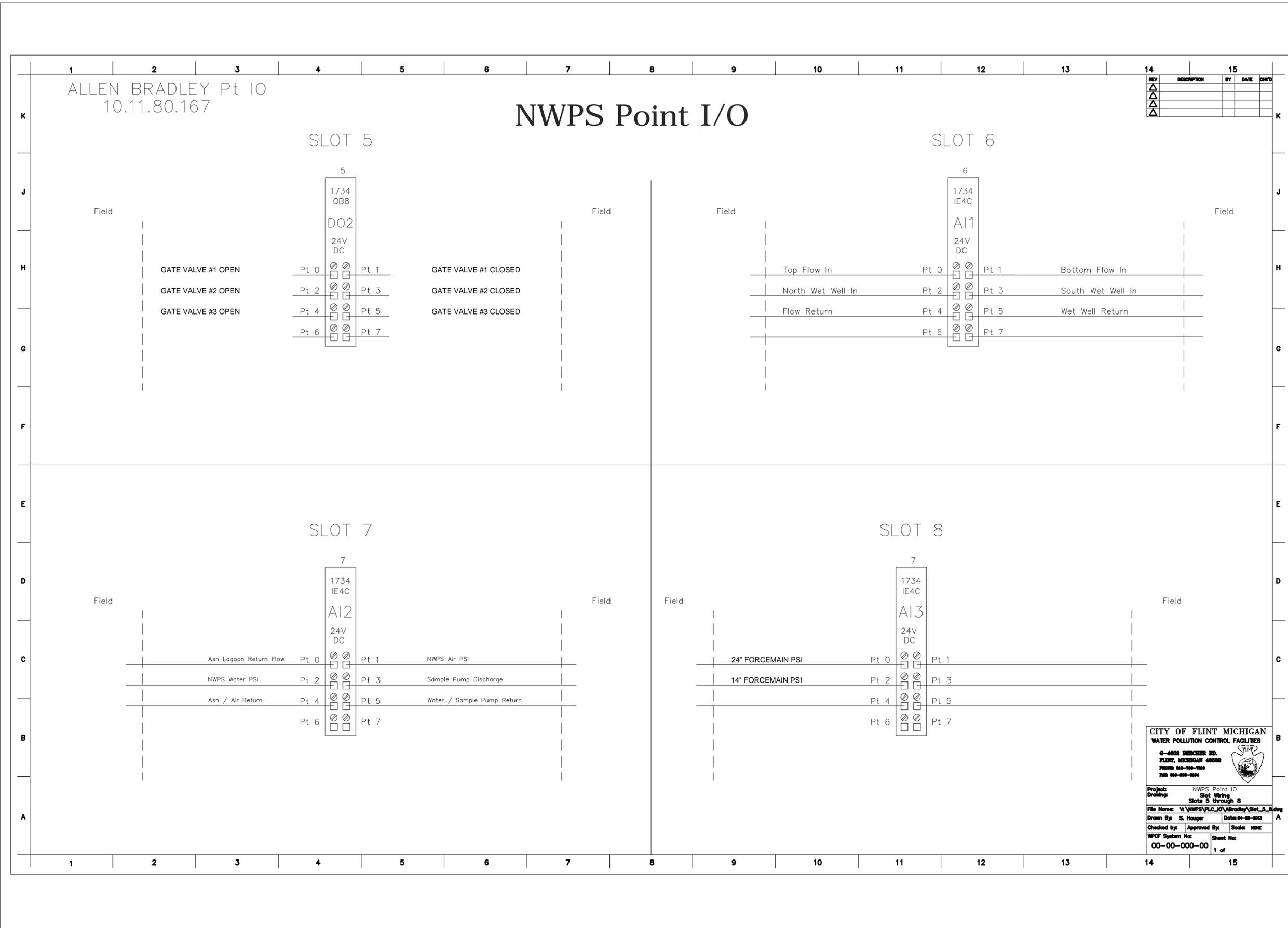
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CITY OF FLINT MICHIGAN
WATER POLLUTION CONTROL FACILITIES

0-4608 BERCHER RD.
 FLINT, MICHIGAN 48908
 PHONE: 810-790-1100
 FAX: 810-790-0304

Project: NWPS Point IO
 Drawing: Slot Wiring
 Slots 5 through 8

File Name: V:\NWPS\PLC_IO\Bradley\Slot_5.dwg
 Drawn By: S. Hauger Date: 01-08-2013 A
 Checked by: Approved By: Scale: NONE
 WPCF System No: 00-00-000-00 Sheet No: 1 of 1

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 DESIGN BY: GJG
 CHECKED BY: GJG

DLZ JOB NUMBER: 1849-0706-00

SHEET NO.
E-105

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City of Flint
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 Northwest Pump Station Improvements
 Electrical Design

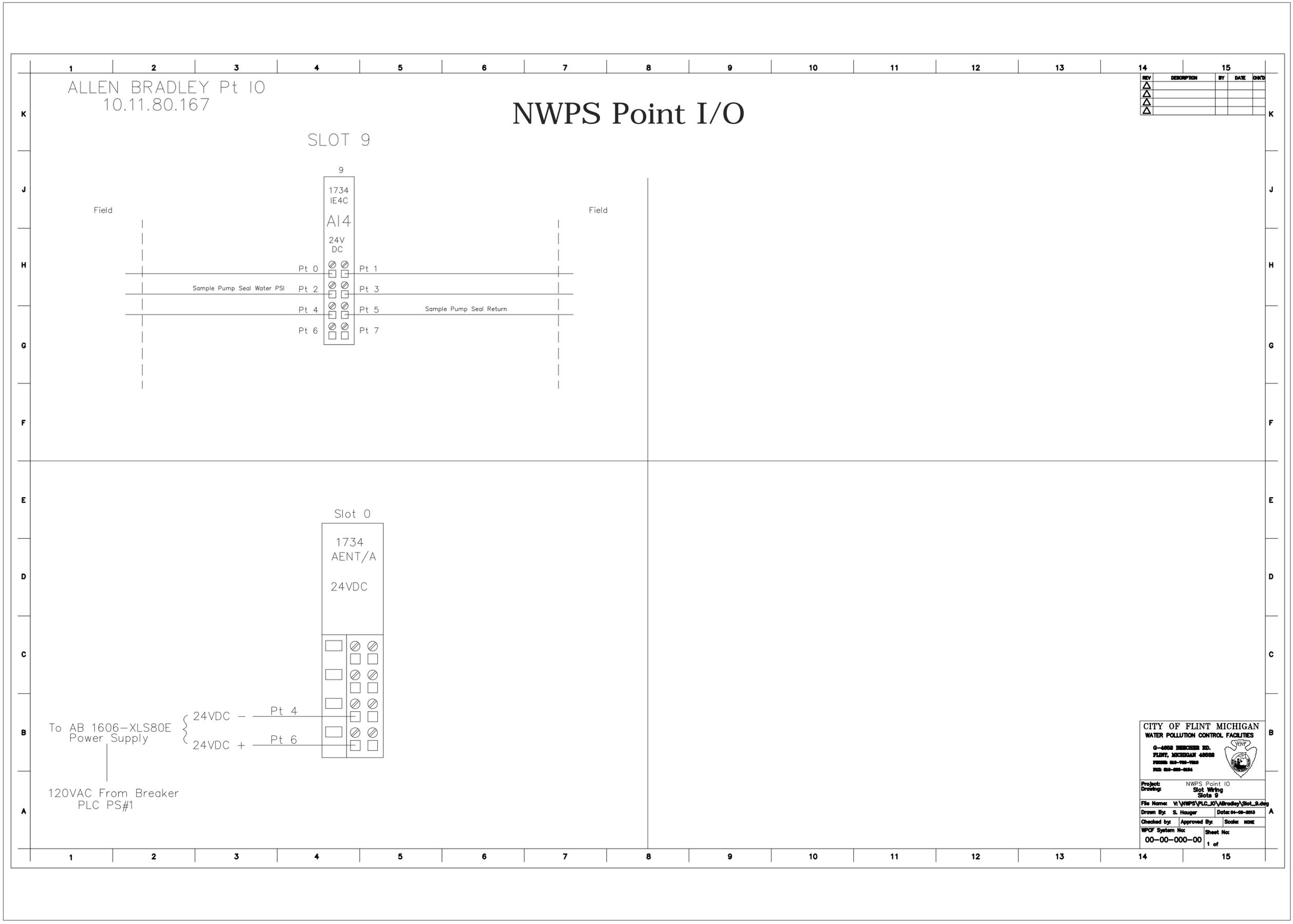
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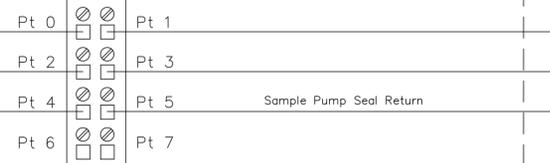
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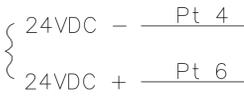
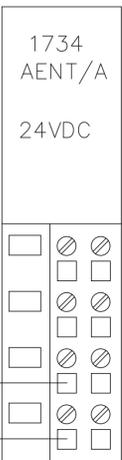
NWPS Point I/O

ALLEN BRADLEY Pt IO
10.11.80.167

SLOT 9



Slot 0



To AB 1606-XLS80E
Power Supply

120VAC From Breaker
PLC PS#1

REV	DESCRIPTION	BY	DATE	CHKD

CITY OF FLINT MICHIGAN
WATER POLLUTION CONTROL FACILITIES

G-4008 BREXESER RD.
 FLINT, MICHIGAN 48908
 PHONE: 810-226-7800
 FAX: 810-226-6164



Project: NWPS Point IO
 Drawings: Slot Wiring
 Slot 9

File Name: W:\NWPS\PLC_IO\Bradley\Slot_9.dwg
 Drawn By: S. Hauger Date: 04-08-2015
 Checked by: Approved By: Scale: NONE

WPCF System No: Sheet No:
 00-00-000-00 1 of 1

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City of Flint
 1101 S. Saginaw Street
 Flint, Michigan 48502

Northwest Pump Station Improvements
 Electrical Design

NOT TO SCALE

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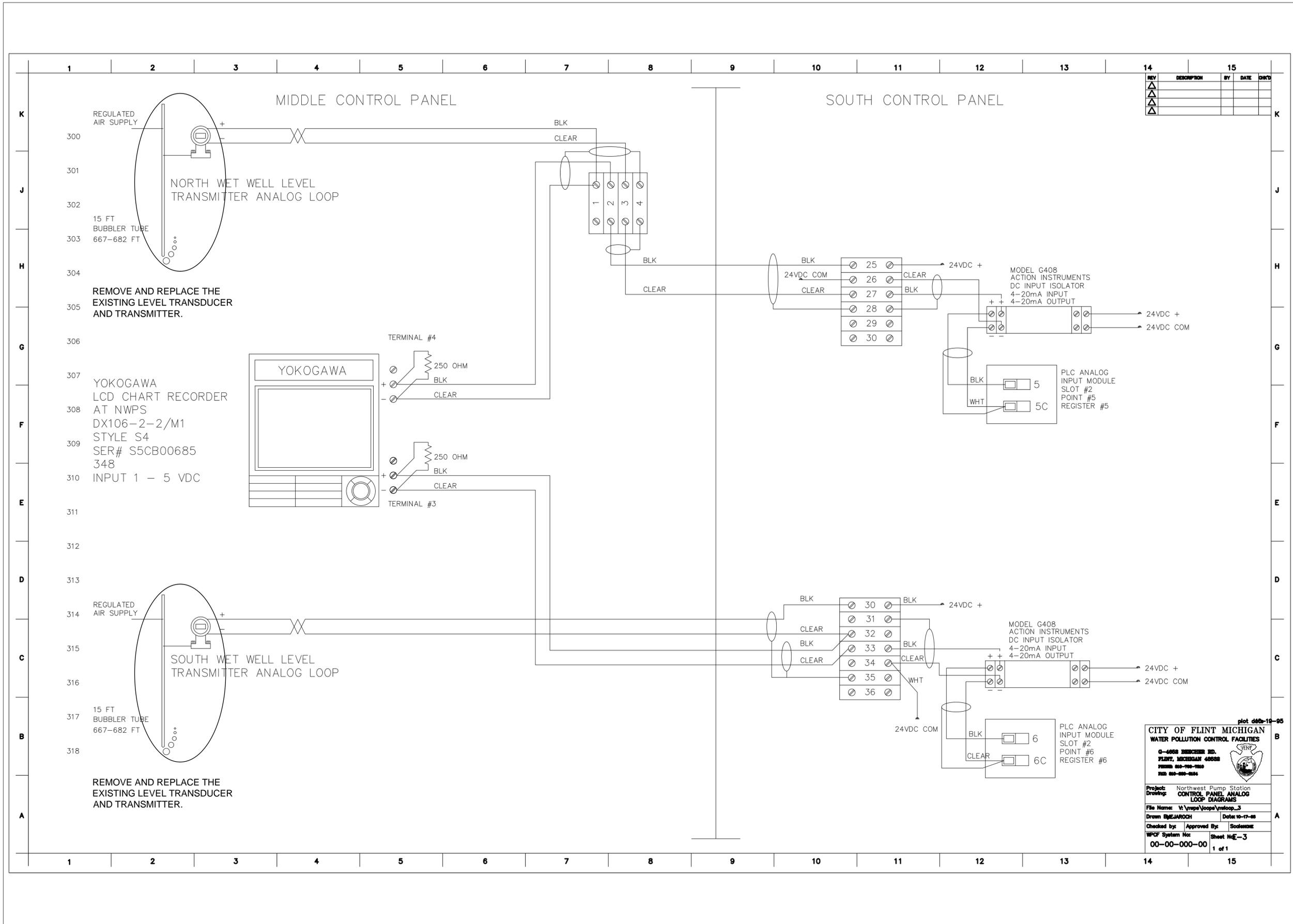
DRAWN BY: DLZ
 DESIGN BY: GJG
 CHECKED BY: GJG

DLZ JOB NUMBER: 1849-0706-00

SHEET NO.
E-106

SCALE: VERT. -
 HORZ. -

Layout: E-108
 RUT DATE: 2/14/2020 1:54:08 PM
 BRENDAN WARBEL X:\Projects\Waterfor18500\18706 City of Flint Pump Station Rehabilitation\18706 Electrical.dwg



REV	DESCRIPTION	BY	DATE	CHKD

REMOVE AND REPLACE THE EXISTING LEVEL TRANSDUCER AND TRANSMITTER.

REMOVE AND REPLACE THE EXISTING LEVEL TRANSDUCER AND TRANSMITTER.

plot 060-18-05

CITY OF FLINT MICHIGAN
WATER POLLUTION CONTROL FACILITIES

0-4658 SHEET NO.
 FLINT, MICHIGAN 48908
 PHONE 810-799-7200
 FAX 810-882-2894

Project: Northwest Pump Station
Drawing: CONTROL PANEL ANALOG LOOP DIAGRAMS

File Name: Y:\mwp\loop\loop_3
Drawn: BRENDAN WARBEL **Date:** 10-17-20

Checked by: Approved By: **Socikowicz**

WPCF System No: 00-00-000-00 **Sheet No:** 3
 1 of 1

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CITY OF FLINT

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 Electrical Design

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 CHECKED BY: GJG

DLZ JOB NUMBER: 1849-0706-00

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