ARCHITECTURAL / ENGINEERING TEAM

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contact: Mr. John Goodloe, AIA

STRUCTURAL ENGINEERS
HCDA Engineering
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(719) 633-7784
contact: Mr. Andrew Baturevich, P.E.

MECHANICAL ENGINEERS
AE Associates
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Colorado Springs, Colorado 80907
(719) 262-9430
contact: Mr. Rod McCoy, P. E.

ELECTRICAL ENGINEERS
Red Rock Consulting Engineers
144 Palisade Circle
Manitou Springs, Colorado 80829
(719) 685-1266
contact: Mr. Jeff Tanner, P. E.

CONSTRUCTION MANAGER/GENERAL CONTRACTOR

Bryan Construction, Inc.
7025 Campus Drive
Colorado Springs, Colorado 80920
(719) 632-5355
contact: Mr. Brian Burns

COLORADO SPRINGS EXPO CENTER

COLORADO SPRINGS, COLORADO

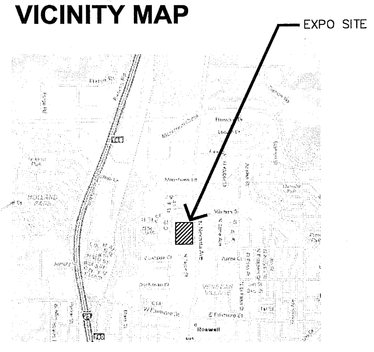
INTERIOR RENOVATION
CONSTRUCTION & PERMIT PACKAGE

JUNE 6, 2011

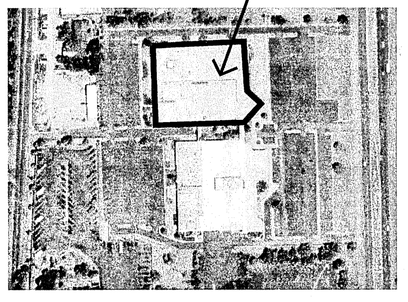
AS BUILTS

c s
n a
architects

VICINITY MAP

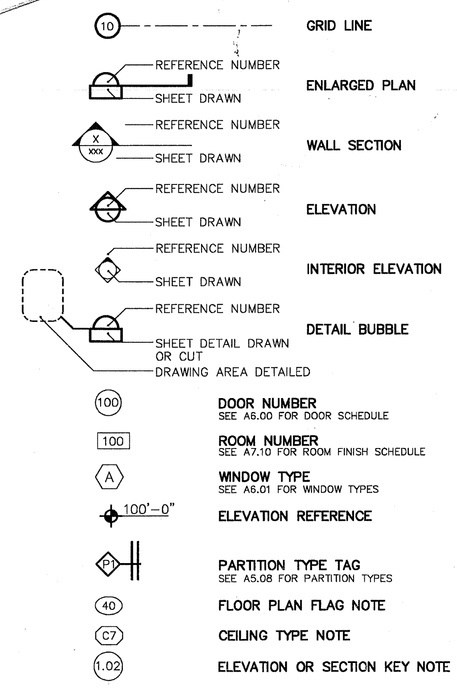


EXPO LOCATION



INDEX TO DRAWINGS

ARCHITECTURAL SYMBOLS

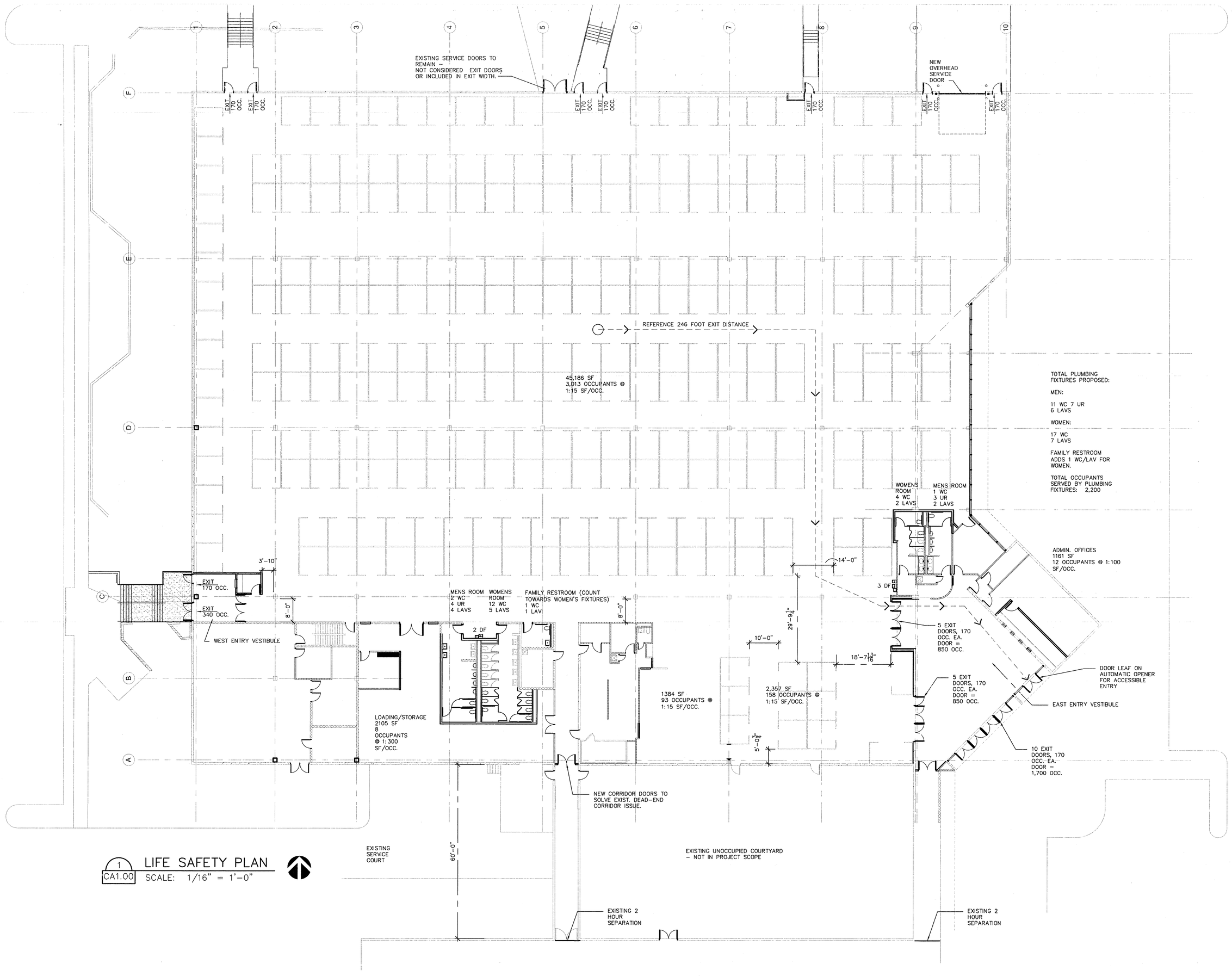


CONSTRUCTION & PERMIT PACKAGE

PROJECT: COLORADO SPRINGS EXPO CENTER

DATE: JUNE 6, 2011

PROJECT NO. 1100611



1 LIFE SAFETY PLAN
CA1.00 SCALE: 1/16" = 1'-0"

CODE ANALYSIS

OWNER: UNIVERSITY OF COLORADO AT COLORADO SPRINGS

PROJECT: COLORADO SPRINGS EXPO

CSNA PROJECT NUMBER: 1100611

JURISDICTION: STATE OF COLORADO
Office of the State Architect
Plan Review contracted to:
Stephen Hall, Architect
2910 Bacon Street, Suite A
Colorado Springs, CO 80907
(719) 271-8260

STATE ADOPTED BUILDING CODES:

2009 International Building Code (IBC)
2009 International Mechanical Code (IMC)
2009 International Plumbing Code (IPC)
2009 International Energy Conservation Code (IECC)
2008 National Electric Code (NEC)
2003 ICC/ANSI A117.1 Accessibility Standards (I/A)

STATE REFERENCED CODES:

2009 International Fire Code
2009 International Existing Building Code
2009 International Fuel Gas Code

PROJECT DESCRIPTION: An interior renovation of an existing building with change of use from a factory and office occupancy to an exhibit hall with supporting administrative offices. The project scope of work includes only the north building section of the existing complex. This building portion is separated from the south section by a 60 foot wide service court and pedestrian court connected by two corridors. The south building section will be renovated in phases and reviewed/permitted separately.

OCCUPANCY CLASSIFICATION: A-3 (Exhibit Hall), Office Building (B)

TYPE OF CONSTRUCTION: II-B

FIRE PROTECTION SYSTEM: Fully Sprinkled - existing system to be modified with a design by a licensed Fire Protection Engineer for the new building use and configuration.
Design Criteria: NFPA 13

Used for:

Area Increase	IBC 506.3
Corridor Protection Reduction	IBC T-1018.1
Exit Distance Increase	IBC T-1016.1.b or c
Common Path of Travel Increase	IBC 1014.2 ex 1
Manual Fire Alarm reductions	IBC 907.2.1 (A)

EXISTING BUILDING AREA: 64,845 GSF (North building portion only)
The north building area is separated by a two hour area separation from the South building at two existing connecting corridors. The existing separation wall will be maintained or repaired to maintain this two hour separation. The buildings are further separated by a sixty foot distance where not connected. See the Life Safety Plan for building configuration.

RENOVATION AREA: 57,826 SF

ADDITION AREA: Not Applicable (no new building addition)

OCCUPANT LOAD: 3,284 occupants (IBC Table 1004.1.1)
See Life Safety Plan for Occupant Load details.

EGRESS WIDTH: 3,284 X 0.20 inches/occupant = 652.8 inches (IBC 1005.1)

EXIT DOORS REQUIRED: 656.8 inches / 34 inches per door leaf = 20 exit doors (IBC 1005.1).

MAXIMUM TRAVEL DISTANCE: 250 feet for sprinklered buildings (IBC 1016.1)

REQUIRED PLUMBING FIXTURES: IPC TABLE 2902.1

Men: Water Closets: 1:125
Women: Water Closets: 1:65
Lavatories (both Genders) 1:200
Drinking Fountains: 1:500
Service Sink: 1

Per agreement with Office of the State Architect, the occupant load served by plumbing fixtures is reduced to a total of 2,200 occupants. Reduction is justified by case study of an existing Colorado Springs Exhibit Hall of similar use.

2,200 occupants / 2 = 1,100 men, 1,100 women

Men: 9 water closets, 6 lavatories
Woment: 17 water closets, 6 lavatories
Drinking Fountains: 5 total
Service Sink: 1 total

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C O 8 0 9 0 3
p: 7 1 9 . 4 7 3 . 7 2 2 5
f: 7 1 9 . 6 3 2 . 5 1 6 4
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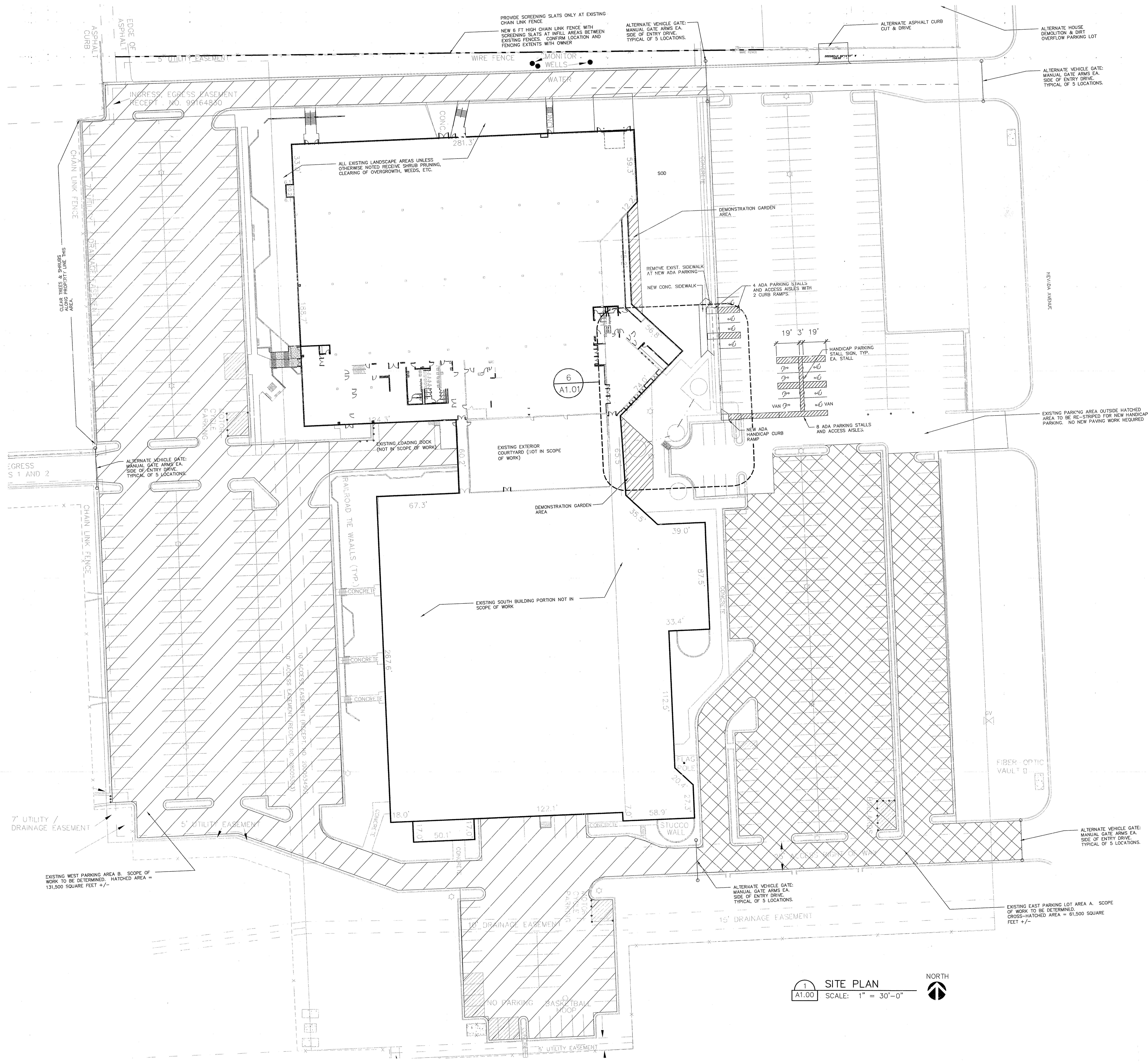
COLORADO SPRINGS EXPO CENTER
3650 NORTH NEVADA AVE. BUILDING RENOVATION
COLORADO SPRINGS, CO

REVISIONS

CODE ANALYSIS & LIFE SAFETY PLAN

JOB NO.: 1100611
DATE: 06/06/11
SCALE: AS NOTED
DRAWN: JPG
CHECKED: GMF

CA1.00
SHEET


PROVIDE SCREENING SLATS ONLY AT EXISTING CHAIN LINK FENCE.
NEW 6 FT HIGH CHAIN LINK FENCE WITH SCREENING SLATS AT INFILL AREAS BETWEEN EXISTING FENCES. CONFIRM LOCATION AND FENCING EXTENTS WITH OWNER
ALTERNATE VEHICLE GATE: MANUAL GATE ARMS EA. SIDE OF ENTRY DRIVE. TYPICAL OF 5 LOCATIONS.
ALTERNATE ASPHALT CURB CUT & DRIVE
ALTERNATE HOUSE DEMOLITION & DIRT OVERFLOW PARKING LOT
ALL EXISTING LANDSCAPE AREAS UNLESS OTHERWISE NOTED RECEIVE SHRUB PRUNING, CLEARING OF OVERGROWTH, WEEDS, ETC.
DEMONSTRATION GARDEN AREA
REMOVE EXIST. SIDEWALK AT NEW ADA PARKING
NEW CONC. SIDEWALK
4 ADA PARKING STALLS AND ACCESS AISLES WITH 2 CURB RAMPS.
HANDICAP PARKING STALL SIGN, TYP. EA. STALL
8 ADA PARKING STALLS AND ACCESS AISLES.
NEW ADA HANDICAP CURB RAMP
EXISTING PARKING AREA OUTSIDE HATCHED AREA TO BE RE-STRIPED FOR NEW HANDICAP PARKING. NO NEW PAVING WORK REQUIRED
EXISTING LOADING DOCK (NOT IN SCOPE OF WORK)
EXISTING EXTERIOR COURTYARD (NOT IN SCOPE OF WORK)
EXISTING SOUTH BUILDING PORTION NOT IN SCOPE OF WORK
CLEAR TREES & SHRUBS ALONG PROPERTY LINE THIS AREA.
EXISTING WEST PARKING AREA B. SCOPE OF WORK TO BE DETERMINED. HATCHED AREA = 131,500 SQUARE FEET +/-
EXISTING EAST PARKING LOT AREA A. SCOPE OF WORK TO BE DETERMINED. CROSS-HATCHED AREA = 61,500 SQUARE FEET +/-
INGRESS EGRESS EASEMENT RECEPT. NO. 99164830
5' UTILITY EASEMENT
WIRE FENCE
MONITOR WELLS
WATER
CHAIN LINK FENCE
EDGE OF ASPHALT
ASPHALT CURB
7' UTILITY / DRAINAGE EASEMENT
10' DRAINAGE EASEMENT
15' DRAINAGE EASEMENT
RAILROAD TIE WALLS (TYP)
CONCRETE
STUCCO WALL
FLAG POLE
SOD
NO PARKING
BASKETBALL HOOP
MOTORCYCLE PARKING
FIBER OPTIC VAULT
NEVADA AVENUE
6
A1.01
281.3'
59.3'
185.7'
124.3'
67.3'
267.6'
39.0'
87.5'
33.4'
112.5'
122.1'
58.9'
50.1'
17.0'
18.0'
60.2'
65.5'
19' 3' 19'
VAN
1
A1.00
SITE PLAN
SCALE: 1" = 30'-0"
NORTH

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COLORADO SPRINGS EXPO CENTER

3650 NORTH NEVADA AVE. BUILDING RENOVATION
COLORADO SPRINGS, CO

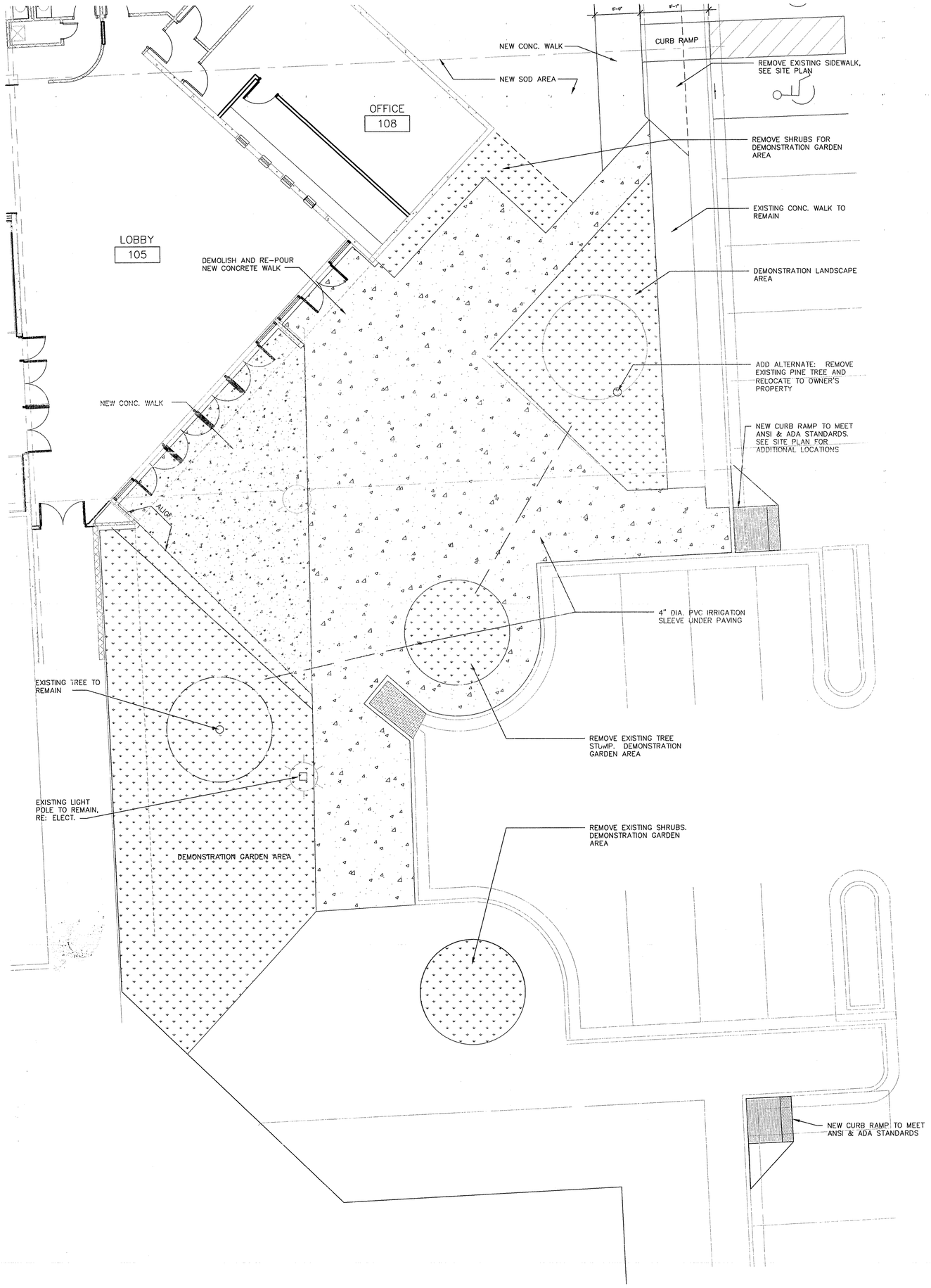
REVISIONS

SITE PLAN

–

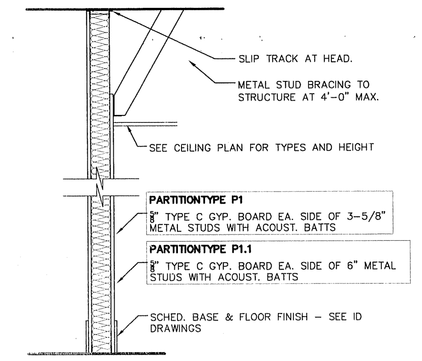
JOB NO.: 1002210
DATE: 06/06/11
SCALE: AS NOTED
DRAWN: JPG
–
CHECKED: GMF

A1.00
SHEET

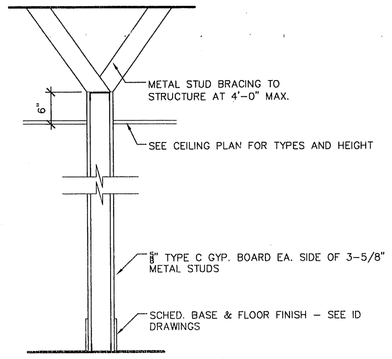


6 A1.01 ENLARGED EAST ENTRY PLAN
SCALE: 1/8" = 1'-0"

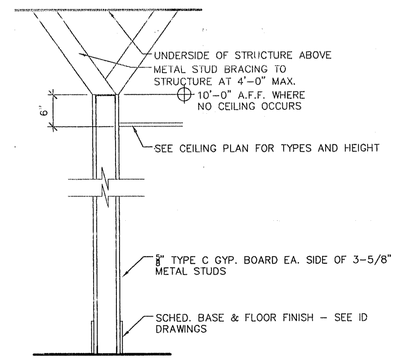
NORTH



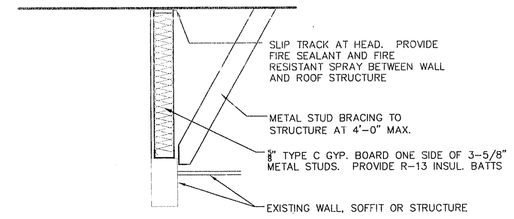
1 A1.01 PARTITION TYPE P1 & P1.1
3/4" =1'-0"



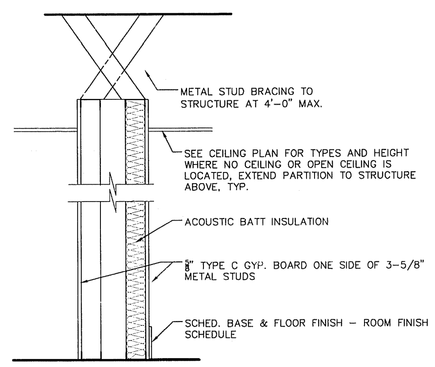
2 A1.01 PARTITION TYPE P2
3/4" =1'-0"



3 A1.01 PARTITION TYPE P3
3/4" =1'-0"



4 A1.01 PARTITION TYPE P4
3/4" =1'-0"



5 A1.01 PARTITION TYPE P5
3/4" =1'-0"

PARTITION NOTES:

- REPLACE 5/8" GYP. BD. WITH 5/8" TILE BACKER BOARD AT ALL WALL TILE LOCATIONS.
- REPLACE 5/8" GYP. BD. WITH 5/8" TYPE WP GYP. BD. AT RESTROOM AREAS WHERE TILE BACKER BOARD IS NOT USED.

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COLORADO SPRINGS EXPO CENTER

3650 NORTH NEVADA AVE. BUILDING RENOVATION
COLORADO SPRINGS, CO

REVISIONS

SITE DETAILS
PARTITION TYPES
GENERAL NOTES

JOB NO.: 1002210
DATE: 06/06/11
SCALE: AS NOTED
DRAWN: JPG
CHECKED: GMF

A1.01
SHEET

DEMOLITION NOTES

- THE CONTRACTOR SHALL MAINTAIN THE BUILDING IN A SECURABLE CONDITION AT ALL TIMES DURING DEMOLITION CONTRACT PERIOD. COORDINATE WITH THE OWNER FOR SECURITY REQUIREMENTS OF THE BUILDING AND SITE.
- THE CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS PRIOR TO DEMOLITION AND NOTIFY THE ARCHITECT AND OWNER OF ANY DISCREPANCIES THAT MAY AFFECT THE WORK.
- FIELD VERIFY WITH OWNER ALL EXISTING BUILDING ELEMENTS ALREADY DEMOLISHED IN PREVIOUS WORK.
- THE CONTRACTOR HAS SALVAGE RIGHTS TO ALL DEMOLISHED MATERIAL, EQUIPMENT, AND DEBRIS FROM WITHIN THE PROJECT SCOPE OF WORK AREA THAT IS NOT DESIGNATED TO BE RE-INSTALLED OR TURNED OVER TO THE OWNER FOR STORAGE. COORDINATE WITH THE OWNER FOR ITEMS TO BE RE-USED, RE-INSTALLED, OR OTHERWISE RETAINED BY THE OWNER.
- ALL EXISTING BUILDING CONDITIONS, MATERIALS AND EQUIPMENT TO REMAIN ARE TO BE PROTECTED IN PLACE FROM DEMOLITION ACTIVITIES. CONTRACTOR IS REQUIRED TO PROVIDE PARTITIONS, COVERING, DUST PROTECTION, AND OTHER TEMPORARY METHODS OF FULLY PROTECTING EXISTING ITEMS TO REMAIN.
- THE EXISTING BUILDING WILL BE PARTIALLY OCCUPIED BY THE OWNER DURING CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL NOT INTERFERE OR INTERRUPT OWNER'S ACTIVITIES WITHOUT PRIOR NOTIFICATION AND APPROVAL.
- MAINTAIN ACCESS TO THE SITE FIRE LANES, PARKING, LOADING AREAS, ENTRY DOORS, ETC. AS REQUIRED FOR OWNER'S USE OF THE BUILDING. COORDINATE WITH THE OWNER IN ADVANCE WHERE TEMPORARY INTERRUPTION OF ACCESS WILL BE REQUIRED.
- MAINTAIN ALL EMERGENCY EGRESS FROM THE BUILDING DURING DEMOLITION ACTIVITIES. MAINTAIN FIRE ALARM AND SPRINKLER SYSTEMS IN AREAS OF THE BUILDING REMAINING OCCUPIED BY THE OWNER.
- NOTIFY AND OBTAIN APPROVAL OF THE OWNER 48 HOURS IN ADVANCE FOR ANY INTERRUPTION OF UTILITIES OR SERVICES.
- PROVIDE A STAGING PLAN TO THE OWNER FOR APPROVAL. STAGING PLAN SHALL INDICATE LOCATION OF DUMPSTERS, PORTABLE TOILETS, CONTRACTOR OFFICES, AND CONTRACTOR PERSONNEL PARKING AREAS.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS AND APPROVALS FROM THE AUTHORITY HAVING JURISDICTION PRIOR TO PERFORMING WORK.
- DEBRIS AND DEMOLISHED MATERIALS SHALL BE DISPOSED OF LEGALLY OFF SITE.
- REFER TO MECHANICAL DEMOLITION DRAWINGS FOR INFORMATION OF DEMOLITION OF MECHANICAL SYSTEMS AND EQUIPMENT.
- REFER TO ELECTRICAL DEMOLITION DRAWINGS FOR INFORMATION OF DEMOLITION OF ELECTRICAL SYSTEMS AND EQUIPMENT.
- ALL DEMOLITION WORK MUST BE IN COMPLIANCE WITH IFC CHAPTER 14.
- THE CONTRACTOR SHALL MAINTAIN PORTABLE FIRE EXTINGUISHERS IN ACCORDANCE WITH IFC 1415.

WALL PANEL MODIFICATION FOR DOOR INSTALLATION. RE: STRUCT.

EXISTING DOORS TO REMAIN

WALL PANEL MODIFICATION FOR DOOR INSTALLATION. RE: STRUCT.

EXISTING DOOR TO REMAIN

WALL PANEL MODIFICATION FOR INSTALATION OF OVERHEAD & STANDARD DOORS. RE: STRUCT.

REMOVE ELECTRICAL, COMPRESSED AIR, PLUMBING, ETC. AT PERIMETER WALL (}TYP).

REMOVE ELECTRICAL, COMPRESSED AIR, PLUMBING, ETC. AT PERIMETER WALL (}TYP).

REMOVE WALLS, DOORS, ELECTRICAL, COMPRESSED AIR, PLUMBING, ETC. TYP.

REMOVE CEILING GRID, LIGHTS, DIFFUSERS, ELECTRICAL, ETC. THIS AREA REMOVE VCT FLOORING

REMOVE WALLS, DOORS, ELECTRICAL, COMPRESSED AIR, PLUMBING, ETC. TYP.

SALVAGE ONE PAIR OF 4'-0" X 8'-0" DOORS WITH FRAME FOR RE-USE IN NEW CONSTRUCTION. CONFIRM WITH ARCHITECT PRIOR TO DEMOLITION LOCATION OF DOOR TO BE SALVAGED.

REMOVE WALLS, DOORS, ELECTRICAL, COMPRESSED AIR, PLUMBING, ETC. TYP.

DEMOLISH EXISTING RESTROOMS, STAIRS, AND MECHANICAL MEZZANINE IN THEIR ENTIRETY.

LINE OF HIGH ROOF ABOVE

REMOVE ELECTRICAL, COMPRESSED AIR, PLUMBING, ETC. AT PERIMETER WALL (}TYP).

REMOVE CEILING GRID, LIGHTS, DIFFUSERS, ELECTRICAL, ETC. THIS AREA REMOVE VCT FLOORING

REMOVE WALLS, DOORS, ELECTRICAL, COMPRESSED AIR, PLUMBING, ETC. TYP.

REMOVE CEILING GRID, LIGHTS, DIFFUSERS, ELECTRICAL, ETC. THIS AREA REMOVE VCT FLOORING

REMOVE CLOSET, COMMUNICATIONS EQUIPMENT, ELECTRICAL EQUIPMENT

REMOVE WALLS, DOORS, ELECTRICAL, COMPRESSED AIR, PLUMBING, ETC. TYP.

DEMOLISH NORTH WALL OF RESTROOMS AND EXISTING TOILET PARTITIONS

REMOVE WALLS, DOORS, ELECTRICAL, COMPRESSED AIR, PLUMBING, ETC. TYP.

WALL PANEL MODIFICATION FOR DOOR INSTALLATION. RE: STRUCT.

REMOVE BOTH PAIRS OF DOORS

DEMOLISH EXISTING CONC. STAIRS & HANDRAILS

DEMOLISH DOORS, SOUTH WALL OF ALCOVE, AND CHASE WALL AS INDICATED

REMOVE EXISTING WALLS & DOORS

REMOVE LAVS, WC AND PART.

EXISTING TEL. EQUIP. TO REMAIN

DEMOLISH CABINET, SINK, & CMU WALL

REMOVE WALLS

REMOVE WALLS AND DOORS

REMOVE EXISTING CONC. CONTAINMENT CURB & RAMP

EXIST. WALL WITH ELECT. PANEL TO REMAIN

5'-0"

DEMOLISH EXISTING WALLS & DOOR

DEMOLISH EXISTING FOLDING PARTITIONS

DEMOLISH EXISTING WALLS

REMOVE WALL

REMOVE EXISTING WALL BACK TO EXISTING PRECAST WALL PANEL

REMOVE EXISTING DISH MACHINE ROOM, WALLS, DOORS AND FLOORING

REMOVE EXISTING WALLS AND DOOR ALCOVE.

CEILING TILE AND FLOORING IS REMOVED IN THIS AREA UNDER SEPARATE CONTRACT

WALL PANEL MODIFICATION FOR TICKET WINDOWS. RE: STRUCT.

FUTURE EXTERIOR WALL MODIFICATION (NOT IN DEMOLITION SCOPE OF WORK)

REMOVE WALLS, DOORS, CEILINGS, AND FLOOR COVERING THIS AREA

FUTURE EXTERIOR WALL MODIFICATION (NOT IN DEMOLITION SCOPE OF WORK)

1 / D1.00 DEMOLITION PLAN
3/32" =1'-0"

NORTH

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COLORADO SPRINGS EXPO CENTER

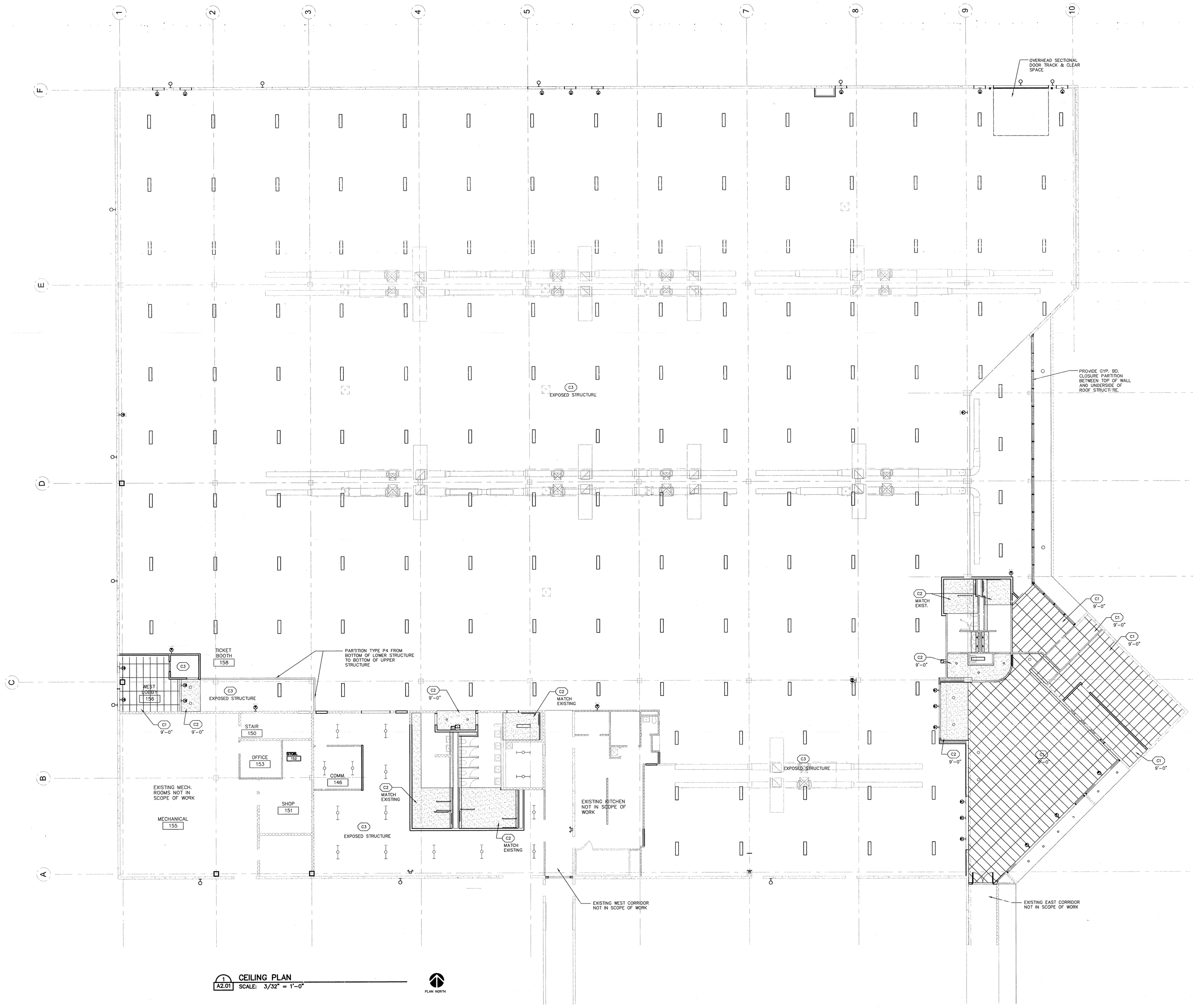
3650 NORTH NEVADA AVE. BUILDING RENOVATION
COLORADO SPRINGS, CO

REVISIONS
DEMOLITION PACKAGE: 04/05/2011
PROGRESS PRINTS: 04/20/2011
GMP PACKAGE: 05/06/2011
CONST. & PERMIT PACKAGE: 06/06/2011

DEMOLITION PLAN

JOB NO.: 1002210
DATE: 06/06/11
SCALE: AS NOTED
DRAWN: JPC
CHECKED: GMF

D1.00
SHEET



1 A2.01 **CEILING PLAN**
SCALE: 3/32" = 1'-0"

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architects
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colorado springs
C O 8 0 9 0 3
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f: 7 1 9 . 6 3 2 . 5 1 6 4
w: csnaarchitects.com

COLORADO SPRINGS EXPO CENTER

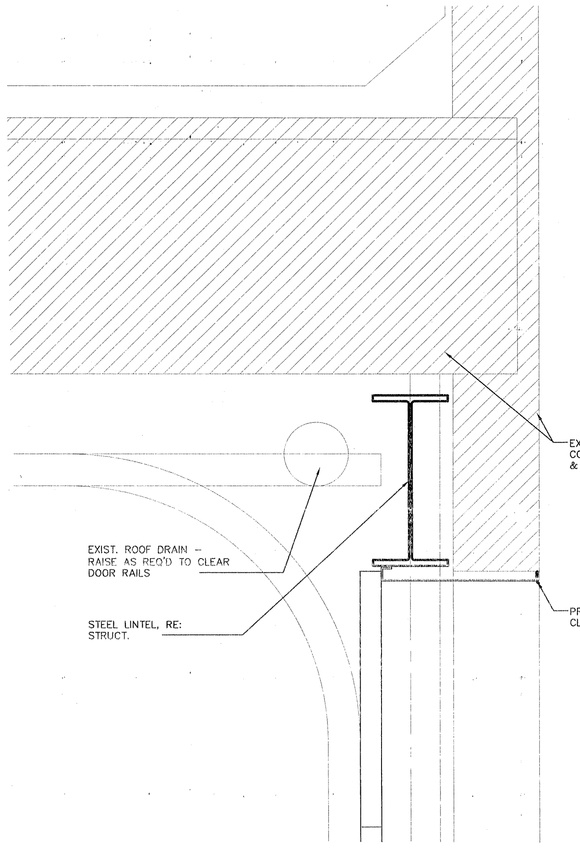
3650 NORTH NEVADA AVE. BUILDING RENOVATION
COLORADO SPRINGS, CO

REVISIONS

CEILING PLAN

JOB NO.: 1100611
DATE: 06/06/2011
SCALE: AS NOTED
DRAWN: JPG
CHECKED: GMF

A2.01
SHEET



4 A4.00 HEAD DETAIL
SCALE: 1-1/2" = 1'-0"

ROOM FINISH SCHEDULE

ROOM NUMBER	ROOM NAME	FLOOR	BASE	WALLS				CEILING	REMARKS
				NORTH	EAST	SOUTH	WEST		
100	HALLWAY	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	
105	LOBBY	VCT1/VCT2	RB	PT1/PT2	PT1	PT1	PT1	ACT	
107	TICKET BOOTH	CPT	RB	PT1	PT2	PT1	PT1	ACT	
108	OFFICE	CPT	RB	PT1	PT1	PT1	PT1	ACT	
109	STORAGE	CPT	RB	PT1	PT1	PT1	PT1	ACT	
111	OFFICE	CPT	RB	PT1	PT1	PT1	PT1	ACT	
112	RESTROOM VESTIBULE	VCT1	RB	PT1	PT1	PT1	PT1	ACT	
114	JANITOR CLOSET	VCT1	RB	PT1	PT1	PT1	PT1	ACT	
115	WOMEN	CT1	CT1	CT1	CT1	CT1	CT1	PT4	
116	MEN	CT1	CT1	CT1	CT1	CT1	CT1	PT4	
118	CONCESSIONS	SC	RB	PT1	PT1	PT1	PT1	EXP	
140	JANITOR CLOSET	VCT1	RB	PT1	PT1	PT1	PT1	PT4	
142	WOMEN	CT2	CT2	CT2	CT2	CT2	CT2	PT4	
144	MEN	CT2	CT2	CT2	CT2	CT2	CT2	PT4	
145	RECEIVING / STORAGE	SC	RB	PT1	PT1	PT1	PT1	EXP	
147	FAMILY RESTROOM	CT2	CT2	CT2	CT2	CT2	CT	PT4	
156	WEST LOBBY	VCT1	RB	PT1	PT1	PT1	PT1	ACT	
158	TICKET BOOTH	CPT	RB	PT1	PT1	PT1	PT1	ACT	
160	EXHIBIT HALL	SC	RB	PT1	PT1	PT1	PT1	EXP	
--	--	--	--	--	--	--	--	--	--

FINISH LEGEND

MARK	MATERIAL	REMARKS
	FLOORING	
SC	SEALED CONCRETE	EXIST. CONC. FINISH TREATMENT TO BE DETERMINED.
VCT1	VINYL COMPOSITION TILE	FIELD COLOR
VCT2	VINYL COMPOSITION TILE	ACCENT COLOR
CT1	CERAMIC TILE	COLOR A
CT2	CERAMIC TILE	COLOR B
CPT	CARPET	--
	BASE	
CT1	CERAMIC TILE	COLOR A
CT2	CERAMIC TILE	COLOR B
RB	RUBBER BASE	--
	WALLS	
CT1	CERAMIC TILE	COLOR A
CT2	CERAMIC TILE	COLOR B
PT1	PAINT	COLOR A
PT2	PAINT	COLOR B
PT3	EXTERIOR PAINT	COLOR C
	CEILING	
PT4	PAINT	COLOR D
ACT	ACOUSTIC CEILING TILE & GRID	--
EXP	EXPOSED STRUCTURE	NO FINISH

NOTE:

1. ALL PARTITIONS, EXISTING AND NEW, SHALL RECEIVE LEVEL 4 FINISH WHERE EXPOSED TO PUBLIC AREAS, INCLUDING THE EXHIBIT HALL, CONCESSIONS, RESTROOMS, LOBBIES, AND TICKET BOOTHS. EXISTING PARTITIONS IN OTHER ROOMS AND SPACES MAY REMAIN WITHOUT ADDITIONAL GYP. BOARD FINISH AND MAY BE PAINTED PER THE FINISH SCHEDULE.

2. PATCH ALL HOLES, GOUGES, ETC. IN EXISTING PARTITIONS.

3. ALL RUBBER BASE SHALL BE 6" HIGH.

4. IN CONCESSIONS 118 AND EXHIBIT HALL 160, ALL EXISTING COLUMNS SHALL RECEIVE NEW PAINT (PT1) AND 6" HIGH RUBBER BASE TO MATCH THE SURROUNDING WALLS. NEW PAINT EXTENDS FROM THE TOP OF BASE TO THE UNDERSIDE OF EXISTING STRUCTURE.

DOOR SCHEDULE

DOOR NUMBER	DOOR					FRAME				DETAILS			FIRE RATING	HARDWARE GROUP	REMARKS
	OPENING/SIZE	TYPE	MATERIAL	GLAZING	FINISH	TYPE	MATERIAL	GLAZING	FINISH	HEAD	JAMB	SILL			
100A	PR 3'-0" X 7'-0" X 1-3/4"	F	HM	GL1	PT	1	HM	--	PT	--	--	--	90 MIN	400	--
100B	PR 3'-0" X 7'-0" X 1-3/4"	G	HM	--	PT	1	HM	--	PT	--	--	--	90 MIN	400	--
100C	PR 3'-0" X 7'-0" X 1-3/4"	F	WD	GL1	ST	1	HM	--	PT	--	--	--	--	400	--
105A	PR 3'-0" X 7'-0" X 1-3/4"	B	ALUM	GL2	FF	3	ALUM	GL3	FF	--	--	--	--	100	AUTO. OPENER ON ONE LEAF
105B	PR 3'-0" X 7'-0" X 1-3/4"	B	ALUM	GL2	FF	2	ALUM	GL3	FF	--	--	--	--	105	--
105C	PR 3'-0" X 7'-0" X 1-3/4"	B	ALUM	GL2	FF	2	ALUM	GL3	FF	--	--	--	--	105	--
105D	PR 3'-0" X 7'-0" X 1-3/4"	B	ALUM	GL2	FF	2	ALUM	GL3	FF	--	--	--	--	105	--
105E	PR 3'-0" X 7'-0" X 1-3/4"	B	ALUM	GL2	FF	2	ALUM	GL3	FF	--	--	--	--	105	--
105F	3'-0" X 7'-0" X 1-3/4"	C	ALUM	GL1	FF	4	ALUM	GL1	FF	--	--	--	--	110	--
105G	PR 3'-0" X 7'-0" X 1-3/4"	B	ALUM	GL1	FF	4	ALUM	GL1	FF	--	--	--	--	115	--
105H	PR 3'-0" X 7'-0" X 1-3/4"	B	ALUM	GL1	FF	4	ALUM	GL1	FF	--	--	--	--	115	--
105J	3'-0" X 7'-0" X 1-3/4"	C	ALUM	GL1	FF	4	ALUM	GL1	FF	--	--	--	--	110	--
105K	PR 3'-0" X 7'-0" X 1-3/4"	B	ALUM	GL1	FF	4	ALUM	GL1	FF	--	--	--	--	115	--
105L	PR 3'-0" X 7'-0" X 1-3/4"	B	ALUM	GL1	FF	4	ALUM	GL1	FF	--	--	--	--	115	--
105M	PR 3'-0" X 7'-0" X 1-3/4"	F	WD	GL1	ST	1	HM	--	PT	--	--	--	--	400	--
107A	3'-0" X 7'-0" X 1-3/4"	E	WD	GL1	ST	1	HM	--	PT	--	--	--	--	500	--
142A	3'-0" X 7'-0" X 1-3/4"	--	WD	--	ST	--	HM	--	PT	--	--	--	--	805	RE-FURBISHED EXISTING DOOR
144A	3'-0" X 7'-0" X 1-3/4"	--	WD	--	ST	--	HM	--	PT	--	--	--	--	805	RE-FURBISHED EXISTING DOOR
145A	EXIST. FIELD VERIFY	--	WD	--	ST	--	HM	--	PT	--	--	--	--	400	RELOCATED EXISTING DOOR
147A	3'-0" X 7'-0" X 1-3/4"	--	HM	--	PT	--	HM	--	PT	--	--	--	--	800	RE-FURBISHED EXISTING DOOR
156A	PR 3'-0" X 7'-0" X 1-3/4"	B	ALUM	GL2	FF	5	ALUM	--	FF	--	--	--	--	120	--
156B	3'-0" X 7'-0" X 1-3/4"	C	ALUM	GL2	FF	6	ALUM	--	FF	--	--	--	--	125	--
156C	PR 3'-0" X 7'-0" X 1-3/4"	B	ALUM	GL1	FF	4	ALUM	--	FF	--	--	--	--	115	--
156D	3'-0" X 7'-0" X 1-3/4"	C	ALUM	GL1	FF	4	ALUM	--	FF	--	--	--	--	110	--
158A	3'-0" X 7'-0" X 1-3/4"	E	WD	GL1	ST	1	HM	--	PT	--	--	--	--	500	--
160A	3'-0" X 7'-0" X 1-3/4"	A	HM	--	PT	1	HM	--	PT	--	--	--	--	205	--
160B	3'-0" X 7'-0" X 1-3/4"	A	HM	--	PT	1	HM	--	PT	--	--	--	--	200	--
160C	PR 4'-0" X 9'-0" X 1-3/4"	--	--	--	PT	--	--	--	PT	--	--	--	--	210	EXISTING DOOR, NEW PAINT & HDW.
160D	3'-0" X 7'-0" X 1-3/4"	A	HM	--	PT	1	HM	--	PT	--	--	--	--	200	--
160E	3'-0" X 7'-0" X 1-3/4"	A	HM	--	PT	1	HM	--	PT	--	--	--	--	200	--
160F	3'-4" X 7'-0" X 1-3/4"	--	HM	--	PT	--	HM	--	PT	--	--	--	--	205	EXISTING DOOR, NEW PAINT & HDW.
160G	16'-0" X 14'-0"	D	GH	--	FF	--	--	--	PT	--	--	--	--	--	OVERHEAD SECTIONAL DOOR
160H	3'-0" X 7'-0" X 1-3/4"	A	HM	--	PT	1	HM	--	PT	--	--	--	--	200	--
160J	3'-0" X 7'-0" X 1-3/4"	A	HM	--	PT	1	HM	--	PT	--	--	--	--	205	--
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
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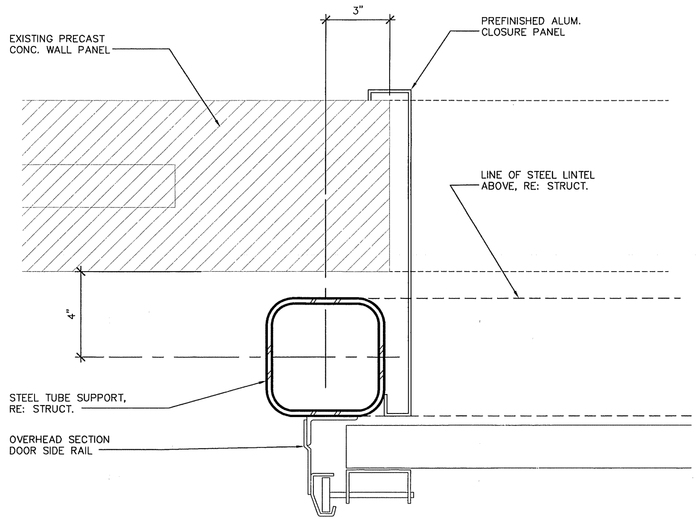

4 A4.00 JAMB DETAIL
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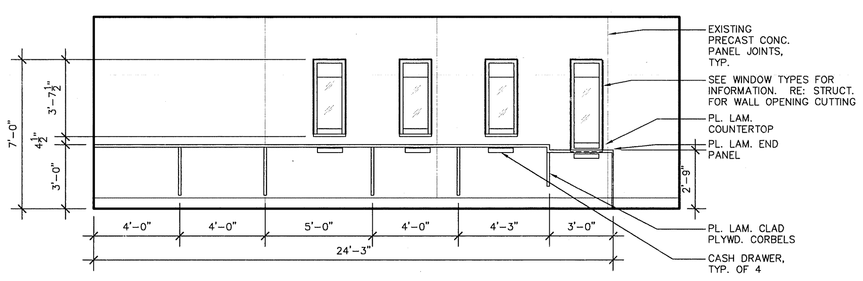

5 A4.00 TICKET BOOTH 107
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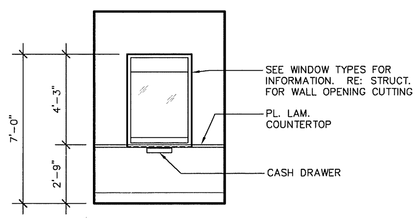

6 A4.00 TICKET BOOTH 158
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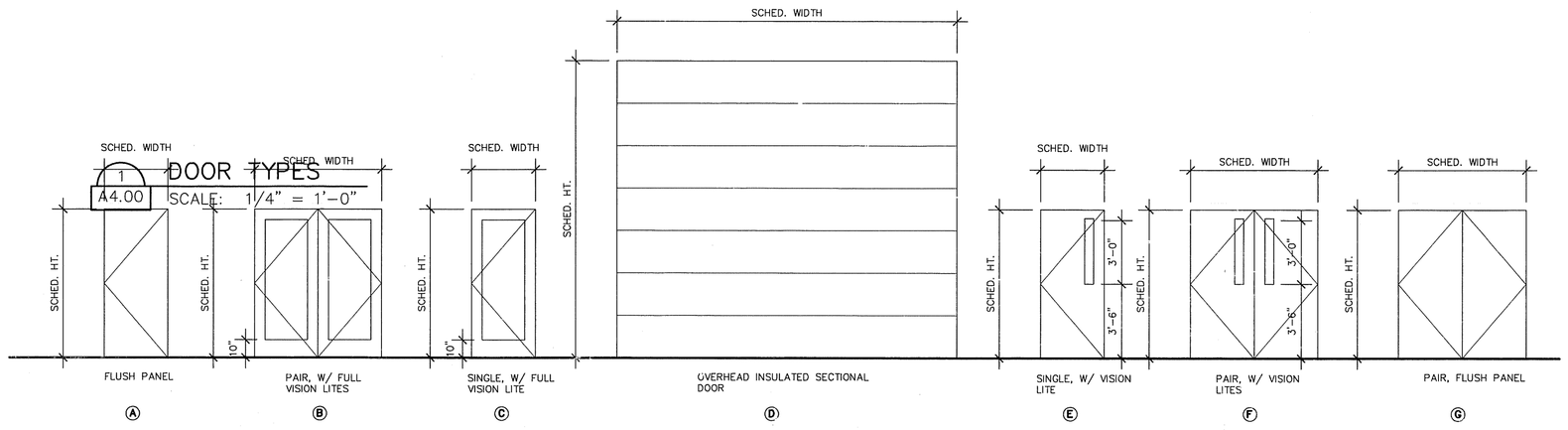

1 A4.00 DOOR TYPES
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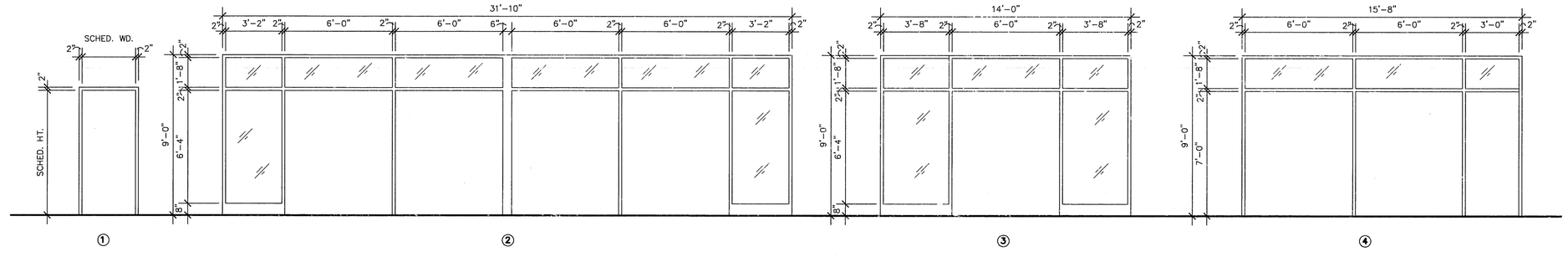

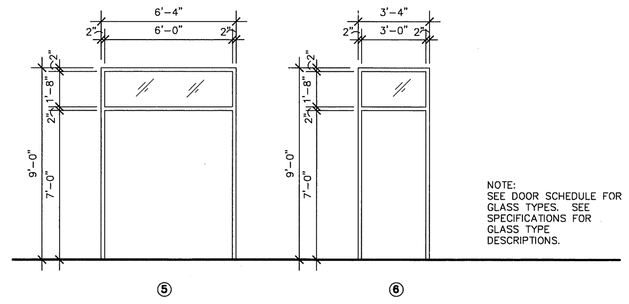

2 A4.00 DOOR FRAMES
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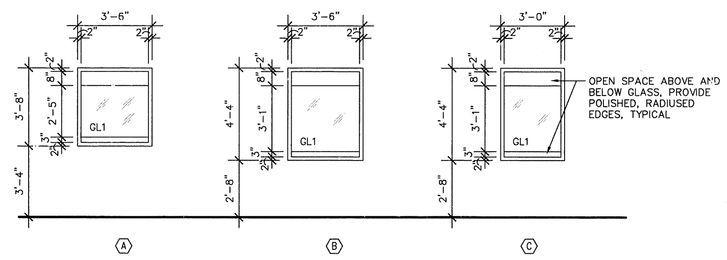

3 A4.00 WINDOW TYPES
SCALE: 1/4" = 1'-0"

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COLORADO SPRINGS EXPO CENTER

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REVISIONS

DOOR SCHEDULE
HARDWARE SCHEDULE,
& DOOR/FRAME TYPES

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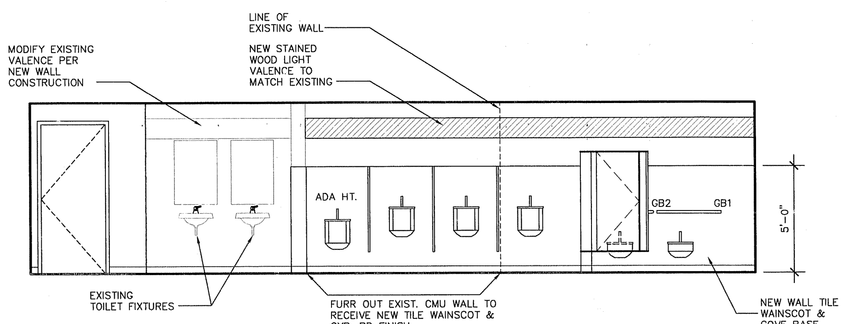
A4.00
SHEET



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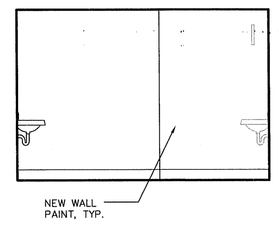

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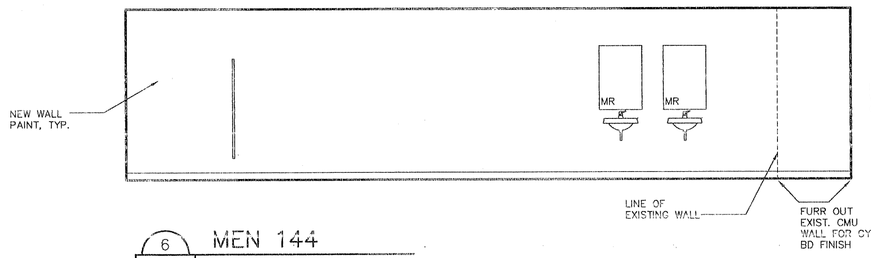

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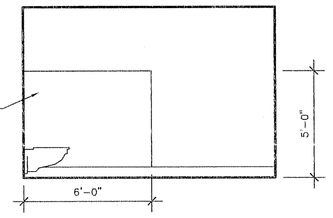

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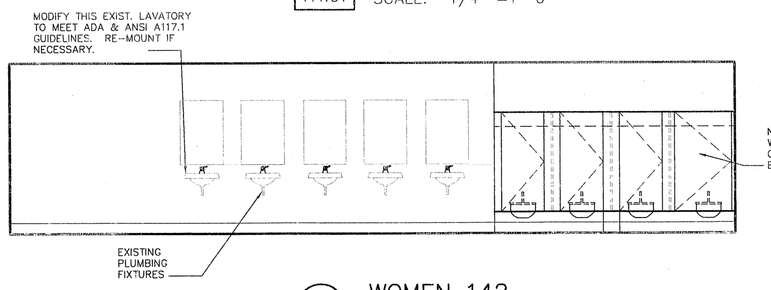

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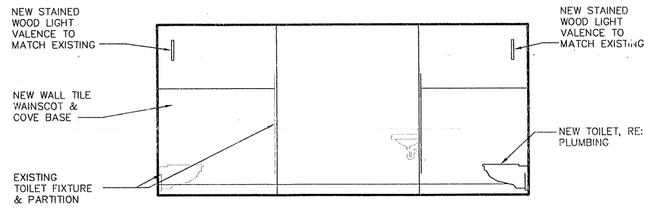

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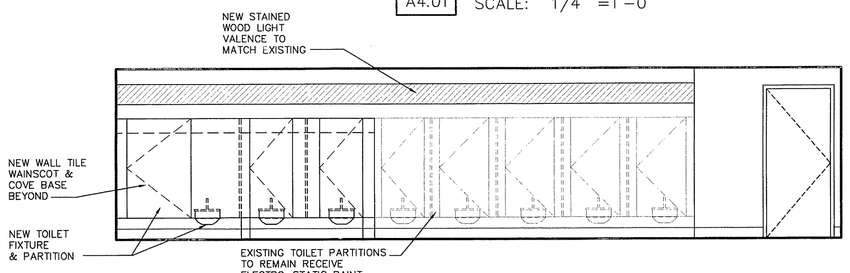

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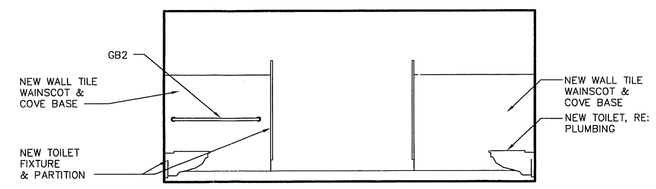

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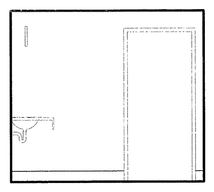

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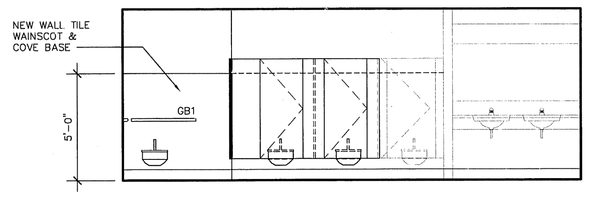

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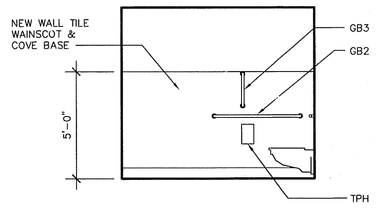

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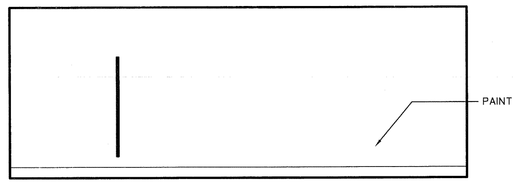

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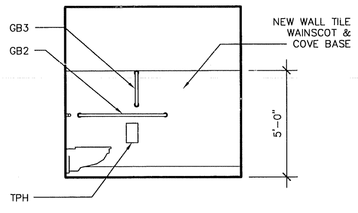

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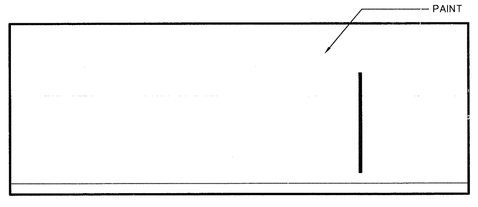

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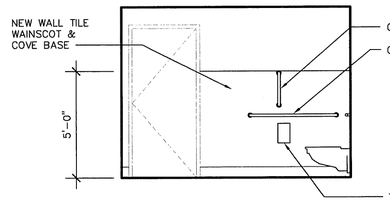

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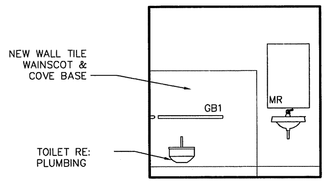

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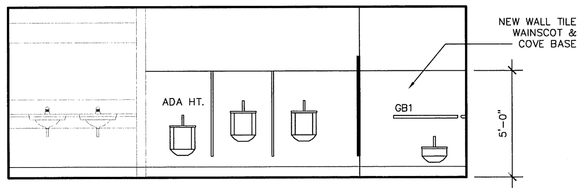

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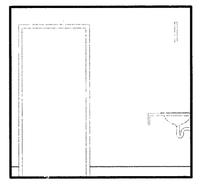

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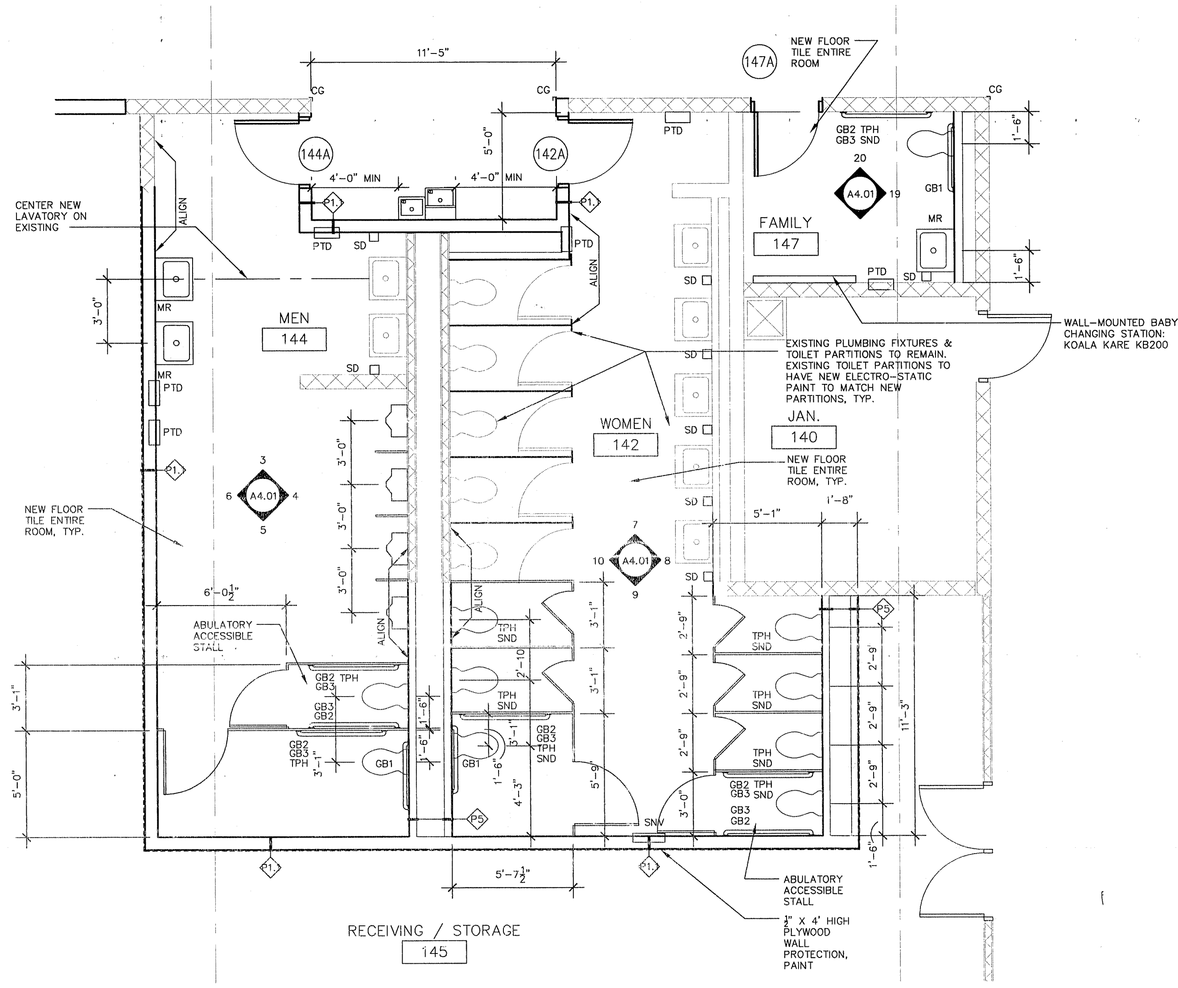
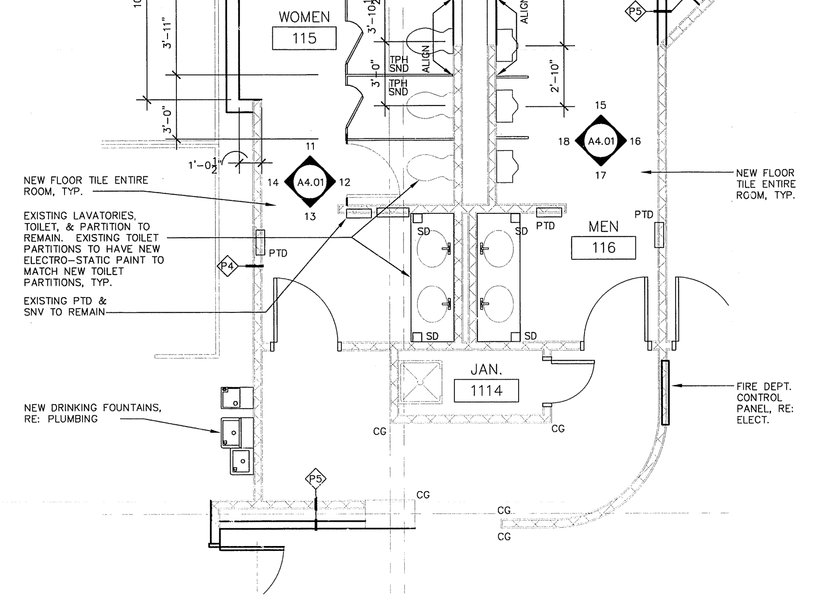


1 A4.01 ENLARGED TOILET PLAN SCALE: 1/4" = 1'-0"



2 A4.01 ENLARGED TOILET PLAN SCALE: 1/4" = 1'-0"

TOILET ACCESSORY LEGEND

MARK	DESCRIPTION	MANUFACTURER	PRODUCT NO.	TOP, HGT. A.F.F.
GB1	GRAB BAR, 36"	BOBRICK	B-6806 X 36	34"
GB2	GRAB BAR, 48"	BOBRICK	B-6806 X 48	34"
GB3	GRAB BAR, 18"	BOBRICK	B-6806 X 18	VERT. GRAB BAR PER ANSI A117.1
TPH	TOILET PAPER HOLDER	BOBRICK	B-2746	C.L. UNIT 19" A.F.F.
SND	SANITARY NAPKIN DISPOSAL	BOBRICK	B-4354	30" A.F.F. TO TOP OF UNIT
SNV	SANITARY NAPKIN VENDING	BOBRICK	B-4706	62" A.F.F. TO TOP OF UNIT
SD	SOAP DISPENSER	BOBRICK	B-4112	49" TOP OF UNIT A.F.F.
PTD	PAPER TOWEL DISP./RECEPT.	BOBRICK	B-43944	48" MAX. TO DISPENSER SLOT
MR	METAL FRAMED MIRROR	BOBRICK	B-165 1830	B.O. REFLECTING SURFACE 40" MAX. A.F.F.
CH	COAT HOOK	BOBRICK	B-542	48" AT ADA COMPLIANT LOCATIONS, 60" OTHERWISE

NOTES:

1. CONFIRM RELOCATION OF EXISTING TOILET ACCESSORIES AT WALLS TO BE DEMOLISHED.
2. FINAL MODEL AND TYPE OF EACH ACCESSORY TO BE VERIFIED WITH SUBMITTED MANUFACTURER. SEE SPECIFICATIONS FOR ACCEPTABLE MANUFACTURERS.
3. COAT HOOKS SHALL BE INSTALLED AT EACH TOILET STALL DOOR. COAT HOOKS ARE NOT INDICATED ON DRAWINGS.
4. ADA ACCESSIBLE ACCESSORIES SHALL BE MOUNTED IN COMPLIANCE WITH ICC/ANSI A117.1
5. MOUNT TOILET PAPER HOLDERS BETWEEN 7 INCHES AND 9 INCHES IN FRONT OF THE TOILET FRONT EDGE.

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REVISIONS

ENLARGED PLANS & INTERIOR ELEVATIONS

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A4.01
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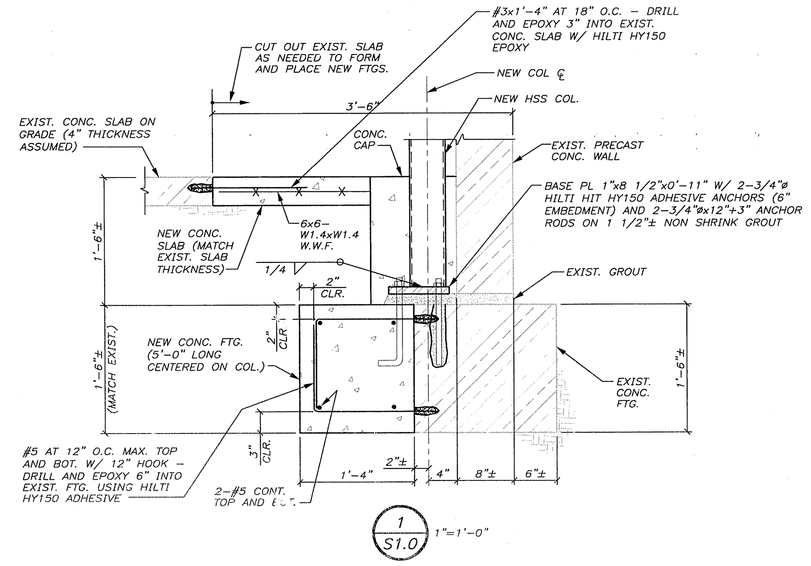

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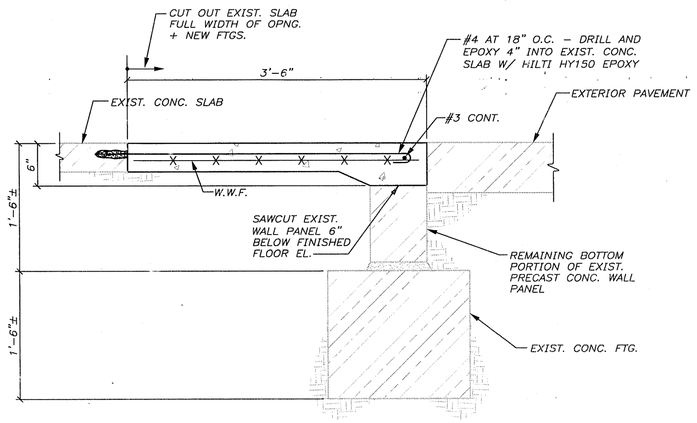

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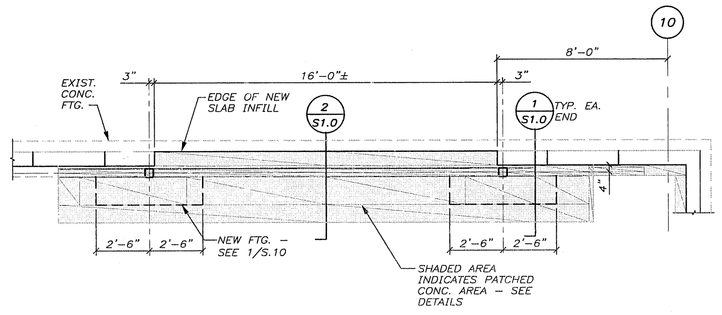
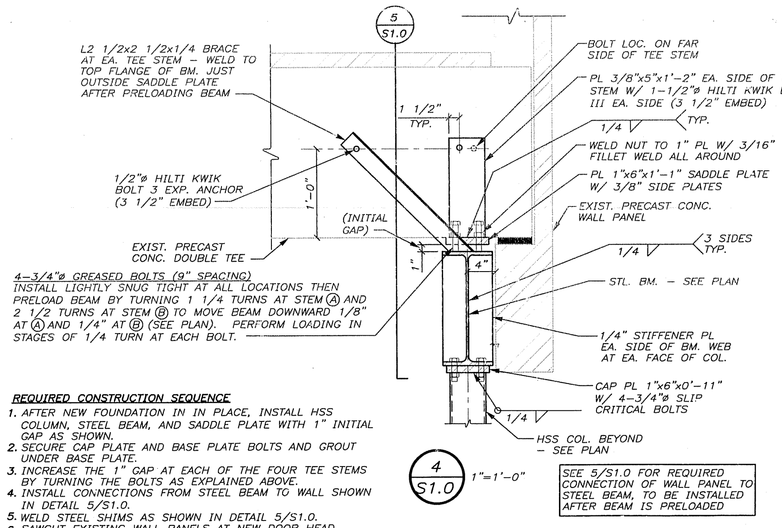
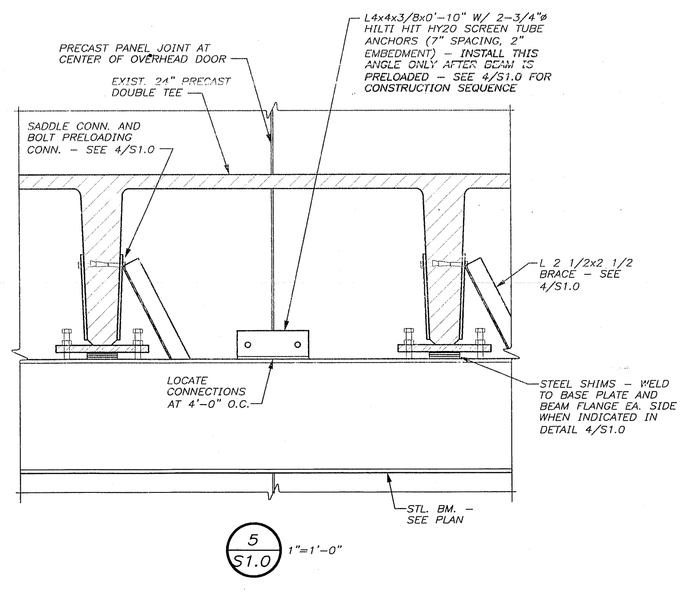


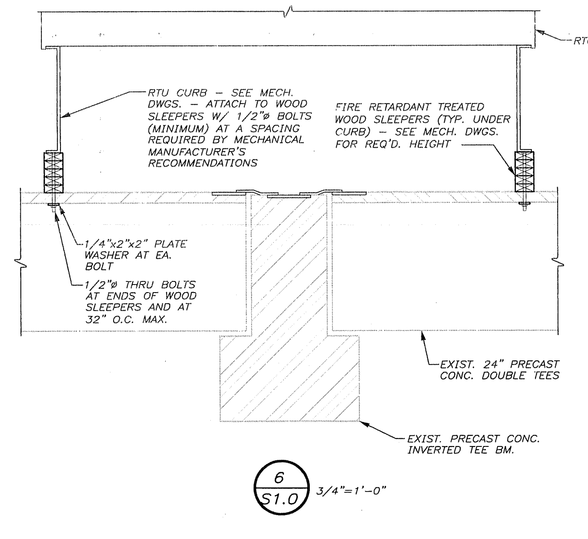
PARTIAL FOUNDATION PLAN AT OVERHEAD DOOR
3 / S1.0
1/4"=1'-0"

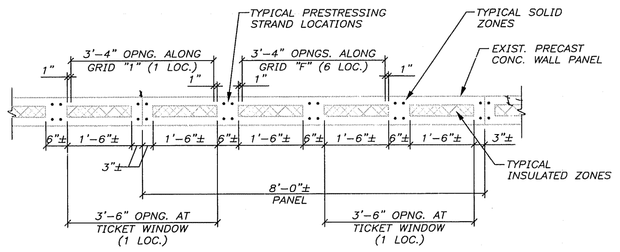


REQUIRED CONSTRUCTION SEQUENCE

1. AFTER NEW FOUNDATION IN IN PLACE, INSTALL HSS COLUMN, STEEL BEAM, AND SADDLE PLATE WITH 1" INITIAL GAP AS SHOWN.
2. SECURE CAP PLATE AND BASE PLATE BOLTS AND GROUT UNDER BASE PLATE.
3. INCREASE THE 1" GAP AT EACH OF THE FOUR TEE STEMS BY TURNING THE BOLTS AS EXPLAINED ABOVE.
4. INSTALL CONNECTIONS FROM STEEL BEAM TO WALL SHOWN IN DETAIL 5/S1.0.
5. WELD STEEL SHIMS AS SHOWN IN DETAIL 5/S1.0.
6. SAWCUT EXISTING WALL PANELS AT NEW DOOR HEAD ELEVATION.







SEE PLAN NOTE ON SHEET S2.0 FOR INSTALLATION LIMITATIONS

7 / S1.0 1/2"=1'-0"

GENERAL NOTES

1. Material and workmanship shall be in accordance with the requirements of "The International Building Code", 2009 Edition.
2. Contractor shall check and verify all dimensions shown on structural drawings with those shown on architectural.
3. Contractor shall notify Architect of any discrepancies between architectural and structural drawings and receive written clarification of discrepancies before proceeding with construction.
4. Contractor shall field measure and verify all existing conditions and dimensions at job site.
5. In case existing conditions or dimensions vary from those shown on drawing, Contractor shall notify the Architect so proper adjustments can be made.

FOUNDATION GENERAL NOTES

1. Recommendations for foundation type and design criteria were provided by the soils report completed for the 1981 building addition, written by Thomas Summerlee Inc., number 2472, dated September 19, 1979.
2. Maximum bearing pressure used in footing design: 3,000 psf
3. Minimum bearing pressure used in footing design (dead load only): 0 psf
4. All footings shall bear on solid undisturbed soil.
5. The geotechnical engineer shall perform an open excavation inspection prior to placing foundations to ensure the bearing capacity is satisfactory.
6. In case conditions found at the site vary from those indicated on the drawings, the Architect is to be notified so that adjustments to the foundation can be made to meet actual field conditions.
7. No footings or foundation wall shall be placed without adequate notification to allow Engineer to observe reinforcing if he deems necessary.
8. No concrete shall be placed in excavation containing water or on frozen ground.

CONCRETE GENERAL NOTES

1. Material and workmanship shall be in accordance with the requirements of "Building Code Requirements for Reinforced Concrete" (ACI 318-08).
2. Concrete mixes shall conform to the following:

Mix "A" – For Foundations and Exterior Site concrete	
Minimum 28 Day Compressive Strength	4,000 psi
Maximum Aggregate Size	3/4 inch
Entrained Air Content	6% ±1 1/2%
Slump	4" Maximum
Mix "B" – For Interior Slab on Grade Patching	
Minimum 28 Day Compressive Strength	4,000 psi
Maximum Aggregate Size	3/4 inch
Entrained Air Content	6% ±1 1/2%
Use water reducing admixture per Manufacturer's recommendations	
Slump	4" Maximum

3. All cement used in concrete shall be Type I/II.
4. All concrete shall have a minimum cementitious materials content of 470 lbs. per cubic yard unless otherwise specified.
5. Calcium Chloride shall not be added to concrete.
6. Reinforcing bars shall conform to ASTM A-615, Grade 60 or ASTM A-706.
7. Bar bending details and placing drawings shall be in accordance with the "Manual of Standard Practice for Detailing Reinforced Concrete Structures" (ACI 315, latest edition).
8. Provide bar supports and spacers to place all bars in proper location, and wire adequately at intersections to hold bars firmly in position while concrete is placed. Vertical dowels shall be supported in place prior to placing concrete.
9. Welded wire fabric shall conform to ASTM A-185 and shall lap a minimum of one full mesh plus 2" at side and end laps and shall be securely wired together, unless otherwise shown.
10. Reinforcing bar sizes shown are English designation. The bars may be furnished with the following equivalent metric markings:

English	#3	#4	#5	#6	#7	#8	#9	#10	#11
Metric	#10	#13	#16	#19	#22	#25	#29	#32	#36

STRUCTURAL STEEL GENERAL NOTES

1. All steel shall conform to the "Standard Specification for Structural Steel" ASTM Designation A572, Grade 50, for A992, latest edition, except where noted otherwise. Angles and plates shall conform to ASTM A36, A572, or A992. Round hollow structural steel sections shall conform to ASTM A501, Fy = 36 ksi; or ASTM A53, Types E or S, Grade B, Fy = 35 ksi. Square and rectangular hollow structural sections shall conform to ASTM A500, Grade B, Fy = 46 ksi.
2. All detailing, fabrication and erection shall conform to AISC "Specification for Structural Steel Buildings", and the AISC "Code of Standard Practice for Steel Buildings and Bridges", latest editions, and "Load and Resistance Factor Design Specification for Structural Steel Buildings" when applicable.
3. Shop connections shall be welded unless noted otherwise.
4. Field connections shall be made with 3/4" diameter ASTM A325 High Strength bolts. Connections shall be bearing-type tightened to a "snug tight" condition unless noted as "slip critical".
5. High strength bolted connections shall conform to the "Specification for Structural Joints Using ASTM A325 or A490 Bolts", approved by Research Council on Riveted and Bolted Structural Joints of the Engineering Foundation, latest edition, endorsed by AISC. Fasteners, noted as "Slip Critical", shall be "Load Indicator Bolts" as manufactured by Lohr, Le Jeune, Bethlehem Steel, or approved equal and tightened per manufacturer's specifications.
6. Equivalent welded connections may be substituted for bolted connections subject to Architect's approval.
7. All welding shall be done by certified welding operators and shall conform to "AWS Structural Welding Code" (AWS D1.1), latest edition.
8. All welding shall be done with AWS A5.1 or A5.5 E70 X8 electrodes.
9. Areas within 2 inches of field welds shall not be painted until after welding. Field welds, bolt heads, nuts and other surfaces not shop painted and surfaces abraded during shipping or erection shall be field painted immediately after erection.
10. All steel shall receive one shop coat of Tnemec 99 or Rust Oleum 1069 red metal primer.

DESIGN LOADS

Roof Loads

Dead Load (Assumed)	
Existing roof DTS and roofing	82 psf
Existing DT wall panels	70 psf
Snow Load	P_f = 30 psf
	P_g = 20 psf

Lateral Loads

Wind Loads
3 Second Gust 105 mph
Exposure C
Importance Factor I_w = 1.0

Seismic Loads

Site Class D	
Importance Factor I_E = 1.0	
Mapped Spectral Accelerations	S_s = 0.21g
	S_1 = 0.059g

SPECIAL INSPECTION GENERAL NOTES

1. A statement of special inspections for structural items has been prepared by HCDA Engineering, Inc. for submittal to the Building Official. This was submitted as a condition for permit issuance in accordance with the Structural Testing and Special Inspection requirements of the International Building Code, 2009 edition.
2. The Structural Engineer will perform periodic observations of construction. These observations shall not replace required inspections by the Building Official. These observations also do not serve as "Special Inspections" as required by section 1704 of the International Building Code.
3. Steel Fabricators shall be approved in accordance with IBC section 1704.2.2 of the International Building Code, 2009 Edition, or are required to have shop inspections of the fabricated items for the project by the special inspector hired by the Owner as required by section 1704.2.

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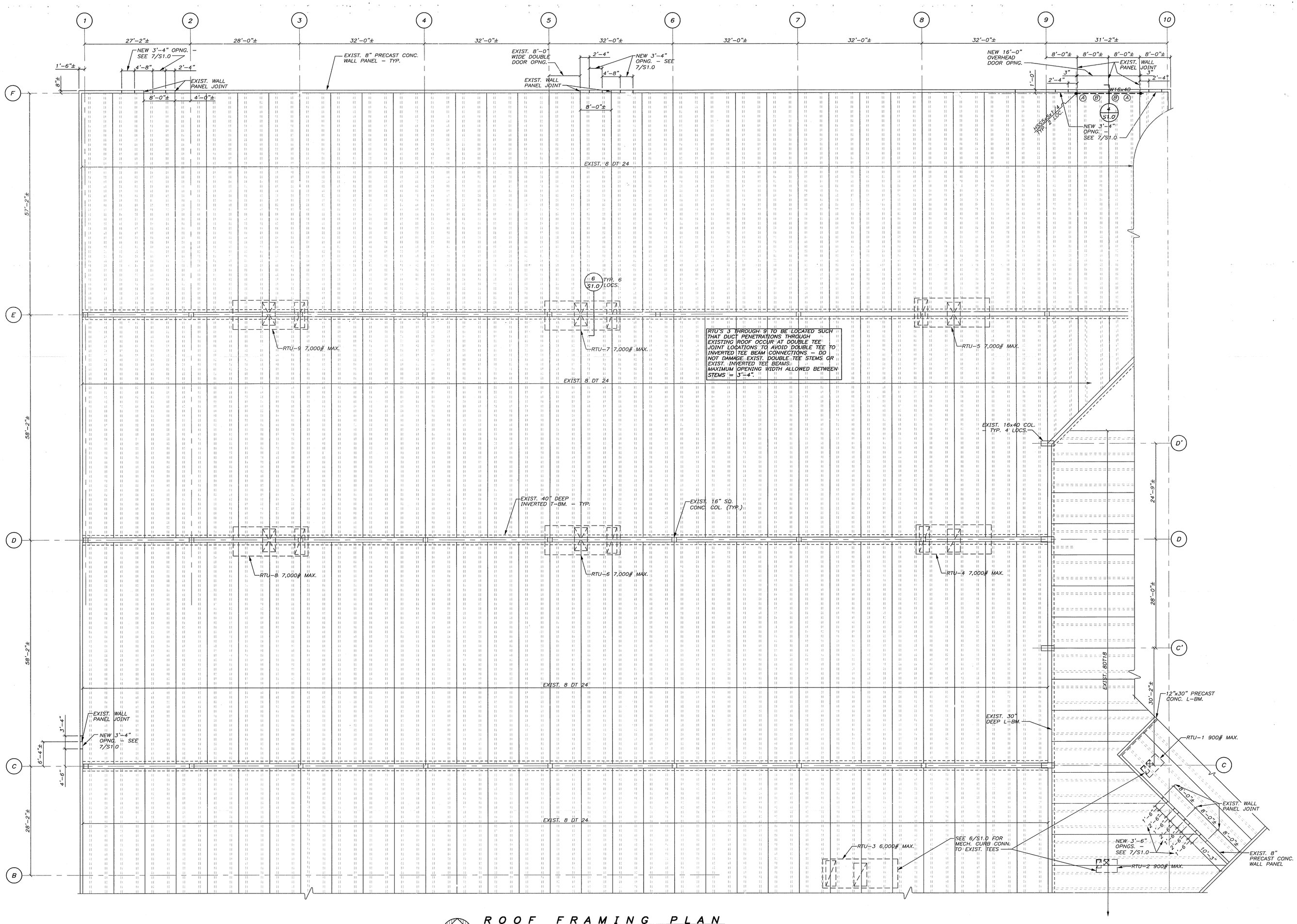
COLORADO SPRINGS, COLORADO

PLANS AND DETAILS

JOB NO.: 1002210
DATE: 06/06/11
SCALE: AS NOTED
DRAWN: DCL
CHECKED: ABB

S1.0
SHEET



NORTH

ROOF FRAMING PLAN

3/32"=1'-0"

- NEW OPENING LOCATIONS IN EXISTING PRECAST PANELS ARE BASED ON EXISTING PRECAST DRAWINGS. THE STRUCTURAL INTENT IS TO MAINTAIN THE 6" WIDE SOLID ZONES OF CONCRETE DIRECTLY UNDER DOUBLE TEE STEM BEARING LOCATIONS. BEFORE CUTTING OPENINGS, CONTRACTOR SHALL DRILL 1/4"ø PILOT HOLES AT EACH SIDE OF EACH NEW OPENING TO VERIFY THAT NEW OPENINGS ARE BEING CUT AT INSULATED ZONES OF WALL PANELS. DO NOT OVERCUT CORNERS. SEE DETAIL 7/S1.0.

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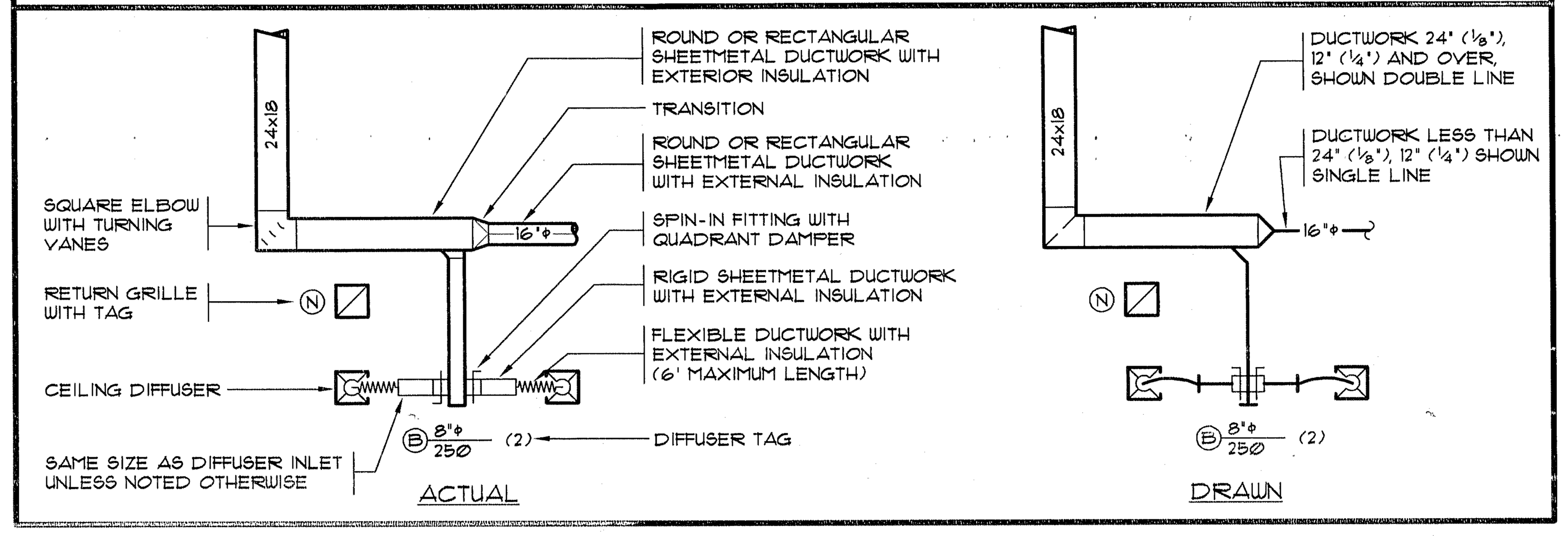
FRAMING PLAN

JOB NO.: 1002210
DATE: 06/06/11
SCALE: AS NOTED
DRAWN: DCL
CHECKED: ABB

S2.0
SHEET

DUCTWORK LEGEND - CONSTANT VOLUME SYSTEMS



LEGEND (NOT ALL ITEMS WILL BE USED)

ABBR.	SYMBOL	DESCRIPTION
HWS, HWR	HWS — HWR	HOT WATER SUPPLY AND RETURN PIPING
G	G (5 PSIG) — G (5 PSIG)	PRESSURE GAS PIPING AND PRESSURE GAS PIPING ON ROOF (DASHED)
		UNION, FLANGE, BLIND FLANGE
		SOV GATE VALVE, BALL VALVE, GLOBE VALVE, BUTTERFLY VALVE
		CHECK VALVE, STRAINER
		PLUG VALVE, CALIBRATED AND DYNAMIC BALANCING VALVES
		LUBRICATED PLUG VALVE
		THREE WAY CONTROL VALVE, SOLENOID AND TWO-WAY / MOTORIZED CONTROL VALVE
		ANGLE, RELIEF VALVE, GAUGE AND COCK, THERMOMETER
AAV / MAV, HEV	AAV, MAV — HEV	HOSE END DRAIN VALVE, AUTOMATIC AIR / MANUAL AIR VENT
		PIPE ELBOW DOWN, PIPE TEE DOWN, PIPE TEE UP, PIPE ELBOW UP
		PIPE ANCHOR, PIPE GUIDE, PIPE SLEEVE
		FLEX CONNECTION, PIPE EXPANSION JOINT
		SQUARE DUCT ELBOW WITH TURNING VANES
	(R/D) (R/D)	DOWN AND BACK UP UNDER BEAM OR OBSTACLE
		SUPPLY AIR, RETURN/OUTSIDE AIR AND EXHAUST AIR
		DUCTWORK UNLINED AND DUCTWORK LINED
	X" ø	FLEXIBLE AND RIGID ROUND DUCT
	F S FS RS R	FIRE, SMOKE, COMBINATION FIRE AND SMOKE, RADIATION SMOKE AND RADIATION DAMPERS
	B MD	BAROMETRIC, MOTORIZED AND MANUAL DAMPERS, SMOKE DETECTOR
T, H, SD, TT, AQ	T H SD TT AQ	THERMOSTAT, HUMIDISTAT, SMOKE DETECTOR, TEMPERATURE TRANSMITTER, AIR QUALITY SENSOR
AP	AP AP	ACCESS PANEL, ACCESS PANEL IN DUCT
SA, RA, EA, OA, CA, MA		SUPPLY, RETURN, EXHAUST, OUTSIDE, COMBUSTION AIR AND MAKE-UP AIR
	1 1 1	WORK NOTE 1, REVISION NO. 1, DEMOLITION NOTE 1, POINT OF CONNECTION
		SUPPLY AIR, RETURN AIR/EXHAUST AIR/OUTSIDE AIR FLOW ARROWS
	A/M-1 1/M-1 R-1/M-1	SECTION A ON SHEET M-1 DIAGRAM 1 ON SHEET M-1 RISER R-1 ON SHEET M-1
	AHU/001 — EQUIPMENT TYPE, EQUIPMENT NUMBER	EQUIPMENT TAG

DRAWING INDEX

NUMBER	DRAWING TITLE	04/20/11	04/29/11	05/06/11	06/06/11
M0.1	DRAWING INDEX, GENERAL NOTES AND LEGENDS	●	●	●	●
M0.2	SCHEDULES	●	●	●	●
M0.3	DIAGRAMS	●	●	●	●
M2.1	PARTIAL FLOOR PLAN - HVAC	●	●	●	●
M2.2	PARTIAL FLOOR PLAN - HVAC	●	●	●	●
M2.3	ROOF PLAN - HVAC	●	●	●	●

DUCT SYSTEM NOTES

1. ALL DUCTWORK UNLESS SPECIFICALLY INDICATED SHALL BE GALVANIZED SHEET METAL INSTALLED IN ACCORDANCE WITH THE SMACNA DUCT CONSTRUCTION STANDARDS:
   SYSTEMS DUCTWORK - PRESSURE CLASS "+2", SEAL CLASS B.
   DIMENSIONS SHOWN ARE NET CLEAR INSIDE DIMENSIONS. ALLOWANCES MUST BE MADE FOR DUCT LINER WHERE CALLED FOR.
2. SOUND ATTENUATE ALL SUPPLY AND RETURN PLENUM DUCTWORK OF EACH AIR HANDLING UNIT WITH 1½", 2# DENSITY INTERNAL DUCT LINER.
3. ALL SUPPLY DUCTWORK SHALL HAVE DUCTMATE OR ALL JOINTS SEALED WITH 'HARDCAST' OR EQUAL DUCT SEALER/MASTIC.
4. ALL EXPOSED, ROUND DUCTWORK SHALL BE GALVANIZED SHEET METAL SPIRAL WITH PAINT GRIP COATING.
5. ALL CONCEALED, ROUND SUPPLY AIR DUCTS 12" AND SMALLER SHALL BE GALVANIZED SHEET METAL SNAP-LOCK. ROUND SUPPLY DUCT GREATER THAN 12" SHALL BE GALVANIZED SHEET METAL SPIRAL. PROVIDE 1" FIBERGLASS INSULATION WRAP. INSULATED FLEXIBLE DUCT MAY BE USED FOR THE CONNECTION TO THE AIR OUTLET PROVIDED THE LENGTH OF THE FLEXIBLE DUCT DOES NOT EXCEED 6 LINEAR FEET.
6. FACTORY MADE AIR DUCTS SHALL CONFORM TO UL 181 AND INCLUDE APPROPRIATE LABEL. FLEXIBLE DUCTWORK SHALL BE APPROVED CLASS 0 OR CLASS 1. LENGTH NOT TO EXCEED 6'-0".
7. ALL BRANCH DUCT CONNECTIONS TO AIR OUTLETS, AIR INLETS, VARIABLE VOLUME TERMINALS AND BOXES SHALL BE THE SAME SIZE AS THE DEVICE NECK UNLESS SHOWN OTHERWISE ON THE DRAWINGS.
8. ALL ENVIRONMENTAL AIR EXHAUST DUCTS SHALL BE SEALED WITH "HARDCAST" OR EQUAL WITH NO DUCT LINER, EXCEPT WHERE INDICATED. WHEN THESE DUCTS ARE LOCATED IN A PLENUM, THEY MUST BE SLEEVED OR BE UNDER NEGATIVE PRESSURE.
9. DUCT HANGERS SHALL BE A MINIMUM 1½"x26 GAUGE GALVANIZED STEEL.
10. PROVIDE SINGLE THICKNESS TURNING VANES IN ALL SQUARE AND RECTANGULAR ELBOWS IN SUPPLY, RETURN AND GENERAL EXHAUST SYSTEMS.
11. COMBINATION FIRE/SMOKE, FIRE DAMPERS WITH ACCESS DOORS SHALL BE INSTALLED IN RATED CONSTRUCTION AS REQUIRED. MINIMUM REQUIREMENT FOR DAMPERS IS CLASS 2. ALL FIRE DAMPERS SHALL BE LABELED FOR USE IN DYNAMIC SYSTEMS UNLESS OTHERWISE SPECIFIED.

GENERAL NOTES - HVAC

1. RESOLVE ALL QUESTIONS OR CONFLICTS WITH ENGINEER BEFORE ANY EQUIPMENT IS ORDERED, MATERIALS FABRICATED OR SYSTEMS INSTALLED.
2. COORDINATE THE INSTALLATION OF MECHANICAL SYSTEMS WITH OTHER TRADES, ESPECIALLY STRUCTURAL, PLUMBING, ELECTRICAL AND ARCHITECTURAL CEILING HEIGHTS.
3. COORDINATE ALL PENETRATIONS THROUGH STRUCTURAL MEMBERS WITH THE GENERAL CONTRACTOR.
4. COORDINATE AND VERIFY THAT ALL OPENINGS IN WALLS ABOVE CEILING / DOOR LOUVERS / DOOR UNDERCUTS ARE PROVIDED AS INDICATED ON THESE DRAWINGS.
5. COORDINATE EXACT SIZE OF EQUIPMENT HOUSEKEEPING PAD WITH EQUIPMENT OVERALL FOOTPRINT DIMENSIONS. LEVEL ALL EQUIPMENT CURBS / BASES PRIOR TO INSTALLATION OF ANY EQUIPMENT. INSTALL FULL SIZE CONDENSATE DRAIN WITH TRAP SEAL DEPTH EQUAL TO 1.5 X UNIT TOTAL STATIC PRESSURE FOR EACH COOLING COIL. ENSURE THAT THE TOP OF GROUND MOUNTED EQUIPMENT PADS ARE AT LEAST 3" ABOVE FINAL GRADE.
6. PROVIDE OFFSETS AS NECESSARY TO ACCOMMODATE STRUCTURE AND OTHER TRADES.
7. ALL BUILDING EXHAUSTS/VENTS TO BE MINIMUM 10'-0" FROM BUILDING VENTILATION INTAKES.
8. SEAL ALL ROOF PENETRATIONS WATERTIGHT WITH SEALANT/CAULKING OR SYSTEM COMPATIBLE WITH ROOFING.
9. ALL PIPING PENETRATIONS THROUGH FLOORS SHALL BE SEALED WATERTIGHT BY GROUTING PERIMETER GAP BETWEEN PIPE AND FLOOR STRUCTURE OR BY USING UL APPROVED SLEEVE AND SEALER SYSTEM. PENETRATIONS OF RATED WALLS SHALL USE SLEEVE WITH UL APPROVED SEALANT.
10. ELECTRICAL TO PROVIDE SERVICE OUTLETS WITHIN 25 FEET OF ALL ROOF MOUNTED EQUIPMENT. REFER TO ELECTRICAL DRAWINGS FOR LOCATIONS.
11. AIR HANDLING UNITS SHALL BE LABELED AS TO THE AREA(S) SERVED.
12. ROOF ACCESS FOR MAINTENANCE OF ROOF TOP EQUIPMENT IS EXISTING.
13. MATERIALS EXPOSED IN PLENUMS SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE DEVELOPED RATING OF NOT MORE THAN 50.
14. BIRD SCREEN, UNLESS OTHERWISE SPECIFIED, SHALL BE ¼" STEEL MESH.
15. INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE 2009 INTERNATIONAL MECHANICAL CODE, APPLICABLE SECTIONS OF THE INTERNATIONAL BUILDING CODE.
16. OWNER WILL SUPPLY ASBESTOS MATERIALS TESTING, AND CLEARANCE REPORTS. ANY MATERIAL SUSPECTED TO CONTAIN ASBESTOS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND ARCHITECT. SUSPECTED MATERIALS ENCOUNTERED WILL BE ANALYZED BY OWNER. OWNER WILL PROVIDE NECESSARY DIRECTION IF MATERIAL IS IDENTIFIED AS ASBESTOS.

GENERAL NOTES - PIPING

1. 4" AND SMALLER HEATING AND CHILLED WATER PIPING SHALL BE SCHEDULE 40 STEEL PIPE USING VICTOLIC FITTINGS OR TYPE 'L' COPPER PIPING UTILIZING MECHANICAL PROPRESS (VIEGA). 5" AND LARGER PIPE SHALL BE WELDED STEEL PIPE. VALVES 2½" AND SMALLER SHALL BE BALL VALVES, 3" AND LARGER SHALL BE WAFER TYPE BUTTERFLY VALVES. NO DI-ELECTRIC UNIONS PER UCCS STANDARD.
2. ALL PIPING SYSTEMS SHALL BE FLUSHED AND PRESSURE TESTED USING INDUSTRY STANDARDS BEFORE INSULATING AND FINAL FILL.
3. INSULATE ALL PIPING AS REQUIRED BY IECC, 1" THICK FOR PIPING 1½" OR SMALLER, 1½" THICK FOR 2" AND LARGER HEATING WATER PIPING.

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REVISIONS

DRAWING INDEX, GEN NOTES AND LEGENDS

JOB NO.: 1002210
DATE: 06/06/11
SCALE: AS NOTED
DRAWN: CAD
CHECKED: RLM

SHEET M0.1

DRAWING LIMITS: 42, 30
DRAWING SIZE: 42x30
PLOT SCALE: 1:1
DRAWING NO:20111202.00 M0.

PACKAGED ROOF TOP UNIT SCHEDULE

NOTES: 1) 6200 FT. ALTITUDE. 2) DX COOLING 410A REFRIGERANT. 3) HOT GAS BYPASS ON 1ST STAGE. 4) MODULATING GAS HEAT. 5) BOTTOM SA/RA OPENINGS. 6) 14" FULL PERIMETER ROOF CURB. 7) DRY BULB ECONOMIZER. 8) MODULATING 100% POWER EXHAUST. 9) TRANE TRACER CONTROLS. 10) 30% PRE-FILTERS. 11) SINGLE POINT POWER CONNECTION. 12) DISCONNECT SWITCH. 13) CONVENIENCE OUTLET. 14) HIGH EFFICIENCY BLOWER MOTORS. 15) UNIT C02 SENSORS FOR OA CONTROL.

TAG	DESCRIPTION	MANUF.	MODEL	SEER	EER	CAPACITY			GAS HEATING SECTION			DX COOLING COIL					SA FAN ESP "WC	ELECTRICAL					WEIGHT LBS	NOTES
						CFM	NOM. TONS	MIN. OA CFM	EAT/LAT DB°F	MBH INPUT	MBH OUTPUT	OA DB/WB	EAT	LAT DB°F/WB°F	SENS. MBH	TOTAL MBH		SA HP	EA HP	MCA	MOP	VOLTS/Φ		
RTU-01	OFFICE	TRANE	YSC-048	13.0	-	1600	4	5%	70/120	130	98.8	95/68	80/63	58/54	33.7	44.8	1.0	1.0	.33	12.5	15	460/3	747	1, 2, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15
RTU-02	ENTRY	TRANE	YSC-060	13.0	-	2000	5	5%	70/118	120	91.2	95/68	80/63	58/54	43.0	56.7	.75	1.0	.33	15.5	25	460/3	797	1, 2, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15
RTU-03	SWING	TRANE	YCD-330	-	10.3	11,000	27.5	5%	70/111	456	369	95/68	80/63	58/54	223	276	1.0	10	1.5	76.45	90	460/3	5400	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
RTU-04	EXPO	TRANE	YCD-600	-	10.3	18,000	50	5%	70/101	570	461	95/68	80/63	58/54	394	492	1.0	20	1.5	125.27	150	460/3	6515	1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
RTU-05	EXPO	TRANE	YCD-600	-	10.3	18,000	50	5%	70/101	570	461	95/68	80/63	58/54	394	492	1.0	20	1.5	125.27	150	460/3	6515	1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
RTU-06	EXPO	TRANE	YCD-600	-	10.3	18,000	50	5%	70/101	570	461	95/68	80/63	58/54	394	492	1.0	20	1.5	125.27	150	460/3	6515	1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
RTU-07	EXPO	TRANE	YCD-600	-	10.3	18,000	50	5%	70/101	570	461	95/68	80/63	58/54	394	492	1.0	20	1.5	125.27	150	460/3	6515	1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
RTU-08	EXPO	TRANE	YCD-600	-	10.3	18,000	50	5%	70/101	570	461	95/68	80/63	58/54	394	492	1.0	20	1.5	125.27	150	460/3	6515	1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
RTU-09	EXPO	TRANE	YCD-600	-	10.3	18,000	50	5%	70/101	570	461	95/68	80/63	58/54	394	492	1.0	20	1.5	125.27	150	460/3	6515	1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15

EXHAUST FAN SCHEDULE

NOTES: 1) 18" HIGH FACTORY ROOF CURB. 2) BACK DRAFT DAMPER. 3) DISCONNECT SWITCH. 4) ALUMINUM BIRDSCREEN. 5) EXISTING AT CURRENT LOCATION. 6) RELOCATED EXHAUST FAN.

TAG	MANUFACTURER	MODEL	AIR QTY CFM	ESP "WC	TYPE	MOUNT	MOTOR HP	VOLTS/Φ	NOTES
EF-06	ACME	-	1000	0.5	DOWNBLAST	ROOF	1/4	208/1	5
EF-07	ACME	-	300	.25	DOWNBLAST	ROOF	1/6	120/1	1, 2, 3, 6
EF-4A	ACME	-	2450	0.5	DOWNBLAST	ROOF	1/2	208/1	2, 5

PUMP SCHEDULE

NOTES: 1) SUCTION DIFFUSER WITH STRAINER. 2) BASE MOUNTED PUMP. 3) PRIMARY PUMP. 4) EXISTING TO REMAIN. 5) STAND-BY PUMP.

TAG	SERVICE	MANUF.	MODEL	RPM	FLOW-GPM	HEAD-FT.	MOTOR-HP	VOLTS/Φ	NOTES
P-01	HEATING WATER	-	-	1750	130	55	5	480/3	4, 5
P-02	HEATING WATER	B&G	1510-1½BC	1750	75	55	3	480/3	1, 2, 3

HYDRONIC BASE BOARD

BASEBOARD IS A COMMERCIAL PRODUCT AND IS EXISTING OR IS TO BE REMOVED/RELOCATED AS NOTED ON DRAWINGS. NEW SELF REGULATING CONTROL VALVE SHALL BE INSTALLED FOR SECTIONS OF BASEBOARD AS INDICATED ON DRAWINGS. VALVES SHALL BE BRACHMAN OR DANFOSS.

UNIT HEATER SCHEDULE (HYDRONIC)

NOTES: 1) HOT WATER HORIZONTAL UNIT HEATER. 2) SUSPEND FROM STRUCTURE. 3) OUTPUT SHOWN AT ALTITUDE. 4) INTEGRAL THERMOSTAT.

TAG	MANUF.	MODEL	TYPE	CFM	EWT	LWT	MBTUH CAPACITY	FLOW GPM	ΔP FT H_2O	MOTOR HP	AMPS	VOLTS/Φ	NOTES
UH-01	EXISTING	- -	HORIZ.	- -	180	160	-	6.0	-	-	-	115/1	EXISTING
UH-02	TRANE	100 S	HORIZ.	1535	180	160	52.0	6.0	.57	1/8	1.7	115/1	1, 2, 3, 4

UNIT HEATER SCHEDULE (GAS FIRED)

NOTES: 1) SEALED COMBUSTION. 2) COMMON REMOTE THERMOSTAT. 3) SUSPEND FROM STRUCTURE WITH ISOLATORS.

TAG	MANUF.	MODEL	INPUT	FAN			VOLTS/Φ	FLA	WEIGHT	NOTES
				HP	DRIVE	CFM				
UH-03	REZNOR	UDAS 125	125	¼	DIRECT	1550	110V/1	5.1	188	1, 2, 3
UH-04	REZNOR	UDAS 125	125	¼	DIRECT	1550	110V/1	5.1	188	1, 2, 3

CABINET UNIT HEATER SCHEDULE

NOTES: 1) BOTTOM INLET AND OUTLET. 2) 1/2" FILTER. 3) REMOTE THERMOSTAT. 4) STANDARD 3 ROW COIL. 5) DISCONNECT SWITCH

TAG	MANUF.	MODEL	SIZE	CFM	EWT	LWT	MBH CAPACITY	FLOW GPM	ΔP FT H_2O	MOTOR HP	AMPS	VOLTS/Φ	NOTES
CH-01	TRANE	MODEL 'E'	06	600	180	160	20.6	4.5	7.2	1/8	1.1	115/1	1, 2, 3, 4, 5
CH-02	TRANE	MODEL 'E'	04	375	180	160	12.2	3.3	10.3	1/12	0.8	115/1	1, 2, 3, 4, 5
CH-03	TRANE	MODEL 'E'	04	375	180	160	12.2	3.3	10.3	1/12	0.8	115/1	1, 2, 3, 4, 5
CH-04	TRANE	MODEL 'E'	04	375	180	160	12.2	3.3	10.3	1/12	0.8	115/1	1, 2, 3, 4, 5

GRILLE, REGISTER, AND DIFFUSER SCHEDULE

NOTES: 1) SEE DRAWINGS FOR NECK SIZE AND AIR QUANTITY. 2) WHITE FINISH. 3) SEE DRAWINGS FOR MOUNTING INFORMATION. 4) STEEL OPPOSED BLADE VOLUME DAMPER. 5) T-BAR LAY-IN FOR GRID CEILINGS, PLASTER FLANGE FOR GYP. CEILINGS. 6) PRICE - ACCEPTABLE MANUFACTURER.

TAG	MANUF.	MODEL	DESCRIPTION	NOTES
Ⓐ	TITUS	TMS	SUPPLY DIFFUSER, 24X24 LOUVERED FACE, STEEL CONSTRUCTION, CEILING MOUNT	1, 2, 3, 5
Ⓑ	TITUS	DL	SUPPLY DIFFUSER, DRUM LOUVER, STEEL CONSTRUCTION, DUCT MOUNT	1, 2, 3, 4
Ⓒ	TITUS	50F	RETURN GRILLE, 24x12 EGGCRATE ALUMINUM CONSTRUCTION, CEILING MOUNT	1, 2, 3
Ⓓ	TITUS	50F	RETURN GRILLE, 24x24 EGGCRATE ALUMINUM CONSTRUCTION, CEILING MOUNT	1, 2, 3
Ⓔ	TITUS	350RL	EXHAUST GRILLE, FIXED BLADE, ¾" SPACING, STEEL CONSTRUCTION, SURFACE MOUNT	1, 2, ,3
Ⓕ	TITUS	T-700	DOOR TRANSFER GRILLE, 24x24	

REFRIGERANT COMPLIANCE

PROJECT NAME: COLO SPGS EXPO CENTER
PROJECT NUMBER: 20111202
DATE: 5/17/2011

REFRIGERANT 410a
REFRIGERANT QNTY ALLOWED /1000cu-ft: 25 lb
OCCUPANCY REDUCTION FACTOR: 1 multplier
SPECIFIC OCCUPANCY ALLOWANCE: 25 lb

REFIRG SYSTEM	AREA NAME/DESC	AREA SQ FT	AREA HGTH	AREA VOL
RTU-01	OFFICE AREA	1774	9.5	16853
RTU-02	MAIN ENTRY	1929	9.5	18326
RTU-04	EXPO AREA	52862	17	898654

RTU-01 OFFICE AREA
VOLUME SERVED: 16853 cu-ft
MAX ALLOWABLE REFRIGERANT: 421 lb
LARGEST REFRIGERANT CIRCUIT: 7.4 lb
SYSTEM COMPLIES: YES

RTU-02 MAIN ENTRY
VOLUME SERVED: 18326 cu-ft
MAX ALLOWABLE REFRIGERANT: 458 lb
LARGEST REFRIGERANT CIRCUIT: 9.4 lb
SYSTEM COMPLIES: YES

RTU-04 EXPO AREA
VOLUME SERVED: 898654 cu-ft
MAX ALLOWABLE REFRIGERANT: 22466 lb
LARGEST REFRIGERANT CIRCUIT: 38.2 lb
SYSTEM COMPLIES: YES

DRAWING LIMITS: 42, 30
DRAWING SIZE: 42x30
PLOT SCALE: 1:1
DRAWING NO:20111202.00 M0.2

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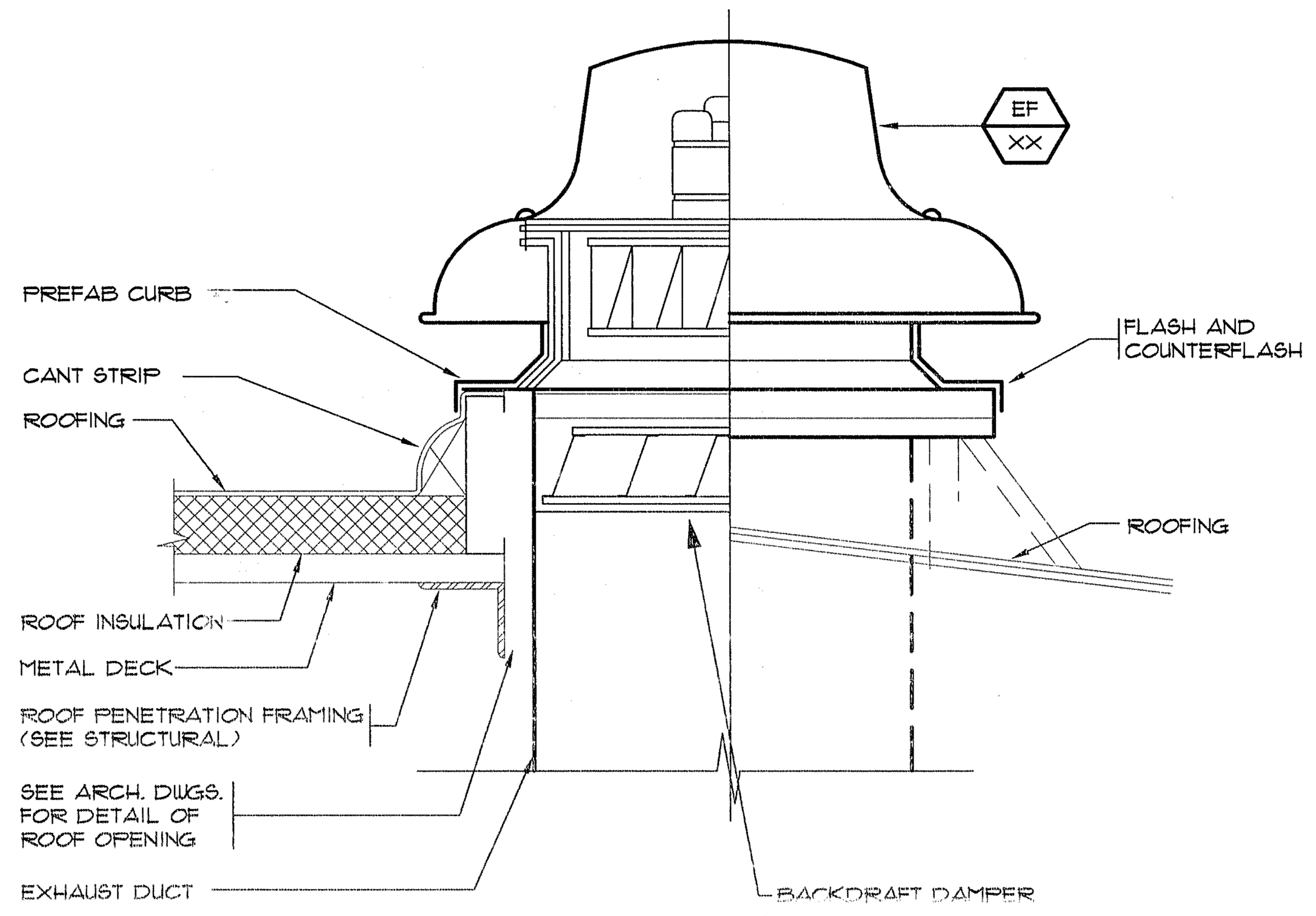
REVISIONS

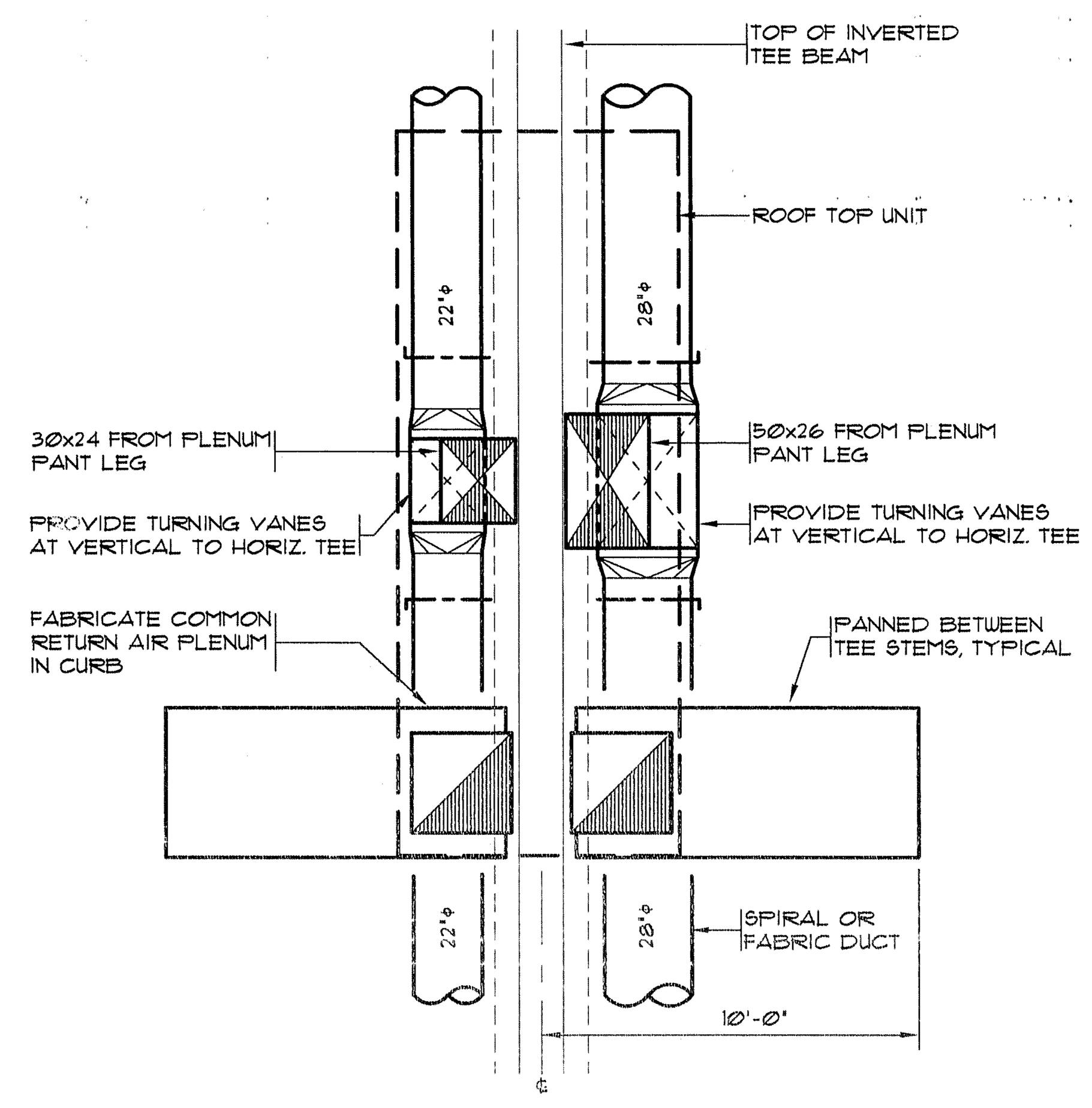
SCHEDULES AND DIAGRAMS

JOB NO.: 1002210
DATE: 06/06/11
SCALE: AS NOTED
DRAWN: CAD
CHECKED: RLM

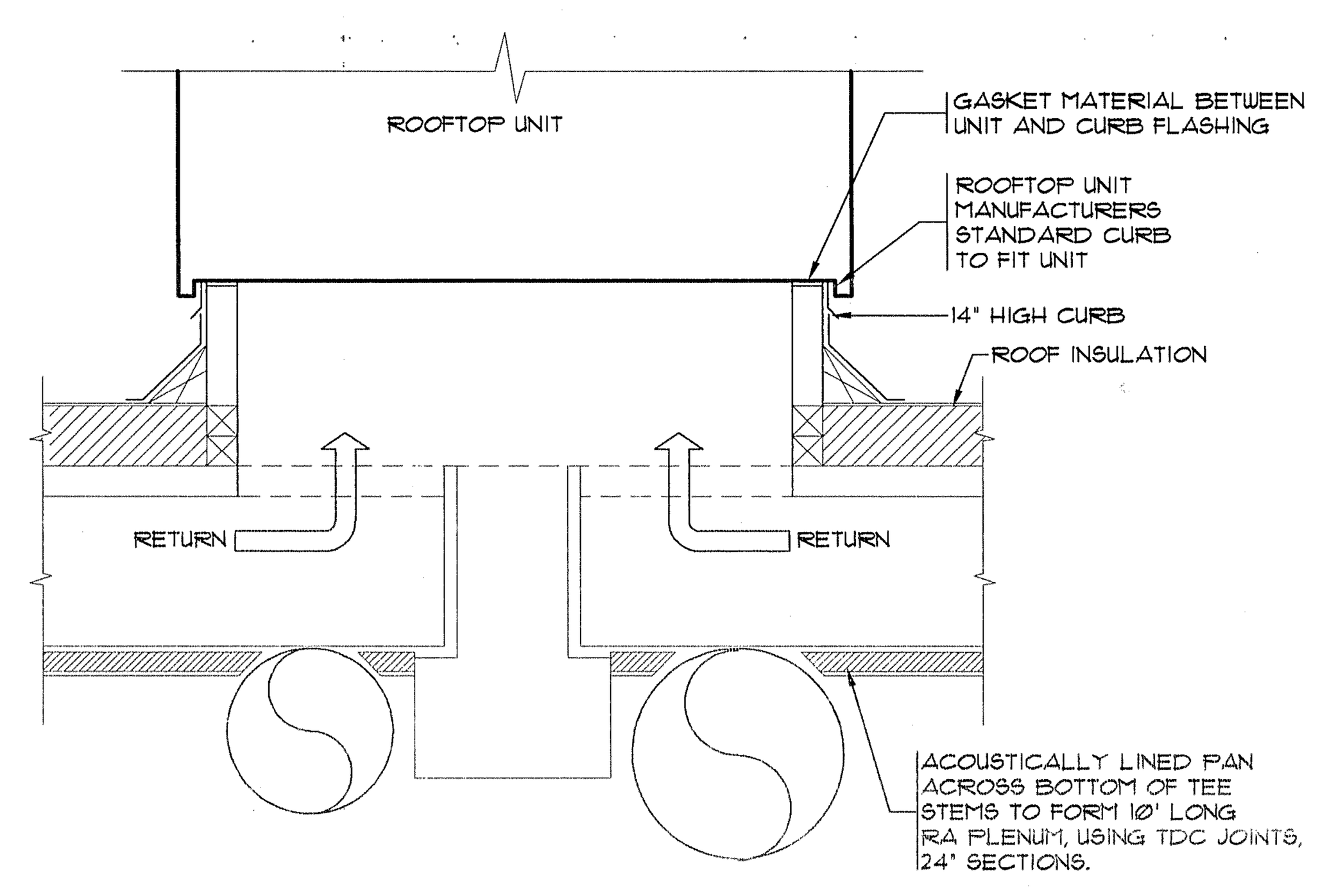
SHEET M0.2



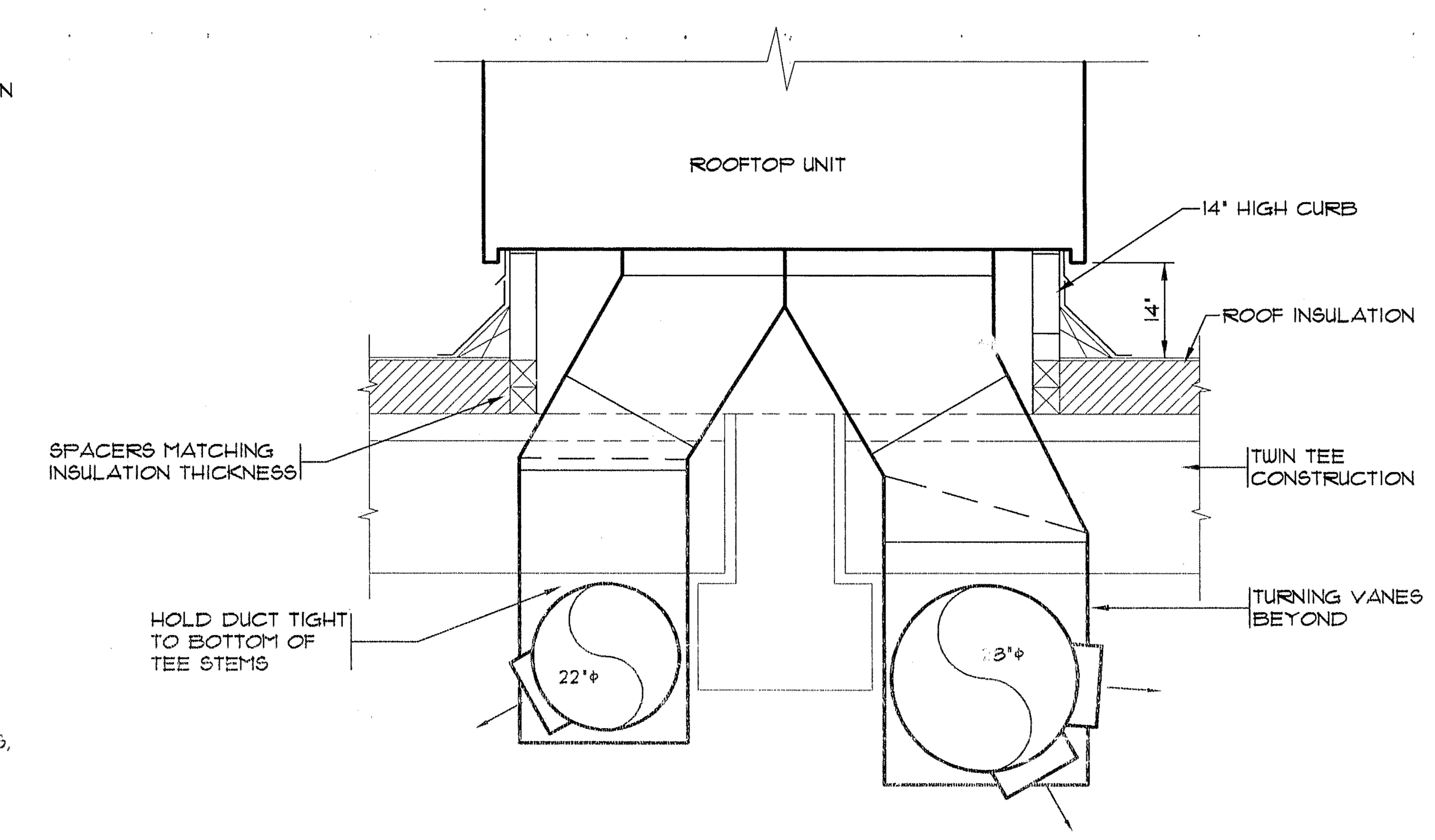
EXHAUST FAN CURB DIAGRAM (D / M0.3)
SCALE: NONE



ENLARGED RTU DUCT CALL OUT (C / M0.3)
SCALE: NONE

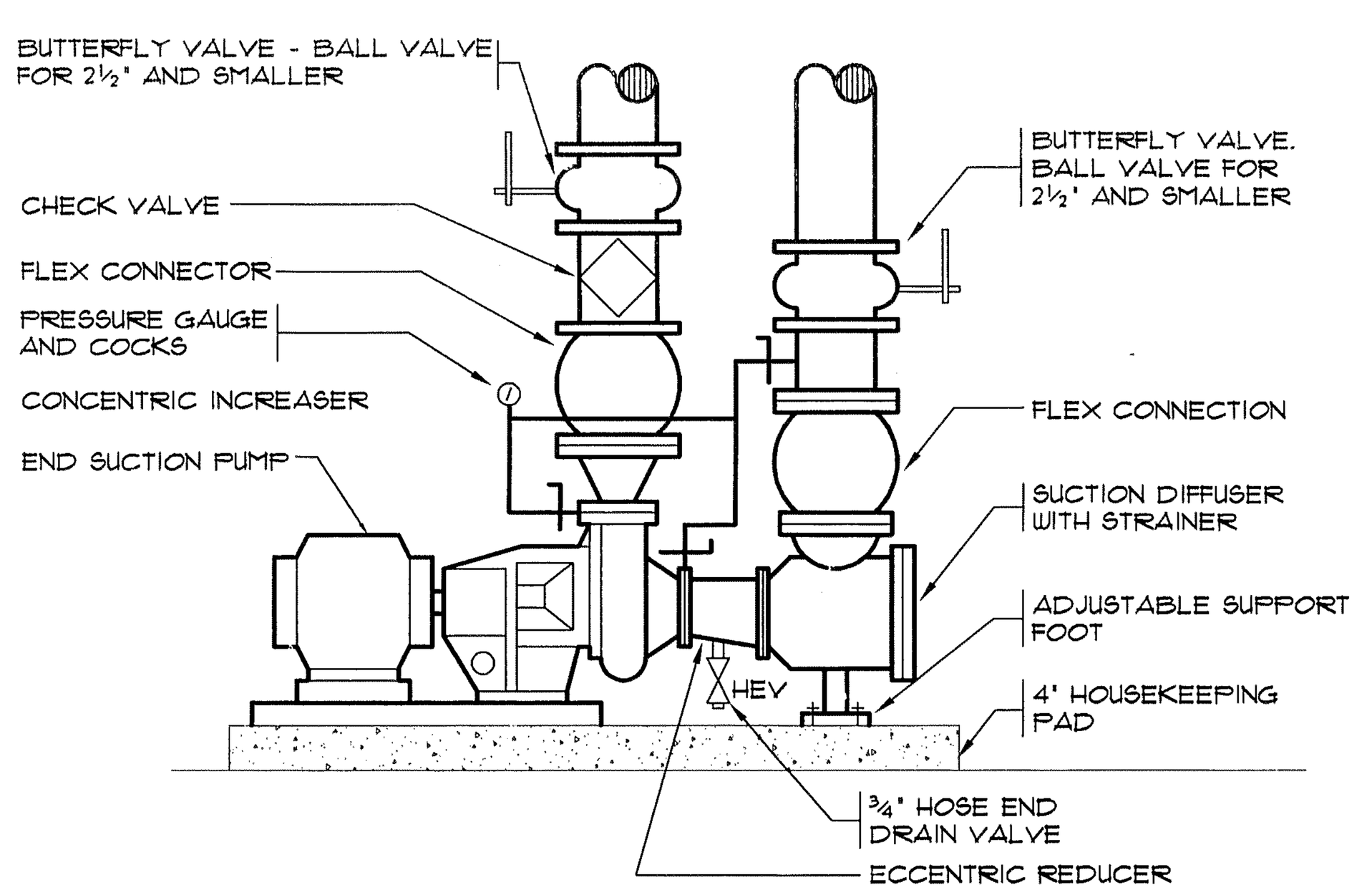


RETURN DUCTWORK FROM RTU-03 - 09 (B / M0.3)
SCALE: NONE

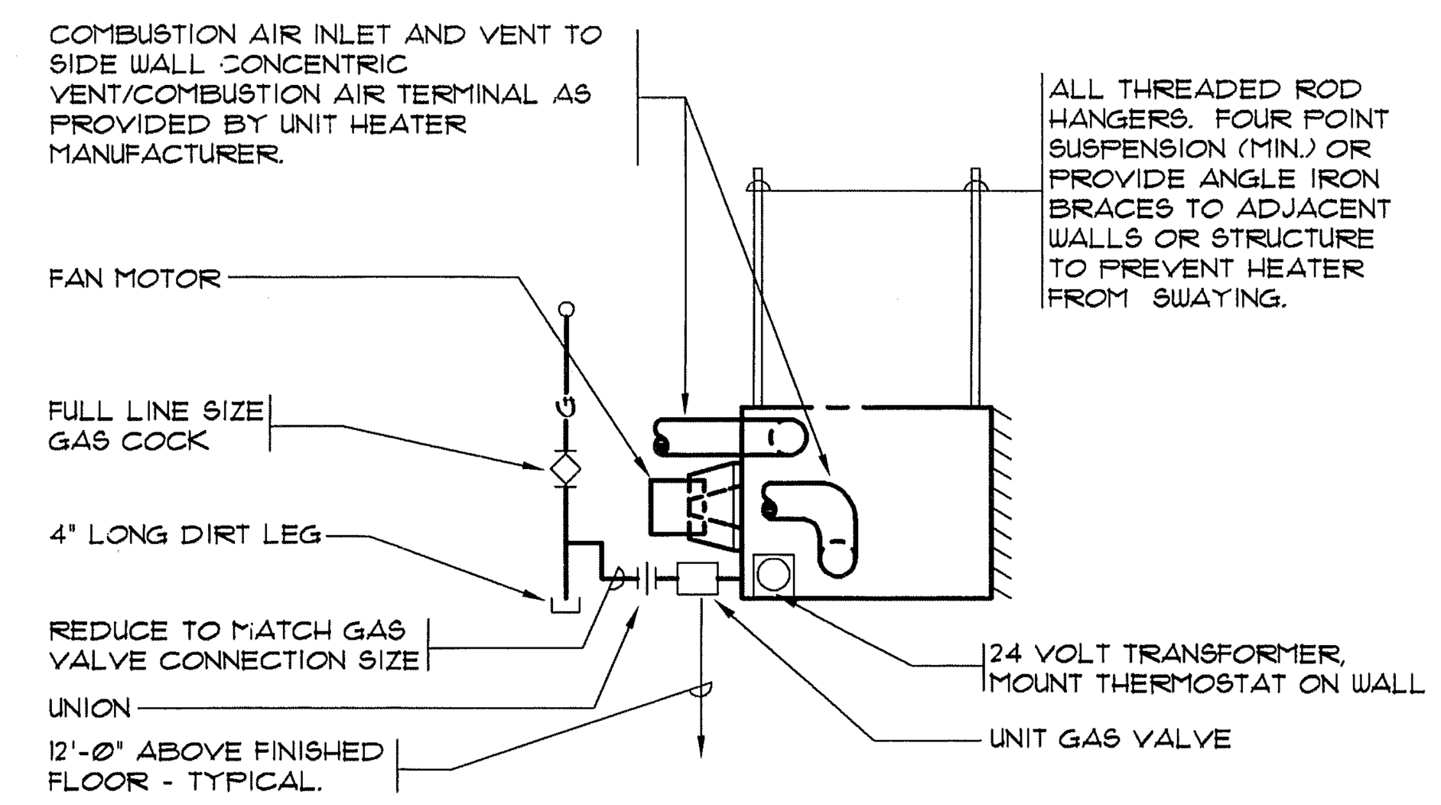


NOTE: RTU-03 SIMILAR

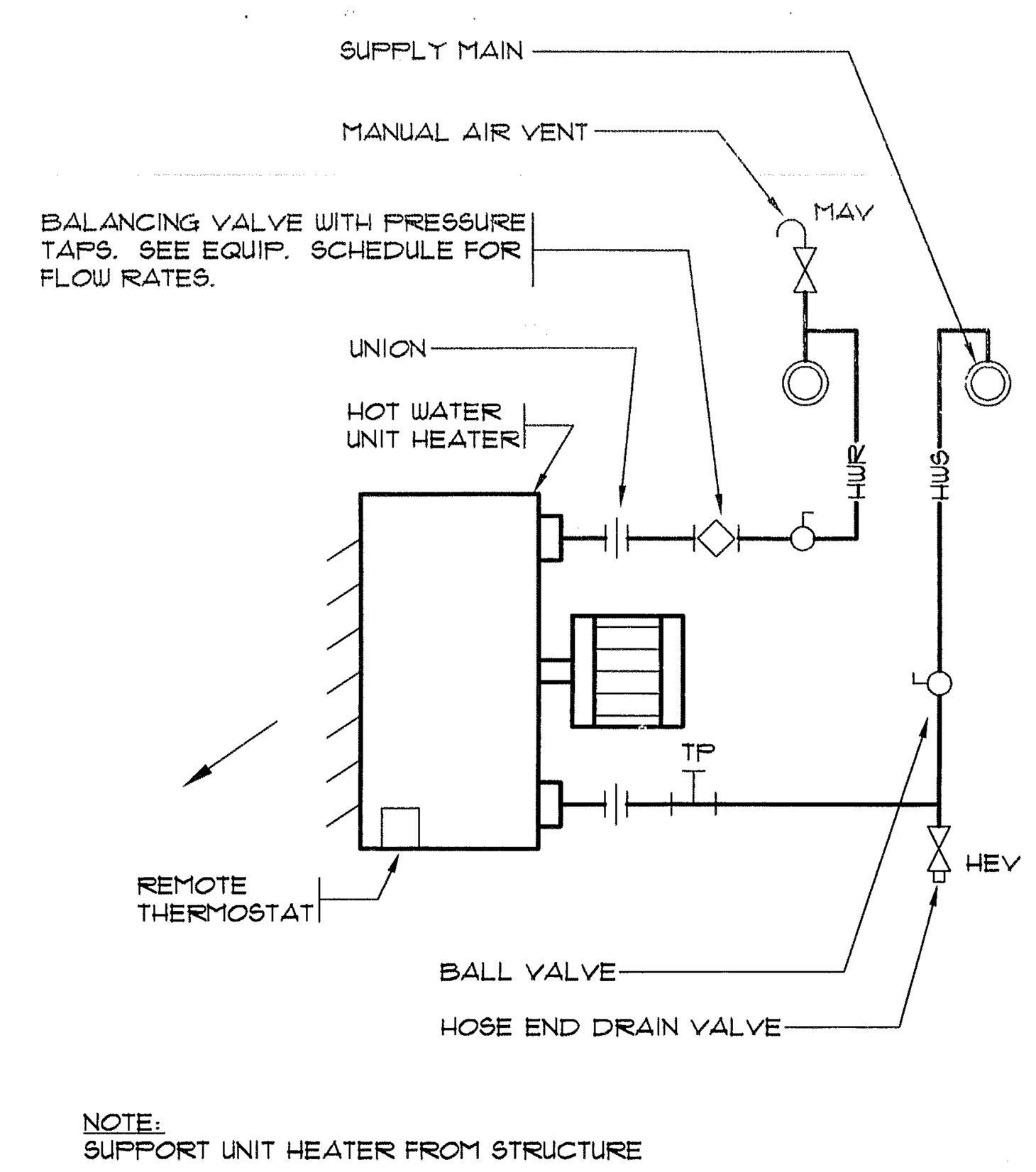
SUPPLY DUCTWORK FROM RTU-04 - 09 (A / M0.3)
SCALE: NONE



END SUCTION PUMP (H / M0.3)
SCALE: NONE

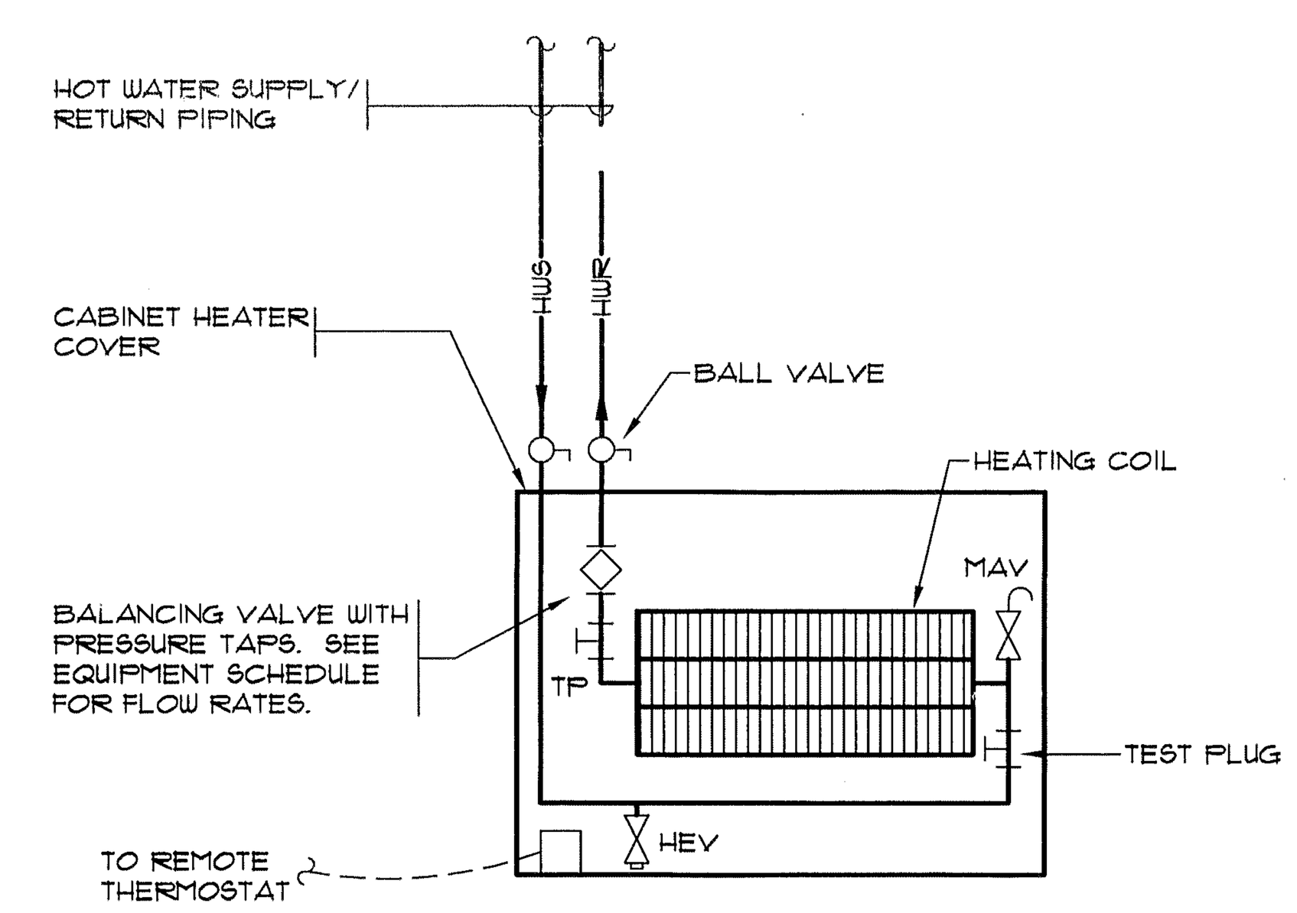


UNIT HEATER DIAGRAM (G / M0.3)
SCALE: NONE

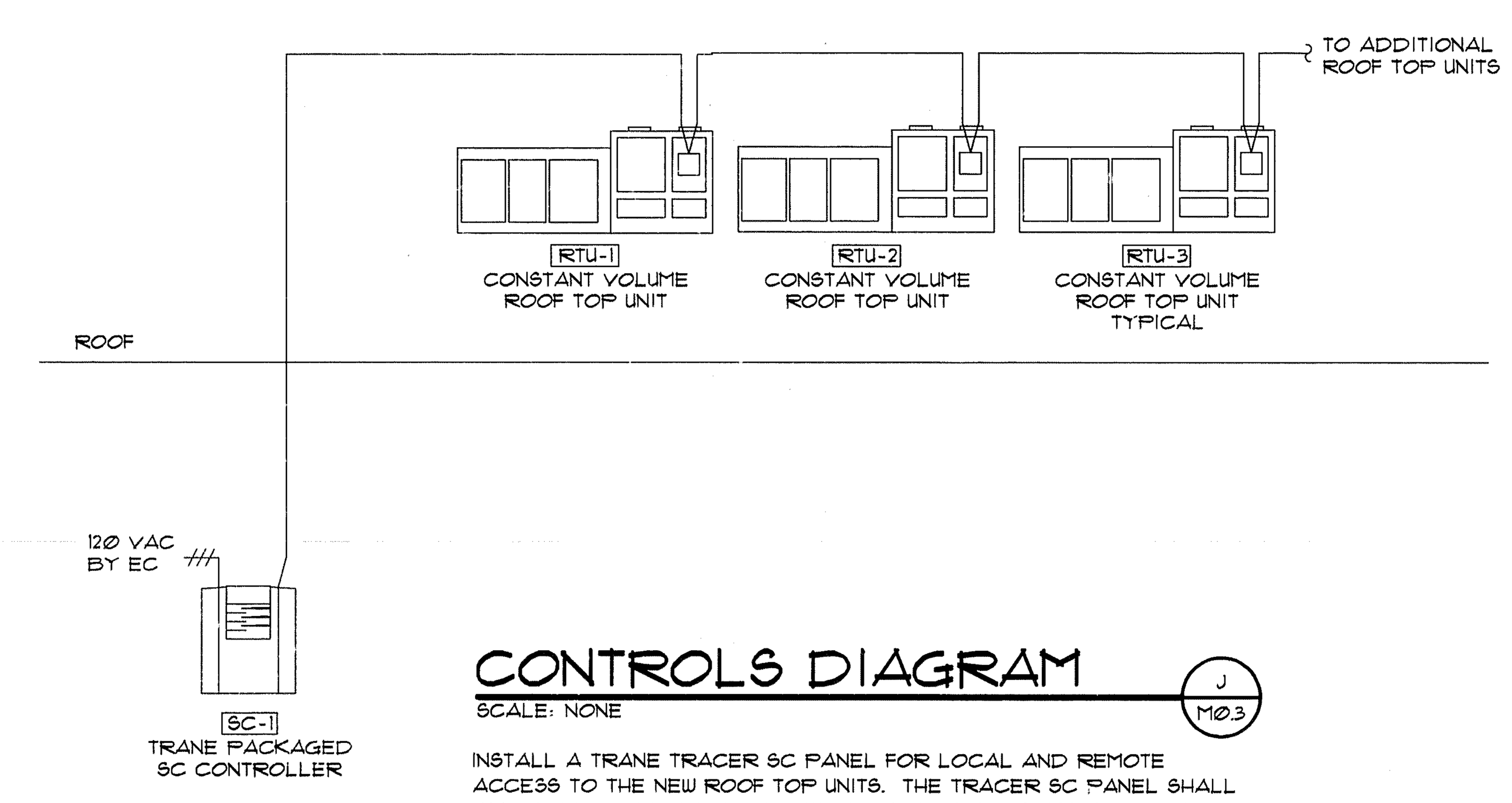


NOTE:
SUPPORT UNIT HEATER FROM STRUCTURE

UNIT HEATER (F / M0.3)
SCALE: NONE



CABINET UNIT HEATER (E / M0.3)
SCALE: NONE



CONTROLS DIAGRAM (J / M0.3)
SCALE: NONE

INSTALL A TRANE TRACER SC PANEL FOR LOCAL AND REMOTE ACCESS TO THE NEW ROOF TOP UNITS. THE TRACER SC PANEL SHALL ALLOW FOR COMMUNICATION INTERFACE TO THE PACKAGED ROOF TOP UNITS. THE SYSTEM SHALL BE CAPABLE FOR FUTURE CONNECTION TO THE BUILDING BMS VIA A BACNET INTERFACE AT A LATER DATE. THE TRACER SC PANEL SHALL ALLOW FOR WEB-BASED SCHEDULING AND SETPOINT ADJUSTMENT AS WELL AS SHALL FULL UNIT DIAGNOSTICS AND REMOTE ALARMING.

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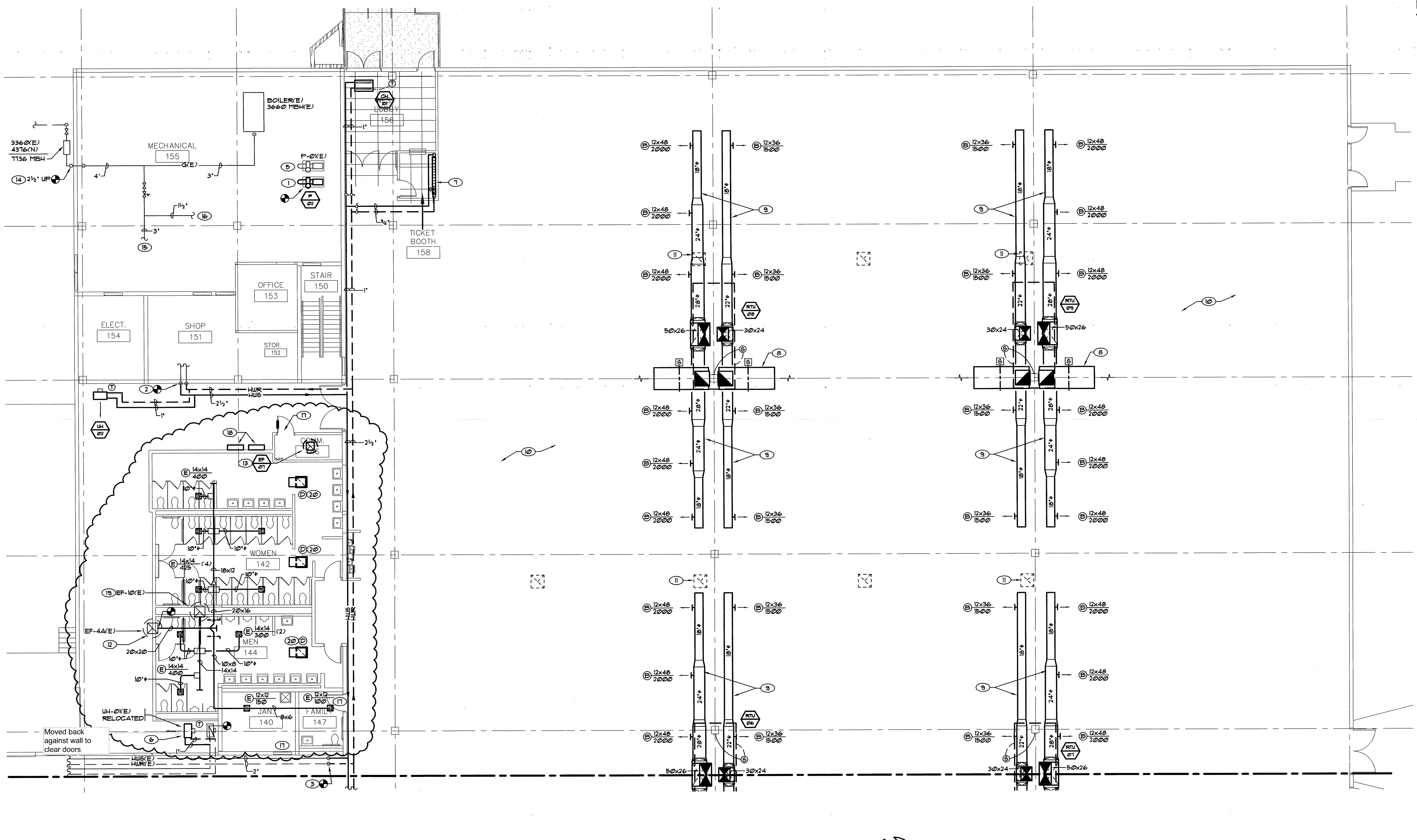
REVISIONS

DIAGRAMS

JOB NO.: 1002210
DATE: 06/06/11
SCALE: AS NOTED
DRAWN: CAD
CHECKED: RLM

SHEET M0.3



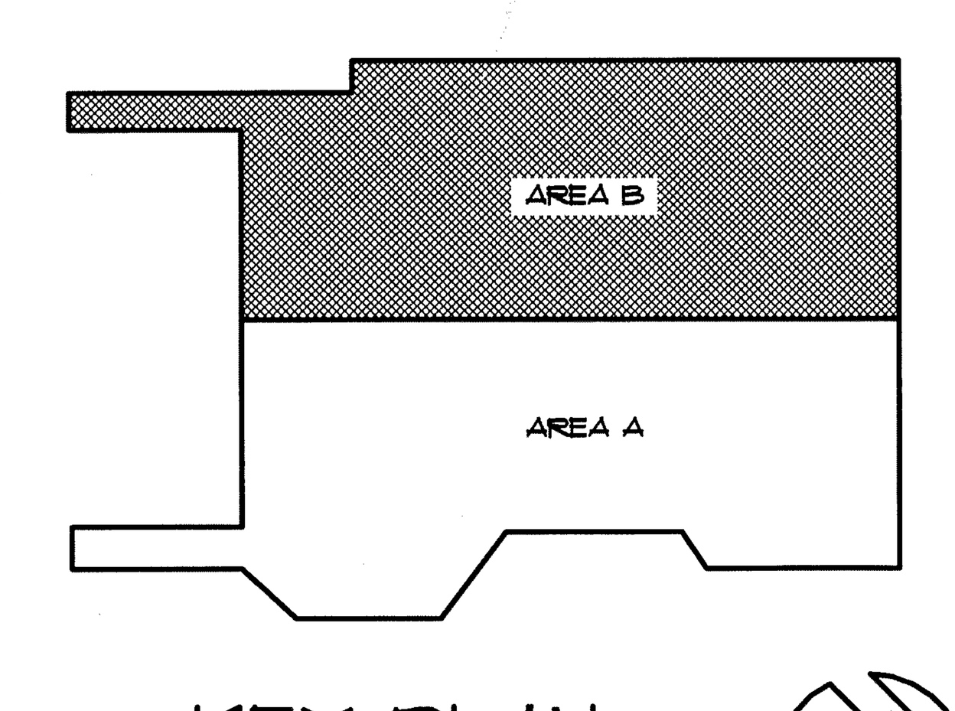
PARTIAL FLOOR PLAN - HVAC

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

WORK NOTES (THIS SHEET ONLY)

1. REPLACE EXISTING HEATING WATER PUMP P-02 AND ALL VALVES.
2. CONNECT TO EXISTING HWS/R PIPING FROM MECHANICAL ROOM. INSTALL UP AGAINST STRUCTURAL.
3. RECONNECT TO EXISTING 2" HWS/R PIPING SERVING SOUTH CORRIDOR OF BUILDING.
4. COORDINATE TO INSTALL NEW HWS/R PIPING ON SAME HANGERS AS THE DOMESTIC WATER (SEE PLUMBING SHEETS).
5. REPLACE EXISTING POT FEEDER WITH NEW 1 GALLON CAPACITY FEEDER AND REPLACE ISOLATION VALVES ON PUMP SUPPLY/RETURN.
6. RELOCATE EXISTING UNIT HEATER AWAY FROM WALL. EXTEND HWS/R PIPING TO NEW LOCATION.
7. RELOCATE SECTION OF EXISTING BASEBOARD AND COVER TO TICKET BOOTH. INSTALL NEW BRACHMAN OR DANFOSS CONTROL VALVE.
8. UNIT RETURN PLENUM FORMED USING SPACE BETWEEN TEE STEMS. LINED TO PROVIDE NOISE ABATEMENT OF RETURN FAN. INSTALL SMOKE DETECTOR (ONE IN EACH RETURN PLENUM). DETECTORS FURNISHED AND WIRED BY ELECTRICAL.
9. FOR RTU-03 THRU RTU-09, SPIRAL DUCT IS INDICATED FOR SUPPLY DISTRIBUTION. ALTERNATE USING FABRIC DUCT DISTRIBUTION MAY BE UTILIZED. FABRIC DUCT HANGER SYSTEM MUST KEEP DUCT TIGHT TO BOTTOM OF STRUCTURE. DUCT DESIGN SHALL BE PROVIDED BY VENDOR'S FACTORY ENGINEERS. COLOR SELECTION BY ARCHITECT AND OWNER.
10. PROVIDE FULL CO DETECTION COVERAGE FOR EXPO AREA. MINIMUM SINGLE DETECTOR COVERAGE SHALL BE 50' RADIUS.
11. REMOVE EXISTING TRANSITION TO EXISTING FAN TO MAKE ROOM FOR NEW DUCTWORK.
12. EF-4A IS AN EXISTING FAN, REMOVE MOTORIZED DAMPER, INSTALL NEW GRAVITY BACKDRAFT DAMPER. REUSE FOR BATHROOM. VERIFY PROPER FAN OPERATION AND ADJUST FOR 2050 CFM.
13. EF-07 FAN IS RELOCATED. SEE NOTE 10 M2.2. PROVIDE NEW ROOF CURB. CHECK FAN FOR PROPER OPERATION ADJUST FAN FOR 300 CFM.
14. CONNECT TO EXISTING GAS SERVICE TO PROVIDE NEW SERVICE UP TO ROOF FOR NEW ROOFTOP UNITS.
15. OLD KITCHEN SERVICE. CAPPED AND NOT USED.
16. OLD WATER HEATER SERVICE. CAPPED AND NOT USED.
17. UNDER CUT DOORS 1".
18. HVAC MAIN CONTROL PANEL AND CARBON MONOXIDE CONTROL PANEL.
19. EF-10 IS AN EXISTING FAN. CHECK FAN FOR PROPER OPERATION AND ADJUST FOR 1000 CFM.
20. PROVIDE CEILING TRANSFER GRILLE WITH FULL 22x22 SOUND BOOT. PROVIDE GRILLE WITH FLANGE FOR HARD CEILING INSTALLATION.

AS BUILT DRAWINGS BY:
HARMON-BONDED PLUMBING & HEATING, INC.



KEY PLAN

SCALE: NONE

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PARTIAL FLOOR PLAN – HVAC

JOB NO.: 1002210
DATE: 06/30/11
SCALE: AS NOTED
DRAWN: CAD
CHECKED: RLM

SHEET M2.1

DRAWING LIMITS: 42,30
DRAWING SIZE: 42x30
PLOT SCALE: 1:1
DRAWING NO: 1002210 M21

WORK NOTES (THIS SHEET ONLY)

1. RECONNECT NEW HUS/R TO EXISTING PIPING IN CORRIDOR. SEE SHEET M2.1.
2. RECONNECT NEW HUS/R TO BASE BOARD SERVING EXISTING CORRIDOR. 1" SUPPLY/RETURN.
3. COORDINATE PIPING TO INSTALL AS HIGH AS POSSIBLE.
4. GAS PIPING FROM ROOF.
5. UNIT HEATER VENT UP THRU ROOF (CONCENTRIC VENT/COMBUSTION AIR).
6. SUPPLY DUCT TO DROP APPROXIMATELY 6' AND BE HELD TIGHT TO LOWER STRUCTURE.
7. UNIT RETURN PLENUM FORMED USING SPACE BETWEEN TEE STEMS. LINED TO PROVIDE NOISE ABATEMENT OF RETURN FAN. INSTALL SMOKE DETECTOR (ONE IN EACH RETURN PLENUM). DETECTORS FURNISHED AND WIRED BY ELECTRICAL.
8. FOR RTU-Ø3 THRU RTU-Ø9, SPIRAL DUCT IS INDICATED FOR SUPPLY DISTRIBUTION. ALTERNATE USING FABRIC DUCT DISTRIBUTION MAY BE UTILIZED. FABRIC DUCT HANGER SYSTEM MUST KEEP DUCT TIGHT TO BOTTOM OF STRUCTURE. DUCT DESIGN SHALL BE PROVIDED BY VENDOR'S FACTORY ENGINEERS. COLOR SELECTION BY ARCHITECT AND OWNER.
9. PROVIDE FULL CO DETECTION COVERAGE FOR EXPO AREA. MINIMUM SINGLE DETECTOR COVERAGE SHALL BE 50' RADIUS.
10. REMOVE EF-Ø1 (EXISTING) AND CAP CURB WEATHER TIGHT. FAN TO BE RELOCATED TO VENTILATE COM ROOM. SEE M12.
11. REMOVE REMAINING TRANSITION TO EXISTING FAN INLET TO MAKE ROOM FOR NEW DUCTWORK.
12. REMOVE FAN, AND CURB IF NECESSARY TO INSTALL RTU. FIELD VERIFY.
13. CONNECT EXISTING AND NEW BATHROOM EXHAUST DUCT TO EXISTING EF-Ø6. ADJUST FAN FOR 1000 CFM.
14. REMOVE ABANDONED SECTIONS OF BASEBOARD.
15. FLUSH AND REINSTALL EXISTING BASEBOARD. INSTALL NEW BRACHMAN OR DANFOSS CONTROL VALVE.
16. FLUSH EXISTING BASEBOARD AND INSTALL NEW BRACHMAN OR DANFOSS CONTROL VALVE.

Located HWS/ HWR lines on same pipe support as domestic water lines

AS BUILT DRAWINGS BY:
HARMON-BONDED PLUMBING & HEATING INC.

PARTIAL FLOOR PLAN - HVAC
SCALE: 1/8" = 1'-0"

KEY PLAN
SCALE: NONE

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REVISIONS

PARTIAL FLOOR PLAN – HVAC

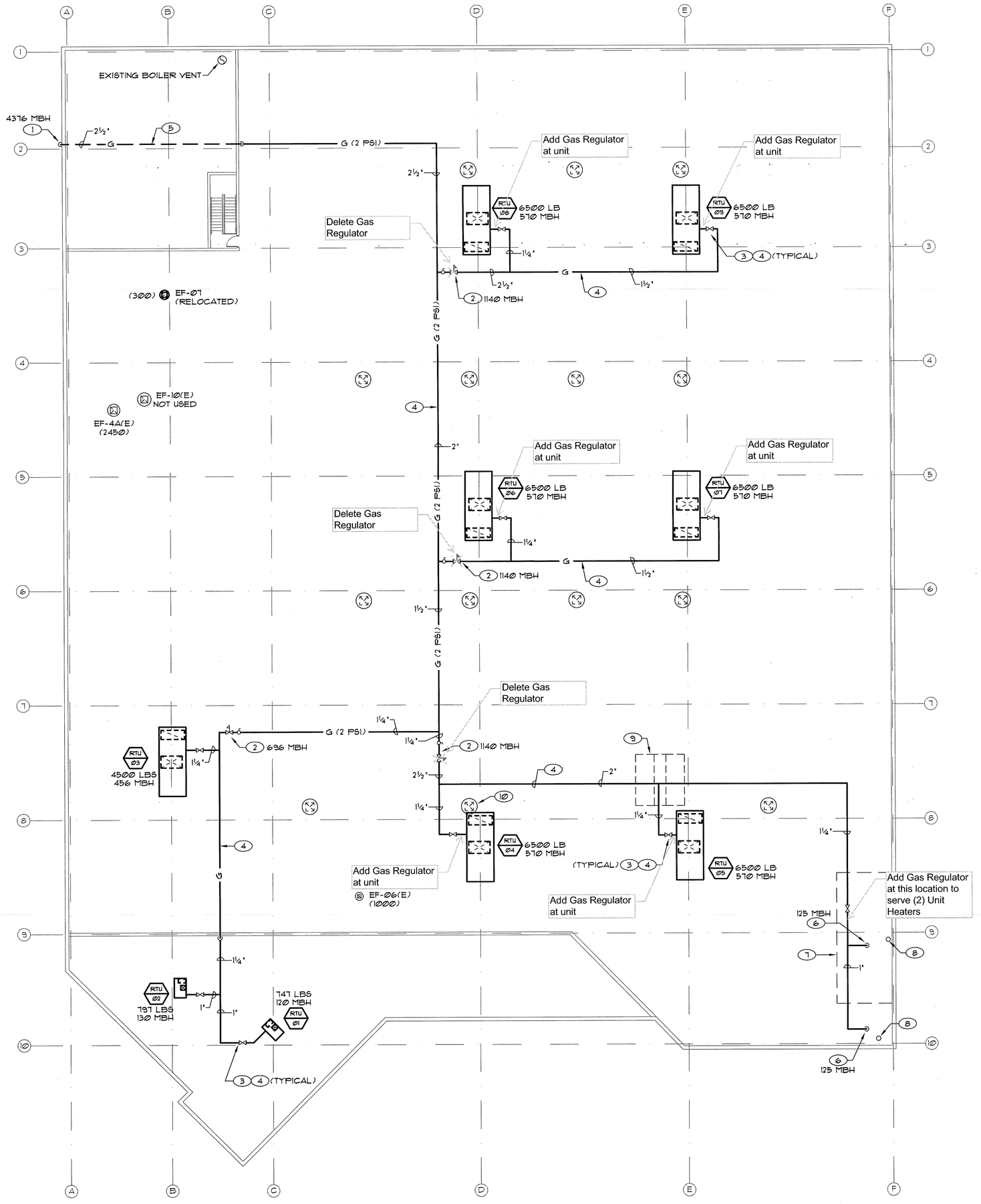
JOB NO.: 1002210
DATE: 06/06/11
SCALE: AS NOTED
DRAWN: CAD
CHECKED: RLM

SHEET M2.2

DRAWING LIMITS: 42,36
PAPER SIZE: 42x36
PLOT SCALE: 1
DRAWING NO:2011021200.mz

WORK NOTES (THIS SHEET ONLY)

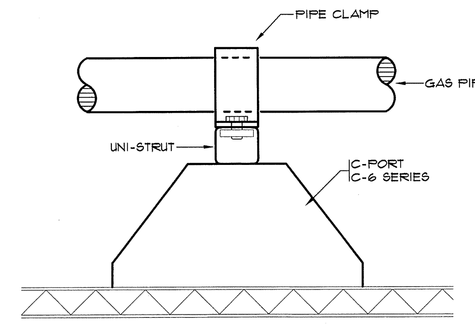
1. NEW 2½" GAS SERVICE UP FROM EXISTING GAS METER. 2 PSI DELIVERY PRESSURE.
2. PRESSURE REGULATOR.
3. PROVIDE DIRT LEG, ISOLATION VALVE AND UNION AT EACH RTU GAS CONNECTION.
4. PROVIDE GAS PIPE SUPPORT FOR ALL ROOF GAS PIPING AND AT UNIT ISOLATION VALVE.
5. ROUTE GAS PIPE THRU EXISTING MECHANICAL ROOM.
6. GAS DOWN TO UNIT HEATERS.
7. REMOVE EXISTING EQUIPMENT AS NEEDED FOR PIPING/VENTS FOR UNIT HEATERS.
8. NEW UNIT HEATER VENTS. TERMINATION TO BE MINIMUM 2' HIGHER THAN PARAPET.
9. REMOVE OUTSIDE AIR INTAKE AS NEEDED TO INSTALL RTU AND GAS PIPING. CAP CURB WEATHER TIGHT.
10. REMOVE EXISTING FAN/CURB AS NEEDED TO INSTALL RTU.



ROOF PLAN - HVAC

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

NORTH



PROVIDE SUPPORTS AT EACH ELBOW AND TEE AND ON STRAIGHT PIPE RUNS AS FOLLOWS:

½" - 1¼" PIPE: EVERY 8 FEET

1½" - 2½" PIPE: EVERY 12 FEET

3" - 4" PIPE: EVERY 12 FEET

PIPE SUPPORT DIAGRAM (4 / M2.3)

SCALE: NONE

AS BUILT DRAWINGS BY:
HARMON-BONDED PLUMBING & HEATING, INC.

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ROOF PLAN – HVAC

JOB NO.: 1002210
DATE: 06/06/11
SCALE: AS NOTED
DRAWN: CAD
CHECKED: RLM

SHEET M2.3

DRAWING LIMITS: 42,30
DRAWING SIZE: 42x30
PLOT SCALE: 1
DRAWING NO:201102.02 M2

DEMO NOTES (THIS SHEET ONLY)

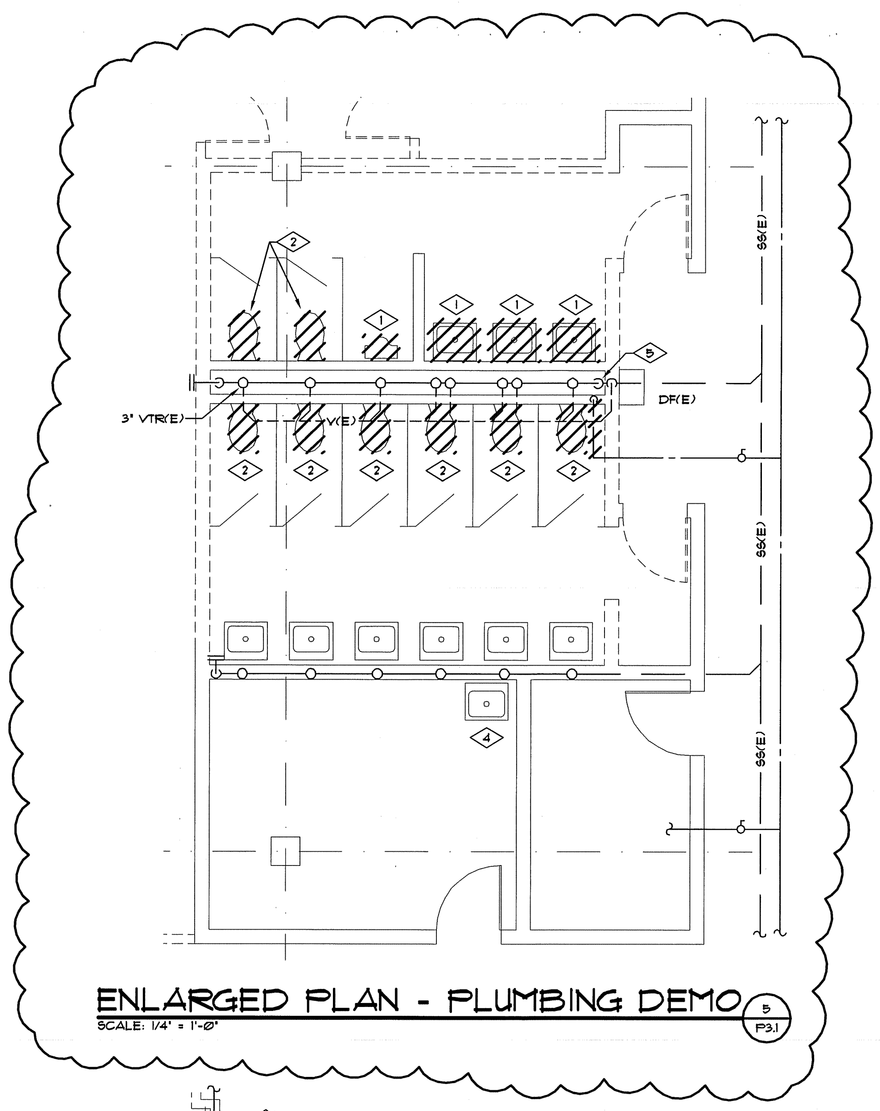
1. REMOVED UNDER DEMO SCOPE.
2. REMOVE ADDITIONAL FIXTURES.
3. ROUGH-IN TO BE CHANGED FROM WATER CLOSET WALL HUNG TO URINAL ROUGH-IN.
4. EXISTING SERVICE SINK TO REMAIN.
5. 4" DROP THROUGH FLOOR TO BE RELOCATED.

WORK NOTES (THIS SHEET ONLY)

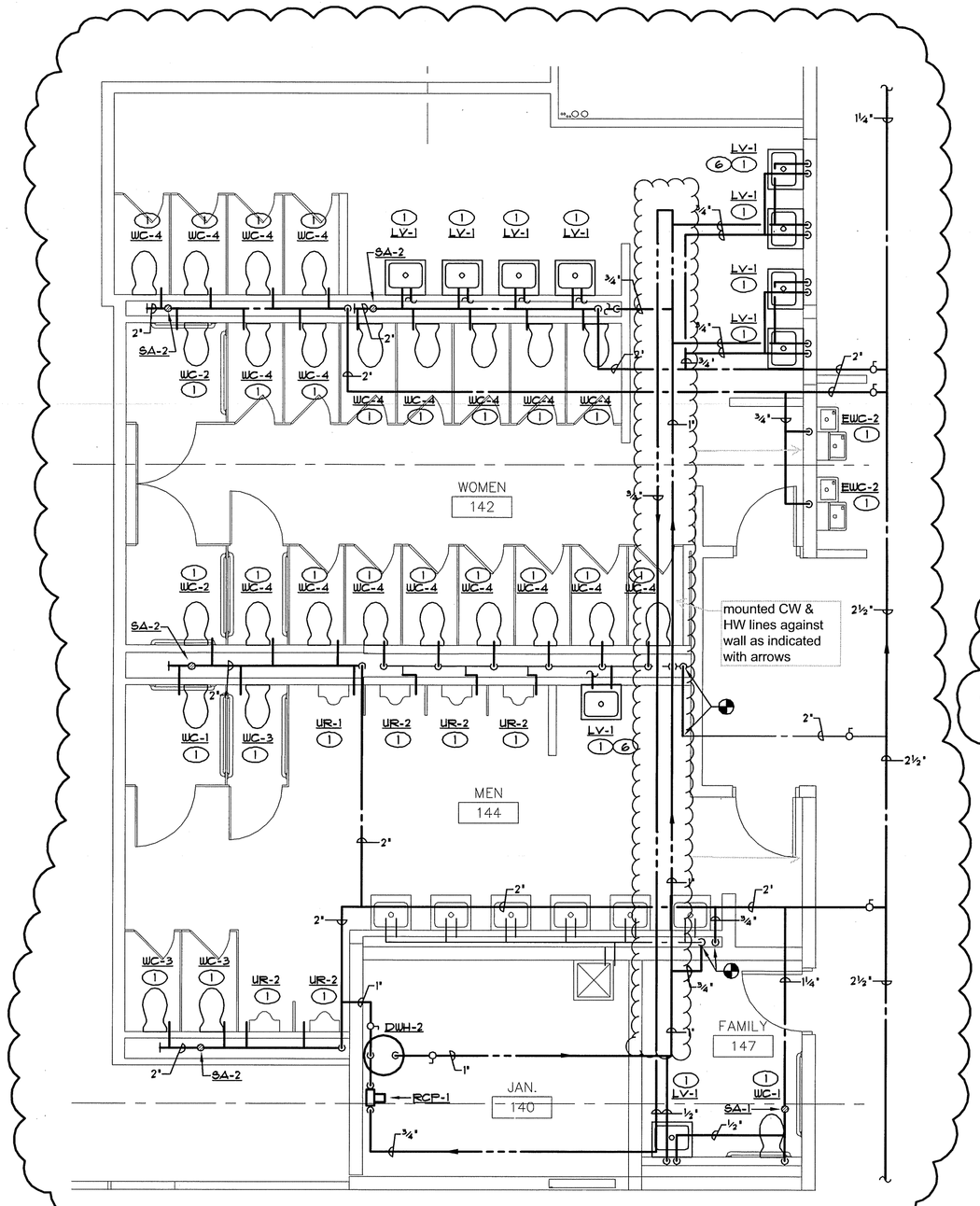
1. PROVIDE NEW CW AND/OR HW TO NEW FIXTURES.
2. CONNECT NEW 2" WASTE FROM NEW DRINKING FOUNTAIN TO EXISTING STACK PREVIOUSLY FOR DRINKING FOUNTAIN.
3. CONNECT TO EXISTING 4" ABOVE GRADE GANG PLUMBING.
4. CONNECT NEW FIXTURE VENTING TO EXISTING 3" VENT THRU ROOF.
5. CONNECT ALL NEW FIXTURES TO NEW 4" VTR.
6. INSTALL LAV TO MEET ADA REQUIREMENTS.
7. NEW 4" ABOVE GRADE GANG PLUMBING DROPS TO BELOW GRADE.
8. NOT USED.
9. NOT USED.
10. INSTALL NEW FLOOR DRAIN WITH TRAP GUARD SEAL.
11. SUPPORT WATER HEATER ABOVE CEILING USING ANGLE IRON TO SPAN WALLS, AND PROVIDE DRAIN PAN UNDER WATER HEATER.

NOTE:
FIXTURES WITHOUT TAGS/ID ARE EXISTING, TO REMAIN UNLESS OTHERWISE NOTED.

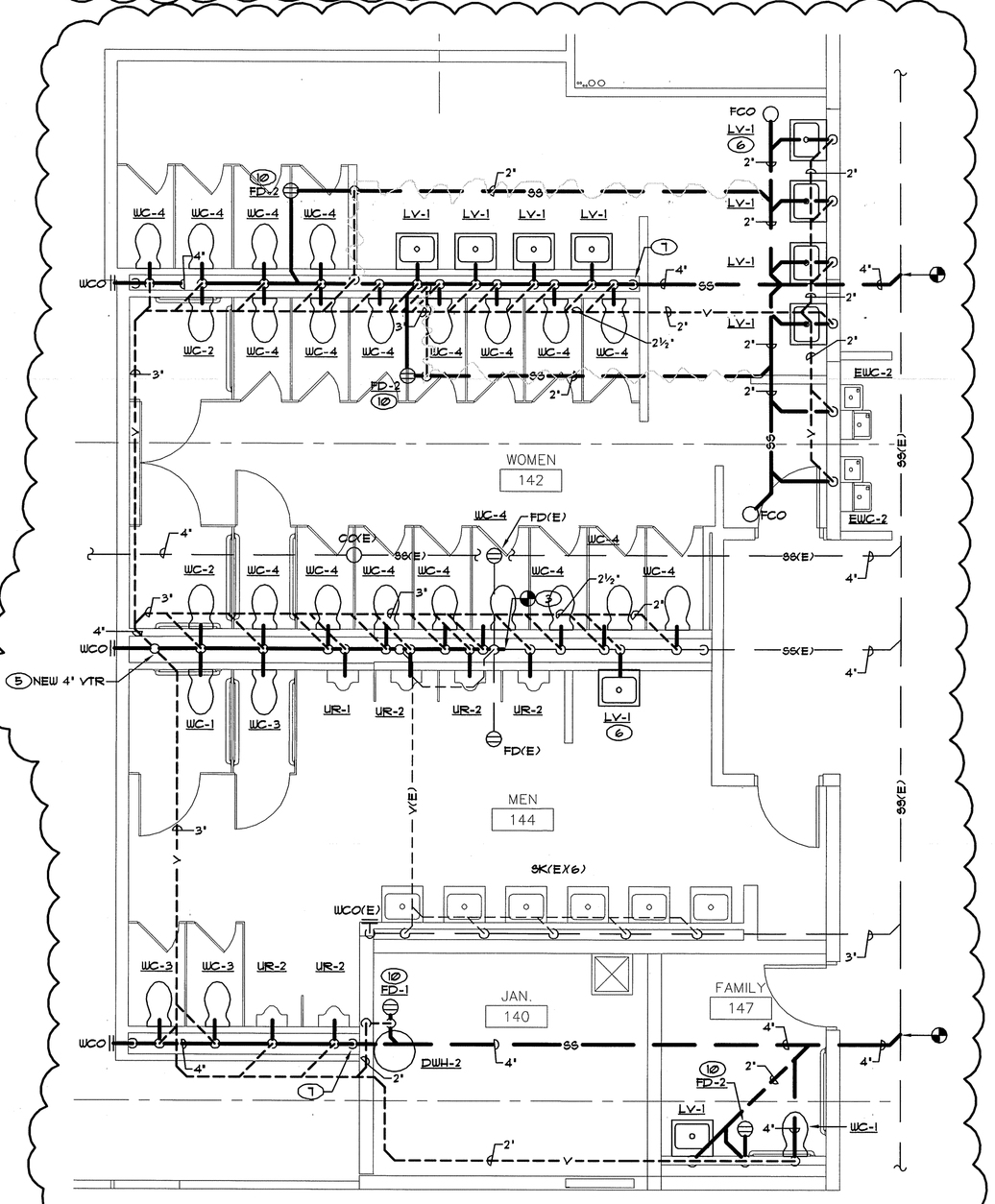
AS BUILT DRAWINGS BY:
HARMON-BONDED PLUMBING & HEATING, INC.



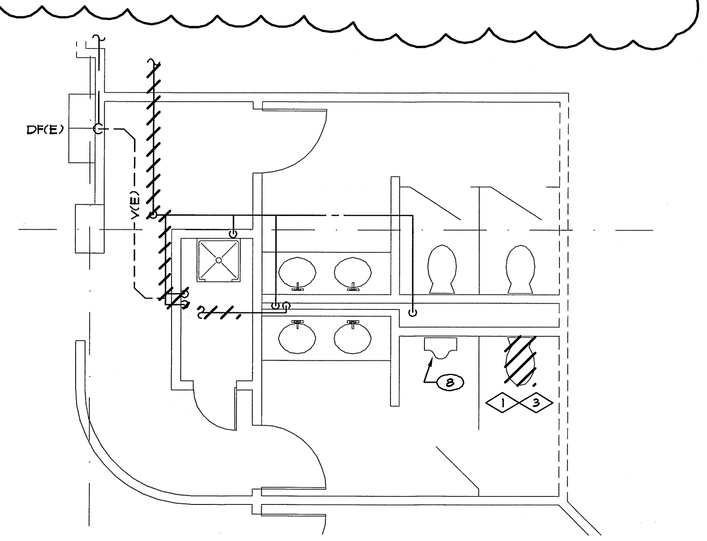
ENLARGED PLAN - PLUMBING DEMO (5 / P3.1)
SCALE: 1/4" = 1'-0"



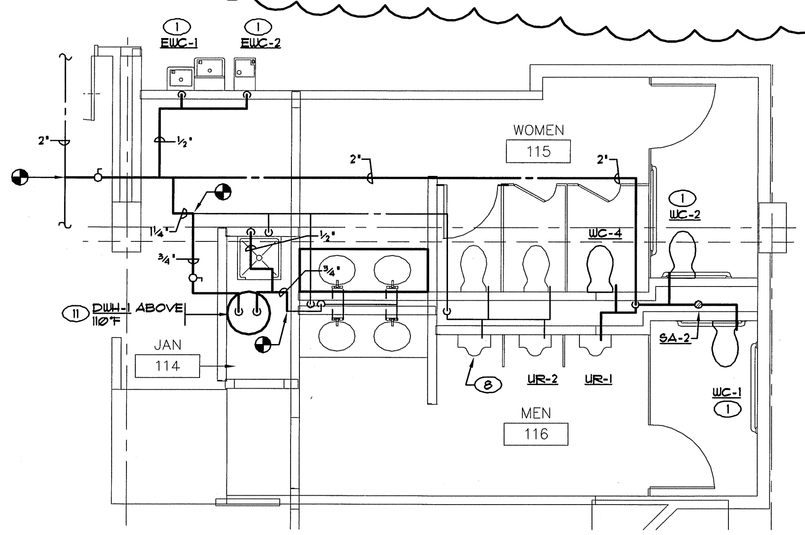
ENLARGED PLAN - WATER (2 / P3.1)
SCALE: 1/4" = 1'-0"



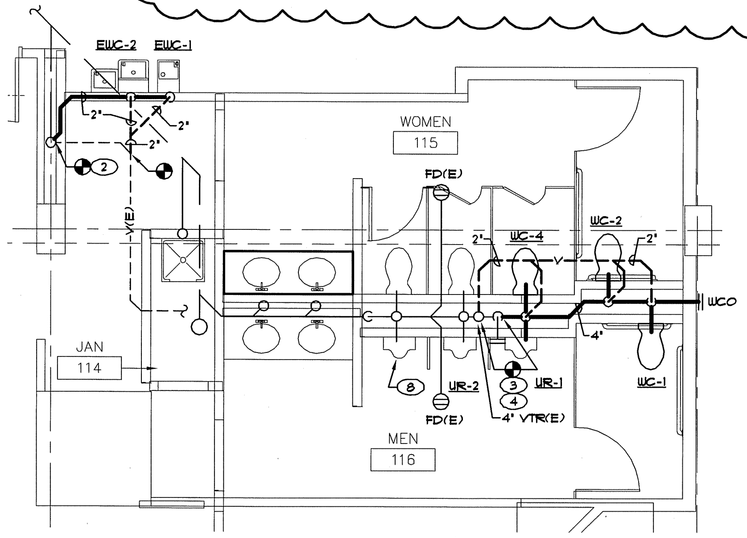
ENLARGED PLAN - WASTE/VENT (1 / P3.1)
SCALE: 1/4" = 1'-0"



ENLARGED PLAN - PLUMBING DEMO (6 / P3.1)
SCALE: 1/4" = 1'-0"



ENLARGED PLAN - WATER (4 / P3.1)
SCALE: 1/4" = 1'-0"



ENLARGED PLAN - WASTE/VENT (3 / P3.1)
SCALE: 1/4" = 1'-0"

DRAWING LIMITS: 42.00
DRAWING SCALE: 48.00
PLOT SCALE: 1:1
DRAWING NO: 2811120.DWG P3.1

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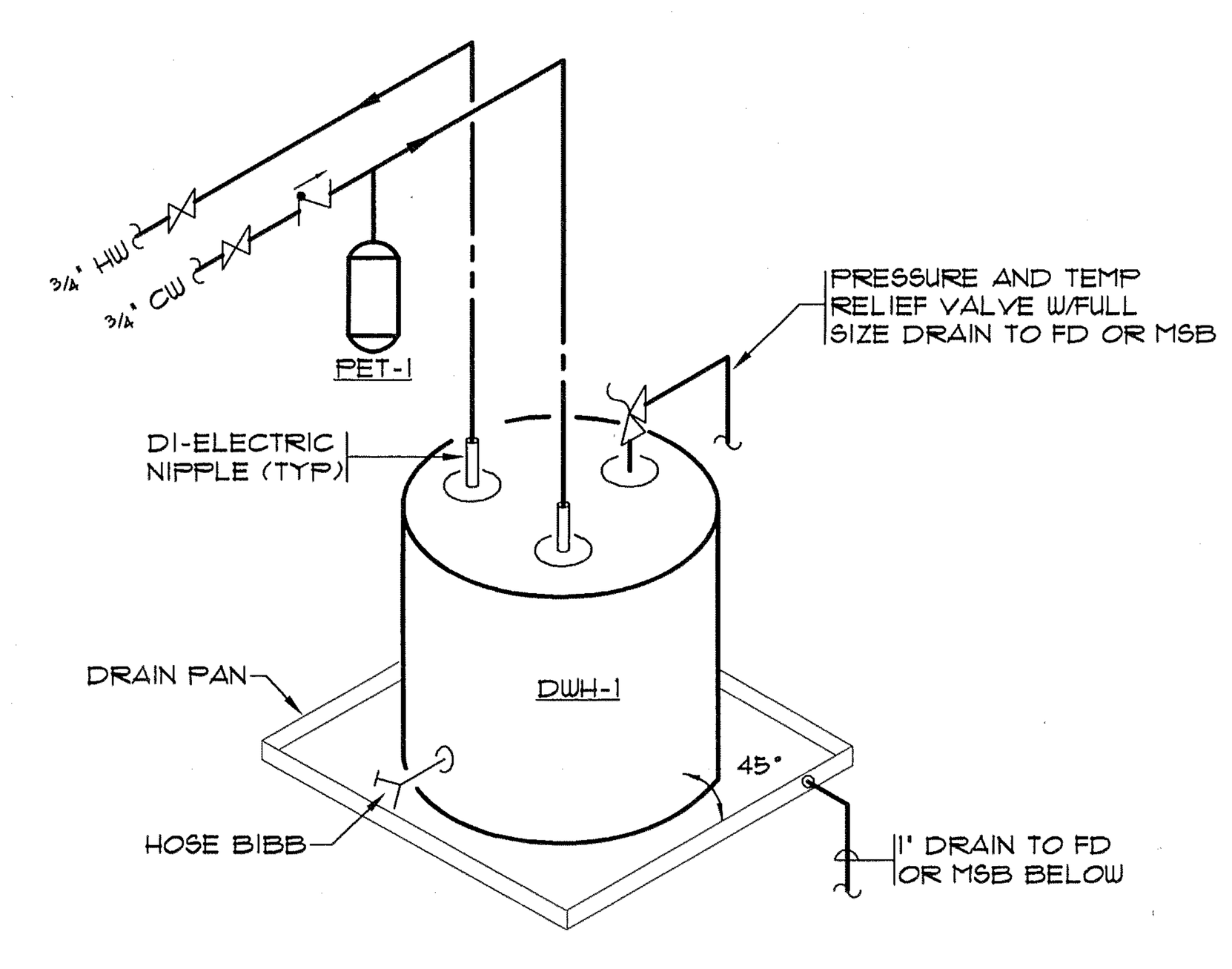
ENLARGED PLANS - WASTE/VENT/WATER

JOB NO.: 1002210
DATE: 06/30/11
SCALE: AS NOTED
DRAWN: CAD
CHECKED: RLM

SHEET P3.1

LEGEND (NOT ALL ITEMS WILL BE USED)

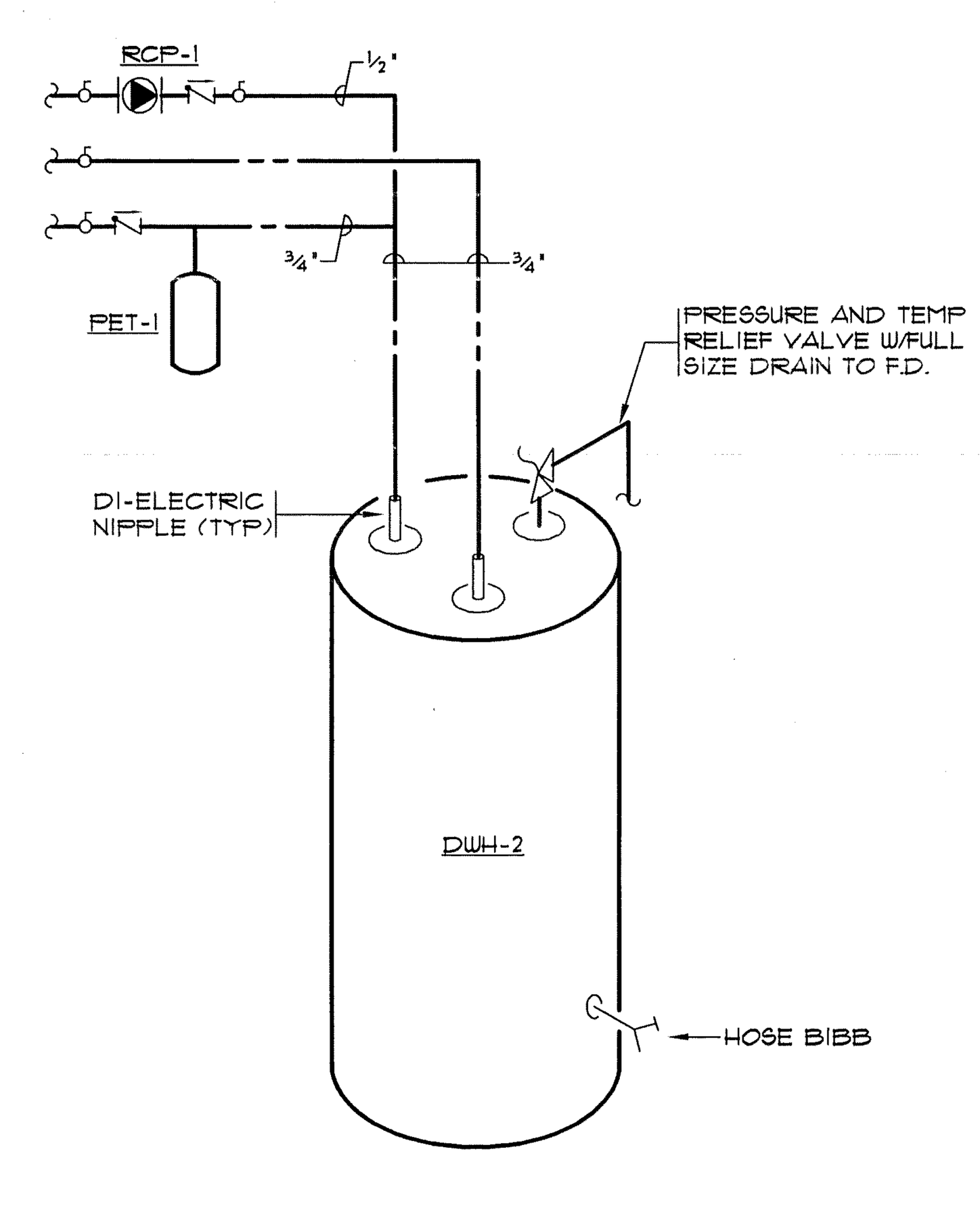
ABBR.	SYMBOL	DESCRIPTION
SW, CW, NP	SW — — NP	SOFT, COLD AND NON-POTABLE WATER PIPING
F	F	FIRE PROTECTION PIPING
HW, HWC	(140°F) (140°F)	HOT WATER AND, HOT WATER CIRCULATING PIPING
OX, A, VU	OX A VU	MEDICAL OXYGEN, AIR AND VACUUM PIPING
V, FOV	V FOV	VENT AND FUEL OIL VENT PIPING
SS, GSS	SS GSS	SANITARY SEWER AND GREASE SANITARY SEWER PIPING
SD, OSD	SD OSD	STORM DRAIN AND OVERFLOW STORM DRAIN PIPING
RD, ORD	RDL ODL	ROOF DRAIN LEADER, OVERFLOW DRAIN LEADER
FCO, WCO, COTG	FCO WCO COTG	FLOOR CLEANOUT, WALL CLEANOUT AND CLEANOUT TO GRADE
		PIPING TO BE REMOVED
		UNION, FLANGE, BLIND FLANGE
		SOV GATE VALVE, BALL VALVE, GLOBE VALVE, BUTTERFLY VALVE
		CHECK VALVE, STRAINER
		PLUG VALVE, CALIBRATED AND DYNAMIC BALANCING VALVES
		LUBRICATED PLUG VALVE
PRV		PRESSURE REDUCING VALVE
		THREE WAY CONTROL VALVE, SOLENOID AND TWO-WAY / MOTORIZED CONTROL VALVE
RPBP		REDUCED PRESSURE BACKFLOW PREVENTER
		ANGLE, RELIEF VALVE, GAUGE AND COCK, THERMOMETER
	TP	TEST PLUG
AAV / MAV, HEV	AAV, MAV HEV	HOSE END DRAIN VALVE, AUTOMATIC AIR / MANUAL AIR VENT
HB, WH		HOSEBIBB, FROSTPROOF WALL HYDRANT, DOWN SPOUT NOZZLE
		PIPE ELBOW DOWN, PIPE TEE DOWN, PIPE TEE UP, PIPE ELBOW UP
		PIPE ANCHOR, PIPE GUIDE, PIPE SLEEVE
		FLEX CONNECTION, PIPE EXPANSION JOINT
VTR		VENT THRU ROOF
I.E.		INVERT ELEVATION
E, R, N	(E) (R) (N)	EXISTING, RELOCATED AND NEW
	1 1 1	WORK NOTE 1, REVISION NO. 1, DEMOLITION NOTE 1, POINT OF CONNECTION
	A M-1, 1 M-1, R-1 M-1	SECTION A ON SHEET M-1 DIAGRAM 1 ON SHEET M-1 RISER R-1 ON SHEET M-1
	WC-X — FIXTURE/EQUIPMENT TYPE — FIXTURE/EQUIPMENT NUMBER	FIXTURE OR EQUIPMENT TAG



NOTE: REFERENCE PLAN FOR PIPE SIZES

DHW-1 DOMESTIC WATER HEATER (A / P0.1)

SCALE: NONE



DHW-2 DOMESTIC WATER HEATER (B / P0.1)

SCALE: NONE

DRAWING INDEX

NUMBER	DRAWING TITLE	04/20/11	04/29/11	05/06/11	06/06/11	1	2	3	4	5
P0.1	DRAWING INDEX, GENERAL NOTES, LEGENDS AND SCHEDULES	●	●	●	●					
P2.1	PARTIAL FLOOR PLAN - PLUMBING	●	●	●	●					
P2.2	PARTIAL FLOOR PLAN - PLUMBING	●	●	●	●					
P3.1	ENLARGED PLANS - WASTE/VENT/WATER	●	●	●	●					

GENERAL NOTES - PLUMBING

1. COORDINATE THE INSTALLATION OF PLUMBING SYSTEMS WITH OTHER TRADES. OFFSET PIPING AS NECESSARY TO AVOID CONFLICTS WITH OTHER WORK AND STRUCTURAL ABOVE CEILING AND/OR BELOW FLOOR.
2. VERIFY EXACT LOCATION, SIZE AND INVERT ELEVATION OF ALL EXISTING UTILITIES AT SITE PRIOR TO INSTALLATION OF ANY PIPING SYSTEMS.
3. RESOLVE ALL QUESTIONS OR CONFLICTS WITH THE ENGINEER BEFORE ANY EQUIPMENT IS ORDERED, MATERIALS FABRICATED OR SYSTEMS INSTALLED.
4. REFER TO THE ARCHITECTURAL DRAWINGS FOR THE EXACT LOCATION OF THE PLUMBING FIXTURES AND ROOF DRAINS.
5. SEAL ROOF PENETRATIONS WATERTIGHT WITH ROOF SYSTEM COMPATIBLE WITH ROOFING.
6. CONNECT ALL NEW PIPING TO EXISTING USING APPROVED FITTINGS. PROVIDE VALVES ON DOMESTIC HOT AND COLD WATER PIPING AT CONNECTIONS ; ? EXISTING. TAG VALVES TO IDENTIFY AREA SERVED.
7. DOMESTIC WATER PIPING SHALL BE TYPE 'L' HARD COPPER WITH WROUGHT COPPER FITTINGS. NO LEAD SOLDER TO BE USED FOR SWEAT FITTINGS, OR PROPRESS FITTINGS MAY BE USED.
8. INSULATE ALL DOMESTIC WATER PIPING AND ROOF DRAIN PIPING PER INSULATION SCHEDULES SHOWN IN PROJECT SPECIFICATIONS OR AS REQUIRED BY IECC.
9. WASTE AND VENT PIPING SHALL BE SERVICE WEIGHT CAST IRON WITH NO-HUB FITTINGS ABOVE GRADE. PVC SCHEDULE 40 MAY BE USED BELOW GRADE. SLOPE ALL WASTE PIPING AT ¼" PER FOOT MINIMUM UNLESS OTHERWISE NOTED.
10. MAINTAIN THE UNIFORM SLOPE SHOWN ON THE PLANS FOR THE SANITARY SEWER, STORM DRAIN AND CONDENSATE DRAIN PIPING SYSTEMS.
11. SUPPORT ALL CAST IRON SOIL PIPE, COPPER PIPE AND STEEL PIPE RISERS AT EVERY STORY MINIMUM.
12. ALL SANITARY VENTS SHALL BE LOCATED MINIMUM 10'-0" FROM BUILDING OUTSIDE AIR INTAKES.
13. INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE 2009 INTERNATIONAL PLUMBING CODE, APPLICABLE SECTIONS OF THE INTERNATIONAL BUILDING CODE.
14. OWNER WILL SUPPLY ASBESTOS MATERIALS TESTING, AND CLEARANCE REPORTS. ANY MATERIAL SUSPECTED TO CONTAIN ASBESTOS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND ARCHITECT. SUSPECTED MATERIALS ENCOUNTERED WILL BE ANALYZED BY OWNER. OWNER WILL PROVIDE NECESSARY DIRECTION IF MATERIAL IS IDENTIFIED AS ASBESTOS.

PLUMBING FIXTURE SCHEDULE

NOTES: 1) PROVIDE WITH 3 HOLE 4" CENTER SET FAUCET PUNCH. 2) INSTALL BLOCKING AS REQUIRED TO SUPPORT FAUCET.

TAG	FIXTURE DESCRIPTION	TRAP	WASTE	VENT	CW	HW 110°F
WC-1	WALL HUNG WATER CLOSET - ZURN Z5610.031, SIPHON JET ACTION, 1.6 GPF, WHITE VITREOUS CHINA, ELONGATED BOWL. 1½" TOP INLET SPUD. PROVIDE ZURN ZV6000AV-WS1 FLUSH VALVE WITH ADA FLUSH HANDLE. OLSONITE #95 OPEN FRONT SEAT LESS COVER. PROVIDE CLOSET CARRIER FOR AN INSTALLED RIM HEIGHT OF 18" FOR A.D.A.	INT	4"	2"	1¼"	---
WC-2	WALL HUNG WATER CLOSET - ZURN Z5610.031, SIPHON JET ACTION, 1.6 GPF, WHITE VITREOUS CHINA, ELONGATED BOWL. 1½" TOP INLET SPUD. PROVIDE ZURN Z6000AVDF-WS1 DUAL FLUSH VALVE WITH ADA FLUSH HANDLE. OLSONITE #95 OPEN FRONT SEAT LESS COVER. PROVIDE CLOSET CARRIER FOR AN INSTALLED RIM HEIGHT OF 18" FOR A.D.A.	INT	4"	2"	1¼"	---
WC-3	WALL HUNG WATER CLOSET - ZURN Z5610.031, SIPHON JET ACTION, 1.6 GPF, WHITE VITREOUS CHINA, ELONGATED BOWL. 1½" TOP INLET SPUD. PROVIDE ZURN ZV6000AV-WS1 FLUSH VALVE WITH ADA FLUSH HANDLE. OLSONITE #95 OPEN FRONT SEAT LESS COVER. PROVIDE CLOSET CARRIER FOR STANDARD RIM HEIGHT (NON ADA).	INT	4"	2"	1¼"	---
WC-4	WALL HUNG WATER CLOSET - ZURN Z5610.031, SIPHON JET ACTION, 1.6 GPF, WHITE VITREOUS CHINA, ELONGATED BOWL. 1½" TOP INLET SPUD. PROVIDE ZURN Z6000AVDF-WS1 DUAL FLUSH VALVE WITH ADA FLUSH HANDLE. OLSONITE #95 OPEN FRONT SEAT LESS COVER. PROVIDE CLOSET CARRIER FOR STANDARD RIM HEIGHT (NON ADA).	INT	4"	2"	1¼"	---
UR-1	WALL HUNG URINAL - ZURN Z5751, 0.5 GPF, SIPHON JECT, SINGLE STALL, WALL OUTLET, ¾" TOP SPUD, WHITE VITREOUS CHINA. PROVIDE ZURN Z5751/56 FLUSH VALVE WITH ADA FLUSH HANDLE, 0.5 GPF, BEEHIVE STRAINER AND SMITH SERIES 0637 URINAL SUPPORT, LIP HEIGHT FOR ADA.	INT	2"	2"	¾"	---
UR-2	WALL HUNG URINAL - ZURN Z5751, 0.5 GPF, SIPHON JECT, SINGLE STALL, WALL OUTLET, ¾" TOP SPUD, WHITE VITREOUS CHINA. PROVIDE ZURN Z5751/56 FLUSH VALVE WITH ADA FLUSH HANDLE, 0.5 GPF, BEEHIVE STRAINER AND SMITH SERIES 0637 URINAL SUPPORT, STANDARD LIP HEIGHT (NON ADA).	INT	2"	2"	¾"	---
LV-1	WALL HUNG LAVATORY - ZURN Z5360 WHITE VITREOUS CHINA, 4" FAUCET CENTERS. PROVIDE ZURN Z86S0 SINGLE HANDLE METERING FAUCET, OPEN GRID DRAIN, OFFSET 1¼" CHROME PLATED CAST BRASS 'P' TRAP WITH C.O. PLUG, CHROME PLATED 3/8" SUPPLIES AND LOOSE KEY ANGLE STOPS. PROVIDE INSULATION FOR 'P' TRAP AND HOT WATER SUPPLY, AND CONCEALED ARM LAVATORY SUPPORT.	1¼"	2"	1½"	½"	½"
EWC-1	WATER COOLER - ELKAY EMABFD SINGLE LEVEL, CHROME PLATED STREAM MOUND-BUILDING BUBBLER, FRONT AND SIDE PUSH BAR OPERATION, NON REFRIGERATED. PROVIDE IN LIGHT GREY GRANITE.	1¼"	2"	1½"	½"	---
EWC-2	WATER COOLER - BARRIER FREE - ELKAY EMABFTDDC DUAL LEVEL, CHROME PLATED TWO STREAM MOUND-BUILDING BUBBLER, FRONT AND SIDE PUSH BAR OPERATION, NON REFRIGERATED. PROVIDE IN LIGHT GREY GRANITE.	1¼"	2"	1½"	½"	---
MB-1	MOP SERVICE BASIN - FIAT, MODEL TSBC-1610, NEO CORNER TERRAZZO WITH 6" DROP FRONT. PROVIDE DELTA SERVICE SINK FITTING 28C2383, WITH VACUUM BREAKER, HOSE THREAD OUTLET AND PAIL HOOK. NOTE 2.	3"	3"	2"	½"	½"

PLUMBING EQUIPMENT SCHEDULE

NOTES: 1)

TAG	EQUIPMENT DESCRIPTION
	PLUMBING
RCP-1	HW RECIRC. PUMP. IN-LINE CIRCULATOR, TACO MODEL 003FNP, ALL BRONZE PUMP WITH A CAPACITY OF 1.5 GPM @ 4' HEAD. 1/40 HP, 115V - 1 PHASE, .43 AMPS. ½" SWEAT CONNECTION. PROVIDE WITH TIMER.
DHW-1	DOMESTIC WATER HEATER. A.O. SMITH DEL-15, 15 GALLON TANK, SINGLE 3 KW HEATER, 208/1 PHASE. GLASS LINED TANK, ZINC PLATED COPPER ELEMENTS, ADJUSTABLE CONTROL (SET 110°F), ANODE ROD, ASME T&P VALVE, DRAIN VALVE. PROVIDE HEAT TRAP AND VACUUM BREAKER FOR SIDE INLET PIPING CONFIGURATION.
DHW-2	DOMESTIC WATER HEATER. A.O. SMITH DEN-30, 30 GALLON TANK, SINGLE 5 KW HEATER, 208/1 PHASE. GLASS LINED TANK, ZINC PLATED COPPER ELEMENTS, ADJUSTABLE CONTROL (SET 110°F), ANODE ROD, ASME T&P VALVE, DRAIN VALVE.
FD-1	FLOOR DRAIN. ZURN 415, CAST IRON BODY WITH FLASHING COLLAR, AND SQUARE NICKEL BRONZE ½ GRATE AND STRAINER WITH TRAP. PROVIDE WITH 'SURE SEAL' TRAP SEAL.
SA-1	SHOCK ARRESTOR. ZURN Z1700 #100.
SA-2	SHOCK ARRESTOR. ZURN Z1700 #400.
HB-1	HOSE BIBB. WOODFORD MODEL 26, WALL FAUCET WITH FIELD TESTABLE BACKFLOW PREVENTER.
PET-1	POTABLE EXPANSION TANK. AMTROL THER-X-TROL ST-5-C, 0.9 GALLON ACCEPTANCE FACTOR, 2.1 GALLON TOTAL VOLUME, 50 PSIG MIN. AND 150 PSIG MAX. OPERATING PRESSURE, FDA APPROVED. OPERATING WEIGHT IS 13 LBS. ¾" CW.
EHT	ELECTRIC HEAT TRACE. CHROMOLOX SXL2-CR-TRACE, UL LISTED, 8 BTU/HR PER LINEAR FOOT, SELF REGULATING - SET @ 40°F.

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REVISIONS

DRAWING INDEX, GEN NOTES, LEGENDS AND SCHEDULES

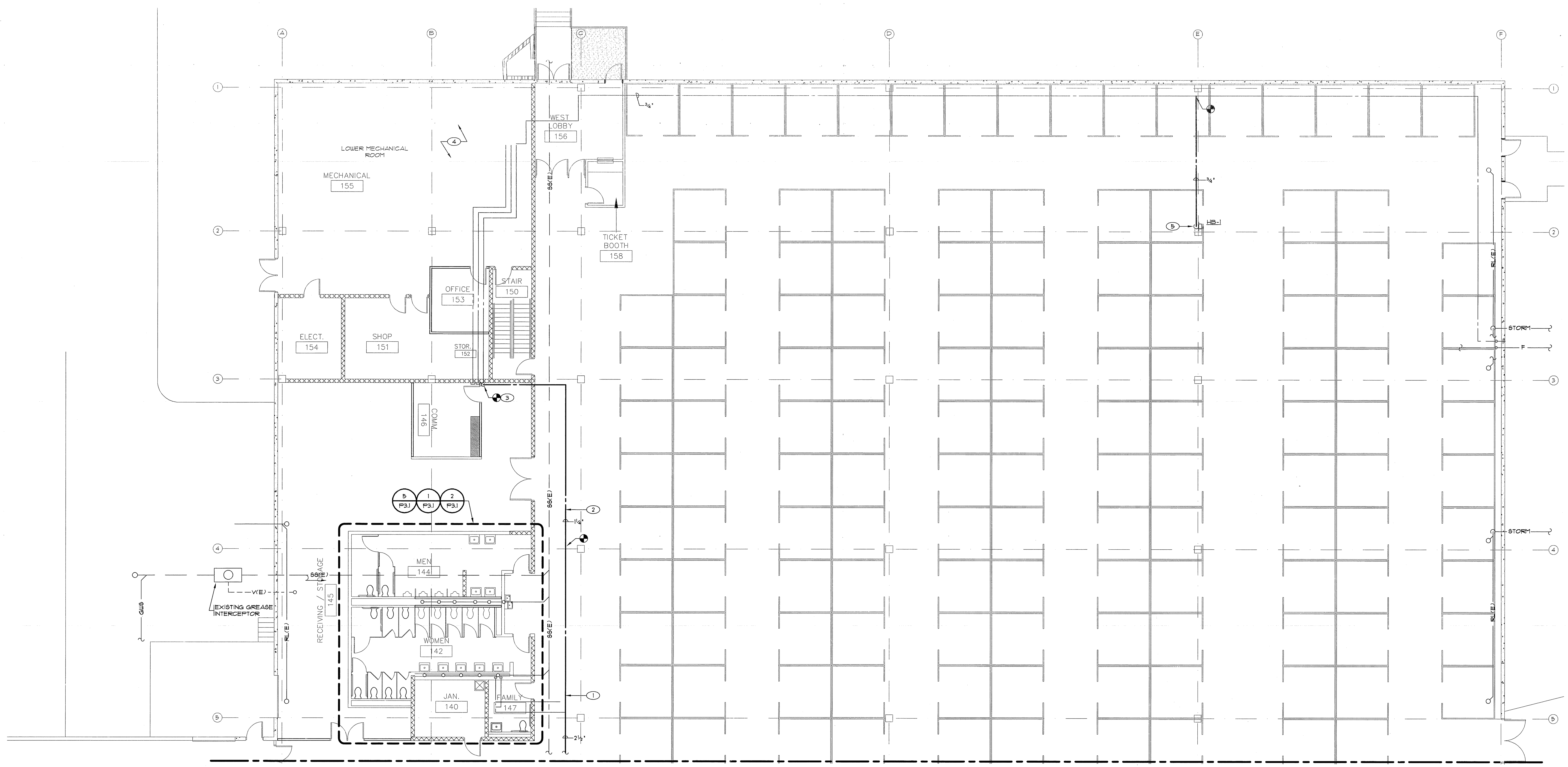
JOB NO.: 1002210
DATE: 06/06/11
SCALE: AS NOTED
DRAWN: CAD
CHECKED: RLM

SHEET P0.1

DRAWING LIMITS: 42, 30
DRAWING SIZE: 42x30
PLOT SCALE: 1:1
DRAWING NO: 20111202.00 P0.

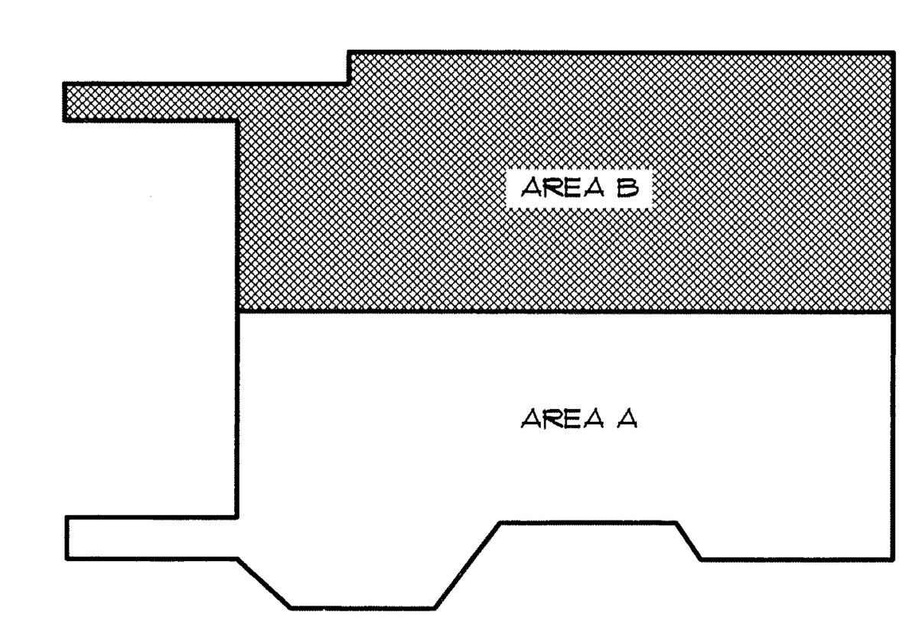
WORK NOTES (THIS SHEET ONLY)

1. EXISTING DOMESTIC WATER PIPING TO BE RAISED TO BOTTOM OF STRUCTURE.
2. COORDINATE TO INSTALL PIPING ALONG WITH NEW HEATING WATER PIPING.
3. CONNECT TO EXISTING PIPING TO SERVE MECHANICAL AREA.
4. RECONNECT PIPING IN MECHANICAL ROOM TO ISOLATE OLD WATER HEATERS, BUT MAINTAIN OTHER WATER SUPPLIES TO EQUIPMENT AND TO EXISTING CW WATER DISTRIBUTION FROM MECHANICAL ROOM.
5. PROVIDE ¾" ISOLATION VALVE IN VERTICAL LINE 9' AFF.



PARTIAL FLOOR PLAN - PLUMBING

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



KEY PLAN

SCALE: NONE

DRAWING LIMITS: 42,30
DRAWING SIZE: 42x30
PLOT SCALE: 1:1
DRAWING NO: 2010P21

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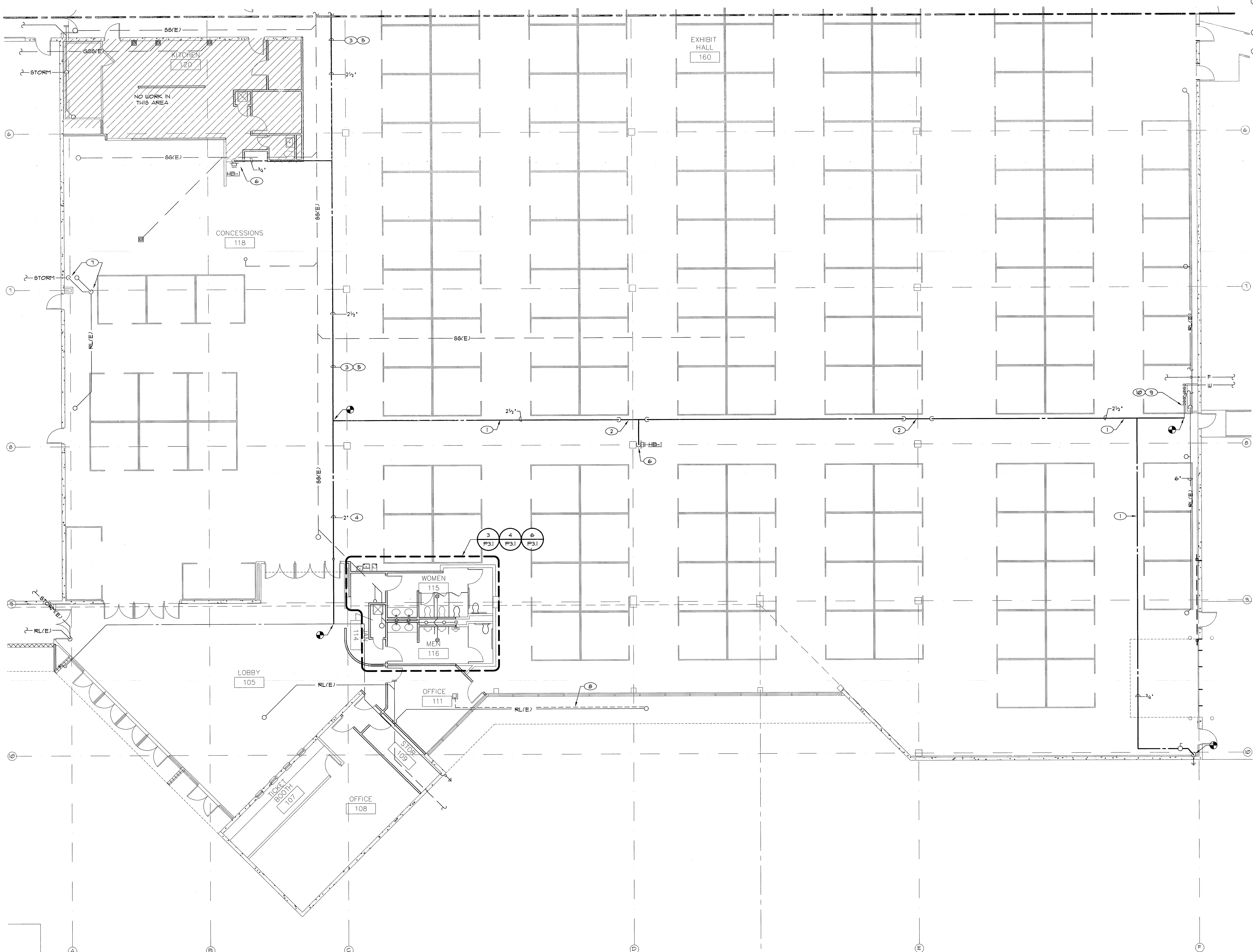
PARTIAL FLOOR PLAN – PLUMBING

JOB NO.: 1002210
DATE: 06/06/11
SCALE: AS NOTED
DRAWN: CAD
CHECKED: RLM

SHEET P2.1

WORK NOTES (THIS SHEET ONLY)

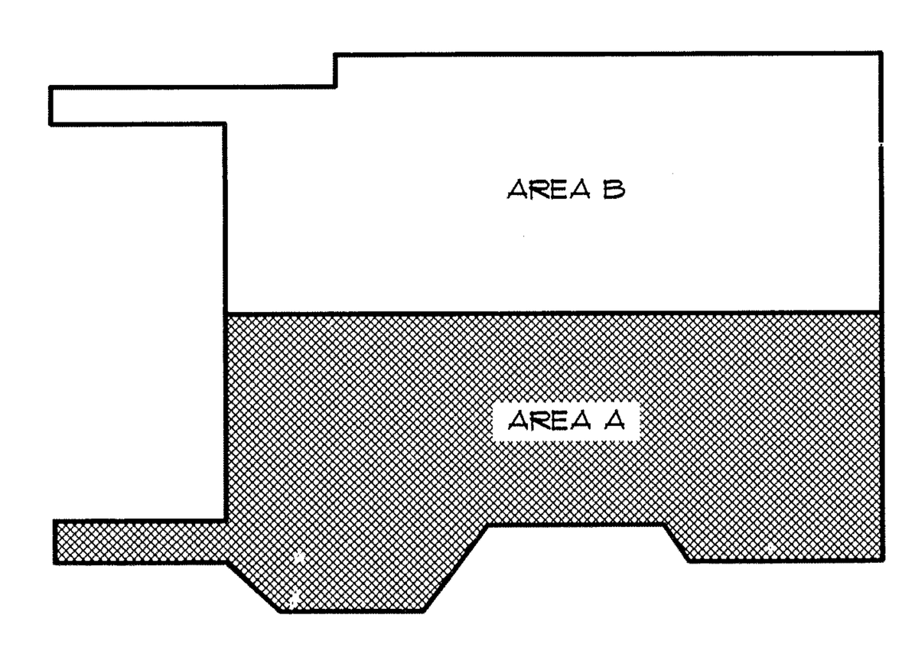
1. EXISTING SECTION OF DOMESTIC WATER LINE TO BE RAISED UP TO BOTTOM OF STRUCTURE.
2. DROP UNDER BEAM/DUCTWORK.
3. COORDINATE TO INSTALL PIPING ALONG WITH HEATING SUPPLY AND RETURN PIPING.
4. REPLACE THIS SECTION OF DOMESTIC CW WITH RELOCATED 2" (OLD PIPING IS 1½").
5. REPLACE THIS SECTION OF PIPE WITH 2½" (OLD PIPING IS 2").
6. PROVIDE ¾" BALL VALVE IN VERTICAL LINE 9' A.F.F.
7. REWORK ROOF DRAIN LEADER TO RELOCATE NEXT TO WALL AND RECONNECT TO BELOW GRADE STORM. CUT/PATCH SLAB AS NEEDED.
8. HEAT TRACE EXISTING ROOF DRAIN PIPING. REMOVE/REPLACE INSULATION AS NEEDED. HEAT TRACE TO BE SELF REGULATING TO OPERATE AT 40°F OR LESS, UTILIZING APPROXIMATELY 300 WATTS.
9. INSTALL NEW 2½" BALL VALVE ON DOMESTIC WATER RISER IMMEDIATELY AFTER BACK FLOW PREVENTER.
10. ADD 1½" TEE AND BALL VALVE IN 2½" RISER TO PROVIDE SERVICE FOR LANDSCAPE.



PARTIAL FLOOR PLAN - PLUMBING

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

NORTH



KEY PLAN

SCALE: NONE

NORTH

DRAWING LIMITS: 42, 30
DRAWING SIZE: 42x30
PLOT SCALE: 1:1
DRAWING NO:20111202.00 P2.2

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PARTIAL FLOOR PLAN – PLUMBING

JOB NO.: 1002210
DATE: 06/06/11
SCALE: AS NOTED
DRAWN: CAD
CHECKED: RLM

SHEET P2.2

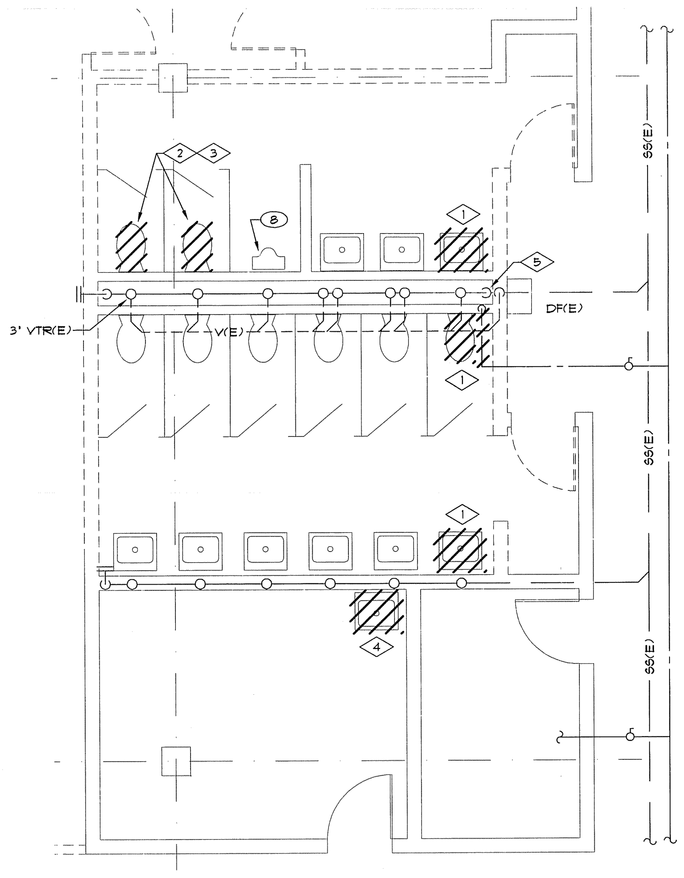
DEMO NOTES (THIS SHEET ONLY)

1. REMOVED UNDER DEMO SCOPE.
2. REMOVE ADDITIONAL FIXTURES. TO BE REPLACED WITH URINALS.
3. ROUGH-IN TO BE CHANGED FROM WATER CLOSET WALL HUNG TO URINAL ROUGH-IN.
4. REMOVE SERVICE SINK. WATER LINES TO BE REUSED.
5. 4" DROP THROUGH FLOOR TO BE RELOCATED.

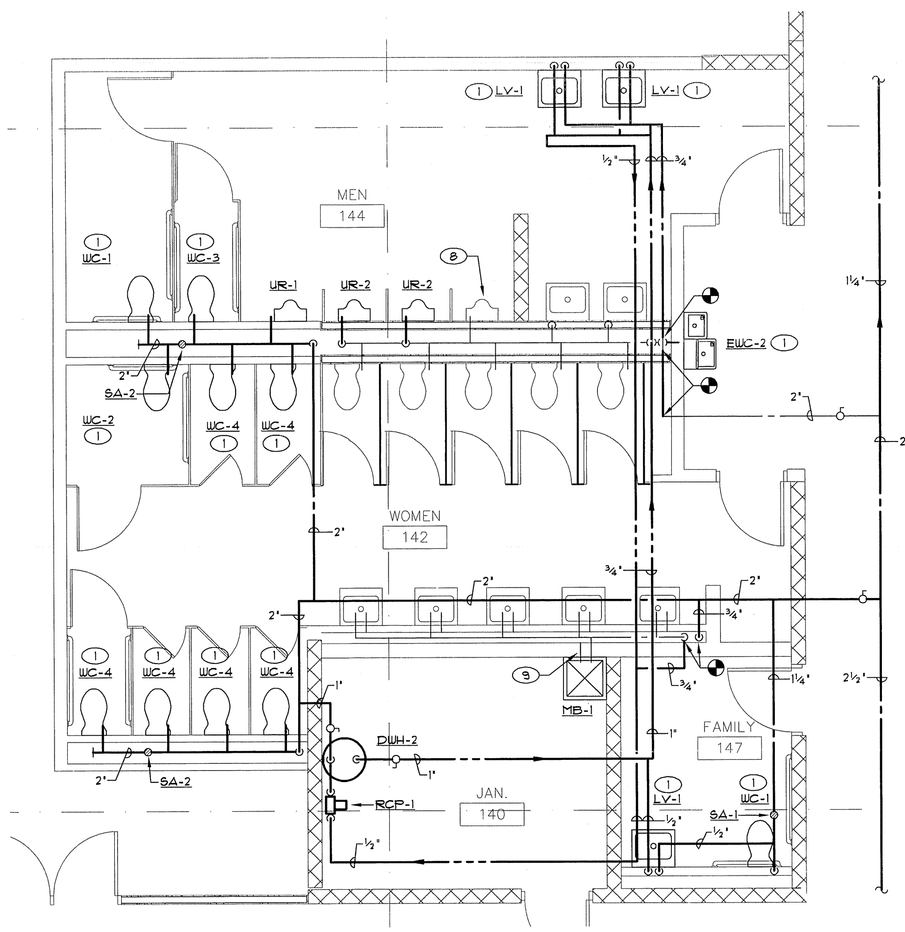
WORK NOTES (THIS SHEET ONLY)

1. PROVIDE NEW CW AND/OR HW TO NEW FIXTURES.
2. CONNECT NEW 2" WASTE FROM NEW DRINKING FOUNTAIN TO EXISTING STACK PREVIOUSLY FOR DRINKING FOUNTAIN.
3. CONNECT TO EXISTING 4" ABOVE GRADE GANG PLUMBING.
4. CONNECT NEW FIXTURE VENTING TO EXISTING 3" VENT THRU ROOF.
5. CONNECT ALL NEW FIXTURES TO NEW 4" VTR.
6. CONNECT NEW 2" WASTE FROM DRINKING FOUNTAIN TO EXISTING 4" ABOVE GRADE WASTE.
7. NEW 4" ABOVE GRADE GANG PLUMBING DROPS TO BELOW GRADE.
8. REPLACE EXISTING URINAL WITH NEW LOW CONSUMPTION UR-2 (ACCEPTED ADD ALTERNATE).
9. MODIFY OLD SINK CW/HW PIPING FOR NEW MSB FAUCET.
10. INSTALL NEW FLOOR DRAIN WITH TRAP GUARD SEAL.
11. SUPPORT WATER HEATER ABOVE CEILING USING ANGLE IRON TO SPAN WALLS, AND PROVIDE DRAIN PAN UNDER WATER HEATER.

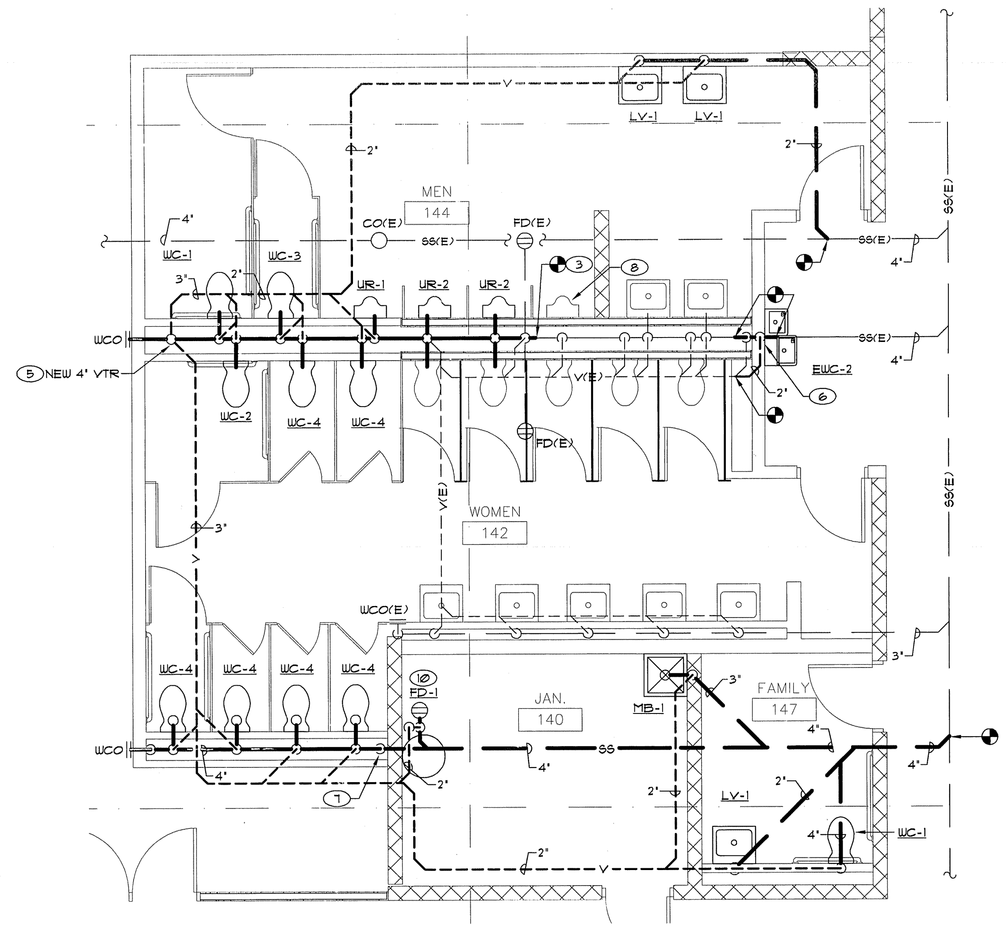
NOTE:
FIXTURES WITHOUT TAGS/ID ARE EXISTING, TO REMAIN UNLESS OTHERWISE NOTED.



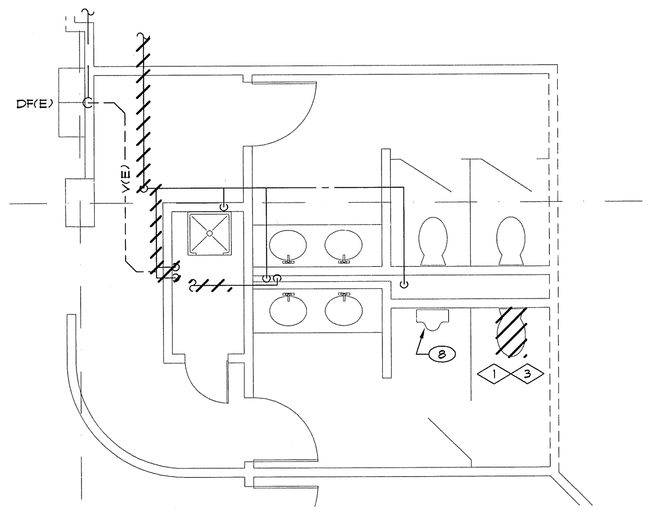
ENLARGED PLAN - PLUMBING DEMO (5 P3.1)
SCALE: 1/4" = 1'-0"



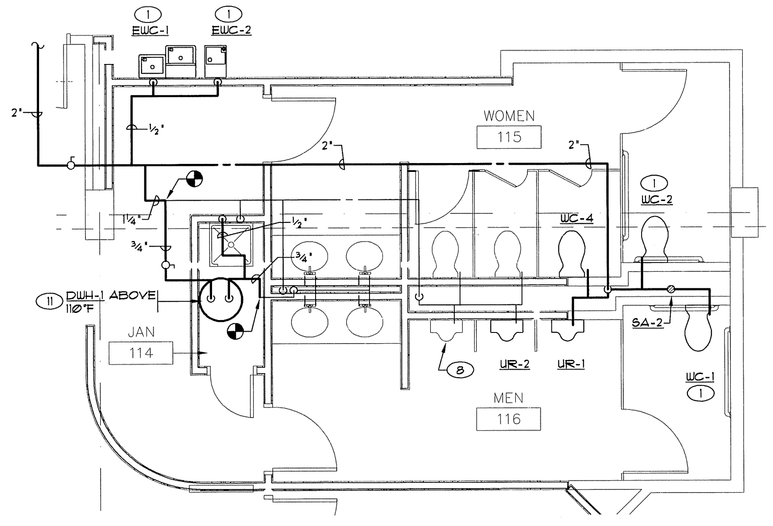
ENLARGED PLAN - WATER (2 P3.1)
SCALE: 1/4" = 1'-0"



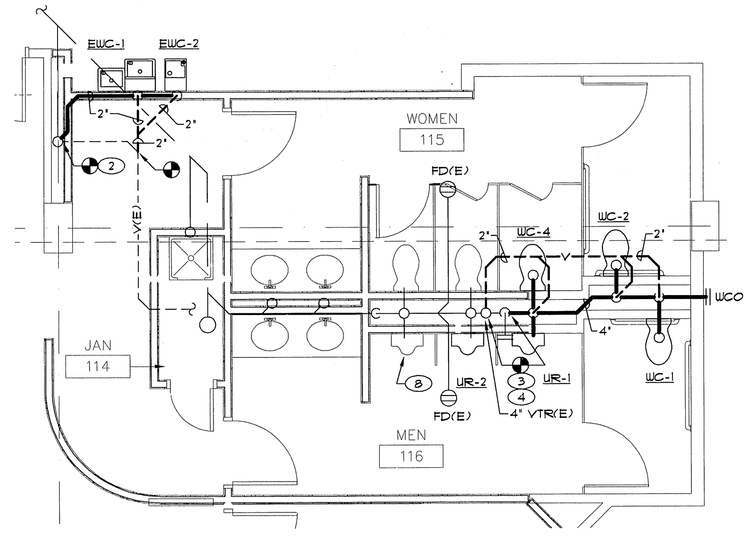
ENLARGED PLAN - WASTE/VENT (1 P3.1)
SCALE: 1/4" = 1'-0"



ENLARGED PLAN - PLUMBING DEMO (6 P3.1)
SCALE: 1/4" = 1'-0"



ENLARGED PLAN - WATER (4 P3.1)
SCALE: 1/4" = 1'-0"



ENLARGED PLAN - WASTE/VENT (3 P3.1)
SCALE: 1/4" = 1'-0"

DRAWING LIMITS: 42, 30
DRAWING SIZE: 42x30
PLOT SCALE: 1=1
DRAWING NO:20111220.DD P3.1

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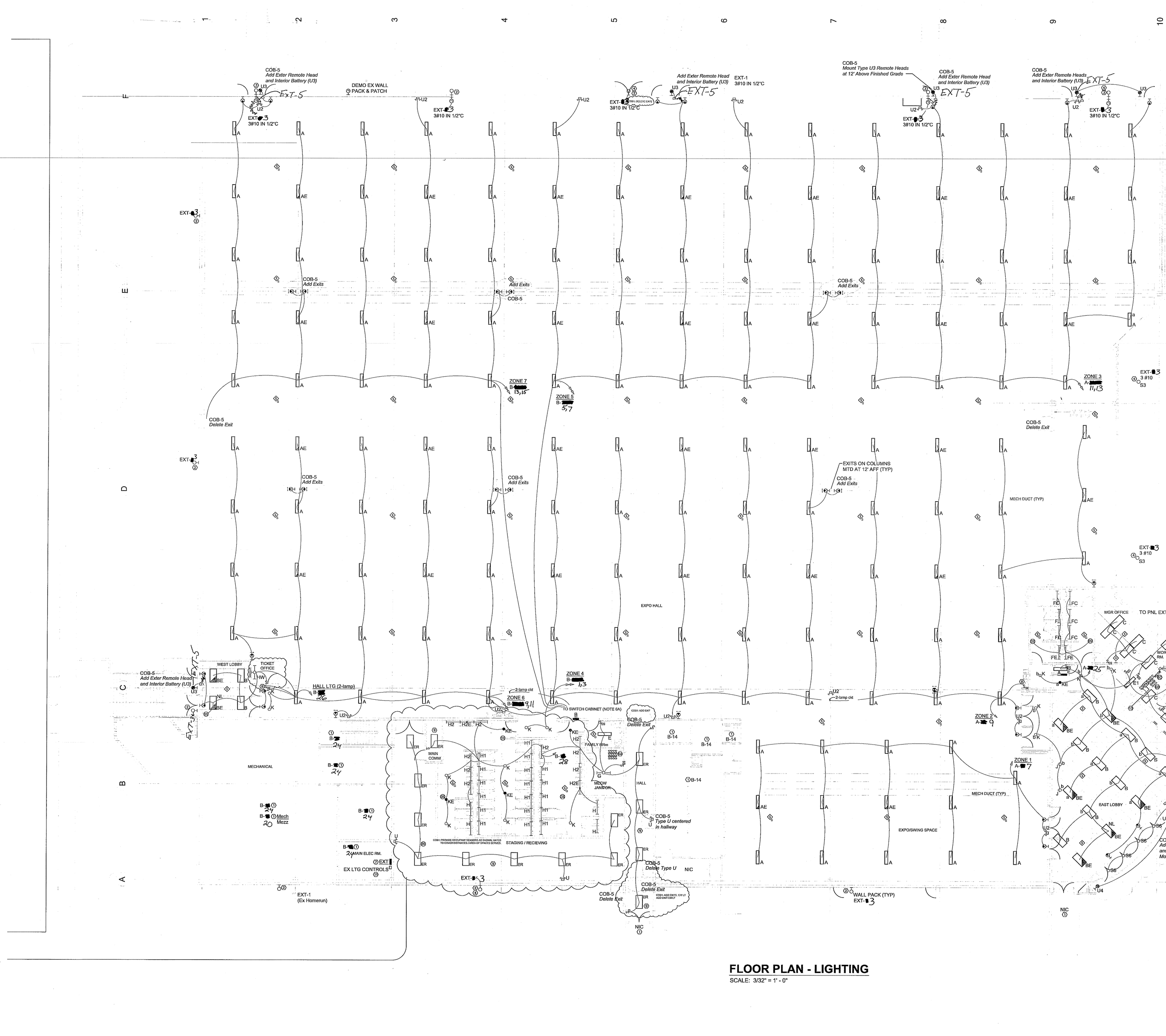
2

ENLARGED PLANS - WASTE/VENT/WATER

JOB NO.: 1002210
DATE: 06/06/11
SCALE: AS NOTED
DRAWN: CAD
CHECKED: RLM

SHEET P3.1



ZONE 7 | ZONE 5 | ZONE 3
ZONE 6 | ZONE 4 | ZONE 2
ZONE 1

KEY PLAN SHOWS LIGHTING CONTROL ZONES 1-7.

EXPO HALLSPEAKERS SHALL BE WIRED AS TWO CHANNELS:
CHANNEL 1: ZONES 1-3
CHANNEL 2: ZONES 4-7
All 8-in speakers shall be tied to nearest channel; 300W max per channel.

KEY PLAN - CONTROL ZONES

NO SCALE

LIGHTING CONTROL SCHEME:

EXPO HALL WILL BE CONTROLLED IN SEVEN ZONES.
EACH ZONE HAS THREE SWITCHES TO INDIVIDUALLY CONTROL EACH OF THREE BALLASTS IN EACH TYPE A/AE FIXTURE PROVIDING 4-LEVELS OF LTG CONTROL. (SWITCH ON 1 LAMP, 2, 4 or ALL 5 LAMPS WITHIN THE ZONE).

SPECIAL CONTROL:
ONE SET OF 3-WAY SWITCHES WILL CONTROL ONE 2-LAMP BALLAST IN ALL FIXTURES ALONG THE MAIN HALL (along Column Line C).

FIXTURES NOTED "NL" SHALL HAVE THE 1-LAMP BALLAST WIRED FOR CONTINUOUS OPERATION AS A SECURITY NIGHT LIGHT. FINAL FIXTURE(S) WIRED FOR NIGHT LIGHT SHALL BE COORDINATED WITH OWNER.

OCCUPANCY SENSORS IN RESTROOMS, OFFICES AND OTHER LOCATIONS AS NOTED SHALL CONTROL FIXTURES. SEE 26 27 26.

GENERAL NOTES / SCOPE NOTES:

1. ALL LIGHTING CIRCUITS SHALL BE TERMINATED TO SWITCHED BUS WITHIN PANELS A OR B TO MEET IECC 'ALL OFF' CODE REQUIREMENT.
2. PROVIDE EXPO HALL POINT CALC PER FIXTURE SCHEDULE BASED ON: 3100 LM/LAMP, 40/40/20 REFLECTANCE, 0.91 LLF AND MTG HT (AVE) OF 16'-6" AFF FOR TYPE A/AE FIXTURES.

KEYED NOTES:

1. EXISTING LIGHTING TO REMAIN. FIELD VERIFY & MAINTAIN HOMERUN(S) SERVING THESE AREAS FROM LOCAL 277V LTG PANEL (PANEL A or B). RE-TERMINATE HOMERUN TO BREAKER IN REPLACEMENT PANEL.
2. DEMO EXISTING DAMAGED WALL PACK AND REPLACE WITH TYPE S2 WALL PACK. RECONNECT TO ORIGINAL CKT OR CKT SHOWN (#10AWG).
3. ADD TYPE S2 WALL PACK. CORE DRILL EXTERIOR WITH WATERPROOF SEAL. CONNECT VIA CKT INDICATED, CONDUIT ROUTED ON INTERIOR.
4. RECIRCUIT J-BOX FOR SECURITY LIGHTING (24/7). SEE PNL SCHED EXT.
5. COMMISSION EXTERIOR LIGHTING CONTROLS: TIME CLOCK, PHOTO CELL. SEE SITE PLAN FOR SITE LIGHTING WORK.
6. CONNECT EACH ZONE OF LIGHTS TO PANEL VIA LOCAL LIGHT SWITCH BANK PER LIGHTING CONTROL SCHEME NOTED ABOVE. PROVIDE A LABEL THAT DENOTES ZONE AND LAMP(S) CONTROLLED FOR EA SW.
   A. INSTALL SWITCHES IN SURFACE MTD NEMA 1 BOX (ZONES 4-7).
   B. INSTALL SWITCHES GANGED FLUSH IN OFFICE WALL (ZONES 1-3).
   C. MASTER SW WIRED TO TURN ON/OFF CONTACTORS IN PNL A & B; AND TIED INTO MASTER-OFF TIME CLOCK AS REQ'D TO MEET IECC.
7. DEMO AND REPLACE EXISTING ASTRONOMICAL TIME CLOCK AND PROVIDE 6-POLE MECH-HELD LIGHTING CONTACTOR (LC). COMMISSION TWO EX LC's AND PHOTOCELL ON ROOF FOR PROPER OPERATION. WIRE EX 3-POLE LC FOR SECURITY LIGHTS AND ADDED 6-POLE FOR REMAINING S1 POLE LTs, S4 FLOODS, S5 POLE LTs & PYLON SIGN.
8. HALL LIGHT SW. CONNECT ON LIGHTS AND ONE 2-LAMP BALLAST IN TYPE A FIXTURES ALONG THE MAIN HALL TO THIS CKT. LABEL COVER AS 'HALL LTG'.
9. REINSTALL EXISTING 2x4 FIXTURES IN THIS ROOM. CONNECT ONLY ONE OF TWO 2-LAMP BALLASTS. LENS FRAME WILL NOT BE REINSTALLED.
10. PA SOUND SYSTEM HEADEND RACK. SEE POWER PLAN & SPECS. COORDINATE FINAL LAYOUT OF EQUIP ON THIS WALL WITH OWNER.
11. EXISTING 3-POLE LIGHTING CONTACTOR LC-1. PROVIDE LC-2 PER SITE PLAN AND PANEL SCHEDULE EXT.
12. DEMO EX 12-IN DOWN LIGHT AND REPLACE WITH FIXTURE INDICATED. RECONNECT TO EXISTING CKT EXT-1; PATCH SOFFIET TO MATCH. OPTION: REPAIR EXISTING NON-MERC VAPOR FIXTURE IF POSSIBLE.

PA SYSTEM DEVICES - SEE DIV 27 SPEC:

- PENDANT MOUNTED EXPO HALL SPEAKERS
- 8-INCH SPEAKERS - LAY-IN CEILING
- 8-INCH SPEAKERS - GYPSUM CEILING BACKBOX ROUGH-IN BY DIV 26.

FLOOR PLAN - LIGHTING

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

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NORTH NEVADA EXPO

3650 NORTH NEVADA AVE. BUILDING RENOVATION
COLORADO SPRINGS, CO

REVISIONS
COB1: MAIN RESTROOM REVISIONS & MISC EGRESS LTG
COB6: ADD EXTERIOR EM LTG AND INTERIOR EXIT LIGHT REVISIONS

FLOOR PLAN
LIGHTING & PA SYSTEM
–

JOB NO.: 1002210
DATE: 06/03/11
SCALE: AS NOTED
DRAWN: CAD
–
CHECKED: JBT

E1.00
SHEET

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NORTH NEVADA EXPO

3650 NORTH NEVADA AVE. BUILDING RENOVATION
COLORADO SPRINGS, CO

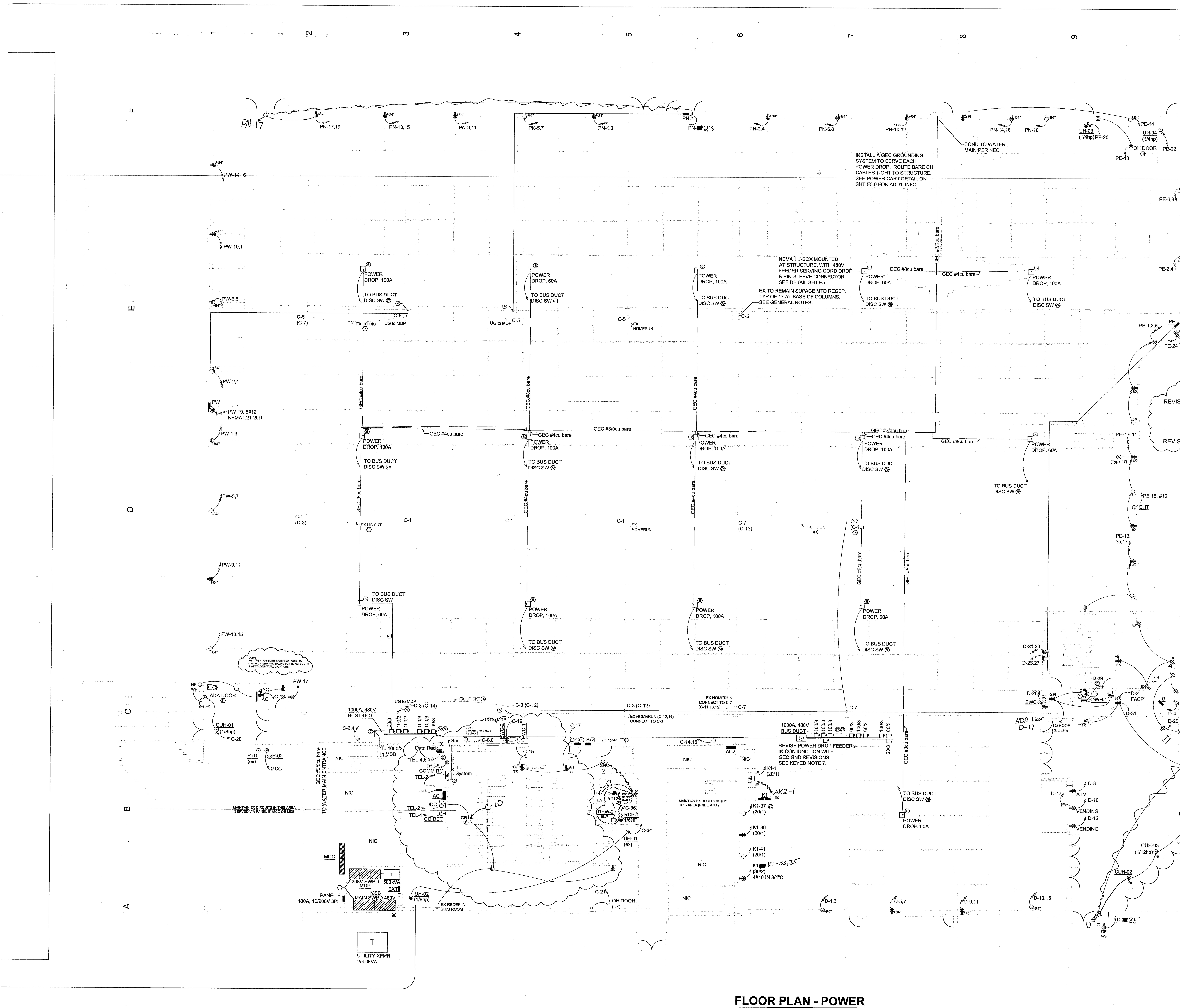
REVISIONS
COB1: MAIN RESTROOM REVISIONS & MISC EGRESS LTG
COB5: ADD GEC GND SYSTEM; REVISE POWER CART FDRs & DROPS

GENERAL NOTES:

1. POWER CARTS ARE EXISTING.
2. ALL EXISTING RECEP SHALL BE REPLACED UNDER THIS WORK UNO. PROVIDE BLANK COVERPLATES FOR UNUSED J-BOXES IN EXISTING WALLS TO REMAIN. "EX" DENOTES EXISTING BACKBOX. DUPLEX RECEP ON COLUMNS ARE EX TO REMAIN; WIRED TO PANEL C.
3. VOICE/DATA HEADEND EQUIP AND ALL DEVICES/WIRING BY OWNER. INCLUDE OUTLET ROUGH-INS AS INDICATED.
4. ~~TELEPHONE SYSTEM SHALL BE PROVIDED BY OWNER.~~
5. PROVIDE A PA SYSTEM. SEE SPECIFICATION.
6. SEC SHALL BE PROVIDED BY OWNER. PROVIDE ROUGH-IN FOR KEY PAD AT EAST AND WEST ENTRY DOORS. [KP] THE CONTROL PANEL WILL BE LOCATED IN THE SOUTH BLDG; AND LV CABLING WILL POWER DEVICES LOCATED IN THE EXPO HALL (NORTH BLDG).
7. VERIFY LOCATIONS OF AC PANELS WITH OWNER PRIOR TO ROUGH-IN.
8. VERIFY WIRING DEVICE LOCATIONS IN ADMIN WITHOWNER'S FINAL OFFICE AND WORKROOM LAYOUT PRIOR TO ROUGH-IN.

KEYED NOTES:

1. PROVIDE BREAKERS AND FUSES IN EX GEAR PER ONE-LINE& SCHEDULES.
2. PROVIDE PANEL AND CONNECT PER ONE-LINE & ASSOC PNL SCHEDULE.
3. INCLUDE WORK REQUIRED TO PROVIDE COMM SERVICE FROM COMCAST OR QWEST TO MAIN TELCO ROOM USING EXISTING TWO UG 4"C. DEMO EX COMM EQUIPMENT ONLY AS REQ'D TO INSTALL EQUIPMENT PER OWNER'S IT / VOICE-DATA PROVIDER.
4. EXTEND EX 208V FEEDERS INTO PULLBOX INSTALLED AT STRUCTURE. SEE ONE-LINE (PREVIOUSLY SERVED 208V BUS DUCT FROM MDP)
5. PROVIDE POWER FOR DATA RACK AND PHONE SYSTEM. INCLUDE GND, PLYWOOD BACKBOARD ACROSS ADDED WALL. COORD LAYOUT WITH OWNER'S IT PRIOR TO ROUGH-IN. PROVIDE ISO GND TYPE RECEPTACLES WHERE REQUESTED BY IT.
6. POWER CART DROP: PROVIDE CEILING MTD PULLBOX; TYPE SO HARD-SERVICE CORD WITH KELLUMS AT EACH END NOMINAL ; AND A HUBBELL PIN-SLEEVE INDUSTRIAL RECEP TO MATCH PWR CART. SEE SPEC 26 2726 REVISED>
   100A: PROVIDE 50-FT 3 #3 & #4 X GND CORD WITH 100A RECEPTACLE.
   60A: PROVIDE 50-FT 3 #6 X & #8 GND CORD WITH 60A RECEPTACLE.
   INCLUDE CORD HANGER SUPPORTS PER SPEC 26 05 00.
7. INSTALL BUS DUCT PER ONE-LINE, TIGHT TO STRUCTURE. INSTALL AND FUSE EX 100/3 PLUG-IN DISC SWITCHES TO SERVE POWER CART DROPS. ROUTE A FEEDER FROM PLUG-IN DISC TO EACH POWER CART DROP: REVISED>
   A: 3 #3 & #4 X GND IN 1-1/4"C VIA 100/3 DISC WITH 100A BKR. (TYP OF 9)
   B: 3 #6 X & #8 GND IN 1-1/4"C VIA 60/3 DISC WITH 60A BKR. (TYP OF 6)
8. RECONNECT EXISTING POWER WHIP TO REPLACEMENT PUMP. CHANGE OUT STARTER HEATERS IN MCC TO MATCH PUMP HP. (HWP-2)
9. INSTALL RECEP IN EXISTING FLUSH BACKBOXES ALONG THIS WALL AND CIRCUIT AS SHOWN. ADD HOMERUN CONDUIT(S) AS REQUIRED.
10. WIRE CONTROL STATION FURNISHED WITH DOOR. SEE SPEC 08 3613.
11. PROVIDE POWER TO OPERATOR PER MFGR AND INCLUDE WIRING OF LOW-VOLTAGE RF TRANSCIVER TO OPERATOR. (RF ACTUATORS) INCLUDE A MEANS TO DISABLE POWER FOR OFF-HOURS WHEN LOCKED.
12. WIRE FOOD VENDOR OUTLETS (TYP OF 5) TO EXISTING SPARE BKR'S IN EX PANEL K1. VERIFY NEMA RECEP CONFIGURATION WITH FINAL FOOD VENDOR EQUIP. NOTE PNL K1 IS A 400A, TW0 SECTION PANEL WITH EX LOADS REMOVED UNDER PREVIOUS DEMO PHASE. ANY ABANDONED CONDUIT STUBBED UP ABOVE PANEL SHALL BE CUT OFF 4" ABOVE THE TOP OF THE EXISTING WALL AND CAPPED.
13. PROVIDE ROUGH-IN WITH STUB-UP TO STRUCTURE FOR SECURITY KEY-PAD. COORD BACKBOX WITH SECURITY CONTRACTOR.
14. RE-CONNECT RECEP TO EX CKT SHOWN. REMOVE ABANDONED WIRE IN EXISTING CONDUIT. ORIGINAL CKT SERVING OUTLET IS DENOTED (C-X).
15. CONNECT 3#12 VIA 30/2 NF DISC TO UNIT. LOCATE DISC IN LOS TO UNIT.



FLOOR PLAN - POWER
SCALE: 3/32" = 1' - 0"

FLOOR PLAN
POWER

JOB NO.: 1002210
DATE: 06/03/11
SCALE: AS NOTED
DRAWN: CAD
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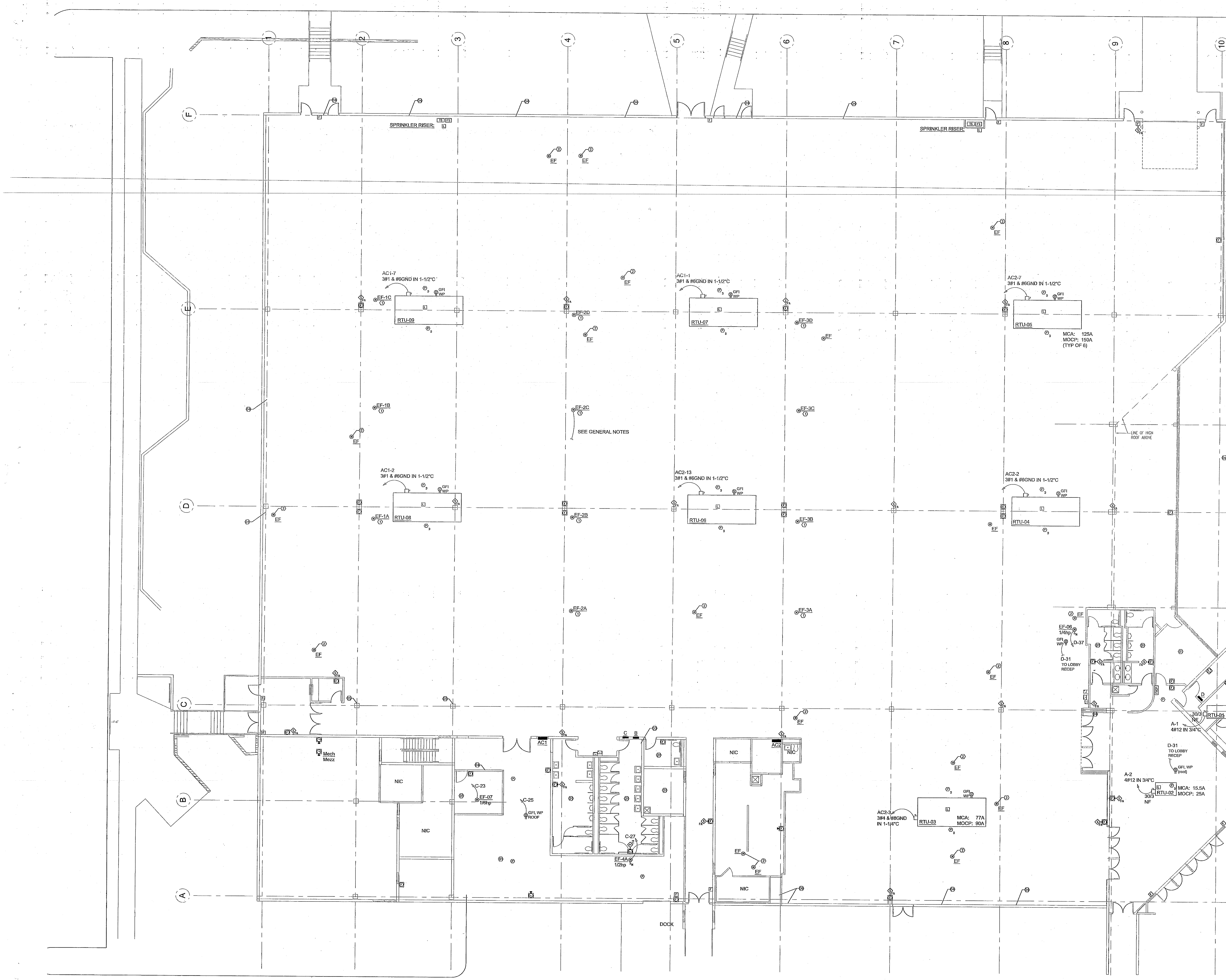
SHEET



FLOOR PLAN - FA & ROOF EQUIP

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

FIRE ALARM DEVICES - SEE SPEC:

- PULL STATIONS WITH VANDEL COVERS
- SMOKE DETECTORS
- FA LOUDSPEAKER (MTD ON CONCRETE COL OR WALL AS INDICATED)
- HORN/STROBE
- STROBE
- DUCT SMOKE DETECTOR
- INDICATOR LIGHT (WALL OR CEILING MTD IN INTERIOR SPACE)

GENERAL NOTES:

1. ADD 20A, 120V ROOF MAINT RECEP AS REQ'D PER NEC.
2. EXISTING ROOF EX FANS ARE ABANDONED IN PLACE UNO. SEE KEYED NOTE 1 BELOW. DISCONNECT TWO EX FANS BEING RELOCATED BY MECH (EF-6 AND EF-7). RECONNECT EF-4A (EXISTING TO REMAIN).
3. RECEP AT RTU's ARE FACTORY FURNISHED AND WIRED. NO PWR REQ'D.
4. PROVIDE DISC SWITCHES AS SHOWN FOR RTU-1 & 2. DISC SW FOR RTU'S 3-9 ARE FACTORY FURNISHED.

KEYED NOTES:

1. EXISTING 1HP, 480V 3P EX FAN DISCONNECTED UNDER DEMO PKG. PROVIDE UNIT COSTS PER UNIT PRICE SPECIFICATION. NO WORK UNDER BASE BID.
2. TYPICAL MISC ROOF EX FAN ABANDONED IN PLACE. (ALL EX FANS UNO).

MISC DEMO - KEYED NOTES:

GENERAL NOTES:

A. MISC DEMO ARE ITEMS THAT WERE NOT COVERED UNDER DEMO PKG, BUT MAY HAVE BEEN REMOVED DURING DEMO PHASE. COORDINATE FINAL SCOPE OF WORK WITH G.C. AND ON-SITE CONDITIONS.
B. SEE SPEC REGARDING DEVICES REMOVED FROM EX WALLS.
C. REMOVE ANY REMAINING ORIGINAL EXIT LIGHTS. REPLACE AS SHOWN.
D. DEMO ANY ABANDONED WIRING DEVICES IN FOUR ADMIN OFFICE ROOMS, AND MISC RECEP AND SWITCHES IN OTHER AREAS NEAR COL LINE B.

D1. DEMO ANY EXISTING LIGHTS LEFT HANGING IN THIS AREA. DEMO ANY PIPE/WIRE/BOXES LEFT HANGING FROM DEMO PHASE.
D2. REMOVE LOAD CENTER, ASSOC FEEDER AND CIRCUITS FROM ADMIN.
D3. DEMO CONTACTOR PANEL AND CIRCUITS.
D4. DEMO EX RECEP IN THIS LOCATION.
D5. DEMO RECEP AT COLUMNS IN EXPO HALL (TYP).
D6. DEMO ABANDONED KITCHEN OUTETS, ANSUL, ETC IN PUBLIC SPACE.
D7. DEMO 4-CKT LOAD CENTER IN THIS CORNER.

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NORTH NEVADA EXPO

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REVISIONS

FLOOR PLAN
FIRE ALARM, MISC DEMO & ROOF POWER

JOB NO.: 1002210
DATE: 06/03/11
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E3.00
SHEET

5' UTILITY EASEMENT

FOUND REBAR W/ ALUM. CAP "RK HOOK NO. 1808"

WIRE FENCE

MONITOR WELLS

WATER

24" RCP

INGRESS, EGRESS EASEMENT RECEPT . NO. 99164830

ASEMENT 4830

FOUND NAIL W/ SHINER"NO. 25968

CHAIN LINK FENCE

7' UTILITY / DRAINAGE EASEMENT

GRATED INLET

35' ELECTRICAL EASEMENT

DID NOT ACCEPT FOUND NO. 5 REBAR WITH NO CAP

GATE

ENCE

30' COMMON INGRESS/EGRESS ACCESS EASEMENT LOTS 1 AND 2

CHAIN LINK FENCE

CONC.

CONC.

CONCRETE

30' ACCESS ESMT ? RECEPT. NO. 206035668

SPRINKLER CONTROL VALVES

TELEPHONE RISER

OWNER WILL REPAIR/UPGRADE ALL "S1" EXISTING POLE-MTD LIGHT FIXTURE HEADS TO INDUCTION

INCLUDE EITHER OF TWO OPTIONS TO LOCATE AND POWER THE PYLON SIGN:

OPTION 1: NORTH SIDE OF MAIN DRIVE. REQUIRES BORING UNDER RECENTLY RESURFACED PARKING WITH TRENCHING ONLY IN GRASS AREAS.

OPTION 2: SOUTH SIDE OF MAIN DRIVE. TRENCHING AND REPAIR OF PARKING SURFACE TO MATCH IS ALLOWED.

RESURFACED PARKING AREA MAY NOT BE CUT OR DAMAGED DURING INSTALL.

BLDG MTD SIGN x2-20A CKTs PANEL PE VIA LOCAL TIME CLK

PE-8

PE-10

OPTION 1: PYLON SIGN 3 #10AWG IN 3/4"C

SET TO EQUALLY WASH TWO WALLS INSTALL 2FT OFF SIDEWALK

PROTECT EX TELCO UG SERVICE CONDUIT

EXT 2,6

REPULL #10 AWG WIRING FROM PANEL EXT TO EACH EX POLE LIGHT VIA LTG CONTACTORS AND EX UG CONDUIT. SEE NOTES ON SHT E1. UPSIZE FOR VOLTAGE DROP. PULL A SECOND HOT TO EACH AREA TO ALLOW SECURITY LIGHTS AND GENERAL USE LIGHTS TO BE SWITCHED INDEPENDANTLY.

EXT 2,4,6

EXT 1

REWIRE S5 POLE LTS TO MATCH ORIGINAL

DEMO EX POLE LTs x2

CONCRETE

CURB CHASE

RAMP

GATE MOTOR

MOTORCYCLE PARKING

BOLLARDS (TYP.)

-4'-4 1/2"

OPTION 2: PYLON SIGN 3 #10AWG IN 3/4"C

-4'-5"

PICNIC TABLE

BENCHES

MOTOR CYCLE PARKING

CONCRETE

"NL" DENOTES LIGHT TO TURN OF/OFF VIA PHOTOCELL.

ALL OTHER EXTERIOR LIGHTS SHALL TURN ON WITH PHOTOCELL AND TURN OFF VIA TIME CLOCK.

FIELD VERIFY CIRCUIT(S) SERVING AREA LIGHTS IN SOUTHEAST QUADRANT

STUCCO WALL

SPRINKLER CONTROL VALVES

SPRINKLER CONTROL VALVE

FLAG POLE

FIBER OPTIC VAULT

BOLLARDS

GV

MDP

10' ACCESS EASEMENT (RECEPT. NO. 98005363)

10' ACCESS EASEMENT (RECEPT. NO. 200053450)

SPRINKLER CONTROL VALVE

7' UTILITY / DRAINAGE EASEMENT

5' UTILITY EASEMENT

25' ACCESS RIGHT OF WAY

24" RCP

GRATED INLET

10' DRAINAGE EASEMENT

15' DRAINAGE EASEMENT

FOUND REBAR AND YELLOW PLASTIC CAP INTERMTN ENGR PE PLS 25043

SITE PLAN - ELECTRICAL

NO SCALE

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REVISIONS

SITE PLAN ELECTRICAL

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ELECTRICAL SYMBOLS

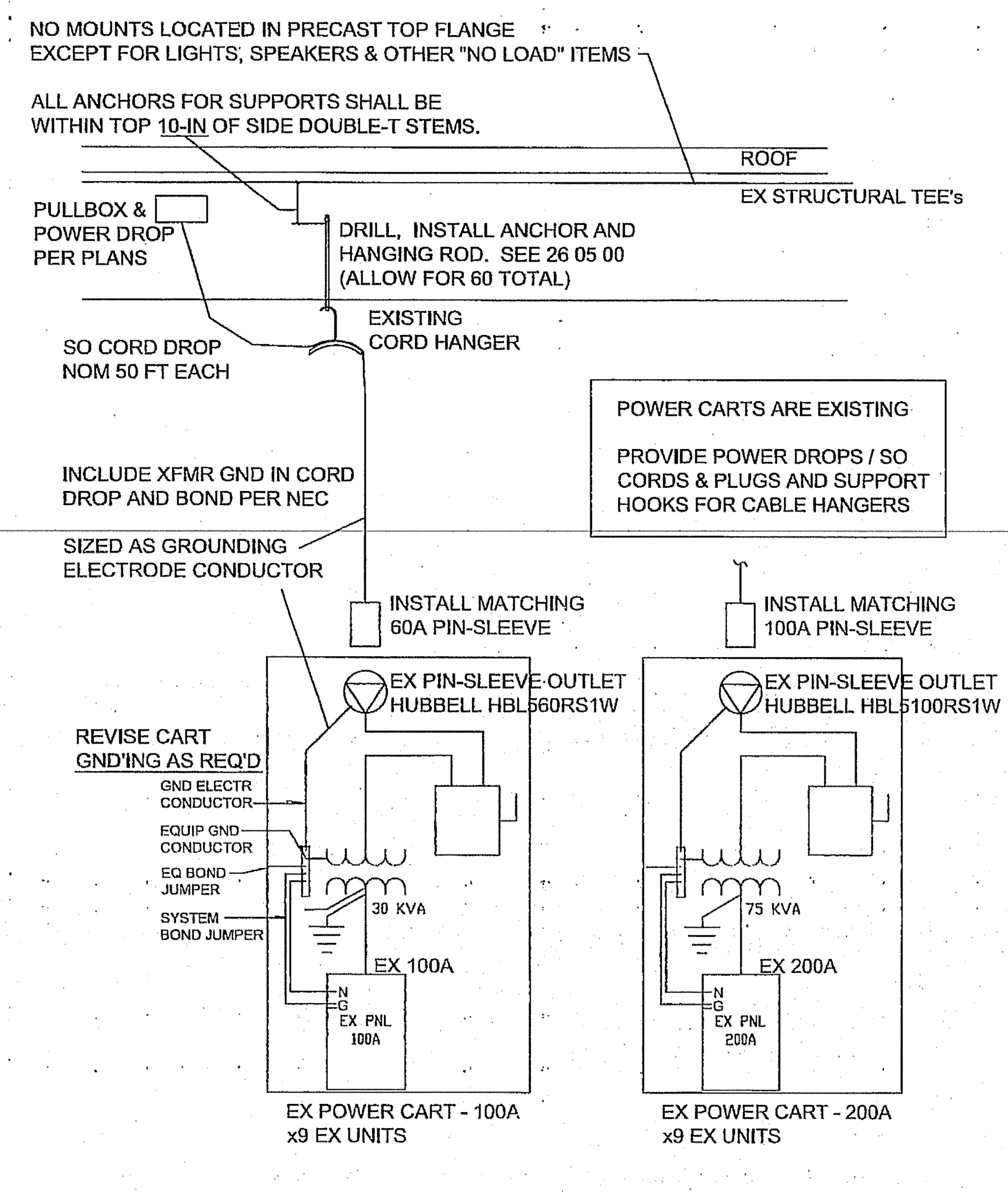
- LIGHTING FIXTURE. LETTER IDENTIFIES TYPE. SEE FIXTURE SCHEDULE (TYPICAL).
- LIGHTING FIXTURE. SEE FIXTURE SCHEDULE.
- UNIT EMERGENCY LIGHT FIXTURE.
- EXIT SIGN
- POLE MOUNTED AREA LIGHT
- WALL MOUNTED LIGHT FIXTURE.
- SWITCH, SINGLE POLE
- SWITCH, 3-WAY
- SWITCH, DIMMER
- SWITCH, WITH PILOT LIGHT
- SINGLE RECEPTACLE
- DUPLEX RECEPTACLE
- FOURPLEX RECEPTACLE
- DUPLEX RECEPTACLE, HORIZ MTD.
- DUPLEX RECEPTACLE, SWITCHED
- MULTI-OUTLET STRIP
- FLOORBOX, DEVICE AS INDICATED
- JUNCTION BOX, FLUSH MOUNTED
- VOICE OUTLET. 'W' INDICATES WALL PHONE
- DATA OUTLET
- VOICE/DATA OUTLET
- TV OUTLET
- CIRCUIT, MARKS INDICATE NO OF WIRES
- HOMERUN TO PANEL OR RELAY PANEL
- SLEEVE
- TRANSFORMER, DRY TYPE
- DISTRIBUTION PANELBOARD
- BRANCH CIRCUIT PANELBOARD
- MOTOR CONTROL CENTER
- DISCONNECT SWITCH. NF = NONFUSED.
- MANUAL MOTOR DISCONNECT
- MANUAL SWITCH, WITH OVERLOAD
- MOTOR
- GROUND ELECTRODE
- EQUIPMENT CABINET
- FACP FIRE ALARM CONTROL PANEL
- MANUAL PULL STATION
- HEAT DETECTOR - 135° RATE-OF-RISE
- SMOKE DETECTOR - PHOTOELECTRIC
- FIRE ALARM HORN/STROBE
- FIRE ALARM STROBE
- ALARM INDICATING LIGHT

APPLICABLE CODES (STATE OF COLORADO):

IBC 2009 IECC 2009 NEC 2008 NFPA-72 (2002)

ABBREVIATIONS:

AC	ABOVE COUNTERTOP
AF	AMP FUSE
AFC	ABOVE FINISHED CEILING
AFG	ABOVE FINISHED GRADE
AIC	AMPS INTERRUPTING CAPACITY
C	CONDUIT
CKT	CIRCUIT
EX	EXISTING TO REMAIN
ER	EXISTING RELOCATED
FLA	FULL LOAD AMPS
GFI	GROUND FAULT INTERRUPTER
MCA	MIN CIRCUIT AMPS
MCB	MAIN CIRCUIT BREAKER
MLO	MAIN LUGS ONLY
MTD	MOUNTED
OCPD	OVERCURRENT PROTECTIVE DEVICE
OH	OVERHEAD
OS	OCCUPANCY SENSOR
PH	PHASE
PNL	PANELBOARD
T	TRANSFORMER
TS	TAMPER / SAFETY TYPE RECEP
UG	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
WP	WEATHERPROOF
XFMR	TRANSFORMER
3R	NEMA 3R CABINET



POWER CART DETAIL

NO SCALE

DISTRIBUTION PANEL SCHEDULE														
PANEL: MDP (EX) NO. POLES: BUS RATING: FEATURES:		LOCATION: MAIN ELEC				VOLTS: 120 / 208 MAIN LUG ONLY KA INTERRUPTING CAP.					3 PH 4 W MOUNTING:			
DESCRIPTION	NOTES	VA	TYPE	BRKR	P	CKT	PH	CKT	P	BRKR	TYPE	VA	DESCRIPTION	NOTES
PANEL PE		16200	P	X	3		A		3	X	P	10205	PANEL C	
"		11800	P				B				P	11875	"	
"		11100	P				C				P	9683	"	
PANEL PW		16600	P	X	3		A		3	X	P	10550	PANEL D	
"		13000	P				B				P	10200	"	
"		11600	P				C				P	10150	"	
PANEL PN		17000	P	X	3		A		3	X	P	8400	PANEL E	
"		12600	P				B				P	8400	"	
"		12000	P				C				P	8400	"	
PANEL TEL		3400	P	X	3		A		3	X	P	3900	PANEL K1 (Only Load Remaining is 6 20/1	
		2400	P				B				P	3900	" and a 30/2 for Food Vendor)	
		1400	P				C				P	3900	"	
							A							
							B							
							C							
							A							
							B							
							C							
							A							
							B							
							C							

LOAD SUMMARY:

LOAD TYPE	CONN.	pf	DEMAND FACTOR	DEMAND
P=PANELS	228.7	0.90	1.00	228.7
L=LIGHTING		0.96	1.00	
R=RECEPTACLES		0.85	50% OF > 10k	
A= APPLIANCES		0.80	0.50	
M=MOTORS		0.60	1.00	
3M=3PH MOTORS		0.90	1.00	
H=HEATERS		1.00	1.00	
0=SPARE		0.65	0.50	
TOTAL	228.7 kVA	0.90		228.7 kVA

CONNECTED PHASE LOADING: PHASE A: 86.3 PHASE B: 74.2 PHASE C: 68.2 [LARGEST MOTC Kw]

EST. MAX. DEMAND: 228.7 kVA
MIN. FEEDER AMPACITY: 634.7 A

NOTES:
SEE ONE-LINE FOR OCPD SIZES
SCHEDULE PROVIDED FOR SERVICE LOAD CALC ONLY.

DISTRIBUTION PANEL SCHEDULE														
PANEL: MSB (EX) NO. POLES: BUS RATING: FEATURES:		LOCATION: MAIN ELEC				VOLTS: 277 / 480 MAIN LUG ONLY 22 KA INTERRUPTING CAP.					3 PH 4 W MOUNTING: SURFACE			
DESCRIPTION	NOTES	VA	TYPE	BRKR	P	CKT	PH	CKT	P	BRKR	TYPE	VA	DESCRIPTION	NOTES
PANEL EXT		5960	P	X	3		A		3	X	P	31023	PANEL AC1	
"		1500	P				B				P	31023	"	
"		1210	P				C				P	31023	"	
WTR HTR (54kW) (ABANDONED)		-	H	X	3		A		3	X	P	37227	PANEL AC2	
"		-	H				B				P	37227	"	
"		-	H				C				P	37227	"	
PANEL A		14436	P	X	3		A		3	X	P	14958	MCC (only loads are P1, P2 & Boiler)	
"		10632	P				B				P	14958	"	
"		9926	P				C				P	14958	"	
PANEL B		14430	P	X	3		A			X			-	
"		9655	P				B						-	
"		9154	P				C						-	
DISTR GEAR MDP / XFMR		86255	P	X	3		A		3	X	P	205230	1000A BUS DUCT (POWER CART DROPS)	
"		74175	P				B				P	205230	"	
"		68233	P				C				P	113430	"	
							A				P	82000	100A POWER CART DROPS	
							B				P	82060	"	
							C				P	45360	"	
							A							
							B							
							C							

LOAD SUMMARY:

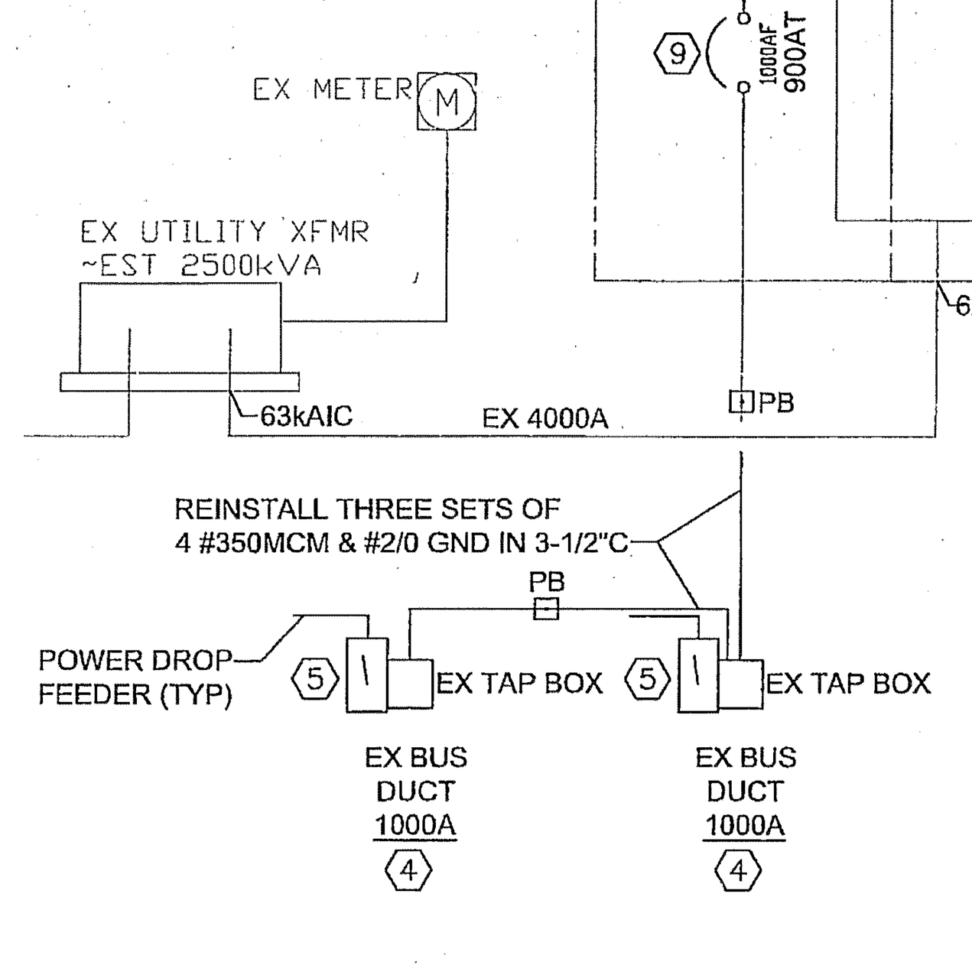
LOAD TYPE	CONN.	pf	DEMAND FACTOR	DEMAND
P=PANELS	1618.5	0.90	1.00	1618.5
L=LIGHTING		0.96	1.00	
R=RECEPTACLES		0.85	50% OF > 10k	
A= APPLIANCES		0.80	0.50	
M=MOTORS		0.60	1.00	
3M=3PH MOTORS		0.90	1.00	
H=HEATERS		1.00	1.00	
0=SPARE		0.65	0.50	
TOTAL	1618.5 kVA	0.90		1618.5 kVA

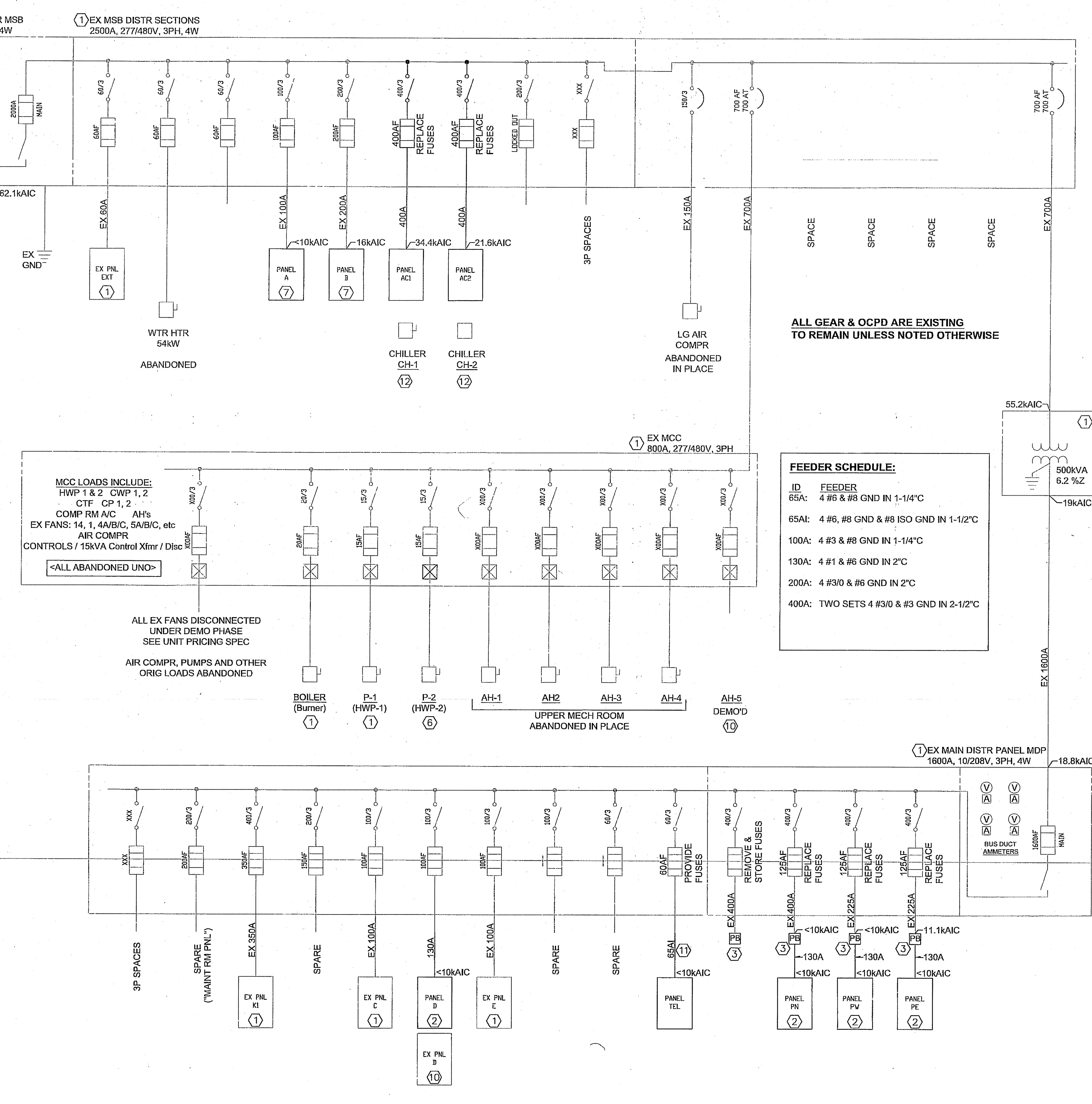
CONNECTED PHASE LOADING: PHASE A: 601.6 PHASE B: 576.4 PHASE C: 440.5 [LARGEST MOTC Kw]

EST. MAX. DEMAND: 1618.5 kVA
MIN. FEEDER AMPACITY: 1946.8 A

NOTES:
SEE ONE-LINE FOR OCPD SIZES
SCHEDULE PROVIDED FOR SERVICE LOAD CALC ONLY.

90/127 vendor ratio





FEEDER SCHEDULE:

ID	FEEDER
65A:	4 #6 & #8 GND IN 1-1/4"C
65AI:	4 #6, #8 GND & #8 ISO GND IN 1-1/2"C
100A:	4 #3 & #8 GND IN 1-1/4"C
130A:	4 #1 & #6 GND IN 2"C
200A:	4 #3/0 & #6 GND IN 2"C
400A:	TWO SETS 4 #3/0 & #3 GND IN 2-1/2"C

ONE-LINE GENERAL NOTES:

1. ALL GEAR IS EXISTING TO REMAIN UNLESS NOTED OTHERWISE. COMMISSION EX GEAR BY TIGHTENING ALL BKR AND BUS BOLTS USING A TORQUE WRENCH. VERIFY GROUND SYSTEM IS PROPERLY INSTALLED.
2. EXHAUST FANS ORIGINALLY FED FROM MCC WILL BE RECONNECTED ON AN AS-NEEDED BASIS, AS DIRECTED BY OWNER AND MECHANICAL ENGINEER. SEE UNI TPRICE SPEC.
3. UPDATE AND/OR REPLACE PHENOLIC PLAQUES WITH CORRECT LOAD INFO FOR EACH OCPD IMPACTED BY THIS WORK AND PREVIOUS DEMO WORK (DENOTING SPARES, NEW LOADS, ETC).
4. STORE ANY EXISTING REMOVED FUSES IN EX SPARE FUSE CABINET IN MAIN ELECTRICAL ROOM.

ONE-LINE KEYED NOTES:

1. EX GEAR / LOAD TO REMAIN.
2. PROVIDE PANEL TO SERVE ADMIN AREA AND EXPO HALL 10/208V LOADS.
3. PROVIDE PULL BOX AT STRUCTURE MOUNTED TO EX CONDUIT STUB-UP. PULL EX FEEDER INTO PB AND PROVIDE AIC RATED SPLICE BLK TO EXTEND FDR TO PERIMETER PANEL INDICATED. SEE PWR PLAN FOR LOCATIONS AT COLUMNS IN EXPO HALL . ONE OF FOUR PULLBOXES WILL TERMINATE THE EXISTING FEEDER ONLY (NO FEEDER EXTENDED FROM PULLBOX). REMOVE THE SAME EXACT LENGTH FROM EACH CONDUCTOR WHEN RETERMINATING THE EX FEEDERS.
4. REINSTALL 1000A BUS DUCT TIGHT TO STRUCTURE. SEE PWR PLAN. VISUALLY INSPECT AND REINSTALL 1000A FEEDERS THAT ARE IN GOOD CONDITION; PROVIDING PULLBOXES/SPLICES AS REQUIRED. BUS DUCT NOT REUSED WILL BE SALVAGE.
5. REINSTALL EXISTING PLUG-IN CIRCUIT BREAKER/DISCONNECTS TO SERVE POWER CORD DROPS FOR POWER CARTS. NOTE A MIX OF 90A AND 100A UNITS WILL SERVE THE "100A" POWER DROPS. PROVIDE A UNIT PRICE TO REPLACE THE MOLDED CASE CIRCUIT BREAKER IN 100A PLUG-IN UNITS TO 60A IF A TOTAL OF SIX (6) 60A UNITS ARE NOT AVAILABLE. INSTALL ALL EX SMALL AMPERAGE PLUG-IN UNITS ON THE SOUTH SIZE OF THE BUS DUCT FOR FUTURE USE.
6. DEMO 5HP PUMP AND CONNECT 3HP PUMP INSTALLED BY MECH. SEE PUMP P-2 (HWP-2) SHOWN ON POWER PLAN.
7. REPLACE PANELS A & B. FOR PANEL B, COORINATE AND MOUNT PANEL BUS INTERIOR WITHIN EXISTING PANEL BACKBOXTO MINIMIZE REWORKING EXISTING CMU WALL. INCLUDE DEMO OF EXISTING PANELS. RECONNECT TO EX FEEDER. INCLUDE PATCHING EXISTING WALL TO MATCH ORIGINAL AS REQUIRED.
8. not used
9. REPLACE EXISTING 1000A TRIP PLUGS WITH 900A (SQ D PART NO. PA3900RC. STORE 1000A TRIPS IN SPARE FUSE CABINET.
10. PANEL/EQUIPMENT REMOVED UNDER DEMO PKG.
11. PROVIDE FEEDER FOR EXISTING PANEL TEL WITH ISO GROUND WIRE.
12. DISCONNECT LOAD TO BE ABANDONED AND REMOVE FEEDER AS REQUIRED. PROVIDE FUSES AND CONNECT TO PANEL AC*.

EXISTING ONE-LINE DIAGRAM

NO SCALE

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532 n. tejon st.
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c o 8 0 9 0 3
p:719.473.7225
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144 Palisade Circle
Manitou Springs, CO 80829
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Fax: 719-685-1236

NORTH NEVADA EXPO

3650 NORTH NEVADA AVE. BUILDING RENOVATION
COLORADO SPRINGS, CO

REVISIONS

ONE-LINE DIAGRAM, SCHEDULES & DETAILS

JOB NO.: 1002210
DATE: 06/03/11
SCALE: AS NOTED
DRAWN: CAD
CHECKED: JBT

E5.00
SHEET

DISTRIBUTION PANEL SCHEDULE

PANEL: TEL LOCATION: MAINCOMM RM VOLTS: 120 / 208 3 PH 4 W
NO. POLES: 18 MAIN LUG ONLY
BUS RATING: 60A 10 KA INTERRUPTING CAP. MOUNTING: SURFACE
FEATURES: ISO GRD BUS

DESCRIPTION	NOTES	VA	TYPE	BRKR	P	CKT	PH	CKT	P	BRKR	TYPE	VA	DESCRIPTION	NOTES
CO DETECTOR PNL		1000	P	20	1	1	A	2	1	20	O	1400	TEL SYSTEM	
DDC CONTROL PNL		1000	P	20	1	3	B	4	1	20	O	1400	DATA RACK	
SPARE				20	1	5	C	6	1	20	O	1400	DATA RACK	
EX TEL RM RECEP		1000	R	20	1	7	A	8	1	20			SPARE	
SPARE				20	1	9	B	10	1	20			SPARE	
SPARE				20	1	11	C	12	1	20			SPARE	
SPARE				20	1	13	A	14						
SPARE				20	1	15	B	16						
SPARE				20	1	17	C	18						

LOAD SUMMARY: LOAD TYPE	CONN.	pf	DEMAND FACTOR	DEMAND
P=PANELS	2.0	0.90	1.00	2.0
L=LIGHTING		0.96	1.00	
R=RECEPTACLES	1.0	0.85	50% OF > 10k	1.0
A= APPLIANCES		0.80	0.50	
M=MOTORS		0.60	1.00	
3M=3PH MOTORS		0.90	1.25	
H=HEATERS		1.00	1.00	
0=SPARE	4.2	0.85	1.00	4.2
TOTAL	7.2 kVA	0.86		7.2 kVA

CONNECTED PHASE LOADING: PHASE A: 3.4; PHASE B: 2.4; PHASE C: 1.4; [LARGEST MOTC Kw]
NOTES:
EST. MAX. DEMAND: 7.2 kVA
MIN. FEEDER AMPACITY: 20.0 A

DISTRIBUTION PANEL SCHEDULE

PANEL: AC1 LOCATION: VOLTS: 277 / 480 3 PH 4 W
NO. POLES: 24 MAIN LUG ONLY
BUS RATING: 400A 35 KA INTERRUPTING CAP. MOUNTING: SURFACE
FEATURES:

DESCRIPTION	NOTES	VA	TYPE	BRKR	P	CKT	PH	CKT	P	BRKR	TYPE	VA	DESCRIPTION	NOTES
RTU-7		27008	3M	150	3	1	A	2	3	150	3M	27008	RTU-8	
"		27008	3M			3	B	4			3M	27008	"	
"		27008	3M			5	C	6			3M	27008	"	
RTU-9		27008	3M	150	3	7	A	8	3				SPACE	
"		27008	3M			9	B	10					"	
"		27008	3M			11	C	12					"	
SPACE					3	13	A	14	3				SPACE	
"						15	B	16					"	
"						17	C	18					"	
SPACE					3	19	A	20	3				SPACE	
"						21	B	22					"	
"						23	C	24					"	

LOAD SUMMARY: LOAD TYPE	CONN.	pf	DEMAND FACTOR	DEMAND
P=PANELS		0.90	1.00	
L=LIGHTING		0.96	1.00	
R=RECEPTACLES		0.85	50% OF > 10k	
A= APPLIANCES		0.80	0.50	
M=MOTORS		0.60	1.00	
3M=3PH MOTORS	243.1	0.90	1.00	243.1
H=HEATERS		1.00	1.00	
0=SPARE		0.85	0.50	
TOTAL	243.1 kVA	0.90		243.1 kVA

CONNECTED PHASE LOADING: PHASE A: 81.0; PHASE B: 81.0; PHASE C: 81.0; [LARGEST MOTC 81.0 Kw]
NOTES:
EST. MAX. DEMAND: 243.1 kVA
MIN. FEEDER AMPACITY: 316.7 A

DISTRIBUTION PANEL SCHEDULE

PANEL: PW LOCATION: PERIM WEST VOLTS: 120 / 208 3 PH 4 W
NO. POLES: 42 MAIN LUG ONLY
BUS RATING: 125A 10 KA INTERRUPTING CAP. MOUNTING: SURFACE
FEATURES:

DESCRIPTION	NOTES	VA	TYPE	BRKR	P	CKT	PH	CKT	P	BRKR	TYPE	VA	DESCRIPTION	NOTES
VENDOR RECEP		1400	R	20	1	1	A	2	1	20	R	1400	VENDOR RECEP	
VENDOR RECEP		1400	R	20	1	3	B	4	1	20	R	1400	VENDOR RECEP	
VENDOR RECEP		1400	R	20	1	5	C	6	1	20	R	1400	VENDOR RECEP	
VENDOR RECEP		1400	R	20	1	7	A	8	1	20	R	1400	VENDOR RECEP	
VENDOR RECEP		1400	R	20	1	9	B	10	1	20	R	1400	VENDOR RECEP	
VENDOR RECEP		1400	R	20	1	11	C	12	1	20	R	1400	VENDOR RECEP	
VENDOR RECEP		1400	R	20	1	13	A	14	1	20	R	1400	VENDOR RECEP	
VENDOR RECEP		1400	R	20	1	15	B	16	1	20	R	1400	VENDOR RECEP	
VENDOR RECEP		1400	R	20	1	17	C	18	1	20			SPARE	
VENDOR CORD OUTLET (STAGE PWR)		1000	R	20	3	19	A	20	1	20			SPARE	
"		1000	R			21	B	22	1	20			SPARE	
"		1000	R			23	C	24	1	20			SPARE	
SPACE					3	25	A	26	1	20			SPARE	
						27	B	28	1	20			SPARE	
						29	C	30	1	20			SPARE	
SPACE					3	31	A	32	2	50	A	3600	FUTURE VENDOR LOAD / HOT TUB	
						33	B	34			A	3600	"	
						35	C	36	2	50	A	3600	FUTURE VENDOR LOAD / HOT TUB	
SPACE					3	37	A	38			A	3600	"	
						39	B	40						
						41	C	42						

LOAD SUMMARY: LOAD TYPE	CONN.	pf	DEMAND FACTOR	DEMAND
P=PANELS		0.90	1.00	
L=LIGHTING		0.96	1.00	
R=RECEPTACLES	26.6	0.85	50% OF > 10k	18.4
A= APPLIANCES	14.4	0.80	0.60	8.6
M=MOTORS		0.60	1.00	
3M=3PH MOTORS		0.90	1.25	
H=HEATERS		1.00	1.00	
0=SPARE		0.85	0.50	
TOTAL	41.2 kVA	0.83		29.0 kVA

CONNECTED PHASE LOADING: PHASE A: 16.6; PHASE B: 13.0; PHASE C: 11.6; [LARGEST MOTC Kw]
NOTES:
EST. MAX. DEMAND: 29.0 kVA
MIN. FEEDER AMPACITY: 86.5 A

DISTRIBUTION PANEL SCHEDULE

PANEL: A LOCATION: EAST JANITOR VOLTS: 277 / 480 3 PH 4 W
NO. POLES: MAIN LUG ONLY
BUS RATING: 100A 10 KA INTERRUPTING CAP. MOUNTING: RECESSED
FEATURES: SPLITBUS / MECH-HELD LTG CONTACTOR

DESCRIPTION	NOTES	VA	TYPE	BRKR	P	CKT	PH	CKT	P	BRKR	TYPE	VA	DESCRIPTION	NOTES
RTU-1		2701	3M	15	3	1	A	2	3	25	3M	4501	RTU-2	
"		2701	3M			3	B	4			3M	4501	"	
"		2701	3M			5	C	6			3M	4501	"	
SPARE				20	1	7	A	8	3				SPACE	
SPARE				20	1	9	B	10					"	
SPARE				20	1	11	C	12					"	
SPACE					3	13	A	14	3				SPACE	
"						15	B	16					"	
"						17	C	18					"	
MECH-HELD LIGHTING CONTACTOR													SPLITBUS	
LTG - ZONE 1		2875	L	20	1	19	A	20	1	20	L	2543	LTG - ADMIN & LOBBY	
LTG - ZONE 2		3430	L	20	1	21	B	22	1	20				
LTG - ZONE 3A		2724	L	20	1	23	C	24	1	20				
LTG - ZONE 3A		1816	L	20	1	25	A	26	1	20				
				20	1	27	B	28	1	20				
				20	1	29	C	30	1	20				

LOAD SUMMARY: LOAD TYPE	CONN.	pf	DEMAND FACTOR	DEMAND
P=PANELS		0.90	1.00	
L=LIGHTING	13.4	0.96	1.00	13.4
R=RECEPTACLES		0.85	50% OF > 10k	
A= APPLIANCES		0.80	0.50	
M=MOTORS		0.60	1.00	
3M=3PH MOTORS	21.6	0.90	1.25	27.0
H=HEATERS		1.00	1.00	
0=SPARE		0.85	0.50	
TOTAL	34.9 kVA	0.93		40.3 kVA

CONNECTED PHASE LOADING: PHASE A: 14.4; PHASE B: 10.6; PHASE C: 9.9; [LARGEST MOTC 13.5 Kw]
NOTES: [xx] DENOTES ORIGINAL LOAD
1. CIRCUIT SERVING LTG LOAD TO REMAIN. FIELD VERIFY.
2. LOAD CONNECTED TO EX SPARE BREAKER.
ADD ALTERNATE: REPLACE PANEL WITH EQUAL.
EST. MAX. DEMAND: 40.3 kVA
MIN. FEEDER AMPACITY: 56.5 A

DISTRIBUTION PANEL SCHEDULE

PANEL: EXT (EXIST) LOCATION: VOLTS: 277 / 480 3 PH 4 W
NO. POLES: 16 MAIN LUG ONLY
BUS RATING: 100A xx KA INTERRUPTING CAP. MOUNTING: SURFACE
FEATURES: EX SQUARE D

DESCRIPTION	NOTES	VA	TYPE	BRKR	P	CKT	PH	CKT	P	BRKR	TYPE	VA	DESCRIPTION	NOTES
EXTER WALL PACKS	1	4000	L	20	1	1	A	2	1	20	L	900	LIGHT POLES - SOUTH LOT	1,4
LTG - SECURITY SOUTH	2,3	300	L	20	1	3	B	4	1	20	L	1200	LIGHT POLES - WEST LOT	1,4
LTG-SECURITY: WEST	2,3	610	L	20	1	5	C	6	1	20	L	600	LIGHT POLES - EAST LOT	1,4
LTG-SECURITY EAST & NORTI	2,3	1080	L	20	1	7	A	8	1	20				
ENTRY, FLOOD LT & S5 POLES	2,4	1155	L	20	1	9	B	10						
PYLON SIGN	2,4	1800	L	20	1	11	C	12						
(verify final approved pylon sign load)						13	A	14						
						15	B	16						
						17	C	18						

LOAD SUMMARY: LOAD TYPE	CONN.	pf	DEMAND FACTOR	DEMAND
P=PANELS		0.90	1.00	
L=LIGHTING	11.6	0.96	1.00	11.6
R=RECEPTACLES		0.85	50% OF > 10k	
A= APPLIANCES		0.80	0.50	
M=MOTORS		0.60	1.00	
3M=3PH MOTORS		0.90	1.25	
H=HEATERS		1.00	1.00	
0=SPARE		0.85	0.50	
TOTAL	11.6 kVA	0.96		11.6 kVA

CONNECTED PHASE LOADING: PHASE A: 6.0; PHASE B: 2.7; PHASE C: 3.0; [LARGEST MOTC Kw]
NOTES:
1. EXISTING LOAD TO REMAIN. REVISED PER DWG NOTES.
2. CONNECT LIGHTS TO EX SPARE BREAKER.
3. CIRCUIT VIA EX LTG CONTACTOR ON/OFF VIA PHOTOCELL FOR SECURITY.
4. CKT VIA ADDED CONTACTOR FOR PC ON/TIME CLOCK OFF, SET PER OWNER.
EST. MAX. DEMAND: 11.6 kVA
MIN. FEEDER AMPACITY: 17.5 A

DISTRIBUTION PANEL SCHEDULE

PANEL: AC2 LOCATION: JAN CLOSET VOLTS: 277 / 480 3 PH 4 W
NO. POLES: 24 MAIN LUG ONLY
BUS RATING: 400A 22 KA INTERRUPTING CAP. MOUNTING: SURFACE
FEATURES:

DESCRIPTION	NOTES	VA	TYPE	BRKR	P	CKT	PH	CKT	P	BRKR	TYPE	VA	DESCRIPTION	NOTES
RTU-3		16205	3M	90	3	1	A	2	3	150	3M	27008	RTU-4	
"		16205	3M			3	B	4			3M	27008	"	
"		16205	3M			5	C	6			3M	27008	"	
RTU-5		27008	3M	150	3	7	A	8	3				SPACE	
"		27008	3M			9	B	10						
"		27008	3M			11	C	12						
RTU-6		27008	3M	150	3	13	A	14	3				SPACE	
"		27008	3M			15	B	16						
"		27008	3M			17	C	18						
						19	A	20						
						21	B	22						
						23	C	24						

LOAD SUMMARY: LOAD TYPE	CONN.	pf	DEMAND FACTOR	DEMAND
P=PANELS		0.90	1.00	
L=LIGHTING		0.96	1.00	
R=RECEPTACLES		0.85	50% OF > 10k	
A= APPLIANCES		0.80	0.50	
M=MOTORS		0.60	1.00	
3M=3PH MOTORS	291.7	0.90	1.00	291.7
H=HEATERS		1.00	1.00	
0=SPARE		0.85	0.50	
TOTAL	291.7 kVA	0.90		291.7 kVA

CONNECTED PHASE LOADING: PHASE A: 97.2; PHASE B: 97.2; PHASE C: 97.2; [LARGEST MOTC 81.0 Kw]
NOTES:
EST. MAX. DEMAND: 291.7 kVA
MIN. FEEDER AMPACITY: 375.2 A

DISTRIBUTION PANEL SCHEDULE

PANEL: PN LOCATION: PERIM WEST VOLTS: 120 / 208 3 PH 4 W
NO. POLES: 42 MAIN LUG ONLY
BUS RATING: 125A 10 KA INTERRUPTING CAP. MOUNTING: SURFACE
FEATURES:

DESCRIPTION	NOTES	VA	TYPE	BRKR	P	CKT	PH	CKT	P	BRKR	TYPE	VA	DESCRIPTION	NOTES
VENDOR RECEP		1400	R	20	1	1	A	2	1	20	R	1400	VENDOR RECEP	
VENDOR RECEP		1400	R	20	1	3	B	4	1	20	R	1400	VENDOR RECEP	
VENDOR RECEP		1400	R	20	1	5	C	6	1	20	R	1400	VENDOR RECEP	
VENDOR RECEP		1400	R	20	1	7	A	8	1	20	R	1400	VENDOR RECEP	
VENDOR RECEP		1400	R	20	1	9	B	10	1	20	R	1400	VENDOR RECEP	
VENDOR RECEP		1400	R	20	1	11	C	12	1	20	R	1400	VENDOR RECEP	
VENDOR RECEP		1400	R	20	1	13	A	14	1	20	R	1400	VENDOR RECEP	
VENDOR RECEP		1400	R	20	1	15	B	16	1	20	R	1400	VENDOR RECEP	
VENDOR RECEP		1400	R	20	1	17	C	18	1	20	R	1400	VENDOR RECEP	
VENDOR RECEP		1400	R	20	1	19	A	20	1	20			SPARE	
SPARE				20	1	21	B	22	1	20	R	600	HOUSEKEEPING RECEP	
SPARE				20	1	23	C	24	1	20			SPARE	
SPACE					3	25	A	26	1	20			SPARE	
						27	B	28	1	20			SPARE	
						29	C	30	1	20			SPARE	
SPACE					3	31	A	32	2	50	A	3600	FUTURE VENDOR LOAD / HOT TUB	
						33	B	34			A	3600	"	
						35	C	36	2	50	A	3600	FUTURE VENDOR LOAD / HOT TUB	
SPACE					3	37	A	38			A	3600	"	
						39	B	40						
						41	C	42						

LOAD SUMMARY: LOAD TYPE	CONN.	pf	DEMAND FACTOR	DEMAND
P=PANELS		0.90	1.00	
L=LIGHTING		0.96	1.00	
R=RECEPTACLES	27.2	0.85	50% OF > 10k	18.6
A= APPLIANCES	14.4	0.80	0.50	7.2
M=MOTORS		0.60	1.00	
3M=3PH MOTORS		0.90	1.25	
H=HEATERS		1.00	1.00	
0=SPARE		0.85	0.50	
TOTAL	41.6 kVA	0.83		27.7 kVA

CONNECTED PHASE LOADING: PHASE A: 17.0; PHASE B: 12.6; PHASE C: 12.0; [LARGEST MOTC Kw]
NOTES:
EST. MAX. DEMAND: 27.7 kVA
MIN. FEEDER AMPACITY: 82.0 A

DISTRIBUTION PANEL SCHEDULE

PANEL: B LOCATION: MAIN HALLWAY VOLTS: 277 / 480 3 PH 4 W
NO. POLES: MAIN LUG ONLY
BUS RATING: 225A 16 KA INTERRUPTING CAP. MOUNTING: RECESSED
FEATURES: SPLIT BUS / MECH-HELD LTG CONTACTOR

DESCRIPTION	NOTES	VA	TYPE	BRKR	P	CKT	PH	CKT	P	BRKR	TYPE	VA	DESCRIPTION	NOTES
SPACE					3	1	A	2	3				SPACE	
"						3	B	4					"	
"						5	C	6						
SPARE				20	1	7	A	8	1	20			SPARE	
SPARE				20	1	9	B	10	1	20			SPARE	
SPARE				20	1	11	C	12	1	20			SPARE	
MECH-HELD LIGHTING CONTACTOR													SPLIT BUS	
LTG - ZONE 4A		2835	L	20	1	13	A	14	1	20	L	4000	LTG - EX KITCHEN AREA	
LTG - ZONE 4B		1890	L	20	1	15	B	16	1	20	L	3000	LTG - RESTROOM, STORAGE	
LTG - ZONE 5A		2724	L	20	1	17	C	18	1	20	L	3000	LTG - MECH / ELEC ROOMS	
LTG - ZONE 5B		3430	L	20	1	19	A	20	1	20	L	1330	LTG - MAIN E-W HALL LTG, WEST LOBBY	
LTG - ZONE 6A		2875	L	20	1	21	B	22	1	20				
LTG - ZONE 6B		3430	L	20	1	23	C	24	1	20				
LTG - ZONE 7A		2835	L	20	1	25	A	26	1	20				
LTG - ZONE 7B		1890	L	20	1	27	B	28	1	20				
				20	1	29	C	30	1	20				

LOAD SUMMARY: LOAD TYPE	CONN.	pf	DEMAND FACTOR	DEMAND
P=PANELS		0.90	1.00	
L=LIGHTING	33.2	0.96	1.00	33.2
R=RECEPTACLES		0.85	50% OF > 10k	
A= APPLIANCES		0.80	0.50	
M=MOTORS		0.60	1.00	
3M=3PH MOTORS		0.90	1.25	
H=HEATERS		1.00	1.00	
0=SPARE		0.85	0.50	
TOTAL	33.2 kVA	0.96		33.2 kVA

CONNECTED PHASE LOADING: PHASE A: 14.4; PHASE B: 9.7; PHASE C: 9.2; [LARGEST MOTC Kw]
NOTES:
EST. MAX. DEMAND: 33.2 kVA
MIN. FEEDER AMPACITY: 50.0 A

DISTRIBUTION PANEL SCHEDULE

PANEL: PE LOCATION: PERIM WEST VOLTS: 120 / 208 3 PH 4 W
NO. POLES: 42 MAIN LUG ONLY
BUS RATING: 125A 10 KA INTERRUPTING CAP. MOUNTING: SURFACE
FEATURES:

DESCRIPTION	NOTES	VA	TYPE	BRKR	P	CKT	PH	CKT	P	BRKR	TYPE	VA	DESCRIPTION	NOTES
VENDOR RECEP		1400	R	20	1	1	A	2	1	20	R	1400	VENDOR RECEP	
VENDOR RECEP		1400	R	20	1	3	B	4	1	20	R	1400	VENDOR RECEP	
VENDOR RECEP		1400	R	20	1	5	C	6	1	20	R	1400	VENDOR RECEP	
VENDOR RECEP		1400	R	20	1	7	A	8	1	20	R	1400	VENDOR RECEP	
VENDOR RECEP		1400	R	20	1	9	B	10	1	20			SPARE	
VENDOR RECEP		1400	R	20	1	11	C	12	1	20			SPARE	
VENDOR RECEP		1400	R	20	1	13	A	14	1	20	R	600	HOUSEKEEPING RECEP	
VENDOR RECEP		1400	R	20	1	15	B	16	1	20	H	1200	SOFFIET HEAT TRACE	
VENDOR RECEP		1400	R	20	1	17	C	18	1	20	M	1400	OH DOOR	
SPARE				20	1	19	A	20	1	15	M	1400	UH-03	
SPARE				20	1	21	B	22	1	15	M	1400	UH-04	
SPARE				20	1	23	C	24	1	20	R	500	EXTER RECEP	
SPACE					3	25	A	26	1	20			SPARE	
						27	B	28	1	20			SPARE	
						29	C	30	1	20			SPARE	
SPACE					3	31	A	32	2	50	A	3600	FUTURE VENDOR LOAD / HOT TUB	
						33	B	34			A	3600	"	
						35	C	36	2	50	A	3600	FUTURE VENDOR LOAD / HOT TUB	
SPACE					3	37	A	38			A	3600	"	
						39	B	40						
						41	C	42						

LOAD SUMMARY: LOAD TYPE	CONN.	pf	DEMAND FACTOR	DEMAND
P=PANELS		0.90	1.00	
L=LIGHTING		0.96	1.00	
R=RECEPTACLES	19.3	0.85	50% OF > 10k	14.7
A= APPLIANCES	14.4	0.80	0.50	7.2
M=MOTORS	4.2	0.60	1.00	4.2
3M=3PH MOTORS		0.90	1.25	
H=HEATERS	1.2	1.00	1.00	1.2
0=SPARE		0.85	0.50	
TOTAL	38.6 kVA	0.82		28.8 kVA

CONNECTED PHASE LOADING: PHASE A: 16.2; PHASE B: 11.8; PHASE C: 11.1; [LARGEST MOTC 1.4 Kw]
NOTES:
EST. MAX. DEMAND: 28.8 kVA
MIN. FEEDER AMPACITY: 86.6 A

DISTRIBUTION PANEL SCHEDULE

PANEL: C (EXIST) LOCATION: VOLTS: 120 / 208 3 PH 4 W
NO. POLES: 42 MAIN LUG ONLY
BUS RATING: 100A xx KA INTERRUPTING CAP. MOUNTING: RECESSED
FEATURES: EXISTING SQUARE D

DESCRIPTION	NOTES	VA	TYPE	BRKR	P	CKT	PH	CKT	P	BRKR	TYPE	VA	DESCRIPTION	NOTES
COLUMN RECEP - CENTER	1	800	R	20	1	1	A	2	1	20	A	1400	VENDOR RECEP	2
COLUMN RECEP - SOUTH		600	R	20	1	3	B	4	1	20	A	1400	VENDOR RECEP	2
COLUMN RECEP - NORTH		1000	R	20	1	5	C	6	1	20	A	1400	VENDOR RECEP	2
COLUMN RECEP - EAST		800	R	20	1	7	A	8	1	20	A	1400	VENDOR RECEP	2
				20	1	9	B	10	1	20	A	1400	VENDOR RECEP	2
				20	1	11	C	12	1	20	A	1400	VENDOR RECEP	2
				20	1	13	A	14	1	20	A	1400	VENDOR RECEP	2
RECEP - RECEIVING		1200	R	20	1	15	B	16	1	20	A	1400	VENDOR RECEP	2
RECEP - RESTRM		1200	R	20	1	17	C	18	1	20	R	800	WEST TICKET BOOTH	2
EWC	2	868	M	20	1	19	A	20	1	20	M	850	ADA DOOR & CUH-1	2
OH DOOR - RECEIVING (EX)	1	1440	M	20	1	21	B	22	1	20	R	800	EX RECEPTACLES	1
EX FAN - MAIN COMM	2	868	M	20	1	23	C	24	1	20	R	800	EX RECEPTACLES	1
ROOF RECEP - RECEIVING	2	200	R	20	1	25	A	26	1	20	R	800	EX RECEPTACLES	1
EF-4A (RESTROOM EX FAN)	2	1440	M	20	1	27	B	28	3				SPARE [Demo'd Load]	
						29	C	30					"	
						31	A	32					"	
						33	B	34	1	20	M	528	UNIT HTRS - RECEIVING [Demo'd]	
[Demo'd Load]				20	1	35	C	36	1	20	M	528	RCP-1 [Demo'd Load]	
[Demo'd Load]				20	2	37	A	38	3	20	H	1667	DHW-2	3
[Demo'd Load]						39	B	40			H	1667	"	
[Demo'd Load]				20	1	41	C	42			H	1667	"	

LOAD SUMMARY: LOAD TYPE	CONN.	pf	DEMAND FACTOR	DEMAND
P=PANELS		0.90	1.00	
L=LIGHTING		0.96	1.00	
R=RECEPTACLES	9.0	0.85	50% OF > 10k	9.0
A= APPLIANCES	11.2	0.80	0.70	7.8
M=MOTORS	6.6	0.60	1.00	6.6
3M=3PH MOTORS		0.90	1.00	
H=HEATERS	5.0	1.00	1.00	5.0
0=SPARE		0.85	0.50	
TOTAL	30.5 kVA	0.84		27.2 kVA

CONNECTED PHASE LOADING: PHASE A: 10.2; PHASE B: 11.9; PHASE C: 9.7; [LARGEST MOTC 1.4 Kw]
NOTES:
RECONFIGURE ANY EX LOADS TO REMAIN AS REQUIRED AND UPDATE SCHED.
1. EX LOAD TO REMAIN. EXTEND ANY DEMO'D HOMERUN AS REQUIRED.
2. CONNECT LOAD TO EX BREAKER.
3. ADD BREAKER IN EX SPACE.
EST. MAX. DEMAND: 27.2 kVA
MIN. FEEDER AMPACITY: 84.3 A

LIGHT FIXTURE SCHEDULE

TYPE	MFGR	CATALOG NO.	LAMPS QUAN	LAMPS WATT	LAMPS TYPE	VOLT	MTG	DESCRIPTION	NOTES	TOTAL WATTS
A	NuLite	ETH-532T8-277-HEIS-H	5	32	T8 XPS	277	PENDANT	SEE NOTE	1	185
AE	NuLite	ETH-532T8-277-HEIS-H-EM*	5	32	T8 XPS	277	PENDANT	TYPE A WITH *1400LM BATTER	1	185
B	Columbia	STS24-232G-MPO-EPU	2	32	T8	277	GRID	2x4 DIRECT/INDIRECT FLUOR		62
BE	Columbia	STS24-232G-MPO-EPU-BATT	2	32	T8	277	GRID	TYPE B w/ BATTERY		62
C	Columbia	JT824-232-GFS-A12-EP-U	2	32	T8	277	GRID	2x4 TROFFER		62
D	Columbia	JT824-332-GFS-A12-1/2EP-U	3	32	T8	277	GRID	2x4 TROFFER - 2 BALLASTS		91
E	Columbia	ST814-232-FSA12-EU	2	32	T8	277	FLANGE	1x4 TROFFER		62
E1	Columbia	ST814-232-FSA12-EU-BATT	2	32	T8	277	GRID	1x4 TROFFER w/ BATTERY		62
F	Columbia	CS4-232-EP-U	2	32	T8	277	WALL	VALANCE 4FT STRIP FIXTURE	2	62
FE	Columbia	CS4-232-EP-U	2	32	T8	277	WALL	TYPE F WITH BATTERY	2	62
F1	Columbia	CS3-225-EP-U	2	25	T8	277	WALL	VALANCE 3 FT STRIP FIXTURE	2	62
G	Columbia	CS4-232-EP-U-WG	2	32	T8	277	PENDANT	UTILITY RM LIGHTS w/ WG		
H	Pinnacle	EX44-P-N-2T8-4-WA-277-1C-M	2	32	T8	277	WALL	WALL MTD 4 FT MIRROR LT	3	62
J	Prescolite	LF6CV-32EB-6CFV-WW	1	32	CF-TRT	277	RECESSED	DOWN LT WALL WASH		
K	Prescolite	LF6CV-32EB-6CFV	1	32	CF-TRT	277	RECESSED	DOWN LIGHT		
KE	Prescolite	LF6CV-32EB-EM-6CFV	1	32	CF-TRT	277	RECESSED	TYPE K WITH BATTERY		
S1	(NA)	INDUCTION RETROFIT BY OWNER	1	150	-	277		EXISTING POLE MTD AREA LT	4	
S2	GARDCO	141-WT-250PSMH-277-BRP	1	250	MH PS	277	WALL	WALL PACK, TYPE II	5	
S3	PRESCOLITE	LF8MH100B-277-8MHV	1	100	MH PS	277	RECESSED	REPLACEMENT DOWN LIGHTS	6	
S4	KIM	AFL23-350PMH-*	1	350	MH PS	277	CONC BASE	FLOOD LIGHT	8	
S5	KIM	FM-BNS1H3-150PMH277-CP	1	150	MH PS	277	POLE	PEDESTRIAN AREA LT, 14ft PO	9,10	
S6	PRESCOLITE	RHD639T6EB-277-FL-ST614/6-MFC-*	1	39	MH T6	277	RECESSED	ENTRY SOFFIET DOWN LIGHTS	11,10	
U	Dual-Lite	LZ15	2	5W	MR16	120/277	WALL	UNIT EM LIGHT		10
U2	Dual-Lite	CV Series	2	25W	PAR	120/277	WALL	UNIT EM LIGHT, 14FT AFF	12	50
X	Dual-Lite	LXUGWE	-	-	LED	120/277	UNIVERSAL	LED EXIT LIGHT (Green/White)		3

GENERAL NOTES:
1. PRODUCTS OR SUBSTITUTIONS AS MFGR'D BY DAY-BRITE ARE NOT ACCEPTABLE.
2. SUBSTITUTION OF FIXTURES IS ACCEPTABLE UNO; AND SHALL MEET ALL THE RATINGS/FEATURES/AETHETICS OF THE SCHEDULED FIXTURE.
3. FLUORESCENTS SHALL HAVE PROGRAM START ELECTRONIC BALLASTS UNO.
4. FLUORESCENT LAMPS SHALL BE LOW-MERCURY, 3500K, 86 CRI OR BETTER.
5. COMPACT FLUORESCENT LAMPS SHALL BE 3500K, 82 CRI OR BETTER AND SHALL INCLUDE AN END-OF-LIFE CIRCUIT OPTION.
6. EM BALLASTS SHALL PROVIDE 1100 LUMENS MINIMUM; 1400LM FOR TYPE AE. UNITS MAY BE SURFACE MOUNTED ON TOP OF FIXTURES AS RE

NOTES:
1. MOUNT FLUSH WITH BOTTOM OF TEE's. SEE DWG DETAIL.
PROVIDE HIGH BALLAST FACTOR RATED AT AND NOT TO EXCEED 1.2. TWO-LAMP BALLAST/LAMP PACKAGE SHALL PROVIDE >7200 LUMENS.
PROVIDE CORD CONNECTION CHAIN SUPPORTS WITH MOUNTING PER PLAN NOTES.
2. MOUNT STRIP ON BACK OF VALANCE PER ARCH NOTES/DETAIL TO MATCH ORIGINAL.
3. LINEAR FLUOR, PARA OR BAFFLE LOUVER BOTTOM, WALL MOUNTED TIGHT TO GYP CEILING.
4. REPLACE HANDHOLE COVERS WHERE MISSING ON EX POLES. PROVIDE TAMPER PROOF SCREWS ON ALL COVERS.
5. MOUNT TO EXISTING BACKBOX OR AT HEIGHT TO MATCH EXISTING.
6. NOTIFY A/E IF EXISTING FIXTURES CAN BE REPAIRED PRIOR TO REMOVAL. IF COST EFFECTIVE, TYPE S3 FIXTURES WILL NOT BE INSTALLED.
7. CONTRACTOR OPTION TO REPLACE LIGHTS AND PATCH EXISTING ~12" OPENING IN SOFFIET.
8. INCLUDE CONCRETE BASE, GROUND ROD, BD2 BARN DOORS, SM2 STANCION MOUNT AND TWO COLOR FILTERS SELECTED BY USER.
9. CUSTOM BASE PLATE TO MATCH ANCHOR BOLT PATTERN IN EX CONCR BASE. INCLUDE BASE COVER. VERIFY / REBOND GND ROD LEAD.
10. FINISH COLOR TO BE COORDINATED WITH FINAL EXTERIOR COLOR SCHEME SELECTED BY OWNER/ARCH.
11. REFLECTOR FINISH TO BE COORDINATED WITH FINAL EXTERIOR FINISH SCHEME SELECTED BY OWNER/ARCH.
12. CONTRACTOR OPTION TO PROVIDE LARGER CAPACITY BATTERY UNITS AND SERVING DUAL REMOTE HEADS IN LOCATIONS SHOWN.

PANEL SCHEDULE

PANEL: PwrCart (ex) LOCATION: EX POWER CART VOLTS: 120 / 208 3 PH 4 W
NO. POLES: 42 MAIN LUG ONLY
BUS RATING: 200A xx KA INTERRUPTING CAP. MOUNTING: METAL FRAME ON CART
FEATURES: NIC - FOR LOAD ESTIMATE ONLY

DESCRIPTION	NOTES	VA	TYPE	BRKR	P	CKT	PH	CKT	P	BRKR	TYPE	VA	DESCRIPTION	NOTES
LOCAL VENDOR BOOTH		1800	R	20	1	1	A	2	1	20	R	1800	LOCAL VENDOR BOOTH	
LOCAL VENDOR BOOTH		1800	R	20	1	3	B	4	1	20	R	1800	LOCAL VENDOR BOOTH	
SPARE				20	1	5	C	6	1	20	R	1800	SPARE	
VENDOR BOOTH		1800	R	20	3	7	A	8	3	20	R	1800	VENDOR BOOTH	
VENDOR BOOTH		1800	R			9	B	10			R	1800	VENDOR BOOTH	
VENDOR BOOTH		1800	R			11	C	12			R	1800	VENDOR BOOTH	
VENDOR BOOTH		1800	R	20	3	13	A	14	3	20	R	1800	VENDOR BOOTH	
VENDOR BOOTH		1800	R			15	B	16			R	1800	VENDOR BOOTH	
VENDOR BOOTH		1800	R			17	C	18			R	1800	VENDOR BOOTH	
VENDOR BOOTH		1800	R	20	1	19	A	20	1	20	R	1800	VENDOR BOOTH	
VENDOR BOOTH		1800	R	20	1	21	B	22	1	20	R	1800	VENDOR BOOTH	
VENDOR BOOTH		1800	R	20	1	23	C	24	1	20	R	1800	VENDOR BOOTH	
SPECIAL VENDOR RECEP		4200	A	50	2	25	A	26	2	50	A	4200	SPECIAL VENDOR RECEP	
"		4200	A			27	B	28			A	4200	"	
						29	C	30						
						31	A	32						
						33	B	34						
						35	C	36						
						37	A	38						
						39	B	40						
						41	C	42						

LOAD SUMMARY: LOAD TYPE	CONN.	pf	DEMAND FACTOR	DEMAND
P=PANELS		0.90	1.00	
L=LIGHTING		0.96	1.00	
R=RECEPTACLES	41.4	0.85	50% OF > 10k	25.7
A= APPLIANCES	16.8	0.80	0.50	8.4
M=MOTORS		0.60	1.00	
3M=3PH MOTORS		0.90	1.25	
H=HEATERS		1.00	1.00	
0=SPARE		0.85	0.50	
TOTAL	58.2 kVA	0.84		36.0 kVA

CONNECTED PHASE LOADING: PHASE A: 22.8; PHASE B: 22.8; PHASE C: 12.6; [LARGEST MOTC Kw]
NOTES: TYPICAL POWER CART PANELBOARD.
EST. MAX. DEMAND: 36.0 kVA
MIN. FEEDER AMPACITY: 105.8 A

DISTRIBUTION PANEL SCHEDULE

PANEL: D LOCATION: ADMIN CLOSET VOLTS: 120 / 208 3 PH 4 W
NO. POLES: 42 MAIN LUG ONLY
BUS RATING: 100A 10 KA INTERRUPTING CAP. MOUNTING: SURFACE
FEATURES:

DESCRIPTION	NOTES	VA	TYPE	BRKR	P	CKT	PH	CKT	P	BRKR	TYPE	VA	DESCRIPTION	NOTES
SWING SPACE QUAD		800	R	20	1	1	A	2	1	20	P	1000	FIRE ALARM	
SWING SPACE QUAD		800	R	20	1	3	B	4	1	20	P	1000	INTERCOM	
SWING SPACE QUAD		800	R	20	1	5	C	6	1	20	R	800	MGR OFFICE	
SWING SPACE QUAD		800	R	20	1	7	A	8	1	20	M	1000	LOBBY ATM	
SWING SPACE QUAD		800	R	20	1	9	B	10	1	20	M	1000	LOBBY VEND	
SWING SPACE QUAD		800	R	20	1	11	C	12	1	20	M	1000	LOBBY VEND	
SWING SPACE QUAD		800	R	20	1	13	A	14	1	20	R	800	RECEP - OFFICE	
SWING SPACE QUAD		800	R	20	1	15	B	16	1	20	R	800	RECEP - OFFICE	
SWING SPACE RECEP		800	L	20	1	17	C	18	1	20	R	800	RECEP - TICKET BOOTHS	
SPARE				20	1	19	A	20	1	20	R	1400	RECEP - WORKRM	
VENDOR POWER		800	R	20	1	21	B	22	1	20	R	1000	COPIER	
VENDOR POWER		800	R	20	1	23	C	24	1	20	R	1200	DEDICATED EXTERIOR EQUIP RECEP	
VENDOR POWER		800	R	20	1	25	A	26	1	20	M	750	EWCs	
VENDOR POWER		800	R	20	1	27	B	28	1	20			SPARE	
EWCs		750	R	20	1	29	C	30	1	20			SPARE	
LOBBY RECEP		1200	R	20	1	31	A	32	1	20			SPARE	
ADA DOOR		900	M	20	1	33	B	34	1	20			SPARE	
CUHs		900	H	20	1	35	C	36	1	20			SPARE	
EF-06	1	1200	M	15	1	37	A	38	1	20			SPARE	
DWH-1	1	1500	H	20	2	39	B	40	1	20			SPARE	
"		1500	H			41	C	42	1	20			SPARE	

LOAD SUMMARY: LOAD TYPE	CONN.	pf	DEMAND FACTOR	DEMAND
P=PANELS	2.0	0.90	1.00	2.0
L=LIGHTING	0.8	0.96	1.00	0.8
R=RECEPTACLES	18.4	0.85	50% OF > 10k	14.2
A= APPLIANCES		0.80	0.50	
M=MOTORS	5.9	0.60	1.00	5.9
3M=3PH MOTORS		0.90	1.25	
H=HEATERS	3.9	1.00	1.00	3.9
0=SPARE		0.85	0.50	
TOTAL	29.9 kVA	0.86		27.6 kVA

CONNECTED PHASE LOADING: PHASE A: 10.6; PHASE B: 10.2; PHASE C: 10.2; [LARGEST MOTC 1.2 Kw]
NOTES:
1. VERIFY BREAKER WITH FINAL APPROVED MECH EQUIPMENT.
EST. MAX. DEMAND: 27.6 kVA
MIN. FEEDER AMPACITY: 80.2 A

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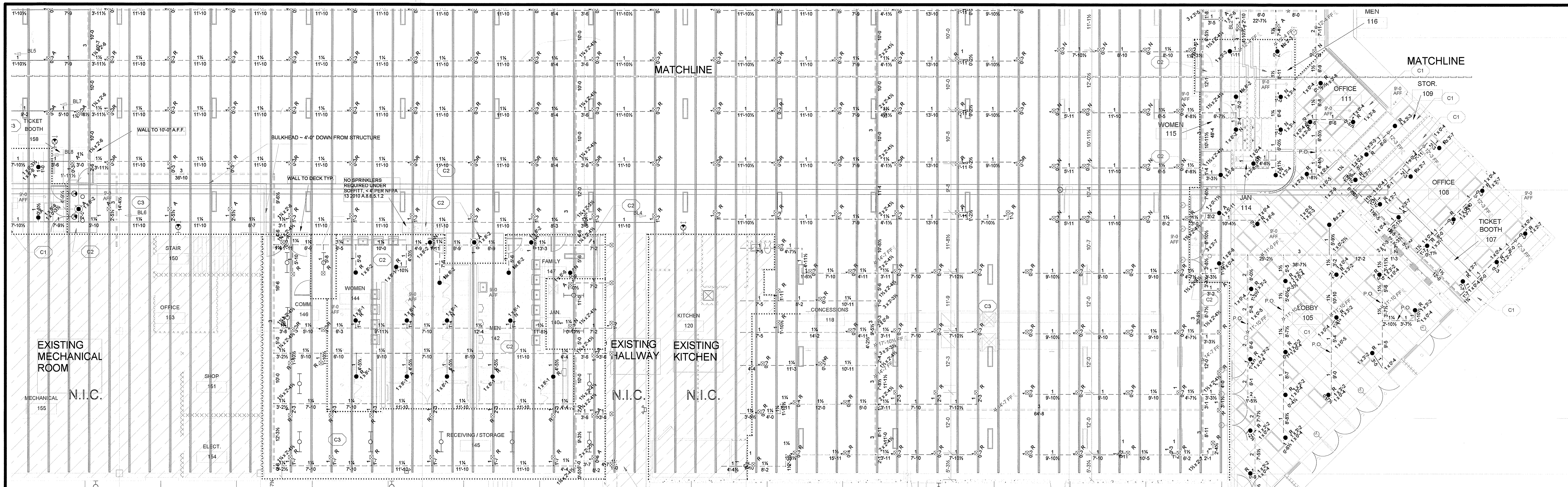
REVISIONS

SCHEDULES

JOB NO.: 1002210
DATE: 06/03/11
SCALE: AS NOTED
DRAWN: CAD
CHECKED: JBT

E6.00
SHEET



EXISTING BUILDING, NOT IN CONTRACT

EXISTING BUILDING, NOT IN CONTRACT

FIRE SPRINKLER PLAN

1/8" = 1 FOOT

GENERAL NOTES

- ALL SPRINKLER MAINS TO BE RAISED TO 14'-7" A.F.F. U.N.O.
- ALL SPRINKLER BRANCHLINES TO REMAIN AT ~ 4" BELOW TEE LEG U.N.O.
- ALL GYP. BOARD / SUSPENDED CEILINGS AT 9'-0" A.F.F. U.N.O.

- EXISTING SPRINKLER PIPE
- NEW SPRINKLER PIPE
- WALL TO DECK
- ALL AREAS OPEN TO STRUCTURE U.N.O.

N - CHANGE SPRINKLER HEAD (96)
A - ADD SPRINKLER (61)
R - RELOCATE SPRINKLER (443)
- SSU ABOVE / SSP BELOW (2)
- EXISTING SPRINKLER TO REMAIN, NO WORK
P.O. - PLUG OUTLET
C3 - OPEN TO STRUCTURE
C2 - GYP. BOARD CEILING 9'-0" A.F.F.
C1 - A.C.T. CEILING 9'-0" A.F.F.

REMOTE AREA # 1

CALCULATION DESIGN CRITERIA:

STANDARD	NFPA #13 2010
LOCATION	EXHIBIT HALL 160
NO. OF SPRINKLERS	10
OCCUPANCY CLASS	ORDINARY GROUP 2
MAX. COVERAGE per HEAD	130 Ft²
DENSITY	0.2 GPM / Ft² for 1215[1] Ft²
SPRINKLER	RELIABLE F1FR SSU
ORIFICE	1/2" K= 5.6
WATER FLOW INFORMATION*: STATIC	97 PSI
RESIDUAL	20 PSI
FLOW	2900 GPM
AT BASE OF RISER, SYSTEM REQUIRES:[2]	276.4 GPM @ 62.5 PSI
ADDITIONAL HOSE STREAM ALLOWANCE REQ'D	250 GPM

* At time of Design

1 - USED QUICK RESPONSE REDUCTION PER NFPA-13 2010 11.2.3.2.3.1 - USING A CEILING HEIGHT OF 19'-4" = 1109.99 SQFT. MINIMUM REMOTE AREA

2 - BASE OF RISER = NODE 15, SEE HYDRAULIC CALCULATIONS

REMOTE AREA # 2

CALCULATION DESIGN CRITERIA:

STANDARD	NFPA #13 2010
LOCATION	R.R. 142/144, STORAGE 145
NO. OF SPRINKLERS	14
OCCUPANCY CLASS	ORDINARY GROUP 2
MAX. COVERAGE per HEAD	125 Ft²
DENSITY	0.2 GPM / Ft² for 1126[1] Ft²
SPRINKLER	F1FR SSU / G4A SSP
ORIFICE	1/2" K= 5.6
WATER FLOW INFORMATION*: STATIC	97 PSI
RESIDUAL	20 PSI
FLOW	2900 GPM
AT BASE OF RISER, SYSTEM REQUIRES:[2]	349.5 GPM @ 71.3 PSI
ADDITIONAL HOSE STREAM ALLOWANCE REQ'D	250 GPM

* At time of Design

1 - USED QUICK RESPONSE REDUCTION PER NFPA-13 2010 11.2.3.2.3.1 - USING A CEILING HEIGHT OF 19'-4" = 1109.99 SQFT. MINIMUM REMOTE AREA

2 - BASE OF RISER = NODE 15, SEE HYDRAULIC CALCULATIONS

REMOTE AREA # 3

CALCULATION DESIGN CRITERIA:

STANDARD	NFPA #13 2010
LOCATION	TICKET BOOTH 107, OFFICE 108 STORAGE 109
NO. OF SPRINKLERS	13
OCCUPANCY CLASS	LIGHT HAZARD
MAX. COVERAGE per HEAD	130 Ft²
DENSITY	0.2 GPM / Ft² for 195[1] Ft²
SPRINKLER	RELIABLE G4A SSP
ORIFICE	1/2" K= 5.6
WATER FLOW INFORMATION*: STATIC	97 PSI
RESIDUAL	20 PSI
FLOW	2900 GPM
AT BASE OF RISER, SYSTEM REQUIRES:[2]	293.4 GPM @ 70.2 PSI
ADDITIONAL HOSE STREAM ALLOWANCE REQ'D	100 GPM

* At time of Design

1 - USED QUICK RESPONSE REDUCTION PER NFPA-13 2010 11.2.3.2.3.1 - USING A CEILING HEIGHT OF 9'-0" = 900 SQFT. MINIMUM REMOTE AREA

2 - BASE OF RISER = NODE 17, SEE HYDRAULIC CALCULATIONS

SCOPE OF WORK

SCOPE OF WORK

REWORK EXISTING BRANCHLINES / MAINS FOR TENNANT FINISH. RAISE MAINS TO 14'-7" A.F.F U.N.O. AND CONVERT PENDENT SPRINKLERS TO UPRIGHT SPRINKLERS IN AREAS EXPOSED TO STRUCTURE. REWORK EXISTING PENDENT SPRINKLERS TO NEW CEILING LAYOUT.

DESIGN CRITERIA:

LIGHT HAZARD WORK AREA REQUIRES A DESIGN DENSITY OF 0.1 GPM / SQFT. OVER 1500 SQFT. REMOTE AREA WITH 100 GPM HOSE FLOW ADDED AT HYDRAULIC SOURCE NODE.

ORDINARY GROUP 2 HAZARD WORK AREA REQUIRES A DESIGN DENSITY OF 0.2 GPM / SQFT. OVER 1500 SQFT. REMOTE AREA WITH 250 GPM HOSE FLOW ADDED AT HYDRAULIC SOURCE NODE.

STORAGE AREA DESIGN CRITERIA PER NFPA-13 2010 14.2.3 STORAGE 12 FT. OR LESS IN HEIGHT. ABLE TO STORE CLASS 1 - CLASS 3 COMMODITIES UP TO 12 FT. AND CLASS 4 COMMODITIES UP TO 10 FT. IN HEIGHT PER NFPA - 13 2010 TABLE 13.2.1 ORDINARY HAZARD GROUP 2 DESIGN CRITERIA

EXHIBIT AREA DESIGN CRITERIA PER NFPA-13 2010 5.3.2 ORDINARY HAZARD GROUP 2 DESIGN CRITERIA FOR MERCANTILE OCCUPANCY

THE FOLLOWING ROOMS ARE LIGHT HAZARD OCCUPANCY: RESTROOMS, LOBBIES, AND TICKET BOOTHS
THE FOLLOWING ROOMS ARE ORDINARY HAZARD GROUP 2: STORAGE / EXHIBIT AREAS

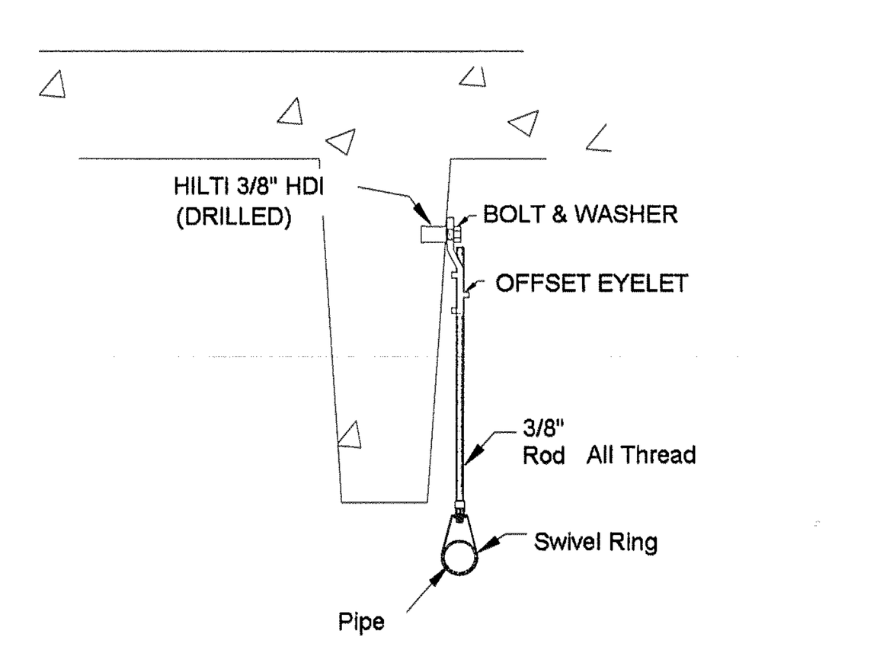
GENERAL NOTES.
1.SYSTEM SHALL BE DESIGNED AND INSTALLED AS PER NFPA-13, 2010 EDITION
2.ALL MATERIALS INSTALLED SHALL BE UL LISTED OR FM APPROVED FOR FIRE SPRINKLER USE.
3. ALL NEW PIPE 1 1/2" AND SMALLER SHALL BE BLACK PIPE SCHED. 40 WITH CI FITTINGS. ALL NEW PIPE 2" AND LARGER SHALL BE BLACK PIPE SCHED. 40 WITH FIRELOCK FITTINGS
4. ALL HANGERS SHALL BE DESIGNED, SPACED AND INSTALLED AS PER NFPA-13, 2010 EDITION CHAPTER 9. MAX LENGTH OF UNSUPPORTED ARMOVERS SHALL BE 24", STATIC PRESSURE < 100 psi.
5. SPARE HEAD BOX WITH SPARE SPRINKLER HEADS AND SPRINKLER WRENCH SHALL BE PROVIDED.
6. OTHERS TO PROVIDE PAINTING, WIRING, FIRE EXTINGUISHERS, HYDRANTS, THRUST BLOCKING, CITY CONNECTION, UNDERGROUND PIPING, EXCAVATION, BACKFILL, AND SYSTEM MONITORING.
7. OWNER SHALL BE RESPONSIBLE FOR ADEQUATE HEAT TO PREVENT SPRINKLER SYSTEM FROM FREEZING
8. BUILDING CONSTRUCTION IS NON-COMBUSTIBLE
9. AREA WITHIN SCOPE OF WORK OF SYSTEM # 3 = 28,678 SQFT.
AREA WITHIN SCOPE OF WORK OF SYSTEM # 4 = 31,118 SQFT.
AREA OF COVERAGE OF EACH SYSTEM OUT OF SERVICE IS UNKNOWN
NOTE: NO ADDITIONAL AREA ADDED TO EXISTING SPRINKLER SYSTEMS

FIRE FLOW INFORMATION PER FLOW TEST PERFORMED 3/21/11 BY COLORADO SPRINGS UTILITIES

WSFP WILL NOT BE RESPONSIBLE SHOULD THE MINIMUM WATER FLOW VALUES NOT BE SUPPLIED AT THE POINT OF CONNECTION OF THE HYDRAULIC SOURCE NODE.

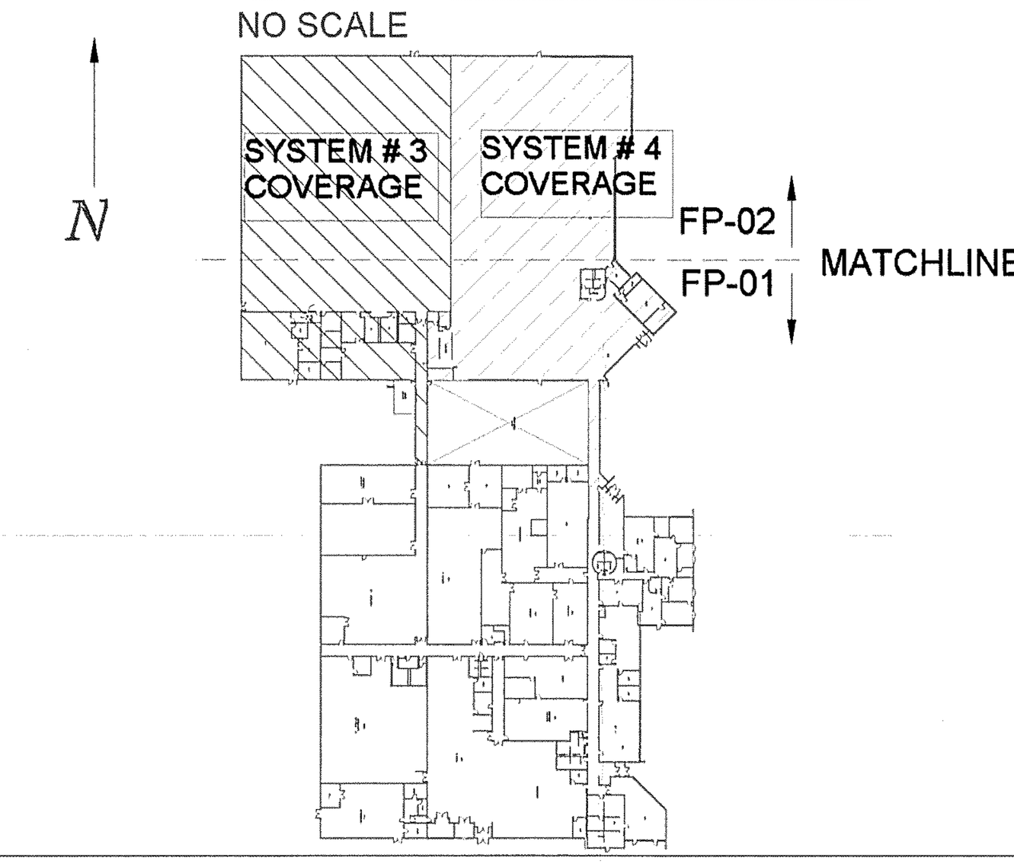
HILTI HDI HANGER

NO SCALE



SYSTEM COVERAGE

NO SCALE

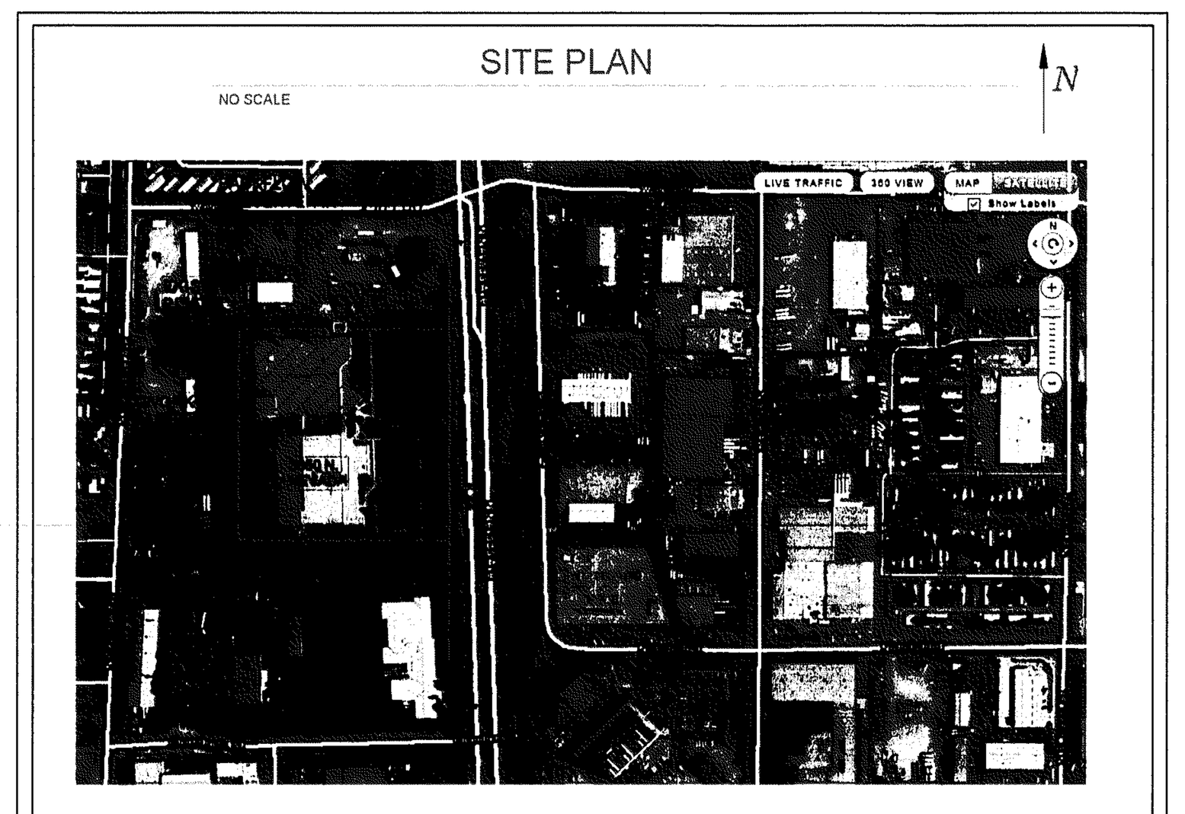


PIPE DIMENSION TABLES:

SCHEDULE 10 PIPE		SCHEDULE 40 PIPE	
NOMINAL PIPE SIZE	INSIDE DIAMETER	NOMINAL PIPE SIZE	INSIDE DIAMETER
1"	1.097	1"	1.049
1¼"	1.442	1¼"	1.380
1½"	1.682	1½"	1.610
2"	2.157	2"	2.067
2½"	2.635	2½"	2.469
3"	3.260	3"	3.068
3 1/2"	3.760	3 1/2"	3.548
4"	4.260	4"	4.026
5"	5.295	5"	5.047
6"	6.357	6"	6.065
8"	8.249	8"	7.981

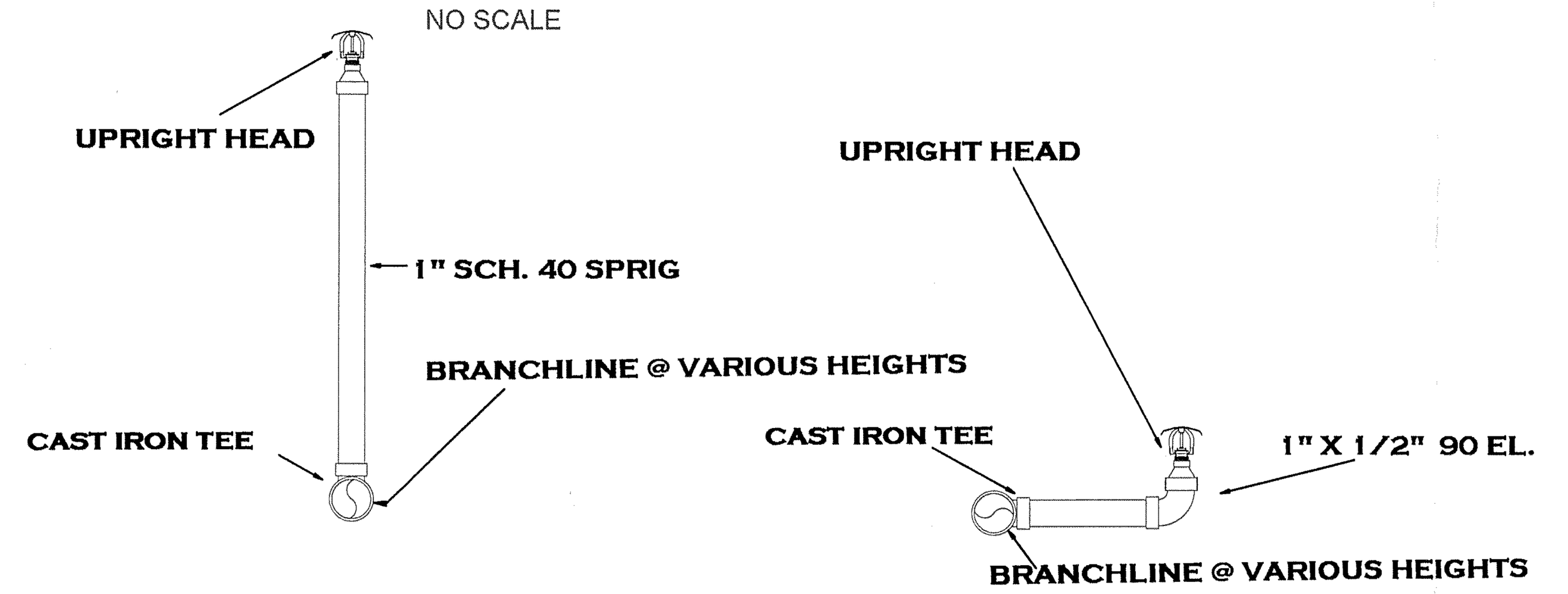
SITE PLAN

NO SCALE



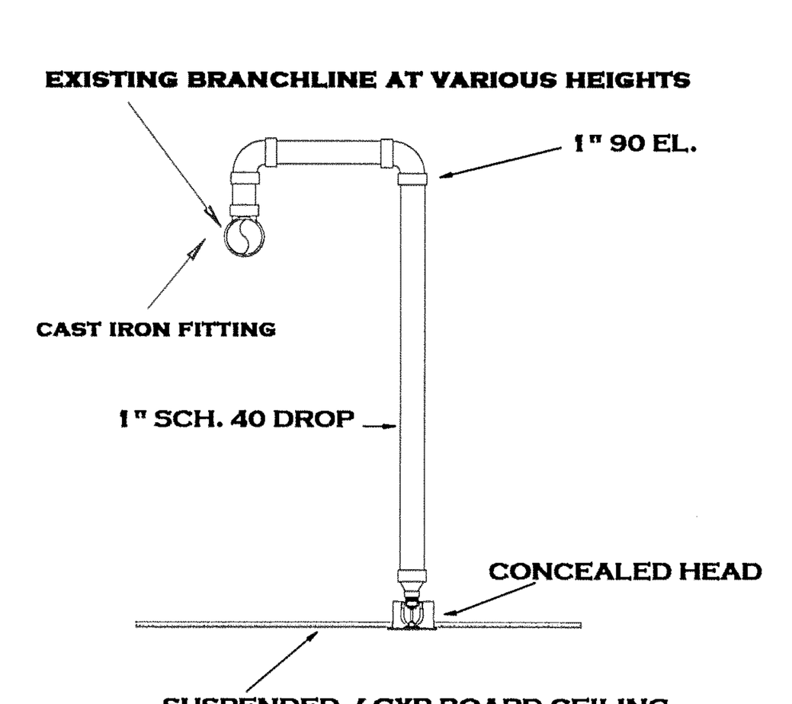
UPRIGHT SPRINKLER DETAIL

NO SCALE



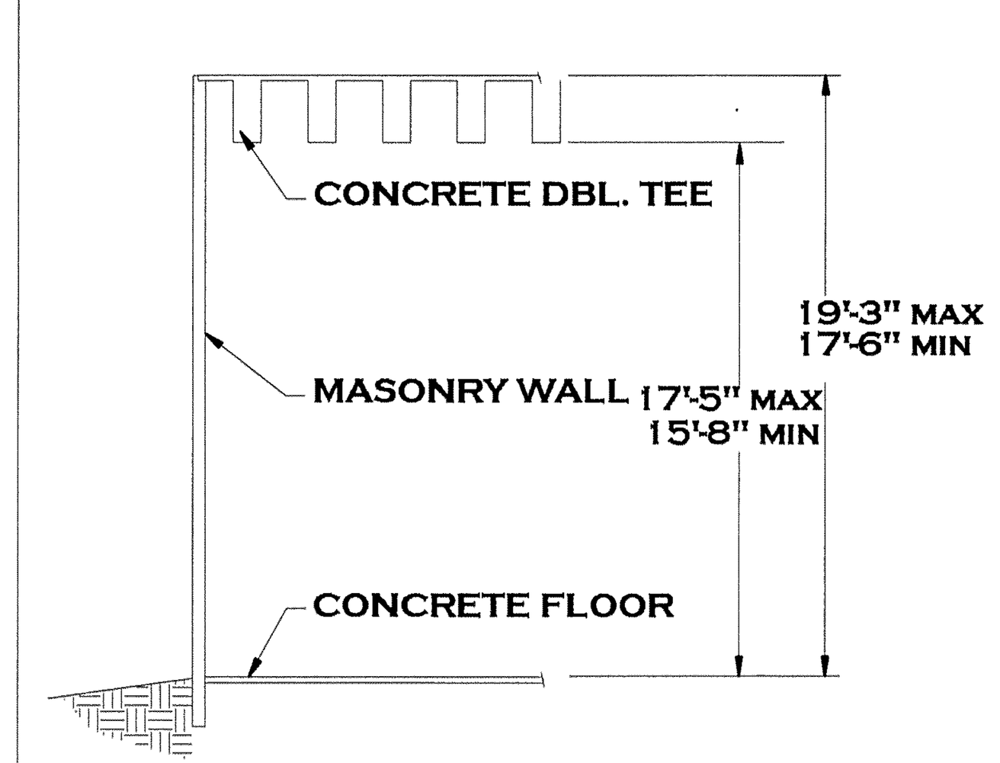
POSITION DEFLECTOR MAXIMUM OF 1" BELOW LEG OF CONCRETE TEE PER NFPA 13 2010 8.6.4.1.2 (5)

TYPICAL DROP TO PENDENT SPRINKLER HEAD DETAIL



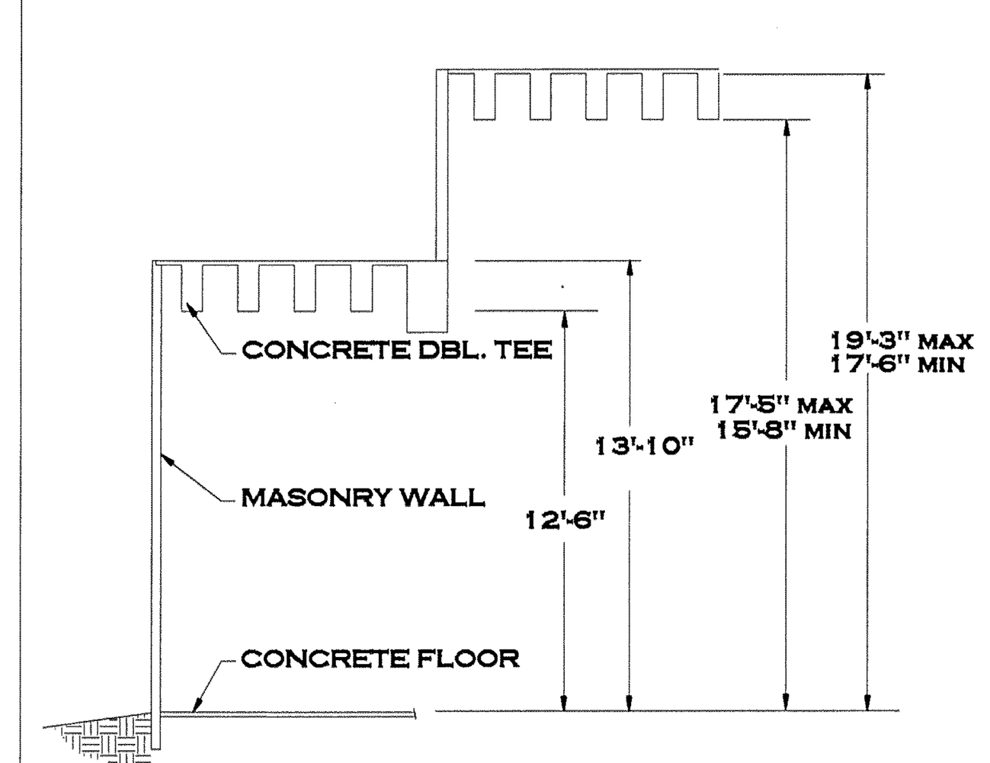
BUILDING SECTION A

NO SCALE



BUILDING SECTION B

NO SCALE



FIRE DEPARTMENT PLAN REVIEW # 2011-0429-SP-1
CONSTRUCTION TYPE - II-B
OCCUPANCY CLASS: A-3 (EXHIBIT HALL)
B (OFFICE BUILDING)

AS BUILT

SPRINKLER HEAD LEGEND

DESCRIPTION	SYMBOL	"K"	ORIFICE	NPT	S.I.N.	FINISH	TEMP.	QUAN.	ESCUTCHEONS MODEL	ESCUTCHEONS FINISH
RELIABLE MODEL G4A SSP	●	5.6	1/2"	1/2"	R5415	WHITE	165° F	64	G4	WHITE
RELIABLE MODEL F1FR SSU	⊠	5.6	1/2"	1/2"	RA1425	BRASS	208° F	139	N/A	N/A
SHEET TOTAL								203		

SCALE 1/8"=1'-0"

NORTH

REVISIONS

#	DATE	BY	DESCRIPTION
3			
2	9/28/2011	C.H.	AS BUILT
1	7/18/2011	C.H.	FOR CONSTRUCTION
	7/13/2011	C.H.	FOR APPROVAL

Western States
Fire Protection Co.
Protecting Lives and Property
1485-A Tuskegee Place
Colorado Springs, CO 80915
Tel.: 719-578-1822 Fax: 719-578-1831
Colorado State Registration Number 032

PROJECT: UCCS N. NEVADA EXPO CENTER
3650 N. NEVADA AVE
COLORADO SPRINGS, CO 80907

CONTRACT WITH:
BRYAN CONSTRUCTION
7025 CAMPUS DRIVE
COLORADO SPRINGS, CO 80920

PLAN DESCRIPTION:
FIRE SPRINKLER PLAN

DRAWING FILE NAME:	AS2465.CAD
DRAWN BY:	C.H.
SCALE:	1/8" = 1'-0"
PRINT DATE:	12/23/11
CONTRACT #	AS2465
SHT.#	FP-01

1 OF 2

FIRE SPRINKLER PLAN

1/8" = 1 FOOT

RISER DETAIL

NO SCALE

NOTE: BACKFLOW PREVENTER LOCATED IN PIT ON NORTH SIDE OF BUILDING

NEW INSPECTORS TEST WITH 1/2" ORIFICE

1. EXISTING 4" UNDERGROUND
2. EXISTING 4" FLANGE
3. EXISTING 2" DRAIN VALVE TO EXTERIOR
4. EXISTING 2" DRAIN VALVE TO INTERIOR
5. EXISTING 4" 90
6. EXISTING 4" FEED TO SPRINKLER SYSTEM
7. EXISTING 4" FLOW SWITCH
8. EXISTING 4" 90
9. NEW TEST / DRAIN VALVE W/ 1/2" ORIFICE

MAIN OFFSET DETAIL

NO SCALE

DUCT SOCK

TEE LEG

CONCRETE BEAM

SPRINKLER HEAD LEGEND

DESCRIPTION	SYMBOL	"K"	ORIFICE	NPT	S.I.N.	FINISH	TEMP.	QUAN.	ESCUTCHEONS MODEL	ESCUTCHEONS FINISH
RELIABLE MODEL G4A SSP	●	5.6	1/2"	1/2"	R5415	WHITE	165° F	2	G4	WHITE
RELIABLE MODEL F1FR SSU	⊠	5.6	1/2"	1/2"	RA1425	BRASS	200° F	393	N/A	N/A
RELIABLE MODEL F1FR HSW	◁	5.6	1/2"	1/2"	RA1435	BRASS	200° F	2	N/A	N/A
SHEET TOTAL								397		

#	DATE	BY	DESCRIPTION
3			
2	9/28/2011	C.H.	AS BUILT
1	7/18/2011	C.H.	FOR CONSTRUCTION
	7/13/2011	C.H.	FOR APPROVAL

REVISIONS

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FIRE SPRINKLER PLAN

DRAWING FILE NAME: AS2465.CAD
DRAWN BY: C.H.
SCALE: 1/8" = 1'-0"
PRINT DATE: 12/23/11
CONTRACT # AS2465
SHT.# FP-02
2 OF 2

Western States Fire Protection Co.
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Tel.: 719-578-1822 Fax: 719-578-1831
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