COOPER COMMONS

2ND FLOOR TENANT INTERIOR REFINISH
COLORADO MOUNTAIN JUNIOR COLLEGE DISTRICT
GARFIELD COUNTY PUBLIC LIBRARY DISTRICT

GLENWOOD SPRINGS, CO 81601

BIDDING / PERMIT SET
8/01/2016

7/29/2016 9:06:03 AM

OWNER

COLORADO MOUNTAIN JUNIOR COLLEGE DISTRICT
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All reports, plans, specifications, computer files, field data, notes and other documents and instruments prepared by the Architect as instruments of service shall remain the property of the Architect. The Architect shall retain all common law, statutory and other reserved rights, including copyright thereto.

STATE OF COLORADO
DENNIS R. HUMPHRIES
309370
LICENSED ARCHITECT
29 JULY 2016

COOPER COMMONS
GLENWOOD SPRINGS, CO 81601

BIDDING / PERMIT SET
8/01/2016

PROJECT No.	PROJECT ARCH	PROJECT MNGR	CHECKED BY
35043	DH	JW	JW

SHEET No.

G-001

ABBREVIATIONS

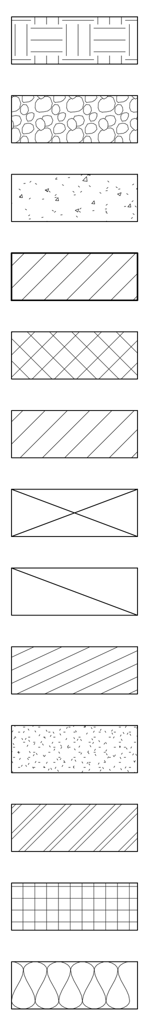
A/C	AIR CONDITIONING
AB	ANCHOR BOLT
ACOUST	ACOUSTICAL
ACT	ACOUSTICAL CEILING TILE
ADDL	ADDITIONAL
ADJ	ADJACENT / ADJUSTABLE
AFF	ABOVE FINISH FLOOR
ALT	ALTERNATE
ALUM	ALUMINUM
ANOD	ANODIZED
APPROX	APPROXIMATE
ARCH	ARCHITECT
ASSY	ASSEMBLY
AUTO	AUTOMATIC
AUX	AUXILIARY
A/V	AUDIO - VISUAL
AVG	AVERAGE
BD	BOARD
BITUM	BITUMINOUS
BLDG	BUILDING
BLKG	BLOCKING
BM	BEAM
B.O.	BOTTOM OF
BOT	BOTTOM
B.O.W.	BOTTOM OF WALL
BRG	BEARING
BSMT	BASEMENT
BTWN	BETWEEN
B.U.R.	BUILT-UP ROOF
CAB	CABINET
CB	CHALKBOARD
CER	CERAMIC
CFCI	CONTRACTOR FURNISHED / CONTRACTOR INSTALLED
CFOI	CONTRACTOR FURNISHED / OWNER INSTALLED
CI	CAST IRON
CIP	CAST IN PLACE
CJ	CONTROL JOINT
CL	CENTER LINE
CLG	CEILING
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION (CONSTRUCT)
CONT	CONTINUOUS
CONTR	CONTRACTOR
COORD	COORDINATE
CPT	CARPET
CT	CERAMIC TILE
CTR	CENTER
CTSK	COUNTERSINK (COUNTERSUNK)
CU	CUBIC
CUH	CABINET UNIT HEATER
CW	COLD WATER
C.Y.	CUBIC YARD
D	DEEP
DBL	DOUBLE
DEMO	DEMOLITION / DEMOLISH
DEPT	DEPARTMENT
DTL	DETAIL
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIAG	DIAGONAL
DIM.	DIMENSION
DISP	DISPENSER / DISPOSAL
DN	DOWN
DR	DOOR
DS	DOWN SPOUT
DW	DISHWASHER
DWG	DRAWING
E	EAST
(E) / EXG	EXISTING
EA	EACH
EF	EXHAUST FAN
EIFS	EXTERIOR INSULAT. FINISH SYSTEM
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
EMER	EMERGENCY
ENAM	ENAMEL
ENCL	ENCLOSURE
ENGR	ENGINEER
EQ	EQUAL
EQUIP	EQUIPMENT
ESMT	EASEMENT
EST	ESTIMATE (D)
E/W	EACH WAY
EWC	ELECTRIC WATER COOLER
EXH	EXHAUST
EXP	EXPANSION
EXT	EXTERIOR
F.A.	FIRE ALARM
FAB	FABRICATE(D)
FBO	FINISHED BY OTHERS
F.C.	FACE OF CURB
F.D.	FLOOR DRAIN
FDTN	FOUNDATION
FE	FIRE EXTINGUISHER
F.E.C.	FIRE EXTINGUISHER CABINET
FF	FINISH FLOOR
F.H.	FLAT HEAD
FH	FIRE HYDRANT
FIN	FINISH(ED)
FIXT	FIXTURE
FLASH	FLASHING
FLEX	FLEXIBLE
FLR	FLOOR
FLUOR	FLUORESCENT
FM	FACTORY MUTUAL
FO	FINISHED OPENING
F.O.C.	FACE OF CONCRETE
F.O.F.	FACE OF FINISH
F.O.M.	FACE OF MASONRY
F.O.S.	FACE OF STUD
FP	FIREPROOF(ING)
FR	FRAME / FIRE RESISTANT / RATED
FRP	FIBERGLASS REINFORCED PLASTIC
FT	FOOT / FEET
FTG	FOOTING
FURN	FURNITURE
FVC	FIRE VALVE CABINET

GAL	GALLON(S)
GALV	GALVANIZED
GA	GAGE
GC	GENERAL CONTRACTOR
GEN	GENERAL / GENERATOR
G.I.	GALVANIZED IRON
GL	GLASS
GR	GRADE
GYP	GYPSUM
H	HIGH
HB	HOSE BIB
HC	HANDICAP, HOLLOW CORE
HDBD	HARD BOARD
HDR	HEADER
HDWR	HARDWARE
HDWD	HARDWOOD
HGT	HEIGHT
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HP	HIGH POINT
HR	HOUR
HVAC	HEATING VENTILATING AND AIR CONDITIONING
HW	HOT WATER
IBC	INTERNATIONAL BUILDING CODE
ID	INSIDE DIAMETER
IN	INCH
INCAND	INCANDESCENT
INCL	INCLUDE(D)
INFO	INFORMATION
INSUL	INSULATION
INT	INTERIOR
INV	INVERT
IRRIG	IRRIGATION
JAN	JANITOR
JT	JOINT
KIT.	KITCHEN
L	LOW
LAB	LABORATORY
LAM	LAMINATE
LAV	LAVATORY
LB	POUND
LDR	LEADER
LF	LINEAR FEET
LH	LEFT HAND
LHR	LEFT HAND REVERSE
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LP	LOW POINT
LTWT	LIGHTWEIGHT
LVL	LEVEL
MAINT	MAINTENANCE
MAS	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MECH	MECHANICAL
MED	MEDIUM
MEM	MEMBRANE
MEZZ	MEZZANINE
MFR	MANUFACTURER(ED)
MIN	MINIMUM, MINUTE
MISC	MISCELLANEOUS
MLD	MOULDING
MLWK	MILLWORK
MO	MASONRY OPENING
MTD	MOUNT(ED)
MTL	METAL
MTG	MOUNTING
MULL	MULLION
MULT	MULTIPLE
N	NORTH
N/A	NOT APPLICABLE
NEG	NEGATIVE
NFPA	NATIONAL FIRE PROTECTION AGENCY
N.I.C.	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NRC	NOISE REDUCTION COEFFICIENT
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER / DIMENSION
OFCI	OWNER FURNISHED / CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED / OWNER INSTALLED
OH	OVERHEAD, OVERHANG
OPH	OPPOSITE HAND
OPNG	OPENING
OPP	OPPOSITE
ORD	OVERFLOW ROOF DRAIN
ORIG	ORIGINAL
PA	PUBLIC ADDRESS
PART BD	PARTICLE BOARD
PC	PRECAST
PERIM	PERIMETER
PERP	PERPENDICULAR
P.L.	PROPERTY LINE
PL	PLATE
PLAM	PLASTIC LAMINATE
PLAS	PLASTIC / PLASTER
PLBG	PLUMBLING
PLYWD	PLYWOOD
PNL	PANEL
PORC	PORCELAIN
PR	PAIR
PREFAB	PREFABRICATE(D)
PREFIN	PREFINISH(ED)
PREP	PREPARATION / PREPARE
PROJ	PROJECT
PROP	PROPERTY
PSF	POUNDS PER SQUARE FEET
PSI	POUNDS PER SQUARE INCH
PT	PAINT, POINT, PRESSURE TREATED
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
PWR	POWER
QTY	QUANTITY
QT	QUARRY TILE

R	RADIUS
R.A.	RETURN AIR
RCP	REFLECTED CEILING PLAN
R.D.	ROOF DRAIN
RE:	REFER TO / REFERENCE
REBAR	REINFORCING BAR
REC	RECESS(ED)
REF	REFRIGERATOR
REG	REGISTER / REGULAR
REINF	REINFORCE(ED)(ING)
REM	REMOVE
RESIL	RESILIENT
REQ	REQUIREMENTS / REQUIRED
REV	REVISION / REVISE(ED)
RFG	ROOFING
RH	RIGHT HAND
RHR	RIGHT HAND REVERSE
RM	ROOM
R.O.	ROUGH OPENING
R.O.W.	RIGHT OF WAY
R/S	ROUGH SAWN
S	SOUTH
S.A.	SUPPLY AIR
SAG	SUSPENDED ACOUSTICAL GRID
SAN	SANITARY
SC	SOLID CORE
SCHED	SCHEDULE
SEC	SECOND
SECT	SECTION
SF	SQUARE FEET
SHT	SHEET
SIM	SIMILAR
SM	SHEET METAL / SMALL
SS	STAINLESS STEEL
SHWR	SHOWER
SPEC	SPECIFICATION
SPKLR	SPRINKLER
SQ	SQUARE
ST	STAIN, STREET
STA	STATION
STC	SOUND TRANSMISSION CLASS
STD	STANDARD
STL	STEEL
STOR	STORAGE
STRUCT	STRUCTURE(AL)
SUSP	SUSPEND(ED)(SION)
SV	SHEET VINYL
S.Y.	SQUARE YARD
SYN	SYNTHETIC
SYS	SYSTEM
T	TREAD(S)
T&B	TOP AND BOTTOM
TB	TACKBOARD
TBD	TO BE DETERMINED
T.C.	TOP OF CURB
TEL	TELEPHONE
TEMP	TEMPERATURE / TEMPORARY
T&G	TONGUE AND GROOVE
THK	THICK(NESS)
T.O.	TOP OF
T.O.C.	TOP OF CONCRETE
T.O.F.	TOP OF FRAMING
T.O.S.	TOP OF STEEL / STUD
T.O.W.	TOP OF WALL
TRANSF	TRANSFORMER
TS	TUBE STEEL
TV	TELEVISION
TYP	TYPICAL
UBC	UNIFORM BUILDING CODE
UL	UNDERWRITERS LABORATORIES
UNO	UNLESS NOTED OTHERWISE
UON	UNLESS OTHERWISE NOTED
UTIL	UTILITIES
V.B.	VAPOR BARRIER
VCT	VINYL COMPOSITION TILE
VERT	VERTICAL
VIF	VERIFY IN FIELD
VTR	VENT-THRU ROOF
VWC	VINYL WALL COVERING
W	WEST
(W)	WIDE
W.C.	WATER CLOSET
WD	WASHER / DRYER COMBO
WDW	WINDOW
WH	WATER HEATER
W.R.	WATER RESISTANT
WWF	WELDED WIRE FABRIC
W/	WITH
W/I	WITHIN
W/O	WITHOUT
WD	WOOD
WP	WEATHERPROOF, WORKING POINT
WGT	WEIGHT
YD	YARD
YR	YEAR
&	AND
∡	ANGLE
@	AT
X	BY / MULTIPLY
℄	CENTERLINE
°	DEGREE
⌀	DIAMETER
/	DIVIDE
'	FEET
>	GREATER THAN
≥	GREATER THAN OR EQUAL TO
"	INCHES
<	LESS THAN
≤	LESS THAN OR EQUAL TO
#	NUMBER / POUND
%	PERCENT
±	APPROXIMATELY
PL	PROPERTY LINE

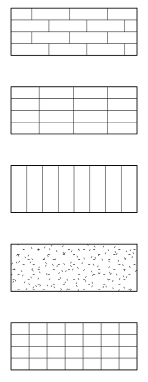
MATERIAL LEGEND

PLAN AND SECTION



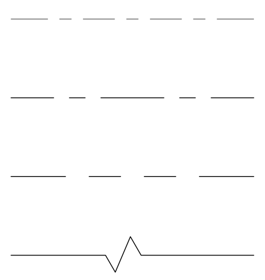
EARTH, UNDISTURBED
GRAVEL
CONCRETE, CAST IN PLACE, PRECAST
BRICK
CONCRETE MASONRY UNIT (CMU)
STONE
WOOD (ROUGH)
WOOD (ROUGH) BLOCKING OR SHIM
WOOD (FINISH)
SAND, PLASTER, MORTAR, GROUT
METAL, STRUCTURAL STEEL STUDS
RIGID INSULATION
BATT, LOOSE-FILL INSULATION

ELEVATION



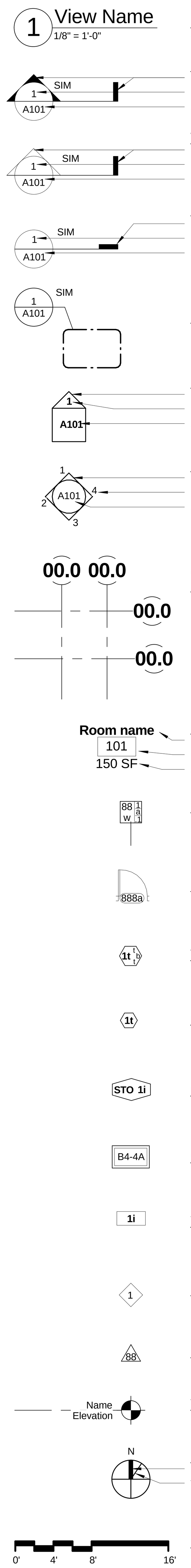
MASONRY - RUNNING BOND
MASONRY - STACKED BOND
METAL PANEL SIDING
CONCRETE , GYPSUM BOARD, PLASTER
TILE

LINE SYMBOLS



CENTER LINE
GRID LINE
PROPERTY LINE
CUT LINE

ARCHITECTURAL SYMBOLS



DRAWING TITLE
SCALE

BUILDING SECTION
DIRECTION OF SIGHT
DRAWING NUMBER
SHEET NUMBER

WALL SECTION
DIRECTION OF SIGHT
DRAWING NUMBER
SHEET NUMBER

DETAIL CUT
DIRECTION OF SIGHT
DRAWING NUMBER
SHEET NUMBER

DETAIL CALLOUT

EXTERIOR ELEVATION
DIRECTION OF SIGHT
DRAWING NUMBER
SHEET NUMBER

INTERIOR ELEVATION
DIRECTION OF SIGHT
DRAWING NUMBER
SHEET NUMBER

COLUMN CENTERLINE
REFERENCE GRID & BUBBLE

ROOM TAG
NAME
NUMBER
SQUARE FOOTAGE

PARTITION OR WALL TYPE

DOOR NUMBER

WINDOW FRAME TYPE

GLAZINGTYPE

CURTAINWALL/STOREFRONT TAG

CASEWORK TAG

TOILET ACCESSORY TAG

KEYNOTE DESIGNATION

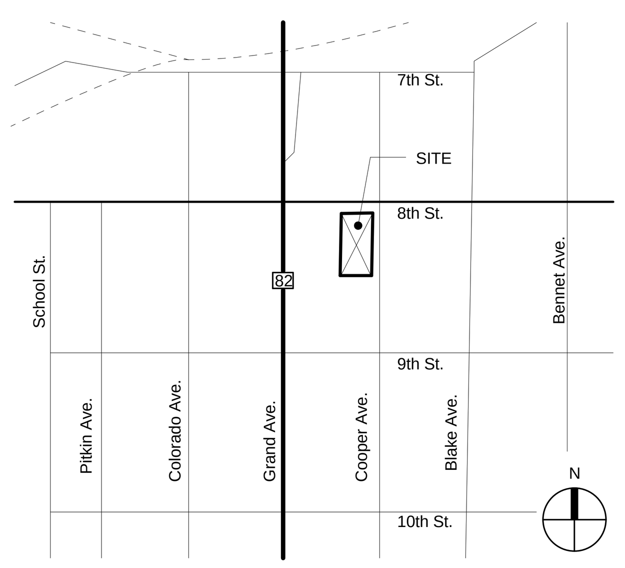
REVISION DELTA

VERTICAL ELEVATION DATUM

NORTH ARROW
PLAN NORTH
TRUE NORTH

GRAPHIC SCALE

VICINITY MAP / GLENWOOD SPRINGS, CO



GENERAL NOTES

GENERAL RENOVATION NOTES

1. The term "Owner" shall denote the client, or Owner, as designated in the Contract. The term "General Contractor" or "Contractor" shall denote the Corporation, Company, Partnership, Form or Individual who has entered into the Contract for the performance of the work and has engaged Subcontractors to perform a part of the work. The term "Architect" refers to Humphries Poli Architects, Inc.".
2. The use of the words "provide" and "provided" in connection with any item specified shall be intended to mean that the item shall be furnished, installed and connected where so required.
3. All dimensions are taken to face of stud, grid centerlines, or face of masonry unless otherwise noted.
4. DO NOT scale drawings. Dimensions govern. Large scale details govern over small scale.
5. Notify Architect immediately should conditions be found contradictory to these drawings.
6. The Drawings and Specifications are supplied to illustrate the design intent and the general type of construction required. They are intended to imply the finest quality of construction, material and workmanship.
7. Drawings and general notes are complementary, and what is called for by one will be binding as if called for by all. Work shown or referred to on any drawing shall be completed as though shown on all related drawings.
8. The character and scope of work are described by the drawings and notes contained herein. Additional drawings and information deemed necessary by the Architect to interpret and/or explain drawings, specifications or notes previously issued shall be provided to the General Contractor. It shall be understood that such additional drawings and information shall be considered part of the Contract Documents.
9. If there are any questions regarding the Contract Documents, existing conditions or design intent, the Contractor shall obtain a clarification from the Owner's Representative or Architect prior to proceeding with the work in question.
10. All work performed and material installed shall be, as a minimum standard, in strict conformance with the latest editions of all general codes, regulations and ordinances including the building code. The Contractor shall give all notices and comply with all laws, ordinances, rules, regulations and lawful orders of any public authority having jurisdiction over the performance of the work.
11. Contractor is responsible for all work shown, noted, specified, or reasonably inferred from the construction documents.
12. The General Contractor upon acceptance of the drawings and specifications assumes full responsibility for the construction, materials and workmanship of the work, and shall comply with the spirit as well as the letter of that which is contained therein.
13. The scope of work described by the Contract Documents implies a completed project. Minor omissions from and discrepancies in the drawings and specifications shall not void such intention. The Contractor shall inform the Architect in writing of any conflicts, omissions and discrepancies prior to construction.
14. The Owner shall obtain all required building permits.
15. The Owner shall obtain all special inspection required by the authority having jurisdiction over the project.
16. The General Contractor shall supervise and direct the work using his best skill and attention. He shall be solely responsible for all construction means, methods, techniques, sequences and procedures. He shall coordinate all portions of the work under the Contract.
17. General Contractor and subcontractors shall visit the project, as required by the specifications, to become familiar with all existing conditions affecting the proposed demolition and new construction prior to submittal of bids.
18. The General Contractor shall perform high-quality professional work. Materials shall be joined to uniform, accurate fits so that they meet in neat, straight lines free of smears or overlaps. Exposed materials shall be installed appropriately level, plumb and at accurate right angles to or flush with adjacent materials. The work of each trade shall meet all National Standards published by the trade, except where the requirements of the Contact Document are more stringent.
19. The presence of an architectural representative on the jobsite does not imply concurrence of approval of the work. The Contractor shall call to the attention of the Architect/Owner specific items for which he desires to obtain approval.
20. The General Contractor shall correct defects in material and workmanship noted by the Architect/Owner during periodic site observations and at project close-out.
21. The General Contractor shall turn the project over to the Owner free from all construction debris, scraps, materials and equipment; with all interior glass free from manufacturer's labels and tape and clean on both sides; with all doors built-in millwork wiped down and free of dirt, grease and other foreign material.

Index of Drawings

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ARCHITECTURAL	
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Grand total: 45	

Colorado Mountain College

COOPER COMMONS

Delta	Description	Date Issued

HUMPHRIES POLI ARCHITECTS

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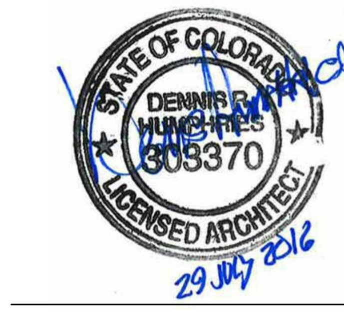


DRAWING INDEX, GENERAL NOTES, SYMBOLS, LEGENDS, ABBREVIATIONS, VICINITY MAP

BIDDING / PERMIT SET
8/01/2016

PROJECT No.	PROJECT ARCH	PROJECT MNGR	CHECKED BY
35043	DH	JW	JW

SHEET No.

G-002

7/29/2016 9:06:10 AM

Cooper Common 2nd Floor TI
CODE ANALYSIS

PROJECT LOCATION

Glenwood Springs, Colorado

APPLICABLE CODES

2015 International Building Code
2015 International Plumbing Code
2015 International Mechanical Code
2012 International Fuel Gas Code
2015 International Energy Conservation Code
2014 National Electric Code (NEC)
2015 International Fire Code
2009 ANSI ICC A117.1 Accessibility Requirements

USE AND OCCUPANCY CLASSIFICATION — CHAPTER 3

OCCUPANCY CLASSIFICATION

Occupancy/Classification		Floor Level	Area (Gross square feet)
Assembly (Meeting rooms and collaboration spaces)	A-3	Level 2	14,040
Sub-Total			14,040
EXISTING FLOORS AND USES:			
Assembly (Library)	A-3	Level 1	13,009
Business	B		1,164
Sub-Total			14,173
Total of A3/B			**28,213**
Storage (Parking Garage)	S-2	Level P1	23,319
Total of S2			**23,319**
Total Building			**51,532 GSF**

GENERAL BUILDING HEIGHTS AND AREAS — CHAPTER 5

GENERAL HEIGHT AND AREA LIMITATIONS — Section 503

Table 504.3 **Allowable Height:** Existing building height is unchanged.

Table 504.4 **Allowable Stories:** Existing building number of stories is unchanged.

Table 506.2 **Allowable Area:** Existing Building area is unchanged.

Footnote: Existing building was evaluated as a nonseparated mixed use occupancy with Occupancy A-3 governing the design for being the most restrictive type of construction and applied.

MIXED USE AND OCCUPANCY — Section 508

Section 508.3: Existing building was evaluated as a nonseparated mixed use occupancy. No separation is required.

TYPES OF CONSTRUCTION — CHAPTER 6

CONSTRUCTION CLASSIFICATION — **Section 602, Table 601 and 602**

Table 601: Existing building, Type IIB, no Fire Resistance Rating required for Building Elements.

Section 602: Existing building is classified at Type IIB Construction Type, Fully Sprinkled.

Table 602: Existing west wall is rated 1-hour, refer to plan.

FIRE-RESISTANCE-RATED CONSTRUCTION — CHAPTER 7

Section 710 **Smoke Partitions**
Required at Non-separated occupancies and tenant spaces. Per City Amendments to IBC.

INTERIOR FINISHES — CHAPTER 8

INTERIOR WALL AND CEILING FINISHES — **Table 803.11**

Group	Interior Exit Stairways, Interior Exit rams and Exit Passageways	Corridors and Enclosure for Exit Access Stairways and Exit Access Ramps	Rooms and Enclosed Spaces
A-3	-	B	C
B	-	C	C
S	-	-	C

INTERIOR FLOOR FINISH — Section 804

Section 804.4.1 **Test Requirement**
In all occupancies, interior floor coving materials shall comply with the requirements of the DOC FF-1 "pill test" (CPSC 16 CFR Part 1630 or with ASTM D 2859.

FIRE PROTECTION SYSTEMS — CHAPTER 9

AUTOMATIC SPRINKLER SYSTEMS — Section 903

Section 903 **Automatic Sprinkler Systems**
Existing building is equipped with an automatic sprinkler system. Existing system to be modified per 2nd level room/space layout.
Sprinkler modifications will be per Design Build documents.

PORTABLE FIRE EXTINGUISHERS — Section 906

Section 906 Fire extinguishers shall be provided in locations as required by the 2015 International Fire Code. 75 feet maximum travel distance to an extinguisher.

FIRE ALARM AND DETECTION SYSTEMS — Section 907

Section 907.2 **Fire Alarm and Detection Systems**
Existing building is equipped with a fire alarm and detection system. Existing system to be modified per 2nd level room/space layout.
Alarm modifications will be per Design Build documents.

Section 907.5.2.2 **Emergency Voice/Alarm Communication System**
Existing building alarm system to be upgraded to allow egress capacity factor to be modified in accordance with exception 1 in Section 1005.3.1 and 1005.3.2.
Alarm modification will be per Design Build documents.

MEANS OF EGRESS — CHAPTER 10

OCCUPANCY LOAD — Section 1004

MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT — **Table 1004.1.2**

Occupancy/Classification		Floor Area in Sq. Ft. Per Occupant	Area	Occupants
Existing Parking Garage Level				
• Parking	S-2	300 gross	23,319	78
Existing Level 1(Library)				
• Assembly Stack Areas	A-3	100 gross	11,428	114
• Assembly Gather Rooms	A-3	7 net	1,442	206
• Business – Level 1	B	100 gross	1,164	12
Existing Level 1 Total:				**332**
Level 2				
• Assembly	A-3	Per area on Plan	Per Plan	465
• Business	B	100 gross	Per Plan	4
• Kitchen	A-3	200 gross	Per Plan	2
• Mechanical/Utility	S-2	300 gross	Per Plan	7
• Storage	S-2	300 gross	Per Plan	2
Level 2 Total:				**480 Occupants**
Total Building Occupants				**890 Occupants**

Section 1005.3 **Minimum Required Egress Width**
Stairway means of egress capacity factor is 0.3"/occupant. Per exception 1 the width can be reduced to 0.2" with whole building alarm upgrade to an emergency voice/alarm communication system. Mythology approved by Pat Seydel, City of Glenwood Springs.

Other egress components means of egress capacity factor is 0.2"/occupant. Per exception 1 the width can be reduced to 0.15" with whole building alarm upgrade to an emergency voice/alarm communication system. Mythology approved by Pat Seydel, City of Glenwood Springs.

Occupant load determined by taking the controlling building element at the north stair to be door clear width. Existing stair width of 48" allows 240 occupants therefore a door with min 36" clear is required to allow 240 occupants. The Level 2 stair exit door and the stair exit door, discharge to public way, will be increased to a 3'-4" wide door, clear width of 37". With north stair taking half of the occupant load the total occupant load for Level 2 is 240*2 = 480 occupants. The existing south stair and exterior exit at Level 1 are sized to accommodate the occupant load.

ACCESSIBILITY — CHAPTER 11

ACCESSIBLE ROUTE — Section 1104

Existing site/building is accessible. Level 2 spaces meet the accessibility requirement of Chapter 11.

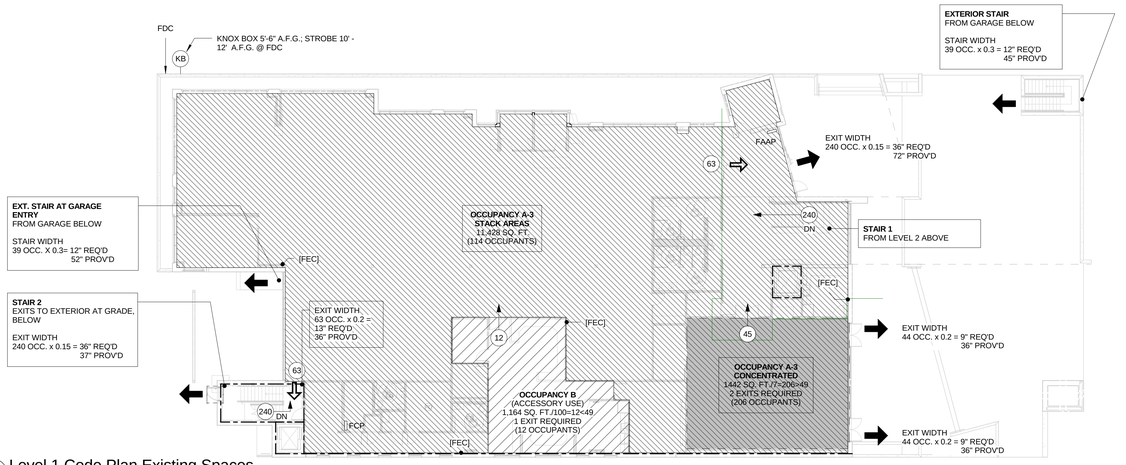
PLUMBING SYSTEMS — CHAPTER 29

MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES — **Table 2902.1**

Occupancy	Occ. Load	Water Closet Ratio	Water Closet Male	Water Closet Ratio	Water Closet Female	Lavatories Ratio	Lavatories Male	Lavatories Female	DF	Mop Sink
(e) Level 1 A-3	320	1 per 125	1.28	1 per 65	2.46	1 per 200	0.8	0.8		
(e) level 1 B*	12*									
(e) Level 1 Req'd Subtotal			1.28		2.46		0.8	0.8		
(e) Level 1 Req'd			**2**		**3**		**1**	**1**	**1**	**1**
(e) Level 1 Prov'd			**1 wc 2 urinals**		**4****		**2**	**3****	**2**	**2**
Level 2 Future Library Programming space A-3	92	1 per 125	0.37	1 per 65	0.71	1 per 200	0.23	0.23		
Level 2 Library Space B	2	1/25	0.04	1/25	0.04	1/40	0.03	0.03		
Total Library Req'd Subtotal Levels 1 & 2			1.69		3.21		1.06	1.06		
Total Library Req'd Levels 1 & 2			**2**		**4**		**2**	**2**	**1**	**1**
Total Library Prov'd Levels 1 & 2			**1 wc 2 urinal**		**5****		**2**	**4****	**2**	**2**
Level 2 A-3	373	1 per 125	1.5	1 per 65	2.88	1 per 200	0.94	0.94		
Level 2 B	2	1/25	0.04	1/25	0.04	1/40	0.03	0.03		
Level 2 S-2/Mech.	9	1/100	0.05	1/100	0.05	1/100	0.05	0.05		
Level 2 Req'd Subtotal			1.59		2.97		1.02	1.02		
Level 2 Req'd			**2**		**3**		**2**	**2**	**1**	**1**
Level 2 Prov'd			**1 wc 2 urinal**		**4****		**2**	**3****	**2**	**1**

Footnote (*) Existing Level 1 employee spaces occupant load equal to 12 occupants. Per IBC Section 2902.2 exception 2 allows single use restroom with an occupant load of 15 or fewer. Employee "B" occupants are served by existing Employee restroom that includes (1) water closet and (1) Lavatory.
Footnote (**) Fixture count includes existing Family Restroom.
Footnote (***) Fixture count includes Level 2 Future Family Restroom at Library Programming space.
Footnote (****) fixture count includes Level 2 single use Restroom.

Section 419.2 **Substitution of water closets (International Plumbing Code)**
In each bathroom or toilet room, urinals shall not be substituted for more than 67 percent of the required water closets in assembly occupancies and for more than 50 percent of the required water closets in all other occupancies.

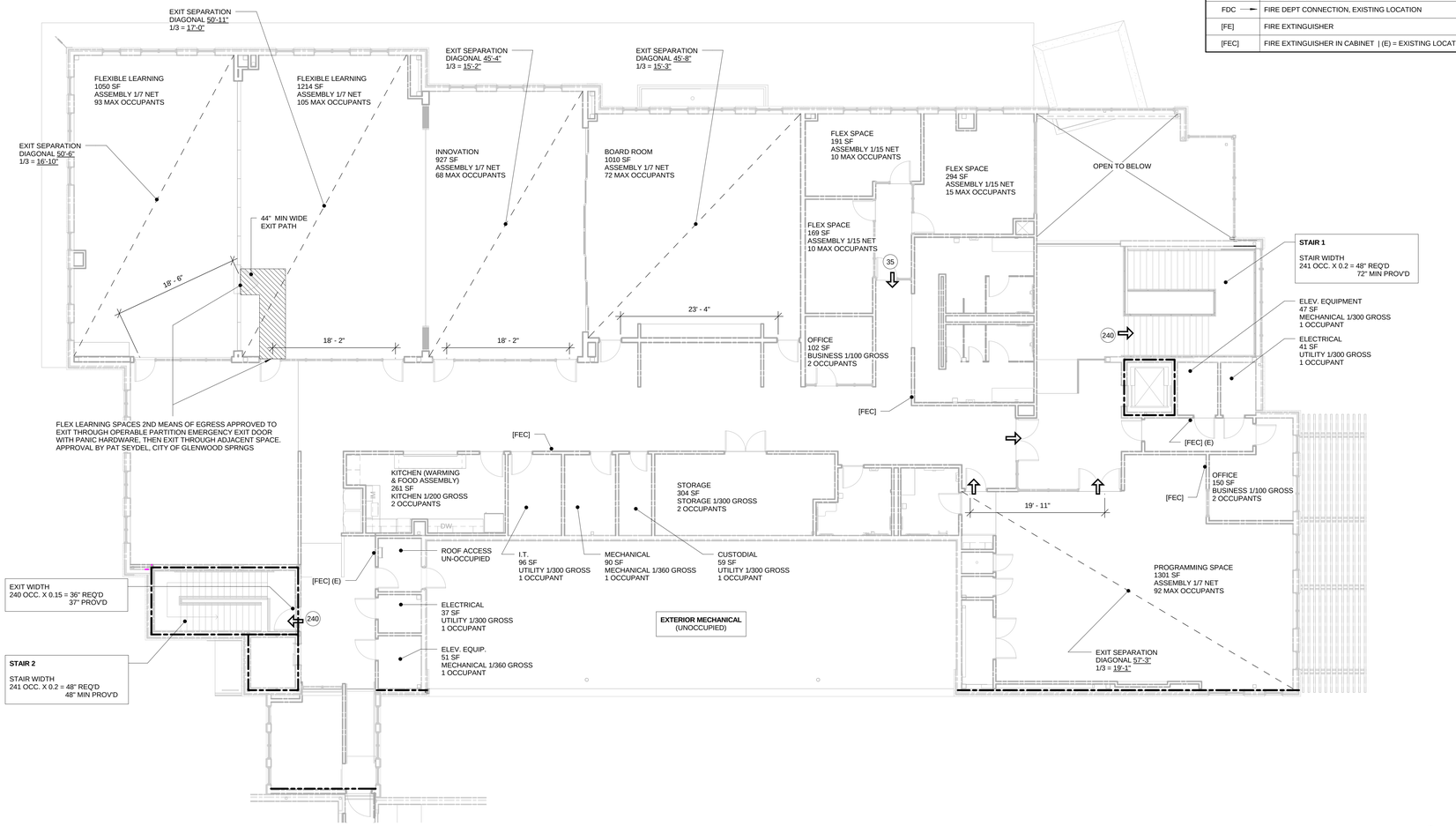


2 Level 1 Code Plan Existing Spaces
1/16" = 1'-0"

CODE PLAN GENERAL NOTES
1. COORDINATE APPROVED FEC LOCATIONS WITH LOCAL FIRE MARSHALL
2. FIRE ALARM MODIFICATION TO BE DESIGN BUILD PER DEFERRED SUBMITTAL
3. FIRE SUPPRESSION MODIFICATIONS TO BE DESIGN BUILD PER DEFERRED SUBMITTAL
4. PROVIDE OCCUPANCY SIGNAGE ON WALL ADJACENT TO DOOR OF EACH ASSEMBLY SPACE

Code Legend

	1 HOUR FIRE RATING DELINEATION, EXISTING
	2 HOUR FIRE RATING DELINEATION, EXISTING
	DIRECTION OF BUILDING EGRESS
	DIRECTION OF INTERIOR EGRESS
2	DIRECTION OF AREA EGRESS w/ NUMBER OF OCCUPANTS INDICATED
	DIAGONAL DISTANCE
KB	FIRE DEPARTMENT KNOX BOX, FULLY RECESSED
FCP	FIRE CONTROL PANEL, EXISTING LOCATION
FAAP	FIRE ALARM ANNUNCIATOR / GRAPHIC MAP, EXISTING LOCATION
FDC	FIRE DEPT CONNECTION, EXISTING LOCATION
[FE]	FIRE EXTINGUISHER
[FEC]	FIRE EXTINGUISHER IN CABINET | (E) = EXISTING LOCATION



1 Level 2 Code Plan
1/8" = 1'-0"

Colorado Mountain College
COOPER COMMONS

Delta	Description	Date Issued

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STATE OF COLORADO — DENNIS R. HUMPHRIES — 303370 — LICENSED ARCHITECT — 29 JULY 2016

CODE PLANS

BIDDING / PERMIT SET
8/01/2016

PROJECT No.	PROJECT ARCH	PROJECT MNGR	CHECKED BY
35043	DH	JW	JW

SHEET No.

G-003

7/29/2016 9:06:21 AM

Demo Keynote Legend

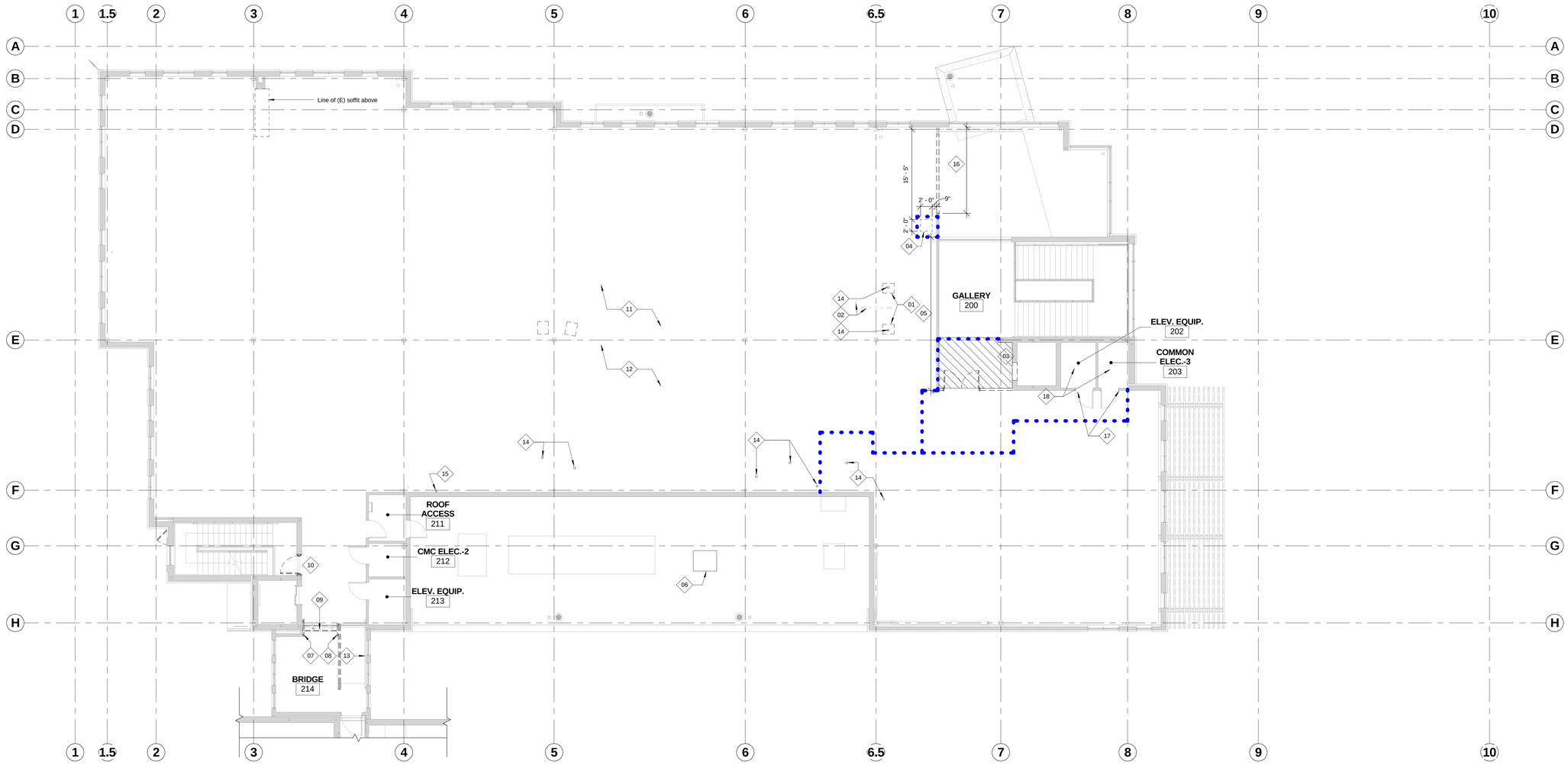
Mark	Text
01	Remove (E) cover material at (E) floor opening. Prepare for new floor drain & floor infill, RE: Plumbing & Structural
02	(E) Plumbing - RE: Plumbing for new connections & modifications to (E) piping layout
03	Demo (E) wall as req'd to prepare for new elevator door location RE: A-500. Prepare (E) shaft for Elevator Infill.
04	Cut floor opening in (E) floor slab. RE: Structural for support.
05	Remove (E) wall sheathing at new restrooms & prepare for new work.
06	Remove (E) roofing & prepare for new curb & mechancial unit. RE: Mechanical & A-103. Re: Structural for opening support
07	Remove (E) handrail. Repair wall as req'd.
08	Remove (E) guardrail/handrail. Salvage handrails and modify as req'd for re-installation as wall attached handrail. Prepare existing concrete curb for new framed wall.
09	Remove (E) step & prepare for new work Re: A-102
10	Remove (E) door & frame. Prepare for new door width. Verify location of (E) structural brace to allow for door width. Hold tight to (E) adjacent wall. Coordinate removal of (E)
11	Verify (E) perimeter wall vapor barrier is continuous. Repair/re-install as req'd.
12	Remove (E) metal closure at base of perimeter wall/slab intersection. Prepare for new work RE: A-102
13	Remove (E) handrail, salvage for reinstallation, and prepare for new finishes, Re: A-102
14	Floor penetration in (E) slab for drain. Re: Plumbing for size & location.
15	Coordinate penetration for plumbing drain at Kitchen, Re: Plumbing.
16	Remove (E) wall sheathing at Flex Space & prepare for new work. RE: A-102.
17	Remove (E) door and frame, salvage for re-installation. prepare wall/door opening framing to be raised to align withthe raised access floor system.
18	Coordinate with electrical drawings for raising electrical equipment as req'd.

Legend

- Existing Wall/Partition
- Existing Wall/Partition to be Removed
- Demo (E) Floor Finish to slab. Salvage tiles of (E) floor as possible.
- Condo boundary line; Refer to 2/A-102 for scope of work deliniation for pricing between the CCCA, CMC & GCPLD.

GENERAL NOTES

1. Coordinate all floor penetraions with MEP scope of work.
2. Coordinate all work with Garfield County Public Library District and/or Colorado Mountain College as applicable to area of work. All Library work to be after business hours & coordinated through GCPLD.



1 Level 2 - Demo Plan
1/8" = 1'-0"

N 0' 4' 8' 16'

7/29/2016 9:05:55 AM

Colorado Mountain College

COOPER COMMONS

Delta	Description	Date Issued

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STATE OF COLORADO DENNIS R. HUMPHRIES 303370 LICENSED ARCHITECT 29 July 2016

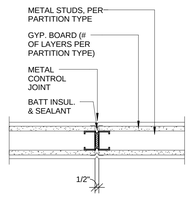
LEVEL 2 DEMO PLAN

BIDDING / PERMIT SET
8/01/2016

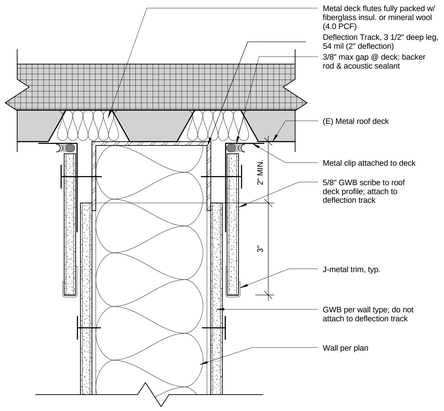
PROJECT No.	PROJECT ARCH	PROJECT MNGR	CHECKED BY
35043	DH	JW	JW

SHEET No.

AD-102



6 CONTROL JOINT @ NON-RATED PARTITION
1 1/2" = 1'-0"

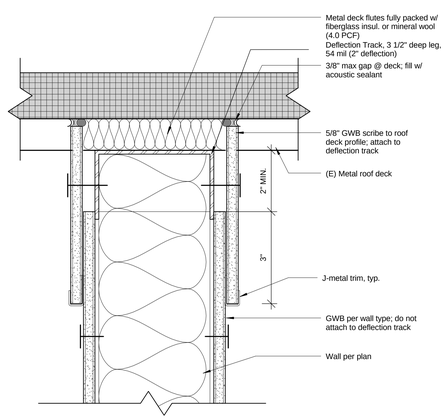


3 ACOUSTIC PARTITION HEAD DETAIL @ DECK (PARALLEL)
6" = 1'-0" NON-ACOUSTICAL WALL SIMILAR

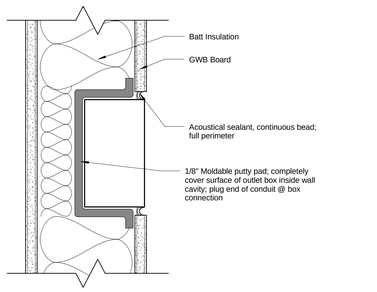
NOTES:

1. Moldable putty pads shall be used for outlet boxes in all sound rated wall. Fire rated moldable putty pads shall be used for outlet boxes in all sound rated walls that are also fire rated. Pads shall be as manufactured by Lowry's, Kinetics Noise Control, Nelson, 3M, STI or approved equal.
2. Putty pads shall be applied to the outlet box size as specified by the manufacturer for the particular product.
3. Thickness and application of fire rated putty pads shall be per the UL listing.
4. Outlet boxes on opposite sides of partitions shall not share the same stud cavity. Provide a minimum of 24" between junction boxes.

5 TYP. RECESSED BOX ENCLOSURE IN ACOUSTICAL WALLS
6" = 1'-0"



2 ACOUSTIC PARTITION HEAD DETAIL @ DECK (PERPENDICULAR)
6" = 1'-0" NON-ACOUSTICAL WALL SIMILAR



NOTES:

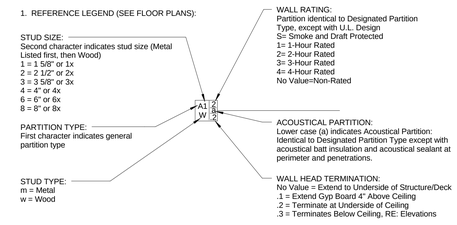
1. Moldable putty pads shall be used for outlet boxes in all sound rated wall. Fire rated moldable putty pads shall be used for outlet boxes in all sound rated walls that are also fire rated. Pads shall be as manufactured by Lowry's, Kinetics Noise Control, Nelson, 3M, STI or approved equal.
2. Putty pads shall be applied to the outlet box size as specified by the manufacturer for the particular product.
3. Thickness and application of fire rated putty pads shall be per the UL listing.
4. Outlet boxes on opposite sides of partitions shall not share the same stud cavity. Provide a minimum of 24" between junction boxes.

4 TYP. ELECTRICAL OUTLET SEAL IN ACOUSTIC WALLS
6" = 1'-0"

1 TYP PARTITION CONCRETE SLAB/SILL
6" = 1'-0"

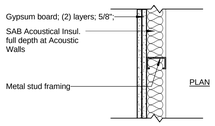
Partition Types - General Notes

1. Refer to Life Safety Code Plans for rated partition locations.
2. Refer to Title Sheet(s) and Project Manual for general project notes, symbols, and abbreviations.
3. Not all partition types delineated may be used on this project.
4. Refer to overall floor plans and enlarged plans for designation of partition types.
5. **For Rated Partitions:** In lieu of standard gypsum board, use fire-rated or Type 'X' gypsum board as per the U.L. Design listed under the partition type description. Follow all assembly instructions in the U.L. Design listed. Use the "Rated" head and base details listed under the partition type description. Firestop all through-penetrations.
6. **For Acoustic Partitions:** Identical to Designated Partition Type except with acoustical batt insulation and acoustical sealant at perimeter and penetrations. Use the "Acoustic" head and base details listed under the partition type description. Stagger joints at all double sheathing locations.
7. For partitions which are rated and acoustic, use fire-rated acoustical sealants at perimeter and penetrations.
8. Where two differing partition types abut in a line and along a continuous length of partitions, the continuous finished surfaces of these partitions shall align unless noted otherwise.
9. All metal studs to be spaced at 16" O.C. unless noted otherwise.
10. Provide double 20 gage stud at each door jamb.
11. Do not place gypsum board joint at corner of door frame.
12. Use water-resistant gypsum board for walls in all bathrooms, custodial areas, and as noted.
13. Use cement board in wet areas around mop sink, min 12" beyond sink & 48" A.F.F. in custodial areas, and as noted otherwise.
14. Provide control joints in ceilings (without perimeter relief) at 30'-0" maximum in either direction and in ceilings (with perimeter relief) at 50'-0" in either direction. Provide control joints in partitions, walls, and furring runs exceeding 30 ft. Verify exact locations with Architect. See details this sheet.
15. All fire-resistive partitions shall be constructed in full compliance with testing requirements and manufacturer's recommendations for conditions as required. Construction of all systems shall equal that of the tested assembly. Contractor may substitute another listed assembly for that indicated with prior approval of the Architect and the building department. Testing facilities are abbreviated as follows:
    UL-Underwriters Laboratories Inc. (www.ul.com/database/index.htm)
    GA-Gypsum Association
    NER-National Evaluation Report
    WHI-Warnock Hersey International
16. Through-penetrations in rated partitions shall be fire stopped in accordance with IBC 2015 Section 714. Membrane-penetrations in rated partitions shall be in accordance with IBC 2015 Section 714.3.2.
17. Provide acoustical sealant at all penetrations in acoustical partitions.
18. See typical Partition sill & head details 1, 2, 3/A-001.
19. Wall Head Termination: Refer to Plans, Elevations and Reflected Ceiling Plans for walls which extend to underside of structure/deck, to 4" above ceiling, to underside of ceiling, or otherwise. All walls use the standard head details unless noted otherwise. Refer to Wall Types Details for more specific Wall Head Termination conditions.
20. For electrical outlet box & recessed boxes, refer to details 4, 5/A-001.



PARTITION TYPES LEGEND

PARTITION TYPE E
2 LAYERS GWB ON ONE SIDE OF STUDS



E3 M — PARTITION
Stud: 3 5/8" 20 GA Metal
Partition Width: 4 7/8"
Acoustics (Where Occurs): SAB/SAFB

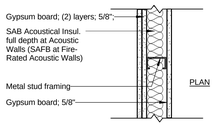
E4 M — PARTITION
Stud: 4" 20 GA Metal
Partition Width: 5 1/4"
Acoustics (Where Occurs): SAB/SAFB

E6 M — PARTITION
Stud: 6" 20 GA Metal
Partition Width: 7 1/4"
Acoustics (Where Occurs): SAB/SAFB

E8 M — PARTITION
Stud: 8" 20 GA Metal
Partition Width: 9 1/4"
Acoustics (Where Occurs): SAB/SAFB

E10 M — PARTITION
Stud: 10" 20 GA Metal
Partition Width: 11 1/4"
Acoustics (Where Occurs): SAB/SAFB

PARTITION TYPE D
2 LAYERS GWB ON ONE SIDE OF STUDS
1 LAYER GWB ON OTHER SIDE



D3 M — PARTITION
Stud: 3 5/8" 20 GA Metal
Partition Width: 5 1/2"
Rating (Where Occurs): 2-Hour / U.L.C. Design # W415
Acoustics (Where Occurs): SAB/SAFB // 50 STC

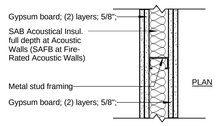
D4 M — PARTITION
Stud: 4" 20 GA Metal
Partition Width: 5 7/8"
Rating (Where Occurs): 2-Hour / U.L.C. Design # W415
Acoustics (Where Occurs): SAB/SAFB // 50 STC

D6 M — PARTITION
Stud: 6" 20 GA Metal
Partition Width: 7 7/8"
Rating (Where Occurs): 2-Hour / U.L.C. Design # W415
Acoustics (Where Occurs): SAB/SAFB // 50 STC

D8 M — PARTITION
Stud: 8" 20 GA Metal
Partition Width: 9 7/8"
Rating (Where Occurs): 2-Hour / U.L.C. Design # W415
Acoustics (Where Occurs): SAB/SAFB // 50 STC

D10 M — PARTITION
Stud: 10" 20 GA Metal
Partition Width: 11 7/8"
Rating (Where Occurs): 2-Hour / U.L.C. Design # W415
Acoustics (Where Occurs): SAB/SAFB // 50 STC

PARTITION TYPE C
2 LAYERS GWB ON EACH SIDE OF STUDS



C3 M — PARTITION
Stud: 3 5/8" 20 GA Metal
Partition Width: 6 1/8"
Rating (Where Occurs): 2-Hour / WP 1548 (www.wp-1548.com)
Acoustics (Where Occurs): SAB/SAFB // 56 STC

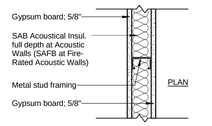
C4 M — PARTITION
Stud: 4" 20 GA Metal
Partition Width: 6 1/2"
Rating (Where Occurs): 2-Hour / WP 1548 (www.wp-1548.com)
Acoustics (Where Occurs): SAB/SAFB // 56 STC

C6 M — PARTITION
Stud: 6" 20 GA Metal
Partition Width: 8 1/2"
Rating (Where Occurs): 2-Hour / WP 1548 (www.wp-1548.com)
Acoustics (Where Occurs): SAB/SAFB // 56 STC

C8 M — PARTITION
Stud: 8" 20 GA Metal
Partition Width: 10 1/2"
Rating (Where Occurs): 2-Hour / WP 1548 (www.wp-1548.com)
Acoustics (Where Occurs): SAB/SAFB // 56 STC

C10 M — PARTITION
Stud: 10" 20 GA Metal
Partition Width: 12 1/2"
Rating (Where Occurs): 2-Hour / WP 1548 (www.wp-1548.com)
Acoustics (Where Occurs): SAB/SAFB // 56 STC

PARTITION TYPE B
1 LAYER GWB ON EACH SIDE OF STUDS



B1 M — PARTITION (NON-RATED ONLY)
Stud: 1 5/8" 20 GA Metal
Partition Width: 2 7/8"
Acoustics (Where Occurs): SAB/SAFB

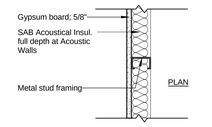
B2 M — PARTITION
Stud: 2 1/2" 20 GA Metal
Partition Width: 3 3/4"
Acoustics (Where Occurs): SAB/SAFB

B3 M — PARTITION
Stud: 3 5/8" 20 GA Metal
Partition Width: 4 7/8"
Rating (Where Occurs): 1-Hour / U.L. Design # U419
Acoustics (Where Occurs): SAB/SAFB // 45 STC

B4 M — PARTITION
Stud: 4" 20 GA Metal
Partition Width: 5 1/4"
Rating (Where Occurs): 1-Hour / U.L. Design # U419
Acoustics (Where Occurs): SAB/SAFB // 45 STC

B6 M — PARTITION
Stud: 6" 20 GA Metal
Partition Width: 7 1/4"
Rating (Where Occurs): 1-Hour / U.L. Design # U419
Acoustics (Where Occurs): SAB/SAFB // 45 STC

PARTITION TYPE A
1 LAYER GWB ON ONE SIDE OF STUDS/CHANNELS



A0 M — FURRED PARTITION
Stud: 7/8" Hat Channels
Partition Width: 1 1/2"
Rating (Where Occurs): None
Acoustics (Where Occurs): SAB/SAFB

A1 M — FURRED PARTITION
Stud: 1 5/8" 20 GA Metal
Partition Width: 2 1/4"
Rating (Where Occurs): None
Acoustics (Where Occurs): SAB/SAFB

A2 M — FURRED PARTITION
Stud: 2 1/2" 20 GA Metal
Partition Width: 3 1/8"
Rating (Where Occurs): None
Acoustics (Where Occurs): SAB/SAFB

A3 M — FURRED PARTITION
Stud: 3 5/8" 20 GA Metal
Partition Width: 4 1/4"
Rating (Where Occurs): None
Acoustics (Where Occurs): SAB/SAFB

A6 M — FURRED PARTITION
Stud: 6" 20 GA Metal
Partition Width: 6 5/8"
Rating (Where Occurs): None
Acoustics (Where Occurs): SAB/SAFB

WALL TYPES - INTERIOR
1 1/2" = 1'-0"

7/29/2016 9:05:00 AM

Colorado Mountain College

COOPER COMMONS

Delta	Description	Date Issued

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STATE OF COLORADO — DENNIS R. HUMPHRIES — 30370 — LICENSED ARCHITECT — 29 JULY 2016

WALL TYPES

BIDDING / PERMIT SET
8/01/2016

PROJECT No.	PROJECT ARCH	PROJECT MNGR	CHECKED BY
35043	DH	JW	JW

SHEET No.

A-001

Level 1 Keynote Legend

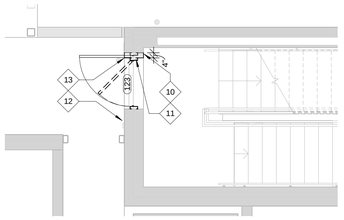
Mark	Text
01	Locate (E) formed elevator opening & remove wall infill. Prepare opening & shaft for elevator install.
03	Provide access for plumbing scope of work at 2nd Level. Coordinate with Plumbing.
04	Provide access for structural upgrades to bottom flange of 2nd Floor beam above.
05	Provide access for structural upgrades at 2nd floor beam connection to column. GC to coordinate finish touch up beyond area of work so finishes match. Coordinate w/ owner.
06	Provide access to North face of gusset plate & floor beam connection.
07	Provide acces to 2nd floor beam/column connection (south face).
08	Provide acces to 2nd floor beam/column connection (east face).
09	Provide access to West face of gusset plate & base plate connection at top of wall connection.
10	Saw cut concrete/masonry wall to enlarge opening for new door. RE: Structural for Lintel support.
11	Modify framed wall above for enlarged opening. RE: Structural.
12	Salvage electronic access for reattachment to new door.
13	Modify (E) t/o wall as req'd for new door & threshold.
14	Provide access for Mechanical access 2nd Level floor opening & ductwork. Coordinate with Mechanical.

Legend

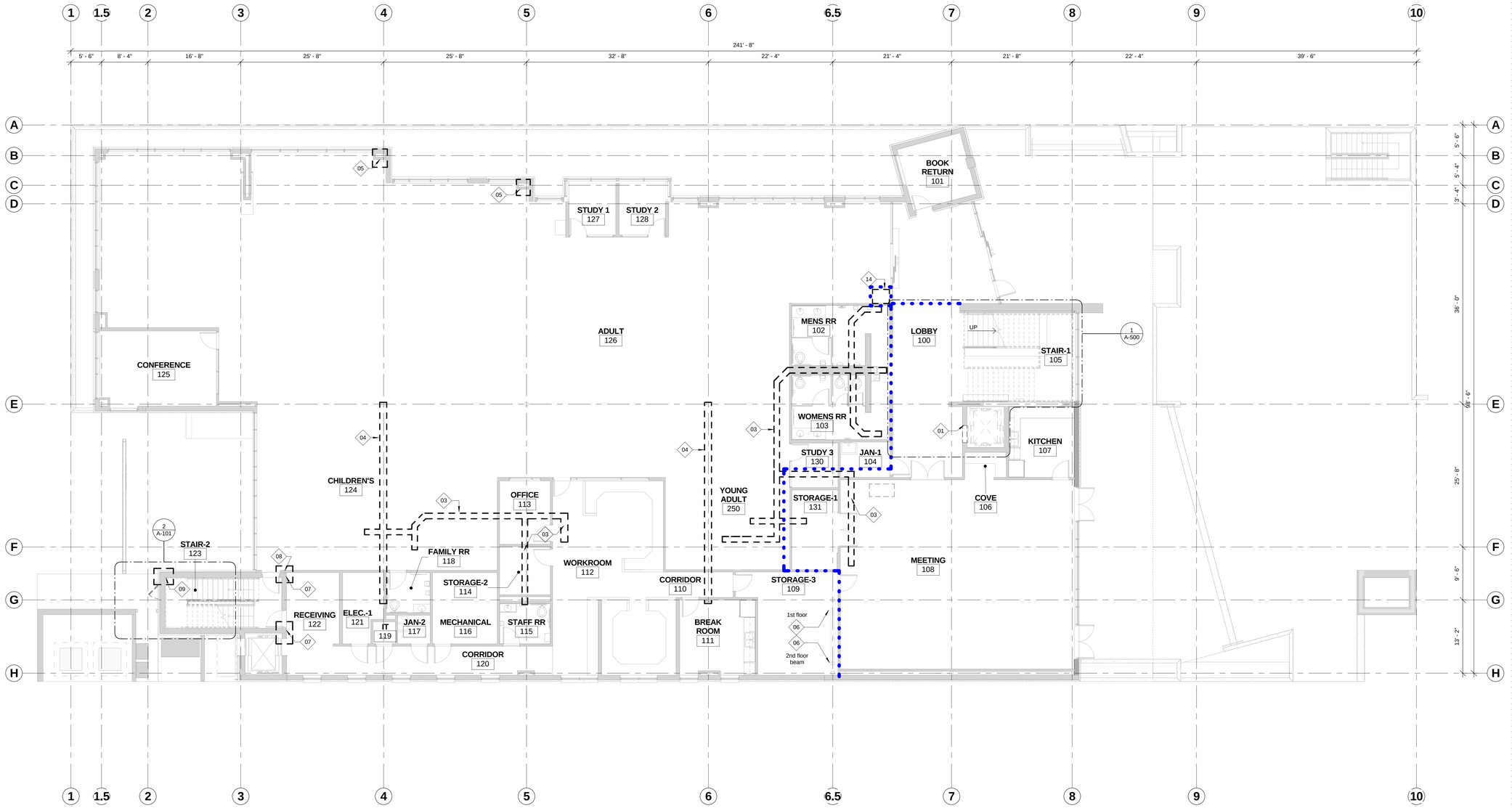
- Existing Wall/Partition
- Area of Work above
- Elements to be Demolished
- Condo boundary line; Refer to 2/A-102 for scope of work delineation for pricing between the CCCA, CMC & GCPLD.

GENERAL NOTES

1. Prepare entire building for Fire Alarm upgrade. Refer to design build Fire Alarm documents.
2. Carefully remove (E) building materials & store for re-installation per plan work.
3. Coordinate amount of access req'd with Structural detail work to be performed.
4. Coordinate amount of access req'd for new/modified Mechanical, Plumbing, Electrical, Fire sprinkler, and Fire alarm, etc.
5. Replace wall/ceiling/etc. materials to before work condition.
6. Maintain all fire ratings.
7. Coordinate all work with Garfield County Public Library District and/or Colorado Mountain College as applicable to area of work. All Library work to be after business hours & coordinated through GCPLD.



2 Stair Landing @ Parking Level
1/4" = 1'-0"



1 Level 1 - Overall
1/8" = 1'-0"

N 0' 4' 8' 16'

Delta	Description	Date Issued

Colorado Mountain College

COOPER COMMONS

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STATE OF COLORADO DENNIS A. HUMPHRIES 38370 LICENSED ARCHITECT 29 JULY 2016

LEVEL 1 PLAN EXISTING

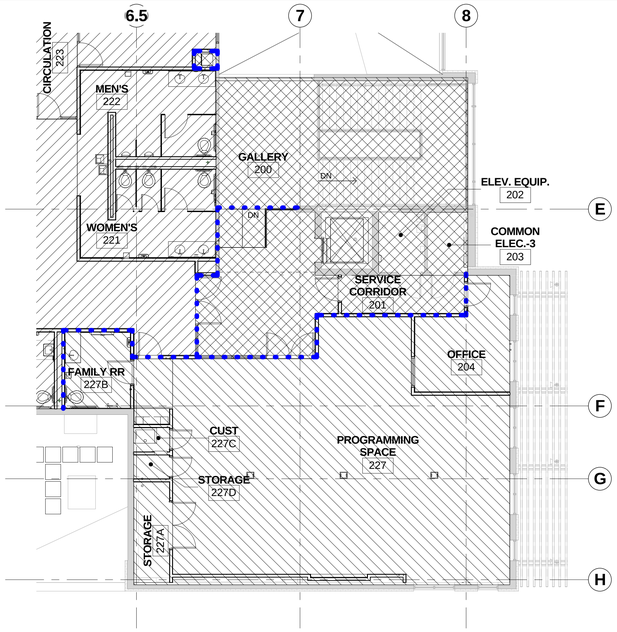
BIDDING / PERMIT SET
8/01/2016

PROJECT No.	PROJECT ARCH	PROJECT MNGR	CHECKED BY
35043	DH	JW	JW

SHEET No.

A-101

7/29/2016 9:05:04 AM



Legend - Scope of Work

- CMC Scope of Work
- GCPLD Scope of Work
- CCCA Scope of work
- Delineation line between CCCA (Cooper Commons Condo Association), CMC (Colorado Mountain College) and GCPLD (Garfield County Public Library District). Wall construction is part of CCCA while wall finishes are part of the respective scope for each per location.

Level 2 Keynote Legend

Mark	Text
01	Remove (E) wall sheathing. Add full depth acoustic insulation. Provide (2) layer 5/8" GWB room side this (E) wall to extend from floor slab to roof deck. Provide acoustic sealant at sill & head.
02	Verify (E) stud framing is securely attached per industry std's. Attach/add framing as necessary.
03	Remove (E) handrail prior to installing GWB. Provide blocking as necessary for handrail attachment. Re-attach handrail.
04	Maintain (E) fire rating at wall/door modifications.
05	Align wall stud with opening.
06	Center wall on grid line/column along grid line E, typ.
07	Hold wall tight to (E) column and/or piping.
08	Operable partition. Mfr. Modernfold. Acousti-seal Encore Paird Panel or Approved Equal. Finish to be marker board each side.
09	Sliding glass wall panels. Mfr. MANKO. 175 Series heavy commercial mall sliders or Approved Equal
10	Verify opening req'd with owner supplied vending machines.
11	Line of (E) soffit above
12	Emergency Exit door in operable partition panel w/ panic hardware, per Mfr.
13	Provide cement bd. wall sheathing & FRP wall finish to 48" A.F.F.
15	Provide double wall stud @ operable partition jamb. Provide bracing to adjacent studs @ 48" O.C. vert.
16	See structural 3/S-102 for low wall support. Connect wall studs to HSS post
17	Provide (1) layers 5/8" GWB room side this (E) wall to extend from floor slab to roof deck. Provide acoustic sealant at sill & head.
18	Attach modified (E) handrail to new wall.
19	Drapery rod above sliding door. Provide blocking as req'd for attachment. Rod & drapery selection by owner.

Legend

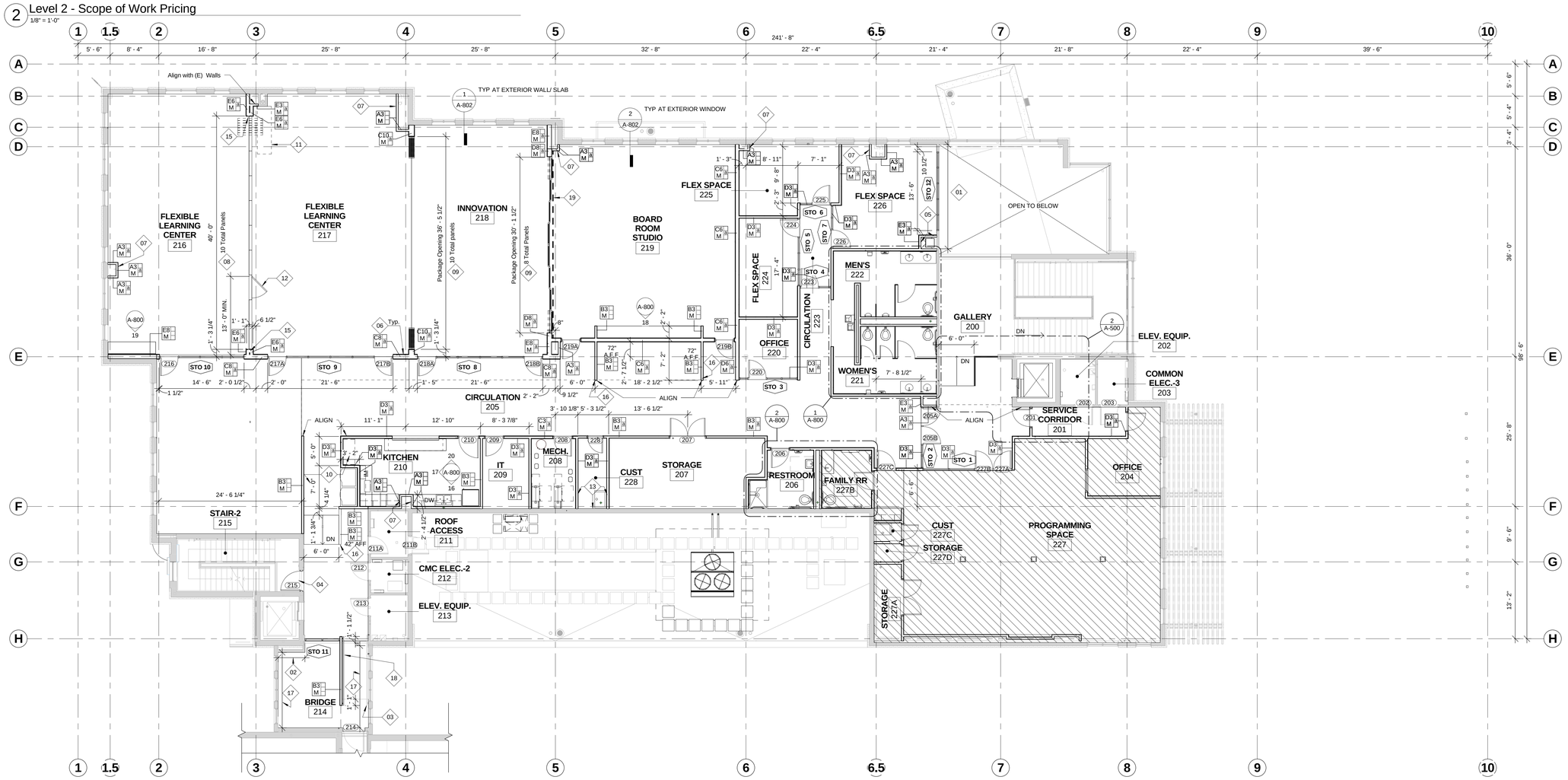
- Existing Wall/Partition
- New Wall/Partition
- See Sheet A-102a
- Line of Soffit / ceiling above

GENERAL NOTES

1. Prepare entire building for Fire Alarm upgrade. Refer to design build Fire Alarm documents.
2. Provide access panels as req'd to all (E) plumbing, electrical on mechanical elements.
3. Carefully remove (E) building materials & store for re-installation per plan work.
4. Coordinate amount of access req'd with Structural detail work to be performed.
5. Coordinate amount of access req'd for new/modified Mechanical, Plumbing, Electrical, Fire sprinkler, and Fire alarm, etc.
6. Replace wall/ceiling/etc. materials to before work condition.
7. Maintain all fire ratings.
8. Coordinate all work with Garfield County Public Library District and/or Colorado Mountain College as applicable to area of work. All Library work to be after business hours & coordinated through GCPLD.

2 Level 2 - Scope of Work Pricing

1/8" = 1'-0"



1 Level 2 - Overall

1/8" = 1'-0"

N 0' 4' 8' 16'

7/29/2016 9:05:11 AM

Colorado Mountain College

COOPER COMMONS

Delta	Description	Date Issued

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STATE OF COLORADO DENNIS R. HUMPHRIES 30370 LICENSED ARCHITECT 29 July 2016

LEVEL 2 PLAN

BIDDING / PERMIT SET
8/01/2016

PROJECT No.	PROJECT ARCH	PROJECT MNGR	CHECKED BY
35043	DH	JW	JW

SHEET No.

A-102

DOOR SCHEDULE - LIBRARY SCOPE

NO.	TYPE	PAIR	DOOR WIDTH	DOOR HEIGHT	DOOR THICKNESS	DOOR MATERIAL	DOOR GLAZING	DOOR UNDER CUT	DOOR FINISH	FRAME TYPE	FRAME FINISH	FIRE RATING	HARDWARE	COMMENTS
G204	B		3' - 0"	7' - 0"	1 3/4"	SC WOOD	G1		STAIN	F1	PAINT		01	
G227A	A	X	6' - 0"	7' - 0"	1 3/4"	SC WOOD			STAIN	F1	PAINT		03	Frame to be EZY jamb trimless door frame
G227B	A		3' - 0"	7' - 0"	1 3/4"	SC WOOD			STAIN	F1	PAINT		02	Frame to be EZY jamb trimless door frame, sound seal weather stripping
G227C	A		2' - 6"	7' - 0"	1 3/4"	SC WOOD			STAIN	F1	PAINT		03	Frame to be EZY jamb trimless door frame
G227D	A		2' - 6"	7' - 0"	1 3/4"	SC WOOD			STAIN	F1	PAINT		04	Frame to be EZY jamb trimless door frame

DOOR SCHEDULE GENERAL NOTES

1. See A-700 for Door & Frame types & standard details.
2. All wood door finishes are clear stain unless otherwise noted. Match (E) wood & finish.
3. All HM frames to be painted to match adjacent wall unless otherwise noted.
4. Doors G227A, G227C & G227D to have MB-1 skin applied to face of door. Coordinate smooth finished edges. Coordinate hardware with vendor/installer.

DOOR HARDWARE:

01 OFFICE ENTRY SET W/ CARD PROXIMITY ACCESS, COORDINATE W/ SECURITY CONTROLLER
02 PRIVACY SET W/ OCCUPANCY INDICATOR
03 PASSAGE SET DUMMY W/ MAGNETIC CATCHES
04 STOREROOM SET

HARDWARE NOTES

1. Doorway solutions to provide door frames, hardware & security access. Hardware to match (E) GCPLD 1st floor space. Coordinate w/ GCPLD

Level 2 Keynote Legend - Library Scope

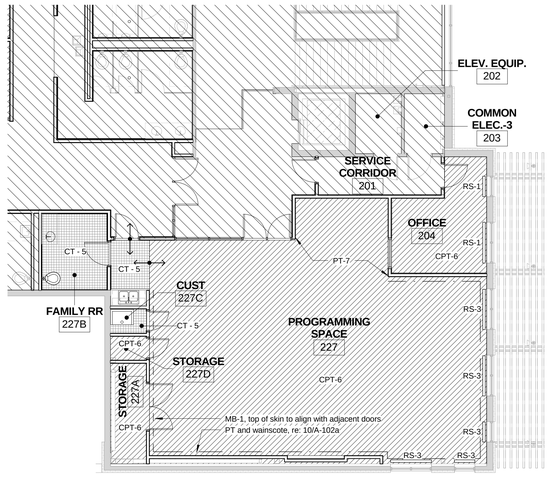
Mark	Text
2	Provide cement bd. wall sheathing & FRP wall finish to 48" A.F.F.
4	Coordinate inset dimensions & height above floor for TV alcove w/ owner.
5	Cubbies by owner
6	Coat hooks mounted to 1x4 wood trim finish to match baseboards, coat hooks by owner. Coordinate length with owner.
8	Provide 2" thick fiberglass acoustic board b/w roof trusses. Install tight fitting to roof framing.
9	Ceiling access panel; 30" x 30"

Legend

- Existing Wall/Partition
- New Wall/Partition
- See Sheet A-102
- Line of Soffit / ceiling above

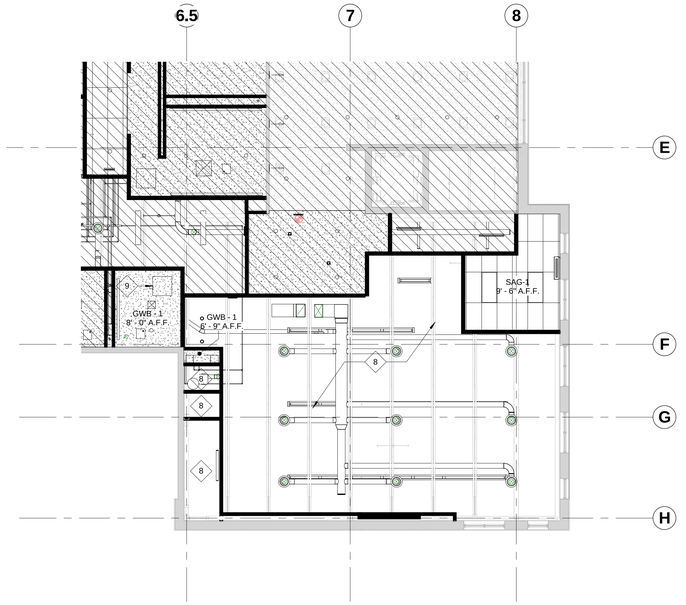
GENERAL NOTES

1. Prepare entire building for Fire Alarm upgrade. Refer to design build Fire Alarm documents.
2. Provide access panels as req'd to all (E) plumbing, electrical on mechanical elements.
3. Carefully remove (E) building materials & store for re-installation per plan work.
4. Coordinate amount of access req'd with Structural detail work to be performed.
5. Coordinate amount of access req'd for new/modified Mechanical, Plumbing, Electrical, Fire sprinkler, and Fire alarm, etc.
6. Replace wall/ceiling/etc. materials to before work condition.
7. Maintain all fire ratings.
8. Coordinate all work with Garfield County Public Library District and/or Colorado Mountain College as applicable to area of work. All Library work to be after business hours & coordinated through GCPLD.



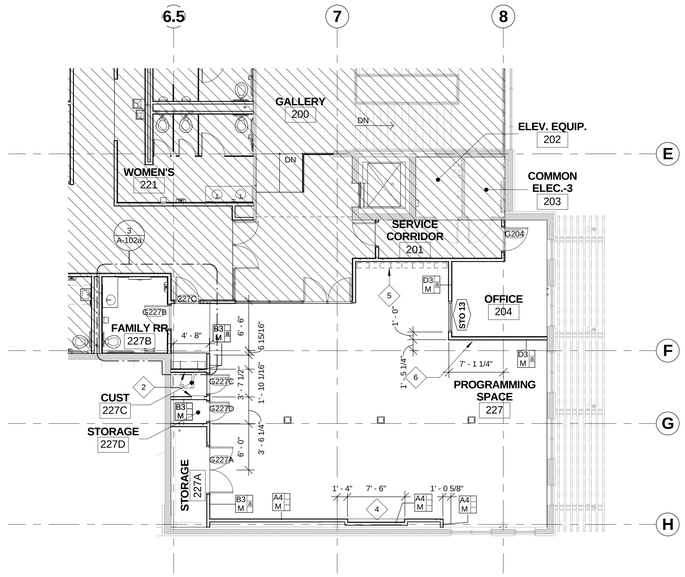
9 Level 2 - Finish Floor Plan - Library Scope
1/8" = 1'-0"

NOTE: See A-801 for surface material, finish material legend and schedules



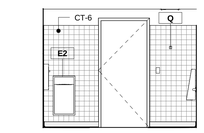
2 Level 2 RCP - Library Scope
1/8" = 1'-0"

NOTE: See A-200 for ceiling material legend, component legend and schedules

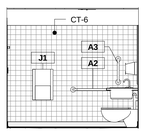


1 Level 2 - Library Scope
1/8" = 1'-0"

10 Typ. Programming Space 227 Interior Elevation
1/4" = 1'-0"



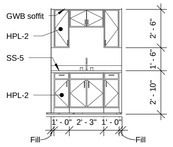
7 Family RR 227B Elevation D
1/4" = 1'-0"



6 Family RR 227B Elevation C
1/4" = 1'-0"

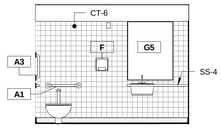
GENERAL NOTES:

1. Provide blocking for toilet room accessories.
2. Provide blocking for cabinets.

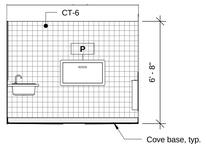


Note: All cabinets to be lockable
All cabinets to be flat panel

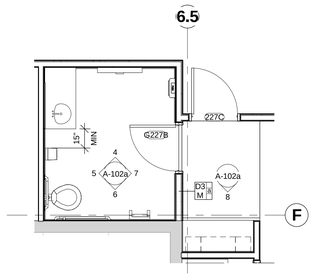
8 Programming Space 227 Sink
1/4" = 1'-0"



5 Family RR 227B Elevation B
1/4" = 1'-0"



4 Family RR 227B Elevation A
1/4" = 1'-0"



3 Enlarged Plan - Family RR 227B
1/4" = 1'-0"

NOTE: See A-800 for toilet accessory legend, schedule and notes. Toilet tissue & soap dispenser by Owner. Provide blocking as necessary and coordinate w/ Owner.

Delta	Description	Date Issued

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STATE OF COLORADO DENNIS R. HUMPHRIES 30370 LICENSED ARCHITECT
29 July 2016

PLANS & ELEVATIONS - LIBRARY WORK

BIDDING / PERMIT SET
8/01/2016

PROJECT No.	PROJECT ARCH	PROJECT MNGR	CHECKED BY
35043	Approver	Designer	Checker

SHEET No.

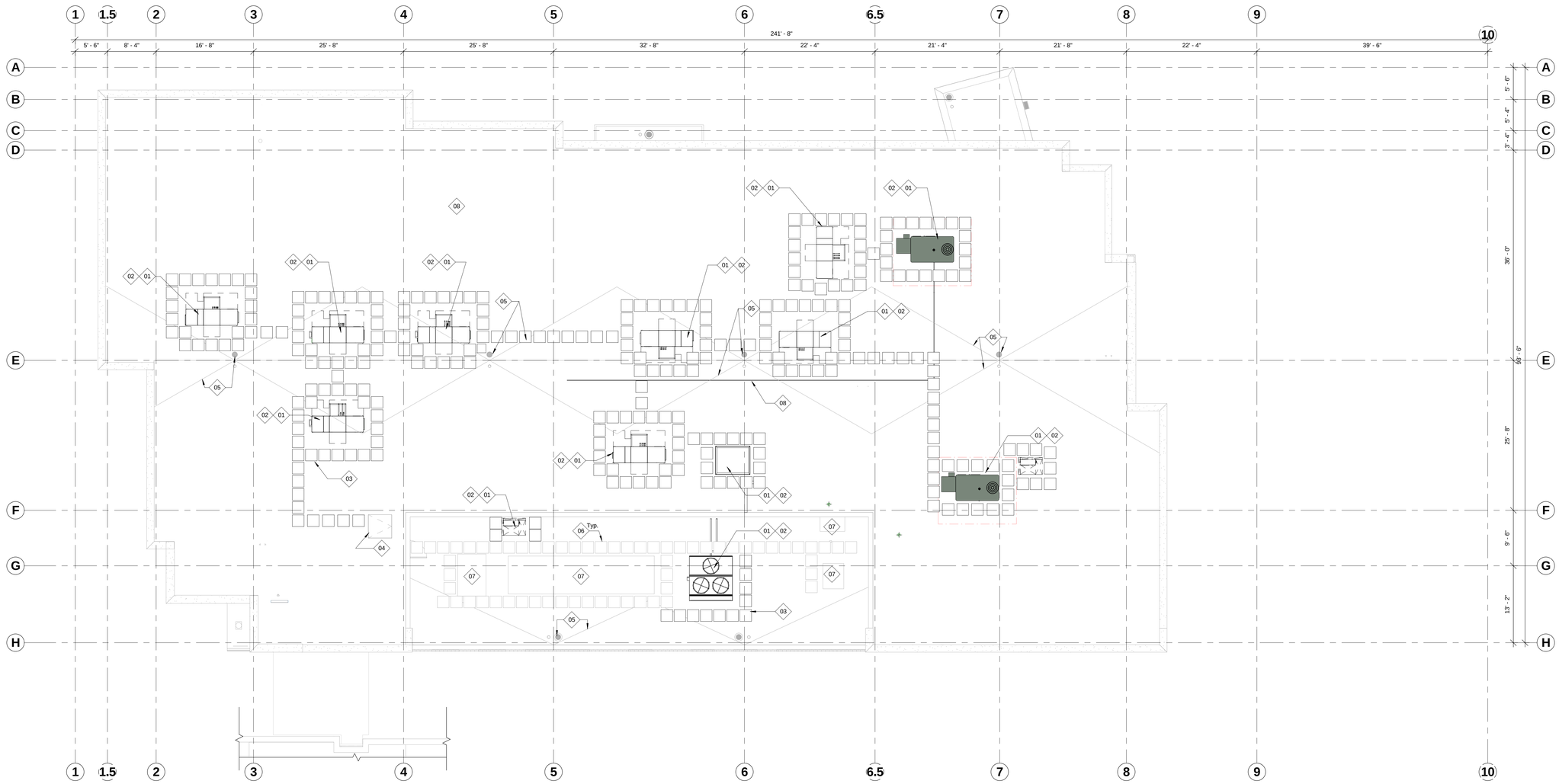
A-102a

7/29/2016 9:05:15 AM

Roof Plan Keynote Legend	
Mark	Text
01	Refer to Mechancial for unit information & unit curb. Intsall curb & tie into (E) roofing per Mfr. standards.
02	Install new insulation cricket to maintain positive drainage at mechanical equipment. Comply with roofing Mfr. standards and warranty requirements.
03	Roofing walk pavers to match (E) install per Mfr. standards. Confirm layout with unit access requirments to maintain protection around unit
04	(E) upper roof access hatch with guardrail protection
05	(E) roof overflow drains & slope lines
06	(E) roof pavers
07	(E) equipment
08	Gas line; Re Mechanical

GENERAL NOTES

1. All roofing work to be done per Mfr. standards to maintain all roof warranties.
2. Provide roofing flashing/boots/etc. at all piping penetrations per roof Mfr. standards.
3. Roof equipment to be painted to match roof color (matte finish)
4. Coordinate all work with Garfield County Public Library District and/or Colorado Mountain College as applicable to area of work. All Library work to be after business hours & coordinated through GCPLD.



1 Roof Level Plan
1/8" = 1'-0"

N 0' 4' 8' 16'

7/29/2016 9:05:20 AM

Colorado Mountain College

COOPER COMMONS

Delta	Description	Date Issued

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STATE OF COLORADO DENVER R. HUMPHRIES 309370 LICENSED ARCHITECT
29 JULY 2016

ROOF LEVEL PLAN

BIDDING / PERMIT SET
8/01/2016

PROJECT No.	PROJECT ARCH	PROJECT MNGR	CHECKED BY
35043	DH	JW	JW

SHEET No.

A-103

RCP Keynote Legend

Mark	Text
01	Self luminous exit sign per operable partition mfr.
02	Provide 2" thick fiberglass acoustic board b/w roof trusses. Install tight fitting to roof framing.
03	Ceiling access panel, 30" x 30"
04	Framed bulkhead at 9'-5" AFF
05	Framed bulkhead at 9'-3" AFF (above bridge slab)
06	Coordinate new opening, framing as required, for Mech. in (E) ceiling

Ceiling Material Schedule

Mark	Description	Manufacturer	Series	Model	Pattern	Color	Size	Comments
GWB-1	5/8" GYP BD CEILING							
SAG-1	SUSPENDED ACOUSTICAL GRID	ARMSTRONG	CALLA	SQUARE LAY-IN	FINE	WHITE	24"x48"	

SUSPENDED ACOUSTICAL GRID
REF: SPECS

5/8" CEILING GWR-1
5/8" WATER RESISTANT GWB-2

OPEN TO ABOVE

SEE SHEET A-102a

DIFFUSER SUPPLY,
RE: MECH.

LINEAR DIFFUSER
SUPPLY, RE: MECH.

RETURN AIR,
RE: MECH

EXIT SIGN

INDICATES WALLS
EXTENDED UP TO
UNDERSIDE OF METAL DECK

DAYLIGHT SENSOR

LINEAR FLUORESCENT - WALL MOUNT

PENDANT

RECESSED DOWNLIGHTS

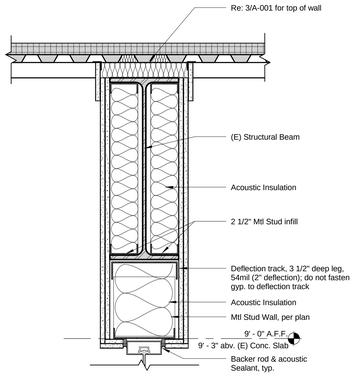
RECTILINEAR PENDANT

STRIP LIGHT

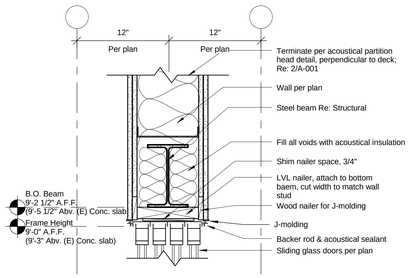
Ceiling Legend

GENERAL NOTES

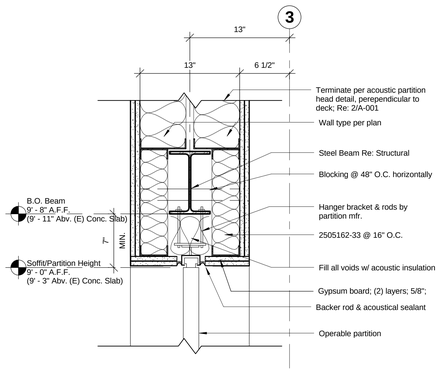
1. All exposed to structure ceiling space to be painted. Do not paint ceiling in mechanical/utility rooms/ corridors, stairs.
2. Paint all exposed piping, ducts, etc.
3. Do not paint data/coaxial cable
4. Refer to sheet A-001 for ceiling control joint information
5. Center ceiling grid in room unless noted otherwise
6. Modify (E) sprinkler system as req'd for new spaces. See Design Build Fire protection dwgs.
7. Coordinate all work by Garfield County Library District
8. Provide acoustical insulation above restroom ceilings.
9. Refer to 2/A-102 for scope of work deliniation for pricing between the CCCA, CMC & GCPLD and/or Colorado Mountain College as applicable to area of work. All Library work to be after business hours & coordinated through GCPLD.



4 HEAD CONDITION @ STEEL BEAM & ROOF
1 1/2" = 1'-0"



3 Head Detail @ Sliding Doors (Jamb Sim.)
1 1/2" = 1'-0"



2 Head Detail @ Operable partition wall
1 1/2" = 1'-0"

1 Level 2 Reflected Ceiling Plan
1/8" = 1'-0"

Colorado Mountain College

COOPER COMMONS

Delta	Description	Date Issued

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STATE OF COLORADO
DENNIS R. HUMPHRIES
36370
LICENSED ARCHITECT
29 July 2016

LEVEL 2 - REFLECTED CEILING PLAN

BIDDING / PERMIT SET
8/01/2016

PROJECT No.	PROJECT ARCH	PROJECT MNGR	CHECKED BY
35043	DH	JW	JW

SHEET No.

A-200

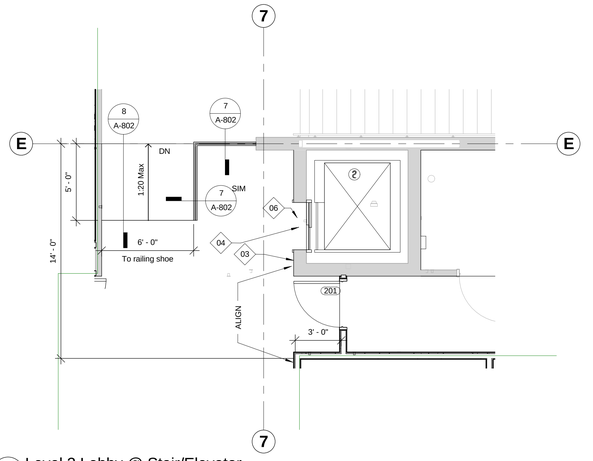
7/29/2016 9:05:29 AM

Vertical Circulation Keynote Legend

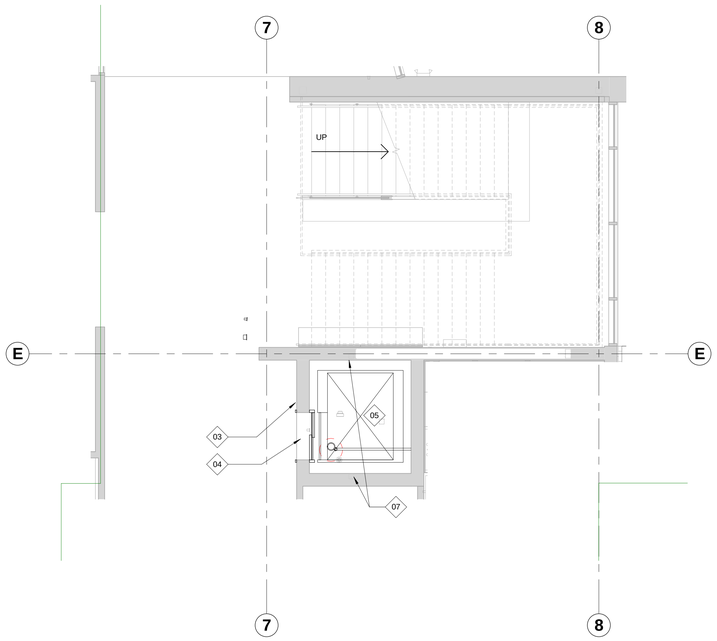
Mark	Text
03	Modify (E) wall base at new elev. opening. Provide new as req'd to match (E).
04	Demo (E) Wall as re'd to re-frame wall with modified elevator door location. Match (E) construction, maintain all fire ratings.
05	Holeless Hydraulic Elev. in (E) shaft opening. Schindler 330A. Provide pit ladder, extend 42" abv. Level 1. Coordinate w/ elev. Mfr. Field verify (E) elevator guide rail locations & hoist beam. Modify (E) shaft items as req'd for revised door location.
06	Modify opening sill to align w/ new Level 2 landing height. Coordinate w/ elevator Mfr.
07	(E) HSS Elevator guid rail support

Legend

- Existing Wall/Partition
- New Wall/Partition
- Objects Overhead



2 Level 2 Lobby @ Stair/Elevator
1/4" = 1'-0"



1 Level 1 Lobby @ Stair/Elevator
1/4" = 1'-0"

Colorado Mountain College

COOPER COMMONS

Delta	Description	Date Issued

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STATE OF COLORADO DENNIS R. HUMPHRIES 309370 LICENSED ARCHITECT 29 JULY 2016

VERTICAL CIRCULATION

BIDDING / PERMIT SET
8/01/2016

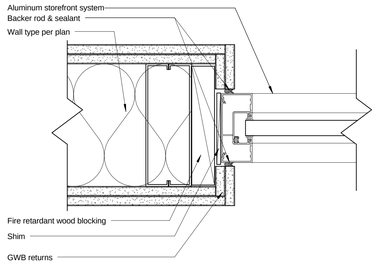
PROJECT No.	PROJECT ARCH	PROJECT MNGR	CHECKED BY
35043	DH	JW	JW

SHEET No.

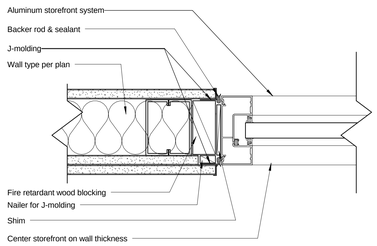
A-500

7/29/2016 9:05:31 AM

GLAZING SCHEDULE						
MARK	DESCRIPTION	MANUFACTURER	MODEL	SERIES	COLOR	COMMENTS
G1	1/4" TEMPERED				CLEAR	
G2	1" INSULATED GLAZING				CLEAR	1/4" DOUBLE LAMINATED LITES, 1/2" AIR SPACE
G3	1" INSULATED TEMPERED				SOLARBAN 70XL	



15 STOREFRONT JAMB @ GRID E
3" = 1'-0"



14 STOREFRONT JAMB @ GYP. WALL
3" = 1'-0"

DOOR HARDWARE

01 ENTRANCE: BEST 93K 7AB 14D S3 690; HINGE 4.5X4.5 5BBIHW; CLOSER LCN 4040-62 PA, WITH 4040-18 MOUNT PLATE AND 4040-16 CORNER BRACKET; HINGE - CONTINUOUS; CORE BY CMC

02 ENTRANCE: BEST 93K 7AB 14D S3 626; HINGE 4.5X4.5 5BBIHW; CLOSER LCN 4040; IVES KICKPLATE 8400 PAZ8 8X32 B4ECS; CORE BY CMC

03 PRIVACY: BEST 93K 7L 14D S3 626; HINGE 4.5X4.5 5BBIHW; CLOSER LCN 4040; IVES KICKPLATE 8400 PAZ8 8X32 B4ECS; OCCUPIED INDICATOR; CORE BY CMC

04 STORE ROOM: LEFT SWING INACTIVE MORTISE MANUAL FLUSH BOLTS TOP AND BOTTOM; BEST 93K 7D 14D S3 626; HINGE 4.5X4.5 5BBIHW; IVES FB358 626; IVES DP1 FLOOR DUST PROOF STRIKE; IVES KICKPLATE 8400 PAZ8 8X32 B4ECS; CORE BY CMC

05 STORE ROOM: BEST 93K 7D 14D S3 626; CLOSER LCN 4040; HINGE 4.5X4.5 5BBIHW; IVES FB358 626; IVES KICKPLATE 8400 PAZ8 8X32 B4ECS; CORE BY CMC

06 EMERGENCY EXIT: VON DUPRIN CD 35A 360NL 17 3' US313; CLOSER LCN 4040, 4040-62 PA, WITH 4040-18 MOUNT PLATE AND 4040-16 CORNER BRACKET; HINGE - CONTINUOUS; CORE BY CMC

07 EMERGENCY EXIT: VON DUPRIN CD 35A 360NL 17 3' US26D; CLOSER LCN 4040, 4040-62 PA; HINGE 4.5X4.5 5BBIHW; IVES KICKPLATE 8400 PAZ8 8X32 B4ECS; CORE BY CMC

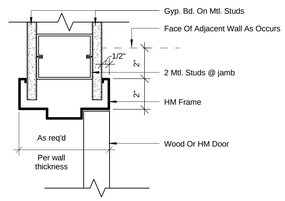
08 EMERGENCY EXIT/ELECTRONIC ACCESS: CENTER MULLION VON DUPRIN 4954; VON DUPRIN QEL 35A 360NL 17 3' US313; HES ASSA ABLOY ELECTRIC STRIKE 9400-12/24 D-613E; CLOSER LCN 4040, 4040-62 PA, WITH 4040-18 MOUNT PLATE AND 4040-16 CORNER BRACKET; HINGE - CONTINUOUS; DORMA ED 800J ADA OPERATOR, ADA PUSH BUTTON OPENERS; CORE BY CMC; CARD SWIPE ACCESS COORDINATE WITH SECURITY CONTRACTOR

08A EMERGENCY EXIT/ELECTRONIC ACCESS: CENTER MULLION VON DUPRIN 4954; VON DUPRIN QEL 35A 360NL 17 3' US313; HES ASSA ABLOY ELECTRIC STRIKE 9400-12/24 D-613E; CLOSER LCN 4040, 4040-62 PA, WITH 4040-18 MOUNT PLATE AND 4040-16 CORNER BRACKET; HINGE - CONTINUOUS; DORMA ED 800J ADA OPERATOR, ADA PUSH BUTTON OPENERS; CORE BY LIBRARY DISTRICT; CARD PROXIMITY ACCESS COORDINATE WITH SECURITY CONTRACTOR

09 EMERGENCY EXIT ONLY W/ ALARM: VON DUPRIN CD 35A 360NL 17 ALK 3' US26D; CLOSER LCN 4040, 4040-62 PA; HINGE 4.5X4.5 5BBIHW; IVES KICKPLATE 8400 PAZ8 8X32 B4ECS; CORE BY LIBRARY DISTRICT

10 MATCH EXISTING HARDWARE REMOVED. EMERGENCY EXIT FIRE RATED.

11 ENTRANCE: BEST 93K 7AB 14D S3 690; HINGE 4.5X4.5 5BBIHW; CLOSER LCN 4040, 4040-62 PA, WITH 4040-18 MOUNT PLATE AND 4040-16 CORNER BRACKET; HES ASSA ABLOY ELECTRIC STRIKE 9400-12/24 D-613E; CORE BY LIBRARY DISTRICT; CARD PROXIMITY ACCESS COORDINATE WITH SECURITY CONTRACTOR



Typ. Gyp. Wall Jamb (Head Sim)
3" = 1'-0"

DOOR SCHEDULE

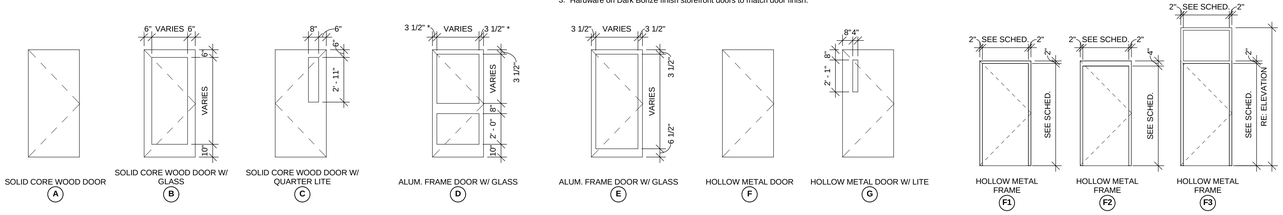
NO.	TYPE	PAIR	DOOR WIDTH	DOOR HEIGHT	DOOR THICKNESS	DOOR MATERIAL	DOOR GLAZING	DOOR UNDER CUT	DOOR FINISH	FRAME TYPE	FRAME FINISH	FIRE RATING	HARDWARE	COMMENTS
123	G		3' - 4"	7' - 0"	1 3/4"	HM	G3		PAINT	F2	PAINT	60 MIN	10	FIRE RATED GLAZING; GLAZING MARKING D-H-60. REINSTALL SALVAGED ELECTRONIC KEY ACCESS HARDWARE
201	B		3' - 0"	7' - 0"	1 3/4"	SC WOOD	G1		STAIN	F1	PAINT		11	FILL JAMB & HEAD FRAME WITH MINERAL WOOL, PACKED TIGHT. PROVIDE LOW PROFILE ADJUSTABLE BUBBLE SEAL AT JAMB & HEAD CONDITION, COLOR DARK BRONZE, ZERO 475 OR EQUAL. PROVIDE AUTOMATIC DOOR BOTTOM, COLOR DARK BRONZE, ZERO 367 OR EQUAL.
205A	E	X	3' - 0"	7' - 0"	1 3/4"	ALUM	G2		DARK BRONZE	F1	DARK BRONZE		08	COORDINATE CARD READER & ELECTRONIC STRIKE WIRING WITH STOREFONT INSTALLATION/ELECTRICAL
205B	E	X	3' - 0"	7' - 0"	1 3/4"	ALUM	G2		DARK BRONZE	F1	DARK BRONZE		08	COORDINATE CARD READER & ELECTRONIC STRIKE WIRING WITH STOREFONT INSTALLATION/ELECTRICAL
206	A		3' - 0"	7' - 0"	1 3/4"	SC WOOD	G2		STAIN	F1	PAINT		03	FILL JAMB & HEAD FRAME WITH MINERAL WOOL, PACKED TIGHT.
207	A	X	6' - 0"	7' - 0"	1 3/4"	SC WOOD			STAIN	F1	PAINT		04	FILL JAMB & HEAD FRAME WITH MINERAL WOOL, PACKED TIGHT.
208	A		3' - 0"	7' - 0"	1 3/4"	SC WOOD			STAIN	F1	PAINT		05	FILL JAMB & HEAD FRAME WITH MINERAL WOOL, PACKED TIGHT.
209	A		3' - 0"	7' - 0"	1 3/4"	SC WOOD			STAIN	F1	PAINT		05	FILL JAMB & HEAD FRAME WITH MINERAL WOOL, PACKED TIGHT.
210	C		3' - 4"	7' - 0"	1 3/4"	SC WOOD	G2		STAIN	F1	PAINT		02	FILL JAMB & HEAD FRAME WITH MINERAL WOOL, PACKED TIGHT.
215	G		3' - 4"	7' - 0"	1 3/4"	HM	G1		PAINT	F1	PAINT	60 MIN	10	FIRE RATED GLAZING; GLAZING MARKING D-H-60. REINSTALL SALVAGED ELECTRONIC KEY ACCESS HARDWARE
216	E		3' - 0"	7' - 0"	1 3/4"	ALUM	G2		DARK BRONZE	F1	DARK BRONZE		06	
217A	E		3' - 0"	7' - 0"	1 3/4"	ALUM	G2		DARK BRONZE	F1	DARK BRONZE		06	
217B	E		3' - 0"	7' - 0"	1 3/4"	ALUM	G2		DARK BRONZE	F1	DARK BRONZE		06	
218A	E		3' - 0"	7' - 0"	1 3/4"	ALUM	G2		DARK BRONZE	F1	DARK BRONZE		06	
218B	E		3' - 0"	7' - 0"	1 3/4"	ALUM	G2		DARK BRONZE	F1	DARK BRONZE		06	
219A	C		3' - 0"	7' - 0"	1 3/4"	SC WOOD	G2		STAIN	F3	DARK BRONZE		07	PROVIDE STOREFRONT FRAME WITH TRANSOM ABV. DOOR TO 9'-0" T.O. FRAME; GLAZING TYPE G2. PAINT FRAME DARK BRONZE TO MATCH STOREFRONT. FILL JAMB & HEAD FRAME WITH MINERAL WOOL, PACKED TIGHT.
219B	C		3' - 0"	7' - 0"	1 3/4"	SC WOOD	G2		STAIN	F3	DARK BRONZE		07	PROVIDE STOREFRONT FRAME WITH TRANSOM ABV. DOOR TO 9'-0" T.O. FRAME; GLAZING TYPE G2. PAINT FRAME DARK BRONZE TO MATCH STOREFRONT. FILL JAMB & HEAD FRAME WITH MINERAL WOOL, PACKED TIGHT.
220	E		3' - 0"	7' - 0"	1 3/4"	ALUM	G2		DARK BRONZE	F1	DARK BRONZE		01	PROVIDE FLOOR DOOR STOP
223	E		3' - 0"	7' - 0"	1 3/4"	ALUM	G2		DARK BRONZE	F1	DARK BRONZE		01	
224	E		3' - 0"	7' - 0"	1 3/4"	ALUM	G2		DARK BRONZE	F1	DARK BRONZE		01	
225	E		3' - 0"	7' - 0"	1 3/4"	ALUM	G2		DARK BRONZE	F1	DARK BRONZE		01	
226	E		3' - 0"	7' - 0"	1 3/4"	ALUM	G2		DARK BRONZE	F1	DARK BRONZE		01	
227A	E	X	3' - 0"	7' - 0"	1 3/4"	ALUM	G2		DARK BRONZE	F1	DARK BRONZE		08A	COORDINATE CARD READER & ELECTRONIC STRIKE WIRING WITH STOREFONT INSTALLATION/ELECTRICAL
227B	E	X	3' - 0"	7' - 0"	1 3/4"	ALUM	G2		DARK BRONZE	F1	DARK BRONZE		08A	COORDINATE CARD READER & ELECTRONIC STRIKE WIRING WITH STOREFONT INSTALLATION/ELECTRICAL
227C	A		3' - 0"	7' - 0"	1 3/4"	SC WOOD	G1		STAIN	F1	PAINT		09	SMOKE CONTROL DOOR. FILL JAMB & HEAD FRAME WITH MINERAL WOOL, PACKED TIGHT. PROVIDE LOW PROFILE ADJUSTABLE BUBBLE SEAL AT JAMB & HEAD CONDITION, COLOR DARK BRONZE, ZERO 475 OR EQUAL. PROVIDE AUTOMATIC DOOR BOTTOM, COLOR DARK BRONZE, ZERO 367 OR EQUAL.
228	A		2' - 6"	7' - 0"	1 3/4"	SC WOOD			STAIN	F1	PAINT			FILL JAMB & HEAD FRAME WITH MINERAL WOOL, PACKED TIGHT.

EXISTING DOOR SCHEDULE

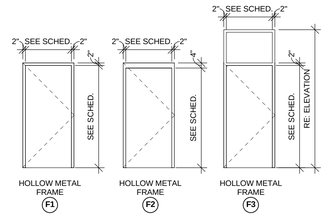
NO.	TYPE	PAIR	DOOR WIDTH	DOOR HEIGHT	DOOR THICKNESS	DOOR MATERIAL	DOOR GLAZING	DOOR UNDER CUT	DOOR FINISH	FRAME TYPE	FRAME FINISH	FIRE RATING	HARDWARE	COMMENTS
202	F		3' - 0"	7' - 0"	1 3/4"	HM			-		-			RE-INSTALL (E) FRAME, DOOR AND HARDWARE. (E) DOOR & HARDWARE TO REMAIN
203	F		3' - 0"	7' - 0"	1 3/4"	HM			-		-			RE-INSTALL (E) FRAME, DOOR AND HARDWARE. (E) DOOR & HARDWARE TO REMAIN
211A	F		3' - 0"	7' - 0"	1 3/4"	HM			PAINT		PAINT			(E) DOOR & HARDWARE TO REMAIN
211B	F		3' - 0"	7' - 0"	1 3/4"	HM			-		-			(E) DOOR & HARDWARE TO REMAIN
212	F		3' - 0"	7' - 0"	1 3/4"	HM			PAINT		PAINT			(E) DOOR & HARDWARE TO REMAIN
213	F		3' - 0"	7' - 0"	1 3/4"	HM			PAINT		PAINT			(E) DOOR & HARDWARE TO REMAIN
214	G		3' - 6"	7' - 0"	1 3/4"	HM			-		-			(E) DOOR & HARDWARE TO REMAIN

DOOR SCHEDULE GENERAL NOTES

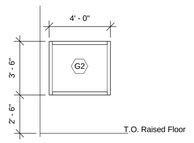
1. All wood door finishes are clear stain unless otherwise noted. Match (E) wood & finish.
2. All HM frames to be painted to match adjacent wall unless otherwise noted.
3. Hardware on Dark Bonze finish storefront doors to match door finish.



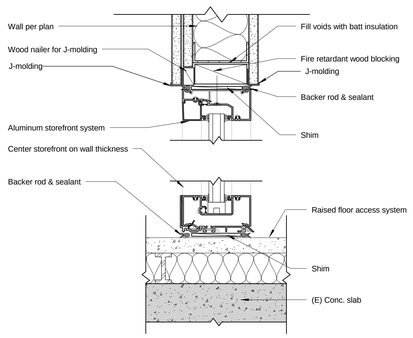
DOOR TYPES
1/4" = 1'-0"



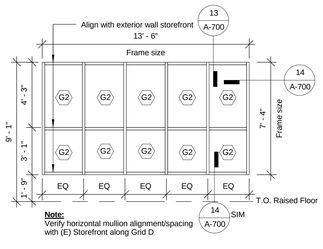
DOOR FRAME TYPES
1/4" = 1'-0"



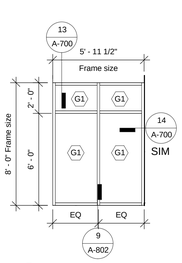
16 Storefront 13
1/4" = 1'-0"



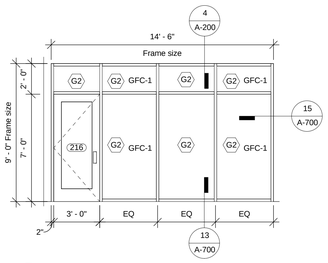
13 STOREFRONT HEAD & SILL DETAILS @ GYP. WALL
3" = 1'-0"



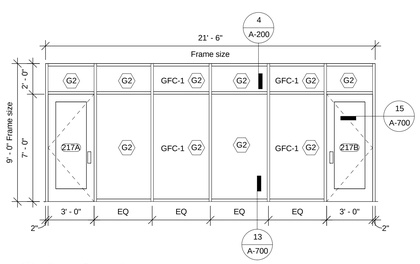
12 Storefront 12
1/4" = 1'-0"



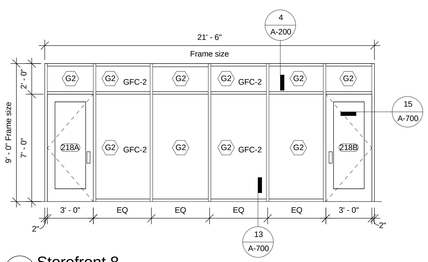
11 Storefront 11
1/4" = 1'-0"



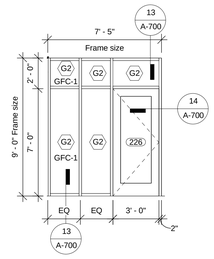
10 Storefront 10
1/4" = 1'-0"



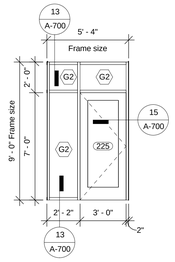
9 Storefront 9
1/4" = 1'-0"



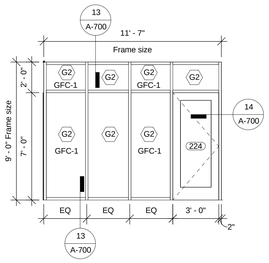
8 Storefront 8
1/4" = 1'-0"



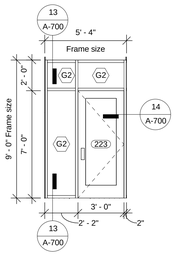
7 Storefront 7
1/4" = 1'-0"



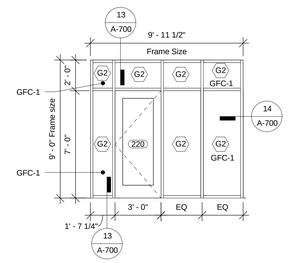
6 Storefront 6
1/4" = 1'-0"



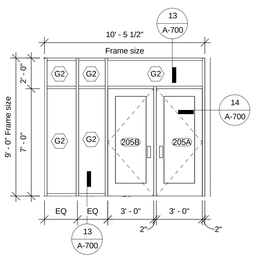
5 Storefront 5
1/4" = 1'-0"



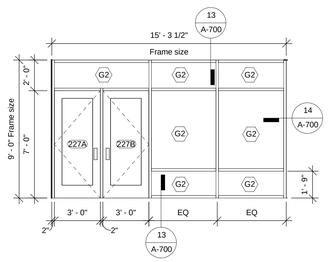
4 Storefront 4
1/4" = 1'-0"



3 Storefront 3
1/4" = 1'-0"



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



1 Storefront 1
1/4" = 1'-0"

7/29/2016 9:05:37 AM

Colorado Mountain College

COOPER COMMONS

Delta	Description	Date Issued

HUMPHRIES POLI ARCHITECTS

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STATE OF COLORADO DENNIS R. HUMPHRIES 309370 LICENSED ARCHITECT
29 JULY 2016

DOOR & FINISH SCHEDULES, STOREFRONT ELEVATIONS & DETAILS

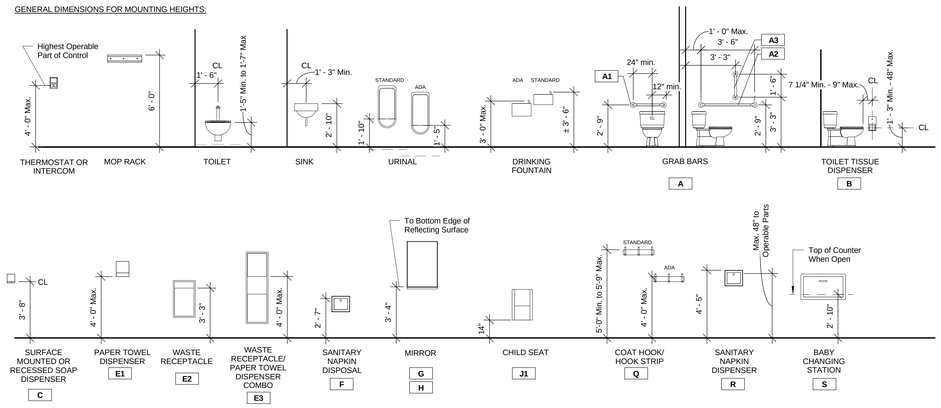
BIDDING / PERMIT SET
8/01/2016

PROJECT No.	PROJECT ARCH	PROJECT MNGR	CHECKED BY
35043	DH	JW	JW

SHEET No.

A-700

GENERAL DIMENSIONS FOR MOUNTING HEIGHTS:



MOUNTING HEIGHTS

1/4" = 1'-0"

Toilet Accessory Schedule

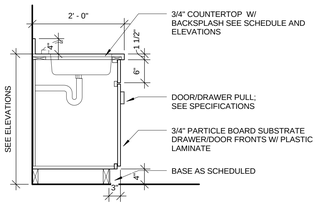
Type Mark	Description	Manufacturer	Model	Comments
A1	GRAB BAR - 24"	BRADLEY	832-001-24	
A2	GRAB BAR - 42"	BRADLEY	832-001-42	
A3	GRAB BAR - 18"	BRADLEY	832-001-18	VERTICAL GRAB BAR
B	TOILET TISSUE DISPENSER	BRADLEY	5A10/5A11	SURFACE MOUNTED/PARTITION MOUNTED
C	SOAP DISPENSER	BRADLEY	6562	SURFACE MOUNTED
E2	RECESSED WASTE RECEPTACLE	BRADLEY	344	W/ PUSH FLAP DOOR
F	AUTOMATIC HAND DRYER	STIEBEL ELTRON	GALAXY M1	COLOR: SILVER METALLIC
G5	FRAMED MIRROR	BRADLEY	780-3646	
G6	FRAMED MIRROR	BRADLEY	780-7346	
J1	CHILD PROTECTION SEAT	KOALA KARE	KB102	WALL MOUNTED
P	BABY CHANGING STATION	BRADLEY	9612	
Q	HOOK	BRADLEY	9134	
R	SANITARY NAPKIN RECEPTACLE	BRADLEY	4A10/4A11	SURFACE MOUNTED/PARTITION MOUNTED

Restroom Partition Schedule

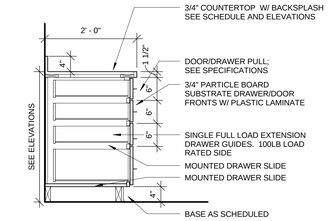
Mark	Description	Manufacturer	Model	Color	Comments
SCRC-1	POWDER COATED METAL	HADRIAN	ELITE	585 SAHARA	FLOOR MOUNTED

GENERAL NOTES

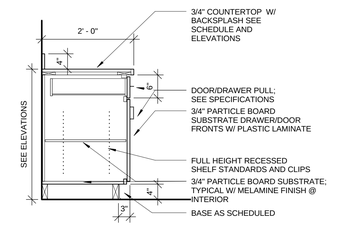
1. Provide blocking for accessory / partition attachment, typ.
2. Provide blocking / support for cabinets, typ.
3. Owner to provide Kitchen appliances, coordinate cabinets / openings as required.



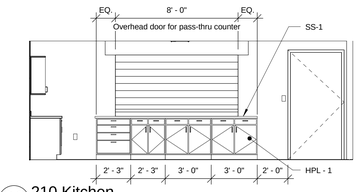
23 Base Cabinet - w/ Sink
3/4" = 1'-0"



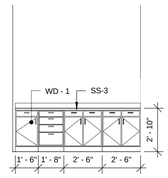
22 Base Cabinet - w/ Drawers
3/4" = 1'-0"



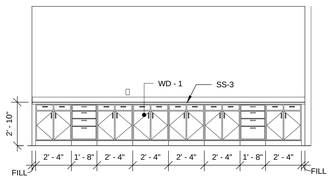
21 Base Cabinet
3/4" = 1'-0"



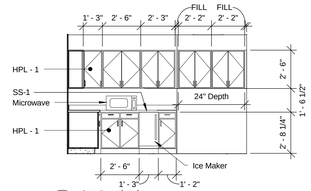
20 210 Kitchen
1/4" = 1'-0"
Note: All cabinets to be lockable
All cabinets to be melamine flast panel



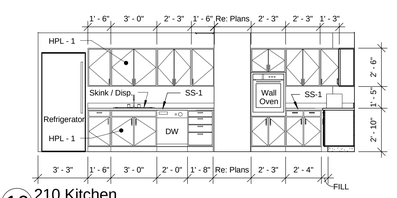
19 216 Flexible Learning Center Casework
1/4" = 1'-0"
Note: All cabinets to be lockable
All cabinets to be wood full flat panel



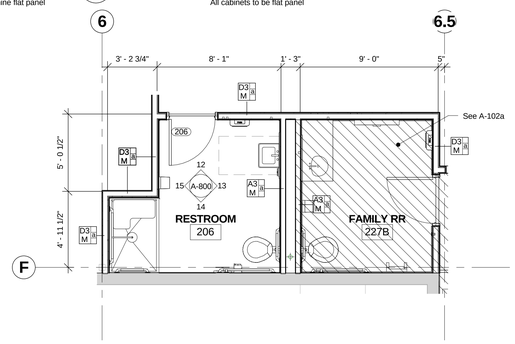
18 Board Room Studio 219 Casework
1/4" = 1'-0"
Note: All cabinets to be lockable
All cabinets to be wood full flat panel



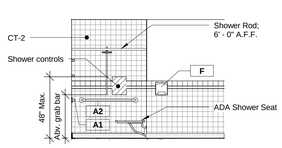
17 210 Kitchen
1/4" = 1'-0"
Note: All cabinets to be lockable
All cabinets to be melamine flat panel



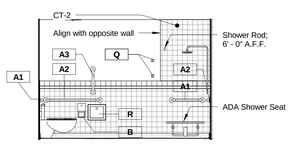
16 210 Kitchen
1/4" = 1'-0"
Note: All cabinets to be lockable
All cabinets to be flat panel



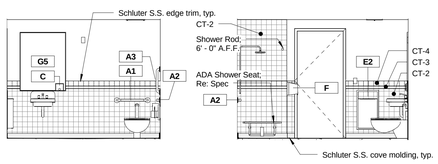
2 Enlarged Restroom Plan
1/4" = 1'-0"



15 Restroom 206 Elevation
1/4" = 1'-0"

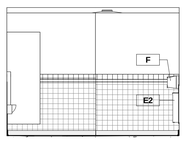


14 Restroom 206 Elevation
1/4" = 1'-0"

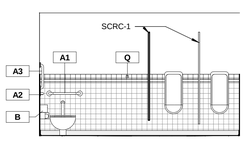


13 Restroom 206 Elevation
1/4" = 1'-0"

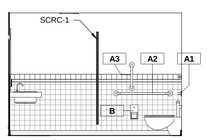
12 Restroom 206 Elevation
1/4" = 1'-0"



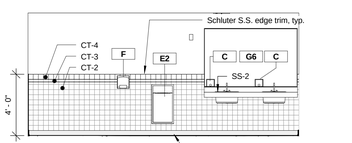
11 Men's 222 Elevation
1/4" = 1'-0"



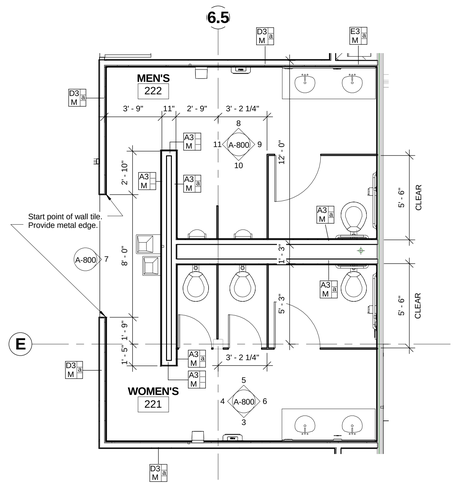
10 Men's 222 Elevation
1/4" = 1'-0"



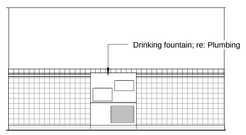
9 Men's 222 Elevation
1/4" = 1'-0"



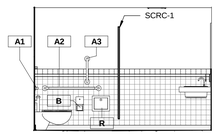
8 Men's 222 Elevation
1/4" = 1'-0"



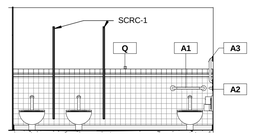
1 Enlarged Restroom Plan
1/4" = 1'-0"



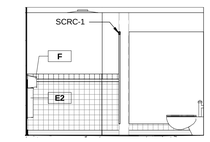
7 Restroom DF Elevation
1/4" = 1'-0"



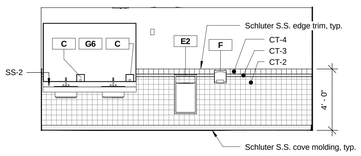
6 Women's 221 Elevation
1/4" = 1'-0"



5 Women's 221 Elevation
1/4" = 1'-0"



4 Women's 221 Elevation
1/4" = 1'-0"



3 Women's 221 Elevation
1/4" = 1'-0"

Colorado Mountain College
COOPER COMMONS

Delta	Description	Date Issued

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STATE OF COLORADO DENNIS R. HUMPHRIES 309370 LICENSED ARCHITECT
29 JULY 2016

ENLARGED FLOOR PLANS, INTERIOR ELEVATIONS & DETAILS

BIDDING / PERMIT SET
8/01/2016

PROJECT No.	PROJECT ARCH	PROJECT MNGR	CHECKED BY
35043	DH	JW	JW

SHEET No.

A-800

7/29/2016 9:05:42 AM

Floor Material Legend

Type	Description	Manufacturer	Pattern	Color	Size	Comments
CONC - 1	CONCRETE					RAISED ACCESS FLOOR SYSTEM CONCRETE PANEL WITH SEALER
CPT-1	CARPET TILE	SHAW LIGHT SERIES	ABSORBED TILE	SEPIA 01751	24X24	INSTALLATION METHOD: MONOLITHIC, SEE PLAN FOR DIRECTION
CPT-2	CARPET TILE	SHAW LIGHT SERIES		SEPIA 01751	24X24	INSTALLATION METHOD: MONOLITHIC, SEE PLAN FOR DIRECTION
CPT-3	CARPET TILE	SHAW LIGHT SERIES	VIBRANT TILE	SEPIA 01751	24X24	INSTALLATION METHOD: MONOLITHIC, SEE PLAN FOR DIRECTION
CPT-4	CARPET TILE	SHAW LIGHT SERIES	APPLIED TILE	04284 BRILLIANT	24X24	ACCENT TILE DOTS
CPT-5	CARPET TILE	SHAW LIGHT SERIES	APPLIED TILE	04327 AQUARIOUS	24X24	ACCENT TILE DOTS
CPT-6	CARPET TILE	SHAW LIGHT SERIES			24X24	
CT - 1	CERAMIC TILE	DALTILE	PARKWAY COLLECTION	CREAM PK95	12X12	
CT - 5	CERAMIC TILE	DALTILE	TBD	TBD	2X2	
LVS - 1	LUXURY VINYL SHEET	ARMSTRONG	TBD	TBD		
LVT - 1	LUXURY VINYL TILE	ARMSTRONG	NATURAL CREATIONS MYSTIX	TP777	12X12	PRODUCT TBD. ALLOW $4/SF MATERIAL COST.
LVT - 2	LUXURY VINYL TILE	ARMSTRONG	NATURAL CREATIONS EARTH CUTS		12X12	PROVIDE ARMSTRONG QUIET LUXURY UNDERLAYMENT
VCT - 1	VINYL COMPOSITE TILE	ARMSTRONG	TBD	TBD	12X12	ALTERNATE TO PROVIDE ANTI STATIC TILE

Wall Material Legend

Key	Description	Manufacturer	Series	Pattern	Color	Size	Comments
AET-1	ALUMINUM EDGE TRIM	SCHLUTER	JOLLY		BRUSHED CHROME ANOD. ALUMINUM		TO BE USED AT TOP OF ALL TILE WAINSCOTING
CT-2	CERAMIC TILE	DALTILE	SEMIGLOSS/MATTE GROUP 1		MATTE ALMOND X735		
CT-3	CERAMIC TILE	DALTILE	SEMIGLOSS/MATTE GROUP 1		ELEMENTAL TAN X735		
CT-4	CERAMIC TILE	DALTILE	SEMIGLOSS/MATTE GROUP 1		SPA 0148		
CT-6	CERAMIC TILE	DALTILE	TBD	TBD	TBD	4X4	PROVIDE COVE BASE TILE
PT-1	PAINT	BENJAMIN MOORE	-				WALLS & CEILING - CMC SPACE
PT-2	PAINT	BENJAMIN MOORE	-				CIRCULATION ACCENT - CMC SPACE
PT-3	PAINT	BENJAMIN MOORE	-				BOARD ROOM ACCENT - CMC SPACE
PT-4	PAINT	BENJAMIN MOORE	-				INNOVATION ACCENT - CMC SPACE
PT-5	PAINT	BENJAMIN MOORE	-		BLACK		CHALKBOARD PAINT - CMC SPACE
PT-6	PAINT	BENJAMIN MOORE					WALLS & CEILING GCPLD SPACE
PT-7	PAINT	BENJAMIN MOORE					GCPLD ACCENT
RB-1	RESILIENT BASE	ROPPE	PINNACLE	TYPE TS		4"	STANDARD TOE; PROVIDE 6" AT MECH. 208
WDB-1	SOLID MAPLE WOOD BASE				CLEAR POLYURETHANE SEAL	1X6	MITER ALL CORNERS

Window Covering Schedule

Mark	Description	Manufacturer	Model	Finish	Comments
RS-1	ROLLER SHADE	MECHOSHADE (BASIS OF DESIGN)	ELECTRO/2	BLACK/ BROWN - 1354	5% OPAQUE
RS-2	ROLLER SHADE - BLACKOUT	MECHOSHADE (BASIS OF DESIGN)	ELECTRO/2 - BLACKOUT	JAVA - 0212	OPAQUE
RS-3	DUAL ROLLERSHADE	MECHOSHADE (BASIS OF DESIGN)	ELECTRO/2 DOUBLESHADE #17	BLACK/BROWN - 1354 JAVA	5% OPAQUE / OPAQUE MOTORIZED W/ FASCIA & ENDCAPS

Surface Material Legend

Type	Description	Manufacturer	Model	Pattern / Color	Comments
GFC - 1	Glass Film Coating	3m		TBD	
GFC - 2	Glass Film Coating	3m		TBD	
HPL - 1	High Pressure Laminate				CMC Kitchen Casework
HPL - 2	High Pressure Laminate				GCPLD Casework
MB - 1	Marker Board	Optima	Peel and Stick magnetic dry erase skin	White	
PWC - 1	Protective Wall Covering	Lumicor			
SS - 1	Solid Surface	Corian			
SS - 2	Solid Surface	Corian			
SS - 3	Solid Surface	Corian			
SS - 4	Solid Surface	Corian			
SS - 5	Solid Surface	Corian			
WD - 1	Solid Maple			Riverstone RI15	CMC Board Room & Flexible learning Casework
WD - 2	Solid Maple		1x4	Clear Poly seal	Chair Rail

Legend

- See sheet A-102a
- CONC - 1
- LVT - 1
- LVT - 2
- LVS - 1
- CPT; See plans
- CT; See plans
- ROLLER SHADE
- FLOOR TRANSITION - PROVIDE APPROPRIATE TRANSITION BETWEEN DISSIMILAR MATERIALS
- CARPET PATTERN DIRECTION

NOTE: SPACES WITHOUT FLOOR FINISH PATTERN ARE (E) FLOOR TO REMAIN.

FINISH ABBREVIATIONS

ACP	ACOUSTICAL CEILING PANELS
ACT	ACOUSTICAL CEILING TILE
AF	ACCESS FLOORING
AM	ANTI-FATIGUE MAT
AMM	ARCHITECTURAL METAL MESH
AP	ACRYLIC PANEL
AWP	ACOUSTICAL WALL PANELS
CG	CORNER GUARD
CMT	CERAMIC MOSAIC TILE
CT	CERAMIC TILE
CTB	CERAMIC TILE BASE
CONC	CONCRETE
CPT	CARPET
CR	CHAIR RAIL
EQ	EQUIPMENT
(E)	EXISTING
EXP	EXPOSED
FB	FABRIC
FM	FOAM PANEL
FP	FIREPLACE
FRP	FIBERGLASS REINFORCED PANEL
HB	HORIZONTAL BLIND
GR	GROUT
GT	GRANITE
GWB	GYPSUM WALLBOARD
HDWR	HARDWARE
HPL	HIGH PRESSURE LAMINATE
LI	LIMESTONE
LIN	LINOLEUM
LK	LOCKERS
LTG	LIGHTING
MB	MARKERBOARD
MC	METAL COVE
ML	METAL LAMINATE
MM	METAL MESH
MLWK	MILLWORK
PT	PAINT
PLBG	PLUMBING
PLYWD	PLYWOOD
PP	PORCELAIN PAVER
RB	RESILIENT BASE
RF	RUBBER FLOORING
RS	ROLLER SHADE
SAG	SUSPENDED ACOUSTICAL GRID
SEAL	SEALER
SSF	SOLID SURFACE
SV	SHEET VINYL
TB	TACKBOARD
TP	TOILET PARTITION
TT	TERRAZZO TILE
VCT	VINYL COMPOSITION TILE
VWC	VINYL WALL COVERING
WD	WOOD (PANELS OR TRIM)
WDB	WOOD BASE
WPS	WALL PROTECTION SYSTEM
WMT	WALK-OFF MAT

Room Finish Schedule

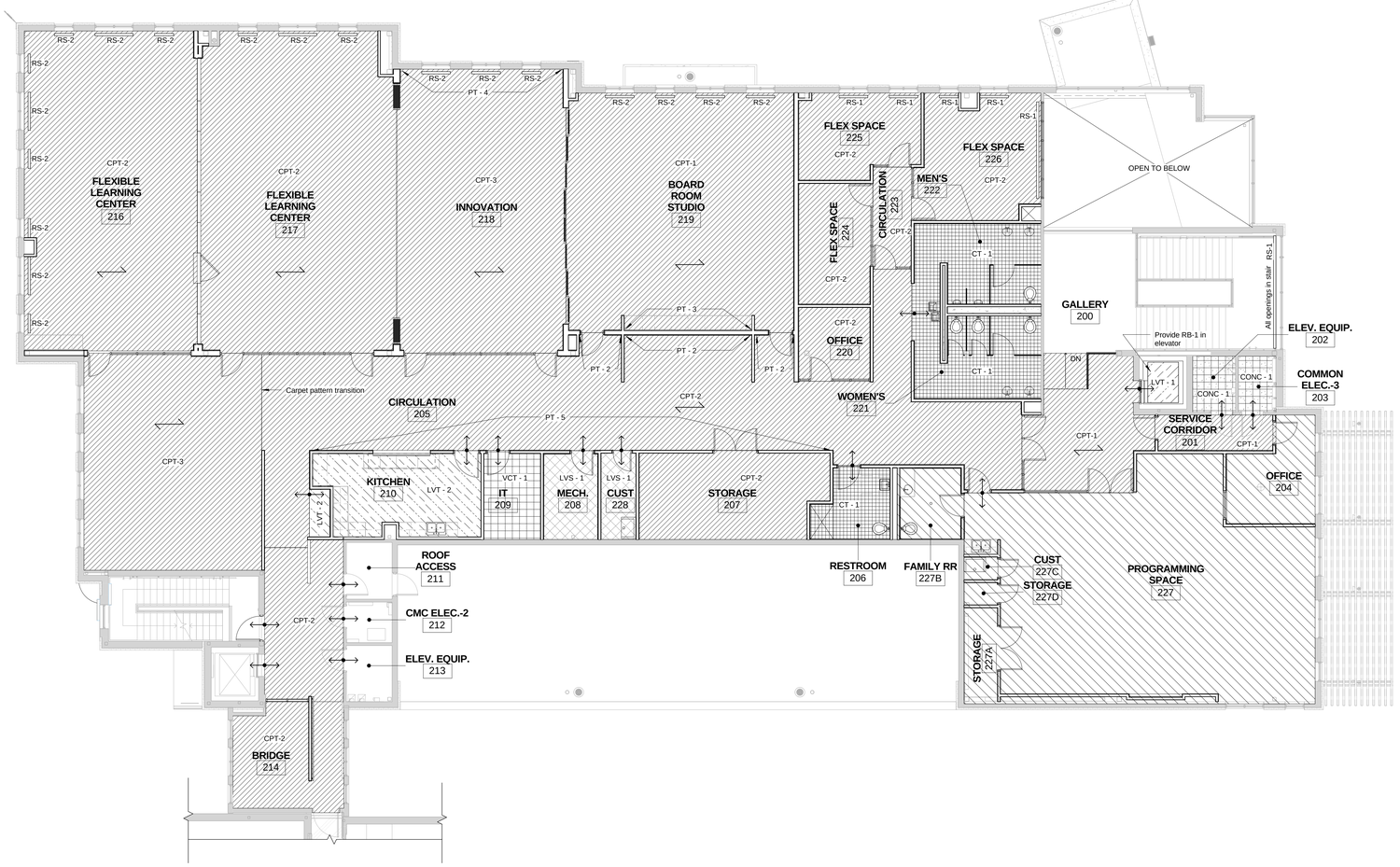
No.	Name	Floor Finish	Base	Walls Finish	Walls Accent	Ceiling Finish	Comments
200	GALLERY	CPT-1	WDB-1	MATCH (E)		MATCH (E)	MATCH (E) FINISHES THIS SPACE
201	SERVICE CORRIDOR	CPT-1	WDB-1	MATCH (E)		MATCH (E)	MATCH GALLERY 200 PAINT FINISHES FOR WALLS & CEILING
202	ELEV. EQUIP.	CONC/SEAL	RB-1	(E)		(E)	
203	COMMON ELEC.-3	CONC/SEAL	RB-1	(E)		(E)	
204	OFFICE	CPT-6	WDB-1	PT-6		SAG-1	IN GCPLD SCOPE
205	CIRCULATION	CPT-2	WDB-1	PT-1	PT-2/PT-5	PT-1	SEE PLAN FOR CPT TRANSITION & PAINT ACCENT
206	RESTROOM	CT-1	METAL COVE	CT-2/PT-1	CT-3/CT-4	PT-1	SEE ELEVATIONS
207	STORAGE	CPT-2	RB-1	PT-1		PT-1	
208	MECH.	LVS-1	RB-1	PT-1		PT-1	BASE TO BE 6" HIGH
209	IT	VCT-1	RB-1	PT-1		PT-1	
210	KITCHEN	LVT-2	RB-1	PT-1		PT-1	
211	ROOF ACCESS	(E)	(E)	(E)		(E)	
212	CMC ELEC.-2	(E)	(E)	(E)		(E)	
213	ELEV. EQUIP.	(E)	(E)	(E)		(E)	
214	BRIDGE	CPT-2	WDB-1	PT-1		PT-1	
215	STAIR-2	(E)	(E)	(E)		(E)	
216	FLEXIBLE LEARNING CENTER	CPT-2	WDB-1	PT-1		PT-1	
217	FLEXIBLE LEARNING CENTER	CPT-2	WDB-1	PT-1		PT-1	
218	INNOVATION	CPT-3	WDB-1	PT-1	PT-4	PT-1	SEE PLAN
219	BOARD ROOM STUDIO	CPT-1	WDB-1	PT-1	PT-3	SAG-1	SEE PLAN
220	OFFICE	CPT-2	WDB-1	PT-1		SAG-1	
221	WOMEN'S	CT-1	METAL COVE	CT-2/PT-1	CT-3/CT-4	PT-1	SEE ELEVATIONS
222	MEN'S	CT-1	METAL COVE	CT-2/PT-1	CT-3/CT-4	PT-1	SEE ELEVATIONS
223	CIRCULATION	CPT-2	WDB-1	PT-1		SAG-1	
224	FLEX SPACE	CPT-2	WDB-1	PT-1		SAG-1	
225	FLEX SPACE	CPT-2	WDB-1	PT-1		SAG-1	
226	FLEX SPACE	CPT-2	WDB-1	PT-1		SAG-1	
227	PROGRAMMING SPACE	CPT-6	WDB-1	PT-6	PT-7; RE: PLANS	PT-6	IN GCPLD SCOPE; WAINSCOT & CHAIR RAIL; SEE PLANS
227A	STORAGE	CPT-6	RB-1	PLYWOOD TO 8' AFF; PT-6		PT-6	IN GCPLD SCOPE
227B	FAMILY RR	CT-5	CT-5 COVE	CT-6/PT-6		PT-6	IN GCPLD SCOPE; SEE ELEVATION
227C	CUST	CT-5	CT-5 COVE	PT-6		PT-6	IN GCPLD SCOPE
227D	STORAGE	CPT-6	RB-1	PT-6		PT-6	IN GCPLD SCOPE
228	CUST	LVS-1	RB-1	PT-1		PT-1	

FINISH SCHEDULE COMMENTS

1. (E) FINISHES TO REMAIN. GALLERY 200 WALL AND CEILING FINISHES TO MATCH (E). WALL BASE TO MATCH (E).
2. ELEVATOR FINISHES
   EXTERIOR: STAINLESS STEEL
   INTERIOR: LAMINATE RALEIGH BLONDE
   CEILING: BRUSHED STAINLESS STEEL W/ SC 08 LIGHTING

FINISH SCHEDULE GENERAL NOTES

1. AT EXPOSED TO STRUCTURE CEILINGS PAINT ALL DUCT WORK, CONDUIT, ETC. TO MATCH CEILING COLOR.
2. PAINT EXPOSED STEEL COLUMNS.
3. REFER TO FLOOR FINISH PLAN FOR MORE INFORMATION ON FINISHES.
4. REFER TO REFLECTED CEILING PLAN FOR CEILING MATERIAL FINISHES
5. REFER TO 2/A-102 FOR SCOPE OF WORK DELINEATION FOR PRICING BETWEEN THE CCCA, CMC & GCPLD.
6. ALL CMC WALLS & CEILING TO BE PAINTED PT-1 UNLESS OTHERWISE NOTED.
7. ALL GCPLD WALLS & CEILING TO BE PAINTED PT-6 UNLESS OTHERWISE NOTED.



1 Level 2 - Finish Floor Plan
1/8" = 1'-0"

N 0' 4' 8' 16'

7/29/2016 9:05:44 AM

Colorado Mountain College

COOPER COMMONS

Delta	Description	Date Issued

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STATE OF COLORADO DENNIS P. HUMPHRIES 30370 LICENSED ARCHITECT 29 JUL 2016

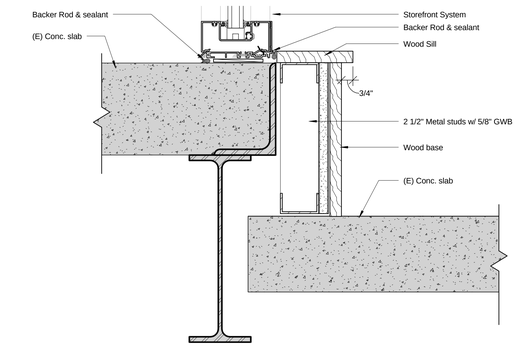
FINISH FLOOR PLAN & FINISH SCHEDULE

BIDDING / PERMIT SET
8/01/2016

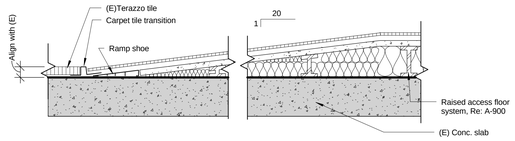
PROJECT No.	PROJECT ARCH	PROJECT MNGR	CHECKED BY
35043	DH	JW	Checker

SHEET No.

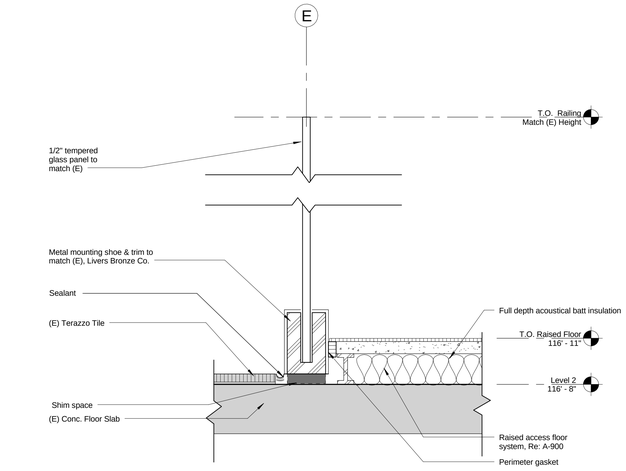
A-801



9 Sill Detail @ Bridge Step
3" = 1'-0"



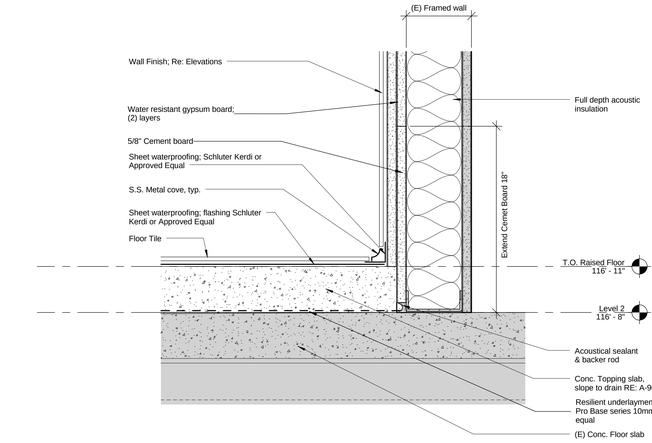
8 Sloped Floor Detail
3" = 1'-0"



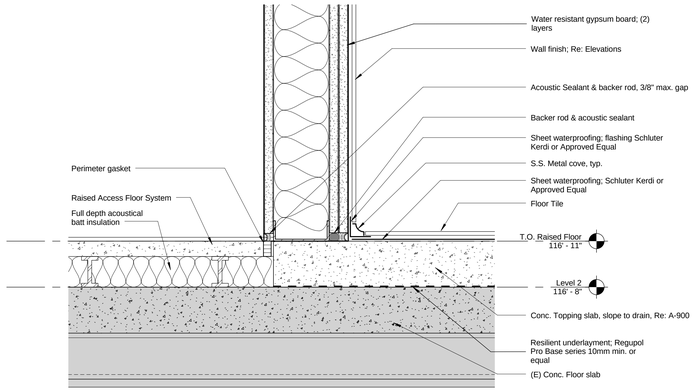
7 Raised Floor Railing Detail
3" = 1'-0"

6 Floor Transition @ Mechanical Room Door
3" = 1'-0"

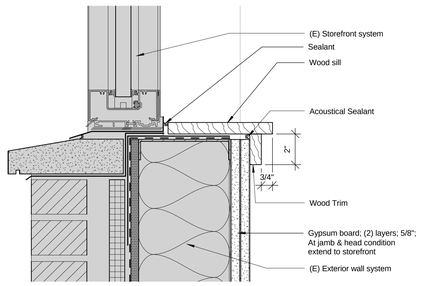
5 Wall/Floor Detail @ Mechanical Room
3" = 1'-0"



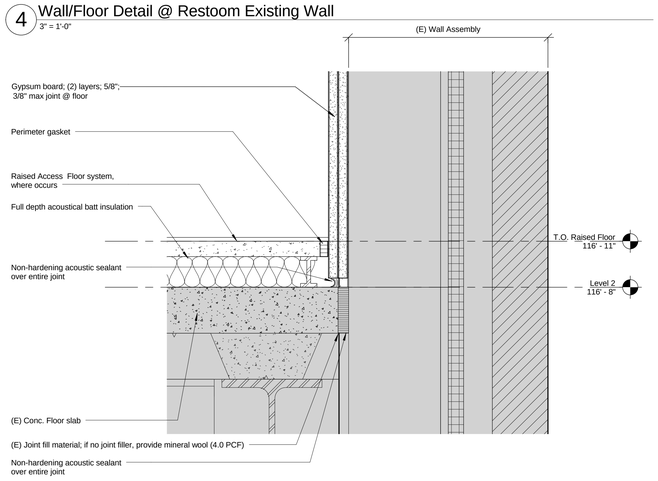
4 Wall/Floor Detail @ Restroom Existing Wall
3" = 1'-0"



3 Wall/Floor Detail @ Restroom
3" = 1'-0"



2 Storefront Sill @ Existing Exterior Wall
3" = 1'-0"



1 Typ. Interior Work @ Existing Exterior Wall
3" = 1'-0"

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Colorado Mountain College

COOPER COMMONS

Delta	Description	Date Issued

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STATE OF COLORADO DENNIS WAYNE HUMPHRIES 309370 LICENSED ARCHITECT 29 JULY 2016

INTERIOR DETAILS

BIDDING / PERMIT SET
8/01/2016

PROJECT No.	PROJECT ARCH	PROJECT MNGR	CHECKED BY
35043	DH	JW	JW

SHEET No.

A-802

Raised Floor Plan Keynote Legend

Mark	Text
01	Floor Drain; Re: Plumbing
02	Sloped Raised access floor system. Provide metal transition b/w sloped access floor system & existing conc. slab
04	Coordinate raising (E) electrical equipment to new raised access floor height +3", Re: Electrical
05	Provide additional floor support pedestals space 12" max O.C. along length of sliding glass wall

Raised Floor Plan Legend

WALLS EXTEND DOWN TO TOP OF EXISTING FLOOR SLAB

STARTING POINT OF RAISED ACCESS FLOOR LAYOUT

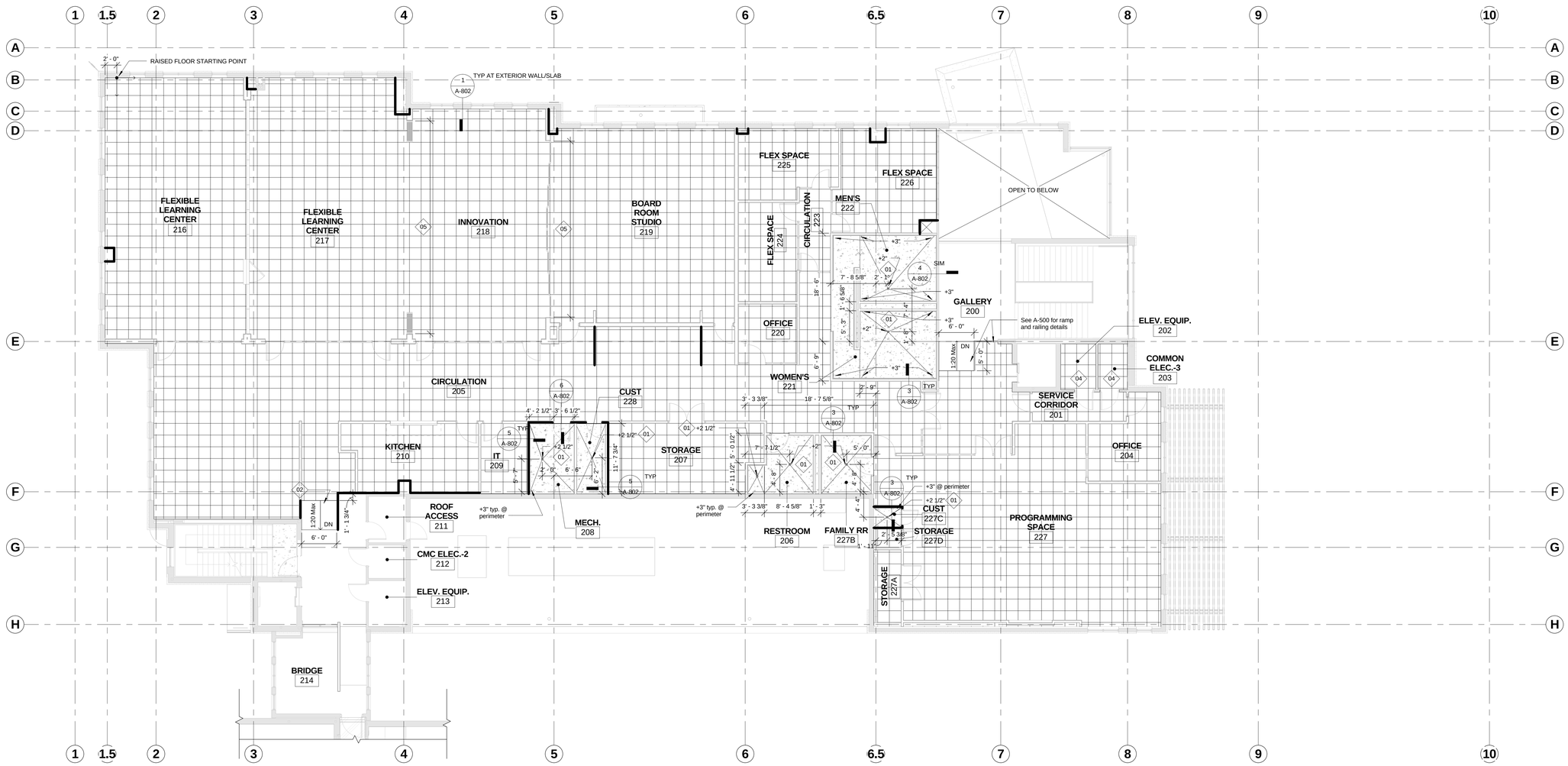
RAISED ACCESS FLOOR SYSTEM
Basis of Design: Haworth TecCrete panel 1250 Bare Panel with air seal or approved equal
Pedestal: 3" FFH Low Profile
Installer: Bettinger West Interiors Inc.
720-242-9724

TOPPING CONCRETE FLOOR SLAB

+ X" TOPPING SLAB ELEVATION

GENERAL NOTES

1. Floor Elevation: existing concrete floor = 0'-0"
   raised floor access system = +0'-3"
2. Provide gasket between raised floor access system & adjacent wall, etc.
3. Coordinate all work with Garfield County Public Library District and/or Colorado Mountain College as applicable to area of work. All Library work to be after business hours & coordinated through GCPLD.



1 Level 2 - Raised Floor Plan
1/8" = 1'-0"

7/29/2016 9:05:51 AM

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STATE OF COLORADO
DENNIS HUMPHRIES
309370
LICENSED ARCHITECT
29 JULY 2016

RAISED FLOOR & CONCRETE TOPPING SLAB PLAN

BIDDING / PERMIT SET
8/01/2016

PROJECT No.	PROJECT ARCH	PROJECT MNGR	CHECKED BY
35043	DH	JW	JW

SHEET No.

A-900

PROJECT DESCRIPTION

1. Project consists of (1) level of underground parking below a two story steel framed building. The parking level will be concrete slab–on–grade. The first level will be a cast–in–place post–tensioned concrete slab. The upper floor will consist of composite steel framing. The roof will framed with steel beams and bar joists. The lateral system consist of cast–in–place concrete shear walls.
2. This description is for general orientation only. The Contractor is responsible for all scope items described in the drawings and specifications as well as for all material and labor that can reasonably be inferred there from.

GENERAL APPLICATION

1. These drawings must be used in conjunction with the architectural drawings on the project to clearly define all requirements for construction.
2. No Contractor should attempt to bid nor construct any portion of this project without consulting the project architectural, mechanical, and electrical specifications.
3. All things that, in the opinion of the Contractor, appear to be deficiencies, omissions, contradictions or ambiguities in the plans and specifications shall be brought to the attention of the Structural Engineer. Plans and/or specifications will be corrected or written interpretations of the alleged deficiency, omission, contradiction or ambiguity will be made by the Structural Engineer before the affected work proceeds. Corrections or written interpretations shall be issued before affected work may proceed.
4. The Contractor shall inform the Structural Engineer, clearly and explicitly in writing of any deviation or substitution from requirements of the contract documents. Contractor shall not be relieved of any requirement of the contract documents by virtue of the Structural Engineer's review of shop drawings, project data, etc., unless the Contractor has clearly and explicitly informed the Structural Engineer in writing of any deviations or substitutions at time of submission.

DESIGN CRITERIA

1. Building Code: 2015 International Building Code
2. Occupancy Category of Building: III
3. Wind Loading:
   - 3.1. Basic Wind Speed = 120 MPH
   - 3.2. Wind Importance Factor, Iw = 1.15
   - 3.3. Exposure Category: B
   - 3.4. GCpi = 0.18
   - 3.5. Wind base shear:

East/West	North/South	Torsional Moment
76k	40k	644k–ft

   - 3.6. Wind design pressure for components and cladding = 18 psf (based on area of 100sf)
   - 3.7. Wind design pressure for uplift = 22 psf
4. Seismic Loading:
   - 4.1. Seismic Importance Factor, I_E = 1.25
   - 4.2. Mapped spectral response acceleration:
     - 4.2.1. S_S = 0.361
     - 4.2.2. S_l = 0.075
   - 4.3. Site Class = D
   - 4.4. Spectral response coefficients:
     - 4.4.1. S_{DS} = 0.36
     - 4.4.2. S_{Dl} = 0.12
   - 4.5. Seismic Design Category = C
   - 4.6. Basic seismic force resisting system: Ordinary Concentrically Braced Frames
   - 4.7. Response modification factor(s), R = 3.25
   - 4.8. Seismic response coefficient(s), Cs = 0.14
   - 4.9. Analysis procedure used: Equivalent Lateral Force Method
   - 4.10. Seismic Base Shear:

East/West	North/South	Torsional Moment
233k	267k	7200 k–ft

5. Gravity Loading:
   - 5.1. Snow Loads
     - 5.1.1. Ground Snow Load: Pg = 50 psf according to Table R301.2(1) provided by the City of Glenwood Springs Building Department.
     - 5.1.2. Importance Factor: I = 1.1
     - 5.1.3. Terrain Category: B
     - 5.1.4. Exposure Factor: Ce = 1.0
     - 5.1.5. Thermal Factor: Ct = 1.0
     - 5.1.6. Slope Factor: Cs = 1.0
     - 5.1.7. All snow loads on the structure for both flat and sloped roofs are calculated in accordance with the 2009 IBC and based on the ground snow load stated above. Roof snow loads consider the following load conditions:
       - 5.1.7.1. Partial Loading
       - 5.1.7.2. Unbalanced Roof Snow Loads
       - 5.1.7.3. Snow Drifting at roof steps, parapets, and roof projections such as mechanical units and screen walls.
   - 5.2. Live Loads: minimum uniform and concentrated live loads as well as partition loads and applicable live load reductions are determined according to Section 1607 of the IBC.
   - 5.3. See Load Keys for numerical definition and area designation of snow, live, and other gravity loads used in design.
   - 5.4. See specifications for additional loading requirements.
6. Foundation walls have been designed for the following assumed design pressures:
   At Rest Pressure 75 psf/ft

SPECIFICATIONS

1. General Notes are not a substitute nor a replacement for the project specifications. These notes are intended as a guide to the design and/or construction requirements established for this project.
2. No contractor should attempt to bid or construct any portion of the work without consulting the project specifications.

STRUCTURAL STEEL (SECTION 05120)

1. Steel sections:
   - 1.1. Wide Flange and WT sections – ASTM A992 or ASTM 572 Grade 50, Fy= 50 ksi.
   - 1.2. Other rolled shapes, M, S, HP, C, MC and angles – ASTM A36, Fy = 36 ksi.
   - 1.3. Pipe – ASTM A53, Fy= 35 ksi.
   - 1.4. Square and rectangular HSS – ASTM A500, Fy= 46 ksi.
   - 1.5. Plate 4" thick or less ASTM A36, Fy= 36 ksi
   - 1.6. Anchor rods – ASTM F1554 Grade 55 with Supplement S1, Fy= 55 ksi. J and L bolts not allowed.
2. Structural steel has been designed in accordance with "AISC Manual Of Steel Construction", Latest Edition, unless noted otherwise. All beam shears, reactions, member forces, moments, etc. shown on these drawings are unfactored loads conforming to requirements of AISC Load Resistance Factor Design (LRFD).
3. Connection Design:
   - 3.1. The Structural Engineer of Record (EOR) intends to provide all steel connection designs. Connection designs have been included in the contract documents.
   - 3.2. If a connection design is inadvertently omitted from contract documents the contractor shall (at contractors option).
     - 3.2.1. Use connection designs from AISC manual, Latest Edition and request specific approval of the Structural Engineer.

       OR
     - 3.2.2. Request specific, written connection design from the Structural Engineer.
     - 3.2.3. Contractor Deviations from connection designs shown on the contract documents will be rejected unless contractor submits complete structural calculations for approval. Calculations shall be sealed by a Professional Engineer registered in the state where the project is located.
     - 3.2.4. Contractor deviations fabricated without written approval of the Structural Engineer will be deemed, a contractor design with total design responsibility remaining with the contractor.
4. Connection design forces (factored LRFD values): Unless noted otherwise, contractor shall select connection designs from connection tabulations shown on the contract documents.
5. Simple Beam Connections:
   - 5.1. Simple Beam Connections: Select connections with capacities equal to or greater than the beam reactions indicated on the drawings. Contractor shall request beam reactions that are inadvertently missing from the drawings. Comply with the following additional requirements for one–sided and two–sided shear connections:
     - 5.1.1. One–sided shear connections: Single angle, single bent plate, and shear plate typ connections shall be detailed to use the maximum number of rows of bolts (spaced at 3" o.c. or greater spacing if required to satisfy minimum bolt spacing requirements) which can be accommodated within the depth of the supported beam web.
     - 5.1.2. Two–sided connections: Double angle and double bent plate connections shall be detailed such that the length of the angles or bent plates is at least 60% of the "T" dimension or the web of the supported beam.
6. Bolted connections:
   - 6.1. Minimum bolt diameter: ¾" unless noted otherwise.
   - 6.2. Two bolts minimum per connected member.
   - 6.3. Use fully tensioned A325SC or A490SC bolts for bracing, moment connections, cantilevers, tension members and at oversized or slotted holes where the force on the joint is not normal to the axis of the slot. Use A325N or A490N elsewhere.
   - 6.4. Snug tight bolts. Bolts in connections that are not slip critical, nor subject to tension, nor required to be fully tensioned bearing type connections need only be tightened to the snug tight condition. Snug tight condition is defined as the tightness that exists when all plies in a joint are in firm contact. This may be attained by a few impacts of an impact wrench or the full effort of a man using an ordinary spud wrench.
   - 6.5. A307 bolts may be used only where indicated.
   - 6.6. Oversized and long slotted holes permitted only where shown.
7. Welded connections:
   - 7.1. Electrodes: E70xx electrodes except E70–T–4 electrodes not allowed.
   - 7.2. Electrodes and welding procedures used on moment frames thatresist seismic loads shall produce a minimum weld toughness of 20ft.lbs. at (–)20°F. Submit proposed welding electrodes and procedures for approval.
   - 7.3. Fillet welds: AISC minimum but not less than 3/16", unless noted otherwise.
   - 7.4. Groove welds: full penetration, unless noted otherwise.
   - 7.5. Welds are continuous unless noted otherwise.
8. Shear studs: Conform to AWS D1.1. Shop weld except where applied through composite deck or where shop installation would cause a tripping hazard.
9. Special Inspection is required for structural steel, see Special Inspection Program.
10. No final bolting or welding shall be done until as much of the structure as will be stiffened thereby has been properly aligned.
11. Composite beam cambers are shown on plans. Camber tolerances shall be held to (+)¼", (–)½" in place.

MISCELLANEOUS NOTES

1. The Contractor is solely responsible for all safety regulations, programs and precautions related to all work on this project.
2. The Contractor is solely responsible for the protection of persons and property either on or adjacent to the project and shall protect it against injury, damage, or loss.
3. Means and methods of construction and erection of structural materials are solely the Contractor's responsibility.
4. The structure is designed to function as a unit upon completion of construction of the project and then, only to support the design loads indicated. The contractor is responsible for means, methods and sequence of construction and the adequacy of the structure to support lads occurring during construction of the project. Furnish all temporary bracing, shoring, and/or support as may be required.
5. Where supported slabs are to be used for staging or temporary storage area the contractor shall verify that unit loads do not exceed the design loads for the supporting slabs.
6. No openings, nor any change in size, dimension or location shall be made in any structural element without written approval of the Structural Engineer.
7. Where dimensions or weights of M.E.P. equipment or systems are variable from manufacturer to manufacturer, verify dimensions and weights shown on drawings with selected manufacturer prior to ordering materials. Notify Structural Engineer of discrepancies.
8. Do not place equipment when shipping or operating weight exceeds weight indicated on structural drawings.
9. Openings 1'– 4" or less on a side are generally not shown on the structural drawings. Refer to drawings of other consultants for such openings.
10. Openings through floors and/or roofs for passage of utilities are not located nor dimensioned on structural drawings. Contractor shall obtain and coordinate such locations and dimensions with the contractor requiring the opening.
11. Show all openings through structural members on shop drawings and submit for review. Openings not shown on structural drawings are subject to acceptance and shall be specifically indicated for review and acceptance.
12. Verify elevator pit dimensions, locations, loadings, and details with the elevator supplier prior to the fabrication and/or installation of any material.
13. Fireproofing of structural elements is not shown on the structural drawings. Refer to the specifications and architectural drawings for fire rating requirements.
14. Do not scale these drawings, use the dimensions shown.
15. See specifications for testing and inspections by Independent Testing Agency employed by the owner.
16. No structural modifications, alterations, or repairs shall be made without prior review by Structural Engineer. Submit details and calculations prepared by a professional engineer registered in state where project is located and employed by contractor.

GENERAL LEGEND

Ref
View Name

1 / A101 — ELEVATION VIEW
1 = DRAWING NUMBER
A101 = SHEET NUMBER

1 / A101 — BUILDING SECTION
1 = DRAWING NUMBER
A101 = SHEET NUMBER

1 / A101 — WALL SECTION
1 = DRAWING NUMBER
A101 = SHEET NUMBER

1 / A101 — SECTION CUT
1 = DRAWING NUMBER
A101 = SHEET NUMBER

1 / A101 — DETAIL CALL OUT
1 = DRAWING NUMBER
A101 = SHEET NUMBER

X — INDICATES ADDENDUM NUMBER

INDICATES STEPS AND SLOPES IN DECKS & SLABS

REFERENCE / XXX'–YY" — ELEVATION CALLOUT
REFERENCE = T/OBJECT OR B/OBJECT
XXX'–YY" = OBJECT ELEVATION

STRUCTURAL ABBREVIATIONS

ABBREVIATION	DEFINITION	ABBREVIATION	DEFINITION
AB	anchor bolt	KLF	kips per lineal foot
ADDNL	additional	L	length
AFF	above finish floor	LAT	lateral
ALT	alternate	LBS	pounds
ARCH	architectural	LLH	long leg horizontal
BOT, B/	bottom	LLV	long leg vertical
BLDG	building	LONG	longitudinal
BM	beam	LSL	laminated strand lumber
BRG	bearing	LVL	laminated veneer lumber
BS	both sides	LW, LWT	light weight
BTWN	between	MAS	masonry
CJ	const/control joint	MAX	maximum
CJP	complete joint penetration	MECH	mechanical
CIP	cast–in–place	MFR	manufacturer
CLR	clear	MIN	minimum
CMU	concrete masonry unit	MTL	metal
COL	column	(N)	new construction
CONC	concrete	NOM	nominal
CONN	connection	NS	near side
CONST	construction	NW, NWT	normal weight
CONT	continuous	OC	on center
D	depth	OF	outside face
DIA, φ	diameter	OH	opposite hand
DIM	dimension	OPNG	opening
DK	deck	PAF	powder actuated fastner
DTL	detail	PC	precast
DWGS	drawings	PERP	perpendicular
DWL	dowel	PJP	partial joint penetration
EA	each	PL, ℙ	plate
EF	each face	PLF	pounds per lineal foot
EJ	expansion joint	PSL	parallel strand lumber
ELEV	elevation	PT	post–tensioning
EOx	edge of (S=slab, C=conc, etc)	PT	pressure treated
EW	each way	RE:	reference
(E)	existing construction	REINF	reinforcement
EXP	expansion	REQD	required
EXT	exterior	RET	retaining
FDN	foundation	SOG	slab on grade
FLR	floor	SC	slip critical
FOx	face of (S=stud, CMU, etc)	SCHED	schedule
FTG	footing	SECT	section
FS	far side	SIP	structural insulating panel
GA	gauge	SPA	spacing
GB	grade beam	STFNR	stiffener
GEN	general	STL	steel
GLB	glulam	SUBFLR	subfloor
HAS	headed anchor stud	TO	top of
HK	hook	THK	thickness
HORIZ	horizontal	TRAN	transverse
ICF	insulated concrete form	TYP	typical
IFx	inside face (S=stud, CMU, etc.)	UNO	unless noted otherwise
INT	interior	VERT	vertical
JT	joint	W	width
KIP, K	1000 lbs	WWF	welded wire fabric

ISSUED AS NOTED BELOW = X								
		ISSUE DATE & TITLE						
SHEET NO.	SHEET NAME	95% CD	100% CD					
S–000	General Notes	X	X					
S–001	Load Keys	X	X					
S–102	Level 2 Framing Plan	X	X					
S–103	Roof Level Framing Plan	X	X					
S–300	Brace Frame Elevations	X	X					

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7/28/2016 4:45:39 PM

Colorado Mountain College

COOPER COMMONS

Delta	Description	Date Issued

KL&A, Inc.
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1717 Washington Avenue, Suite 100
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COLORADO REGISTERED PROFESSIONAL ENGINEER
BRET A. McELVAIN
38916
07/28/2016

General Notes

BIDDING / PERMIT SET
8/01/2016

PROJECT No.	PROJECT ENG	PROJECT MNGR	CHECKED BY
B0376	BAM	BAM	JRB

SHEET No.

S-000

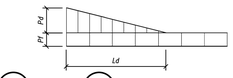
LOAD KEY LEGEND

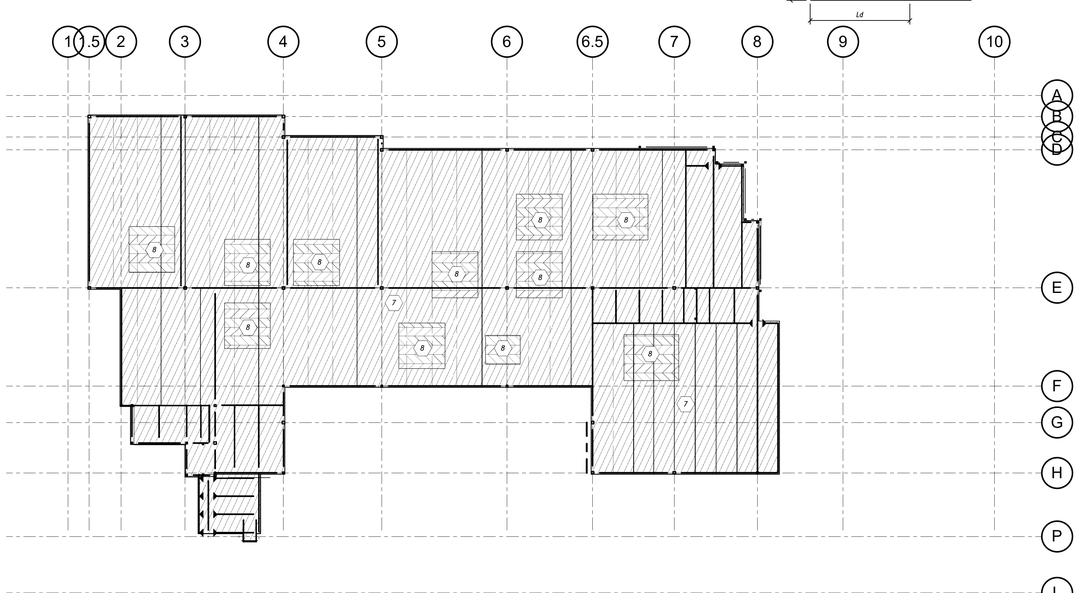
LOAD AREA	PATTERN	SELF WEIGHT (psf)	SUPERIMPOSED LOADS			LIVE LOAD REDUCTION	DESCRIPTION OF LOAD	NOTES
			DEAD LOAD (psf)	LIVE LOAD (psf)	SNOW LOAD (psf)			
1		80	20	65	–	YES	CLASSROOM/OFFICE	--
2		80	21	100	–	NO	UPPER FLOOR CORRIDOR	--
3		80	20	100		YES	ASSEMBLY	
4		77	45	50	39 + DRIFT	NO	LOW ROOF MECHANICAL	Pd = 70
5		TBD	--	100	--	NO	STAIRS	--
6		10	15	--	39 + DRIFT	NO	LOW ROOF	Pd = 70
7		15	26	--	39	NO	ROOF	15 psf incl. for PV panels & ballast
8		15	79	25	39	NO	ROOF	Neither PV panels nor ballast allowed within 3'-0" of mech unit

NOTES:

1. DRIFTING SNOW LOADS ARE DEFINED BY DIAGRAM TO THE RIGHT, OR MORE CONSERVATIVELY BY A UNIFORM LOAD OF Pu=Pf + 2/3*(Pd).
2. ROOF LIVE AND SNOW LOADS DO NOT ACT CONCURRENTLY.
3. STAIRS TO BE DESIGNED BY STAIR MANUFACTURER. SELF WEIGHT AND SUPERIMPOSED DEAD LOADS TO BE DETERMINED BY STAIR MANUFACTURER.

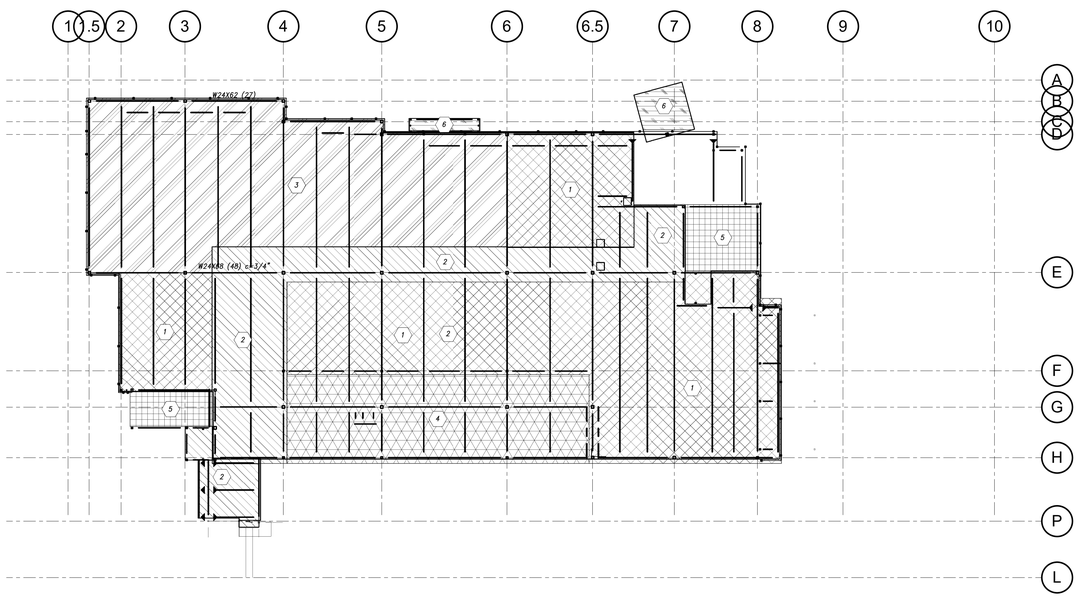
DRIFTING SNOW LOAD DIAGRAM





2 Roof Level Load Key

1/16" = 1'-0"



1 Level 2 Load Key

1/16" = 1'-0"

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COLORADO REGISTERED PROFESSIONAL ENGINEER
BRET A. McELVAIN
38916
07/28/2016

Load Keys

BIDDING / PERMIT SET
8/01/2016

PROJECT No.	PROJECT ENG	PROJECT MNGR	CHECKED BY
B0376	BAM	BAM	-

SHEET No.

S-001

FOR REFERENCE ONLY

7/28/2016 4:45:49 PM

PLAN LEGEND

CONCRETE CONSTRUCTION

- CIP CONCRETE WALL ABOVE
- CIP CONCRETE WALL ABOVE W/ WINDOW
- CIP CONCRETE WALL ABOVE W/ DOOR
- CIP WALL BELOW
- CIP CONCRETE COLUMN ABOVE
- CIP CONCRETE COLUMN BELOW
- PILE CAP

STEEL CONSTRUCTION

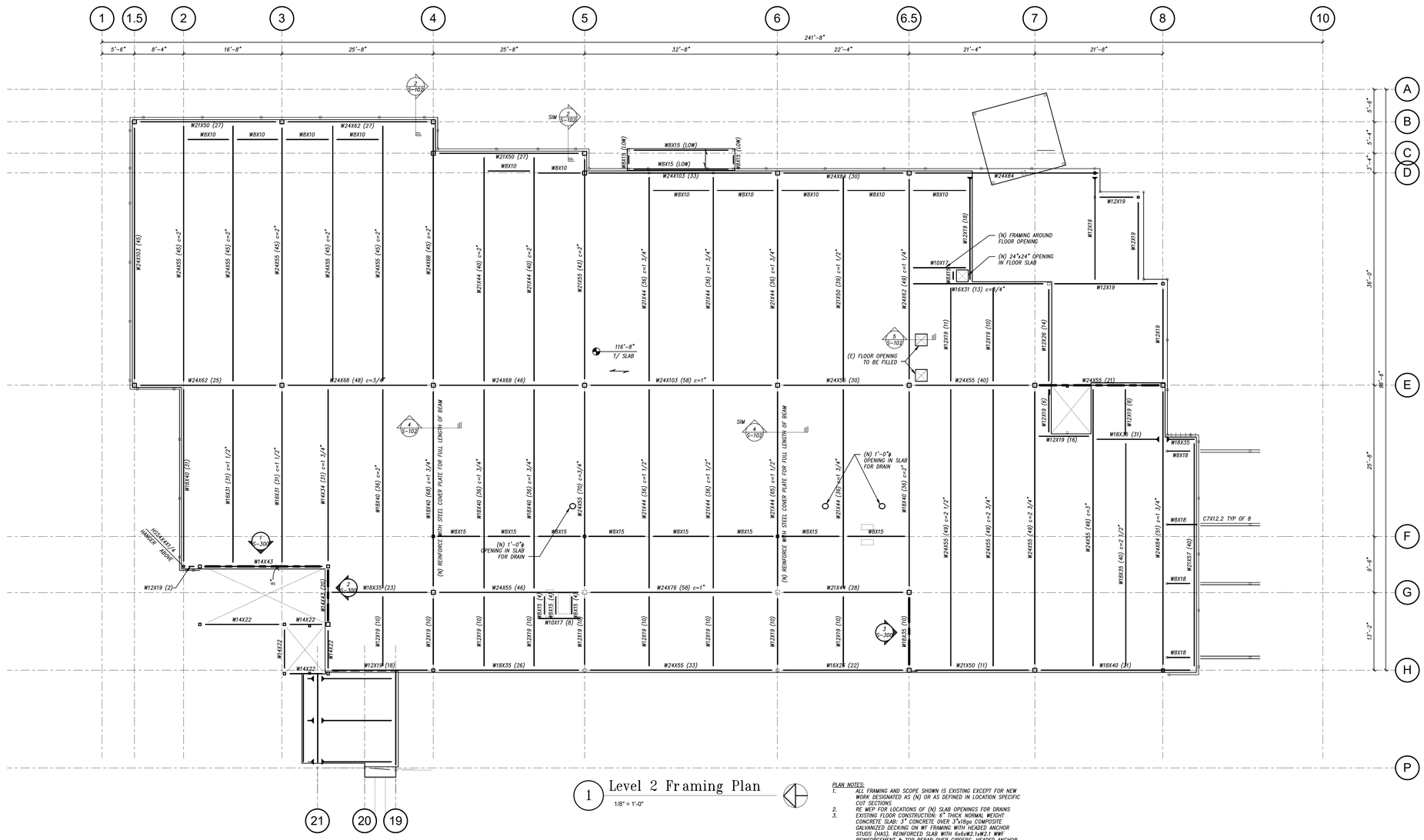
- BEAM / GIRDER
- JOIST
- RL SIZE (XX) c=Y" RR / T/STL=XX'-YY" — COMPOSITE BEAM NOTATION
  [XX] = # OF STUDS
  Y" = MIDSPAN CAMBER
  RL = LEFT REACTION (K)
  RR = RIGHT REACTION (K)
  XX'-YY" = OBJECT ELEVATION
- COLUMN ABOVE
- COLUMN BELOW

PLAN KEYS

- 150k/-25k / 97'-0"/76'-0" — P18 — PILE CAP / DRILLED PIER NOTATION
  P18 = PIER TYPE PER SCHEDULE
  150k/-25k = COMP/TENSION (K)
  97'-0"= TOP ELEVATION
  76'-0"= APPROX. BOT. ELEVATION
- C1 — C1 = COLUMN TYPE SEE COLUMN SCHEDULE
- XXXX — XXXX INDICATES PILE CAP, RE: S-500
- T=+XXXK / P=+XXXK — TRANSFER LOAD (K); AXIAL LOAD: (–) TENSION (+) COMPRESSION
- SPLICE IN BEAM / GIRDER
- MOMENT CONNECTIONS TO BEAM
- MOMENT CONNECTIONS TO COLUMN
- DIRECTION OF DECK SPANN OR DIRECTION OF REINFORCING
- OP4 — BEAM PENETRATION SEE BEAM PENETRATION SCHEDULE
- B-1 — MECHANICAL UNIT SEE MECH FOR SIZE & WEIGHT
- BEAM WITH CONCRETE EMBED ℄ SEE TYPICAL DETLS

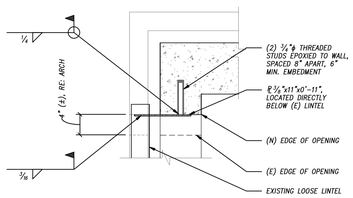
LATERAL ELEMENTS

- LATERAL ELEMENT ABOVE
- LATERAL ELEMENT BELOW
- LATERAL ELEMENT ABOVE & BELOW

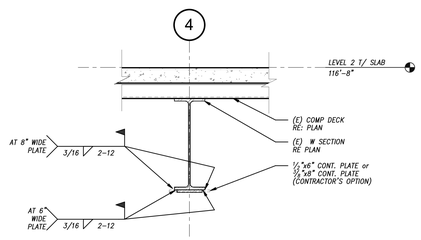


1 Level 2 Framing Plan
1/8" = 1'-0"

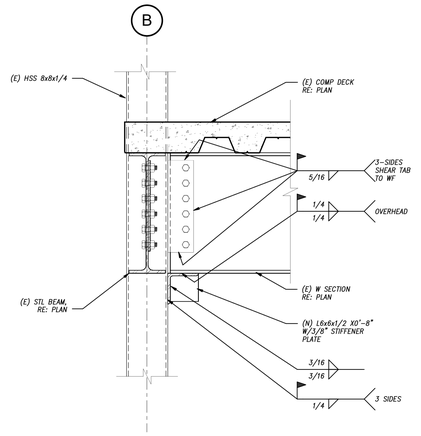
PLAN NOTES:
1. ALL FRAMING AND SCOPE SHOWN IS EXISTING EXCEPT FOR NEW WORK DESIGNATED AS (N) OR AS DEFINED IN LOCATION SPECIFIC CUT SECTIONS
2. RE MEP FOR LOCATIONS OF (N) SLAB OPENINGS FOR DRAINS
3. EXISTING FLOOR CONSTRUCTION: 6" THICK NORMAL WEIGHT CONCRETE SLAB; 3" CONCRETE OVER 3"x18ga COMPOSITE GALVANIZED DECKING ON WF FRAMING WITH HEADED ANCHOR STUDS (HAS). REINFORCED SLAB WITH 6x6xW2.1xW2.1 WWF REINFORCEMENT & TOP REBAR OVER GIRDERS. HEADED ANCHOR STUDS ARE 3/4"ø x 5" SPACED AT 12" o.c. MAX. SEE PLAN FOR HAS QUANTITY, U.N.O.
4. COORDINATE ALL WORK WITH GARFIELD COUNTY PUBLIC LIBRARY DISTRICT AND/OR COLORADO MOUTAIN COLLEGE AS APPLICABLE TO AREA OF WORK. ALL LIBRARY WORK TO BE AFTER BUISNESS HOURS & COORDINATED THROUGH GCPLD



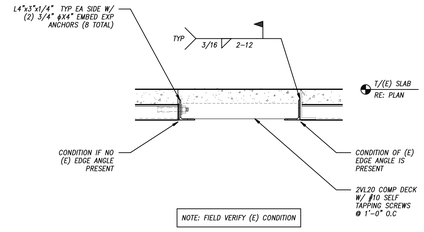
6 LOOSE LINTEL SUPPORT AT ENLARGED DOOR
1" = 1'-0"



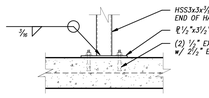
4 EXISTING BEAM REINFORCEMENT
1" = 1'-0"



2 EXISTING BEAM CONNECTION REINFORCEMENT
1" = 1'-0"



5 TYP (E) FLOOR INFILL
1" = 1'-0"



3 TYPICAL HALF-HEIGHT WALL POST BASE
1" = 1'-0"

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7/28/2016 4:45:57 PM

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COLORADO REGISTERED PROFESSIONAL ENGINEER — Chad A. McNeill — PE 38916 — 07/25/2016

Level 2 Framing Plan

BIDDING / PERMIT SET
8/01/2016

PROJECT No.	PROJECT ENG	PROJECT MNGR	CHECKED BY
B0376	BAM	BAM	JRB

SHEET No.

S-102

FOR REFERENCE ONLY

PLAN LEGEND

CONCRETE CONSTRUCTION

- CIP CONCRETE WALL ABOVE
- CIP CONCRETE WALL ABOVE W/ WINDOW
- CIP CONCRETE WALL ABOVE W/ DOOR
- CIP WALL BELOW
- CIP CONCRETE COLUMN ABOVE
- CIP CONCRETE COLUMN BELOW
- PILE CAP

STEEL CONSTRUCTION

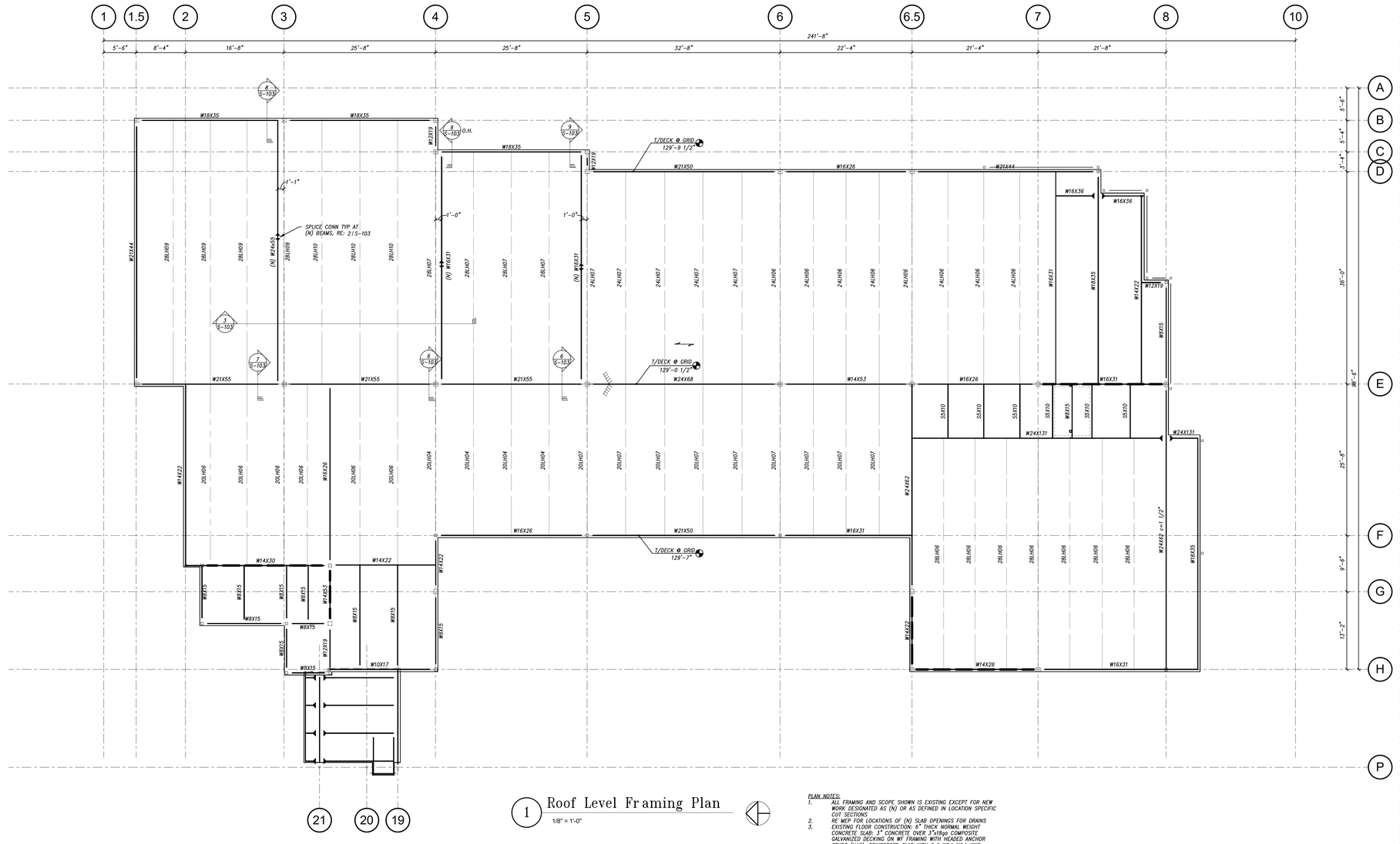
- BEAM / GIRDER
- JOIST
- COMPOSITE BEAM NOTATION
  [XX] = # OF STUDS
  "Y" = MIDSPAN CAMBER
  RL = LEFT REACTION (K)
  RR = RIGHT REACTION (K)
  XX'-YY" = OBJECT ELEVATION
  RL SIZE (XX) c=Y" RR / T/STL=XX'-YY"
- COLUMN ABOVE
- COLUMN BELOW

PLAN KEYS

- 150k/–25k P18 / 97'–0"/76'–0" — PILE CAP / DRILLED PIER NOTATION
  P18 = PIER TYPE PER SCHEDULE
  150k/–25k = COMP/TENSION (K)
  97'–0"= TOP ELEVATION
  76'–0"= APPROX. BOT. ELEVATION
- C1 — C1 = COLUMN TYPE SEE COLUMN SCHEDULE
- XXXX — XXXX INDICATES PILE CAP, RE: S-500
- T=±XXXK / P=±XXXK — TRANSFER LOAD (K); AXIAL LOAD: (–) TENSION (+) COMPRESSION
- SPLICE IN BEAM / GIRDER
- MOMENT CONNECTIONS TO BEAM
- MOMENT CONNECTIONS TO COLUMN
- DIRECTION OF DECK SPANN OR DIRECTION OF REINFORCING
- OP4 — BEAM PENETRATION SEE BEAM PENETRATION SCHEDULE
- B–1 — MECHANICAL UNIT SEE MECH FOR SIZE & WEIGHT
- BEAM WITH CONCRETE EMBED ℄ SEE TYPICAL DETILS

LATERAL ELEMENTS

- LATERAL ELEMENT ABOVE
- LATERAL ELEMENT BELOW
- LATERAL ELEMENT ABOVE & BELOW



1 Roof Level Framing Plan

1/8" = 1'-0"

PLAN NOTES:
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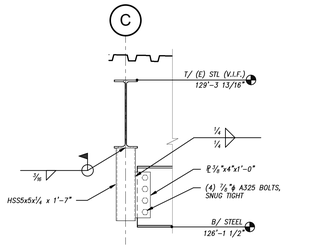
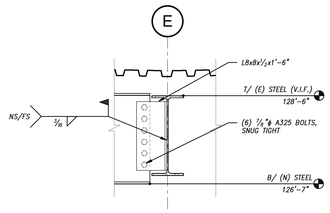


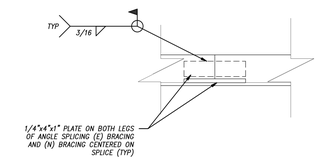
9 SLIDING GLASS DOOR BEAM CONN

3/4" = 1'-0"



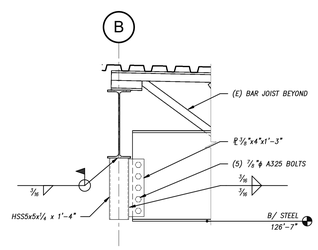
7 FOLDING WALL PARTITION HEADER CONN

3/4" = 1'-0"



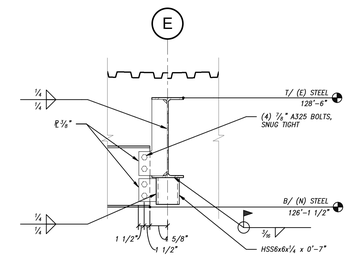
5 BRIDGING SPLICE DETAIL

3" = 1'-0"



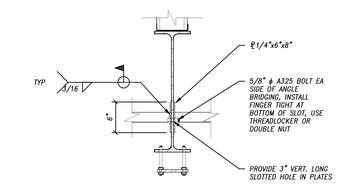
8 FOLDING WALL PARTITION BEAM CONN

3/4" = 1'-0"



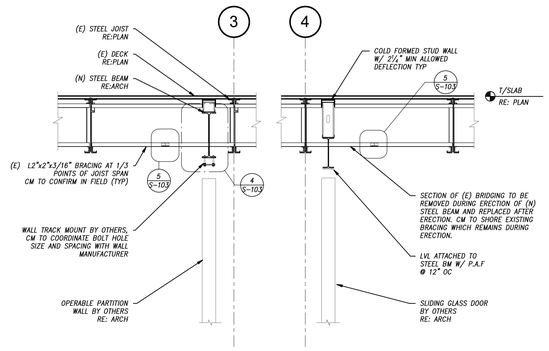
6 SLIDING GLASS WALL HEADER CONN

3/4" = 1'-0"



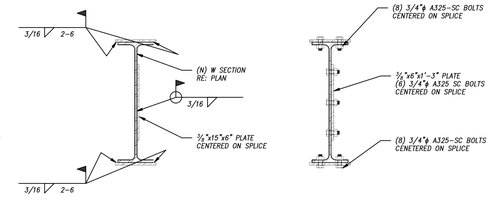
4 BRIDGING AT NEW BEAM

1" = 1'-0"



3 LATERAL BRACING OF NEW BEAMS

3/8" = 1'-0"



NOTES:
1. CONNECTION IS AT CONTRACTOR'S OPTION FOR EASE OF PLACEMENT OF NEW BEAMS.
2. FOR BOTH OPTIONS THE FLANGE PLATES ARE 1/2" x 8" x 24" PLATES WITH CENTERED ON SPLICE

2 BEAM MOMENT SPLICE DETAIL

1" = 1'-0"

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COLORADO REGISTERED PROFESSIONAL ENGINEER — Chad A. McNeill — 38916 — 07/25/2016

Roof Level Framing Plan

BIDDING / PERMIT SET
8/01/2016

PROJECT No.	PROJECT ENG	PROJECT MNGR	CHECKED BY
B0376	BAM	BAM	GRK

SHEET No.

S-103

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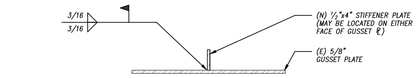
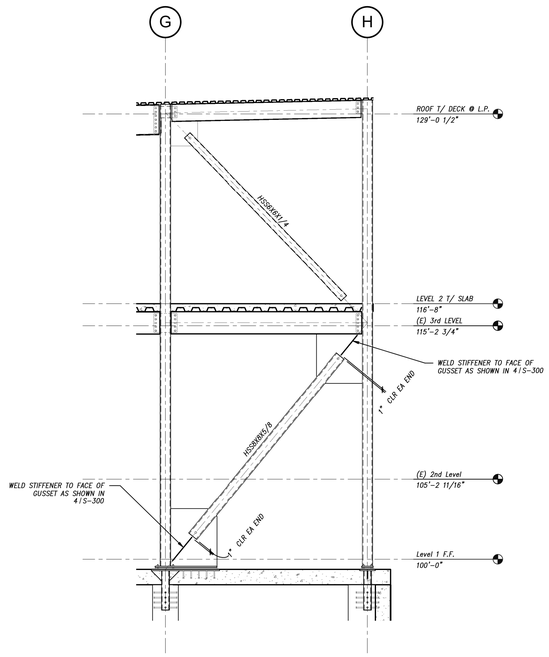


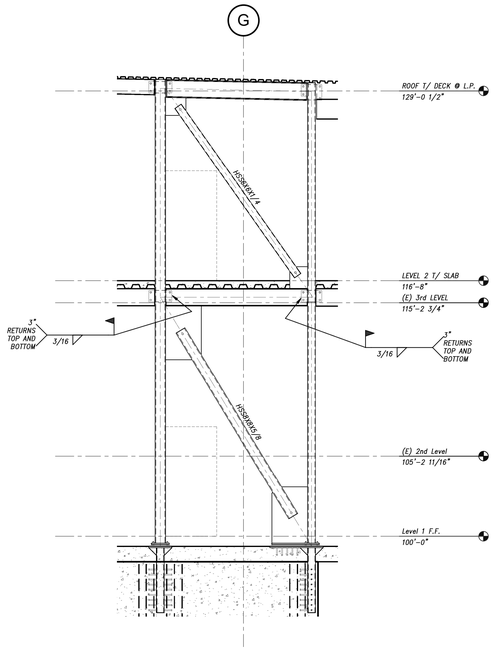
4 GUSSET PLATE REINFORCEMENT DETAIL

1" = 1'-0"



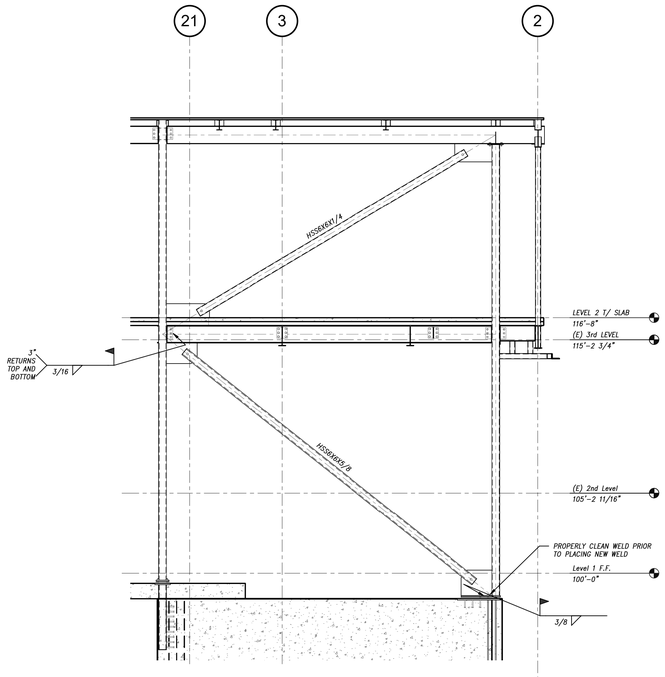
3 GRID 6.5 BRACE

1/4" = 1'-0"



2 GRID 3.3 BRACE

1/4" = 1'-0"



1 GRID F.5 BRACE

1/4" = 1'-0"

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COLORADO REGISTERED BRIAN A. MCLEAN 38916 PROFESSIONAL ENGINEER 07/28/2016

Brace Frame Elevations

BIDDING / PERMIT SET
8/01/2016

PROJECT No.	PROJECT ENG	PROJECT MNGR	CHECKED BY
B0376	BAM	BAM	JRB

SHEET No.

S-300

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MECHANICAL PROVISIONS

1. SCOPE OF WORK

A. THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK, MATERIALS, AND LABOR TO SATISFY A COMPLETE WORKING SYSTEM WHETHER SPECIFIED OR IMPLIED.
B. ALL WORK IS TO BE PERFORMED IN STRICT COMPLIANCE WITH ALL LOCAL CODES AND ALL OTHER REGULATION GOVERNING WORK OF THIS NATURE.
C. THE CONTRACTOR SHALL, BEFORE SUBMITTING ANY PROPOSAL, EXAMINE THE PROPOSED SITE AND SHALL DETERMINE FOR HIMSELF THE CONDITIONS THAT MAY EFFECT THE WORK. NO ALLOWANCE SHALL BE MADE IF THE CONTRACTOR FAILS TO MAKE SUCH EXAMINATIONS.
D. ALL EQUIPMENT AND MATERIALS SHALL BE AS SPECIFIED OR "APPROVED EQUAL" BY THE ENGINEER OR ARCHITECT.

2. PERMITS

A. THE CONTRACTOR SHALL SECURE ALL PERMITS OR APPLICATIONS AND PAY ANY AND ALL FEES.

3. SHOP DRAWINGS

A. SUBMIT MATERIAL LIST AND SHOP DRAWINGS FOR MAJOR EQUIPMENT TO THE ACHITECT/ENGINEER FOR APPROVAL. THE CONTRACTOR SHALL SUBMIT FIVE SETS OF SHOP DRAWINGS AND THEY SHALL BE CLEARLY LABELED.

4. FLEXIBLE DUCT WORK

A. FLEXIBLE TYPE DUCT SHALL BE OF TWO ELEMENT SPIRAL CONSTRUCTION COMPOSED OF A CORROSION RESISTANT METAL SUPPORTING SPIRAL AND COATED FABRIC WITH A MINERIAL BASE. FLEXIBLE DUCT CONNECTORS SHALL BE LISTED BY U.L., CLASS 1 DUCTS, AND SHALL HAVE A FLAME SPREAD RATING NOT EXCEEDING 25 AND A SMOKE DEVELOPED RATING NOT EXCEEDING 50.
B. USE OF FLEXIBLE DUCTWORK SHALL BE LIMITED TO NO MORE THAN 6 LINEAR FEET PER RUN.
C. CONTRACTOR SHALL BE CAREFUL SO AS NOT TO KINK OR COLLAPSE FLEXIBLE DUCT.

5. DUCTWORK

A. THE DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE "SMACNA" APPLICABLE MANUALS.
B. ALL DUCTWORK SHALL BE THE LOW VELOCITY TYPE, UNLESS SPECIFIED OTHERWISE.
C. CONTRACTOR SHALL PROVIDE AND INSTALL APPROVED FIRE DAMPERS AND ACCESS PANELS IN ANY AND ALL DUCTWORK WHICH PENETRATES A HORIZONTAL OR VERTICAL FIRE PARTITION, OR AS OTHERWISE SHOWN ON DRAWINGS.
D. ALL BRANCH DUCTS TO HAVE VOLUME DAMPERS, SMOOTH TURN RADIUS DUCTWORK OR TURNING VANES SHALL BE USED THROUGHOUT WHERE FLOW EXCEEDS 150 CFM.
E. ALL DUCT JOINTS TO BE SEALED IN ACCORDANCE WITH "SMACNA" STANDARDS AND ACCEPTED GOOD PRACTICE.
F. ALL DUCT DIMENSIONS SHOWN ARE NET INSIDE VALUES.DIMENSIONS MAY BE CHANGED SO LONG AS THE NET FREE FACE AREA IS MAINTAINED.
G. ALL CONCEALED DUCTWORK SHALL BE INSULATED WITH 1-1/2" FIBERGLASS INSULATING BLANKET WITH ALUMINUM FOIL FACING.
H. ALL EXPOSED SUPPLY AND RETURN DUCTWORK SHALL BE INTERNALLY LINED WITH A 1" ACOUSTICAL DUCT LINER UNLESS OTHERWISE NOTED ON THE DRAWINGS.

6. DRAINAGE PIPING

A. (CONDENSATE) SHALL BE SCHEDULE 40 PVC PIPE WITH SOLVENT JOINTS. PITCH HORIZONTAL LINES 1" IN 10'-0". CONDENSATE DRAINS SHALL BE ROUTED TO FLOOR DRAIN, ROOF DRAIN OR INDIRECT WASTE DRAIN.

7. HVAC CONTROLS

A. CONTRACTOR TO SUPPLY AND INSTALL ALL CONTROL WIRING AND THERMOSTATS AS REQUIRED.

8. ELECTRICAL

A. CONTRACTOR TO COORDINATE WITH ELECTRICAL CONTRACTOR FOR LOCATION OF WIRING FOR EACH HVAC UNIT.

9. PIPE SUPPORTS

A. ALL PIPE SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE IN A NEAT AND WORKMANLIKE MANNER. THE USE OF WIRE OR METAL STRAP TO SUPPORT PIPES WILL NOT BE PERMITTED. SPACING OF PIPE SUPPORTS SHALL NOT EXCEED 8 FEET FOR ALL PIPING. PLASTIC PIPING TO BE SUPPORTED EVERY 4 FEET.

10. GAS PIPING

A. PIPING SHALL BE SCHEDULE 40 BLACK STEEL PIPE WITH MALLEABLE IRON FITTINGS.
WHERE GAS PIPE CONNECTS TO EQUIPMENT, IT SHALL BE PROVIDED WITH A DRIP LEG THE FULL SIZE OF THE RUNOUT, A 100% SHUT-OFF VALVE AND A UNION. GAS PIPING CONTAINING PRESSURE GREATER THAN 9" W.G. SHALL BE SCHEDULE 40 BLACK STEEL PIPE WITH WELDED JOINTS.

11. MISCELLANEOUS

A. ALL EXTERIOR OPENINGS TO BE PROPERLY CAULKED AND SEALED WITH A SEALANT OF HIGH QUALITY AND LONG LIFE, TO PREVENT INFILTRATION OF OUTSIDE AIR INTO CONDITIONED SPACE.
COORDINATE INSTALLATION OF ALL ROOF FLASHING AT ROOF PENETRATION.
B. DO NOT SCALE THIS DRAWING FOR EXACT DIMENSIONS.
C. VERIFY ALL FIGURES, CONDITIONS, AND DIMENSIONS AT THE JOB SITE.
D. THE MECHANICAL PLANS ARE INTENDED TO BE DIAGRAMMATIC AND ARE BASED ON ONE MANUFACTURE'S EQUIPMENT. THEY ARE NOT INTENDED TO SHOW EVERY ITEM IN ITS EXACT LOCATION, THE EXACT DIMENSIONS, OR ALL THE DETAILS OF THE EQUIPMENT.
E. THE CONTRACTOR SHALL VERIFY THE ACTUAL DIMENSIONS OF THE EQUIPMENT PROPOSED TO ENSURE THAT THE EQUIPMENT WILL FIT IN THE AVAILABLE SPACE.

MECHANICAL PROVISIONS CONTINUED

12. TESTING AND BALANCING

A. THE HVAC SYSTEM SHALL BE TESTED AND AND BALANCED BY AN INDEPENDENT AGENCY, UNDER THE SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER. A SEALED TYPE WRITTEN REPORT SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER FOR REVIEW AND APPROVAL.

13. GUARANTEE

A. MATERIALS, EQUIPMENT AND INSTALLATION SHALL BE GUARANTEED FOR A PERIOD OF ONE(1) YEAR FROM DATE OF ACCEPTANCE. DEFECTS WHICH APPEAR DURING THAT PERIOD SHALL BE CORRECTED AT THIS CONTRACTOR'S EXPENSE.
B. FOR THE SAME PERIOD, THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO PREMISES CAUSED BY DEFECTS IN WORKMANSHIP OR IN THE WORK OR EQUIPMENT FURNISHED AND/OR INSTALLED BY HIM.

PLUMBING SPECIFICATION.

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4. DOMESTIC WATER SUPPLY PIPING

A. UNDERGROUND: PROVIDE TYPE " K" SOFT DRAWN COPPER TUBING WITH BRAZED CONNECTIONS.
B. ABOVE GROUND: PROVIDE TYPE " L" HARD DRAWN COPPER TUBING WITH 125 PSI SOLDER JOINTS, COPPER OR BRASS FITTINGS. ALL SOLDER TO BE " NO LEAD " TYPE.
C. ALL HOT WATER PIPING TO BE INSULATED WITH 1 " PAINTABLE PVC JACKETS

D. ALL COLD WATER PIPING TO BE INSULATED WITH 1 " PAINTABLE PVC JACKETS

5. SANTARY/STORM DRAINAGE AND VENT PIPING.

A. ABOVE GRADE:
-2" BELOW: SCH.40 GALV. STL. PIPE WITH SCREWED ENDS OR DWV COPPER WITH SOLDER JOINTS. ALL SOLDER TO BE " NO LEAD " TYPE.
-3" AND ABOVE: SERVICE WT. CAST IRON WITH NO-HUB OR BELL AND SPIGOT JOINTS.

B. BELOW GRADE: SERVICE WT. CAST IRON WITH NO-HUB OR BELL AND SPIGOT JOINTS.
C. PVC PIPING SHALL NOT BE USED IN AIR PLENUM CEILINGS AND SHALL NOT CROSS FIRE RATED WALLS, CEILINGS, OR FLOORS.
D. DRAINAGE PIPING SHALL BE RUN AS STRAIGHT AS POSSIBLE AND SHALL HAVE LONG TURN FITTINGS.
E. DRAINAGE PIPING 3 " SIZE AND SMALLER SHALL RUN AT A UNIFORM GRADE OF AT LEAST ¼ " PER FOOT. AND PIPING LARGER THAN 3 " SHALL BE RUN AT A GRADE OF NO LESS THAN 1/8 " PER FOOT.
F. ALL VENT PIPING SHALL BE SLOPED TO DRAIN BACK TO FIXTURES.
G. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER FLASHING OF THE VENT PIPING RUN THROUGH THE ROOF.

6. ALL STUB-INS AND/OR SLAB OR WALL PENETRATION TO BE PER INTERNATIONAL PLUMBING CODE (LATEST EDITION).ALL PIPING PENETRATIONS OF BUILDING FOUNDATIONS OR FOOTINGS SHALL BE SLEEVED.

7. PIPE SUPPORTS

A. ABOVE GRADE
ALL PIPE SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE IN A NEAT AND WORKMANLIKE MANNER. THE USE OF WIRE AND PERFORATED METAL TO SUPPORT PIPES WILL NOT BE PERMITTED. SPACING OF PIPE SUPPORTS SHALL BE AS SPECIFIED IN INTERNATIONAL PLUMBING CODE (LATEST EDITION).
B. BELOW GRADE
EARTH SHALL BE EXCAVATED TO A MINIMUM DEPTH WITH AN EVEN SURFACE TO INSURE SOLID BEARING OF PIPE FOR ITS ENTIRE LENGTH.
-INTERIOR: THE PIPE SHALL BE INSTALLED (UNLESS OTHERWISE SPECIFIED) A MINIMUM OF 4 INCHES BELOW THE BOTTOM OF THE SLAB AND SHALL NOT BE IN ANY DIRECT CONTACT WITH THE CONCRETE AT ANY POINT.
-EXTERIOR: THE WATER PIPE SHALL HAVE A MINIMUM OF 60 " OF COVER AND THE SANITARY WASTE PIPE SHALL HAVE A MINIMUM OF 24 " OF COVER.

8. MISCELLANEOUS

A. COORDINATE INSTALLATION OF ALL ROOFS FLASHING AT ROOF PENETRATION.
B. DO NOT SCALE THIS DRAWING FOR EXACT DIMENSIONS. VERIFY ALL FIGURES, CONDITIONS AND DIMENSIONS AT THE JOB SITE.
C. THE PLUMBING PLANS ARE INTENDED TO BE DIAGRAMMATIC AND ARE BASED ON ONE MANUFACTURE'S EQUIPMENT. THEY ARE NOT INTENDED TO SHOW EVERY ITEM IN ITS EXACT LOCATION. THE EXACT DIMENSIONS OR ALL THE DETAILS OF THE EQUIPMENT. THE CONTRACTOR SHALL VERIFY THE ACTUAL DIMENSIONS OF THE EQUIPMENT PROPOSED TO ENSURE THAT THE EQUIPMENT WILL FIT THE AVAILABLE SPACE.

9. TESTING

A. PLUMBING SYSTEM SHALL BE FLOW AND PRESSURE TESTED IN ACCORDANCE WITH THE INTERNATIONAL PLUMBING CODE (LATEST EDITION).

10. GUARANTEE

A. MATERIALS, EQUIPMENT AND INSTALLATION SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FROM DATE OF ACCEPTANCE. DEFECTS WHICH APPEAR DURING THAT PERIOD SHALL BE CORRECTED AT THIS CONTRACTOR'S EXPENSE.
B. FOR THE SAME PERIOD. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO PREMISES CAUSED BY DEFECTS IN WORKMANSHIP OR IN THE WORK OR EQUIPMENT FURNISHED AND/OR INSTALLED BY HIM.

SEQUENCE OF OPERATION

1.01 VAV AIR HANDLING UNIT WITH ECONOMIZER

A. OCCUPIED COOLING MODE

When the AHU is in the Occupied Cooling Mode, the Supply Fan will operate continuously, the VFD will modulate the supply fan speed as part of a single zone VAV control along with the Cooling Valve, Heating Valve, and Economizer Dampers to modulate in sequence to maintain space temperature.

B. UNOCCUPIED MODE

When the AHU is in the Unoccupied Mode, the Supply Fan will be OFF, Outdoor Air Damper, and Cooling Valve will be closed, and the Heating Valve will be fully open.

C. NIGHT SETBACK / MORNING WARMUP HEATING MODE

When the AHU is in the Night Setback / Morning Warmup Heating Mode, the Supply Fan will operate continuously, the VFD will control the supply fan to full speed, the Outdoor Air Damper and Cooling Valve will be closed, the Return Air Damper will be fully open, and the Heating Valve will modulate to maintain the maximum heating Space Air Temperature setpoint.

D. SUPPLY FAN CONTROL

The Supply Fan will operate continuously whenever the AHU is in either the Occupied Cooling Mode or the Night Setback / Morning Warmup Heating Mode. The Supply Fan will be OFF whenever the AHU is in the Unoccupied Mode, the Stop / Auto interlock is open, the Mixed Air Low Limit is tripped, or the Supply Fan Status indicates a failure (after a two minute delay). The Low Limit and the Fan Failure require a manual reset.

E. VFD SUPPLY FAN SPEED CONTROL CONTROL

When the Supply Fan is ON, the VFD will slowly ramp (adjustable) up to setpoint and modulate to maintain the proper Space temperature with a single zone VAV control algorithm. The VFD will shut down if the Supply Fan is to be OFF or the Duct Static Pressure Sensor fails.

F. ECONOMIZER CONTROL

When the Outdoor Air Temperature is less than the changeover setpoint, the Outdoor Air Damper will modulate between the adjustable minimum position and full open to maintain the Space Air Temperature at the Economizer Setpoint. The Outdoor Air Damper will modulate closed as required (overriding the minimum position) to maintain the Mixed Air Temperature at or above the Mixed Air Setpoint. A manual reset Mixed Air Low Limit will turn the Supply Fan OFF if any 12 inches of its sensing element is below its setpoint.

The Outdoor Air Damper will be set to its adjustable minimum position if the Economizer function is disabled or if the Discharge Air Temperature Sensor has failed. If the AHU is in the Morning Warmup mode, the Supply Fan is OFF or the Mixed Air Temperature Sensor has failed, the Outdoor Air Damper will be closed.

G. HEATING VALVE CONTROL

The Heating Valve will modulate to maintain the Space Air Temperature along with the economizer dampers and cooling coil control valve. The Heating Valve will be closed if the Outdoor Air Damper is open past its minimum position or if the Cooling Valve is open. The Heating Valve will be fully open if the Supply Fan is OFF.

H. COOLING VALVE CONTROL

The Cooling Valve will modulate to maintain the Space Air Temperature along with the economizer dampers and heating coil control valve. The Cooling Valve will be closed if the AHU is in the Heating mode, the Supply Fan is OFF, or the Discharge Air Sensor has failed.

I. BUILDING AUTOMATION SYSTEM INTERFACE

The Building Automation System (BAS) shall send the AHU a Space Air Setpoint. The BAS shall also send Start_up, Occupied, Unoccupied, Morning Warmup, Heating / Cooling, Economizer enable, Timed Override, Startup, Coastdown, Demand Limit, Duty Cycle, Night Setback, Purge, and Priority Shutdown commands.

If communication with the BAS is lost, the AHU uses its default setpoints and operates in the Occupied Cooling mode. The Economizer function is enabled based on the AHU Outdoor Air Temperature Sensor.

J. The following points will be monitored and alarmed at the AHU controller and the BAS:

1. Supply air temp
2. Mixed air temp
3. Outside air temp
4. Space temp
5. Fan status
6. Duct static press.
7. Filter Norm/Dirty
8. Low limit status
9. Damper Min. Pos. %
10. Damper output %
11. Heat output %
12. Cool output %
13. Fan modulation %
14. Heat/cool mode
15. Sensors Norm/Fail status
16. DDC loop parameters

K. The following points will be operator adjustable and/or automatically reset by a BAS program.

1. Space setpoint
2. Economizer setpoint
3. OA changeover
4. Min. Position setpoint
5. Static press. High limit setpoint
6. Damper open/close

Colorado Mountain College

PROJECT DESCRIPTION

Delta	Description	Date Issued

Shawn Brill
COLORADO LICENSED SHAWN T. BRILL 25400 PROFESSIONAL ENGINEER
7-29-16

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MECHANICAL AND PLUMBING SPECIFICATIONS/SEQUENCE OF OPERATION

BIDDING/PERMIT SET
8/01/2016

PROJECT No.	PROJECT ARCH	PROJECT MNGR	CHECKED BY
16-001	Approver	Designer	Checker

SHEET No.

MPS1-1

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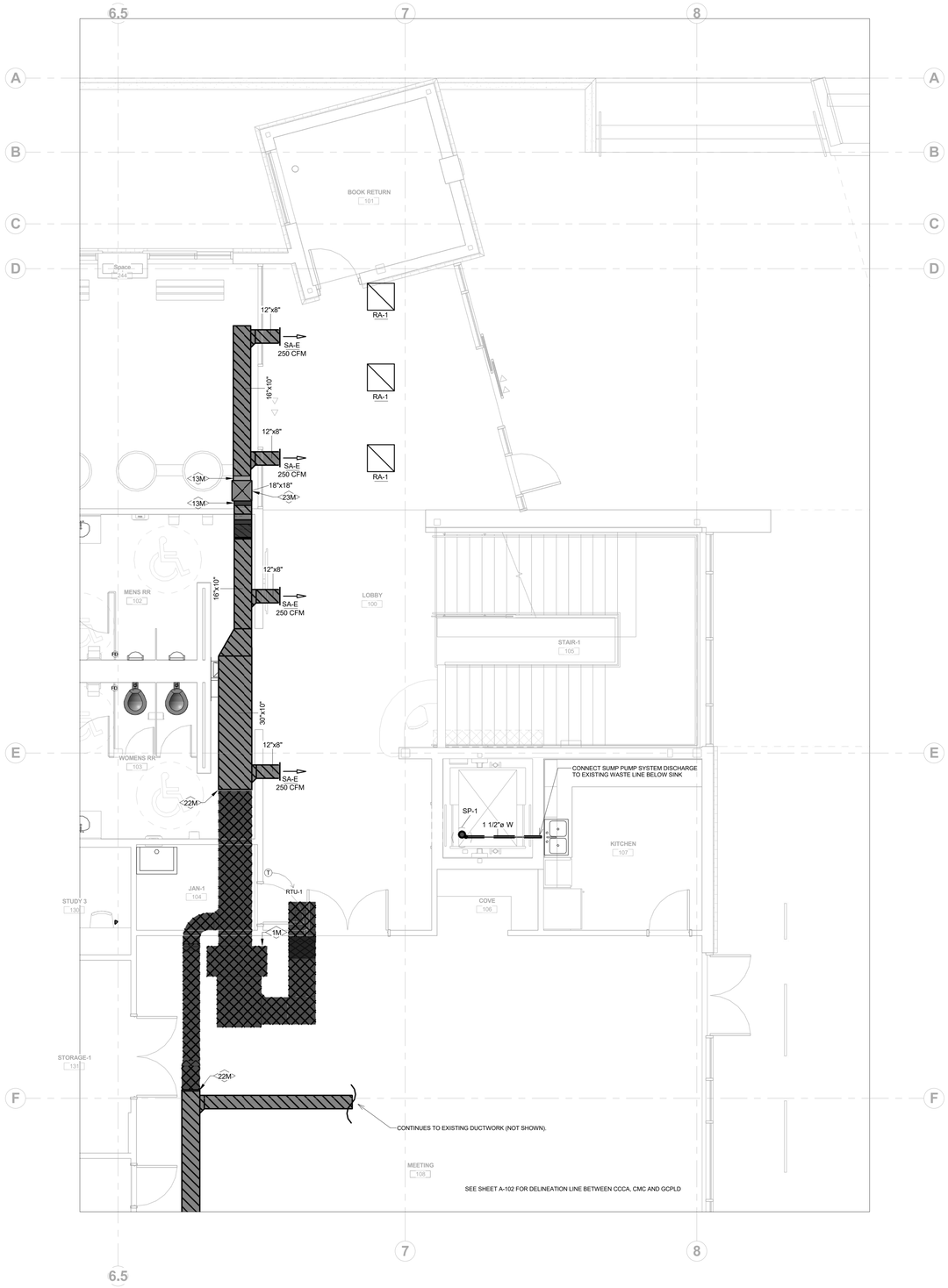

1 M1-1 MECHANICAL COOPER COMMONS - LEVEL 1
1/4" = 1'-0"

MECHANICAL DUCTWORK LEGEND

- NEW CONSTRUCTION DUCTWORK
- EXISTING DUCTWORK
- DEMOLISHED DUCTWORK

MECHANICAL - KEYNOTE LEGEND	
Key Value	Keynote Text
1M	EXISTING INDOOR VRF FAN COIL TO BE REMOVED. UTILIZE THE EXISTING DUCTWORK AS SHOWN WITH RTU-1.
13M	CONNECT TO EXISTING DUCTWORK.
22M	CAP DUCT OPENING CREATED DURING DEMO.
23M	SUPPLY DROP FROM ROOF MOUNTED RTU-1.

GENERAL NOTES:
1. ALL EXISTING MECHANICAL SYSTEMS TO REMAIN, EXCEPT AS NOTED.
2. ALL EXPOSED DUCTWORK TO BE PAINTABLE TYPE AND TO BE PAINTED PER ARCHITECT'S REQUIREMENTS.

Colorado Mountain College

PROJECT DESCRIPTION

Delta	Description	Date Issued

Shawn Brill

COLORADO LICENSED SHAWN P. BRILL 25400 PROFESSIONAL ENGINEER

7-29-16

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MECHANICAL PLAN - COOPER COMMON

BIDDING/PERMIT SET
8/01/2016

PROJECT No.	PROJECT ARCH	PROJECT MNGR	CHECKED BY
16-001	Approver	Designer	Checker

SHEET No.

M1-1

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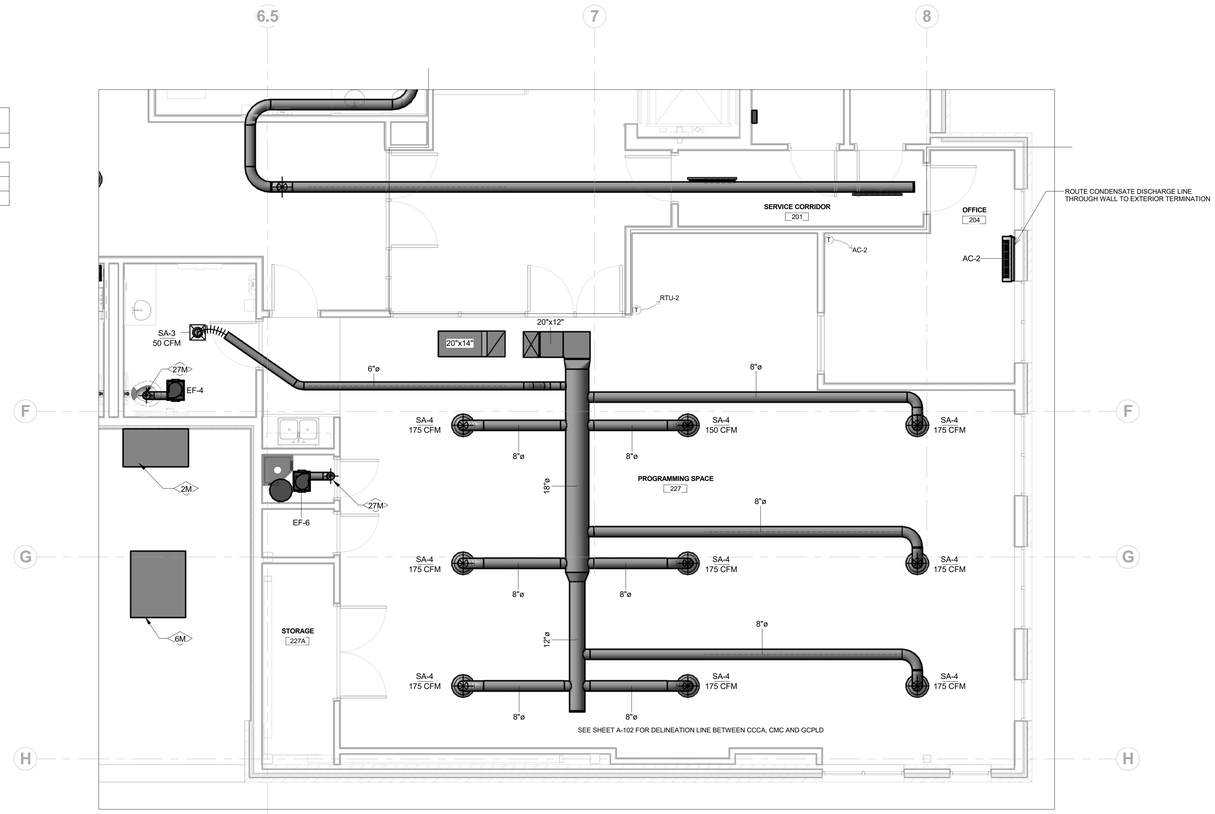
MECHANICAL - KEYNOTE LEGEND	
Key Value	Keynote Text
2M	EXISTING VRF OUTDOOR CONDENSER.
6M	EXISTING OUTDOOR ENERGY RECOVERY VENTILATOR.
27M	6"DIAMETER EXHAUST DUCT UP THROUGH ROOF TO ROOF CAP.

GENERAL NOTES:
1. ALL EXPOSED DUCTWORK TO BE PAINTABLE TYPE AND TO BE PAINTED PER ARCHITECT'S REQUIREMENTS.



1 M1-2 MECHANICAL GCPLD - LEVEL 2
1/4" = 1'-0"

GCPLD PACKAGED GAS-FIRED ROOFTOP UNIT																		
MARK	SERVICE	SUPPLY FAN				COOLING		HEATING		FILTER TYPE	ELECTRICAL					MANUFACTURER	MODEL	WEIGHT	COMMENTS
		SUPPLY CFM	OUTSIDE AIR (CFM)	EXTERNAL STATIC PRESSURE	MOTOR HP	COOLING TOTAL CAP	SEER	HEATING INPUT	HEATING OUTPUT		VOLTAGE	PHASE	Hz	MCA (A)	MOCP (A)				
RTU-2	PROGRAMMING SPACE 227	1600 CFM	500	0.70 in-wg	1	49930.0 Btu/h	14.2	60000 Btu/h	49000 Btu/h	2" MERV	480 V	3	60 Hz	12.8	15	TRANE	YHC048	1152	SEE NOTES BELOW

NOTES:
1. PROVIDE WITH VIBRATION ISOLATION CURB, 100% MODULATING ECONOMIZER, BAROMETRIC EXHAUST, RETURN DUCT CO2 SENSOR AND DCV SEQUENCE, EC MOTOR ON SUPPLY FAN FOR SINGLE ZONE VAV CONTROL, MERV 8 FILTERS, NON-FUSED DISCONNECT, POWERED CONVENIENCE OUTLET, THROUGH THE BASE ELECTRICAL, CONDENSER COIL GUARDS, HINGED ACCESS DOORS, FAULT DETECTION DIAGNOSTICS, PROGRAMMABLE THERMOSTAT, AND GAS ORIFICES FOR OPERATION AT PROJECT ALTITUDE.

GCPLD DUCTLESS SPLIT AIR CONDITIONING SYSTEM SCHEDULE												
Mark	SERVICE	SEER VALUE	COOLING CAPACITY	HEAT CAPACITY AT 17°F	CFM	MCA (A)	MOCP (A)	VOLT/PH/HZ	MANUFACTURER	MODEL	WEIGHT (LBS)	NOTES
AC-2	OFFICE (204)	23.2	9000 Btu/h	6600 Btu/h	VARIABLE	1	15	208/1/60	MITSUBISHI	MSZ-GE09NA-9	22	SEE NOTE 1
CU-2	OFFICE (204)	23.2	9000 Btu/h	6600 Btu/h	-	12	15	208/1/60	MITSUBISHI	MUZ-GE09NA2	66	SERVES AC-2

NOTES:
1. PROVIDE WITH REFRIGERANT LINE SET, WIRELESS REMOTE THERMOSTAT.

GCPLD FAN SCHEDULE										
Mark	SERVICE	LOCATION	CFM	STATIC PRESS. (IN W.G.)	ELEC MOTOR HP	MOTOR RPM	VOLT/PH/HZ	MANUFACTURER	MODEL	NOTES
EF-4	RESTROOM	CEILING	75	0.5	0.05	1075	115/1/60	COOK	GC-148	SEE NOTE 1 & 2
EF-6	RESTROOM	CEILING	75	0.5	0.05	1075	115/1/60	COOK	GC-148	SEE NOTE 1 & 3

NOTES:
1. PROVIDE WITH FIELD WIRING, DISCONNECT, SOLID STATE SPEED CONTROLLER, BACKDRAFT DAMPER, VIBRATION ISOLATORS, AND ROOF CAP.
2. FANS TO ACTIVATE WITH OCCUPANCY SENSOR.
3. FAN CONTROL THROUGH TRANE CONTROL SYSTEM.

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Colorado Mountain College

PROJECT DESCRIPTION

Delta	Description	Date Issued

Shawn Brill
COLORADO LICENSED
SHAWN P. BRILL
25400
PROFESSIONAL ENGINEER
7-29-16

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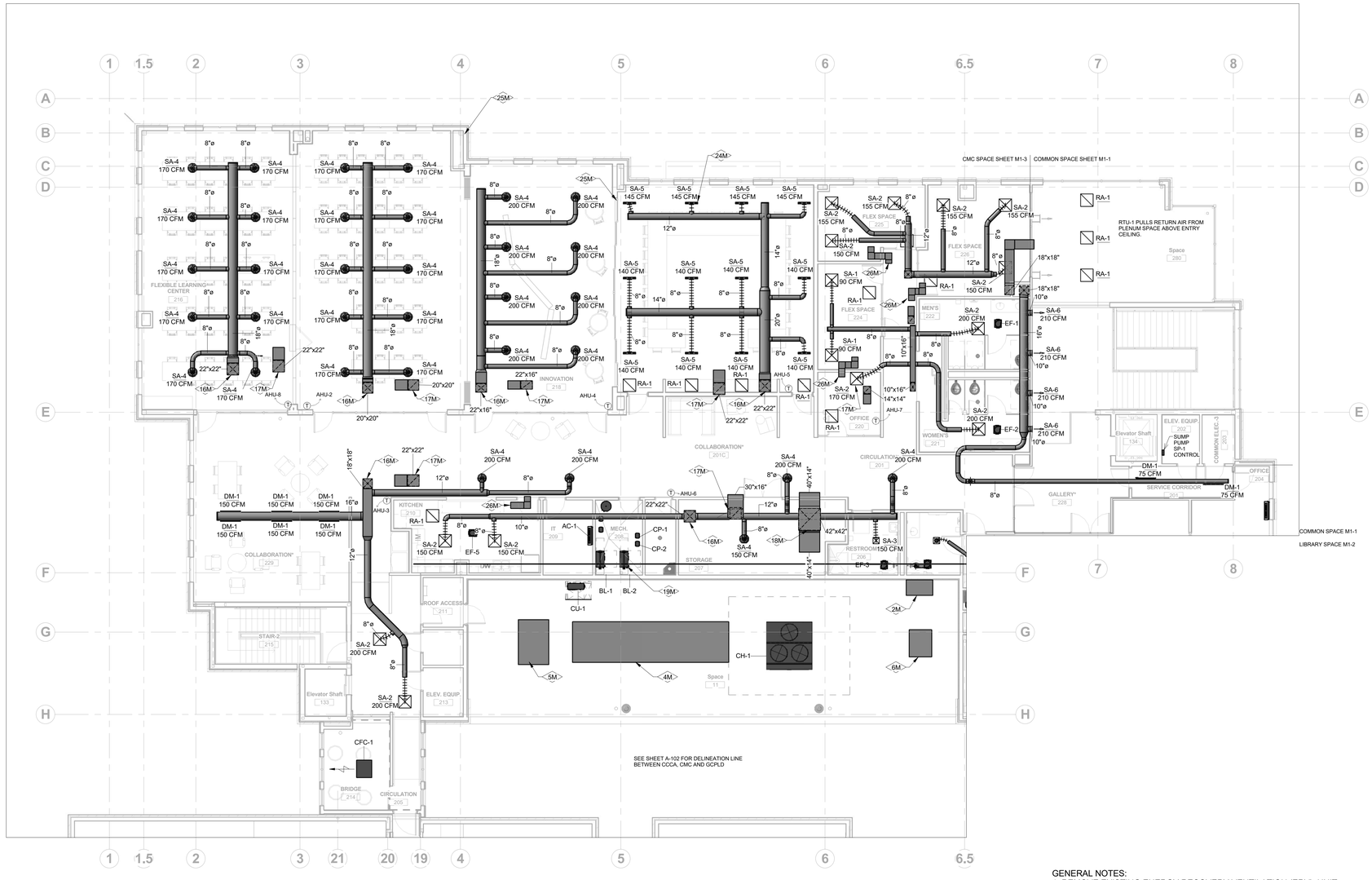
MECHANICAL PLAN - GCPLD

BIDDING/PERMIT SET
8/01/2016

PROJECT No.	PROJECT ARCH	PROJECT MNGR	CHECKED BY
16-001	Approver	Designer	Checker

SHEET No.

M1-2



GENERAL NOTES:
1. REMOVE EXISTING ENERGY RECOVERY VENTILATION (ERV) UNIT.
2. CMC SPACE TO USE ALERTON CONTROLS PROVIDED BY OWNER.
3. ALL EXPOSED DUCTWORK TO BE PAINTABLE TYPE AND TO BE PAINTED PER ARCHITECT'S REQUIREMENTS.

1 M1-3 MECHANICAL CMC - LEVEL 2
1/8" = 1'-0"

MECHANICAL - KEYNOTE LEGEND	
Key Value	Keynote Text
2M	EXISTING VRF OUTDOOR CONDENSER.
4M	EXISTING OUTDOOR AIR HANDLING UNIT.
5M	EXISTING OUTDOOR CONDENSING UNIT.
6M	EXISTING OUTDOOR ENERGY RECOVERY VENTILATOR.
16M	SUPPLY DROP FROM ROOF MOUNTED AHU.
17M	RETURN DROP FROM ROOF MOUNTED AHU.
18M	RELIEF DUCT UP TO PRH-1 ABOVE.
19M	EACH BOILER WILL HAVE A CONCENTRIC VENT. SEE DETAILS ON SHEET M3-1 & M3-2. COORDINATE TERMINATION LOCATION WITH ARCHITECT & G.C.
24M	PROVIDE PLENUM BOX FOR EACH LINEAR BAR DIFFUSER.
25M	PROVIDE END SWITCH ON FOLDING DOOR. WHEN DOOR IS OPEN USE AVERAGE TEMPERATURE OF BOTH SPACES OF TEMPERATURE CONTROL OF BOTH AIR HANDLERS.
26M	AIR TRANSFER DUCT.

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PROJECT DESCRIPTION

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7-29-16

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MECHANICAL PLAN - CMC

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8/01/2016

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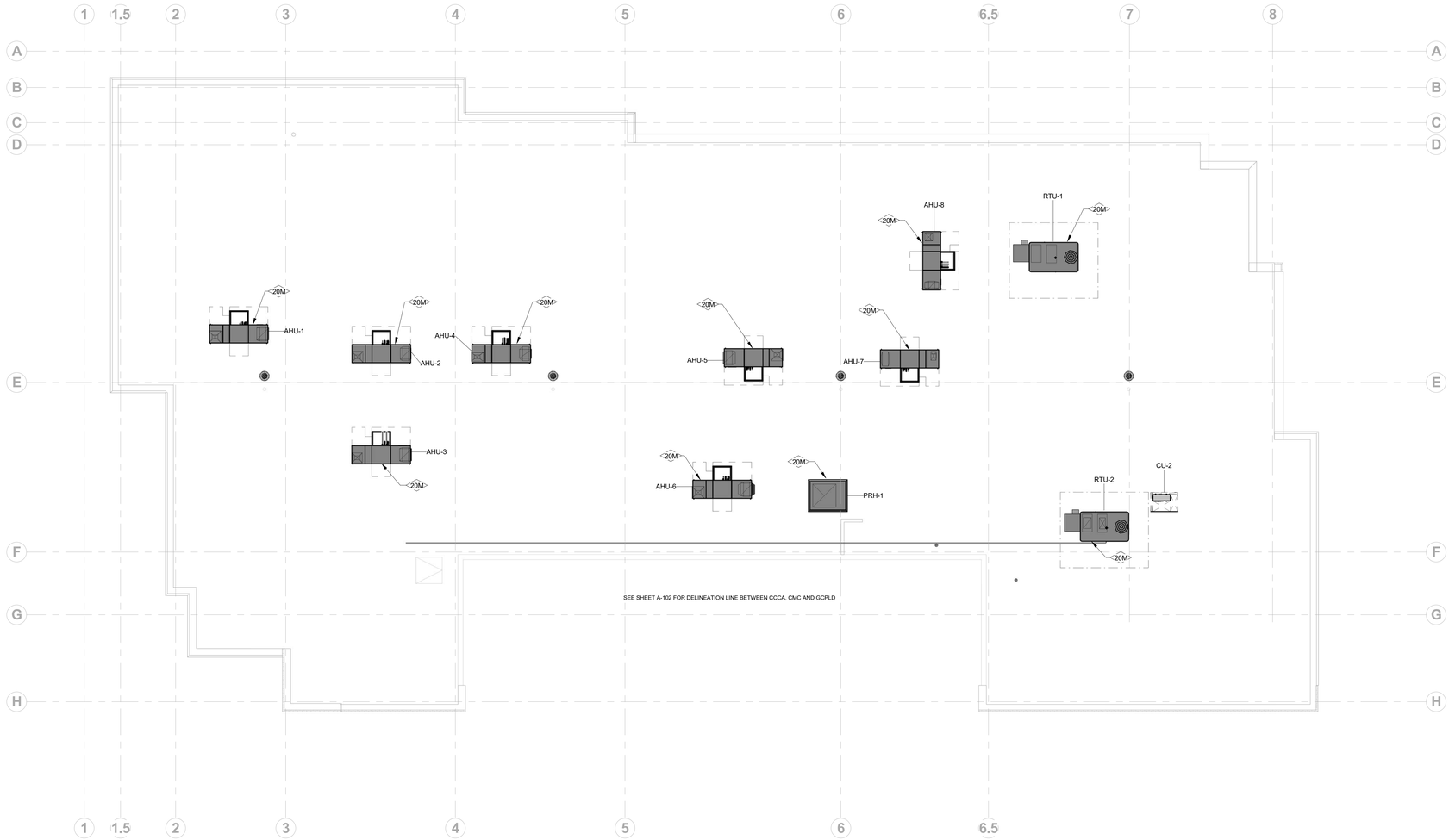
SHEET No.

M1-3



1 M1-4 MECHANICAL OVERALL - ROOF PLAN
1/8" = 1'-0"

MECHANICAL - KEYNOTE LEGEND	
Key Value	Keynote Text
20M	PROVIDE UNIT ON VIBRATION ISOLATION CURB.

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MECHANICAL ROOF PLAN

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8/01/2016

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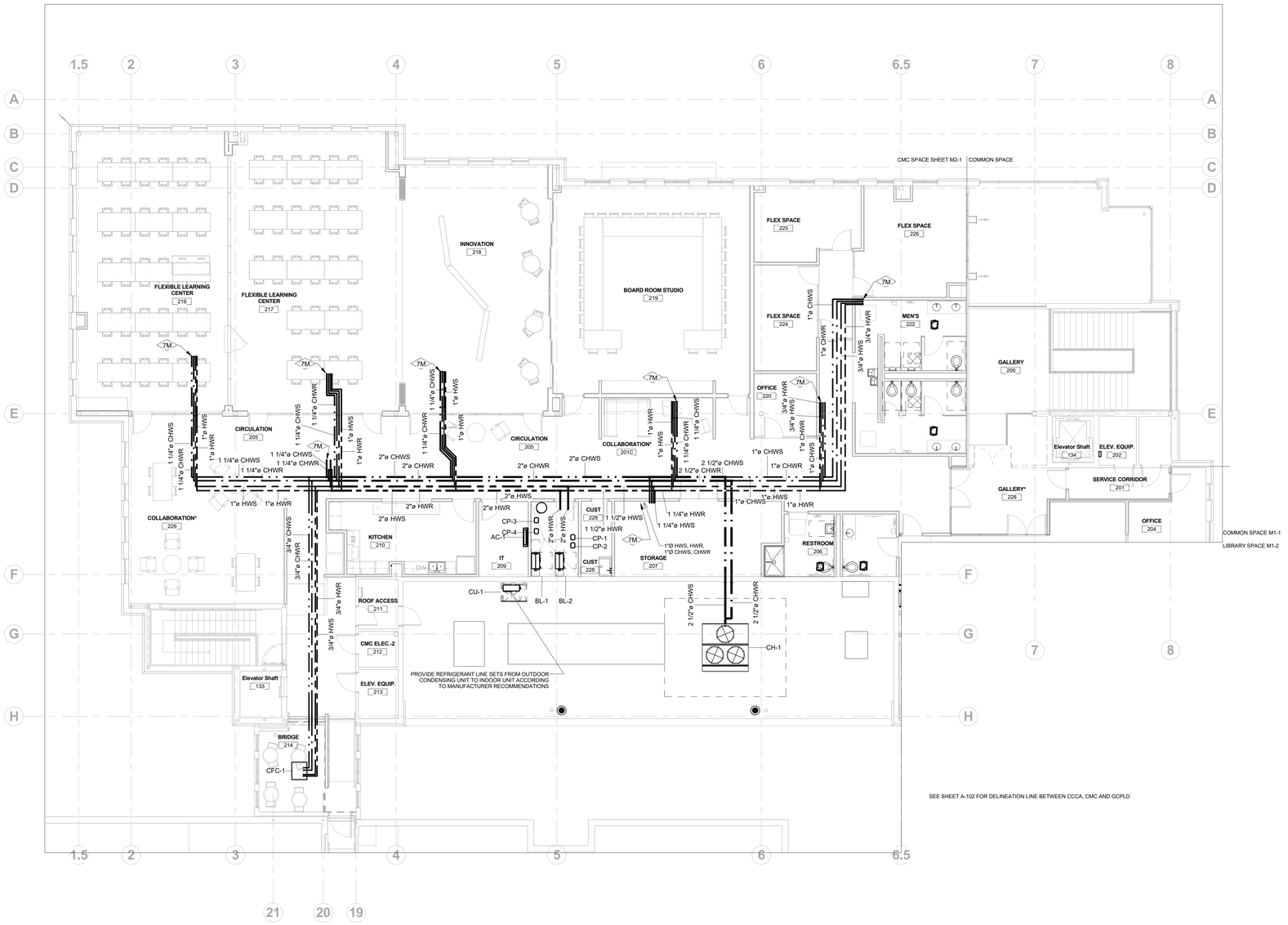
16-001	Approver	Designer	Checker

SHEET No.

M1-4



SEE SHEET A-102 FOR DELINEATION LINE BETWEEN CCCA, CMC AND GCPLD

1 M2-1 MECHANICAL PIPING CMC - LEVEL 2

1/8" = 1'-0"

MECHANICAL PIPING LEGEND

- HOT WATER SUPPLY (HWS)
- HOT WATER RETURN (HWR)
- CHILLED WATER SUPPLY (CHWS)
- CHILLED WATER RETURN (CHWR)

MECHANICAL - KEYNOTE LEGEND	
Key Value	Keynote Text
7M	PIPING UP TO ROOF TOP AIR HANDLER UNIT.

GENERAL NOTES:
1. CMC SPACE TO USE ALERTON CONTROLS PROVIDED BY OWNER.
2. ALL EXPOSED PIPE TO HAVE PAINTABLE PVC INSULATING JACKET AND TO BE PAINTED PER ARCHITECT'S REQUIREMENTS.
3. ALL EXISTING EXPOSED PIPE TO HAVE PAINTABLE PVC INSULATION JACKET AND TO BE PAINTED PER ARCHITECT'S REQUIREMENTS.

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PROJECT DESCRIPTION

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Shawn Brill
COLORADO LICENSED SHAWN M. BRILL 25400 PROFESSIONAL ENGINEER
7-29-16

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MECHANICAL PIPING PLAN - CMC

BIDDING/PERMIT SET
8/01/2016

PROJECT No.	PROJECT ARCH	PROJECT MNGR	CHECKED BY
16-001	Approver	Designer	Checker

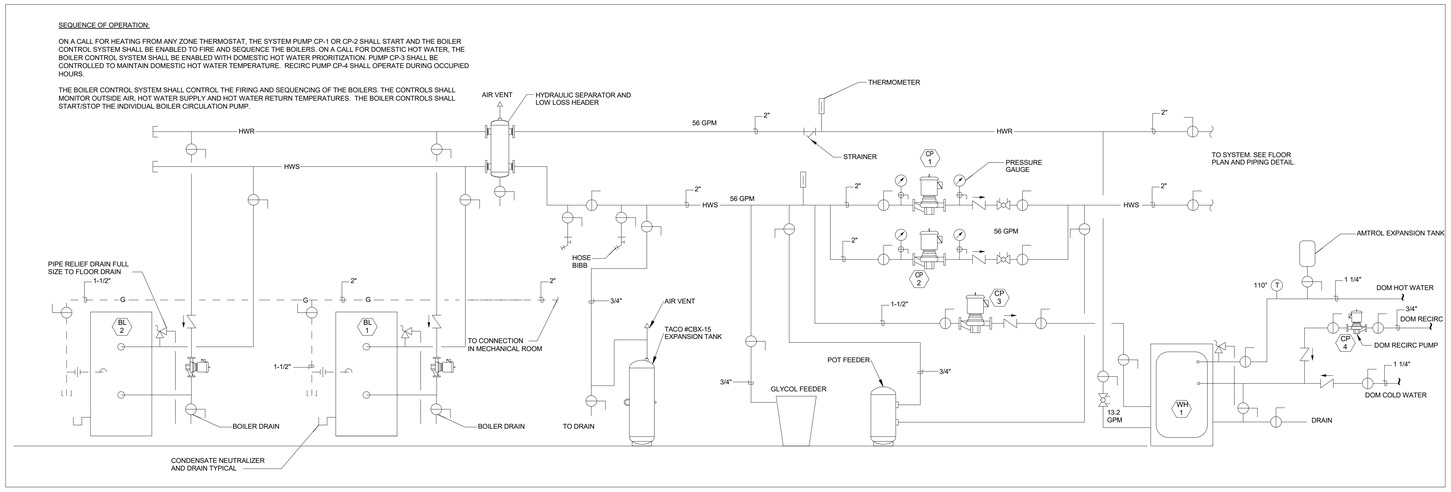
SHEET No.

M2-1

SEQUENCE OF OPERATION:

ON A CALL FOR HEATING FROM ANY ZONE THERMOSTAT, THE SYSTEM PUMP CP-1 OR CP-2 SHALL START AND THE BOILER CONTROL SYSTEM SHALL BE ENABLED TO FIRE AND SEQUENCE THE BOILERS. ON A CALL FOR DOMESTIC HOT WATER, THE BOILER CONTROL SYSTEM SHALL BE ENABLED WITH DOMESTIC HOT WATER PRIORITIZATION. PUMP CP-3 SHALL BE CONTROLLED TO MAINTAIN DOMESTIC HOT WATER TEMPERATURE. RECIRC PUMP CP-4 SHALL OPERATE DURING OCCUPIED HOURS.

THE BOILER CONTROL SYSTEM SHALL CONTROL THE FIRING AND SEQUENCING OF THE BOILERS. THE CONTROLS SHALL MONITOR OUTSIDE AIR, HOT WATER SUPPLY AND HOT WATER RETURN TEMPERATURES. THE BOILER CONTROLS SHALL START/STOP THE INDIVIDUAL BOILER CIRCULATION PUMP.

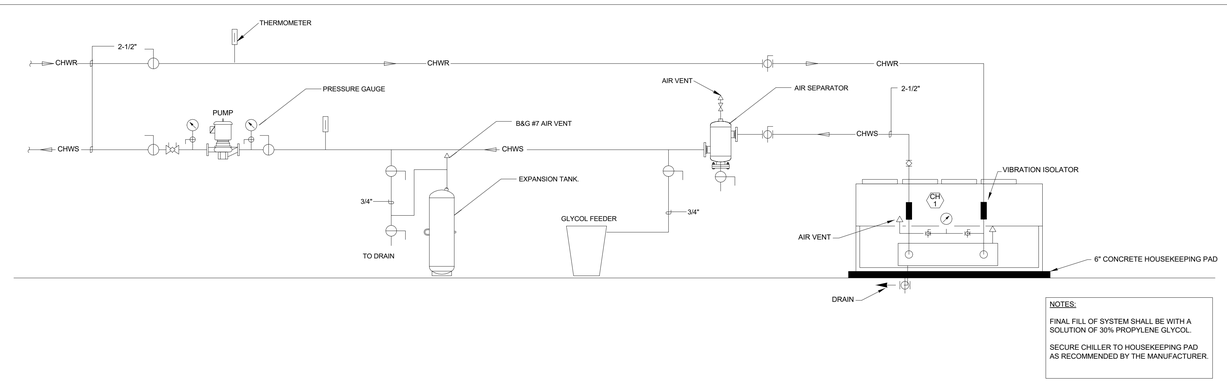


BOILER PIPING SCHEMATIC

SCALE: NTS

NOTES:

FINAL FILL OF SYSTEM SHALL BE WITH A SOLUTION OF 30% PROPYLENE GLYCOL.



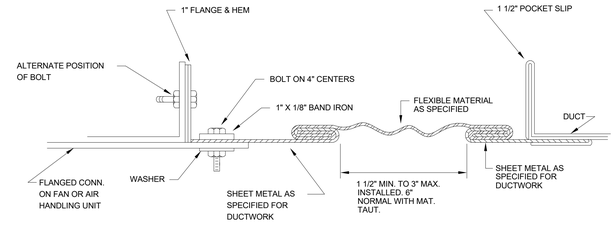
NOTES:

FINAL FILL OF SYSTEM SHALL BE WITH A SOLUTION OF 30% PROPYLENE GLYCOL.

SECURE CHILLER TO HOUSEKEEPING PAD AS RECOMMENDED BY THE MANUFACTURER.

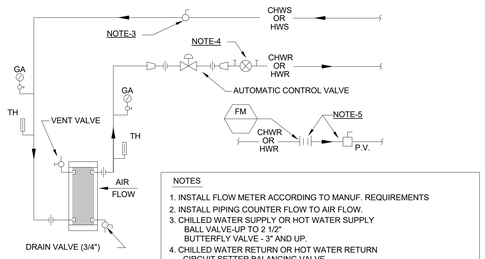
CHILLER PIPING SCHEMATIC

SCALE: NTS



RECTANGULAR FLEXIBLE CONNECTION DETAIL

N.T.S.



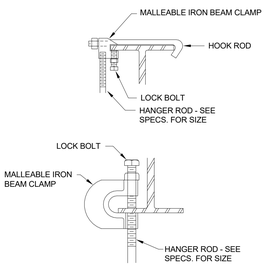
NOTES

1. INSTALL FLOW METER ACCORDING TO MANUF. REQUIREMENTS
2. INSTALL PIPING COUNTER FLOW TO AIR FLOW.
3. CHILLED WATER SUPPLY OR HOT WATER SUPPLY BALL VALVE-UP TO 2 1/2" BUTTERFLY VALVE - 3" AND UP.
4. CHILLED WATER RETURN OR HOT WATER RETURN CIRCUIT SETTER BALANCING VALVE WITH POSITIVE SHUT-OFF UP TO 2 1/2"
5. FLOW METER WITH PLUG VALVE - 3" TO 6" FLOW METER WITH BUTTERFLY VALVE - 8"AND UP.
6. THERMOMETERS TO BE INSTALLED IN ELBOWS ON PIPE 3" AND SMALLER.
7. GAUGE RANGE TO BE TWO TIMES NORMAL OPERATING PRESSURE
8. THERMOMETER RANGE TO BE TWO TIMES NORMAL OPERATING TEMPERATURE

PIPING ARRANGEMENT- CHILLED/HOT WATER COIL-AHU MTD.

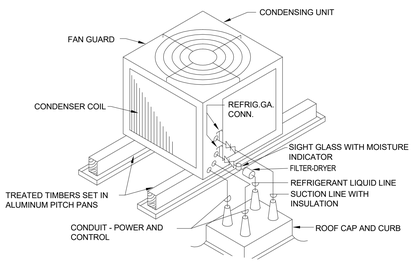
(2-WAY AUTOMATIC CONTROL VALVE)

NOT TO SCALE



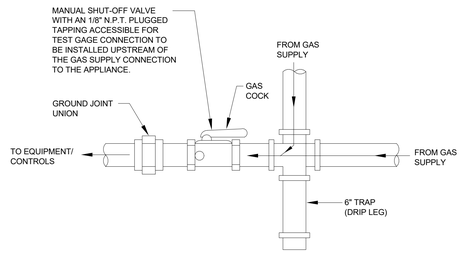
SIDE BEAM CLAMPS FOR EQUIPMENT OR PIPE SUPPORT

NTS



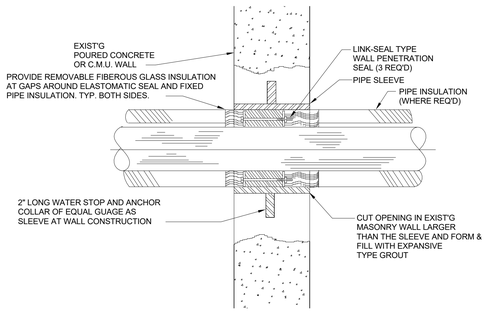
CONDENSING UNIT MOUNTED ON LOW SLOPE ROOF

N.T.S.



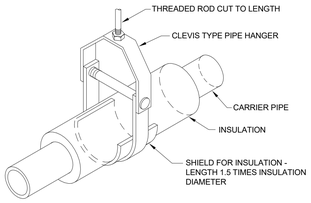
GAS CONNECTION TO EQUIPMENT DETAIL

NOT TO SCALE



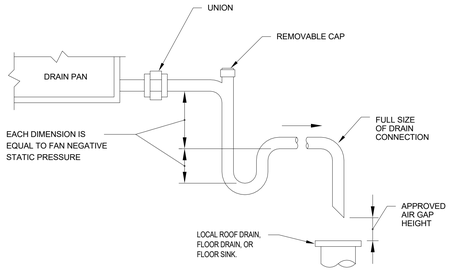
PIPE SLEEVE THROUGH WALL DETAIL

NOT TO SCALE



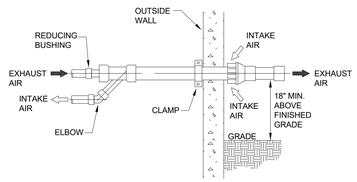
CLEVIS TYPE PIPE HANGER FOR INSULATED PIPE

NTS



CONDENSATE DRAIN DETAIL

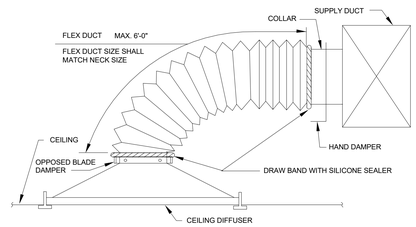
N.T.S.



CONCENTRIC WALL TERMINATION INSTALLATION DETAIL

(TYPICAL FOR HIGH EFFICIENCY GAS FURNACES)

N.T.S.



TYPICAL DIFFUSER CONNECTION

(SIDE OF DUCT CONNECTION)

NOT TO SCALE

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SHEET No.

M3-1

COOPER COMMONS PACKAGED GAS-FIRED ROOFTOP UNIT																			
MARK	SERVICE	SUPPLY FAN				COOLING		HEATING		FILTER TYPE	ELECTRICAL					MANUFACTURER	MODEL	WEIGHT	COMMENTS
		SUPPLY CFM	OUTSIDE AIR (CFM)	EXTERNAL STATIC PRESSURE	MOTOR HP	COOLING TOTAL CAP	SEER	HEATING INPUT	HEATING OUTPUT		VOLTAGE	PHASE	Hz	MCA (A)	MOCP (A)				
RTU-1	1ST FLOOR LOBBY & 2ND LEVEL GALLERY	1990 CFM		0.70 in-wg	1	60000.0 Btu/h	15.0	130000.0 Btu/h	104000.0 Btu/h	2" MERV	480 V	3	60 Hz	13.8	20	TRANE	YHC060	1175	SEE NOTES BELOW

NOTES:
1. PROVIDE WITH VIBRATION ISOLATION CURB, 100% MODULATING ECONOMIZER, BAROMETRIC EXHAUST, RETURN DUCT CO2 SENSOR AND DCV SEQUENCE, EC MOTOR ON SUPPLY FAN FOR SINGLE ZONE VAV CONTROL, MERV 8 FILTERS, NON-FUSED DISCONNECT, POWERED CONVENIENCE OUTLET, THROUGH THE BASE ELECTRICAL, CONDENSER COIL GUARDS, HINGED ACCESS DOORS, FAULT DETECTION DIAGNOSTICS, PROGRAMMABLE THERMOSTAT, RETURN DUCT SMOKE DETECTOR, AND GAS ORIFICES FOR OPERATION AT PROJECT ALTITUDE.

CMC - OUTDOOR AIR HANDLER SCHEDULE																		
Mark	SERVICE	LOCATION	AIRFLOW (CFM)	STATIC PRESS. (IN W.G.)	COOLING	COOLING			HEATING				FAN MOTOR		ELECTRICAL			MANUFACTURER	MODEL	NOTES
					COOLING CAPACITY (MBH)	FLUID FLOW (GPM)	COIL ROW QTY.	FLUID PRESSURE DROP (FT)	CAPACITY (MBH)	FLUID FLOW (GPM)	COIL ROW QTY	FLUID PRESSURE DROP (FT)	ELEC MOTOR HP	MOTOR RPM	VOLT/PH/HZ	MCA (A)	MOCP (A)			
AHU-1	NORTH FLEXIBLE LEARNING CENTER	ROOF	1700	1"	48	9.6			108	7.2			1.5	1800	460/3/60			CARRIER	AERO SERIES 39M SIZE 03	SEE NOTES BELOW
AHU-2	SOUTH FLEXIBLE LEARNING CENTER	ROOF	1700	1"	48	9.6			108	7.2			1.5	1800	460/3/60			CARRIER	AERO SERIES 39M SIZE 03	SEE NOTES BELOW
AHU-3	COLLABORATION	ROOF	1700	1"	40	8			90	6			1.5	1800	460/3/60	2.6	3	CARRIER	AERO SERIES 39M SIZE 03	SEE NOTES BELOW
AHU-4	INNOVATION	ROOF	1600	1"	42	8.4			90	6			1.5	1800	460/3/60			CARRIER	AERO SERIES 39M SIZE 03	SEE NOTES BELOW
AHU-5	BOARD ROOM	ROOF	1700	1"	58	11.6			120	8			1.5	1800	460/3/60			CARRIER	AERO SERIES 39M SIZE 03	SEE NOTES BELOW
AHU-6	KITCHEN / CORRIDOR / UNISEX RR	ROOF	1000	1"	12	2.4			18	1.2			1.5	1800	460/3/60			CARRIER	AERO SERIES 39M SIZE 03	SEE NOTES BELOW
AHU-7	OFFICE / RESTROOMS / FLEX SPACE	ROOF	750	1"	16	3.2			36	2.4			1.5	1800	460/3/60			CARRIER	AERO SERIES 39M SIZE 03	SEE NOTES BELOW
AHU-8	FLEX SPACES	ROOF	920	1"	16	3.2			36	2.4			1.5	1800	460/3/60			CARRIER	AERO SERIES 39M SIZE 03	SEE NOTES BELOW

NOTES:
1. COOLING CAPACITY BASED ON 80°/61°F ENTERING AIR 45°F EWT, 55°F LWT, 55° LEAVING AIR TEMPERATURE.
2. HEATING CAPACITY BASED ON 60°F ENTERING AIR 140° EWT, 110°F LEAVING AIR TEMPERATURE.
3. PROVIDE WITH 2" FILTERS, DOUBLE WALL R-13 CONSTRUCTION DIRECT DRIVE PLENUM FAN, FAN ISOLATORS, VFD, CONVINCE OUTLET, AND SOUND PLENUM, FILTER MIXING BOX WITH ECONOMIZER.

CMC CABINET FAN COIL UNIT SCHEDULE												
MARK	SERVICE	EQUIP. DESCRIPTION	FAN CFM	HEATING CAPACITY (MBH)	HEATING FLUID FLOW (GPM)	COOLING CAPACITY (MBH)	COOLING FLUID FLOW (GPM)	VOLT/PH/HZ	FLA (A)	ELEC MOTOR HP	MANUFACTURER	MODEL	NOTES
CFC-1	BRIDGE	HORIZONTAL CABINET FAN COIL	217	8.7	0.6	5.49	1.1	115/1/60	3.1	0.22	TRANE	FCD0201	SEE NOTE 1

NOTES:
1. PROVIDE WITH FILTER, HEATING AND COOLING COIL PACKAGE, RETURN AIR THERMOSTAT.

CMC FAN SCHEDULE										
Mark	SERVICE	LOCATION	CFM	STATIC PRESS. (IN W.G.)	ELEC MOTOR HP	MOTOR RPM	VOLT/PH/HZ	MANUFACTURER	MODEL	NOTES
EF-1	RESTROOM GROUP	CEILING	223	0.5	0.14	1075	115/1/60	COOK	GC-188	SEE NOTE 1
EF-2	RESTROOM GROUP	CEILING	223	0.5	0.14	1075	115/1/60	COOK	GC-188	SEE NOTE 1
EF-3	RESTROOM	CEILING	75	0.5	0.05	1075	115/1/60	COOK	GC-148	SEE NOTE 1
EF-5	KITCHEN	CEILING	223	0.5	0.14	1075	115/1/60	COOK	GC-188	SEE NOTE 1
PRH-1	POWERED RELIEF HOOD	ROOF	6000	0.15	1	1725	460/60/3	GREENHECK	LBP-42-10	

NOTES:
1. PROVIDE WITH FIELD WIRING, DISCONNECT, SOLID STATE SPEED CONTROLLER, BACKDRAFT DAMPER, VIBRATION ISOLATORS, AND ROOF CAP.
2. FANS TO ACTIVATE WITH OCCUPANCY SENSOR.

CMC CHILLER SCHEDULE								
MARK	SERVICE	LOCATION	COOLING CAPACITY	ELECTRICAL			MANUFACTURER	MODEL	NOTES
				VOLT/PH/HZ	MCA (A)	MOCP (A)			
CH-1	2ND LEVEL AHU'S	ROOF (SPACE 11)	34 TONS	460/3/60	86.1	100	CARRIER	AQUASNAP #30RAP035	SEE NOTE 1

NOTES:
1. PROVIDE WITH PUMPING PACKAGE, AIR SEPARATOR, EXPANSION TANK AND DUAL PUMP. NON-FUSED DISCONNECT, HAIL GUARDS, CONVENIENCE OUTLET, HOT GAS BYPASS, WIND BAFFLE, HEATER, STORAGE TANK, AND VIBRATION ISOLATION CURB.

CMC DUCTLESS SPLIT AIR CONDITIONING SYSTEM SCHEDULE											
Mark	SERVICE	SEER VALUE	COOLING CAPACITY	CFM	MCA (A)	MOCP (A)	VOLT/PH/HZ	MANUFACTURER	MODEL	WEIGHT (LBS)	NOTES
AC-1	IT COOLING	15.2	12000	-	1	20	208/1/60	MITSUBISHI	A12HA (L)	30	SEE NOTE 1
CU-1	IT COOLING	15.2	12000 Btu/h	-	13	20	208/1/60	MITSUBISHI	A12NHA3(-BS)	90	SERVES AC-1

NOTES:
1. PROVIDE WITH REFRIGERANT LINE SET, WIRELESS REMOTE THERMOSTAT.

CMC GAS FIRED BOILER SCHEDULE								
MARK	EQUIP. DESCRIPTION	NATURAL GAS INPUT (MBH)	FLUE / COMB. AIR (IN)	EWT (F)	LWT (F)	VOLT/PH/HZ	MANUFACTURER	Model	NOTES
BL-1	BOILER	500	4/4	110	140	120/1/60	LOCHINVAR	KBN501	SEE NOTE 1
BL-2	BOILER	500	4/4	110	140	120/1/60	LOCHINVAR	KBN501	SEE NOTE 1

NOTES:
1. PROVIDE WITH BOILER PUMP, CSD-1 CONTROLS, MOD BUS COMMUNICATION.

CMC PUMP SCHEDULE									
Mark	SERVICE DESCRIPTION	LOCATION	PUMP GPM	HEAD (FEET)	ELEC MOTOR HP	VOLT/PH/HZ	MANUFACTURER	MODEL	NOTES
CP-1	HEATING	BOILER ROOM	56	45	2.2	230/1/60	TACO	VIRIDIAN VR30-2	
CP-2	HEATING	BOILER ROOM	56	45	2.2	230/1/60	TACO	VIRIDIAN VR30-2	
CP-3	DOMESTIC HEATING	BOILER ROOM	6	37	0.68	230/1/60	TACO	VIRIDIAN VR15-1	
CP-4	DOM RECIRCULATION	BOILER ROOM	5	25	0.125	115/1/60	TACO	009	SS CONSTRUCTION

COOPER COMMONS PUMP SCHEDULE										
Mark	SERVICE DESCRIPTION	LOCATION	PUMP GPM	HEAD (FEET)	ELEC MOTOR HP	VOLT/PH/HZ	FLA (A)	MANUFACTURER	MODEL	NOTES
SP-1	ELEVATOR SUMP PUMP	ELEVATOR PIT	30	20	1/2	120/1/60	8	STANCOR	OIL MINDER SE50	SEE NOTE 1 THRU 4

NOTES:
1. PROVIDE STANCOR CHECK VALVE, OIL MINDER CONTROL SYSTEM WITH OPTIONAL BUILT IN AUDIBLE AND VISUAL ALARM, JUNCTION BOX, MULTI-PIN CONNECTOR, 25 FOOT CORD LENGTH, LIGHTS FOR OIL SPILL, POWER, HIGH LIQUID LEVEL, OVERLOAD, AND PUMP RUN.
2. PROVIDE OIL MINDER CABLE, POWER CABLE, HIGH LIQUID ALARM CABLE, AND PUMP ON FLOAT CABLE.
3. PROVIDE HIGH LIQUID ALARM FLOAT WITH CLAMP DEVICE TO MOUNT PUMP TO DISCHARGE PIPING.
4. PROVIDE WITH SUMP BASIN.

GRILLE, REGISTER, DIFFUSER SCHEDULE						
MARK	DESCRIPTION	SIZE	MANUFACTURER	MODEL	FINISH	NOTES
DM-1	SPIRAL DUCT GRILLE	5"x36"	PRICE INDUSTRIES	SDG Series	PER ARCHITECT	
RA-1	SQUARE PLAQUE DIFFUSER	12"x12"	PRICE INDUSTRIES	SPD	PER ARCHITECT	
SA-1	SQUARE PLAQUE DIFFUSER	6"ø	PRICE INDUSTRIES	SPD	PER ARCHITECT	
SA-2	SQUARE PLAQUE DIFFUSER	8"ø	PRICE INDUSTRIES	SPD	PER ARCHITECT	
SA-3	SQUARE PLAQUE DIFFUSER	8"ø	PRICE INDUSTRIES	SPD	PER ARCHITECT	
SA-4	ROUND PLAQUE DIFFUSER	8"ø	PRICE INDUSTRIES	RPD Series	PER ARCHITECT	
SA-5	LINEAR BAR GRILLE	24"x3"	PRICE INDUSTRIES	LBP	PER ARCHITECT	
SA-6	ADJUSTABLE SUPPLY GRILLE	10"x6"	Krueger	880H	PER ARCHITECT	
SA-E	EXISTING ADJUSTABLE SUPPLY GRILLE	14"x14"	Krueger	880H	PER ARCHITECT	

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SHEET No.

M4-1

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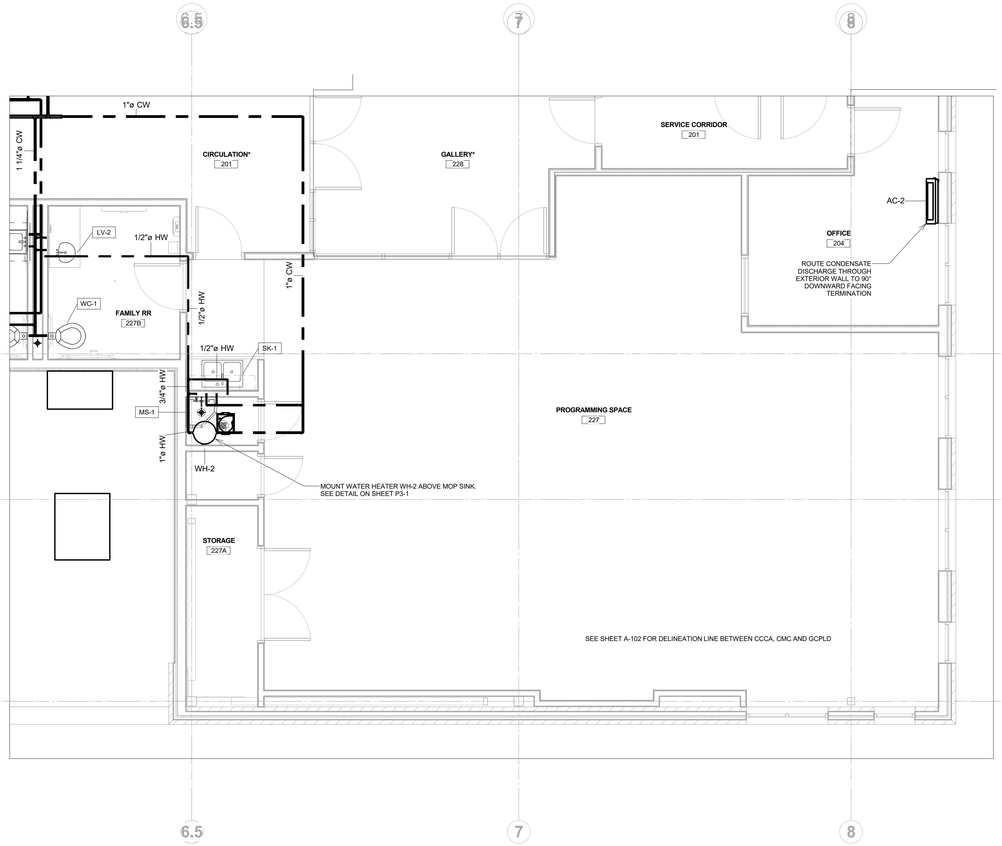
2 P1-1 PLUMBING GCPLD - LEVEL 2 BELOW FLOOR
1/4" = 1'-0"



1 P1-1 PLUMBING GCPLD - LEVEL 2 ABOVE CEILING
1/4" = 1'-0"

PLUMBING PIPING LEGEND

- DOMESTIC HOT WATER (HW)
- DOMESTIC HOT WATER RECIRC. (HR)
- DOMESTIC COLD WATER (CW)
- SANITARY WASTE (W)
- GAS (G)

GENERAL NOTES:
1. PROVIDE WASTE PIPE VENTING SYSTEM AS REQUIRED BY IPC. MAINTAIN CLEARANCES TO THE OUTSIDE AIR INTAKES AT RTU.
2. PROVIDE WATER HAMMER ARRESTORS AT LOCATIONS DICTATED BY IPC. SEE DETAIL.
3. CONNECT MEDIUM PRESSURE GAS TO APPLIANCE WITH LOW PRESSURE VENTLESS REGULATOR AND SHUTOFF VALVE PER MANUFACTURER'S RECOMMENDATIONS.
4. ALL EXPOSED PIPE TO HAVE PAINTABLE PVC INSULATING JACKET AND TO BE PAINTED PER ARCHITECTS REQUIREMENTS.
5. ALL EXISTING EXPOSED PIPE TO HAVE PAINTABLE PVC INSULATION JACKET AND TO BE PAINTED PER ARCHITECT'S REQUIREMENTS.

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PLUMBING PLAN - GCPLD

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P1-1

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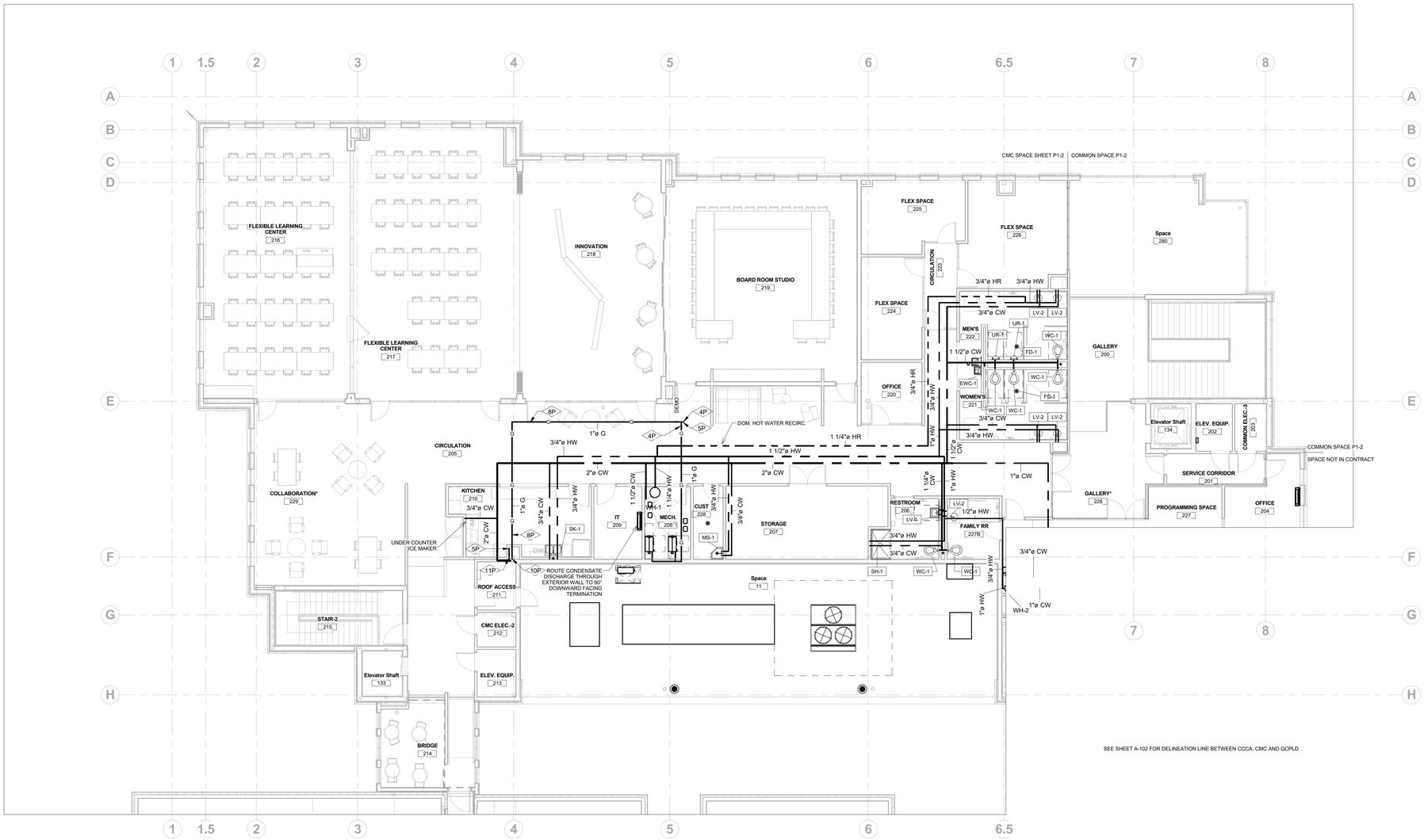

SEE SHEET A-102 FOR DELINEATION LINE BETWEEN CCCA, CMC AND GCPLD

1 / P1-2 PLUMBING CMC - LEVEL 2 ABOVE CEILING
1/8" = 1'-0"

GENERAL NOTES:
1. PROVIDE WASTE PIPE VENTING SYSTEM AS REQUIRED BY IPC. MAINTAIN CLEARANCES TO THE OUTSIDE AIR INTAKES AT RTU.
2. PROVIDE WATER HAMMER ARRESTORS AT LOCATIONS DICTATED BY IPC. SEE DETAIL.
3. CONNECT MEDIUM PRESSURE GAS (2 PSIG) TO APPLIANCE WITH LOW PRESSURE VENTLESS REGULATOR AND SHUTOFF VALVE PER MANUFACTURER'S RECOMMENDATIONS.
4. ALL EXPOSED PIPE TO HAVE PAINTABLE PVC INSULATING JACKET AND TO BE PAINTED PER ARCHITECT'S REQUIREMENTS.
5. ALL EXISTING EXPOSED PIPE TO HAVE PAINTABLE PVC INSULATION JACKET AND TO BE PAINITED PER ARCHITECT'S REQUIREMENTS.

PLUMBING PIPING LEGEND

	DOMESTIC HOT WATER (HW)
	DOMESTIC HOT WATER RECIRC. (HR)
	DOMESTIC COLD WATER (CW)
	SANITARY WASTE (W)
	GAS (G)

PLUMBING - KEYNOTE LEGEND

Key Value	Keynote Text
4P	CONNECT TO EXISTING GAS LINE.
5P	GAS PIPING TO ABOVE.
8P	DESIGNATED CMC SPACE GAS LINE.
10P	CMC SERVICE GAS PIPING FROM BELOW.
11P	GCPLD SERVICE GAS PIPING FROM BELOW.

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PLUMBING PLAN - CMC ABOVE CEILING

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P1-2

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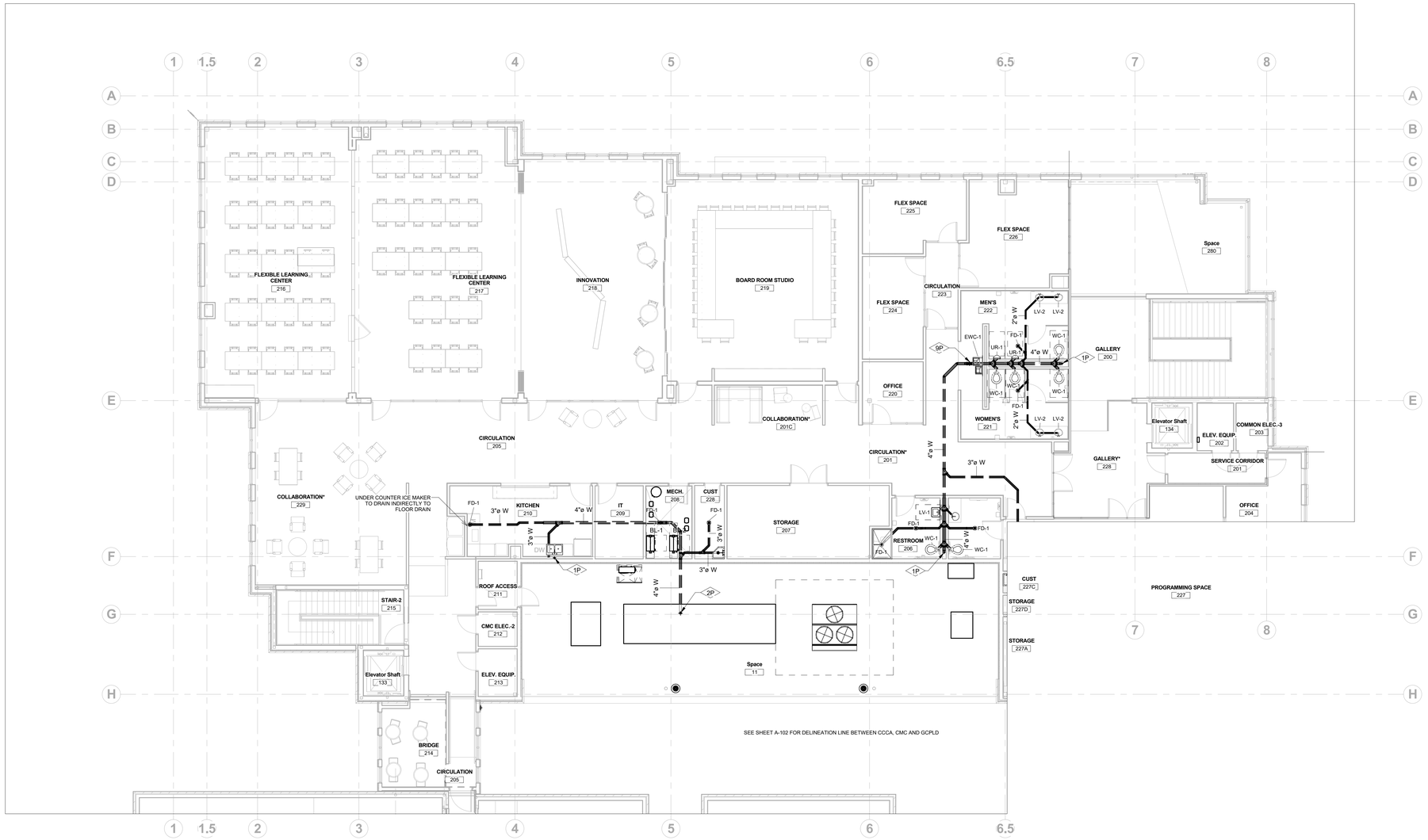

1 P1-3 PLUMBING CMC - LEVEL 2 BELOW FLOOR

1/8" = 1'-0"

GENERAL NOTES:
1. PROVIDE WASTE PIPE VENTING SYSTEM AS REQUIRED BY IPC. MAINTAIN CLEARANCES TO THE OUTSIDE AIR INTAKES AT RTU.
2. PROVIDE WATER HAMMER ARRESTORS AT LOCATIONS DICTATED BY IPC. SEE DETAIL
3. CONNECT MEDIUM PRESSURE GAS TO APPLIANCE WITH LOW PRESSURE VENTLESS REGULATOR AND SHUTOFF VALVE PER MANUFACTURER'S RECOMMENDATIONS.
4. ALL EXPOSED PIPE TO HAVE PAINTABLE PVC INSULATING JACKET AND TO BE PAINTED PER ARCHITECT'S REQUIREMENTS.
5. ALL EXISTING EXPOSED PIPE TO HAVE PAINTABLE PVC INSULATION JACKET AND TO BE PAINITED PER ARCHITECT'S REQUIREMENTS.

PLUMBING PIPING LEGEND

- DOMESTIC HOT WATER (HW)
- DOMESTIC HOT WATER RECIRC. (HR)
- DOMESTIC COLD WATER (CW)
- SANITARY WASTE (W)
- GAS (G)

PLUMBING - KEYNOTE LEGEND	
Key Value	Keynote Text
1P	VENT THROUGH ROOF. SEE DETAIL ON PAGE P3-1.
2P	INTEGRATE WASTE PIPE INTO EXISTING RESTROOM GROUP BELOW.
9P	CONNECT WASTE LINES TO EXISTING WASTE DROP TO BELOW.

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25400
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PLUMBING PLAN - CMC UNDER FLOOR

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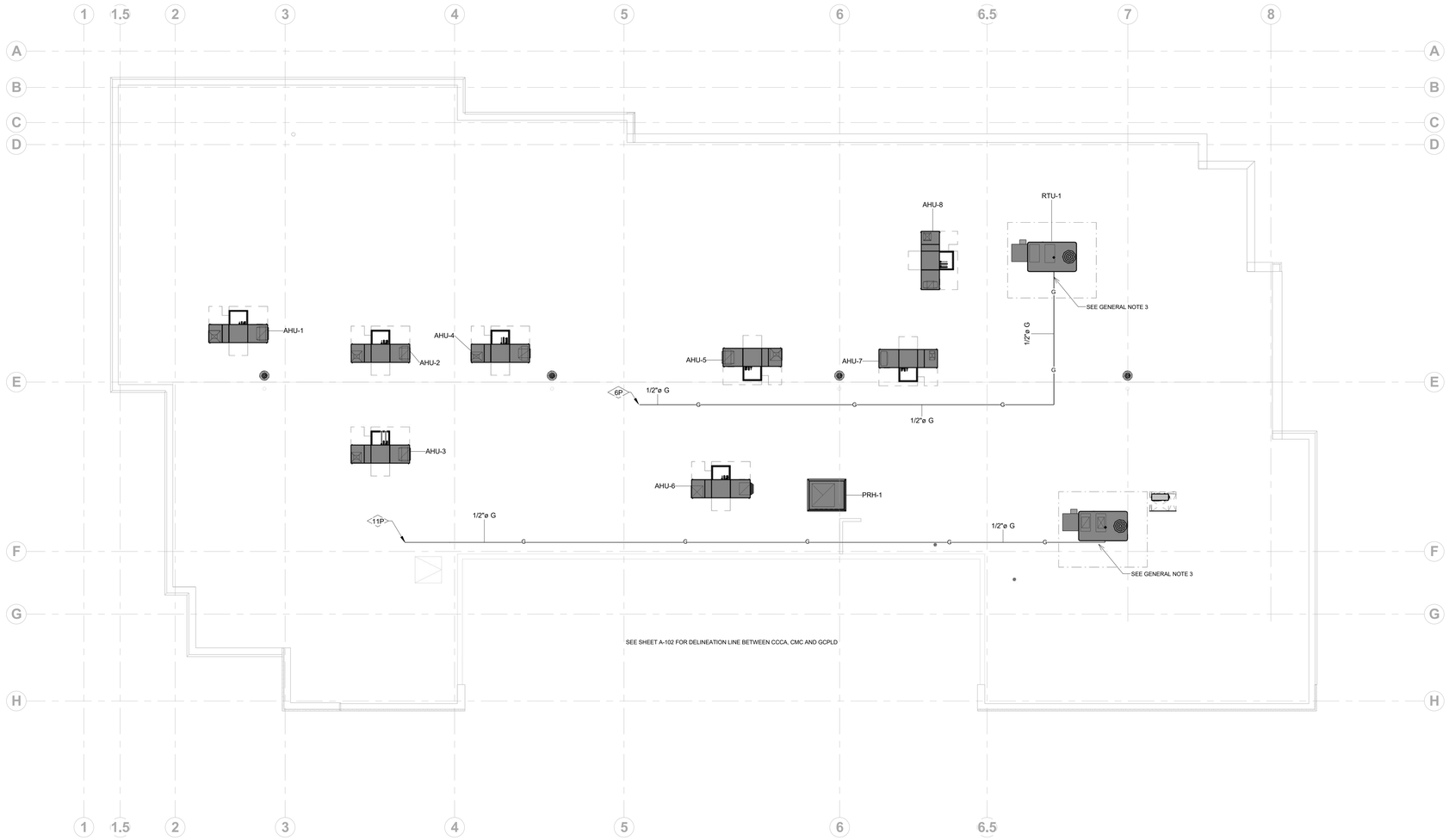
P1-3



1 / P1-4 PLUMBING OVERALL - ROOF PLAN

1/8" = 1'-0"

GENERAL NOTES:
1. PROVIDE WASTE PIPE VENTING SYSTEM AS REQUIRED BY IPC. MAINTAIN CLEARANCES TO THE OUTSIDE AIR INTAKES AT RTU.
2. PROVIDE WATER HAMMER ARRESTORS AT LOCATIONS DICTATED BY IPC. SEE DETAIL.
3. CONNECT MEDIUM PRESSURE GAS TO APPLIANCE WITH LOW PRESSURE VENTLESS REGULATOR AND SHUTOFF VALVE PER MANUFACTURER'S RECOMMENDATIONS.

PLUMBING - KEYNOTE LEGEND	
Key Value	Keynote Text
6P	GAS PIPING FROM BELOW.
11P	GCPLD SERVICE GAS PIPING FROM BELOW.

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PLUMBING PLAN - ROOF

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P1-4

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GCPLD PLUMBING FIXTURE SCHEDULE

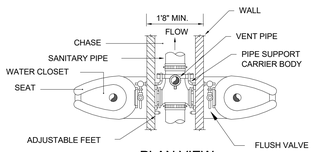
FIXTURE TAG	DESCRIPTION	FIXTURE MANUFACTURER	FIXTURE MODEL	TRIM	WASTE PIPE SIZE	VENT PIPE SIZE	C.W. PIPE SIZE	H.W. PIPE SIZE	NOTES AND OPTIONS
FD-1	FLOOR DRAIN WITH ADJUSTABLE STRAINER HEADS	JAY R. SMITH MFG. CO.	2005		3"	2"	-	-	PROVIDE WITH TRAP SEAL
LV-2	SOLID SURFACE COUNTER TOP WITH BUILT IN SINK BASIN	BY OTHERS	BY OTHERS	MATCH EXISTING SLOAN ETF600 FAUCET WITH 0.5 GPM FLOW, ELECTRONIC SENSOR, HARD WIRED TRANSFORMER POWER CONNECTION. PROVIDE COVERS ON WATER SUPPLIES AND DRAINS TO MEET ADA REQUIREMENTS. PROVIDE WITH ETF-233 PLUG IN TRANSFORMER.	1-1/2"	1-1/2"	1/2"	1/2"	PROVIDE WITH MIXING VALVE (605XTMV1070)
MS-1	MOP SERVICE BASIN	FIAT PRODUCTS	TSBC1610	FAUCET MODEL #8230 (MOEN COMMERCIAL)	3"	1-1/2"	1/2"	1/2"	
SK-1	2 COMPARTMENT SINK	JUST MANUFACTURING COMPANY	DL-ADA-2133-16-GR	FAUCET MODEL #J-1174-KS, DRAIN MODEL #J-ADA-35, TRAP MODEL #JT-150	1-1/2"	1-1/2"	1/2"	1/2"	PROVIDE WITH MIXING VALVE
WC-1	ADA WALL MOUNTED WATER CLOSET	AMERICAN STANDARD	AFWALL MILLENIUM 1.6 GPF (FLUSH VALVE)	MANUAL FLUSH VALVE #2859.016	4"	2"	1"	-	

GCPLD WATER HEATER SCHEDULE

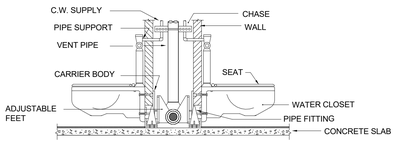
TAG	CAPACITY (GAL)	HEATING ELEMENT POWER	VOLT/PH/HZ	MANUFACTURER	MODEL	NOTES
WH-2	6	2000 W	120/1/60	RHEEM	PROE6-1-RH-POU	SEE NOTE 1

NOTES:
1. WATER HEATER CONTROLLED THROUGH TRANE CONTROL SYSTEM.

NOTES:
1. FOR CONTINUATION OF PIPING, SEE PLANS.



PLAN VIEW

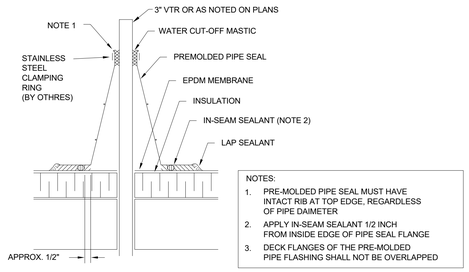


ELEVATION

BACK-TO-BACK WALL HUNG WATER CLOSET DETAIL

NOT TO SCALE

DETP103



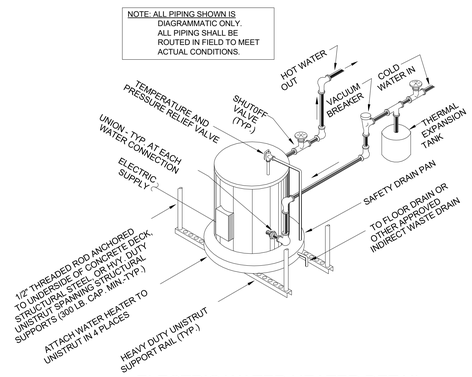
NOTES:
1. PRE-MOLDED PIPE SEAL MUST HAVE INTACT RIB AT TOP EDGE, REGARDLESS OF PIPE DAIMETER
2. APPLY IN-SEAM SEALANT 1/2 INCH FROM INSIDE EDGE OF PIPE SEAL FLANGE
3. DECK FLANGES OF THE PRE-MOLDED PIPE FLASHING SHALL NOT BE OVERLAPPED

PLUMBING VENT THROUGH EPDM ROOF DETAIL

NOT TO SCALE

DETP202

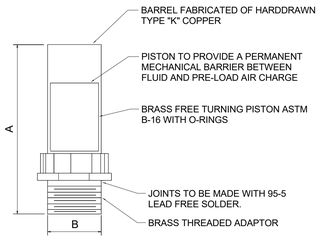
NOTE: ALL PIPING SHOWN IS DIAGRAMMATIC ONLY. ALL PIPING SHALL BE ROUTED IN FIELD TO MEET ACTUAL CONDITIONS.



ELECTRIC WATER HEATER DETAIL - SUSPENDED FROM CEILING/ROOF STRUCTURE ON UNISTRUT SUPPORTS

NOT TO SCALE

DETP306



PPP SIZE	P.D.I. SYMBOL	FIXTURE UNIT RATINGS	A SIZE	B SIZE
1/2"	A	1 - 11	5"	1/2"
3/4"	B	12 - 32	5"	3/4"
1"	C	33 - 60	7"	1"
1-1/4"	D	61 - 113	7"	1-1/4"
1-1/2"	E	114 - 154	9"	1-1/2"
2"	F	155 - 330	9"	2"

NOTE: ARRESTORS TO BE PROVIDED AT LOCATIONS AS DICTATED BY THE IPC.

WATER SHOCK ARRESTOR DETAIL

NOT TO SCALE

Colorado Mountain College

PROJECT DESCRIPTION

Delta	Description	Date Issued

Shawn Brill
COLORADO LICENSED
SHAWN P. BRILL
25400
PROFESSIONAL ENGINEER
7-29-16

HUMPHRIES POLI ARCHITECTS

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GCPLD - PLUMBING SCHEDULES AND DETAILS

BIDDING/PERMIT SET
8/01/2016

PROJECT No.	PROJECT ARCH	PROJECT MNGR	CHECKED BY
16-001	Approver	Designer	Checker

SHEET No.

P3-1

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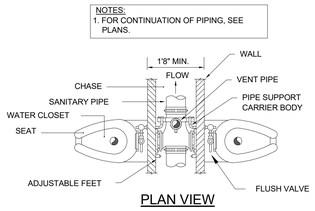
CMC PLUMBING FIXTURE SCHEDULE

FIXTURE TAG	DESCRIPTION	FIXTURE MANUFACTURER	FIXTURE MODEL	TRIM	WASTE PIPE SIZE	VENT PIPE SIZE	C.W. PIPE SIZE	H.W. PIPE SIZE	NOTES AND OPTIONS
EWC-1	ELECTRIC WATER COOLER	ELKAY	VRCTL8WSK	-	1-1/2"	1-1/2"	1/2"	1/2"	
FD-1	FLOOR DRAIN WITH ADJUSTABLE STRAINER HEADS	JAY R. SMITH MFG. CO.	2005		3"	2"	-	-	PROVIDE WITH TRAP SEAL
LV-1	WALL MOUNTED LAVATORY	AMERICAN STANDARD	LUCERNE 0355.012	MATCH EXISTING SLOAN ETF600 FAUCET WITH 0.5 GPM FLOW, ELECTRONIC SENSOR, HARD WIRED TRANSFORMER POWER CONNECTION. PROVIDE COVERS ON WATER SUPPLIES AND DRAINS TO MEET ADA REQUIREMENTS. PROVIDE WITH ETF-233 PLUG IN TRANSFORMER.	1-1/2"	1-1/2"	1/2"	1/2"	PROVIDE WITH MIXING VALVE
LV-2	SOLID SURFACE COUNTER TOP WITH BUILT IN SINK BASIN	BY OTHERS	BY OTHERS	MATCH EXISTING SLOAN ETF600 FAUCET WITH 0.5 GPM FLOW, ELECTRONIC SENSOR, HARD WIRED TRANSFORMER POWER CONNECTION. PROVIDE COVERS ON WATER SUPPLIES AND DRAINS TO MEET ADA REQUIREMENTS. PROVIDE WITH ETF-233 PLUG IN TRANSFORMER.	1-1/2"	1-1/2"	1/2"	1/2"	PROVIDE WITH MIXING VALVE (605XTMV1070)
MS-1	MOP SERVICE BASIN	FIAT PRODUCTS	TSBC1610	FAUCET MODEL #8230 (MOEN COMMERCIAL)	3"	1-1/2"	1/2"	1/2"	
SH-1	ADA COMPLIANT SHOWER SYSTEM	AMERICAN STANDARD	#1662SG.221 COMMERCIAL SHOWER SYSTEM KIT		-	-	1/2"	1/2"	
SK-1	2 COMPARTMENT SINK	JUST MANUFACTURING COMPANY	DL-ADA-2133-16-GR	FAUCET MODEL #J-1174-KS, DRAIN MODEL #J-ADA-35, TRAP MODEL #JT-150	1-1/2"	1-1/2"	1/2"	1/2"	PROVIDE WITH MIXING VALVE
UR-1	ADA HIGH EFFICIENCY URINAL	AMERICAN STANDARD	WASHBROOK FLOWISE 0.125 GPF (FLUSH VALVE)		2"	2"	3/4"	-	
WC-1	ADA WALL MOUNTED WATER CLOSET	AMERICAN STANDARD	AFWALL MILLENIUM 1.6 GPF (FLUSH VALVE)	MANUAL FLUSH VALVE #2859.016	4"	2"	1"	-	

CMC WATER HEATER SCHEDULE

TAG	TANK CAPACITY	HEATING ELEMENT POWER	VOLT/PH/HZ	MANUFACTURER	MODEL	NOTES	Comments
WH-1	40	-	120/1/60	LOCHINVAR	SQUIRE SIT040		CMC



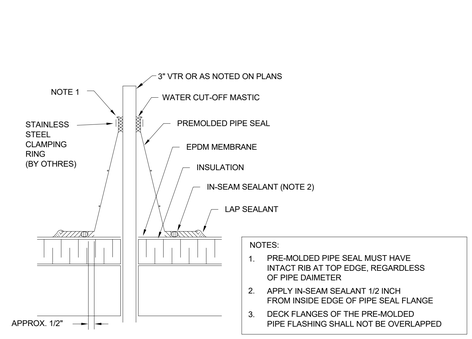
PLAN VIEW

ELEVATION

BACK-TO-BACK WALL HUNG WATER CLOSET DETAIL

NOT TO SCALE

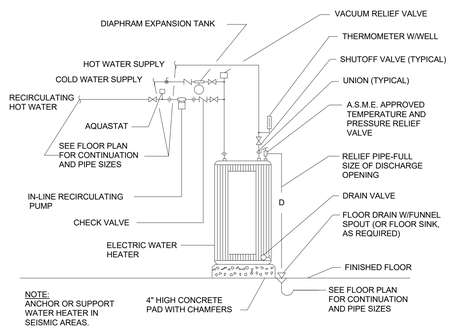
DETP103



PLUMBING VENT THROUGH EPDM ROOF DETAIL

NOT TO SCALE

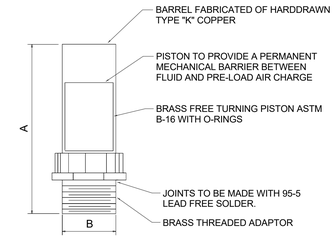
DETP202



ELECTRIC WATER HEATER DETAIL

NOT TO SCALE

DETP307



PPP SIZE	P.D.I. SYMBOL	FIXTURE UNIT RATINGS	A SIZE	B SIZE
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NOTE: ARRESTORS TO BE PROVIDED AT LOCATIONS AS DICTATED BY THE IPC.

WATER SHOCK ARRESTOR DETAIL

NOT TO SCALE

Colorado Mountain College

PROJECT DESCRIPTION

Delta	Description	Date Issued

Shawn Brill

COLORADO LICENSED SHAWN P. BRILL 25400 PROFESSIONAL ENGINEER

7-29-16

HUMPHRIES POLI ARCHITECTS

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CMC PLUMBING SCHEDULES AND DETAILS

BIDDING/PERMIT SET
8/01/2016

PROJECT No.	PROJECT ARCH	PROJECT MNGR	CHECKED BY
16-001	Approver	Designer	Checker

SHEET No.

P3-2

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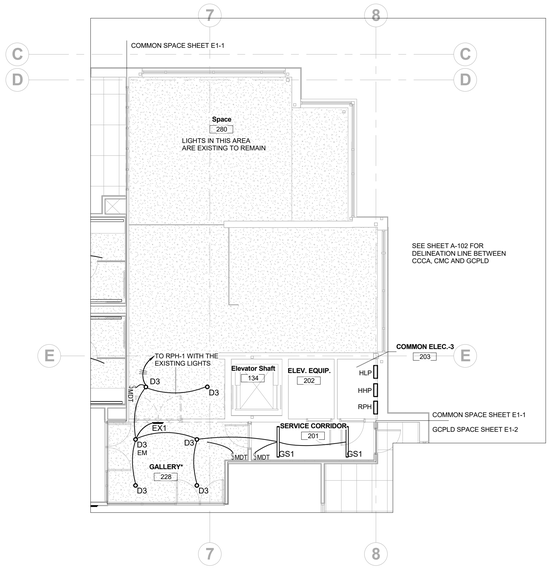

1 E1-1 LIGHTING COOPER COMMONS - LEVEL 2

1/8" = 1'-0"

7/28/2016 1:51:11 PM

Colorado Mountain College

PROJECT DESCRIPTION

Delta	Description	Date Issued

Art Donoho

COLORADO LICENSED ARTHUR V. DONOHO 33294 PROFESSIONAL ENGINEER

7-29-16

HUMPHRIES POLI ARCHITECTS

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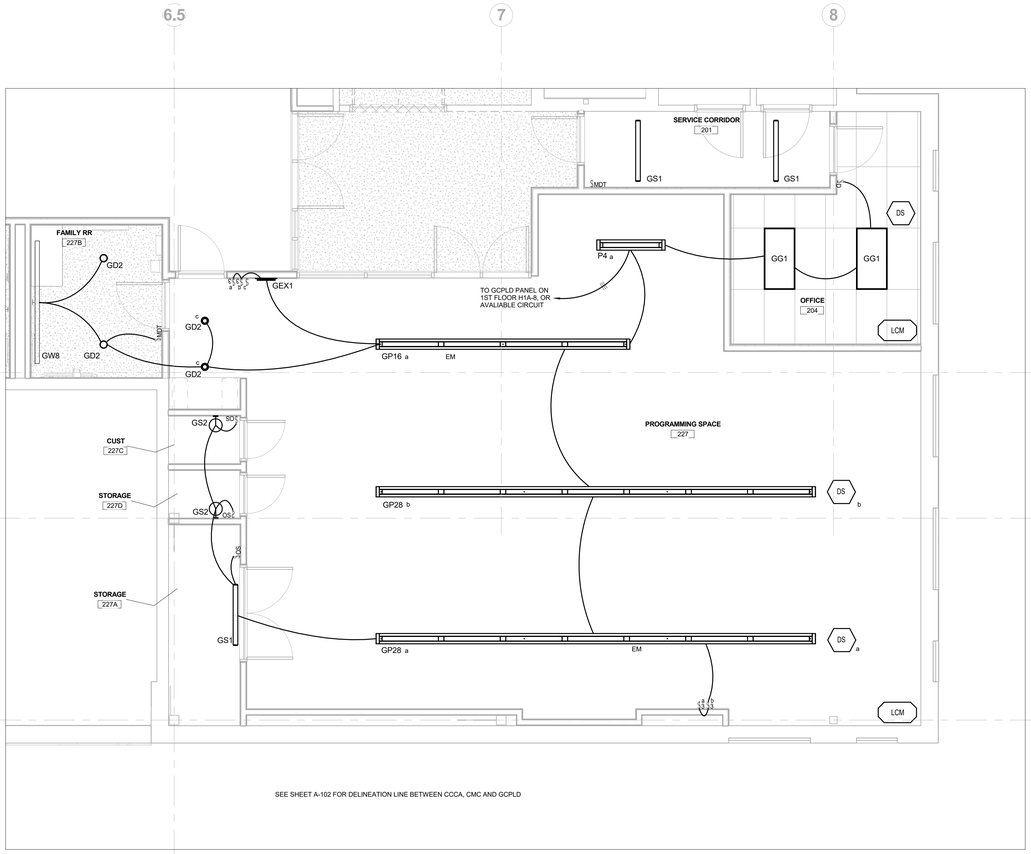
LIGHTING PLAN - COOPER COMMON

BIDDING/PERMIT SET
8/01/2016

PROJECT No.	PROJECT ARCH	PROJECT MNGR	CHECKED BY
16-001	Approver	Designer	ENGINEER

SHEET No.

E1-1



SEE SHEET A-102 FOR DELINEATION LINE BETWEEN CCCA, CMC AND GCPLD

1 E1-2 LIGHTING COOPER GCPLD- LEVEL 2

1/4" = 1'-0"

LIGHTING FIXTURE SCHEDULE - GCPLD

Type Mark	Manufacturer	Model	Lamp	Description
GD2	PRESCOLITE LIGHTING	LC6LED-277-6LCLED5-40K-8 (EM AS REQUIRED)	1000LM, 4000K, 14W LED, 277V	7-3/4"Hx6"DIA LED LAMP, RECESSED DOWN LIGHT, CLEAR ALZAK SEMI-DIFFUSED REFLECTOR, WHITE FLANGE.
GEX1	DUAL-LITE	GCLED-U-WH-G2	LED	WALL MOUNTED EMERGENCY-EXIT COMBINATION UNIT WITH ADJUSTABLE EMERGENCY LIGHT BAR, WHITE THERMOPLASTIC HOUSING, UNIVERSAL MOUNTING, DIRECTIONAL ARROW KNOCKOUTS, GREEN LETTERS, SELF-TEST/SELF-DIAGNOSTICS.
GG1	COLUMBIA	LEPC24-40-ML-G-LL-ED-U	5000LM, 4000K, 45W LED 277V	2'x4' RECESSED GRID DIRECT/INDIRECT LED FIXTURE
GP16	AXIS LIGHTING	SLLED-B3-SL 0/100-1000-80-40-SM-16-16-W-UNV-D-2-*	1000LM/FT, 4000K, LED, 277V	16'Lx8.25"Wx1-3/8"H SLIM SURROUNDLITE DIRECT PENDANT, THIS FIXTURE IS DUAL SWITCHED FOR DAYLIGHT HARVESTING CONTROLS, PROVIDE MOUNTING HARDWARE COMPATABLE WITH THE CEILNG TYPE WHERE THE FIXTURE IS BEING INSALLED.
GP28	AXIS LIGHTING	SLLED-B3-SL 0/100-1000-80-40-SM-28-28-W-UNV-D-2-*	1000LM/FT, 4000K, LED, 277V	28'Lx8.25"Wx1-3/8"H SLIM SURROUNDLITE DIRECT PENDANT, THIS FIXTURE IS DUAL SWITCHED FOR DAYLIGHT HARVESTING CONTROLS, PROVIDE MOUNTING HARDWARE COMPATABLE WITH THE CEILNG TYPE WHERE THE FIXTURE IS BEING INSALLED.
GS1	COLUMBIA LIGHTING	LCL4-40-HL-E-U	6100LM, 4000K, 55W LED, 277V	4'L SURFACE-MOUNTED LED LIGHT WITH PRISMATIC ACRYLIC LENS.
GS2	RAB LIGHTING	VXBRLED13DG	729LM, 5000K, 13W LED	11-5/8"Hx8.5"D SURFACE WALL MOUNTED LED VAPOR TIGHT FIXUTRE WITH DIE CAST GUARD AND FROSTED GLOBE
GW8	AXIS LIGHTING	BWDLED-B3-MF-750-80-40-SO-8-W-UNV-D-1	6000LM, 4000K, 60W LED, 277V	8'L WALL MOUNTED LED DIRECT LIGHT, FROSTED ACRYLIC SNAP-IN LENS, EXTRUDED ALUMINUM HOUSING, SET TO ON/OFF NO DIMMING REQUIRED

DAYLIGHT HARVESTING NOTES:

THE FOLLOWING IS UNDERSTOOD HOW THE CONTROLS FOR THE DAYLIGHT HARVESTING WILL WORK:

1. THE DAYLIGHTING SETPOINT IS NEVER MODIFIED AFTER INITIAL SETUP AND DAYLIGHTING SAVINGS ARE NOT ACHIEVED WHEN THE MANUAL DIMMER IS UTILIZED.
2. THE SYSTEM OPERATES IN "DAYLIGHTING MODE" WHENEVER THE MANUAL DIMMER HAS BEEN SET AT OR ABOVE THE DAYLIGHTING SYSTEM SETPOINT (FOOTCANDLES) ESTABLISHED DURING INSTALLATION AND PROGRAMMING.
3. THE USER HAS THE ABILITY TO DIM BELOW THE CURRENT DIMMING LEVEL, BUT CANNOT ADJUST THE LIGHTS ABOVE THAT SETTING.
4. THE DIMMER SWITCHES WILL INDICATE THE CURRENT DIMMING LEVEL THROUGH THE LED LIGHTS ALONG THE SIDE OF THE SWITCHES.
5. EXAMPLE: ASSUME THE SYSTEM WAS CALIBRATED TO 50FC AT THE DESKTOP AND THERE IS ENOUGH DAYLIGHT FOR THE LIGHTS TO BE AT 60% BRIGHTNESS. THE DIMMER SWITCH IS DIGITAL, AND WILL SHOW THE USER THAT THE LIGHTS ARE AT 60%.
6. IF THE USER TRIES TO ADJUST UP, NOTHING WILL HAPPEN. IF THE USER ADJUSTS IT DOWN, THE SYSTEM WILL GO INTO "MANUAL MODE", STAY AT THAT LEVEL AND STOP ADJUSTING FOR DAYLIGHT CHANGES.
7. IF THE USER THEN ADJUSTS BACK UP BEYOND 60%, THE SYSTEM WILL GO BACK INTO AUTOMATIC MODE AND ADJUST FOR DAYLIGHT CHANGES.
8. IF THE USER HAS THE SYSTEM IN "MANUAL MODE" (PREVIOUSLY DIMMED) AND THEN LEAVES THE ROOM TWO THINGS CAN HAPPEN:
   - 8.1. IF THEY LEAVE WITHOUT TOUCHING ANYTHING, THE OCCUPANCY SENSOR WILL SHUT THE LIGHTS OFF AND RESET THE SYSTEM TO AUTOMATIC DAYLIGHTING MODE. IN THIS CASE THE USER WOULD HAVE TO RE-ADJUST WHEN THEY RETURN.
   - 8.2. THE SECOND CASE IS THAT THE USER MANUALLY SHUTS THE LIGHTS OFF WHEN THEY LEAVE. THIS WOULD KEEP THE SYSTEM IN MANUAL MODE, AND IT WOULD REMEMBER THEIR PREVIOUSLY ADJUSTED DIMMING LEVEL WHEN THEY RETURN.

NOTE THAT THE MANUAL ON/OFF SWITCH IS PART OF THE DIMMER.

LIGHTING LEGEND

NOTES:
SYMBOLS SHOWN ARE STANDARD. VARIATION AND/OR COMBINATIONS MAY BE USED ON THE PLANS. THIS LIST SHOWS STANDARD SYMBOLS AND ALL MAY NOT APPEAR ON THE PROJECT DRAWINGS; HOWEVER, WHEREVER THE SYMBOL ON THE PROJECT DRAWINGS OCCUR, THE ITEM SHALL BE PROVIDED AND INSTALLED.

A LOWER CASE LETTER NEXT TO LIGHT FIXTURE OR SWITCH INDICATES A SWITCH DESIGNATION.

AN UPPER CASE LETTER NEXT TO A SWITCH INDICATES THE TYPE OF SWITCH. SEE THE LIST BELOW

AN UPPER CASE LETTER NEXT TO A LIGHT FIXTURE INDICATES THE TYPE OF FIXTURE. REFER TO THE LUMINAIRE SCHEDULE FOR FIXTURE SPECIFICATIONS.

ELECTRICAL EQUIPMENT

- BRANCH CIRCUIT PANELBOARD
- LA-7 — CIRCUITRY HOMERUN: PANEL LA - CIR. #7
- CONDUIT OR WIRE CONCEALED IN WALL/CLG.
- CONDUIT OR WIRE UNDERFLOOR/UNDERGRND.
- CEILING JUNCTION BOX - SURFACE/FLUSH
- WALL JUNCTION BOX - SURFACE/FLUSH

SWITCHES

- S SINGLE POLE SWITCH
- S_2 TWO POLE SWITCH
- S_3 THREE-WAY SWITCH
- S_4 FOUR-WAY SWITCH
- S_{DR} DOOR ACTIVATED SWITCH
- S_{TO} MANUAL MOTOR STARTER
- S_K KEY OPERATED LIGHT SWITCH
- S_T TIMER SWITCH
- S_{OS} OCCUPANCY SENSOR LIGHT SWITCH
- S_{MDT} MOTION DETECTOR DUAL TECHNOLOGY
- DS a — CEILING MOUNTED DUAL DAYLIGHT SENSOR, LOWER CASE LETTER CORRESPONDS TO A SWITCH
- LCM — LIGHTING CONTROL MODULE
- OS — CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR
- S_D DIMMER SWITCH
- S_{3D} 3 WAY DIMMER SWITCH
- S_{LV} LOW OR LINE VOLTAGE MANUAL ON/AUTO OFF DIMMING LIGHT SWITCH, TO WORK WITH DAYLIGHT HARVESTING AND 2015 ENERGY CODES
- S_{LC} LIGHTING CONTROL STATION

LIGHT FIXTURES

- A — 1'x4' FLUORESCENT OR LED TROFFER FIXTURE TYPE A
- A — 2'x4' FLUORESCENT OR LED TROFFER FIXTURE TYPE A
- A — FLUORESCENT WALL BRACKET FIXTURE
- A — WALL BRACKET LIGHT FIXTURE
- A — OPEN STRIP FLUORESCENT FIXTURE
- A — SURFACE CEILING MOUNTED FIXTURE
- EX2 — DOUBLE FACE EXIT SIGN, WALL AND CEILING MOUNTED
- EX1 — SINGLE FACE EXIT SIGN, WALL AND CEILING MOUNTED
- EM — WALL MOUNTED EMERGENCY LIGHT
- EMR — EMERGENCY HEAD REMOTE MOUNTED

ABBREVIATIONS

- EF 1 — MECHANICAL CONTRACTOR FURNISHED EQUIPMENT
- 1 E1-2 — DRAWING KEYED NOTE
- ROOM 100 — ROOM DESIGNATION
- NL — NIGHT/SECURITY LIGHT - DO NOT SWITCH
- WP — WEATHERPROOF
- A.F.F. — ABOVE FINISHED FLOOR
- A.F.G. — ABOVE FINISHED GRADE
- GFCI — GROUND FAULT CIRCUIT INTERRUPTER
- EM — EMERGENCY FUNCTION
- 44" — MOUNTING HEIGHT - A.F.F. OR A.F.G. TO C.L. HIGH

GENERAL LIGHTING NOTES:

LUMINAIRES:
1. LIGHTING FIXTURES SHALL BE SUPPORTED FROM THE STRUCTURE ABOVE AND SHALL NOT BE SUPPORTED FROM THE T-BAR CEILING GRID.
2. THE ELECTRICAL CONTRACTOR IS TO CONFIRM THE LIGHT FIXTURES ORDERED WILL BE COMPATIBLE WITH THE CEILING TYPES AS SHOWN ON THE ARCHITECTURAL REFLECTED CEILING PLANS. NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO ORDERING THE FIXTURES.
3. COORDINATE THE LOCATION OF LIGHTING EQUIPMENT INCLUDING BUT NOT LIMITED TO THE LUMINAIRES. SWITCHES AND CONTROL COMPONENTS WITH THE ARCHITECTURAL, STRUCTURAL AND MECHANICAL DRAWINGS AND ALL OTHER TRADES AS REQUIRED.
4. VERIFY LUMINAIRE MOUNTING REQUIREMENTS AND OVERALL HEIGHT OF ALL PENDANT MOUNTED FIXTURES PRIOR TO ORDERING.
5. ALL LIGHT FIXTURES NEED TO BE COMPATIBLE WITH THE SWITCHES AND CONTROLS BEING PROVIDED.
6. THE LIGHTING PACKAGE SHALL BE APPROVED BY BOTH ARCHITECTS AND ENGINEERS AS APPROVED EQUAL BEFORE BID. NO LIGHT FIXTURE SHALL BE ORDERED UNTIL THE LIGHT FIXTURE SUBMITTAL PACKAGE HAS BEEN APPROVED IN WRITING BY THE ARCHITECT, GENERAL CONTRACTOR AND ELECTRICAL ENGINEER.

EMERGENCY AND EXIT LIGHTS:
1. PROVIDE EMERGENCY AND EXIT SIGNS AS PER ALL LOCAL CODES.
2. ALL LIGHTING FIXTURES DENOTED WITH "EM" SHALL BE PROVIDED WITH AN ENGINEER APPROVED EMERGENCY LED DRIVER TO OPERATION THE FIXTURE IN AN EMERGENCY MODE TO MEET ALL CURRENT LOCAL CODES AND WILL BE CIRCUITED TO THE UNSWITCHED SIDE OF THE LIGHTING CIRCUIT.
3. REFER TO THE PLANS FOR THE NUMBER OF FACES REQUIRED AT EACH EXIT. FIELD ADJUST THE LOCATION OF THE EXIT SIGNS FOR THE BEST VISIBILITY POSSIBLE.
4. EXIT SIGNS CONNECTED TO A REMOTE EMERGENCY HEAD REQUIRES EXTRA BATTERY CAPACITY TO OPERATE THE REMOTELY LOCATED EMERGENCY HEAD FOR EGRESS AWAY FROM THE BUILDING.
5. ALL LIGHT FIXTURES DESIGNATED WITH "EM" OR SPECIFIED WITH AN EM FUNCTION SHALL BE PROVIDE WITH ONE OF THE FOLLOWING;
   - INTEGRAL TEST SWITCH;
   - REMOTE INFRARED HAND HELD DEVICE;
   - INTEGRAL ELECTRONIC DEVICE THAT AUTOMATICALLY PERFORMS REQUIRED TESTS.
6. ALL REQUIRED EMERGENCY LIGHTS MAY NOT BE SHOWN ON THE PLANS AT THIS TIME.
7. ALL STAIRWELLS AND PATHS OF EGRESS TO THE EXTERIOR DOORS, AND THE EXTERIOR PATH OF EGRESS AWAY FROM THE BUILDING SHALL RECEIVE EMERGENCY LIGHTING PER CODE.

LIGHTING CONTROLS:
1. ALL LIGHTS IN; RESTROOMS, STORAGE CLOSETS, JANITORS CLOSETS AND STAIRWELLS ARE TO BE SWITCHED WITH A MOTION SENSOR ON/OFF SWITCH WITH A TIME DELAY. SET THE TIME DELAY LENGTH AS DIRECTED BY THE OWNER.
   EXCEPTION: IN AREAS WHERE THE SWITCH IS LOCATED OUTSIDE THE AREA THE LIGHT IS LOCATED IN.
2. FOR SPACES WHERE DAY LIGHT HARVESTING IS BEING UTILIZED, THE SUCCESSFUL BIDDER WILL PROVIDE SHOP DRAWINGS SHOWING A BILL OF MATERIALS, INSTALLATION DETAILS, ALL COMPONENTS AND THEIR LOCATIONS NECESSARY FOR A FULLY FUNCTIONING SYSTEM.

GENERAL NOTES:
1. FIELD COORDINATION DURING CONSTRUCTION IS IMPERATIVE. CONTRACTORS BIDDING THIS WORK MUST MAKE REASONABLE ALLOWANCES FOR UNFORESEEN CONTINGENCIES.

WIRING:
1. ALL WIRE IS TO BE #12 UNLESS NOTED OTHERWISE.
2. ALL BRANCH CIRCUITS WITH HOME RUNS OVER 50 FEET, WILL BE SIZED ONE SIZE LARGER.
3. ALL ELECTRICAL WORK TO COMPLY WITH LATEST EDITION OF THE NEC AND ALL APPLICABLE LOCAL CODES.
4. ALL WIRING IS SHOWN DIAGRAMMATICALLY ON DRAWING, FIELD VERIFY ALL CONDITIONS PRIOR TO ROUGH-IN.

Colorado Mountain College

PROJECT DESCRIPTION

Delta	Description	Date Issued

Art Boroho

COLORADO LICENSED ARCHITECT 33294 PROFESSIONAL ENGINEER

7-29-16

HUMPHRIES POLI ARCHITECTS

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LIGHTING PLAN - GCPLD

BIDDING/PERMIT SET
8/01/2016

PROJECT No.	PROJECT ARCH	PROJECT MNGR	CHECKED BY
16-001	Approver	Designer	Checker

SHEET No.

E1-2

7/28/2016 1:51:13 PM

LIGHTING FIXTURE SCHEDULE

Type Mark	Manufacturer	Model	Lamp	Description
D1	PRESCOLITE LIGHTING	LC6LED8-277-6LCLED9-40K (EM AS REQUIRED)	3000LM, 4000K, 42W LED, 277V	8-1/16"Hx6"DIA RECESSED DOWN LIGHT, CLEAR ALZAK SEMI-DIFFUSED REFLECTOR, WHITE FLANGE, DIMMING DRIVER
D2	PRESCOLITE LIGHTING	LC6LED-277-6LCLED5-40K-8 (EM AS REQUIRED)	1000LM, 4000K, 14W LED, 277V	7-3/4"Hx6"DIA LED LAMP, RECESSED DOWN LIGHT, CLEAR ALZAK SEMI-DIFFUSED REFLECTOR, WHITE FLANGE,
D3	PRESCOLITE LIGHTING	LC6LED8-277-6LCLED8-40K (EM AS REQUIRED)	2400LM, 4000K, 34W LED, 277V	8-1/16"Hx6"DIA RECESSED DOWN LIGHT, CLEAR ALZAK SEMI-DIFFUSED REFLECTOR, WHITE FLANGE, DIMMING DRIVER
EX1	DUAL-LITE	GCLED-U-WH-G2	LED	WALL MOUNTED EMERGENCY-EXIT COMBINATION UNIT WITH ADJUSTABLE EMERGENCY LIGHT BAR, WHITE THERMOPLASTIC HOUSING, UNIVERSAL MOUNTING, DIRECTIONAL ARROW KNOCKOUTS, GREEN LETTERS, SELF-TEST/SELF-DIAGNOSTICS.
EX3	DUAL-LITE	GCLED-U-WH-G2	LED	CEILING MOUNTED EMERGENCY-EXIT COMBINATION UNIT WITH ADJUSTABLE EMERGENCY LIGHT BAR, WHITE THERMOPLASTIC HOUSING, UIVERSAL MOUNTING, DIRECTIONAL ARROW KNOCKOUTS, GREEN LETTERS, SELF-TEST/SELF-DIAGNOSTICS.
GD2	PRESCOLITE LIGHTING	LC6LED-277-6LCLED5-40K-8 (EM AS REQUIRED)	1000LM, 4000K, 14W LED, 277V	7-3/4"Hx6"DIA LED LAMP, RECESSED DOWN LIGHT, CLEAR ALZAK SEMI-DIFFUSED REFLECTOR, WHITE FLANGE,
GEX1	DUAL-LITE	GCLED-U-WH-G2	LED	WALL MOUNTED EMERGENCY-EXIT COMBINATION UNIT WITH ADJUSTABLE EMERGENCY LIGHT BAR, WHITE THERMOPLASTIC HOUSING, UNIVERSAL MOUNTING, DIRECTIONAL ARROW KNOCKOUTS, GREEN LETTERS, SELF-TEST/SELF-DIAGNOSTICS.
GG1	COLUMBIA	LEPC24-40-ML-G-LL-ED-U	5000LM, 4000K, 45W LED 277V	2'x4' RECESSED GRID DIRECT/INDIRECT LED FIXTURE
GP16	AXIS LIGHTING	SLLED-B3-SL 0/100-1000-80-40-SM-16-16-W-UNV-D-2-*	1000LM/FT, 4000K, LED, 277V	16'Lx8.25"Wx1-3/8"H SLIM SURROUNDLITE DIRECT PENDANT, THIS FIXTURE IS DUAL SWITCHED FOR DAYLIGHT HARVESTING CONTROLS, PROVIDE MOUNTING HARDWARE COMPATABLE WITH THE CEILNG TYPE WHERE THE FIXTURE IS BEING INSALLED.
GP28	AXIS LIGHTING	SLLED-B3-SL 0/100-1000-80-40-SM-28-28-W-UNV-D-2-*	1000LM/FT, 4000K, LED, 277V	28'Lx8.25"Wx1-3/8"H SLIM SURROUNDLITE DIRECT PENDANT, THIS FIXTURE IS DUAL SWITCHED FOR DAYLIGHT HARVESTING CONTROLS, PROVIDE MOUNTING HARDWARE COMPATABLE WITH THE CEILNG TYPE WHERE THE FIXTURE IS BEING INSALLED.
GS1	COLUMBIA LIGHTING	LCL4-40-HL-E-U	6100LM, 4000K, 55W LED, 277V	4'L SURFACE-MOUNTED LED LIGHT WITH PRISMATIC ACRYLIC LENS.
GS2	RAB LIGHTING	VXBRLED13DG	729LM, 5000K, 13W LED	11-5/8"Hx8.5"D SURFACE WALL MOUNTED LED VAPOR TIGHT FIXUTRE WITH DIE CAST GUARD AND FROSTED GLOBE
GW8	AXIS LIGHTING	BWDLED-B3-MF-750-80-40-SO-8-W-UNV-D-1	6000LM, 4000K, 60W LED, 277V	8'L WALL MOUNTED LED DIRECT LIGHT, FROSTED ACRYLIC SNAP-IN LENS, EXTRUDED ALUMINUM HOUSING, SET TO ON/OFF NO DIMMING REQUIRED
P2	DELRAY LIGHTING INC.	AL2347-S-O-W35	3780LM, 3500K, 90CRI, 31W LED, 277V	13.5"Hx 6.5"DIA ASPECT GLASS PENDANT MOUNTED FIXTUE, SILVER FINISH, OPAL GLASS, STANDARD DIMMING DRIVER, VERIFY OVER HEIGHT WITH THE ARCHITECTURAL PLANS
P4	AXIS LIGHTING	SLLED-B3-SL 0/100-1000-80-40-SM-4-4-W-UNV-D-1-*	1000LM/FT, 4000K, LED, 277V	4'Lx8.25"Wx1-3/8"H SLIM SURROUNDLITE DIRECT PENDANT, PROVIDE MOUNTING HARDWARE COMPATABLE WITH THE CEILING TYPE WHERE THE FIXTURE IS BEING INSALLED.
P8	AXIS LIGHTING	SLLED-B3-SL 0/100-1000-80-40-SM-8-8-W-UNV-D-1-*	1000LM/FT, 4000K, LED, 277V	8'Lx8.25"Wx1-3/8"H SLIM SURROUNDLITE DIRECT PENDANT, PROVIDE MOUNTING HARDWARE COMPATABLE WITH THE CEILING TYPE WHERE THE FIXTURE IS BEING INSALLED.
P12	AXIS LIGHTING	SLLED-B3-SL 0/100-1000-80-40-SM-12-12-W-UNV-D-2-*	1000LM/FT, 4000K, LED, 277V	12'Lx8.25"Wx1-3/8"H SLIM SURROUNDLITE DIRECT PENDANT, THIS FIXTURE IS DUAL SWITCHED FOR DAYLIGHT HARVESTING CONTROLS, PROVIDE MOUNTING HARDWARE COMPATABLE WITH THE CEILNG TYPE WHERE THE FIXTURE IS BEING INSALLED.
P16	AXIS LIGHTING	SLLED-B3-SL 0/100-1000-80-40-SM-16-16-W-UNV-D-2-*	1000LM/FT, 4000K, LED, 277V	16'Lx8.25"Wx1-3/8"H SLIM SURROUNDLITE DIRECT PENDANT, THIS FIXTURE IS DUAL SWITCHED FOR DAYLIGHT HARVESTING CONTROLS, PROVIDE MOUNTING HARDWARE COMPATABLE WITH THE CEILNG TYPE WHERE THE FIXTURE IS BEING INSALLED.
P20	AXIS LIGHTING	SLLED-B3-SL 0/100-1000-80-40-SM-20-20-W-UNV-D-2-*	1000LM/FT, 4000K, LED, 277V	20'Lx8.25"Wx1-3/8"H SLIM SURROUNDLITE DIRECT PENDANT, THIS FIXTURE IS DUAL SWITCHED FOR DAYLIGHT HARVESTING CONTROLS, PROVIDE MOUNTING HARDWARE COMPATABLE WITH THE CEILNG TYPE WHERE THE FIXTURE IS BEING INSALLED.
P28	AXIS LIGHTING	SLLED-B3-SL 0/100-1000-80-40-SM-28-28-W-UNV-D-2-*	1000LM/FT, 4000K, LED, 277V	28'Lx8.25"Wx1-3/8"H SLIM SURROUNDLITE DIRECT PENDANT, THIS FIXTURE IS DUAL SWITCHED FOR DAYLIGHT HARVESTING CONTROLS, PROVIDE MOUNTING HARDWARE COMPATABLE WITH THE CEILNG TYPE WHERE THE FIXTURE IS BEING INSALLED.
W8	AXIS LIGHTING	BWDLED-B3-MF-750-80-40-SO-8-W-UNV-D-1	6000LM, 4000K, 60W LED, 277V	8'L WALL MOUNTED LED DIRECT LIGHT, FROSTED ACRYLIC SNAP-IN LENS, EXTRUDED ALUMINUM HOUSING, SET TO ON/OFF NO DIMMING REQUIRED
W12	AXIS LIGHTING	BWDLED-B3-MF-750-80-40-SO-12-W-UNV-D-1	9000LM, 4000K, 90W LED, 277V	12'L WALL MOUNTED LED DIRECT LIGHT, FROSTED ACRYLIC SNAP-IN LENS, EXTRUDED ALUMINUM HOUSING,

DAYLIGHT HARVESTING NOTES:

THE FOLLOWING IS UNDERSTOOD HOW THE CONTROLS FOR THE DAYLIGHT HARVESTING WILL WORK.

1. THE DAYLIGHTING SETPOINT IS NEVER MODIFIED AFTER INITIAL SETUP AND DAYLIGHTING SAVINGS ARE NOT ACHIEVED WHEN THE MANUAL DIMMER IS UTILIZED.
2. THE SYSTEM OPERATES IN "DAYLIGHTING MODE" WHENEVER THE MANUAL DIMMER HAS BEEN SET AT OR ABOVE THE DAYLIGHTING SYSTEM SETPOINT (FOOTCANDLES) ESTABLISHED DURING INSTALLATION AND PROGRAMMING.
3. THE USER HAS THE ABILITY TO DIM BELOW THE CURRENT DIMMING LEVEL, BUT CANNOT ADJUST THE LIGHTS ABOVE THAT SETTING.
4. THE DIMMER SWITCHES WILL INDICATE THE CURRENT DIMMING LEVEL THROUGH THE LED LIGHTS ALONG THE SIDE OF THE SWITCHES.
5. EXAMPLE: ASSUME THE SYSTEM WAS CALIBRATED TO 50FC AT THE DESKTOP AND THERE IS ENOUGH DAYLIGHT FOR THE LIGHTS TO BE AT 60% BRIGHTNESS. THE DIMMER SWITCH IS DIGITAL, AND WILL SHOW THE USER THAT THE LIGHTS ARE AT 60%.
6. IF THE USER TRIES TO ADJUST UP, NOTHING WILL HAPPEN. IF THE USER ADJUSTS IT DOWN, THE SYSTEM WILL GO INTO "MANUAL MODE". STAY AT THAT LEVEL AND STOP ADJUSTING FOR DAYLIGHT CHANGES.
7. IF THE USER THEN ADJUSTS BACK UP BEYOND 60%, THE SYSTEM WILL GO BACK INTO AUTOMATIC MODE AND ADJUST FOR DAYLIGHT CHANGES.
8. IF THE USER HAS THE SYSTEM IN "MANUAL MODE" (PREVIOUSLY DIMMED) AND THEN LEAVES THE ROOM TWO THINGS CAN HAPPEN:
   - 8.1. IF THEY LEAVE WITHOUT TOUCHING ANYTHING, THE OCCUPANCY SENSOR WILL SHUT THE LIGHTS OFF AND RESET THE SYSTEM TO AUTOMATIC DAYLIGHTING MODE. IN THIS CASE THE USER WOULD HAVE TO RE-ADJUST WHEN THEY RETURN.
   - 8.2. THE SECOND CASE IS THAT THE USER MANUALLY SHUTS THE LIGHTS OFF WHEN THEY LEAVE. THIS WOULD KEEP THE SYSTEM IN MANUAL MODE, AND IT WOULD REMEMBER THEIR PREVIOUSLY ADJUSTED DIMMING LEVEL WHEN THEY RETURN.

NOTE THAT THE MANUAL ON/OFF SWITCH IS PART OF THE DIMMER.

LIGHTING LEGEND

NOTES:
SYMBOLS SHOWN ARE STANDARD. VARIATION AND/OR COMBINATIONS MAY BE USED ON THE PLANS. THIS LIST SHOWS STANDARD SYMBOLS AND ALL MAY NOT APPEAR ON THE PROJECT DRAWINGS; HOWEVER, WHEREVER THE SYMBOL ON THE PROJECT DRAWINGS OCCUR; THE ITEM SHALL BE PROVIDED AND INSTALLED.

A LOWER CASE LETTER NEXT TO LIGHT FIXTURE OR SWITCH INDICATES A SWITCH DESIGNATION.

AN UPPER CASE LETTER NEXT TO A SWITCH INDICATES THE TYPE OF SWITCH. SEE THE LIST BELOW

AN UPPER CASE LETTER NEXT TO A LIGHT FIXTURE INDICATES THE TYPE OF FIXTURE. REFER TO THE LUMINAIRE SCHEDULE FOR FIXTURE SPECIFICATIONS.

ELECTRICAL EQUIPMENT

- BRANCH CIRCUIT PANELBOARD
- LA-7 CIRCUITRY HOMERUN: PANEL LA - CIR. #7
- CONDUIT OR WIRE CONCEALED IN WALL/CLG.
- CONDUIT OR WIRE UNDERFLOOR/UNDERGND.
- J CEILING JUNCTION BOX - SURFACE/FLUSH
- J WALL JUNCTION BOX - SURFACE/FLUSH

SWITCHES

- S SINGLE POLE SWITCH
- S2 TWO POLE SWITCH
- S3 THREE-WAY SWITCH
- S4 FOUR-WAY SWITCH
- SDR DOOR ACTIVATED SWITCH
- STO MANUAL MOTOR STARTER
- SK KEY OPERATED LIGHT SWITCH
- ST TIMER SWITCH
- SOS OCCUPANCY SENSOR LIGHT SWITCH
- SMDT MOTION DETECTOR DUAL TECHNOLOGY
- DS a CEILING MOUNTED DUAL DAYLIGHT SENSOR, LOWER CASE LETTER CORRESPONDS TO A SWITCH
- LCM LIGHTING CONTROL MODULE
- OS CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR
- SD DIMMER SWITCH
- S3D 3 WAY DIMMER SWITCH
- SLV LOW OR LINE VOLTAGE MANUAL ON/AUTO OFF DIMMING LIGHT SWITCH, TO WORK WITH DAYLIGHT HARVESTING AND 2015 ENERGY CODES
- SLC LIGHTING CONTROL STATION

LIGHT FIXTURES

- A 1'x4' FLUORESCENT OR LED TROFFER FIXTURE TYPE A
- A 2'x4' FLUORESCENT OR LED TROFFER FIXTURE TYPE A
- A FLUORESCENT WALL BRACKET FIXTURE
- A WALL BRACKET LIGHT FIXTURE
- A OPEN STRIP FLUORESCENT FIXTURE
- A SURFACE CEILING MOUNTED FIXTURE
- EX2 DOUBLE FACE EXIT SIGN, WALL AND CEILING MOUNTED
- EX1 SINGLE FACE EXIT SIGN, WALL AND CEILING MOUNTED
- EM WALL MOUNTED EMERGENCY LIGHT
- EMR EMERGENCY HEAD REMOTE MOUNTED

ABBREVIATIONS

- EF MECHANICAL CONTRACTOR FURNISHED EQUIPMENT
- DRAWING KEYED NOTE
- ROOM 100 ROOM DESIGNATION
- NL NIGHT/SECURITY LIGHT - DO NOT SWITCH
- WP WEATHERPROOF
- A.F.F. ABOVE FINISHED FLOOR
- A.F.G. ABOVE FINISHED GRADE
- GFCI GROUND FAULT CIRCUIT INTERRUPTER
- EM EMERGENCY FUNCTION
- 44" MOUNTING HEIGHT - A.F.F. OR A.F.G. TO C.L. HIGH

GENERAL LIGHTING NOTES:

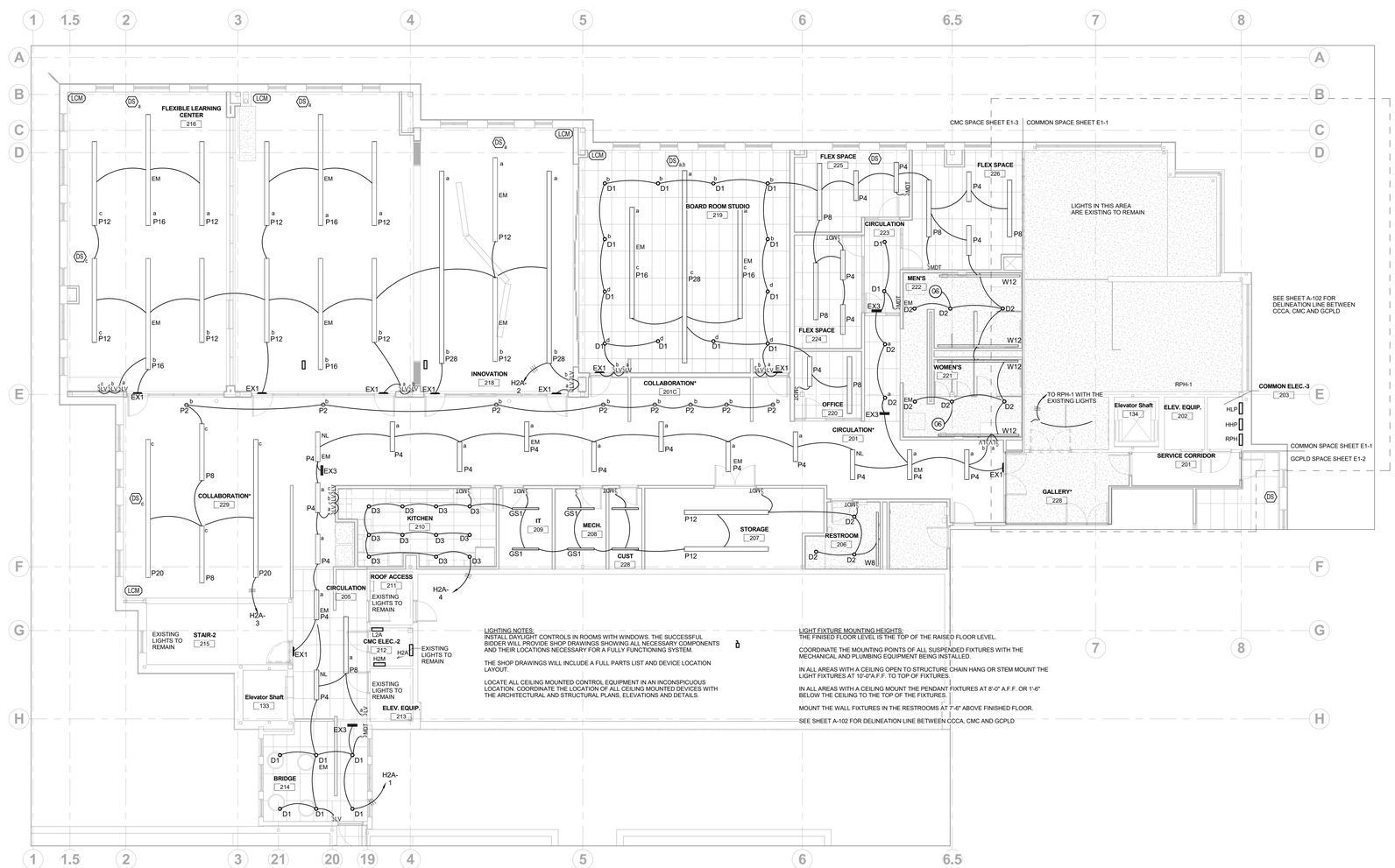
LUMINAIRES:
1. LIGHTING FIXTURES SHALL BE SUPPORTED FROM THE STRUCTURE ABOVE AND SHALL NOT BE SUPPORTED FROM THE T-BAR CEILING GRID.
2. THE ELECTRICAL CONTRACTOR IS TO CONFIRM THE LIGHT FIXTURES ORDERED WILL BE COMPATIBLE WITH THE CEILING TYPES AS SHOWN ON THE ARCHITECTURAL REFLECTED CEILING PLANS. NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO ORDERING THE FIXTURES.
3. COORDINATE THE LOCATION OF LIGHTING EQUIPMENT INCLUDING BUT NOT LIMITED TO THE LUMINAIRES, SWITCHES AND CONTROL COMPONENTS WITH THE ARCHITECTURAL, STRUCTURAL AND MECHANICAL DRAWINGS AND ALL OTHER TRADES AS REQUIRED.
4. VERIFY LUMINAIRE MOUNTING REQUIREMENTS AND OVERALL HEIGHT OF ALL PENDANT MOUNTED FIXTURES PRIOR TO ORDERING.
5. ALL LIGHT FIXTURES NEED TO BE COMPATIBLE WITH THE SWITCHES AND CONTROLS BEING PROVIDED .
6. THE LIGHTING PACKAGE SHALL BE APPROVED BY BOTH ARCHITECTS AND ENGINEERS AS APPROVED EQUAL BEFORE BID. NO LIGHT FIXTURE SHALL BE ORDERED UNTIL THE LIGHT FIXTURE SUBMITTAL PACKAGE HAS BEEN APPROVED IN WRITING BY THE ARCHITECT, GENERAL CONTRACTOR AND ELECTRICAL ENGINEER.

EMERGENCY AND EXIT LIGHTS:
1. PROVIDE EMERGENCY AND EXIT SIGNS AS PER ALL LOCAL CODES.
2. ALL LIGHTING FIXTURES DENOTED WITH "EM" SHALL BE PROVIDED WITH AN ENGINEER APPROVED EMERGENCY LED DRIVER TO OPERATION THE FIXTURE IN AN EMERGENCY MODE TO MEET ALL CURRENT LOCAL CODES AND WILL BE CIRCUITED TO THE UNSWITCHED SIDE OF THE LIGHTING CIRCUIT.
3. REFER TO THE PLANS FOR THE NUMBER OF FACES REQUIRED AT EACH EXIT. FIELD ADJUST THE LOCATION OF THE EXIT SIGNS FOR THE BEST VISIBILITY POSSIBLE.
4. EXIT SIGNS CONNECTED TO A REMOTE EMERGENCY HEAD REQUIRES EXTRA BATTERY CAPACITY TO OPERATE THE REMOTELY LOCATED EMERGENCY HEAD FOR EGRESS AWAY FROM THE BUILDING.
5. ALL LIGHT FIXTURES DESIGNATED WITH "EM" OR SPECIFIED WITH AN EM FUNCTION SHALL BE PROVIDE WITH ONE OF THE FOLLOWING:
   - INTEGRAL TEST SWITCH.
   - REMOTE INFRARED HAND HELD DEVICE;
   - INTEGRAL ELECTRONIC DEVICE THAT AUTOMATICALLY PERFORMS REQUIRED TESTS.
6. ALL REQUIRED EMERGENCY LIGHTS MAY NOT BE SHOWN ON THE PLANS AT THIS TIME.
7. ALL STAIRWELLS AND PATHS OF EGRESS TO THE EXTERIOR DOORS, AND THE EXTERIOR PATH OF EGRESS AWAY FROM THE BUILDING SHALL RECEIVE EMERGENCY LIGHTING PER CODE.

LIGHTING CONTROLS:
1. ALL LIGHTS IN: RESTROOMS, STORAGE CLOSETS, JANITORS CLOSETS AND STAIRWELLS ARE TO BE SWITCHED WITH A MOTION SENSOR ON/OFF SWITCH WITH A TIME DELAY. SET THE TIME DELAY LENGTH AS DIRECTED BY THE OWNER.
   EXCEPTION: IN AREAS WHERE THE SWITCH IS LOCATED OUTSIDE THE AREA THE LIGHT IS LOCATED IN.
2. FOR SPACES WHERE DAY LIGHT HARVESTING IS BEING UTILIZED, THE SUCCESSFUL BIDDER WILL PROVIDE SHOP DRAWINGS SHOWING A BILL OF MATERIALS, INSTALLATION DETAILS, ALL COMPONENTS AND THEIR LOCATIONS NECESSARY FOR A FULLY FUNCTIONING SYSTEM.

GENERAL NOTES:
1. FIELD COORDINATION DURING CONSTRUCTION IS IMPERATIVE. CONTRACTORS BIDDING THIS WORK MUST MAKE REASONABLE ALLOWANCES FOR UNFORESEEN CONTINGENCIES.

WIRING:
1. ALL WIRE IS TO BE #12 UNLESS NOTED OTHERWISE.
2. ALL BRANCH CIRCUITS WITH HOME RUNS OVER 50 FEET, WILL BE SIZED ONE SIZE LARGER.
3. ALL ELECTRICAL WORK TO COMPLY WITH LATEST EDITION OF THE NEC AND ALL APPLICABLE LOCAL CODES.
4. ALL WIRING IS SHOWN DIAGRAMMATICALLY ON DRAWING, FIELD VERIFY ALL CONDITIONS PRIOR TO ROUGH-IN.



1 / E1-3 LIGHTING CMC - LEVEL 2
1/8" = 1'-0"

7/29/2016 1:51:19 PM

Colorado Mountain College

PROJECT DESCRIPTION

Delta	Description	Date Issued

Art Donoho
COLORADO LICENSED
ARTHUR L. DONOHO
33294
PROFESSIONAL ENGINEER
7-29-16

HUMPHRIES POLI ARCHITECTS

All reports, plans, specifications, computer files, field data, notes and other documents and instruments prepared by the Architect as instruments of service shall remain the property of the Architect. The Architect shall retain all common law, statutory and other reserved rights, including copyright thereto.

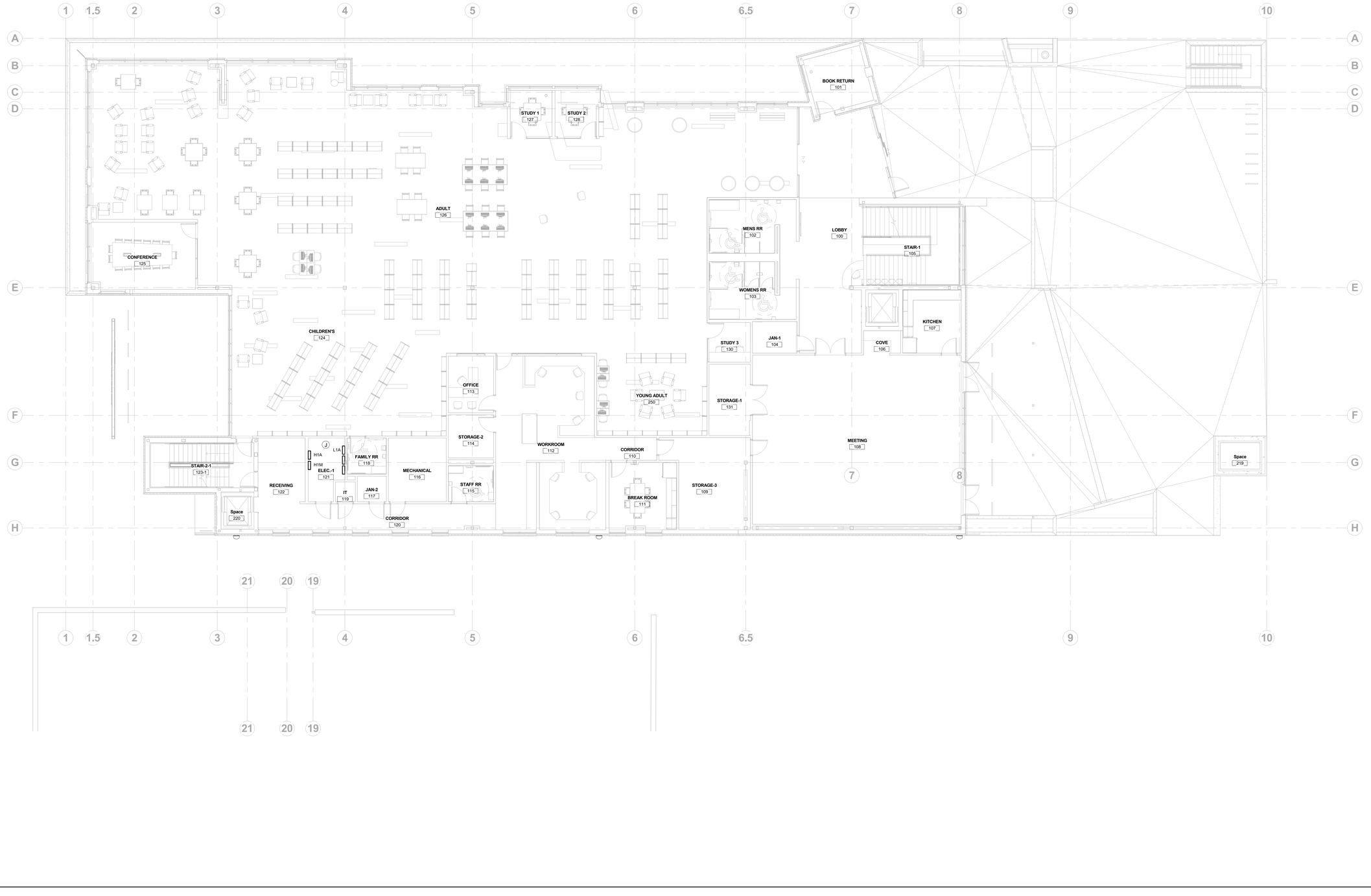
LIGHTING PLAN - CMC

BIDDING/PERMIT SET
8/01/2016

PROJECT No.	PROJECT ARCH	PROJECT MNGR	CHECKED BY
16-001	Approver	Designer	Checker

SHEET No.

E1-3



7/28/2016 2:21:46 PM

Colorado Mountain College

PROJECT DESCRIPTION

Delta	Description	Date Issued

Art Donoho

COLORADO LICENSED ARTHUR T. DONOHO 33294 PROFESSIONAL ENGINEER

7-29-16

HUMPHRIES POLI ARCHITECTS

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OVERALL 1ST LEVEL

BIDDING/PERMIT SET
8/01/2016

PROJECT No.	PROJECT ARCH	PROJECT MNGR	CHECKED BY
16-001	Approver	Designer	Checker

SHEET No.

E2-0

1 E2-1 ELECTRICAL COOPER COMMONS - LEVEL 1

1/8" = 1'-0"

2 E2-1 ELECTRICAL COOPER COMMONS - LEVEL 2

1/8" = 1'-0"

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Colorado Mountain College

PROJECT DESCRIPTION

Delta	Description	Date Issued

Art Sonoho

COLORADO LICENSED
ARCHITECT
33294
PROFESSIONAL ENGINEER

7-29-16

HUMPHRIES POLI ARCHITECTS

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ELECTRICAL PLAN - COOPER COMMON

BIDDING/PERMIT SET
8/01/2016

PROJECT No.	PROJECT ARCH	PROJECT MNGR	CHECKED BY
16-001	Approver	Designer	Checked by

SHEET No.

E2-1

Branch Panel: L1A

Location: FAMILY RR 118
Supply From:
Mounting: Recessed
Enclosure: Type 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating:
Mains Type:
Mains Rating: 250 A
MCB Rating:

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	EXISTING	20 A	1	0 VA	0 VA					1	20 A	EXISTING	2
3	EXISTING	20 A	1			0 VA	0 VA			1	20 A	EXISTING	4
5	EXISTING	20 A	1					0 VA	0 VA	1	20 A	EXISTING	6
7	EXISTING	20 A	1	0 VA	0 VA					1	20 A	EXISTING	8
9	EXISTING	20 A	1			0 VA	0 VA			1	20 A	EXISTING	10
11	EXISTING	20 A	1					0 VA	0 VA	1	20 A	EXISTING	12
13	EXISTING	20 A	1	0 VA	0 VA					1	20 A	EXISTING	14
15	EXISTING	20 A	1			0 VA	0 VA			1	20 A	EXISTING	16
17	EXISTING	20 A	1					0 VA	0 VA	1	20 A	EXISTING	18
19	EXISTING	20 A	1	0 VA	0 VA					1	20 A	EXISTING	20
21	EXISTING	20 A	1			0 VA	0 VA			1	20 A	EXISTING	22
23	EXISTING	20 A	1					0 VA	0 VA	1	20 A	EXISTING	24
25	EXISTING	20 A	1	0 VA	0 VA					1	20 A	EXISTING	26
27	EXISTING	20 A	1			0 VA	0 VA			1	20 A	EXISTING	28
29	EXISTING	20 A	1					0 VA	0 VA	2	15 A	EXISTING	30
31	EXISTING	15 A	2	0 VA	0 VA								32
33						0 VA	0 VA			2	30 A	EXISITNG	34
35	EXISTING	20 A	1					0 VA	0 VA				36
37	EXISTING	15 A	2	0 VA	0 VA					2	20 A	EXISTING	38
39						0 VA	0 VA						40
41	EXISTING	30 A	2					0 VA	0 VA	1	20 A	EXISTING	42
43				0 VA	0 VA					1	20 A	EXISTING	44
45	EXISTING	20 A	1			0 VA	0 VA			1	20 A	EXISTING	46
47	EXISTING	20 A	1					0 VA	0 VA	1	20 A	EXISTING	48
49	EXISTING	20 A	1	0 VA	0 VA					1	20 A	EXISTING	50
51	EXISTING	20 A	1			0 VA	0 VA			1	20 A	EXISTING	52
53	EXISTING	20 A	1					0 VA	0 VA	1	20 A	EXISTING	54
55	EXISTING	20 A	1	0 VA	0 VA					1	20 A	EXISTING	56
57	EXISTING	20 A	1			0 VA	0 VA			1	20 A	EXISTING	58
59	EXISTING	20 A	1					0 VA	0 VA	1	20 A	EXISTING	60
61	EXISTING	20 A	1	0 VA	0 VA					1	20 A	EXISTING	62
63	EXISTING	20 A	1			0 VA	0 VA			1	20 A	EXISTING	64
65	EXISTING	20 A	1					0 VA	0 VA	1	20 A	EXISTING	66
67	EXISTING	22 A	1	0 VA	0 VA					1	20 A	EXISTING	68
69	EXISTING	20 A	1			0 VA	0 VA			1	20 A	EXISTING	70
71	EXISTING	20 A	1					0 VA	0 VA	1	20 A	EXISTING	72
73	EXISTING	20 A	1	0 VA	0 VA					1	20 A	EXISTING	74
75	EXISTING	20 A	1			0 VA	0 VA			1	2 A	EXISTING	76
77	EXISTING	20 A	1					0 VA	0 VA	1	20 A	EXISTING	78
79	EXISTING	20 A	1	0 VA	0 VA					1	20 A	EXISTING	80
81	EXISTING	20 A	1			0 VA	0 VA			1	20 A	EXISTING	82
83	EXISTING	20 A	1					0 VA	0 VA	1	20 A	EXISTING	84
85	EXISTING	20 A	1	0 VA	0 VA					1	20 A	EXISTING	86
87	EXISTING	20 A	1			0 VA	0 VA			1	20 A	EXISTING	88
89	EXISTING	20 A	1					0 VA	0 VA	1	20 A	EXISTING	90
91	EXISTING	20 A	1	0 VA	0 VA					1	20 A	EXISTING	92
93	EXISTING	20 A	1			0 VA	26064...						94
95	EXISTING	20 A	1					0 VA	2606...	3	20 A	EXISTING	96
97	EXISTING	20 A	1	0 VA	26064...								98
99	EXISTING	20 A	1			0 VA							100
101	EXISTING	20 A	1					0 VA					102
103	EXISTING	20 A	1	0 VA									104
105	EXISTING	20 A	1			0 VA							106
107	EXISTING	20 A	1					0 VA					108
109	EXISTING	20 A	1	0 VA									110
111	EXISTING	20 A	1			0 VA							112
113	EXISTING	20 A	1					0 VA	5223...				114
115					2792 VA					3	20 A	L2B	116
117							2432...						118
119	Spare	20 A	1					0 VA					120
121													122
123													124
125													126
		Total Load:		28856 VA		28496 VA		31287 VA					
		Total Amps:		241 A		237 A		261 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	3227 VA	100.00%	3227 VA		
Other	2000 VA	100.00%	2000 VA	**Total Conn. Load:**	88638 VA
Power	79271 VA	100.00%	79271 VA	**Total Est. Demand:**	88638 VA
Receptacle	4140 VA	100.00%	4140 VA	**Total Conn.:**	246 A
				Total Est. Demand:	246 A

Notes:

Branch Panel: L2B

Location: STORAGE 227D
Supply From: L1A
Mounting: Recessed
Enclosure: Type 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating:
Mains Type:
Mains Rating: 100 A
MCB Rating:

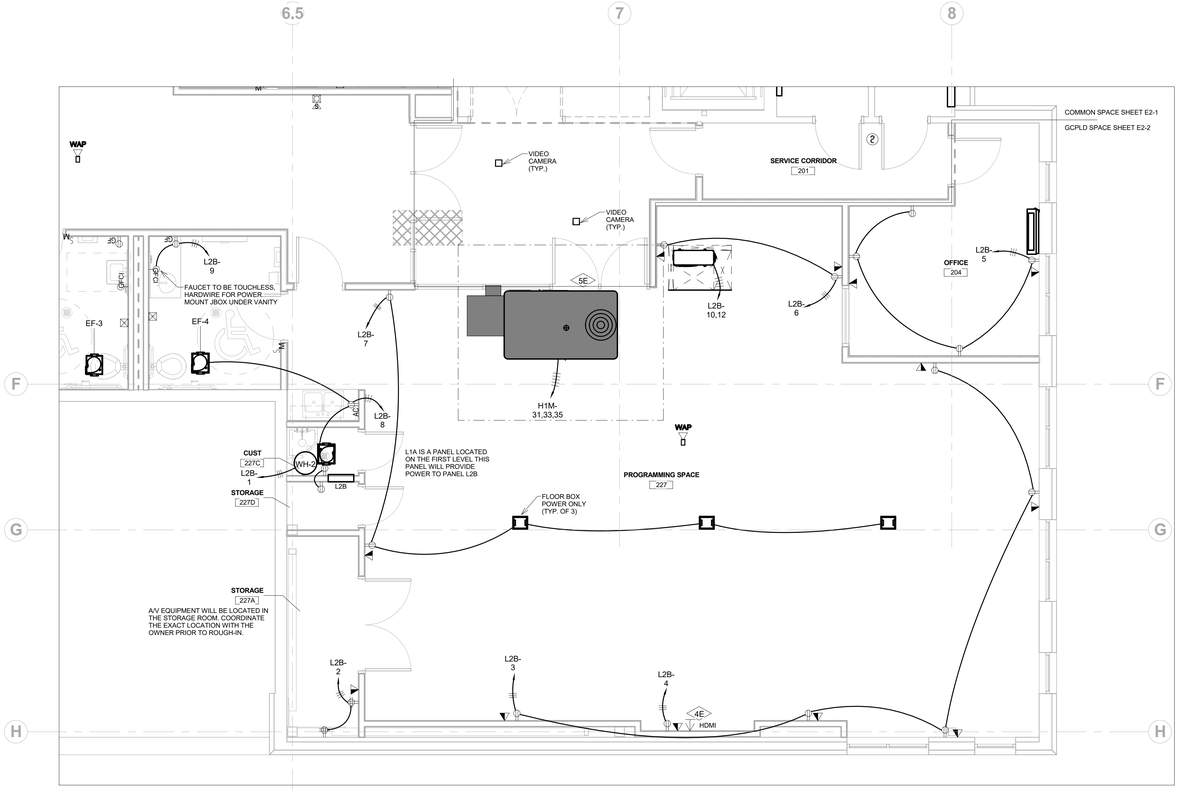
Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	Other CUST 227C	20 A	1	2000...	720 VA					1	20 A	Receptacle STORAGE 227A	2
3	Receptacle PROGRAMMING SPACE 227	20 A	1			900 VA	180 VA			1	20 A	Receptacle PROGRAMMING SPACE 227	4
5	Receptacle OFFICE 204	20 A	1					720 VA	360 VA	1	20 A	Receptacle	6
7	Receptacle MAKER SPACE STORY TIME 207	20 A	1	1440...	1063 VA					1	20 A	Receptacle Room 227C, 227D, EXHAUST FAN...	8
9	Receptacle FAMILY RR 227B	20 A	1			360 VA	1352...			2	20 A	AC-2 CONDENSING UNIT	10
11									1352...				12
13													14
15													16
17													18
19													20
21													22
23													24
25													26
27													28
29													30
		Total Load:		5223 VA		2792 VA		2432 VA					
		Total Amps:		44 A		24 A		20 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	3227 VA	100.00%	3227 VA		
Other	2000 VA	100.00%	2000 VA	**Total Conn. Load:**	10447 VA
Power	1080 VA	100.00%	1080 VA	**Total Est. Demand:**	10447 VA
Receptacle	4140 VA	100.00%	4140 VA	**Total Conn.:**	29 A
				Total Est. Demand:	29 A

Notes:



6.5

1 / E2-2 ELECTRICAL GCPLD - LEVEL 2
1/4" = 1'-0"

Branch Panel: H1M

Location: RECEIVING 122
Supply From:
Mounting: Recessed
Enclosure: Type 1

Volts: 480/277 Wye
Phases: 3
Wires: 4

A.I.C. Rating:
Mains Type:
Mains Rating: 200 A
MCB Rating:

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	EXISTING	20 A	1	1136...	1136...					1	20 A	EXISTING	2
3	EXISTING	20 A	1			1136...	1135...			1	20 A	EXISTING	4
5	EXISTING	20 A	1					1136...	1911...	1	20 A	EXISTING	6
7	EXISTING	20 A	1	1136...	721 VA								8
9						721 VA	721 VA			3	15 A	EXISTING	10
11	EXISTING	15 A	3					721 VA	721 VA				12
13				721 VA	10656...								14
15						14134...	10656...			3	60 A	EXISTING	16
17	EXISTING	70 A	3					14134...	10656...				18
19				14134...	0 VA					1	20 A	Spare	20
21	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	22
23	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	26
27	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	28
29	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	30
31				4573...									32
33	RTU-2 ROOFTOP UNIT	20 A	3			4573...							34
35								4573...					36
37													38
39													40
41													42
		Total Load:		34213 VA		33076 VA		33852 VA					
		Total Amps:		124 A		119 A		123 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	13718 VA	100.00%	13718 VA		
Spare	87422 VA	100.00%	87422 VA	**Total Conn. Load:**	101140 VA
				Total Est. Demand:	101140 VA
				Total Conn.:	122 A
				Total Est. Demand:	122 A

Notes:

Colorado Mountain College

PROJECT DESCRIPTION

Delta	Description	Date Issued

Art Donoho
COLORADO LICENSED ARTHUR Y. DONOHO 33294 PROFESSIONAL ENGINEER
7-29-16

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ELECTRICAL PLAN - GCPLD

BIDDING/PERMIT SET
8/01/2016

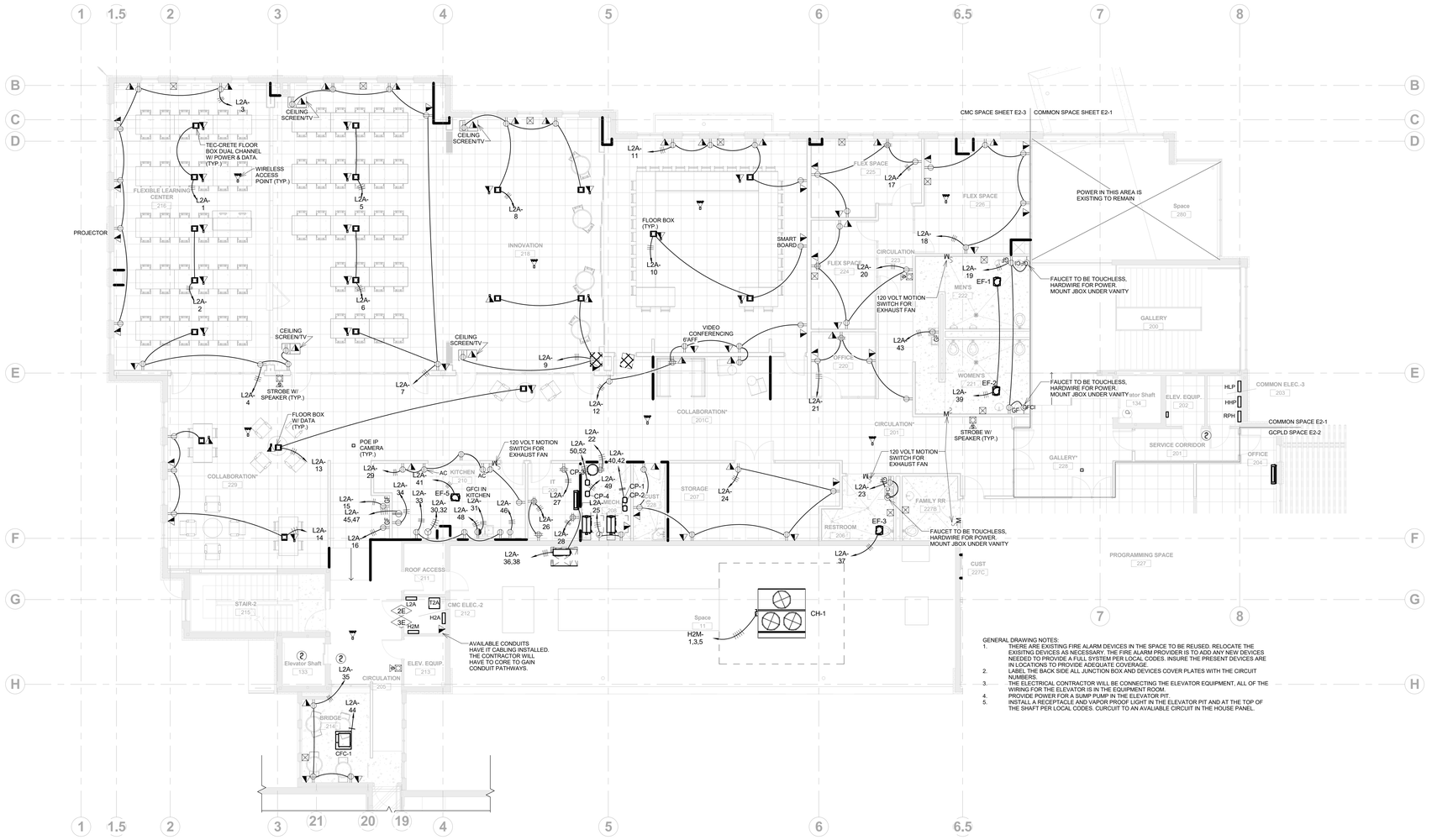
PROJECT No.	PROJECT ARCH	PROJECT MNGR	CHECKED BY
16-001	Approver	Designer	Checker

SHEET No.

E2-2

7/29/2016 1:52:03 PM

ELECTRICAL - KEYNOTED LEGEND	
Key Value	Keynote Text
2E	PROVIDE OWNER CAPABLE METERING FOR PANELS L2A, H2A & H2M, SUCH AS AN EMON-DMON STYLE.
3E	PROVIDE TOTAL PROTECTION SOLUTIONS SURGE SUPPRESION WITH TRANSIENT FILTER #TK-LP120-3Y480-L-F AT ALL LIGHTING PANELS.
4E	PROVIDE INTERFACE WITH DATA (CAT-6), COAX, HDMI, SOUND SYSTEM, DVD PLAYER AND ANY ADDITIONAL INTERFACES GCPLD MIGHT REQUIRE. COORDINATE WITH GCPLD.
5E	PROVIDE CARD READER ACCESS TO GCPLD SPACE.



GENERAL DRAWING NOTES:

1. THERE ARE EXISTING FIRE ALARM DEVICES IN THE SPACE TO BE REUSED. RELOCATE THE EXISITNG DEVICES AS NECESSARY. THE FIRE ALARM PROVIDER IS TO ADD ANY NEW DEVICES NEEDED TO PROVIDE A FULL SYSTEM PER LOCAL CODES. INSURE THE PRESENT DEVICES ARE IN LOCATIONS TO PROVIDE ADEQUATE COVERAGE.
2. LABEL THE BACK SIDE ALL JUNCTION BOX AND DEVICES COVER PLATES WITH THE CIRCUIT NUMBERS.
3. THE ELECTRICAL CONTRACTOR WILL BE CONNECTING THE ELEVATOR EQUIPMENT, ALL OF THE WIRING FOR THE ELEVATOR IS IN THE EQUIPMENT ROOM.
4. PROVIDE POWER FOR A SUMP PUMP IN THE ELEVATOR PIT.
5. INSTALL A RECEPTACLE AND VAPOR PROOF LIGHT IN THE ELEVATOR PIT AND AT THE TOP OF THE SHAFT PER LOCAL CODES. CURCUIT TO AN AVALIABLE CIRCUIT IN THE HOUSE PANEL.

1 / E2-3 ELECTRICAL CMC - LEVEL 2
1/8" = 1'-0"

Colorado Mountain College

PROJECT DESCRIPTION

Delta	Description	Date Issued

Art Donoho

COLORADO LICENSED PROFESSIONAL ENGINEER 33294

7-29-16

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ELECTRICAL PLAN - CMC

BIDDING/PERMIT SET
8/01/2016

PROJECT No.	PROJECT ARCH	PROJECT MNGR	CHECKED BY
16-001	Approver	Designer	Checker

SHEET No.

E2-3

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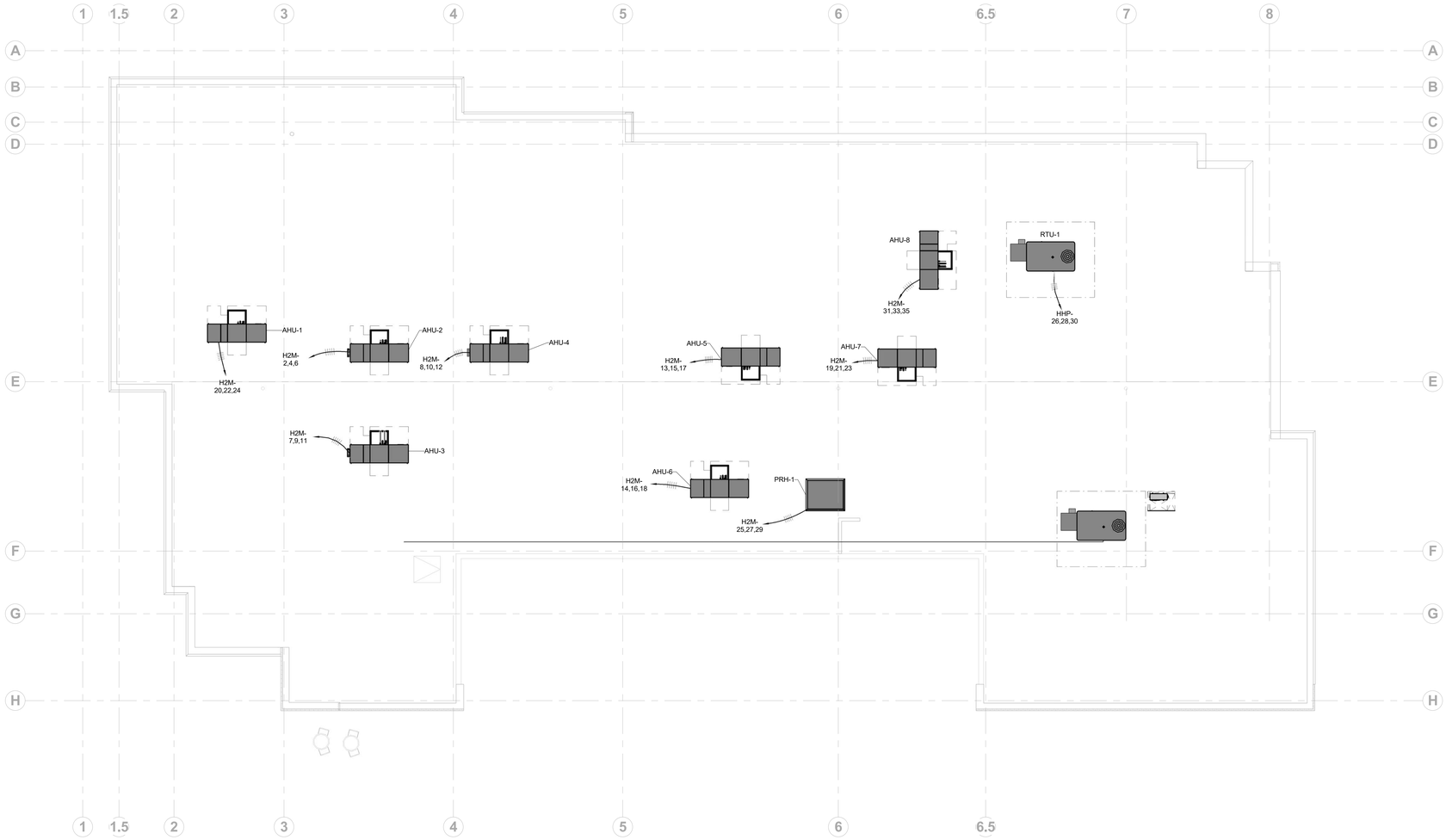

1 E2-4 ELECTRICAL OVERALL - ROOF PLAN

1/8" = 1'-0"

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Colorado Mountain College

PROJECT DESCRIPTION

Delta	Description	Date Issued

Art Bonoko

COLORADO LICENSED PROFESSIONAL ENGINEER 33294

7-29-16

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ELECTRICAL ROOF PLAN - CMC

BIDDING/PERMIT SET
8/01/2016

PROJECT No.	PROJECT ARCH	PROJECT MNGR	CHECKED BY
16-001	Approver	Designer	Checker

SHEET No.

E2-4

Electrical Air Handler Schedule									
Load Name	Wire Size	Breaker Rating	Voltage	# Poles	Panel	Circuit Number	Load Classification	Apparent Load	Length
AIR HANDLER AHU-1 HVAC	3-#12, 1-#12, 1-#12	20 A	480 V	3	H2M	20,22,24	HVAC	2910 VA	94' - 2 1/2"
AIR HANDLER AHU-2 HVAC	3-#12, 1-#12, 1-#12	20 A	480 V	3	H2M	2,4,6	HVAC	2910 VA	69' - 7 21/32"
AIR HANDLER AHU-3 HVAC	3-#12, 1-#12, 1-#12	20 A	480 V	3	H2M	7,9,11	HVAC	2910 VA	54' - 4 19/32"
AIR HANDLER AHU-4 HVAC	3-#12, 1-#12, 1-#12	20 A	480 V	3	H2M	8,10,12	HVAC	2910 VA	66' - 3 31/32"
AIR HANDLER AHU-5 HVAC	3-#12, 1-#12, 1-#12	20 A	480 V	3	H2M	13,15,17	HVAC	2910 VA	109' - 2 3/4"
AIR HANDLER AHU-6 HVAC	3-#12, 1-#12, 1-#12	20 A	480 V	3	H2M	14,16,18	HVAC	2910 VA	79' - 2 3/4"
AIR HANDLER AHU-7 HVAC	3-#12, 1-#12, 1-#12	20 A	480 V	3	H2M	19,21,23	HVAC	2910 VA	132' - 3 7/8"
AIR HANDLER AHU-8 HVAC	3-#12, 1-#12, 1-#12	20 A	480 V	3	H2M	31,33,35	HVAC	2910 VA	153' - 6 13/16"

Electrical Chiller Schedule									
Load Name	Wire Size	Breaker Rating	Voltage	# Poles	Panel	Circuit Number	Load Classification	Apparent Load	Length
CHILLER CH-1	3-#1, 1-#1, 1-#8	100 A	480 V	3	H2M	1,3,5	HVAC	71582 VA	57' - 3 19/32"

Electrical Rooftop Unit									
Load Name	Wire Size	Breaker Rating	Voltage	# Poles	Panel	Circuit Number	Load Classification	Apparent Load	Length
RTU-1 ROOFTOP UNIT	3-#10, 1-#10, 1-#10	30 A	480 V	3	HHP	26,28,30	HVAC	15796 VA	70' - 3 1/16"
RTU-2 ROOFTOP UNIT	3-#12, 1-#12, 1-#12	20 A	480 V	3	H1M	31,33,35	HVAC	13718 VA	149' - 9 17/32"

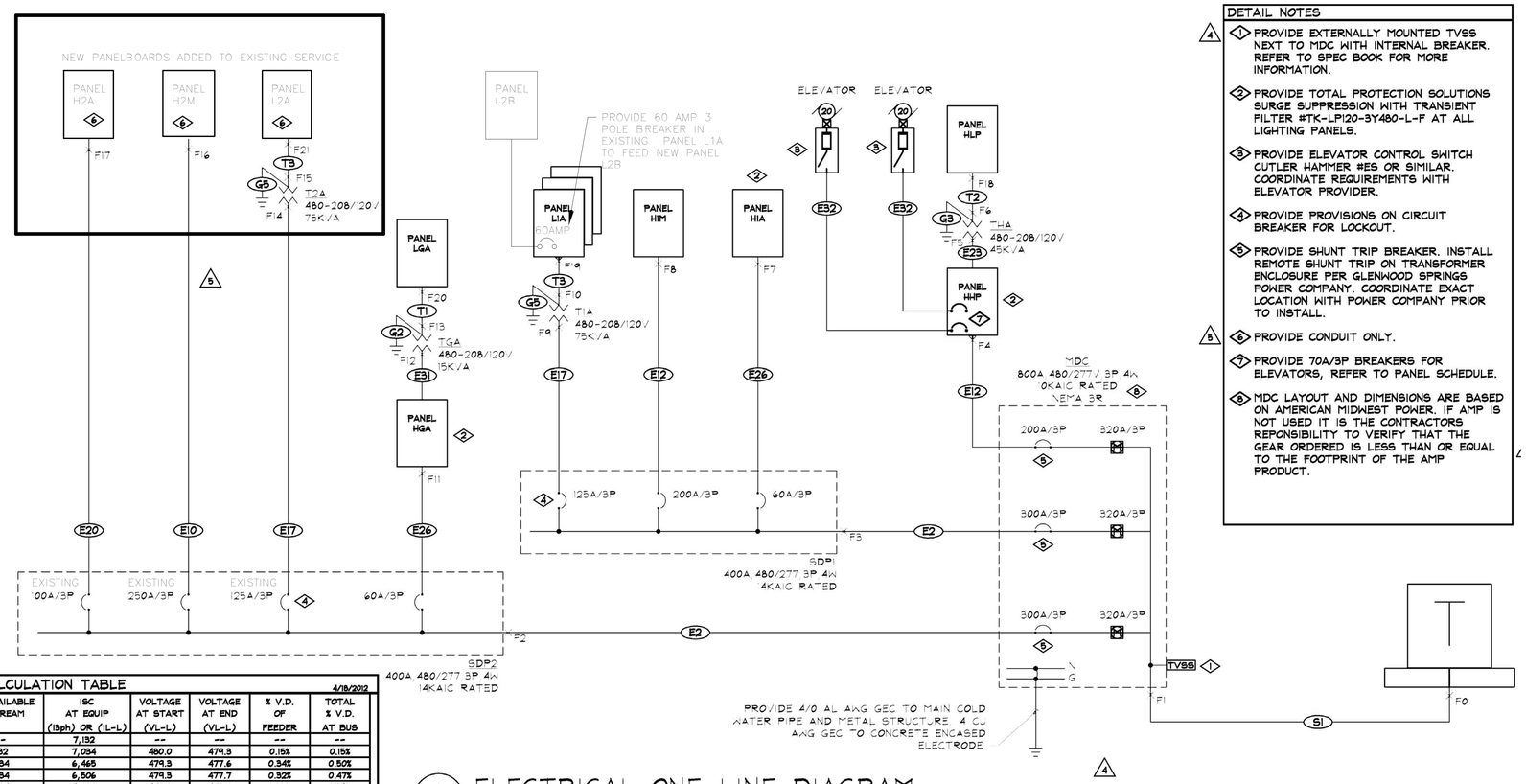
Electrical Exhaust Fan Schedule									
Load Name	Wire Size	Breaker Rating	Voltage	# Poles	Panel	Circuit Number	Load Classification	Apparent Load	Length
EF-1 & EF-2 EHAUST FANS MEN'S 222 & WOMEN'S 221	1-#8, 1-#8, 1-#8	15 A	120 V	1	L2A	39	HVAC	851 VA	144' - 4 1/16"
EF-3 EHAUST FAN	1-#12, 1-#12, 1-#12	20 A	120 V	1	L2A	37	HVAC	232 VA	87' - 4 1/16"
POWER RELIEF HOOD EF-	3-#12, 1-#12, 1-#12	20 A	480 V	3	H2M	25,27,29	HVAC	1746 VA	94' - 9 19/32"
Receptacle Room 227C, 227D, EXHAUST FAN EF-4	1-#12, 1-#12, 1-#12	20 A	120 V	1	L2B	8	HVAC; Receptacle	1063 VA	30' - 9 7/8"

Electrical Energy Recovery Ventilator Schedule									
Load Name	Wire Size	Breaker Rating	Voltage	# Poles	Panel	Circuit Number	Load Classification	Apparent Load	Length

Electrical Pump Schedule									
Load Name	Wire Size	Breaker Rating	Voltage	# Poles	Panel	Circuit Number	Load Classification	Apparent Load	Length
CP-1 & CP-2 BOILER PUMPS DUPLEX	2-#12, 1-#12, 1-#12	15 A	208 V	2	L2A	40,42	HVAC	458 VA	49' - 3 1/8"
CP-3 DOM HEATING	2-#12, 1-#12, 1-#12	15 A	208 V	2	L2A	50,52	HVAC	458 VA	48' - 0 5/8"
CP-4 DOM. PUMP	1-#12, 1-#12, 1-#12	15 A	120 V	1	L2A	49	HVAC	458 VA	46' - 3 5/8"

Electrical Cabinet Fan Coil Schedule								
Load Name	Wire Size	Breaker Rating	Voltage	# Poles	Panel	Circuit Number	Load Classification	Apparent Load
CFC-1 CABINET FAN COIL	1-#12, 1-#12, 1-#12	15 A	120 V	1	L2A	44	Motor	372 VA

Electrical Gas Fired Boiler Schedule									
Load Name	Wire Size	Breaker Rating	Voltage	# Poles	Panel	Circuit Number	Load Classification	Apparent Load	Length
BL-1 & BL-2 BOILERS MECH. 214	1-#10, 1-#10, 1-#10	30 A	120 V	1	L2A	25	Receptacle	2200 VA	39' - 11 5/16"



1 E100 ELECTRICAL ONE-LINE DIAGRAM

NO SCALE

4

FAULT CURRENT CALCULATION TABLE							4/18/2012
POINT	LENGTH (FT)	ISC AVAILABLE UPSTREAM	ISC AT EQUIP (3ph) OR (IL-L)	VOLTAGE AT START (VL-L)	VOLTAGE AT END (VL-L)	% V.D. OF FEEDER	TOTAL % V.D. AT BUS
F0	-	--	7,132	--	--	--	--
F1	30	7,132	7,034	480.0	479.3	0.15%	0.15%
F2	65	7,034	6,465	479.3	477.6	0.34%	0.50%
F3	60	7,034	6,506	479.3	477.7	0.32%	0.47%
F4	240	7,034	4,682	479.3	472.6	1.38%	1.84%
F5	10	4,682	4,478	472.6	472.4	0.05%	1.89%
F6	0	4,478	2,968	208.0	208.0	0.00%	0.00%
F7	10	6,506	6,026	477.7	477.4	0.07%	0.54%
F8	8	6,506	6,407	477.7	477.5	0.05%	0.52%
F9	17	6,506	6,164	477.7	477.4	0.07%	0.54%
F10	0	6,164	4,664	208.0	208.0	0.00%	0.00%
F11	127	6,465	5,225	477.6	475.4	0.88%	1.36%
F12	7	5,225	2,970	475.4	475.2	0.05%	1.42%
F13	0	2,970	1,547	208.0	208.0	0.00%	0.00%
F14	16	6,465	6,146	477.6	477.3	0.07%	0.57%
F15	0	6,146	4,660	208.0	208.0	0.00%	0.00%
F16	23	6,465	6,249	477.6	477.0	0.13%	0.65%
F17	22	6,465	5,822	477.6	476.9	0.16%	0.65%
F18	10	2,968	2,887	208.0	207.8	0.12%	0.12%
F19	5	4,664	4,572	208.0	207.8	0.06%	0.06%
F20	5	1,547	1,562	208.0	207.9	0.06%	0.06%
F21	7	4,660	4,580	208.0	207.8	0.07%	0.07%

NOTES:
1. CALCULATIONS WERE PERFORMED USING BUSSMANN "POINT-TO-POINT" METHOD.
2. CALCULATIONS WERE BASED ON A 150KVA TRANSFORMER WITH AN IMPEDANCE OF 2.53%.

4

FEEDER SCHEDULE			18-Apr-12
FEEDER NO.	FEEDER CONDUCTORS	PHASE	AMPS
SERVICE ENTRANCE FEEDERS			
S1	3(4#400KCMIL, 3" SCHED 40 PVC)	3-4W	800
EQUIPMENT FEEDERS			
E2	4-500KCMIL, 1#2G, 3-1/2" SCHED 40 PVC)	3-4W+G	300
E10	4-350KCMIL, 1#2G, 3"C	3-4W+G	250
E12	4-250KCMIL, 1#4G, 2-1/2"C	3-4W+G	200
E17	3-2/0, 1#4G, 2"C	3-3W+G	135
E20	4-1/0, 1#4G, 2"C	3-4W+G	120
E23	3#2, 1#6G, 1-1/4"C	3-3W+G	75
E26	4#3, 1#6G, 1-1/4"C	3-4W+G	65
E31	3#8, 1#8G, 3/4"C	3-3W+G	30
E32	4#8 COPPER, 1#8G COPPER, 3/4"C	3-4W+G	40
TRANSFORMER SECONDARY			
T1	4#3, 1#6G, 1-1/4"C	3-4W+G	65
T2	4-3/0, 1#4G, 2"C	3-4W+G	155
T3	4-350KCMIL, 1-1/0G, 3"C	3-4W+G	250
GROUNDING ELECTRODE CONDUCTORS			
G2	1#6, 1/2"C	G	
G3	1#4, 3/4"C	G	
G5	1-1/0, 3/4"C	G	

DETAIL NOTES

4

1. PROVIDE EXTERNALLY MOUNTED TVSS NEXT TO MDC WITH INTERNAL BREAKER. REFER TO SPEC BOOK FOR MORE INFORMATION.
2. PROVIDE TOTAL PROTECTION SOLUTIONS SURGE SUPPRESSION WITH TRANSIENT FILTER #TK-LP120-3Y480-L-F AT ALL LIGHTING PANELS.
3. PROVIDE ELEVATOR CONTROL SWITCH CUTLER HAMMER #ES OR SIMILAR. COORDINATE REQUIREMENTS WITH ELEVATOR PROVIDER.
4. PROVIDE PROVISIONS ON CIRCUIT BREAKER FOR LOCKOUT.
5. PROVIDE SHUNT TRIP BREAKER. INSTALL REMOTE SHUNT TRIP ON TRANSFORMER ENCLOSURE PER GLENWOOD SPRINGS POWER COMPANY. COORDINATE EXACT LOCATION WITH POWER COMPANY PRIOR TO INSTALL.
6. PROVIDE CONDUIT ONLY.
7. PROVIDE 70A/3P BREAKERS FOR ELEVATORS, REFER TO PANEL SCHEDULE.
8. MDC LAYOUT AND DIMENSIONS ARE BASED ON AMERICAN MIDWEST POWER. IF AMP IS NOT USED IT IS THE CONTRACTORS REPONSIBILITY TO VERIFY THAT THE GEAR ORDERED IS LESS THAN OR EQUAL TO THE FOOTPRINT OF THE AMP PRODUCT.

Colorado Mountain College

PROJECT DESCRIPTION

Delta	Description	Date Issued

Art Sonoho

COLORADO LICENSED ART SONOHO 33294 PROFESSIONAL ENGINEER

7-29-16

HUMPHRIES POLI ARCHITECTS

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EXISITING & REVISED ONE LINE

BIDDING/PERMIT SET
8/01/2016

PROJECT No.	PROJECT ARCH	PROJECT MNGR	CHECKED BY
16-001	Approver	Designer	Checker

SHEET No.

E3-1

Branch Panel: H2M

Location:	ELEV. EQUIP. 213	**Volts:**	480/277 Wye	**A.I.C. Rating:**	
Supply From:		**Phases:**	3	**Mains Type:**	
Mounting:	Recessed	**Wires:**	4	**Mains Rating:**	225 A
Enclosure:	Type 1			**MCB Rating:**	

Notes:

CKT	Circuit Description	Trip	Poles	A	A	B	B	C	C	Poles	Trip	Circuit Description	CKT
1				23861...	970 VA								2
3	CHILLER CH-1	100 A	3			23861...	970 VA			3	20 A	AIR HANDLER AHU-2 HVAC	4
5								23861...	970 VA				6
7				970 VA	970 VA								8
9	AIR HANDLER AHU-3 HVAC	20 A	3			970 VA	970 VA			3	20 A	AIR HANDLER AHU-4 HVAC	10
11								970 VA	970 VA				12
13				970 VA	970 VA								14
15	AIR HANDLER AHU-5 HVAC	20 A	3			970 VA	970 VA			3	20 A	AIR HANDLER AHU-6 HVAC	16
17								970 VA	970 VA				18
19				970 VA	970 VA								20
21	AIR HANDLER AHU-7 HVAC	20 A	3			970 VA	970 VA			3	20 A	AIR HANDLER AHU-1 HVAC	22
23								970 VA	970 VA				24
25				582 VA									26
27	POWER RELIEF HOOD EF-	20 A	3			582 VA							28
29								582 VA					30
31				970 VA									32
33	AIR HANDLER AHU-8 HVAC	20 A	3			970 VA							34
35								970 VA					36
37													38
39													40
41													42
			Total Load:	32203 VA		32203 VA		32203 VA					
			Total Amps:	116 A		116 A		116 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	96608 VA	100.00%	96608 VA		
				Total Conn. Load:	96608 VA
				Total Est. Demand:	96608 VA
				Total Conn.:	116 A
				Total Est. Demand:	116 A

Notes:

Branch Panel: L2A

Location:	ROOF ACCESS 211	**Volts:**	120/208 Wye	**A.I.C. Rating:**	
Supply From:		**Phases:**	3	**Mains Type:**	
Mounting:	Recessed	**Wires:**	4	**Mains Rating:**	225 A
Enclosure:	Type 1			**MCB Rating:**	

Notes:

CKT	Circuit Description	Trip	Poles	A	A	B	B	C	C	Poles	Trip	Circuit Description	CKT
1	Power FLEXIBLE LEARNING CENTER 222	20 A	1	1080...	1080 VA					1	20 A	Power FLEXIBLE LEARNING CENTER 222	2
3	Receptacle FLEXIBLE LEARNING CENTER 222	20 A	1			1080...	1260...			1	20 A	Power FLEXIBLE LEARNING CENTER 222	4
5	Power FLEXIBLE LEARNING CENTER 221	20 A	1					1080 VA	1080...	1	20 A	Power FLEXIBLE LEARNING CENTER 221	6
7	Receptacle FLEXIBLE LEARNING CENTER 221	20 A	1	1440...	1620 VA					1	20 A	Power INNOVATION 220	8
9	Power INNOVATION 220	20 A	1			1440...	1260...			1	20 A	Power BOARD ROOM STUDIO 219	10
11	Receptacle BOARD ROOM STUDIO 219	20 A	1					1260 VA	1260...	1	20 A	Receptacle BOARD ROOM STUDIO 219	12
13	Power CIRCULATION 201	20 A	1	1080...	1620 VA					1	20 A	Power CIRCULATION 201	14
15	Receptacle CIRCULATION 201	20 A	1			180 VA	180 VA			1	20 A	Receptacle CIRCULATION 201	16
17	Receptacle FLEX SPACE 210	20 A	1					900 VA	900 VA	1	20 A	Receptacle FLEX SPACE 224	18
19	Receptacle MEN'S 217	20 A	1	720 VA	900 VA					1	20 A	Receptacle FLEX SPACE 211	20
21	Receptacle OFFICE 212	20 A	1			900 VA	360 VA			1	20 A	Receptacle MECH. 208	22
23	Receptacle FAMILY RR 208	20 A	1					360 VA	1080...	1	20 A	Receptacle STORAGE 223	24
25	BL-1 & BL-2 BOILERS MECH. 214	30 A	1	2200...	360 VA					1	20 A	Receptacle IT 215	26
27	Receptacle IT 215	20 A	1			360 VA	360 VA			1	20 A	Receptacle IT 215	28
29	Receptacle KITCHEN 218	20 A	1					1080 VA	2500...	2	40 A	Receptacle KITCHEN 218	30
31	DISHWASHER KITCHEN 218	20 A	1	180 VA	2500 VA								32
33	Receptacle KITCHEN 218	20 A	1			540 VA	1200...			1	20 A	MICROWAVE KITCHEN 218	34
35	Receptacle FLEX SPACE 201C	20 A	1					540 VA	1352...	2	20 A	SPLIT SYSTEM CONDENSING UNIT CU-1	36
37	EF-3 EHAUST FAN	20 A	1	232 VA	1352 VA								38
39	EF-1 & EF-2 EHAUST FANS MEN'S 222 &...	15 A	1			851 VA	229 VA			2	15 A	CP-1 & CP-2 BOILER PUMPS DUPLEX	40
41	HVAC KITCHEN 210	15 A	1					523 VA	229 VA				42
43	Receptacle MEN'S 222	20 A	1	180 VA	372 VA					1	15 A	CFC-1 CABINET FAN COIL	44
45	ICE MAKER KITCHEN 210	30 A	2			90 VA	1200...			1	20 A	REFRIGERATOR KITCHEN 210	46
47								90 VA	180 VA	1	20 A	DISPOSER KITCHEN 210	48
49	CP-4 DOM. PUMP	15 A	1	458 VA	229 VA					2	15 A	CP-3 DOM HEATING	50
51	Spare	20 A	1			0 VA	229 VA						52
53	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	54
			Total Load:	17603 VA		11719 VA		14414 VA					
			Total Amps:	150 A		98 A		124 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	5226 VA	100.00%	5226 VA		
Motor	830 VA	100.00%	830 VA	**Total Conn. Load:**	43196 VA
Power	11340 VA	100.00%	11340 VA	**Total Est. Demand:**	35296 VA
Receptacle	25800 VA	69.38%	17900 VA	**Total Conn.:**	120 A
				Total Est. Demand:	98 A

Notes:

Branch Panel: H2A

Location:	Space 11	**Volts:**	480/277 Wye	**A.I.C. Rating:**	
Supply From:		**Phases:**	3	**Mains Type:**	
Mounting:	Recessed	**Wires:**	4	**Mains Rating:**	100 A
Enclosure:	Type 1			**MCB Rating:**	

Notes:

CKT	Circuit Description	Trip	Poles	A	A	B	B	C	C	Poles	Trip	Circuit Description	CKT
1	Room 268, 201C, 286	20 A	1	1379...	1800...					1	20 A	Lighting INNOVATION 220	2
3	Lighting CIRCULATION-2 201-2	20 A	1			640 VA	1880...			1	20 A	Lighting KITCHEN 218	4
5	Lighting BOARD ROOM STUDIO 219	20 A	1					2683...					6
7													8
9													10
11													12
13													14
15													16
17													18
19													20
21													22
23													24
25													26
27													28
29													30
31													32
33													34
35													36
37													38
39													40
41													42
			Total Load:	3179 VA		2520 VA		2683 VA					
			Total Amps:	12 A		9 A		10 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	10200 VA	100.00%	10200 VA		
Other	10 VA	100.00%	10 VA	**Total Conn. Load:**	10210 VA
				Total Est. Demand:	10210 VA
				Total Conn.:	12 A
				Total Est. Demand:	12 A

Notes:

Branch Panel: HHP

Location:		**Volts:**	480/277 Wye	**A.I.C. Rating:**	
Supply From:		**Phases:**	3	**Mains Type:**	
Mounting:	Recessed	**Wires:**	4	**Mains Rating:**	200 A
Enclosure:	Type 1			**MCB Rating:**	

Notes:

CKT	Circuit Description	Trip	Poles	A	A	B	B	C	C	Poles	Trip	Circuit Description	CKT
1				1341...	7482 VA								2
3	THP	70 A	3			13419...	7482...			3	70 A	Power Elev. 202	4
5								13419...	7482...				6
7				7482...	120 VA					1	20 A	LIGHTING	8
9	Power Elev. 205	70 A	3			7482...	6000...			1	30 A	HEATING SPACE 134	10
11								7482 VA	900 VA	1	20 A	LIGHTING	12
13	LIGHTING	20 A	1	407 VA	1947 VA					1	20 A	LIGHTING	14
15						1413...	6679...						16
17	MOTOR	20 A	3					1413 VA	6679...	3	30 A	MOTOR	18
19				1413...	6679 VA								20
21	Power	20 A	1			500 VA							22
23	Spare	20 A	1					0 VA	860 VA	1	20 A	LIGHTING	24
25					5265 VA								26
27							5265...			3	30 A	RTU-1 ROOFTOP UNIT	28
29									5265...				30
			Total Load:	44214 VA		48240 VA		43500 VA					
			Total Amps:	160 A		175 A		157 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	15796 VA	100.00%	15796 VA		
Power	120158 VA	100.00%	120158 VA	**Total Conn. Load:**	135954 VA
				Total Est. Demand:	135954 VA
				Total Conn.:	164 A
				Total Est. Demand:	164 A

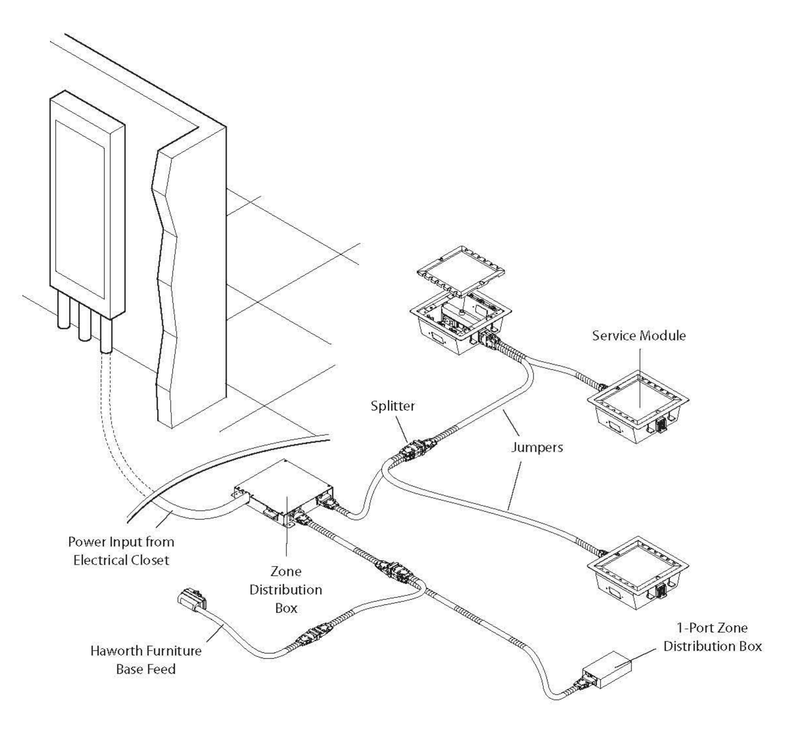
Notes:

Electrical Overview | System Overview

System Overview

Power is typically routed from the electrical closet through pre-wired flexible conduit to separate zones of the floor plate. Power is then distributed within each zone using modular wiring. Modular wiring puts flexibility out in the area where most day-to-day reconfigurations occur. Power can be routed from the electrical closet with the pre-wired Zone Distribution Box or an Infeed Harness. The Zone Distribution Box is available with factory installed pre-wired conduits with three sets up to 125', and two sets of circuits up to 200', or the field wired Zone Distribution Box can be used with locally supplied MC cable or conduit. The infeed harness routes a single set of circuits and is available in lengths up to 100'. Power is routed within the zone by 8-Wire modular flex conduit Jumpers. The Jumpers are fully populated with all eight wires so all circuits are available for future moves. The Flush Service Module provides Modular Receptacles under a hinged lid. The Modular Receptacles allow fast change of circuits as users' needs change. Flush Service Modules can be moved to other floor tile locations by re-routing the flex conduit Jumpers. The Service Modules allow for multiple Jumpers to connect (two Dual Service Modules/four Quad Service Modules) for branching within a zone. The Splitter is used to join up to four Jumpers. By using Splitters, the zone can be expanded to meet future needs. For more extensive renovations, the Zone Distribution Box can be moved by re-routing the flex conduit feed.

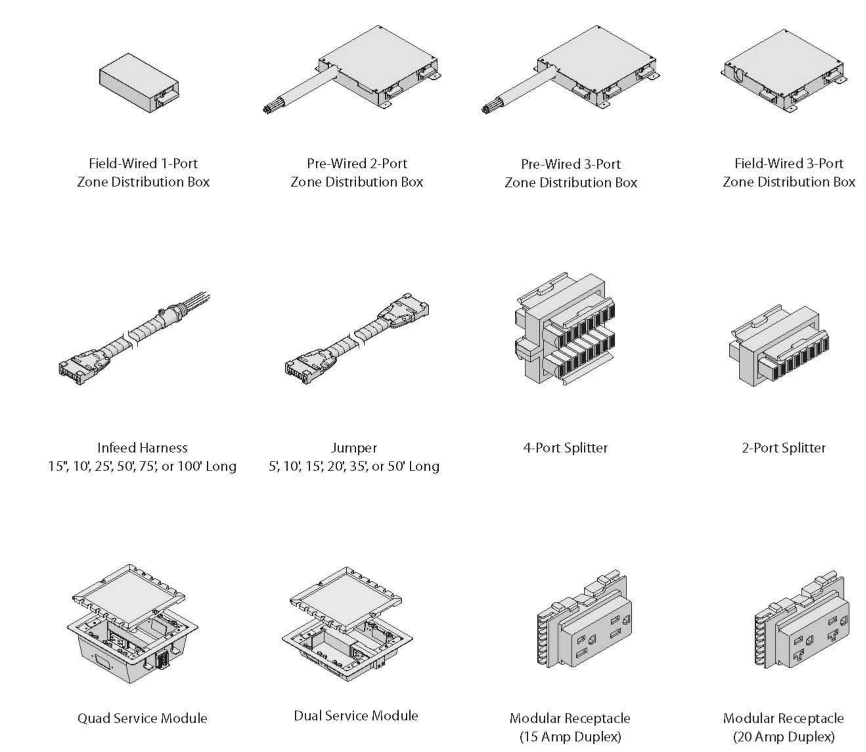
Under Floor Application



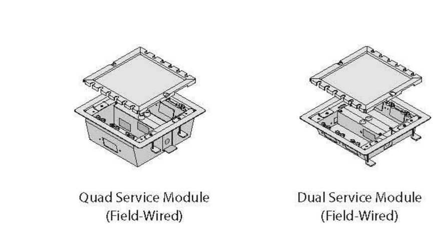
Note MC Cable = Metal Clad Cable in this document.

Statement of Line: Power Base AI

3- and 4-Circuit



Hardwire



Electrical Overview | Statement of Line: Power Base AI

Colorado Mountain College

PROJECT DESCRIPTION

Delta	Description	Date Issued

Art Donoho

COLORADO LICENSED ARTHUR F. DONOHO 33294 PROFESSIONAL ENGINEER

7-29-16

HUMPHRIES POLI ARCHITECTS

All reports, plans, specifications, computer files, field data, notes and other documents and instruments prepared by the Architect as instruments of service shall remain the property of the Architect. The Architect shall retain all common law, statutory and other reserved rights, including copyright thereto.

ELECTRICAL PANEL SCHEDULES & DETAILS

BIDDING/PERMIT SET
8/01/2016

PROJECT No.	PROJECT ARCH	PROJECT MNGR	CHECKED BY
16-001	Approver	Designer	Checker

SHEET No.

E3-2

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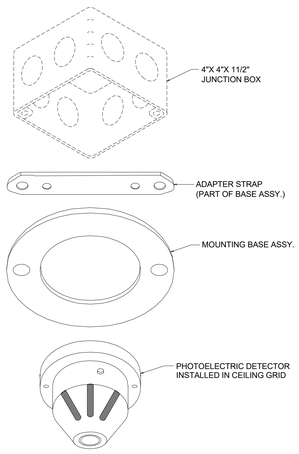
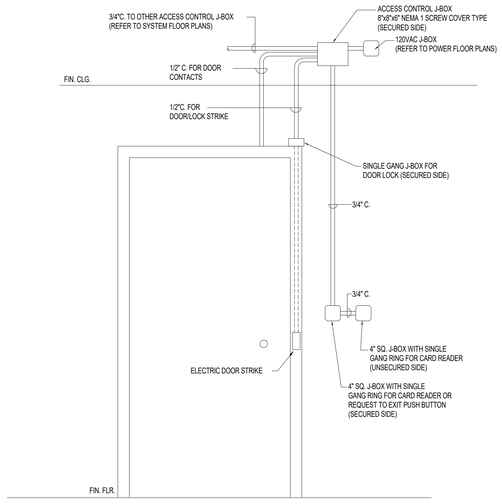


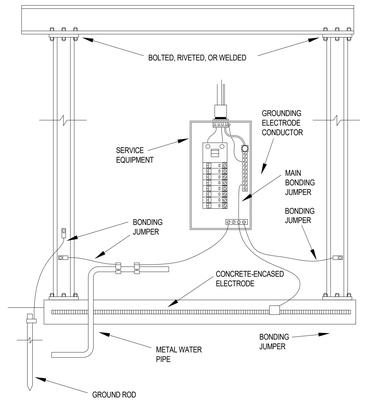
TYPICAL SMOKE DETECTOR MOUNTING DETAIL

NOT TO SCALE



ACCESS CONTROL CONDUIT DETAIL FOR CARD READER SYSTEM

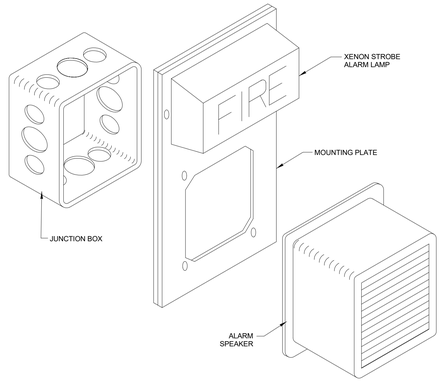
NOT TO SCALE



GROUNDING ELECTRODE SYSTEM DETAIL

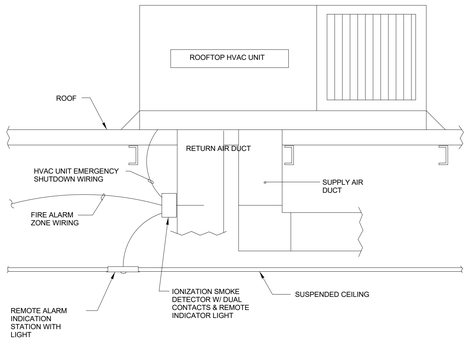
NOT TO SCALE

NOTES:
1. SEE ONE LINE DIAGRAM FOR GROUNDING CONDUCTOR SIZES REQUIRED.
2. PROVIDE A MINIMUM OF TWO SEPARATE GROUND SOURCES, U.O.N. ON ONE LINE DIAGRAM.



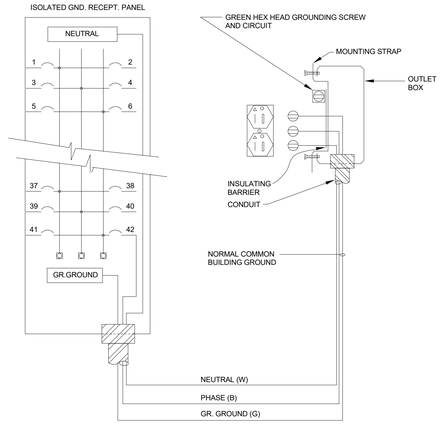
FIRE ALARM SPEAKER/STROBE LIGHT MOUNTING DETAIL

NOT TO SCALE



ROOFTOP HVAC UNIT DUCT MOUNTED SMOKE DETECTOR DETAIL

NOT TO SCALE



TYPICAL RECEPTACLE WIRING DIAGRAM

NOT TO SCALE

Colorado Mountain College

PROJECT DESCRIPTION

Delta	Description	Date Issued

Art Boncho

COLORADO REGISTERED PROFESSIONAL ENGINEER 33294

7-29-16

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BIDDING/PERMIT SET
8/01/2016

PROJECT No.	PROJECT ARCH	PROJECT MNGR	CHECKED BY
16-001	Approver	Designer	Checker

SHEET No.

E3-3

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