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10/1/2021 12:42:34 PM 2019-145.00

Salt Lake City
Department of Airports

SALT LAKE CITY INTERNATIONAL AIRPORT

CONSTRUCTION DRAWINGS FOR:

PUMP HOUSE #5 RENOVATION

3334 WEST 1000 NORTH, SALT LAKE CITY, UT 84114

PROJECT NO. 54 1019 1763

MAYOR OF SALT LAKE CITY
ERIN MENDENHALL

EXECUTIVE DIRECTOR OF AIRPORTS
BILL WYATT

ENGINEERING DIVISION
SALT LAKE CITY INTERNATIONAL AIRPORT
SECOND FLOOR-TERMINAL UNIT #1
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TELEPHONE (801) 575-2900 FAX (801) 575-2592

SCOTT MARTIN, AIA DATE
AIRPORT ARCHITECT

10-01-2021

PROJECT NO.
54 5001 1717
SHEET NO. 1
OF 27 SHEETS

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GENERAL NOTES

A. CONSTRUCTION SCHEDULE NOTE: MINIMIZE PUMP HOUSE SHUTDOWN. COORDINATE WITH PUMP DELIVERY SCHEDULE.

MEP SCOPE COORDINATION MATRIX

Airport Project Information PUMP HOUSE #5 RENOVATION

MC = MECHANICAL CONTRACTOR EC = ELECTRICAL CONTRACTOR BCC = BAS CONTROL CONTRACTOR
ES = EQUIPMENT SUPPLIER FPSC = FIRE PROTECTION SUBCONTRACTOR NA = NOT APPLICABLE

ITEM DESCRIPTION	FURNISHED BY	INSTALLED BY	CONDUIT BY	CONTROLS FURNISHED BY	BAS CONTROL CONDUIT BY	PROGRAMMING BY	WIRE BY	BAS CONTROL WIRE BY	TechNet (Ethernet)	MONITOR OR CONTROL	PROTOCOL/COMM REQUIRED	FUNCTIONAL ACCEPTANCE TEST BY	COMMENTS
NEW STORM WATER PUMP & VFD	MC	MC	EC	BCC	EC	BCC	EC	BCC	BCC	BCC	MODBUS OR BACNET	BCC	
NEW STORM WATER PUMP GLAND SEAL WATER FLOW METER	MC	MC	EC	BCC	EC	BCC	EC	BCC	BCC	BCC	HARDWIRED	BCC	
AGITATOR PUMP	MC	MC	EC	BCC	EC	BCC	EC	BCC	BCC	BCC	HARDWIRED	BCC	
FLOW METER	MC	MC	EC	BCC	EC	BCC	EC	BCC	BCC	BCC	MODBUS	BCC	
LEVEL DETECTOR	MC	MC	EC	BCC	EC	BCC	EC	BCC	BCC	BCC	MODBUS	BCC	
EXHAUST FAN (METER PIT)	MC	MC	EC	EC	NA	NA	EC	NA	NA	NA	NA	MC	
SUMP PUMP (METER PIT)	MC	MC	EC	MC	NA	NA	EC	NA	NA	NA	NA	MC	INTEGRAL PUMP CONTROL PROVIDE RUN TIME METER RTM-1
WATER SENSOR (METER PIT)	BCC	BCC	EC	BCC	EC	BCC	NA	BCC	NA	BCC	NA	BCC	
GENERATOR AUTOMATIC TRANSFER SWITCH	EC	EC	EC	NA	EC	NA	EC	NA	NA	NA	NA	EC	
POWER METER	EC	EC	EC	BCC	EC	BCC	EC	BCC	BCC	BCC	MODBUS	BCC	
GENERATOR	AIRPORT	EC	EC	BCC	EC	BCC	EC	BCC	BCC	BCC	MODBUS	EC	

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SHEET INDEX

REVISIONS

No.	DATE	REMARKS	BY	APV

DESIGNED Designer 10-01-2021
DRAWN Author 10-01-2021
CHECKED Checker 10-01-2021
APPROVED -- 10-01-2021
DATE 10-01-2021

Salt Lake City Department of Airports

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P.O. BOX 145550
SALT LKE CITY, UT. 84114-5550
PROJECT ADDRESS:
3851 WEST 1200 NORTH

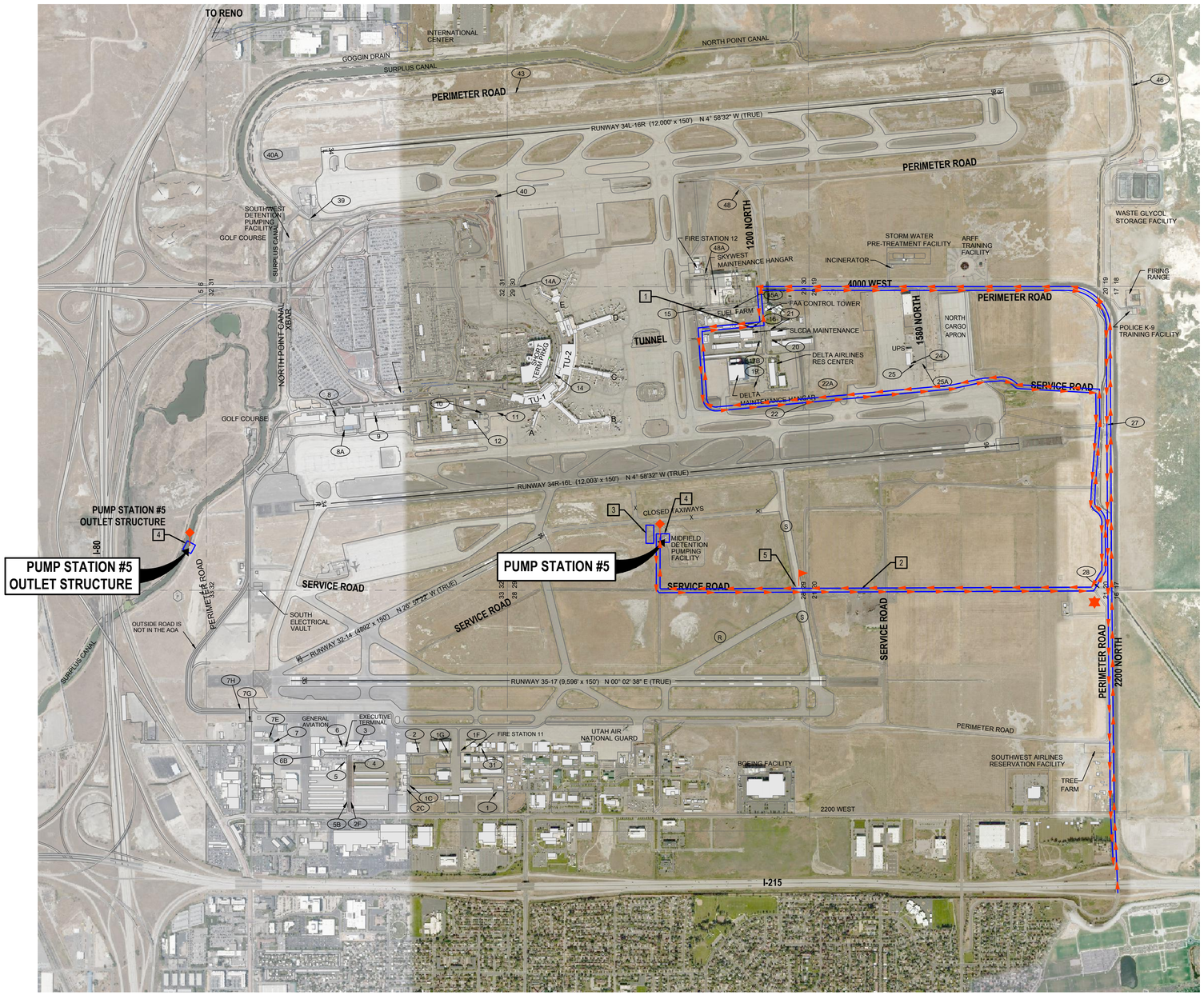
SALT LAKE CITY INTERNATIONAL AIRPORT

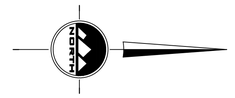
PUMP HOUSE #5 RENOVATION

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

DRAWING 2
PROJECT 54 10191763
SHEET GC002

10/1/2021 12:42:35 PM 2019-145.00





HORIZONTAL GRAPHIC SCALE

1000 0 500 1000 2000

(IN FEET)
HORZ: 1 inch = 1000ft.

LEGEND

- (XX) TAXIWAY DESIGNATIONS
- (XX) VEHICLE GATES
- GATE GAURD REQUIRED (BY AIRPORT). SEE NOTE 8.
- CONSTRUCTION SIGN (BY CONTRACTOR). SEE NOTE 14.
- FLAGGER (BY CONTRACTOR) REQUIRED DURING WORK HOURS. SEE NOTE 14.
- CONSTRUCTION VEHICLE TRAFFIC ROUTE AND DIRECTION.

KEY NOTES

1. CONSTRUCTION ENTRANCE AND EXIT.
2. HAUL ROUTE.
3. CONTRACTORS FIELD OFFICE AND EQUIPMENT PARKING (STAGING AREA).
4. CONTRACTOR WORK AREA.
5. ALL WORK REQUIRING CROSSING OF TAXIWAY'S WILL REQUIRE FLAGGING (SEE NOTE 14).

GENERAL NOTES:

1. THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL SAFETY REGULATIONS.
2. THE CONTRACTOR SHALL CONFINE CONTRACTOR'S EMPLOYEES AND EQUIPMENT TO THE PROJECT WORK AREA.
3. NO PERSONNEL OR EQUIPMENT SHALL ENTER THE SAFETY AREA OR OBJECT FREE AREA (OFA) OF ANY TAXIWAY OR RUNWAY WITHOUT AN APPROVED CLOSURE OF SAID TAXIWAY OR RUNWAY.
4. UPON COMPLETION OF THE PROJECT, THE CONTRACTOR'S FIELD OFFICE SHALL BE REMOVED AND EQUIPMENT PARKING AREA SHALL BE RESTORED TO ITS ORIGINAL CONDITION BY THE CONTRACTOR.
5. ALL CALLOUTS ON THE STAGING PLAN (EXCEPT JOB SITES) SHALL BE CONSIDERED INCIDENTAL ITEMS AND NO SEPARATE PAYMENT WILL BE PAID TO THE CONTRACTOR FOR THESE ITEMS. CONTRACTOR SHALL NOT SCALE DRAWINGS, WRITTEN DIMENSIONS SHALL ALWAYS GOVERN.
6. CONTRACTORS REQUIRING DIMENSIONS NOT NOTED, SHALL CONTACT THE ENGINEER FOR SUCH INFORMATION PRIOR TO PROCEEDING WITH THE WORK IN QUESTION. MOST, BUT NOT ALL UNDERGROUND UTILITIES ARE SHOWN IN THEIR APPROXIMATE LOCATION ON THE DRAWINGS.
7. THE CONTRACTOR SHALL INFORM ALL UTILITY OWNERS 48 HOURS PRIOR TO ANY EXCAVATION THAT MIGHT AFFECT THESE UTILITIES. IF DAMAGE TO EXISTING UTILITIES IS CAUSED AS A RESULT OF THE CONTRACTOR'S OPERATIONS, THE UTILITIES SHALL BE IMMEDIATELY REPAIRED TO THE SATISFACTION OF THE OWNER AT THE EXPENSE OF THE CONTRACTOR.
8. ALL AIRPORT PERIMETER GATES (NEW OR EXISTING) THAT ARE USED BY THE CONTRACTOR FOR THE CONTRACTOR'S OPERATIONS SHALL REQUIRE A TSA CERTIFIED GATE GUARD. SEE CONSTRUCTION AND SAFETY MANUAL FOR GATE GUARD REQUIREMENTS. THE GATE SHALL BE CLOSED AND LOCKED DURING OFF HOURS, WHEN CONSTRUCTION IS NOT IN PROGRESS, OR WHEN THE GATE GUARD IS NOT AT THE GATE.
9. THE ENGINEER RESERVES THE RIGHT TO MAKE REVISION TO FINISHED ELEVATIONS, SLOPES, FLOWLINES, AND LOCATIONS. IF CHANGES ARE NECESSARY, THE ENGINEER WILL FURNISH THE CONTRACTOR WITH A REVISED DRAWING.
10. THE AIRPORT SURVEYOR WILL ESTABLISH HORIZONTAL CONTROL AND BENCH MARKS PRIOR TO CONSTRUCTION. ALL CONSTRUCTION STAKING IS THE RESPONSIBILITY OF THE CONTRACTOR.
11. ALL EXCAVATED MATERIAL, REGARDLESS OF CLASSIFICATION, SHALL BE REMOVED FROM AIRPORT PROPERTY AND PROPERLY DISPOSED OF BY THE CONTRACTOR. THE COSTS FOR EXCAVATING, HAULING, AND DISPOSING OF THE EXCAVATED MATERIAL SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR EACH TYPE OF EXCAVATION IDENTIFIED AS AN ITEM OF WORK IN THE CONTRACT BID SCHEDULE.
12. THE CONTRACTOR SHALL MAINTAIN A BROOM CLEAN CONDITION ON ALL PUBLIC AND AIRPORT ROADS USED FOR THE CONTRACTOR'S HAULING OPERATION. THE CONTRACTOR SHALL REPAIR AND RESTORE THE ROAD SURFACE, IF DAMAGED AS A RESULT OF CONTRACTOR'S OPERATION, TO THE SAME CONDITION AS EXISTED PRIOR TO THE START OF CONSTRUCTION AT THE CONTRACTOR'S OWN EXPENSE. ANY DAMAGE TO AIRPORT APRONS, RUNWAYS, OR TAXIWAYS AS A RESULT OF CONTRACTOR'S OPERATIONS, WILL ALSO BE REPAIRED IN A LIKE MANNER.
13. IF ADDITIONAL HAUL ROADS NOT SHOWN ON THE DRAWINGS ARE REQUIRED, THE CONTRACTOR SHALL FURNISH THE APPROVED GRANULAR MATERIAL TO BUILD ROADS AT THE LOCATION AND GRADE APPROVED BY THE ENGINEER.
14. THE CONTRACTOR SHALL MEET ALL CROSSING AND OPERATING REQUIREMENTS OF THE UTAH DEPARTMENT OF TRANSPORTATION (UDOT) FOR TRAFFIC CONTROL. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL A DETAILED TRAFFIC CONTROL PLAN CONFORMING TO THE REQUIREMENTS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" FOR STREETS AND HIGHWAYS AND SALT LAKE CITY CORPORATION PUBLIC WORKS DEPARTMENT "TRAFFIC BARRICADE MANUAL", LATEST EDITION.
15. THE CONTRACTOR SHALL ADHERE TO ALL COUNTY, CITY, STATE AND AIRPORT TRAFFIC REGULATIONS CONCERNING THE USE OF STREETS OR ROADS FOR HAULING.
16. REFER TO NOTE 5 PLAN FOR SPECIFIC CONSTRUCTION SIGNING AND FLAGGING REQUIREMENTS.
17. DEMOLITION WILL NOT START UNTIL THE NEW PUMP IS READY TO ARRIVE TO MINIMIZE THE IMPACTS OF THE CLOSEOFF ON THE PUMP HOUSE.

PLOTTED 6/11/2020 12:10:32 AM

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VICINITY AND CONSTRUCTION ENTRANCE PLAN

PROFESSIONAL ENGINEER 7885569-2202 ROBERT J. ROUSSELLE EXP. 3-31-2021 STATE OF UTAH
6/11/2020

REVISIONS

No.	DATE	REMARKS	BY	APV

DESIGNED	R. ROUSSELLE	06/11/2020
DRAWN	G. OFFERMANN	DATE 06/11/2020
CHECKED	R. ROUSSELLE	DATE 06/11/2020
APPROVED	R. ROUSSELLE	DATE 06/11/2020
DATE		06/11/2020

Salt Lake City Department of Airports

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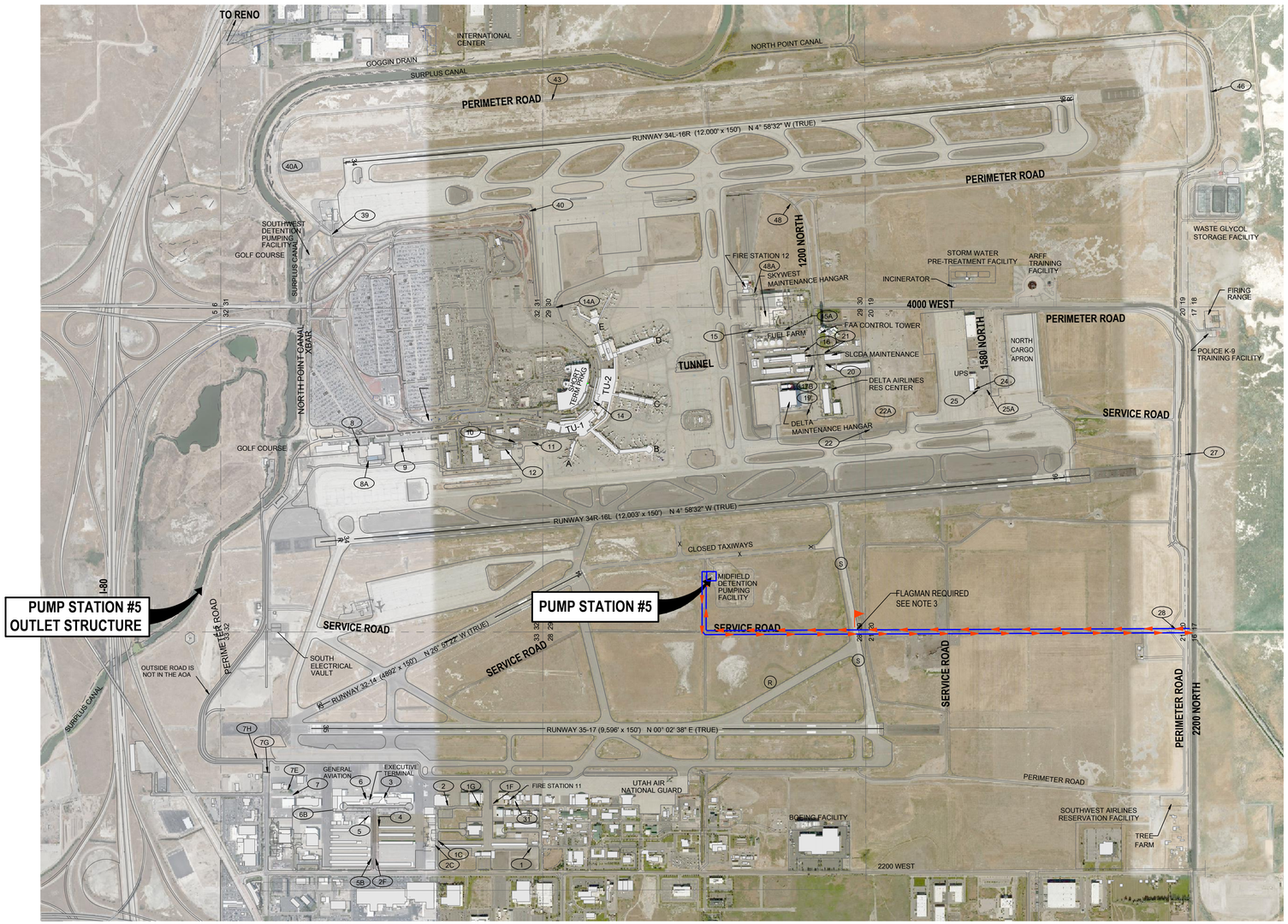
SALT LKE CITY, UT. 84114-5550
PROJECT ADDRESS:
3851 WEST 1200 NORTH

SALT LAKE CITY INTERNATIONAL AIRPORT

PUMP HOUSE #5 RENOVATION

SCALE: 1" = 1000'

DRAWING 3
PROJECT 54 10191763
SHEET C-001



NORTH

HORIZONTAL GRAPHIC SCALE

1000 0 500 1000 2000

(IN FEET)
HORZ: 1 inch = 1000ft.

LEGEND

FLAGGER (BY CONTRACTOR) REQUIRED DURING WORK HOURS.

CONSTRUCTION VEHICLE TRAFFIC ROUTE AND DIRECTION.

NOTES:

1. NO RUNWAY OR TAXIWAY CLOSURES ARE EXPECTED TO PERFORM THIS WORK.
2. IN CASE OF RUNWAY OR TAXIWAY CLOSURES, NO PERSONNEL OR EQUIPMENT MAY ENTER THE SAFETY AREA OR OBJECT FREE AREA OF TAXIWAY OR RUNWAY WITHOUT WRITTEN APPROVAL OF SPECIFIED RUNWAY OR TAXIWAY CLOSURE WITH A MINIMUM 48 HOUR NOTICE TO AIRPORT.
3. ACCESSING OR CROSSING A RUNWAY TAXIWAY REQUIRES UDOT/AIRPORT APPROVED FLAGGER OR ESCORTS AND REQUIRES COORDINATION WITH THE AIRPORT 48 HOURS IN ADVANCE.

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VICINITY AND FLAGGING PLAN

PROFESSIONAL ENGINEER 7885569-2202 ROBERT J. ROUSSELLE EXP. 3-31-2021 STATE OF UTAH
05/24/2021

REVISIONS

No.	DATE	REMARKS	BY	APV

DESIGNED	R. ROUSSELLE	06/11/2020
		DATE
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SALT LAKE CITY INTERNATIONAL AIRPORT

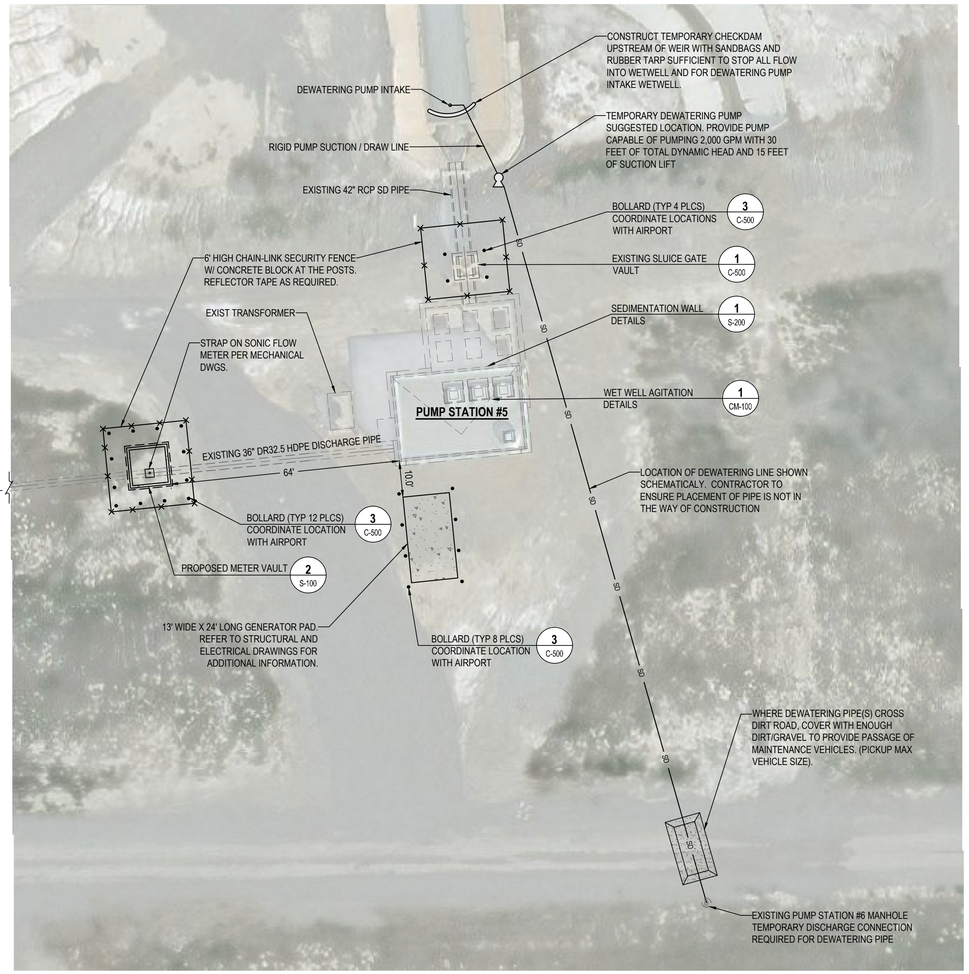
PUMP HOUSE #5 RENOVATION

SCALE: 1" = 1000'

DRAWING 4
PROJECT 54 10191763
SHEET C-002

GENERAL NOTES

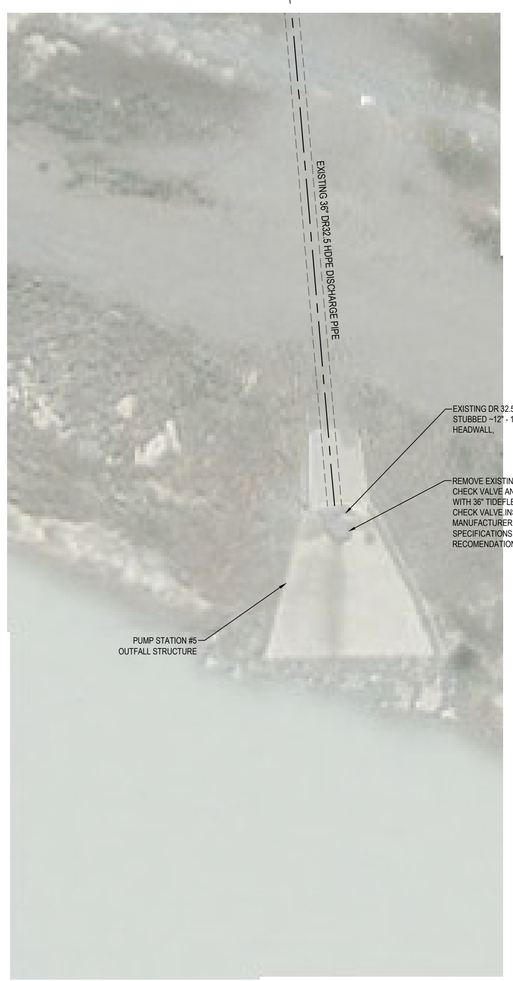
1. ALL WORK TO COMPLY WITH THE SALT LAKE CITY INTERNATIONAL AIRPORT'S STANDARDS AND SPECIFICATIONS.
2. EXISTING UNDERGROUND UTILITIES AND IMPROVEMENTS ARE SHOWN IN THEIR APPROXIMATE LOCATIONS BASED UPON RECORD INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE PLANS. LOCATIONS MAY NOT HAVE BEEN VERIFIED IN THE FIELD AND NO GUARANTEE IS MADE AS TO THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXISTENCE AND LOCATION OF THE UTILITIES SHOWN ON THESE PLANS OR INDICATED IN THE FIELD BY LOCATING SERVICES. ANY ADDITIONAL COSTS INCURRED AS A RESULT OF THE CONTRACTOR'S FAILURE TO VERIFY THE LOCATIONS OF EXISTING UTILITIES PRIOR TO THE BEGINNING OF CONSTRUCTION IN THEIR VICINITY SHALL BE BORNE BY THE CONTRACTOR AND ASSUMED INCLUDED IN THE CONTRACT. THE CONTRACTOR IS TO VERIFY ALL CONNECTION POINTS WITH THE EXISTING UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE CAUSED TO THE EXISTING UTILITIES AND UTILITY STRUCTURES THAT ARE TO REMAIN. IF CONFLICTS WITH EXISTING UTILITIES OCCUR, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONSTRUCTION TO DETERMINE IF ANY FIELD ADJUSTMENTS SHOULD BE MADE.
3. ALL INFRASTRUCTURE TO BE INSTALLED PER SALT LAKE CITY INTERNATIONAL AIRPORT STANDARDS.
4. THE CONTRACTOR IS TO COORDINATE ALL UTILITIES WITH MECHANICAL/PLUMBING PLANS.
5. NOTIFY ENGINEER OF ANY DISCREPANCIES IN DESIGN OR STAKING BEFORE PLACING UTILITY STRUCTURES OR PIPES.
6. THE CONTRACTOR IS TO PROTECT AND PRESERVE ALL EXISTING IMPROVEMENTS, UTILITIES, AND SIGNS, ETC. UNLESS OTHERWISE NOTED ON THESE PLANS.



(REFER TO SHEET C-001 FOR LOCATION)

1 PUMP STATION #5 SITE PLAN

SCALE: 1"=20'



(REFER TO SHEET C-001 FOR LOCATION)

2 CANAL OUTFALL STRUCTURE DISCHARGE SITE PLAN

SCALE: 1"=10'

NORTH

HORIZONTAL GRAPHIC SCALE

10 0 5 10 20

(IN FEET)

HORZ: 1 inch = 10 ft.

PLOTTED 6/11/2020 12:08:19 AM

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PUMP STATION AND CANAL DISCHARGE SITE PLANS

PROFESSIONAL ENGINEER 7885569-2202 ROBERT J. ROUSSELLE EXP. 3-31-2021 STATE OF UTAH

05/24/2021

REVISIONS

No.	DATE	REMARKS	BY	APV

DESIGNED	R. ROUSSELLE	06/11/2020
		DATE
DRAWN	G. OFFERMANN	06/11/2020
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		DATE
APPROVED	R. ROUSSELLE	06/11/2020
DATE		06/11/2020

Salt Lake City Department of Airports

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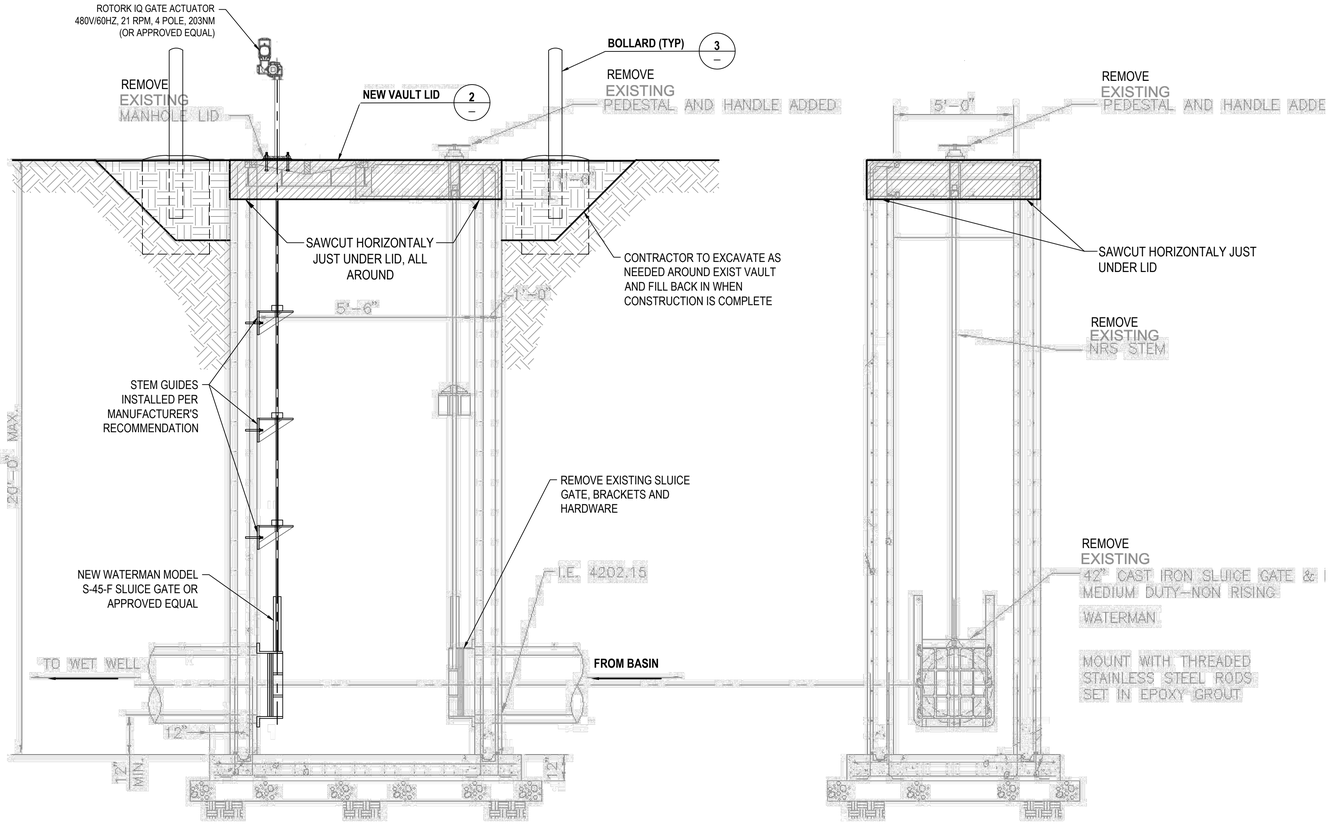
PROJECT ADDRESS:
3851 WEST 1200 NORTH

SALT LAKE CITY INTERNATIONAL AIRPORT

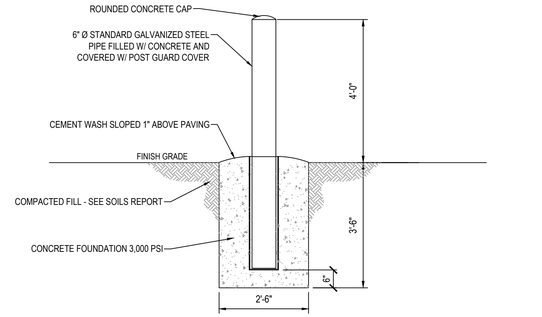
PUMP HOUSE #5 RENOVATION

SCALE: 1" = 10'

DRAWING 5
PROJECT 54 10191763
SHEET C-100



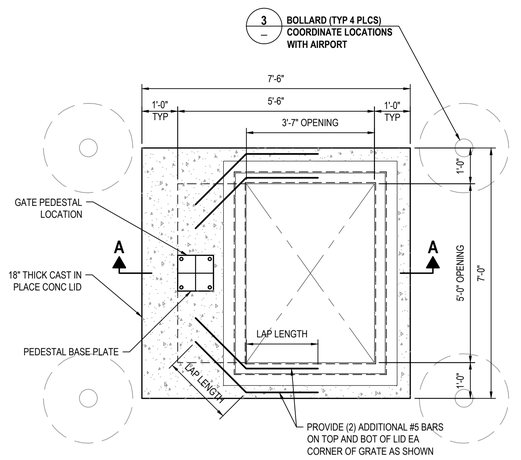
1 ASBUILT SLUICE GATE VAULT MODIFICATION DETAIL
SCALE: NTS



3 BOLLARD
SCALE: NONE

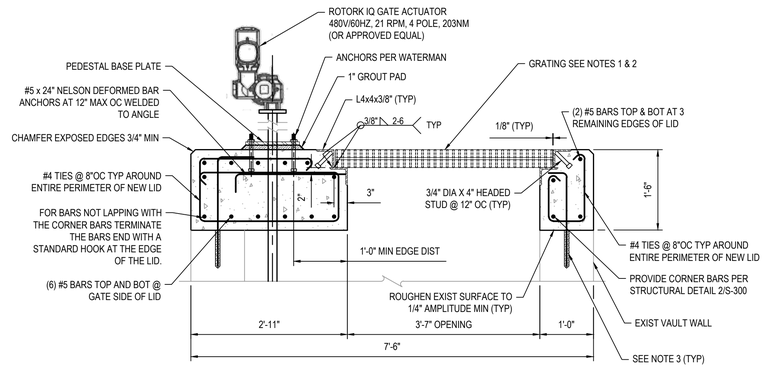
NOTES:

1. 4" BEARING BARS AT 1-3/8" ON CENTER OR APPROVED EQUAL. PROVIDE SUPPLEMENTARY 1/2" DIA. BARS AT BOTTOM OF GRATING AT 12" MAX ON CENTER. THE SECTION MODULUS OF THE GRATING SHALL BE A MINUMUM OF 9.074 IN^3 PER FOOT OF GRATING WIDTH.
2. BANDING BARS FOR GRATING SHALL HAVE A 3/16" FILLET WELD AT EACH END AND EACH BEARING BAR. ALL EDGES SHALL BE BANDED. BANDING BARS SHALL BE THE SAME THICKNESS AS THE BEARING BARS AND 1/2" LESS THAN THE DEPTH OF THE GRATING. THE BANDING BARS SHALL BE FLUSH WITH THE TOP OF THE GRATING.
3. #5 DOWELS @ 12" O.C. AROUND ENTIRE PERIMETER OF LID CENTERED IN THE WALL. TERMINATE IN LID WITH STANDARD HOOK. DOWEL INTO EXISTING CONCRETE WALL 8" MIN. USING HILTI RE-500 V3 ADHESIVE. INSTALL PER MANUFACTURER'S REQUIREMENTS.
4. SEE SHEET S-000 FOR SLUICE GATE LID CONCRETE PROPERTIES.
5. ALL REINFORCING SHALL BE EPOXY COATED.
6. GRATING AND EMBED ANGLE SHALL BE G-90 HOT DIP GALVANIZED.



NOTE: GRATE NOT SHOWN FOR CLARITY.

PLAN VIEW
SCALE: 1/2" = 1'-0"



SECTION A-A

2 NEW SLUICE GATE VAULT LID DETAIL
SCALE: 1/2" = 1'-0"

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EXISTING SLUICE GATE VAULT MODIFICATIONS

PROFESSIONAL ENGINEER
7885569-2202
ROBERT J. ROUSSELLE
EXP. 3-31-2021
STATE OF UTAH
09/24/2021

REVISIONS				
No.	DATE	REMARKS	BY	APV

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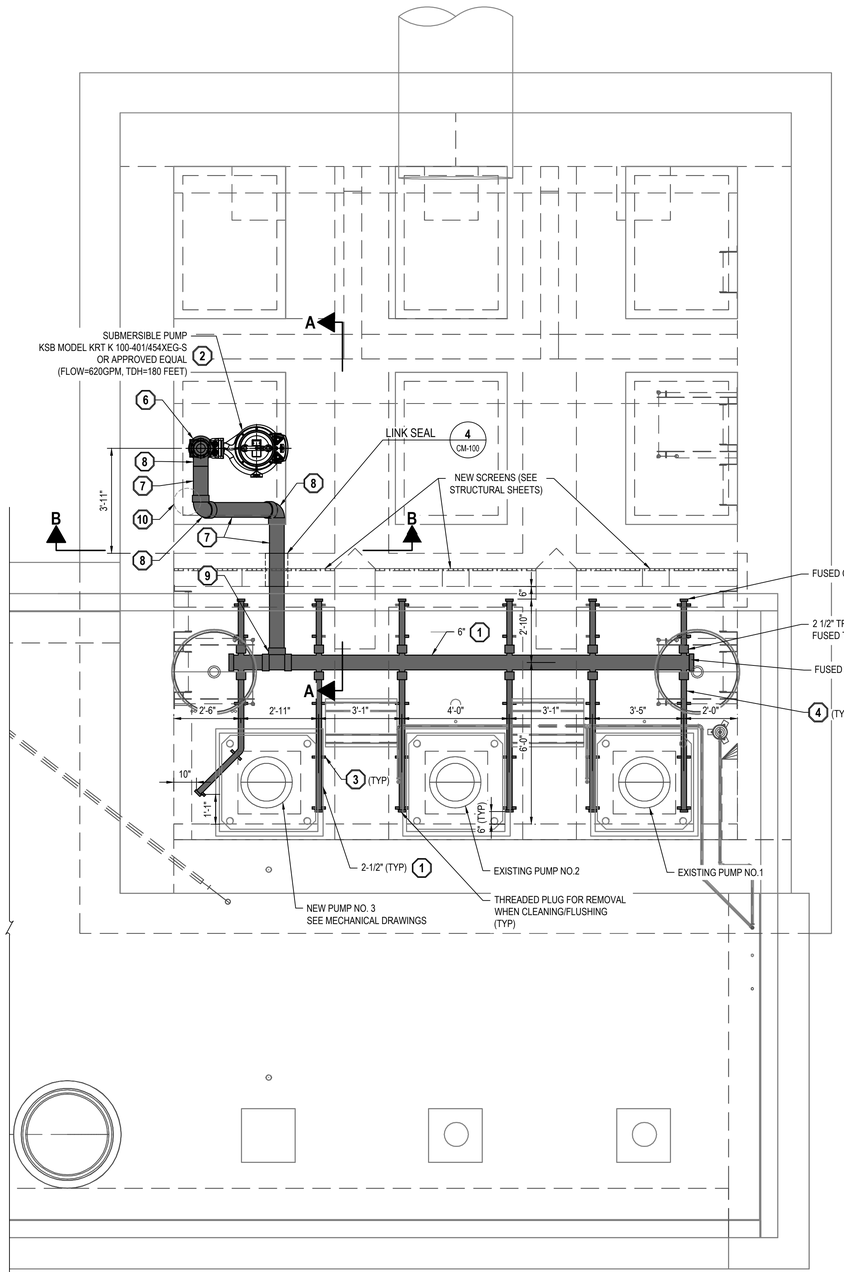
3851 WEST 1200 NORTH

SALT LAKE CITY INTERNATIONAL AIRPORT

PUMP HOUSE #5
RENOVATION

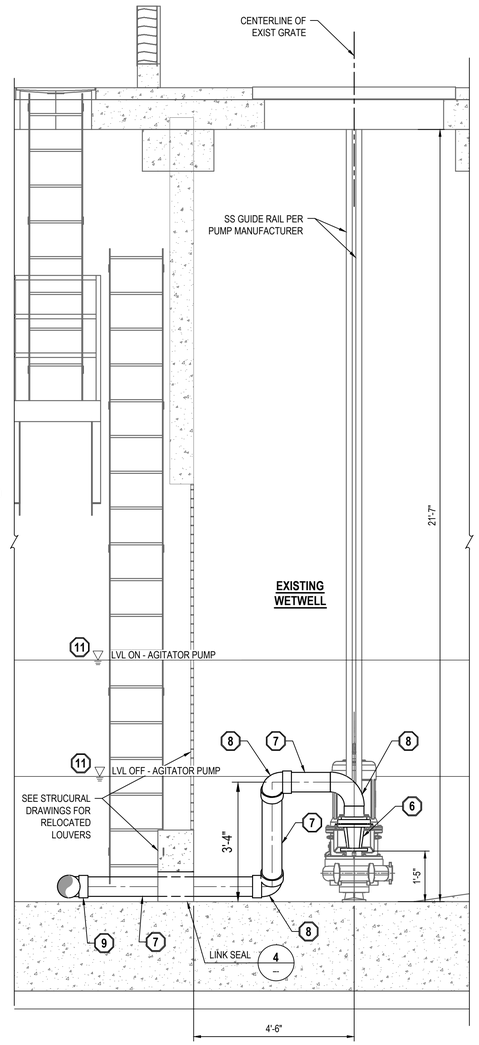
SCALE: AS SHOWN
DRAWING 6
PROJECT 54 10191763
SHEET C-500

PLOTTED 6/11/2020 12:12:02 AM



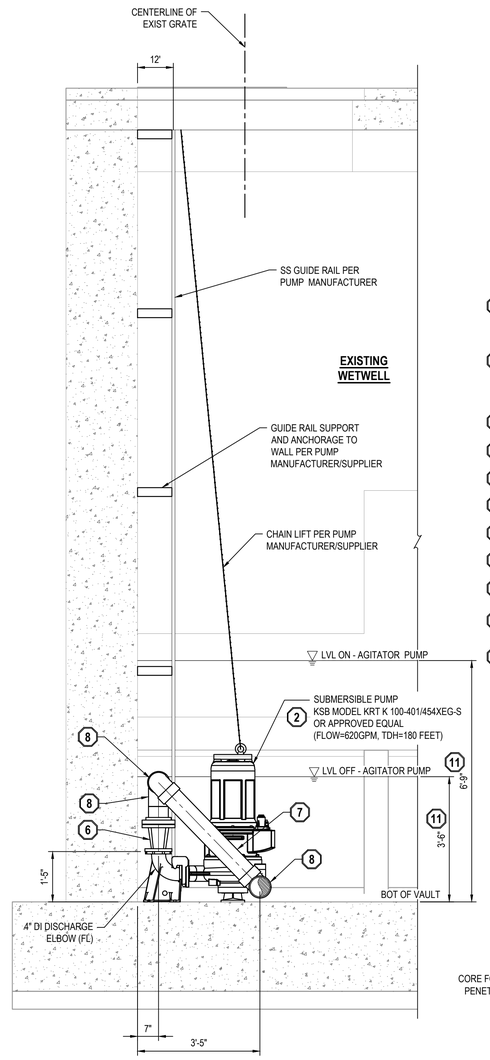
1 WET WELL AGITATOR PLAN

SCALE: 3/8" = 1'-0"



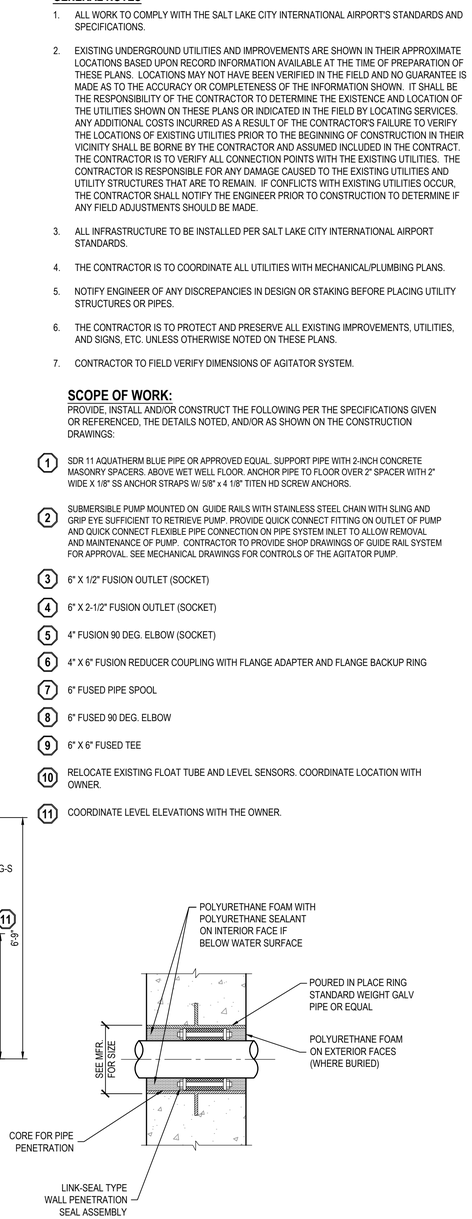
2 SECTION A-A

SCALE: 1/2" = 1'-0"



3 SECTION B-B

SCALE: 1/2" = 1'-0"



4 TYPICAL LINK SEAL DETAIL

SCALE: 3/8" = 1'-0"

GENERAL NOTES

1. ALL WORK TO COMPLY WITH THE SALT LAKE CITY INTERNATIONAL AIRPORT'S STANDARDS AND SPECIFICATIONS.
2. EXISTING UNDERGROUND UTILITIES AND IMPROVEMENTS ARE SHOWN IN THEIR APPROXIMATE LOCATIONS BASED UPON RECORD INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE PLANS. LOCATIONS MAY NOT HAVE BEEN VERIFIED IN THE FIELD AND NO GUARANTEE IS MADE AS TO THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXISTENCE AND LOCATION OF THE UTILITIES SHOWN ON THESE PLANS OR INDICATED IN THE FIELD BY LOCATING SERVICES. ANY ADDITIONAL COSTS INCURRED AS A RESULT OF THE CONTRACTOR'S FAILURE TO VERIFY THE LOCATIONS OF EXISTING UTILITIES PRIOR TO THE BEGINNING OF CONSTRUCTION IN THEIR VICINITY SHALL BE BORNE BY THE CONTRACTOR AND ASSUMED INCLUDED IN THE CONTRACT. THE CONTRACTOR IS TO VERIFY ALL CONNECTION POINTS WITH THE EXISTING UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE CAUSED TO THE EXISTING UTILITIES AND UTILITY STRUCTURES THAT ARE TO REMAIN. IF CONFLICTS WITH EXISTING UTILITIES OCCUR, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONSTRUCTION TO DETERMINE IF ANY FIELD ADJUSTMENTS SHOULD BE MADE.
3. ALL INFRASTRUCTURE TO BE INSTALLED PER SALT LAKE CITY INTERNATIONAL AIRPORT STANDARDS.
4. THE CONTRACTOR IS TO COORDINATE ALL UTILITIES WITH MECHANICAL/PLUMBING PLANS.
5. NOTIFY ENGINEER OF ANY DISCREPANCIES IN DESIGN OR STAKING BEFORE PLACING UTILITY STRUCTURES OR PIPES.
6. THE CONTRACTOR IS TO PROTECT AND PRESERVE ALL EXISTING IMPROVEMENTS, UTILITIES, AND SIGNS, ETC. UNLESS OTHERWISE NOTED ON THESE PLANS.
7. CONTRACTOR TO FIELD VERIFY DIMENSIONS OF AGITATOR SYSTEM.

SCOPE OF WORK:

PROVIDE, INSTALL AND/OR CONSTRUCT THE FOLLOWING PER THE SPECIFICATIONS GIVEN OR REFERENCED, THE DETAILS NOTED, AND/OR AS SHOWN ON THE CONSTRUCTION DRAWINGS:

1. SDR 11 AQUATHERM BLUE PIPE OR APPROVED EQUAL. SUPPORT PIPE WITH 2-INCH CONCRETE MASONRY SPACERS. ABOVE WET WELL FLOOR. ANCHOR PIPE TO FLOOR OVER 2" SPACER WITH 2" WIDE X 1/8" SS ANCHOR STRAPS W/ 5/8" x 4 1/8" TITEN HD SCREW ANCHORS.
2. SUBMERSIBLE PUMP MOUNTED ON GUIDE RAILS WITH STAINLESS STEEL CHAIN WITH SLING AND GRIP EYE SUFFICIENT TO RETRIEVE PUMP. PROVIDE QUICK CONNECT FITTING ON OUTLET OF PUMP AND QUICK CONNECT FLEXIBLE PIPE CONNECTION ON PIPE SYSTEM INLET TO ALLOW REMOVAL AND MAINTENANCE OF PUMP. CONTRACTOR TO PROVIDE SHOP DRAWINGS OF GUIDE RAIL SYSTEM FOR APPROVAL. SEE MECHANICAL DRAWINGS FOR CONTROLS OF THE AGITATOR PUMP.
3. 6" X 1/2" FUSION OUTLET (SOCKET)
4. 6" X 2-1/2" FUSION OUTLET (SOCKET)
5. 4" FUSION 90 DEG. ELBOW (SOCKET)
6. 4" X 6" FUSION REDUCER COUPLING WITH FLANGE ADAPTER AND FLANGE BACKUP RING
7. 6" FUSED PIPE SPOOL
8. 6" FUSED 90 DEG. ELBOW
9. 6" X 6" FUSED TEE
10. RELOCATE EXISTING FLOAT TUBE AND LEVEL SENSORS. COORDINATE LOCATION WITH OWNER.
11. COORDINATE LEVEL ELEVATIONS WITH THE OWNER.

NOTES:

1. PIPE SLEEVE FOR WALL PENETRATION SEAL ASSEMBLY SIZED BY MFR.
2. BOLTS SHALL BE SS.

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WET WELL AGITATOR PLAN

PROFESSIONAL ENGINEER
7885569-2202
ROBERT J.
ROUSSELLE
EXP. 3-31-2021
STATE OF UTAH
06/24/2021

REVISIONS				
No.	DATE	REMARKS	BY	APV

DESIGNED	R. ROUSSELLE	06/11/2020
DRAWN	G. OFFERMANN	06/11/2020
CHECKED	R. ROUSSELLE	06/11/2020
APPROVED	R. ROUSSELLE	06/11/2020
DATE		06/11/2020

Salt Lake City Department of Airports

ENGINEERING DIVISION
SALT LAKE CITY
DEPARTMENT OF AIRPORTS
P.O. BOX 145550
SALT LKE CITY, UT. 84114-5550

PROJECT ADDRESS:
3851 WEST 1200 NORTH

SALT LAKE CITY INTERNATIONAL AIRPORT

PUMP HOUSE #5 RENOVATION

SCALE: AS SHOWN

DRAWING 7
PROJECT 54 10191763
SHEET CM-100

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DESIGN CRITERIA

1. GOVERNING BUILDING CODE: **2018 IBC**
   A. TYPICAL RISK CATEGORY = III
   B. GENERATOR AND TANK RISK CATEGORY = IV

2. PUMP HOUSE ROOF LOADING (BASED ON AS BUILT DRAWINGS):
   A. ROOF LIVE LOAD = 20 PSF
   B. ROOF DEAD LOAD = 20 PSF
   C. ROOF SNOW LOAD (FLAT), p_f = 30 PSF
   D. RAIN LOADS:
      a. RAIN INTENSITY, I = 1.5 IN/HR

3. PUMP HOUSE FLOOR LOADING (BASED ON AS BUILT DRAWINGS):
   A. WET WELL LIVE = 250 PSF
   B. FLOOR DEAD LOAD = 150 PCF CONCRETE
   C. MEP DEAD ALLOWANCE = 10 PSF
   D. CONCRETE WALLS = 150 PCF

4. METERING VAULT LID:
   A. LID DEAD = 150 PCF
   B. MEP DEAD ALLOWANCE = 10 PSF
   C. LID LIVE = 40 PSF
   D. GROUND SNOW LOAD, p_g = 28 PSF

5. GENERATOR AND TANK:
   A. WEIGHT PROVIDED TO ENSIGN = 27,000 LBS COMBINED WEIGHT, VERIFY BASED ON FINAL SELECTION THAT WEIGHT IS LESS THAN ASSUMED FOR DESIGN. NOTIFY EOR IF WEIGHT IS GREATER.

6. SEISMIC LOADING:
   A. S_S = 1.479g
   B. S_1 = 0.524g
   C. S_{DS} = 1.183
   D. S_{D1} = 0.620
   E. SEISMIC DESIGN CATEGORY = D
   F. SITE CLASS = D (DEFAULT)
   G. TYPICAL IMPORTANCE FACTOR, I_e = 1.25
   H. GENERATOR AND TANK, I_e = 1.5

7. WIND LOADING:
   A. BASIC WIND SPEED, V = 109 MPH - 3 SEC GUST
   B. ASD WIND SPEED, V_{asd} = 85 MPH - 3-SEC GUST
   C. EXPOSURE = C
   D. INTERNAL PRESSURE COEFFICIENT, GC_{pi} = ± 0.18
   E. WIND DIRECTIONALITY FACTOR, K_d = 0.85
   F. WIND TOPOGRAPHIC FACTOR, K_{zt} = 1.0

8. SERVICEABILITY CRITERIA:

	TOTAL	LIVE / SNOW
A. DEFLECTION LIMITS:		
a. FLOOR	L/360	L/480
b. ROOF	L/240	L/360

GENERAL

1. ALL CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE GOVERNING BUILDING CODE AND SUPPLEMENTS UNLESS HIGHER STANDARD IS REQUIRED BY LOCAL BUILDING OFFICIAL.

2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE SITE.

3. THE CONTRACTOR IS RESPONSIBLE FOR MEETING ALL APPLICABLE OSHA SAFETY REQUIREMENTS DURING CONSTRUCTION AND SHALL BE RESPONSIBLE FOR SAFETY AND PROTECTION WITHIN AND ADJACENT TO THE SITE.

4. AT ANY GIVEN TIME DURING AND AFTER CONSTRUCTION, THE CONTRACTOR AND/OR OWNER SHALL ENSURE THE LOADS ON THE STRUCTURE DO NOT EXCEED THE SPECIFIED DESIGN LOADS. CONSTRUCTION MATERIAL SHALL BE SPREAD OUT IF PLACED ON FRAMED FLOORS OR ROOF.

5. DO NOT SCALE DRAWINGS. IF DIMENSIONS ARE IN QUESTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CLARIFICATION FROM THE ENGINEER BEFORE CONTINUING WITH CONSTRUCTION.

6. THE TYPICAL DETAILS SHALL BE USED WHEREVER APPLICABLE UNLESS OTHERWISE NOTED ON THE DRAWINGS. SPECIFIC NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.

7. ALL OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND/OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER BEFORE PROCEEDING WITH ANY WORK INVOLVED. IN CASE OF CONFLICT, FOLLOW MOST STRINGENT REQUIREMENT AS DETERMINED BY STRUCTURAL ENGINEER WITHOUT COST TO OWNER.

8. THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES.

9. WHERE REFERENCE IS MADE TO VARIOUS TEST STANDARDS FOR MATERIALS, SUCH STANDARDS SHALL BE THE LATEST EDITION AND/OR ADDENDUM.

10. ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING WITH APPROPRIATE TRADES, DRAWINGS AND SUBCONTRACTORS PRIOR TO CONSTRUCTION. DO NOT PENETRATE ANY STRUCTURAL ELEMENTS (BEAMS, COLUMNS, WALLS, SLABS, STEEL DECKS, ETC.) WITHOUT PRIOR WRITTEN APPROVAL OF STRUCTURAL ENGINEER THROUGH ARCHITECT.

11. ANY ENGINEERING DESIGN PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW SHALL BEAR THE SEAL OF A CIVIL OR STRUCTURAL ENGINEER REGISTERED IN THE STATE IN WHICH THE PROJECT IS LOCATED.

DEFERRED SUBMITTALS

1. DEFERRED SUBMITTALS ARE THOSE PORTIONS OF THE DESIGN WHICH ARE NOT SUBMITTED AT THE TIME OF PERMIT APPLICATION AND WHICH ARE TO BE SUBMITTED TO THE BUILDING OFFICIAL WITHIN A SPECIFIED PERIOD.

2. SUBMITTAL DOCUMENTS FOR DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD THROUGH THE ARCHITECT AND GENERAL CONTRACTOR WITHIN 6 WEEKS OF AWARD OF CONTRACT TO THE GENERAL CONTRACTOR. ONCE THE SUBMITTAL DOCUMENTS HAVE BEEN FOUND TO BE IN GENERAL CONFORMANCE TO THE CONTRACT DOCUMENTS, THE ENGINEER OF RECORD WILL FORWARD THEM TO THE ARCHITECT WITH A NOTATION INDICATING THAT THEY ARE IN GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING. THE ARCHITECT WILL FORWARD THE DEFERRED SUBMITTAL DOCUMENTS TO THE GENERAL CONTRACTOR WHO WILL MAINTAIN ONE SET ON SITE FOR REFERENCE BY THE CITY INSPECTOR. THE DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THE SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL.

3. ITEMS THAT ARE SUBMITTED FOR CONSIDERATION AS DEFERRED SUBMITTALS ARE AS FOLLOWS:
   A. BILCO HATCH
   B. GRATE SCREEN DESIGN
   C. GENERATOR AND TANK

SHOP DRAWINGS

1. SHOP DRAWINGS SHALL BE SUBMITTED TO THE GENERAL CONTRACTOR PRIOR TO FABRICATION OR ERECTION FOR THE FOLLOWING ITEMS:
   A. REINFORCING STEEL
   B. STRUCTURAL STEEL
   C. CONCRETE MIX DESIGNS

2. THE GENERAL CONTRACTOR SHALL SUBMIT ELECTRONIC COPIES OF ALL SHOP DRAWINGS TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION OR ERECTION. FIVE (5) WORKING DAYS (MINIMUM) SHALL BE ALLOWED FOR THE REVIEW OF THESE SHOP DRAWINGS BY THE STRUCTURAL ENGINEER.

3. THE GENERAL CONTRACTOR WILL REVIEW AND STAMP ALL SHOP DRAWINGS AND PRODUCT DATA FOR CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS PRIOR TO SUBMISSION. ANY SHOP DRAWINGS OR PRODUCT DATA NOT REVIEWED AND STAMPED BY THE GENERAL CONTRACTOR WILL BE RETURNED WITHOUT REVIEW.

4. ANY SHOP DRAWING NOT CHECKED AND INITIALED BY THE SUPPLIER/DETAILER PRIOR TO SUBMITTING FOR ARCHITECTURAL AND ENGINEERING REVIEW, WILL BE RETURNED WITHOUT REVIEW.

5. THE CONSTRUCTION DOCUMENTS MAY NOT BE REPRODUCED AND USED TO CREATE SHOP DRAWINGS WITHOUT THE PERMISSION FROM THE ARCHITECT OR ENGINEER.

FOUNDATIONS

1. GEOTECHNICAL CONSULTANT: ***RB&G ENGINEERING INC.***

2. REPORT NUMBER: ***9820-15***

3. REPORT DATE: ***APRIL 5, 2000***

4. SPREAD FOOTINGS SHALL BEAR ON PROPERLY PLACED AND COMPACTED GRANULAR STRUCTURAL FILL, AS DETERMINED BY THE GEOTECHNICAL ENGINEER OF RECORD. DESIGN SOIL BEARING VALUE IS ***1200*** PSF. BOTTOM OF FOOTINGS SHALL BE A MINIMUM OF ***30*** INCHES BELOW LOWEST ADJACENT FINAL GRADE. FOR TOP OF FOOTING ELEVATIONS SEE FOUNDATION PLAN.

5. **A 1.33** ALLOWABLE SOIL BEARING PRESSURE INCREASE IS ALLOWED FOR WIND/ SEISMIC LOADING.

6. ALL WATER SHALL BE REMOVED FROM FOUNDATION EXCAVATION PRIOR TO PLACING OF CONCRETE. DO NOT PLACE CONCRETE UNDER WATER OR ON FROZEN GROUND.

7. ANY FILL TO BE PLACED UNDER THE BUILDING AND FOOTINGS SHALL BE A WELL GRADED GRANULAR MATERIAL AS PER GEOTECHNICAL REPORT. WIDTH OF COMPACTED STRUCTURAL FILL SHALL EXTEND A MINIMUM DISTANCE EQUAL TO THE DEPTH OF FILL BEYOND THE EDGES OF THE FOOTINGS.

8. ALL FILL AND BACK FILL SHALL BE COMPACTED TO A MINIMUM OF 95% OF MAXIMUM RELATIVE DENSITY FOR BUILDING CONSTRUCTION AND 90% FOR GENERAL SITE WORK.

9. ANY UNUSUAL SOIL CONDITIONS (WATER, SOFT LAYERS, ROCK OUTCROPPINGS, ETC. ENCOUNTERED DURING EXCAVATION FOR FOOTINGS SHOULD BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE STRUCTURAL AND SOIL ENGINEERS PRIOR TO PROCEEDING.

STEEL REINFORCING

1. TYPICAL REINFORCING BAR STRENGTHS
   A. REINFORCING (NON-WELDABLE) = ASTM A615, DEFORMED, Fy = 60 KSI (420 MPa)
   B. REINFORCING (WELDABLE) = ASTM A706, DEFORMED, Fy = 60 KSI (420 MPa)

2. TYPICAL CLEAR CONCRETE COVERAGES:
   A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH = 3" FORMED
   B. CONCRETE EXPOSED TO EARTH OR WEATHER = 2" (#6 AND LARGER)
      2" (#5 AND SMALLER)
   C. ALL OTHERS PER LATEST EDITION OF ACI 318.

3. TYPICAL CLEAR MASONRY COVERAGES:
   A. MASONRY FACE EXPOSED TO EARTH OR WEATHER: = 2" (#6 AND LARGER)
      1-1/2" (#5 AND SMALLER)
   B. MASONRY NOT EXPOSED TO EARTH OR WEATHER: = 1-1/2"

4. ALL BARS PER CRSI SPECIFICATIONS AND HANDBOOK. LATEST ACI CODE AND DETAILING MANUAL APPLY. SECURELY TIE ALL BARS IN LOCATION BEFORE PLACING CONCRETE OR MASONRY. REINFORCING BAR SPACINGS GIVEN ARE MAXIMUM ON CENTERS.

5. ALL REINFORCING TO BE WELDED SHALL BE WELDED IN ACCORDANCE WITH AWS D1.4. NO TACK WELDING OF REINFORCING BARS IS ALLOWED WITHOUT PRIOR REVIEW OF PROCEDURE BY STRUCTURAL ENGINEER.

ADHESIVE ANCHORING SYSTEMS

1. ACCEPTABLE MANUFACTURER'S (UNLESS NOTED OTHERWISE ON PLANS): ALL ADHESIVE SHALL BE APPROVED AND RATED FOR CRACKED CONCRETE.
   A. SIMPSON STRONG-TIE:
      a. SET-XP, SEE ESR-2508 REPORT FOR CONCRETE SPECIFICATIONS OR IAPMO 265 REPORT FOR MASONRY SPECIFICATIONS.
      b. SET-3G, SEE ESR-4057 REPORT FOR CONCRETE SPECIFICATIONS
      c. AT-XP, SEE IAPMO 263 REPORT FOR CONCRETE SPECIFICATIONS OR IAPMO 281 REPORT FOR MASONRY SPECIFICATIONS
   B. HILTI:
      a. HIT-RE 500-V3, SEE ESR-3814 REPORT FOR CONCRETE SPECIFICATIONS
      b. HIT-HY 200, SEE ESR-3187 REPORT FOR CONCRETE SPECIFICATIONS
   C. DEWALT:
      a. PURE 110+, SEE ESR 3298 REPORT FOR CONCRETE SPECIFICATIONS.
      b. AC 200+, SEE ESR 4027 FOR CONCRETE SPECIFICATIONS.
      c. AC 100+ GOLD, SEE ESR 2582 REPORT FOR CONCRETE SPECIFICATIONS OR ESR 3200 FOR MASONRY SPECIFICATIONS.

2. ANCHOR INSTALLATION:
   A. INSTALL ANCHORS PER MANUFACTURER'S REQUIREMENTS. THESE REQUIREMENTS INCLUDE, BUT ARE NOT LIMITED TO, HOLE PREPARATION, HOLE SIZE, EPOXY PROPORTIONS AND QUANTITIES, INSTALLATION TEMPERATURE, AND CURE TIMES.

3. INSTALLATION OF ADHESIVE ANCHORS THAT ARE TO BE UNDER SUSTAINED TENSION LOADING HORIZONTAL TO VERTICALLY OVERHEAD INSTALLATION SHALL BE DONE BY A CERTIFIED ADHESIVE ANCHOR INSTALLER (AAI) AS CERTIFIED THROUGH ACI AND IN ACCORDANCE WITH ACI 318-2014 (SECTION 17.8.2.2). PROOF OF CURRENT CERTIFICATION SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO COMMENCEMENT OF INSTALLATION.

4. PER ACI 318-2014 (SECTION 17.1.2) ADHESIVE ANCHORS SHALL BE INSTALLED IN CONCRETE HAVING A MINIMUM AGE OF 21 DAYS AT TIME OF ANCHOR INSTALLATION. FOR INSTALLATIONS SOONER THAN 21 DAYS CONSULT ADHESIVE MANUFACTURER.

5. IF TEMPERATURE OF BASE MATERIAL AT TIME OF ADHESIVE INSTALLATION IS AT 45 DEGREES (FAHRENHEIT) OR LESS, AN ACRYLIC ADHESIVE (DEWALT AC200+, HILTI HIT-HY200, SIMPSON AT-XP) IS REQUIRED.

CONCRETE

1. CONCRETE SHALL CONFORM TO ALL REQUIREMENTS OF ACI 318-14 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE", EXCEPT AS MODIFIED BY THE SUPPLEMENTAL REQUIREMENTS BELOW:

NO WATER TO BE ADDED TO CONCRETE ON SITE EITHER BEFORE OR AFTER PLACEMENT

ELEMENT TYPE	MIN. COMP. STRENGTH f'c (psi)	EXPOSURE CLASSES F	S	W	C	CEMENT TYPE	MAX. W/C RATIO	AIR CONTENT %	MAX. AGG. SIZE	MAX. FLY ASH %	APPLICABLE SPECIFIC INSTRUCTION NOTES
VAULT	5000	F3	S0	W0	C2	V	0.40	6	3/4"	25	B.
SLUICE GATE LID	5000	F3	S0	W0	C2	V	0.40	6	3/4"	25	B.
WALLS	5000	F3	S0	W0	C2	V	0.40	6	3/4"	25	B.
GENERATOR SLAB	5000	F3	S0	W0	C2	V	0.40	6	3/4"	25	

SPECIFIC INSTRUCTION NOTES:

A. PROVIDE FIBRILLATED MICRO-REINFORCEMENT POLYPROPELENE FIBERS TO THE CONCRETE AT THE RATE OF 2 LBS/YD3/ PRIOR TO PLACEMENT PER ASTM C-1116, TYPE III, SECTION 4.1.3

B. XYPEX NOTE: XYPEX BIO-SAN C500 MIXTURE TO BE ADDED TO CONCRETE MIX FOR WATER PROOFING REQUIREMENT, AT A RATE OF 2% BY WEIGHT OF CEMENTITIOUS MATERIAL. CONTACT MANUFACTURER FOR MIX DESIGN REQUIREMENTS AND PLACEMENT. <http://www.imxtechnologies.com/>

C. POST TENSION CONCRETE SHALL ACHIEVE A COMPRESSIVE STRENGTH OF 3,000 PSI MINIMUM WITHIN 72 HOURS AFTER PLACEMENT.

D. LIGHTWEIGHT CONCRETE (DENSITY = 110 PCF) SHALL BE USED.

E. A PEA GRAVEL MIX SHALL BE USED.

2. CONCRETE SHALL ATTAIN THE LISTED MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS.

3. AIR CONTENT TOLERANCE IS +/- 1-1/2% AT THE TIME OF FINAL PLACEMENT.

4. AIR ENTRAINMENT SHALL BE ADJUSTED FOR THE USE OF ADMIXTURES AND FLY ASH.

5. SUPERPLASTICIZER MAY BE ADDED TO INCREASE SLUMP AS REQUIRED FOR PLACEMENT.

6. CALCIUM CHLORIDE SHALL NOT BE ADDED TO THE CONCRETE MIX.

7. FOR EXPOSURE CLASS F3, THE MAXIMUM PERCENTAGE OF POZZOLAN IN CONCRETE MIX SHALL BE IN ACCORDANCE WITH SECTION 26.4.2.2 (B) OF ACI 318-14.

8. USE TYPE V CEMENT WHEN HIGH SULPHATE RESISTANCE IS REQUIRED BY THE GEOTECHNICAL REPORT OR WHEN THE 'S' EXPOSURE CLASS IS DESIGNATED AS S2 OR S3. IF S3 IS REQUIRED, POZZOLAN OR SLAG CEMENT IN ACCORDANCE WITH ASTM C1012 IS ALSO REQUIRED.

9. MATERIAL DESIGNATIONS:
   A. CEMENT = ASTM C150
   B. NORMAL WEIGHT AGGREGATES = ASTM C33
   C. LIGHTWEIGHT AGGREGATES = ASTM C330
   D. FLY ASH, CLASS F POZZOLAN = ASTM C618
   E. REINFORCING STEEL
      a. NORMAL = ASTM A615
      b. WELDABLE = ASTM A706
   F. DEFORMED BAR ANCHORS (DBA) = ASTM A496
   G. HEADED STUD ANCHORS (HSA) = ASTM A108
   H. AIR ENTRAINMENT ADMIXTURES = ASTM C260
   I. WATER REDUCING ADMIXTURES = ASTM C494, TYPE 'A'
   J. RETARDING ADMIXTURES = ASTM C494, TYPE 'B'
   K. WATER REDUCING & RETARDING ADMIXTURES = ASTM C494, TYPE 'D'
   L. HIGH RANGE WATER REDUCING ADMIXTURES = ASTM C494, TYPE 'F'
   M. HIGH RANGE WATER REDUCING & RETARDING ADMIXTURES = ASTM C494, TYPE 'G'
   N. ADMIXTURES ARE TO COME FROM AN ISO9001 QUALITY CERTIFIED MANUFACTURER. ALL ADMIXTURES ARE TO COME FROM THE SAME MANUFACTURER TO ENSURE COMPATIBILITY.
   O. NO ALUMINUM CONDUIT OR PRODUCTS CONTAINING ALUMINUM OR ANY OTHER PRODUCTS THAT REACT ADVERSLY WITH THE CONCRETE SHALL BE EMBEDDED IN THE CONCRETE.

10. A STATEMENT OF MIX DESIGN FOR ALL CONCRETE SHALL BE SUBMITTED AND APPROVED BY THE ENGINEER PRIOR TO COMMENCING WORK.

11. PLACEMENT, CURING, AND PROTECTION OF CONCRETE SHALL CONFORM TO ACI 318-14. THE USE OF CHEMICALS OR ADDITIVES TO PREVENT FREEZING SHOULD NOT BE PERMITTED, REFER TO SPECIFICATIONS AND TO DIRECTIVES BY STRUCTURAL ENGINEER FOR ADDITIONAL COLD WEATHER REQUIREMENTS. ALL CONCRETE SHALL BE PROPERLY VIBRATED IN PLACE USING INTERNAL VIBRATING RODS (MECHANICAL OR ELECTRICAL).

12. ALL SLABS ON GRADE SHALL BE PLACED WITH CONTROL JOINTS OR SAW CUTS AT NO MORE THAN 30 TIMES THE SLAB THICKNESS ON CENTER (MAXIMUM) OR AS SHOWNINOTED ON DRAWINGS. LENGTH TO WIDTH RATIO OF THE SLAB BETWEEN CONTROL JOINTS EACH WAY SHALL BE NO MORE THAN 1.25. COMPLETE CONTROL JOINTS WITHIN 12 HOURS OF CONRETE PLACEMENT. TOOLED CONTROL JOINTS ARE TO BE AT MINIMUM 1/4 OF THE SLAB THICKNESS AND NO MORE THAN 1/3 OF THE SLAB THICKNESS. FOR SAW CUT CONTROL JOINTS, SEE THE SLAB JOINT TYPICAL DETAILS.

13. SLAB ON GRADE CONSTRUCTION JOINTS SHALL NOT EXCEED 125' - 0" O.C. IN ANY DIRECTION. CONSTRUCTION JOINTS MAY BE EITHER A DOWEL TYPE CONTRUCTION JOINT OR A KEYWAY TYPE CONSTRUCTION JOINT. SEE THE SLAB JOINT TYPICAL DETAILS FOR MORE INFORMATION.

14. CONCRETE TESTS WILL BE MADE ON MAJOR POURS AND AT SUCH OTHER TIMES AS MAY BE REQUIRED BY THE ENGINEER. EACH TEST SHALL CONSIST OF (3) CYLINDERS OF WHICH ONE SHALL BE TESTED AT SEVEN DAYS, ONE TESTED AT TWENTY-EIGHT DAYS AND ONE RETAINED IN RESERVE FOR LATER TESTS, IF REQUIRED. IN GENERAL, ONE TEST SHALL BE MADE FOR EACH 150 CUBIC YARDS OF CONCRETE OR EVERY 5000 SQUARE FEET OF SURFACE AREA FOR SLABS OR WALLS ON EACH DAYS POUR. SPECIMENS SHALL BE MADE AND TESTED IN ACCORDANCE WITH ASTM C31 & C39 STANDARDS. SLUMP AND AIR ENTRAINMENT TESTS SHALL ALSO BE MADE WITH EACH SET OF CYLINDERS TAKEN.

15. BEFORE CONCRETE IS POURED, CHECK WITH ALL TRADES TO INSURE PROPER PLACEMENT OF ALL OPENINGS, SLEEVES, CURBS, CONDUITS, BOLTS, INSERTS, ETC., RELATED TO THE WORK.

16. THE CONTRACTOR IS RESPONSIBLE FOR THE PLACEMENT, REMOVAL, AND DESIGN OF ALL FORMWORK AND SHORING.

17. SUSPENDED CONCRETE STRUCTURAL MEMBERS SHALL NOT BE STRIPPED OF FORMS UNTIL CONCRETE HAS REACHED ITS DESIGN STRENGTH.

18. FOR LAP SPLICE LENGTH, SEE CONCRETE REINFORCING LAP SPLICE LENGTH SCHEDULE.

19. SEE CIVIL DRAWINGS FOR SITE CONCRETE REQUIREMENTS.

STRUCTURAL STEEL

1. ALL STRUCTURAL STEEL SHALL CONFORM WITH ASTM STANDARDS AS OUTLINED IN THE AISC "STEEL CONSTRUCTION MANUAL" (LATEST EDITION) CONTAINING SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS, STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS AND THE CODE OF STANDARD PRACTICE FOR STRUCTURAL STEEL BUILDINGS, AND AS OUTLINED IN THE AISC "SEISMIC DESIGN MANUAL" (LATEST EDITION) CONTAINING SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS AND PREQUALIFIED CONNECTIONS, UNLESS OTHERWISE NOTED ON DRAWINGS.

2. STRUCTURAL STEEL MATERIALS SHALL CONFORM TO THE FOLLOWING UNLESS NOTED OTHERWISE:
   A. W-SHAPES: ASTM A992, Fy = 50 KSI
   B. RECTANGULAR HSS SHAPES: ASTM A500, GR. B, Fy = 46 KSI
   C. ROUND HSS SHAPES: ASTM A500, GR. B, Fy = 42 KSI
   D. PIPES: ASTM A53, GR. B, Fy = 35 KSI
   E. CHANNELS, ANGLES AND ALL OTHER SHAPES: ASTM A36, Fy = 36 KSI
   F. PLATES AND BARS: ASTM A36, Fy = 36 KSI
   G. STAINLESS STEEL (WHERE INDICATED ON DRAWINGS): TYPE 316 w/ MIN. Fy = 42 KSI AND Fu = 84 KSI
   H. HIGH-STRENGTH BOLTS: ASTM A325 OR A490 (USED FOR ALL STEEL TO STEEL CONNECTIONS)
   I. COMMON BOLTS: ASTM A307 (ONLY USED FOR STEEL TO NON-STEEL CONNECTIONS)
   J. HEADED STUD ANCHORS (HSA): ASTM A108
   K. ANCHOR RODS: ASTM F1554, GR. 36
   L. HEAVE HEX NUTS: ASTM A563
   M. STEEL PLATE WASHERS: ASTM A436, HARDENED

3. UNLESS OTHERWISE NOTED, ALL STRUCTURAL STEEL TO STEEL CONNECTIONS SHALL BE MADE IN SUCH A MANNER AS TO DEVELOP FULL SHEAR CAPACITY OF CONNECTING MEMBERS AS PER AISC SPECIFICATIONS.

4. UNLESS OTHERWISE NOTED, ALL STRUCTURAL STEEL TO STEEL BOLTED CONNECTIONS SHALL USE 3/4" DIAMETER HIGH STRENGTH BOLTS AND SHALL HAVE CARBONIZED WASHERS UNDER TURNING UNIT. ALL OTHER BOLTED CONNECTIONS SHALL USE 3/4" DIAMETER COMMON BOLTS. HIGH STRENGTH BOLTS ARE TO BE TIGHTENED BY EITHER TURN-OF-THE-NUT-METHOD OR LOAD INDICATOR. COMMON BOLTS ARE TO BE TIGHTENED BY THE TURN-OF-THE-NUT-METHOD.

5. REMOVE RUST, OILS, MILL SCALE AND APPLY ONE COAT RED LEAD IRON OXIDE SHOP PAINT, 2 MILS (DRY) THICK. PROVIDE TOUCH UP FIELD COAT AT ALL ABRADED AND WELDED AREAS, 2 MILS (DRY) THICK.

6. SHOP DRAWINGS FOR ALL STEEL ITEMS SHALL BE PREPARED FOR AND REVIEWED BY THE STRUCTURAL ENGINEER PRIOR TO FABRICATION AND INSTALLATION.

7. ALL WELDS SHALL BE MADE WITH E70XX ELECTRODES UNLESS NOTED OTHERWISE ON DRAWINGS. WELDS SHALL BE PERFORMED BY WELDERS CERTIFIED BY A.W.S. STANDARDS WITHIN THE LAST 12 MONTHS (PROVIDE WRITTEN CERTIFICATION IF REQUESTED). STAINLESS STEEL WELDS SHALL BE MADE WITH APPROPRIATE E308 ELECTRODES UNLESS NOTED OTHERWISE ON DRAWINGS. STAINLESS STEEL WELDS SHALL BE PERFORMED BY WELDERS CERTIFIED TO WELD STAINLESS STEEL BY A.W.S. STANDARDS WITHIN THE LAST 12 MONTHS (PROVIDE WRITTEN CERTIFICATION IF REQUESTED).

   WHERE NOTED ON THE DRAWING:
   A. ALL FIELD WELDING SHALL BE VISUALLY INSPECTED BY AN INDEPENDENT TESTING LABORATORY AS SELECTED BY THE OWNER OR ENGINEER.
   B. ALL FULL PENETRATION OR FUSION WELDS SHOWN ON DRAWINGS ARE TO BE TESTED BY X-RAY PER A.W.S. SPECIFICATION.
   C. THE OWNER MAY TEST ALL FILLET WELDS OR PORTIONS THERE OF WITH INSPECTIONS.
   D. COPIES OF TEST RESULTS SHALL BE SENT TO STRUCTURAL ENGINEER.

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No. 9062337
CODY J. SANTOS
STATE OF UTAH

REVISIONS				
No.	DATE	REMARKS	BY	APV

DESIGNED	C. SANTOS	6/11/2020 DATE
DRAWN	R. MALIGON	6/11/2020 DATE
CHECKED	C. SANTOS	6/11/2020 DATE
APPROVED	C. SANTOS	6/11/2020
DATE		6/11/2020

Salt Lake City Department of Airports

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PROJECT ADDRESS:
3851 WEST 1200 NORTH

SALT LAKE CITY INTERNATIONAL AIRPORT
PUMP HOUSE #5 RENOVATION

GENERAL STRUCTURAL NOTES

SCALE: 1" = 1'-0"

DRAWING 8
PROJECT 54 10191763
SHEET S-000

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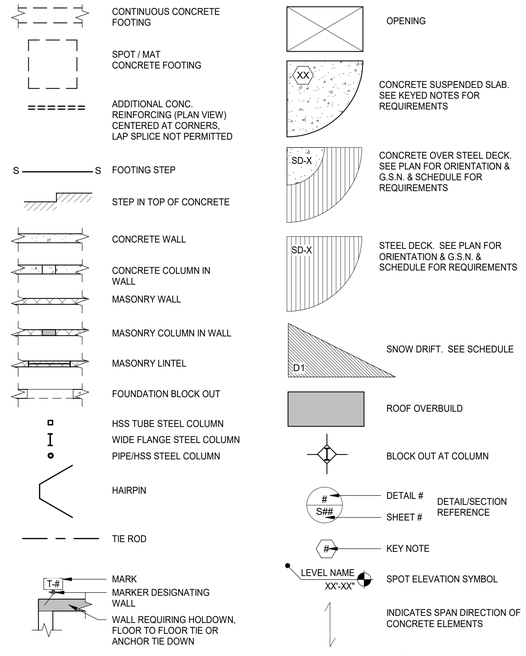
SYMBOLS & MARKS LEGEND



CW-#	CONCRETE WALL	RB-#	ROOF BEAM
FC#	CONTINUOUS FOOTING	FB-#	FLOOR BEAM
FS#	SPOT FOOTING	WP-#	WOOD POST
RW-#	RETAINING WALL	WS-#	WALL STUD
CC-#	CONCRETE COLUMN	SW-#	SHEARWALL
CP-#	CONCRETE PEDESTAL	T-#	FLOOR TO FLOOR TIE
H-#	HOLDOWN	XW-#	FLAT STRAP BRACED WALL
AT-#	ANCHOR TIE DOWN	SFB-#	COLD FORMED STEEL FLOOR BEAM
AB#	ANCHOR BOLT		
SC-#	STEEL COLUMN		
CB-#	CONCRETE BEAM		
ML-#	MASONRY LINTEL		
MW-#	MASONRY WALL		
L-#	LEDGER		

STRUCTURAL ABBREVIATIONS

AB.	ANCHOR BOLT (S)	IN.	INCH
ABV.	ABOVE	INSUL.	INSULATION
ADD.	ADDITION (AL)	INT.	INTERIOR
@	AT	I.F.	INSIDE FACE
ALT.	ALTERNATE		
APPROX.	APPROXIMATE	JT.	JOINT
ARCH.	ARCHITECT (URAL)	JST.	JOIST
BM.	BEAM	KLF.	KIPS PER LINEAL FOOT
BLK'G.	BLOCKING	KSF.	KIPS PER SQUARE FOOT
BLW.	BELOW	KSI.	KIPS PER SQUARE INCH
BPL.	BASE PLATE	K	KIPS
BRG.	BEARING		
BTWN.	BETWEEN	LF.	LINEAL FOOT
BLDG.	BUILDING	LBS.	POUNDS
BOT.	BOTTOM	LLH.	LONG LEG HORIZONTAL
		LLV.	LONG LEG VERTICAL
C.J.	CONSTRUCTION JOINT OR CONTROL JOINT	MAS.	MASONRY
CJP.	COMPLETE JOINT PENETRATION	MAX.	MAXIMUM
CMU	CONCRETE MASONRY UNIT	MCJ.	MASONRY CONTROL JOINT
COL.	COLUMN	MECH.	MECHANICAL
CONC.	CONCRETE	MFR.	MANUFACTURER
CONST.	CONSTRUCTION	MIN.	MINIMUM
CONT.	CONTINUOUS	MISC.	MISCELLANEOUS
CTR.	CENTER		
		N.I.C.	NOT IN CONTRACT
DB.	DECK BEARING	N.T.S.	NOT TO SCALE
DBA.	DEFORMED BAR ANCHORS		
DBL.	DOUBLE	OPN'G.	OPENING
DET.	DETAIL	OPP.	OPPOSITE
DIA.	DIAMETER	O.C.	ON CENTER
DIM.	DIMENSION	O.F.	OUTSIDE FACE
DWG.	DRAWING	OWSJ.	OPEN WEB STEEL JOIST
DWL.	DOWEL		
		PAF	POWDER ACTUATED FASTENER
EA.	EACH	PCF	POUNDS PER CUBIC FOOT
E.J.	EXPANSION JOINT (SEISMIC SEPARATION JOINT)	PL.	PLATE
ELEV.	ELEVATION	PNL	PANEL
ELEC.	ELECTRICAL	PSF	POUNDS PER SQUARE FOOT
EQUIP.	EQUIPMENT	PSI	POUNDS PER SQUARE INCH
EQ.	EQUAL	PT	POINT
EXST'G.	EXISTING		
EXP.	EXPANSION / EXPOSED	REINF.	REINFORCING
EXT.	EXTERIOR	R.D.	ROOF DRAIN
E.F.	EACH FACE	REQ'D	REQUIRED
E.W.	EACH WAY		
		SHT.	SHEET
F.D.	FLOOR DRAIN	SHT'G.	SHEATHING
FDTN.	FOUNDATION	SI	SPECIAL INSPECTION
F.F.	FINISH FLOOR	S.O.G.	SLAB ON GRADE
FIN.	FINISH	STD.	STANDARD
FL.	FLOOR	STIFF.	STIFFENER
FT.	FOOT	STL.	STEEL
FTG.	FOOTING	SQ.	SQUARE
FV.	FIELD VERIFY	SIM.	SIMILAR
		STRC.	STRUCTURAL
GA.	GAUGE	STAG.	STAGGERED
GALV.	GALVANIZED		
GLB.	GLU-LAMINATED BEAM	T&B.	TOP AND BOTTOM
GR.	GRADE	TEMP.	TEMPORARY
GSN.	GENERAL STRUCTURAL NOTES	T.O.	TOP OF
		T.O.C.	TOP OF CONCRETE
HB.	HORIZONTAL BRIDGING	T.O.F.	TOP OF FOOTING
HT.	HEIGHT	T.O.S.	TOP OF SLAB
HORIZ.	HORIZONTAL	T.O.W.	TOP OF WALL
HSA.	HEADED STUD ANCHORS	TYP.	TYPICAL
		U.N.O.	UNLESS NOTED OTHERWISE
IBC.	INTERNATIONAL BUILDING CODE	VERT.	VERTICAL
ICBO.	INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS	w/	WITH
		WWF.	WELD WIRE FABRIC
		WWM.	WELD WIRE MESH
		WT.	WEIGHT
		WP	WOOD POST

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REVISIONS				
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3851 WEST 1200 NORTH

SALT LAKE CITY INTERNATIONAL AIRPORT
PUMP HOUSE #5 RENOVATION

GENERAL STRUCTURAL NOTES

SCALE: As indicated

DRAWING 9
PROJECT 54 10191763
SHEET S-001

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SPECIAL INSPECTION

SPECIAL INSPECTIONS:

1. SPECIAL INSPECTIONS ARE REQUIRED AS DESCRIBED IN CHAPTER 17 OF THE 2018 IBC. THE OWNER OR OWNER'S AGENT, OTHER THAN THE CONTRACTOR, SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PROVIDE SPECIAL INSPECTIONS AND TESTS DURING CONSTRUCTION ON THE TYPES OF WORK SPECIFIED IN SECTION 1705 AND IDENTIFY THE APPROVED AGENCIES TO THE BUILDING OFFICIAL. THESE SPECIAL INSPECTIONS AND TESTS ARE IN ADDITION TO THE INSPECTIONS BY THE BUILDING OFFICIAL THAT ARE IDENTIFIED IN SECTION 110.

2. THE SPECIAL INSPECTION REQUIREMENTS OF THIS SECTION OF THE GENERAL STRUCTURAL NOTES SERVE AS THE ENGINEER OF RECORD'S STATEMENT OF SPECIAL INSPECTIONS REQUIRED BY CHAPTER 17 OF THE 2018 IBC.

SPECIAL INSPECTOR QUALIFICATIONS & RESPONSIBILITIES:

1. PRIOR TO THE START OF CONSTRUCTION, THE APPROVED AGENCIES SHALL PROVIDE WRITTEN DOCUMENTATION TO THE BUILDING OFFICIAL DEMONSTRATING THE COMPETENCE AND RELEVANT EXPERIENCE OR TRAINING OF THE SPECIAL INSPECTORS WHO WILL PERFORM THE SPECIAL INSPECTIONS AND TESTS DURING CONSTRUCTION.

2. APPROVED AGENCIES SHALL KEEP RECORDS OF ALL SPECIAL INSPECTIONS AND TESTS. THE APPROVED AGENCY SHALL SUBMIT REPORTS OF SPECIAL INSPECTIONS AND TEST TO THE BUILDING OFFICIAL AND TO THE ARCHITECT / ENGINEER OF RECORD.
   A. REPORTS SHALL INDICATE THAT WORK INSPECTED OR TESTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS.
   B. ANY DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION.
   C. ANY DISCREPANCIES THAT ARE NOT CORRECTED SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND THE ARCHITECT/ENGINEER OF RECORD PRIOR TO COMPLETION OF THAT PHASE OF WORK.
   D. THE INSPECTOR SHALL KEEP A MARKED-UP SET OF DRAWINGS SHOWING THE EXTENT AND TIME OF ALL INSPECTIONS AND TESTING.
   E. A FINAL SIGNED REPORT DOCUMENTING ALL REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED TO THE BUILDING OFFICIAL AND ARCHITECT/ENGINEER OF RECORD AT A POINT IN TIME AGREED UPON PRIOR TO THE START OF WORK BY THE OWNER OR OWNER'S AGENT. THE REPORT SHALL INCLUDE THE MARKED-UP SET OF DRAWINGS OUTLINED ABOVE.

CONTRACTOR RESPONSIBILITIES:

1. EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A MAIN WIND/SEISMIC FORCE RESISTING SYSTEM, DESIGNATED WIND/SEISMIC SYSTEM, OR A WIND/SEISMIC FORCE RESISTING COMPONENT SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON THAT SYSTEM OR COMPONENT. THIS STATEMENT SHALL CONTAIN ACKNOWLEDGEMENT OF AWARENESS OF THE SPECIAL INSPECTION REQUIREMENTS.

2. THE CONTRACTOR SHALL COORDINATE AND COOPERATE WITH ALL REQUIRED INSPECTIONS, TESTING AND STRUCTURAL OBSERVATIONS. THE CONTRACTOR SHALL NOT PROCEED WITH SUBSEQUENT WORK UNTIL REQUIRED INSPECTIONS, TESTING AND STRUCTURAL OBSERVATIONS HAVE BEEN COMPLETED.

3. ALL WORK REQUIRING SPECIAL INSPECTION SHALL REMAIN ACCESSIBLE AND EXPOSED UNTIL COMPLETION OF THE REQUIRED SPECIAL INSPECTIONS.

4. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD AT LEAST (2) DAYS PRIOR TO ANY REQUIRED STRUCTURAL OBSERVATIONS.

SPECIAL INSPECTION OF FABRICATED ITEMS:

1. ALL FABRICATION OF STRUCTURAL, LOAD-BEARING OR LATERAL LOAD-RESISTING MEMBERS OR ASSEMBLIES PERFORMED OFFSITE SHALL BE SPECIAL INSPECTED PER SECTION 1704.2.5.

2. WHERE THE FABRICATOR IS REGISTERED AND APPROVED IN ACCORDANCE WITH SECTION 1704.2.5.1, THEY SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE OWNER OR THE OWNER'S AGENT FOR SUBMITTAL TO THE BUILDING OFFICIAL AT THE COMPLETION OF FABRICATION STATING THE WORK WAS PERFORMED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.

SUBMITTALS TO THE BUILDING OFFICIAL:

1. IN ADDITION TO THE SUBMITTAL OF REPORTS OF SPECIAL INSPECTIONS AND TESTS IN ACCORDANCE WITH SECTION 1704.2.4, REPORTS AND CERTIFICATES SHALL BE SUBMITTED BY THE OWNER OR OWNER'S AGENT TO THE BUILDING OFFICIAL FOR EACH OF THE FOLLOWING:
   A. CERTIFICATES OF COMPLIANCE FOR APPROVED FABRICATORS.
   B. CERTIFICATES OF COMPLIANCE FOR SEISMIC QUALIFICATIONS OF NON-STRUCTURAL COMPONENTS, SUPPORTS, AND ATTACHMENTS.
   C. CERTIFICATES OF COMPLIANCE FOR DESIGNATED SEISMIC SYSTEMS.
   D. REPORTS OF PRE-CONSTRUCTION TESTS FOR SHOTCRETE.
   E. CERTIFICATES OF COMPLIANCE FOR OPEN-WEB STEEL JOISTS AND JOIST GIRDERS.
   F. REPORTS OF MATERIAL COMPLIANCE FOR WELDABILITY OF REINFORCING BARS IN CONCRETE.
   G. REPORTS OF MILL TESTS FOR REINFORCING BARS USED IN SPECIAL CONCRETE MOMENT FRAMES, SPECIAL STRUCTURAL WALLS OR COUPLING BEAMS.

STRUCTURAL OBSERVATIONS:

1. STRUCTURAL OBSERVATIONS ARE NOT REQUIRED FOR THIS PROJECT. HOWEVER, STRUCTURAL OBSERVATIONS MAY BE PERFORMED BY A REPRESENTATIVE FROM ENSIGN ENGINEERING AS DEEMED NECESSARY.

REQUIRED SPECIAL INSPECTION OR TESTING:

THE FOLLOWING MATERIALS, SYSTEMS AND COMPONENTS REQUIRE SPECIAL INSPECTION OR TESTING PER CHAPTER 17 OF THE 2018 IBC:

1. SPECIAL CASES (SECTION 1705.1.1)
   A. SPECIAL INSPECTION AND TESTING SHALL BE PROVIDED FOR POST INSTALLED ANCHORS PER THE ICC OR IAPMO REPORT.

2. CONCRETE CONSTRUCTION (SECTION 1705.3):
   A. SPECIAL INSPECTION AND TESTS FOR CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CONCRETE CONSTRUCTION SPECIAL INSPECTION TABLE (***SEE SHEET S002***) AND SECTION 1705.3 OF THE 2018 IBC.
   B. SEE TABLE 1705.3 OF THE 2018 IBC FOR APPLICABLE REFERENCE STANDARDS.
   C. WELDING OF REINFORCING BARS: SPECIAL INSPECTION OF WELDING AND QUALIFICATIONS OF SPECIAL INSPECTORS FOR REINFORCING BARS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF AWS D1.4 FOR SPECIAL INSPECTION AND FOR SPECIAL INSPECTOR QUALIFICATIONS.
   D. IN THE ABSENCE OF SUFFICIENT DATA OR DOCUMENTATION PROVIDING EVIDENCE OF CONFORMANCE TO QUALITY STANDARDS FOR MATERIAL IN CHAPTERS 19 AND 20 OF ACI 318, THE BUILDING OFFICIAL SHALL REQUIRE TESTING OF MATERIALS IN ACCORDANCE WITH THE APPROPRIATE STANDARDS AND CRITERIA FOR THE MATERIAL IN CHAPTERS 19 AND 20 OF ACI 318.

DEFINITIONS:

1. THE FOLLOWING DEFINITIONS APPLY TO ALL SPECIAL INSPECTION TABLES (WHERE APPLICABLE) UNLESS SPECIFICALLY NOTED OTHERWISE:
   A. CONTINUOUS – FULL-TIME OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR.
   B. PERIODIC – AN APPROVED SPECIAL INSPECTOR MUST OBSERVE THE WORK REQUIRING SPECIAL INSPECTION PRIOR TO COMMENCEMENT OF WORK, INTERMITTENTLY DURING THE WORK, AND AT COMPLETION OF THE WORK.

CONCRETE CONSTRUCTION SPECIAL INSPECTION PER SECTION 1705.3 OF IBC 2018

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC
REINFORCEMENT, INCLUDING PRE-STRESSING TENDONS AND VERIFYING PLACEMENT		X
REINFORCING BAR WELDING:		
VERIFICATION OF WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706		X
INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16"		X
INSPECT ALL OTHER WELDS	X	
CAST-IN-PLACE ANCHORS		X
POST-INSTALLED ANCHORS IN HARDENED CONCRETE MEMBERS (NOTE 1)		
ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS	X	
MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED ABOVE		X
USE OF REQUIRED MIX DESIGN		X
PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TEST, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE CONCRETE TEMPERATURE	X	
CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	X	
MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES		X
INSPECT PRE-STRESSED CONCRETE FOR:		
APPLICATION OF PRE-STRESSING FORCES	X	
GROUTING OF BONDED PRE-STRESSING TENDONS	X	
ERECTION OF PRE-CAST CONCRETE		X
IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS		X
FORMWORK FOR SHAPE, LOCATION, AND DIMENSIONS OF CONCRETE MEMBER BEING FORMED		X

NOTES:

1. SPECIFIC REQUIREMENTS FOR SPECIAL INSPECTION SHALL BE INCLUDED IN THE RESEARCH REPORT FOR THE ANCHOR ISSUED BY AN APPROVED SOURCE IN ACCORDANCE WITH SECTION 17.8.2 OF ACI 318, OR OTHER QUALIFICATION PROCEDURES. WHERE SPECIFIC REQUIREMENTS ARE NOT PROVIDED, SPECIAL INSPECTION REQUIREMENTS SHALL BE SPECIFIED BY THE REGISTERED DESIGN PROFESSIONAL AND SHALL BE APPROVED BY THE BUILDING OFFICIAL PRIOR TO COMMENCEMENT OF THE WORK.

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No. 9062337
CODY J. SANTOS
STATE OF UTAH
9/24/2021

REVISIONS

No.	DATE	REMARKS	BY	APV

DESIGNED	C. SANTOS	9/24/2021
		DATE
DRAWN	R. MALIGON	9/24/2021
		DATE
CHECKED	C. SANTOS	9/24/2021
		DATE
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SALT LAKE CITY INTERNATIONAL AIRPORT
PUMP HOUSE #5 RENOVATION

SPECIAL INSPECTION

SCALE: 1" = 1'-0"

DRAWING 10
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SHEET S-002

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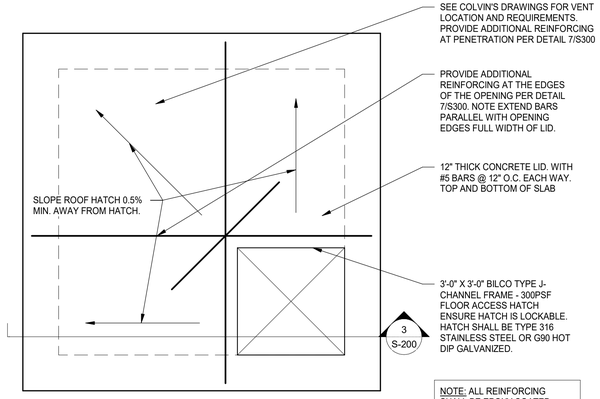
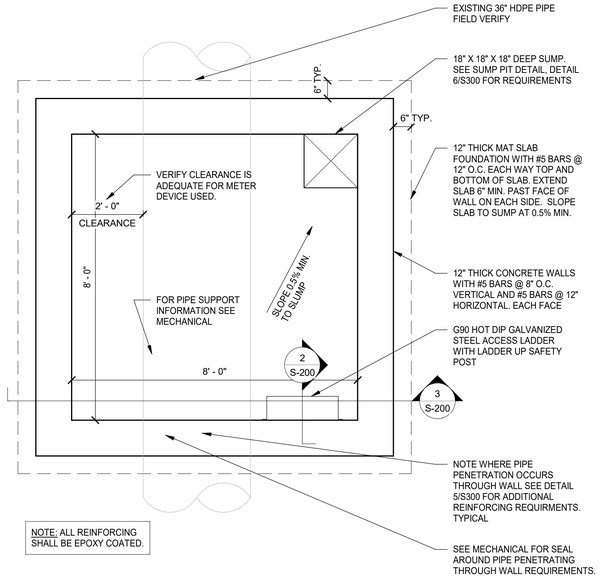


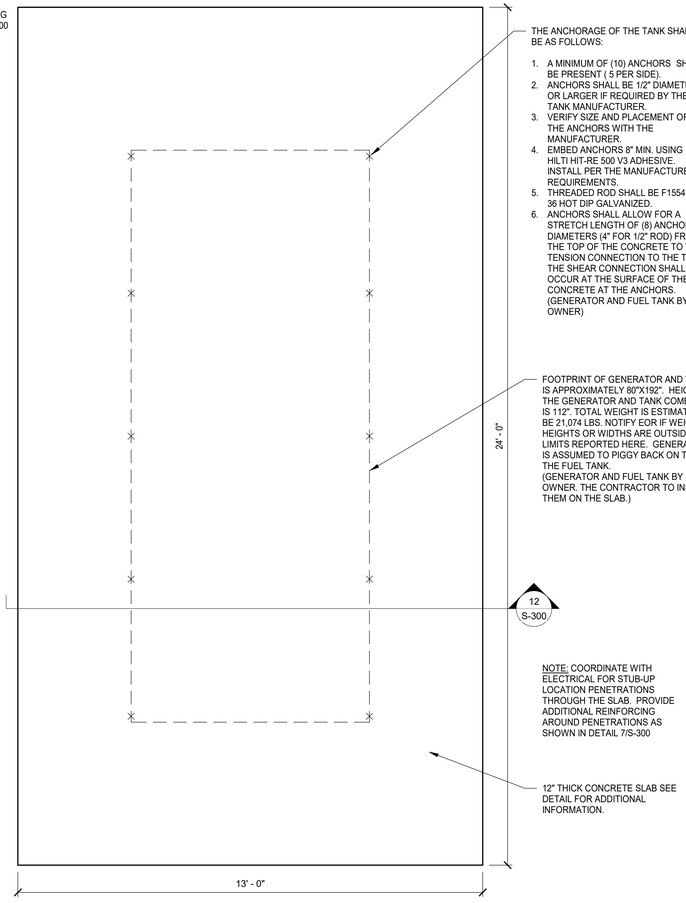
3 METERING VAULT LID PLAN VIEW

SCALE: N.T.S.



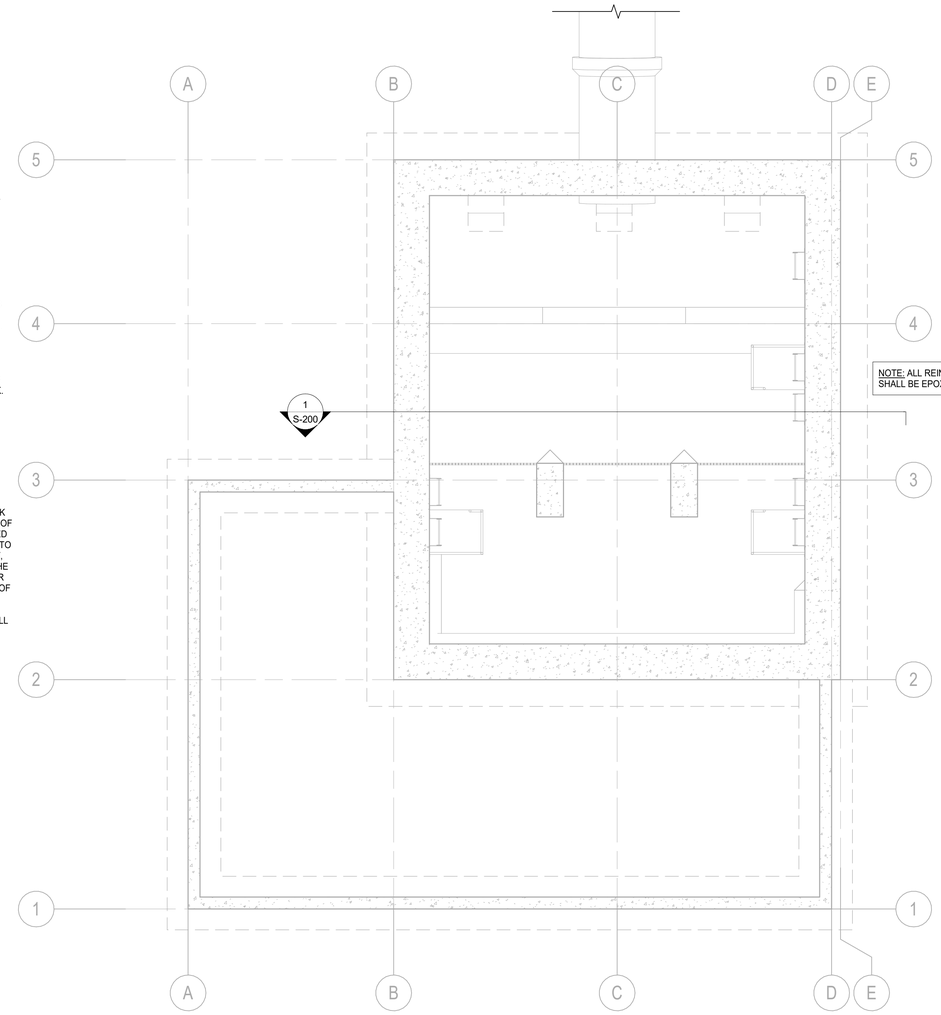
2 METERING VAULT FOUNDATION PLAN VIEW

SCALE: N.T.S.



4 GENERATOR/FUEL TANK SLAB PLAN

SCALE: N.T.S.



1 PUMP STATION PLAN VIEW

SCALE: 1/4" = 1'-0"

FOUNDATION GENERAL NOTES

1. EXISTING PIPE LOCATION GOVERNS. CONTRACTOR SHALL VERIFY PIPE LOCATION PRIOR TO PLACING VAULT, ANY DISCREPANCY SHALL BE ADDRESSED IMMEDIATELY, CONTRACTOR TO VERIFY ALL DIMENSIONS BEFORE STARTING CONSTRUCTION, DO NOT SCALE DRAWINGS.
2. SEE GENERAL STRUCTURAL NOTES FOR ADDITIONAL INFORMATION.
3. COORDINATE STRUCTURAL REQUIREMENTS AT WALLS AND FOOTINGS WITH TYPICAL DETAILS.
4. COORDINATE LOCATIONS OF UTILITY TRENCHES (IF APPLICABLE) WITH RESPECTIVE DRAWINGS AND SUB-CONTRACTORS. SLAB REINFORCING SHALL BE CONTINUOUS OVER TRENCH.
5. PROVIDE 30" MIN. FROST DEPTH PER GENERAL STRUCTURAL NOTES. COORDINATE FOOTING STEPS (IF APPLICABLE) WITH CIVIL PLANS. SEE STEP DETAIL IN STRUCTURAL DETAILS.
6. CONTRACTOR SHALL COORDINATE FLOOR SLAB DEPRESSIONS, AND SLAB SLOPES WITH CIVIL PLANS.
7. ALL OPENINGS THROUGH FLOORS AND WALLS ARE NOT SHOWN. COORDINATE PENETRATION REQUIREMENTS (ADDITIONAL FRAMING ELEMENTS OR REINFORCING) AND LOCATIONS WITH MECHANICAL, ELECTRICAL, AND TYPICAL DETAILS.
8. CENTER ALL SPOT FOOTINGS UNDER COLUMNS AS SHOWN ON PLAN, TYPICAL U.N.O.

CONCRETE REINFORCING LAP SPLICE LENGTH SCHEDULE

BAR SIZE	BAR DIAMETER (IN.)	f'c = 3,000 PSI				f'c = 4,000 PSI				f'c = 5,000 PSI			
		TYPICAL SPLICE (IN)		TOP BAR SPLICE (IN)		TYPICAL SPLICE (IN)		TOP BAR SPLICE (IN)		TYPICAL SPLICE (IN)		TOP BAR SPLICE (IN)	
		CLASS A	CLASS B	CLASS A	CLASS B	CLASS A	CLASS B	CLASS A	CLASS B	CLASS A	CLASS B	CLASS A	CLASS B
3	0.375	17	22	22	29	15	20	20	25	13	17	17	22
4	0.500	22	29	29	38	19	25	25	33	17	23	23	30
5	0.625	28	36	36	47	24	31	31	40	22	29	29	36
6	0.750	33	43	43	56	29	38	38	48	26	34	34	44
7	0.875	48	63	63	82	42	55	55	70	38	49	49	64
8	1.000	55	72	72	94	48	62	62	81	43	56	56	73
9	1.128	62	81	81	105	54	70	70	91	48	63	63	82
10	1.270	70	91	91	118	61	79	79	103	54	71	71	92
11	1.410	78	101	101	131	67	87	87	113	60	78	78	101

NOTES:

1. ALL LAP SPLICE LENGTHS ARE CLASS B UNLESS NOTED OTHERWISE ON PLANS.
2. HORIZONTAL BARS ARE CLASSIFIED AS TOP BARS WHERE 12" OR MORE OF FRESH CONCRETE IS CAST BELOW THE LAP SPLICE.
3. FOR ALL EPOXY-COATED BARS, LAP SPLICE LENGTHS SHALL BE MULTIPLIED BY:
   1.5 WHEN CLEAR COVER IS LESS THAN 3 BAR DIAMETERS & CLEAR SPACING IS LESS THAN 6 BAR DIAMETERS, OR
   1.2 FOR ALL OTHER EPOXY-COATED BARS.
4. FOR ALL LIGHT-WEIGHT CONCRETE, LAP SPLICE LENGTHS SHALL BE MULTIPLIED BY 1.33.

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PROFESSIONAL STRUCTURAL ENGINEER
9/24/2021
No. 9062337
CODY J. SANTOS
STATE OF UTAH

REVISIONS

No.	DATE	REMARKS	BY	APV

DESIGNED	C. SANTOS	9/24/2021 DATE
DRAWN	R. MALIGON	9/24/2021 DATE
CHECKED	C. SANTOS	9/24/2021 DATE
APPROVED	C. SANTOS	9/24/2021
DATE		9/24/2021

Salt Lake City Department of Airports

ENGINEERING DIVISION
SALT LAKE CITY
DEPARTMENT OF AIRPORTS
P.O. BOX 145550
SALT LKE CITY, UT. 84114-5550
PROJECT ADDRESS:
3851 WEST 1200 NORTH

SALT LAKE CITY INTERNATIONAL AIRPORT
PUMP HOUSE #5 RENOVATION
STRUCTURAL PLANS

SCALE: As indicated

DRAWING 11
PROJECT 54 10191763
SHEET S-100

9/22/2021 1:33:12 PM 9481

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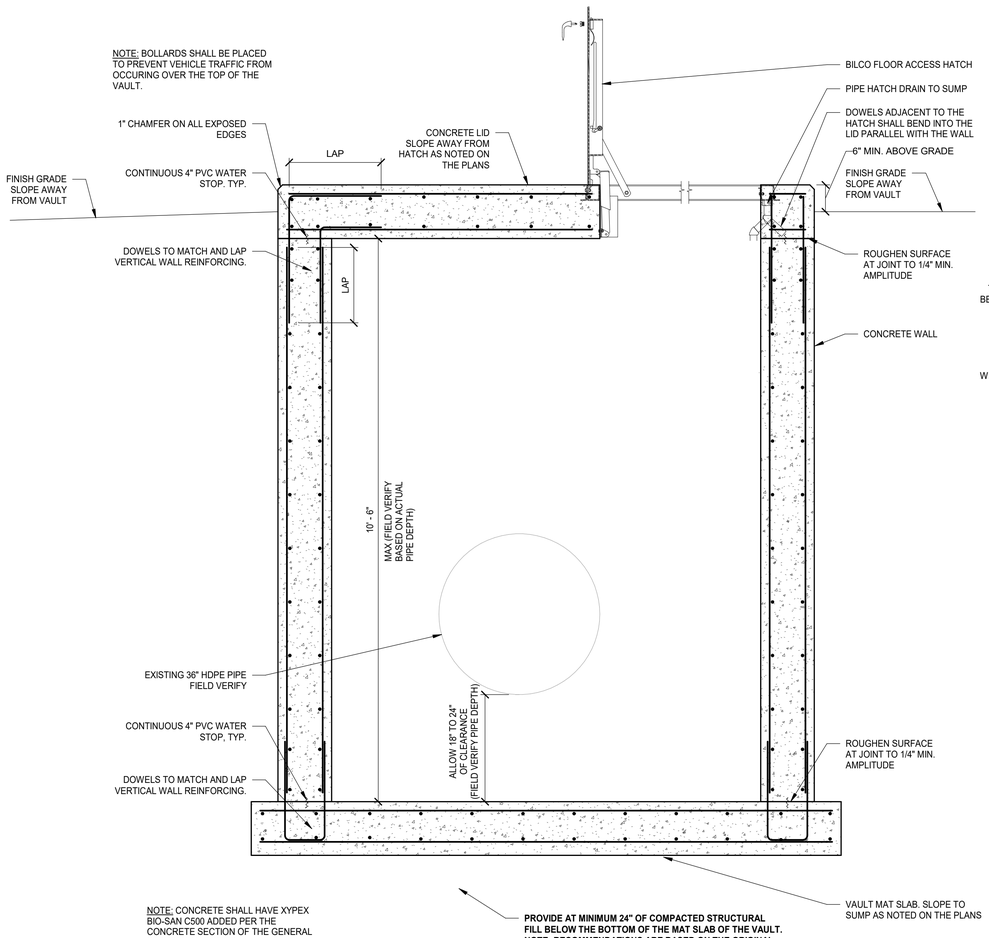
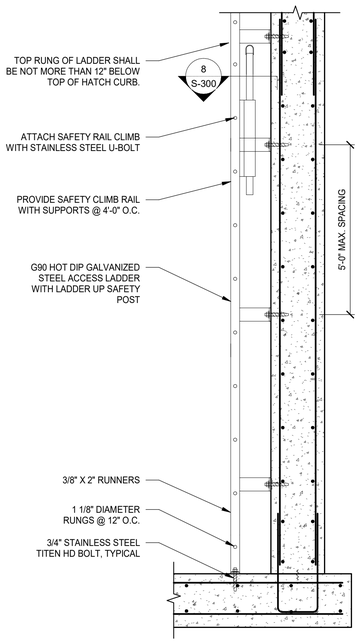


NOTE: CONCRETE SHALL HAVE XYPEX BIO-SAN C500 ADDED PER THE CONCRETE SECTION OF THE GENERAL STRUCTURAL NOTES.

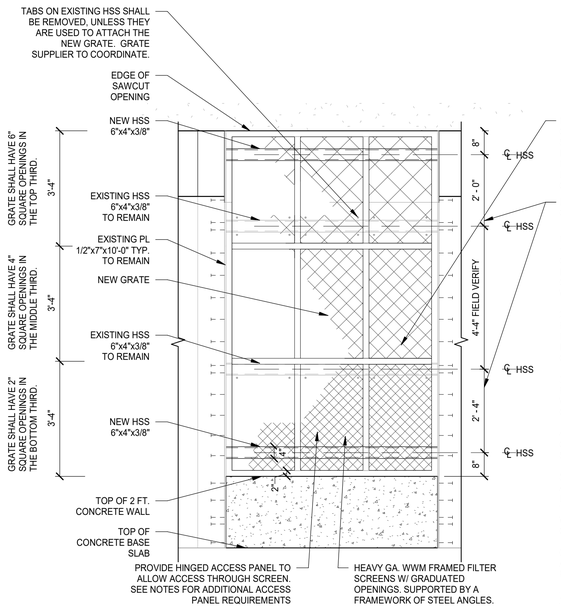
PROVIDE AT MINIMUM 24" OF COMPACTED STRUCTURAL FILL BELOW THE BOTTOM OF THE MAT SLAB OF THE VAULT. NOTE: RECOMMENDATIONS ARE BASED ON THE ORIGINAL GEOTECHNICAL REPORT RECOMMENDATIONS FOR THE SITE. CONTRACTOR SHALL VEIRFY MATERIAL BELOW FILL IS ACCEPTABLE. A LICENCED GEOTECHNICAL ENGINEER MAY BE REQUIRED TO VERIFY AND EVALUATED THE IN SITU MATERIAL ONCE EXCAVATION HAS TAKEN PLACE.

DISCLAIMER: IT IS UNCERTAIN IF FILLS OCCUR AT THE VAULT LOCATION DUE TO THE ORIGINAL CONSTRUCTION OF THE PUMP STATION. THIS DESIGN HAS BEEN PERFORMED BASED ON THE ORIGINAL GEOTECHNICAL REPORT FROM APRIL 5, 2000. THE RECOMMENDATIONS OF THE ORIGINAL REPORT NEED TO BE VALIDATED ONCE EXCAVATION HAS OCCURED.

3 VAULT SECTION VIEW
SCALE: N.T.S.



2 LADDER SECTION
SCALE: N.T.S.



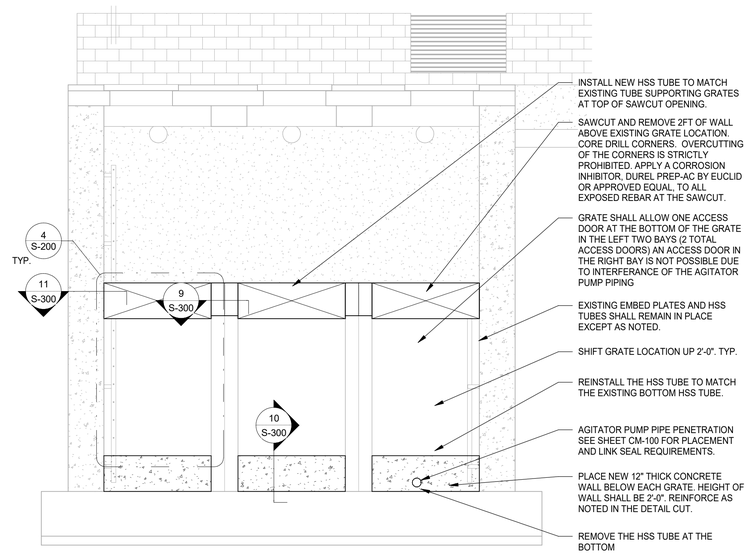
NEW GRATE IS ALLOWED TO CONNECT TO THE HSS TUBE STEEL AND THE EMBED PLATE ON EACH SIDE. CONNECTIONS ARE NOT ALLOWED AT THE TOP AND BOTTOM OF THE CONCRETE OPENING.

DIMENSIONS MAY VARRY BASED ON EXISTING HSS LOCATIONS

NOTES:

1. ALL STEEL SHALL BE G90 HOT DIP GALVANIZED. TOUCH UP ANY EXISTING STEEL AND WELDED CONNECTIONS THAT NEED TOUCH UP WITH GALVANIZING REPAIR PAINT.
2. BRACE AND SUPPORT FRAME AS REQUIRED TO MAINTAIN ALIGNMENT DURING INSTALLATION AND TO ENSURE PROPER FIELD FIT OF GRATING PANELS TO FRAME.
3. SEAL ALL VENT HOLES IN FRAME REQUIRED FOR GALVANIZING BY SEAL WELDING AND REPAIRING WITH GALVANIZING REPAIR PAINT.
4. CLEAN AND RE-GALVANIZE WITH GALVANIZING REPAIR PAINT EXISTING STEEL ELEMENTS AS NEEDED
5. GRATE FRAMES SHALL BE ATTACHED IN A MANNER TO PREVENT LOOSENING OF THE FRAMES OVER TIME. (i.e. BOLTS WITH LOCK WASHERS WITH FLAT WASHERS OR OTHER MEANS)
6. GRATE FRAMES SHALL BE ASSEMBLE IN THE SHOP AS MUCH AS POSSIBLE.
7. PANELS SHALL BE ATTACHED TO THE HSS TUBES AND/OR STEEL EMBED PLATES ON EACH SIDE WITH STAINLESS STEEL HARDWARE.
8. MESH SHALL BE 0.192 INCH DIAMETER, INTERMEDIATE-CRIMP STEEL WIRE WOVEN INTO 2" X 2" DIAMOND MESH FOR BOTTOM THIRD, 3" X 3" DIAMOND MESH FOR MIDDLE THIRD, AND 6" X 6" DIAMOND MESH FOR TOP THIRD OF THE SCREEN WALL.
9. MESH FRAME CONNECTOR BOLTS SHALL BE NO LESS THAN 3/8" DIAMETER AND SHALL BE SPACED AT NO MORE THAN 18" O.C. FINAL CONFIGURATION SHALL BE DETERMINED BY THE GRATE MANUFACTURER. FRAMES, STIFFENERS AND OTHER BRACING ELEMENTS SHALL BE SIZED AND FABRICATED AS DETERMINED BY THE GRATE MANUFACTURER.
10. ACCESS PANEL OPENING SHALL BE 24" HIGH X 48" WIDE MINIMUM. LOCATE ACCESS PANELS AT THE BOTTOM OF TWO OF THE THREE SCREEN BAYS PER THE NOTES IN SECTION VIEW 1 ON THIS SHEET.
11. HINGES FOR ACCESS PANELS SHALL BE PLACED TO ALLOW FOR A TRADITIONAL DOOR SWING STYLE ACCESS. DIRECTION OF SWING SHALL BE COORDINATED TO ALLOW ACCOMODATION OF THE PIPING AND EQUIPMENT. SWINGS SHALL OCCUR ON THE UPSTREAM SIDE OF THE GATE AS TO ALLOW FULL BEARING/ SEATING OF THE ACCESS PANEL AT THE PERIMETER OF THE ACCESS PANEL OPENING ON THE FRAME AND SCREEN THAT ARE FIXED IN POSITION.
12. ACCESS LATCHING MECHANISMS SHALL HAVE A SLIDE BOLT STYLE LATCH THAT CAN BE LOCKED OR CLASPED IN THE CLOSED POSITION AT THE OWNERS OPTION.

4 BAR SCREEN ELEVATION
SCALE: N.T.S.



NOTE: CONCRETE SHALL HAVE XYPEX BIO-SAN C500 ADDED PER THE CONCRETE SECTION OF THE GENERAL STRUCTURAL NOTES.

1 PUMP HOUSE GRATE SECTION VIEW
SCALE: N.T.S.

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PROFESSIONAL STRUCTURAL ENGINEER
9/24/2021
No. 9062337
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Salt Lake City Department of Airports

ENGINEERING DIVISION
SALT LAKE CITY
DEPARTMENT OF AIRPORTS
P.O. BOX 145550
SALT LKE CITY, UT. 84114-5550

PROJECT ADDRESS:
3851 WEST 1200 NORTH

SALT LAKE CITY INTERNATIONAL AIRPORT
PUMP HOUSE #5 RENOVATION
SECTIONS AND ELEVATIONS

SCALE: As indicated

DRAWING 12
PROJECT 54 10191763
SHEET S-200

9481
9/22/2021 8:43:22 AM

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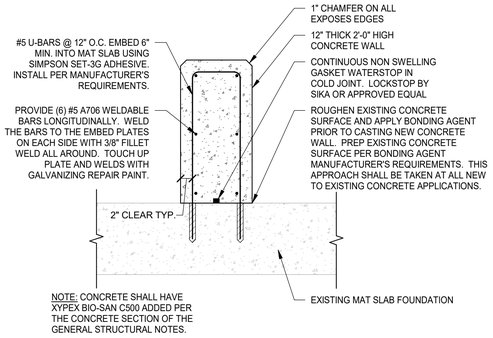
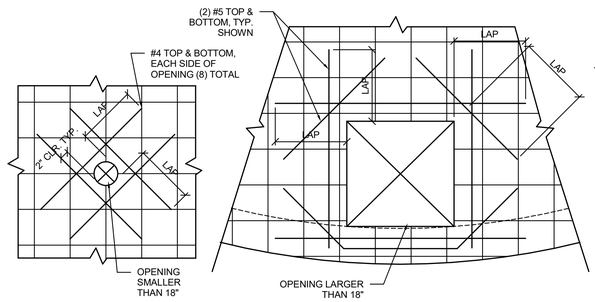
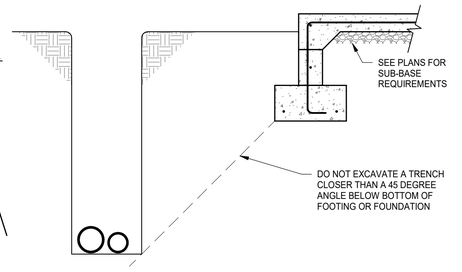


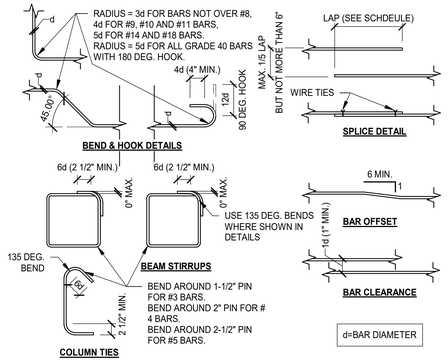
10 NEW WALL BELOW GRATES DETAIL
SCALE: N.T.S.



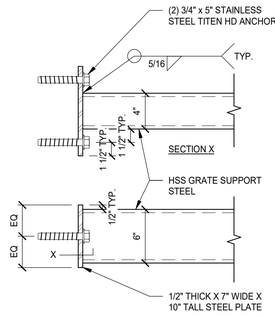
7 SLAB REINFORCING AT SLAB OPENINGS
SCALE: N.T.S.



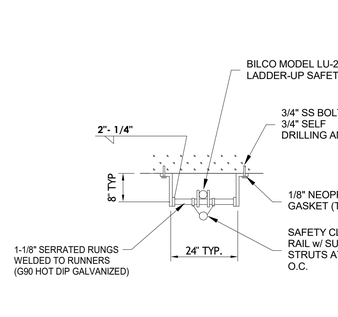
4 TYPICAL TRENCH PARALLEL TO FOUNDATION
SCALE: N.T.S.



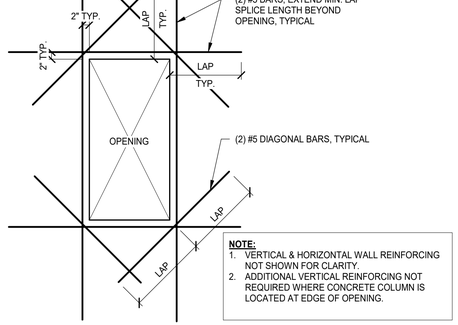
1 TYPICAL CONC. REINFORCING BAR DETAILS
SCALE: N.T.S.



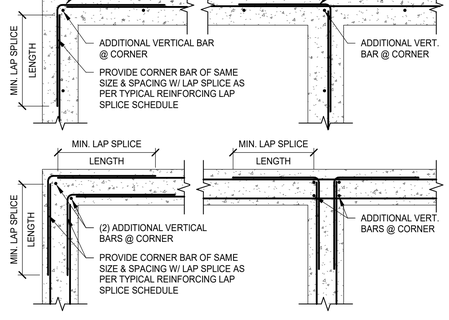
11 CONNECTION DETAIL
SCALE: N.T.S.



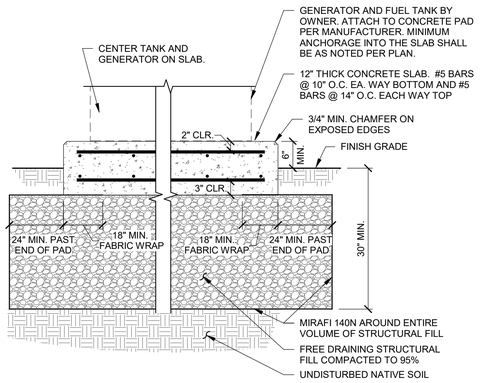
8 ACCESS LADDER SECTION
SCALE: N.T.S.



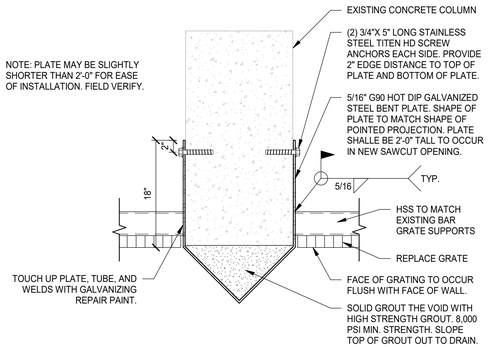
5 TYP. ADD REINF @ OPENING IN CONCRETE WALL
SCALE: N.T.S.



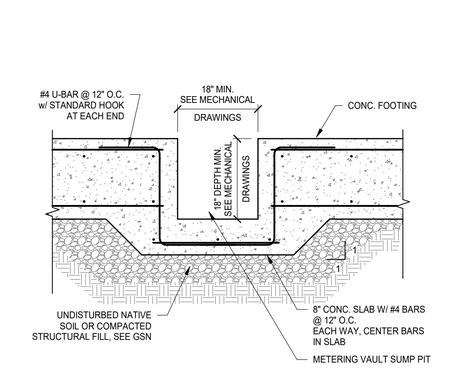
2 TYPICAL FDTN INTERSECTION REINFORCEMENT
SCALE: N.T.S.



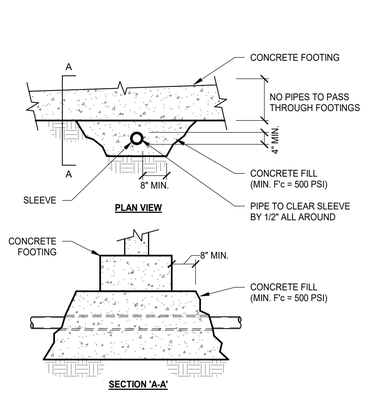
12 GENERATOR AND FUEL TANK SLAB
SCALE: N.T.S.



9 BRACKET AT COLUMN DETAIL
SCALE: N.T.S.



6 SUMP PIT DETAIL
SCALE: N.T.S.



3 TYPICAL PIPE PASSING BELOW FOOTING
SCALE: N.T.S.

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PROFESSIONAL STRUCTURAL ENGINEER
9/24/2021
No. 9062337
CODY J. SANTOS
STATE OF UTAH

REVISIONS				
No.	DATE	REMARKS	BY	APV

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Salt Lake City Department of Airports

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PROJECT ADDRESS:
3851 WEST 1200 NORTH

SALT LAKE CITY INTERNATIONAL AIRPORT
PUMP HOUSE #5 RENOVATION
STRUCTURAL DETAILS

SCALE: As indicated

DRAWING	13
PROJECT	54 10191763
SHEET	S-300

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ABBREVIATIONS

Key Name	Comments NOTE: NOT ABBREVIATIONS WILL BE USED ON THE SHEETS
AD	ACCESS DOOR
AF	AIRFOIL
AFF	ABOVE FINISHED FLOOR
ALT	ALTERNATE
BI	BACKWARD INCLINE
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
BTU/H	BRITISH THERMAL UNITS PER HOUR
CAP	CAPACITY
CBV	CALIBRATED BALANCE VALVE
CFM	CUBIC FEET PER MINUTE
CV	CONSTANT VOLUME
CV	CONTROL VALVE
DB	DRY BULB
DCW	DOMESTIC COLD WATER
DF	DRINKING FOUNTAIN
DHW	DOMESTIC HOT WATER
DHWR	DOMESTIC HOT WATER RECIRC
DIA	DIAMETER
DN	DOWN
DSN	DOWN SPOUT NOZZLE
DW	DISHWASHER
E	EXISTING
EA	EACH OR EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EFF	EFFICIENCY
ELEV	ELEVATION
ENCL	ENCLOSURE
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
EWC	ELECTRIC WATER COOLER
EWT	ENTERING WATER TEMPERATURE
FCO	FLOOR CLEAN OUT
FD	FLOOR DRAIN
FO	FLAT OVAL
FPM	FEET PER MINUTE
FS	FLOOR SINK
FT	FEET
FV	FACE VELOCITY
GA	GAUGE
GAL	GALLON
GD	GARAGE DRAIN
GEA	GREASE EXHAUST AIR
GPM	GALLONS PER MINUTE
HP	HORSE POWER
HR	HOUR
HT	HEIGHT
IN	INCH
INWC	INCHES OF WATER COLUMN
INWG	INCHES OF WATER GAUGE
L	LAVATORY OR LOUVER
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MBH	THOUSAND BRITISH THERMAL UNITS PER HOUR
MECH	MECHANICAL
MIN	MINIMUM
MPSA	MEDUIM PRESSURE SUPPLY AIR
MUA	MAKE-UP AIR
MVD	MANUAL VOLUME DAMPER
NC	NOISE CRITERIA OR NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OBD	OPPOSED BLADE DAMPER
OD	OVERFLOW DRAIN
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
PD	PRESSURE DROP
PG	PROPYLENE GLYCOL
POC	POINT OF CONNECTION
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
RA	RETURN AIR
RAD	RADIUS
RD	ROOF DRAIN
RLF	RELIEF AIR
RPBP	REDUCED PRESSURE BACKFLOW PREVENTOR
SA	SUPPLY AIR OR SHOCK ARRESTOR
SEN	SENSIBLE
SF	SQUARE FEET
SIM	SIMILAR
SL	SEA LEVEL
SP	STATIC PRESSURE
SS	SERVICE SINK OR STAINLESS STEEL
TOD	TOP OF DUCT
TSP	TOTAL STATIC PRESSURE
TYP.	TYPICAL
U	URINAL
V	VENT
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER
VFD	VARIABLE FREQUENCY DRIVE
VOL	VOLUME
VTR	VENT THROUGH THE ROOF
W	WASTE
W/	WITH
W/O	WITHOUT
WB	WET BULB
WC	WATER CLOSET
WCO	WALL CLEANOUT
WHA	WATER HAMMER ARRESTOR
WPD	WATER PRESSURE DROP
WT	WEIGHT
Ø	ROUND OR DIAMETER

MECHANICAL, PIPE AND PLUMBING LEGEND

BURIED OR UNDERFLOOR DUCT	
DUCT SIZE (IN)FIRST FIGURE IS SIDE SHOWN	18/12
FLEXIBLE DUCT (HELICAL)	
FLEXIBLE DUCT CONNECTION	
SPIN-IN W/ MVD	
AIR FLOW STATION	
COMBINATION FIRE/SMOKE DAMPER	
FIRE DAMPER SMOKE DAMPER	
GRAVITY BACKDRAFT DAMPER	
MANUAL VOLUME DAMPER	
MOTORIZED DAMPER	
SMOKE DAMPER	
THERMOSTAT OR TEMP SENSOR W/ EQUIPMENT TAG	XX
RADIAL SUPPLY DIFFUSERS	
RETURN GRILLE	
SUPPLY DIFFUSER	
SUPPLY SLOT DIFFUSER	
DUCT TRANSITION	
ELBOW W/ TURNING VANES	
TEE W/ 45° ENTRY	
WYE W/ 45° ENTRY	
EXHAUST AIR DUCT DOWN	
EXHAUST AIR DUCT SECTION	
EXHAUST AIR DUCT UP	
RETURN AIR DUCT DOWN	
RETURN AIR DUCT SECTION	
RETURN AIR DUCT UP	
SUPPLY AIR DUCT DOWN	
SUPPLY AIR DUCT SECTION	
SUPPLY AIR DUCT UP	
FIRE DEPT. HORN & LIGHT	
FIRE HOSE CABINET	
POST TYPE FDC CONNECTION	
WALL TYPE FDC CONNECTION	
YARD HYDRANT	
FLOOR DRAIN	
FLOOR OR GRADE CLEANOUT	
FLOOR SINK	
GRADE CLEANOUT W/ CONCRETE PAD	
HOSE BIBB OR SILLCOCK	
MANHOLE	
REDUCED PRESSURE BACKFLOW PREVENTOR	RPBP
VENT THROUGH THE ROOF	
WALL CLEANOUT	
EXPANSION JOINT	
FLEXIBLE PIPE CONNECTION	
HEAT TRACING	
CHILLED WATER RETURN	X" CHR

CHILLED WATER SUPPLY	X" CHS
CONDENSER WATER RETURN	X" CR
CONDENSER WATER SUPPLY	X" CS
HEATING WATER RETURN	X" HWR
HEATING WATER SUPPLY	X" HWS
RADIANT FLOOR RETURN	X" RFR
RADIANT FLOOR SUPPLY	X" RFS
REFRIGERANT LIQUID	X" RL
REFRIGERANT SUCTION	X" RS
SNOWMELT RETURN	X" SMR
SNOWMELT SUPPLY	X" SMS
STEAM	X" S
STEAM CONDENSATE RETURN	X" SCR
GROUND LOOP RETURN	X" GLR
GROUND LOOP SUPPLY	X" GLS
HOT GAS	X" HG
HOT GAS BYPASS	X" HGBP
AQUASTAT	A
FLOW SWITCH	F
IN-LINE PUMP	
PRESSURE GAUGE W/ GAUGE COCK	
STRAINER	
TEMPERATURE & PRESSURE TEST PLUG	
TEMPERATURE SENSING WELL	
THERMOMETER	
VENTURI FLOW METER	
DIRECTION OF FLOW	
ELBOW DOWN	
ELBOW UP	
PIPE CAP	
REDUCER	
TEE DOWN	
UNION	
CONDENSATE DRAIN	X" D
DOMESTIC COLD WATER	X" DCW
DOMESTIC HOT WATER	X" DHW
DOMESTIC HOT WATER RECIRC.	X" DHWR
FIRE SERVICE	X" F
GREASE WASTE ABOVE GRADE	X" GW
GREASE WASTE BELOW GRADE	X" GW
NATURAL GAS	X" G
OVERFLOW DRAIN	X" OD
ROOF DRAIN	X" RD
SANITARY (PLBG) VENT	X" V
SANITARY WASTE ABOVE GRADE	X" W
SANITARY WASTE BELOW GRADE	X" W
COMPRESSED AIR	X" CA
TEMPERED WATER	X" T

ARGON	X" AR
CARBON DIOXIDE	X" CO2
DEIONIZED WATER RETURN	X" DI
DEIONIZED WATER SUPPLY	X" DIR
FUEL OIL RETURN	X" FOR
FUEL OIL SUPPLY	X" FOS
HELIUM	X" HE
HYDROGEN	X" H
INDUSTRIAL WATER (NON-POTABLE)	X" IW
MEDICAL AIR	X" MA
NITROGEN	X" N
NITROUS OXIDE	X" N2O
OXYGEN	X" O2
PROPANE	X" P
REVERSE OSMOSIS	X" RO
VACUUM	X" VAC
WATER TREATMENT	X" WT
ACCESS PANEL	
CARBON DIOXIDE SENSOR	D
CARBON MONOXIDE SENSOR	C
HUMIDISTAT OR HUMIDITY SENSOR	H
NITROGEN DIOXIDE SENSOR	N
POINT OF CONNECTION TO EXISTING	POC
POINT OF REMOVAL FROM EXISTING	
AIR VENT (AUTOMATIC)	
AUTOMATIC CONTROL VALVE (2-WAY)	
AUTOMATIC CONTROL VALVE (3-WAY)	
BALL VALVE	
BUTTERFLY VALVE	
CALIBRATED BALANCE VALVE	
CHECK (SWING OR LIFT AS REQ'D) VALVE	
CURB COCK	
GAS COCK	
GATE OS & Y PATTERN VALVE	
GATE VALVE	
MOTORIZED ACTUATOR	M
P&T RELIEF VALVE	
PET COCK OR GAUGE COCK	
PLUG VALVE	
PRESSURE REDUCING VALVE	
SOLENOID VALVE	
THERMAL EXPANSION VALVE	
DETAIL TAG	DETAIL NO. / DRAWING NO.
KEYED NOTE	NOTE NO.
SECTION CUT LINE	SECTION NO. / DRAWING NO.

NOTE: NOT ITEM WILL BE USED ON THE SHEETS

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MECHANICAL LEGEND, SYMBOLS & ABBREVIATIONS

STEPHEN G. CONNOR 10/01/2020 187524 LICENSED PROFESSIONAL ENGINEER STATE OF UTAH

REVISIONS

No.	DATE	REMARKS	BY	APV

DESIGNED	Duane Bywaters	10-01-2021
DRAWN	CEA	10-01-2021
CHECKED	Bret Christiansen	10-01-2021
APPROVED		10-01-2021
DATE		10-01-2021

Salt Lake City Department of Airports

ENGINEERING DIVISION
SALT LAKE CITY
DEPARTMENT OF AIRPORTS
P.O. BOX 145550
SALT LKE CITY, UT. 84114-5550

PROJECT ADDRESS:
3851 WEST 1200 NORTH

SALT LAKE CITY INTERNATIONAL AIRPORT

PUMP HOUSE #5
RENOVATION

SCALE:

DRAWING 14
PROJECT 54 10191763
SHEET MP001

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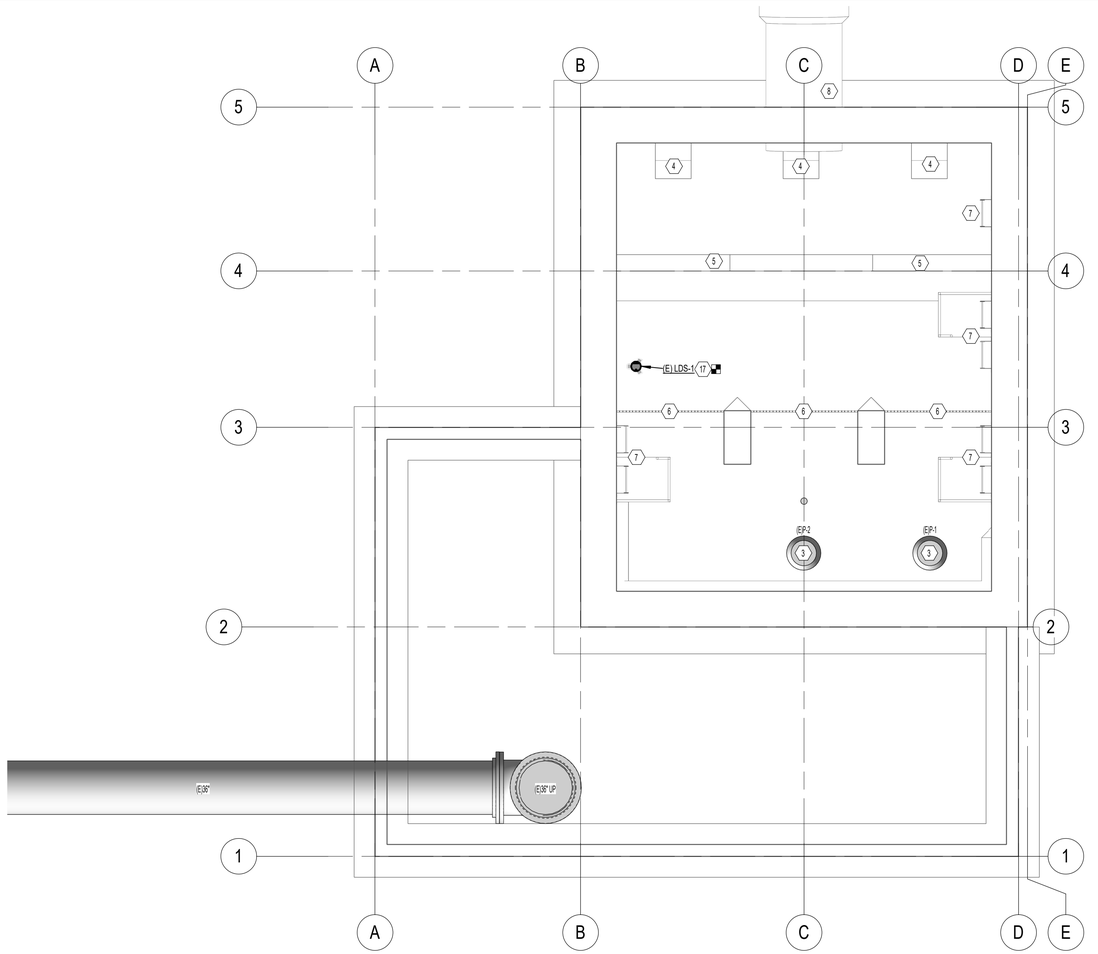
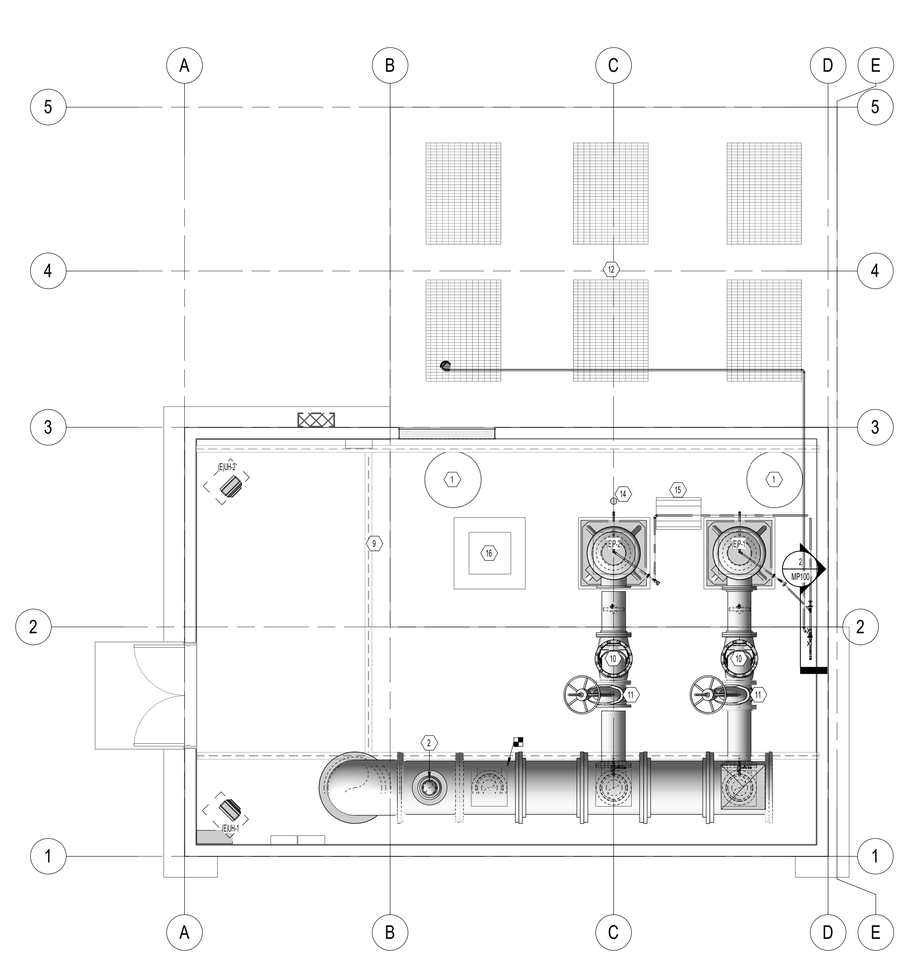


3 COORDINATION PLAN EXISTING - BELOW GRADE

SCALE: 1/4" = 1'-0"

6' 0' 4' 8' 16'

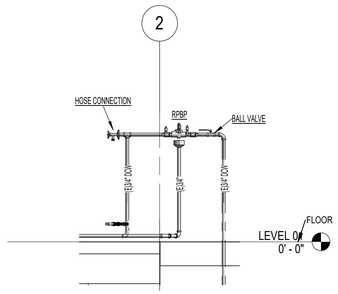
NO MECHANICAL DEMOLTION SCOPE IN THESE AREAS. PLANS FOR COORDINATION ONLY.



1 COORDINATION PLAN EXISTING - GRADE

SCALE: 1/4" = 1'-0"

3' 0' 2' 4' 8'



2 DOMESTIC WATER DETAIL

SCALE: 1/2" = 1'-0"

2' 0' 1' 2' 4'

KEYED NOTES

1. EXISTING MANHOLE COVER.
2. EXISTING 8" VACUUM BREAKER VALVE.
3. EXISTING PUMP
4. EXISTING 2 FT SQUARE HOLE AT BOTTOM WEIR.
5. EXISTING CONCRETE WEIR.
6. EXISTING SCREEN.
7. EXISTING LADDER.
8. EXISTING 42"Ø RCP FROM DETENTION POND.
9. EXISTING HOIST RAIL WITH TROLLEY.
10. EXISTING CHECK VALVE.
11. EXISTING GATE VALVE.
12. EXISTING WET WELL BELOW.
13. EXISTING TRANSFORMER PAD.
14. EXISTING 4"Ø PIPE SLEEVE THROUGH FLOOR STUFFING BOX DRAIN LINE.
15. EXISTING PIPE COVER.
16. EXISTING BASE FOR NEW PUMP.
17. DEMOLISH EXISTING FLOAT LEVEL DETECTOR AND CONTROLLER. TO BE REPLACED WITH ULTRASONIC LEVEL DETECTOR SENSOR WITH STILL PIPE.

GENERAL NOTES

A. COORDINATE PIPE ROUTING AND LOCATION WITH ALL TRADES BEFORE STARTING ANY WORK.
B. EXISTING TO REMAIN PIPE AND PIPE ACCESSORIES IS SHOWN LIGHT AND WITH A THIN LINE. DEMOLITION PIPE AND PIPE ACCESSORIES IS SHOWN DARK WITH BOLD DASHED LINE. NEW PIPE AND PIPE ACCESSORIES IS SHOWN DARK AND WITH THICK LINE.
C. DO NOT ROUTE OR LOCATE ANY MECHANICAL PIPING OR EQUIPMENT OVER ANY ELECTRICAL EQUIPMENT.

DEMOLITION GENERAL NOTES

A. REMOVE EXISTING FLOW METER LOCATED BEHIND DUCK BILL CHECK VALVE AT STORMWATER PIPE DISCHARGE; REMOVE ASSOCIATED WIRING, CONTROLS AND CONTROL BOXES AND RETURN METER AND PARTS TO AIRPORT.

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COORDINATION EXISTING PLAN

STEPHEN G. CONNOR 10/01/2020 187524 LICENSED PROFESSIONAL ENGINEER STATE OF UTAH

REVISIONS				
No.	DATE	REMARKS	BY	APV

DESIGNED	Duane Bywaters	10-01-2021
DRAWN	Ephraim Willardson	10-01-2021
CHECKED	Bret Christiansen	10-01-2021
APPROVED		10-01-2021
DATE		10-01-2021

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PROJECT ADDRESS:
3851 WEST 1200 NORTH

SALT LAKE CITY INTERNATIONAL AIRPORT

PUMP HOUSE #5 RENOVATION

SCALE: As indicated

DRAWING	15
PROJECT	54 10191763
SHEET	MP100

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2 PIPING REMODEL PLAN - BELOW GRADE

SCALE: 1/4" = 1'-0"

KEYED NOTES

1 EXISTING PUMP
2 NEW PUMP.
3 EXISTING 2 FT SQUARE HOLE AT BOTTOM WEIR.
4 EXISTING CONCRETE WEIR.
5 EXISTING SCREEN.
6 EXISTING LADDER.
7 EXISTING 42"Ø RCP FROM DETENTION POND.
8 PROVIDE NEW FLOW METER SENSOR.
9 PROVIDE NEW SUMP PUMP.
10 NEW SUBMERSIBLE SUMP AGITATOR PUMP. SEE CIVIL SHEET M-001.
11 ROUTE DUCT DOWN TO WITHIN 48" PIT FLOOR.
12 BOTTOM OF EXHAUST DUCT TO BE FLUSH WITH CEILING OF VAULT.
13 MOUNT WATER SENSOR 12" ABOVE METER PIT FLOOR.
14 MOUNT SMP-1 RUN TIME METER NEAR PUMP POWER OUTLET FOR CONVENIENT ACCESS.
15 MAKE JOINT BETWEEN PIPE AND VAULT WALL WATER-TIGHT WITH LINK SEAL.
16 NEW ULTRASONIC LEVEL DETECTOR SENSOR WITH STILL PIPE. COORDINATE EXACT LOCATION ON SITE WITH OWNER REPRESENTATIVE.

GENERAL NOTES

A. COORDINATE PIPE ROUTING AND LOCATION WITH ALL TRADES BEFORE STARTING ANY WORK.
B. EXISTING TO REMAIN PIPE AND PIPE ACCESSORIES IS SHOWN LIGHT AND WITH A THIN LINE. DEMOLITION PIPE AND PIPE ACCESSORIES IS SHOWN DARK WITH BOLD DASHED LINE. NEW PIPE AND PIPE ACCESSORIES IS SHOWN DARK AND WITH THICK LINE.
C. DO NOT ROUTE OR LOCATE ANY MECHANICAL PIPING OR EQUIPMENT OVER ANY ELECTRICAL EQUIPMENT.

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MECHANICAL PLAN - BELOW GRADE

STEPHEN G. CONNOR 10/01/2020 187524 STATE OF UTAH

REVISIONS

No.	DATE	REMARKS	BY	APV

DESIGNED Duane Bywaters 10-01-2021
DATE
DRAWN Ephraim Willardson 10-01-2021
DATE
CHECKED Bret Christiansen 10-01-2021
DATE
APPROVED 10-01-2021
DATE 10-01-2021

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PROJECT ADDRESS:
3851 WEST 1200 NORTH

SALT LAKE CITY INTERNATIONAL AIRPORT

PUMP HOUSE #5 RENOVATION

SCALE: 1/4" = 1'-0"

DRAWING 16
PROJECT 54 10191763
SHEET MP101

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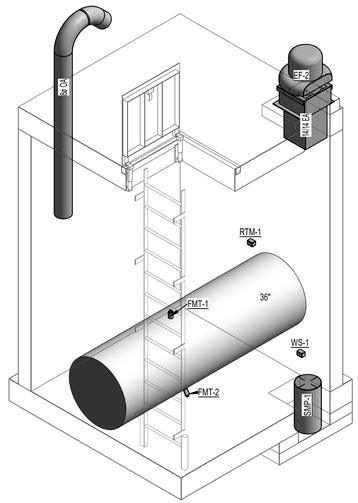
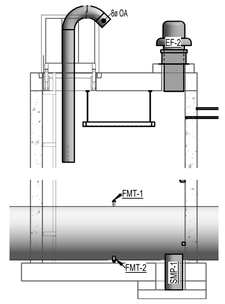
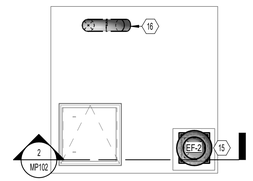
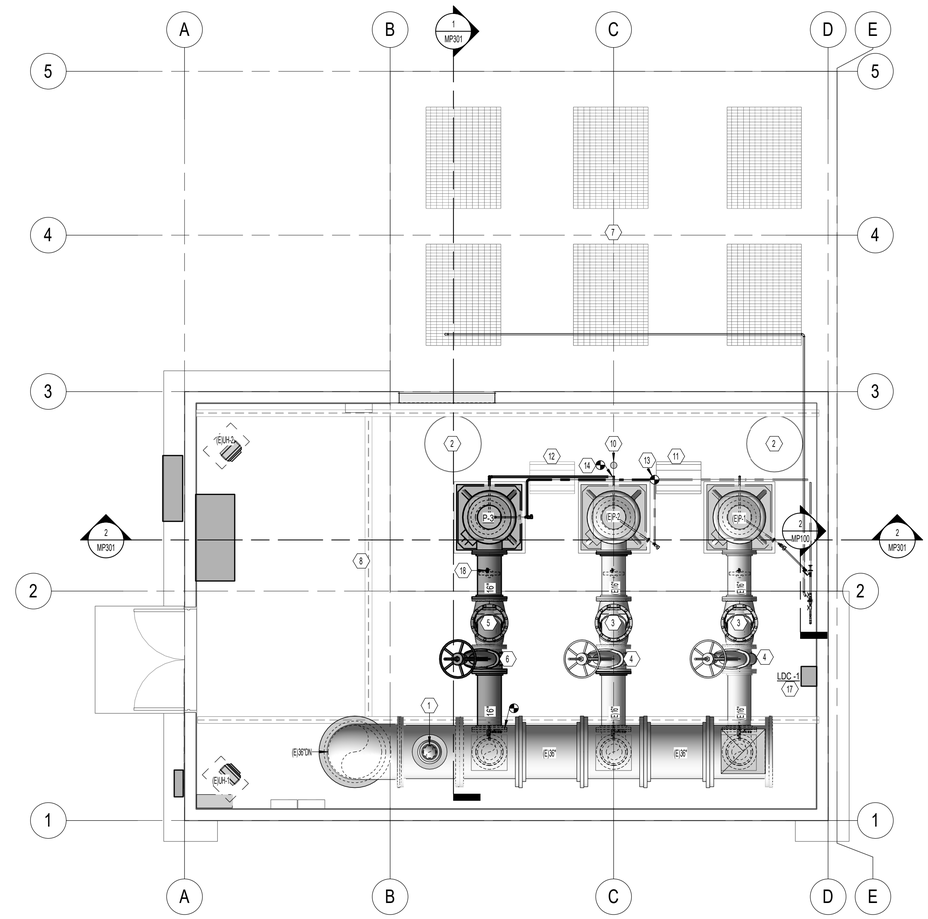


3 SENSOR PIT VIEW
SCALE: NONE



2 SENSOR PIT SECTION
SCALE: 1/4" = 1'-0"





1 MECHANICAL REMODEL PLAN - GRADE
SCALE: 1/4" = 1'-0"

KEYED NOTES

1 EXISTING 8" VACUUM BREAKER VALVE.
2 EXISTING MANHOLE COVER.
3 EXISTING CHECK VALVE.
4 EXISTING GATE VALVE.
5 PROVIDE NEW CHECK VALVE.
6 PROVIDE NEW GATE VALVE.
7 EXISTING WET WELL BELOW.
8 EXISTING HOIST RAIL WITH TROLLEY.
9 EXISTING TRANSFORMER PAD.
10 EXISTING 4"Ø PIPE SLEEVE THROUGH FLOOR STUFFING BOX DRAIN LINE.
11 EXISTING PIPE COVER.
12 NEW PIPE COVER MATCH EXISTING PIPE COVER. SECURE TO FLOOR
13 CONNECT DOMESTIC WATER FOR NEW PUP TO EXISTING PIPE.
14 CONNECT PUMP DRAIN TO EXISTING PUMP DRAIN.
15 PROVIDE NEW EXHAUST FAN.
16 GOOSENECK AIR INTAKE 18" ABOVE VAULT CAP. PROVIDE WITH BUG SCREEN.
17 NEW ULTRASONIC LEVEL DETECTOR CONTROLLER. COORDINATE EXACT LOCATION ON SITE WITH ELECTRICAL.
18 PRESSURE SWITCH TO VERIFY FLOW. CONNECT PRESSURE SWITCH AND INTEGRATE INTO NEW PUMP OPERATING SEQUENCE. IF PRESSURE SWITCH INDICATES HIGH PRESSURE, INDICATING NO FLOW, SHUTDOWN PUMP AND ALARM BMS. MATCH EXISTING. PROVIDE WITH PIPE TEE, BALL VALVE, AND OUTLET FOR MANUAL EFFLUENT SAMPLING.

GENERAL NOTES

A. COORDINATE PIPE ROUTING AND LOCATION WITH ALL TRADES BEFORE STARTING ANY WORK.
B. EXISTING TO REMAIN PIPE AND PIPE ACCESSORIES IS SHOWN LIGHT AND WITH A THIN LINE. DEMOLITION PIPE AND PIPE ACCESSORIES IS SHOWN DARK WITH BOLD DASHED LINE. NEW PIPE AND PIPE ACCESSORIES IS SHOWN DARK AND WITH THICK LINE.
C. DO NOT ROUTE OR LOCATE ANY MECHANICAL PIPING OR EQUIPMENT OVER ANY ELECTRICAL EQUIPMENT.

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MECHANICAL PLAN - GRADE

STEPHEN G. CONNOR 10/01/2020 187524 LICENSED PROFESSIONAL ENGINEER STATE OF UTAH

REVISIONS

No.	DATE	REMARKS	BY	APV

DESIGNED	Duane Bywaters	10-01-2021
DRAWN	Ephraim Willardson	10-01-2021
CHECKED	Bret Christiansen	10-01-2021
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Salt Lake City Department of Airports

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SALT LAKE CITY
DEPARTMENT OF AIRPORTS
P.O. BOX 145550
SALT LKE CITY, UT. 84114-5550

PROJECT ADDRESS:
3851 WEST 1200 NORTH

SALT LAKE CITY INTERNATIONAL AIRPORT

PUMP HOUSE #5 RENOVATION

SCALE: 1/4" = 1'-0"

DRAWING 17
PROJECT 54 10191763
SHEET MP102

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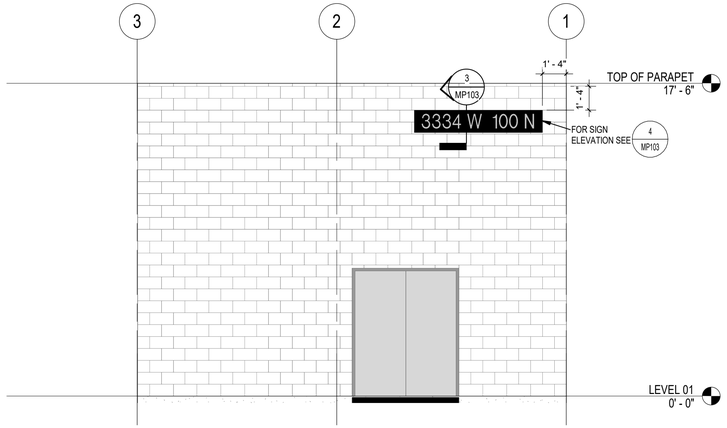
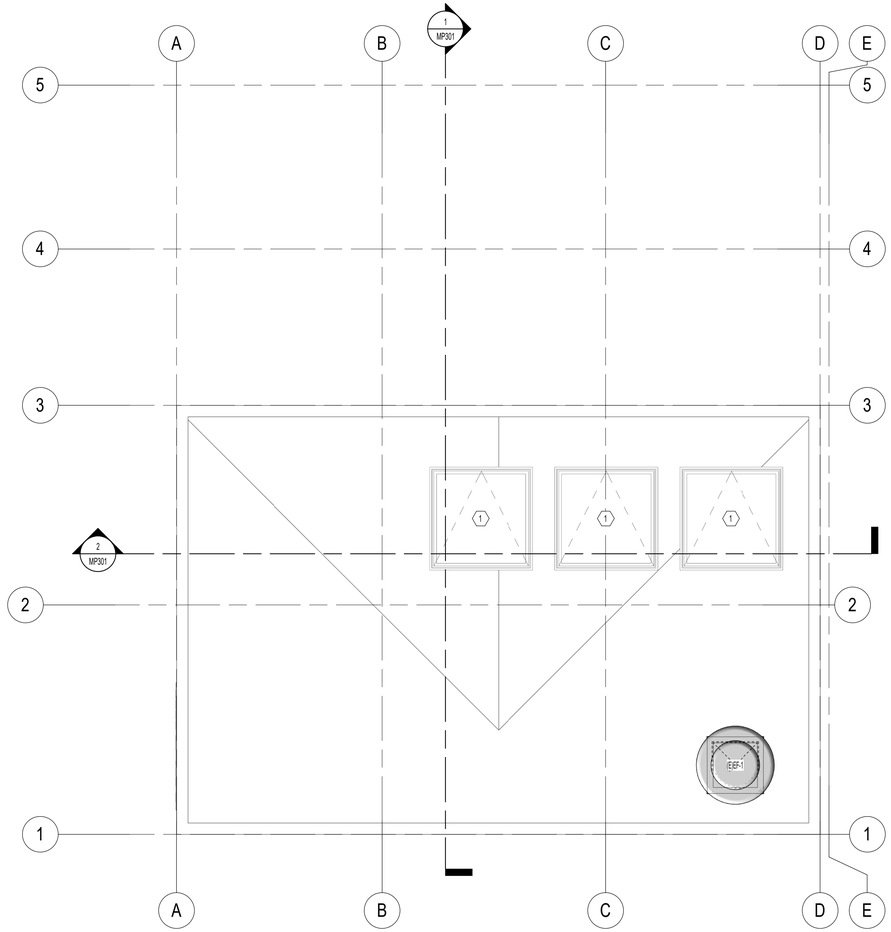


2 EXISTING WEST BUILDING ELEVATION FOR SIGN DETAIL

SCALE: 1/4" = 1'-0"

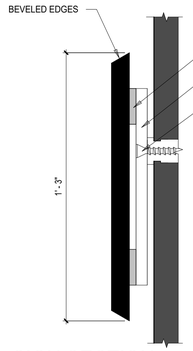


1 COORDINATION EXISTING ROOF PLAN

SCALE: 1/4" = 1'-0"

4 SIGN ELEVATION

SCALE: 1 1/2" = 1'-0"



3 SIGN SECTION

SCALE: 3" = 1'-0"

KEYED NOTES

1 EXISTING ROOF HATCH.

GENERAL NOTES

A. COORDINATE PIPE ROUTING AND LOCATION WITH ALL TRADES BEFORE STARTING ANY WORK.
B. EXISTING TO REMAIN PIPE AND PIPE ACCESSORIES IS SHOWN LIGHT AND WITH A THIN LINE. DEMOLITION PIPE AND PIPE ACCESSORIES IS SHOWN DARK WITH BOLD DASHED LINE. NEW PIPE AND PIPE ACCESSORIES IS SHOWN DARK AND WITH THICK LINE.
C. DO NOT ROUTE OR LOCATE ANY MECHANICAL PIPING OR EQUIPMENT OVER ANY ELECTRICAL EQUIPMENT.

SIGN FACE:
.25" THICK ALUMINUM PANEL. ALL SURFACES AND SIDE EDGES TO BE PAINTED CUSTOM COLOR TO MATCH CENTRIA 9948 CHAMPAGNE BRONZE AND HAVE SMOOTH EVEN EGGSHELL FINISH.

SPACER:
VENDOR TO CHOOSE THICKNESS AND MATERIAL OF SPACER THAT IS APPROPRIATE TO WALL SURFACE SIGN WILL BE INSTALLED. SPACER TO CONCEALED FROM VIEW.

LETTERING:
COPY IS CUT TO SHAPE FROM WHITE RETROREFLECTIVE VINYL MATERIAL. ADHERE TO FRONT SURFACE OF SIGN FACE. FONT: TRADE GOTHIC LT STD BOLD.

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COORDINATION EXISTING ROOF PLAN AND SIGN DETAILS

STEPHEN G. CONNOR 10/01/2020 187524 STATE OF UTAH LICENSED PROFESSIONAL ENGINEER

REVISIONS				
No.	DATE	REMARKS	BY	APV

DESIGNED	Duane Bywaters	10-01-2021 DATE
DRAWN	Ephraim Willardson	10-01-2021 DATE
CHECKED	Bret Christiansen	10-01-2021 DATE
APPROVED		10-01-2021
DATE		10-01-2021

Salt Lake City Department of Airports

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P.O. BOX 145550
SALT LKE CITY, UT. 84114-5550

PROJECT ADDRESS:
3851 WEST 1200 NORTH

SALT LAKE CITY INTERNATIONAL AIRPORT

PUMP HOUSE #5 RENOVATION

SCALE: As indicated

DRAWING 18
PROJECT 54 10191763
SHEET MP103

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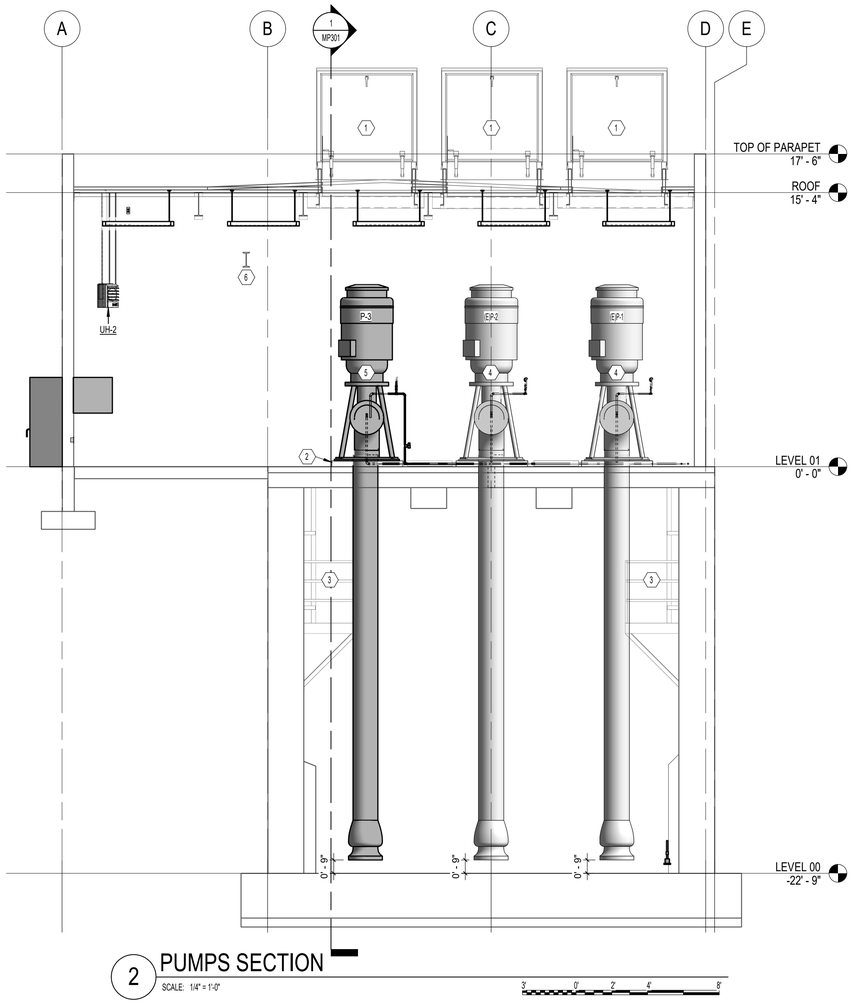
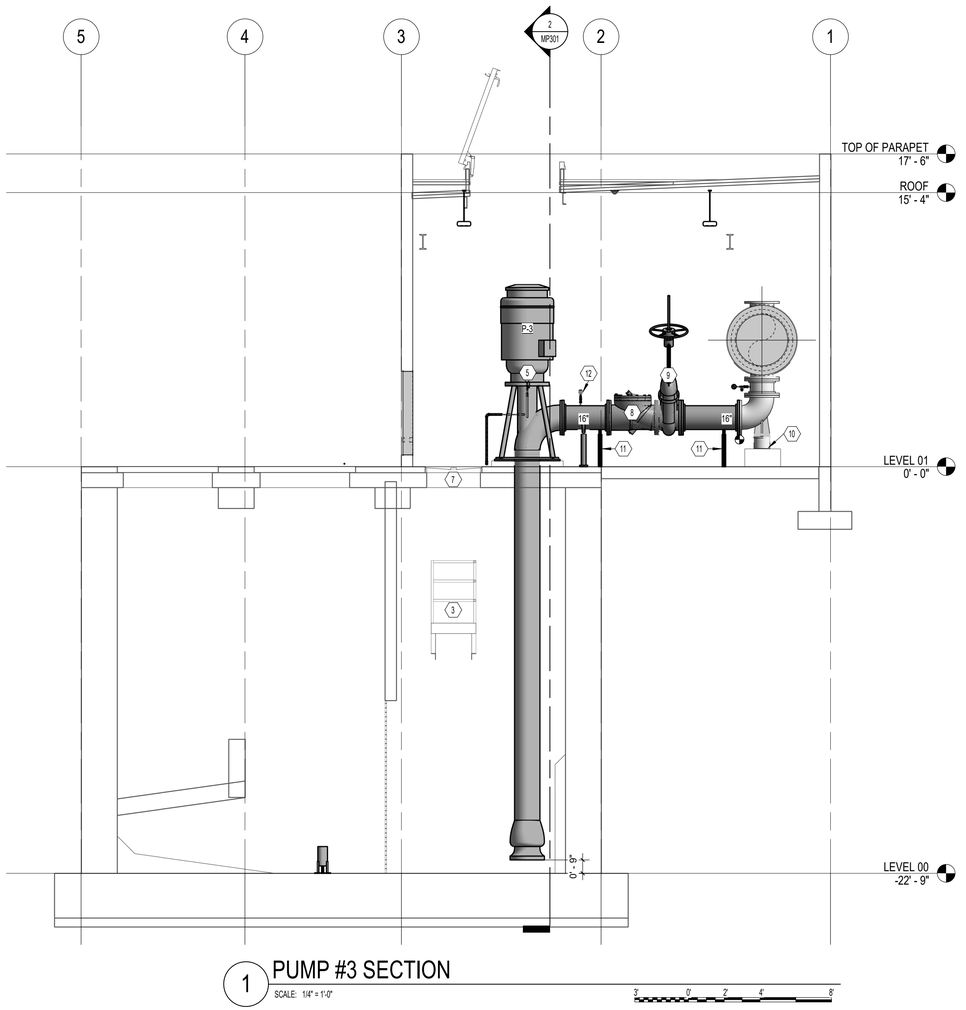


2 PUMPS SECTION
SCALE: 1/4" = 1'-0"



1 PUMP #3 SECTION
SCALE: 1/4" = 1'-0"

KEYED NOTES

1 EXISTING ROOF HATCH.
2 EXISTING BASE FOR NEW PUMP.
3 EXISTING LADDER.
4 EXISTING PUMP
5 NEW PUMP.
6 EXISTING HOIST RAIL WITH TROLLEY.
7 EXISTING MANHOLE COVER.
8 PROVIDE NEW CHECK VALVE.
9 PROVIDE NEW GATE VALVE.
10 PROVIDE NEW PIPE SUPPORT AND PAD.
11 PROVIDE NEW PIPE SUPPORT.
12 PRESSURE SWITCH TO VERIFY FLOW. CONNECT PRESSURE SWITCH AND INTEGRATE INTO NEW PUMP OPERATING SEQUENCE. IF PRESSURE SWITCH INDICATES HIGH PRESSURE, INDICATING NO FLOW, SHUTDOWN PUMP AND ALARM BMS. MATCH EXISTING. PROVIDE WITH PIPE TEE, BALL VALVE, AND OUTLET FOR MANUAL EFFLUENT SAMPLING.

GENERAL NOTES

A. ENLARGED MECHANICAL GENERAL NOTES.

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BUILDING SECTIONS

STEPHEN G. CONNOR 10/01/2020 187524 STATE OF UTAH

REVISIONS				
No.	DATE	REMARKS	BY	APV

DESIGNED Duane Bywaters 10-01-2021
DRAWN Ephraim Willardson 10-01-2021
CHECKED Bret Christiansen 10-01-2021
APPROVED — 10-01-2021
DATE 10-01-2021

Salt Lake City Department of Airports

ENGINEERING DIVISION
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P.O. BOX 145550
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PROJECT ADDRESS:
3851 WEST 1200 NORTH

SALT LAKE CITY INTERNATIONAL AIRPORT

PUMP HOUSE #5 RENOVATION

SCALE: 1/4" = 1'-0"

DRAWING 19
PROJECT 54 10191763
SHEET MP301

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FLOW METER & FLOW METER TRANSDUCER SCHEDULE (FM & FMS)

PLAN CODE	AREA SERVED	TYPE	MANUFACTURER & MODEL NO.	REMARKS
FM	PH5 STORM WATER RUN-OFF	FLOW METER CONTROLLER	MACE FLOSERIES3 FLOWPRO XCI	1,2,4
FMT-1	PH5 STORM WATER RUN-OFF	ULTRASONIC DEPTH SENSOR	MACE ECHOFLO 1.25M ULTRASONIC DEPTH SENSOR	4
FMT-2	PH5 STORM WATER RUN-OFF	ULTRASONIC VELOCITY CENSOR	MACE AGRIFLO/FLOPRO XCI 2" INSERT VELOCITY SENSOR	3,4

1 - ONLY FLOW METER TRANSDUCERS TO BE LOCATED IN METERING VAULT, FLOW METER ELECTRONICS TO BE LOCATED IN PUMP HOUSE
2 - CONNECT FLOW METER TO AIRPORT SIEMENS BMS
3 - PROVIDE WITH 50 METER CABLE
4 - PROVIDE WITH ALL NECESSARY COMMUNICATIONS INTERFACE COMPONENTS TO CONNECT FLOW METER CONTROLLER TO SENSORS AND FLOW METER CONTROLLER TO AIRPORT SIEMENS BMS

FLOW METER DETECTOR SEQUENCE OF OPERATION

1 - FLOW METER TO CONNECT TO AIRPORT SIEMENS BMS
A. NO GATEWAYS TO BMS CONNECTION ALLOWED
2 - TREND FLOW (GPM) AT 30 (ADJUSTABLE) SECOND INTERVALS

LEVEL DETECTOR CONTROLLER & SENSOR SCHEDULE (LDC & LDS)

PLAN CODE	AREA SERVED	TYPE	MANUFACTURER & MODEL NO.	REMARKS
LDC-1 LDS-1	PH5 STORM WATER SUMP	ULTRASONIC	TELEDYNE ISCO SIGNATURE ULTRASONIC METER BASE METER CONTROLLER 624300005 ULTRASONIC LEVEL SENSOR TIENET 310	1, 2, 3

1 - LEVEL DETECTOR PROVIDES CONTROL TO STORM WATER PUMPS & AGITATOR PUMPS
2 - PROVIDE SENSOR STILL PIPE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS
3 - CONNECT TO AIRPORT SIEMENS BMS

LEVEL DETECTOR SEQUENCE OF OPERATION

1 - DETECTOR TO CONNECT TO AIRPORT SIEMENS BMS
A. NO GATEWAYS FOR BMS CONNECTION ALLOWED. NATIVE BACNET OR MODBUS REQUIRED. CONNECT TO AIRPORT SIEMENS BMS.
2 - COORDINATE LEVEL SETPOINTS WITH OWNER REPRESENTATIVE. LEVELS REQUIRED:
A. HIGH LEVEL ALARM
B. FIRST STORM WATER PUMP SHUTOFF
C. SECOND STORM WATER PUMP SHUTOFF
D. THIRD STORM WATER PUMP SHUTOFF
E. FIRST STORM WATER PUMP START
F. SECOND STORM WATER PUMP START
G. THIRD STORM WATER PUMP START
H. AGITATOR PUMP SHUTOFF
I. AGITATOR PUMP START
3 - CONTROLS CONTRACTOR TO INTEGRATE LEVEL DETECTOR OUTPUT INTO EXISTING STORM WATER PUMP SEQUENCE OF OPERATIONS
4 - FOLLOW PUMP MANUFACTURERS GUIDELINES ON MINIMUM PUMP RUN TIME WHEN SETTING LEVELS
5 - PROVIDE AGITATOR PUMP CURRENT SENSOR
A. PROVIDE BMS ALARM IF CALL FOR PUMP START AND PUMP IS NOT OPERATING
6 - ABILITY TO ADJUST LEVELS VIA BMS REQUIRED

PUMP SCHEDULE (P) OR (SMP)

PLAN CODE	TYPE	DUTY	FLOW (GPM)	PRESSURE (FT)	MAX ALLOWABLE BHP	FLUID	NPSHR (FT)	MOTOR SIZE (HP)	MOTOR SPEED (RPM)	MOTOR VOLT / PH	MOTOR VFD	PUMP & MOTOR WT (LBS)	TOTAL WEIGHT (LBS)	MANUFACTURER & MODEL NO.	REMARKS
P-3	VERTICAL TURBINE	STORM WATER RUN-OFF	5800	35	65	WATER	20	75	900	480/3	YES	-	-	FAIRBANKS MORSE 16" VTSH-AWF	1,5,6,8,9,10,11
SMP-1	SUBMERSIBLE	SUMP	27	17	0.3	WATER	-	1/3	3450	115/1	NO	20	20	LIBERTY PUMPS S38	12

1 - MAXIMUM IMPELLER SIZE FOR VOLUTE 2 - FURNISH BASE RAIL, INCLUDING SUCTION PIPE 3 - INERTIA BASE 4 - POST-BALANCE IMPELLER TRIM REQUIRED 5 - GLAND SEAL WITH FLUSHLINE, NO MECHANICAL SEAL 6 - SHAFT GROUNDING 7 - BRONZE WEAR RINGS
8 - POST SEISMIC EVENT OPERATION REQUIRED 9 - EMERGENCY POWER 10 - INTEGRATE NEW STORM WATER PUMP INTO EXISTING STORM WATER PUMP SEQUENCE OF OPERATIONS AND BMS 11 - PROVIDE GLAND SEAL WATER FLOW METER, HARDWIRE TO VFD FOR PUMP OPERATION ENABLE/DISABLE, MATCH EXISTING 12 - CONNECT TO RUN TIME METER, SEE ELECTRICAL SHEETS

EXHAUST FAN SCHEDULE (EF)

PLAN CODE	AREA SERVED	TYPE	CFM @ ELEV	ESP @ ELEV	FAN RPM	MOTOR HP	MOTOR VOLT/PH	SONES	DAMPER (GRAVITY OR MOTORIZED)	METHOD OF CONTROL	OPENING SIZE	MAX OPERATING WT (LBS)	MANUFACTURER & MODEL NO.	REMARKS
EF-2	METER VAULT	CENTRIFUGAL DOWNBLAST	100	025	1725	1/20	115/1	4	GRAVITY	SWITCH	14X14	20	COOK 70C17DEC	1,2

1 - PROVIDE WITH SPEED CONTROL
2 - LOCATE SWITCH IN WEATHER PROOF BOX BY EXHAUST FAN OUTSIDE METER PIT

WATER SENSOR SCHEDULE (WS)

PLAN CODE	AREA SERVED	ELECTRICAL	MANUFACTURER & MODEL NO.	REMARKS
WS-1	PH5 METER PIT	24V AC/DC	EDC INTERNATIONAL AQUASWITCH AQS.0066.1	1

1 - CONNECT WATER SENSOR TO AIRPORT SIEMENS BMS

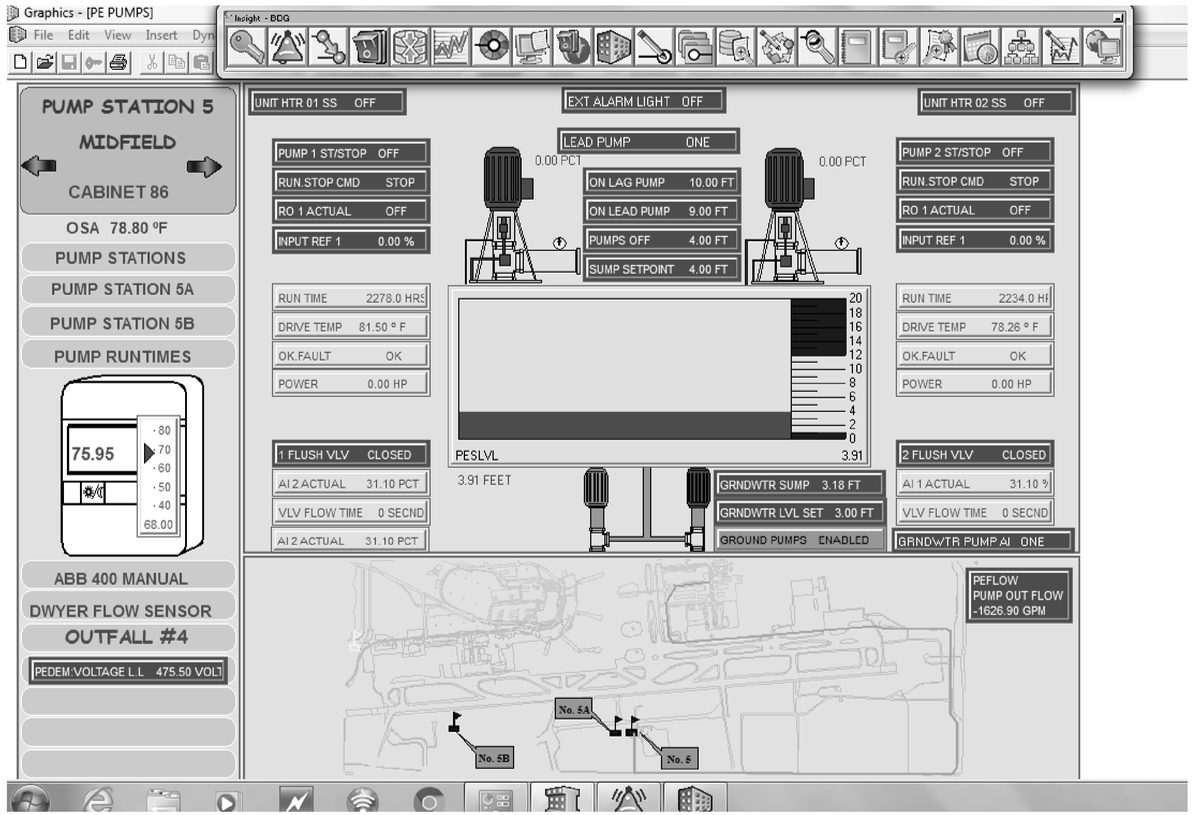
METER PIT WATER SENSOR (WS) SEQUENCE OF OPERATION

1 - WATER SENSOR TO CONNECT TO AIRPORT SIEMENS BMS
2 - BMS TO ALARM WHEN WATER SENSOR IS WET

RUN TIME METER SCHEDULE (RTM)

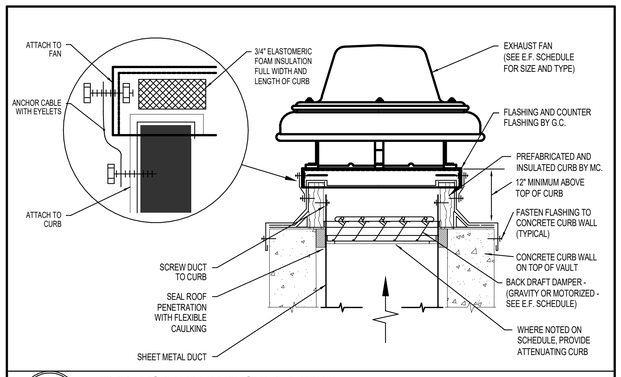
PLAN CODE	AREA SERVED	ELECTRICAL	MANUFACTURER & MODEL NO.	REMARKS
RTM-1	PH5 SMP-1	120V AC	SJE RHOMBUS 1022846	1

1 - PROVIDE WITH PIGGY-BACK PLUG
2 - PLUG METER INTO 120V POWER SOCKET; PLUG SUMP PUMP SMP-1 INTO RUN TIME METER



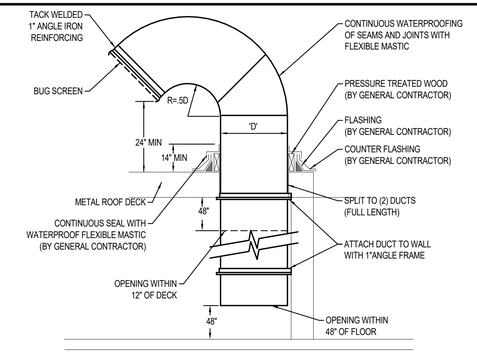
EXISTING PUMP HOUSE #5 BMS PAGE

ADD #3 STORMWATER PUMP AND AGITATOR PUMP TO EXISTING PUMP HOUSE #5 BMS PAGE. MATCH EXISTING PAGE.



1 EXHAUST FAN AND CURB DETAIL

NO SCALE



2 OUTSIDE AIR INTAKE DETAIL

NO SCALE

10/1/2021 12:43:10 PM 2019-145.00

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Phone 801.322.2400 / colvinengineering.com

MECHANICAL SCHEDULES, DETAILS AND SEQUENCE OF OPERATION

STEPHEN G. CONNOR 10/01/2020 187524 STATE OF UTAH

REVISIONS

No.	DATE	REMARKS	BY	APV

DESIGNED	Duane Bywaters	10-01-2021
DRAWN	CEA	10-01-2021
CHECKED	Bret Christiansen	10-01-2021
APPROVED		10-01-2021
DATE		10-01-2021

Salt Lake City Department of Airports

ENGINEERING DIVISION
SALT LAKE CITY
DEPARTMENT OF AIRPORTS
P.O. BOX 145550
SALT LKE CITY, UT. 84114-5550

PROJECT ADDRESS:
3851 WEST 1200 NORTH

SALT LAKE CITY INTERNATIONAL AIRPORT

PUMP HOUSE #5 RENOVATION

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

DRAWING 20
PROJECT 54 10191763
SHEET MP601

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ELECTRICAL LEGEND

	LINEAR SUSPENDED PENDANT FIXTURE
	LINEAR SUSPENDED PENDANT FIXTURE (EMERGENCY POWER)
	RECESSED DOWN LIGHT
	RECESSED DOWNLIGHT (EMERGENCEY POWER)
	RECESSED LIGHT FIXTURE
	RECESSED LIGHT FIXTURE (EMERGENCY FIXTURE)
	RECESSED WALL MOUNTED LIGHT FIXTURE
	RECESSED WALL MOUNTED LIGHT FIXTURE (EMERGENCY POWER)
	CEILING SURFACE / PENDANT SUSPENDED FIXTURE
	EMERGENCY BATTERY LIGHT FIXTURE
	LIGHT TRACK WITH LIGHT FIXTURE
	STRIP LIGHT FIXTURE
	SURFACE LIGHT FIXTURE
	SURFACE LIGHT FIXTURE (EMERGENCY POWER)
	WALL MOUNTED FLOODLIGHT
	WALL MOUNTED LIGHT FIXTURE
	WALL MOUNTED LIGHT FIXTURE
	WALL MOUNTED LIGHT FIXTURE (EMERGENCY POWER)
	EXIT LIGHT CEILING
	WALL MOUNTED EXIT LIGHT
	DUAL POLE MOUNTED LIGHT FIXTURE
	GROUND MOUNTED LIGHT FIXTURE
	POLE MOUNTED LIGHT FIXTURE
	POLE TOP MOUNTED FIXTURE
$3K	3-WAY KEY SWITCH
$3	3-WAY SWITCH
$4	4-WAY SWITCH
$X	EXPLOSION PROOF
$K	KEY SWITCH
$LM	LOW VOLTAGE MASTER
$LV	LOW VOLTAGE SWITCH
$M	MOMENTARY CONTACT SWITCH
$P	PILOT LIGHT
$PB	PUSHBUTTON SWITCH
$RC	REMOTE CONTROL
$	SINGLE POLE SWITCH
$VR	SWITCH WITH VANDAL RESISTANT COVER PLATE
C	CONTACTOR
D	DIMMER SWITCH, WALL MOUNT
ECU	EMERGENCY CONTROL RELAY UNIT
OS	OCCUPANCY SENSOR, CEILING MOUNT
OS	OCCUPANCY SENSOR, WALL MOUNT
PC	PHOTO CELL
PP	POWER PACK
SP	SLAVE POWER PACK
TS	TIMER SWITCH, WALL MOUNT
	COMBO FLOORBOX WITH DUPLEX RECEPTACLE AND DATA
	COMBO FLOORBOX WITH QUADRAPLEX RECEPTACLE AND DATA
	DUPLEX RECEPTACLE
	DUPLEX RECEPTACLE (EMERGENCY POWER)

	DUPLEX RECEPTACLE GFI
	DUPLEX RECEPTACLE ISOLATED GROUND
	DUPLEX RECEPTACLE, FLUSH CEILING
	DUPLEX RECEPTACLE, FLUSH CEILING ISOLATED GROUND
	DUPLEX RECEPTACLE, FLUSH IN FLOOR
	DUPLEX RECEPTACLE, PEDESTAL MOUNTED
	POKE-THRU DEVICE
	QUADRAPLEX RECEPTACLE
	QUADRAPLEX RECEPTACLE GFI
	QUADRAPLEX RECEPTACLE ISOLATED GROUND
	QUADRAPLEX RECEPTACLE, PEDESTAL MOUNTED
	RANGE RECEPTACLE
	SINGLE RECEPTACLE
	SPECIAL OUTLET TO MATCH EQUIPMENT PLUG
	SPECIAL OUTLET TO MATCH EQUIPMENT PLUG, FLUSH IN FLOOR
	EMERGENCY POWER OFF BUTTON, 46" AFF
GA	GENERATOR ANNUNCIATOR
J	JUNCTION BOX
J	JUNCTION BOX, FLUSH IN FLOOR
	MAGNETIC STARTER
	MANUAL STARTER
M	METER BASE
	MOTOR CONNECTION
J	MULTI OUTLET ASSEMBLY
PS	POWER SUPPLY
	PULL BOX
R	RELAY
	SPLICE BOX
$T	THERMAL SWITCH
T	THERMOSTAT
T	TRANSFORMER (FLOOR PLAN)
F	COMBINATION STARTER/FUSED DISCONNECT SWITCH
	COMBINATION STARTER/NON-FUSED DISCONNET SWITCH
F	FUSED DISCONNECT SWITCH
G	GENERATOR
	NONFUSE DISCONNECT SWITCH
	LIGHTING ARRESTOR
	RECESSED ELECTRICAL PANELBOARD
	RECESSED EQUIPMENT CABINET AS NOTED
	SURFACE ELECTRICAL PANEL
	SURFACE EQUIPMENT CABINET
HT	HEAT TRACE
SS	SNOW SENSOR
3D,1P	COMMUNICATIONS OUTLET - ABOVE COUNTER: D=DATA, P=TELEPHONE, F=FIBER, # INDICATES QTY. NO DESIGNATION=(2) DATA OUTLET, (1) TELEPHONE OUTLET
3D,1P	COMMUNICATIONS OUTLET - FLUSH IN FLOOR: D=DATA, P=TELEPHONE, F=FIBER, # INDICATES QTY. NO DESIGNATION=(2) DATA OUTLET, (1) TELEPHONE OUTLET
3D,1P	COMMUNICATIONS OUTLET: D=DATA, P=TELEPHONE, F=FIBER, # INDICATES QTY. NO DESIGNATION=(2) DATA OUTLET, (1) TELEPHONE OUTLET
3	DATA OUTLET-ABOVE COUNTER: # INDICATES QTY.; NO DESIGNATION =(2) DATA OUTLET
3	DATA OUTLET-FLUSH IN FLOOR:# INDICATES QTY.; NO DESIGNATION =(2) DATA OUTLET

3	DATA OUTLET: # INDICATES QTY.; NO DESIGNATION =(2) DATA OUTLET
3	TELEPHONE OUTLET - ABOVE COUNTER: # INDICATES QTY.; NO DESIGNATION =(1) TELEPHONE OUTLET
3	TELEPHONE OUTLET - FLUSH IN FLOOR: # INDICATES QTY.; NO DESIGNATION =(1) TELEPHONE OUTLET
3	TELEPHONE OUTLET: # INDICATES QTY.; NO DESIGNATION =(1) TELEPHONE OUTLET
	19" TELECOM EQUIPMENT RACK WITH VERTICAL WIRE MGMT.
	19" TELECOM EQUIPMENT RACK
	CABLE TRAY FOR DATA TELEPHONE AND SOUND/PAGING ONLY (NO CONTROL WIRING)
C	CLOCK
C	CLOCK, WALL MOUNTED
IC	INTERCOM STATION, SECURITY
RA	RESCUE ANNUNCIATOR STATION
RC	RESCUE CALL STATION
MS	SECURITY MOTION SENSOR, CEILING MOUNTED
MS	SECURITY MOTION SENSOR, WALL MOUNTED
	WIRELESS TRANSMITTER
	PUSH BUTTON
	START-STOP BUTTON
	UP-DOWN-STOP BUTTON
	BELL
	BUZZER
	CHIME
	PROGRAM HORN
CR	CARD READER
DC	DOOR CONTACT
ES	ELECTRIC STRIKE
EH	ELECTRICAL HINGE
EL	ELECTRICAL LATCH
K	KEYCARD
	MAGNETIC DOOR HOLDER (WALL OR FLOOR MOUNT)
ML	MAGNETIC LOCK
	ROUND T.V./SECURITY CAMERA
RX	SECURITY REQUEST TO EXIT
	T.V./SECURITY CAMERA
CM	FIRE ALARM CONTROL MODULE
Z	FIRE ALARM FSD CONTROL RELAY
MM	FIRE ALARM MONITOR MODULE
FSD	FIRE SMOKE DAMPER
S	DUCT SMOKE DETECTOR
F	FIRE ALARM MANUAL PULL STATION
PS	FIRE ALARM PRESSURE SWITCH
FS	FLOW SWITCH
HD	HEAT DETECTOR
TS	O.S. & Y. VALVE TAMPER SWITCH
S	PHOTO ELECTRIC SMOKE DETECTOR
R	RATE OF RISE/THERMAL DETECTOR
F	FIRE ALARM BELL
F	FIRE ALARM CHIME
FV	FIRE ALARM CHIME/VISUAL
F	FIRE ALARM HORN
FV	FIRE ALARM VISUAL SIGNAL

FV	FIRE ALARM VISUAL SIGNAL WITH HORN
SS	FIRE ALARM VISUAL SIGNAL WITH SPEAKER
ANN	FIRE ALARM ANNUNCIATOR
FACP	FIRE ALARM CONTROL PANEL
FAVE	FIRE ALARM VOICE EVACUATION PANEL
NAC	NOTIFICATION APPLIANCE CIRCUIT EXTENDER
RFCC	REMOTE FIRE COMMAND CENTER
#	DRAWING NOTE DESIGNATOR
#	LIGHT FIXTURE DESIGNATION
AHU-1	MECHANICAL EQUIPMENT DESIGNATION
	CONDUIT CONCEALED IN SLAB, UNDERGROUND OR UNDERFLOOR
	CONDUIT CONCEALED IN WALLS, CEILING OR FLOOR
	EQUIPMENT GROUND CONDUCTOR
	EXISTING CONDUIT
	FLEXIBLE CONDUIT
	STUB DOWN
	STUB OUT
	STUB UP
	200A LOADBREAK MOLDED PRODUCT TERMINATION (15KV)
	600A DEADBREAK MOLDED PRODUCT SPLICE (15KV)
	600A DEADBREAK MOLDED PRODUCT TERMINATION (15KV)
	BREAKER
	BREAKER ELNCLOSED
	G&W UNIVERSAL CE SPLICE (15KV)
	G&W UNIVERSAL CE TERMINATION (15KV)
	MANHOLE
	MEDIUM VOLTAGE SPLICE (15KV HEATSHRINK OR LOADSHRINK)
	TRANSFORMER (ONE-LINES)
AMP	AMP (ONE-LINE)
S	CEILING SPEAKER, RECESSED
	EQUIPMENT CABINET
FPD	FLAT PANEL DISPLAY
IP	INPUT PLATE # OF HDMI# OF CATGA # OF HDBT # OF MIC
M	MICROPHONE RECEPTACLE, FLUSH FLOOR
M	MICROPHONE RECEPTACLE, WALL
$PI	PI PANEL SWITCH
PJ	PROJECTOR
PJS	PROJECTOR SCREEN
$SC	SCREEN CONTROL SWITCH
SB	SMART BOARD
SX	SPEAKER M = MOTORIZED C = CEILING MOUNT F = FLOOR P = POWERED
	SPLITTER
TV	T.V. OUTLET
TI	TABLE INPUT
VC	VOLUME CONTROL
S	WALL SPEAKER

ELECTRICAL ABBREVIATIONS

Key Name	Comments
(E)	EXISTING
(F)	FUTURE
(N)	NEW
(R)	RELOCATED
(X)	DEMOLISH/DELETE
AFF	ABOVE FINISHED FLOOR
AIC	AMP INTERRUPTING CURRENT (SYMMETRICAL)
AL	ALUMINUM
BG	BELOW GRADE
C	CONDUIT
CFCI	CONTRACTOR FURNISHED CONTRACTOR INSTALLED
CKT	CIRCUIT
CLG	CEILING
CO	CONDUIT ONLY
CTR	ABOVE COUNTER DEVICE
CU	COPPER
EM	EMERGENCY
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FLA	FULL LOAD AMPS
GFI	GROUND FAULT INTERRUPTER
GFP	GROUND FAULT PROTECTOR
GND	GROUND
GRC	GALVANIZED RIGID CONDUIT
IG	ISOLATED GROUND
LTG	LIGHTING
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MLO	MAIN LUGS ONLY
NAC	NOTIFICATION APPLIANCE CIRCUIT
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NTS	NOT TO SCALE
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED OWNER INSTALLED
PNL	PANEL
S	SWITCHED
SPD	SURGE PROTECTIVE DEVICE
ST	SHUNT TRIP
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VR	VANDAL RESISTANT
WG	WIRE GUARD
WP	WEATHER PROOF
XFMR	TRANSFORMER

2019-145.00

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ELECTRICAL LEGEND, SYMBOLS & ABBREVIATIONS

LICENSED PROFESSIONAL ENGINEER
No. 278888
KENNETH D. GARNER
10/01/2021
STATE OF UTAH

REVISIONS

No.	DATE	REMARKS	BY	APV

DESIGNED	KDG	10-01-2021
		DATE
DRAWN	CSC	10-01-2021
		DATE
CHECKED	KDG	10-01-2021
		DATE
APPROVED	---	10-01-2021
DATE		10-01-2021

Salt Lake City Department of Airports

ENGINEERING DIVISION
SALT LAKE CITY
DEPARTMENT OF AIRPORTS
P.O. BOX 145550
SALT LKE CITY, UT. 84114-5550

PROJECT ADDRESS:
3851 WEST 1200 NORTH

SALT LAKE CITY INTERNATIONAL AIRPORT

PUMP HOUSE #5
RENOVATION

SCALE:

DRAWING 21
PROJECT 54 10191763
SHEET EG001

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

6' 0' 4' 8' 16'

GENERAL NOTES

A. DIVISION 26 TO PROVIDE CONTROLS CONDUITS. COORDINATE EXACT LOCATION WITH OTHER TRADES.
B. THE CONTRACTOR SHALL PROVIDE TRENCH COVER PLATE (METAL OR PLYWOOD) DURING CONSTRUCTION.

KEYED NOTES

1 PROVIDE 18"X18"X6" DEEP NEMA 4X BOX WITH GFCI RECEPTACLE LOCATED INSIDE. THE RECEPTACLE WILL BE USED FOR THE POWER TIMER. PROVIDE CORD CAP FOR SUMP PUMP FEED AND PLUG CORD CAP INTO THE TIMER.

COLVIN ENGINEERING ASSOCIATES
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Phone 801.322.2400 / colvinengineering.com

ELECTRICAL SITE

LICENSED PROFESSIONAL ENGINEER
No. 291088
KENNETH D. GARNER
10/01/2021
STATE OF UTAH

REVISIONS				
No.	DATE	REMARKS	BY	APV

DESIGNED	KDG	10-01-2021
		DATE
DRAWN	CSC	10-01-2021
		DATE
CHECKED	KDG	10-01-2021
		DATE
APPROVED		10-01-2021
DATE		10-01-2021

Salt Lake City Department of Airports

ENGINEERING DIVISION
SALT LAKE CITY
DEPARTMENT OF AIRPORTS
P.O. BOX 145550
SALT LKE CITY, UT. 84114-5550

PROJECT ADDRESS:
3851 WEST 1200 NORTH

SALT LAKE CITY INTERNATIONAL AIRPORT

PUMP HOUSE #5 RENOVATION

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

DRAWING 22
PROJECT 54 10191763
SHEET ES100

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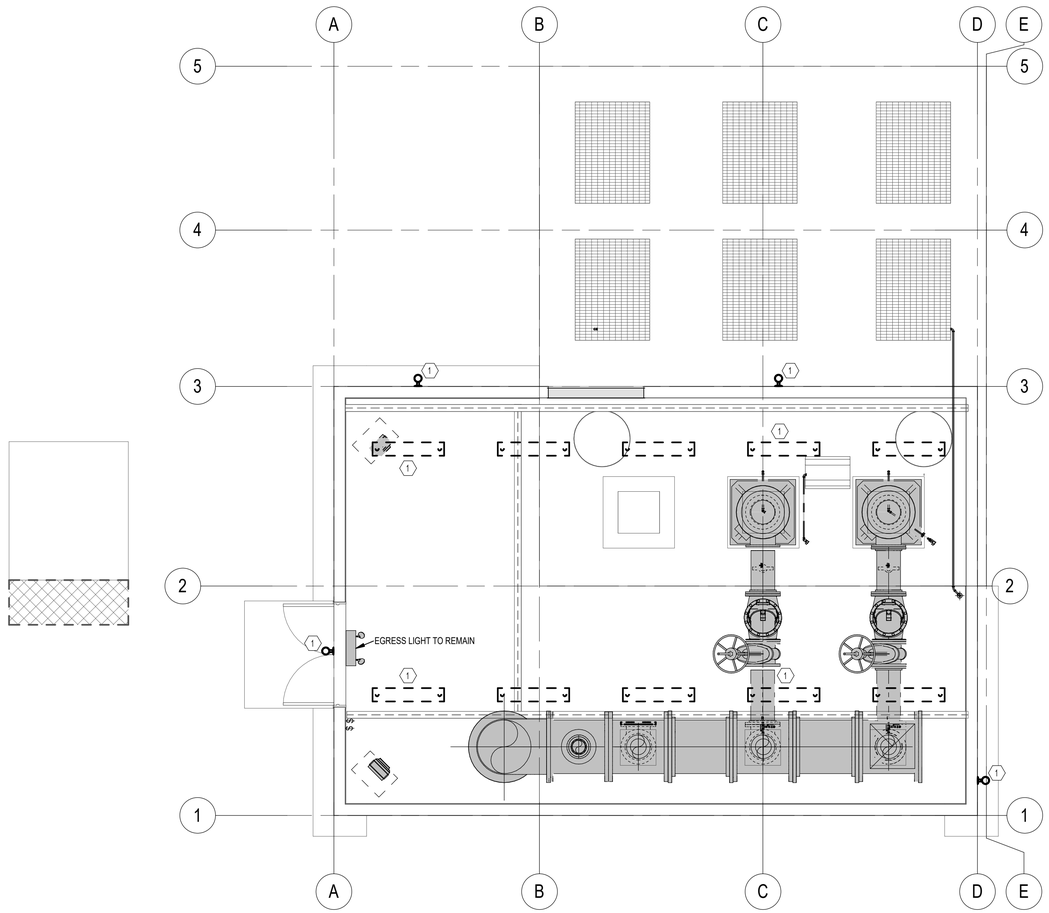
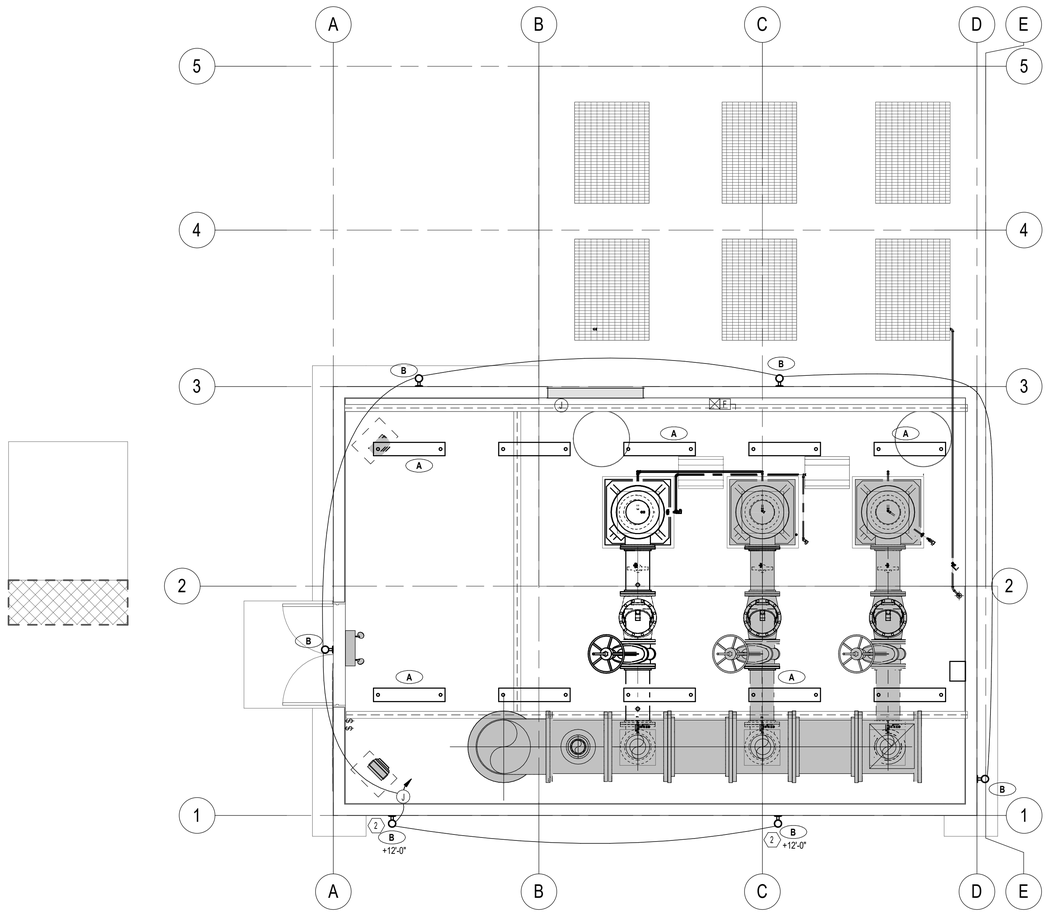


1 LIGHTING DEMO PLAN - GRADE
SCALE: 1/4" = 1'-0"



2 LIGHTING PLAN - GRADE
SCALE: 1/4" = 1'-0"

KEYED NOTES

1 DEMO AND REPLACE LIGHT FIXTURES AS SCHEDULED.
2 NEW LIGHT FIXTURE LOCATION.

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LIGHTING PLANS - GRADE

LICENSED PROFESSIONAL ENGINEER
No. 219881
KENNETH D. GARNER
10/01/2021
STATE OF UTAH

REVISIONS

No.	DATE	REMARKS	BY	APV

DESIGNED	KDG	10-01-2021
		DATE
DRAWN	CSC	10-01-2021
		DATE
CHECKED	KDG	10-01-2021
		DATE
APPROVED		10-01-2021
DATE		10-01-2021

Salt Lake City Department of Airports

ENGINEERING DIVISION
SALT LAKE CITY
DEPARTMENT OF AIRPORTS
P.O. BOX 145550
SALT LKE CITY, UT. 84114-5550

PROJECT ADDRESS:
3851 WEST 1200 NORTH

SALT LAKE CITY INTERNATIONAL AIRPORT

PUMP HOUSE #5 RENOVATION

SCALE: 1/4" = 1'-0"

DRAWING 23
PROJECT 54 10191763
SHEET EL101

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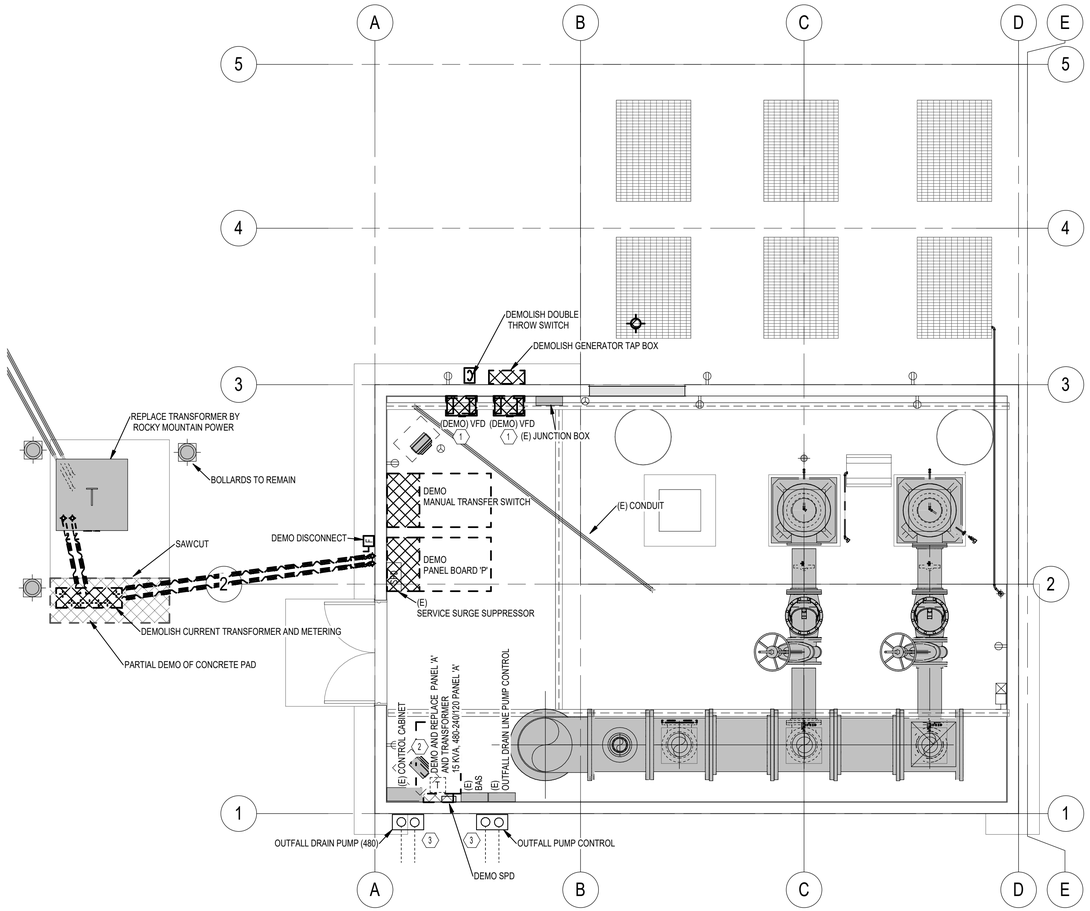
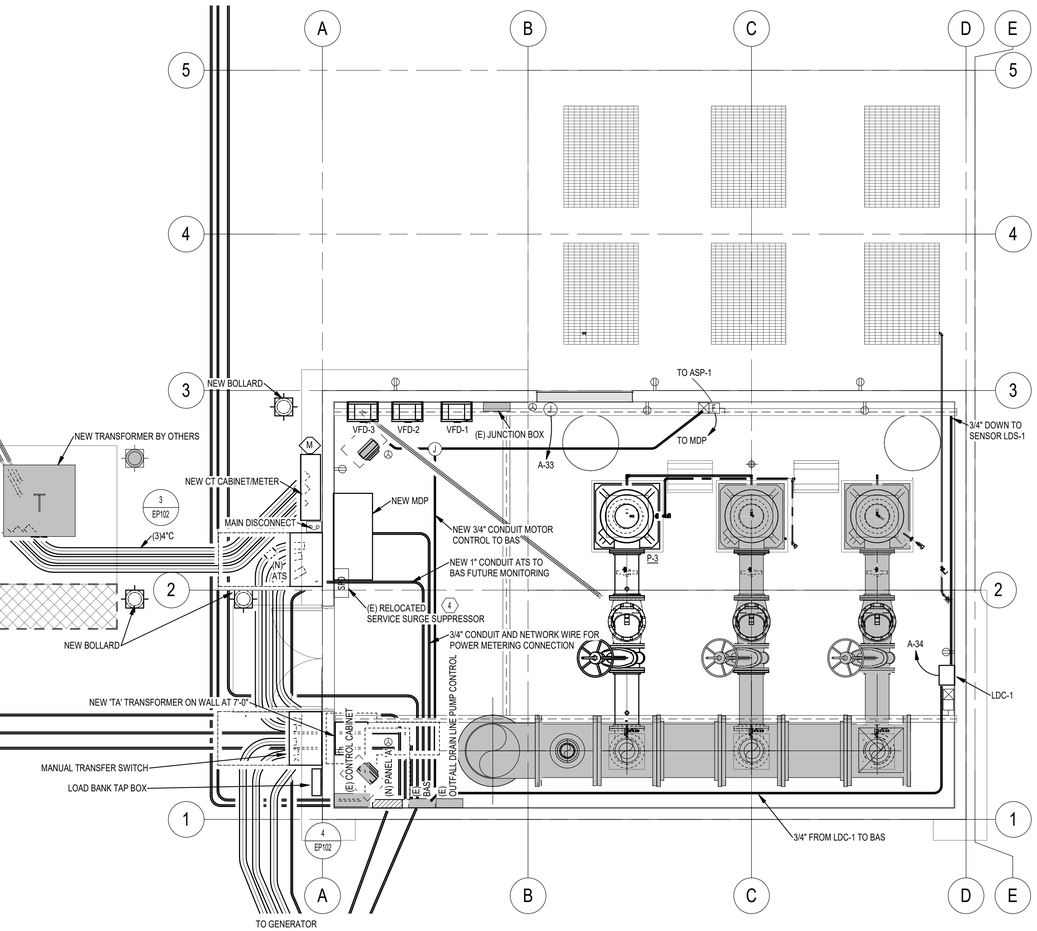


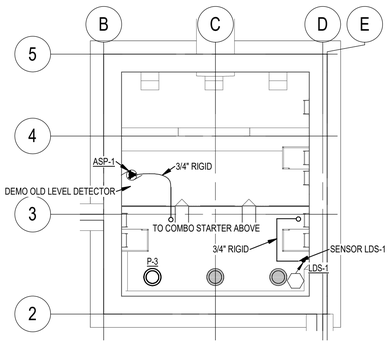
1 POWER DEMO PLAN - GRADE

SCALE: 1/4" = 1'-0"



2 POWER PLAN - GRADE

SCALE: 1/4" = 1'-0"



3 POWER PLAN - BELOW GRADE

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

GENERAL NOTES

A. THE CONTRACTOR SHALL PROVIDE TRENCH COVER PLATE (METAL OR PLYWOOD) DURING CONSTRUCTION.

KEYED NOTES

NEW ULTRASONIC LEVEL DETECTOR SENSOR WITH STILL PIPE. COORDINATE EXACT LOCATION ON SITE WITH OWNER REPRESENTATIVE.

1 REPLACE VFD WITH NEW NARROW CABINET VFD.

2 REPLACE XFMR AND PANEL A WITH NEW.

3 OUTFALL DRAIN PUMP CONDUITS HEAD SOUTH OR WEST. EXACT LOCATION UNKNOWN. POT HOLE AND LOCATE TO PROTECT DURING CONSTRUCTION.

4 RELOCATE SURGE SUPPRESSOR SO THAT LENGTH OF WIRES FROM SPD TO BREAKER IS LESS THAN 18 INCHES.

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POWER PLANS - GRADE

LICENSED PROFESSIONAL ENGINEER
No. 291881
KENNETH D. GARDNER
10/01/2021
STATE OF UTAH

REVISIONS

No.	DATE	REMARKS	BY	APV

DESIGNED	KDG	10-01-2021
DRAWN	CSC	10-01-2021
CHECKED	KDG	10-01-2021
APPROVED		10-01-2021
DATE		10-01-2021

Salt Lake City Department of Airports

ENGINEERING DIVISION
SALT LAKE CITY
DEPARTMENT OF AIRPORTS
P.O. BOX 145550
SALT LKE CITY, UT. 84114-5550

PROJECT ADDRESS:
3851 WEST 1200 NORTH

SALT LAKE CITY INTERNATIONAL AIRPORT

PUMP HOUSE #5 RENOVATION

SCALE: As indicated

DRAWING 24
PROJECT 54 10191763
SHEET EP101

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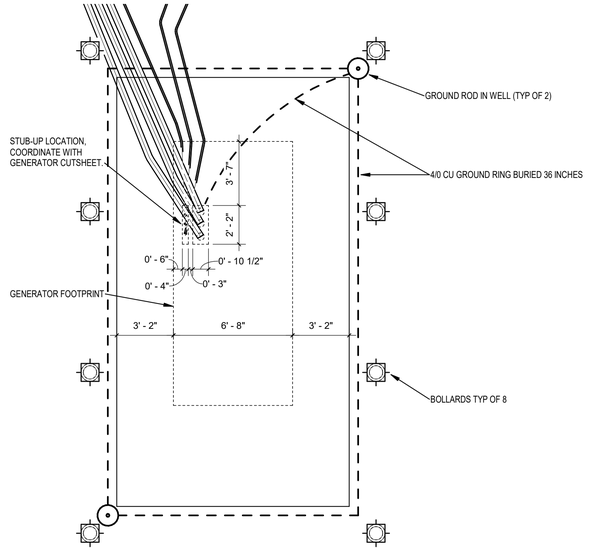
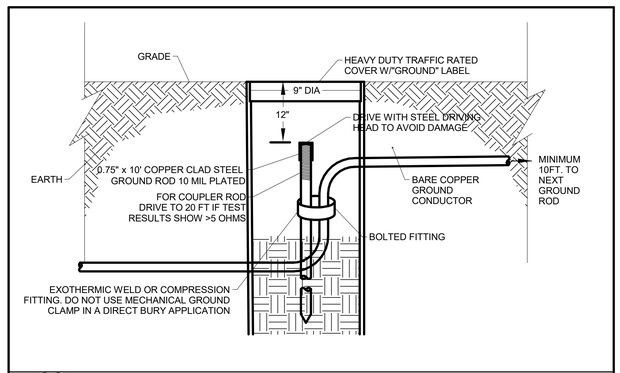
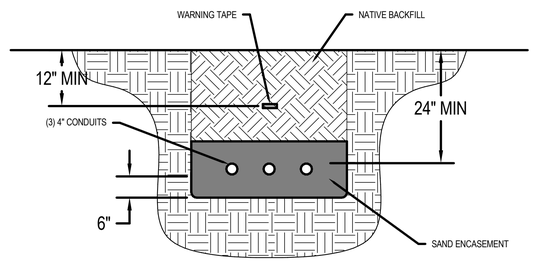


1 GENERATOR PAD POWER PLAN

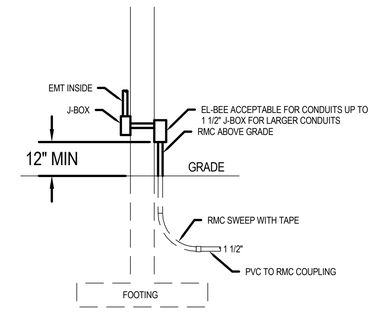
SCALE: 1/4" = 1'-0"



2 GROUNDING ROD DETAIL



3 TRENCH DETAIL



4 CONDUIT ENTRY

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GENERATOR PAD PLAN

LICENSED PROFESSIONAL ENGINEER
No. 291888
KENNETH D. GARDNER
10/01/2021
STATE OF UTAH

REVISIONS				
No.	DATE	REMARKS	BY	APV

DESIGNED KDG 10-01-2021
DRAWN CSC 10-01-2021
CHECKED KDG 10-01-2021
APPROVED 10-01-2021
DATE 10-01-2021

Salt Lake City Department of Airports

ENGINEERING DIVISION
SALT LAKE CITY
DEPARTMENT OF AIRPORTS
P.O. BOX 145550
SALT LKE CITY, UT. 84114-5550
PROJECT ADDRESS:
3851 WEST 1200 NORTH

SALT LAKE CITY INTERNATIONAL AIRPORT

PUMP HOUSE #5
RENOVATION

SCALE: As indicated

DRAWING 25
PROJECT 54 10191763
SHEET EP102

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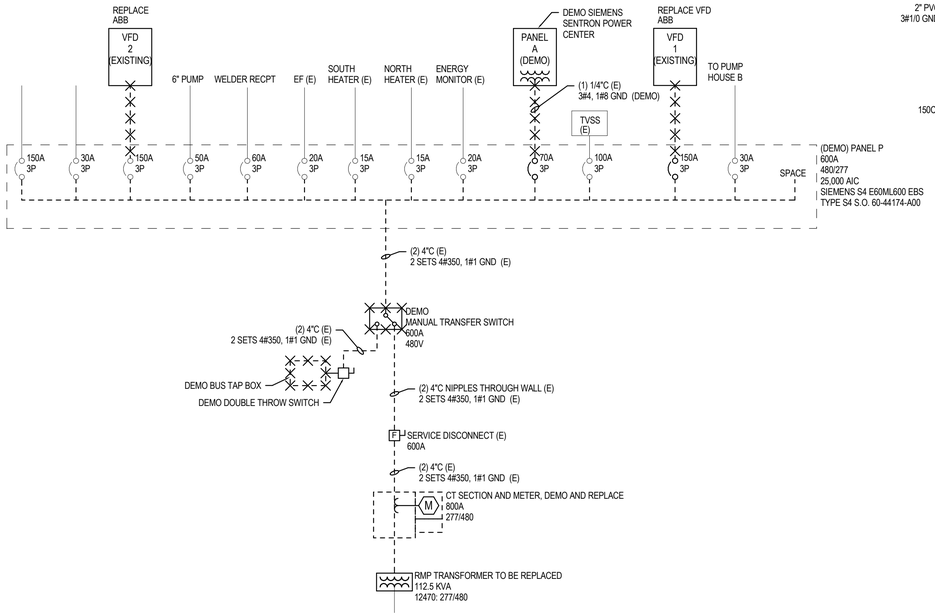
FEEDER SCHEDULE	
SYMBOL	CONDUIT & WIRE SIZE
20A	0.75"C 2#12, 1#12 GRD
20B	0.75"C 3#12
20C	0.75"C 3#12, 1#12 GRD
20D	0.75"C 4#12, 1#12 GRD
30A	0.75"C 2#10, 1#10 GRD
30B	0.75"C 3#10
30C	0.75"C 3#10, 1#10 GRD
30D	0.75"C 4#10, 1#10 GRD
40A	0.75"C 2#8, 1#8 GRD
40B	0.75"C 3#8
40C	0.75"C 3#8, 1#10 GRD
40D	0.75"C 4#8, 1#10 GRD
60A	0.75"C 2#6, 1#10 GRD
60B	0.75"C 3#6
60C	0.75"C 3#6, 1#10 GRD
60D	1"C 4#6, 1#10 GRD
60E	1"C 4#6, 1#10 GRD, 1#10 ISOLATED GRD
70A	1"C 2#4, 1#8 GRD
70B	1"C 3#4
70C	1"C 3#4, 1#8 GRD
70D	1.25"C 4#4, 1#8 GRD
70E	1.25"C 4#4, 1#8 GRD, 1#8 ISOLATED GRD
80A	1"C 2#3, 1#8 GRD
80B	1.25"C 3#3
80C	1.25"C 3#3, 1#8 GRD
80D	1.25"C 4#3, 1#8 GRD
80E	1.25"C 4#3, 1#8 GRD, 1#8 ISOLATED GRD
100A	1"C 2#2, 1#8
100B	1.25"C 3#2
100C	1.25"C 3#2, 1#8 GRD
100D	1.5"C 4#2, 1#8 GRD
100E	1.5"C 4#2, 1#8 GRD, 1#8 ISOLATED GRD
100S	1.25"C 4#2
125A	1.25"C 2#1, 1#6 GRD
125B	1.25"C 3#1
125C	1.5"C 3#1, 1#6 GRD
125D	2"C 4#1, 1#6 GRD
125E	2"C 4#1, 1#6 GRD, 1#6 ISOLATED GRD
125S	1.5"C 4#1
150A	1.25C" 2#1/0, 1#6 GRD
150B	1.5"C 3#1/0
150C	1.5"C 3#1/0, 1#6 GRD
150D	2"C 4#1/0, 1#6 GRD
150E	2"C 4#1/0, 1#6 GRD, 1#6 ISOLATED GRD
150S	2"C 4#1/0
175A	1.5"C 2#2/0, 1#6 GRD
175B	2"C 3#2/0
175C	2"C 3#2/0, 1#6 GRD
175D	2"C 4#2/0, 1#6 GRD
175E	2"C 4#2/0, 1#6 GRD, 1#6 ISOLATED GRD
175S	2"C 4#2/0
200A	1.5"C 2#3/0, 1#6 GRD
200B	2"C 3#3/0
200C	2"C 3#3/0, 1#6 GRD
200D	2.5"C 4#3/0, 1#6 GRD
200E	2.5"C 4#3/0, 1#6 GRD, 1#6 ISOLATED GRD
200S	2"C 4#3/0
225A	2"C 2#4/0, 1#4 GRD
225B	2"C 3#4/0
225C	2"C 3#4/0, 1#4 GRD
225D	2.5"C 4#4/0, 1#4 GRD
225E	2.5"C 4#4/0, 1#4 GRD, 1#4 ISOLATED GRD
225S	2.5"C 4#4/0
250A	2"C 2#250KCM, 1#4 GRD
250B	2.5"C 3#250KCM
250C	2.5"C 3#250KCM, 1#4 GRD
250D	2.5"C 4#250KCM, 1#4 GRD
250E	2.5"C 4#250KCM, 1#4 GRD, 1#4 ISOLATED GRD
250S	2.5"C 4#250KCM
300A	2.5"C 3#350KCM
300B	3"C 4#350KCM
300C	3"C 3#350KCM, 1#4 GRD
300D	3"C 4#350KCM, 1#4 GRD
300E	3"C 4#350KCM, 1#4 GRD, 1#4 ISOLATED GRD
300S	3"C 4#350KCM
400A	(2) SETS 2"C 3#4/0
400B	(2) SETS 2.5"C 4#4/0
400C	(2) SETS 2.5"C 3#4/0, 1#3 GRD
400D	(2) SETS 2.5"C 4#4/0, 1#3 GRD
400E	(2) SETS 2.5"C 4#4/0, 1#3 GRD, 1#3 ISOLATED GRD
400S	(2) SETS 2.5"C 4#4/0
500A	(2) SETS 2.5"C 3#250KCM
500B	(2) SETS 2.5"C 4#250KCM
500C	(2) SETS 2.5"C 3#250KCM, 1#2 GRD
500D	(2) SETS 3"C 4#250KCM, 1#2 GRD
500E	(2) SETS 3"C 4#250KCM, 1#2 GRD, 1#2 ISOLATED GRD
500S	(2) SETS 3"C 4#250KCM
600A	(2) SETS 2.5"C 3#350KCM
600B	(2) SETS 3"C 4#350KCM
600C	(2) SETS 3"C 3#350KCM, 1#1 GRD
600D	(2) SETS 3.5"C 4#350KCM, 1#1 GRD
600E	(2) SETS 3.5"C 4#350KCM, 1#1 GRD, 1#1 ISOLATED GRD
600S	(2) SETS 3"C 4#350KCM
800A	(3) SETS 2.5"C 3#350KCM
800B	(3) SETS 3"C 4#350KCM
800C	(3) SETS 3"C 3#350KCM, 1#1/0 GRD
800D	(3) SETS 3.5"C 4#350KCM, 1#1/0 GRD
800E	(3) SETS 3.5"C 4#350KCM, 1#1/0 GRD, 1#1/0 ISOLATED GRD
800S	(3) SETS 3.5"C 4#350KCM
1000A	(3) SETS 3"C 3#500KCM
1000B	(3) SETS 3"C 4#500KCM
1000C	(3) SETS 3"C 3#500KCM, 1#2/0 GRD
1000D	(3) SETS 3.5"C 4#500KCM, 1#2/0 GRD
1000E	(3) SETS 3.5"C 4#500KCM, 1#2/0 GRD, 1#2/0 ISOLATED GRD
1000S	(3) SETS 4"C 4#500KCM

GENERAL NOTE:

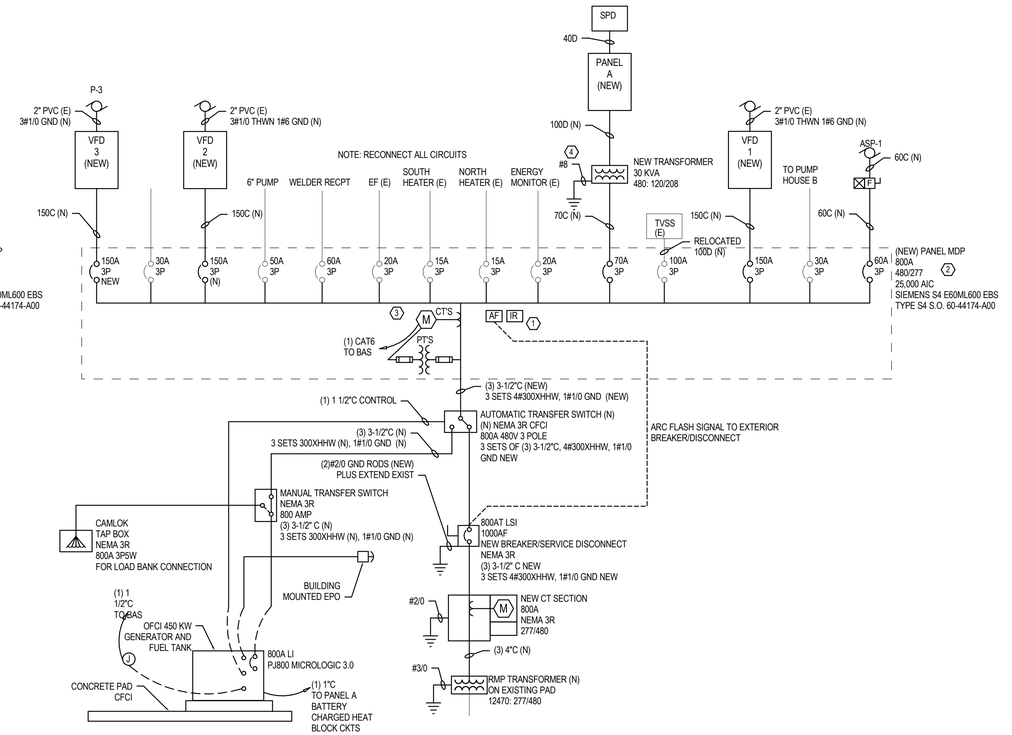
A. PROVIDE XHHW-2 INSULATION FOR ALL UNDERGROUND FEEDERS.

KEYED NOTES:

1. PROVIDE ARC FLASH DETECTION AND INFRARED OR FIBER OPTIC SENSING. PROVIDE (3)4" IR WINDOWS.
2. PAINT ALL BUS LUGS WITH RUSTOLEUM SERIES 4200 HIGH TEMP PAINT FLAT BLACK.
3. PROVIDE DIGITAL METER WITH USUAL DISPLAY NETWORK AND REPORT BACK TO BAS SYSTEM.
4. GROUND TRANSFORMER WITH GROUND ROD DRIVEN THROUGH FLOOR. SCAN AND SAWCUT HOLE. AVOID BURIED UNDERGROUND WATER AND UTILITIES



1 ONE LINE DIAGRAM (DEMO)



2 ONE LINE DIAGRAM (NEW)

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COLVIN ENGINEERING ASSOCIATES
505 East South Temple, Ste 100 / Salt Lake City, Utah 84102-1004
Phone 801.322.2400 / colvinengineering.com

ELECTRICAL ONE-LINE

LICENSED PROFESSIONAL ENGINEER
No. 291181
KENNETH D. MCGAINER
10/01/2021
STATE OF UTAH

Salt Lake City Department of Airports

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SALT LAKE CITY INTERNATIONAL AIRPORT

PUMP HOUSE #5
RENOVATION

SCALE: 12" = 1'-0"

DRAWING 26
PROJECT 54 10191763
SHEET EX501

10/1/2021 1:46:33 PM 2019-145.00

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VFD SCHEDULE				
MARK	SERVERS	MANUFACTURER	SIZE	NOTES
VFD-1	P-1	ABB	50 HP	for P-1 existing pump
VFD-2	P-2	ABB	50 HP	for P-2 existing pump
VFD-3	P-3	ABB	75 HP	for P-3 New Pump

MECHANICAL EQUIPMENT SCHEDULE

DESCRIPTION		VOLT	PH	HP		WATTS		MCA	FLA	AMPS	DISCONNECT				STARTER			WIRING REQUIREMENTS							NOTES
ID #	NAME			RATING	AMPS	RATING	AMPS				MANUAL STARTER	SIZE	FUSE SIZE	FURN. BY	TYPE	SIZE	FURN. BY	WIRES			GROUND	CONDUIT	BREAKER		
P-3	PUMP	480	3	75	96.0				77.0			200	125		VFD	75HP	Div 26	3	#	1/0	1 # 6	1-1/2"	150		WIRED THROUGH VFD-3
EF-2	EXHAUST FAN	120	1			16.0	0.1		0.1		YES			DIV 26	RIB		Div 23	2	#	12	1 # 12	3/4"	20		
FM-1	FLOW METER	120	1			360.0	3.0		3.0		NA				NA			2	#	12	1 # 12	3/4"	20		
ASP-1	AGITATOR PUMP	480	3		60.0				60.0		NO				COMBO	50HP	Div 26	3	#	6	1 # 8	1"	60		43.4 HP, VERIFY
LDC-1	LEVEL DETECTOR CONTROL	120	1			17.0	0.1		0.1		NA				NA			2	#	12	1 # 12	3/4"	20		TO CONTROL PUMPS
	SLUICE GATE	120	1	1/2	9.8				9.8		YES	20	15	DIV 26	INCL		CIV	2	#	12	1 # 12	3/4"	20		
SMP-1	SUMP PUMP	120	1	1/3	7.2				7.2		YES			DIV 26	INCL		Div 23	2	#	12	1 # 12	3/4"	20		ROUTE THRU TIMER

NOTES	
1	PROVIDE MANUAL MOTOR STARTER.
2	PROVIDE COMBINATION STARTER & DISCONNECT (HOA) W/(2) N.O. & N.C. CONTACTS.
3	PROVIDE VFD WITH INTEGRAL LOCKABLE IN OFF POSITION DISCONNECT. NEMA 3R ENCLOSURE.
4	TIE-IN TO FIRE ALARM SYSTEM FOR AUTOMATIC OPERATION THROUGH ATC.
5	TO BE INTERLOCKED WITH OZONE EQUIPMENT. (SHUTOFF ZONE EQUIPMENT IF FAN SHUTS OFF.)
6	UNIT COMES WITH SITE DISCONNECT.
7	PROVIDE DUPLEX OUTLETS.
8	PROVIDE DUCT DETECTOR WITH SAMPLING TUBE IN RETURN DUCT.
9	INTERLOCK WITH EMERGENCY VENTILATION CONTROLS.
10	PROVIDE EARLY BREAK AUXILIARY CONTACT KIT AT DISCONNECT AND INTERLOCK WITH REMOTE VFD SO THAT THE VFD POWERS DOWN THE DRIVE PRIOR TO OPENING THE MOTOR DISCONNECT.
11	INSTALL AND WIRE CONTROL SWITCH WHICH WILL BE PROVIDED BY OTHERS. REFER TO MECHANICAL DRAWING FOR LOCATION.

LUMINAIRE SCHEDULE

TYPE	DESCRIPTION		LAMP/TEMP/LUMENS	INPUT (VA)	VOLTAGE	MANUFACTURER	CATALOG #
A	DESCRIPTION:	VAPORTITE LED	LED	36	120	METALUX	4VT3-LD5-4-G-UNV-L840-SSL-U
	SIZE:	4 FT	4000K				OR PRIOR APPROVED EQUAL
	HOUSING:	REINFORCED POLYESTER					
	FINISH:	UNFINISHED					
	LENS:	HIGH IMPACT LENS					
	ACCESSORIES:	GASKETING, WET LOCATION, STAINLESS STEEL CLIPS AND HARDWARE					
	MOUNTING:	SURFACE					
B	DESCRIPTION:	WALL PACK	LED	48	120	COOPER/LUMARK	LDWP-FC-6B-120V-F1-PE-7040
	SIZE:	16-5/8" X 16-1/4" X 10" HIGH	4000K				OR PRIOR APPROVED EQUAL
	HOUSING:	DIE CAST ALUMINUM	3192 LUMENS				
	FINISH:	POWDER COATED BRONZE					
	LENS:	FULL CUTOFF LENS					
	ACCESSORIES:	GASKETED, WET LOCATION, STAINLESS HARDWARE					
	MOUNTING:	WALL SURFACE					
C	DESCRIPTION:	GLASS JAR VAPORTITE	LED	17	MVOLT		
	SIZE:	5-9/16" X 10-5/8" HIGH	4000K			AVP	AVP-26L-U-HF-G-W-50
	HOUSING:	CAST ALUMINUM	600			LITHONIA	OLVTCM-MVOLT
	FINISH:	INDUSTRIAL GREY					OR PRIOR APPROVED EQUAL
	LENS:	FROSTED GLASS					
	ACCESSORIES:	GASKETING, WET LOCATION					
	MOUNTING:	CEILING MOUNT					

NOTES:	
1	ALL LIGHT FIXTURES SHALL HAVE A MINIMUM 5 YEAR WARRANTY.
2	ALL LED LIGHT FIXTURES SHALL HAVE REPLACEABLE AND UPGRADABLE LED MODULES, LM79 AND LM80 LISTED, WITH 50,000 HR MIN. L70 RATING.
3	LIGHT FIXTURE DESCRIPTION TAKES PRECEDENCE OVER CATALOG NUMBER. LIGHT FIXTURES SHALL MEET DESCRIPTION REQUIREMENTS.
4	PROVIDE ADDITIONAL BALLAST/DRIVER FOR FIXTURES INDICATED AS EMERGENCY. REFER TO PLANS FOR QUANTITIES.
5	UNLESS INDICATED OTHERWISE. COLOR TEMPERATURE OF FLUORESCENT LAMPS TO BE 4100K.
6	LINEAR FLUORESCENT BALLASTS SHALL BE PROGRAM START WITH <10% THD.
7	ALL T8 FLUORESCENT LIGHT FIXTURES TO HAVE .71 BALLAST FACTOR BALLASTS AND 3100 LUMEN LAMPS.
8	ROUGH-IN OPENINGS TO BE COORDINATED WITH APPROVED SHOP DRAWINGS PRIOR TO ROUGH-IN.

PANEL: A

120 / 208 | 4 W | 3 PH | 100 Amps | Main Breaker | 22 KAIC

DESCRIPTION	TYPE	LOAD	BKR	P	CKT	A	B	C	CKT	BKR	P	TYPE	LOAD	DESCRIPTION
WAP/CASS (EX)	C	500	20	1	1	1030			2	20	1	M	530	SLUICE GATE
HEAT TRACE (EX) NOTE 1	C	1500	20	1	3		1500		4	20	1			SPARE
GFI SPACE	C	0	-	-	5			300	6	20	1	C	300	SMOKE DETECTOR (EX)
OUTLETS (EX) NOTE 1	R	540	20	1	7	1540			8	20	1	C	1000	BAS PANEL (EX)
GFI SPACE	R	0	-	-	9		100		10	20	1	L	100	OBSTRUCTION LIGHT (EX)
OUTLETS (EX) NOTE 1	R	720	20	1	11			1720	12	20	1	C	1000	CAMERA (EX)
GFI SPACE	R	0	-	-	13	384			14	20	1	L	384	EXTERIOR LIGHTING (EX)
PUMP RECEPTACLE (EX)	R	180	30	2	15		580		16	20	1	N	400	EMERGENCY LIGHT (EX)
-	R	180	-	-	17			1180	18	20	1	C	1000	RPU #3 (EX)
SURGE SUPPRESSOR	C	0	20	2	19	1000			20	20	1	C	1000	RPU #2 (EX)
-	C	0	-	-	21		500		22	20	1	C	500	PASSUR (EX) NOTE 1
INTERIOR LIGHTING (EX)	L	400	20	1	23			400	24	20	1	R	0	GFI SPACE
OSA DAMPER (EX)	M	100	20	1	25	1100			26	20	1	C	1000	RPU 1 (EX)
SUMP PUMP SMP-1	F	865	20	1	27		1365		28	20	1	C	500	GENERATOR CHARGER
METERING VAULT LIGHT/RECEPT	C	230	20	1	29			1730	30	20	2	C	1500	GENERATOR BLOCK HEATER
EF-2	M	20	20	1	31	1520			32	-	-	C	1500	-
LEVEL SENSOR	C	360	20	1	33		375		34	20	1	C	15	LEVEL DETECTOR LDC-1
SPARE			20	1	35			0	36	20	1			SPARE
SPACE			20	1	37	0			38					SPACE
SPACE			20	1	39		0		40					SPACE
SPACE			20	1	41			0	42					SPACE
						6574	4420	5330						-

CONNECTED LOAD	16.3	KVA		45.3	Amps
NEC DEMAND LOAD	19.7	KVA		54.8	Amps

10/1/2021 12:42:34 PM 2019-145.00

COLVIN ENGINEERING ASSOCIATES
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ELECTRICAL SCHEDULES

LICENSED PROFESSIONAL ENGINEER — No. 291888 — KENNETH D. GARNER — 10/01/2021 — STATE OF UTAH

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SALT LAKE CITY INTERNATIONAL AIRPORT

PUMP HOUSE #5
RENOVATION

SCALE: 12" = 1'-0"

DRAWING 27
PROJECT 54 10191763
SHEET EX601