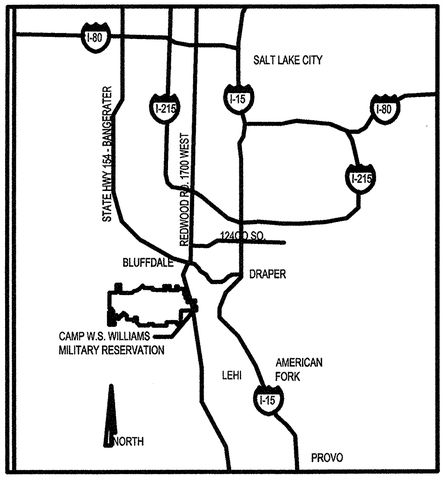
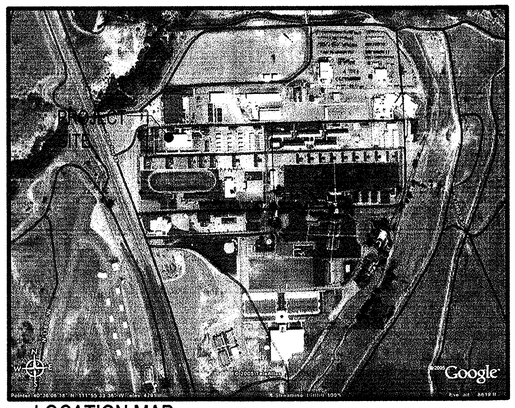
3D/I
265 East 100 South Suite 350
Salt Lake City, Utah 84111-1604
Ph (801) 521-8564 Fax (801) 355-2938

UTAH NATIONAL GUARD BUILDING 304 ADDITION

CAMP W.G. WILLIAMS - SALT LAKE CITY, UTAH



VICINITY MAP



LOCATION MAP

APPROVALS:

Prime Agency — Date

DFCM — Date

APPROVAL DOES NOT RELIEVE A/E OF DESIGN LIABILITY

APPROVALS:

Prime Agency — Date

DFCM — Date

GENERAL CODE DATA

Project

Utah National Guard, Camp Williams Building 304 Addition

Utah Statewide Building Codes (with amendments)

2003 International Building Code — 2003 International Mechanical Code
2003 International Plumbing Code — 2002 National Electrical Code

Type of Construction

Type of Construction: V-B

Occupancy

Occupancy Classification (existing building): A-3/B
Occupancy Classification (new addition): B
Occupancy Separations: Nonseparated uses

Area

Qualifying Building Frontage (F): 650
Building Perimeter (P): 650
Width (W): 30
Frontage Increase (If): 75

	Multipliers		B	A-3
Tabular Area (At)			9000	6000
Frontage Increase (If)	75	0	6750	4500
Sprinkler Increase (Is)	300	0	27000	18000
Allowable Area (Aa) - Per Floor		0	42750	28500
Allowable Area - Building Total (No. Stories - 3 Maximum)	1	0	42750	28500

	Totals		B	A-3
Actual Area - Existing Building	18270	0	8755	10515
Actual Area - New Addition	2075	0	2075	0
Actual Area - Building Total	21345	0	10830	10515

Actual Area is less than Allowable Area for more restrictive A-3 [ok]

Height and Number of Stories

		B	A-3
Allowable Height (ft.)	0	60	60
Allowable No. of Stories	0	3	2
Actual Height (ft.)	0	24	24
Actual No. of Stories	0	1	1

Actual height less than allowable height for more restrictive A-3 [ok]
Actual number of stories less than allowable number of stories for more restrictive A-3 [ok]

Occupant Load

		B	A-3
Occupant Load (new addition)	0	21	0

Means of Egress (new addition)

Exits/Exit Access Required: 1
Exits/Exit Access Provided: 3 [ok]
Minimum Corridor Width Required (in.): 36
Corridor Width Provided (in.): 36 [ok]
Maximum Travel Distance Allowed (ft.): 300
Actual Maximum Travel Distance (ft.): 62 [ok]

Corridors are not required to be fire-rated since building is sprinklered.

Fire Protection Systems

Fire Sprinkler System: Yes
Standpipe System: NR
Fire Alarm System: Yes

Remarks

Information on existing building obtained from "Addition to Building 304" drawings by L.K. Sorenson Associates dated 8-1-00.

DFCM — PLAN CHECK
Division of Facilities Construction and Management

Phase — Program

	Approved as Noted	Notify Resubmit	No Comment	Initial	Date
Accessibility					
Architectural					
Civil					
Electrical					
Energy					
HVAC					
Landscape					
Plumbing					
Specification					
Structural					

DFCM — PRE-BID STAFF REVIEW
Division of Facilities Construction and Management

PROJECT MANUAL:
Architect — Date
Structural — Date
Mechanical — Date
Electrical — Date
Civil — Date
Space — Date
Landscape Architecture — Date

ENERGY:
Architectural — Date
Mechanical — Date
Electrical — Date

OTHER AGENCIES:
Agency Institution Maintenance — Date
Fire Marshall — Date
Agency Institution — Date

REVIEW DOES NOT RELIEVE A/E OF DESIGN LIABILITY

STATE OF UTAH - DEPARTMENT OF ADMINISTRATIVE SERVICES

DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT
4110 STATE OFFICE BUILDING
SALT LAKE CITY, UTAH 84111
801.538.3018

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C101 SITE SURVEY

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AD101 DEMOLITION PLAN
AE101 FLOOR PLAN
AE 110 REFLECTED CEILING PLAN
AE 201 ELEVATIONS & WALL SECTIONS
AE 310 WALL SECTIONS
AE510 SCHEDULES / DETAILS

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E103 LIGHTING PLAN
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E502 DETAILS
E601 FIRE ALARM RISER DIAGRAM
E602 SCHEDULES

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FARLEY ENGINEERING
4625 SOUTH 2300 EAST
SALT LAKE CITY , UTAH 84117
PH: 801.274.3151

LICENSED PROFESSIONAL ENGINEER — DOUGLAS M. FARLEY — No. 318631 — 08/25/05 — STATE OF UTAH

MECHANCIAL ENGINEER:
SPECTRUM ENGINEERS
175 SOUTH MAIN STREET, SUITE 300
SALT LAKE CITY , UTAH 84111
PH: 801.328.5151
FAX: 801.328.5155
www.spectrum-engineers.com

REGISTERED PROFESSIONAL ENGINEER — NEIL H. SPENCER — No.5484 — 8/24/05 — STATE OF UTAH

ELECTRICAL ENGINEER:
SPECTRUM ENGINEERS
175 SOUTH MAIN STREET, SUITE 300
SALT LAKE CITY , UTAH 84111
PH: 801.328.5151
FAX: 801.328.5155
www.spectrum-engineers.com

LICENSED PROFESSIONAL ENGINEER — No. 374062 — CHAD B. FORREST — 08-25-05 — STATE OF UTAH

CONSULTANT INFORMATION

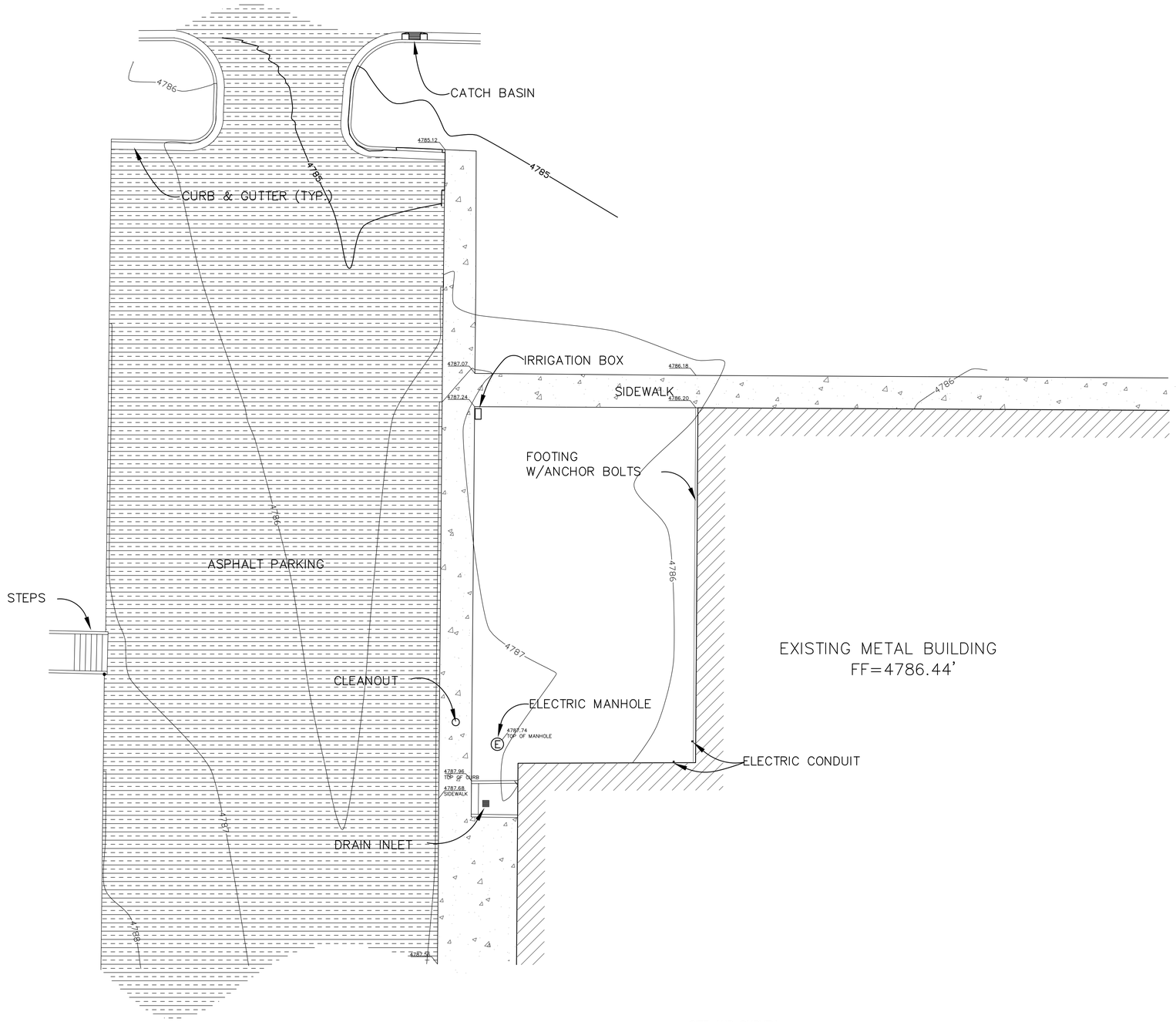
KEYED NOTES

UTAH NATIONAL GUARD
BUILDING 304 ADDITION
CAMP W.G. WILLIAMS
UTAH

SHEET TITLE: SITE SURVEY

REVISIONS	DATE	BY	DESCRIPTION
1			
2			
3			
4			

DRAWN BY: JRA — CHECKED BY: ERT
PROJECT NO. 05215480
DATE: AUG. 24, 2005
DRAWING NO. GI01



SITE AND SURVEY
SCALE: 1" = 1'-0"

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CONSULTANT INFORMATION

KEYED NOTES

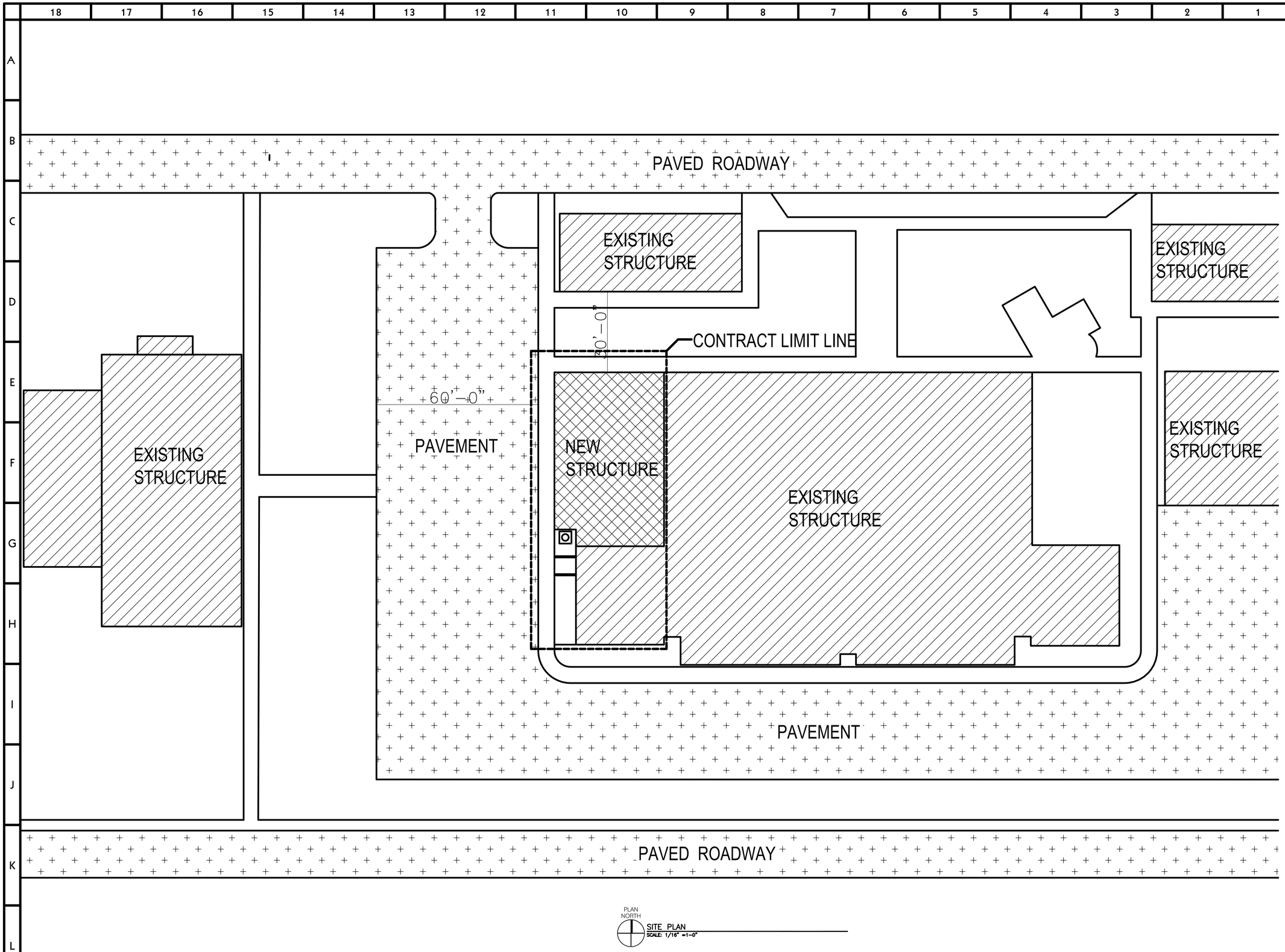
UTAH NATIONAL GUARD
BUILDING 304 ADDITION
CAMP W.G. WILLIAMS
UTAH

SHEET TITLE
SITE AND SURVEY

REVISIONS	DATE	BY	DESCRIPTION
1			
2			
3			
4			

DRAWN BY JRA	CHECKED BY ERT
PROJECT NO. 05215480	DRAWING NO. C201
DATE AUG. 24, 2005	

NOLTE
BEYOND ENGINEERING
6671 SOUTH REDWOOD ROAD, SUITE 101, WEST JORDAN, UT. 84084
801.743.1300 TEL 801.743.0300 FAX WWW.NOLTE.COM



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CONSULTANT INFORMATION

KEYED NOTES

GENERAL NOTES:

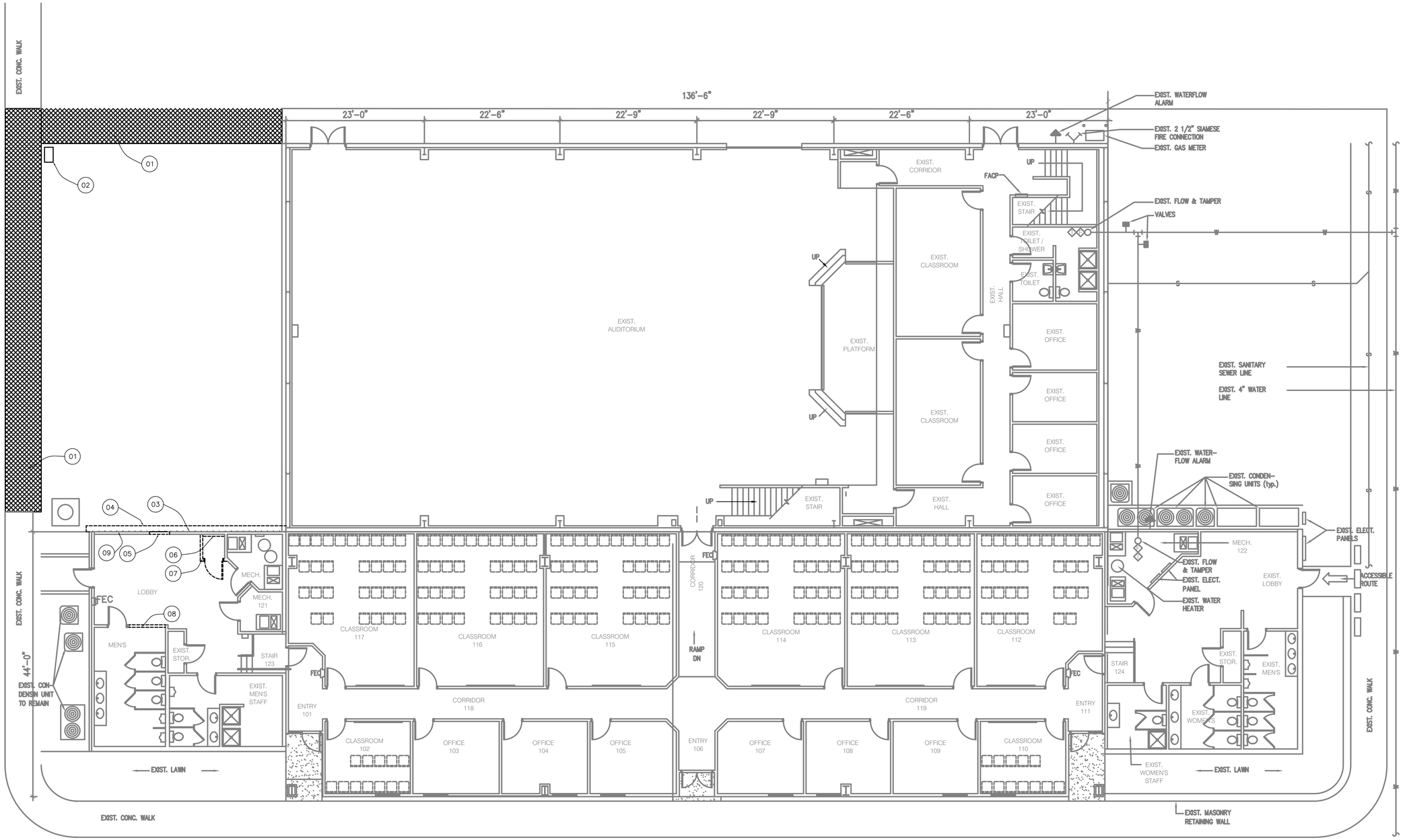
1. CONTRACT LIMIT LINE INDICATES THE GENERAL AREA FOR CONSTRUCTION. THERE WILL BE WORK OUTSIDE THE CONTRACT LIMIT LINE WHERE ELECTRICAL, MECHANICAL, AND FIRE SPRINKLER CONECTIONS TO EXISTING SERVICES ARE REQUIRED

UTAH NATIONAL GUARD
BUILDING 304 ADDITION
CAMP W.G. WILLIAMS
UTAH

SHEET TITLE
ARCHITECTURAL SITE PLAN

REVISIONS	DATE	BY	DESCRIPTION
1			
2			
3			
4			

DRAWN BY JRA	CHECKED BY ERT
PROJECT NO. 05215480	DRAWING NO. AS101
DATE AUG. 24, 2005	



PLAN NORTH

DEMOLITION PLAN
SCALE: 1/8" =1-0"

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CONSULTANT INFORMATION

KEYED NOTES

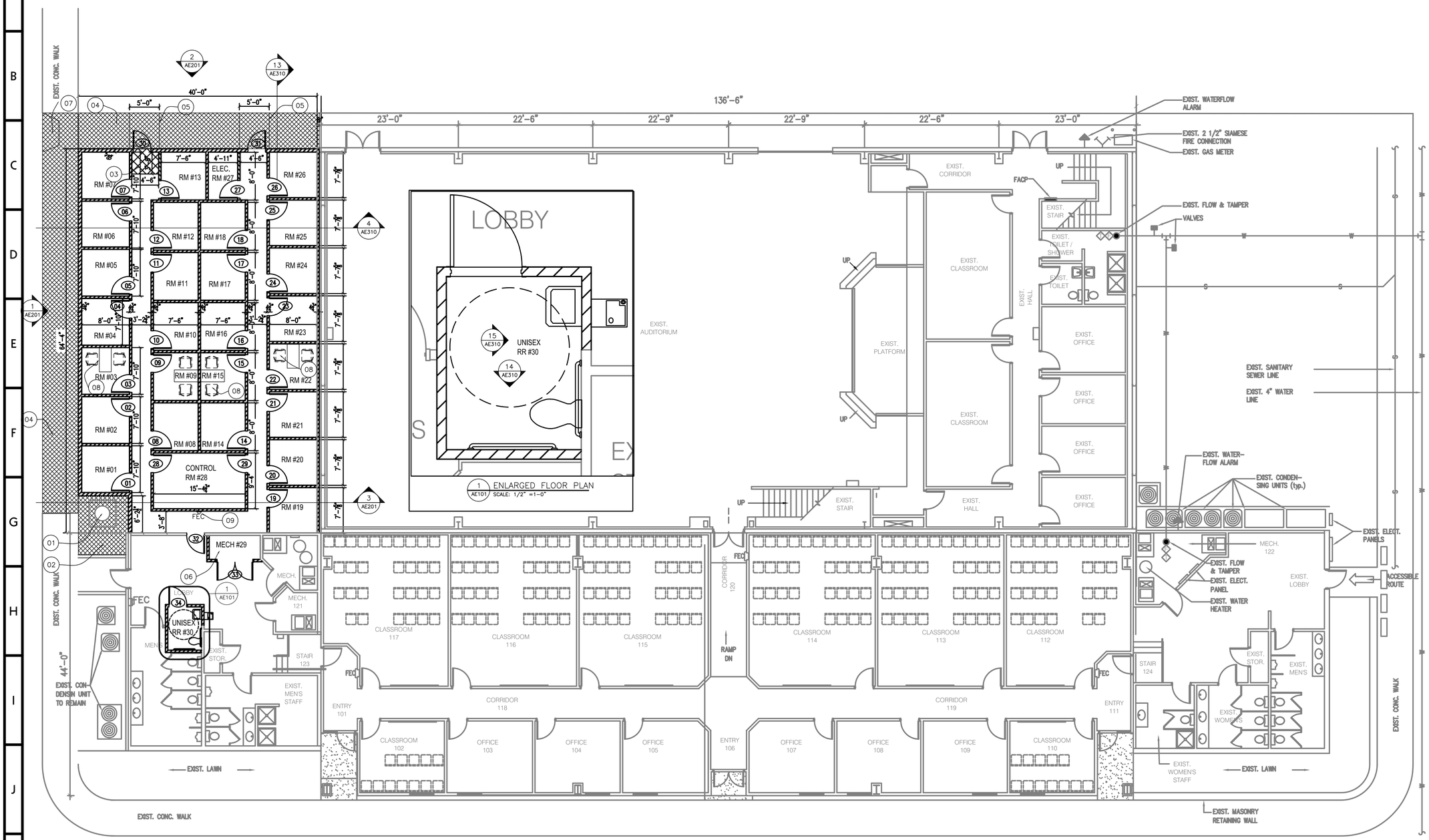
01 DEMOLISH AND PROPERLY DISPOSE OF EXISTING SIDEWALK SHOWN HATCHED
02 REMOVE EXISTING VALVE BOX AND CAP UNUSED SPRINKLER LINE
03 REMOVE AND SALVAGE FOR REUSE EXISTING METAL SIDING
04 REMOVE EXISTING OVERHANGING TRUSS AND ASSOCIATED SIDING
05 CUT IN OPENING FOR NEW DOOR
06 REMOVE EXISTING TELEPHONE BOARD AND SALVAGE TO OWNER
07 REMOVE EXISTING WALL AND DOOR SHOWN DASHED PATCH AND REPAIR WALL AND CEILING AS REQUIRED
08 REMOVE EXISTING WALL AS REQUIRED FOR INSTALLATION OF NEW UNISEX RESTOOM
09 SEE STRUCTURAL FOR ADDITIONAL INFORMATION ON REVISIONS TO THIS WALL. THIS WALL TO HAVE FINISH DRYWALL AND PAINT ADDED ON NORTH SIDE OF WALL

UTAH NATIONAL GUARD
BUILDING 304 ADDITION
CAMP W.G. WILLIAMS
UTAH

SHEET TITLE
DEMOLITION PLAN

REVISIONS	DATE	BY	DESCRIPTION
1			
2			
3			
4			

DRAWN BY: JRA
CHECKED BY: ERT
PROJECT NO.: 05215480
DATE: AUG. 24, 2005
DRAWING NO.: AD101



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CONSULTANT INFORMATION

KEYED NOTES

01 EXISTING ELECTRICAL MANHOLE RAISE TOP OF LID 1' ABOVE SIDEWALK
02 NEW CONCRETE SLAB LEVEL WITH EXISTING SIDEWALK
03 NEW CONCRETE LANDING - TOP OF LANDING TO BE LEVEL WITH NEW SIDEWALK
04 NEW SIDEWALK @ 2% SLOPE AWAY FROM BLDG.
05 SIDEWALK LANDING - TO BE LEVEL WITH BUILDING FLOOR AT EAST LANDING AND LEVEL WITH INSIDE LANDING AT WEST LANDING
06 NEW MECHANICAL ROOM - PATCH CEILING AND WALLS WHERE OLD TELEPHONE CLOSET WALLS WERE REMOVED DURING DEMILITION - PAINT TO MATCH ADJACENT
07 SIDEWALK ACCESSIBLE RAMP
08 TABLE AND CHAIRS FURNISHED BY OTHER - NIC
09 PROVIDE NEW FIRE EXTINGUISHER CABINET

LEGEND

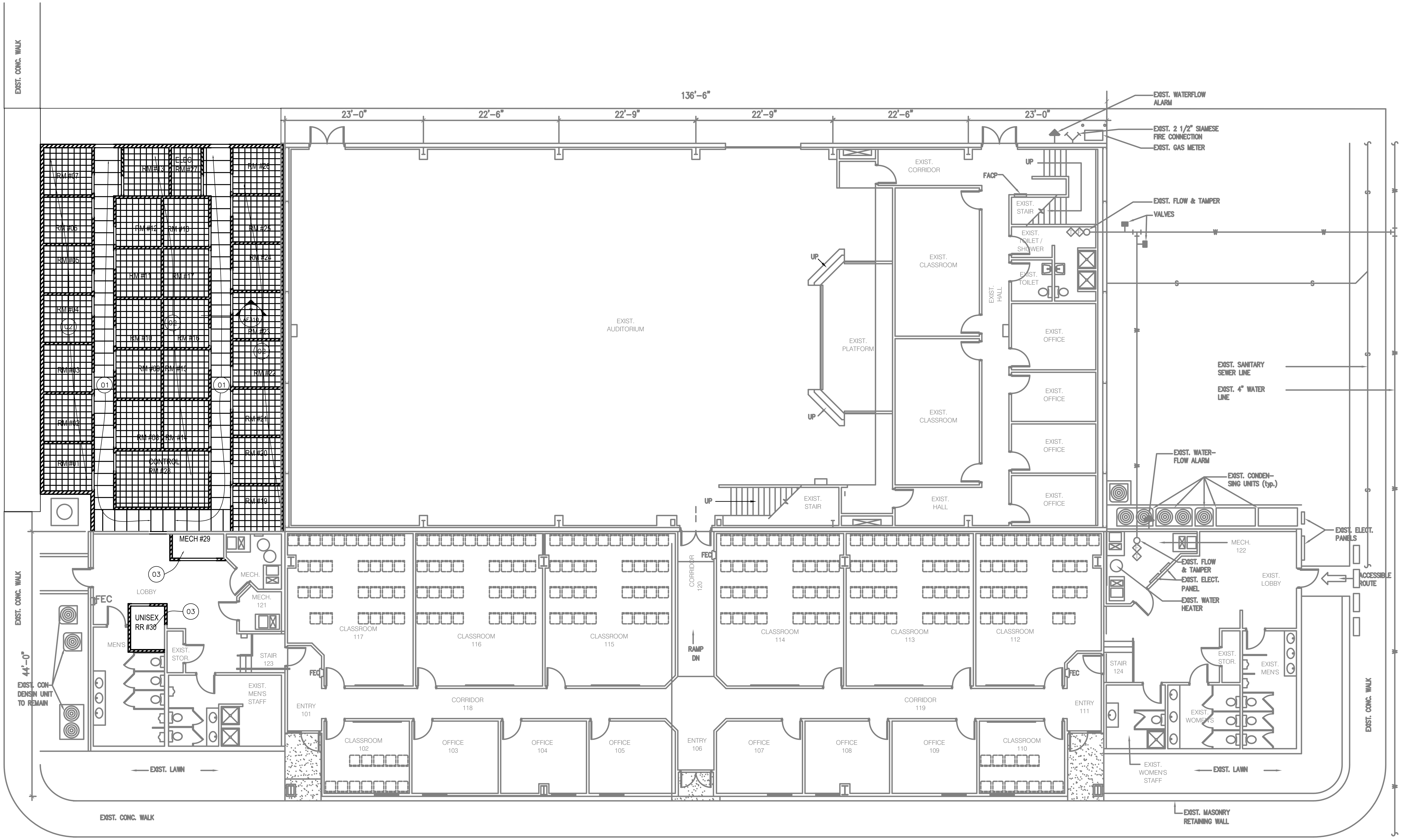
NEW 2X4 WOOD STUD WALL
EXISTING WALL TO REMAIN

UTAH NATIONAL GUARD
BUILDING 304 ADDITION
CAMP W.G. WILLIAMS
UTAH

SHEET TITLE
FLOOR PLAN

REVISIONS	DATE	BY	DESCRIPTION
1			
2			
3			
4			

DRAWN BY: JRA
CHECKED BY: ERT
PROJECT NO.: 05215480
DATE: AUG. 24, 2005
DRAWING NO.: AE101



PLAN NORTH

REFLECTED CEILING PLAN
SCALE: 1/8" =1-0"

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CONSULTANT INFORMATION

KEYED NOTES

01 SUSPENDED ACOUSTIC TILE CEILING
02 12" X 12" ACOUTIC TILE OVER 5/8" GYP. BD.
03 EXISTING CEILING TO REMAIN - PATCH, PAINT AS REQ.

UTAH NATIONAL GUARD
BUILDING 304 ADDITION
CAMP W.G. WILLIAMS
UTAH

SHEET TITLE
REFLECTED CEILING PLAN

REVISIONS	DATE	BY	DESCRIPTION
△			
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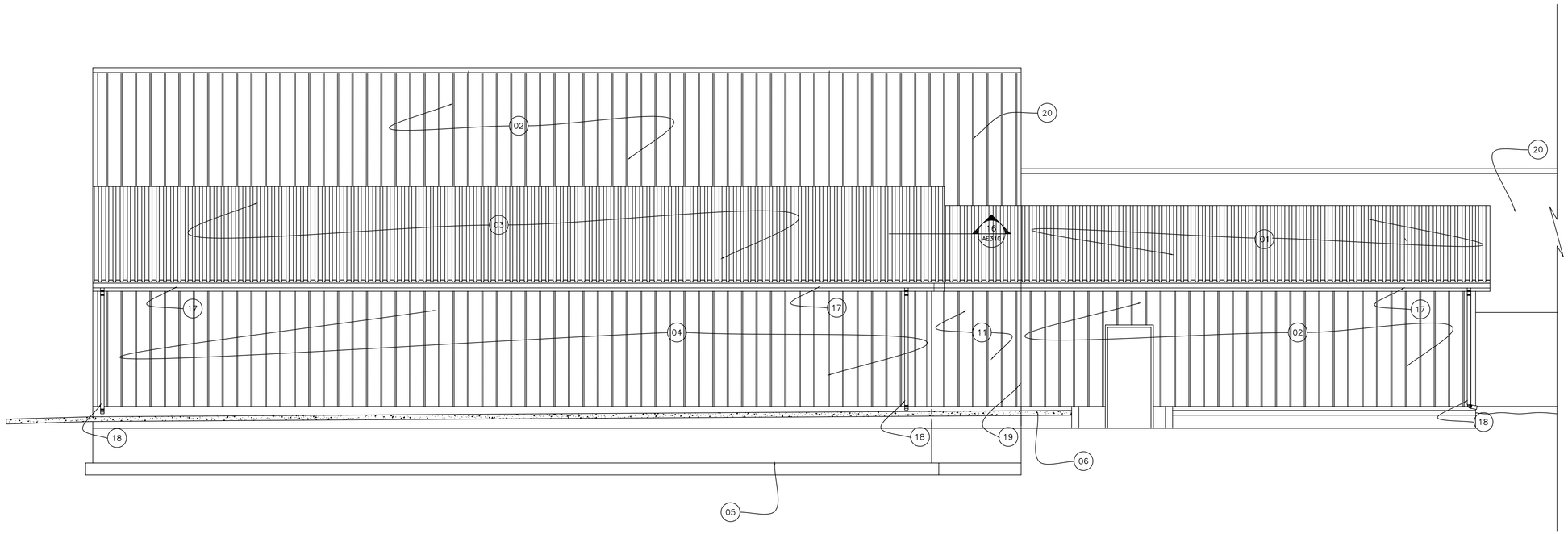
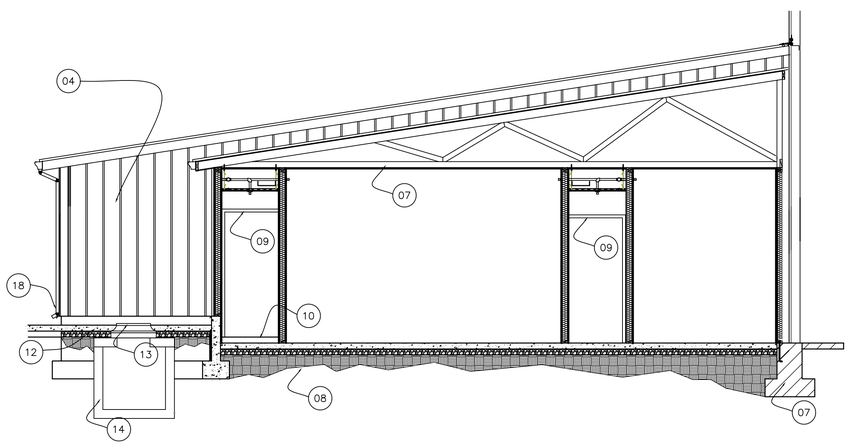
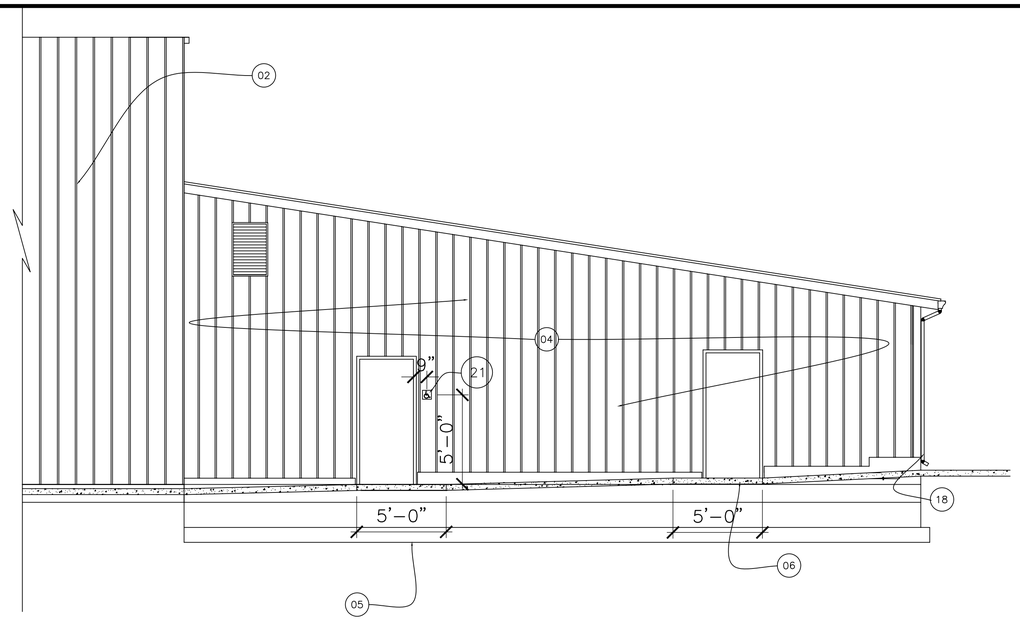
PROJECT NO. 05215480	DRAWING NO. AE110
DATE AUG. 24, 2005	



1 WEST ELEVATION
AE201 SCALE: 1/4" = 1'-0"



3 WALL SECTION
AE201 SCALE: 1/4" = 1'-0"



2 NORTH ELEVATION
AE201 SCALE: 1/4" = 1'-0"

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CONSULTANT INFORMATION

KEYED NOTES

01 EXISTING ROOF TO REMAIN
02 EXISTING SIDING TO REMAIN
03 NEW ROOFING SYSTEM TO MATCH EXISTING
04 NEW METAL SIDING TO MATCH EXISITNG
05 FOOTING AND FOUNDATION - SEE STRUCTURAL DETAILS
06 SIDEWALKS AND LANDINGS - MAINTAIN EXISTING GRADES ALONG WEST SIDE OF NEW BUILDING TO MATCH EXISTING PAVING. AT NORTH END REVISE GRADE SO THAT LANDINGS AT DOORS ARE FLUSH WITH FLOOR AT EAST DOOR AND WITH INSIDE LANDING AT WEST DOOR
07 PRE-ENGINEERED TRUSS - SEE STRUCTURAL
08 COMPACTED FILL
09 DOOR BEYOND
10 LANDING BEYOND
11 REUSE SIDING SALVAGED FROM NORTH END OF EXISTING ADJACENT BUILDING
12 NEW CONCRETE SLAB LEVEL WITH SIDEWALK
13 RAISE EXISTING MANHOLE LID SO THAT RIM IS 1' ABOVE CONCRETE SLAB
14 EXISTING ELECTRICAL MANHOLE TO REMAIN
15 PROVIDE 4.6 SQ FT OF ATTIC VENTING.
16 PROVIDE VENTED SOFFIT ALONG FULL LENGTH OF NEW ADDITION TO MATCH EXISTING ADJACENT SOFFIT
17 NEW RAIN GUTTER FULL LENGTH OF WEST FACE INCLUDING ALONG EXISTING BUILDING
18 NEW RAIN GUTTER DOWNSPOUT
19 BREAK LINE BETWEEN NEW AND EXISTING BUILDING - MATCH SIDING FACIA AND SOFFIT SO AS TO MAKE APPEAR AS ORIGINAL CONSTRUCTION
20 EXISTING STRUCTURE BEYOND
21 PROVIDE ACCESSIBLE ENTRANCE SIGNAGE @ 5'-0" A.F.F. TO CENTER LINE OF SIGN

UTAH NATIONAL GUARD
BUILDING 304 ADDITION
CAMP W.G. WILLIAMS
UTAH

SHEET TITLE
ELEVATIONS AND WALL SECTIONS

REVISIONS	DATE	BY	DESCRIPTION
1			
2			
3			
4			

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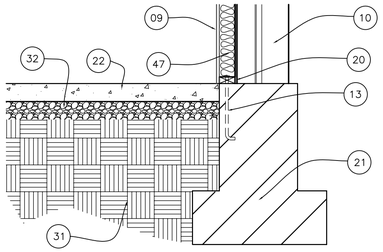
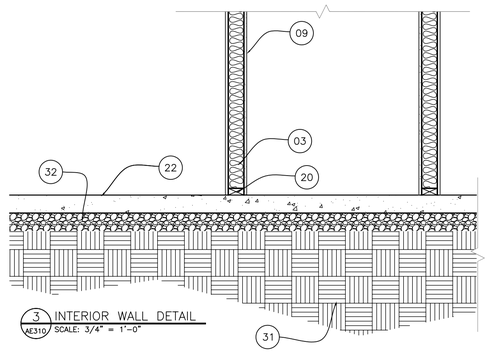
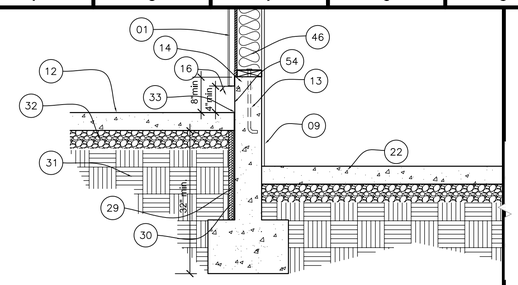
PROJECT NO.: 05215480
DRAWING NO.: AE201
DATE: AUG. 24, 2005



4 EAVE DETAIL
AE310 SCALE: 3/4" = 1'-0"



3 INTERIOR WALL DETAIL
AE310 SCALE: 3/4" = 1'-0"



2 EXTERIOR WALL DETAIL
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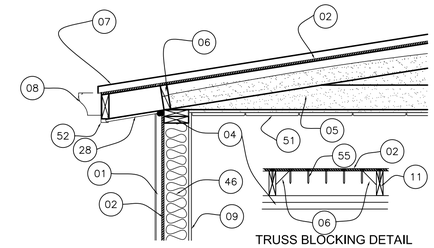
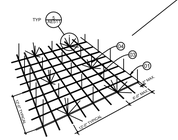
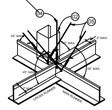


1 EAVE DETAIL
AE310 SCALE: 3/4" = 1'-0"

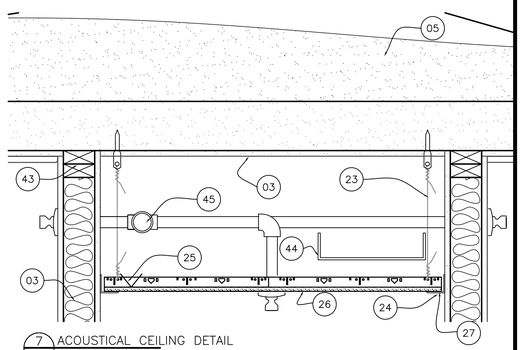
FOR CEILING AREAS
OVER 144 SF



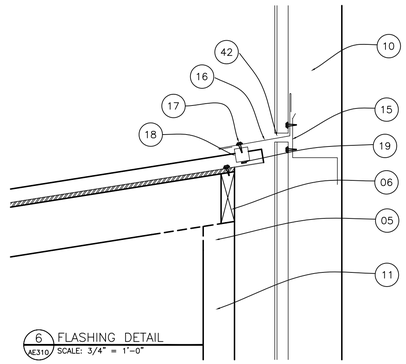
SUSPENDED ACOUSTICAL PANEL
9 CEILING SEISMIC BRACING DETAIL
AE310 SCALE: NOT TO SCALE



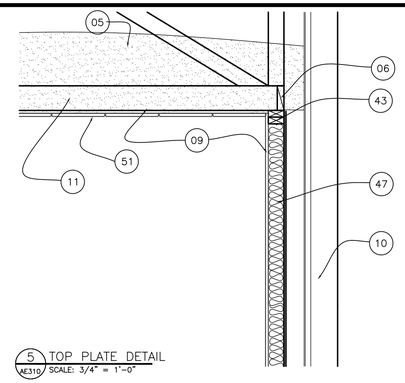
8 TYPICAL SUSPENSION DETAIL
AE310 SCALE: NOT TO SCALE



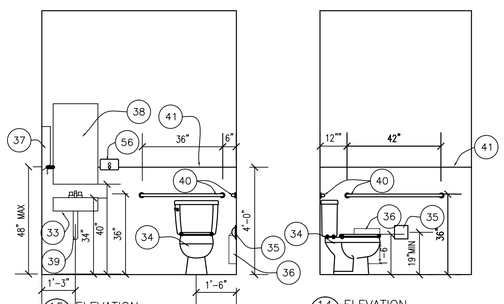
7 ACOUSTICAL CEILING DETAIL
AE310 SCALE: 3/4" = 1'-0"



6 FLASHING DETAIL
AE310 SCALE: 3/4" = 1'-0"

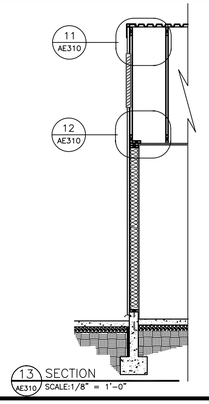


5 TOP PLATE DETAIL
AE310 SCALE: 3/4" = 1'-0"

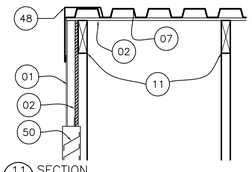


15 ELEVATION
AE310 SCALE: 3/8" = 1'-0"

14 ELEVATION
AE310 SCALE: 3/8" = 1'-0"



13 SECTION
AE310 SCALE:1/8" = 1'-0"



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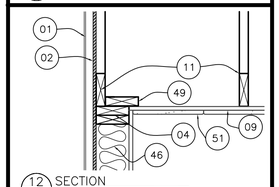
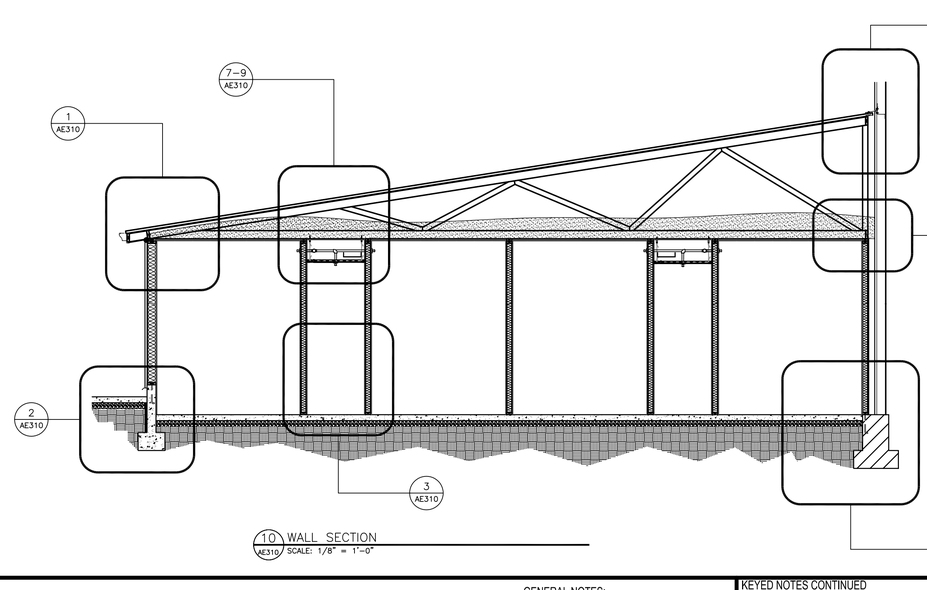
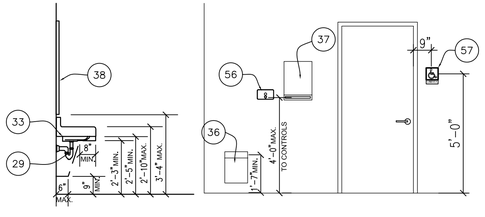


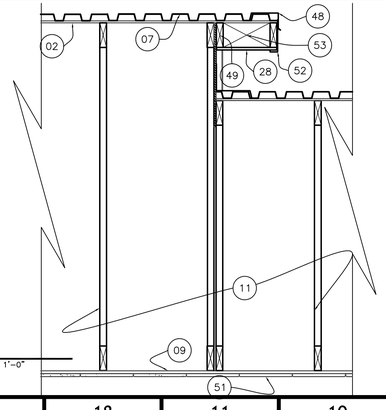
12 SECTION
AE310 SCALE: 1" = 1'-0"



10 WALL SECTION
AE310 SCALE: 1/8" = 1'-0"



17 TYPICAL ACCESSIBLE MOUNTING LOCATIONS
AE310 SCALE: 3/8" = 1'-0"



16 SECTION
AE310 SCALE: 3/4" = 1'-0"

GENERAL NOTES:

1. EXTENTION OF EXISTING BUILDING FIRE SPRINKLER SYSTEM REQUIRED FOR THIS BUILDING ADDITION AND ADJACENT RESTROOM / LOBBY AREA TO THE SOUTH. PROVIDE FIRE SPRINKLER SYSTEM THAT COMPLIES WITH ALL APPLICABLE CODES
2. PROVIDE ACOUSTICAL SEALANT AT ALL CLASSROOM WALL AND CEILING PENETRATIONS INCLUDING OUTLETS, PIPES, CONDUITS ETC.

KEYED NOTES CONTINUED

48 ROOF EDGE FLASHING
49 2X6 BACKING
50 GABLE VENT - PROVIDE 4.6 SQ. FT. OF VENT AREA
51 12"X12" CEILING TILE AS SCHEDULED
52 2X6 WITH ALUMINUM FACIA - MATCH EXISTING FACIA
53 2X6 BLOCKING AT 4'-0" O.C.
54 PROVIDE SMOOTH RUBBED FINISH ON ALL EXPOSED FOUNDATION WALLS
55 NAIL TRUSS BLOCK AT 4" O.C. (SEE STRUCTURAL)
56 SOAP DISPENSER - TBA#3
57 PROVIDE UNISEX ACCESSIBLE SIGN BY DOOR TO NEW RESTROOM

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CONSULTANT INFORMATION

KEYED NOTES

01 METAL SIDING TO MATCH EXISTING
02 7/16" OSB SHEATHING
03 2X4 WOOD STUDS @ 24" O.C. WITH SOUND ATTENUATION BLANKETS AND 5/8" GYP BD. ON BOTH SIDES
04 DOUBLE 2X6 TOP PLATE
05 R-38 LOOSE FILL INSULATION
06 TRUSS BLOCKING - CUT 3" ANGLE OFF TOP CORNERS FOR VENTILATION
07 METAL ROOFING TO MATCH ADJACENT METAL ROOF
08 ALUMINUM RAIN GUTTER
09 5 /8" GYPSUM WALLBOARD
10 EXISTING WALL STRUCTURE
11 PRE-ENGINEERED ROOF TRUSS SYSTEM
12 NEW CONCRETE SIDEWALK @2% SLOPE AWAY FROM BLDG.
13 ANCHOR BOLT
14 2X6 TREATED SILL PLATE
15 INSTALL NEW GIRT CENTER ON CUT LINE IN SIDING, INSTALL FLASHING, AND REFASTEN SIDING TO GIRT ON BOTH SIDES OF CUT LINE. NEW GIRT TO MATCH EXISTING
16 METAL FLASHING
17 1/4" - 14 X 7/8" LAP TEK @ EACH MAJOR RIB
18 OUTSIDE CLOSURE
19 1 /2" X 3 /32" TAPE SEALER
20 2X4 TREATED SILL PLATE
21 EXISTING FOUNDATION
22 NEW CONCRETE SLAB FLOOR - TOP OF FLOOR ELEVATION TO MATCH TOP OF EXISTING ADJACENT FLOOR ELEVATION
23 HANGER WIRE
24 2" EDGE MOLDING ATTACHED TO WALL
25 METAL SPACER AT UNATTACHED END
26 ACOUSTICAL PANELS AND SUSPENSION SYSTEM
27 ATTACH ONE END OF RUNNER TO EDGE MOLDING AT TWO ADJACENT WALLS OPPOSITE END TO BE UNATTACHED AND FREE TO SLIDE ON EDGE MOLDING
28 MATCH SOFFIT AND FACIA ON EXISTING ADJACENT BUILDING
29 WATERPROOFING
30 2" FOUNDATION INSULATION
31 COMPACTED FILL
32 4' OF CRUSHED GRAVEL
33 WALL HUNG LAVATORY
34 TOILET
35 TOILET PAPER DISPENSER - TBA#1
36 SANITARY NAPKIN DISPENSER - TBA#5
37 PAPER TOWEL DISPENSER - TBA#2
38 MIRROR - TBA#6
39 UNDER LAV GUARD - TBA#7
40 ACCESSIBLE GRAB BAR - TBA#4
41 FIBERGLASS REINFORCED PLASTIC (FRP) PANELS ON WALLS BEHIND & TO THE SIDE OF TOILET (2 WALLS ONLY) 4'-0" HIGH
42 CUT SECTION OUT OF EXISTING METAL SIDING TO ALLOW INSTALLATION OF NEW ROOF FLASING
43 DOUBLE 2X4 TOP PLATE
44 CABLE TRAY - SEE ELECTRICAL
45 FIRE SPRINKLER PIPING -INSTALL PER NFPA REQUIREMENTS AND SPECIFICATIONS - EXTEND FIRE SPRINKLER SYSTEM INTO EXISTING LOBBY, MECHANICAL & RESTOOM AREA TO THE SOUTH OF ADDITION WHICH CURRENTLY HAS NO FIRE SPRINKLER SYSTEM.
46 2X6 WOOD STUDS @ 24" O.C. WITH R-19 ROCKWOOL BLANKETS AND 5/8" GYP. BD. ON INSIDE AND WEATHER RESISTANT SHEATING PAPER OVER 7/16 " OSB SHEETING ON EXTERIOR COVERED WITH METAL SIDING TO MATCH EXISTING BUILDING SIDING
47 2X4 WOOD STUDS @ 24" O.C. WITH SOUND ATTENUATION BLANKETS AND 5/8" GYP. BD. ON INSIDE AND 7/16" OSB BOARD ON BACK SIDE OF PARTITION INSTALLED PRIOR TO RAISING WALL INTO PLACE (SEE STRUCTURAL)

UTAH NATIONAL GUARD
BUILDING 304 ADDITION
CAMP W.G. WILLIAMS
UTAH

SHEET TITLE
WALL SECTIONS

REVISIONS	DATE	BY	DESCRIPTION
1			
2			
3			
4			

DRAWN BY JRA
CHECKED BY ERT
PROJECT NO. 05215480
DATE AUG. 24, 2005
DRAWING NO. AE310

FINISH SCHEDULE

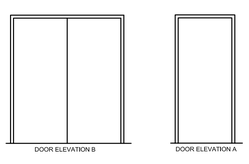
ROOM No.	ROOM NAME	FLOOR	WALLS NORTH MATERIAL & FINISH	NORTH BASE	EAST MATERIAL & FINISH	EAST BASE	SOUTH MATERIAL & FINISH	SOUTH BASE	WEST MATERIAL & FINISH	WEST BASE	CEILING TYPE MATERIAL & FINISH	HEIGHT	NOTES
01	CLASSROOM	C	P	RB	P	RB	P	RB	P	RB	ATC	9'-10"	
02	CLASSROOM	C	P	RB	P	RB	P	RB	P	RB	ATC	9'-10"	
03	CLASSROOM	C	P	RB	P	RB	P	RB	P	RB	ATC	9'-10"	
04	CLASSROOM	C	P	RB	P	RB	P	RB	P	RB	ATC	9'-10"	
05	CLASSROOM	C	P	RB	P	RB	P	RB	P	RB	ATC	9'-10"	
06	CLASSROOM	C	P	RB	P	RB	P	RB	P	RB	ATC	9'-10"	
07	CLASSROOM	C	P	RB	P	RB	P	RB	P	RB	ATC	9'-10"	
08	CLASSROOM	C	P	RB	P	RB	P	RB	P	RB	ATC	9'-10"	
09	CLASSROOM	C	P	RB	P	RB	P	RB	P	RB	ATC	9'-10"	
10	CLASSROOM	C	P	RB	P	RB	P	RB	P	RB	ATC	9'-10"	
11	CLASSROOM	C	P	RB	P	RB	P	RB	P	RB	ATC	9'-10"	
12	CLASSROOM	C	P	RB	P	RB	P	RB	P	RB	ATC	9'-10"	
13	CLASSROOM	C	P	RB	P	RB	P	RB	P	RB	ATC	9'-10"	
14	CLASSROOM	C	P	RB	P	RB	P	RB	P	RB	ATC	9'-10"	
15	CLASSROOM	C	P	RB	P	RB	P	RB	P	RB	ATC	9'-10"	
16	CLASSROOM	C	P	RB	P	RB	P	RB	P	RB	ATC	9'-10"	
17	CLASSROOM	C	P	RB	P	RB	P	RB	P	RB	ATC	9'-10"	
18	CLASSROOM	C	P	RB	P	RB	P	RB	P	RB	ATC	9'-10"	
19	CLASSROOM	C	P	RB	P	RB	P	RB	P	RB	ATC	9'-10"	
20	CLASSROOM	C	P	RB	P	RB	P	RB	P	RB	ATC	9'-10"	
21	CLASSROOM	C	P	RB	P	RB	P	RB	P	RB	ATC	9'-10"	
22	CLASSROOM	C	P	RB	P	RB	P	RB	P	RB	ATC	9'-10"	
23	CLASSROOM	C	P	RB	P	RB	P	RB	P	RB	ATC	9'-10"	
24	CLASSROOM	C	P	RB	P	RB	P	RB	P	RB	ATC	9'-10"	
25	CLASSROOM	C	P	RB	P	RB	P	RB	P	RB	ATC	9'-10"	
26	CLASSROOM	C	P	RB	P	RB	P	RB	P	RB	ATC	9'-10"	
27	ELEC. CLOS.	SC	P	RB	P	RB	P	RB	P	RB	ATC	9'-10"	
28	CONTROL RM.	C	P	RB	P	RB	P	RB	P	RB	ATC	9'-10"	
29	MECHANICAL	EX	P	RB	P	RB	P	RB	P	RB	EX	9'-10"	
30	UNISEX RR.	SV	P	RB	P/FRP	RB	P/FRP	RB	P	RB	EX	8'-0" +-	DROP CEILING TO MATCH EXISTING RESTROOM CEILING
HALL	HALL	C	P	RB	P	RB	P	RB	P	RB	APC	8'-6"	

LEGEND

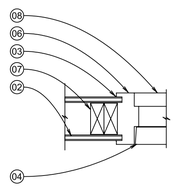
C = CARPET
SC = SEALED CONCRETE
P = PAINTED GYP BOARD
RB = RUBBER BASE
EX = EXISTING
ATC = ACOUSTIC TILE CEILING
APC = ACOUSTIC PANEL CEILING
SV = SHEET VINYL
FRP = FIBERGLASS REENFORCED PLASTIC

DOOR AND FRAME SCHEDULE

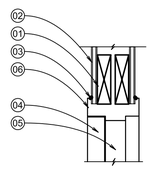
MARK	ROOM NAME	DOOR SIZE WD	HGT	THK	DOOR MATL	GLAZING	FRAME MATL	EL	DETAIL HEAD	JAMB	SILL	FIRE RATING LABEL	HARDWARE SET NO	RM NO	NOTES
01	CLASSROOM	3'-0"	7'-0"	1 3/4	WD	NONE	STL	A	1	1	1	NR	HW-4	01	
02	CLASSROOM	3'-0"	7'-0"	1 3/4	WD	NONE	STL	A	1	1	1	NR	HW-4	02	
03	CLASSROOM	3'-0"	7'-0"	1 3/4	WD	NONE	STL	A	1	1	1	NR	HW-4	03	
04	CLASSROOM	3'-0"	7'-0"	1 3/4	WD	NONE	STL	A	1	1	1	NR	HW-4	04	
05	CLASSROOM	3'-0"	7'-0"	1 3/4	WD	NONE	STL	A	1	1	1	NR	HW-4	05	
06	CLASSROOM	3'-0"	7'-0"	1 3/4	WD	NONE	STL	A	1	1	1	NR	HW-4	06	
07	CLASSROOM	3'-0"	7'-0"	1 3/4	WD	NONE	STL	A	1	1	1	NR	HW-4	07	
08	CLASSROOM	3'-0"	7'-0"	1 3/4	WD	NONE	STL	A	1	1	1	NR	HW-4	08	
09	CLASSROOM	3'-0"	7'-0"	1 3/4	WD	NONE	STL	A	1	1	1	NR	HW-4	09	
10	CLASSROOM	3'-0"	7'-0"	1 3/4	WD	NONE	STL	A	1	1	1	NR	HW-4	10	
11	CLASSROOM	3'-0"	7'-0"	1 3/4	WD	NONE	STL	A	1	1	1	NR	HW-4	11	
12	CLASSROOM	3'-0"	7'-0"	1 3/4	WD	NONE	STL	A	1	1	1	NR	HW-4	12	
13	CLASSROOM	3'-0"	7'-0"	1 3/4	WD	NONE	STL	A	1	1	1	NR	HW-4	13	
14	CLASSROOM	3'-0"	7'-0"	1 3/4	WD	NONE	STL	A	1	1	1	NR	HW-4	14	
15	CLASSROOM	3'-0"	7'-0"	1 3/4	WD	NONE	STL	A	1	1	1	NR	HW-4	15	
16	CLASSROOM	3'-0"	7'-0"	1 3/4	WD	NONE	STL	A	1	1	1	NR	HW-4	16	
17	CLASSROOM	3'-0"	7'-0"	1 3/4	WD	NONE	STL	A	1	1	1	NR	HW-4	17	
18	CLASSROOM	3'-0"	7'-0"	1 3/4	WD	NONE	STL	A	1	1	1	NR	HW-4	18	
19	CLASSROOM	3'-0"	7'-0"	1 3/4	WD	NONE	STL	A	1	1	1	NR	HW-4	19	
20	CLASSROOM	3'-0"	7'-0"	1 3/4	WD	NONE	STL	A	1	1	1	NR	HW-4	20	
21	CLASSROOM	3'-0"	7'-0"	1 3/4	WD	NONE	STL	A	1	1	1	NR	HW-4	21	
22	CLASSROOM	3'-0"	7'-0"	1 3/4	WD	NONE	STL	A	1	1	1	NR	HW-4	22	
23	CLASSROOM	3'-0"	7'-0"	1 3/4	WD	NONE	STL	A	1	1	1	NR	HW-4	23	
24	CLASSROOM	3'-0"	7'-0"	1 3/4	WD	NONE	STL	A	1	1	1	NR	HW-4	24	
25	CLASSROOM	3'-0"	7'-0"	1 3/4	WD	NONE	STL	A	1	1	1	NR	HW-4	25	
26	CLASSROOM	3'-0"	7'-0"	1 3/4	WD	NONE	STL	A	1	1	1	NR	HW-4	26	
27	ELECTRICAL/STORAGE	3'-0"	7'-0"	1 3/4	WD	NONE	STL	A	1	1	1	NR	HW-4	27	
28	CONTROL ROOM	3'-0"	7'-0"	1 3/4	WD	NONE	STL	A	1	1	1	NR	HW-5	28	
29	CONTROL ROOM	3'-0"	7'-0"	1 3/4	WD	NONE	STL	A	1	1	1	NR	HW-5	28	
30	EXTERIOR EXIT DOOR	3'-0"	7'-0"	1 3/4	STL	NONE	STL	A	1	1	1	NR	HW-6	EXT	
31	EXTERIOR EXIT DOOR	3'-0"	7'-0"	1 3/4	STL	NONE	STL	A	1	1	1	NR	HW-6	EXT	
32	LOBBY	3'-0"	7'-0"	1 3/4	WD	NONE	STL	A	1	1	1	NR	HW-1	LOBBY	
33	MECHANICAL ROOM	6'-0"	7'-0"	1 3/4	WD	NONE	STL	B	1	1	1	NR	HW-2	29	DOUBLE DOORS
34	UNISEX RESTROOM	3'-0"	7'-0"	1 3/4	WD	NONE	STL	A	1	1	1	NR	HW-3	30	



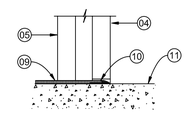
6 / AE510 DOOR TYPE
SCALE: NOT TO SCALE



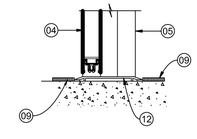
5 / AE510 JAMB DETAIL
SCALE: 1-1/2" = 1'-0"



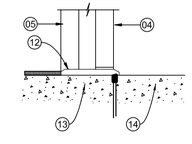
4 / AE510 HEAD DETAIL
SCALE: 1-1/2" = 1'-0"



3 / AE510 DETAIL
SCALE: 1-1/2" = 1'-0"



2 / AE510 DETAIL
SCALE: 1-1/2" = 1'-0"



1 / AE510 DETAIL
SCALE: 1-1/2" = 1'-0"

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CONSULTANT INFORMATION

KEYED NOTES

01 2' X 6" WOOD HEADER
02 5/8" TYPE 'X' GYP BOARD
03 SEALANT - BOTH SIDES TYPICAL
04 DOOR
05 JAMB BEYOND
06 HOLLOW METAL FRAME
07 3 1/2" WOOD STUD FRAMING
08 JAMB HEADER BEYOND
09 CARPET
10 VINYL CARPET EDGE STRIP
11 SEALED CONCRETE OR VCT
12 THRESHOLD - 1/2" MAX HIGH
13 FLOOR SLAB
14 SIDEWALK

UTAH NATIONAL GUARD
BUILDING 304 ADDITION
CAMP W.G. WILLIAMS
UTAH

SHEET TITLE
SCHEDULES / DETAILS

REVISIONS	DATE	BY	DESCRIPTION
1			
2			
3			
4			

DRAWN BY JRA
CHECKED BY ERT
PROJECT NO. 05215480
DATE AUG. 24, 2005
DRAWING NO. AE510

GENERAL

1. THE STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE DRAWINGS OF ALL OTHER DISCIPLINES AND THE SPECIFICATIONS. THE CONTRACTOR SHALL VERIFY THE REQUIREMENTS OF OTHER TRADES AS TO SLEEVES, CHASES, HANGERS, INSERTS, ANCHORS, HOLES AND OTHER ITEMS TO BE PLACES OR SET IN THE STRUCTURAL WORK.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL SAFETY PRECAUTIONS AND REGULATIONS DURING THE WORK. THE ENGINEER WILL NOT ADVISE ON NOR ISSUE DIRECTION AS TO SAFETY PRECAUTIONS AND PROGRAMS.

3. THE STRUCTURAL DRAWINGS HEREIN REPRESENT THE FINISH STRUCTURE. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY GUYING AND BRACING REQUIRED TO ERECT AND HOLD THE STRUCTURE IN PROPER ALIGNMENT UNTIL ALL STRUCTURAL WORK AND CONNECTIONS HAVE BEEN COMPLETED. THE INVESTIGATION, DESIGN, SAFETY, ADEQUACY AND INSPECTION OF ERECTION BRACING, SHORING, TEMPORARY SUPPORTS, ETC. IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

4. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR THE METHODS, TECHNIQUES AND SEQUENCES OF PROCEDURES TO PERFORM THE WORK. THE SUPERVISION OF THE WORK IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

5. DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED, SUBJECT TO APPROVAL BY THE ENGINEER.

6. ALL STRUCTURAL SYSTEMS WHICH ARE TO BE COMPOSED OF COMPONENTS TO BE FIELD ERECTED SHALL BE SUPERVISED BY THE SUPPLIER DURING MANUFACTURING, DELIVERY, HANDLING, STORAGE AND ERECTION IN ACCORDANCE WITH THE SUPPLIER'S INSTRUCTIONS AND REQUIREMENTS.

7. LOADING APPLIED TO THE STRUCTURE DURING THE PROCESS OF CONSTRUCTION SHALL NOT EXCEED THE SAFE LOAD-CARRYING CAPACITY OF THE STRUCTURAL MEMBERS. THE LIVE LOADINGS USED IN THE DESIGN OF THIS STRUCTURE ARE INDICATED IN THE "DESIGN CRITERIA NOTES". DO NOT APPLY ANY CONSTRUCTION LOADS UNTIL STRUCTURAL FRAMING IS PROPERLY CONNECTED TOGETHER AND UNTIL ALL TEMPORARY BRACING IS IN PLACE.

8. ALL ASTM AND OTHER REFERENCES ARE PER THE LATEST EDITIONS OF THESE STANDARDS, UNLESS OTHERWISE NOTED. SHOP DRAWINGS AND OTHER ITEMS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION. ALL SHOP DRAWINGS SHALL BE REVIEWED BY THE GENERAL CONTRACTOR BEFORE SUBMITTAL. THE ENGINEER'S REVIEW IS TO BE FOR CONFORMANCE WITH THE DESIGN CONCEPTS AND GENERAL COMPLIANCE WITH THE RELEVANT CONTRACT DOCUMENTS. THE ENGINEER'S REVIEW DOES NOT RELIEVE THE CONTRACTOR OF THE SOLE RESPONSIBILITY TO REVIEW, CHECK AND COORDINATE THE SHOP DRAWINGS PRIOR TO SUBMISSION. THE CONTRACTOR REMAINS SOLELY RESPONSIBLE FOR ERRORS AND OMISSIONS ASSOCIATED WITH THE PREPARATION OF SHOP DRAWINGS AS THEY PERTAIN TO MEMBER SIZES, DETAILS, DIMENSION, ETC.

9. SUBMIT SHOP DRAWINGS IN THE FORM OF TWO SETS OF PRINTS AND ONE SET OF REPRODUCIBLE DRAWINGS TO BE USED AS SHOP DRAWINGS. AS A MINIMUM, SUBMIT THE FOLLOWING ITEMS FOR REVIEW:
   a. CONCRETE MIX DESIGN(S).
   b. REINFORCING STEEL SHOP DRAWINGS.
   c. PRE-MANUFACTURED WOOD SYSTEM/TRUSS SHOP DRAWINGS.

   OTHER SUBMITTALS MAY BE REQUIRED PER THE "SPECIAL INSPECTION" NOTES CONTAINED HEREIN.

10. CONTRACTORS SHALL VISIT THE SITE PRIOR TO BID TO ASCERTAIN CONDITIONS WHICH MAY ADVERSELY AFFECT THE WORK OR COST THEREOF.

DESIGN CRITERIA NOTES

1. THE INTENDED DESIGN STANDARDS AND/OR CRITERIA ARE AS FOLLOWS:

a. GENERAL CODE	2003 INTERNATIONAL BUILDING CODE (IBC 2003)
b. CONCRETE	ACI 318-02
c. WOOD	NDS-97
d. WOOD TRUSSES	TPI

2. DESIGN GRAVITY <u>DEAD</u> LOADS USED IN THE DESIGN OF THIS STRUCTURE ARE AS FOLLOWS:

a. ROOF	20 psf
b. ALL OTHERS	ACTUAL WEIGHT

3. DESIGN GRAVITY <u>LIVE</u> LOADS USED IN THE DESIGN OF THIS STRUCTURE ARE AS FOLLOWS:

a. ROOF - TYPICAL	30 psf

4. DESIGN LATERAL LOAD LIVE LOADS USED IN THE DESIGN OF THIS STRUCTURE ARE AS FOLLOWS:

a. SEISMIC LOADS	
i. SHORT PERIOD MAPPED SPECTRAL ACCELERATION	Ss = 1.19
ii. 5% DAMPED DESIGN SPECTRAL RESPONSE ACCELERATION	Sds = 2/3 * Ie/R
iii. SHORT PERIOD SITE COEFFICIENT	Fa = 1.02
iv. SOIL SITE CLASS	D
v. BUILDING SEISMIC DESIGN CATEGORY	D
vi. W	STRUCTURE DEAD LOADS
vii. BASE SHEAR	V = Cs*W = 0.124*W (strength design)
b. WIND LOADS	
i. WIND VELOCITY (fastest mile wind speed)	100 mph
ii. EXPOSURE	C
iii. WIND IMPORTANCE FACTOR	1.0

EXISTING CONSTRUCTION

1. BEFORE PROCEEDING WITH ANY WORK WITHIN THE EXISTING FACILITY, THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH EXISTING STRUCTURAL AND OTHER CONDITIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ALL NECESSARY BRACING, SHORING AND OTHER SAFEGUARDS TO MAINTAIN ALL PARTS OF THE EXISTING WORK IN A SAFE CONDITION DURING THE PROCESS OF DEMOLITION AND CONSTRUCTION AND TO PROTECT FROM DAMAGE THOSE PORTIONS OF THE EXISTING WORK WHICH ARE TO REMAIN.

2. THE CONTRACTOR SHALL FIELD VERIFY THE DIMENSIONS, ELEVATIONS, ETC. NECESSARY FOR THE PROPER CONSTRUCTION AND ALIGNMENT OF THE NEW PORTIONS OF THE WORK TO THE EXISTING WORK. THE CONTRACTOR SHALL MAKE ALL MEASUREMENTS NECESSARY FOR FABRICATION AND ERECTION OF STRUCTURAL MEMBERS. ANY DISCREPANCY SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER OF RECORD.

3. INFORMATION USED IN PREPARING THESE DRAWINGS WAS TAKEN FROM DRAWINGS PREPARED BY THE FIRM OF 3DI INC., DATED AUGUST 2005.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND ERECTION OF ALL SHORING NECESSARY TO SAFEGUARD THE EXISTING STRUCTURE. THE SHORING SHOWN IS A PARTIAL AND SCHEMATIC REPRESENTATION OF THAT REQUIRED. THE CONTRACTOR SHALL SUBMIT A DETAILED PLAN FOR SHORING, BRACING AND PROTECTION OF THE EXISTING CONSTRUCTION. THE PLAN SHALL INCLUDE A CONSTRUCTION SEQUENCE, BEAR THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATED THE PROJECT IS TO BE CONSTRUCTED IN AND BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW PRIOR TO BEGINNING THE WORK.

EARTHWORK

1. STRIP THE TOP 4" OF TOP SOIL AND REMOVE ANY AND ALL UNSUITABLE FILL, DEBRIS AND VEGETATION. ANY UNSUITABLE SOILS SHALL BE STRIPPED DOWN TO NATURAL UNDISTURBED SOILS AND REPLACED WITH STRUCTURAL FILL AS REQUIRED.

2. All EXISTING FOUNDATIONS SHALL BE REMOVED.

3. ALL SOFT SPOTS SHALL BE REMOVED AND REPLACED WITH COMPACTED STRUCTURAL FILL.

4. STRUCTURAL FILL SHALL BE WELL GRADED GRANULAR MATERIAL WITH A MAXIMUM SIZE LESS THAN 4" AND WITH NOT MORE THAN 10% PASSING A NO. 200 SIEVE. FILL SHALL BE COMPACTED TO 95% OF THE MAXIMUM LABORATORY DENSITY AS DETERMINED BY ASTM D 1557. THE CONTRACTOR SHALL HAVE ALL FILL TESTED.

5. ALL CONCRETE SLABS-ON-GRADE SHALL BE UNDERLAIN WITH 4" OF FREE DRAINING GRANULAR FILL.

FOUNDATIONS

1. ALL FOOTINGS HAVE BEEN DESIGNED BASED UPON AN ASSUMED SOIL BEARING PRESSURE OF 1,500 psf. ALL FOOTINGS SHALL BEAR ON UNDISTURBED, FIRM NATURAL SOIL OR COMPACTED FILL. ALL FOUNDATION EXCAVATIONS SHALL BE EVALUATED BY THE GEOTECHNICAL ENGINEER/ TESTING AGENCY PRIOR TO POURING FOUNDATION CONCRETE.

2. TOP OF FOOTING ELEVATION SHALL BE AS SHOWN ON THE FOUNDATION PLAN. THESE ELEVATIONS ARE A MAXIMUM AND SHALL BE LOWERED AS REQUIRED TO OBTAIN THE REQUIRED DESIGN BEARING PRESSURE.

3. THE BOTTOM OF ANY FOOTINGS EXPOSED TO THE FREEZE THAW CYCLE SHALL BE PLACED A MINIMUM OF 30 INCHES BELOW GRADE FOR FROST PROTECTION.

4. NO UNBALANCED BACK FILLING SHALL BE DONE AGAINST FOUNDATION WALLS UNLESS WALLS ARE SECURELY BRACED AGAINST OVERTURNING, EITHER BY TEMPORARY BRACING OR BY PERMANENT CONSTRUCTION.

5. PRIOR TO COMMENCING ANY FOUNDATION WORK, COORDINATE WORK WITH ANY EXISTING UTILITIES. FOUNDATIONS SHALL BE LOWERED WHERE REQUIRED TO AVOID UTILITIES.

6. ALL RETAINING WALLS SHALL HAVE AT LEAST 12 INCHES OF FREE-DRAINING GRANULAR BACK FILL, FULL HEIGHT OF WALL. PROVIDE CONTROL JOINTS IN RETAINING WALLS AT APPROXIMATELY EQUAL INTERVALS NOT TO EXCEED 25 FEET NOR 3 TIMES THE WALL HEIGHT. PROVIDE EXPANSION JOINTS AT EVERY FOURTH CONTROL JOINT, UNLESS OTHERWISE INDICATED.

CONCRETE

1. CONCRETE SHALL HAVE THE FOLLOWING MATERIALS UNLESS NOTED OTHERWISE:

a. NORMAL WEIGHT AGGREGATE	ASTM C-33.
b. REINFORCING STEEL	ASTM A-615,
i. GRADE 60	Fy = 60 ksi.
ii. GRADE 40	Fy = 40 ksi. (field bent dowels with spacings reduced by 1/3.)
c. WELDED WIRE FABRIC (WWF)	ASTM A-185.

2. ANCHOR BOLTS:

a. GRAVITY BOLTS	ASTM A-307.
b. LATERAL BOLTS	ASTM A-325
c. HEAVY HEX NUTS & WASHERS	ASTM A-563.

3. ADMIXTURES:

a. AIR ENTRAINMENT	ASTM C-260 (provide as specified in ACI 318)
b. CEMENT TYPE (I OR II)	ASTM C-150
c. CALCIUM CHLORIDE	NOT PERMITTED.
d. ALUMINUM PRODUCTS	NOT PERMITTED

4. CONCRETE SHALL HAVE THE FOLLOWING COMPRESSIVE STRENGTHS:

CONCRETE	MINIMUM f'c (28 DAYS)	SLUMP	W/C RATIO
FOUNDATIONS	3000 psi	4"	0.50
SLAB-ON-GRADE	4000 psi	4"	0.50
CONCRETE NOT NOTED	3000 psi	4"	0.50

5. AT THE CONTRACTOR'S OPTION, AN APPROVED ADMIXTURE MAY BE USED TO PRODUCE FLOWABLE CONCRETE. MAXIMUM SLUMP SHALL NOT EXCEED 8 INCHES. THE CONTRACTOR SHALL SUBMIT TEST RESULTS OF THE PROPOSED CONCRETE MIXES ALONG WITH THE MANUFACTURER'S TECHNICAL DATA FOR APPROVAL PRIOR TO POURING CONCRETE.

6. THE CONTRACTOR IS ALLOWED TO HAVE ONLY ONE TYPE OF CONCRETE ON THE JOB SITE AT ONE TIME.

7. ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF ACI 301, "SPECIFICATION FOR STRUCTURAL CONCRETE BUILDINGS". HOT WEATHER CONCRETE CONSTRUCTION SHALL CONFORM TO ACI 305.

8. COLD WEATHER CONCRETE CONSTRUCTION SHALL CONFORM TO ACI 306.

9. WELDING OF REINFORCING BARS IS NOT PERMITTED. REBAR SHALL NOT BE SUBSTITUTED FOR ANY OTHER TYPE OF REINFORCEMENT. SUBSTITUTION OF REINFORCING BARS OF ANY KIND SHALL BE AT THE ENGINEER OF RECORD'S WRITTEN CONSENT.

10. ALL REINFORCING STEEL SHALL BE SET AND TIED IN PLACE PRIOR TO POURING OF CONCRETE, EXCEPT THAT VERTICAL DOWELS FOR MASONRY WALL REINFORCING MAY BE "FLOATED" IN PLACE. DO NOT FIELD BEND BARS PARTIALLY EMBEDDED IN HARDENED CONCRETE UNLESS SPECIFICALLY INDICATED OR APPROVED BY THE ENGINEER OF RECORD.

11. REINFORCING STEEL, INCLUDING HOOKS AND BENDS, SHALL BE DETAILED IN ACCORDANCE WITH ACI 315. ALL REINFORCING STEEL INDICATED AS BEING CONTINUOUS (CONT.) SHALL BE LAPPED WITH A TYPE 2 LAP SPLICE UNLESS OTHERWISE NOTED. ALL WELDED WIRE FABRIC SHALL LAP AT LEAST ONE FULL MESH.

12. UNLESS NOTED OTHERWISE, THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT:

a. CONCRETE EXPOSED TO EARTH OR WEATHER:	
i. #6 THROUGH #18 BARS	2"
ii. #5 BAR, W31 OR D31 WIRE & SMALLER	1 1/2"
b. CONCRETE NOT EXPOSED TO THE EARTH OR WEATHER:	
i. WALLS, ELEVATED SLABS (JOISTS)	3/4".
ii. BEAMS AND COLUMNS	1 1/2"
c. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO THE EARTH	3"

13. BAR SUPPORTS AND HOLDING BARS SHALL BE PROVIDED FOR ALL REINFORCING STEEL TO INSURE MINIMUM CONCRETE COVER. BAR SUPPORTS SHALL BE PLASTIC TIPPED OR STANLESS STEEL.

14. UNLESS OTHERWISE APPROVED, ALL WELDED WIRE FABRIC SHALL BE BLOCKED INTO THE POSITION INDICATED WITH PRECAST CONCRETE BLOCKS HAVING A COMPRESSIVE STRENGTH EQUAL TO THAT OF THE SLAB.

15. FORM WORK SHALL COMPLY WITH THE REQUIREMENTS OF ACI STANDARD PUBLICATION #347 AND SHALL REMAIN IN PLACE UNTIL CONCRETE HAS OBTAINED AT LEAST 50% OF ITS 28-DAY COMPRESSIVE STRENGTH. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, DETAIL PLACEMENT AND REMOVAL OF ALL FORM WORK, SHORING AND RE-SHORING.

16. SLABS TO BE PERMANENTLY EXPOSED TO WEATHER SHALL BE AIR ENTRANED AS SPECFIED ABOVE.

17. CONSTRUCTION AND CONTROL JOINTS SHALL BE INSTALLED IN THE SLABS ON GRADE SO THAT THE LENGTH TO WIDTH RATIOS IS NOT MORE THAN 1.25 TO 1. CONTROL JOINTS SHALL BE COMPLETED WITHIN 12 HOURS OF THE PLACEMENT OF THE CONCRETE. CONTROL JOINTS SHALL BE CUT INTO THE SLABS OR TOOLED IN THE SLABS A DEPTH OF 1/4 THE DEPTH OF THE SLAB. INSTALL JOINTS IN THE SLABS ON GRADE AT A SPACING NOT TO EXCEED 30 TIMES THE SLAB THICKNESS OF THE SLAB IN ANY DIRECTION UNLESS SPECIFICALLY INDICATED IN THE CONTRACT DOCUMENTS. CONSTRUCTION JOINTS SHALL BE LIMITED TO A SPACING OF NOT MORE THAN 125'-0" IN ANY DIRECTION.

18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PLACEMENT AND LOCATION OF ANY AND ALL EMBED ITEMS INCLUDING PLATES, BOLTS, AND OTHER INSERTS SPECIFIED IN THE DRAWINGS. REINFORCING STEEL FOR PRECAST CONCRETE PANELS SHOWN ON THE DRAWINGS ARE FOR THE GRAVITY, SEISMIC AND WIND LOADS ONLY. LIFTING PROCEDURES OF ALL PRECAST PANELS SHALL BE THE CONTRACTORS RESPONSIBILITY. THE CONTRACTOR SHALL SUBMIT A COPY OF THE DESIGN CALCULATIONS AND SHOP DRAWINGS TO THE ENGINEER OF RECORD FOR ALL PRECAST CONCRETE REINFORCEMENT AND LIFTING HARDWARE ASSOCIATED WITH HIS CHOSEN INSTALLATION PROCEDURE.

19. HORIZONTAL WALL REINFORCING BARS SHALL TERMINATE IN A 90-DEGREE STANDARD HOOK WITH A 6 BAR DIAMETER LENGTH EXTENSION. AT INTERSECTING WALLS, PROVIDE CORNER BARS OF THE SAME BAR SIZE AND SPACING AS THE HORIZONTAL WALL REINFORCEMENT.

20. VERTICAL WALL REINFORCING BARS SHALL HAVE MATCHING DOWELS THAT CONSIST OF A 90 DEGREE HOOK EMBEDDED WITHIN 4" OF THE BOTTOM OF THE FOOTING. THE DOWEL SHALL EXTEND 20" INTO THE FOOTING.

21. REFER TO THE "SPECIAL INSPECTION" SECTION OF THE GENERAL STRUCTURAL NOTES FOR ANY INSPECTION REQUIREMENTS.

EPOXY

1. THE CONTRACTOR SHALL USE ONE OF THE FOLLOWING EPOXIES OR AN APPROVED EQUAL:

a. HILTI	HIT RE 500
b. ADHESIVE TECHNOLOGY CORPORATION	ANCHOR IT
c. POWERS RAWL	POWER-FAST
d. RAMSET/REDHEAD	EPCON INJECTION SYSTEM

2. DRILL ALL HOLES 1/8" LARGER IN DIAMETER THAN THE INSTALLATION ANCHOR OR BAR SIZE.

3. CLEAN OUT HOLE WITH A WIRE BRUSH PRIOR TO BLOWING OUT THE HOLE WITH OIL FREE COMPRESSED AIR. CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT THE HOLES ARE FREE OF ANY DUST, WATER OR DEBRIS OF ANY KIND.

4. THE CONTRACTOR SHALL FOLLOW THE MANUFACTURERS INSTALLATION INSTRUCTIONS FOR ALL EPOXY INSTALLATIONS.

WOOD FRAMING NOTES

1. ALL WOOD FRAMING MATERIAL SHALL BE SURFACED DRY AND USED AT 19% MAXIMUM MOISTURE CONTENT. ALLOWABLE STRESS REQUIREMENTS OF ALL MATERIAL SHALL BE IN ACCORDANCE WITH THE NDS.

2. ALL FRAMING MEMBERS SHALL BE NO. 2 OR BETTER DOUGLAS FIR UNLESS NOTED OTHERWISE.

3. ALL FRAMING EXPOSED TO THE WEATHER OR IN CONTACT WITH MASONRY OR CONCRETE SHALL BE PRESSURE-TREATED IN ACCORDANCE WITH THE AMERICAN WOOD PRESERVERS ASSOCIATION SPECIFICATIONS OR OF NATURAL WEATHER RESISTANT MATERIAL.

4. THE CONTRACTOR SHALL CAREFULLY SELECT LUMBER TO BE USED IN LOAD BEARING APPLICATIONS. THE LENGTH OF SPLIT ON THE WIDE FACE OF 2" NOMINAL LOAD BEARING FRAMING SHALL BE LIMITED TO LESS THAN 1/2 OF THE WIDE FACE DIMENSION. THE LENGTH OF SPLIT ON THE WIDE FACE OF 3" (NOMINAL) AND THICKER LUMBER SHALL BE LIMITED TO 1/2 OF THE NARROW FACE DIMENSION.

5. ALL NAILING NOT OTHERWISE INDICATED SHALL BE IN ACCORDANCE WITH THE "NAILING SCHEDULE" ON SHEET SE601. NAILING SHALL NOT BE OVERDRIVEN.

6. PROVIDE DOUBLE JOISTS UNDER ALL PARTITIONS WHICH RUN PARALLEL WITH JOISTS AND UNDER ALL CONCENTRATED LOADS FROM FRAMING ABOVE.

7. PROVIDE GIRDER BEAMS OF THE SAME SIZE AS JOISTS OR RAFTERS TO FRAME AROUND OPENINGS IN THE PLYWOOD DECK UNLESS OTHERWISE INDICATED.

8. PREFABRICATED "MICRO-LAM" LUMBER HEADERS AND BEAMS SHALL BE MANUFACTURED BY "BOISE CASCADE CORP, OR APPROVED EQUAL. MICRO-LAM MATERIAL SHALL HAVE AN E = 2.0 ksi AND Fb = 2800 psi, DOUGLAS FIR. DO NOT CUT OR NOTCH MICRO-LAM MATERIAL WITHOUT THE MANUFACTURER'S APPROVAL.

9. ALL PREFABRICATED WOOD JOISTS SHALL BE BY BOISE CASCADE CORP. (BCI). THE CONTRACTOR SHALL INSTALL ALL BLOCKING, BRACING OR BRIDGING AS REQUIRED AND SUPPLIED BY THE JOIST MANUFACTURER. ALL PENETRATIONS IN JOISTS SHALL BE PER THE MANUFACTURERS RECOMMENDATIONS.

10. STRUCTURAL GLUED LAMINATED TIMBER OF SOFTWOOD SPECIES SHALL BE IN CONFORMANCE WITH ANSI STANDARD A190.1: AMERICAN NATIONAL STANDARD FOR STRUCTURAL GLUED LAMINATED TIMBER, OR OTHER CODE APPROVED DESIGN, MANUFACTURING AND/OR QUALITY ASSURANCE PROCEDURES. A CERTIFICATE OF CONFORMANCE (WHERE APPLICABLE) SHALL BE PROVIDED, BY THE MANUFACTURER OR SELLER, TO INDICATE CONFORMANCE WITH ANSI STANDARD A190.1. MEMBERS SHALL BE MARKED WITH THE ENGINEERED WOOD SYSTEMS APA EWS TRADE MARKING INDICATING CONFORMANCE WITH THE MANUFACTURING, QUALITY ASSURANCE AND MARKING PROVISIONS OF ANSI STANDARD A190.1. CAMBER ALL GLULAM BEAMS TO THE INDUSTRY STANDARD OF 3500 FOOT RADIUS. STOCK BEAMS WITH NO CAMBER ARE ACCEPTABLE WHERE AVAILABLE.
    a. GLULAM BEAMS SHALL BE DOUGLAS-FIR COMBINATION NUMBER 24F-V4 UNLESS NOTED OTHERWISE.
    b. GLULAM COLUMNS SHALL BE DF COMBINATION SYMBOL #3.
    c. ALL ARCHITECTURALLY EXPOSED GLULAMS SHALL HAVE A VISUAL ARCHITECTURAL GRADE. ALL OTHER GLULAMS SHALL HAVE A VISUAL FRAMING OR INDUSTRIAL GRADE.

11. STRUCTURAL STEEL PLATE CONNECTORS SHALL CONFORM TO ASTM A-36 SPECIFICATIONS AND BE 1/4" THICK UNLESS OTHERWISE INDICATED. BOLTS CONNECTING WOOD MEMBERS SHALL BE PER ASTM A-307 AND BE 3/4" DIAMETER UNLESS OTHERWISE INDICATED. PROVIDE WASHERS FOR ALL BOLT HEADS AND NUTS IN CONTACT WITH WOOD SURFACES.

12. BOLT HOLES SHALL BE CAREFULLY CENTERED AND DRILLED NOT MORE THAN 1/16" LARGER THAN THE BOLT DIAMETER. BOLTED CONNECTIONS SHALL BE SNUGGED TIGHT BUT NOT TO THE EXTENT OF CRUSHING THE WOOD UNDER THE WASHERS.

13. PREFABRICATED METAL JOIST HANGERS, HURRICANE CLIPS, HOLD-DOWN ANCHORS AND OTHER ACCESSORIES SHALL BE AS MANUFACTURED BY "SIMPSON STRONG-TIE COMPANY" OR AN APPROVED EQUAL. INSTALL ALL ACCESSORIES PER THE MANUFACTURER'S REQUIREMENTS.

14. ALL PLATES, ANCHORS, NAILS, BOLTS, NUTS, WASHERS, AND OTHER MISCELLANEOUS HARDWARE SHALL BE HOT DIP GALVANIZED.

WOOD SHEATHING NOTES

1. ALL PLYWOOD CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE AMERICAN PLYWOOD ASSOCIATION (APA) SPECIFICATIONS.

2. ALL ROOF PANEL SHEATHING SHALL BE APA RATED SHEATHING. THE SHEATHING EDGES SHALL BE BLOCKED AND NAILED AS SPECIFIED IN THE DIAPHRAGM NAILING SCHEDULE. THE ROOF SHEATHING SHALL HAVE A 48/24 SPAN RATIO.

3. ALL WALL PANEL SHEATHING SHALL BE APA RATED SHEATHING. THE SHEATHING EDGES SHALL BE BLOCKED AND NAILED AS SPECIFIED IN THE SHEAR WALL SCHEDULE. THE WALL SHEATHING SHALL HAVE A 24/0 SPAN RATIO.

4. INSTALL ALL PLYWOOD SHEATHING WITH THE LONG DIMENSION OF THE PANEL ACROSS ITS SUPPORTING MEMBERS WITH THE PANEL CONTINUOUS OVER TWO OR MORE SPANS. STAGGER PANEL END JOINTS AND ALLOW A 1/8" GAP SPACING AT ALL PANEL EDGES UNLESS OTHERWISE SPECIFIED BY THE SHEATHING MANUFACTURER.

5. ALL NAILING SHALL BE CAREFULLY INSTALLED AND NOT OVER DRIVEN. THE NAIL PROPERTIES ARE AS FOLLOWS:

NAIL SIZE	SHANK DIAMETER	PENETRATION IN MAIN MEMBER
6d	0.113"	1.25"
8d	0.131"	1.50"
10d	0.148"	1.63"
12d	0.148"	1.63"
16d	0.162"	1.75"

PRE-ENGINEERED WOOD TRUSS NOTES

1. WOOD TRUSSES SHALL BE DESIGNED BY THE MANUFACTURER TO SUPPORT THE LOADS SPECIFIED.

2. WOOD TRUSSES SHALL BE DESIGNED BY THE MANUFACTURER IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF THE LATEST EDITION OF THE NATIONAL DESIGN SPECIFICATION OF THE NATIONAL FOREST PRODUCTS ASSOCIATION. THE DESIGN SPECIFICATION FOR METAL PLATE CONNECTED WOOD TRUSSES OF THE TRUSS PLATE INSTITUTE AND IBC 2003.

3. WOOD MATERIALS SHALL BE DOUGLAS FIR AND SHALL BE KILN DRIED AND USED AT 19% MAXIMUM MOISTURE CONTENT. PROVIDE GRADE NO. 2 OR BETTER.

4. CONNECTOR PLATES SHALL BE NOT LESS THAN 0.036 INCHES (20 GAUGE) IN COATED THICKNESS, SHALL MEET OR EXCEED ASTM GRADE A OR HIGHER AND SHALL BE HOT DIPPED GALVANIZED ACCORDING TO ASTM.

5. A-525 (COATING G60). MINIMUM STEEL YIELD STRESS SHALL BE 33,000 PSI

6. TRUSSES SHALL BE FABRICATED IN A PROPERLY EQUIPPED MANUFACTURING FACILITY OF A PERMANENT NATURE. TRUSSES SHALL BE MANUFACTURED BY EXPERIENCED WORKMEN. USING PRECISION CUTTING, JIGGING, AND PRESSING EQUIPMENT UNDER THE REQUIREMENTS IN QUALITY CONTROL STANDARD QST-88 OF THE TRUSS PLATE INSTITUTE.

7. SECONDARY BENDING STRESSES IN TRUSS TOP AND BOTTOM CHORDS DUE TO DEAD, LIVE AND WIND LOADS SHALL BE CONSIDERED IN THE DESIGN. LOAD DURATION FACTORS SHALL BE PER THE "NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION".

8. WOOD TRUSSES SHALL MEET THE FOLLOWING DEFLECTION LIMITS:

DEAD LOAD DEFLECTION	L/360
LIVE LOAD DEFLECTION	L/120

9. WOOD TRUSSES SHALL BE ERECTED IN ACCORDANCE WITH THE TRUSS MANUFACTURER'S REQUIREMENTS. THIS WORK SHALL BE DONE BY A QUALIFIED AND EXPERIENCED CONTRACTOR. TRUSS ERECTION BY AN INEXPERIENCED OR NON-QUALIFIED CONTRACTOR CAN RESULT IN CONSTRUCTION COLLAPSE AND/OR SERIOUS INJURY AND DAMAGE.

10. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY AND PERMANENT BRACING AS REQUIRED FOR SAFE ERECTION AND PERFORMANCE OF THE TRUSSES. THE GUIDELINES SET FORTH BY THE TRUSS PLATE INSTITUTE PUBLICATION "HIB-91, COMMENTARY AND RECOMMENDATIONS FOR HANDLING, INSTALLING AND BRACING METAL PLATE CONNECTED WOOD TRUSSES" SHALL BE A MINIMUM REQUIREMENT.

11. TRUSS MEMBERS AND COMPONENTS SHALL NOT BE CUT, NOTCHED, DRILLED NOR OTHERWISE ALTERED IN ANY WAY WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER.

12. SUBMIT COMPLETE SHOP DRAWINGS FOR ALL WOOD TRUSSES SHOWING MEMBER SIZES, SPECIES, GRADE, MOISTURE CONTENT, SPAN, CAMBER, DIMENSIONS, CHORD PITCH, BRACING REQUIREMENTS AND LOADINGS. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD AND SHALL BEAR THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE PROJECT'S STATE.

SPECIAL INSPECTION

1. THE FOLLOWING ITEMS SHALL BE SPECIAL INSPECTED:

a. CONCRETE PLACEMENTS PER	IBC SECTION 1704.4
b. BOLTS INSTALLED IN CONCRETE	IBC SECTION 1704.4
c. CONCRETE REINFORCING STEEL PLACEMENT	IBC SECTION 1704.4
d. EPOXY ANCHORS	IBC SECTION 1701.3.13
e. STRUCTURAL WOOD SHEAR WALLS & DIAPHRAGMS	IBC SECTION 1707.3

2. THE SPECIAL INSPECTOR SHALL BE AN INDEPENDENT AGENCY HIRED BY THE OWNER UNLESS SPECIFICALLY INSTRUCTED OTHERWISE BY THE BUILDING OFFICIAL. THE CONTRACTOR SHALL COOPERATE IN EVERY WAY WITH THE INSPECTOR AND SHALL BE RESPONSIBLE FOR COORDINATING THE INSPECTIONS.

3. THE SPECIAL INSPECTIONS ARE REPAIRED BY THE IBC CODE SECTION 1704.

MARKS AND ABBREVIATIONS

AB	ANCHOR BOLT
ACI	AMERICAN CONCRETE INSTITUTE
ALT	ALTERNATE
APA	AMERICAN PLYWOOD ASSOCIATION
ARCH	ARCHITECT
ASTM	AMERICAN SOCIETY OF TESTING MATERIALS
BLW	BELOW
BM	BEAM
BTWN	BETWEEN
C.J.	CONST. OR CONTROL JOINT
COL	COLUMN
CONC	CONCRETE
CONT	CONTINUOUS
CW-X	CONCRETE WALL MARK
DET	DETAIL
DIA	DIAMETER
DIM	DIMENSION
DWG	DRAWING
DWL	DOWEL
EA	EACH
E.F.	EACH FACE
ELEV	ELEVATION
EQ	EQUAL
E.W.	EACH WAY
EXP	EXPANSION
EXT	EXTERIOR
FC-X	FOOTING CONTINUOUS MARK
FND	FOUNDATION
FTG	FOOTING
GAL	GALVANIZED
GR	GRADE
GSN	GENERAL STRUCTURAL NOTES
HORIZ	HORIZONTAL
ICBO	INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS
I.F.	INTERIOR FACE
IN.	INCH
INT	INTERIOR
JST	JOIST
K	KIP = 1000 POUNDS
KLF	KIPS PER LINEAL FOOT
KSF	KIPS PER SQUARE FOOT
LBS	POUNDS
LF	LINEAL FOOT
MAX	MAXIMUM
MIN	MINIMUM
MISC	MISCELLANEOUS
NTS	NOT TO SCALE
O.C.	ON CENTER
O.F.	OUTSIDE FACE
OPP	OPPOSITE
PL	PLATE
PLF	POUNDS PER LINEAL FOOT
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
REINF	REINFORCING
REQ'D	REQUIRED
SAD	SEE ARCHITECTURAL DRAWINGS
SI	SPECIAL INSPECTION
SIM	SIMILAR
SOG	SLAB ON GRADE
SQ	SQUARE
STAG	STAGGERED
STD	STANDARD
SW-X	SHEAR WALL MARK
T&B	TOP AND BOTTOM
TEMP	TEMPERATURE
T.O.	TOP OF
TOF	TOP OF FOOTING
TOW	TOP OF WALL
TYP	TYPICAL
IBC	INTERNATIONAL BUILDING CODE
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
W/	WITH
WWF	WELDED WIRE FABRIC
WWPA	WESTERN WOODS PROJECT ASSOCIATION

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KEYED NOTES

UTAH NATIONAL GUARD
BUILDING 304 ADDITION
CAMP W.G. WILLIAMS
UTAH

SHEET TITLE
GENERAL STRUCTURAL NOTES

REVISIONS	DATE	BY	DESCRIPTION
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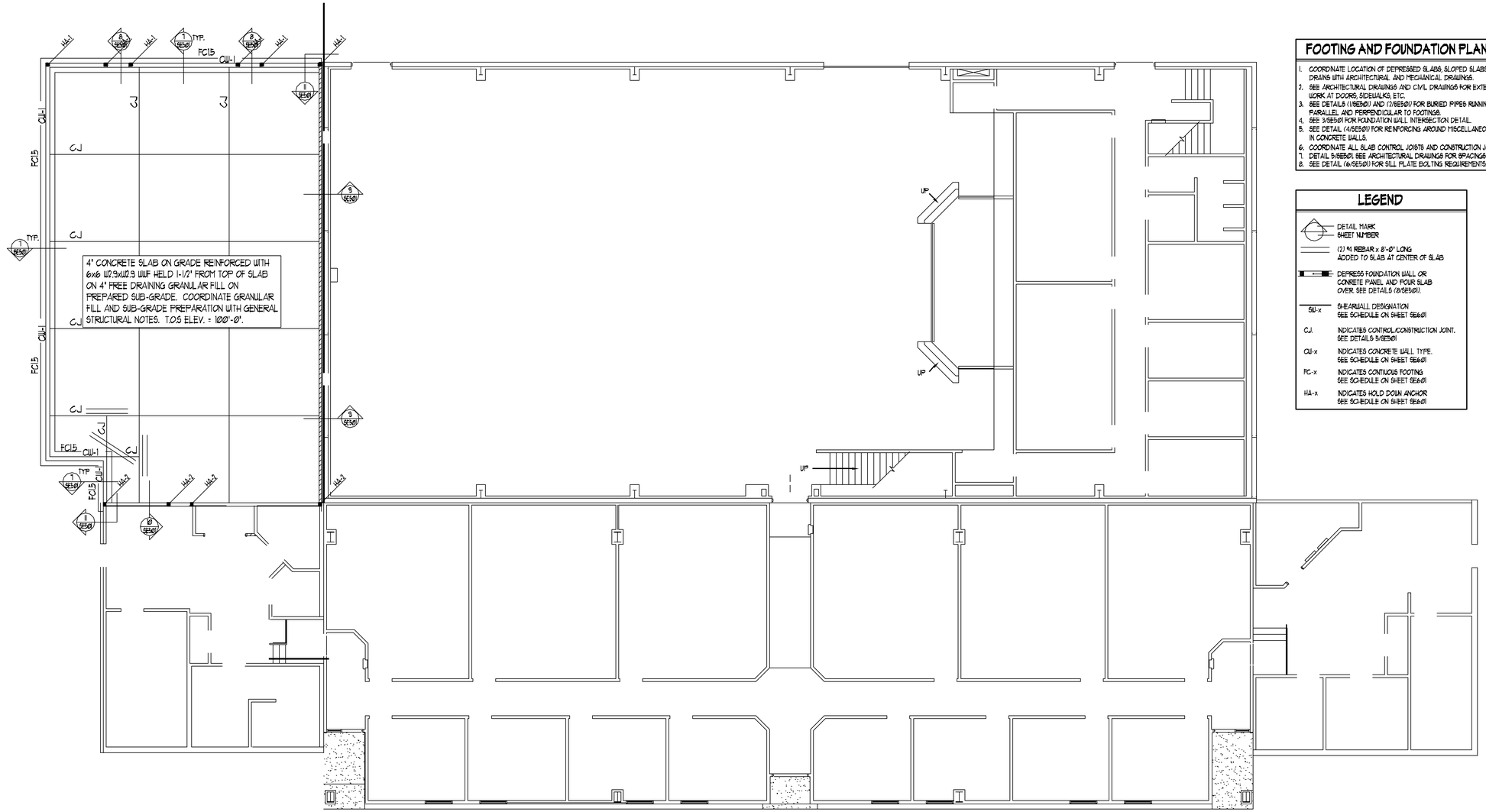
DRAWN BY DMF	CHECKED BY DMF
PROJECT NO. 05031	DRAWING NO. SE001
DATE AUG. 24, 2005	



FOOTING & FOUNDATION PLAN

SCALE : 1/8" = 1'-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 DRAWINGS AND CIVIL DRAWINGS FOR EXTERIOR CONCRETE WORK AT DOORS, SIDEWALKS, ETC.
3. SEE DETAILS (1/6ES01) AND (2/6ES01) FOR BURIED PIPES RUNNING PARALLEL AND PERPENDICULAR TO FOOTINGS.
4. SEE 3/5ES01 FOR FOUNDATION WALL INTERSECTION DETAIL.
5. SEE DETAIL (4/5ES01) FOR REINFORCING AROUND MISCELLANEOUS OPENINGS IN CONCRETE WALLS.
6. COORDINATE ALL SLAB CONTROL JOISTS AND CONSTRUCTION JOINTS WITH
7. DETAIL 5/6ES01 SEE ARCHITECTURAL DRAWINGS FOR SPACINGS.
8. SEE DETAIL (6/5ES01) FOR SILL PLATE BOLTING REQUIREMENTS.

LEGEND

	DETAIL MARK SHEET NUMBER
	(2) #4 REBAR x 8'-0" LONG ADDED TO SLAB AT CENTER OF SLAB
	DEPRESS FOUNDATION WALL OR CONRETE PANEL AND POUR SLAB OVER. SEE DETAILS (8/5ES01).
SW-x	SHEARWALL DESIGNATION SEE SCHEDULE ON SHEET SE6.01
CJ	INDICATES CONTROL/CONSTRUCTION JOINT. SEE DETAILS 5/5ES01
CW-x	INDICATES CONCRETE WALL TYPE. SEE SCHEDULE ON SHEET SE6.01
FC-x	INDICATES CONTIUOUS FOOTING SEE SCHEDULE ON SHEET SE6.01
HA-x	INDICATES HOLD DOWN ANCHOR SEE SCHEDULE ON SHEET SE6.01

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KEYED NOTES

UTAH NATIONAL GUARD
BUILDING 304 ADDITION
CAMP W.G. WILLIAMS
UTAH

SHEET TITLE
FOOTING & FOUNDATION PLAN

REVISIONS	DATE	BY	DESCRIPTION
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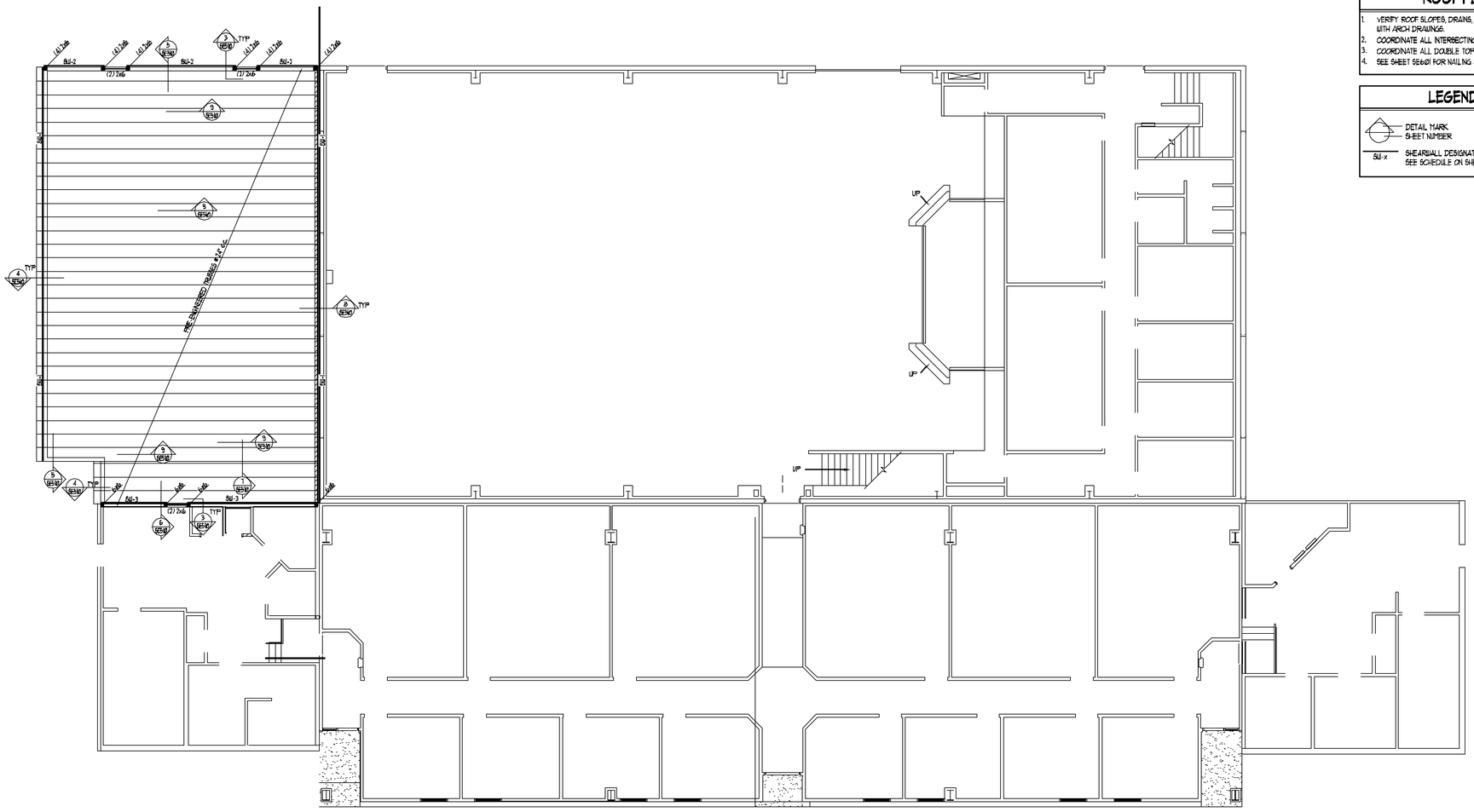
PROJECT NO. 05031	DRAWING NO. SE101
DATE AUG. 24, 2005	



ROOF FRAMING PLAN

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

ROOF PLAN NOTES

1. VERIFY ROOF SLOPES, DRAINS, AND DECK BEARING ELEVATIONS WITH ARCH DRAWINGS.
2. COORDINATE ALL INTERSECTING STUD WALLS WITH DETAIL 1/SE510.
3. COORDINATE ALL DOUBLE TOP PLATE WALL SPLICES WITH DETAIL 2/SE510.
4. SEE SHEET SE601 FOR NAILING SCHEDULE.

LEGEND

DETAIL MARK
SHEET NUMBER

SW-x — SHEARWALL DESIGNATION
SEE SCHEDULE ON SHEET SE601

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SHEET TITLE
ROOF FRAMING PLAN

REVISIONS	DATE	BY	DESCRIPTION
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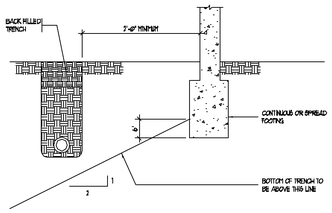
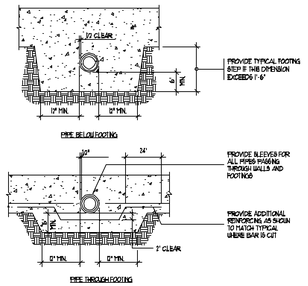
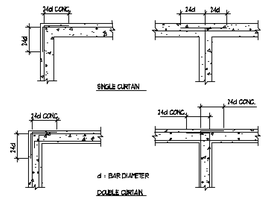
PROJECT NO. 05031	DRAWING NO. SE102
DATE AUG. 24, 2005	



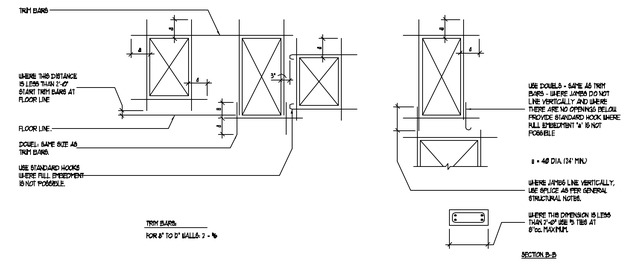
1 PIPE PARALLEL TO FOOTING DETAIL
NO SCALE



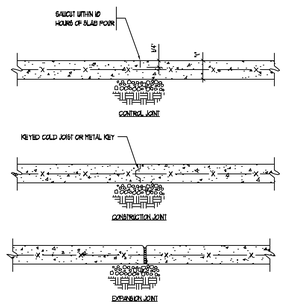
2 PIPE PERPENDICULAR TO FOOTING DETAIL
NO SCALE



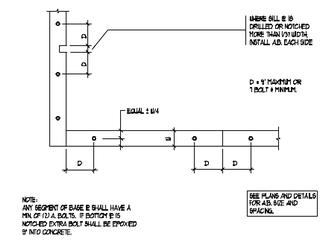
3 CONCRETE WALL REINFORCEMENT
NO SCALE



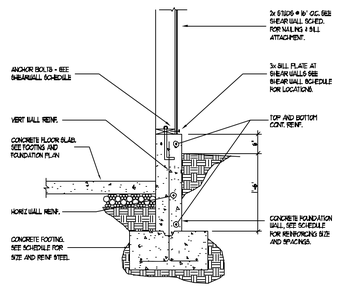
4 TYP. DETAILS OF TRIM BARS AROUND MISCELLANEOUS CONC. WALL OPENINGS, U.N.O.
NO SCALE



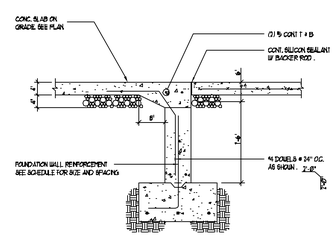
5 CONST./CONTROL JT. IN CONC. S.O.G.
NO SCALE



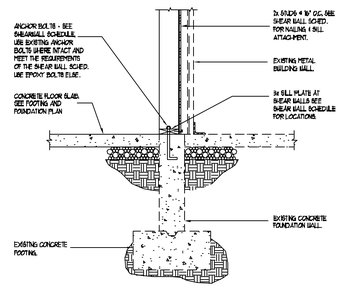
6 SILL PLATE BOLTING DETAIL
NO SCALE



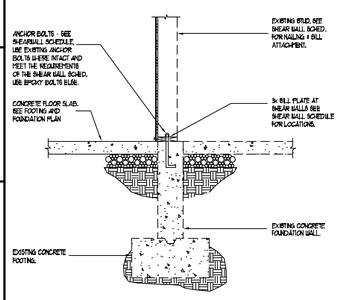
7 EXTERIOR FOUNDATION DETAIL @ MECHANICAL SHED
NO SCALE



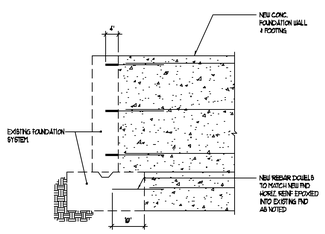
8 EXTERIOR FOUNDATION WALL @ OPENING
NO SCALE



9 EXTERIOR FOUNDATION DETAIL @ METAL BUILDING FND.
NO SCALE



10 EXTERIOR FOUNDATION DETAIL @ EXISTING BUILDING FND.
NO SCALE



11 NEW FDN. CONNECTION TO EXISTING FDN. DETAIL
NO SCALE

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CONSULTANT INFORMATION
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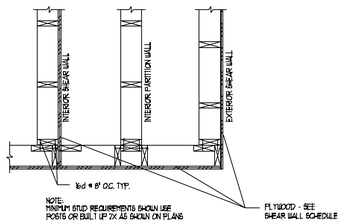
KEYED NOTES

UTAH NATIONAL GUARD
BUILDING 304 ADDITION
CAMP W.G. WILLIAMS
UTAH

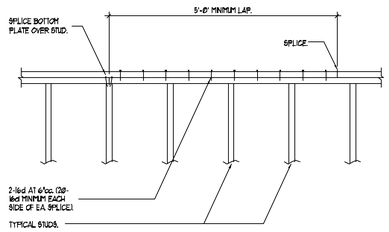
SHEET TITLE
FOOTING & FOUNDATION DETAILS

REVISIONS	DATE	BY	DESCRIPTION
△			
△			
△			
△			

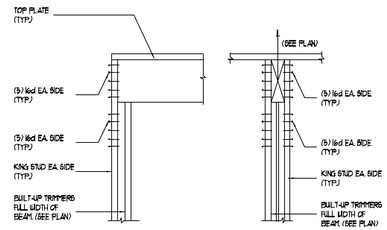
DRAWN BY DMF	CHECKED BY DMF
PROJECT NO. 05031	DRAWING NO. SE501
DATE AUG. 24, 2005	



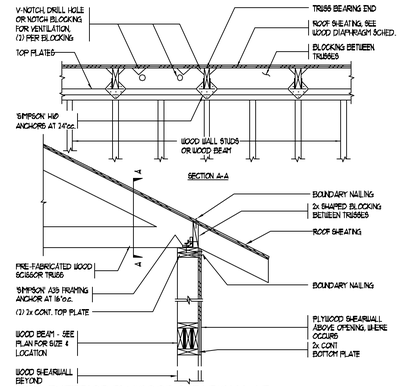
1 INTERSECTING STUD WALL FRAMING DETAIL
NO SCALE



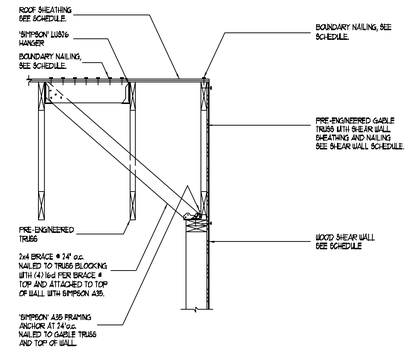
2 TYPICAL TOP PLATE SPLICE - EXTERIOR AND INTERIOR SHEARWALL.
NO SCALE



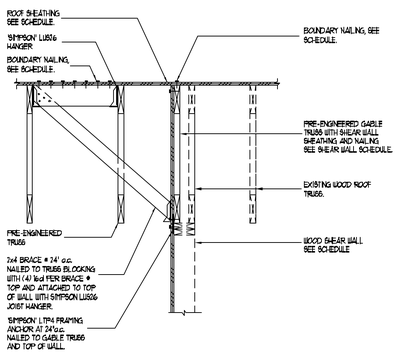
3 BUILT UP COLUMN DETAIL
NO SCALE



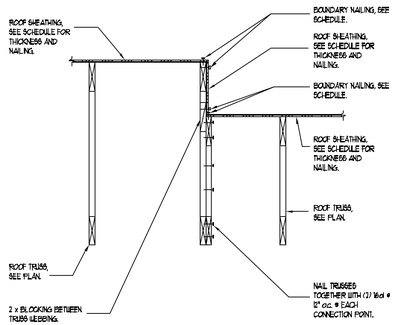
4 EXTERIOR PLYWOOD SHEARWALL AT WOOD TRUSS OVERHANG
NO SCALE



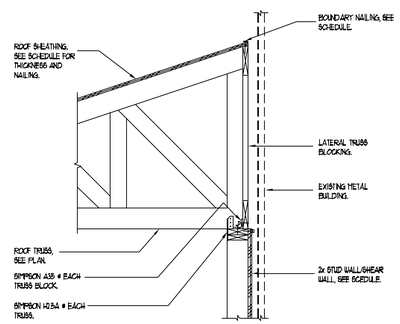
5 GABLE WALL BRACING DETAIL
NO SCALE



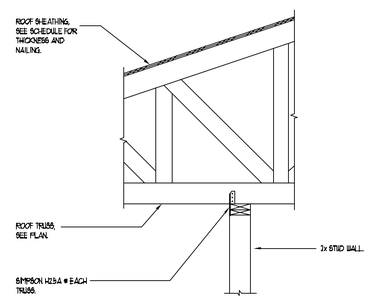
6 INTERIOR SHEAR WALL DETAIL @ ROOF
NO SCALE



7 TRUSS TO TRUSS CONNECTION @ ROOF CHANGE DETAIL
NO SCALE



8 ROOF TRUSS BEARING ON STUD WALL DETAIL
NO SCALE



9 ROOF TRUSS STRAPPED TO STUD WALL DETAIL
NO SCALE

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KEYED NOTES

UTAH NATIONAL GUARD
BUILDING 304 ADDITION
CAMP W.G. WILLIAMS
UTAH

SHEET TITLE
ROOF FRAMING DETAILS

REVISIONS	DATE	BY	DESCRIPTION
△			
△			
△			
△			

DRAWN BY DMF	CHECKED BY DMF
PROJECT NO. 05031	DRAWING NO. SE510
DATE AUG. 24, 2005	

MARK	WIDTH	LENGTH	THICKNESS	CROSSWISE REINFORCING			LENGTHWISE REINFORCING				REMARKS
				NO.	SIZE	LENGTH	SPACE	NO.	SIZE	LENGTH	SPACE		
FC15	1'-6"	CONT.	7"	NONE REQUIRED				3	#4	CONT.	EQ.	

1. PLACE ALL FOOTING REINFORCING IN BOTTOM OF FOOTING WITH 3" CLEAR CONCRETE COVER UNLESS NOTED OTHERWISE.
2. TOP REINFORCING, WHERE SPECIFIED, SHALL BE PLACE IN THE TOP OF THE FOOTING WITH 2" CLEAR CONCRETE COVER.
3. THE SCHEDULED FOOTINGS ARE NOT NECESSARILY ALL USED.
4. PC-CONTINUOUS FOOTING.

1 CONCRETE FOOTING SCHEDULE

FTG SCHED 13 FTGF-3.0 FTG DWD

NO SCALE

CONNECTION	NAILING
SOLE PLATE TO JOIST OR BLOCKING, FACE NAIL	16d at 16" o.c.
TOP PLATE TO STUD, END NAIL	2-16d
STUD TO SOLE PLATE, END NAIL	2-16d
DOUBLE STUDS, FACE NAIL	16d at 12" o.c.
DOUBLED TOP PLATES, FACE NAIL	16d at 12" o.c.
TOP PLATES, LAPS & INTERSECTION, FACE NAIL	2-16d
CONTINUOUS HEADER, TWO PIECES	16d at 12" o.c. along ea edge
CEILING JOISTS TO PLATE, TOENAIL	3-16d
CONTINUOUS HEADER TO STUD, TOENAIL	4-8d
CEILING JOISTS LAPS OVER PARTITIONS, FACE NAIL	3-16d
CEILING JOISTS TO PARALLEL RAFTERS, FACE NAIL	3-16d
RAFTER TO PLATE, TOENAIL	3-8d
1" BRACE TO EACH STUD & PLATE, FACE NAIL	2-8d
BUILT-UP CORNER STUDS	16d at 12" o.c.
BUILT-UP GIRDER & BEAMS	16d at 12" o.c. at top & bottom staggered, 2-16d at ends & at splice

* PLYWOOD & PARTICLEBOARD:
SUBFLOOR, ROOF & WALL SHEATHING (TO FRAMING)
1/2" AND LESS — 8d
19/32" - 3/4" — 8d or 10d
7/8" - 1" — 8d
1-1/8" - 1-1/4" — 10d or 8d
COMBINATION SUBFLOOR-UNDERLAYMENT (TO FRAMING)
3/4" AND LESS — 8d
7/8" - 1" — 8d
1-1/8" - 1-1/4" — 10d or 8d

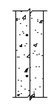
* NAILS SPACED AT 6 INCHES ON CENTER AT EDGES, 12 INCHES AT INTERMEDIATE SUPPORTS, EXCEPT 6 INCHES AT ALL SUPPORTS WHERE SPANS ARE 48 INCHES OR MORE. FOR NAILING OF DIAPHRAGMS AND SHEAR WALLS, REFER TO SHEAR WALL SCHEDULE.

6 NAILING SCHEDULE

NAILING

NO SCALE

MARK	THICKNESS	f'c psi	REINFORCING			TYPE	COMMENTS
			VERTICAL	HORIZONTAL	TOP AND BOTTOM		
CU-1	8"	3000	#4 AT 12"oc.	#4 AT 12"oc.	(2) #5 x CONT.	A	



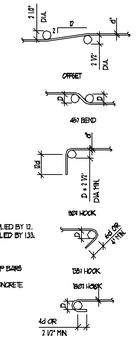
7 SHEARWALL SCHEDULE

SHEARWALL

NO SCALE

BAR SIZE	f'c = 3000 PSI		f'c = 4000 PSI		f'c = 5000 PSI		f'c = 6000 PSI	
	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
#3	13"	17"	12"	2"	16"	16"	2"	2"	16"	16"	2"	2"	16"	16"	2"	2"
#4	18"	24"	24"	3"	19"	19"	25"	3"	19"	19"	24"	3"	19"	19"	24"	3"
#5	22"	29"	29"	3.5"	19"	25"	29"	3.5"	19"	22"	22"	29"	19"	22"	22"	29"
#6	31"	34"	34"	4.5"	24"	31"	34"	4.5"	27"	31"	29"	34"	24"	27"	31"	33"
#7	39"	51"	51"	6.5"	34"	44"	44"	5.5"	30"	39"	39"	51"	27"	35"	39"	46"
#8	45"	64"	64"	8.5"	41"	55"	55"	7"	36"	45"	45"	64"	35"	45"	45"	59"
#9	52"	80"	80"	10.5"	50"	70"	70"	8.5"	44"	52"	52"	80"	44"	51"	51"	70"
#10	59"	101"	101"	13"	63"	89"	89"	11"	54"	59"	59"	101"	54"	57"	57"	89"
#11	64"	125"	125"	16.5"	63"	110"	110"	14"	64"	63"	63"	125"	64"	63"	63"	110"

1. THESE NOTES SHALL BE USED FOR ALL SPLICES, 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 4 ABOVE ARE MET.
4. TIES AND STIRRUPS SHALL NOT BE SPLICED.
5. 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.
6. FOR ALL LIGHTWEIGHT CONCRETE, LAP LENGTHS SHALL BE MULTIPLIED BY 1.3.
7. FOR ALL EPOXY COATED BARS, LAP LENGTHS SHALL BE MULTIPLIED BY 1.5 FOR TOP BARS AND 1.5 FOR REGULAR BARS.
8. TOP BARS ARE CLASSIFIED AS HORIZONTAL BARS WHERE 12", OR MORE, OF FRESH CONCRETE IS CAST BELOW THE REINFORCING BAR.



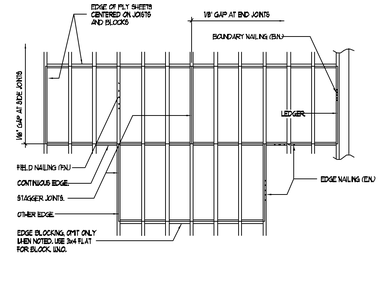
8 CONCRETE REBAR LAP SPLICE SCHEDULE

CONCRETE/REINFORCING

NO SCALE

LOCATION	PLYWOOD	NAIL SIZE	EDGE NAIL	FIELD NAIL	BOUNDARY NAIL	EDGE BLOCK
ROOF	1/4" CDX	8d	4"oc.	12"oc.	4"oc.	YES

NOTES:
1. MIN. NAIL PENETRATION INTO FRAMING, 8d=1 1/2", 10d=1 5/8".
2. USE SCREW SHANK NAILS AT FLOOR PLYWOOD.
3. USE COMMON NAILS.

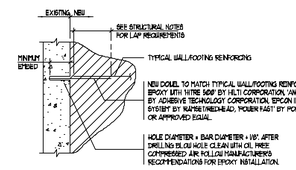


9 EPOXY DOWEL EMBEDMENT SCHEDULE

EPOXY DOWEL

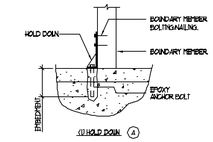
NO SCALE

DOWEL SIZE	MINIMUM EMBEDMENT INTO EXISTING CONCRETE
#4	8 1/2"
#5	1 1/2"
#6	10"
#7	1'-1"
#8	1'-4"



MARK	HOLD DOWN	BOUNDARY MEMBER SIZE	BOUNDARY MEMBER BOLTING / NAILING	ANCHOR BOLT	EMBEDMENT	DETAIL	NOTES
HA-1	PDC35	(4)2x6	(12) SDS 1/4" x 3" WOOD SCREWS	1/8"ø	14"	A	
HA-2	HHD5A	6 x 6	(24) SDS 1/4" x 3" WOOD SCREWS	1"ø	28"	A	

1. SDS WOOD SCREW IS A SIMPSON PRODUCT AND SHALL BE INSTALLED PER THE MANUFACTURERS SPECIFICATIONS.



(1) HOLD DOWN (A)

5 HOLD DOWN ANCHOR SCHEDULE.

HOLDDOWN/ANCHOR

NO SCALE

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KEYED NOTES

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BUILDING 304 ADDITION
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SHEET TITLE
STRUCTURAL SCHEDULES

REVISIONS	DATE	BY	DESCRIPTION
△			
△			
△			
△			

DRAWN BY DMF | CHECKED BY DMF
PROJECT NO. 05031 | DRAWING NO. SE601
DATE AUG. 24, 2005

SYMBOL LEGEND

SYMBOL	DESCRIPTION
HVAC PIPING	
HPS	HIGH PRESSURE STEAM
MPS	MEDIUM PRESSURE STEAM
LPS	LOW PRESSURE STEAM
HPC	HIGH PRESSURE RETURN
MPC	MEDIUM PRESSURE RETURN
LPC	LOW PRESSURE RETURN
PC	PUMP DISCHARGE
HWS	HOT WATER SUPPLY
HWR	HOT WATER RETURN
TWS	TEMPERED WATER SUPPLY
CWS	CHILLED WATER SUPPLY
CWR	CHILLED WATER RETURN
RL	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION
C	CONDENSER WATER SUPPLY
CR	CONDENSER WATER RETURN
D	DRAIN LINE
HG	HOT GAS BYPASS
GS	GLYCOL SUPPLY
GR	GLYCOL RETURN
FOS	FUEL OIL SUCTION
FOR	FUEL OIL RETURN
FOV	FUEL OIL VENT

ABBREVIATIONS

NOTE: ALL ABBREVIATIONS MAY NOT BE USED

AD	ACCESS DOOR	MCA	MINIMUM CIRCUIT AMPS
AIR	AIR CONDITION(–ING,–ED)	MFR	MANUFACTURER
COND		MIN	MINIMUM
APD	AIR PRESSURE DROP	N/A	NOT APPLICABLE
BD	BALANCING DAMPER	NC	NORMALLY CLOSED
BHP	BRAKE HORSE POWER	NC	NOISE CRITERIA
BTU	BRITISH THERMAL UNIT	NIC	NOT IN CONTRACT
BTUH	BTU/HOUR	NO	NORMALLY OPEN
CFH	CUBIC FEET PER HOUR	NPSH	NET POSITIVE SUCTION HEAD
CFM	CUBIC FEET PER MINUTE		
CLG	COOLING	NTS	NOT TO SCALE
COMP	COMPONENT	OA	OUTSIDE AIR
COND	CONDENS(–ER, –ING, –ATION)	OD	OUTSIDE DIAMETER
		OZ	OUNCE
CV	CONTROL VALVE	PD	PRESSURE DROP OR DIFFERENCE
CW	COLD WATER		
DIA	DIAMETER	PG	PROPYLENE GLYCOL
DISCH	DISCHARGE	PH	PHASE
DP	DEPTH OR DEEP	PPM	PARTS PER MILLION
DB	DRY BULB TEMPERATURE	PRESS	PRESSURE
(E)	EXISTING	PSF	POUNDS PER SQUARE FOOT
EER	ENERGY EFFICIENCY RATIO		
EFF	EFFICIENCY	PSI	POUNDS PER SQUARE INCH
EG	ETHYLENE GLYCOL		
ELEC	ELECTRIC	PSIA	PSI ABSOLUTE
ELEV	ELEVATION	PSIG	PSI GAUGE
ENT	ENTERING	R	THERMAL RESISTANCE
EVAP	EVAPORAT(–E, –ING, –ED, –OR)	RA	RETURN AIR
		RECIRC	RECIRCULATE
EWT	ENTERING WATER TEMPERATURE	REFR	REFRIGERATION
		REQD	REQUIRED
EXT	EXTERNAL	RLA	RATED ––– AMPS
(F)	FUTURE	RPM	REVOLUTIONS PER MINUTE
F	FAHRENHEIT	RW	RAINWATER
FC	FLEXIBLE CONNECT(–OR, –ION)	SA	SUPPLY AIR
		SC	SHADING COEFFICIENT
FD	FIRE DAMPER	SCFM	STANDARD CUBIC FEET PER MINUTE
FLA	FULL LOAD AMPS		
FPI	FINS PER INCH	SCW	SOFT COLD WATER
FPM	FEET PER MINUTE	SF	SAFETY FACTOR
FPS	FEET PER SECOND	SH	SENSIBLE HEAT
FSD	FIRE SMOKE DAMPER	SL	SEA LEVEL
FT	FEET	SP	STATIC PRESSURE
GAL	GALLON(S)	SPECS(S)	SPECIFICATION(S)
GPH	GALLONS PER HOUR	SQ	SQUARE
GPM	GALLONS PER MINUTE	STD	STANDARD
HD	HEAD	STM	STEAM
HG	MERCURY	TEMP	TEMPERATURE
HR	HOUR	TD	TEMP. DROP OR DIFF.
HT	HEIGHT	THERM	THERMAL
HTG	HEATING	TOT	TOTAL
HP	HORSE POWER	TSTAT	THERMOSTAT
HW	HOT WATER	V	VOLT
HZ	HERTZ(FREQUENCY)	VAC	VACUUM
ID	INSIDE DIAMETER	VAV	VARIABLE AIR VOLUME
IN	INCH	VEL	VELOCITY
KW	KILOWATT	VENT	VENT, VENTILATION
LAT	LEAVING AIR TEMPERATURE	VERT	VERTICAL
		VFD	VARIABLE FREQUENCY DRIVE
LBS	POUNDS		
LG	LENGTH	VOL	VOLUME
LH	LATENT HEAT	WC	WATER COLUMN
LRA	LOCKED ROTOR AMPS	WG	WATER GAUGE
LVG	LEAVING	WPD	WATER PRESSURE DROP
LWT	LEAVING WATER TEMPERATURE	WTR	WATER
		WT	WEIGHT
MAX	MAXIMUM	WB	WET BULB TEMP
MBH	THOUSAND BTU PER HOUR	YR	YEAR

SYMBOL LEGEND

SYMBOL	DESCRIPTION
VALVES, METERS, AND GAUGES	
	SHUT OFF VALVE
	GATE VALVE
	CHECK VALVE
	AUTO 2–WAY VALVE
	AUTO 3–WAY VALVE
	GLOBE VALVE
	BALL VALVE
	RELIEF VALVE
	CHAIN OPERATED GATE VALVE
	PRESSURE REDUCING VALVE
	BUTTERFLY VALVE
	SOLENOID VALVE
	ANGLE VALVE
	VENTURI
	BALANCING OR PLUG COCK
	FLOW SETTER
	EXPANSION VALVE (REFRIG.)
	GAS COCK
MAV	MANUAL AIR VENT
	STRAINER
	GAUGE COCK
	FLEXIBLE CONNECTION
	PRESSURE GAUGE
	THERMOMETER
	VICTUALIC COUPLING
	REDUCER CONCENTRIC
	REDUCER ECCENTRIC
	REFRIGERANT SITE GLASS
	REFRIGERANT STAINER
	REFRIGERANT FILTER DRIER
	90° ELBOW UP
	90° ELBOW DOWN
	90° TEE UP
	90° TEE DOWN
	UNION
	CAPPED PIPE
	ANCHOR
	FLOAT AND THERMOSTATIC TRAP
HVAC SYMBOLS	
T	THERMOSTAT
S	TEMPERATURE SENSOR
H	HUMIDISTAT
PLUMBING SYMBOLS	
C.B.	CATCH BASIN
M.H.	MANHOLE
W.H.	WALL HYDRANT
H.B.	HOSE BIBB
	CLEANOUT TO GRADE
	FLOOR CLEANOUT
	WALL CLEANOUT

SYMBOL LEGEND

SYMBOL	DESCRIPTION
DUCTWORK	
SINGLE LINE / DOUBLE LINE	RECTANGULAR SUPPLY DUCT UP
	RECTANGULAR SUPPLY DUCT DOWN
	RECTANGULAR RETURN DUCT UP
	RECTANGULAR RETURN DUCT DOWN
	RECTANGULAR EXHAUST DUCT UP
	RECTANGULAR EXHAUST DUCT DOWN
	ROUND DUCT UP
	ROUND DUCT DOWN
	ACCOUSTICALLY LINED RECTANGULAR DUCT
	90° RECTANGULAR ELBOW WITH TURNING VANES
	90° RADIUS ELBOW R=1.5
	DUCT SIZE OR SHAPE TRANSITION
	OPPOSED BLADE BALANDING DAMPER (O.B.D.) IN RECT DUCT
	BUTTERFLY BALANCING DAMPER IN ROUND DUCTS
	COMBINATION TEE
	SPLITTER DAMPER
	SQUARE OR RECTANGULAR CEILING DIFFUSER
	ROUND CEILING DIFFUSER
	SIDEWALL REGISTER SUPPLY OR RETURN
	ROUND FLEXIBLE DUCT
	RETURN GRILLE
	EXHAUST GRILLE
FSD / FSD	FIRE/SMOKE DAMPER
	FIRE DAMPER
SD / SD	SMOKE DAMPER
FC / FC	FLEXIBLE CONNECTION

MECHANICAL SHEET INDEX

SHEET NO	SHEET TITLE
M–001	MECHANICAL SYMBOL LEGEND & GENERAL NOTES
M–101	MECHANICAL PLAN
M–501	MECHANICAL DETAILS
M–601	MECHANICAL SCHEDULES
P–101	PLUMBING PLAN

SYMBOL LEGEND

SYMBOL	DESCRIPTION

SYMBOL LEGEND

SYMBOL	DESCRIPTION
PLUMBING PIPING	
CWV	COMBINATION WASTE AND VENT
	SOIL, WASTE – ABOVE GRADE
	SOIL, WASTE – BELOW GRADE
OW	OIL/WATE WASTE – ABOVE GRADE
OW	OIL/WATER WASTE – BELOW GRADE
	VENT
AV	ACID VENT
AW	ACID WASTE – ABOVE GRADE
AW	ACID WASTE – BELOW GRADE
	COLD WATER
	HOT WATER
	HOT WATER CIRCULATE
180	180°F HOT WATER
180R	180° HOT WATER RETURN
160	160° HOT WATER
160R	160° HOT WATER RETURN
RW	RAINWATER – ABOVE GRADE
RW	RAINWATER – BELOW GRADE
ORW	OVERFLOW RAINWATER ABOVE GRADE
ORW	OVERFLOW RAINWATER BELOW GRADE
SD	STORM DRAIN
VTR	VENT THRU ROOF
	NON POTABLE WATER
(E)	EXISTING PIPE
(E)	EXISTING PIPE TO BE REMOVED
IW	IRRIGATION WATER
SS	SANITARY SEWER
W	WATER
PWS	PURE WATER SUPPLY
PWR	PURE WATER RETURN
G	GAS
LPG	PROPANE
VAC	VACUUM
A	COMPRESSED AIR
MA	MEDICAL AIR
O	OXYGEN
NO	NITROUS OXIDE
N	NITROGEN
CO2	CARBON DIOXIDE
EVAC	EVACUATION

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GENERAL MECHANICAL NOTES

1. ALL CEILING DIFFUSERS SHOWN AS SUCH ARE CD–1, CFM AS NOTED, UNLESS OTHERWISE NOTED. REFER TO DETAIL L7/M501.
2. ALL CEILING RETURN GRILLES SHOWN AS SUCH ARE RG–1 UNLESS OTHERWISE NOTED.
3. ALL CEILING EXHAUST GRILLES SHOWN AS SUCH ARE EG–1, CFM AS NOTED, UNLESS OTHERWISE NOTED.
4. DO NOT ROUTE DUCTS AND PIPES ABOVE ELECTRICAL PANELS. ALL ELECTRICAL PANELS MUST HAVE CLEAR ACCESS SPACE IN FRONT OF PANEL 4'–0" DEEP AND 6'–6" HIGH. DO NOT ROUTE DUCTS AND PIPES IN ELECTRICAL ROOMS, EXCEPT DUCTS AND PIPES SERVING THE ROOM.
5. COORDINATE EXACT LOCATIONS OF CEILING DIFFUSERS AND GRILLES WITH ARCHITECTURAL REFLECTED CEILING PLAN.
6. ALL DUCT DIMENSIONS ARE INSIDE FREE AREA DIMENSIONS. ADJUST SHEET METAL DIMENSION FOR LINED DUCT.
7. IF CONTRACTOR ENCOUNTERS MATERIAL WHICH MAY CONTAIN ASBESTOS IMMEDIATELY STOP WORK IN THIS AREA AND NOTIFY THE OWNER.
8. PROVIDE CEILING ACCESS PANELS AS REQUIRED WHERE MECHANICAL EQUIPMENT, VALVES, VAV BOXES, FIRE DAMPERS, ETC. ARE LOCATED ABOVE INACCESSIBLE CEILINGS.
9. ALL DUCT AND FLUE PENETRATIONS THRU 1 HOUR ROOF ASSEMBLY TO BE ENCLOSED WITH 2 SHEET ROCK LAYERS FROM SHEET ROCK AT BOTTOM OF ROOF TRUSSES TO ROOF DECK.
10. EXTEND EXISTING FIRE SPRINKLER SYSTEM INTO NEW ADDITION PER NFPA 13 REQUIREMENTS.

UTAH NATIONAL GUARD BUILDING 304 ADDITION
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UTAH

SHEET TITLE
Mechanical Symbol Legend & General Information

REVISIONS	DATE	BY	DESCRIPTION
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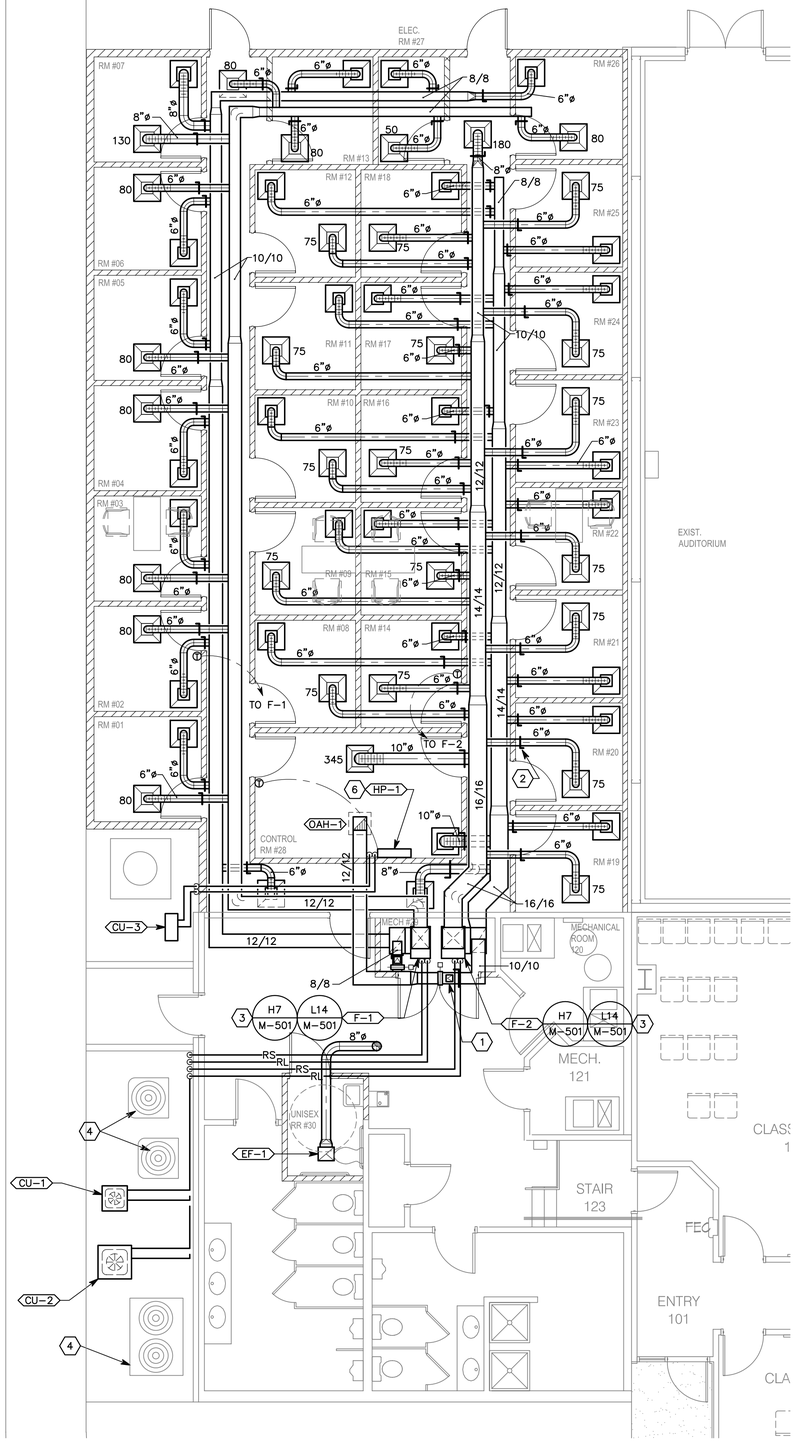
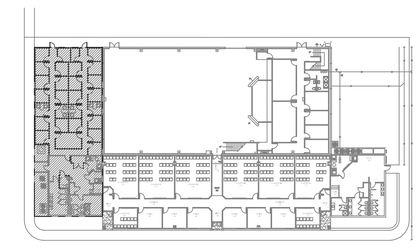


L18 MECHANICAL PLAN

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

PLAN NORTH



L4 KEYPLAN

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SHEET KEYNOTES

1. OUTSIDE MANUAL VOLUME DAMPER, MOTORIZED DAMPER, AND ACCESS DOOR. SEE DETAIL C7/M-501.
2. VOLUME BALANCING DAMPER TYPICAL.
3. ROUTE COOLING COIL CONDENSATE DRAIN PIPING ALONG MECHANICAL ROOM TO FLOOR DRAIN LOCATED IN EXISTING MECHANICAL ROOM TO THE EAST.
4. EXISTING CONDENSING UNITS TO REMAIN.
5. RELOCATE EXISTING FIRE SPRINKLER INSPECTION TEST PORT TO LOCATION SHOWN.
6. ROUTE CONDENSATE FROM A/C UNIT CONDENSATE PUMP UP INTO CEILING AND OVER TO FLOOR DRAIN IN MECHANICAL ROOM 120.

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UTAH

SHEET TITLE: Mechanical Plan

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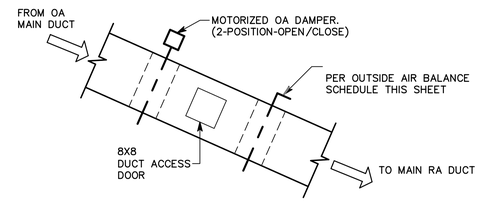
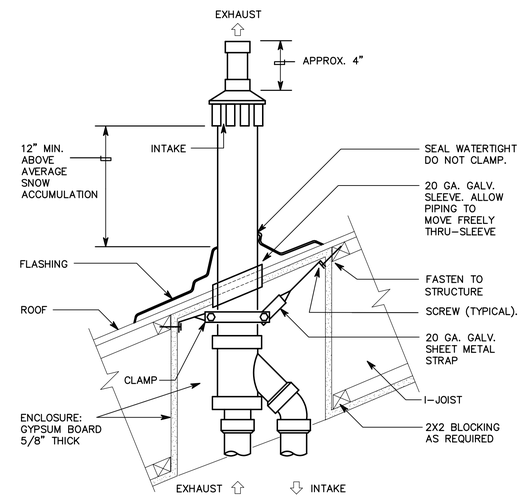


C7 OUTSIDE AIR DUCT DETAIL

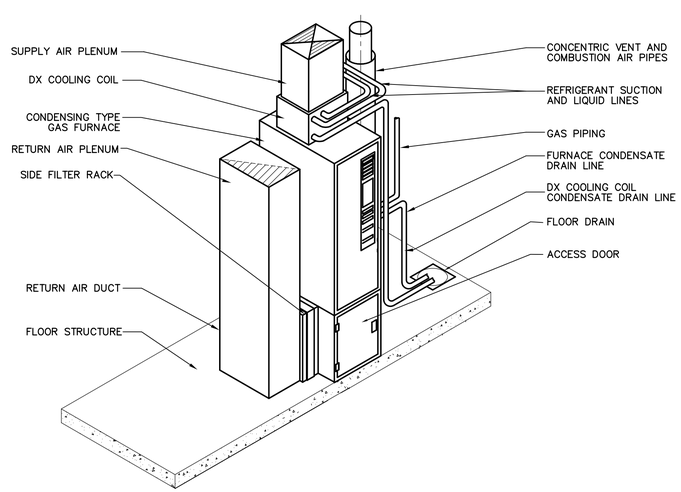
SCALE: NOT TO SCALE



NOTE:
USE EXTENSION KIT NECESSARY TO ACHEIVE CLEARANCE ABOVE SNOW LEVEL.

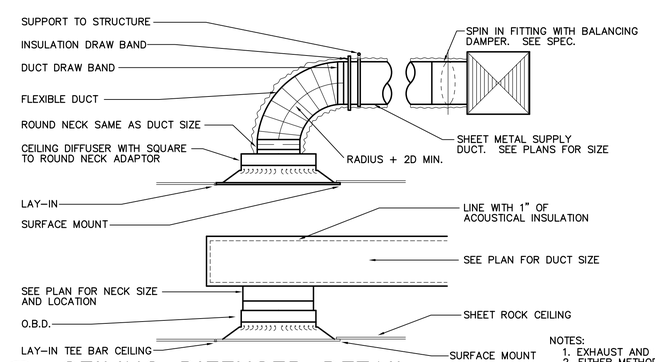
H7 CONCENTRIC ROOF TERMINATION DETAIL

SCALE: NOT TO SCALE



L14 UP FLOW FURNACE DETAIL

SCALE: NOT TO SCALE



NOTES:
1. EXHAUST AND RETURN GRILLES ARE SIMILAR
2. EITHER METHOD IS ACCEPTABLE

L7 CEILING DIFFUSER DETAIL

SCALE: NOT TO SCALE

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REGISTER AND GRILLE SCHEDULE

DESIGNATION	DESCRIPTION	SIZE	MAX. CFM	MAX. N.C.
CD-1	LOUVER FACE (4-CONE) CEILING DIFFUSERS, ADJUSTABLE AIR PATTERN, C.W./O.B.D. FRAME SHALL BE FOR SURFACE OR LAY-IN MOUNTING AS REQUIRED BY CEILING TYPE. LAY-IN FRAMES SHALL BE 24" x 24", 24" x 12", OR 12" x 12" AS REQUIRED TO FIT CEILING TILE SPACE AVAILABLE. DIFFUSER SHALL BE PRICE MODEL SCDA. PROVIDE ROUND NECK ADAPTER.	6 x 6 9 x 9 12 x 12 15 x 15 18 x 18	125 250 425 625 900	30
RG-1	PERFORATED FACE RETURN AIR UNIT, REMOVABLE FACE & CORE. FRAME SHALL BE FOR SURFACE OR LAY-IN MOUNTING AS REQUIRED BY CEILING TYPE. LAY-IN FRAMES SHALL BE 24" x 24", 24" x 12", OR 12" x 12" AS REQUIRED TO FIT CEILING TILE SPACE AVAILABLE. RETURN AIR UNITS SHALL BE PRICE MODEL PDDR. AIR QUANTITY SHALL MATCH ROOM SUPPLY OR EXHAUST AIR QUANTITY.	10 x 10 12 x 12 14 x 14 10 x 22 16 x 16 18 x 18 20 x 20 22 x 22	350 500 550 625 725 900 1000 1320	30

CONDENSING UNIT SCHEDULE

SYMBOL	MANUFACTURER	MODEL	LOCATION	REFRIGERANT	CAPACITY AIR COND. BTUH TOTAL COOLING	VOLTS/ PHASE	COMPRESSOR RATED LOAD AMPS (RLA)	MINIMUM CIRCUIT AMPACITY (MCA)	LIQUID LINE CONN. (INCHES)	SUCTION LINES CONN. (INCHES)	EVAP COIL SYMBOL	OPERATING WEIGHT (LBS)	COMMENTS
CU-1	CARRIER	38EZA024-31	SEE PLAN	R-22	21,400	208/1/60	13.5	17.4	1/2"	1-1/8"	CC-1	143	(1)
CU-2	CARRIER	38EZA048-51	SEE PLAN	R-22	44,200	208/3/60	14.7	19.8	1/2"	1-1/8"	CC-2	203	(1)
CU-3	CARRIER	38AN-012-3	SEE PLAN	R-22	11,600	208/1/60	5.5	8.5	(2)	(2)	HP-1		(1)

(1) JOB SITE ELEVATION: 4200 FT.
(2) INSTALL PIPE SIZES PER MANUFACTURER'S RECOMMENDATIONS.

GAS FIRED FURNACE SCHEDULE

SYMBOL	MANUFACTURER	MODEL	OUTPUT BTU/HR	INPUT BTU/HR	CFM	S.P. DROP	H.P.	RPM	VOLT	PHASE	Hz	OPERATING WEIGHT (LBS)	OUTSIDE AIR CFM	COMMENTS
F-1	CARRIER	58MXA040-12	38,000	40,000	900	0.6	1/3	1075	115	1	60	175	270	(1)(2)(3)
F-2	CARRIER	58MXA080-20	75,000	80,000	1800	0.6	3/4	1075	115	1	60	214	540	(1)(2)(3)

(1) SEA LEVEL RATING / JOB SITE IS 4200 FT. ELEVATION
(2) FURNACE MARKS CORRESPOND WITH CONDENSING UNIT AND COOLING COIL MARKS.
(3) PROVIDE AND SIZE COMBUSTION AIR AND VENT PIPING PER MANUFACTURERS INSTALLATION INSTRUCTIONS.
PROVIDE VENTING WITH CONCENTRIC VENT.

COOLING COIL SCHEDULE

SYMBOL	MANUFACTURER	MODEL	LOCATION	MINIMUM REQUIRED CAPACITY		ENTERING COIL TEMPERATURE		CFM	MAX S.P. DROP	COMMENTS
				TOTAL MBH	SEN. MBH	DB	WB			
CC-1	CARRIER	CK5AXW030	SEE PLAN	21.4	21.4	85	63	900	0.20	(1)
CC-2	CARRIER	CK5AXW060	SEE PLAN	44.2	44.2	85	63	1800	0.21	(1)

(1) ALL CONDITIONS AT 4200 FT. ELEVATION

OUTSIDE AIR HOOD SCHEDULE

SYMBOL	MANUFACTURER	MODEL	THROAT AREA	CFM	MAX STATIC PRESSURE	WEIGHT LBS	COMMENTS
OAH-1	LOREN-COOK	TRE	14"x14"	810	0.10	65.0	

SPLIT SYSTEM DUCTLESS AIR CONDITIONER(INDOOR UNIT)

SYMBOL	MANUFACTURER	MODEL NO.	COOLING CAPACITY (BTU)	MCA	FAN FLA	VOLT/PHASE/CYCLE	COMMENTS
HP-1	CARRIER	40QNB012-3	11,600	(1)	0.23	208/1/60	

(1) INDOOR UNIT MUST BE CONNECTED TO OUTDOOR UNIT.
(2) PROVIDE WITH CONDENSATE PUMP.
(3) PROVIDE REMOTE PROGRAMMABLE THERMOSTAT.

EXHAUST FAN SCHEDULE

SYMBOL	MANUFACTURER	MODEL NO.	CFM	STATIC PRESSURE IN WG.	WATTS	RPM	VOLTS/ PHASE/ CYCLE	AREA SERVED	COMMENTS
EF-1	LOREN-COOK	GC	100	0.25	57	1500	115/1/60	UNISEX RR #30	(1)(2)(3)

(1) ALL CAPACITIES AT 4200 FT. ELEVATION
(2) CEILING MOUNTED EXHAUST FAN. BACKDRAFT DAMPER, STANDARD DISCONNECT, AND ROOF CAP WITH BIRDSCREEN.
(3) CONTROL: INTERLOCK WITH LIGHTS BY DIV. 16.

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UTAH NATIONAL GUARD
BUILDING 304 ADDITION
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Mechanical Schedules

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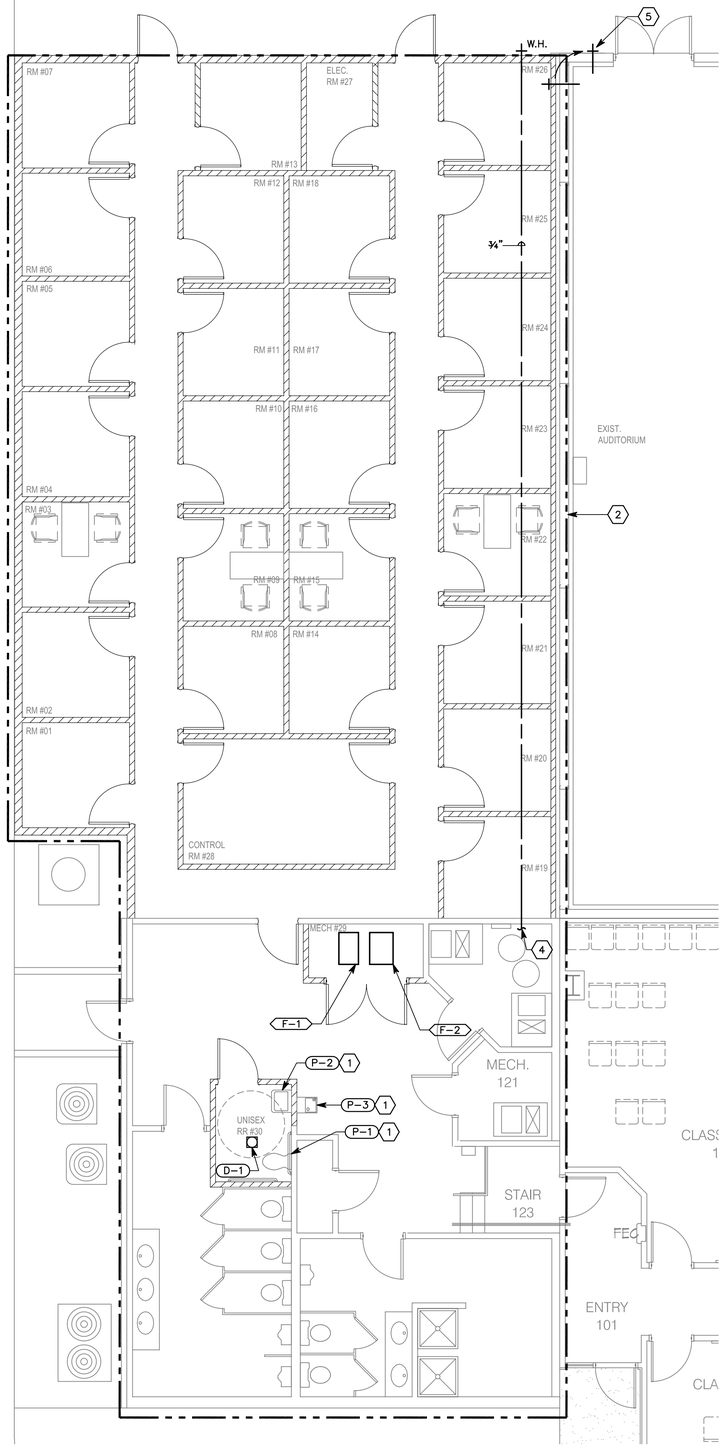
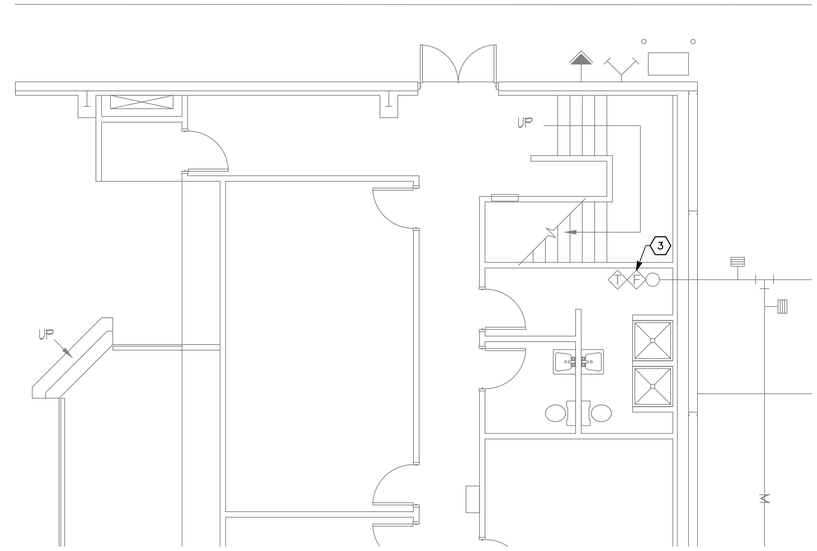


L18 PLUMBING PLAN
SCALE: 3/16"=1'-0"

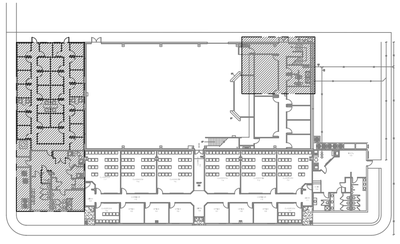


PLUMBING FIXTURE SCHEDULE

SYMBOL	FIXTURE	CW	HW	WASTE	VENT	TRAP	COMMENTS
P-1	WATER CLOSET	3/4"		2"	2"		
P-2	LAVATORY	1/2"	1/2"	2"	2"	1-1/4"	
P-3	WATER COOLER	1/2"	1/2"	2"	1-1/2"	1-1/2"	
D-1	FLOOR DRAIN			2"	1-1/2"	2"	

GENERAL PLUMBING NOTES

1. REFER TO MECHANICAL SHEET M-001 FOR SYMBOLS LEGEND.
2. LOCATION AND ELEVATIONS OF EXISTING UTILITIES SHOWN HAVE BEEN TAKEN FROM A SITE SURVEY AND ARE APPROXIMATE ONLY. FIELD VERIFY EXACT LOCATION, SIZE AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO STARTING ANY WORK.
3. INSTALL WATER, GAS, VENT AND ROOF DRAIN PIPING SHOWN ABOVE THE CEILING UNLESS NOTED OTHERWISE.
4. INSTALL WASTE PIPING SHOWN BELOW THE FLOOR UNLESS NOTED OTHERWISE.
5. INSTALL ALL PIPING SHOWN IN EXTERIOR WALLS ON THE WARM SIDE OF THE BUILDING INSULATION.
6. PROVIDE 2" MINIMUM WASTE PIPING BELOW GRADE.
7. FIELD DETERMINE EXACT SIZE, ELEVATION AND LOCATION OF EXISTING PIPING INSIDE THE BUILDING AT SPECIFIED CONNECTION POINTS PRIOR TO STARTING ANY WORK.
8. SAW CUT EXISTING FLOOR AS REQUIRED TO RUN NEW WASTE AND VENT PIPING, PATCH AND REPAIR TO MATCH EXISTING.
9. SAW CUT OR CORE DRILL ALL NEW PENETRATIONS THRU EXISTING MASONRY CONSTRUCTION.
10. PATCH AND REPAIR ALL EXISTING SURFACES DAMAGED BY NEW CONSTRUCTION TO MATCH EXISTING.
11. WATER PIPING SHALL BE TYPE L HARD DRAWN WITH COPPER FITTINGS AND LEAD FREE SOLDER JOINTS.
12. INSULATE ALL WATER PIPING WITH 1" FIBERGLASS INSULATION WITH ALL SERVICE JACKET.
13. WASTE AND VENT PIPING BELOW GRADE SHALL BE SERVICE WEIGHT CAST IRON DWV WITH BELL AND SPIGOT JOINTS.
14. WASTE AND VENT PIPING ABOVE GRADE SHALL BE SERVICE WEIGHT CAST IRON DWV WITH NO HUB JOINTS.
15. PROVIDE 3" MINIMUM VENT THRU ROOF. INCREASE VENT LINE 12" BELOW BUILDING INSULATION.
16. COORDINATE EXACT LOCATION OF FIXTURES AND DRAINS WITH ARCHITECTURAL DRAWINGS.
17. PROVIDE CEILING ACCESS PANELS AS REQUIRED WHERE MECHANICAL AND PLUMBING EQUIPMENT, VALVES, ETC. ARE LOCATED ABOVE INACCESSIBLE CEILINGS.



L4 KEYPLAN
NTS

PLAN NORTH

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SHEET KEYNOTES

1. NEW PLUMBING FIXTURE TO CONNECT INTO EXISTING WATER, VENT AND WASTE LINES AS REQUIRED. FIELD DETERMINE EXACT LOCATIONS OF EXISTING LINES AND SAW CUT AS REQUIRED TO CONNECT INTO EXISTING WASTE.
2. EXTEND FIRE SPRINKLER SYSTEM INTO AREA SHOWN. SUPPLY AREA FROM EXISTING SPRINKLER SYSTEM IN AUDITORIUM. IF EXISTING CROSS MAINS ARE INADEQUATE TO SUPPLY SPRINKLER DEMAND, ADDITIONAL MAINS MAY BE REQUIRED TO RUN FROM EXISTING FIRE RISER. MEET NFPA 13 REQUIREMENTS AND INSTALL SCHEDULE 40 STEEL PIPE FOR ALL FIRE SPRINKLER PIPE.
3. EXISTING FIRE RISER.
4. CONNECT ¾" DOMESTIC COLD WATER LINE TO EXISTING NEAR THIS LOCATION. RUN NEW LINE TO WALL HYDRANT ON NORTH SIDE OF NEW ADDITION.
5. REROUTE EXISTING FIRE SPRINKLER PIPING AND INSTALL NEW TEST INSPECTION PORT ON EXTERIOR WALL AT LOCATION SHOWN.

15.

UTAH NATIONAL GUARD
BUILDING 304 ADDITION
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UTAH

SHEET TITLE
Plumbing Plan

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CONDUCTOR AND CONDUIT SCHEDULE

(**) SCHEDULE NUMBER
SUBSCRIPT (NOTE 5)
(E.G.) (5)IG

SYM	AMP	CONDUIT SIZE	CONDUCTOR(NOTE 1) QTY	SIZE	G	IG	SE	NOTES
1	20	.75	2	12	12	12	8	2
2	20	.75	3	12	12	12	8	2,3
3	20	.75	4	12	12	12	8	2,3
4	30	.75	2	10	10	10	8	2
5	30	.75	3	10	10	10	8	2
6	30	.75	4	10	10	10	8	2
7	40	1	2	8	10	8	6	2
8	40	1	3	8	10	8	6	2
9	40	1	4	8	10	8	6	2
10	55	1	2	6	10	8	4	2
11	55	1	3	6	10	8	4	2
12	55	1.25	4	6	10	8	4	2
13	70	1	2	4	8	4	2	2
14	70	1.25	3	4	8	4	2	2
15	70	1.25	4	4	8	4	2	2
16	85	1.25	2	3	8	3	2	2
17	85	1.25	3	3	8	3	2	2
18	85	1.25	4	3	8	3	2	2
19	95	1.25	3	2	8	2	2	2
20	95	1.50	4	2	8	2	2	2
21	130	1.50	3	1	6	2	2	2
22	130	1.50	4	1	6	2	2	2
23	150	2	3	1/0	6	2	1/0	2
24	150	2	4	1/0	6	2	1/0	2
25	175	2	3	2/0	6	2	2/0	2
26	175	2	4	2/0	6	2	2/0	2
27	200	2	3	3/0	6	2	2/0	2
28	200	2.50	4	3/0	6	2	2/0	2
29	230	2.50	3	4/0	4	2	2/0	2
30	230	2.50	4	4/0	4	2	2/0	2
31	255	2.50	3	250	4	1	2/0	2
32	255	2.50	4	250	4	1	2/0	2
33	310	3	3	350	3	1/0	3/0	2
34	310	3	4	350	3	1/0	3/0	2
35	380	3.50	3	500	3	3/0	3/0	2
36	380	4	4	500	3	3/0	3/0	2
37	400	2 EA 2	3	3/0	3	3/0	3/0	2
38	400	2 EA 2.50	4	3/0	3	3/0	3/0	2
39	510	2 EA 2.50	3	250	1	4/0	3/0	2
40	510	2 EA 3	4	250	1	4/0	3/0	2
41	620	2 EA 3	3	350	1/0	4/0	3/0	2,4
42	620	2 EA 3	4	350	1/0	4/0	3/0	2,4
43	760	2 EA 3.50	3	500	1/0	4/0	3/0	2,4
44	760	2 EA 4	4	500	1/0	4/0	3/0	2,4
45	855	3 EA 3	3	300	2/0	4/0	3/0	2,4
46	855	3 EA 3	4	300	2/0	4/0	3/0	2,4
47	1000	3 EA 3.50	3	400	2/0	4/0	3/0	4
48	1000	3 EA 3.50	4	400	2/0	4/0	3/0	4
49	1140	3 EA 4	3	500	3/0	4/0	3/0	4
50	1140	3 EA 4	4	500	3/0	4/0	3/0	4
51	1240	4 EA 3	3	350	3/0	4/0	3/0	4
52	1240	4 EA 3	4	350	3/0	4/0	3/0	4
53	1675	5 EA 3.50	4	400	4/0	4/0	4/0	4
54	2010	6 EA 3.50	4	400	250	250	250	4
55	2660	7 EA 4	4	500	350	350	350	4
56	3040	8 EA 4	4	500	500	500	500	4
57	4180	11 EA 4	4	500	500	500	500	4
58		5 EA 4						6
59		5						6
60		10 EA 4						6

CONDUCTOR AND CONDUIT SCHEDULE NOTES

1. CONDUCTORS SHOWN ARE SHOWN FOR EACH CONDUIT WITH MODIFICATIONS AS NOTED IN NOTE 5. ALL CONDUCTORS SHOWN ARE THWN UNLESS OTHERWISE NOTED.
2. PROVIDE EQUIPMENT GROUND CONDUCTORS PER TABLE 250–122 WHEN CIRCUIT BREAKERS ARE SIZED GREATER THAN AMPERE RATING SHOWN IN TABLE.
3. PROVIDE #10 NEUTRALS FOR MULTIWIRE BRANCH CIRCUITS SERVING COMPUTERS.
4. GROUND (G) CONDUCTOR MAY BE DELETED ON SERVICE ENTRANCE CONDUCTORS.
5. WHEN SYMBOL SUBSCRIPT INDICATES "IG", INCLUDE "IG" OR INSULATED GROUND CONDUCTOR SCHEDULED ALONG WITH GROUND OR EQUIPMENT GROUND CONDUCTOR. WHEN SYMBOL SUBSCRIPT INDICATES "SE", SUBSTITUTE "SE" CONDUCTOR FOR "G" CONDUCTOR SHOWN WHICH IS SIZED FOR THE GROUNDING OF THE SECONDARY OF THE SEPARATELY DERIVED SYSTEMS.
6. RACEWAY ONLY. CONDUCTORS PROVIDED BY UTILITY.

SYMBOL LEGEND

SYMBOL	DESCRIPTION
REFERENCE AND LINE SYMBOLS	
A5 / E–501	DETAIL INDICATOR: A5 INDICATES DETAIL NUMBER, E–501 INDICATES DRAWING SHEET WHERE DETAIL IS SHOWN.
A5 / E–201	ELEVATION OR SECTION INDICATOR, EXTERIOR: A5 INDICATES ELEVATION OR SECTION NUMBER, E–201 INDICATES DRAWING SHEET WHERE ELEVATION OR SECTION IS SHOWN.
100	ROOM OR SPACE NUMBER.
1	KEYNOTE INDICATOR.
1	REVISION INDICATOR.
CU–1	EQUIPMENT INDICATOR.
	BREAK, STRAIGHT: TO BREAK PARTS OF DRAWING.
	BREAK, ROUND.
	NEW LINE: MEDIUM LINE.
	HIDDEN FEATURES LINE: HIDDEN, THIN LINE.
	EXISTING TO REMAIN LINE: THIN LINE.
	DEMOLITION LINE: DASHED, MEDIUM LINE.
	PROPERTY LINE: DASHED, WIDE LINE.
WIRING METHODS	
	WIRING.
A–1,3,5	BRANCH CIRCUIT HOME RUN TO PANELBOARD: NUMBER OF ARROWS INDICATES NUMBER OF CIRCUITS. LETTER AND NUMBER NOTATIONS IDENTIFY PANEL AND CIRCUIT NUMBERS. USE #12 CONDUCTORS, EXCEPT #10 CONDUCTORS SHALL BE INSTALLED IF DISTANCES EXCEED THOSE SPECIFIED IN SECTION 16120.
1 A–1,3,5	BRANCH CIRCUIT HOME RUN TO PANELBOARD: NUMBER OF ARROWS INDICATES NUMBER OF CIRCUITS. LETTER AND NUMBER NOTATIONS IDENTIFY PANEL AND CIRCUIT NUMBERS. NUMBER IN BOX REFERS TO THE CONDUCTOR AND CONDUIT SCHEDULE. FOR BRANCH WIRING USE #12 CONDUCTORS, EXCEPT #10 CONDUCTORS SHALL BE INSTALLED IF DISTANCES EXCEED THOSE SPECIFIED IN SECTION 16120.
—FA— —FO— — I — — P — —RC— — S — — T — —TV—	WIRING AND/OR RACEWAY: THIN LINE. FA FOR FIRE ALARM, FO FOR FIBER OPTICS, I FOR INTERCOM, P FOR POWER, RC FOR RIGID CONDUIT, S FOR SOUND, T FOR TELEPHONE, TV FOR TELEVISION AND OTHERS AS NOTED IN OTHER SCHEDULES. RACEWAYS AND WIRING SHALL BE SIZED AS SHOWN AND/OR SPECIFIED.
	LOW VOLTAGE WIRING: DIVIDE, MEDIUM LINE.
	CONDUIT STUB. DIMENSION RECORD DRAWINGS AND MARK.
1	CONDUCTOR & CONDUIT ("CC") SCHEDULE INDICATOR. REFER TO ONE–LINE DIAGRAM.
	JUNCTION BOX.
C C	CABLE TRAY.
LIGHTING (REFER TO FIXTURE SCHEDULE FOR SYMBOLS)	
(W–3)	FIXTURE IDENTIFICATION: (W–3) INDICATES FIXTURE TYPE AS SCHEDULED.
(W–3)	FIXTURE IDENTIFICATION, EMERGENCY WITH BATTERY PACK, CONNECTED TO GENERATOR AS INDICATED: (W–3) INDICATES FIXTURE TYPE AS SCHEDULED.
EM	EMERGENCY.
NL	NIGHT LIGHT: DO NOT SWITCH.
↑	EGRESS DIRECTION ARROW.
LIGHTING CONTROL	
	OCCUPANCY SENSOR, DUAL TECHNOLOGY, CEILING.
SP	OCCUPANCY SENSOR SWITCH PACK.
P	PHOTOCELL.
TC	TIME CLOCK.
STRUCTURED CABLING	
	OUTLET, BUILDING STANDARD COMBINATION TELEPHONE/ DATA COMMUNICATION.
	TELEPHONE TERMINAL BOARD, FIRE TREATED PLYWOOD PAINTED.

SYMBOL LEGEND

SYMBOL	DESCRIPTION
WIRING DEVICES	
	RECEPTACLE, DUPLEX: NEMA 5–20R.
A	RECEPTACLE, DUPLEX, ABOVE COUNTER: NEMA 5–20R.
WP	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER, WEATHERPROOF: NEMA 5–20R.
	RECEPTACLE, QUADRAPLEX: NEMA 5–20R.
X $	SWITCH, SINGLE POLE ("x" INDICATES FIXTURES CONTROLLED).
X $3	SWITCH, THREE–WAY ("x" INDICATES FIXTURES CONTROLLED).
X $4	SWITCH, FOUR–WAY ("x" INDICATES FIXTURES CONTROLLED).
FIRE ALARM	
P	FIRE ALARM MANUAL PULL STATION.
R	SHUT DOWN RELAY: INSTALL RELAY IN CONTROL CIRCUIT OF EQUIPMENT TO BE CONTROLLED IN THE EVENT OF A FIRE.
	DETECTOR, SMOKE.
	DETECTOR, HEAT.
75	ALARM, HORN/STROBE, ONE ASSEMBLY. SUBSCRIPT INDICATES CANDELA RATING.

DEFINITIONS

NOTE: ALL DEFINITIONS MAY NOT BE USED.

INDICATED: THE TERM "INDICATED" REFERS TO GRAPHIC REPRESENTATIONS, NOTES, OR SCHEDULES ON THE DRAWINGS, OTHER PARAGRAPHS OR SCHEDULES IN THE SPECIFICATIONS, AND SIMILAR REQUIREMENTS IN THE CONTRACT DOCUMENTS. WHERE TERMS SUCH AS "SHOWN", "SCHEDULED", "SCHEDULED", AND "SPECIFIED" ARE USED, IT IS TO HELP THE READER LOCATE THE REFERENCE, NO LIMITATION ON LOCATION IS INTENDED.

DIRECTED: TERMS SUCH AS "DIRECTED", "REQUESTED", AUTHORIZED", "SELECTED", "APPROVED", "REQUIRED", AND "PERMITTED" MEAN "DIRECTED BY THE ENGINEER", "REQUESTED BY THE ENGINEER", AND SIMILAR PHRASES.

APPROVE: THE TERM "APPROVED", WHERE USED IN CONJUNCTION WITH THE ENGINEER'S ACTION ON THE CONTRACTOR'S SUBMITTALS, APPLICATIONS, AND REQUESTS, IS LIMITED TO THE ENGINEER'S DUTIES AND RESPONSIBILITIES AS STATED IN GENERAL AND SUPPLEMENTARY CONDITIONS.

FURNISH: THE TERM "FURNISH" IS USED TO MEAN "SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION, AND SIMILAR OPERATIONS."

INSTALL: THE TERM "INSTALL" IS USED TO DESCRIBE OPERATIONS AT PROJECT SITE INCLUDING THE ACTUAL "UNLOADING, UNPACKING, ASSEMBLY, ERECTION, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS."

PROVIDE: THE TERM "PROVIDE" MEANS "TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE."

INSTALLER: AN "INSTALLER" IS THE CONTRACTOR OR AN ENTITY ENGAGED BY THE CONTRACTOR, EITHER AS AN EMPLOYEE, SUBCONTRACTOR, OR SUB–SUBCONTRACTOR, FOR PERFORMANCE OF A PARTICULAR CONSTRUCTION ACTIVITY, INCLUDING INSTALLATION, ERECTION, APPLICATION, AND SIMILAR OPERATIONS. INSTALLERS ARE REQUIRED TO BE EXPERIENCED IN THE OPERATIONS THEY ARE ENGAGED TO PERFORM.

ELECTRONIC SYSTEMS: THE TERM "ELECTRONIC SYSTEMS" IS USED TO DESCRIBE ALL LOW VOLTAGE SYSTEMS GENERALLY REFERRED TO AS "SPECIAL SYSTEMS". THESE SYSTEMS INCLUDE BUT ARE NOT NECESSARILY LIMITED TO ALL SYSTEMS WHICH UTILIZE VOLTAGES OF LESS THAN 71 VOLTS SUCH AS SOUND SYSTEMS, VIDEO SYSTEMS, TV SYSTEMS, SECURITY SYSTEMS, VOICE AND DATA CABLING SYSTEMS, ETC...

ABBREVIATIONS

NOTE: ALL ABBREVIATIONS MAY NOT BE USED.

1P	SINGLE POLE	kVAR	KILOVOLT AMPERE REACTIVE
1PH	SINGLE–PHASE	kW	KILOWATT
1WAY	ONE–WAY	kWh	KILOWATT HOUR
2/C	TWO–CONDUCTOR	LED	LIGHT EMITTING DIODE
2WAY	TWO–WAY	LFMC	LIQUID TIGHT FLEXIBLE METAL CONDUIT
3/C	THREE–CONDUCTOR	LFNC	LIQUID TIGHT FLEXIBLE NONMETALLIC CONDUIT
3PH	THREE–PHASE	LPS	LOW PRESSURE SODIUM
3WAY	THREE–WAY	LRA	LOCKED ROTOR AMPS
4OUT	QUADRUPLE RECEPTACLE OUTLET	LTG	LIGHTING
4PDT	FOUR–POLE DOUBLE THROW	LV	LOW VOLTAGE
4PST	FOUR–POLE SINGLE THROW	MATV	MASTER ANTENNA TELEVISION SYSTEM
4W	FOUR–WIRE	MAX	MAXIMUM
4WAY	FOUR–WAY	MC	METAL CLAD
AC	ARMORED CABLE	MCA	MINIMUM CIRCUIT AMPS
ADA	AMERICANS WITH DISABILITIES ACT	MCB	MAIN CIRCUIT BREAKER
ADJ	ADJACENT	MCC	MOTOR CONTROL CENTER
AFF	ABOVE FINISHED FLOOR	MCP	MOTOR CIRCUIT PROTECTION
AFG	ABOVE FINISHED GRADE	MDP	MAIN DISTRIBUTION PANEL
AIC	AMPERE INTERRUPTING CAPACITY	MG	MOTOR GENERATOR
ALUM	ALUMINUM	MH	MANHOLE
AMP	AMPERE	MIN	MINIMUM
ANN	ANNUNCIATOR	MLO	MAIN LUGS ONLY
AR	AS REQUIRED	MOCP	MAXIMUM OVERCURRENT PROTECTION
ASC	AMPS SHORT CIRCUIT	NA	NOT APPLICABLE
ATS	AUTOMATIC TRANSFER SWITCH	NC	NORMALLY CLOSED
AV	AUDIO VISUAL	NEC	NATIONAL ELECTRICAL CODE
AWG	AMERICAN WIRE GAGE	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
BB XFMR	BUCK–BOOST TRANSFORMER	NFC	NATIONAL FIRE CODE
CATV	COMMUNITY ANTENNA TELEVISION	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
CB	CIRCUIT BREAKER	NIC	NOT IN CONTRACT
CCBA	CUSTOM COLOR AS SELECTED BY ARCHITECT	NL	NIGHT LIGHT
CCTV	CLOSED CIRCUIT TELEVISION	NO	NORMALLY OPEN
CFBA	CUSTOM FINISH AS SELECTED BY ARCHITECT	NTS	NOT TO SCALE
CF/CI	CONTRACTOR FURNISHED/ CONTRACTOR INSTALLED	OC	ON CENTER
CF/OI	CONTRACTOR FURNISHED/ OWNER INSTALLED	OCP	OVER CURRENT PROTECTION
CKT	CIRCUIT	OF/CI	OWNER FURNISHED/ CONTRACTOR INSTALLED
CM	CONSTRUCTION MANAGER	OF/OI	OWNER FURNISHED/ OWNER INSTALLED
CND	CONDUIT	OFP	OBTAIN FROM PLANS
CO	CONVENIENCE OUTLET	OH DR	OVERHEAD (COILING) DOOR
COR	CONTRACTING OFFICER'S REPRESENTATIVE	OL	OVERLOAD
CP	CONTROL PANEL	PB	PUSHBUTTON
CT	CURRENT TRANSFORMER	PF	POWER FACTOR
CTV	CABLE TELEVISION	PH	PHASE
CU	COPPER	PNL	PANEL
dBA	UNIT OF SOUND LEVEL	PT	POTENTIAL TRANSFORMER
DPDT	DOUBLE POLE DOUBLE THROW	QTY	QUANTITY
DS	DISCONNECT SWITCH	R	REMOVE
EA	EACH	RCP	REFLECTED CEILING PLAN
EM	EMERGENCY	RMC	RIGID METAL CONDUIT
EMT	ELECTRICAL METALLIC TUBING	RNC	RIGID NONMETALLIC CONDUIT
ENT	ELECTRICAL NONMETALLIC TUBING	RPM	REVOLUTIONS PER MINUTE
EPO	EMERGENCY POWER OFF	RR	REMOVE AND RELOCATE
EQUIP	EQUIPMENT	SCA	SHORT CIRCUIT AMPS
EXIST	EXISTING	SCBA	STANDARD COLOR AS SELECTED BY ARCHITECT
FA	FIRE ALARM	SF	SQUARE FOOT (FEET)
FCP	FIRE ALARM CONTROL PANEL	SFBA	STANDARD FINISH AS SELECTED BY ARCHITECT
FLA	FULL LOAD AMPS	SPDT	SINGLE POLE, DOUBLE THROW
FMC	FLEXIBLE METALCONDUIT	SPEC	SPECIFICATION
FOB	FREIGHT ON BOARD	SPST	SINGLE POLE, SINGLE THROW
FVNR	FULL VOLTAGE NON–REVERSING	S/S	START/STOP
FVR	FULL VOLTAGE REVERSING	ST	SINGLE THROW
G	GROUND	SWBD	SWITCHBOARD
GEN	GENERATOR	SWGR	SWITCHGEAR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	TL	TWIST LOCK
GFP	GROUND FAULT PROTECTION	TP	TELEPHONE POLE
HD	HEAVY DUTY	TP	TWISTED PAIR
HID	HIGH INTENSITY DISCHARGE	TTB	TELEPHONE TERMINAL BOARD
HOA	HAND–OFF–AUTOMATIC	TV	TELEVISION
HP	HORSE POWER	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSER
HPF	HIGH POWER FACTOR	TYP	TYPICAL
HPS	HIGH PRESSURE SODIUM	UF	UNDERFLOOR
HV	HIGH VOLTAGE	UGND	UNDERGROUND
HZ	HERTZ	UPS	UNINTERRUPTIBLE POWER SUPPLY
IG	ISOLATED GROUND	V	VOLTS
IMC	INTERMEDIATE METAL CONDUIT	VA	VOLT AMPERE
IN/IS	INSULATED/ISOLATED	VFC	VARIABLE FREQUENCY CONTROLLER
I/O	INPUT/OUTPUT	W/	WITH
IR	INFRARED	W/O	WITHOUT
KV	KILOVOLT	WP	WEATHERPROOF
KVA	KILOVOLT AMPERE	XFMR	TRANSFORMER

ELECTRICAL SHEET INDEX

SHEET NO	SHEET TITLE
E–001	SYMBOL LEGEND/SHEET INDEX
E–101	ELECTRICAL DEMOLITION PLAN
E–102	POWER PLAN
E–103	LIGHTING PLAN
E–104	FIRE ALARM PLAN
E–501	DETAILS
E–502	DETAILS
E–601	FIRE ALARM RISER DIAGRAM
E–602	SCHEDULES

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GENERAL ELECTRICAL NOTES

1. CLARIFICATION METHODS: AT THE TIME OF BIDDING, BIDDERS SHALL FAMILIARIZE THEMSELVES WITH THE DRAWINGS AND SPECIFICATIONS. ANY QUESTIONS, MISUNDERSTANDINGS, CONFLICTS, DELETIONS, DISCONTINUED PRODUCTS, CATALOG NUMBER DISCREPANCIES, DISCREPANCIES BETWEEN THE EQUIPMENT SUPPLIED AND THE INTENT OR FUNCTION OF THE EQUIPMENT, ETC, SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER IN WRITING FOR CLARIFICATION PRIOR TO ISSUANCE OF THE FINAL ADDENDUM AND BIDDING OF THE PROJECT. WHERE DISCREPANCIES OR MULTIPLE INTERPRETATIONS OCCUR, THE MOST STRINGENT (WHICH IS GENERALLY RECOGNIZED AS THE MOST COSTLY) THAT MEETS THE INTENT OF THE DOCUMENTS SHALL BE ENFORCED.
2. OWNER FURNISHED ITEMS: THE OWNER WILL FURNISH MATERIAL AND EQUIPMENT AS INDICATED IN THE CONTRACT DOCUMENTS TO BE INCORPORATED INTO THE WORK. THESE ITEMS ARE ASSIGNED TO THE INSTALLER AND COSTS FOR RECEIVING, HANDLING, STORAGE, IF REQUIRED, AND INSTALLATION ARE INCLUDED IN THE CONTRACT SUM.

   A. THE INSTALLER'S RESPONSIBILITIES ARE THE SAME AS IF THE INSTALLER FURNISHED THE MATERIALS OR EQUIPMENT.

   B. THE OWNER WILL ARRANGE AND PAY FOR DELIVERY OF OWNER FURNISHED ITEMS FREIGHT ON BOARD JOB SITE AND THE INSTALLER WILL INSPECT DELIVERIES FOR DAMAGE. IF OWNER FURNISHED ITEMS ARE DAMAGED, DEFECTIVE OR MISSING, DOCUMENT DAMAGED ITEMS WITH THE TRANSPORT COMPANY AND THE OWNER WILL ARRANGE FOR REPLACEMENT. THE OWNER WILL ALSO ARRANGE FOR MANUFACTURER'S FIELD SERVICES, AND THE DELIVERY OF MANUFACTURER'S WARRANTIES AND BONDS TO THE INSTALLER.

   C. THE INSTALLER IS RESPONSIBLE FOR DESIGNATING THE DELIVERY DATES OF OWNER FURNISHED ITEMS AND FOR RECEIVING, UNLOADING AND HANDLING OWNER FURNISHED ITEMS AT THE SITE. THE INSTALLER IS RESPONSIBLE FOR PROTECTING OWNER FURNISHED ITEMS FROM DAMAGE, INCLUDING DAMAGE FROM EXPOSURE TO THE ELEMENTS, AND TO REPAIR OR REPLACE ITEMS DAMAGED AS A RESULT OF HIS OPERATIONS.
3. EXPOSED STRUCTURE AREAS (EXCLUDING MECHANICAL, ELECTRICAL, AND COMMUNICATION SPACES): INSTALL RACEWAYS BETWEEN DECK AND STRUCTURE WHEREVER POSSIBLE IN EXPOSED STRUCTURE CEILING AREAS. ROUTE RACEWAYS IN CONCEALED AREAS WHEREVER POSSIBLE. REFER ALL CONDITIONS WHERE RACEWAYS MUST BE INSTALLED WHICH CANNOT COMPLY WITH THESE REQUIREMENTS TO THE ARCHITECT.
4. SUBMITTALS: PROVIDE SUBMITTALS IN THREE RING BINDERS WITH JOB NAME, SUBCONTRACTOR, AND VOLUME ON THE BINDING. PREPARE TABS FOR EACH SPECIFICATION SECTION REQUIRING SUBMITTALS. PREPARE INDEX OF EQUIPMENT SUBMITTED IN EACH TAB.
5. REFLECTED CEILING PLANS: COORDINATE THE LOCATION OF LIGHT FIXTURES WITH THE ARCHITECTURAL REFLECTED CEILING PLANS. REFER ALL DISCREPANCIES TO THE ARCHITECT AND ENGINEER.

UTAH NATIONAL GUARD
BUILDING 304 ADDITION
CAMP W.G. WILLIAMS
UTAH

SHEET TITLE
Symbol Legend/Sheet Index

REVISIONS	DATE	BY	DESCRIPTION
1			
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3			
4			

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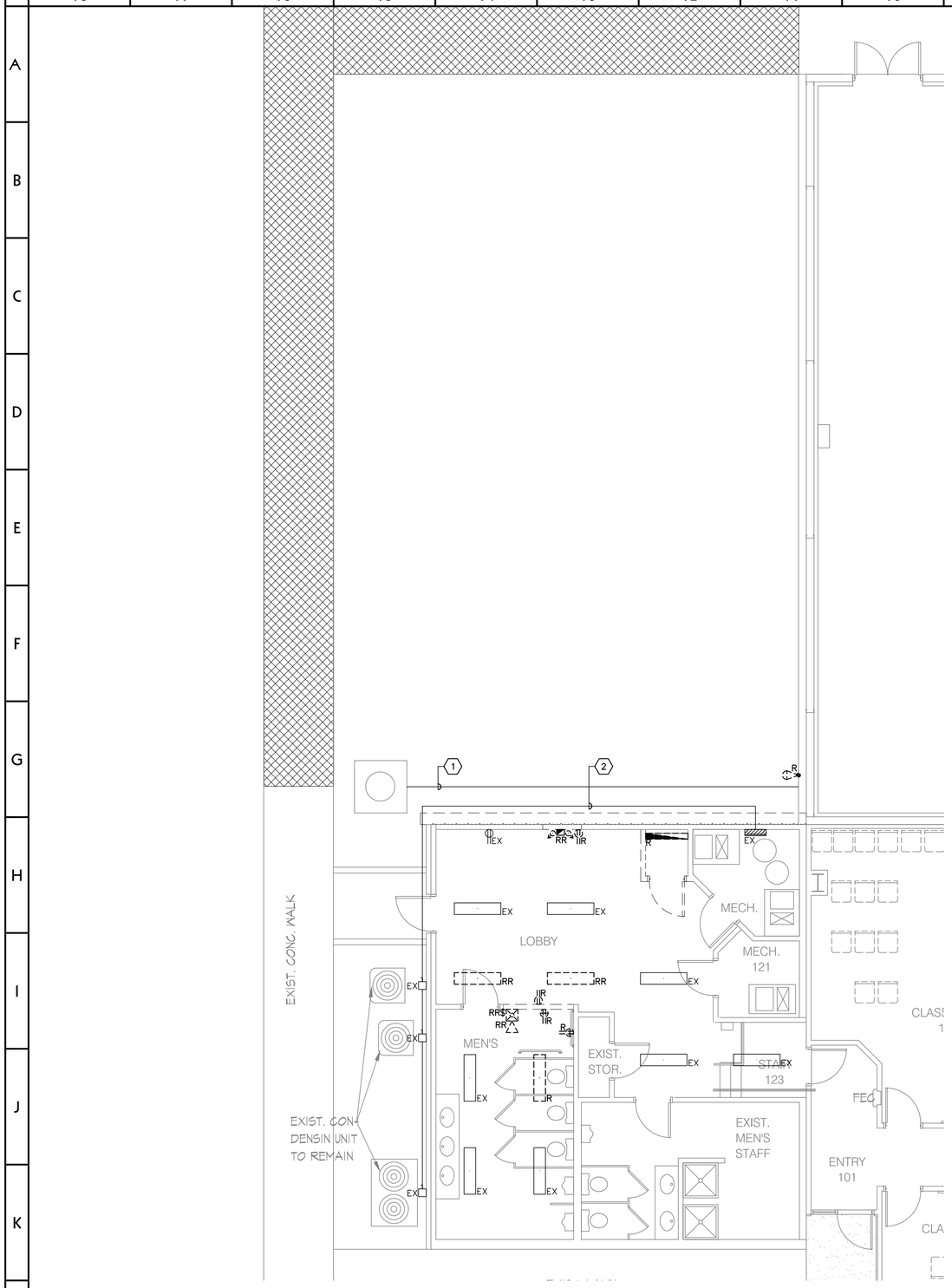
CHECKED BY: DLA
PROJECT NO.: 05215480
DATE: AUG. 24, 2005
DRAWING NO.: E-001

File name: P:\2005\20050525\1Drawings\Sheet\25-E-001.dwg Last Plotted: 08/26/2005 @ 07:27 By: pss



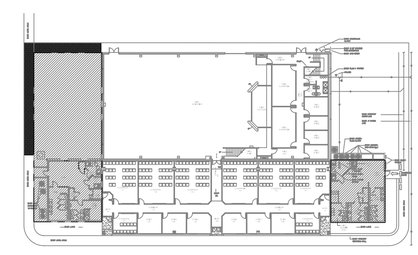
L18 ELECTRICAL DEMOLITION PLAN

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

PLAN NORTH

DEMOLITION LEGEND

SYMBOL	DESCRIPTION
EX	EXISTING LIGHT FIXTURE TO REMAIN.
R	EXISTING LIGHT FIXTURE TO BE REMOVED.
RR	EXISTING LIGHT FIXTURE TO BE REMOVED & RELOCATED.
$RR	EXISTING SWITCH TO BE REMOVED & RELOCATED.
RR	EXISTING EMERGENCY LIGHT TO BE REMOVED & RELOCATED.
R	EXISTING FLOOD LIGHT TO BE REMOVED.
R	EXISTING TELEPHONE BOARD TO BE REMOVED.
EX	EXISTING PANELBOARD TO REMAIN.
R	EXISTING GFI OUTLET TO BE REMOVED.
R	EXISTING OUTLET TO BE REMOVED.
EX	EXISTING OUTLET TO REMAIN.
RR	FIRE ALARM HORN/STROBE TO BE REMOVED & RELOCATED.



L4 KEYPLAN

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GENERAL SHEET NOTES

1. PROVIDE GROUNDING CONDUCTORS PER NEC FOR CIRCUITS AFFECTED BY THIS WORK.
2. RELOCATE AND/OR REROUTE EXISTING CONDUIT, WIRING OR OTHER EQUIPMENT THAT CONFLICTS WITH DEMOLITION OR NEW CONSTRUCTION.
3. REMOVE ALL CONDUIT, WIRING, AND CABLING THAT IS ABANDONED OR WILL BECOME ABANDONED AS A RESULT OF THIS PROJECT.
4. WHERE DEVICES, LIGHT FIXTURES OR OTHER EQUIPMENT ARE BEING REMOVED, REMOVE ASSOCIATED CONDUIT AND WIRING TO PANEL BOARD OR FIRST ACTIVE JUNCTION BOX.

SHEET KEYNOTES

1. EXISTING 4-INCH UNDERGROUND CONDUIT WITH CONDUCTORS TO REMAIN.
2. EXISTING 1.5-INCH FEEDER CONDUIT AND CONDUCTORS FOR EXISTING CONDENSING UNITS TO BE RELOCATED TO ACCOMMODATE THE NEW WORK. FIELD VERIFY CONDUCTORS TO BE RELOCATED. REFEED EXISTING CONDENSING UNITS FROM EXISTING PANEL IN "MECH".

UTAH NATIONAL GUARD BUILDING 304 ADDITION
CAMP W.G. WILLIAMS
UTAH

SHEET TITLE
Electrical Demolition Plan

REVISIONS	DATE	BY	DESCRIPTION
1			
2			
3			
4			

DRAWN BY: PSS
CHECKED BY: DLA
PROJECT NO.: 05215480
DATE: AUG. 24, 2005
DRAWING NO.: E-101

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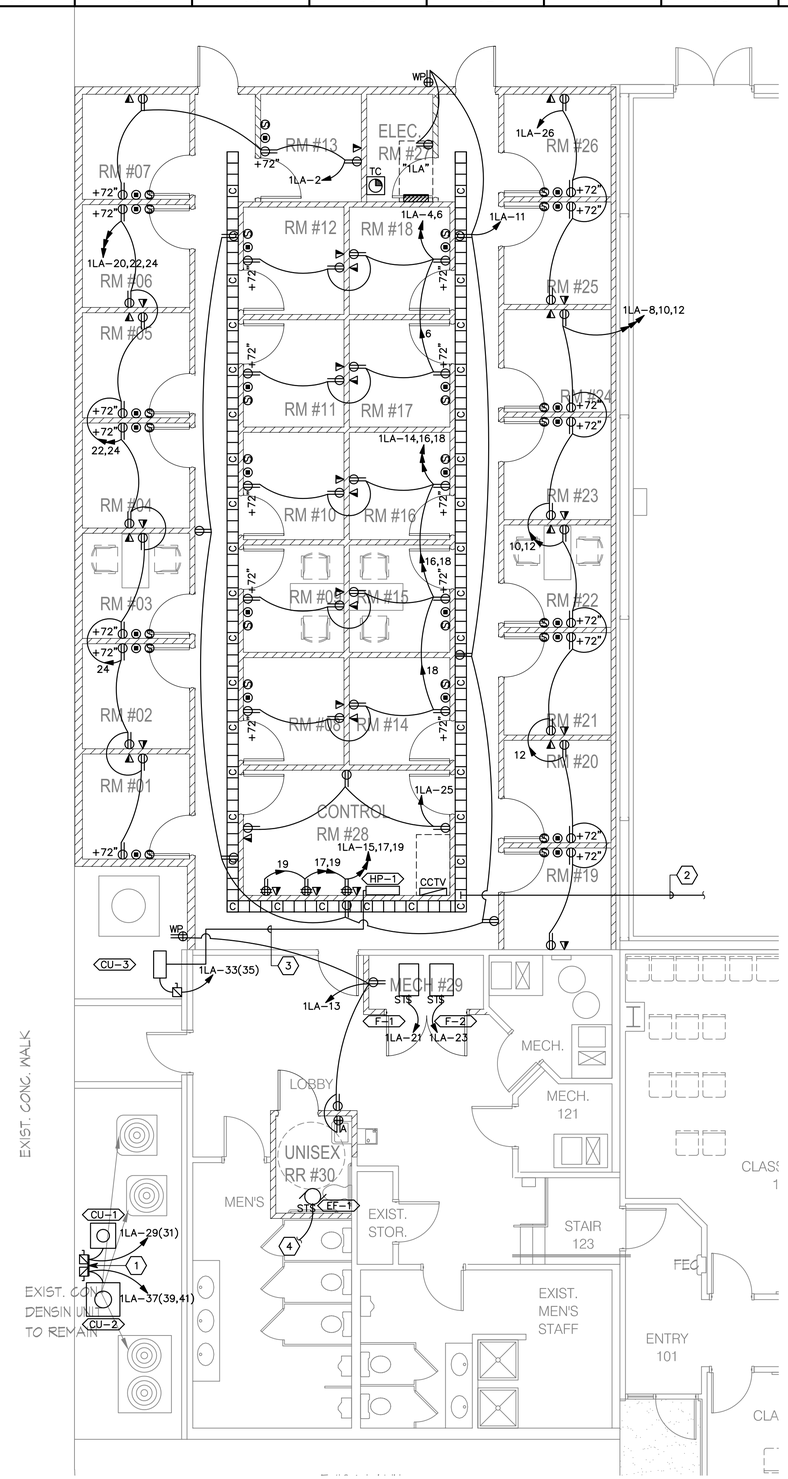
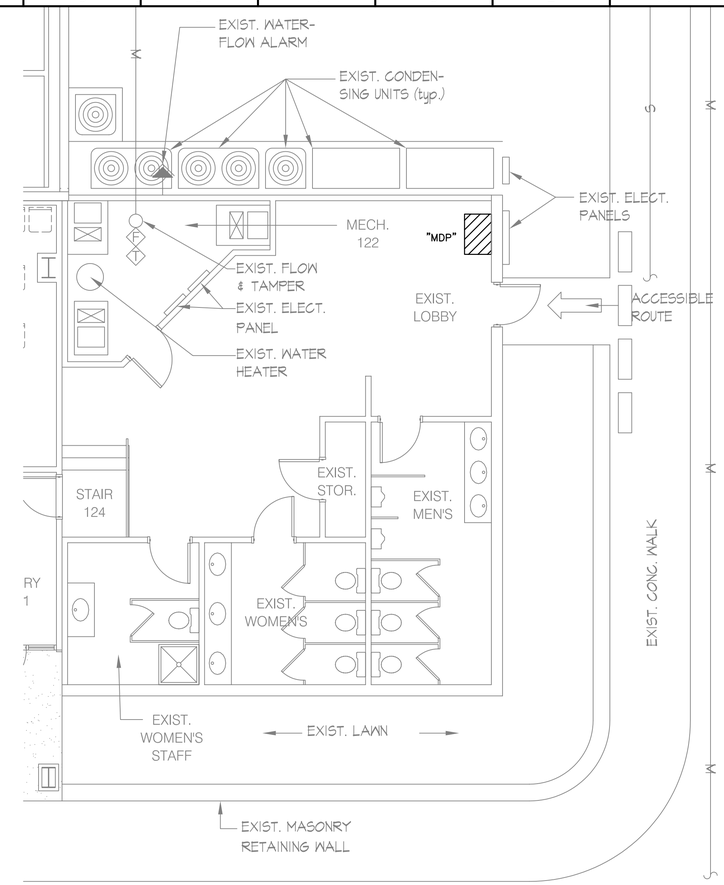
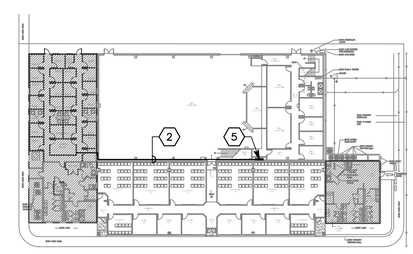




PLAN NORTH

L18 POWER PLAN

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



L4 KEYPLAN

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SHEET KEYNOTES

1. PROVIDE UNISTRUT FRAME BETWEEN CONDENSING UNITS FOR MOUNTING OF CONDENSING UNITS DISCONNECTS TO MAINTAIN CLEARANCES PER NEC.
2. PROVIDE 1-EACH 4-INCH CONDUIT FROM CABLE TRAY TO TELEPHONE BOARD LOCATED IN THE SOUTH EAST CORNER OF THE EXISTING AUDITORIUM. FIELD VERIFY.
3. PROVIDE 2 #12 CU AND 1 #12 CU GROUND IN 0.75-INCH CONDUIT BETWEEN CU-3 AND HP-1 FOR POWER TO HP-1. VERIFY REQUIREMENTS WITH MANUFACTURERS PUBLISHED DATA.
4. CONNECT EXHAUST FAN TO LIGHTING CIRCUIT IN RESTROOM AND CONTROL WITH LIGHTS.
5. APPROXIMATE LOCATION OF EXISTING COMMUNICATIONS BACKBOARD FIELD VERIFY.

UTAH NATIONAL GUARD
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SHEET TITLE: Power Plan

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PROJECT NO.: 05215480
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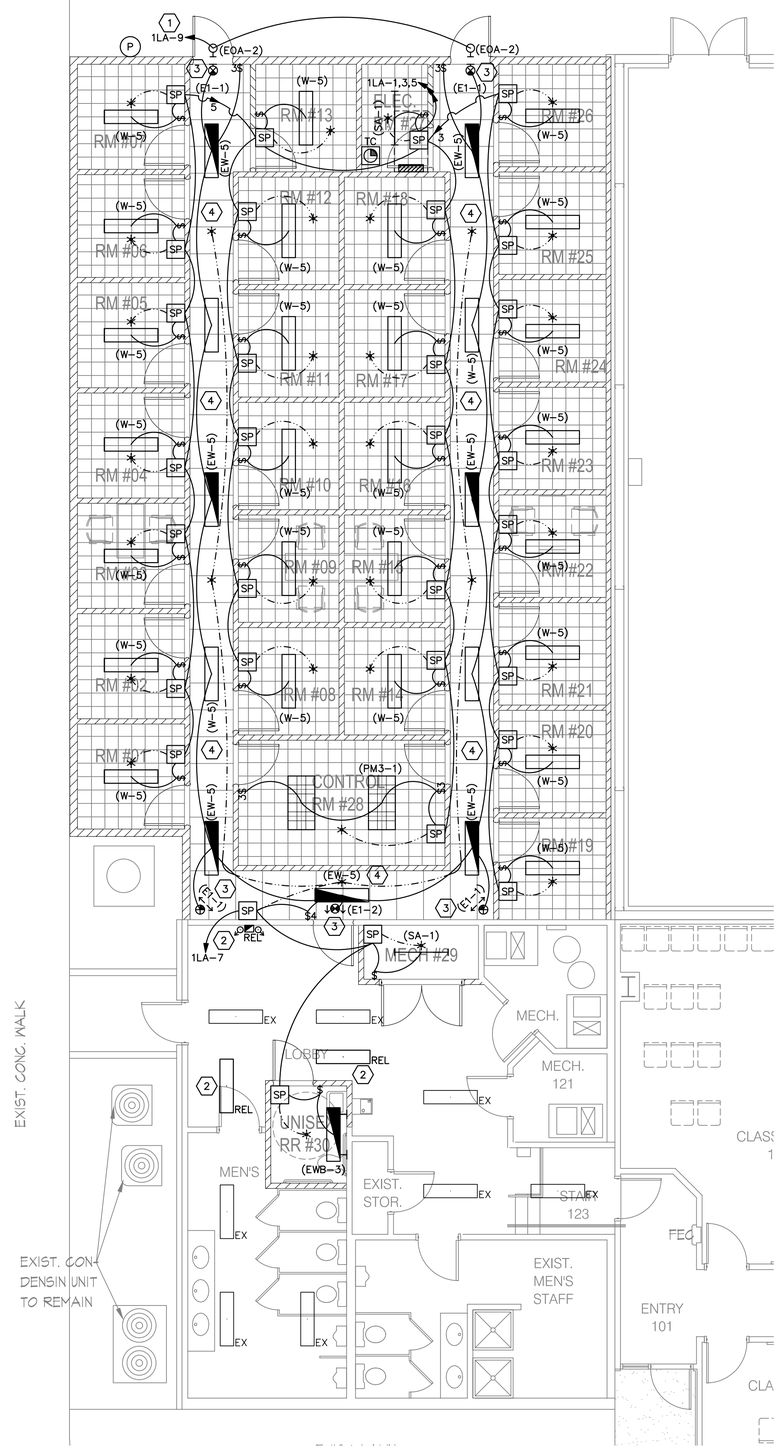
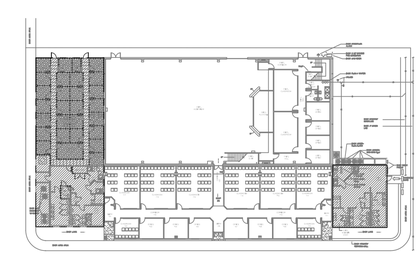


L18 LIGHTING PLAN

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



L4 KEYPLAN

NTS

3D/I

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SHEET KEYNOTES

1. CONNECT THROUGH TIMECLOCK AND PHOTOCELL. PHOTOCELL ON/TIMECLOCK OFF.
2. EXTEND EXISTING CONDUIT AND CONDUCTORS TO RELOCATED LIGHT FIXTURE LOCATIONS AS REQUIRED.
3. CONNECT EXIT SIGN TO UNSWITCHED LEG OF CIRCUIT.
4. SUPPORT SURFACE MOUNTED LIGHT FIXTURES IN THE HALLWAY INDEPENDENTLY OF THE GRID CEILING.

UTAH NATIONAL GUARD
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SHEET TITLE
Lighting Plan

REVISIONS	DATE	BY	DESCRIPTION
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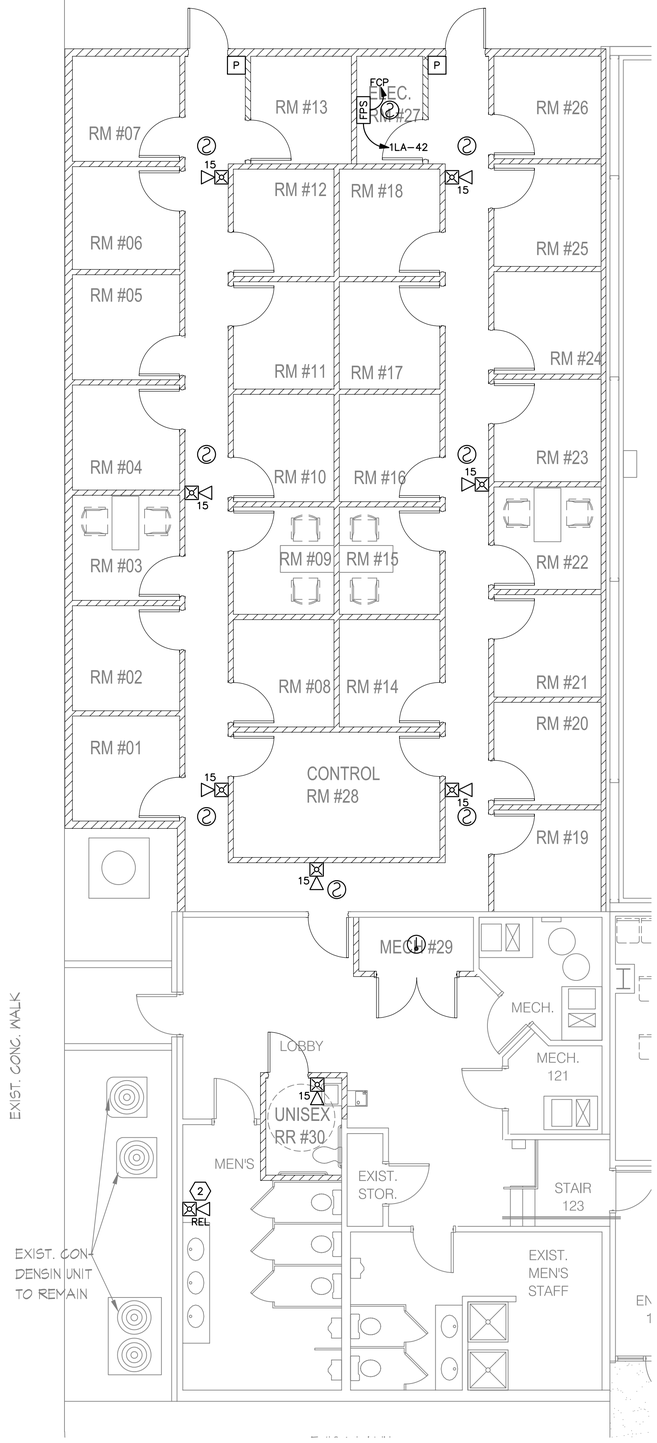
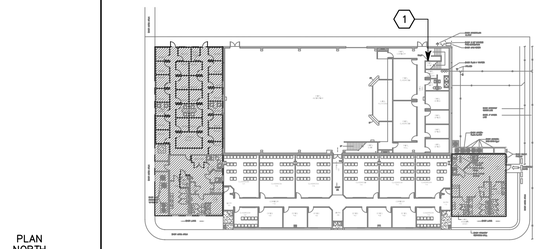


L18 FIRE ALARM PLAN
SCALE: 3/16"=1'-0"



L4 KEYPLAN
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PLAN NORTH

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GENERAL SHEET NOTES

1. PROVIDE A NEW INITIATING LOOP FOR ALL INITIATING DEVICES SHOWN. CONNECT TO EXISTING FIRE ALARM PANEL AS REQUIRED.
2. PROVIDE A NEW INDICATING LOOP FOR ALL NEW INDICATING LOOP FOR ALL NEW INDICATING DEVICES AND CONNECT TO EXISTING FIRE ALARM SYSTEM AS REQUIRED.
3. PROVIDE ALL ADDITIONAL BATTERIES AND OTHER ACCESSORIES AS REQUIRED TO PROVIDE A FULLY FUNCTIONING FIRE ALARM SYSTEM.

SHEET KEYNOTES

1. FIRE ALARM CONTROL PANEL LOCATION, FIELD VERIFY.
2. RELOCATED FIRE ALARM HORN/STROBE. EXTEND FIRE ALARM LOOP WIRING AS REQUIRED.

UTAH NATIONAL GUARD
BUILDING 304 ADDITION
CAMP W.G. WILLIAMS
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SHEET TITLE
Fire Alarm Plan

REVISIONS	DATE	BY	DESCRIPTION
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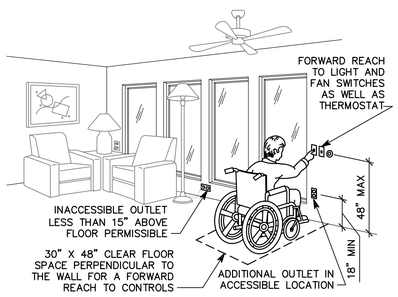
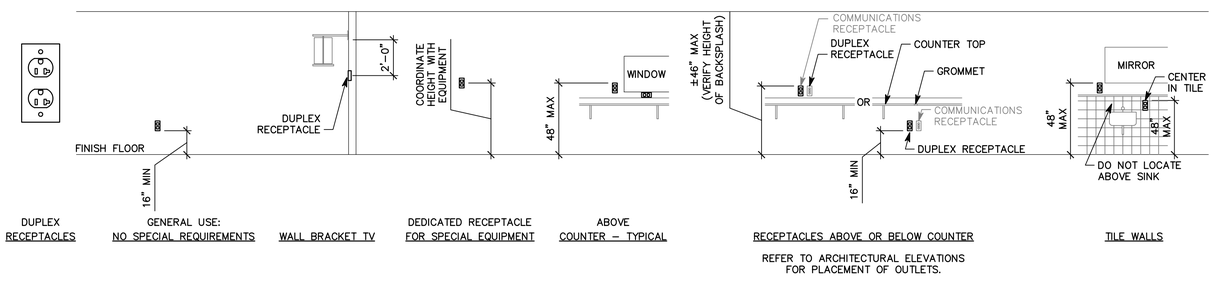
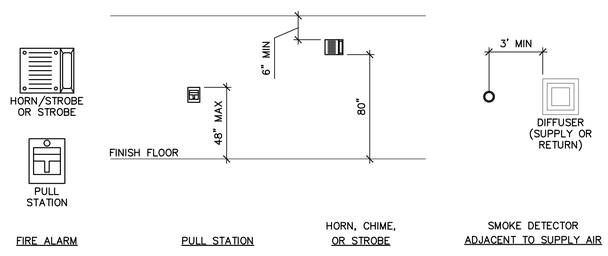


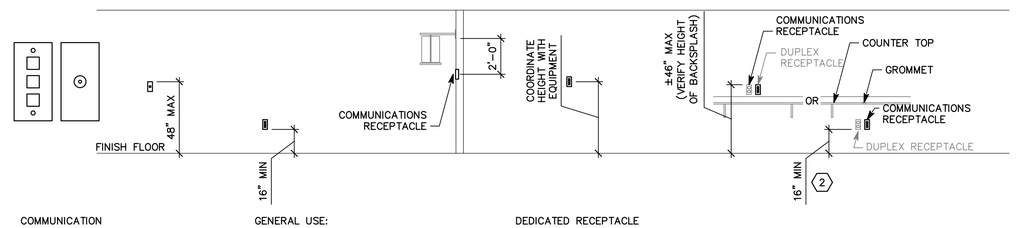
I18 ADA DETAIL
NTS



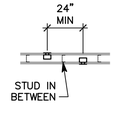
I14 RECEPTACLE MOUNTING DETAILS
NTS



L18 FIRE ALARM MOUNTING DETAILS
NTS



L12 COMMUNICATION MOUNTING DETAILS
NTS



L3 BOX MOUNTING DETAILS
NTS

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GENERAL SHEET NOTES

1. DETERMINE MOUNTING HEIGHTS OF ELECTRICAL AND ELECTRONIC EQUIPMENT IN THE FOLLOWING ORDER OF PRIORITY:

   1 – ELEVATIONS (ARCHITECTURAL, ELECTRICAL, MECHANICAL, ETC).
   2 – EQUIPMENT SHOP DRAWINGS.
   3 – FIELD INSTRUCTIONS.

2. LOCATE RECEPTACLES SERVING THE SAME TYPE OF USE AT A UNIFORM HEIGHT UNLESS DIRECTED OTHERWISE.
3. MECHANICAL, ELECTRICAL, AND COMMUNICATION ROOMS: COORDINATE LOCATION OF LIGHTING AND POWER RECEPTACLES WITH EQUIPMENT, PIPING, AND DUCTWORK. DO NOT INSTALL RECEPTACLES BEHIND EQUIPMENT OR WHERE OTHERWISE INACCESSIBLE. POSITION LIGHTING REGARDLESS OF WHERE SHOWN ON DRAWING TO PROVIDE PROPER ILLUMINATION.
4. MOUNT RECEPTACLE BOXES FOR SWITCHES AND RECEPTACLES WITH LONG AXIS OF THE DEVICE VERTICAL UNLESS OTHERWISE INDICATED.
5. SET BOXES WITH PLASTER RINGS FLUSH WITH FINISHED SURFACE.
6. LOCATE BOX COVERS OR DEVICE PLATES SO THEY WILL NOT SPAN DIFFERENT TYPES OF BUILDING FINISHES EITHER VERTICALLY OR HORIZONTALLY.
7. VERIFY ALL DOOR CONDITIONS ON ARCHITECTURAL DRAWINGS PRIOR TO INSTALLING SWITCHES.
8. LOCATE WIRING DEVICES WHICH ARE ADJACENT AND ARE COMPATIBLE VOLTAGES IN ONE PLATE.

⬡ SHEET KEYNOTES

1. LOCATE RECEPTACLES BEHIND DRINKING FOUNTAINS.
2. REFER TO ARCHITECTURAL ELEVATIONS FOR PLACEMENT OF OUTLETS.

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BUILDING 304 ADDITION
CAMP W.G. WILLIAMS
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SHEET TITLE: Details

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⬡SHEET KEYNOTES

1. EXISTING 200AMP FUSED SWITCH. PROVIDE NEW FUSES.
2. FIELD VERIFY EXISTING COMMUNICATIONS EQUIPMENT AND COORDINATE NEW EQUIPMENT REQUIRED FOR EXPANSION WITH MIKE HANSEN (523-4118) PRIOR TO BID.

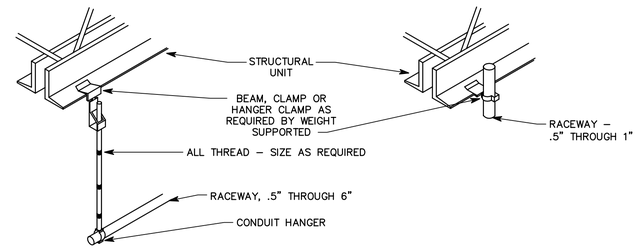
TELECOMMUNICATIONS CABLING – GENERAL NOTES

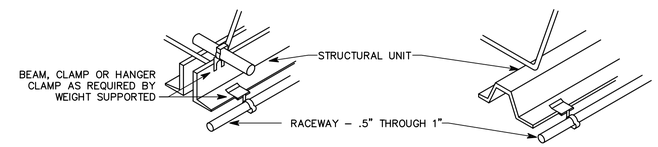
1. ALL WORK SHALL BE IN COMPLIANCE WITH UTNG STANDARD UT-GG-C (2003).
2. ALL WORK SHALL BE COORDINATED WITH MIKE HANSEN (UTNG).

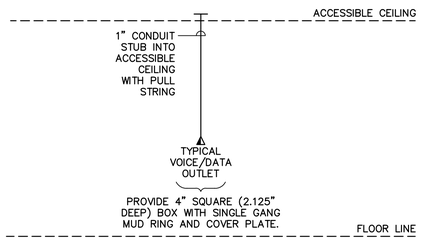
TELEPHONE/DATA EQUIPMENT/CABLE LIST

SYMBOL	ITEM DESCRIPTION	MANUFACTURERS
X C5E VOICE	VOICE CABLING, CATEGORY 5E	COMMSCOPE CAT 5E BLUE ('X' INDICATES QUANTITY)
X C5E DATA	DATA CABLING, CATEGORY 5E	COMMSCOPE CAT 5E YELLOW ('X' INDICATES QUANTITY)
PPL	PATCH PANEL	SIEMON HD5-89D-12
V	BLUE METAL BACKBOARD (VOICE)	M183-B2 (VAR)
D	YELLOW METAL BACKBOARD (DATA)	M183-B2 (VAR)
SB	FULL SPOOL BOARDS	M187-B1 (VAR)
▽	WORK STATION OUTLET (1-LAN, 1-VOICE)	SIEMON CT-C5-C5-02 (ANGLED JACK) SIEMON CT2-FP-02 (FACEPLATE)

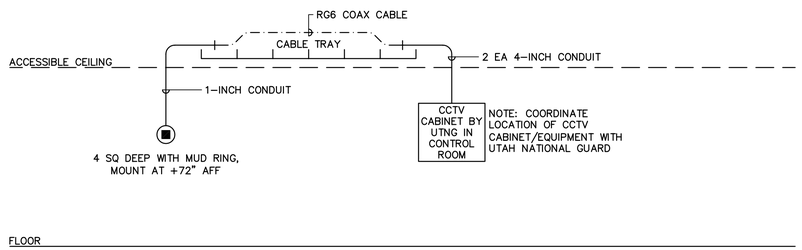
NOTE: TIE WIRE SHALL NOT BE USED AS A COMPONENT OF ANY RACEWAY HANGER SYSTEM.





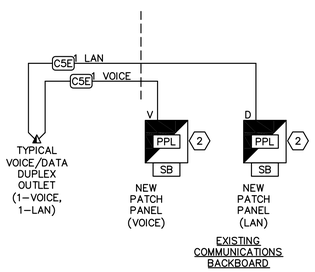


F18 VOICE/DATA RACEWAY RISER DIAGRAM
NTS

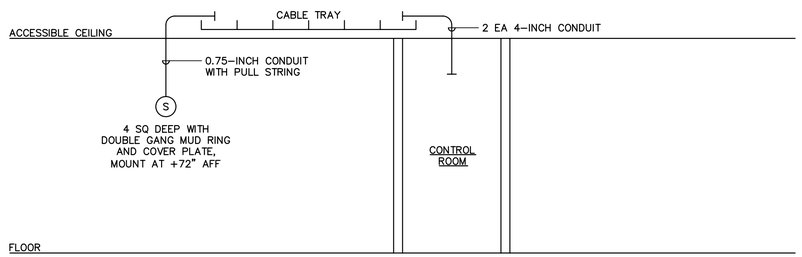


F14 CCTV RISER DIAGRAM
NTS

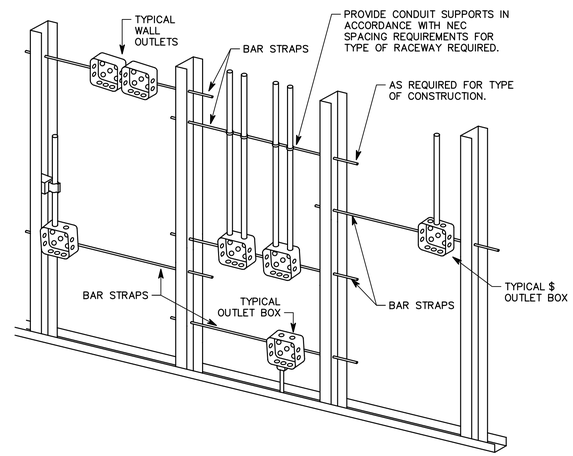
F7 TYPICAL RACEWAY SUPPORT METHODS DETAIL
NTS



I18 TELECOMMUNICATIONS CABLING RISER DIAGRAM
NTS



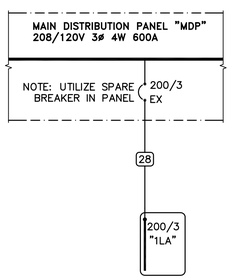
I14 INTERCOMM SYSTEM RACEWAY RISER
NTS



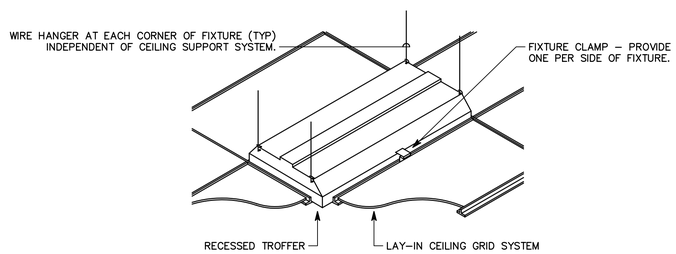
GENERAL NOTES

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 IBC 711.3.2 EXCEPTION 1, OUTLETS ON OPPOSITE SIDES OF WALLS OR PARTITIONS IN THE SAME STUD SPACE IN A RATED FIRE SEPARATION WALL MUST BE SEPARATED BY A MINIMUM OF 24" HORIZONTAL DISTANCE.
5. IN NON-RATED WALLS, OUTLETS ON OPPOSITE SIDES OF WALLS OR PARTITIONS MUST BE SEPARATED BY 16" FOR SOUND ATTENUATION.

L7 TYPICAL ROUGH-IN REQUIREMENTS DETAIL
NTS



L18 PARTIAL ONE-LINE DIAGRAM
NTS



L14 RECESSED FIXTURE MOUNTING DETAIL
NTS

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UTAH NATIONAL GUARD BUILDING 304 ADDITION
CAMP W.G. WILLIAMS
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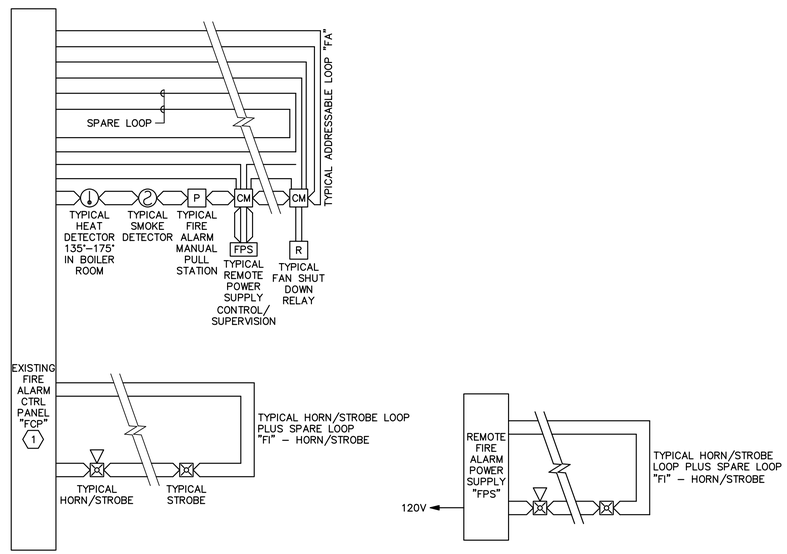

L12 FIRE ALARM RISER
NO SCALE

GENERAL SHEET NOTES

1. PLANS ARE BASED UPON 99 MONITOR AND CONTROL DEVICES PER ADDRESSABLE LOOP. OTHER CONFIGURATIONS ARE ACCEPTABLE SUBJECT TO CONTRACTOR ALLOWING FOR INCREASED WIRING REQUIREMENTS AND SUBMITTAL DRAWINGS SHOWING NEW WIRING CONFIGURATION. MAXIMUM INITIAL DEVICES PER LOOP SHALL NOT EXCEED 75% MAXIMUM ALLOWABLE.
2. PLANS ARE BASED UPON THE WIRING SCHEDULE SHOWN. WHERE MANUFACTURER'S REQUIREMENTS EXCEED REQUIREMENTS SHOWN, INCLUDE ADDITIONAL ASSOCIATED COSTS AND SUBMITTAL DRAWINGS INDICATING NEW WIRING CONFIGURATION.
3. PLANS ARE BASED UPON 2 AMPS AT 24 VDC, NOT TO EXCEED 75% (1.50 AMPS AVAILABLE), POWER SUPPLY CAPACITY PER NOTIFICATION CIRCUIT. NOTIFICATION DEVICE LOADS ARE BASED UPON NOTIFICATION DEVICE SCHEDULE SHOWN. INCLUDE ADDITIONAL ASSOCIATED COSTS FOR INCREASED WIRING AND POWER SUPPLY CAPACITY IF LOADS OF ACTUAL DEVICES PROVIDED EXCEED CIRCUIT CAPACITY, OR IF LOAD OUTPUT OF ACTUAL POWER SUPPLIES PROVIDED IS SIZED DIFFERENTLY. PROVIDE SUBMITTAL DRAWINGS SHOWING NEW WIRING CONFIGURATION.
4. PROVIDE POWER SUPPLY CAPACITY AS REQUIRED FOR DOOR HOLD OPENS SHOWN.
5. BATTERY CAPACITY TO BE ADEQUATE TO OPERATE 15 MINUTES AFTER 24 HOURS PLUS 25% SPARE CAPACITY.
6. RUN SPARE LOOPS IN SAME CONDUIT. DO NOT EXCEED 40% AREA FILL OF CONDUITS.
7. PROVIDE DUCT DETECTORS FOR SUPPLY AND RETURN AIR SYSTEMS OVER 2000 CFM. INSTALL DUCT DETECTORS PER NFPA 72 REQUIREMENTS AND PROVIDE ADDITIONAL DUCT DETECTORS DEPENDING UPON FINAL DUCT ARRANGEMENT.
8. PROVIDE MANUAL PULL STATIONS IN BOILER ROOMS AND KITCHENS.
9. PROVIDE ONE YEAR OFF SITE MONITORING INCLUDING ALL INTERFACE DEVICES AND MONITORING CHARGES. COORDINATE WITH BUILDING OWNER'S OFF SITE MONITORING COMPANY.
10. LOCATE SMOKE DETECTORS MINIMUM 3' FROM AIR SUPPLY AND RETURN LOUVERS.
11. PROVIDE SYNCHRONIZED STROBES THROUGHOUT FACILITY. PROVIDE SYNCHRONIZATION MODULES PER MANUFACTURER'S REQUIREMENTS. INCLUDE ADDITIONAL WIRING, IF REQUIRED.
12. INITIATING AND INDICATING LOOPS SHALL NOT SERVE AN AREA OF GREATER THAN 22,500 SQUARE FEET. PROVIDE ADDITIONAL LOOPS FOR AREAS LARGER THAN THIS.
13. ALL OUTPUT DEVICES ARE DESIGNED ON SYSTEMS WITH 2 AMP POWER SUPPLY.
14. HORN/STROBE BASED ON 120 MILLIAMPS, DOOR HOLDERS BASED ON 70 MILLIAMPS.
15. INSTALL DUCT DETECTORS PER NFPA 72 REQUIREMENTS AND PROVIDE ADDITIONAL DUCT DETECTORS DEPENDING UPON FINAL DUCT ARRANGEMENT.

⬡SHEET KEYNOTES

1. EXISTING FIRE ALARM PANEL IS CERBERUS PYROTRONICS #MXL–1Q.

WIRING SCHEDULE

FUNCTION	< 500'	< 1000'	1000'–3000'	> 3000'
ADDRESSABLE LOOP	#18 TSP	#18 TSP	#16 TSP	#14 TSP
POWER LOOP	#14 THWN	#14 THWN	#12 THWN	#10 THWN
SPARE LOOP	#14 THWN	#14 THWN	#12 THWN	#10 THWN
STROBE HORNS	#14 THWN	#14 THWN	#12 THWN	#10 THWN
MAGNETIC DOOR HOLDER	#12 THWN	#10 THWN		
SPEAKERS	#16 TSP	#16 TSP	#14 TSP	#14 TSP

NOTIFICATION SCHEDULE

SYMBOL	STROBE SIZE	COVERAGE	AVERAGE CURRENT	MAXIMUM PER CIRCUIT ALONE
15	15 CD	20'x20'	.085A	17
30	30 CD	30'x30'	.135A	11
75	75 CD	40'x40'	.200A	7
110	110 CD	50'x50'	.225A	6

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UTAH NATIONAL GUARD
BUILDING 304 ADDITION
CAMP W.G. WILLIAMS
UTAH

SHEET TITLE
Fire Alarm Riser Diagram

REVISIONS	DATE	BY	DESCRIPTION
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DRAWN BY PSS
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PROJECT NO. 05215480
DATE AUG. 24, 2005
DRAWING NO. E-601

File name: P:\2005\20050525\1Drawings\Sheet\25-E-601.dwg Last Plotted: 08/26/2005 @ 07:26 By: pss

EQUIPMENT SCHEDULE

MARK	QTY	ITEM DESCRIPTION	LOAD DATA HP	kW	MCA	FLA	VOLT	PH	Hz	WIRE AND CONDUIT SIZE	OVERCURRENT PROTECTION FURN BY	DEVICE	LOCATION	DISCONNECT FURN BY	DEVICE	LOCATION	NOTES	MARK
CU-1	1	CONDENSING UNIT			17.4	13.5	208	1	60	CC#1	E	20/2 C. B.	PANEL 1LA	E	30/2 RK5-20	ADJ TO UNIT		CU-1
CU-2	1	CONDENSING UNIT			19.8	14.7	208	3	60	CC#4	E	30/3 C. B.	PANEL 1LA	E	30/3 RK5-25	ADJ TO UNIT		CU-2
CU-3/ HP-1	1	CONDENSING UNIT/ HEAT PUMP			8.5	5.5	208	1	60	CC#1	E	20/2 C. B.	PANEL 1LA	E	30/2 RK5-10	ADJ TO UNIT		CU-3/ HP-1
EF-1	1	EXHAUST FAN					120	1	60	CC#1	E	20/1 C. B.	PANEL 1LA	E	THERMAL SWITCH	ADJ TO UNIT		EF-1
F-1	1	FURNACE	1/3			7.2	120	1	60	CC#1	E	20/1 C. B.	PANEL 1LA	E	THERMAL SWITCH	ADJ TO UNIT		F-1
F-2	1	FURNACE	3/4			13.8	120	1	60	CC#1	E	20/1 C. B.	PANEL 1LA	E	THERMAL SWITCH	ADJ TO UNIT		F-2

EQUIPMENT SCHEDULE KEY

E	DIVISION 16
Q	FURNISHED WITH THE EQUIPMENT

PANEL "1LA"

VOLTS/PHASE/WIRE:	PANEL SIZE & TYPE:	MAIN SIZE & TYPE:	LOCATION:	CABINET:	NOTES:
120/208 V, 3 PH 4 WIRE	22" W x 6" D, BOLT-ON	200 AMPERE MAIN LUG	ELEC RM #27	SURFACE	

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, SUBFEED LUGS

CKT NO	OCP AMP	OCP POLE	LOAD (kVA) LTG	CO	PWR	DESCRIPTION	LCL kVA	PHASE LOAD A	B	C	LCL kVA	DESCRIPTION	LOAD (kVA) LTG	CO	PWR	OCP AMP	OCP POLE	CKT NO
1	20	1	1.3			CTRL RM/ROOMS 8-14	1.6	2.1			0.8	ROOMS 7,13		0.8		20	1	2
3	20	1	0.8			ROOMS 20-26	1.0		1.6		0.8	ROOMS 12,18		0.8		20	1	4
5	20	1	0.7			ROOMS 1-7	0.8			1.5	0.8	ROOMS 11,17		0.8		20	1	6
7	20	1	1.2		0.1	HALL/MECH/UNISEX RR	1.6	2.1			0.8	ROOMS 23,24		0.8		20	1	8
9	20	1	0.2			EXTERIOR BLDG LTS	0.3		1.0		0.8	ROOMS 21,22		0.8		20	1	10
11	20	1		1.6		HALLWAY	1.6			2.4	0.8	ROOMS 19,20		0.8		20	1	12
13	20	1		0.8		REST ROOM	0.8	1.6			0.8	ROOMS 10,16		0.8		20	1	14
15	20	1		0.4		CONTROL ROOM	0.4		1.2		0.8	ROOMS 9,15		0.8		20	1	16
17	20	1		0.4		CONTROL ROOM	0.4			1.2	0.8	ROOMS 8,14		0.8		20	1	18
19	20	1		0.4		CONTROL ROOM	0.4	1.2			0.8	ROOMS 5,6		0.8		20	1	20
21	20	1			0.9	F-1	0.9		1.7		0.8	ROOMS 3,4		0.8		20	1	22
23	20	1			1.7	F-2	1.7			2.5	0.8	ROOMS 1,2		0.8		20	1	24
25	20	1		0.6		CONTROL ROOM	0.6	1.4			0.8	ROOMS 25,26		0.8		20	1	26
27	20	1				SPARE	0.0		0.0		0.0	SPARE				20	1	28
29	20	2			1.4	CU-1	1.4			1.4	0.0	SPARE				20	1	30
31	–	–			1.4	----	1.4	1.4			0.0	SPARE				20	1	32
33	20	1			0.6	CU-3/HP-1	0.6		0.6		0.0	SPARE				20	1	34
35	–	–			0.6	----	0.6			0.6	0.0	SPARE				20	1	36
37	30	1			1.8	CU-2	1.8	1.8			0.0	SPARE				20	1	38
39	–	–			1.8	----	1.8		1.8		0.0	SPARE				20	1	40
41	–	–			1.8	----	1.8			2.3	0.5	FIRE ALARM FPS			0.5	20	1	42
TOTALS:						CONNECTED kVA PER PHASE		12	8	12			CONNECTED TOTAL kVA			31		
						CONNECTED AMPS PER PHASE		96	65	98			CONNECTED AVERAGE AMPS PER PHASE			86		

NEC DIVERSIFIED LOAD CALCULATIONS

LIGHTING 4kVA @125% =	5 kVA	ALL OTHER LOADS @100% =	12 kVA	DIVERSIFIED TOTAL kVA =	30
RECEPTACLES 10kVA @100% =	10 kVA	25% OF LARGEST MOTOR =	0 kVA	AVERAGE AMPS PER PHASE =	83
REMAINDER 5kVA @ 50% =	2 kVA				

LIGHTING FIXTURE SCHEDULE

NOTE TO BIDDERS: COMPLY WITH SECTIONS 16511, 16521, AND 16570 OF THE SPECIFICATIONS.
REFER TO SPECIFICATIONS FOR IMPORTANT TECHNICAL REQUIREMENTS FOR LIGHTING FIXTURES, BALLASTS, AND LAMPS. THE CATALOG NUMBERS LISTED BELOW HAVE BEEN CAREFULLY PREPARED TO ASSIST BIDDERS IN SELECTING PRODUCTS TO ACHIEVE THE DESIGN CONCEPT, HOWEVER, PRIOR TO BIDDING, EACH MANUFACTURER SHALL COMPARE THE CATALOG NUMBERS SHOWN WITH THE DESCRIPTION AND REQUIREMENTS ON THE DRAWINGS, AND SHALL NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES. SPECIFICALLY INCLUDED IN THIS EVALUATION SHALL BE THE VERIFYING OF PROPER MOUNTING KITS OR ACCESSORIES TO FACILITATE INSTALLATION AS SHOWN AT EACH LOCATION ON THE DRAWINGS. NO ALLOWANCE OR REDRESS WILL BE ALLOWED FOR DISCREPANCIES THAT WERE NOT REPORTED TO THE ARCHITECT/ENGINEER IN TIME FOR CORRECTION OR CLARIFICATION BEFORE THE BID. THE REPORTING OF ANY AMBIGUITY IS THE RESPONSIBILITY OF THE BIDDER. PROVIDE UNIT PRICES AND FIXTURE BRAND SELECTED FOR ADD/DELETE CHANGES FOR EACH FIXTURE TYPES SHOWN WITHIN 48 BUSINESS HOURS OF THE BID DATE. FAILURE TO COMPLY WITH THIS REQUIREMENT MAY DISQUALIFY THE PRODUCTS AND EMPOWER THE ENGINEER TO DETERMINE FAIR VALUE FOR FIXTURE AND INSTALLATION CHANGES, WITHOUT FURTHER INPUT FROM THE CONTRACTOR OR INSTALLER. SUBMITTAL PACKAGE SHALL INCLUDE LAMP MANUFACTURER AND CATALOG NUMBER ON EACH FIXTURE SHEET. ON ALL PENDANT MOUNTED FIXTURES, PROVIDE A SECOND SET OF PENDANTS, OF A DIFFERENT LENGTH, AS DIRECTED BY THE ARCHITECT/ENGINEER, PROVIDED AND INSTALLED AT NO ADDITIONAL CHARGE. ALL FIXTURES SHALL BE APPROVED BY UL OR ANOTHER ACCEPTABLE TESTING LAB FOR THE PURPOSE INTENDED AND WITH THE LAMP AND BALLAST PROPOSED. CONTRACTOR ALLOWANCE PRICES ARE ACCURATE WHEN THIS JOB WAS SPECIFIED, CONTRACTOR AND ELECTRICAL DISTRIBUTOR SHALL VERIFY THIS ALLOWANCE AND REPORT ANY PROBLEMS TO THE ENGINEER BEFORE THE BID. ALLOWANCE PRICE MAY OR MAY NOT INCLUDE LAMP(S) OR FREIGHT AS NOTED, AND DO NOT INCLUDE ANY TAXES. UNIVERSAL VOLTAGE (120/277) BALLASTS REQUIRED UNLESS NOTED OTHERWISE.

SYMBOL	MARK	FIXTURE CHARACTERISTICS BODY / AIR / MOUNTING / DOOR LENS/LOUVER/REFLECTOR/OTHER	LAMP	WATTS	VOLTS	MANUFACTURER	CATALOG NUMBER	NOTES
	E	E PREFIX INDICATES THAT FIXTURE IS PROVIDED WITH AN EMERGENCY BATTERY PACK TO PROVIDE POWER TO ANY 2, 3, 4 OR 8 FOOT FLOURESCENT LAMP COMPATIBLE WITH ALL STANDARD AND ELECTRONIC BALLASTS; COMPLETELY SELF-CONTAINED TO PROVIDE 90 MINUTES OF EMERGENCY POWER TO FIXTURE BALLAST; MINIMUM LIGHT OUTPUT FOR TYPICAL 4' LAMP SHALL BE 1100 LUMENS OR HIGHER;UNIVERSAL TRANSFORMER FOR 120 OR 277 VOLTS; LOW VOLTAGE PROTECTION, COMBINATION TEST SWITCH AND AC "ON" INDICATOR; 10 YEAR PRO-RATA WARRANTY; INSTALL TEST SWITCH IN A MANNER THAT REQUIRES NO DISASSEMBLY FOR TESTING.						
	E	EMERGENCY BATTERY PACK.			120/277V3W	IOTA	I-80	
						BODINE	B50	
						LITHONIA	PS-1400	
						PRESCOLITE	EFPS-5	
						EELP	EB1400 (CONTRACTOR INSTALLED)	
						CHLORIDE	CFP841	
						LIGHTOLIER	FBP50	
						SIDELITE	S60F	
	E1	EXIT SIGN: THERMOPLASTIC HOUSING; UNIVERSAL MOUNTING; UNIVERSAL ARROWS PER PLANS; EMERGENCY BATTERY PACK WITH 10 YEAR PRO-RATA WARRANTY; LED, DIFFUSE LENS PANEL; GREEN LETTERS ON WHITE BACKGROUND. MUST MEET NFPA ILLUMINATION STANDARDS.						
(E1-1)	E1-1	SINGLE FACE:	LED	1W	120/277V	DUAL-LITE	LXSGWE	
						EELP	XE 1 GW EM	
						LITHONIA	LQM S W 1 G 120/277 ELN	
						SURE-LITES	LPX70DGW	
						DAY-BRITE	CXL-1-GW-EM	
						CHLORIDE	SLN1GW	
						LIGHTOLIER	LTN1GW	
(E1-2)	E1-2	DUAL FACE:	LED	2W	120/277V	DUAL-LITE	LXUGWE	
						EELP	XE 2 GW EM	
						LITHONIA	LQM S W 3 G 120/277 ELN	
						SURE-LITES	LPX70DGW	
						DAY-BRITE	CXL-3-GW-EM	
						CHLORIDE	SLN2GW	
						LIGHTOLIER	LTN2GW	
	OA	SMALL RECTANGULAR WALL PACK: POLYCARBONATE HOUSING WITH POLYCARBONATE PRISMATIC DIFFUSER, RECESSED BOX MOUNTING; BRONZE.						
(OA-2)	OA-2	RECTANGULAR WALL PACK: APPROX 6" X 6" X 12"; WALL MOUNTED SEE ELEVATION.	1-42PLT RE741	50W	120V	HUBBELL	NRG-304 (277 AVAILABLE)	
						TERON	CA42TBXE	
						LITHONIA	TWL-42TRT-120	
						LUMARK	N/A	
						LUMINAIRE	DWL512-1PLT42	
						DESIGN PLAN	207-8-H5-1-XX-0-9-P-0	
	PM3	PARABOLIC LOUVER FIXTURES WITH 3" LOUVERS IN PLASTIC PROTECTORS AND FULL DEPTH REFLECTOR; SIZE AS NOTED; PROGRAM START ELECTRONIC BALLASTS PER SPECS; T8 LAMPS; ONE BALLAST PER FIXTURE UNLESS NOTED FOR SWITCHING; HINGED AND LATCHED DOOR; LOW IRIDESCENT LOUVER FINISH, VERTICAL GRAIN DIE STAMPED LOUVERS; TWO FORMED BALLAST COVERS; MAX 1300 CD/M2 ABOVE 45 DEGREES.						
(PM3-1)	PM3-1	2X4, 18 CELL SURFACE MOUNT; SEMI-SPECULAR SILVER, 3 LAMP.	3-F32T8 RE835	90W	277/120V	LITHONIA	2PM3X-332-18LD-MVOLT-1/3TUBRHP	
						DAYBRITE	2S3P332-36SL-UNV-1/3EB-SPEC	
						METALUX	2EP3MX-332S36I-UNV-PROGRAM START	
						COLUMBIA	P224332SM-LD36S-3EB8-120/277 PROG	
						LSI	SN2P18 332 SS010PS UE	
						LIGHTOLIER	DPB2S18LP332-U-03P	
	SA	GENERAL PURPOSE INDUSTRIAL: WHITE ENAMEL, APERTURED REFLECTOR; PROGRAM START ELECTRONIC BALLASTS; T8 LAMPS; ONE BALLAST PER FIXTURE WHERE POSSIBLE; UNLESS TWO LEVEL SWITCHING IS SHOWN ON THE PLANS; STEM MOUNTED WITH TONG HANGERS.						
(SA-1)	SA-1	4', 2-LAMP.	2-F32T8 RE835	65W	277/120V	LITHONIA	EJA232-MVOLT-TUBRHP-THUN	
						LIGHTOLIER	KWA232-U-SOP	
						METALUX	IA-232-UNV-PROGRAM START	
						HUBBELL	IG142R-PP10-UPS	
						COLUMBIA	CSR4-232U-EB8120/277 PROG-CSTH	
						DAYBRITE	IA232-UNV-1/2-EB-SPEC	
	W	LOW PROFILE WRAPAROUND: SURFACE MOUNTED SUITABLE FOR MOUNTING ON LOW DENSITY CEILINGS WRAPAROUND ACRYLIC PRISMATIC DIFFUSER; WHITE ENAMEL ENDPLATES; MINIMUM CU OF 70 @ 80/50/20 AND RCR=1; PROGRAM START ELECTRONIC BALLASTS; T8 LAMPS; ONE BALLAST PER FIXTURE WHERE POSSIBLE, UNLESS TWO LEVEL SWITCHING IS SHOWN ON THE PLANS.						
(W-5)	W-5	WIDE BODY WRAPAROUND; 3-LAMP, APPROX; 3" X 16" X 48".	3-F32T8 RE835	95W	277/120V	LITHONIA	LB332-1/3MVOLT-TUBPHP	
						DAYBRITE	CAW332-UNV-1/3-EB-SPEC	
						METALUX	WSA-332A-UNV-PROGRAM START	
						LIGHTOLIER	WB332-U-03P	
						LSI	PR 332 SS010PRS UE	
						COLUMBIA	WCW4-332-3EBPS120/277	
	WB	WALL MOUNTED FLUORESCENT LOCATED ABOVE WALL ELEMENT (MIRROR/WHITEBOARD, ETC.): AS INDICATED ON DRAWINGS; WITH ACRYLIC INJECTION MOLDED; PROGRAM START ELECTRONIC BALLASTS; T8 LAMPS; ONE BALLAST PER FIXTURE WHERE POSSIBLE, UNLESS TWO LEVEL SWITCHING IS SHOWN ON THE PLANS.						
(WB-3)	WB-3	2-LAMP, WALL MOUNT 48", STEEL ENCLOSURE, DOWNLIGHT ONLY; ACRYLIC INJECTION MOLDED PRISMATIC DIFFUSER.	2-F32T8 RE835	65W	277/120V	DAYBRITE	CD232W-UNV-1/2-EB-SPEC	
						LIGHTOLIER	CWB232-WB-U-SOP	
						METALUX	BI-232-UNV-PROGRAM START	
						L.A.L.	BSQ100-2-4R-INJ-WHT-T8EB-120/277-UPS	
						COLUMBIA	WAL4-232-EBPS120/277	
						LITHONIA	WP 232 DO MVOLT-TUBPHP	
						LSI	WB 232 SS010PRS UE	

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