



Weber County Development Process

In an effort to streamline the building permit process, Weber County has produced this packet as a means to assist you in understanding the application procedure and requirements when applying for a building permit. This packet includes the necessary submittal checklists outlining the required information you will need to prepare and provide for a complete building permit submittal.

Prior to any site or construction designs, please contact our office for assistance in determining if the property is considered a “Lot of Record” and if the building lot falls within a potential geologic hazard area. If it is determined that the lot is not considered a “Lot of Record”, the subdivision process will need to be approved prior to accepting any development plans. If a potential geologic hazard exists, a site reconnaissance letter or a geologic and geotechnical report addressing the hazards prepared and signed by a qualified geologist and geotechnical engineer will be required at the time of building permit submittal.

The following materials have been included in this application packet for your convenience:

- Building Permit Submittal Checklist
- Building Permit Application
- Example site plan

Incomplete applications will not be accepted, receipted, or processed. In order to adequately process your building permit request, the following materials will be required at the time of submission of your application:

- Complete and Signed Building Permit Application
- All items listed on the attached Submittal Checklist (incomplete applications will not be accepted)
- Geologic and/or geotechnical studies or reports regarding the building lot if it is found to be in a potential geologic-hazardous area
- Other supporting materials as applicable

Weber County requires that adequate proof of culinary and waste water approvals have been received and/or the applicable connection fees have been paid to the servicing providers. These items will not be required at the initial submittal stage; however these items will be required to be submitted to our office prior to the issuance of the building permit.

By following the outlined procedures your applications will be processed and reviewed in the timeliest manner possible. If you have any further questions regarding the required materials, process, or ordinances for building permit applications, please feel free to contact our office at the address and phone number listed below.



Residential Building Permit Submittal Checklist

Incomplete applications will not be accepted or held. All required items shall be submitted.

- _____ A lot located in an approved/ recorded subdivision or proof of a "Lot of Record" determination
- _____ Adequate Right of Way Dedication per LUC §108-7-19(2)
- _____ Geologic site reconnaissance clearing the lot for development or
*If an engineering geologist deems additional studies are necessary,
_____ A copy of the final geotechnical and geologic reports stamped, signed and dated by an approved Utah State Engineering Geologist and Geotechnical Engineer, if applicable.
- _____ Letter from Structural Engineer stating the plans have been designed to meet the Engineering Geologist and Geotechnical Engineer's recommendations, if applicable
- _____ A copy of final, approved Hillside Review, if applicable
- _____ Completed permit application including the signature of the general contractor and or the owner.
 - Must include the name, address and state contractor's license numbers for the General Contractor, Electrical, Plumbing and Mechanical sub-contractors.
- _____ Site plans with labels and scale on a PDF
Site plans shall include, at a minimum, but are not limited to the following information for review:
 - Lot/Parcel Boundary Lines
 - North Arrow
 - Existing site contours
 - The proposed location of new structure footprint with dimensions from proposed structure to the property lines
 - All existing structure footprint locations
 - Street (labeled) and driveway location
 - Easements/right-of-ways, if applicable
 - Seasonal or year-round stream corridors
- _____ Complete plans with scale on a PDF.
All plans shall include, at a minimum, but are not limited to the following information for land use and building permit reviews:
 - Building elevations (renderings) reflecting natural grade with dimensions showing height measured from highest natural grade and the lowest natural grade to the highest point of the coping of a flat roof, or to the deck line of a mansard roof, or to the highest point of the ridge of a pitch or hip roof.
 - Footing/Foundation plan including all decks/porches/covered patios
 - Floor, Deck and Roof framing plans.
 - Floor plans (all levels)
 - Building sections and Engineered Details.
- _____ Structural calculations from the Engineer of record
- _____ Energy Conservation Compliance Method:
 - o REScheck
 - o Other _____
- _____ Exterior Lighting Plan
- _____ SWPPP Storm Water Pollution Prevention Plan (State/Local)
- _____ All engineered, architectural and site plans are to be combined into one PDF file format to scale to be provided by email to buildingpermits@co.weber.ut.us

The following items will not be required at the initial submittal stage; however, these items will be required to be submitted to our office prior to the issuance of the building permit:

- _____ Receipt for payment of Fire District Impact Fee and approval of the fire protection system.
- _____ Septic Tank Permit from Weber County Environmental Health Department or authorization to connect to an approved wastewater disposal system
- _____ Receipt from an approved culinary water system or an authorization specific to the building lot for connection to the water system. An approved and tested well permit from Weber County Environmental Health Department is also permitted.

Submitted by: Bill Lewis (Nelson Brothers Construction Company)
 Date Received: _____ Received by: _____

Weber County Building Permit Application

Incomplete applications will not be accepted or held. All required items shall be submitted.

Date Submitted /Completed	Fees (<i>Office Use</i>)	Receipt Number (<i>Office Use</i>)	
Property Owner Contact Information		Authorized Representative Contact Information	
Name of Property Owner(s)		Name of Person Authorized to Represent the Property Owner(s)	
Phone	Email (Required)	Phone	Email(Required)
Property Information			
Property Address	Land Serial Number	Current Zoning	
Subdivision Name	Lot Number	Acreage	Frontage
Culinary Water Provider	Secondary Water Provider	Waste Water Provider	
Detailed Description of Proposed Use/Structure			
Contractor Information			
Architect or Engineer: Bowen Collins & Associates Contact: Eric Neil		Phone Number: 801-495-2224	
General Contractor: Nelson Brothers Construction Co.		Contractor's Address: 347 West 1600 South Salt Lake City, Utah 84115	
Phone number: 801-487-5401		State License: 225 813-5501	
Electrical Contractor: ID Electric Company		Contractor's Address: 3690 S 500 W Salt Lake City, Utah 84115	
Phone number: 801-268-1471		State License: 243078-5501	
Plumbing Contractor: Not Applicable (N/A)		Contractor's Address: N/A	
Phone number: N/A		State License: N/A	
Mechanical Contractor: Carver Sheet Metal		Contractor's Address: 1349 Jefferson Street Salt Lake City, Utah 84115	
Phone number: 801-484-4387		State License: 225971-5501	

Submittal Requirements: (Check all that apply)

Parcel Information: Check one

- Lot of Record
- Lot within an approved subdivision meeting the applicable notes on the plat

Site plan with required information demonstrated on the site plan as outlined on the Submittal Checklist:

- **Site Access:** Check One
 - Across own front property line
 - Flag lot approval date: _____
 - Alternative Access approval date: _____
- **Setback Requirements:** Check all that apply
 - Meets setbacks per ordinance:
Front: _____ Side: _____ Rear: _____ Side Street: _____
 - Meets additional setbacks per outlined "Site Restrictions"
- **Large Accessory Building:**
 - Located in the front or side of main dwelling with conforming architectural style and material as main building.
 - Located behind dwelling
- **Height Requirements:** Check one
 - Meets height requirements per Weber County Land Use Code
 - Height Variance approval date: _____

Site Restrictions: Check all that apply

- FEMA Flood Zone _____
- Buildable area recorded on the plat
- Lot identified as a "R" (restricted lot)
- Areas of slope greater than 25%
- Geologic Study Area
- Site Elevation below 4,218
- Wetlands as identified by the USGS
- Western Weber Stream Corridor:
 - Year-Round stream; or
 - Ephemeral stream
- Ogden Valley Sensitive Lands:
 - Scenic Corridor
 - Ridgeline
 - Historic/Prehistoric and/or Cultural Resources
- Ogden Valley Stream corridor setbacks:
 - North Fork, South Fork & Middle Fork of the Ogden River: 100' setback from high water mark
 - Year Round: 75' setback from high water mark
 - Ephemeral: 50' setback from high water mark

The following submittal items are considered required items and shall be submitted with the building permit application. Incomplete applications will not be accepted or held.

- Geology:
 - Geologic Unit: _____ as determined by Weber County staff member: _____
 - Geologic site reconnaissance required? Yes No
 - If yes, Geologic site reconnaissance clearing the lot for development will be required to be submitted or if an engineering geologist deems additional studies are necessary, the final geotechnical and geologic reports will be required to be stamped, signed and dated by an approved Utah State Engineering Geologist and Geotechnical Engineer.
- Two complete and identical sets of the plans with scale including the following information:
 - Site Plan including existing site contours and lot/parcel boundary lines
 - Building elevations (renderings) reflecting natural grade
 - Structure Footing/Foundation plan including all decks/porches/covered patios
 - Floor plans (all levels)
 - Section/Details
 - Structural calculations from the Engineer of record
 - Energy Conservation Compliance Method (REScheck or other method)
 - SWPPP Storm Water Pollution Prevention Plan (State/Local)
 - Receipt for payment of Fire District Impact Fee
 - All engineered, architectural and site plans are to be combined into one PDF file format to scale
- The following items will not be required at the initial submittal stage; however these items will be required to be submitted to our office prior to the issuance of the building permit:
 - Proof of approved wastewater disposal system
 - Proof of approved culinary water system

Signature of Property Owner or Authorized Representative

I (We), _____, depose and say that I (we) am (are) the owner(s) or authorized representative of the property identified in this application and that the statements herein contained, the information provided in the attached plans and other exhibits are in all respects true and correct to the best of my (our) knowledge.



Signature of Property Owner

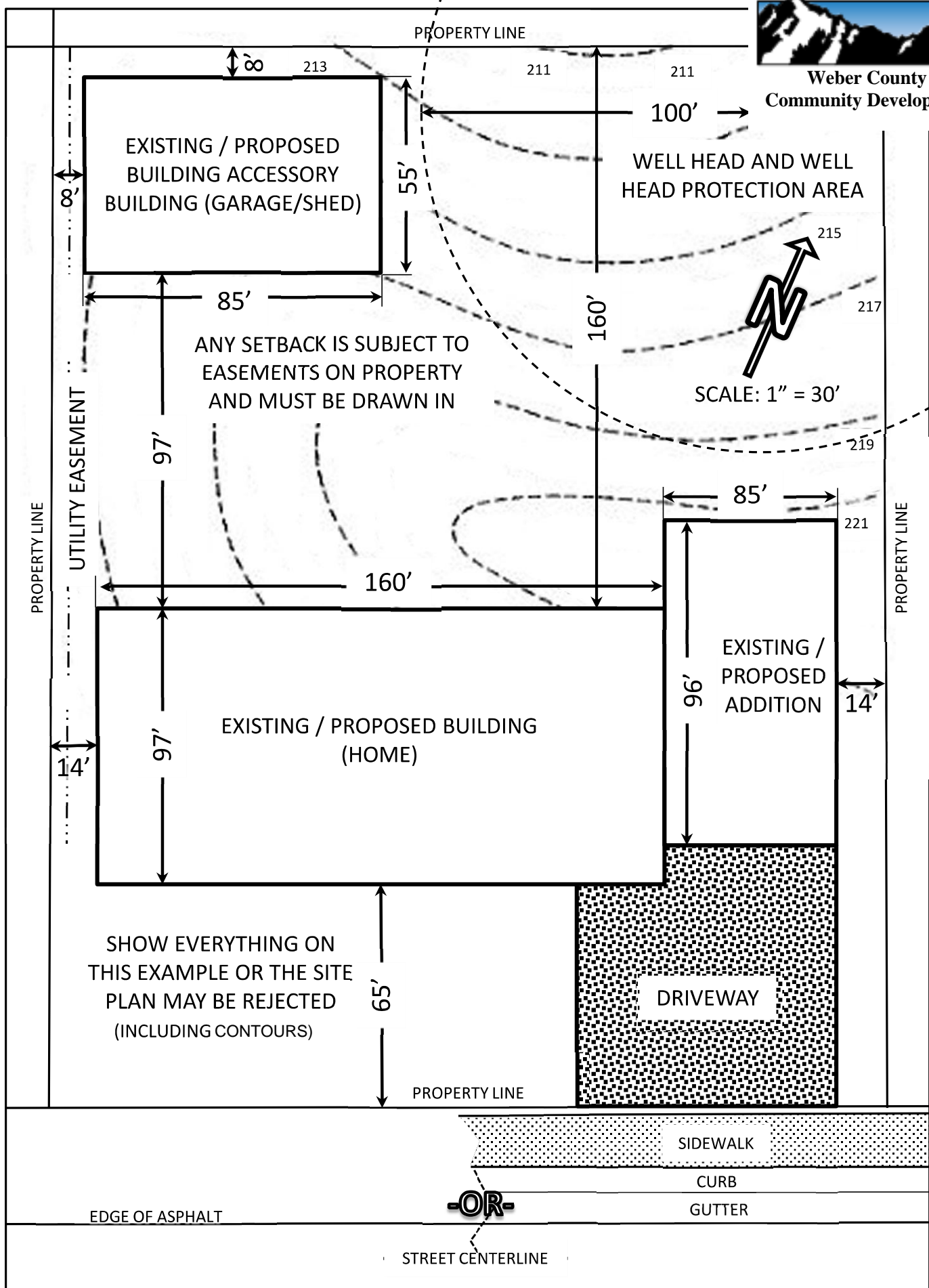
Or

Signature of Authorized Representative

This permit becomes null and void if work or construction authorized is not commenced within 180 days, or if construction or work is suspended or abandoned for a period of 180 days at any time after work is commenced. I hereby certify that I have read and examined this application and know the same to true and correct. All provisions of laws and ordinances governing this type of work will be complied with whether specified herein or not the granting of a permit dose not presume to give authority to violate or cancel the provisions of any State or local law regulating construction or the performance of construction and I make this statement under penalty of perjury.



Weber County
Community Development



SITE PLAN EXAMPLE

THIS IS AN EXAMPLE ONLY & IS NOT DRAWN TO SCALE

SITE PLANS SHOULD BE DRAWN TO SCALE, & ZONING WILL DETERMINE SETBACKS

CONTRACT DOCUMENTS
FOR THE CONSTRUCTION OF

BLOOMINGTON WELL PROJECT

Volume 2 of 2
Drawings

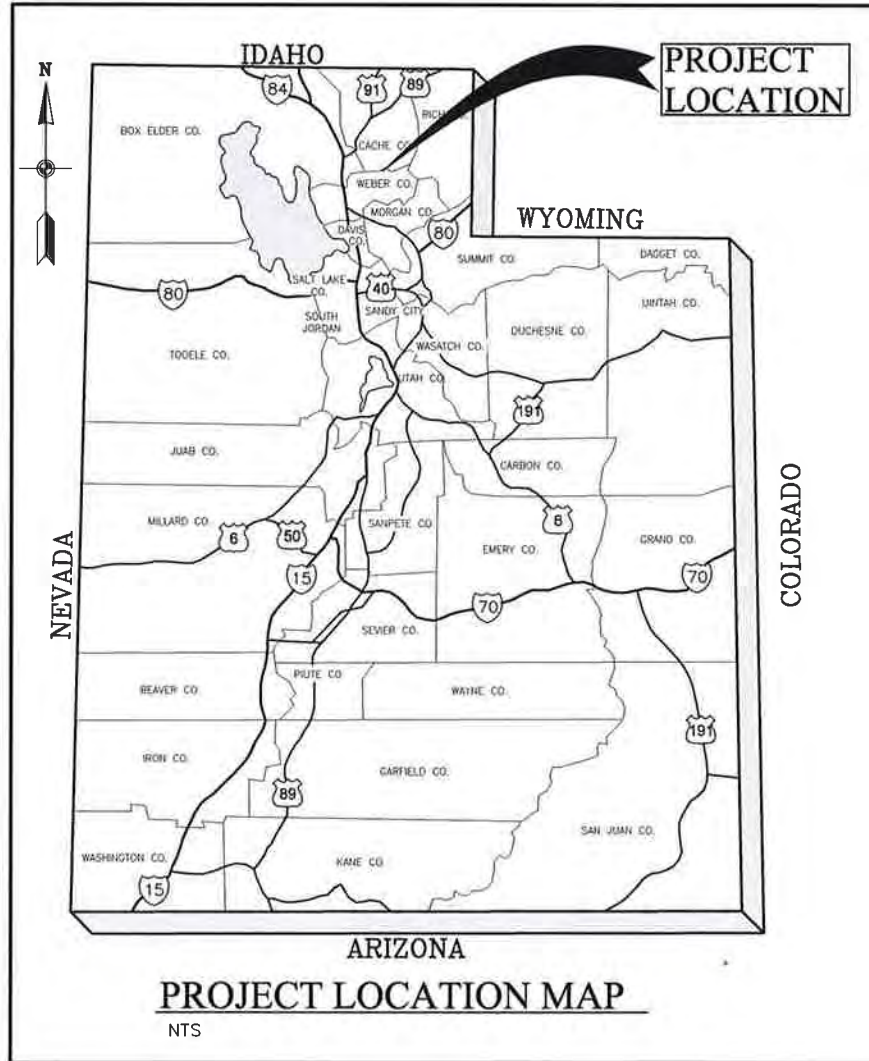


Summit Mountain Holding Group

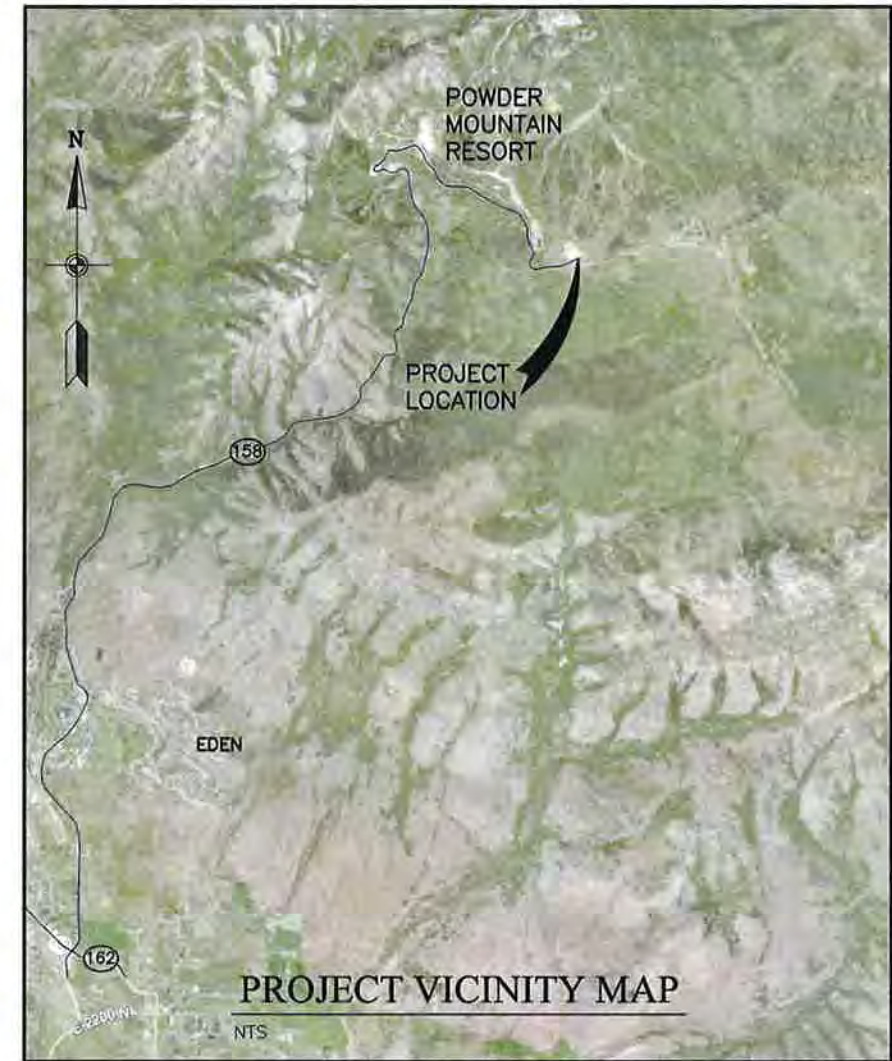
For Information Regarding this Project Contact:
Eric Neil, P.E.
154 East 14075 South
Draper, Utah 84020
(801) 495-2224



DRAWINGS FOR CONSTRUCTION OF BLOOMINGTON WELL PROJECT WEBER COUNTY, UTAH

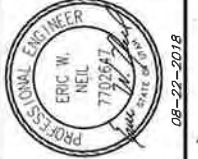
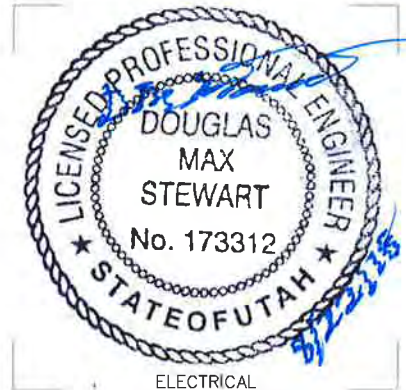
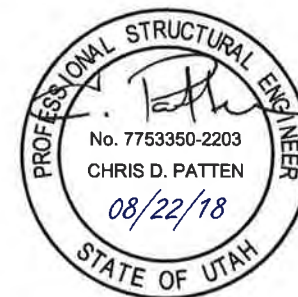


INDEX OF DRAWINGS		
SHT NO.	DWG NO.	DESCRIPTION
GENERAL		
1	G-01	TITLE, PROJECT LOCATION MAP, INDEX OF DRAWINGS & VICINITY MAP
2	G-02	SYMBOLS
3	G-03	ABBREVIATIONS
4	G-04	GENERAL NOTES
CIVIL		
5	C-01	OVERALL SITE PLAN
6	C-02	GRADING PLAN
7	C-03	YARD PIPING
8	GC-01	GENERAL CIVIL DETAILS - 1
9	GC-02	GENERAL CIVIL DETAILS - 2
10	GC-03	GENERAL CIVIL DETAILS - 3
11	GC-04	GENERAL CIVIL DETAILS - 4
ARCHITECTURAL		
12	A-01	PUMP STATION FLOOR PLAN
13	A-02	PUMP STATION EXTERIOR ELEVATIONS
14	A-03	PUMP STATION SECTION & DETAILS
15	A-04	PUMP STATION DETAILS
STRUCTURAL		
16	S-01	WELL PUMP STATION FOUNDATION PLAN
17	S-02	WELL PUMP STATION ROOF FRAMING PLAN
18	S-03	WELL PUMP STATION SECTION
19	S-04	WELL PUMP STATION SECTION
20	S-05	WELL PUMP STATION SECTION
21	S-06	WELL PUMP STATION SECTIONS AND DETAILS 1
22	S-07	WELL PUMP STATION SECTIONS AND DETAILS 2
23	GS-01	GENERAL STRUCTURAL NOTES
24	GS-02	GENERAL STRUCTURAL DETAILS 1
25	GS-03	GENERAL STRUCTURAL DETAILS 2
26	GS-04	GENERAL STRUCTURAL DETAILS 3
MECHANICAL		
27	M-01	WELL PUMP STATION MECHANICAL PLAN
28	M-02	WELL PUMP STATION MECHANICAL SECTION
29	M-03	WELL PUMP STATION MECHANICAL SECTION
30	M-04	MECHANICAL EQUIPMENT SCHEDULE
31	GM-01	PIPE MATERIAL SCHEDULE
32	GM-02	GENERAL MECHANICAL DETAILS - 1
33	GM-03	GENERAL MECHANICAL DETAILS - 2
34	GM-04	GENERAL MECHANICAL DETAILS - 3
ELECTRICAL		
35	E-01	ELECTRICAL SYMBOLS
36	E-02	SCHEDULES AND NOTES
37	E-03	ELECTRICAL SITE PLAN
38	E-04	WELL PUMP STATION GROUNDING, POWER, & INSTRUMENTATION PLAN
39	E-05	WELL PUMP STATION LIGHTING PLAN
40	E-06	POWER ONE-LINE DIAGRAM
41	E-07	PANEL SCHEDULE LP-A
42	E-08	CONTROL ONE-LINE DIAGRAM
43	E-09	PUMP CONTROL SCHEMATIC
44	GE-01	GENERAL ELECTRICAL DETAILS - 1
45	GE-02	GENERAL ELECTRICAL DETAILS - 2
46	GE-03	GENERAL ELECTRICAL DETAILS - 3



POWDER MOUNTAIN WATER & SEWER IMPROVEMENT DISTRICT
APPROVED FOR CONSTRUCTION

SIGNATURE _____



NO.	DATE	REV. BY	DESCRIPTION

SUMMIT MOUNTAIN HOLDING GROUP BLOOMINGTON WELL PROJECT WEBER COUNTY, UTAH	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%; text-align: center;">DESIGN NEIL</td> <td style="width: 30%; text-align: center;">REVIEW J. BECKMAN</td> <td style="width: 40%; text-align: center;">VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING</td> </tr> <tr> <td style="text-align: center;">DRAWN: GARCIA</td> <td style="text-align: center;">APPROVED: E. NEIL</td> <td> </td> </tr> </table>	DESIGN NEIL	REVIEW J. BECKMAN	VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING	DRAWN: GARCIA	APPROVED: E. NEIL	
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DRAWN: GARCIA	APPROVED: E. NEIL						

GENERAL TITLE, PROJECT LOCATION MAP, INDEX OF DRAWINGS & VICINITY MAP	PROJECT NUMBER 347-17-01
DATE: AUGUST 2018	
DRAWING NO. G-01	
SHEET 1 OF 46	

SECTION IDENTIFICATION

(1) SECTION CUT SHOWN ON DRAWING AS:

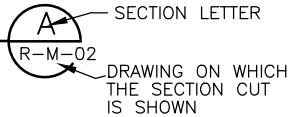


DRAWING NUMBER WHERE THE SECTION IS SHOWN (SEE NOTE)

(2) THIS SECTION IS IDENTIFIED AS:

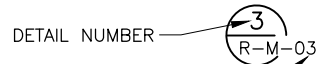
SECTION

SCALE: AS DESIGNATED.



DRAWING ON WHICH THE SECTION CUT IS SHOWN

(1) DETAIL IDENTIFICATION SHOWN ON DRAWING AS:



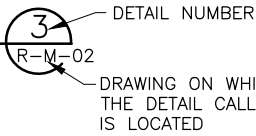
DRAWING NUMBER WHERE THE DETAIL IS SHOWN (SEE NOTE)

THE DETAIL NAME IS OPTIONAL AND LOCATED HERE, FOLLOWING DETAIL CALLOUT

(2) THIS DETAIL IS IDENTIFIED AS:

DETAIL

SCALE: AS DESIGNATED. SEE NOTE



DRAWING ON WHICH THE DETAIL CALLOUT IS LOCATED

NOTE: IF PLAN AND SECTION (OR DETAIL CALL-OUT AND DETAIL) ARE SHOWN ON SAME DRAWING, DRAWING NUMBER IS REPLACED BY A HORIZONTAL LINE.

TYPICAL DETAIL IDENTIFICATION

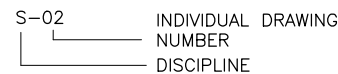
DETAIL NAME



TYPICAL DETAIL NUMBER ON DRAWINGS WHERE DETAIL IS TAKEN AND SHOWN (SEE INDEX TO DRAWINGS FOR LOCATION OF GENERAL DRAWINGS)

DRAWING IDENTIFICATION SYSTEM

LETTER	DISCIPLINE
G	GENERAL
C	CIVIL
GC	GENERAL CIVIL
A	ARCHITECTURAL
GA	GENERAL ARCHITECTURAL
S	STRUCTURAL
GS	GENERAL STRUCTURAL
M	MECHANICAL
GM	GENERAL MECHANICAL
E	ELECTRICAL
GE	GENERAL ELECTRICAL



NOTES:

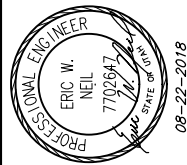
- PREFIX LETTER INDICATES THE FOLLOWING: C-CIVIL, A-ARCHITECTURAL, S-STRUCTURAL, M-MECHANICAL, E-ELECTRICAL.
- ELECTRICAL SYMBOLS SHOWN ON ELECTRICAL SHEETS.
- FOR WELDING SYMBOLS USE AMERICAN WELDING SOCIETY STANDARD SYMBOLS. SEE AMERICAN INSTITUTE OF STEEL CONSTRUCTION MANUAL.
- IF SECTION AND/OR DETAILS ARE THE SAME SCALE AND ON THE SAME DRAWING, SEE TITLE BLOCK AT "SCALE: "; THE SCALE TEXT AT CALLOUT SHALL BE OMITTED.

- MASONRY
- CAST IRON
- STEEL
- BRONZE
- INSULATION
- GRAVEL
- CONCRETE
- EARTH
- SAND
- ALUMINUM OR METAL DECKING
- CHECKERED PLATE
- GRATING
- PLASTIC, RUBBER OR NEOPRENE
- WOOD (FINISH)
- WOOD (ROUGH FRAMING) OR, OPENING OR DEPRESSION IN SLAB OR WALL
- DUCT (FIRST DIMENSION DUCT SIDE SHOWN, SECOND DIMENSION DUCT SIDE NOT SHOWN)
- SUPPLY OR OUTSIDE AIR DUCT (FIRST DIMENSION, DUCT WIDTH)
- EXHAUST OR RETURN AIR DUCT (FIRST DIMENSION, DUCT WIDTH)
- CEILING SUPPLY DIFFUSER (SIZE IN INCHES)
- CEILING RETURN OR EXHAUST AIR GRILLE OR REGISTER (SIZE IN INCHES, WIDTH X HEIGHT)
- EXHAUST OR RETURN AIR GRILLE OR REGISTER (SIZE IN INCHES, WIDTH X HEIGHT)
- SUPPLY GRILLE OR REGISTER (SIZE IN INCHES, WIDTH X HEIGHT)
- AIR TURNING VANES IN DUCT
- DEFLECTING DAMPER
- FIRE HOSE CABINET
- FIRE EXTINGUISHER
- UNIT HEATER
- CENTERLINE
- PROPERTY LINE
- NEW STRUCTURE OR FACILITY
- EXISTING STRUCTURE OR FACILITY
- FUTURE STRUCTURE OR FACILITY
- NEW FENCE
- EXISTING FENCE
- NEW PIPELINE (CIVIL SHEETS)
- NEW PIPELINE (CIVIL SHEETS) 10" DIA. AND SMALLER
- EXISTING PIPELINE
- OPEN CHANNEL

- CONTOUR LINE, FINISHED GRADE
- CONTOUR LINE, EXISTING GRADE
- FINISHED ELEVATION
- EXISTING ELEVATION
- CUT OR FILL SLOPE TO BE CONSTRUCTED
- NEW A.C. PAVING
- EXISTING A.C. PAVING
- RAILING
- FIRE HYDRANT
- MANHOLE
- PRESSURE CLEANOUT TO GRADE
- WALL CLEANOUT
- FLOOR CLEANOUT
- FLOOR CLEANOUT
- CLEANOUT TO GRADE
- CLEANOUT TO GRADE
- BLOW OFF ASSEMBLY
- HUB DRAIN
- FLOOR DRAIN
- FLOOR SINK
- DRAIN TRAP
- ELEVATION INDICATOR
- BENCH MARK
- VAULT OR JUNCTION STRUCTURE
- CHANGE IN PIPING MATERIAL
- ROUND OR DIAMETER
- SQUARE
- AT
- ANGLE
- PIPE SIZE AND TYPE/FLUID ABBREVIATION (USE FOR EXISTING PIPE CALLOUT)
- PIPE CALLOUT (SEE PIPING SCHEDULE)
- EQUIPMENT NUMBER (SEE EQUIPMENT SCHEDULE)
- BACKWATER VALVE
- BACKFLOW PREVENTER
- STOP GATE
- SLIDE GATE
- SLUICE GATE

- GATE VALVE, BURIED WITH VALVE BOX
- MUD VALVE
- BUTTERFLY VALVE, BURIED WITH VALVE BOX
- ECCENTRIC PLUG VALVE, BURIED WITH VALVE BOX
- LUBRICATED PLUG VALVE, BURIED WITH VALVE BOX
- GATE VALVE
- BUTTERFLY VALVE
- ECCENTRIC PLUG VALVE
- LUBRICATED PLUG VALVE
- GLOBE VALVE
- BALL VALVE
- DIAPHRAGM VALVE
- CHECK VALVE
- PRESSURE REGULATING VALVE
- BACK-PRESSURE VALVE
- MOTOR OPERATOR FOR VALVES (M = ELECTRIC, P = PNEUMATIC, H = HYDRAULIC)
- TEMPERATURE CONTROL VALVE
- SOLENOID VALVE
- MULTI-PORT VALVE - 3 WAY
- MULTI-PORT VALVE - 4 WAY
- FLOAT OPERATED VALVE
- NEEDLE VALVE
- PRESSURE RELIEF VALVE
- ANGLE VALVE
- HOSE BIBB (H/B)
- BUBBLER LEVEL CONTROL
- CENTRIFUGAL OR TURBINE PUMP OR FAN
- METERING PUMP
- PROGRESSIVE CAVITY, POSITIVE DISPLACEMENT PUMP
- BLOWER OR COMPRESSOR
- INJECTOR OR EDUCTOR
- FLAME ARRESTER
- AIR VACUUM AND AIR RELEASE ASSEMBLY
- THERMOMETER
- PIPE ANCHOR

- ROOM THERMOSTAT
- PRESSURE GAUGE
- PRESSURE GAUGE WITH DIAPHRAGM SEAL
- PRESSURE SWITCH
- PRESSURE SWITCH WITH DIAPHRAGM SEAL
- FLANGED FITTING
- WELDED FITTING
- MECHANICAL-TYPE FITTING (GROOVED)
- SCREWED, SOCKET-WELD, BELL AND SPIGOT OR HUBLESS FITTING
- SLEEVE-TYPE COUPLING
- FLANGED ADAPTER COUPLING
- FLANGED ADAPTER - SET SCREW TYPE
- EXPANSION JOINT
- MECHANICAL TYPE COUPLING
- FLEXIBLE COUPLING
- UNION
- QUICK DISCONNECT COUPLER
- CAPPED END OR PLUGGED END
- BLIND FLANGE
- REDUCER OR INCREASER
- CUT PIPE
- STRAINER
- DRAIN
- FLOW TUBE
- MAGNETIC METER
- DENSITY METER
- PROPELLER METER
- ORIFICE PLATE AND FLANGES
- ROTAMETER
- CONDENSATE TRAP
- PIPE SUPPORT (IN PLAN ONLY)
- CATCH BASIN
- PULSATION DAMPENERS
- AREA DRAIN
- LIQUID SURFACE



NO.	DATE	REV. BY	DESCRIPTION

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

REVIEW
CHECKED J. BECKMAN
APPROVED E. NEIL

DESIGN
DESIGNER ECA
STANDARDS
DRAWN ECA

PROJECT NUMBER
347-17-01

DATE: AUGUST 2018

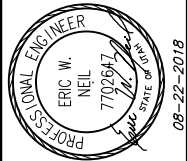
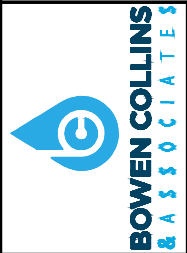
DRAWING NO.
G-02

GENERAL NOTES

- SYMBOLS FOR STRUCTURES, PIPE AND ETC. USED FOR IDENTIFICATION ARE SHOWN IN LEGENDS AND SHALL BE FOLLOWED THROUGHOUT THE PLANS WHENEVER APPLICABLE. NOT ALL OF THE VARIOUS COMPONENTS SHOWN IN THESE LEGENDS ARE NECESSARILY USED IN THE PROJECT.
- SCALE OF THE DRAWINGS OR DETAILS ARE SHOWN IN TITLE BLOCK OR DIRECTLY UNDER THE PLAN OR DETAIL. THE SIZE OF THE ORIGINAL PLOTTED DRAWINGS IS 22"x34". CARE SHOULD BE TAKEN TO VERIFY THE SCALE BAR IN THE TITLE BLOCK AREA TO DETERMINE THE SCALE OF REDUCED REPRODUCTIONS.
- IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO PERFORM CONSTRUCTION ACTIVITIES PER THE CONTRACT DOCUMENTS. ANY ADDITIONS, DELETIONS, OR MODIFICATIONS SHALL FIRST MEET WITH THE WRITTEN APPROVAL OF THE ENGINEER AND THE OWNER.
- CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMIT(S) AND COMPLY WITH ALL REQUIREMENTS OF GOVERNING AGENCIES.
- THE CONTRACTOR SHALL KEEP ALL CONSTRUCTION ACTIVITIES WITHIN THE ESTABLISHED RIGHTS-OF-WAY. THIS SHALL INCLUDE BUT NOT BE LIMITED TO, VEHICLES AND EQUIPMENT, LIMITS OF TRENCH EXCAVATION, AND EXCAVATED MATERIAL AND BACKFILL STORAGE. IF THE CONTRACTOR REQUIRES ADDITIONAL CONSTRUCTION EASEMENTS, IT SHALL BE SOLELY THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN SUCH EASEMENTS.
- THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT EXISTING IMPROVEMENTS FROM DAMAGE WHICH ARE TO REMAIN IN PLACE. ALL SUCH IMPROVEMENTS OR STRUCTURES DAMAGED BY THE CONTRACTORS OPERATIONS SHALL BE REPAIRED OR RECONSTRUCTED TO ORIGINAL OR BETTER CONDITION TO THE SATISFACTION OF THE OWNER AT THE EXPENSE OF THE CONTRACTOR.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR CONFORMANCE WITH LOCAL AND FEDERAL CODES GOVERNING SHORING AND BRACING OF EXCAVATIONS AND TRENCHES. CONTRACTOR IS RESPONSIBLE FOR THE SAFETY OF THE PUBLIC AND PROTECTION OF PERSONNEL AND WORKERS.
- CONTRACTOR SHALL NOT DESTROY, REMOVE, OR DISTURB ANY EXISTING SURVEY MONUMENTS WITHOUT AUTHORIZATION OF CONTROLLING AGENCY. ALL SURVEY MONUMENTS OR POINTS DISTURBED BY THE CONTRACTOR SHALL BE ACCURATELY RESET BY A REGISTERED LAND SURVEYOR AFTER ALL RESTORATION AND RESURFACING HAS BEEN COMPLETED.
- TRENCH SUPPORTS AND DEWATERING (NOTE 10) SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. MAXIMUM OPEN TRENCH DURING WORKING HOURS SHALL BE 300 FEET.
- DEWATERING: GROUND WATER AND SURFACE WATER CONTROL SHALL BE PERFORMED AND RESPONSIBLY HANDLED BY THE CONTRACTOR ACCORDING TO, AND IN COMPLIANCE WITH, ALL LOCAL GOVERNING AUTHORITIES. HEAVY GROUND WATER AND/OR SURFACE WATER PUMPING MAY BE REQUIRED. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE POTENTIAL PUMPING NEEDS. THE CONTRACTOR SHALL NOT RELY ON OWNER SUPPLIED PROCTOR, GROUND WATER AND/OR SURFACE WATER DATA. CONTRACTOR SHALL OBTAIN DEWATERING PERMIT AS NECESSARY. DEWATERING ACTIVITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- AERIAL PHOTOS IN DRAWINGS: THE AERIAL PHOTOS PROVIDED AS BACKGROUND IN THESE DRAWINGS ARE PROVIDED TO HELP CLARIFY THE WORK SITE. HOWEVER, PRESENT DAY CONDITIONS MAY VARY FROM THOSE SHOWN. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO BIDDING. BID SHALL INCLUDE ALL WORK REQUIRED TO COMPLETE THE PROJECT.
- CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTING ANY SETTLEMENT OF EXCAVATIONS, AND ANY DAMAGE OF UTILITIES RESULTING FROM SETTLEMENT.
- CONTRACTOR SHALL PREVENT ANY GROUND WATER OR DEBRIS FROM ENTERING NEW PIPES DURING CONSTRUCTION. THE ENDS OF THE PIPES SHALL BE SEALED AT THE END OF EACH WORKDAY.
- PROFILE DRAWINGS ARE HORIZONTAL PROJECTIONS OF THE PIPELINE CENTERLINE, UNLESS OTHERWISE NOTED.
- LAY PIPE TO DEPTH AND ALONG HORIZONTAL ALIGNMENT AS DEFINED IN THESE DRAWINGS. CONTRACTOR SHALL NOT DEVIATE FROM PROPOSED ALIGNMENT OR GRADE WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER. AVOID HIGH AND LOW POINTS EXCEPT WHERE DESIGNED.
- ALL BURIED REBAR, FITTINGS, COUPLINGS, VALVES, AND MECHANICAL JOINT NUTS AND BOLTS ARE TO BE COATED WITH NON OXIDE GREASE CHEVRON FM 1 OR APPROVED EQUAL, COVERED WITH 8 MIL POLYETHYLENE SHEETING, AND TAPE WRAPPED PER AWWA C105. SEE SPECIFICATION 05500 FOR ADDITIONAL BOLT AND NUT COATING REQUIREMENTS.
- UNLESS NOTED OTHERWISE, ALL WATER MAIN SHALL BE 4-INCH AND 6-INCH DUCTILE IRON CLASS 250. SIZE OF FITTINGS SHOWN ON THE PLANS SHALL CORRESPOND TO ADJACENT STRAIGHT RUN OF PIPE, AND SHALL BE DUCTILE IRON FITTINGS.
- ALL FITTINGS REQUIRED FOR THE COMPLETION OF THE WORK ARE NOT SHOWN IN THE DRAWINGS. MAXIMUM PIPE JOINT DEFLECTION SHALL BE 1-DEGREE. ADDITIONAL FITTINGS REQUIRED TO MAINTAIN THE ALIGNMENT SHOWN IN THE PLANS SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- MINIMUM DEPTH OF NEW PIPE: 6 FEET TO TOP OF PIPE, UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL PERFORM CHLORINATION TEST, PRESSURE TEST, AND BACTERIA TEST. ALL WATERLINES INSTALLED SHALL BE DISINFECTED IN ACCORDANCE WITH THE "AMERICAN WATER WORKS ASSOCIATION STANDARD FOR DISINFECTING WATER MAINS" (AWWA C651). ALL CHLORINATED WATER SHALL BE DISPOSED OF IN ACCORDANCE WITH THE UTAH DEPT OF ENVIRONMENTAL QUALITY RULES AND REQUIREMENTS FOR SURFACE DISCHARGE AND COORDINATED WITH WEBER COUNTY.
- ALL CONSTRUCTION ACTIVITIES SHALL BE PERFORMED IN A WORKMANLIKE AND SAFE MANNER AND IN ACCORDANCE WITH ALL STATE AND LOCAL CODES AND JOB-SITE RELATED CONSTRUCTION CONDITIONS AND REQUIREMENTS. OBTAIN PERMITS, INSPECTIONS AND APPROVALS AS REQUIRED BY JURISDICTIONAL AGENCIES AND PAY ALL ASSOCIATED FEES. CONTRACTOR AND INSTALLERS SHALL BE LICENSED AS REQUIRED BY STATE AND LOCAL JURISDICTIONS, AND BONDED AS DETERMINED BY PROJECT REQUIREMENTS.
- PRESSURE TEST ALL PIPELINES TO 150 PSI MINIMUM FOR TWO HOURS WITH ZERO LEAKAGE. IN THE CASE OF PIPELINES THAT FAIL TO PASS THE LEAKAGE TEST, THE CONTRACTOR SHALL DETERMINE THE CAUSE OF THE EXCESSIVE LEAKAGE, SHALL TAKE CORRECTIVE MEASURES NECESSARY TO REPAIR THE LEAKS, AND SHALL AGAIN TEST THE PIPELINES, ALL AT NO COST TO THE OWNER.
- WORKING PRESSURE FOR THE SYSTEM IS 70 PSI WITH TEST PRESSURE OF 150 PSI. ALL FLANGES, VALVES, FITTINGS, THRUST BLOCKS, ETC. SHALL BE RATED APPROPRIATELY.
- ALL PIPE, FITTINGS, AND VALVES SHALL BE NSF 61 COMPLIANT FOR CULINARY WATER USE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING CONTROL OF DRAINAGE AND EROSION DURING CONSTRUCTION AT CONSTRUCTION SITE, STAGING, AND SPOILS AREA. CONTRACTOR SHALL SUBMIT STORM RUNOFF CONTROL PLAN FOR APPROVAL BY ENGINEER AND OBTAIN A UPDES PERMIT FROM THE UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY.
- INSTALL ALL MATERIALS ACCORDING TO MANUFACTURER RECOMMENDATIONS AND STATE AND LOCAL REQUIREMENTS. USE ONLY NEW AND UNUSED MATERIALS. ALL MATERIALS SHALL BE PROVIDED BY MANUFACTURERS REGULARLY ENGAGED IN PRODUCING SAID ITEMS, AND WHICH SHALL BE FIRST QUALITY, HEAVY DUTY, COMMERCIAL/INDUSTRIAL GRADE, SUITABLE FOR THE INTENDED USE.
- EXCAVATION LIMITS SHOWN IN THE DRAWINGS ARE GRAPHICAL REPRESENTATIONS ONLY, AND DO NOT REPRESENT ACTUAL EXCAVATION LIMITS OR SAFE TRENCH CONDITIONS REQUIRED TO COMPLETE THE WORK.
- ALL DUCTILE IRON FITTINGS SHALL BE MADE IN THE U.S.A. AND HAVE MEGALUGS ON ALL MECHANICAL JOINTS.
- ALL MATERIALS WHICH MAY CONTACT DRINKING WATER, INCLUDING PIPES, GASKETS, LUBRICANTS, AND O-RINGS, SHALL BE ANSI-CERTIFIED AS MEETING THE REQUIREMENTS OF NSF STANDARD 61. TO PERMIT FIELD VERIFICATION, COMPONENTS SHALL BE STAMPED WITH THE APPROPRIATE NSF LOGO.
- TRACER WIRE: METALLIC TRACER WIRE AND WARNING TAPE SHALL BE PROVIDE ON ALL UTILITIES.
- UTILITY CROSSING: CONTRACTOR SHALL BACKFILL TRENCH AREAS WHERE NEW WATERLINES CROSS UNDER EXISTING BURIED UTILITIES WITH FLOWABLE FILL (CLSM) IN ACCORDANCE WITH SPECIFICATIONS SECTION 02200 IF STANDARD MECHANICAL COMPACTION EQUIPMENT CAN NOT ADEQUATELY COMPACT BACKFILL.
- FINAL RIM ELEVATIONS: CONTRACTOR SHALL ADJUST GRADE OF NEW MANHOLE RIMS, VALVE BOXES, AND INLET GRATES TO MATCH FINAL GRADES.
- CONSTRUCTION SURVEYING: CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION SURVEYING AND FOR LAYING OUT WORK.
- AS-BUILT SURVEY: CONTRACTOR SHALL PERFORM SURVEY OF ALL IMPROVEMENTS AS INSTALLED, INCLUDING LOCATIONS AND DEPTHS

OF BURIED FITTINGS AND VALVES, AND LOCATIONS OF ALL STRUCTURES, SURFACE IMPROVEMENTS, AND FACILITIES ASSOCIATED WITH THIS PROJECT. THIS SURVEY INFORMATION SHALL BE INCORPORATED INTO THE RECORD DRAWINGS AND PROVIDED IN AUTOCAD FORMAT TO THE OWNER. COORDINATES SHALL BE SURVEY GRADE (± 1 CM) IN THE PROJECT DATUM.

- EROSION AND SEDIMENTATION CONTROL AND PERMIT: CONTRACTOR SHALL CONSTRUCT BERMS AND/OR DRAINAGE DITCHES AS NEEDED TO KEEP STORM RUNOFF FROM ENTERING CONSTRUCTION EXCAVATIONS OR INTERFERING WITH CONSTRUCTION EFFORTS. CONTRACTOR SHALL INSTALL EXCELSIOR EROSION CONTROL MATTING ON ALL DISTURBED AREAS WITH SLOPES OF 3H:1V OR STEEPER. EROSION CONTROL MATS SHALL BE CURLEX TYPE I AS MANUFACTURED BY AMERICAN EXCELSIOR COMPANY, OR EQUAL. INSTALL AND ANCHOR PER MANUFACTURER'S RECOMMENDATIONS.
- VEGETATION: CONTRACTOR SHALL REMOVE AND DISPOSE OF TREES AND VEGETATION AS REQUIRED TO INSTALL IMPROVEMENTS.
- UNLESS NOTED OTHERWISE, FITTINGS WITH A CONNECTION TO ANOTHER FITTING OR VALVE SHALL HAVE FLANGED CONNECTIONS. ALL FITTINGS WITH A CONNECTION TO A STRAIGHT RUN OF PIPE SHALL HAVE MECHANICAL JOINTS. ALL FITTINGS TO BE PRESSURE CLASS 250 DUCTILE IRON PER SPECIFICATION SECTIONS 02509, 15000. ALL COUPLINGS SHALL BE SLEEVE TYPE AND SHALL BE 12-INCH MINIMUM LENGTH.
- ALL VALVES SHALL BE GATE VALVES LESS THAN 12-INCHES PER SPECIFICATION SECTION 40 05 61, WITH SLIP TYPE VALVE BOX AND COVER, SEE (C) 2126
- ALL FITTINGS AND APPURTENANCES SHALL BE EQUIPPED WITH THRUST BLOCKS PER THE SPECIFICATIONS AND STANDARD DRAWINGS. CONTRACTOR SHALL PROVIDE TEMPORARY THRUST RESTRAINT AS NECESSARY DURING CONSTRUCTION AND GIVING SPECIAL ATTENTION TO THE TEES, VALVES, AND THRUST BLOCKS ON EXISTING WATERLINES.
- FOR GEOTECHNICAL INFORMATION, SEE REPORT PREPARED BY IGES ENTITLED "DESIGN GEOTECHNICAL INVESTIGATION", POWDER MOUNTAIN RESORT, WEBER COUNTY, UTAH, NOVEMBER 9, 2012, PREPARED FOR SUMMIT, LLC,
- EXISTING UTILITIES SHOWN ON PLANS ARE BASED ON A RECORD SEARCH BY LOCAL CONTROLLING AGENCIES ARE APPROXIMATELY LOCATED. EXISTING UTILITIES ARE SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF, AND PRESERVING, ALL UTILITIES INCLUDING THOSE NOT SHOWN OR INCORRECTLY SHOWN ON THE PLANS. CONTRACTOR SHALL NOTIFY UTILITY COMPANIES TWO (2) WEEKS IN ADVANCE OF UTILITY CONFLICTS REQUIRING RELOCATION OF MAIN LINES, AND ONE (1) WEEK IN ADVANCE OF CONFLICTS REQUIRING RELOCATION OF SERVICE LATERALS. NOTIFY BLUE STAKES AT LEAST 48 HOURS PRIOR TO EXCAVATION IN THE VICINITY OF UNDERGROUND UTILITIES.
- ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE RESEEDED AND LANDSCAPED AS SPECIFIED. SEE (C) 2004



NO.	DATE	REV. BY	DESCRIPTION

SUMMIT MOUNTAIN HOLDING GROUP
BLOOMINGTON WELL PROJECT
 WEBER COUNTY, UTAH

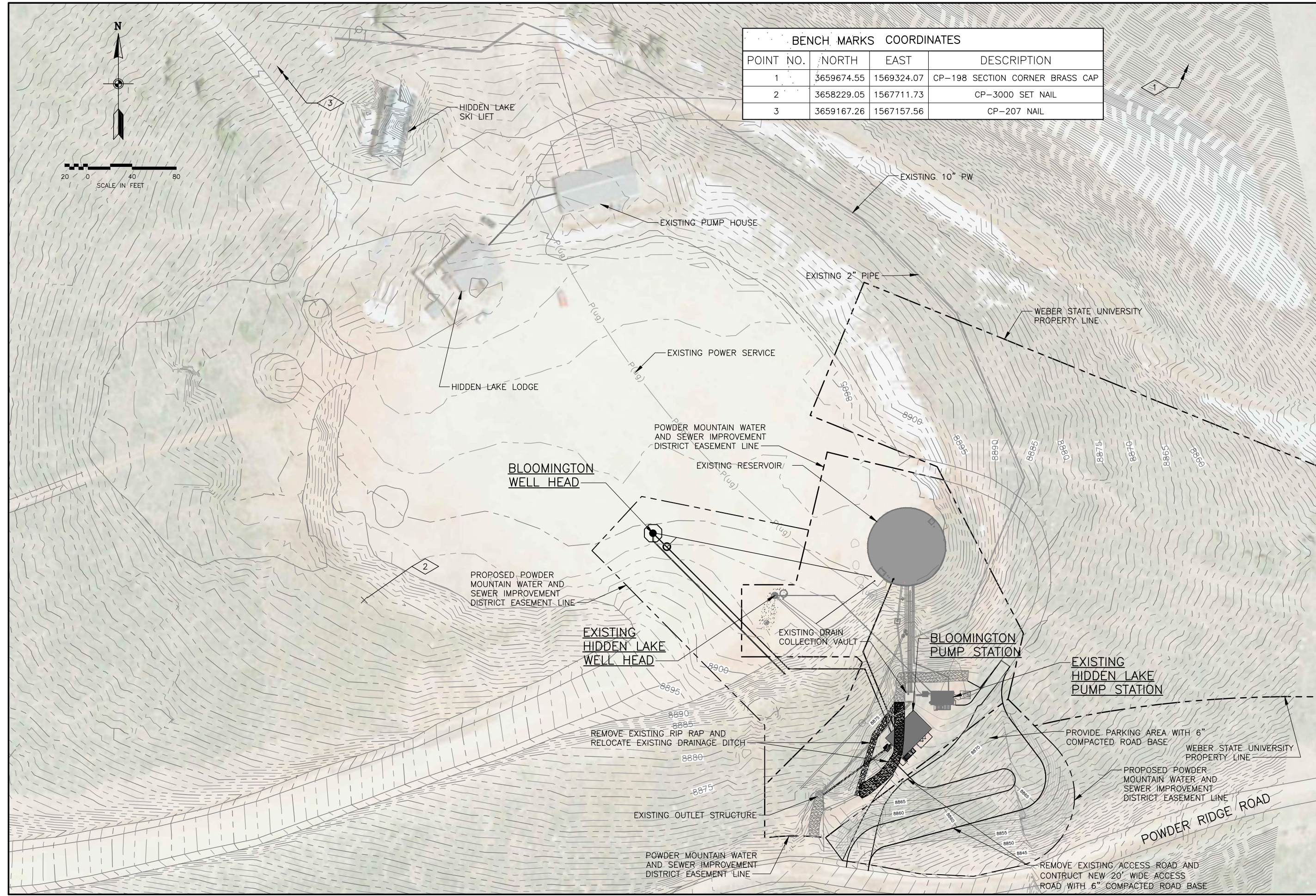
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 DRAWN: R. GARCIA

REVIEW: J. BECKMAN
 CHECKED: J. BECKMAN
 APPROVED: E. NEIL

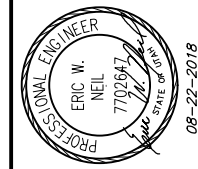
VERIFY SCALE
 BAR IS ONE INCH ON ORIGINAL DRAWING

GENERAL
GENERAL NOTES

DATE: AUGUST 2018
 PROJECT NUMBER: 347-17-01



BENCH MARKS COORDINATES			
POINT NO.	NORTH	EAST	DESCRIPTION
1	3659674.55	1569324.07	CP-198 SECTION CORNER BRASS CAP
2	3658229.05	1567711.73	CP-3000 SET NAIL
3	3659167.26	1567157.56	CP-207 NAIL



NO.	DATE	REV. BY	DESCRIPTION

SUMMIT MOUNTAIN HOLDING GROUP
BLOOMINGTON WELL PROJECT
 WEBER COUNTY, UTAH
 DESIGN: E. NEIL
 CHECKED: J. BECKMAN
 APPROVED: E. NEIL
 REVIEW: E. NEIL
 VERIFY SCALE: 1" = 100'
 BAR IS ONE INCH ON ORIGINAL DRAWING

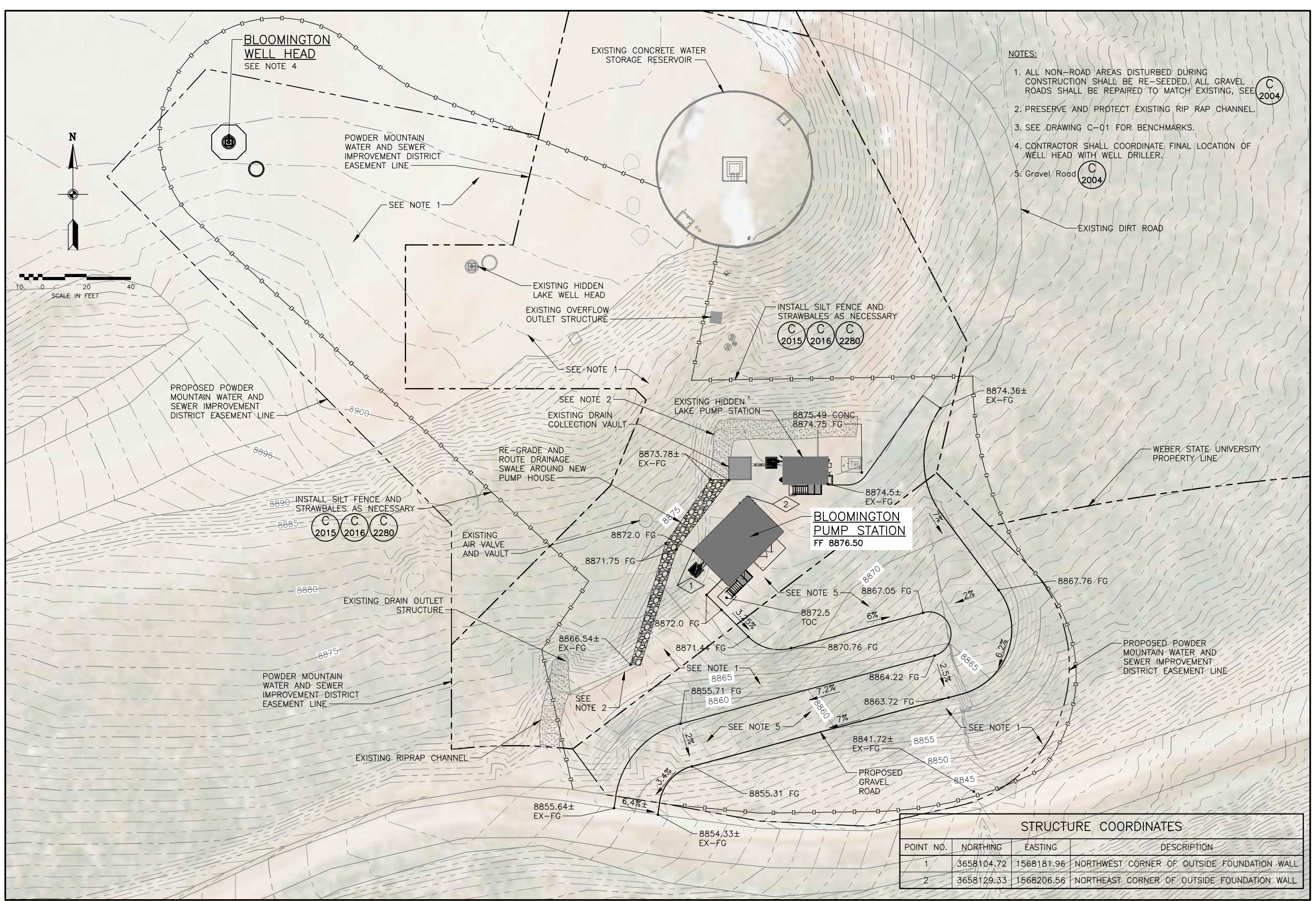
OVERALL SITE PLAN
 CIVIL
 DATE: AUGUST 2018
 PROJECT NUMBER: 347-17-01

P:\Powder Mountain\347-17-01 Bloomington Well Equiping\Design Phase\Drawings\Sh\3471701_C-01.dwg Plotted: 9/10/2018 4:03 PM By: Eric Neil

NO.	DATE	REV. BY	DESCRIPTION

DESIGN	DESIGNER: NEIL DRAWN: GARCIA
REVIEW	CHECKED: J. BECKMAN APPROVED: E. NEIL
VERIFY SCALE	BAR IS ONE INCH ON ORIGINAL DRAWING

CIVIL	PROJECT NUMBER 347-17-01
DATE: AUGUST 2018	DATE: AUGUST 2018
DRAWING NO. C-02	DRAWING NO. C-02
SHEET 6 OF 46	SHEET 6 OF 46

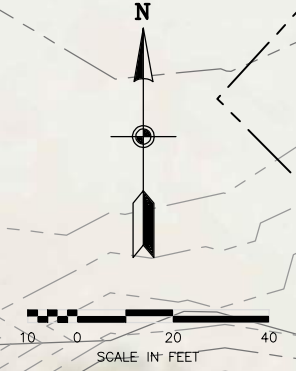


NOTES:

1. ALL NON-ROAD AREAS DISTURBED DURING CONSTRUCTION SHALL BE RE-SEEDED. ALL GRAVEL ROADS SHALL BE REPAIRED TO MATCH EXISTING, SEE **C 2004**.
2. PRESERVE AND PROTECT EXISTING RIP RAP CHANNEL.
3. SEE DRAWING C-01 FOR BENCHMARKS.
4. CONTRACTOR SHALL COORDINATE FINAL LOCATION OF WELL HEAD WITH WELL DRILLER.
5. Gravel Road **C 2004**.

STRUCTURE COORDINATES

POINT NO.	NORTHING	EASTING	DESCRIPTION
1	3658104.72	1568181.96	NORTHWEST CORNER OF OUTSIDE FOUNDATION WALL
2	3658129.33	1568206.56	NORTHEAST CORNER OF OUTSIDE FOUNDATION WALL



NO.	DATE	REV. BY	DESCRIPTION

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

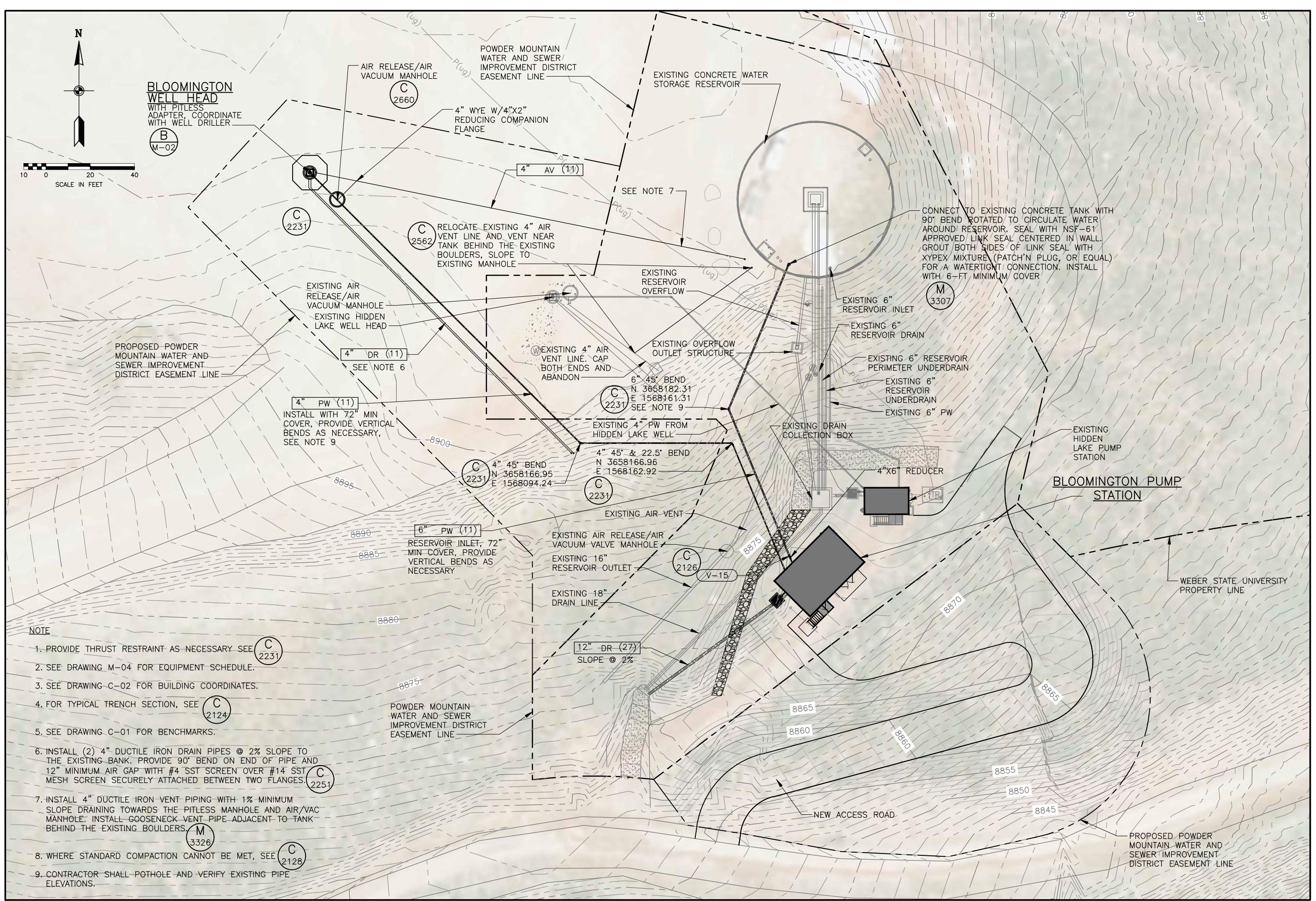
REVIEW
CHECKED J. BECKMAN
APPROVED E. NEIL

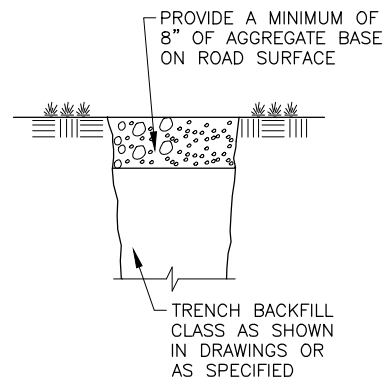
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DESIGNER: NEIL
DRAWN: GARCIA

PROJECT NUMBER
347-17-01

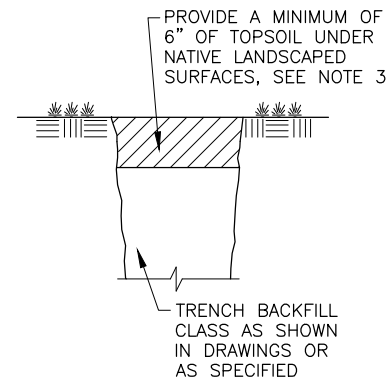
CIVIL
YARD PIPING
DATE: AUGUST 2018

DRAWING NO.
C-03
SHEET 7 OF 46





GRAVEL



TOPSOIL

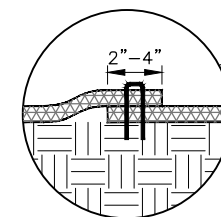
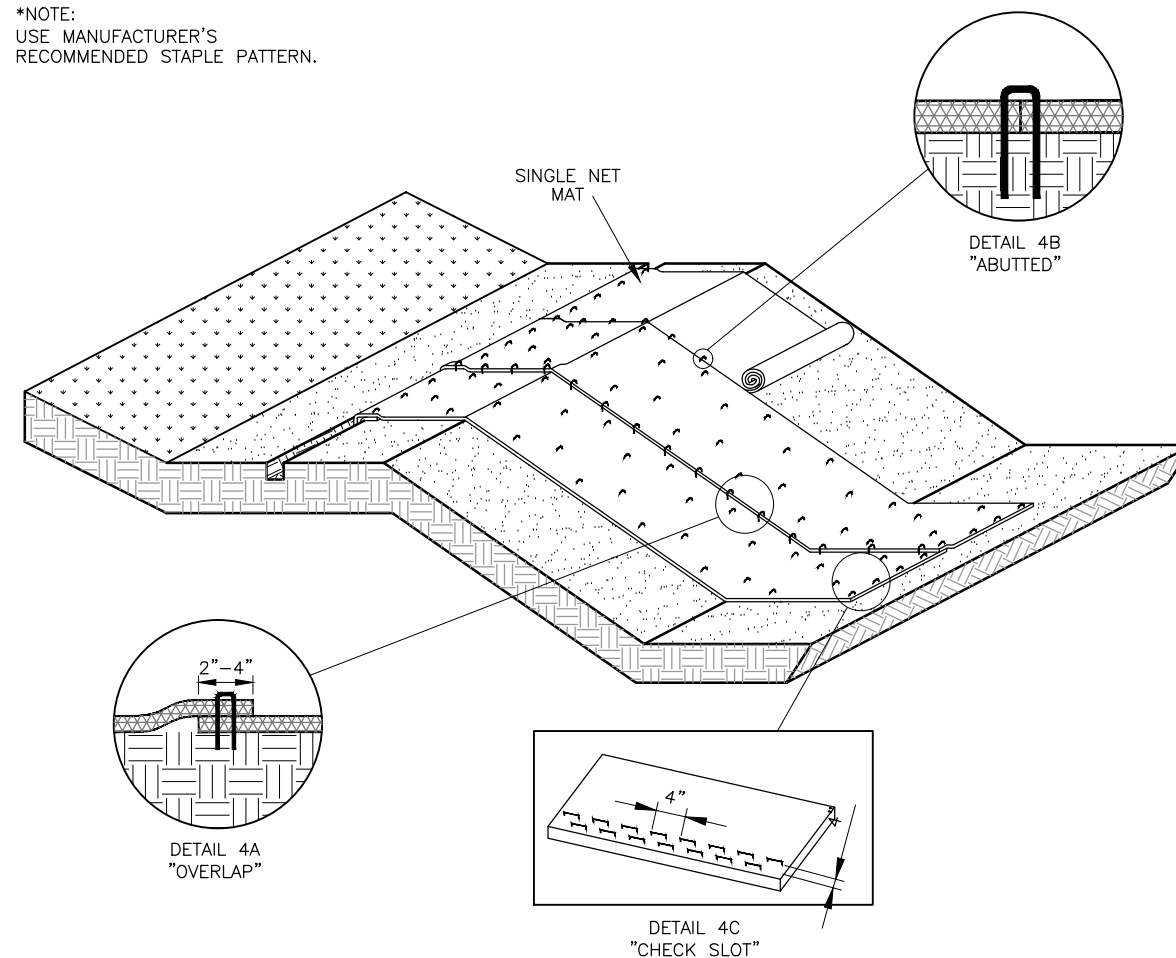
NOTES:

- BASE RESTORATION – SELECT FILL:
 - USE UNTREATED BASE COURSE TYPE G
 - MATCH EXISTING AGGREGATE BASE THICKNESS OR PROVIDE AT LEAST 8 INCHES OF AGGREGATE BASE.
 - INSTALL AND COMPACT ALL BACKFILL MATERIAL PER SPECIFICATION SECTION 31 23 00.
- PROVIDE SURFACE TO MATCH EXISTING GRADE. REPLACE VEGETATION TO MATCH PRE-CONSTRUCTION CONDITIONS AS SPECIFIED.
- REVEGETATION – USE THE SEED MIX BELOW FOR ALL DISTURBED AREAS:

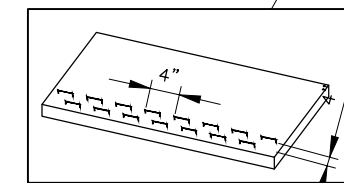
NO.	COMMON NAME	BOTANICAL NAME	LBS PLS/ACRE	% OF MIX	SEED/SF
1	INDIAN RICEGRASS	ANCHNATHERUM HYMENOIDES	4.7	27.5	15
2	WYOMING BIG SAGEBRUSH	ARETEMISIA TRIDENTATA WYGENSIS	0.1	0.8	8
3	RUBBER RABBITBRUSH	CHRYSOTHANMNUS NAUSEOUS	0.5	3.0	5
4	WHITE EVENING PRIMROSE	OENOTHERA PALLIDA	0.3	1.7	3
5	WESTERN WHEATGRASS	PASCOPYRUM SMITHII	10.5	62.0	27
6	SANDBERG BLUEGRASS	POA SANDERGII	0.7	4.0	14
7	SAND DROPSSEED	SPOROBOLUS CRYPTANDRUS	0.2	1.0	21
TOTAL			17.0	100.0	93

SURFACE RESTORATION C
SCALE: NTS 2004

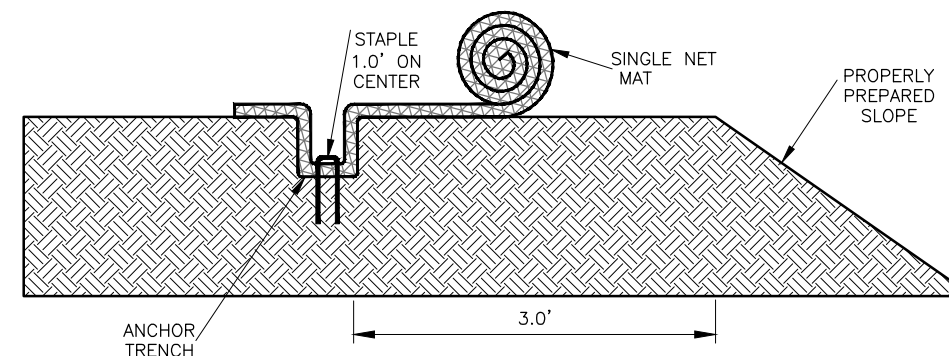
*NOTE:
USE MANUFACTURER'S
RECOMMENDED STAPLE PATTERN.



DETAIL 4A
"OVERLAP"

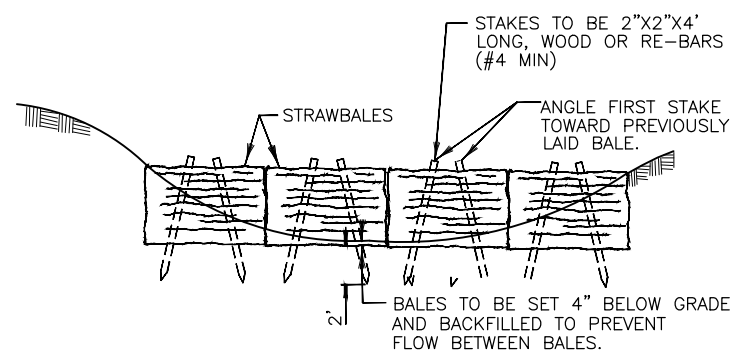


DETAIL 4C
"CHECK SLOT"

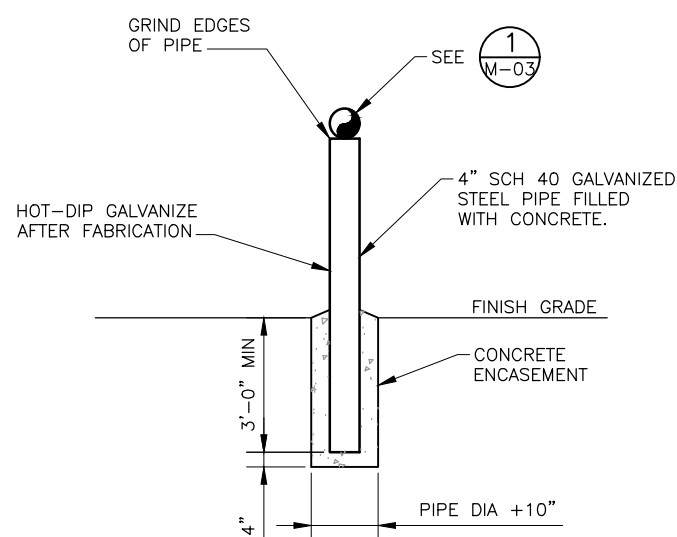


NOTES :

- STRAWBALES TO BE REPLACED AS NECESSARY DUE TO DAMAGE OR CLOGGING WITH SILT. SILT TO BE REMOVED IN FRONT OF BALES REGULARLY TO PREVENT EXCESSIVE SOIL BEARING WEIGHT ON THE BALES.
- STRAWBALES TO BE PLACED ON EXISTING GRADE IN UNDISTURBED AREAS.



STAKED STRAWBALE DETAIL C
SCALE: NTS 2015



BOLLARD PIPE SUPPORT C
SCALE: NTS 2011

EROSION CONTROL BLANKET/NET MAT C
SCALE: NTS 2016

NO.	DATE	REV. BY	DESCRIPTION

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

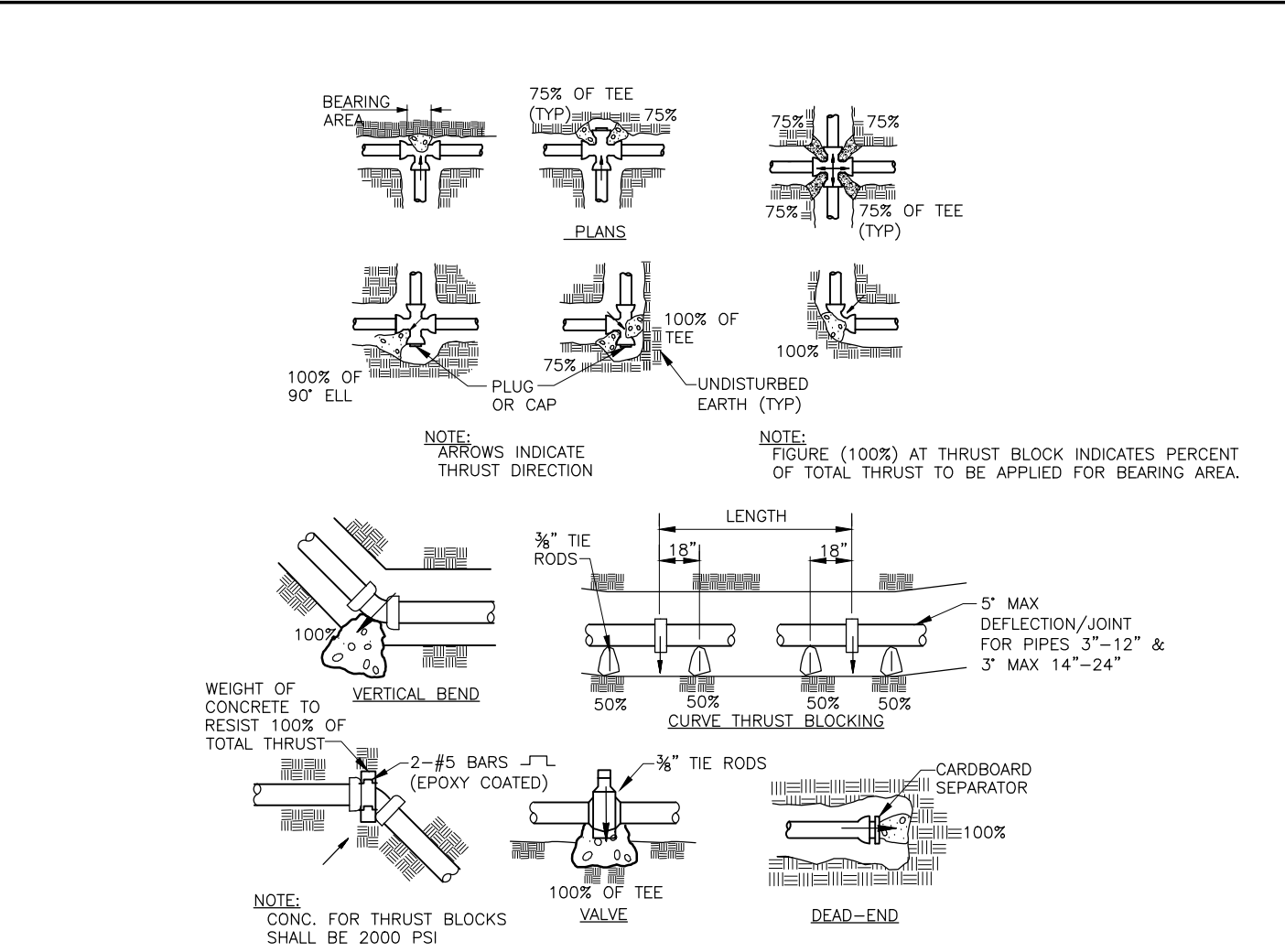
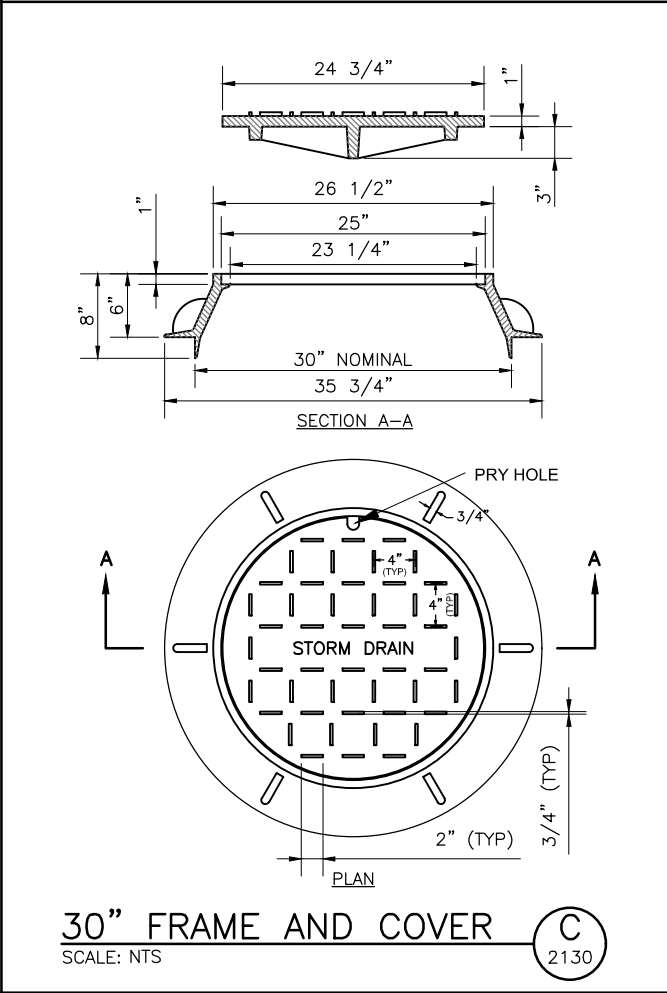
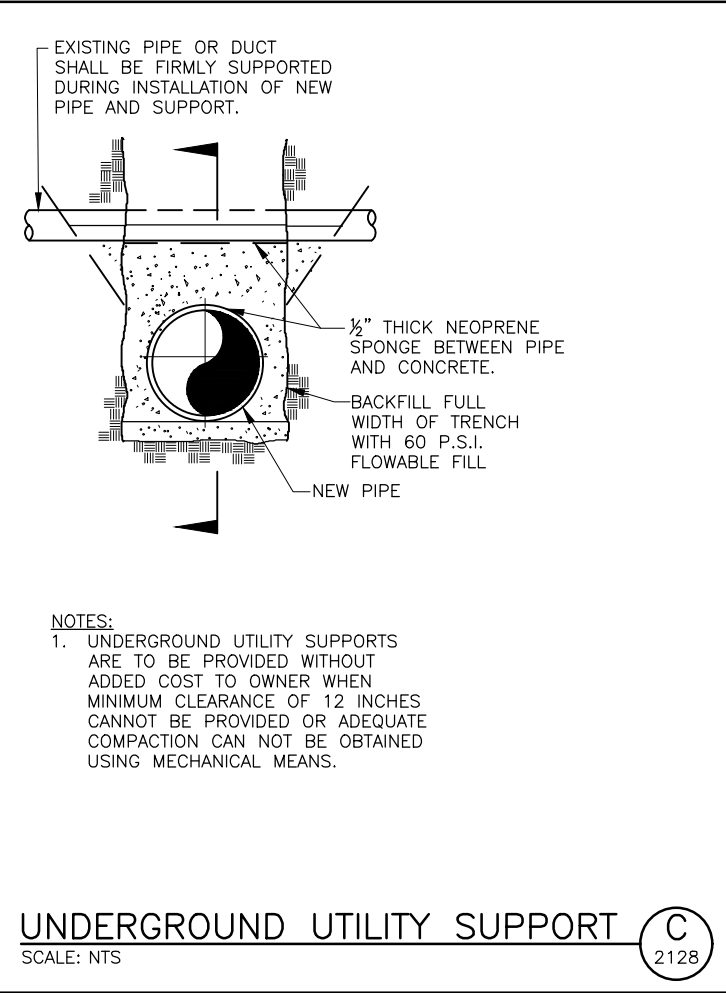
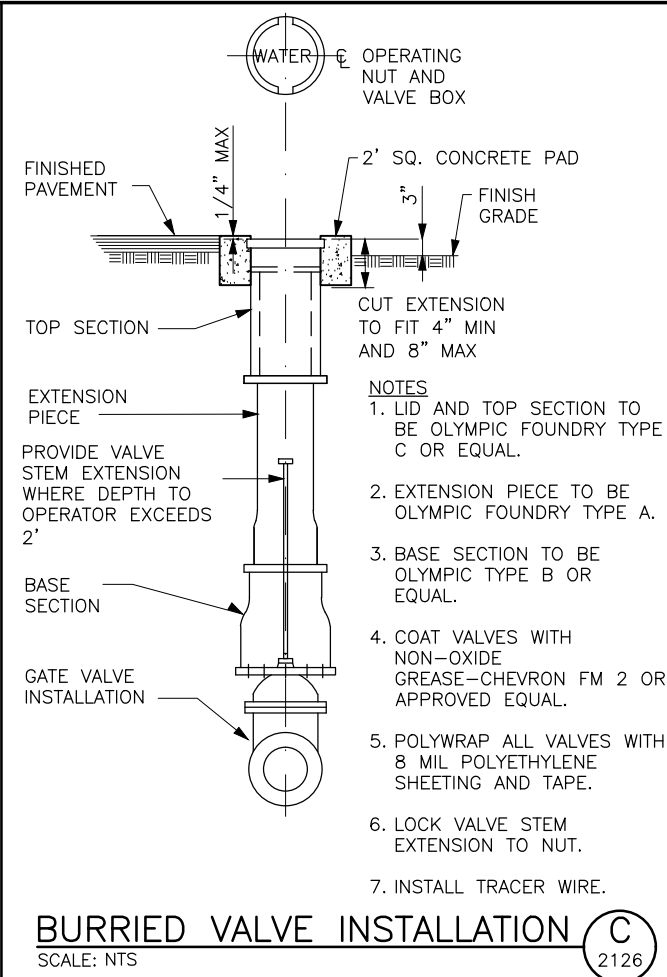
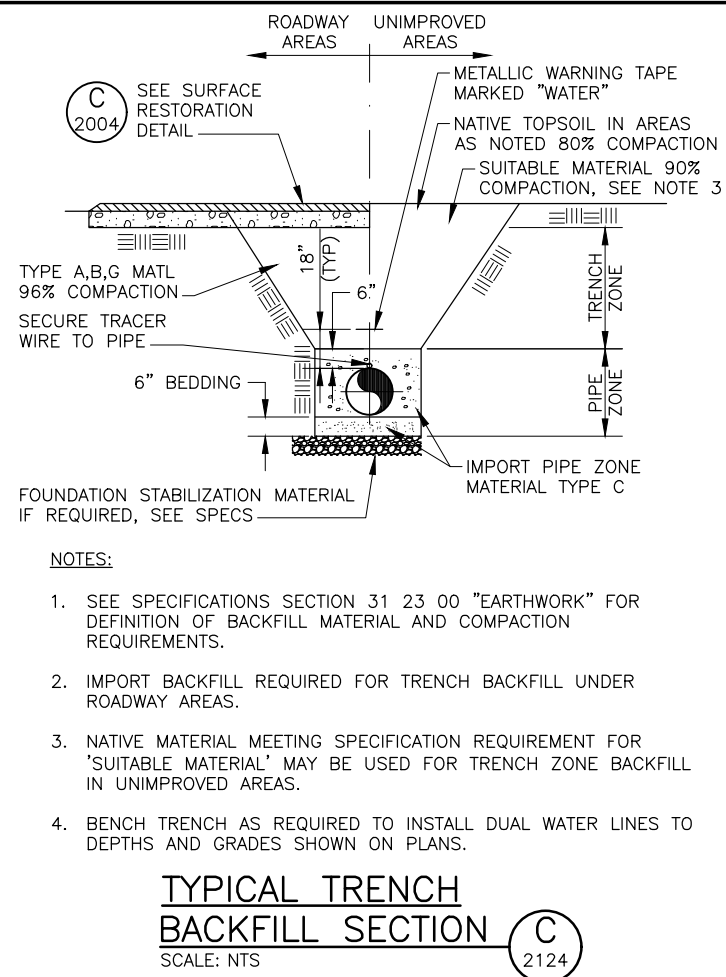
DESIGN BCS STANDARDS
DRAWN BCA STANDARDS

REVIEW
CHECKED E. NEIL
APPROVED J. BECKMAN

SUMMIT MOUNTAIN HOLDING GROUP
BLOOMINGTON WELL PROJECT
WEBER COUNTY, UTAH

CIVIL
GENERAL CIVIL DETAILS-1
PROJECT NUMBER 347-17-01
DATE: AUGUST 2018

DRAWING NO.
GC-01
SHEET 8 OF 46



REQUIRED LENGTH OF RESTRAINED PIPE FOR VARIOUS FITTINGS (FT)

PIPE SIZE (N)	DEAD END OR TEE	HORIZ. 90° BEND	VERTICAL 22.5° BEND	HORIZ. 45° BEND
6-DI	57	21	12	9
6-PVC	38	17	10	8
12-PVC	71	32	15	14
16-PVC	92	41	19	17

MINIMUM BEARING AREA OF CONCRETE THRUST BLOCKS FOR VARIOUS FITTINGS (FT²)

PIPE SIZE (N)	DEAD END OR TEE	90° BEND	45° BEND	22.5° BEND
4	2	3	2	1
6	4	6	3	2
12	16	22	12	6
16	28	38	21	11

- NOTE:** CONTRACTOR SHALL INSTALL THRUST RESTRAINT AT ALL FITTINGS PRIOR TO PRESSURIZING THE WATER LINE. IN ALL AREAS WHERE THE PIPELINE WILL NOT BE PRESSURIZED FOR 5 DAYS, CONTRACTOR SHALL HAVE THE OPTION OF USING RESTRAINED PIPE LENGTHS OR CONCRETE THRUST BLOCKS IN ACCORDANCE WITH THE TABLES ABOVE. WHERE THE NEW LINES WILL CONNECT TO EXISTING WATER MAINS, MECHANICAL THRUST RESTRAIN AND THRUST BLOCKS WILL BE REQUIRED TO ALLOW THE NEW PIPELINE TO BE PUT INTO SERVICE IMMEDIATELY AFTER ACCEPTANCE.
- LENGTH GIVEN FOR BENDS REPRESENTS THE RESTRAINED LENGTH REQUIRED FOR EACH SIDE OF BEND.
 - THRUST BLOCKS TO BE INSTALLED IN ACCORDANCE WITH DETAIL SHOWN ABOVE.
 - CONCRETE MUST BE ALLOWED TO CURE IN THRUST RESTRAINTS FOR 5 DAYS PRIOR TO PRESSURIZING WATER LINES OR HAVE ADDITIONAL APPROVED THRUST RESTRAINTS INSTALLED PRIOR TO PRESSURIZING THE WATERLINE.
 - PRIOR TO POURING CONCRETE FOR THRUST BLOCKS, WRAP PIPE SYSTEM WITH 8 MIL THICK PLASTIC SHEET TO PREVENT BONDING OF CONCRETE TO PIPE SYSTEM.
 - VALUES PROVIDE ASSUME AT LEAST 5 FEET OF COVER AND SOIL BEARING STRENGTH OF 3500 PSF.

BOWEN COLLINS & ASSOCIATES

PROFESSIONAL ENGINEER
ERIC W. NEIL
7702647
UTAH STATE LICENSE
08-22-2018

SUMMIT MOUNTAIN HOLDING GROUP
BLOOMINGTON WELL PROJECT
WEBER COUNTY, UTAH

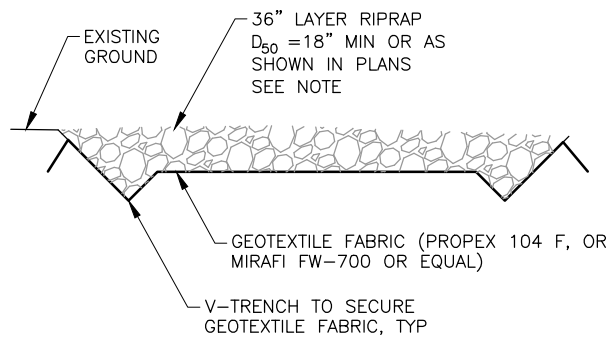
GENERAL CIVIL DETAILS-2

DESIGN BCS STANDARDS
DRAWN BCA STANDARDS

REVIEW CHECKED E. NEIL
APPROVED J. BECKMAN

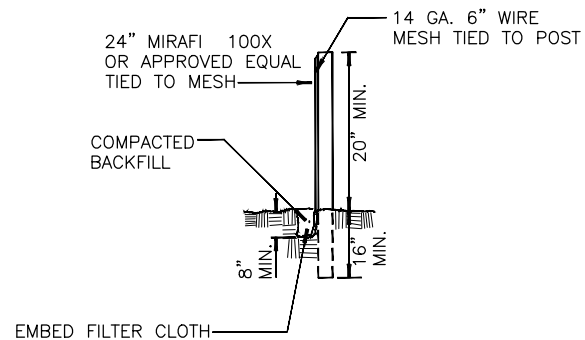
DATE: AUGUST 2018
PROJECT NUMBER: 347-17-01

DRAWING NO. GC-02
SHEET 9 OF 46



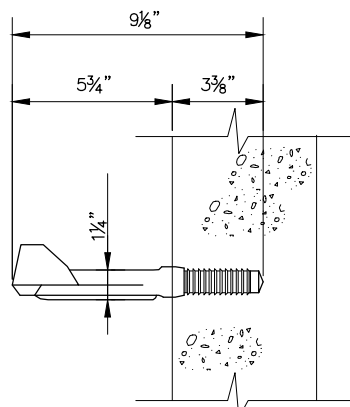
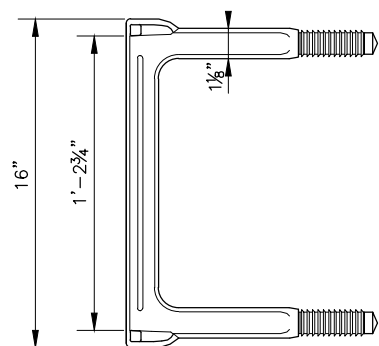
NOTE:
WHEN $D_{50}=6"$, PROVIDE 18"
LAYER RIPRAP, SEE PLAN FOR
LOCATION.

RIPRAP & ARMOR PROTECTION (C)
SCALE: NTS 2251



- NOTES:**
1. POSTS SPACED 10' O.C. MAX.
 2. FILTER CLOTH TO BE TIED TO MESH EVERY 24" AT TOP AND MIDDLE WITH 6" FOLDED OVERLAP AT VERTICAL SEAMS
 3. FENCE SHALL BE MAINTAINED AND ACCUMULATED MATERIAL REMOVED

SILT FENCE DETAIL (C)
SCALE: NTS 2280



- NOTES:**
1. M.A. INDUSTRIES INC. COPOLYMER POLYPROPYLENE PLASTIC STEPS, OR EQUAL.
 2. STEPS SHALL BE INSTALLED IN FORM AND CAST IN WITH WALL PLACEMENT.

LADDER RUNG DETAIL (C)
SCALE: NTS 2580

NO.	DATE	REV. BY	DESCRIPTION

SUMMIT MOUNTAIN HOLDING GROUP
BLOOMINGTON WELL PROJECT
WEBER COUNTY, UTAH
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGN	DESIGN BCS STANDARDS	DESIGN ECA STANDARDS	REVIEW	CHECKED E. NEIL	APPROVED J. BECKMAN
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CIVIL
GENERAL CIVIL DETAILS-3
DATE: AUGUST 2018
PROJECT NUMBER 347-17-01

DRAWING NO.
GC-03
SHEET 10 OF 46

NO.	DATE	REV. BY	DESCRIPTION

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

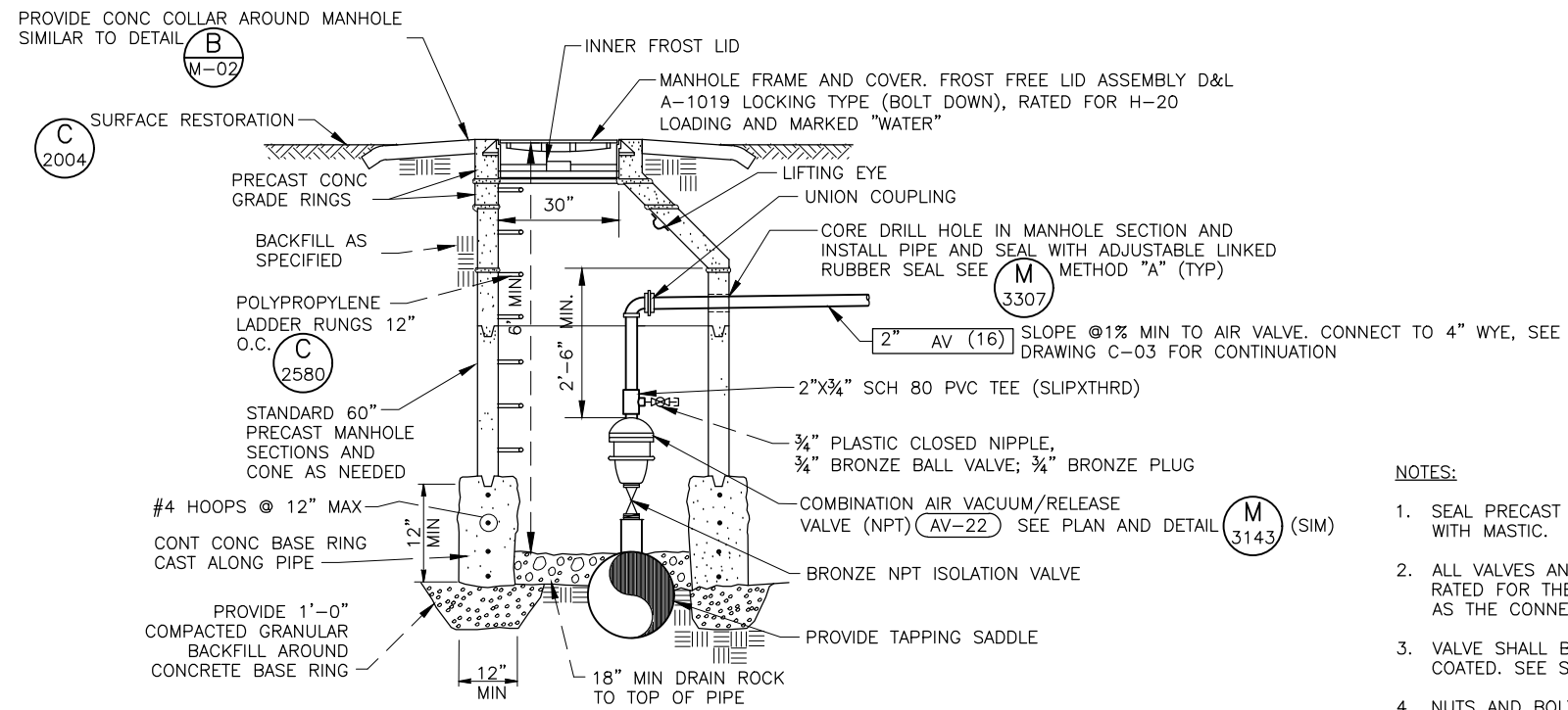
DESIGN BCS STANDARDS
DRAWN BCA STANDARDS

REVIEW
CHECKED J. BECKMAN
APPROVED E. NEIL

CIVIL
GENERAL CIVIL
DETAILS-4

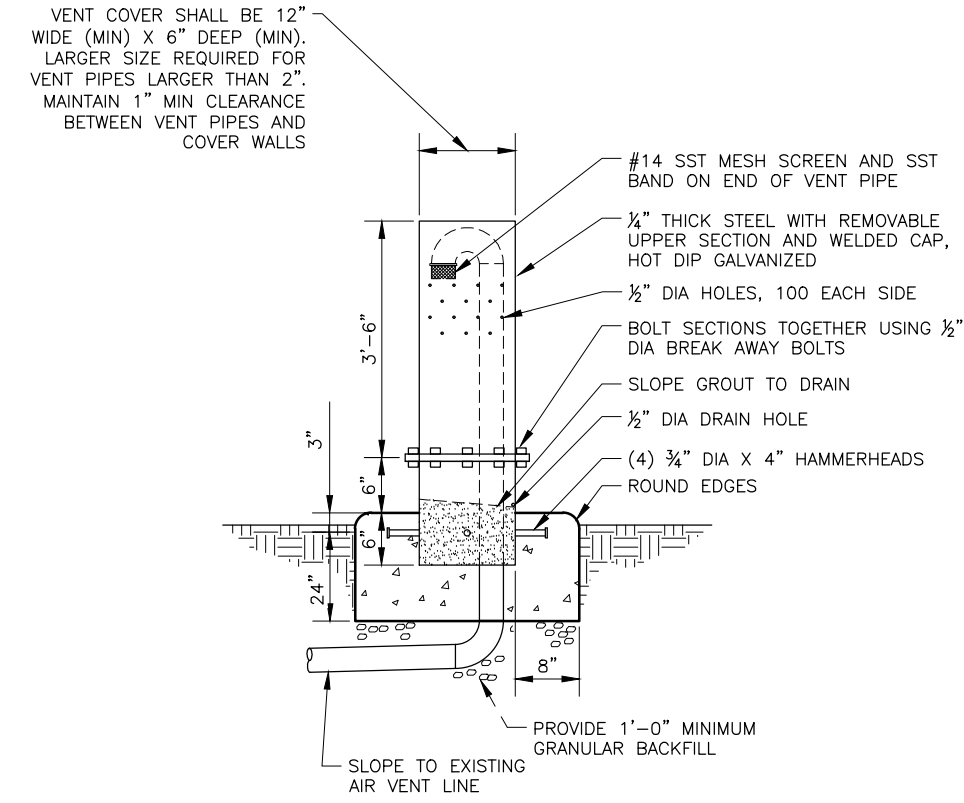
DATE: AUGUST 2018
PROJECT NUMBER 347-17-01

DRAWING NO. GC-04
SHEET 11 OF 46



- NOTES:
1. SEAL PRECAST CONCRETE SECTIONS WITH MASTIC.
 2. ALL VALVES AND FITTINGS SHALL BE RATED FOR THE SAME TEST PRESSURE AS THE CONNECTED WATERLINE.
 3. VALVE SHALL BE EPOXY LINED AND COATED. SEE SPECIFICATIONS.
 4. NUTS AND BOLTS SHALL BE 316 SST WITH ANTI-SIEZE LUBRICANT.
 5. SEE DRAWING M-04 FOR EQUIPMENT SCHEDULE.

AIR/VAC MANHOLE
NTS
C 2660



AIR VENT DETAIL
SCALE: NTS
C 2562

BUILDING ENVELOPE SCHEDULE

ELEMENT	MINIMUM REQUIREMENTS	DESCRIPTION
ROOF:	R-49 OR U-0.021	PER PLANS.
WALLS: FRAMED	R-13 + 7.5ci OR U-0.051 R-20 + R-3.8ci	PER PLANS.
BELOW WALLS GRADE	R-7.5 ci OR C-0.119	PER PLANS.
UNHEATED SLAB ON GRADE:	R-10 FOR 24" BELOW, MIN.	PROVIDE R-10 RIGID INSULATION.
DOOR: SWINGING	R-6	PROVIDE INSULATED DOOR PER PLAN.
PIPING:	PIPING INSULATION SHALL BE 1" THICK FOR PIPING SMALLER THAN 1-1/2" WITH FLUID TEMPERATURES UP TO 140°, AND 1-1/2" THICK FOR PIPING 1-1/2" AND LARGER. FOR FLUIDS OVER 140°, THE INSULATION SHALL BE 1-1/2" THICK FOR PIPING UP THRU 1-1/4", AND 2" THICK FOR 1-1/2" AND LARGER. INSULATION SHALL HAVE AN R-VALUE OF NO LESS THAN R-3.75.	
AIR BARRIER:	THE CONTINUOUS AIR BARRIER SHALL BE CONSTRUCTED TO COMPLY WITH THE FOLLOWING: AIR BARRIER JOINTS AND SEAMS SHALL BE SEALED, INCLUDING SEALING TRANSITIONS IN PLACES AND CHANGES IN MATERIALS. AIR BARRIER PENETRATIONS SHALL BE SEALED IN ACCORDANCE WITH 2015 IECC SECTION C402.4.2. THE JOINTS AND SEALS SHALL BE SECURELY INSTALLED IN OR ON THE JOINT FOR ITS ENTIRE LENGTH SO AS NOT TO DISLODGE, LOOSEN OR OTHERWISE IMPAIR ITS ABILITY TO RESIST POSITIVE AND NEGATIVE PRESSURE FROM WIND, STACK EFFECT AND MECHANICAL VENTILATION. AIR BARRIER COMPLIANCE: THE CONTINUOUS AIR BARRIER FOR THE OPAQUE BUILDING ENVELOPE SHALL COMPLY WITH THE BUILDING TEST METHOD. THE COMPLETED BUILDING SHALL BE TESTED AND THE AIR LEAKAGE RATE OF THE BUILDING ENVELOPE SHALL NOT EXCEED 0.40 CFM/FT2 AT A PRESSURE DIFFERENTIAL OF 0.3 INCHES WATER GAUGE (2.0 L/S · M2 AT 75 PA) IN ACCORDANCE WITH ASTM E 779 OR AN EQUIVALENT METHOD APPROVED BY THE CODE OFFICIAL. PROVIDED APPROVAL DOCUMENTATION TO ARCHITECT. OTHER APPROVAL METHODS MAY BE ALLOWED, PROVIDE SUBMITTAL FOR REVIEW.	

ROOF REFERENCE NOTES

- A. PROVIDE VENTILATION AS INDICATED.
- B. ROOFING TO BE CLASS C.
- C. ROOFING SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
- D. VERIFY ALL CONDITIONS PRIOR TO INSTALLATION.
- E. CRICKETS AND OVERHANGS SHALL PROVIDE A MIN. 3/8" SLOPE EXTEND ICE AND WATERSHIELD UNDERLAYMENT OVER ROOF, EXPECT WITHIN 24" OF RIDGES, INCLUDING ALL ROOF PERIMETERS, PROJECTIONS, PENETRATIONS, VALLEYS AND WALL INTERSECTIONS AND EXTERIOR WALL/ROOF INTERSECTIONS. 24" AT RIDGES SHALL RECEIVE 30# ROOF UNDERLAYMENT, OVERLAP ICE SHIELD.
- G. ALL EXPOSED MECHANICAL VENTS & GRILLES TO BE PRE-FINISHED AS SELECTED BY ARCHITECT.
- H. ALL EXPOSED WOOD SHALL BE PAINTED AND / OR STAINED.
- J. PROVIDE 28 GAUGE GALVANIZED SHEET METAL VALLEY FLASHING 12" BOTH SIDE OF VALLEY OR EQUIPMENT CURB.
- K. REFER TO FLASHING DETAILS FOR PERIMETER FLASHING.
- L. PROVIDE METAL ROOF CRICKETS AT ALL ROOF PENETRATIONS.
- M. ALL FLUES / VENT SHALL BE U.L. LISTED.
- N. REFER TO MECHANICAL PLANS FOR PIPE VENTS.

ROOF VENTILATION

ATTIC VENTILATION (300 SF REQUIRED), PROVIDE 1 PERM VAPOR BARRIER ON WARM SIDE OF ALL CEILINGS AT ROOF.

ROOF AREA / VENTILATION CALCULATION:

ROOF AREA: 1,015 SF
(1,015 / 300 = 3.4 SF)

REQUIRED VENT AREA = 3.4 S.F.

ROOF PERIMETER: 128'
ROOF LENGTH (SOFFIT LENGTH): 38.42' (34.92' AT INTERIOR)

PROVIDED:

LOW SIDE:
(102) 2" DIA VENTILATION HOLES = (0.025F * 102) = 2.04 SF
PROVIDE THREE HOLES PER CAVITY, WITH INSECT SCREEN.

HIGH SIDE:
(102) 2" DIA VENTILATION HOLES = (0.025F * 102) = 2.04 SF
PROVIDE THREE HOLES PER CAVITY, WITH INSECT SCREEN.

TOTAL ROOF VENTILATION PROVIDED = 4.08 SF

CODE OVERVIEW

OCCUPANCY CLASSIFICATION:

CHAPTER THREE: U UTILITY AND MISCELLANEOUS

BUILDING AREA PER FLOOR:

CHAPTER FIVE:
TOTAL BUILDING: 800 S.F.
ALLOWABLE AREA:
BASE ALLOWABLE (TABLE 506.2): 5,500 S.F.

TYPE OF CONSTRUCTION:

CHAPTER SIX: VB, NS

SPRINKLER SYSTEM:

NOT EQUIPPED WITH AUTOMATIC SPRINKLER SYSTEM.

MEANS OF EGRESS OCCUPANT CALCULATIONS:

CHAPTER 10:
MECHANICAL ROOM OCCUPANTS: (300 S.F./GROSS - 800 S.F.)
3 OCCUPANTS

TOTAL EGRESS WIDTH:
3 * 0.2 = 0.6" MINIMUM REQUIRED EXIT WIDTH.
144" ACTUAL EXIT WIDTH PROVIDED EGRESS:

STAIRS:
3 * 0.3 = 0.9" MINIMUM REQUIRED EXIT WIDTH.
42" ACTUAL EXIT WIDTH PROVIDED EGRESS:

TRAVEL DISTANCE: 30' EXIT

PLUMBING FIXTURE CALCULATIONS:

CHAPTER 29, TABLE 2902.1: NOT REQUIRED U OCCUPANCY

BASIS OF DESIGN

APPLICABLE CODES:

2015 EDITION OF THE INTERNATIONAL BUILDING CODE W/ STATE OF UTAH AMENDMENTS.
2015 EDITION OF THE INTERNATIONAL PLUMBING CODE.
2015 EDITION OF THE INTERNATIONAL MECHANICAL CODE.
2014 EDITION OF THE NATIONAL ELECTRICAL CODE.
2015 EDITION OF THE INTERNATIONAL FIRE CODE.
2015 EDITION OF THE INTERNATIONAL FUEL GAS CODE.
2015 EDITION OF THE INTERNATIONAL ENERGY CONSERVATION CODE.
2009 ICC/ANSI A117.1
AND STATE OF UTAH AMENDMENTS TO THOSE CODES.

DEFERRED SUBMITTALS

2015 IBC SECTION 107.3.4.1 DEFERRED SUBMITTALS: IN ADDITIONAL TO THE ITEMS LISTED ON THE STRUCTURAL DRAWINGS, ITEMS TO BE SUBMITTED TO THE ARCHITECT FOR REVIEW PRIOR TO THE WORK COMMENCING SHALL INCLUDE:

- 1. N.A.

NOTE:

CONTRACTOR SHALL ABIDE BY THE UTAH DIVISION OF AIR QUALITY REQUIREMENTS AND SHALL CONTRACT THE UTAH DIVISION OF AIR QUALITY AT (801) 536-4400.

PLAN REFERENCE NOTES

1. ALL PIPING, EQUIPMENT, ELECTRICAL PANELS, ETC. SHOWN ON THIS SHEET FOR REFERENCE ONLY. REFER TO DISCIPLINE SHEET FOR INFORMATION AND INSTRUCTIONS.
2. STAIR RUNS TO HAVE EQUAL TREADS, AND EQUAL RISERS TO WITHIN 1/8" TYP.
3. PROVIDE SWPPP PLAN & CONSTRUCTION MITIGATION PLAN PER CIVIL.
4. DIMENSIONS SHALL BE TO EDGE OF CONCRETE, EDGE OF MASONRY, CENTER OF COLUMNS, AND PER STRUCTURAL UNLESS NOTED OTHERWISE.
5. PROVIDE DOOR AND FRAMES PER NOTES. ALL HARDWARE TO MEET ACCESSIBILITY STANDARDS OF ANSI A117.1-2012.
6. PROVIDE SLAB ON GRADE THICKNESS AND REINFORCING PER STRUCTURAL.
7. ALL SURFACES SHALL BE PAINTED, U.O.N.

DOOR NOTES

DOOR SPEC: MANUFACTURER: CECO DOOR PRODUCTS, AN ASSA ABLOY GROUP COMPANY.

EXTERIOR INSULATED DOOR: INSULATED R=6.0; EXTRA HEAVY DUTY. FACE SHEETS FABRICATED FROM METALLIC-COATED STEEL SHEET. COMPLY WITH ANSI/SKI A250.8 FOR LEVEL AND MODEL AND ANSI/SKI A250.4 FOR PHYSICAL PERFORMANCE LEVEL: LEVEL 3 AND PHYSICAL PERFORMANCE LEVEL A, MODEL 2 (SEAMLESS).

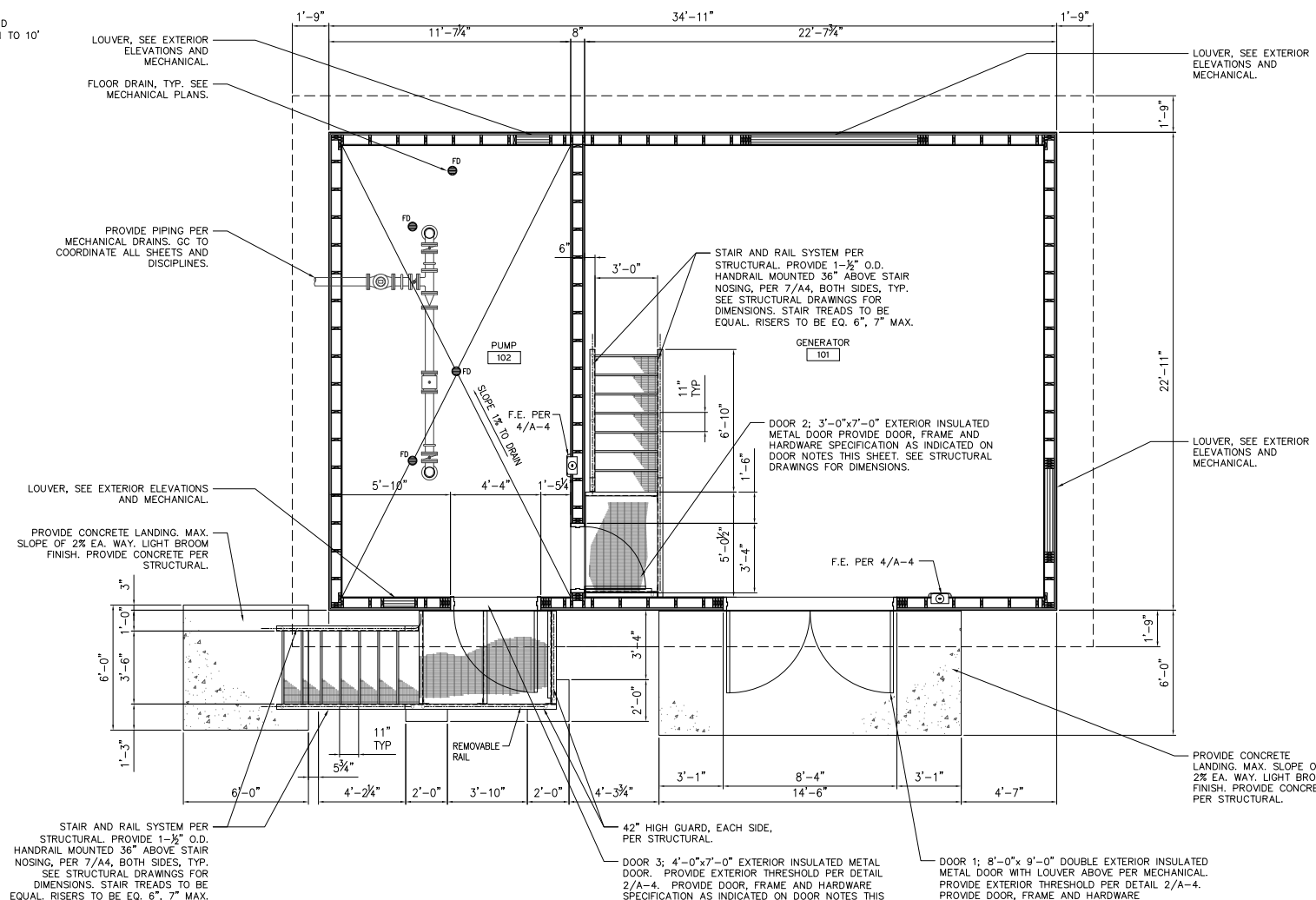
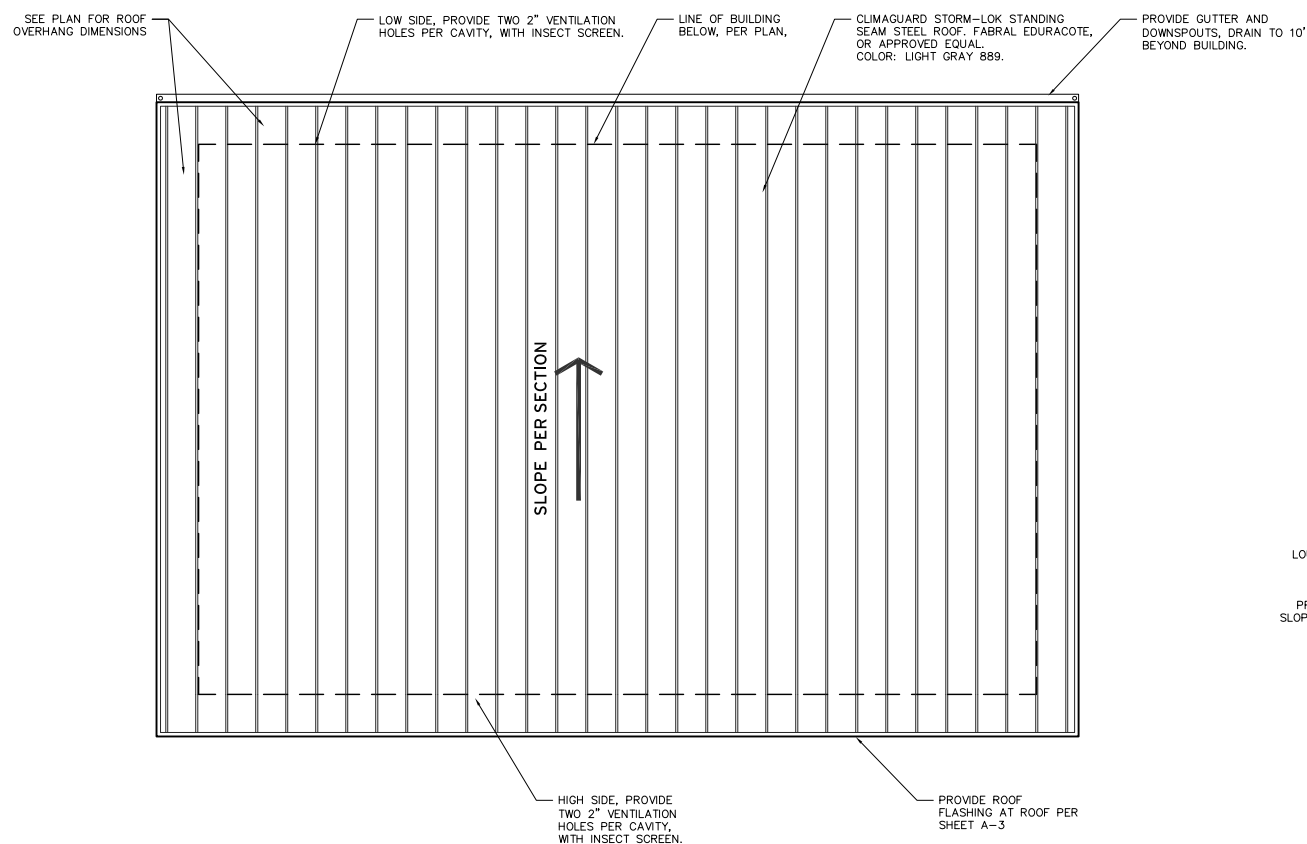
DOOR KEYED LOCKSET TO MATCH EXISTING HIDDEN LAKE PUMP STATION, FIELD VERIFY.

DOOR HARDWARE:

DOOR 1:	CONTINUOUS HINGE CFM SLF-HD	US26D	PE
2	FLUSH BOLT 555	US26D	RO
1	DUST PROOF STRIKE 570	US26D	SA
1	CYLINDRICAL LOCK (CLASSROOM) 28 10G37 LL LC	US26D	SA
1	SURFACE OVERHEAD HOLDER 9-X26	630	RF
2	PROTECTION PLATE K1050 10" X 2" LDW 4BE CSK	US32D	RO
1	THRESHOLD 271A FHS14	PE	PE
1	GASKETING 45041CNB X TKSP8	PE	PE
2	SWEEP 18062CNB X TKSP8	PE	PE
DOORS 2 & 3:			
3	HINGES T4A3386 4 1/2 x 4 1/2 NRP	32D	MC
1	CLOSER 351 CPS	EN	SA
1	KICKPLATE KP50 10" x 2" LDW	US32D	MC
1	WEATHERSTRIP MCK2891 AS @ HEAD	MC	MC
2	WEATHERSTRIP MCK290 AS @ JAMBS	MC	MC
1	DOOR BOTTOM MCK315 CN	MC	MC
1	THRESHOLD MCK271 A	MC	MC

MANUFACTURER'S ABBREVIATION:

MC MCKINNEY
SA SARGENT
PE PEMKO
RO ROCKWOOD
RF RIXSON



A1 ROOF PLAN
AS NOTED

A4 FLOOR PLAN
AS NOTED

hoffman architects LLC
1308 south 1700 east #202
salt lake city, utah 84108
o 801.583.3400
f 866.213.9895
h hoffman.com

BOWEN COLLINS
ARCHITECTS



22 AUGUST 2018

NO.	DATE	REV. BY	DESCRIPTION

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGN	OTHERS	DESIGN	REVIEW

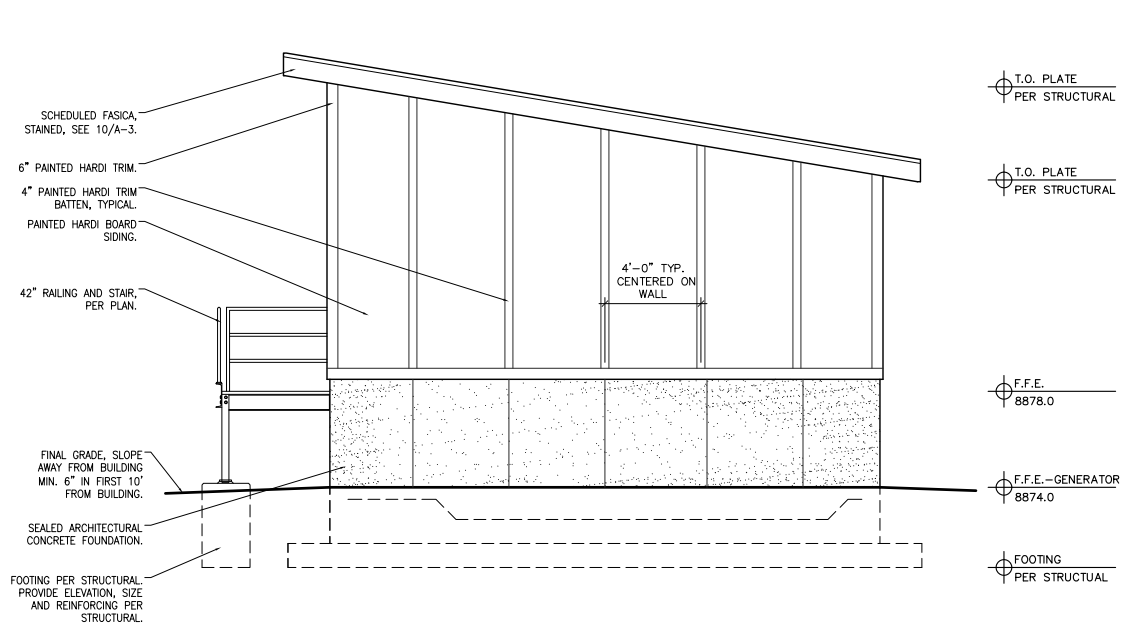
ARCHITECTURAL
PUMP STATION
FLOOR PLAN

DATE: AUGUST 2018
PROJECT NUMBER: 347-17-01
DRAWING NO. **A-1**
SHEET **12** OF **46**

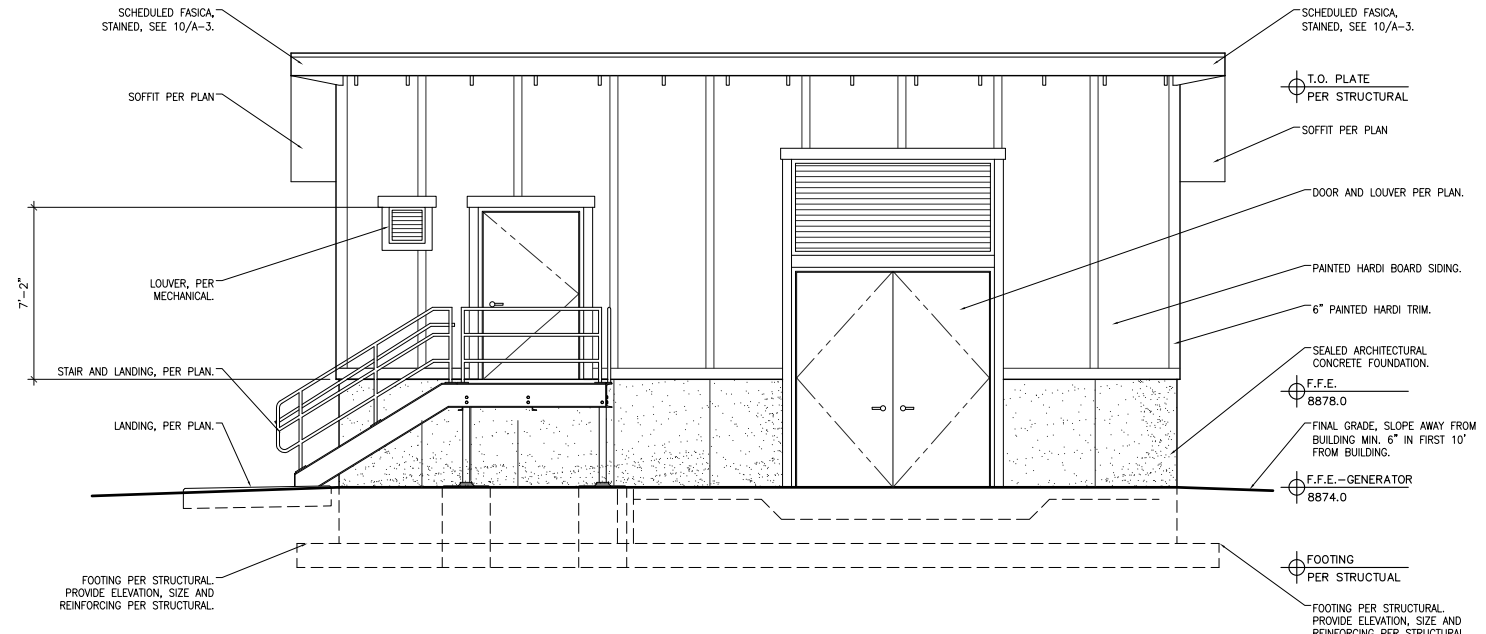
NO.	DATE	REV. BY	DESCRIPTION

SUMMIT MOUNTAIN HOLDING GROUP		BLOOMINGTON WELL PROJECT		WEBER COUNTY, UTAH	
DESIGN	OTHERS	DESIGN	OTHERS	REVIEW	CHECKED

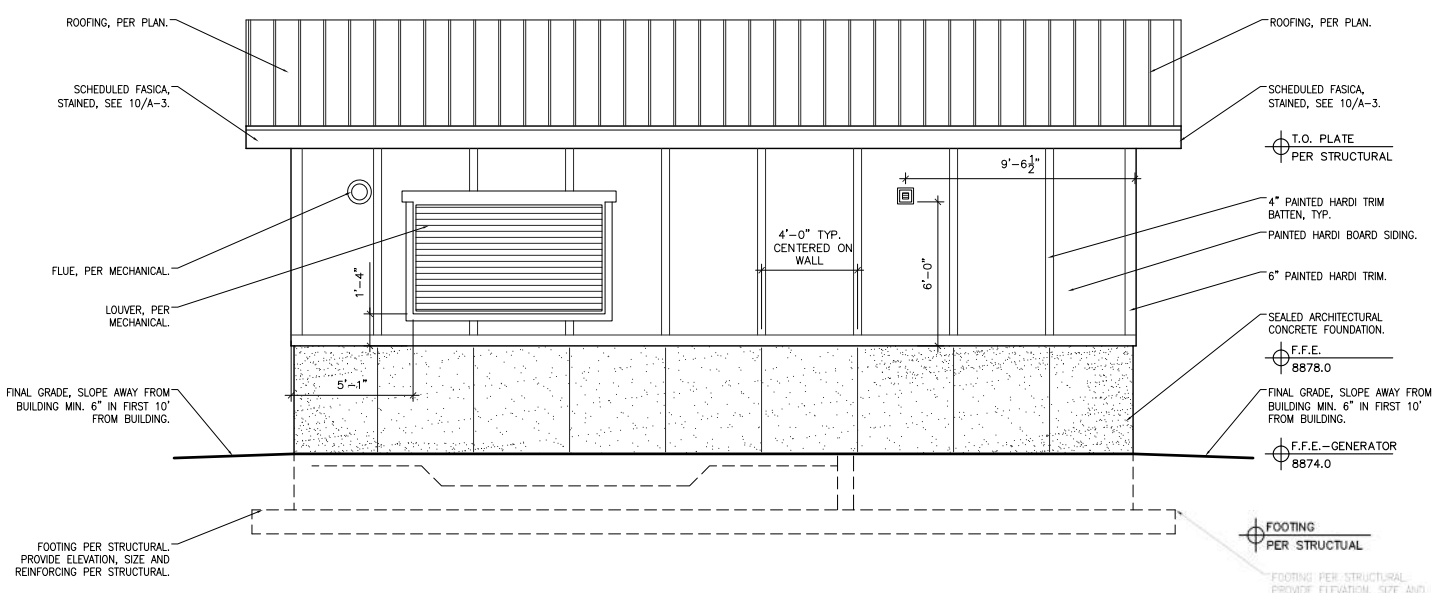
ARCHITECTURAL	PROJECT NUMBER	DATE:
PUMP STATION	347-17-01	AUGUST 2018
EXTERIOR ELEVATIONS		



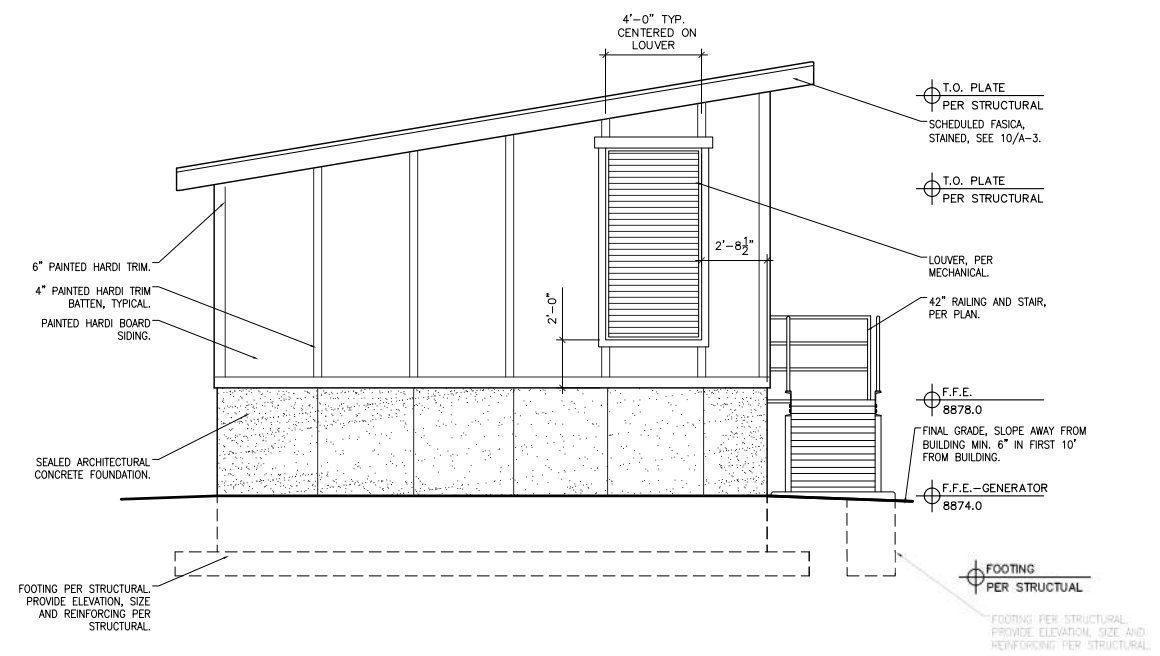
B1 SIDE ELEVATION
AS NOTED



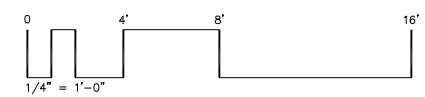
B2 FRONT ELEVATION
AS NOTED

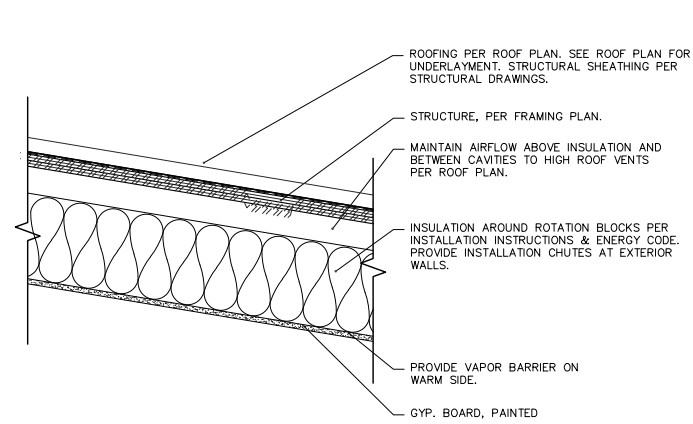


A1 BACK ELEVATION
AS NOTED

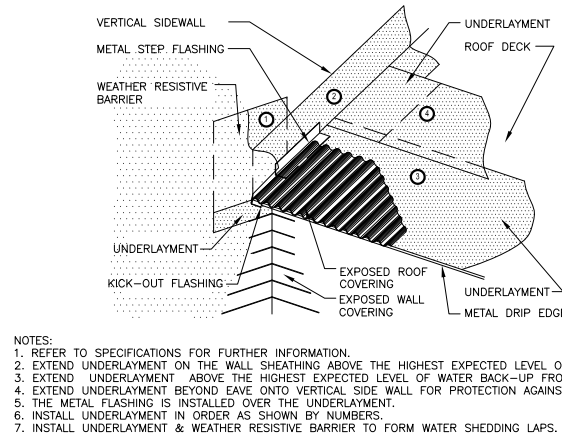


A2 SIDE ELEVATION
AS NOTED

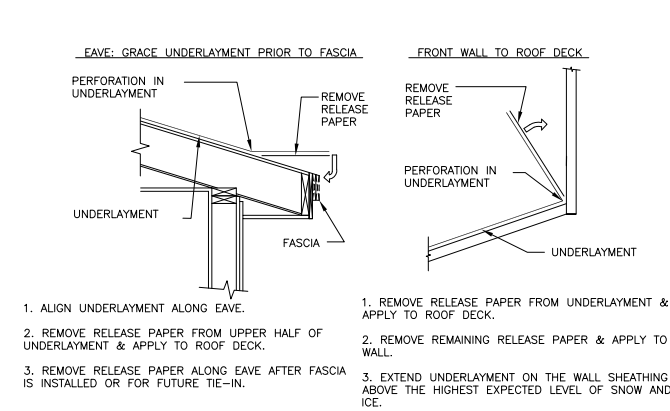




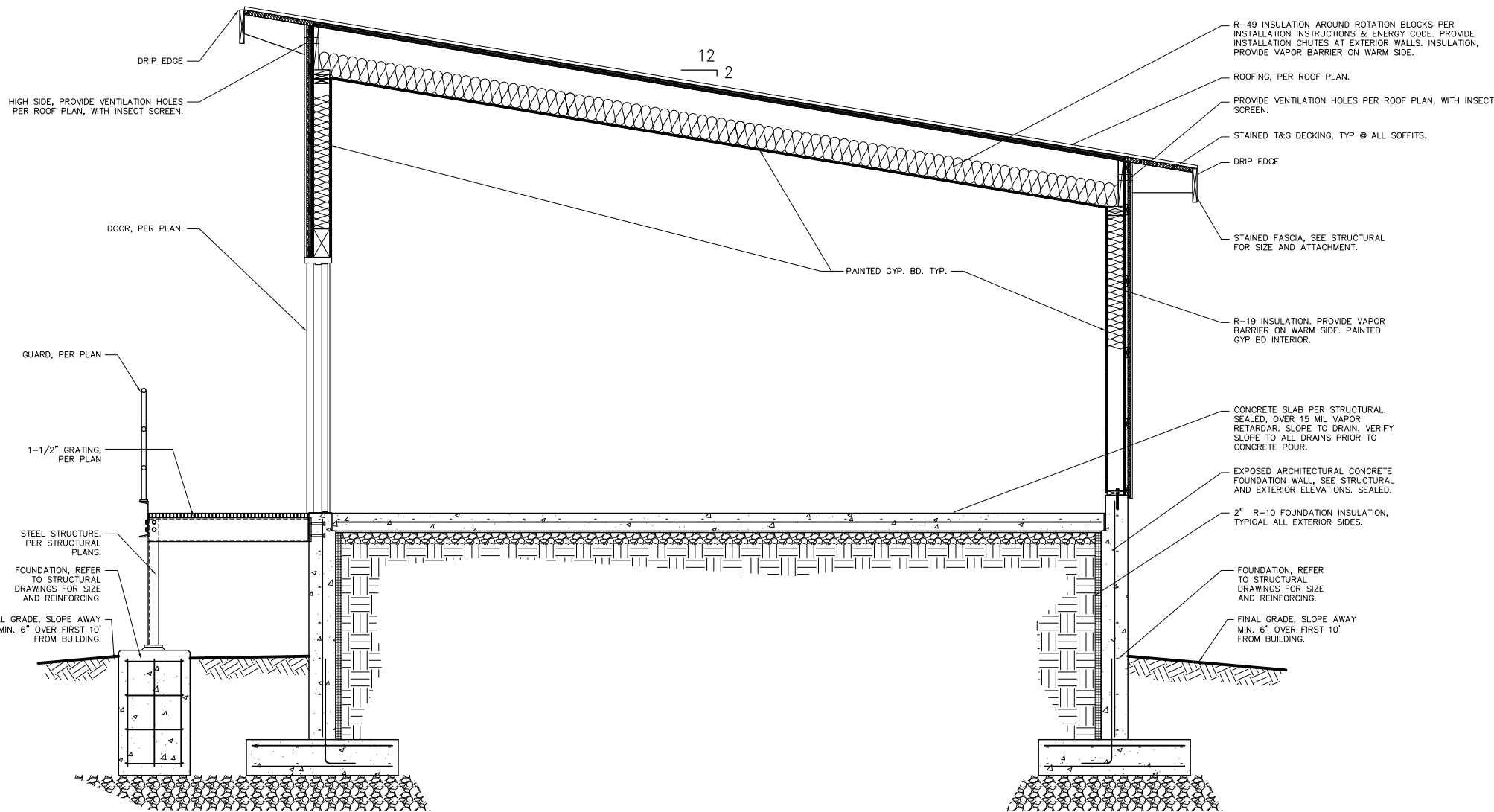
9 ROOFING UNDERLAYMENT
N.T.S.



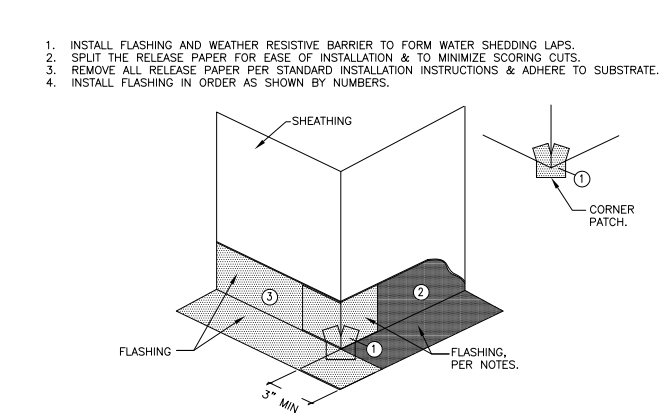
5 ROOFING UNDERLAYMENT
N.T.S.



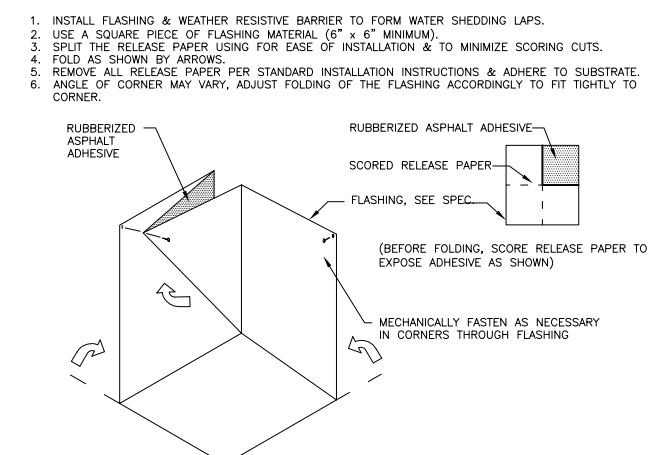
1 ROOFING UNDERLAYMENT RELEASE
N.T.S.



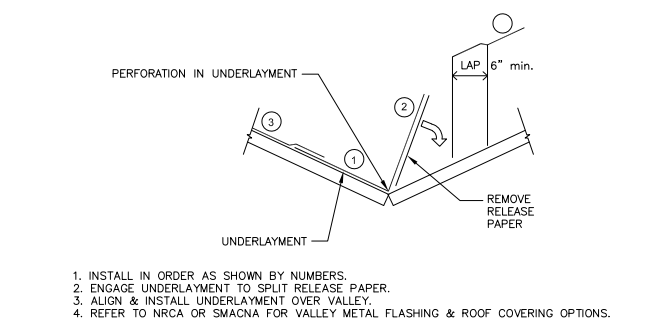
10 TYPICAL BUILDING SECTION
1/2" = 1'-0"



2 SELF ADHERED FLASHING
N.T.S.



3 SELF ADHERED FLASHING - WALL
N.T.S.



4 ROOFING UNDERLAYMENT
N.T.S.

hoffman architects LLC
1308 south 1700 east #202
salt lake city, utah 84108
o 801 583 3400
f 866 213 9895
hhoffman.com

BOWEN COLLINS & ASSOCIATES

STATE OF UTAH
HANS RICHARD HOFFMAN
516428-0357
LICENSED ARCHITECT
22 AUGUST 2018

NO.	DATE	REV. BY	DESCRIPTION

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGN OTHERS
DRAWN STAFF

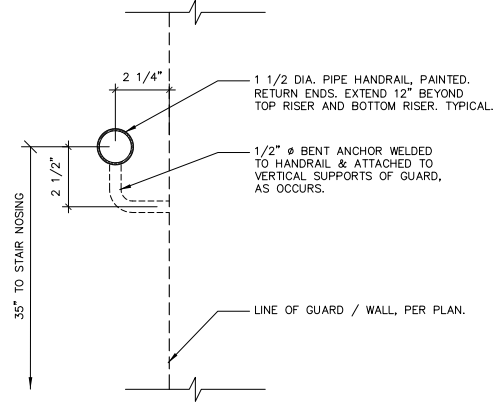
REVIEW CHECKED HRH
APPROVED

ARCHITECTURAL
PUMP STATION & SECTION & DETAILS

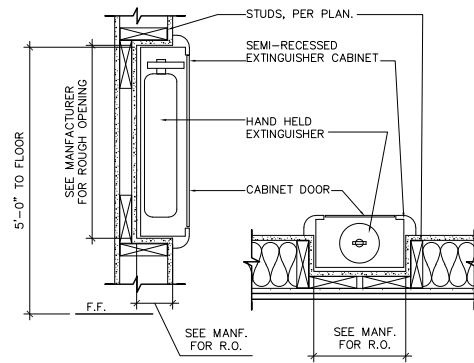
DATE: AUGUST 2018
PROJECT NUMBER 347-17-01

DRAWING NO.
A-3

SHEET 14 OF 46

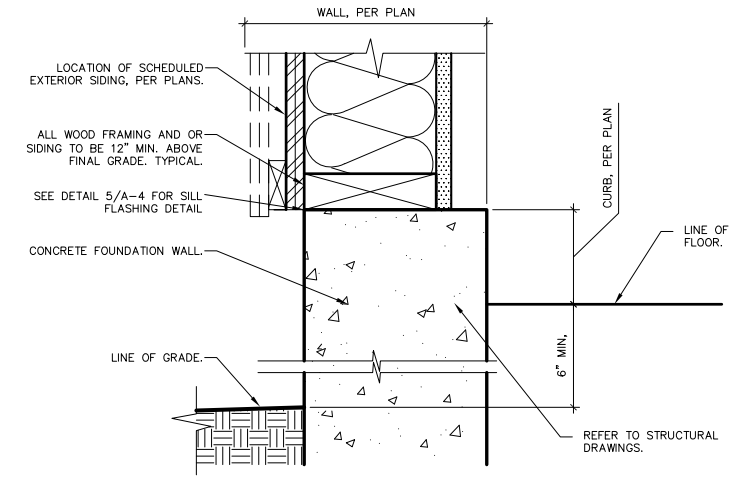


7 HANDRAIL
N.T.S.

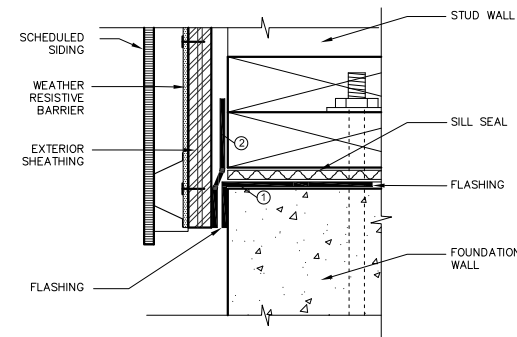


NOTE:
COORDINATE MODEL WITH DEPTH OF STUDS.
FIRE EXTINGUISHER PER NFPA 10.

4 RECESSED FIRE EXTINGUISHER
N.T.S.

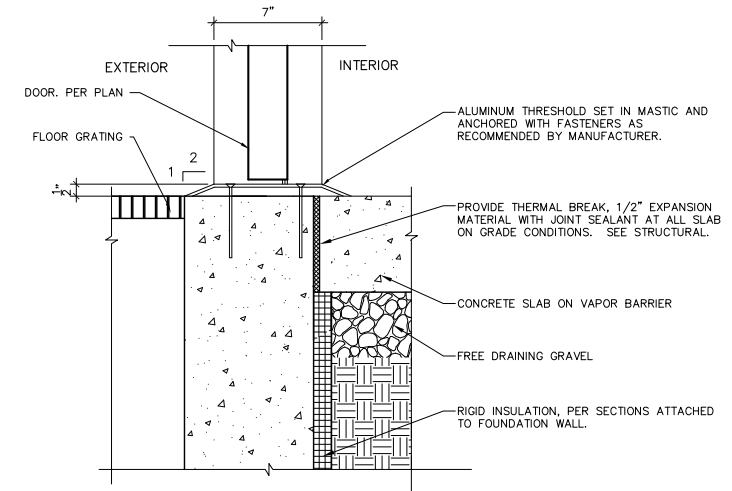


1 TOP OF FOUNDATION
N.T.S.



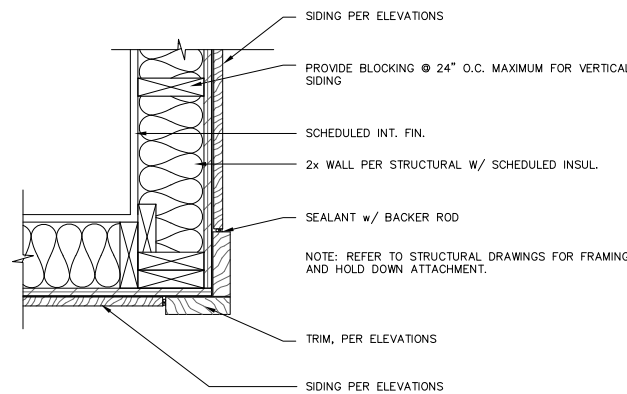
* INSTALL FLASHING IN ORDER AS SHOWN BY NUMBERS
** INSTALL FLASHING AND WEATHER RESISTIVE BARRIER TO FORM WATER SHEDDING LAPS

5 SELF ADHERED FLASHING @ SILL
N.T.S.

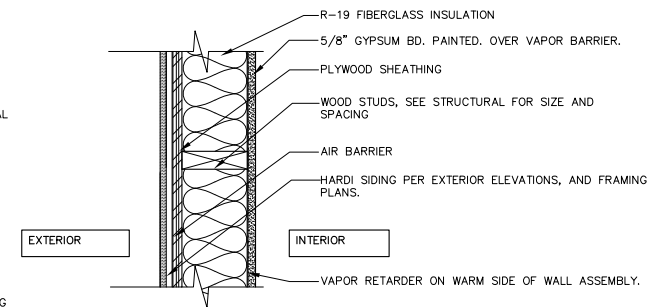


2 THRESHOLD DETAIL
N.T.S.

INTERIOR WALL:
INTERIOR WALL TO BE 2x6 STUD FRAMING PER STRUCTURAL PLAN, 5/8" PAINTED GYP. BD. EACH SIDE.



6 CORNER DETAIL
N.T.S.



BEARING WALL RATING - N.A.

- WOOD STUDS - NOM. 2 X 6 INCH SPACED 16 INCHES O.C. WITH TWO 2 X 6 INCH TOP AND ONE 2 X 6 INCH BOTTOM PLATES. STUDS LATERALLY BRACED AND EFFECTIVELY FIRE STOPPED AT TOP AND BOTTOM OF WALL.
- BATTS AND BLANKETS* - MINERAL FIBER OR GLASS FIBER INSULATION, 5 1/2" THICK. MINERAL FIBER INSULATION TO BE UNFACED AND TO HAVE A MIN DENSITY OF 3 PCF. GLASS FIBER INSULATION TO BE FACED AND HAVE A MINIMUM DENSITY OF 0.9 PCF.
- WALLBOARD, GYPSUM* - 5/8 IN. THICK, 4 FT. WIDE, APPLIED VERTICALLY WITH 6D CEMENT COATED NAILS @ 6 INCHES O.C.
- WOOD STRUCTURAL SHEATHING - 4 FT WIDE WOOD STRUCTURAL PANELS. INSTALLED WITH LONG DIMENSION OF SHEET OR FACE GRAIN OF PLYWOOD PARALLEL WITH OR PERPENDICULAR TO STUDS. VERTICAL JOINTS CENTERED ON STUDS. HORIZONTAL JOINTS BACKED WITH NOM. 2 X 4 INCH WOOD BLOCKING.
- EXTERIOR WALL FAGINGS: INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS INSTALLATION INSTRUCTIONS.

3 TYPICAL WALL
N.T.S.

NO.	DATE	REV. BY	DESCRIPTION

SUMMIT MOUNTAIN HOLDING GROUP		WEBER COUNTY, UTAH	
BLOOMINGTON WELL PROJECT			
DESIGN	OTHERS	REVIEW	CHECKED
DESIGN	OTHERS	HRH	HRH
DESIGN	OTHERS	APPROVED	APPROVED
DESIGN	OTHERS	STAFF	STAFF

ARCHITECTURAL	PROJECT NUMBER	347-17-01
PUMP STATION		
DETAILS		
DATE:	AUGUST 2018	

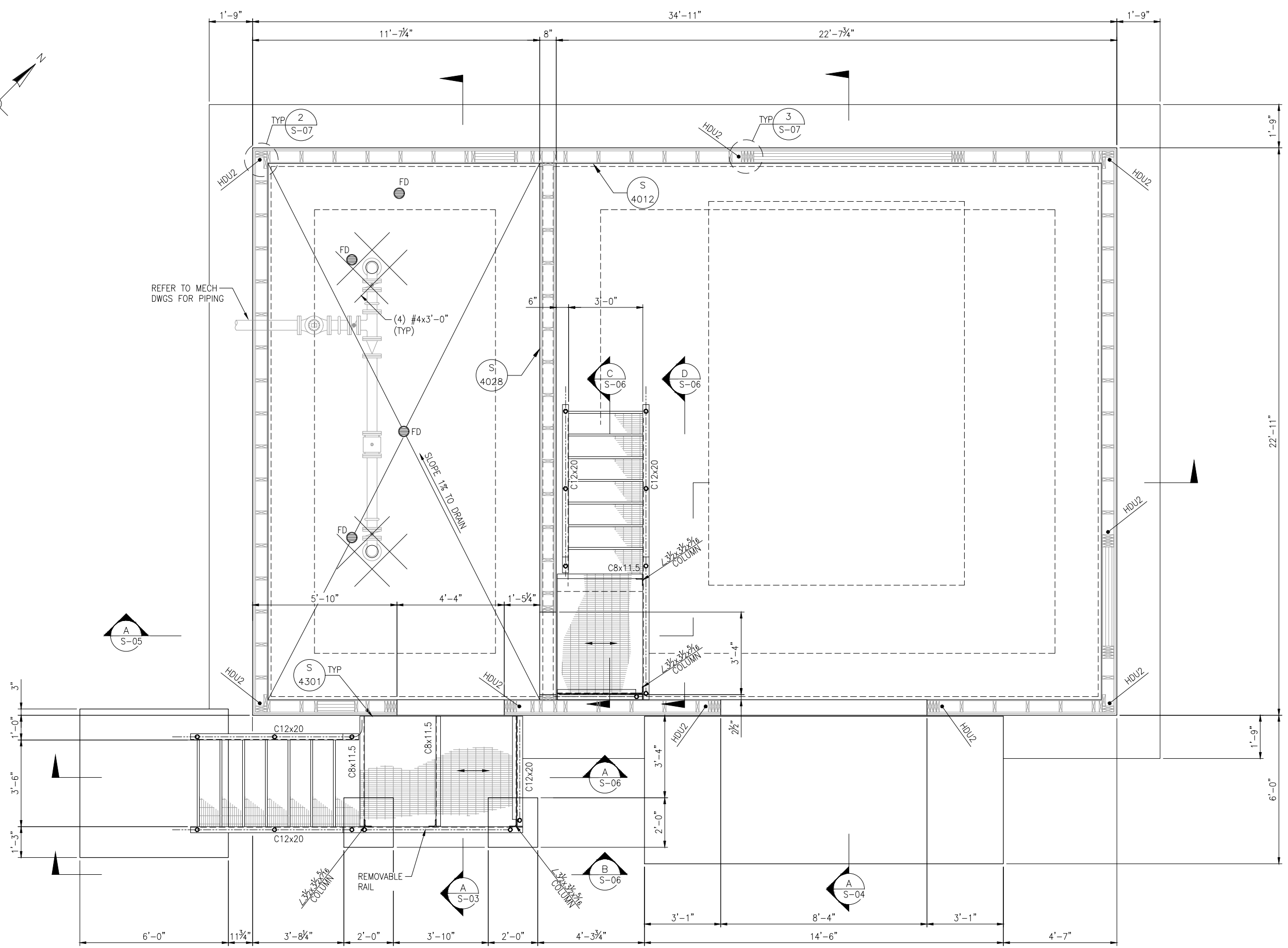
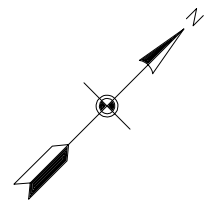
NO.	DATE	REV. BY	DESCRIPTION

SUMMIT MOUNTAIN HOLDING GROUP
BLOOMINGTON WELL PROJECT
 WEBER COUNTY, UTAH

DESIGN: C. PATTEN
 DRAWN: C. PATTEN
 REVIEW: E. NEIL
 CHECKED: C. PATTEN
 APPROVED: C. PATTEN

STRUCTURAL
WELL PUMP STATION FOUNDATION PLAN
 PROJECT NUMBER: 347-17-01
 DATE: AUGUST 2018

DRAWING NO. **S-01**
 SHEET 16 OF 46

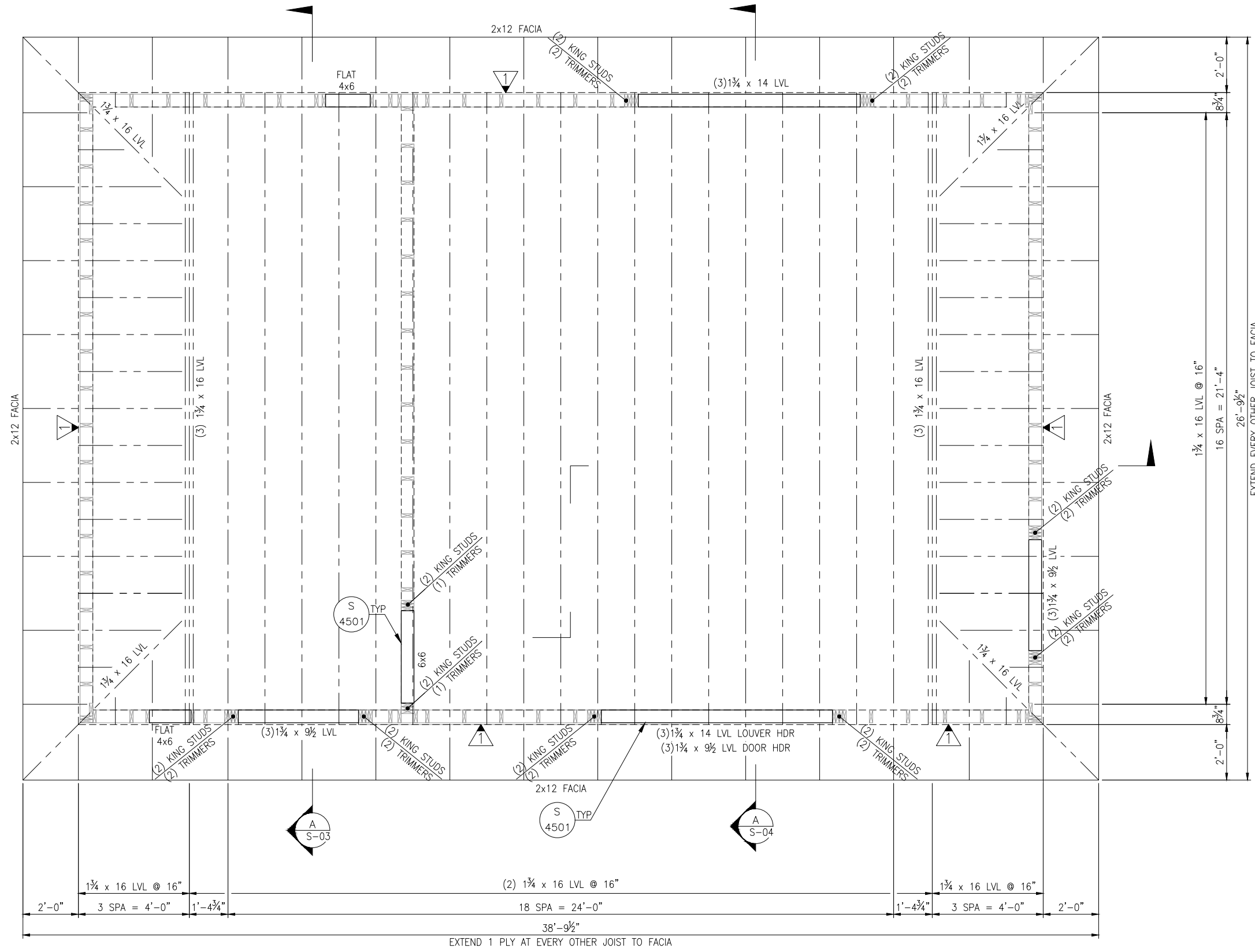
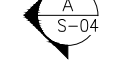
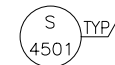
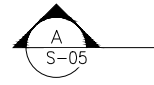
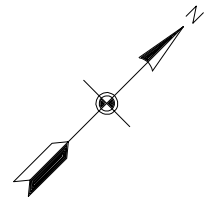


FOUNDATION PLAN
 SCALE: 1/2"=1'-0"

SHEAR WALL SCHEDULE				
WALL	SHEATHING MATERIAL	EDGE NAILING	FIELD NAILING	PLATE ATTACHMENT
1	23/32" STRUCT 1 PANEL BLOCKED ONE SIDE OF WALL	10d SINKER NAILS @ 6"	10d SINKER NAILS @ 12"	1/2" TITEN HD @ 48"

SHEAR WALL NOTES:

- A MINIMUM OF 2 ANCHOR BOLTS SHALL BE USED ON EACH BASE PLATE. PROVIDE ANCHOR BOLT WITHIN 9 INCHES OF EACH END OF EACH PIECE.
- PROVIDE CONTINUOUS TOP PLATE AT ALL SHEAR WALLS. UNLESS NOTED OTHERWISE, LAP SPLICE TOP PLATE A MINIMUM OF 48" WITH (20) 16d NAILS STAGGERED AT 4" OC ON EACH SIDE OF SPLICE JOINT.
- PROVIDE FULL-HEIGHT DOUBLE STUDS MINIMUM AT ENDS OF SHEAR WALL PANELS.
- ANCHOR BOLTS ARE TITEN HD AS MANUFACTURED BY SIMPSON STRONG-TIE, INC.
- CORROSION RESISTANT NAILS ARE REQUIRED WHERE INSTALLED INTO PRESSURE TREATED SILL PLATE. PROVIDE STAINLESS STEEL OR HOT-TUMBLER GALVANIZED NAILS.



PLAN NOTES:

- TYPICAL ROOF SHEATHING AND NAILING SHALL BE AS FOLLOWS:
2 LAYERS 23/32" STRUCTURAL 1 PANELS - STAGGER JOINTS.
10d AT 6" BOUNDARY NAILING (DIAPHRAGM BOUNDARIES, SHEAR PANEL BLOCKING, SOLID BLOCKING, AND DRAG MEMBERS).
10d AT 6" EDGE NAILING (AT PANEL EDGES).
10d AT 12" FIELD NAILING (ALONG INTERMEDIATE FRAMING MEMBERS).
- SOLID SAWN HEADERS SHOWN ON THE FRAMING PLAN MAY BE SUBSTITUTED WITH BUILT-UP HEADERS PER DETAIL S/4501.

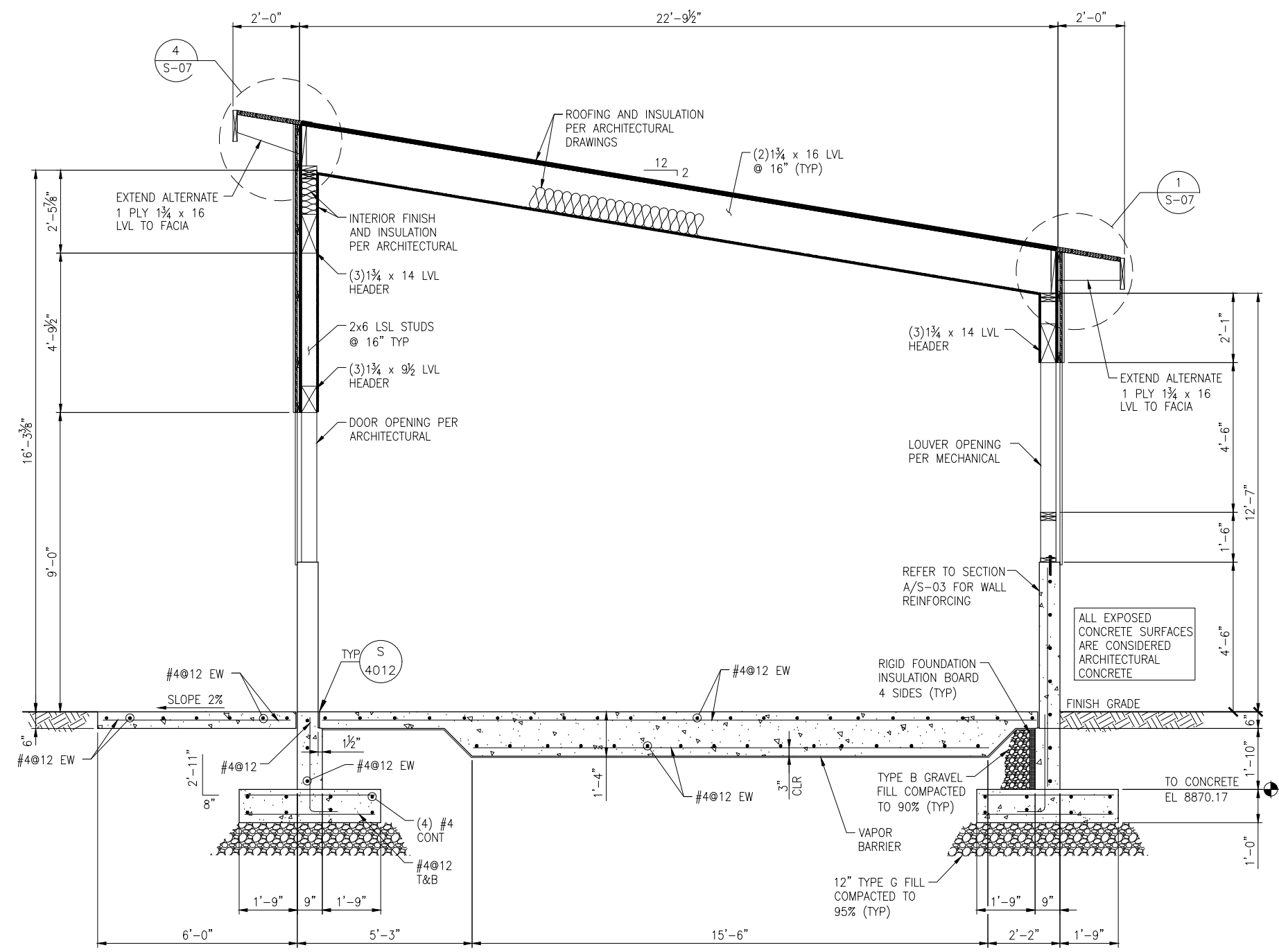
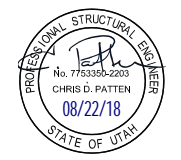
ROOF FRAMING PLAN
SCALE: 1/2"=1'-0"

NO.	DATE	REV. BY	DESCRIPTION

SUMMIT MOUNTAIN HOLDING GROUP		BLOOMINGTON WELL PROJECT	
WEBER COUNTY, UTAH		VERIFY SCALE	
DESIGN	C. PATTEN	CHECKED	E. NEIL
APPROVED	C. PATTEN	APPROVED	C. PATTEN

STRUCTURAL	WELL PUMP STATION	DATE:	AUGUST 2018
	ROOF FRAMING PLAN	PROJECT NUMBER	347-17-01

DRAWING NO.	S-02
SHEET	17 OF 46



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

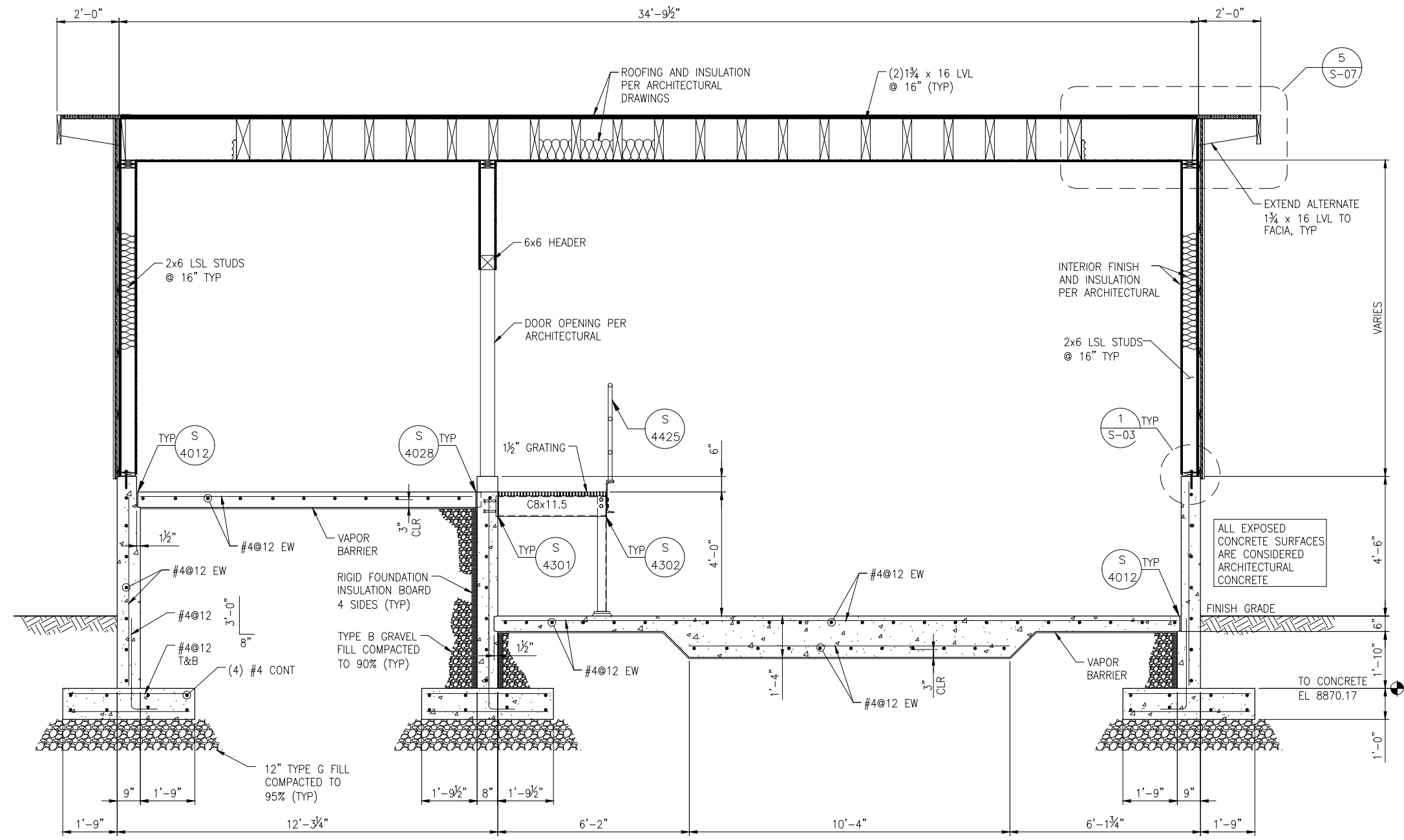
A
 S-01
 S-02

NO.	DATE	REV. BY	DESCRIPTION

SUMMIT MOUNTAIN HOLDING GROUP		WEBER COUNTY, UTAH	
BLOOMINGTON WELL PROJECT			
DESIGN	C. PATTEN	CHECKED	E. NEIL
DESIGN	C. PATTEN	APPROVED	C. PATTEN
VERIFY SCALE	BAR IS ONE INCH ON ORIGINAL DRAWING		

STRUCTURAL	PROJECT NUMBER	347-17-01
WELL PUMP STATION SECTION		
DATE:	AUGUST 2018	

DRAWING NO.	S-04
SHEET	19 OF 46



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

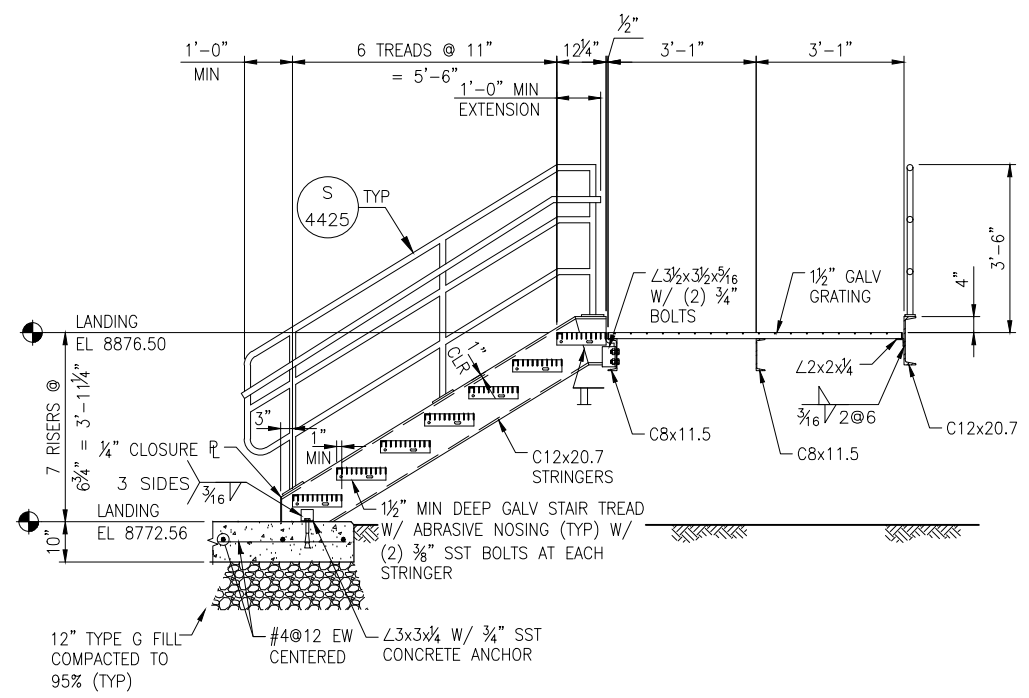
A
 S-01
 S-02

NO.	DATE	REV. BY	DESCRIPTION

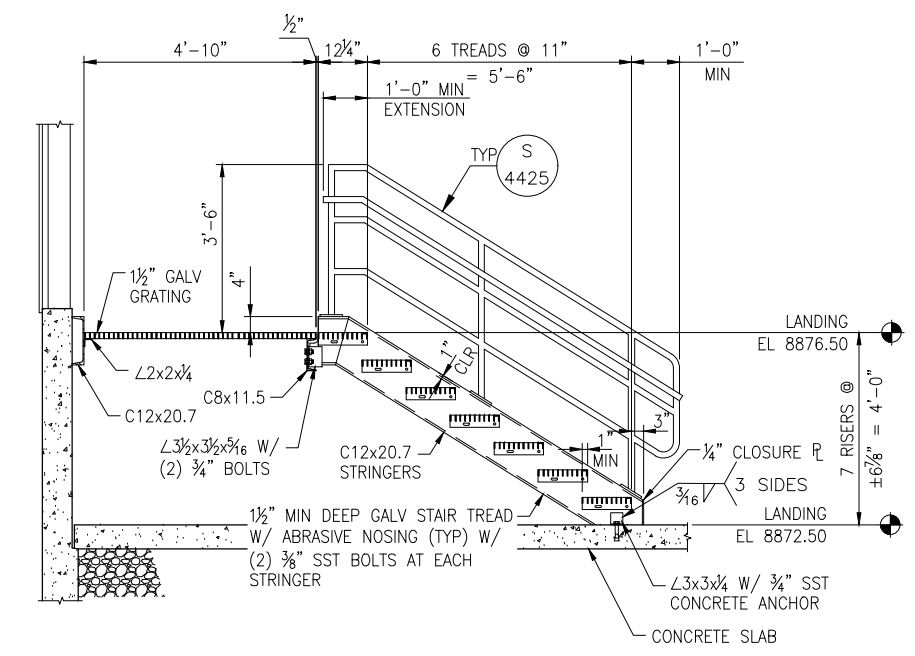
SUMMIT MOUNTAIN HOLDING GROUP		VERIFY SCALE	
BLOOMINGTON WELL PROJECT		BAR IS ONE INCH ON ORIGINAL DRAWING	
WEBER COUNTY, UTAH		REVIEW	E. NEIL
DESIGN	C. PATTEN	CHECKED	C. PATTEN
DESIGN	C. PATTEN	APPROVED	C. PATTEN

STRUCTURAL	PROJECT NUMBER
WELL PUMP STATION SECTION	347-17-01
DATE:	AUGUST 2018

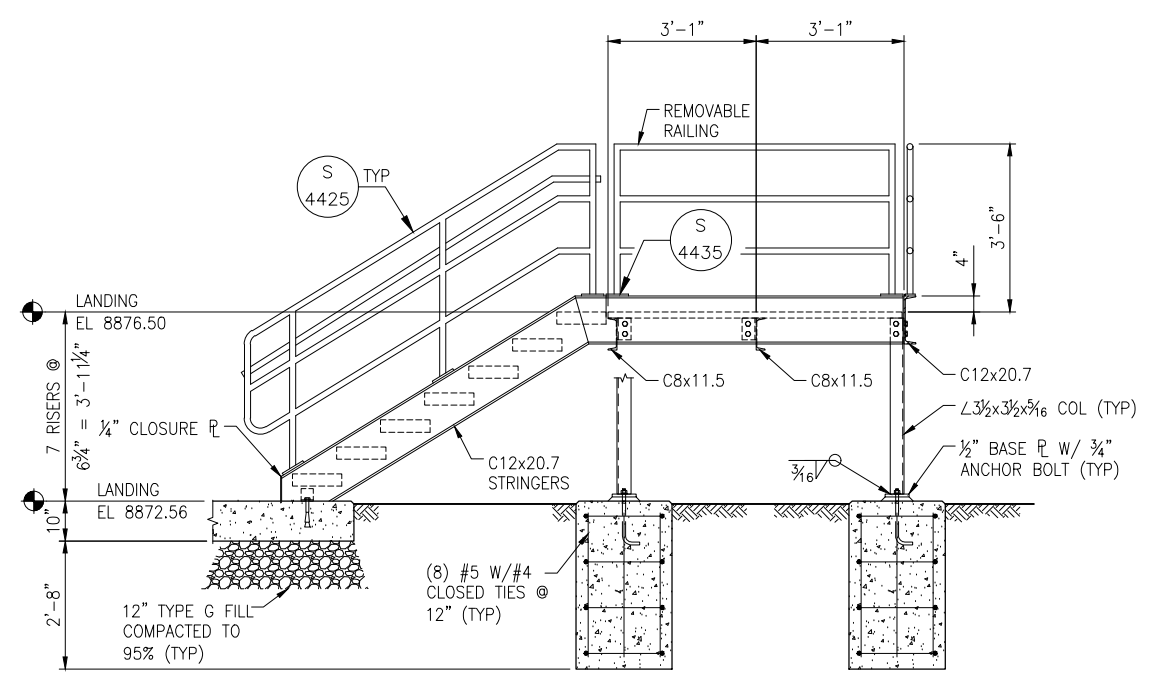
DRAWING NO.	S-05
SHEET	20 OF 46



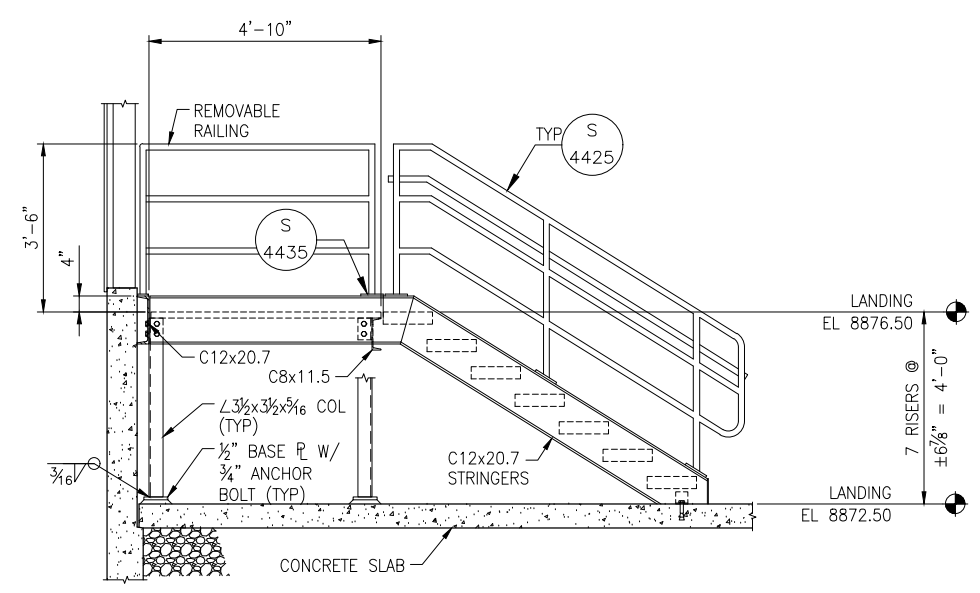
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 SCALE: 1/2"=1'-0"



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



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



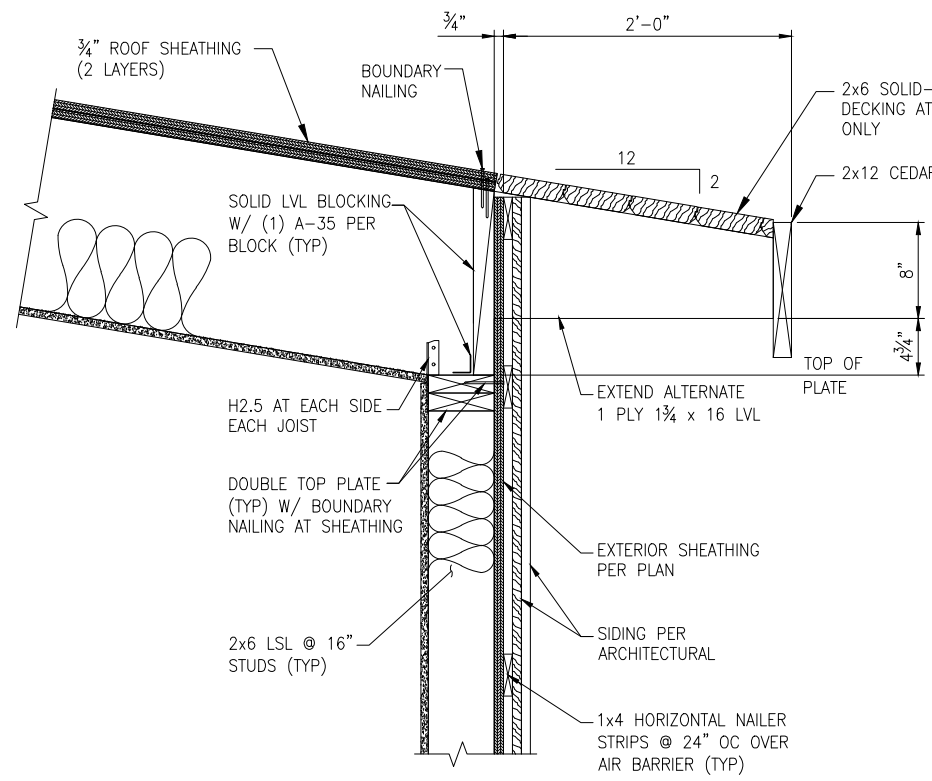
SECTION D
 SCALE: 1/2"=1'-0"

NO.	DATE	REV. BY	DESCRIPTION

DESIGN	C. PATTEN	REVIEW	E. NEIL
DRAWN	C. PATTEN	CHECKED	C. PATTEN
APPROVED	C. PATTEN	APPROVED	C. PATTEN

STRUCTURAL	PROJECT NUMBER	347-17-01
WELL PUMP STATION	DATE	AUGUST 2018
SECTIONS AND DETAILS 1		

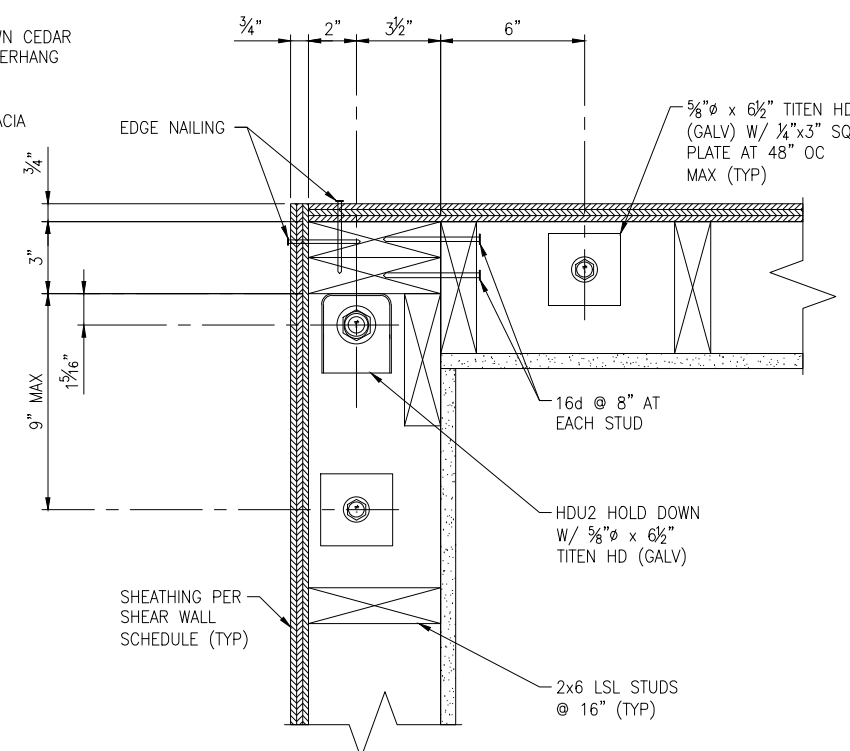
DRAWING NO.	S-06
SHEET	21 OF 46



DETAIL

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

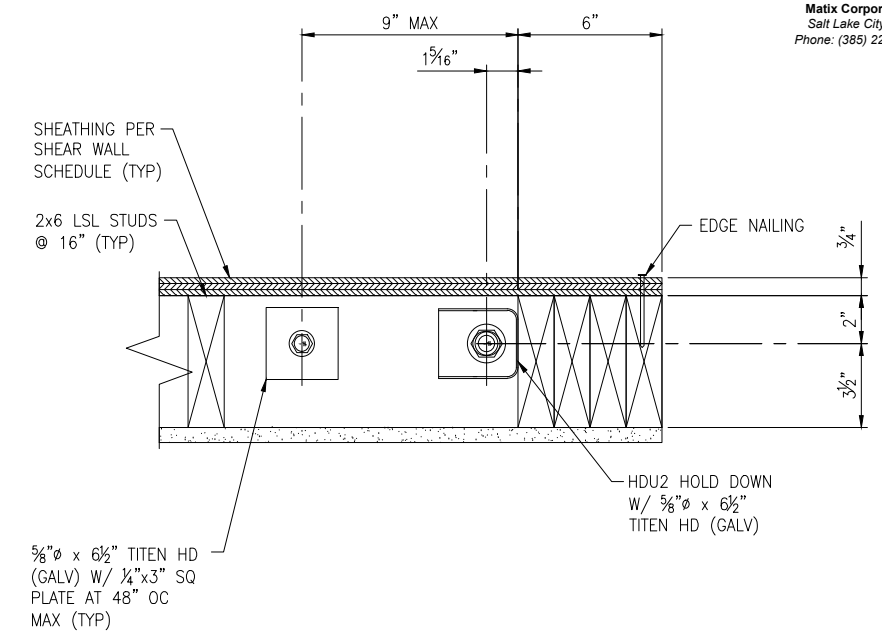
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 S-03
 S-04



DETAIL

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

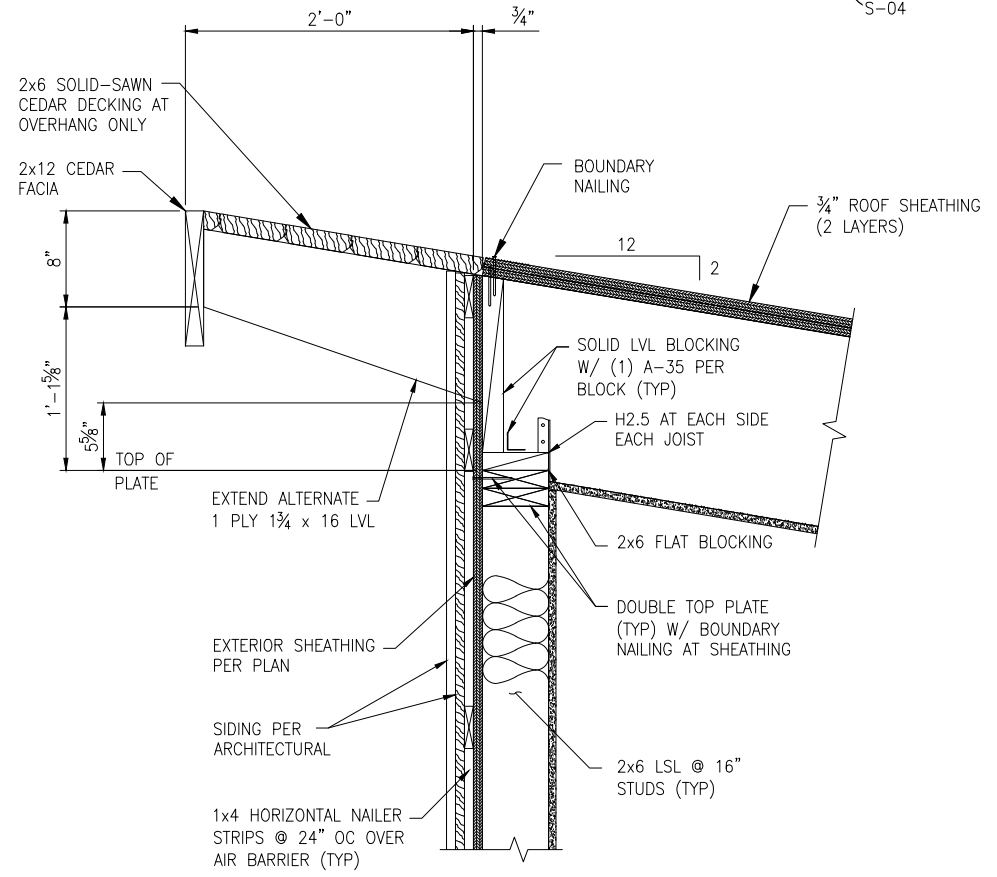
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 S-01



DETAIL

SCALE: 3"=1'-0"

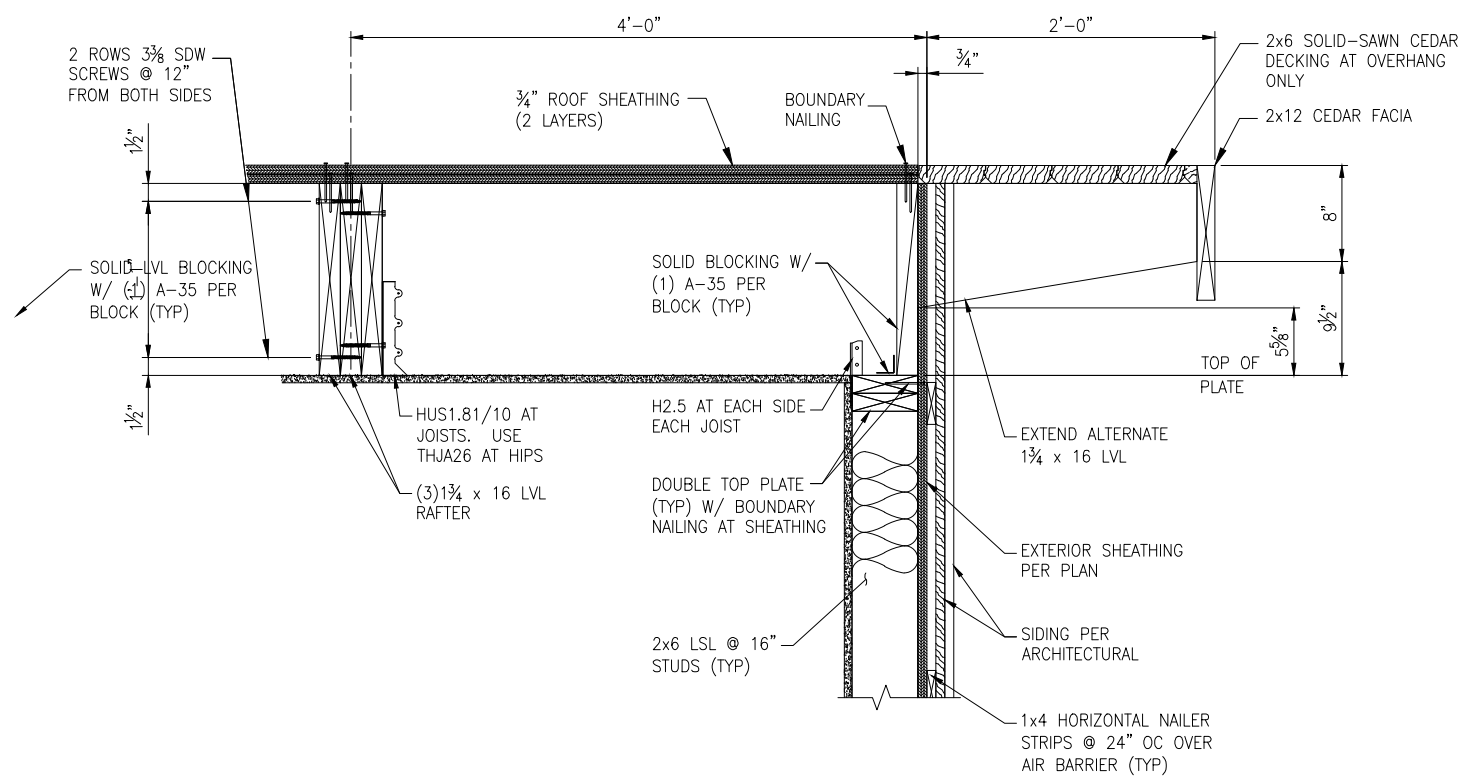
3
 S-01



DETAIL

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

4
 S-03
 S-04



DETAIL

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

5
 S-05

NO.	DATE	REV. BY	DESCRIPTION

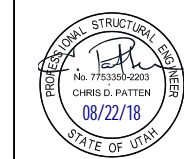
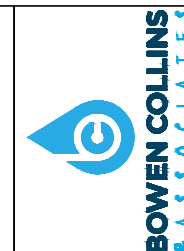
VERIFY SCALE
 BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGN: C. PATTEN
 DRAWN: C. PATTEN
 CHECKED: E. NEIL
 REVIEW: C. PATTEN
 APPROVED: C. PATTEN

STRUCTURAL
WELL PUMP STATION SECTIONS AND DETAILS 2
 PROJECT NUMBER: 347-17-01
 DATE: AUGUST 2018

DRAWING NO. S-07
 SHEET 22 OF 46

GENERAL STRUCTURAL NOTES



GENERAL

- THE SPECIFICATIONS AND REQUIREMENTS INDICATED ON THIS SHEET ARE INTENDED AS A BASIC SUMMARY OF THE MATERIAL CONSTRUCTION AND INSPECTION REQUIREMENTS FOR THIS PROJECT, AS INCLUDED IN THE PROJECT SPECIFICATIONS. ADDITIONAL AND MORE STRINGENT REQUIREMENTS ARE GIVEN IN THOSE SPECIFICATIONS. IN THE EVENT OF A CONFLICT BETWEEN THESE GENERAL NOTES AND THE REQUIREMENTS GIVEN IN THE PROJECT SPECIFICATIONS, THE PROJECT SPECIFICATIONS GOVERN.
- FOR LOCATION AND DIMENSIONS OF SLEEVES, CURBS, OPENINGS, AND DEPRESSIONS NOT SHOWN ON THE STRUCTURAL DRAWINGS, SEE ARCHITECTURAL, CIVIL, MECHANICAL, AND ELECTRICAL DRAWINGS. THE CONTRACTOR SHALL VERIFY AND COORDINATE PENETRATIONS SHOWN ON THE OTHER PROJECT DRAWINGS, WHETHER THEY ARE SHOWN ON THE STRUCTURAL DRAWINGS OR NOT.
- EMBEDDED ITEMS, SUCH AS PIPE SLEEVES, CONDUITS, AND INSERTS SHALL ALL BE RIGIDLY INSTALLED IN PLACE BEFORE CONCRETE IS POURED. SEE ARCHITECTURAL, CIVIL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR ITEMS REQUIRING SLEEVES AND EMBEDMENTS IN CONCRETE, WHICH ARE NOT SHOWN ON THE STRUCTURAL DRAWINGS.
- NO STRUCTURAL MEMBER SHALL BE CUT FOR PIPES, DUCTS, ETC. UNLESS SPECIFICALLY DETAILED OR APPROVED IN WRITING BY THE ENGINEER.
- DESIGN DETAILS AS SHOWN ON THE DRAWINGS ARE INTENDED TO BE TYPICAL AND APPLY TO ALL SIMILAR SITUATIONS OCCURRING ON THE PROJECT, WHETHER OR NOT THEY ARE SPECIFICALLY REFERENCED IN EACH LOCATION. CONSULT THE ENGINEER FOR CONCURRENCE PRIOR TO CONSTRUCTION.
- SUBMIT DRAWINGS AND RECEIVE REVIEW OF ALL STRUCTURAL RELATED SHOP DRAWINGS PRIOR TO ERECTION OR CONSTRUCTION.
- APPLICABLE BUILDING CODE FOR THE PROJECT IS THE 2015 EDITION OF THE INTERNATIONAL BUILDING CODE (IBC) AND AMERICAN CONCRETE INSTITUTE (ACI) 350-06, "CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES."

FOUNDATIONS

- PROVIDE AND PLACE 2'-0" MINIMUM COMPACTED THICKNESS OF STRUCTURAL FILL BENEATH ALL SLABS/FOOTINGS. COMPACTED GRANULAR STRUCTURAL FILL TO EXTEND FROM BOTTOM OF SLAB/FOOTING DOWN TO UNDISTURBED EARTH AND TO EXTEND MINIMUM 2'-0" HORIZONTALLY BEYOND THE EDGE OF ALL FOOTINGS OR SLABS. WHEN A MOISTURE BARRIER IS CALLED FOR UNDER A FLOOR SLAB, PLACE THE BARRIER IMMEDIATELY ON TOP OF 2'-0" OF STRUCTURAL FILL. PLACE 2" OF SAND IMMEDIATELY OVER THE MOISTURE BARRIER AND PLACE CONCRETE ON THE SAND.
- FOUNDATIONS ARE DESIGNED FOR NET ALLOWABLE BEARING PRESSURE OF 4200 PSF.
- DO NOT PLACE BACKFILL AGAINST CANTILEVERED WALLS UNTIL THE CONCRETE IN THOSE WALLS HAS ATTAINED 100% OF ITS SPECIFIED COMPRESSIVE STRENGTH.
- PLACE NO BACKFILL AGAINST WALLS THAT ARE TIED TO ELEVATED SLABS OR DECKS UNTIL THE SLABS HAVE ATTAINED 100% OF THEIR SPECIFIED COMPRESSIVE STRENGTH AND ALL SLABS OR DECKING IS IN PLACE AND WELDED OR SCREWED AS SPECIFIED.
- DESIGN AND INSTALL ALL REQUIRED SHORING TO PREVENT SUBSIDENCE OR DAMAGE TO ADJACENT EXISTING STRUCTURES, STREETS, UTILITIES, ETC.
- OBTAIN APPROVAL OF FOUNDATION BEARING SURFACES BY ENGINEER/SPECIAL INSPECTOR PRIOR TO PLACING STRUCTURAL FILL.

FORMWORK, SHORING, AND BRACING

- CONFORM TO ACI 347 "RECOMMENDED PRACTICE FOR CONCRETE FORMWORK" FOR DESIGN AND CONSTRUCTION OF CONCRETE FORMWORK AND BRACING. CONTRACTOR IS RESPONSIBLE FOR DESIGN AND CONSTRUCTION OF FORMWORK AND BRACING.
- STRUCTURES AS SHOWN ON THESE DRAWINGS INDICATE THE FINAL CONDITION ONLY AND DO NOT INCLUDE THE NECESSARY COMPONENTS OR EQUIPMENT FOR STRUCTURAL STABILITY DURING CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR WORK RELATED TO CONSTRUCTION ERECTION METHODS, BRACING, SHORING, RIGGING, GUYS, SCAFFOLDING, FORMWORK, AND OTHER WORK AIDS REQUIRED TO SAFELY PERFORM THE WORK SHOWN.
- TEMPORARY SHORING TO REMAIN IN PLACE UNTIL ELEVATED CONCRETE SLABS HAVE REACHED 28-DAY DESIGN STRENGTH AS DETERMINED BY CYLINDER BREAKS.

CONCRETE

- ALL CONCRETE CONSTRUCTION TO CONFORM TO ACI 350 "CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES," INCLUDING BAR BENDS AND HOOKS UNLESS SPECIFICALLY DETAILED OTHERWISE ON THESE DRAWINGS.
- CAST-IN-PLACE STRUCTURAL CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,500 PSI.
- NON-STRUCTURAL ELEMENTS, SUCH AS ENCASEMENTS, CURBS, SIDEWALKS AND LEAN CONCRETE TO HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI.
- USE CEMENT CONFORMING TO ASTM C150, TYPE II, LOW ALKALI.
- ALL CONSTRUCTION JOINTS, EXPANSION JOINTS, AND OTHER TYPES OF JOINTS, OTHER THAN THOSE SPECIFICALLY SHOWN ON THE DRAWINGS TO BE APPROVED BY THE ENGINEER PRIOR TO PLACING CONCRETE.
- INSTALL CONTINUOUS WATERSTOPS IN ALL EXPANSION, CONTRACTION, CONTROL, AND CONSTRUCTION JOINTS OF WATER-HOLDING BASINS, CHANNELS, AND BELOW-GRADE STRUCTURES UNLESS SPECIFICALLY NOTED OTHERWISE.
- PROVIDE 3/4-INCH CHAMFER AT ALL EXPOSED EDGES AND CORNERS UNLESS NOTED OTHERWISE.
- BEFORE PLACING THE SECOND POUR AT CONSTRUCTION JOINTS, THOROUGHLY CLEAN AND ROUGHEN ALL JOINT SURFACES TO A MINIMUM AMPLITUDE OF 1/4 INCH.

REINFORCEMENT STEEL

- PROVIDE REINFORCEMENT STEEL CONFORMING TO ASTM A615, GRADE 60 EXCEPT WHERE WELDING IS PERMITTED BY THE ENGINEER. PROVIDE STEEL CONFORMING TO ASTM A706 WHEN WELDING IS PERMITTED.
- PROVIDE WELDED WIRE FABRIC CONFORMING TO ASTM A185.
- DIMENSIONS GIVEN FOR REINFORCING BARS ARE TO BAR CENTERS UNLESS NOTED OTHERWISE. BAR COVER IS THE CLEAR DISTANCE BETWEEN BAR AND CONCRETE SURFACE. CLEARANCE FOR REINFORCEMENT BARS PER THE FOLLOWING UNLESS SHOWN OTHERWISE:

WHEN PLACED AGAINST GROUND	3"
INTERIOR SURFACES OF WATER-BEARING STRUCTURES	2"
ELEVATED SLABS	1"
ALL OTHER CONCRETE SURFACES	2"
- CONTINUE WALL CORNER AND WALL INTERSECTION REINFORCEMENT BARS AROUND CORNERS AND THROUGH COLUMNS OR PILASTERS. EXTEND REINFORCEMENT INTO CONNECTING WALLS AND LAP ON THE OPPOSITE FACE OF THE CONNECTING WALLS.
- UNLESS OTHERWISE NOTED, ALL HOOKS SHOWN ARE 90° STANDARD HOOK AS DEFINED IN ACI 350-06.
- LAP VERTICAL WALL BARS WITH DOWELS FROM BELOW AND EXTEND THROUGH SLABS ABOVE TO TOP FACE. BEND AND/OR LAP TO TOP SLAB REINFORCEMENT AS INDICATED.
- UNLESS OTHERWISE INDICATED, CONTRACTOR MAY SPLICE CONTINUOUS SLAB OR LONGITUDINAL BEAM BARS AT LOCATIONS OF HIS CHOOSING, EXCEPT THAT TOP BAR SPLICES ARE TO BE LOCATED AT MIDSPAN AND BOTTOM BAR SPLICES ARE TO BE LOCATED AT SUPPORTS. MINIMUM LAP REQUIREMENTS ARE AS FOLLOWS UNLESS OTHERWISE INDICATED.

LAP LENGTHS - GRADE 60								
BAR SIZE	#4	#5	#6	#7	#8	#9	#10	#11
CONCRETE DESIGN STRENGTH = 4500 PSI								
LAP LENGTH	1'-8"	2'-0"	2'-4"	3'-4"	4'-0"	4'-9"	6'-0"	7'-0"
CONCRETE DESIGN STRENGTH = 4000 PSI								
LAP LENGTH	1'-8"	2'-2"	2'-8"	3'-6"	4'-0"	5'-0"	6'-2"	7'-5"

STRUCTURAL STEEL

- UNLESS NOTED OTHERWISE, PROVIDE STRUCTURAL STEEL CONFORMING TO ASTM A36. ROLLED WIDE FLANGE SHAPES TO CONFORM TO ASTM A992. PIPE TO CONFORM TO ASTM A53, TYPE E OR S, GRADE B. STRUCTURAL TUBING TO CONFORM TO ASTM A500, GRADE B. FABRICATE AND ERECT ALL STRUCTURAL STEEL IN CONFORMANCE WITH AISC SPECIFICATIONS.
- PROVIDE ANCHOR BOLTS CONFORMING TO ASTM F1554, GRADE 36.
- USE ONLY CERTIFIED WELDERS FOR ALL WELDING WORK. USE FILLER METAL HAVING A MINIMUM TENSILE STRENGTH OF 70 KSI AND PERFORM ALL WORK IN ACCORDANCE WITH THE CURRENT STRUCTURAL WELDING CODE (AWS D1.1).
- UNLESS OTHERWISE NOTED, COAT ALL STRUCTURAL STEEL COMPONENTS WITH PAINT OF OTHER PROTECTIVE COATINGS AS SPECIFIED IN THE PROJECT SPECIFICATIONS.
- MINIMUM THICKNESS FOR GUSSET PLATES IS 3/8 INCH.
- STRUCTURAL STEEL, WHICH IS TO BE EMBEDDED INTO CONCRETE TO BE CLEAN AND FREE OF PAINT, OIL, OR DIRT.
- PERFORM ALL WELDED OR BOLTED CONNECTIONS IN ACCORDANCE WITH THE DETAILS, SPECIFICATIONS, AND THE THIRTEENTH EDITION OF THE AISC HANDBOOK OF FRAMED BEAM CONNECTIONS. USE ASTM 3/4-INCH A325N BOLTS UNLESS OTHERWISE NOTED.

STAINLESS STEEL

- WHERE REQUIRED, PROVIDE STAINLESS STEEL SHAPES, PLATES, BARS, AND RODS CONFORMING TO ASTM A666 AND A276, TYPE 316 OR 316L.
- PROVIDE STAINLESS STEEL BOLTS AND NUTS CONFORMING TO ASTM F593 AND F594.

ALUMINUM

- WHERE REQUIRED, PROVIDE ALLOY 6061-T6 FOR ALL ALUMINUM STRUCTURAL MATERIALS.
- COAT ALL ALUMINUM SURFACES IN CONTACT WITH CONCRETE OR DISSIMILAR METALS AS DETAILED IN THE SPECIFICATIONS TO PREVENT ALUMINUM-CONCRETE REACTION OR ELECTROLYTIC ACTION.
- PERFORM ALUMINUM WELDING TO CONFORM TO THE PROVISIONS OF THE LATEST STRUCTURAL WELDING CODE (AWS D1.2).

LUMBER

- SAWN FRAMING LUMBER SHALL COMPLY WITH THE LATEST EDITION OF THE GRADING RULES OF THE WESTERN WOOD PRODUCTS ASSOCIATION (WWPA) OR THE WEST COAST LUMBER INSPECTION BUREAU (WCLIB). ALL SAWN LUMBER SHALL BE STAMPED WITH THE GRADE MARK OF AN APPROVED LUMBER GRADING AGENCY. SAWN LUMBER SHALL HAVE THE FOLLOWING MINIMUM GRADE, UNLESS NOTED OTHERWISE IN CONSTRUCTION DOCUMENTS.

MEMBER	DESIGNATION
TIMBER BEAMS & HEADERS	DF/L #2 & BTR
WALL PLATES & OTHER STRUCTURAL SAWN MEMBERS NOT SPECIFIED ABOVE	DF/L CONSTRUCTION & BTR

- LAMINATED-VENEER LUMBER (LVL) TO PROVIDE MINIMUM VALUES AS FOLLOWS:

PARAMETER	VALUE
Fb	2600 PSI
E	2,000,000 PSI

- LAMINATED-STRAND LUMBER (LSL) TO PROVIDE MINIMUM VALUES AS FOLLOWS:

PARAMETER	VALUE
Fc	1835 PSI
Fb	1700 PSI
E	1,300,000 PSI

- LUMBER RESTING ON CONCRETE SHALL BE TREATED WITH A PRESERVATIVE IN ACCORDANCE WITH AMERICAN WOOD PROTECTION ASSOCIATION (AWPA) REQUIREMENTS. FIELD TREATMENT OF END CUTS AND BORINGS IS REQUIRED ON MEMBERS OVER 2-IN THICK.

- WOOD CONNECTORS SHOWN ON THESE DRAWINGS SHALL BE PRODUCTS OF SIMPSON STRONG-TIE, INC. UNLESS NOTED OTHERWISE. HARDWARE BY OTHER MANUFACTURERS MAY BE USED PROVIDED THEY ARE OF EQUIVALENT CAPACITY FOR THE INTENDED APPLICATION AND HAVE CURRENT ICC-ES APPROVALS. SUBSTITUTIONS MUST BE APPROVED BY THE STRUCTURAL ENGINEER. INSTALL ALL CONNECTORS WITH ALL FASTENERS REQUIRED BY THE MANUFACTURER'S SPECIFICATIONS UNLESS NOTED OTHERWISE.

- ALL NAILS SHALL BE SINKER NAILS WITH THE FOLLOWING PROPERTIES:

NAIL SIZE	SHANK Ø	LENGTH
8d SINKER	0.113"	2 3/8"
10d SINKER	0.120"	2 3/8"
12d SINKER	0.135"	3 3/8"
16d SINKER	0.148"	3 3/4"

- ALL STRUCTURAL WOOD PANELS SHALL BE STRUCTURAL I APA RATED SHEATHING, AND MUST CONFORM TO THE FOLLOWING NOMINAL THICKNESS AND SPAN RATING, UNLESS NOTED OTHERWISE:

THICKNESS	SPAN RATING
7/16"	32 / 16
23/32	48 / 24

- FULL WIDTH SHEATHING PANELS SHALL BE USED WHENEVER POSSIBLE.
- ALL SHEAR WALL BOTTOM PLATE ANCHOR BOLTS SHALL HAVE A MINIMUM 0.25" x 3" x 3" SQUARE PLATE WASHER PLACED BETWEEN THE NUT AND WOOD SURFACE. EDGE OF PLATE TO BE WITHIN 1/2" OF SHEATHING EDGE.
- ALL FRAMING AT ADJOINING PANEL EDGES IN SHEAR WALLS SHALL BE DOUBLE 2x MEMBERS OR GREATER. BLOCKING MEMBERS AT PANEL EDGES MAY BE LAID FLAT AT THE CONTRACTOR'S OPTION.

LOADING CRITERIA

- DEAD LOAD: CALCULATED FROM UNIT WEIGHT
- LIVE LOADS:

STAIRS/PLATFORMS	100 PSF
FLOORS/SLABS NOT INDICATED	50 PSF
- LATERAL EARTH PRESSURE (EFP) NON SATURATED: 60 PCF
- TRAFFIC SURCHARGE: 2 FT OF EARTH
- HYDROSTATIC FLUID PRESSURE: 62.4 PCF
- WIND LOAD:

BASIC WIND SPEED EXPOSURE	120 MPH C
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- SNOW LOAD:

GROUND SNOW LOAD	280 PSF
FLAT ROOF SNOW LOAD	236 PSF
SNOW EXPOSURE COEFFICIENT	1.0
IMPORTANCE FACTOR	1.2
THERMAL FACTOR	1.0
- SEISMIC LOAD:

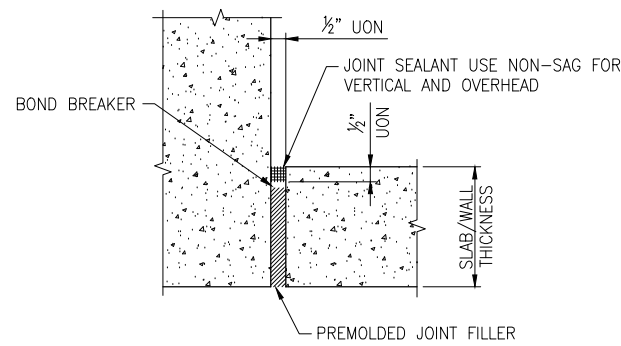
IBC MCE SPECTRA	
2% EXCEEDANCE IN 50 YEARS.	
MAX ACC FOR 0.2 SEC PERIOD (Ss)	0.812g
MAX ACC FOR 1.0 SECOND PERIOD (S1)	0.269g
SITE CLASS	C
SEISMIC DESIGN CATEGORY	D
IMPORTANCE FACTOR	1.50
- FROST DEPTH: 40 INCHES

NO.	DATE	REV. BY	DESCRIPTION

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGN DESIGN C. PATTEN DRAWN C. PATTEN	REVIEW CHECKED E. NEL APPROVED C. PATTEN
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STRUCTURAL
GENERAL STRUCTURAL NOTES
DATE: AUGUST 2018
PROJECT NUMBER: 347-17-01



NOTE:
DISCONTINUE ALL REINFORCING AT JOINT.
REINFORCING IS NOT SHOWN FOR CLARITY.

EXPANSION JOINT

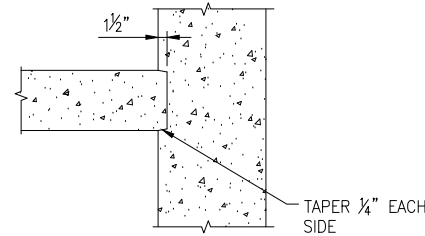
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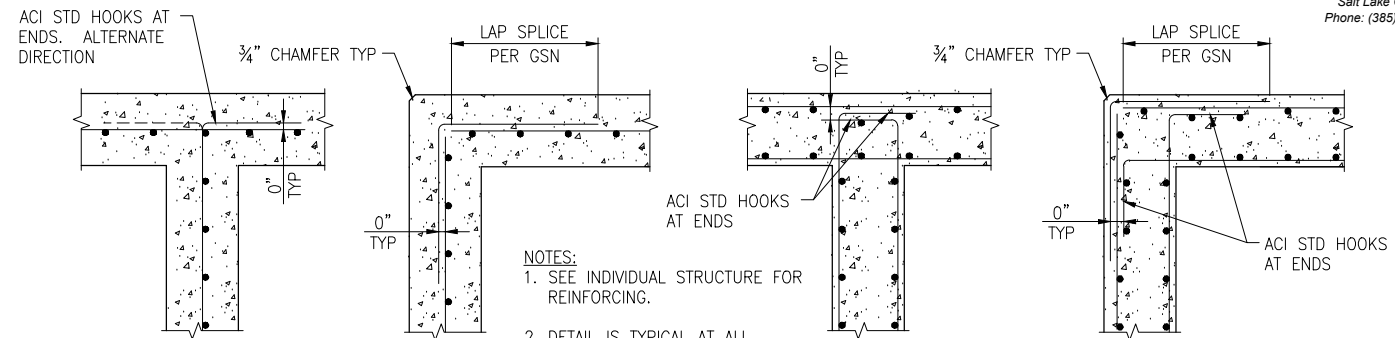
CONSTRUCTION JOINT

NOT TO SCALE

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4028



- NOTES:
- CONSTRUCTION JOINT SHOWN APPLIES FOR BOTH VERTICAL AND HORIZONTAL JOINTS, KEYWAYS TO BE CONTINUOUS.
 - REINFORCING NOT SHOWN FOR CLARITY. USE BAR COUPLERS AT THIS JOINT AND LAP/EMBED REINFORCING ON EACH SIDE OF JOINT.



SINGLE-CURTAIN REINFORCING

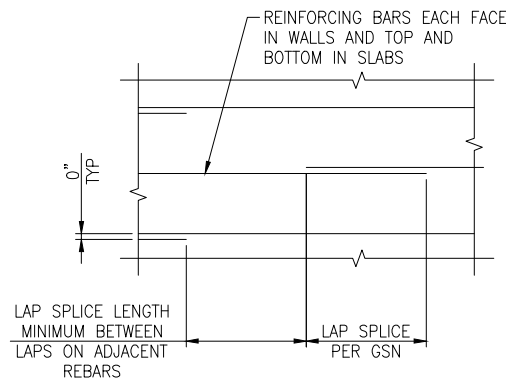
DOUBLE-CURTAIN REINFORCING

- NOTES:
- SEE INDIVIDUAL STRUCTURE FOR REINFORCING.
 - DETAIL IS TYPICAL AT ALL CONCRETE CORNERS AND INTERSECTIONS UNLESS SHOWN OTHERWISE.

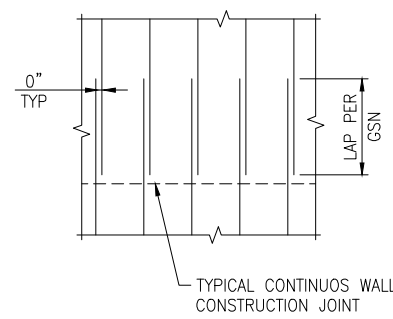
WALL REINFORCING AT CORNERS AND JUNCTIONS

NOT TO SCALE

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4039



HORIZONTAL REINFORCING

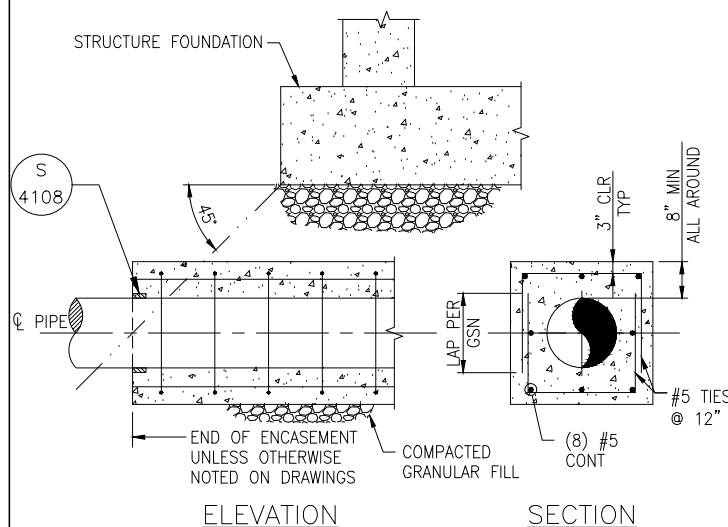


VERTICAL REINFORCING

REINFORCING STEEL LAP SPLICES

NOT TO SCALE

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4040



PIPE ENCASEMENT END

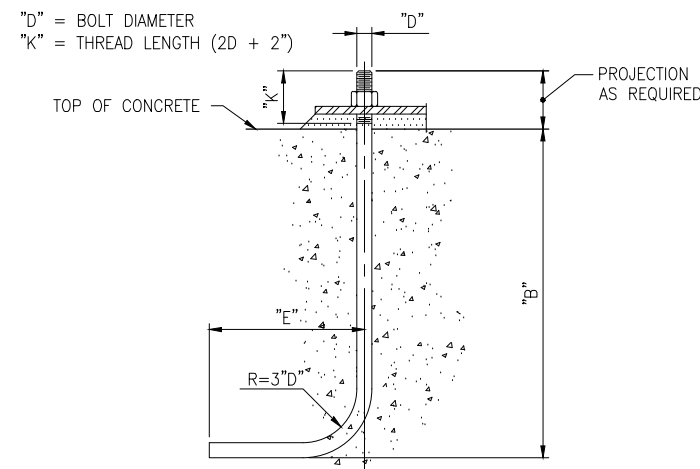
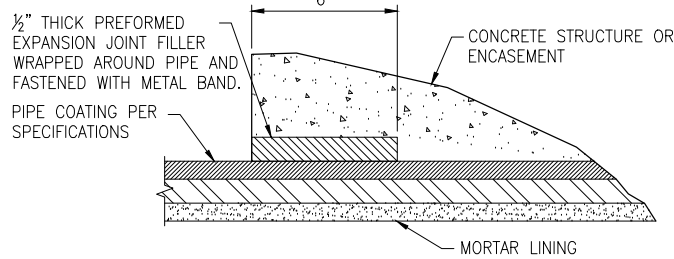
NOT TO SCALE

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4107

PIPE ENCASEMENT END

NOT TO SCALE

S
4108



ANCHOR BOLT (TYPE VI)

NOT TO SCALE

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4124

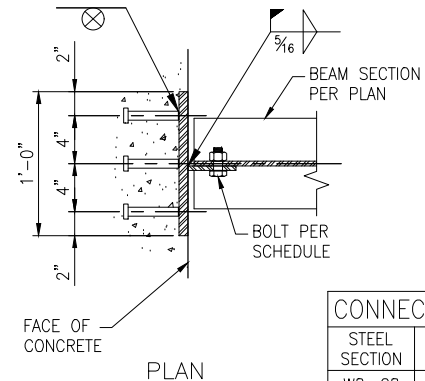
ANCHOR BOLT SCHEDULE			REMARKS
3/8"	3"	8"	
1/2"	3"	10"	
5/8"	4"	12"	
3/4"	5"	14"	
7/8"	7"	16"	
1"	8"	20"	

NOTE:
ANCHOR BOLT TYPE VI IS TO BE USED UNLESS OTHER ANCHORS ARE SPECIFICALLY CALLED FOR ON THE DRAWINGS.

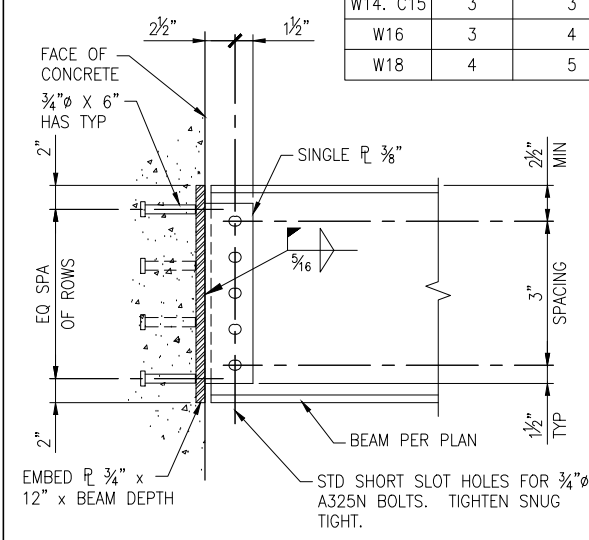
NO.	DATE	REV. BY	DESCRIPTION

SUMMIT MOUNTAIN HOLDING GROUP BLOOMINGTON WELL PROJECT WEBER COUNTY, UTAH	DESIGN	REVIEW	VERIFY SCALE
	DESIGN C. PATTEN	E. NEIL	BAR IS ONE INCH ON ORIGINAL DRAWING
	DRAWN C. PATTEN	C. PATTEN	
	APPROVED		

STRUCTURAL GENERAL STRUCTURAL DETAILS 1	PROJECT NUMBER	347-17-01
	DATE	AUGUST 2018
DRAWING NO.	GS-02	
SHEET	24 OF 46	



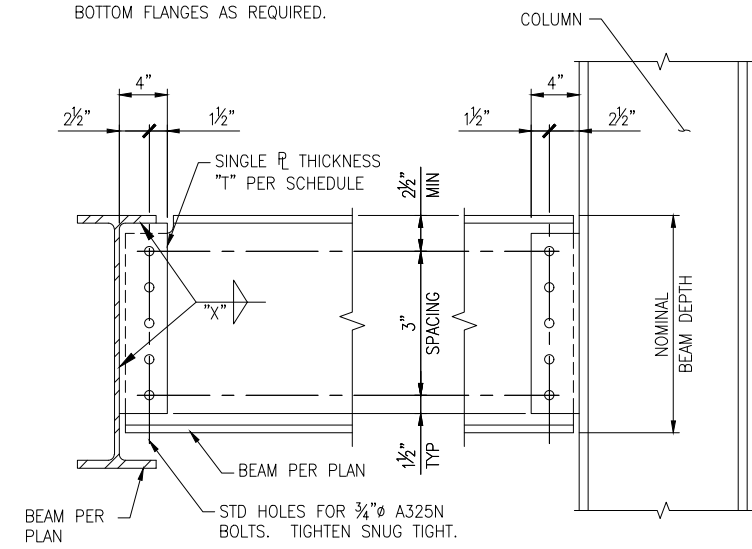
STEEL SECTION	ROWS OF HAS	ROWS OF A325N BOLTS
W8, C8	2	2
W10, C10	2	2
W12, C12	2	3
W14, C15	3	3
W16	3	4
W18	4	5



ELEVATION

EMBEDDED BEAM CONNECT S 4301
 NOT TO SCALE

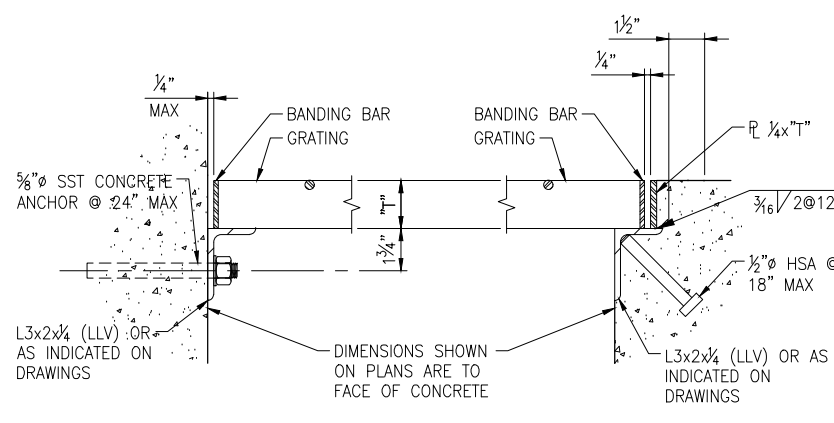
NOTE:
 TOP OF CONNECTING BEAMS TO BE FLUSH UNLESS OTHERWISE INDICATED ON THE PLANS. COPE TOP AND BOTTOM FLANGES AS REQUIRED.



NOMINAL BEAM DEPTH (IN)	ROWS OF A325N BOLTS	SINGLE PLATE THICK "T" (IN)	FILLET WELD SIZE "X" (IN)
W8, C8	2	3/8	5/16
W10, C10	2	3/8	5/16
W12, C12	3	3/8	5/16
W14, C15	3	3/8	5/16
W16	4	3/8	5/16
W18	5	3/8	5/16

NOTE:
 SCHEDULE APPLIES TO ALL BEAMS UNLESS NUMBER OF BOLTS PER LEG IS OTHERWISE INDICATED ON THE FRAMING PLANS BY WHERE THE SYMBOL INDICATES THE NUMBER OF ROWS OF A325N BOLTS TO BE USED FOR THE SPECIAL CONNECTION.

SINGLE PLATE BEAM CONNECT S 4302
 NOT TO SCALE



GRATING EDGE
 NOT TO SCALE

- GRATING NOTES:**
- UNLESS OTHERWISE NOTED ON THE DRAWINGS, ALL GRATING IS GALVANIZED STEEL.
 - GRATING DEPTH "T" AS NOTED ON DRAWINGS.
 - ALL EDGES AND OPENINGS ARE TO BE Banded.
 - WEIGHT OF INDIVIDUAL GRATING SECTION SHALL NOT EXCEED 80 LBS.
 - METAL BEARING BARS ARE TO BE DEPTH "T" x 3/16" @ 1 3/16" OC. CROSS BARS ARE TO BE AT 4" OC.
 - PROVIDE A MINIMUM OF 4 CLIPS PER GRATING PANEL AND LOCATE APPROXIMATELY 4" FROM PANEL CORNERS. MAXIMUM SPACING OF CLIPS IS 3'-0".
 - MATERIALS:
 - ALUMINUM GRATING - USE ALUMINUM ANGLE SUPPORTS AND STAINLESS STEEL BOLTS AND CLIPS.
 - GALVANIZED STEEL GRATING - USE GALVANIZED STEEL SUPPORTS, BOLTS, AND CLIPS. HOT-DIP GALVANIZE AFTER FABRICATION.
 - STAINLESS STEEL GRATING - USE 316 STAINLESS STEEL ANGLE SUPPORTS, BOLTS, AND CLIPS.

S 4416

NO.	DATE	REV. BY	DESCRIPTION

SUMMIT MOUNTAIN HOLDING GROUP
BLOOMINGTON WELL PROJECT
 WEBER COUNTY, UTAH

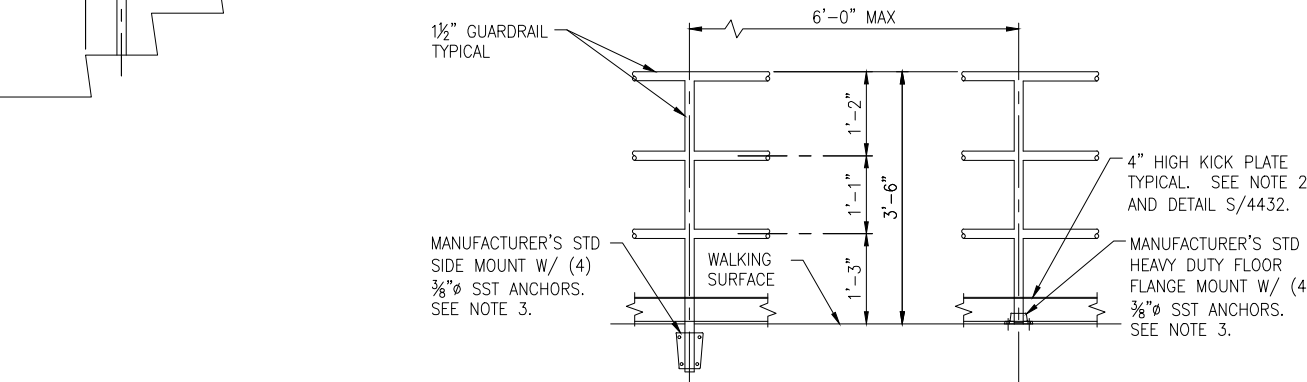
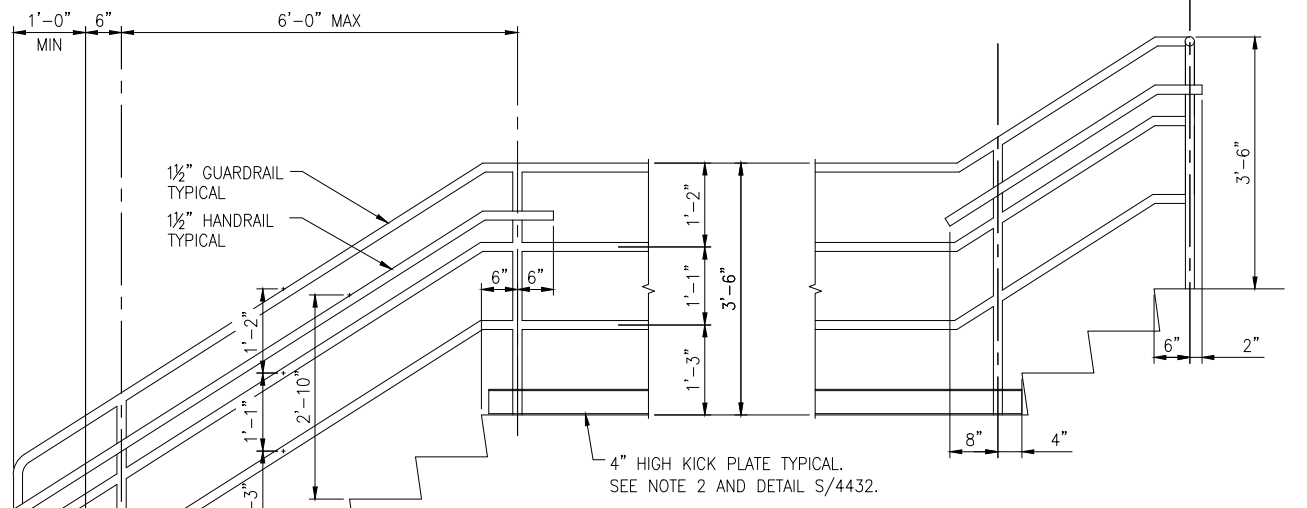
VERIFY SCALE
 BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGN: C. PATTEN
 DRAWN: C. PATTEN

REVIEW: E. NEIL
 CHECKED: E. NEIL
 APPROVED: C. PATTEN

STRUCTURAL
GENERAL STRUCTURAL DETAILS 2

DATE: AUGUST 2018
 PROJECT NUMBER: 347-17-01



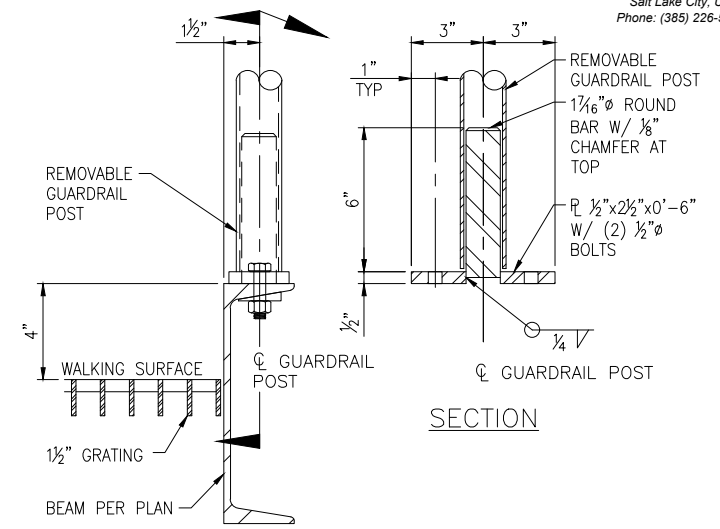
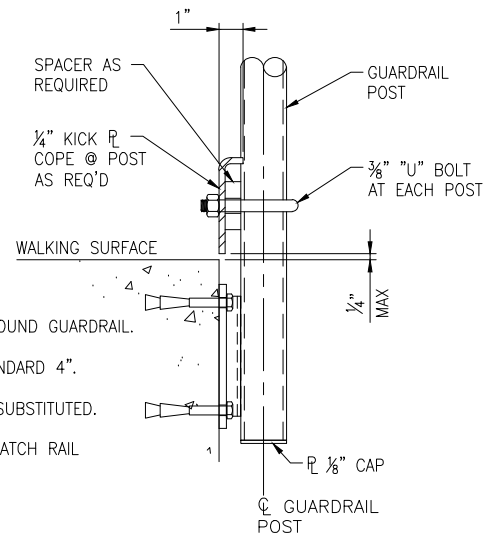
- NOTES:**
1. PLACE CENTER OF FLOOR FLANGE MOUNTED POSTS 4" FROM EDGE OF CONCRETE OR 6" FROM STAIR NOSINGS UNLESS OTHERWISE NOTED ON DRAWINGS.
 2. KICKPLATE MAY BE EXTRUDED SHAPE OR BENT PLATE AND SHALL BE ATTACHED WITH STAINLESS STEEL BOLTS. BOLT KICKPLATE TO POSTS WITH BOTTOM 1/4" CLEAR FROM WALKING SURFACE. FOR SIDE MOUNTED RAILS, PROVIDE STANDARD SPACER BLOCK BETWEEN POST AND KICKPLATE TO MAINTAIN 1/4" MAXIMUM CLEAR SPACING. PROVIDE KICKPLATE AT ALL PLACES WHERE DROP FROM ONE LEVEL TO ANOTHER EXCEEDS 2'-6" AND WHERE INDICATED ON THE DRAWINGS. HAND TIGHTEN AND CENTER PUNCH BOLT THREADS TO LOCK. KICKPLATE MAY BE OMITTED WHERE RAILING IS MOUNTED ON MINIMUM 4" HIGH STEEL OR CONCRETE CURB.
 3. VARIOUS POST MOUNTINGS ARE SHOWN IN THIS DETAIL. SIDE MOUNTING IS PREFERRED WHEN PRACTICAL. REFER TO DRAWINGS FOR SPECIFIC MOUNTING REQUIREMENTS.
 4. PLACE RAIL POSTS OPPOSITE EACH OTHER WHEN POSSIBLE AND WHERE GUARDRAILS ARE PARALLEL.
 5. COAT ALL SURFACES OF ALUMINUM IN CONTACT WITH CONCRETE IN ACCORDANCE WITH SPECIFICATIONS. PLACE NEOPRENE GASKET BETWEEN ALUMINUM AND STEEL.
 6. ALL GUARDRAILS ARE FIXED UNLESS OTHERWISE NOTED ON DRAWINGS.
 7. ALL JOINTS IN STEEL RAIL SHALL BE COPEDED, WELDED, AND GROUND SMOOTH.
 8. FOR RAIL POSTS MOUNTED TO BEAM OR STAIR CHANNEL, PROVIDE MANUFACTURER'S STANDARD REINFORCED CONNECTION FROM POST TO PLATE. BOTH THE PLATE AND REINFORCED INSERT TO BE GALVANIZED STEEL, ALUMINUM, OR STAINLESS STEEL TO MATCH RAIL MATERIAL.
 9. SEE DRAWINGS AND SPECIFICATIONS FOR GUARDRAIL MATERIALS.

- NOTES:**
1. COPE KICK PLATE AROUND GUARDRAIL.
 2. MANUFACTURER'S STANDARD 4".
 3. KICK PLATE MAY BE SUBSTITUTED.
 4. PLATE MATERIAL TO MATCH RAIL MATERIAL.

KICK PLATE

NOT TO SCALE

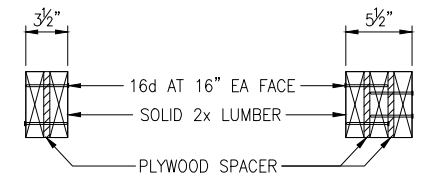
S
4432



REMOVABLE RAIL ANCHORAGE

NOT TO SCALE

S
4435



SOLID HEADER	BUILT-UP HEADER
4x4	(2) 2x6
4x6	(2) 2x8
4x8	(2) 2x10
4x10	(2) 2x12

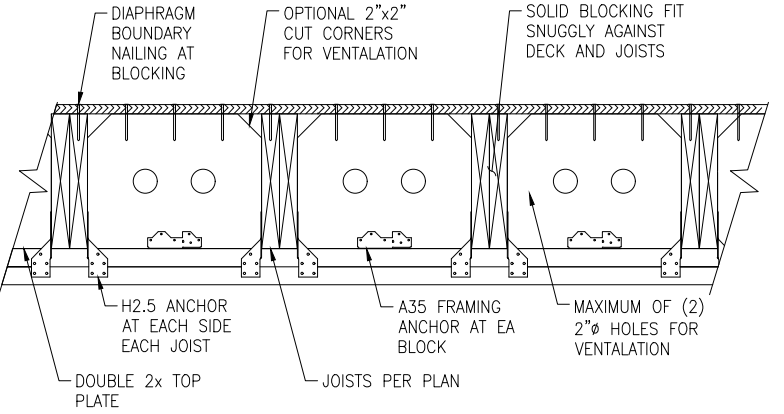
SOLID HEADER	BUILT-UP HEADER
FLAT 4x6	(3) 2x6
6x6	(3) 2x8
6x8	(3) 2x10
6x10	(3) 2x12

- NOTES:**
1. BUILT-UP HEADER MAY BE USED AS AN ALTERNATIVE TO SOLID 4x AND 6x HEADERS UNLESS NOTED OTHERWISE ON DRAWINGS.
 2. BUILT-UP HEADER ALTERNATIVE SHALL NOT BE USED IN LIEU OF BEAMS.

BUILT-UP HEADER

NOT TO SCALE

S
4501



- NOTES:**
1. MAY USE EITHER ROUND HOLES OR CUT CORNERS FOR VENTILATION BUT NOT BOTH.

JOIST BLOCKING

NOT TO SCALE

S
4502

THREE-RAIL GUARDRAIL

NOT TO SCALE

S
4425

NO.	DATE	REV. BY	DESCRIPTION

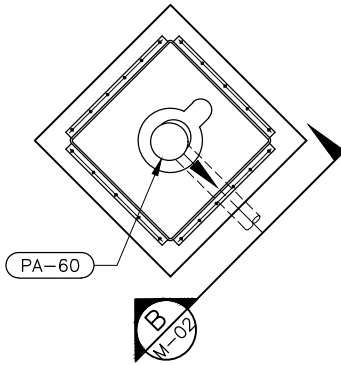
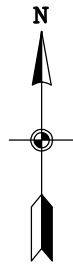
VERIFY SCALE
 BAR IS ONE INCH ON ORIGINAL DRAWING

REVIEW
 CHECKED E. NEIL
 APPROVED C. PATTEN

DESIGN
 DESIGN C. PATTEN
 DRAWN C. PATTEN

STRUCTURAL
GENERAL STRUCTURAL DETAILS 3
 PROJECT NUMBER 347-17-01
 DATE: AUGUST 2018

DRAWING NO.
GS-04
 SHEET 26 OF 46



4'-0" X 4'-0" X 5'-6" (ID)
PRECAST CONCRETE BOX
WITH 1 1/4" GALV GRATING

12" DR (27)
SEE CIVIL
DRAWINGS FOR
CONTINUATION

3/4" WATERLINE FOR
TURBIDITY METER

M 3455 UH-51

M 3117 HOSE RACK

M 3802 4" PW (11)
AE/AIT-68

M 3802 4" DR (16)
SEE NOTE 1

M 3455 UH-50 24"X30" METAL DESK

M 3161 L-41

EYE-60
ROUTE 3/4" WATERLINE
OVERHEAD FROM
DOWNSTREAM SIDE
OF CHECK VALVE

M 3000 (SIM) SAMPLE TAP

M 3000 (SIM) HOSE BIBB

M 3802 4" PW (11)

M 3802 4" FD (TYP OF 4)

M 3161 L-41

M 3161 L-44

M 3161 L-43

M 3161 L-42

M 3805 UH-53

M 3806 ENGINE EXHAUST THROUGH WALL

M 3455 UH-52

M 3161 L-42

M 3161 L-43

M 3161 L-44

CONNECT TO 4" DIA DI
WATERLINE WITH MJ
SLEEVE (TYP)

M 3455 UH-52

M 3161 L-42

M 3805 UH-53

M 3806 ENGINE EXHAUST THROUGH WALL

M 3455 UH-52

M 3161 L-42

M 3805 UH-53

M 3806 ENGINE EXHAUST THROUGH WALL

M 3455 UH-52

M 3161 L-42

M 3805 UH-53

M 3806 ENGINE EXHAUST THROUGH WALL

M 3455 UH-52

M 3161 L-42

M 3805 UH-53

M 3806 ENGINE EXHAUST THROUGH WALL

M 3455 UH-52

M 3161 L-42

M 3805 UH-53

M 3806 ENGINE EXHAUST THROUGH WALL

M 3455 UH-52

M 3161 L-42

M 3805 UH-53

M 3806 ENGINE EXHAUST THROUGH WALL

ELECTRICAL PANELS
SEE ELECTRICAL
DRAWINGS (TYP)

PUMP ROOM

GENERATOR ROOM

GENERATOR, SEE
ELECTRICAL PLANS

ENGINE SILENCER
ASSEMBLY
M 3805

ELECTRICAL PANELS
SEE ELECTRICAL
DRAWINGS (TYP)

- NOTES:
1. MINIMUM SLOPE FOR ALL DRAIN PIPES SHALL BE 1/4" PER FT.
 2. X - REPRESENTS LOCATION OF PIPE SUPPORTS (PLAN ONLY) SEE DETAIL M 3389
 3. SEE DRAWING NO. M-04 FOR MECHANICAL EQUIPMENT.
 4. SEE DRAWING NO. GM-01 FOR PIPE MATERIAL SCHEDULE.

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

NO.	DATE	REV. BY	DESCRIPTION

VERIFY SCALE
BAR IS ONE INCH ON
ORIGINAL DRAWING

REVIEW
CHECKED J. BECKMAN
APPROVED E. NEIL

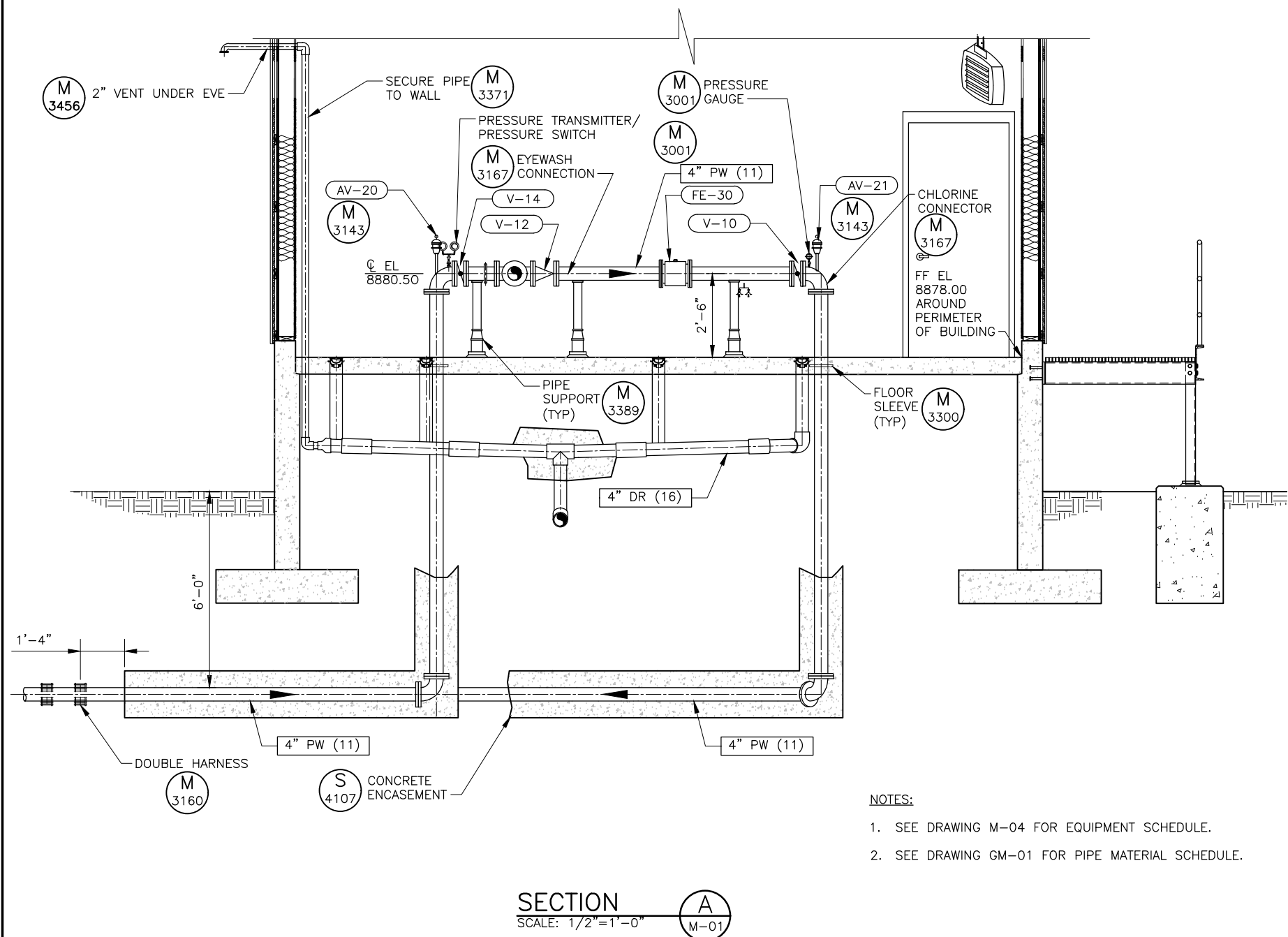
DESIGN
DESIGN E. NEIL
DRAWN R. GARCIA

MECHANICAL
WELL PUMP STATION
MECHANICAL PLAN
PROJECT NUMBER 347-17-01

DATE: AUGUST 2018

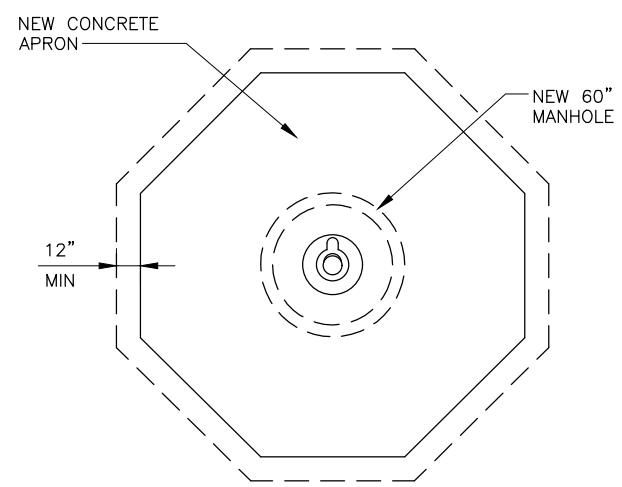
DRAWING NO.
M-01

SHEET 27 OF 46

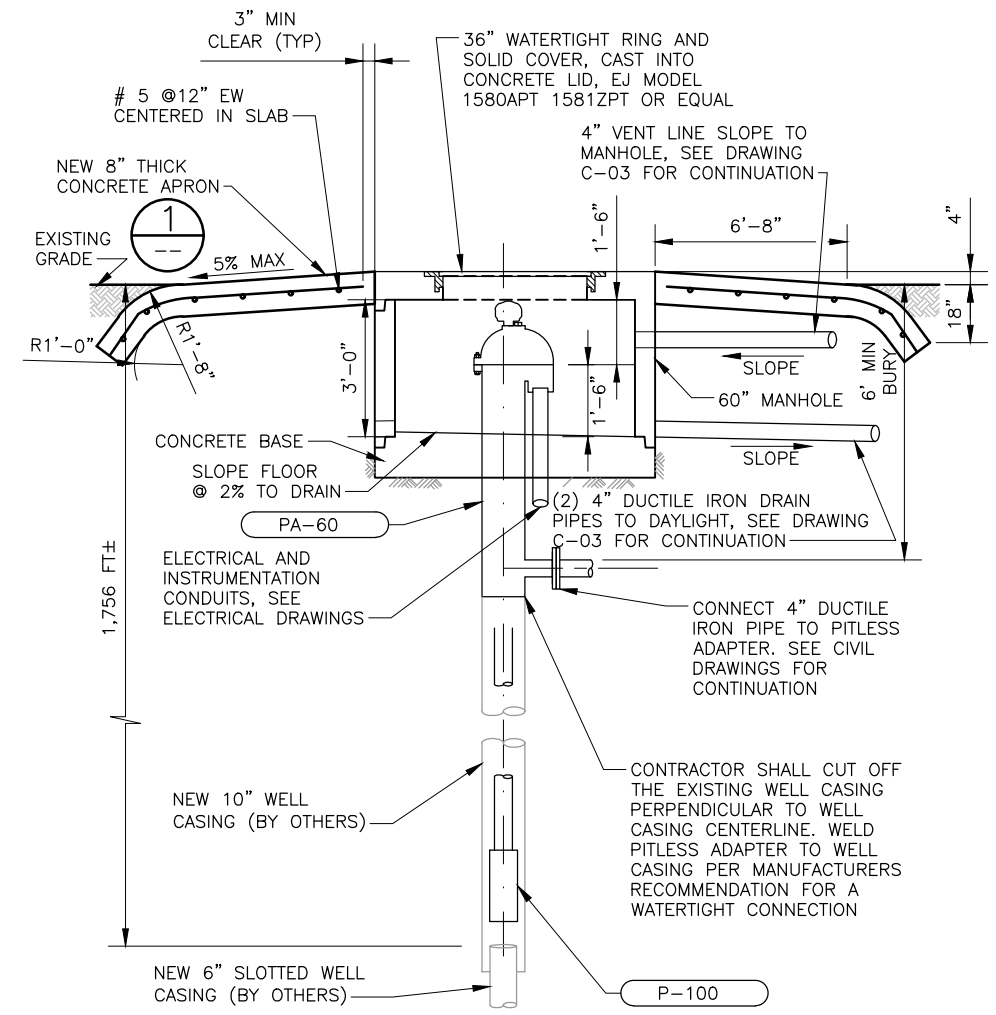


- NOTES:**
- SEE DRAWING M-04 FOR EQUIPMENT SCHEDULE.
 - SEE DRAWING GM-01 FOR PIPE MATERIAL SCHEDULE.

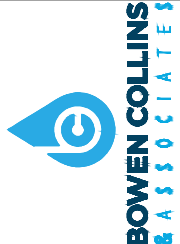
SECTION A
SCALE: 1/2"=1'-0"
M-01



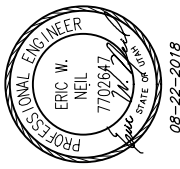
CONCRETE APRON-PLAN 1
NTS



SECTION B
NTS
M-01



BOWEN COLLINS & ASSOCIATES



PROFESSIONAL ENGINEER
ERIC W. NEIL
7702647
UTAH STATE LICENSE
08-22-2018

NO.	DATE	REV. BY	DESCRIPTION

BLOOMINGTON WELL PROJECT
SUMMIT MOUNTAIN HOLDING GROUP
WEBER COUNTY, UTAH

DESIGN E. NEIL	CHECKED J. BECKMAN	APPROVED E. NEIL	VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING
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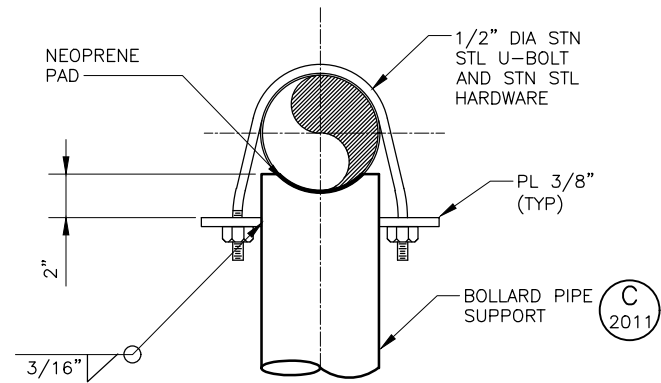
MECHANICAL

WELL PUMP STATION MECHANICAL SECTION

DATE: AUGUST 2018
PROJECT NUMBER: 347-17-01

DRAWING NO. **M-02**

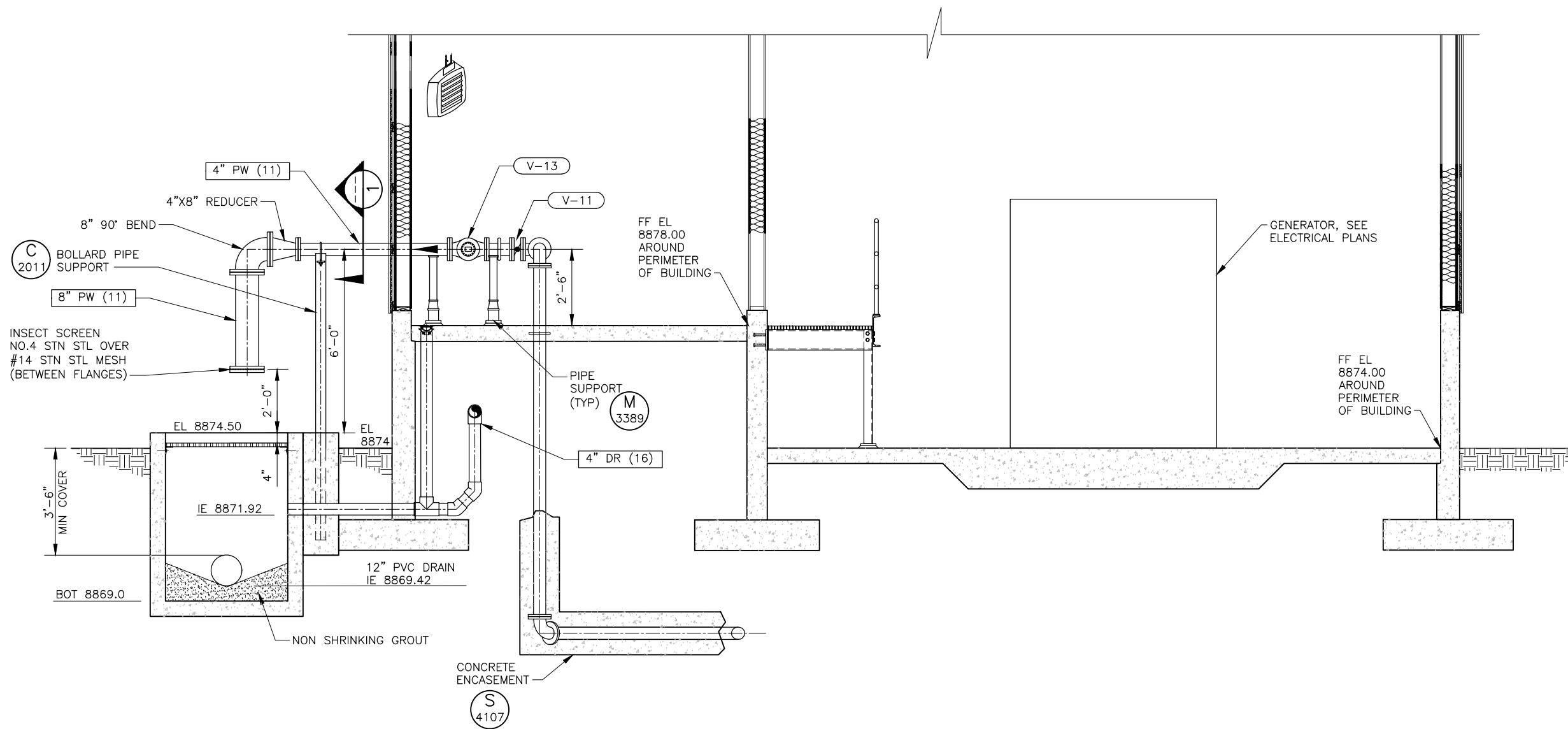
SHEET 28 OF 46



SECTION 1
NO SCALE

NOTES:

1. SEE DRAWING M-04 FOR EQUIPMENT SCHEDULE.
2. SEE DRAWING GM-01 FOR PIPE MATERIAL SCHEDULE.



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

NO.	DATE	REV. BY	DESCRIPTION

SUMMIT MOUNTAIN HOLDING GROUP		BLOOMINGTON WELL PROJECT	
WEBER COUNTY, UTAH		VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING	
DESIGN	REVIEW	CHECKED	APPROVED
E. NEIL	J. BECKMAN	E. NEIL	E. NEIL
DRAWN			
R. GARCIA			

MECHANICAL	WELL PUMP STATION MECHANICAL SECTION	PROJECT NUMBER 347-17-01
DATE:	AUGUST 2018	DRAWING NO. M-03

MECHANICAL EQUIPMENT SCHEDULES

VALVE SCHEDULE

NO.	LOCATION	SIZE (INCH)	JOINT TYPE	REMARKS
V-10	PUMP ROOM	4	FL	BUTTERFLY VALVE WITH HAND OPERATOR
V-11	PUMP ROOM	4	FL	BUTTERFLY VALVE WITH HAND OPERATOR
V-12	PUMP ROOM	4	FL	SILENT GLOBE CHECK VALVE, CLA-VAL SERIES 581 OR EQUAL
V-13	PUMP ROOM	4	FL	DEEP WELL PUMP CONTROL VALVE, CLA-VAL MODEL 61-02KC OR EQUAL. PROVIDE WITH 2 LIMIT SWITCHES
V-14	PUMP ROOM	4	FL	BUTTERFLY VALVE WITH HAND OPERATOR
V-15	RESERVOIR INLET PIPE	6	FLXMJ	GATE VALVE WITH 2" OPERATING NUT
AV-20	PUMP ROOM	1	NPT	NSF 61 APPROVED, COMBINATION AIR RELEASE/AIR VACUUM VALVE, RATED FOR TEST PRESSURES, VAL-MATIC MODEL 201C.2 OR APPROVED EQUAL, TERMINATE EXHAUST/RELIEF PIPING AT LEAST 6" ABOVE FLOOR AND COVER WITH #14 SST MESH SCREEN
AV-21	PUMP ROOM	1	NPT	NSF 61 APPROVED, AIR RELEASE VALVE RATED FOR TEST PRESSURES, VAL-MATIC MODEL 22.3 OR APPROVED EQUAL, TERMINATE EXHAUST/RELIEF PIPING AT LEAST 6" ABOVE FLOOR AND COVER WITH #14 SST MESH SCREEN
AV-22	AIR RELEASE/VACUUM VALVE MANHOLE AT WELL HEAD	2	NPT	NSF 61 APPROVED, COMBINATION AIR RELEASE/AIR VACUUM VALVE, RATED FOR TEST PRESSURES, VAL-MATIC MODEL 202C.2 OR APPROVED EQUAL, SEE DRAWINGS C-03 & GC-03

FLOW METER SCHEDULE

NO.	LOCATION	SIZE (INCH)	TYPE	DESIGN FLOW (GPM)	REMARKS
FE-30	PUMP ROOM	4	ELECTROMAGNETIC	200	FLXFL, EPOXY COATED CARBON STEEL BODY, SIEMENS SITRANS FM MAG 5100 W WITH MAG 5000 INDICATOR (TRANSMITTER MOUNTED INTEGRALLY ON THE METER OR EQUAL)

EXHAUST FAN/LOUVER SCHEDULE

NO.	LOCATION	AIRFLOW (CFM)	DRIVE	HP	VOLTAGE	PHASE	REMARKS
EF-40	PUMP ROOM (EXHAUST)	350 (MIN)	DIRECT	0.022	120	SINGLE	DIRECT DRIVE PROPELLER WALL COLLAR EXHAUST FAN WITH MOTORIZING BACKDRAFT DAMPER KIT, ACME MODEL FN14WCP OR APPROVED EQUAL WITH MOTOR-SIDE GUARD, ACME MODEL BA14FQ OR APPROVED EQUAL
L-41	PUMP ROOM (INTAKE)	350 (MIN)	---	---	120	SINGLE	18"X18" ADJUSTABLE LOUVER WITH BIRD SCREEN, AMERICAN WARMING MODEL LE-65C OR EQUAL WITH ELECTRIC ACTUATOR, POWER OPEN/POWER CLOSE
L-42	GENERATOR ROOM (EXHAUST)	17,551 (MIN)	---	---	120	SINGLE	8'-0"X4'-6" ADJUSTABLE LOUVER WITH BIRD SCREEN, AMERICAN WARMING MODEL BD-20 OR EQUAL WITH GRAVITY DAMPER
L-43	GENERATOR ROOM (INTAKE)	9,229 (MIN)	---	---	120	SINGLE	4'-0"X8'-0" ADJUSTABLE LOUVER WITH BIRD SCREEN, AMERICAN WARMING MODEL LE-65C OR EQUAL WITH ELECTRIC ACTUATOR, SPRING OPEN/POWER CLOSE
L-44	GENERATOR ROOM (INTAKE)	9,229 (MIN)	---	---	120	SINGLE	8'-0"X4'-0" ADJUSTABLE LOUVER WITH BIRD SCREEN, AMERICAN WARMING MODEL LE-65C OR EQUAL WITH ELECTRIC ACTUATOR, SPRING OPEN/POWER CLOSE

UNIT HEATER SCHEDULE

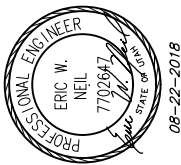
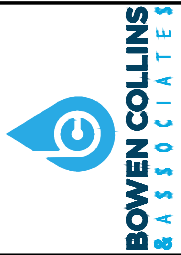
NO.	LOCATION	TYPE	SIZE	VOLTAGE	PHASE	REMARKS
UH-50	PUMP ROOM	ELECTRICAL	5 KW	480	3	WALL MOUNTED, CHROMALOX MODEL LUH-05-43-32 WITH WALL MOUNTED THERMOSTAT
UH-51	PUMP ROOM	ELECTRICAL	5 KW	480	3	WALL MOUNTED, CHROMALOX MODEL LUH-05-43-32 WITH WALL MOUNTED THERMOSTAT
UH-52	GENERATOR ROOM	ELECTRICAL	7.5 KW	480	3	WALL MOUNTED, CHROMALOX MODEL LUH-07-43-32 WITH WALL MOUNTED THERMOSTAT
UH-53	GENERATOR ROOM	ELECTRICAL	7.5 KW	480	3	WALL MOUNTED, CHROMALOX MODEL LUH-07-43-32 WITH WALL MOUNTED THERMOSTAT

MISCELLANEOUS MECHANICAL EQUIPMENT SCHEDULE

NO.	LOCATION	DESCRIPTION	SIZE	REMARKS
PA-60	WELL	PITLESS ADAPTER	10"	NSF 61 APPROVED, INSTALL PER MANUFACTURER RECOMMENDATIONS, BAKER MONITOR OR EQUAL
EYE-60	PUMP ROOM	EYE WASH STATION	---	WALL MOUNTED EYEWASH/DRENCH HOSE, GUARDIAN MODEL G5026 OR EQUAL. PIPE DRAIN LINE TO FLOOR DRAIN. CONNECT WATERLINE ON DOWN STREAM SIDE OF CHECK VALVE
CL-60 (FUTURE)	PUMP ROOM	FUTURE CHLORINE METER PUMP	---	FUTURE GRUNDFOS SMART DIGITAL DDE METER PUMP WITH PV/V/C (P=PVDF BODY, V=VITON GASKETS, C=CERAMIC CHECK BALL VALVES) MALFUNCTION VALVE (BACK PRESSURE, PRESSURE RELIEF AND ANTI SIPHONING), AND TUBING KIT (INCLUDING TUBING, FOOT VALVE, AND INJECTION QUILL) AS SUPPLIED BY MANUFACTURER. PROVIDE RIGID PVC SHELF FOR PUMP AND MOUNTING
CL-61 (FUTURE)	PUMP ROOM	FUTURE HYPOCHLORITE & SPILL CONTROL PALLET	---	(2) 15 GALLON DRUMS, 16" DIAMETER (12% NSF-61 THATCHER CHEMICAL T-CHLOR) 2"X4' SPILL CONTROL PALLET (ENPAL SPILL PAL)
PIT-61	PUMP ROOM	PRESSURE TRANSMITTER	---	SEE ELECTRICAL PLANS & SPECIFICATIONS
PI-62	PUMP ROOM	PRESSURE INDICATOR	---	SEE ELECTRICAL PLANS & SPECIFICATIONS
PSH-63	PUMP ROOM	PRESSURE SWITCH	---	SEE ELECTRICAL PLANS & SPECIFICATIONS
RTU-60	PUMP ROOM	TELEMETRY	---	MISSION CONTROL TELEMETRY SCADA SYSTEM, PROVIDED AND INSTALLED BY DELCO WESTERN
GEN-65	GENERATOR ROOM	GENERATOR	480V, 300KW	CATERPILLAR C-9 OR APPROVED EQUAL WITH INTEGRAL 24 HR (643 GALLON) DIESEL FUEL TANK
AE/AIT-68	PUMP ROOM	TURBIDITY METER	---	ATI, MODEL Q46/76 OR APPROVED EQUAL. PROVIDE WITH CONTROLLER. DRAIN TO FLOOR DRAIN

SUBMERSIBLE PUMP SCHEDULE

NO.	LOCATION	SIZE (IN)	HORSEPOWER	TDH (FT)	DESIGN FLOW (GPM)	REMARKS
P-100	WELL	9.25	150	1,777	200	SUBMERSIBLE WELL PUMP SUPPLIED BY DELCO WESTERN. PUMP SHALL BE MANUFACTURED BY FLOWSERVE/PLEUGER OR EQUAL. PUMP SHALL BE NB86-IP WITH 20 STAGES. PUMP SHALL BE SUPPLIED WITH A VARIABLE FREQUENCY DRIVE, SINE WAVE FILTER, AND DOWN HOLE LEVEL TRANSDUCER



NO.	DATE	REV. BY	DESCRIPTION

BLOOMINGTON WELL PROJECT
WEBER COUNTY, UTAH

MECHANICAL EQUIPMENT SCHEDULE

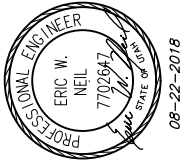
DESIGN: E. NEIL
DRAWN: E. NEIL
CHECKED: J. BECKMAN
APPROVED: E. NEIL

DATE: AUGUST 2018
PROJECT NUMBER: 347-17-01

DRAWING NO. **M-04**
SHEET **30** OF **46**

NOTES:

- REFER TO DRAWINGS AND SPECIFICATIONS FOR MORE EQUIPMENT INFORMATION.
- CHLORINE EQUIPMENT CL-60 AND CL-61 SHALL BE PROVIDED BY OTHERS AT A FUTURE TIME.



NO.	DATE	REV. BY	DESCRIPTION

VERIFY SCALE
 BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGN BCS STANDARDS
 DRAWN ECA STANDARDS

REVIEW CHECKED J. BECKMAN
 APPROVED E. NEIL

MECHANICAL

BLOOMINGTON WELL PROJECT
 WEBER COUNTY, UTAH

PIPE MATERIAL SCHEDULE

DATE: AUGUST 2018
 PROJECT NUMBER: 347-17-01

DRAWING NO.
GM-01

SHEET 31 OF 46

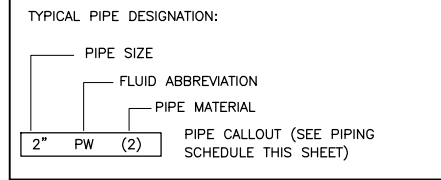
PIPE MATERIAL SCHEDULE (SEE NOTE 4)

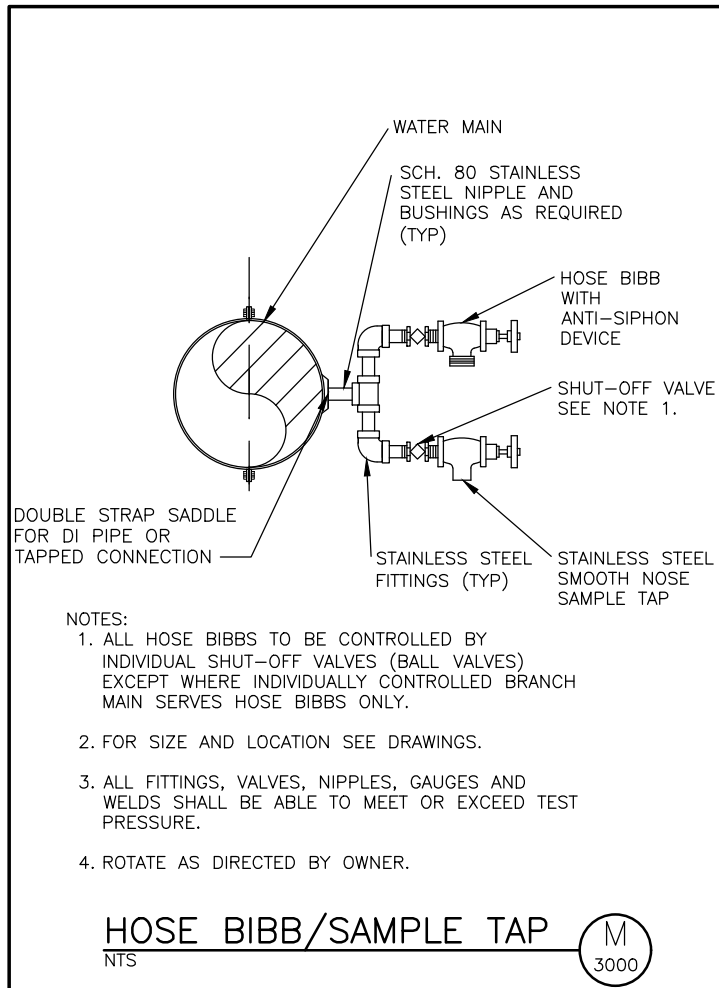
FLUID ABBREVIATION	FUNCTION (SEE NOTE 5)	PIPING MATERIAL (SEE SCHEDULE AT RIGHT)				FIELD TEST REQUIREMENTS (SEE NOTE 3 AND NOTE 4)			GROUP NO.	PIPE	FITTINGS	VALVES
		EXPOSED PIPING (SEE NOTE 14)		BURIED PIPING (SEE NOTE 13)		MIN TEST PRESSURE PSI	TEST MEDIUM	LEAKAGE ALLOWANCE (SEE NOTE 2)				
		2" DIA & SMALLER	2 1/2" DIA & LARGER	2" DIA & SMALLER	2 1/2" DIA & LARGER							
AV	AIR VENT	2, 14, 16	2, 14	2, 14, 16	2, 16, 24	NOTE 7	--	---	1	STEEL, ASTM 53 SCHEDULE 40, BLACK WELDED	2-1/2 INCH AND SMALLER, MALLEABLE IRON, ANSI B16.3, THREADED, BANDED, BLACK, 150 PSI OR STEEL, ANSI B16.9 BUTT-WELDED. 3-INCH AND LARGER, CAST IRON, ANSI B16.1, 125 PSI FLANGED OR MECHANICAL COUPLINGS.	BRONZE, THREADED, GATE STOCKHAM B-105, GLOBE, STOCKHAM B-37, CHECK, STOCKHAM B-319, STEEL LUBRICATED PLUG, NORDSTROM, FIG. 142 OR 143, ECCENTRIC PLUG, DEZURIK SERIES 118 BALL, JAMESBURY FIG. 351.
CLS	CHLORINE SOLUTION								2	STEEL, ASTM 53 SCHEDULE 40 WELDED, GALVANIZED	2-1/2 INCH AND SMALLER, MALLEABLE IRON, ANSI B16.3, THREADED, BANDED, GALVANIZED 150 PSI, 3 INCH AND LARGER, CAST IRON ANSI B16.1, 125 PSI FLANGED OR MECHANICAL COUPLINGS.	2-1/2 INCH AND SMALLER, ECCENTRIC PLUG, SYNTHETIC RUBBER FACED, DEZURIK 118S BALL, JAMESBURY FIG. 351 3 INCH AND LARGER, ECCENTRIC PLUG, SYNTHETIC RUBBER FACED, DEZURIK 118F GATE, AWWA C500, BUTTERFLY, AWWA, FLANGED.
CV	CHLORINE VENT								3	STEEL, ASTM A106 OR A53, SCHEDULE 80, SEAMLESS, BLACK.	FORGED STEEL, ANSI B16.11, SOCKET WELDED OR THREADED, BLACK, 2000 PSI, OR STEEL, ANSI B16.9, BUTT-WELDED, SCHEDULE 80.	CAST IRON, LUBRICATED PLUG, NORDSTROM FIG. 214 OR 305.
DR	DRAIN	16	16	2	8, 12, 16, 22, 28, 36, 27, 51, 52, 53, 54, 55	NOTE 6	WATER	2,16,8,27,51,52,53(A), 12,28(B), 22,54,55(C)	4	SAME AS GROUP NO. 1	CAST IRON, ANSI B16.12, THREADED, DRAINAGE PATTERN.	-----
HWS	DOMESTIC HOT WATER SUPPLY								5	WELDED STEEL, AWWA C200, UNLINED.	WELDED STEEL, FABRICATED, AWWA C200, UNLINED.	AS INDICATED ON DRAWINGS.
LSP	LANDSCAPING SPRINKLING SYSTEM	12, 16	12, 16	12, 16	12, 16	NOTE 7	-	---	6	STEEL, ASTM A106, OR A53, SCHEDULE 40, SEAMLESS, BLACK.	STEEL, ANSI B16.9, BUTT-WELDED, CAST IRON, ANSI B16.1, 125 PSI, FLANGED, FORGED STEEL, SOCKET WELDED, ANSI B16.11, 2000 PSI OR STEEL, ANSI B16.5, 150 PSI FLANGED.	CAST IRON, FLANGED, LUBRICATED PLUG, NORDSTROM FIG. 143 OR 133GG.
OF	OVERFLOW	16	8	16	8	150	WATER	(A)	7	SAME AS GROUP NO. 2.	MALLEABLE IRON, ANSI B16.3, THREADED, BANDED, GALVANIZED, 300 PSI.	BRONZE THREADED, GLOBE, STOCKHAM B-62 OR B-32, BALL, JAMESBURY FIG. 351 CHECK, STOCKHAM B-322T.
PW	POTABLE WATER	12, 24	2, 11	4, 24	2,11,19,36,51,52	150	WATER	2, 11, 24(A), 19(B)	8	WELDED STEEL, AWWA C200.	WELDED, STEEL, AWWA C200, FABRICATED.	AS INDICATED ON DRAWINGS.
RL	REFRIGERANT LIQUID								9	SAME AS GROUP 1	2-1/2 INCH AND SMALLER, MALLEABLE IRON, ANSI B16.3, THREADED, BANDED, BLACK, 150 PSI, 3-INCH AND LARGER, STEEL, ANSI B16.9, BUTT-WELDED.	ECCENTRIC PLUG, DEZURIK SERIES 118 CHECK, CRANE NO. 366E, BALL, JAMESBURY FIG. 351.
RS	REFRIGERANT SUCTION								10	SAME AS GROUP NO. 3.	1-1/4 INCH AND SMALLER, FORGED STEEL, ANSI B16.11, THREADED OR SOCKET WELDED, BLACK, 3000 PSI, WITH FLANGED AMMONIA UNIONS. 1-1/2 INCH AND LARGER, STEEL, ANSI B16.9, BUTT-WELDED OR FLANGED, SCHEDULE 80.	SEMI-PLUG AND YOKE TYPE OR BALL FOR CHLORINE SERVICE, FORGED CARBON STEEL.
RW	RAW WATER	2	8, 11	2	8, 11, 28	125	WATER	2, 8, 11(A), 28(B)	11	DUCTILE IRON, ANSI A21.51, (AWWA C151) OR CAST IRON ANSI A21.6, CLASS 52, BELL AND SPIGOT, MECHANICAL JOINTS, MECHANICAL COUPLINGS, OR CLASS 52 FLANGED (TYPICAL SERVICE - WATER LINES) (PREINSULATED) PER SPECIFICATION SECTION 02565	DUCTILE IRON OR CAST IRON, ANSI A21.10 OR AWWA C110, BELL AND SPIGOT, MECHANICAL COUPLINGS, FLANGED OR MECHANICAL JOINTS, 350 PSI (PRESSURE RATING) 12-INCHES AND SMALLER, 350 PSI (PRESSURE RATING) 14-INCHES AND LARGER, WITH 125 PSI ANSI B16.1 FLANGES.	GATE, AWWA C500, 'O' RING SEALS, MECHANICAL JOINT ENDS, MUELLER A-2380-20 BUTTERFLY, AWWA, ECCENTRIC PLUG, DEZURIK SERIES 118 BALL, PRAIT.
SA	SAMPLE LINE	2, 16, 18, 24	--	16, 18, 24	--	125	WATER	(A)	12	CAST IRON SOIL, ANSI/ASTM A-74, SERVICE WEIGHT, BELL AND SPIGOT OR HUBLESS, AT THE OPTION OF THE CONTRACTOR, DUCTILE IRON (GROUP NO. 11) MAY BE SUBSTITUTED.	CAST IRON SOIL, ANSI/ASTM A-74, SERVICE WEIGHT, BELL AND SPIGOT OR HUBLESS. AT THE OPTION OF THE CONTRACTOR, DUCTILE IRON (GROUP NO. 11) MAY BE SUBSTITUTED.	AS INDICATED ON DRAWINGS.
SD	SANITARY DRAIN	4, 12, 16	2, 16	12, 16, 27	12, 16, 21, 27	NOTE 7	--	---	13	CORROSION RESISTANT (HIGH SILICON CONTENT) CAST IRON, SERVICE WEIGHT, BELL AND SPIGOT OR HUBLESS.	CORROSION RESISTANT (HIGH SILICON CONTENT) CAST IRON, SERVICE WEIGHT, BELL AND SPIGOT OR HUBLESS.	-----
SDR	STORM DRAIN	--	8	--	16, 22, 28	NOTE 6	WATER	8, 16(A), 28(B), 22(C)	14	STAINLESS STEEL, TYPE 316, ASTM A312, SCHEDULE 40S.	STAINLESS STEEL, TYPE 316 ANSI B16.3, SCREWED, 150 PSI, ANSI B16.9, BUTT-WELDED, SCHEDULE 40S, OR 150 PSI FLANGED.	STAINLESS STEEL, BALL, FLANGED, JAMESBURY TYPE A/D150F. CHECK, LADISH, NO. 5272 OR AS SHOWN ON DRAWINGS.
SS	SANITARY SEWER								15	STAINLESS STEEL, TYPE 316, ASTM A312, SCHEDULE 10S.	STAINLESS STEEL, TYPE 316 ANSI B16.9, BUTT-WELDED SCHEDULE 10S OR 150 PSI FLANGED.	STAINLESS STEEL, AS INDICATED ON DRAWINGS.
SV	SANITARY VENT								16	POLYVINYL CHLORIDE, SCHEDULE 80, NORMAL IMPACT, ASTM D1785.	POLYVINYL CHLORIDE, SCHEDULE 80, NORMAL IMPACT, SOCKET SOLVENT WELD JOINTS, ASTM D2467.	POLYVINYL CHLORIDE, BALL, DIAPHRAGM, BUTTERFLY, BALL OR LIFT CHECK. NIBCO/CHEMTROL OR HILLS-MCCANNA.
TOF	TANK OVERFLOW								17	POLYPROPYLENE, ASTM D4101, SCHEDULE 40, WITH HEAT FUSED JOINTS.	POLYPROPYLENE, SCHEDULE 40, DRAINAGE TYPE WITH HEAT FUSED SOCKET JOINTS.	-----
TW	TREATED WATER (POTABLE)	16, 24	2, 8, 16	24	2,8,11,16,51,52	150	WATER	(A)	18	FIBERGLASS REINFORCED PLASTIC, ASTM D2996, FILAMENT WOUND, SOCKET AND SPIGOT ENDS, ADHESIVE BONDED.	FIBERGLASS REINFORCED PLASTIC, FILAMENT-WOUND, SOCKET ENDS, ADHESIVE BONDED, OR FIBERGLASS FLANGED.	PLASTIC LINED, FLANGED, FLANGES TO MATCH 150 PSI ANSI B16.5 DIMENSIONS, OR AS INDICATED ON DRAWINGS.
UW	UTILITY WATER (NON-POTABLE WATER)	2, 16, 24	2, 11, 16, 32	2, 16, 24	2, 8, 15, 16, 18	125	WATER	2, 11, 24(A), 19(B)	19	POLYVINYL CHLORIDE PRESSURE PIPE ASTM D2241 WITH BELL AND SPIGOT JOINTS.	CAST IRON, 150 PSI, FOR POLYVINYL CHLORIDE PIPE, AWWA C110 CEMENT MORTAR LINED, AWWA C104.	SAME AS GROUP NO. 11.
									20	VITRIFIED CLAY, PERFORATED, ASTM C 700, EXTRA STRENGTH, FLEXIBLE COMPRESSION JOINTS FOR BELL AND SPIGOT PIPE OR PLAIN END WITH MECHANICAL COMPRESSION JOINTS.	VITRIFIED CLAY, ASTM C700, FLEXIBLE JOINTS FOR BELL AND SPIGOT PIPE OR PLAIN END WITH MECHANICAL COMPRESSION JOINTS.	-----
									21	VITRIFIED CLAY, ASTM C700, EXTRA STRENGTH, FLEXIBLE COMPRESSION JOINTS FOR BELL AND SPIGOT PIPE OR PLAIN END WITH MECHANICAL COMPRESSION JOINTS.	VITRIFIED CLAY, ASTM C700, FLEXIBLE JOINTS FOR BELL AND SPIGOT PIPE OR PLAIN END WITH MECHANICAL COMPRESSION JOINTS.	-----
									22	REINFORCED CONCRETE, ASTM C76 TONGUE AND GROOVE JOINTS, (TYPICAL SERVICE - CULVERTS)	SAME AS GROUP NO. 8	-----
									23	TEMPERED GLASS, (ARMORED, WHERE BURIED). ANSI/ASTM C599.	TEMPERED GLASS DRAINAGE TYPE WITH COMPRESSION COUPLINGS AND TEFLON JOINTS, ANSI/ASTM C599 (ARMORED WHERE BURIED).	-----
									24	COPPER, ASTM B88, TYPE K, SOFT TEMPERED WHERE BURIED, HARD TEMPERED WHERE EXPOSED.	WROUGHT COPPER OR CAST BRONZE, ANSI B16.22, SOLDER JOINT, 150 PSI, OR COMPRESSION FITTINGS, (FOR OXYGEN PIPING USE SILVER SOLDER, FOR COMPRESSED AIR PIPING USE 95-5 TIN-ANTIMONY SOLDER).	BRONZE, SOLDER JOINT, GLOBE, CRANE NO. 1310 OR STOCKHAM B-14T. CHECK, CRANE NO. 1342 OR 36, OR STOCKHAM B-309 OR B-345. GATE, CRANE NO. 426, OR STOCKHAM B-104 OR B-105.
									25	STEEL, ASTM A106 OR A53, SCHEDULE 40, SEAMLESS, BLACK, SARAN OR POLYPROPYLENE-LINED.	STEEL, ANSI B16.5, 150 PSI FLANGED, SARAN OR POLYPROPYLENE-LINED.	CAST STEEL PLUG, DIAPHRAGM OR CHECK, 150 PSI FLANGED, SARAN OR POLYPROPYLENE-LINED.
									26	SAME AS GROUP NO. 11 (TYPICAL SERVICE - SLUDGE AND SEWAGE LINES).	SAME AS GROUP NO. 11.	SEE SPECIFICATIONS.
									27	POLYVINYL CHLORIDE GRAVITY SEWER PIPE, SDR 35 ASTM D3034, BELL AND SPIGOT.	POLYVINYL CHLORIDE, ANSI/ASTM D3034 & F679, BELL AND/OR SPIGOT.	-----
									28	REINFORCED CONCRETE, AWWA C302, CLASS- SEE DRAWINGS. (TYPICAL SERVICE - PRESSURE PIPELINES).	SAME AS GROUP NO. 8.	AS INDICATED ON DRAWINGS.
									29	SAME AS GROUP NO. 1.	2-INCH AND SMALLER, MALLEABLE IRON, ANSI B16.3, THREADED, BANDED, BLACK, 150 PSI, 2-1/2 INCH AND LARGER, STEEL ANSI B16.9, BUTT-WELDED.	SAME AS GROUP NO. 1, EXCEPT LUBRICATED PLUG SHALL BE ROCKWELL FIG. 114 OR 115, OR POWELL FIG. 2202 OR 2203.
									30	SAME AS GROUP NO. 11, GLASS-LINED OR STEEL ASTM A120, SCHEDULE 40, GLASS-LINED.	SAME AS GROUP NO. 11, GLASS-LINED OR STEEL, ANSI B16.9, SCHEDULE 40, GROOVED WITH MECHANICAL COUPLINGS, GLASS-LINED.	SAME AS GROUP NO. 26.
									31	2-1/2 INCH AND SMALLER, STEEL, ASTM A106 OR A53, SCHEDULE 80, SEAMLESS, BLACK. 3-INCH AND LARGER DUCTILE IRON, ANSI A21.51 (AWWA C151) OR CAST IRON ANSI A21.56 OR A21.8 MECHANICAL COUPLINGS OR 125 PSI FLANGED.	2-1/2 INCH AND SMALLER, FORGED STEEL, ANSI B16.11, SOCKET-WELDED OR THREADED, BLACK, 2000 PSI, OR STEEL, ANSI B16.9, BUTT-WELDED SCHEDULE 80. 3-INCH AND LARGER, DUCTILE IRON OR CAST IRON, ANSI A21.10 OR AWWA C110, MECHANICAL COUPLING OR 125 PSI FLANGED.	CAST IRON, LUBRICATED PLUG, ROCKWELL FIG. 142 OR 143, OR POWELL FIG. 2200 OR 2201.
									32	PVC TYPE 1, GRADE 1, 18 ASTM D-1784 AWWA C-905.	SHORT BODY CAST IRON OR DUCTILE IRON AWWA C110.	SAME AS GROUP 11.
									33	CORRUGATED HDPE SLOTTED, SPLIT COUPLING JOINTS.	FABRICATED OR MOLDED.	-----
									34	FIBERGLASS DOUBLE CONTAINMENT (FOR USE WITH FLAMMABLE LIQUIDS) SEE SPECS.	FIBERGLASS.	AS PER MANUFACTURER'S RECOMMENDATIONS.
									35	CPVC	CPVC	CPVC
									36	HIGH DENSITY POLYETHYLENE, DR-11, DR-17	4 INCH AND LARGER HIGH DENSITY POLYETHYLENE, DR-11, DR-17	SAME AS GROUP NO. 11
									51	PVC AWWA C905	DUCTILE IRON AWWA C110	SAME AS GROUP NO. 11
									52	PVC AWWA C900	DUCTILE IRON AWWA C110	SAME AS GROUP NO. 11
									53	NOT USED	NOT USED	-----
									54	DOUBLE - WALL CORRUGATED HDPE, ADS N-12, SOLID WALL	FABRICATED OR MOLDED	-----
									55	DOUBLE - WALL CORRUGATED HDPE, ADS N-12, SLOTTED	FABRICATED OR MOLDED	-----

- DRAWING NOTES:**
- PROPRIETARY NAMES HAVE BEEN QUOTED FOR IDENTIFICATION PURPOSES ONLY. SUBSTITUTIONS WILL BE PERMITTED SUBJECT TO REQUIREMENTS OF THE SPECIFICATIONS.
 - LEAKAGE ALLOWANCE IS AS FOLLOWS:
 - (A) PIPES SO DESIGNATED SHALL SHOW ZERO LEAKAGE.
 - (B) PIPES SO DESIGNATED SHALL SHOW ZERO LEAKAGE FOR UNBURIED PIPE AND NOT MORE THAN 0.002 GALLON PER HOUR PER INCH DIAMETER PER 100 FEET OF BURIED PIPE.
 - (C) PIPES SO DESIGNATED SHALL NOT SHOW A LEAKAGE OF MORE THAN 0.15 GALLON PER HOUR PER INCH OF DIAMETER PER 100 FEET OF PIPE.
 - (D) PIPES SO DESIGNATED SHALL NOT SHOW A LOSS OF PRESSURE OF MORE THAN 5 PERCENT.
 - (E) PIPES SO DESIGNATED SHALL NOT SHOW A LOSS OF VACUUM OR MORE THAN 4 INCHES MERCURY COLUMN.
 - FOR FIELD TEST PROCEDURES AND ADDITIONAL TEST REQUIREMENTS, SEE PIPING SECTION OF SPECIFICATIONS.
 - ANY DEVIATION FROM THE PIPING MATERIALS OR FIELD TEST REQUIREMENTS SHOWN WILL BE NOTED IN THE SPECIFICATIONS OR ON THE DRAWINGS.
 - PIPING GROUP NUMBER SHOWN THUS * SHALL BE INSULATED, SEE PIPING SECTION OF SPECIFICATIONS FOR INSULATING MATERIALS.
 - STATIC WATER TEST WITH SURFACE 5 FEET ABOVE HIGH POINT OF PIPE.
 - INSPECTION AND TESTING SHALL BE IN ACCORDANCE WITH APPLICABLE PLUMBING CODE.
 - NO APPARENT LEAKS UNDER NORMAL OPERATING CONDITIONS.
 - INSPECTION AND TESTING SHALL BE IN ACCORDANCE WITH APPLICABLE NATIONAL FIRE PROTECTION ASSOCIATION STANDARDS.
 - PIPING MATERIALS SHALL BE IN ACCORDANCE WITH NATIONAL FIRE PROTECTION ASSOCIATION STANDARDS.
 - FOR VALVES 4 INCHES AND LARGER SEE VALVE SCHEDULE. FOR SPECIAL VALVES SEE SPECIFICATIONS.
 - CHANGE IN PIPING MATERIAL GROUP NUMBER IS INDICATED, THUS:
 - FOR PIPE LINING AND COATING, SEE SPECIFICATIONS.
 - EXPOSED PIPING SHALL BE PAINTED IN ACCORDANCE WITH SPECIFICATIONS. COLORS TO BE SELECTED BY ENGINEER.
 - PIPING MATERIAL SHALL BE NON-ABRASIVE FLEXIBLE RUBBER HOSE AND QUICK CONNECTION COUPLINGS WITH GROUP NO. 1 AT EQUIPMENT.
 - VALVES 2-1/2 INCH AND SMALLER MAY HAVE SCREWED ENDS VALVES 3 INCH AND LARGER SHALL HAVE FLANGED ENDS. UNLESS OTHERWISE SHOWN OR SPECIFIED.

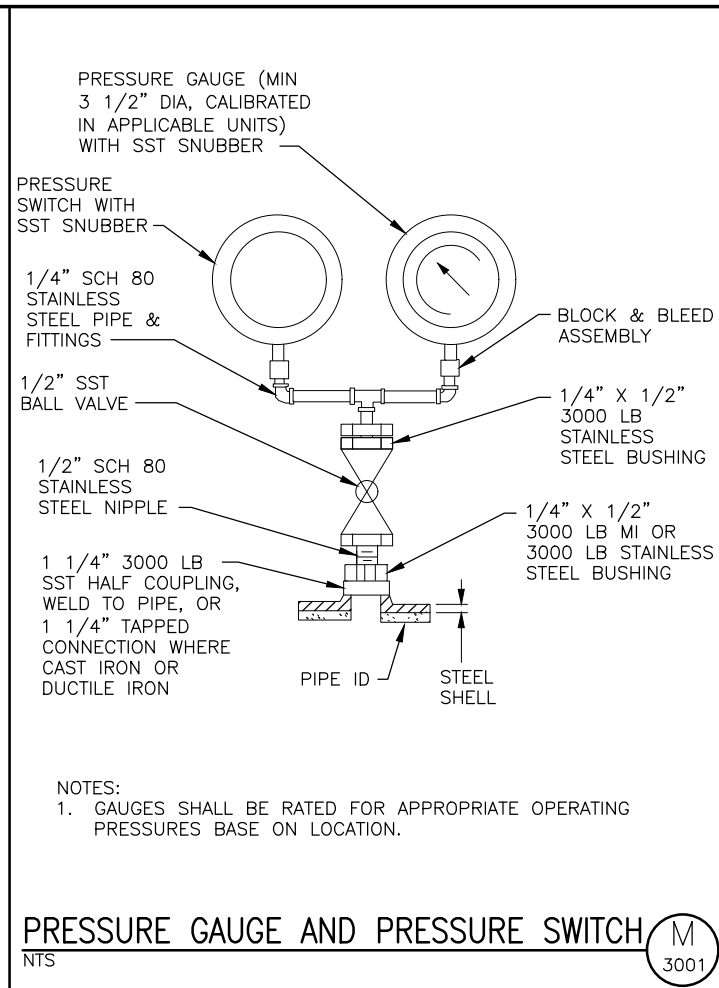
GENERAL NOTES:

- ALTHOUGH SEVERAL PIPING MATERIALS ARE SHOWN THAT MAY BE USED FOR A GIVEN FUNCTION, ONLY THE CALLED OUT PIPING MATERIAL SHOWN ON THE CONSTRUCTION DRAWINGS AND SPECIFICATION SHALL BE USED. THE CONTRACTOR DOES NOT HAVE THE OPTION TO USE A DIFFERENT MATERIAL.

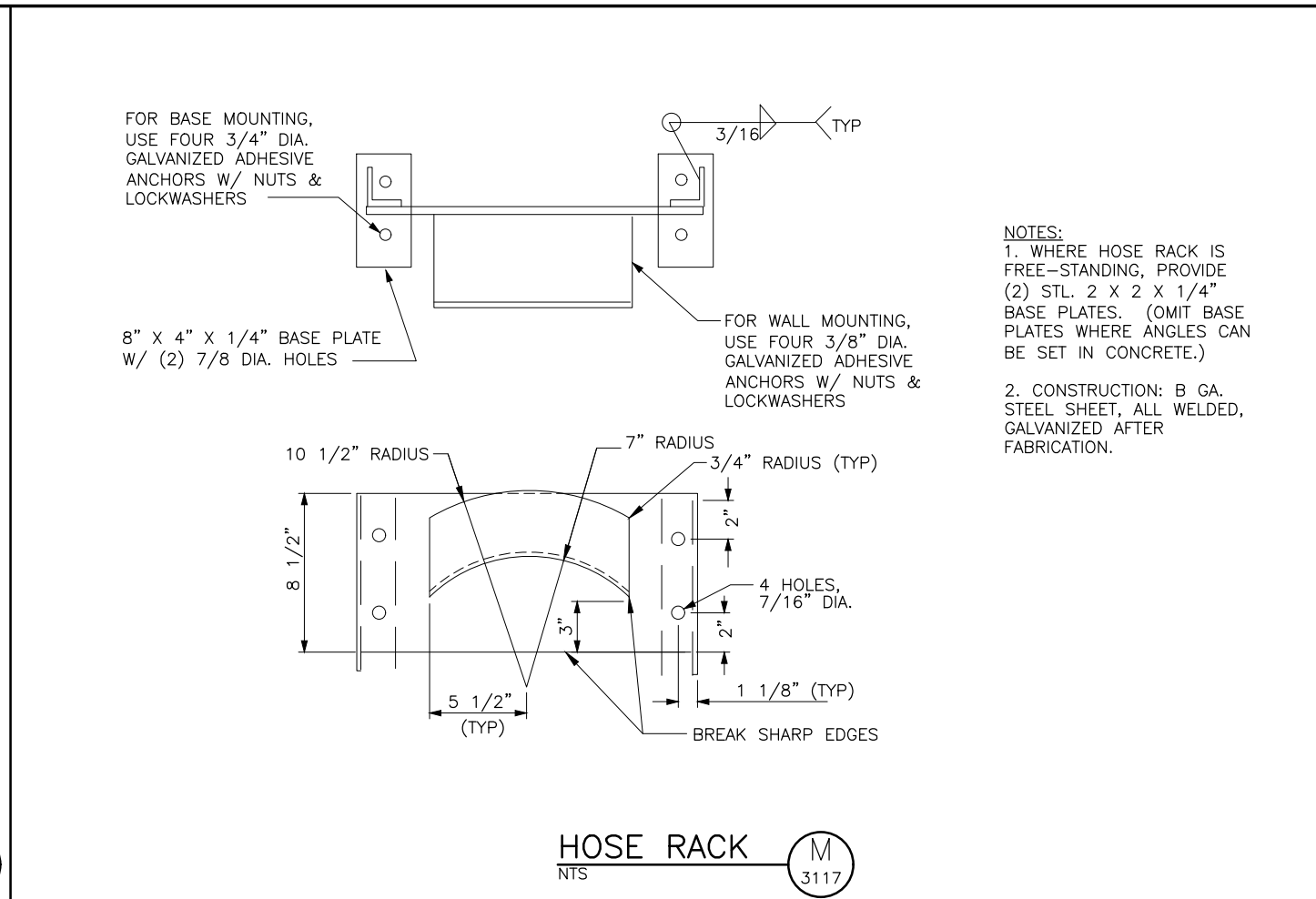




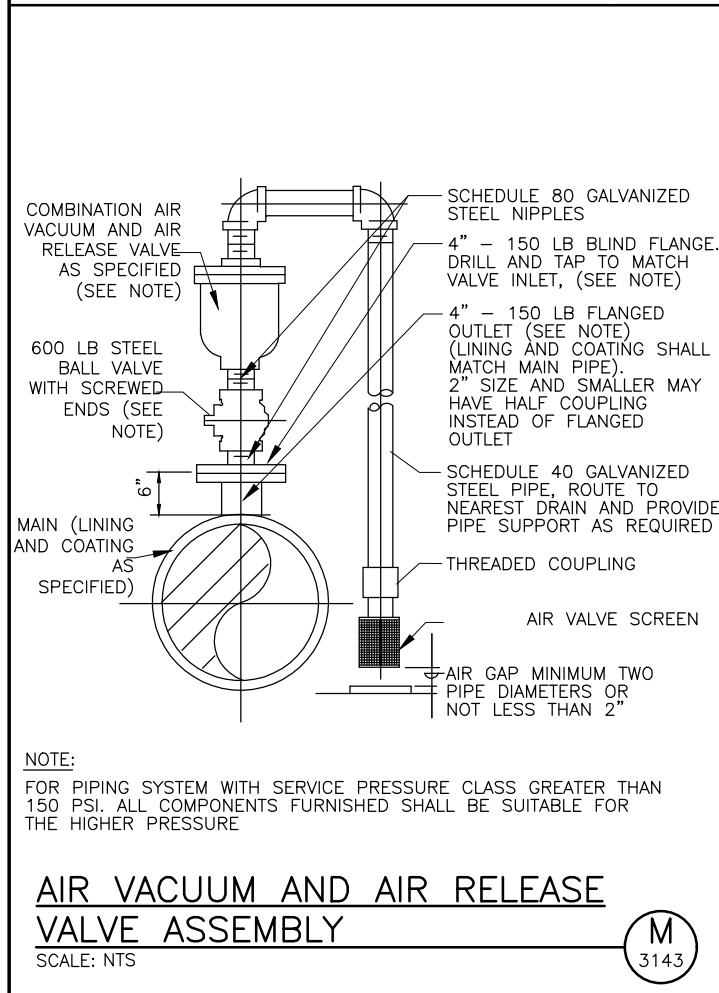
HOSE BIBB/SAMPLE TAP



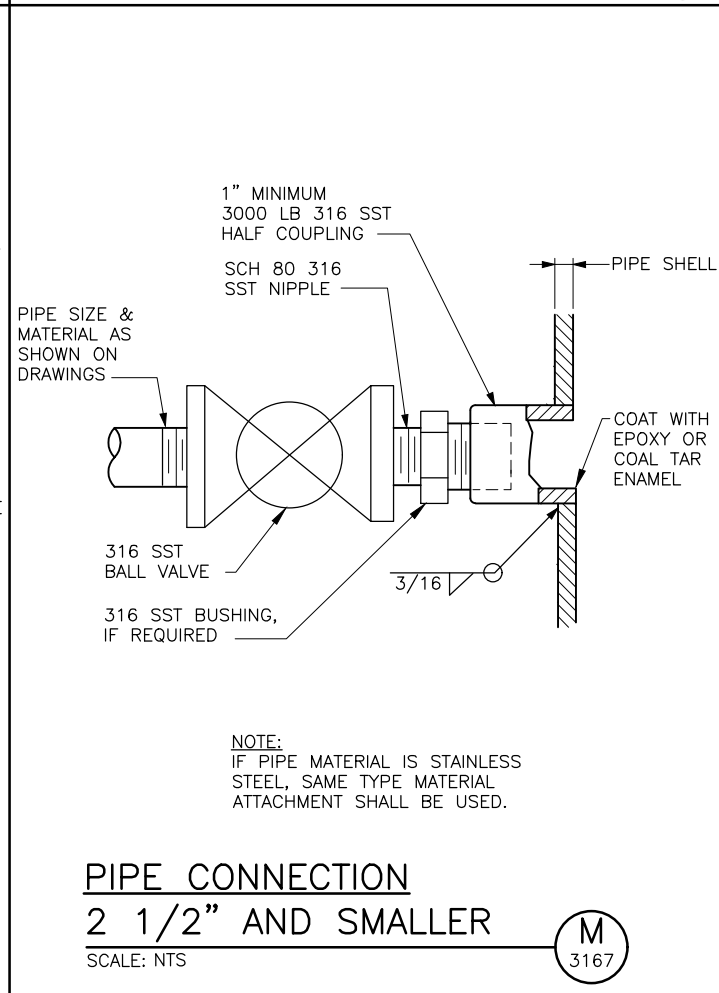
PRESSURE GAUGE AND PRESSURE SWITCH



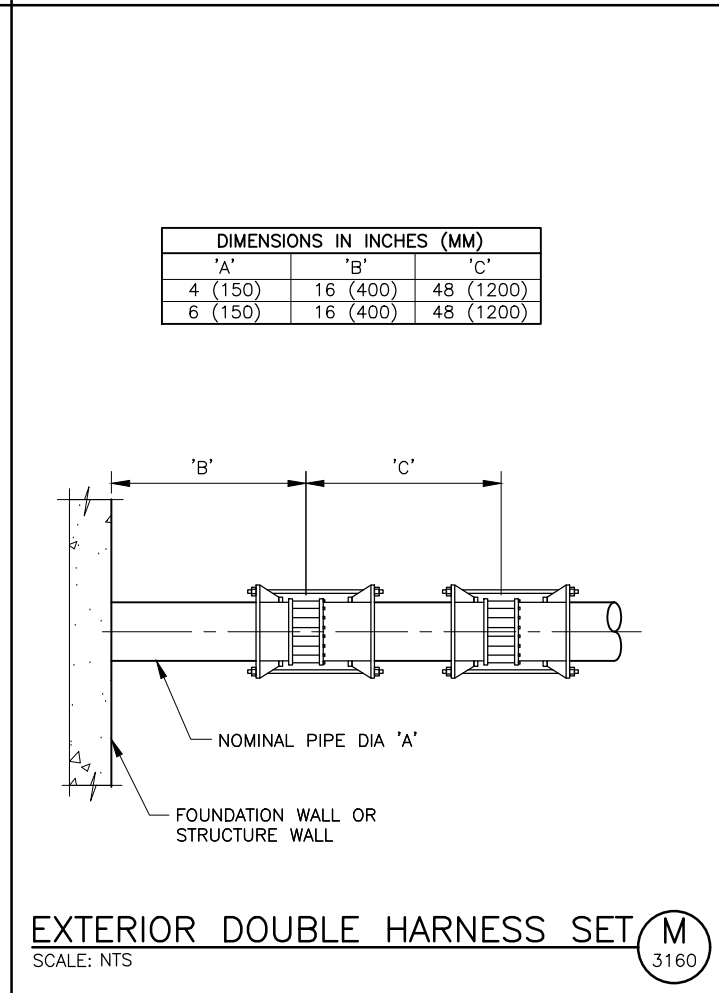
HOSE RACK



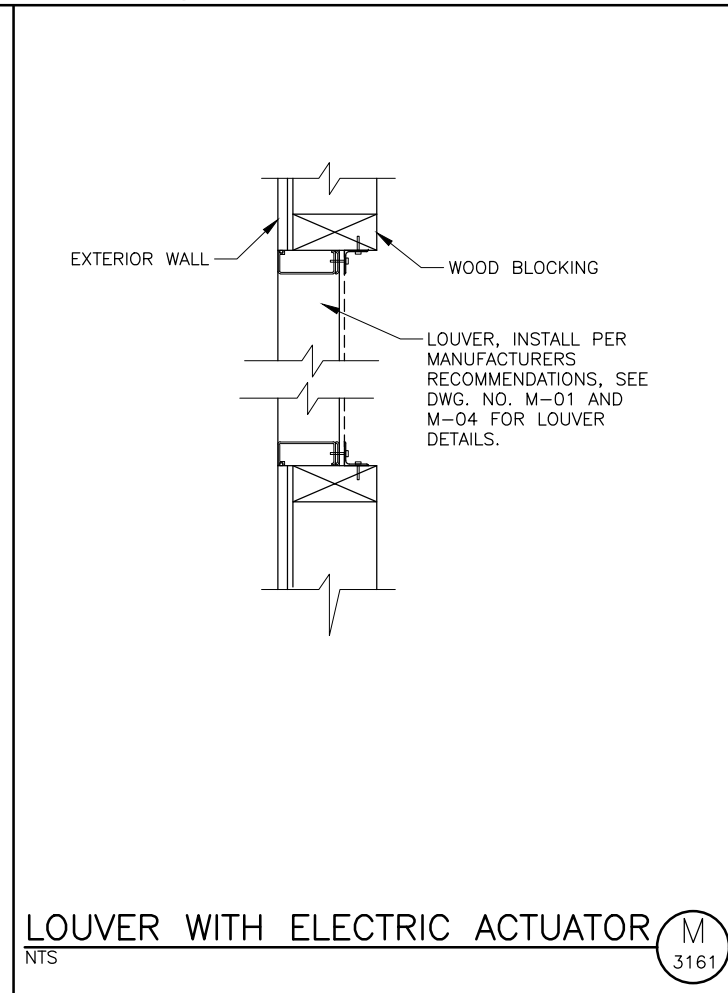
AIR VACUUM AND AIR RELEASE VALVE ASSEMBLY



PIPE CONNECTION 2 1/2" AND SMALLER



EXTERIOR DOUBLE HARNESS SET



LOUVER WITH ELECTRIC ACTUATOR



BOWEN COLLINS
ASSOCIATES

PROFESSIONAL ENGINEER
ERIC W. NEIL
7702647
UTAH STATE LICENSE
08-22-2018

NO.	DATE	REV. BY	DESCRIPTION

BLOOMINGTON WELL PROJECT
WEBER COUNTY, UTAH

GENERAL MECHANICAL DETAILS-1

MECHANICAL

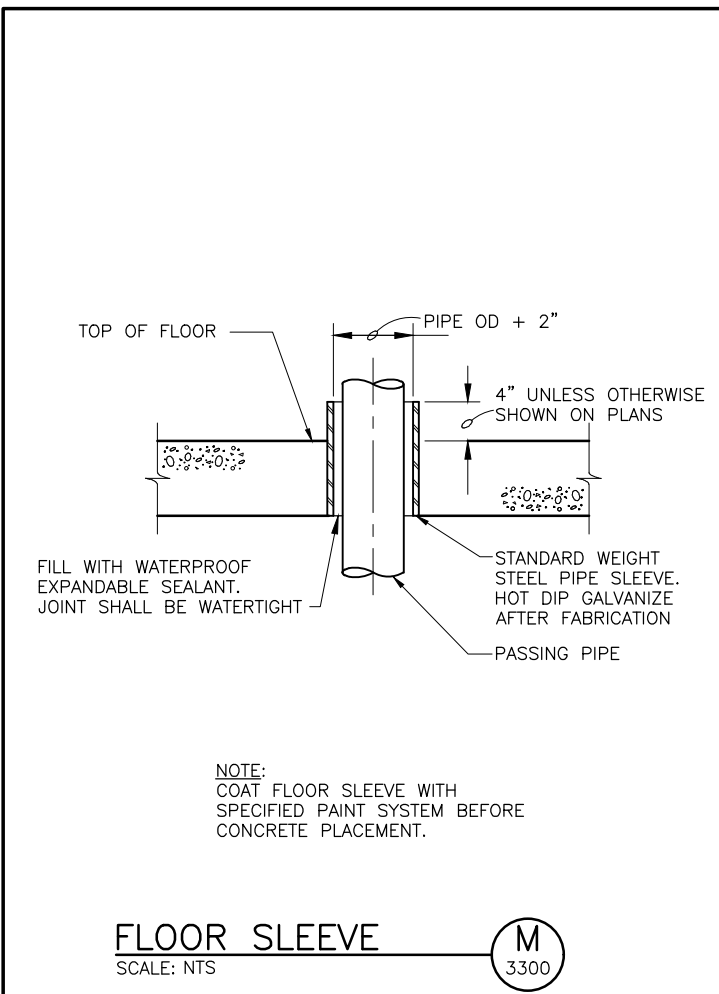
PROJECT NUMBER 347-17-01
DATE: AUGUST 2018

DRAWING NO. GM-02
SHEET 32 OF 46

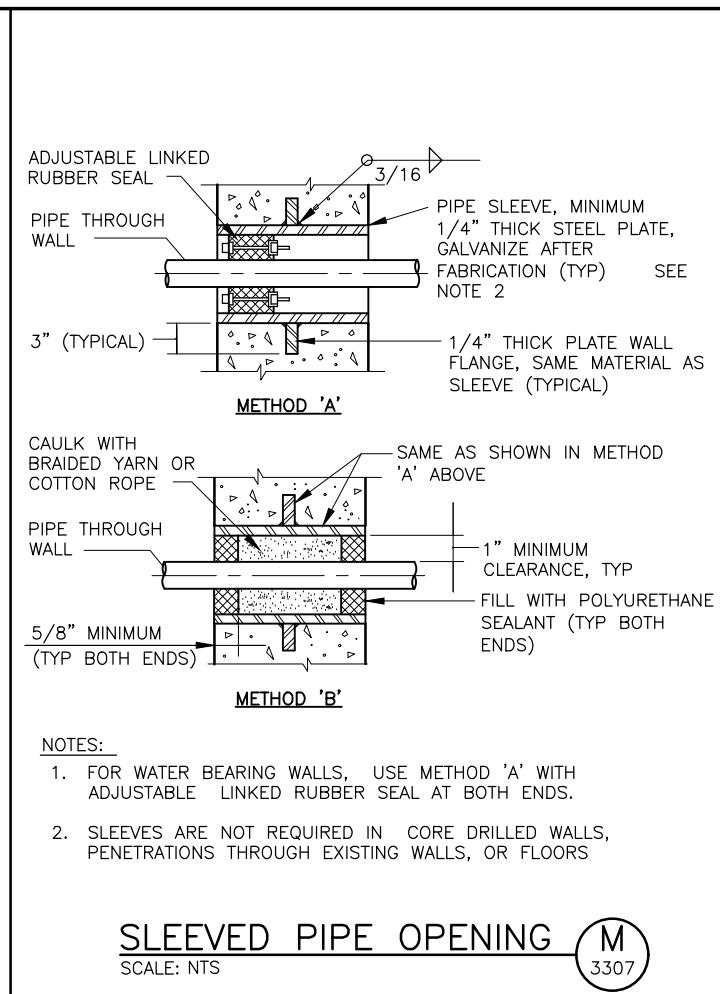
DESIGN BCS STANDARDS
DRAWN ECA STANDARDS

REVIEW
CHECKED J. BECKMAN
APPROVED E. NEIL

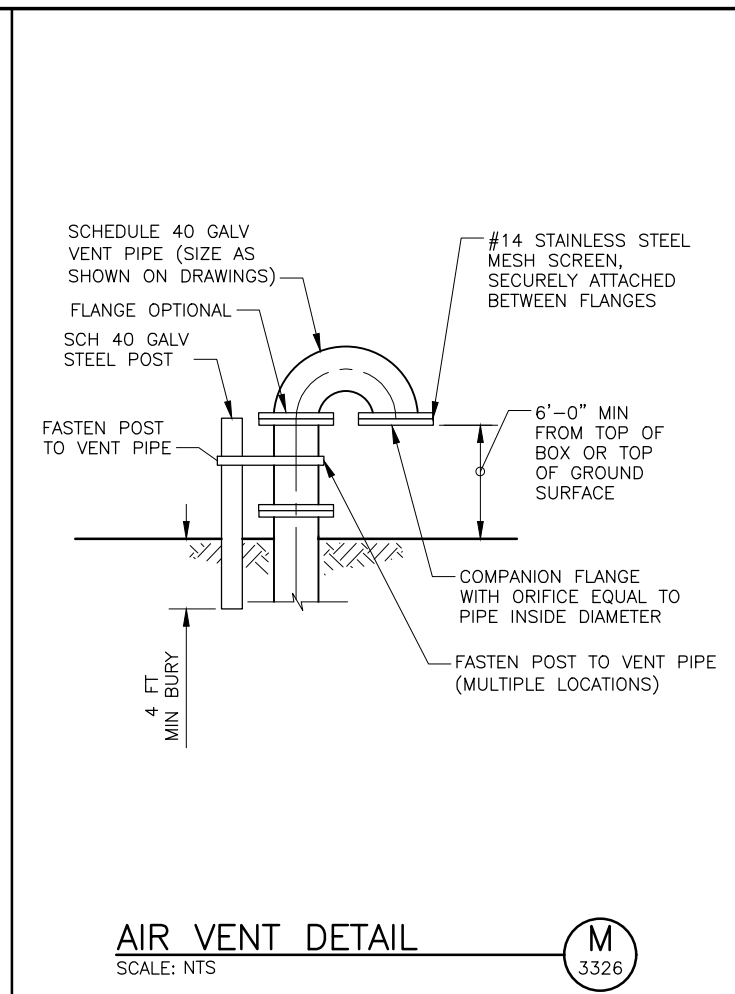
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING



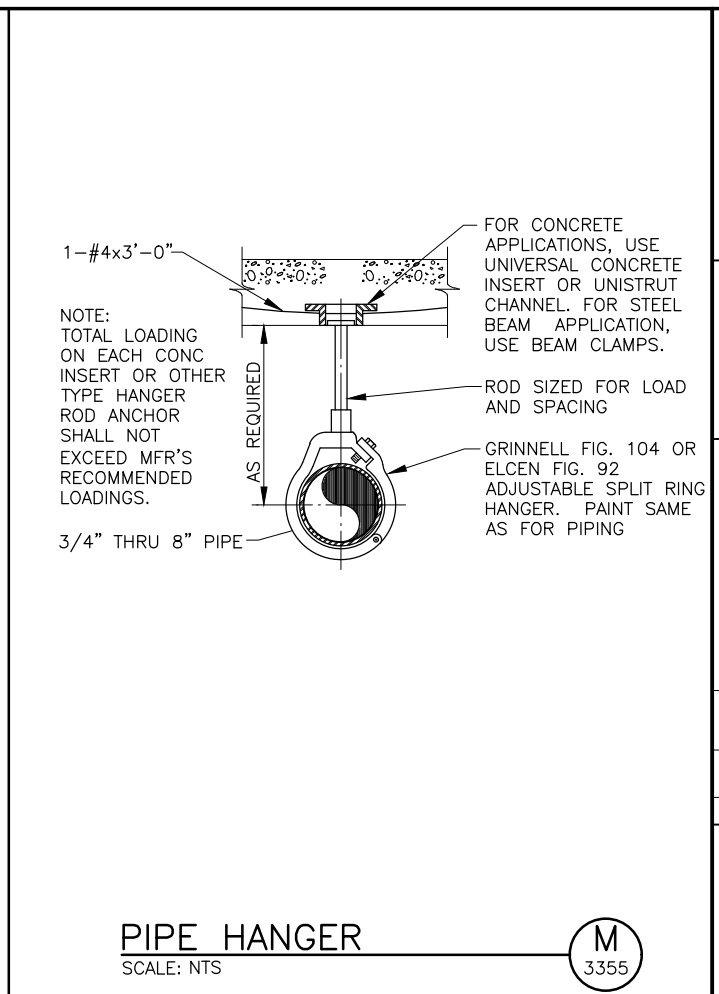
FLOOR SLEEVE (M) 3300
SCALE: NTS



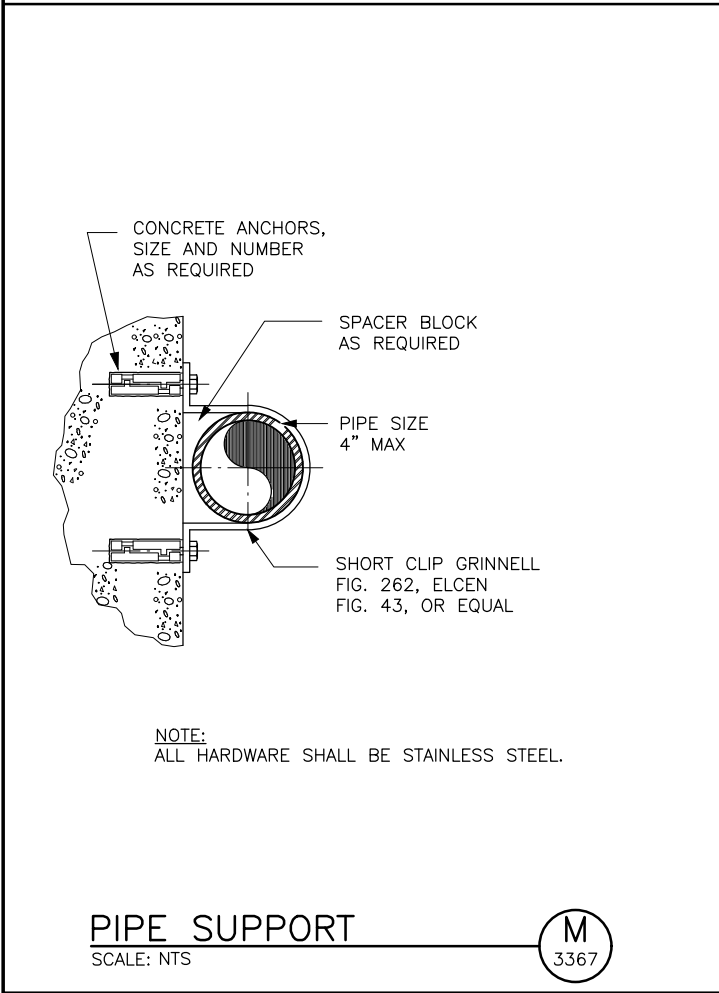
SLEEVED PIPE OPENING (M) 3307
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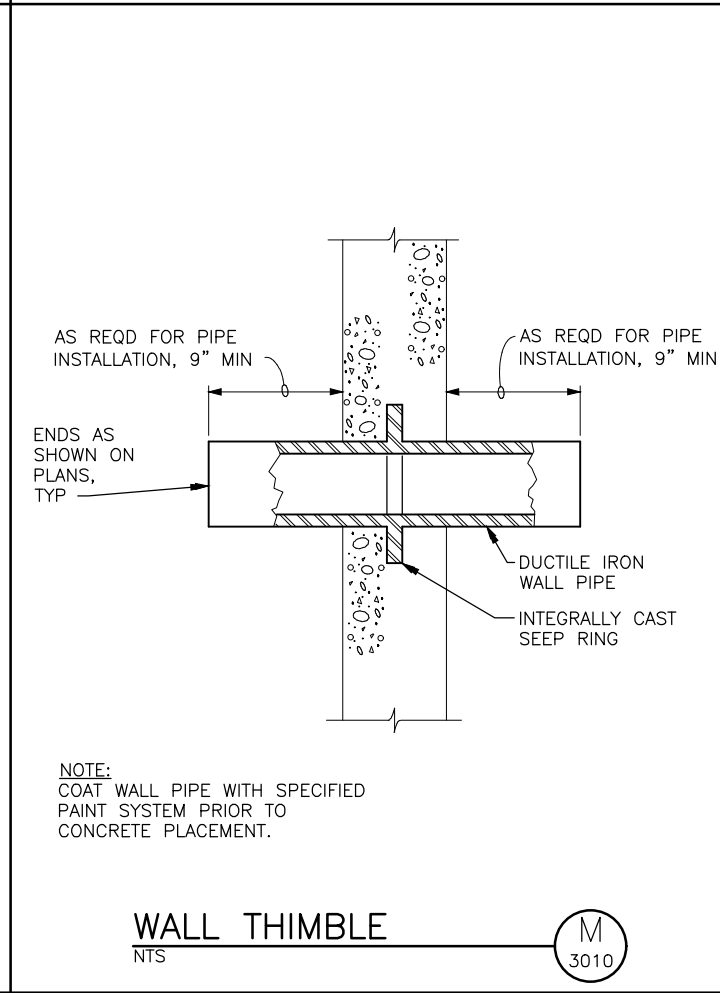
AIR VENT DETAIL (M) 3326
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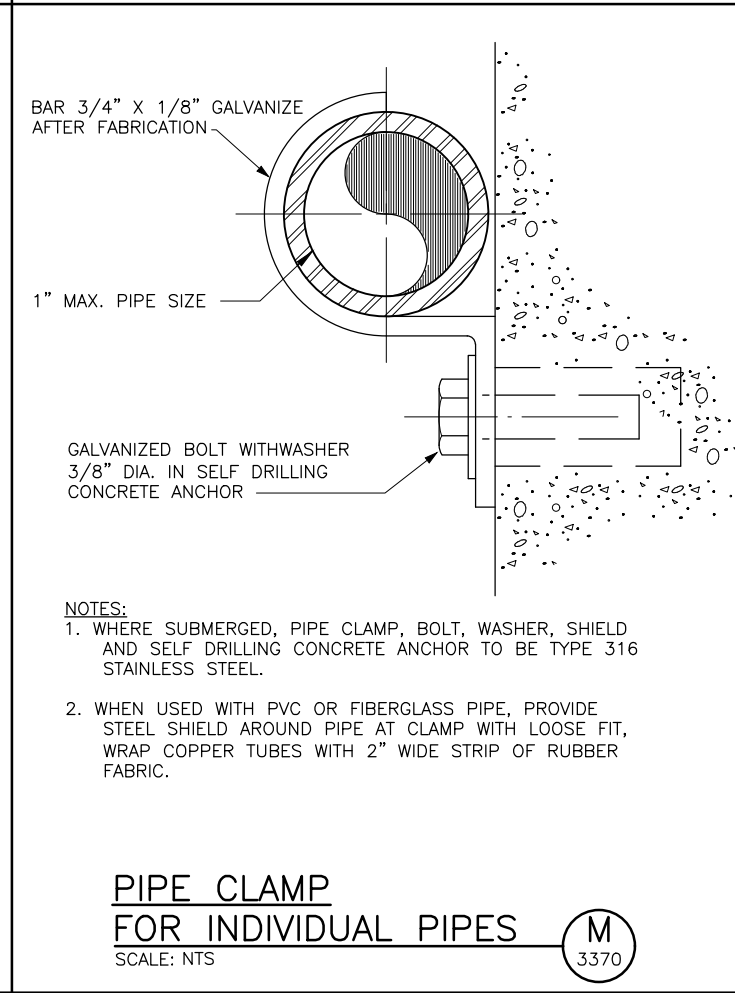
PIPE HANGER (M) 3355
SCALE: NTS



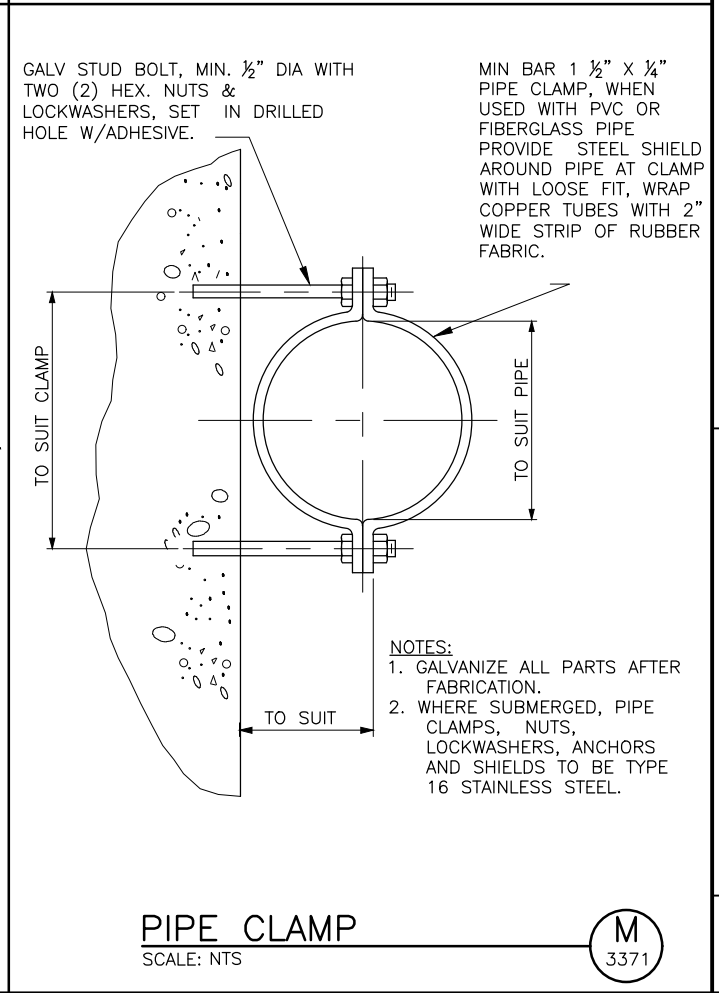
PIPE SUPPORT (M) 3367
SCALE: NTS



WALL THIMBLE (M) 33010
SCALE: NTS



PIPE CLAMP FOR INDIVIDUAL PIPES (M) 3370
SCALE: NTS



PIPE CLAMP (M) 3371
SCALE: NTS

BOWEN COLLINS ASSOCIATES

PROFESSIONAL ENGINEER
ERIC W. NEIL
7702647
UTAH STATE LICENSE
08-22-2018

NO.	DATE	REV. BY	DESCRIPTION

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGN BCS STANDARDS
DRAWN BCA STANDARDS

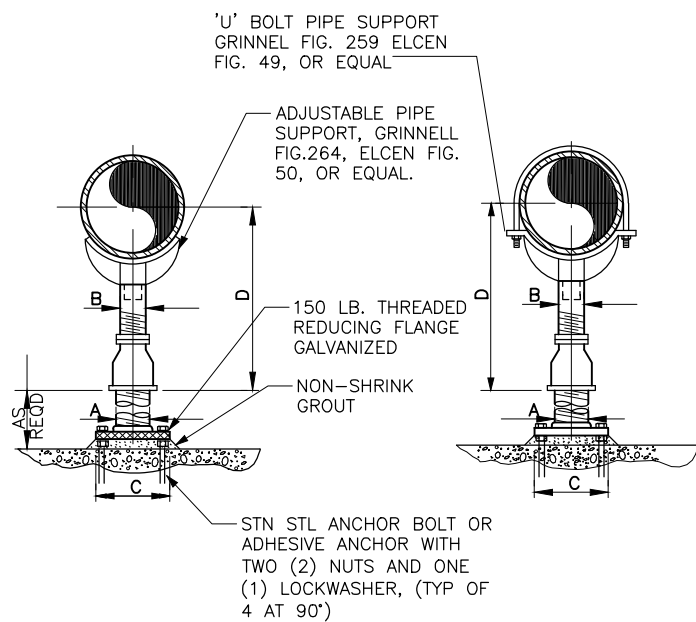
REVIEW
CHECKED J. BECKMAN
APPROVED E. NEIL

SUMMIT MOUNTAIN HOLDING GROUP
BLOOMINGTON WELL PROJECT
WEBER COUNTY, UTAH

MECHANICAL
GENERAL MECHANICAL DETAILS-2

PROJECT NUMBER 347-17-01
DATE: AUGUST 2018

DRAWING NO. GM-03
SHEET 33 OF 46



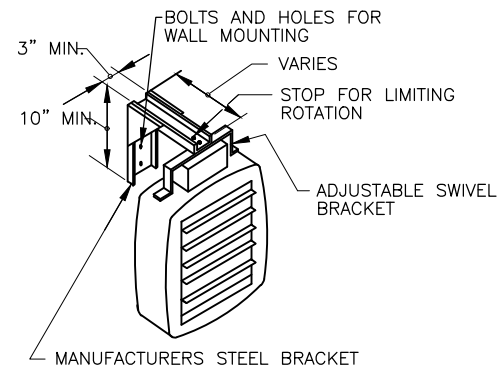
PIPE SIZE	A	B	C	D	
				MIN	MAX
2-1/2"	2-1/2"	1-1/2"	9"	8"	11-1/2"
3"	2-1/2"	1-1/2"	9"	8-1/4"	11-3/4"
3-1/2"	2-1/2"	1-1/2"	9"	8-1/2"	12-0"
4"	3"	2-1/2"	9"	10-1/4"	14-0"
6"	3"	2-1/2"	9"	11-5/8"	15-1/4"

NOTE:
ENTIRE UNIT SHALL BE GALVANIZED AFTER FABRICATION.

ADJUSTABLE PIPE SUPPORT WITH OR WITHOUT U-BOLT

SCALE: NTS

M 3389

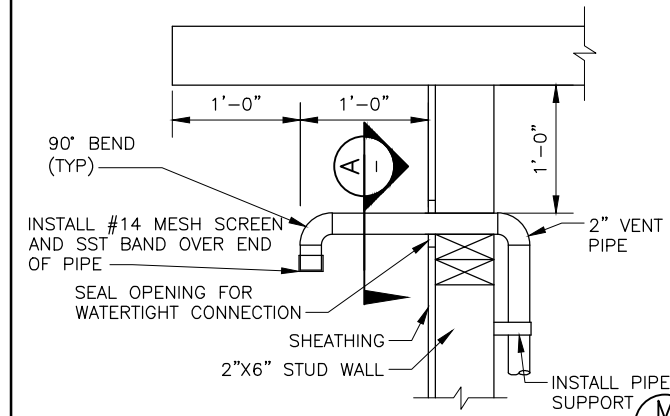


- NOTES:
1. HEATER TO BE CONTROLLED FROM INTERNAL THERMOSTAT.
2. SEE ELECTRICAL DWGS FOR WIRING DETAILS.

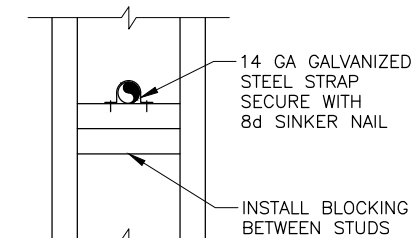
ELECTRIC UNIT HEATER MOUNTED

SCALE: NTS

M 3455



SECTION

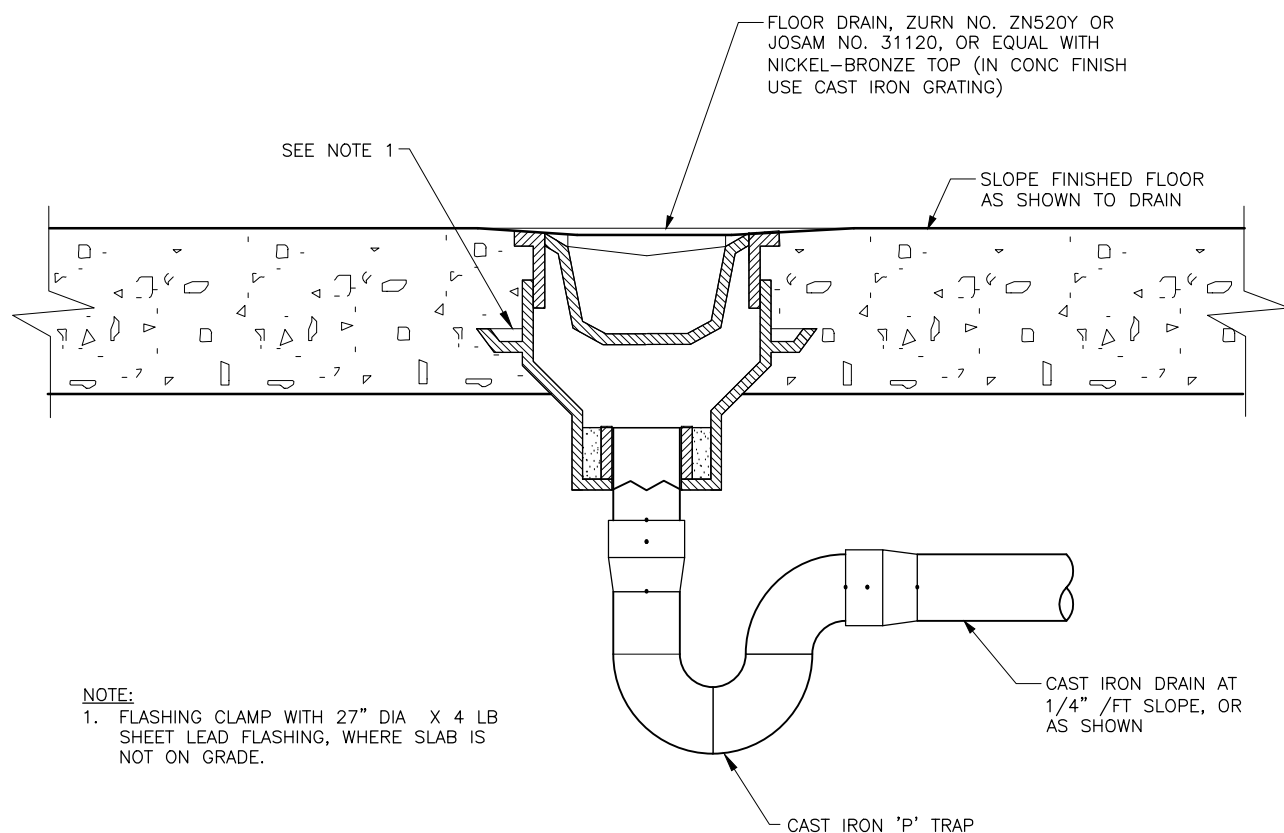


SECTION A

VENT THROUGH WALL

NTS

M 3456

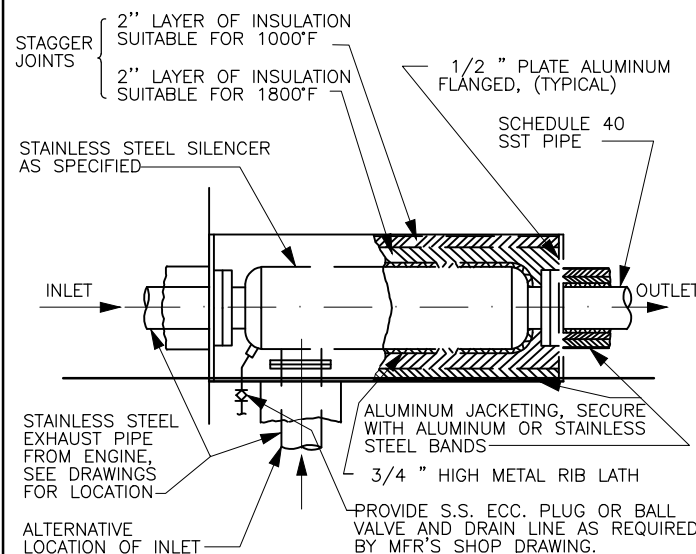


- NOTE:
1. FLASHING CLAMP WITH 27" DIA X 4 LB SHEET LEAD FLASHING, WHERE SLAB IS NOT ON GRADE.

FLOOR DRAIN

SCALE: NTS

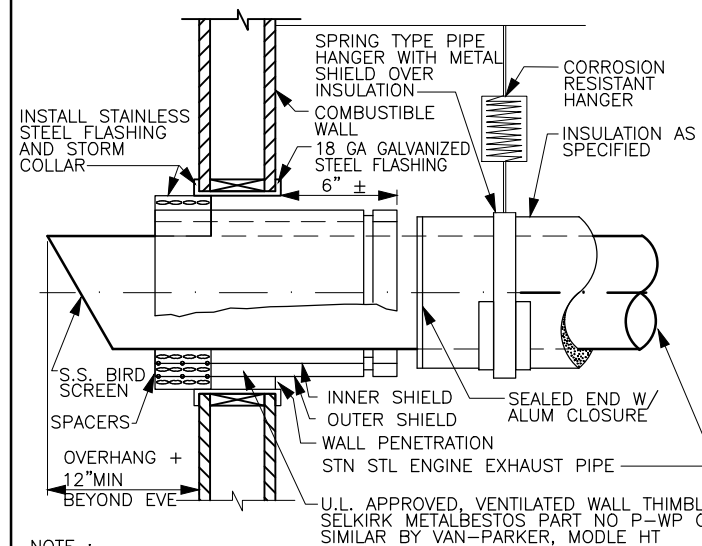
M 3802



ENGINE SILENCER ASSEMBLY

NTS

M 3805



- NOTE:
ENGINE EXHAUST TO BE INSTALLED 10'-0" (MINIMUM) ABOVE TRAFFIC AREA

ENGINE EXHAUST THROUGH WALL

NTS

M 3806

BOWEN COLLINS & ASSOCIATES

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ERIC W. NEIL
7702647
UTAH STATE LICENSE
08-22-2018

NO.	DATE	REV. BY	DESCRIPTION

BLOOMINGTON WELL PROJECT
WEBER COUNTY, UTAH

GENERAL MECHANICAL DETAILS-3

MECHANICAL

DATE: AUGUST 2018
PROJECT NUMBER: 347-17-01

DRAWING NO. GM-04
SHEET 34 OF 46

SCHEMATIC SWITCHES		
NORMALLY OPEN (NO)	NORMALLY CLOSED (NC)	
		MOMENTARY PUSHBUTTON
		LEVEL OR FLOAT
		TEMPERATURE
		FLOW
		TIME
		FORCE OR TORQUE
		PRESSURE
		LIMIT
		SELECTOR SWITCH, THREE POSITION MAINTAINED CONTACT WITH HAND-OFF-AUTO LEGEND

POWER SYMBOLS	
	DUPLEX FLOOR BOX
	QUAD FLOOR BOX
	DUPLEX IN CEILING
	QUAD IN CEILING
	DUPLEX GFCI
	SIMPLEX RECEPTACLE
	DUPLEX RECEPTACLE
	DUPLEX SPLIT WIRED
	COMBO MOTOR STARTER
	FUSED DISCONNECT
	DISCONNECT
	JUNCTION BOX
	CONTROL STATION
	SINGLE POLE TOGGLE SWITCH
	THREE WAY TOGGLE SWITCH
	FOUR WAY TOGGLE SWITCH
	DATA JACK
	VOICE JACK
	DATA/VOICE JACK
	PHOTOELECTRIC CONTROL UNIT
	THERMOSTAT


LIGHTING SYMBOLS	
F1	DESIGNATES FIXTURE NUMBER - REFER TO FIXTURE SCHEDULE
	WALL MOUNTED
	2'x4' FLUORESCENT LIGHT
	1'x4' FLUORESCENT LIGHT
	EMERGENCY LIGHT
	2' WALL MOUNT LIGHT
	4' WALL MOUNT LIGHT
	POLE MOUNTED W/ONE LUMINAIRE
	PENDANT OR CEILING MOUNTED
	EXIT LIGHT
	WARNING LIGHT

POWER ONE-LINE SYMBOLS	
	UTILITY METERING CURRENT TRANSFORMER
	UTILITY METERING SOCKET
	TRANSFER SWITCH ATS: AUTOMATIC TRANSFER SWITCH MTS: MANUAL TRANSFER SWITCH
	DISCONNECT
	FUSED DISCONNECT
	MOTOR (HP SHOWN)
	GENERATOR
	POWER FEED
	POWER FACTOR CAPACITOR
	CIRCUIT BREAKER OR MCP (MOTOR CIRCUIT PROTECTOR)
	UTILITY METERING SOCKET WITH CIRCUIT BREAKER
	MOTOR STARTER WITH OVERLOADS: X = NEMA SIZE
	DELTA-WYE TRANSFORMER
	RVSS REDUCED VOLTAGE SOFT STARTER
	SURGE SUPPRESSOR OR SURGE ARRESTOR
	VFD VARIABLE FREQUENCY DRIVE
	PNL POWER DISTRIBUTION PANEL GRAY = EXISTING AND FUTURE AS INDICATED
	CIRCUIT DISTRIBUTION PANELBOARD
	CONTROL PANEL ENCLOSURE
	SPD SURGE PROTECTION DEVICE

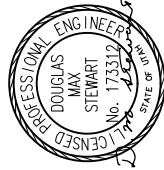
SCHEMATIC/CONTROL DIAGRAM SYMBOLS	
	CONDUCTOR
	CONDUCTOR (OUTSIDE EQUIPMENT, ENCLOSURE OR CONTROLLER)
	ELECTRICAL CONNECTION OR NODE
	NO CONNECTION OR NODE
	NORMALLY CLOSED (NC) CONTACTS
	NORMALLY OPEN (NO) CONTACTS
	FUSE HOLDER AND FUSE
	FUSE TERMINAL FUSE NUMBER: F5 FUSE RATING: 5 AMPS
	CONTRACTOR CONTACT (GANG OPERATED). NUMBER OF CONTACTS SHOWN. 30 = 30 AMP RATED
	MOTOR OVERLOAD MOTOR OVERLOAD MODIFIERS: BLANK = SOLID STATE ELECTRONIC BI = BI-METALLIC
	CONTROL RELAY X = RELAY NUMBER
	PILOT LIGHT LEGEND PLATE: ON MODIFIERS: A: AMBER LENS B: BLUE LENS G: GREEN LENS R: RED LENS W: WHITE LENS
	PILOT LIGHT - PUSH-TO-TEST
	PLC DIGITAL INPUT
	PLC DIGITAL OUTPUT
	PLC ANALOG INPUT
	PLC ANALOG OUTPUT
	SIGNAL CONDITIONER

CONTROL ONE-LINE SYMBOLS	
	ENCLOSURE OR CONTROL PANEL
	HOME RUN TO POWER PANEL "A" CIRCUIT "B"
	INSTRUMENT CONNECTION POINT
	JUNCTION BOX

PLAN SYMBOLS	
	GROUND ROD
	GROUND ROD IN GROUND WELL
	GROUND RISER FROM THE GROUND PLATE (REBAR)
	BOLTED AND WELDED GROUND CONNECTIONS, RESPECTIVELY
	GROUND CABLE: • EMBEDDED IN CONCRETE • BURIED IN EARTH • EXPOSED
	HVAC EQUIPMENT
	UNIT HEATER - WALL MOUNTED, AND CEILING MOUNTED RESPECTIVELY
	PAD MOUNTED CONDENSING UNIT, SIDE DISCHARGE, AND UP FLOW, RESPECTIVELY
	ROOFTOP MOUNTED EQUIPMENT
	EXHAUST FAN
	CONCEALED RACEWAY OR WIRING SYSTEM - BELOW GRADE, BEHIND WALLS AND EQUIPMENT, ETC.
	FLEX CONDUIT
	RACEWAY OR WIRING SYSTEM ABOVE FLOOR LEVEL BELOW CEILING, EXPOSED
	HOMERUN: DESIGNATIONS INDICATE A ONE-LINE DIAGRAM OR PANELBOARD SCHEDULE REFERENCE
	JUNCTION BOX
	RACEWAY OR WIRING SYSTEM TURNED TOWARD THE VIEWER (UP ON PLAN DRAWINGS)
	RACEWAY OR WIRING SYSTEM TURNED AWAY FROM THE VIEWER (DOWN ON PLAN DRAWINGS)
	RACEWAY OR WIRING SYSTEM CHANGE IN ELEVATION OR DISTANCE FROM VIEWER
	CONDUIT STUB AND CAP



BOWEN COLLINS
ASSOCIATES



PROFESSIONAL ENGINEER
DOUGLAS MAX STEWART
No. 173319
STATE OF UTAH
08-22-2018

REVISIONS	
NO.	DATE

SUMMIT MOUNTAIN HOLDING GROUP
BLOOMINGTON WELL PROJECT
WEBER COUNTY, UTAH

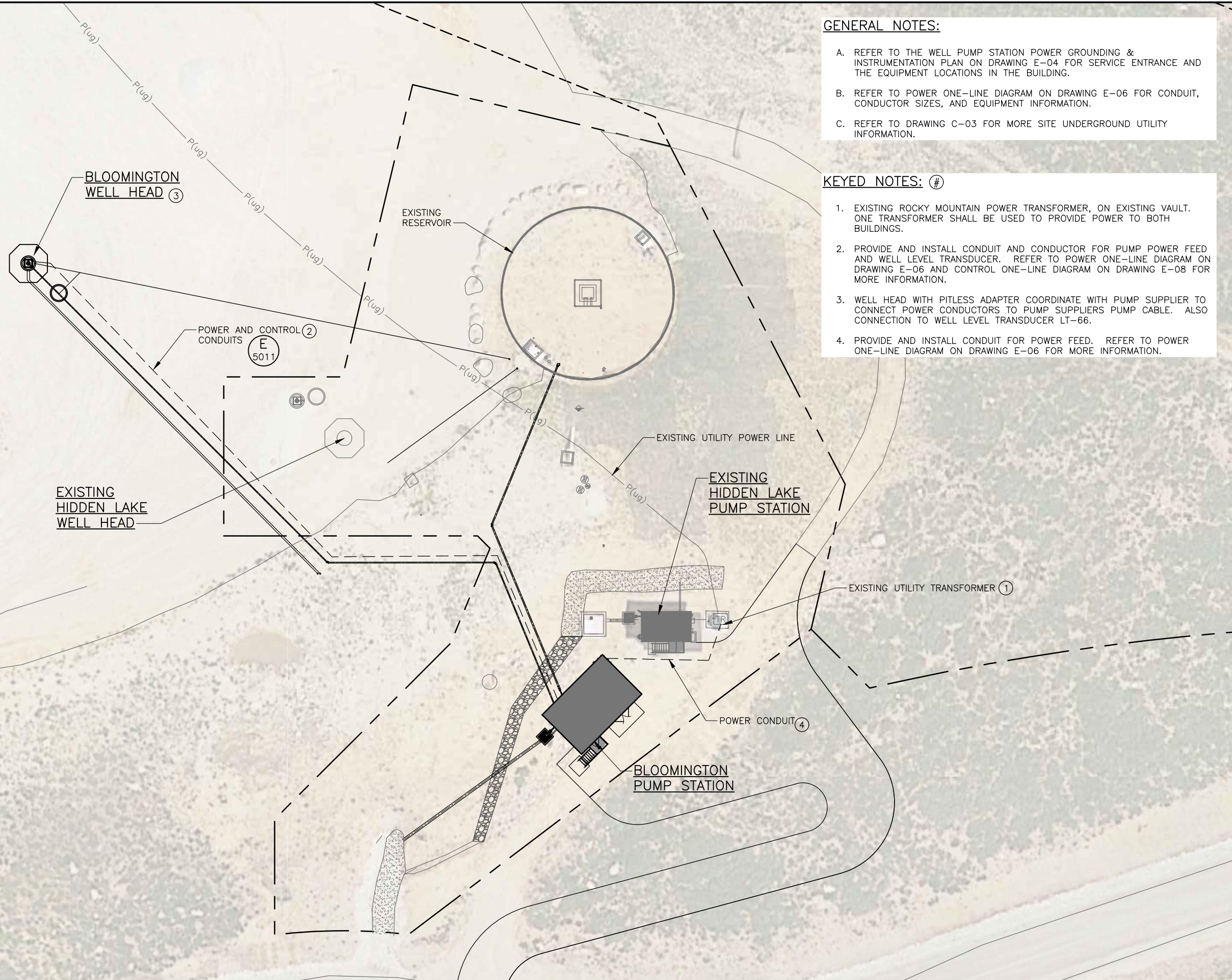
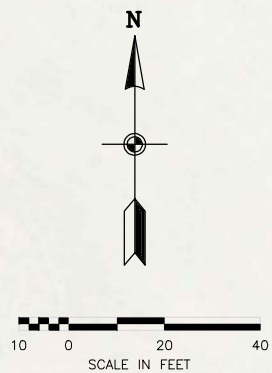
DESIGN	REVIEW	CHECKED	APPROVED
D. STEWART	D. YOUNGSTROM	D. YOUNGSTROM	D. STEWART
D. STEWART	D. STEWART	D. STEWART	D. STEWART

ELECTRICAL SYMBOLS

DATE: AUGUST 2018 PROJECT NUMBER: 347-17-01

DRAWING NO. **E-01**

SHEET 35 OF 46

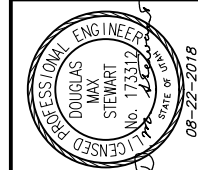


GENERAL NOTES:

- REFER TO THE WELL PUMP STATION POWER GROUNDING & INSTRUMENTATION PLAN ON DRAWING E-04 FOR SERVICE ENTRANCE AND THE EQUIPMENT LOCATIONS IN THE BUILDING.
- REFER TO POWER ONE-LINE DIAGRAM ON DRAWING E-06 FOR CONDUIT, CONDUCTOR SIZES, AND EQUIPMENT INFORMATION.
- REFER TO DRAWING C-03 FOR MORE SITE UNDERGROUND UTILITY INFORMATION.

KEYED NOTES: #

- EXISTING ROCKY MOUNTAIN POWER TRANSFORMER, ON EXISTING VAULT. ONE TRANSFORMER SHALL BE USED TO PROVIDE POWER TO BOTH BUILDINGS.
- PROVIDE AND INSTALL CONDUIT AND CONDUCTOR FOR PUMP POWER FEED AND WELL LEVEL TRANSDUCER. REFER TO POWER ONE-LINE DIAGRAM ON DRAWING E-06 AND CONTROL ONE-LINE DIAGRAM ON DRAWING E-08 FOR MORE INFORMATION.
- WELL HEAD WITH PITLESS ADAPTER COORDINATE WITH PUMP SUPPLIER TO CONNECT POWER CONDUCTORS TO PUMP SUPPLIERS PUMP CABLE. ALSO CONNECTION TO WELL LEVEL TRANSDUCER LT-66.
- PROVIDE AND INSTALL CONDUIT FOR POWER FEED. REFER TO POWER ONE-LINE DIAGRAM ON DRAWING E-06 FOR MORE INFORMATION.

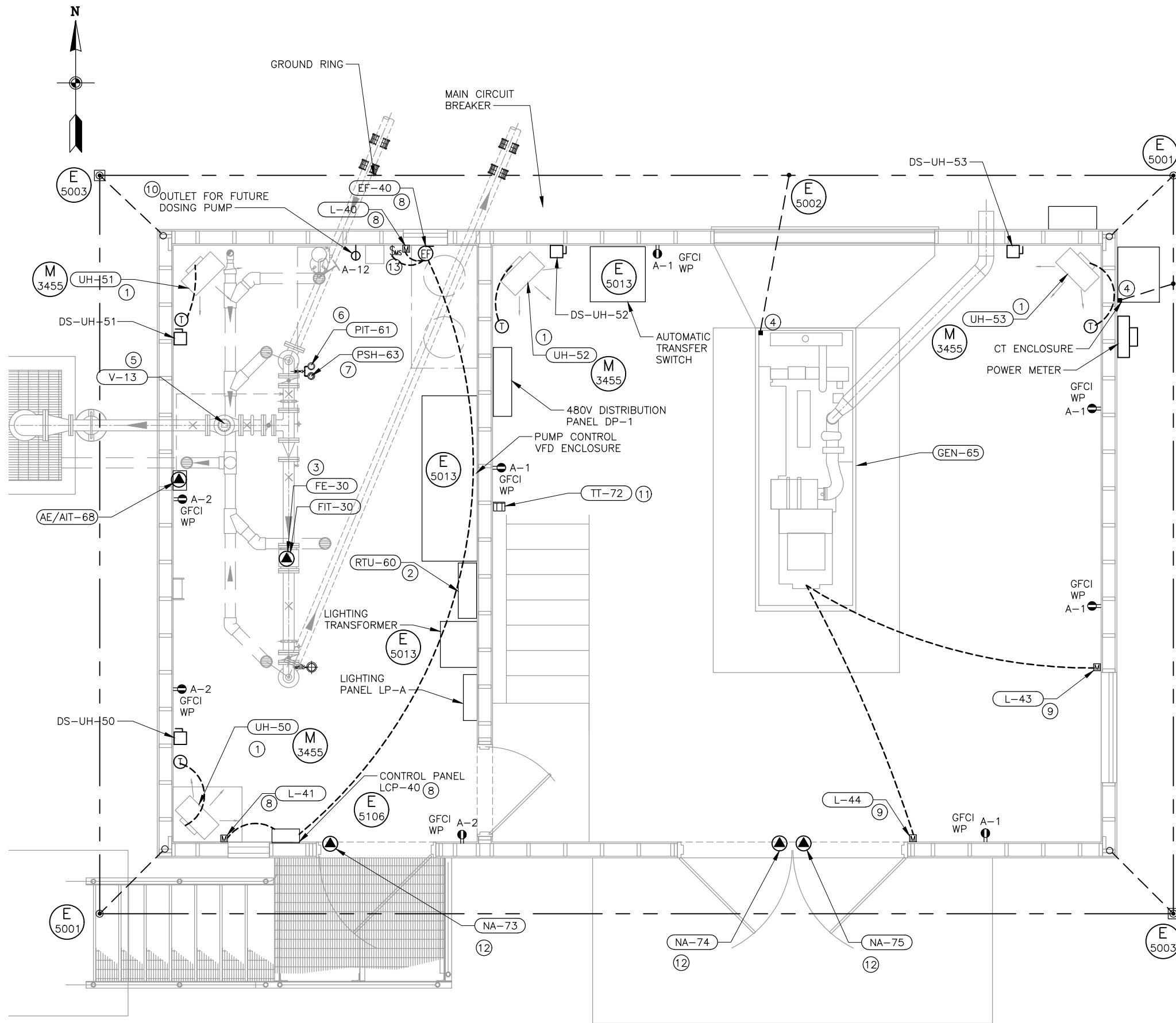


NO.	DATE	REV. BY	DESCRIPTION

SUMMIT MOUNTAIN HOLDING GROUP		WEBER COUNTY, UTAH	
BLOOMINGTON WELL PROJECT			
DESIGN	DESIGNED BY	REVIEW	REVIEWED BY
DRAWN	DRAWN BY	CHECKED	APPROVED
D. STEWART	D. STEWART	D. YOUNGSTROM	D. STEWART
DRAWN BY GARCIA		DRAWN BY STEWART	

ELECTRICAL	PROJECT NUMBER
ELECTRICAL SITE PLAN	347-17-01
DATE:	AUGUST 2018

DRAWING NO.	E-03
SHEET	37 OF 46




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

GENERAL NOTES:

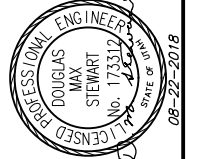
- A. PROVIDE AND INSTALL A #2/0 AWG BARE COPPER GROUND RING BURIED NOT LESS THAN 30" BELOW THE EARTH'S SURFACE. CONNECT REBAR (GROUND RISERS) TO GROUND RING VIA #2/0 AWG BARE COPPER GROUND CABLE. CONNECT CT ENCLOSURE, AND GENERATOR TO THE GROUND RING WITH #2/0 AWG BARE COPPER GROUND CABLE. THE GROUND RING SHALL BE A MINIMUM OF 2 FEET FROM BUILDING FOUNDATION. REFER TO GROUNDING PLAN SYMBOLS ON DRAWING E-01.
- B. DRAWING SHOWS TYPICAL LOCATIONS OF GROUNDING SYSTEM COMPONENTS.
- C. DRAWING SHOWS APPROXIMATE LOCATIONS AND MINIMUM NUMBER OF RISERS GROUNDING CONNECTIONS TO BE INSTALLED.
- D. SUPPORT ELECTRICAL CONDUITS ON SUPPORTS INDEPENDENT OF PIPING. SUPPORTING THE ELECTRICAL CONDUIT OFF PIPING WILL NOT BE ALLOWED. WHERE POSSIBLE ALL CONDUITS WILL BE EMBEDDED IN WALLS AND FLOOR OF BUILDING. CONDUITS TO EQUIPMENT IN CENTER OF ROOM WILL BE EMBEDDED IN FLOOR AND AVOID RUNNING ACROSS OPEN SPACES.
- E. PROVIDE AND INSTALL INSULATED UNION AT ELECTRICAL CONDUIT CONNECTIONS TO VALVE ACTUATORS, SENSORS OR OTHER EQUIPMENT IN CONTACT WITH PIPING.
- F. RECEPTACLES IN VAULT SHALL BE MOUNTED 48" ABOVE FINISHED FLOOR AND SHALL BE WEATHER PROOF GFCI.
- G. ALL EXPOSED CONDUIT, BOXES, AND FITTINGS IN THE BUILDING SHALL BE GALVANIZED RIGID STEEL SUPPORTED ON ZINC COATED STRUT. CONDUIT EMBEDDED IN CONCRETE SHALL BE PVC CONDUIT, TRANSITIONS FROM EMBEDDED CONDUIT TO EXPOSED CONDUIT SHALL BE MADE WITH PVC WRAPPED GALVANIZED RIGID STEEL.
- H. REFER TO POWER ONE-LINE DIAGRAM ON DRAWING E-06, PANEL SCHEDULE ON DRAWING E-07 AND CONTROL ONE-LINE DIAGRAM ON DRAWING E-08 FOR CONDUIT/CONDUCTOR QUANTITY AND SIZES.

KEY NOTES: #

1. PROVIDE AND INSTALL ELECTRIC UNIT HEATER WITH WALL MOUNTED THERMOSTAT. REFER TO POWER ONE-LINE DIAGRAM ON DRAWING E-06 FOR MORE INFORMATION.
2. PROVIDE AND INSTALL ALL CONDUIT AND CONDUCTORS TO THE MISSION CONTROL PANEL. REFER TO THE CONTROL ONE-LINE DIAGRAM FOR MORE INFORMATION. THE MISSION CONTROL PANEL AND PROGRAMMING WILL BE PROVIDED BY OTHERS.
3. MAGNETIC FLOW METER ELEMENT AND INTEGRAL MOUNTED TRANSMITTER. FE-30 AND FIT-30.
4. CONNECT GROUND RING TO CT ENCLOSURE AND GENERATOR. SEE GENERAL NOTE A.
5. PUMP CONTROL VALVE, WITH SOLENOID CONTROL SV-13 AND LIMIT SWITCHES ZSC-13 AND ZSO-13. THE SECOND LIMIT SWITCH SHALL BE CONNECTED TO THE RTU PANEL. REFER TO PUMP MOTOR SCHEMATIC FOR VALVE CONTROL INFORMATION. REFER TO CONTROL ONE-LINE DIAGRAM FOR CONDUIT AND CONDUCTOR INFORMATION.
6. PRESSURE INDICATING TRANSMITTER REFER TO CONTROL ONE-LINE DIAGRAM FOR MORE INFORMATION.
7. HIGH DISCHARGE PRESSURE SWITCH REFER TO CONTROL ONE-LINE DIAGRAM FOR MORE INFORMATION.
8. EXHAUST FAN CONTROL PANEL; STARTS EF-40 AND OPENS MOTOR OPERATED LOUVERS WHEN LIGHTS ARE TURNED ON. REFER TO DETAIL E 5106.
9. MOTOR OPERATED LOUVERS ARE POWERED CLOSED AND SPRING OPENED. LOUVERS OPEN WHEN THE GENERATOR IS RUNNING. REFER TO CONTROL ONE-LINE DIAGRAM.
10. SIMPLEX OUTLET FOR FUTURE DOSING PUMP CL-61, CONNECT POWER TO OUTLET THROUGH PANEL RTU-60. OUTLET WILL BE ENERGIZED WHEN THE WELL IS PUMPING WATER TO THE SYSTEM.
11. TEMPERATURE TRANSMITTER. REFER TO CONTROL ONE-LINE DIAGRAM FOR MORE INFORMATION.
12. DOOR OPEN ALARM SENSOR. REFER TO CONTROL ONE-LINE DIAGRAM FOR MORE INFORMATION.
13. EXHAUST FAN MANUAL MOTOR STARTER, REFER TO CONTROL ONE-LINE DIAGRAM FOR MORE INFORMATION.



BOWEN COLLINS & ASSOCIATES



PROFESSIONAL ENGINEER
DOUGLAS MAY STEWART
No. 173312
STATE OF UTAH
08-22-2018

NO.	DATE	REV. BY	DESCRIPTION	REVISIONS

SUMMIT MOUNTAIN HOLDING GROUP

BLOOMINGTON WELL PROJECT

WEBER COUNTY, UTAH

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGN: D. STEWART

DRAWN: R. GARCIA

CHECKED: D. YOUNGSTROM

APPROVED: D. STEWART

REVIEW

ELECTRICAL

WELL PUMP STATION

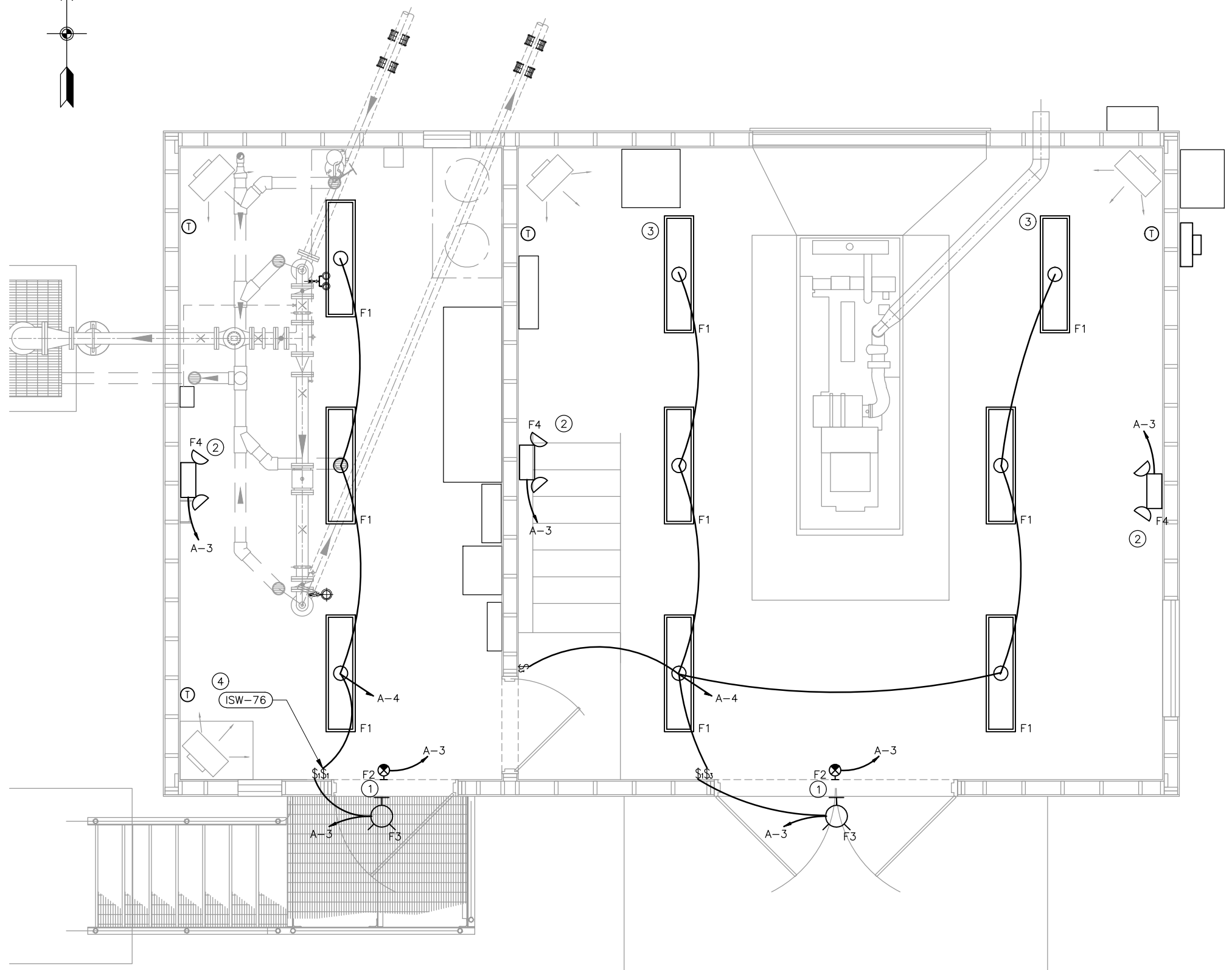
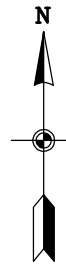
GROUNDING, POWER, & INSTRUMENTATION PLAN

PROJECT NUMBER: 347-17-01

DATE: AUGUST 2018

DRAWING NO. **E-04**

SHEET 38 OF 46



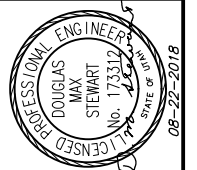
PLAN
SCALE: 1/2"=1'-0"

GENERAL NOTES:

- A. REFER TO FIXTURE SCHEDULE ON DRAWING E-02 FOR FIXTURE INFORMATION.
- B. REFER TO PANEL SCHEDULE ON DRAWING E-07 FOR CIRCUIT NUMBERS, CONDUIT/CONDUCTOR QUANTITY AND SIZES.
- C. THE TYPE F1 FIXTURES SHALL BE INSTALLED WITH CHAIN AND SHALL BE LEVEL WITH FLOOR.

KEY NOTES: #

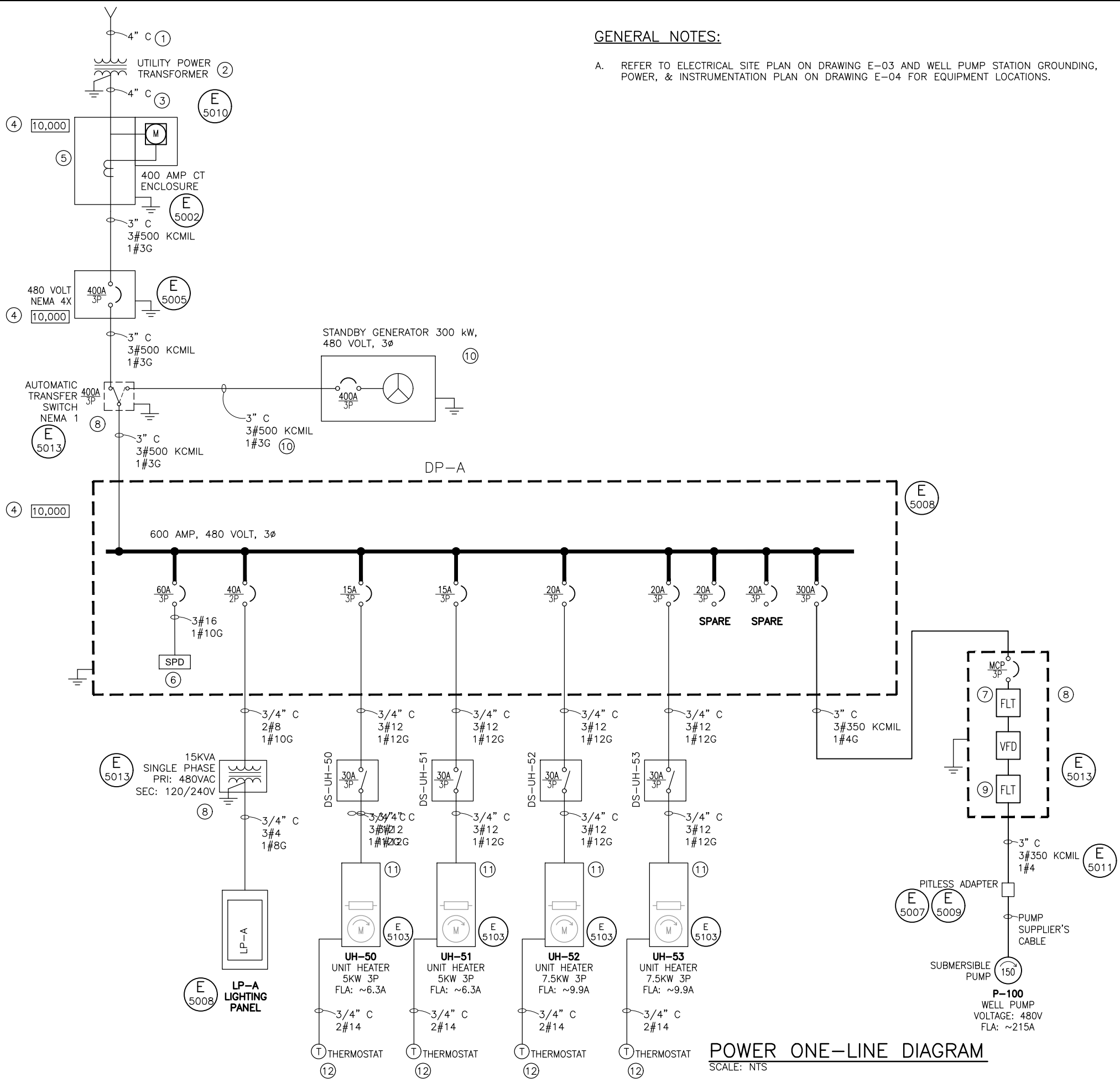
- 1. INSTALL WALL PACK AND EXIT SIGN FIXTURES APPROXIMATELY 6" ABOVE TOP OF DOOR.
- 2. INSTALL EMERGENCY LIGHT FIXTURES APPROXIMATELY 7' ABOVE FINISHED FLOOR.
- 3. COORDINATE FIXTURE INSTALLATION WITH MECHANICAL AND OTHER ELECTRICAL EQUIPMENT TO AVOID INTERFERENCE.
- 4. INFRARED AND DETECTION OF HUMAN ACTIVITY SENSING SWITCH TO TURN OFF LIGHTS AFTER A PRESET TIME DELAY WHEN THIS ROOM IS UNOCCUPIED. REFER TO INSTRUMENT LIST SPECIFICATION 40 75 01 TAG NUMBER ISW-76.



NO.	DATE	REV. BY	DESCRIPTION

SUMMIT MOUNTAIN HOLDING GROUP		VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING	
BLOOMINGTON WELL PROJECT		REVIEW	DESIGN
WEBER COUNTY, UTAH		CHECKED D. YOUNGSTROM	DESIGN D. STEWART
		APPROVED D. STEWART	DRAWN R. GARCIA

ELECTRICAL	WELL PUMP STATION LIGHTING PLAN	PROJECT NUMBER	347-17-01
	DATE: AUGUST 2018	DRAWING NO.	E-05



GENERAL NOTES:

- A. REFER TO ELECTRICAL SITE PLAN ON DRAWING E-03 AND WELL PUMP STATION GROUNDING, POWER, & INSTRUMENTATION PLAN ON DRAWING E-04 FOR EQUIPMENT LOCATIONS.

KEY NOTES: #

- ROCKY MOUNTAIN POWER EXISTING POWER FEED.
- ROCKY MOUNTAIN POWER EXISTING TRANSFORMER ON EXISTING VAULT. COORDINATE WITH ROCKY MOUNTAIN POWER TO PROVIDE AND INSTALL CONDUIT FROM EXISTING TRANSFORMER VAULT.
- PROVIDE AND INSTALL CONDUIT FROM TRANSFORMER TO CT ENCLOSURE. REFER TO DRAWINGS E-03 AND E-04 FOR LOCATIONS. COORDINATE WITH ROCKY MOUNTAIN POWER FOR ACCESS TO TRANSFORMER VAULT AND OUTAGES AS REQUIRED. UNDERGROUND CONDUIT SHALL BE PVC SCHEDULE 40, WITH MULE TAPE IN CONDUIT. UNDERGROUND ELBOWS SHALL BE FIBERGLASS. EXPOSED CONDUIT SHALL BE GALVANIZED RIGID STEEL, TRANSITION FROM BELOW GROUND TO ABOVE GROUND CONDUIT SHALL BE MADE WITH PVC WRAPPED GALVANIZED RIGID STEEL CONDUIT. CONDUITS SHALL BE INSTALLED IN ACCORDANCE WITH ROCKY MOUNTAIN POWER REQUIREMENTS. CONDUCTORS SHALL BE PROVIDED AND INSTALLED BY ROCKY MOUNTAIN POWER.
- SHORT CIRCUIT CURRENT AVAILABLE IN AMPS. OVER CURRENT PROTECTIVE DEVICES SHALL BE RATED TO WITHSTAND AVAILABLE SHORT CIRCUIT CURRENT.
- PROVIDE AND INSTALL CT ENCLOSURE AND METER BASE IN ACCORDANCE WITH ROCKY MOUNTAIN POWER REQUIREMENTS.
- PROVIDE AND INSTALL A SURGE PROTECTIVE DEVICE. THE SPD SHALL BE RATED 240 KA PER PHASE AND 120 KA PER MODE, 3-WIRE, 3-PHASE 480 VOLTS. REFER TO SPECIFICATION FOR MORE INFORMATION.
- HARMONIC FILTER FOR VFD, REFER TO SPECIFICATION FOR MORE INFORMATION.
- PROVIDE AND INSTALL HOUSEKEEPING PAD FOR VFD, TRANSFORMER, AND AUTOMATIC TRANSFER SWITCH.
- OUTPUT SIGN WAVE FILTER FOR THE VFD. SEE VFD SPECIFICATION.
- PROVIDE AND INSTALL GENERATOR IN ACCORDANCE WITH SPECIFICATION. REFER TO PANEL SCHEDULE A AND CONTROL ONE-LINE DIAGRAM FOR ADDITIONAL CONDUIT AND CONDUCTOR INFORMATION.
- PROVIDE AND INSTALL ELECTRIC UNIT HEATERS. REFER TO EQUIPMENT SCHEDULE ON DRAWING M-03 FOR MORE INFORMATION.
- PROVIDE AND INSTALL WALL MOUNTED HEATING THERMOSTAT. SHALL BE CHROMALOX WCRT HEATING, WALL MOUNTED THERMOSTAT.

POWER ONE-LINE DIAGRAM
SCALE: NTS

BOWEN COLLINS ASSOCIATES

PROFESSIONAL ENGINEER
DOUGLAS MAX STEWART
No. 173319
STATE OF UTAH
08-22-2018

NO.	DATE	REV. BY	DESCRIPTION

BLOOMINGTON WELL PROJECT
WEBER COUNTY, UTAH

DESIGN: D. STEWART
CHECKED: D. YOUNGSTROM
APPROVED: D. STEWART

POWER ONE-LINE DIAGRAM
PROJECT NUMBER: 347-17-01
DATE: AUGUST 2018

DRAWING NO. **E-06**
SHEET **40** OF **46**

SUMMIT MOUNTAIN HOLDING GROUP BLOOMINGTON WELL PROJECT

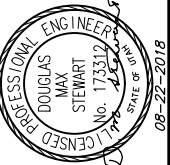
PANEL: A **VOLT:240/120** **AMP:100** **PHASE:1 WIRE:3**

LOCATION (ROOM #):	ELECT ROOM	NOTE:	---
MFG:	SEE SPECIFICATION	AIC RATING:	10,000
TYPE:	SURFACE MOUNT	GROUND BUS:	YES
TYPE OF MAIN:	80A M.C.B.	MOUNTING:	SURFACE
FEEDER:	SEE ONE-LINE	FED FROM:	SEE ONE-LINE

CIRCUIT DESCRIPTION	P	BRK	CKT	A	B	CKT	BRK	P	CIRCUIT DESCRIPTION
	L	AMP	NO			NO	AMP	L	
GENERATOR ROOM RECEPTACLES	1	20	1	900		2	20	1	MAIN ROOM RECEPTACLES
OUTSIDE LIGHTS, EMERGENCY LIGHT EXIT SIGNS	1	20	3		540	4	20	1	INSIDE LIGHTS
GENERATOR COOLANT HEATER	2	20	5	800		6	20	1	GENERATOR BATTERY CHARGER
-	*	**	7		300	8	20	2	LOUVERS IN GENERATOR ROOM (THROUGH GEN. CONT. PANEL)
EXHAUST FAN AND LOUVERS CONTROL PANEL LCP-40	1	20	9	300		10	20	1	FLOW METER FE/FIT-30
RTU PANEL RTU-60 (MISSION CONTROL PANEL)	1	20	11		300	12	15	1	FUTURE DOSING PUMP OUTLET (CONNECTED THROUGH RTU)
TURBIDITY METER AE/AIT-68	1	20	13	300		14	20	1	SPARE
SPARE	1	20	15		0	16	20	1	SPARE
SPARE	1	20	17	0		18	20	1	SPARE
SPARE	1	20	19		0	20	20	1	SPARE
SPARE	1	20	21	0		22	20	1	SPARE
SPARE	1	20	23		0	24	20	1	SPARE
SPACE	1	20	25	0		26	20	1	SPACE
SPACE	1	20	27		0	28	20	1	SPACE
SPACE	1	20	29	0		30	20	1	SPACE
PHASE TOTALS				3440	1707				
TOTAL WATTS				5147					
TOTAL AMPS				25					2/19/19

GENERAL NOTES:

- A. THE MINIMUM SIZE POWER CONDUCTORS SHALL BE #12 AWG. THE MINIMUM SIZE CONDUIT SHALL BE 3/4". CONTRACTOR TO SIZE ALL OTHER CONDUIT AND CONDUCTORS TO MEET OR EXCEED CURRENT NATIONAL ELECTRICAL CODE (NEC) REQUIREMENTS.
- B. FOR EQUIPMENT LOCATIONS REFER TO THE WELL PUMP STATION POWER GROUNDING & INSTRUMENTATION PLAN ON DRAWING E-04.



NO.	DATE	REV. BY	DESCRIPTION

SUMMIT MOUNTAIN HOLDING GROUP
BLOOMINGTON WELL PROJECT
WEBER COUNTY, UTAH

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGN DESIGN D. STEWART	REVIEW CHECKED D. YOUNGSTROM	APPROVED D. STEWART	
DRAWN D. STEWART			

ELECTRICAL
PANEL SCHEDULE
LP-A

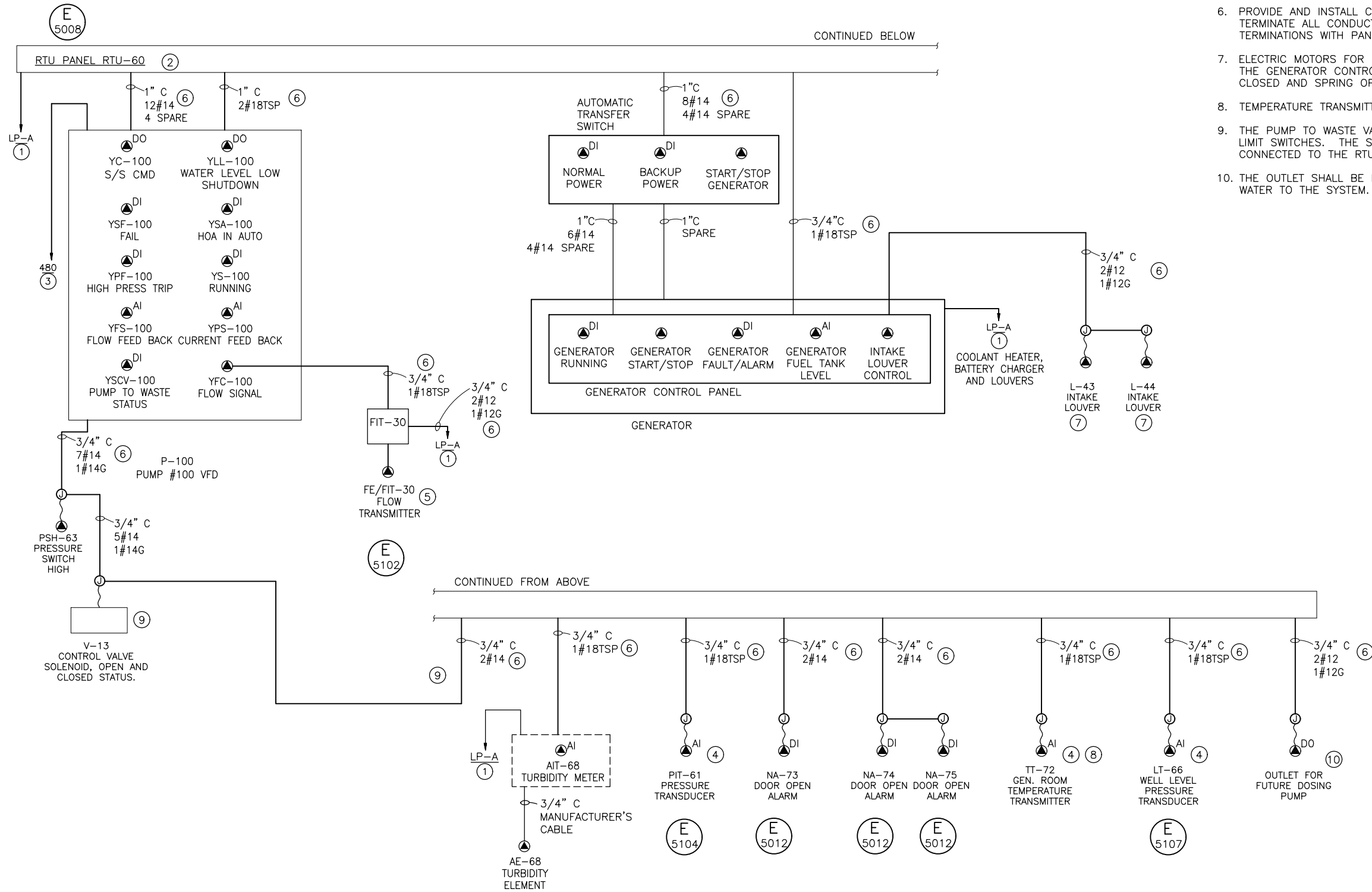
DATE: AUGUST 2018 PROJECT NUMBER: 347-17-01

GENERAL NOTES:


- A. FOR EQUIPMENT LOCATIONS REFER TO WELL PUMP STATION GROUNDING, POWER, & INSTRUMENTATION PLAN ON DRAWING E-04.
- B. REFER TO THE POWER ONE LINE DIAGRAM ON DRAWING E-06 FOR EQUIPMENT INFORMATION AND CONDUIT/CONDUCTOR SIZES. REFER TO THE PANEL SCHEDULE A ON DRAWING E-07 FOR CONDUIT/CONDUIT SIZES AND CIRCUIT NUMBERS.

KEY NOTES: #

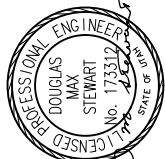
- 1. REFER TO PANEL SCHEDULE A FOR CIRCUIT NUMBER, CONDUIT AND CONDUCTOR SIZES.
- 2. RTU PANEL INSTALLED BY CONTRACTOR PROVIDED AND PROGRAMMED BY OTHERS.
- 3. REFER TO POWER ONE-LINE DIAGRAM FOR 480 VOLT POWER FEED TO VFD.
- 4. 24VDC LOOP POWERED INSTRUMENT.
- 5. FLOW METER WITH INTEGRAL MOUNTED TRANSMITTER.
- 6. PROVIDE AND INSTALL CONDUITS AND CONDUCTORS AND TERMINATE ALL CONDUCTORS AT BOTH ENDS. COORDINATE TERMINATIONS WITH PANEL PROVIDER.
- 7. ELECTRIC MOTORS FOR INTAKE LOUVERS ARE CONTROLLED BY THE GENERATOR CONTROL PANEL. THE LOUVERS ARE POWERED CLOSED AND SPRING OPEN.
- 8. TEMPERATURE TRANSMITTER SHALL BE OMEGA EWS-TX.
- 9. THE PUMP TO WASTE VALVE SHALL BE PROVIDED WITH TWO LIMIT SWITCHES. THE SECOND LIMIT SWITCH SHALL BE CONNECTED TO THE RTU PANEL.
- 10. THE OUTLET SHALL BE ENERGIZED WHEN THE WELL IS PUMPING WATER TO THE SYSTEM.



CONTROL BLOCK DIAGRAM



BOWEN COLLINS ASSOCIATES



PROFESSIONAL ENGINEER
DOUGLAS MAX STEWART
No. 173312
STATE OF UTAH
09-22-2018

NO.	DATE	REV. BY	DESCRIPTION

SUMMIT MOUNTAIN HOLDING GROUP
BLOOMINGTON WELL PROJECT
WEBER COUNTY, UTAH

DESIGN DESIGN D. STEWART DRAWN D. STEWART	REVIEW CHECKED D. YOUNGSTROM APPROVED D. STEWART	VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING	
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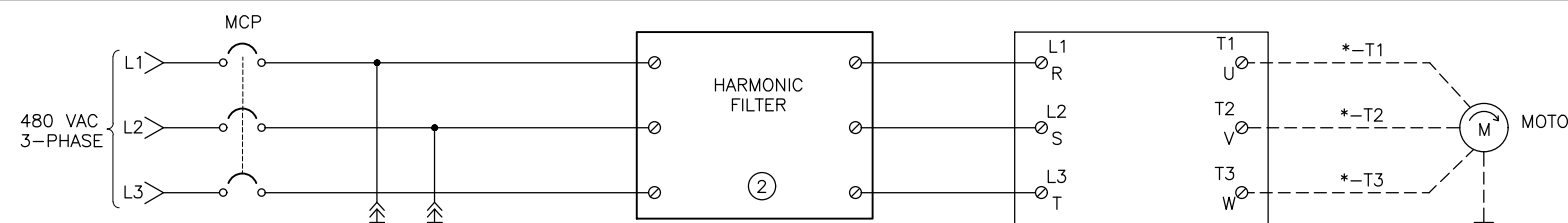
ELECTRICAL

CONTROL ONE-LINE DIAGRAM

DATE: AUGUST 2018 PROJECT NUMBER 347-17-01

DRAWING NO. **E-08**

SHEET 42 OF 46



LEGEND:
 * = MOTOR NUMBER
 ○ = MCC TERMINAL
 ⊗ = VENDOR TERMINAL
 ⊕ = PLC TERMINAL

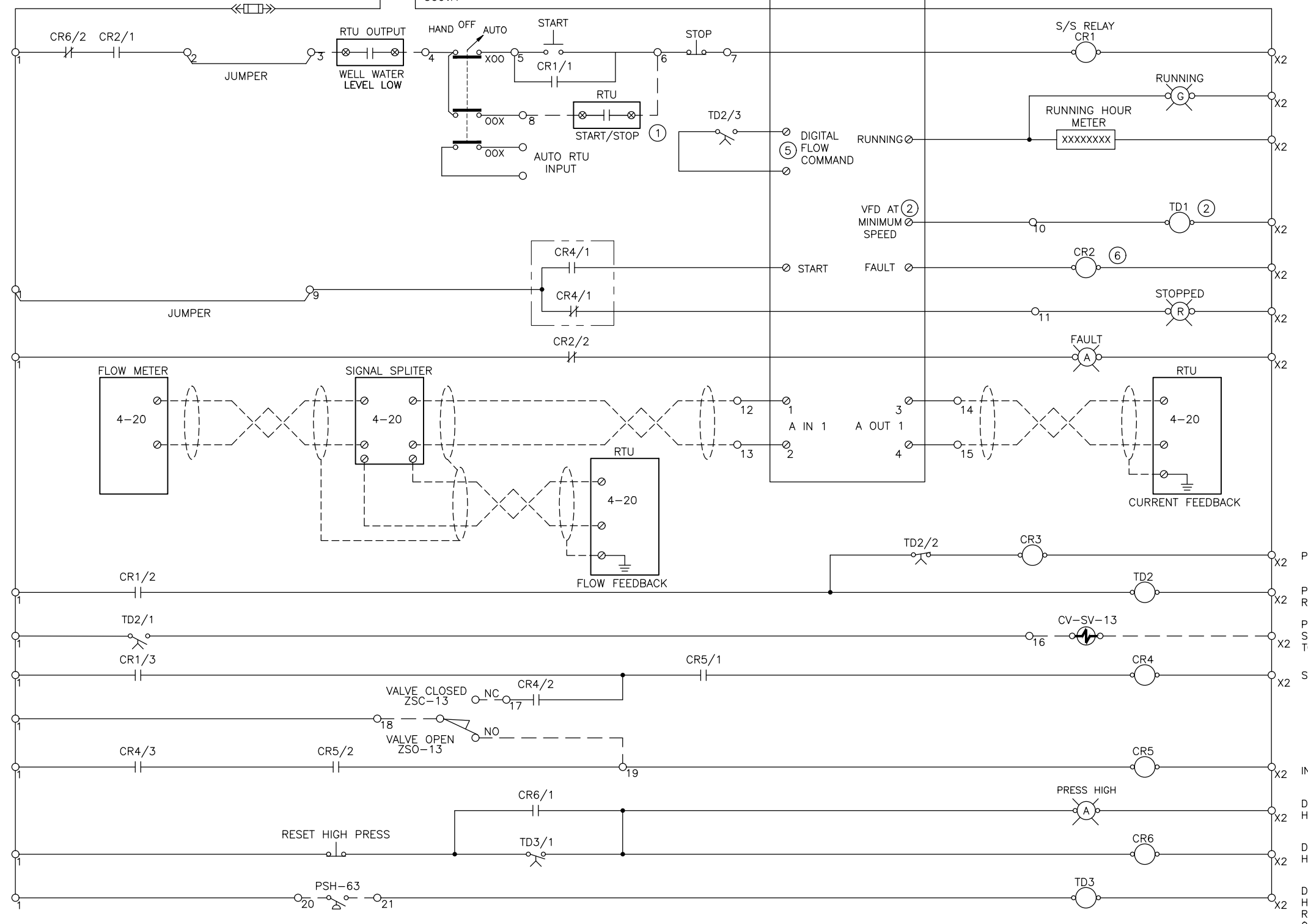
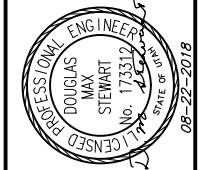
GENERAL NOTES:

A. THIS IS A GENERIC WIRING DIAGRAM FOR THE VARIABLE FREQUENCY DRIVE.

B. VFD KEYPAD SHALL BE ACCESSIBLE ON FRONT DOOR OF VFD ENCLOSURE.

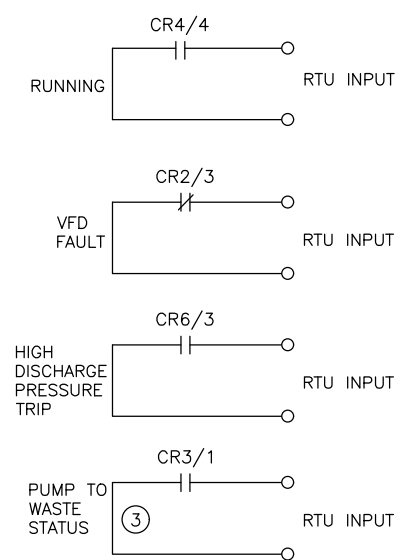
C. CONTROL START SEQUENCE:
 1. CONTROL VALVE IS OPEN AND PUMP IS NOT RUNNING.
 2. START COMMAND ENERGIZES CR1, TD1, CR4, AND STARTS THE VFD. THE WELL IS NOW PUMPING TO BYPASS.
 3. AFTER TD1 TIMES OUT IT ENERGIZES THE PUMP CONTROL VALVE SOLENOID, WHICH CLOSES THE VALVE AND IT STOPS PUMPING TO BYPASS. THE WELL IS NOW PUMPING WATER TO THE SYSTEM.

E. CONTROL STOP SEQUENCE:
 1. PUMP IS RUNNING AND WATER IS PUMPING TO SYSTEM.
 2. STOP COMMAND DE-ENERGIZES CR1, CR4, AND TD1. THE PUMP CONTROL VALVE SOLENOID DE-ENERGIZES, THE CONTROL VALVE OPENS TO BYPASS.
 3. WHEN PUMP CONTROL VALVE IS FULL OPEN; CR4 DE-ENERGIZES AND THE VFD STOPS.



KEY NOTES: #

- WITH SELECTOR SWITCH IN AUTO THE RTU OUTPUT CAN START MOTOR BASED ON TANK LEVEL OR AT ANY DISPLAY SCREEN.
- WHEN TD1 ENERGIZES IT ENERGIZES A CONTACTOR WIRING TO TURN ON THE CAPACITORS IN THE HARMONIC FILTER. WHEN THE VFD IS NOT RUNNING AT MINIMUM SPEED THE CAPACITORS ARE OFF. RELAY IS DELAY ON 0 TO 2 MINUTES. REFER TO SPECIFICATION FOR MORE INFORMATION.
- PUMP TO WASTE STATUS, SENDS SIGNAL TO RTU AT STARTUP, PUMP IS RUNNING AND CONTROL VALVE IS OPEN TO WASTE.
- THE RELAY CR5 IS AN INTERLOCK RELAY TO PREVENT STARTING MOTOR IF THE PUMP TO WASTE VALVE IS CLOSED.
- RTU COMMANDS THE VFD TO SET THE FLOW AT A SAFE VALUE WHEN THE WATER IS FLOWING TO WASTE.
- RELAY CR2 IS DE-ENERGIZED WHEN THE VFD HAS A FAULT..



PUMP CONTROL SCHEMATIC

NO.	DATE	REV. BY	DESCRIPTION

SUMMIT MOUNTAIN HOLDING GROUP
BLOOMINGTON WELL PROJECT
 WEBER COUNTY, UTAH

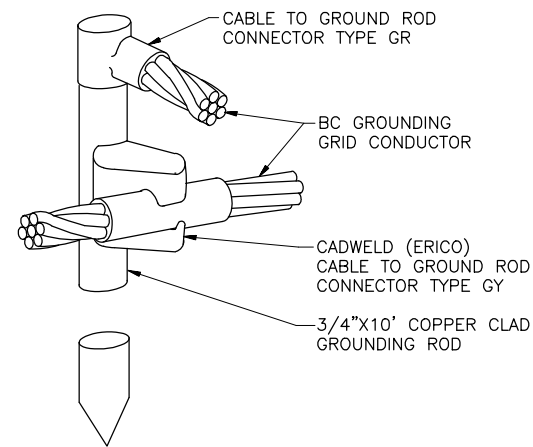
VERIFY SCALE
 BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGN: DESIGN D. STEWART
 CHECKED: D. YOUNGSTROM
 APPROVED: D. STEWART

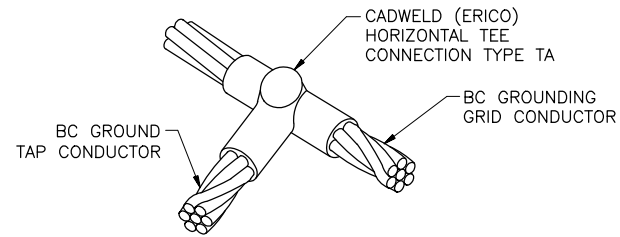
ELECTRICAL

PUMP CONTROL SCHEMATIC

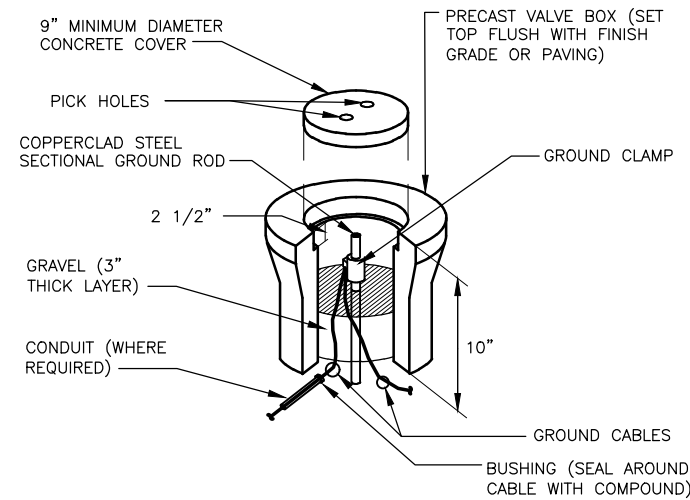
DATE: AUGUST 2018
 PROJECT NUMBER: 347-17-01
 DRAWING NO. **E-09**
 SHEET **43** OF **46**



GROUND ROD CONNECTION DETAIL (E) 5001
SCALE: NTS

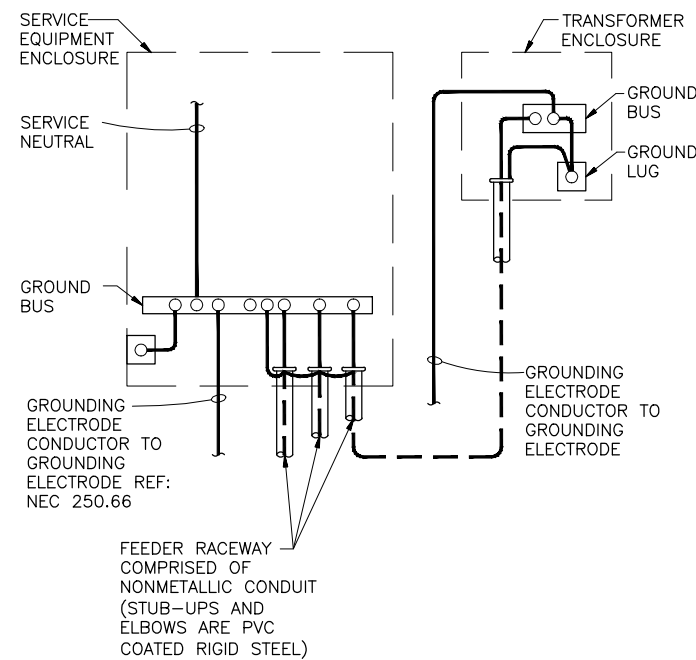


GROUND TAP DETAIL (E) 5002
SCALE: NTS



GROUND ROD AND WELL (E) 5003
SCALE: NTS

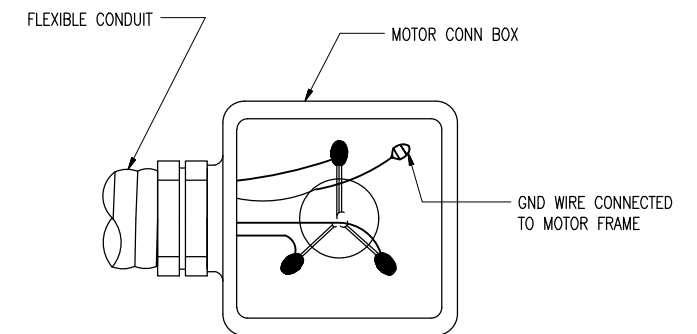
NOT USED (E) 5004
SCALE: NTS



SERVICE AND EQUIPMENT GROUNDING DETAIL (E) 5005
SCALE: NTS

NOT USED (E) 5006
SCALE: NTS

NOTES:
1. LUGGED AND BOLTED, INSULATED WITH 1/2 LAPPED LAYER OF VARNISHED CAMBRIC TAPE AND TWO 1/2 LAPPED LAYERS OF VINYL PLASTIC ELECTRICIANS TAPE WITH IRREGULAR SURFACES PADDED PER SPEC.
(TYPICAL FOR NON STAR-DELTA STARTED MOTORS)



MAKEUP AT MOTOR DETAIL (E) 5007
SCALE: NTS

BOWEN COLLINS ASSOCIATES

PROFESSIONAL ENGINEERS
DOUGLAS MAX STEWART
No. 173312
STATE OF UTAH
08-22-2018

NO.	DATE	REV. BY	DESCRIPTION

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WEBER COUNTY, UTAH

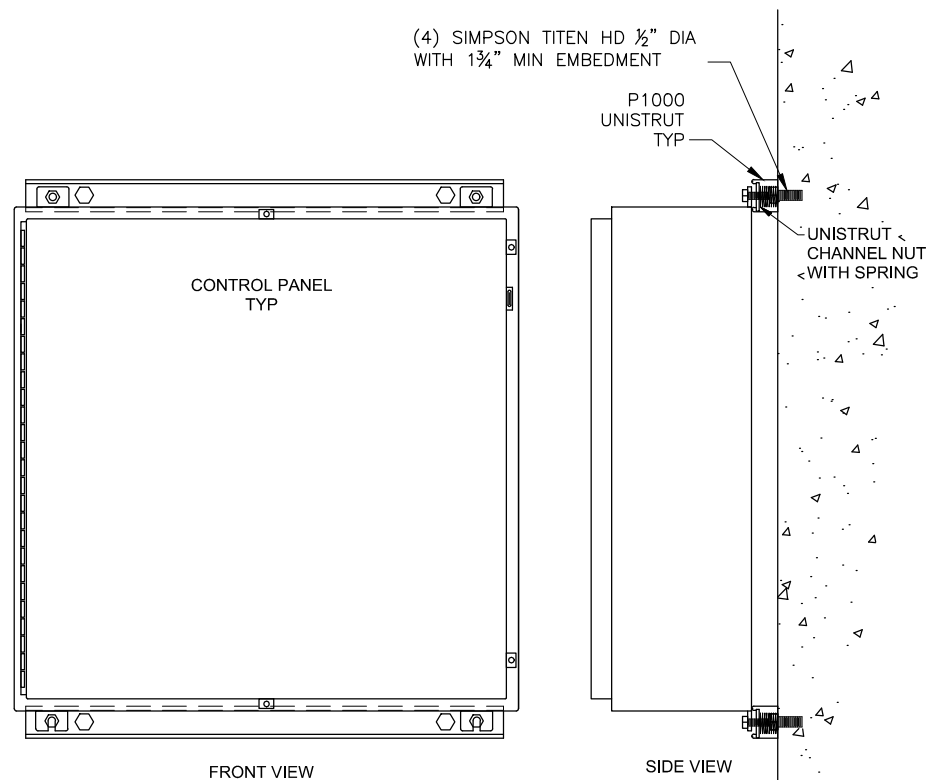
DESIGN: D. STEWART
CHECKED: D. YOUNGSTROM
DRAWN: D. STEWART
APPROVED: D. STEWART

GENERAL ELECTRICAL DETAILS - 1
PROJECT NUMBER: 347-17-01
DATE: AUGUST 2018

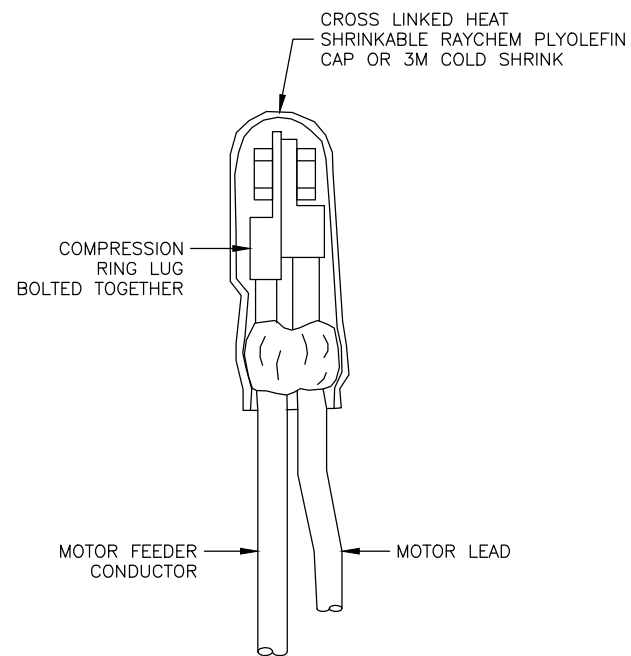
DRAWING NO. **GE-01**
SHEET **44** OF **46**

GENERAL NOTES

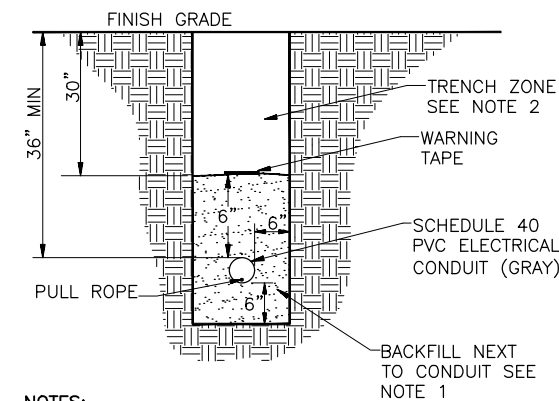
1. MOUNT PANEL OR INDICATING TRANSMITTER AT ABOUT 4' TO 5' ABOVE FINISHED FLOOR UNLESS OTHERWISE SPECIFIED IN DRAWINGS.
2. ANCHORAGE BASED ON HOLLOW CMU AND 500 LBS MAXIMUM WEIGHT OF CABINET.
3. FASTEN CABINET TO UNISTRUT WITH MIN (4) 3/8" DIA BOLTS AND CHANNEL NUTS.



TYPICAL PANEL MOUNTING DETAIL ON WALL (E 5008)
SCALE: NTS



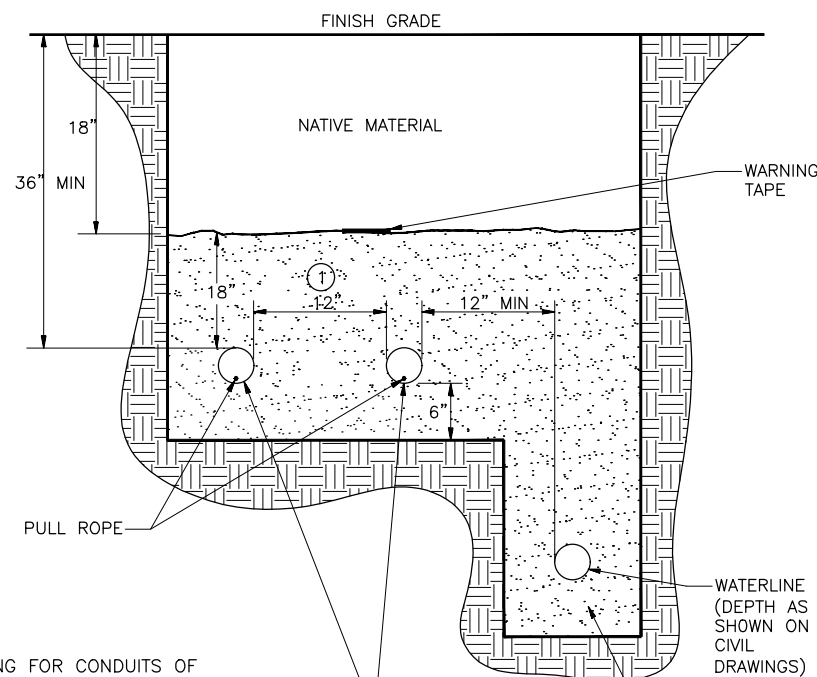
TYPICAL MOTOR LEAD TERMINATION (E 5009)
SCALE: NTS



NOTES:

1. BACKFILL MATERIAL SHALL BE TYPE B, OR C COMPACTED TO 95% PER ASTM D 1557. SEE SPECIFICATION 31 23 00.
2. NATIVE MATERIAL MEETING SPECIFICATION 31 23 00 FOR SUITABLE MATERIAL MAY BE USED FOR TRENCH ZONE BACKFILL IN UNIMPROVED AREAS, COMPACT TO 85%.
3. FOR MORE THAN ONE CONDUIT IN TRENCH ALLOW 6 INCHES BETWEEN CONDUITS.
4. REFER TO POWER ONE-LINE DIAGRAM FOR CONDUIT SIZES.

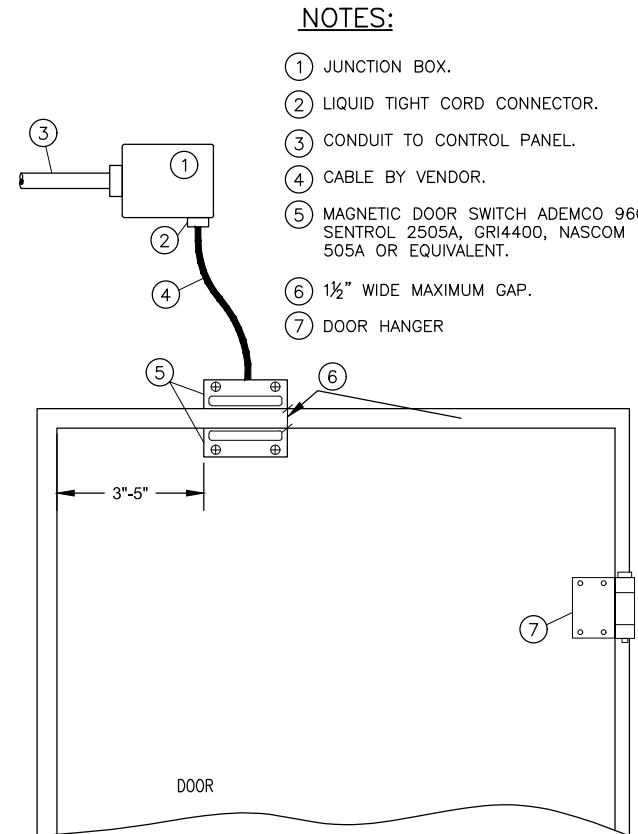
ROCKY MOUNTAIN POWER CONDUIT TRENCH DETAIL (E 5010)
SCALE: NTS



NOTES:

1. TYPICAL SPACING FOR CONDUITS OF DIFFERENT VOLTAGE.
2. REFER TO ONE-LINE DIAGRAMS FOR CONDUIT SIZE.
3. BACKFILL MATERIAL, USE SPECIFICATIONS.

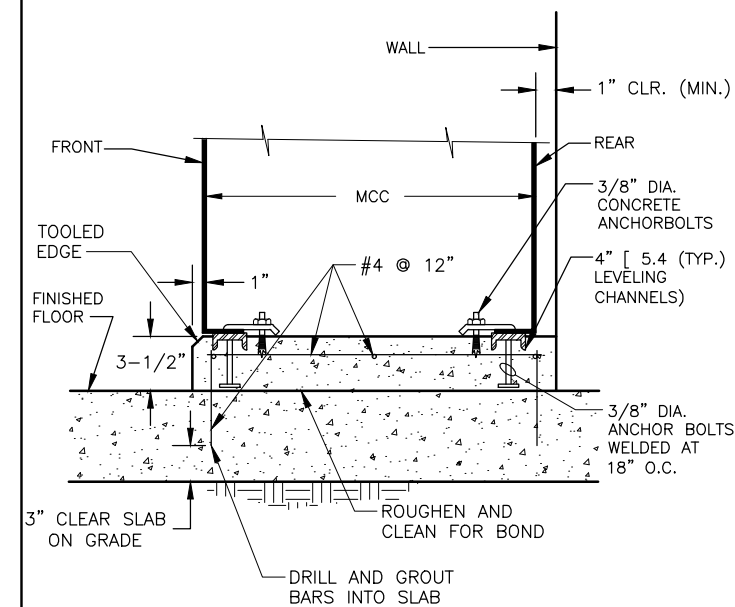
CONDUIT TRENCH DETAIL (E 5011)
SCALE: NTS



NOTES:

1. JUNCTION BOX.
2. LIQUID TIGHT CORD CONNECTOR.
3. CONDUIT TO CONTROL PANEL.
4. CABLE BY VENDOR.
5. MAGNETIC DOOR SWITCH ADEMCO 960, SENTROL 2505A, GRI4400, NASCOM 505A OR EQUIVALENT.
6. 1 1/2" WIDE MAXIMUM GAP.
7. DOOR HANGER

OPEN DOOR ALARM INSTALLATION DETAIL (E 5012)
SCALE: NTS



HOUSEKEEPING PAD (E 5013)
SCALE: NTS

BOWEN COLLINS ASSOCIATES
PROFESSIONAL ENGINEERS
DOUGLAS MAX STEWART
No. 173312
DATE OF EXPIRATION 08-22-2018

BLOOMINGTON WELL PROJECT
SUMMIT MOUNTAIN HOLDING GROUP
WEBER COUNTY, UTAH

VERIFY SCALE
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NO.	DATE	REV. BY	DESCRIPTION

DESIGN: D. STEWART
CHECKED: G. LOSCHER
DRAWN: D. STEWART
APPROVED: D. STEWART

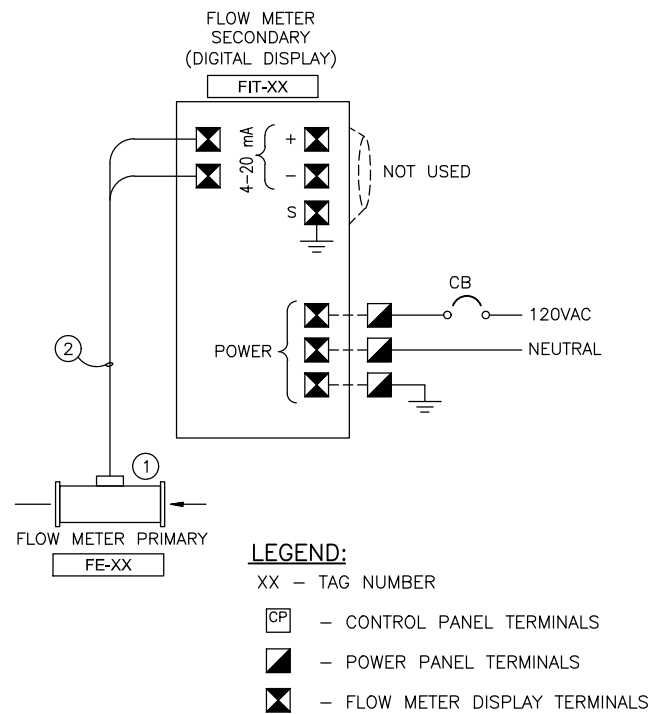
GENERAL ELECTRICAL DETAILS - 2

DATE: AUGUST 2018
PROJECT NUMBER: 347-17-01

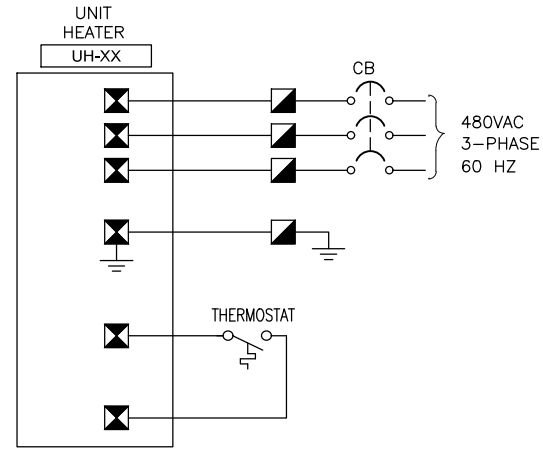
DRAWING NO. **GE-02**
SHEET **45** OF **46**

NOTES:

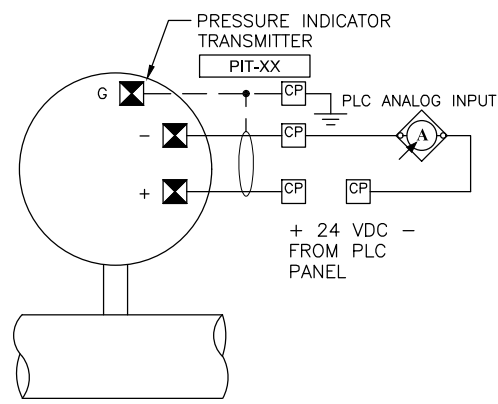
- ① GROUND FLOW METER PRIMARY AS REQUIRED BY MANUFACTURERS.
- ② CABLE NOT REQUIRED, FLOW METER SECONDARY SHALL BE MOUNTED ON FLOW METER PRIMARY.



TYPICAL FLOW METER SCHEMATIC (E) 5102
SCALE: NTS

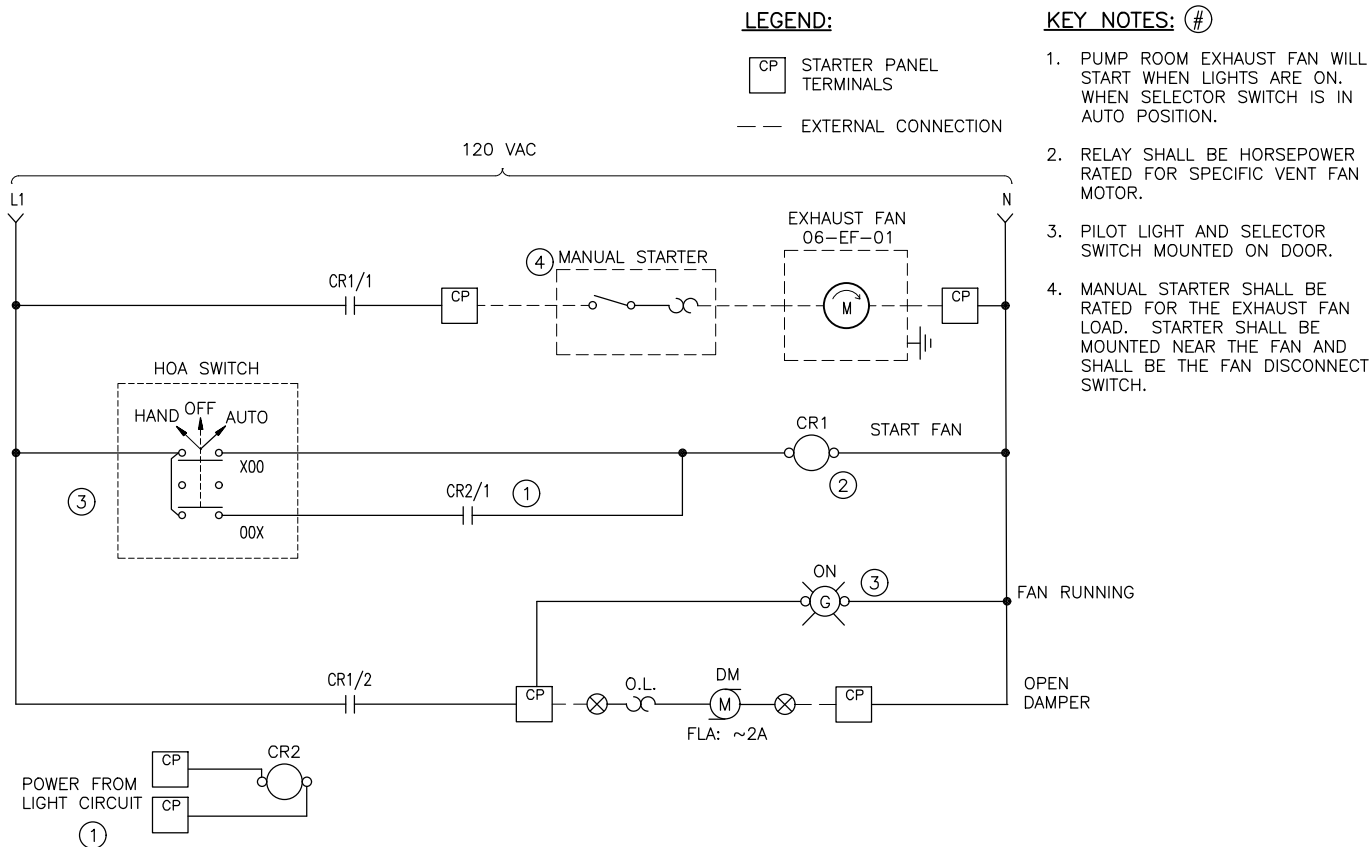


TYPICAL UNIT HEATER CONNECTION DIAGRAM (E) 5103
SCALE: NTS

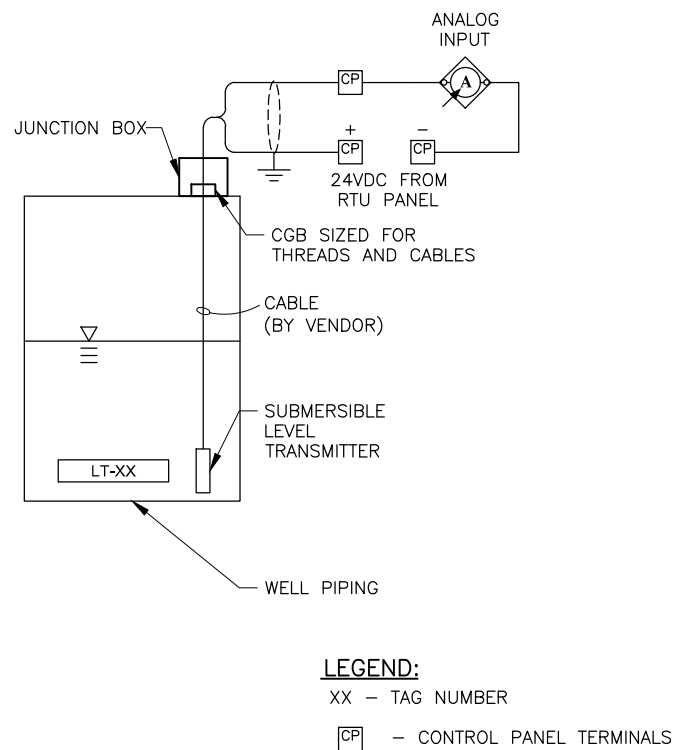


PRESSURE TRANSMITTER SCHEMATIC (E) 5104
SCALE: NTS

NOT USED (E) 5105
SCALE: NTS



CONTROL PANEL LCP-40 (E) 5106
SCALE: NTS



TYPICAL SUBMERSIBLE LEVEL TRANSDUCER (E) 5107
SCALE: NTS

NOT USED (E) 5108
SCALE: NTS

BOWEN COLLINS ASSOCIATES
PROFESSIONAL ENGINEERS
DOUGLAS MAX STEWART
No. 173312
STATE OF UTAH
08-22-2018

VERIF SCALE
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BLOOMINGTON WELL PROJECT
SUMMIT MOUNTAIN HOLDING GROUP
WEBER COUNTY, UTAH

DESIGN: D. STEWART
REVIEW: D. STEWART
CHECKED: D. YOUNGSTROM
APPROVED: D. STEWART

GENERAL ELECTRICAL DETAILS-3
PROJECT NUMBER: 347-17-01
DATE: AUGUST 2018

DRAWING NO. **GE-03**
SHEET **46** OF **46**