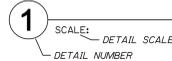


MECHANICAL LEGEND

SYMBOL ABBREV. DESCRIPTION

— 10" —	DUCT, SINGLE LINE, SIZE AS NOTED ON PLAN
①	T'STAT THERMOSTAT OR SENSOR ABOVE FINISHED FLOOR
AFF	ABOVE FINISHED FLOOR
BBD	BACKDRAFT DAMPER
BOD	BOTTOM OF DUCT
CFM	CUBIC FEET PER MINUTE
DTR	DOWN THROUGH ROOF
(E)	EXISTING
EC	ELECTRICAL CONTRACTOR
ER	EXHAUST REGISTER
G	GAS CONNECTION TO MECHANICAL EQUIPMENT
MC	MECHANICAL CONTRACTOR
OB	OPPOSED BLADE DAMPER
OC	ON CENTER
OSA	OUTSIDE AIR
PC	PLUMBING CONTRACTOR
POC	POINT OF CONNECTION BETWEEN WORK OF DIFFERENT TRADES
SD	SMOKE DETECTOR (DUCT MOUNTED)
SM	SHEET METAL
TOD	TOP OF DUCT
U/C	UNDERCUT (DOOR)
UTR	UP THROUGH ROOF
SA	SUPPLY AIR (DUCT OR PLENUM)
RA	RETURN AIR (DUCT OR PLENUM)
EA	EXHAUST AIR (DUCT OR PLENUM)

DETAIL SYMBOL _____ DETAIL NAME



MATERIAL AND DEVICE SPECIFICATIONS

(ALSO SEE SPECIFICATIONS BOOK)

23 31 00 HVAC DUCTWORK

ALL DUCTWORK SHALL BE FABRICATED AND INSTALLED AS PER CMC.

DURING THE CONSTRUCTION PHASE: AT THE TIME OF ROUGH INSTALLATION, AND DURING STORAGE ON THE CONSTRUCTION SITE AND UNTIL FINAL STARTUP OF THE HEATING AND COOLING EQUIPMENT, ALL DUCT AND OTHER RELATED AIR DISTRIBUTION EQUIPMENT AND COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, SHEETMETAL OR OTHER METHODS ACCEPTABLE TO THE ENFORCING AGENCY TO REDUCE THE AMOUNT OF DUST OR DEBRIS WHICH MAY COLLECT IN THE SYSTEM. (CALGREEN 4.504.1) CALGREEN COMPLIANCE: CODE SECTION 5.713.10.4.

EXHAUST DUCTWORK: RIGID ROUND OR RECTANGULAR SHEET METAL. NO ALUMIFLEX OR SIMILAR CORRUGATED FLEXIBLE DUCTWORK IS PERMITTED.

DUCT SEALER: GLENCOAT SEALFLEX. SEAL ALL NEW SUPPLY, RETURN, AND EXHAUST DUCTWORK SYSTEMS.

MECHANICAL EQUIPMENT SCHEDULE

HP 1-1 DESCRIPTION: CONDENSING UNIT (OUTDOOR UNIT OF A DUCTLESS VRF SPLIT SYSTEM). SERVICE: SEE PLANS. LOCATION: ON GRADE. COOLING CAPACITY RATED AT ARI STANDARD CONDITIONS: TOTAL /SENSIBLE CAPACITY = 9,500-24,800 BTUH/14,810 BTUH. COOLING EFFICIENCY: SEER = 14.1 HEATING CAPACITY: 8,000-29,800 BTUH. HSPF: 10.5. ELECTRICAL: 208/230V 1PH. 16.4 FLA. APPROX. DIMENSIONS: 37" LONG X 13" WIDE X 31" HIGH. APPROX. WEIGHT: 128 LBS. MANUFACTURER AND MODEL: PANASONIC U-26PEU6. SOUND RATING: 49 DB-A.

FC 1-1 DESCRIPTION: RECESSED FAN COIL (INDOOR UNIT OF A DUCTLESS VRF SPLIT SYSTEM). SERVICE: SEE PLANS. LOCATION: CEILING RECESSED. ELECTRICAL: (POWERED FROM OUTDOOR UNIT). APPROX. DIMENSIONS: 14" HIGH X 34" X 34". APPROX. OPERATING WEIGHT: 49 LBS. MANUFACTURER AND MODEL: PANASONIC S-36PUU6. GRILL: CZ-36KPUU.

ACCESSORIES AND OPTIONS:
1. PANASONIC REFRIGERANT LINE SET.
2. WIRELESS REMOTE CONTROLLER WITH NON-REMOVEABLE BRACKET.
3. FRESH AIR INTAKE PLENUM.
4. OUTSIDE AIR ROOF CAP: GREENHECK RG-6X9.

HP 2-1] **HP 1-1**
FC 2-1] SAME AS **FC 1-1**
FC 2-2] **FC 1-2**

HP 3-1] **HP 1-1**
FC 3-1] SAME AS **FC 1-1**
FC 3-2] **FC 1-2**

CU 1 DESCRIPTION: CONDENSING UNIT (OUTDOOR UNIT OF A DUCTLESS VRF SPLIT SYSTEM). SERVICE: SEE PLANS. LOCATION: ON GRADE. COOLING CAPACITY RATED AT ARI STANDARD CONDITIONS: TOTAL /SENSIBLE CAPACITY = 9,500-32,600/20,160 BTUH. COOLING EFFICIENCY: SEER = 14.6. ELECTRICAL: 208/230V 1PH. 17.3 FLA. APPROX. DIMENSIONS: 37" LONG X 13" WIDE X 31" HIGH. APPROX. WEIGHT: 143 LBS. MANUFACTURER AND MODEL: PANASONIC U-36PSU6. SOUND RATING: 52 DB-A.

FC 4 DESCRIPTION: RECESSED FAN COIL (INDOOR UNIT OF A DUCTLESS VRF SPLIT SYSTEM). SERVICE: SEE PLANS. LOCATION: CEILING RECESSED. ELECTRICAL: (POWERED FROM OUTDOOR UNIT). APPROX. DIMENSIONS: 13" HIGH X 45" WIDE X 34" DEEP. APPROX. OPERATING WEIGHT: 60 LBS. MANUFACTURER AND MODEL: PANASONIC S-36PUU6. GRILL: CZ-36KPUU.

ACCESSORIES AND OPTIONS:
1. PANASONIC REFRIGERANT LINE SET.
2. WIRELESS REMOTE CONTROLLER WITH NON-REMOVEABLE BRACKET.

EF 1 DESCRIPTION: CEILING EXHAUST FAN. SERVICE: SEE PLANS. FAN CAPACITY: 400 CFM @ 0.125 IN. W.C. EXTERNAL STATIC PRESSURE. FAN RPM: 1,000. SONES: 3. ELECTRICAL: 120 V 1PH. 121 WATTS. CONTROL: OCCUPANCY SENSOR. QUALITY ASSURANCE: UL 507 LISTED - "ELECTRIC FANS." AMCA 301 SOUND RATED. APPROX. DIMENSIONS: 18" X 14" X 14" HIGH W/ 8" SQ. OUTLET FOR DUCT. GRILL SIZE: 19" X 16". APPROX. OPERATING WEIGHT: 31 LBS. MANUFACTURER AND MODEL: GREENHECK SP-A410. ACCESSORIES: GREENHECK RJ-6X9 ROOF CAP.

EF 3 DESCRIPTION: CEILING EXHAUST FAN. SERVICE: SEE PLANS. FAN CAPACITY: 200 CFM @ 0.125 IN. W.C. EXTERNAL STATIC PRESSURE. FAN RPM: 1,100. SONES: 4.5. ELECTRICAL: 120 V 1PH. 172 WATTS. CONTROL: OCCUPANCY SENSOR. QUALITY ASSURANCE: UL 507 LISTED - "ELECTRIC FANS." AMCA 301 SOUND RATED. APPROX. DIMENSIONS: 12" X 14" X 7" HIGH W/ 6" GRILL SIZE: 13.25" X 14.875". APPROX. OPERATING WEIGHT: 10 LBS. MANUFACTURER AND MODEL: GREENHECK SP-B200. ACCESSORIES: GREENHECK RJ-6X9 ROOF CAP.

GENERAL MECHANICAL NOTES

- INSTALLATION OF MECHANICAL WORK SHALL BE IN ACCORDANCE WITH THE FOLLOWING CODES:
2010 CMC AND ALL CODES AND ORDINANCES, ETC., OF THE CITY OF RANCHO MIRAGE, CALIFORNIA, AND OF ALL AUTHORITIES HAVING JURISDICTION OVER THE WORK.
- ALL EQUIPMENT AND DEVICES SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE EQUIPMENT MANUFACTURERS' RECOMMENDATIONS.
- THE DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC AND AS SUCH DO NOT SHOW EVERY FITTING, OFFSET, TRANSITION, ETC. REQUIRED. THE DRAWINGS INDICATE REQUIRED SIZES AND TERMINATIONS OF DUCTWORK AND PIPING AND SUGGEST ROUTES OF DUCTWORK AND PIPING TO CONFORM TO THE STRUCTURE, TO AVOID OBSTRUCTIONS, AND TO PRESERVE CLEARANCE.
- COORDINATE MECHANICAL WORK WITH WORK OF ALL OTHER TRADES.
- VERIFY REQUIRED OPENINGS THROUGH BUILDING STRUCTURE FOR MECHANICAL WORK WITH GENERAL CONTRACTOR BEFORE ROUGH-IN.
- COORDINATE THE LOCATION OF ALL ROOF OPENINGS AND THE LOCATION OF ALL ROOF MOUNTED EQUIPMENT WITH THE STRUCTURAL AND ARCHITECTURAL DRAWINGS PRIOR TO ANY INSTALLATION.
- LOCATE ALL MECHANICAL DEVICES SUCH AS TERMINAL DEVICES, VOLUME DAMPERS, ETC. REQUIRING ACCESS OR ADJUSTMENT ABOVE AREAS WITH ACCESSIBLE CEILINGS, OR PROVIDE ACCESS DOORS OF REQUIRED SIZE AND FIRE RATING, ONLY WITH PRIOR APPROVAL OF ARCHITECT.
- COORDINATE THE LOCATION OF AIR OUTLETS AND INLETS AND ACCESS PANELS WITH ARCHITECTURAL DRAWINGS. VERIFY ALL LOCATIONS WITH ARCHITECT BEFORE ROUGH-IN.
- ALL DUCT DIMENSIONS SHOWN ARE NET INTERNAL DIMENSIONS. ALLOW ADDITIONAL SHEET METAL DIMENSIONS FOR INTERNAL LINING WHERE APPLICABLE. ALL DUCTWORK LOCATED OUTDOORS SHALL BE LINED. ALL DUCTWORK INSTALLED INDOORS SHALL BE EXTERNALLY INSULATED AS PROVIDED IN DUCTWORK INSULATION SPECIFICATION.
- SUBMITTALS: AT LEAST TWO WEEKS PRIOR TO ORDERING, FABRICATION, OR INSTALLATION OF ANY WORK, SUBMIT TO ENGINEER PDF FILES OF PRODUCT DATA FOR ALL EQUIPMENT, DEVICES, AND MATERIAL TO BE USED.
- SUBMITTALS: AT LEAST TWO WEEKS PRIOR TO ORDERING, FABRICATION, OR INSTALLATION OF ANY WORK, SUBMIT TO ENGINEER PDF FILES OF PRODUCT DATA FOR ALL EQUIPMENT, DEVICES, AND MATERIAL TO BE USED. NOTE PLAN TAG, SPECIFIC MODEL, SIZES, OPTIONS, ACCESSORIES, ETC. ON ALL PRODUCT DATA SHEETS. UNMARKED PAGES WILL BE RETURNED FOR RESUBMITTAL.
- UPON COMPLETION OF THE WORK, INSTRUCT THE OWNER IN PROPER OPERATION OF THE MECHANICAL SYSTEMS AND PROVIDE TWO SETS OF OPERATION AND MAINTENANCE MANUALS FOR ALL EQUIPMENT AND DEVICES.
- WARRANTY: THE COMPLETE JOB SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR AFTER DATE OF FINAL ACCEPTANCE BY THE OWNER. ANY WORK, MATERIAL, OR EQUIPMENT FOUND DEFECTIVE DURING THIS PERIOD SHALL BE CORRECTED IMMEDIATELY, UPON WRITTEN NOTIFICATION, AT THE CONTRACTOR'S EXPENSE.
- APPLIANCES DESIGNED TO BE FIXED IN POSITION SHALL BE SECURELY FASTENED IN PLACE.
- MECHANICAL EQUIPMENT SUPPORTED DIRECTLY BY THE GROUND SHALL BE ISOLATED FROM THE GROUND BY A LEVEL CONCRETE SLAB EXTENDING NOT LESS THAN THREE (3) INCHES ABOVE THE ADJOINING GROUND LEVEL.

A/C SYSTEMS NAMING SCHEDULE				
SYSTEM TAG	AREA OR BLDG SERVED	EQUIPMENT TAGS		ZONE SERVED
		OUTDOOR UNIT TAG	INDOOR UNIT TAG	
A/C-1	CHORUS DRESSING	HP-1	FC-1-1 FC-1-1	CHORUS DRESSING 3 CHORUS DRESSING 4
A/C-2	BACK OF HOUSE BLDG	HP-2	FC-2-1 FC-2-2	PRINCIPAL DRESSING 5 MENS RESTROOM 6
A/C-3	BACK OF HOUSE BLDG	HP-3	FC-3-1 FC-3-2	WOMENS RESTROOM 7 PRINCIPAL DRESSING 8
A/C-4	STORAGE BLDG	CU-1	FC-4	AV ROOM 18

ABBREVIATIONS:
A/C AIR CONDITIONING
CU CONDENSING UNIT
FC FAN COIL
HP HEAT PUMP
VRF VARIABLE REFRIGERANT FLOW

PLANS PREPARED BY: <i>www.equityspec-engineers.com</i>	DATE:
EquitySpec MEP Consulting Engineers	ESCE JOB NO.: 13028 CAD FILE: WPA-MPE
42600 Caroline Court, Suite 102 Palm Desert, CA 92211 V: 760 834-1537 F: 760 832-7333 E: dcelmer@equityspec-engineers.com	DRN. BY: ESCE CHKD BY: DAC
	SCALE: AS SHOWN

SHEET INDEX

SHEET NO.	SHEET TITLE
M1	TITLE SHEET - NOTES, LEGEND, SPECIFICATIONS, EQUIPMENT AND DEVICE SCHEDULES
M2	MECHANICAL PLAN



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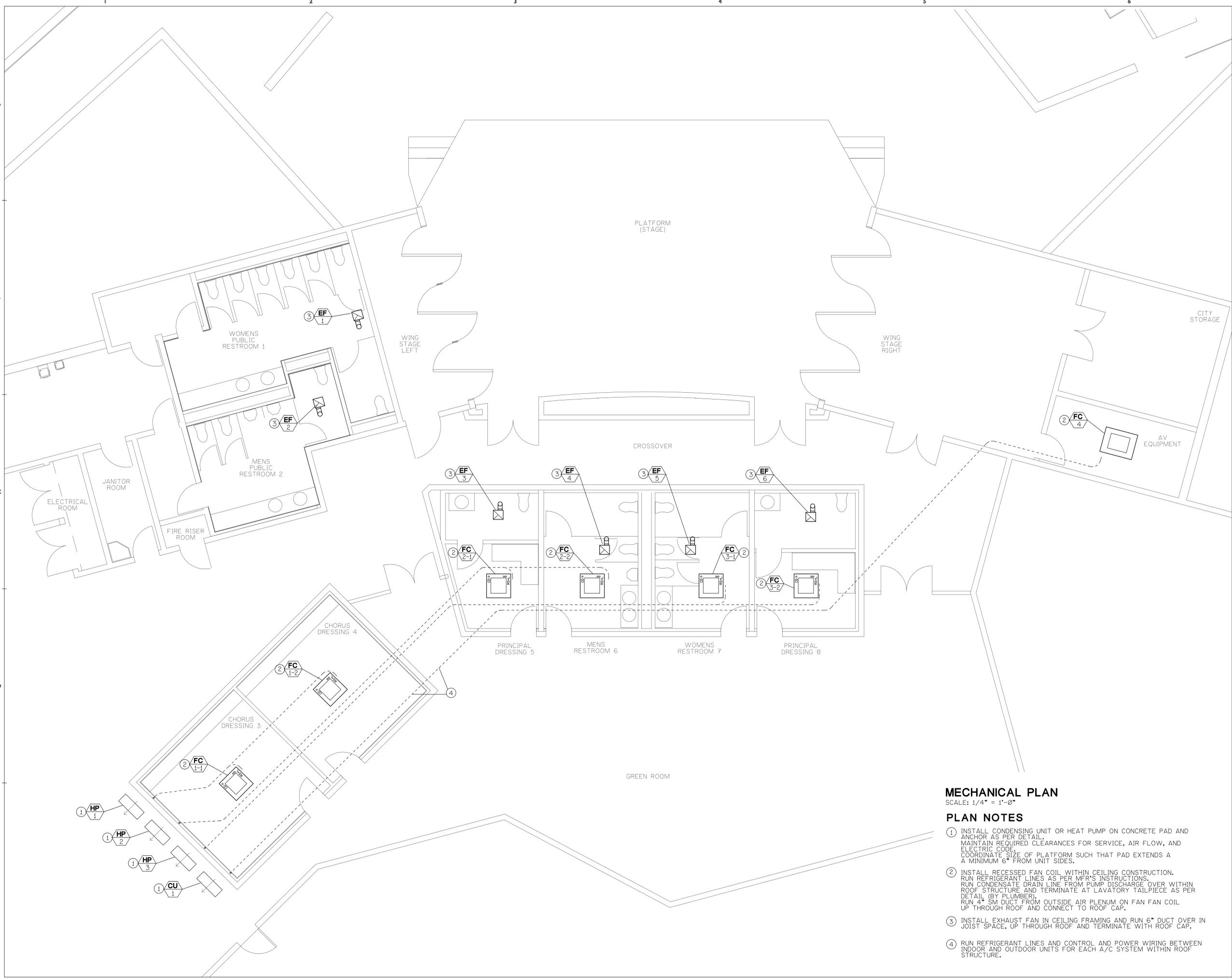
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<input type="checkbox"/> BID SET	McA PROJECT NO:
<input type="checkbox"/> CONSTRUCTION SET	13-007

Whitewater Park Expansion: AMPHITHEATER

CP 12-284
71-560 San Jacinto Dr
Rancho Mirage, CA 92270
for
The City of Rancho Mirage
69-825 Highway III
Rancho Mirage, CA 92270

760.324.4511

SHEET TITLE:	TITLE SHEET
SHEET NUMBER:	MI



MECHANICAL PLAN

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

PLAN NOTES

- ① INSTALL CONDENSING UNIT OR HEAT PUMP ON CONCRETE PAD AND ANCHOR AS PER DETAIL. MAINTAIN REQUIRED CLEARANCES FOR SERVICE, AIR FLOW, AND ELECTRIC CODE. COORDINATE SIZE OF PLATFORM SUCH THAT PAD EXTENDS A MINIMUM 6" FROM UNIT SIDES.
- ② INSTALL RECESSED FAN COIL WITHIN CEILING CONSTRUCTION. RUN REFRIGERANT LINES AS PER MFR'S INSTRUCTIONS. RUN CONDENSATE DRAIN LINE FROM PUMP DISCHARGE OVER WITHIN ROOF STRUCTURE AND TERMINATE AT LAVATORY TAILPIECE AS PER DETAIL (BY PLUMBER). RUN 4" SM DUCT FROM OUTSIDE AIR PLENUM ON FAN FAN COIL UP THROUGH ROOF AND CONNECT TO ROOF CAP.
- ③ INSTALL EXHAUST FAN IN CEILING FRAMING AND RUN 6" DUCT OVER IN JOIST SPACE, UP THROUGH ROOF AND TERMINATE WITH ROOF CAP.
- ④ RUN REFRIGERANT LINES AND CONTROL AND POWER WIRING BETWEEN INDOOR AND OUTDOOR UNITS FOR EACH A/C SYSTEM WITHIN ROOF STRUCTURE.

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DRAWING DATE: **03-07-2014**

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ISSUE DATES:	
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<input type="checkbox"/> PERMIT SET	
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**Whitewater
 Park Expansion:
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CP 12-284
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**The City of
 Rancho Mirage**

69-825 Highway III
 Rancho Mirage, CA 92270
 760.324.4511

SHEET TITLE: MECHANICAL PLAN
SHEET NUMBER: M2

PLUMBING ABBREVIATIONS

ABBREV.	DESCRIPTION
ABV	ABOVE
AD	AREA DRAIN
AP	ACCESS PANEL
AFF	ABOVE FINISH FLOOR
BDD	BACKDRAFT DAMPER
BEL	BELOW
BFP	BACKFLOW PREVENTER
BOP	BOTTOM OF PIPE
BT	BATHTUB
CB	CATCH BASIN
CFH	CUBIC FEET PER HOUR
CI	CAST IRON
CLG	CEILING
CO	CLEANOUT
CONC	CONCRETE
CONN	CONNECTION
CONT	CONTINUATION
COTG	CONDENSATE TO GRADE
CD	CONDENSATE DRAIN
CP	CIRCULATING PUMP
CV	CHECK VALVE
CW	DOMESTIC COLD WATER
DF	DRINKING FOUNTAIN
DN	DOWN
DTR	DOWN THROUGH ROOF
DR	DRAIN
DWV	DRAIN, WASTE, VENT
D/W	DISHWASHER
EC	ELECTRICAL CONTRACTOR
ED	EMERGENCY DRAIN
EEW	EMERGENCY EYEWASH
ESH	EMERGENCY SHOWER
EL	ELEVATION
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
(EX)	EXISTING
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FLR	FLOOR
FN	FINISH
FOS	FUEL OIL SUPPLY
FOR	FUEL OIL RETURN
FOV	FUEL OIL VENT
FFM	FEET PER MINUTE
FPS	FEET PER SECOND
FS	FLOOR SINK
FEET	FEET
FT W.C.	FEET WATER COLUMN
FU	PLUMBING FIXTURE UNIT
G	GAS
GAL	GALLON
GC	GENERAL CONTRACTOR
GR	GRADE
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GV	GAS VENT
HB	HOSE BIBB
HDR	HEADER
HP	HORSEPOWER
HVAC	HEATING, VENTILATING, AND AIR CONDITIONING
HW	DOMESTIC HOT WATER
HWR	DOMESTIC HOT WATER RETURN
ICW	INDUSTRIAL COLD WATER
I.E.	INVERT ELEVATION
IN	INCHES
IN W.C.	INCHES WATER COLUMN
IRW	IRRIGATION WATER
IW	INDIRECT WASTE
KS	KITCHEN SINK
KW	KILOWATT
LAV	LAVATORY
LPG	LOW PRESSURE GAS
MBH	THOUSANDS OF BTU'S PER HOUR
MC	MECHANICAL CONTRACTOR
MFG	MEDIUM PRESSURE GAS
MH	MANHOLE
MS	MOP SINK
(N)	NEW
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
OD	OVERFLOW DRAIN
PC	PLUMBING CONTRACTOR
PD	PRESSURE DROP
PO	PLUGGED OUTLET
POC	POINT OF CONNECTION BETWEEN NEW WORK AND EXISTING WORK OR BETWEEN WORK OF DIFFERENT TRADES
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
RD	ROOF DRAIN
RBPFP	REDUCED PRESSURE BACKFLOW PREVENTER
S	SOIL OR DRAIN (PIPING) WITHIN BUILDING
SD	SEWER (PIPING) OUTSIDE BUILDING
SH	SHOWER
SOV	SHUT OFF VALVE OR ISOLATION VALVE
SS	SERVICE SINK
SSD	SUBSOIL DRAIN
STR	STRAINER
T	TEMPERATURE
TOC	TOP OF CURB
TOP	TOP OF PIPE
TOS	TOP OF STEEL
TP	TRAP PRIMER
TS	TEMPERATURE SENSOR
TTTB	TIGHT TO BEAM
TYP	TYPICAL
U/G	UNDERGROUND
UR	URINAL
UTR	UP THROUGH ROOF
V	VENT
VB	VACUUM BREAKER
VCO	VENT CAPPED OUTLET
VIV	VALVE IN VERTICAL
VO	VALVED OUTLET
VTR	VENT THROUGH ROOF
W	WATER
W/	WITH
WB	WET BAR (SINK)
WC	WATER CLOSE
WCO	WALL CLEANOUT
WH	WATER HEATER
WHA	WATER HAMMER ARRESTOR
YB	YARD BOX
YCO	YARD CLEANOUT

PLUMBING LEGEND

SYMBOL	(ABBREV.) DESCRIPTION
-----	(CW) DOMESTIC COLD WATER PIPING
-----	(HW) DOMESTIC HOT WATER PIPING
-----HWR-----	(HWR) DOMESTIC HOT WATER RETURN PIPING
-----W-----	(W) SITE WATER PIPING
-----ICW-----	(ICW) INDUSTRIAL COLD WATER PIPING
-----IRW-----	(IRW) IRRIGATION WATER PIPING
-----SCW-----	(SCW) SOFTENED COLD WATER PIPING
-----SHW-----	(SHW) SOFTENED HOT WATER PIPING
-----140-----	(140 HWS) 140 DEGREE F HOT WATER PIPING
-----160-----	(160 HWS) 160 DEGREE F HOT WATER PIPING
-----W-----	(W OR S) WASTE OR SOIL PIPING ABOVE GRADE OR FLOOR
-----W-----	(W OR S) WASTE OR SOIL PIPING BELOW GRADE OR FLOOR
-----SD-----	(SD) STORM DRAIN PIPING ABOVE GRADE OR FLOOR
-----SD-----	(SD) STORM DRAIN PIPING BELOW GRADE OR FLOOR
-----SSD-----	(SSD) SUBSOIL DRAIN PIPING
-----RD-----	(RD) ROOF DRAIN PIPING
-----OD-----	(OD) ROOF OVERFLOW DRAIN PIPING
-----IW-----	(IW) INDIRECT WASTE PIPING
-----V-----	(V) SANITARY VENT PIPING
G	(G) GAS PIPING
MG	(MG) MEDIUM PRESSURE GAS PIPING
GV	(GV) GAS VENT PIPING
-----CD-----	(CD) CONDENSATE DRAIN PIPING ABOVE GRADE OR FLOOR
-----CD-----	(CD) CONDENSATE DRAIN PIPING BELOW GRADE OR FLOOR
----->-----	ARROW INDICATES DIRECTION OF FLOW
----- -----	UNION
-----O DN-----	RISER DOWN TO FLOOR BELOW (ELBOW TURNED DOWN)
-----O UP-----	RISER UP TO FLOOR ABOVE (ELBOW TURNED UP)
-----O DROP-----	PIPING DROP WITHIN A STORY
-----O RISE-----	PIPING RISE WITHIN A STORY
-----+-----	BRANCH (PIPING) CONNECTION TO MAIN (PIPING)
-----+-----	BRANCH CONNECTION TO MAIN AT TOP OF MAIN
-----+-----	BRANCH CONNECTION TO MAIN AT BOTTOM OF MAIN
----->-----	PITCH PIPE DOWN IN DIRECTION OF FLOW (SLOPE NOTED)
-----VIV-----	(VIV) VALVE IN VERTICAL SECTION OF PIPE OR RISER
-----X-----	(SOV) SHUTOFF, EQUIPMENT ISOLATION, OR SECTIONAL VALVE
-----Z-----	(CV) CHECK VALVE, (NSCV) NON-SLAM CHECK VALVE
-----+-----	(HB) HOSE BIBB
-----+-----	GAS COCK OR STOP, PLUG VALVE
-----+-----	(STR) STRAINER
-----+-----	(PRV) PRESSURE REGULATING VALVE
-----+-----	(PTR) PRESSURE-TEMPERATURE RELIEF VALVE
-----+-----	(BFP) BACKFLOW PREVENTER
-----+-----	(RBPFP) REDUCED PRESSURE BACKFLOW PREVENTER
-----+-----	P-TRAP
-----+-----	(CO) CLEANOUT PLUG
-----+-----	(WCO) WALL CLEANOUT
-----+-----	(FCO) FLOOR CLEANOUT
-----+-----	(YCO) YARD CLEANOUT OR (COTG) CLEANOUT TO GRADE
-----+-----	CAP ON END OF PIPE
-----+-----	(PO) WASTE OR SOIL PLUGGED OUTLET
-----+-----	(VCO) VENT CAPPED OUTLET
-----+-----	PUMP
-----+-----	THERMOMETER, PRESSURE GAUGE WITH COCK

MATERIAL AND DEVICE SPECIFICATIONS

(ALSO SEE SPECIFICATIONS BOOK)

WATER ABOVE SLAB: COPPER ASTM B88 TYPE L HARD TEMPER WITH WROT COPPER OR CAST BRONZE LEAD-FREE SOLDER-JOINT FITTINGS PER UPC IAPMO IS 5-2003.

SHUT-OFF VALVES: FULL PORT QUARTER-TURN BALL VALVES WITH SOLDER ENDS, NIBCO.

DRAIN, WASTE, VENT BELOW AND ABOVE SLABS: ABS SCHEDULE 40 PIPE AND FITTINGS PER UPC IAPMO IS 5-2003 AND IS 11-2003.

PIPING SUPPORTS: ALL WATER AND DWV PIPING SHALL BE SUPPORTED PER CPC AND ISOLATED FROM THE BUILDING STRUCTURE USING SEMCO TRISOLATORS.

PIPING INSULATION:
INSULATE ALL DOMESTIC HOT WATER SUPPLY WITH PRE-FORMED INSULATION WITH THERMAL CONDUCTIVITY BETWEEN 0.23 AND 0.27 BTU-IN/HR-SF-DEGREE F IN THE FOLLOWING THICKNESSES:

- FOR RUNOUTS UP TO 2" PIPE SIZE: 1/2" THICK INSULATION.
 - FOR MAINS 1" AND LESS PIPE SIZE: 1" THICK INSULATION.
 - FOR MAINS 1-1/4, 1-1/2, 2" PIPE SIZE: 1" THICK INSULATION.
- INSULATION SHALL HAVE MAXIMUM FLAME SPREAD OF 25 AND MAXIMUM SMOKE DEVELOPED OF 50 AS PER ASTM C 865.

WATERPROOFING OF ROOF AND WALL PENETRATIONS: PROVIDE ROOF JACKS AROUND ALL ROOF PENETRATIONS, SEAL JACK BASE TO SUBSTRATE WITH ROOFING CEMENT, AND SEAL JACK AROUND PIPING WITH SILICONE CAULK. AT EXTERIOR WALL PENETRATIONS, SEAL AROUND PIPE WITH PAINTABLE SILICONE CAULK.

DOMESTIC WATER CALCULATIONS

FIXTURE COUNT

FIXTURE TAG	FIXTURE QUANTITY	CWFU* (EACH)	TOTAL CWFU
WC-FV	17	8	136
UR-FV	3	5	15
LAV	10	1	10
SH	2	2	4
MS	1	3	3
DF	2	0.75	1.5
HB	4	2.5+3	5.5

TOTAL = 175 CWFU.

PER TABLE A-3 CPC DEMAND = 85 GPM.

* = ASSEMBLY OCCUPANCY WSFU PER TABLE A-2 CPC.

PIPE SIZING SCHEDULE

PIPE TYPE: COPPER TUBE TYPE "K" U/G AND TYPE "L" ABOVE.

NOTE: THIS SCHEDULE IS BASED ON A MAXIMUM ALLOWABLE PRESSURE DROP OF PSI / 100 PSI AND THE FOLLOWING VELOCITY LIMITS FOR DOMESTIC WATER: 8 FPS FOR COLD WATER 5 FPS FOR HOT WATER

PIPE SIZE	MAX CW GPM	MAX HW GPM
1/2"	3	3
3/4"	10	7
1"	20	13
1-1/4"	30	
1-1/2"	40	
2"	85	

GENERAL PLUMBING NOTES

1. INSTALLATION OF PLUMBING WORK SHALL BE IN ACCORDANCE WITH THE FOLLOWING CODES:

2007 CALIFORNIA PLUMBING CODE AND ALL CODES AND ORDINANCES, ETC., OF THE CITY OF RANCHO MIRAGE, CALIFORNIA, AND OF ALL AUTHORITIES HAVING JURISDICTION OVER THE WORK.

2. ALL EQUIPMENT AND DEVICES SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE EQUIPMENT MANUFACTURERS' RECOMMENDATIONS. ALL MATERIALS USED OUTSIDE SHALL BE UV-RESISTANT (PVC PIPING, SEALANTS AND CAULKS, ETC.).

3. THE DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC AND AS SUCH DO NOT SHOW EVERY FITTING, OFFSET, TRANSITION, ETC. REQUIRED. THE DRAWINGS INDICATE REQUIRED SIZES AND TERMINATIONS OF PIPING AND SUGGEST ROUTES OF PIPING TO CONFORM TO THE STRUCTURE, TO AVOID OBSTRUCTIONS, AND TO PRESERVE CLEARANCE.

4. COORDINATE PLUMBING WORK WITH WORK OF ALL OTHER TRADES.

5. VERIFY REQUIRED OPENINGS THROUGH BUILDING STRUCTURE FOR PLUMBING WORK WITH GENERAL CONTRACTOR BEFORE ROUGH-IN.

6. LOCATE ALL PLUMBING DEVICES SUCH AS VALVES, ETC. REQUIRING ACCESS ABOVE AREAS WITH ACCESSIBLE CEILINGS, OR PROVIDE ACCESS DOORS OF REQUIRED SIZE AND FIRE RATING, ONLY WITH PRIOR APPROVAL OF ARCHITECT.

7. BEFORE COMMENCEMENT OF WORK, THE CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS, ELEVATIONS, SIZES, AND MATERIALS OF ALL UTILITIES AND PIPING, AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT OF ALL DISCREPANCIES.

8. REFER TO ARCHITECTURAL DRAWINGS FOR THE EXACT LOCATIONS AND MOUNTING HEIGHTS OF ALL PLUMBING FIXTURES.

9. INSTALL PLUMBING WORK TO AVOID INTERFERENCE WITH THE STRUCTURE, AND WITH MECHANICAL AND ELECTRICAL EQUIPMENT.

10. ALL CLEANOUTS SHALL BE INSTALLED IN READILY ACCESSIBLE LOCATIONS. THE CONTRACTOR SHALL COORDINATE CLEANOUT LOCATIONS WITH CABINETS, EQUIPMENT, ETC., AND WITH THE ARCHITECT, FOR CLEANOUTS IN WALLS WITH BASE. INSTALL CLEANOUT ABOVE BASE.

11. ALL PLUMBING VENTS THROUGH ROOF SHALL TERMINATE AT LEAST 12 INCHES FROM ANY VERTICAL SURFACE, 3 FEET ABOVE AND/OR 10 FEET FROM ANY OUTSIDE AIR INTAKES.

12. BEFORE FABRICATION OR INSTALLATION OF PLUMBING ROUGH-IN, THE CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS OF ALL MECHANICAL EQUIPMENT AND EQUIPMENT PROVIDED UNDER OTHER SPECIFICATION SECTIONS. BEFORE INSTALLATION OF PLUMBING TRIM, THE CONTRACTOR SHALL VERIFY THE FINAL FINISHES AND/OR SURFACE TREATMENTS.

13. FIRESTOPPING: PENETRATIONS THROUGH RATED WALLS, FLOORS, AND ROOFS SHALL BE SEALED WITH A MATERIAL CAPABLE OF PREVENTING THE PASSAGE OF FLAMES AND HOT GASSES WHEN SUBJECTED TO THE REQUIREMENTS OF TEST STANDARD SPECIFIC OF FIRE STOPS ASTM E-814. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF FIRE-RATED ASSEMBLIES, WHICH INCLUDE COMMON WALLS BETWEEN TENANT SPACES.

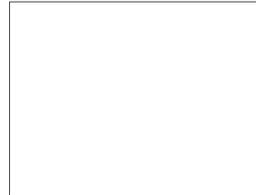
14. SUBMITTALS: AT LEAST TWO WEEKS PRIOR TO ORDERING, FABRICATION, OR INSTALLATION OF ANY WORK, SUBMIT TO ENGINEER PDF FILES OF PRODUCT DATA FOR ALL EQUIPMENT, DEVICES, AND MATERIAL TO BE USED. NOTE PLANT TAG, SPECIFIC MODEL, SIZES, OPTIONS, ACCESSORIES, ETC. ON ALL PRODUCT DATA SHEETS. UNMARKED PAGES WILL BE RETURNED FOR RESUBMITTAL.

15. WARRANTY: THE COMPLETE JOB SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR AFTER DATE OF FINAL ACCEPTANCE BY THE OWNER. ANY WORK, MATERIAL, OR EQUIPMENT FOUND TO BE DEFECTIVE DURING THIS PERIOD SHALL BE CORRECTED IMMEDIATELY, UPON WRITTEN NOTIFICATION, AT THE CONTRACTOR'S EXPENSE.

PLANS PREPARED BY: EquitySpec MEP Consulting Engineers	DATE:
<i>www.equityspec-engineers.com</i>	ESCE JOB NO.: 13028
42600 Caroline Court, Suite 102 Palm Desert, CA 92211 V: 760 834-1537 F: 760 832-7333 E: dcelmer@equityspec-engineers.com	CAD FILE: WPA-MPE
	DRN. BY: ESCE CHKD BY: DAC
	SCALE: AS SHOWN

SHEET INDEX

SHEET NO.	SHEET TITLE
P1	TITLE SHEET - NOTES, LEGEND, SPECIFICATIONS, UTILITY INFORMATION
P2	PLUMBING PLAN
P3.0	FIXTURE SCHEDULE
P3.1	DETAILS AND DIAGRAMS
P3.2	DETAILS AND DIAGRAMS

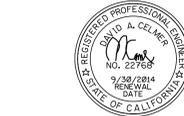


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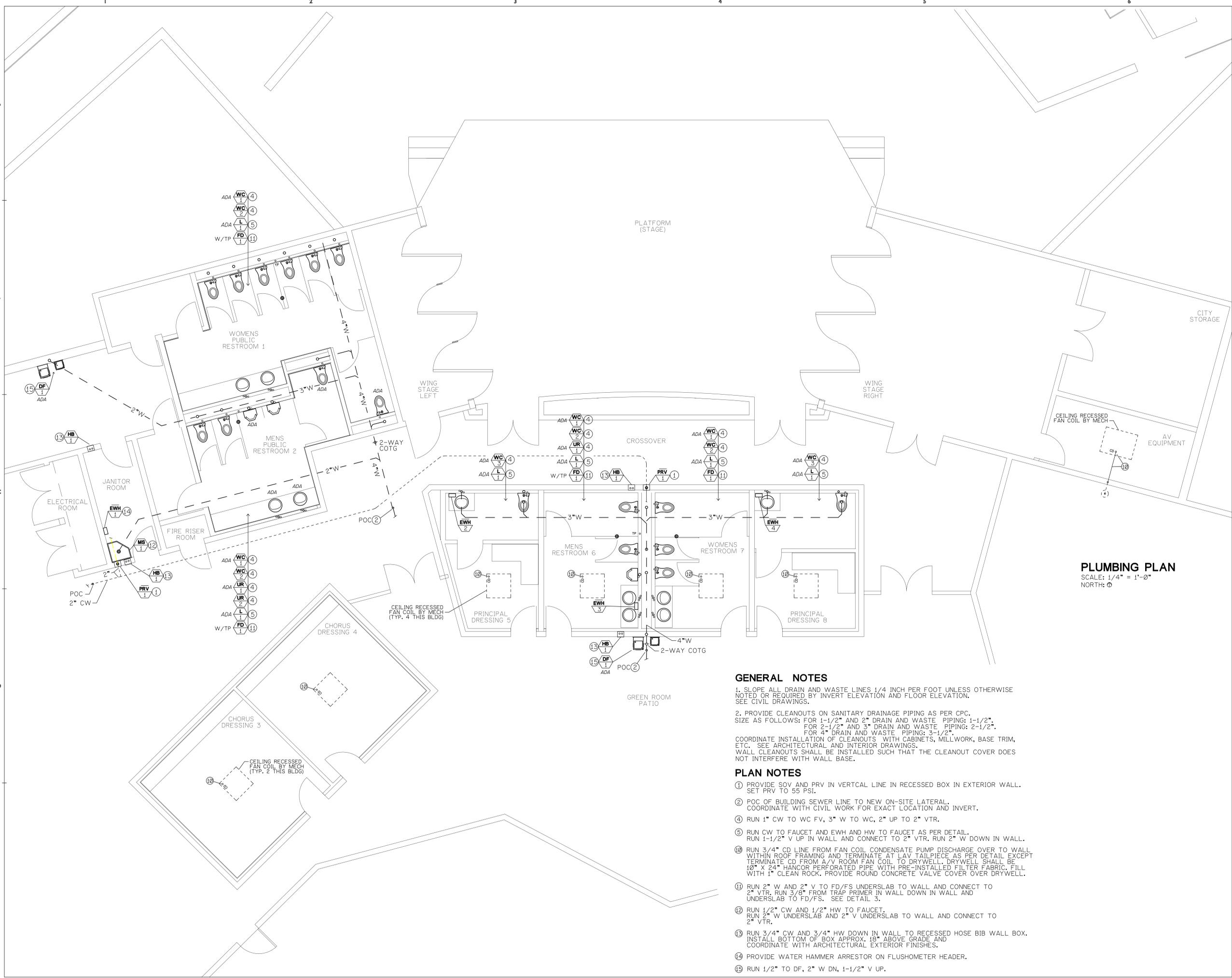
Whitewater Park Expansion: AMPHITHEATER

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71-560 San Jacinto Dr
Rancho Mirage, CA 92270
for
The City of Rancho Mirage

69-825 Highway III
Rancho Mirage, CA 92270

760.324.4511

SHEET TITLE:
TITLE SHEET
SHEET NUMBER:
PI



PLUMBING PLAN
 SCALE: 1/4" = 1'-0"
 NORTH: ☉

GENERAL NOTES

1. SLOPE ALL DRAIN AND WASTE LINES 1/4 INCH PER FOOT UNLESS OTHERWISE NOTED OR REQUIRED BY INVERT ELEVATION AND FLOOR ELEVATION. SEE CIVIL DRAWINGS.
2. PROVIDE CLEANOUTS ON SANITARY DRAINAGE PIPING AS PER CPC. SIZE AS FOLLOWS: FOR 1-1/2" AND 2" DRAIN AND WASTE PIPING: 1-1/2". FOR 2-1/2" AND 3" DRAIN AND WASTE PIPING: 2-1/2". FOR 4" DRAIN AND WASTE PIPING: 3-1/2".
- COORDINATE INSTALLATION OF CLEANOUTS WITH CABINETS, MILLWORK, BASE TRIM, ETC. SEE ARCHITECTURAL AND INTERIOR DRAWINGS. WALL CLEANOUTS SHALL BE INSTALLED SUCH THAT THE CLEANOUT COVER DOES NOT INTERFERE WITH WALL BASE.

PLAN NOTES

- 1 PROVIDE SOV AND PRV IN VERTICAL LINE IN RECESSED BOX IN EXTERIOR WALL. SET PRV TO 55 PSI.
- 2 POC OF BUILDING SEWER LINE TO NEW ON-SITE LATERAL. COORDINATE WITH CIVIL WORK FOR EXACT LOCATION AND INVERT.
- 4 RUN 1" CW TO WC FV, 3" W TO WC, 2" UP TO 2" VTR.
- 5 RUN CW TO FAUCET AND EWH AND HW TO FAUCET AS PER DETAIL. RUN 1-1/2" V UP IN WALL AND CONNECT TO 2" VTR. RUN 2" W DOWN IN WALL.
- 10 RUN 3/4" CD LINE FROM FAN COIL CONDENSATE PUMP DISCHARGE OVER TO WALL WITHIN ROOF FRAMING AND TERMINATE AT LAV TAILPIECE AS PER DETAIL EXCEPT TERMINATE CD FROM A/V ROOM FAN COIL TO DRYWELL. DRYWELL SHALL BE 18" X 24" HANGOR PERFORATED PIPE WITH PRE-INSTALLED FILTER FABRIC. FILL WITH 1" CLEAN ROCK. PROVIDE ROUND CONCRETE VALVE COVER OVER DRYWELL.
- 11 RUN 2" W AND 2" V TO FD/FS UNDERSLAB TO WALL AND CONNECT TO 2" VTR. RUN 3/8" FROM TRAP PRIMER IN WALL DOWN IN WALL AND UNDERSLAB TO FD/FS. SEE DETAIL 3.
- 12 RUN 1/2" CW AND 1/2" HW TO FAUCET. RUN 2" W UNDERSLAB AND 2" V UNDERSLAB TO WALL AND CONNECT TO 2" VTR.
- 13 RUN 3/4" CW AND 3/4" HW DOWN IN WALL TO RECESSED HOSE BIB WALL BOX. INSTALL BOTTOM OF BOX APPROX. 18" ABOVE GRADE AND COORDINATE WITH ARCHITECTURAL EXTERIOR FINISHES.
- 14 PROVIDE WATER HAMMER ARRESTOR ON FLUSHOMETER HEADER.
- 15 RUN 1/2" TO DF, 2" W DN, 1-1/2" V UP.



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SHEET TITLE: PLUMBING PLAN
SHEET NUMBER: P2

FIXTURE AND EQUIPMENT SCHEDULE

TAG	PLAN NOTE	DESCRIPTION	ROUGH-IN SERVICES						FIXTURE NOTES	CALGREEN
			WASTE	TRAP	VENT	CW	HW	GAS		
WC 1 ADA		WALL MOUNTED FLUSH VALVE HET WATER CLOSET. WHITE. VITREOUS CHINA WITH ELONGATED BOWL. FLUSHOMETER: HANDS FREE SLOAN OPTIMA PLUS 8111-1.28. FLUSH RATE: 1.28 GPF OR LESS. SEAT: OLSONITE 95CT OPEN FRONT. 5/8" THICK. APPROX. DIMENSIONS: 26-1/2" LONG X 16-1/2" WIDE. APPLICABLE CODES AND STANDARDS: ASME A112.19.2/CSA B45.1. ICC/ANSI A117.1. MANUFACTURER AND MODEL: KOHLER KINGSTON K-4325.	3"	INT.	2"	1"				5.303.6 1.28 MAX. GPF.
WC 2 NON-ADA		SAME AS WC-1 EXCEPT NON-ADA INSTALLATION.								
WC 3 ADA		FLOOR MOUNTED FLUSH VALVE HET WATER CLOSET. WHITE. VITREOUS CHINA WITH ELONGATED BOWL. FLUSHOMETER: HANDS FREE SLOAN OPTIMA PLUS 8111-1.28. FLUSH RATE: 1.28 GPF OR LESS. SEAT: OLSONITE 95CT OPEN FRONT. 5/8" THICK. APPROX. DIMENSIONS: 26-1/2" LONG X 16-1/2" WIDE. APPLICABLE CODES AND STANDARDS: ASME A112.19.2/CSA B45.1. ICC/ANSI A117.1. MANUFACTURER AND MODEL: KOHLER HIGHCLIFF K-4368.	3"	INT.	2"	1"				
UR 1 ADA		WALL-HUNG SIPHON JET HEU URINAL. TOP SPUD. WHITE. VITREOUS CHINA WITH ELONGATED BOWL. FLUSHOMETER: HANDS FREE SLOAN 8186-0.125. FLUSH RATE: 0.25 GPF OR LESS. APPROX. DIMENSIONS: 18" WIDE X 27" HIGH X 14-1/8" DEEP. APPLICABLE CODES AND STANDARDS: ASME A112.19.2/CSA B45.1. EPA WATERSENSE. ACCESSORIES: KOHLER STAINLESS STEEL STRAINER. KOHLER WALL BRACKETS. MANUFACTURER AND MODEL: KOHLER BARDON K-4904-ET.	3"	INT.	2"	1"				TABLE 4.303.2 0.5 MAX. GPF.
UR 2 NON-ADA		SAME AS UR-1 EXCEPT NON-ADA INSTALLATION.								
L 1 ADA		PUBLIC RESTROOMS LAVATORY AND HANDS-FREE FAUCET. LAVATORY: UNDERMOUNT VITREOUS CHINA WITH OVERFLOW. APPROX. OVERALL DIMENSIONS: * SIDE-TO-SIDE X * FRONT-TO-BACK. DRAIN: METAL GRID W/ OVERFLOW. KOHLER FAUCET: BATTERY POWERED, SENSOR ACTIVATED FOR TEMPERED WATER OPERATION. CHROME PLATED METAL CONSTRUCTION. COMPLIANT TO ASME A112.18.1-2005, CSA B125.1-05, ISO/IEC 17025. SLOAN OPTIMA PLUS EBF-650. INSULATE SUPPLIES, TRAP AND TRAP ARM WITH UNDERSINK PROTECTIVE PIPE COVERS. PLUMBEREX HANDI-SHIELD.								
L 2 ADA		NON-PUBLIC RESTROOMS LAVATORY AND FAUCET. LAVATORY: UNDERMOUNT VITREOUS CHINA WITH OVERFLOW. APPROX. OVERALL DIMENSIONS: 20-1/4" SIDE-TO-SIDE X 17-1/2" FRONT-TO-BACK. KOHLER FAUCET: LOW LEAD SINGLE LEVER ADA HANDLE LOW ARC FAUCET WITHOUT DRAIN ASSEMBLY. CHROME PLATED BRASS CONSTRUCTION. THIRD PARTY CERTIFIED TO WATER SENSE, CSA B125.1, ASME A112.18.1, NSF 61/9. CHICAGO 420-CP. MAX. FLOW RATE AERATOR=0.4 GPM. INSULATE SUPPLIES, TRAP AND TRAP ARM WITH UNDERSINK PROTECTIVE PIPE COVERS. PLUMBEREX HANDI-SHIELD.								
MS 1		FLOOR MOUNTED MOP SINK AND FAUCET: SINK: DIMENSIONS: 24" X 24" X 10" HIGH. DRAIN: 2". STRAINER: 18 GAGE STAINLESS STEEL FLAT GRID. APPROX. WEIGHT: 335 LBS. MANUFACTURER AND MODEL: FLORESTONE MSR-2424. FAUCET: WALL-MOUNT W/ VACUUM BREAKER SPOUT, QUARTER-TURN STOPS, 3/4" HOSE OUTLET, PAIL HOOK AND WALL BRACE. APPLICABLE CODES AND STANDARDS: ASME A112.18.1/CSA B125.1. MANUFACTURER AND MODEL: CHICAGO 897-CP.	2"	2"	2"	1/2"	1/2"			
FD 1 W/TP		FLOOR DRAIN WITH TRAP PRIMER COATED CAST IRON DRAIN BODY. NICKEL BRONZE ADJUSTABLE HEEL-PROOF STRAINER (1/4" SQUARE HOLES) WITH VANDAL PROOF SCREWS. TRAP PRIMER CONNECTION. SIDE OUTLET NO-HUB. MANUFACTURER AND MODEL: J.R. SMITH NO. 2005-Y-02 ROUND TOP. TRAP PRIMER: PRECISION PRODUCTS NO. P-2.	2"	2"	1-1/2"	3/8"	12" FROM BELOW TP FLOOR			
EWH 1 2 3 4		TANKLESS ELECTRIC WATER HEATER TEMPERATURE RISE AT 0.75 GPM = 49 DEGREES F. ELECTRICAL: 208 V. 1 PH. 5,400 W. 26 FLA. CB SIZE: 40A. #8 CU. APPROX. DIMENSIONS: 8" WIDE X 15" HIGH X 4-1/8" DEEP. WEIGHT: 6 LBS. WATER CONNECTIONS: 1/2". MANUFACTURER AND MODEL: STEILBEL ELTRON DHC-E 8.				1/2"	1/2"			
DF 1		DRINKING FOUNTAIN. ADA TWO LEVEL.								
HB 1		HOSE BIBB IN RECESSED NICKEL BRONZE WALL BOX, CYLINDER LOCK. 3/4" CW AND 3/4" HW SUPPLIES. QUARTER-TURN VALVES W/ WHEEL HANDLES. NON-REMOVABLE VACUUM BREAKER. "WATER" CAST ON COVER. MFR AND MODEL: J.R.SMITH 5560QT-SAP-CL-H-WH-W-NB				3/4"	3/4"			
PRV 1		PRESSURE REDUCING VALVE WITH INLET STRAINER. WATTS N223. SET TO 55 PSI.								
TMV 1		THERMOSTATIC MIXING VALVE. FLOW RATE: 0.5 TO 10 GPM. 1/2" CONNECTIONS. APPROX. DIMENSIONS: 5" WIDE X 6" HIGH X 2" DEEP. WATTS LFMMV. SHALL COMPLY WITH ASSE 1017, 1069, 1070.				1/2"	1/2"			
TP		TRAP PRIMER WITH DISTRIBUTION UNIT AS REQUIRED. MANUFACTURER AND MODEL: PRECISION PRODUCTS NO. P1, P2, D4.				1/2"		3		
WHA		WATER HAMMER ARRESTOR. SEALED AIR CHAMBER. LEAD-FREE. SWEAT-ON CONNECTION. MANUFACTURER AND MODEL: PLUMBING PRODUCTS NO. SWA-						3		

- FIXTURE AND EQUIPMENT NOTES:**
- 1 LAVATORIES SHALL HAVE THE FOLLOWING SUPPLIES: SUPPLIES: CHROME PLATED COPPER RIGID TUBING. STOPS: CHROME PLATED ANGLE OR STRAIGHT QUARTER-TURN BALL VALVE STOP WITH SHALLOW CHROME PLATED BRASS ESCUTCHEON. BRASS CRAFT. PROVIDE DUAL OUTLET WHERE REQUIRED.
 - 3 PROVIDE SOV AND DEVICE BEHIND A 12" SQUARE KEY LOCKABLE WALL ACCESS PANEL FOR SERVICE ACCESS. ACCESS PANEL AND FRAME SHALL BE STAINLESS STEEL OR PAINTABLE - VERIFY FINISH WITH ARCHITECT.
 - 4 IN HANDICAP ACCESSIBLE BATHROOMS: INSULATE SUPPLIES, TRAP AND TRAP ARM WITH UNDERSINK PROTECTIVE PIPE COVERS, PLUMBEREX HANDI-SHIELD.

M-C
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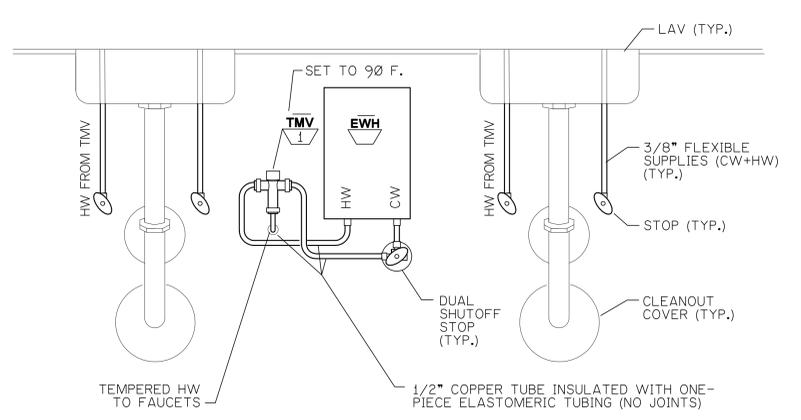
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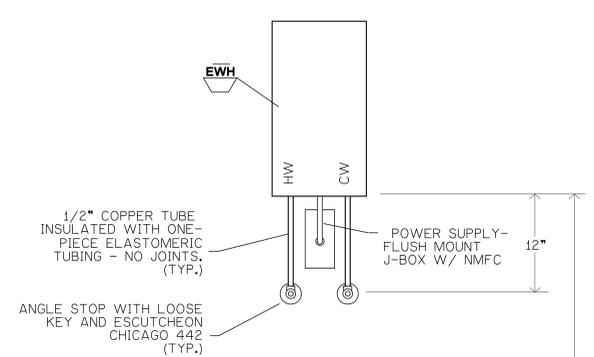
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**FIXTURE
SCHEDULE**

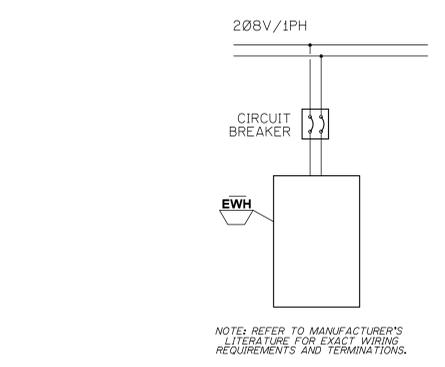
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P3.0



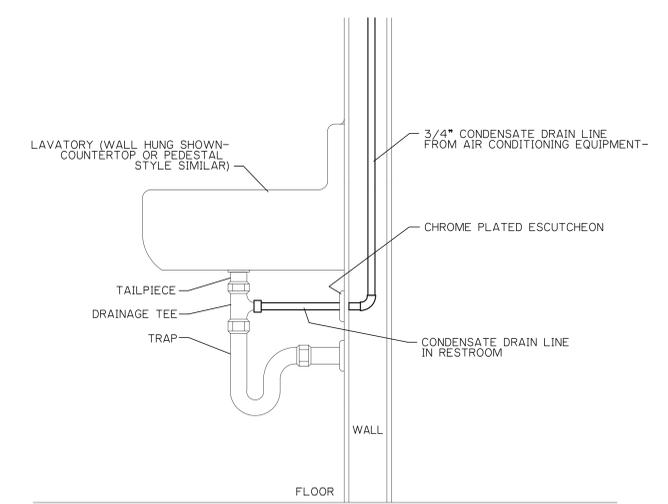
5 ELECTRIC WATER HEATER EWH-3 MOUNTING AND PIPING DETAIL
SCALE: NONE



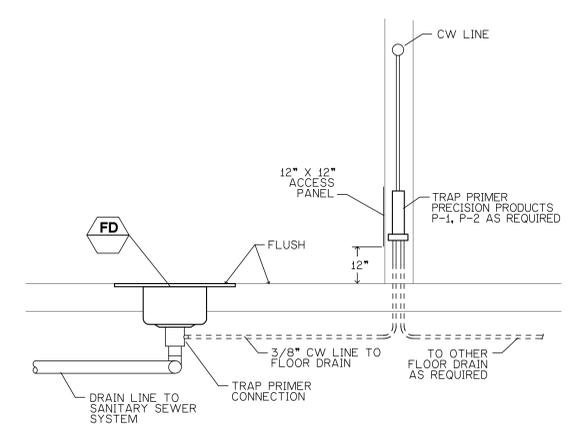
4 ELECTRIC WATER HEATER EWH-1 MOUNTING AND PIPING DETAIL
SCALE: NONE



3 ELECTRIC WATER HEATER WIRING DIAGRAM
SCALE: NONE



2 A/C UNITS CONDENSATE DRAIN TO LAVATORY TAILPIECE DETAIL
SCALE: NONE



1 FLOOR DRAIN AND TRAP PRIMER DETAIL
SCALE: NONE

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SHEET TITLE:	DETAILS AND DIAGRAMS
SHEET NUMBER:	P3.1

ELECTRICAL LEGEND & ABBREVS.

SYMBOL DESCRIPTION

SWITCHES - WALL-MOUNTED + 44" AFF FOR ADA OR AS NOTED.

Ⓢ SINGLE POLE SWITCH - WALL MOUNTED

SUBSCRIPT SYMBOLS INDICATE THE FOLLOWING:

Ⓢ₃ 3 THREE WAY SWITCH

Ⓢ_D D DIMMER

Ⓢ_M M MOTOR STARTING SWITCH

Ⓢ_{a,b,c} a, b, c INDICATES THE NUMBER OF SWITCHES BEHIND A COMMON PLATE AND THE CIRCUITS CONTROLLED

Ⓢ_{OS} OS WALL SWITCH OCCUPANCY SENSOR

Ⓢ_{OS-a,b} OS WALL SWITCH OCCUPANCY SENSOR DUAL RELAY

Ⓢ_{TMR} MANUAL WALL SWITCH TIMER - 0-60 MINUTES BROAN 59V

Ⓢ_{PL} MANUAL WALL SWITCH WITH PILOT LIGHT INDICATING WHEN SWITCH IS ON

Ⓢ_X MANUAL KEY SWITCH

RECEPTACLES - WALL MOUNTED +18" AFF OR AS NOTED ON PLAN.

WP INDICATES WEATHERPROOF
 CT INDICATES THE RECEPTACLE IS MOUNTED IN WALL ABOVE A COUNTERTOP, IN HORIZONTAL POSITION.
 UC INDICATES THE RECEPTACLE IS MOUNTED UNDER A COUNTERTOP OR INSIDE A CABINET.

Ⓢ DUPLEX OUTLET

Ⓢ DUPLEX OUTLET

Ⓢ GFCI DUPLEX OUTLET

Ⓢ QUADPLEX OUTLET

Ⓢ DUPLEX OUTLET WIRED FOR HALF HOT

Ⓢ SINGLE OUTLET

Ⓢ FLOOR MOUNTED DUPLEX OUTLET

EQUIPMENT AND MOTOR CONTROL

Ⓢ DISCONNECT (SAFETY) SWITCH - FUSED AND HP RATED ACCORDING TO THE DEVICE NAMEPLATE.

Ⓢ MOTOR STARTER - NUMBER INDICATES NEMA SIZE

Ⓢ COMBINATION FUSED DISCONNECT AND MOTOR STARTER - NUMBER INDICATES NEMA SIZE

COMMUNICATION

GENERAL: VERIFY REQUIREMENTS WITH OWNER DURING BID PHASE.

Ⓢ TELEPHONE OUTLET. PROVIDE CONDUIT WITH PULL ROPE TO TELEPHONE BACKBOARD.

Ⓢ DATA OUTLET, CAT 6 JACK. PROVIDE CONDUIT WITH PULL ROPE TO DATA SOURCE.

Ⓢ TELEPHONE AND DATA OUTLETS. PROVIDE CONDUIT WITH PULL ROPE TO TELEPHONE BACKBOARD. PROVIDE CONDUIT WITH PULL ROPE TO DATA SOURCE.

Ⓢ TELEVISION CABLE OUTLET. PROVIDE CONDUIT WITH PULL ROPE TO TELEVISION SOURCE.

Ⓢ RECESSED TV OUTLET (LOW VOLTAGE) AND RECEPTABLE OUTLET.

Ⓢ RECESSED TV OUTLET AND DATA OUTLET (LOW VOLTAGE) AND RECEPTABLE OUTLET.

GENERAL ABBREVIATIONS

ABV ABOVE
 AFF ABOVE FINISHED FLOOR
 CEC CALIFORNIA ELECTRICAL CODE
 CECOM CALIFORNIA ENERGY COMMISSION
 EC ELECTRICAL CONTRACTOR
 GFCI GROUND FAULT CIRCUIT INTERRUPTER
 MC MECHANICAL CONTRACTOR
 MH MOUNTING HEIGHT
 MTG MOUNTING
 NL NIGHT LIGHT - LUMINAIRE WHICH IS WIRED TO BE ALWAYS ON DURING OCCUPIED HOURS.
 PC PLUMBING CONTRACTOR
 SLD SINGLE LINE DIAGRAM
 TYP TYPICAL
 UON UNLESS OTHERWISE NOTED
 Ⓢ JUNCTION BOX

LOAD CALCULATION

AMPHITHEATER BUILDING

AMPHITHEATER BUILDING AREA

PUBLIC RESTROOM BLDG 1,230 SF
 CHORUS DRESSING 600 SF
 BACK OF HOUSE 893 SF
 STORAGE 1,102 SF
 TOTAL AREA: 3,825 SF

LIGHTING

INTERIOR LIGHTING 3,825 SF @ 2 VA/SF = 7,650 VA
 EXTERIOR LIGHTING (ON BUILDING AND UNDER WALKWAY ROOFS) 50 @ 50 VA = 2,500 VA
 TOTAL @ 125% FOR CONTINUOUS LOAD = 12,688 VA

RECEPTACLES (DEMANDABLE)

GENERAL PURPOSE 40 @ 180 VA = 7,200 VA
 FIRST 10 KVA @ 100% = 7,200 VA
 REMAINDER @ 50% = 0 VA
 SUBTOTAL = 7,200 VA

EQUIPMENT AND APPLIANCES

SECURITY SYSTEM 500 VA
 FIRE ALARM PANEL 400 VA
 TELEPHONE, CABLE EQUIPMENT 1,000 VA
 IRRIGATION CONTROLLER 400 VA
 ELECTRIC WATER HEATERS EWH-1,2,3,4 4 @ 7,200 = 28,800 VA
 TRUSS WINCHES 4 @ 2,000 = 8,000 VA

SUBTOTAL @ 100% DEMAND = 38,600 VA

HVAC EQUIPMENT

SYSTEM A/C-1 3,772 VA
 SYSTEM A/C-2 3,772 VA
 SYSTEM A/C-3 3,772 VA
 SYSTEM A/C-4 3,979 VA
 EF-1 200 VA
 EF-2 200 VA
 EF-3 200 VA
 EF-4 200 VA
 EF-5 200 VA
 EF-6 200 VA

SUBTOTAL @ 100% DEMAND = 16,495 VA

AMPHITHEATER LIGHTING AND SOUND EQUIPMENT

STAGE RIGHT 200 A 3 PH CAM LOCK 160 X 360 = 57,600 VA
 STAGE LEFT 200 A 3 PH CAM LOCK 160 X 360 = 57,600 VA
 AMP RACK IN A/V ROOM 100 A 3 PH 80 X 360 = 28,800 VA
 120 V 20 A RECEPT. OUTLET ON DEDICATED CIRCUIT 30 @ 1200 VA = 36,000 VA
 STAGE LIGHTING - THEATRICAL 25 @ 400 W = 10,000 VA
 STAGE LIGHTING - CANOPY 100 @ 50 W = 5,000 VA
 SUBTOTAL @ 100% DEMAND = 195,000 VA

LANDSCAPE LIGHTING AND POWER

LANDSCAPE LIGHTING LOAD* 5.5 KVA @ 125% = 6,875 VA
 LANDSCAPE POWER LOAD (TEMPORARY EVENT POWER)* = 57,600 VA
 * FROM LANDSCAPE ARCHITECT
 SUBTOTAL @ 100% DEMAND = 64,475 VA
 TOTAL = 334,458 VA
 TOTAL AMPS @ 120/208 3PH 4W = 928 A THEREFORE PROVIDE A 1,000 A SERVICE.

GENERAL ELECTRICAL NOTES

1. INSTALLATION OF ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE FOLLOWING CODES:

2010 CALIFORNIA ADMINISTRATIVE CODE PART 1, TITLE 24, CALIFORNIA CODE OF REGULATIONS

2010 CALIFORNIA ELECTRICAL CODE PART 3, TITLE 24, CCR (BASED ON THE 2008 NATIONAL ELECTRIC CODE (NEC))

2010 CALIFORNIA FIRE CODE PART 9, TITLE 24, CCR (BASED ON THE 2009 INTERNATIONAL FIRE CODE (IFC))

2010 CALIFORNIA GREEN BUILDING CODE (CALGREEN) PART 11, TITLE 24, CCR

AND ALL CODES AND ORDINANCES, ETC., OF THE CITY OF RANCHO MIRAGE, CALIFORNIA, AND OF ALL AUTHORITIES HAVING JURISDICTION OVER THE WORK.

NOTHING ON THE DRAWINGS, NOTES, OR SPECIFICATIONS IS TO BE INTERPRETED AS PERMITTING WORK NOT CONFORMING WITH ANY CODE, REGULATION, OR ORDINANCE.

GENERAL:

1. THESE GENERAL ELECTRICAL NOTES REFLECT THE REQUIREMENT OF THE ELECTRICAL CONTRACTOR TO PROVIDE A COMPLETE AND OPERABLE ELECTRICAL SYSTEM. "PROVIDE" MEANS "FURNISH AND INSTALL." "EC" MEANS ELECTRICAL CONTRACTOR.

2. IT IS THE RESPONSIBILITY OF THE EC TO PROVIDE ALL MATERIALS, CONDUIT, WIRING, CONTROL DEVICES AND EQUIPMENT REQUIRED TO ENSURE ALL SYSTEMS ARE COMPLETE AND OPERABLE.

3. THE DIAGRAMS AND SYMBOLS SHOWN ON THESE DRAWINGS REFLECT THE INTENT OF THE ELECTRICAL SYSTEMS AND AS SUCH ARE SHOWN DIAGRAMATICALLY.

4. THE EC SHALL REVIEW THE COMPLETE SET OF CONSTRUCTION DOCUMENTS AND VISIT THE PROJECT SITE EXISTING CONDITIONS PRIOR TO SUBMITTING BIDS.

5. THE EC SHALL NOTIFY THE PROJECT MANAGER AND THE ARCHITECT SHOULD A CONFLICT EXIST BETWEEN THESE DRAWINGS AND FIELD CONDITIONS.

6. COORDINATE ELECTRICAL WORK WITH WORK OF ALL OTHER TRADES.

7. ALL EQUIPMENT AND DEVICES SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.

8. LOCATE ALL ELECTRICAL DEVICES REQUIRING ACCESS OR ADJUSTMENT ABOVE AREAS WITH ACCESSIBLE CEILINGS, OR PROVIDE ACCESS DOORS OF REQUIRED SIZE AND FIRE RATING, ONLY WITH PRIOR APPROVAL OF PROJECT MANGER AND ARCHITECT.

9. UPON COMPLETION OF THE WORK, INSTRUCT THE OWNER IN PROPER OPERATION OF THE ELECTRICAL SYSTEMS AND PROVIDE TWO SETS OF OPERATION AND MAINTENANCE MANUAL FOR ALL EQUIPMENT AND DEVICES.

10. WARRANTY: THE COMPLETE JOB SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR AFTER DATE OF FINAL ACCEPTANCE BY THE OWNER. ANY WORK, MATERIAL, OR EQUIPMENT FOUND DEFECTIVE DURING THIS PERIOD SHALL BE CORRECTED IMMEDIATELY, UPON WRITTEN NOTIFICATION, AT THE CONTRACTOR'S EXPENSE.

11. SUBMITTALS: AT LEAST TWO WEEKS PRIOR TO ORDERING, FABRICATION, OR INSTALLATION OF ANY WORK, SUBMIT TO ENGINEER PDF FILES OF PRODUCT DATA FOR ALL EQUIPMENT, DEVICES, AND MATERIAL TO BE USED. NOTE PLAN TAG, SPECIFIC MODEL, SIZES, OPTIONS, ACCESSORIES, ETC. ON ALL PRODUCT DATA SHEETS. UNMARKED SHEETS WILL BE RETURNED FOR RESUBMITTAL.

17. VISIT EXISTING SITE BEFORE SUBMITTING BID. SUBMITTAL OF BID INDICATES CONTRACTOR IS COGNIZANT OF ALL JOB SITE CONDITIONS, ACTUAL PHYSICAL LOCATIONS, AND WORK TO BE PERFORMED.

PLANS PREPARED BY: www.equityspec-engineers.com	DATE:
EquitySpec MEP Consulting Engineers	ESCE JOB NO.: 1302B
42600 Caroline Court, Suite 102 Palm Desert, CA 92211	CAD FILE: WPA-MPE
V: 760 834-1537 F: 760 832-7333	DRN. BY: ESCE CHKD BY: DAC
E: dcelmer@equityspec-engineers.com	SCALE: AS SHOWN

SHEET INDEX

SHEET NO.	SHEET TITLE
E1.0	TITLE SHEET - NOTES, LEGEND, LOAD CALCULATION
E1.1	SPECIFICATIONS (ALSO SEE SPECIFICATIONS BOOK)
E1.2	FIXTURE AND DEVICE SCHEDULES
E2.0	BUILDING AND STAGE LIGHTING PLAN
E2.1	BUILDING AND STAGE POWER & COMMUNICATIONS PLAN
E2.2	AMPHITHEATER SEATING AREA ELECTRICAL PLAN
E3.0	SLD AND SERVICE
E3.1	PANEL SCHEDULES
E3.2	DETAILS AND DIAGRAMS
E3.3	DETAILS AND DIAGRAMS

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2/10/14 PCC 01

ISSUE DATES:

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<input type="checkbox"/>	
DESIGN DEVELOPMENT SET	CHECKED BY:
<input type="checkbox"/>	
PERMIT SET	McA PROJECT NO:
<input type="checkbox"/>	13-007
BID SET	
<input type="checkbox"/>	
CONSTRUCTION SET	
<input type="checkbox"/>	

Whitewater Park Expansion: AMPHITHEATER

CP 12-284
 71-560 San Jacinto Dr
 Rancho Mirage, CA 92270
 for
 The City of Rancho Mirage

69-825 Highway III
 Rancho Mirage, CA 92270
 760.324.4511

SHEET TITLE:

TITLE SHEET

SHEET NUMBER:

E1.0

MATERIAL AND DEVICE SPECIFICATIONS

MATERIALS:

1. ELECTRICAL MATERIALS AND PARTS SHALL BE PROVIDED BY THE SAME MANUFACTURER FOR EACH CLASS OR GROUP OR TYPE OF MATERIALS.
2. ALL MATERIALS, PARTS, AND EQUIPMENT SHALL BE NEW AND UL LISTED UNLESS OTHERWISE NOTED.

SERVICE EQUIPMENT:

1. SERVICE ENTRANCE EQUIPMENT:

INDOOR SWITCHBOARD:

SWITCHBOARD AND DISTRIBUTION PANEL SHALL CONSIST OF ONE OR MORE VERTICAL SECTIONS BOLTED TOGETHER TO FORM ONE COMPLETE FLOOR STANDING SHEET METAL ENCLOSURE, CONFORMING TO UL 891 AND NEMA PB-2 STANDARDS. ENCLOSURE: DESIGNED IN ACCORDANCE WITH UL STANDARDS FOR DEAD-FRONT, SWITCHBOARDS, NEMA 1 FOR INDOOR APPLICATION, ANSI 61 LIGHT GREY PAINT. INCOMING SERVICE: SEE SINGLE LINE DIAGRAM. AMPERES: SEE SINGLE LINE DIAGRAM. INTERRUPTING RATING: SEE SINGLE LINE DIAGRAM. BUSSING: HORIZONTAL AND VERTICAL BUS SHALL BE FULL LENGTH. PROVIDE FULL CAPACITY NEUTRAL BUS IN EACH SECTION. MAIN HORIZONTAL BUS SHALL BE FULL CAPACITY IN ALL SECTIONS. VERTICAL BUS MAY BE TAPERED TO NOT LESS THAN 1/3 OF THE CAPACITY OF THE HORIZONTAL BUS, AND IN NO CASE SHALL THE VERTICAL BUS BE LESS CAPACITY THAN THE SUM OF THE FRAME SIZE AMPACITIES OF ALL OVERCURRENT PROTECTIVE DEVICES MOUNTED IN THE RESPECTIVE SECTIONS. SERVICE ENTRANCE SECTION SHALL BE PROVIDED WITH UNDERGROUND PULL SECTIONS AND METERING COMPARTMENT THAT MEET THE REQUIREMENTS OF: SCE.

3. BEFORE ORDERING, CONTACT UTILITY AND VERIFY THAT THE INSTALLED METER HEIGHT(S) WILL BE ACCEPTABLE TO THE UTILITY.

4. MAIN BREAKER: THERMAL MAGNETIC.

5. FEEDER AND BRANCH BREAKERS: THERMAL MAGNETIC.

6. ALL CONNECTIONS SHALL BE TORQUED BEFORE GROUND TESTS ARE PERFORMED.

MANUFACTURER: EATON.

CONTACT DESERT ELECTRIC SUPPLY - TIM SCHULTZ 760 568-5991.

DISTRIBUTION EQUIPMENT:

1. PANEL BOARDS WITH MOLDED CASE CIRCUIT BREAKERS SHALL BE PROVIDED WITH HINGED LOCKABLE DOORS WITH KEYPED ALIKE LOCKS, INDEX CARD HOLDERS, AND PERMANENT DEVICE NUMBERS, NEUTRAL BAR, GROUND BAR, NEMA 1. UL 67, MFRS: EATON/C-H.

3. REFER TO PANEL SCHEDULES FOR PANEL MOUNTING REQUIREMENTS, VOLTAGE, AND INDIVIDUAL DEVICE REQUIREMENTS.

4. CIRCUIT BREAKERS SHALL BE PLUG-IN TYPE, WITH A MINIMUM AIC RATING AS NOTED ON PANEL SCHEDULES. LUGS SHALL BE UL LISTED FOR USE WITH 75 DEGREE C CONDUCTORS. SIEMENS.

5. SAFETY SWITCHES SHALL BE 250 V AC AS APPLICABLE, NEMA TYPE HD QUICK-MAKE, QUICK-BREAK, HP RATED, FUSIBLE, CLASS R IN NEMA TYPE I (INDOOR) OR NEMA 3R (OUTDOOR) ENCLOSURE, LOCKABLE IN THE OPEN AND CLOSED POSITIONS WITH NUMBER OR POLES AND AMPERAGE AS INDICATED ON THE DRAWINGS.

6. SAFETY SWITCHES SHALL BE MOUNTED ON CHANNELSTRUT SUPPORTS AND CONNECTED TO EQUIPMENT WITH LIQUID TIGHT FLEXIBLE CONDUIT.

WHERE POSSIBLE, SAFETY SWITCHES CAN BE MOUNTED ON MECHANICAL EQUIPMENT ENCLOSURES OR HOUSING ONLY IN LOCATIONS DESIGNATED IN THE EQUIPMENT MANUFACTURERS PRODUCT DATA. DO NOT INSTALL SAFETY SWITCHES ON ANY PANELS OR DOORS DESIGNED TO BE REMOVED OR OPENED FOR EQUIPMENT MAINTENANCE OR SERVICE.

BRANCH CIRCUITS:

1. BRANCH CIRCUITS WIRING OR CONDUCTOR COUNT HASH MARKS MAY NOT BE SHOWN ON THE DRAWINGS. THE EC SHALL PROVIDE BRANCH CONDUITS AND WIRING TO ALL CIRCUITS INDICATED AND AS REQUIRED FOR A COMPLETE AND OPERABLE BRANCH CIRCUIT DISTRIBUTION SYSTEM AS PER THE CEC.

2. MINIMUM CONDUCTOR SIZE SHALL BE #12 COPPER, UNLESS OTHERWISE NOTED. MINIMUM CONDUIT SIZE SHALL BE 3/4".

3. ALL CIRCUITS SHALL BE PROVIDED WITH AN INSULATED GROUND CONDUCTOR SIZED IN ACCORDANCE WITH CEC TABLE 250-122. RACEWAY SHALL NOT BE USED AS A GROUND.

4. ON THE COVER PLATE OF EACH JUNCTION BOX, LEGIBLY LABEL WITH PERMANENT MARKER THE CIRCUITS PASSING THROUGH OR TERMINATING AT THE BOX.

CONDUIT:

1. Conduit material:

1. EMT: Electrical metallic tubing; ANSI C80.3, zinc-coated steel, with compression fittings where exposed and setscrew fittings where concealed.
2. FMC: Flexible metal conduit; zinc-coated steel.
3. IMC: Intermediate metal conduit; ANSI C80.6, zinc-coated steel, with threaded fittings.
4. LFMC: Liquid tight flexible metal conduit; zinc-coated steel with sunlight-resistant and mineral-oil-resistant plastic jacket.
5. RMC: Rigid metal conduit; galvanized rigid steel; ANSI C80.1.
6. RNC: Rigid nonmetallic conduit; NEMA TC 2, Schedule 40 PVC, with NEMA TC 3 fittings.
7. Raceway fittings: Specifically designed for raceway type with which used.
8. MC Cable with compatible fittings per CEC.

2. Outdoor Installations:

1. Exposed in mechanical equipment wells on roofs: RMC with compression fittings.
2. Concealed: IMC
3. Underground, single run: RNC.
4. Underground, grouped: RNC.
5. Connection to rotating, vibrating, or resiliently-supported equipment: LFMC.
6. Boxes and enclosures: NEMA 250, Type 3R or Type 4, N-1, unless otherwise indicated.

3. Indoor Installations:

1. Exposed: EMT with compression fittings.
2. Concealed in walls or above ceilings: EMT OR FMC.
Note: where permitted by code, MC cable may be used for lighting branch circuits above suspended ceilings and in stud partitions for whips to individual devices.
3. In concrete slab: RNC, PVC.
4. Below slab on grade or in crawl space: RNC, PVC.
5. Connection to rotating, vibrating, or resiliently-supported equipment: FMC; except in wet or damp locations: LFMC.

4. Exposed conduits that penetrate walls or ceilings shall be made with LB conduit bodies for EMT or rigid conduits at penetration points. Conduit sweep penetrations are not acceptable.

JUNCTION AND PULL BOXES:

1. BOXES OR SPLICE BOX ENCLOSURES SHALL BE SIZED AND INSTALLED IN ACCORDANCE WITH CEC ARTICLE 370.

2. BOXES LOCATED OUTDOORS, IN WET OR DAMP LOCATIONS, SHALL BE GASKETED WEATHERPROOF TYPE.

3. BOXES LOCATED INDOORS SHALL BE ONE-PIECE ZINC-PLATED STEEL, KNOCKOUT TYPE WITH REMOVEABLE MACHINE SCREW COVERS.

OUTLET BOXES:

1. VERIFY THE MOUNTING HEIGHT OF ALL OUTLET BOXES PRIOR TO INSTALLATION. COORDINATE WITH OTHER TRADES.

2. OUTLET BOXES FOR WALL SCONCE LIGHT FIXTURES, RECEPTACLES, AND SWITCH DEVICES SHALL BE INSTALLED TO MEET ADA REQUIREMENTS.

3. OUTLET BOXES SHALL BE ONE-PIECE ZINC PLATED STEEL, KNOCKOUT TYPE, NOT LESS THAN 4 INCHES SQUARE AND 1-1/2" DEEP.

4. NO BACK-TO-BACK OUTLETS ARE PERMITTED, OUTLETS SHALL BE OFFSET 12" HORIZONTALLY.

CONDUCTORS:

1. ALL CONDUCTORS SHALL BE COPPER WITH AMPACITY RATINGS IN ACCORDANCE WITH CEC ARTICLE 310 AND TABLE 310.

2. ALUMINUM CONDUCTORS ARE NOT APPROVED FOR THIS PROJECT, EXCEPT AS NOTED.

3. CONDUCTORS SHALL BE CODE GRADE THHN/THWN (DRY/WET) 600 VOLT 75 DEGREE C, COPPER WITH MARKING 24°C. INDICATING MANUFACTURER, WIRE TYPE, AMPERAGE, AND SIZE.

4. THE MINIMUM WIRE SIZE SHALL BE #12 AWG SOLID COPPER. WIRE SIZE #8 AND LARGER SHALL BE COPPER STRANDED.

5. SPLICES SHALL BE MADE WITH SPRING WIRE CONNECTORS.

6. BRANCH CIRCUIT AND FIXTURE WIRING, SPLICES AND TAPS FOR CONDUCTORS #10 AND SMALLER SHALL BE MADE WITH UL LISTED 600 VOLT CONNECTORS. MFRS: IDEAL, SCOTCHLOK.

7. CONDUCTORS IN PANELS, TERMINAL CABINETS, PULL BOXES, AND WIRING GUTTERS SHALL BE NEATLY GROUPED AND TAPED OR TIED TOGETHER. MFRS: 3M SCOTCH #33 PLASTIC ELECTRICAL TAPE, T&B TY-RAP CABLE TIES.

8. REMOVE ALL DEBRIS AND MOISTURE FROM CONDUITS, BOXES, AND CABINETS BEFORE THE INSTALLATION OF CONDUCTORS.

9. WHEN REQUIRED, WIRE PULLING COMPOUNDS BY 3M, IDEAL, POLYWATER SUITABLE FOR THE CONDUCTOR TYPE AND USE, ARE APPROVED. OIL, GREASE, OR SIMILAR SUBSTANCES ARE NOT APPROVED AS PULLING COMPOUNDS.

10. ALL CONDUCTORS SHALL BE PERMANENTLY TAGGED TO INDICATE SYSTEM OR CIRCUIT NUMBER.

11. LOW VOLTAGE CONDUCTORS FOR HVAC AND OTHER SYSTEMS REQUIRING LOW VOLTAGE CONTROL SIGNALS SHALL BE SIZED IN ACCORDANCE WITH SPECIFIC SYSTEM REQUIREMENTS.

12. CONDUCTORS FOR SPECIAL SYSTEMS (DATA, FIRE ALARM, SIGNAL, TELEPHONE, ETC.) SHALL MEET THE SYSTEM SPECIFICATIONS AND CODE REQUIREMENTS GOVERNING THE PARTICULAR SYSTEM INSTALLATION.

DEVICES:

1. SNAP SWITCHES SHALL BE SPECIFICATION GRADE, TOTALLY ENCLOSED TOGGLE TYPE, RATED AT 20 AMPS WITH 120 VAC RATING FOR FULL CAPACITY. MFRS: PASS & SEYMOUR, HUBBELL, LEVITON.

2. RECEPTACLES SHALL BE SPECIFICATION GRADE, GROUNDED TYPE, TOTALLY ENCLOSED, RATED AT 20 AMPS 120 VAC. MFRS: PASS & SEYMOUR, HUBBELL, LEVITON.

3. DEVICE AND DEVICE PLATE COLORS SHALL BE COORDINATED WITH THE PROJECT MANAGER AND ARCHITECT PRIOR TO INSTALLATION.

4. GFCI RECEPTACLES SHALL BE PROVIDED AT LOCATIONS INDICATED ON THE DRAWINGS AND IN ACCORDANCE WITH CEC ARTICLE 210.

5. THE STYLE OF SWITCHES SHALL BE: SHALL BE A "DECORATOR STYLE" AS MANUFACTURED BY LEVITON, PASS & SEYMOUR, OR HUBBELL.

DEVICE PLATES:

1. DEVICE PLATES SHALL BE STAINLESS STEEL.

LIGHTING:

1. THE LIGHTING FIXTURES ARE SPECIFIED WITH A GENERIC MOUNTING FORMAT. THE EC IS RESPONSIBLE TO VERIFY AND PROVIDE ALL HANGERS, CLIPS, AND NECESSARY HARDWARE TO INSTALL FIXTURES AT THE LOCATION INDICATED ON THE ARCHITECTURAL AND ELECTRICAL DRAWINGS.

2. VERIFY THE FIXTURE VOLTAGE PRIOR TO SUBMITTING SHOP DRAWINGS.

3. VERIFY THE COLOR TEMPERATURE OF ALL FLUORESCENT LAMPS PRIOR TO ORDERING AND INSTALLATION OF LAMPS. SEE FIXTURE SCHEDULE.

4. PROVIDE PLASTER FRAMES FOR ALL FLUORESCENT FIXTURES MOUNTED IN DRYWALL, PLASTER, OR STUCCO CEILINGS OR SOFFITS.

5. ALL BALLASTS SHALL BE ELECTRONIC HIGH POWER FACTOR RATED. BALLAST HARMONIC DISTORTION SHALL NOT EXCEED VALUES LISTED IN FIXTURE SCHEDULE.

6. VERIFY THE MOUNTING LOCATIONS FOR ALL EXIT SIGNS PRIOR TO INSTALLATION WITH THE PROJECT MANAGER AND ARCHITECT.

7. ACCEPTABLE LAMP MANUFACTURERS: SEE FIXTURE SCHEDULE.

8. ALL LIGHTING AND SWITCHING SHALL BE IN COMPLIANCE WITH 2008 TITLE 24 ENERGY CODE.

9. ALL EMERGENCY LIGHTING AND EXIT LIGHTING SHALL BE CONNECTED TO THE UNSWITCHED SIDE OF THE LOCAL LIGHTING CIRCUIT OR SHALL BE CIRCUITED WITH AN ADDITIONAL UNSWITCHED HOT CONDUCTOR.

10. ALL LIGHTING CIRCUITS SHALL HAVE A SEPARATE INSULATED GROUNDING CONDUCTOR INSTALLED WITHIN EACH CIRCUIT.

11. OCCUPANCY SENSORS: SEE OCCUPANCY SENSOR SCHEDULE.

12. WALL MOUNTED DIMMING CONTROLS: SEE FIXTURE SCHEDULE.

LIGHTING CONTROL PANEL LCP-1:

MFR AND MODEL: LC & D GR 1408LT

ENCLOSURE: SURFACE MOUNT, NEMA 1. 8.4" W X 13.4" H X 3.125" D. HINGED LOCKING DOOR.

RELAYS: 4.

ACCESSORIES: LC & D PHOTOSENSOR GR2400 PCC1 2WO.

EQUIPMENT IDENTIFICATION:

1. THE FOLLOWING EQUIPMENT AND DEVICES SHALL BE EQUIPPED WITH NAMEPLATES: MAIN SERVICE AND MAIN DISTRIBUTION PANEL FEEDER OVERCURRENT DEVICES, DISTRIBUTION PANELS, CIRCUIT EQUIPMENT IN SEPARATE ENCLOSURES.

2. EQUIPMENT AND DEVICES SHALL BE PROPERLY IDENTIFIED AS DESIGNATED ON THE ELECTRICAL DRAWINGS. NAMEPLATES SHALL INCLUDE THE PANEL DESIGNATION, VOLTAGE AND PHASE OF THE SUPPLY.

3. NAMEPLATES SHALL BE ENGRAVED 3 PLY WITH BLACK FACE AND WHITE CORE, PERMANENTLY ATTACHED TO THE EQUIPMENT WITH STAINLESS STEEL LOCKING SCREWS.

MECHANICAL AND PLUMBING SYSTEMS:

1. VERIFY EXACT LOCATIONS AND ORIENTATION OF ALL MECHANICAL EQUIPMENT WITH MECHANICAL DRAWINGS. FIELD VERIFY CONDITIONS WITH MC PRIOR TO ROUGH IN.

2. VERIFY EXACT LOCATIONS AND ORIENTATION OF ALL PLUMBING EQUIPMENT WITH PLUMBING DRAWINGS. FIELD VERIFY CONDITIONS WITH PC PRIOR TO ROUGH IN.

3. EC SHALL CHECK THE ROTATION OF ALL 3 PHASE MOTORS AND CORRECT THE ROTATION DIRECTION IF NECESSARY.

4. EC CONTRACTOR SHALL PROVIDE FUSES SIZED PER THE MANUFACTURER'S INSTRUCTIONS.

5. ALL TEMPERATURE CONTROL AND INTERLOCK CONDUIT AND WIRING SHALL BE BY THE EC UNLESS SPECIFICALLY NOTED OTHERWISE. SEE MECHANICAL AND PLUMBING DRAWINGS FOR INFORMATION.

COMMUNICATION SYSTEMS - TELEPHONE, DATA, CABLE TV-

1. IF MORE THAN ONE SYSTEM WILL BE TERMINATING AT A BACKBOARD SPACE THE CONTRACTOR SHALL TERMINATE EACH SYSTEM IN ITS OWN SECTION OF THE BACKBOARD. 2. EQUIPMENT BACKBOARDS SHALL BE PROVIDED WITH A SYSTEM GROUND SIZED IN ACCORDANCE WITH THE SYSTEM REQUIREMENTS AND AS PER DETAIL.

3. EQUIPMENT BACKBOARDS SHALL BE INSTALLED ON A 4" HIGH BY MINIMUM 6" DEEP CONCRETE HOUSEKEEPING PAD EXTENDING THE WIDTH OF THE BACKBOARD.

4. CABLE TV: TELEVISION OUTLETS SHALL BE PROVIDED FOR TERMINATION OF A COAXIAL CABLE. TELEVISION OUTLETS SHALL BE INSTALLED WITHIN THE SAME STUD SPACE AS THE RECEPTACLE POWER OUTLET. PROVIDE A HOMERUN COAXIAL CABLE FROM EACH TELEVISION OUTLET LOCATION TO THE COMMUNICATION BACKBOARD. SPLICES AND SPLITTERS ARE NOT ALLOWED.

5. TELEPHONE: TELEPHONE OUTLETS SHALL BE PROVIDED FOR TERMINATION OF A TELEPHONE CABLE. PROVIDE A TELEPHONE CABLE FROM EACH TELEPHONE OUTLET LOCATION TO THE COMMUNICATION BACKBOARD. SPLICES ARE NOT ALLOWED. VERIFY THE MOUNTING HEIGHT OF ALL TELEPHONE OUTLETS PRIOR TO INSTALLATION. PROVIDE COVER PLATES SUITABLE TO ACCEPT WALL MOUNTED TELEPHONES WHERE APPLICABLE.

6. ALL TELEPHONE AND DATA OUTLETS SHALL BE PROVIDED WITH DUPLEX DEVICES TO ACCOMMODATE A TELEPHONE AND A DATA DEVICE FOR EACH SYSTEM AT EACH LOCATION. DEVICES SHALL BE DESIGNED TO ACCEPT A CATEGORY CABLE. DEVICES AND PLATES SHALL MATCH THE STYLE AND COLOR OF THE RECEPTACLES.

ISOLATION TRANSFORMER T-1:

GENERAL PURPOSE VENTED DRY TYPE TRANSFORMER. 3 PHASE, 45 KVA, 208 PRIMARY VOLTS, 208Y/120 SECONDARY VOLTS. 115 DEGREES C TEMPERATURE RISE, ALUMINUM WINDING MATERIAL, NEMA 2 ENCLOSURE..

K-FACTOR: 1

TAPS: 2+2.5%, 4+2.5%.

NEMA ST20 SOUND LEVEL: 45 DBA.

NEMA TP-1 ENERGY EFFICIENT.

SPECIAL REQUIREMENTS: ELECTROSTATIC SHIELD.

AVERAGE IMPEDANCE: 5.19%

APPROX. WEIGHT: 396 LBS.

APPROX. DIMENSIONS: 23" WIDE X 16-1/2" DEEP X 30" HIGH.

MFR AND MODEL: EATON V29M29F45EE.

FIELD-INSTALLED ACCESSORIES: LUG TERMINATIONS - 200% DOUBLE NEUTRAL LUG PAD.

SPECIAL INSTALLATION REQUIREMENTS:

1. MAINTAIN MINIMUM 8" CLEARANCE BETWEEN TRANSFORMER ENCLOSURE AND WALLS.

2. ANCHOR TRANSFORMER BASE TO HOUSEKEEPING PAD WITH FOUR 3/8" EXPANSION ANCHORS WITH 3" MINIMUM EMBEDMENT AND SUPPORT ON FOUR CALDYN #VT-450 VIBRATION ISOLATION PADS.

3. MAKE CONNECTIONS WITH LFNC.

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CONSULTANT SEAL:



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<input type="checkbox"/> PLANNING SUBMITTAL SET	DRAWN BY:
<input type="checkbox"/> DESIGN DEVELOPMENT SET	
<input type="checkbox"/> PLAN CHECK	CHECKED BY:
<input type="checkbox"/> PERMIT SET	
<input type="checkbox"/> BID SET	McA PROJECT NO:
<input type="checkbox"/> CONSTRUCTION SET	13-007

Whitewater Park Expansion: AMPHITHEATER

CP 12-284

71-560 San Jacinto Dr
Rancho Mirage, CA
92270

for

The City of
Rancho Mirage

69-825 Highway III
Rancho Mirage, CA 92270

760.324.4511

SHEET TITLE: SPECIFICATIONS
SHEET NUMBER: E-1.1

OCCUPANCY SENSOR SCHEDULE

TAG	SYMBOL	DESCRIPTION	MFR AND MODEL	LIGHTING CONTROL DIAGRAM	MOUNTING	NOTES
	Ⓞ _{OS}	DUAL TECHNOLOGY WALL SWITCH OCCUPANCY SENSOR	SENSOR SWITCH WSD PDT NU W/PHOTOCELL OPTION		WALL. MH = 44"	① ②
	Ⓞ _{OS-a,b}	DUAL TECHNOLOGY DUAL RELAY WALL SWITCH OCCUPANCY SENSOR	SENSOR SWITCH WSD PDT 2P NU W/PHOTOCELL OPTION		WALL. MH = 44"	① ②
	Ⓞ _{OS-3}	DUAL TECHNOLOGY CEILING MOUNT OCCUPANCY SENSOR	SENSOR SWITCH CMR PDT 1Ø W/PHOTOCELL OPTION		CEILING MOUNT	① ②
	Ⓞ _{OS-4}	INFRARED AND ULTRASONIC CEILING MOUNT DUAL RELAY OCCUPANCY SENSOR	COOPER OAC-P-Ø5ØØ-DMV		CEILING MOUNT	① ②
	Ⓞ _{OS-5}	DUAL TECHNOLOGY DUAL RELAY WALL MOUNT OCCUPANCY SENSOR	SENSOR SWITCH WVR PDT 1Ø 2P		WALL. MH = 9'	① ②

SENSOR NOTES:

- ① ALL OCCUPANCY SENSORS SHALL BE PROGRAMMED, CALIBRATED AND SETTINGS ADJUSTED BY THE E.C.
- ② WIRE ALL LIGHT SWITCHES AND DIMMING CONTROLS DOWNSTREAM FROM OCCUPANCY SENSOR ON THE LOAD SIDE OF THE OCCUPANCY SENSOR OR SWITCH/RELAY PACK.

LIGHTING FIXTURE SCHEDULE

TAG	SYMBOL	DESCRIPTION	FIXTURE MFR AND MODEL	LAMP COLOR	LUMENS CRI	VOLTS 1Ø	LAMP WATTS INPUT POWER	MOUNTING	FIXTURE NOTES
INTERIOR FIXTURES AT BUILDINGS	Ⓐ	6" RECESSED DOWNLIGHT IC RATED LED	JUNO IC922LEDG3. WHITE BAFFLE. APPROX. DIMS.: 15-3/4" L X 9-1/8" W X 5-1/8" H	LED	900		14.6	RECESSED	①
	ⒶE	SAME AS FIXTURE A EXCEPT W/ EMERGENCY BATTERY PACK						RECESSED	
	Ⓒ	LINEAR WALL FIXTURE AT PUBLIC TOILET ROOMS STALL WALL. EXTRUDED ALUMINUM	NEORAY 22DW ELECTRONIC DRIVER 6"L X 4"H X 3" EXTENSION	LED	2,100		33	SURFACE MOUNT WALL	①
	Ⓓ	MIRROR LIGHTS AT DRESSING ROOMS (MAKE-UP LIGHTING)	COOPER 6ØØ 36" L	LED	1,300		16.8	SURFACE MOUNT WALL	①
	Ⓕ	SURFACE MOUNT SQUARE BASKET WRAPAROUND LINEAR FLUORESCENT	LITHONIA SB 2-17-12Ø-GEØ1ØRS DIMENSIONS: 48"L X 9"W X 3".	2	17W		34	SURFACE MOUNT CEILING	①
	Ⓖ	WALL BRACKET FLUORESCENT UTILITY ROOMS	LITHONIA WC 125MVOLTGEØ1ØS DIMENSIONS: 24"L X 5"H X 5"D.	1	F25T8		25	SURFACE MOUNT ON WALL 6" ABOVE DOOR	①
	Ⓕ	LINEAR BRACKET MOUNT AT PRINCIPAL DRESSING ROOM LAV-INDIVIDUAL FIXTURE	COOPER AMETRIX ARROWLINEAR AK-12 28" LONG	LED	1,000/FT		22	CANTILVERED FROM WALL	①
	Ⓕ	LINEAR BRACKET MOUNT AT PUBLIC TOILET LAVATORY WALL-CONTINUOUS ROW	COOPER AMETRIX ARROWLINEAR AK-12 SEE PLANS FOR LENGTH.	LED	1,000/FT		66W/6FT	CANTILVERED FROM WALL	①
	ⒻE	INTERIOR EMERGENCY LIGHT W/ 9Ø MINUTE BATTERY PACK AND CHARGER. UL 924. NFPA-1Ø1	LITHONIA ELM2 DIMENSIONS: 12"W X 5"H X 3-3/4"D.	2	5.4W KRYPTON		1.2	SURFACE MOUNT WALL	
	EXTERIOR FIXTURES AT BUILDINGS	Ⓒ	EXTERIOR RECESSED WALL MOUNT - LOW LEVEL HEIGHT LED	COOPER INVUE SQS 12-1/2" H X 12-1/2" W X 5-3/4" DEEP.				18	RECESSED IN WALL
Ⓒ		EXTERIOR 4" RECESSED DOWNLIGHT LED	JUNO IC1LEDG3. LENSED WET TRIM. APPROX. DIMS.: 12-1/2" L X 6-3/4" W X 6" H	LED	600		13	RECESSED IN CEILING	②
ⒸE		EXTERIOR EGRESS LUMINAIRE W/ 9Ø MINUTE BATTERY PACK AND CHARGER. UL 924. NFPA-1Ø1.	DUAL LITE PG LED DIMENSIONS: 11"W X 7"H X 3"D. INTEGRAL TEST SWITCH.	LED	405		3	SURFACE MOUNT WALL MH=9"	②
Ⓒ		EXTERIOR EXIT SIGN							②
AMPHITHEATER STAGE AREA FIXTURES	Ⓐ1	STAGE GENERAL ILLUMINATION DOWNLIGHT. 8" APERTURE. 6Ø DEGREE BEAM SPREAD. DMX DRIVER. HIGH AMBIENT OPTION.		LED	4,500		100	RECESSED IN STAGE CANOPY CEILING	②
	Ⓐ1E	SAME AS FIXTURE A1 EXCEPT WITH EMERGENCY BATTERY PACK WITH REMOTE TEST SWITCH.			>80		100	RECESSED IN STAGE CANOPY CEILING	②
	Ⓐ2	FLOODLIGHT FOR SEATING AREA LONG THROW RGB COLOR CHANNELS	PHILIPS KINETIC COLORREACH COMPACT POWERCORE DATA ENABLER (DMX/ETHERNET)	LED	4,000		130	ATTACHED TO STAGE CANOPY STRUCTURE AND FACES AUDIENCE	②
	Ⓐ3	WASH LIGHT FOR STAGE RGB COLOR CHANNELS	ALTMAN SSCYC-ØD OUTDOOR SPECTRA CYC DMX	LED			100	RECESSED IN STAGE CANOPY CEILING	②
	Ⓐ4	PAR LIGHT FOR STAGE RGB COLOR CHANNELS	ALTMAN SSPAR-100 SPECTRA PAR 100 DMX	LED			100	RECESSED IN STAGE CANOPY CEILING BETWEEN CEILINGS CLG 3 AND CLG 2	②
AMPHITHEATER SEATING AREA FIXTURES	Ⓒ1	LINEAR RECESSED WALL LIGHT AMPHITHEATER SEATING AREA	LIGMAN U4Ø395-C DIFFUSER: DIFFUSER SIZE: APPROX. 24"X3"	LED	342	12ØV W/ INTEGRAL DRIVER	6	RECESSED IN STAIR RISER OR WALL	②
	Ⓒ2	LINEAR RECESSED WALL LIGHT AMPHITHEATER SEATING AREA	LIGMAN U4Ø415-C DIFFUSER: DIFFUSER SIZE: APPROX. 48"X3"	LED	700	12ØV W/ INTEGRAL DRIVER	12	RECESSED IN STAIRWAY SIDEWALL	②
	Ⓒ3	RECESSED WALL LIGHT AMPHITHEATER SEATING AREA	LIGMAN DIFFUSER: DIFFUSER SIZE: APPROX. 6"X3"	LED	100	12ØV W/ INTEGRAL DRIVER	3	RECESSED IN WALL	②
	Ⓒ4	RECESSED IN-GRADE LIGHT AMPHITHEATER SEATING AREA	LIGMAN U6Ø145 DIFFUSER: DIFFUSER SIZE: APPROX. 48"X3"	LED	100	12ØV W/ INTEGRAL DRIVER	12	RECESSED IN GRADE	②

FIXTURE NOTES:

- ① LAMPS SHALL HAVE MINIMUM CRI = 80, UNLESS OTHERWISE NOTED.
- ② FIXTURE SHALL BE UL LISTED FOR WET LOCATION.

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ESCE JOB NO.: 1302B
 CAD FILE: WPA-MPE
 DRN. BY: ESCE
 CHKD BY: DAC
 SCALE: AS SHOWN



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DRAWING DATE: **03-07-2014**

REVISIONS:
2/10/14 PCC 01

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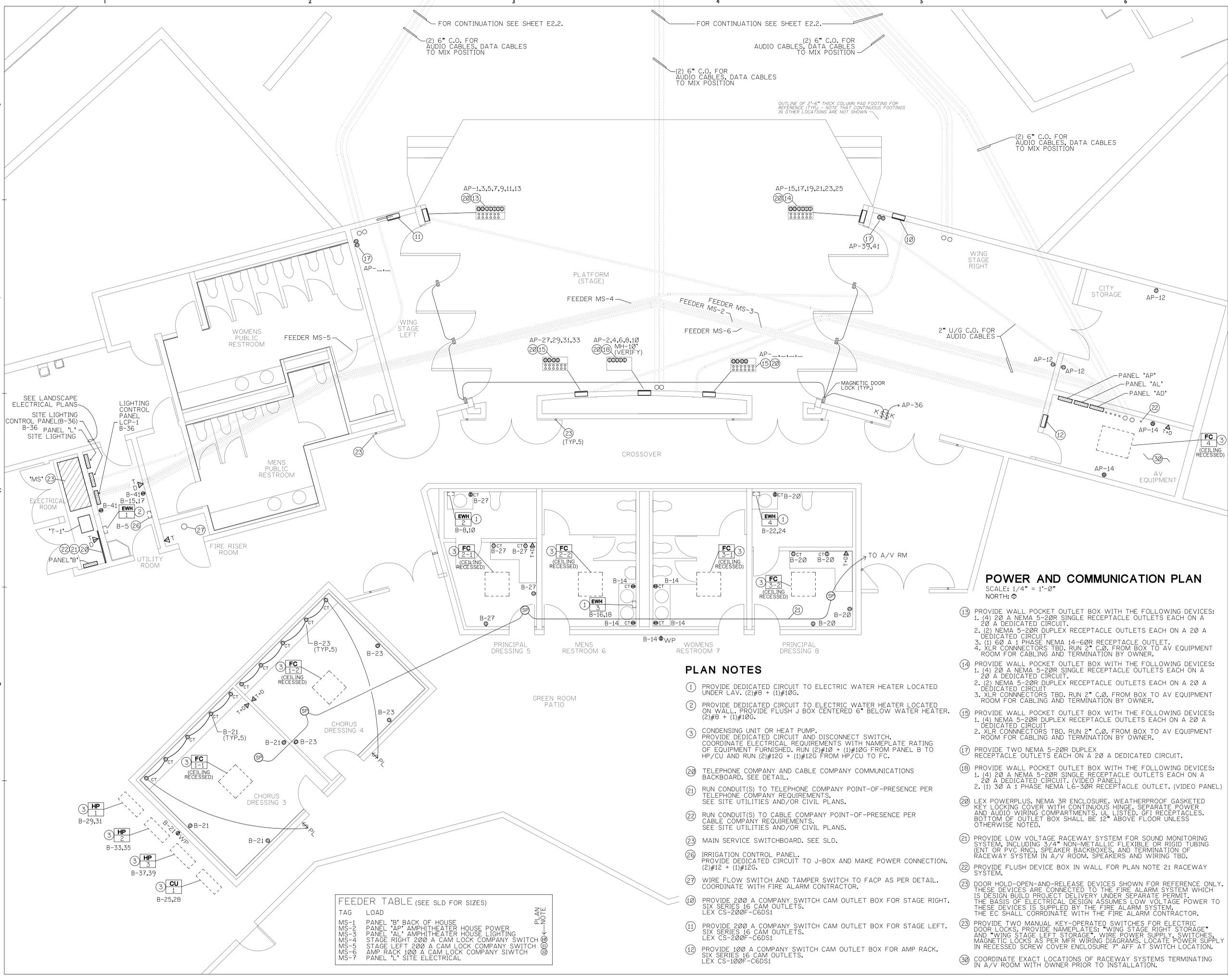
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<input type="checkbox"/> CONSTRUCTION SET	13-007

Whitewater Park Expansion: AMPHITHEATER

CP 12-284
 71-560 San Jacinto Dr
 Rancho Mirage, CA 92270
 for
The City of Rancho Mirage
 69-825 Highway III
 Rancho Mirage, CA 92270
 760.324.4511

SHEET TITLE:
FIXTURE AND DEVICE SCHEDULES

SHEET NUMBER:
E-1.2



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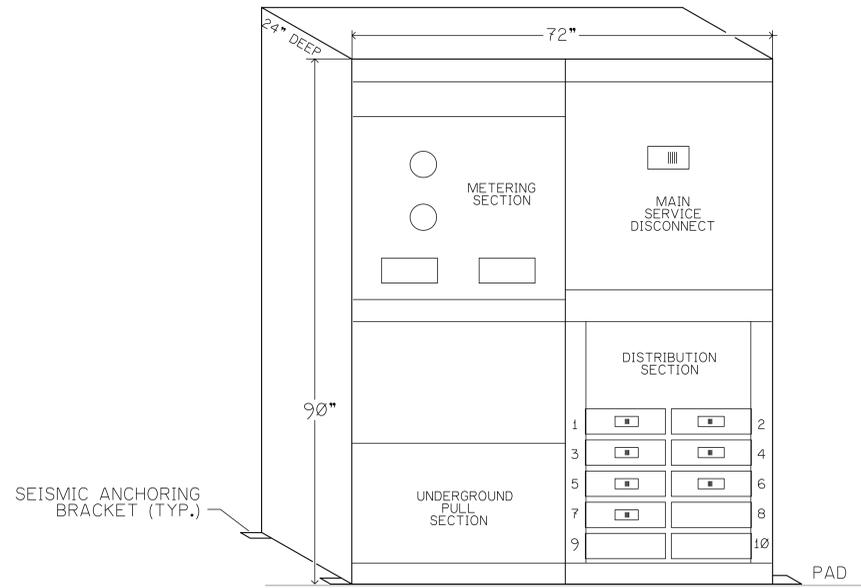
POWER AND COMMUNICATION PLAN
 SCALE: 1/4" = 1'-0"
 NORTH: 0

PLAN NOTES

- PROVIDE DEDICATED CIRCUIT TO ELECTRIC WATER HEATER LOCATED UNDER LAV. (2)#8 + (1)#10G.
- PROVIDE DEDICATED CIRCUIT TO ELECTRIC WATER HEATER LOCATED ON WALL. PROVIDE FLUSH J BOX CENTERED 6" BELOW WATER HEATER. (2)#8 + (1)#10G.
- CONDENSING UNIT OR HEAT PUMP. PROVIDE DEDICATED CIRCUIT AND DISCONNECT SWITCH. COORDINATE ELECTRICAL REQUIREMENTS WITH NAMEPLATE RATING OF EQUIPMENT FURNISHED. RUN (2)#10 + (1)#10G FROM PANEL B TO HP/CU AND RUN (2)#12G + (1)#12G FROM HP/CU TO FC.
- TELEPHONE COMPANY AND CABLE COMPANY COMMUNICATIONS BACKBOARD. SEE DETAIL.
- RUN CONDUIT(S) TO TELEPHONE COMPANY POINT-OF-PRESENCE PER TELEPHONE COMPANY REQUIREMENTS. SEE SITE UTILITIES AND/OR CIVIL PLANS.
- RUN CONDUIT(S) TO CABLE COMPANY POINT-OF-PRESENCE PER CABLE COMPANY REQUIREMENTS. SEE SITE UTILITIES AND/OR CIVIL PLANS.
- MAIN SERVICE SWITCHBOARD. SEE SLD.
- IRRIGATION CONTROL PANEL. PROVIDE DEDICATED CIRCUIT TO J-BOX AND MAKE POWER CONNECTION. (2)#12 + (1)#12G.
- WIRE FLOW SWITCH AND TAMPER SWITCH TO FACP AS PER DETAIL. COORDINATE WITH FIRE ALARM CONTRACTOR.
- PROVIDE 200 A COMPANY SWITCH CAM OUTLET BOX FOR STAGE RIGHT. SIX SERIES 16 CAM OUTLETS. LEX CS-200F-C6DS1
- PROVIDE 200 A COMPANY SWITCH CAM OUTLET BOX FOR STAGE LEFT. SIX SERIES 16 CAM OUTLETS. LEX CS-200F-C6DS1
- PROVIDE 100 A COMPANY SWITCH CAM OUTLET BOX FOR AMP RACK. SIX SERIES 16 CAM OUTLETS. LEX CS-100F-C6DS1
- PROVIDE WALL POCKET OUTLET BOX WITH THE FOLLOWING DEVICES:
 1. (4) 20 A NEMA 5-20R SINGLE RECEPTACLE OUTLETS EACH ON A 20 A DEDICATED CIRCUIT.
 2. (2) NEMA 5-20R DUPLEX RECEPTACLE OUTLETS EACH ON A 20 A DEDICATED CIRCUIT.
 3. (1) 60 A 1 PHASE NEMA 14-60R RECEPTACLE OUTLET.
 4. XLR CONNECTORS TBD. RUN 2" C.O. FROM BOX TO AV EQUIPMENT ROOM FOR CABLING AND TERMINATION BY OWNER.
- PROVIDE WALL POCKET OUTLET BOX WITH THE FOLLOWING DEVICES:
 1. (4) 20 A NEMA 5-20R SINGLE RECEPTACLE OUTLETS EACH ON A 20 A DEDICATED CIRCUIT.
 2. (2) NEMA 5-20R DUPLEX RECEPTACLE OUTLETS EACH ON A 20 A DEDICATED CIRCUIT.
 3. XLR CONNECTORS TBD. RUN 2" C.O. FROM BOX TO AV EQUIPMENT ROOM FOR CABLING AND TERMINATION BY OWNER.
- PROVIDE WALL POCKET OUTLET BOX WITH THE FOLLOWING DEVICES:
 1. (4) NEMA 5-20R DUPLEX RECEPTACLE OUTLETS EACH ON A 20 A DEDICATED CIRCUIT.
 2. XLR CONNECTORS TBD. RUN 2" C.O. FROM BOX TO AV EQUIPMENT ROOM FOR CABLING AND TERMINATION BY OWNER.
- PROVIDE TWO NEMA 5-20R DUPLEX RECEPTACLE OUTLETS EACH ON A 20 A DEDICATED CIRCUIT.
- PROVIDE WALL POCKET OUTLET BOX WITH THE FOLLOWING DEVICES:
 1. (4) 20 A NEMA 5-20R SINGLE RECEPTACLE OUTLETS EACH ON A 20 A DEDICATED CIRCUIT.
 2. (1) 30 A 1 PHASE NEMA 16-30R RECEPTACLE OUTLET. (VIDEO PANEL)
- LEX POWERPLUS. NEMA 3R ENCLOSURE. WEATHERPROOF GASKETED KEY LOCKING COVER WITH CONTINUOUS HINGE. SEPARATE POWER AND AUDIO WIRING COMPARTMENTS. UL LISTED. GFI RECEPTACLES. BOTTOM OF OUTLET BOX SHALL BE 12" ABOVE FLOOR UNLESS OTHERWISE NOTED.
- PROVIDE LOW VOLTAGE RACEWAY SYSTEM FOR SOUND MONITORING SYSTEM, INCLUDING 3/4" NON-METALLIC FLEXIBLE OR RIGID TUBING (ENT OR PVC RNC). SPEAKER BACKBOXES, AND TERMINATION OF RACEWAY SYSTEM IN A/V ROOM. SPEAKERS AND WIRING TBD.
- PROVIDE FLUSH DEVICE BOX IN WALL FOR PLAN NOTE 21 RACEWAY SYSTEM.
- DOOR HOLD-OPEN-AND-RELEASE DEVICES SHOWN FOR REFERENCE ONLY. THESE DEVICES ARE CONNECTED TO THE FIRE ALARM SYSTEM WHICH IS DESIGN BUILD PROJECT DELIVERY UNDER SEPARATE PERMIT. THE BASIS OF ELECTRICAL DESIGN ASSUMES LOW VOLTAGE POWER TO THESE DEVICES IS SUPPLIED BY THE FIRE ALARM SYSTEM. THE EC SHALL COORDINATE WITH THE FIRE ALARM CONTRACTOR.
- PROVIDE TWO MANUAL KEY-OPERATED SWITCHES FOR ELECTRIC DOOR LOCKS. PROVIDE NAMEPLATES: "WING STAGE RIGHT STORAGE" AND "WING STAGE LEFT STORAGE". WIRE POWER SUPPLY SWITCHES. MAGNETIC LOOKS AS PER MFR WIRING DIAGRAMS. LOCATE POWER SUPPLY IN RECESSED SCREW COVER ENCLOSURE 7" AFF AT SWITCH LOCATION.
- COORDINATE EXACT LOCATIONS OF RACEWAY SYSTEMS TERMINATING IN A/V ROOM WITH OWNER PRIOR TO INSTALLATION.

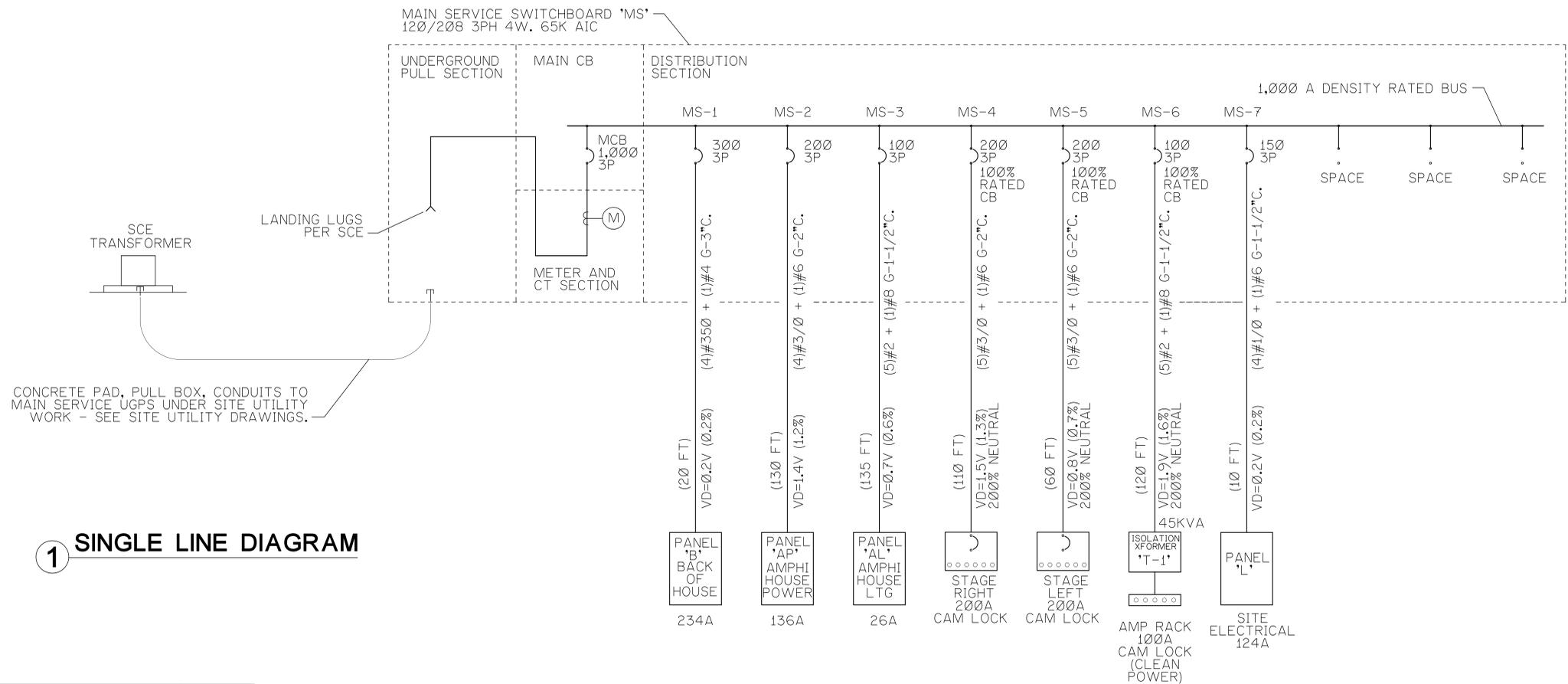
FEEDER TABLE (SEE SLD FOR SIZES)

TAG	LOAD	PLAN NOTE
MS-1	PANEL 'B' BACK OF HOUSE	②
MS-2	PANEL 'AP' AMPHITHEATER HOUSE POWER	②
MS-3	PANEL 'AL' AMPHITHEATER HOUSE LIGHTING	②
MS-4	STAGE RIGHT 200 A CAM LOCK COMPANY SWITCH	⑩
MS-5	STAGE LEFT 200 A CAM LOCK COMPANY SWITCH	⑪
MS-6	AMP RACK 100 A CAM LOCK COMPANY SWITCH	⑫
MS-7	PANEL 'L' SITE ELECTRICAL	②



Pow-R-Line C, Front Access/ Front and Rear Align
 System Voltage: 208Y/120V 3-Phase 4-Wire
 Short Circuit Interrupter Rating: 65KA
 Main Bus: 1000A, Neutral Bus: 1000A
 Copper Bus
 Copper Ground Bus
 Density Rated Bus: 1000A per square inch
 Bottom Incoming Lug Drilling(s): (3) 300-800 kcmil
 (1) #6-350 kcmil Ground Lug Supplied As Standard
 Bus Bracing: 65kA
 Service Entrance: Suitable Only For Use As Service Equipment
 Switchboard Construction Meets UL-891
 Enclosure: Type 1
 Finish: ANSI-61
 Approx. Weight: Left Structure - 560 lbs.
 Right Structure - 855 lbs.
 Total - 1415 lbs.

2 SWITCHBOARD 'MS' ELEVATION



1 SINGLE LINE DIAGRAM

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<input type="checkbox"/> BID SET	McA PROJECT NO:
<input type="checkbox"/> CONSTRUCTION SET	13-007

Whitewater
 Park Expansion:
 AMPHITHEATER

CP 12-284
 71-560 San Jacinto Dr
 Rancho Mirage, CA
 92270
 for
 The City of
 Rancho Mirage

69-825 Highway III
 Rancho Mirage, CA 92270
 760.324.4511

SHEET TITLE: SINGLE LINE DIAGRAM AND SERVICE
SHEET NUMBER: E3.0

PLANS PREPARED BY: www.equityspec- EquitySpec MEP Consulting Engineers 42600 Caroline Court, Suite 102 Palm Desert, CA 92211 V: 760 834-1537 F: 760 832-7333 E: dcelmer@equityspec-engineers.com	DATE: ESCE JOB NO.: 13028 CAD FILE: WPA-MPE DRN. BY: ESCE CHKD BY: DAC SCALE: AS SHOWN
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DATE:
 ESCE JOB NO.: 13028
 CAD FILE: WPA-MPE
 DRN. BY: ESCE
 CHKD BY: DAC
 SCALE: AS SHOWN

PANEL SCHEDULE - PANEL 'AL' Amphitheater Stage and Seating Lighting

PANEL LOCATION: A/V ROOM		120/208 V-3PH-4W		BUS RATING: 100 AMP		CIRCUIT / N: NON-CONTINUOUS													
MAIN: 200/3P.		MOUNTING: SURFACE		AIC RATING: A		LOAD CODES: C: LONG CONTINUOUS LOAD (LCL)													
LOAD DESCRIPTION	VOLT AMPS			OUTLETS			BREAKER	BREAKER			OUTLETS			LOAD DESCRIPTION					
	ØA	ØB	ØC	CODE	MISC	REC		LTG	TRIP	POLE	POLE	TRIP	LTG		REC	MISC	CODE	ØA	ØB
DIMMER PANEL AD	400			N	*		20	1	1	2				C	195			TREE UPLIGHTS NORTH	
STAGE GENERAL D/L A1		600		C			(6)	20	1	3	4			C		60		TREE UPLIGHTS SOUTH	
STAGE GENERAL D/L A1			600	C			(6)	20	1	5	6			C		84		STAIRS WEST HALF	
STAGE GENERAL D/L A1	600			C			(6)	20	1	7	8			C	72			STAIRS EAST HALF	
STAGE GENERAL D/L A1		600		C			(6)	20	1	9	10			C		252		PATHWAY WEST	
SEATING AREA TYPE A2			910	C			(7)	20	1	11	12			C		204		PATHWAY EAST	
STAGE FIXTURE TYPE A3	500			C			(5)	20	1	13	14			C	108			WALLS NORTH HALF	
STAGE FIXTURE TYPE A3		600		C			(5)	20	1	15	16			C		129		WALLS SOUTH HALF	
STAGE FIXTURE TYPE A4			600	C			(6)	20	1	17	18			C		96		ENTRANCE WALLS WEST	
STAGE FIXTURE TYPE A4	600			C			(6)	20	1	19	20			C	132			ENTRANCE WALLS EAST	
TYPE A3 BETWEEN CLGS		200		C			(2)	20	1	21	22								
										23	24								
										25	26								
										27	28								
										29	30								
PHASE SUBTOTALS	2,100	2,641	2,110													507	441	384	PHASE SUBTOTALS

TOTAL PHASE A = 2,607 VA
 TOTAL PHASE B = 2,641 VA
 TOTAL PHASE C = 2,494 VA

TOTAL CONNECTED VA = 7,742
 LCL: 7,342 VA @ 25% = 1,836
 TOTAL PANEL LOAD = 9,578 VA
 TOTAL PANEL AMPS = 26 A

PANEL NOTES:
 ① CIRCUIT SHALL BE RUN THROUGH AMPHITHEATER DIMMING PANEL 'AD'.
 ② DMX CONTROL.

PANEL SCHEDULE - PANEL 'B' Back of House Power and Lighting

PANEL LOCATION: ELECTRICAL ROOM		120/208 V-3PH-4W		BUS RATING: 400 AMP		CIRCUIT / N: NON-CONTINUOUS													
MAIN: MLO.		MOUNTING: SURFACE		AIC RATING: A		LOAD CODES: C: LONG CONTINUOUS LOAD (LCL)													
LOAD DESCRIPTION	VOLT AMPS			OUTLETS			BREAKER	BREAKER			OUTLETS			LOAD DESCRIPTION					
	ØA	ØB	ØC	CODE	MISC	REC		LTG	TRIP	POLE	POLE	TRIP	LTG		REC	MISC	CODE	ØA	ØB
FIRE ALARM SYS PANEL	360			N	*		20	1	2	1	20				N	360			CABLE EQUIPMENT
TELEPHONE EQUIPMENT		360		N	*		20	1	3	4	20				N	360			SECURITY SYS. PANEL
IRRIGATION CONTROLLER			360	N	*		20	1	5	6	1	20	*		C			200	LTG-ELEC,UTIL,FIRE RMS
LTG-EXTERIOR BLDG	250			C			20	1	7	8	40				N	5,400			EWB-2-PRIN DRESS 5
LTG-EXTERIOR BLDG		78		C			20	1	9	10	2	20	*		N				"
LTG-WOMENS PUBLIC RR			335	C			20	1	11	12	1	20	*		C			604	LTG-RR 7+PRIN DRESS 8
LTG-MENS PUBLIC RR	298			C			20	1	13	14	1	20	(6)		N	1,080			REC-RESTROOMS 6+7
EWB-1-PUBLIC RRS		5,400		N	*		40		15	16	40				N	5,400			EWB-3-RESTROOMS 6+7
"			5,400	N	*		40		17	18	2	20	*		N	5,400			"
LTG-CHORUS DRESS 3+4	560			C			20	1	19	20	1	20	(5)		N	900			REC-PRINCIPAL DRESS 8
REC-CHORUS DRESS 3		1,620		N	(9)		20	1	21	22	40				N	5,400			EWB-4-PRIN DRESS 8
REC-CHORUS DRESS 4			1,440	N	(8)		20	1	23	24	2	20	*		N			5,400	"
LTG-PRIN DRESS 5+RR 6	578			C			20	1	25	26	30				N	3,600			CU-1 (INCLUDES FC-4)
REC-PRINCIPAL DRESS 5		900		N	(5)		20	1	27	28	2	20	*		N			3,600	"
HP-1 (INCLUDES FC-1)			3,600	N	*		30		29	30	1	20			N			200	LTG CONTROLS-UTILITY RM
"	3,600			N	*		30		31	32	1	20			N	200			LTG CONTROLS-UTILITY RM
HP-2 (INCLUDES FC-2)		3,600		N	*		30		33	34									
"			3,600	N	*		30		35	36									
HP-3 (INCLUDES FC-3)	3,600			N	*		30		37	38									
"			3,600	N	*		30		39	40									
RECEPTS-UTILITY RM			360	N	(2)		20	1	41	42									
PHASE SUBTOTALS	9,246	15,558	15,095													11,540	20,160	11,804	PHASE SUBTOTALS

TOTAL PHASE A = 20,786 VA
 TOTAL PHASE B = 35,718 VA
 TOTAL PHASE C = 26,899 VA

TOTAL CONNECTED VA = 83,403
 LCL: 2,803 VA @ 25% = 701
 TOTAL PANEL LOAD = 84,104 VA
 TOTAL PANEL AMPS = 234 A

PANEL NOTES:
 ① PROVIDE LOCKABLE-ON CIRCUIT BREAKER.
 ② CIRCUIT SHALL BE RUN THROUGH LIGHTING CONTROL PANEL LCP-1.

PANEL SCHEDULE - PANEL 'AP' Amphitheater Power

PANEL LOCATION: A/V ROOM		120/208 V-3PH-4W		BUS RATING: 200 AMP		CIRCUIT / N: NON-CONTINUOUS													
MAIN: 200/3P.		MOUNTING: SURFACE		AIC RATING: A		LOAD CODES: C: LONG CONTINUOUS LOAD (LCL)													
LOAD DESCRIPTION	VOLT AMPS			OUTLETS			BREAKER	BREAKER			OUTLETS			LOAD DESCRIPTION					
	ØA	ØB	ØC	CODE	MISC	REC		LTG	TRIP	POLE	POLE	TRIP	LTG		REC	MISC	CODE	ØA	ØB
RECEPTS-STAGE	1,200			N	*		20	1	1	2	1	20	*		N	1,200			RECEPTS-STAGE
RECEPTS-STAGE		1,200		N	*		20	1	3	4	1	20	*		N	1,200	1,200		RECEPTS-STAGE
RECEPTS-STAGE			1,200	N	*		20	1	5	6	1	20	*		N			1,200	RECEPTS-STAGE
RECEPTS-STAGE	1,200			N	*		20	1	7	8	1	20	*		N	1,200			RECEPTS-STAGE
RECEPTS-STAGE		1,200		N	*		20	1	9	10	1	20	*		N		1,200		RECEPTS-STAGE
RECEPTS-STAGE			1,200	N	*		20	1	11	12	1	20	*		N			1,200	RECEPTS-STAGE
RECEPTS-STAGE (60A)	5,760			N	*		60	1	13	14	1	20	*		N	1,200			RECEPTS-STAGE
RECEPTS-STAGE		1,200		N	*		20	1	15	16	1	20	*		N		1,200		RECEPTS-STAGE
RECEPTS-STAGE			1,200	N	*		20	1	17	18	1	20	*		N			2,880	RECEPTS-STAGE (30A)
RECEPTS-STAGE	1,200			N	*		20	1	19	20	1	20	*		N	360			RECEPTS-STORAGE
RECEPTS-STAGE		1,200		N	*		20	1	21	22	1	20	*		N		720		RECEPTS-A/V RM
RECEPTS-STAGE			1,200	N	*		20	1	23	24	1	20	*		N			1,200	RECEPTS-SEATING AREA
RECEPTS-STAGE	1,200			N	*		20	1	25	26	1	20	*		N	1,200			RECEPTS-SEATING AREA
RECEPTS-STAGE		1,200		N	*		20	1	27	28	1	20	*		N		1,200		RECEPTS-MIX POSITION
RECEPTS-STAGE			1,200	N	*		20	1	29	30	1	20	*		N			1,200	RECEPTS-MIX POSITION
RECEPTS-STAGE	1,200			N	*		20	1	31	32	1	20	*		N	1,200			RECEPTS-MIX POSITION
RECEPTS-STAGE		1,200		N	*		20	1	33	34	1	20	*		N		1,200		RECEPTS-MIX POSITION
RECEPTS-STAGE			1,200	N	*		20	1	35	36	1	20	*		N			100	STAGE WINGS DR LOCKS
RECEPTS-STAGE	1,200			N	*		20	1	37	38	1	20	*		C	578			LTG-STAGE WINGS+STOR
									39	40									
PHASE SUBTOTALS	12,960	7,200	7,200													6,938	6,720	7,780	PHASE SUBTOTALS

TOTAL PHASE A = 19,898 VA
 TOTAL PHASE B = 13,920 VA
 TOTAL PHASE C = 14,980 VA

TOTAL CONNECTED VA = 48,798
 LCL: 578 VA @ 25% = 145
 TOTAL PANEL LOAD = 48,943 VA
 TOTAL PANEL AMPS = 136 A

PANEL NOTES:
 ① PROVIDE LOCKABLE-ON CIRCUIT BREAKER.

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REVISIONS:	
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ISSUE DATES:	
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<input type="checkbox"/> DESIGN DEVELOPMENT SET	
<input type="checkbox"/> PERMIT CHECK	CHECKED BY:
<input type="checkbox"/> PERMIT SET	
<input type="checkbox"/> BID SET	McA PROJECT NO:
<input type="checkbox"/> CONSTRUCTION SET	13-007

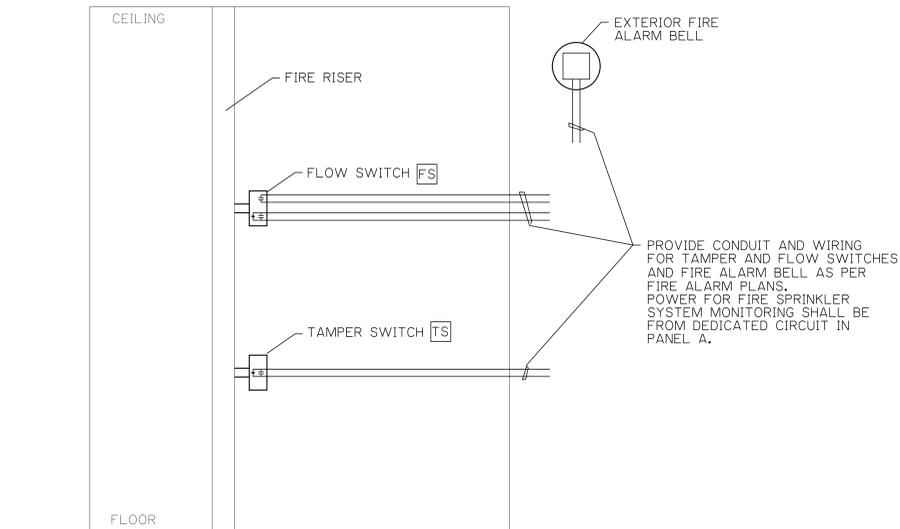
Whitewater Park Expansion: AMPHITHEATER

CP 12-284
 71-560 San Jacinto Dr
 Rancho Mirage, CA 92270
 for
The City of Rancho Mirage

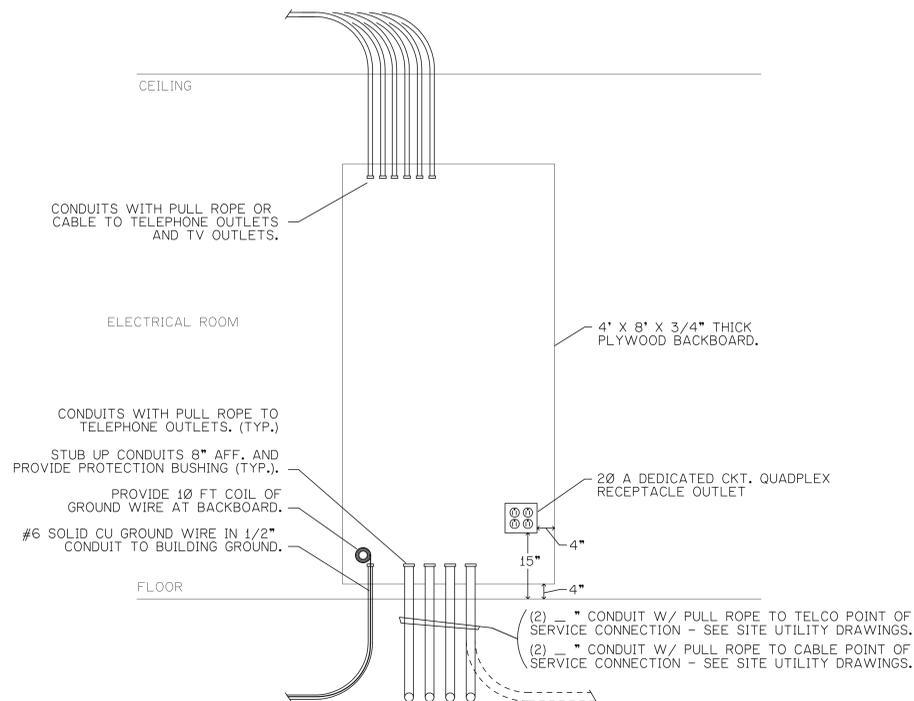
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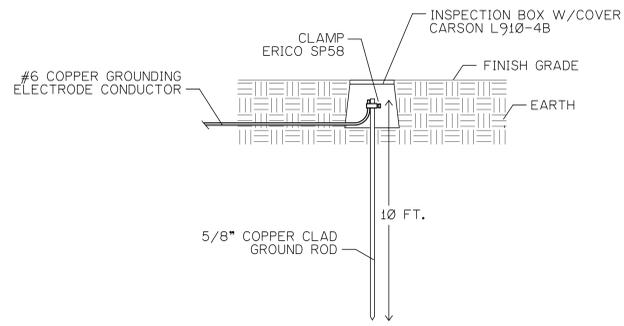
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PANEL SCHEDULES
SHEET NUMBER:
E3.1



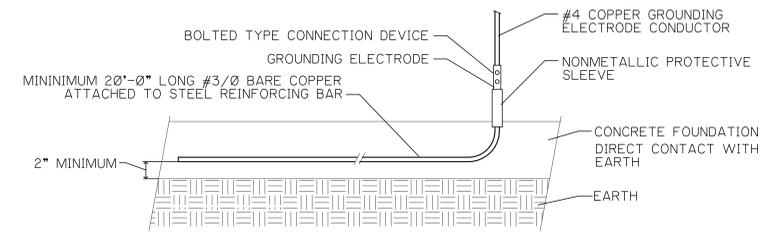
7 FIRE SPRINKLER RISER WIRING DIAGRAM
NOT TO SCALE



6 TELEPHONE AND CABLE BACKBOARD ELEVATION
NOT TO SCALE

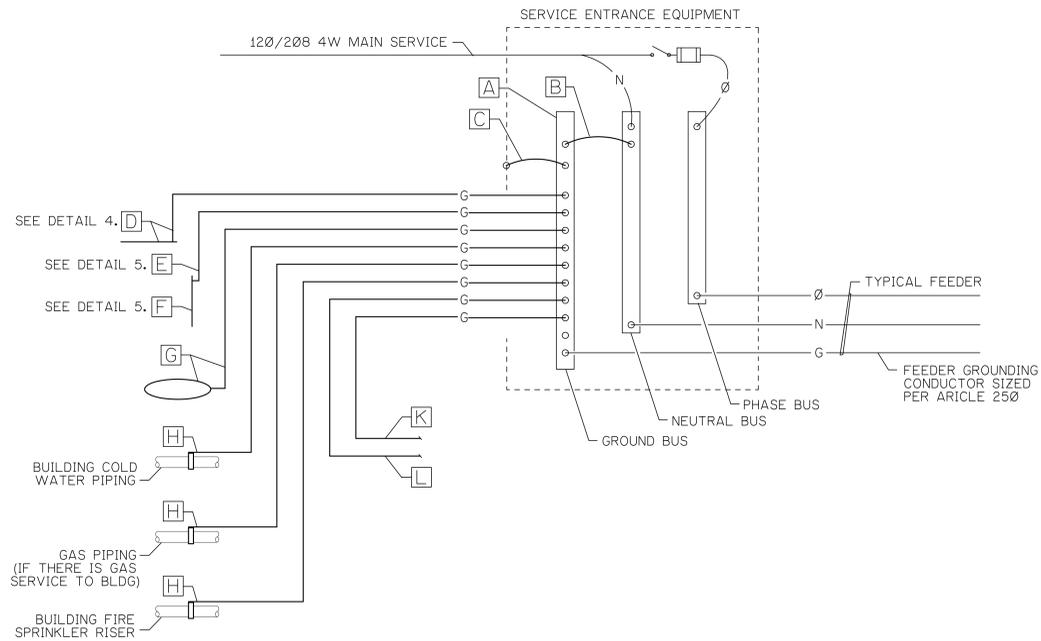


5 GROUNDING ELECTRODE ROD DETAIL
NOT TO SCALE



4 CONCRETE ENCASED ELECTRODE (UFER GROUND) DETAIL
NOT TO SCALE

NOTE: CLEAN COATED REBAR PRIOR TO PERFORMING ELECTRICAL CONNECTIONS.



GROUNDING SYSTEM SCHEDULE

	A	B	C	D	E	F	G	H	I	J	K	L
AMPACITY	1,000											
CEC CODE REFERENCE		250.102	250.102	250.52(A)(3) 250.66(B)	250.52(A)(3) 250.66(B)	250.52(A)(5)	250.52(A)(4)	250.104 250.66	DOES NOT APPLY TO THIS PROJECT	DOES NOT APPLY TO THIS PROJECT		
SIZE	SEE NOTE * BELOW	#4/0	#4/0	#4	#6	5/8" X 8FT.	#2	#2/0	DOES NOT APPLY TO THIS PROJECT	DOES NOT APPLY TO THIS PROJECT	#6	#6

NOTES:
* SHALL BE SIZED TO ACCOMMODATE ALL GROUND WIRE LUGS AS INDICATED ON THE GROUNDING DIAGRAM AND/OR REFERENCED ELSEWHERE ON PLANS OR SPECIFICATIONS.

3 GROUNDING SYSTEM DIAGRAM
NOT TO SCALE

GROUNDING SYSTEM DIAGRAM GENERAL NOTES

- THIS DIAGRAM IS PROVIDED IN ACCORDANCE WITH THE CALIFORNIA ELECTRICAL CODE, ARTICLE 250.
- ALL SPLICING SHALL BE ACCOMPLISHED VIA EXOTHERMIC WELD (CAD-WELD) ONLY.
- ALL CONDUCTOR SIZING INDICATED IS FOR COPPER CONDUCTORS. ALUMINUM IS NOT PERMITTED.
- THE GROUNDING SYSTEM SHALL PROVIDE LESS THAN 25 OHMS RESISTANCE TO GROUND AT THE SERVICE CONNECTION. THE RESULTS SHALL BE VERIFIED BY AN INDEPENDANT TESTING AGENCY VIA A GROUND TEST AND SUBMITTED TO THE ELECTRICAL ENGINEER.
- INSTALL GROUNDING CONNECTIONS TO METALLIC WATER PIPES AT LOCATIONS THAT ARE VISIBLE AND ACCESSIBLE FOR INSPECTION, MAINTENANCE, AND TESTING.
- EC SHALL PROVIDE SIGNED LETTER TO ENGINEER STATING THAT TERMINATIONS HAVE BEEN PROPERLY TORQUED.

PLANS PREPARED BY: www.equityspec-engineers.com

EquitySpec MEP Consulting Engineers

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Palm Desert, CA 92211
V: 760 834-1537 F: 760 832-7333
E: dcelmer@equityspec-engineers.com

DATE: _____

ESCE JOB NO.: 13028
CAD FILE: WFA-MPE

DRN. BY: ESCE
CHKD BY: DAC

SCALE: AS SHOWN

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ISSUE DATES:	

PLANS PREPARED BY: *www.equityspec-engineers.com* DATE: _____
EquitySpec MEP Consulting Engineers
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 Palm Desert, CA 92211
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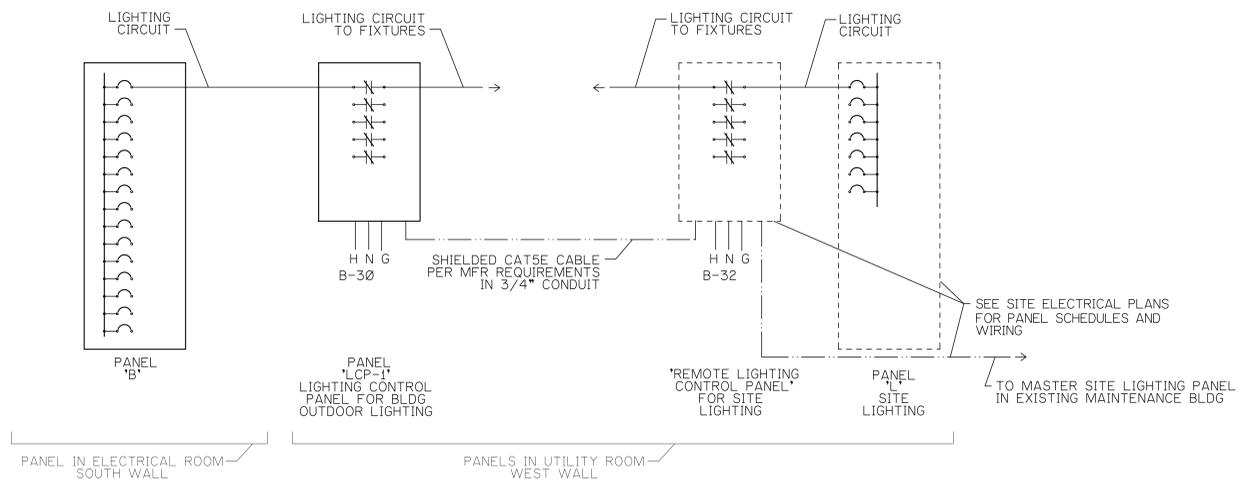
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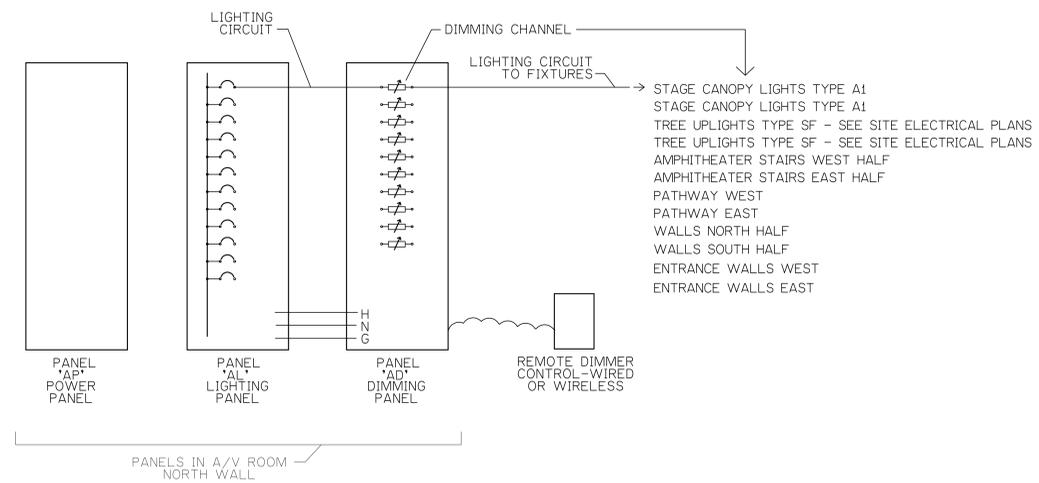
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<input type="checkbox"/> DESIGN DEVELOPMENT SET	
<input type="checkbox"/> PLANCHHECK	CHECKED BY:
<input type="checkbox"/> PERMIT SET	
<input type="checkbox"/> BID SET	McA PROJECT NO:
<input type="checkbox"/> CONSTRUCTION SET	13-007



BUILDING OUTDOOR LIGHTING CONTROLS



AMPHITHEATER STAGE AND SEATING AREA LIGHTING CONTROLS

8 LIGHTING CONTROL DIAGRAMS
 NOT TO SCALE

Whitewater Park Expansion: AMPHITHEATER

CP 12-284
 71-560 San Jacinto Dr
 Rancho Mirage, CA 92270
 for
 The City of Rancho Mirage

69-825 Highway III
 Rancho Mirage, CA 92270
 760.324.4511

SHEET TITLE:
DETAILS AND DIAGRAMS
 SHEET NUMBER:
E3.3