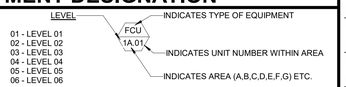
MISCELLANEOUS

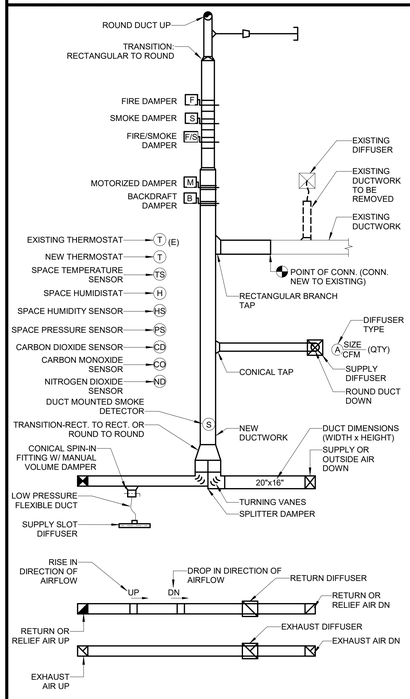
SYMBOL	DESCRIPTION
1 / A101 SIM	SECTION NO. / SECTION VIEW SHEET NO.
A / M1-01	DETAIL DESIGNATION
AHU 1.01	POWERED EQUIPMENT DESIGNATION
VAV 1.01	NON POWERED EQUIPMENT DESIGNATION
TYPE / LENGTH	BASEBOARD EQUIPMENT DESIGNATION
2' 1	SHEET KEY NOTES
	POINT OF DISCONNECTION
	ARROW INDICATES DIRECTION OF FLOW
	EXTERIOR WALL LOUVER (UNDER ARCH. SECTION)
UC	UNDERCUT DOOR (UNDER ARCH. SECTION)
D/L	DOOR LOUVER (UNDER ARCH. SECTION)
L/D	LOUVER DOOR FULL HEIGHT. (UNDER ARCH. SECTION)

SYMBOL	DESCRIPTION
	SUPPLY DIFFUSER-4-WAY THROW
	SUPPLY DIFFUSER-3-WAY THROW
	SUPPLY DIFFUSER-2-WAY THROW
	SUPPLY DIFFUSER-1-WAY THROW
	CEILING ACCESS PANEL
	RETURN DIFFUSER
	EXHAUST DIFFUSER
H	HUMIDIFIER
	FLEXIBLE DUCT CONNECTION
	SUPPLY AIR FLOW SYMBOL
	RETURN/EXHAUST AIR FLOW SYMBOL
	HEAT TRACE

EQUIPMENT DESIGNATION



DUCTWORK



PIPING TYPES

DOUBLE LINE PIPING (2" AND ABOVE)	SINGLE LINE PIPING (UP TO 2")	PIPE TYPE
CHS	CHS	CHILLED WATER SUPPLY
CHR	CHR	CHILLED WATER RETURN
HWS	HWS	HEATING WATER SUPPLY
HWR	HWR	HEATING WATER RETURN
CWS	CWS	CONDENSER WATER SUPPLY
CWR	CWR	CONDENSER WATER RETURN
D	D	CONDENSATE DRAIN
HPS	HPS	HIGH PRESSURE STEAM SUPPLY
MPS	MPS	MEDIUM PRESSURE STEAM SUPPLY
LPS	LPS	LOW PRESSURE STEAM SUPPLY
HPR	HPR	HIGH PRESSURE CONDENSATE RETURN
MPR	MPR	MEDIUM PRESSURE CONDENSATE RETURN
LPR	LPR	LOW PRESSURE CONDENSATE RETURN
RS	RS	REFRIGERANT SUCTION
RL	RL	REFRIGERANT LIQUID
RHG	RHG	REFRIGERANT HOT GAS
A	A	CONTROL AIR (PNEUMATIC)
BD	BD	BOILER BLOW DOWN
BF	BF	BOILER FEED
BO	BO	BLOW OFF
CF	CF	CHEMICAL FEEDER
PCS/R	PCS/R	PROCESS COOLING WATER SUPPLY/RETURN
HTWS/R	HTWS/R	HIGH TEMP. HOT WATER SUPPLY/RETURN
PHWS/R	PHWS/R	PRIMARY OR DISTRICT HEATING WATER SUPPLY/RETURN
PCHS/R	PCHS/R	PRIMARY OR DISTRICT CHILLED WATER SUPPLY/RETURN
PR	PR	PUMPED CONDENSATE RETURN
(E)	(E)	EXISTING PIPING
(E)	(E)	EXISTING PIPING TO BE REMOVED

PIPING SYMBOLS

SYMBOL	ABBREVIATION	DESCRIPTION
FITTINGS:		
	P&T	PRESSURE/TEMPERATUR E PORT TAPS
	CR	CONCENTRIC REDUCER
	ER	ECCENTRIC REDUCER
EJ	EJ	EXPANSION JOINT
	U	UNION
	T	THERMOMETER W/ THERMOWELL
	AV	AIR VENT
	FC	FLEXIBLE PIPE CONNECTOR
FS	FS	FLOW SWITCH
PS	PS	PRESSURE SWITCH
	PG	PRESSURE GAUGE W/ GAUGE COCK
		ELBOW UP
		ELBOW DOWN
		TEE UP
		TEE DOWN
		PIPE CAP OR PLUG
	IV	ISOLATION VALVE, RE: SPECS
S	OS&Y	OUTSIDE STEM AND YOKE
	DV	DRAIN VALVE W/ HOSE END CONNECTION
		BALL VALVE W/ HOSE CONNECTION
	CV	CHECK VALVE WITH INDICATION OF FLOW DIRECTION
	PRV	PRESSURE REDUCING VALVE
S	SV	SOLENOID VALVE
F C	FCV	AUTO FLOW CONTROL VALVE W/ TEST PORTS
CS,BV	CS,BV	CIRCUIT SETTER OR BALANCING VALVE
	GLV	GLOBE VALVE (STRAIGHT PATTERN)
	GLV	GLOBE VALVE (ANGLE PATTERN)
	BFV	BUTTERFLY VALVE
	BV	BALL VALVE
	TCV	AUTOMATIC TEMPERATURE CONTROL VALVE, 2-WAY
	TCV	AUTOMATIC TEMPERATURE CONTROL VALVE, 3-WAY
	BV	BALANCING VALVE
	TMP	TEMPERATURE/PRESSURE RELIEF VALVE
		VALVE IN RISER
	STR	STRAINER W/ BLOW-OFF & CAPPED HOSE END CONNECTION
	ST	STEAM TRAP

ABBREVIATIONS:

A

ABBREVIATION	DESCRIPTION
A	AIR (COMPRESSED)
ABV	ABOVE
A/C	AIR CONDITIONING
AC	ALTERNATING CURRENT
	AIR COMPRESSOR
ACCH	AIR COOLED CHILLER
ACCU	AIR COOLED CONDENSING UNIT
AD	ACCESS DOOR
	AREA DRAIN
ADJ	ADJUSTABLE
AF	AIR FILTER
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AL	ALUMINUM
AMB	AMBIENT
AP	ACCESS PANEL
APD	AIR PRESSURE DROP
ARI	AMERICAN REFRIGERANT INSTITUTE
ARCH	ARCHITECT
AS	AIR SEPARATOR
ASHRAE	AMERICAN SOCIETY OF HEATING AND REFRIGERATION ENGINEERS
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS
AV	ACID VENT
	AIR VENT
AVG	AVERAGE
AW	ACID WASTE
AWS	AMERICAN WELDING SOCIETY
AUX	AUXILIARY

B

ABBREVIATION	DESCRIPTION
B	BOILER
BC	BELOW COUNTER
BCB	BACK OF CURB
BFV	BUTTERFLY VALVE
BH	BOX HYDRANT
BHP	BRAKE HORSEPOWER
BLDG	BUILDING
BM	BENCHMARK
BOD	BOTTOM OF DUCT (AFF)
BOF	BOTTOM OF FOOTING
BOS	BOTTOM OF STRUCTURE
BT	BATH TUB
	BREAK TANK
BTU	BRITISH THERMAL UNIT
BV	BALL VALVE
BWV	BACK WATER VALVE

C

ABBREVIATION	DESCRIPTION
C	CELSIUS
CAB	CABINET
CAV	CONSTANT AIR VOLUME
CB	CATCH BASIN
CC	COOLING COIL
CD	CONDENSATE DRAIN LINE
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CI	CAST IRON
CIRC	CIRCULATING
CL	CENTERLINE
CLG	CEILING
CLR	CLEAR
CMP	CORRIGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CPI	CAST IRON PIPE INSTITUTE
CPVC	CHLORINATED POLYVINYL CHLORIDE
CO	CLEANOUT
COL	COLUMN
COMB	COMBINATION
COMP	COMPRESSOR
CON	CONVERTER
CONC	CONCRETE
	CONCENTRIC
COND	CONDENSER
	CONDENSATE
CONN	CONNECTION
CONT	CONTINUOUS
	CONTINUATION
CONTR	CONTROLLER
	CONTRACTOR
COP	COEFFICIENT OF PERFORMANCE
CRAC	COMPUTER ROOM A/C UNIT
CRT	CATHODE RAY TUBE
CRU	CONDENSATE RETURN UNIT
CT	COOLING TOWER
CTR	CENTER
CU	COPPER
CW	COLD WATER
CWP	CONDENSER WATER PUMP
CWR	CONDENSER WATER RETURN
CWS	CONDENSER WATER SUPPLY
CV	CONSTANT VOLUME

D

ABBREVIATION	DESCRIPTION
dB	DECIBEL
DB	DRY-BULB
DC	DOUBLE DUCT CONSTANT VOLUME
	DIRECT CURRENT
DDC	DIRECT DIGITAL CONTROL
DESIG	DESIGNATION
DEFL	DEFLECTION
DTL	DETAIL
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIFF	DIFFUSER
DIM	DIMENSION
DISC	DISCONNECT
DN	DOWN
DP	DISCHARGE PLENUM
DPR	DAMPER
DS	DOUNSPOUT
	DOUBLE SUCTION
DV	DOUBLE DUCT VAV
DW	DISHWASHER
DWG	DRAWING
DWH	DOMESTIC WATER HEATER
DWP	DOMESTIC WATER PUMP
DX	DIRECT EXPANSION

E

ABBREVIATION	DESCRIPTION
(E)	EXISTING
EA	EACH
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRICAL CONTRACTOR
ECC	ECCENTRIC
EDB	ENTERING DRY BULB
EDF	ELECTRIC DRINKING FOUNTAIN
EDH	ELECTRIC DUCT HEATER
EDR	EFFECTIVE DIRECT RADIATION
EER	ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
EFF	EFFICIENCY
EJ	EXPANSION JOINT
EL	ELEVATION
EMRG	EMERGENCY
ENCL	ENCLOSURE
ENGR	ENGINEER
ENT	ENTERING
ES	END SUCTION
	EMERGENCY SHOWER
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
ETR	EXISTING TO REMAIN
EVAP	EVAPORATOR
EWB	ENTERING WET BULB
EWT	ENTERING WATER TEMPERATURE
EX	EXPLOSION PROOF
EXT	EXTERNAL
EXTG	EXISTING

F

ABBREVIATION	DESCRIPTION
F	DEGREE FAHRENHEIT
FCO	FURNISHED BY OTHERS
FCO	FLOOR CLEAN OUT
FCS	FLOOR CONTROL SWITCH
FCU	FAN COIL UNIT
FD	FLOOR DRAIN
	FIRE DAMPER
FDS	FIRE DEPARTMENT SIAMESE
FDV	FIRE DEPARTMENT VALVE
FG	FIBERGLASS
FF	FINAL FILTER
FH	FIRE HYDRANT
FHC	FIRE HOSE CABINET
FHR	FIRE HOSE RACK
FIXT	FIXTURE
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE
FL	FLOW LINES
FLR	FLOOR
FP	FAN POWERED MIXING BOX
	FIRE PUMP
FPI	FINS PER INCH
FPM	FEET PER MINUTE
FRIC	FRICTION
FRZR	FREEZER
FS	FLOW SWITCH
	FIRE SPRINKLER
FSK	FLOOR SINK
FT	FOOT
	FEET
FT WC	FEET, WATER COLUMN
FUT	FUTURE

G

ABBREVIATION	DESCRIPTION
G	GAS
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GLV	GLOBE VALVE
GND	GROUND
GPD	GALLONS PER DAY
GPM	GALLONS PER MINUTE
GSH	GRAND SENSIBLE HEAT
GV	GATE VALVE

H

ABBREVIATION	DESCRIPTION
HB	HOSE BIBB
HC	HEATING COIL
HD	HEAD
	HUB DRAIN
HF	HUMIDIFIER
HORIZ	HORIZONTAL
HP	HORSEPOWER
	HALON PANEL
HPU	HEAT PUMP UNIT
HKP	HOUSEKEEPING PAD
HSC	HORIZONTAL SPLIT CASE
HSTAT	HUMIDISTAT
HT	HEIGHT
HTG	HEATING
HTR	HEATER
HU	HUMIDIFIER SECTION
HW	HOT WATER
HWC	HOT WATER CIRCULATOR
HWP	HOT WATER PUMP
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
HX	HEAT EXCHANGER
HZ	HERTZ

I

ABBREVIATION	DESCRIPTION
ID	INSIDE DIAMTER
IE	INVERT ELEVATION
IH	INFRARED HEATER
IN	INCH
IN WC	INCH, WATER COLUMN
INSUL	INSULATION
INT	INTERNAL
	INTERIOR
IW	INDIRECT WASTE

J

ABBREVIATION	DESCRIPTION
JB	JUNCTION BOX
JP	JOCKEY PUMP

K

ABBREVIATION	DESCRIPTION
KEC	KITCHEN EQUIPMENT CONTRACTOR
KO	KNOCKOUT
KVA	KILOVOLT AMPS
KW	KILOWATT

L

ABBREVIATION	DESCRIPTION
L	LENGTH
LAT	LEAVING AIR TEMPERATURE
LAV	LAVATORY
LBS	POUNDS
LBS/HR	POUNDS PER HOUR
LF	LINEAR FEET
LP	LOW PRESSURE
LRA	LOCKED ROTOR AMPS
LVG	LEAVING
LVL	LEVEL
LWB	LEAVING WET BULB
LWCO	LOW WATER CUT OFF
LWT	LEAVING WATER TEMPERATURE

M

ABBREVIATION	DESCRIPTION
MA	MAKE-UP AIR
MAT	MIXED AIR TEMPERATURE
MAX	MAXIMUM
MBH	THOUSAND BTUH
MC	MECHANICAL CONTRACTOR
MCA	MINIMUM CIRCUIT AMPACITY
MCC	MOTOR CONTROL CENTER
MECH	MECHANICAL
MFR	MANUFACTURER
MH	MANHOLE
MI	MALLEABLE IRON
MIN	MINIMUM
MOCP	MAXIMUM OVER CURRENT PROTECTION
MP	MEDIUM PRESSURE
MS	MOP SINK
MTD	MOUNTED
MTL	METAL
MU	MAKE-UP
MUA	MAKE-UP AIR UNIT
MVD	MANUAL VOLUME DAMPER

N

ABBREVIATION	DESCRIPTION
(N)	NEW
NC	NORMALLY CLOSED
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NO	NUMBER
NTS	NOT TO SCALE

O

ABBREVIATION	DESCRIPTION
OA	OUTSIDE AIR
OAF	OUTSIDE AIR FAN
OAHU	OUTSIDE AIR HANDLING UNIT
OBD	OPPOSED BLADE DAMPER
OC	ON CENTER
OD	OUTSIDE DIAMETER
	OVERFLOW DRAIN
OFCU	OUTSIDE AIR FAN COIL UNIT
OPG	OPENING
OS&Y	OPEN STEM AND YOLK

P

ABBREVIATION	DESCRIPTION
P	PUMP
	PLUMBING EQUIPMENT
PC	PLUMBING CONTRACTOR
PCR	PUMPED CONDENSATE RETURN
PD	PRESSURE DROP
	PLANTER DRAIN
PF	PRE-FILTER
PH	PHASE
	POST HYDRANT
PIV	POST INDICATOR VALVE
PLBG	PLUMBING
PNEU	PNEUMATIC
PNL	PANEL
PNTH	PENTHOUSE
PP	POLYPROPYLENE
PPM	PARTS PER MILLION
PRESS	PRESSURE
PRI	PRIMARY
PRS	PRIMARY REDUCING STATION
PRV	PRESSURE REDUCING VALVE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH, GAUGE
PT	PLUMBING TRIM
PV	PLUG VALVE
PVC	POLYVINYL CHLORIDE
PWL	SOUND POWER LEVEL

Q

ABBREVIATION	DESCRIPTION
QTY	QUANTITY

R

ABBREVIATION	DESCRIPTION
(R)	REMOVE
	RELOCATE
RA	RETURN AIR
RAD	REFRIGERATED AIR DRYER
RAF	RETURN AIR FAN
RAG	RETURN AIR GRILLE
RAT	RETURN AIR TEMPERATURE
RCP	REFLECTED CEILING PLAN
	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
RE	REFERENCE
	REFER
RECIRC	RECIRCULATE
RED	REDUCER
REFR	REFRIGERATOR
REG	REGISTER
REINF	REINFORCING
REQD	REQUIRED
REV	REVISION
	REVISE
RF	RETURN FAN
RH	RELATIVE HUMIDITY
RHG	REFRIGERANT HOT GAS
RKVA	RUNNING KILOVOLT AMPS
RKW	RUNNING KILOWATTS
RL	REFRIGERANT LIQUID
RLA	RUNNING LOAD AMPS
RM	ROOM
	REFRIGERANT MACHINE
RPM	REVOLUTIONS PER MINUTE
RS	REFRIGERANT SUCTION
RTU	ROOFTOP UNIT
RV	RELIEF VALVE

S

ABBREVIATION	DESCRIPTION
SA	SUPPLY AIR
SAF	SUPPLY AIR FAN
SAG	SUPPLY AIR GRILLE
SAN	SANITARY SEWER
SAR	SUPPLY AIR REGISTER
SCHED	SCHEDULE
SCFM	STANDARD AIR CUBIC FEET PER MINUTE
SCR	SILICON CONTROLLED RECTIFIER
SD	STORM DRAIN
SE	SEWAGE EJECTOR
SEC	SECONDARY
SECT	SECTION
SENS	SENSIBLE
SF	SQUARE FEET
SFCS	SPRINKLER FLOOR CONTROL STATION
SH	SHOWER
SHT	SHEET
SIM	SIMILAR
SK	SINK
SKVA	STARTING KILOVOLT AMPS
SKW	STARTING KILOWATTS
SM	SHEET METAL
SP	STATIC PRESSURE
	SUMP PUMP
SPEC	SPECIFICATION
SPR	SPRINKLER
SQ	SQUARE
SS	STAINLESS STEEL
	SERVICE SINK
SSD	SUBSURFACE DRAIN
SSFU	SANITARY SEWER FIXTURE UNITS
SSSC	SOLID STATE SPEED CONTROL
STD	STANDARD
STL	STEEL
STR	STRAINER
SURF	SURFACE
SUSP	SUSPEND
SV	SANITARY VENT
ST	SOUND TRAP

T

ABBREVIATION	DESCRIPTION
TC	TEMPERATURE CONTROL
TD	TRENCH DRAIN
TDH	TOTAL DYNAMIC HEAD
TF	TRANSFER FAN
TG	TRANSFER GRILLE
TH BLK	THRUST BLOCK
TOD	TOP OF DUCT (AFF)
TOP	TOP OF PIPE (AFF)
TP	TRAP PRIMER
TPD	TRAP PRIMER DEVICE
TSP	TOTAL STATIC PRESSURE
TSTAT	THERMOSTAT
TYP	TYPICAL

U

ABBREVIATION	DESCRIPTION
U	URINAL
U/F	UNDERFLOOR
U/S	UNDERSLAB
UCD	UNDERCUT DOOR
UG	UNDERGROUND
UH	UNIT HEATER
UL	UNDERWRITERS LABORATORIES
UNO	UNLESS NOTED OTHERWISE
UTR	UP THROUGH ROOF

V

ABBREVIATION	DESCRIPTION
V	VOLT, VENT
VA	VOLT-AMPERE
VAC	VACUUM
VAV	VARIABLE AIR VOLUME
VB	VALVE BOX
	VACUUM BREAKER
VCP	VITRIFIED CLAY PIPE
VD	VOLUME DAMPER
VEL	VELOCITY
VERT	VERTICAL
VFD	VARIABLE FREUENCY DRIVE
VIB	VALVE IN BOX
VOV	VALVE ON VERTICAL
VP	VACUUM PUMP
VR	VARIABLE AIR VOLUME REHEAT
VSD	VARIABLE SPEED DRIVE
VTR	VENT THROUGH ROOF

W

ABBREVIATION	DESCRIPTION
W	WATT, WASTE, WIDTH
W/	WITH
W/O	WITHOUT
WB	WETBULB
WC	WATER CLOSET
WCO	WALL CLEANOUT
WF	WATER FILTER
WH	WALL HYDRANT
WM	WATER METER
WP	WEATHERPROOF
WPD	WATER PRESSURE DROP
WWF	WELDED WIRE FABRIC
WT	WATER TIGHT
	WEIGHT

Y

ABBREVIATION	DESCRIPTION
Y	YARD HYDRANT

Z

ABBREVIATION	DESCRIPTION
Z	ZONE

Steamboat
ALTERRA MOUNTAIN COMPANY east west partners

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Golden, CO
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△ Date	Description
- 2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT

RCRBD
Record Set
TC
06/29/2021

Seal / Signature

COLORADO LICENSED MATTHEW E. EDWARDS 56806 PROFESSIONAL ENGINEER

05/18/2021

Project Name

SSRC | BASE AREA IMPROVEMENTS

Project Number

003.7835.000

Description

GOLD WALK - MECHANICAL LEGEND

Scale

1/8" = 1'-0"

1B-M0.000

GENERAL MECHANICAL CONTRACT REQUIREMENTS:

GENERAL:

1. UNLESS OTHERWISE NOTED, THE WORK DESCRIBED ON THE PLANS AND SPECIFICATIONS SHALL INCLUDE THE FURNISHING AND INSTALLATION OF ALL LABOR AND MATERIALS NECESSARY FOR COMPLETE AND OPERATIONAL HVAC, FIRE PROTECTION AND PLUMBING SYSTEMS. CONTRACTOR SHALL FURNISH THESE EVEN IF ITEMS REQUIRED TO ACHIEVE THIS (I.E. OFFSETS, ISOLATION AND BALANCING DEVICES, MAINTENANCE CLEARANCES, ETC.) ARE NOT SPECIFICALLY SHOWN.

2. DATA GIVEN ON THE DRAWINGS IS AS EXACT AS COULD BE SECURED. ABSOLUTE ACCURACY IS NOT GUARANTEED AND THE CONTRACTOR SHALL OBTAIN AND VERIFY EXACT LOCATIONS, MEASUREMENTS, LEVELS, SPACE REQUIREMENTS, POTENTIAL CONFLICTS WITH OTHER TRADES, ETC. AT THE SITE AND SHALL SATISFACTORILY ADAPT HIS WORK TO THE ACTUAL CONDITIONS OF THE JOB.

3. THE DRAWINGS ARE DIAGRAMMATICAL IN NATURE AND SHALL NOT BE SCALED. THEY SHOW CERTAIN PHYSICAL RELATIONSHIPS WHICH MUST BE ESTABLISHED WITHIN THE DIVISION 21,22 AND 23 WORK AND ITS INTERFACE WITH OTHER WORK. ESTABLISHING THIS RELATIONSHIP IN THE FIELD IS THE EXCLUSIVE RESPONSIBILITY OF THE CONTRACTOR. THIS DIVISION SHALL COORDINATE ITS WORK WITH ALL DIVISIONS OF THE WORK AND ADJUST ITS WORK AS REQUIRED BY THE ACTUAL CONDITIONS OF THE PROJECT.

   A. THE CONTRACTOR SHALL VISIT THE SITE BEFORE SUBMITTING A BID TO BECOME THOROUGHLY FAMILIAR WITH THE ACTUAL CONDITIONS OF THE PROJECT. NO EXTRAS WILL BE ALLOWED DUE TO LACK OF KNOWLEDGE OF EXISTING CONDITIONS.

   B. CERTAIN SYSTEMS REQUIRE ENGINEERING OF INSTALLATION DETAILS BY CONTRACTOR. UNLESS FULLY DETAILED IN THE CONTRACT DOCUMENTS, SUCH ENGINEERING IS THE EXCLUSIVE RESPONSIBILITY OF THE CONTRACTOR.

   C. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE WHERE CLEARANCES ARE LIMITED, AND WHERE INSTALLATION DRAWINGS OR SCHEMATICS, "CONSTRUCTION DRAWINGS", OR COORDINATION DRAWINGS MAY BE REQUIRED IN ACCORDANCE WITH, OR IN EXCESS OF, THOSE REQUIRED BY THE SPECIFICATIONS. THE CONTRACTOR SHALL PREPARE ALL SUCH COORDINATION DRAWINGS AS PART OF THE BASE CONTRACT. SUCH DRAWINGS MAY BE SUBMITTED TO THE ARCHITECT/ENGINEER FOR RECORD AND COMMENT. ANY WORK INSTALLED WITHOUT APPROVED COORDINATION DRAWINGS IS DONE AT THE CONTRACTOR'S RISK.

4. THESE NOTES ONLY SUPPLEMENT, AND DO NOT REPLACE, THE SPECIFICATIONS.

5. DEFINITIONS AND TERMINOLOGY

   A. THE DEFINITIONS OF DIVISION 1 AND THE GENERAL CONDITIONS OF THIS SPECIFICATION ALSO APPLY TO THE DIVISION 21,22 AND 23 CONTRACT DOCUMENTS.

   B. "CONTRACT DOCUMENTS" CONSTITUTE THE DRAWINGS, SPECIFICATIONS, GENERAL CONDITIONS, PROJECT MANUALS, ETC., PREPARED BY ENGINEER (OR OTHER DESIGN PROFESSIONAL IN ASSOCIATION WITH ENGINEER) FOR CONTRACTOR'S BID OR CONTRACTOR'S NEGOTIATIONS WITH THE OWNER. THE DIVISION 21,22 AND 23 DRAWINGS AND SPECIFICATIONS PREPARED BY THE ENGINEER ARE NOT CONSTRUCTION DOCUMENTS.

   C. "CONSTRUCTION DOCUMENTS", "CONSTRUCTION DRAWINGS", AND SIMILAR TERMS FOR DIVISION 21,22 AND 23 WORK REFER TO INSTALLATION DIAGRAMS, SHOP DRAWINGS AND COORDINATION DRAWINGS PREPARED BY THE CONTRACTOR USING THE DESIGN INTENT INDICATED ON THE ENGINEER'S CONTRACT DOCUMENTS. THESE SPECIFICATIONS DETAIL THE CONTRACTOR'S RESPONSIBILITY FOR "ENGINEERING BY CONTRACTOR" AND FOR PREPARATION OF CONSTRUCTION DOCUMENTS.

   D. "(N)" INDICATES "NEW" EQUIPMENT TO BE PROVIDED UNDER THIS CONTRACT.

   E. "(E)" INDICATES "EXISTING" EQUIPMENT ON SITE WHICH MAY OR MAY NOT NEED TO BE RELOCATED AS A PART OF THIS WORK.

   F. "(R)" INDICATES EXISTING EQUIPMENT TO BE RELOCATED AS PART OF THIS WORK.

   G. "FURNISH" MEANS TO "SUPPLY" AND USUALLY REFERS TO AN ITEM OF EQUIPMENT.

   H. "INSTALL" MEANS TO "SET IN PLACE, CONNECT AND PLACE IN FULL OPERATIONAL ORDER".

   I. "PROVIDE" MEANS TO "FURNISH AND INSTALL".

   J. "EQUIVALENT" MEANS "MEETS THE SPECIFICATIONS OF THE REFERENCE PRODUCT OR ITEM IN ALL SIGNIFICANT ASPECTS." SIGNIFICANT ASPECTS SHALL BE AS DETERMINED BY THE ARCHITECT/ENGINEER.

   K. "WORK BY OTHER(S) DIVISIONS"; "RE: XX DIVISION", AND SIMILAR EXPRESSIONS MEANS WORK TO BE PERFORMED UNDER THE CONTRACT DOCUMENTS, BUT NOT NECESSARILY UNDER THE DIVISION OR SECTION OF THE WORK ON WHICH THE NOTE APPEARS. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO COORDINATE THE WORK OF THE CONTRACT BETWEEN HIS/HER SUPPLIERS, SUBCONTRACTORS AND EMPLOYEES. IF CLARIFICATION IS REQUIRED, CONSULT ARCHITECT/ENGINEER BEFORE SUBMITTING BID.

   L. BY INFERENCE, ANY REFERENCE TO A "CONTRACTOR" OR "SUB-CONTRACTOR" MEANS THE ENTITY WHICH HAS CONTRACTED WITH THE OWNER FOR THE WORK OF THE CONTRACT DOCUMENTS.

   M. "ENGINEER" MEANS THE DESIGN PROFESSIONAL FIRM WHICH HAS PREPARED THESE CONTRACT DOCUMENTS. ALL QUESTIONS, SUBMITTALS, ETC. OF THIS DIVISION SHALL BE ROUTED THROUGH THE ARCHITECT TO THE ENGINEER (THROUGH PROPER CONTRACTUAL CHANNELS).

EXISTING BUILDING:

1. THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT THE EXISTING BUILDING WILL BE OCCUPIED BY THE OWNER DURING CONSTRUCTION. CONTINUED OPERATION OF THE FACILITY SHALL NOT BE HINDERED BY THIS WORK. THE CONTRACTOR SHALL ACCOUNT FOR ALL ADDITIONAL COSTS WHICH MAY BE INCURRED BY HIM DUE TO THE DIFFICULTY OF WORKING OVER AND AROUND EMPLOYEES, DESKS, EQUIPMENT, ETC.; AND DUE TO THE HOURS OF THE DAY IN WHICH AN AREA MAY BE AVAILABLE WHEN SUBMITTING HIS BID.

2. MAINTAIN A MARK-UP SET OF DRAWINGS WHICH INDICATE VARIATIONS IN THE ACTUAL INSTALLATION FROM THE ORIGINAL DESIGN. SURRENDER DRAWINGS TO OWNER UPON COMPLETION.

3. ALL CAPACITIES ARE SCHEDULED AT JOBSITE ALTITUDE OF 6700 FT. ABOVE SEA LEVEL.

4. COORDINATE ALL PENETRATIONS OF THE FLOOR SLAB AND CONCRETE WALL PRIOR TO COMMENCING WORK UTILIZE X-RAY AND VISUAL INVESTIGATION OF EXISTING CONDITIONS AS REQUIRED PRIOR TO DRILLING OR CUTTING. COORDINATE ALL NEW PENETRATIONS WITH OTHER DIVISIONS OF THE WORK. ALL CONTRACTORS ARE INDIVIDUALLY RESPONSIBLE FOR ALL PENETRATIONS REQUIRED BY THEIR DIVISIONS.

ELECTRICAL COORDINATION:

1. VERIFY THE ELECTRICAL SERVICE PROVIDED BY THE ELECTRICAL CONTRACTOR BEFORE ORDERING ANY MECHANICAL EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS.

2. PROVIDE PREMIUM EFFICIENCY MOTORS WITH 1.15 SERVICE FACTOR ON ALL EQUIPMENT, MOTORS SHALL BE CAPABLE OF OPERATING CONTINUOUSLY AT 105°F UNDER JOBSITE CONDITIONS AND ALTITUDE.

3. UNLESS NOTED OTHERWISE, ALL MECHANICAL EQUIPMENT SHALL BE PROVIDED WITH HOA SWITCH AND STARTER COMPATIBLE WITH EQUIPMENT AND BMS SYSTEM. STARTERS SHALL BE PROVIDED BY DIVISION 21,22 AND 23 UNLESS IN A MOTOR CONTROL CENTER. ALL DISCONNECTS SHALL BE FURNISHED BY DIVISION 26.

4. THE ELECTRICAL POWER FOR CERTAIN EQUIPMENT PROVIDED UNDER DIVISION 21,22 AND 23 HAS NOT BEEN SPECIFICALLY INDICATED ON THE ELECTRICAL DRAWINGS AND MUST BE PROVIDED BY AND FIELD COORDINATED BY THE DIVISION 21,22 AND 23 TRADE REQUIRING SUCH POWER.

   SUFFICIENT POWER FOR THIS PURPOSE SHALL BE FURNISHED AS "SPARE", DEDICATED CIRCUIT CAPACITY IN DIVISION 26'S PANELBOARDS. ALL WIRING, CONDUIT AND ELECTRICAL DEVICES DOWNSTREAM OF THE PANELBOARDS IS THE RESPONSIBILITY OF THE DIVISION 21,22 AND 23 TRADE REQUIRING THE POWER UNLESS OTHERWISE SHOWN ON THE ELECTRICAL DRAWINGS.

   SUCH EQUIPMENT IS HEREBY DEFINED AS:

   A. ELECTRICAL HEAT TRACE. REQUIRED HEAT TRACE LOCATIONS, CAPACITIES AND SPECIFICATION ARE SHOWN OR INDICATED ON THE DRAWINGS. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

   B. FIRE PROTECTION AIR COMPRESSORS, DRY-PIPE CONTROL PANELS AND VALVES. REQUIRED CONNECTIONS ARE INCLUDED IN THE DIVISION 21 WORK, AND WILL BE SHOWN BY THAT CONTRACTOR'S ENGINEERED SYSTEM DESIGN DRAWINGS.

      (1) PRE-ACTION SYSTEM INITIATION SIGNALS (SUCH AS SMOKE DETECTORS, OR GENERAL ALARM CONDITIONS IN A PRE-ACTION ZONE) SHALL BE PROVIDED UNDER DIVISION 28 FIRE-ALARM WORK.

      (2) DIVISION 21 SHALL PROVIDE PRE-ACTION CONTROL PANEL AND INTERCONNECTION BETWEEN NEAREST SUITABLE FIRE ALARM PANEL AND LOCATION OF PRE-ACTION VALVE(S).

      (3) DIVISION 28 SHALL PROVIDE INTERCONNECTION BETWEEN FIRE COMMAND CENTER ALARM PANEL (PROVIDED UNDER DIVISION 28) AND REMOTE COMMUNICATION FIRE ALARM PANEL (PROVIDED UNDER DIVISION 28).

   C. TEMPERATURE CONTROL PANELS, CONTROL AIR COMPRESSORS AND LINE VOLTAGE POWER FOR 24V CONTROL TRANSFORMERS. REQUIRED CONNECTION ARE INCLUDED IN DIVISION 230900 AND WILL BE SHOWN BY THAT CONTRACTOR'S CONTROL SUBMITTAL DRAWINGS.

   D. IT IS NOT PERMISSIBLE TO UTILIZE "SPARE" POWER FROM ADJACENT POWER CIRCUITS TO SERVE ANY OF THE ABOVE LOADS. ALL POWER MUST COME FROM DEDICATED CIRCUITS.

5. SMOKE DETECTORS:

   FOR AIR HANDLING UNITS AND AIR SYSTEMS WITH A CAPACITY EXCEEDING 2000 CFM, PROVIDE UL LISTED SMOKE DETECTORS IN RETURN AIR SYSTEMS IN ACCORDANCE WITH THE INTERNATIONAL MECHANICAL CODE AND ELSEWHERE AS SHOWN ON THE DRAWINGS.

   SMOKE DETECTORS WILL BE FURNISHED AND SET IN PLACE UNDER THIS DIVISION. DETECTORS WILL BE WIRED UNDER DIVISION 28. SMOKE DETECTORS MUST BE OF THE SAME MANUFACTURER, AND COMPATIBLE WITH THE FIRE FLARM SYSTEM PROVIDED UNDER DIVISION 28 (IF APPLICABLE).

   CONNECT RELAY(S) TO FAN CONTROL CIRCUIT TO STOP FAN WHEN SMOKE IS DETECTED.

   INSTALLATION:

1. SUSPEND EACH TRADE'S WORK SEPARATELY FROM THE STRUCTURE. DUCTWORK SHALL BE HELD TIGHT TO STRUCTURE EXCEPT WHERE OTHERWISE SHOWN.

2. INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY INDICATED OTHERWISE OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.

3. PROVIDE MANUFACTURER'S RECOMMENDED SERVICE CLEARANCE AROUND ALL EQUIPMENT REQUIRING SAME.

4. PROVIDE FOR SAFE CONDUCT OF THE WORK, CAREFUL REMOVAL AND DISPOSITION OF MATERIALS AND PROTECTION OF PROPERTY WHICH IS TO REMAIN UNDISTURBED.

5. PROVIDE ACCESS DOORS FOR ALL EQUIPMENT, VALVES, CLEANOUTS, ACTUATORS AND CONTROLS WHICH REQUIRE ACCESS FOR ADJUSTMENT OR SERVICING AND WHICH ARE LOCATED IN OTHERWISE INACCESSIBLE LOCATIONS.

   A. FOR EQUIPMENT LOCATED IN "ACCESSIBLE LOCATIONS" SUCH AS LAY-IN CEILINGS: LOCATE EQUIPMENT TO PROVIDE ADEQUATE SERVICE CLEARANCE FOR NORMAL MAINTENANCE WITHOUT REMOVING ARCHITECTURAL, ELECTRICAL OR STRUCTURAL ELEMENTS SUCH AS THE CEILING SUPPORT SYSTEM, ELECTRICAL FIXTURES, ETC. "NORMAL MAINTENANCE" INCLUDES, BUT IS NOT LIMITED TO FILTER CHANGING; GREASING OF BEARINGS; USING P/T PORTS FOR PRESSURE OR TEMPERATURE MEASUREMENTS; SERVICING CONTROL VALVES AND SERVICING CONTROL PANELS.

6. ISOLATE ALL PRESSURIZED PIPE (WATER, ETC.) AT EACH RISER, BRANCH, PIECE OF EQUIPMENT, AND AREA SERVED.

7. PROVIDE TRAP GUARDS OR PRIMERS FOR ALL FLOOR DRAINS AND FLOOR SINKS SHOWN ON DRAWINGS. PRIMERS MAY BE CONNECTED TO FLUSH FIXTURES OR BE STAND ALONE. SEE SPECIFICATIONS.

8. NO DOMESTIC WATER, CHILLED WATER, OR HEATING WATER LINES SHALL BE LOCATED EXPOSED IN FINISHED SPACES OR BELOW THE BUILDING SLAB UNLESS SHOWN OTHERWISE ON THE DRAWINGS.

9. NO GAS LINES SHALL BE LOCATED BELOW BUILDING SLAB.

10. ALL CURBS, ROOF JACKS, ROOF THIMBLES, SANITARY VENTS, ROOF DRAINS, ETC. SHALL BE COMPATIBLE WITH ROOFING SYSTEM TO BE PROVIDED. REFERENCE ARCHITECTURAL DIVISION FOR REQUIRED FLASHING DETAILS.

11. MECHANICAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL CONCRETE EQUIPMENT PAD DIMENSIONS, BASED ON THE FINAL EQUIPMENT SELECTION, TO THE STRUCTURAL AND GENERAL CONTRACTOR FOR INCLUSION IN THOSE CONTRACTOR'S WORK AS DESCRIBED BY THE GENERAL CONTRACTOR.

12. WARRANTY: AT A MINIMUM, THE ENTIRE MECHANICAL SYSTEM SHALL BE WARRANTED AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR AFTER ACCEPTANCE OF THE SYSTEM BY THE OWNER. REFER TO INDIVIDUAL SPECIFICATION SECTIONS FOR SPECIFIC WARRANTY REQUIREMENTS.

DUCTWORK INSTALLATION:

1. SEAL ALL SEAMS (LONGITUDINAL AND TRANSVERSE) AIR TIGHT WITH SEALANT PER SPECIFICATIONS.

2. DUCT DIMENSIONS ARE INSIDE CLEAR.

3. DIFFUSER NECK SIZE IS SAME AS FLEXIBLE DUCT SIZE.

4. UNLESS OTHERWISE NOTED, ALL CHANGES IN DIRECTION SHALL BE MADE WITH RADIUS ELBOWS WITH RADIUS TO CENTERLINE EQUAL TO 1.5 DUCT WIDTH.

5. WHERE REQUIRED FOR SPACE CONSTRAINTS, PROVIDE MITERED ELBOWS WITH TURNING VANES AS FOLLOWS:

   A. FOR DUCT WIDTHS OF 36" OR LESS, PROVIDE MANUFACTURED SINGLE WIDTH TURNING VANES, WITH NO TRAILING EDGES AND SPACING IN ACCORDANCE WITH SMACNA DUCT CONSTRUCTION STANDARDS FOR "STANDARD SPACING".

   B. USE DOUBLE THICKNESS (AIRFOIL) BLADES WITHOUT TRAILING EDGES FOR DUCT WIDTHS GREATER THAN 36".

6. ALL FLEXIBLE DUCTS SHALL NOT BE LESS THAN 4', OR MORE THAN 10' IN LENGTH. INSTALL FLEXIBLE DUCTWORK SUCH THAT:

   A. MINIMUM OVERALL LENGTH OF 3D, STRAIGHT INTO NECK OF DIFFUSER.

   B. MAXIMUM OF 135° OF TOTAL TURNING IN ENTIRE LENGTH OF FLEXIBLE DUCT.

   C. MINIMUM TURNING RADIUM OF R = 1.5D.

   D. WHERE:
   * D = FLEXIBLE DUCT DIAMETER
   * R = RADIUS OF TURN AS MEASURED TO CENTERLINE OF DUCT.

7. BRANCH LINES:

   A. MAKE ALL TAPS TO ROUND DUCTWORK WITH CONICAL TEES.

   B. MAKE ALL TAPS TO RECTANGLE DUCTWORK WITH 45° ENTRY OR CONICAL SPIN IN TO ROUND.

   C. INCLUDE DAMPERS AT ALL BRANCH LINES.

9. DUCT SIZES NOT CALLED OUT SHALL BE DETERMINED BASED ON 0.08" S.P. LOSS OR LESS PER 100 FT. OF LENGTH.

10. ASSUME ROUND OR OVAL DUCTS IN EXPOSED AREAS.

11. INCLUDE DAMPERS AT ALL BRANCH LINES, WHERE SHOWN ON THE DRAWINGS, AND WHERE OTHERWISE REQUIRED FOR BALANCING.

PIPE INSTALLATION:

1. ALL PIPING SHALL BE ADEQUATELY SUPPORTED FROM THE BUILDING STRUCTURE TO PREVENT SAGGING, POCKETING, SWAYING OR DISPLACEMENT BY MEANS OF HANGERS AND SUPPORTS. PIPING IS NOT TO BE SUPPORTED BY EQUIPMENT.

2. PROVIDE DIELECTRIC UNIONS BETWEEN DISSIMILAR MATERIALS.

3. PROVIDE MANUAL AIR VENTS AND CAPPED HOSE-END DRAINS WITH ISOLATION VALVES AT PIPING HIGH AND LOW POINTS.

4. WELD PIPE IN ACCORDANCE WITH APPLICABLE CODES AND STANDARDS. WELDERS SHALL BE CERTIFIED FOR TYPE OF WORK BEING PERFORMED.

5. FLUSH OUT PIPING AND REMOVE CONTROL DEVICES BEFORE PERFORMING PRESSURE TEST. DO NOT USE PIPING SYSTEM VALVES TO ISOLATE SECTIONS WHERE TEST PRESSURE EXCEEDS VALVE PRESSURE RATING. PRESSURIZE PIPING AT 100 PSIG. IF LEAKAGE IS OBSERVED OR IF TEMPERATURE COMPENSATED PRESSURE DROP EXCEEDS 1% OF TEST PRESSURE, REPAIR LEAKS AND RETEST. DO NOT USE AIR PRESSURE TO TEST PLASTIC PIPE.

6. PROVIDE SUPPORT UNDER ELBOWS ON PUMP SUCTION AND DISCHARGE LINES.

7. ALL STRAINERS SHALL BE FURNISHED WITH A "ROUGHING" SCREEN AND TWO (2) SCREENS FOR NORMAL OPERATION. INSTALL STRAINER WITH ROUGHING SCREEN AND OPERATE SYSTEM FOR 24 HOURS MINIMUM (RUN DOMESTIC WATER SYSTEMS AT MAX FLOW FOR A MINIMUM OF ONE HALF (1/2) HOUR. REMOVE ROUGHING SCREEN AND INSTALL NORMAL SCREEN, AFTER TWO WEEKS OF NORMAL OPERATION INSTALL NEW NORMAL SCREEN.

8. PIPING SIZES SHALL BE BASED ON 2' OR LESS HEAD LOSS PER 100 FEET OF LENGTH. VELOCITIES SHALL NOT EXCEED 10 FEET PER SECOND.

9. INSTALL ALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHIN THE PIPING SYSTEM. ENSURE ALL REQUIRED PIPE EXPANSION WILL OCCUR IN THE PROPER DIRECTION AND SEGMENT OF PIPE. PROPERLY ANCHOR (RE: SPECIFICATIONS) ALL PIPING REQUIRING EXPANSION/CONTRACTION ISOLATION. COORDINATE PIPE EXPANSION/CONTRACTION TO PREVENT DAMAGE TO ANY AND ALL BUILDING COMPONENTS.

10. PROVIDE ISOLATION VALVES AT EVERY HYDRONIC BRANCH LINE.

CONDENSATE DRAINAGE:

1. PROVIDE CONDENSATE DRAINAGE FOR ALL COOLING COILS AND OVERFLOW PANS.

2. ROUTE CONDENSATE PIPING, FULL SIZE OF DRIP PAN CONNECTION, TO NEAREST CODE APPROVED RECEPTACLE. INSULATE WHERE LOCATED ABOVE FINISHED CEILINGS.

CUTTING, PATCHING AND DEMOLITION:

1. KEEP DEMOLITION & CUTTING TO MINIMUM REQUIRED FOR PROPER EXECUTION OF WORK.

2. BE RESPONSIBLE FOR ALL CUTTING AND PATCHING NECESSARY FOR THE COMPLETION OF THE WORK.

3. NO CUTTING (NOT SHOWN ON THE CONTRACT DOCUMENTS) SHALL BE DONE WITHOUT THE APPROVAL OF THE ARCHITECT AS TO LOCATIONS, METHOD AND EXTENT OF THE CUTTING.

4. REPAIR ALL ACCIDENTAL OR INTENTIONAL DAMAGE TO MATCH EXISTING CONSTRUCTION WITH NO NOTICEABLE DIFFERENCE IN CONTINUITY, APPEARANCE OR FUNCTION.

5. ALL "CAPPED" SANITARY AND VENT LINES SHALL BE RECONNECTED OR RE-ROUTED AS NECESSARY TO PREVENT "DEAD-ENDS" IN THE PIPING. ALL PIPING SHALL DRAIN TO ACTIVE SANITARY WASTE LINES AND ALL BRANCHES WITH TRAPS SHALL BE ADEQUATELY VENTED.

GENERAL PLUMBING CONTRACT REQUIREMENTS:

1. THE GENERAL MECHANICAL REQUIREMENTS PERTAIN TO THE WORK OF THIS DIVISION.

2. PREPARE SHOP DRAWINGS OF ALL NEW WORK (INCLUDING SLEEVE LOCATIONS) TO VERIFY LOCATIONS AND COORDINATION OF WORK BETWEEN TRADES PRIOR TO INSTALLATION.

3. ALL DRAIN GRATES, CLEANOUT COVERS, AND OTHER FINISHED, EXPOSED COMPONENTS SHALL BE PROTECTED FROM DAMAGE. DAMAGED COMPONENTS SHALL BE REPLACED BY CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT.

4. COORDINATE ROUTING OF ALL PLUMBING PIPING BELOW SLAB WITH STRUCTURAL GRADE BEAMS, TIE BEAMS, ETC. ALLOW FOR REROUTING OF PIPING AS REQUIRED.

5. ALL REQUIRED OPENINGS IN CONCRETE BEAMS AND STRUCTURAL WALLS ARE TO BE ACCOMPLISHED USING SLEEVES PROPERLY SIZED FOR THE PIPE THEY SERVE. CORE DRILLING IN BEAMS IS NOT ALLOWED. CORE DRILLING IN PANS IS ALLOWED UPON PRIOR APPROVAL OF ARCHITECT AND STRUCTURAL ENGINEER.

6. HORIZONTAL STORM AND SANITARY PIPING SHALL RUN AT A SLOPE OF 1/4" PER FOOT MINIMUM FOR 3" AND SMALLER PIPING. 4" AND LARGER PIPING SHALL RUN AT 1/8" PER FOOT MINIMUM.

7. NO DOMESTIC WATER LINES SHALL BE LOCATED EXPOSED IN FINISHED SPACES OR BELOW THE BUILDING SLAB UNLESS SHOWN OTHERWISE ON THE DRAWINGS.

8. WHERE SHOWN, MINIMIZE THE NUMBER OF JOINTS ON ANY PRESSURIZED PIPING BELOW CONCRETE SLABS. ALL BELOW GRADE PIPING TO BE PRESSURE TESTED AND WITNESSED BY ARCHITECT BEFORE BACKFILLING.

9. ALL CLEANOUTS FOR HORIZONTAL STORM DRAINAGE SYSTEM SHALL BE PIPE SIZE OR MAXIMUM 6" FOR LARGER PIPE.

10. IN ADDITION TO THE CLEANOUT LOCATIONS SHOWN ON DRAWINGS, PROVIDE ADDITIONAL CLEANOUTS AT:
   A. ALL UPPER TERMINALS.

   B. EACH RUN OF PIPING WHICH IS MORE THAN 100 FEET IN LENGTH OR FRACTION THEREOF.

   C. HORIZONTAL LINES 5 FEET OR MORE.

   D. HORIZONTAL LINES FOR EACH AGGREGATE CHANGE OF DIRECTION EXCEEDING 135 DEGREES.

   E. AT THE BASE OF ALL WASTE AND VENT RISERS. ALL VERTICAL CLEANOUTS SHALL BE SIZED TO ACCOMMODATE THE LARGEST PIPE ON THAT BRANCH LINE, BUT NEVER LARGER THAN 4".

11. NO GAS LINES SHALL BE LOCATED BELOW BUILDING SLAB. ALL GAS PIPING IN AIR PLENUMS TO BE WELDED.

12. PROVIDE ISOLATION VALVES ON ALL PIPING SERVING HOSE BIBBS.

13. ANY ELECTRICAL SPACE NOT CONSTRUCTED WITH A SUB-ROOF WHICH MAY HAVE PLUMBING PIPING AT THE CEILING OF THESE SPACES SHALL HAVE A DRIP PAN INSTALLED BELOW THE PIPING. DRIP PANS SHALL BE 1.5 TIMES THE WIDTH OF THE PIPING SERVED WITH A MINIMUM OF 2" HIGH SIDES. DRIP PANS SHALL BE SUSPENDED FROM THE PIPING SERVED AND SHALL SLOPE AT A MINIMUM 1/8"/FT. DRIP PANS SHALL DISCHARGE WITH MIN. 1-1/2" DR TO FLOOR DRAINS.

   A. DO NOT LOCATE PIPING DIRECTLY ABOVE ANY ELECTRICAL EQUIPMENT IN ELECTRICAL ROOMS.

14. MAINTAIN DESIGNATED PLUMBING FIXTURE HEADER SIZE FOR FULL BANK OF FIXTURES.

15. PROVIDE GAS VENTS EXTENDING CONTINUOUSLY FROM ALL INTERIOR GAS REGULATORS TO THE EXTERIOR OF THE BUILDING. TERMINATE AT AN APPROVED LOCATION. SIZE VENTS SUCH THAT MINIMUM VENT SIZE (FOR VENT WHICH IS 10 FEET OR LESS IN LENGTH) EQUALS RELIEF OUTLET PIPE SIZE. INCREASE VENT PIPE SIZE ONE PIPE SIZE FOR EVERY ADDITIONAL TEN FEET OF VENT PIPE LENGTH.

   A. PROVIDE AN ISOLATION VALVE DOWNSTREAM OF EVERY INTERIOR GAS REGULATOR.

STRUCTURE:

1. DO NOT PENETRATE STRUCTURAL MEMBERS. ALL EQUIPMENT SUPPORTS SHALL BE ATTACHED TO THE LOAD BEARING MEMBERS OF STRUCTURAL ELEMENTS. DO NOT OVER-STRESS ANY STRUCTURAL MEMBERS. CONTACT STRUCTURAL ENGINEER FOR ALLOWABLE LOADS FOR SPECIFIC MEMBERS.

2. DO NOT UTILIZE POWER DRIVEN ANCHORS FOR ANY LOCATIONS WHICH REQUIRE THE LOAD TO BE HELD IN TENSION. SEE STRUCTURAL DIVISION FOR ADDITIONAL RESTRICTIONS.

3. SEE ALSO STRUCTURAL DIVISION FOR ACCEPTABLE ANCHORING AND SUPPORT MEANS, METHODS, AND LOCATIONS.

4. PROVIDE FLEXIBLE CONNECTORS, EXPANSION LOOPS, EXPANSION JOINTS, ADDITIONAL FITTINGS OR EQUIVALENT TO ACCOMMODATE THE THERMAL EXPANSION OF THE BUILDING THROUGH STRUCTURAL EXPANSION JOINTS. PROVIDE SUCH FITTING AT EVERY PIPE, DUCT, CONDUIT, ETC. CROSSING OF A STRUCTURAL EXPANSION JOINT.

CONSTRUCTION VENTILATION:

1. WHERE EXISTING OR NEW MECHANICAL SYSTEMS ARE USED FOR TEMPORARY VENTILATION OR CLIMATE CONTROL, MECHANICAL EQUIPMENT INSTALLER SHALL PROVIDE CONSTRUCTION FILTERS, MAINTAIN EQUIPMENT, AND CLEAN, ADJUST AND PUT IN NEW CONDITION BEFORE BUILDING OCCUPANCY. PARTS AND LABOR WARRANTY SHALL NOT BE CONSIDERED TO START UNTIL ACCEPTANCE OF SYSTEM BY OWNER.

2. PROVIDE CONSTRUCTION FILTERS INSTALLED AT ALL AIR MOVING DEVICES THROUGHOUT THE CONSTRUCTION. REMOVE FILTERS ONLY FOR BALANCING AND FINAL TURNOVER. INSPECT ALL NON-CONSTRUCTION FILTERS AND REPLACE ALL THOSE DEEMED NECESSARY BY THE ENGINEER PRIOR TO ACCEPTANCE OF THE SYSTEM BY THE OWNER.

GAS FIRED VENTING REQUIREMENTS:

1. REFER TO SPECIFICATIONS FOR BOILER VENTING REQUIREMENTS.

FIRE PROTECTION NOTES:

1. FIRE PROTECTION NOTES

   A. SUBMIT SHOP DRAWINGS SHOWING PROPOSED LAYOUT OF FIRE PROTECTION SYSTEM. DRAWINGS SHALL SHOW ACTUAL EQUIPMENT TO BE USED, DIMENSIONS AND HYDRAULIC CALCULATIONS. SHOP DRAWINGS SHALL BE APPROVED BY THE LOCAL AUTHORITY HAVING JURISDICTION PRIOR TO SUBMITTAL TO ENGINEER OR ARCHITECT.

   B. SHOW THE CONNECTING MAIN AND BRANCH PIPE SIZES FOR ALL RELOCATED EXISTING SPRINKLER HEADS.

   C. CONFORM TO HAZARD OCCUPANCY REQUIREMENTS OF NFPA 13.

2. THE ENTIRE BUILDING SHALL BE SERVED BY EXISTING GONDOLA SQUARE GLYCOL FIRE SPRINKLER SYSTEM. COORDINATE ELECTRICAL, FIRE PROTECTION AND MECHANICAL SPACE REQUIREMENTS CAREFULLY BEFORE PROCEEDING WITH INSTALLATION.

3. EXTEND THE EXISTING SPRINKLER SYSTEM. RELOCATE EXISTING AND ADD NEW SPRINKLER HEADS IN ACCORDANCE WITH NFPA 13, ALL APPLICABLE CODES AND ORDINANCES AND PROJECT REQUIREMENTS TO COMPLETELY PROTECT THE NEW WORK.

4. SYSTEM SHALL BE INSTALLED COMPLETE AND OPERATIONAL, INCLUDING WATER FLOW INDICATOR, CONNECTIONS TO EXISTING ALARM, DRAIN PIPING, IDENTIFICATION SIGNS, ETC.

5. WORK SHALL BE PERFORMED BY A QUALIFIED FIRE SPRINKLER INSTALLER WITH A MINIMUM OF (5) FIVE YEARS EXPERIENCE IN SIMILAR INSTALLATIONS.

6. COORDINATE ALL WORK WITH ALL OTHER TRADES.

7. SUPPLY OWNER AN EXTRA STOCK OF SIX SPRINKLER HEADS (6), THREE (3) OF EACH TYPE, AND A SPRINKLER WRENCH.

FIRE STOPPING:

1. FIRE STOPPING REQUIREMENT: PENETRATIONS THROUGH RATED WALLS AND FLOORS SHALL BE SEALED WITH A MATERIAL CAPABLE OF PREVENTING THE PASSAGE OF FLAMES AND HOT GASSES WHEN SUBJECTED TO THE REQUIREMENTS OF THE TEST STANDARD SPECIFIC FOR FIRE STOPS ASTM-E-814. ACCEPTANCE MATERIALS NCLUDE: DOW CORNING RTV FIRE STOP FOAM FOR BARE PIPE, METAL CONDUIT, AND ELECTRICAL CABLE; 3M FIRE DAM 21,22 AND 230 CAULK FOR BARE PIPE, METAL CONDUIT, AND BUILDING CONSTRUCTION; GAPS 3M FS-195 INTUMESCENT STRIPS FOR INSULATED PIPES, PLASTIC PIPE OR CONDUIT, AND ELECTRICAL CABLE.

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△	Date	Description
-	2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT

RCRBD
Record Set
TC
06/29/2021

Seal / Signature

COLORADO LICENSED
MATHEW E. EDWARDS
56806
PROFESSIONAL ENGINEER
05/18/2021

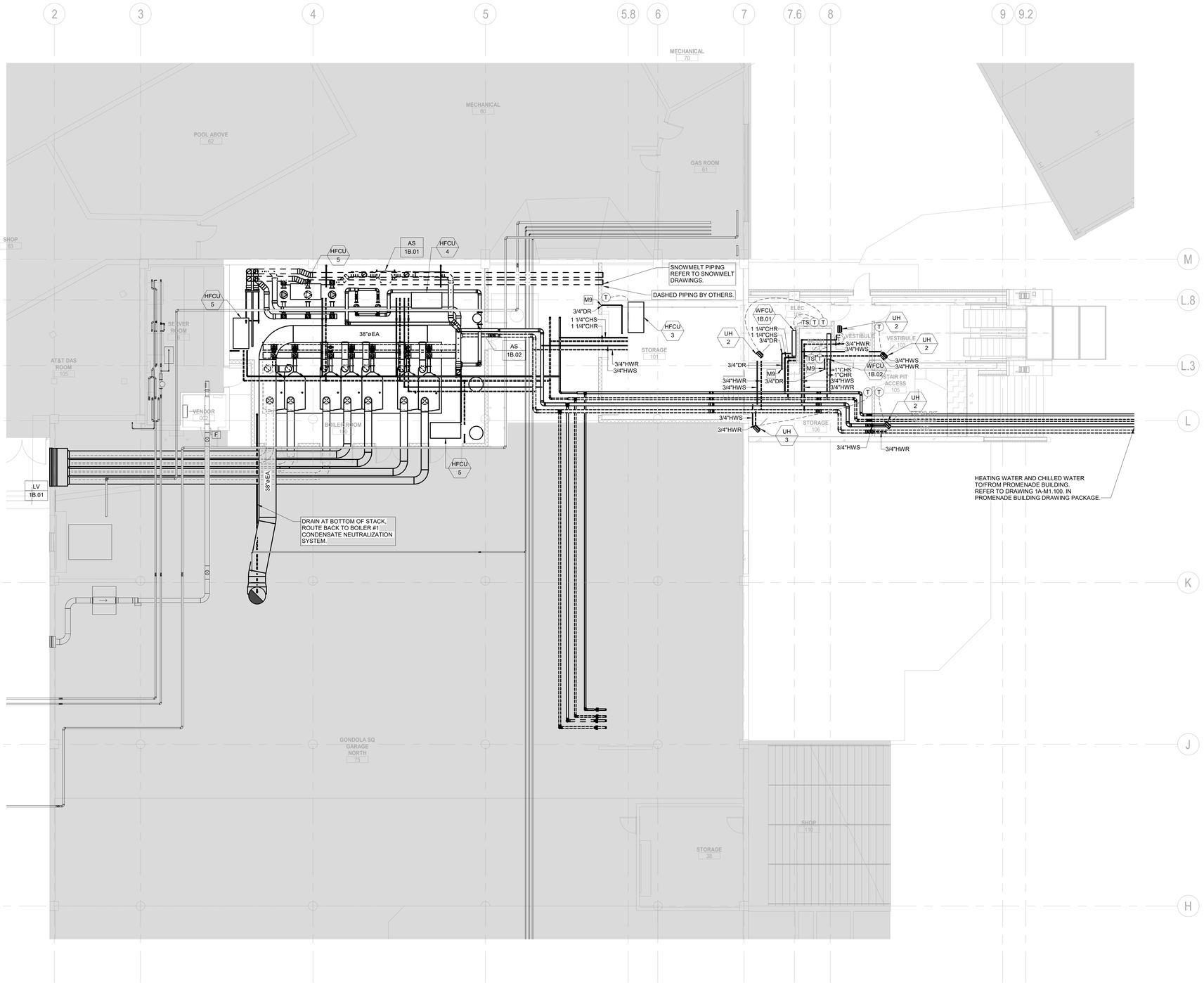
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
GOLD WALK - MECHANICAL GENERAL NOTES

Scale
1/8" = 1'-0"

1B-M0.001



GENERAL NOTES:

1. THE DRAWINGS ARE DIAGRAMMATIC IN NATURE. THE CONTRACTOR IS RESPONSIBLE FOR ALL OFFSETS, TRANSITIONS, ELBOWS, ETC. AS REQUIRED IN DUCTWORK, PIPING, SUPPORTS, ETC. TO COMPLETE THE WORK IN A CLEAN FUNCTIONAL INSTALLATION THAT IS FULLY COORDINATED WITH ALL OTHER TRADES. ANY PRICING EFFORT SHALL TAKE THESE FACTORS INTO ACCOUNT.

2. MAINTAIN CODE REQUIRED AREA OF SEPARATION FROM OUTSIDE AIR INTAKES TO TERMINATIONS OF EXHAUST, COMBUSTION AIR, PLUMBING VENTS, ETC.

3. COORDINATE EQUIPMENT HOUSEKEEPING PAD DIMENSIONS AND LAYOUT WITH THE GENERAL CONTRACTOR BASED ON FINAL EQUIPMENT SIZES.

4. PROVIDE MANUAL BALANCE DAMPERS IN ALL SUPPLY DUCT BRANCH TAPS DOWNSTREAM OF VAV BOXES.

5. PROVIDE MANUAL BALANCE DAMPERS IN ALL EXHAUST DUCT BRANCH TAPS.

6. PROVIDE TRANSFER "Z" BOOT DUCTS IN FULL HEIGHT WALLS WHERE A PLENUM RETURN SYSTEM IS UTILIZED. BOOTS SHALL BE SIZED TO MAINTAIN A MAXIMUM OF 400 FPM. PROVIDE A GRILLE FOR ALL TRANSFERS IN EXPOSED AREAS. RE: ARCH.

7. COORDINATE SPACE TEMPERATURE SENSORS AND THERMOSTAT LOCATIONS TO ALIGN VERTICALLY WITH LIGHT SWITCHES.

8. TEMPERATURE CONTROLS CONTRACTOR SHALL SUBMIT PLANS INDICATING ALL SPACE TEMPERATURE SENSORS, T-STATS, HUMIDITY SENSORS, ETC. AS PART OF SUBMITTAL PROCESS FOR A/E REVIEW PRIOR TO ROUGH-IN.

9. PROVIDE THROUGH FACE BALANCING FOR ALL DIFFUSERS, REGISTERS, AND GRILLES ABOVE INACCESSIBLE AREAS.

10. PROVIDE TURNING VANES IN ALL 90° DUCT ELBOWS.

11. INSTALL EXPOSED DUCTWORK AS HIGH AS POSSIBLE.

13. ALL DUCT/PIPE PENETRATIONS THROUGH FIRE RATED/SMOKE RATED PARTITIONS SHALL BE CAULKED AND SEALED TO MEET THE RATING REQUIRED. REFER TO LIFE SAFETY DRAWINGS FOR FIRE/SMOKE RATING REQUIREMENTS.

14. PROVIDE ISOLATION VALVES AT EACH BRANCH LINE OFF OF RISER.

15. PROVIDE 3/4" BRANCH PIPING TO ALL TERMINAL UNITS, UNLESS NOTED OTHERWISE.

16. PROVIDE CONDENSATE DRAIN FROM ALL CHILLED WATER COILS AND DX EVAPORATOR COILS TO NEAREST MOP SINK OR MECHANICAL ROOM FLOOR DRAIN. PROVIDE CONDENSATE PUMP FOR WALL MOUNTED UNITS AND CONCEALED UNITS THAT CANNOT BE GRAVITY DRAINED TO TERMINATION LOCATION

KEYNOTES

M9	ROUTE CONDENSATE DRAIN DOWN WALL AND STUB OUT TO FLOOR DRAIN.

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Date	Description
- 2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT

RCRBD
Record Set
TC
06/29/2021

Seal / Signature

COLORADO LICENSED
MARVIN E. EDWARDS
56806
PROFESSIONAL ENGINEER
05/18/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

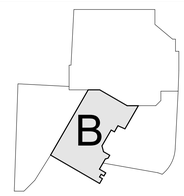
Project Number
003.7835.000

Description
GOLD WALK - MECHANICAL PLAN - LEVEL 01

Scale
1/8" = 1'-0"

1B-M1.201

KEY PLAN



1 MECHANICAL PLAN - LEVEL 01 (Summer 2021)
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. THE DRAWINGS ARE DIAGRAMMATIC IN NATURE. THE CONTRACTOR IS RESPONSIBLE FOR ALL OFFSETS, TRANSITIONS, ELBOWS, ETC. AS REQUIRED IN DUCTWORK, PIPING, SUPPORTS, ETC. TO COMPLETE THE WORK IN A CLEAN FUNCTIONAL INSTALLATION THAT IS FULLY COORDINATED WITH ALL OTHER TRADES. ANY PRICING EFFORT SHALL TAKE THESE FACTORS INTO ACCOUNT.

2. MAINTAIN CODE REQUIRED AREA OF SEPARATION FROM OUTSIDE AIR INTAKES TO TERMINATIONS OF EXHAUST, COMBUSTION AIR, PLUMBING VENTS, ETC.

3. COORDINATE EQUIPMENT HOUSEKEEPING PAD DIMENSIONS AND LAYOUT WITH THE GENERAL CONTRACTOR BASED ON FINAL EQUIPMENT SIZES.

4. PROVIDE MANUAL BALANCE DAMPERS IN ALL SUPPLY DUCT BRANCH TAPS DOWNSTREAM OF VAV BOXES.

5. PROVIDE MANUAL BALANCE DAMPERS IN ALL EXHAUST DUCT BRANCH TAPS.

6. PROVIDE TRANSFER "Z" BOOT DUCTS IN FULL HEIGHT WALLS WHERE A PLENUM RETURN SYSTEM IS UTILIZED. BOOTS SHALL BE SIZED TO MAINTAIN A MAXIMUM OF 400 FPM. PROVIDE A GRILLE FOR ALL TRANSFERS IN EXPOSED AREAS. RE: ARCH.

7. COORDINATE SPACE TEMPERATURE SENSORS AND THERMOSTAT LOCATIONS TO ALIGN VERTICALLY WITH LIGHT SWITCHES.

8. TEMPERATURE CONTROLS CONTRACTOR SHALL SUBMIT PLANS INDICATING ALL SPACE TEMPERATURE SENSORS, T-STATS, HUMIDITY SENSORS, ETC. AS PART OF SUBMITTAL PROCESS FOR A/E REVIEW PRIOR TO ROUGH-IN.

9. PROVIDE THROUGH FACE BALANCING FOR ALL DIFFUSERS, REGISTERS, AND GRILLES ABOVE INACCESSIBLE AREAS.

10. PROVIDE TURNING VANES IN ALL 90° DUCT ELBOWS.

11. INSTALL EXPOSED DUCTWORK AS HIGH AS POSSIBLE.

13. ALL DUCT/PIPE PENETRATIONS THROUGH FIRE RATED/SMOKE RATED PARTITIONS SHALL BE CAULKED AND SEALED TO MEET THE RATING REQUIRED. REFER TO LIFE SAFETY DRAWINGS FOR FIRE/SMOKE RATING REQUIREMENTS.

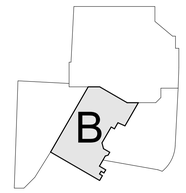
14. PROVIDE ISOLATION VALVES AT EACH BRANCH LINE OFF OF RISER.

15. PROVIDE 3/4" BRANCH PIPING TO ALL TERMINAL UNITS, UNLESS NOTED OTHERWISE.

16. PROVIDE CONDENSATE DRAIN FROM ALL CHILLED WATER COILS AND DX EVAPORATOR COILS TO NEAREST MOP SINK OR MECHANICAL ROOM FLOOR DRAIN. PROVIDE CONDENSATE PUMP FOR WALL MOUNTED UNITS AND CONCEALED UNITS THAT CANNOT BE GRAVITY DRAINED TO TERMINATION LOCATION

KEYNOTES

KEY PLAN



1 MECHANICAL PLAN - LEVEL 03 (Summer 2021)
SCALE: 1/8" = 1'-0"

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05/18/2021

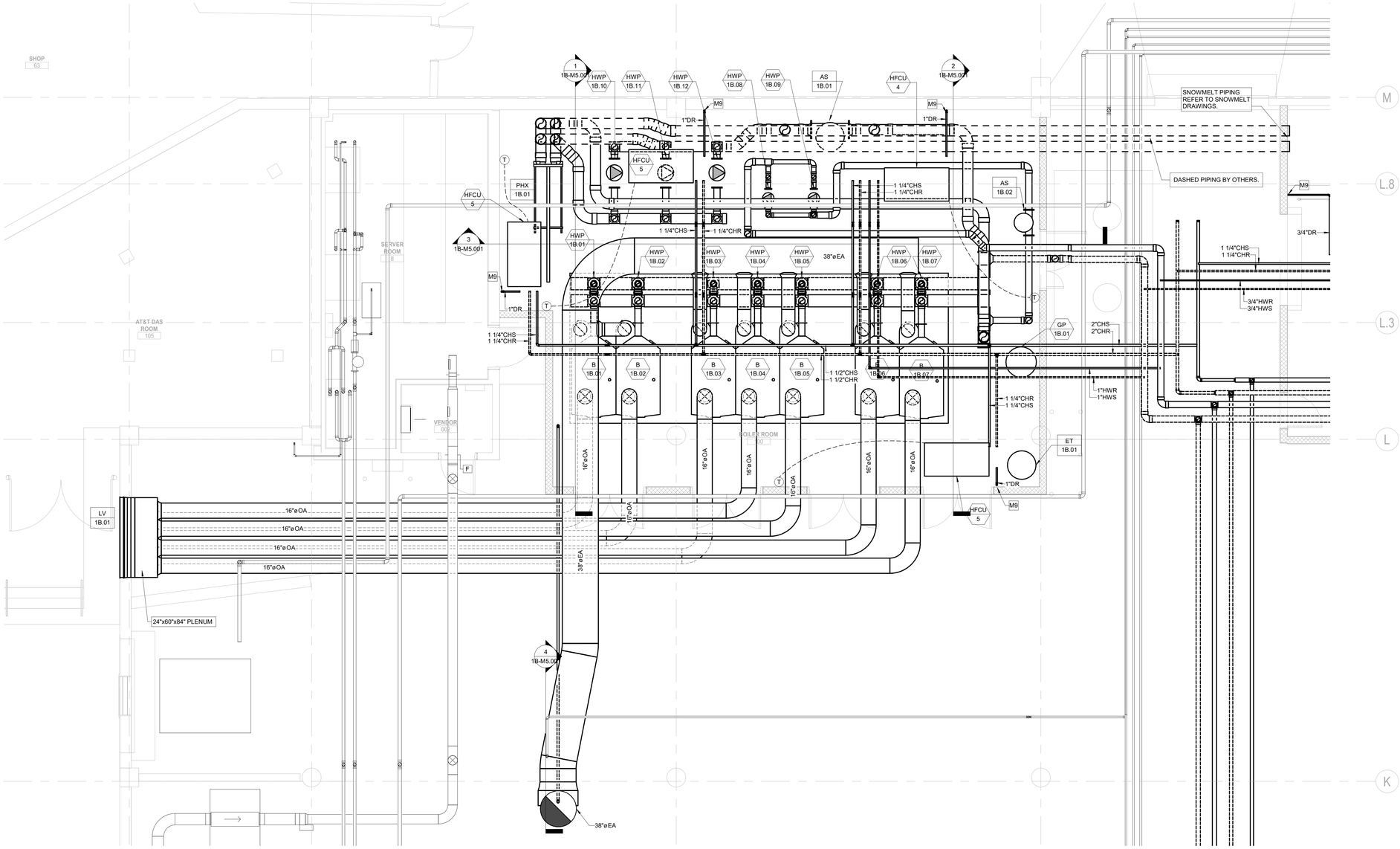
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
GOLD WALK - MECHANICAL PLAN - LEVEL 03

Scale
1/8" = 1'-0"

1B-M1.203



1 MECHANICAL ENLARGED PLAN - LEVEL 01
SCALE: 1/4" = 1'-0"

GENERAL NOTES:

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14. PROVIDE ISOLATION VALVES AT EACH BRANCH LINE OFF OF RISER.

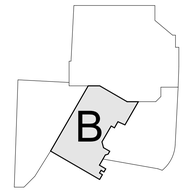
15. PROVIDE 3/4" BRANCH PIPING TO ALL TERMINAL UNITS, UNLESS NOTED OTHERWISE.

16. PROVIDE CONDENSATE DRAIN FROM ALL CHILLED WATER COILS AND DX EVAPORATOR COILS TO NEAREST MOP SINK OR MECHANICAL ROOM FLOOR DRAIN. PROVIDE CONDENSATE PUMP FOR WALL MOUNTED UNITS AND CONCEALED UNITS THAT CANNOT BE GRAVITY DRAINED TO TERMINATION LOCATION

KEYNOTES

M9	ROUTE CONDENSATE DRAIN DOWN WALL AND STUB OUT TO FLOOR DRAIN.

KEY PLAN



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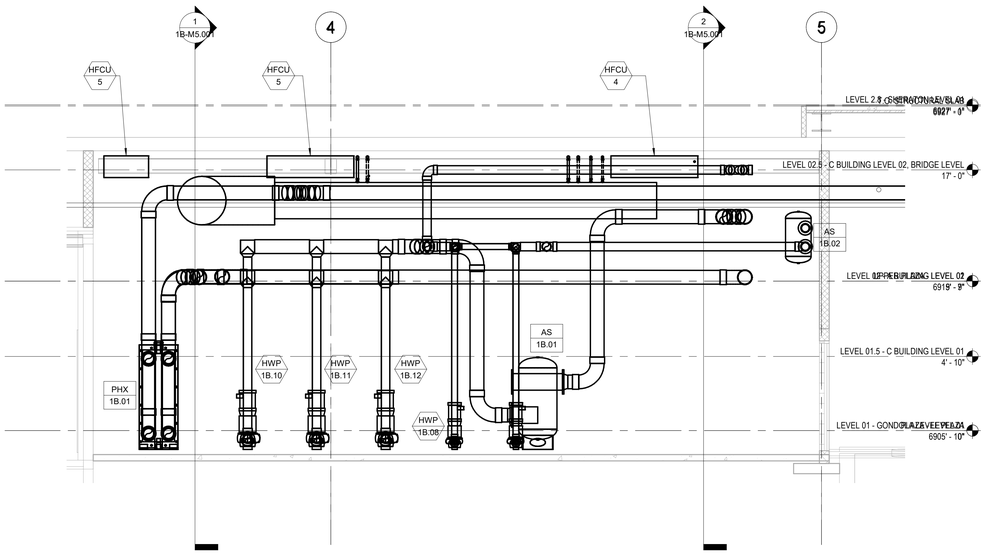
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
GOLD WALK - MECHANICAL ENLARGED PLANS

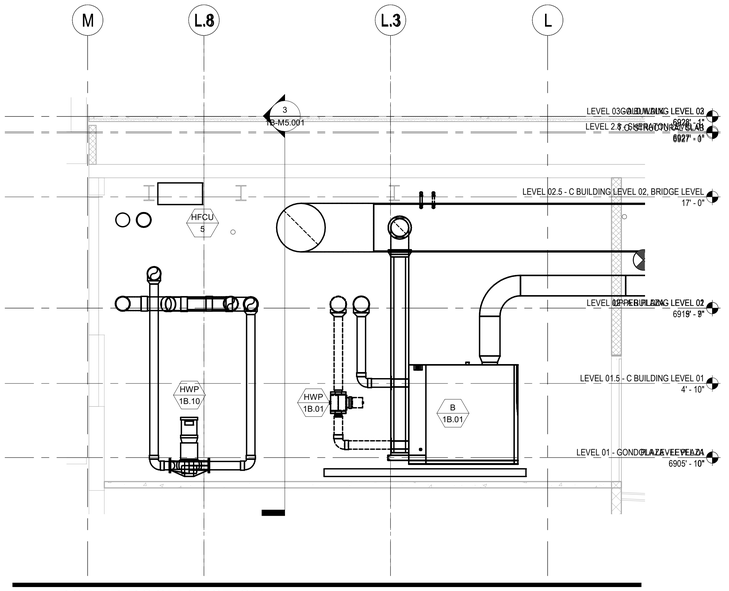
Scale
1/4" = 1'-0"

1B-M4.000



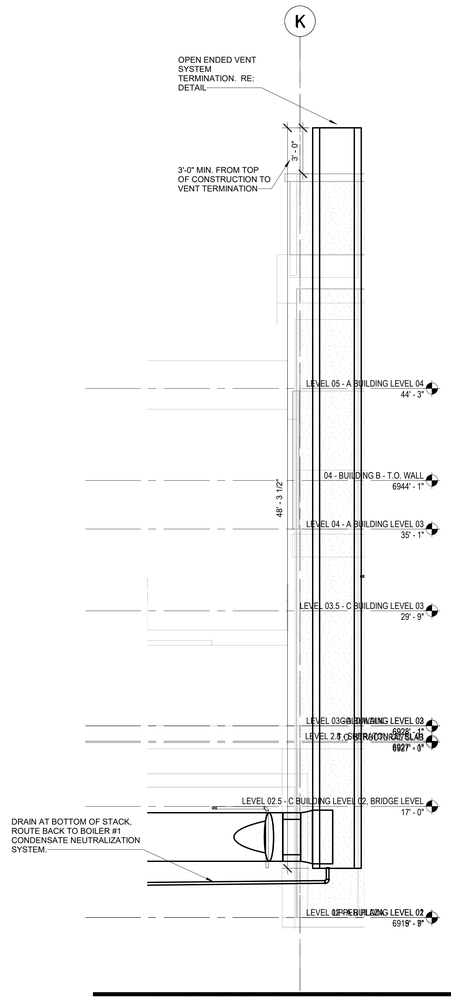
3 BOILER ROOM SECTION 3

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



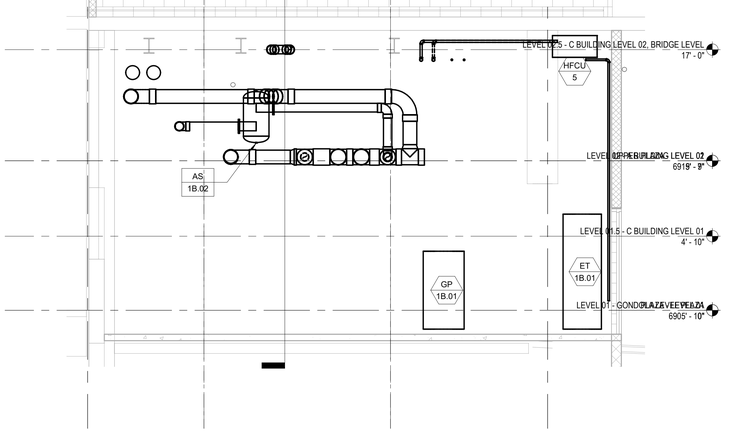
1 BOILER ROOM SECTION 1

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



4 BOILER VENT STACK SECTION

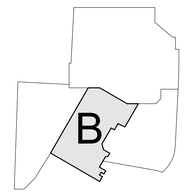
SCALE: 1/4" = 1'-0"



2 BOILER ROOM SECTION 2

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

KEY PLAN



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05/18/2021

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Description
GOLD WALK - MECHANICAL SECTIONS

Scale
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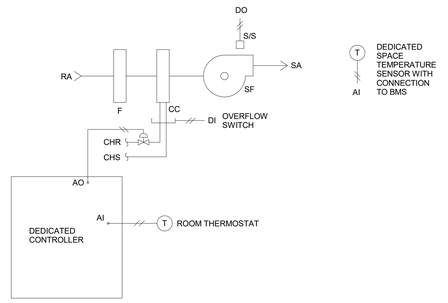
1B-M5.001



C WALL MOUNTED FAN COIL UNIT CONTROL
NONE

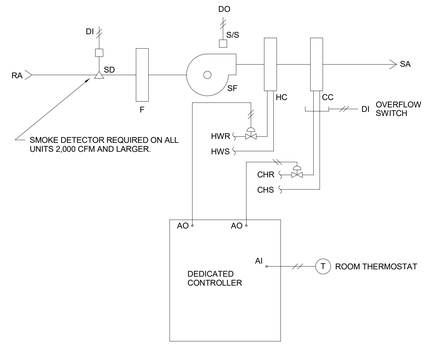
SEQUENCE OF OPERATION:

A. GENERAL:
1. THE FOLLOWING SEQUENCE OF OPERATION INCLUDES REQUIRED FUNCTIONALITY OF THE WALL MOUNTED FAN COIL UNIT. POINTS REQUIRED TO EXECUTE THIS SEQUENCE SHALL BE COORDINATED BETWEEN THE EQUIPMENT PROVIDER AND TEMPERATURE CONTROLS CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. SUBMIT LIST OF ITEMS TO BE PROVIDED BY THE TEMPERATURE CONTROLS CONTRACTOR IN ORDER TO EXECUTE THIS SEQUENCE.

B. OCCUPIED MODE:
1. WHEN THE UNIT IS IN THE OCCUPIED MODE, THE SUPPLY FAN SHALL OPERATE INTERMITTENTLY. THE SUPPLY FAN SHALL DELIVER CONSTANT AIRFLOW. COOLING VALVE SHALL MODULATE TO MAINTAIN SPACE TEMPERATURE SETPOINT.

C. UNOCCUPIED MODE:
1. WHEN THE FCU ENTERS UNOCCUPIED MODE THE SUPPLY FAN SHALL BE OFF AND THE COOLING CONTROL VALVE SHALL CLOSE.

D. COOLING CONTROL:
1. THE COOLING CONTROL VALVE SHALL MODULATE TO MAINTAIN SPACE COOLING SETPOINT. COOLING CONTROL VALVE SHALL CLOSE IF THE FANS ARE OFF.



D BOILER PLANT FAN COIL UNIT CONTROL
NONE

SEQUENCE OF OPERATION:

A. GENERAL:
1. THE FOLLOWING SEQUENCE OF OPERATION INCLUDES REQUIRED FUNCTIONALITY OF THE FAN COIL UNIT. POINTS REQUIRED TO EXECUTE THIS SEQUENCE SHALL BE COORDINATED BETWEEN THE EQUIPMENT PROVIDER AND TEMPERATURE CONTROLS CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. SUBMIT LIST OF ITEMS TO BE PROVIDED BY THE TEMPERATURE CONTROLS CONTRACTOR IN ORDER TO EXECUTE THIS SEQUENCE.

B. OCCUPIED MODE:
1. WHEN THE UNIT IS IN THE OCCUPIED MODE, THE SUPPLY FAN SHALL OPERATE INTERMITTENTLY. THE SUPPLY FAN SHALL DELIVER CONSTANT AIRFLOW. COOLING VALVE AND HEATING VALVE (WHERE APPLICABLE) SHALL MODULATE IN SEQUENCE TO MAINTAIN SPACE TEMPERATURE SETPOINT.
2. UNITS ARE INTENDED TO REMAIN IN OCCUPIED MODE 24 HOURS PER DAY, 7 DAYS PER WEEK, YEAR-ROUND.

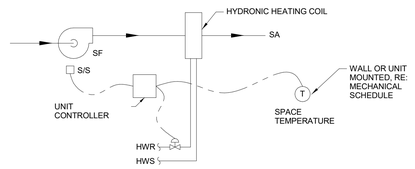
C. UNOCCUPIED MODE:
1. WHEN THE UNIT ENTERS UNOCCUPIED MODE THE SUPPLY FAN SHALL BE OFF, COOLING CONTROL VALVE SHALL CLOSE, AND HEATING CONTROL VALVE SHALL CLOSE.

D. FAN SAFETY CONTROLS:
1. DE-ENERGIZE THE SUPPLY FAN WHENEVER THE OVERFLOW SENSOR HAS TRIPPED. MANUAL RESET REQUIRED.

E. SMOKE DETECTION SHUTDOWN:
1. UNITS 2,000 CFM AND LARGER: WHEN SMOKE IS DETECTED AT THE RETURN AIR INLET, THE SUPPLY FAN SHALL BE DE-ENERGIZED, THE COOLING SHALL BE DISABLED, AND HEATING SHALL BE DISABLED.

F. HEATING CONTROL:
1. THE HEATING CONTROL VALVE SHALL MODULATE TO MAINTAIN SPACE HEATING SETPOINT. HEATING CONTROL VALVE SHALL CLOSE IF THE FANS ARE OFF.

G. COOLING CONTROL:
1. THE COOLING CONTROL VALVE SHALL MODULATE TO MAINTAIN SPACE COOLING SETPOINT. COOLING CONTROL VALVE SHALL CLOSE IF THE FANS ARE OFF.



A HYDRONIC CABINET UNIT HEATER/ HYDRONIC UNIT HEATER CONTROL
NONE

A. THERMOSTAT SHALL CYCLE FAN & OPEN HEATING WATER VALVE TO MAINTAIN SPACE SETPOINT.
B. WHERE REMOTE MOUNTED THERMOSTAT IS INDICATED, PROVIDE CONTROL TRANSFORMER AND LOW VOLTAGE THERMOSTAT BY TEMPERATURE CONTROLS CONTRACTOR.

CONTROL LEGEND

ABBR	DESCRIPTION	ABBR	DESCRIPTION	ABBR	DESCRIPTION
AI	ANALOG INPUT	FR	FREEZESTAT	PHC	PREHEAT COIL
AO	ANALOG OUTPUT	FRN	FURNACE	PT	PRESSURE TRANSMITTER
BDD	BACKDRAFT DAMPER	FS	FLOW SWITCH	PZ	PIEZOMETER RING
BTU	BTU METER	FSCP	FIREFIGHTER SMOKE CONTROL PANEL	RA	RETURN AIR
C	CONTROLLER	FSPD	FAN SPEED	RF	RETURN FAN
CC	COOLING COIL	FT	FLOW TRANSMITTER	S	SPACE TEMPERATURE SENSOR
CD	CONTROL DAMPER	H	HUMIDITY OR HIGH	S/S	START/STOP
CFM	AIRFLOW MEASURING SENSOR	HC	HEATING COIL	SA	SUPPLY AIR
CHR	CHILLED WATER RETURN	H/L	HIGH/LOW	SC	SPEED CONTROL
CHS	CHILLED WATER SUPPLY	HH	HIGH LIMIT HUMIDITY SWITCH	SD	SMOKE DETECTOR
CO2	CARBON DIOXIDE	HS	HUMIDITY SENSOR	SF	SUPPLY FAN
COND	CONDENSATE OVERFLOW	HT	HUMIDITY TRANSMITTER	SPT	STATIC PRESSURE TRANSMITTER
COV	CHANGE OF VALUE	HWR	HOT WATER RETURN	SR	SWITCHING RELAY
CSEN	CURRENT SENSOR	HWS	HOT WATER SUPPLY	T	THERMOSTAT
DI	DIGITAL INPUT	IR	INTERLOCK RELAY	TM	THERMAL MASS METER
DO	DIGITAL OUTPUT	L	LEVEL OR LOW	TO	TIMED OVERRIDE SWITCH
DP	DIFFERENTIAL PRESSURE	LAN	LOCAL AREA NETWORK CONNECTION	TS	TEMPERATURE SENSOR
EA	EXHAUST AIR	M	MOTORIZED CONTROL	TT	TEMPERATURE TRANSMITTER
ES	END SWITCH	MIN	MINIMUM	TTAB	TEMPERATURE TRANSMITTER W/AVERAGING BULB
F	FILTER ASSEMBLY OR FAIL	ND	NITROGEN DIOXIDE	V	VALVE
FACP	FIRE ALARM CONTROL PANEL	OA	OUTSIDE AIR	VFD	VARIABLE FREQUENCY DRIVE
FAS	FIRE ALARM SYSTEM	OS	OCCUPANCY SENSOR	VP	VIRTUAL POINT
FC	FAIL CLOSED	P	SPACE STATIC PRESSURE	VS	VELOCITY SENSOR
FCU	FAN COIL UNIT	P-E	PNEUMATIC ELECTRIC SWITCH	WBT	WET BULB TEMPERATURE TRANSMITTER
FM	FLOW METER				
FO	FAIL OPEN				

CONTROL SYSTEM GENERAL NOTES:

DESIGN INTENT:

A. THE CONTROL DRAWINGS AND SEQUENCES ARE PROVIDED TO COMMUNICATE A DESIGN INTENT FOR CONTROL OF INDICATED SYSTEMS. ALTERNATIVE CONTROL METHODS MAY BE USED WHERE PRACTICAL OR WHERE NECESSARY TO MEET REQUIRED SYSTEM PERFORMANCE. WHERE ALTERNATIVE CONTROL METHODS ARE USED TO MEET THE DESIGN INTENT, THESE METHODS SHALL BE INDICATED IN SUBMITTAL TO ENGINEER FOR EVALUATION. ENGINEER SHALL DETERMINE IF A SUBMITTED ALTERNATIVE CONTROL METHOD MEETS THE DESIGN INTENT.

B. ALTHOUGH THE MECHANICAL DRAWINGS MAY INDICATE A PRODUCT AS BASIS OF DESIGN, THE CONTROL DRAWINGS AND SEQUENCES ARE PROVIDED TO INDICATE A DESIGN INTENT FOR THE COMPLETE SYSTEM THAT IS APPLICABLE TO MULTIPLE POTENTIAL PRODUCTS OR MANUFACTURERS. CONTROL METHODS SHALL BE DEVELOPED BY THE TEMPERATURE CONTROLS CONTRACTOR AND/OR EQUIPMENT PROVIDER IN ORDER TO ACHIEVE THE REQUIRED SYSTEM PERFORMANCE.

REQUIRED COORDINATION:

A. THE DIVISION 23 CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION BETWEEN EQUIPMENT PROVIDERS AND TEMPERATURE CONTROLS CONTRACTOR IN ORDER TO FULLY SATISFY THE DESIGN INTENT. INTERFACE BETWEEN CONTROL SYSTEMS, INCLUDING ITEMS PROVIDED BY EACH ENTITY, COMMUNICATION PROTOCOL, SIGNAL TYPE, ETC., SHALL BE COORDINATED PRIOR TO RELEASE OF EQUIPMENT FOR PRODUCTION.

B. THE TEMPERATURE CONTROLS CONTRACTOR SHALL PROVIDE SUBMITTAL DRAWINGS AND PRODUCT DATA FOR THE ENTIRE CONTROL SYSTEM TO ENGINEER FOR REVIEW. THE TEMPERATURE CONTROLS SUBMITTAL SHALL DISTINGUISH WHERE SPECIFIC SEQUENCE ELEMENTS ARE PROVIDED WITHIN THE BOILER PLANT CONTROL SYSTEM OR WITHIN PACKAGED EQUIPMENT CONTROLLERS. RE: SPECIFICATIONS FOR REQUIREMENTS.

C. REFER TO SPECIFICATION SECTION 23 05 01 MECHANICAL AND ELECTRICAL COORDINATION.

SEQUENCE OF OPERATION GENERAL NOTES:

GENERAL:

A. PROVIDE INDIVIDUAL INPUTS OR OUTPUTS FOR EACH POINT LISTED IN THE POINTS LIST OR CONTROL DIAGRAM. PROVIDE ANY ADDITIONAL POINTS NOT LISTED IN THE POINTS LIST OR CONTROL DIAGRAM, BUT REQUIRED TO MEET THE SEQUENCE OF OPERATION, AT NO ADDITIONAL COST TO THE OWNER. ALL ANALOG OUTPUTS SHALL BE 4-20MA, 0-10VDC OR 0-20VDC UNLESS OTHERWISE INDICATED.

B. IN THE EVENT OF A POWER OUTAGE OR OTHER MALFUNCTION, THE CURRENTLY ENABLED CONTROLS SEQUENCES SHALL BE MAINTAINED. RE: SPECIFICATIONS.

INITIAL SPACE THERMOSTAT SEPOINTS

A. INITIAL SPACE THERMOSTAT SETPOINTS SHALL BE AS FOLLOWS:

1. MECHANICAL AND ELECTRICAL ROOMS:
   COOLING: 80F
   HEATING: 65F
2. MISCELLANEOUS HEATING-ONLY AREAS:
   HEATING: 65F

MISCELLANEOUS NON-DDC CONTROL:

A. CHEMICAL TREATMENT: PROVIDE REQUIRED FIELD WIRING INTERLOCKS.

B. MISCELLANEOUS PUMPS: PUMPS SHALL OPERATE PER SCHEDULE AND DRAWINGS.

MISCELLANEOUS DDC CONTROL:

A. AUTOMATED INTERFACE: PROVIDE WEB-BASED INTERFACE FOR REMOTE ACCESS TO THE BOILER PLANT CONTROL SYSTEM. INTERFACE SHALL BE PASSWORD PROTECTED AND SHALL ALLOW FOR FULL CONTROL OF ALL BOILER PLANT CONTROL SYSTEM FUNCTIONALITY.

B. PUMPS SHALL OPERATE PER OTHER APPLICABLE CONTROL SECTIONS. BOILER PLANT CONTROL SYSTEM SHALL MONITOR ALL PUMPS INCLUDING GLYCOL FEED PUMPS.

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MARVIN E. EDWARDS
56806
PROFESSIONAL ENGINEER
05/18/2021

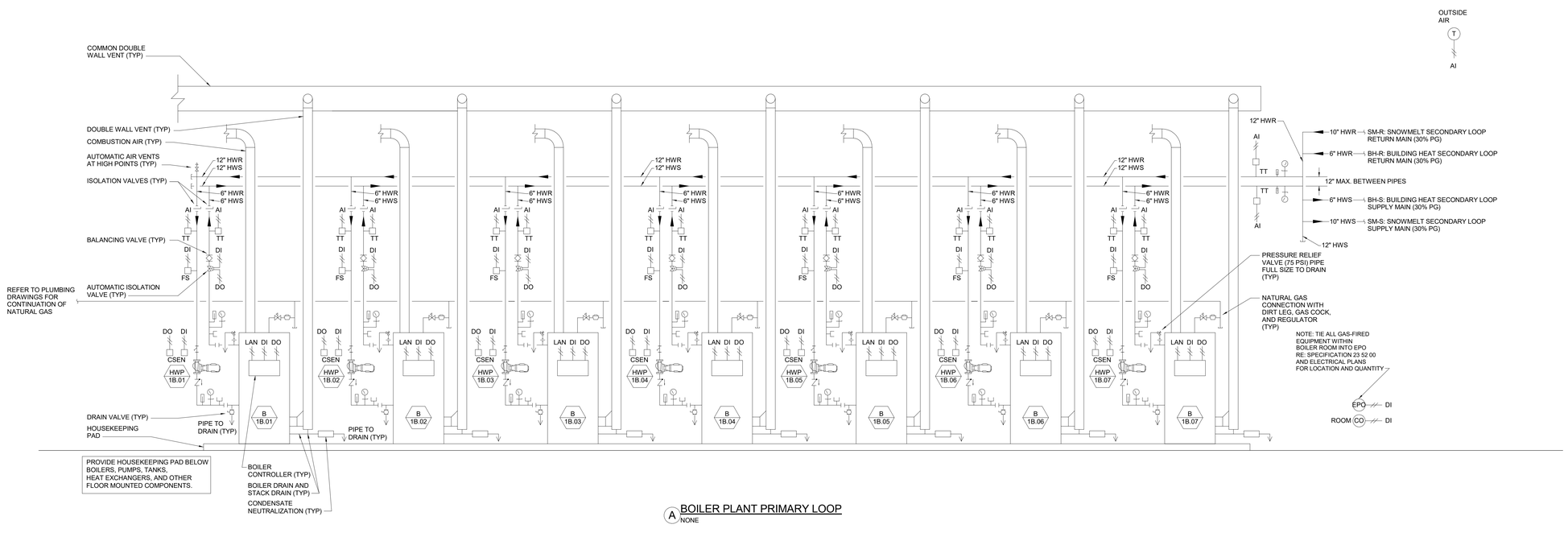
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
GOLD WALK - MECHANICAL CONTROLS

Scale
1/8" = 1'-0"

1B-M7.001



A BOILER PLANT PRIMARY LOOP
NONE

BOILER PLANT SEQUENCE:

A. GENERAL
1. REFER TO DIVISION 23 52 00 FOR REQUIREMENTS.
2. THE PROMENADE BUILDING BMS SHALL BE EXTENDED TO THE GOLD WALK SCOPE OF WORK TO PROVIDE MONITORING AND CONTROL OF THE BOILER PLANT. "BMS" INDICATED IN THE SEQUENCE BELOW REFERS TO THE PROMENADE BUILDING BMS. REFER TO PROMENADE BUILDING DRAWINGS AND SPECIFICATIONS. THE BMS SHALL INDEPENDENTLY MONITOR POINTS INDICATED ON THE CONTROL DIAGRAM AND ALL POINTS REQUIRED TO PERFORM THE FOLLOWING SEQUENCES AND MONITORING FUNCTIONS.
3. THE BMS SHALL BE PROVIDED WITH A CUSTOM APPLICATION CONTROLLER LOCATED WITHIN THE BOILER ROOM.

B. SEQUENCE OF OPERATION:
1. INTENT: THE BMS SHALL CONTROL ALL COMPONENTS IN THE PRIMARY LOOP, SNOWMELT LOOP, AND BUILDING HEAT LOOP INCLUDING BOILERS, PRIMARY PUMPS, CONTROL VALVES, SECONDARY PUMPS, AND PLANT CONTROLS. THE BMS SHALL PERFORM ALL TEMPERATURE SETPOINT AND SCHEDULING FUNCTIONS. THE LEAD BOILER CONTROLLER SHALL CONTROL ALL BOILERS, PRIMARY PUMPS, AND BOILER ISOLATION VALVES AND SHALL PROVIDE ALL SAFETY INTERLOCKS. THE SYSTEM SHALL BE CONFIGURED TO ALLOW BOILERS TO SWITCH OPERATION FROM LEAD BOILER TO FOLLOW BOILER PERIODICALLY OR BY COMMAND AT EITHER THE BOILER CONTROLLERS OR THE BMS. EACH INDIVIDUAL BOILER CONTROLLER SHALL PERFORM ALL INTERNAL BOILER TEMPERATURE CONTROL FUNCTIONS AND BOILER SAFETY FUNCTIONS. EACH BOILER CONTROLLER SHALL COMMUNICATE WITH THE BMS VIA A SERIAL COMMUNICATION INTERFACE. THE BMS SHALL RECEIVE GENERAL BOILER ALARMS AND SHALL BE CAPABLE OF ALARM CALLOUT VIA EMAIL AND TEXT MESSAGE.
2. START SEQUENCE: THE HEATING PLANT SHALL START IN RESPONSE TO AN OUTSIDE AIR TEMPERATURE OF 65F (ADJ.) OR SIGNAL TO ENABLE AT THE BMS. UPON SIGNAL TO ENABLE, THE BMS AND PARENT BOILER CONTROLLER SHALL:
A. ENABLE THE BUILDING HEATING SECONDARY LOOP VARIABLE SPEED PUMPING SYSTEM.
B. ENABLE THE SNOWMELT SECONDARY LOOP VARIABLE SPEED PUMPING SYSTEM.
C. OPEN THE LEAD BOILER ISOLATION VALVE AND PROVE OPEN.
D. START THE LEAD HEATING HOT WATER PRIMARY PUMP AND PROVE VIA FLOW SWITCH.
E. OPEN THE LEAD BOILER FLUE VENT DAMPER AND ENERGIZE LEAD BOILER DRAFT FAN.
F. START THE LEAD BOILER AFTER WATER FLOW AND AIRFLOW HAVE BEEN PROVEN.
G. BUILDING HEATING SECONDARY PUMPING LOOP: START THE LEAD SECONDARY HEATING HOT WATER PUMP AND MODULATE PUMP VFD TO MAINTAIN SYSTEM DIFFERENTIAL PRESSURE SETPOINT. WHEN THE SIGNAL TO THE OPERATING PUMP(S) EXCEEDS 95% FOR 2 MINUTES (ADJ.) AND SYSTEM DIFFERENTIAL PRESSURE SETPOINT IS NOT SATISFIED, THE LAG SECONDARY PUMP SHALL BE STARTED AND SLOWLY RAMPED UP TO MATCH THE SPEED OF THE OPERATING PUMP. OPERATING SECONDARY PUMP VFD'S SHALL MODULATE IN PARALLEL AT EQUAL SPEED TO MAINTAIN SYSTEM DIFFERENTIAL PRESSURE SETPOINT. WHEN ALL OPERATING SECONDARY PUMP VFD'S HAVE BEEN AT OR BELOW 40% SPEED FOR 2 MINUTES (ADJ.), DE-ENGERIZE ONE PUMP AND MODULATE REMAINING OPERATING PUMP TO MAINTAIN SYSTEM DIFFERENTIAL PRESSURE SETPOINT. LEAD PUMP AND LAG PUMP SHALL ROTATE WEEKLY, EVERY MONDAY AT 11:00AM. PUMP ROTATION SHALL BE UTILIZED TO EQUALIZE RUN TIME BETWEEN ALL SECONDARY PUMPS. OPEN BYPASS VALVE, IF NECESSARY, TO OBTAIN SECONDARY LOOP MINIMUM FLOW OF 40% SPEED (ADJ.) OF ONE SECONDARY PUMP.
F. SNOWMELT SECONDARY PUMPING LOOP: UPON A CALL FOR HEATING IN THE SNOWMELT LOOP (VIA SNOW/ICE SENSOR, OUTSIDE AIR TEMPERATURE, MANUAL COMMAND, OR HOUR-BY-HOUR SCHEDULE), START THE LEAD SNOWMELT SECONDARY PUMP AND MODULATE PUMP VFD TO MAINTAIN THE OUTLET TEMPERATURE SETPOINT ON THE 50% PROPYLENE GLYCOL SIDE OF THE PLATE HEAT EXCHANGER. WHEN THE SIGNAL TO THE OPERATING PUMP(S) EXCEEDS 95% FOR 2 MINUTES (ADJ.) AND OUTLET TEMPERATURE SETPOINT IS NOT SATISFIED, THE NEXT SNOWMELT SECONDARY PUMP SHALL BE STARTED AND SLOWLY RAMPED UP TO MATCH THE SPEED OF THE OPERATING PUMP. OPERATING SNOWMELT SECONDARY PUMP VFD'S SHALL MODULATE IN PARALLEL AT EQUAL SPEED TO MAINTAIN PLATE HEAT EXCHANGER OUTLET TEMPERATURE SETPOINT. WHEN ALL OPERATING SECONDARY PUMP VFD'S HAVE BEEN AT OR BELOW 40% SPEED FOR 2 MINUTES (ADJ.), DE-ENGERIZE ONE PUMP AND MODULATE REMAINING OPERATING PUMP(S) TO MAINTAIN OUTLET TEMPERATURE SETPOINT. WHEN ONLY ONE PUMP IS OPERATING AT MINIMUM SPEED AND OUTLET TEMPERATURE IS ABOVE SETPOINT, THE LEAD PUMP SHALL CYCLE OFF AND ON AT MINIMUM SPEED TO MAINTAIN OUTLET TEMPERATURE. WHEN CALL FOR HEATING IN THE SNOWMELT SYSTEM HAS BEEN REMOVED (VIA SNOW/ICE SENSOR, OUTSIDE AIR TEMPERATURE, MANUAL COMMAND, OR HOUR-BY-HOUR SCHEDULE) ALL SNOWMELT SECONDARY PUMPS SHALL BE DE-ENERGIZED. LEAD PUMP AND LAG PUMPS SHALL ROTATE WEEKLY, EVERY MONDAY AT 11:00AM. PUMP ROTATION SHALL BE UTILIZED TO EQUALIZE RUN TIME BETWEEN ALL PUMPS.
G. ADDITIONAL BOILERS TO BE SEQUENCED ON VIA OPERATOR SELECTABLE METHODS : DEFICIT FLOW AND TEMPERATURE SETPOINT.
G.A. DEFICIT FLOW: ADDITIONAL BOILERS SHALL BE SEQUENCED ON WHENEVER THERE IS A DEFICIT FLOW (PRIMARY FLOW LESS THAN SECONDARY FLOW) IN THE PRIMARY/SECONDARY BYPASS PIPE. DEFICIT FLOW SHALL BE DETERMINED BY COMPARISON OF THE SUM OF DIRECT FLOW MEASUREMENT AT THE BUILDING HEAT SECONDARY LOOP AND SNOWMELT SECONDARY LOOP BTU METERS AND QUANTITY OF CONSTANT VOLUME PRIMARY PUMPS IN OPERATION. WHEN DEFICIT FLOW EXISTS CONTINUOUSLY FOR 10 MINUTES (ADJ.), THE START SEQUENCE OF AN ADDITIONAL BOILER SHALL BE INITIATED. WHEN FEWER PRIMARY PUMPS ARE REQUIRED TO MEET SECONDARY LOOP FLOW, AS DETERMINED VIA COMPARISON OF MEASURED FLOWS AND QUANTITY OF PRIMARY PUMPS IN OPERATION, INITIATE BOILER STOP SEQUENCE IN REVERSE ORDER.
G.B. TEMPERATURE: ADDITIONAL BOILERS SHALL BE SEQUENCED ON WHENEVER THE COMMON SUPPLY WATER TEMPERATURE IN THE PRIMARY LOOP IS BELOW SETPOINT. WHEN THE BOILER CONTROL SYSTEM DETERMINES THAT FEWER BOILERS MAY BE USED TO MEET THE LOAD, AS DETERMINED VIA BOILER FIRING RATES, INITATE BOILER STOP SEQUENCE IN REVERSE ORDER.
3. STOP SEQUENCE: THE HEATING PLANT SHALL STOP IN RESPONSE TO AN OUTSIDE AIR TEMPERATURE 5 DEGREES F ABOVE START TEMPERATURE(ADJ.) OR UPON SIGNAL TO DISABLE AT THE BMS. UPON SIGNAL TO DISABLE, THE BMS AND LEAD BOILER CONTROLLER SHALL:
A. DISABLE ALL BOILERS VIA SIGNAL TO THE LEAD BOILER CONTROLLER.
B. CONFIRM ALL BOILERS HAVE STOPPED VIA COMMUNICATION INTERFACE WITH THE LEAD BOILER CONTROLLER.
C. DISABLE ALL PRIMARY HEATING HOT WATER PUMPS AND CLOSE ISOLATION VALVES AFTER A 60 SECOND (ADJ.) DELAY.
D. DISABLE ALL SECONDARY LOOP PUMPS.
E. HEATING HOT WATER PLANT SHALL NOT BE RESTARTED FOR A FIVE MINUTE DELAY (ADJ.).
4. TEMPERATURE CONTROL: UPON SUCCESSFUL STARTUP, THE LEAD BOILER CONTROLLER SHALL MAINTAIN LEAVING WATER TEMPERATURE FROM EACH OPERATING BOILER AT 150 DEGREES F (ADJ.) MAXIMUM. DO NOT INCREASE LEAVING WATER TEMPERATURE SETPOINT ABOVE 150 DEGREES F IN ORDER TO AVOID RISK OF DAMAGE TO THE SNOWMELT SYSTEM. ALARM THE BMS WITH EMAIL AND TEXT MESSAGE TO FACILITIES STAFF IF PRIMARY LOOP SUPPLY WATER TEMPERATURE SETPOINT IS RAISED ABOVE 150 DEGREES F OR IF MEASURED PRIMARY LOOP SUPPLY WATER TEMPERATURE RISES ABOVE 155F FOR 5 MINUTES (ADJ.).
5. SECONDARY PUMP FAILURE: UPON FAILURE OF ONE OF THE SECONDARY PUMPS, RESET SEQUENCE TO START LAG PUMP (IF NOT ALREADY RUNNING) AND GENERATE AN APPROPRIATE ALARM AT THE BMS.
6. BOILER FAILURE: UPON SENSING A BOILER FAILURE, THE BMS OR PARENT BOILER CONTROLLER SHALL INITIATE THE STOP SEQUENCE FOR THE FAILED BOILER ONLY AND LOCKOUT THAT BOILER. THE BMS OR PARENT BOILER CONTROLLER SHALL IMMEDIATELY INITIATE THE START SEQUENCE OF AN ADDITIONAL BOILER (IF NOT ALREADY OPERATING).
7. PRIMARY PUMP FAILURE: UPON SENSING A PUMP FAILURE, THE BMS OR PARENT BOILER CONTROLLER SHALL LOCKOUT AND ALARM THE FAILED PUMP. IMMEDIATELY, THE BMS OR PARENT BOILER CONTROLLER SHALL INITIATE THE STOP SEQUENCE FOR THE ASSOCIATED BOILER AND INITIATE THE START SEQUENCE OF AN ADDITIONAL BOILER (IF NOT ALREADY OPERATING).
8. BOILER ROTATION: AUTOMATIC ROTATION OF BOILER OPERATION SHALL EQUALIZE BOILER RUNTIME. ROTATION SHALL BE INITIATED BY THE FOLLOWING OPERATOR SELECTABLE METHODS:
A. REAL TIME: BASED ON DAY INTERVALS.
B. RUN TIME: ACTUAL BOILER RUN TIMES.
C. MANUAL OR FORCED.
9. COMMUNICATION FAILURE: UPON A LOSS OF SIGNAL FROM THE PARENT BOILER CONTROLLER, THE BMS SHALL MAINTAIN CURRENT VALVE POSITIONS, TEMPERATURE SETPOINTS, PRIMARY PUMP OPERATION, AND SECONDARY PUMP OPERATION AND SHALL GENERATE AN APPROPRIATE ALARM AT THE BMS. ALL ISOLATION VALVES, PRIMARY PUMPS, AND SECONDARY PUMPS SHALL BE INDEPENDENTLY CONTROLLABLE AT THE BMS OPERATOR STATION.
10. BOILER PLANT STATUS DISPLAY - THE BMS SHALL PROVIDE A PLANT STATUS REPORT. THE DISPLAY SHALL INCLUDE THE FOLLOWING:
A. ON/OFF STATUS OF EACH BOILER.
B. ON/OFF STATUS AND SPEED OF EACH PRIMARY AND SECONDARY PUMP.
C. BUILDING HEATING SECONDARY LOOP DIFFERENTIAL PRESSURE AND SETPOINT.
D. BUILDING HEATING SECONDARY LOOP BYPASS VALVE POSITION.
E. BUILDING HEATING SECONDARY EWT AND LWT DOWNSTREAM OF SECONDARY LOOP BYPASS VALVE (PLANT ENTERING/LEAVING CONDITIONS TO THE SYSTEM).
F. SNOWMELT HEAT EXCHANGER EWT AND LWT ON BOTH THE 30% PG AND 50% PG SIDES OF THE HEAT EXCHANGER.
G. PRIMARY LOOP SUPPLY AND RETURN WATER TEMPERATURES.
H. TOTAL BUILDING HEAT MBH CONSUMPTION.
I. TOTAL SNOWMELT SYSTEM MBH CONSUMPTION.

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△	Date	Description
-	2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT

RCRBD
Record Set
TC
06/29/2021

Seal / Signature

COLORADO LICENSED MATHEW E. EDWARDS 56806 PROFESSIONAL ENGINEER
05/18/2021

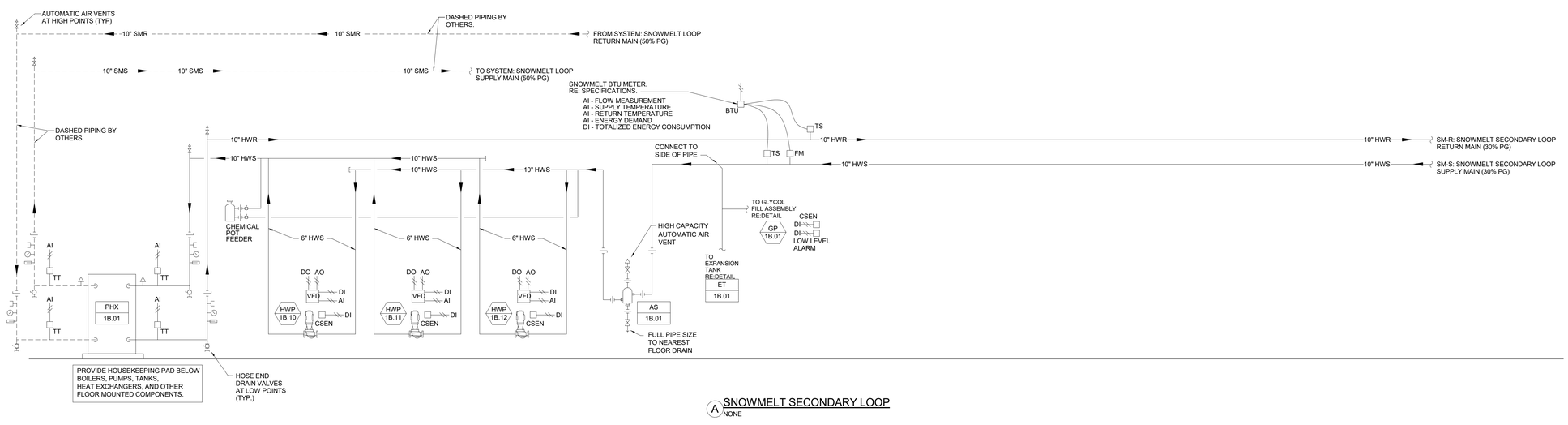
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

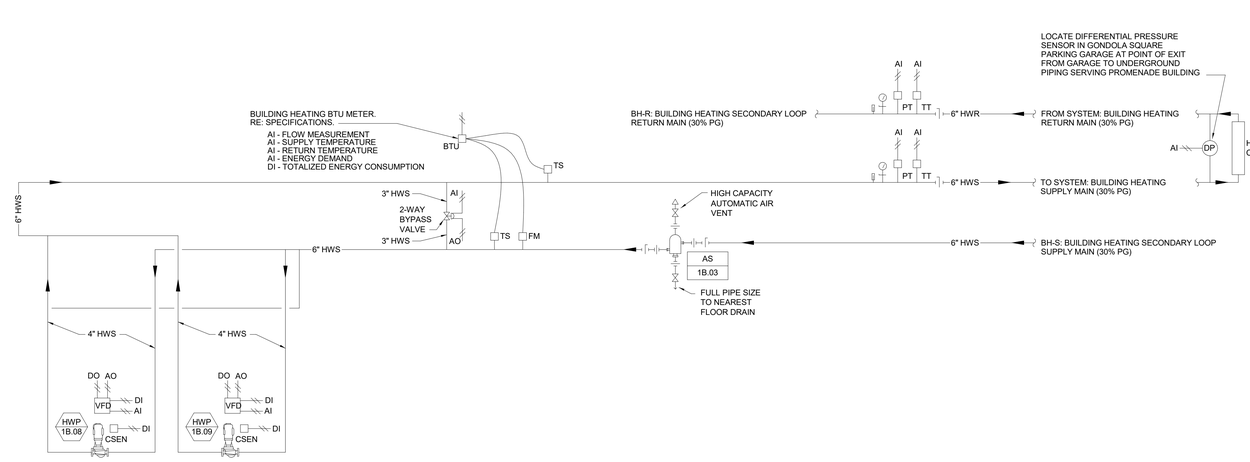
Description
GOLD WALK - MECHANICAL CONTROLS

Scale
1/8" = 1'-0"

1B-M7.002



A SNOWMELT SECONDARY LOOP
NONE



A BUILDING HEAT SECONDARY LOOP
NONE

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RCRBD
Record Set
TC
06/29/2021

Seal / Signature

COLORADO LICENSED MARWIN E. EDWARDS 56806 PROFESSIONAL ENGINEER

05/18/2021

Project Name

SSRC | BASE AREA IMPROVEMENTS

Project Number

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Description

GOLD WALK - MECHANICAL CONTROLS

Scale

1/8" = 1'-0"

1B-M7.003

ENERGY METER SCHEDULE/POINTS LIST

SYSTEM: ENERGY METERING SYSTEM

			ENERGY DEMAND					ENERGY CONSUMPTION					
POINT DESCRIPTION	TYPE	LOAD CATEGORY	UNIT	HOURLY PEAK	DAILY PEAK	MONTHLY PEAK	ANNUAL PEAK	UNIT	HOURLY TOTAL	DAILY TOTAL	MONTHLY TOTAL	ANNUAL TOTAL	REMARKS
PANEL BRH - MECHANICAL LOADS	E	MECH	kW	X	X	X	X	kWh	X	X	X	X	OBTAIN PANEL LOAD BY DEDUCTING PANEL BRL METERED USAGE FROM PANEL BRH METERED USAGE.
													PANEL BRH AND GWH DATA DERIVED VIA SINGLE CONNECTION TO E-GAUGE METER. RE: ONE-LINE.
PANEL BRL - MECHANICAL LOADS	E	MECH	kW	X	X	X	X	kWh	X	X	X	X	OBTAIN PANEL LOAD BY DEDUCTING PANEL BRL METERED BRANCH CIRCUIT USAGE FROM PANEL BRL
BRL BRANCH CIRCUIT METERING	E	PLUG	kW	X	X	X	X	kWh	X	X	X	X	
PANEL GWH - PLUG LOADS	E	PLUG	kW	X	X	X	X	kWh	X	X	X	X	OBTAIN PANEL LOAD BY DEDUCTING PANEL GWL METERED USAGE FROM PANEL GWH METERED USAGE.
													PANEL BRH AND GWH DATA DERIVED VIA SINGLE CONNECTION TO E-GAUGE METER. RE: ONE-LINE.
PANEL GWL - PLUG LOADS	E	PLUG	kW	X	X	X	X	kWh	X	X	X	X	OBTAIN PANEL LOAD BY DEDUCTING PANEL GWL METERED BRANCH CIRCUIT USAGE FROM PANEL GWL
GWL BRANCH CIRCUIT METERING	E	PLUG	kW	X	X	X	X	kWh	X	X	X	X	
BUILDING HVAC/PLUMBING	VIR		kW	X	X	X	X	kWh	X	X	X	X	OBTAIN BY ADDING ALL BUILDING MECH METERS. DO NOT DOUBLE COUNT SUB-METERS.
BUILDING PLUG LOAD	VIR		kW	X	X	X	X	kWh	X	X	X	X	OBTAIN BY ADDING ALL BUILDING PLUG LOAD METERS. DO NOT DOUBLE COUNT SUB-METERS.
BOILER PLANT BTU METER	BTU	MECH	TONS	X	X	X	X	TON-HRS	X	X	X	X	
BOILER PLANT EFFICIENCY	VIR		kW/TON										SEE NOTE 10 BELOW.
NATURAL GAS SERVICE TO BOILER ROOM	NG	MECH	TH/H	X	X	X	X	THERMS	X	X	X	X	

GENERAL NOTES:

1. TYPE CODES:
   - E: ELECTRICITY
   - NG: NATURAL GAS
   - DW: DOMESTIC WATER
   - BTU: BTU METER
   - VIR: VIRTUAL METER OBTAINED VIA ADDITION OR SUBTRACTION
2. LOAD CATEGORIES:
   - MAIN: MAIN BUILDING METER
   - MECH: MECHANICAL
   - LTG: LIGHTING
   - PLB: PLUMBING
   - PLUG: PLUG LOAD
   - PROC: PROCESS
3. ALL METERS SHALL RECORD AT INTERVALS OF ONE HOUR OR LESS.
4. ALL METERS SHALL REPORT BOTH DEMAND (kW OR BTU/h) AND CONSUMPTION (kWh OR THERMS) UNLESS OTHERWISE NOTED.
5. MAIN ELECTRICAL SERVICE ENTRANCE METERS SHALL RECORD POWER FACTOR AND REPORT HOURLY. RECORD HOURLY VALUES FOR A MINIMUM OF THREE YEARS.
6. ALL METERS INDICATED SHALL HAVE DIRECT CONNECTION TO THE PROMENADE BUILDING BMS VIA SERIAL COMMUNICATION UNLESS OTHERWISE NOTED. RE: PROMENADE BUILDING DRAWINGS AND SPECIFICATIONS.
7. RECORDED DATA FOR EACH METER SHALL INCLUDE HOURLY, DAILY, MONTHLY, AND ANNUAL PEAK DEMAND AND TOTAL CONSUMPTION. INFORMATION FOR EACH METER POINT INDICATED SHALL BE REPORTED AT THE BMS OPERATOR STATION IN CALENDAR FORMAT. DATA SHALL BE STORED FOR A MINIMUM OF THREE YEARS.
8. METERED DATA SHALL BE REMOTELY ACCESSIBLE THROUGH THE BMS.
9. METERING SYSTEM SHALL BE EXPANDABLE TO INCLUDE ADDITIONAL METERS FOR SHELL AREAS INDICATED ON ARCHITECTURAL DRAWINGS.
10. REPORT HOURLY BOILER PLANT HEATING EFFICIENCY PERCENTAGE USING 1 HOUR MEASUREMENT OF TOTAL HEATING ENERGY PRODUCED (THERMS) DIVIDED BY SAME 1 HOUR MEASUREMENT OF TOTAL ENERGY CONSUMED (THERMS). REPORT MONTHLY MAXIMUM AND MINIMUM BOILER PLANT EFFICIENCY. DATA SHALL BE STORED FOR A MINIMUM OF THREE YEARS.
11. WHERE METERED CATEGORY VIRTUAL POINTS ARE INDICATED, DO NOT DOUBLE COUNT SUB-METERS. FOR METERS IN SERIES, COUNT ONLY THE UPSTREAM METER IN THE CATEGORY TOTAL.

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06/29/2021

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COLORADO LICENSED
MATHEW E. EDWARDS
56806
PROFESSIONAL ENGINEER
05/18/2021

Project Name

SSRC | BASE AREA IMPROVEMENTS

Project Number

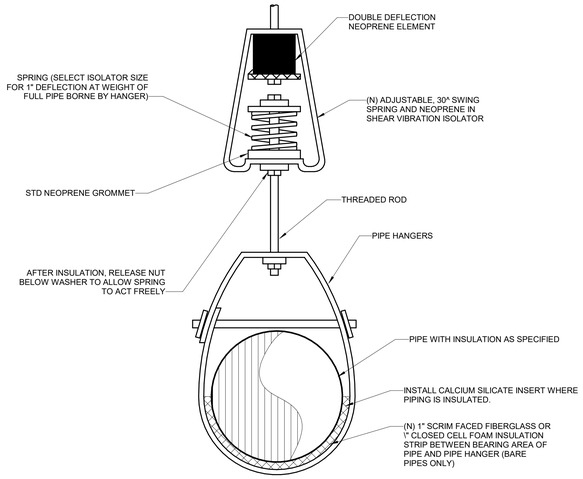
003.7835.000

Description

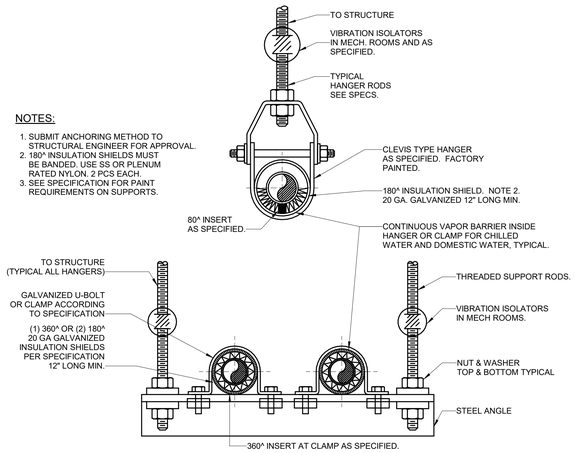
GOLD WALK - MECHANICAL CONTROLS

Scale

1B-M7.004



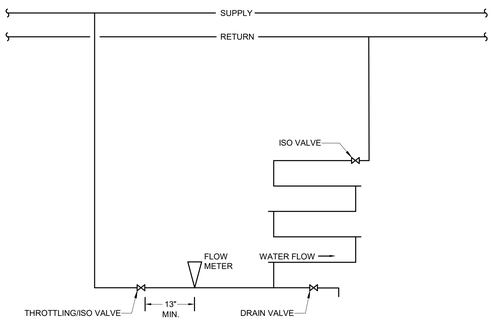
9 VIBRATION ISOLATION HANGER DETAIL1
NO SCALE



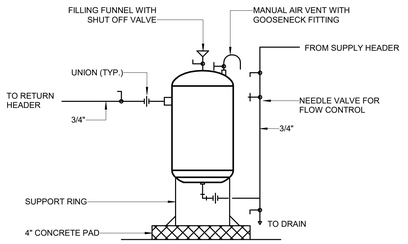
NOTES:

1. SUBMIT ANCHORING METHOD TO STRUCTURAL ENGINEER FOR APPROVAL.
2. 180° INSULATION SHIELDS MUST BE BANDED. USE SS OR PLENUM RATED NYLON. 2 PCS EACH.
3. SEE SPECIFICATION FOR PAINT REQUIREMENTS ON SUPPORTS.

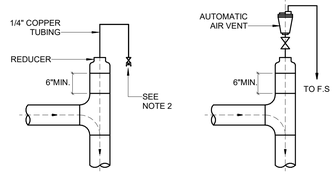
10 TYPICAL PIPE HANGER DETAIL
NO SCALE



11 CORROSION COUPON RACK
NO SCALE



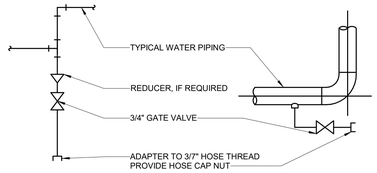
12 CHEMICAL POT FEEDER
NO SCALE



NOTE:

1. INSTALL MANUAL AIR VENT AT HIGH POINTS WHERE FLOW CHANGES DIRECTION. INSTALL AUTOMATIC AIR VENT TO PIPING WHICH INSTALLED IN EXPOSED AREA INCLUDING FAN ROOM AND MECHANICAL ROOM.
2. INSTALL HOSE VALVE ABOVE CEILING IN AN ACCESSIBLE LOCATION.
3. WELDED PIPE FITTING SHOWN. SCREWED FITTING SIMILAR.

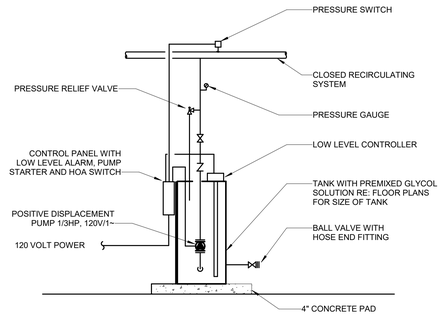
5 AIR VENT DETAIL
NO SCALE



NOTES:

1. PROVIDE DRAIN VALVES AT LOW POINTS OF WATER SYSTEM.
2. WHERE SCALE POCKETS ARE SHOWN ON PIPE RISER DIAGRAMS AND/OR PLANS LOCATE DRAIN AT BOTTOM OF SCALE POCKET.

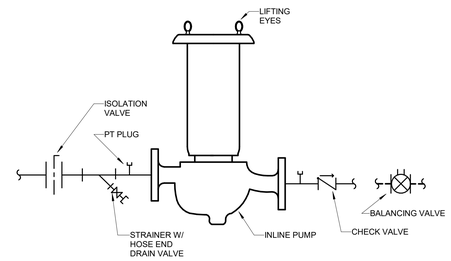
6 DRAIN VALVE CONNECTION DETAIL
NO SCALE



NOTE:

1. GLYCOL FEEDER SHALL BE A PACKAGED SYSTEM PROVIDED BY THE WATER TREATMENT SUPPLIER.

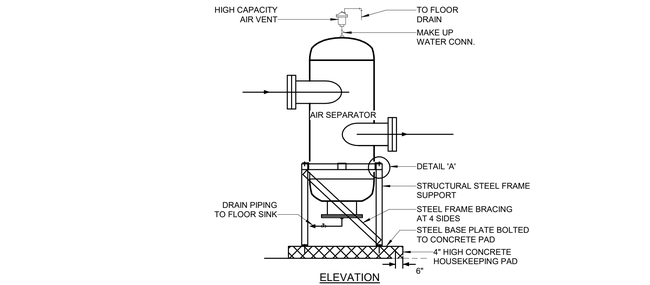
7 GLYCOL FEED ASSEMBLY DETAIL
NO SCALE

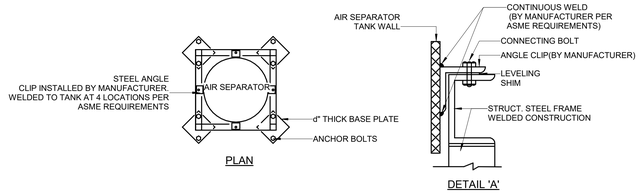


NOTE:

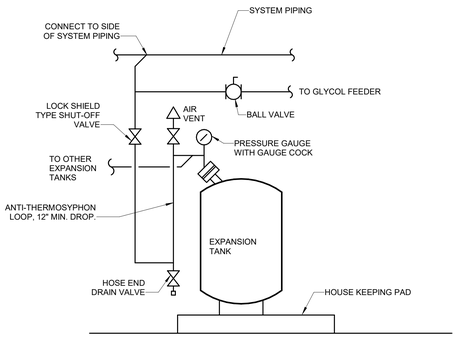
1. PROVIDE ANGLE IRON OR UNISTRUCT SUPPORTS FROM FLOOR FOR ALL INLINE PUMPS 7 HP & LARGER. SMALLER PUMPS MAY BE SUPPORTED FROM STRUCTURE ABOVE. PUMPS MUST BE SUPPORTED WITH VIBRATION ISOLATORS.
2. BALANCING VALVE LOCATED ON OPPOSITE SIDE OF BOILER FROM PRIMARY PUMPS. INSTALL BALANCING VALVE PER CONFIGURATION INDICATED ON BOILER DIAGRAM.

8 INLINE PRIMARY PUMP CONNECTION DETAIL
1/8" = 1'-0"

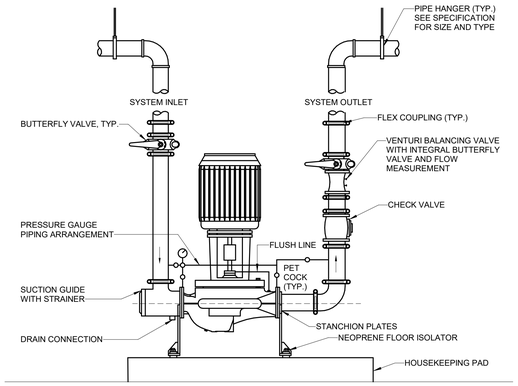




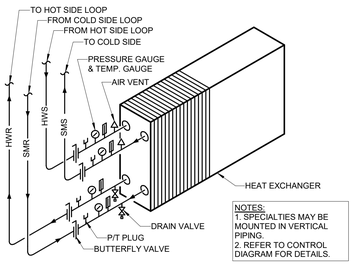
1 AIR SEPARATOR MOUNTING 1
NO SCALE



2 EXPANSION TANK DETAIL
NO SCALE



3 INLINE PUMP DETAIL - 5HP AND LARGER
NO SCALE



NOTES:
1. SPECIALTIES MAY BE MOUNTED IN VERTICAL PIPING.
2. REFER TO CONTROL DIAGRAM FOR DETAILS.

4 PLATE TYPE HEAT EXCHANGER DETAIL1
NO SCALE

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△	Date	Description
-	2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT

RCRBD
Record Set
TC
06/29/2021

Seal / Signature

COLORADO LICENSED
MATHEW E. EDWARDS
56806
PROFESSIONAL ENGINEER
05/18/2021

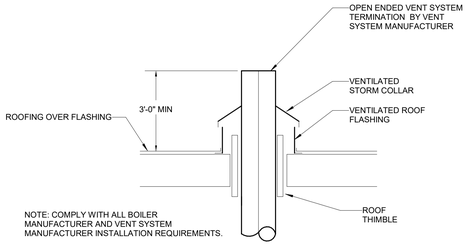
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

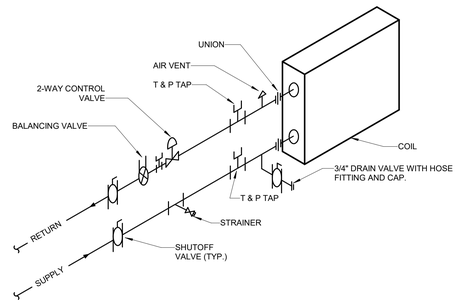
Description
GOLD WALK - MECHANICAL DETAILS

Scale
1/8" = 1'-0"

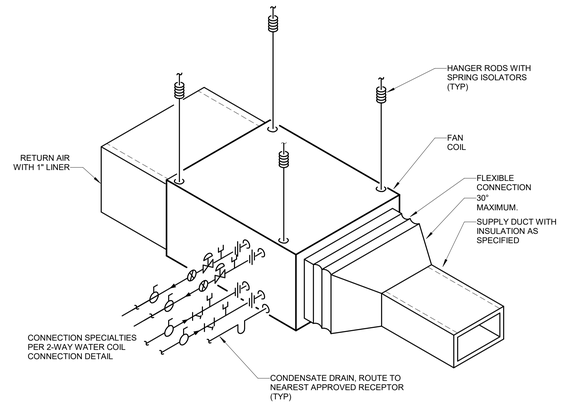
1B-M8.000



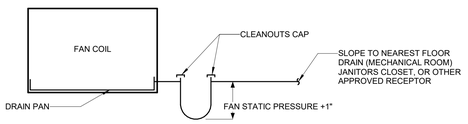
5 BOILER STACK DETAIL
NO SCALE



1 TYPICAL WATER COIL CONNECTION DETAIL (2 WAY CONTROL)
NO SCALE

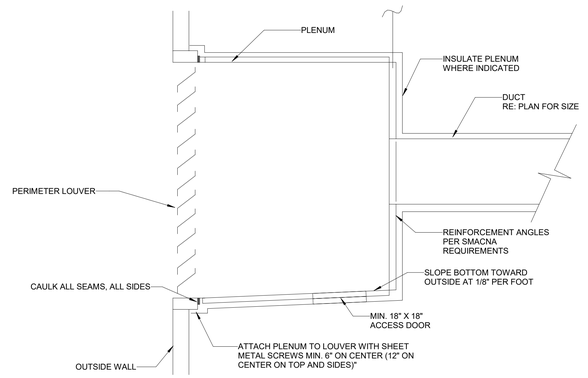


2 FAN COIL DETAIL
NO SCALE



NOTE:
1. INSULATE CONDENSATE DRAIN WHEN ABOVE CEILINGS.

3 FAN COIL UNIT CONDENSATE DRAIN DETAIL
NO SCALE



4 EXTERIOR LOUVER PLENUM BOX DETAIL
NO SCALE

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COLORADO LICENSED
MARWIN E. EDWARDS
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05/18/2021

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Project Number
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Description
GOLD WALK - MECHANICAL DETAILS

Scale
NO SCALE

1B-M8.001

EXPANSION TANK

CODE (ET)	MANUFACTURER/ MODEL NO.	SERVICE	DESIGN PARAMETERS SYSTEM VOLUME	DESIGN PARAMETERS MIN. TEMPERATURE (F)	DESIGN PARAMETERS MAX. TEMPERATURE (F)	OPERATING PARAMETERS MIN. PRESSURE (PSIG)	OPERATING PARAMETERS MAX. PRESSURE (PSIG)	CONFIG.	TYPE	MIN. ACCEPT. (GAL)	PRECHARGE (PSIG)	REMARKS
1B.01	TACO/CA800-125	HEATING HOT WATER	3,000	40	160	25	67.5	VERTICAL	B	211.0	25.0	A

GENERAL NOTES:
1. TYPE: B=FULL ACCEPTANCE BLADDER.
2. LOCATE GLYCOL FEEDER CONNECTION AT EXPANSION TANK CONNECTION TO HYDRONIC SYSTEM. REFER TO DETAIL.
3. PROVIDE MAKEUP WATER WITH FILL PRESSURE NO HIGER THAN 25 PSIG.
4. PROVIDE PRESSURE RELIEF VALVE SET AT 75 PSIG.

REMARK NOTES
A. FLUID CONTAINS 30% PROPYLENE GLYCOL.

AIR SEPARATOR

CODE (AS)	SERVICE	DESIGN PARAMETERS SYSTEM FLOW (GPM)	DESIGN PARAMETERS PIPE SIZE (IN)	MAX PD (FT. HD.)	MANUFACTURER/ MODEL NO.	DIMENSIONS DIAMETER (IN.)	DIMENSIONS HEIGHT (IN.)	WEIGHT (LBS)	REMARKS
1B.01	SNOWMELT SECONDARY LOOP	1,905	10"	1.5	TACO/ACT10F	30	58	2,200	A,B
1B.02	BUILDING HEAT SECONDARY LOOP	500	6"	1.5	TACO/ACT06F	20	41	800	A,C

GENERAL NOTES:
1. PROVIDE WITH INTEGRAL STRAINER. INSTALL WITH ADEQUATE CLEARANCE FOR STRAINER PULL.

REMARK NOTES
A. FLUID CONTAINS 30% PROPYLENE GLYCOL.
B. PROVIDE WITH FLOOR STAND SUPPORT.
C. SUSPEND FROM STRUCTURE.

BOILER SCHEDULE (HYDRONIC)

CODE (B)	MANUFACTURER/ MODEL NO.	INPUT (MBH) (S.L.)	OUTPUT (MBH) (ALT.)	GPM	WPD (FT)	ELECTRICAL VOLT	PH	FLA	FUSE	DISCON.	FEEDER	WEIGHT (LBS)	REMARKS
1B.01	LOCHINVAR/CREST FB-5001	5,000	4,314	455	14	480	3	5	15A LPS-RK	30A/3P	(3#12, #12G) 3/4"C	6,000	
1B.02	LOCHINVAR/CREST FB-5001	5,000	4,314	455	14	480	3	5	15A LPS-RK	30A/3P	(3#12, #12G) 3/4"C	6,000	
1B.03	LOCHINVAR/CREST FB-5001	5,000	4,314	455	14	480	3	5	15A LPS-RK	30A/3P	(3#12, #12G) 3/4"C	6,000	
1B.04	LOCHINVAR/CREST FB-5001	5,000	4,314	455	14	480	3	5	15A LPS-RK	30A/3P	(3#12, #12G) 3/4"C	6,000	
1B.05	LOCHINVAR/CREST FB-5001	5,000	4,314	455	14	480	3	5	15A LPS-RK	30A/3P	(3#12, #12G) 3/4"C	6,000	
1B.06	LOCHINVAR/CREST FB-5001	5,000	4,314	455	14	480	3	5	15A LPS-RK	30A/3P	(3#12, #12G) 3/4"C	6,000	
1B.07	LOCHINVAR/CREST FB-5001	5,000	4,314	455	14	480	3	5	15A LPS-RK	30A/3P	(3#12, #12G) 3/4"C	6,000	

GENERAL NOTES:
1. EWT = 130'F, LWT = 150'F.
2. 30% PROPYLENE GLYCOL HEATING FLUID.
3. JOB SITE ELEVATION = 6,700 FT.
4. FUEL TYPE = NATURAL GAS.
5. COMMON VENT CONFIGURATION WITH DOUBLE WALL FIBER INSULATED STAINLESS STEEL VENTING SYSTEM AND AUTOMATED VENT DAMPERS BY VENT DUCT MANUFACTURER.
6. PROVIDE CONDENSATE NEUTRALIZATION SYSTEM WITH EACH BOILER.
7. FORCE DRAFT, LOW NOX BURNER. ADJUST TO MINIMIZE LOSS DUE TO OPERATING ELEVATION.
8. BOILER PLANT SIZED FOR N+1 REDUNDANCY WITH FULLY REDUNDANT BOILER AND ASSOCIATED PRIMARY PUMP.

PUMP SCHEDULE

CODE	MANUFACTURER/ MODEL NO.	SERVICE	PUMP TYPE	GPM	HEAD (FT)	NPSHR (FT)	IMPELLER DIA (IN)	BHP	ELECTRICAL HP	VOLT	PH	FLA	FUSE	DISCON.	FEEDER	REMARKS
HWP-1B.01	TACO/KV 5007D	PRIMARY HEATING LOOP	INLINE	455	25	7.2	6	3.48	5	460	3	8	15A LPS-RK	30A/3P	(3#12, #12G) 3/4"C	C
HWP-1B.02	TACO/KV 5007D	PRIMARY HEATING LOOP	INLINE	455	25	7.2	6	3.48	5	460	3	8	15A LPS-RK	30A/3P	(3#12, #12G) 3/4"C	C
HWP-1B.03	TACO/KV 5007D	PRIMARY HEATING LOOP	INLINE	455	25	7.2	6	3.48	5	460	3	8	15A LPS-RK	30A/3P	(3#12, #12G) 3/4"C	C
HWP-1B.04	TACO/KV 5007D	PRIMARY HEATING LOOP	INLINE	455	25	7.2	6	3.48	5	460	3	8	15A LPS-RK	30A/3P	(3#12, #12G) 3/4"C	C
HWP-1B.05	TACO/KV 5007D	PRIMARY HEATING LOOP	INLINE	455	25	7.2	6	3.48	5	460	3	8	15A LPS-RK	30A/3P	(3#12, #12G) 3/4"C	C
HWP-1B.06	TACO/KV 5007D	PRIMARY HEATING LOOP	INLINE	455	25	7.2	6	3.48	5	460	3	8	15A LPS-RK	30A/3P	(3#12, #12G) 3/4"C	C
HWP-1B.07	TACO/KV 5007D	PRIMARY HEATING LOOP	INLINE	455	25	7.2	6	3.48	5	460	3	8	15A LPS-RK	30A/3P	(3#12, #12G) 3/4"C	C
HWP-1B.08	TACO/SKV 3009D	BUILDING SECONDARY LOOP	INLINE	250	75	6	9	6	7.5	460	3	11	15A LPS-RK	30A/3P	(3#12, #12G) 3/4"C	A,B,C
HWP-1B.09	TACO/SKV 3009D	BUILDING SECONDARY LOOP	INLINE	250	75	6	9	6	7.5	460	3	11	15A LPS-RK	30A/3P	(3#12, #12G) 3/4"C	A,B,C
HWP-1B.10	TACO/SKV 6007D	SNOWMELT SECONDARY LOOP	INLINE	635	40	9	7.25	7.31	10	460	3	14	20A LPS-RK	30A/3P	(3#12, #12G) 3/4"C	A,C,F
HWP-1B.11	TACO/SKV 6007D	SNOWMELT SECONDARY LOOP	INLINE	635	40	9	7.25	7.31	10	460	3	14	20A LPS-RK	30A/3P	(3#12, #12G) 3/4"C	A,C,F
HWP-1B.12	TACO/SKV 6007D	SNOWMELT SECONDARY LOOP	INLINE	635	40	9	7.25	7.31	10	460	3	14	20A LPS-RK	30A/3P	(3#12, #12G) 3/4"C	A,C,F
GP-1B.01	NEPTUNE/G-50	GLYCOL FEEDER	POS. DISP.	--	--	--	--	--	0.5	120	1	10	-	CORD & PLUG	(2#12, #12G) 3/4"C	C,D

GENERAL NOTES:
1. PROVIDE MAGNETIC STARTER WITH AUXILIARY CONTACTS AND HOA SWITCH ON ALL THREE PHASE MOTORS.
2. PROVIDE PREMIUM EFFICIENCY MOTORS FOR MOTORS 1 HP AND OVER PER NEMA STANDARD MG1-2003, TABLES 12-12 AND 12-13.
3. FOR PARALLEL PUMP APPLICATIONS MANUFACTURER SHALL REVIEW SINGLE PUMP OPERATION SUCH THAT PUMP CAN OPERATE AND NOT EXCEED THE END OPERATION POINT ON THE PUMP CURVE AND MOTOR HP IS PROPERLY SELECTED TO PREVENT OVERLOADING.
4. NPSHR AT SCHEDULED OPERATING POINT SHALL NOT EXCEED 0.8*NPSHA.
5. REFER TO DRAWINGS TO DETERMINE REQUIRED PUMP ROTATION. COORDINATE WITH MECHANICAL CONTRACTOR PRIOR TO ORDERING.

REMARK NOTES:
A. PROVIDE WITH VARIABLE FREQUENCY DRIVE WITH INTEGRAL OVER-CURRENT PROTECTION AND GROUND FAULT PROTECTION PER NEC 430. VARIABLE FREQUENCY DRIVE SHALL BE INTEGRAL TO THE PUMP.
B. 50% CAPACITY (PARALLEL PUMP APPLICATION).
C. FLUID CONTAINS 30% PROPYLENE GLYCOL. ALL PUMP COMPONENTS IN CONTACT WITH FLUID SHALL BE COMPATIBLE WITH GLYCOL. ADJUST STANDARD CATALOG PERFORMANCE TO ACCOUNT FOR USE OF GLYCOL.
D. ELECTRICAL CONNECTION TO 120V WALL RECEPTACLE.
E. FLUID CONTAINS 30% PROPYLENE GLYCOL.
F. 33% CAPACITY (PARALLEL PUMP APPLICATION).

PLATE HEAT EXCHANGER SCHEDULE

CODE (PHX)	MANUFACTURER/ MODEL NO.	TOTAL HEAT TRANSFER...	HOT SIDE EWT (F)	HOT SIDE LWT (F)	HOT SIDE FLUID	HOT SIDE GPM	HOT SIDE WPD (FT)	COLD SIDE EWT (F)	COLD SIDE LWT (F)	COLD SIDE FLUID	COLD SIDE GPM	COLD SIDE WPD (FT)	DIMENSIONS HEIGHT (IN)	DIMENSIONS WIDTH (IN)	DIMENSIONS LENGTH (IN)	OPERATING WEIGHT (LBS)	REMARKS
1B.01	TACO/PF...	17,800	150	130	30% PG	1870	12.3	125	145	50% PG	1980	14.5	85	31	127	12,000	

GENERAL NOTES:
1. 150 PSIG MAX OPERATING PRESSURE.

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COLORADO LICENSED MATHEW E. EDWARDS 56806 PROFESSIONAL ENGINEER
05/18/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

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003.7835.000

Description
GOLD WALK - MECHANICAL SCHEDULES

Scale

1B-MEP0.000

HORIZONTAL FAN COIL SCHEDULE (HYDRONIC)

CODE (HFCU)	MANUFACTURER/ MODEL NO.	AREA SERVED	FAN SUPPLY CFM	FAN ESP (IN.)	COOLING COIL EAT (°F) DB	EAT (°F) WB	TOTAL MBH	SENS MBH	MAX LAT(°F)	GPM	ROW	WPD (FT)	HEATING COIL EAT (°F)	MBH	MIN LAT(°F)	GPM	ROW	WPD (FT)	ELECTRICAL HP	VOLT	PH	FLA	DISCON.	FEEDER	FUSE	REMARKS
3	ENGINEERED COMFORT/D35FHZW-24	3 TON	1800	0.3	75	62	38.7	31.1	55	8.1	5	3.6	65	31.1	85	3.5	1	6.5	1/2	120	1	11.8	$.T.O.	(2#12, #12G) 3/4"C	-	
4	ENGINEERED COMFORT/D35FHZW-30	4 TON	2300	0.3	75	62	49.5	39.8	55	10.4	5	2.3	65	40.5	85	4.6	1	3.2	1/2	120	1	12.6	$.T.O.	(2#12, #12G) 3/4"C	-	A
5	ENGINEERED COMFORT/D35FHZW-30	4 TON	2300	0.3	75	62	49.5	39.8	55	10.4	5	2.3	-	-	-	-	-	-	1/2	120	1	12.6	$.T.O.	(2#12, #12G) 3/4"C	-	A

GENERAL NOTES:
1. CHILLED WATER: EWT = 44˚F, LWT = 54˚F, 30% PROPYLENE GLYCOL.
2. HEATING WATER: EWT = 150˚F, LWT = 130˚F, 30% PROPYLENE GLYCOL.
3. PROVIDE 2" MERV 8 THROW AWAY FILTERS.
4. SCHEDULED FAN VALUES (CFM, SP AND HP) ARE ACTUAL AT ALTITUDE. MOTOR HP HAS BEEN ADJUSTED FROM SEA LEVEL CONDITIONS FOR OPERATION AT JOBSITE ELEVATION. JOB SITE ELEVATION = 6700 FT.
5. PROVIDE PREMIUM EFFICIENCY MOTORS FOR MOTORS 1 HP AND OVER PER MENA STANDARD MG1-2003, TABLES 12-12 AND 12-13.
6.PROVIDE CONDENSATE PUMP POWERED FROM EQUIPMENT. PUMP SHALL BE PROVIDED WITH VOLTAGE MATCHING FAN COIL UNIT. IF TRANSFORMER IS PROVIDED FOR CONDENSATE PUMP OPERATION, PROVIDE LINE ITEM COST. GRAVITY DRAINAGE ACCEPTABLE WHERE POSSIBLE.
7. DESIGN OUTSIDE AIR CONDITIONS:
COOLING: 88F dB/56.2F wB
HEATING: -10F dB

REMARK NOTES:
A. PROVIDE DUCT SMOKE DETECTORS PER CODE FOR ALL UNITS 2000 CFM OR GREATER.

HIGH WALL FAN COIL SCHEDULE (HYDRONIC)

CODE (WFCU)	MANUFACTURER/ MODEL NO.	AREA SERVED	FAN SUPPLY CFM	FAN ESP (IN.)	COOLING COIL EAT (°F) DB	EAT (°F) WB	TOTAL MBH	SENS MBH	MAX LAT(°F)	GPM	ROW	WPD (FT)	ELECTRICAL HP	VOLT	PH	FLA	DISCON.	FEEDER	FUSE	REMARKS
1B.01	MULTIAQUA/MHWW-36-H-3	ELECTRICAL	850	0	80	67	36.0	22.0	55	9.5	1	24.5	1/12	120	1	0.9	$.T.O	(2#12, #12G) 3/4"C	-	A
1B.02	MULTIAQUA/MHWW-12-H-3	ESCALATOR MECH	330	0	80	67	12.0	8.7	55	4	1	12.6	1/60	120	1	0.33	$.T.O	(2#12, #12G) 3/4"C	-	A

GENERAL NOTES:
1. CHILLED WATER: EWT = 44˚F, LWT = 54˚F, 30% PROPYLENE GLYCOL.
2. SCHEDULED FAN VALUES (CFM, SP AND HP) ARE ACTUAL AT ALTITUDE. MOTOR HP HAS BEEN ADJUSTED FROM SEA LEVEL CONDITIONS FOR OPERATION AT JOBSITE ELEVATION. JOB SITE ELEVATION = 6700 FT.
3. PROVIDE PREMIUM EFFICIENCY MOTORS FOR MOTORS 1 HP AND OVER PER MENA STANDARD MG1-2003, TABLES 12-12 AND 12-13.
4.PROVIDE CONDENSATE PUMP POWERED FROM EQUIPMENT. PUMP SHALL BE PROVIDED WITH VOLTAGE MATCHING FAN COIL UNIT. IF TRANSFORMER IS PROVIDED FOR CONDENSATE PUMP OPERATION, PROVIDE LINE ITEM COST. GRAVITY DRAINAGE ACCEPTABLE WHERE POSSIBLE.
5. DESIGN OUTSIDE AIR CONDITIONS:
COOLING: 88F dB/56.2F wB
HEATING: -10F dB

REMARK NOTES:
A. PROVIDE REMOTE THERMOSTAT.

UNIT HEATER SCHEDULE (HYDRONIC)

CODE (UH)	MANUFACTURER/ MODEL NO.	SERVICE	CAPACITY (MBH)	WATER SIDE GPM	WATER SIDE WPD (FT)	AIR SIDE EAT (F)	AIR SIDE LAT (F)	AIR SIDE CFM	ELECTRICAL WATTS	VOLT	PH	FLA	DISC	FUSE	FEEDER	REMARKS
2	TRANE / UHSB18	SEE PLANS	18	1.9	2.2	60	95	500	16	120	1	1	$.T.O.	-	(2#12, #12G) 3/4"C	A,B
3	TRANE / UHSB25	SEE PLANS	24	2.5	2.2	60	95	580	25	120	1	1	$.T.O.	-	(2#12, #12G) 3/4"C	A,B

GENERAL NOTES
1. EWT =150F, LWT = 130F.
2. WATER CONTAINS 30% PROPYLENE GLYCOL.
3. JOB SITE ELEVATION = 6700 FT.

REMARK NOTES
A. PROVIDE WALL MOUNTED THERMOSTAT.
B. HORIZONTAL DISCHARGE W/ LOUVER.

LOUVER SCHEDULE

CODE (LV)	MANUFACTURER/ MODEL NO.	SERVICE	AIRFLOW (CFM)	MINIMUM FREE AREA...	FACE... (IN X IN)	REMARKS
1B.01	RUSKIN/ELF6375DX	BOILER COMBUSTION AIR	10,000	20	84X60	

GENERAL NOTES:
1. LOUVERS ARE PROVIDED BY DIVISION 23.
2. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL DETAILS.

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Date	Description
2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT

RCRBD
Record Set
TC
06/29/2021

Seal / Signature

COLORADO LICENSED MARWIN E. EDWARDS 56806 PROFESSIONAL ENGINEER
05/18/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
GOLD WALK - MECHANICAL SCHEDULES

Scale

1B-MEP0.001

NOTES

1. ALL EXPOSED RACEWAYS ARE TO BE INSTALLED PARALLEL OR PERPENDICULAR TO WALLS OR STRUCTURAL MEMBERS SUCH THAT THEY FOLLOW STRUCTURAL SURFACE CONTOURS AND SHALL BE INSTALLED SUCH THAT THEY DO NOT OBSTRUCT PASSAGEWAYS OR ACCESS TO EQUIPMENT. MULTIPLE RACEWAYS SHOULD BE INSTALLED GROUPED TOGETHER. THE LOCATION OF PUBLICLY VISIBLE RACEWAYS SHALL BE APPROVED BY THE ARCHITECT PRIOR TO INSTALLATION. (EXTRA TIME SHOULD BE ALLOWED FOR THIS REVIEW AND APPROVAL.)
2. THE DISCONNECTING MEANS FOR ALL MECHANICAL EQUIPMENT SHALL BE ACCESSIBLE AND HAVE THE CLEARANCE IN FRONT AS REQUIRED BY NEC AMENDMENTS.
3. ALL CEILING ATTACHED OBJECTS AND FLOOR ATTACHED EQUIPMENT INCLUDING BUT NOT LIMITED TO PENDANT LIGHTING FIXTURES, GENERAL LIGHTING, MULTIPLE RACEWAYS, GENERATOR, TRANSFORMER ELECTRICAL SWITCHGEAR, AND SWITCHBOARDS SHALL BE INSTALLED IN ACCORDANCE WITH SUPPORTING OBJECTS FOR SEISMIC ZONE AS REQUIRED BY STATE AND LOCAL CODES.
4. ALL SWITCHGEAR, SWITCHBOARDS AND TRANSFORMERS SHALL HAVE A 4 INCH HOUSE KEEPING PAD. UNDER NO CONDITION SHALL THE HIGHEST SWITCH OR BREAKER EXCEED 6'-6" AFF.
5. DATA GIVEN ON THE DRAWINGS IS AS EXACT AS COULD BE SECURED. ABSOLUTE ACCURACY IS NOT GUARANTEED AND THE CONTRACTOR SHALL OBTAIN AND VERIFY EXACT LOCATIONS, MEASUREMENTS, LEVELS, SPACE REQUIREMENTS, POTENTIAL CONFLICTS WITH OTHER TRADES, ETC. AT THE SITE AND SHALL SATISFACTORILY ADAPT THEIR WORK TO ACTUAL CONDITIONS AT THE BUILDINGS. THE DRAWINGS ARE DIAGRAMMATICAL IN NATURE AND SHALL NOT BE SCALED. HOWEVER THIS DOES NOT RELIEVE ANY SUB-CONTRACTOR FROM COORDINATING THEIR WORK WITH ALL OTHER TRADES AND FROM ADJUSTING THEIR WORK AS REQUIRED BY THE ACTUAL CONDITIONS OF THE PROJECT. THE CONTRACTOR SHALL VISIT THE SITE BEFORE SUBMITTING COSTS TO BECOME THOROUGHLY FAMILIAR WITH THE ACTUAL CONDITIONS OF THE PROJECT.
6. COORDINATE AND ADJUST ALL WORK BETWEEN TRADES AND EXISTING CONDITIONS IN ORDER TO ACCOMPLISH A NEAT, INTEGRATED AND EFFICIENT INSTALLATION WHICH INCLUDE BUT ARE NOT LIMITED TO:

   a. EXAMINE THE CONTRACT DOCUMENTS OF ALL TRADES (IE. THE ARCHITECTURAL REFLECTED CEILING PLAN, MECHANICAL HVAC DRAWINGS, ELECTRICAL LIGHTING PLAN, FIRE PROTECTION PLAN, ETC.).

   b. COORDINATE NECESSARY EQUIPMENT, FIXTURES, ETC. SO THAT THE FINAL INSTALLATION IS COMPATIBLE WITH THE MATERIALS AND EQUIPMENT OF THE OTHER TRADES.

   c. THIS CONTRACTOR SHALL ASSIST THE DIVISION 23 CONTRACTOR IN PREPARING SHOP DRAWINGS FOR COORDINATING INSTALLATION OF ALL WORK (IE. LOCATING ALL LIGHTING FIXTURES IN CEILING WITH CEILING CLEARANCES, RACEWAYS, PIPING, EQUIPMENT FOR CLEARANCE THROUGHOUT).

   d. THE ELECTRICAL DRAWINGS INDICATE THE ELECTRICAL REQUIREMENTS FOR A SIGNIFICANT PORTION OF THE MECHANICAL AND PLUMBING SYSTEMS. ADDITIONAL MECHANICAL AND PLUMBING EQUIPMENT IS INDICATED ON THE DIVISION 23 DRAWINGS. REFER TO MECHANICAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION. PROVIDE COMPLETE WIRING AND FUSIBLE DISCONNECTING MEANS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT.
7. DEFINITIONS:

   a. "FURNISH" MEANS TO "SUPPLY" AND USUALLY REFERS TO AN ITEM OF EQUIPMENT.

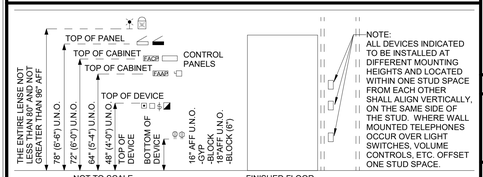
   b. "INSTALL" MEANS TO "SET IN PLACE, CONNECT AND PLACE IN FULL OPERATIONAL ORDER".

   c. "PROVIDE" MEANS TO "FURNISH AND INSTALL".

   d. "EQUIVALENT" MEANS "MEETS THE SPECIFICATIONS OF THE REFERENCE PRODUCT OR ITEM IN ALL SIGNIFICANT ASPECTS." SIGNIFICANT ASPECTS SHALL BE DETERMINED BY THE ENGINEER.

   e. "RE:_____DIVISION", AND SIMILAR EXPRESSIONS MEANS WORK TO BE PERFORMED UNDER THE CONTRACT DOCUMENTS, BUT NOT NECESSARILY UNDER THE DIVISION OR SECTION OF THE WORK ON WHICH THE NOTE APPEARS. IT IS THE CONTRACTORS SOLE RESPONSIBILITY TO COORDINATE THE WORK OF THE CONTRACT BETWEEN THEIR SUPPLIERS, SUBCONTRACTORS, AND EMPLOYEES. IF CLARIFICATION IS REQUIRED, CONSULT ARCHITECT.
8. "FIRESTOPPING" REQUIREMENT. ALL PENETRATIONS THROUGH RATED WALLS AND FLOORS SHALL BE SEALED WITH MATERIAL CAPABLE OF PREVENTING THE PASSAGE OF FLAMES AND HOT GASSES WHEN SUBJECTED TO THE REQUIREMENTS OF THE TEST STANDARD SPECIFIC FOR FIRE STOPS ASTM-E-814. ALL PENETRATIONS SHALL MEET F AND T RATINGS AS REQUIRED BY THE BUILDING CODE.
9. WHERE DISCONNECTS ARE INDICATED ON DRAWINGS CONTRACTOR SHALL PROVIDE FINAL CONNECTION FROM DISCONNECT TO EQUIPMENT BEING SERVED.
10. CONTRACTOR SHALL PROVIDE ALL MISCELLANEOUS SUPPORTS AS REQUIRED FOR A COMPLETE OPERABLE ELECTRICAL INSTALLATION INCLUDING MISCELLANEOUS STEEL, UNI-STRUT, ALL-THREAD, AIRCRAFT CABLE, ETC.
11. PROVIDE A DEDICATED NEUTRAL CONDUCTOR FOR ALL SINGLE PHASE CIRCUITS. A SHARED NEUTRAL CONDUCTOR IS NOT ACCEPTABLE ON SINGLE PHASE CIRCUITS.
12. EQUIPMENT INTERRUPTING RATINGS INDICATED ON THE DRAWINGS ARE BASED ON PRELIMINARY INFORMATION AND ARE SHOWN FOR BIDDING PURPOSES ONLY. VERIFY EQUIPMENT INTERRUPTING CAPACITY REQUIREMENTS PRIOR TO ORDERING ANY RELATED ELECTRICAL DISTRIBUTION EQUIPMENT.
13. PROVIDE NEW TYPE WRITTEN DIRECTORIES FOR ALL PANELBOARDS INSTALLED OR MODIFIED UNDER THIS CONTRACT.
14. ALL CIRCUIT BREAKER LUGS SHALL BE RATED FOR A MINIMUM OF 75 DEGREES CELSIUS.
15. ALL MATERIALS IN CEILING PLENUMS NOT ENCLOSED IN METALLIC CONDUIT SHALL HAVE CLASS, FLAME SPREAD AND SMOKE DEVELOPMENT RATINGS AS REQUIRED FOR USE IN OPEN PLENUMS.
16. VOLTAGE DROP: THE ELECTRICAL CONTRACTOR SHALL ENSURE THAT VOLTAGE DROP FOR FEEDERS TO DISTRIBUTION EQUIPMENT DOES NOT EXCEED 2% AND VOLTAGE DROP IN BRANCH CIRCUITING DOES NOT EXCEED 3% FOR OVERALL VOLTAGE DROP OF 5% (MAXIMUM). FEEDERS LISTED ON SCHEDULES AND THE ELECTRICAL ONE-LINE DIAGRAM ARE A BASE FEEDER/BRANCH CIRCUIT SIZE AND SHALL BE ADJUSTED AS NEEDED BASED ON ACTUAL LENGTH OF CONDUCTORS.
17. REFER TO GENERAL NOTES FOR NUMBER OF PANEL SECTIONS AND QUANTITY OF CIRCUIT BREAKERS PANEL SCHEDULES SUPERCEDE ALL NOTES.
18. REFER TO SPECIFICATIONS FOR ADDITIONAL PROJECT REQUIREMENTS.

TYPICAL DEVICE MOUNTING HEIGHTS



NOTE:
ALL DEVICES INDICATED TO BE INSTALLED AT DIFFERENT MOUNTING HEIGHTS AND LOCATED WITHIN ONE STUD SPACE FROM EACH OTHER SHALL ALIGN VERTICALLY, ON THE SAME SIDE OF THE STUD. WHERE WALL MOUNTED TELEPHONES OCCUR OVER LIGHT SWITCHES, VOLUME CONTROLS, ETC. OFFSET ONE STUD SPACE.

NOTES:

1. MOUNTING HEIGHTS SHOWN ON ARCHITECTURAL ELEVATIONS SHALL GOVERN OVER THOSE SHOWN ABOVE.
2. CONTRACTOR SHALL ENSURE THAT ALL MOUNTING HEIGHTS COMPLY WITH CURRENT ADA AND A117.1 REQUIREMENTS.
3. WHERE EVER DEVICES ARE INDICATED TO BE ABOVE DOORS, DEVICE SHALL BE CENTERED BETWEEN TOP OF DOOR TRIM AND CEILING LINE.
4. ALL ABOVE COUNTER (DESIGNATED BY "AC") SHALL BE MOUNTED 8" ABOVE COUNTER OR MAXIMUM HEIGHT OF 44" TO TOP OF DEVICE. VERIFY HEIGHTS WITH ARCHITECT.
5. FOR CEILINGS BELOW 7'-4", FIRE ALARM STROBE OR HORN/STROBES SHALL BE WALL MOUNTED 6" BELOW FINISHED CEILING.
6. RESIDENTIAL LOAD CENTER TO BE INSTALLED WITH BREAKERS BETWEEN 15" AND 48" ABOVE FINISHED FLOOR.
7. SWITCH TO BE MOUNTED ON LATCH SIDE OF THE DOOR WITHIN 12" OF THE DOOR.
8. DEVICES AT SAME HEIGHT LOCATED NEXT TO EACH OTHER TO BE ALIGNED VERTICALLY TO THE BOTTOM OF THE DEVICE.

CODES AND STANDARDS

DESIGNED UNDER THE FOLLOWING CODES AND STANDARDS:
2020 NATIONAL ELECTRICAL CODE
2018 INTERNATIONAL BUILDING CODE
2018 STEAMBOAT SPRINGS AMENDMENTS TO THE 2018 INTERNATIONAL BUILDING CODES
ASHRAE 90.1 - 2016
2018 INTERNATIONAL FIRE CODE
2009 ANSI A117.1, ACCESSIBILITY REQUIREMENTS
ANSI/ASME A17.1, SAFETY CODE FOR ELEVATORS
NFPA 72 NATIONAL FIRE ALARM CODE

ABBREVIATIONS

A

A/AMP	AMPERE
AC	ABOVE COUNTER
AF	AMPERE FUSE/FRAME
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AIC	AVAILABLE INTERRUPT CURRENT
AL	ALUMINUM
AM	AMMETER
ANN	ANNUNCIATOR
ANT	ANTENNA
ASC	AVAILABLE SHORT-CIRCUIT CURRENT
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AUX	AUXILIARY
AWG	AMERICAN WIRE GAUGE

B

BCST	BROADCAST
BFC	BELOW FINISHED CEILING
BFG	BELOW FINISHED GRADE
BKR	BREAKER
BOH	BACK OF HOUSE
BW	BUS-WAY

C

C	CONDUIT
CAB	CABINET
CAM	CAMERA
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CKT	CIRCUIT
CO	CONDUIT ONLY
COMB	COMBINATION
COMP	COMPUTER
COND	CONDUCTOR
CT	CURRENT TRANSFORMER
CU	COPPER

D

D	DEMOLISH
DAS	DISTRIBUTED ANTENNA SYSTEM
dB	DECIBEL
DEMARC	DEMARCATION
DISC	DISCONNECT
DL	DAMP LABEL
DP	DISTRIBUTION PANEL
DPDT	DOUBLE POLE, DOUBLE THROW
DWG	DRAWING
DVR	DIGITAL VIDEO RECORDER

E

E/EX	EXISTING
EA	EACH
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
EG	EQUIPMENT GROUND
EHC	ELECTRIC HEATING COIL
ELEC	ELECTRIC OR ELECTRICAL
ELEV	ELEVATOR
EM	EMERGENCY
EMT	ELECTRIC METALLIC TUBING
ENG	ELECTRONIC NEWS GATHERING
EOL	F/A END OF LINE RESISTOR
EQP	EQUIPMENT
ER	EXISTING TO BE REMOVED/RELOCATED
EV	ELECTRIC VEHICLE
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EXH	EXHAUST

F

F	FUSE
F/A	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FAPS	FIRE ALARM POWER SUPPLY
FATC	FIRE ALARM TERMINAL CABINET
FBO	FURNISHED BY OTHERS
FC	FOOTCANDLES
FDR	FEEDER
FCU	FAN COIL UNIT
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE
FLR	FLOOR
FPB	FAN POWERED BOX
FUT	FUTURE

G

GALV	GALVANIZED
GB	GROUNDING BUS
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GND	GROUND

H

HC	HORIZONTAL CROSS CONNECT
HD	HEAVY DUTY
HH	HAND HOLE
HOA	HAND-OFF-AUTO
HP	HORSEPOWER
HPF	HIGH POWER FACTOR
HTR	HEATER

I

IC	INTERMEDIATE CROSS CONNECT
ID	INSIDE DIAMETER
IDF	INTERMEDIATE DISTRIBUTION FRAME
IMC	INTERMEDIATE GRADE METALLIC CONDUIT

J

J-BOX	JUNCTION BOX
JBA	AUDIO CONNECTION BOX
JBC	COACHES JUNCTION BOX
JBE	ENG BROADCAST BOX
JBT	NETWORK BROADCAST CONNECTION BOX

K

KCMIL/MCM	THOUSAND OF CIRCULAR MILLS
KVA	KILOVOLT AMPERE
KW	KILOWATT
KWH	KILOWATT HOUR

L

LA	LIGHTNING ARRESTOR
LAN	LOCAL AREA NETWORK
LCP	LIGHTING CONTROL PANEL
LED	LIGHT EMITTING DIODE
LFC	LIQUID TIGHT FLEXIBLE CONDUIT
LT	LOW TEMPERATURE RATED DEVICES OR SIMILAR
LTG	LIGHTING
LV	LOW VOLTAGE

M

MA	MILLIAMPERE
MAX	MAXIMUM
MB	MAIN BREAKERS
MC	MECHANICAL CONTRACTOR OR METAL CLAD
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MDF	MAIN DISTRIBUTION FRAME
MDP	MAIN DISTRIBUTION PANEL
MECH	MECHANICAL
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MOCP	MAXIMUM OVERCURRENT PROTECTION
MOV	MOTOR OPERATED VALVE
MPOE	MAIN POINT OF ENTRY
MTG	MOUNTING HEIGHT
MTS	MANUAL TRANSFER SWITCH
MS	MOTOR STARTER
MSB	MAIN SWITCHBOARD
MTD	MOUNTED
MTG	MOUNTING
MTGB	MAIN TELECOMMUNICATIONS GROUND BUS
MTR	MAIN TELECOM ROOM
MV	MEDIUM VOLTAGE

N

N	NEUTRAL
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NF	NON FUSED
NIC	NOT IN CONTRACT
NC	NORMALLY CLOSED
NL	NIGHT LIGHT
NO	NORMALLY OPEN
NTS	NOT TO SCALE

O

OC	ON CENTER
OCP	OVERCURRENT PROTECTION
OD	OUTSIDE DIAMETER
OH	OVERHEAD

P

P	POLE
PA	PUBLIC ADDRESS
PB	PUSH BUTTON
PE	PHOTOELECTRIC
PF	POWER FACTOR
PH	PHASE
PNL	PANEL
PR	PAIR
PRI	PRIMARY
PT	POTENTIAL TRANSFORMER
PV	PHOTOVOLTAIC
PVC	POLYVINYL CHLORIDE
PWR	POWER

Q

QE	QUADRANT ELECTRICAL (ARENA SPECIFIC)
QT	QUADRANT TELECOM (ARENA SPECIFIC)

R

R	EXISTING TO RELOCATE
REC	RECEPTACLE
RGS	RIGID GALVANIZED STEEL
RM	ROOM
RPM	REVOLUTIONS PER MINUTE

S

SCP	SECURITY CONTROL PANEL
SEC	SECONDARY/SECOND
SECT	SECTION
SHT	SHEET
SEC	SECONDARY CONNECTION CABINET
SMPOE	SECONDARY MAIN POINT OF ENTRY
SP	SERVICE PROVIDER
SPD	SURGE PROTECTIVE DEVICE
SPDT	SINGLE POLE, DOUBLE THROW
ST	SHUNT TRIP
STD	STANDARD
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHEAR

T

T	TWIST LOCK
TBB	TELECOMMUNICATIONS BONDING BACKBONE
TBD	TO BE DETERMINED
TC	TIME CLOCK
TEL	TELEPHONE
TELCO	TELEPHONE COMPANY
TELCOM	TELECOMMUNICATIONS
TEMP	TEMPERATURE
TGB	TELECOMMUNICATIONS GROUND BUS
TO	THERMAL OVERLOAD
TR	TAMPER RESISTANT
TYP	TYPICAL

U

UC	UNDER COUNTER
UG	UNDERGROUND
UGP	UNDERGROUND PRIMARY
UGS	UNDERGROUND SECONDARY
UH	UNIT HEATER
UL	UNDERWRITER LABORATORIES
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTIBLE POWER SUPPLY
USB	UNIVERSAL SERIAL BUS

V

V	VOLT
VA	VOLT-AMPERE
VAV	VARIABLE AIR VOLUME
VFD	VARIABLE FREQUENCY DRIVE
VM	VOLTMETER

W

W	WATT
W/	WITH
W/O	WITHOUT
WH	WATT HOUR
WHM	WATT HOUR METER
WLAN	WIRELESS-LOCAL AREA NETWORK
WP	WEATHERPROOF
WPL	WEATHER PROOF LOCKABLE ENCLOSURE.
WT	WATERTIGHT

X

XFMR	TRANSFORMER
XP	EXPLOSION PROOF

SYMBOLS

LIGHTING

- STRIP LIGHT
- WALL MOUNTED STRIP LIGHT
- WALL MOUNTED LINEAR
- RECESSED LINEAR
- RECESSED LIGHTING FIXTURE W/DOWNLIGHTS
- RECESSED 2'X2'
- RECESSED 2'X4'
- SURFACE MOUNTED 2'X4'
- SURFACE MOUNTED 2'X2'
- SURFACE MOUNTED 1'X4'
- RECESSED WALL / STEP LIGHT
- WALL MOUNTED FLOODLIGHT
- WALL MOUNTED SCONCE
- SURFACE MOUNTED DOWN LIGHT
- SURFACE MOUNTED WALL WASH
- RECESSED DOWN LIGHT
- RECESSED WALL WASH
- RECESSED 1X4 WALL WASH
- LINEAR PENDANT
- LINEAR PENDANT W/DOWNLIGHTS
- PENDANT LIGHT
- MONOPOINT TRACKHEAD
- LINEAR LIGHT
- TRACK WITH TRACKHEADS
- BURIAL FIXTURE
- POLE MOUNTED LIGHT WITH ARM
- POLE MOUNTED LIGHT POST TOP MOUNTING/BOLLARD
- CEILING MOUNTED EXIT SIGN
- EXIT SIGN WITH DIRECTIONAL
- WALL MOUNTED EXIT SIGN ARROWS (CHEVRONS)
- EMERGENCY LIGHTING UNIT
- UL924 EMERGENCY AUTOMATIC TRANSFER DEVICE
- POWER SUPPLY
- OCCUPANCY SENSOR - CEILING MOUNTED (RE: 8/1B-E8.002)
- DAYLIGHT SENSOR - CEILING MOUNTED (RE: 8/1B-E8.002)
- OCCUPANCY SENSOR - WALL SWITCH (RE: 9/1B-E8.002)
- OCCUPANCY SENSOR - 180° (RE: 7/1B-E8.002)
- DIMMER SWITCH / STATION (RE: 2/1B-8.002 OR 5/1A-E8.002 FOR MULTI-ZONE SWITCH)
- DS — DIMMER / OCCUPANCY SENSOR COMBINATION SWITCH (RE: 3/1B-E8.002)
- SC — SCENE CONTROL STATION (RE: 4/1B-E8.002)
- TP — TOUCH PANEL CONTROL STATION (RE: 1/1B-E8.002)
- LOW VOLTAGE SWITCH (RE: 6/1B-E8.002)
- LV — LINE VOLTAGE SWITCH

SHADED SYMBOLS DENOTE EMERGENCY FIXTURES

FIRE ALARM

- SMOKE DETECTOR
- WALL SMOKE DETECTOR
- CO — SMOKE/CARBON MONOXIDE DETECTOR
- CO — WALL SMOKE/CARBON MONOXIDE DETECTOR
- HEAT DETECTOR
- DUCT DETECTOR
- BR — BEAM DETECTOR RECEIVER
- BT — BEAM DETECTOR TRANSMITTER
- EVAC — VOICE EVAC PANEL
- ESR — ELEVATOR STATUS PANEL
- CEILING MOUNTED HORN [SPEAKER]
- WALL MOUNTED HORN [SPEAKER]
- CEILING MOUNTED SPEAKER/STROBE
- WALL MOUNTED HORN SPEAKER/STROBE
- WALL MOUNTED SILENTONE
- H — FIRE SERVICE PHONE
- J — FIREMAN'S PHONE JACK
- ROTATING BEACON
- MANUAL PULL STATION
- DH — MAGNETIC DOOR HOLD OPEN DEVICE
- TAMPER SWITCH
- FLOW SWITCH
- RTS — CEILING MOUNTED REMOTE INDICATOR LIGHT
- RTS — WALL MOUNTED REMOTE INDICATOR LIGHT
- WALL MOUNTED ADA STROBE
- CEILING MOUNTED STROBE
- IM — ADDRESSABLE INPUT MODULE
- FR — FIRE ALARM ADDRESSABLE RELAY
- H — ALARM BELL
- FIRE SMOKE DAMPER
- SMOKE CONTROL DAMPER
- CO — CARBON MONOXIDE DETECTOR
- FAAP — FIRE ALARM ANNUNCIATOR PANEL
- FACP — FIRE ALARM CONTROL PANEL
- TWC — TWO-WAY COMMUNICATION / AREA OF RESCUE ASSISTANCE CALL BUTTON
- TWCP — TWO-WAY COMMUNICATION / AREA OF RESCUE ASSISTANCE (BASE STATION)

POWER

- WALL SIMPLEX RECEPTACLE
- WALL DUPLEX RECEPTACLE
- U — WALL DUPLEX WITH USB
- O — WALL DUPLEX WITH CONTROL OF ONE OUTLET
- WALL DUPLEX RECEPTACLE (EMERGENCY)
- WALL FOURPLEX RECEPTACLE
- WALL FOURPLEX RECEPTACLE (EMERGENCY)
- X — WALL SPECIAL RECEPTACLE (FOR "X" SEE RECEPTACLE MODIFER TAGS TABLE)
- X — WALL SPECIAL RECEPTACLE (EMERGENCY) (FOR "X" SEE RECEPTACLE MODIFER TAGS TABLE)
- FLAT PANEL BACK BOX - POWER MOUNTED WITHIN AV BACK BOX
- TV — WALL COMBINATION TV / POWER OUTLET
- WALL CLOCK RECEPTACLE
- J — WALL JUNCTION BOX
- J — WALL FURNITURE FEED
- FLOOR DUPLEX RECEPTACLE
- FLOOR FOURPLEX RECEPTACLE (POWER/DATA/COMBO DEVICE. REFER TO TECHNOLOGY DRAWINGS)
- AV — FLOOR FOURPLEX RECEPTACLE WITH AV (POWER/DATA/AV COMBO DEVICE. REFER TO TECH. DRAWINGS)
- CONVENTION CENTER FLOOR BOX.
- J — JUNCTION BOX
- J — FLOOR FURNITURE FEED
- CEILING RECEPTACLE
- CEILING DUPLEX RECEPTACLE
- CEILING FOURPLEX RECEPTACLE
- X — CEILING / FLOOR SPECIAL RECEPTACLE (FOR "X" SEE RECEPTACLE MODIFER TAGS TABLE)
- CEILING JUNCTION BOX
- CEILING TV OUTLET
- POWER POLE
- SINGLE TOGGLE SWITCH
- PLUGMOLD
- EPO — EMERGENCY POWER OFF
- SINGLE PUSH BUTTON
- DUPLEX PUSH BUTTON

DEVICE GENERAL NOTES:

1. REFER TO SPECIFICATION SECTION 26 27 26 FOR SPECIFIC FLOOR DEVICE PRODUCT INFORMATION.
2. REFER TO TECHNOLOGY AND/OR AV LEGEND AND FLOOR PLANS TO CONFIRM ALL LOCATIONS THAT HAVE DATA OR DATA/AV REQUIREMENTS COMBINED WITH POWER IN FLOOR BOXES.
3. REFER TO TECHNOLOGY (AND/OR AV) DRAWINGS FOR DEDICATED LOW VOLTAGE CONDUIT AND FLOOR BOX DEVICE MOUNTING PLATE REQUIREMENTS. LOW VOLTAGE CONDUIT REQUIREMENTS ARE NOT DOCUMENTED ON POWER DRAWINGS.
4. REFER TO ARCHITECTURAL ELEVATIONS FOR MOUNTING HEIGHTS OF TVS. MOUNT BEHIND TV DISPLAY OR ON TV MOUNTING BRACKET/SUPPORT"

EQUIPMENT

- MOTOR
- MOTOR AND DISCONNECT
- MOTOR AND FUSED DISCONNECT
- MOTOR AND CIRCUIT BREAKER DISCONNECT
- VARIABLE FREQUENCY DRIVE/MOTOR CONTROLLER
- NON-FUSED DISCONNECT
- FUSED DISCONNECT
- CIRCUIT BREAKER
- BRANCH CIRCUIT OR POWER PANEL
- LIGHTING CONTROL PANEL
- ELECTRICAL EQUIPMENT FREESTANDING OR WALL MOUNT
- M — METER
- CURRENT TRANSFORMER
- GROUND
- DELTA/WYE WITH GROUND
- POWER TRANSFORMER
- FUSE & SWITCH
- CIRCUIT BREAKER
- DRAWOUT CIRCUIT BREAKER
- K — KIRK-KEY INTERLOCK
- G — GROUND FAULT INTERRUPTER BREAKER
- D — CIRCUIT MONITORING DEVICE
- MECHANICAL EQUIPMENT IDENTIFICATION TAG
- X — SHORT CIRCUIT FAULT CALCULATION TAG REFER TO TABLE ON ONE-LINE DIAGRAM
- SPD — SURGE PROTECTION DEVICE
- TO — THERMAL OVERLOAD
- TO — MOTOR AND THERMAL OVERLOAD
- COMPANY SWITCH OR CAM-LOK PANEL
- AUTOMATIC TRANSFER SWITCH
- GENERATOR DOCKING STATION
- NAME VA — ELECTRICAL PLANEL (NUMBER OF SECTIONS)
- EQ-# — EQUIPMENT IDENTIFICATION TAG REFER TO ELECTRICAL EQUIPMENT SCHEDULE

RACEWAY LEGEND

- A:2.4 — BRANCH CIRCUIT HOMERUN TO PANELBOARD. NUMBER OF ARROWS INDICATES NUMBER OF CIRCUITS, NUMERICAL INDICATES CIRCUIT NUMBER.
- A:2.4 / A — BRANCH CIRCUIT HOMERUN CONTROLLED BY LIGHTING CONTROL SYSTEM. FIRST HEXAGON LETTER CORRESPONDS TO FIRST CIRCUIT NUMBER. (ie. CIRCUIT #2 IS ON ZONE A). REFER TO LIGHTING CONTROL MATRIX FOR LIGHTING ZONES.
- MOTOR CONNECTION
- UNDERGROUND FEEDER
- UNDERGROUND BRANCH CIRCUIT HOMERUN
- CONDUIT UP
- CONDUIT DOWN
- CONDUIT RUNS UNDERFLOOR OR BELOW GRADE
- OR — CONDUIT RUN CONCEALED IN WALLS OR CEILING, OR EXPOSED WHEN CEILING ARE NOT PRESENT.

RECEPTACLE MODIFIER TAGS

TAG	OUTLET RATING	NEMA/CAT NO	FEEDER (NOTE 1)	WIRING NOTES
A	NOT USED			-
B	NON-LOCKING, 30A, 125V, 1PH	5-30R	2#10,#10G,3/4"C (60FT)	HOT-NEUT-GND
C	NON-LOCKING, 20A, 250V, 1PH	6-20R	2#12,#12G,3/4"C (100FT)	HOT-HOT-GND
D	NON-LOCKING, 30A, 250V, 1PH	6-30R	2#10,#10G,3/4"C (120FT)	HOT-HOT-GND
E	NON-LOCKING, 50A, 250V, 1PH	6-50R	2#6,#10G,3/4"C (150FT)	HOT-HOT-GND
F	NOT USED			-
G	NON-LOCKING, 20A, 125/250V, 1PH	14-20R	3#12,#12G,3/4"C (100FT)	HOT-HOT-NEUT-GND
H	NOT USED	-	-	-
I	NOT USED	-	-	-
J	LOCKING, 20A, 125V, 1PH	L5-20R	2#12,#12G,3/4"C (50FT)	HOT-NEUT-GND
K	LOCKING, 30A, 125V, 1PH	L5-30R	2#10,#10G,3/4"C (60FT)	HOT-NEUT-GND
L	LOCKING, 20A, 250V, 1PH	L6-20R	2#12,#12G,3/4"C (100FT)	HOT-HOT-GND
M	LOCKING, 30A, 250V, 1PH	L6-30R	2#10,#10G,3/4"C (120FT)	HOT-HOT-GND
N	NOT USED	-	-	-
O	NOT USED	-	-	-
P	LOCKING, 20A, 125/250V, 1PH	L14-20R	3#12,#12G,3/4"C (100FT)	HOT-HOT-NEUT-GND
Q	LOCKING, 30A, 125/250V, 1PH	L14-30R	3#10,#10G,3/4"C (120FT)	HOT-HOT-NEUT-GND
R	NOT USED			-
S	LOCKING, 20A, 208Y/120V, 3PH	L21-20R	4#12,#12G,3/4"C (120FT)	HOT-HOT-HOT-NEUT-GND
T	LOCKING, 30A, 208Y/120V, 3PH	L21-30R	4#10,#10G,3/4"C (130FT)	HOT-HOT-HOT-NEUT-GND
V	LOCKING, 50A, 250V, 3PH	HBL CS8369	3#6,#10G,1"C (175FT)	HOT-HOT-GND
W	PIN & SLEEVE, 60A, 208Y/120V, 3PH	HBL 560R9W	4#4,#10G,1-1/4"C (200FT)	HOT-HOT-HOT-NEUT-GND
X	PIN & SLEEVE, 100A, 208Y/120V, 3PH	HBL 5100R9W	4#1,#8G,1-1/2"C (250FT)	HOT-HOT-HOT-NEUT-GND
Y	NOT USED	-	-	-
Z	NOT USED	-	-	-

NOTE: DISTANCE NOTED IS MAXIMUM RUN LENGTH FOR WIRE SIZE. INCREASE PER NEC, INCLUDING GROUND, FOR LONGER RUNS OR FOR DERATING FACTORS (AMB TEMP, EXTERIOR, ETC.)

RCRBD
Record Set
Electrical
06/22/2021

Steamboat
ALTERRA MOUNTAIN COMPANY east west partners
2305 Mount Werner Circle
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△	Date	Description
-	2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT

Seal / Signature

COLORADO LICENSED MATTHEW MICHAEL STEELE 52253 PROFESSIONAL ENGINEER

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
GOLD WALK - ELECTRICAL LEGEND

Scale
1/8" = 1'-0"

1B-E0.000

(EX) MECH IIA

LOCATION: GONDOLA SQ GARAGE... **VOLTAGE:** 480/277 Wye **BUS:** 800 A
SUPPLY FROM: MDS **SCCR:** **MAIN:** 800 A - MCB

LOADS SUMMARY	EXIST	LTG	RECPT	MOTOR	MISC.	KITCHEN	ELECTRIC HEAT	EV CHARGE	Load	
EXISTING METERED LOAD	245680								245680 VA	296 A
ATS-DC		336	2700	63090	42660				108786 VA	131 A
DEMOLISHED LOAD (SUBTRACTED)										
(EX) GH - BOILER ROOM	-37835								-37835 VA	-46 A
(EX) LCC - ROUNDUP ROOM	-44124								-44124 VA	-53 A
CONNECTED TOTALS (V-A)	163721	336	2700	63090	42660				272507 VA	328 A
DIVERSITY FACTORS	125%	100%	100%	109%	100%				--	--
DEMAND TOTAL (V-A)	204651	336	2700	68785	42660				319132 VA	384 A

NOTE:
1. LOADS INDICATED AS NEGATIVE VALUES ARE LOADS THAT ARE BEING DEMOLISHED. THIS EQUIPMENT WAS METERED BY THE CONSTRUCTION TEAM FOR 30 DAYS FROM 3/18/21 THROUGH 4/23/21 DURING NORMAL OCCUPANCY OF THE BUILDING. LOADS AT THE BOTTOM OF THE LOAD SUMMARY THAT ARE LISTED AS DEDUCTS ARE QUANTIZED TO ELIMINATE LOAD DUPLICATION ON METERED DOWNSTREAM EQUIPMENT.
2. NO LOAD IS BEING ADDED TO MECH IIA AS A PART OF THIS BID PACKAGE. EXISTING MECH IIA SHALL BE RE-FED FROM THE NEW SERVICE ENTRANCE SWITCHBOARD 'MDS'. LOADS OTHER THAN EXISTING ARE INDICATED ABOVE FROM ATS-DC WHICH IS BP1B SCOPE ADDED PRIOR TO ISSUANCE OF THIS BID PACKAGE AFTER UTILITY METERING OCCURED.
3. EXISTING UILITY METER DATA IS OBTAINED FROM THE UTILITY FOR 1/18/20 THROUGH 1/18/21. THE EXISTING LOAD ABOVE IS THE PEAK DEMAND OVER THIS PERIOD.

(EX) MECH IIB

LOCATION: ELECTRICAL 43 **VOLTAGE:** 480/277 Wye **BUS:** 600 A
SUPPLY FROM: MDS **SCCR:** **MAIN:** 600 A - MCB

LOADS SUMMARY	EXIST	LTG	RECPT	MOTOR	MISC.	KITCHEN	ELECTRIC HEAT	EV CHARGE	Load	
EXISTING METERED LOAD	150737								150737 VA	181 A
DEMOLISHED LOAD (SUBTRACTED)										
(EX) SKIS1XNW - SKI SCHOOL	-58282								-58282 VA	-70 A
CONNECTED TOTALS (V-A)	92455								92455 VA	111 A
DIVERSITY FACTORS	125%								--	--
DEMAND TOTAL (V-A)	115569								115569 VA	139 A

NOTE:
1. LOADS INDICATED AS NEGATIVE VALUES ARE LOADS THAT ARE BEING DEMOLISHED. THIS EQUIPMENT WAS METERED BY THE CONSTRUCTION TEAM FOR 30 DAYS FROM 3/18/21 THROUGH 4/23/21 DURING NORMAL OCCUPANCY OF THE BUILDING. LOADS AT THE BOTTOM OF THE LOAD SUMMARY THAT ARE LISTED AS DEDUCTS ARE QUANTIZED TO ELIMINATE LOAD DUPLICATION ON METERED DOWNSTREAM EQUIPMENT.
2. NO LOAD IS BEING ADDED TO MECH IIB AS A PART OF THIS BID PACKAGE. EXISTING MECH IIB SHALL BE RE-FED FROM THE NEW SERVICE ENTRANCE SWITCHBOARD 'MDS'.
3. EXISTING UILITY METER DATA IS OBTAINED FROM THE UTILITY FOR 1/18/20 THROUGH 1/18/21. THE EXISTING LOAD ABOVE IS THE PEAK DEMAND OVER THIS PERIOD.

MDS

LOCATION: **VOLTAGE:** 480/277 Wye **BUS:** 2000 A
SUPPLY FROM: UTILITY TRANSFORMER **SCCR:** RE:ONE-LINE **MAIN:** 2000 A - MLO

LOADS SUMMARY	EXIST	LTG	RECPT	MOTOR	MISC.	KITCHEN	ELECTRIC HEAT	EV CHARGE	Load	
BP3: GOLD WALK - EXISTING LOADS										
(EX) MECH IIA	163721	336	2700	63090	42660				272507 VA	328 A
(EX) MECH IIB	92455								92455 VA	111 A
BP3: GOLD WALK - NEW LOADS										
BRH		756	1080	258288	1750		29099		290973 VA	350 A
GWH	55372	8000	13900	49502			16320		143094 VA	172 A
CONNECTED TOTALS (V-A)	311548	9092	17680	370880	44410		45419		799029 VA	961 A
DIVERSITY FACTORS	125%	100%	78%	110%	100%		100%		--	--
DEMAND TOTAL (V-A)	389435	9092	13840	408707	44410		45419		910903 VA	1096 A

GENERAL NOTES:

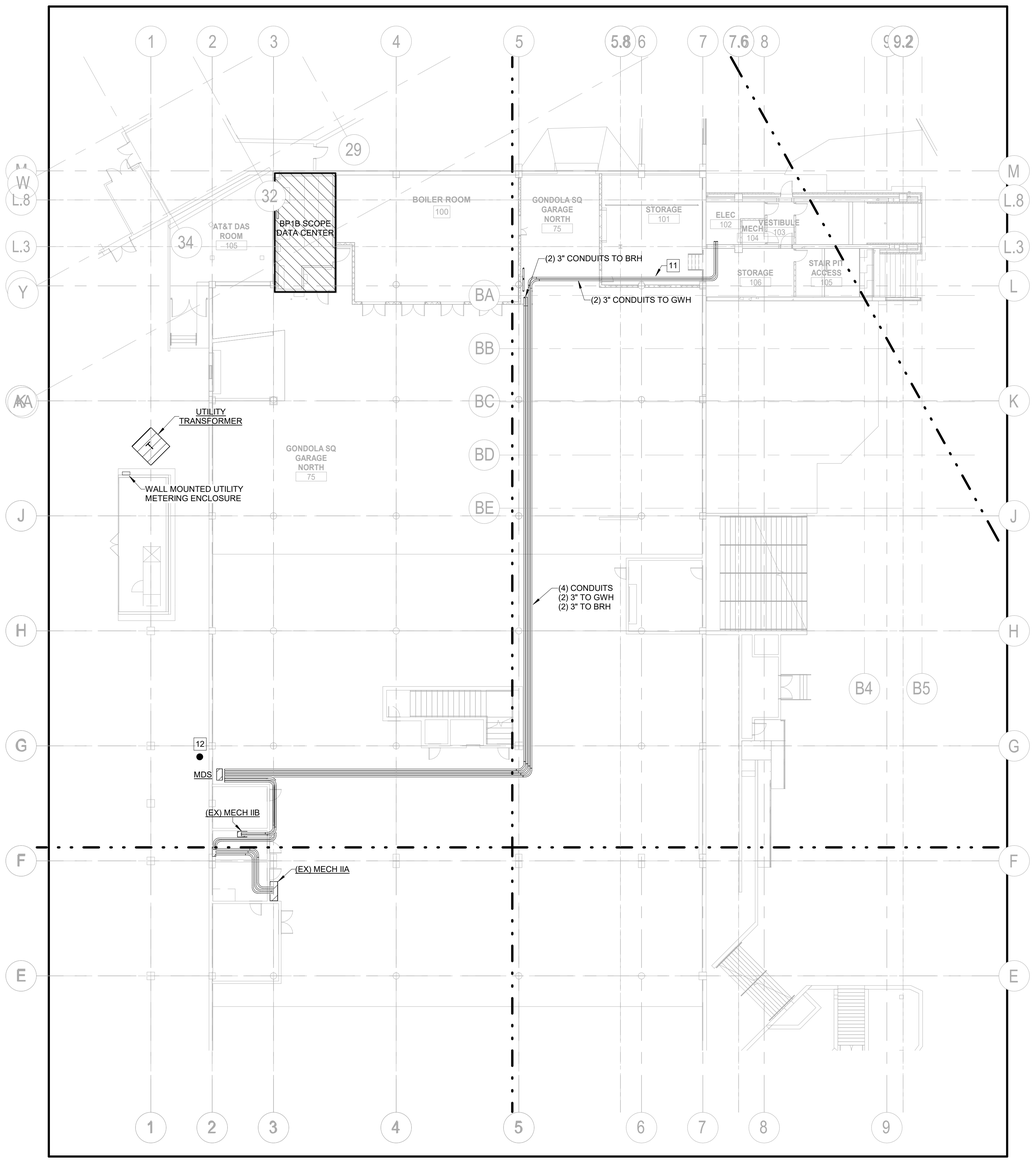
1. ALL FEEDERS AND TERMINATIONS SHALL BE COPPER 75 DEGREE RATED.
2. FEEDER LENGTHS ARE INDICATED FOR CALCULATION PURPOSES ONLY. THIS DRAWING IS NOT TO SCALE. FEEDERS LENGTHS MUST BE CONFIRMED WITH THE CONTRACTOR.
3. ALL CONDUIT RUNS SHALL BE RAN PERPENDICULAR AND PARALLEL TO COLUMNS AND BEAMS. ALL EXPOSED CONDUIT RUNS SHALL BE COORDINATED WITH ARCHITECT PRIOR TO INSTALLATION.
4. FOR CALCULATION PURPOSES THE FOLLOWING TRANSFORMER (2016 DOE) IMPEDANCES AND MAXIMUM SHORT CIRCUIT VALUES WERE USED
   15 KVA-3.1%Z, ISC=1,343A.
   30 KVA-2.5%Z, ISC=1,665A.
   45 KVA-3.2%Z, ISC=3,903A.
   75 KVA-2.8%Z, ISC=7,330A.
   112.5 KVA-3.4%Z, ISC=9,184A.
5. PROVIDE FULL BUSSING FOR ALL SPACES INDICATED ON PANEL BOARDS.
6. CONNECT ALL TRANSFORMER GROUNDING ELECTRODES TO GROUND BUS RISER AND COLD WATER PIPE.
7. REFER TO DETAIL SHEET 1B-E8.001 FOR PANELBOARD AND SWITCHBOARD NAMEPLATE DETAILS.
8. ALL NEW PANELS INDICATED HERE SHALL HAVE INTEGRAL SURGE PROTECTION DEVICES LOCATED INTERNAL TO PANEL. SURGE PROTECTION DEVICE TO HAVE ALL MODES OF PROTECTION.

KEYNOTES:

1. PROVIDE NEW BREAKER IN EXISTING MAIN DISTRIBUTION PANEL TO SERVE NEW BOILER ROOM LOADS INDICATED ON ONE-LINE. REFER TO LOAD SUMMARY ON THIS SHEET FOR LOAD JUSTIFICATION OF NEW AND EXISTING LOADS.
2. PROVIDE E-GAUGE CORE METERING (OR APPROVED EQUAL) FOR GOLD WALK SCOPE. FACTORY TRAINING AND MONITORING SOFTWARE TO BE INCLUDED.
3. PROVIDE NEMA 3R ENCLOSURE FOR THIS ELECTRICAL DISTRIBUTION EQUIPMENT.
4. PROVIDE SHUNT MAIN BREAKER TIED TO EPO. REFER TO PLANS FOR EPO LOCATION.
5. INTERCEPT AND EXTEND EXISTING BRANCH CIRCUITING SERVED BY EXISTING SKI CORP PANEL TO NEW SKI CORP PANEL LOCATION IN GOLD WALK ELECTRICAL ROOM. INDIVIDUAL BRANCH CIRCUITS SHALL BE EXTENDED IN KIND TO NEW LOCATION. PROVIDE PULL BOX AS REQUIRED FOR RE-ROUTE OF CONDUIT.
6. INTERCEPT AND EXTEND EXISTING BRANCH CIRCUITING SERVED BY EXISTING SKI CORP PANEL TO NEW SKI CORP PANEL LOCATION IN GOLD WALK ELECTRICAL ROOM. INDIVIDUAL BRANCH CIRCUITS SHALL BE EXTENDED IN KIND TO NEW LOCATION. PROVIDE PULL BOX AS REQUIRED FOR RE-ROUTE OF CONDUIT.
7. LOCATE MINIMUM 16 ZONE COMBINATION DIMMING/RELAY PANEL ADJACENT TO THIS PANEL.
8. PROVIDE #4/0 CU GROUND CONNECTION TO BUILDING STEEL AND MAIN ELECTRICAL ROOM GROUND BUS.
9. NEUTRAL GROUND BOND.
10. PROVIDE METERING FOR BRANCH CIRCUITS SERVING PLUG LOAD AND LIGHTING LOAD FOR ASHRAE-90.1 COMPLIANCE.
11. ROUTE CONDUIT THROUGH STORAGE 101 TO CLEAR FUTURE BUILDING B.
12. PROVIDE GROUND TEST WELL FOR ELECTRICAL SERVICE FEEDING GONDOLA SQUARE. REFER TO DETAIL 4/1B-E.8000 FOR MORE INFORMATION.

1 LOAD SUMMARY

SCALE: NONE



2 OVERALL GOLD WALK REFERENCE PLAN

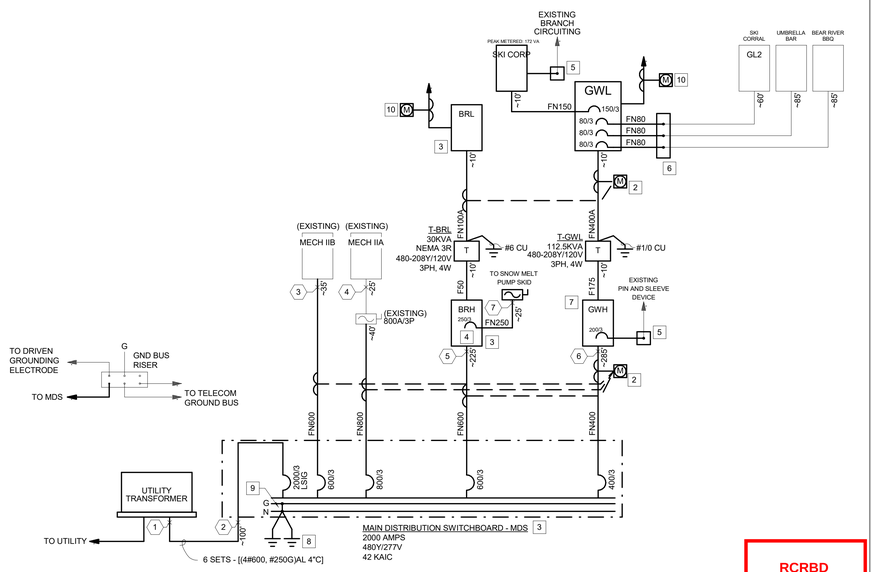
SCALE: 1/16" = 1'-0"

SHORT CIRCUIT STUDY	
ALL EQUIPMENT MUST BE FULLY RATED FOR SHORT CIRCUIT / FAULT VALUES SHOWN BELOW. SERIES RATING NOT PERMITTED.	
KEY	AVAILABLE AMPS
1	23,100
2	21,588
3	19,290
4	19,381
5	14,045
6	10,520
7	12,845
8	NOT USED
9	NOT USED
TRANSFORMERS (150KVA OR LESS)	
BASED ON INFINITE IMPEDENCE ON THE PRIMARY. THE AVAILABLE FAULT CURRENTS ON THE SECONDARY OF A TRANSFORMER IS AS FOLLOWS	
15KVA	1343
30KVA	1665
45KVA	3903
75KVA	7330
112.5KVA	9184
150KVA	13787

ME FEEDER TABLE

			COPPER	ALUMINUM			COPPER	ALUMINUM
BKR/OCPD	TAG	SETS	FEEDER/PIPE [3W]	FEEDER/PIPE [3W]	TAG	SETS	FEEDER/PIPE [4W]	FEEDER/PIPE [4W]
20	F20	1	(3#12,#12G) 3/4"C	-	FN20	1	(4#12,#12G) 3/4"C	-
30	F30	1	(3#10,#10G) 3/4"C	-	FN30	1	(4#10,#10G) 3/4"C	-
40	F40	1	(3#8,#10G) 3/4"C	-	FN40	1	(4#8,#10G) 3/4"C	-
50	F50	1	(3#8,#10G) 3/4"C	-	FN50	1	(4#8,#10G) 3/4"C	-
50	-	-	-	-	FN50A	1	(4#8,#8G) 1"C	-
50				-	FD50A	1	(5#8,#8G) 1"C	-
60	F60	1	(3#6,#8G) 1"C	-	FN60	1	(4#6,#8G) 1"C	-
70	F70	1	(3#4,#8G) 1-1/4"C	-	FN70	1	(4#4,#8G) 1-1/4"C	-
80	F80	1	(3#4,#8G) 1-1/4"C	-	FN80	1	(4#4,#8G) 1-1/4"C	-
90	F90	1	(3#3,#8G) 1-1/4"C	-	FN90	1	(4#3,#8G) 1-1/4"C	-
100	F100	1	(3#3,#8G) 1-1/4"C	-	FN100	1	(4#3,#8G) 1-1/2"C	-
100	-	-	-	-	FN100A	1	(4#3,#6G) 1-1/2"C	-
100	-	-	-	-	FD100A	1	(5#3,#6G) 1-1/2"C	-
110	F110	1	(3#2,#6G) 1-1/2"C	-	-	-	-	-
125	F125	1	(3#1,#6G) 1-1/2"C	-	FN125	1	(4#1,#6G) 2"C	-
150	F150	1	(3#1/0,#6G) 1-1/2"C	-	FN150	1	(4#1/0,#6G) 2"C	-
175	F175	1	(3#2/0,#6G) 2"C	-	FN175	1	(4#2/0,#6G) 2"C	-
200	F200	1	(3#3/0,#6G) 2"C	(3#250,#6G) 2-1/2"C	FN200	1	(4#3/0,#6G) 2-1/2"C	(4#250,#6G) 2-1/2"C
225	F225	1	(3#4/0,#4G) 2-1/2"C	(3#300,#4G) 2-1/2"C	FN225	1	(4#4/0,#4G) 2-1/2"C	(4#300,#4G) 2-1/2"C
250	F250	1	(3#250,#4G) 2-1/2"C	(3#350,#4G) 2-1/2"C	FN250	1	(4#250,#4G) 3"C	(4#350,#4G) 3"C
250	-	-	-	-	FN250A	1	(4#250,#2G) 3"C	(4#350,#2G) 3"C
250	-	-	-	-	FD250A	1	(5#250,#2G) 3"C	(5#350,#2G) 3"C
300	F300	1	(3#350,#4G) 3"C	(3#500,#4G) 3"C	FN300	1	(4#350,#4G) 3"C	(4#500,#4G) 3"C
350	F350	1	(3#500,#3G) 3"C	(3#700,#3G) 3-1/2"C	FN350	1	(4#500,#3G) 3-1/2"C	(4#700,#3G) 3-1/2"C
400	F400	2	(3#3/0,#3G) 2"C	(3#250,#2G) 2-1/2"C	FN400	2	(4#3/0,#3G) 2-1/2"C	(4#250,#3G) 2-1/2"C
400	-	-	-	-	FN400A	2	(4#3/0,#1/0G) 2-1/2"C	(4#250,#1/0G) 2-1/2"C
400	F400B	1	(3#600,#3G) 4"C	-	FN400B	1	(4#600,#3G) 4"C	-
400	-	-	-	-	FD400A	2	(5#3/0,#1/0G) 2-1/2"C	(5#250,#1/0G) 2-1/2"C
450	F450	2	(3#4/0,#2G) 2-1/2"C	(3#300,#2G) 2-1/2"C	FN450	2	(4#4/0,#2G) 2-1/2"C	(4#300,#2G) 2-1/2"C
500	F500	2	(3#250,#2G) 2-1/2"C	(3#350,#2G) 2-1/2"C	FN500	2	(4#250,#2G) 3"C	(4#350,#2G) 3"C
500	-	-	-	-	FN500A	2	(4#250,#1/0G) 3"C	(4#350,#1/0G) 3"C
500	-	-	-	-	FD500A	2	(5#250,#1/0G) 3"C	(5#350,#1/0G) 3"C
600	F600	2	(3#350,#1G) 3"C	(3#500,#1G) 3"C	FN600	2	(4#350,#1G) 3"C	(4#500,#1G) 3"C
700	F700	2	(3#500,#1/0G) 3"C	(3#700,#1/0G) 3-1/2"C	FN700	2	(4#500,#1/0G) 3-1/2"C	(4#700,#1/0G) 3-1/2"C
750	F750	2	(3#500,#1/0G) 3"C	(3#700,#1/0G) 3-1/2"C	-	-	-	-
800	F800	3	(3#300,#1/0G) 3"C	(3#400,#1/0G) 3"C	FN800	3	(4#300,#1/0G) 3"C	(4#400,#1/0G) 3"C
800	-	-	-	-	FN800A	3	(4#300,#2/0G) 3"C	(4#400,#2/0G) 3"C
800	F800B	2	(3#600,#1/0G) 3-1/2"C	-	FN800B	2	(4#600,#1/0G) 4"C	-
800	-	-	-	-	FD800A	3	(5#300,#2/0G) 3"C	(5#400,#2/0G) 3"C

NOTES:
- ALL CONDUCTORS ARE WITH THHN/THWN WIRE WITH 75DEG TERMINATIONS.
- ALL ALUMINUM FEEDERS SHALL INCLUDE COPPER EQUIPMENT GROUND CONDUCTORS.
- ALL ALUMINUM FEEDERS TO UTILIZE COMPRESSION TERMINATIONS.
- ALL FEEDERS AND BRANCH CIRCUITS TO MECHANICAL AND VIBRATING EQUIPMENT SHALL BE COPPER CONDUCTORS
- ALL EMERGENCY FEEDERS TO BE COPPER CONDUCTORS.
- FEEDERS STARTING WITH "FD" CONTAIN DOUBLE NEUTRAL.



1 ONE-LINE DIAGRAM AND FEEDER TABLE

SCALE: NONE

RCRBD Record Set Electrical
06/22/2021

1 ONE-LINES, FEEDER TABLE AND LOAD SUMMARY - GOLD WALK

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

Steamboat
ALTERRA MOUNTAIN COMPANY east west partners
2305 Mount Werner Circle
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me engineers
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Suite 300
Golden, CO
United States
Tel 303.421.6655

Δ	Date	Description
-	2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT

Seal / Signature

COLORADO LICENSED MATTHEW JOHN BOSTEL 52253 PROFESSIONAL ENGINEER

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
GOLD WALK - ELECTRICAL
ONE-LINES AND LOAD SUMMARIES

Scale
As indicated

1B-E0.001

ELECTRICAL EQUIPMENT CONNECTION SCHEDULE

GENERAL NOTES:
1. THIS SCHEDULE IS FOR ELECTRICAL EQUIPMENT CONNECTIONS ONLY. EQUIPMENT BY OTHERS.
2. PROVIDE A DEDICATED CIRCUIT WITH A DEDICATED NEAUTRAL FOR ALL EQUIPMENT UNLESS OTHERWISE NOTED.
3. CONFIRM ALL EQUIPMENT LOCATIONS AND ELEVATIONS PRIOR TO ROUGH-IN.
4. CONFIRM ALL EQUIPMENT FEEDER, DISCONNECT AND FUSING WITH SUBMITTED/PURCHASED EQUIPMENT PRIOR TO ROUGH-IN.

REMARK NOTES:
A. PROVIDE GFCI CIRCUIT BREAKER.
B. COORDINATE LOCATION OF ELECTRICAL RECEPTACLE WITH FOUNTAIN ROUGH IN DRAWING RECOMMENDATIONS.

EQ #	EQUIPMENT DESCRIPTION	HP	LOAD (VA)	VOLTAGE	PHASE	FLA	DISCONNECT	FUSE	FEEDER	CONDUIT	REMARKS
2	GARBAGE DISPOSAL	-	1440	120 V	1	12 A	-	-	2 #12 & #12 GND	3/4"	
3	COPIER	-	1560	120 V	1	13 A	-	-	2 #12 & #12 GND	3/4"	
4	DISHWASHER	-	1560	120 V	1	13 A	-	-	2 #12 & #12 GND	3/4"	
5	DRINKING FOUNTAIN	-	600	120 V	1	5 A	-	-	2 #12 & #12 GND	3/4"	A, B
6	MICROWAVE	-	1560	120 V	1	13 A	-	-	2 #12 & #12 GND	3/4"	
7	REFRIGERATOR	-	720	120 V	1	6 A	-	-	2 #12 & #12 GND	3/4"	
9	UNDERCOUNTER REFRIGERATOR	-	360	120 V	1	3 A	-	-	2 #12 & #12 GND	3/4"	
12	SKI BOOT DRYER (DOUBLE CONNECTION)	-	480	120 V	1	4 A	-	-	2 #12 & #12 GND	3/4"	
12A	SKI BOOT DRYER - WALL CONNECTION	-	240	120 V	1	2 A	-	-	2 #12 & #12 GND	3/4"	
13	GAS COMMERCIAL DRYER	-	1440	120 V	1	12 A	30A/1P	-	2#12 & #12 GND	3/4"	
14	COMMERCIAL WASHER	-	3328	208 V	1	16 A	-	-	3 #12 & #12 GND	3/4"	
14A	RESIDENTIAL STYLE WASHER	-	1800	120 V	1	15 A	-	-	2#12 & #12 GND	3/4"	
15	COFFEE MAKER	-	1920	120 V	1	16 A	-	-	2 #12 & #12 GND	3/4"	
16	ICE/WATER DISPENSER	-	1440	120 V	1	12 A	-	-	2 #12 & #12 GND	3/4"	

LED

Type	Lamp	Description	Finish	Voltage	Mounting	Manufacturer	Catalog Number	Alternate 1	Alternate 2	Control	Location	Comments
L1	42W LED, 3000 LUMENS PER 4 FEET OF FIXTURE, 3500K, 80+ CRI, 50,000+ HOURS	LED STRIPLIGHT WITH DIFFUSE LENS, PROVIDE SURFACE OR PENDANT MOUNT SUPPORTS PER MOUNTING HEIGHT	WHITE	120-277	PENDANT TO 10 FT. AFF	LITHONIA	CLX-L48-3000LM-SEF-FDL	COOPER METALUX SNLED SERIES	DAYBRITE FSS LED SERIES	ON/OFF	MEP, STORAGE	PROVIDE ADDITIONAL QUANTITY OF COMPLETE LIGHT FIXTURE, WITH A QTY OF 0.25% OF TOTAL QTY AND A MIN. QTY OF 2 FIXTURES.
L2	15 WATT LED, 600 LUMENS, 4000K,	WALL MOUNTED LED 'JELLY JAR' STYLE LIGHT FIXTURE WITH METAL GUARDING AROUND FIXTURE LENSING /LIGHT SOURCE. LOW PROFILE, VAPOR TIGHT, LED LIGHT SOURCE.	STANDARD	MVOLT	WALL	LITHONIA	OLVTWM-	APPROVED ALTERNATE	APPROVED ALTERNATE	ON/OFF	GENERATOR YARD	
L3		NOT USED										
L3A		NOT USED										
L4	23W LED, 1800+ DELIVERED LUMENS, 3500K, 80+ CRI, 50000 HOURS	4" DIAMETER RECESSED FIXED DOWNLIGHT, 73 DEGREE WIDE BEAM DISTRIBUTION, MATTE-DIFFUSE REFLECTOR, 6-9/16" TALL NEW CONSTRUCTION HOUSING, INTEGRAL DRIVER.	STANDARD, TO BE CONFIRMED WITH ARCHITECT	120-277	RECESSED	GOTHAM	EVO4-35/20-AR-WD-LD-MVOLT-GZ10	COOPER PORTFOLIO SERIES	SIGNIFY CALCULITE SERIES	0-10V DIMMING	CORRIDORS	PROVIDE ADDITIONAL QUANTITY OF COMPLETE LIGHT FIXTURE, WITH A QTY OF 0.25% OF TOTAL QTY AND A MIN. QTY OF 2 FIXTURES.
L4A		NOT USED										
L4B		NOT USED										
L5		NOT USED										
L5A		NOT USED										
L6		NOT USED										
L6A	9W/FT, 1250 LUMENS PER FOOT, 3500K, 80+ CRI, 50,000+ HOURS	3.44" WIDE X 2.72" DEEP LED STRIPLIGHT WITH DIFFUSE LENS. PROVIDE SURFACE OR PENDANT MOUNT SUPPORTS PER MOUNTING HEIGHT. LENGTH PER PLAN	WHITE, VERIFY WITH ARCHITECT	120-277	WALL	LITHONIA	CLX L24 2500LM SEF FDL	COOPER METALUX SNLED SERIES	DAYBRITE FSS LED SERIES	0-10V DIMMING	STAIRS/CORRIDORS	
L6B		NOT USED										

SITE FAÇADE

Type	Lamp	Description	Finish	Voltage	Mounting	Manufacturer	Catalog Number	Alternate 1	Alternate 2	Control	Location	Comments
S1	5903 LUMENS, 55W, 3000K, 80 CRI	SIMILAR TO F1, EXCEPT WALL MOUNTED	BLACK (VERIFY WITH ARCH)	120/277V	WALL	WE-EF	ASP534 LED655-3526	APPROVED ALTERNATE	APPROVED ALTERNATE	0-10V DIMMING		ARM MOUNTED
S2	7.7W, 807 LUMENS, 3000K, 80 CRI	10.31" WIDE X 9.06" TALL X 4.52" DEEP RECESSED STEP LIGHT WITH TEMPERED GLASS LENS. ASSYMETRIC THROW. WET LOCATION RATED.	GREY METALLIC (VERIFY WITH ARCHITECT)	120-277V	RECESSED	WE-EF	QRI 354 LED - 616 1321	APPROVED ALTERNATE	APPROVED ALTERNATE	ON/OFF	STEPS	
S3	28W, 2951 LUMENS, 3000K, 80 CRI	9.84" DIAMETER ROUND RECESSED LINEAR SPREAD LENSED LED SOFTENING LENS. 7.87" DEEP 11.97" DIAMETER BACK BOX. WET LOCATION RATED.	STAINLESS STEEL	120-277V	RECESSED	WE-EF	ETC330-FS LED+I O - 180°	APPROVED ALTERNATE	APPROVED ALTERNATE	ON/OFF	ESCALATOR CANOPY	

EMERGENCY

Type	Lamp	Description	Finish	Voltage	Mounting	Manufacturer	Catalog Number	Alternate 1	Alternate 2	Control	Location	Comments
X1	5W LED GREEN/RED	EDGE LIT EXIT SIGN, PROVIDE WHITE OR MIRROR BACKING BETWEEN PANELS - TBD, MOUNTING AND ARROWS. SINGLE OR DOUBLE FACE, WITH UNIVERSAL MOUNTING FOR ALL CONDITIONS PER PLAN DRAWINGS	BRUSHED ALUMINUM	277	UNIVERSAL	LITHONIA	LRP SERIES	COOPER	SIGNIFY		PREMIUM AREAS	VERIFY LETTER & BACKGROUND COLOR WITH LOCAL AHJ

RCRBD
Record Set
Electrical
06/22/2021

Steamboat
ALTERRA MOUNTAIN COMPANY east west partners
2305 Mount Werner Circle
Steamboat Springs, CO 80487

Gensler
1225 17th Street
Suite 150
Denver, CO 80202
United States
Tel 303.595.8585
Fax 303.825.6823

LANDMARK CONSULTANTS, INC.
141 9th Street
PO Box 774943
Steamboat Springs, CO 80477
Tel 970.871.9494

DESIGNWORKSHOP
1390 Lawrence Street
Suite 100
Denver, CO 80204
Tel 303.623.5186

MARTIN/MARTIN CONSULTING ENGINEERS
12499 West Colfax Ave.
Lakewood, CO 80215
United States
Tel 303.431.6100

me engineers
14143 Denver West Pkwy
Suite 300
Golden, CO
United States
Tel 303.421.6655

△	Date	Description
-	2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT

Seal / Signature

COLORADO LICENSED
MATTHEW JOHN GOETZ
52253
PROFESSIONAL ENGINEER

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
ELECTRICAL EQUIPMENT CONNECTION AND LIGHT FIXTURE SCHEDULE

Scale
NOT TO SCALE

1B-E0.002

Steamboat Base Village Redevelopment — ME Engineers Inc. — BRH

480/277 Wye | 3 Phase, 4 Wire + Gnd. 60Hz. | SCCR:

BUS: 600 A | MAINS: 600 A - MCB | GROUND BAR: Copper

OPTIONS: FEED THROUGH LUGS; PROVIDE SHUNT MAIN BREAKER TIED TO EPO.

PANEL: BRH | ENCLOSURE: Type 1 | MOUNTING: Surface | FED FROM: MDS | LEVEL: PLAZA - LEVEL 01 | LOCATION: GONDOLA SQ GARAGE NORTH 75 | ISSUE DATE:

NOTES: REFER TO DETAILS AND SPECIFICATION SECTION FOR PANELBOARD LAMINATED PLAQUE REQUIREMENTS.

N	LC	DESCRIPTION	P	OCP	CKT	A	B	C	CKT	OCP	P	DESCRIPTION	LC	N
	M	HWP 1B.01	3	20	1	2217 3048			2	20	3	HWP 1B.09	M	
--	--	--	--	--	3		2217 3048		4	--	--	--	--	--
--	--	--	--	--	5			2217 3048	6	--	--	--	--	--
	M	HWP 1B.02	3	20	7	2217 3880			8	20	3	HWP 1B.10	M	
--	--	--	--	--	9		2217 3880		10	--	--	--	--	--
--	--	--	--	--	11			2217 3880	12	--	--	--	--	--
	M	HWP 1B.03	3	20	13	2217 3880			14	20	3	HWP 1B.11	M	
--	--	--	--	--	15		2217 3880		16	--	--	--	--	--
--	--	--	--	--	17			2217 3880	18	--	--	--	--	--
	M	HWP 1B.04	3	20	19	2217 3880			20	20	3	HWP 1B.12	M	
--	--	--	--	--	21		2217 3880		22	--	--	--	--	--
--	--	--	--	--	23			2217 3880	24	--	--	--	--	--
	M	HWP 1B.05	3	20	25	2217 0			26	20	3	SPARE		--
--	--	--	--	--	27		2217 0		28	--	--	--		--
--	--	--	--	--	29			2217 0	30	--	--	--		--
	M	HWP 1B.06	3	20	31	2217 0			32	20	3	SPARE		--
--	--	--	--	--	33		2217 0		34	--	--	--		--
--	--	--	--	--	35			2217 0	36	--	--	--		--
	M	HWP 1B.07	3	20	37	2217 0			38	30	3	SPARE		--
--	--	--	--	--	39		2217 0		40	--	--	--		--
--	--	--	--	--	41			2217 0	42	--	--	--		--
	M	HWP 1B.08	3	20	43	3048 0			44	30	3	SPARE		--
--	--	--	--	--	45		3048 0		46	--	--	--		--
--	--	--	--	--	47			3048 0	48	--	--	--		--
	--	SPARE	3	20	49	0 0			50	30	3	SPARE		--
--	--	--	--	--	51	0 0			52	--	--	--		--
--	--	--	--	--	53		0 0		54	--	--	--		--
	--	SPARE	3	20	55	0 3928			56	50	3	T-BRL	L	--
--	--	--	--	--	57	0 4670		0 2212	58	--	--	--	--	--
--	--	--	--	--	59		0 2212	60	--	--	--	--	--	--

PER PHASE VA WITH DOWNSTREAM LOADS

PHASE	A	B	C	TOTALS
CALC	109967	110805	108028	328800
CNNCTD	97316	98058	95600	290973

DOWNSTREAM FEED THROUGH LUG PANELS

CONDUCTOR COLORS (EC TO LABEL IN PANEL)

	208Y/120	480Y/277
A	BLACK	BROWN
B	RED	ORANGE
C	BLUE	YELLOW
N	WHITE	WHITE/GRAY STRIPE
G	GREEN	GREEN

LOAD SUMMARY WITH DOWNSTREAM LOADS INCLUDED

CATEGORY	CONNECTED	FACTOR	CALC. V-A	AMPS @ 480/277 Wye
LIGHTING	756	100%	756	1
RECEPTACLE	1080	100%	1080	1
MOTOR	258288	115%	296115	356
MISCELLANEOUS	1750	100%	1750	2
KITCHEN				
ELECTRIC HEAT	29099	100%	29099	35
EV CHARGING				
EXISTING				
TOTAL	290973		328800	395

Steamboat Base Village Redevelopment — ME Engineers Inc. — BRH

480/277 Wye | 3 Phase, 4 Wire + Gnd. 60Hz. | SCCR:

BUS: 600 A | MAINS: MLO | GROUND BAR: Copper

OPTIONS:

PANEL: BRH | ENCLOSURE: Type 1 | MOUNTING: Surface | FED FROM: BRH | LEVEL: PLAZA - LEVEL 01 | LOCATION: GONDOLA SQ GARAGE NORTH 75 | ISSUE DATE:

NOTES: REFER TO DETAILS AND SPECIFICATION SECTION FOR PANELBOARD LAMINATED PLAQUE REQUIREMENTS.

N	LC	DESCRIPTION	P	OCP	CKT	A	B	C	CKT	OCP	P	DESCRIPTION	LC	N
	E	B 1B.03	3	20	61	1386 50436			62	250	3	SNOWMELT PUMP SYSTEM	M	
--	--	--	--	--	63		1386 50436		64	--	--	--	--	--
--	--	--	--	--	65			1386 50436	66	--	--	--	--	--
	E	B 1B.04	3	20	67	1386 0			68	20	3	SPARE		--
--	--	--	--	--	69		1386 0		70	--	--	--		--
--	--	--	--	--	71			1386 0	72	--	--	--		--
	E	B 1B.05	3	20	73	1386 0			74	20	3	SPARE		--
--	--	--	--	--	75		1386 0		76	--	--	--		--
--	--	--	--	--	77			1386 0	78	--	--	--		--
	E	B 1B.01	3	20	79	1386 0			80	30	3	SPARE		--
--	--	--	--	--	81		1386 0		82	--	--	--		--
--	--	--	--	--	83			1386 0	84	--	--	--		--
	E	B 1B.02	3	20	85	1386 0			86	30	3	SPARE		--
--	--	--	--	--	87		1386 0		88	--	--	--		--
--	--	--	--	--	89			1386 0	90	--	--	--		--
	E	B 1B.06	3	20	91	1386 0			92	60	3	SPARE		--
--	--	--	--	--	93		1386 0		94	--	--	--		--
--	--	--	--	--	95			1386 0	96	--	--	--		--
	E	B 1B.07	3	20	97	1386 0			98	60	3	SPARE		--
--	--	--	--	--	99		1386 0		100	--	--	--		--
--	--	--	--	--	101			1386 0	102	--	--	--		--
	--	SPARE	1	20	103	0 --			104	--	1	SPACE		--
	--	SPARE	1	20	105		0 --		106	--	1	SPACE		--
	--	SPARE	1	20	107			0 --	108	--	1	SPACE		--
	--	SPARE	1	20	109	0 --			110	--	1	SPACE		--
	--	SPARE	1	20	111		0 --		112	--	1	SPACE		--
	--	SPARE	1	20	113			0 --	114	--	1	SPACE		--
	--	SPARE	1	20	115	0 --			116	--	1	SPACE		--
	--	SPARE	1	20	117		0 --		118	--	1	SPACE		--
	--	SPARE	1	20	119			0 --	120	--	1	SPACE		--

PER PHASE VA WITH DOWNSTREAM LOADS

PHASE	A	B	C	TOTALS
CALC	72744	72744	72744	218233
CNNCTD	60135	60135	60135	180406

DOWNSTREAM FEED THROUGH LUG PANELS

CONDUCTOR COLORS (EC TO LABEL IN PANEL)

	208Y/120	480Y/277
A	BLACK	BROWN
B	RED	ORANGE
C	BLUE	YELLOW
N	WHITE	WHITE/GRAY STRIPE
G	GREEN	GREEN

LOAD SUMMARY WITH DOWNSTREAM LOADS INCLUDED

CATEGORY	CONNECTED	FACTOR	CALC. V-A	AMPS @ 480/277 Wye
LIGHTING				
RECEPTACLE				
MOTOR	151307	125%	189134	227
MISCELLANEOUS				
KITCHEN				
ELECTRIC HEAT	29099	100%	29099	35
EV CHARGING				
EXISTING				
TOTAL	180406		218233	262

Steamboat Base Village Redevelopment — ME Engineers Inc. — BRL

120/208 Wye | 3 Phase, 4 Wire + Gnd. 60Hz. | SCCR:

BUS: 100 A | MAINS: 100 A - MCB | GROUND BAR: Copper

OPTIONS:

PANEL: BRL | ENCLOSURE: Type 1 | MOUNTING: Surface | FED FROM: T-BRL (ABOVE) | LEVEL: PLAZA - LEVEL 01 | LOCATION: GONDOLA SQ GARAGE NORTH 75 | ISSUE DATE:

NOTES: REFER TO DETAILS AND SPECIFICATION SECTION FOR PANELBOARD LAMINATED PLAQUE REQUIREMENTS.

N	LC	DESCRIPTION	P	OCP	CKT	A	B	C	CKT	OCP	P	DESCRIPTION	LC	N
	R	BOILER ROOM GEN RECEPTS	1	20	1	540 0			2	20	1	SPARE		--
	R	BOILER ROOM GEN RECEPTS	1	20	3		540 0		4	20	1	SPARE		--
	X	MISC. BOILER ROOM CONTROLS	1	20	5			350 0	6	20	1	SPARE		--
	X	MISC. BOILER ROOM CONTROLS	1	20	7	350 0			8	20	1	SPARE		--
	X	MISC. BOILER ROOM CONTROLS	1	20	9		350 0		10	20	1	SPARE		--
	X	MISC. SNOW MELT CONTROLS	1	20	11			350 0	12	20	1	SPARE		--
	X	MISC. SNOW MELT CONTROLS	1	20	13	350 0			14	20	1	SPARE		--
	L	BOILER ROOM LIGHTING	1	20	15		756 0		16	20	1	SPARE		--
	--	SPARE	1	20	17			0 0	18	20	1	SPARE		--
	M	GP 1B.01	1	20	19	1176 0			20	20	1	SPARE		--
	M	HFCU 4	1	20	21		1512 0		22	20	1	SPARE		--
	M	HFCU 4	1	20	23			1512 0	24	20	1	SPARE		--
	M	HFCU 4	1	20	25	1512 0			26	20	1	SPARE		--
	M	HFCU 4	1	20	27		1512 0		28	20	1	SPARE		--
	--	SPARE	1	20	29			0 0	30	20	1	SPARE		--
	--	SPACE	1	--	31	-- --			32	--	1	SPACE		--
	--	SPACE	1	--	33		-- --		34	--	1	SPACE		--
	--	SPACE	1	--	35			-- --	36	--	1	SPACE		--
	--	SPACE	1	--	37	-- --			38	--	1	SPACE		--
	--	SPACE	1	--	39		-- --		40	--	1	SPACE		--
	--	SPACE	1	--	41			-- --	42	--	1	SPACE		--

PER PHASE VA WITH DOWNSTREAM LOADS

PHASE	A	B	C	TOTALS
CALC	4065	4833	2289	11188
CNNCTD	3928	4670	2212	10810

DOWNSTREAM FEED THROUGH LUG PANELS

CONDUCTOR COLORS (EC TO LABEL IN PANEL)

	208Y/120	480Y/277
A	BLACK	BROWN
B	RED	ORANGE
C	BLUE	YELLOW
N	WHITE	WHITE/GRAY STRIPE
G	GREEN	GREEN

LOAD SUMMARY WITH DOWNSTREAM LOADS INCLUDED

CATEGORY	CONNECTED	FACTOR	CALC. V-A	AMPS @ 120/208 Wye
LIGHTING	756	100%	756	2
RECEPTACLE	1080	100%	1080	3
MOTOR	7224	105%	7602	21
MISCELLANEOUS	1750	100%	1750	5
KITCHEN				
ELECTRIC HEAT				
EV CHARGING				
EXISTING				
TOTAL	10810		11188	31

Steamboat Base Village Redevelopment — ME Engineers Inc. — GWH

480/277 Wye | 3 Phase, 4 Wire + Gnd. 60Hz. | SCCR:

BUS: 400 A | MAINS: 400 A - MCB | GROUND BAR: Copper

OPTIONS:

PANEL: GWH | ENCLOSURE: Type 1 | MOUNTING: Surface | FED FROM: MDS | LEVEL: PLAZA - LEVEL 01 | LOCATION: ELECTRICAL 14 | ISSUE DATE:

NOTES: 1. PROVIDE GFPE TYPE BREAKER

REFER TO DETAILS AND SPECIFICATION SECTION FOR PANELBOARD LAMINATED PLAQUE REQUIREMENTS.

N	LC	DESCRIPTION	P	OCP	CKT	A	B	C	CKT	OCP	P	DESCRIPTION	LC	N
	M	ESCALATOR #1	3	30	1	4157 1161			2	20	1	GOLD WALK SITE LIGHTING (ZONES G.S.2 - G.S.5)	L	R
--	--	--	--	--	3		4157 724		4	20	1	STAIR AND ESCALATOR LIGHTING	L	
--	--	--	--	--	5			4157 0	6	20	1	SPARE		--
	M	ESCALATOR #2	3	30	7	4157 0			8	20	1	SPARE		--
--	--	--	--	--	9		4157 0		10	20	1	SPARE		--
--	--	--	--	--	11			4157 0	12	20	1	SPARE		--
	--	SPARE	1	20	13	0 0			14	20	1	SPARE		--
	--	SPARE	1	20	15		0 0		16	20	1	SPARE		--
	--	SPARE	1	20	17			0 0	18	20	1	SPARE		--
1	M	ESP-1	3	20	19	6667 0			20	20	1	SPARE		--
--	--	--	--	--	21		6667 0		22	20	1	SPARE		--
--	--	--	--	--	23			6667 0	24	20	1	SPARE		--
	--	SPARE	1	20	25	0 0			26	20	1	SPARE		--
	--	SPARE	1	20	27		0 0		28	20	1	SPARE		--
	--	SPARE	1	20	29			0 0	30	20	1	SPARE		--
	--	SPARE	1	20	31	0 0			32	20	1	SPARE		--
	--	SPARE	1	20	33		0 0		34	20	1	SPARE		--
	--	SPARE	1	20	35			0 0	36	20	1	SPARE		--
	--	SPARE	1	20	37	0 30296			38	175	3	T-GWL	L	--
	--	SPARE	1	20	39		0 33652		40	--	--	--	--	--
	--	SPARE	1	20	41			0 32320	42	--	--	--	--	--

PER PHASE VA WITH DOWNSTREAM LOADS

PHASE	A	B	C	TOTALS
CALC	51920	55183	52884	159987
CNNCTD	46437	49356	47300	143094

DOWNSTREAM FEED THROUGH LUG PANELS

CONDUCTOR COLORS (EC TO LABEL IN PANEL)

	208Y/120	480Y/277
A	BLACK	BROWN
B	RED	ORANGE
C	BLUE	YELLOW
N	WHITE	WHITE/GRAY STRIPE
G	GREEN	GREEN

LOAD SUMMARY WITH DOWNSTREAM LOADS INCLUDED

CATEGORY	CONNECTED	FACTOR	CALC. V-A	AMPS @ 480/277 Wye
LIGHTING	8000	100%	8000	10
RECEPTACLE	13900	86%	11950	14
MOTOR	49502	110%	54502	66
MISCELLANEOUS				
KITCHEN				
ELECTRIC HEAT	16320	100%	16320	20
EV CHARGING				
EXISTING	55372	125%	69215	83
TOTAL	143094		159987	192

Steamboat Base Village Redevelopment — ME Engineers Inc. — GWL

120/208 Wye | 3 Phase, 4 Wire + Gnd. 60Hz. | SCCR:

BUS: 400 A | MAINS: 400 A - MCB | GROUND BAR: Copper

OPTIONS:

PANEL: GWL | ENCLOSURE: Type 1 | MOUNTING: Surface | FED FROM: T-GWL | LEVEL: PLAZA - LEVEL 01 | LOCATION: ELECTRICAL 14 | ISSUE DATE:

NOTES: 1. PROVIDE GFCI TYPE CIRCUIT BREAKER.

REFER TO DETAILS AND SPECIFICATION SECTION FOR PANELBOARD LAMINATED PLAQUE REQUIREMENTS.

N	LC	DESCRIPTION	P	OCP	CKT	A	B	C	CKT	OCP	P	DESCRIPTION	LC	N
	M	UH 2 VESTIBULE 103	1	20	1	120 0			2	20	1	UH 3 STORAGE 106	M	
	M	UH 2 STAIR ACCESS	1	20	3		120 120		4	20	1	UH 2 ELEC 102	M	
	M	WFCU 1B.01	1	20	5			120 900	6	20	1	ELECMECH ROOM GEN RECEPTS	R	
	R	STORAGE RM GEN RECEPTS	1	20	7	720 2000			8	20	1	STORAGE #2 SKIRT LIGHTING	L	
	R	STORAGE RM GEN RECEPTS	1	20	9		720 1920		10	20	1	ESCALATOR #2 HEATER FAN	E	
	L	SITE LTG - F9 - FESTOON LIGHTS - ZONE G.S.3	1	20	11			540 1200	12	20	1	ESCALATOR #2 COMBPLATE LIGHTING (TOP)	E	
	L	ESCALATOR #1 SKIRT LIGHTING	1	20	13	2000 1200			14	20	1	ESCALATOR #2 COMBPLATE LIGHTING (BOT)	E	
	M	ESCALATOR #1 HEATING FAN	1	20	15		1920 2880		16	20	1	ESCALATOR #2 STEP BAND HEATING	E	
	E	ESCALATOR #1 COMBPLATE LIGHTING (TOP)	1	20	17			1200 2880	18	20	1	ESCALATOR #2 STEP BAND HEATING	E	
	E	ESCALATOR #1 COMBPLATE LIGHTING (BOT)	1	20	19	1200 120			20	20	1	WFCU 1B.02	M	
	E	ESCALATOR #1 STEP BAND HEATING	1	20	21		2880 0		22	20	1	SPARE		--
	E	ESCALATOR #1 STEP BAND HEATING	1	30	23			2880 0	24	20	1	SPARE		--
	L	STORAGE 101 LIGHTING	1	20	25	756 0			26	20	1	SPARE		--
	L	MEP ROOMS & STAIR PIT LIGHTING	1	20	27		672 0		28	20	1	SPARE		--
	L	SIGNAGE ELEMENT NEAR TOP OF STAIR	1	20	29			180 0	30	20	1	SPARE		--
	M	UH 2 VESTIBULE 103	1	20	31	120 0			32	20	1	SPARE		--
	R	GOLD WALK PEDESTAL (SPECIALTY)	1	50	33		3602 0		34	20	1	SPARE		--
--	--	--	--	--	35			3602 0	36	20	1	SPARE		--
--	--	--	--	--	37	3602 6024			38	80	3	(EX) BEAR RIVER BBQ	EX	
	R	GOLD WALK PEDESTAL (QUAD)	1	20	39		360 6024		40	--	--	--	--	--
	R	GOLD WALK PEDESTAL (QUAD)	1	20	41			360 6024	42	--	--	--	--	--
	--	SPARE	1	20	43	0 5585			44	80	3	(EX) UMBRELLA BAR	EX	
	--	SPARE	1	20	45		0 5585		46	--	--	--	--	--
	--	SPARE	1	20	47			0 5585	48	--	--	--	--	--
	--	SPARE	3	30	49	0 6424			50	80	3	(EX) GL2 PANEL	EX	
--	--	--	--	--	51		0 6424		52	--	--	--	--	--
--	--	--	--	--	53			0 6424	54	--	--	--	--	--
	--	SPARE	3	70	55	0 425			56	150	3	SKI CORP	EX	
--	--	--	--	--	57		0 425		58	--	--	--	--	--
--	--	--	--	--	59			0 425	60	--	--	--	--	--

PER PHASE VA WITH DOWNSTREAM LOADS

PHASE	A	B	C	TOTALS
CALC	34195	37983	36479	108657
CNNCTD	30296	33652	32320	96267

DOWNSTREAM FEED THROUGH LUG PANELS

CONDUCTOR COLORS (EC TO LABEL IN PANEL)

	208Y/120	480Y/277
A	BLACK	BROWN
B	RED	ORANGE
C	BLUE	YELLOW
N	WHITE	WHITE/GRAY STRIPE
G	GREEN	GREEN

LOAD SUMMARY WITH DOWNSTREAM LOADS INCLUDED

CATEGORY	CONNECTED	FACTOR	CALC. V-A	AMPS @ 120/208 Wye
LIGHTING	6148	100%	6148	17
RECEPTACLE	13887	86%	11934	33
MOTOR	4560	111%	5040	14
MISCELLANEOUS				
KITCHEN				
ELECTRIC HEAT	16320	100%	16320	45
EV CHARGING				
EXISTING	55372	125%	69215	192
TOTAL	96267		108657	302

NOTE:
1. EXISTING PANELS BEING REFED FROM THIS NEW PANEL HAVE BEEN METERED BY THE CONSTRUCTION TEAM FOR 30 DAYS FROM 3/18/21 THROUGH 4/23/21. THE EXISTING LOADS ABOVE WERE THE PEAK DEMAND VALUES OBTAINED DURING THIS TIME UNDER NORMAL BUILDING OCCUPANCY AND OPERATION.

Steamboat Base Village Redevelopment — ME Engineers Inc. — SKI CORP

120/208 Wye | 3 Phase, 4 Wire + Gnd. 60Hz. | SCCR:

BUS: 100 A | MAINS: MLO | GROUND BAR: Copper

OPTIONS:

PANEL: SKI CORP | ENCLOSURE: Type 1 | MOUNTING: Surface | FED FROM: GWL | LEVEL: PLAZA - LEVEL 01 | LOCATION: ELECTRICAL 14 | ISSUE DATE:

NOTES: 1. PROVIDE NEW CIRCUIT BREAKER IN NEW PANEL TO SERVICE EXISTING LOAD. BREAKER TO MATCH THE EXISTING BREAKER IN KIND IN THE EXISTING PANEL.

REFER TO DETAILS AND SPECIFICATION SECTION FOR PANELBOARD LAMINATED PLAQUE REQUIREMENTS.

N	LC	DESCRIPTION	P	OCP	CKT	A	B	C	CKT	OCP	P	DESCRIPTION	LC	N
1	EX	(EX) INFO TURTLE	2	20	1	0 0			2	20	2	(EX) BEAR STAIRS TURTLE	EX	1
--	--	--	--	--	3		0 0		4	--	--	--	--	--
	EX	(EX) GFI	1	20	5			0 0	6	20	1	(EX) GFI	EX	1
1	EX	(EX) GFI	1	20	7	0 0			8	20	1	(EX) GFI	EX	1
	EX	(EX) TURTLE STARS	2	20	9		0 0		10	20	2	(EX) LGB TURTLE	EX	1
--	--	--	--	--	11			0 0	12	--	--	--	--	--
	EX	(EX) GFI	1	20	13	0 0			14	20	1	(EX) GFI	EX	1
	--	SPARE	1	20	15		0 0		16	20	1	(EX) GFI	EX	1
1	EX	(EX) TURTLE STARS	2	20	17			0 0	18	20	2	(EX) BILLY TURTLE	EX	
--	--	--	--	--	19	0 0			20	--	--	--	--	--
1	EX	(EX) GFI	1	20	21		0 0		22	20	1	(EX) GFI	EX	1
	EX	(EX) GFI	1	20	23			0 0	24	20	1	(EX) GFI	EX	1
	EX	(EX) BULL	1	20	25	0 0			26	20	1	(EX) GFI	EX	1
	EX	(EX) TURTLE RECEPT.	2	20	27		0 0		28	20	1	SPARE		--
--	--	--	--	--	29			0 0	30	20	1	SPARE		--
	--	SPARE	1	20	31	0 0			32	20	1	SPARE		--
	--	SPARE	1	20	33		0 0		34	20	1	SPARE		--
	--	SPARE	1	20	35			0 0	36	20	1	SPARE		--
	--	SPARE	1	20	37	0 425			38	20	3	ME-EXISTING METERED LOAD	EX	
	--	SPARE	1	20	39		0 425		40	--	--	--	--	--
	--	SPARE	1	20	41			0 425	42	--	--	--	--	--

PER PHASE VA WITH DOWNSTREAM LOADS

PHASE	A	B	C	TOTALS
CALC	531	531	531	1594
CNNCTD	425	425	425	1275

DOWNSTREAM FEED THROUGH LUG PANELS

CONDUCTOR COLORS (EC TO LABEL IN PANEL)

	208Y/120	480Y/277
A	BLACK	BROWN
B	RED	ORANGE
C	BLUE	YELLOW
N	WHITE	WHITE/GRAY STRIPE
G	GREEN	GREEN

LOAD SUMMARY WITH DOWNSTREAM LOADS INCLUDED

CATEGORY	CONNECTED	FACTOR	CALC. V-A	AMPS @ 120/208 Wye
LIGHTING				
RECEPTACLE				
MOTOR				
MISCELLANEOUS				
KITCHEN				
ELECTRIC HEAT				
EV CHARGING				
EXISTING	1275	125%	1594	4
TOTAL	1275		1594	4

NOTE:
1. LOAD INDICATED ABOVE AS ZERO LOAD IS EXISTING LOAD TO BE RECIRCUITED TO NEW PANEL IN NEW LOCATION.
2. THIS PANEL WAS METERED BY THE CONSTRUCTION TEAM FOR 30 DAYS FROM 3/18/21 THROUGH 4/23/21. THE EXISTING LOAD ABOVE WAS THE PEAK DEMAND LOAD OBTAINED DURING THIS TIME UNDER NORMAL BUILDING OCCUPANCY AND OPERATION.

RCRBD
Record Set
Electrical
06/22/2021

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△	Date	Description
-	2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT

Seal / Signature

COLORADO LICENSED
MATTHEW JOHN STEVENS
52253
PROFESSIONAL ENGINEER

Project Name

SSRC | BASE AREA IMPROVEMENTS

Project Number

003.7835.000

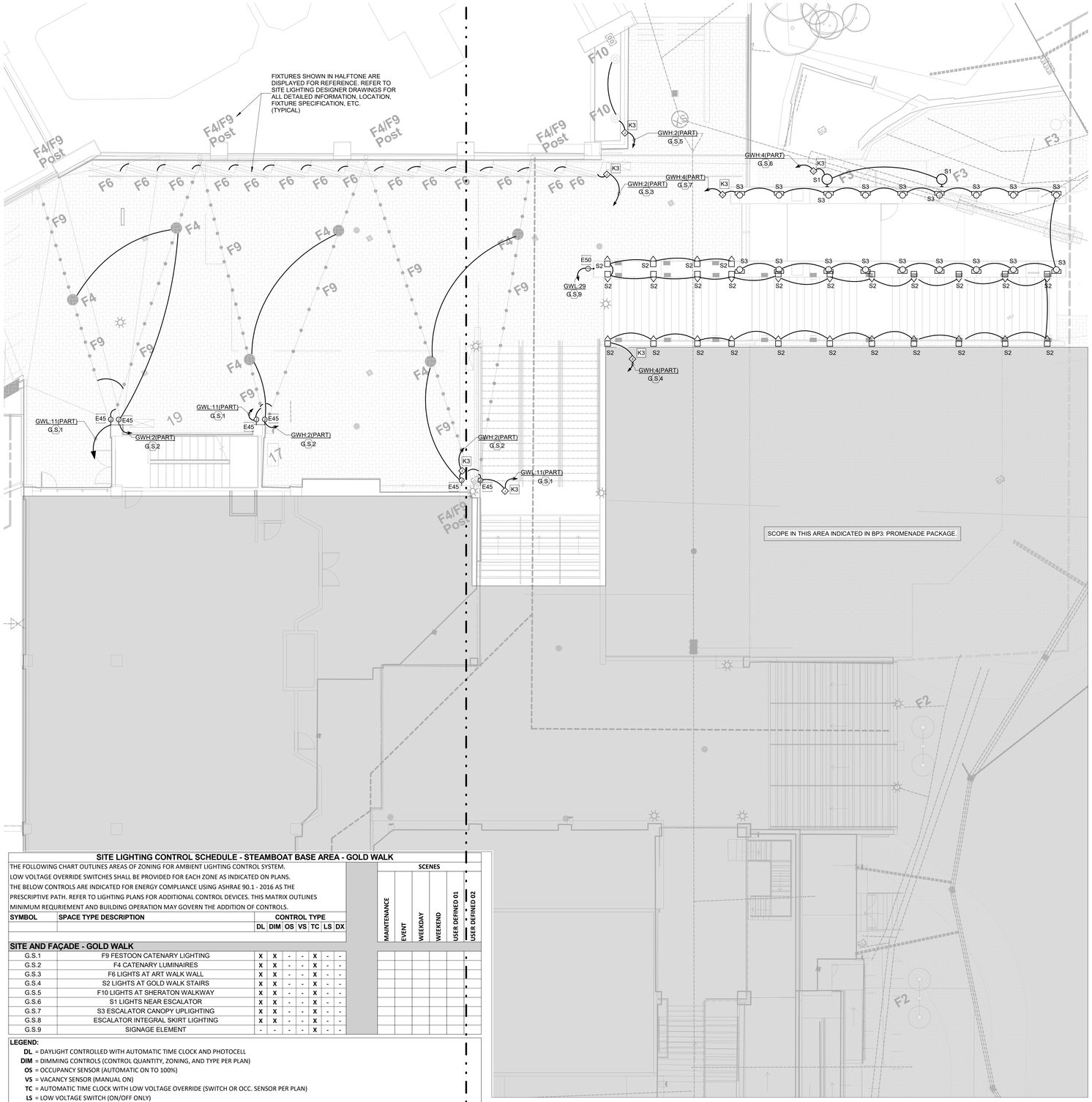
Description

GOLD WALK - ELECTRICAL PANEL SCHEDULES

Scale

1B-E0.003

BRH | BRH | BRL
GWH | GWL | SKI CORP



SITE LIGHTING CONTROL SCHEDULE - STEAMBOAT BASE AREA - GOLD WALK

THE FOLLOWING CHART OUTLINES AREAS OF ZONING FOR AMBIENT LIGHTING CONTROL SYSTEM.
LOW VOLTAGE OVERRIDE SWITCHES SHALL BE PROVIDED FOR EACH ZONE AS INDICATED ON PLANS.
THE BELOW CONTROLS ARE INDICATED FOR ENERGY COMPLIANCE USING ASHRAE 90.1 - 2016 AS THE PRESCRIPTIVE PATH. REFER TO LIGHTING PLANS FOR ADDITIONAL CONTROL DEVICES. THIS MATRIX OUTLINES MINIMUM REQUIREMENT AND BUILDING OPERATION MAY GOVERN THE ADDITION OF CONTROLS.

SYMBOL	SPACE TYPE DESCRIPTION	CONTROL TYPE							SCENES						
		DL	DIM	OS	VS	TC	LS	DX	MAINTENANCE	EVENT	WEEKDAY	WEEKEND	USER DEFINED 01	USER DEFINED 02	
SITE AND FAÇADE - GOLD WALK															
G.S.1	F9 FESTOON CATENARY LIGHTING	X	X	-	-	X	-	-							
G.S.2	F4 CATENARY LUMINAIRES	X	X	-	-	X	-	-							
G.S.3	F6 LIGHTS AT ART WALK WALL	X	X	-	-	X	-	-							
G.S.4	S2 LIGHTS AT GOLD WALK STAIRS	X	X	-	-	X	-	-							
G.S.5	F10 LIGHTS AT SHERATON WALKWAY	X	X	-	-	X	-	-							
G.S.6	S1 LIGHTS NEAR ESCALATOR	X	X	-	-	X	-	-							
G.S.7	S3 ESCALATOR CANOPY UPLIGHTING	X	X	-	-	X	-	-							
G.S.8	ESCALATOR INTEGRAL SKIRT LIGHTING	X	X	-	-	X	-	-							
G.S.9	SIGNAGE ELEMENT	-	-	-	-	X	-	-							

LEGEND:
- **DL** = DAYLIGHT CONTROLLED WITH AUTOMATIC TIME CLOCK AND PHOTOCELL
- **DIM** = DIMMING CONTROLS (CONTROL QUANTITY, ZONING, AND TYPE PER PLAN)
- **OS** = OCCUPANCY SENSOR (AUTOMATIC ON TO 100%)
- **VS** = VACANCY SENSOR (MANUAL ON)
- **TC** = AUTOMATIC TIME CLOCK WITH LOW VOLTAGE OVERRIDE (SWITCH OR OCC. SENSOR PER PLAN)
- **LS** = LOW VOLTAGE SWITCH (ON/OFF ONLY)
- **DX** = DMX ADDRESSABLE FIXTURE. VERIFY WITH SPECIFIC FIXTURE SPEC FOR FIXTURE ADDRESS QUANTITY AND EM OVERRIDE REQUIREMENTS.

GENERAL NOTES:
1. REFER TO LIGHTING DRAWINGS FOR OCCUPANCY/VACANCY SENSOR SPACES. PROVIDE QUANTITY AS REQUIRED FOR FULL COVERAGE OF ALL SPACES.
2. PROVIDE ADDITIONAL RELAYS AS REQUIRED FOR AUTOMATIC RECEPTACLE CONTROL AS INDICATED ON ELECTRICAL DRAWINGS FOR ALL PRIVATE OFFICES, OPEN OFFICES, AND COMPUTER CLASSROOMS.
3. ALL INTERIOR SPACES SHALL HAVE MANUAL LOCAL SWITCH/DIMMING CONTROLS OTHER THAN RESTROOMS AND PUBLIC CORRIDORS.

1 GOLD WALK ELECTRICAL SITE PLAN
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. REFER TO SHEET 1B-E0.002 FOR LIGHTING FIXTURE SCHEDULE.
2. REFER TO LANDSCAPE DRAWINGS FOR ALL SITE FIXTURE LOCATIONS MOUNTED IN HARDSCAPE OR SOFTSCAPE. FIXTURE LOCATIONS ARE DIAGRAMMATIC. THE INTENT IS TO ALIGN, CENTER, OR SPACE FIXTURES BETWEEN ARCHITECTURAL AND LANDSCAPE ELEMENTS.
3. ALL LANDSCAPE OR EXTERIOR BUILDING LIGHTING SHALL BE CONTROLLED VIA THE LIGHTING CONTROL SYSTEM.
4. REFER TO ARCHITECTURAL EXTERIOR ELEVATIONS FOR ALL FIXTURE LOCATIONS ON THE EXTERIOR OF THE BUILDING. FIXTURE LOCATIONS ARE DIAGRAMMATIC. THE INTENT IS TO ALIGN, CENTER, OR SPACE FIXTURES BETWEEN ARCHITECTURAL AND STRUCTURAL ELEMENTS.
5. PROVIDE A MINIMUM 1" PVC CONDUIT FOR ALL UNDERGROUND BRANCH CIRCUITS. ALL 90DEGREE ELBOWS SHALL BE PVC COATED RIGID.
6. ALL BACK BOXES SHALL BE FLUSH MOUNTED UNLESS NOTED OTHERWISE. ALL VERTICAL SECTIONS OF CONDUIT SHALL BE CONCEALED. CONTRACTOR SHALL COORDINATE INSTALLATION OF CONDUIT AND BACK BOXES IN CONCRETE, MASONRY AND GYP. WALLS.

KEYNOTES

E45	PROVIDE ELECTRICAL CONNECTION TO CATENARY TYPE LIGHT FIXTURE SUSPENDED ABOVE GOLD WALK FROM THIS SIDE OF THE GOLD WALK. STRUCTURAL SUPPORTS ARE NOT ACCESSIBLE FOR ELECTRICAL CONNECTIONS ON THE OTHER SIDE OF THE GOLD WALK. IF SURFACE MOUNTED CONDUIT FROM BELOW IS REQUIRED TOP SERVE THESE LIGHTS, CONDUIT AND BACK BOXES SHALL BE PAINTED TO MATCH EXTERIOR FACADE.
E50	PROVIDE 120V/20A CONNECTION TO SIGNAGE ELEMENT. REFER TO ARCHITECTURAL AND LANDSCAPE DRAWINGS FOR EXACT LOCATION. VERIFY ELECTRICAL CONNECTION TYPE WITH MANUFACTURER SIGNAGE SUBMITTALS.
K3	PROVIDE SINGLE ZONE DISTRIBUTED ROOM CONTROLLER FOR LIGHTING CONTROL WITHIN THIS SPACE. ROOM CONTROLLER SHALL HAVE ON/OFF RELAY CONTROL AND DIMMING FUNCTIONALITY. ROOM CONTROLLER SHALL BE MOUNTED INSIDE BUILDING OR WITHIN NEMA 3R ENCLOSURE ON SITE. REFER TO LIGHT FIXTURE SCHEDULE FOR EXACT DIMMING TECHNOLOGY BEING USED ON A PER LIGHT FIXTURE BASIS. PROVIDE NETWORK CONNECTION FOR THIS ROOM CONTROLLER TO THE OVERALL NETWORKED LIGHTING CONTROL SYSTEM. REFER TO DETAIL XX/E8.00X FOR MORE INFORMATION.

RCRBD Record Set Electrical
06/22/2021

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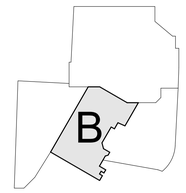
Date	Description
2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT

KEY PLAN



Seal / Signature

COLORADO LICENSED LANDSCAPE ARCHITECT MATTHEW JOHN DOYLE 52253 PROFESSIONAL

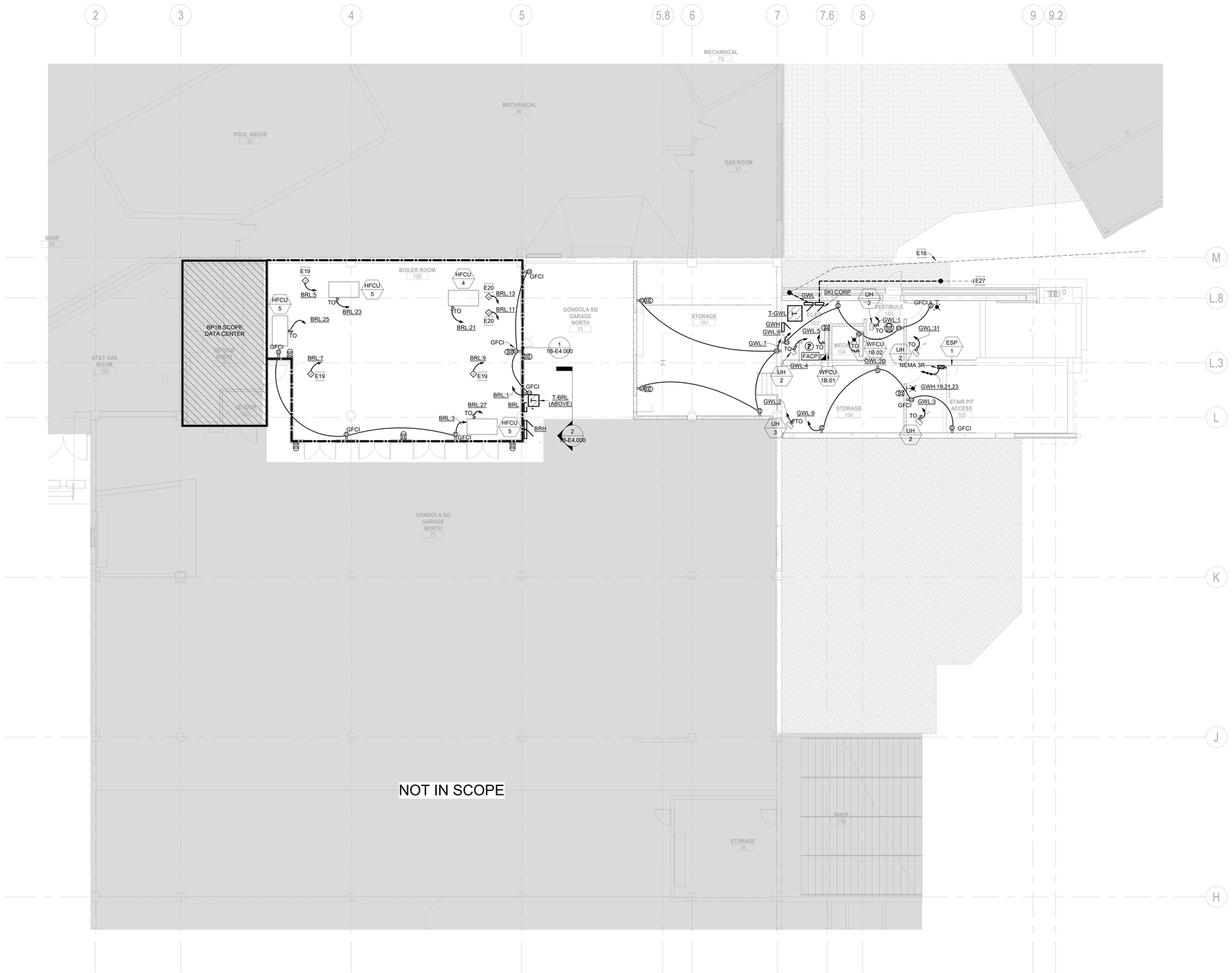
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
GOLD WALK - ELECTRICAL LIGHTING SITE PLAN

Scale
1/8" = 1'-0"

1B-E1.000



NOT IN SCOPE

1 ELECTRICAL PLAN - LEVEL 01
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. ELECTRICAL CONTRACTOR SHALL COORDINATE EXACT LOCATION OF ALL MECHANICAL UNITS WITH MECHANICAL CONTRACTOR.

2. ALL EXPOSED CONDUIT SHALL BE ROUTED PERPENDICULAR, PARALLEL, AND TIGHT TO COLUMNS AND BEAMS. ALL EXPOSED CONDUIT ROUTING SHALL BE COORDINATED WITH THE ARCHITECT PRIOR TO INSTALLATION AND INSTALLED IN A NEAT AND CONSISTENT MANNER. NO ADDITIONAL COST TO OWNER WILL BE ALLOWED FOR RELOCATING CONDUIT DUE TO THE LACK OF COORDINATION WITH ARCHITECT.
CONTRACTOR SHALL PROVIDE SHOP DRAWINGS INDICATING ALL PROPOSED EXPOSED CONDUIT ROUTING.

3. ALL BACK BOXES SHALL BE FLUSH MOUNTED UNLESS NOTED OTHERWISE. ALL VERTICAL SECTIONS OF CONDUIT SHALL BE CONCEALED. CONTRACTOR SHALL COORDINATE INSTALLATION OF CONDUIT AND BACK BOXES IN CONCRETE, MASONRY AND GYP. WALLS.

4. THIS CONTRACTOR SHALL REFER TO "MEP" SERIES DRAWINGS FOR ALL MECHANICAL EQUIPMENT ELECTRICAL CONNECTIONS.

5. CIRCUITS TO ALL MECHANICAL EQUIPMENT SHALL BE DEDICATED UNLESS NOTED OTHERWISE.

KEYNOTES

E18	EXISTING FEEDS TO PANELS PREVIOUSLY FED FROM EXISTING PANEL GL SHALL BE LOCATED BY THE CONTRACTOR, INTERCEPTED, AND EXTENDED TO THE NEW PANEL LOCATION INDICATED PER PLAN. PANELS THAT LOOK TO NEED POWER FROM THIS SERVICE INCLUDE UMBRELLA BAR, GL2, BBQ PANEL IN EXISTING GL PANEL IN EXISTING BOILER ROOM.
E19	PROVIDE 20A/120V/1P ELECTRICAL CONNECTION FOR MISCELLANEOUS BOILER ROOM MECHANICAL CONTROLS. COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT CONNECTIONS LOCATIONS AND REQUIREMENTS.
E20	PROVIDE 20A/120V/1P ELECTRICAL CONNECTION FOR MISCELLANEOUS SNOW MELT SYSTEM CONTROLS. COORDINATE WITH MECHANICAL CONTRACTOR AND SNOW MELT DRAWINGS FOR EXACT CONNECTIONS LOCATIONS AND REQUIREMENTS.
E27	INTERCEPT AND EXTEND EXISTING BRANCH CIRCUITS CURRENTLY FED FROM PANEL 'SKI CORP'. EXISTING CIRCUITS SHALL EXTEND AND TERMINATE AT NEW PANEL WITH NEW BREAKER OF SAME NAME AND TYPE.

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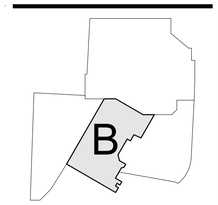
06/22/2021

KEY PLAN



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Date	Description
- 2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT

Seal / Signature

COLORADO LICENSED
MATTHEW JOHN STEWART
52253
PROFESSIONAL ENGINEER

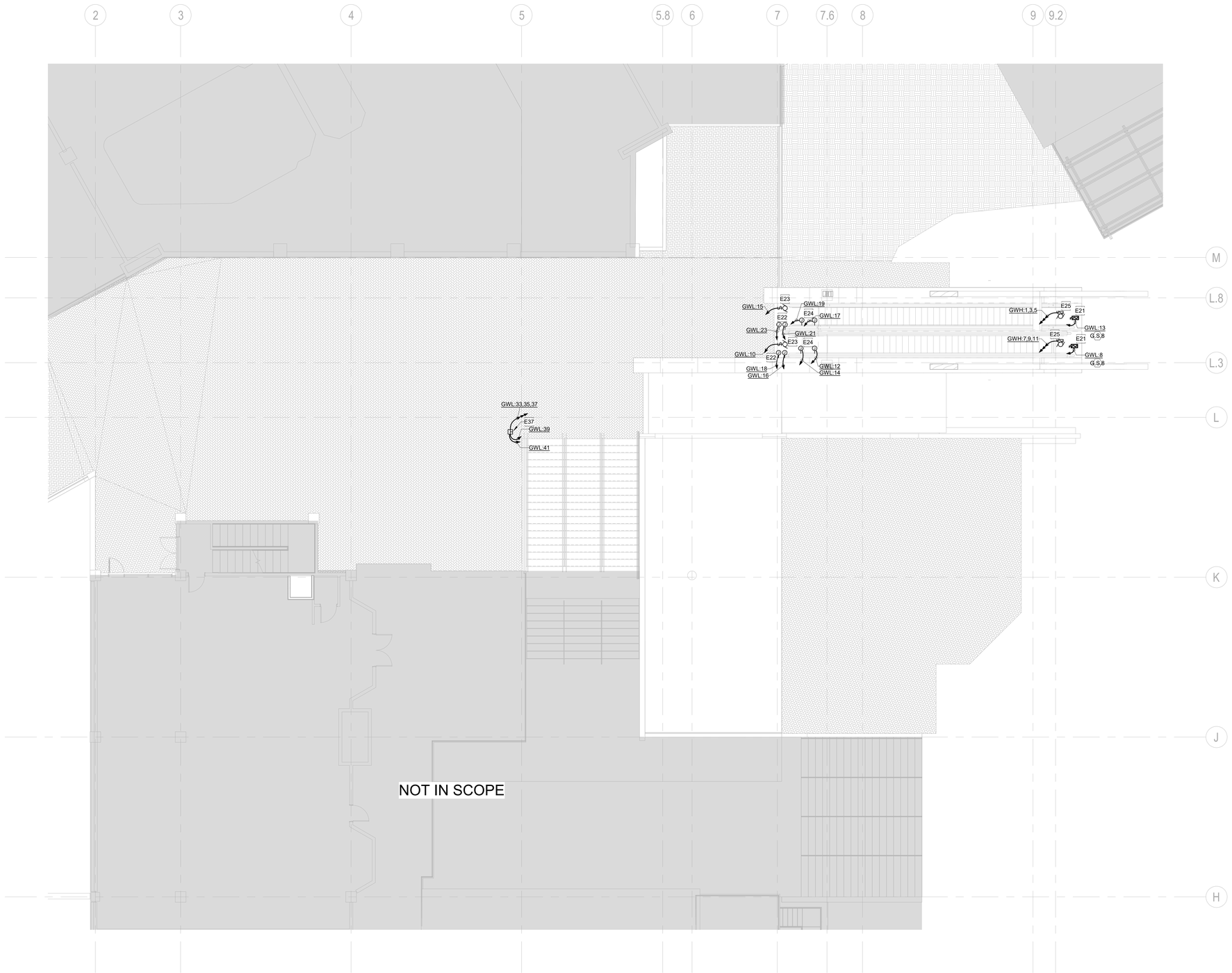
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
GOLD WALK - ELECTRICAL PLAN - LEVEL 01

Scale
1/8" = 1'-0"

1B-E1.201



1 ELECTRICAL PLAN - LEVEL 03
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. ELECTRICAL CONTRACTOR SHALL COORDINATE EXACT LOCATION OF ALL MECHANICAL UNITS WITH MECHANICAL CONTRACTOR.

2. ALL EXPOSED CONDUIT SHALL BE ROUTED PERPENDICULAR, PARALLEL, AND TIGHT TO COLUMNS AND BEAMS. ALL EXPOSED CONDUIT ROUTING SHALL BE COORDINATED WITH THE ARCHITECT PRIOR TO INSTALLATION AND INSTALLED IN A NEAT AND CONSISTENT MANNER. NO ADDITIONAL COST TO OWNER WILL BE ALLOWED FOR RELOCATING CONDUIT DUE TO THE LACK OF COORDINATION WITH ARCHITECT.
CONTRACTOR SHALL PROVIDE SHOP DRAWINGS INDICATING ALL PROPOSED EXPOSED CONDUIT ROUTING.

3. ALL BACK BOXES SHALL BE FLUSH MOUNTED UNLESS NOTED OTHERWISE. ALL VERTICAL SECTIONS OF CONDUIT SHALL BE CONCEALED. CONTRACTOR SHALL COORDINATE INSTALLATION OF CONDUIT AND BACK BOXES IN CONCRETE, MASONRY AND GYP. WALLS.

4. THIS CONTRACTOR SHALL REFER TO "MEP" SERIES DRAWINGS FOR ALL MECHANICAL EQUIPMENT ELECTRICAL CONNECTIONS.

5. CIRCUITS TO ALL MECHANICAL EQUIPMENT SHALL BE DEDICATED UNLESS NOTED OTHERWISE.

KEYNOTES

E21	PROVIDE 30A/120V/1P ELECTRICAL CONNECTION FOR ESCALATOR SKIRT LIGHTING. ROUTE CIRCUIT THROUGH LIGHTING CONTROL PANEL FOR ON/OFF CONTROL OF LIGHTING. REFER TO ESCALATOR SHOP DRAWINGS FOR EXACT POINT OF CONNECTION AT ESCALATOR PITS.
E22	PROVIDE (2) 30A/120V/1P ELECTRICAL CONNECTIONS PER ESCALATOR FOR ESCALATOR STEP BAND HEATING. REFER TO ESCALATOR SHOP DRAWINGS FOR EXACT POINT OF CONNECTION AT ESCALATOR PITS.
E23	PROVIDE 20A/120V/1P ELECTRICAL CONNECTION FOR ESCALATOR HEATING FAN. REFER TO ESCALATOR SHOP DRAWINGS FOR EXACT POINT OF CONNECTION AT ESCALATOR PITS.
E24	PROVIDE (2) 20A/120V/1P ELECTRICAL CONNECTIONS PER ESCALATOR FOR COMBPLATE HEATING. REFER TO ESCALATOR SHOP DRAWINGS FOR EXACT POINT OF CONNECTION AT ESCALATOR PITS.
E25	PROVIDE 480V/3P ELECTRICAL CONNECTION FOR ESCALATOR MOTOR. REFER TO ESCALATOR SHOP DRAWINGS FOR EXACT CONNECTION REQUIREMENTS AND LOCATION.
E37	PROVIDE NEMA3R SITE POWER PEDESTAL ENCLOSURE WITH (2) NEMA 5-20R TYPE QUAD RECEPTACLES, (1) CS6369, AND (1) 2-PORT DATA OUTLET. ELECTRICAL DEVICES SHALL HAVE DEDICATED CIRCUITS. REFER TO 12/1B-E8.002 FOR MORE INFORMATION. COORDINATE EXACT LOCATION WITH LANDSCAPE PRIOR TO INSTALLATION.

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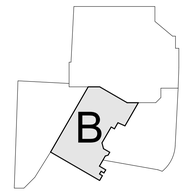
Record Set
Electrical

06/22/2021

NOT IN SCOPE

KEY PLAN



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Seal / Signature

COLORADO LICENSED
MATTHEW JOHN O'BRIEN
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PROFESSIONAL ENGINEER

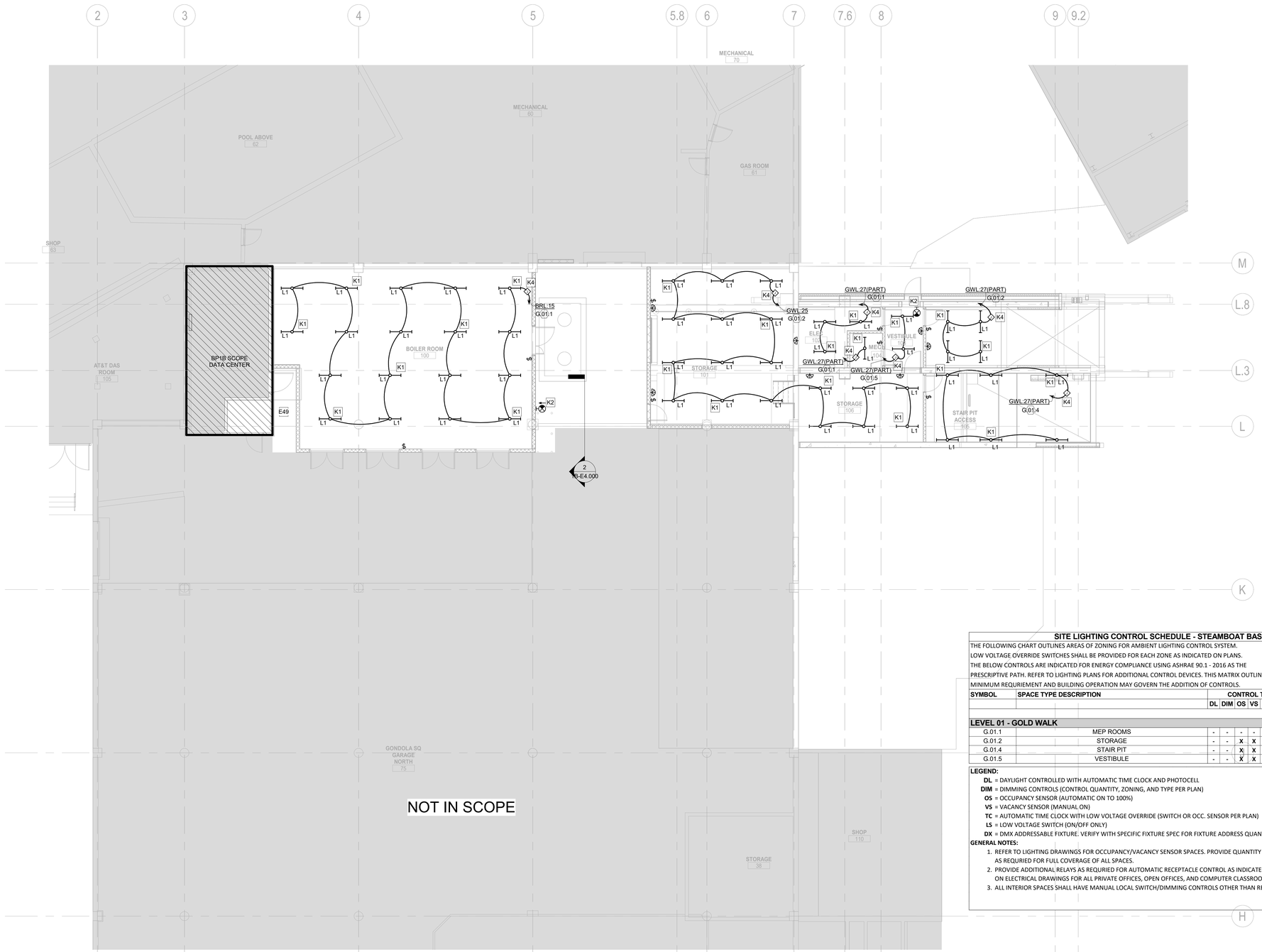
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
GOLD WALK - ELECTRICAL PLAN - LEVEL 03

Scale
1/8" = 1'-0"

1B-E1.203



GENERAL NOTES:

1. ALL EXPOSED CONDUIT SHALL BE ROUTED PERPENDICULAR, PARALLEL, AND TIGHT TO COLUMNS AND BEAMS. ALL EXPOSED CONDUIT ROUTING SHALL BE COORDINATED WITH THE ARCHITECT PRIOR TO INSTALLATION AND INSTALLED IN A NEAT AND CONSISTENT MANNER. NO ADDITIONAL COST TO OWNER WILL BE ALLOWED FOR RELOCATING CONDUIT DUE TO THE LACK OF COORDINATION WITH ARCHITECT. ALL SURFACE MOUNTED CONDUIT WHERE EXPOSED TO PUBLIC AREAS SHALL BE PAINTED. PAINT COLOR TO BE DETERMINED BY THE ARCHITECT.

2. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS INDICATING ALL PROPOSED EXPOSED CONDUIT ROUTING.

3. ELECTRICAL CONTRACTOR TO COORDINATE WITH MECHANICAL CONTRACTOR AND CABLETRAY/IT CONTRACTOR FOR PLACEMENT OF FIXTURES WITHIN ROOMS.

4. REFER TO LIGHTING DESIGNER DRAWINGS FOR EXACT MOUNTING AND DETAILS FOR POWER TO ALL SITE LIGHTING FIXTURES.

KEYNOTES

E49	EXISTING PARKING GARAGE LIGHT LOCATED ABOVE NEW BOILER ROOM SHALL BE RELOCATED TO ABOVE THIS CORRIDOR. MAINTAIN EXISTING CONTROLS FOR THIS EXISTING CIRCUIT. EXTEND CIRCUIT AS REQUIRED TO NEW FIXTURE LOCATION.
K1	PROVIDE INTEGRAL 90-MINUTE BATTERY PACK WITHIN LIGHT FIXTURE. BATTERY SHALL BE CIRCUITED TO THE LINE SIDE OF THE LINE VOLTAGE SWITCH CONTROLLING THE LIGHTS WITHIN THIS ROOM.
K2	PROVIDE EXIT SIGN TYPE "LITHONIA LQM-W-MVOLT-EL N" (OR APPROVED EQUAL) WITH FACE AND CHEVRON INDICATOR AS INDICATED PER PLAN. EXIT SIGN COLOR TO BE APPROVED BY AHJ. EXIT SIGN TO HAVE INTEGRAL 90-MINUTE MINIMUM BATTERY PACK. PROVIDE (1) SPARE EXIT SIGN OF SAME TYPE FOR LOCATION PER AHJ PRIOR TO SUBSTANTIAL COMPLETION.
K4	PROVIDE SINGLE ZONE DISTRIBUTED ROOM CONTROLLER FOR LIGHTING CONTROL WITHIN THIS SPACE. ROOM CONTROLLER SHALL HAVE ON/OFF RELAY CONTROL ONLY. ROOM CONTROLLER SHALL BE MOUNTED INSIDE BUILDING OR WITHIN NEMA 3R ENCLOSURE ON SITE. REFER TO LIGHT FIXTURE SCHEDULE FOR EXACT CONNECTION REQUIREMENTS PER LIGHT FIXTURE TYPE. PROVIDE NETWORK CONNECTION FOR THIS ROOM CONTROLLER TO THE OVERALL NETWORKED LIGHTING CONTROL SYSTEM. REFER TO DETAIL XX/E8.00X FOR MORE INFORMATION.

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Electrical
06/22/2021

SITE LIGHTING CONTROL SCHEDULE - STEAMBOAT BASE AREA - GOLD WALK

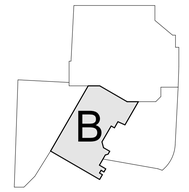
THE FOLLOWING CHART OUTLINES AREAS OF ZONING FOR AMBIENT LIGHTING CONTROL SYSTEM.
LOW VOLTAGE OVERRIDE SWITCHES SHALL BE PROVIDED FOR EACH ZONE AS INDICATED ON PLANS.
THE BELOW CONTROLS ARE INDICATED FOR ENERGY COMPLIANCE USING ASHRAE 90.1 - 2016 AS THE PRESCRIPTIVE PATH. REFER TO LIGHTING PLANS FOR ADDITIONAL CONTROL DEVICES. THIS MATRIX OUTLINES MINIMUM REQUIREMENT AND BUILDING OPERATION MAY GOVERN THE ADDITION OF CONTROLS.

SYMBOL	SPACE TYPE DESCRIPTION	CONTROL TYPE						SCENES					
		DL	DIM	OS	VS	TC	LS	DX	MAINTENANCE	EVENT	WEEKDAY	WEEKEND	USER DEFINED 01	USER DEFINED 02
LEVEL 01 - GOLD WALK														
G.01.1	MEP ROOMS	-	-	-	-	-	X	-						
G.01.2	STORAGE	-	-	X	X	-	X	-						
G.01.4	STAIR PIT	-	-	X	X	-	X	-						
G.01.5	VESTIBULE	-	-	X	X	-	X	-						

LEGEND:
- **DL** = DAYLIGHT CONTROLLED WITH AUTOMATIC TIME CLOCK AND PHOTOCELL
- **DIM** = DIMMING CONTROLS (CONTROL QUANTITY, ZONING, AND TYPE PER PLAN)
- **OS** = OCCUPANCY SENSOR (AUTOMATIC ON TO 100%)
- **VS** = VACANCY SENSOR (MANUAL ON)
- **TC** = AUTOMATIC TIME CLOCK WITH LOW VOLTAGE OVERRIDE (SWITCH OR OCC. SENSOR PER PLAN)
- **LS** = LOW VOLTAGE SWITCH (ON/OFF ONLY)
- **DX** = DMX ADDRESSABLE FIXTURE. VERIFY WITH SPECIFIC FIXTURE SPEC FOR FIXTURE ADDRESS QUANTITY AND EM OVERRIDE REQUIREMENTS.

GENERAL NOTES:
1. REFER TO LIGHTING DRAWINGS FOR OCCUPANCY/VACANCY SENSOR SPACES. PROVIDE QUANTITY AS REQURIED FOR FULL COVERAGE OF ALL SPACES.
2. PROVIDE ADDITIONAL RELAYS AS REQURIED FOR AUTOMATIC RECEPTACLE CONTROL AS INDICATED ON ELECTRICAL DRAWINGS FOR ALL PRIVATE OFFICES, OPEN OFFICES, AND COMPUTER CLASSROOMS.
3. ALL INTERIOR SPACES SHALL HAVE MANUAL LOCAL SWITCH/DIMMING CONTROLS OTHER THAN RESTROOMS AND PUBLIC CORRIDORS.

KEY PLAN



1 LIGHTING PLAN - LEVEL 01
SCALE: 1/8" = 1'-0"

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Δ	Date	Description
-	2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT

Seal / Signature

COLORADO LICENSED MATTHEW JOHN STEELE PROFESSIONAL ENGINEER 52253

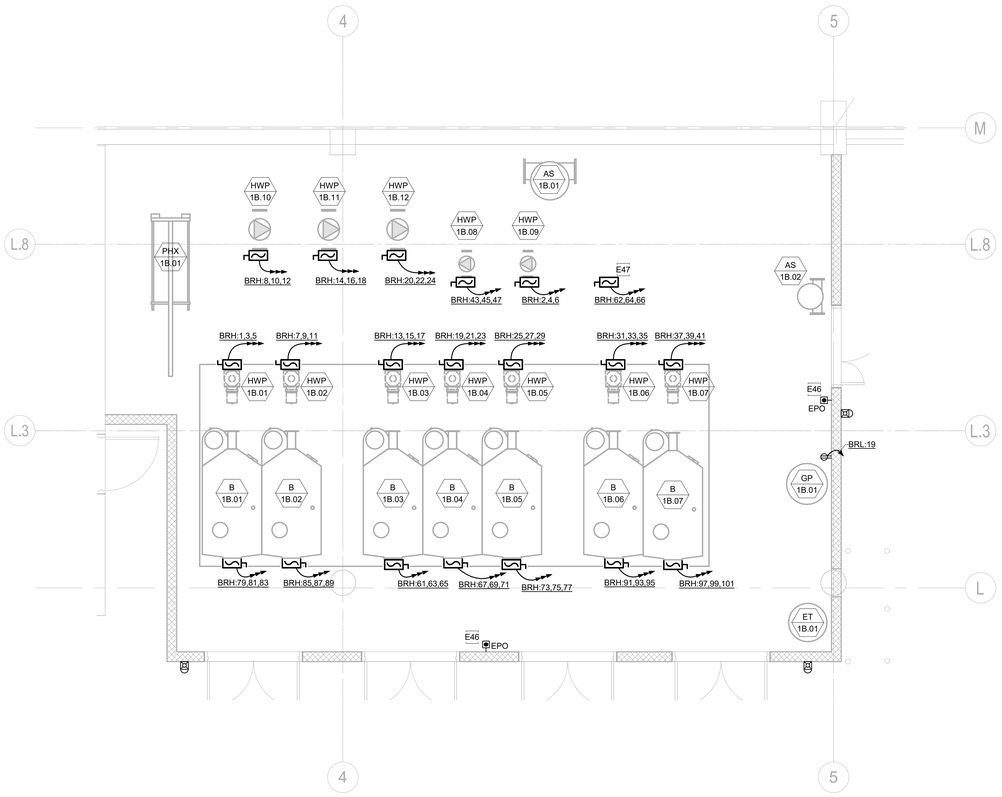
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
GOLD WALK - LIGHTING PLAN - LEVEL 01

Scale
1/8" = 1'-0"

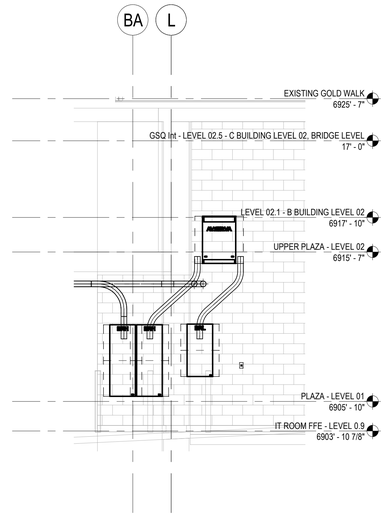
1B-E2.201



CONTRACTOR SHALL SUBMIT SCALED SHOP DRAWINGS INDICATING REAL DIMENSIONS, VFD/DISCONNECT LOCATIONS, SKID DETAILS, OMUNTING CONFIGURATIONS,E TC FOR ALL EQUIPMENT WITHIN THIS ROOM TO ENSURE APPROPRIATE CODE REQUIRED CLEARANCES PRIOR TO PURCHASE OF ANY EQUIPMENT BEING LOCATED WITHIN THIS ROOM. NOT SUBMITTING THESE DRAWINGS ALONG WITH PRODUCT DATA WILL BE CAUSE FOR REJECTION OF SUBMITTAL.

1 ENLARGED ELECTRICAL BOILER ROOM PLAN

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



2 BOILER ROOM ELECTRICAL EQUIPMENT MOUNTING

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

SNOW MELT SYSTEM - PUMP SCHEDULE — GOLD WALK

PUMP TAG	HP	VOLT	PH	FLA	FUSE	DISCON.	FEEDER	COMMENTS
SKID CONNECTION	-	480	3	182	250A LPS-RK	400A/3P	(4#250, #4G) 3"C	C
P-1	15	480	3	21	-	-	-	A,C
P-2	15	480	3	21	-	-	-	A,C
P-3	15	480	3	21	-	-	-	A,C
P-4	15	480	3	21	-	-	-	A,C
P-5	10	480	3	14	-	-	-	A,C
P-6	15	480	3	21	-	-	-	A,C
P-8	15	480	3	21	-	-	-	A,B,C
P-9	15	480	3	21	-	-	-	A,B,C
P-10	15	480	3	21	-	-	-	A,B,C

COMMENTS:

A: REFER TO SNOW MELT DESIGNER DRAWINGS FOR EXACT PUMP AND CONNECTION REQURIEMENTS. CONNECTIONS TO BE MADE AT VFD AND AT MOTOR BY THIS CONTRACTOR.

B: PUMP TO BE ISSUED AS A PART OF THE TRANSIT CENTER PACKAGE.

C: SNOW MELT PUMP SKID TO HAVE A SINGLE POINT CONNECTION. MANUFACTURER TO PROVIDE SINGLE POINT OF CONNECTION AND LOCAL DISCONNECTING MEANS FOR NEC COMPLIANCE.

GENERAL NOTES:

1. ELECTRICAL CONTRACTOR SHALL COORDINATE EXACT LOCATION OF ALL MECHANICAL UNITS WITH MECHANICAL CONTRACTOR.

2. ALL EXPOSED CONDUIT SHALL BE ROUTED PERPENDICULAR, PARALLEL, AND TIGHT TO COLUMNS AND BEAMS. ALL EXPOSED CONDUIT ROUTING SHALL BE COORDINATED WITH THE ARCHITECT PRIOR TO INSTALLATION AND INSTALLED IN A NEAT AND CONSISTENT MANNER. NO ADDITIONAL COST TO OWNER WILL BE ALLOWED FOR RELOCATING CONDUIT DUE TO THE LACK OF COORDINATION WITH ARCHITECT.
CONTRACTOR SHALL PROVIDE SHOP DRAWINGS INDICATING ALL PROPOSED EXPOSED CONDUIT ROUTING.

3. ALL BACK BOXES SHALL BE FLUSH MOUNTED UNLESS NOTED OTHERWISE. ALL VERTICAL SECTIONS OF CONDUIT SHALL BE CONCEALED. CONTRACTOR SHALL COORDINATE INSTALLATION OF CONDUIT AND BACK BOXES IN CONCRETE, MASONRY AND GYP. WALLS.

4. THIS CONTRACTOR SHALL REFER TO "MEP" SERIES DRAWINGS FOR ALL MECHANICAL EQUIPMENT ELECTRICAL CONNECTIONS.

5. CIRCUITS TO ALL MECHANICAL EQUIPMENT SHALL BE DEDICATED UNLESS NOTED OTHERWISE.

KEYNOTES

E46	PROVIDE EPO PUSH BUTTON TIED TO SHUNT TRIP MAIN BREAKER ON PANEL 'BRH' FOR BOILER ROOM. LOCATE BEHIND ACRYLIC COVER OR SIMILAR. LABEL THIS BUTTON 'BOILER ROOM POWER SHUTOFF.
E47	PROVIDE SINGLE POINT ELECTRICAL CONNECTION FOR SNOW MELT PUP SKID AT SKID PANEL. PROVIDE ADEQUATE WORKING CLEARANCE IN FRONT OF SKID PANEL. REFER TO SNOW MELT PUMP DESIGNER DRAWINGS AND SPECS AS WELL AS MANUFACTURER REQUIREMENTS FOR EXACT CONNECTION REQUIREMENTS.

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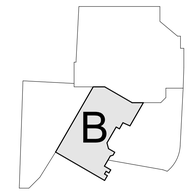
Date	Description
2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT

KEY PLAN



Seal / Signature

COLORADO LICENSED
MATTHEW JOHN DOYLE
52253
PROFESSIONAL ENGINEER

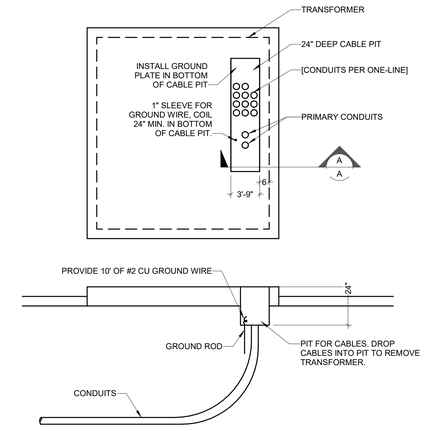
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

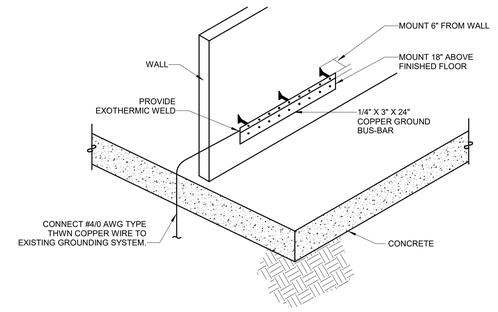
Description
GOLD WALK - ELECTRICAL
ENLARGED PLANS AND SECTIONS

Scale
1/4" = 1'-0"

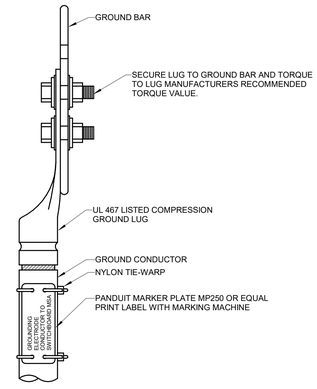
1B-E4.000



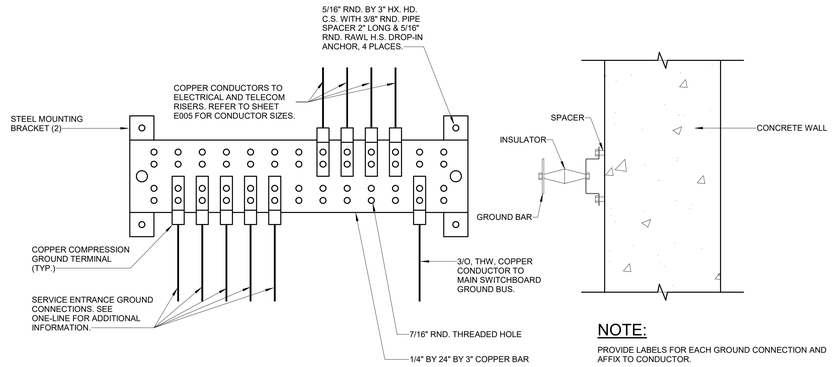
7 TRANSFORMER PAD
NO SCALE



5 MAIN ELECTRICAL ROOM GROUND BUS BAR
NO SCALE



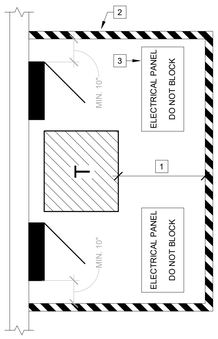
1 TYPICAL COMPRESSION GROUND CONNECTOR DETAIL
NO SCALE



2 MASTER POWER EQUIPMENT GROUNDING BUSBAR
NO SCALE

NOTE:

PROVIDE LABELS FOR EACH GROUND CONNECTION AND AFFIX TO CONDUCTOR.



KEYNOTES:

1. REFER TO NEC TABLE 110.26(A)(1) AND OSHA TABLE S-1, FOR WORKING CLEARANCE DISTANCE REQUIREMENTS. MINIMUM 30" FROM DEADFRONT FACE OF ELECTRICAL EQUIPMENT.
2. 3", STRIPED, BLACK AND YELLOW FLOOR MARKING HAZARD TAPE. 3M MODEL 5702 OR APPROVED EQUIVALENT.
3. PERMANENT, WATER RESISTANT "ELECTRICAL PANEL DO NOT BLOCK" VINYL FLOOR LABEL WITH NFPA 170 PANEL SYMBOL. QUANTITY AND SPACING TO BE DETERMINED BY EOR.

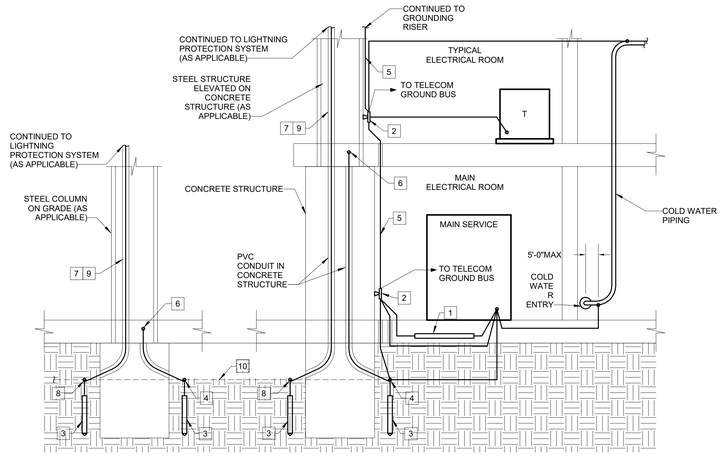
8 ELECTRICAL EQUIPMENT CLEARANCE MARKINGS
NO SCALE

GENERAL NOTES

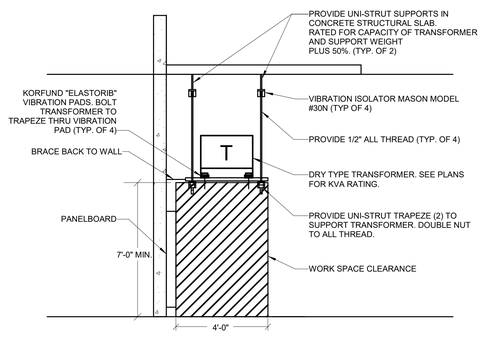
1. REFER TO PLAN DRAWINGS FOR QUANTITIES AND LOCATIONS
2. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS

KEY NOTES

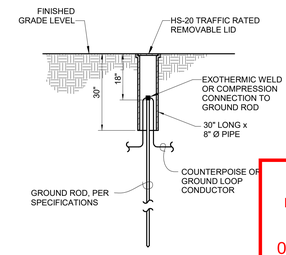
1. CONCRETE ENCASED ELECTRODE PER NEC 250.52
2. ELECTRICAL ROOM GROUND BAR REFER TO SPECIFICATIONS, CONNECTIONS TO BE BY EXOTHERMIC WELD.
3. GROUND ROD, REFER TO SPECIFICATIONS.
4. EXOTHERMIC WELD OR COMPRESSION CONNECTION.
5. GROUND RISER, REFER TO GROUNDING RISER DIAGRAM
6. PROVIDE EXOTHERMIC WELD AT APPROXIMATE LOCATION ON STEEL COLUMN. LOCATION TO BE BELOW FINAL POURED CONCRETE SLAB
7. [VERIFY FOR LIGHTING PROTECTION] PROVIDE COOPER WIRE (SIZE PER NFPA 780) FOR LIGHTNING PROTECTION DOWNLEAD CONDUCTOR
8. CONNECT DOWNLEAD CONDUCTOR TO GROUND LOOP AND PROVIDE GROUND ROD AT THIS LOCATION.
9. PVC CONDUIT, CONCEAL IN WALLS OR CHASES OR PROVIDE ARCHITECTURAL CHASE, NOT TO BE RUN EXPOSED OR ABOVE CEILINGS.
10. PROVIDE GROUND LOOP AS REQUIRED FOR LIGHTING PROTECTION AND PER PLANS AND SPECIFICATIONS.



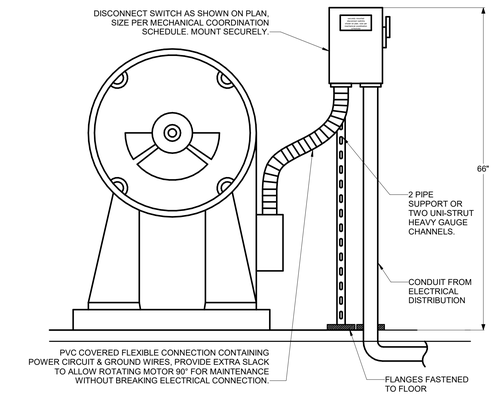
3 GROUNDING DETAILS
NO SCALE



6 TRAPEZE MOUNTING
NO SCALE



4 GROUND ROD INSPECTION WELL
NO SCALE



9 CONNECTION TO FLOOR MOUNTED MOTORS
NO SCALE

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△	Date	Description
-	2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT

Seal / Signature

COLORADO LICENSED MATTHEW JOHN STONE P.E. 52253 PROFESSIONAL ENGINEER

Project Name
SSRC | BASE AREA IMPROVEMENTS

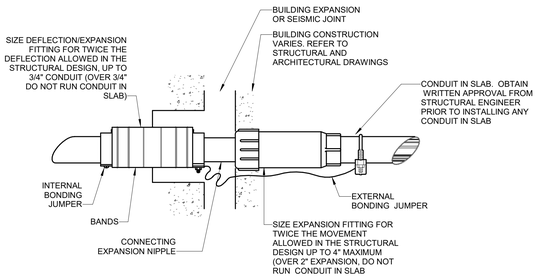
Project Number
003.7835.000

Description
GOLD WALK - ELECTRICAL DETAILS

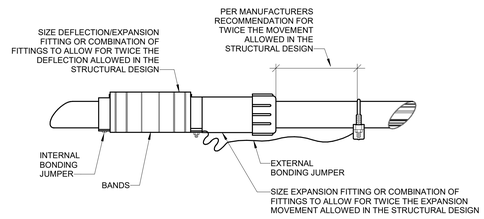
Scale
NO SCALE

1B-E8.000

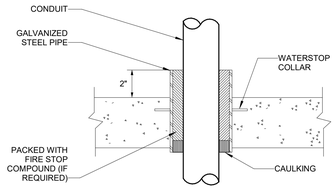
RCRBD Record Set Electrical 06/22/2021



COMBINATION EXPANSION/DEFLECTION FITTING IN SLAB

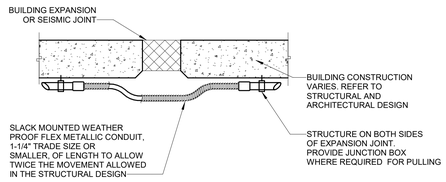


11 SEISMIC EXPANSION FITTING
NO SCALE

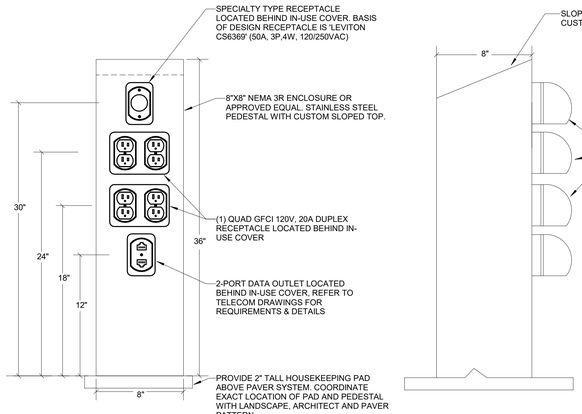


NOTE:
1. ALL CONDUIT PENETRATIONS THROUGH HORIZONTAL OR VERTICAL EXISTING STRUCTURAL MEMBER (WALL, FLOOR, CEILING, ETC.) SHALL BE APPROVED BY THE STRUCTURAL ENGINEER. PROVIDE DRAWINGS FOR APPROVAL.

10 CONDUIT PENETRATION
NO SCALE

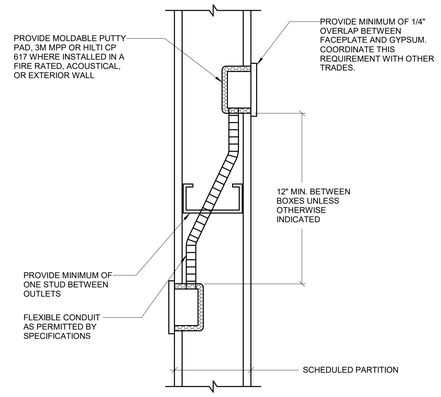


FLEX CONDUIT EXPANSION/DEFLECTION

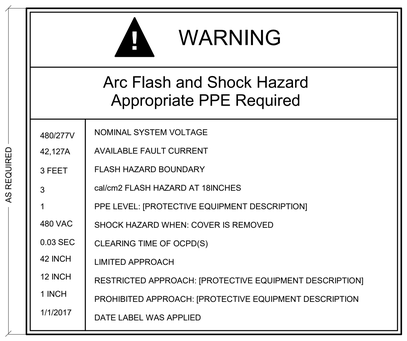


NOTES:
1. ENCLOSURE SHALL BE A UL LISTED NEMA 3R TYPE, FABRICATED OF GALVANIZED STEEL.
2. FINISH COLOR SHALL BE GRAY.
3. THE ENTIRE ASSEMBLY SHALL BE UL LISTED.
4.THE BASIS OF DESIGN MANUFACTURER IS UNION CONNECTOR

12 (DE) SITE POWER PEDESTAL - 36" (2) QUAD, CS6369, DATA
NO SCALE

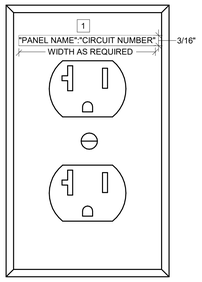


6 BACK TO BACK BOXES ARRANGEMENT-NOISE/FIRE RATING
NO SCALE



NOTE:
1. SEE SPECIFICATIONS FOR ADDITIONAL NAMEPLATE INFORMATION.

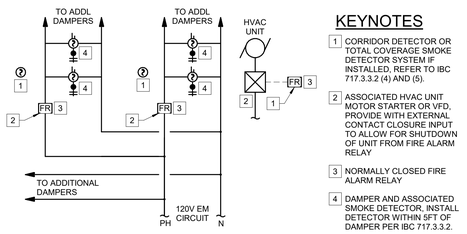
7 ARC FLASH LABEL
NO SCALE



KEYNOTES:

1 PROVIDE BLACK LETTERING ON CLEAR LABEL FOR NORMAL CIRCUITS AND RED LETTERING ON CLEAR LABEL FOR EMERGENCY/STANDBY CIRCUITS.

8 RECEPTACLE IDENTIFICATION
NO SCALE



KEYNOTES

1 CORRIDOR DETECTOR OR TOTAL COVERAGE SMOKE DETECTOR SYSTEM IF INSTALLED, REFER TO IBC 717.3.3.2 (4) AND (5).

2 ASSOCIATED HVAC UNIT MOTOR STARTER OR VFD, PROVIDE WITH EXTERNAL CONTACT CLOSURE INPUT TO ALLOW FOR SHUTDOWN OF UNIT FROM FIRE ALARM RELAY

3 NORMALLY CLOSED FIRE ALARM RELAY

4 DAMPER AND ASSOCIATED SMOKE DETECTOR, INSTALL DETECTOR WITHIN 5FT OF DAMPER PER IBC 717.3.3.2.

SEQUENCE OF OPERATION:

UPON ACTIVATION OF A DUCT DETECTOR AT A HVAC UNIT, A DUCT DETECTOR ASSOCIATED WITH A DAMPER, CORRIDOR DETECTOR, OR TOTAL COVERAGE SMOKE DETECTOR:

1) THE FIRE ALARM RELAY ASSOCIATED WITH THE HVAC UNIT WILL OPEN CAUSING THE UNIT TO SHUT DOWN.
2) THE FIRE ALARM RELAY AT THE DAMPER POWER CIRCUIT WILL OPEN CAUSING THE DAMPERS TO CLOSE (FAIL-SAFE DAMPERS).

9 FIRE/SMOKE DAMPER
NO SCALE

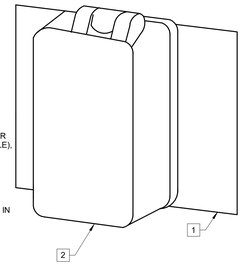
GENERAL NOTES:

1. CONTRACTOR SHALL PROVIDE WEATHER PROOF COVER FOR ALL DEVICES WITH "WP" INDICATED AS PART OF SYMBOL ON PLAN DRAWINGS, U.N.O.

KEYNOTES:

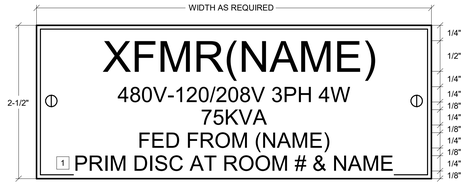
1 BACK-BOX:
FLUSH MOUNTED BOX WITH SINGLE GANG OR DOUBLE GANG COVER PLATE (AS APPLICABLE), SHOWN FOR REFERENCE ONLY.

2 COVER PLATE:
PROVIDE UL LISTED WEATHERPROOF CAST ALUMINUM SINGLE GANG OR DOUBLE GANG COVER (AS APPLICABLE) THAT WILL ALLOW FOR CABLES TO REMAIN PLUGGED IN WHILE IN THE CLOSED POSITION.



SYMBOLS = INDICATED BY "WP"

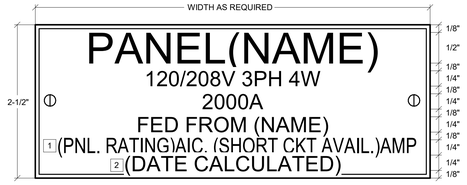
1 IN -USE WEATHER PROOF COVER
NO SCALE



NOTE:
1. SEE SPECIFICATIONS FOR ADDITIONAL NAMEPLATE INFORMATION.

1 INDICATE LOCATION OF PRIMARY DISCONNECT

2 TRANSFORMER NAMEPLATE
NO SCALE

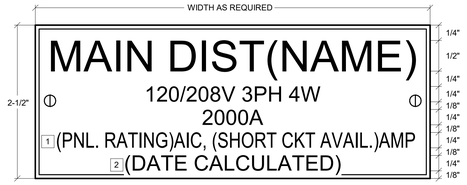


NOTE:
1. SEE SPECIFICATIONS FOR ADDITIONAL NAMEPLATE INFORMATION.

1 INDICATE BUS BRACING VALUE AND AVAILABLE FAULT CURRENT.

2 PROVIDE AND INDICATE DATE OF CALCULATION.

3 SUB DIST. CENTER & BRANCH PANEL NAME PLATE
NO SCALE

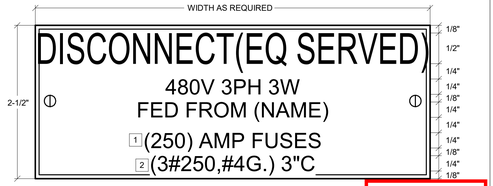


NOTE:
1. SEE SPECIFICATIONS FOR ADDITIONAL NAMEPLATE INFORMATION.

1 INDICATE BUS BRACING VALUE AND AVAILABLE FAULT CURRENT.

2 PROVIDE AND INDICATE DATE OF CALCULATION.

4 MAIN DIST.CENTER NAMEPLATE
NO SCALE



NOTE:
1. SEE SPECIFICATIONS FOR ADDITIONAL NAMEPLATE INFORMATION.

1 INDICATE FUSE SIZE, IF APPLICABLE

2 INDICATE BRANCH CIRCUIT WIRESIZE

5 DISCONNECT NAMEPLATE
NO SCALE

RCRBD
Record Set
Electrical
06/22/2021

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△	Date	Description
-	2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT

Seal / Signature

COLORADO LICENSED MATTHEW JOHN PRESTLE 52253 PROFESSIONAL ENGINEER
6/11/21

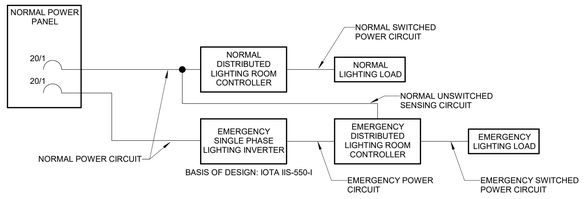
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
GOLD WALK - ELECTRICAL DETAILS

Scale
NO SCALE

1B-E8.001



10 EMERGENCY LIGHTING INVERTER WIRING DIAGRAM
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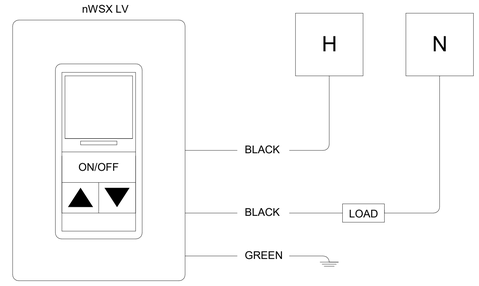
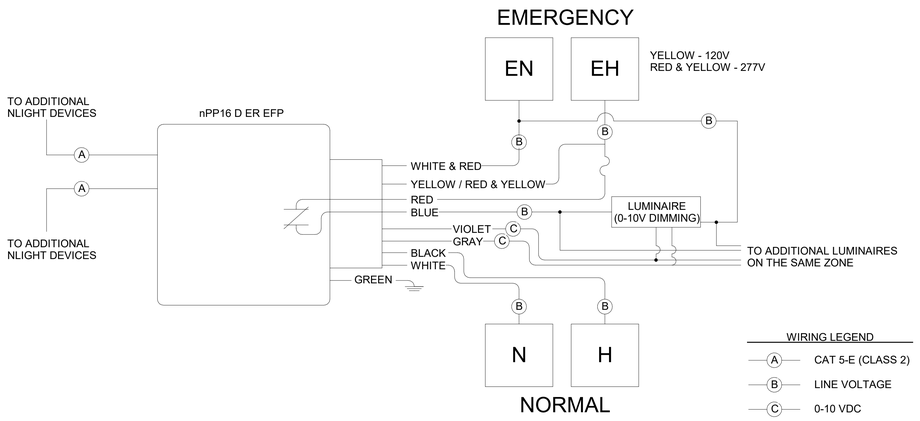
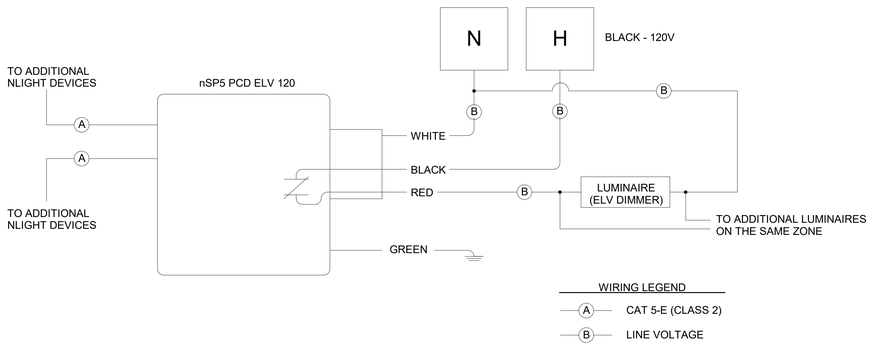


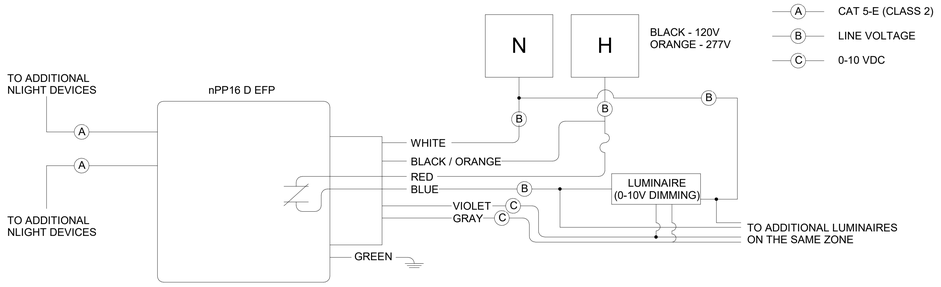
9 WALL SWITCH - 1 POLE, AUTO ON/OFF
NO SCALE



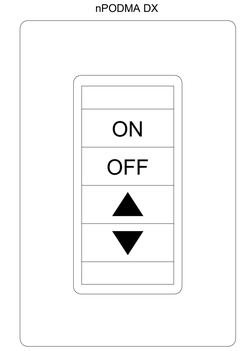
11 TYPICAL WIRING DIAGRAM: NPP16 D ER EFP
NO SCALE



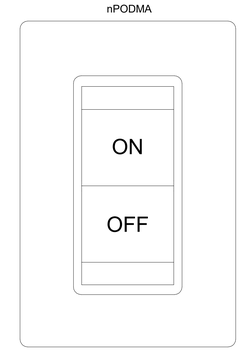
12 TYPICAL WIRING DIAGRAM: NSP5 PCD ELV 120
NO SCALE



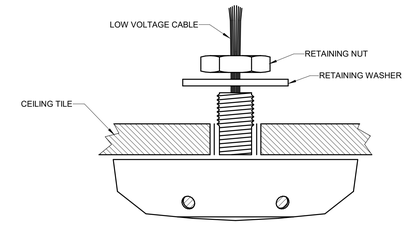
13 TYPICAL WIRING DIAGRAM: NPP16 D EFP
NO SCALE



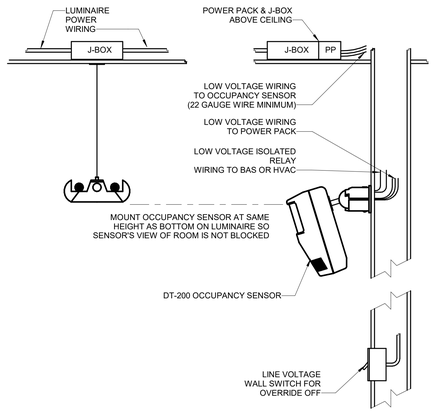
5 SINGLE ZONE DIMMER
NO SCALE



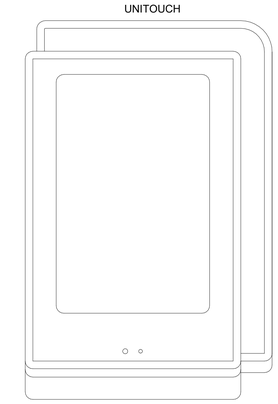
6 SINGLE ZONE SWITCH
NO SCALE



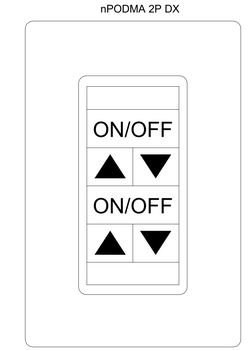
8 SENSOR - CEILING MOUNTED
NO SCALE



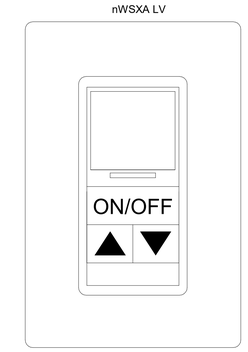
7 SENSOR - WALL MOUNTING
NO SCALE



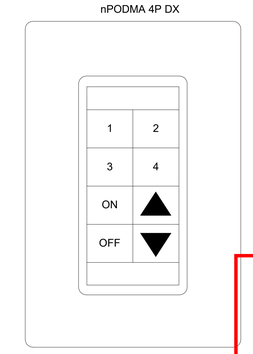
1 3.5" TOUCHSCREEN
NO SCALE



2 MULTI-ZONE DIMMER
NO SCALE



3 OCCUPANCY SENSOR & DIMMER
NO SCALE



4 SCENE SELECTOR & DIMMER
NO SCALE

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06/22/2021

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Date	Description
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Seal / Signature

COLORADO LICENSED MATTHEW JOHN STEELE 52253 PROFESSIONAL ENGINEER

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
GOLD WALK - ELECTRICAL DETAILS

Scale
As indicated

1B-E8.002

ELECTRICAL EQUIPMENT CONNECTION SCHEDULE

GENERAL NOTES:

1. THIS SCHEDULE IS FOR ELECTRICAL EQUIPMENT CONNECTIONS ONLY. EQUIPMENT BY OTHERS.
2. PROVIDE A DEDICATED CIRCUIT WITH A DEDICATED NEAUTRAL FOR ALL EQUIPMENT UNLESS OTHERWISE NOTED.
3. CONFIRM ALL EQUIPMENT LOCATIONS AND ELEVATIONS PRIOR TO ROUGH-IN.
4. CONFIRM ALL EQUIPMENT FEEDER, DISCONNECT AND FUSING WITH SUBMITTED/PURCHASED EQUIPMENT PRIOR TO ROUGH-IN.

REMARK NOTES:

A. PROVIDE GFCI CIRCUIT BREAKER.
B. COORDINATE LOCATION OF ELECTRICAL RECEPTACLE WITH FOUNTAIN ROUGH IN DRAWING RECOMMENDATIONS.

EQ #	EQUIPMENT DESCRIPTION	HP	LOAD (VA)	VOLTAGE	PHASE	FLA	DISCONNECT	FUSE	FEEDER	CONDUIT	REMARKS
2	GARBAGE DISPOSAL	-	1440	120 V	1	12 A	-	-	2 #12 & #12 GND	3/4"	
3	COPIER	-	1560	120 V	1	13 A	-	-	2 #12 & #12 GND	3/4"	
4	DISHWASHER	-	1560	120 V	1	13 A	-	-	2 #12 & #12 GND	3/4"	
5	DRINKING FOUNTAIN	-	600	120 V	1	5 A	-	-	2 #12 & #12 GND	3/4"	A, B
6	MICROWAVE	-	1560	120 V	1	13 A	-	-	2 #12 & #12 GND	3/4"	
7	REFRIGERATOR	-	720	120 V	1	6 A	-	-	2 #12 & #12 GND	3/4"	
9	UNDERCOUNTER REFRIGERATOR	-	360	120 V	1	3 A	-	-	2 #12 & #12 GND	3/4"	
12	SKI BOOT DRYER (DOUBLE CONNECTION)	-	156	120 V	1	1 A	-	-	2 #12 & #12 GND	3/4"	
12A	SKI BOOT DRYER - WALL CONNECTION	-	156	120 V	1	1 A	-	-	2 #12 & #12 GND	3/4"	
13	GAS COMMERCIAL DRYER	-	1440	120 V	1	12 A	30A/1P	-	2#12 & #12 GND	3/4"	
14	COMMERCIAL WASHER	-	3328	208 V	1	16 A	-	-	3 #12 & #12 GND	3/4"	
14A	RESIDENTIAL STYLE WASHER	-	1800	120 V	1	15 A	-	-	2#12 & #12 GND	3/4"	
15	COFFEE MAKER	-	1920	120 V	1	16 A	-	-	2 #12 & #12 GND	3/4"	
16	ICE/WATER DISPENSER	-	1440	120 V	1	12 A	-	-	2 #12 & #12 GND	3/4"	

LIGHT FIXTURE SCHEDULE

LED

Type	Lamp	Description	Finish	Voltage	Mounting	Manufacturer	Catalog Number	Alternate 1	Alternate 2	Control	Location	Comments
L1	42W LED, 3000 LUMENS PER 4 FEET OF FIXTURE, 3500K, 80+ CRI, 50,000+ HOURS	LED STRIPLIGHT WITH DIFFUSE LENS, PROVIDE SURFACE OR PENDANT MOUNT SUPPORTS PER MOUNTING HEIGHT	WHITE	120-277	PENDANT TO 10 FT. AFF	LITHONIA	CLX-L48-3000LM-SEF-FDL	COOPER METALUX SNLED SERIES	DAYBRITE FSS LED SERIES	ON/OFF	MEP, STORAGE	PROVIDE ADDITIONAL QUANTITY OF COMPLETE LIGHT FIXTURE, WITH A QTY OF 0.25% OF TOTAL QTY AND A MIN. QTY OF 2 FIXTURES.
L2	15 WATT LED, 600 LUMENS, 4000K,	WALL MOUNTED LED 'JELLY JAR' STYLE LIGHT FIXTURE WITH METAL GUARDING AROUND FIXTURE LENSING /LIGHT SOURCE. LOW PROFILE, VAPOR TIGHT, LED LIGHT SOURCE.	STANDARD	MVOLT	WALL	LITHONIA	OLVTWM-	APPROVED ALTERNATE	APPROVED ALTERNATE	ON/OFF	GENERATOR YARD	
L3		NOT USED										
L3A		NOT USED										
L4	23W LED, 1800+ DELIVERED LUMENS, 3500K, 80+ CRI, 50000 HOURS	4" DIAMETER RECESSED FIXED DOWNLIGHT, 73 DEGREE WIDE BEAM DISTRIBUTION, MATTE-DIFFUSE REFLECTOR, 6-8/16" TALL NEW CONSTRUCTION HOUSING, INTEGRAL DRIVER.	STANDARD, TO BE CONFIRMED WITH ARCHITECT	120-277	RECESSED	GOTHAM	EVO4-35/20-AR-WD-LD-MVOLT-GZ10	COOPER PORTFOLIO SERIES	SIGNIFY CALCULITE SERIES	0-10V DIMMING	CORRIDORS	PROVIDE ADDITIONAL QUANTITY OF COMPLETE LIGHT FIXTURE, WITH A QTY OF 0.25% OF TOTAL QTY AND A MIN. QTY OF 2 FIXTURES.
L4A		NOT USED										
L4B		NOT USED										
L5	20W, 2000 LUMENS, 3500K, 85 CRI, 50,000 HOURS	4" DIAMETER CYLINDER DOWNLIGHT, 65 DEGREE WIDE BEAM DISTRIBUTION, MATTE-DIFFUSE REFLECTOR, 6-9/16" TALL NEW CONSTRUCTION HOUSING, INTEGRAL DRIVER.	WHITE (VERIFY WITH ARCH)	120-277	PENDANT	GOTHAM	EVO4CC-35/20-AR-LD-MVOLT-GZ10	COOPER PORTFOLIO SERIES	SIGNIFY CALCULITE SERIES	ELV / 0-10V DIMMING	CORRIDORS	
L5A		NOT USED										
L6		NOT USED										
L6A	9W/FT, 1250 LUMENS PER FOOT, 3500K, 80+ CRI, 50, 000+ HOURS	3.44" WIDE X 2.72" DEEP LED STRIPLIGHT WITH DIFFUSE LENS. PROVIDE SURFACE OR PENDANT MOUNT SUPPORTS PER MOUNTING HEIGHT. LENGTH PER PLAN	WHITE, VERIFY WITH ARCHITECT	120-277	WALL	LITHONIA	CLX L24 2500LM SEF FDL	COOPER METALUX SNLED SERIES	DAYBRITE FSS LED SERIES	0-10V DIMMING	STAIRS/ CORRIDORS	
L6B		NOT USED										

SITE FAÇADE

Type	Lamp	Description	Finish	Voltage	Mounting	Manufacturer	Catalog Number	Alternate 1	Alternate 2	Control	Location	Comments
S1	5903 LUMENS, 55W, 3000K, 80 CRI	SIMILAR TO F1, EXCEPT WALL MOUNTED	BLACK (VERIFY WITH ARCH)	120/277V	WALL	WE-EF	ASPS34 LED655-3526	APPROVED ALTERNATE	APPROVED ALTERNATE	0-10V DIMMING		ARM MOUNTED
S2	7.7W, 807 LUMENS, 3000K, 80 CRI	10.31" WIDE X 9.06" TALL X 4.52" DEEP RECESSED STEP LIGHT WITH TEMPERED GLASS LENS. ASSYMETRIC THROW. WET LOCATION RATED.	GREY METALLIC (VERIFY WITH ARCHITECT)	120-277V	RECESSED	WE-EF	QRI 354 LED - 616 1321	APPROVED ALTERNATE	APPROVED ALTERNATE	ON/OFF	STEPS	
S3	8W, 1080 LUMENS, 2700K, 80 CRI	3.8" DIAMETER SEMI-RECESSED LUMINAIRE WITH BLADE OPTICS FOR VERY TIGHT BEAM CONTROL. FIXTURE SHALL BE WET RATED FOR INSTALLATION WITHIN STONE WALL.	STAINLESS STEEL	120-277V	RECESSED	INTER-LUX	E84316-M	APPROVED ALTERNATE	APPROVED ALTERNATE	0-10V DIMMING	ESCALATOR CANOPY	

EMERGENCY

Type	Lamp	Description	Finish	Voltage	Mounting	Manufacturer	Catalog Number	Alternate 1	Alternate 2	Control	Location	Comments
X1	5W LED GREEN/RED	EDGE LIT EXIT SIGN, PROVIDE WHITE OR MIRROR BACKING BETWEEN PANELS - TBD, MOUNTING AND ARROWS, SINGLE OR DOUBLE FACE, WITH UNIVERSAL MOUNTING FOR ALL CONDITIONS PER PLAN DRAWINGS	BRUSHED ALUMINUM	277	UNIVERSAL	LITHONIA	LRP SERIES	COOPER	SIGNIFY		PREMIUM AREAS	VERIFY LETTER & BACKGROUND COLOR WITH LOCAL AHJ

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	Date	Description
	2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT
1	2021.07.01	BP3: GOLDWALK - BULLETIN 03 - PERMIT RESPONSES

ICRBD
Record Set
TC
07/13/2021

Seal / Signature

COLORADO LICENSED
52253
PROFESSIONAL ENGINEER
Hunter Cole
effective seal

Project Name

SSRC | BASE AREA IMPROVEMENTS

Project Number

003.7835.000

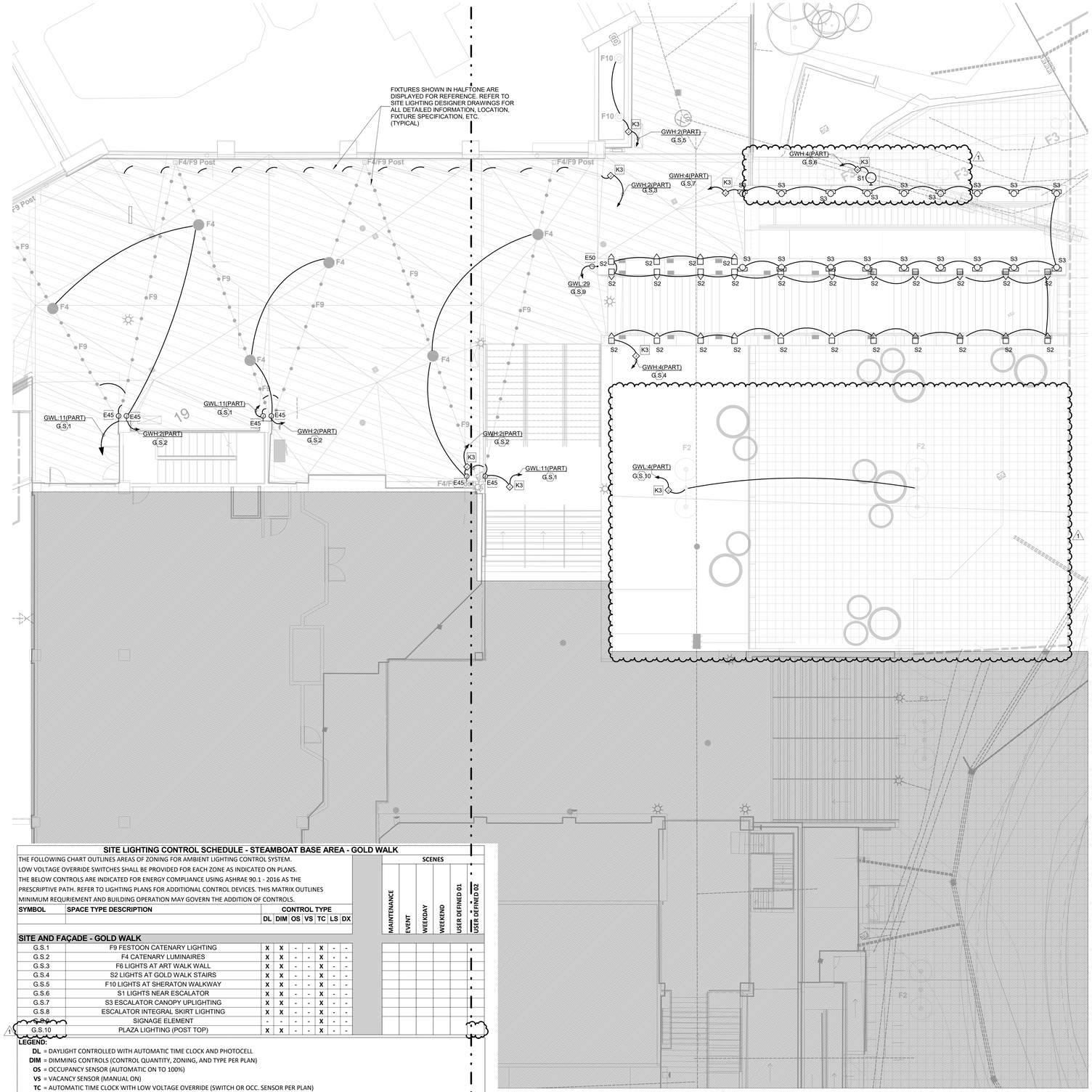
Description

ELECTRICAL EQUIPMENT CONNECTION AND LIGHT FIXTURE SCHEDULE

Scale

NOT TO SCALE

1B-E0.002



SITE LIGHTING CONTROL SCHEDULE - STEAMBOAT BASE AREA - GOLD WALK

THE FOLLOWING CHART OUTLINES AREAS OF ZONING FOR AMBIENT LIGHTING CONTROL SYSTEM.
LOW VOLTAGE OVERRIDE SWITCHES SHALL BE PROVIDED FOR EACH ZONE AS INDICATED ON PLANS.
THE BELOW CONTROLS ARE INDICATED FOR ENERGY COMPLIANCE USING ASHRAE 90.1 - 2016 AS THE PRESCRIPTIVE PATH. REFER TO LIGHTING PLANS FOR ADDITIONAL CONTROL DEVICES. THIS MATRIX OUTLINES MINIMUM REQUIREMENT AND BUILDING OPERATION MAY GOVERN THE ADDITION OF CONTROLS.

SYMBOL	SPACE TYPE DESCRIPTION	CONTROL TYPE							SCENES						
		DL	DIM	OS	VS	TC	LS	DX	MAINTENANCE	EVENT	WEEKDAY	WEEKEND	USER DEFINED 01	USER DEFINED 02	
SITE AND FAÇADE - GOLD WALK															
G.S.1	F9 FESTOON CATENARY LIGHTING	X	X	-	-	X	-	-							
G.S.2	F4 CATENARY LUMINAIRES	X	X	-	-	X	-	-							
G.S.3	F6 LIGHTS AT ART WALK WALL	X	X	-	-	X	-	-							
G.S.4	S2 LIGHTS AT GOLD WALK STAIRS	X	X	-	-	X	-	-							
G.S.5	F10 LIGHTS AT SHERATON WALKWAY	X	X	-	-	X	-	-							
G.S.6	S1 LIGHTS NEAR ESCALATOR	X	X	-	-	X	-	-							
G.S.7	S3 ESCALATOR CANOPY UPLIGHTING	X	X	-	-	X	-	-							
G.S.8	ESCALATOR INTEGRAL SKIRT LIGHTING	X	X	-	-	X	-	-							
G.S.9	SIGNAGE ELEMENT	-	-	-	-	X	-	-							
G.S.10	PLAZA LIGHTING (POST TOP)	X	X	-	-	X	-	-							

LEGEND:
DL = DAYLIGHT CONTROLLED WITH AUTOMATIC TIME CLOCK AND PHOTOCELL
DIM = DIMMING CONTROLS (CONTROL QUANTITY, ZONING, AND TYPE PER PLAN)
OS = OCCUPANCY SENSOR (AUTOMATIC ON TO 100%)
VS = VACANCY SENSOR (MANUAL ON)
TC = AUTOMATIC TIME CLOCK WITH LOW VOLTAGE OVERRIDE (SWITCH OR OCC. SENSOR PER PLAN)
LS = LOW VOLTAGE SWITCH (ON/OFF ONLY)
DX = DMX ADDRESSABLE FIXTURE. VERIFY WITH SPECIFIC FIXTURE SPEC FOR FIXTURE ADDRESS QUANTITY AND EM OVERRIDE REQUIREMENTS.

GENERAL NOTES:
1. REFER TO LIGHTING DRAWINGS FOR OCCUPANCY/VACANCY SENSOR SPACES. PROVIDE QUANTITY AS REQURIED FOR FULL COVERAGE OF ALL SPACES.
2. PROVIDE ADDITIONAL RELAYS AS REQURIED FOR AUTOMATIC RECEPTACLE CONTROL AS INDICATED ON ELECTRICAL DRAWINGS FOR ALL PRIVATE OFFICES, OPEN OFFICES, AND COMPUTER CLASSROOMS.
3. ALL INTERIOR SPACES SHALL HAVE MANUAL LOCAL SWITCH/DIMMING CONTROLS OTHER THAN RESTROOMS AND PUBLIC CORRIDORS.

1 GOLD WALK ELECTRICAL SITE PLAN
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. REFER TO SHEET 1B-E0.002 FOR LIGHTING FIXTURE SCHEDULE.
2. REFER TO LANDSCAPE DRAWINGS FOR ALL SITE FIXTURE LOCATIONS MOUNTED IN HARDSCAPE OR SOFTSCAPE. FIXTURE LOCATIONS ARE DIAGRAMMATIC. THE INTENT IS TO ALIGN, CENTER, OR SPACE FIXTURES BETWEEN ARCHITECTURAL AND LANDSCAPE ELEMENTS.
3. ALL LANDSCAPE OR EXTERIOR BUILDING LIGHTING SHALL BE CONTROLLED VIA THE LIGHTING CONTROL SYSTEM.
4. REFER TO ARCHITECTURAL EXTERIOR ELEVATIONS FOR ALL FIXTURE LOCATIONS ON THE EXTERIOR OF THE BUILDING. FIXTURE LOCATIONS ARE DIAGRAMMATIC. THE INTENT IS TO ALIGN, CENTER, OR SPACE FIXTURES BETWEEN ARCHITECTURAL AND STRUCTURAL ELEMENTS.
5. PROVIDE A MINIMUM 1" PVC CONDUIT FOR ALL UNDERGROUND BRANCH CIRCUITS. ALL 90DEGREE ELBOWS SHALL BE PVC COATED RIGID.
6. ALL BACK BOXES SHALL BE FLUSH MOUNTED UNLESS NOTED OTHERWISE. ALL VERTICAL SECTIONS OF CONDUIT SHALL BE CONCEALED. CONTRACTOR SHALL COORDINATE INSTALLATION OF CONDUIT AND BACK BOXES IN CONCRETE, MASONRY AND GYP. WALLS.

KEYNOTES

E45	PROVIDE ELECTRICAL CONNECTION TO CATENARY TYPE LIGHT FIXTURE SUSPENDED ABOVE GOLD WALK FROM THIS SIDE OF THE GOLD WALK. STRUCTURAL SUPPORTS ARE NOT ACCESSIBLE FOR ELECTRICAL CONNECTIONS ON THE OTHER SIDE OF THE GOLD WALK. IF SURFACE MOUNTED CONDUIT FROM BELOW IS REQUIRED TOP SERVE THESE LIGHTS, CONDUIT AND BACK BOXES SHALL BE PAINTED TO MATCH EXTERIOR FACADE.
E50	PROVIDE 120V/20A CONNECTION TO SIGNAGE ELEMENT. REFER TO ARCHITECTURAL AND LANDSCAPE DRAWINGS FOR EXACT LOCATION. VERIFY ELECTRICAL CONNECTION TYPE WITH MANUFACTURER SIGNAGE SUBMITTALS.
K3	PROVIDE SINGLE ZONE DISTRIBUTED ROOM CONTROLLER FOR LIGHTING CONTROL WITHIN THIS SPACE. ROOM CONTROLLER SHALL HAVE ON/OFF RELAY CONTROL AND DIMMING FUNCTIONALITY. LOCATE ROOM CONTROLLER IN ACCESSIBLE LOCATION NOT VISIBLE TO THE OCCUPANT SPACE. LOCATE ABOVE THE DOOR ENTERING INTO THE SPACE WHERE POSSIBLE AND CEILINGS ALLOW. REFER TO LIGHT FIXTURE SCHEDULE FOR EXACT DIMMING TECHNOLOGY BEING USED ON A PER LIGHT FIXTURE BASIS. PROVIDE NETWORK CONNECTION FOR THIS ROOM CONTROLLER TO THE OVERALL NETWORKED LIGHTING CONTROL SYSTEM. REFER TO DETAIL 11/E8.002 FOR MORE INFORMATION.

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	Date	Description
	2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT
1	2021.07.01	BP3: GOLDWALK - BULLETIN 03 - PERMIT RESPONSES

RCRBD
Record Set
TC
07/13/2021

Seal / Signature

COLORADO LICENSED
PROFESSIONAL ENGINEER
52253
Heather Ebbe
07/01/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

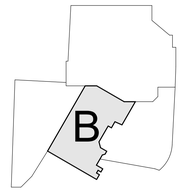
Project Number
003.7835.000

Description
GOLD WALK - ELECTRICAL LIGHTING SITE PLAN

Scale
1/8" = 1'-0"

1B-E1.000

KEY PLAN



GENERAL DRAWING NOTES

1. WHERE DIFFERENCES APPEAR BETWEEN PLUMBING DRAWINGS AND ARCHITECTURAL DRAWINGS IN THE QUANTITIES AND LOCATIONS OF PLUMBING FIXTURES, THE ARCHITECTURAL DRAWINGS SHALL BE USED FOR PRICING. WHERE NECESSARY, THE CONTRACTOR SHALL USE UNIT PRICING FOR WASTE AND VENT PIPING TO EACH PLUMBING FIXTURE.

GENERAL PLUMBING CONTRACT REQUIREMENTS

1. PREPARE SHOP DRAWINGS OF ALL NEW WORK (INCLUDING SLEEVE LOCATIONS) TO VERIFY LOCATIONS AND COORDINATION OF WORK BETWEEN TRADES PRIOR TO INSTALLATION.
2. ALL DRAIN GRATES, CLEANOUT COVERS, AND OTHER FINISHED OR EXPOSED COMPONENTS SHALL BE PROTECTED FROM DAMAGE. DAMAGED COMPONENTS SHALL BE REPLACED BY CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT.
3. COORDINATE ROUTING OF ALL PLUMBING PIPING BELOW SLAB WITH STRUCTURAL GRADE BEAMS, TIE BEAMS, ETC. ALLOW FOR REROUTING OF PIPING AS REQUIRED.
4. PIPING ROUTING ON DRAWINGS IS GENERALLY DIAGRAMMATIC WITH EFFORTS DURING DESIGN TO AVOID STRUCTURAL CONFLICTS. CONTRACTOR SHALL COORDINATE ROUTING OF ALL PIPING THROUGH BUILDING WITH STRUCTURAL CONDITIONS. CONTRACTOR COORDINATION DRAWINGS SHALL REFLECT ALL PIPE ROUTING AND PIPING THAT MAY HAVE TO BE SHIFTED OR MOVED TO AVOID CONFLICTS. SHIFTED OR MOVED PIPING SHALL REFLECT NO ADDITIONAL COST TO THE PROJECT.
5. ALL REQUIRED OPENINGS IN CONCRETE BEAMS AND STRUCTURAL WALLS ARE TO BE ACCOMPLISHED USING SLEEVES PROPERLY SIZED FOR THE PIPE THEY SERVE. CORE DRILLING IN BEAMS IS NOT ALLOWED. CORE DRILLING IN PANS IS ALLOWED UPON PRIOR APPROVAL OF ARCHITECT AND STRUCTURAL ENGINEER.
6. ALL HORIZONTAL SANITARY PIPING 2-1/2" AND SMALLER WHETHER BELOW OR ABOVE GRADE SHALL SLOPE AT 1/4"/FT. ALL PIPING 3" AND LARGER SHALL SLOPE AT 1/8"/FT UNLESS OTHERWISE NOTED. ALL STORM AND OVERFLOW PIPING SHALL SLOPE AT 1/8"/FT UNLESS OTHERWISE NOTED. ALL GREASE WASTE PIPING SHALL SLOPE AT 1/4"/FT.
7. REFERENCE CIVIL DIVISION DRAWINGS FOR REQUIRED POINT OF CONNECTION AND INVERT REQUIREMENTS. IN GENERAL, THE POINT OF CONNECTION IS AT A POINT 5 FEET OUTSIDE OF BUILDING FOOTPRINT. CONFORM WORK TO MEET INVERT ELEVATIONS ON CIVIL PLANS.
8. CAP ALL SANITARY AND STORM TEES FOR FUTURE BRANCH PIPING AND STAKE LOCATION OF PIPING FOR CONNECTION TO FUTURE BRANCH LINES.
9. WHERE SHOWN, MINIMIZE THE NUMBER OF JOINTS ON ANY PRESSURIZED PIPING BELOW CONCRETE SLABS. ALL BELOW GRADE PIPING TO BE PRESSURE TESTED AND WITNESSED BY ARCHITECT PRIOR TO BACKFILLING.
10. ALL CLEANOUTS FOR HORIZONTAL STORM DRAINAGE SYSTEM SHALL BE PIPE SIZE OR MAXIMUM 6" FOR LARGER PIPE.
11. IN ADDITION TO THE CLEANOUT LOCATIONS SHOWN ON DRAWINGS, CLEANOUTS SHALL BE PROVIDED IN ACCORDANCE WITH THE LOCAL GOVERNING CODE. ADDITIONAL CLEANOUTS SHALL BE PROVIDED AS FOLLOWS:
    - A. EACH RUN OF PIPING WHICH IS MORE THAN 75 FEET IN LENGTH OR FRACTION THEREOF.
    - B. HORIZONTAL LINES 5 FEET OR MORE.
    - C. HORIZONTAL LINES FOR EACH AGGREGATE CHANGE OF DIRECTION EXCEEDING 135 DEGREES.
    - D. AT THE BASE OF ALL SANITARY AND STORM RISERS. ALL VERTICAL CLEANOUTS SHALL BE SIZED TO ACCOMMODATE THE LARGEST PIPE ON THAT BRANCH LINE, BUT NEVER LARGER THAN 4".
    - E. ALL GREASE WASTE PIPING SHALL HAVE CLEANOUTS EVERY 50 FEET OR FRACTION THEREOF AND AS NOTED ABOVE.
    - F. AT THE END OF FIXTURE BANKS TO INCLUDE WATER CLOSETS, URINALS AND LAVATORIES. CLEAOUT PLUG SHALL BE A MINIMUM OF 24" AFF
12. NO GAS LINES SHALL BE LOCATED BELOW BUILDING SLAB. ALL GAS PIPING IN AIR PLENUMS SHALL BE WELDED.
13. PROVIDE ISOLATION VALVES ON ALL PIPING SERVING HOSE BIBBS.
14. STANDARD ROOF DRAINAGE IS SIZED AT 3"/HR. OVERFLOW DRAINAGE IS ACCOMPLISHED THROUGH ARCHITECTURAL ROOF SCUPPERS. WHERE OVERFLOW DRAINS ARE USED, THEY WILL BE SIZED USING 3"/HR RATE.
15. WATER HAMMER ARRESTORS (SHOCK ABSORBERS) SHALL BE INSTALLED BETWEEN THE LAST 2 FLUSH VALVE FIXTURES. WHEN THE COLD WATER HEADER IS 20 FEET OR LONGER, A SECOND ARRESTOR SHALL BE INSTALLED HALFWAY DOWN THE HEADER. THE SIZES OF THE ARRESTORS SHALL BE BASED ON PDI SIZING.
16. ALL FLOOR DRAINS IN BUILDING EXCEPT DRAINS IN SHOWERS AND SHOWER AREAS SHALL BE INSTALLED WITH A PROSET TRAP GUARD.
17. ALL DOMESTIC WATER PIPING SERVING TOILET OR RESTROOM GROUPS SHALL BE INSTALLED WITH ISOLATION VALVES IN ORDER TO ISOLATE THESE AREAS WITHOUT CLOSING DOWN ANY OTHER PORTION OF THE BUILDING WATER SUPPLY SYSTEMS. ALL ISOLATION VALVES SHALL BE ACCESSIBLE WITH ACCESS PANELS. MINIMUM ACCESS PANEL SIZE SHALL BE 12"x12". ACCESS PANELS SHALL BE OF THE SAME RATING AS THE STRUCTURAL ELEMENT IN WHICH THEY ARE INSTALLED.
18. ALL GAS PRESSURE REDUCING VALVES SHALL BE PROVIDED WITH VENT PIPING TO ATMOSPHERE.
19. THROUGHOUT THE DRAWINGS, NUMBERS ARE SHOWN IN BRACKETS TO INDICATE QUANTITIES OF UNITS CARRIED WITHIN THE DIFFERENT PIPING SYSTEMS. THEY REPRESENT THE FOLLOWING:

    CW (X)/[X] = (GPM)/[GPM]
    GAS (X)/[X] = (CFH)/[CFH]
    SAN (X)/[X] = (DFU)/[DFU]
    VENT (X)/[X] = (DFU)/[DFU]
    ST/OD (X)/[X] = (FT2)/(FT2)

    FOR CALCULATION PURPOSES OF ALL PIPE SIZES, VALUES SHOWN ARE WITHIN 10 PERCENT OF ACTUAL LOAD VALUES.
20. ALL EQUIPMENT AND PIPING SHALL BE BRACED FOR SEISMIC REQUIREMENTS APPLICABLE FOR SEISMIC ZONE REQUIREMENTS FOR THIS PROJECT.
21. REFER TO GENERAL MECHANICAL CONTRACT REQUIREMENT NOTES ON MECHANICAL DRAWINGS FOR GENERAL PIPING HEAT TRACE INSTALLATION REQUIREMENTS.
22. PROVIDE DIELECTRIC FITTINGS AT ALL CONNECTIONS BETWEEN DISSIMILAR METALS AND AS SHOWN ON DRAWINGS.
23. ALL TEMPERING VALVES TO BE SET FOR 110° F WATER TEMPERATURE MAXIMUM UNLESS OTHERWISE NOTED.
24. PROVIDE HEAT TRACE IN LOCATIONS SHOWN, AS REQUIRED BY SPECIFICATIONS, AND TO THE FOLLOWING SYSTEMS WHEN EXPOSED TO FREEZING CONDITIONS:

    A. DOMESTIC COLD WATER
    B. DOMESTIC HOT WATER
    C. DOMESTIC HOT WATER RECIRC
    D. SANITARY
    E. STORM

    ALL HEAT TRACED PIPE SHALL BE INSULATED PER SPECIFICATIONS. COORDINATE ALL HEAT TRACING AND REQUIRED CIRCUITS WITH ELECTRICAL DRAWINGS AND ELECTRICAL CONTRACTOR.
25. PROVIDE WATER HAMMER ARRESTORS FOR ALL FIXTURES/EQUIPMENT THAT HAVE QUICK CLOSING VALVES TO INCLUDE:

    A. WATER CLOSETS AND URINAL FLUSH VALVES
    B. ELECTRONIC FAUCETS
    C. REFRIGERATOR ICE MAKERS
    D. DISHWASHERS
    E. MECHANICAL MAKE-UP
26. REFER TO MECHANICAL PLANS FOR ALL EQUIPMENT REQUIRING MAKE-UP WATER. PROVIDE A REDUCED PRESSURE BACKFLOW FOR EACH REQUIRED LINE.
27. REFER TO LANDSCAPE PLANS FOR IRRIGATION REQUIREMENTS. WHEN AN IRRIGATION TAP IS REQUIRED OFF THE DOMESTIC WATER SERVICE, PROVIDE THE RECCOMENDED LINE SIZE WITH A REDUCED PRESSURE BACKFLOW PREVENTER.

PLUMBING LEGEND

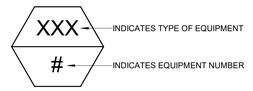
(NOT ALL SYMBOLS LISTED BELOW ARE BEING USED IN THIS SET OF PLUMBING DRAWINGS)

SYMBOL	ABBR	DESCRIPTION
MEDICAL		
MA	MA	MEDICAL AIR
O	O	OXYGEN
VAC	VAC	VACUUM
NO	NO	NITROUS OXIDE
G	G	NAT. GAS OUTLET
O	O	OXYGEN OUTLET
V	V	VACUUM OUTLET
MA	MA	MEDICAL AIR OUTLET
MA	MA	MED AIR OUTLET
SPRINKLER HEADS		
		EXISTING SPRINKLER HEAD TO REMAIN
		EXISTING SPRINKLER HEAD TO RELOCATED
A		EXISTING SPRINKLER HEAD TO NEW LOCATION
A		NEW SPRINKLER HEAD TO MATCH EXISTING
PIPING:		
(E)	(E)	EXISTING PIPING
(E)		EXISTING PIPING TO BE REMOVED
CW	CW	DOMESTIC COLD WATER
HW	HW	DOMESTIC HOT WATER
T	T	TEMPERED WATER
HWC	HWC	DOMESTIC HOT WATER CIRCULATING
SAN	SAN	SANITARY WASTE ABOVE FLOOR
SAN	SAN	SANITARY WASTE BELOW FLOOR
GW	GW	GREASE WASTE BELOW FLOOR
V	V	SANITARY VENT
ST	ST	STORM PIPING ABOVE FLOOR
ST	ST	STORM PIPING BELOW FLOOR
OD	OD	STORM OVERFLOW ABOVE FLOOR
OD	OD	STORM OVERFLOW BELOW FLOOR
G	G	NATURAL GAS
F	F	FIRE
DR	DR	EQUIP. DRAIN
A	A	COMPRESSED AIR
2"SAN		PIPE SIZE/ PIPE TYPE
FITTINGS:		
EJ	EJ	EXPANSION JOINT
	U	UNION
		THERMOMETER W/THERMOWELL
	AV	AIR VENT
	FC	FLEXIBLE PIPE CONNECTOR
FS	FS	FLOW SWITCH
PS	PS	PRESSURE SWITCH
	PG	PRESSURE GAUGE W/GAUGE COCK

SYMBOL	ABBR	DESCRIPTION
FITTINGS:		
		ELBOW UP
		ELBOW DOWN
		TEE UP
		TEE DOWN
		PIPE CAP OR PLUG
	GC	GAS COCK
	CO	CLEANOUT PLUG
	HB WH	HOSE BIBB WALL HYDRANT
	VB	VACUUM BREAKER
	RD	ROOF DRAIN
	OD	OVERFLOW ROOF DRAIN
	DSN	DOWNSPOUT NOZZLE
	SA	SHOCK ARRESTOR W/BALL VALVE
	FD	FLOOR DRAIN
	AD	AREA DRAIN
	FCO GCO	FLOOR CLEANOUT GRADE CLEANOUT
	WCO CO	WALL CLEANOUT CLEANOUT PLUG
	VTR	VENT THRU ROOF
VALVES:		
	GV	GATE VALVE
	OS&Y	OUTSIDE STEM AND YOKE
	DV	DRAIN VALVE W/ HOSE END CONN.
		BALL VALVE W/ HOSE CONNECTION
	CV	CHECK VALVE WITH FLOW DIRECTION
	PRV	PRESSURE REDUCING VALVE
S	SV	SOLENOID VALVE
FC	FCV	AUTO FLOW CONTROL VALVE W/ TEST PORT
	CS	CIRCUIT SETTER
	GLV	GLOBE VALVE (STRAIGHT PATTERN)
	GLV	GLOBE VALVE (ANGLE PATTERN)
	BFV	BUTTERFLY VALVE
	BV	BALL VALVE
	TCV	AUTO TEMP CONTROL VALVE, 2-WAY
	TCV	AUTO TEMP CONTROL VALVE, 3-WAY
	PV	PLUG VALVE
	TPR	TEMP/PRESSURE RELIEF VALVE
		VALVE IN RISER
	STR	STRAINER W/ BLOW-OFF & CAPPED HOSE-END CONNECTION
		STEAM TRAP

SYMBOL	ABBR	DESCRIPTION
SYMBOLS:		
1 / P1		SECTION NO. / SECTION VIEW SHEET NO.
F / M1		DETAIL DESIGNATION
F / 1 / F / 1		EQUIPMENT DESIGNATION
1		SHEET KEY NOTES
	POC	POINT OF CONN. (CONN. NEW TO EXISTING)
	POD	POINT OF DISCONNECTION
		ARROW INDICATES DIRECTION OF FLOW
UP		RISE IN DIRECTION OF FLOW
DN		DROP IN DIRECTION OF FLOW
	TB	THRUST BLOCK
	DN	DOWN
	AFF	ABOVE FIN. FLOOR
	AFG	ABOVE FIN. GRADE
	TOP	TOP OF PIPE (AFF)
	BOP	BOT. OF PIPE (AFF)
	I.E.	INVERT ELEVATION
	VBF	VENT BELOW FLOOR
	NTS	NOT TO SCALE
(E)	(E)	EXISTING
(N)	(N)	NEW
(R)	(R)	REMOVE OR RELOCATE

EQUIPMENT DESIGNATIONS



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△ Date	Description
- 2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT

RCRBD
Record Set
TC
06/29/2021

Seal / Signature

COLORADO LICENSED
MARREN E. EDWARDS
56806
PROFESSIONAL ENGINEER
05/18/2021

Project Name

SSRC | BASE AREA IMPROVEMENTS

Project Number

003.7835.000

Description

GOLD WALK - PLUMBING LEGEND

Scale

1/8" = 1'-0"

1B-P0.000

PLUMBING FIXTURE SCHEDULE - GOLDWALK

GENERAL NOTES:
1. PLUMBING DESIGN AND SIZES ARE BASED ON THE 2018 INTERNATIONAL PLUMBING CODE.
2. ALL EXPOSED PIPING SERVING PLUMBING FIXTURES THAT MAY BE USED FOR ADA PURPOSES SHALL HAVE TRAPS AND SUPPLIES INSULATED PER ADA REQUIREMENTS.
3. ALL FIXTURES ARE WHITE UNLESS OTHERWISE NOTED.
4. ALL PUBLIC ACCESS LAVATORY AND SINKS WILL HAVE AN ASSE 1070 APPROVED TEMPERING VALVE INSTALLED.

CODE	FIXTURE	DESCRIPTION	MIN CW CONN	MIN HW CONN	MIN SAN CONN	MIN VENT CONN	MANUFACTURER	FIXTURE MODEL NUMBER	MANUFACTURER	FAUCET / FLUSH VALVE MODEL NUMBER	REMARKS
AD-1	AREA DRAIN	TWO-STAGE AREA DRAIN; CAST IRON TOP BODY WITH 8" SQUARE NICKEL-BRONZE TOP; PERFORATED STAINLESS STEEL PERFORATED EXTENSION; CAST IRON BOTTOM BODY WITH FLASHING RING AND FLANGE, GRAVEL STOP, AND ALUMINUM DOME.	-	-	-	-	WADE	3358-1-DF-XNH	-	-	COORDINATE REQUIRED EXTENSIONS WITH INSTALLATION LOCATION PRIOR TO ORDERING; COORDINATE OUTLET SIZE WITH EACH LOCATION.
FD-1	FLOOR DRAIN	CAST IRON BODY FLOOR DRAIN WITH 5" NICKEL-BRONZE STRAINER; PROVIDE WITH JAY R. SMITH MODEL 2692 TRAP GUARD.	-	-	RE: PLANS	2"	JAY R. SMITH	2005Y-NB-A	-	-	-
FS-1	FLOOR SINK	12-1/2" SQUARE, 8" DEEP CAST IRON RECEPTOR FLOOR SINK WITH ACID RESISTANT COATED INTERIOR, POLISHED ALUMINUM DOME BOTTOM STRAINER, AND SECURED 1/2 GRATE.	-	-	SEE PLANS	SEE PLANS	JAY R. SMITH	3150Y-PDBS-12	-	-	-

SUMP PUMP SCHEDULE

GENERAL NOTES:
1. PROVIDE CHECK VALVE AND SHUTOFF VALVE ON EACH PUMP.
2. PROVIDE PREMIUM EFFICIENCY MOTORS (RELIANCE E+ OR EQUIVALENT) WITH MAGNETIC STARTER AND DRY CONTACTS.
3. ALL UNITS SHALL HAVE INTEGRAL DISCONNECT AND OVERCURRENT/SHORT CIRCUIT PROTECTION.

REMARK NOTES:
A. PROVIDE POURED IN PLACE SUMP IN BOTTOM OF STAIR PIT.
B. PROVIDE TYPE 4X SIMPLEX CONTROL PANEL.
C. PROVIDE STANDARD TETHERED FLOAT SWITCH.

										ELECTRICAL							
CODE	MANUFACTURER	MODEL NUMBER	SERVICE	TYPE	NO. OF PUMPS	FLOW (GPM)	PRESSURE (FT)	DISCHARGE (IN)	RPM	POWER(HP)	VOLT	PH	FLA	FUSE	DISC.	FEEDER	REMARKS
ESP-1	WEIL	1411	ESCALATOR / STAIR PIT	SIMPLEX SUBMERSIBLE	1	50.00	20	2	1750	0.5	460	3	3.40	5A FRS -RK	30A/3P	(3#12,#12G) 3/4"C	A, B, C

SAND/OIL INTERCEPTOR SCHEDULE

GENERAL NOTES:
1. UNITS SHALL MEET ALL REQUIREMENTS OF LOCAL AUTHORITY HAVING JURISDICTION.

REMARK NOTES:
A. PREFABBED, DESIGN LOAD H-20 TRAFFIC.

CODE	DESCRIPTION	SERVICE	MANUFACTURER	MODEL NUMBER	WEIGHT (LBS)	CAPACITY (GAL)	LENGTH	WIDTH	HEIGHT	REMARKS
SOI-1	TWO CHAMBER PRECAST CONCRETE SAND/OIL INTERCEPTOR	ESP-1	COPELAND PRECAST	11010	11,300	320	6' - 10"	4' - 10"	4' - 2"	A

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COLORADO LICENSED
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PROFESSIONAL ENGINEER
05/18/2021

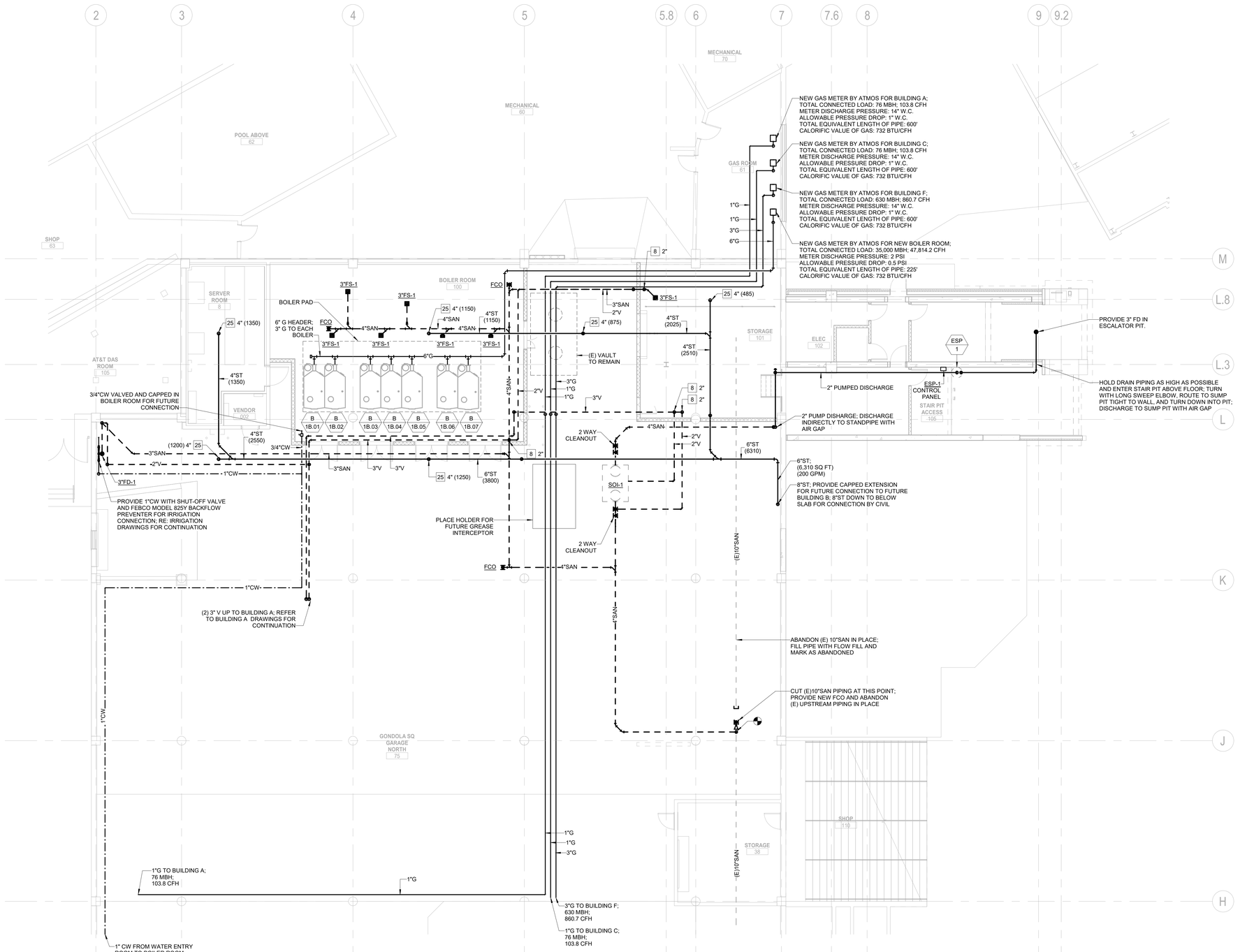
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
GOLD WALK - PLUMBING SCHEDULES

Scale

1B-P0.001



GENERAL NOTES:

1. FIELD VERIFY THE EXACT LOCATION OF ALL EXISTING PIPING, FIXTURES, AND EQUIPMENT SCHEDULED TO BE DEMOLISHED PRIOR TO COMMENSING WORK.

2. FIELD VERIFY THE EXACT LOCATION OF ALL EXISTING PIPING THAT REQUIRES CONNECTION TO NEW PRIOR TO COMMENSING WORK.

3. REQUIRED PIPE SIZES ARE SHOWN NEXT TO KEY NOTE.

4. PROVIDE BALL VALVE SHUTOFF AND 12"X12" ACCESS PANEL AT EACH SHOCK ABSORBER (SA). PANEL LOCATION TO BE VERIFIED AND COORDINATED WITH ARCHITECT.

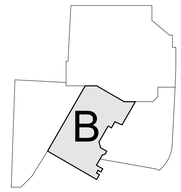
5. ALL CIRCUIT SETTERS SHALL BE SET AT 1.0 GPM UNLESS NOTED OTHERWISE.

KEY NOTES:

(SOME KEY NOTES MAY NOT APPLY TO THIS SHEET)

1 SANITARY PIPING UP
2 SANITARY PIPING DN
3 SANITARY PIPING UP & DN
4 GW PIPING UP
5 GW PIPING DN
6 GW PIPING UP & DN
7 SANITARY VENT UP
8 SANITARY VENT DN
9 SANITARY VENT UP & DN
10 CW PIPING UP
11 CW PIPING DN
12 CW PIPING UP & DN
13 HW PIPING UP
14 HW PIPING DN
15 HW PIPING UP & DN
16 HWC PIPING UP
17 HWC PIPING DN
18 HWC PIPING UP & DN
19 CW & HW PIPING UP
20 CW & HW PIPING DN
21 CW & HW PIPING UP & DN
22 GAS PIPING UP
23 GAS PIPING DN
24 GAS PIPING UP & DN
25 STORM PIPING UP
26 STORM PIPING DN
27 STORM PIPING UP & DN
28 OVERFLOW PIPING UP
29 OVERFLOW PIPING DN
30 OVERFLOW PIPING UP &DN
31 OVERFLOW PIPING DOWN AND THRU WALL TO DOWNSPOUT NOZZLE +12" AFG
32 SANITARY PIPING UP TO PLUMBING FIXTURES
33 PIPING UP TO CLEANOUT
34 1/2" CW & HW TO EACH LAV/SK
35 PIPING UP TO DRAIN
36 1/2" CW & HW DOWN TO SHOWER VALVE & 1/2" UP TO SHOWERHEAD

KEY PLAN



1 PLUMBING PLAN - LEVEL 01 (Summer 2021)
SCALE: 1/8" = 1'-0"

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COLORADO LICENSED MATTHEW E. EDWARDS 56806 PROFESSIONAL ENGINEER
05/18/2021

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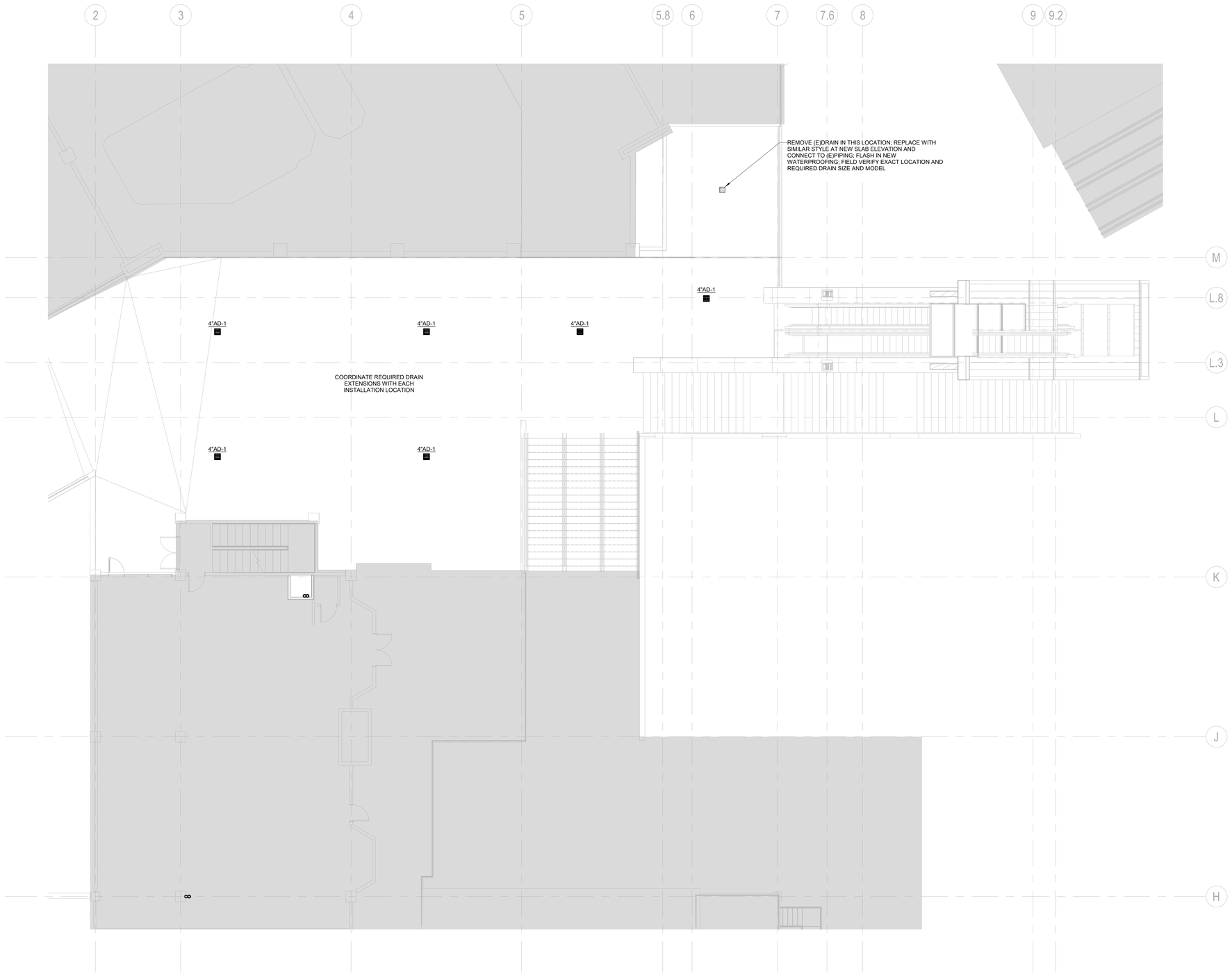
Description
GOLD WALK - PLUMBING PLAN - LEVEL 01

Scale
1/8" = 1'-0"

1B-P1.201



GENERAL NOTES:

1. FIELD VERIFY THE EXACT LOCATION OF ALL EXISTING PIPING, FIXTURES, AND EQUIPMENT SCHEDULED TO BE DEMOLISHED PRIOR TO COMMENSING WORK.

2. FIELD VERIFY THE EXACT LOCATION OF ALL EXISTING PIPING THAT REQUIRES CONNECTION TO NEW PRIOR TO COMMENSING WORK.

3. REQUIRED PIPE SIZES ARE SHOWN NEXT TO KEY NOTE.

4. PROVIDE BALL VALVE SHUTOFF AND 12"X12" ACCESS PANEL AT EACH SHOCK ABSORBER (SA). PANEL LOCATION TO BE VERIFIED AND COORDINATED WITH ARCHITECT.

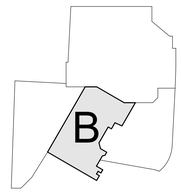
5. ALL CIRCUIT SETTERS SHALL BE SET AT 1.0 GPM UNLESS NOTED OTHERWISE.

KEY NOTES:

(SOME KEY NOTES MAY NOT APPLY TO THIS SHEET)

1 SANITARY PIPING UP
2 SANITARY PIPING DN
3 SANITARY PIPING UP & DN
4 GW PIPING UP
5 GW PIPING DN
6 GW PIPING UP & DN
7 SANITARY VENT UP
8 SANITARY VENT DN
9 SANITARY VENT UP & DN
10 CW PIPING UP
11 CW PIPING DN
12 CW PIPING UP & DN
13 HW PIPING UP
14 HW PIPING DN
15 HW PIPING UP & DN
16 HWC PIPING UP
17 HWC PIPING DN
18 HWC PIPING UP & DN
19 CW & HW PIPING UP
20 CW & HW PIPING DN
21 CW & HW PIPING UP & DN
22 GAS PIPING UP
23 GAS PIPING DN
24 GAS PIPING UP & DN
25 STORM PIPING UP
26 STORM PIPING DN
27 STORM PIPING UP & DN
28 OVERFLOW PIPING UP
29 OVERFLOW PIPING DN
30 OVERFLOW PIPING UP &DN
31 OVERFLOW PIPING DOWN AND THRU WALL TO DOWNSPOUT NOZZLE +12" AFG
32 SANITARY PIPING UP TO PLUMBING FIXTURES
33 PIPING UP TO CLEANOUT
34 1/2" CW & HW TO EACH LAV/SK
35 PIPING UP TO DRAIN
36 1/2" CW & HW DOWN TO SHOWER VALVE & 1/2" UP TO SHOWERHEAD

KEY PLAN



1 PLUMBING PLAN - LEVEL 03 (Summer 2021)
SCALE: 1/8" = 1'-0"

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△	Date	Description
-	2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT

RCRBD
Record Set
TC
06/29/2021

Seal / Signature

COLORADO LICENSED
MARREN E. EDWARDS
56806
PROFESSIONAL ENGINEER
05/18/2021

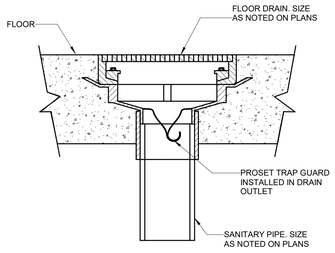
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

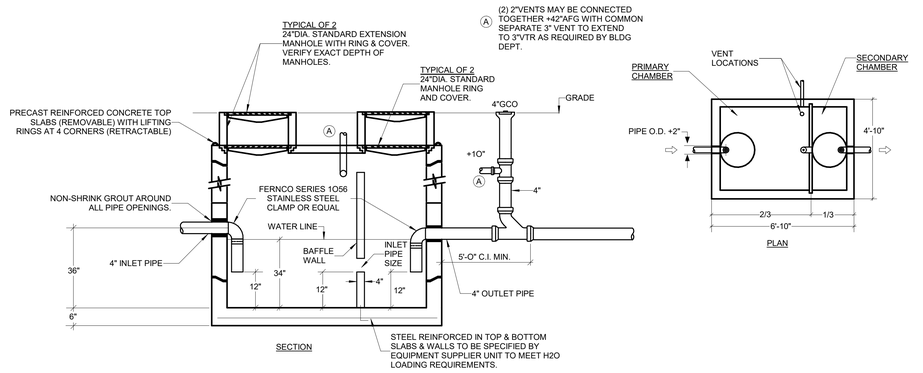
Description
GOLD WALK - PLUMBING PLAN - LEVEL 03

Scale
1/8" = 1'-0"

1B-P1.203



4 TRAP GUARD DETAIL
NO SCALE



1 TWO COMPARTMENT SAND OIL INTERCEPTOR DETAIL
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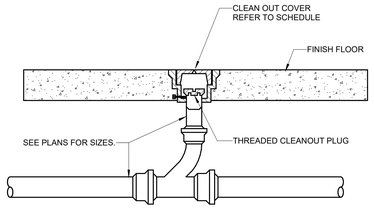
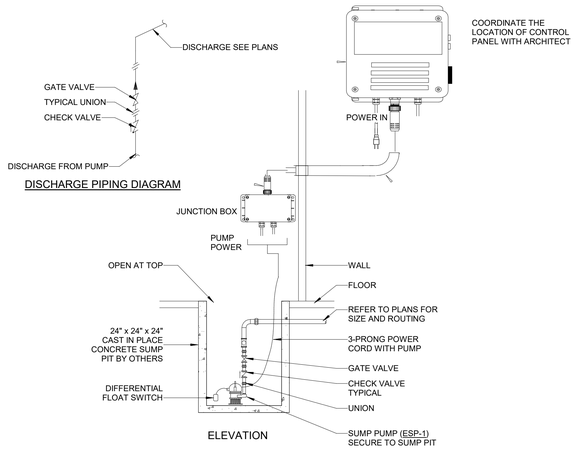
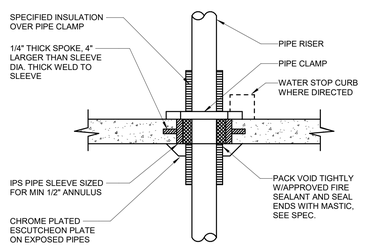


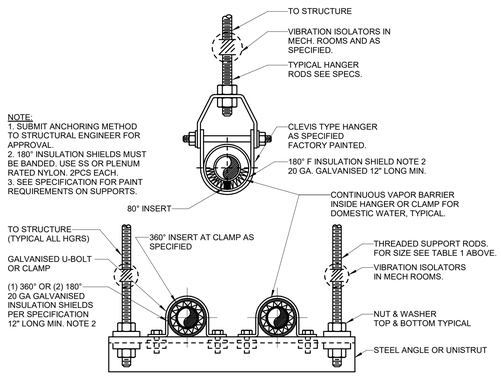
5 FINISHED FLOOR CLEANOUT INSTALLATION
NO SCALE



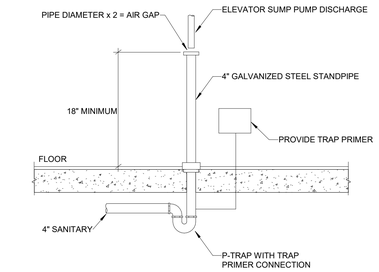
2 ESCALATOR SUMP PUMP DETAIL
NO SCALE



6 PIPE THRU FLOOR SLAB
NO SCALE



3 DOMESTIC PIPING HANGER DETAIL
NO SCALE



7 STANDPIPE DETAIL
NO SCALE

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05/18/2021

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Project Number
003.7835.000

Description
GOLD WALK - PLUMBING DETAILS

Scale
NO SCALE

1B-P8.000

SECURITY SYSTEMS SYMBOLS

	DETAIL REFERENCE	REFER TO REFERENCED DEVICE DESCRIPTION FOR ADDITIONAL REQUIREMENTS.
L:XX #CA1 X-Y"	N/A	CAMERA TAG INDICATES CAMERA ID# ("L:XX"), CAMERA TYPE AND MOUNTING HEIGHT. REFER TO CAMERA SCHEDULE FOR ADDITIONAL INFORMATION AND DETAIL REFERENCES.
L:XX	S.01	FIXED (INTERIOR) SECURITY CAMERA. (REF: CAMERA SCHEDULES)
L:XX	S.01	PTZ (INTERIOR) SECURITY CAMERA. (REF: CAMERA SCHEDULES)
L:XX	S.01	FIXED (EXTERIOR) SECURITY CAMERA. (REF: CAMERA SCHEDULES)
L:XX	S.01	PTZ (EXTERIOR) SECURITY CAMERA. (REF: CAMERA SCHEDULES)
C XXX	S.03	CONTROLLED DOORWAY: REFER TO ACCESS CONTROL DOOR SCHEDULE. ("XXX" = ARCHITECTURAL DOOR NUMBER)
M XXX	S.03	MONITORED ONLY DOORWAY: REFER TO ACCESS CONTROL DOOR SCHEDULE. ("XXX" = ARCHITECTURAL DOOR NUMBER)
R	S.03	PROXIMITY CARD READER MOUNTED AT 48"AFF.
K	S.03	KEYPAD / CARD READER MOUNTED AT 48"AFF.

GENERAL NOTES:

1. REFER TO DETAIL 9 AS INDICATED ABOVE FOR ADDITIONAL RACEWAY, CABLING AND/OR DEVICE INFORMATION.
2. REFER TO "COMMUNICATION SYSTEM SYMBOLS" LEGEND FOR STRUCTURED CABLING (DATA) REQUIREMENTS FOR IP-ENABLED DEVICES. SECURITY DETAILS AND/OR SCHEDULES DEFINE RACEWAY REQUIREMENTS, INCLUDING BUT NOT LIMITED TO BACK-BOX TYPE, SIZE, MOUNTING CONDITION AND HEIGHT.

PATHWAY REQUIREMENTS:

1. J-HOOK PATHWAY: ROUTE AND TERMINATE CONDUIT WITHIN NEAREST ACCESSIBLE CEILING SPACE. PROVIDE DEDIATED J-HOOKS AT 48-INCHES ON CENTER FOR REMAINING CABLE RUN TO NEAREST CABLE TRAY (AS APPLICABLE) OR SECURITY ROOM / TELECOM ROOM, UNLESS NOTED OTHERWISE. PROVIDE CONDUIT PATHWAY THROUGH WALLS AND ACCROSS NON-ACCESSIBLE OR EXPOSED CEILING AREAS TO ENSURE UNOBSTRUCTED CABLE PATHWAY FOR ENTIRE CABLE RUN.

COMMUNICATIONS SYSTEMS SYMBOLS

	DETAIL REFERENCE	REFER TO REFERENCED DEVICE DESCRIPTION FOR ADDITIONAL REQUIREMENTS.
"WP"	N/A	WEATHER-PROOF DEVICE COVER (TYPICAL FOR ALL DEVICES INDICATED WITH "WP").
E/#	E.01	TELE/DATA OUTLET(S) FOR ELEVATOR CAB DEVICES (PHONE, CAMERA, VIDEO DISPLAY, ETC.). COORDINATE MOUNTING HEIGHT WITH ELEVATOR INTERFACE PANEL. (# = PORT QUANTITY, NO /# = 1-PORT)
W	C.01 / R.01	TELE/DATA OUTLET FOR PHONE, WALL MOUNTED AT 48"AFF.
#	C.02 / R.01	DATA OUTLET WALL MOUNTED AT 18"AFF U.N.O. (# = PORT QUANTITY, NO /# = 1-PORT)
#	C.02 / R.01	DATA OUTLET WALL MOUNTED ABOVE COUNTER AT 8" ABOVE COUNTER OR MAXIMUM OF 44" AFF, U.N.O. (# = PORT QUANTITY, NO /# = 1-PORT)
#	C.02 / R.01	DATA OUTLET MOUNTED ABOVE ACCESSIBLE CEILING,FLUSH IN HARD CEILING, OR TIGHT TO STRUCTURE OVERHEAD (AT EXPOSED CEILING), U.N.O. (# = PORT QUANTITY, NO / # = 1-PORT)
F/#	C.06 / R.04	DATA OUTLET MOUNTED IN MODULAR FURNITURE. (# = PORT QUANTITY, NO / # = 1-PORT)
POS/#	C.02 / R.01	POINT-OF-SALE (POS) DATA OUTLET WALL MOUNTED AT 18" AFF U.N.O. (# = PORT QUANTITY, NO /# = 1-PORT)
TV/#	C.05 / R.02	DATA / COAX OUTLET FOR TV / VIDEO DISPLAY WALL MOUNTED WITHIN SHARED BACK-BOX.
TV	C.05 / R.02	DATA / COAX OUTLET FOR TV / VIDEO DISPLAY CEILING MOUNTED WITHIN SHARED BACK-BOX.
WLAN/#	C.04 / R.01	WIRELESS LAN DATA OUTLET WALL MOUNTED AT 10'-0" AFF, U.N.O. (# = PORT QUANTITY, NO /# = 1-PORT)
WLAN/#	C.04 / R.01	WIRELESS LAN OUTLET MOUNTED ABOVE ACCESSIBLE CEILING, FLUSH IN HARD CEILING, OR TIGHT TO STRUCTURE OVERHEAD (AT EXPOSED CEILINGS), U.N.O. (# = PORT QUANTITY, NO / # = 1-PORT)
WLAN-E/#	W.01 / W.02	WIRELESS LAN DATA OUTLET MOUNTED WITHIN NEMA ENCLOSURE MOUNTED TO WALL OR STRUCTURE. (# = PORT QUANTITY, NO /# = 1-PORT)
CAM	C.03 / S.02	DATA OUTLET FOR IP-BASED SECURITY CAMERA WALL OR POLE MOUNTED WITHIN SECURITY CAMERA BACK-BOX.
CAM	C.03 / S.02	DATA OUTLET FOR IP-BASED SECURITY CAMERA CEILING MOUNTED WITHIN SECURITY CAMERA BACK-BOX.
CAM/F	C.07 / S.02	FIBER OPTIC DATA OUTLET FOR IP-BASED SECURITY CAMERA WALL OR POLE MOUNTED WITHIN SECURITY CAMERA BACK-BOX.
# #	C.05 / R.05	DATA OUTLET MOUNTED IN SURFACE RACEWAY. (# = PORT QUANTITY, NO /# = 1-PORT)
#	C.05 / R.03	DATA OUTLET MOUNTED WITHIN POWER / DATA FLOORBOX (# = PORT QUANTITY, NO /# = 1-PORT)
AV/#	C.05 / R.03	DATA OUTLET MOUNTED WITHIN POWER / DATA / AV FLOORBOX (# = PORT QUANTITY, NO /# = 1-PORT)
AV/#	C.14	MULTI-PORT DATA DEVICE TERMINATED ON PATCH PANEL MOUNTED IN AV ENCLOSURE. (# = PORT QUANTITY, NO / # = 1-PORT)

GENERAL NOTES:

1. REFER TO DETAILS AS INDICATED ABOVE FOR ADDITIONAL RACEWAY, CABLING AND/OR DEVICE INFORMATION.
2. REFER TO OTHER SYSTEMS DRAWINGS (AV, SECURITY, ETC.) FOR BACK-BOX REQUIREMENTS SPECIFIC TO EACH DEVICE TYPE. SELECT DEVICES MAY REQUIRE SPECIALIZED BACK-BOX TYPES, SIZES AND MOUNTING CONDITIONS AS DEPICTED IN OTHER SYSTEMS DRAWINGS.
3. PROVIDE CAT.6 (1G) UTP CABLE TERMINATED (PER EIA/TIA-T568B) ON CAT.6 OUTLETS AND/OR PATCH PANELS FOR ALL TELE/DATA DEVICES, U.N.O.
4. RG-6 COAXIAL CABLE TERMINATED WITH F-TYPE CONNECTORS FOR COAXIAL DEVICES.

PATHWAY REQUIREMENTS:

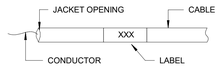
1. J-HOOK PATHWAY: ROUTE AND TERMINATE CONDUIT WITHIN NEAREST ACCESSIBLE CEILING SPACE. PROVIDE DEDIATED J-HOOKS AT 48-INCHES ON CENTER FOR REMAINING CABLE RUN TO NEAREST CABLE TRAY (AS APPLICABLE) OR TELECOM ROOM / HORIZONTAL CROSS-CONNECT LOCATION, UNLESS NOTED OTHERWISE. PROVIDE CONDUIT PATHWAY THROUGH WALLS AND ACCROSS NON-ACCESSIBLE OR EXPOSED CEILING AREAS TO ENSURE UNOBSTRUCTED CABLE PATHWAY FOR ENTIRE CABLE RUN.

CROSS-CONNECTS

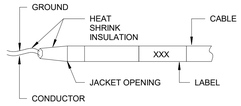
	DETAIL REFERENCE	REFER TO REFERENCED DEVICE DESCRIPTION FOR ADDITIONAL REQUIREMENTS.
SP	N/A	TELECOMMUNICATIONS SERVICE PROVIDER CROSS-CONNECT (SP) PROVIDED BY OTHERS. (SHOWN FOR REFERENCE ONLY)
MC	C.12	TELECOMMUNICATIONS MAIN CROSS-CONNECT (MC).
IC	C.12	TELECOMMUNICATIONS INTERMEDIATE CROSS-CONNECT (IC).
HC	C.12	TELECOMMUNICATIONS HORIZONTAL CROSS-CONNECT (HC).
SP	C.11	FIBER OPTIC DATA SERVICE PROVIDER CROSS-CONNECT (SP) PROVIDED BY OTHERS, (SHOWN FOR REFERENCE ONLY).
MC	C.11	FIBER OPTIC DATA MAIN CROSS-CONNECT (MC).
IC	C.11	FIBER OPTIC DATA INTERMEDIATE CROSS-CONNECT (IC).
HC	C.13	DATA HORIZONTAL CROSS-CONNECT (HC).
TV	N/A	CABLE OR SAT TV CROSS-CONNECT.
OCC	C.12	TELECOMMUNICATIONS DATA CENTER CROSS-CONNECT.
DCC	C.11	FIBER OPTIC DATA CENTER CROSS-CONNECT (DCC).
CC	C.11	FIBER OPTIC CAMPUS CROSS-CONNECT (CC).
CC	C.12	TELECOMMUNICATIONS CAMPUS CROSS-CONNECT.
ST	C.12	TELECOMMUNICATIONS SERVICE TIE CROSS-CONNECT.
ST	C.11	FIBER OPTIC SERVICE TIE CROSS-CONNECT.

INFRASTRUCTURE

	DETAIL REFERENCE	REFER TO REFERENCED DEVICE DESCRIPTION FOR ADDITIONAL REQUIREMENTS.
	R.03	TELE/DATA FURNITURE FEED FLOOR BOX (WITH COVER PLATE AND FLEXIBLE WHIP)
	R.04	TELE/DATA FURNITURE FEED WALL BACK-BOX (WITH COVER PLATE AND FLEXIBLE WHIP) MOUNTED AT 18" AFF.
	R.01	RACEWAY ONLY OUTLET LOCATION MOUNTED AT 18"AFF, U.N.O.
	R.01	RACEWAY ONLY OUTLET LOCATION MOUNTED ABOVE ACCESSIBLE CEILING, FLUSH IN HARD CEILING, OR TIGHT TO STRUCTURE OVERHEAD (AT EXPOSED CEILINGS), U.N.O.
TMGB	G.01	MAIN TELECOMMUNICATIONS GROUND BUS.
TGB	G.02	TELECOMMUNICATIONS GROUND BUS.
	N/A	2-POST EQUIPMENT RACK. (REF: RACK / CABINET SCHEDULES)
	N/A	4-POST EQUIPMENT RACK. (REF: RACK / CABINET SCHEDULES)
	N/A	EQUIPMENT CABINET. (REF: RACK / CABINET SCHEDULES)
AV	N/A	AV SLIDE-OUT / PIVOT STYLE EQUIPMENT CABINET. (REF: RACK / CABINET SCHEDULES)
	N/A	WALL MOUNTED SWING OUT EQUIPMENT RACK. (REF: RACK / CABINET SCHEDULES)
	N/A	WALL MOUNTED SWING OUT EQUIPMENT CABINET. (REF: RACK / CABINET SCHEDULES)
	N/A	EQUIPMENT RACK OR CABINET PROVIDED BY OTHERS. SHOWN FOR REFERENCE TO ALLOCATE FLOOR SPACE.
MH	U.02	COMMUNICATIONS MANHOLE.
HH	U.03	COMMUNICATIONS IN-GRADE HAND HOLE / PULL-BOX.



COMMUNICATION CABLE



AUDIOVISUAL / SECURITY /NURSE CALL SYSTEMS CABLE

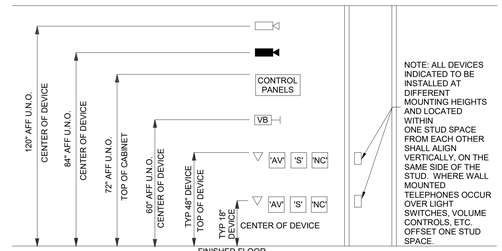
GENERAL NOTES:

1. CABLES: ALL SYSTEM CABLES OUTSIDE OF CONDUIT SHALL BE SUPPORTED WITHIN CEILING SPACES, UNDER FLOORS SPACES, ALONG WALLS, AND WITHIN EQUIPMENT RACKS PER SPECIFICATIONS.
2. CABLE DRESSING: ALL CABLES SHALL BE INSTALLED PER INFORMATION SHOWN HERE AND WITHIN SPECIFICATIONS. ALL CABLE NOT MEETING REQUIREMENTS HEREIN WILL BE REDRESSED AND / OR REPLACED AS NECESSARY.
3. LABELS: PROVIDE THERMAL TRANSFER / SELF-LAMINATING TYPE LABELS LOCATED ~2 INCHES FROM EACH END OF TERMINATED CABLE. HAND WRITTEN LABELS WILL NOT BE ACCEPTED.
4. HEAT SHRINK: PROVIDE HEAT SHRINK AT EACH EACH END OF TERMINATED CABLE FOR ALL AUDIOVISUAL / SECURITY / NURSE CALL CABLES. TAPE (ELECTRICAL OR OTHERWISE) UTILIZED IN PLACE OF HEAT SHRINK SHALL NOT BE ACCEPTED.
5. GROUND CONDUCTOR: PROVIDE CLEAR HEAT SHINK FOR ALL TERMINATED GROUND CONDUCTORS. FOR ALL UN-TERMINATED GROUND CONDUCTORS, CUT BACK TO JACKET OPENING AND COVER WITH HEAT SHRINK.

CABLE DRESS REQUIREMENTS

CABLE DRESS COLOR REQUIREMENTS

USE	CABLE COLOR	OUTLET TERMINATION	PATCH PANEL TERMINATION
DATA	BLUE	BLUE	BLUE
VOICE	WHITE	BLUE	WHITE
WAP	PURPLE	BLUE	PURPLE
CAM	GREEN	BLUE	GREEN
POS	YELLOW	BLUE	YELLOW



TYPICAL DEVICE MOUNTING HEIGHTS

NO SCALE

NOTES:

1. MOUNTING HEIGHTS SHOWN ON ARCHITECTURAL ELEVATIONS SHALL GOVERN OVER THOSE SHOWN ABOVE
2. CONTRACTOR SHALL ENSURE THAT ALL MOUNTING HEIGHTS COMPLY WITH CURRENT ADA REQUIREMENTS.
3. ALL ABOVE COUNTER DEVICES SHALL BE MOUNTED 8" ABOVE COUNTER OR A MAXIMUM OF 44" AFF (TO TOP OF DEVICE). VERIFY HEIGHTS WITH ARCHITECT.
4. WHERE EVER DEVICES ARE INDICATED TO BE ABOVE DOORS, DEVICE SHALL BE CENTERED BETWEEN TOP OF DOOR TRIM AND CEILING LINE.

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Project Number
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Description
GOLD WALK - TECHNOLOGY LEGEND

Scale
NO SCALE

1B-T0.000

ABBREVIATIONS

AC	ALTERNATING CURRENT
ADA	AMERICANS WITH DISABILITIES ACT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
ALD	ASSISTED LISTENING DEVICE
ALPETH	ALUMINUM POLYETHYLENE
ALS	ASSISTED LISTENING SYSTEM
ALT	ALTERNATE
AMP, A	AMPERE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ANT	ANTENNA
ATSC	ADVANCED TELEVSION SYSTEMS COMMITTEE (DIGITAL TELEVISION SIGNAL)
AUX	AUXILIARY
AUDIO	MICROPHONE OR LINE LEVEL BALANCED SIGNAL
AV	AUDIO VIDEO
AWG	AMERICAN WIRE GAUGE
BAS	BUILDING AUTOMATION SYSTEM
BFC	BELOW FINISHED CEILING
BFG	BELOW FINISHED GRADE
BICSI	BUILDING INDUSTRY CONSULTING SERVICES INTERNATIONAL
BMS	BUILDING MANAGEMENT SYSTEM
BRI	BASIC RATE INTERFACE (ISDN)
C	CONDUIT
CATV	COMMUNITY ANTENNA TV (CABLE TV)
CC	CONTACT CLOSURE
CMP	COMMUNICATIONS PLENUM CABLE
CMR	COMMUNICATIONS RISER CABLE
CO	CENTRAL OFFICE
COAX	COAXIAL
CODEC	CODER / DECODER
CSI	CONSTRUCTION SPECIFICATIONS INSTITUTE
DAS	DISTRIBUTED ANTENNA SYSTEM
DB	DECIBEL
DC	DIRECT CURRENT
DEMARC	DEMARCATION
DISC	DISCONNECT
DM	DIGITAL MEDIA SIGNAL
DMP	DIGITAL MEDIA PLAYER
DP	DISPLAYPORT
DSL	DIGITAL SUBSCRIBER LINE
DSP	DIGITAL SIGNAL PROCESSOR
DSS	DIGITAL SATELLITE SIGNAL
DVI-D	DIGITAL VISUAL INTERFACE-DIGITAL
DVI-I	DIGITAL VISUAL INTERFACE-INTEGRATED
DWG	DRAWING
EBC	EQUIPMENT BONDING CONDUCTOR
EIA	ELECTRONICS INDUSTRY ALLIANCE
ELEC	ELECTRIC OR ELECTRICAL
ELEV	ELEVATOR
EMC	ELECTROMAGNETIC COMPATIBILITY
EMI	ELECTROMAGNETIC INTERFERENCE
EMT	ELECTRIC METALLIC TUBING
ENG	ELECTRONIC NEWS GATHERING
EX	EXISTING
FA	FIRE ALARM
FAA	FEDERAL AVIATION ADMINISTRATION
FACP	FIRE ALARM CONTROL PANEL
FLEX	FLEXIBLE
FM	FREQUENCY MODULATION
FO	FIBER OPTIC
FP	FLAT PANEL (VIDEO DISPLAY)
FTP	FILE TRANSFER PROTOCOL
GA	GAUGE
GALV	GALVANIZED
GB	GIGABYTE
GbPS	GIGABITS PER SECOND
GC	GENERAL CONTRACTOR
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER

ABBREVIATIONS

GHz	GIGAHERTZ
GMP	GUARANTEED MAXIMUM PRICE
GUI	GRAPHICAL USER INTERFACE
HC	HORIZONTAL CROSS-CONNECT
HD	HIGH DEFINITION
HDMI	HIGH DEFINITION MULTIMEDIA INTERFACE
HVAC	HEATING, VENTILATING, AND AIR-CONDITIONING
Hz	HERTZ
IC	INTERMEDIATE CROSS-CONNECT
ID	INSIDE DIAMETER
IDF	INTERMEDIATE DISTRIBUTION FRAME
IEC	INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEEE	INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.
IF	INTERFACE
IG	ISOLATED GROUND
IMC	INTERMEDIATE GRADE METALLIC CONDUIT
IP	INTERNET PROTOCOL (ETHERNET)
IR	INFRARED SIGNAL
ISDN	INTEGRATED SERVICES DIGITAL NETWORK
ISO	INTERNATIONAL ORGANIZATION OF STANDARDS
J-BOX	JUNCTION BOX
kb	KILOBIT
kbps	KILOBIT PER SECOND
kcmil	THOUSANDS OF CIRCULAR MILLS
kHz	KILOHERTZ
km	KILOMETER
kVA	KILOVOLT AMPERES
kW	KILOWATT
kWh	KILOWATT-HOURS
LAN	LOCAL AREA NETWORK
LED	LIGHT-EMITTING DIODE
LEC	LOCAL EXCHANGE CARRIER (OR SP)
LFC	LIQUID TIGHT FLEXIBLE CONDUIT
LUMEN	LUMINOUS FLUX (PROJECTOR BRIGHTNESS)
LV	LOW VOLTAGE
LVC	LOW VOLTAGE CONTROL INTERFACE
M	METER
mA	MILLIAMPERE
MAG	MAGNETIC
MB	MEGABYTE
Mbps	MEGABITS PER SECOND
MC	MAIN CROSS-CONNECT
MDF	MAIN DISTRIBUTION FRAME
MECH	MECHANICAL
MFR	MANUFACTURER
MHz	MEGAHERTZ
mm	MILLIMETER
MMFO	MULTI-MODE FIBER OPTIC
MNS	MASS NOTIFICATION SYSTEM
MPOE	MAIN POINT OF ENTRY
MPOP	MINIMUM POINT OF PRESENCE
MTR	MAIN TELECOM ROOM
NEC	NATIONAL ELECTRIC CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NETWORK INTERFACE CARD
NID	NETWORK INTERFACE DEVICE
NIT	1 CANDELA PER SQUARE METER (FLAT PANEL BRIGHTNESS)
nm	NANOMETER
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OEM	ORIGINAL EQUIPMENT MANUFACTURER
OFE	OWNER FURNISHED EQUIPMENT
OS	OPERATING SYSTEM
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
OSP	OUTSIDE PLANT
OTDR	OPTICAL TIME DOMAIN REFLECTOMETER

ABBREVIATIONS

PA	PUBLIC ADDRESS
PABX	PRIVATE AUTOMATIC BRANCH EXCHANGE
PBX	PRIVATE BRANCH EXCHANGE
PCI	PAYMENT CARD INDUSTRY
PE	POLYETHYLENE
PH	PHASE
POTS	PLAIN OLD TELEPHONE SERVICE
PR	PAIRS
PRI	PRIMARY RATE INTERFACE (ISDN)
PSTN	PUBLIC SWITCHED TELEPHONE NETWORK
PROX	PROXIMITY
PTZ	PAN TILT ZOOM CAMERA
PVC	POLYVINYL CHLORIDE
PWR	POWER
RCDD	REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
RF	RADIO FREQUENCY SIGNAL
RGBHV	HIGH RESOLUTION ANALOG VIDEO
RGS	RIGID GALVANIZED STEEL
RH	RELATIVE HUMIDITY
RMC	RIGID METALLIC CONDUIT
RNC	RIGID NON-METALLIC CABLE
RS-232	BI-DIRECTIONAL CONTROL DATA STREAM (RS-232/RS-422/RS485)
RX	RECEIVE
SMFO	SINGLE-MODE FIBER OPTIC
SMPOE	SECONDARY MAIN POINT OF ENTRY
SP	SERVICE PROVIDER
SPEAKER	SPEAKER LEVEL SIGNAL
SPL	SOUND PRESSURE LEVEL
STEREO	A BALANCED 2 CHANNEL AUDIO SIGNAL
STI-PA	SPEECH INTELLIGIBILITY INDEX - PUBLIC ADDRESS
STP	SHIELDED TWISTED PAIR
SW	SWITCH
TBB	TELECOMMUNICATIONS BONDING BACKBONE
TCP	TRANSMISSION CONTROL PROTOCOL
TCP/IP	TRANSMISSION CONTROL PROTOCOL WITH INTERNET PROTOCOL
TDD	TELECOMMUNICATIONS DEVICE FOR THE DEAF
TDR	TIME DOMAIN REFLECTOMETER
TDR	TELECOM DEMARC ROOM
TEL	TELEPHONE
TELCO	TELEPHONE COMPANY (SP)
TGB	TELECOMMUNICATIONS GROUND BUS BAR
TIA	TELECOMMUNICATIONS INDUSTRY ASSOCIATION
TMGB	TELECOMMUNICATIONS MAIN GROUND BUS BAR
TP	TOUCH PANEL (CONTROL SYSTEM)
TR	TELECOMMUNICATIONS ROOM
TTB	TELEPHONE TERMINAL BOARD
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
UBS	UNIFORM BUILDING CODE
UC	UNDER COUNTER
UG	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTIBLE POWER SUPPLY
USB	UNIVERSAL SERIAL BUS
UTP	UNSHIELDED TWISTED PAIR
V	VOLTAGE
VC	VOLUME CONTROL
VGA	VIDEO GRAPHIC ARRAY (ANALOG COMPUTER SIGNAL, SEE ALSO RGBHV)
VM	VOLTMETER
VTC	VIDEO TELECONFERENCE SYSTEM
W	WATT
WAN	WIDE AREA NETWORK
WATS	WIDE AREA TELECOMMUNICATIONS SERVICE
WLAN	WIRELESS LOCAL AREA NETWORK (WIFI)
WM	WIRELESS MICROPHONE
WP	WEATHER PROOF
WT	WATERTIGHT
XFMR	TRANSFORMER
XP	EXPLOSION PROOF

GENERAL TECHNOLOGY SYSTEM REQUIREMENTS:

1. HEIGHTS SHOWN ARE TYPICAL TO CENTERLINE OF BOX UNLESS NOTED OTHERWISE. ALL DEVICE OUTLETS SHALL BE MOUNTED VERTICALLY.
2. MOUNTING HEIGHTS SHOWN ON ARCHITECTURAL ELEVATIONS SHALL GOVERN OVER THOSE SHOWN ABOVE.
3. ALL DEVICES INDICATED TO BE INSTALLED AT DIFFERENT MOUNTING HEIGHTS AND LOCATED WITHIN ONE STUD SPACE FROM EACH OTHER SHALL ALIGN VERTICALLY, ON THE SAME SIDE OF THE STUD. WHERE WALL MOUNTED TELEPHONES OCCUR OVER LIGHT SWITCHES, VOLUME CONTROLS, ETC. OFFSET ONE STUD SPACE.
4. ALL EXPOSED RACEWAYS SHALL BE INSTALLED PARALLEL OR PERPENDICULAR TO WALLS OR STRUCTURAL MEMBERS SUCH THAT THEY FOLLOW STRUCTURAL SURFACE CONTOURS AND SHALL BE INSTALLED SUCH THAT THEY DO NOT OBSTRUCT PASSAGEWAYS. MULTIPLE RACEWAYS SHOULD BE INSTALLED GROUPED TOGETHER. THE LOCATION OF THESE RACEWAYS SHALL BE APPROVED BY THE ARCHITECT PRIOR TO INSTALLATION. (EXTRA TIME SHOULD BE ALLOWED FOR THIS REVIEW AND APPROVAL).
5. ALL BACK BOXES SHALL BE FLUSH MOUNTED UNLESS OTHERWISE NOTED. CONTRACTOR SHALL COORDINATE INSTALLATION OF CONDUIT AND BACK BOXES IN POURED CONCRETE, MASONRY, AND GYP WALLS.
6. DATA GIVEN ON THE DRAWINGS IS AS EXACT AS COULD BE SECURED. ABSOLUTE ACCURACY IS NOT GUARANTEED AND THE CONTRACTOR SHALL OBTAIN AND VERIFY EXACT LOCATIONS, MEASUREMENTS,LEVELS,SPACE REQUIREMENTS, POTENTIAL CONFLICTS WITH OTHER TRADES,ETC. AT THE SITE AND SHALL SATISFACTORILY ADAPT HIS WORK TO ACTUAL CONDITIONS AT THE BUILDINGS.THE DRAWINGS ARE DIAGRAMMATICAL IN NATURE AND SHALL NOT BE SCALED.HOWEVER THIS DOES NOT RELIEVE ANY SUB-CONTRACTOR FROM COORDINATING HIS WORK WITH ALL OTHER TRADES AND FROM ADJUSTING HIS WORK AS REQUIRED BY THE ACTUAL CONDITIONS OF THE PROJECT.THE CONTRACTOR SHALL VISIT THE SITE BEFORE SUBMITTING A BID TO BECOME THOROUGHLY FAMILIAR WITH THE ACTUAL CONDITIONS OF THE PROJECT.
7. COORDINATE AND ADJUST ALL WORK BETWEEN TRADES AND EXISTING CONDITIONS IN ORDER TO ACCOMPLISH A NEAT, INTEGRATED AND EFFICIENT INSTALLATION WHICH INCLUDE BUT IS NOT LIMITED TO:
   A. EXAMINE THE CONTRACT DOCUMENTS OF ALL TRADES (IE. THE ARCHITECTURAL REFLECTED CEILING PLAN, MECHANICAL HVAC DRAWINGS, ELECTRICAL LIGHTING PLAN, TECHNOLOGY LAN, FIRE PROTECTION PLAN, ETC.)
   B. COORDINATE NECESSARY EQUIPMENT, FIXTURES, ETC. SO THAT THE FINAL INSTALLATION IS COMPATIBLE WITH THE MATERIALS AND EQUIPMENT OF THE OTHER TRADES,
   C. THIS CONTRACTOR SHALL ASSIST THE DIVISION 21, 22, & 23 CONTRACTOR IN PREPARING SHOP DRAWINGS FOR COORDINATING INSTALLATION OF ALL WORK (IE. LOCATING ALL CEILING CLEARANCES,CABLE TRAY, CLEARANCES THROUGHOUT, ETC.).
8. DEFINITIONS:

A. "FURNISH" MEANS TO "SUPPLY" AND USUALLY REFERS TO AN ITEM OF EQUIPMENT.

B. "INSTALL" MEANS TO "SET IN PLACE, CONNECT AND PLACE IN FULL OPERATIONAL ORDER".

C. "PROVIDE" MEANS TO "FURNISH AND INSTALL".

D. "EQUIVALENT"MEANS"MEETS THE SPECIFICATIONS OF THE REFERENCE PRODUCT OR ITEM IN ALL SIGNIFICANT ASPECTS."SIGNIFICANT ASPECTS SHALL BE DETERMINED BY THE ENGINEER.

E. "WORK BY OTHER(S)(CONTRACTOR)":"RE:DIVISION XX" AND SIMILAR EXPRESSIONS MEANS WORK TO BE PERFORMED UNDER THE CONTRACT DOCUMENTS, BUT NOT NECESSARILY UNDER THE DIVISION OR SECTION OF THE WORK ON WHICH THE NOTE APPEARS. IT IS THE CONTRACTORS SOLE RESPONSIBILITY TO COORDINATE THE WORK OF THE CONTRACT BETWEEN HIS/HER SUPPLIERS, SUBCONTRACTORS, AND EMPLOYEES. IF CLARIFICATION IS REQUIRED, CONSULT ARCHITECT BEFORE SUBMITTING BID.

9. FUTURE WORK:

A. THE DRAWINGS AND SPECIFICATIONS MAY INDICATE SOME WORK WHICH IS TO BE PROVIDED UNDER THIS SCOPE OF WORK BUT WHOSE TIMING MAY BE DIFFERENT THAN THE REST OF THE WORK.THIS WORK GENERALLY FACILITATES THE INSTALLATION OF "TENANT FINISH" WORK OR FOOD SERVICE WORK. IT IS WITHIN THIS DIVISION'S SCOPE OF WORK TO COORDINATE THIS WORK WITH THE WORK OF THE CONTRACTOR PROVIDING THE FUTURE SCOPE OF WORK.

10. "FIRE STOPPING"REQUIREMENT.ALL PENETRATIONS THROUGH RATED WALLS AND FLOORS AND CONDUIT/SLEEVE OPENINGS SHALL BE SEALED WITH MATERIAL CAPABLE OF PREVENTING THE PASSAGE OF FLAMES, HOT GASSES AND SMOKE WHEN SUBJECTED TO THE REQUIREMENTS OF THE TEST STANDARD SPECIFIC FOR ALL APPLICABLE CODES.
11. REFER TO ARCHITECTURAL DRAWINGS FOR MINIMUM CLEARANCE REQUIREMENTS TO DUCTWORK,CONDUIT, CABLE TRAY. LIGHTING, ETC.
12. ALL COMMUNICATIONS RACEWAY AND PATHWAYS INCLUDING BUT NOT LIMITED TO CONDUIT, SLEEVES, CABLE TRAY, J-HOOKS SHALL BE INSTALLED TO MINIMIZE UNNECESSARY CABLE LENGTHS AND MAINTAIN INDUSTRY STANDARD LENGTH LIMITATIONS FOR HORIZONTAL CABLE DISTRIBUTION (I.E. CAT.5E ANDCAT.6/CAT.6A).NO HORIZONTAL CABLE LENGTH (BASIC LINK) SHALL EXCEED 90 METERS (295 FEET).
13. CONDUIT SLEEVES SHALL BE INSTALLED THROUGH ALL WALLS WHERE CABLING IS ROUTED USING J-HOOKS TO PROVIDE CONTINUOUS UN-OBSTRUCTED PATHWAYS TO NEAREST COMMUNICATIONS RO0MS FROM STATIONS DEVICES.
14. REFER TO AV CONSTRUCTION DOCUMENTS FOR AV CONDUIT REQUIREMENT INCLUDING SIZES,QUANTITIES, AND LOCATIONS.
15. ALL COMMUNICATIONS CONDUIT, CABLE TRAYS, LADDER RACKS, AND EQUIPMENT RACKS SHALL BE BONDED TO BUILDING GROUND SYSTEM PER NEC 250.
16. ALL COMMUNICATION CONDUIT OR SLEEVES ROUTED THROUGH ELECTRICAL ROOMS SHALL BE PHYSICALLY CONTINUOUS AND BONDED TO GROUND SYSTEM.
17. ANY CABLE TRAY ROUTED THROUGH ELECTRICAL ROOMS OR WITHIN PROXIMITY OF INTERFERING ELECTRICAL SOURCES, SHALL BE ENCLOSED TYPE USING SOLID BOTTOM TROUGH WITH REMOVABLE COVERS. CABLE TRAY SHALL BE BONDED TO GROUND SYSTEM.
18. J-HOOKS SHALL BE ONLY USED IN ACCESSIBLE FINISHED CEILING SPACES NOT SERVED BY CABLE TRAY OR CONDUIT.
19. ALL TELE/DATA CONDUIT AND OTHER RACEWAY INFRASTRUCTURE SHALL HAVE NO LESS THAN 25% SPARE CAPACITY ABOVE THE NEC MINIMUM FILL RATIOS.
20. ALL COMMUNICATIONS CONDUIT LARGER THAN 2" SHALL HAVE A MINIMUM BEND RADIUS OF 10:1 OF THE INSIDE DIAMETER FOR ALL ELBOWS. ALL COMMUNICATIONS CONDUIT 2" AND SMALLER SHALL HAVE A MINIMUM BEND RADIUS OF 6:1 OF THE INSIDE DIAMETER FOR ALL ELBOWS.
21. COMMUNICATIONS CONDUIT ROUTING SHALL NOT EXCEED 180° FOR THE SUM OF ELBOWS FOR A PARTICULAR CONDUIT RUN WITHOUT AN APPROVED PULL-BOX OR MANHOLE. THE MAXIMUM BEND FOR ANY LOCATION SHALL NOT EXCEED 90°.
22. PROVIDE PROTECTIVE BUSHINGS ON ALL COMMUNICATIONS CONDUITS INCLUDING RISER CONDUITS/SLEEVES, HORIZONTAL CONDUITS, DEVICE CONDUITS, AND SLEEVES.
23. ALL RISER CONDUIT SHALL BE STUBBED A MINIMUM OF 2" AFF. PROVIDE A 2" CURB IF SLAB BLOCK-OUT IS USED RATHER THAN SLEEVES. SERVICE PROVIDER AND UNDERGROUND CONDUIT SHALL BE STUBBED A MINIMUM OF 4" AFF.
24. ALL FIBER OPTIC CABLE SHALL BE ARMORED OR INSTALLED WITHIN APPROVED/UL-LISTED INNER-DUCT COMPLETE WITH FITTINGS, COUPLINGS, AND ADAPTERS (CARLON RISER-GARD, PLENUM-GARD, OR APPROVED EQUAL). FIBER OPTIC CABLE CAN UTILIZE METALLIC ARMORED SHEATH RATHER THAN USINGINNER-DUCT.
25. FINAL CABLE INSTALLATION, ALL UNDERGROUND COMMUNICATIONS CONDUIT SHALL BE SEALED TO PREVENT WATER, GAS AND RODENTS FROM ENTERING FACILITY.
26. ALL COMMUNICATIONS CABLE INSTALLED BELOW GRADE SHALL BE GEL FILLED PIC/PE-89 PER RUS/REA DESIGNATION.
27. ALL UNDERGROUND COMMUNICATIONS CONDUIT SHALL HAVE METALLIC LOCATOR TAPE.
28. ALL COMMUNICATIONS CABLE SHALL BE PLENUM RATED (CMP), RISER RATED (CMR) AND UNDERGROUND RATED (WATERBLOCK) ACCORDING TO USE AND ENVIRONMENTAL CONDITIONS.
29. ALL BACKBONE (RISER) COMMUNICATIONS CABLE SHALL BE INSTALLED BASED ON A PHYSICAL STAR TOPOLOGY. REFER TO ONE-LINES DIAGRAMS FOR SPECIFIC ROUTING REQUIREMENTS.
30. ANY COMMUNICATIONS CABLES (FIBER AND COPPER) INSTALLED BELOW GRADE, UNDERGROUND,OR OTHER LOCATIONS SUBJECT TO WET CONDITIONS SHALL UTILIZE WATERBLOCK CONSTRUCTION.
31. CONTRACTOR SHALL NOT PAINT CABLES AND/OR SPRAY CABLES WITH FIRE PROOFING MATERIAL AS IT CAN AFFECT CABLE PERFORMANCE AND WILL VOID THE CABLE WARRANTY.

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△	Date	Description
-	2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT

RCRBD
Record Set
TC
07/13/2021

Seal / Signature

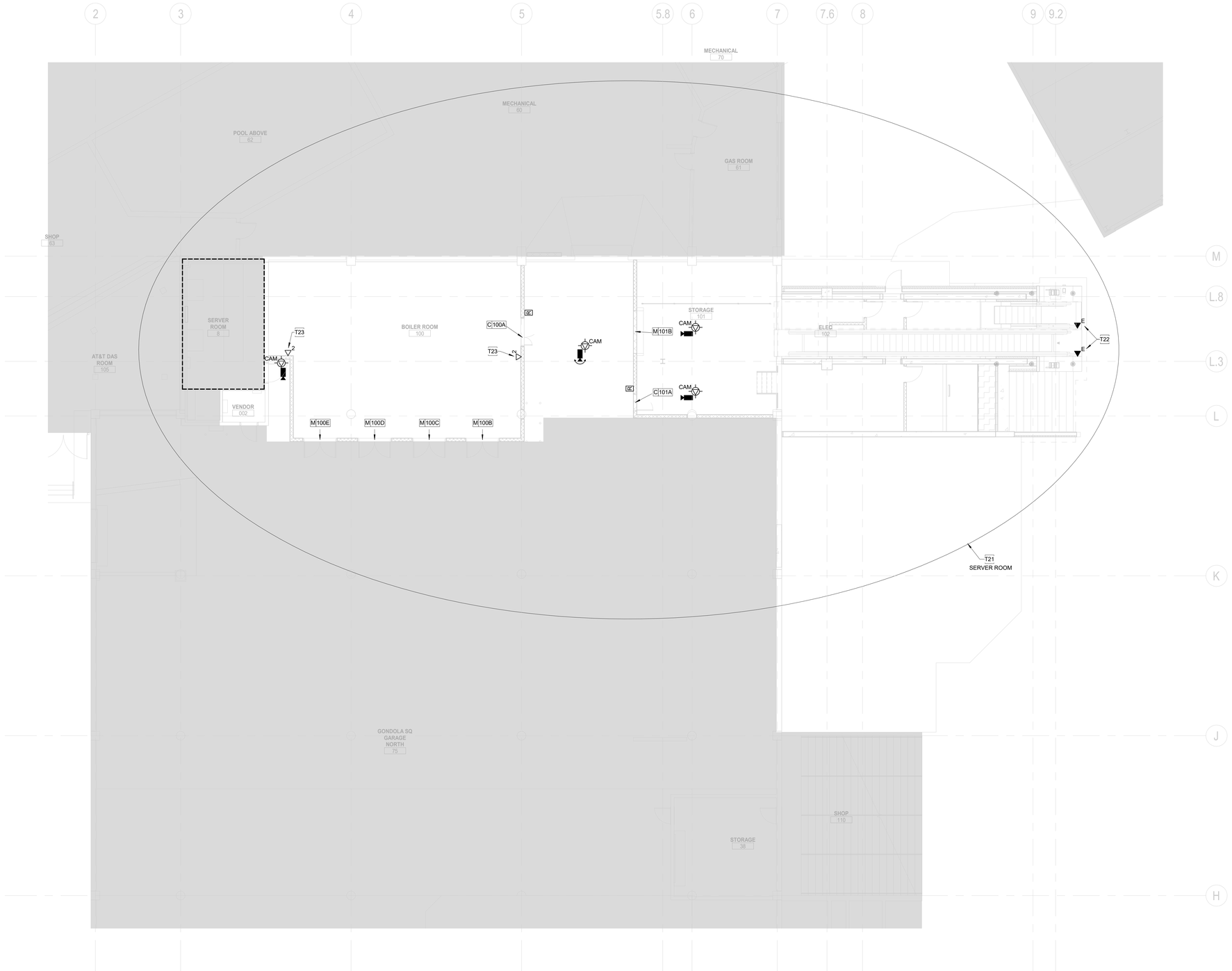
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
GOLD WALK - TECHNOLOGY GENERAL NOTES & ABBREVIATIONS

Scale
NO SCALE

1B-T0.001



1 TECHNOLOGY PLAN - LEVEL 01 (Summer 2021)
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. REFER TO SYMBOL LEGEND FOR ADDITIONAL REQUIREMENTS, INCLUDING BUT NOT LIMITED TO, INSTALLATION OF RACEWAY, CABLING, AND DEVICES.

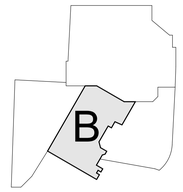
2. REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL INFORMATION PERTAINING TO DATA CENTER EQUIPMENT (PRODUCTS AND INSTALLATION) DESCRIBED IN KEYNOTES BELOW, SPECIFICALLY DIVSION 27.

3. CONTRACTOR SHALL VERIFY AND COORDINATE ALL WALL SPACE REQUIREMENTS WITH OTHER LOW VOLTAGE TRADES (SECURITY, AV, FIRE ALARM, ETC.) DURING SHOP DRAWING COORDINATION PROCESS TO CONFIRM FINAL PLACEMENT OF ALL TERMINATIONS AND EQUIPMENT WITHIN DATA CENTER.

KEYNOTES

T21	DIVIDER CIRCLE INDICATES COMMUNICATIONS AND SECURITY DEVICE CABLE ROUTING BACK TO THE NEAREST IC-ROOM. DIVIDER LINES ARE SHOWN FOR REFERENCE ONLY TO ASSIST THE OWNER AND CONTRACTOR IN UNDERSTANDING WHICH IC-ROOM EACH DEVICE CABLE IS ANTICIPATED TO ORIGINATE FROM AND TERMINATE IN. TELE/DATA RACEWAY AND CABLING CONTRACTOR SHALL VERIFY THAT EACH DEVICE WITHIN THESE BOUNDARIES DOES NOT EXCEED THE HORIZONTAL CABLE LENGTH LIMITATIONS PER SPECIFICATIONS AND EIA/TIA STANDARDS.
T22	PROVIDE DATA DEVICE WITHIN ESCALATOR PIT FOR CONTROL INTERFACE. COORDINATE EXACT LOCATION WITH ESCALATOR INSTALLER PRIOR TO INSTALLATION.
T23	PROVIDE DATA DEVICE FOR ELECTRICAL MECHANICAL EQUIPMENT CONNECTIVITY. COORDINATE EXACT LOCATION WITH ARCHITECT AND ELECTRICAL MECHANICAL CONTRACTOR.

KEY PLAN



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△	Date	Description
	2021.04.02	BP3: PRICING AND PROCUREMENT
	2021/04/30	75% PROGRESS PRINT
-	2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT

RCRBD
Record Set
TC
07/13/2021

Seal / Signature

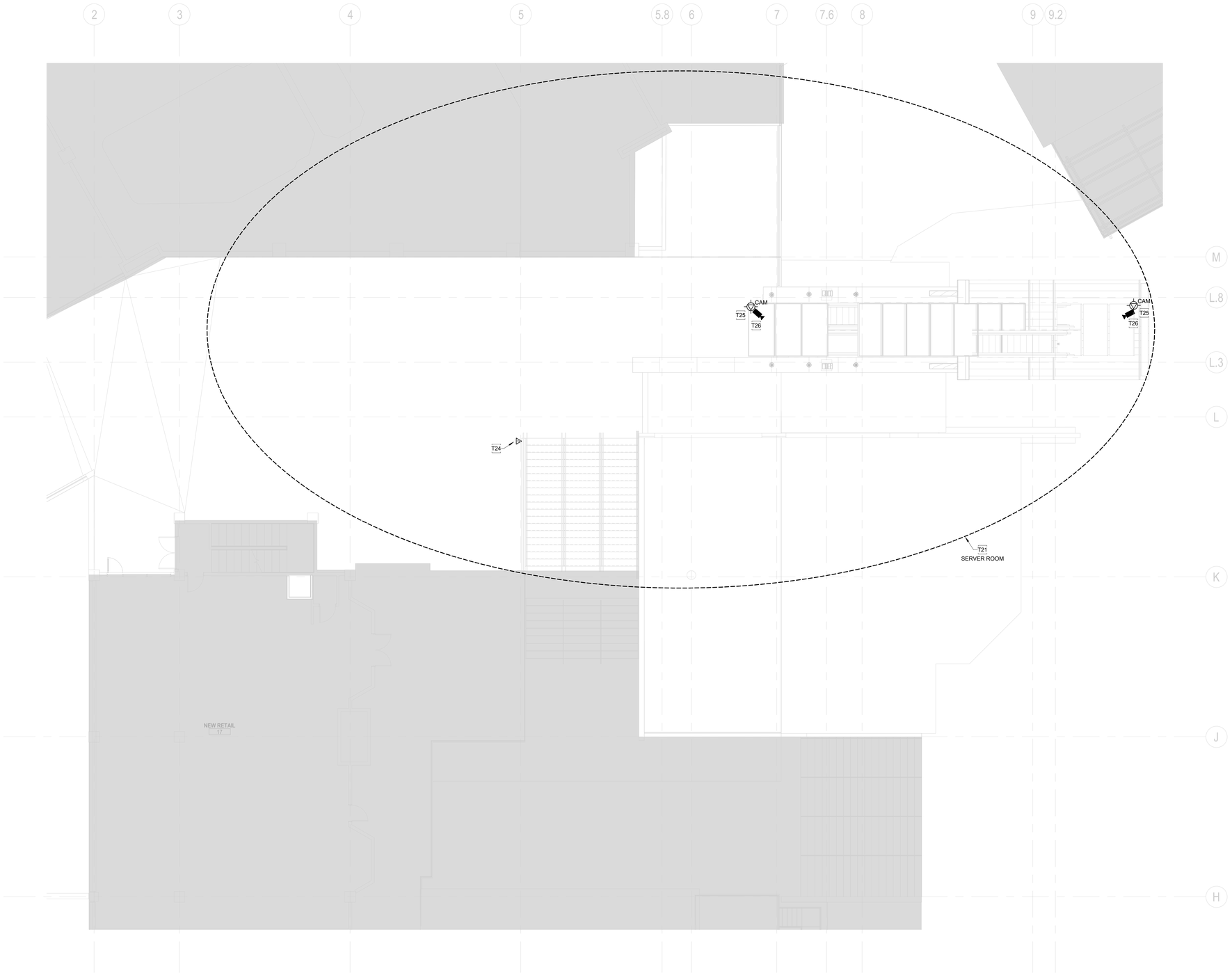
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
GOLD WALK - TECHNOLOGY PLAN - LEVEL 01

Scale
1/8" = 1'-0"

1B-T1.201



GENERAL NOTES:

1. REFER TO SYMBOL LEGEND FOR ADDITIONAL REQUIREMENTS, INCLUDING BUT NOT LIMITED TO, INSTALLATION OF RACEWAY, CABLING, AND DEVICES.

2. REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL INFORMATION PERTAINING TO DATA CENTER EQUIPMENT (PRODUCTS AND INSTALLATION) DESCRIBED IN KEYNOTES BELOW, SPECIFICALLY DIVSION 27.

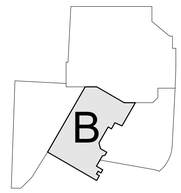
3. CONTRACTOR SHALL VERIFY AND COORDINATE ALL WALL SPACE REQUIREMENTS WITH OTHER LOW VOLTAGE TRADES (SECURITY, AV, FIRE ALARM, ETC.) DURING SHOP DRAWING COORDINATION PROCESS TO CONFIRM FINAL PLACEMENT OF ALL TERMINATIONS AND EQUIPMENT WITHIN DATA CENTER.

KEYNOTES

T21	DIVIDER CIRCLE INDICATES COMMUNICATIONS AND SECURITY DEVICE CABLE ROUTING BACK TO THE NEAREST IC-ROOM. DIVIDER LINES ARE SHOWN FOR REFERENCE ONLY TO ASSIST THE OWNER AND CONTRACTOR IN UNDERSTANDING WHICH IC-ROOM EACH DEVICE CABLE IS ANTICIPATED TO ORIGINATE FROM AND TERMINATE IN. TELE/DATA RACEWAY AND CABLING CONTRACTOR SHALL VERIFY THAT EACH DEVICE WITHIN THESE BOUNDARIES DOES NOT EXCEED THE HORIZONTAL CABLE LENGTH LIMITATIONS PER SPECIFICATIONS AND EIA/TIA STANDARDS.
T24	1-1/4" CONDUIT AND TO ELECTRICAL BOX. RE: ELECTRICAL PLANS AND DETAILS.
T25	REFER TO ARCHITECTURAL DRAWINGS FOR CAMERA PLACEMENT AND SPECIFIED CABLE CHANNEL. DATA CABLE TO BE CONCELED WITHIN CABLE CHANNEL AND ROUTED FOR MINIMAL VISIBLITY.
T26	CORNER MOUTED CAMERA, BASIS OF DESIGN IS AXIS P9106-V, STAINLESS STEEL, PAINTED BLACK, CONFIRM EXACT COLOR WITH ARCHITECT VIA SHOP DRAWINGS. FOLLOW MANUFACTURER INSTRUCTIONS FOR PAINTING.

1 TECHNOLOGY PLAN - LEVEL 03 (Summer 2021)
SCALE: 1/8" = 1'-0"

KEY PLAN



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△	Date	Description
	2021/04/30	75% PROGRESS PRINT
-	2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT

RCRBD
Record Set
TC
07/13/2021

Seal / Signature

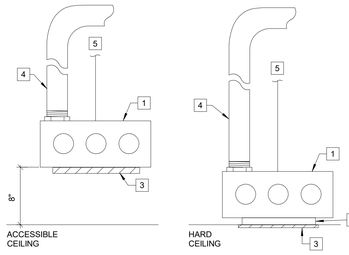
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
GOLD WALK - TECHNOLOGY PLAN - LEVEL 03

Scale
1/8" = 1'-0"

1B-T1.203



ABOVE CEILING MOUNTED | FLUSH CEILING MOUNTED | WALL MOUNTED

GENERAL NOTES:

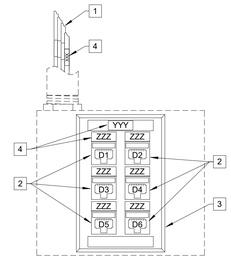
1. REFER TO SYSTEM SYMBOL LEGEND - PATHWAY REQUIREMENT NOTES TO CONFIRM IF CONDUIT STUBS TO CEILING AND USE OF J-HOOKS IS ALLOWED OR IF CONTINUOUS CONDUIT IS REQUIRED FOR ALL LOCATIONS. PARTICULAR ATTENTION SHALL BE GIVEN TO CONDUIT ROUTING NOTES AS EACH SYSTEM (AV, COMM, SECURITY, ETC.) HAS SPECIFIC CONDUIT ROUTING REQUIREMENTS.

KEYNOTES: #

1. BACK-BOX: PROVIDE 4"X4"X2-1/8" FLUSH MOUNTED BOX.
2. MUD-RING: PROVIDE 1-GANG MUD RING FOR MOUNTING OF DEVICE / FACEPLATE. MUD RING SHALL BE SEPARATE COMPONENT FROM BACK-BOX.
3. FACE PLATE: REQUIREMENTS VARY, REFER TO SPECIFIC DEVICE DETAILS FOR ADDITIONAL INFORMATION.
4. CONDUIT: PROVIDE CONDUIT SIZED AS FOLLOWS:
   (1) 1-INCH CONDUIT FOR (1-4) CABLES/PORTS
   (1) 1-1/4-INCH CONDUIT FOR (5-6) CABLES/PORT
5. SUPPORT: PROVIDE THREADED ROD ATTACHED TO STRUCTURE ABOVE.

R.01 COMM RACEWAY DEVICES

SYMBOLS: ▽ X ⟐ X



GENERAL NOTES:

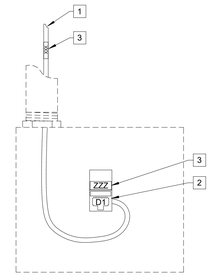
1. REFER TO DETAIL R.01 FOR RACEWAY REQUIREMENTS INCLUDING BACK-BOX AND CONDUIT.
2. PROVIDE MODULAR DUST COVER(S) ON ALL UNUSED FACEPLATE PORTS AS REQUIRED.

KEYNOTES: #

1. DATA CABLE: PROVIDE 4-PAIR UTP CABLE(S) ORIGINATING FROM THE NEAREST HORIZONTAL CROSS-CONNECT (HC). REFER TO DEVICE SYMBOL AND LEGEND DESCRIPTION FOR CABLE QUANTITIES.
2. DATA TERMINATIONS: PROVIDE RJ45 TYPE MODULAR JACK INTERCONNECTED TO EACH UTP CABLE. PROVIDE COLORED PORTS ACCORDING TO THE COLOR SCHEDULE ON THE LEGEND SHEET.
3. FACE PLATE: PROVIDE MODULAR FACEPLATE WITH PORTS AS REQUIRED PER CABLE COUNTS.
4. LABELS: PROVIDE WHITE LABELS WITH BLACK TEXT TO NOTE STATION ID (YYY), TERMINATION ID (ZZZ) AND CABLE ID (XXX). REFER TO TYPICAL DEVICE LABELING DETAIL FOR ADDITIONAL REQUIREMENTS.

C.02 VOICE/DATA DEVICE (5 OR 6 PORTS)

SYMBOLS: ▽ # ▽ # ▽ ATM/# ▽ POS/# ▽ P ▽ AV



GENERAL NOTES:

1. INTENT OF THIS DETAIL IS TO DEPICT STRUCTURED CABLING REQUIREMENTS. REFER TO OTHER SYSTEMS DRAWINGS (AV, SECURITY, ETC.) FOR BACK-BOX REQUIREMENTS SPECIFIC TO EACH DEVICE TYPE. SELECT DEVICES MAY REQUIRE SPECIALIZED BACK-BOX TYPES, SIZES AND MOUNTING CONDITIONS.
2. CONTRACTOR TO PROVIDE DATA OUTLET(S) MOUNTED IN PLENUM RATED BISCUIT IN LIEU OF BACK-BOX FOR DEVICES LOCATED ABOVE ACCESSIBLE CEILINGS.

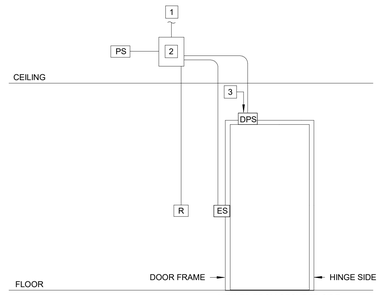
KEYNOTES: #

1. DATA CABLE: PROVIDE 4-PAIR UTP CABLE(S) ORIGINATING FROM THE NEAREST HORIZONTAL CROSS-CONNECT (HC). REFER TO DEVICE SYMBOL AND LEGEND DESCRIPTION FOR CABLE QUANTITIES.
2. DATA TERMINATIONS: PROVIDE RJ45 TYPE MODULAR JACK INTERCONNECTED TO EACH UTP CABLE. CABLE AND JACK SHALL REMAIN LOOSE INSIDE BACK-BOX.
3. LABELS: PROVIDE WHITE LABELS WITH BLACK TEXT TO NOTE STATION ID (YYY), TERMINATION ID (ZZZ) AND CABLE ID (XXX) ACTUAL LABELING SCHEME SHALL BE COORDINATED WITH THE OWNER AND ENGINEER. REFER TO COMMUNICATION AND CABLE DETAILS.

C.03 MISCELLANEOUS DATA DEVICE

SYMBOLS: ▽ CAM ⟐ CAM ▽ CP ▽ C ▽ TR

All Door Hardware is under a Deferred Submittal agreement and must be reviewed and approved for egress compliance once submitted.



S.01 / S - SINGLE LEAF DOOR

KEYNOTES: #

1. PATHWAY TO SECURITY PANEL LOCATIONS: PROVIDE (1) 1-1/4" CONDUIT REFER TO SECURITY SYSTEM SYMBOL - PATHWAY REQUIREMENT NOTES ON LEGEND SHEET FOR CONDUIT CONTINUATION REQUIREMENTS.
2. CONSOLIDATION BOX: LOCATE 8"x8"x4" BOX ON SECURE SIDE OF DOOR. LOCATE WITHIN ACCESSIBLE CEILING SPACE (OR AREA OF ACCESS) AS CLOSE TO DOORWAY AS POSSIBLE, NOT TO EXCEED 50 FEET OF DOOR LOCATION.
3. PATHWAY TO DOOR HARDWARE: PROVIDE 3/4" CONDUIT ROUTED FROM CONSOLIDATION BOX TO HARDWARE MOUNTED IN OR AROUND DOOR FRAME. COORDINATE CONDUIT TERMINATION REQUIREMENTS WITH DOOR HARDWARE PROVIDER AND DEVICE MANUFACTURER. ROUTE CONDUIT WITHIN DOOR FRAME WHERE REQUIRED.

S.03 SECURITY ACCESS CONTROL SYSTEM DETAILS

SYMBOLS:

Steamboat
ALTERRA MOUNTAIN COMPANY east west partners

2305 Mount Werner Circle
Steamboat Springs, CO 80487

Gensler

1225 17th Street
Suite 150
Denver, CO 80202
United States
Tel 303.595.8585
Fax 303.825.6823

LANDMARK CONSULTANTS, INC.
141 9th Street
PO Box 774943
Steamboat Springs, CO 80477
Tel 970.871.9494

DESIGNWORKSHOP
1390 Lawrence Street
Suite 100
Denver, CO 80204
Tel 303.623.5186

MARTIN/MARTIN CONSULTING ENGINEERS
12499 West Colfax Ave.
Lakewood, CO 80215
United States
Tel 303.431.6100

me engineers
14143 Denver West Pkwy
Suite 300
Golden, CO
United States
Tel 303.421.6655

△	Date	Description
	2021/04/30	75% PROGRESS PRINT
-	2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT

RCRBD
Record Set
TC
07/13/2021

Seal / Signature

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
GOLD WALK - TECHNOLOGY DETAILS

Scale
1/8" = 1'-0"

1B-T8.000