UDOT MURRAY TOW PLOW STORAGE BUILDING

5823 S COMMERCE WAY
MURRAY, UTAH 84107

06/23/2023
CONSTRUCTION BID SET

STATE OF UTAH
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

4315 South 2700 West, Floor 3 | Taylorsville, UT 84129 / www.dfcm.utah.gov

DFCM PROJECT NO. 24096900

CIVIL ENGINEER

ENTELLUS
1470 SOUTH 600 WEST / WOODS CROSS, UTAH 84087
801.298.2236 / www.entellus.com

STRUCTURAL ENGINEER

BHB CONSULTING ENGINEERS
2766 SOUTH MAIN STREET / SALT LAKE CITY, UTAH
84115 801.355.5656 / www.bhbengineers.com

MECHANICAL ENGINEER

WHW ENGINEERING INC
8619 SOUTH SANDY PARKWAY #101 / SANDY, UTAH 84070
801466.4021 / www.whw-engineering.com

ELECTRICAL ENGINEER:

PVE MECHANICAL AND ELECTRICAL CONSULTING ENGINEERS
1040 N. 2200 W. SUITE 100 / SALT LAKE CITY, UTAH 84116
801.359.3158 / www.info@pve-ut.com

Last Plotted: 8/8/2023 7:59:01 AM

ARCHITECT'S INFORMATION:

SPE ARCHITECTS
P.O. Box 517
Kaysville, Utah 84037
t. 801.298.1368
info@spe-architect.com
www.spe-architect.com

PROFESSIONAL STAMP:

STATE OF UTAH · EVANS · NO. 118114 · REGISTERED ARCHITECT · 06.23.2023 · PROFESSIONAL

CODE OFFICIAL STAMP:

REVIEWED FOR CODE COMPLIANCE
Thomas W Peterson
09/25/2023
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

PROJECT NAME:

UDOT MURRAY TOW PLOW STORAGE BUILDING
5823 S COMMERCE WAY MURRAY, UTAH 84107

REVISIONS:

NO.	DATE	DESCRIPTION

ISSUED:

NO.	DATE	DESCRIPTION
01	06/23/23	CONSTRUCTION BID SET

OWNER PROJECT #:	24096900
SPE PROJECT #:	23-17
DRAWN BY:	JBE
CHECKED BY:	SPE
DESIGNED BY:	JBE

SHEET TITLE:
TITLE SHEET

SHEET NUMBER:
GI-001

ABBREVIATIONS

@	at
ABV	above
ACOUS	acoustical
ACT	acoustical ceiling tile
AD	area drain
ADJ	adjustable
AFF	above finished floor
ALT	alternate
ALUM	aluminum
APPROX	approximate
ARCH	architect
B.O.	bottom of
BALC	balcony
BD	board
BET	between
BLDG	building
BLKG	blocking
BLW	below
BM	beam
BOT	bottom
BRKT	bracket
BULKHD	bulkhead
BUR	built up roof
C.G.	corner guard
CAB	cabinet
CALK	caulking
CEM	cement
CER	ceramic
CJ	control joint
CLG	ceiling
CLOS	closet
CLR	clear
CO	cased opening
COL	column
CONC	concrete
CONT	continuous
CPT	carpet
CT	ceramic tile
CTR	center
DBL	double
DET	detail
DIA	diameter
DIM	dimension
DN	down
DR	door
DS	down spout
DW	dishwasher
DWG	drawing
Ø	diameter
(E)	existing
E	east
EA	each
EIFS	exterior insulation & finish system
ELEC	electrical
ELEV	elevation
EMER	emergency
ENCL	enclosure
EOS	edge of slab
EQ	equal
EQUIP	equipment
ETR	existing to remain
EW	each way
EWC	electric water cooler
EXP. JT.	expansion joint
EXTG.	existing
F.O.	face of
FA	fire alarm
FAP	fire annunciator panel
FD	floor drain
FE	fire extinguisher
FEC	fire extinguisher cabinet
FG	finish group
FH	fire hydrant
FHC	fire hose cabinet
FIN	finish
FLR	floor
FRT	fire retardant treated
FT	foot or feet
FUR	furring
FV	field verify
GAL	gallon
GALV	galvanized
GB	grab bar
GC	general contractor
GL	glass
GND	ground
GWB	gypsum board
GYP	gypsum
H.W.H.	hot water heater
HC	handicapped
HDWD	hardwood
HDWR	hardware
HM	hollow metal
HORIZ	horizontal
HR	hour
HT	height
ID	inner diameter
INCAN	incandescent
INSUL	insulation
INT	interior
JAN	janitor
JST	joist
JT	joint
LAM	laminate
LAV	lavatory
LB(S)	pounds
LDG	landing
LT	light
MAX	maximum
MECH	mechanical
MEMB	membrane
MFR	manufacturer
MIN	minimum
MISC	miscellaneous
MO	masonry opening
MTD	mounted
MTL	metal
(N)	new
N	north
NIC	not in contract
NO	number
NOM	nominal
NTS	not to scale
O.P.	overflow pipe
OA	overall
OC	on center
OD	outside diameter
OFF	office
OH	opposite hand
OPG	opening
OPP	opposite
PART	partition
PERM	perimeter
PG	paint grade
PLAM	plastic laminate
PLAS	plaster
PLYWD	plywood
PR	pair
PT	paint
PTD	painted
R	riser
RAD	radius
RCP	reflected ceiling plan
RD	roof drain
RE	refer
REF	refrigerator
REINF	reinforced
REQD	required
RESIL	resilient
RM	room
RO	rough opening
RTU	root top unit (mechanical)
S	south
SAFB	sound attenuation fiber batt
SC	scupper
SCHED	schedule
SEAL	sealant
SECT	section
SF	square foot
SHT	sheet
SIM	similar
SPEC	specification
SQ	square
SS	stainless steel
STD	standard
STL	steel
STOR	storage
STRUCT	structural
SUSP	suspended
SYM	symmetrical
T	tread
T&G	tongue & groove
TEL	telephone
TER	terrazzo
THK	thick
THR	threshold
TO	top of
TOM	top of masonry
TYP	typical
UC	undercut
UNFIN	unfinished
UNO	unless noted otherwise
UON	unless otherwise noted
UTIL	utility
VCT	vinyl composition tile
VERT	vertical
VIF	verify in field
VTR	vent termination pipe
VWC	vinyl wall covering
W	west
W/	with
W/O	without
WC	water closet
WIN	window
WP	waterproof
WS	wet stack
WSCT	wainscot
WT	weight

GENERAL NOTES

1. THE CONTRACTOR IS TO THOROUGHLY FAMILIARIZE HIMSELF WITH THE EXTENT OF WORK AND COORDINATE ALL TRADES.
2. ALL DIMENSIONS ARE TO BE FIELD VERIFIED - ANY VARIATIONS IN DIMENSIONS ARE TO BE REVIEWED WITH THE ARCHITECT.
3. THIS CONTRACTOR IS RESPONSIBLE FOR PATCHING/ REPAIRING ALL IMPERFECTIONS IN ALL NEW AND EXISTING WALLS AFFECTED BY THIS CONTRACT, INCLUDING HOLES, DENTS, BUMPS WAVES ETC. IT IS THE CONTRACTORS RESPONSIBILITY TO VISIT THE JOB SITE PRIOR TO BIDDING AND THOROUGHLY FAMILIARIZE HIMSELF WITH ALL SUCH WORK, THAT WILL BE REQUIRED.
4. PROTECT EXTG. FINISHES FROM DAMAGE.
5. DO NOT SCALE DRAWINGS. STATED & WRITTEN DIMENSIONS GOVERN. THE GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD AND SHALL BE RESPONSIBLE FOR THEIR ACCURACY. NO EXTRA CHARGE OR COMPENSATION SHALL BE ALLOWED BECAUSE OF DIFFERENCE BETWEEN ACTUAL DIMENSIONS AND THOSE INDICATED ON THE DRAWINGS, UNLESS THEY CONTRIBUTE TO A CHANGE IN THE SCOPE OF THE WORK. ANY DIFFERENCE WHICH MAY BE FOUND SHALL BE SUBMITTED TO THE ARCHITECT FOR DECISION PRIOR TO ORDERING, MANUFACTURING, OR PROCEEDING WITH THE WORK. HORIZONTAL DIMENSIONS INDICATED ARE TO/FROM FACE OF FINISH, UNLESS NOTED OTHERWISE. VERTICAL DIMENSIONS ARE FROM TOP OF FLOOR SLAB EXCEPT WHERE NOTED TO BE ABOVE FINISHED FLOOR (AFF). DIMENSIONS ARE NOT ADJUSTABLE WITHOUT A APPROVAL OF ARCHITECT UNLESS NOTED +/-.
6. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ALL WORK REGARDLESS OF THE LOCATION OF THE INFORMATION IN THE DOCUMENTS. THE GENERAL CONTRACTOR SHALL UTILIZE THE CONSTRUCTION DRAWINGS AND WRITTEN SPECIFICATIONS FOR ALL REQUIRED INFORMATION TO PROVIDE COMPLETE CONSTRUCTION OF THIS PROJECT. ITEMS LISTED IN DRAWINGS MAY NOT BE INCLUDED IN SPECIFICATIONS. ITEMS LISTED IN SPECIFICATIONS MAY NOT BE INCLUDED IN DRAWINGS.
7. DISCREPANCIES BETWEEN PORTIONS OF THE CONTRACT DOCUMENTS ARE NOT INTENDED. THE GENERAL CONTRACTOR IS TO CLARIFY WITH THE ARCHITECT ANY SUCH DISCREPANCIES PRIOR TO COMMENCING WORK.
8. CONTRACTOR'S STAGING AREA IS TO BE PROVIDED WITH A SECURE, LOCKED, 6'-0" (PER IBC 3306) TALL TEMPORARY CHAIN LINK FENCE. STAGING AREA SHALL NOT BLOCK DOORS, DOCKS, SIDEWALKS ETC. ALL GAPS IN FENCE TO BE MAINTAINED LESS THAN 4". REMOVE AND SECURE ALL LADDERS AT THE END OF EACH DAY. DUMPSTER MUST BE KEPT IN LOCKED FENCED AREA. COORDINATE LOCATION OF STAGING WITH OWNER.

DRAWING INDEX

MATERIALS

EARTH

STRUCTURAL FILL

CMU MASONRY

BRICK MASONRY

CONCRETE

GRAVEL

STEEL

ALUMINUM

RIGID INSULATION

BATT INSULATION

PLYWOOD

PARTICLEBOARD

GYPSUM BOARD

ASPHALT PAVING

WOOD (STUDS / NAILERS)

WOOD (BLOCKING)

WOOD

GRAPHIC SYMBOLS

Room name — ROOM NAME
101 — ROOM NUMBER
150 SF — ROOM SQ. FT. (WHERE OCCURS)

A1 / AE-101 SIM — DETAIL CALLOUT

A1 / AE-101 SIM — BUILDING SECTION

A1 / AE-101 SIM — WALL SECTION

A1 / AE-101 SIM — DETAIL SECTION

DRAWING REVISION

— REVISION NUMBER

N — NORTH ARROW

0 — GRID REFERENCE

℄ — CENTER LINE

CEILING HEIGHT

LEVEL / ELEVATION — VERTICAL ELEVATION

SPOT ELEVATION

101 — DOOR NUMBER

2 — WALL TYPE

2 — WINDOW TYPE

2 — KEYED NOTE

##.## — KEYED NOTE

2 — GLASS TYPE

DEFERRED SUBMITTALS

For the purpose of this section, deferred submittals are defined as per section 107.3.4.1 of the IBC. Submittal documents for deferred submittal items shall be submitted to the engineer/architect for their review for general conformance with the design of the building. After submittals are reviewed for general conformance by the architect and engineer of record, deferred submittals must be submitted to the building official for approval and that deferred items are not to be installed until approved by the building official (see IBC 107.3.4.1).
Deferred submittals for this project are:

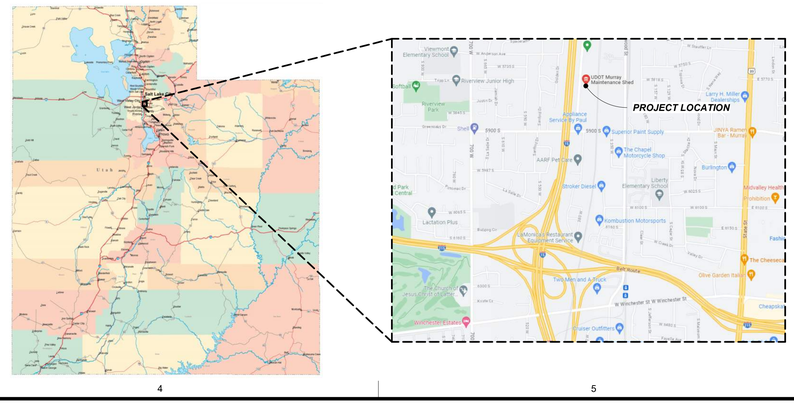
ITEM #1 STEEL BUILDING DRAWINGS:

ENGINEERED,STAMPED WORKING PLANS AS APPROVED BY THE AUTHORITIES HAVING JURISDICTION. CONTRACTOR SHALL PROVIDE WITHIN 6 WEEKS AFTER BID HAS BEEN AWARDED.

THE METAL BUILDING FABRICATOR MUST BE ON THE DFCM APPROVED LIST AND HAVE A CURRENT CERTIFICATION.

(https://dfcm.utah.gov/wp-content/uploads/2023-Approved-Fabricator-March.pdf)

PROJECT LOCATION



ARCHITECT'S INFORMATION:

SPE ARCHITECTS
P.O. Box 517
Kaysville, Utah 84037
t. 801.298.1368
info@spe-architect.com
www.spe-architect.com

PROFESSIONAL STAMP:

STATE OF UTAH — JOSEPH B. EVANS — NO. 118114 — REGISTERED ARCHITECT — 06.23.2023 — SCHEDULED TO EXPIRE

CODE OFFICIAL STAMP:

REVIEWED FOR CODE COMPLIANCE
Thomas W Peterson
09/25/2023
DIVISION OF FACILITIES CONSTRUCTION & MANAGEMENT

PROJECT NAME:

UDOT MURRAY TOW PLOW STORAGE BUILDING

5823 S COMMERCE WAY
MURRAY, UTAH 84107

REVISIONS:

NO.	DATE	DESCRIPTION

ISSUED:

NO.	DATE	DESCRIPTION
01	06/23/23	CONSTRUCTION BID SET

OWNER PROJECT #:	24096900
SPE PROJECT #:	23-17
DRAWN BY:	JBE
CHECKED BY:	SPE
DESIGNED BY:	JBE

SHEET TITLE:

GENERAL INFORMATION

SHEET NUMBER:

GI-002

Last Plotted: 8/8/2023 7:59:06 AM

CODE ANALYSIS

APPLICABLE CODES

	Year		Year
International Building Code	2021	National Electrical Code	2020
International Mechanical Code	2021	Uniform Code for Building Conservation	N.A.
International Plumbing Code	2021	ADA Accessibility Guidelines	2010 ADAG 2017 ANSI 117.1
International Fire Code	2021		
International Energy Conservation Code	2021		

A. Occupancy and Group: U

Change in Use: Yes _____ No X Mixed Occupancy: Yes _____ No X

Special Use and Occupancy (e.g. High Rise, Covered Mall): _____

B. Seismic Design Category: D Design Wind Speed: 103 mph

C. Type of Construction (circle one):

I/A I/B II/A (II/B) III/A III/B IV/HT V/A V/B

D. Fire Resistance Rating Requirements for the Exterior Walls based on the fire separation distance (in hours):

North: 0 South: 0 East: 0 West: 0

E. Mixed Occupancies: _____ Nonseparated Uses: NO

F: Sprinklers:

Required: NO Provided: NO Type of Sprinkler System: N/A

G: Number of Stories: 01 Building Height: 18' AVERAGE HEIGHT

H: Actual Area per Floor (square feet): 3,746

I: Tabular Area: N.A.

J: Area Modifications: N.A.

K. Fire Resistance Rating Requirements for Building Elements (hours).

Element	Hours	Assembly Listing	Element	Hours	Assembly Listing
Exterior Bearing Walls	0		Floors - Ceiling Floors	0	
Interior Bearing Walls	0		Roofs - Ceiling Roofs	0	
Exterior Non-Bearing Walls	0		Exterior Doors and Windows	0	
Structural Frame	0		Shaft Enclosures	N.A.	
Partitions - Permanent	0		Fire Walls	N.A.	
Fire Barriers			Fire Partitions	N.A.	
			Smoke Partitions	N.A.	

L. Design Occupant Load: 0

Exit Width Required: N.A. Exit Width Provided: 72"

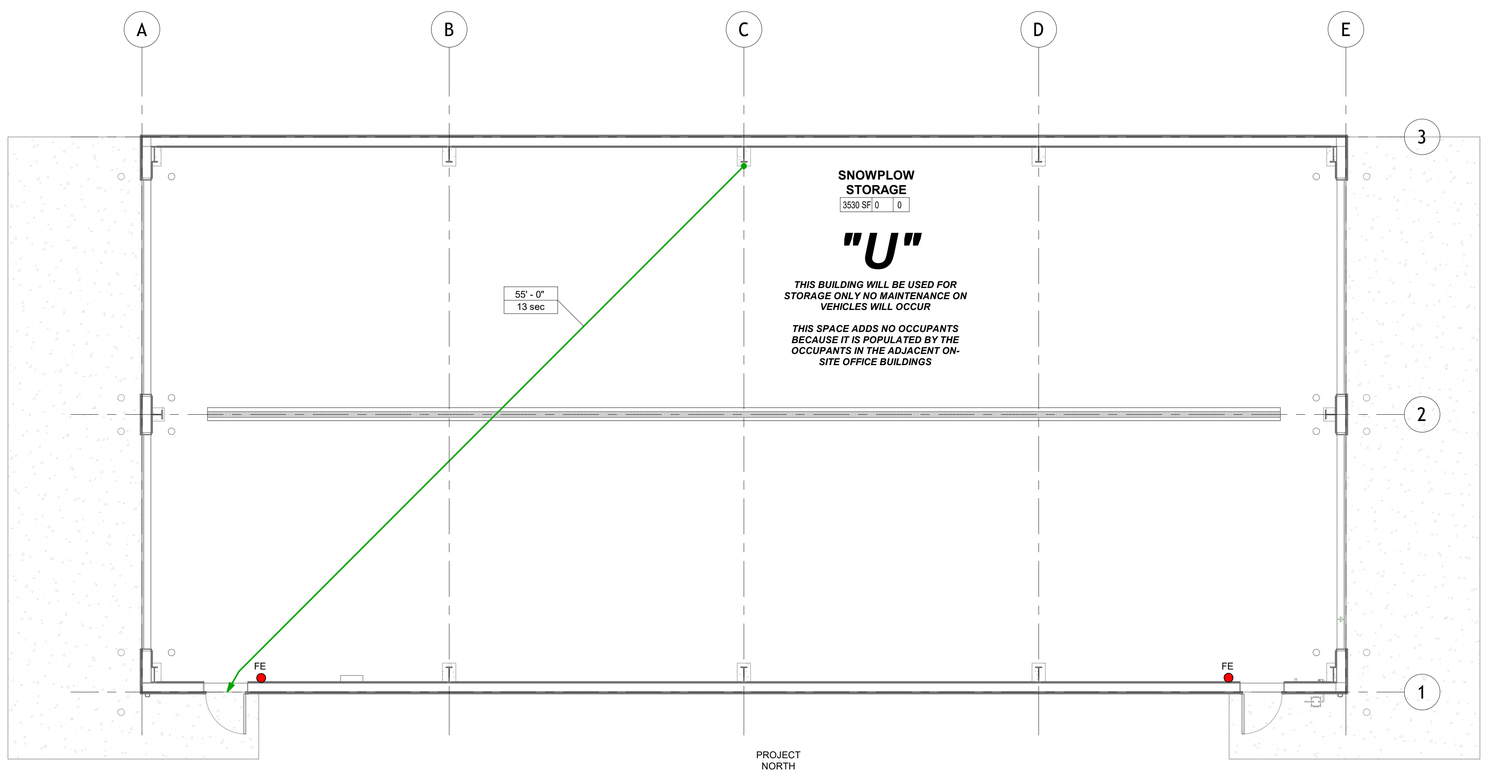
M. Minimum Number of Required Plumbing Facilities: *RESTROOMS ARE IN THE ADJACENT BUILDING WHICH IS APPROXIMATELY 280' FROM THIS BUILDING*

a) Water Closets - Required (m) 0 (f) 0 Provided (m) 0 (f) 0
b) Lavatories - Required (m) 0 (f) 0 Provided (m) 0 (f) 0
c) Bath Tubs or Showers: 0
d) Drinking Fountains: 0 Service Sinks: 0

FOOTNOTES:

1) In case of conflict with the U.S. Department of Justice Federal Registers PartsⅠ through Ⅴ - ADA Guidelines and specific reference to the International Building Code Accessibility Chapters, the more restrictive requirement shall govern.

2) Additional Code Information shall be provided at the discretion of the Building Official for Complex Buildings. Including, but not limited to:
   a) High Rise Requirements.
   b) Atriums.
   c) Performance Based Criteria.
   d) Means or Egress Analysis.
   e) Fire Assembly Locator Sheet.
   f) Exterior and Interior Accessibility Route.
   g) Fire Stopping, Including Tested Design Number.



A1 LEVEL 01 CODE PLAN
3/16" = 1'-0"

OCCUPANCY & EXITING LEGEND

ROOM NAME
SF | ### |
OF OCCUPANTS
SQUARE FOOTAGE PER OCCUPANT
SQUARE FOOTAGE OF ROOM
##' - ##"
sec
TRAVEL DISTANCE
TRAVEL TIME
FE FIRE EXTINGUISHER - SEE AE-103

ARCHITECT'S INFORMATION:

SPE ARCHITECTS
P.O. Box 517
Kaysville, Utah 84037
t. 801.298.1368
info@spe-architect.com
www.spe-architect.com

PROFESSIONAL STAMP:

STATE OF UTAH · JOSHUA B. EVANS · NO. 118114 · REGISTERED ARCHITECT · 06.23.2023 · SEAL IMPRESSION

CODE OFFICIAL STAMP:

REVIEWED FOR CODE COMPLIANCE
Thomas W Peterson
09/25/2023
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

PROJECT NAME:

UDOT MURRAY TOW PLOW STORAGE BUILDING

5823 S COMMERCE WAY
MURRAY, UTAH 84107

REVISIONS:

NO.	DATE	DESCRIPTION

ISSUED:

NO.	DATE	DESCRIPTION
01	06/23/23	CONSTRUCTION BID SET

OWNER PROJECT #:	24096900
SPE PROJECT #:	23-17
DRAWN BY:	JBE
CHECKED BY:	SPE
DESIGNED BY:	JBE

SHEET TITLE:

CODE COMPLIANCE INFORMATION

SHEET NUMBER:

GI-003

Last Plotted: 8/8/2023 7:59:07 AM

DIVISION OF FACILITIES CONSTRUCTION & MANAGEMENT
4110 State Office Building
Salt Lake City, Utah 84114
Phone: (801) 538-3018
Website: http://dfcm.utah.gov/

Special Inspection, Material Testing & Structural Observation Items Required by Chapter 17 of the 2015 IBC

Indicate items requiring special inspection, structural testing, or structural observations by checking the appropriate box. All items not requiring inspection/testing should be removed from the form. For items requiring continuous inspection, a special inspector must be present onsite during the performance of that task. In most cases "periodic" inspections/tests shall be performed prior to commencing the task, intermittently during the task, and at the completion of the task. The "Detailed Instructions & Frequency" provides a description of the presumed requirements for tasks requiring "periodic" inspections. The design professional in responsible charge should revise the requirements as needed on a project-specific basis.

FABRICATORS (IBC 1704.2.5 & 1705.10)

☐ Approved Fabricator ☐ Yes ☐ No

Fabricators Name:	
Fabrication plant location	
Required In-plant Inspections	☐ Steel Construction ☐ Concrete Construction ☐ Wood Construction ☐ Cold-formed Construction ☐ Other: ☐ Other:

STRUCTURAL STEEL (IBC 1705.2.1, 1705.12.1 & 1705.13.1)

Item			*Detailed Instructions and Frequencies*
PRIOR TO WELDING (TABLE N5.4-1, AISC 360-10):			
Verify welding procedures (WPS) and consumable certificates	☐ Continuous	☐ Periodic	
Material identification	☐ Continuous	☐ Periodic	Verify type and grade of material.
Welder identification	☐ Continuous	☐ Periodic	A system shall be maintained by which a welder who has welded a joint or member can be identified.
Fit-up groove welds	☐ Continuous	☐ Periodic	Verify joint preparation, dimensions, cleanliness, tacking, and backing.
Access holes	☐ Continuous	☐ Periodic	Verify configuration and finish.
Fit-up of fillet welds	☐ Continuous	☐ Periodic	Verify alignment, gaps at root, cleanliness of steel surfaces, and tack weld quality and location.
DURING WELDING (TABLE N5.4-2, AISC 360-10):			
Use of qualified welders	☐ Continuous	☐ Periodic	Verify that welders are appropriately qualified.
Control and handling of welding consumables	☐ Continuous	☐ Periodic	Verify packaging and exposure control.
Cracked tack welds	☐ Continuous	☐ Periodic	Verify that welding does not occur over cracked tack welds.
Environmental conditions	☐ Continuous	☐ Periodic	Verify win speed is within limits as well as precipitation and temperature.
WPS followed	☐ Continuous	☐ Periodic	Verify items such as settings on welding equipment, travel speed, welding materials, shielding gas type/flow rate, preheat applied, interpass temperature maintained, and proper position.
Welding techniques	☐ Continuous	☐ Periodic	Verify interpass and final cleaning, each pass is within profile limitations, and quality of each pass.

DIVISION OF FACILITIES CONSTRUCTION & MANAGEMENT
4110 State Office Building
Salt Lake City, Utah 84114
Phone: (801) 538-3018
Website: http://dfcm.utah.gov/

Floor and roof mechanical fasteners	☐ Continuous	☐ Periodic	Visual inspection to confirm fasteners are installed per SDI C, SDI NC, SDI RD and manufacturer's instructions.
Steel deck installation	☐ Continuous	☐ Periodic	Verify deck is installed per the approved construction documents, installation drawings, shop drawings and applicable reference standards.
OPEN-WEB STEEL JOISTS AND JOIST GIRDERS (IBC TABLE 1705.2.3):			
End connections – welded or bolted	☐ Continuous	☐ Periodic	Visual inspection to confirm that end connections conform to the approved plans and shop drawings.
Bridging – horizontal or diagonal	☐ Continuous	☐ Periodic	Visual inspection to confirm that bridging is provided per the approved plans and shop drawings.
COLD-FORMED STEEL CONSTRUCTION (IBC 1705.2.2.1, 1705.10.3, and 1705.13.3):			
Trusses spanning > 60-feet	☐ Continuous	☐ Periodic	Verify that temporary and permanent truss bracing is installed in accordance with approved truss package. Performed by code inspection firm.
Wind-force-resisting systems or seismic-force-resisting systems	☐ Continuous	☐ Periodic	Periodic inspections of welding operations. If fastener spacing is < 4' o.c.: Verify that proper screw attachment, bolting, anchoring and other fastening of shear walls, diaphragms, drag struts, braces, shear panels and holdowns has occurred. Performed by code inspection firm.
Cold-formed steel special bolted moment frame	☐ Continuous	☐ Periodic	Visual inspections during installation cold-formed bolted moment frames located in Seismic Design Category 'D-F'

CONCRETE CONSTRUCTION (IBC 1705.3 & 1705.12.1)

Item			*Detailed Instructions and Frequencies*
Reinforcing steel, including prestressing tendons	☐ Continuous	☐ Periodic	Verify prior to placing concrete that reinforcing is of specified type, grade and size; that it is free of oil, dirt and rust; that it is located and spaced properly; that hooks, bends, ties, stirrups and supplemental reinforcement are placed correctly; that lap lengths, stagger and offsets are provided; and that all mechanical connections are installed per the manufacturer's instructions and/or evaluation report.
Welding of reinforcing steel	☐ Continuous	☐ Periodic	Visually inspect all welds and also verify weldability of reinforcing steel based upon carbon equivalent and in accordance with AWS D1.4.
Cast-in bolts & embeds	☐ Continuous	☐ Periodic	Inspection of anchors or embeds cast in concrete is required when allowable loads have been increased or when strength design is used.
Post-installed anchors or dowels	☐ Continuous	☐ Periodic	All post-installed anchors/dowels shall be specially inspected as required by the approved ICC-ES report. Horizontally or upwardly inclined anchors that resist sustained tension loads require continuous inspection and approved installers.
Use of required mix design	☐ Continuous	☐ Periodic	Verify that all mixes used comply with the approved construction documents; ACI 318: Ch. 19, 26.4.3, 26.4.4; and IBC 1904.1, 1904.2, 1908.2, 1908.3.

DIVISION OF FACILITIES CONSTRUCTION & MANAGEMENT
4110 State Office Building
Salt Lake City, Utah 84114
Phone: (801) 538-3018
Website: http://dfcm.utah.gov/

Placement of grout and prestressing grout for bonded tendons is in compliance	☐ Continuous	☐ Periodic	
Placement of AAC masonry units and construction of thin-bed mortar joints	☐ Continuous	☐ Periodic	Verify that mortar is placed in accordance with Article 3.3 B of TMS-602.
Observation of grout specimens, mortar specimens, and/or prisms	☐ Continuous	☐ Periodic	Confirm that specimens/prisms are performed as required by Article 1.4 of TMS-602. *Continuous inspection is required for Risk Category IV buildings.*
MINIMUM STRENGTH:			
Verification of Slump Flow and Visual Stability Index (VSI) for self-consolidating grout	☐ Continuous	☐ Periodic	Compressive strength tests should be performed in accordance with ASTM C 1019 for slump flow and ASTM C 1611 for VSI.
Verification of f'_m and f'_{AAC}	☐ Continuous	☐ Periodic	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 prior to construction. *For Risk Category IV buildings this should be verified at every 5,000ft² of construction.*
Verification of proportions of materials in premixed or pre-bedded mortar and grout	☐ Continuous	☐ Periodic	Verify that proportions for mortar meet ASTM C 270 and proportions for grout meet ASTM C 476. This applies to *Risk Category IV buildings only.*

WOOD CONSTRUCTION (IBC 1705.5, 1705.11.1 & 1705.12.2)

Item			*Detailed Instructions and Frequencies*
High-load diaphragms	☐ Continuous	☐ Periodic	Verify thickness and grade of sheathing, size of framing members at panel edges, nail/staple diameters and length, and the number of fastener lines and fastener spacing per approved plans. *Performed by code inspection firm.*
Wood trusses spanning > 60-feet	☐ Continuous	☐ Periodic	Verify that temporary and permanent truss bracing is installed in accordance with approved truss package. *Performed by code inspection firm.*
Structural wood	☐ Continuous	☐ Periodic	If fastener spacing is < 4' o.c.: Verify that proper nailing, bolting, anchoring and other fastening of shear walls, diaphragms, drag struts, braces, and holdowns. *Performed by code inspection firm.*

SOILS CONSTRUCTION (IBC 1705.6)

Item			*Detailed Instructions and Frequencies*
Verify subgrade is adequate to achieve design bearing capacity	☐ Continuous	☐ Periodic	Prior to placement of concrete.
Verify excavations extend to proper depth and material	☐ Continuous	☐ Periodic	Prior to placement of compacted fill or concrete.
Verify that subgrade has been appropriately prepared prior to placing compacted fill	☐ Continuous	☐ Periodic	Prior to placement of compacted fill.
Perform classification and testing of compacted fill materials	☐ Continuous	☐ Periodic	All materials shall be checked at each lift for proper classifications and gradations not less than once for each 10,000ft² of surface area.

DIVISION OF FACILITIES CONSTRUCTION & MANAGEMENT
4110 State Office Building
Salt Lake City, Utah 84114
Phone: (801) 538-3018
Website: http://dfcm.utah.gov/

ARCHITECTURAL COMPONENTS (IBC 1705.12.5)

➢ *Only required for buildings located within Seismic Design Category D, E, or F.*

Item			*Detailed Instructions and Frequencies*
Erection and fastening of exterior cladding or interior and exterior veneers	☐ Continuous	☐ Periodic	Verify appropriate materials, fasteners and attachment at commencement of work and at completion. Performed by code inspection firm. (Not required if < 30 feet or less than 5psf).
Erection and fastening of interior and exterior nonbearing walls	☐ Continuous	☐ Periodic	Verify appropriate materials, fasteners and attachment at commencement of work and at completion. Performed by code inspection firm. (Not required if < 30 feet or for interior walls < 15psf).
Access floors	☐ Continuous	☐ Periodic	Verify that anchorage complies with approved construction documents. Inspection of post-installed anchors shall comply with approved ICC-ES report. *Performed by code inspection firm.*
Storage racks	☐ Continuous	☐ Periodic	Verify that anchorage complies with approved construction documents. Inspection of post-installed anchors shall comply with approved ICC-ES report. *Performed by code inspection firm.*

MECHANICAL & ELECTRICAL COMPONENTS (IBC 1705.12.4, 1705.12.6 & 1705.13.2)

➢ *Only required for buildings located within Seismic Design Category C, D, E, or F.*

Item			*Detailed Instructions and Frequencies*
Anchorage of emergency or standby power systems	☐ Continuous	☐ Periodic	Verify that anchorage complies with approved construction documents. *Performed by code inspection firm.*
Installation of piping systems carrying flammable, combustible or highly toxic materials	☐ Continuous	☐ Periodic	Verify that installation and restraint comply with approved construction documents. *Performed by code inspection firm.*
Installation of HVAC ductwork containing hazardous materials	☐ Continuous	☐ Periodic	Verify that installation and restraint comply with approved construction documents. *Performed by code inspection firm.*
Installation of vibration isolation systems having a clearance of ≤¼"	☐ Continuous	☐ Periodic	Verify that installation complies with approved construction documents and manufacturer's recommendations. *Performed by code inspection firm.*
Designated seismic systems	☐ Continuous	☐ Periodic	Confirm that manufacturer's certificate of compliance conforms to the requirements of Section 13.2 of ASCE 7-10. Verify that the label, anchorage or mounting conforms to the manufacturer's certificate of compliance. *Performed by code inspection firm.*

SEISMICALLY ISOLATED STRUCTURES (IBC 1705.12.8 & 1705.13.4)

Item			*Detailed Instructions and Frequencies*
Prototype tests	☐ Continuous	☐ Periodic	Prototype tests shall be performed on selected samples prior to construction in accordance with Section 17.8 of ASCE 7-10.
Fabrication and installation	☐ Continuous	☐ Periodic	Verify that fabrication and installation of isolator units and energy dissipation devices conform to manufacturer's recommendations and approved construction documents.

DIVISION OF FACILITIES CONSTRUCTION & MANAGEMENT
4110 State Office Building
Salt Lake City, Utah 84114
Phone: (801) 538-3018
Website: http://dfcm.utah.gov/

STRUCTURAL OBSERVATIONS (IBC 1704.6)

Item	*Proposed Frequency*	*Name of Structural Observer*	
Footings & Piers	☐ Required		
Mat Foundations	☐ Required		
Deep Foundations	☐ Required		
Grade Beams	☐ Required		
Concrete Walls	☐ Required		
Masonry Walls	☐ Required		
Wood Walls	☐ Required		
Steel Moment Frames	☐ Required		
Steel Braced Frames	☐ Required		
Concrete Moment Frames	☐ Required		
Concrete Diaphragms	☐ Required		
Steel Deck Diaphragms	☐ Required		
Wood Diaphragms	☐ Required		
Post-tensioned Deck	☐ Required		
Other:	☐ Required		
Other:	☐ Required		
Other:	☐ Required		
Other:	☐ Required		

Structural Observer's Shall:

- Provide proof of licensure as a licensed professional/structural engineer by the State of Utah;
- If structural observations are performed by individuals other than the design professional in responsible charge, they should first be approved by the Building Official.
- At the conclusion of work a final structural observation report must be submitted to the Building Official noting any deficiencies which, to the best of the structural observer's knowledge, have not been resolved (see IBC 1704.6).

Last Revised: 10/2016

DIVISION OF FACILITIES CONSTRUCTION & MANAGEMENT
4110 State Office Building
Salt Lake City, Utah 84114
Phone: (801) 538-3018
Website: http://dfcm.utah.gov/

AFTER WELDING (TABLE N5.4-3, AISC 360-10):			
Welds cleaned	☐ Continuous	☐ Periodic	Verify that welds have been propyl cleaned.
Size, length, and location of welds	☐ Continuous	☐ Periodic	
Welds meet visual acceptance criteria	☐ Continuous	☐ Periodic	
Arc strikes	☐ Continuous	☐ Periodic	
k-area	☐ Continuous	☐ Periodic	
Backing & weld tabs removed	☐ Continuous	☐ Periodic	
Repair activities	☐ Continuous	☐ Periodic	
Document acceptance or rejection of welded joint/member	☐ Continuous	☐ Periodic	
NONDESTRUCTIVE TESTING (SECTION N5.5, AISC 360-10):			
CJP welds (Risk Cat. II)	☐ Continuous	☐ Periodic	Ultrasonic testing shall be performed on 10% of CJP groove welds in butt, T- and corner joints subject to transversely applied tension loading in materials 5/16-inch thick or greater. Testing rate must be increased if > 5% of welds tested have unacceptable defects.
CJP welds (Risk Cat. III or IV)	☐ Continuous	☐ Periodic	***A reduction in the rate of ultrasonic testing is allowed per Section N5.5c.***
Access holes (flange > 2")	☐ Continuous	☐ Periodic	
Welded joints subject to fatigue	☐ Continuous	☐ Periodic	
PRIOR TO BOLTING (TABLE N5.6-1, AISC 360-10):			
➢ *Not required if only snug-tight joints are specified [per Section N5.6(1) of AISC 360-10].*			
Certifications of fasteners	☐ Continuous	☐ Periodic	
Fasteners marked	☐ Continuous	☐ Periodic	Verify that fasteners have been marked in accordance with ASTM requirements.
Proper fasteners for joint	☐ Continuous	☐ Periodic	Verify grade, type, and bolt length if threads are excluded from the shear plane.
Proper bolting procedure	☐ Continuous	☐ Periodic	Verify proper procedure is used for the joint detail.
Connecting elements	☐ Continuous	☐ Periodic	Verify appropriate faying surface condition and hole preparation, if specified, meet requirements.
Pre-installation verification testing	☐ Continuous	☐ Periodic	Observe and document verification testing by installation personnel for fastener assemblies and methods used.
Proper storage	☐ Continuous	☐ Periodic	Verify proper storage of bolts, nuts, washers, and other fastener components.
DURING BOLTING (TABLE N5.6-2, AISC 360-10):			
➢ *Not required if only snug-tight joints are specified [per Section N5.6(1) of AISC 360-10].*			
➢ *Not required for pretensioned joints using turn-of-the-nut method with match-marking, direct-tension-indicators, or twist-off type tension control method [per Section N5.6(2) of AISC 360-10].*			
Fastener assemblies	☐ Continuous	☐ Periodic	Verify that fastener assemblies are of suitable condition, placed in all holes, and washers are positioned as required.
Snug-tight prior to pretensioning	☐ Continuous	☐ Periodic	Verify that joints are brought to snug-tight condition prior to pretensioning operation.
Fastener component	☐ Continuous	☐ Periodic	Verify that fastener component is not turned by wrench prevented from rotating.

DIVISION OF FACILITIES CONSTRUCTION & MANAGEMENT
4110 State Office Building
Salt Lake City, Utah 84114
Phone: (801) 538-3018
Website: http://dfcm.utah.gov/

Concrete sampling for strength tests, slump, air content, and temperature	☐ Continuous	☐ Periodic	
Concrete & shotcrete placement	☐ Continuous	☐ Periodic	
Curing temperature and techniques	☐ Continuous	☐ Periodic	Verify that the ambient temperature for concrete is kept at > 50°F for at least 7 days after placement. High-early-strength concrete shall be kept at > 50°F for at least 3 days. Accelerated curing methods may be used (see ACI 318: 26.4.7-26.4.9). The ambient temperature for shotcrete shall be > 40°F for the same period of time as noted for concrete. Shotcrete shall be kept continuously moist for at least 24 hours after shotcreting. All concrete materials, reinforcement, forms, fillers, and ground shall be free from frost. In hot weather conditions ensure that appropriate measures are taken to avoid plastic shrinkage cracking and that the specified water/cement ratio is not exceeded.
Pre-stressed concrete	☐ Continuous	☐ Periodic	
Erection of precast concrete	☐ Continuous	☐ Periodic	Verify that all precast elements are lifted, assembled and braced in accordance with the approved construction documents.
Strength verification	☐ Continuous	☐ Periodic	Verify that adequate strength has been achieved prior to the removal of shores and forms or the stressing of post-tensioned tendons.
Formwork	☐ Continuous	☐ Periodic	Verify that the forms are placed plumb and conform to the shapes, lines, and dimensions of the members as required by the approved construction documents.

MASONRY CONSTRUCTION (IBC 1705.4)

Item			*Detailed Instructions and Frequencies*
PRIOR TO CONSTRUCTION (ARTICLE 3.1, TMS-402/ACI 530-13):			
Review material certificates, mix designs, test results and construction procedures	☐ Continuous	☐ Periodic	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 C 270 while grout shall conform to ASTM C 476. 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.
AS CONSTRUCTION BEGINS (TABLE 3.1.2, TMS-402/ACI 530-13):			
Proportions of site-prepared mortar	☐ Continuous	☐ Periodic	Verify that mortar is of the type and color specified on the construction documents, that it conforms to ASTM C 270, and that it is mixed in accordance with Article 2.6 A of TMS-602.

DIVISION OF FACILITIES CONSTRUCTION & MANAGEMENT
4110 State Office Building
Salt Lake City, Utah 84114
Phone: (801) 538-3018
Website: http://dfcm.utah.gov/

Verify proper materials, densities and lift thicknesses during placement and compaction.	☐ Continuous	☐ Periodic	

DRIVEN DEEP FOUNDATIONS (IBC 1705.7)

Item			*Detailed Instructions and Frequencies*
Verify materials, sizes and lengths	☐ Continuous	☐ Periodic	
Determine capacities and conduct necessary load tests	☐ Continuous	☐ Periodic	
Observe drilling operations	☐ Continuous	☐ Periodic	
Verify placement locations & plumbness, confirm type & size of hammer, record number of blows per foot, record tip and butt elevations and document any damage to element	☐ Continuous	☐ Periodic	
Perform additional inspections for steel, concrete or other specialty elements.	☐ Continuous	☐ Periodic	Steel per IBC 1705.2 Concrete per IBC 1705.3 Specialty items per registered design professional

CAST-IN-PLACE DEEP FOUNDATIONS (IBC 1705.8)

Item			*Detailed Instructions and Frequencies*
Observe drilling operation and reporting	☐ Continuous	☐ Periodic	
Verify placement locations & plumbness, confirm element diameters, lengths, embedment and adequate end-bearing capacity. Record concrete or grout volumes.	☐ Continuous	☐ Periodic	
Perform additional inspections for concrete elements.	☐ Continuous	☐ Periodic	Concrete per IBC 1705.3

HELICAL PILE FOUNDATIONS (IBC 1705.9)

Item			*Detailed Instructions and Frequencies*
Record installation equipment used, pile dimensions, tip elevations, final depth, and final installation torque	☐ Continuous	☐ Periodic	
Verify that helical pilot used match the approved submittal	☐ Continuous	☐ Periodic	

SPRAYED FIRE-RESISTANT MATERIALS (IBC 1705.14)

Item			*Detailed Instructions and Frequencies*
Surface preparation	☐ Continuous	☐ Periodic	Prior to application confirm that surface has been prepared per the approved fire-resistance design and manufacturer's instructions.

DIVISION OF FACILITIES CONSTRUCTION & MANAGEMENT
4110 State Office Building
Salt Lake City, Utah 84114
Phone: (801) 538-3018
Website: http://dfcm.utah.gov/

SPECIAL CASES (IBC 1705.1.1) – material alternatives or unusual design applications

Item			*Detailed Instructions and Frequencies*
Material and installation	☐ Continuous	☐ Periodic	Per design professional in responsible charge or report from an accepted accreditation agency (i.e. ICC-ES).

MISCELLANEOUS AREAS

➢ *These inspections may be recommended by the Architect/Engineer and are to be approved by DFCM.*

Item			*Detailed Instructions and Frequencies*
Suspended Acoustical Ceilings	☐ Continuous	☐ Periodic	*Performed by code inspection firm.*
Soil backfill (specify locations and frequency)	☐ Continuous	☐ Periodic	
Soils for curb and gutter (specify locations and frequency)	☐ Continuous	☐ Periodic	
Soils for parking lots (specify locations and frequency)	☐ Continuous	☐ Periodic	
Soils for utility trench backfill	☐ Continuous	☐ Periodic	
Reinforcement for slab on grade sidewalks and drive approaches (specify locations and frequency)	☐ Continuous	☐ Periodic	
Reinforcement for interior slab on grade (specify locations and frequency)	☐ Continuous	☐ Periodic	
Concrete testing for slab on grade sidewalks and drive approaches (specify locations and frequency)	☐ Continuous	☐ Periodic	
Concrete testing for interior slab on grade (specify locations and frequency)	☐ Continuous	☐ Periodic	
Asphalt inspection (specify locations and frequency)	☐ Continuous	☐ Periodic	
Asphalt testing (specify locations and frequency)	☐ Continuous	☐ Periodic	
Steam and water line welding (specify locations and frequency)	☐ Continuous	☐ Periodic	
Seismic supports for duct work	☐ Continuous	☐ Periodic	
Seismic supports for duct work and sealing of joints for duct work	☐ Continuous	☐ Periodic	
Seismic supports for electrical raceways, cable trays and lights	☐ Continuous	☐ Periodic	
Seismic supports for plumbing lines including gas, water and steam and condensation	☐ Continuous	☐ Periodic	
Seismic bracing for mechanical units both on slab and suspended	☐ Continuous	☐ Periodic	
	☐ Continuous	☐ Periodic	
	☐ Continuous	☐ Periodic	
	☐ Continuous	☐ Periodic	
	☐ Continuous	☐ Periodic	

GENERAL DFCM NOTES:

- CONSTRUCTION OF NEW STATE BUILDINGS AND REMODELING OF EXISTING BUILDINGS SHALL COMPLY WITH ALL THE REQUIREMENTS OF THE DFCM STANDARDS. THE DFCM STANDARDS CAN BE FOUND AT THE FOLLOWING WEB SITE: www.dfcm.utah.gov
- ARCHITECT / ENGINEERS HAS DESIGNED THIS PROJECT TO MEET ALL DFCM STANDARDS.
- PRIOR TO FINAL APPROVAL OF THE PROJECT A FINAL INSPECTION NEEDS TO BE SUBMITTED TO THE BUILDING OFFICIAL INDICATING THAT THE PROJECT IS COMPLETE IN ACCORDANCE WITH THE APPROVED DRAWINGS AND DOCUMENTS.
- THE FOLLOWING DOCUMENTS ARE REQUIRED BEFORE A CERTIFICATE OF OCCUPANCY IS ISSUED:
  - A CODE INSPECTION REPORT RECOMMENDING THAT A CERTIFICATE OF OCCUPANCY BE ISSUED.
  - FINAL REPORT FROM THE SPECIAL INSPECTION AGENCY.
  - CERTIFICATE OF FIRE CLEARANCE FROM THE STATE FIRE MARSHALL.
  - REPORT OF THE DISINFECTION OF THE POTABLE WATER SYSTEM IPC 610.
  - A CERTIFICATE OF COMPLIANCE FROM THE APPROVED FABRICATOR, IF APPLICABLE, IBC 1704.2.2.
  - A SIGNED FINAL OBSERVATION REPORT FROM THE STRUCTURAL ENGINEER WHEN STRUCTURAL OBSERVATION IS REQUIRED BY IBC 1710

The following documents are required before a certificate of occupancy is issued:

- A code inspection report recommending that a certificate of occupancy be issued.
- Final report from the special inspection agency.
- Certificate of fire clearance from the State Fire Marshall.
- ~~Final approval from the State Elevator inspector, if applicable.~~ N.A.
- ~~Final approval from the State boiler inspector, if applicable.~~ N.A.
- Report of the disinfection of the potable water system. IPC 610
- A Certificate of Compliance from the approved fabricator, if applicable. IBC 1704.2.2
- A stamped and signed final report from the structural engineer when structural observation is required by IBC 1710.
- ~~An NFRC Certificate for fenestration without the NFRC label.~~ N.A.
- ~~Final report from the special inspector and the mechanical engineer when smoke control is required.~~
- ~~The reports must comply with IBC 909.18.9.3.~~ N.A.

DIVISION OF FACILITIES CONSTRUCTION & MANAGEMENT
4110 State Office Building
Salt Lake City, Utah 84114
Phone: (801) 538-3018
Website: http://dfcm.utah.gov/

Pretensioned fasteners	☐ Continuous	☐ Periodic	Verify that fasteners are Pretensioned in accordance with RCSC Specification, progressing systematically from the most rigid point toward the free edges.
AFTER BOLTING (TABLE N5.6-3, AISC 360-10):			
Document acceptance or rejection of bolted connections	☐ Continuous	☐ Periodic	
OTHER STEEL INSPECTIONS (SECTION N5.7, AISC 360-10; Tables JB-1 & J10-1, AISC 341-10):			
Structural steel details	☐ Continuous	☐ Periodic	All fabricated steel or steel frames shall be inspected to verify compliance with the details shown in the construction documents, such as braces, stiffeners, member locations, and proper application of joint details at each connection.
Anchor rods and other embedments supporting structural steel	☐ Continuous	☐ Periodic	Shall be on the premises during the placement of anchor rods and other embedments supporting structural steel for compliance with construction documents. Verify the diameter, grade, type, and length of the anchor rod or embedded item, and the extent or depth of embedment prior to placement of concrete.
Reduced beam sections (RBS)	☐ Continuous	☐ Periodic	Verify contour and finish as well as dimensional tolerances *(see Table JB-1 of AISC 341-10).*
Protected zones	☐ Continuous	☐ Periodic	Verify that no holes or unapproved attachments are made within the protected zone *(see Table JB-1 of AISC 341-10).*
H-piles	☐ Continuous	☐ Periodic	Verify that no holes or unapproved attachments occur within the protected zones of piling *(see Table J10-1 of AISC 341-10).*
STEEL ELEMENTS OF COMPOSITE CONSTRUCTION (TABLE N6.1, AISC 360-10; TABLES JP-1 thru JP-3, AISC 341-11):			
Placement and installation of steel deck	☐ Continuous	☐ Periodic	
Placement and installation of steel headed stud anchors	☐ Continuous	☐ Periodic	
Document acceptance or rejection of steel elements	☐ Continuous	☐ Periodic	
Reinforcing steel	☐ Continuous	☐ Periodic	Verify appropriate reinforcement size, spacing, and orientation; that it has not been re-bent in field; that it is correctly tied and supported; and that required steel clearances have been provided.
Composite member size	☐ Continuous	☐ Periodic	Verify that composite member is the required size.

STEEL CONSTRUCTION OTHER THAN STRUCTURAL STEEL (IBC 1705.2)

Item			*Detailed Instructions and Frequencies*
STEEL ROOF AND FLOOR DECKS (IBC 1705.2.2; Section 6.3.1 of SDI QA/QC - 2011):			
Material verification of cold-formed steel deck	☐ Continuous	☐ Periodic	Confirm that identification markings are provided to conform to ASTM standards specified on construction documents.
Floor and roof deck welds	☐ Continuous	☐ Periodic	Visual inspection is required to confirm that weld meets acceptance criteria of AWS D1.3 and SDI C. SDI NC, SDI RD and manufacturer's instructions.

DIVISION OF FACILITIES CONSTRUCTION & MANAGEMENT
4110 State Office Building
Salt Lake City, Utah 84114
Phone: (801) 538-3018
Website: http://dfcm.utah.gov/

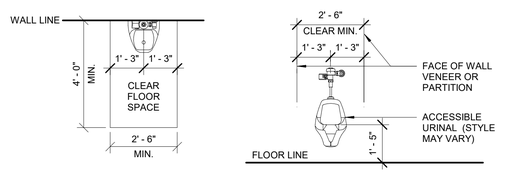
Construction of mortar joints	☐ Continuous	☐ Periodic	Verify that mortar joints comply with Article 3.3 B of TMS-602.
Grade and size of prestressing tendons and anchorages	☐ Continuous	☐ Periodic	Verify that prestressing tendons comply with Article 2.4 B of TMS-602 and that anchorages, couplers, and end blocks comply with Article 2.4 H.
Location of reinforcement, connectors, and prestressing tendons and anchorages	☐ Continuous	☐ Periodic	Verify that reinforcement is placed in accordance with Article 3.4 of TMS-602. Prestressing tendons shall be placed per Article 3.6 A.
Prestressing technique	☐ Continuous	☐ Periodic	Verify that prestressing technique complies with Article 3.6 B of TMS-602.
Properties of thin-bed mortar for AAC masonry.	☐ Continuous	☐ Periodic	Verify that mortar complies with Article 2.1 C of TMS-602.
PRIOR TO GROUTING (TABLE 3.1.2, TMS-402/ACI 530-13):			
Grout space	☐ Continuous	☐ Periodic	Verify that grout space is free of mortar droppings, debris, loose aggregate, and other deleterious materials and that clearances are provided per Article 3.2 D and 3.2 F of TMS-602. *Continuous inspection is required for Risk Category IV buildings.*
Grade, type, and size of reinforcement and anchor bolts, and prestressing tendons and anchorages	☐ Continuous	☐ Periodic	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.
Placement of reinforcement, connectors, and prestressing tendons and anchorages	☐ Continuous	☐ Periodic	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. *Continuous inspection is required for Risk Category IV buildings.*
Proportions of site-prepared grout and prestressing grout for bonded tendons	☐ Continuous	☐ Periodic	Verify that grout is proportioned per ASTM C 476 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.3 of TMS 602.) *Continuous inspection is required for Risk Category IV buildings.*
Construction of mortar joints	☐ Continuous	☐ Periodic	Verify that mortar joints are placed in accordance with Article 3.3 B of TMS 602.
DURING MASONRY CONSTRUCTION (TABLE 3.1.2, TMS-402/ACI 530-13):			
Size and location of structural elements	☐ Continuous	☐ Periodic	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.
Type, size, and location of anchors, including other details of anchorage of masonry to structural members, frames, or other construction.	☐ Continuous	☐ Periodic	Verify that anchors are placed per the approved plans and Section 1.16.4.3 and 1.17.1 of TMS 402. *Continuous inspection is required for Risk Category IV buildings.*
Welding of reinforcement	☐ Continuous	☐ Periodic	
Preparation, construction, and protection of masonry during cold weather (<40°F) or hot weather (>90°F).	☐ Continuous	☐ Periodic	Verify that cold-weather construction is performed in accordance with Article 1.8 C of TMS 602 and hot weather construction per Article 1.8 D of TMS 602.
Application and measurement of prestressing force	☐ Continuous	☐ Periodic	

DIVISION OF FACILITIES CONSTRUCTION & MANAGEMENT
4110 State Office Building
Salt Lake City, Utah 84114
Phone: (801) 538-3018
Website: http://dfcm.utah.gov/

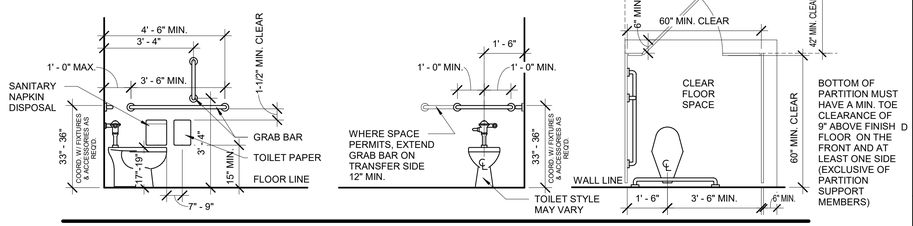
Material thickness	☐ Continuous	☐ Periodic	Samples shall be taken from selected floor, roof and wall assemblies and structural members. No more than 10% of the samples shall be less than the thickness required by the fire-resistance design.
Material density	☐ Continuous	☐ Periodic	Density tests shall be performed in accordance with ASTM E 605 for every 2,500ft² of floor, roof or wall area. One sample must also be provided for each, girder, truss or column at each story.
Bonding strength	☐ Continuous	☐ Periodic	Bond strength tests shall be performed in accordance with ASTM E 736 for every 2,500ft² of floor, roof or wall area. One sample must also be provided for each beam, girder, truss or column at each story. The bond strength shall not be less than 150psf.

MASTIC AND INTUMESCENT FIRE-RESISTANT COATINGS (IBC 1705.15)

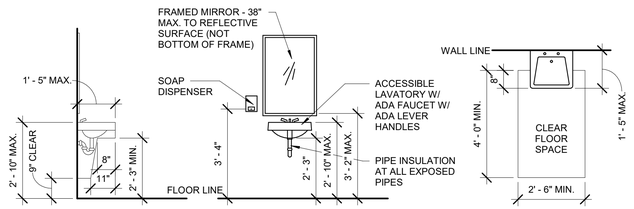
Item			*Detailed Instructions and Frequencies*
Surface preparation	☐ Continuous	☐ Periodic	Prior to application confirms that surface temperature and substrate are acceptable



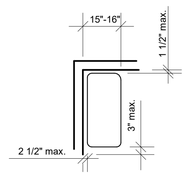
ACCESSIBLE URINAL



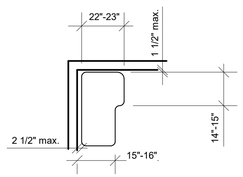
ACCESSIBLE TOILET STALL



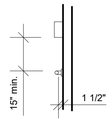
ACCESSIBLE LAVATORY



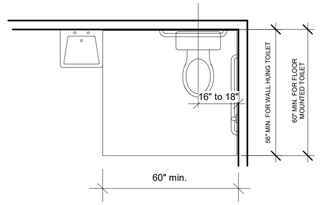
RECTANGULAR SHOWER COMPARTMENT SEAT



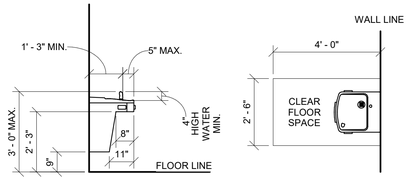
L-SHAPED SHOWER COMPARTMENT SEAT



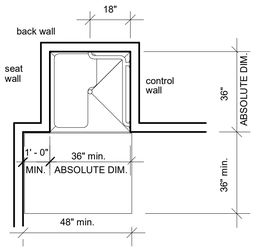
SPACING OF GRAB BARS



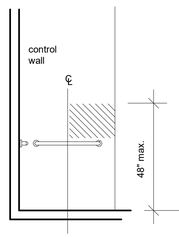
WATER CLOSET LOCATION / CLEAR FLOOR SPACE



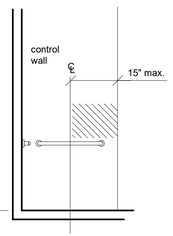
ELECTRIC WATER COOLER



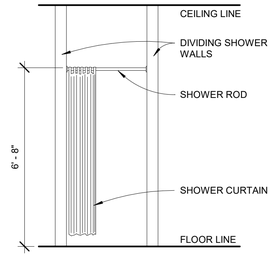
TRANSFER-TYPE SHOWER COMPARTMENT WITH GRAB BARS



CONTROLS IN TRANSFER-TYPE SHOWER



LOCATION OF SHOWER SPRAY UNIT

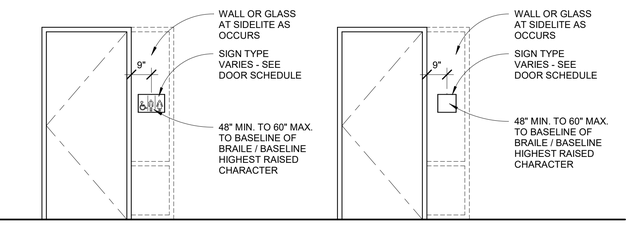


SHOWER ROD AND CURTAIN

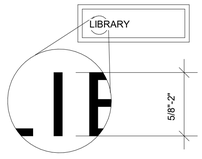
ACCESSIBLE SHOWERS

SHOWERS AND ALL RELATED COMPONENTS MUST FULLY COMPLY WITH THE REQUIREMENTS OF "TRANSFER-TYPE SHOWER COMPARTMENTS" AS STATED IN ICC/ANSI A117.1-2003

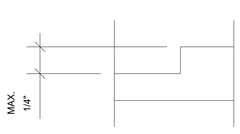
MISC. ACCESSORIES MOUNTING HEIGHT



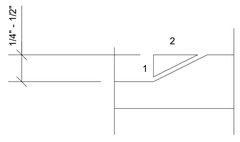
SIGNAGE AT DOORS



CHARACTER HEIGHT

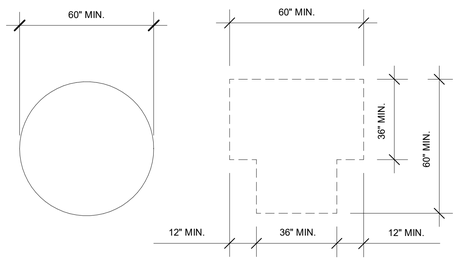


VERTICAL CHANGES IN LEVEL



BEVELED CHANGES IN LEVEL

ACCESSIBLE CHANGES IN LEVEL



(A) CIRCULAR (B) T-SHAPED

WHEELCHAIR TURNING SPACE

NOTE:
THE INFORMATION ON THIS SHEET INDICATES GENERAL ADA DESIGN REQUIREMENTS AND IS FOR REFERENCE ONLY - ANY DISCREPANCIES BETWEEN THIS SHEET AND THE DESIGN DRAWINGS ARE TO BE CONSTRUED AS INDICATED IN THE DESIGN DRAWINGS - IF ANY QUESTIONS ARISE DUE TO DISCREPANCIES OR MISSING INFORMATION CONTACT THE ARCHITECT PRIOR TO PERFORMING WORK.

PROVIDE BLOCKING / BACKING AS REQUIRED FOR ALL WALL MOUNTED ACCESSORIES / FIXTURES

ARCHITECT'S INFORMATION:
SPE ARCHITECTS
P.O. Box 517
Kaysville, Utah 84037
t. 801.298.1368
info@spe-architect.com
www.spe-architect.com

PROFESSIONAL STAMP:
REGISTERED STATE OF UTAH JOSEPH B. EVANS NO. 118114 ARCHITECT
06.23.2023
SEAL/SIGNATURE

CODE OFFICIAL STAMP:
REVIEWED FOR CODE COMPLIANCE
Thomas W Peterson
09/25/2023
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

PROJECT NAME:
UDOT MURRAY TOW PLOW STORAGE BUILDING
5823 S COMMERCE WAY
MURRAY, UTAH 84107

REVISIONS:

NO	DATE	DESCRIPTION

ISSUED:

NO	DATE	DESCRIPTION
01	06/23/23	CONSTRUCTION BID SET

OWNER PROJECT #:	24096900
SPE PROJECT #:	23-17
DRAWN BY:	JBE
CHECKED BY:	SPE
DESIGNED BY:	JBE

SHEET TITLE:
ADA GENERAL REQUIREMENTS

SHEET NUMBER:
GI-005

Last Plotted: 8/8/2023 7:59:13 AM

GENERAL NOTES

1. ALL IMPROVEMENTS SHALL COMPLY WITH THE STANDARDS AND REGULATIONS OF THE LOCAL GOVERNING MUNICIPALITY. CONTACT THE PUBLIC WORKS OFFICE BEFORE BEGINNING.
2. CONTRACTOR TO FIELD VERIFY LOCATION, SIZE, AND AVAILABILITY OF EXISTING UTILITIES. UTILITIES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR AT HIS/HER EXPENSE. SEE UTILITY NOTE 3.
3. ALL DIMENSIONS ARE IN FOOT UNITS AND ARE TO THE TOP BACK OF CURB UNLESS SHOWN OR NOTED OTHERWISE.
4. PROVIDE HANDICAP RAMPS AT ENDS OF WALKWAYS. END 0.1' ABOVE FLOWLINE OF CURB.
5. CURB AND GUTTER SHALL BE AS PER APWA STD DWG NO 205 TYPE A.
6. UTILITY INFORMATION INDICATED ON DRAWING IS BASED UPON VISUAL OBSERVATION OR INFORMATION FURNISHED BY MUNICIPAL AUTHORITIES WHICH MAY NOT BE VALID. LATERAL LOCATIONS AND ELEVATIONS ARE ASSUMED. SEE UTILITY NOTE 3.
7. ALL GRADING SHALL BE DONE UNDER THE SUPERVISION OF A QUALIFIED SOILS ENGINEER WHO SHALL VERIFY THAT ALL FILL HAS BEEN PLACED IN ACCORDANCE WITH PROVISIONS IN CURRENT INTERNATIONAL BUILDING CODE.
8. COMPACTION TEST REPORTS SHALL BE MADE AVAILABLE TO THE ENGINEER WITHIN 24 HOURS OF A REQUEST. FINAL REPORTS AS SPECIFIED IN CURRENT INTERNATIONAL BUILDING CODE SHALL BE SUBMITTED TO THE ENGINEER WITHIN TEN DAYS AFTER COMPLETION OF GRADING.
9. ALL STORM DRAIN PIPE SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS AND THE LOCAL GOVERNING MUNICIPALITY'S STANDARDS AND SPECIFICATIONS.
10. STORM DRAIN PIPE WITHIN THE PUBLIC RIGHT-OF-WAY SHALL CONFORM TO THE RIGHT-OF-WAY OWNER'S SPECIFICATIONS.
    PRIVATE STORM DRAIN PIPE OPTIONS SHALL CONSIST OF THE FOLLOWING MATERIALS.
    1. PVC PIPE, ASTM D3034, SDR 35, BELL & SPIGOT TYPE.
    2. RCP PIPE, CLASS 3, BELL & SPIGOT TYPE.
    3. HIGH DENSITY CORRUGATED POLYETHYLENE SMOOTH INTERIOR PIPE, ASTM D3350 WITH WATERTIGHT JOINTS.
11. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CHECK CONDITIONS AT THE SITE BEFORE STARTING WORK AND SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
12. TYPICAL DETAILS SHALL APPLY IN GENERAL CONSTRUCTION UNLESS SPECIFICALLY DETAILED. WHERE NO DETAILS ARE GIVEN, CONSTRUCTION WILL BE AS FOR SIMILAR WORK. DO NOT SCALE DRAWINGS.
13. ANY OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND/OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH ANY WORK INVOLVED.
14. PIPE BEDDING SHALL BE 3/8" MAXIMUM AGGREGATE. USE 3/4" MAXIMUM SIZE ROAD BASE FOR BACKFILL MATERIAL. COMPACT TO 95% STANDARD PROCTOR DENSITY. MAXIMUM LIFT 8 INCHES.
15. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PUBLIC AND OSHA STANDARDS.
16. ALL WORK SHALL COMPLY WITH THE AMERICAN PUBLIC WORKS ASSOCIATION UTAH CHAPTER (APWA) MANUAL OF STANDARD SPECIFICATIONS 2007 EDITION WITH ALL PERTINENT SUPPLEMENTS AND AMENDMENTS AND THE MANUAL OF STANDARD PLANS 2007 EDITION. SAID STANDARD SPECIFICATIONS AND PLANS SHALL BE THE REQUIREMENTS.
17. IT IS INTENDED THAT THESE PLANS AND SPECIFICATIONS REQUIRE ALL LABOR AND MATERIALS NECESSARY AND PROPER FOR THE WORK CONTEMPLATED AND THE WORK TO BE COMPLETED IN ACCORDANCE WITH THEIR TRUE INTENT AND PURPOSE. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY REGARDING ANY DISCREPANCIES OR AMBIGUITIES WHICH EXIST IN THE PLANS OR SPECIFICATIONS. THE ENGINEER'S INTERPRETATION THEREOF SHALL BE CONCLUSIVE. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY FIELD CHANGES MADE WITHOUT PRIOR WRITTEN AUTHORITY FROM THE OWNER AND/OR ENGINEER.
18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATELY SCHEDULING INSPECTION AND TESTING OF ALL FACILITIES CONSTRUCTED UNDER THIS CONTRACT. ALL TESTING SHALL CONFORM TO THE REGULATORY AGENCY'S STANDARD SPECIFICATIONS. ALL TESTING AND INSPECTION SHALL BE PAID FOR BY THE OWNER; ALL RE-TESTING AND/OR REINSPECTION SHALL BE PAID FOR BY THE CONTRACTOR.
19. THE CONTRACTOR SHALL MAINTAIN A NEATLY MARKED SET OF FULL-SIZE AS-BUILT RECORD DRAWINGS SHOWING THE FINAL LOCATION AND LAYOUT OF ALL MECHANICAL; ELECTRICAL AND INSTRUMENTATION EQUIPMENT; PIPING AND CONDUITS; STRUCTURES AND OTHER FACILITIES. THE AS-BUILTS OF THE ELECTRICAL SYSTEM SHALL INCLUDE THE STREET LIGHT LAYOUT PLAN SHOWING LOCATION OF LIGHTS, CONDUITS, CONDUCTORS, POINTS OF CONNECTIONS TO SERVICES, PULLBOXES, AND WIRE SIZES. AS-BUILT RECORD DRAWINGS SHALL REFLECT CHANGE ORDERS, ACCOMMODATIONS, AND ADJUSTMENTS TO ALL IMPROVEMENTS CONSTRUCTED. WHERE NECESSARY, SUPPLEMENTAL DRAWINGS SHALL BE PREPARED AND SUBMITTED BY THE CONTRACTOR.
20. PRIOR TO ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL DELIVER TO ENGINEER, ONE SET OF NEATLY MARKED AS-BUILT RECORD DRAWINGS SHOWING THE INFORMATION REQUIRED ABOVE. AS-BUILT RECORD DRAWINGS SHALL BE REVIEWED AND THE COMPLETE AS-BUILT RECORD DRAWING SET SHALL BE CURRENT WITH ALL CHANGES AND DEVIATIONS REDLINED AS A PRECONDITION TO THE FINAL PROGRESS PAYMENT APPROVAL AND/OR FINAL ACCEPTANCE.

SEQUENCE OF CONSTRUCTION

1. CONSTRUCTION EXIT IS TO BE CONSTRUCTED AT TIME OF ENTRY TO SITE.
2. CLEAR AND GRUB AREAS FOR SEDIMENT MEASURES.
3. INSTALL SILT FENCES.
4. COMPLETE CLEARING OF SITE AND BEGIN ROUGH GRADING.
5. FILL AREAS SHALL BE FILLED IN 12 INCH MAXIMUM LIFTS AND COMPACTED TO AT LEAST 95% MAXIMUM DENSITY.
6. DRAINAGE WILL BE CONTROLLED AND GROUND SLOPED SO AS TO DIRECT RUNOFF TO SEDIMENT CONTROLLED INLETS.
7. INSTALL REMAINDER OF STORM DRAIN.
8. INSTALL UTILITY LINES, WATER, ETC.
9. INSTALL CURBS, WALKS, ETC., AND STABILIZE ALL DISTURBED AREAS.
10. INSTALL BASE COURSE.
11. REMOVE SEDIMENT CONTROL MEASURES, CLEAN OUT TEMPORARY SEDIMENTATION BASINS AND REGRADE, CLEAN OUT SEDIMENT TRAPS AND CONVERT THEM TO STORM WATER MANAGEMENT STRUCTURES.
12. PAVE SITE.
13. OWNER TO BE RESPONSIBLE TO CHECK CLEAN OUT INLET BOXES FOR SEDIMENT AND OIL AND CLEAN AS NECESSARY

UTILITY NOTES

1. ALL SERVICE LATERALS SHALL BE EXTENDED 2 FEET PAST THE 10 FOOT P.U.E.
2. ALL CONSTRUCTION SHALL COMPLY WITH LOCAL GOVERNING MUNICIPALITY DESIGN STANDARDS AND CONSTRUCTION SPECIFICATIONS
3. LOCATIONS OF ALL UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE LOCATIONS. CONTRACTOR IS TO FIELD VERIFY CONNECTION POINTS WITH EXISTING UTILITIES, INCLUDING LOCATIONS AND INVERT ELEVATIONS OF ALL EXISTING STRUCTURES OR PIPES, BEFORE STAKING OR CONSTRUCTING ANY NEW UTILITIES. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE CAUSED TO EXISTING UTILITIES AND UTILITY STRUCTURE THAT ARE TO REMAIN.
4. CONTRACTOR IS RESPONSIBLE TO EXPOSE ALL UTILITY SERVICES STUBBED INTO PROJECT PROPERTY AND GIVE ENTELLUS. 48 HOURS PRIOR NOTICE SO ENTELLUS CAN VERIFY DEPTHS AND INVERT ELEVATIONS TO DETERMINE IF CONFLICTS EXIST. ALSO ANY EXISTING UTILITIES THAT RUN ACROSS PROJECT PROPERTY WHICH MAY CAUSE POTENTIAL CONFLICT NEED TO BE EXPOSED AND LOCATED BOTH HORIZONTALLY AND VERTICALLY. CONTRACTOR PROCEEDS AT OWN RISK IF ENTELLUS IS NOT NOTIFIED TO FIELD VERIFY THE ABOVE MENTIONED CONDITIONS.
5. CONTRACTOR IS TO COORDINATE ALL UTILITIES WITH MECHANICAL DRAWINGS WHERE APPLICABLE.
6. NO GROUNDWATER OR DEBRIS TO BE ALLOWED TO ENTER THE NEW PIPE DURING CONSTRUCTION. THE OPEN END OF ALL PIPES IS TO BE COVERED AND EFFECTIVELY SEALED AT THE END OF EACH DAYS WORK.
7. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INSTALL PIPE OF ADEQUATE CLASSIFICATION WITH SUFFICIENT BEDDING TO MEET ALL REQUIREMENTS AND RECOMMENDATIONS FOR H-20 LOAD REQUIREMENTS.
8. ALL NEW SANITARY SEWER CONSTRUCTION TO BE DONE IN ACCORDANCE WITH LOCAL GOVERNING MUNICIPALITY STANDARDS & SPECIFICATIONS.
9. ALL SEWER LINES AND LATERALS ARE TO BE SDR 35 PVC PIPE.
10. SEWER LATERALS WILL BE INSTALLED AT A UNIFORM SLOPE OF NOT LESS THAN 2% GRADE AND THEY SHALL HAVE A MINIMUM OF 4 FEET OF COVER, UNLESS OTHERWISE NOTED.
11. ALL NEW CULINARY AND IRRIGATION WATER CONSTRUCTION TO BE DONE IN ACCORDANCE WITH LOCAL GOVERNING MUNICIPALITY STANDARDS & SPECIFICATIONS.
12. WATER LINES TO BE PVC C-900. WATER LINES SHALL BE A MINIMUM OF 10' HORIZONTALLY FROM SEWER MAINS. CROSSINGS SHALL MEET STATE HEALTH STANDARDS. (MECHANICAL JOINTS REQUIRED WHEN LESS THAN 18" VERTICAL OR 10' HORIZONTAL SEPARATION FROM SEWER LINES.)
13. ALL WATER LINES SHALL BE 8" MINIMUM SIZE AND SERVICE LATERALS SHALL BE 1-1/2" MINIMUM UNLESS OTHERWISE NOTED.
14. WATER SERVICE LATERALS TO INCLUDE ALL BRASS SADDLE; CORP. STOP LATERAL, DOUBLE CHECK VALVE AND BACKFLOW PREVENTION DEVICE, AND SHUTOFF VALVE IN BOX NEAR BUILDING EDGE.
15. ALL WATER LINES SHALL BE A MINIMUM 48" BELOW FINISH GROUND TO TOP OF PIPE. ALL VALVE BOXES AND MANHOLES SHALL BE RAISED OR LOWERED TO FINISH GRADE AND SHALL INCLUDE A CONCRETE COLLAR IN PAVED AREAS.
16. CONTRACTOR TO NOTIFY PUBLIC UTILITIES FOR CHLORINE TEST PRIOR TO FLUSHING LINES, CHLORINE LEFT IN PIPE 24 HOURS MINIMUM WITH 25 PPM RESIDUAL. ALL TURNING OF MAINLINE VALVES, CHLORINATION, FLUSHING, PRESSURE TESTING, BACTERIA TESTING, ETC. TO BE COORDINATED WITH LOCAL GOVERNING MUNICIPALITY. ALL TESTS TO BE IN ACCORDANCE WITH AWWA STANDARDS.
17. BOTTOM FLANGE OF FIRE HYDRANTS TO BE SET TO APPROXIMATELY 4" INCHES ABOVE BACK OF CURB ELEVATION. HYDRANTS TO INCLUDE TEE, 6" LINE VALVE, AND HYDRANT COMPLETE TO MEET CITY STANDARDS.
18. ALL NEW STORM DRAIN/LAND DRAIN CONSTRUCTION TO BE DONE IN ACCORDANCE WITH LOCAL GOVERNING MUNICIPALITY STANDARDS & SPECIFICATIONS.
19. ALL STORM WATER CONVEYANCE PIPING TO BE RCP - CLASS 3 OR EQUAL, UNLESS OTHERWISE NOTED.
20. CONTRACTOR IS TO SUBMIT SITE PLAN/SUBDIVISION PLAT TO DOMINION ENERGY GAS FOR DESIGN OF GAS SERVICE TO BUILDINGS/LOTS. CONTRACTOR TO COORDINATE WITH DOMINION ENERGY GAS FOR CONTRACTOR LIMITS OF WORK VERSUS DOMINION ENERGY GAS LIMITS.
21. ALL GAS LINE TAPS TO BE HDPE WITH COPPER TRACER WIRE AND DETECTA TAPE. TERMINATE TRACER WIRE AT APPROVED LOCATIONS.
22. ALL GAS LINE TAPS, VALVES AND CAPS TO BE FUSED USING ELECTRO-FUSION TECHNOLOGY.
23. ALL ELECTRICAL CONDUITS/LINES TO BE PVC SCH 40 OR BETTER.
24. ALL PHONE AND TV CONDUITS TO BE PVC SCH 40 OR BETTER.
25. CONTRACTOR IS TO SUBMIT SITE PLAN/SUBDIVISION PLAT TO COMCAST FOR DESIGN OF CABLE TV SERVICE TO BUILDINGS/LOTS. CONTRACTOR TO COORDINATE WITH COMCAST FOR CONTRACTOR LIMITS OF WORK VERSES COMCAST LIMITS.
26. CONTRACTOR IS TO COORDINATE LOCATIONS OF NEW TELEPHONE SERVICE TO NEW BUILDINGS OR LOTS WITH CENTURYLINK. A PVC CONDUIT, PLYWOOD BACKBOARD, AND GROUND WIRE IS REQUIRED FOR SERVICE THROUGH PROPERTY. COORDINATE SIZES AND LOCATION WITH CENTURYLINK.
27. ALL UTILITIES ARE TO BE INSTALLED IN ACCORDANCE WITH THE CORRESPONDING AGENCY/DISTRICT STANDARDS AND SPECIFICATIONS:
    WATER - WENDOVER CITY
    SEWER - WENDOVER CITY
    STORM DRAIN - WENDOVER CITY
    IRRIGATION - WENDOVER CITY
    ELECTRICAL - ROCKY MOUNTAIN POWER
    TELEPHONE - CENTURYLINK
    NATURAL GAS - DOMINION ENERGY

GRADING NOTES

1. SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE SOILS REPORT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND REPLACING ALL SOFT, YIELDING OR UNSUITABLE MATERIALS AND REPLACING IT WITH SUITABLE MATERIALS AS SPECIFIED IN THE SOILS REPORT. ALL EXCAVATED OR FILLED AREAS SHALL BE COMPACTED TO 95% OF MODIFIED PROCTOR MAXIMUM DENSITY PER ASTM TEST D-1557 EXCEPT UNDER BUILDING FOUNDATION WHERE IT SHALL BE 95% MIN. OF MAXIMUM DENSITY. MOISTURE CONTENT AT TIME OF PLACEMENT SHALL NOT EXCEED 2% ABOVE NOR 3% BELOW OPTIMUM. CONTRACTOR SHALL SUBMIT A COMPACTION REPORT PREPARED BY A QUALIFIED REGISTERED SOILS ENGINEER, VERIFYING THAT ALL FILLED AREAS AND SUBGRADE AREAS WITHIN THE BUILDING PAD AREA AND AREAS TO BE PAVED, HAVE BEEN COMPACTED IN ACCORDANCE WITH THESE PLANS AND SPECS AND THE RECOMMENDATIONS SET FORTH IN THE SOILS. REPORT.
2. THE CONTRACTOR IS TO USE BEST MANAGEMENT PRACTICES FOR PROVIDING EROSION CONTROL FOR CONSTRUCTION OF THE PROJECT. SPECIFIC DETAILS SHOWN SHALL BE USED IN COMBINATION WITH OTHER ACCEPTED LOCAL PRACTICES.
3. EXISTING UNDERGROUND UTILITIES AND IMPROVEMENTS ARE SHOWN IN THEIR APPROXIMATE LOCATIONS BASED UPON RECORD INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF PLANS. LOCATIONS MAY NOT HAVE BEEN VERIFIED IN THE FIELD AND NO GUARANTEE IS MADE AS TO ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN ON THESE PLANS OR INDICATED IN THE FIELD BY LOCATING SERVICES. ANY ADDITIONAL COSTS INCURRED AS A RESULT OF CONTRACTOR'S FAILURE TO VERIFY LOCATIONS OF EXISTING UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION IN THEIR VICINITY SHALL BE BORNE BY THE CONTRACTOR AND ASSUMED INCLUDED IN THE CONTRACT.
4. IF AT ANY TIME DURING CONSTRUCTION ANY UNFAVORABLE GEOLOGICAL CONDITIONS ARE ENCOUNTERED, WORK IN THAT AREA WILL STOP UNTIL APPROVED CORRECTIVE MEASURES ARE OBTAINED FROM THE ENGINEER.
5. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING HIS/HER OWN ESTIMATE OF EARTHWORK QUANTITIES.
6. WHERE NEW CURB AND GUTTER IS BEING CONSTRUCTED ADJACENT TO EXISTING ASPHALT OF CONCRETE PAVEMENT, THE FOLLOWING SHALL APPLY:
   - PRIOR TO PLACEMENT OF ANY CONCRETE THE CONTRACTOR SHALL HAVE A LICENSED SURVEYOR VERIFY THE GRADE AND CROSS SLOPE OF THE CURB AND GUTTER FORMS.
   - THE CONTRACTOR SHALL SUBMIT THE SLOPE AND GRADES TO THE ENGINEER FOR APPROVAL PRIOR TO THE PLACEMENT OF CONCRETE.
   - THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY SECTION WHICH DOES NOT CONFORM TO THE DESIGN OR TYPICAL CROSS SECTION.
   - THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CURB AND GUTTER POURS WITHOUT THE APPROVAL OF THE ENGINEER.

EROSION CONTROL

1. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE STANDARDS AND REGULATIONS OF THE LOCAL GOVERNING MUNICIPALITY.
2. ALL SEDIMENT CONTROL MEASURES TO BE ADJUSTED TO MEET FIELD CONDITIONS AT THE TIME OF CONSTRUCTION AND CONSTRUCTED PRIOR TO ANY GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIAL ON BALANCE OF SITE.
3. DAILY INSPECTION AND MAINTENANCE OF ALL SEDIMENT CONTROL STRUCTURES MUST BE PROVIDED TO INSURE INTENDED PURPOSE IS ACCOMPLISHED. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SEDIMENT LEAVING THE PROPERTY. SEDIMENT CONTROL MEASURES SHALL BE IN WORKING CONDITION AT THE END OF EACH WORKING DAY.
4. ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS WILL BE PROTECTED TO PREVENT TRACKING OF MUD ONTO PUBLIC WAYS.
5. ALL SEDIMENT WILL BE PREVENTED FROM ENTERING ANY STORM DRAINAGE SYSTEM THROUGH THE USE OF SANDBAGS, STRAW BALES, SILT FENCES, GRAVEL, BOARDS, AND OTHER APPLICABLE METHODS.
6. ALL DISTURBED AREAS OUTSIDE OF ROADWAYS, PARKING LOTS, SIDEWALKS AND OR BUILDING FOOTPRINTS SHALL BE SEEDED, SODDED AND/OR MULCHED.
7. IF SITE IS READY TO RECEIVE FINAL COVER DURING THE NON-PLANTING SEASON, THEN IT SHALL BE PROTECTED BY MULCHING. THE MULCH WILL REMAIN UNTIL THE NEXT PLANTING SEASON AS DEFINED BY THE LOCAL GOVERNING MUNICIPALITY.
8. RE-VEGETATE ALL DENUDED AREAS AS PER THE STANDARDS AND REGULATIONS OF THE LOCAL GOVERNING MUNICIPALITY.
9. THE CONTRACTOR AGREES THAT:

A. THEY SHALL BE RESPONSIBLE TO CLEAN THE JOB SITE AT THE END OF EACH PHASE OF WORK.

B. THEY SHALL BE RESPONSIBLE TO REMOVE AND DISPOSE OF ALL TRASH, SCRAP AND UNUSED MATERIAL AT THEIR OWN EXPENSE IN A TIMELY MANNER.

C. THEY SHALL BE RESPONSIBLE TO MAINTAIN THE SITE IN A NEAT, SAFE AND ORDERLY MANNER AT ALL TIMES.

D. THEY SHALL BE RESPONSIBLE TO KEEP MATERIALS, EQUIPMENT, AND TRASH OUT OF THE WAY OF OTHER CONTRACTORS SO AS NOT TO DELAY THE JOB. FAILURE TO DO SO WILL RESULT IN A DEDUCTION FOR THE COST OF CLEAN UP FROM FINAL PAYMENT.

E. THEY SHALL BE RESPONSIBLE FOR THEIR OWN SAFETY, TRAFFIC CONTROL. PERMITS, RETESTING AND REINSPECTION AT THEIR OWN EXPENSE.

F. UNLESS OTHERWISE NOTED ALL EXCESS SOILS AND MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE LAWFULLY DISPOSED OF OFF SITE AT THE CONTRACTOR'S EXPENSE.

G. THE CONTRACTOR SHALL PROVIDE ALL LIGHTS, BARRICADES, SIGNS, FLAG-MEN OR OTHER DEVICES NECESSARY FOR PUBLIC SAFETY.

LEGEND

SECTION CORNER
MONUMENT
EXISTING SPOT ELEVATION (30.82)
PROPOSED SPOT ELEVATION (30.82)
DOWNWARD GRADE (1.5%)
EXISTING INDEX CONTOUR (4258)
EXISTING MINOR CONTOUR
PROPOSED CONTOUR (4258)
PROPOSED MINOR CONTOUR
LOT OR BOUNDARY LINE
PUBLIC UTILITY EASEMENT
BUILDABLE AREA SETBACK
CENTER LINE OF ROAD
EXISTING FENCE
PROPOSED FENCE
EXISTING BUILDING
PROPOSED BUILDING
EXISTING ASPHALT
PROPOSED ASPHALT
EXISTING CONCRETE
PROPOSED CONCRETE
EXISTING CURB & GUTTER
PROPOSED CURB & GUTTER
ADA PARKING
STREET LIGHT
POWER POLE (PWR)
TELEPHONE POLE (TEL)
UTILITY POLE (UTIL)
STREET SIGN
EXISTING RETAINING WALL
PROPOSED RETAINING WALL
EXISTING ROCK WALL
PROPOSED ROCK WALL
EXISTING FIBER OPTIC (FO)
PROPOSED FIBER OPTIC (FO)
EXISTING NATURAL GAS (GAS)
PROPOSED NATURAL GAS (GAS)
EXISTING POWER (PWR)
PROPOSED POWER (PWR)
EXISTING OVERHEAD POWER (OHP)
PROPOSED OVERHEAD POWER (OHP)
EXISTING UNDERGROUND POWER (UGP)
PROPOSED UNDERGROUND POWER (UGP)
EXISTING TELEPHONE (TEL)
PROPOSED TELEPHONE (TEL)
EXISTING IRRIGATION LINE (IRR)
PROPOSED IRRIGATION LINE (IRR)
IRRIGATION MANHOLE (IRR)
IRRIGATION METER (IM)
BLOWOFF
VALVE
TEE
ELBOW
REDUCER
THRUST BLOCK
EXISTING SEWER LINE (SS)
PROPOSED SEWER LINE (SS)
SEWER MANHOLE (SS)

LEGEND

EXISTING WATER LINE (WTR)
PROPOSED WATER LINE (WTR)
WATER MANHOLE (W)
WATER METER
FIRE HYDRANT
BLOWOFF
VALVE
TEE
ELBOW
REDUCER
THRUST BLOCK
EXISTING LAND DRAIN (LD)
PROPOSED LAND DRAIN (LD)
LAND DRAIN MANHOLE (LD)
EXISTING STORM DRAIN (SD)
PROPOSED STORM DRAIN (SD)
STORM DRAIN MANHOLE (SD)
CATCH BASIN / CLEANOUT
CURB INLET

ABBREVIATIONS

	DIAMETER	L	LENGTH
	DELTA	LAT	LATERAL SERVICE
°	DEGREES	LD	LAND DRAIN
'	MINUTES, FEET	LDMH	LAND DRAIN MANHOLE
"	SECONDS, INCHES	LF	LINEAL FEET
ADA	AMERICAN DISABILITIES ACT	LG	LIP OF GUTTER
ADS	CORRUGATED BLACK PLASTIC PIPE	LP	LOW POINT
APWA	AMERICAN PUBLIC WORKS ASSOCIATION	LP	LIGHT POLE
ARCH	ARCHITECT, ARCHITECTURAL	LPE	LOW POINT ELEVATION
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	MECH	MECHANICAL
		MH	MANHOLE
AWWA	AMERICAN WATER WORKS ASSOCIATION	MON	MONUMENT
B&C	BAR & CAP	NE	NORTHEAST
BLA	BOUNDARY LINE AGREEMENT	NW	NORTHWEST
BLDG	BUILDING	OD	OUTSIDE DIAMETER
BM	BENCHMARK	OHP	OVERHEAD POWER
BND	BOUNDARY	OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
BOW	BACK OF WALK		
BRG	BEARING	PC	POINT OF CURVATURE
BV	BUTTERFLY VALVE	PCC	PORTLAND CONCRETE CEMENT
C&G	CURB AND GUTTER	PI	POINT OF INFLECTION
CB	CATCH BASIN	PL	PROPERTY LINE
CH	CHORD	PPM	PARTS PER MILLION
CHB	CHORD BEARING	PROP	PROPERTY
CI	CAST IRON	PT	POINT OF TANGENCY
CIP	CAST IN PLACE	PUE	PUBLIC UTILTIY EASEMENT
CL	CENTERLINE	PUE&DE	PUBLIC UTILITY EASEMENT & DRAINAGE EASEMENT
CMP	CORRUGATED METAL PIPE		
CO	CLEANOUT	PVC	POLYVINYL CHLORIDE
COMM	COMMUNICATIONS	PVI	POINT OF VERTICAL INFLECTION
CONC	CONCRETE	R	RADIUS
CONST	CONSTRUCTION	RC	REBAR & CAP
CUL	CULINARY	RCL	ROADWAY CENTERLINE
CW	CULINARY WATER	RCP	REINFORCED CONCRETE PIPE
CWL	CULINARY WATERLINE	ROW	RIGHT OF WAY
DEMO	DEMOLITION	SD	STORM DRAIN
DI	DUCTILE IRON	SDCB	STORM DRAIN CATCH BASIN
DIAM	DIAMETER	SDCO	STORM DRAIN CLEANOUT
DIST	DISTANCE	SDMH	STORM DRAIN MANHOLE
DWG	DRAWING	SDR	STANDARD DIMENSION RATIO
E	EAST, ELECTRICITY, ELECTRICAL	SE	SOUTHEAST
EASE	EASEMENT	SEC	SECONDARY, SECTION
EG	EXISTING GRADE	SL	STREET LIGHT
EL	ELBOW	SL&M	SALT LAKE BASE & MERIDIAN
ELEC	ELECTRICAL	SPEC	SPECIFICATION
ELEV	ELEVATION	SPP	STEEL PIPE
EOA	EDGE OF ASPHALT	SS	SANITARY SEWER
EVC	END VERTICAL CURVE	SSCO	SANITARY SEWER CLEANOUT
EVCE	END VERTICAL CURVE ELEVATION	SSMH	SANITARY SEWER MANHOLE
EVCS	END VERTICAL CURVE STATION	STD	STANDARD
EX	EXISTING	SW	SECONDARY WATER
FFE	FINISH FLOOR ELEVATION	SW	SOUTHWEST
FG	FINISH GRADE	SWL	SECONDARY WATERLINE
FH	FIRE HYDRANT	SWPPP	STORMWATER POLLUTION PREVENTION PLAN
FL	FLOWLINE FND FOUNDATION		
FP	FIRE PROTECTION	TAN	TANGENT
FTG	FOOTING	TB	THRUST BLOCK
G	GAS, NATURAL GAS	TBC	TOP BACK OF CURB
GB	GRADE BREAK	TBW	TOP BACK OF WALK
GV	GATE VALVE	TEL	TELEPHONE
HDPE	HIGH-DENSITY POLYETHYLENE PIPE	TCW	TOP OF CURBWALL
HP	HIGH POINT	TOA	TOP OF ASPHALT
HPE	HIGH POINT ELEVATION	TOC	TOP OF CONCRETE
HPS	HIGH POINT STATION	TOE	TOE OF SLOPE OR WALL
ID	INSIDE DIAMETER	TOG	TOP OF GRATE
IE	INVERT ELEVATION	TOW	TOP OF WALL
INV	INVERT	UTIL	UTILITY
IRR	IRRIGATION	UD	UNDERDRAIN
IRRMH	IRRIGATION MANHOLE	UGP	UNDERGROUND POWER
K	RADIUS OF CURVATURE	UP	UTILITY POLLE
		VC	VERTICAL CURVE
		W	WEST, WATER
		W2	SECONDARY WATER
		WL	WATERLINE
		WM	WATER METER
		WP	WORK POINT

ARCHITECT'S INFORMATION:
SPE ARCHITECTS
P.O. Box 517
Kaysville, Utah 84037
t. 801.298.1368
info@spe-architect.com
www.spe-architect.com

PROFESSIONAL STAMP:
REGISTERED PROFESSIONAL ENGINEER
6/21/2023
No.189586
SCOTT T. ARGYLE
STATE OF UTAH

CODE OFFICIAL STAMP:
REVIEWED FOR CODE COMPLIANCE
Thomas W Peterson
09/25/2023
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

PROJECT NAME:
UDOT STORAGE SHEDS
MURRAY UTAH
5823 S
COMMERCE WAY
MURRAY, UTAH
84107

REVISIONS:

NO.	DATE	DESCRIPTION

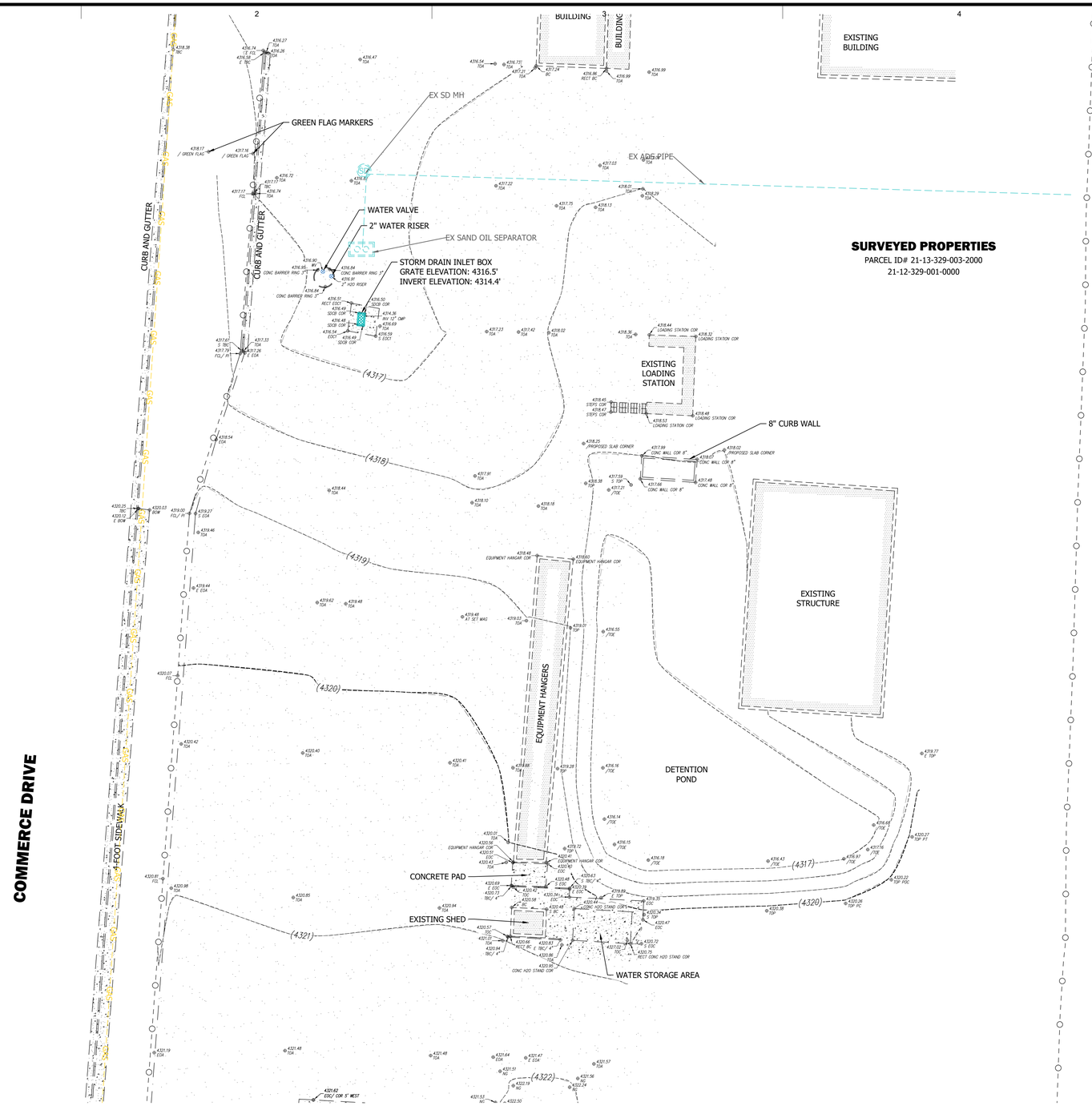
ISSUED:

NO.	DATE	DESCRIPTION
1	6/23/23	CONSTRUCTION SET BID

OWNER PROJECT #:	24096900
SPE PROJECT #:	23-17
DRAWN BY:	CES
CHECKED BY:	STA
DESIGNED BY:	STA

SHEET TITLE:
GENERAL NOTES

SHEET NUMBER:
CE-101



20 0 20 40 60

SCALE: 1" = 20'

ARCHITECT'S INFORMATION:

SPE ARCHITECTS
P.O. Box 517
Kaysville, Utah 84037
t. 801.298.1368
info@spe-architect.com
www.spe-architect.com

PROFESSIONAL STAMP:

REGISTERED PROFESSIONAL ENGINEER
6/21/2023
No.189586
SCOTT T. ARGYLE
STATE OF UTAH

CODE OFFICIAL STAMP:

REVIEWED FOR CODE COMPLIANCE
Thomas W Peterson
09/25/2023
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

PROJECT NAME:

UDOT STORAGE SHEDS
MURRAY UTAH

5823 S.
COMMERCE WAY
MURRAY, UTAH
84107

REVISIONS:

NO.	DATE	DESCRIPTION

ISSUED:

NO.	DATE	DESCRIPTION
1	6/23/23	CONSTRUCTION SET BID

OWNER PROJECT #:	24096900
SPE PROJECT #:	23-17
DRAWN BY:	CES
CHECKED BY:	STA
DESIGNED BY:	STA

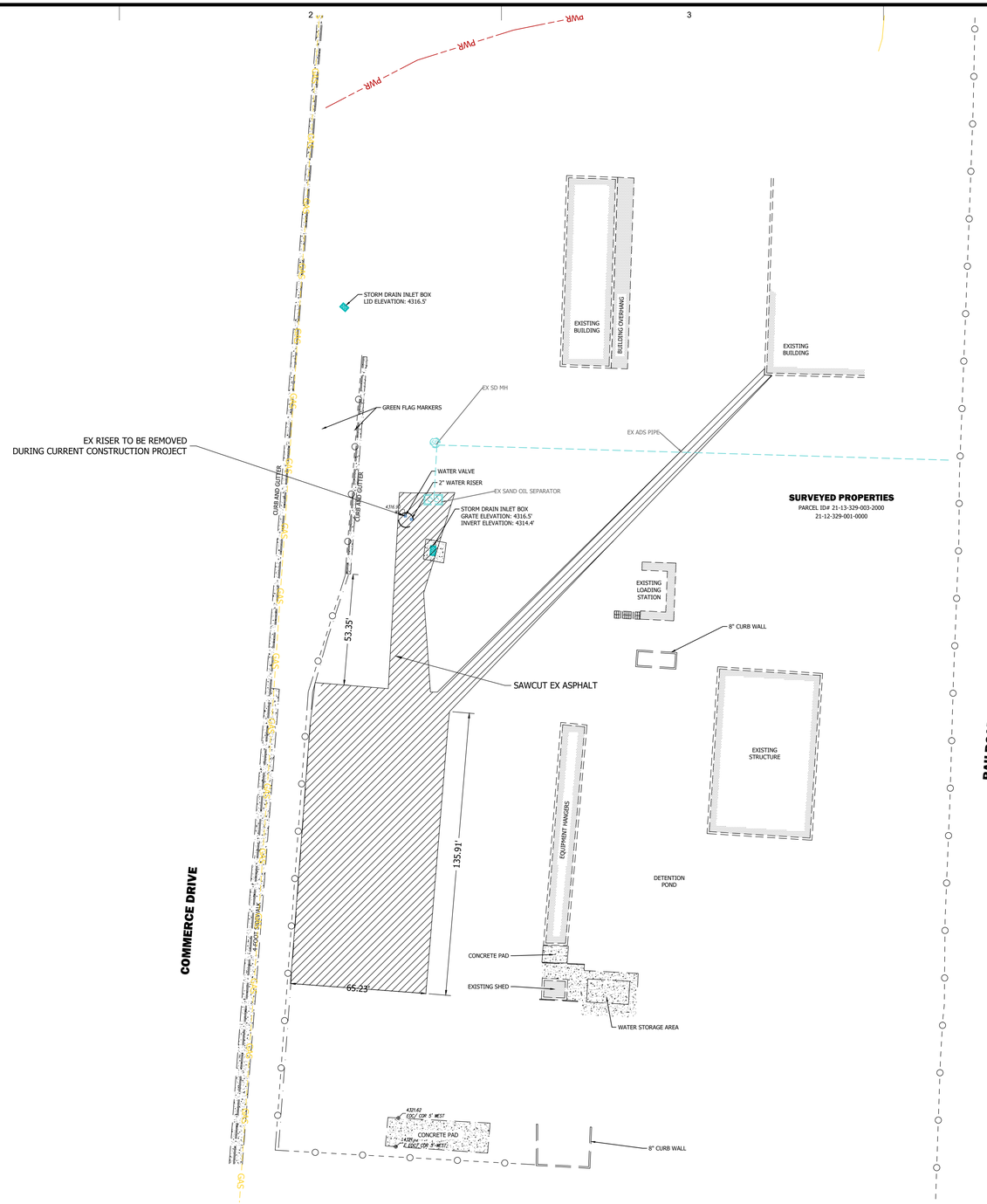
SHEET TITLE:

TOPOGRAPHIC SURVEY

SHEET NUMBER:

CE-200

Last Plotted: 2023-08-04 11:04:16 AM CHRISTOPHER ARGYLE
Last Saved By: C:\Users\CHRISTOPHER ARGYLE\Documents\UTAH\106102\D_PRODUCTION\Civil\04_Plan Set\PLAN SET UDOT MURRAY 106102\D 23-06-08.dwg



20 0 20 40 60

SCALE: 1" = 20'

ARCHITECT'S INFORMATION:

SPE ARCHITECTS
P.O. Box 517
Kaysville, Utah 84037
t. 801.298.1368
info@spe-architect.com
www.spe-architect.com

PROFESSIONAL STAMP:

REGISTERED PROFESSIONAL ENGINEER
6/21/2023
No.189586
SCOTT T.
ARGYLE
STATE OF UTAH

CODE OFFICIAL STAMP:

REVIEWED FOR
CODE COMPLIANCE
Thomas W Peterson
09/25/2023
DIVISION OF FACILITIES
CONSTRUCTION & MANAGEMENT

PROJECT NAME:

UDOT STORAGE SHEDS
MURRAY UTAH

5823 S
COMMERCE WAY
MURRAY, UTAH
84107

REVISIONS:

NO.	DATE	DESCRIPTION

ISSUED:

NO.	DATE	DESCRIPTION
1	6/23/23	CONSTRUCTION SET BID

OWNER PROJECT #:	24096900
SPE PROJECT #:	23-17
DRAWN BY:	CES
CHECKED BY:	STA
DESIGNED BY:	STA

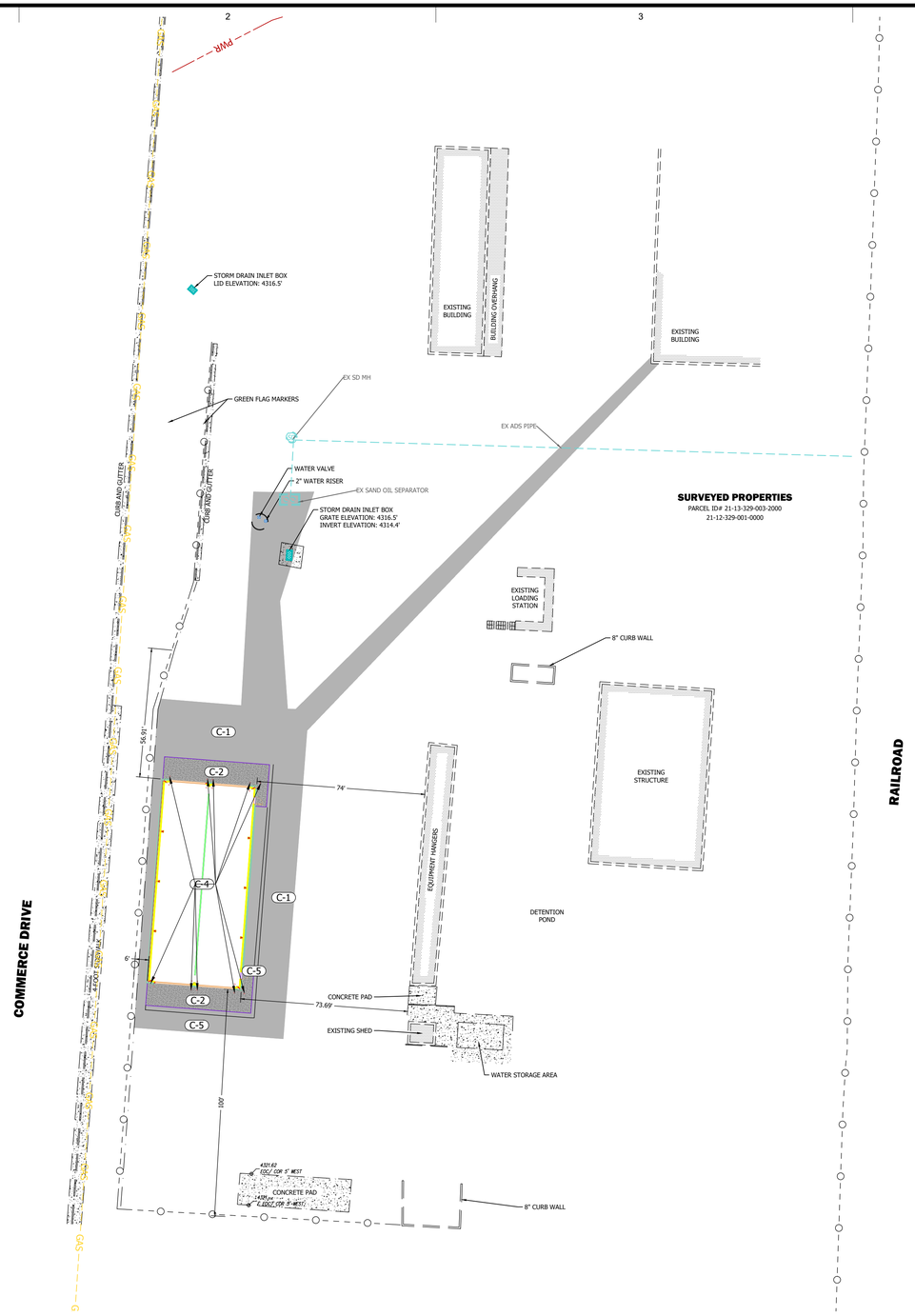
SHEET TITLE:

DEMOLITION
PLAN

SHEET NUMBER:

CE-300

Last Plotted: 2023-08-04 11:04:20 AM CHRISTOPHER.ARGYLE
Last Saved By: C:\UTAH\106102810_PRODUCTION\Civil\04_Plan Set\PLAN SET UDOT MURRAY 106102823-06-08.dwg



20 0 20 40

SCALE: 1" = 20'

AREA TABULATION

	SQ.FT.	ACRES	%
BUILDING	3,746	0.086	33.57%
IMPROVEMENTS	7,414	0.170	66.43%
LANDSCAPE	0	0.000	0.00%
TOTAL	11,160	0.256	100.00%

SYMBOL LEGEND

(C-1) PRIVATE ASPHALT SECTION
PER DETAIL, SHEET C901

(C-2) PRIVATE CONCRETE SLAB SECTION
PER DETAIL, SHEET C901

(C-3) PRIVATE CONCRETE CURB & GUTTER
PER DETAIL, SHEET C901

(C-4) PRIVATE BOLLARD

(C-5) PRIVATE CONCRETE WATERWAY
PER DETAIL, SHEET C901

ALL IMPROVEMENTS WITHIN THE PUBLIC RIGHT-OF-WAY SHALL CONFORM TO THE RIGHT-OF-WAY OWNER'S STANDARDS AND SPECIFICATIONS.

NOTE:
ANY SAW CUT EDGES THAT ARE UNCLEAN/DAMAGED DURING CONSTRUCTION SHALL BE SAW CUT AND REPAIRED AS PER UDOT STD.

ACCESSIBLE AREA CONSTRAINTS

ALL ACCESSIBLE AREAS ARE TO MAINTAIN THE FOLLOWING MAXIMUM SLOPES AND TOLERANCES:

ACCESSIBLE PARKING:
MAXIMUM SLOPE OF 1:48 (2%) THROUGHOUT.

ACCESSIBLE ROUTE:
MINIMUM WIDTH OF 48". MAXIMUM SLOPE OF 1:20 (5%) ALONG THE ROUTE, MAXIMUM CROSS-SLOPE OF 1:48 (2%).

ACCESS ROUTE TURNAROUNDS:
A CLEAR 60" TURNING DIAMETER. MAXIMUM SLOPE OF 1:48 (2%) IN ANY DIRECTION.

LEVEL LANDING / EXTERIOR DOOR LANDING:
MINIMUM SIZE OF 60"X60". MAXIMUM SLOPE OF 1:48 (2%) IN ANY DIRECTION.

ACCESSIBLE EGRESS TO PUBLIC WAY:
MAXIMUM SLOPE OF 1:20 (5%) ALONG THE ROUTE, MAXIMUM CROSS-SLOPE OF 1:48 (2%).

ADA ACCESS RAMPS:
MAXIMUM SLOPE OF 1:12 (8.33%), WITH A MAXIMUM CROSS-SLOPE OF 2%. THE TRANSITION BETWEEN ASPHALT AND CONCRETE IS NOT TO EXCEED 1/2" VERTICAL (1/4" IF BEVELED).

Know what's **below.**
Call 811 **before you dig.**

BLUE STAKES OF UTAH
UTILITY NOTIFICATION CENTER, INC.
www.bluestakes.org
1-800-662-4111

ARCHITECT'S INFORMATION:
SPE ARCHITECTS
P.O. Box 517
Kaysville, Utah 84037
t. 801.298.1368
info@spe-architect.com
www.spe-architect.com

PROFESSIONAL STAMP:
REGISTERED PROFESSIONAL ENGINEER
6/21/2023
No.189586
SCOTT T. ARGYLE
STATE OF UTAH

CODE OFFICIAL STAMP:
REVIEWED FOR CODE COMPLIANCE
Thomas W Peterson
09/25/2023
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

PROJECT NAME:
UDOT STORAGE SHEDS
MURRAY UTAH
5823 S
COMMERCE WAY
MURRAY, UTAH
84107

REVISIONS:

NO.	DATE	DESCRIPTION

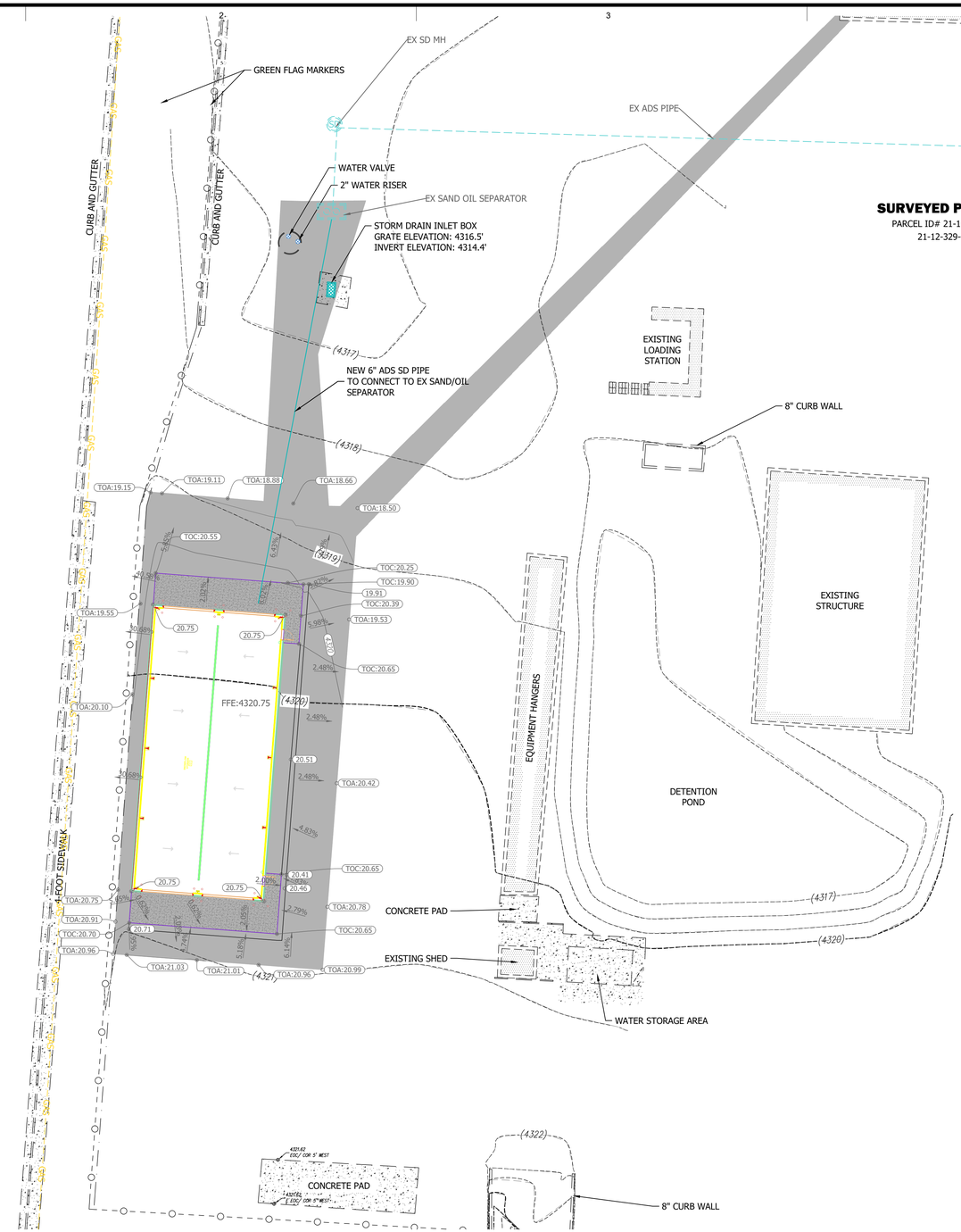
ISSUED:

NO.	DATE	DESCRIPTION
1	6/23/23	CONSTRUCTION SET BID

OWNER PROJECT #:	24096900
SPE PROJECT #:	23-17
DRAWN BY:	CES
CHECKED BY:	STA
DESIGNED BY:	STA

SHEET TITLE:
SITE PLAN

SHEET NUMBER:
CE-400



SURVEYED PROPERTIES

PARCEL ID# 21-13-329-003-2000
21-12-329-001-0000

20 0 20 40 60

SCALE: 1" = 20'

ACCESSIBLE AREA CONSTRAINTS

ALL ACCESSIBLE AREAS ARE TO MAINTAIN THE FOLLOWING MAXIMUM SLOPES AND TOLERANCES:

ACCESSIBLE PARKING:
MAXIMUM SLOPE OF 1:48 (2%) THROUGHOUT.

ACCESSIBLE ROUTE:
MINIMUM WIDTH OF 48". MAXIMUM SLOPE OF 1:20 (5%) ALONG THE ROUTE, MAXIMUM CROSS-SLOPE OF 1:48 (2%).

ACCESS ROUTE TURNAROUNDS:
A CLEAR 60" TURNING DIAMETER. MAXIMUM SLOPE OF 1:48 (2%) IN ANY DIRECTION.

LEVEL LANDING / EXTERIOR DOOR LANDING:
MINIMUM SIZE OF 60"X60". MAXIMUM SLOPE OF 1:48 (2%) IN ANY DIRECTION.

ACCESSIBLE EGRESS TO PUBLIC WAY:
MAXIMUM SLOPE OF 1:20 (5%) ALONG THE ROUTE, MAXIMUM CROSS-SLOPE OF 1:48 (2%).

ADA ACCESS RAMPS:
MAXIMUM SLOPE OF 1:12 (8.33%), WITH A MAXIMUM CROSS-SLOPE OF 2%. THE TRANSITION BETWEEN ASPHALT AND CONCRETE IS NOT TO EXCEED 1/2" VERTICAL (1/4" IF BEVELED).

ARCHITECT'S INFORMATION:
SPE ARCHITECTS
P.O. Box 517
Kaysville, Utah 84037
t. 801.298.1368
info@spe-architect.com
www.spe-architect.com

PROFESSIONAL STAMP:
REGISTERED PROFESSIONAL ENGINEER
6/21/2023
No.189586
SCOTT T. ARGYLE
STATE OF UTAH

CODE OFFICIAL STAMP:
REVIEWED FOR CODE COMPLIANCE
Thomas W Peterson
09/25/2023
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

PROJECT NAME:
UDOT STORAGE SHEDS
MURRAY UTAH
5823 S
COMMERCE WAY
MURRAY, UTAH
84107

REVISIONS:

NO.	DATE	DESCRIPTION

ISSUED:

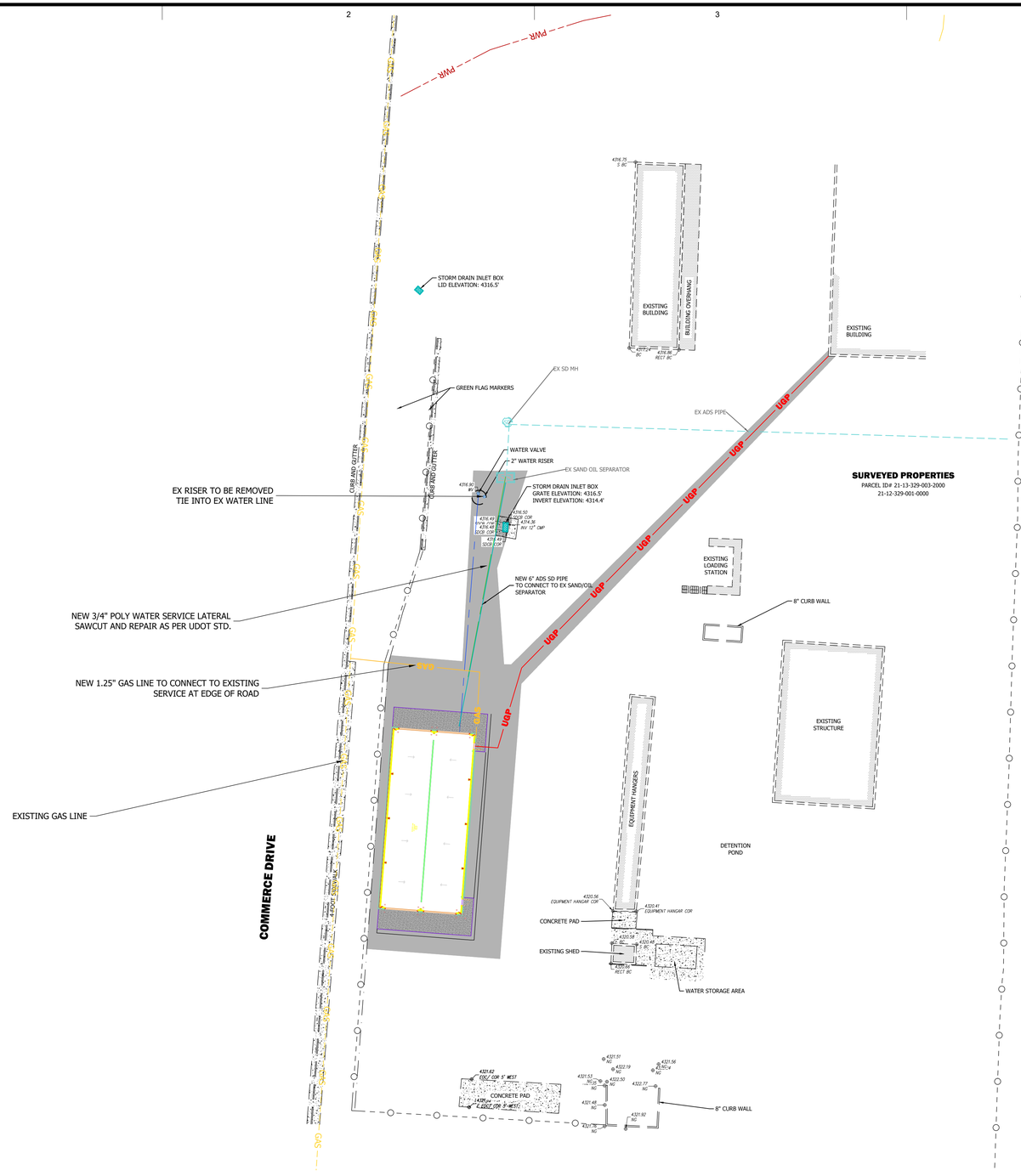
NO.	DATE	DESCRIPTION
1	6/23/23	CONSTRUCTION SET BID

OWNER PROJECT #:	24096900
SPE PROJECT #:	23-17
DRAWN BY:	CES
CHECKED BY:	STA
DESIGNED BY:	STA

SHEET TITLE:
GRADING AND DRAINAGE PLAN

SHEET NUMBER:
CE-500

Last Plotted: 2023-08-04 11:04:30 AM CHRISTOPHER ARGYLE
J:\Projects\UTAH\106102\3D_PRODUCTION\Civil\04_Plan Set\PLAN SET UDOT MURRAY 106102 23-06-08.dwg



30 0 30 60 90

SCALE: 1" = 30'

ARCHITECT'S INFORMATION:

SPE ARCHITECTS
P.O. Box 517
Kaysville, Utah 84037
t. 801.298.1368
info@spe-architect.com
www.spe-architect.com

PROFESSIONAL STAMP:

REGISTERED PROFESSIONAL ENGINEER
6/21/2023
No.189586
SCOTT T.
ARGYLE
STATE OF UTAH

CODE OFFICIAL STAMP:

REVIEWED FOR
CODE COMPLIANCE
Thomas W Peterson
09/25/2023
DIVISION OF FACILITIES
CONSTRUCTION & MANAGEMENT

PROJECT NAME:

UDOT STORAGE SHEDS
MURRAY UTAH

5823 S
COMMERCE WAY
MURRAY, UTAH
84107

REVISIONS:

NO.	DATE	DESCRIPTION

ISSUED:

NO.	DATE	DESCRIPTION
1	6/23/23	CONSTRUCTION SET BID

OWNER PROJECT #:	24096900
SPE PROJECT #:	23-17
DRAWN BY:	CES
CHECKED BY:	STA
DESIGNED BY:	STA

SHEET TITLE:

UTILITY PLAN

SHEET NUMBER:

CE-600

Know what's **below.**
Call 811 **before you dig.**

BLUE STAKES OF UTAH
UTILITY NOTIFICATION CENTER, INC.
www.bluestakes.org
1-800-662-4111

Last Plotted: 2023-08-04 11:04:35 AM CHRISTOPHER ARGYLE
Last Saved By: C:\Users\CHRISTOPHER ARGYLE\Documents\UDOT MURRAY 1061028 23-06-08.dwg
File Name: C:\Users\CHRISTOPHER ARGYLE\Documents\UDOT MURRAY 1061028 23-06-08.dwg

CONSTRUCTION NOTES

1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY LOCAL, STATE, AND FEDERAL PERMITS PRIOR TO COMMENCING CONSTRUCTION.
2. CONTRACTOR TO MAINTAIN A COPY OF THE SWPPP ON SITE.
3. CONTRACTOR TO INSPECT SITE TO ENSURE THE SWPPP IMPROVEMENTS ARE IN PLACE AND FUNCTIONAL.
4. CONTRACTOR TO MAINTAIN TEMPORARY EROSION AND SEDIMENT CONTROLS AND HOUSEKEEPING MEASURES.
5. ALL SOLID WASTE SHALL BE STORED IN A SECURELY LIDDED METAL DUMPSTER. THE DUMPSTER SHALL MEET ALL STATE AND LOCAL WASTE MANAGEMENT REGULATIONS.
6. ALL HAZARDOUS WASTE SHALL BE DISPOSED OF IN THE MANNER AS SPECIFIED BY THE MANUFACTURER AND STATE AND LOCAL REGULATIONS.
7. A WASHOUT AREA SHALL BE CONSTRUCTED FOR THE TEMPORARY COLLECTION OF EXCESS CONCRETE AND NON-STORM WATER DISCHARGES FROM VEHICLE WASHING. THE CONCRETE WILL BE TAKEN TO THE CITY LANDFILL WITHIN 1 WEEK OF PLACING IN THE WASHOUT AREA.
8. A STABILIZED CONSTRUCTION ENTRANCE WILL BE CONSTRUCTED TO REDUCE VEHICLE TRACKING OF SEDIMENTS ONTO PUBLIC RIGHT OF WAYS. THE PAVED STREET ADJACENT TO THE SITE ENTRANCE WILL BE SWEPT DAILY TO REMOVE EXCESS DIRT.
9. INSPECTION SHALL BE MADE MONTHLY AND WITHIN 24 HOURS AFTER A RAINFALL EVENT OF 0.5 INCHES OR GREATER. ALL NON-STORM WATER FLOWS SHALL BE DIRECTED TOWARD THE WASHOUT AREA OR SEDIMENT BASIN. THE SWPPP WILL BE REVISED AS SITE CONDITIONS AND PROJECT WARRANTS.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING AND SWEEPING PUBLIC STREETS ON A DAILY BASIS, OR MORE IF NECESSARY.
11. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ADEQUATE DUST CONTROL THROUGHOUT THE COURSE OF THE PROJECT.

ARCHITECT'S INFORMATION:

SPE ARCHITECTS
P.O. Box 517
Kaysville, Utah 84037
t. 801.298.1368
info@spe-architect.com
www.spe-architect.com

PROFESSIONAL STAMP:

REGISTERED PROFESSIONAL ENGINEER
6/21/2023
No.189586
SCOTT T. ARGYLE
STATE OF UTAH

CODE OFFICIAL STAMP:

REVIEWED FOR CODE COMPLIANCE
Thomas W Peterson
09/25/2023
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

PROJECT NAME:

UDOT STORAGE SHEDS
MURRAY UTAH

5823 S
COMMERCE WAY
MURRAY, UTAH
84107

REVISIONS:

NO.	DATE	DESCRIPTION

ISSUED:

NO.	DATE	DESCRIPTION
1	6/23/23	CONSTRUCTION SET BID

OWNER PROJECT #:	24096900
SPE PROJECT #:	23-17
DRAWN BY:	CES
CHECKED BY:	STA
DESIGNED BY:	STA

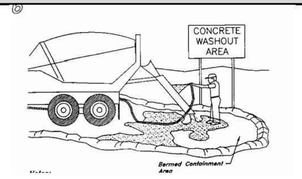
SHEET TITLE:

EROSION CONTROL PLAN

SHEET NUMBER:

CE-690

BMP: Concrete Waste Management — CWM



DESCRIPTION:

Prevent or reduce the discharge of polllutants to storm water from concrete waste by conducting washout off-site, performing on-site washout ina designated area, and training employees and subcontractors.

APPLICATION:

This technique is applicable to all types of sites

INSTALLATION / APPLICATION CRITERIA:

- Store dry materials under cover, away from drainage areas
- Minimize excess mixing of fresh concrete, mortar or cement on site
- Do not wash out concrete trucks into storm drains, open ditches, streets, or streams
- Do not allow excess concrete to be dumped on-site, except in designated areas
- When washing concrete to remove fine particles and expose the aggregate, avoid creating runoff by draining the water within a bermed or level area (6" tall X 6' wide)
- Train employees and subcontractors in proper concrete waste management

LIMITATIONS:

- Off-site washout or concrete wastes may not always be possible

MAINTENANCE:

- Inspect subcontractors to ensure that concrete wastes are being properly managed
- If using a temporary pit, dispose of hardened concrete on a regular basis

OBJECTIVES

- ☐ Housekeeping Practices
- ☒ Contain Waste
- ☐ Minimize Disturbed Areas
- ☐ Stabilize Disturbed Areas
- ☐ Protect Slopes/Channels
- ☐ Control Site Perimeter
- ☐ Control Internal Erosion

TARGETED POLLUTANTS

H	M	L	
☐	☐	☒	Sediment
☐	☐	☒	Nutrients
☐	☐	☒	Heavy Metals
☐	☐	☒	Toxic Materials
☐	☐	☒	Oil & Grease
☐	☐	☒	Floatable Materials
☐	☐	☒	Bacteria & Viruses
☒	☐	☐	Other Waste

IMPLEMENTATION REQUIREMENTS

H	M	L	
☐	☐	☒	Capital Costs
☐	☐	☒	O&M Costs
☐	☒	☐	Maintenance
☐	☐	☒	Training
☐	☐	☒	Staffing
☐	☐	☒	Administrative

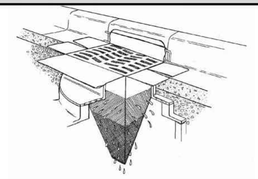
H = High **M** = Medium **L** = Low

DAVIS COUNTY STORM WATER COALITION

1500 East 650 North
Fruit Heights, UT 84037

Materials Adapted From Salt Lake County Engineering Division Guidance Document and Other Sources 2006

BMP: Inlet Protection- Silt Bags — IP-SB



DESCRIPTION:

Collect and trap sediment and debris entering catch basins from either grated or curb inlets. Insert is made of fabric and is placed in the drain inlet around the perimeter of the grate. Runoff passes through the bag before discharging into the drain outlet pipe. Overflow holes are usually provided to pass larger flows without causing a backwater at the grate. Certain manufactured products include polymers intended to increase pollutant removal effectiveness.

APPLICATIONS:

- Storm drain inlet boxes

INSTALLATION / APPLICATION CRITERIA:

- Regular Maintenance is necessary
- Evaluation of the device chosen should be balanced with cost
- Hydraulic capacity controls effectiveness
- Most useful in small drainage areas (< 1 Acre)
- Ideal in combination with other BMP's

LIMITATIONS:

- Cost
- Maintenance required to prevent plugging and remain effective

MAINTENANCE:

Inspection after all storm events and as required between events

OBJECTIVES

- ☐ Housekeeping Practices
- ☒ Contain Waste
- ☐ Minimize Disturbed Areas
- ☐ Stabilize Disturbed Areas
- ☐ Protect Slopes/Channels
- ☐ Control Site Perimeter
- ☐ Control Internal Erosion

TARGETED POLLUTANTS

H	M	L	
☒	☐	☐	Sediment
☐	☒	☐	Nutrients
☐	☐	☒	Heavy Metals
☐	☐	☒	Toxic Materials
☐	☐	☒	Oil & Grease
☒	☐	☐	Floatable Materials
☐	☐	☒	Bacteria & Viruses
☐	☐	☒	Other Waste

IMPLEMENTATION REQUIREMENTS

H	M	L	
☐	☒	☐	Capital Costs
☐	☒	☐	O&M Costs
☒	☐	☐	Maintenance
☐	☐	☒	Training
☐	☐	☒	Staffing
☒	☒	☒	Administrative

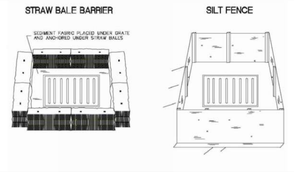
H = High **M** = Medium **L** = Low

DAVIS COUNTY STORM WATER COALITION

1500 East 650 North
Fruit Heights, UT 84037

Materials Adapted From Salt Lake County Engineering Division Guidance Document and Other Sources 2006

BMP: Inlet Protection - Silt Fence or Straw Bale — IP-SF



DESCRIPTION:

Sediment barrier erected around storm drain inlet.

APPLICATION:

- Construct at storm drainage inlets located downgradient of areas to be disturbed by construction (for inlets in paved areas see other information sheets for inlet protection)

INSTALLATION / APPLICATION CRITERIA:

- Provide upgradient sedimant controls, such as silt fence during construction of inlet
- When construction of linet is complete, erect straw bale barrier or silt fence surrounding perimeter of inlet. Follow instructions and guidelines on individual BMP information sheets for straw bale barrier and silt fence construction

LIMITATIONS:

- Recommended maximum contributing drainage area of one acre
- Limited to inlets located in open unpaved areas
- Requires shallow slopes adjacent to inlet

MAINTENANCE:

- Inspect inlet protection following storm event and at a minimum of once every two weeks
- Remove accumulated sediment when it reaches 4" in depth
- Repair or realign barrier/fence as needed
- Look for bypassing or undercutting and recompact soil around barrier/fence as required

OBJECTIVES

- ☐ Housekeeping Practices
- ☐ Contain Waste
- ☐ Minimize Disturbed Areas
- ☐ Stabilize Disturbed Areas
- ☐ Protect Slopes/Channels
- ☒ Control Site Perimeter
- ☒ Control Internal Erosion

TARGETED POLLUTANTS

H	M	L	
☒	☐	☐	Sediment
☐	☐	☒	Nutrients
☐	☐	☒	Heavy Metals
☐	☐	☒	Toxic Materials
☐	☐	☒	Oil & Grease
☒	☐	☐	Floatable Materials
☐	☐	☒	Bacteria & Viruses
☐	☐	☒	Other Waste

IMPLEMENTATION REQUIREMENTS

H	M	L	
☐	☒	☐	Capital Costs
☒	☐	☐	O&M Costs
☐	☒	☐	Maintenance
☐	☐	☒	Training
☐	☐	☒	Staffing
☐	☐	☒	Administrative

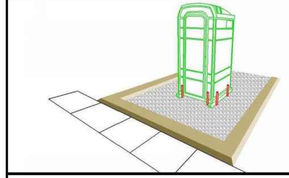
H = High **M** = Medium **L** = Low

DAVIS COUNTY STORM WATER COALITION

1500 East 650 North
Fruit Heights, UT 84037

Materials Adapted From Salt Lake County Engineering Division Guidance Document and Other Sources 2006

BMP: Portable Toilet — PT



DESCRIPTION:

Temporary on-site sanitary facilities for construction personnel.

APPLICATION:

All sites with no permanent sanitary facilities or where permanent facility is too far from activities.

INSTALLATION / APPLICATION CRITERIA:

- Locate portable toilets in a convenient locations throughout the site
- Prepare level, gravel surface and provide clear access to the toilets for servicing and for on-site personnel
- Construct earth berm perimiter (see Earth Berm Barrier Sheet), control for spill / leak protection.
- Anchor the portable toilet to prevent tipping

LIMITATIONS:

No limitations

MAINTENANCE:

- Portable toilets should be maintained in good working order by licensed service with daily observation for leak detection
- Regular waste collection should be arranged with licensed service
- All waste should be deposited in sanitary sewer system for treatment with appropriate agency approval

OBJECTIVES

- ☒ Housekeeping Practices
- ☒ Contain Waste
- ☐ Minimize Disturbed Areas
- ☐ Stabilize Disturbed Areas
- ☐ Protect Slopes/Channels
- ☐ Control Site Perimeter
- ☐ Control Internal Erosion

TARGETED POLLUTANTS

H	M	L	
☐	☐	☒	Sediment
☐	☐	☒	Nutrients
☐	☐	☒	Heavy Metals
☒	☐	☐	Toxic Materials
☐	☐	☒	Oil & Grease
☐	☐	☒	Floatable Materials
☒	☐	☐	Bacteria & Viruses
☒	☐	☐	Other Waste

IMPLEMENTATION REQUIREMENTS

H	M	L	
☐	☒	☐	Capital Costs
☐	☒	☐	O&M Costs
☐	☒	☐	Maintenance
☐	☐	☒	Training
☐	☐	☒	Staffing
☐	☐	☒	Administrative

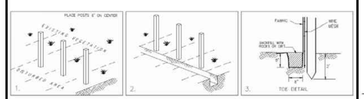
H = High **M** = Medium **L** = Low

DAVIS COUNTY STORM WATER COALITION

1500 East 650 North
Fruit Heights, UT 84037

Materials Adapted From Salt Lake County Engineering Division Guidance Document and Other Sources 2006

BMP: Silt Fence — SF



DESCRIPTION:

A temporary sediment barrier consisting of entrenched filter fabric stretched across and secured to supporting posts.

APPLICATION:

- Perimeter control: place barrier at downgradient limits of disturbance
- Sediment barrier: place barrier at toe of slope or soil stockpile
- Protection of existing waterways: place barrier at top of stream bank
- Inlet protection: place fence surrounding catch basins

INSTALLATION / APPLICATION CRITERIA:

- Place posts 6' apart on center along contour (or use preassembled unit) and drive 2' minimum into ground. Excavate an anchor trench immediately up gradient of posts
- Cut fabric to require width, unroll along length of barrier and drape over barrier. Secure fabric to mesh with twine, staples, or similar, with trailing edge extending into anchor trench
- Backfill trench over fabric to anchor
- Fabric must have 85% minimum sediment removal efficiency

LIMITATIONS:

- Recommended maximum drainage area of 0.5 acre per 100 feet
- Recommended maximum upgradient slope length of 150'
- Recommended maximum uphill grade of 2:1 (50%)
- Recommended maximum flow rate of 0.5 cfs
- Ponding should not be allowed behind fence

MAINTENANCE:

- Inspect immediatly after any rainfall and at least daily during prolonged rainfall
- Look for runoff bypassing ends of barriers or undercutting barriers
- Repair or replace damaged areas of the barrier and remove accumulated sediment
- Reanchor fence as necessary to prevent shortcutting
- Remove accumulated sediment when it reaches 1/2 the height of the fence

OBJECTIVES

- ☐ Housekeeping Practices
- ☐ Contain Waste
- ☐ Minimize Disturbed Areas
- ☒ Stabilize Disturbed Areas
- ☒ Protect Slopes/Channels
- ☒ Control Site Perimeter
- ☒ Control Internal Erosion

TARGETED POLLUTANTS

H	M	L	
☒	☐	☐	Sediment
☐	☐	☒	Nutrients
☐	☐	☒	Heavy Metals
☐	☐	☒	Toxic Materials
☐	☐	☒	Oil & Grease
☐	☐	☒	Floatable Materials
☐	☐	☒	Bacteria & Viruses
☐	☐	☒	Other Waste

IMPLEMENTATION REQUIREMENTS

H	M	L	
☐	☒	☐	Capital Costs
☐	☒	☐	O&M Costs
☐	☒	☐	Maintenance
☐	☐	☒	Training
☐	☐	☒	Staffing
☐	☐	☒	Administrative

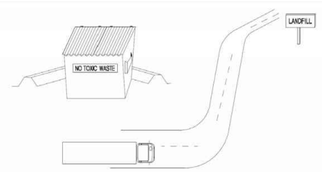
H = High **M** = Medium **L** = Low

DAVIS COUNTY STORM WATER COALITION

1500 East 650 North
Fruit Heights, UT 84037

Materials Adapted From Salt Lake County Engineering Division Guidance Document and Other Sources 2006

BMP: Waste Disposal — WD



DESCRIPTION:

Controlled storage and disposal of solid waste generated by construction activities.

APPLICATION:

All construction sites

INSTALLATION / APPLICATION CRITERIA:

- Designate one or several waste collection areas with easy access for construction vehicles and personnel. Ensure no waterways or storm drainage inlets are located near the waste collection areas.
- Construct compacted earthen berm (See Earth Berm Barrier Information Sheet), or similar perimeter containment around collection area for impoundment in the case of spills.
- Ensure all on site personnel are aware of and utilize designated waste collection area properly and for intended use only (e.g. all toxic, hazardous, or recyclable materials shall be properly disposed of separately from general construction waste).
- Arrange for periodic pickup, transfer and disposal of collected waste at an authorized disposal location. Include regular Porto-potty service in waste management activities.

LIMITATIONS:

- On-site personnel are responsible for correct disposal of waste

MAINTENANCE:

- Discuss waste management procedures at progress meetings
- Collect site trash daily and deposit in containers at designated collection areas
- Randomly check disposed materials for any unauthorized waste (e.g. toxic materials).

OBJECTIVES

- ☒ Housekeeping Practices
- ☒ Contain Waste
- ☐ Minimize Disturbed Areas
- ☐ Stabilize Disturbed Areas
- ☐ Protect Slopes/Channels
- ☐ Control Site Perimeter
- ☐ Control Internal Erosion

TARGETED POLLUTANTS

H	M	L	
☐	☐	☐	Sediment
☐	☐	☐	Nutrients
☐	☐	☐	Heavy Metals
☒	☐	☐	Toxic Materials
☐	☒	☐	Oil & Grease
☒	☐	☐	Floatable Materials
☐	☐	☐	Bacteria & Viruses
☒	☐	☐	Other Waste

IMPLEMENTATION REQUIREMENTS

H	M	L	
☐	☐	☐	Capital Costs
☒	☐	☐	O&M Costs
☐	☒	☐	Maintenance
☐	☐	☐	Training
☐	☐	☒	Staffing
☐	☐	☐	Administrative

H = High **M** = Medium **L** = Low

DAVIS COUNTY STORM WATER COALITION

1500 East 650 North
Fruit Heights, UT 84037

Materials Adapted From Salt Lake County Engineering Division Guidance Document and Other Sources 2006

ARCHITECT'S INFORMATION:

SPE ARCHITECTS
P.O. Box 517
Kaysville, Utah 84037
t. 801.298.1368
info@spe-architect.com
www.spe-architect.com

PROFESSIONAL STAMP:

REGISTERED PROFESSIONAL ENGINEER
6/21/2023
No. 189586
SCOTT T. ARGYLE
STATE OF UTAH

CODE OFFICIAL STAMP:

REVIEWED FOR CODE COMPLIANCE
Thomas W Peterson
09/25/2023
DIVISION OF FACILITIES CONSTRUCTION & MANAGEMENT

PROJECT NAME:

UDOT STORAGE SHEDS
MURRAY UTAH

5823 S
COMMERCE WAY
MURRAY, UTAH
84107

REVISIONS:

NO.	DATE	DESCRIPTION

ISSUED:

NO.	DATE	DESCRIPTION
1	6/23/23	CONSTRUCTION SET BID

OWNER PROJECT #:	24096900
SPE PROJECT #:	23-17
DRAWN BY:	CES
CHECKED BY:	STA
DESIGNED BY:	STA

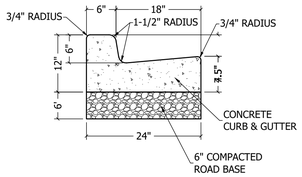
SHEET TITLE:

EROSION CONTROL PLAN DETAILS

SHEET NUMBER:

CE-691

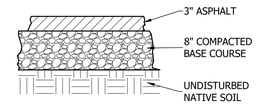
NOTES
1. ROAD BASE IS TO BE COMPACTED PER THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS. IF NO SUCH RECOMMENDATIONS PERTAIN, COMPACT TO 95% AASHTO T-180 METHOD D.
2. CONCRETE IS TO BE 4,000 PSI TEST.
3. CONTROL JOINTS AT 10' INTERVALS.
4. BITUMINOUS MATERIAL EXPANSION JOINTS ARE REQUIRED AT 50' INTERVALS.



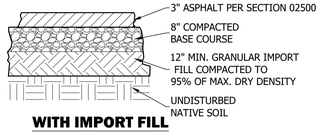
PRIVATE
24" CATCH CURB & GUTTER

C-2 / C400 TYPICAL N.T.S.

NOTES
1. ROAD BASE IS TO BE COMPACTED PER THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS. IF NO SUCH RECOMMENDATIONS PERTAIN, COMPACT TO 95% AASHTO T-180 METHOD D.
2. PLACE MATERIAL PER APWA SECTION 32 05 10.



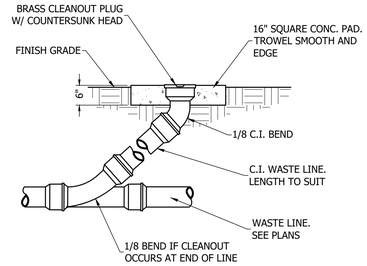
WITHOUT GRANULAR IMPORT FILL



WITH IMPORT FILL

PRIVATE
ASPHALT SECTIONS

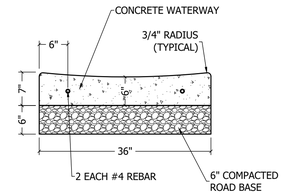
C-1 / C400 TYPICAL N.T.S.



SEWER CLEANOUT

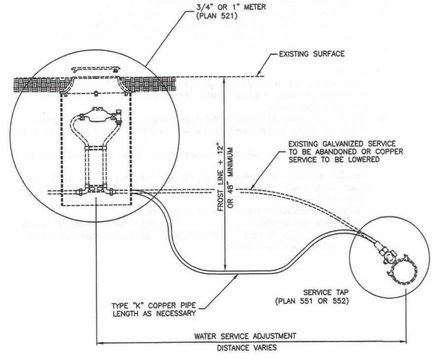
SS-1 / C600 TYPICAL N.T.S.

NOTES
1. ROAD BASE IS TO BE COMPACTED PER THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS. IF NO SUCH RECOMMENDATIONS PERTAIN, COMPACT TO 95% AASHTO T-180 METHOD D.
2. CONCRETE IS TO BE 4,000 PSI TEST.
3. CONTROL JOINTS AT 10' INTERVALS.
4. BITUMINOUS MATERIAL EXPANSION JOINTS ARE REQUIRED AT 50' INTERVALS.
5. STEEL REINFORCEMENT IS TO BE DEFORMED GRADE 60 STEEL, GALVANIZED OR EPOXY COATED.



PRIVATE
36" CONCRETE WATERWAY

C-5 / C400 TYPICAL N.T.S.



APWA Utah Chapter

Water service line

Plan **541** August 2001

ARCHITECT'S INFORMATION:

SPE ARCHITECTS
P.O. Box 517
Kaysville, Utah 84037
t. 801.298.1368
info@spe-architect.com
www.spe-architect.com

PROFESSIONAL STAMP:

REGISTERED PROFESSIONAL ENGINEER
6/21/2023
No.189586
SCOTT T. ARGYLE
STATE OF UTAH

CODE OFFICIAL STAMP:

REVIEWED FOR CODE COMPLIANCE
Thomas W Peterson
09/25/2023
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

PROJECT NAME:

UDOT STORAGE SHEDS
MURRAY UTAH

5823 S
COMMERCE WAY
MURRAY, UTAH
84107

REVISIONS: #:

NO.	DATE	DESCRIPTION

ISSUED:

NO.	DATE	DESCRIPTION
1	6/23/23	CONSTRUCTION SET BID

OWNER PROJECT #:	24096900
SPE PROJECT #:	23-17
DRAWN BY:	CES
CHECKED BY:	STA
DESIGNED BY:	STA

SHEET TITLE:

SITE PLAN DETAILS

SHEET NUMBER:

CE-692

GENERAL STRUCTURAL NOTES

GENERAL

1. The structural notes are intended to complement the project specifications. Specific notes and details in the drawings shall govern over the structural notes and typical details.
2. Typical details and sections shall apply where specific details are not shown.
3. The structural drawings are not all-inclusive and do not contain all dimensions, elevations, openings, mechanical shafts, and penetrations needed to build the structure. The contractor shall coordinate these items with the Architectural, Mechanical and Electrical drawings.
4. The contractor shall verify all site conditions and dimensions. If actual conditions differ from those shown in the contract drawings, the contractor shall immediately notify the architect/engineer before proceeding with the fabrication or construction of any affected elements.
5. Omissions or conflicts between the contract drawings and/or specifications shall be brought to the attention of the architect/engineer before proceeding with any work involved. In case of conflict, follow the most stringent requirement as directed by the architect/engineer at no additional cost to the owner.
6. The contractor shall submit a written request to the architect/engineer before proceeding with any changes, substitutions, or modifications. Any work done by the contractor before receiving written approval will be at the contractor's risk.
7. The contractor shall coordinate with all trades any items that are to be integrated into the structural system such as openings, penetrations, mechanical and electrical equipment, etc. Sizes and locations of mechanical and other equipment that differs from those shown on the contract drawings shall be reported to the architect/engineer.
8. The contractor shall provide adequate shoring and bracing as required for the chosen method of erection. Shoring and bracing shall remain in place until final connections for the permanent members are completed. The building shall not be considered stable until all connections are completed. Walls shall not be considered self-supporting and shall be braced until the roof system is completed.
9. Site observations by BHB Consulting Engineers' field representative shall not be construed as approval of construction procedures nor special inspection.
10. Detailing and shop drawing production for structural elements will require information (including dimensions) contained in the architectural, structural and/or other consultants' drawings. The structural drawings shall be used in conjunction with the architectural and other consultant's drawings. Some dimensions and elements such as elevations, depressions, slopes, mechanical housekeeping pads, etc. are not shown in the structural drawings. All dimensions shown on structural drawings shall be verified by contractor with architectural, mechanical, and electrical drawings.
11. Contractor shall review shop drawings for compliance with contract documents, and stamp shop drawings with review stamp prior to submission to architect for review. Review of shop drawings by BHB Consulting Engineers is for general compliance only and is not intended for approval. The shop drawing review shall not relieve the contractor from the responsibility of completing the project according to the contract documents. Fabrication shall not begin until shop drawings review process is complete. Shop drawings made from reproductions of the contract drawings will be rejected unless the contractor signs a release agreement prior to the shop drawings being reviewed.
12. Only an authorized representative of BHB Consulting Engineers may make changes to these contract drawings. BHB Consulting Engineers shall not be held responsible or liable for any claims arising directly or indirectly from changes made without written authorization by an authorized representative of BHB Consulting Engineers.
13. Bidding, pricing or construction done prior to receiving final building permits from the authorities having jurisdiction is at the contractor's own risk. Changes to the drawings may be required as part of the plan check process. BHB Consulting Engineers will not be held liable for, nor compensate for, changes to these drawings before final jurisdiction approval is obtained.

BASIS OF DESIGN

1.	Governing Code	International Building Code 2021
	a. Risk Category	II
2.	Snow Loads	
	a. Ground Snow Load	P_g = 29 psf
	b. Snow Importance Factor	I_s = 1.0
	c. Snow Exposure Coefficient	C_e = 1.0
	d. Thermal Exposure Coefficient	C_t = 1.0
	e. Roof Snow Load	$P_f = 0.7*C_e*C_t*I_s*P_g$ = 20 psf plus Snow Drift
3.	Rain Loads	
	a. Rain Intensity	i = 1.5 in/hr
4.	Roof Live Load	20 psf
5.	Seismic Loads	
	a. Seismic Importance Factor, I_e	1.0
	b. Seismic Design Category	D
	c. Site Specific Ground Motion Hazard Analysis	Not Required per exceptions in section 11.4.8 of ASCE 7
	d. Mapped Spectral Acceleration	S_s = 1.462g S_1 = 0.514g
	e. Soil Site Class	D
	f. Soil Site Coefficients	F_a = 1.20 F_v = 1.79
	g. 5% Damped Design Spectral Response Acceleration	$S_{DS} = 2/3 * F_a * S_S$ = 1.170g $S_{D1} = 2/3 * F_v * S_1$ = 0.612g
	h. Seismic-Force-Resisting System	Steel Ordinary Moment Frames
	i. Response Modification Coefficient	R = 3.5
	j. System Over-strength Factor	Ω_0 = 3.0
	k. Deflection Amplification Factor	C_d = 3.0
	l. Redundancy Factors	ρ_x = 1.0; ρ_y = 1.0
	m. Fundamental Building Period	T = 0.256 seconds
	n. Seismic Response Coefficient	$Cs = S_{DS} * I_e / R$ $Cs = S_{D1} * I_e / (R*T)$
	o. W	Dead Loads of Structure
	p. Base Shear	$Vx = C_S * W$ = 0.334 * W $Vy = C_S * W$ = 0.334 * W
	q. Analysis Procedure	Equivalent Lateral Force (Static)
6.	Wind Loads	
	a. Basic Wind Velocity (3 Second Gust)	103 mph
	b. Exposure Type	C
	c. Internal Pressure Coefficient, GCpi	+/-0.18
	d. Topographic Factor, Kzt	1.00
	e. Ground Elevation Factor, Ke	0.86

FOUNDATION

1.	Soils Report	
	a. Author:	GSH Geotechnical
	b. Dated:	06/14/2023
	c. Project No:	1046-012-23
2.	Soil Bearing Pressure	3000 psf, see Earthwork Section.
3.	Frost Protection	30" minimum to bottom of footing. Contractor shall field verify that the footing elevations and final grades indicated on the plans will provide the minimum frost protection. The contractor shall notify the architect/engineer if there are any locations where the minimum frost protection might not be achieved prior to placing concrete.

EARTHWORK

1. All footings shall bear on suitable natural material or compacted structural fill extending down to suitable natural material.

CONCRETE

1. Materials, unless noted otherwise:
   a. Normal weight aggregates — ASTM C 33
      i. Combined aggregate gradation for slabs on grade and other designated concrete shall be 8% - 18% for large top size aggregates (1.1/2") or 8% - 22% for smaller top size aggregates (1" or 3/4") retained on each sieve below the top size and above the No. 100. The range for the No. 30 and No.50 sieves shall be 8% - 15% retained in each. To avoid gap gradation the following shall occur:
         1. The percent retained on two adjacent sieves shall not fall below 5%.
         2. The percent retained on three adjacent sieves shall not fall below 8%.
         3. When the percent retained on two adjacent sieves is less than 8%, the total retained on either of these sieves and the adjacent outside sieve shall be at least 13%. See ACI 302 Section 5.4.3.3 for more information.
      ii. Maximum Aggregate Size shall not be larger than:
         1. 3.1/2" or 1/5 the narrowest dimension of the forms
         2. 1/3 the depth of the slab
         3. 3/4 the minimum clear spacing between bars
   b. Reinforcing Steel — ASTM 615 Grade 60 (Fy = 60 ksi) Use Grade 40 (Fy = 40 ksi) for field bent dowels with spacings indicated reduced by 1/3.
   c. Deformed Bar Anchors (DBA) — ASTM A496
   d. Headed Stud Anchors (HSA) — ASTM A108
   e. Anchor Rods — See Structural Steel section
   f. Admixtures:
      i. Air-entraining admixtures shall comply with ASTM C 260 (when used).
      ii. Calcium chloride shall not be added to the concrete mix.
      iii. Water-reducing admixture shall comply with ASTM C 494/C 494M, Type A (when used)
      iv. Retarding admixture shall comply with ASTM C 494/C 494M, Type B (when used).
      v. Water-reducing and retarding admixture shall comply with ASTM C 494/C 494M, Type D (when used).
      vi. High-range, water-reducing admixture shall comply with ASTM C 494/C 494M, Type F (when used).
      vii. High-range, water-reducing and retarding admixture shall comply with ASTM C 494/C 494M Type G (when used).
      viii. Admixture manufacturer shall have ISO 9001 Quality Certification. To ensure compatibility all admixtures shall be from the same manufacturer.
   g. Type I/II cement complying with ASTM C-150 shall be used for all concrete. Cement source shall remain the same for the entire job.
   h. The water/cementitious materials ratios shall meet the requirements of Table 19.3.2.1 of ACI 318-19.
   i. Cementitious Materials – Limit percentage, by weight, of cementitious materials other than portland cement as follows:
      i. Fly Ash - ASTM C618, Class C or F – 35% maximum cementitious content.
      ii. Slag Cement – ASTM C989, Grade 100 or 120 – 50% maximum cementitious content.
   j. Provide air entraining as recommended by Table 19.3.3.1 of ACI 318-19. Concrete that extends above grade and is exposed to freezing and thawing while moist shall be air-entrained. Concrete in unconditioned spaces shall be considered site concrete.
   k. No aluminum conduit or product containing aluminum or any other material injurious to concrete shall be embedded in concrete.
2. Compressive strengths of concrete at 28 days shall meet the follow performance requirements (see ACI-318-19; Chapter 19):
   a. Footings & Interior Foundation Walls — Strength 3,000 psi; Classification F0, S0, W0, C0
   b. Exterior Foundation Walls — Strength 3,500 psi; Classification F1, S0, W0, C0
   c. Interior Slabs on Grade — Strength 3,000 psi; Classification F0, S0, W0, C0
   d. All Site Concrete with Reinforcement — Strength 5,000 psi; Classification F3, S0, W1, C2
   e. All Site Concrete without Reinforcement — Strength 4,500 psi; Classification F3, S0, W1, C2
3. Reinforcement for concrete slabs on grade:
   a. 6" thick concrete slab on grade. Reinforce slab with #3 bars at 18" o.c. each way with 2" max cover below the top surface of the concrete.
      i. At contractor's option, macro-synthetic fiber or welded wire fabric may be used in lieu of reinforcing bars with the following requirements:
         1. 3 lbs minimum per cubic yard of macro-synthetic fiber reinforcing (ASTM C 1116 Type 3) with the following requirements:
            a. Length 1.1/2" – 2"
            b. Equivalent diameter of 0.016" to 0.05"
            c. Minimum aspect ratio (length to equivalent diameter) of 50 to 90.
            d. Provide a fiber dosage to achieve a minimum post-crack residual strength (f_{e3}) of 200 psi when tested according to ASTM C1609.
            e. Maximum concrete shrinkage shall be 0.04% when tested according to ASTM C157 or C157 modified.
            f. Fiber manufacturer shall provide the following:
               i. Fiber dosage
               ii. Mix design
               iii. Finishing practices
         2. 6" x 6" – W4/W4 welded wire fabric (ASTM A185 and A497) minimum, unless noted otherwise. Welded Wire Fabric with 2" of cover below the top surface of the concrete.
4. Only one grade or type of concrete shall be poured on the site at any given time.
5. The contractor shall be responsible for the design, detailing, care, placement and removal of all formwork and shores.
   a. Supporting forms and shoring shall not be removed until structural members have acquired sufficient strength to safely support their own weight and any construction load to which they may be subjected. In no case, however, shall forms and shoring be removed in less than 24 hours after concrete placement.
6. Reinforcement shall have the following concrete cover: (Engineer to verify coverage based on fire rating)

a. Cast-in-place Concrete	Clear Cover
i. Cast against and permanently exposed to earth	3"
ii. Formed concrete exposed to earth or weather:	
#6 thru #18 bars	2"
#5 and smaller bars	1.1/2"
iii. Concrete not exposed to weather or in contact with ground:	
Slabs, Walls and their piers, Joists; #11 bars and smaller	3/4"
Beams, Columns: Primary Reinf., Ties, Stirrups, Spirals	1.1/2"

7. Detailing:
   a. Lap splice lengths shall be detailed to comply with the "Concrete Reinforcing Bar Lap Splice Schedule" in drawings. Splices may be made with mechanical splices capable of 125% tension capacity of the bar being spliced. Mechanical splices shall be the positive connecting type coupler and shall meet all International Building Code requirements and shall have a current ICC-ES report or IAPMO Certification. Use "Lenton" Standard Couplers (ICC ER-3967), "Bar-Lock" (ICC ESR-2495) or equal with internal protector. If mechanical splices are used, splices or couplers on adjacent bars shall be staggered a minimum of 24" apart along the longitudinal axis of the reinforcing bars.
   b. At joints, provide reinforcing dowels to match the member reinforcing, unless noted otherwise.
   c. At all discontinuous control or construction slab on grade joints, provide 2 - #4 x 48".
   d. Corner Bars: Provide corner bars at intersecting wall corners using the same bar size and spacing as the horizontal wall reinforcing. Corner bars shall lap the horizontal reinforcing with the required lap splice length. See "Typical Corner Wall Reinforcing at Concrete Walls" detail in drawings.
   e. All vertical reinforcing shall be doweled to footings, or to the structure below with the same size and spacing as the vertical reinforcing for the element above. Dowels extending into footings shall terminate with a 90-degree standard hook and shall extend to within 4" of the bottom of the footing. Footing dowels (#8 bars and smaller) with hooks need not extend more than 20" into footings.
   f. Horizontal wall reinforcing shall be continuous through construction and control joints.
   g. See "Typical Reinforcing for Miscellaneous Openings Less than 3'-0" in Concrete Walls" detail in drawings for reinforcing around miscellaneous openings (8" to 36" wide). For openings wider than 36", contact the engineer. All recesses that interrupt reinforcing shall be reinforced the same as an opening.
8. Construction Joints, Control (Contraction) Joints:
   a. Construction joints in all horizontal and vertical construction joints including between top of footing and foundation walls shall be intentionally roughened to a full amplitude of approximately 1/4". The laitance on the concrete (thin, flaky layer of hardened, weakened hydrated cement) shall be mechanically removed from the surface after the concrete has achieved final set. Construction joints in slabs on grade shall not exceed a distance of 125'-0" o.c. in any direction.
   b. Control joints shall be installed in slabs on grade so the length to width ratio of the slab is no more than 1.25:1. Control joints shall be completed as soon as final set is achieved and it is okay to operate the cutter on the slab. Final set is typically achieved within the first 4 to 12 hours after the slab has been finished in an area (depending on weather conditions and concrete hydration rate; 4 hours in hot weather to 12 hours in cold weather). For early entry saw cutting, joints should be cut within the first 1 to 4 hours (depending on weather conditions and concrete hydration rate; 1 hour for hot weather and 4 hours for cold weather). Where saw cut joints cannot be cut along the entire projected length of the joint, a 90-degree hand grinder or other tool shall be used to complete the joint. Control joints may be installed by:
      i. Saw cut a depth of 1/4 the thickness of the slab (1.1/4" ± for early entry saws) minimum.
      ii. Tooled joints a depth of 1/4 the thickness of the slab
   c. For interior concrete slabs-on-grade that are to receive **no** floor covering, install construction or control joints in slabs on grade at a spacing not to exceed 24 times the slab thickness in any direction, unless noted otherwise. For interior concrete slabs-on-grade that are to receive floor coverings the contractor has the option to increase the control joint spacing to 36 times the slab thickness in any direction.
9. Construction
   a. Use chairs or other support devices recommended by the CRSI to support and tie reinforcement bars prior to placing concrete. Reinforcing steel for slabs on grade shall be adequately supported. Support reinforcing steel of slabs on grade with precast concrete units. Lifting the reinforcing off the grade during placement of concrete is not permitted.
   b. Concrete to be mechanically consolidated during placement per ACI standards.
   c. Contractor shall coordinate placement of all openings, curbs, dowels, sleeves, conduits, bolts, inserts and other embedded items prior to concrete placement.
   d. All embeds, anchors and dowels shall be securely tied to formwork or to adjacent reinforcing prior to the placement of concrete.
   e. No pipes, ducts, sleeves, etc shall be placed in structural concrete unless specifically detailed or approved by the structural engineer. Penetrations through walls when approved shall be built into the wall prior to concrete placement. Penetrations will not be allowed in footings or grade beams unless detailed. Piping shall be routed around footings and grade beams and unless detailed. Footings shall be stepped to avoid piping.
   f. Reinforcing Bars shall not be welded. Do not substitute reinforcing bars for DBAs or HSAs.

STRUCTURAL STEEL

1. Material:

a. Wide Flange Sections	ASTM A992 (50 ksi)
b. All Thread Rods, Other Shapes & Plates	ASTM A36 (36 ksi)
c. Square or Rectangular HSS	ASTM A500 (50 ksi) Grade C or ASTM A1085 (50ksi)
d. Deformed Bar Anchors (DBA)	ASTM A496
e. Headed Stud Anchors (HSA)	ASTM A108
f. Anchor Rods	
Typical, uno	ASTM F1554, Grade 36, with ASTM A563 heavy hex nuts and ASTM F436 hardened washers Grade A

2. Fabrication and construction shall comply with the latest edition of the following Codes and Standards:
   a. American Institute of Steel Construction (AISC), "Specification for the Design, Fabrication and Erection of Structural Steel for Buildings," with "Commentary".
   b. AISC "Code of Standard Practice" excluding the following: Section 3.2, Section 4.4, Section 4.4.1,
   c. AISC "Specification for Structural Joints Using High-Strength Bolts"
   d. American Welding Society (AWS), Structural Welding Code (specific items do not apply when they conflict with the AISC requirements).
   e. AISC "Seismic Provision for Structural Steel Buildings"- ANSI/AISC 341
   f. All exterior steel elements, including anchor rods and bolts shall be hot dip galvanized in accordance with ASTM A123 and A153 where applicable.

BHB STRUCTURAL
2766 South Main Street
Salt Lake City, Utah 84115
801-355-5656
bhb@bhbengineers.com

ARCHITECT'S INFORMATION:
SPE ARCHITECTS
P.O. Box 517
Kaysville, Utah 84037
t. 801.298.1368
info@spe-architect.com
www.spe-architect.com

PROFESSIONAL STAMP:
PROFESSIONAL ENGINEER — No. 10881225 — JORDAN PERKES — STATE OF UTAH
06/23/2023

CODE OFFICIAL STAMP:
REVIEWED FOR CODE COMPLIANCE
Thomas W Peterson
09/25/2023
DIVISION OF FACILITIES CONSTRUCTION & MANAGEMENT

PROJECT NAME:
UDOT MURRAY TOW PLOW STORAGE BUILDING
5823 S COMMERCE WAY
MURRAY, UTAH 84107

REVISIONS:

NO.	DATE	DESCRIPTION

ISSUED:

NO.	DATE	DESCRIPTION
1	6/23/2023	CONSTRUCTION BID SET

BHB PROJECT #:	230396
SPE PROJECT #:	23-17
DRAWN BY:	JB
CHECKED BY:	JP
DESIGNED BY:	JP

SHEET TITLE:
GENERAL STRUCTURAL NOTES

SHEET NUMBER:
S-001

Last Plotted: 6/22/2023 10:11:59 AM

GENERAL STRUCTURAL NOTES

3. Welding
   a. Field weld flags that have been put in these documents are for suggestion only. The contractor has the option to substitute shop welding for field welding or vice versa. The steel fabrication and steel erection drawings must clearly distinguish between shop welds and field welds prior to any work being performed.
   b. Steel fabricators shall indicate the shop welds that are excluded from their bids. Steel erectors shall indicate the field welds that are excluded from their bids. It is the responsibility of the contractor to coordinate shop welding and field welding with the appropriate subcontractors.
   c. All welding and cutting shall be performed by AWS certified welders.
   d. Use E-70 XX (58 ksi yield, 70 ksi tensile) unless noted otherwise. E60 XX may be used for welding steel decks.
   e. All intersecting steel shapes which are not bolted shall be connected by a fillet weld all around, unless noted otherwise. Where fillet weld sizes are not shown they shall be 1/16" less than the thinnest of the connected parts for thicknesses 1/4" and larger. Fillet welds on plates less than 1/4" shall be of the same size as the thinnest of the connected part.
   f. Reinforcing Bars: Do not weld rebar. Do not substitute reinforcing bars for deformed bar anchors (DBAs), machine bolts, or headed stud anchors (HSAs).
   g. Do not weld anchor bolts, including "tack" welds.
   h. Headed Stud Anchors (HSAs) welding and deformed bar anchor welding shall conform to the manufacturer's specifications.

4. Provide baseplate anchor rod connections to concrete elements that correlate with ACI 117. Circular or square washers are acceptable:

ANCHOR ROD DIAMETER	HOLE DIAMETER	WASHER SIZE	WASHER THICKNESS (MIN)
3/4"	1.5/16"	2"	1/4"
7/8"	1.9/16"	2.1/2"	5/16"
1"	1.7/8"	3"	3/8"
1.1/4"	2.1/8"	3.1/2"	1/2"
1.1/2"	2.3/8"	4"	1/2"
1.3/4"	2.7/8"	4.1/2"	5/8"
2"	3.1/4"	5"	3/4"
2.1/2"	3.3/4"	5.1/2"	7/8"

5. Provide full-depth web-stiffener plates where indicated in the details including at each side of all beams at all bearing points. Stiffener plate thickness shall be the greater of the following:
   a. 1/4"
   b. 1/2 the thickness of the beam flange
   c. 1/16 the width of the stiffener (half the beam flange width).
   d. 1/32 the depth of the beam
   Stiffener plates shall be welded on one side with fillet welds all around. The size of the fillet weld shall be 1/2 the stiffener plate thickness or 3/16" min.

PREFABRICATED METAL BUILDING

1. The design, fabrication and erection of all prefabricated elements and associated hardware shall comply with the latest requirements of the IBC, AISC, SDI and AISI.

2. Prior to fabrication and installation of anchor bolts, the metal building supplier shall submit complete shop drawings and calculations including reactions bearing the stamp of a Registered Design Professional licensed in the same state as the project location. Complete calculations shall be submitted with the shop drawings.

3. Do not modify any structural element of the prefabricated metal building without the written consent and direction from the manufacturer. Send copies of the consent and modifications to the Architect and Engineer.

4. The design of the premanufactured structural roof system including the steel deck, joists, girders, columns, and the lateral force resisting system (including rigid frames) is the responsibility of the premanufactured metal building supplier. Refer to the prefabricated structural roof system supplier's drawings and calculations for the exact gravity roof load values and for the design or the roof and lateral systems.

BHB STRUCTURAL
2766 South Main Street
Salt Lake City, Utah 84115
801-355-5656
bhb@bhbengineers.com

ARCHITECT'S INFORMATION:
SPE ARCHITECTS
P.O. Box 517
Kaysville, Utah 84037
t. 801.298.1368
info@spe-architect.com
www.spe-architect.com

PROFESSIONAL STAMP:
PROFESSIONAL ENGINEER
No. 10881225
JORDAN PERKES
STATE OF UTAH
06/23/2023

CODE OFFICIAL STAMP:
REVIEWED FOR CODE COMPLIANCE
Thomas W Peterson
09/25/2023
DIVISION OF FACILITIES CONSTRUCTION & MANAGEMENT

PROJECT NAME:
UDOT MURRAY TOW PLOW STORAGE BUILDING
5823 S COMMERCE WAY
MURRAY, UTAH 84107

REVISIONS:

NO.	DATE	DESCRIPTION

ISSUED:

NO.	DATE	DESCRIPTION
1	6/23/2023	CONSTRUCTION BID SET

BHB PROJECT #:	230396
SPE PROJECT #:	23-17
DRAWN BY:	JB
CHECKED BY:	JP
DESIGNED BY:	JP

SHEET TITLE:
GENERAL STRUCTURAL NOTES

SHEET NUMBER:
S-002

Last Plotted: 6/22/2023 10:11:59 AM

REQUIREMENTS FOR SPECIAL INSPECTION, MATERIAL TESTING, AND STRUCTURAL OBSERVATION

STATEMENT OF SPECIAL INSPECTION AND QUALITY ASSURANCE

Special inspection and quality assurance (including structural testing), as required by section 1704 and 1705 of the 2018 IBC, shall be provided by an independent agency employed by the owner for the items in this section and other areas of the approved construction documents, unless waived by the building official.	
The names and credentials of the Special Inspectors to be used shall be submitted to the Building Official for approval.	
Responsibilities of the Special Inspector	
	Special Inspector shall review all work listed in the special inspection schedules herein for conformance with the approved construction plans, specifications and 2018 IBC.
	Testing and inspection reports shall be sent on a weekly basis to the architect, engineer, building official and contractor for review. All items not in compliance shall be brought to the immediate attention of the contractor for correction, and if uncorrected, to the architect, engineer and building official.
	Once corrections have been made by the contractor, the special inspector shall submit a final signed report to the building official stating that the work requiring special inspection was, to the best of the special inspector's knowledge, in conformance with the approved construction plans, specifications and 2018 IBC.
Responsibilities of the Contractor	
	The contractor shall submit a written statement of responsibility to the owner and the building official prior to the commencement of work in accordance with 2018 IBC section 1704.4. This statement shall indicate that the contractor will coordinate and cooperate with the required inspections contained herein.
	The contractor shall notify the designated special inspector that work is ready for inspection at least 24 hours before said inspection is required.
	All work requiring special inspection shall remain open and accessible until it has been observed by the special inspector and deemed acceptable through inspection report.
	Special inspection during fabrication is not required if the fabricator is registered and approved by the authority having jurisdiction to perform such work without special inspection. Upon completion of fabrication, the approved fabricator shall submit a certificate of compliance for submittal to the building official.
	The contractor shall be responsible for their own quality control including materials, fabrication, erection, etc.

SOILS CONSTRUCTION INSPECTIONS

Soils (2018 IBC Section 1705.6, and Table 1705.6)

ITEM FOR VERIFICATION & INSPECTION	INSPECTION FREQUENCY		COMMENTS
	CONTINUOUS	PERIODIC	
Site Preparation	-	X	Verify excavations are extended to proper depth and have reached proper materials. Verify that the site has been prepared in accordance with the Earthwork section of the General Structural Notes and per recommendations by a geotechnical engineer (if required) prior to placement of prepared fill.
Fill Material	X	-	Verify that the material being used, the maximum lift thickness and the in-place dry density of the compacted fill material comply with the Earthwork section of the General Structural Notes and per recommendations by a geotechnical engineer (if required) during placement and compaction.
Continuous Footing Backfill: at least one test for each 40 linear feet or less of wall length, but no fewer than 2 tests.	-	X	At each compacted backfill layer.
Spot Footing Backfill: Minimum of one compaction test for each lift for each spot footing.	-	X	At each compacted backfill layer.
See specifications for further requirements.	-	-	

CONCRETE CONSTRUCTION INSPECTIONS

Concrete (2018 IBC Section 1705.3, Table 1705.3, and Section 1904) The following concrete elements require special inspection:

All concrete footings, All concrete walls, including foundation walls, Interior concrete slab-on-grade, Concrete columns/piers.

ITEM FOR VERIFICATION & INSPECTION	INSPECTION FREQUENCY		COMMENTS
	CONTINUOUS	PERIODIC	
Protection of concrete during cold and hot weather	-	X	Verify maintenance of specified curing temperature and techniques
Verify materials used including use of the required mix design	-	X	Verify Use of required design mix. Verify mix design meets strength and exposure requirements listed on General Structural Notes
Formwork	-	X	Verify shape, location and member dimensions
Testing of concrete prior to concrete placement	-	X	Fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.
Bolts installed in concrete	X	-	Inspection of anchors or embeds cast in concrete is required when allowable loads have been increased or where strength design is used. Prior to and during concrete placement.
Embeds and Inserts installed in concrete	X	-	Prior to and during concrete placement.
Concrete reinforcing steel placement	-	X	Verify that reinforcing is of specified type, grade and size; that it is free of oil, dirt and rust; that it is located and spaced properly; that hooks, bends, ties, stirrups and supplemental reinforcement are placed correctly; that lap lengths, stagger and offsets are provided; and that all mechanical connections are installed per the manufacturer's instructions and/or evaluation report.
Concrete placement and samples	X	-	Cylinders, slump, temperature and air-entrainment shall be done for every 150 cubic yards or each day's production if the day's production is less than 150 cubic yards nor less than once for each 5000 sq. ft of surface area for slabs and walls.

POST-INSTALLED ANCHOR INSPECTIONS

ITEM FOR VERIFICATION & INSPECTION	INSPECTION FREQUENCY		COMMENTS
	CONTINUOUS	PERIODIC	
Post-Installed Anchors and Reinforcing Bars (2018 IBC Section 1705.1.1)			
Adhesive Anchors and Reinforcing Bars	X	-	Special inspection shall be performed per manufacturer's requirements and approved ICC-ES reports noted in POST-INSTALLED ANCHOR section of the General Structural Notes prior to installation of epoxy and anchor rod. If the anchor is not installed in a horizontal, upwardly inclined or overhead orientation meant to resist sustained tension loads, special inspection may be reduced to a periodic frequency.
Mechanical Anchors and Screw Anchors	-	X	Special inspection shall be provided per manufacturer's requirements and approved ICC-ES reports noted in POST-INSTALLED ANCHOR section of the General Structural Notes prior to installation of mechanical or screw anchor.

STRUCTURAL OBSERVATION PROGRAM

If structural observations are required, they shall be done by the Engineer of Record or an approved subordinate at the stages of construction listed in the Construction Notification Phases section of these notes. The structural observer shall visually observe representative locations of structural systems, details and load paths for general conformance with the approved construction documents. Structural observation does not include or waive the responsibility for the special inspections indicated in these structural drawings. At the conclusion of the project, the designated structural observer shall submit to the building official a written statement that the site visits have been made and identify any reported deficiencies that to the best of the structural observer's knowledge have not been resolved (See IBC 2018 1704.6).

STRUCTURAL OBSERVATION PROGRAM REQUIRED BY CODE:	YES	NO
	-	X

CONSTRUCTION MILESTONE SCHEDULE

CONTRACTOR TO NOTIFY ENGINEER AT THE FOLLOWING CONSTRUCTION PHASES:	
CONCRETE	
Footings and piers	Prior to pouring concrete

DEFERRED SUBMITTALS

For the purposes of this section, deferred submittals are defined as per section 107.3.4.1 of the IBC 2018. Submittal documents for deferred submittal items shall be submitted to the engineer, architect and building official for their review for general conformance with the design of the building.

DEFERRED STRUCTURAL SUBMITTALS FOR THIS PROJECT ARE

Prefabricated metal buildings

BHB STRUCTURAL
2766 South Main Street
Salt Lake City, Utah 84115
801-355-5656
bhb@bhbengineers.com

ARCHITECT'S INFORMATION:

SPE ARCHITECTS
P.O. Box 517
Kaysville, Utah 84037
t. 801.298.1368
info@spe-architect.com
www.spe-architect.com

PROFESSIONAL STAMP:

PROFESSIONAL ENGINEER
No. 10881225
JORDAN PERKES
STATE OF UTAH
06/23/2023

CODE OFFICIAL STAMP:

REVIEWED FOR CODE COMPLIANCE
Thomas W Peterson
09/25/2023
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

PROJECT NAME:

UDOT MURRAY TOW PLOW STORAGE BUILDING

5823 S COMMERCE WAY
MURRAY, UTAH 84107

REVISIONS:

NO.	DATE	DESCRIPTION

ISSUED:

NO.	DATE	DESCRIPTION
1	6/23/2023	CONSTRUCTION BID SET

BHB PROJECT #:	230396
SPE PROJECT #:	23-17
DRAWN BY:	JB
CHECKED BY:	JP
DESIGNED BY:	JP

SHEET TITLE:

SPECIAL INSPECTIONS

SHEET NUMBER:

S-003

Last Plotted: 6/22/2023 10:11:59 AM

LEGEND OF MARKS AND ABBREVIATIONS

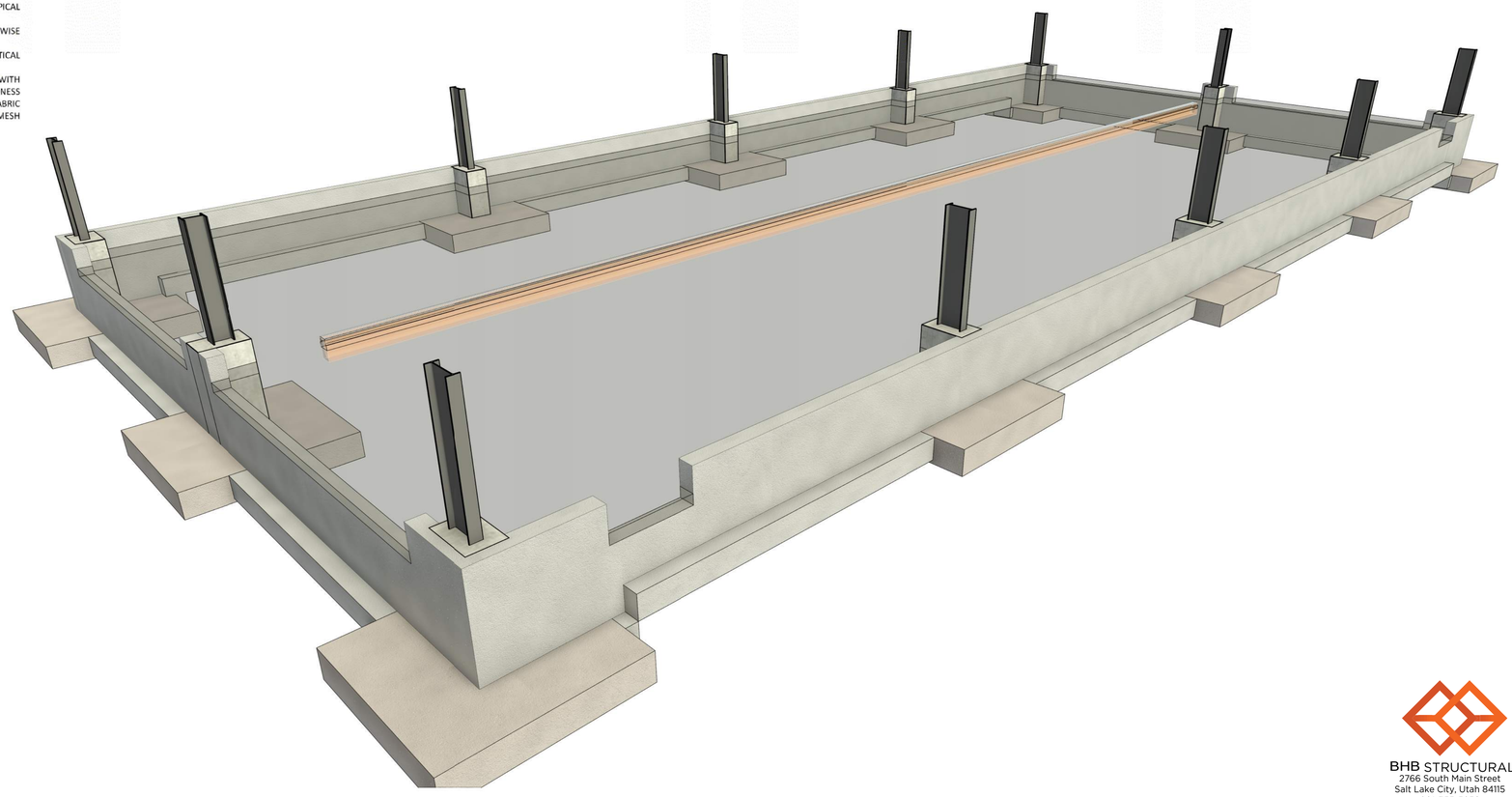
AB	ANCHOR BOLT(S)	k	KIP(S) = 1000 POUNDS
ABV	ABOVE	KLF	KIPS PER LINEAL FOOT
ALT	ALTERNATE	KSF	KIPS PER SQUARE FOOT
APPROX	APPROXIMATE		
ARCH	ARCHITECT(URAL)	LBS	POUNDS
		LF	LINEAL FOOT
BLDG	BUILDING		
BLW	BELOW	MAX	MAXIMUM
BM	BEAM	MECH	MECHANICAL
BOT	BOTTOM	MFR	MANUFACTURER
BRG	BEARING	MIN	MINIMUM
BTWN	BETWEEN	MISC	MISCELLANEOUS
CC.	CENTER-TO CENTER	NIC	NOT IN CONTRACT
CC –x	CONCRETE COLUMN	NTS	NOT TO SCALE
C.J.	CONST/CONTROL JOINT		
COL	COLUMN	O.C.	ON CENTER
CONC	CONCRETE	O.F.	OUTSIDE FACE
CONST	CONSTRUCTION	OPNG	OPENING
CP-x	CONCRETE PIER	OPP	OPPOSITE
CTR	CENTER		
CW-x	CONCRETE WALL	PAF	POWDER-ACTUATED FASTENER
		PCF	POUNDS PER CUBIC FOOT
DB	DECK BEARING	PLF	POUNDS PER LINEAL FOOT
DBA	DEFORMED BAR ANCHOR	PNL	PANEL
DBE	DECK BEARING ELEVATION	PSF	POUNDS PER SQUARE FOOT
DBL	DOUBLE	PSI	POUNDS PER SQUARE INCH
DET	DETAIL	PT	POINT
DIA	DIAMETER		
DIM	DIMENSION	REINF	REINFORCING
DN	DOWN	REQD	REQUIRED
DWG	DRAWING	R.D.	ROOF DRAIN
DWL	DOWEL	RTU	ROOF TOP UNITS
EA	EACH	SHT	SHEET
E.F.	EACH FACE	SI	SPECIAL INSPECTION
E.J.	EXPANSION JOINT	SIM	SIMILAR
ELEC	ELECTRICAL	SMU	SUSPENDED MECHANICAL UNITS
ELEV	ELEVATION	SOG	SLAB-ON-GRADE
EQUIP	EQUIPMENT	SQ	SQUARE
EQ	EQUAL	STAG	STAGGERED
E.W.	EACH WAY	STD	STANDARD
EXT	EXTERIOR	STL	STEEL
		STR	STRUCTURAL
FC-x	CONTINUOUS FOOTING MARK	STS	SELF TAPPING SCREWS
F.D.	FLOOR DRAIN		
FDN	FOUNDATION	T&B	TOP AND BOTTOM
F.F.	FINISHED FLOOR	TEMP	TEMPERATURE
FR-x	RECTANGULAR FOOTING	THDS	THREADS
FS-x	SQUARE FOOTING MARK	T.O.	TOP OF
FT	FOOT	TOC	TOP OF CONCRETE
FTG	FOOTING	TOD	TOP OF DECK
FTS-x	THICKENED SLAB MARK	TOF	TOP OF FOOTING
		TOW	TOP OF WALL
GA	GAUGE	TYP	TYPICAL
GALV	GALVANIZED		
GSN	GENERAL STRUCTURAL NOTES	UNO	UNLESS NOTED OTHERWISE
HORIZ	HORIZONTAL	VERT	VERTICAL
HSA	HEADED STUD ANCHOR		
HT	HEIGHT	W/	WITH
		WT	WALL THICKNESS
ICC	INTERNATIONAL CODE COUNCIL	WWF	WELDED WIRE FABRIC
IBC	INTERNATIONAL BUILDING CODE	WWM	WELDED WIRE MESH
I.F.	INSIDE FACE		
IN.	INCH		
INT	INTERIOR		
JT	JOINT		
JST	JOIST		

MARKS AND SYMBOLS LEGEND

- SECTION MARK / SHEET NUMBER
- FOOTING DESIGNATION / TOP OF FOOTING ELEVATION
- INDICATES CONCRETE WALL. DASHED WALLS STOP AT DECK
- DEPRESS FOUNDATION WALL AND POUR SLAB OVER. SEE DETAIL 9/S-501
- CW-x — INDICATES CONCRETE FOUNDATION WALL TYPE, SEE SCHEDULE ON SHEET S-601
- FCx.x — INDICATES CONTINUOUS FOOTING. SEE SCHEDULE ON SHEET S-601
- FSx.x — INDICATES SPOT FOOTING. SEE SCHEDULE ON SHEET S-601
- SC-PF — INDICATES STEEL COLUMN BY OTHERS
- C.J. — INDICATES CONTROL / CONSTRUCTION JOINT, SEE DETAIL 5/S-501
- CP-x — INDICATES CONCRETE PIER. SEE SCHEDULE ON SHEET S-601
- S ——— S — INDICATES FOOTING STEP, SEE DETAIL 3/S-501

STRUCTURAL SHEET LIST

Sheet Number	Sheet Name	Current Revision
S-001	GENERAL STRUCTURAL NOTES	
S-002	GENERAL STRUCTURAL NOTES	
S-003	SPECIAL INSPECTIONS	
S-010	LEGENDS OF MARKS AND ABBREVIATIONS	
S-101	FOUNDATION AND FOUNDATION PLAN	
S-501	DETAILS	
S-601	SCHEDULES	



BHB STRUCTURAL
2766 South Main Street
Salt Lake City, Utah 84115
801-355-5656
bhb@bhbengineers.com

ARCHITECT'S INFORMATION:

SPE ARCHITECTS
P.O. Box 517
Kaysville, Utah 84037
t. 801.298.1368
info@spe-architect.com
www.spe-architect.com

PROFESSIONAL STAMP:

PROFESSIONAL ENGINEER — No. 10881225 — JORDAN PERKES — STATE OF UTAH
06/23/2023

CODE OFFICIAL STAMP:

REVIEWED FOR CODE COMPLIANCE
Thomas W Peterson
09/25/2023
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

PROJECT NAME:

UDOT MURRAY TOW PLOW STORAGE BUILDING

5823 S COMMERCE WAY
MURRAY, UTAH 84107

REVISIONS:

NO.	DATE	DESCRIPTION

ISSUED:

NO.	DATE	DESCRIPTION
1	6/23/2023	CONSTRUCTION BID SET

BHB PROJECT #:	230396
SPE PROJECT #:	23-17
DRAWN BY:	JB
CHECKED BY:	JP
DESIGNED BY:	JP

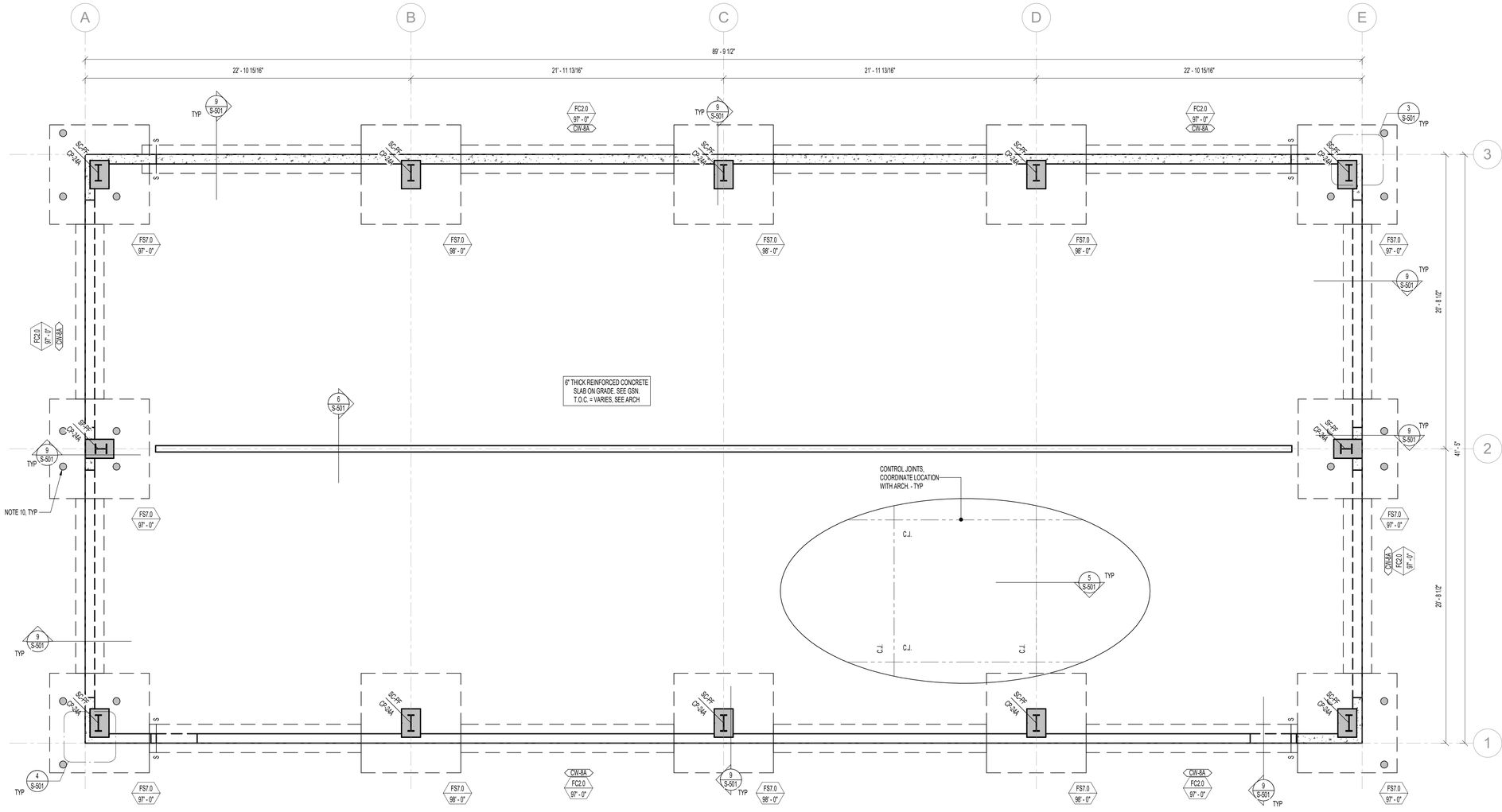
SHEET TITLE:

LEGENDS OF MARKS AND ABBREVIATIONS

SHEET NUMBER:

S-010

Last Plotted: 6/22/2023 10:12:09 AM



1 FOOTING AND FOUNDATION PLAN

1/4" = 1'-0" 0" 2'-0" 4'-0" 8'-0"

FOOTING AND FOUNDATION PLAN NOTES

1. COORDINATE LOCATION OF DEPRESSED SLABS, SLOPED SLABS, AND FLOOR DRAINS WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.
2. SEE ARCHITECTURAL AND CIVIL DRAWINGS FOR EXTERIOR CONCRETE WORK AT DOORS, SIDEWALKS, ETC.
3. SEE ARCHITECTURAL DRAWINGS FOR CONTROL JOINT LOCATIONS.
4. ALL SPOT FOOTINGS SHALL BE CENTERED UNDER COLUMNS (UNO).
5. SEE DETAILS 1/S-501 AND 2/S-501 FOR CONDITION WHERE BURIED PIPES RUN PARALLEL AND PERPENDICULAR TO FOOTINGS.
6. SEE DETAIL 5/S-501 FOR TYPICAL CONTROL/CONSTRUCTION JOINTS IN CONCRETE SLAB ON GRADE.
7. SEE DETAIL 7/S-501 FOR SLAB REINFORCING WHERE CONTROL JOINTS ARE DISCONTINUOUS.
8. SEE DETAIL 8/S-501 FOR ADDITIONAL REINFORCING AROUND MISCELLANEOUS OPENINGS IN CONCRETE WALLS.
9. SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS TO ALL STEEL COLUMNS.
10. BOLLARD LOCATIONS AND DETAILS TO BE COORDINATED WITH ARCHITECTURAL DRAWINGS. BOLLARDS AT NOT TO BE POURED MONOLITHICALLY WITH THE BUILDING FOOTINGS AND NEED TO REMAIN SEPARATED.

BHB STRUCTURAL
2766 South Main Street
Salt Lake City, Utah 84115
801-355-5656
bhb@bhbengineers.com

ARCHITECT'S INFORMATION:
SPE ARCHITECTS
P.O. Box 517
Kaysville, Utah 84037
t. 801.298.1368
info@spe-architect.com
www.spe-architect.com

PROFESSIONAL STAMP:
PROFESSIONAL ENGINEER
No. 10881225
JORDAN PERKES
STATE OF UTAH
06/23/2023

CODE OFFICIAL STAMP:
REVIEWED FOR CODE COMPLIANCE
Thomas W Peterson
09/25/2023
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

PROJECT NAME:
UDOT MURRAY TOW PLOW STORAGE BUILDING
5823 S COMMERCE WAY
MURRAY, UTAH 84107

REVISIONS:

NO.	DATE	DESCRIPTION

ISSUED:

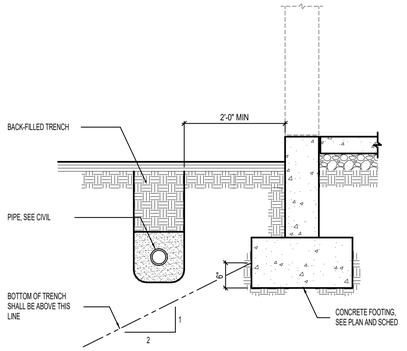
NO.	DATE	DESCRIPTION
1	6/23/2023	CONSTRUCTION BID SET

BHB PROJECT #:	230396
SPE PROJECT #:	23-17
DRAWN BY:	JB
CHECKED BY:	JP
DESIGNED BY:	JP

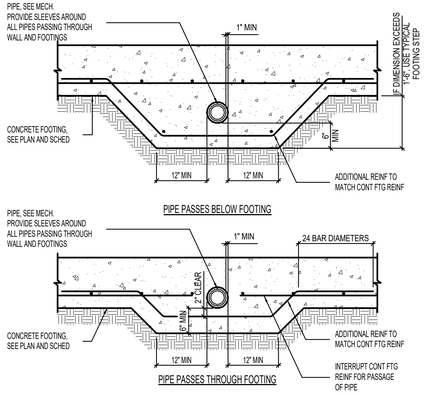
SHEET TITLE:
FOOTING AND FOUNDATION PLAN

SHEET NUMBER:
S-101

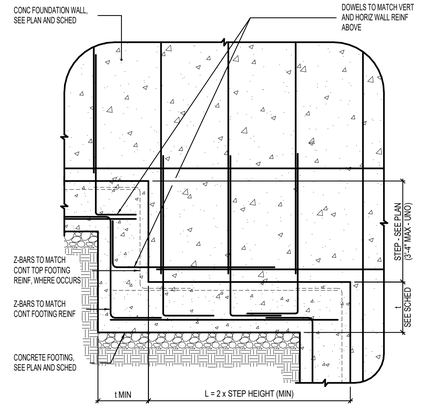
Last Plotted: 6/22/2023 10:12:10 AM



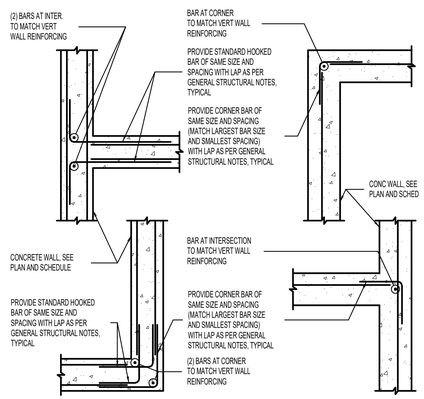
1 CONDITION AT PIPE PARALLEL TO CONCRETE FOOTING — NO SCALE



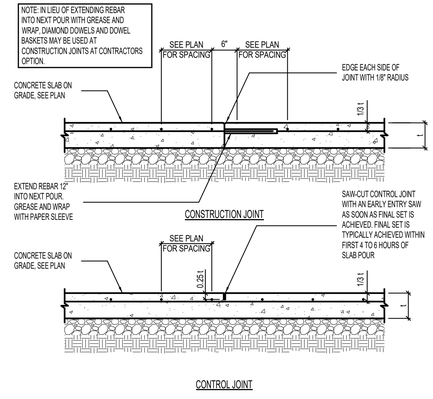
2 CONDITIONS AT PIPE PERPENDICULAR TO FOOTING — NO SCALE



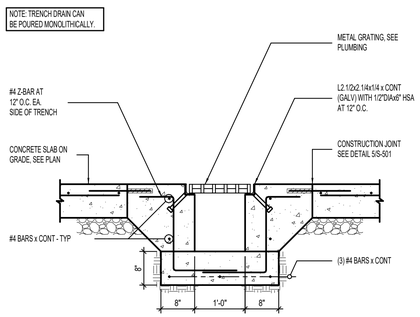
3 TYPICAL FOOTING STEP DETAIL — NO SCALE



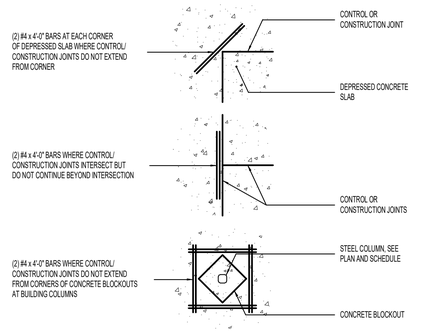
4 TYPICAL CORNER WALL REINFORCING AT CONCRETE WALLS [PLAN VIEW] — NO SCALE



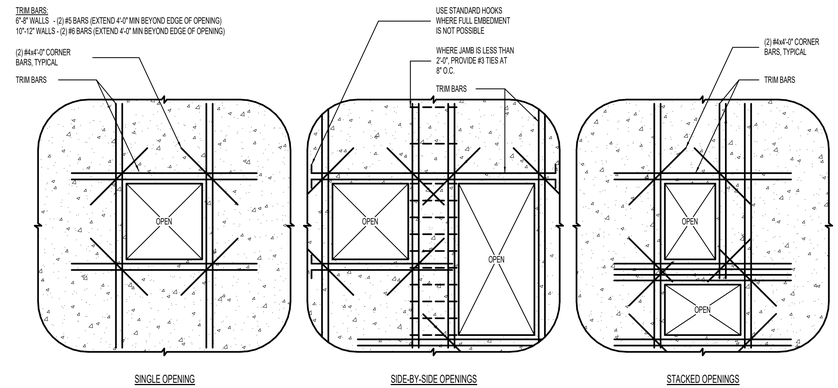
5 TYPICAL SLAB ON GRADE JOINT DETAILS — NO SCALE



6 TRENCH DRAIN — NO SCALE

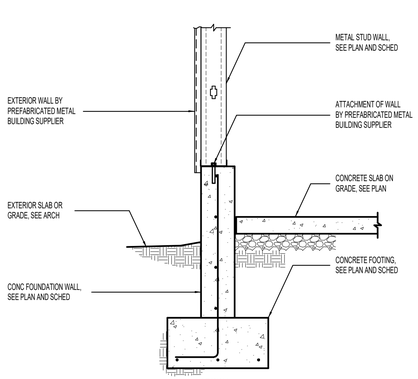


7 LOCATIONS REQUIRING ADDITIONAL SLAB REINFORCING [PLAN VIEW] — NO SCALE

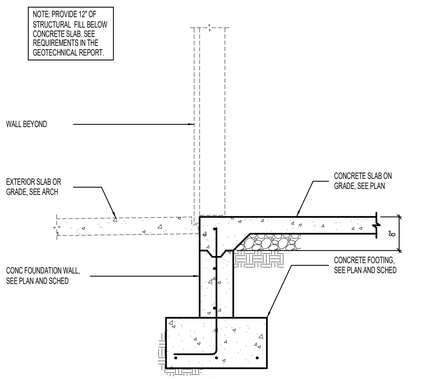


SINGLE OPENING — SIDE-BY-SIDE OPENINGS — STACKED OPENINGS

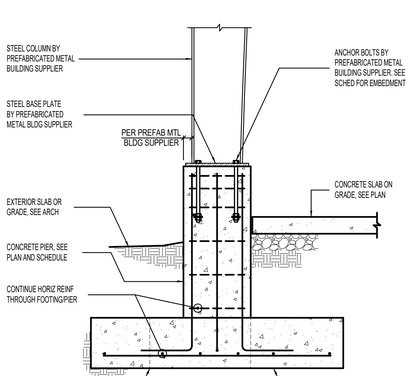
8 TYPICAL REINFORCING FOR MISCELLANEOUS OPENINGS LESS THAN 3'-0" IN CONCRETE WALLS
WHERE MISCELLANEOUS OPENING WIDTH IS GREATER THAN 3'-0" WIDE, CONTACT STRUCTURAL ENGINEER. — NO SCALE



AT WALL



AT OPENING



AT COLUMN

9 FOUNDATION WALL DETAIL AT PREFABRICATED METAL BUILDING — NO SCALE

BHB STRUCTURAL
2766 South Main Street
Salt Lake City, Utah 84115
801-355-5656
bhb@bhbengineers.com

ARCHITECT'S INFORMATION:
SPE ARCHITECTS
P.O. Box 517
Kaysville, Utah 84037
t. 801.298.1368
info@spe-architect.com
www.spe-architect.com

PROFESSIONAL STAMP:
PROFESSIONAL ENGINEER — No. 10881225 — JORDAN PERKES — STATE OF UTAH
06/23/2023

CODE OFFICIAL STAMP:
REVIEWED FOR CODE COMPLIANCE
Thomas W Peterson
09/25/2023
DIVISION OF FACILITIES CONSTRUCTION & MANAGEMENT

PROJECT NAME:
UDOT MURRAY TOW PLOW STORAGE BUILDING
5823 S COMMERCE WAY
MURRAY, UTAH 84107

REVISIONS:

NO.	DATE	DESCRIPTION

ISSUED:

NO.	DATE	DESCRIPTION
1	6/23/2023	CONSTRUCTION BID SET

BHB PROJECT #:	230396
SPE PROJECT #:	23-17
DRAWN BY:	JB
CHECKED BY:	JP
DESIGNED BY:	JP

SHEET TITLE: DETAILS

SHEET NUMBER: S-501

Last Plotted: 6/22/2023 10:12:10 AM

CONCRETE CONTINUOUS FOOTING SCHEDULE (FC)

MARK	WIDTH	LENGTH	DEPTH	REINFORCING CROSSWISE				REINFORCING LENGTHWISE				COMMENTS
				No.	SIZE	LENGTH	SPACING	No.	SIZE	LENGTH	SPACING	
FC2.0	2' - 0"	<varies>	12"	-	#4	1' - 6"	48"	3	#4	CONT	EQ	<varies>

CONCRETE SPOT FOOTING SCHEDULE (FS)

MARK	WIDTH	Length	DEPTH	REINFORCING CROSSWISE				REINFORCING LENGTHWISE				COMMENTS
				No.	SIZE	LENGTH	SPACING	No.	SIZE	LENGTH	SPACING	
FS7.0	7' - 0"	7' - 0"	14"	7	#5	6' - 6"	EQ	7	#5	6' - 6"	EQ	REINFORCE TOP AND BOTTOM

CONCRETE FOOTING NOTES:
1. PLACE ALL FOOTING REINFORCING IN THE BOTTOM OF THE FOOTING WITH 3" CLEAR CONCRETE COVER (UNO).
2. TOP REINFORCING, WHERE OCCURS, SHALL BE PLACED IN THE TOP OF THE FOOTING WITH 2" MINIMUM CONCRETE COVER.
3. IF FOOTINGS ARE EARTH-FORMED, FOOTINGS SHALL BE 6" LONGER AND WIDER THAN SCHEDULED.
4. SEE GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.
5. SOME SCHEDULED FOOTINGS MAY NOT BE USED, SEE FOOTING AND FOUNDATION PLAN FOR FOOTING MARKS.

1 CONCRETE FOOTING SCHEDULE NOTES (C3000-S1500)

CONCRETE REINFORCING BAR LAP SPLICE SCHEDULE

BAR SIZE	f'c = 3000psi & f'c = 3500 psi				f'c = 4000psi & f'c = 4500 psi				f'c = 5000psi				f'c = 6000psi			
	REGULAR		TOP		REGULAR		TOP		REGULAR		TOP		REGULAR		TOP	
	CLASS		CLASS		CLASS		CLASS		CLASS		CLASS		CLASS		CLASS	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
#3	17"	22"	22"	28"	15"	19"	19"	24"	13"	17"	17"	22"	12"	16"	15"	20"
#4	22"	29"	29"	37"	19"	25"	25"	32"	17"	22"	22"	29"	16"	20"	20"	27"
#5	28"	36"	36"	47"	24"	31"	31"	40"	22"	28"	28"	36"	20"	26"	26"	33"
#6	33"	43"	43"	56"	29"	37"	37"	48"	26"	33"	33"	43"	24"	31"	31"	40"
#7	48"	63"	63"	81"	42"	54"	54"	70"	37"	49"	49"	63"	34"	44"	44"	58"
#8	55"	72"	72"	93"	48"	62"	62"	80"	43"	56"	55"	72"	39"	51"	51"	66"
#9	62"	81"	81"	105"	54"	70"	70"	91"	48"	63"	63"	81"	44"	57"	57"	74"
#10	70"	91"	91"	118"	61"	79"	79"	102"	54"	70"	70"	91"	50"	64"	64"	83"
#11	78"	101"	101"	131"	67"	87"	87"	113"	60"	78"	78"	101"	55"	71"	71"	93"

TABULATED VALUES ARE FOR CASE 1 REINFORCEMENT, WHERE THE REQUIREMENTS OF TABLE BELOW ARE MET. WHERE THESE CONDITIONS ARE NOT MET, MULTIPLY THE LAP LENGTHS ('d) BY 1.5.

REQUIREMENT FOR CASE 1 LAP LENGTHS

db = BAR DIAMETER

BAR CLEAR SPACING	CLEAR COVER	STIRRUPS OR TIES
>=db	>=db	>=CODE FOR MINIMUM THROUGHOUT 'd
>=2db	>=db	NO REQUIREMENT

CONCRETE REINFORCING BAR LAP SPLICE NOTES:
1. THIS SCHEDULE SHALL BE USED FOR ALL BAR SPLICES IN CONCRETE WALLS, UNLESS NOTED OTHERWISE.
2. CLASS 'A' SPLICES MAY BE USED ONLY IN CASES WHERE 50% OR LESS OF THE BARS ARE SPLICED WITHIN THE LAP SPLICE LENGTH.
3. CLASS 'B' SPLICES SHALL BE USED FOR ALL SPLICES UNLESS THE REQUIREMENTS OF NOTE No. 2 ABOVE ARE MET.
4. TIES AND STIRRUPS SHALL NOT BE SPLICED.
5. DO NOT SPLICE VERTICAL BARS IN RETAINING WALLS UNLESS SPECIFICALLY SHOWN.
6. THE VALUES TABULATED IN SCHEDULE ARE FOR GRADE 60 REINFORCING BARS. FOR GRADE 75, MULTIPLY LAP LENGTHS BY 1.25 AND FOR GRADE 80, MULTIPLY BY 1.33.
7. THE VALUES TABULATED IN SCHEDULE ARE MINIMUM REQUIREMENTS. LONGER LENGTHS MAY BE USED FOR CONSTRUCTIBILITY.
8. LAP SPLICES ARE NOT ALLOWED FOR BARS GREATER THAN #11 BAR. THE LENGTHS IN SCHEDULE ARE FOR TENSION DEVELOPMENT LENGTH.
9. TOP BARS ARE CLASSIFIED AS HORIZONTAL BARS WHERE 12", OR MORE, OF FRESH CONCRETE IS CAST BELOW THE REINFORCING BAR.
10. FOR EPOXY-COATED OR ZINC AND EPOXY DUAL-COATED BARS WITH CLEAR COVER < 3db OR CLEAR SPACING <6db , MULTIPLY LAP LENGTHS BY 1.5. FOR ALL OTHER CASES MULTIPLY BY 1.2
11. FOR LIGHT WEIGHT CONCRETE, MULTIPLY LAP LENGTHS BY 1.33 UNLESS THE AVERAGE SPLITTING TENSILE STRENGTH (Fct) IS SPECIFIED. FOR LIGHT WEIGHT CONCRETE WHERE Fct IS SPECIFIED, REFER TO ACI318-14 SECTION 19.2.4.3
12. SPLICES FOR BUNDLED BARS:
    A. FOR BUNDLED BARS OF THREE OR LESS, LAP SPLICE LENGTHS SHALL BE MULTIPLIED BY 1.2.
    B. FOR BUNDLED BARS OF FOUR OR MORE, LAP SPLICE LENGTHS SHALL BE MULTIPLIED BY 1.33.
    C. INDIVIDUAL BAR SPLICES WITHIN A BUNDLE SHALL NOT OVERLAP.
    D. ENTIRE BUNDLES SHALL NOT BE LAP SPLICED.
13. SEE GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.

2 CONCRETE REINFORCING BAR LAP SPLICE SCHEDULE

CONCRETE WALL SCHEDULES

MARK	THICKNESS	REINFORCING			WALL TYPE	COMMENTS
		VERTICAL	HORIZONTAL	TOP AND BOTTOM		
CW-8A	8"	#4 AT 18" O.C.	#4 AT 12" O.C.	(1) #4	A	

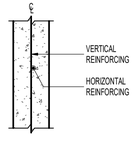
CONCRETE FOUNDATION WALL NOTES:
1. SEE GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.

ABBREVIATIONS:
EACH FACE E.F.
INSIDE FACE I.F.
OUTSIDE FACE O.F.

WALLS NOT DESIGNATED IN PLAN

THICKNESS	REINFORCING	
	VERTICAL	HORIZONTAL
6"	#4 BARS AT 18" O.C.	#4 BARS AT 16" O.C.
8"	#4 BARS AT 18" O.C.	#4 BARS AT 12" O.C.
10"	#4 BARS AT 16" O.C.	#5 BARS AT 15" O.C.
12"	#4 BARS AT 18" O.C. E.F.	#4 BARS AT 16" O.C. E.F.

WALL REINFORCING PLACEMENT TYPES:



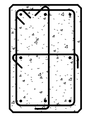
TYPE 'A'

3 CONCRETE WALL SCHEDULE

CONCRETE PIER SCHEDULE

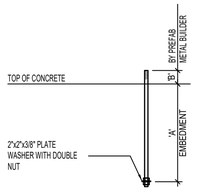
MARK	PIER SIZE W x L	REINFORCING VERTICAL	REINFORCING TIES	TYPE	COMMENTS
CP-24A	16" x 24"	(8) #5 BARS	(3) #3 AT 8" O.C.	A	

CONCRETE PIER NOTES:
1. INSTALL (3) SETS OF TIES WITHIN TOP 5" OF ALL PIERS (UNO).
2. RUN HORIZONTAL CONCRETE WALL REINFORCING CONTINUOUS THROUGH PIER WHEN PIER IS POURED MONOLITHICALLY WITH CONCRETE WALL.
3. SEE GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.



TYPE 'A'

4 CONCRETE PIER SCHEDULE



ANCHOR BOLT EMBEDMENT

ANCHOR BOLT	'A'
1"	1'-0"

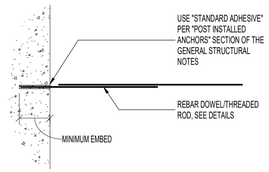
NOTE:
1. ALL ANCHOR BOLTS ARE F1554 GR 36 ANCHORS, U.N.O. WHERE EMBEDMENT IS LONGER THAN DEPTH TO BOTTOM OF FOOTING, EMBEDMENT IS TO BOTTOM OF FOOTING.
1. FOUNDATION ELEMENTS MUST NOT BE CONSTRUCTED PRIOR TO REVIEW OF METAL BUILDING DESIGN BY THE ENGINEER OF RECORD.

5 TYPICAL ANCHOR BOLT EMBEDMENT

NO SCALE

STANDARD ADHESIVE EMBEDMENT SCHEDULE

REBAR DOWEL (THREADED ROD SIZE)	MIN EMBEDMENT INTO CONCRETE OR GROUTED MASONRY
#3 (3/8")	3 3/8"
#4 (1/2")	4 1/2"
#5 (5/8")	5 5/8"
#6 (3/4")	6 3/4"



STANDARD ADHESIVE EMBEDMENT NOTES:
1. SPECIFIC EMBEDMENTS, NOTES AND DETAILS IN DRAWINGS SHALL GOVERN OVER THIS SCHEDULE.
2. HOLE DIAMETER SHALL BE DOWEL/ROD DIAMETER PLUS 1/8". FOLLOW MANUFACTURER'S INSTRUCTIONS FOR HOLE PREPARATION.
3. PROVIDE A 3" MINIMUM EDGE DISTANCE TO CENTER OF HOLE.
4. CONTACT STRUCTURAL ENGINEER IF MINIMUM EMBEDMENTS INDICATED ABOVE ARE NOT ACHIEVABLE.
5. SEE "POST INSTALLED ANCHORS" SECTION OF GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.

6 STANDARD ADHESIVE EMBEDMENT SCHEDULE

BHB STRUCTURAL
2766 South Main Street
Salt Lake City, Utah 84115
801-355-5656
bhb@bhbengineers.com

ARCHITECT'S INFORMATION:
SPE ARCHITECTS
P.O. Box 517
Kaysville, Utah 84037
t. 801.298.1368
info@spe-architect.com
www.spe-architect.com

PROFESSIONAL STAMP:
PROFESSIONAL ENGINEER
No. 10881225
JORDAN PERKES
STATE OF UTAH
06/23/2023

CODE OFFICIAL STAMP:
REVIEWED FOR CODE COMPLIANCE
Thomas W Peterson
09/25/2023
DIVISION OF FACILITIES CONSTRUCTION & MANAGEMENT

PROJECT NAME:
UDOT MURRAY TOW PLOW STORAGE BUILDING
5823 S COMMERCE WAY
MURRAY, UTAH 84107

REVISIONS:
NO.	DATE	DESCRIPTION

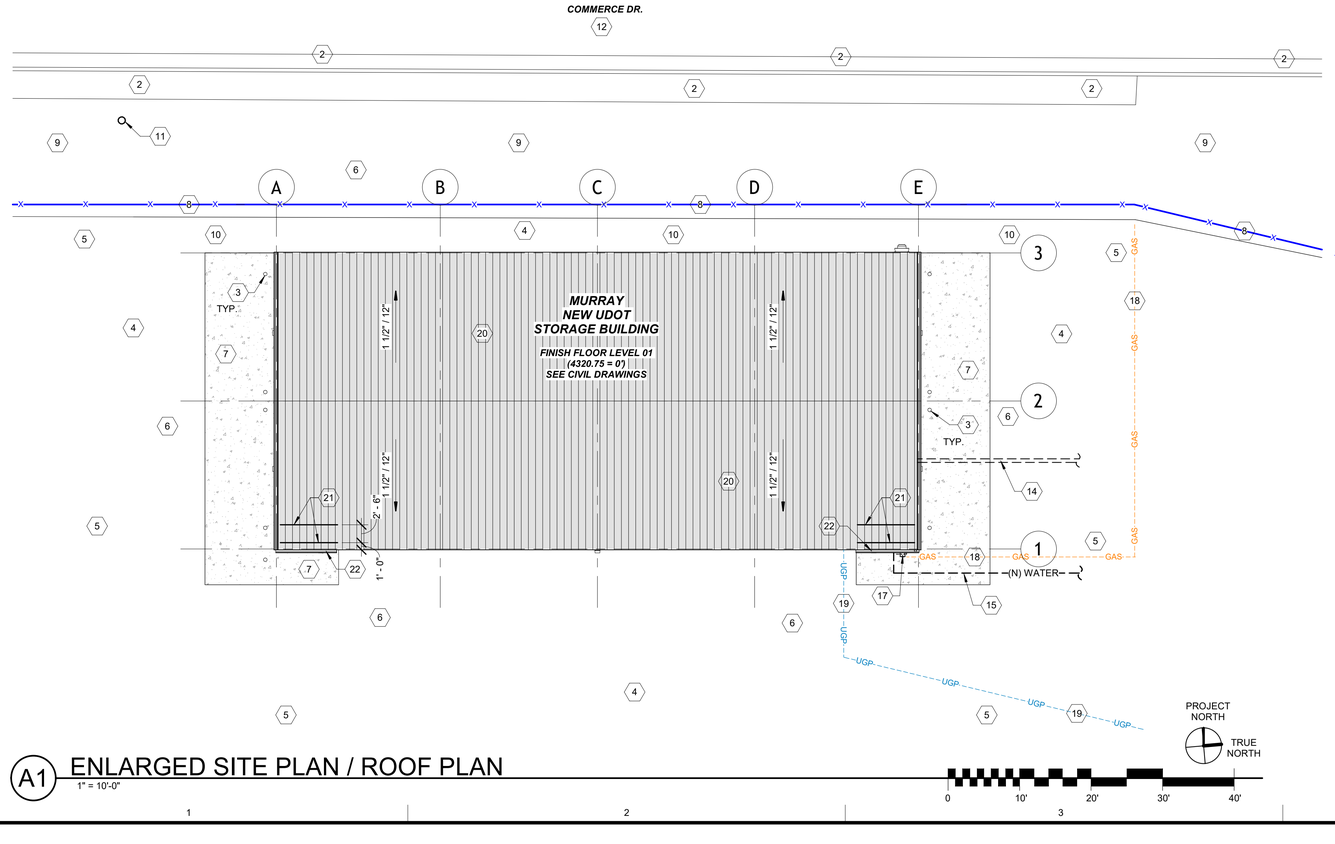
ISSUED:
NO.	DATE	DESCRIPTION
1	6/23/2023	CONSTRUCTION BID SET

BHB PROJECT #:	230396
SPE PROJECT #:	23-17
DRAWN BY:	JB
CHECKED BY:	JP
DESIGNED BY:	JP

SHEET TITLE:
SCHEDULES

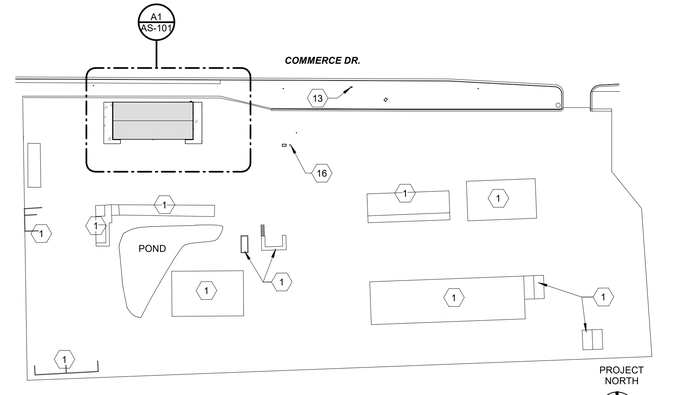
SHEET NUMBER:
S-601

Last Plotted: 6/22/2023 10:12:11 AM



A1 ENLARGED SITE PLAN / ROOF PLAN

1" = 10'-0"



A2 SITE PLAN - OVERALL

1" = 80'-0"

KEYED NOTES

#	
1.	EXTG. STRUCTURES ON SITE NO WORK - PROTECT FROM DAMAGE - SEE CIVIL DRAWINGS.
2.	EXTG. CONCRETE SIDEWALK & CURB/GUTTER.
3.	NEW 6" DIA. STEEL CONCRETE FILLED BOLLARD - REFER TO AE-101 & DETAIL C1/AE-501.
4.	REFER TO CIVIL DRAWINGS FOR LOCATION OF WHERE THE EXTG. ASPHALT NEEDS TO BE SAWCUT & REMOVED & REPLACED.
5.	EXTG. ASPHALT TO REMAIN PROTECT FROM DAMAGE - REFER TO CIVIL DRAWINGS.
6.	SAWCUT & REMOVE EXTG. ASPHALT AS REQUIRED TO PERFORM NEW WORK - INSTALL NEW ASPHALT AS REQUIRED SLOPE AWAY FROM BUILDING - REFER TO CIVIL DRAWINGS - SEE SPEC.
7.	NEW 6" THICK CONCRETE APRON ON 4" GRAVEL BASE - SLOPE AWAY FROM BUILDING - REFER TO CIVIL DRAWINGS - LAYOUT CONCRETE CONTROL JOINTS PER INDUSTRY STANDARDS - REFER TO DETAIL A4/AE-502 - SEE SPEC.
8.	EXTG. CHAIN LINK FENCE TO REMAIN - PROTECT FROM DAMAGE - IF REQUIRED TEMPORARILY REMOVE AND REINSTALL AFTER NEW BUILDING HAS BEEN CONSTRUCTED.
9.	EXTG. LANDSCAPING TO REMAIN - PROTECT FROM DAMAGE.
10.	PROVIDE & INSTALL NEW GRAVEL OVER WEED BARRIER BETWEEN THE BUILDING & THE FENCE.
11.	EXTG. POWER POLE/STREET LIGHT TO REMAIN - PROTECT FROM DAMAGE - REFER TO ELECTRICAL DRAWINGS.
12.	EXTG. ASPHALT ROADWAY TO REMAIN - PROTECT FROM DAMAGE.
13.	EXTG. FIRE HYDRANT TO REMAIN - PROTECT FROM DAMAGE.
14.	PROVIDE & INSTALL NEW STORM DRAIN PIPING & CONNECT TO EXTG. OIL/SAND/SEDIMENT INTERCEPTOR / STORM DRAINAGE SYSTEM - SAWCUT & REMOVE EXTG. ASPHALT - PATCH & REPAIR EXTG. ASPHALT AS REQUIRED - REFER TO MECHANICAL AND CIVIL DRAWINGS - SEE SPEC.
15.	NEW UNDERGROUND WATER LINE FOR NEW INTERIOR HOSE BIB - SAWCUT & REMOVE EXTG. ASPHALT - PATCH & REPAIR EXTG. ASPHALT AS REQUIRED - REFER TO MECHANICAL AND CIVIL DRAWINGS - SEE SPEC. - SEE AE-101.
16.	APPROX. LOCATION (F.V.) OF EXTG. OIL/SAND/SEDIMENT INTERCEPTOR TO REMAIN - REFER TO CIVIL DRAWINGS.
17.	NEW GAS METER - REFER TO MECHANICAL AND CIVIL DRAWINGS - SEE SPEC. - REFER TO SITE PLAN.
18.	NEW GAS LINE - REFER TO CIVIL & MECHANICAL DRAWINGS.
19.	NEW UNDERGROUND POWER - REFER TO ELECTRICAL & CIVIL DRAWINGS.
20.	STANDING SEAM ROOFING SYSTEM W/ THERMAL BLOCK - SEE SPEC. - FLASH ALL PIPE PENETRATIONS PER DETAIL A2/AE-502 - REFER TO WALL SECTIONS - SEE SPEC.
21.	OVER MAN DOORS ONLY - PROVIDE & INSTALL NEW (2) ROWS OF "CLAMP-ON TYPE" SNOW GUARD SYSTEM - INSTALL PER MANUFACTURER'S RECOMMENDATIONS - SEE SPEC. - REFER TO EXTERIOR ELEVATIONS.
22.	PRE-FINISHED METAL RAIN GUTTER WITH DOWNSPOUTS - REFER TO DETAIL C2&C3/AE-501 - REFER TO EXTERIOR ELEVATIONS.

ARCHITECT'S INFORMATION:

SPE ARCHITECTS
P.O. Box 517
Kaysville, Utah 84037
t. 801.298.1368
info@spe-architect.com
www.spe-architect.com

PROFESSIONAL STAMP:

STATE OF UTAH · LICENSED · JOSHUA B. EVANS · NO. 118114 · ARCHITECT · 06.23.2023 · REGISTERED

CODE OFFICIAL STAMP:

REVIEWED FOR CODE COMPLIANCE
Thomas W Peterson
09/25/2023
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

PROJECT NAME:

UDOT MURRAY TOW PLOW STORAGE BUILDING

5823 S COMMERCE WAY
MURRAY, UTAH 84107

REVISIONS:

NO.	DATE	DESCRIPTION

ISSUED:

NO.	DATE	DESCRIPTION
01	06/23/23	CONSTRUCTION BID SET

OWNER PROJECT #:	24096900
SPE PROJECT #:	23-17
DRAWN BY:	JBE
CHECKED BY:	SPE
DESIGNED BY:	JBE

SHEET TITLE:

SITE PLAN / ROOF PLAN

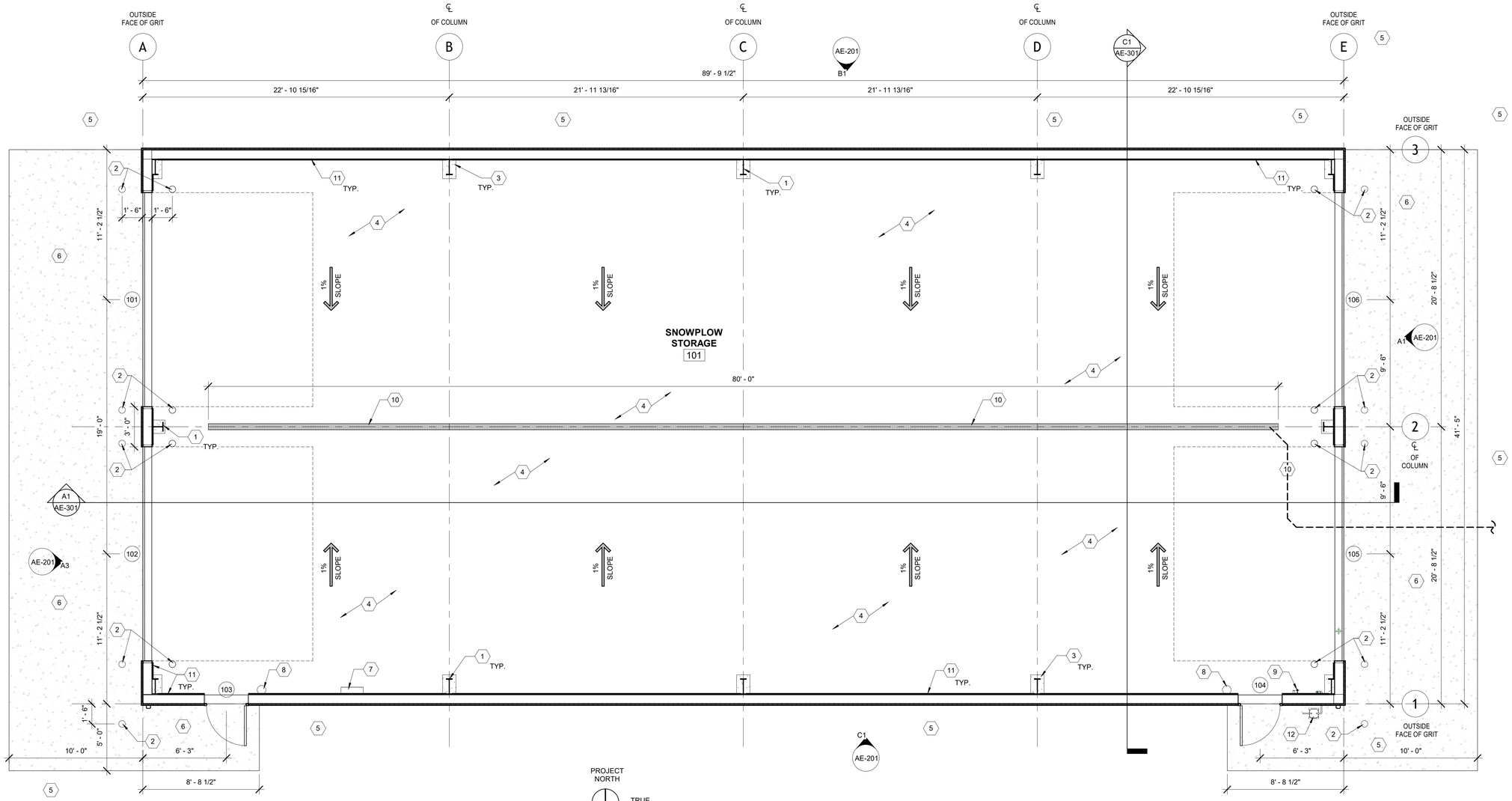
SHEET NUMBER:

AS-101

Last Plotted: 8/8/2023 7:59:14 AM

KEYED NOTES

1. STEEL FRAME - BY METAL BUILDING SYSTEM - REFER TO SECTIONS INDICATED - ALL EXPOSED STRUCTURE IS TO BE FACTORY PRIMED - SEE SPEC.
2. 6" DIA. STEEL CONCRETE FILLED BOLLARD - REFER TO DETAIL C1/AE-501.
3. CONCRETE PIER - REFER TO STRUCTURAL DRAWINGS.
4. 6" REINFORCED TROWELED CONCRETE SLAB ON 4" GRAVEL BASE (SLOPE TO TRENCH DRAINS AS SHOWN) - REFER TO STRUCTURAL DRAWINGS - LAYOUT CONCRETE CONTROL JOINTS PER INDUSTRY STANDARDS - REFER TO DETAIL A4/AE-502 - SEE FINISH SCHEDULE - SEE SPEC.
5. NEW ASPHALT SLOPE AWAY FROM BUILDING - REFER TO CIVIL DRAWINGS & SITE PLAN - SEE SPEC.
6. NEW 6" THICK CONCRETE APRON ON 4" GRAVEL BASE - SLOPE AWAY FROM BUILDING - REFER TO CIVIL DRAWINGS - LAYOUT CONCRETE CONTROL JOINTS PER INDUSTRY STANDARDS - REFER TO DETAIL A4/AE-502 - SEE SPEC.
7. ELECTRICAL PANEL - SEE ELECTRICAL DRAWINGS.
8. FIRE EXTINGUISHER ON WALL BRACKET - SEE SPEC.
9. HOSE BIB - SEE PLUMBING DRAWINGS.
10. PROVIDE & INSTALL NEW INTERIOR TRENCH DRAIN AND ALL RELATED MATERIALS - REFER TO MECHANICAL AND CIVIL DRAWINGS - REFER TO AS-101 - REFER TO DETAIL INDICATED - SEE SPEC.
11. ON THE INSIDE OF ALL EXTERIOR WALLS - PROVIDE AND INSTALL NEW 5/8" HDO PLYWOOD - INSTALL PLYWOOD UP TO 9' HIGH TYPICAL - SEAL ALL JOINTS & PAINT WITH MARINE GRADE PAINT- SEE SPEC. - REFER TO WALL SECTIONS - PROVIDE BLOCKING IN WALL AS REQUIRED.
12. NEW GAS METER - SAWCUT & REMOVE EXTG. ASPHALT - PATCH & REPAIR EXTG. ASPHALT AS REQUIRED - REFER TO MECHANICAL AND CIVIL DRAWINGS - SEE SPEC.



A1 LEVEL 01 FLOOR PLAN
1/4" = 1'-0"

0 4' 8' 12' 16'

Last Plotted: 8/8/2023 7:59:15 AM

ARCHITECT'S INFORMATION:

SPE ARCHITECTS
P.O. Box 517
Kaysville, Utah 84037
t. 801.298.1368
info@spe-architect.com
www.spe-architect.com

PROFESSIONAL STAMP:

STATE OF UTAH · LICENSED ARCHITECT · JOSEPH B EVANS · NO. 118114 · 06.23.2023 · REGISTERED PROFESSIONAL

CODE OFFICIAL STAMP:

REVIEWED FOR CODE COMPLIANCE
Thomas W Peterson
09/25/2023
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

PROJECT NAME:

UDOT MURRAY TOW PLOW STORAGE BUILDING

5823 S COMMERCE WAY
MURRAY, UTAH 84107

REVISIONS:

NO.	DATE	DESCRIPTION

ISSUED:

NO.	DATE	DESCRIPTION
01	06/23/23	CONSTRUCTION BID SET

OWNER PROJECT #:	24096900
SPE PROJECT #:	23-17
DRAWN BY:	JBE
CHECKED BY:	SPE
DESIGNED BY:	JBE

SHEET TITLE:

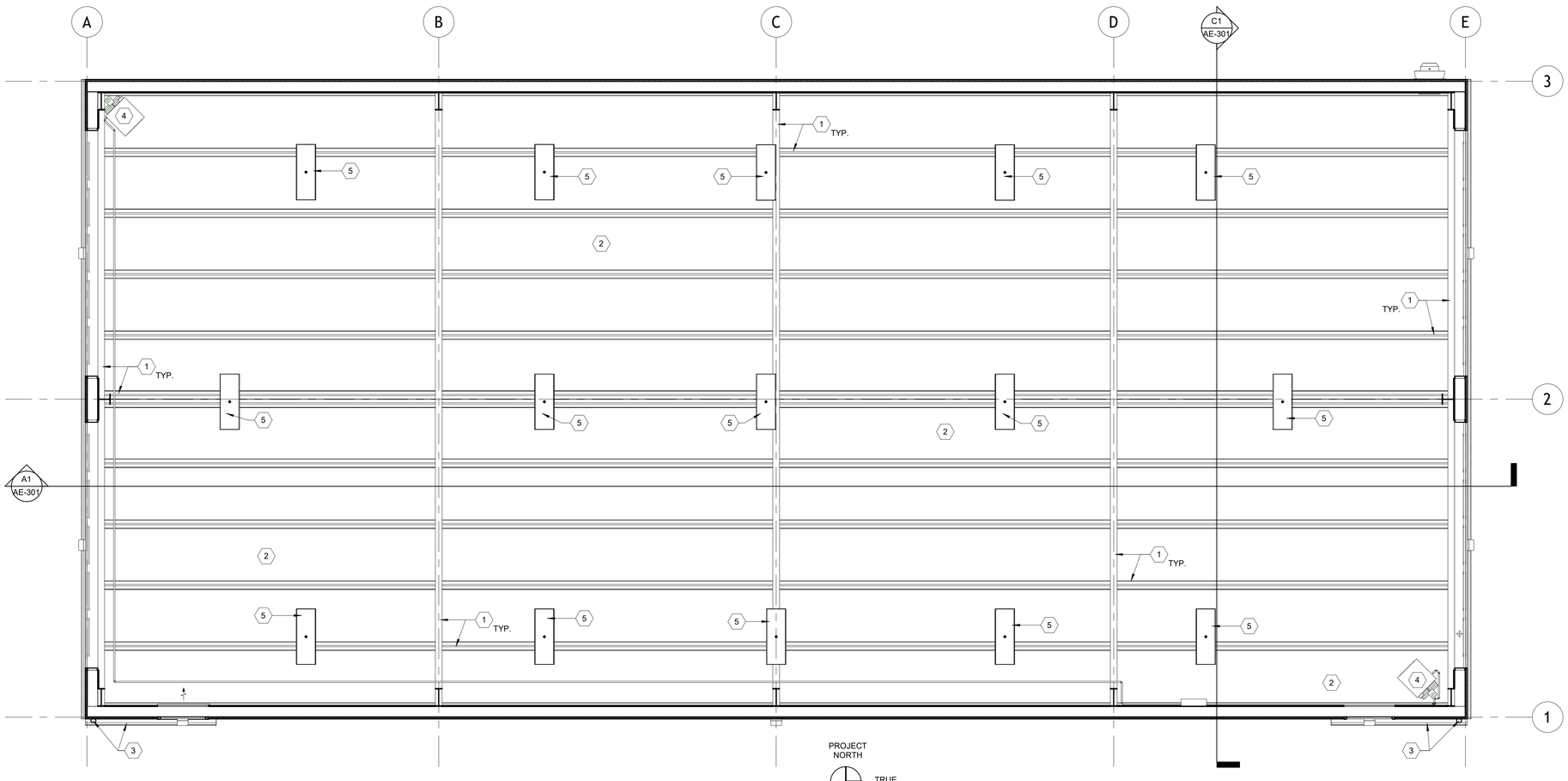
FLOOR PLAN

SHEET NUMBER:

AE-101

KEYED NOTES

#	
1.	METAL BUILDING PURLINS & STRUCTURE TO BE FACTORY PRIMED - REFER TO SECTIONS INDICATED - SEE SPEC.
2.	"SIMPLE SAVER" (OR APPROVED EQUAL) INSULATION SYSTEM W/ SEALED SYSTEM VAPOR BARRIER (LS) - SEE SPEC. - REFER TO SECTIONS.
3.	PRE-FINISHED METAL RAIN GUTTER WITH DOWNSPOUTS - REFER TO DETAIL C2&C3/AE-501.
4.	GAS UNIT HEATER - SEE MECHANICAL & ELECTRICAL DRAWINGS.
5.	LIGHT FIXTURE - REFER TO ELECTRICAL DRAWINGS.



A1 LEVEL 01 REFLECTED CEILING PLAN
1/4" = 1'-0"

Last Plotted: 8/8/2023 7:59:16 AM

ARCHITECT'S INFORMATION:

SPE ARCHITECTS
P.O. Box 517
Kaysville, Utah 84037
t. 801.298.1368
info@spe-architect.com
www.spe-architect.com

PROFESSIONAL STAMP:

STATE OF UTAH · JAMES B. EVANS · NO. 118114 · REGISTERED ARCHITECT · 06.23.2023 · PROFESSIONAL

CODE OFFICIAL STAMP:

REVIEWED FOR CODE COMPLIANCE
Thomas W Peterson
09/25/2023
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

PROJECT NAME:

UDOT MURRAY TOW PLOW STORAGE BUILDING

5823 S COMMERCE WAY
MURRAY, UTAH 84107

REVISIONS:

NO.	DATE	DESCRIPTION

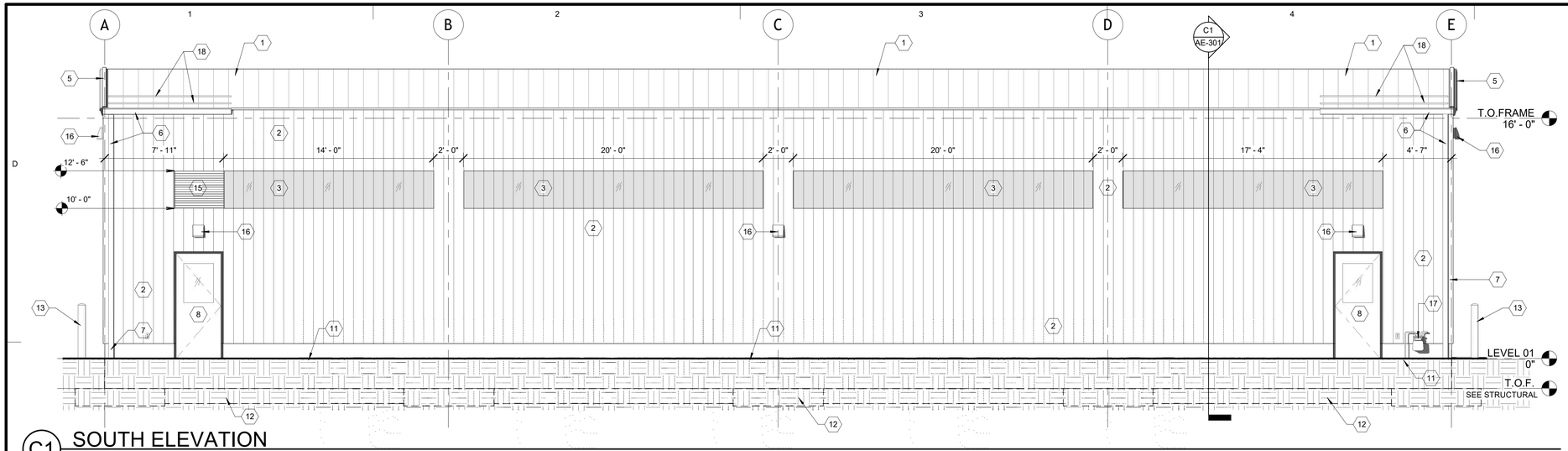
ISSUED:

NO.	DATE	DESCRIPTION
01	06/23/23	CONSTRUCTION BID SET

OWNER PROJECT #:	24096900
SPE PROJECT #:	23-17
DRAWN BY:	JBE
CHECKED BY:	SPE
DESIGNED BY:	JBE

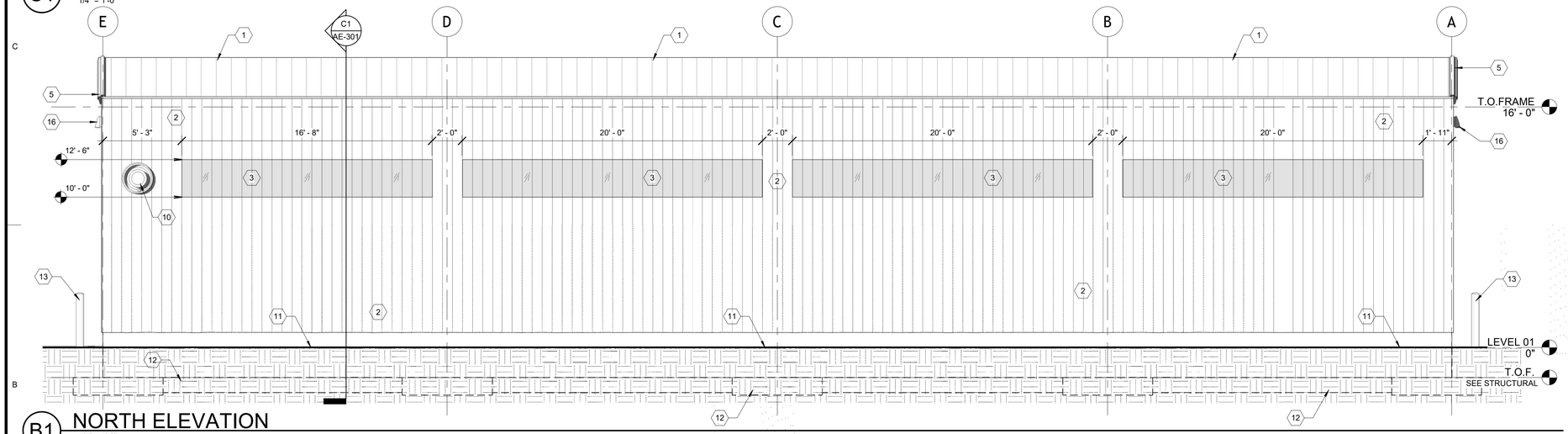
SHEET TITLE:
REFLECTED CEILING PLAN

SHEET NUMBER:
AE-102



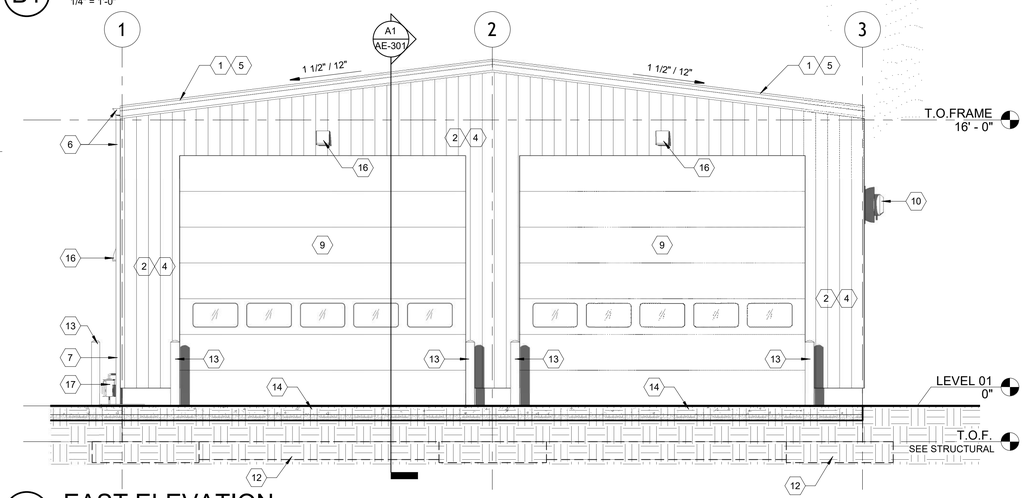
C1 SOUTH ELEVATION

1/4" = 1'-0"



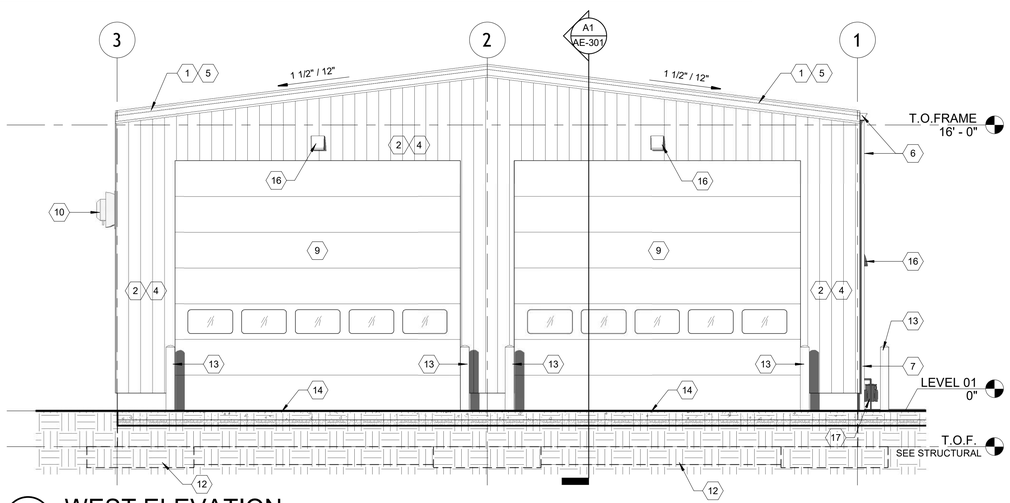
B1 NORTH ELEVATION

1/4" = 1'-0"



A1 EAST ELEVATION

1/4" = 1'-0"



A3 WEST ELEVATION

1/4" = 1'-0"

KEYED NOTES

#	
1.	PRE-FINISHED STANDING SEAM ROOFING SYSTEM W/ THERMAL BLOCK - SEE SPEC. - FLASH ALL PIPE PENETRATIONS PER DETAIL A2/AE-502.
2.	PRE-FINISHED METAL "PBR" TYPE WALL PANEL SYSTEM - SEE SPEC.
3.	TRANSLUCENT "PBR" TYPE WALL PANEL WINDOW SYSTEM - PROVIDE FRAMING AS REQUIRED - SEE SPEC.
4.	NON-EXPANDABLE METAL BUILDING END WALLS.
5.	METAL RAKE TRIM TYPICAL - REFER TO DETAIL C4/AE-501 - SEE SPEC.
6.	PRE-FINISHED METAL RAIN GUTTER WITH DOWNSPOUTS - REFER TO DETAIL C2&C3/AE-501.
7.	DOWNSPOUTS DROP ONTO CONCRETE SPALSH BLOCKS.
8.	MAN DOOR - REFER TO AE-101 & DOOR SCHEDULE & SPEC.
9.	OVERHEAD DOORS - REFER TO AE-101 & DOOR SCHEDULE & SPEC.
10.	WALL MOUNTED EXHAUST FAN - ALIGN THE FAN WITH THE TRANSLUCENT WALL PANELS AS SHOWN - REFER TO MECHANICAL & ELECTRICAL DRAWINGS.
11.	NEW ASPHALT SLOPE AWAY FROM BUILDING - SEE CIVIL DRAWINGS - SEE SPEC.
12.	FOOTING - REFER STRUCTURAL DRAWINGS.
13.	6" DIA. STEEL CONCRETE FILLED BOLLARD - REFER TO DETAIL C1/AE-501.
14.	6" THICK CONCRETE APRON ON 4" GRAVEL BASE - SLOPE AWAY - REFER TO CIVIL DRAWINGS.
15.	2'-6"H X 3'-4" W WALL MOUNTED LOUVER - ALIGN THE LOUVER OVER THE MAN DOOR AND WITH THE TRANSLUCENT WALL PANELS AS SHOWN - REFER TO MECHANICAL & ELECTRICAL DRAWINGS.
16.	EXTERIOR WALL PACK LIGHT FIXTURE - REFER TO ELECTRICAL DRAWINGS.
17.	NEW GAS METER - REFER TO MECHANICAL AND CIVIL DRAWINGS - SEE SPEC.
18.	OVER MAN DOORS ONLY - PROVIDE & INSTALL NEW (2) ROWS OF "CLAMP-ON TYPE" SNOW GUARD SYSTEM - INSTALL PER MANUFACTURER'S RECOMMENDATIONS - SEE SPEC.

ARCHITECT'S INFORMATION:

SPE ARCHITECTS
P.O. Box 517
Kaysville, Utah 84037
t. 801.298.1368
info@spe-architect.com
www.spe-architect.com

PROFESSIONAL STAMP:

STATE OF UTAH · REGISTERED · JOSEPH B. EVANS · NO. 118114 · ARCHITECT · 06.23.2023 · SEALED

CODE OFFICIAL STAMP:

REVIEWED FOR CODE COMPLIANCE
Thomas W Peterson
09/25/2023
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

PROJECT NAME:

UDOT MURRAY TOW PLOW STORAGE BUILDING

5823 S COMMERCE WAY
MURRAY, UTAH 84107

REVISIONS:

NO.	DATE	DESCRIPTION

ISSUED:

NO.	DATE	DESCRIPTION
01	06/23/23	CONSTRUCTION BID SET

OWNER PROJECT #:	24096900
SPE PROJECT #:	23-17
DRAWN BY:	JBE
CHECKED BY:	SPE
DESIGNED BY:	JBE

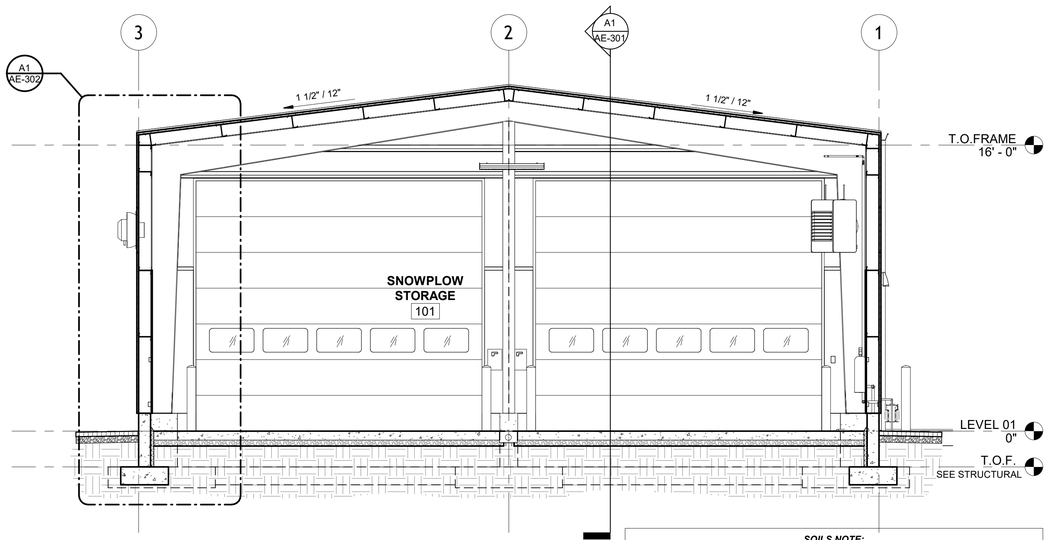
SHEET TITLE:

EXTERIOR ELEVATIONS

SHEET NUMBER:

AE-201

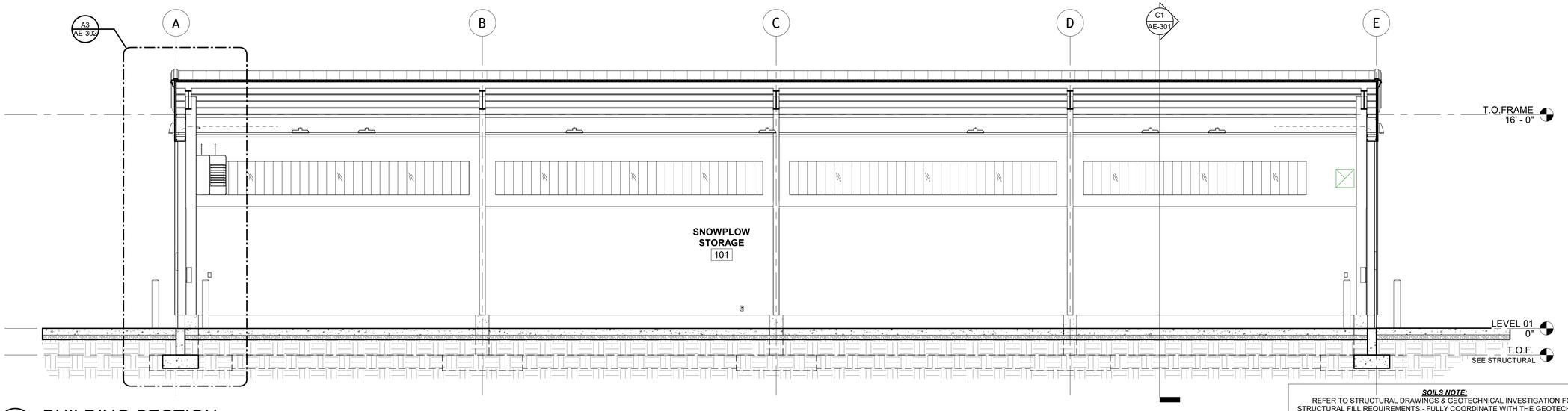
Last Plotted: 8/8/2023 7:59:24 AM



C1 BUILDING SECTION

1/4" = 1'-0"

SOILS NOTE:
REFER TO STRUCTURAL DRAWINGS & GEOTECHNICAL INVESTIGATION FOR STRUCTURAL FILL REQUIREMENTS - FULLY COORDINATE WITH THE GEOTECHNICAL INVESTIGATION REPORT FOUND IN DIVISION 2 OF THE SPECIFICATION



A1 BUILDING SECTION

1/4" = 1'-0"

SOILS NOTE:
REFER TO STRUCTURAL DRAWINGS & GEOTECHNICAL INVESTIGATION FOR STRUCTURAL FILL REQUIREMENTS - FULLY COORDINATE WITH THE GEOTECHNICAL INVESTIGATION REPORT FOUND IN DIVISION 2 OF THE SPECIFICATION

ARCHITECT'S INFORMATION:

SPE ARCHITECTS
P.O. Box 517
Kaysville, Utah 84037
t. 801.298.1368
info@spe-architect.com
www.spe-architect.com

PROFESSIONAL STAMP:

STATE OF UTAH · JOSEPH B. EVANS · NO. 118114 · REGISTERED ARCHITECT · 06.23.2023

CODE OFFICIAL STAMP:

REVIEWED FOR CODE COMPLIANCE
Thomas W Peterson
09/25/2023
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

PROJECT NAME:

UDOT MURRAY TOW PLOW
STORAGE BUILDING

5823 S COMMERCE WAY
MURRAY, UTAH 84107

REVISIONS:

NO.	DATE	DESCRIPTION

ISSUED:

NO.	DATE	DESCRIPTION
01	06/23/23	CONSTRUCTION BID SET

OWNER PROJECT #:	24096900
SPE PROJECT #:	23-17
DRAWN BY:	JBE
CHECKED BY:	SPE
DESIGNED BY:	JBE

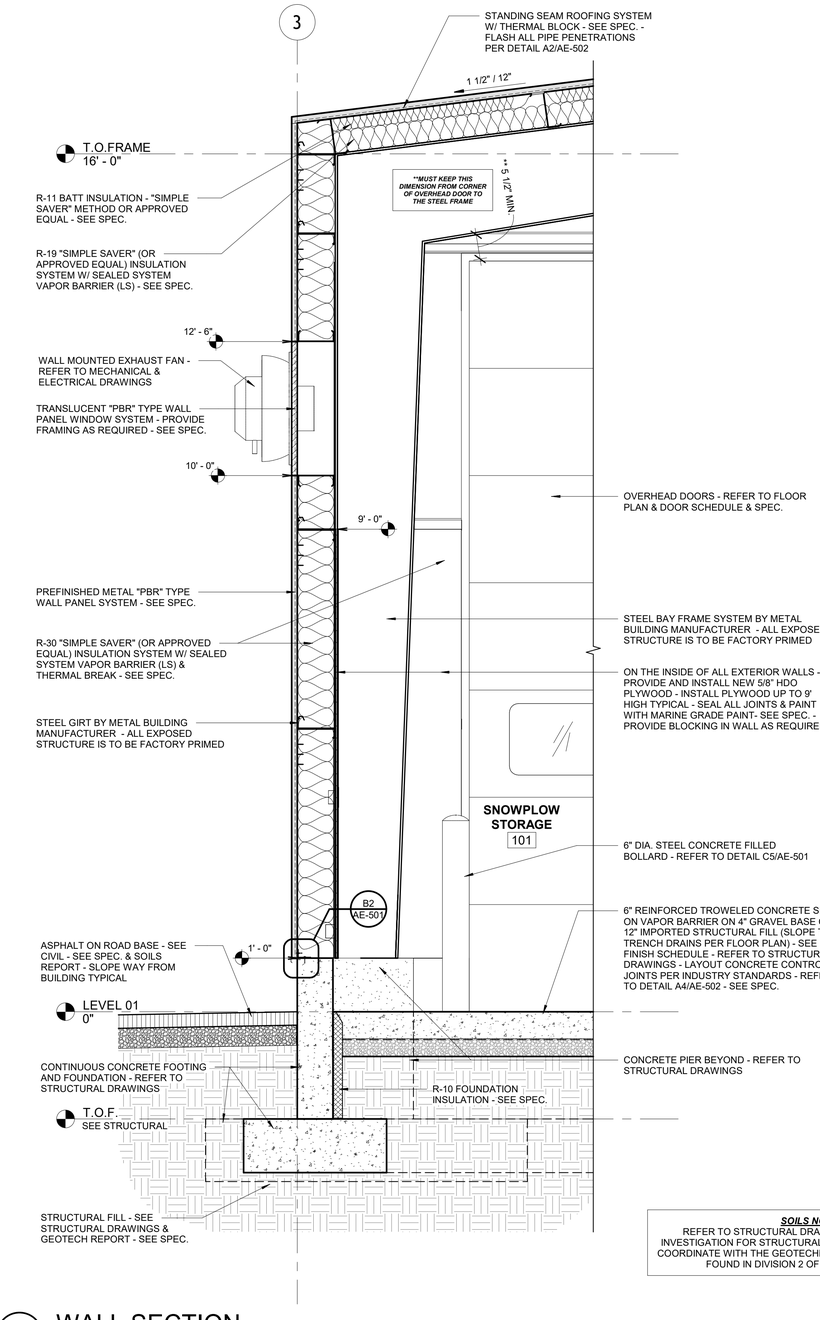
SHEET TITLE:

BUILDING SECTIONS

SHEET NUMBER:

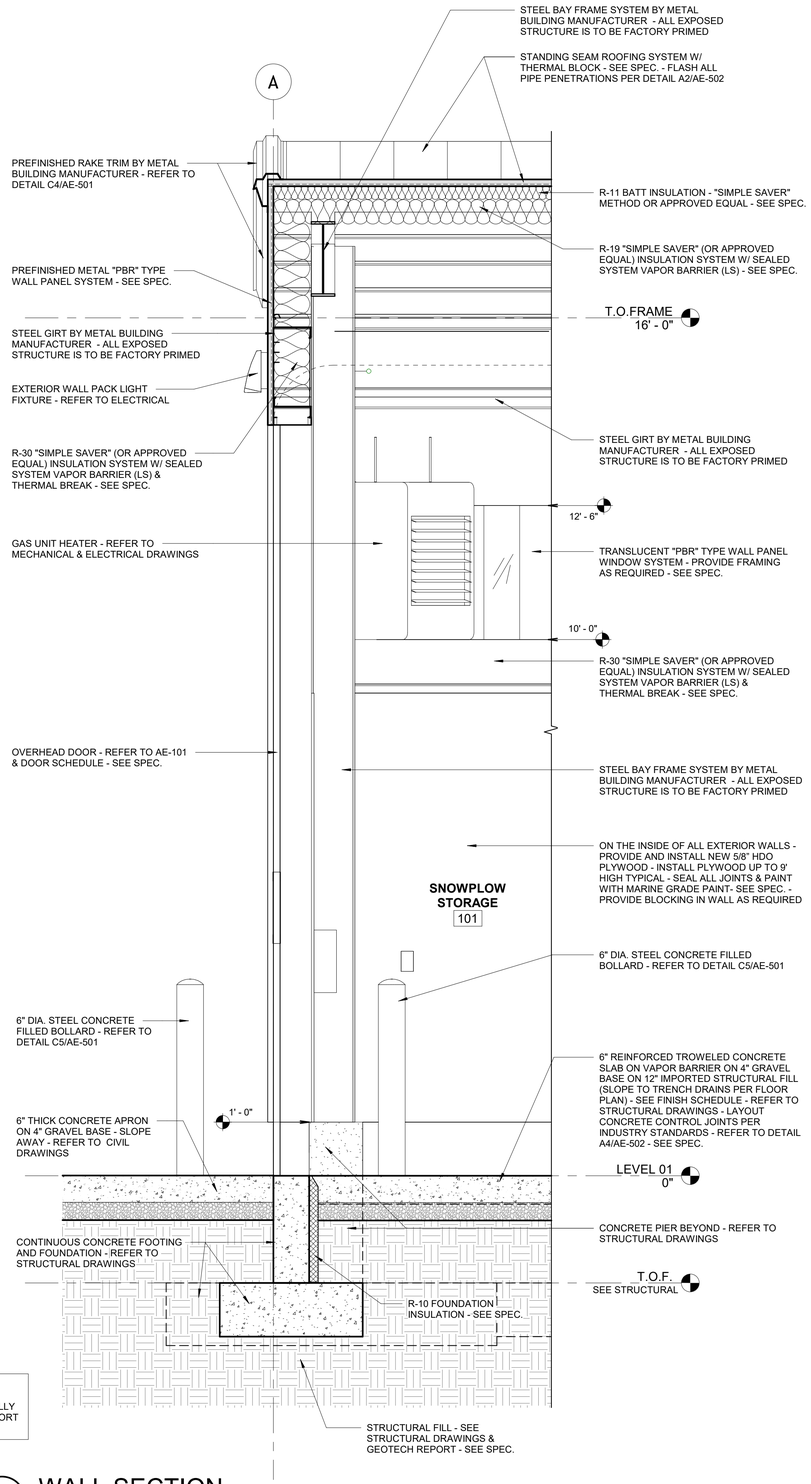
AE-301

Last Plotted: 8/8/2023 7:59:25 AM



A1 WALL SECTION
3/4" = 1'-0"

SOILS NOTE:
REFER TO STRUCTURAL DRAWINGS & GEOTECHNICAL INVESTIGATION FOR STRUCTURAL FILL REQUIREMENTS - FULLY COORDINATE WITH THE GEOTECHNICAL INVESTIGATION REPORT FOUND IN DIVISION 2 OF THE SPECIFICATION



A3 WALL SECTION
3/4" = 1'-0"

ARCHITECT'S INFORMATION:
SPE ARCHITECTS
P.O. Box 517
Kaysville, Utah 84037
t. 801.298.1368
info@spe-architect.com
www.spe-architect.com

PROFESSIONAL STAMP:
STATE OF UTAH · JOSEPH B. EVANS · NO. 118114 · REGISTERED ARCHITECT · 06.23.2023

CODE OFFICIAL STAMP:
REVIEWED FOR CODE COMPLIANCE
Thomas W Peterson
09/25/2023
DIVISION OF FACILITIES CONSTRUCTION & MANAGEMENT

PROJECT NAME:
UDOT MURRAY TOW PLOW STORAGE BUILDING
5823 S COMMERCE WAY
MURRAY, UTAH 84107

REVISIONS:

NO.	DATE	DESCRIPTION

ISSUED:

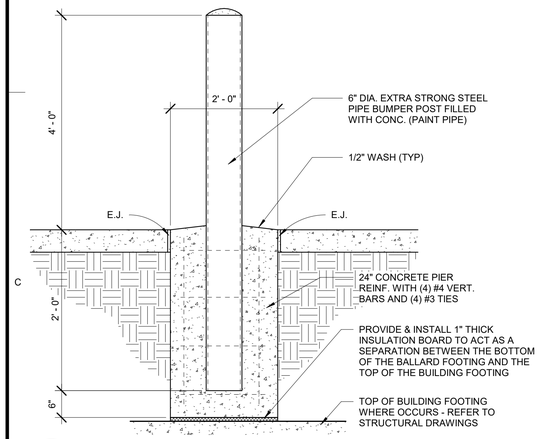
NO.	DATE	DESCRIPTION
01	06/23/23	CONSTRUCTION BID SET

OWNER PROJECT #:	24096900
SPE PROJECT #:	23-17
DRAWN BY:	JBE
CHECKED BY:	SPE
DESIGNED BY:	JBE

SHEET TITLE:
WALL SECTIONS

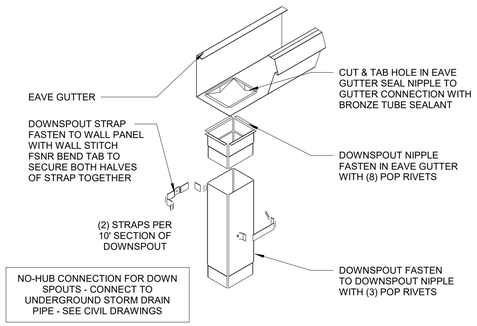
SHEET NUMBER:
AE-302

Last Plotted: 8/8/2023 7:59:26 AM



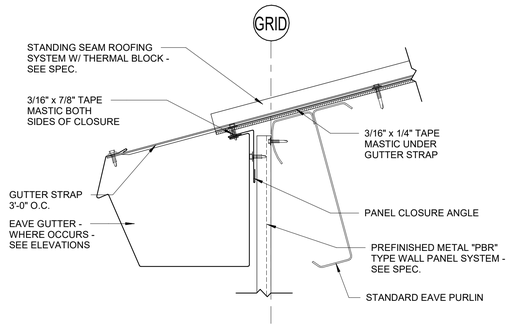
C1 PIPE BOLLARD DETAIL

3/4" = 1'-0"



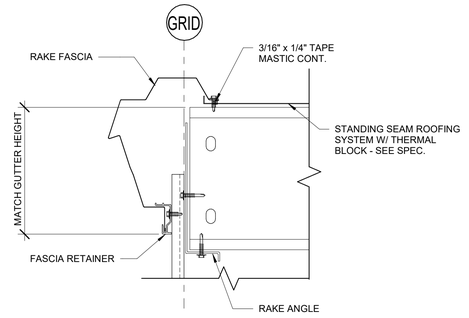
C2 DOWNSPOUT DETAIL

1 : 1



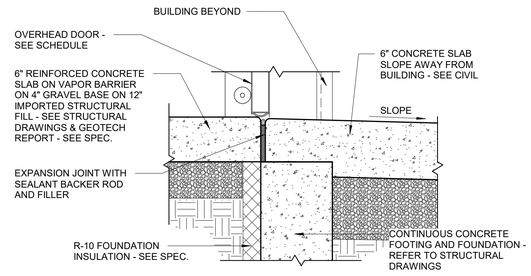
C3 EAVE GUTTER DETAIL

3" = 1'-0"



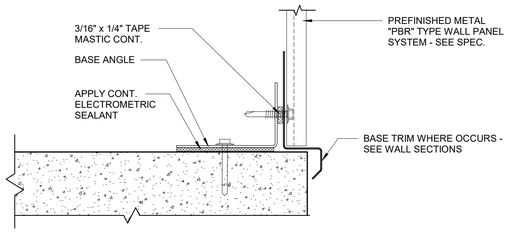
C4 RAKE TRIM DETAIL

3" = 1'-0"



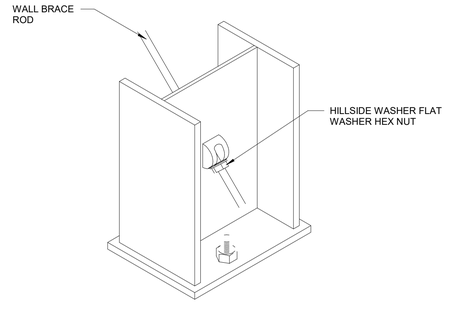
B1 THRESHOLD DETAIL

1 1/2" = 1'-0"



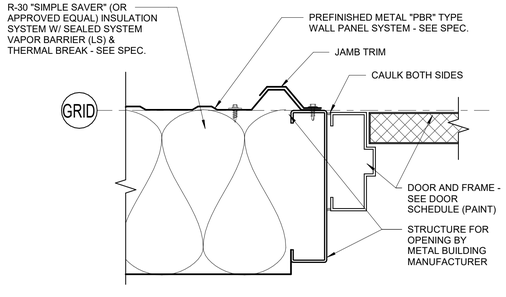
B2 BASE OF WALL ATTACHMENT

6" = 1'-0"



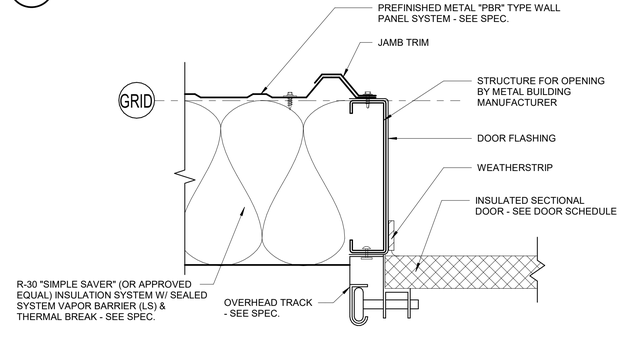
B4 ROD BRACING @ COLUMN BASE

1 : 1



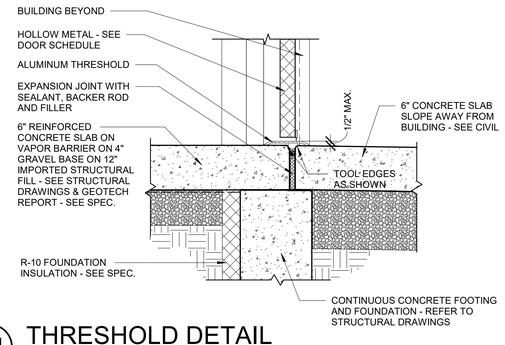
A1 DOOR JAMB DETAIL

3" = 1'-0"



A2 DOOR JAMB DETAIL

3" = 1'-0"



A4 THRESHOLD DETAIL

1 1/2" = 1'-0"

Last Plotted: 8/8/2023 7:59:27 AM

ARCHITECT'S INFORMATION:

SPE ARCHITECTS
P.O. Box 517
Kaysville, Utah 84037
t. 801.298.1368
info@spe-architect.com
www.spe-architect.com

PROFESSIONAL STAMP:

LICENSED STATE OF UTAH JOSEPH B EVANS NO. 118114 ARCHITECT 06.23.2023 REGISTERED PROFESSIONAL

CODE OFFICIAL STAMP:

REVIEWED FOR CODE COMPLIANCE
Thomas W Peterson
09/25/2023
DIVISION OF FACILITIES CONSTRUCTION & MANAGEMENT

PROJECT NAME:

UDOT MURRAY TOW PLOW
STORAGE BUILDING

5823 S COMMERCE WAY
MURRAY, UTAH 84107

REVISIONS:

NO.	DATE	DESCRIPTION

ISSUED:

NO.	DATE	DESCRIPTION
01	06/23/23	CONSTRUCTION BID SET

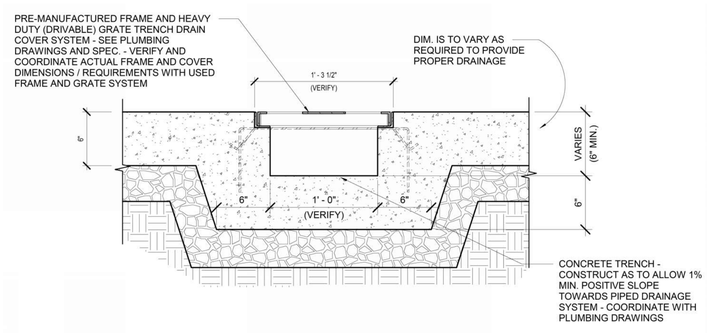
OWNER PROJECT #:	24096900
SPE PROJECT #:	23-17
DRAWN BY:	JBE
CHECKED BY:	SPE
DESIGNED BY:	JBE

SHEET TITLE:

DETAILS

SHEET NUMBER:

AE-501



C1 TRENCH DRAIN DETAIL

1 1/2" = 1'-0"

NOTE: THIS SIGN IS TO BE PROVIDED AND INSTALLED ON AN INTERIOR WALL NEAR ALL ROOF ACCESS POINTS - IF INTERIOR INSTALLATION IS NOT FEASIBLE, EXTERIOR APPLICATION NEAR AN OBVIOUS ACCESS LOCATION IS ACCEPTABLE

1' - 2"

1' - 4"

CAUTION

THIS ROOF IS UNDER WARRANTY UNTIL ***(INSERT YEAR)*** WITH ***(INSERT MANUFACTURER)***, ALL ACCESS IS TO BE RESTRICTED WITHOUT FACILITIES MANGER'S PERMISSION & LOG ENTRY. REPAIR WORK, IF NECESSARY, SHOULD BE PERFORMED ONLY BY AN AUTHORIZED APPLICATOR. FOR LEAK REPAIRS, CONTACT ***(INSERT MANUFACTURER) @ (INSERT MANUFACTURER WARRANTY CLAIM DEPARTMENT PHONE NUMBER)*** AND PROVIDE THEM WITH WARRANTY NUMBER. QUESTIONS REGARDING THIS ROOF OR ANY POTENTIAL WORK PERTAINING TO THIS ROOF, PLEASE CONTACT BUILDING MANAGER @ ***DFCMROOF@UTAH.GOV***

WARRANTY #:
WARRANTY TYPE:
INSTALLATION DATE:
MANUFACTURER'S ADDRESS:

ROOFING CONTRACTOR:
CONTRACTOR TELEPHONE #:
CONTRACTOR ADDRESS:
ROOF MEMBRANE TYPE:

IF MULTIPLE ROOF WARRANTIES OCCUR OR IF ROOFING PROJECT IS NOT FOR THE ENTIRE BUILDING, A SCREEN PRINTED (OR LASER ENGRAVED) ROOF PLAN TO BE PROVIDED IN THIS SPACE - THIS IS TO INDICATE THE LOCATIONS OF THE ROOFING PROJECT TO SHOW WHERE WARRANTIES APPLY - ARCHITECT SHALL SUPPLY PLAN DURING THE SUBMITTAL PHASE

USE APPROPRIATE FASTENERS AT EACH CORNER FOR WALL TYPE WHERE BEING INSTALLED

IF INTERIOR INSTALLATION OCCURS:
.060 ALUMINUM SIGN WITH UV INHIBITED, SCREEN PRINTED BACKGROUND, LETTERING AND GRAPHICS - PROVIDE WITH RADIUSED CORNERS AND NO SHARP EDGES

IF EXTERIOR INSTALLATION OCCURS:
14 GA. STAINLESS STEEL SIGN WITH LASER ENGRAVED LETTERING AND GRAPHICS - PROVIDE WITH RADIUSED CORNERS AND NO SHARP EDGES

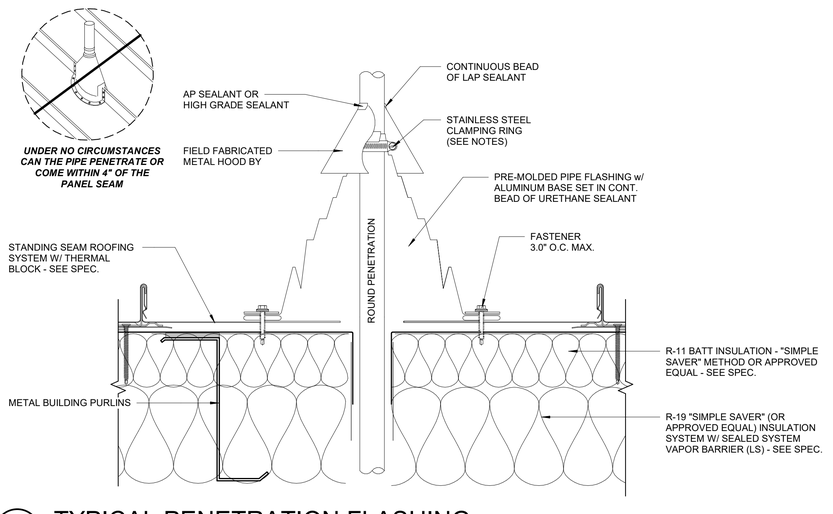
PROVIDE SUBMITTAL ON FINAL DESIGN OF SIGN - ALL FINAL VERBIAGE AND GRAPHICS WILL BE DETERMINED DURING THE SUBMITTAL PHASE

1/2"

PROVIDE AND INSTALL ONE ROOF WARRANTY SIGN PER SITE - COORDINATE WITH OWNER FOR LOCATION

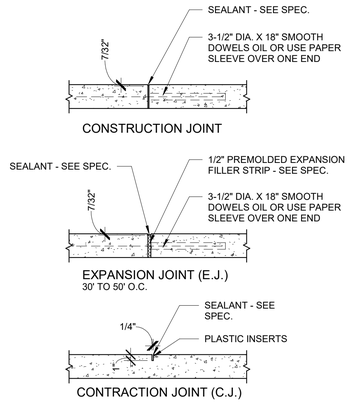
A1 ROOF WARRANTY SIGN - DFCM

6" = 1'-0"



A2 TYPICAL PENETRATION FLASHING

3" = 1'-0"



A4 CONCRETE JOINT DETAIL

1" = 1'-0"

ARCHITECT'S INFORMATION:

SPE ARCHITECTS
P.O. Box 517
Kaysville, Utah 84037
t. 801.298.1368
info@spe-architect.com
www.spe-architect.com

PROFESSIONAL STAMP:

STATE OF UTAH · LICENSED · JOSEPH B. EVANS · NO. 118114 · ARCHITECT · 06.23.2023 · SEAL/SIGNATURE

CODE OFFICIAL STAMP:

REVIEWED FOR CODE COMPLIANCE
Thomas W Peterson
09/25/2023
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

PROJECT NAME:

UDOT MURRAY TOW PLOW STORAGE BUILDING

5823 S COMMERCE WAY
MURRAY, UTAH 84107

REVISIONS:

NO.	DATE	DESCRIPTION

ISSUED:

NO	DATE	DESCRIPTION
01	06/23/23	CONSTRUCTION BID SET

OWNER PROJECT #:	24096900
SPE PROJECT #:	23-17
DRAWN BY:	JBE
CHECKED BY:	SPE
DESIGNED BY:	JBE

SHEET TITLE:

DETAILS

SHEET NUMBER:

AE-502

Last Plotted: 8/8/2023 7:59:29 AM

ROOM FINISH SCHEDULE

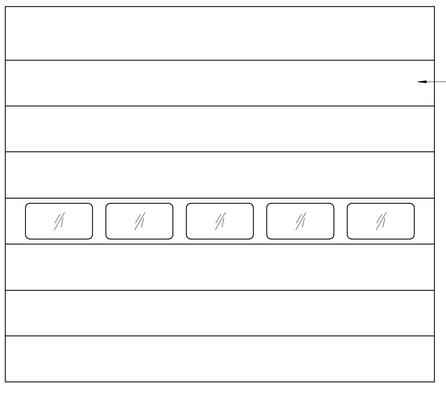
ROOM #	ROOM NAME	FLOOR FINISH	BASE	BASE FINISH	NORTH WALL MATERIAL	NORTH WALL FINISH	EAST WALL MATERIAL	EAST WALL FINISH	SOUTH WALL MATERIAL	SOUTH WALL FINISH	WEST WALL MATERIAL	WEST WALL FINISH	CEILING MATERIAL	CEILING FINISH	COMMENTS
101	SNOWPLOW STORAGE	SEALED CONCRETE	NONE	NONE	FACED BATT INSULATION / PLYWOOD	NONE / *PAINT	FACED BATT INSULATION / PLYWOOD	NONE / *PAINT	FACED BATT INSULATION / PLYWOOD	NONE / *PAINT	FACED BATT INSULATION / PLYWOOD	NONE / *PAINT	FACED BATT INSULATION	NONE	*MARINE GRADE PAINT - SEE SPEC.

DOOR SCHEDULE

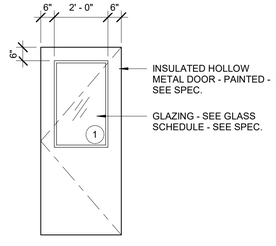
DOOR #	DOOR WIDTH	DOOR HEIGHT	DOOR TYPE	DOOR THICKNESS	DOOR MATERIAL	DOOR FINISH	FIRE RATING	HARDWARE	FRAME TYPE	FRAME MATERIAL	FRAME FINISH	FRAME (L) JAMB DETAIL	FRAME (R) JAMB DETAIL	FRAME HEAD DETAIL	THRESHOLD DETAIL	COMMENTS
101	16' - 0"	14' - 0"	A	1 1/2"	STEEL	PAINT	NONE	2.0	NONE	STEEL	PAINT	A2/AE-501	A2/AE-501	A2/AE-501 SIM.	B1/AE-501	POWERED OVERHEAD DOOR WITH (4) REMOTES & INTERIOR WALL PUSH BUTTONS
102	16' - 0"	14' - 0"	A	1 1/2"	STEEL	PAINT	NONE	2.0	NONE	STEEL	PAINT	A2/AE-501	A2/AE-501	A2/AE-501 SIM.	B1/AE-501	POWERED OVERHEAD DOOR WITH (4) REMOTES & INTERIOR WALL PUSH BUTTONS
103	3' - 0"	7' - 0"	B	1 3/4"	HOLLOW METAL	PAINT	NONE	1.0	A	HOLLOW METAL	PAINT	A1/AE-501	A1/AE-501	A1/AE-501 SIM.	A4/AE-501	MAN DOOR WITH ELECTRONIC KEYPAD & KEY OVERRIDE
104	3' - 0"	7' - 0"	B	1 3/4"	HOLLOW METAL	PAINT	NONE	1.0	A	HOLLOW METAL	PAINT	A1/AE-501	A1/AE-501	A1/AE-501 SIM.	A4/AE-501	MAN DOOR WITH ELECTRONIC KEYPAD & KEY OVERRIDE
105	16' - 0"	14' - 0"	A	1 1/2"	STEEL	PAINT	NONE	2.0	NONE	STEEL	PAINT	A2/AE-501	A2/AE-501	A2/AE-501 SIM.	B1/AE-501	POWERED OVERHEAD DOOR WITH (4) REMOTES & INTERIOR WALL PUSH BUTTONS
106	16' - 0"	14' - 0"	A	1 1/2"	STEEL	PAINT	NONE	2.0	NONE	STEEL	PAINT	A2/AE-501	A2/AE-501	A2/AE-501 SIM.	B1/AE-501	POWERED OVERHEAD DOOR WITH (4) REMOTES & INTERIOR WALL PUSH BUTTONS

(#) GLASS SCHEDULE

1. TEMPERED 1" INSULATED UNIT - EXTERIOR LITE 1/4" CLEAR, 1/2" AIR SPACE, INTERIOR LITE 1/4" CLEAR FLOAT GLASS, LOW E COATING ON #3 SURFACE

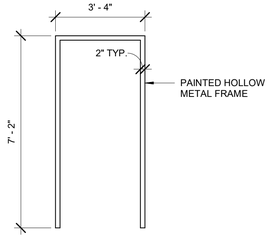


"A"



"B"

A1 DOOR TYPES
3/8" = 1'-0"



"A"

A3 DOOR FRAME TYPE
3/8" = 1'-0"

Last Plotted: 8/8/2023 7:59:30 AM

ARCHITECT'S INFORMATION:

SPE ARCHITECTS
P.O. Box 517
Kaysville, Utah 84037
t. 801.298.1368
info@spe-architect.com
www.spe-architect.com

PROFESSIONAL STAMP:

STATE OF UTAH — JOSHUA B. EVANS — NO. 118114 — REGISTERED ARCHITECT — 06.23.2023 — SEAL IMPRESSION

CODE OFFICIAL STAMP:

REVIEWED FOR CODE COMPLIANCE
Thomas W Peterson
09/25/2023
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

PROJECT NAME:

UDOT MURRAY TOW PLOW STORAGE BUILDING

5823 S COMMERCE WAY
MURRAY, UTAH 84107

REVISIONS:

NO.	DATE	DESCRIPTION

ISSUED:

NO.	DATE	DESCRIPTION
01	06/23/23	CONSTRUCTION BID SET

OWNER PROJECT #:	24096900
SPE PROJECT #:	23-17
DRAWN BY:	JBE
CHECKED BY:	SPE
DESIGNED BY:	JBE

SHEET TITLE:
SCHEDULES

SHEET NUMBER:
AE-601

MECHANICAL LEGEND

SYMBOL	ABR,	DESCRIPTION
GENERAL TERMINOLOGY		
A / ME101		SECTION LETTER DESIGNATION SECTION DRAWN ON THIS SHEET
A2		DETAIL NUMBER DESIGNATION CORRESPONDING WITH GRID LOCATION
A / H-1		MECHANICAL EQUIPMENT DESIGNATION EQUIPMENT ITEM DESIGNATION
D-1 / CFM		REGISTER, GRILLE OR DIFFUSER DESIGNATION WITH BALANCING CFM LISTED BELOW
R-1		GRILLE OR LOUVER DESIGNATION WHERE BALANCING NOT REQUIRED
1		REVISION DESIGNATOR AND NUMBER
1		KEY NOTE DESIGNATOR AND NUMBER
	POC	POINT OF CONNECTION
	POR	POINT OF REMOVAL
AFF		ABOVE FINISHED FLOOR
AP		ACCESS PANEL
C EL.		CENTERLINE ELEVATION
GC		GENERAL CONTRACTOR
MC		MECHANICAL CONTRACTOR
ATC		CONTROLS CONTRACTOR
EC		ELECTRICAL CONTRACTOR
FPC		FIRE PROTECTION CONTRACTOR
NIC		NOT IN CONTRACT
NTS		NOT TO SCALE
VCP		VITRIFIED CLAY PIPE
C		COMMON
NC		NORMALLY CLOSED
NO		NORMALLY OPEN

SYMBOL	ABR,	DESCRIPTION
AIR SIDE		
		EXISTING AIR DUCT TO BE REMOVED
		EXISTING AIR DUCT TO REMAIN
		NEW AIR DUCT
		RECT TO RECT AIR DUCT TAKE-OFF
		RECT TO RND AIR DUCT TAKE-OFF
		RND TO RND AIR DUCT TAKE-OFF
		MEDIUM PRESSURE TAKE-OFF
		FLEXIBLE AIR DUCT
		LINED DUCT
		RADIUS ELBOW
		ECCENTRIC DUCT TRANSITION
		CONCENTRIC DUCT TRANSITION
		VOLUME DAMPER
		SUPPLY AIR DIFFUSER
		RETURN & TRANSFER AIR GRILLE
		EXHAUST GRILLE OR CEILING EXH. FAN
		RETURN & OUTSIDE AIR DUCT UP/DN
		RETURN & OA ROUND DUCT UP/DN
		SUPPLY AIR DUCT UP/DN
		SUPPLY AIR ROUND DUCT UP/DN
		EXHAUST AIR DUCT UP/DN
		EXHAUST AIR ROUND DUCT UP/DN
	AP	ACCESS PANEL
		EXISTING EQUIPMENT TO BE REMOVED
		EXISTING EQUIPMENT TO REMAIN
		NEW EQUIPMENT
SA		SUPPLY AIR
RA		RETURN AIR
EA		EXHAUST AIR
OA		OUTSIDE AIR
MA		MIXED AIR
RF		RELIEF AIR
FO		FLAT OVAL
M	MVD	MOTORIZED VOLUME DAMPER
BD	BD	BACKDRAFT DAMPER
F	FD	FIRE DAMPER
S	SD	SMOKE DAMPER
FS	FS	FIRE & SMOKE DAMPER
T	T-STAT	WALL MOUNTED THERMOSTAT
S		WALL MOUNTED TEMP. SENSOR
H	H-STAT	WALL MOUNTED HUMIDISTAT
F	F-STAT	WALL MOUNTED FIRESTAT

GENERAL NOTES

G-1 - MECHANICAL INFORMATION IS NOT LIMITED TO THE MECHANICAL DRAWINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR INFORMATION OF THE EXISTING BUILDING AND SITE CONDITIONS, EXISTING PIPING, EXISTING ELECTRICAL, AND EXISTING SUPPORTS.

A - EACH DRAWING SHEET AND THE SPECIFICATIONS HAVE BEEN PREPARED TO SUPPLEMENT EACH OTHER AND THEY SHALL BE INTERPRETED AS AN INTEGRAL UNIT WITH ITEMS SHOWN AND NOTED ON ONE AND NOT THE OTHER BEING FURNISHED AND INSTALLED AS THOUGH SHOWN AND CALLED OUT IN ALL PLACES. ITEMS IN SPECIFICATIONS OR DRAWINGS LISTED WHICH ARE DIFFERING IN EFFICIENCY OR QUALITY SHALL BE HELD TO THE GREATEST OF: EFFICIENCY, QUALITY OR GOVERNING CODE.

B - THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE INSTALLATION OF THE SYSTEMS ACCORDING TO THE TRUE INTENT AND MEANING OF THE CONTRACT DOCUMENTS.

C - THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT WITH PROPER SERVICE ACCESS AND CLEARANCES ACCORDING TO MANUFACTURERS RECOMMENDATIONS. THE CONTRACTOR SHALL REVIEW SUPPLIERS BID PACKAGES FOR COMPLETENESS AND COMPLIANCE TO THE SPECIFICATIONS, SCHEDULES, AND DESIGN INTENT (ALL EQUIPMENT AND METHODS). THE CONTRACTOR SHALL REMOVE AND REINSTALL CORRECTLY AT HIS OWN EXPENSE ANY EQUIPMENT NOT IN COMPLIANCE.

D - THE CONTRACTOR SHALL CONSULT MANUFACTURERS INSTALLATION INSTRUCTIONS FOR SIZES, METHODS, ACCESSORIES, AND CLEARANCES IN SPACE AVAILABLE PRIOR TO BIDDING PROJECT.

E - ANYTHING NOT CLEAR OR IN CONFLICT WILL BE EXPLAINED BY MAKING APPLICATION TO THE ENGINEER IN WRITING.

G-2 - ANY AND ALL ALTERATIONS TO THE SYSTEM SHOWN SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO CHANGES FOR APPROVAL. CONTRACTOR SHALL NOT START ANY CHANGES UNTIL NOTIFIED IN WRITING. IF CHANGES ARE MADE PRIOR TO APPROVAL CONTRACTOR SHALL TAKE ALL RESPONSIBILITY FOR THE CHANGES MADE AND ALL COSTS RELATING TO FAILURE OR REPLACEMENT OF ALTERATIONS.

G-3 - CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND LOCATIONS.

G-4 - THE WORKING DRAWINGS ARE DIAGRAMMATIC. THEY DO NOT SHOW EVERY OFFSET, BEND, OR ELBOW NECESSARY FOR THE COMPLETE INSTALLATION IN THE SPACE PROVIDED. ALL LOCATIONS FOR MECHANICAL EQUIPMENT SHALL BE FIELD VERIFIED AND COORDINATED WITH ALL DRAWINGS. THE CONTRACTOR SHALL PROVIDE OR COORDINATE WITH THE GENERAL CONTRACTOR PROVISIONS FOR BLOCKOUTS OR CORE DRILLS THROUGH STRUCTURE.

G-5 - THE INSTRUCTION TO "PROVIDE" ALSO INCLUDES INSTALLATION.

G-6 - MECHANICAL CONTRACTOR SHALL PROVIDE AND INSTALL SMOKE AND FIRE DAMPERS AS REQUIRED BY LOCAL CODES AND AUTHORITIES.

G-7 - SHEET METAL DUCT SIZES SHOWN ON DRAWINGS ARE FREE AREA DIMENSIONS.

G-8 - PROVIDE AND INSTALL BALANCING DAMPERS IN ALL SUPPLY AND EXHAUST AIR BRANCH DUCTS. BALANCE TO CFM SHOWN ON PLAN.

G-9 - SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF DIFFUSERS AND GRILLES.

G-10 - PROVIDE TURNING VANES IN ALL ELBOWS OF RECTANGULAR DUCT.

G-11 - THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY IN HANDLING AND DISPOSING OF REFRIGERANTS, OILS, ETC. ALL SUCH MATERIALS SHALL BE HANDLED, DISPOSED, AND USED IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL LAWS.

G-12 - THE MECHANICAL CONTRACTOR SHALL VERIFY MOTOR VOLTAGES WITH THE ELECTRICAL DRAWING BEFORE ORDERING MOTORIZED EQUIPMENT AND CONTROLS.

G-13 - C.F.M. LISTED IS ACTUAL AIR.

G-14 - SUPPLIERS SHALL REVIEW ALL DRAWINGS AND THE SPECIFICATIONS PRIOR TO SUBMITTING PRICES TO THE CONTRACTOR. ALL QUESTIONS AND DISCREPANCIES SHALL BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO BIDDING.

G-15 - CONTRACTOR SHALL THOROUGHLY REVIEW AND SIGN SUBMITTALS FOR COMPLETENESS AND COMPLIANCE TO THE SPECIFICATIONS PRIOR TO ENGINEERS REVIEW. SUPPLIERS SHALL HIGHLIGHT OR MARK ALL INFORMATION REQUIRED TO SHOW COMPLIANCE TO THE SPECIFICATIONS. ALL REQUESTED EXCEPTIONS TO THE SPECIFICATIONS, OR SCHEDULES SHALL BE CLEARLY NOTED AND EXPLAINED. SUBMITTAL REVIEW AND ACCEPTANCE IS FOR DESIGN CONCEPT ONLY, AND DOES NOT AT ANY TIME RELIEVE THE CONTRACTOR OF RESPONSIBILITY TO MEET SPECIFICATIONS, CAPACITIES, OR DESIGN INTENT.

G-16 - ALL MECHANICAL SHALL BE INSTALLED AND CONFORM TO THE 2018 EDITION OF THE IMC AND IPC WITH UTAH ANNOTATIONS AND LOCAL AUTHORITY REQUIREMENTS.

G-17 - THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE DRAINING DOWN AND RE-FILLING OF ALL SYSTEMS NECESSARY TO COMPLETE THE WORK OUTLINED BY THIS PROJECT. THIS INCLUDES PROVIDING THE REQUIRED CHEMICAL TREATMENT WHEN RE-FILLING THE SYSTEM.

G-18 - ALL PIPING, MATERIALS, ETC. SHALL BE NEW AND DOMESTIC MADE UNLESS SPECIFICALLY AUTHORIZED IN WRITING PRIOR TO BID.

WHW ENGINEERING LLC.
PROFESSIONAL MECHANICAL ENGINEERING
3619 Liberty Parkway Suite 101
Salt Lake City, Utah 84109
(801)990-4547 - FAX 866-8338
EMAIL: brandon@whw-engineering.com

ARCHITECT'S INFORMATION:
SPE ARCHITECTS
P.O. Box 517
Kaysville, Utah 84037
t. 801.298.1368
info@spe-architect.com
www.spe-architect.com

PROFESSIONAL STAMP:
PROFESSIONAL ENGINEER
6/23/23
BROOKS S. RAWLINGS
No. 10812436
STATE OF UTAH

CODE OFFICIAL STAMP:
REVIEWED FOR CODE COMPLIANCE
Thomas W Peterson
09/25/2023
DIVISION OF FACILITIES CONSTRUCTION & MANAGEMENT

PROJECT NAME:
UDOT MURRAY TOW PLOW STORAGE BUILDING
5823 S COMMERCE WAY
MURRAY, UTAH 84107

REVISIONS:

NO.	DATE	DESCRIPTION

ISSUED:

NO.	DATE	DESCRIPTION
01	6/23/23	CONSTRUCTION BID SET

OWNER PROJECT #:	23495900
SPE PROJECT #:	23-12
DRAWN BY:	CC
CHECKED BY:	BL
DESIGNED BY:	BR

SHEET TITLE:
MECHANICAL LEGEND AND GENERAL NOTES

SHEET NUMBER:
MG001

Last Plotted: 7/18/2023 9:32:46 AM

PLUMBING LEGEND

MEANING	SYMBOL OR ABBREVIATION	MEANING	SYMBOL OR ABBREVIATION
HOT WATER LINE	HW	WALL CLEANOUT	WCO
COLD WATER LINE	CW	CLEANOUT	CO
HOT WATER RECIRCULATING LINE	HWREC	CLEANOUT TO GRADE	COTG
VENT LINE	V	FLOOR CLEANOUT	FCO
WASTE LINE	SS	BALL VALVE	ϕ
GAS LINE	G	UNION	
VENT THRU ROOF	VTR	CONNECTION TO EXISTING PIPING	⊕
UNDER FLOOR	UF	REGULATOR	Ⓡ
SANITARY SEWER	SS	SOFT WATER	SW
PRIMARY ROOF DRAIN	PRD	SECONDARY ROOF DRAIN	SRD
FIXTURE CALLOUT	WC-1	FIXTURE CALLOUT ABOVE	WC

PLUMBING GENERAL NOTES

G-1 - ALL PLUMBING SHALL BE INSTALLED AND CONFORM TO THE 2018 EDITION OF THE INTERNATIONAL PLUMBING CODE (IPC) WITH UTAH ANNOTATIONS AND LOCAL AUTHORITY REQUIREMENTS.

G-2 - ALL PIPING MATERIALS SHALL MEET ALL REQUIREMENTS OF IPC AND LOCAL AUTHORITY. PLASTIC PIPING SHALL BE ALLOWED ONLY WHERE ALLOWED BY CODE. PLASTIC PIPING SHALL NOT BE ROUTED THROUGH RETURN AIR PLENUMS OR OTHER AREAS PROHIBITED BY THE IMC, IPC, OR NFPA CODES OR BY LOCAL AUTHORITY.

G-3 - GAS PIPING INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH GAS COMPANY REGULATIONS, NFPA CODE REQUIREMENTS, AND LOCAL AUTHORITY.

G-4 - ALL MATERIALS SHALL BE NEW AND SHALL BE DOMESTIC MADE UNLESS SPECIFICALLY APPROVED OTHERWISE IN WRITING BY ARCHITECT OR OWNER.

G-5 - PROVIDE VACUUM BREAKERS AND BACK FLOW PREVENTERS WHERE REQUIRED BY CODE OR WHERE THERE MAY BE ANY POSSIBLE CHANCE FOR CROSS CONTAMINATION. PREVENTERS SHALL BE INSTALLED IN ACCORDANCE WITH UTAH CODE.

G-6 - ALL PLUMBING INFORMATION IS NOT LIMITED TO THE PLUMBING DRAWINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR INFORMATION ON ALL OTHER CONSTRUCTION DOCUMENTS INCLUDING SPECIFICATIONS, ARCHITECTURAL DRAWING, STRUCTURAL DRAWINGS, MECHANICAL DRAWINGS, AND ELECTRICAL DRAWINGS.

G-7 - THE WORKING DRAWINGS ARE DIAGRAMMATIC. BECAUSE OF THE SMALL SCALE OF THE DRAWING, THEY DO NOT SHOW EVERY OFFSET, BEND OR ELBOW NECESSARY FOR THE COMPLETE INSTALLATION IN THE SPACE PROVIDED. ALL PIPING SHALL BE CHECKED AND COORDINATED WITH THE SPECIFICATIONS, ARCHITECTURAL, STRUCTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS.

G-8 - COORDINATE ALL PIPING AND PLUMBING EQUIPMENT WITH ALL OTHER TRADES AND/OR CONTRACTORS PRIOR TO INSTALLATION.

G-9 - ANY AND ALL ALTERATIONS TO THE SYSTEM SHOWN SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR AND ARCHITECT/ENGINEER SHALL BE NOTIFIED IN WRITING PRIOR TO CHANGES.

G-10 - GAS LINE FITTINGS SHALL BE STANDARD WELD FITTINGS WITH TAPERED REDUCERS. DO NOT USE VALVES, UNIONS, OR AUTO CONTROLS IN GAS LINES ROUTED IN INACCESSIBLE CONCEALED SPACES.

G-11 - ALL WATER SYSTEMS SHALL MEET THE REQUIREMENTS OF ANSI/NSF STANDARD 61 SECTION 9 (1998), CONCERNING METAL CONTAMINANTS IN THE WATER SYSTEM.

G-12 - WATER PIPING SHALL NOT BE ROUTED IN OUTSIDE WALLS OR ON EXTERIOR SIDE OF BUILDING INSULATION ENVELOPE.

G-13 - WATER HAMMER ARRESTORS SHALL BE INSTALLED IN ALL WATER LINES WITH QUICK OPEN OR QUICK CLOSE VALVES.

WATER HAMMER ARRESTOR SCHEDULE:

TYPE A	1-11 FIXTURE UNITS
TYPE B	12-32 FIXTURE UNITS
TYPE C	33-60 FIXTURE UNITS
TYPE D	61-113 FIXTURE UNITS

G-14 - ALL PIPING, MATERIALS, ETC. SHALL BE NEW AND DOMESTIC MADE UNLESS SPECIFICALLY AUTHORIZED IN WRITING PRIOR TO BID.

WHW ENGINEERING LLC.
PROFESSIONAL MECHANICAL ENGINEERING
9019 Sandy Parkway Suite 101
Sandy, Utah 84070
801.996.4421 - FAX 866.8338
EMAIL: woodshow@whw-engineering.com

ARCHITECT'S INFORMATION:
SPE ARCHITECTS
P.O. Box 517
Kaysville, Utah 84037
t. 801.298.1368
info@spe-architect.com
www.spe-architect.com

PROFESSIONAL STAMP:
PROFESSIONAL ENGINEER
6/23/23
BROOKS S. RAWLINGS
No. 10812436
STATE OF UTAH

CODE OFFICIAL STAMP:
REVIEWED FOR CODE COMPLIANCE
Thomas W Peterson
09/25/2023
DIVISION OF FACILITIES CONSTRUCTION & MANAGEMENT

PROJECT NAME:
UDOT MURRAY TOW PLOW STORAGE BUILDING
5823 S COMMERCE WAY
MURRAY, UTAH 84107

REVISIONS:

NO.	DATE	DESCRIPTION

ISSUED:

NO.	DATE	DESCRIPTION
01	6/23/23	CONSTRUCTION BID SET

OWNER PROJECT #:	23495900
SPE PROJECT #:	23-12
DRAWN BY:	CC
CHECKED BY:	BL
DESIGNED BY:	BR

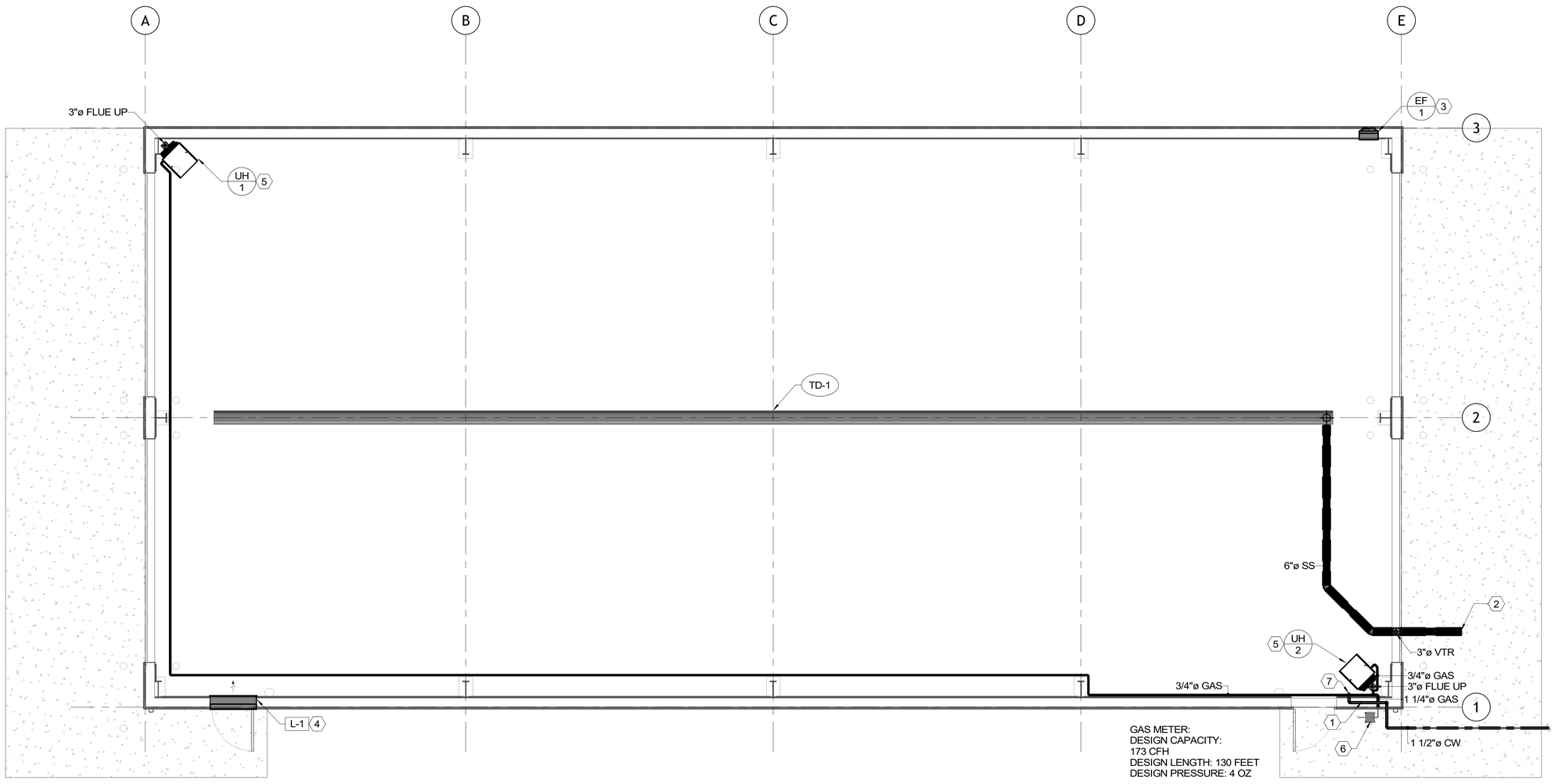
SHEET TITLE:
PLUMBING LEGEND AND GENERAL NOTES

SHEET NUMBER:
PG001

Last Plotted: 7/18/2023 9:32:49 AM

SHEET NOTES

1. PROVIDE HORIZONTAL PRV IN THIS APPROXIMATE LOCATION WITH ACCESS PANEL.
2. COORDINATE WITH CIVIL PLANS FOR CONTINUATION.
3. PROVIDE SIDEWALL PROPELLER EXHAUST FAN IN THIS APPROXIMATE LOCATION. MOUNT HIGH ON WALL. PROVIDE BACKDRAFT DAMPER ON OUTLET. SEE SCHEDULE FOR MEANS OF CONTROL.
4. PROVIDE HIGH SIDEWALL LOUVER IN THIS APPROXIMATE LOCATION. COORDINATE WITH STRUCTURAL.
5. PROVIDE UNIT HEATER IN THIS APPROXIMATE LOCATION. COORDINATE MAXIMUM HEIGHTS WITH MANUFACTURER AND INSTALL PER MANUFACTURER'S RECOMMENDATIONS. ROUTE FLUE THROUGH THE ROOF AND TERMINATE PER MANUFACTURER'S RECOMMENDATIONS.
6. CONTACT DOMINION ENERGY TO PROVIDE NEW NATURAL GAS METER.
7. PROVIDE SHUT OFF VALVE AND 2" CAM AND GROOVE CONNECTION FITTING IN THIS APPROXIMATE LOCATION.



1 MURRAY STORAGE SHED MECHANICAL PLAN
1/4" = 1'-0"

ARCHITECT'S INFORMATION:

SPE ARCHITECTS
P.O. Box 517
Kaysville, Utah 84037
t. 801.298.1368
info@spe-architect.com
www.spe-architect.com

PROFESSIONAL STAMP:

PROFESSIONAL ENGINEER
6/23/23
BROOKS S. RAWLINGS
No. 10812436
STATE OF UTAH

CODE OFFICIAL STAMP:

REVIEWED FOR CODE COMPLIANCE
Thomas W Peterson
09/25/2023
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

PROJECT NAME:

UDOT MURRAY TOW PLOW
STORAGE BUILDING

5823 S COMMERCE WAY
MURRAY, UTAH 84107

REVISIONS:

NO.	DATE	DESCRIPTION

ISSUED:

NO.	DATE	DESCRIPTION
01	6/23/23	CONSTRUCTION BID SET

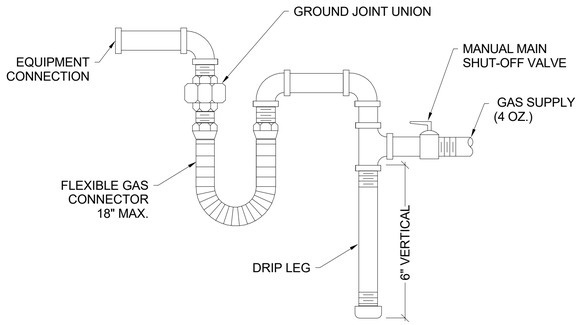
OWNER PROJECT #:	23495900
SPE PROJECT #:	23-12
DRAWN BY:	CC
CHECKED BY:	BL
DESIGNED BY:	BR

SHEET TITLE:
MECHANICAL FLOOR PLANS

SHEET NUMBER:
ME101.1

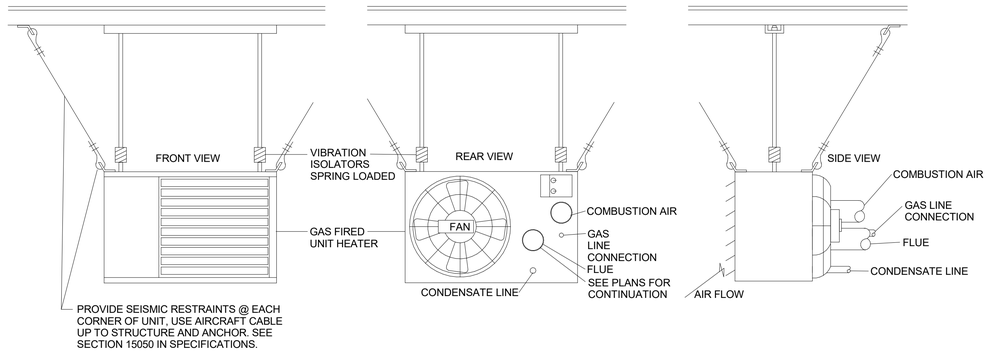
WHW ENGINEERING LLC.
PROFESSIONAL MECHANICAL ENGINEERING

Last Plotted: 7/18/2023 9:32:48 AM



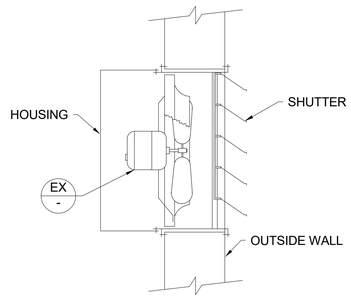
3 GAS LINE CONNECTION DETAIL

SCALE: NONE



2 GAS FIRED UNIT HEATER DETAIL

SCALE: NONE



1 EXHAUST FAN DETAIL

SCALE: NONE

GAS FIRED UNIT HEATER SCHEDULE (TYP #)

TAG			HEATING			ELECTRICAL									
TYPE	#	CFM	INPUT (BTU/HR)	OUTPUT (BTU/HR) AT SEA LEVEL	TEMP RISE	VOLTAGE	PHASE	FREQUENCY	HP	FULL LOAD CURRENT	MOUNTING HEIGHT	FLUE	OPERATING WEIGHT	MANUF & MODEL	SCHEDULE NOTES
UH	1	1,160 CFM	75,000 Btu/h	62,250 Btu/h	48 °F	115 V	1	60 Hz	0.08 hp	3.8 A	14'	3"	97 lb	MODINE EFFINITY	1,2
UH	2	1,160 CFM	75,000 Btu/h	62,250 Btu/h	48 °F	115 V	1	60 Hz	0.08 hp	3.8 A	14'	3"	97 lb	MODINE EFFINITY	1,2

1. SEE SPECIFICATIONS FOR OTHER APPROVED MANUFACTURERS.
2. PROVIDE WITH HANGER RODS C/W VIBRATION ISOLATERS SEISMICALLY BRACED UNITS.

LOUVER SCHEDULE (TAG)

TAG	MAX FLOW	FACE SIZE		MIN FREE AREA	MAX VELOCITY	MAX NC	MANUF & MODEL	SCHEDULE NOTES
		HEIGHT	WIDTH					
L-1	225 CFM	20"	20"	0.6 ft²	400 ft/min	25	RUSKIN ELF811	1,2,3

1. SHALL BE RUSKIN811 OR APPROVED EQUAL.
2. SEE SPECIFICATIONS FOR OTHER APPROVED MANUFACTURERS.
3. FINISH SHALL BE SPECIFIED BY ARCHITECT.
4. COORDINATE WITH ARCHITECTURAL PLANS FOR EXACT SIZE AND LOCATION.
5. PROVIDE BACKDRAFT DAMPER.

EXHAUST FAN SCHEDULE (TYP #)

TAG				ELECTRICAL							
TYPE	#	CFM	ESP	VOLTAGE	PHASE	FREQUENCY	RPM	HP	SONES	OPERATING WEIGHT	MANUF & MODEL	SCHEDULE NOTES
EF	1	225 CFM	0.20 in-wg	115 V	1	60 Hz	1381	0.03 hp	13.3	20 lb	COOK XWD	1,2,3

1. INTERLOCK WITH SWITCH.
2. PROVIDE BACKDRAFT DAMPER ON OUTLET.
3. SEE SPECIFICATIONS FOR OTHER APPROVED MANUFACTURERS.

PLUMBING FIXTURE SCHEDULE (TAG)

EQUIPMENT NUMBER	FIXTURE	PLUMBING PIPE SIZES					POINT OF USE MIXING VALVE?	MAX OUTLET TEMP	REMARKS
		TRAP	WASTE	VENT	COLD WATER	HOT WATER			
TD-1	TRENCH DRAIN	4"	4"	2"	0"	0"	No		TRENCH DRAIN, 12" WIDE CONCRETE. MIFAB T1800 OR EQUAL. PROVIDE WITH MINIMUM CLASS E VEHICLE RATED GRATING. COORDINATE WITH ARCHITECT AND DRAWINGS FOR LENGTH.

1. SEE SPECIFICATIONS FOR OTHER APPROVED MANUFACTURERS.

WHW ENGINEERING LLC.
PROFESSIONAL MECHANICAL ENGINEERING
8019 Sandy Parkway Suite 101
Sandy, Utah 84093
801.996.4421 | 844.996.9338
EMAIL: woodshaw@whw-engineering.com

ARCHITECT'S INFORMATION:
SPE ARCHITECTS
P.O. Box 517
Kaysville, Utah 84037
t. 801.298.1368
info@spe-architect.com
www.spe-architect.com

PROFESSIONAL STAMP:
PROFESSIONAL ENGINEER 6/23/23 BROOKS S. RAWLINGS No. 10812436 STATE OF UTAH

CODE OFFICIAL STAMP:
REVIEWED FOR CODE COMPLIANCE
Thomas W Peterson
09/25/2023
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

PROJECT NAME:
UDOT MURRAY TOW PLOW STORAGE BUILDING
5823 S COMMERCE WAY
MURRAY, UTAH 84107

REVISIONS:

NO.	DATE	DESCRIPTION

ISSUED:

NO.	DATE	DESCRIPTION
01	6/23/23	CONSTRUCTION BID SET

OWNER PROJECT #:	23495900
SPE PROJECT #:	23-12
DRAWN BY:	CC
CHECKED BY:	BL
DESIGNED BY:	BR

SHEET TITLE:
MECHANICAL DETAILS

SHEET NUMBER:
ME501

Last Plotted: 7/18/2023 9:32:48 AM

ELECTRICAL SYMBOLS

NOTE: SYMBOLS SHOWN IN THIS SCHEDULE ARE TYPICAL. NOT ALL ARE USED IN THIS PROJECT. MOUNTING HEIGHTS ARE TO THE CENTER OF THE DEVICE AND ARE TYPICAL. DASHED SYMBOLS INDICATE EXISTING FIXTURE, EQUIPMENT, ETC.

SYMBOL	DESCRIPTION	MOUNT. HEIGHT
ELECTRICAL WIRING		
	CROSS LINES INDICATE NUMBER OF CONDUCTORS GROUNDING CONDUCTORS NOT INCLUDED.	N/A
	BRANCH CIRCUIT CONCEALED IN CEILING OR WALL	N/A
D	BRANCH CIRCUIT CONCEALED IN GROUND OR FLOOR	N/A
A-1,3	BRANCH CIRCUIT HOMERUNS TO PANEL w/PANEL & CIRCUIT NUMBER DESIGNATIONS.	N/A
	CONDUIT RISER UP	N/A
	CONDUIT RISER DOWN	N/A
	CONDUIT STUB (CAP CONDUIT)	AS NOTED
C	CABLE TRAY	AS NOTED
B	BUS DUCT	AS NOTED
ELECTRICAL POWER		
J	JUNCTION BOX	AS NOTED
	DUPLEX RECEPTACLE	+16"
	QUAD RECEPTACLE	+16"
	SPLIT WIRED DUPLEX RECEPTACLE	+16"
WP	DUPLEX RECEPTACLE WEATHERPROOF AND GFCI	+16"
	DUPLEX RECEPTACLE OUTLET WITH GROUND FAULT CIRCUIT INTERRUPTION PROTECTION	+16"
EWC	RECEPTACLE ELECTRIC WATER COOLER (EWC) WITH GROUND FAULT CIRCUIT INTERRUPTION PROTECTION	+16"
	EQUIPMENT RECEPTACLE	+16"
C	SPECIAL PURPOSE RECEPTACLE	+16"
	DUPLEX RECEPTACLE FLOOR	FLOOR
	QUAD RECEPTACLE FLOOR	FLOOR
	FIRE RATED POKE THROUGH	FLOOR
	POWER/TELEPHONE POLE	FLOOR
	MULTI-OUTLET WIREWAY	+46"
ELECTRICAL CONNECTIONS		
	NON-FUSED DISCONNECT SWITCH	TOP AT 6'-0"
	FUSED DISCONNECT SWITCH	TOP AT 6'-0"
	MOTOR STARTER/DISCONNECT SWITCH COMBINATION NON-FUSED	TOP AT 6'-0"
	MOTOR STARTER/DISCONNECT SWITCH COMBINATION FUSED	TOP AT 6'-0"
	MOTOR STARTER ONLY	TOP AT 6'-0"
VFD	VARIABLE FREQUENCY DRIVE	+78"
	MOTOR CONNECTION	AS NOTED
ELECTRICAL DISTRIBUTION		
T	TELEPHONE COMPANY PEDESTAL	AS NOTED
B GS	POWER COMPANY GROUND SLEEVE	AS NOTED
	POWER COMPANY SITE TRANSFORMER	AS NOTED
	HIGH VOLTAGE (277/480 VOLT) PANELBOARD	TOP AT 6'-0"
	LOW VOLTAGE (120/208 VOLT) PANELBOARD	TOP AT 6'-0"
	DRY TYPE TRANSFORMER	AS NOTED
	DISTRIBUTION SWITCHBOARD	AS NOTED
	TELEPHONE AND/OR DATA TERMINAL BOARD	AS NOTED
ELECTRICAL DEVICES		
	PUSHBUTTON	+46"
	STOP/START STATION	+46"
EPO	"EMERGENCY POWER OFF" MUSHROOM TYPE BUTTON	+46"
T	LINE VOLTAGE THERMOSTAT	+46"
N	NURSE CALL BED/BATH STATION	+46"
N	NURSE CALL LIGHT	+84"
NURS	NURSE CALL STATION PANEL	TOP AT 6'-0"

SYMBOL	DESCRIPTION	MOUNT. HEIGHT
LIGHTING CONTROL		
S	SINGLE POLE SWITCH	+46"
S_3	3-WAY SWITCH	+46"
S_4	4-WAY SWITCH	+46"
S_P	SWITCH WITH PILOT LIGHT	+46"
S_D	DIMMER SWITCH	+46"
S_K	KEYED SWITCH	+46"
S_{TM}	DIGITAL TIMER SWITCH	+46"
S_T	MANUAL STARTER WITH THERMAL OVERLOAD	AS NOTED
S_{LV}	LOW VOLTAGE SWITCH	+46"
S^a	CONTROLLING SWITCH (LETTER INDICATES CONTROL)	+46"
K	SINGLE POLE SWITCH/OCCUPANCY SENSOR COMBINATION MANUAL ON/AUTO OFF (WALL MOUNTED) DUAL TECH.	+46"
	OCCUPANCY SENSOR DUAL TECHNOLOGY	CEILING
TS	TIME SWITCH	+60"
LC	LIGHTING CONTACTOR	+60"
P	PHOTOCELL	AS NOTED
LIGHTING		
	LINEAR FIXTURE (TYPICAL)	CEILING
EM	LINEAR EMERGENCY FIXTURE (TYPICAL)	CEILING
	SURFACE MOUNTED FIXTURE	CEILING
	RECESSED DOWNLIGHT FIXTURE	CEILING
	WALL MOUNTED FIXTURE	AS NOTED
	WALL MOUNTED EMERGENCY EGRESS FIXTURE	AS NOTED
	LINEAR STRIP	CEILING
	TRACK LIGHTING	CEILING
	EMERGENCY LIGHTING UNIT	+84"
FXX	FIXTURE TYPE SYMBOL (ATTACHED TO FIXTURE SYMBOL)	N/A
	POST TOP AREA LIGHT POLE & FIXTURE	AS NOTED
	AREA LIGHT POLE AND FIXTURE (HEAD QTY AS SHOWN ON PLAN)	AS NOTED
	BOLLARD FIXTURE	GROUND
	FLOOD OR SPOT FIXTURE	AS NOTED
	WALL MOUNTED EXIT LIGHT (SINGLE FACE)	+84"
	WALL MOUNTED EXIT LIGHT (DOUBLE FACE)	+84"
	CEILING MOUNTED EXIT LIGHT (SINGLE FACE)	CEILING
	CEILING MOUNTED EXIT LIGHT (DOUBLE FACE)	CEILING
TELECOMMUNICATIONS		
	TELEPHONE OUTLET	+16"
	COMPUTER DATA OUTLET	+16"
	VOICE / DATA OUTLET	+16"
	TELEPHONE OUTLET FLOOR	FLOOR
	COMPUTER DATA OUTLET FLOOR	FLOOR
	NETWORK AND VOICE OUTLET FLOOR	FLOOR
REFERENCE SYMBOLS		
XX X	FEEDER TAG (ONE LINE DIAGRAM)	N/A
	REVISION TAG INDICATOR	N/A
	DETAIL INDICATOR: TOP DETAIL IDENTIFICATION BOTTOM INDICATES SHEET WHERE DETAIL IS LOCATED.	N/A
X-X	MECHANICAL EQUIPMENT SYMBOL	N/A
X	KEYED NOTE REFERENCE	N/A

SYMBOL	DESCRIPTION	MOUNT. HEIGHT
AUDIO / VIDEO		
TV	TELEVISION OUTLET	AS NOTED
V	VOLUME CONTROL	+46"
S	SPEAKER	CEILING
M	MICROPHONE JACK	+16"
A	AUXILIARY JACK	+16"
IC	INTERCOM STATION	+48"
	BELL	+84"
	CHIME	+84"
FIRE ALARM		
F	FIRE ALARM MANUAL PULL STATION	SEE DETAIL
	FIRE ALARM HORN/STROBE	SEE DETAIL
	FIRE ALARM HORN/STROBE WITH GUARD	SEE DETAIL
WP	FIRE ALARM HORN/STROBE WATERPROOF	SEE DETAIL
	FIRE ALARM STROBE	SEE DETAIL
S	SMOKE DETECTOR	CEILING
S_B	SMOKE DETECTOR BATTERY-BACKED	CEILING
S_D	DUCT SMOKE DETECTOR	IN DUCT
S_E	SMOKE DETECTOR (ELEVATOR RECALL)	CEILING
	HEAT DETECTOR - C02	CEILING
	GAS DETECTOR	+16"
	DOOR HOLDER	AS NOTED
	PRESSURE SWITCH	AS NOTED
	FIRE ALARM FLOW SWITCH	AS NOTED
	FIRE ALARM TAMPER SWITCH	AS NOTED
	FIRE ALARM FIREFIGHTER PHONE	+46"
CM	CONTROL MODULE	AS NOTED
MM	MONITOR MODULE	AS NOTED
FSD	FIRE/SMOKE DAMPER	AS NOTED
R	FIRE ALARM RELAY	AS NOTED
GAA	FIRE ALARM GENERATOR ANNUNCIATOR	TOP AT 6'-0"
FST	FIRE ALARM TRANSMISSION (MONITORING) DEVICE	AS NOTED
FACP	FIRE ALARM CONTROL PANEL	TOP AT 6'-0"
FAA	FIRE ALARM REMOTE ANNUNCIATOR PANEL	TOP AT 6'-0"
SECURITY		
D_1	SECURITY SYSTEM DOOR CONTACT	DOOR JAMB
D_2	SECURITY SYSTEM OVERHEAD DOOR CONTACT	AS NOTED
KP	SECURITY SYSTEM KEYPAD ARM/DISARM	+46"
ES	SECURITY SYSTEM DOOR ELECTRIC STRIKE	AS NOTED
ML	SECURITY SYSTEM MAGNETIC DOOR LOCK	AS NOTED
REX	REQUEST TO EXIT MOTION DETECTOR	AS NOTED
M	SECURITY SYSTEM AREA MOTION SENSOR	AS NOTED
G	SECURITY SYSTEM GLASS BREAK SENSOR	AS NOTED
CR	SECURITY SYSTEM CARD READER	+46"
AK	SECURITY SYSTEM DOOR ACCESS KEYPAD	+46"
	SECURITY SYSTEM CCTV CAMERA	AS NOTED
DVR	DIGITAL VIDEO RECORDER	AS NOTED
MON	SECURITY SYSTEM CCTV MONITOR	AS NOTED
SERT	SECURITY SYSTEM PANEL	TOP AT 6'-0"
PS	POWER SUPPLY LOW VOLTAGE	AS NOTED

GENERAL NOTES

A. THE ELECTRICAL CONTRACTOR SHALL REVIEW AND COORDINATE WITH ARCHITECTURAL, CIVIL, STRUCTURAL, MECHANICAL, PLUMBING, AND OTHER DRAWINGS PRIOR TO BID.

B. SUBMIT SHOP DRAWINGS IN ACCORDANCE WITH THE SPECIFICATIONS IN A NEAT AND ORDERLY MANNER WITH TYPE AND MODEL NUMBERS INDICATED. SUBMITTALS SHALL INCLUDE BUT NOT LIMITED TO: LIGHTING FIXTURES, LAMPS, WIRING DEVICES, OCCUPANCY SENSORS, CONTACTORS, TIME CLOCKS, PHOTOCELLS, RELAYS, SWITCHBOARDS, PANELBOARDS, MOTOR CONTROL CENTERS, SAFETY SWITCHES, MOTOR STARTERS, OVERCURRENT PROTECTION DEVICES, TRANSFORMERS, CONDUCTORS OVER 600 VOLTS, AND ALL SPECIAL SYSTEMS SUCH AS FIRE ALARM, LIGHTING CONTROLS SECURITY SYSTEMS, SOUND SYSTEMS, ETC.

C. IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS TO ESTABLISH A STANDARD OF QUALITY. MANUFACTURERS CATALOG NUMBERS ARE LISTED AS A BASIS OF DESIGN. ELECTRICAL CONTRACTOR SHALL SUBMIT ANY PRODUCT INFORMATION THAT DEVIATES FROM ORIGINAL DESIGN AND SPECIFICATIONS.

D. CONTRACTOR SHALL SECURE AND PAY FOR ALL NECESSARY BUILDING PERMITS AND INSPECTION FEES.

E. ALL IMPACT FEES ASSOCIATED WITH CITY, UTILITY, OR SERVICE COMPANIES FOR, BUT NOT LIMITED TO, POWER, TELEPHONE, FIBER OPTIC, AND INTERNET SHALL BE THE RESPONSIBILITY OF THE OWNER.

F. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE WITH THE GENERAL CONTRACTOR TO PROVIDE AND INSTALL TEMPORARY POWER FOR PROJECT CONSTRUCTION AS REQUIRED. ALL ENERGY COSTS ARE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

G. DO NOT SCALE DRAWINGS. VERIFY DIMENSIONS IN FIELD PRIOR TO MAKING ANY ROUGH-INS.

H. ELECTRICAL CONTRACTOR SHALL REVIEW ALL ARCHITECT'S ELEVATIONS, SECTIONS, AND FLOOR PLANS PRIOR TO ROUGH-IN OF ELECTRICAL DEVICE JUNCTION BOXES.

I. CONSULT ARCHITECT'S REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF LUMINAIRES, SPEAKERS, SMOKE DETECTORS, ETC.

J. ELECTRICAL CONTRACTOR SHALL MEET WITH THE CEILING AND MECHANICAL CONTRACTORS TO COORDINATE LOCATIONS, CLEARANCES, CEILING TYPES, AND ROUGH-IN REQUIREMENTS OF ALL LUMINAIRES PRIOR TO DUCT, PIPING, AND CEILING INSTALLATIONS.

K. VERIFY EXACT LOCATION OF EQUIPMENT TO BE FURNISHED BY OTHERS PRIOR TO ROUGH-IN.

L. ELECTRICAL CONTRACTOR SHALL VERIFY ALL EQUIPMENT DIMENSIONS AND LOCATIONS BEFORE BEGINNING ROUGH-INS. CONSULT CONTRACT DOCUMENT DRAWINGS AND SHOP DRAWINGS TO VERIFY AND MAINTAIN REQUIRED CLEARANCES.

M. ELECTRICAL ROOM DRAWINGS ARE FOR REFERENCE ONLY OF EQUIPMENT QUANTITIES. ELECTRICAL CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OF ELECTRICAL ROOM SHOWING DIMENSIONS AND CLEARANCES OF ALL EQUIPMENT AND ELECTRICAL GEAR PROVIDED. COORDINATE LAYOUT WITH ONE-LINE DRAWINGS.

N. CONTRACTOR SHALL VERIFY ACTUAL ELECTRICAL LOADS FROM NAMEPLATE RATINGS OF EACH PIECE OF EQUIPMENT REQUIRING POWER. BRING ANY DISCREPANCIES TO THE ATTENTION OF THE PROJECT ENGINEER.

O. WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER, PER INDUSTRY STANDARD AND TO THE SATISFACTION OF THE ARCHITECT AND ENGINEER.

P. WORK, MATERIALS, AND EQUIPMENT SHALL CONFORM TO THE LATEST EDITIONS OF LOCAL, STATE, AND NATIONAL CODES, STANDARDS, AND ORDINANCES.

Q. FINAL CONNECTIONS TO EQUIPMENT SHALL BE MADE AS PER MANUFACTURER'S WRITTEN INSTRUCTIONS AND APPROVED WIRING DIAGRAMS AND DETAILS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ALL MATERIALS AND EQUIPMENT COMPATIBLE WITH EQUIPMENT ACTUALLY SUPPLIED.

R. ALL EMPTY RACEWAY SYSTEMS SHALL HAVE A 200LB-RATED PULL CORD INSTALLED AND SHALL BE IDENTIFIED AT EACH JUNCTION, PULL, AND TERMINATION POINT USING PERMANENT MARKER IN THE BOX. ID SHALL INDICATE INTENDED USE OF CONDUIT, ORIGINATION, AND TERMINATION POINTS OF EACH INDIVIDUAL CONDUIT.

S. ALL PENETRATIONS OF FIRE RATED FLOORS, CEILINGS, AND WALLS SHALL BE SEALED WITH UL-LISTED AND RATED FIRE STOP MATERIAL TO MAINTAIN FIRE RATING OF ASSEMBLY.

T. ELECTRICAL BOXES SHALL NOT BE LOCATED IN MASONRY OR CONCRETE COLUMNS, BOND BEAMS, OR GROUTED CELLS OF MASONRY WALLS ADJACENT TO OPENINGS WITHOUT COORDINATION WITH THE MASONRY CONTRACTOR.

U. WIRE FOR GENERAL USE SHALL BE COPPER 75°C RATED. WIRING FOR HID FIXTURES WITHIN 3' OF FLUORESCENT BALLASTS SHALL BE COPPER, MINIMUM 90°C RATED. CONDUCTOR SIZES INDICATED ARE FOR INSTALLATION IN A MAXIMUM 30°C AMBIENT TEMPERATURE ENVIRONMENT. CONDUCTOR AMPACITY SHALL BE DERATED FOR HIGHER AMBIENT INSTALLATIONS.

V. CONDUCTORS HAVE BEEN SIZED FOR VOLTAGE DROP AS PER PLANS AND DIRECT ROUTING. ANY DEVIATION IN CONDUIT ROUTING MAY INCREASE THE WIRE AND CONDUIT SIZE. ELECTRICAL CONTRACTOR IS RESPONSIBLE TO ENSURE PROPER OPERATING VOLTAGE ON ALL CIRCUITS BOTH INETERIOR AND EXTERIOR. THE VOLTAGE DROP SHALL NOT EXCEED 3% FOR BRANCH CIRCUITS AND 2% FOR FEEDERS FOR A TOTAL OF 5% COMBINED TOGETHER OF BRANCH AND FEEDER CIRCUITS TO THE FARTHEST OUTLET.

W. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL UTILITY METERING EQUIPMENT TO COMPLY WITH THE STANDARDS OF THE LOCAL OR PROJECT SPECIFIC POWER COMPANY.

X. VERIFY EXACT LOCATIONS OF ALL NEW AND EXISTING UNDERGROUND SITE UTILITIES, PIPING, AND RACEWAY SYSTEMS PRIOR TO TRENCHING. A UTILITY LOCATING COMPANY SUCH AS "BLUE STAKE" OR EQUAL SHALL BE USED TO VERIFY AND MARK UTILITIES BEFORE TRENCHING. PROVIDE ALL TRENCHING, BACKFILL EXCAVATION, SUPPORTS, SERVICE FEEDERS (CONDUIT AND/OR WIRE), PULL BOXES, TRANSFORMER PADS, SAW CUTTING AND PATCHING, CONCRETE PAVING, ETC. REQUIRED. BACKFILL TRENCHES TO 90% COMPACTION. PATCHING SHALL MATCH EXISTING SURROUNDING SURFACES. CONTRACTOR SHALL OBTAIN AND VERIFY UTILITY COMPANY DRAWINGS AND REQUIREMENTS FOR ALL SITE UTILITIES. ELECTRICAL CONTRACTOR SHALL ALSO COORDINATE ELECTRICAL RELATED UTILITIES WITH THE CIVIL, MECHANICAL, AND SITE EXCAVATION CONTRACTORS.

Y. PULLBOXES, CABINETS, ETC. MOUNTED ON THE EXTERIOR OF THE BUILDING SHALL BE WEATHERPROOF TYPE WITH HINGED, GASKETED, LOCKABLE COVERS SECURED WITH TAMPERPROOF SCREWS.

Z. SPLICES IN EXTERIOR PULLBOXES AND MANHOLES SHALL BE MADE WATERPROOF USING "SCOTCAST" SPLICE KIT OR APPROVED EQUAL. SEAL ENDS OF CONDUITS AND DUCTS ENTERIOR BOXES WITH "DUCTSEAL" OR EQUAL.

AA. ELECTRICAL CONTRACTOR SHALL TEST AND VERIFY ALL SYSTEMS WITH PROJECT ENGINEER DURING FINAL INSPECTION TO ENSURE PROPER OPERATION. IF TESTS RESULT IN DEFECT THE CONTRACTOR SHALL MAKE ANY CORRECTIONS NECESSARY AT NO ADDITIONAL COSTS TO THE OWNER.

BB. PROVIDE RECORD DRAWINGS IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.

CC. THE CONTRACTOR SHALL GUARANTEE THE INSTALLATION AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP, WHICH MAY OCCUR UNDER NORMAL USAGE FOR A PERIOD OF ONE YEAR AFTER SUBSTANTIAL COMPLETION. DEFECTS SHALL BE PROMPTLY CORRECTED.

DD. PROVIDE A BID FOR A SURVEY FOR AN EMERGENCY RESPONDER COMMUNICATION SYSTEM AND A BID ESTIMATE FOR A BI-DIRECTIONAL ANTENNAE (BDA) COMMUNICATION SYSTEM TO MEET INTERNATIONAL FIRE CODE, IFC-510. THE SURVEY IS TO BE ACCOMPLISHED, NEAR THE SUBSTANTIAL COMPLETION DATE OF THE PROJECT. THE BID ESTIMATE FOR THE BDA SYSTEM, IS BE IDENTIFIED AS A SEPARATE LINE ITEM IN THE BID PRICE. IN THE EVENT THAT THE SURVEY DOES NOT REQUIRE A BDA SYSTEM, THE ELECTRICAL CONTRACTOR SHALL CREDIT BACK TO THE OWNER THE PRICE OF THE SYSTEM.

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
AFP	ARC FAULT PROTECTOR
AIC	AMP INTERRUPTING CURRENT (SYMMETRICAL)
AL	ALUMINUM
BG	BELOW GRADE
C	CONDUIT
CFCI	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED
CKT	CIRCUIT
CO	CONDUIT-ONLY
CU	COPPER
C/W	COMPLETE WITH
(D)	DEMOLISH / DELETE
EM	EMERGENCY
(E)	EXISTING
EPO	EMERGENCY POWER OFF
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
(F)	FUTURE
FA	FIRE ALARM
FLA	FULL LOAD AMPS
GFI	GROUND FAULT INTERRUPTER
GFP	GROUND FAULT PROTECTOR
GND	GROUND
GRC	GALVANIZED RIGID CONDUIT
IG	ISOLATED GROUND
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MH	MANHOLE
MLO	MAIN LUGS ONLY
(N)	NEW
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
PNL	PANEL
(R)	RELOCATE
SPD	SURGE PROTECTION DEVICE
TR	TAMPER RESISTANT
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
WP	WEATHER PROOF
XFMR	TRANSFORMER

* THIS IS A TYPICAL ABBREVIATION LIST. NOT ALL ABBREVIATIONS ARE USED ON THIS PROJECT.

SHEET LIST

ARCHITECT'S INFORMATION:

SPE ARCHITECTS
P.O. Box 517
Kaysville, Utah 84037
t. 801.298.1368
info@spe-architect.com
www.spe-architect.com

PROFESSIONAL STAMP:

REGISTERED PROFESSIONAL ENGINEER
No. 9816146
TODD A. HAIGHT
STATE OF UTAH
6/23/2023

CODE OFFICIAL STAMP:

REVIEWED FOR CODE COMPLIANCE
Thomas W Peterson
09/25/2023
DIVISION OF FACILITIES CONSTRUCTION & MANAGEMENT

PROJECT NAME:

UDOT MURRAY TOW PLOW STORAGE BUILDING

5823 S COMMERCE WAY
MURRAY, UTAH 84107

REVISIONS:

NO.	DATE	DESCRIPTION

ISSUED:

NO.	DATE	DESCRIPTION
01	6/23/23	CONSTRUCTION BID SET

OWNER PROJECT #:	24096900
SPE PROJECT #:	23-17
DRAWN BY:	JBE
CHECKED BY:	SPE
DESIGNED BY:	JBE

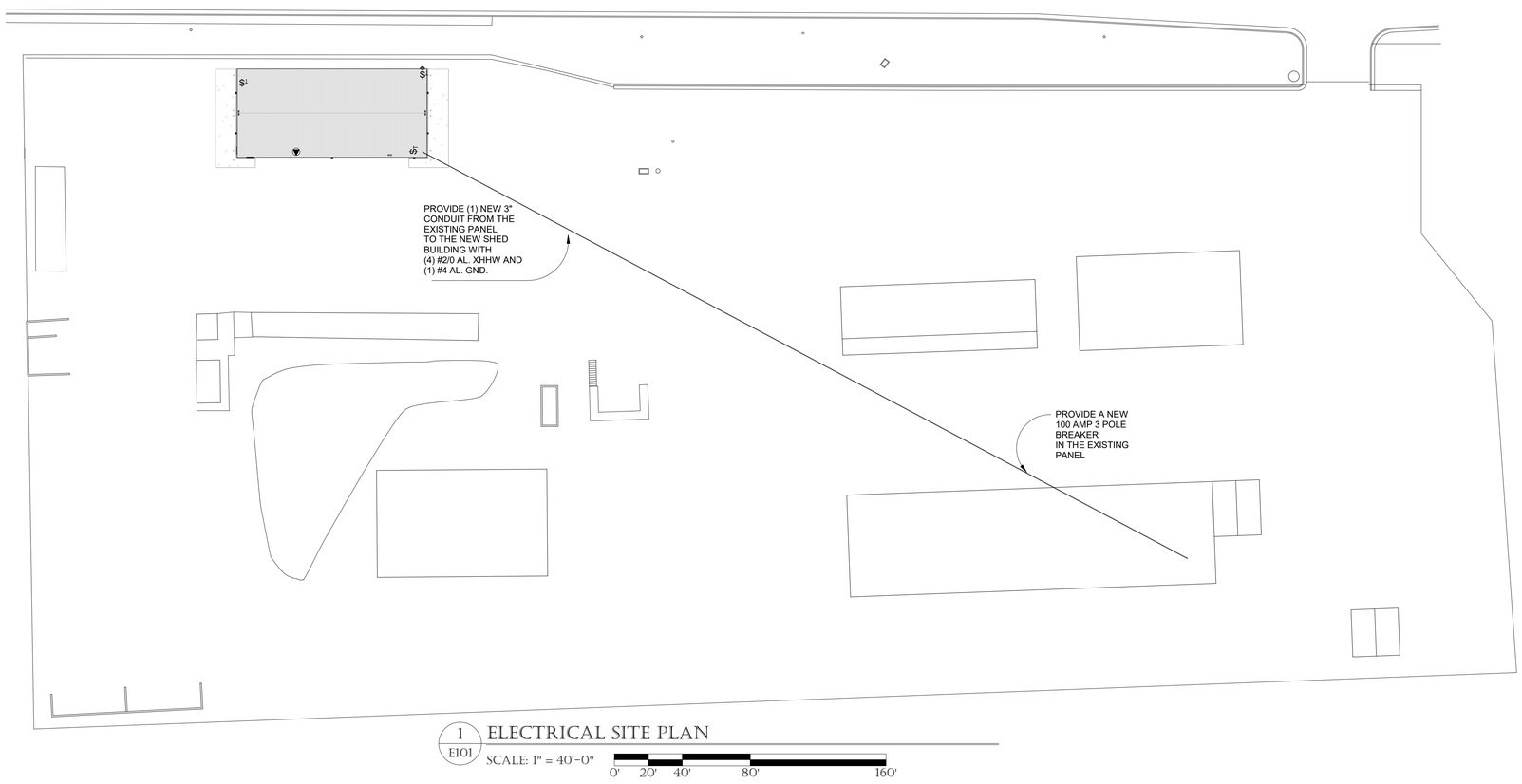
SHEET TITLE:

ELECTRICAL NOTES / SYMBOLS

SHEET NUMBER:

E001

Last Plotted: 6/23/2023 11:23:08 AM



1 E101 ELECTRICAL SITE PLAN

SCALE: 1" = 40'-0"

0' 20' 40' 80' 160'

ARCHITECT'S INFORMATION:

SPE ARCHITECTS
P.O. Box 517
Kaysville, Utah 84037
t. 801.298.1368
info@spe-architect.com
www.spe-architect.com

PROFESSIONAL STAMP:

REGISTERED PROFESSIONAL ENGINEER
No. 9816146
TODD A. HAIGHT
STATE OF UTAH

6/23/2023

CODE OFFICIAL STAMP:

REVIEWED FOR CODE COMPLIANCE
Thomas W Peterson
09/25/2023
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

PROJECT NAME:

UDOT MURRAY TOW PLOW STORAGE BUILDING

5823 S COMMERCE WAY
MURRAY, UTAH 84107

REVISIONS:

NO.	DATE	DESCRIPTION

ISSUED:

NO.	DATE	DESCRIPTION
01	6/23/23	CONSTRUCTION BID SET

OWNER PROJECT #:	24096900
SPE PROJECT #:	23-17
DRAWN BY:	JBE
CHECKED BY:	SPE
DESIGNED BY:	JBE

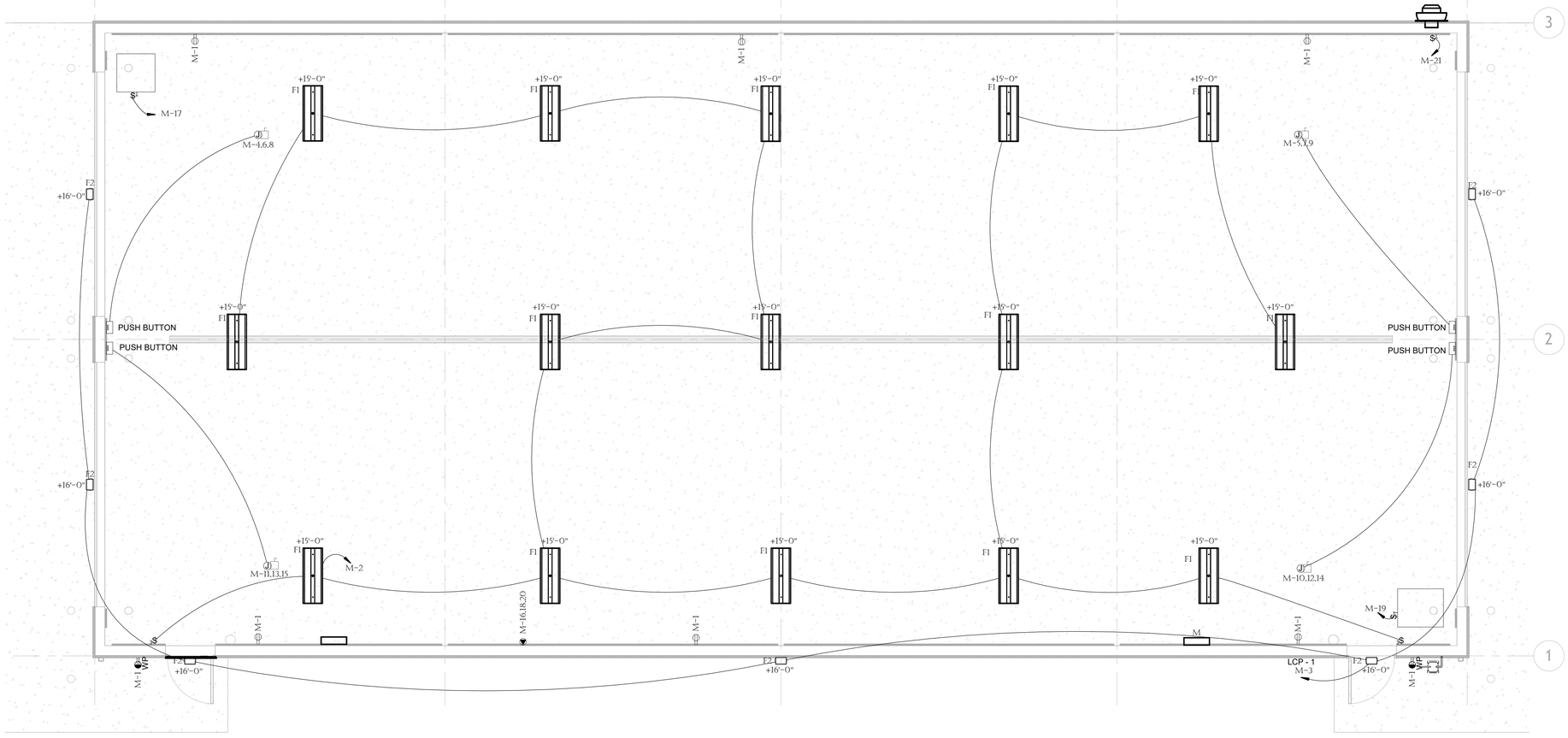
SHEET TITLE:

ELECTRICAL SITE PLAN

SHEET NUMBER:

E101

Last Plotted: 6/23/2023 11:23:10 AM



1 E201 ELECTRICAL PLAN

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

0' 2' 4' 8' 16'

ARCHITECT'S INFORMATION:

SPE ARCHITECTS
P.O. Box 517
Kaysville, Utah 84037
t. 801.298.1368
info@spe-architect.com
www.spe-architect.com

PROFESSIONAL STAMP:

REGISTERED PROFESSIONAL ENGINEER
No. 9816146
TODD A. HAIGHT
STATE OF UTAH

6/23/2023

CODE OFFICIAL STAMP:

REVIEWED FOR CODE COMPLIANCE
Thomas W Peterson
09/25/2023
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

PROJECT NAME:

UDOT MURRAY TOW PLOW STORAGE BUILDING

5823 S COMMERCE WAY
MURRAY, UTAH 84107

REVISIONS:

NO.	DATE	DESCRIPTION

ISSUED:

NO.	DATE	DESCRIPTION
01	6/23/23	CONSTRUCTION BID SET

OWNER PROJECT #:	24096900
SPE PROJECT #:	23-17
DRAWN BY:	JBE
CHECKED BY:	SPE
DESIGNED BY:	JBE

SHEET TITLE:

LEVEL 1
ELECTRICAL PLAN

SHEET NUMBER:

E201

Last Plotted: 6/23/2023 11:23:11 AM

SCHEDULE: LIGHTING SWITCHES

TAG	DESCRIPTION	FUNCTION	LOCATION	REMARKS
LV1	LOW-VOLTAGE SWITCH FOR LIGHTING CONTROL PANEL 'LCP'	ON / OFF		
LV2	LOW-VOLTAGE SWITCH FOR LIGHTING CONTROL PANEL 'LCP'	ON / OFF / RAISE / LOWER		
OS1	OCCUPANCY / VACANCY WALL SWITCH SENSOR	MANUAL ON / AUTO OFF 30-MINUTE VACANCY TIMEOUT		
OS2	OCCUPANCY / VACANCY DIMMABLE WALL SWITCH SENSOR	MANUAL ON / AUTO OFF / RAISE / LOWER 20-MINUTE VACANCY TIMEOUT 0-10V DIMMING		
OS3	OCCUPANCY / VACANCY DIMMABLE WALL SWITCH SENSOR	AUTO ON TO 50% / AUTO OFF / RAISE / LOWER 20-MINUTE VACANCY TIMEOUT 0-10V DIMMING		
OS4	OCCUPANCY / VACANCY CEILING SENSOR	MANUAL ON / AUTO OFF 20-MINUTE VACANCY TIMEOUT		PROVIDE WITH 0-10V DIMMING POWER PACK
OS4A	LOW-VOLTAGE SWITCH FOR 'OS4' WITH DIMMING CONTROLS	ON / OFF / RAISE / LOWER		

GENERAL NOTE:
ELECTRICAL CONTRACTOR SHALL CONFIRM DEVICE COMPATIBILITY WITH LUMINAIRES, LIGHTING CONTROL PANEL(S), ROOM CONTROLLER(S), AND OTHER EQUIPMENT. ANY DESIGN DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ELECTRICAL ENGINEER IMMEDIATELY.

LUMINAIRE SCHEDULE

LUMINAIRE NUMBER	LUMINAIRE MANUFACTURER	LUMINAIRE CATALOG #	DESCRIPTION	LAMPS TYPE	LAMPS CCT	LUMINAIRE VOLTS	LUMINAIRE WATTS	LUMINAIRE MOUNTING	REMARKS
F1	LITHONIA LIGHTING	IBH-120000-SD080-MD-MVOLT-0Z10-40K-80CRI-	LED HIGH BAY	LED	40K	UNV	1120	CHAIN	
F2	LITHONIA LIGHTING	DSXW1LED-20C-700-40K-T3M-MVOLT-PHTOCELL AND OCCSENSOR	WALL PACK WITH PHOTOCELL AND OCCUPANCY SENSOR	LED	40K	UNV	110	WALL	
EX1	ISOLITE	LPDCEMGD-WW-UN	DIE-CST ALUMINUM ALLOY SINGLE-FACE WHITE EXIT SIGN WITH EMERGENCY BATTERY PACK	GREEN LED	N/A	120	1.5	UNIVERSAL	
EX2	ISOLITE	LPDCEMGD-WW-UN	DIE-CST ALUMINUM ALLOY SINGLE-FACE WHITE EXIT SIGN WITH EMERGENCY BATTERY PACK	GREEN LED	N/A	120	2.5	UNIVERSAL	

NOTE

EQUIPMENT SCHEDULE

UNIT #	EQUIPMENT DESCRIPTION	ELECTRICAL LOAD	LOAD UNITS	VOLTS	PHASE	FULL LOAD AMPS (FLA)	REFERENCE NOTES DISCONNECTING MEANS	DISCONNECT RATING (AMPS)	STARTER SIZE	ENCLOSURE TYPE	OCPD FUSE SIZE (AMPS)	OCPD BREAKER SIZE (AMPS)	REMARKS
UH -1	UNIT HEATER	.48	KVA	120	1	3.8	1A	30	--	NEMAL	-	20	
UH - 2	UNIT HEATER	.48	KVA	120	1	3.8	1A	30	--	NEMAL	-	20	
EF -1	EXHAUST FAN	.05	KVA	120	1	0.5	1A	30	--	NEMAL	-	20	

REFERENCE NOTES:

1. NON-FUSED DISCONNECT SWITCH
2. FUSED DISCONNECT SWITCH
3. BREAKER IN ENCLOSURE
4. FUSED DISCONNECT SWITCH WITH SHUNT TRIP
5. MANUAL STARTER WITH THERMAL OVERLOAD
6. MANUAL STARTER
7. MAGNETIC STARTER/NON-FUSED DISCONNECT COMBINATION
8. MAGNETIC STARTER/FUSED DISCONNECT COMBINATION
9. MAGNETIC STARTER/MOTOR CIRCUIT PROTECTOR COMBINATION
10. VARIABLE SPEED DRIVE
11. REDUCED VOLTAGE STARTER
12. DIRECT CONNECTION
13. RECEPTACLE/SPECIAL PURPOSE OUTLET ETC.
14. TWO-SPEED STARTER, COORDINATE WITH MOTOR TYPE
15. MAXIMUM CIRCUIT AMPS (MCA)
16. FULL LOAD CURRENT
17. PROVIDE WITH NEMA 1 ENCLOSURE
18. PROVIDE WITH NEMA 3R ENCLOSURE

A. FURNISHED, INSTALLED AND FINAL CONNECTION BY THE ELECTRICAL CONTRACTOR.
B. FURNISHED AND INSTALLED UNDER ANOTHER DIVISION, FINAL CONNECTION BY THE ELECTRICAL CONTRACTOR.
C. FURNISHED UNDER ANOTHER DIVISION, INSTALLED AND FINAL CONNECTION BY THE ELECTRICAL CONTRACTOR.
D. FURNISHED, INSTALLED AND FINAL CONNECTION UNDER ANOTHER DIVISION.

GENERAL NOTES:

A. VERIFY ALL EQUIPMENT LOCATIONS AND CONNECTION REQUIREMENTS (i.e. VOLTAGE, PHASE, FLA, ETC.) WITH MECHANICAL DRAWINGS/SUBMITTALS PRIOR TO STARTING ROUGH IN.
B. ALL FUSES SHALL BE DUAL ELEMENT, TIME DELAY. FINAL BREAKER/FUSE & DISCONNECT SIZE SHALL BE DETERMINED BY MANUFACTURER'S RECOMMENDATION FOR ACTUAL EQUIPMENT INSTALLED.
C. ALL INSULATION ON CONDUCTORS TO BE THHN UNLESS NOTED OTHERWISE. INSULATION ON ALL UNDERGROUND EXTERIOR CONDUCTORS SHALL BE THHW.

SCHEDULE: LIGHTING CONTROL PANEL

NAME: LCP
MOUNTING: SURFACE
ENCLOSURE: NEMA 1
LOCATION:
POWER SUPPLY CIRCUIT:
NUMBER OF RELAYS: 4

RELAY NUMBER	RELAY AMP	RELAY POLE	SUPPLY CIRCUIT	AREA SERVED	LV SWITCH (SEE SWITCH SCHEDULE)	CONTROL CODE	REMARKS
1	20	1	S1/D1	WALL PACKS		AC3	
2	20	1					
3	20	1					
4	20	1					

PROGRAM CODE:

A	AUTO ON / AUTO OFF	1	HOURS OF OPERATION
B	MANUAL ON / AUTO OFF	2	DUSK TO DAWN
(C)	ASTRONOMIC TIMECLOCK	3	CUSTOM TIMES
(D)	DIMMING RELAY	4	OFF AFTER X MINUTES
(E)	PHOTOCELL	5	OFF AT DUSK
		6	OFF AT CUSTOM TIME

GENERAL NOTES:
A. SEE PLAN(S) FOR LOCATION(S) OF LOW VOLTAGE SWITCH(ES).
B. RELAY TO CONTROL COIL OF 2-POLE CONTACTOR, FACTORY MOUNTED ON CABINET INTERIOR.
C. ELECTRICAL CONTRACTOR TO PROVIDE SPACE IN THIS PANEL FOR FUTURE EXPANSION.
D. INSTALL VOLTAGE BARRIERS AS REQUIRED BY LOCAL AHJ OR TO SEPARATE NORMAL AND EMERGENCY POWER CIRCUITS.
E. CONFIRM PROGRAMMING WITH OWNER PRIOR TO COMMISSIONING THE LIGHTING CONTROL SYSTEM.

M

SUPPLY FROM:
MOUNTING: SURFACE
ENCLOSURE: TYPE 1
REMARKS

VOLTS: 120/208 Wye
PHASE: 3
WIRES: 4

A.I.C. RATING: 35,000 A
MAINS TYPE: LUGS ONLY
MAINS RATING: 125 A

CKT	Rating	Poles	Circuit Description	Wire Size	Load...	True...	A	B	C	True...	Load...	Wire Size	Circuit Description	Poles	Rating	CKT
1	20 A	1	RCPT STORGE	1-#12, 1-#12,...	Receptacle	1440 W	1440 VA	2610 VA		2610 W	Lighting	1-#10, 1-#10,...	LTG INSIDE LIGHTS	1	20 A	2
3	20 A	1	LTG OUTSIDE LIGHTS	1-#12, 1-#12,...	Lighting	411 W	411 VA	167 VA		500 W	Equipment	3-#12, 1-#12,...	GARAGE DOOR 1	3	20 A	4
5	20 A	3	GARAGE DOOR 2	3-#12, 1-#12,...	Equipment	500 W	167 VA	167 VA	167 VA	167 VA	--	--	--	--	--	6
7	--	--	--	--	--	--	167 VA	167 VA		--	--	--	--	--	--	8
9	--	--	--	--	--	--	167 VA	167 VA		500 W	Equipment	3-#12, 1-#12,...	GARAGE DOOR 3	3	20 A	10
11	20 A	3	GARAGE DOOR 4	3-#12, 1-#12,...	Equipment	500 W	167 VA	167 VA	167 VA	--	--	--	--	--	--	12
13	--	--	--	--	--	--	167 VA	167 VA		--	--	--	--	--	--	14
15	--	--	--	--	--	--	167 VA	4800 VA		14400 W	Receptacle	3-#12, 1-#12,...	WELDER	3	20 A	16
17	20 A	1	UH -1	1-#12, 1-#12,...	Lighting	480 W	480 VA	4800 VA	480 VA	4800 VA	--	--	--	--	--	18
19	20 A	1	UH - 2	1-#12, 1-#12,...	Lighting	480 W	480 VA	4800 VA		--	--	--	--	--	--	20
21	20 A	1	EF - 1	1-#12, 1-#12,...	Lighting	50 W	50 VA	0 VA		--	--	--	SPARE	1	20 A	22
23	20 A	1	SPARE	--	--	--	0 VA	0 VA		--	--	--	SPARE	1	20 A	24
25	20 A	1	SPARE	--	--	--	0 VA	0 VA		--	--	--	SPARE	1	20 A	26
27	20 A	1	SPARE	--	--	--	0 VA	0 VA		--	--	--	SPARE	1	20 A	28
29	20 A	1	SPARE	--	--	--	0 VA	0 VA		--	--	--	SPARE	1	20 A	30
31	20 A	1	SPARE	--	--	--	0 VA	0 VA		--	--	--	SPARE	1	20 A	32
33	20 A	1	SPARE	--	--	--	0 VA	0 VA		--	--	--	SPARE	1	20 A	34
35	20 A	1	SPARE	--	--	--	0 VA	0 VA		--	--	--	SPARE	1	20 A	36
37	20 A	1	SPARE	--	--	--	0 VA	0 VA		--	--	--	SPARE	1	20 A	38
39	20 A	1	SPARE	--	--	--	0 VA	0 VA		--	--	--	SPARE	1	20 A	40
41	20 A	1	SPARE	--	--	--	0 VA	0 VA		--	--	--	SPARE	1	20 A	42
					Total Load:		9997 VA	5928 VA	5947 VA							
					Total Amps:		83 A	49 A	50 A							

GENERAL NOTES:
1. ALL INSULATION ON CONDUCTORS TO BE THHN UNLESS NOTED OTHERWISE. INSULATION ON ALL UNDERGROUND CONDUCTORS SHALL BE THHW.
2. RECEPTACLE LOAD CALCULATED AS PER SECTION 220 OF THE NATIONAL ELECTRICAL CODE.

KEYED NOTES:
1. LOCK - ON BREAKER.
2. PROVIDE ARC FAULT (AFCI) BREAKER

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	4031 VA	100.00%	4031 VA		
Receptacle	15840 VA	81.57%	12920 VA	**Total Conn. Load:**	21871 VA
				Total Est. Demand:	18951 VA
				Total Conn. Current:	61 A
				Total Est. Demand Current:	53 A

Notes:

ARCHITECT'S INFORMATION:
SPE ARCHITECTS
P.O. Box 517
Kaysville, Utah 84037
t. 801.298.1368
info@spe-architect.com
www.spe-architect.com

PROFESSIONAL STAMP:
REGISTERED PROFESSIONAL ENGINEER
No. 9816146
TODD A. HAIGHT
STATE OF UTAH
6/23/2023

CODE OFFICIAL STAMP:
REVIEWED FOR CODE COMPLIANCE
Thomas W Peterson
09/25/2023
DIVISION OF FACILITIES CONSTRUCTION & MANAGEMENT

PROJECT NAME:
UDOT MURRAY TOW PLOW STORAGE BUILDING
5823 S COMMERCE WAY
MURRAY, UTAH 84107

REVISIONS:

NO.	DATE	DESCRIPTION

ISSUED:

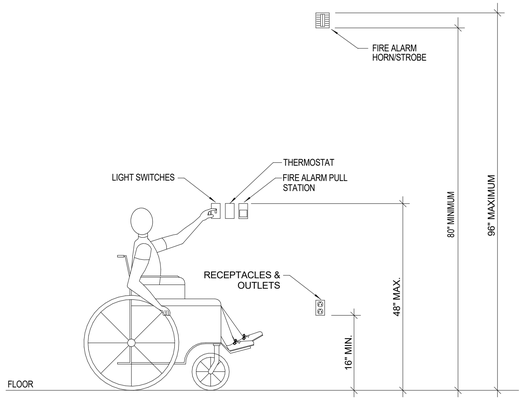
NO.	DATE	DESCRIPTION
01	6/23/23	CONSTRUCTION BID SET

OWNER PROJECT #:	24096900
SPE PROJECT #:	23-17
DRAWN BY:	JBE
CHECKED BY:	SPE
DESIGNED BY:	JBE

SHEET TITLE:
ELECTRICAL SCHEDULES

SHEET NUMBER:
E501

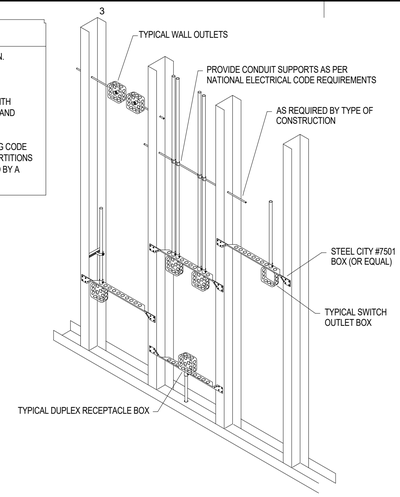
Last Plotted: 6/23/2023 11:23:12 AM



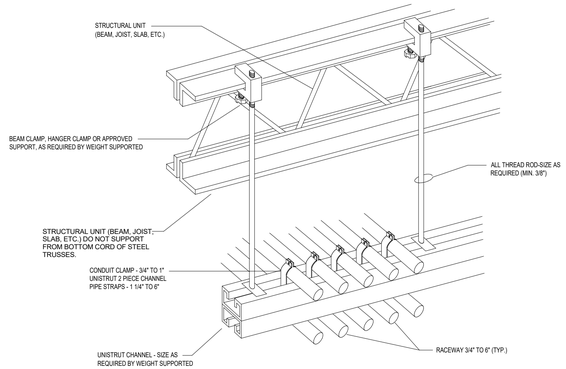
1 E601 MOUNTING HEIGHTS DETAIL

NOTES:

1. TYPICAL FOR WOOD AND METAL STUD ROUGH IN.
2. PLASTER RINGS NOT SHOWN.
3. LOCATE ALL OUTLET BOXES IN ACCORDANCE WITH ARCHITECTURAL AND MECHANICAL DRAWINGS, AND WITH ALL APPLICABLE SHOP DRAWINGS.
4. IN ACCORDANCE WITH INTERNATIONAL BUILDING CODE OUTLETS ON OPPOSITE SIDES OF WALLS OR PARTITIONS IN THE SAME STUD SPACE MUST BE SEPARATED BY A MINIMUM OF 24" HORIZONTAL DISTANCE.



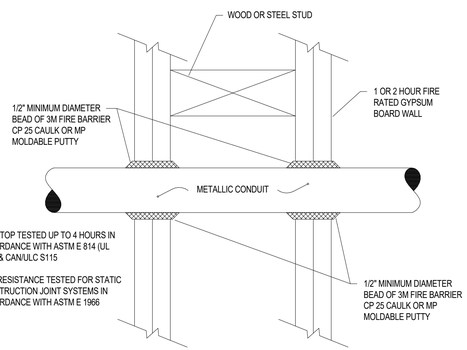
2 E601 TYPICAL ROUGH-IN REQUIREMENTS DETAIL



6 E601 TYPICAL TRAPEZE CONDUIT RACK DETAIL

NOTE:

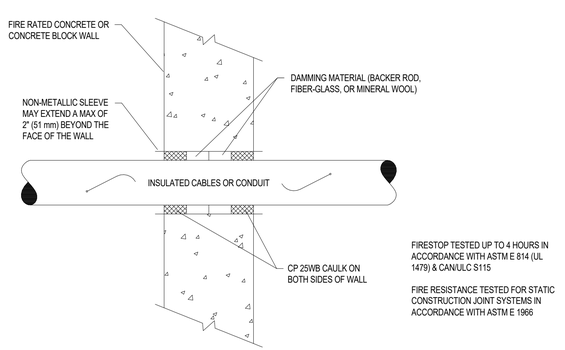
TYPICAL DETAILS SHOWING GENERAL FIRE STOPPING PROCEDURE. ACTUAL PROCEDURE DEPENDS UPON ANNULAR SPACE BETWEEN PIPE AND/OR INSULATION AND OPENING. FOLLOW MANUFACTURER'S INSTRUCTIONS.



7 E601 GYPSUM BOARD WALL FIRESTOP DETAIL

NOTE:

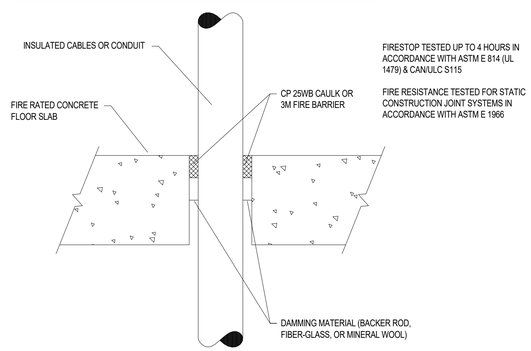
TYPICAL DETAILS SHOWING GENERAL FIRE STOPPING PROCEDURE. ACTUAL PROCEDURE DEPENDS UPON ANNULAR SPACE BETWEEN PIPE AND/OR INSULATION AND OPENING. FOLLOW MANUFACTURER'S INSTRUCTIONS.



8 E601 CONCRETE/MASONRY WALL FIRESTOP DETAIL

NOTE:

TYPICAL DETAILS SHOWING GENERAL FIRE STOPPING PROCEDURE. ACTUAL PROCEDURE DEPENDS UPON ANNULAR SPACE BETWEEN PIPE AND/OR INSULATION AND OPENING. FOLLOW MANUFACTURER'S INSTRUCTIONS.



9 E601 CONCRETE FLOOR FIRESTOP DETAIL

ARCHITECT'S INFORMATION:

SPE ARCHITECTS
P.O. Box 517
Kaysville, Utah 84037
t. 801.298.1368
info@spe-architect.com
www.spe-architect.com

PROFESSIONAL STAMP:

REGISTERED PROFESSIONAL ENGINEER — No. 9816146 — TODD A. HAIGHT — STATE OF UTAH

6/23/2023

CODE OFFICIAL STAMP:

REVIEWED FOR CODE COMPLIANCE
Thomas W Peterson
09/25/2023
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

PROJECT NAME:

UDOT MURRAY TOW PLOW STORAGE BUILDING

5823 S COMMERCE WAY
MURRAY, UTAH 84107

REVISIONS:

NO.	DATE	DESCRIPTION

ISSUED:

NO.	DATE	DESCRIPTION
01	6/23/23	CONSTRUCTION BID SET

OWNER PROJECT #:	24096900
SPE PROJECT #:	23-17
DRAWN BY:	JBE
CHECKED BY:	SPE
DESIGNED BY:	JBE

SHEET TITLE:

ELECTRICAL DETAILS

SHEET NUMBER:

E601

Last Plotted: 6/23/2023 11:23:13 AM