REQUEST FOR BIDS

BOX ELDER COUNTY (www.boxelder.org ) located at 01 South Main Street, Suite 34, Brigham City, Utah is requesting bids for the supply and construction of a pre-engineered METAL BUILDING, including erection, framing, finish, electrical, plumbing and mechanical work, as more specifically described in the bidding packet. The building is to be erected and constructed at the site of the SHERIFF'S Department located in Brigham City, Utah. **SEALED BIDS** MUST BE RECEIVED NO LATER THAN 1:00 P.M., on Monday, April 25, 2016. Bids received after this time will not be evaluated.
Opening of the Bids will take place at 1:00 P.M. on Monday, April 25, 2016 in the Box Elder County Commission Chambers, 01 South Main Street, Brigham City, Utah.
The purpose of this Request for Bids (RFB) is to obtain bids from qualified contractors for all construction work as per the specified plans relating to the bid. RFB bidding packets are available for pick-up at the historic County Courthouse located at 01 S Main Suite 34 in Brigham City or on the county WEB page (http://www.boxeldercounty.org/inspection.htm).

1. MINIMUM QUALIFICATIONS
Bids will only be accepted from the following:
a) Licensed, insured, and bonded contractors in the state of Utah.
b) Other qualifications as outlined in the scope of work.

2. SERVICE EXPECTATIONS
Any contract resulting from this RFB will be between Box Elder County and the successful bidder. The County reserves the right to contract with other qualified professional firms or individuals for similar services during the period of the contract.
All proposals should contain the following information:
a. Company name, contractor license information and contact information.
b. Resumes or background descriptions of past projects.
c. Bid price to complete all work as per plan and scope of work.
d. Contractors shall work with other sub-contractors in a reasonable manner to accomplish this project in a timely professional manner.
e. Extensions will not be granted for normal construction circumstances; extensions shall be requested and approved in writing.

3. CRITERIA FOR SELECTION
a. As Box Elder County wants to keep work in the County, Contractors with offices in Box Elder County will be given a 2% ($500 maximum) bid preference on their bid.
c. Willingness and/or accessibility of completing the job in the required time line.
d. Proposed bid.
e. Demonstrated track record in completing such projects in a timely and acceptable manner.
f. Review of references.

# New Storage Facility
for
# Box Elder County sheriffs Depot
Brigham City, Utah

## GENERAL NOTES

CITY REQUIREMENTS

1. ALL PROJECTS SHALL COMPLY WITH ANSI, A.D.A. & CURRENT ADOPTED EDITION OF THE I.B.C., U.P.C. N.E.C., CITY, STATE & FEDERAL CODES.
2. PROVIDE LEVER HARDWARE AT ALL NEW DOORS; OR HARDWARE THAT GRASPING, OR TWISTING OF THE WRIST IS NOT REQUIRED. DOOR HARDWARE TO BE MOUNTED 30" - 40" WITH THE MAXIMUM 8.5 LBS EFFORT TO OPERATE EXTERIOR DOORS, AND 5 LBS. FOR INTERIOR DOORS.
3. CONTRACTORS ARE TO COMPLY WITH HANDICAPPED ACCESS REGULATIONS.
4. NO HAZARDOUS CHEMICAL OR COMBUSTIBLE MATERIALS TO BE STORED ON THE PREMISES.
5. PROVIDE WALL MOUNTED PORTABLE FIRE EXTINGUISHERS AT INTERIOR HALLS AND LOCATIONS FOR PATH OF TRAVEL NOT TO EXCEED SEVENTY-FIVE FEET. VERIFY TYPE OF EXTINGUISHER AND LOCATION WITH FIRE MARSHAL.

CONSTRUCTION NOTES:

1. ALL CONTRACTORS ARE RESPONSIBLE FOR CHECKING CONTRACT DOCUMENTS, FIELD CONDITIONS & DIMENSIONS FOR ACCURACY AND CONFIRMING THAT THE WORK IS BUILDABLE AS SHOWN BEFORE PROCEEDING WITH CONSTRUCTION. IF THERE ARE QUESTION REGARDING THESE OR OTHER COORDINATION QUESTIONS, CONTACT THE ARCHITECT.
2. ALL DIMENSIONED TO FACE OF BRICK TO FACE OF BRICK OR FROM FACE OF FRAMING STUDS TO FACE OF FRAMING STUDS. UNLESS OTHERWISE NOTED.
3. DIMENSIONS ARE NOT ADJUSTABLE WITHOUT THE APPROVAL OF THE ARCHITECT. UNLESS OTHERWISE NOTED WITH A PLUS OR MINUS SIGN +/- OR TO V.I.F. (VERIFY IN FIELD).
4. DO NOT SCALE DRAWINGS. ALL NOTED DIMENSIONS TAKE PRECEDENCE. ANYONE USING THESE DRAWINGS SHOULD VERIFY ALL CRITICAL DIMENSIONS BY TAKING FIELD MEASUREMENTS.
5. THE ARCHITECT WILL REVIEW AND APPROVE SHOP DRAWINGS AND SAMPLES FOR CONFORMANCE WITH DESIGN INTENT ONLY. THE ARCHITECTS APPROVAL OF A SEPARATE ITEM SHALL NOT INDICATE APPROVAL OF AN ASSEMBLY IN WHICH THE ITEMS FUNCTIONS.
6. THE ARCHITECT'S REVIEW OF SHOP DRAWINGS SHALL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR DEVIATION FROM DRAWINGS OR SPECIFICATIONS UNLESS HE HAS (IN WRITING) CALLING THE ARCHITECT'S ATTENTION TO SUCH DEVIATIONS AT THE TIME OF SUBMISSION AND RECEIVES FURTHER CLARIFICATION FROM THE ARCHITECT; NOR SHALL IT RELIEVE HIM OF RESPONSIBILITY FOR ERRORS OF ANY SORT IN THE SHOP DRAWINGS.
7. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING UTILITIES, AND TO PROTECT THEM FROM DAMAGE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY EXPENSE OF REPAIR OR REPLACEMENT OF UTILITIES. ALWAYS CALL BLUE STAKE PRIOR TO EXCAVATION WORK.
8. THE CONTRACTOR SHALL PROVIDE TEMPORARY WATER, POWER AND TOILET FACILITIES AS REQUIRED.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE SECURITY OF THE SITE WHILE JOB IS IN PROGRESS AND UNTIL JOB IS COMPLETED.

DOOR APPROACH

1. REFER TO ADJACENT DOOR SWING DIAGRAM, PROVIDE 60" DEEP LEVEL AREA IN THE DIRECTION OF THE DOOR SWING, 44" DEEP AREA WHEN DOOR SWINGS AWAY FROM APPROACH.
2. LEVEL AREA EXTENSION 24" TO STRIKE SIDE OF EXTERIOR DOOR, 18" FOR INTERIOR DOORS.
3. ALL PRIMARY ENTRANCES TO THE BUILDING AND ALL NORMAL PATHWAYS, ARE TO BE ACCESSIBLE.

ENTRANCES & EXITS

1. ALL REQUIRED EXIT DOORWAYS TO BE A MINIMUM OF 36"X80".
2. THRESHOLDS SHALL NOT EXCEED 1/2" IN HEIGHT.
3. PROVIDE AN EXIT SIGN FOR EACH EXIT (REFER TO ELECTRICAL PLANS FOR EXACT LOCATIONS AND DETAILS).
4. ALL EXIT SIGNS SHALL BE ILLUMINATED AND HAVE BACKUP EMERGENCY POWER SUPPLY.
5. THE MEANS OF EGRESS SHALL BE ILLUMINATED WITH AT LEAST ONE FOOT CANDLE AT THE FLOOR LEVEL.

HAZARDS

1. 80" HEADROOM FROM WALKWAY SURFACE TO ANY OVERHANGING OBSTRUCTION SHALL BE PROVIDED.
2. HEADROOM OF 80" MINIMUM SHALL BE MAINTAINED FOR WALKS, CORRIDORS, AISLES, ETC.
3. PROTRUDING OBJECTS WITH LEADING EDGES BETWEEN 27" AND 80" ABOVE FINISHED FLOOR SHALL NOT PROTRUDE MORE THAN FOUR INCHES INTO WALKS, CORRIDORS, ETC.
4. OBJECTS WITH PROTRUDING EDGES BELOW 27" ABOVE FINISHED FLOOR MAY PROTRUDE ANY AMOUNT.
5. FREE STANDING OBJECTS MOUNTED ON POSTS BETWEEN 27" AND 80" ABOVE THE FLOOR MAY PROJECT A MAXIMUM OF 12".
6. ABRUPT CHANGES IN LEVEL EXCEEDING 4" AND ADJACENT TO WALKS, EXCEPT BETWEEN WALKS AND ADJACENT STREETS AND OR DRIVES, SHALL BE IDENTIFIED BY 6" HIGH WARNING CURBS ABOVE WALK SURFACE.

WALKS AND SIDEWALKS

1. WALKS AND SIDEWALKS SHALL HAVE A CONTINUOUS COMMON SURFACE, NOT INTERRUPTED BY STEPS OR BY ABRUPT CHANGES IN LEVEL EXCEEDING 1/2" AND SHALL BE A MINIMUM OF 48" IN WIDTH. SURFACES SHALL BE SLIP-RESISTANT AS FOLLOWS:
   A. SLOPES LESS THAN 6 PERCENT GRADIENT SHALL BE AT LEAST AS SLIP-RESISTANT AS THAT DESCRIBED AS A MEDIUM SALTED FINISH.
   B. SLOPES 6 PERCENT OR GREATER SHALL BE SLIP-RESISTANT.
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3. ABRUPT CHANGES IN LEVEL ALONG ANY ACCESSIBLE ROUTE SHALL NOT EXCEED 1/2". WHEN CHANGES IN LEVEL DO OCCUR, THEY SHALL BE BEVELED WITH A SLOPE NO GREATER THAN 1:2 EXCEPT THAT LEVEL CHANGES NOT EXCEEDING 1/4" MAY BE VERTICAL.

## CODE REVIEW

APPLICABLE CODES

GENERAL - 2012 INTERNATIONAL BUILDING CODE
ELECTRICAL - 2011 NATIONAL ELECTRICAL CODE
MECHANICAL - 2012 INTERNATIONAL MECHANICAL CODE
PLUMBING - 2012 INTERNATIONAL PLUMBING CODE
FIRE - 2012 INTERNATIONAL FIRE CODE
ACCESSIBILITY- 2010 ADA STANDARDS
AMERICAN W/ DISABILITIES ACT & 2009 ANSI 117.1.

CODE REVIEW

CHAPTER 3 (USE AND OCCUPANCY):

309.1 STORAGE/WAREHOUSE - **S-2, 12,000** SqFt.

CHAPTER 4 (SPECIAL USE AND OCCUPANCY):

413.1 THERE IS NO HIGH PILE COMBUSTABLE STORAGE.

414 NO HAZARDOUS MATERIALS SHALL BE STORED IN EXCESS OF THE MAXIMUM ALLOWABLE PER TABLE 414.2.5 FOR TYPE "S" OCCUPANCIES.

CHAPTER 5 (ALLOWABLE HEIGHT & AREA):

503 (TABLE) ALLOWABLE AREA TYPE **VB** = 13,500 503 (TABLE) ALLOWABLE 2 STORIES 55' HIGH.
504.2 AUTOMATIC SPRINKLER INCREASE: N/A

506.1 AREA MODIFICATIONS:
Aa = { At + [ At x If ]+[ At x Is ] }
If =[F/P - 0.25 ]W/30 (Not Needed)
26,000 = { 26000 + [Frontage ]+[ 2600 x 0] }

12,000 One Story 21' High < 13,500 Two Stories 40' Alloned
508.3.2 **NON SEPARATED OCCUPANCIES**

CHAPTER 6 (TYPES OF CONSTRUCTION):

601 (TABLE) AND 602

| | | |
|---|---|---|
| STRUCTURAL FRAME | 0 HR's | |
| BEARING WALLS EXTERIOR | 0 HR's | 1 HR < 5' N/A |
| BEARING WALLS INTERIOR | 0 HR's | |
| NONBEARING WALLS INTERIOR | 0 HR's | |
| FLOOR CONSTRUCTION | 0 HR's | |
| ROOF CONSTRUCTION | 0 HR's | |
| FIRE WALL & BARRIERS: | RE: CHAPTER 7 | |

CHAPTER 7 (FIRE RESISTIVE RATED CONSTRUCTION):

705.4 (TABLE) FIRE WALL: N/A

CHAPTER 8 (INTERIOR FINISHES):

CLASS 'C'

CHAPTER 9 (FIRE PROTECTION SYSTEMS):

903 NO AUTOMATIC FIRE-EXTINGUISHING SYSTEM
PROVIDE PORTABLE FIRE EXTINGUISHER AS DIRECTED BY FIRE MARSHAL
NO HIGH-PILED STORAGE

CHAPTER 10 (MEANS OF EGRESS):

1004.1.1 (TABLE) Storage: 11,788 SqFt/300 = 39
Toilet Rooms: 124 SqFt/ N/A = 0
Office: 88 SqFt/100 = 1
Total: = 40

1005.3.2 40 x 0.2 = 8", 34" MIN., PROVIDED 6 Mandoors = 204"
EXITS REQ'D (TABLE 1015.1): 1, PROVIDE 6 Total, 1 min. from each area.

CHAPTER 11 (ACCESSIBILITY):

1. PARKING: REFER TO CIVIL PLANS
2. TOILET ROOM: (ACCESSIBLE): FIXTURES, CLEARANCES, ACCESSORIES AND GRAB BARS.
3. DOOR HARDWARE: LEVER TYPE (LISTED AS ADA COMPLIANT).

CHAPTER 29 (PLUMBING SYSTEMS):

TABLE 2902.1

| FIXTURE No. & STORAGE, WAREHOUSE | * REQ'D | *PROVIDED |
|---|---|---|
| 1. WATER CLOSETS: 1 per 100 | 1 | 2 |
| 2. LAVATORIES: 1 per 100 | 1 | 2 |
| 3. DRINKING FOUNTAINS: 1 per 1000 | 1 | 0 |
| 4. SERVICE SINKS: One | 1 | 0 |

## GRAPHIC SYMBOLS

| SYMBOL | DESCRIPTION: |
|---|---|
| X / XX | BUILDING SECTION |
| X / XX | WALL SECTION |
| X / XX | DETAIL |
| 100'-0" T.O. SLAB / 4/A8.3 | ELEVATION (HEIGHT) |
| | INTERIOR ELEVATION |
| MT-1 | FINISH TAG, RE: A1.5, A2.1 & A2.2 |
| 10 / 36x80 | DOOR NUMBER / NOMINAL OPENING |
| B | WINDOW TYPE RE: SHEET A5.1 |
| 9'-0" | CLG FINISH (per Finish Plans) / CEILING HEIGHT A.F.F. V.I.F. |
| 4 | EQUIPMENT |
| A | WALL TYPES |
| 2 | KEYNOTES |
| | REVISIONS |
| | DIRECTIONAL EXIT SIGN |

## PROJECT CONSULTANT DIRECTORY

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Owner's Consultants

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538 N Main St., Brigham City UT 84302
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Email: cunningassoc@frontier.com

ELECTRICAL ENGINEERS

Beazer Engineering Inc.
BEAZER ENGINEERING INC.
P.O. BOX 652
MILLVILLE, UTAH 84326-0652
Phone: (435) 753-1250
FAX: (435) 753-1871
email: beazer@cv-n.com

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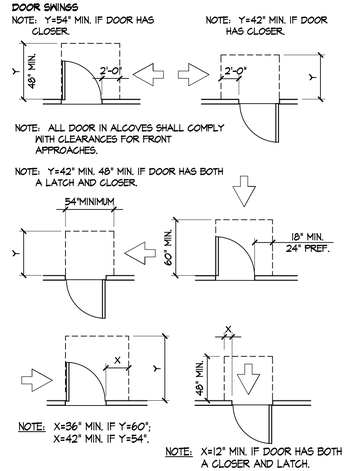
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DOOR SWINGS




## SHEET INDEX



| | SHEET NO. | SHEET DESCRIPTION |
|---|---|---|
| GENERAL | G0.1 | COVER SHEET, GENERAL NOTES, INDEX, CODE REVIEW, VICINITY MAP |
| | G1.1 | PRELIMINARY ARCHITECTURAL SITE DETAILS |
| ARCHITECTURAL | A1.0 | ARCHITECTURAL FOUNDATION PLAN |
| | A1.1 | 1st FLOOR PLAN AND MEZZANINE PLANS |
| | A2.1 | EXTERIOR ELEVATIONS |
| | A3.1 | BUILDING SECTIONS |
| | A5.1 | MISCELLANEOUS DETAILS |
| | A6.1 | DOOR SCHEDULE AND HARDWARE |
| SPECIFICATIONS | | |
| STRUCTURAL | GN1 | GENERAL STRUCTURAL NOTES |
| | GN2 | SPECIAL INSPECTION REQUIREMENTS |
| | F-1 | FOUNDATION PLAN |
| | F-2 | FOUNDATION DETAILS |
| | F-3 | FOUNDATION DETAILS |
| | S-1 | MEZZANINE FRAMING PLAN |
| | S-2 | STRUCTURAL DETAILS |
| | S-3 | STRUCTURAL DETAILS |
| MECHANICAL | M-000 | MECHANICAL & PLUMBING SCHEDULES |
| | M-100 | HVAC PLANS, DETAILS, AND CONTROLS |
| | MP-500 | MECHANICAL AND PLUMBING DETAILS |
| | MS-100 | MECHANICAL AND PLUMBING SPECIFICATIONS |
| PLUMBING | P-100 | PLUMBING PLANS, AND DIAGRAMS |
| ELECTRICAL | E1.1 | LIGHTING PLAN |
| | E1.2 | POWER PLAN |
| | E1.3 | DIAGRAMS AND SCHEDULES |
| | ESP1.1 | ELECTRICAL SPECIFICATIONS |
| | ESP1.2 | ELECTRICAL SPECIFICATIONS |
| FIRE ALARM | | |



## VICINITY MAP




| No. | Revision/Issue | Date |
|---|---|---|
| | | |

Seal:
STATE OF UTAH
R. GARY HUNT
3-24-2016
326738
LICENSED ARCHITECT

New Storage Facility for Box Elder County Sheriff's Dept.
Brigham City, UT
Project Title:


Gary Hunt, Architect PC
Architecture / Planning
1594 W. Park Circle, Suite 101 - Ogden, Utah 84404
Phone: (801) 782-5055
Mobile: (801) 725-1922
Fax: (801) 782-5081
e-mail: gary@gharchitect.com


Sheet Title:
Cover Sheet, General Notes, Code Review

| Project No.: | Date: 22 Mar 16 |
|---|---|
| #2015-04 | Scale: NONE |

Sheet No.:
G0.1

## GENERAL NOTES:

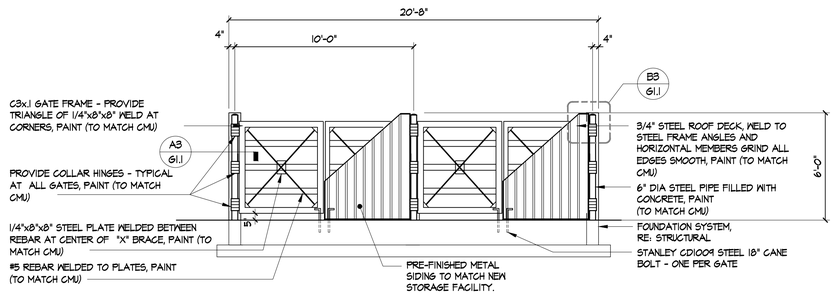
No. DESCRIPTION:

1. THE OWNER RESERVES THE RIGHT TO ESTABLISH RULES OF CONDUCT AND USE OF THE SITE DURING CONSTRUCTION. ACCESS SHALL BE THROUGH A OWNER DESIGNATED ENTRANCE ONLY. NO FOOD/ DRINK/ OR SMOKING WILL BE PERMITTED IN THE BUILDING.
2. DO NOT UNREASONABLY ENCUMBER THE SITE WITH MATERIALS OR EQUIPMENT. STOCKPILE ALL MATERIALS ADJACENT TO AREA OF USE AND ONLY IN QUANTITIES THAT CAN BE PLACED IN A TIMELY MANNER AS AGREED BY OWNER.
3. CONTRACTORS SHALL COORDINATE AREA FOR PARKING AND MATERIAL STORAGE WITH OWNER AS REQUIRED TO MINIMIZE DISTRUPTION OF THE OWNERS USE OF SITE.

## KEY NOTE:

No. DESCRIPTION:

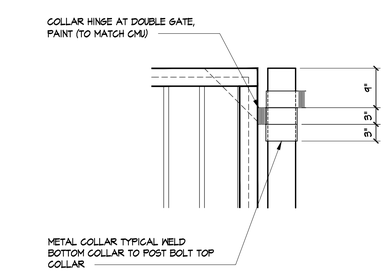
(1) NOTE




### TRASH ENCLOSURE ELEVATION

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

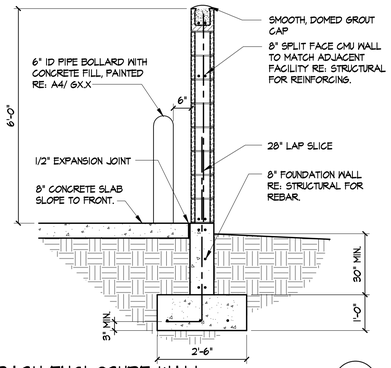
B1 / G1.1




### GATE HINGE ELEVATION

SCALE: 3/4" = 1'-0"

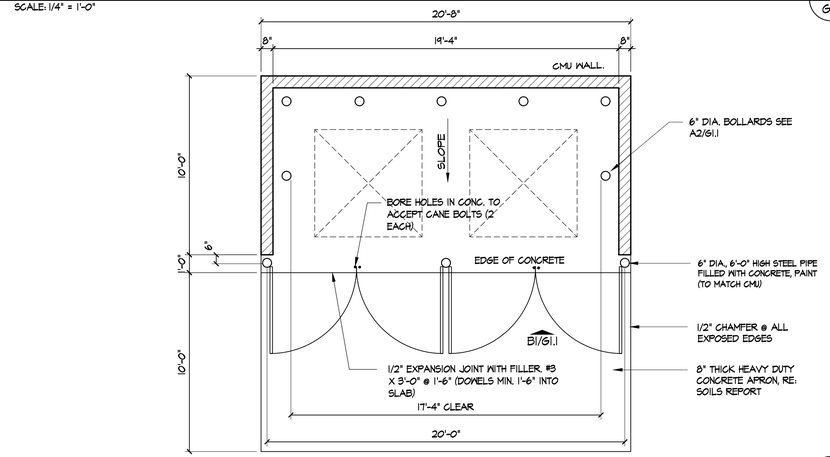
B3 / G1.1




### TRASH ENCLOSURE WALL

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

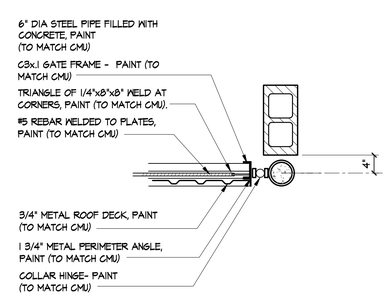
B4 / G1.1




### TRASH ENCLOSURE PLAN

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

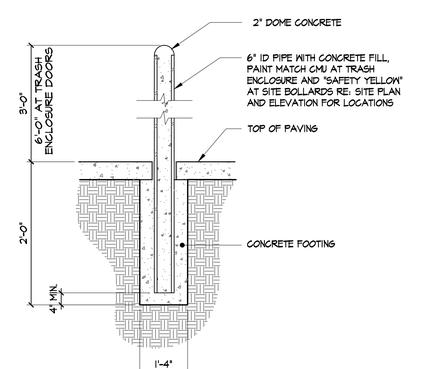
A1 / G1.1




### GATE HINGE PLAN

SCALE: 3/4" = 1'-0"

A3 / G1.1




### SITE BOLLARD

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

A4 / G1.1

| No. | Revision/Issue | Date |
|---|---|---|
| | | |

Seal:

STATE OF UTAH
J. GARY HUNT
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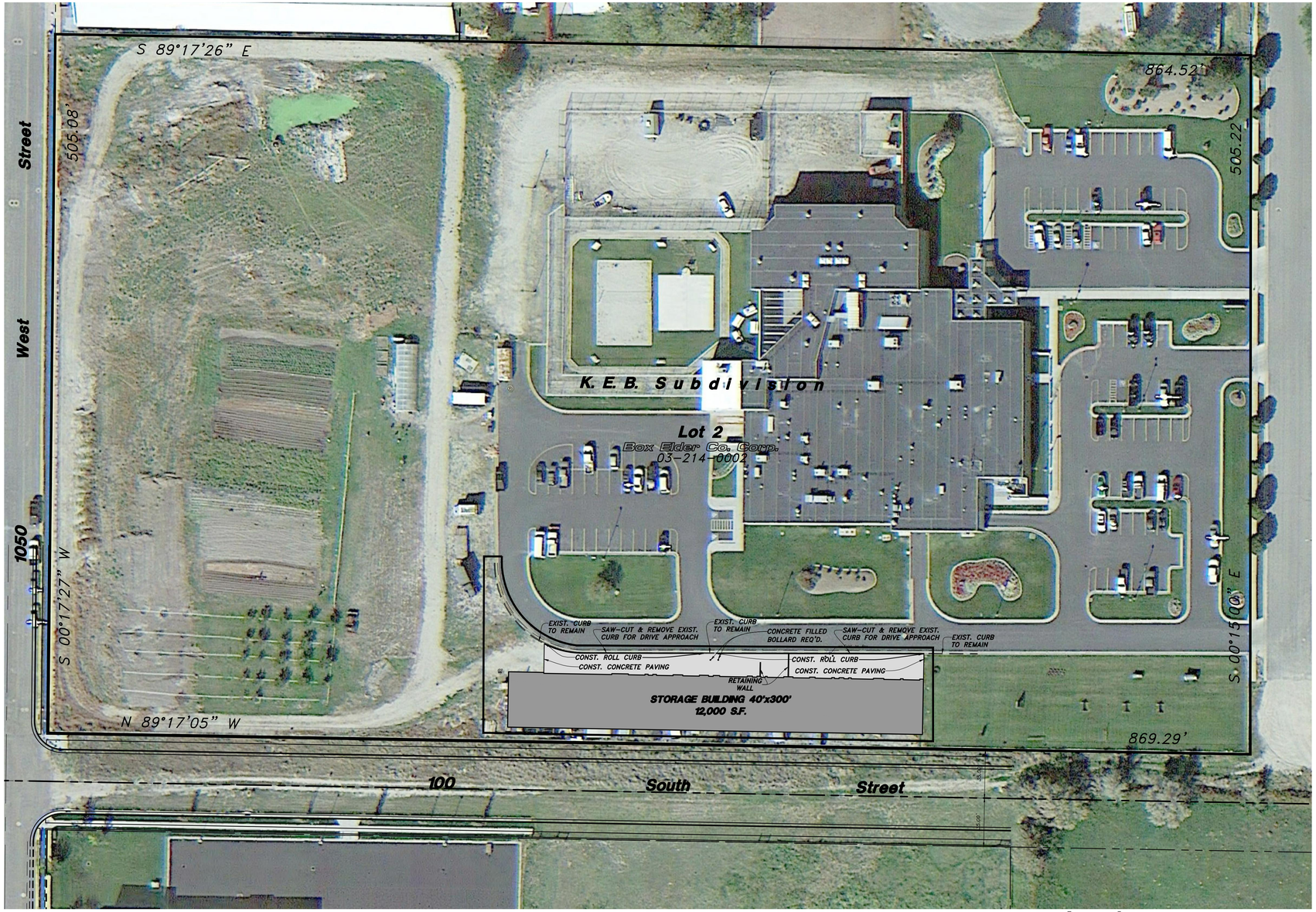

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Sheet Title:
Architectural
Site Details

| Project No.: | Date: 22 Mar 16 |
|---|---|
| #2015-04 | Scale: 3/32" = 1'-0" |

Sheet No.:
G1.1

# PROJECT OVERVIEW




### Legend

- Subject Property Line
- Secondary Property Line
- Centerline
- Easement/Right-of-Way Line
- Section Line
- Existing 5.0' Contour
- Existing 1.0' Contour
- Fence Line
- Storm Drain Existing
- Water Line Existing
- Sewer Line Existing
- Power Line Existing
- Telephone Line Existing
- Gas Line Existing
- Fiber Optic Line Existing
- Edge of Asphalt Paving
- Existing Curb and Gutter
- Telephone Pedestal
- Fire Hydrant
- Water Meter
- Water Valve
- Sewer Manhole
- Power Pole
- Tree Line Perimeter
- Set 24"x5/8" Rebar with Cap
- Found rebar set by others
- Street Monument
- Section Corner

SCALE: Horiz. 1" = 40'
Vert. 1" = 40'

0 40 80
Scale in Feet

### Engineer's Notice To Contractors

*The existence and location of any underground utility pipes or structures shown on these plans were obtained from available information provided by others. The locations shown are approximate and shall be confirmed in the field by the contractor, so that any necessary adjustment can be made in alignment and/or grade of the proposed improvement. The contractor is required to contact the utility companies and take due precautionary measure to protect any utility lines shown, and any other lines obtained by the contractors research, and others not of record or not shown on these plans.*

NOTICE!

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AVOID CUTTING UNDERGROUND UTILITIES. IT'S COSTLY.

Call BEFORE YOU Dig

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UNDERGROUND SERVICE


HANSEN & ASSOCIATES, INC.
Consulting Engineers and Land Surveyors
538 North Main Street, Brigham, Utah 84302
Brigham City, Utah (435) 723-3491 (801) 399-4905
www.hanses.net Logan (435) 752-8272


| No. | Date | By | Revision |
|---|---|---|---|

Drawn By: KE Date: 3/15/2016
Designed By:
Checked By:
Approved By:
Scale: 1" = 40'
Drawing File: BEC SHERIFF
JOB NUMBER: 16-5-9

OVERALL SITE PLAN

**BOX ELDER COUNTY SHERIFF**

52 South 1000 West.
Brigham City, UT 84302

Sheet 1 of 3 Sheets

Lot 2

Box Elder Co. Corp.

03-214-0002

(TBC: 75.42) LBC: 75.05 LBC: 75.72 LBC: 76.08 LBC: 76.24 LBC: 76.40 LBC: 76.52 LBC: 76.68 LBC: 76.77 LBC: 76.93 (TBC: 77.37) (TBC: 77.50) LBC: 77.13 LBC: 77.50 LBC: 77.81 LBC: 78.07 LBC: 78.22 LBC: 78.48 LBC: 78.57 LBC: 78.83 LBC: 79.11 LBC: 79.44 LBC: 79.59 LBC: 79.83 LBC: 79.87 (TBC: 80.56) LBC: 80.11

TA: 76.29 TA: 76.29 TA: 76.95 TA: 76.95 TA: 77.62 TA: 77.62 TA: 78.29 TA: 78.39 TA: 78.29 TA: 79.30 TA: 79.62 TA: 79.62 TA: 80.29 TA: 80.29

5.5% 9.6% 2.0% 1.9% 8.9%

8" STEP 8" STEP 8" STEP 1'-4" STEP 8" STEP

STORAGE BUILDING
40'x300'
12,000 S.F.

FFE=4276.29 FFE=4276.95 FFE=4277.62 FFE=4278.29 FFE=4279.62 FFE=4280.29

100

## Engineer's Notice To Contractors

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## LEGEND:

- EXISTING PROPERTY LINE
- EXISTING ADJACENT PROPERTY LINE
- EXISTING CENTERLINE
- EXISTING FENCE
- EXISTING 5' CONTOUR
- EXISTING 1' CONTOUR
- FINISH DESIGN CONTOUR
- TBC TOP BACK OF CURB
- LIP LIP OF GUTTER
- TG TOP GRAVEL
- TA TOP ASPHALT
- TC TOP CONCRETE
- TW TOP WALK
- FL FLOWLINE
- TC (4290.25) EXISTING SPOT ELEVATION
- TC 4290.25 PROPOSED SPOT ELEVATION
- 2.0% PROPOSED GRADE
- EXISTING CURB AND GUTTER
- PROPOSED CATCH CURB AND GUTTER
- PROPOSED SPILL CURB AND GUTTER

SCALE: Horiz. 1" = 10'
Vert. 1" = 10'

0 10 20
Scale in Feet

| No. | Date | By | Revision |
|---|---|---|---|

PROFESSIONAL ENGINEER
JAMES B. FLINT
7966324-2202
STATE OF UTAH

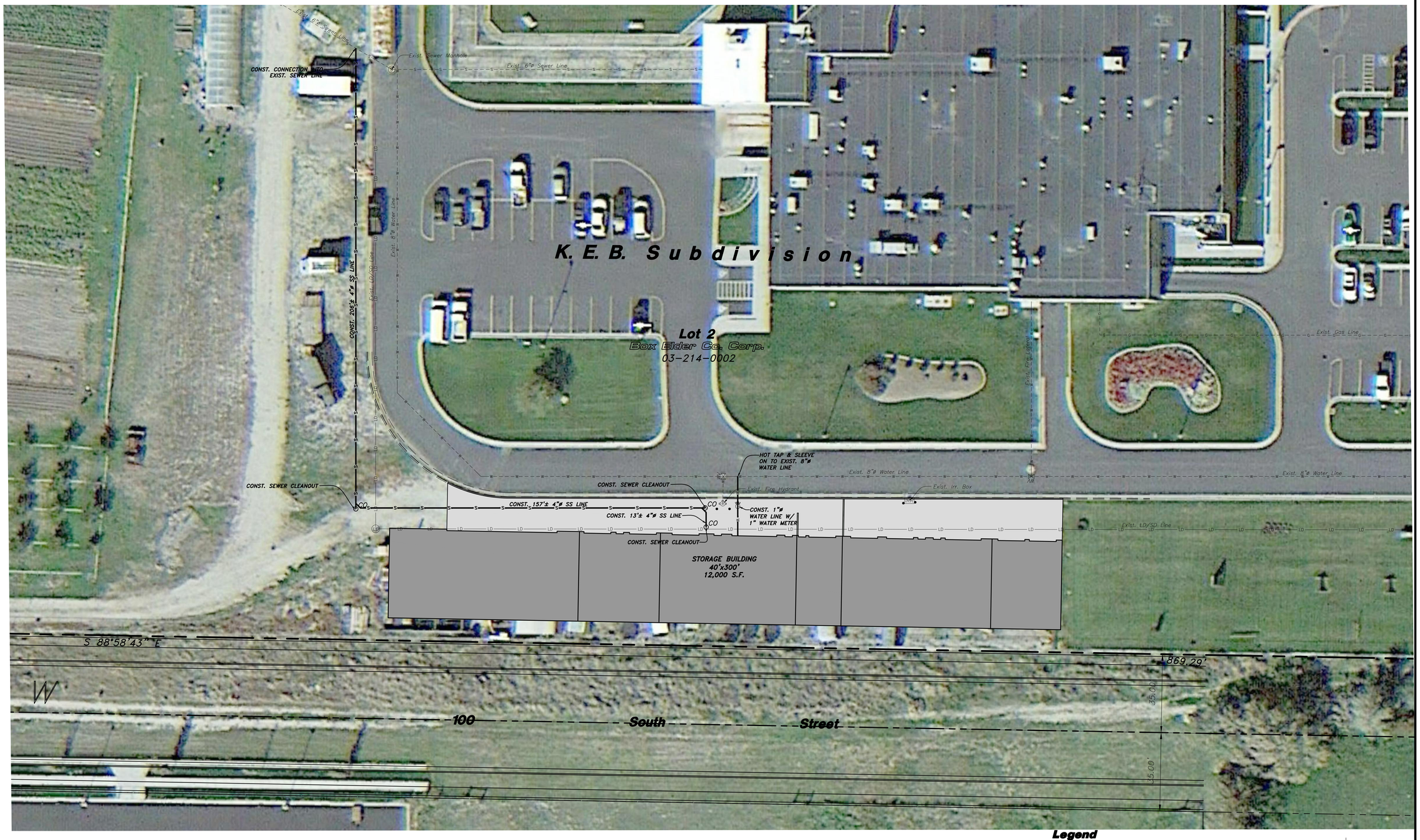

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HAI

Drawn By: MBJ Date: 3/15/2016
Designed By:
Checked By:
Approved By:
Scale: 1" = 10'
Drawing File: 16-5-9
JOB NUMBER: 16-5-9

GRADING PLAN FOR
# BOX ELDER COUNTY SHERIFF
52 South 1000 West
Brigham City, UT 84302

Sheet 2 of 3 Sheets




## Engineer's Notice To Contractors

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## Legend

- Subject Property Line
- Secondary Property Line
- Centerline
- Easement/Right-of-Way Line
- Section Line
- Existing 5.0' Contour
- Existing 1.0' Contour
- Fence Line
- Storm Drain Existing
- Water Line Existing
- Sewer Line Existing
- Power Line Existing
- Telephone Line Existing
- Gas Line Existing
- Fiber Optic Line Existing
- Edge of Asphalt Paving
- Existing Curb and Gutter
- Telephone Pedestal
- Fire Hydrant
- Water Meter
- Water Valve
- Sewer Manhole
- Power Pole
- Tree Line Perimeter
- Set 24"x5/8" Rebar with Cap (BRADEN R. ASSOC. 7881387)
- Found rebar set by others
- Street Monument
- Section Corner

SCALE: Horiz. 1" = 20'
Vert. 1" = 20'

0 20 40
Scale in Feet

| No. | Date | By | Revision |
|---|---|---|---|
| | | | |


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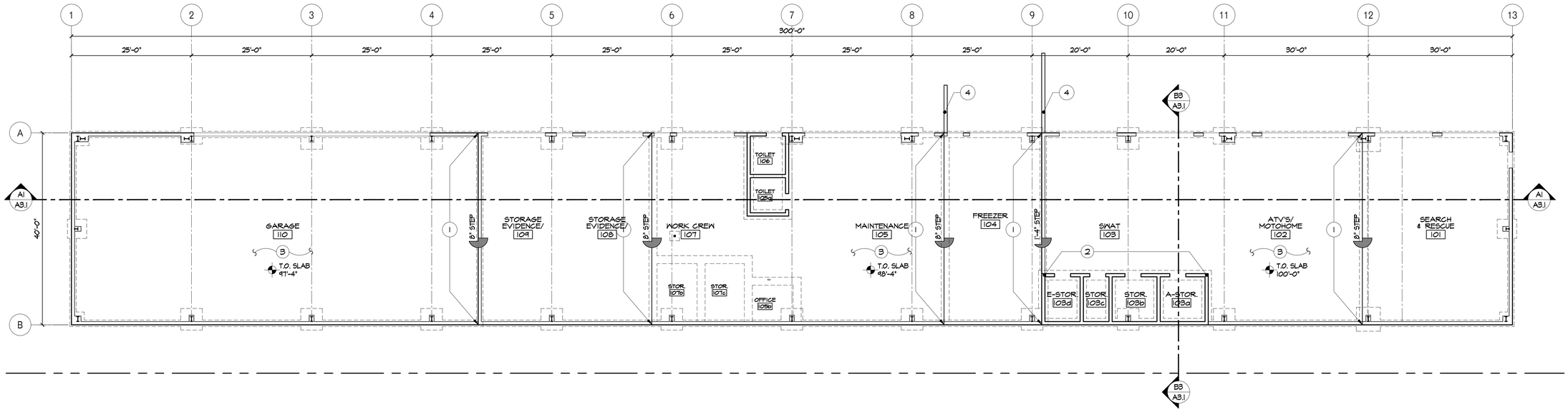

Drawn By: KE Date: 3/15/2016
Designed By:
Checked By:
Approved By:
Scale: 1" = 20'
Drawing File: 16-5-9
JOB NUMBER: 16-5-9

UTILITY PLAN FOR
**BOX ELDER COUNTY SHERIFF**
52 South 1000 West
Brigham City, UT 84302

Sheet **3** of **3** Sheets

## KEY NOTE:

| No. | DESCRIPTION: |
|---|---|
| 1 | STEP FOOTING AS REQUIRED BY SITE GRADING REFER TO CIVIL AND STRUCTURAL PLANS. |
| 2 | SOLID GROUTED CMU WALLS REFER TO STRUCTURAL PLANS. |
| 3 | PRELIMINARY CONCRETE FOUNDATION PER STRUCTURAL DRAWINGS, PENDING FINAL DESIGN BY METAL BUILDING SUPPLIER. ASSUME A 4" CONCRETE SLAB W/ #4 BARS @ 24" O.C. ON 4" STRUCTURAL FILL. |
| 4 | RETAINING WALL REFER TO CIVIL PLANS. |




## Architectural Foundation Plan

SCALE: 3/32" = 1'-0"

A1
A1.0

| No. | Revision/Issue | Date |
|---|---|---|
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Seal:

STATE OF UTAH
R. GARY HUNT
3-24-2016
326738
LICENSED ARCHITECT

Project Title:

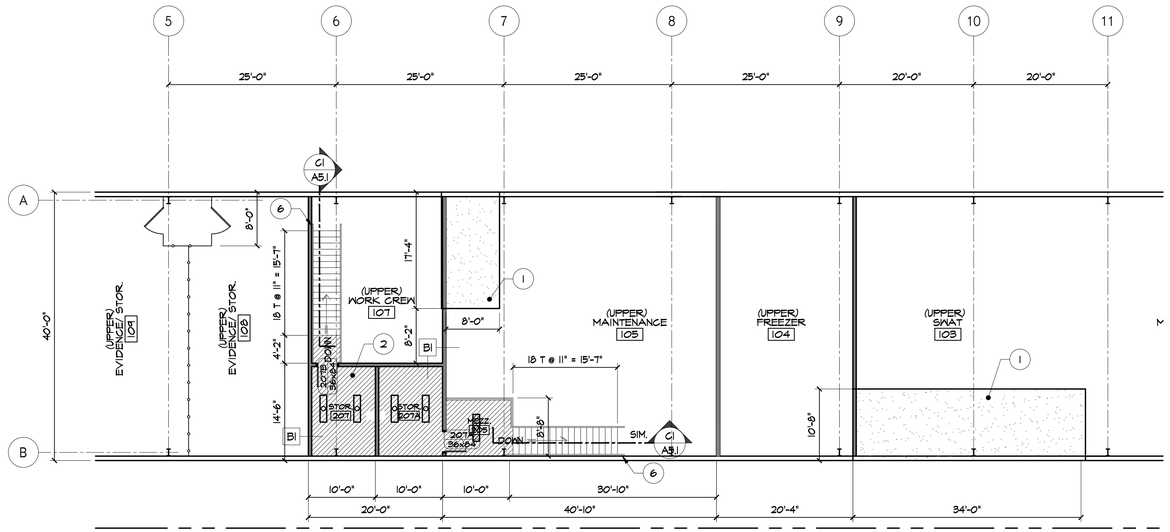
New Storage Facility
for
Box Elder County Sheriff's Dept.
Brigham City, UT


Gary Hunt, Architect PC
Architecture / Planning
1594 W. Park Circle, Suite 101 - Ogden, Utah 84404
Phone: (801) 782-5055
Mobile: (801) 725-1922
Fax: (801) 782-5081
e-mail: gary@garchitect.com


Sheet Title:
Architectural Foundation Plan

| Project No.: | Date: 22 Mar 16 |
|---|---|
| #2015-04 | Scale: 3/32" = 1'-0" |

Sheet No.:
A1.0




## Mezzanine Floor Plan (MEZZANINE AREAS SHADED)

SCALE: 3/32" = 1'-0"

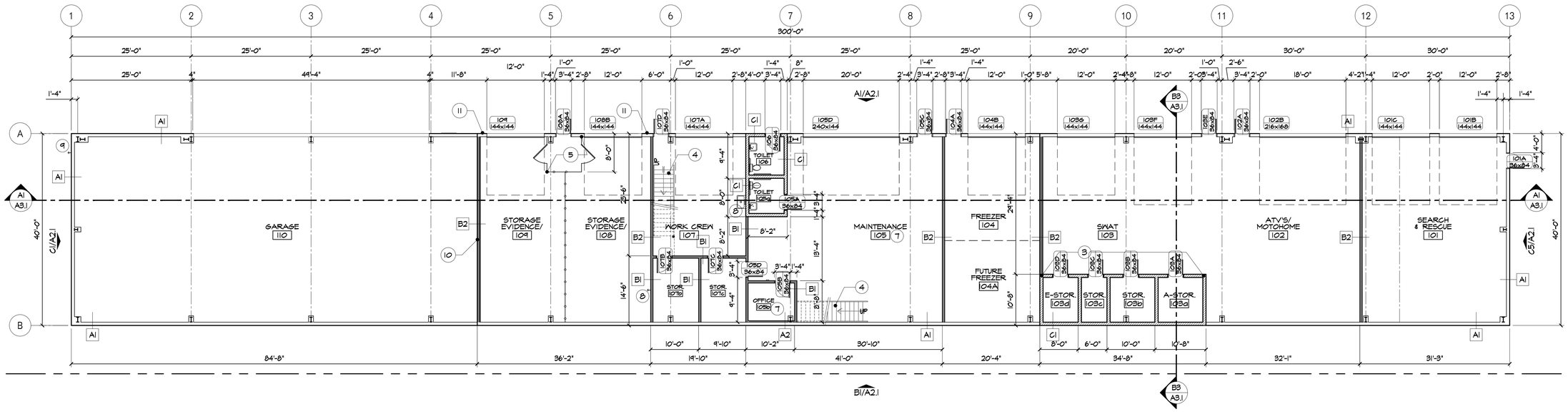
B5
A1.1

## KEY NOTE:

| No. | DESCRIPTION: |
|---|---|
| 1 | 4" CONC. SLAB OVER STEEL "B" DECK. |
| 2 | 2x10 FLOOR JOISTS @ 16" O.C. W/ ¾" T&G PLYWOOD |
| 3 | SOLID GROUTED CMU WALLS REFER TO STRUCTURAL PLANS. |
| 4 | WOOD STAIRS AND RAILING SYSTEM, REFER TO RELATED DETAILS. |
| 5 | CHAIN LINK FENCE AND GATES. |
| 6 | RETURN HANDRAIL TO WALL REFER TO DETAIL B2/A5.1 |
| 7 | H.V.A.C. CONDITIONED ROOM |
| 8 | UTILITY SINK, RUN WATER LINE TO ROOM 108 OPPOSITE STORAGE ROOM 107B, PROVIDE TAP TO FILL WATER TANKS IN ROOM 108, REFER TO PLUMBING PLANS. |
| 9 | FROST PROOF HOSE BIB LOCATED 4'-0" FROM BUILDING GRID A/1. |
| 10 | STUB GASS LINE FOR FUTURE USE, REFER TO MECHANICAL PLANS. |
| 11 | CONTROL FOR OVERHEAD DOOR. |

## WALL TYPES

| TYPE: | DETAIL: | |
|---|---|---|
| A1<br>RATING: N/A<br>TYPE: N/A<br>R-VALUE: R-19 | | METAL BUILDING WALL PER METAL BUILDING MANUFACTURE |
| A2<br>RATING: N/A<br>TYPE: N/A<br>R-VALUE: R-19 | | METAL BUILDING WALL W/ METAL PANEL FINISH PROVIDE 2x4 STUDS FURRING @ 16" O.C W/ ONE LAYER OF 5/8" GYP. BD. RE: BUILDING SECTIONS AND METAL BUILDING SHOP DRAWINGS. |
| B1<br>RATING: N/A<br>TYPE: N/A<br>R-VALUE: N/A | SOUND BATT<br>R-13 | 2x4 STUDS @ 16" O.C. INTERIOR BEARING WALL TO MEZZANINE FRAMING REFER TO STRUCTUAL PLANS PROVIDE INSULATION AS ILLUSTRATED ON FLOOR PLAN. |
| B2<br>RATING: N/A<br>TYPE: N/A<br>R-VALUE: N/A | SOUND BATT<br>R-13 | 2x4 STUDS @ 16" O.C. INTERIOR NON BEARING DEMISING WALL REFER TO STRUCTUAL PLANS PROVIDE INSULATION AS ILLUSTRATED ON FLOOR PLAN. |
| C1<br>RATING: N/A<br>TYPE: N/A<br>R-VALUE: N/A | | 8x16x8 CMU BLOCK WALL, REFER TO: STRUCTURAL PLANS. |




## 1st Floor Plan

SCALE: 3/32" = 1'-0"

A5
A1.1

| No. | Revision/Issue | Date |
|---|---|---|
| | | |

Seal:

STATE OF UTAH
R. GARY HUNT
3-24-2016
326738
LICENSED ARCHITECT

Project Title:

# New Storage Facility for Box Elder County Sheriff's Dept.

Brigham City, UT


Gary Hunt, Architect PC
Architecture / Planning
1594 W. Park Circle, Suite 101 - Ogden, Utah 84404
Phone: (801) 782-5055
Mobile: (801) 725-1922
Fax: (801) 782-5081
e-mail: gary@gharchitect.com


Sheet Title:

1st Floor Plan
Mezz. Floor Plan

| Project No.: | Date: |
|---|---|
| #2015-04 | 22 Mar 16 |
| | Scale: 3/32" = 1'-0" |

Sheet No.:

A1.1

## PLUMBING NOTES:

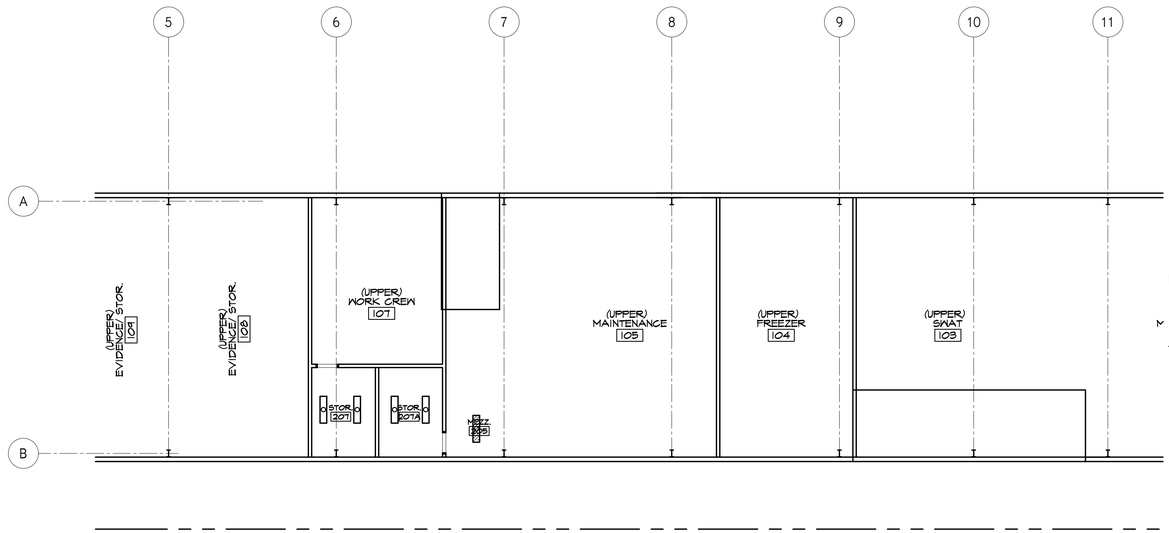
1. ALL PLUMBING WORK SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH THE LATEST ADOPTED EDITIONS OF APPLICABLE PLUMBING CODES AS REQUIRED BY OGDEN, UTAH.
2. THE PLUMBING CONTRACTOR SHALL OBTAIN REQUIRED PERMITS AND SUBMIT CALCULATIONS AND DRAWINGS IF REQUIRED BY OGDEN, UTAH.
3. THE PLUMBING CONTRACTOR SHALL LOCATE THE EXISTING PLUMBING LINE AND CONNECT NEW LINES TO EXISTING.
4. EACH TOILET ROOM SHALL HAVE ONE FLOOR DRAIN.

## MECHANICAL NOTES:

1. THE H.V.A.C. SYSTEM SHALL BE DONE ON A DESIGN-BUILD BASIS. THE H.V.A.C. CONTRACTOR SHALL DESIGN THE H.V.A.C. SYSTEM IN ACCORDANCE WITH THE LATEST ADOPTED EDITION OF THE APPLICABLE CODES AS REQUIRED BY OGDEN, UTAH.
2. THE H.V.A.C. CONTRACTOR SHALL OBTAIN REQUIRED PERMITS AND SUBMIT CALCULATIONS AND DRAWINGS IF REQUIRED BY OGDEN, UTAH.
3. THERMOSTATS SHALL BE LOCATED SO AS TO PROVIDE PROPER CONTROL AND BALANCING OF TEMPERATURES IN CONDITIONED SPACES.
4. THE H.V.A.C. EQUIPMENT SHALL BE LOCATED IN THE MECHANICAL ROOM.

## ELECTRICAL NOTES:

1. THE ELECTRICAL LIGHTING AND POWER PLANS SHALL BE DONE ON A DESIGN-BUILD BASIS. THE CONTRACTOR SHALL DESIGN THE ELECTRICAL SYSTEM IN ACCORDANCE WITH THE THE ELECTRICAL CONTRACTOR SHALL OBTAIN REQUIRED PERMITS AND SUBMIT CALCULATIONS AND DRAWINGS IF REQUIRED BY OGDEN, UTAH.
2. LATEST ADOPTED EDITION OF THE APPLICABLE CODES AS REQUIRED BY OGDEN, UTAH.




## KEY NOTE:

| No. | DESCRIPTION: |
|---|---|
| (1) | NOTE |

## CEILING LEGEND:

| SYMBOL | DESCRIPTION: |
|---|---|
| | FULL HEIGHT PARTITION TO EXTEND TO DECK ABOVE. |
| | INCANDESCENT CAN LIGHT FIXTURE. |
| | 24"x48" SURFACE MOUNTED FLUORESCENT LIGHT FIXTURE |
| | 12"x48" SURFACE MOUNTED FLUORESCENT LIGHT FIXTURE |
| | 12"x96" CHAIN HUNG FLUORESCENT LIGHT FIXTURE |
| M | HIGH BAY PENDENT LIGHT FIXTURE |
| | 2'x4' ACOUSTIC CEILING TILE RE: 4/A2.1 |
| | GYP. BRD. CEILING PAINTED |
| | HVAC SUPPLY REGISTER |
| | HVAC SUPPLY REGISTER |
| | HVAC RETURN REGISTER |
| | EXHAUST FAN |

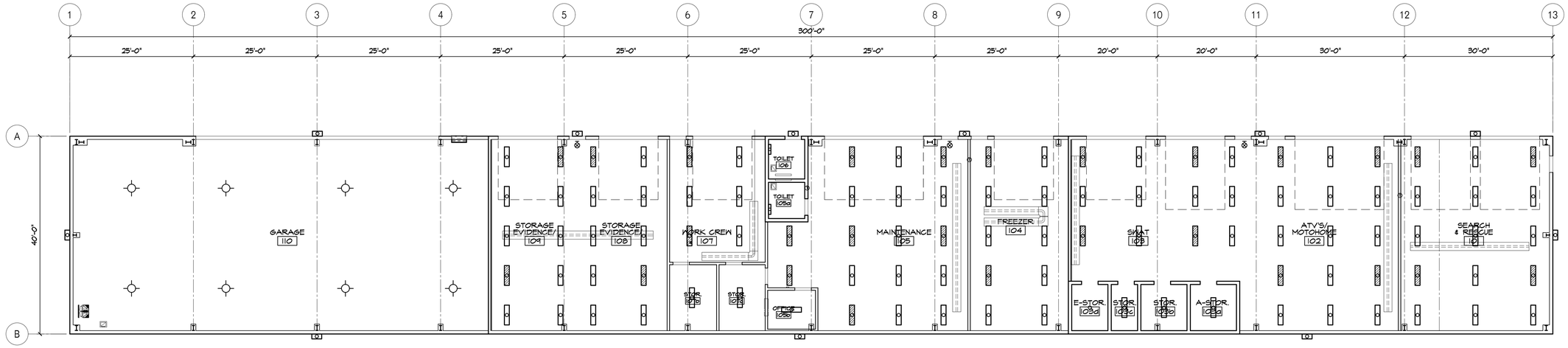
## CEILING SCHEDULE:

| SYMBOL | DESCRIPTION: |
|---|---|
| G1 HEIGHT | ARMSTRONG FINE FISSURED W/ 2x2 SUSENDED LAY-IN GRID. |
| G2 HEIGHT | 5/8" GYP. BD. CEILING OVER JOIST. |
| G3 E.S. | NO CEILING OPEN TO STRUCTURAL FRAMING. |

## Mezzanine Schematic Electrical Plan

SCALE: 3/32" = 1'-0"

B5 / A1.3




## 1st Floor Schematic Electrical Plan

SCALE: 3/32" = 1'-0"

A5 / A1.3

| No. | Revision/Issue | Date |
|---|---|---|
| | | |

Seal:

STATE OF UTAH
R. GARY HUNT
3-24-2016
326738
LICENSED ARCHITECT

Project Title:

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for
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Brigham City, UT


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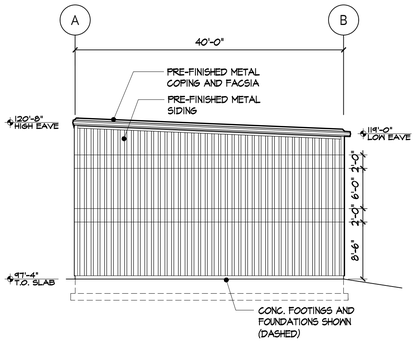

Sheet Title:

1st Floor Plan
Mezz. Floor Plan

| Project No.: | Date: |
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| #2015-04 | 22 Mar 16 |
| | Scale: 3/32" = 1'-0" |

Sheet No.:

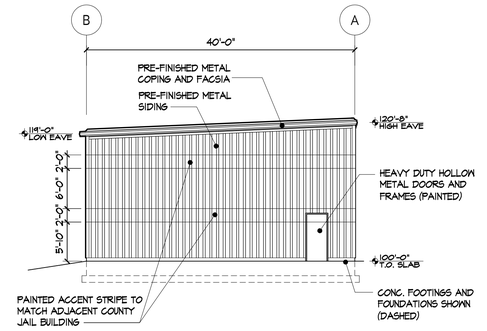
A1.3




## West Elevation

SCALE: 3/32" = 1'-0"

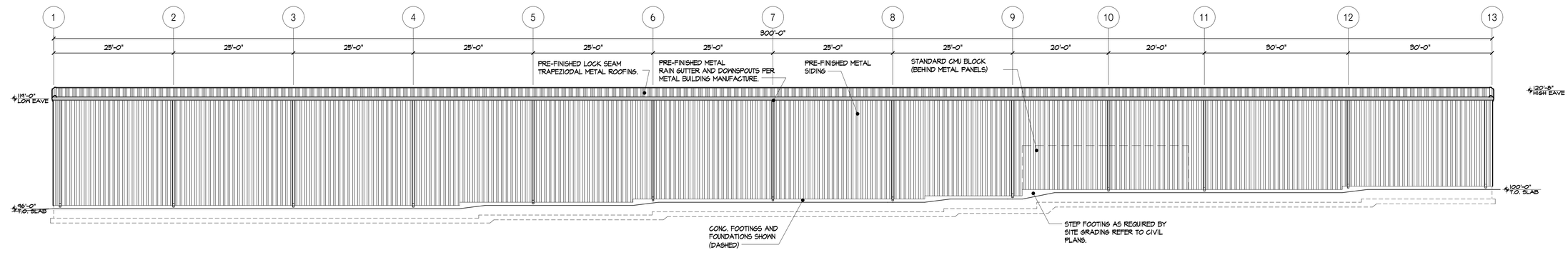
C1 / A2.1




## East Elevation

SCALE: 3/32" = 1'-0"

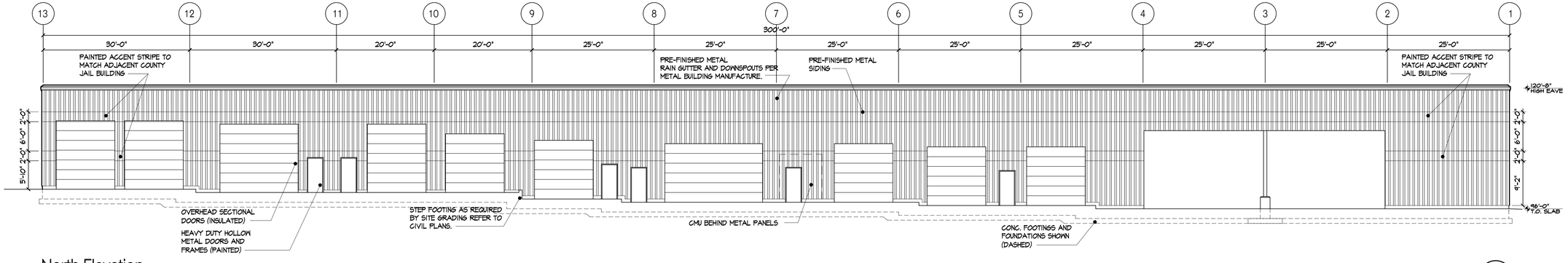
C5 / A2.1




## Sourth Elevation

SCALE: 3/32" = 1'-0"

B1 / A2.1




## North Elevation

SCALE: 3/32" = 1'-0"

A1 / A2.1

| No. | Revision/Issue | Date |
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Seal:

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R. GARY HUNT
3-24-2016
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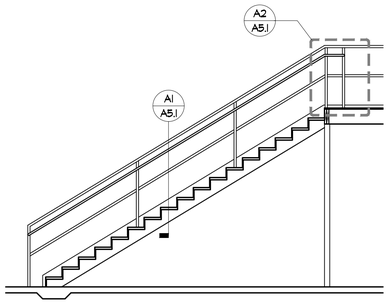

Sheet Title:

## Exterior Elevations

| Project No.: | Date: 22 Mar 16 |
|---|---|
| #2015-04 | Scale: 3/32" = 1'-0" |

Sheet No.:

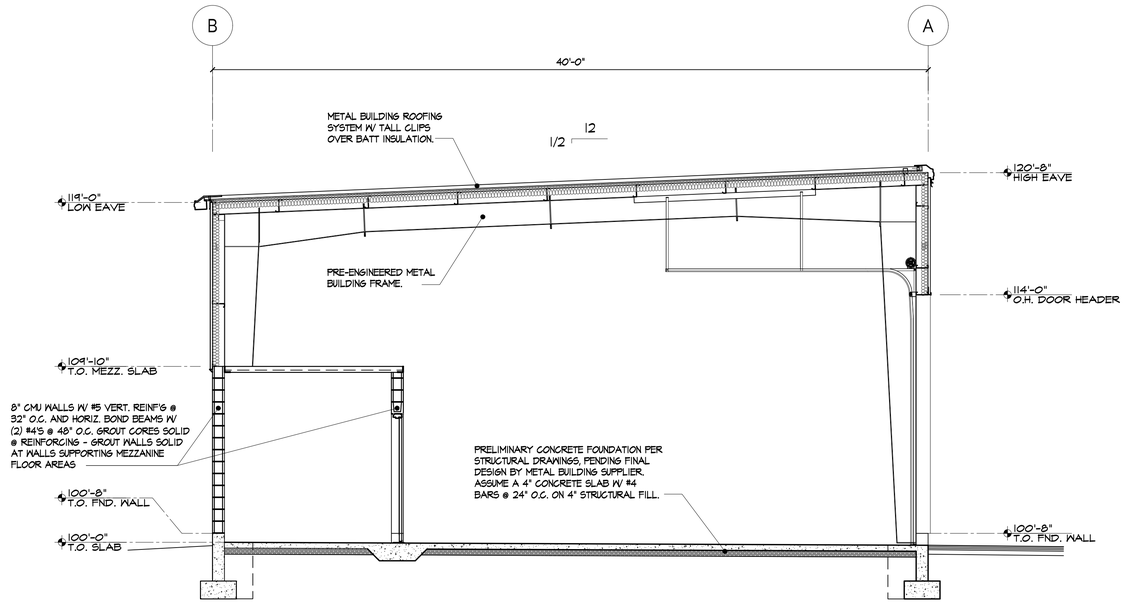
# A2.1




HANDRAIL

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

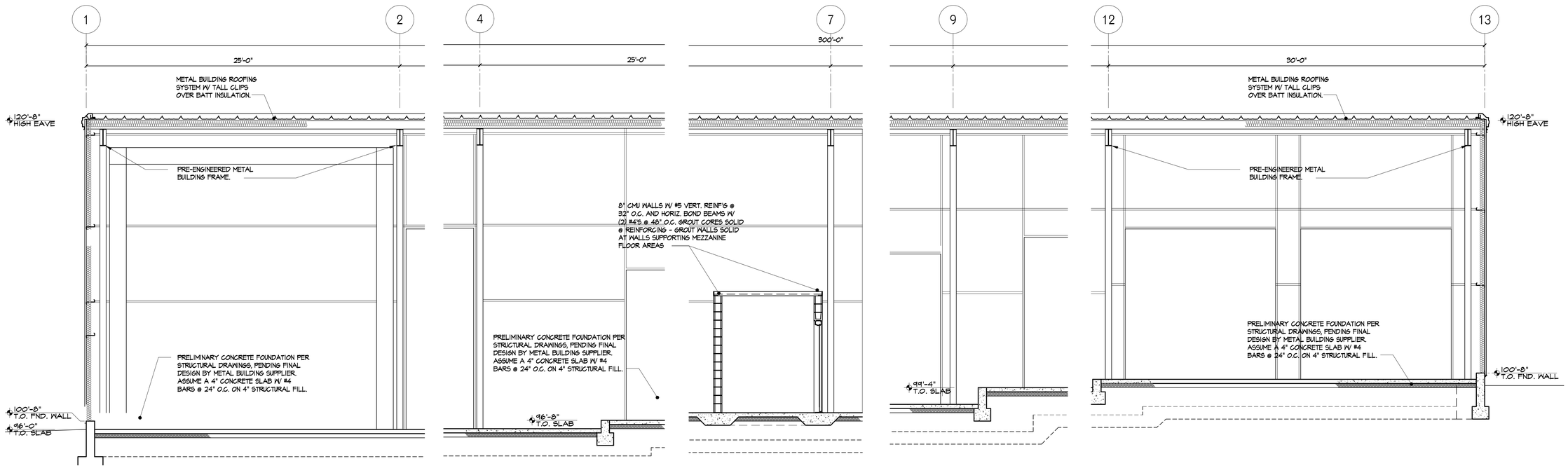
C1
A5.1




Building Section

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

B3
A2.1




Building Section

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

A1
A2.1

| No. | Revision/Issue | Date |
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Seal:

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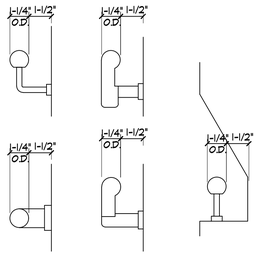
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Building Sections

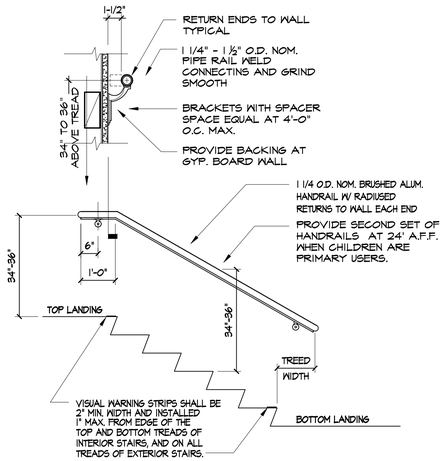
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|---|---|
| #2015-04 | Scale: AS NOTED |

Sheet No.:

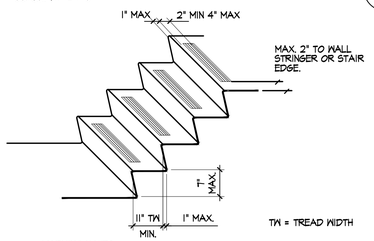
A3.1




ADDITIONAL HAND RAILING PROFILES



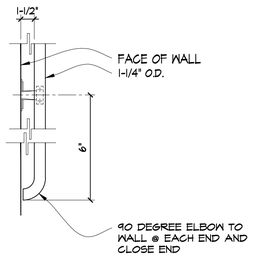

HANDRAIL
SCALE: 1/4" = 1'-0"
C1 / A5.1



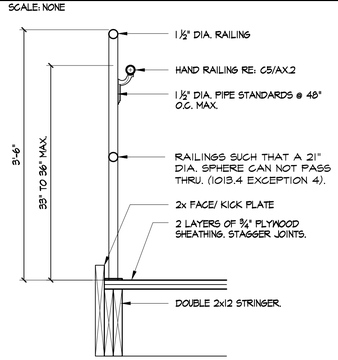

MARKING NOTES:

1. PAINTED COLOR CONTRASTING MARKING WITH SLIP RESISTANT FINISH MATERIAL, TYPICAL.
2. STRIP FINISH MATERIAL TO BE SLIP RESISTANT AS THE MATERIAL OF THE STAIR TREADS RESISTANT.
3. WHERE CARPET OR ANY OTHER FINISH MATERIAL OTHER THAN STEEL OR CONCRETE OCCURS USE 2 INCHES WIDE CONTRASTING COLOR OF THE SAME MATERIAL.

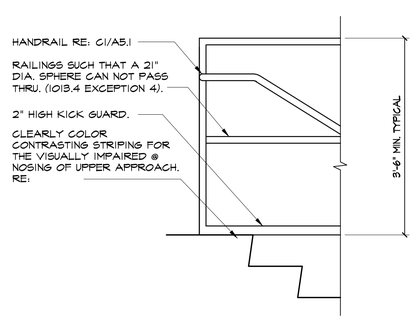
STAIRS
SCALE: NONE
B1 / A5.1



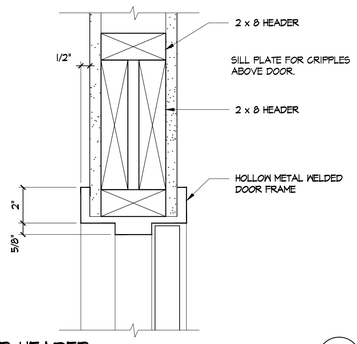

RETURN HANDRAIL DETAIL
SCALE: NONE
B2 / A5.1



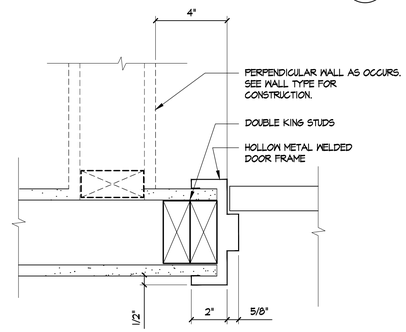

RAILING SECTION
SCALE: 1" = 1'-0"
A1 / A5.1



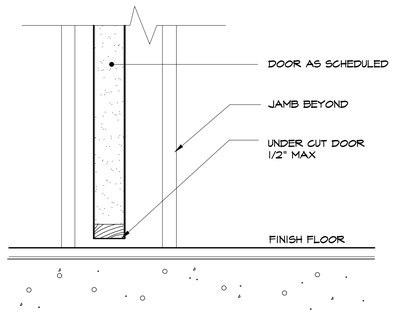

RAILING
SCALE: 3/4" = 1'-0"
A2 / A5.1



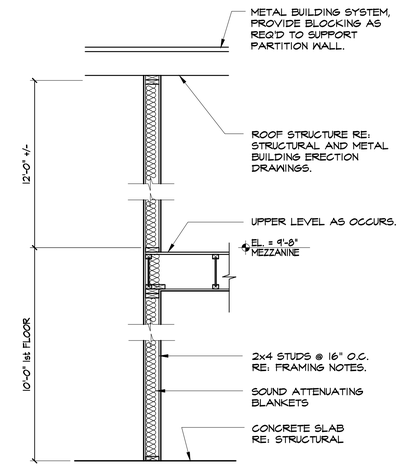

DOOR HEADER
SCALE: 3" = 1'-0"
D4 / A5.1



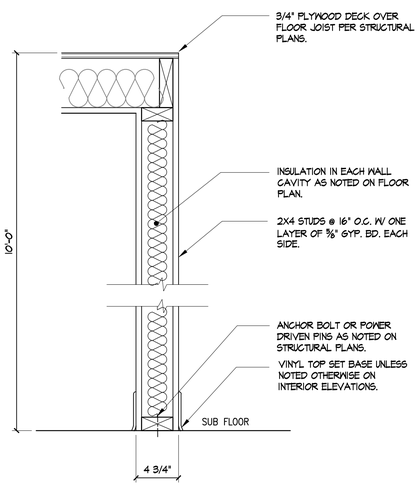

DOOR JAMB
SCALE: 3" = 1'-0"
C4 / A5.1




INTERIOR THRESHOLD
SCALE: 3" = 1'-0"
B4 / A5.1



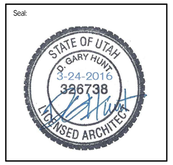

FULL HEIGHT PARTITION
SCALE: 1/2" = 1'-0"
B5 / A5.1




PARTIAL HEIGHT PARTITION
SCALE: 1 1/2" = 1'-0"
A5 / A5.1

| No. | Revision/Issue | Date |
|---|---|---|
| | | |
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| | | |

Seal:




Project Title:

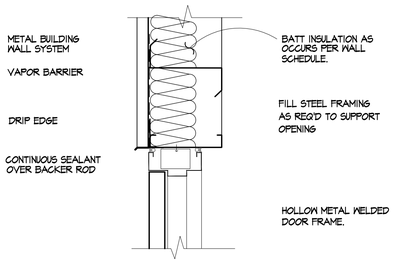
New Storage Facility
for
Box Elder County Sheriff's Dept.
Brigham City, UT

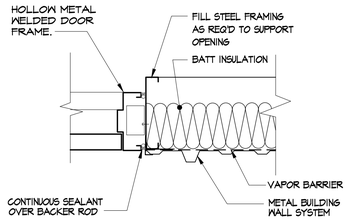
Gary Hunt, Architect PC
Architecture / Planning
1594 W. Park Circle, Suite 101 · Ogden, Utah 84404
Phone: (801) 782-5055
Mobile: (801) 725-1922
Fax: (801) 782-5081
e-mail: gary@gharchitect.com

Sheet Title:
Miscellaneous Details

| Project No.: | Date: 22 Mar 16 |
|---|---|
| #2015-04 | Scale: AS NOTED |

Sheet No.:
A5.1

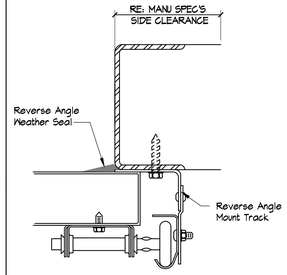


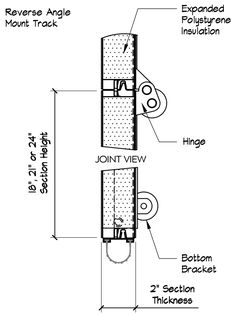

## DOOR HEADER

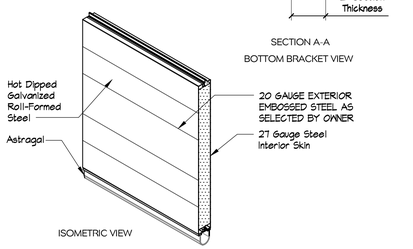
SCALE: 1 1/2" = 1'-0"

D1 / A6.1




STEEL JAMB DETAIL




## INSULATED SECTIONAL O.H. DOOR

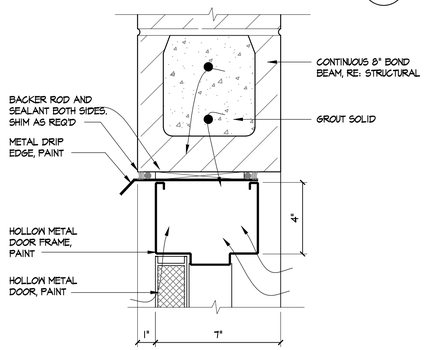
SCALE: NONE

B1 / A6.1

## JAMB DETAIL

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

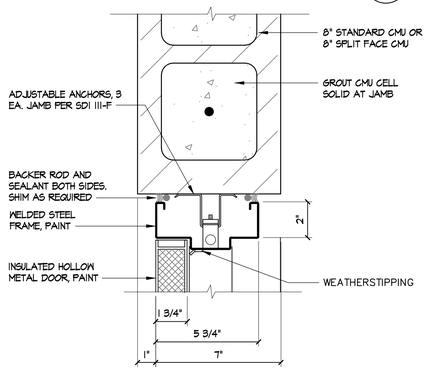
D2 / A6.1



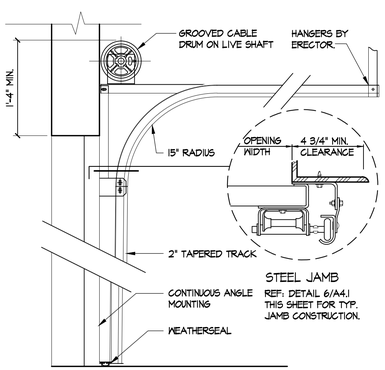

## HEAD DETAIL

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

C2 / A6.1



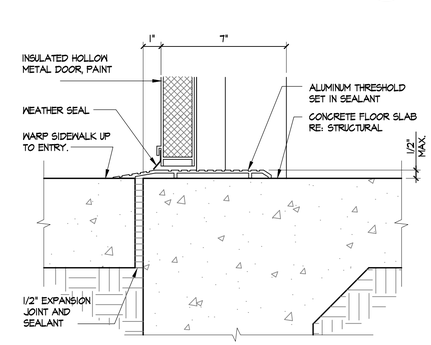

B2 / A6.1




## OVERHEAD SECTIONAL DOOR HEAD

SCALE: 1" = 1'-0"

A1 / A6.1




A2 / A6.1

## DOOR & FRAME SCHEDULE

| MARK | DOOR PANEL SIZE W | SIZE H | THK | TYPE | MATL | GLAZ | LOUVER W | LOUVER H | FRAME TYPE | FRAME MATL | FRAME GLAZ | DETAILS HEAD | DETAILS JAMB | DETAILS SILL | RATING | HARDWARE | REMARKS: |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 101A | 3'-0" | 7'-0" | 1 3/4" | A | H.M. | I. | - | - | 1 | H.M. | - | D1/A6.1 | D2/A6.1 | A2/A6.1 | NA | HW-01 | 1, 2, 3, 4, 5, 12 |
| 101B | 12'-0" | 12'-0" | 1 3/4" | C | I.H.C. | - | - | - | - | H.M. | - | A1/A6.1 | B1/A6.1 | A1/A6.1 | N/A | HW-02 | |
| 101C | 12'-0" | 12'-0" | 1 3/4" | C | I.H.C. | - | - | - | - | H.M. | - | A1/A6.1 | B1/A6.1 | A1/A6.1 | N/A | HW-02 | |
| 102A | 3'-0" | 7'-0" | 1 3/4" | A | H.M. | I. | - | - | 1 | H.M. | - | D1/A6.1 | D2/A6.1 | A2/A6.1 | NA | HW-01 | 1, 2, 3, 4, 5, 12 |
| 102B | 18'-0" | 14'-0" | 1 3/4" | C | I.H.C. | - | - | - | - | H.M. | - | A1/A6.1 | B1/A6.1 | A1/A6.1 | N/A | HW-02 | |
| 103A | 3'-0" | 7'-0" | 1 3/4" | A | H.M. | I. | - | - | 2 | H.M. | - | C2/A6.1 | B2/A6.1 | A2/A6.1 | NA | HW-04 | 1, 2, 3, 4, 5, 12 |
| 103B | 3'-0" | 7'-0" | 1 3/4" | A | H.M. | I. | - | - | 2 | H.M. | - | C2/A6.1 | B2/A6.1 | A2/A6.1 | NA | HW-04 | 1, 2, 3, 4, 5, 12 |
| 103C | 3'-0" | 7'-0" | 1 3/4" | A | H.M. | I. | - | - | 2 | H.M. | - | C2/A6.1 | B2/A6.1 | A2/A6.1 | NA | HW-04 | 1, 2, 3, 4, 5, 12 |
| 103D | 3'-0" | 7'-0" | 1 3/4" | A | H.M. | I. | - | - | 2 | H.M. | - | C2/A6.1 | B2/A6.1 | A2/A6.1 | NA | HW-04 | 1, 2, 3, 4, 5, 12 |
| 103E | 3'-0" | 7'-0" | 1 3/4" | A | H.M. | I. | - | - | 1 | H.M. | - | D1/A6.1 | D2/A6.1 | A2/A6.1 | NA | HW-01 | 1, 2, 3, 4, 5, 12 |
| 103F | 12'-0" | 12'-0" | 1 3/4" | C | I.H.C. | - | - | - | - | H.M. | - | A1/A6.1 | B1/A6.1 | A1/A6.1 | N/A | HW-02 | |
| 103G | 12'-0" | 12'-0" | 1 3/4" | C | I.H.C. | - | - | - | - | H.M. | - | A1/A6.1 | B1/A6.1 | A1/A6.1 | N/A | HW-02 | |
| 104A | 3'-0" | 7'-0" | 1 3/4" | A | H.M. | I. | - | - | 1 | H.M. | - | D1/A6.1 | D2/A6.1 | A2/A6.1 | NA | HW-01 | 1, 2, 3, 4, 5, 12 |
| 104B | 12'-0" | 12'-0" | 1 3/4" | C | I.H.C. | - | - | - | - | H.M. | - | A1/A6.1 | B1/A6.1 | A1/A6.1 | N/A | HW-02 | |
| 105A | 3'-0" | 7'-0" | 1 3/4" | A | H.M. | I. | - | - | 2 | H.M. | - | C2/A6.1 | B2/A6.1 | A2/A6.1 | NA | HW-03 | 1, 2, 3, 4, 5, 12 |
| 105B | 3'-0" | 7'-0" | 1 3/4" | A | H.M. | I. | - | - | 2 | H.M. | - | D4/A5.1 | C4/A5.1 | B4/A5.1 | NA | HW-05 | 1, 2, 3, 4, 5 |
| 105C | 3'-0" | 7'-0" | 1 3/4" | A | H.M. | I. | - | - | 1 | H.M. | - | D1/A6.1 | D2/A6.1 | A2/A6.1 | NA | HW-01 | 1, 2, 3, 4, 5, 12 |
| 105D | 14'-0" | 14'-0" | 1 3/4" | D | I.H.C. | - | - | - | - | H.M. | - | A1/A6.1 | B1/A6.1 | A1/A6.1 | N/A | HW-02 | |
| 106 | 3'-0" | 7'-0" | 1 3/4" | A | H.M. | I. | - | - | 2 | H.M. | - | C2/A6.1 | B2/A6.1 | A2/A6.1 | NA | HW-03 | 1, 2, 3, 4, 5, 12 |
| 107A | 12'-0" | 12'-0" | 1 3/4" | E | I.H.C. | - | - | - | - | H.M. | - | A1/A6.1 | B1/A6.1 | A1/A6.1 | N/A | HW-02 | |
| 107B | 3'-0" | 7'-0" | 1 3/4" | A | H.M. | I. | - | - | 2 | H.M. | - | D4/A5.1 | C4/A5.1 | B4/A5.1 | NA | HW-04 | 1, 2, 3, 4, 5, 12 |
| 107C | 3'-0" | 7'-0" | 1 3/4" | A | H.M. | I. | - | - | 2 | H.M. | - | D4/A5.1 | C4/A5.1 | B4/A5.1 | NA | HW-04 | 1, 2, 3, 4, 5, 12 |
| 107D | 3'-0" | 7'-0" | 1 3/4" | A | H.M. | I. | - | - | 1 | H.M. | - | D1/A6.1 | D2/A6.1 | A2/A6.1 | NA | HW-01 | 1, 2, 3, 4, 5, 12 |
| 108A | 3'-0" | 7'-0" | 1 3/4" | A | H.M. | I. | - | - | 1 | H.M. | - | D1/A6.1 | D2/A6.1 | A2/A6.1 | NA | HW-01 | 1, 2, 3, 4, 5, 12 |
| 108B | 12'-0" | 12'-0" | 1 3/4" | C | I.H.C. | - | - | - | - | H.M. | - | A1/A6.1 | B1/A6.1 | A1/A6.1 | N/A | HW-02 | |
| 109 | 12'-0" | 12'-0" | 1 3/4" | C | I.H.C. | - | - | - | - | H.M. | - | A1/A6.1 | B1/A6.1 | A1/A6.1 | N/A | HW-02 | |
| | | | | | | | | | | | | | | | | | |
| 207A | 3'-0" | 7'-0" | 1 3/4" | A | H.M. | I. | - | - | 2 | H.M. | - | D4/A5.1 | C4/A5.1 | B4/A5.1 | NA | HW-06 | 1, 2, 3, 4, 5, 12 |
| 207B | 3'-0" | 7'-0" | 1 3/4" | A | H.M. | I. | - | - | 2 | H.M. | - | D4/A5.1 | C4/A5.1 | B4/A5.1 | NA | HW-06 | 1, 2, 3, 4, 5, 12 |
| | | | | | | | | | | | | | | | | | |

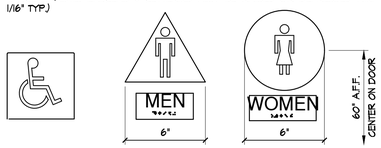
## DOOR NOTES:

1. ALL THRESHOLDS SHALL PROVIDE NO MORE THAN 1/2" MAX. HEIGHT DIFFERENCE
2. SEE SPECS. ADDITIONAL HARDWARE SPECIFICATIONS
3. ALL HOLLOW METAL DOOR FRAMES TO BE SHOP WELDED.
4. MINIMUM 32" CLEAR OPENING WITH DOOR AT 90 DEGREES TO CLOSED POSITION.
5. BOTTOM 10" TO HAVE A SMOOTH UNINTERRUPTED SURFACE TO ALLOW DOOR TO BE OPENED BY A WHEELCHAIR FOOTREST.
6. OPERABLE FROM THE INSIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT.DOORS TO BE OPERABLE BY SINGLE EFFORT LEVER-TYPE DEVICE (NOT REQ'D GRASPING). MOUNTED 30" TO 44" ABOVE FINISH FLOOR.
7. A MAXIMUM OF 8.5 LBS. EFFORT TO OPERATE EXTERIOR DOORS LBS. FOR INTERIOR, 15 LBS AT FIRE DOORS.
8. THE WIDTH OF THE LEVEL AREA ON THE SIDE TO WHICH THE DOOR SWINGS SHALL EXTEND 24 INCHES PAST THE STRIKE EDGE OF THE DOOR FOR EXTERIOR DOORS AND 18 INCHES PAST THE STRIKE EDGE FOR INTERIOR DOORS, AND SHALL BE 60" DEEP. PROVIDE 12" STRIKE SIDE x 48" DEEP CLEAR ON SIDE OPPOSITE SWING OF DOOR PER U.B.C. FIG. 11B-26(a)
9. PROVIDE A DURABLE SIGN ADJACENT TO THE DOOR STATING: "THIS DOOR TO REMAIN UNLOCKED WHEN BUILDING IS OCCUPIED." LETTERS SHALL BE 1" ON HIGH CONTRASTING BACK-GROUND.
10. RATED DOORS SHALL HAVE A TIGHT-FITTING SMOKE-AND DRAFT CONTROL (GASKETED) ASSEMBLY AND SHALL BE MAINTAINED SELF-CLOSING OR AUTO CLOSING WITH A LATCH. THE MAX. TRANSMITTED TEMPERATURE END POINT SHALL NOT EXCEED 450 DEGREES F. ABOVE AMBIENT AT THE END OF 30 MINS. OF FIRE EXPOSURE SPECIFIED.
11. PROVIDE 6" X 6" PANEL SIGN WITH TEXT INDICATED
    - INTERNATIONAL SYMBOL FOR ACCESSIBILITY
    - MOUNT SIGNS WITH THE CENTERLINE OF THE SIGN AT 60" ABOVE THE FLOOR, IN GENERAL, MOUNT SIGNS WITH EDGE 8" FROM DOOR FRAME.
    - ROOM NUMBERS AND TEXT FOR SIGNS WILL BE DETERMINED BY THE OWNER PRIOR TO SIGN FABRICATION. ROOM NUMBERS SHOWN ARE FOR CONSTRUCTION REFERENCE ONLY.

    ACCESSIBILITY SIGNAGE
    APPROXIMATE 6"x6" PLASTIC SIGN W/ SYMBOL OF ACCESSIBILITY (W/ 1 : 1 WIDTH TO HT. RATIO) MOUNTED ON WALL ADJACENT TO LATCH SIDE OF EACH TOILET RM. DOOR AT 60" A.F.F. ACCOMPANIED WITH GRADE 2 BRAILLE.

    ROOM SIGNAGE: 2 1/2" HIGH MIN. PLASTIC SIGN W/ 1 1/2" HIGH WHITE LETTERS RAISED ON DARK BLUE BACKGROUND LETTERS TO BE UPPER CASE, SANS SERF TYPE & SHALL BE ACCOMPANIED W/ GRADE 2 GRILLE.

    DARK BLUE PLASTIC (FIELD) BACKGROUND W/ WHITE RAISED OR DEPRESSED EMBLEMS (NOTE: EMBLEMS & LETTERING MUST BE RAISED OR DEPRESSED MIN. 1/16" TYP.)




12. PROVIDE A FIRE DEPARTMENT ACCESS KEY BOX ADJACENT TO DOOR.

## HARDWARE GROUP

HW SET: 01

| | | | | |
|---|---|---|---|---|
| 3 EA | HINGE | 5BB1HW 4.5 X 4.5 NRP | 630 | IVE |
| 1 EA | ENTRANCE LOCK | ND53PD RHO | 626 | SCH |
| 1 EA | SURFACE CLOSER | 4040XP SCUSH X 30 X 61 TB | 689 | LCN |
| 1 EA | KICK PLATE | 8400 10" X 2" LDW | 630 | IVE |
| 1 SET | SEALS | 1005A - DO NOT NOTCH FOR CLOSER BRACKETS | CLN | GP |
| 1 EA | DOOR SWEEP | C627A | CLN | GP |
| 1 EA | THRESHOLD | 425HD | ALN | GP |
| 1 EA | DOOR POSITION SWITCH | 679-05 | | SCE |
| 1 EA | SCANNER (REX) | SCAN II-BBLK | | SCE |

DOOR POSITION SWITCH AND SCANNER ARE MONITORED BY ACCESS CONTROL SYSTEM.

HW SET: 02

| | | | | |
|---|---|---|---|---|
| 1 | | CYLINDER AS REQ'D BY DOOR MFG | | FAL |
| 1 EA | PROXIMITY READER | SXF1050 (DOORS 120A, 121C) | BLK | SCE |
| 1 | | DOOR POSITION SWITCH BY DOOR MFG | | B/O |
| 1 | | REMAINING HARDWARE BY DOOR MFG | | B/O |

DOOR POSITION IS MONITORED BY SECURITY SYSTEM.

HW SET: 03

| | | | | |
|---|---|---|---|---|
| 3 EA | HINGE | 5BB1 4.5 X 4.5 | 652 | IVE |
| 1 EA | PRIVACY SET | AL40S JUP | 626 | SCH |
| 1 EA | SURFACE CLOSER | 4040XP SCUSH X 30 X 61 TB | 689 | LCN |
| 1 EA | KICK PLATE | 8400 10" X 2" LDW | 630 | IVE |
| 1 SET | SEALS | 1005A - DO NOT NOTCH FOR CLOSER BRACKETS | CLN | GP |
| 1 EA | DOOR SWEEP | C627A | CLN | GP |
| 1 EA | THRESHOLD | 425HD | ALN | GP |

HW SET: 04

| | | | | |
|---|---|---|---|---|
| 3 EA | HINGE | 5BB1HW 4.5 X 4.5 | 652 | IVE |
| 1 EA | STOREROOM LOCK | ND80PD RHO | 626 | SCH |
| 1 EA | KICK PLATE | 8400 10" X 2" LDW | 630 | IVE |
| 1 EA | WALL STOP | WS407CCV | 630 | IVE |
| 3 EA | SILENCER | SR64 | GRY | IVE |
| 1 EA | THRESHOLD | 425HD | ALN | GP |

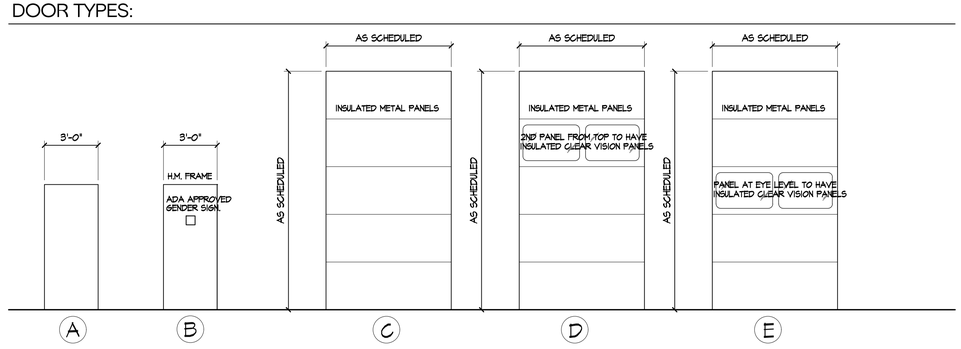
HW SET: 05

| | | | | |
|---|---|---|---|---|
| 3 EA | HINGE | 5BB1 4.5 X 4.5 | 652 | IVE |
| 1 EA | ENTRANCE LOCK | AL53PD JUP | 626 | SCH |
| 1 EA | WALL STOP | WS407CCV | 630 | IVE |
| 3 EA | SILENCER | SR64 | GRY | IVE |

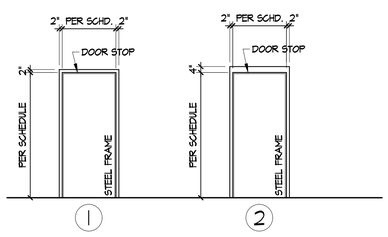
HW SET: 06

| | | | | |
|---|---|---|---|---|
| 3 EA | HINGE | 5BB1HW 4.5 X 4.5 | 652 | IVE |
| 1 EA | STOREROOM LOCK | ND80PD RHO | 626 | SCH |
| 1 EA | KICK PLATE | 8400 10" X 2" LDW | 630 | IVE |
| 1 EA | WALL STOP | WS407CCV | 630 | IVE |
| 3 EA | SILENCER | SR64 | GRY | IVE |

## DOOR TYPES:




## DOOR FRAME TYPES:




| No. | Revision/Issue | Date |
|---|---|---|
| | | |

Seal: STATE OF UTAH — R. GARY HUNT — 3-24-2016 — 326738 — LICENSED ARCHITECT

# New Storage Facility for Box Elder County Sheriff's Dept.

Brigham City, UT

Project Title:


Gary Hunt, Architect PC
Architecture / Planning
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Sheet Title: Door Schedule & Misc. Details

Project No.: #2015-04

Date: 22 Mar 16

Scale: 3/32" = 1'-0"

Sheet No.: A6.1

# GENERAL STRUCTURAL NOTES

## 1. 2012 International Building Code Design Criteria (ASCE 7-10)

A. Roof Live Load . . . . . 20 psf
B. Roof Snow Load Data
- Ground Snow Load $P_g$ . . . . . 43 psf
- Flat-roof Snow Load $P_f$ . . . . . 30 psf
- Exposure Factor $C_e$ . . . . . 1.0
- Importance Factor $I_s$ . . . . . 1.0
- Thermal Factor $C_t$ . . . . . 1.0

C. Wind Design Data
- Ultimate Design Wind Speed $V_{ult}$ . . . . . 115 mph
- Nominal Design Wind Speed $V_{asd}$ . . . . . 90 mph
- Risk Category . . . . . II
- Exposure . . . . . C
- Internal Pressure Coefficient . . . . . ±0.18
- Component & Cladding . . . . . See ASCE 7-10 Chapter 30

D. Earthquake Design Data
- Risk Category . . . . . II
- Importance Factor $I_e$ . . . . . 1.0
- Mapped Spectral Parameters
  - $S_s$ . . . . . 1.143g
  - $S_1$ . . . . . 0.371g
- Site Class . . . . . D
- Design Spectral Parameters
  - $S_{DS}$ . . . . . 0.792g
  - $S_{D1}$ . . . . . 0.410g
- Seismic Design Category . . . . . D
- Analysis Procedure . . . . . Equivalent Lateral Force Procedure

E. Frost Depth . . . . . 2'-6"

## 2. Mezzanine Design Criteria

A. Mezzanine design is in accordance with 2012 International Building Code.
B. Floor Live Load . . . . . 125 psf (Light Storage)
C. Seismic Load
- Importance Factor $I_E$ . . . . . 1.0
- Site Class . . . . . D
- Spectral Coefficients
  - $S_{DS}$ . . . . . 0.792g
  - $S_{D1}$ . . . . . 0.410g
- Seismic Design Category . . . . . D
- Analysis Procedure . . . . . Equivalent Lateral Force Procedure

## 3. Earthwork

A. Foundation Design Values (assumed)
i. Allowable Soil Bearing Pressure – 1500 psf
ii. Coefficient of Friction – 0.25
iii. Passive Earth Pressure – 200 psf/ft of depth
B. The building pad area shall be stripped of all frozen soil, debris, vegetation, and topsoil. All fill soils and any remaining loose natural soils shall be excavated to expose suitable natural soils.
C. Proof roll the entire building pad area to locate and remove all soft spots. Replace with compacted structural fill.
D. Place all footings and slabs on undisturbed natural soil or on properly compacted structural fill. Contractor shall verify that soil under footings is suitable to support footings.
E. Structural Fill: Structural fill should consist of well-graded sandy gravels with a maximum particle size of 3 inches and 5 to 15 percent fines (materials passing the No. 200 sieve). The liquid limit of fines should not exceed 35 and the plasticity index should be below 15. All fill soils should be free from topsoils, highly organic material, frozen soil, and other deleterious materials. Structural fill should be placed in maximum 8-inch thick loose lifts at a moisture content within 2 percent of optimum and compacted to at least 95 percent of modified proctor density (ASTM D1557) under the building and 90 percent under concrete flatwork.
F. It is the responsibility of the contractor to ensure that the depth of the bottom of the foundation is far enough below the adjacent grade to ensure adequate frost protection.

## 4. Concrete and Reinforcement

A. Material Standards
i. Concrete
a. Footings: Exposure Classes F1, S0, P0, C1
f'c = 3000 p.s.i., max. w/cm ratio = 0.50
b. Exterior Walls: Exposure Classes F1, S0, P0, C1
f'c = 3000 p.s.i., max. w/cm ratio = 0.50
c. Interior Walls: Exposure Classes F0, S0, P0, C0
f'c = 3000 p.s.i., max. w/cm ratio = 0.55
d. Exterior Slabs: Exposure Classes F1, S0, P0, C2
f'c = 5000 p.s.i., max. w/cm ratio = 0.40
e. Interior Slabs: Exposure Classes F0, S0, P0, C0
f'c = 3500 p.s.i., max. w/cm ratio = 0.50
f. Air content for Exposures F1-F3 must meet the requirements of Table 4.4.1 of ACI 318-11. Air-entraining admixtures shall conform to ASTM C260
g. The cement type for Exposures S1-S3 must meet the requirements of Table 4.3.1 of ACI 318-11. Cement shall conform to ASTM C150
h. Calcium Chloride admixture shall not be used in Exposures S2 and S3
j. Normal weight aggregates – ASTM C33
ii. Reinforcing
a. Rebar – ASTM A615 Grade 60 (Fy = 60 ksi)
b. Welded wire – ASTM A1064
c. Epoxy – Simpson SET-XP (ICC-ES ESR-2508), Hilti HIT-HY 200 (ICC-ES ESR-3187), or Powers Fasteners PE1000+ (ICC-ES ESR-2583)
iii. Anchor Rods/Bolts
a. Steel column anchor rods/bolts – ASTM F1554 Grade 36 with ASTM A563 heavy hex nuts and hardened washers
b. Wood framing anchors – ASTM A307 with A36 plate washers
c. Headed stud anchors (HSA) – ASTM A108
d. Deformed bar anchors (DBA) – ASTM A496
e. Adhesive (epoxy) anchors – Simpson SET-XP (ICC-ES ESR-2508), Hilti HIT-HY 200 (ICC-ES ESR-3187), or Powers Fasteners PE1000+ (ICC-ES ESR-2583)
f. Expansion anchors – Simpson Strong-Bolt 2 (ICC-ES ESR-3037), Hilti Kwik Bolt TZ (ICC-ES ESR-1917), or Powers Fasteners Power-Stud+SD2 (ICC-ES ESR-2502)
g. Screw Anchors – Simpson Titen HD (ICC-ES ESR-2713), Hilti Kwik HUS-TZ (ICC-ES ESR-3027), or Powers Fasteners Wedge-Bolt+ (ICC-ES ESR-2526)
h. Use of hooked anchor rods/bolts is limited under the ACI and the IBC. Headed anchor rods/bolts must be used where indicated in the details.
j. The symbols ℄ A.R./℄ A.B. as shown in the drawings indicate the center line of the anchor rod/bolt pattern, not the center line of any individual anchor rod/bolt.
iv. Grout
a. Grout under steel base plates shall be non-shrink, non-metallic grout complying with ASTM C1107.
b. Compressive strength (f'c) shall be 5000 p.s.i. at 28 days.
c. Install per manufacturer's recommendations.

B. Detail reinforcing to comply with ACI 315 "Manual of Standard Practice for Detailing Reinforcing Concrete Structures" and the Concrete Reinforcing Steel Institute (CRSI) recommendations.
i. Minimum clear concrete cover for reinforcement shall be as follows unless noted otherwise:
a. Concrete cast directly against and permanently exposed to earth – 3"
b. Concrete exposed to weather or earth:
1. #5 bars or smaller – 1½"
2. #6 bars or larger – 2"
c. Concrete not exposed to weather or in contact with the ground – ¾"
d. Slabs on grade – as shown in details, ¾" min. from top of slabs not exposed to weather
ii. Lap Splice Lengths (unless noted otherwise)
a. f'c = 2500-3500 p.s.i.
1. #6 and smaller – 36 bar diameters
2. #7 and larger – 45 bar diameters
b. f'c = 4000 p.s.i. or greater
1. #6 and smaller – 29 bar diameters
2. #7 and larger – 36 bar diameters
c. Lap splice lengths may be decreased by 25% for slabs on grade and horizontal wall reinforcing.
d. Increase lap splice lengths by 50% where epoxy coated bars are used.
iii. Stagger splices in walls so that no two adjacent bars are spliced in the same location, unless shown otherwise.
iv. Make all bars continuous around corners or provide corner bars of equal size and spacing.
v. Vertical bars in walls, grade beams, and piers to terminate in footings with ACI standard hooks (12 bar diameters) to within 4" of the bottom of the footing unless noted otherwise.
vi. Horizontal wall reinforcing shall terminate at the ends of walls with a 90 degree hook plus a 6 bar diameter extension, unless shown otherwise.
vii. Horizontal wall reinforcing shall be continuous through construction and control joints.
viii. Splices in horizontal reinforcement shall be staggered. Splices in two curtains (where used) shall not occur in the same location.
ix. Use chairs or other support devices as required for proper clearance.
x. Rebar hairpins shall be centered in slabs and shall be wire tied to the slab reinforcing (if any). Rebar hairpins shall be continuous through walls and piers; lap splices in hairpins may only occur in the floor slab unless noted otherwise.
xi. Unless noted otherwise, openings in walls shall be reinforced with #5 bar on all sides of the opening. Reinforcing shall extend 24" min. past the edge of the opening. For one layer of wall reinforcing provide (1) #5 bar around openings, for two layers provide (2) #5 bars.

C. Control joints in slabs on grade are recommended to control cracking. See plans for control joint spacing and details.
D. Slabs and grade beams shall not have joints in a horizontal plane. All reinforcement shall be continuous through all construction joints.
E. Floor slab thickness and reinforcing shown in these drawings are adequate to support typical uniform loads only. Mountain View Engineering has not designed the slab for any specific concentrated forces such as those from vehicles, storage racks, or heavy equipment (unless noted otherwise).
F. Welding of rebar is not allowed unless specifically indicated in the drawings. All embedments, reinforcing, and dowels shall be securely tied to framework or to adjacent reinforcing prior to placement of the concrete. Tack welding of rebar joints in grade beams, walls, or cages is not allowed. Where welding of rebar is shown in the drawings, all rebar to be welded shall be ASTM A706 Grade 60.

## 4. Masonry

A. Materials:
i. Concrete Masonry Units: ASTM C90 Lightweight Grade N, minimum unit strength of 1900 p.s.i. or better (f'm = 1500 p.s.i.)
ii. Mortar: ASTM C270, Type "S" (Type "M" below grade) according to Section 2103 of the International Building Code. Type "N" mortar and masonry cement mortar are not allowed.
iii. Grout: ASTM C476, shall attain a compressive strength of 2000 p.s.i.
iv. Reinforcing: Grade 60 reinforcing steel shall comply with ASTM A615. Wire joint reinforcing shall comply with ASTM A951.

B. Construction Requirements:
i. Mortar Joints: Joints shall be tooled regardless of interior finish.
ii. Masonry walls, beams, and columns shall be constructed with running bond, unless noted otherwise.
iii. Grouting Requirements: Grout shall be mechanically consolidated and mechanically reconsolidated.
iv. Reinforcing bars shall not be welded unless specifically shown on drawings. In such cases, use only AWS standards. Do not substitute reinforcing bars for D.B.A.'s or H.S.A.'s.

C. Control Joints
i. Provide vertical control joints to control cracking as per the National Concrete Masonry Association's (NCMA) recommendations.
ii. Horizontal reinforcing shall be continuous through control joints unless noted otherwise.
iii. Distance between joints should not exceed the lesser of 1.5 times the masonry wall height (including parapet, if any) and 25 feet.
iv. Provide control joints at locations of stress concentrations such as:
a. Changes in wall height
b. Changes in wall thickness, such as pipe and duct chases and pilasters
c. Near one or both sides of door and window openings; generally one side of openings less than 6 feet wide and at both sides of openings over 6 feet wide
d. Adjacent to corners of walls or intersections within a distance equal to half the typical control joint spacing
v. See the detail pages for recommended control joint detail.

D. Detailing Requirements:
i. Standards: Reinforcing detailing shall comply with American Concrete Institute (ACI) Standard 315, "Manual of Standard Practice for Detailing Reinforcing Concrete Structures".
ii. Reinforcement Protection (cover): Reinforcement shall have a minimum coverage of one bar diameter over all the bars.
iii. Lap Splice Lengths (unless noted otherwise):
a. Vertical reinforcing lap lengths shall be as follows:
1. #3 and #4 bars – 20", #5 bars – 25", #6 bars – 44"
b. Horizontal reinforcing lap lengths shall be as follows:
1. #3 and #4 bars – 25", #5 bars – 40", #6 bars – 74"
c. Wire joint reinforcement shall lap a minimum of 12".
iv. Corner Bars: Horizontal reinforcement shall be continuous at all corners and at intersecting walls with the required lap splice.
v. Dowels: All vertical reinforcing shall be doweled to the foundation wall, footing (structure below), and to the structure above with the same size dowel, spacing (and in the same core) as the vertical wall reinforcing unless noted otherwise.
vi. Masonry Lintels – Provide masonry lintels over the top of opening for all openings 24" wide and wider per Masonry Lintel Schedule. Provide (1) #5 bar, in grouted spaces, on all sides and adjacent to every unscheduled opening, unless noted otherwise. Bars for all openings shall extend a minimum of 24" beyond the corners of the opening.
vii. Masonry Jambs – Provide (1) #5 bar, in grouted spaces, full height of the wall at both sides of all openings, unless otherwise noted.
viii. Horizontal wall reinforcing shall be anchored around vertical reinforcing bars with a standard hook at all walls ends and adjacent to all openings. Horizontal wall reinforcing shall be continuous through joining concrete walls, masonry walls, columns, and pilasters.
ix. All masonry column ties shall terminate with 135 degree hooks plus a 6 bar diameter extension (4" minimum).
x. The exposed face of all embed plates shall be set flush with the face of masonry wall or column.

## 5. Wood

A. General Framing
i. Dimensional lumber joists and headers shall be Douglas-Fir Larch #2 or better.
ii. Wall studs shall be Douglas-Fir Larch stud grade or better. Top plates shall be Douglas-Fir Larch #2 or better.
iii. All load-bearing door and window headers shall be (2) 2x10's with filler unless noted otherwise. Timberstrand LSL headers may be substituted for the (2) 2x10's.
iv. (2) 1¾"x9½" LVL's shall be used for all headers required to support a girder truss unless noted otherwise on the drawings.
v. All multiple beams and headers shall be nailed using 2 rows of 16d nails @ 12" o.c.
vi. All point loads shall be solid blocked to the foundation.
vii. Double trimmers shall be used to support beams and headers greater than 6'-0" unless noted otherwise on the drawings.
viii. Nailing shall be as indicated on the drawings or in Table 2304.9.1 of the International Building Code, whichever is more restrictive.
ix. The contractor shall comply with the 2012 version of the International Building Code.
x. The contractor may substitute deeper, wider, or better grades of lumber. Any other changes must be approved by the engineer.
xi. Where 7/16" oriented strand board (OSB) is specified, 15/32" structural 1 plywood sheathing is permitted.
xii. Provide mild steel plate washers at all bolt heads and nuts bearing on wood.
xiii. All fasteners (nails, screws, bolts, etc.) to be installed in preservative treated wood shall meet the requirements of IBC 2304.9.5.
xiv. All wood posts/columns shall have appropriate Simpson (or equal) steel post/column cap and base connectors unless noted otherwise. Install as per the manufacturer's recommendations.
xv. Anchor bolts shall be embedded at least 7 inches into concrete foundation wall, and spaced as shown on plans. There shall be a minimum of two bolts per sill plate with one bolt located not more than 12 inches or less than 4 inches from each end of each sill plate.

B. I-Joists:
i. I-joists are to be the size and designation as shown on the drawings.
ii. I-joists are to be as supplied by iLevel, RedBuilt, or an approved manufacturer. Installation, including nailing, blocking, and other construction details shall be in accordance with the manufacturer's recommendations.
iii. Structural panels are permitted to be applied either parallel or perpendicular to framing.

C. Gypsum Board Shear Walls
i. All walls shall be sheathed with ⅝" gypsum wallboard and shall be attached at all studs, top plates, and bottom plates in accordance with the details 5, 6, 7, & 8 on sheet S-2 and the notes below unless noted otherwise in the plans.
ii. Fasteners
a. Single ply ⅝" gypsum board or base ply of 2-ply ⅝" gypsum board fasteners shall have 6d cooler (1⅞" x 0.092", ASTM C514) nails, wallboard 0.120" nails (min. ⅜" head, 1¾" long), or 16 ga. staples (1⅝" long).
b. Edge fastening is required at all supports and panel edges.

D. Floor Sheathing
i. Typical floor sheathing shall be ¾" T&G OSB nailed with 10d nails @ 6" o.c. on all edges, and @ 12" o.c. along intermediate framing members.
ii. Install sheathing panels with long dimension at right angles to framing with end joints staggered.
iii. Solid joist blocking required at all bearing points.

## 6. Special Inspections

A. See sheet GN2 for special inspection notes and tables

## 7. Miscellaneous

A. The project specifications are not superseded by the General Structural Notes. Notes and details on the drawings shall take precedence over General Structural Notes and typical details. Should any of the detailed instructions shown on the plans conflict with the General Structural Notes, or with each other, the strictest provisions shall govern.
B. It is solely the responsibility of each contractor to follow all applicable safety codes and regulations during all phases of construction. The engineer is not engaged in, and does not supervise, construction.
C. Erection, Shoring, and Bracing
i. It is the contractor's responsibility to determine erection procedures and sequence, and to ensure the stability of the building and its component parts during erection.
ii. It is solely the contractor's responsibility to provide any temporary shoring, bracing, guys, and tie downs that may be necessary to provide adequate vertical and lateral support. Such material is not shown on the drawings. Shoring and bracing shall remain in place until all permanent members are in place and all final connections are completed, including all roof and floor attachments.
iii. The building shall not be considered stable until all connections are complete.
iv. The engineer has no expertise in, and takes no responsibility for, construction means and methods or job site safety during construction. Approval of submittals made by the contractor which may contain information related to construction methods or safety issues, or participation in meetings where such issues might be discussed, shall not be construed as voluntary assumption by the engineer of any responsibility for safety procedures.
D. Equipment framing loads, openings, and structure in any way related to mechanical, plumbing, or electrical requirements are shown for bidding purposes only. The contractor shall coordinate this information with the involved trades before proceeding with such portion of the work. Excess cost related to variation in these requirements shall be borne by the appropriate contractor.
E. The contractor shall notify engineer of any variations in dimensions.
F. The engineer is not responsible for any deviations from these plans unless such changes are authorized in writing by the engineer.
G. The engineer has not performed any design and is not responsible for the seismic anchorage of any mechanical or electrical components. Seismic anchorage of mechanical and electrical components shall be determined by the mechanical or electrical engineer and shall be coordinated with the engineer and contractor.

| DRAWING | INDEX OF STRUCTURAL DRAWINGS |
|---|---|
| GN1 | GENERAL STRUCTURAL NOTES |
| GN2 | SPECIAL INSPECTION REQUIREMENTS |
| F-1 | FOUNDATION PLAN |
| F-2 | FOUNDATION DETAILS |
| F-3 | FOUNDATION DETAILS |
| S-1 | MEZZANINE FRAMING PLAN |
| S-2 | STRUCTURAL DETAILS |
| S-3 | STRUCTURAL DETAILS |


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SHEET TITLE: GENERAL STRUCTURAL NOTES
JOB NAME: BOX ELDER COUNTY SHERIFF'S DEPARTMENT STORAGE FACILITY
LOCATION: BRIGHAM CITY, UTAH
CONTRACTOR: -

PLAN ISSUE DATES

| | DATE: | BY: | DESCRIPTION: |
|---|---|---|---|
| 1 | 12-18-15 | T.W. | FOR PERMIT |

SHEET NUMBER: GN1

| | |
|---|---|
| DRAWN BY: | T.W. |
| ENGINEER: | A. KARRAS |
| MVE JOB NUMBER: | 150559 |

## TABLE 5 – REQUIRED VERIFICATION AND INSPECTION OF MASONRY CONSTRUCTION (IBC TABLE 1705.4)

| VERIFICATION AND INSPECTION TASK | CONTINUOUS | PERIODIC | DETAILED INSTRUCTIONS |
|---|---|---|---|
| **1. PRIOR TO CONSTRUCTION (ARTICLE 1.15, TMS–602/ACI 530.1–11):** | | | |
| a. Review material certificates, mix designs, test results and construction procedures | – | X | Verify that materials conform to the requirements of the approved construction documents. Mix design, test results, material certificates, and construction procedures should be submitted for review. Mortar mix designs shall conform to ASTM C270 while grout shall conform to ASTM C476. Material certificates shall be provided for the following: reinforcement; anchors, ties, fasteners, and metal accessories; masonry units; mortar and grout materials. Construction procedures for cold–weather or hot–weather construction shall be reviewed. |
| **2. AS CONSTRUCTION BEGINS (TABLE 1.19.2, TMS–402/ACI 530–11):** | | | |
| a. Proportions of site–prepared mortar | – | X | Verify that mortar is of the type and color specified on the construction documents, that it conforms to ASTM C270, and that it is mixed in accordance with Article 2.6 A of TMS–602/ACI 530.1–11. |
| b. Construction of mortar joints | – | X | Verify that mortar joints comply with Article 3.3 B of TMS–602/ACI 530.1–11. |
| c. Grade and size of prestressing tendons and anchorages | – | X | Verify that prestressing tendons comply with Article 2.4 B of TMS–602/ACI 530.1–11 and that anchorages, couplers, and end blocks comply with Article 2.4 H. |
| d. Location of reinforcement, connectors, and prestressing tendons and anchorages | – | X | Verify that reinforcement is placed in accordance with Article 3.4 of TMS–602/ACI 530.1–11. Prestressing tendons shall be placed per Article 3.6 A. |
| e. Prestressing technique | – | X | Verify that prestressing technique complies with Article 3.6 B of TMS–602/ACI 530.1–11. |
| f. Properties of thin–bed mortar for AAC masonry | – | X | Verify that mortar complies with Article 2.1 C of TMS–602/ACI 530.1–11. |
| **3. PRIOR TO GROUTING (TABLE 1.19.2, TMS–402/ACI 530–11):** | | | |
| a. Grout space | – | X | Verify that grout space is free of mortar droppings, debris, loose aggregate, and other deleterious materials and that cleanouts are provided per Article 3.2 D and 3.2 F of TMS–602/ACI 530.1–11. Continuous inspection is required for Risk Category IV buildings |
| b. Grade, type, and size of reinforcement and anchor bolts, and prestressing tendons and anchorages | – | X | Verify that reinforcement, joint reinforcement, wall ties, anchor bolts and veneer anchors comply with the approved construction documents and Section 1.6 of TMS 402/ACI 530–11. |
| c. Placement of reinforcement, connectors, and prestressing tendons and anchorages | – | X | Verify that reinforcement, joint reinforcement, wall ties, anchor bolts and veneer anchors are installed in accordance with the approved construction documents and Articles 3.2 E, 3.4, and 3.6 A of TMS 602/ACI 530.1–11. Continuous inspection is required for Risk Category IV buildings. |
| d. Proportions of site–prepared grout and prestressing grout for bonded tendons | – | X | Verify that grout is proportioned per ASTM C476 and has a slump between 8–11 inches. Self–consolidated grout shall not be proportioned onsite. (see Articles 2.6 B and 2.4 G.1.b of TMS 602/ACI 530.1–11. Continuous inspection is required for Risk Category IV buildings. |
| e. Construction of mortar joints | – | X | Verify that mortar joints are placed in accordance with Article 3.3 B of TMS 602/ACI 530.1–11. |
| **4. DURING MASONRY CONSTRUCTION:** | | | |
| a. Size and location of structural elements | – | X | Verify the locations of structural elements with respect to the approved plans and confirm that tolerances meet the requirements of Article 3.3 F of TMS 602/ACI 530.1–11. |
| b. Type, size, and location of anchors, including other details of anchorage of masonry to structural members, frames, or other construction. | – | X | Verify that correct anchorages and connections are provided per the approved plans and Sections 1.16.4.3 and 1.17.1 of TMS 402/ACI 530–11. Continuous inspection is required for Risk Category IV buildings. |
| c. Welding of reinforcement | X | – | |
| d. Preparation, construction, and protection of masonry during cold weather ( < 40°F) or hot weather ( > 90°F). | – | X | Verify that cold–weather construction is performed in accordance with Article 1.8 C of TMS 602/ACI 530.1–11 and hot weather construction per Article 1.8 D of TMS 602/ACI 530.1–11. |
| e. Application and measurement of prestressing force | X | – | |
| f. Placement of grout and prestressing grout for bonded tendons is in compliance | X | – | |
| g. Placement of AAC masonry units and construction of thin–bed mortar joints | – | X | Verify that mortar is placed in accordance with Article 3.3 B.8 of TMS–602/ACI 530.1–11. |
| h. Observation of grout specimens, mortar specimens, and/or prisms | – | X | Confirm that specimens/prisms are performed as required by Article 1.4 of TMS–602/ACI 530.1–11. Continuous inspection is required for Risk Category IV buildings. |
| **5. MINIMUM TESTING:** | | | |
| a. Verification of Slump Flow and Visual Stability Index (VSI) for self–consolidating grout | – | X | Compressive strength tests should be performed in accordance with ASTM C1019 for slump flow and ASTM C1611 for VSI. |
| b. Verification of $f'_m$ and $f'_{AAC}$ | – | X | Determine the compressive strength for each wythe by the "unit strength method" or by the "prism test method" as specified in Article 1.4 B of TMS 602/ACI 530.1–11 prior to construction. For Risk Category IV buildings this should be verified at every 5,000ft² of construction. |
| c. Verification of proportions of materials in premixed or pre–blended mortar and grout | – | X | Verify that proportions for mortar meet ASTM C270 and proportions for grout meet ASTM C476. This applies to Risk Category IV buildings only. |

## TABLE 4 – REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION (IBC TABLE 1705.3 & 1705.12.1)

| VERIFICATION AND INSPECTION TASK | CONTINUOUS | PERIODIC | DETAILED INSTRUCTIONS |
|---|---|---|---|
| b. Cast–in bolts & embeds | – | X | Inspection of anchors or embeds cast in concrete is required when allowable loads have been increased or where strength design is used. |
| c. Post–installed anchors or dowels | – | X | All post–installed anchors/dowels shall be specially inspected as required by the approved ICC–ES report. |

### Special Inspection Requirements: (Per 2012 IBC Chapter 17)

A. Special inspection shall be provided by owner according to Chapter 17 of the IBC. The special inspector shall observe the work for conformance with the contract documents. The special inspector shall send reports to the owner, building official, architect, engineer and contractor. All discrepancies shall be brought to the attention of the contractor for correction. The special inspector shall submit a final signed report stating that the special inspection work was, to the best of his/her knowledge, in conformance with the plans specifications and applicable workmanship provision of the IBC.

B. Continuous special inspection means the full–time observation of work requiring special inspection by an approved special inspector who is present in the area where the work is being performed. Periodic special inspection means the part–time or intermittent observation of work requiring special inspection by an approved special inspector who is present in the area where the work has been or is being performed and at the completion of the work.

C. The following systems are subject to the special inspection requirements noted herein:
   i. The Seismic–Force–Resisting System including:
      a. Floor Diaphragms
      b. Masonry Shear Walls

D. Special inspection is required for the following work. All inspections to be continuous unless noted otherwise:
   i. Concrete Construction (IBC 1705.3) – See Table 4 for inspection requirements.
   ii. Masonry Construction (IBC 1705.4) – See Table 5 for inspection requirements.

E. Special inspector must be qualified as required by IBC 1704.2.1 and approved by the local building department.

F. Structural Observations: None Required

G. At completion of fabrication, the steel joist manufacturer shall submit a certificate of compliance as an approved fabricator and that the work was performed in accordance with approved construction documents and with SJI standard specifications (IBC 2207.5)

H. Special Inspector must be qualified and approved by City Building Department.


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Structural Engineering Consulting Design
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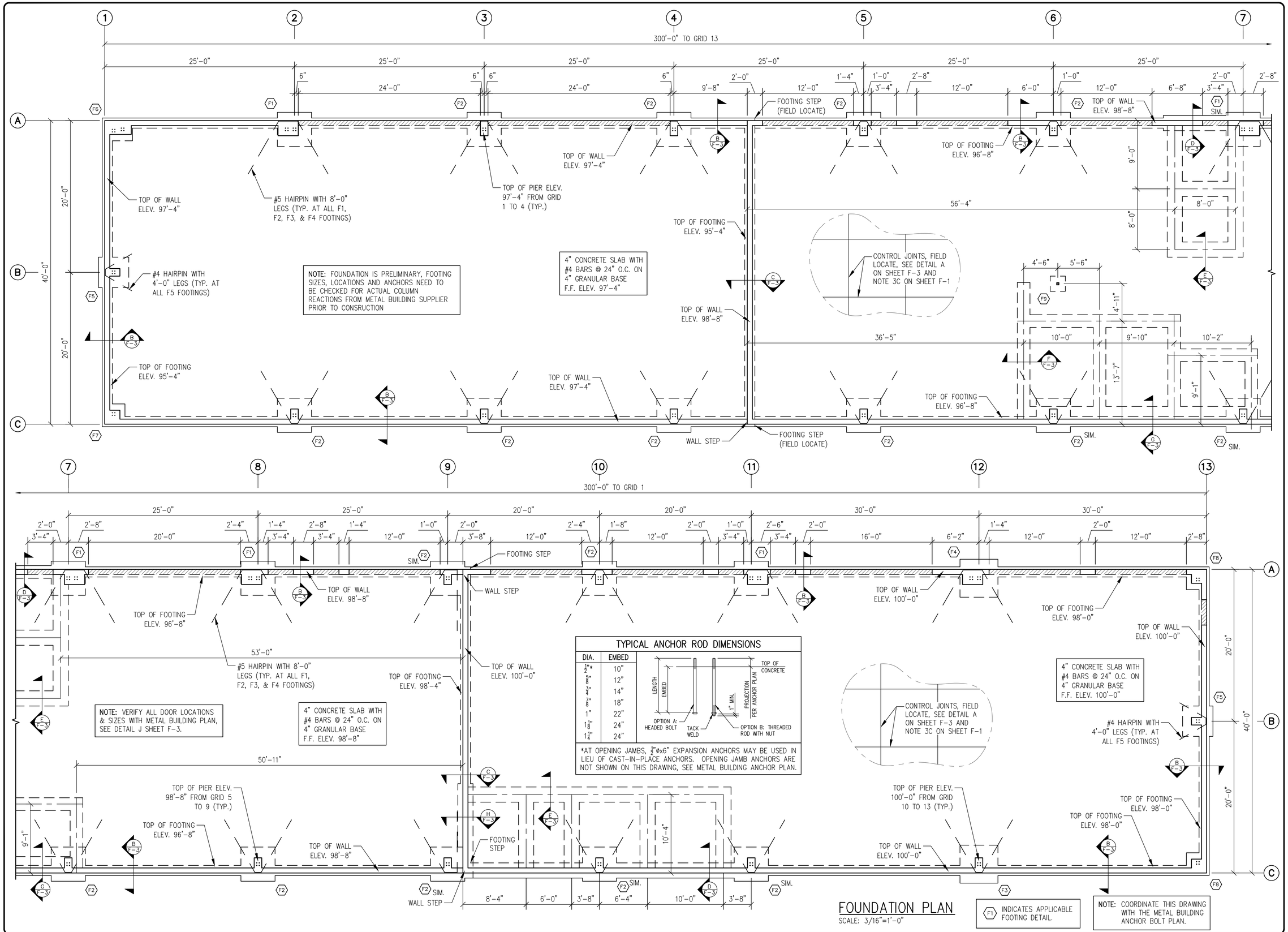

SHEET TITLE: **SPECIAL INSPECTION REQUIREMENTS**
JOB NAME: **BOX ELDER COUNTY SHERIFF'S DEPARTMENT STORAGE FACILITY**
LOCATION: **BRIGHAM CITY, UTAH**
CONTRACTOR: -

PLAN ISSUE DATES

| | DATE: | BY: | DESCRIPTION: |
|---|---|---|---|
| 1 | 12–18–15 | T.W. | FOR PERMIT |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |

SHEET NUMBER: **GN2**

| | |
|---|---|
| DRAWN BY: | T.W. |
| ENGINEER: | J. LARSEN |
| MVE JOB NUMBER: | 150559 |




## TYPICAL ANCHOR ROD DIMENSIONS

| DIA. | EMBED |
|---|---|
| $\frac{1}{2}$"ø | 10" |
| $\frac{5}{8}$"ø | 12" |
| $\frac{3}{4}$"ø | 14" |
| $\frac{7}{8}$"ø | 18" |
| 1" | 22" |
| $1\frac{1}{8}$" | 24" |
| $1\frac{1}{4}$" | 24" |




*AT OPENING JAMBS, $\frac{1}{2}$"øx6" EXPANSION ANCHORS MAY BE USED IN LIEU OF CAST-IN-PLACE ANCHORS. OPENING JAMB ANCHORS ARE NOT SHOWN ON THIS DRAWING, SEE METAL BUILDING ANCHOR PLAN.

## FOUNDATION PLAN

SCALE: 3/16"=1'-0"

F1 INDICATES APPLICABLE FOOTING DETAIL.

NOTE: COORDINATE THIS DRAWING WITH THE METAL BUILDING ANCHOR BOLT PLAN.


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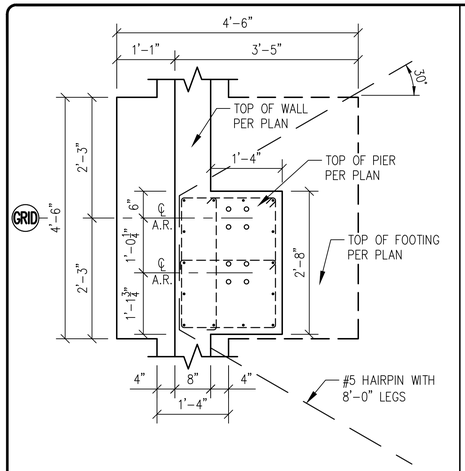

SHEET TITLE: FOUNDATION PLAN
JOB NAME: BOX ELDER COUNTY SHERIFF'S DEPARTMENT STORAGE FACILITY
LOCATION: BRIGHAM CITY, UTAH
CONTRACTOR: -

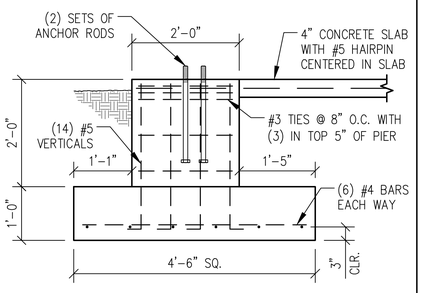
PLAN ISSUE DATES

| | DATE: | BY: | DESCRIPTION: |
|---|---|---|---|
| 1 | 12-18-15 | T.W. | FOR PERMIT |

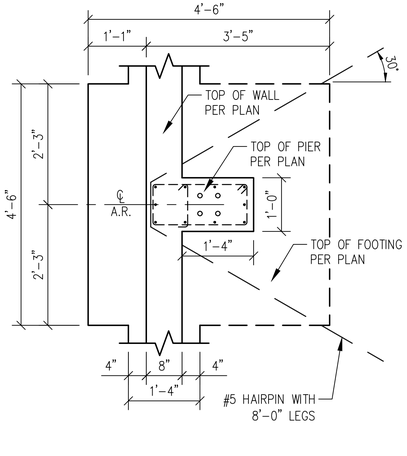
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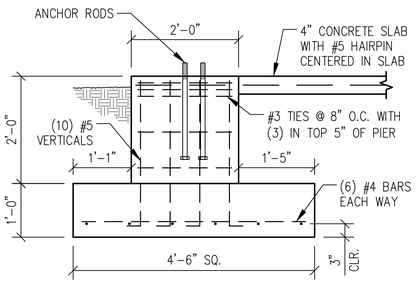
| | |
|---|---|
| DRAWN BY: | T.W. |
| ENGINEER: | A. KARRAS |
| MVE JOB NUMBER: | 150559 |



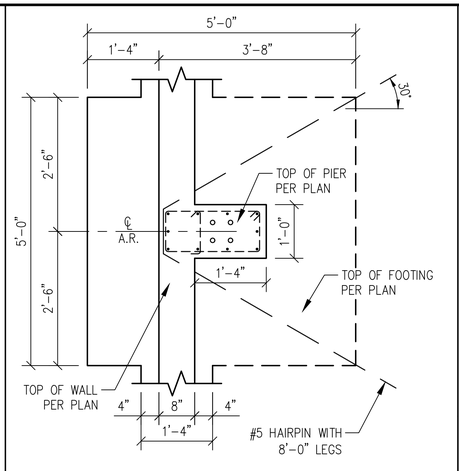



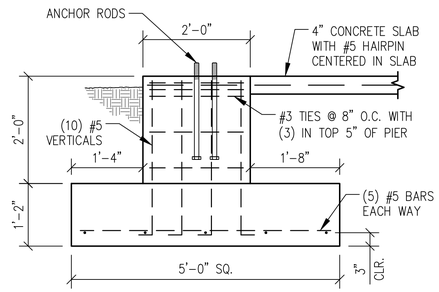

F1 SIDEWALL FOOTING DETAIL
3/4"=1'-0"



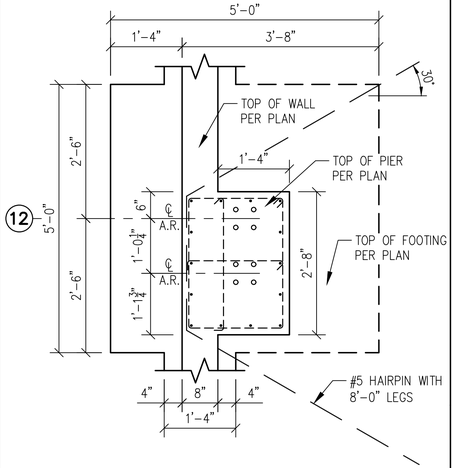



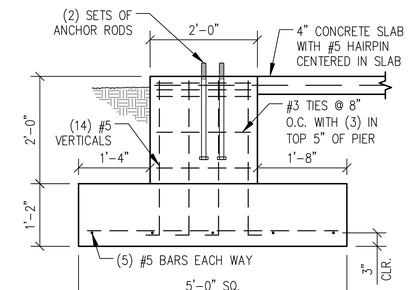

F2 SIDEWALL FOOTING DETAIL
3/4"=1'-0"



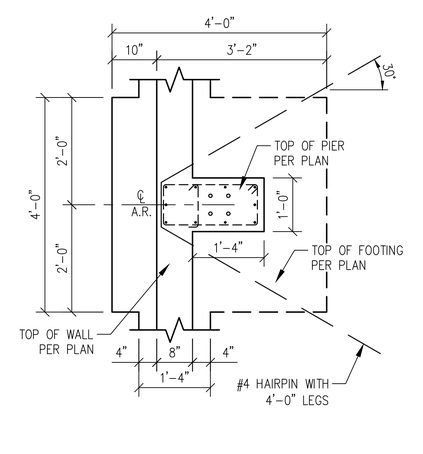



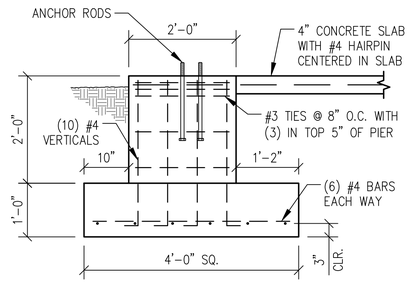

F3 SIDEWALL FOOTING DETAIL
3/4"=1'-0"



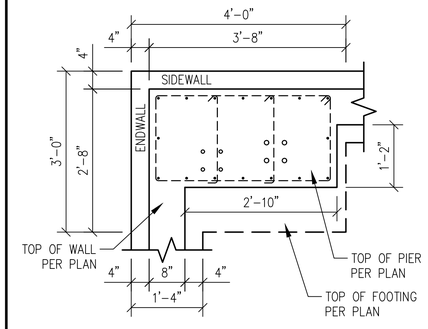




F4 SIDEWALL FOOTING DETAIL
3/4"=1'-0"

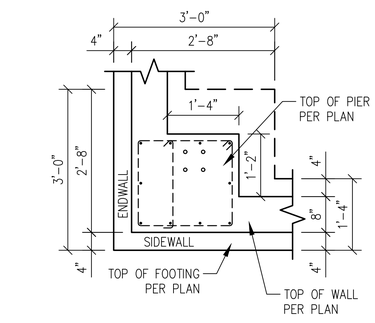


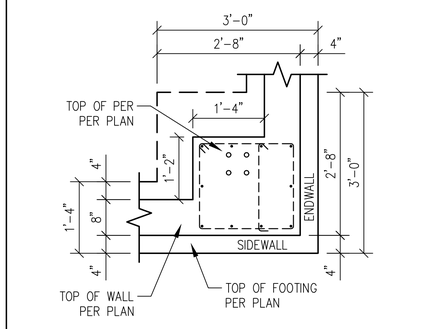

F5 ENDWALL FOOTING DETAIL
3/4"=1'-0"



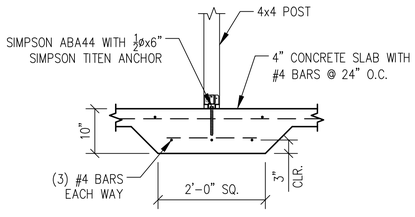

F6 CORNER FOOTING DETAIL
3/4"=1'-0"



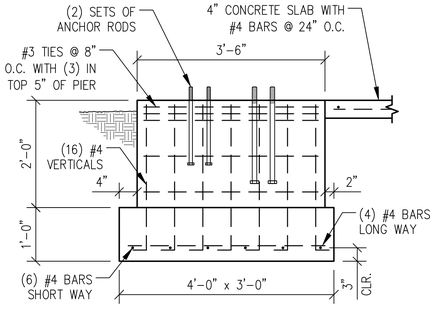

F7 CORNER FOOTING DETAIL
3/4"=1'-0"



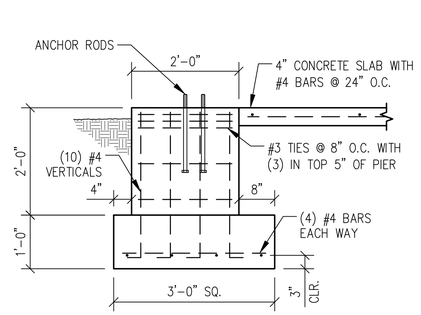

F8 CORNER FOOTING DETAIL
3/4"=1'-0"



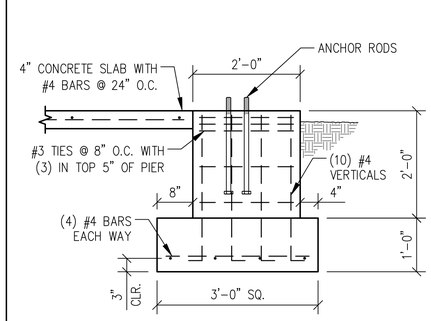

F9 INTERIOR FOOTING DETAIL
3/4"=1'-0"




F6 CORNER FOOTING DETAIL
3/4"=1'-0"




F7 CORNER FOOTING DETAIL
3/4"=1'-0"




F8 CORNER FOOTING DETAIL
3/4"=1'-0"


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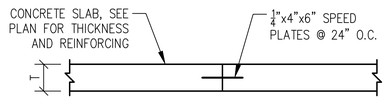

SHEET TITLE: **FOUNDATION DETAILS**
JOB NAME: **BOX ELDER COUNTY SHERIFF'S DEPARTMENT STORAGE FACILITY**
LOCATION: **BRIGHAM CITY, UTAH**
CONTRACTOR: -

PLAN ISSUE DATES

| | DATE: | BY: | DESCRIPTION: |
|---|---|---|---|
| 1 | 12-18-15 | T.W. | FOR PERMIT |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |

SHEET NUMBER: **F-2**

| | |
|---|---|
| DRAWN BY: | T.W. |
| ENGINEER: | A. KARRAS |
| MVE JOB NUMBER: | 150559 |



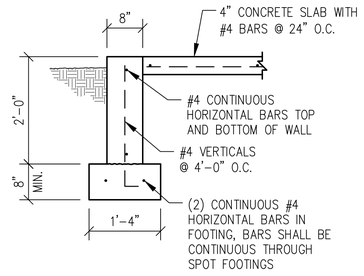

A CONTROL JOINTS
N.T.S.

CONTROL JOINT NOTES:

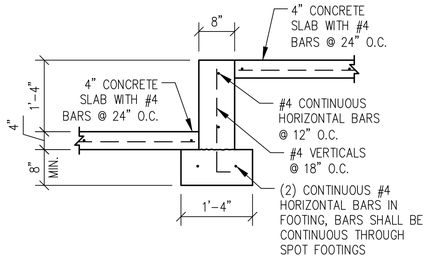
1. Control joints shall be field located by the contractor.
2. Control joints shall be located to limit the frequency and width of random cracks in the concrete slab.
3. Locate and install control joints in accordance with ACI 360R "Design of Slabs on Ground" and the details shown.
4. Maximum spacing of joints shall be per the table below.
5. Saw cuts should be made as soon as possible.

MAXIMUM SPACING OF CONTROL JOINTS

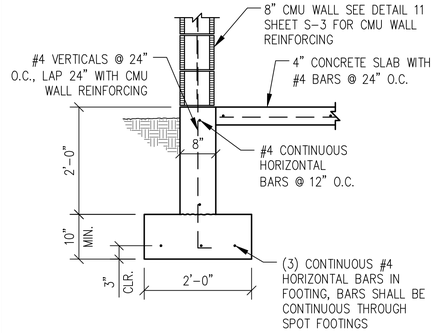
| Slab thickness (T), in. | Slump 4 in. to 6 in. | |
|---|---|---|
| | Maximum-size aggregate less than 3/4 in. | Maximum-size aggregate 3/4 in. and larger |
| 4 | 8 ft. | 10 ft. |
| 5 | 10 ft. | 13 ft. |
| 6 | 12 ft. | 15 ft. |
| 7 | 14 ft. | 18 ft. |
| 8 | 16 ft. | 20 ft. |



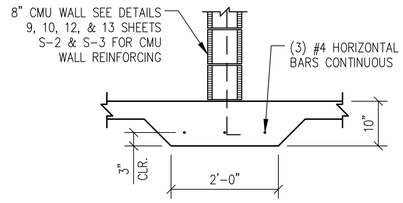

B PERIMETER GRADE BEAM DETAIL
3/4"=1'-0"



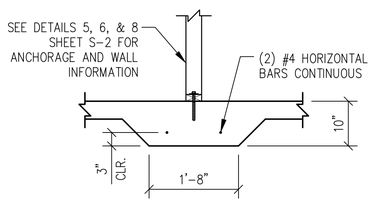

C GRADE BEAM DETAIL
3/4"=1'-0"



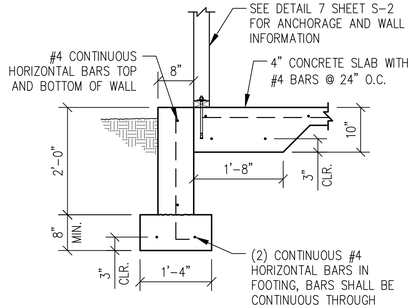

D PERIMETER GRADE BEAM DETAIL
3/4"=1'-0"



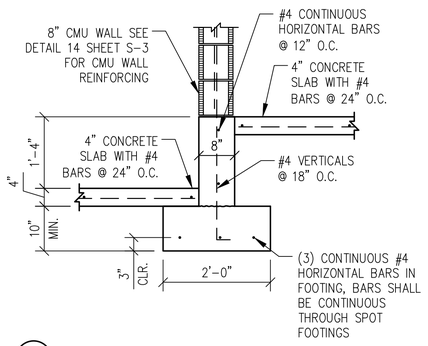

E THICKENED SLAB DETAIL
3/4"=1'-0"



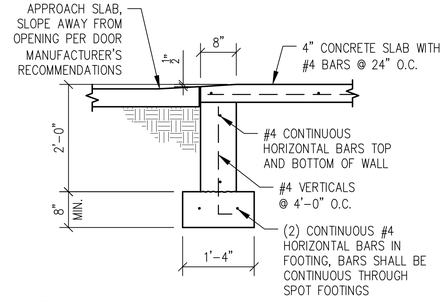

F THICKENED SLAB DETAIL
3/4"=1'-0"




G PERIMETER GRADE BEAM DETAIL
3/4"=1'-0"




H GRADE BEAM DETAIL
3/4"=1'-0"




J BLOCKOUT AT DOORS
3/4"=1'-0"

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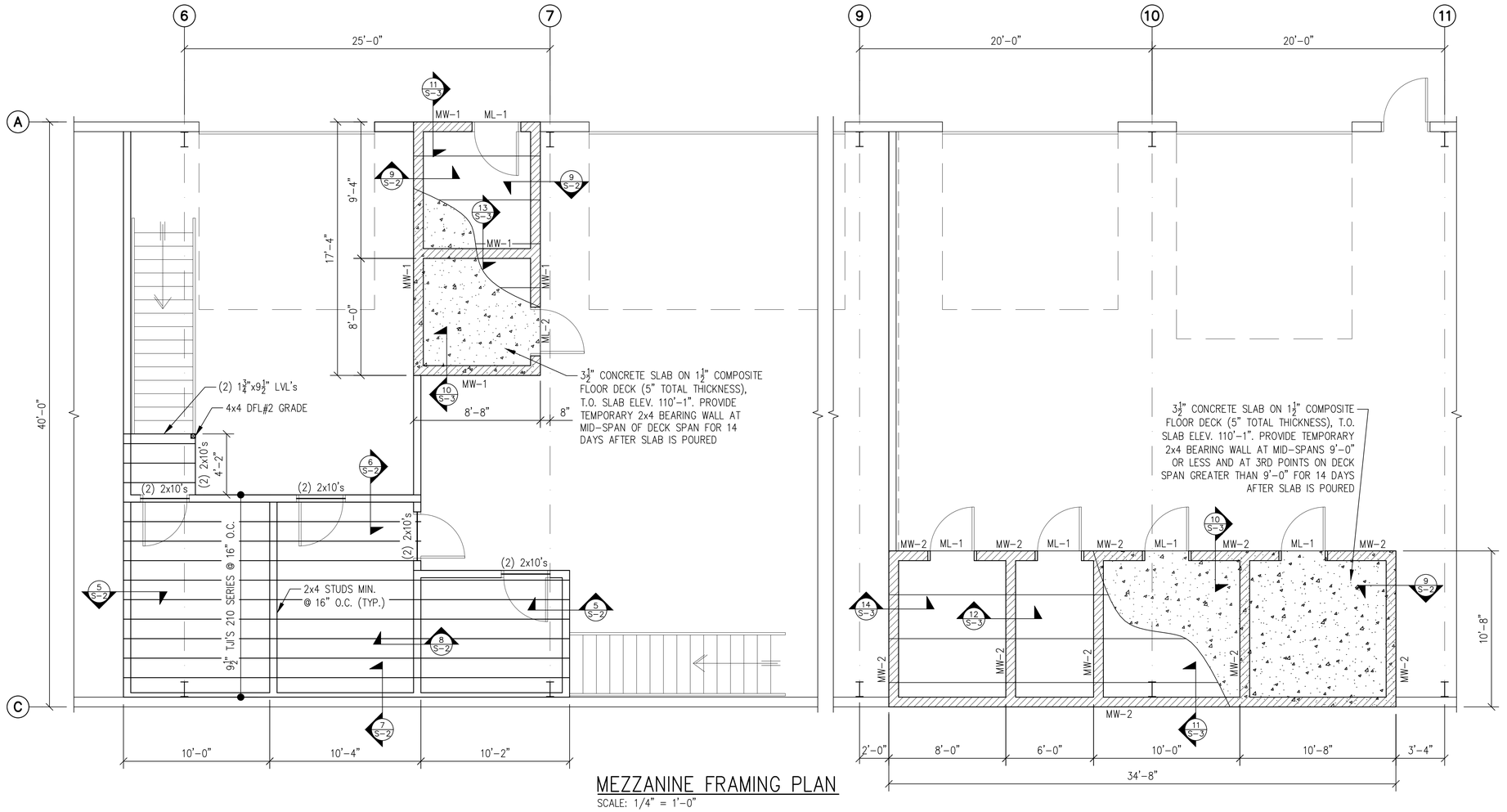
SHEET TITLE: FOUNDATION DETAILS
JOB NAME: BOX ELDER COUNTY SHERIFF'S DEPARTMENT STORAGE FACILITY
LOCATION: BRIGHAM CITY, UTAH
CONTRACTOR: -

PLAN ISSUE DATES

| | DATE: | BY: | DESCRIPTION: |
|---|---|---|---|
| 1 | 12-18-15 | T.W. | FOR PERMIT |

SHEET NUMBER: F-3

| | |
|---|---|
| DRAWN BY: | T.W. |
| ENGINEER: | A. KARRAS |
| MVE JOB NUMBER: | 150559 |




## MEZZANINE FRAMING PLAN

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

**MASONRY NOTES:**
ML-? = MASONRY LINTEL, SEE DETAIL 2 SHEET S-2
MW-? = MASONRY WALL, SEE DETAIL 3 SHEET S-2
MC-? = MASONRY COLUMN, SEE DETAIL 4 SHEET S-2


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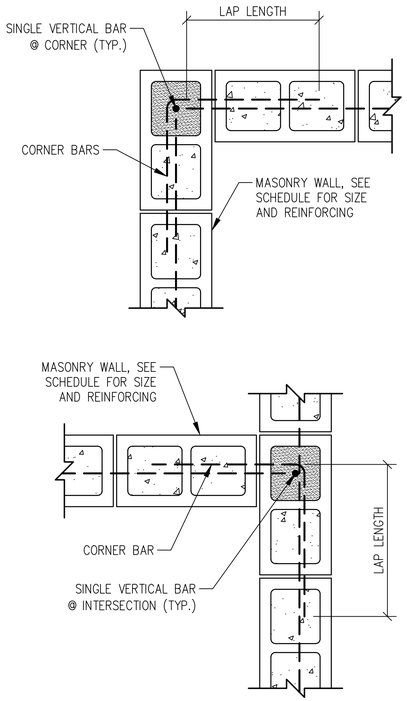

SHEET TITLE: **MEZZANINE FRAMING PLAN**
JOB NAME: **BOX ELDER COUNTY SHERIFF'S DEPARTMENT STORAGE FACILITY**
LOCATION: **BRIGHAM CITY, UTAH**
CONTRACTOR: -

**PLAN ISSUE DATES**

| | DATE: | BY: | DESCRIPTION: |
|---|---|---|---|
| 1 | 12-18-15 | J.S. | FOR PERMIT |

SHEET NUMBER: **S-1**

| | |
|---|---|
| DRAWN BY: | J.SCOTT |
| ENGINEER: | J.LARSEN |
| MVE JOB NUMBER: | 150559 |



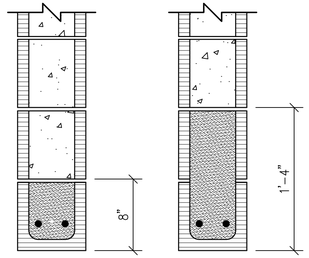

1 TYP. MASONRY CORNER REINFORCING
1 1/2"=1'-0"

## MASONRY LINTEL SCHEDULE

| LINTEL MARK | LINTEL DEPTH | LINTEL SPAN MAXIMUM | REINFORCING | |
|---|---|---|---|---|
| | | | HORIZONTAL | STIRRUPS |
| ML-1 | 8" | 3'-4" | (2) #5 BAR | NONE |
| ML-2 | 1'-4" | 3'-4" | (2) #5 BARS CONT. @ BOTTOM | NONE |

### MASONRY LINTEL NOTES:

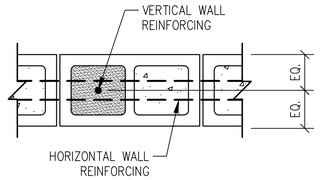
1. Lintel width and material type shall be the same as the wall in which the lintel is constructed.
2. Grout masonry lintels monolithically with the support wall or column at each end.
3. Masonry lintels ML-1 thru ML-2 shall be used over openings in masonry walls when a specific masonry lintel is not otherwise specified. When a lintel is specified on the plans, the maximum span as noted in this schedule shall not apply.
4. Masonry lintels ML-1 thru ML-2 shall not be located directly below floor beams, roof beams, or girders unless noted otherwise on the plans. joists shall not bear on any lintel less than 16" deep.
5. Extend all horizontal reinforcing 48 bar diameters minimum beyond the edge of all openings. if horizontal reinforcing cannot extend 48 bar diameters beyond edge of opening, provide 90° standard hook.
6. Splice top bars at mid span of lintel only and bottom bars over supports only.
7. Horizontal wall reinforcing shall continue thru masonry lintels. Where both horizontal wall reinforcing and lintel reinforcing occur in the same course, use the larger reinforcing.
8. Dowel vertical reinforcing of wall above lintel into the full depth of lintel or 48 bar diameters, whichever is less.
9. See General Structural Notes for all other requirements.



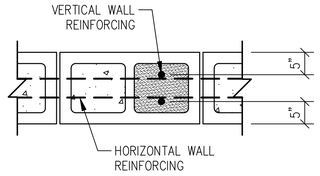

2 MASONRY LINTEL SCHEDULE
1 1/2"=1'-0"

## MASONRY WALL SCHEDULE

| WALL MARK | THICKNESS | MATERIALS | SOLID GROUT | REINFORCING | | | | SPECIAL INSPECTION REQUIRED? |
|---|---|---|---|---|---|---|---|---|
| | | | | VERTICAL | HORIZONTAL | TYPE | JOINTS | |
| MW-1 | 8" | C.M.U. | NO | (1) #4 @ 24" O.C. | (2) #4 @ 48" O.C. | A | – | YES |
| MW-2 | 8" | C.M.U. | YES | (1) #4 @ 16" O.C. | (2) #4 @ 48" O.C. | A | – | YES |
| | | | | | | | | |




TYPE A SINGLE MAT REINFORCING




TYPE B DOUBLE MAT REINFORCING

### MASONRY WALL NOTES:

1. Coordinate with architectural drawings, masonry wall finishes, types of material, coursing, etc.
2. Do not solid grout walls unless noted otherwise.
3. All masonry below grade shall be grouted solid.
4. Vertical reinforcing shall be centered in the wall unless noted otherwise.
5. Provide (1) vertical bar minimum at all corners, at end of walls, and at either side of all openings.
6. Horizontal wall reinforcing shall be placed between vertical masonry column reinforcing bars.
7. Horizontal wall reinforcing shall continue thru masonry lintels. where both horizontal wall reinforcing and lintel reinforcing occur in the same course, use the larger reinforcing.
8. See General Structural Notes for all other requirements.
9. Where column reinforcing occurs in the same cell as wall reinforcing, omit wall reinforcing and use column reinforcing.
10. Provide vertical control joints in walls as shown in details. Other details may be used if submitted and approved by the engineer. See General Structural Notes for control joint requirements.
11. Horizontal reinforcement shall be anchored around vertical reinforcing bars with a standard hook at all wall ends and adjacent to all openings.

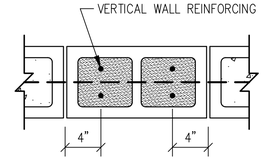
3 MASONRY WALL SCHEDULE
1 1/2"=1'-0"

## MASONRY COLUMN SCHEDULE

| COLUMN MARK | COLUMN SIZE | REINFORCING | | COMMENTS |
|---|---|---|---|---|
| | | VERTICAL | TIES | |
| MC-1 | 8" x 8" | (2) #5 | ---- | : |

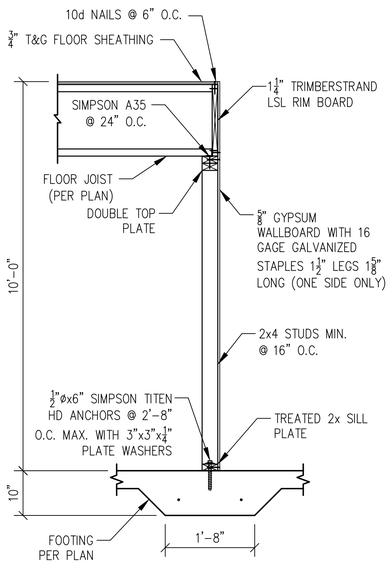
### MASONRY COLUMN NOTES:

1. The centerline of vertical bars shall be located $2\frac{3}{8}$" from the face of the masonry. Horizontal wall reinforcement shall be located to the inside of vertical bars.
2. Unless noted otherwise, vertical reinforcing and ties shall extend to full wall height.
3. Vertical masonry column reinforcing shall extend 24" min. into concrete wall or footing and terminate with a standard 90° hook.
4. In concrete foundation walls, vertical masonry column reinforcing shall be tied with #3 ties at the same spacing and configuration as masonry columns above.
5. See General Structural Notes for all other requirements.
6. Space ties @ 24" o.c. from a point 2'-0" above openings to the top of the wall.
7. Use MC-1 both sides of all openings unless noted otherwise.

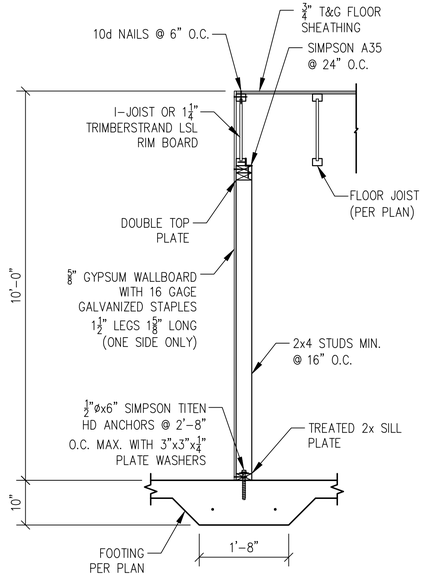



COLUMN CONFIGURATION

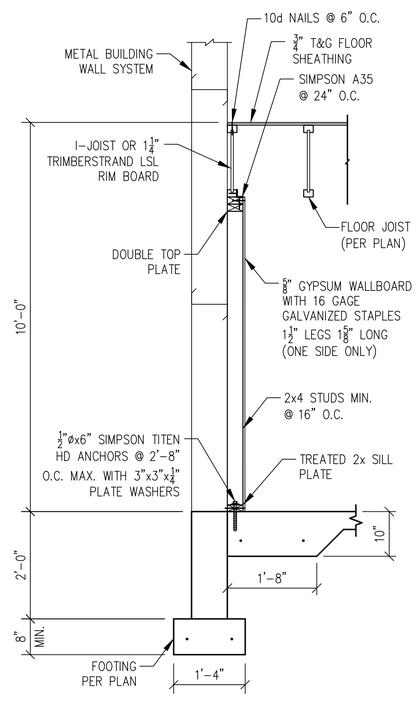
4 MASONRY COLUMN SCHEDULE
1 1/2"=1'-0"



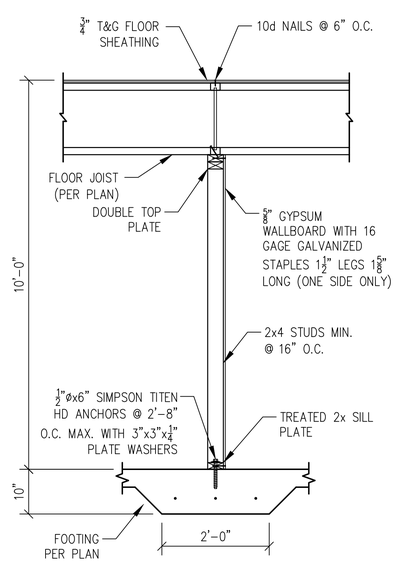

5 WALL FRAMING DETAIL
3/4"=1'-0"



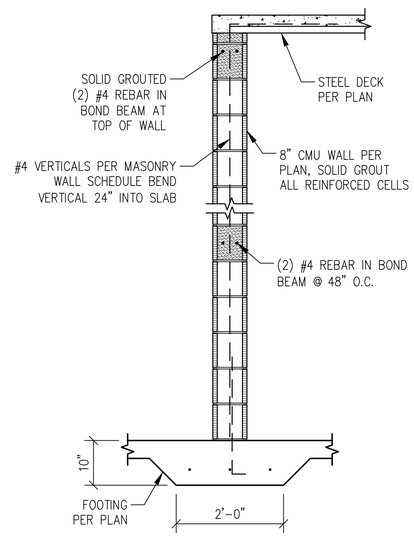

6 WALL FRAMING DETAIL
3/4"=1'-0"




7 WALL FRAMING DETAIL
3/4"=1'-0"




8 WALL FRAMING DETAIL
3/4"=1'-0"




9 WALL FRAMING DETAIL
3/4"=1'-0"

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Structural Engineering Consulting Design
345 North Main Street Ste. A, Brigham City, Utah 84302 (435) 734-9700 Fax (435) 734-9519

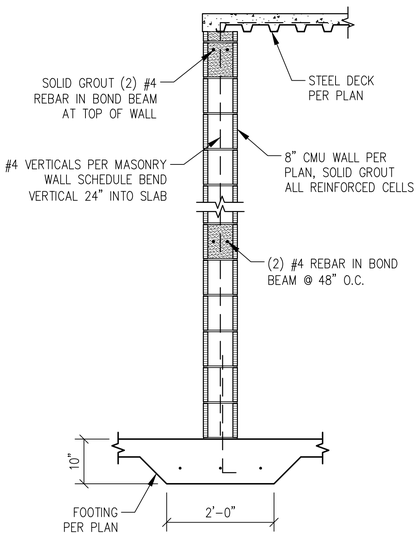
SHEET TITLE: STRUCTURAL DETAILS
JOB NAME: BOX ELDER COUNTY SHERIFF'S DEPARTMENT STORAGE FACILITY
LOCATION: BRIGHAM CITY, UTAH
CONTRACTOR: -

PLAN ISSUE DATES

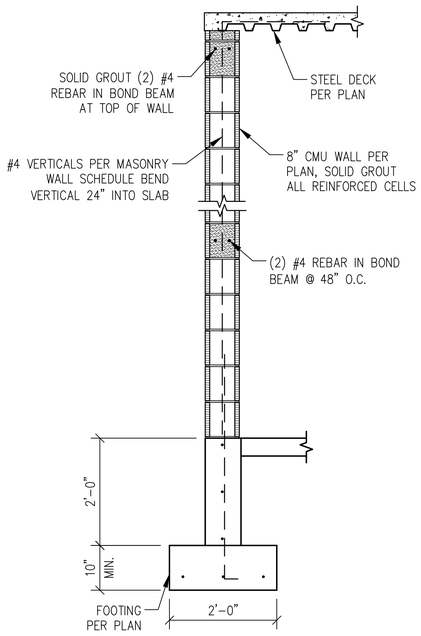
| | DATE: | BY: | DESCRIPTION: |
|---|---|---|---|
| 1 | 12-18-15 | J.S. | FOR PERMIT |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |

SHEET NUMBER: S-2

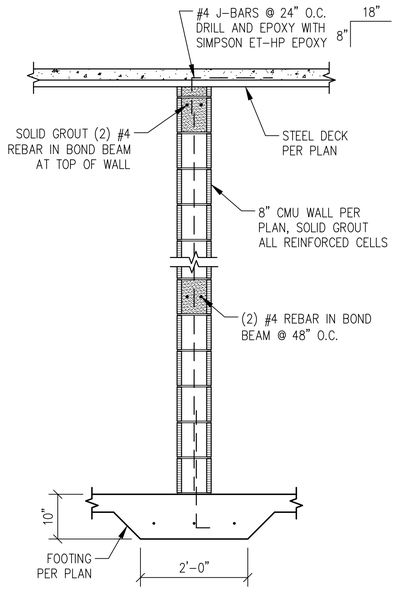
| | |
|---|---|
| DRAWN BY: | J.SCOTT |
| ENGINEER: | J.LARSEN |
| MVE JOB NUMBER: | 150559 |



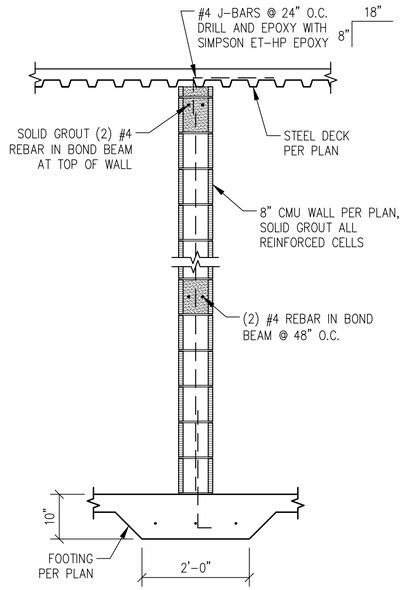

10 WALL FRAMING DETAIL
3/4"=1'-0"



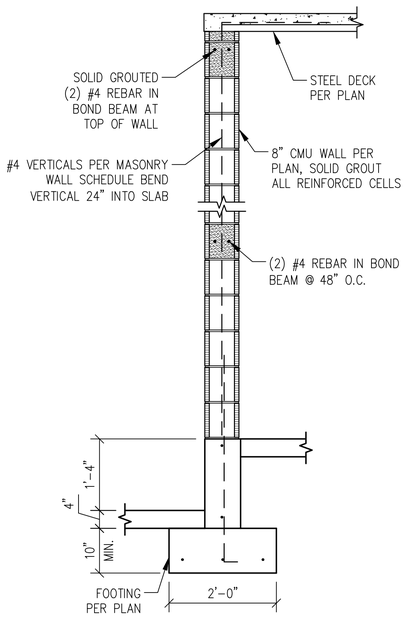

11 WALL FRAMING DETAIL
3/4"=1'-0"




12 WALL FRAMING DETAIL
3/4"=1'-0"




13 WALL FRAMING DETAIL
3/4"=1'-0"




14 WALL FRAMING DETAIL
3/4"=1'-0"

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Structural Engineering Consulting Design
345 North Main Street Ste. A, Brigham City, Utah 84302 (435) 734-9700 Fax (435) 734-9519

SHEET TITLE: **STRUCTURAL DETAILS**
JOB NAME: **BOX ELDER COUNTY SHERIFF'S DEPARTMENT STORAGE FACILITY**
LOCATION: **BRIGHAM CITY, UTAH**
CONTRACTOR: -

PLAN ISSUE DATES

| | DATE: | BY: | DESCRIPTION: |
|---|---|---|---|
| 1 | 12-18-15 | J.S. | FOR PERMIT |
| 2 | | | |
| 3 | | | |
| 4 | | | |

SHEET NUMBER:
**S-3**

| | |
|---|---|
| DRAWN BY: | J.SCOTT |
| ENGINEER: | J.LARSEN |
| MVE JOB NUMBER: | 150559 |

# PLUMBING SYMBOL LEGEND \ ABBREVIATIONS

| | | | | | |
|---|---|---|---|---|---|
| FD | FLOOR DRAIN | | WASTE (W) | | RISE IN PIPE |
| WCO | WALL CLEAN OUT | | VENT (V) | | ELBOW IN PIPE |
| | DOMESTIC COLD WATER (DCW) | | BALL VALVE | | TEE IN PIPE |
| | DOMESTIC HOT WATER (DHW) | | DROP IN PIPE | A.F.F. | ABOVE FINISHED FLOOR |

# PLUMBING FIXTURE SCHEDULE

| SYMBOL | DESCRIPTION | COLD | HOT | TRAP | WASTE | VENT | REMARKS |
|---|---|---|---|---|---|---|---|
| P-1 | WATER CLOSET, FLOOR MOUNTED, FLUSH TANK, ADA HEIGHT | 1/2" | - | INT. | 3" | 2" | KOHLER "WELLWORTH" K-3977 WITH CHURCH 95CT SEAT |
| P-2 | LAVATORY, WALL MOUNTED, ADA COMPLIANT, AUTOMATIC FAUCET | 1/2" | 1/2" | 1-1/2" | 2" | 1-1/2" | KOHLER "KINGSTON" K-2005 WITH SLOAN EBF-650 AUTOMATIC FAUCET |
| FS | FLOOR SINK, 8"x8" WITH HALF GRATE | - | - | 2" | 2" | 2" | SIOUX CHIEF 861-283X |
| WH | WALL HYDRANT, NON FREEZE TYPE | 3/4" | - | - | - | - | WOODFORD NO. 65 8-1/2" OVERALL LENGTH MIN. |
| WCO | WALL CLEAN OUT | - | - | - | - | - | - |

GENERAL FIXTURE NOTES:

1. EACH INDIVIDUAL FIXTURE SUPPLY SHALL BE PROVIDED WITH A CHROME-PLATED QUARTER TURN STOP VALVE BRASSCRAFT MODEL KTCR_ OR ENGINEER APPROVED EQUAL.
2. FIXTURES AND ACCESSORIES SHALL BE AS SCHEDULED. EACH ITEM SHALL BE COMPLETE WITH CHROME-PLATED BRASS TRIM.
3. ADA COMPLIANT FIXTURES SHALL BE INSTALLED WITH PRE-FORMED INSULATION AND PROTECTIVE COVERS ON P-TRAPS AND STOPS. COVERS TO BE MANUFACTURED BY BUCKAROOS OR TRUEBRO.
4. CAULK ALL FIXTURES TO THE WALL OR FLOOR WITH APPLICABLE SILICONE COMPOUND. UTILIZE MULTIPLE BEADS TO FILL GAPS AND FINISH TO SMOOTH, FILLETED EDGE APPROPRIATE TOOLS. PROVIDE PROFESSIONAL APPEARANCE.
5. ALL PLUMBING SHALL BE INSTALLED TO CONFORM TO THE LATEST ADOPTED EDITION OF THE INTERNATIONAL PLUMBING CODE INCLUDING LOCAL AMENDMENTS. CONSULT AUTHORITIES HAVING JURISDICTION

# PIPING MATERIALS SCHEDULE

| SERVICE | MATERIAL | REMARKS |
|---|---|---|
| DCW / DHW | TYPE "L" COPPER TUBING W/ WROUGHT COPPER FITTINGS | - |
| NAT. GAS | SCHEDULE 40 BLACK IRON | - |
| WASTE / VENT | SOLID CORE ABS OR PVC WITH DWV FITTINGS ABOVE AND BELOW GRADE | - |

# INSTANTANEOUS WATER HEATER (IWH)

| SYMBOL | NOMINAL INPUT KW | TANK VOLUME GALLONS | ELEC. REQUIREMENTS | | | WATER CHARACTERISTICS | | | A.O. SMITH MODEL | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | VOLTS | PH. | HZ. | EWT °F | LWT °F | RECOVERY (GPH) | | |
| IWH-1 | 1,440 | 2.5 | 120 | 1 | 60 | 40 | 122 | - | ELJC-2 | POINT OF USE MODEL |
| IWH-2 | 1,440 | 2.5 | 120 | 1 | 60 | 40 | 122 | - | ELJC-2 | POINT OF USE MODEL |

# GENERAL NOTES

1. ALL DRAWINGS SHALL BE CONSIDERED PART OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND BE RESPONSIBLE FOR THE REVIEW AND COORDINATION OF ALL ASPECTS OF THE CONTRACT DOCUMENTS PRIOR TO SUBMITTING PRICING. ANY AND ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO TO ANY INSTALLATION SUCH THAT CLARIFICATIONS CAN BE ISSUED.
2. ANY WORK PERFORMED OR MATERIAL USED WHICH IS SHOWN TO BE IN CONFLICT WITH THE CONTRACT DRAWINGS, SPECIFICATIONS OR ANY APPLICABLE CODE OR GOVERNING REGULATION SHALL BE REMOVED AND REPLACED OR CORRECTED AT THE CONTRACTOR'S EXPENSE.
3. ALL SYMBOLS AND ABBREVIATIONS USED ON THE CONTRACT DRAWINGS ARE CONSIDERED CONSTRUCTION STANDARDS. IF CLARIFICATION IS REQUIRED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO PROCEEDING WITH ANY WORK.
4. DO NOT SCALE THE DRAWINGS: ALL EXISTING CONDITIONS AND DIMENSIONS SHALL BE VERIFIED BY THE CONTRACTOR AT THE JOB SITE PRIOR TO FABRICATION OF MATERIALS OR ERECTION OF ASSEMBLIES. IF DISCREPANCIES ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED FOR CLARIFICATION.
5. THE CONTRACTOR SHALL FURNISH ALL MATERIALS, LABOR AND EQUIPMENT, TRANSPORTATION AND SERVICES REQUIRED FOR COMPLETION OF THE WORK. ALL WORK PERFORMED AND MATERIALS INSTALLED SHALL BE DONE IN STRICT COMPLIANCE WITH ALL LOCAL CODES AND GOVERNING REGULATIONS.
6. ALL PERMITS AND FEES WHICH ARE REQUIRED FOR THIS WORK SHALL BE SECURED AND PAID FOR BY THE MECHANICAL CONTRACTOR.
7. ALL PLUMBING INSTALLATIONS SHALL ADHERE TO THE 2012 IECC INCLUDING; ALL DOMESTIC WATER PIPING SHALL BE INSULATED WITH A MINIMUM 1" FIBERGLASS INSULATION.

# SYMBOL LEGEND

| | | | | | |
|---|---|---|---|---|---|
| | ROUND SUPPLY AIR DUCT CROSS SECTION | | SUPPLY AIR DIRECTION | A.F.F. | ABOVE FINISHED FLOOR |
| T | THERMOSTAT | | RETURN AIR DIRECTION | | |

# RADIANT HEATER (RH)

| SYMBOL | HEATING INPUT (BTUH) | HEATER TYPE | FUEL TYPE | REFLECTOR LENGTH | TOTAL LENGTH | ELECTRICAL REQ. | | | CLEARANCES (IN.) | | | SUPERIOR RADIANT MODEL | SERVICE | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | VOLTS | PH. | HZ. | TOP | SIDE | BELOW | | | |
| RH-1 | 60,000 | LOW INTENSITY | NAT. | 24 FT. | 26 FT. | 120 | 1 | 60 | 2" | 25" | 56" | UX-60 | SEARCH & RESCUE 101 | - |
| RH-2 | 60,000 | LOW INTENSITY | NAT. | 30 FT. | 32 FT. | 120 | 1 | 60 | 2" | 25" | 56" | UX-60 | ATV'S / MOTORHOME 102 | ANGLE REFLECTOR AT 45° |
| RH-3 | 60,000 | LOW INTENSITY | NAT. | 22 FT. | 24 FT. | 120 | 1 | 60 | 2" | 25" | 56" | UX-60 | SWAT 103 | ANGLE REFLECTOR AT 45° |
| RH-4 | 60,000 | LOW INTENSITY | NAT. | 28 FT. | 30 FT. | 120 | 1 | 60 | 8" | 25" | 56" | UX-60 | FREEZER 104 | U SHAPED, ANGLE REFLECTOR AT 30°, FRONT AND BACK |
| RH-5 | 60,000 | LOW INTENSITY | NAT. | 30 FT. | 32 FT. | 120 | 1 | 60 | 2" | 25" | 56" | UX-60 | MAINTENANCE 105 | ANGLE REFLECTOR AT 45° |
| RH-6 | 60,000 | LOW INTENSITY | NAT. | 22 FT. | 24 FT. | 120 | 1 | 60 | 8" | 25" | 56" | UX-60 | WORK CREW 107 | L SHAPED, ANGLE REFLECTOR AT 30° |
| RH-7 | 60,000 | LOW INTENSITY | NAT. | 30 FT. | 32 FT. | 120 | 1 | 60 | 8" | 25" | 56" | UX-60 | STORAGE 108 & 109 | - |

# PROPELLER WALL EXHAUST FANS (PWEF)

| SYMBOL | MIN. CFM | MIN. E.S.P. IN. WG. | OV FPM | FAN RPM | ELEC. REQUIREMENTS | | | | MIN. MOTOR HP. | DRIVE TYPE | MAXIMUM SOUND LEVELS (dB) OCTAVE BANDS (Hz) | | | | | | | | | MAX. SONES | COOK MODEL | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | VOLTS | PH. | HZ. | BHP | | | 32 | 64 | 125 | 250 | 1K | 2K | 4K | 8K | 16K | | | |
| PWEF-1 | 2,500 | 0.5" | 708 | 1,108 | 120 | 1 | 60 | 0.52 | 3/4 | BELT | 88 | 89 | 82 | 77 | 74 | 70 | 67 | 61 | 59 | 20 | 24XMW | (1) |

(1) CAPACITIES AT JOB SITE ELEVATION.

# BASEBOARD RADIATION (BR)

| SYMBOL | TYPE | LENGTH | ELECTRICAL REQUIREMENTS | | | | INDEECO MODEL | SERVICE | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| | | | VOLTS | PH. | HZ. | WATTS | | | |
| BR-1 | ELEC. | 29" | 120 | 1 | 60 | 500 | 906U00500B | TOILET 106 | (1) |
| BR-2 | ELEC. | 29" | 120 | 1 | 60 | 500 | 906U00500B | TOILET 105B | (1) |

(1) PROVIDE WITH TAMPER PROOF THERMOSTAT AND BUILT IN DISCONNECT SWITCH.

# CEILING EXHAUST FANS (CEF)

| SYMBOL | MINIMUM CFM | TOTAL STATIC PRESSURE IN. WG. | ELECTRICAL REQUIREMENTS | | | | BROAN MODEL | SERVICE | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| | | | VOLTS | PH. | HZ. | WATTS | | | |
| CEF-1 | 150 | 0.375" | 120 | 1 | 60 | 87 | L200MG | TOILET 106 | - |
| CEF-2 | 150 | 0.375" | 120 | 1 | 60 | 87 | L200MG | TOILET 105B | - |
| CEF-3 | 250 | 0.375" | 120 | 1 | 60 | 87 | L300MG | GARAGE 110 | - |

(1) CAPACITIES AT JOB SITE ELEVATION.

# SPLIT HEAT PUMPS

## INDOOR SECTION (HP)

| SYMBOL | COOLING CAPACITY (BTUH) | HEATING CAPACITY (BTUH) | CFM HIGH SPEED | ELECTRICAL REQUIREMENTS | | | | FUJITSU MODEL | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| | | | | VOLTS | PH. | HZ. | AMPS | | |
| HP-1 | 9,000 | 12,000 | 315 | 208 | 1 | 60 | 1.0 | ASU7RLS2 | (1)(2) |

(1) CAPACITIES AT JOB SITE ELEVATION OF 4,500 FEET ABOVE SEA LEVEL.
(2) PROVIDE WITH MANUFACTURERS INLINE CONDENSATE PUMP.

## OUTDOOR SECTION (CU)

| SYMBOL | COOLING CAPACITY (BTUH) | HEATING CAPACITY (BTUH) | ENTERING OUTSIDE AIR DB°F | ELECTRICAL REQUIREMENTS | | | | | FUJITSU MODEL | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | VOLTS | PH. | HZ. | MCA | MOCP | | |
| CU-1 | 9,000 | 10,200 | 95°F | 208 | 1 | 60 | 14.5 | 15 | AOU9RLS | MIN. HSPF 9.0 |

(1) CAPACITIES AT JOB SITE ELEVATION OF 4,500 FEET ABOVE SEA LEVEL.

# BACKDRAFT DAMPERS (BD)

| SYMBOL | APPROX. SIZE | TYPE | RUSKIN MODEL | SERVICE | REMARKS |
|---|---|---|---|---|---|
| BD-1 | 36"x36" | WEIGHTED | CBD4 | EXHAUST AIR | - |
| BD-2 | 30"x30" | WEIGHTED | CBD4 | RELIEF AIR | - |

# EXPLOSION VENT (EV)

| SYMBOL | APPROX. SIZE | CATCH TYPE | C/S GROUP MODEL | SERVICE | REMARKS |
|---|---|---|---|---|---|
| EV-1 | 24"x24" | MAGNETIC | ERP-IC | E-STOR 105D | 20 LBS / SQ. FT. RELEASE POINT |

# LOUVERS (L)

| SYMBOL | NOMINAL SIZE (W" x H") | MIN. FREE FACE AREA (SQ. FT.) | SERVICE | RUSKIN MODEL | REMARKS |
|---|---|---|---|---|---|
| L-1 | 12"x12" | 0.31 | EXHAUST AIR | ELF-6375DX | COLOR BY ARCHITECT |
| L-2 | 36"x36" | 4.80 | INTAKE AIR | ELF-6375DX | COLOR BY ARCHITECT |
| L-3 | 30"x30" | 3.18 | EXHAUST AIR | ELF-6375DX | COLOR BY ARCHITECT |

| No. | Revision/Issue | Date |
|---|---|---|
| | | |

Seal:

LICENSED PROFESSIONAL ENGINEER
No. 4947211
NORMAN CUNNING
01/10/16
STATE OF UTAH

Project Title:

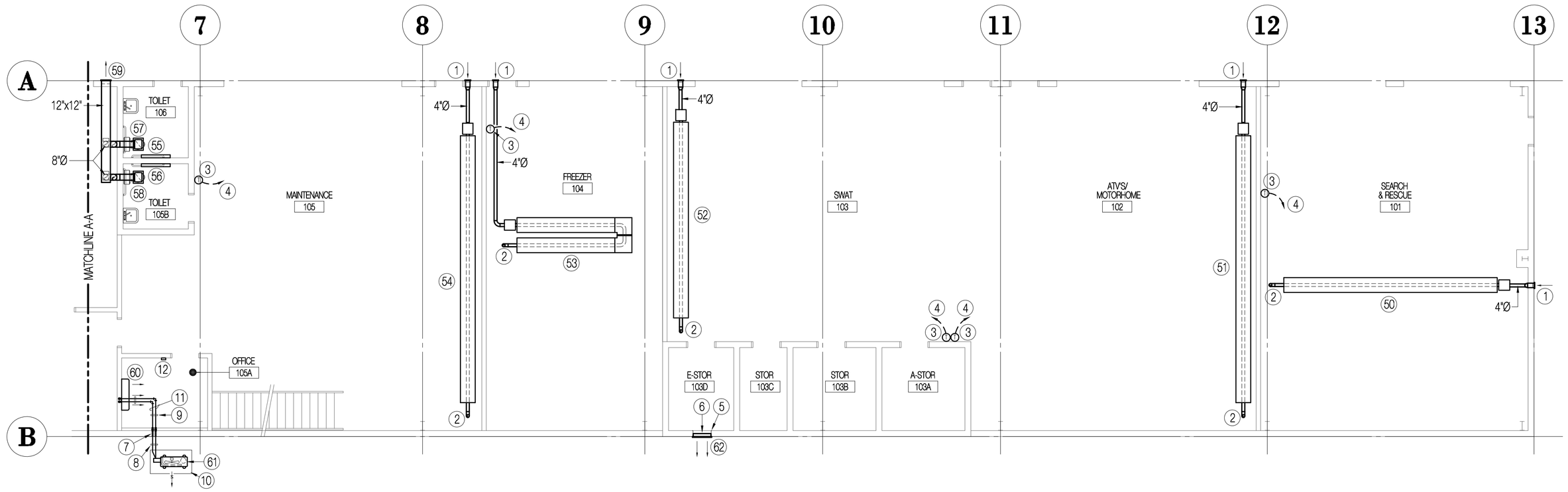
New Storage Facility
for
Box Elder County Sheriff's Dept.
Brigham City, UT


Gary Hunt, Architect PC
Architecture / Planning
1594 W. Park Circle, Suite 101 · Ogden, Utah 84404
Phone: (801) 782-5055
Mobile: (801) 725-1922
Fax: (801) 782-5081
e-mail : gary@ghtarchitect.com


Sheet Title:
**MECHANICAL & PLUMBING SCHEDULES**

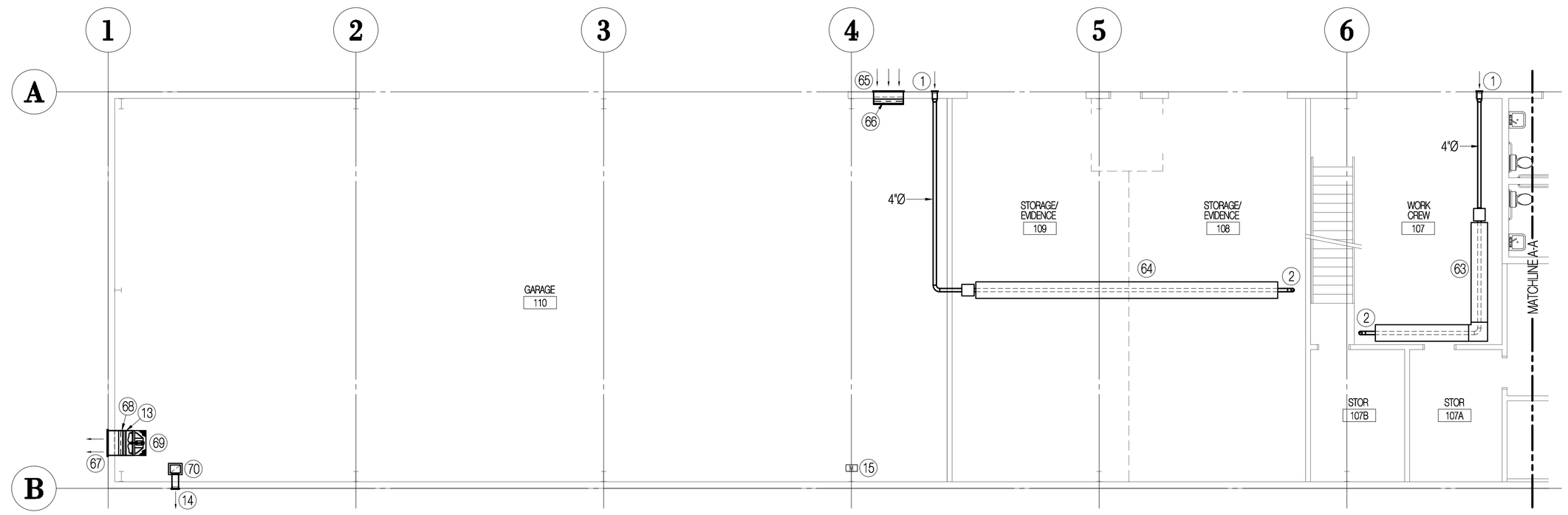
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|---|---|
| 4615 | 01/12/2016 |
| | Scale: AS NOTED |

Sheet No.:
**M-000**




# HVAC FLOOR PLAN

SCALE 1/8" =1'-0"




# HVAC FLOOR PLAN CONT.

SCALE 1/8" =1'-0"

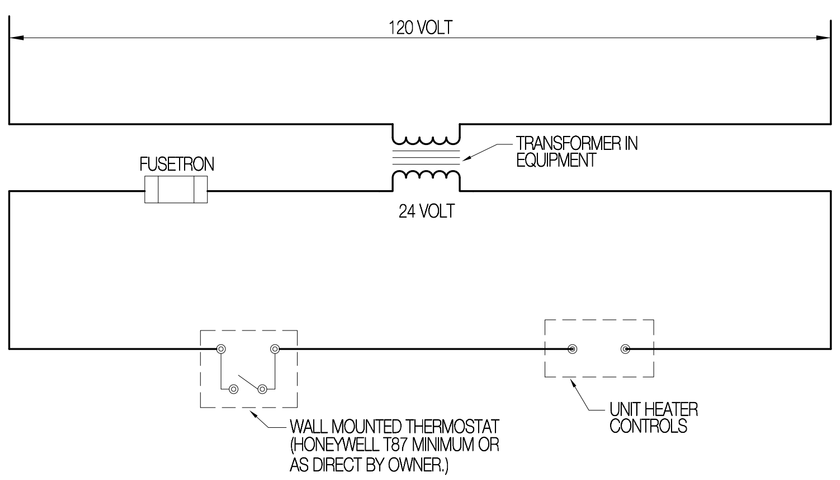
## DRAWING NOTES

1. BROAN MODEL 641FA WALL CAP, PAINT CAP TO MATCH BUILDING EXTERIOR WITH TWO COATES PRIMER AND TWO COATES PAINT. SEAL WALL CAP TO BUILDING EXTERIOR WATER TIGHT.
2. 4"Ø FLUE PIPING TO VENT CAP ON ROOF, TERMINATE PER DETAIL 14/MP-500.
3. PROVIDE AND INSTALL NEW THERMOSTAT, MOUNT THERMOSTAT AT 48 A.F.F.
4. LOW VOLTAGE CONTROL WIRING IN CONDUIT FROM THERMOSTAT TO MECHANICAL EQUIPMENT.
5. 24"x24"x16 GA. LINTEL IN CMU WALL, SEE DETAIL 15/MP-500 FOR ADDITIONAL INFORMATION.
6. 3/4"-13# EXPANDED METAL OVER OPENING.
7. PIPE SLEEVE AT EXTERIOR WALL, SEE DETAIL 8/MP-500.
8. EXTERIOR REFRIGERATION PIPE SUPPORT, SEE DETAIL 9/MP-500.
9. REFRIGERATION PIPE SUPPORT, SEE DETAIL 10/MP-500.
10. EXTERIOR PAD, BY GENERAL CONTRACTOR.
11. 1/4" LIQUID AND 1/2" SUCTION REFRIGERATION PIPING FROM INDOOR HEAT PUMP TO CONDENSING UNIT ON EXTERIOR PAD.
12. PROVIDE AND INSTALL HEAT PUMP CONTROLLER, MOUNT CONTROLLER AT 48" A.F.F. IN MANUFACTURER PROVIDED MOUNTING FRAME.
13. FLEXIBLE CONNECTION, TYPICAL
14. PROVIDE AND INSTALL NEW BROAN MODEL 643 WALL CAP. PAINT WALL CAP WITH TWO COATES PRIMER AND TWO COATES PAINT. COLOR TO MATCH BUILDING EXTERIOR.
15. MOTION SENSOR MOUNTED ON 4 SQUARE BOX HIGH ON COLUMN. MOTION SENSOR SHALL ENERGIZE PROPELLER WALL EXHAUST FAN PWEF-1 WHENEVER MOTION IS SENSED.

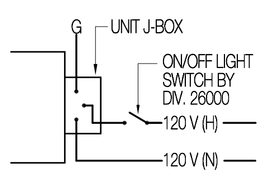
## EQUIPMENT NOTES

| | | | |
|---|---|---|---|
| 50 | RH 1 RADIANT HEATER | 61 | CU 1 CONDENSING UNIT |
| 51 | RH 2 RADIANT HEATER | 62 | EV 1 EXPLOSION VENT |
| 52 | RH 3 RADIANT HEATER | 63 | RH 6 RADIANT HEATER |
| 53 | RH 4 RADIANT HEATER | 64 | RH 7 RADIANT HEATER |
| 54 | RH 5 RADIANT HEATER | 65 | L 2 LOUVER |
| 55 | BR 1 BASEBOARD RADIATION | 66 | BD 1 BACKDRAFT DAMPER |
| 56 | BR 2 BASEBOARD RADIATION | 67 | L 3 LOUVER |
| 57 | CEF 1 CEILING EXHAUST FAN | 68 | BD 2 BACKDRAFT DAMPER |
| 58 | CEF 2 CEILING EXHAUST FAN | 69 | PWEF 1 PROPELLER WALL EXHAUST FAN |
| 59 | L 1 RADIANT HEATER | 70 | CEF 3 CEILING EXHAUST FAN |
| 60 | HP 1 HEAT PUMP | | |

MOUNT RADIANT HEATERS AND UTILITY PIPING AS HIGH AS POSSIBLE, OBSERVE CLEARANCE TO COMBUSTIBLES AND SERVICE CLEARANCES FOR GARAGE DOORS IN THE UP POSITION.

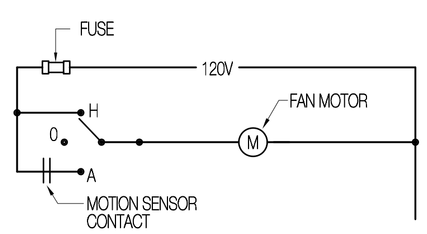



## RADIANT HEATER CONTROL DIAGRAM



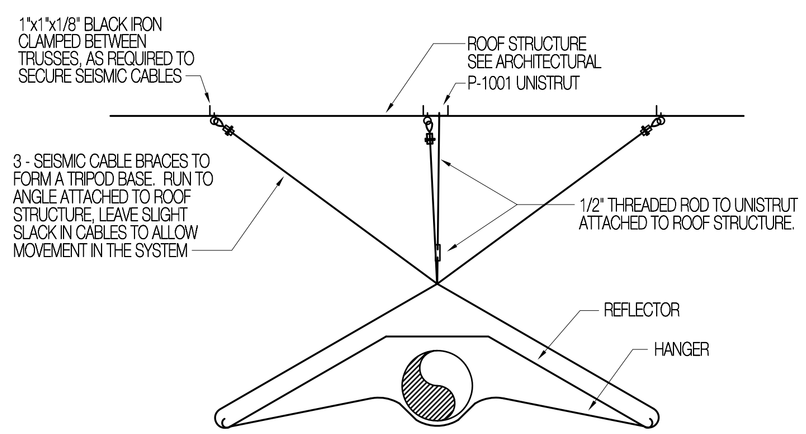

## CEILING EXHAUST FAN CONTROL DIAGRAM

TYPICAL OF CEILING EXHAUST FANS CEF-1 AND 2, CEF-3 SHALL RUN CONTINUOUSLY




CONTROL SEQUENCE: THE WALL EXHAUST FAN IS OFF UNDER NORMAL CONDITIONS. UPON DETECTION OF MOTION BY THE MOTION SENSOR PWEF-1 SHALL RUN.

## PROPELLER WALL EXHAUST FAN CONTROL DIAGRAM




HANGER SPACING PER MANUFACTURERS REQUIREMENTS BUT NO GREATER THAN 10'-0" ON CENTER WITH SEISMIC BRACING REQUIRED AT EACH HANGER POINT

## 1 M100 RADIANT HEATER HANGING DETAIL

SCALE: NONE

| No. | Revision/Issue | Date |
|---|---|---|
| | | |

Seal:

LICENSED PROFESSIONAL ENGINEER
No. 4947211
NORMAN CUNNING
01/10/16
STATE OF UTAH

Project Title:

New Storage Facility
for
Box Elder County Sheriff's Dept.
Brigham City, UT


Gary Hunt, Architect PC
Architecture / Planning
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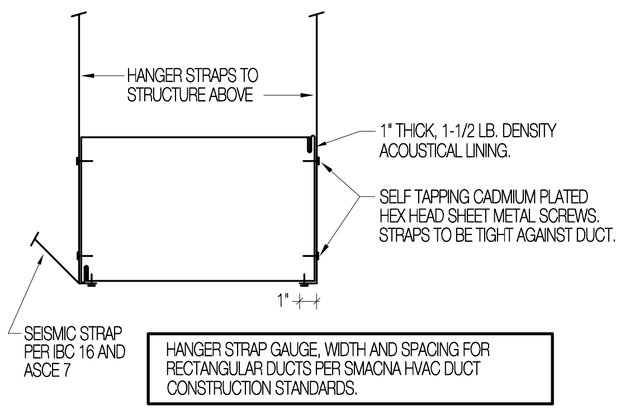

Sheet Title:

**HVAC PLANS, DETAILS, AND CONTROLS**

| Project No.: | Date: |
|---|---|
| 4615 | 01/12/2016 |
| | Scale: AS NOTED |

Sheet No.:

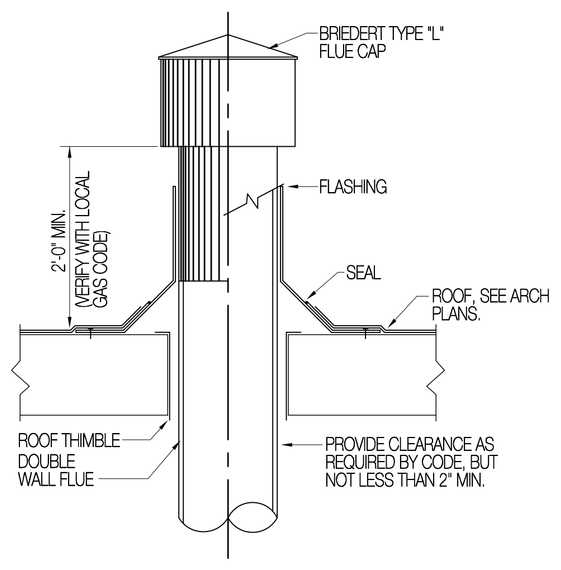
**M-100**



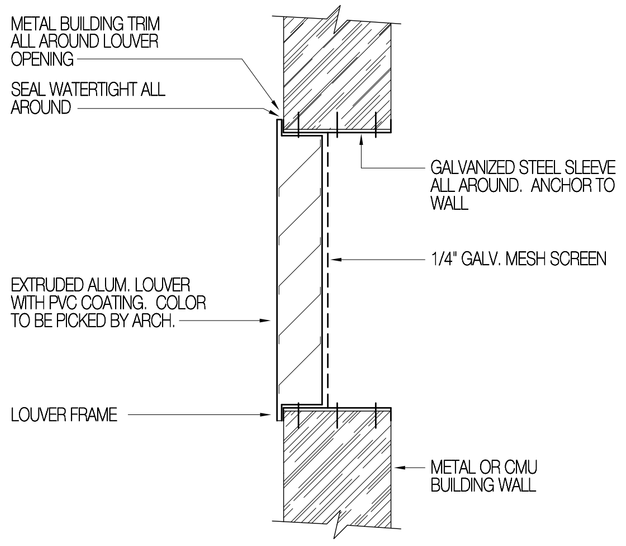

## 12 RECT. DUCT HANGER DETAIL
MP-500 SCALE: NONE



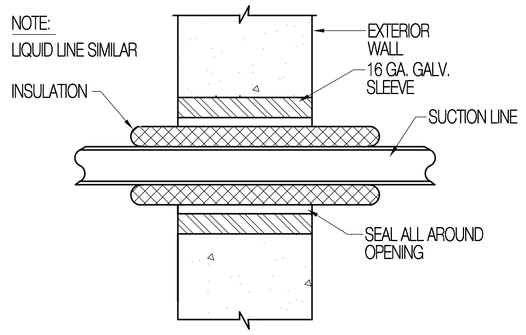

## 13 RND. DUCT HANGER DETAIL
MP-500 SCALE: NONE



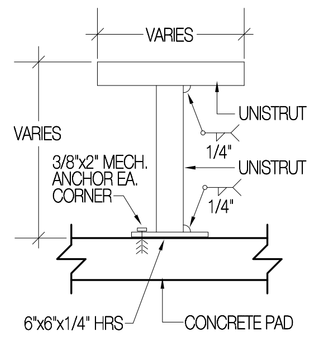

## 14 FLUE THRU ROOF DETAIL
MP-500 SCALE: NONE



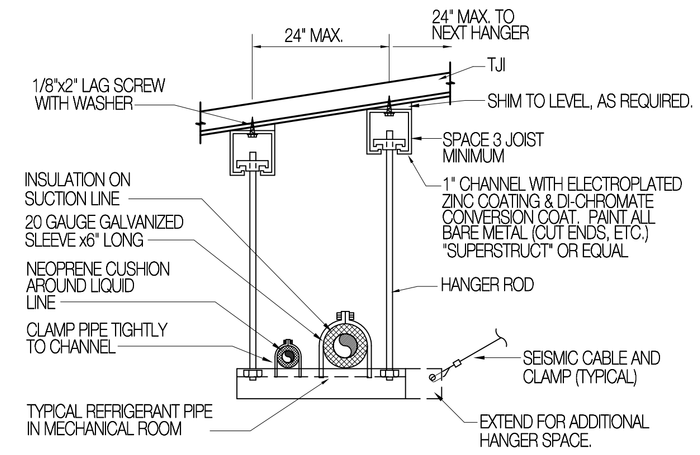

## 15 LOUVER / VENT DETAIL
MP-500 SCALE: NONE



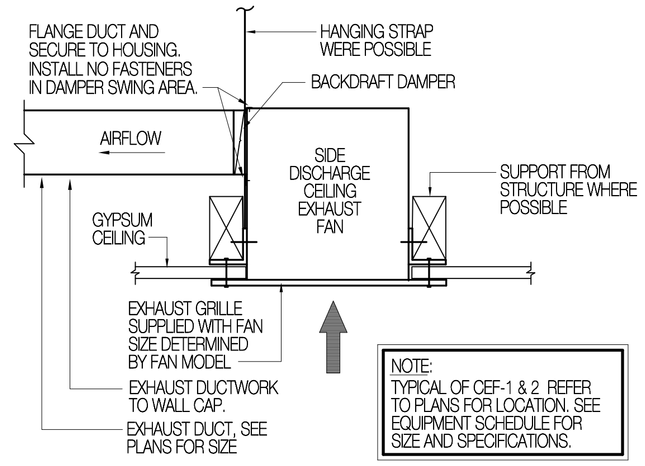

## 8 REFRIG. PIPING SLEEVE AT WALL
MP-500 SCALE: NONE



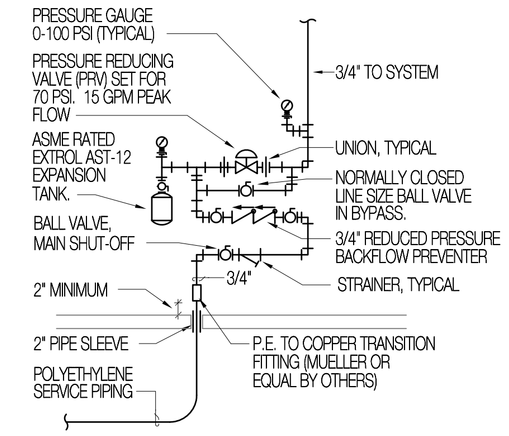

## 9 EXTERIOR SUPPORT DETAIL
MP-500 SCALE: NONE



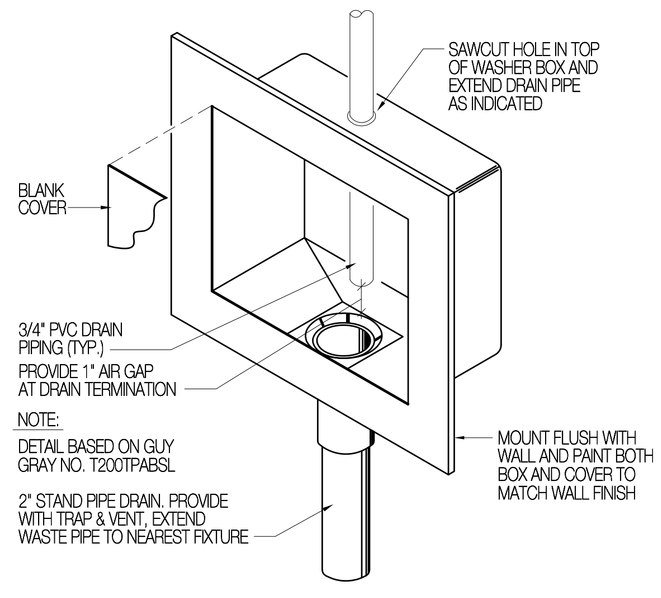

## REFRIGERANT PIPING SUPPORT FROM JOIST DETAIL
10 MP-500 SCALE: NONE



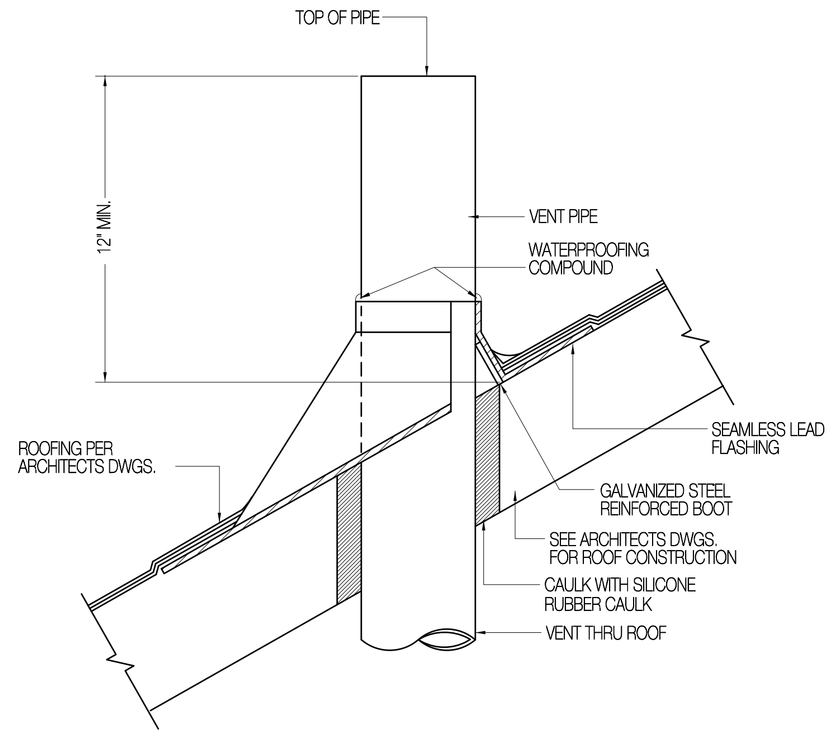

## 11 CEILING EXHAUST FAN DETAIL
MP-500 SCALE: NONE



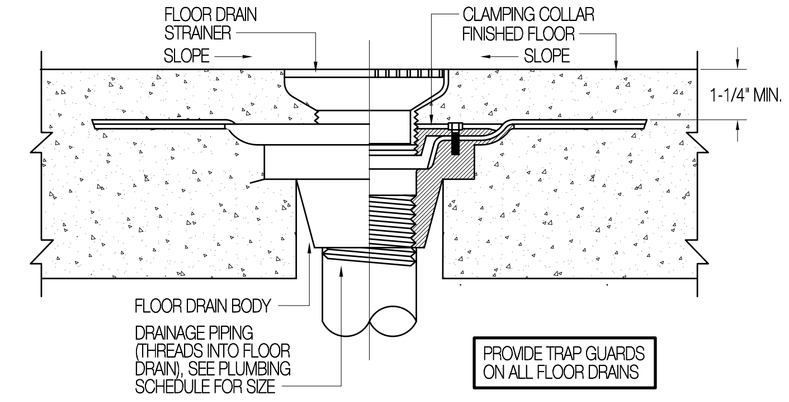

## 5 PRV STATION DETAIL
MP-500 SCALE: NONE



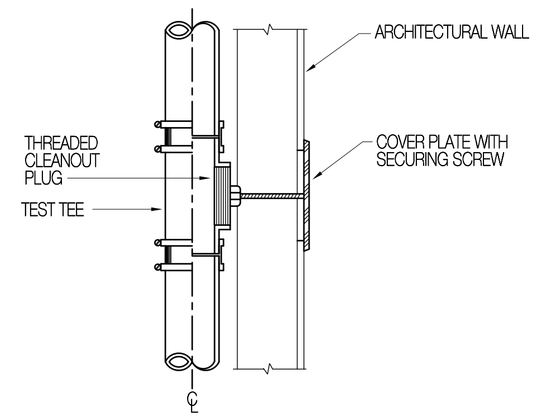

## 6 WALL MOUNTED DRAIN BOX DETAIL
MP-500 SCALE: NONE



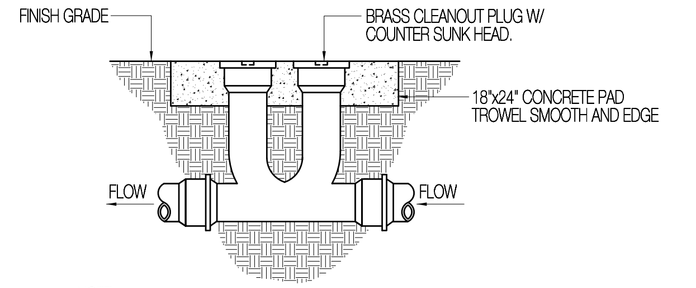

## 7 VENT THROUGH ROOF DETAIL
MP-500 SCALE: NONE



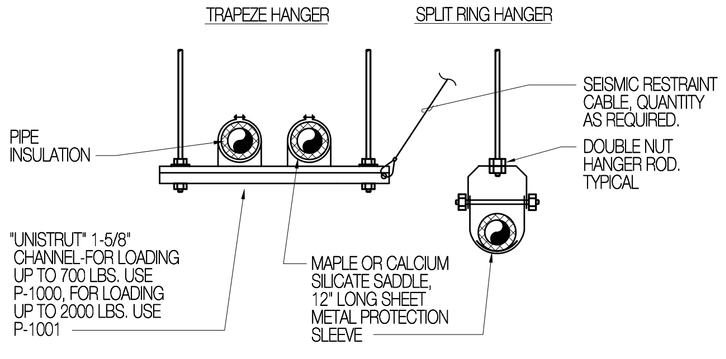

## 1 FLOOR DRAIN DETAIL
MP-500 SCALE: NONE




## 2 WALL CLEANOUT DETAIL
MP-500 SCALE: NONE




## 3 TWO WAY CLEANOUT DETAIL
MP-500 SCALE: NONE




| PIPE SIZE | MAX. SPACING | PIPE LOAD WEIGHT/FT. TOTAL | ROD SIZE |
|---|---|---|---|
| 1" AND SMALLER | 8 | 2.5/20 | 3/8" |
| 1-1/4" - 2" | 10 | 6/60 | 3/8" |

HANGERS SIZES AND SPACING ARE FOR SINGLE PIPES. HANGER ROD LOADING FOR TRAPEZE HANGERS SHALL NOT EXCEED THE TOTAL LOADING INDICATED. IF SMALLER ROD SIZE IS USED, DECREASE MAXIMUM SPACING SO THAT TOTAL LOADING IS NOT EXCEEDED.

## 4 PIPE HANGER DETAIL
MP-500 SCALE: NONE

| No. | Revision/Issue | Date |
|---|---|---|
| | | |

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Sheet Title:
**MECHANICAL AND PLUMBING DETAILS**

Project No.: 4615
Date: 01/12/2016
Scale: AS NOTED

Sheet No.:
**MP-500**

MECHANICAL SPECIFICATIONS

GENERAL CONDITIONS

DESCRIPTION OF PROJECT: The mechanical work described in these mechanical specifications is for a project located in Brigham City, Utah. Design weather conditions are: 91° db, 61° wb, and winter -3°F. Altitude readings, unless otherwise noted, are for an elevation of 4,436 fbet above sea level. Make adjustment to manufacturer's performance data as needed.

CODES AND PERMITS, AUTHORITIES HAVING JURISDICTION:
2012 International Mechanical Code - (with Utah amendments)
2012 International Building Code – (with Utah amendments)
2012 International Plumbing Code – (with Utah amendments)
2012 International Energy Code – (with Utah amendments)
SMACNA Duct Design Standards
Locally enforced NFPA Codes
Local Fuel Utility Regulations
Local Power Utility Regulations
American Gas Association
ASTM B31.1 Piping

DEFINITION OF PLANS AND SPECIFICATIONS: The mechanical drawings at reduced scale show the general arrangement of piping, ductwork, equipment, etc., and shall be followed as closely as the actual building construction and the work of other trades will permit. The architectural and structural drawings shall be considered as part of the work insofar as these drawings furnish the Contractor with information relating to design and construction of the building. Architectural drawings shall take precedence over mechanical drawings. Request clarification and participate in resolution in the event of conflict.

A. Because of the small scale of the mechanical drawings, it is not possible to indicate all offsets, fittings and accessories which may be required. Investigate the structural and finish conditions affecting the work and arrange the work accordingly, providing such extensions, fittings, valves and accessories to meet the conditions as may be required. Some small scale work is not shown such as control conduit and piping, incidental piping, specialties. Provide as directed by note or specification.
B. Examine the actual construction site prior to bidding and obtain an understanding of the conditions under which the work will be performed. No allowances will be made for failure to make such examination.
C. During construction, verify the dimensions governing the mechanical work at the building. No extra compensation shall be claimed or allowed because of differences between actual dimensions and those indicated on the drawings. Examine adjoining work on which mechanical work is dependent for perfect efficiency, and report any work of other trades which must be corrected. No waiver of responsibility for defective work shall be claimed nor allowed due to failure to report unfavorable conditions affecting the mechanical work.

ALTERNATIVE CONSTRUCTION/SUBSTITUTION: The contract documents outline a way in which the Owner may be delivered a functional and reliable facility. Drawings and specifications describe reasonable engineering practice for the Contractor to follow.

A. Coordination between trades may result in periodic needs to adjust the installation from that indicated, but in no case shall the intended function be compromised.
B. The Contractor may perceive some work methods which differ from those specified which could save time and effort. These may be presented to the Architect with a breakdown of possible cost savings for review. Implement only with authorization.
C. Materials substitutions will generally be covered in a review process prior to bidding. After bidding, substitutions shall be proposed only on the basis of definitive cost accounting and implemented only with authorization.

QUALITY OF MATERIALS AND EQUIPMENT:

A. All equipment and materials shall be new, and shall be the standard products of manufacturers regularly engaged in the production of plumbing, heating, ventilating and air conditioning equipment, and shall be the manufacturer's latest design. Specific equipment shown in schedules on drawings and specified herein is to be the basis for the Contractor's bid. Provisions for substitute equipment are outlined in the General Conditions. All materials shall be produced by manufacturing plants located in the United States of America.
B. Furnish and install all major items of equipment specified in the equipment schedules on the drawings complete with all accessories normally supplied with catalog items listed, and all other accessories necessary for a complete and satisfactory installation.

MANUFACTURER'S DIRECTIONS: Install all equipment in strict accordance with directions and recommendations furnished by the manufacturer. Where such directions are in conflict with the plans and specifications, report such conflicts to the Architect who shall direct adjustments as deemed necessary and desirable.

VALVES:

DOMESTIC COLD WATER, DOMESTIC HOT WATER:

A. Ball Valves: Copper piping, 2-1/2" and Smaller: 475 psig WOG @ 250°F, bronze construction, soldered ends for 3/4" and smaller, threaded ends for 1" and larger, glass Reinforced PolyTetraFlouroEthylene (RPTFE) seat providing bubble tight leakage performance at 100 psig air pressure under water, full port stainless steel ball. Operate with flow in either direction. Suitable for throttling and tight shut-off. Lever or tee handle as required.
   1. Manufacturers & Models: Provide ball valves from one of the manufacturers and model numbers listed below.
      (1) Apollo 77-140
      (2) Watts FBV-SS (up to 2")
      (3) Nibco T-580-70-66 (up to 1")
      (4) Crane/Stockham 285-BR-R-66

INSULATION:

WATER PIPING (domestic cold & hot water, 1" thickness required.)

A. Preformed Fiberglass Piping Insulation: ASTM C 547. (Class 1 for use to 450°F (230°C); Class 2 for use to 650°F (345°C); Class 3 for use to 1200°F (650°C).

REFRIGERATION PIPING (1-1/2" thickness required on all refrigeration suction piping)

A. Flexible, Unicellular Pipe Insulation: Closed-cell elastomeric, preformed, with heat fusion or contact cement joining system. Insulation may be compressed but not stretched. By Armaflex II or Rubatex.
   1. All insulation exposed to sunlight or installed outdoors shall be protected with two coats of Armstrong Wb Armaflex Finish.

DOMESTIC WATER PIPING:

A. Domestic Water Pipe:
   1. Pipe Sizes 4" and Smaller: Copper tubing. Conform to ASTM B88, Type L, hard temper, copper tube; ASME B16.22 streamlined pattern wrought-copper fittings, with soldered joints using 95-5 tin antimony solder or non-lead bearing solders such as "Silvabrite."

WASTE, DRAIN AND VENT PIPING:

A. Sanitary Soil Drain, Waste and Vent Piping:
   1. Piping and Fittings: Schedule 40 PVC pipe and fittings conforming to the requirements of ASTM D 2665. Pipe and fittings shall be produced domestically as supplied by Spears, or Charlotte Pipe and Fittings.

NATURAL GAS PIPING:

A. Building Distribution Piping:
   1. Pipe Size 2" and Smaller: Black steel pipe; Schedule 40; malleable-iron threaded fittings (exposed), welded fittings and joints (concealed).
B. Gas Cocks:
   1. Gas Cocks 2" and Smaller: 150 psi non-shock WOG, bronze straightway cock, flat or square head, threaded ends.
   2. Manufacturer: Subject to compliance with requirements, provide gas cocks of one of the following:
      a. DeZurik Corp.
      b. Jenkins Bros.
      c. Lukenheimer Co.
      d. NIBCO, Inc.
      e. Powell (The Wm.) Co.
      f. Rockwell International; Flow Control Div.
      g. Stockham Valves and Fittings.
      h. Walworth Co.

**EQUIPMENT AND PLUMBING FIXTURES: Per manufacturer and model numbers indicated on mechanical and plumbing schedules. All alternates shall be presented at time of submittal review, utilize alternates only as authorized.**

PIPING MATERIALS: Piping materials shall be as follows unless otherwise indicated on the applicable contract drawing:

A. Pipe: "ACR" Type L, hard drawing, degreased, sealed at mill copper tubing, ASTM B88-62, cleaned and sealed at the mill. Pre-charged refrigerant lines shall not be used.
B. Fittings: Long radius, wrought copper type equal to Mueller Streamline, ASME B16.22.1963.

VALVES, SPECIALTIES, ETC:

A. Filter-Dryer: On lines smaller than 3/4" O.D. filter-dryer shall be a sealed type using male flare fittings. Size shall be full line size. Filter-dryer shall be Sporlan, Mueller or Alco.
B. Sight Glass: Shall be a combination moisture and liquid indicator with protection cap. Sight glass shall be Alco, Mueller, Sporlan or Henry. Size shall be full line size.
C. Flexible Connection: Corrugated bronze hose with single layer of stainless steel exterior braiding, minimum 9 inches long with copper tube ends; for system working pressure.

REFRIGERANT AND LUBRICATING OIL: The Contractor furnish and install all of the refrigerant required to develop the system to its full rating, and in addition to the initial charge, he shall be required to provide, without cost to the Owner, all required refrigerant for the proper operation of the refrigeration apparatus during the first year's operation. The contractor shall be required to provide the initial charge of lubricating oil for all refrigeration apparatus and related equipment. Loss of refrigerant and oil during the first year of operation shall be made good at the contractor's expense.

RADIANT TUBE HEATER

A. GENERAL
   1. Radiant Tube Heaters: Provide radiant tube heaters complete with polished aluminum reflector, 16 ga. aluminized steel emitter tube, 16 ga. aluminized steel combustion chamber with sight glass, stainless steel main burner, corrosion resistant steel chassis, continuous try ignition system with spark ignition and flame sensing rod, 24 vac control transformer. Unit shall bear the label of the American Gas Association and be adjusted for operation at job site elevation.
   2. MANUFACTURERS:
      a. Reverberay
      b. Superior
      c. Co-Ray Vac

CEILING EXHAUST FANS:

A. Ceiling mounted fans shall have acoustically insulated housings and shall have a maximum sound level rating of 4.6 sones. Fans shall bear the AMCA seal and the UL label. Integral backdraft damper shall be totally chatterproof with no metal to metal contact. Fans shall have true centrifugal wheels. Entire fan, motor and wheel assembly shall be easily removable without disturbing the housing. Furnish unit with appropriate ceiling grille having a minimum 85% free open area. Motor speed shall not exceed 1050 rpm. All motors shall be suitably grounded and mounted on rubber in shear vibration isolators. Hang fan from structure on metal bands. The fan shall turn on as noted.
B. Manufacturer:
   1. Broan
   2. Cook.
   3. Greenheck.

DUCTWORK - GENERAL:

A. Standards: All duct fabrications shall comply with standards and techniques detailed by SMACNA "Duct Construction Manuals" for the appropriate pressure class, with the ASHRAE Handbook, 1988 edition, Chapter 1, Duct Construction, and with the contract drawing details.
B. Sheet Metal: Except as otherwise indicated, fabricate ductwork from galvanized sheet steel complying with ASTM A 527, lockforming quality, with G 90 zinc coating in accordance with ASTM A 525; mill phosphatized for exposed locations.

FITTINGS AND FABRICATION:

A. Fittings: Fabricate duct fittings to match adjoining ducts, and to comply with duct requirements as applicable to fittings. Fabricate elbows utilizing inside and outside radiuses with a center-line radius equal to associated duct width; or where fully radiused elbows are not possible, fabricate elbows with an inside square and outside radius and include turning vanes in the first 1/3 of elbow. Maintain duct width throughout turn on inside square and outside radiused elbows. Limit angular tapers to 30° for contracting tapers and 20° for expanding tapers.
B. Fabricate ductwork with accessories installed during fabrication to the greatest extent possible.
C. Fabricate ductwork with duct liner in each section of duct where indicated. Laminate liner to internal surfaces of duct in accordance with instructions by manufacturers of lining and adhesive, and fasten with weld type fasteners.
D. Offset, transition, adapt ductwork to structural obstacles and work of other trades in a coordinated effort. Layout work to avoid conflict with piping, etc. With review of conditions, teardrop around conflicting piping, lights, etc., all at no added cost to the owner.

LOW PRESSURE ROUND DUCTWORK:

A. Round type ductwork for use on low velocity supply systems (1200 fpm maximum), low pressure (0.75" maximum duct pressure), shall be fabricated on 26 gauge galvanized steel sheets with snap-lock longitudinal seams and crimped and beaded joints.
B. ll end joints shall have at least three screw fasteners and joints shall be sealed airtight with Hardcast TA tape or water based duct sealer. Snap lock longitudinal seams shall be seal with water based duct sealer NO EXCEPTIONS. Elbows and fittings shall provide smooth air flow patterns and have a neat appearance.

LOW PRESSURE RECTANGULAR DUCTWORK:

A. Rectangular ductwork for use on supply systems up to 2" maximum duct static pressure and 2000 fpm maximum duct velocity shall be constructed of galvanized steel using construction for nominal 3" SMACNA rated systems. Seal all transverse and longitudinal joints with water based duct sealer NO EXCEPTIONS.
B. Use radiused elbows, or square inside radiused outside elbows with single thickness turning vanes in the first 1/3 where space restrictions prohibit fully radiused elbows. Use 45° high efficiency tapping takeoffs with separate downstream balance dampers.
C. Duct dimensions are inside clear. Increase for acoustical lining.

MISCELLANEOUS DUCTWORK MATERIALS:

A. General: Provide miscellaneous materials and products of types and sizes indicated and, where not otherwise indicated, provide type and size required to comply with ductwork system requirements including proper connection of ductwork and equipment.
B. Runout Fittings: Runout fittings shall be used to make round to rectangular duct connections. Use 45° time and a half square to round fittings. Provide with locking quadrant dampers where balance is involved. Provide with insulation guard where insulated duct is involved.
C. Duct Sealing Compound: Duct sealing compound shall be 3M brand number EC-750 or Duro-Dyne S-2. This material shall be used in making up duct joints or in water proofing, caulking plenums, etc.
D. Acoustical Lining: Acoustical lining in ducts shall be 1" thick, 1-1/2 pound density, coated, flexible glass fiber type, set in adhesive and impaled on weld studs spaced not more than 12" on centers and secured with lock washers. Airstream surface faced with black coated matte. Acoustical lining shall completely line the ducts. Lining shall have a fire and smoke hazard rating not exceeding 20-50-50. Owens-Corning, Johns-Manville, Certainteed.
   1. All joints, edges and/or surface breaks in the coating of the acoustical lining shall be pointed up to a smooth surface with adhesive.
E. Duct Liner Adhesive: Comply with ASTM C 916 "Specifications for Adhesives and Duct Thermal Insultion".
F. Duct Liner Fasteners: Comply with SMACNA HVAC Duct Construction Standards, Article S2.11.
G. Ductwork Support Materials: Except as otherwise indicated, provide hot-dipped galvanized steel fasteners, anchors, rods, straps, trim and angles for support of ductwork.

LOUVERS:

A. Extent of Work: At air openings in the outside wall where indicated on drawings, install AMCA rated drainable stationary extruded aluminum 4" or 6" deep weather louvers.
B. Material: Blades shall be on 3-1/2" centers with integral downspouts to drain the water from the louver blades. Stationary louvers shall pass 1000 fpm free area velocity with less than 0.2" static pressure drop and shall carry less than .03 ounces of water per square foot when tested in accordance with AMCA Standard 500. Install screens on interior face and louver. Louvers shall be equal to American Warming and Ventilating LE-31, Louvers and Dampers, Krueger, Ruskin. Coordinate with the Architectural details for type of flange and structural details for actual wall opening sizes. Finish with white baked enamel, shade approved by Architect.
C. Extent of Work: At air openings in the outside wall where indicated on drawings, install AMCA rated drainable stationary extruded aluminum 4" or 6" deep weather louvers.

MECHANICAL CONTROLS:

CONDUCTORS:

A. Color coded and No. 16 and No. 12 AWG Type TWN, TFN, or THHN, stranded.
B. Thermostat Cable - 12 conductor or 8 conductor, 18AWG solid copper wire, insulated with high density polyethylene. Conductors parallel enclosed in brown PVC jacket (No 22 AWG cable allowed).

THERMOSTAT:

A. Mechanical style with manual changeover.
B. Approved Manufacturer & Model -
   1. Honeywell T87.

TRANSFORMER:

A. 120/24 volt, 38VA Honeywell AT72D1188, cover mount
B. 120/24 volt, 50VA Honeywell AT87A1106, foot mount

AUXILIARY RELAYS:

A. Light Duty - as required.
B. Heavy Duty - Square D, Class 8501, Type X.

| No. | Revision/Issue | Date |
|---|---|---|
| | | |

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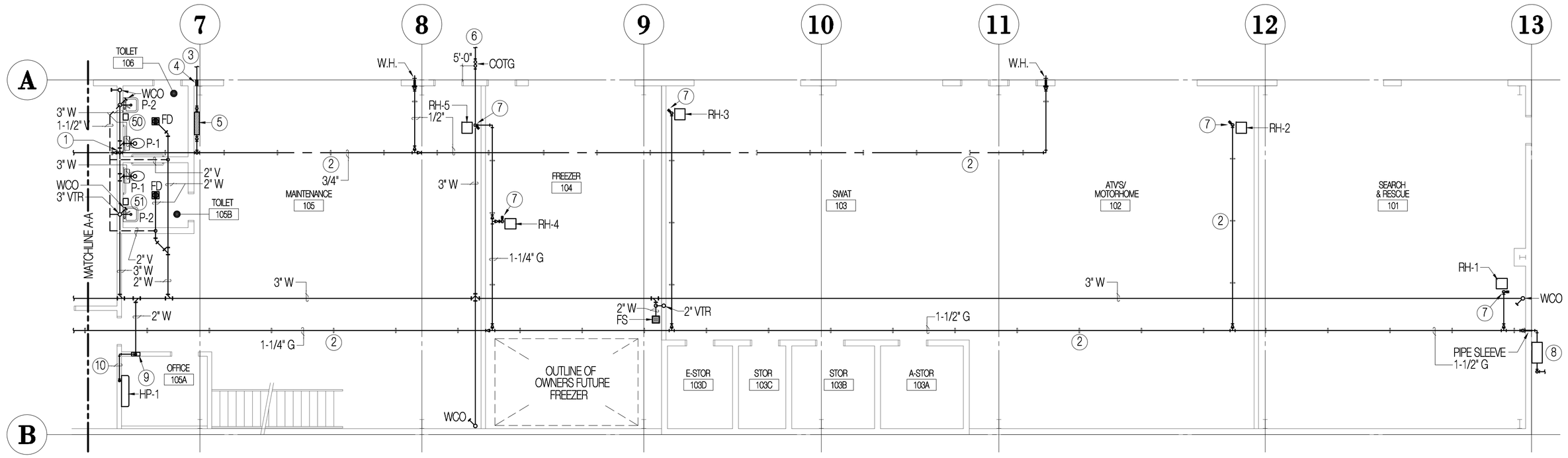
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Sheet Title:
**MECHANICAL & PLUMBING SPECIFICATIONS**

| Project No.: | Date: |
|---|---|
| 4615 | 01/12/2016 |
| | Scale: AS NOTED |

Sheet No.:
**MS-100**



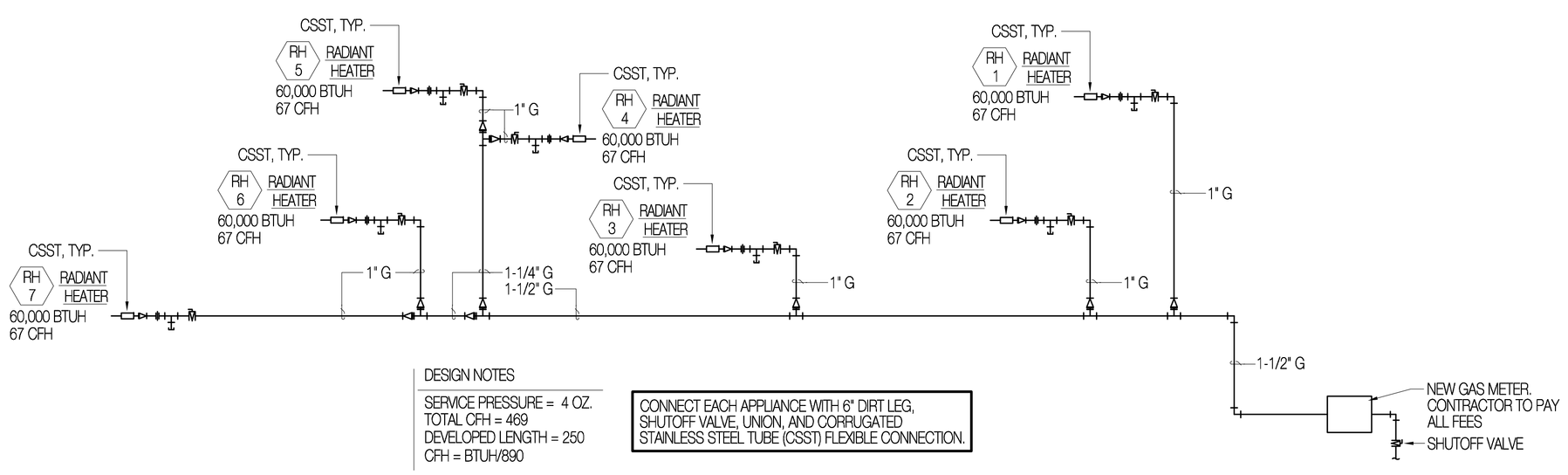

## HVAC FLOOR PLAN

SCALE 1/8" =1'-0"




## HVAC FLOOR PLAN CONT.

SCALE 1/8" =1'-0"



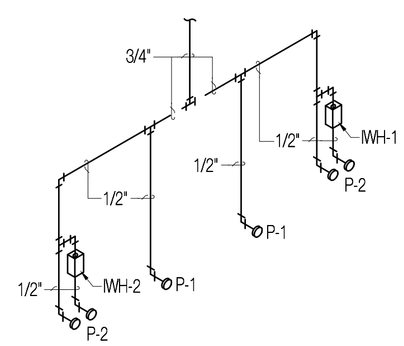

DESIGN NOTES

SERVICE PRESSURE = 4 OZ.
TOTAL CFH = 469
DEVELOPED LENGTH = 250
CFH = BTUH/890

CONNECT EACH APPLIANCE WITH 6" DIRT LEG, SHUTOFF VALVE, UNION, AND CORRUGATED STAINLESS STEEL TUBE (CSST) FLEXIBLE CONNECTION.

## GAS FLOW DIAGRAM

SCALE: NONE




## TOILER ROOM WATER ISOMETRIC

SCALE: NONE

## DRAWING NOTES

1. 3/4" DOMESTIC COLD WATER PIPING DROP TO FIXTURES. SEE WATER PIPING ISOMETRIC THIS SHEET FOR ADDITIONAL INFORMATION.
2. PIPE SUPPORT, SEE DETAIL 4/MP-500.
3. 3/4" DOMESTIC COLD WATER PIPING TO MAIN, SEE SITE UTILITY PLAN FOR CONTINUATION.
4. 3" SCHEDULE 40 STEEL SLEEVE IN FOUNDATION WALL, CENTER DCW CONDUIT IN SLEEVE UTILIZING PIPING INSULATION. EXTEND INSULATION PAST FOUNDATION WALL 6" IN BOTH DIRECTIONS.
5. DOMESTIC WATER ENTRY AND PRV STATION, SEE DETAIL 5/MP-500.
6. 3" WASTE PIPING TO MAIN, SEE SITE UTILITY PLAN FOR CONTINUATION.
7. 1" 4 OZ. GAS DROP TO RADIANT HEATER. TERMINATE GAS PIPING WITH DIRT LEG, SHUTOFF VALVE AND FLEXIBLE CONNECTION PER GAS FLOW DIAGRAM THIS SHEET.
8. NEW 4 OZ. METER SET BY GAS COMPANY, CONTRACTOR TO PAY ALL FEES.
9. PROVIDE AND INSTALL NEW WALL MOUNTED DRAIN BOX WITH COVER, SEE DETAIL 6/MP-500.
10. 3/4" PVC CONDENSATE DRAIN PIPING FROM HEAT PUMP TO DRAIN. SUPPORT PIPING IN WALL CAVITY AND SLOPE A MINIMUM 1/8" PER FOOT.

## EQUIPMENT NOTES

50 WH 1 — INSTANTANEOUS WATER HEATER

51 WH 2 — INSTANTANEOUS WATER HEATER

| No. | Revision/Issue | Date |
|---|---|---|
| | | |

Seal:

LICENSED PROFESSIONAL ENGINEER
No. 4947211
NORMAN CUNNING
01/01/16
STATE OF UTAH

# New Storage Facility
for
# Box Elder County Sheriff's Dept.
Brigham City, UT

Project Title:


Gary Hunt, Architect PC
Architecture / Planning
1594 W. Park Circle, Suite 101 - Ogden, Utah 84404
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Sheet Title:

**PLUMBING PLANS, AND DIAGRAMS**

| Project No.: | Date: |
|---|---|
| 4615 | 01/12/2016 |
| | Scale: AS NOTED |

Sheet No.:

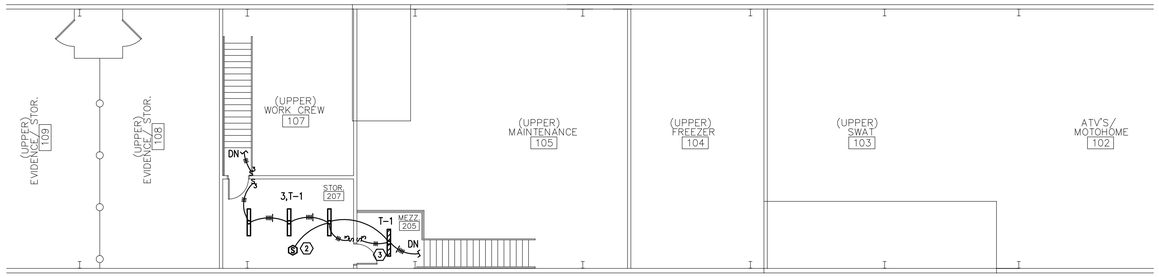
**P-100**

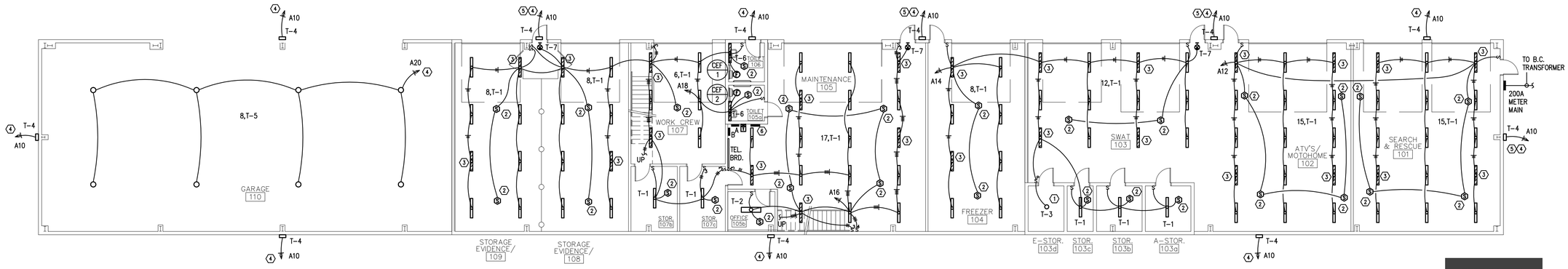
## LIGHT FIXTURE SCHEDULE

| TYPE | MANUFACTURER/CATALOG NO. | MOUNTING | LAMPS |
|---|---|---|---|
| T-1 | LITHONIA C232 MVOLT GEB10 WIRE GUARD | SURFACE OR CHAIN SUSPEND | FO32/841 |
| T-2 | LITHONIA LB232 MVOLT GEB10 | SURFACE | FO32/841 |
| T-3 | EXPLOSION PROOF FIXTURE, CLASS I DIV I $1000 ALLOWANCE | SURFACE | – |
| T-4 | LITHONIA WST LED 1 10A700/40K SR3 MVOLT CBA 24W | WALL, HEIGHT PER ARCHITECT | LED INCLUDED |
| T-5 | UNDERY CANOPY, $500 ALLOWANCE | SURFACE | LED INCLUDED |
| T-6 | LITHONIA WP 132 MVOLT GEB10IS CBA | WALL ABOVE MIRROR | FO32/841 |
| T-7 | ISOLITE DTH S AA UN | AS SHOWN | LED INCLUDED |

## KEYED NOTES ⟨#⟩

1. ELECTRICAL INSTALLATIONS IN THIS ROOM TO BE EXPLOSION PROOF CLASS 1 DIVISION 1 OR AS APPROVED BY BOX ELDER AHJ.
2. WATTSTOPPER DT300 SENSOR(S) AND BZ50 POWER PACK(S) AS REQUIRED TO OPERATE LIGHTS SHOWN.
3. INSTALL EMERGENCY BATTERY PACK IN THIS FIXTURE TO OPERATE ONE LAMP AT 1400 LUMENS. PULL EXTRA HOT AS REQUIRED. TYPICAL ALL CROSS HATCHED FIXTURES WHETHER MARKED WITH KEYED NOTE OR NOT.
4. RUN OUTDOOR LIGHT CIRCUIT THROUGH SQUARE D CLASS 8903 TYPE LG40 NEMA 1 CONTACTOR ADJACENT TO PANEL. CONTROL THE CONTACTOR BY PHOTOCELL "ON" AND TIME CLOCK "OFF". USE TORK DGLC100A-NC TIME CLOCK ADJACENT TO CONTACTOR. LOCATE TORK EPC-A PHOTOCELL OUTSIDE OF BUILDING AWAY FROM ANY LIGHT SOURCE OR DIRECT SUNLIGHT. INSTALL MANUAL OVERRIDE TOGGLE 6HR TIME SWITCH ADJACENT TO CONTACTOR. TIME CLOCK MUST RETAIN TIME AND PROGRAM SETTINGS ON LOSS OF POWER FOR AT LEAST 10 HOURS.
5. RUN THIS PORTION OF OUTDOOR CIRCUIT THROUGH OUTDOOR LIGHT CONTROLS AND THEN THROUGH LITHONIA EAC ISSM 375 120/277 SM 375 WATT INVERTER. INVERTER DIMENSIONS, 23.25" LONG, 8.25" DEEP, 18" TALL, 114 LBS.
6. APPROXIMATE INVERTER LOCATION, SEE KEYED NOTE 5.





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| No. | Revision/Issue | Date |
|---|---|---|
| | | |

Seal:

LICENSED PROFESSIONAL ENGINEER
No. 176785
DAVID W. BEAZER
3.23.16
STATE OF UTAH

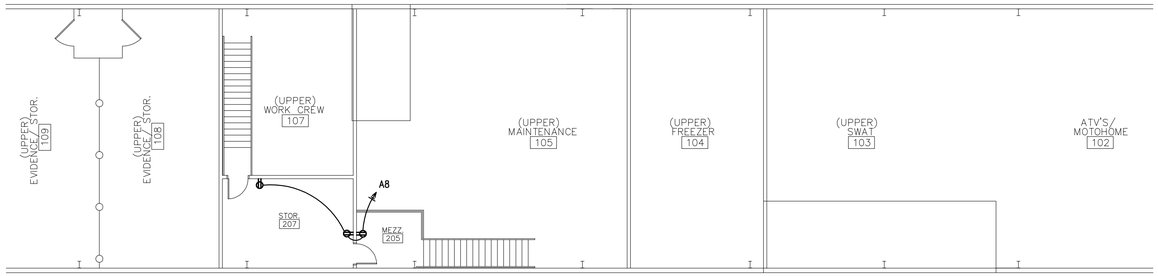
Project Title:
# New Storage Facility for Box Elder County Sheriff's Dept.
Brigham City, UT


Gary Hunt, Architect PC
Architecture / Planning
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Sheet Title:
## Lighting Plan

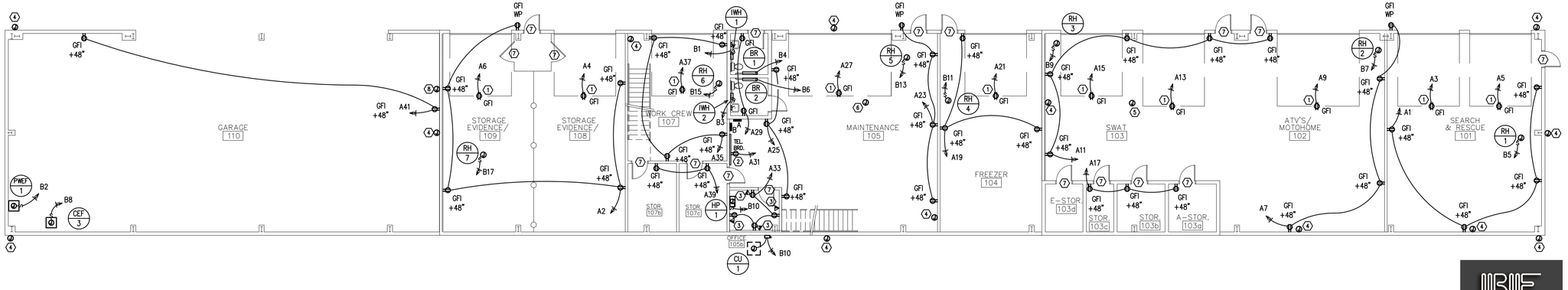
| Project No: | Date: |
|---|---|
| #2015-04 | 7 Dec 15 |
| | Scale: 3/32" = 1'-0" |

Sheet No:
# E1.1




## KEYED NOTES (#)

1. OUTLET FOR GARAGE DOOR OPENER POWER AS REQUIRED.
2. TELEPHONE BOARD.
3. TELEPHONE DATA OUTLET. 4SD J-BOX WITH SINGLE GANG RING AND 3/4" CONDUIT AND TWO CAT 6 CABLES TO TELEPHONE BOARD. INSTALL MODULAR JACKS AND FACE PLATE FOR DATA OUTLET AND PHONE OUTLET. COORDINATE SYSTEM REQUIREMENTS WITH OWNER.
4. SINGLE GANG CAMERA J-BOX AT HEIGHT PER OWNER. STUB 3/4" CONDUIT TO TELEPHONE BOARD.
5. SINGLE GANG CAMERA J-BOX AT CEILING. STUB 3/4" CONDUIT TO TELEPHONE BOARD.
6. ACCESS POINT. SINGLE GANG J-BOX WITH 3/4" CONDUIT TO TELEPHONE BOARD.
7. DOOR ACCESS CONTROL. STUB 3/4" CONDUIT FROM DOOR/DOOR FRAME AS REQUIRED TO TELEPHONE BOARD.
8. ROOF ANTENNA LOCATION. STUB 5FT. OF 10FT. STICK OF GRC ABOVE ROOF AND INSTALL MAST. BOTTOM 5FT. FOR SUPPORT UNDER ROOF. INSTALL J-BOX ON BOTTOM END OF 2" GRC. RUN 3/4" CONDUIT FROM J-BOX TO TELEPHONE BOARD WITH RG6 CABLE FROM PHONE BOARD TO WEATHERHEAD. LEAVE 10FT. PIGTAIL OF RG6 AT BOTH ENDS.




| No. | Revision/Issue | Date |
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Seal:

LICENSED PROFESSIONAL ENGINEER
No. 176785
DAVID M. BEAZER
3.23.16
STATE OF UTAH

# New Storage Facility for Box Elder County Sheriff's Dept.

Brigham City, UT

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Sheet Title:
Power Plan

| Project No: | Date: |
|---|---|
| #2015-04 | 7 Dec 15 |
| | Scale: 3/32" = 1'-0" |

Sheet No:
E1.2

## SERVICE ENTRANCE & FEEDER CONDUIT–CONDUCTOR SCHEDULE

| TYPE | CONDUCTOR QUAN. | CONDUCTOR SIZE | COND SIZE | AMP | INSUL–ATION |
|---|---|---|---|---|---|
| 20 | 2 | 10 | 3/4 | 30 | THHN, THWN, XHHW |
| 30 | 3 | ↓ | ↓ | ↓ | ↓ |
| 40 | 4 | ↓ | ↓ | ↓ | ↓ |
| 28 | 2 | 8 | ↓ | 40 | ↓ |
| 38 | 3 | ↓ | 1 | ↓ | ↓ |
| 48 | 4 | ↓ | ↓ | ↓ | ↓ |
| 26 | 2 | 6 | ↓ | 55 | ↓ |
| 36 | 3 | ↓ | ↓ | ↓ | ↓ |
| 46 | 4 | ↓ | 1 1/4 | ↓ | ↓ |
| 34 | 3 | 4 | ↓ | 70 | ↓ |
| 44 | 4 | ↓ | ↓ | ↓ | ↓ |
| 33 | 3 | 3 | ↓ | 85 | ↓ |
| 43 | 4 | ↓ | ↓ | ↓ | ↓ |
| 311 | 3 | 1 | 1 1/2 | 110 | ↓ |
| 411 | 4 | ↓ | 2 | ↓ | ↓ |
| 310 | 3 | 1/0 | ↓ | 150 | ↓ |
| 410 | 4 | ↓ | ↓ | ↓ | ↓ |
| 320 | 3 | 2/0 | ↓ | 175 | ↓ |
| 420 | 4 | ↓ | ↓ | ↓ | ↓ |
| 330 | 3 | 3/0 | ↓ | 200 | ↓ |
| 430 | 4 | ↓ | 2 1/2 | ↓ | ↓ |
| 340 | 3 | 4/0 | ↓ | 230 | ↓ |
| 440 | 4 | ↓ | ↓ | ↓ | ↓ |
| 325 | 3 | 250 | ↓ | 255 | ↓ |
| 425 | 4 | ↓ | 3 | ↓ | ↓ |
| 335 | 3 | 350 | ↓ | 310 | ↓ |
| 435 | 4 | ↓ | ↓ | ↓ | ↓ |
| 350 | 3 | 500 | 3 1/2 | 380 | ↓ |
| 450 | 4 | ↓ | ↓ | ↓ | ↓ |

PROVIDE GROUND IN ALL CONDUITS PER N.E.C. SIZE ACCORDING TO SERVICE OR EQUIPMENT GROUNDING TABLES, DEPENDING ON USE. EACH PARALLEL CONDUIT TO INCLUDED FULL SIZE GROUND.

PANEL A [X] NEW [ ] EXISTING TYPE NQOD 3 ø 4 WIRE 120/208 VOLTS — LOCATION — MOUNTING [ ] flush [X] surface
[ ] Bolt on breakers [ ] Isolated ground bus — REMARKS: FEED THROUGH LUGS TO PANEL B — 200 amp. main [X] lugs [ ] breaker

| No. | BRKR A | BRKR P | CIRCUIT DESCRIPTION | L | O | M | Wire | CIRC. LOAD | PHASE A | PHASE B | PHASE C | CIRC. LOAD | Wire | L | O | M | CIRCUIT DESCRIPTION | BRKR A | BRKR P | No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 20 | 1 | SEARCH AND RESCUE | | 4 | | 8 | 800 | 1800 | | | 1000 | 12 | | 5 | | STORAGE/EVID. | 20 | 1 | 2 |
| 3 | | | SEARCH AND RESCUE DOOR | | 1 | | 10 | 1000 | | 2000 | | 1000 | | | 1 | | STORAGE/EVID. DOOR | | | 4 |
| 5 | | | SEARCH AND RESCUE DOOR | | 1 | | 10 | 1000 | | | 2000 | 1000 | | | 1 | | STORAGE/EVID. DOOR | | | 6 |
| 7 | | | ATV | | 4 | | 8 | 800 | 1400 | | | 600 | | | 3 | | MEZZANINE | | | 8 |
| 9 | | | ATV DOOR | | 1 | | 10 | 1000 | | 1264 | | 264 | ↓ | 11 | | | OUTSIDE LIGHTS | | | 10 |
| 11 | | | SWAT | | 5 | | 10 | 1000 | | | 2500 | 1500 | 10 | 30 | | | S&R/ATV LIGHTS | | | 12 |
| 13 | | | SWAT DOOR | | 1 | | 12 | 1000 | 2200 | | | 1200 | 12 | 24 | | | SWAT/STOR/FRZR LIGHTS | | | 14 |
| 15 | | | SWAT DOOR | | 1 | | 12 | 1000 | | 2100 | | 1100 | | 22 | | | MAINT/MEZZ LIGHTS | | | 16 |
| 17 | | | SWAT STORAGE | | 3 | | 10 | 600 | | | 2100 | 1500 | | 26 | | 2 | WORK/STOR/EVID LIGHTS | | | 18 |
| 19 | | | FREEZER | | 3 | | 12 | 600 | 1400 | | | 800 | ↓ | 8 | | | GARAGE LIGHTS | | | 20 |
| 21 | | | FREEZER DOOR | | 1 | | | 1000 | | 1000 | | | | | | | SPARE | | | 22 |
| 23 | | | MAINTENANCE | | 4 | | | 800 | | | 800 | | | | | | | | | 24 |
| 25 | | | MAINTENANCE | | 3 | | | 600 | 600 | | | | | | | | | | | 26 |
| 27 | | | MAINTENANCE DOOR | | 1 | | | 1000 | | 1000 | | | | | | | | | | 28 |
| 29 | | | TOILETS | | 2 | | | 400 | | | 400 | | | | | | | | | 30 |
| 31 | | | TELEPHONE BOARD | | 1 | | | 200 | 200 | | | | | | | | | | | 32 |
| 33 | | | OFFICE | | 3 | | | 600 | | 600 | | | | | | | | | | 34 |
| 35 | | | WORK CREW | | 4 | | | 800 | | | 800 | | | | | | | | | 36 |
| 37 | | | WORK CREW DOOR | | 1 | | | 1000 | 1000 | | | | | | | | | | | 38 |
| 39 | | | STORAGE | | 2 | | ↓ | 400 | | 400 | | | | | | | | | | 40 |
| 41 | ↓ | ↓ | GARAGE | | 2 | | 8 | 400 | | | 400 | | | | | | | ↓ | ↓ | 42 |

TOTALS 8600 8364 9000 — AIC 10000
FEEDER (430) — AMPS/PHASE 72 70 75 — parallel runs 1

PANEL B [X] NEW [ ] EXISTING TYPE NQOD 3 ø 4 WIRE 120/208 VOLTS — LOCATION — MOUNTING [ ] flush [X] surface
[ ] Bolt on breakers [ ] Isolated ground bus — REMARKS: — 200 amp. main [X] lugs [ ] breaker

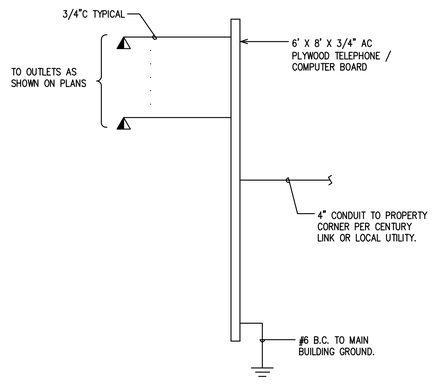
| No. | BRKR A | BRKR P | CIRCUIT DESCRIPTION | L | O | M | Wire | CIRC. LOAD | PHASE A | PHASE B | PHASE C | CIRC. LOAD | Wire | L | O | M | CIRCUIT DESCRIPTION | BRKR A | BRKR P | No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 20 | 1 | IWH/1 | | | 1 | 12 | 1440 | 3040 | | | 1600 | 8 | | | 1 | PWEF/1 | 20 | 1 | 2 |
| 3 | | | IWH/2 | | | 1 | | 1440 | | 1940 | | 500 | 12 | | | 1 | BR/1 | | | 4 |
| 5 | | | RH/1 | | | 1 | | 500 | | | 1000 | 500 | | | | 1 | BR/2 | | | 6 |
| 7 | | | RH/2 | | | 1 | | 500 | 587 | | | 87 | | | | 1 | CEF/3 | ↓ | ↓ | 8 |
| 9 | | | RH/3 | | | 1 | | 500 | | 2000 | | 1500 | | | | 2 | CU/1 HP/1 | 15 | 2 | 10 |
| 11 | | | RH/4 | | | 1 | | 500 | | | 2000 | 1500 | ↓ | | | | – – | – | – | 12 |
| 13 | | | RH/5 | | | 1 | | 500 | 500 | | | | | | | | SPACE | | | 14 |
| 15 | | | RH/6 | | | 1 | | 500 | | 500 | | | | | | | | | | 16 |
| 17 | ↓ | ↓ | RH/7 | | | 1 | ↓ | 500 | | | 500 | | | | | | | | | 18 |
| 19 | | | SPACE | | | | | | | | | | | | | | | | | 20 |
| 21 | | | | | | | | | | | | | | | | | | | | 22 |
| 23 | | | | | | | | | | | | | | | | | | | | 24 |
| 25 | | | | | | | | | | | | | | | | | | | | 26 |
| 27 | | | | | | | | | | | | | | | | | | | | 28 |
| 29 | | | | | | | | | | | | | | | | | | | | 30 |
| 31 | | | | | | | | | | | | | | | | | | | | 32 |
| 33 | | | | | | | | | | | | | | | | | | | | 34 |
| 35 | | | | | | | | | | | | | | | | | | | | 36 |
| 37 | | | | | | | | | | | | | | | | | | | | 38 |
| 39 | | | | | | | | | | | | | | | | | | | | 40 |
| 41 | | | | | | | | | | | | | | | | | | ↓ | ↓ | 42 |

TOTALS 4127 4440 3500 — AIC 10000
FEEDER (430) — AMPS/PHASE 34 37 29 — parallel runs 1

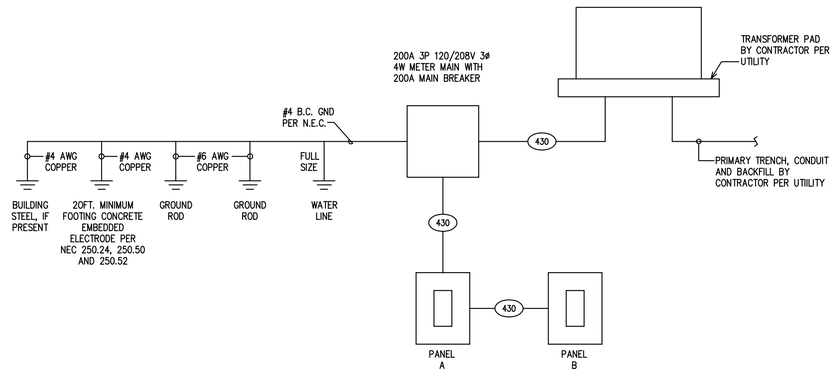
## MECHANICAL EQUIPMENT SCHEDULE

| SYM | DESCRIPTION | LOAD | VOLTS | PHASE | FIRE ALARM SHUTDOWN | CONTROL CIRCUIT BY | * STARTER BY | SAFETY DISCONNECT BY | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| IWH 1 | WATER HEATER | 1440W | 120 | 1 | NO | MECH | MECH | ELEC | |
| IWH 2 | WATER HEATER | 1440W | 120 | 1 | NO | MECH | MECH | ELEC | |
| RH 1 | RADIANT HEATER | 500W | 120 | 1 | NO | MECH | MECH | ELEC | |
| RH 2 | RADIANT HEATER | 500W | 120 | 1 | NO | MECH | MECH | ELEC | |
| RH 3 | RADIANT HEATER | 500W | 120 | 1 | NO | MECH | MECH | ELEC | |
| RH 4 | RADIANT HEATER | 500W | 120 | 1 | NO | MECH | MECH | ELEC | |
| RH 5 | RADIANT HEATER | 500W | 120 | 1 | NO | MECH | MECH | ELEC | |
| RH 6 | RADIANT HEATER | 500W | 120 | 1 | NO | MECH | MECH | ELEC | |
| RH 7 | RADIANT HEATER | 500W | 120 | 1 | NO | MECH | MECH | ELEC | |
| PWEF 1 | WALL EXHAUST FAN | 3/4HP | 120 | 1 | NO | MECH | MECH | ELEC* | *30A TOGGLE |
| BR 1 | BASEBOARD RADIATION | 500W | 120 | 1 | NO | MECH | MECH | MECH | |
| BR 2 | BASEBOARD RADIATION | 500W | 120 | 1 | NO | MECH | MECH | MECH | |
| CEF 1 | CEILING EXHAUST FAN | 87W | 120 | 1 | NO | ELEC | MECH | MECH | |
| CEF 2 | CEILING EXHAUST FAN | 87W | 120 | 1 | NO | ELEC | MECH | MECH | |
| CEF 3 | CEILING EXHAUST FAN | 87W | 120 | 1 | NO | ELEC | MECH | ELEC | |
| HP 1 | HEAT PUMP | 1A | 208 | 1 | NO | MECH | MECH | ELEC* | *30A 2P TOGGLE |
| CU 1 | CONDENSING UNIT | 14.5A | 208 | 1 | NO | MECH | MECH | ELEC | 15A MOCP, VERIFY |

FINAL BREAKER OR FUSE SIZE PER MANUFACTURER.
* ELECTRICAL CONTRACTOR VERIFY SINGLE SPEED OR TWO SPEED STARTERS WITH MECHANICAL DRAWINGS.




TELEPHONE RISER




ONE LINE DIAGRAM

| No. | Revision/Issue | Date |
|---|---|---|
| | | |

Seal:
LICENSED PROFESSIONAL ENGINEER
No. 176785
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STATE OF UTAH

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Sheet Title: Diagrams and Schedules
Project No: #2015-04
Date: 7 Dec 15
Scale: 3/32" = 1'-0"
Sheet No: E1.3

CD. All equipment mounted against a wall shall be anchored to the wall, by approved methods, at not more than 24" intervals with at least 4 anchors per piece of equipment.
CE. Wireways, Bus Ducts and Cable Trays: Provide vertical and lateral support systems for all wireways, busway, and cable trays which are supported from overhead structure.

END OF SECTION 26 0136

SECTION 26 0140 – WIRING DEVICES
PART 1 – GENERAL
1.1 RELATED DOCUMENTS
CF. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division–1 Specification sections, apply to work of this section.
CG. This section is a Division–26 Basic Materials and Methods section, and is part of each Division–26 section making reference to wiring devices specified herein.
1.2 DESCRIPTION OF WORK
CH. The extent of wiring device work is indicated by drawings and schedules. Wiring devices are defined as single discrete units of electrical distribution systems which are intended to carry but not utilize electric energy.
CI. Types of electrical wiring devices in this section include the following:
27. Receptacles
28. Switches
29. Cover plates
1.3 QUALITY ASSURANCE
CK. Comply with NEC and NEMA standards as applicable to construction and installation of electrical wiring devices. Provide electrical wiring devices which have been UL listed and labeled.
1.4 SUBMITTALS
CL. Product Data: Submit manufacturer's data on electrical wiring devices.
PART 2 – PRODUCTS
2.1 FABRICATED WIRING DEVICES
CM. General: Provide factory–fabricated wiring devices, in types, and electrical ratings for applications indicated and complying with NEMA Stds Pub No. WD 1.
CN. Provide wiring devices (of proper voltage rating) as follows:
34. Switches: (Provide Decora equid if required by Owner)

| Mfgr. | T-pole |
|---|---|
| Hubbell | HBL1221 |
| P & S | |
| Leviton | 1221 |
| Cooper | 1221 |

CO. Other device manufacturers will be considered only if one convenience outlet sample is submitted to the engineer to verify equality with those specified prior to issuance of the final addendum.
CP. Provide devices in colors to match wall surfaces, brown, ivory, white, or gray per architects direction. Provide isolated ground outlets in ivory, orange, or gray per architect's direction.
CQ. Ground–fault Interrupter: Provide where required by code, general–duty, duplex receptacle, ground–fault circuit interrupters; grounding type UL–rated Class A, Group A, 20–amperes rating, 120–volts, 60 Hz, with solid–state ground–fault sensing and signaling, with 5 milliamperes ground–fault trip level; color as selected by Architect. Provide units of one of the following:
36. Hubbell
37. Square D
2.2 WIRING DEVICE ACCESSORIES
CR. Wall Plates: Provide coverplates for wiring devices; plate color to match wiring devices to which attached. Provide nylon coverplates in all finished areas. Provide galvanized steel plates in unfinished area. Engrave all receptacle plates other than those serving 120 volt, single phase devices. State voltage and amperage characteristics. Example: "208V, 30A".
PART 3 – EXECUTION
CS. Install wiring devices as indicated, in compliance with manufacturer's written instructions, applicable requirements of NEC and NECA's "Standard of Installation" and in accordance with recognized industry practices to fulfill project requirements.
CT. Coordinate with other work, including painting, electrical box and wiring work, as necessary to interface installation of wiring devices with other work. Install devices in boxes such that front of device is flush and square with coverplate. Drawings are small scale and, unless dimensioned, indicate approximate locations only of outlets, devices, equipment, etc. Locate outlets and apparatus symmetrically on floors, walls and ceilings where not dimensioned and coordinate with other work. Verify all dimensioned items on job site. Consult architectural cabinet, millwork, and equipment shop drawings before beginning rough–in of electrical work. Adjust locations of all electrical outlets as required to accommodate work in area, and to avoid conflicts with wainscot, back splash, tackboards, and other items.
CU. Install wiring devices only in electrical boxes which are clean; free from excess building materials, dirt, and debris.
CV. Convenience outlets shall be installed flush with the wall surface and firmly mounted. Provide steel washers behind device ears where outlet boxes are recessed from wall surface.
CW. Install blank plates on all boxes without devices.
CX. Delay installation of wiring devices until wiring work is completed. Delay installation of wall plates until after painting work is completed. Provide separate neutral conductor for each circuit that serves GFI receptacles.
CY. Where dedicated equipment is connected by cord and plug, provide a single receptacle as required by code.
CZ. Protection of wall plates and receptacles: At time of substantial completion, replace those items which have been damaged, including those stained, burned and scored.
DA. Grounding: Provide electrically continuous, tight grounding connections for wiring devices, unless otherwise indicated.
DB. Testing: Prior to energizing circuitry, check wiring devices for electrical continuity and proper polarity connections. After energizing circuitry, test wiring devices to demonstrate compliance with requirements

END OF SECTION 26 0140

SECTION 26 0160 – PANELBOARDS
PART 1 – GENERAL
1.1 RELATED DOCUMENTS
A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division–1 Specification sections, apply to work of this section.
B. This section is a Division–26 Basic Materials and Methods section, and is part of each Division–26 section making reference to panelboards specified herein.
1.2 DESCRIPTION OF WORK
C. Extent of panelboard and enclosure work, is indicated by drawings and schedules.
D. Types of panelboards and enclosures in this section include lighting and appliance panelboards, and power distribution panelboards.
1.3 QUALITY ASSURANCE
E. Provide units which have been UL listed and labeled. Comply with NEC as applicable to installation of panelboards, cabinets, and cutout boxes. Comply with NEC pertaining to installation of wiring and equipment in hazardous locations. Comply with NEMA stds. Pub No. 250, "Enclosures for Electrical Equipment (1000 volt maximum)". Pub No. 1, "Instructions for Safe Installation, Operation and Maintenance of Panelboards Rated 600 Volts or Less".
1.4 SUBMITTALS
F. Product Data: Submit manufacturer data including specifications, installation instructions and general recommendations, for each type of panelboard required.
G. Shop Drawings: Submit dimensioned drawings of panelboards and enclosures showing accurately scaled layouts of enclosures and required individual panelboard devices, including but not necessarily limited to, circuit breakers, fusible switches, fuses, ground–fault circuit interrupters, and accessories. Panel dimensions shown on the drawings are one manufacturer's dimensions. Panel dimensions submitted by other manufacturers shall not exceed the panel dimensions shown on the drawings.
PART 2 – PRODUCTS
H. Acceptable Manufacturers: Subject to compliance with requirements, provide one of the following:
1. General Electric Company
2. Square D Company
3. Cutler Hammer
I. Panel sizes shown on drawings are for Square D panels. If other panels are substituted, the contractor shall verify proper clearances per N.E.C. Unless otherwise noted, main and distribution panels shall be a minimum 36" wide.
J. Prior to submittals of shop drawings the panel board manufacturers representative shall make a field visit to verify that existing panels have available space for the new breakers called for on the drawings and that the proper frame breakers will be supplied.
K. Panelboards: General: Except as otherwise indicated, provide panelboards, enclosures and ancillary components, of types, sizes, and ratings indicated. Equip with number of unit panelboard devices as required for complete installation. Fully equip "spaces" with hardware to receive breaker or switch of size indicated.
L. Power Distribution Panelboards: Provide dead–front safety type power distribution panelboards as indicated, with switching and protective devices in quantities, ratings, types and with arrangement shown. Equip with copper bus bars, neutral bus and ground bus. Provide fusible or circuit breaker branch and main devices as indicated.
M. Lighting and Appliance Panelboards: Provide dead–front safety type lighting and appliance panelboards as indicated, with switching and protective devices in quantities, ratings, types, and arrangement shown. Provide bolt–on thermal magnetic type branch breakers. Where multiple breakers are indicated provide with common trip handle. Equip with copper bus bars, neutral bus, and ground bus.
N. All breakers in the main distribution panels shall have sufficient interrupting capacity to safely interrupt the available short circuit current from the transformer bank, as noted on the drawings. Panels and breakers are to be fully rated unless otherwise noted.
O. Manufacturer: All distribution and branch panels, breakers, and associated equipment shall be of the same manufacturer.
P. Buss bracing shall be as required to handle fault current as shown on the drawings.
Q. "Space" denotes a space fully equipped to receive a breaker of the type noted.
R. Panelboard Enclosures: Provide galvanized sheet steel cabinet type enclosures, in sizes and NEMA types as indicated, code–gage minimum 16–gage thickness. Provide fronts with adjustable indicating trim clamps, and doors with flush locks and keys, all panelboard enclosures keyed alike, with concealed door hinges and door swings as indicated. Equip with interior circuit–directory frame, and card with clear plastic covering. Provide baked gray enamel finish over a rust inhibitor. Provide enclosures fabricated by same manufacturer as overcurrent devices contained therein. Bolt engraved Formica labels indicating panel name and voltage on the interior and exterior of panelboards.
S. Finish: Coat interior and exterior of surface with manufacturer's standard color; baked on enamel finish.
T. Identification: Provide 1/16" thick black Formica labels with 1/4" high white lettering on the interior of each panelboard; include panelboard name and voltage. Provide red Formica labels on emergency system panels.
PART 3 – EXECUTION
3.1 INSTALLATION OF PANELBOARDS
V. General: Install panelboards and enclosure where indicated, in accordance with manufacturer's written instructions, applicable requirements of NEC and NECA's "Standard of Installation", in compliance with recognized industry practices to ensure products fulfill requirements.
W. Panelboard Makeup: In making up a panel, the conductors shall be neatly formed therein. Wires shall be protected from sharp metal edges or corners.
X. Coordinate installation of panelboards and enclosures with cable and raceway installation work. Anchor enclosures firmly to walls and structural surfaces, ensuring they are permanently and mechanically secure. Arrange conductors neatly within enclosure, and secure with suitable nylon ties.
Y. Branch panels shall generally be installed with the top of the panel at 6 ft. above floor.
Z. Fill out panelboard's circuit directory card upon completion of installation work. Utilize actual final building room numbers, not architectural numbers used on drawings. Identify individual lighting circuits and individual receptacle circuits by room served. Include room number with equipment circuit designations. All directories to be typewritten.
AA. Provide stand off wall brackets for surface wall mounted panels and/or gutters as required to bring front edges flush with each other as required by NEC 110–16A.
AB. Provide identification of disconnecting means as required by NEC 225–37 or 230–2.
AC. All feeder circuit breakers shall be labeled to identify the location of the subpanel or equipment supplied.
AD. Where more than one voltage system is used in a building identify color coding at each panel per NEC 210–4D. Fasten engraved plastic identification label, with black background and white lettering, to panel cover.
AE. Electrical Contractor shall verify the fit and required N.E.C. clearances of the equipment in the main electrical room(s) with shop drawings before the installation of service and feeder conduits.

END OF SECTION 26 0160

SECTION 26 0420 – SERVICE ENTRANCE
PART 1 – GENERAL
1.1 RELATED DOCUMENTS
AF. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division–1 Specification sections, apply to work of this section.
AG. Division–26 Basic Materials and Methods sections apply to work specified in this section.
1.2 DESCRIPTION OF WORK
AH. Extent of service–entrance work is indicated by drawings and schedules.
AI. Switchboards, panels, disconnects, transformers, etc., used for service–entrance equipment are specified in applicable Division–26 sections, and are included as work of this section.
AJ. Consult local utility relative to all costs for line extensions, connections, etc., and include all costs for bringing service to the facility in base bid. Confirm location of point of service before bidding.
AK. Provide labor and materials as required to accomplish power company metering in accordance with power company standards and requirements.
AL. Provide concrete pads or vaults of size and type required for service transformers including any utility required primary conduit stub outs. Verify location, size, openings, reinforcing requirements with local utility before beginning work. Comply with local utility clearance requirements. Location of pads shown on the drawings are approximate only.
1.3 QUALITY ASSURANCE
AM. Comply with NEC and NEMA standards as applicable to construction and installation of service–entrance equipment and accessories. Provide service–entrance equipment and accessories which are UL–listed and labeled, and equipment marked, "Suitable for use as Service Equipment".
1.4 SUBMITTALS
AN. Product Data: Submit manufacturer's data on service–entrance equipment and accessories.
AO. Shop Drawings: Submit dimensioned layouts of service–entrance equipment and spatial relationships to proximate equipment.
AP. Maintenance Stock, Fuses: For types and ratings required, furnish additional fuse, amounting to one unit for every 2 installed units, but not less than one unit of each.
PART 2 – PRODUCTS
2.1 SERVICE – ENTRANCE EQUIPMENT
AQ. General: Provide service–entrance equipment and accessories of types, sizes, ratings and electrical characteristics indicated, which comply with manufacturer's standard materials, design and construction in accordance with published product information, and as required for complete installation, and as herein specified. Each service disconnect shall be marked to identify it as a service disconnecting means. Where more than one service disconnect is used, all disconnects shall be labeled as required by NEC.
2.2 OVERCURRENT PROTECTIVE DEVICES
AR. General: Provide overcurrent protective devices as indicated on drawings.
AS. Meter Sockets and Current Transformer cabinets: Provide meter sockets and current transformer cabinets which comply with requirements of local utility company supplying electrical power to service–entrance equipment of building project.
2.3 RACEWAYS AND CONDUCTORS
AT. General: Provide raceways and conductors complying with applicable Division–26 Basic Materials and Methods sections.
AU. Wall and Floor Seals: Provide wall and floor seals complying with Division–26 Basic Materials and Methods section "Raceways".
PART 3 – EXECUTION
3.1 INSTALLATION
AV. Provide and install an electric service to the facility as shown on the drawings and specified herein. The electrical contractor shall be responsible for any cost assessed by the serving utility to provide an electric service as shown on the plans and/or specified herein.
AW. The service metering shall be as per the local power company or as specified herein.
AX. Construction Lighting and Power shall be arranged for as specified under the General Conditions.
AY. Before purchase of any service entrance equipment the contractor shall review with the power company the proposed service as shown on the drawings and the probable date when the service connection from the power company will be needed.
AZ. Transformer Pad: The electrical contractor shall be responsible to confirm the transformer pad & specifications, and clearance from other equipment and structures with the serving power company before beginning installation.
BA. Installation of Service–entrance Equipment: Install service–entrance equipment as indicated, in accordance with equipment manufacturer's written instructions, and with recognized industry practices, to ensure that service–entrance equipment fulfills requirements. Comply with applicable installation requirements of NEC and NEMA standards.
BB. Coordinate with other work, including utility company wiring, as necessary to interface installation of service–entrance equipment work with other work.
BC. Grounding: Provide system and equipment grounding and bonding connections for service–entrance equipment and conductors, as required.
BD. Adjust and clean: Adjust operating mechanisms for free mechanical movement.
BE. Touch–up scratched or marred enclosure surfaces to match original finishes.
BF. Provide a neutral from the service transformer to all main service disconnects including 3 phase service disconnects for motor circuits whether or not they are shown on the drawings.
BG. Provide bonding bushings on all conduits.
BH. Field Quality Control: Upon completion of installation of service–entrance equipment and electrical circuitry, energize circuitry and demonstrate capability and compliance with requirements. Where possible, correct malfunctioning units at site, then retest to demonstrate compliance; otherwise, remove and replace with new units, and proceed with retesting.

END OF SECTION 26 0420

SECTION 26 0452 – GROUNDING
PART 1 – GENERAL
1.1 RELATED DOCUMENTS
BI. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division–1 Specification sections, apply to work of this section.
BJ. Division–26 Basic Materials and Methods sections apply to work specified in this section.
1.2 DESCRIPTION OF WORK
BK. Provide grounding as specified herein, and as indicated on drawings.
BL. Types of grounding in this section include the following:
15. Underground metal water piping
16. Metal building frames
17. Grounding electrodes
18. Grounding rods
19. Service equipment
20. Enclosures
21. Systems
22. Equipment
23. Other items indicated on drawings
CH. Requirements of this section apply to electrical grounding work specified elsewhere in these specifications.
1.3 QUALITY ASSURANCE
CI. Comply with NEC as applicable to electrical grounding and ground fault protection systems. Comply with applicable ANSI and IEEE requirements. Provide products which have been UL listed and labeled.
1.4 SUBMITTALS
CJ. None required.
PART 2 – PRODUCTS
2.1 GROUNDING
CK. Materials and Components: General: Except as otherwise indicated, provide each electrical grounding system as specified herein, and as shown on drawings, including but not necessarily limited to, cables/wires, connectors, terminals (solderless lugs), grounding rods/electrodes and plate electrodes, bonding jumper braid, and other items and accessories needed for complete installation.
CL. Where Materials or Components are not otherwise indicated, comply with NEC, NEMA and established industry standards for applications indicated.
CM. Electrical Grounding Conductors: Unless otherwise indicated, provide electrical grounding conductors for grounding connections matching power supply wiring materials and sized according to NEC.
CN. Ground Rods: Steel with copper welded exterior, 3/4" dia. x 10'.
CO. Footing Ground: Install 75 ft. of #4 bare copper wire in footings and connect to footing rebar.
PART 3 – EXECUTION
3.1 GENERAL
CP. The electrical service entrance and conduit system throughout the project shall be grounded as required by N.E.C. Connect to all available electrodes per N.E.C. 250–50.
CQ. All rotating equipment shall be grounded in compliance with the N.E.C.
CR. All plastic conduit runs shall include a grounding conductor as per N.E.C. requirements. Conduit sizes shown are for steel conduit. If plastic conduit is used the contractor shall verify conduit size to accommodate the required grounding conductor.
CS. Provide full size ground in each conduit of parallel conduit systems per N.E.C. 250–122.
CT. Separate neutrals shall be installed on all GFI breakers.
3.2 INSTALLATION OF GROUNDING SYSTEMS
CU. Install electrical grounding systems in accordance with manufacturer's written instructions and with recognized industry practices to ensure grounding devices comply with requirements.
CV. Install braided type bonding jumpers with ground clamps on water meter piping to electrically bypass water meter.
CW. Install clamp–on connectors only on thoroughly cleaned and metal contact surfaces, to ensure electrical conductivity and circuit integrity.
CX. Provide grounding for the entire raceway, enclosure, equipment and device system in accordance with NEC. All non–metallic raceways shall include copper grounding conductor sized in accordance with NEC.
CY. Provide service entrance grounding by means of ground rods (quantity of two, driven exterior to building), by means of bonding to water main, by means of bonding to building structural steel, and by means of footing ground. Drive ground rods a minimum of 15 ft. apart.
CZ. Provide grounding conductors for dimming systems in accordance with manufacturer's requirement.
DA. Install bonding bushings on all main service and feeder conduit terminations where metallic conduit connects to panels, wireways, etc.
DB. Provide an equipment grounding conductor bonded to the case of any dry type transformer on the primary side. Grounding conductor to connect from ground bus on panel supplying the transformer. Grounding of transformers and transformer secondarys shall be per NEC 250–30.
DC. Grounding electrode conductors shall be bonded to the exterior of the service equipment cabinet and interior through the grounding buss bonding strap. If metallic protection conduit is used over the grounding electrode conductor it shall be bonded to the grounding electrode at the point of entrance with a UL approved fitting. The conduit shall be continuous from the point of conductor entry to the service equipment cabinet where the conduit shall penetrate the cabinet and be secured with double lock nuts. The secondary conductor raceway between the transformers and the service equipment shall not be bonded to the transformer primary and secondary grounding system at the transformer and shall be electrically isolated from the transformer enclosures and ground system.
DD. Provide an equipment grounding conductor from the generator output to the transfer switch and on to the generator main panel. Bond to all equipment.
DE. See drawings for additional grounding requirements.

END OF SECTION 26 0452

SECTION 26 0510 – INTERIOR AND EXTERIOR BUILDING LIGHTING
PART 1 – GENERAL
1.1 RELATED DOCUMENTS
A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division–1 Specification sections, apply to work of this section.
B. Division–26 Basic Materials and Methods sections apply to work specified in this section.
1.2 DESCRIPTION OF WORK
C. Extent of interior and exterior lighting fixture work is indicated by drawings and schedules.
D. Types of lighting fixtures in this section include the following:
1. High–Intensity–Discharge (HID)
2. Fluorescent
3. Incandescent
1.3 QUALITY ASSURANCE
E. Comply with NEC, NEMA and ANSI 132.1 as applicable to installation and construction of lighting fixtures. Comply with NEC 410–64C for all recessed incandescent light fixtures. Provide lighting fixtures which have been UL–listed and labeled.
F. CBM Labels: Provide fluorescent–lamp ballasts which comply with Certified Ballast Manufacturers Association standards and carry the CBM label.
1.4 SUBMITTALS
G. Product Data: Submit manufacturer's data on interior and exterior building lighting fixtures.
H. Shop Drawings: Submit dimensioned drawings of lighting fixtures. Submit fixture shop drawings in booklet form with separate sheet for each fixture, assembled in luminaire "type" numerical order, with proposed fixture and accessories clearly indicated on each sheet.
PART 2 – PRODUCTS
2.1 ACCEPTABLE MANUFACTURERS
I. Subject to compliance with requirements, provide products of one of the following (for each type of fixture):
4. Fluorescent Ballasts:
a. Magnetek (Universal)
b. Motorola
5. HID Ballasts:
c. Advance Transformer Co.
d. Valmont Electric Co.
e. Universal Mfg. Co.
6. Incandescent and Fluorescent Lamps:
f. General Electric Co.
g. Sylvania Lamp Div., GTE Corp.
7. HID Lamps:
h. General Electric Co.
i. Sylvania Lamp Div., GTE Corp.
2.2 INTERIOR AND EXTERIOR LIGHTING FIXTURES
J. General: Provide lighting fixtures, of sizes, types and ratings indicated complete with, but not necessarily limited to, housings, lamps, lamps holders, reflectors, ballasts, starters, and wiring. Label each fixture with manufacturer's name and catalog number. Provide all enclosed fixtures with positive latch mechanisms; spring tension clips not acceptable. Provide all exterior fixtures with damp or wet location label as required by application.
K. Outdoor light fixtures: Recessed soffit lights and entrance lights shall be provided as noted on the plans and in compliance with the conditions heretofore covered. Electric discharge light fixtures shall be equipped with a –20 degree F constant wattage ballast.
L. Where the light fixture schedule indicates "Color per Architect" this shall be interpreted as requiring a non–standard color.
M. Support Requirements: Provide all pendant and stem hung fixtures with flexible ball joint hangers rated for seismic zone 3 at all points of support. Equip hooks used to hang fixtures with safety latches. Provide all detachable fixture parts, luminous ceiling accessories, louvers, diffusers, lenses, and reflectors with locking catches, screws, safety chain, or safety cable.
N. Diffusers: Where plastic diffusers are specified, provide 100 percent virgin acrylic compound, minimum thickness, .125 inches. Provide a spare set of diffusers (acrylic and/or glass only) for each fixture type and one for each additional 10 fixtures of each type; not to exceed 10 spares for any single fixture type.
2.3 BALLASTS
O. Fluorescent–Lamp Ballasts: Provide fluorescent–lamp ballasts, capable of operating lamp types indicated, with high power factor, and low–noise features; Class P, sound–rated A, and with internal thermal protection. See plans for voltage requirements. For interior fixtures, provide full light output electronic ballasts, 10% THD, where available as standard products, as follow.
8. Magnetek – Triad HP, Motorola
Q. Light fixtures designated on the fixture schedule may be required to have single ballasts or multiple ballasts depending on the application as noted on the drawings. The contractor is responsible to provide all information pertaining to light fixture requirements, shown on the drawings, to the lighting supplier.
R. Comply with manufacturer's written recommendations for all lamp/ballast combinations.
S. Equip outdoor fixtures with low temperature starting ballasts.
T. High–Intensity–Discharge–Lamp Ballasts: Provide HID ballasts, of ratings, types and makes as recommended by lamp manufacturer, which properly match lamps to power line by providing appropriate voltage and impedances for which lamps are designed. Equip exterior fixtures with low temperature starting ballasts. Provide high power factor, or power factor improved ballasts.
2.4 LAMPS
U. Fluorescent Lamps: Equip interior fluorescent fixtures with full light output, energy conserving lamps where available as standard product of General Electric or Sylvania. Where applicable, equip fixtures with lamps as follows:

| | | | |
|---|---|---|---|
| 9. | Rapid Start | 2950 | initial lumens |
| 10. | Sylvania F032/841. Equip exterior fixtures and dimmed fixtures with standard lamps. | | |

PART 3 – EXECUTION
3.1 INSTALLATION OF LIGHTING FIXTURES:
V. Install lighting fixtures at locations and heights as indicated, in accordance with fixture manufacturer's written instructions, applicable requirements of NEC, NECA's "Standard of Installation", NEMA standards, and with recognized industry practices to ensure that lighting fixtures fulfill requirements.
W. Seismic bracing: Provide galvanized chain braces on all chain pendant hung light fixtures (pendant length greater than 12") to prevent swaying in any direction. On continuous row installations provide "4 direction" bracing every 16 feet.
X. All recessed light fixtures mounted in fire rated ceiling (See architectural drawings) shall have a fire rated cover installed over them per the ceiling manufacturers recommendation, and shall have ballasts approved for installation under such covers.
Y. Coordinate with other work as appropriate to properly interface installation of lighting fixtures with other work. Consult architectural reflected ceiling plan for exact location of all lighting fixtures.
Z. Provide all necessary supports, brackets, and miscellaneous equipment for mounting of fixtures. Support all ceiling mounted fixtures from the building structure, independent of the ceiling system, unless noted. Support each recessed T–bar mount fixture (fluorescent incandescent, and/or HID) from the building structure with #10 ga. steel wire attached to each corner (in addition to supports normally provided for attachment to the ceiling system). Provide backing supports above (or behind) sheetrock, plaster and similar ceiling and wall materials. Support surface mounted ceiling fixtures from channel. Support ceiling mounted outlet boxes independent of the raceway system, and capable of supporting 200 pounds. See plans for additional details.
AA. Fixture support by toggle bolts through sheetrock is not acceptable.
AB. Coordination Meetings: Meet with the General Contractor and the ceiling installer before submittal of shop drawings to coordinate each light fixture mounting condition with ceiling type and thickness. Coordinate fixture layout in each area. Adjust fixture mount as required by thickness of ceiling for proper fixture trim installation. Meet with Mechanical: Meet with the mechanical installer prior to fabrication and installation of duct work. Coordinate depth and location of all recessed fixtures and duct work in all areas.
AC. Adjust and Clean: The contractor shall take care to keep all light fixtures and lenses clean during construction. The engineer will require all dusty or dirty fixtures and lenses to be cleaned for final construction review.
AD. Protect installed fixtures from damage during remainder of construction period. Repair all nicks and scratches to appearance of original finish.
3.2 FIELD QUALITY CONTROL
AF. Upon completion of installation of lighting fixtures, and after building circuitry has been energized, apply electrical energy to demonstrate capability and compliance with requirements. Where possible, correct malfunctioning units at site, then retest to demonstrate compliance; otherwise remove and replace with new units, and proceed with retesting.
AG. At the time of Substantial Completion, replace lamps in interior lighting fixtures which are observed to be noticeably dimmed after the Contractor's use and testing, as judged by Architect/Engineer. In addition, furnish stock or replacement lamps amounting to 15 percent (but not less than one lamp) of each type and size used. Deliver replacement stock as directed to Owner's storage space.
AH. Grounding: Provide tight equipment grounding connections for each lighting fixture.
AI. Meet with the General Contractor before the submittal of shop drawings to coordinate each light fixture mounting condition with ceiling type and thickness. Adjust fixture type or mount as required by ceiling type or thickness for proper installation.

END OF SECTION 26 0510

| No. | Revision/Issue | Date |
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Seal:

LICENSED PROFESSIONAL ENGINEER
No. 178785
DAVID M. BEAZER
3.23.16
STATE OF UTAH

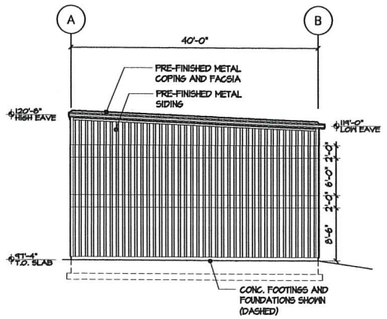
Project Title:
New Storage Facility
for
Box Elder County Sheriff's Dept.
Brigham City, UT


Gary Hunt, Architect PC
Architecture / Planning
1594 W. Park Circle, Suite 101 - Ogden, Utah 84404
Phone: (801) 782-5055
Mobile: (801) 725-1922
Fax: (801) 782-5081
e-mail: garyh@hunt-architect.com


Sheet Title:
Electrical Specifications

| Project No.: | Date: |
|---|---|
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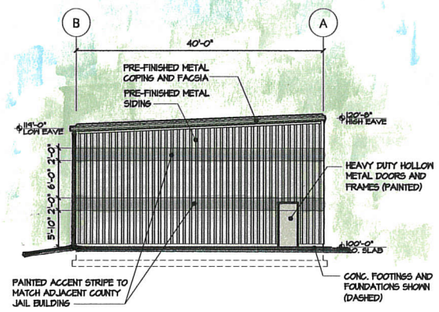
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West Elevation

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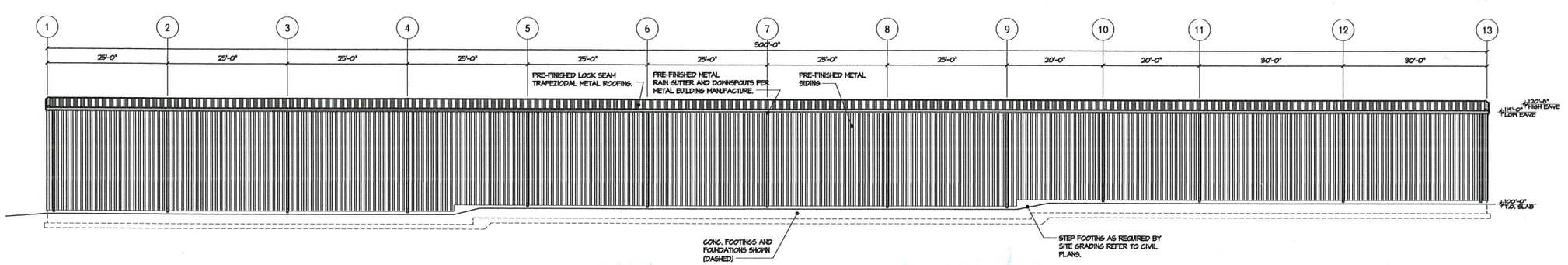
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East Elevation

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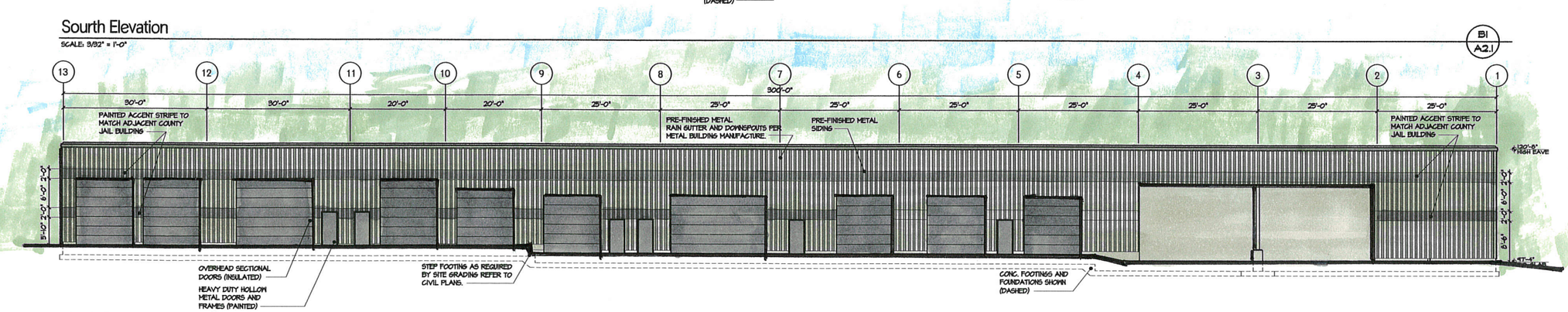
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Sourth Elevation

SCALE: 3/32" = 1'-0"

B1 / A2.1




North Elevation

SCALE: 3/32" = 1'-0"

A1 / A2.1

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Seal:




Project Title

New Storage Facility
for
Box Elder County Sheriff's Dept.
Brigham City, UT

Gary Hunt, Architect PC
Architecture / Planning
1594 W. Park Circle, Suite 101 - Ogden, Utah 84404
Phone: (801) 782-5055
Mobile: (801) 725-1922
Fax: (801) 782-5081
e-mail: gary@ghunt.com

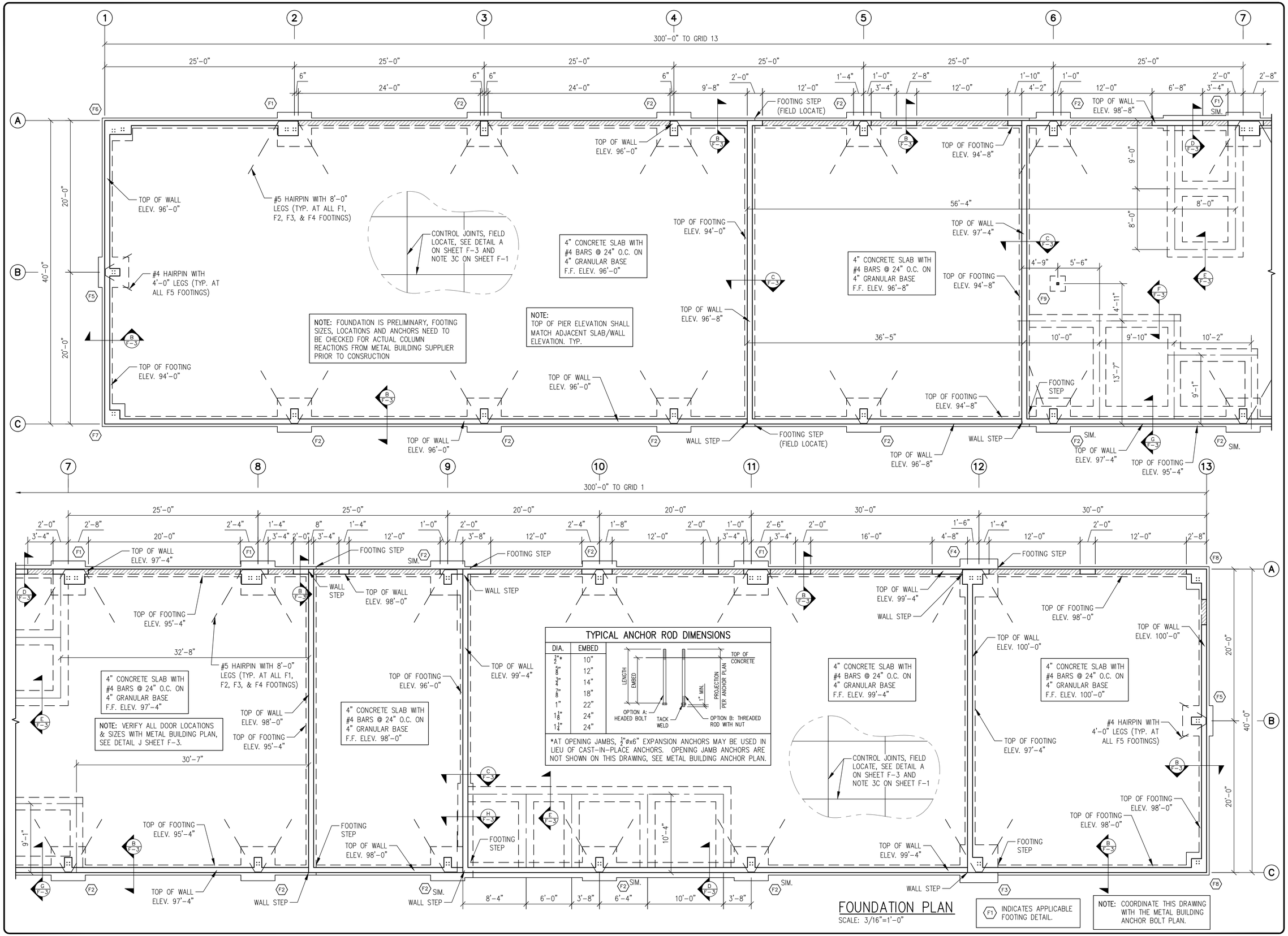
Sheet Title

Exterior Elevations

| Project No: | Date: 3-16-2016 |
|---|---|
| #2015-04 | Scale: 3/32" = 1'-0" |

Sheet No:

A2.1




## FOUNDATION PLAN

SCALE: 3/16"=1'-0"


MOUNTAIN VIEW ENGINEERING, INC.
Consulting Design
Structural Engineering
345 North Main Street Ste. A, Brigham City, Utah 84302 (435) 734-9700 Fax (435) 734-9519


SHEET TITLE: FOUNDATION PLAN
JOB NAME: BOX ELDER COUNTY SHERIFF'S DEPARTMENT STORAGE FACILITY
LOCATION: BRIGHAM CITY, UTAH
CONTRACTOR: -

PLAN ISSUE DATES

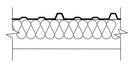
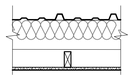
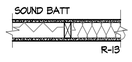
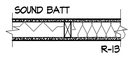
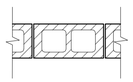
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| 1 | 3-30-16 | T.W. | FOR PERMIT |

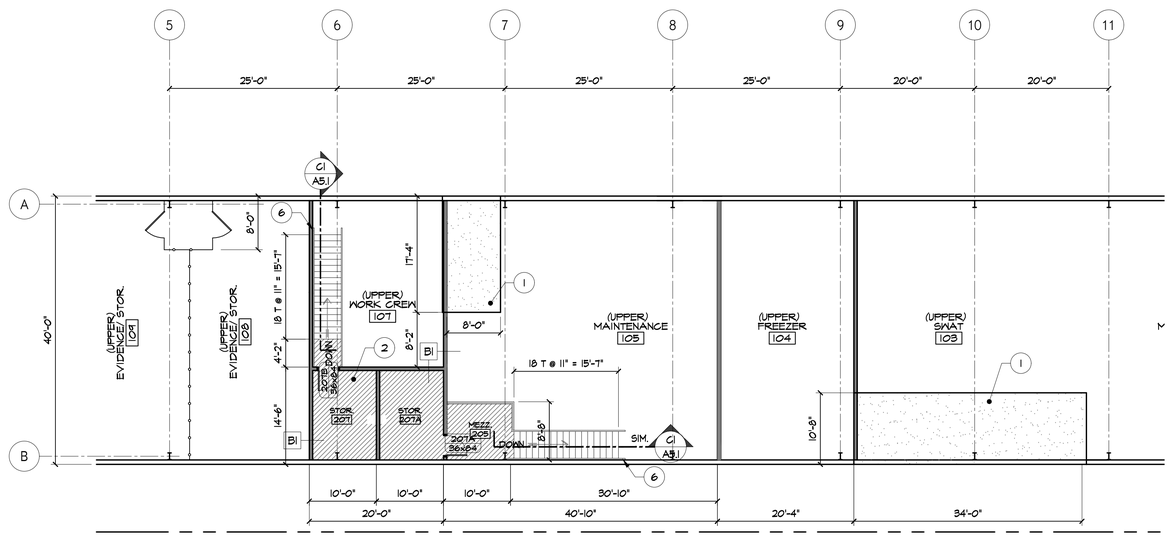
**PRELIMINARY NOT FOR CONSTRUCTION**

SHEET NUMBER: **F-1**

| | |
|---|---|
| DRAWN BY: | T.W. |
| ENGINEER: | J.LARSEN |
| MVE JOB NUMBER: | 150559 |

## WALL TYPES

| TYPE: | DETAIL: | |
|---|---|---|
| A1<br>RATING: N/A<br>TYPE: N/A<br>R-VALUE: R-19 |  | METAL BUILDING WALL PER METAL BUILDING MANUFACTURE, PROVIDE INSULATION IN WALLS ADJACENT TO CONDITIONED AREAS ONLY. |
| A2<br>RATING: N/A<br>TYPE: N/A<br>R-VALUE: R-19 |  | METAL BUILDING WALL W/ METAL PANEL FINISH PROVIDE 2x4 STUDS FURRING @ 16" O.C W/ ONE LAYER OF 5/8" GYP. BD. RE: BUILDING SECTIONS AND METAL BUILDING SHOP DRAWINGS. |
| B1<br>RATING: N/A<br>TYPE: N/A<br>R-VALUE: N/A |  | 2x4 STUDS @ 16" O.C. INTERIOR BEARING WALL TO MEZZANINE FRAMING REFER TO STRUCTUAL PLANS PROVIDE INSULATION AS ILLUSTRATED ON FLOOR PLAN. |
| B2<br>RATING: N/A<br>TYPE: N/A<br>R-VALUE: N/A |  | 2x4 STUDS @ 16" O.C. INTERIOR NON BEARING DEMISING WALL. PROVIDE 5/8" GYPSUM WALL BOARD EACH SIDE, REFER TO STRUCTUAL PLANS. PROVIDE INSULATION AS ILLUSTRATED ON FLOOR PLAN. |
| B3<br>RATING: N/A<br>TYPE: N/A<br>R-VALUE: R13 |  | 2x4 STUDS @ 16" O.C. INTERIOR NON BEARING DEMISING WALL REFER TO STRUCTUAL PLANS PROVIDE INSULATION AS ILLUSTRATED ON FLOOR PLAN. |
| C1<br>RATING: N/A<br>TYPE: N/A<br>R-VALUE: N/A |  | 8x16x8 CMU BLOCK WALL, REFER TO: STRUCTURAL PLANS. |



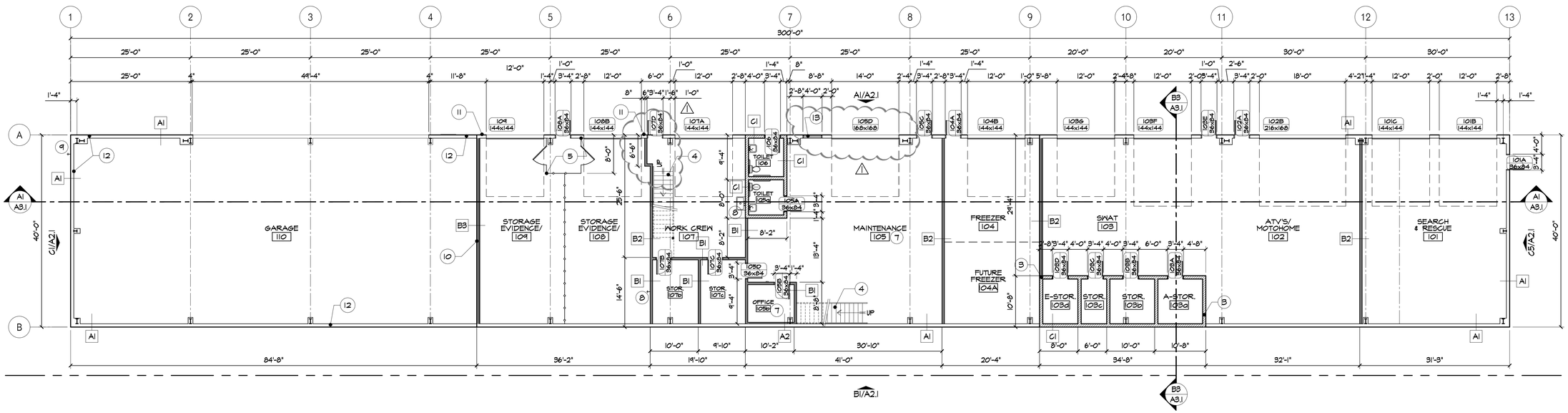

## KEY NOTE:

| No. | DESCRIPTION: |
|---|---|
| 1 | 4" CONC. SLAB OVER STEEL "B" DECK |
| 2 | 2x10 FLOOR JOISTS @ 16" O.C. W/ ¾" T&G PLYWOOD |
| 3 | SOLID GROUTED CMU WALLS REFER TO STRUCTURAL PLANS. |
| 4 | WOOD STAIRS AND RAILING SYSTEM, REFER TO RELATED DETAILS. |
| 5 | CHAIN LINK FENCE AND GATES. |
| 6 | RETURN HANDRAIL TO WALL REFER TO DETAIL B2/A5.1 |
| 7 | H.V.A.C. CONDITIONED ROOM |
| 8 | UTILITY SINK, RUN WATER LINE TO ROOM 108 OPPOSITE STORAGE ROOM 107B, PROVIDE TAP TO FILL WATER TANKS IN ROOM 108, REFER TO PLUMBING PLANS. |
| 9 | FROST PROOF HOSE BIB LOCATED 4'-0" FROM BUILDING GRID A/1. |
| 10 | STUB GAS LINE FOR FUTURE USE, REFER TO MECHANICAL PLANS. |
| 11 | CONTROL FOR OVERHEAD DOOR. |
| 12 | GARAGE 110 TO BE UNINSULATED AT NORTH, WEST AND SOUTH WALLS |
| 13 | 4'x4' INSULATED WINDOW PER METAL BUILDING MANUFACTURE. |

## Mezzanine Floor Plan (MEZZANINE AREAS SHADED)

SCALE: 3/32" = 1'-0"

B5 A1.1




## 1st Floor Plan

SCALE: 3/32" = 1'-0"

A5 A1.1

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| | | |
| 1 | ADDEND. NO.1 | 4-4-16 |
| No. | Revision/Issue | Date |

Seal:




Project Title:

New Storage Facility
for
Box Elder County Sheriff's Dept.
Brigham City, UT

Gary Hunt, Architect PC
Architecture / Planning
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Phone: (801) 782-5055
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Sheet Title:

1st Floor Plan
Mezz. Floor Plan

| Project No: | Date: |
|---|---|
| #2015-04 | 29 Mar 16 |
| | Scale: 3/32" = 1'-0" |

Sheet No:

A1.1